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THE
NAUTICAL ALMANAC

AND
ASTRONOMICAL EPHEMERIS

FOR THE YEAR

1923,

FOR THE MERIDIAN

OF THE

ROYAL OBSERVATORY AT GREENWICH.

(WITH TWO INSET ECLIPSE MAPS.)

PUBLISHED BY ORDER OF
THE LORDS COMMISSIONERS OF THE ADMIRALTY.

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MCMXX.

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ALPHABETICALLY ARRANGED

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ECLIPSE MAPS.

To face page 459. Map of the Annular Eclipse of the Sun, March 16-17, 1923.

To face page 464. Map of the Total Eclipse of the Sun, September 10, 1923.

P R E F A C E.

THE contents and the arrangement of the NAUTICAL ALMANAC for the year 1923 are the same generally as those of the preceding year.

The places of the Moon have, for the first time in this Almanac, been taken from PROF. E. W. BROWN'S *Tables of the Motion of the Moon*, in substitution for HANSEN'S *Tables de la Lune* which have been in use since 1862. NEWCOMB'S corrections, as given since 1883, now disappear from the Almanac.

The following sections have been supplied from abroad :—

Apparent Places of Polar Stars from Paris.

Apparent Places of Stars marked A. N. or A. E. at the foot of the column from San Fernando and Washington respectively.

Eclipses from Washington and Paris.

Elements of Occultations from Washington.

Jupiter's Fifth Satellite from Washington ; Jupiter's four principal Satellites from Paris ; Saturn's Satellites and Rings from Washington ; Satellites of Uranus and Neptune from Washington.

Physical Ephemerides of Sun, Moon (defective illumination excepted), Mercury, Venus, Mars, and Jupiter from Washington.

The places of the Sun are from NEWCOMB'S TABLES (*Astronomical Papers of the American Ephemeris and Nautical Almanac*, vol. vi., part I.).

The places of the Moon are from BROWN'S *Tables of the Motion of the Moon*.

Throughout the year 1923 the longitudes of the Moon require a correction of $+0^{\circ}.08$ cosine mean anomaly to bring them into accord with BROWN'S printed tables. The Right Ascensions and Declinations are in corresponding error.

The heliocentric places of the planets are from the Tables in the *Astronomical Papers of the American Ephemeris and Nautical Almanac*.

The mean places and proper motions and precessions of the Standard Stars have ordinarily been supplied by the office furnishing the apparent places. For the 83

stars whose apparent places have been calculated in this office, mean places and proper motions have been derived from NEWCOMB'S Catalogue of Fundamental Stars (*Astronomical Papers of the American Ephemeris and Nautical Almanac*, vol. viii., part II.). The names of the stars have in all cases been taken from this Catalogue.

The stellar magnitudes have been taken, with a few exceptions, from *Revised Harvard Photometry*. The magnitude of the variable star ϵ Aurigæ has been taken from "A Second Catalogue of Variable Stars" (*Harvard Annals*, vol. IV.), and that of the star α Orionis as variable between the limits 0.3 and 1.1. The spectral types have been taken from a manuscript list forwarded by Professor Pickering in 1916.

Since the date of the Preface of the last Almanac, no changes of staff have occurred.

The staff at present consists of:—

Chief Assistant.—Bernard Francis Bawtree.

Assistants.—John Abner Sprigge, William Fraser Doak, M.A. (Glas.), F.R.A.S., F.R.G.S., Thomas Charlton Hudson, B.A. (Cantab.), F.R.A.S.

P. H. COWELL,
Superintendent.

H.M. Nautical Almanac Office,
86 Lee Road, London, S.E. 3.
Sept. 17, 1920.

EXPLANATION OF ASTRONOMICAL SYMBOLS AND ABBREVIATIONS.

☉	The Sun.	♂	Mars.	♌	Conjunction.
☾	The Moon.	♃	Jupiter.	☐	Quadrature.
☿	Mercury.	♄	Saturn.	♌	Opposition.
♀	Venus.	♅	Uranus.	♊	Ascending Node.
☾ or ♂	The Earth.	♆	Neptune.	♋	Descending Node.

h	Hours.	°	Degrees.	N.	North.	S.	South.
m	Minutes of Time.	'	Minutes of Arc.	E.	East.	W.	West.
s	Seconds of Time.	"	Seconds of Arc.				

SIGNS OF THE ZODIAC.

0.	♈	Aries	-	-	0°	IV.	♌	Leo	-	-	120°	VIII.	♐	Sagittarius	240°
I.	♉	Taurus	-	-	30°	V.	♍	Virgo	-	-	150°	IX.	♑	Capricornus	270°
II.	♊	Gemini	-	-	60°	VI.	♎	Libra	-	-	180°	X.	♒	Aquarius	300°
III.	♋	Cancer	-	-	90°	VII.	♏	Scorpio	-	-	210°	XI.	♓	Pisces	330°

PRINCIPAL ARTICLES OF THE CALENDAR,
For the Year 1923.

Golden Number	- - - - -	5		Dominical Letter	- - - - -	G
Epact	- - - - -	13		Julian Period (Year of)	- - - - -	6636

FIXED AND MOVABLE FESTIVALS, ANNIVERSARIES,
&c. &c.

Epiphany	- - - - -	Jan.	6	Proclamation of King George V.	May	9
Septuagesima Sunday	- - - - -		28	Ascension Day—Holy Thursday		10
Quinquagesima—Shrove Sunday	- - - - -	Feb.	11	Whit Sunday	- - - - -	20
Ash Wednesday	- - - - -		14	Birthday of Queen Mary	- - - - -	26
Quadragesima—1st Sun. in Lent	- - - - -		18	Trinity Sunday	- - - - -	27
St. David	- - - - -	Mar.	1	Corpus Christi	- - - - -	31
St. Patrick	- - - - -		17	Birthday of King George V.	- June	3
Palm Sunday	- - - - -		25	Birthday of the Prince of Wales		23
Annunciation—Lady Day	- - - - -		25	St. John Bapt.—Midsum. Day	-	24
Good Friday	- - - - -		30	St. Michael—Michaelmas Day	Sept.	29
EASTER DAY	- - - - -	April	1	St. Andrew	- - - - -	Nov. 30
Low Sunday	- - - - -		8	Birthday of Queen Alexandra	Dec.	1
St. George	- - - - -		23	1st Sunday in Advent	- - - - -	2
Rogation Sunday	- - - - -	May	6	St. Thomas	- - - - -	21
Accession of King George V.	- - - - -		6	Christmas Day	- - - - -	25

The Year 5684 of the Jewish Era begins on September 11.
The Year 1342 of the Mohammedan Era begins on August 14.
Ramadân (Month of Abstinence observed by the Turks) begins on April 17.

ERRATA.

(Continued from p. ix of the Nautical Almanac for 1922.)

NAUTICAL ALMANAC FOR THE YEAR 1922.

Page 260. (Declination of ι B Octantis on Dec. 30, 31, 32.) *For* 11.68, 11.98, 12.30 *read* 11.74, 12.10, 12.46 respectively.

NAUTICAL ALMANAC FOR THE YEAR 1923.

Page 49. (Moon's R.A. for Apr. 29^d 2^h.) *For* 57^s.08 *read* 57^s.03.

Page 58. (Moon's Declination for May 19^d 18^h.) *For* 32".8 *read* 32".3.

A small correction, required throughout the year 1923 to the Moon's longitude and in consequence to the Moon's Right Ascension and Declination, is notified in the Preface.

1923.

Mean Noon.	Nutation in R.A. (in time).	The Sun's			The Moon's		
		Horizontal Parallax.	Aberration.	Mean Longitude.	Mean Longitude.	Mean Longitude Ascending Node.	Mean Longitude Perigee.
	s	"	"	°	°	°	°
Jan. 1	— 0.08	8.95	20.82	280.1200	85.3456	174.3175	190.2347
11	— 0.06	8.95	20.81	289.9764	217.1096	173.7879	191.3487
21	— 0.05	8.94	20.80	299.8329	348.8736	173.2584	192.4628
31	— 0.05	8.93	20.78	309.6894	120.6375	172.7289	193.5768
Feb. 10	— 0.06	8.92	20.74	319.5458	252.4015	172.1993	194.6908
20	— 0.08	8.90	20.70	329.4023	24.1655	171.6698	195.8049
Mar. 2	— 0.11	8.88	20.65	339.2588	155.9294	171.1403	196.9189
12	— 0.14	8.85	20.60	349.1153	287.6934	170.6107	198.0330
22	— 0.18	8.83	20.54	358.9717	59.4574	170.0812	199.1470
Apr. 1	— 0.22	8.81	20.48	8.8282	191.2213	169.5516	200.2610
11	— 0.25	8.78	20.42	18.6847	322.9853	169.0221	201.3751
21	— 0.28	8.75	20.37	28.5412	94.7493	168.4926	202.4891
May 1	— 0.29	8.73	20.31	38.3976	226.5132	167.9630	203.6032
11	— 0.31	8.71	20.26	48.2541	358.2772	167.4335	204.7172
21	— 0.31	8.69	20.22	58.1106	130.0412	166.9039	205.8312
31	— 0.30	8.68	20.19	67.9671	261.8051	166.3744	206.9453
June 10	— 0.29	8.67	20.16	77.8235	33.5691	165.8449	208.0593
20	— 0.28	8.66	20.14	87.6800	165.3331	165.3153	209.1734
30	— 0.26	8.66	20.13	97.5365	297.0970	164.7858	210.2874
July 10	— 0.25	8.66	20.13	107.3929	68.8610	164.2562	211.4014
20	— 0.24	8.66	20.14	117.2494	200.6250	163.7267	212.5155
30	— 0.24	8.67	20.16	127.1059	332.3889	163.1972	213.6295
Aug. 9	— 0.25	8.68	20.19	136.9624	104.1529	162.6676	214.7436
19	— 0.26	8.70	20.23	146.8188	235.9169	162.1381	215.8576
29	— 0.29	8.71	20.27	156.6753	7.6808	161.6086	216.9716
Sept. 8	— 0.32	8.74	20.32	166.5318	139.4448	161.0790	218.0857
18	— 0.35	8.76	20.37	176.3883	271.2088	160.5495	219.1997
28	— 0.39	8.78	20.43	186.2447	42.9727	160.0199	220.3138
Oct. 8	— 0.42	8.81	20.49	196.1012	174.7367	159.4904	221.4278
18	— 0.45	8.83	20.55	205.9577	306.5007	158.9609	222.5418
28	— 0.48	8.86	20.61	215.8142	78.2646	158.4313	223.6559
Nov. 7	— 0.49	8.88	20.66	225.6706	210.0286	157.9018	224.7699
17	— 0.50	8.90	20.71	235.5271	341.7926	157.3722	225.8840
27	— 0.49	8.92	20.75	245.3836	113.5566	156.8427	226.9980
Dec. 7	— 0.48	8.93	20.78	255.2401	245.3205	156.3132	228.1120
17	— 0.46	8.94	20.80	265.0965	17.0845	155.7836	229.2261
27	— 0.44	8.95	20.82	274.9530	148.8485	155.2541	230.3401
37	— 0.42	8.95	20.82	284.8095	280.6124	154.7245	231.4541

Daily Motion.			
Mean Obliquity, 1923.0 - - 23° 26' 57".49	+	+	+
Precession for the Year 1923 - - 50".2616			
Precession for 1 Day - - - - 0".1376	0.98565	13.17640	0.05295
			0.11140
1—23	(NAUTICAL ALMANAC, 1923.)		B

AT APPARENT NOON.

Date.	THE SUN'S				Sidereal Time of the Semi- diameter passing the Meridian.*	Equation of Time, to be added to Apparent Time.	Var. in hour.
	Apparent Right Ascension.	Var. in hour.	Apparent Declination.	Var. in hour.			
	h m s	s	° ' "	"	m s	m s	s
Mon.	1 18 43 48.48	11.047	S.23 3 52.7	11.56	1 11.05	3 20.58	1.187
Tues.	2 18 48 13.45	11.034	22 59 1.5	12.71	1 11.01	3 48.92	1.174
Wed.	3 18 52 38.09	11.019	22 53 42.8	13.85	1 10.96	4 16.92	1.159
Thur.	4 18 57 2.36	11.003	22 47 56.7	14.99	1 10.91	4 44.57	1.144
Frid.	5 19 1 26.25	10.987	22 41 43.4	16.12	1 10.86	5 11.83	1.127
Sat.	6 19 5 49.73	10.969	22 35 3.1	17.24	1 10.80	5 38.68	1.110
Sun.	7 19 10 12.78	10.951	22 27 55.9	18.35	1 10.73	6 5.09	1.091
Mon.	8 19 14 35.37	10.931	22 20 22.1	19.46	1 10.67	6 31.05	1.072
Tues.	9 19 18 57.47	10.910	22 12 22.0	20.55	1 10.60	6 56.53	1.051
Wed.	10 19 23 19.07	10.889	22 3 55.7	21.64	1 10.52	7 21.50	1.029
Thur.	11 19 27 40.13	10.866	21 55 3.4	22.71	1 10.45	7 45.94	1.007
Frid.	12 19 32 0.63	10.842	21 45 45.5	23.78	1 10.37	8 9.82	0.983
Sat.	13 19 36 20.56	10.817	21 36 2.2	24.83	1 10.28	8 33.12	0.958
Sun.	14 19 40 39.87	10.791	21 25 53.8	25.87	1 10.20	8 55.82	0.933
Mon.	15 19 44 58.55	10.765	21 15 20.6	26.89	1 10.11	9 17.89	0.906
Tues.	16 19 49 16.58	10.737	21 4 22.9	27.91	1 10.01	9 39.30	0.878
Wed.	17 19 53 33.92	10.708	20 53 1.0	28.91	1 9.92	10 0.03	0.849
Thur.	18 19 57 50.57	10.679	20 41 15.3	29.90	1 9.82	10 20.06	0.820
Frid.	19 20 2 6.49	10.648	20 29 6.0	30.87	1 9.72	10 39.37	0.790
Sat.	20 20 6 21.67	10.617	20 16 33.6	31.83	1 9.62	10 57.95	0.758
Sun.	21 20 10 36.09	10.585	20 3 38.3	32.77	1 9.52	11 15.77	0.726
Mon.	22 20 14 49.74	10.552	19 50 20.6	33.70	1 9.42	11 32.82	0.694
Tues.	23 20 19 2.61	10.520	19 36 40.7	34.62	1 9.31	11 49.08	0.661
Wed.	24 20 23 14.68	10.486	19 22 39.0	35.52	1 9.20	12 4.55	0.628
Thur.	25 20 27 25.94	10.452	19 8 16.0	36.41	1 9.09	12 19.22	0.594
Frid.	26 20 31 36.39	10.418	18 53 32.0	37.27	1 8.98	12 33.07	0.560
Sat.	27 20 35 46.01	10.384	18 38 27.3	38.12	1 8.87	12 46.10	0.526
Sun.	28 20 39 54.81	10.349	18 23 2.4	38.95	1 8.76	12 58.31	0.491
Mon.	29 20 44 2.77	10.315	18 7 17.6	39.77	1 8.65	13 9.69	0.457
Tues.	30 20 48 9.91	10.280	17 51 13.4	40.58	1 8.53	13 20.24	0.422
Wed.	31 20 52 16.21	10.245	17 34 50.0	41.36	1 8.42	13 29.96	0.388
Thur.	32 20 56 21.69	10.211	S.17 18 8.0	42.13	1 8.30	13 38.86	0.354

* Mean time of the Semidiameter passing may be found by subtracting 0.19 from the Sidereal Time.

AT MEAN NOON.

Date.		THE SUN'S			Equation of Time, to be added to Apparent Time.	Sideréal Time.
		Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*		
		h m s	S. ° ' "	′ ″	m s	h m s
Mon.	1	18 43 47.86	S. 23 3 53.3	16 17.57	3 20.52	18 40 27.34
Tues.	2	18 48 12.75	22 59 2.3	16 17.58	3 48.85	18 44 23.90
Wed.	3	18 52 37.30	22 53 43.8	16 17.58	4 16.84	18 48 20.46
Thur.	4	18 57 1.49	22 47 57.9	16 17.57	4 44.48	18 52 17.02
Frid.	5	19 1 25.30	22 41 44.8	16 17.56	5 11.73	18 56 13.57
Sat.	6	19 5 48.70	22 35 4.7	16 17.54	5 38.57	19 0 10.13
Sun.	7	19 10 11.67	22 27 57.8	16 17.51	6 4.98	19 4 6.69
Mon.	8	19 14 34.18	22 20 24.3	16 17.48	6 30.94	19 8 3.24
Tues.	9	19 18 56.21	22 12 24.4	16 17.45	6 56.41	19 11 59.80
Wed.	10	19 23 17.73	22 3 58.3	16 17.40	7 21.38	19 15 56.36
Thur.	11	19 27 38.72	21 55 6.4	16 17.35	7 45.81	19 19 52.91
Frid.	12	19 31 59.16	21 45 48.7	16 17.30	8 9.69	19 23 49.47
Sat.	13	19 36 19.02	21 36 5.7	16 17.25	8 32.99	19 27 46.03
Sun.	14	19 40 38.27	21 25 57.7	16 17.19	8 55.68	19 31 42.58
Mon.	15	19 44 56.89	21 15 24.8	16 17.12	9 17.75	19 35 39.14
Tues.	16	19 49 14.85	21 4 27.4	16 17.06	9 39.16	19 39 35.70
Wed.	17	19 53 32.14	20 53 5.9	16 16.98	9 59.89	19 43 32.25
Thur.	18	19 57 48.73	20 41 20.5	16 16.91	10 19.92	19 47 28.81
Frid.	19	20 2 4.60	20 29 11.5	16 16.83	10 39.23	19 51 25.36
Sat.	20	20 6 19.73	20 16 39.4	16 16.75	10 57.81	19 55 21.92
Sun.	21	20 10 34.11	20 3 44.5	16 16.67	11 15.63	19 59 18.48
Mon.	22	20 14 47.71	19 50 27.0	16 16.58	11 32.68	20 3 15.03
Tues.	23	20 19 0.54	19 36 47.5	16 16.48	11 48.95	20 7 11.59
Wed.	24	20 23 12.57	19 22 46.2	16 16.38	12 4.43	20 11 8.14
Thur.	25	20 27 23.80	19 8 23.5	16 16.28	12 19.10	20 15 4.70
Frid.	26	20 31 34.21	18 53 39.8	16 16.17	12 32.95	20 19 1.26
Sat.	27	20 35 43.80	18 38 35.4	16 16.06	12 45.99	20 22 57.81
Sun.	28	20 39 52.57	18 23 10.8	16 15.94	12 58.20	20 26 54.37
Mon.	29	20 44 0.51	18 7 26.3	16 15.82	13 9.59	20 30 50.92
Tues.	30	20 48 7.62	17 51 22.4	16 15.69	13 20.15	20 34 47.48
Wed.	31	20 52 13.91	17 34 59.3	16 15.56	13 29.88	20 38 44.03
Thur.	32	20 56 19.37	S. 17 18 17.6	16 15.42	13 38.78	20 42 40.59

* The Semidiameter for Apparent Noon may be assumed the same as that for Mean Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	<i>Noon.</i>	<i>Noon.</i>			<i>Noon.</i>	<i>Midnight.</i>	<i>Noon.</i>	<i>Midnight.</i>
1	280° 3' 52".7	S. 0°.29	9.9926562	h m s 5 18 40.31	15° 26' 32"	15° 31' 63"	56° 39' 72"	56° 59' 20"
2	281 5 1.0	0.28	.9926534	5 14 44.40	15 36.84	15 41.85	57 18.32	57 36.72
3	282 6 9.3	0.24	.9926535	5 10 48.48	15 46.58	15 50.96	57 54.10	58 10.17
4	283 7 17.6	0.17	9.9926565	5 6 52.57	15 54.93	15 58.43	58 24.72	58 37.56
5	284 8 25.9	S. 0.08	.9926623	5 2 56.66	16 1.43	16 3.93	58 48.59	58 57.75
6	285 9 34.4	N. 0.04	.9926710	4 59 0.75	16 5.92	16 7.41	59 5.05	59 10.53
7	286 10 42.9	0.17	9.9926824	4 55 4.84	16 8.43	16 9.02	59 14.28	59 16.43
8	287 11 51.5	0.31	.9926964	4 51 8.93	16 9.20	16 9.01	59 17.09	59 16.39
9	288 13 0.1	0.44	.9927128	4 47 13.02	16 8.48	16 7.65	59 14.47	59 11.42
10	289 14 8.9	0.56	9.9927316	4 43 17.11	16 6.54	16 5.15	59 7.32	59 2.24
11	290 15 17.7	0.67	.9927526	4 39 21.20	16 3.50	16 1.59	58 56.19	58 49.17
12	291 16 26.4	0.76	.9927756	4 35 25.28	15 59.41	15 56.97	58 41.19	58 32.21
13	292 17 35.1	0.81	9.9928005	4 31 29.37	15 54.24	15 51.23	58 22.21	58 11.16
14	293 18 43.6	0.83	.9928271	4 27 33.46	15 47.94	15 44.37	57 59.07	57 45.97
15	294 19 51.8	0.81	.9928554	4 23 37.55	15 40.54	15 36.46	57 31.90	57 16.96
16	295 20 59.6	0.77	9.9928854	4 19 41.64	15 32.19	15 27.76	57 1.28	56 45.02
17	296 22 6.9	0.70	.9929169	4 15 45.73	15 23.23	15 18.66	56 28.38	56 11.61
18	297 23 13.7	0.61	.9929500	4 11 49.82	15 14.12	15 9.68	55 54.94	55 38.64
19	298 24 19.8	0.50	9.9929847	4 7 53.91	15 5.41	15 1.40	55 23.00	55 8.29
20	299 25 25.2	0.38	.9930211	4 3 58.00	14 57.72	14 54.44	54 54.78	54 42.73
21	300 26 29.7	0.25	.9930592	4 0 2.09	14 51.63	14 49.33	54 32.40	54 23.98
22	301 27 33.3	0.13	9.9930990	3 56 6.18	14 47.62	14 46.54	54 17.70	54 13.71
23	302 28 36.0	N. 0.01	.9931408	3 52 10.27	14 46.11	14 46.37	54 12.14	54 13.11
24	303 29 37.6	S. 0.10	.9931844	3 48 14.36	14 47.35	14 49.04	54 16.70	54 22.92
25	304 30 38.2	0.19	9.9932301	3 44 18.45	14 51.46	14 54.58	54 31.77	54 43.22
26	305 31 37.7	0.27	.9932779	3 40 22.54	14 58.38	15 2.82	54 57.17	55 13.46
27	306 32 36.1	0.32	.9933279	3 36 26.63	15 7.85	15 13.40	55 31.92	55 52.30
28	307 33 33.3	0.34	9.9933801	3 32 30.72	15 19.39	15 25.72	56 14.29	56 37.53
29	308 34 29.3	0.33	.9934347	3 28 34.82	15 32.29	15 38.96	57 1.63	57 26.11
30	309 35 24.1	0.29	.9934918	3 24 38.91	15 45.60	15 52.07	57 50.50	58 14.25
31	310 36 17.8	0.23	.9935514	3 20 43.00	15 58.23	16 3.94	58 36.85	58 57.79
32	311 37 10.4	S. 0.14	9.9936136	3 16 47.09	16 9.06	16 13.48	59 16.58	59 32.80

MEAN TIME.

THE MOON'S							
Day.	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	^h ^m ^s	^h ^m ^s	[°] ['] ["]	[°] ['] ["]	d	^h ^m	^h ^m
1	80 17 15.7	86 52 8.6	S. 5 1 2.7	S. 5 1 3.4	13.99	11 2.4	23 29.3
2	93 31 39.5	100 15 32.4	4 56 59.1	4 48 45.0	14.99	11 56.6	* *
3	107 3 26.7	113 54 57.1	4 36 20.3	4 19 49.4	15.99	12 51.7	0 24.1
4	120 49 35.9	127 46 53.6	3 59 21.2	3 35 10.4	16.99	13 46.6	1 19.2
5	134 46 20.1	141 47 26.9	3 7 36.0	2 37 2.1	17.99	14 40.8	2 13.8
6	148 49 46.9	155 52 56.5	2 3 56.6	1 28 50.6	18.99	15 33.9	3 7.5
7	162 56 34.7	170 0 24.7	S. 0 52 17.7	S. 0 14 53.4	19.99	16 26.1	4 0.1
8	177 4 13.0	184 7 49.2	N. 0 22 46.3	N. 1 0 5.2	20.99	17 17.7	4 51.9
9	191 11 5.0	198 13 54.0	1 36 27.9	2 11 20.0	21.99	18 9.5	5 43.6
10	205 16 10.5	212 17 48.5	2 44 9.4	3 14 25.8	22.99	19 2.0	6 35.6
11	219 18 40.8	226 18 39.1	3 41 42.1	4 5 34.2	23.99	19 55.5	7 28.6
12	233 17 32.0	240 15 5.9	4 25 41.8	4 41 48.5	24.99	20 50.1	8 22.7
13	247 11 4.8	254 5 10.1	4 53 41.9	5 1 14.6	25.99	21 45.4	9 17.7
14	260 57 1.3	267 46 17.2	5 4 23.4	5 3 9.9	26.99	22 40.5	10 13.0
15	274 32 35.9	281 15 36.6	4 57 40.2	4 48 4.7	27.99	23 34.6	11 7.8
16	287 55 0.2	294 30 30.1	4 34 37.5	4 17 35.9	28.99	* *	12 1.0
17	301 1 53.9	307 29 2.8	3 57 20.1	3 34 11.9	0.39	0 26.8	12 52.0
18	313 51 53.1	320 10 26.2	3 8 34.8	2 40 52.4	1.39	1 16.6	13 40.6
19	326 24 48.5	332 35 11.6	2 11 29.2	1 40 48.3	2.39	2 4.0	14 26.9
20	338 41 51.8	344 45 10.3	1 9 13.1	N. 0 37 5.3	3.39	2 49.2	15 11.2
21	350 45 32.0	356 43 26.1	N. 0 4 45.7	S. 0 27 26.0	4.39	3 32.8	15 54.2
22	2 39 24.1	8 34 1.4	S. 0 59 11.1	1 30 12.3	5.39	4 15.4	16 36.5
23	14 27 54.7	20 21 42.6	2 0 12.8	2 28 56.5	6.39	4 57.7	17 19.0
24	26 16 5.1	32 11 42.4	2 56 7.9	3 21 31.6	7.39	5 40.5	18 2.3
25	38 9 14.9	44 9 22.3	3 44 52.2	4 5 54.7	8.39	6 24.5	18 47.2
26	50 12 43.2	56 19 53.7	4 24 23.7	4 40 3.5	9.39	7 10.4	19 34.2
27	62 31 27.2	68 47 53.6	4 52 38.7	5 1 54.2	10.39	7 58.6	20 23.6
28	75 9 37.8	81 36 59.2	5 7 35.2	5 9 28.3	11.39	8 49.3	21 15.6
29	88 10 11.0	94 49 19.2	5 7 21.4	5 1 5.2	12.39	9 42.4	22 9.7
30	101 34 21.9	108 25 9.1	4 50 33.5	4 35 44.1	13.39	10 37.4	23 5.2
31	115 21 22.7	122 22 37.0	4 16 40.0	3 53 29.6	14.39	11 33.2	* *
* 32	129 28 19.1	136 37 50.3	S. 3 26 27.4	S. 2 55 54.6	15.39	12 29.2	0 1.2

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 1.					WEDNESDAY 3.				
	h m s	s	N. 18° 5' 11" 1	21° 34'		h m s	s	N. 17° 47' 16" 8	29° 74'
0	5 19 16.12	22.802	18 5 11.1	21.34	0	7 11 31.75	23.755	17 47 16.8	29.74
1	5 21 33.03	22.834	18 7 16.2	20.36	1	7 13 54.30	23.760	17 44 15.1	30.84
2	5 23 50.13	22.866	18 9 15.4	19.37	2	7 16 16.87	23.765	17 41 6.7	31.93
3	5 26 7.42	22.897	18 11 8.7	18.38	3	7 18 39.48	23.770	17 37 51.9	33.02
4	5 28 24.90	22.928	18 12 55.9	17.38	4	7 21 2.11	23.773	17 34 30.5	34.11
5	5 30 42.56	22.958	18 14 37.2	16.38	5	7 23 24.75	23.775	17 31 2.6	35.18
6	5 33 0.40	22.988	18 16 12.5	15.37	6	7 25 47.41	23.777	17 27 28.3	36.27
7	5 35 18.42	23.018	18 17 41.7	14.36	7	7 28 10.08	23.780	17 23 47.4	37.36
8	5 37 36.62	23.048	18 19 4.8	13.35	8	7 30 32.77	23.781	17 20 0.0	38.43
9	5 39 54.99	23.076	18 20 21.9	12.32	9	7 32 55.45	23.781	17 16 6.2	39.50
10	5 42 13.53	23.104	18 21 32.6	11.28	10	7 35 18.14	23.782	17 12 6.0	40.57
11	5 44 32.24	23.132	18 22 37.2	10.26	11	7 37 40.83	23.781	17 7 59.3	41.65
12	5 46 51.11	23.158	18 23 35.7	9.23	12	7 40 3.51	23.779	17 3 46.2	42.71
13	5 49 10.14	23.186	18 24 28.0	8.18	13	7 42 26.18	23.778	16 59 26.8	43.78
14	5 51 29.34	23.212	18 25 13.9	7.14	14	7 44 48.85	23.776	16 55 0.9	44.83
15	5 53 48.68	23.237	18 25 53.7	6.10	15	7 47 11.49	23.773	16 50 28.8	45.88
16	5 56 8.18	23.263	18 26 27.1	5.04	16	7 49 34.13	23.770	16 45 50.3	46.93
17	5 58 27.83	23.287	18 26 54.2	3.98	17	7 51 56.73	23.766	16 41 5.6	47.98
18	6 0 47.62	23.310	18 27 14.9	2.92	18	7 54 19.32	23.762	16 36 14.5	49.03
19	6 3 7.55	23.333	18 27 29.3	1.88	19	7 56 41.88	23.757	16 31 17.3	50.06
20	6 5 27.62	23.357	18 27 37.4	0.81	20	7 59 4.40	23.752	16 26 13.8	51.09
21	6 7 47.83	23.379	18 27 39.0	0.27	21	8 1 26.90	23.746	16 21 4.2	52.12
22	6 10 8.17	23.401	18 27 34.2	1.34	22	8 3 49.35	23.739	16 15 48.4	53.15
23	6 12 28.64	23.423	N. 18 27 22.9	2.42	23	8 6 11.77	23.733	N. 16 10 26.4	54.17
TUESDAY 2.					THURSDAY 4.				
	h m s	s	N. 18 27 5.2	3.49		h m s	s	N. 16 4 58.4	55.18
0	6 14 49.24	23.443	18 27 5.2	3.49	0	8 8 34.14	23.725	16 4 58.4	55.18
1	6 17 9.96	23.463	18 26 41.0	4.57	1	8 10 56.47	23.717	15 59 24.3	56.18
2	6 19 30.79	23.482	18 26 10.4	5.65	2	8 13 18.75	23.709	15 53 44.2	57.18
3	6 21 51.74	23.501	18 25 33.2	6.74	3	8 15 40.98	23.701	15 47 58.1	58.18
4	6 24 12.80	23.519	18 24 49.5	7.83	4	8 18 3.16	23.692	15 42 6.0	59.17
5	6 26 33.97	23.537	18 23 59.3	8.92	5	8 20 25.28	23.682	15 36 8.1	60.15
6	6 28 55.24	23.554	18 23 2.5	10.00	6	8 22 47.34	23.672	15 30 4.2	61.13
7	6 31 16.62	23.570	18 21 59.3	11.09	7	8 25 9.35	23.662	15 23 54.5	62.10
8	6 33 38.08	23.586	18 20 49.4	12.19	8	8 27 31.28	23.651	15 17 39.0	63.07
9	6 35 59.65	23.602	18 19 33.0	13.28	9	8 29 53.16	23.641	15 11 17.7	64.03
10	6 38 21.30	23.616	18 18 10.1	14.38	10	8 32 14.97	23.628	15 4 50.7	64.98
11	6 40 43.04	23.630	18 16 40.5	15.48	11	8 34 36.70	23.617	14 58 18.0	65.93
12	6 43 4.86	23.643	18 15 4.4	16.57	12	8 36 58.37	23.605	14 51 39.6	66.86
13	6 45 26.76	23.656	18 13 21.7	17.67	13	8 39 19.96	23.592	14 44 55.7	67.79
14	6 47 48.73	23.668	18 11 32.4	18.77	14	8 41 41.47	23.579	14 38 6.1	68.72
15	6 50 10.78	23.680	18 9 36.5	19.87	15	8 44 2.91	23.566	14 31 11.1	69.63
16	6 52 32.89	23.690	18 7 34.0	20.97	16	8 46 24.26	23.552	14 24 10.6	70.53
17	6 54 55.06	23.701	18 5 24.9	22.06	17	8 48 45.54	23.539	14 17 4.7	71.43
18	6 57 17.30	23.711	18 3 9.3	23.16	18	8 51 6.73	23.525	14 9 53.4	72.33
19	6 59 39.59	23.719	18 0 47.0	24.27	19	8 53 27.84	23.511	14 2 36.8	73.21
20	7 2 1.93	23.728	17 58 18.1	25.37	20	8 55 48.86	23.496	13 55 14.9	74.09
21	7 4 24.32	23.736	17 55 42.6	26.46	21	8 58 9.79	23.481	13 47 47.7	74.96
22	7 6 46.76	23.743	17 53 0.6	27.55	22	9 0 30.63	23.466	13 40 15.4	75.81
23	7 9 9.24	23.749	17 50 12.0	28.65	23	9 2 51.38	23.451	13 32 38.0	76.67
24	7 11 31.75	23.755	N. 17 47 16.8	29.74	24	9 5 12.04	23.436	N. 13 24 55.4	77.52

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
FRIDAY 5.					SUNDAY 7.				
	h m s	s	N. 13 24 55.4	77.52		h m s	s	N. 5 53 49.7	106.48
0	9 5 12.04	23.436	13 17 7.8	78.34	0	10 55 46.38	22.658	5 43 9.8	106.82
1	9 7 32.61	23.420	13 9 15.3	79.17	1	10 58 2.29	22.646	5 32 27.8	107.16
2	9 9 53.08	23.404	13 1 17.7	79.99	2	11 0 18.13	22.634	5 21 43.9	107.48
3	9 12 13.46	23.388	12 53 15.4	80.79	3	11 2 33.90	22.622	5 10 58.1	107.78
4	9 14 33.74	23.372	12 45 8.2	81.60	4	11 4 49.59	22.609	5 0 10.5	108.08
5	9 16 53.92	23.355	12 36 56.2	82.39	5	11 7 5.21	22.597	4 49 21.1	108.37
6	9 19 14.00	23.339	12 28 39.5	83.17	6	11 9 20.76	22.586	4 38 30.0	108.65
7	9 21 33.99	23.322	12 20 18.2	83.94	7	11 11 36.24	22.575	4 27 37.3	108.91
8	9 23 53.87	23.305	12 11 52.2	84.71	8	11 13 51.66	22.564	4 16 43.1	109.17
9	9 26 13.65	23.289	12 3 21.7	85.46	9	11 16 7.01	22.553	4 5 47.3	109.41
10	9 28 33.34	23.272	11 54 46.7	86.20	10	11 18 22.30	22.544	3 54 50.2	109.63
11	9 30 52.91	23.254	11 46 7.3	86.93	11	11 20 37.54	22.534	3 43 51.7	109.86
12	9 33 12.39	23.237	11 37 23.5	87.66	12	11 22 52.71	22.524	3 32 51.9	110.07
13	9 35 31.76	23.220	11 28 35.4	88.38	13	11 25 7.83	22.515	3 21 50.9	110.26
14	9 37 51.03	23.202	11 19 43.0	89.08	14	11 27 22.89	22.506	3 10 48.8	110.45
15	9 40 10.19	23.185	11 10 46.4	89.77	15	11 29 37.90	22.498	2 59 45.5	110.62
16	9 42 29.25	23.168	11 1 45.7	90.46	16	11 31 52.87	22.491	2 48 41.3	110.78
17	9 44 48.21	23.151	10 52 40.9	91.13	17	11 34 7.79	22.483	2 37 36.1	110.93
18	9 47 7.06	23.133	10 43 32.1	91.80	18	11 36 22.66	22.475	2 26 30.1	111.08
19	9 49 25.81	23.117	10 34 19.3	92.46	19	11 38 37.49	22.468	2 15 23.2	111.22
20	9 51 44.46	23.099	10 25 2.6	93.10	20	11 40 52.27	22.461	2 4 15.5	111.33
21	9 54 3.00	23.082	10 15 42.1	93.73	21	11 43 7.02	22.455	1 53 7.2	111.43
22	9 56 21.44	23.064	10 6 17.8	94.36	22	11 45 21.73	22.449	1 41 58.3	111.53
23	9 58 39.77	23.047			23	11 47 36.41	22.443		
SATURDAY 6.					MONDAY 8.				
0	10 0 58.00	23.030	9 47 18.1	95.57	0	11 49 51.05	22.438	1 30 48.8	111.62
1	10 3 16.13	23.013	9 37 42.9	96.17	1	11 52 5.66	22.433	1 19 38.8	111.69
2	10 5 34.15	22.996	9 28 4.1	96.75	2	11 54 20.25	22.429	1 8 28.5	111.76
3	10 7 52.08	22.979	9 18 21.9	97.32	3	11 56 34.81	22.425	0 57 17.7	111.81
4	10 10 9.90	22.962	9 8 36.3	97.88	4	11 58 49.35	22.422	0 46 6.8	111.84
5	10 12 27.63	22.946	8 58 47.3	98.43	5	12 1 3.87	22.418	0 34 55.6	111.88
6	10 14 45.25	22.928	8 48 55.1	98.97	6	12 3 18.37	22.415	0 23 44.2	111.90
7	10 17 2.77	22.912	8 38 59.7	99.50	7	12 5 32.85	22.412	0 12 32.8	111.90
8	10 19 20.20	22.896	8 29 1.1	100.02	8	12 7 47.32	22.411	0 1 21.4	111.90
9	10 21 37.52	22.879	8 18 59.4	100.53	9	12 10 1.78	22.409	0 0 50.0	111.88
10	10 23 54.75	22.863	8 8 54.7	101.03	10	12 12 16.23	22.408	0 21 1.2	111.86
11	10 26 11.88	22.848	7 58 47.1	101.51	11	12 14 30.67	22.407	0 32 12.3	111.83
12	10 28 28.92	22.832	7 48 36.6	101.98	12	12 16 45.11	22.406	0 43 23.1	111.78
13	10 30 45.86	22.816	7 38 23.3	102.45	13	12 18 59.54	22.406	0 54 33.6	111.72
14	10 33 2.71	22.801	7 28 7.2	102.90	14	12 21 13.98	22.407	1 5 43.7	111.64
15	10 35 19.47	22.786	7 17 48.5	103.34	15	12 23 28.42	22.407	1 16 53.3	111.56
16	10 37 36.14	22.770	7 7 27.1	103.78	16	12 25 42.86	22.408	1 28 2.4	111.47
17	10 39 52.71	22.756	6 57 3.1	104.20	17	12 27 57.31	22.409	1 39 10.9	111.37
18	10 42 9.21	22.742	6 46 36.7	104.60	18	12 30 11.77	22.411	1 50 18.8	111.26
19	10 44 25.61	22.727	6 36 7.9	105.00	19	12 32 26.24	22.413	2 1 26.0	111.13
20	10 46 41.93	22.713	6 25 36.7	105.39	20	12 34 40.73	22.416	2 12 32.4	110.99
21	10 48 58.16	22.699	6 15 3.2	105.77	21	12 36 55.23	22.419	2 23 37.9	110.84
22	10 51 14.32	22.686	6 4 27.5	106.13	22	12 39 9.76	22.422	2 34 42.5	110.69
23	10 53 30.39	22.672			23	12 41 24.30	22.426	2 45 46.2	110.52
24	10 55 46.38	22.658	N. 5 53 49.7	106.48	24	12 43 38.87	22.431	S. 2 56 48.8	110.34

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 9.					THURSDAY 11.				
	h m s	s				h m s	s		
0	12 43 38.87	22.431	S. 2 56 48.8	110.34	0	14 32 26.75	23.009	S. 11 5 41.0	89.41
1	12 45 53.47	22.435	3 7 50.3	110.15	1	14 34 44.86	23.027	11 14 35.4	88.72
2	12 48 8.09	22.440	3 18 50.6	109.95	2	14 37 3.08	23.045	11 23 25.7	88.03
3	12 50 22.75	22.445	3 29 49.7	109.74	3	14 39 21.40	23.063	11 32 11.8	87.33
4	12 52 37.43	22.451	3 40 47.5	109.52	4	14 41 39.83	23.080	11 40 53.7	86.62
5	12 54 52.16	22.457	3 51 43.9	109.28	5	14 43 58.36	23.098	11 49 31.3	85.91
6	12 57 6.92	22.463	4 2 38.9	109.04	6	14 46 17.00	23.116	11 58 4.6	85.18
7	12 59 21.72	22.470	4 13 32.4	108.78	7	14 48 35.75	23.134	12 6 33.5	84.45
8	13 1 36.56	22.477	4 24 24.3	108.52	8	14 50 54.61	23.152	12 14 58.0	83.71
9	13 3 51.44	22.485	4 35 14.7	108.25	9	14 53 13.57	23.170	12 23 18.0	82.95
10	13 6 6.38	22.493	4 46 3.3	107.95	10	14 55 32.65	23.188	12 31 33.4	82.18
11	13 8 21.36	22.501	4 56 50.1	107.66	11	14 57 51.83	23.206	12 39 44.2	81.42
12	13 10 36.39	22.509	5 7 35.2	107.36	12	15 0 11.12	23.224	12 47 50.4	80.64
13	13 12 51.47	22.518	5 18 18.4	107.03	13	15 2 30.52	23.242	12 55 51.9	79.85
14	13 15 6.61	22.527	5 28 59.6	106.70	14	15 4 50.02	23.259	13 3 48.6	79.05
15	13 17 21.80	22.537	5 39 38.8	106.36	15	15 7 9.63	23.277	13 11 40.5	78.24
16	13 19 37.06	22.547	5 50 15.9	106.02	16	15 9 29.35	23.296	13 19 27.5	77.43
17	13 21 52.37	22.557	6 0 51.0	105.66	17	15 11 49.18	23.313	13 27 9.7	76.62
18	13 24 7.75	22.568	6 11 23.8	105.28	18	15 14 9.11	23.330	13 34 46.9	75.78
19	13 26 23.19	22.579	6 21 54.3	104.90	19	15 16 29.14	23.348	13 42 19.1	74.94
20	13 28 38.70	22.590	6 32 22.6	104.51	20	15 18 49.28	23.366	13 49 46.2	74.09
21	13 30 54.27	22.602	6 42 48.4	104.10	21	15 21 9.53	23.383	13 57 8.2	73.23
22	13 33 9.92	22.614	6 53 11.8	103.69	22	15 23 29.88	23.400	14 4 25.0	72.38
23	13 35 25.64	22.627	S. 7 3 32.7	103.27	23	15 25 50.33	23.417	S. 14 11 36.7	71.51
WEDNESDAY 10.					FRIDAY 12.				
	h m s	s				h m s	s		
0	13 37 41.44	22.639	S. 7 13 51.0	102.83	0	15 28 10.88	23.433	S. 14 18 43.1	70.62
1	13 39 57.31	22.652	7 24 6.7	102.39	1	15 30 31.53	23.450	14 25 44.2	69.74
2	13 42 13.26	22.665	7 34 19.7	101.93	2	15 32 52.28	23.467	14 32 40.0	68.85
3	13 44 29.29	22.679	7 44 29.9	101.47	3	15 35 13.13	23.483	14 39 30.4	67.95
4	13 46 45.41	22.693	7 54 37.3	101.00	4	15 37 34.08	23.500	14 46 15.4	67.04
5	13 49 1.60	22.706	8 4 41.9	100.52	5	15 39 55.13	23.516	14 52 54.9	66.12
6	13 51 17.88	22.720	8 14 43.5	100.02	6	15 42 16.27	23.531	14 59 28.8	65.20
7	13 53 34.24	22.734	8 24 42.1	99.51	7	15 44 37.50	23.547	15 5 57.3	64.27
8	13 55 50.69	22.749	8 34 37.6	98.99	8	15 46 58.83	23.562	15 12 20.1	63.33
9	13 58 7.23	22.764	8 44 30.0	98.47	9	15 49 20.24	23.577	15 18 37.3	62.39
10	14 0 23.86	22.779	8 54 19.3	97.93	10	15 51 41.75	23.592	15 24 48.8	61.44
11	14 2 40.58	22.794	9 4 5.2	97.38	11	15 54 3.34	23.606	15 30 54.6	60.49
12	14 4 57.39	22.809	9 13 47.9	96.83	12	15 56 25.02	23.620	15 36 54.7	59.53
13	14 7 14.29	22.825	9 23 27.2	96.27	13	15 58 46.78	23.634	15 42 48.9	58.55
14	14 9 31.29	22.842	9 33 3.1	95.69	14	16 1 8.63	23.648	15 48 37.3	57.58
15	14 11 48.39	22.858	9 42 35.5	95.11	15	16 3 30.56	23.661	15 54 19.9	56.60
16	14 14 5.59	22.875	9 52 4.4	94.52	16	16 5 52.56	23.674	15 59 56.5	55.61
17	14 16 22.89	22.890	10 1 29.7	93.91	17	16 8 14.65	23.687	16 5 27.2	54.62
18	14 18 40.27	22.906	10 10 51.3	93.28	18	16 10 36.81	23.698	16 10 52.0	53.62
19	14 20 57.76	22.923	10 20 9.2	92.67	19	16 12 59.03	23.710	16 16 10.7	52.61
20	14 23 15.35	22.941	10 29 23.4	92.04	20	16 15 21.33	23.723	16 21 23.3	51.61
21	14 25 33.05	22.958	10 38 33.7	91.39	21	16 17 43.71	23.734	16 26 30.0	50.59
22	14 27 50.85	22.975	10 47 40.1	90.73	22	16 20 6.14	23.743	16 31 30.4	49.56
23	14 30 8.75	22.992	10 56 42.5	90.07	23	16 22 28.63	23.754	16 36 24.7	48.53
24	14 32 26.75	23.009	S. 11 5 41.0	89.41	24	16 24 51.19	23.765	S. 16 41 12.8	47.51

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 13.					MONDAY 15.				
	h m s	s				h m s	s		
0	16 24 51.19	23.765	S. 16 41 12.8	47.51	0	18 19 5.03	23.610	S. 18 24 36.8	4.84
1	16 27 13.81	23.773	16 45 54.8	46.48	1	18 21 26.64	23.592	18 24 4.5	5.93
2	16 29 36.47	23.783	16 50 30.5	45.43	2	18 23 48.13	23.573	18 23 25.6	7.02
3	16 31 59.20	23.792	16 54 59.9	44.38	3	18 26 9.52	23.555	18 22 40.3	8.09
4	16 34 21.97	23.799	16 59 23.1	43.33	4	18 28 30.79	23.535	18 21 48.5	9.18
5	16 36 44.79	23.807	17 3 39.9	42.28	5	18 30 51.94	23.515	18 20 50.2	10.25
6	16 39 7.66	23.814	17 7 50.4	41.23	6	18 33 12.97	23.495	18 19 45.5	11.31
7	16 41 30.56	23.821	17 11 54.6	40.17	7	18 35 33.88	23.473	18 18 34.5	12.37
8	16 43 53.51	23.827	17 15 52.4	39.09	8	18 37 54.65	23.451	18 17 17.0	13.44
9	16 46 16.48	23.832	17 19 43.7	38.02	9	18 40 15.29	23.428	18 15 53.2	14.49
10	16 48 39.50	23.838	17 23 28.7	36.96	10	18 42 35.79	23.406	18 14 23.1	15.55
11	16 51 2.54	23.843	17 27 7.2	35.88	11	18 44 56.16	23.382	18 12 46.6	16.60
12	16 53 25.61	23.847	17 30 39.2	34.80	12	18 47 16.38	23.358	18 11 3.9	17.64
13	16 55 48.70	23.850	17 34 4.8	33.72	13	18 49 36.46	23.334	18 9 14.9	18.68
14	16 58 11.81	23.854	17 37 23.8	32.63	14	18 51 56.39	23.308	18 7 19.7	19.72
15	17 0 34.95	23.857	17 40 36.3	31.54	15	18 54 16.16	23.283	18 5 18.3	20.74
16	17 2 58.09	23.858	17 43 42.3	30.45	16	18 56 35.78	23.257	18 3 10.8	21.77
17	17 5 21.24	23.860	17 46 41.7	29.35	17	18 58 55.24	23.230	18 0 57.0	22.80
18	17 7 44.41	23.861	17 49 34.5	28.26	18	19 1 14.54	23.203	17 58 37.2	23.81
19	17 10 7.57	23.861	17 52 20.8	27.17	19	19 3 33.68	23.176	17 56 11.3	24.82
20	17 12 30.74	23.861	17 55 0.5	26.07	20	19 5 52.65	23.147	17 53 39.4	25.83
21	17 14 53.90	23.860	17 57 33.6	24.96	21	19 8 11.44	23.118	17 51 1.4	26.83
22	17 17 17.06	23.859	18 0 0.0	23.86	22	19 10 30.07	23.090	17 48 17.5	27.82
23	17 19 40.21	23.857	S. 18 2 19.9	22.76	23	19 12 48.52	23.060	S. 17 45 27.6	28.81
SUNDAY 14.					TUESDAY 16.				
	h m s	s				h m s	s		
0	17 22 3.34	23.854	S. 18 4 33.1	21.65	0	19 15 6.79	23.030	S. 17 42 31.8	29.79
1	17 24 26.46	23.851	18 6 39.7	20.54	1	19 17 24.88	22.999	17 39 30.1	30.77
2	17 26 49.55	23.847	18 8 39.6	19.43	2	19 19 42.78	22.968	17 36 22.6	31.73
3	17 29 12.62	23.843	18 10 32.9	18.32	3	19 22 0.50	22.937	17 33 9.3	32.70
4	17 31 35.67	23.838	18 12 19.5	17.22	4	19 24 18.03	22.906	17 29 50.2	33.65
5	17 33 58.68	23.833	18 13 59.5	16.11	5	19 26 35.37	22.874	17 26 25.5	34.60
6	17 36 21.66	23.827	18 15 32.8	14.99	6	19 28 52.52	22.842	17 22 55.0	35.55
7	17 38 44.60	23.820	18 16 59.4	13.88	7	19 31 9.48	22.809	17 19 18.9	36.49
8	17 41 7.50	23.812	18 18 19.4	12.77	8	19 33 26.23	22.776	17 15 37.1	37.42
9	17 43 30.34	23.803	18 19 32.7	11.67	9	19 35 42.79	22.742	17 11 49.8	38.34
10	17 45 53.14	23.796	18 20 39.4	10.56	10	19 37 59.14	22.708	17 7 57.0	39.27
11	17 48 15.89	23.787	18 21 39.4	9.45	11	19 40 15.29	22.674	17 3 58.6	40.18
12	17 50 38.58	23.777	18 22 32.8	8.34	12	19 42 31.23	22.639	16 59 54.8	41.08
13	17 53 1.21	23.766	18 23 19.5	7.23	13	19 44 46.96	22.605	16 55 45.6	41.98
14	17 55 23.77	23.755	18 23 59.6	6.12	14	19 47 2.49	22.570	16 51 31.0	42.87
15	17 57 46.27	23.743	18 24 33.0	5.02	15	19 49 17.80	22.534	16 47 11.1	43.75
16	18 0 8.69	23.731	18 24 59.8	3.92	16	19 51 32.90	22.499	16 42 46.0	44.62
17	18 2 31.04	23.718	18 25 20.0	2.81	17	19 53 47.79	22.463	16 38 15.6	45.49
18	18 4 53.31	23.704	18 25 33.5	1.71	18	19 56 2.45	22.426	16 33 40.1	46.36
19	18 7 15.49	23.690	18 25 40.5	0.62	19	19 58 16.90	22.390	16 28 59.3	47.22
20	18 9 37.59	23.675	18 25 40.9	0.48	20	20 0 31.43	22.354	16 24 13.5	48.05
21	18 11 59.59	23.660	18 25 34.7	1.58	21	20 2 45.15	22.317	16 19 22.7	48.89
22	18 14 21.51	23.644	18 25 21.9	2.67	22	20 4 58.93	22.279	16 14 26.8	49.73
23	18 16 43.32	23.627	18 25 2.6	3.76	23	20 7 12.50	22.242	16 9 26.0	50.55
24	18 19 5.03	23.610	S. 18 24 36.8	4.84	24	20 9 25.84	22.204	S. 16 4 20.2	51.38

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 17.					FRIDAY 19.				
	h m s	s	S. 16° 4' 20" 2	51" 38		h m s	s	S. 10° 39' 13" 1	80" 96
0	20 9 25.84	22.204	15 59 9.6	52.18	0	21 51 33.95	20.374	10 31 6.1	81.37
1	20 11 38.95	22.167	15 53 54.1	52.98	1	21 53 36.09	20.340	10 22 56.6	81.79
2	20 13 51.84	22.129	15 48 33.9	53.76	2	21 55 38.03	20.305	10 14 44.6	82.19
3	20 16 4.50	22.091	15 43 9.0	54.54	3	21 57 39.75	20.270	10 6 30.3	82.59
4	20 18 16.93	22.052	15 37 39.4	55.32	4	21 59 41.27	20.237	9 58 13.5	82.98
5	20 20 29.13	22.013	15 32 5.1	56.09	5	22 1 42.59	20.203	9 49 54.5	83.35
6	20 22 41.09	21.975	15 26 26.3	56.85	6	22 3 43.71	20.169	9 41 33.3	83.72
7	20 24 52.83	21.937	15 20 42.9	57.61	7	22 5 44.62	20.136	9 33 9.8	84.10
8	20 27 4.33	21.898	15 14 55.0	58.35	8	22 7 45.34	20.103	9 24 44.1	84.46
9	20 29 15.61	21.859	15 9 2.7	59.08	9	22 9 45.86	20.070	9 16 16.3	84.80
10	20 31 26.64	21.820	15 3 6.0	59.81	10	22 11 46.18	20.038	9 7 46.5	85.14
11	20 33 37.45	21.782	14 57 5.0	60.53	11	22 13 46.31	20.006	8 59 14.6	85.48
12	20 35 48.02	21.743	14 50 59.7	61.24	12	22 15 46.25	19.974	8 50 40.7	85.81
13	20 37 58.36	21.703	14 44 50.1	61.94	13	22 17 46.00	19.942	8 42 4.9	86.13
14	20 40 8.46	21.663	14 38 36.4	62.63	14	22 19 45.56	19.912	8 33 27.2	86.44
15	20 42 18.32	21.624	14 32 18.5	63.32	15	22 21 44.94	19.881	8 24 47.6	86.75
16	20 44 27.95	21.586	14 25 56.5	64.01	16	22 23 44.13	19.851	8 16 6.2	87.05
17	20 46 37.35	21.547	14 19 30.4	64.68	17	22 25 43.15	19.821	8 7 23.0	87.34
18	20 48 46.51	21.508	14 13 0.4	65.33	18	22 27 41.98	19.790	7 58 38.1	87.62
19	20 50 55.44	21.468	14 6 26.4	65.99	19	22 29 40.63	19.762	7 49 51.5	87.90
20	20 53 4.13	21.429	13 59 48.5	66.63	20	22 31 39.12	19.733	7 41 3.3	88.18
21	20 55 12.59	21.390	13 53 6.8	67.27	21	22 33 37.42	19.703	7 32 13.4	88.44
22	20 57 20.81	21.350	13 46 21.3	67.90	22	22 35 35.56	19.676	7 23 22.0	88.69
23	20 59 28.79	21.311			23	22 37 33.53	19.648		
THURSDAY 18.					SATURDAY 20.				
0	21 1 36.54	21.272	13 39 32.0	68.52	0	22 39 31.33	19.620	7 14 29.1	88.94
1	21 3 44.06	21.233	13 32 39.0	69.13	1	22 41 28.97	19.593	7 5 34.7	89.18
2	21 5 51.34	21.194	13 25 42.4	69.73	2	22 43 26.45	19.566	6 56 38.9	89.42
3	21 7 58.39	21.156	13 18 42.2	70.33	3	22 45 23.76	19.540	6 47 41.6	89.66
4	21 10 5.21	21.117	13 11 38.4	70.92	4	22 47 20.93	19.514	6 38 43.0	89.88
5	21 12 11.79	21.078	13 4 31.2	71.49	5	22 49 17.93	19.488	6 29 43.1	90.09
6	21 14 18.15	21.040	12 57 20.5	72.07	6	22 51 14.79	19.463	6 20 41.9	90.30
7	21 16 24.27	21.002	12 50 6.3	72.63	7	22 53 11.49	19.438	6 11 39.5	90.51
8	21 18 30.17	20.963	12 42 48.9	73.18	8	22 55 8.05	19.414	6 2 35.8	90.71
9	21 20 35.83	20.925	12 35 28.1	73.74	9	22 57 4.46	19.391	5 53 31.0	90.89
10	21 22 41.27	20.887	12 28 4.0	74.28	10	22 59 0.74	19.367	5 44 25.1	91.07
11	21 24 46.48	20.849	12 20 36.8	74.80	11	23 0 56.87	19.343	5 35 18.1	91.25
12	21 26 51.46	20.811	12 13 6.4	75.33	12	23 2 52.86	19.321	5 26 10.1	91.42
13	21 28 56.21	20.773	12 5 32.9	75.84	13	23 4 48.72	19.298	5 17 1.1	91.58
14	21 31 0.74	20.737	11 57 56.3	76.34	14	23 6 44.44	19.277	5 7 51.1	91.74
15	21 33 5.05	20.700	11 50 16.8	76.83	15	23 8 40.04	19.255	4 58 40.2	91.89
16	21 35 9.14	20.662	11 42 34.3	77.33	16	23 10 35.50	19.234	4 49 28.4	92.04
17	21 37 13.00	20.625	11 34 48.8	77.82	17	23 12 30.85	19.214	4 40 15.7	92.18
18	21 39 16.64	20.589	11 27 0.5	78.28	18	23 14 26.07	19.193	4 31 2.2	92.32
19	21 41 20.07	20.552	11 19 9.4	78.75	19	23 16 21.17	19.173	4 21 47.9	92.44
20	21 43 23.27	20.517	11 11 15.5	79.21	20	23 18 16.15	19.155	4 12 32.9	92.56
21	21 45 26.27	20.481	11 3 18.9	79.66	21	23 20 11.03	19.137	4 3.17.2	92.68
22	21 47 29.04	20.444	10 55 19.6	80.11	22	23 22 5.78	19.118	3 54 0.8	92.78
23	21 49 31.60	20.409	10 47 17.6	80.54	23	23 24 0.43	19.099	3 44 43.8	92.88
24	21 51 33.95	20.374	S. 10° 39' 13" 1	80.96	24	23 25 54.97	19.082	S. 3° 35' 26" 2	92.98

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in ro^m .	Declination.	Var. in ro^m .	Hour.	Right Ascension.	Var. in ro^m .	Declination.	Var. in ro^m .
SUNDAY 21.					TUESDAY 23.				
	h m s	s				h m s	s		
0	23 25 54.97	19.082	S. 3 35' 26".2	92.98	0	0 56 22.21	18.791	N. 3 51' 22".9	91.15
1	23 27 49.41	19.064	3 26 8.0	93.07	1	0 58 14.97	18.796	4 0 29.3	90.98
2	23 29 43.74	19.048	3 16 49.3	93.16	2	1 0 7.76	18.802	4 9 34.7	90.82
3	23 31 37.98	19.032	3 7 30.1	93.23	3	1 2 0.59	18.808	4 18 39.1	90.64
4	23 33 32.12	19.016	2 58 10.5	93.31	4	1 3 53.46	18.816	4 27 42.4	90.46
5	23 35 26.17	19.001	2 48 50.4	93.38	5	1 5 46.38	18.824	4 36 44.6	90.27
6	23 37 20.13	18.987	2 39 30.0	93.43	6	1 7 39.35	18.832	4 45 45.7	90.08
7	23 39 14.01	18.973	2 30 9.2	93.50	7	1 9 32.36	18.840	4 54 45.6	89.89
8	23 41 7.80	18.958	2 20 48.0	93.55	8	1 11 25.43	18.849	5 3 44.4	89.69
9	23 43 1.50	18.944	2 11 26.6	93.59	9	1 13 18.55	18.858	5 12 41.9	89.48
10	23 44 55.13	18.932	2 2 4.9	93.63	10	1 15 11.73	18.868	5 21 38.2	89.27
11	23 46 48.68	18.918	1 52 43.1	93.66	11	1 17 4.96	18.878	5 30 33.2	89.06
12	23 48 42.15	18.906	1 43 21.0	93.69	12	1 18 58.27	18.890	5 39 26.9	88.83
13	23 50 35.55	18.895	1 33 58.8	93.71	13	1 20 51.64	18.901	5 48 19.2	88.61
14	23 52 28.89	18.884	1 24 36.5	93.73	14	1 22 45.08	18.912	5 57 10.2	88.38
15	23 54 22.16	18.873	1 15 14.1	93.74	15	1 24 38.59	18.924	6 5 59.8	88.14
16	23 56 15.37	18.863	1 5 51.6	93.74	16	1 26 32.17	18.937	6 14 47.9	87.90
17	23 58 8.52	18.854	0 56 29.2	93.74	17	1 28 25.84	18.951	6 23 34.6	87.66
18	0 0 1.62	18.844	0 47 6.7	93.74	18	1 30 19.58	18.964	6 32 19.8	87.41
19	0 1 54.65	18.835	0 37 44.3	93.73	19	1 32 13.41	18.979	6 41 3.5	87.15
20	0 3 47.64	18.827	0 28 22.0	93.71	20	1 34 7.33	18.993	6 49 45.6	86.89
21	0 5 40.58	18.820	0 18 59.8	93.69	21	1 36 1.33	19.008	6 58 26.2	86.62
22	0 7 33.48	18.812	0 9 37.7	93.66	22	1 37 55.43	19.024	7 7 5.1	86.35
23	0 9 26.33	18.805	S. 0 0 15.9	93.62	23	1 39 49.62	19.040	N. 7 15 42.4	86.07
MONDAY 22.					WEDNESDAY 24.				
0	0 11 19.14	18.798	N. 0 9 5.8	93.59	0	1 41 43.91	19.057	N. 7 24 18.0	85.79
1	0 13 11.91	18.793	0 18 27.2	93.55	1	1 43 38.30	19.073	7 32 51.9	85.50
2	0 15 4.65	18.788	0 27 48.4	93.51	2	1 45 32.79	19.091	7 41 24.0	85.21
3	0 16 57.36	18.783	0 37 9.3	93.45	3	1 47 27.39	19.108	7 49 54.4	84.92
4	0 18 50.05	18.778	0 46 29.8	93.39	4	1 49 22.09	19.127	7 58 23.0	84.61
5	0 20 42.70	18.774	0 55 50.0	93.33	5	1 51 16.91	19.147	8 6 49.7	84.30
6	0 22 35.34	18.771	1 5 9.8	93.26	6	1 53 11.85	19.165	8 15 14.6	83.99
7	0 24 27.95	18.768	1 14 29.1	93.18	7	1 55 6.89	19.184	8 23 37.6	83.68
8	0 26 20.55	18.765	1 23 48.0	93.11	8	1 57 2.06	19.205	8 31 58.7	83.35
9	0 28 13.13	18.763	1 33 6.4	93.03	9	1 58 57.35	19.226	8 40 17.8	83.02
10	0 30 5.71	18.762	1 42 24.3	92.94	10	2 0 52.77	19.247	8 48 34.9	82.68
11	0 31 58.27	18.760	1 51 41.7	92.84	11	2 2 48.31	19.268	8 56 50.0	82.34
12	0 33 50.83	18.760	2 0 58.4	92.73	12	2 4 43.98	19.289	9 5 3.0	81.99
13	0 35 43.39	18.760	2 10 14.5	92.64	13	2 6 39.78	19.312	9 13 13.9	81.64
14	0 37 35.95	18.760	2 19 30.1	92.53	14	2 8 35.72	19.335	9 21 22.7	81.29
15	0 39 28.51	18.761	2 28 44.9	92.41	15	2 10 31.80	19.358	9 29 29.4	80.93
16	0 41 21.08	18.762	2 37 59.0	92.28	16	2 12 28.02	19.382	9 37 33.9	80.56
17	0 43 13.65	18.764	2 47 12.3	92.17	17	2 14 24.38	19.405	9 45 36.1	80.18
18	0 45 6.25	18.767	2 56 25.0	92.04	18	2 16 20.88	19.429	9 53 36.1	79.81
19	0 46 58.85	18.768	3 5 36.8	91.90	19	2 18 17.53	19.454	10 1 33.8	79.43
20	0 48 51.47	18.772	3 14 47.8	91.76	20	2 20 14.33	19.480	10 9 29.2	79.03
21	0 50 44.12	18.777	3 23 57.9	91.62	21	2 22 11.29	19.505	10 17 22.2	78.63
22	0 52 36.79	18.780	3 33 7.2	91.47	22	2 24 8.39	19.531	10 25 12.8	78.23
23	0 54 29.48	18.785	3 42 15.5	91.31	23	2 26 5.66	19.557	10 33 1.0	77.82
24	0 56 22.21	18.791	N. 3 51 22.9	91.15	24	2 28 3.08	19.584	N. 10 40 46.7	77.41

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 25.					SATURDAY 27.				
	h m s	s				h m s	s		
0	2 28 3.08	19.584	N.10 40 46.7	77.41	0	4 5 47.49	21.245	N.15 53 11.5	50.29
1	2 30 0.67	19.612	10 48 29.9	76.99	1	4 7 55.08	21.285	15 58 11.1	49.57
2	2 31 58.42	19.638	10 56 10.6	76.57	2	4 10 2.91	21.326	16 3 6.3	48.83
3	2 33 56.33	19.667	11 3 48.8	76.14	3	4 12 10.99	21.366	16 7 57.0	48.08
4	2 35 54.42	19.695	11 11 24.3	75.70	4	4 14 19.30	21.405	16 12 43.3	47.34
5	2 37 52.67	19.723	11 18 57.2	75.26	5	4 16 27.85	21.446	16 17 25.1	46.58
6	2 39 51.10	19.753	11 26 27.4	74.81	6	4 18 36.65	21.486	16 22 2.3	45.82
7	2 41 49.71	19.783	11 33 54.9	74.36	7	4 20 45.68	21.526	16 26 35.0	45.06
8	2 43 48.49	19.812	11 41 19.7	73.90	8	4 22 54.96	21.567	16 31 3.0	44.28
9	2 45 47.45	19.842	11 48 41.7	73.43	9	4 25 4.48	21.607	16 35 26.3	43.49
10	2 47 46.60	19.873	11 56 0.8	72.96	10	4 27 14.24	21.647	16 39 44.9	42.71
11	2 49 45.93	19.904	12 3 17.2	72.48	11	4 29 24.24	21.687	16 43 58.8	41.92
12	2 51 45.45	19.935	12 10 30.6	71.99	12	4 31 34.49	21.728	16 48 7.9	41.11
13	2 53 45.15	19.967	12 17 41.1	71.51	13	4 33 44.98	21.768	16 52 12.1	40.30
14	2 55 45.05	19.999	12 24 48.7	71.01	14	4 35 55.71	21.808	16 56 11.5	39.48
15	2 57 45.14	20.032	12 31 53.2	70.50	15	4 38 6.68	21.848	17 0 5.9	38.66
16	2 59 45.43	20.064	12 38 54.7	70.00	16	4 40 17.89	21.889	17 3 55.4	37.83
17	3 1 45.91	20.097	12 45 53.2	69.49	17	4 42 29.35	21.929	17 7 39.8	36.98
18	3 3 46.59	20.130	12 52 48.6	68.97	18	4 44 41.04	21.968	17 11 19.2	36.14
19	3 5 47.47	20.164	12 59 40.8	68.43	19	4 46 52.97	22.009	17 14 53.5	35.29
20	3 7 48.56	20.198	13 6 29.8	67.90	20	4 49 5.15	22.049	17 18 22.7	34.43
21	3 9 49.85	20.233	13 13 15.6	67.36	21	4 51 17.56	22.088	17 21 46.7	33.57
22	3 11 51.35	20.267	13 19 58.1	66.82	22	4 53 30.21	22.128	17 25 5.6	32.70
23	3 13 53.05	20.301	N.13 26 37.4	66.27	23	4 55 43.10	22.168	N.17 28 19.1	31.82
FRIDAY 26.					SUNDAY 28.				
	h m s	s				h m s	s		
0	3 15 54.96	20.336	N.13 33 13.3	65.70	0	4 57 56.23	22.207	N.17 31 27.4	30.94
1	3 17 57.08	20.372	13 39 45.8	65.13	1	5 0 9.59	22.247	17 34 30.4	30.05
2	3 19 59.42	20.408	13 46 14.9	64.57	2	5 2 23.19	22.286	17 37 28.0	29.15
3	3 22 1.97	20.443	13 52 40.6	63.99	3	5 4 37.02	22.325	17 40 20.2	28.24
4	3 24 4.73	20.479	13 59 2.8	63.41	4	5 6 51.09	22.363	17 43 6.9	27.33
5	3 26 7.72	20.516	14 5 21.5	62.82	5	5 9 5.38	22.402	17 45 48.2	26.42
6	3 28 10.92	20.552	14 11 36.6	62.21	6	5 11 19.91	22.440	17 48 23.9	25.49
7	3 30 14.34	20.589	14 17 48.0	61.61	7	5 13 34.66	22.478	17 50 54.1	24.57
8	3 32 17.99	20.627	14 23 55.9	61.00	8	5 15 49.64	22.516	17 53 18.8	23.63
9	3 34 21.86	20.663	14 30 0.0	60.38	9	5 18 4.85	22.554	17 55 37.7	22.68
10	3 36 25.96	20.701	14 36 0.4	59.75	10	5 20 20.29	22.592	17 57 51.0	21.74
11	3 38 30.27	20.739	14 41 57.0	59.12	11	5 22 35.95	22.628	17 59 58.6	20.79
12	3 40 34.82	20.777	14 47 49.8	58.48	12	5 24 51.83	22.665	18 2 0.5	19.83
13	3 42 39.59	20.815	14 53 38.8	57.84	13	5 27 7.93	22.702	18 3 56.6	18.87
14	3 44 44.60	20.853	14 59 23.9	57.18	14	5 29 24.26	22.739	18 5 46.9	17.90
15	3 46 49.83	20.892	15 5 5.0	56.52	15	5 31 40.80	22.775	18 7 31.4	16.92
16	3 48 55.30	20.931	15 10 42.1	55.86	16	5 33 57.56	22.811	18 9 9.9	15.93
17	3 51 1.00	20.970	15 16 15.3	55.19	17	5 36 14.53	22.846	18 10 42.6	14.95
18	3 53 6.94	21.008	15 21 44.4	54.51	18	5 38 31.71	22.881	18 12 9.3	13.95
19	3 55 13.10	21.047	15 27 9.4	53.83	19	5 40 49.10	22.916	18 13 30.0	12.95
20	3 57 19.51	21.087	15 32 30.3	53.13	20	5 43 6.70	22.951	18 14 44.7	11.95
21	3 59 26.15	21.126	15 37 46.9	52.43	21	5 45 24.51	22.985	18 15 53.4	10.94
22	4 1 33.02	21.166	15 42 59.4	51.72	22	5 47 42.52	23.018	18 16 56.0	9.92
23	4 3 40.14	21.206	15 48 7.6	51.00	23	5 50 0.73	23.052	18 17 52.5	8.90
24	4 5 47.49	21.245	N.15 53 11.5	50.29	24	5 52 19.14	23.085	N.18 18 42.8	7.88

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 29.					WEDNESDAY 31.				
	h m s	s	N. 18° 18' 42".8	7".88		h m s	s	N. 16° 51' 56".4	44".63
0	5 52 19.14	23.085	18 19 27.0	6.84	0	7 46 0.75	24.077	16 47 25.4	45.72
1	5 54 37.75	23.118	18 20 4.9	5.81	1	7 48 25.23	24.083	16 42 47.8	46.82
2	5 56 56.55	23.150	18 20 36.7	4.78	2	7 50 49.75	24.090	16 38 3.6	47.91
3	5 59 15.55	23.182	18 21 2.2	3.73	3	7 53 14.31	24.096	16 33 12.9	48.99
4	6 1 34.73	23.213	18 21 21.4	2.67	4	7 55 38.90	24.100	16 28 15.7	50.08
5	6 3 54.10	23.244	18 21 34.3	1.62	5	7 58 3.51	24.104	16 23 11.9	51.17
6	6 6 13.66	23.274	18 21 40.9	0.57	6	8 0 28.15	24.108	16 18 1.7	52.23
7	6 8 33.39	23.304	18 21 41.1	0.49	7	8 2 52.81	24.112	16 12 45.1	53.30
8	6 10 53.31	23.334	18 21 35.0	1.56	8	8 5 17.49	24.114	16 7 22.1	54.37
9	6 13 13.40	23.363	18 21 22.4	2.63	9	8 7 42.18	24.116	16 1 52.6	55.44
10	6 15 33.67	23.392	18 21 3.4	3.70	10	8 10 6.88	24.118	15 56 16.8	56.50
11	6 17 54.10	23.420	18 20 38.0	4.78	11	8 12 31.60	24.120	15 50 34.6	57.56
12	6 20 14.71	23.448	18 20 6.1	5.86	12	8 14 56.32	24.120	15 44 46.1	58.60
13	6 22 35.48	23.475	18 19 27.7	6.94	13	8 17 21.04	24.120	15 38 51.4	59.64
14	6 24 56.41	23.502	18 18 42.8	8.03	14	8 19 45.76	24.119	15 32 50.4	60.69
15	6 27 17.50	23.528	18 17 51.4	9.12	15	8 22 10.48	24.117	15 26 43.1	61.72
16	6 29 38.74	23.553	18 16 53.4	10.21	16	8 24 35.19	24.115	15 20 29.7	62.75
17	6 32 0.14	23.579	18 15 48.9	11.31	17	8 26 59.89	24.112	15 14 10.1	63.77
18	6 34 21.69	23.603	18 14 37.7	12.41	18	8 29 24.57	24.110	15 7 44.4	64.79
19	6 36 43.38	23.627	18 13 20.0	13.50	19	8 31 49.24	24.107	15 1 12.6	65.80
20	6 39 5.21	23.650	18 11 55.7	14.60	20	8 34 13.89	24.103	14 54 34.8	66.80
21	6 41 27.18	23.673	18 10 24.8	15.71	21	8 36 38.53	24.098	14 47 51.0	67.79
22	6 43 49.29	23.697	18 8 47.2	16.82	22	8 39 3.13	24.094	14 41 1.3	68.78
23	6 46 11.54	23.718			23	8 41 27.71			
TUESDAY 30.					THURSDAY, FEB. 1.				
	h m s	s	N. 18° 7' 3.0	17.92		h m s	s	N. 14° 34' 5.6	69.78
0	6 48 33.91	23.739	18 5 12.1	19.03	0	8 43 52.26	24.089		
1	6 50 56.41	23.760	18 3 14.6	20.14					
2	6 53 19.03	23.781	18 1 10.4	21.26					
3	6 55 41.78	23.800	17 58 59.5	22.38					
4	6 58 4.63	23.819	17 56 41.9	23.49					
5	7 0 27.61	23.838	17 54 17.6	24.61					
6	7 2 50.69	23.855	17 51 46.6	25.72					
7	7 5 13.87	23.872	17 49 8.9	26.83					
8	7 7 37.16	23.889	17 46 24.6	27.95					
9	7 10 0.54	23.906	17 43 33.5	29.07					
10	7 12 24.03	23.922	17 40 35.7	30.19					
11	7 14 47.60	23.936	17 37 31.2	31.31					
12	7 17 11.26	23.950	17 34 20.0	32.42					
13	7 19 35.00	23.964	17 31 2.1	33.54					
14	7 21 58.83	23.978	17 27 37.5	34.65					
15	7 24 22.73	23.990	17 24 6.3	35.77					
16	7 26 46.71	24.002	17 20 28.3	36.88					
17	7 29 10.75	24.013	17 16 43.7	37.99					
18	7 31 34.87	24.024	17 12 52.4	39.10					
19	7 33 59.04	24.034	17 8 54.5	40.21					
20	7 36 23.28	24.044	17 4 49.9	41.32					
21	7 38 47.57	24.053	17 0 38.7	42.42					
22	7 41 11.92	24.062	16 56 20.9	43.53					
23	7 43 36.31	24.069							
24	7 46 0.75	24.077	N. 16° 51' 56".4	44.63					

PHASES OF THE MOON.

		h	m
Jan. 2	○ Full Moon	14	33.4
9	☾ Last Quarter	12	54.5
16	● New Moon	14	41.0
24	☽ First Quarter	15	59.3

		h
Jan. 7	☾ Perigee	23.9
23	☾ Apogee	1.4

AT APPARENT NOON.

Date.	THE SUN'S				Sidereal Time of the Semi- diameter passing the Meridian.*	Equation of Time, to be added to Apparent Time.	Var. in hour.
	Apparent Right Ascension.	Var. in hour.	Apparent Declination.	Var. in hour.			
	h m s	s	° ' "	"	m s	m s	s
Thur.	1 20 56 21.69	10.211	S. 17 18 8.0	42.13	1 8.30	13 38.86	0.354
Frid.	2 21 0 26.34	10.177	17 1 7.6	42.89	1 8.19	13 46.94	0.320
Sat.	3 21 4 30.18	10.143	16 43 49.4	43.63	1 8.07	13 54.20	0.286
Sun.	4 21 8 33.20	10.109	16 26 13.6	44.35	1 7.96	14 0.65	0.252
Mon.	5 21 12 35.41	10.076	16 8 20.6	45.06	1 7.84	14 6.29	0.219
Tues.	6 21 16 36.83	10.043	15 50 10.9	45.74	1 7.73	14 11.14	0.186
Wed.	7 21 20 37.46	10.010	15 31 44.9	46.42	1 7.61	14 15.21	0.153
Thur.	8 21 24 37.31	9.977	15 13 3.0	47.07	1 7.50	14 18.49	0.120
Frid.	9 21 28 36.37	9.945	14 54 5.5	47.71	1 7.39	14 20.99	0.088
Sat.	10 21 32 34.66	9.913	14 34 53.0	48.33	1 7.27	14 22.72	0.056
Sun.	11 21 36 32.19	9.881	14 15 25.8	48.93	1 7.16	14 23.69	0.025
Mon.	12 21 40 28.95	9.849	13 55 44.4	49.51	1 7.05	14 23.90	0.007
Tues.	13 21 44 24.95	9.818	13 35 49.2	50.08	1 6.94	14 23.35	0.038
Wed.	14 21 48 20.21	9.787	13 15 40.6	50.63	1 6.84	14 22.06	0.069
Thur.	15 21 52 14.72	9.756	12 55 19.0	51.16	1 6.73	14 20.02	0.100
Frid.	16 21 56 8.50	9.726	12 34 45.0	51.67	1 6.63	14 17.25	0.130
Sat.	17 22 0 1.55	9.695	12 13 58.8	52.17	1 6.52	14 13.76	0.160
Sun.	18 22 3 53.88	9.666	11 53 1.0	52.65	1 6.42	14 9.55	0.190
Mon.	19 22 7 45.51	9.636	11 31 52.0	53.11	1 6.32	14 4.64	0.219
Tues.	20 22 11 36.43	9.608	11 10 32.1	53.55	1 6.23	13 59.03	0.248
Wed.	21 22 15 26.68	9.580	10 49 1.8	53.97	1 6.13	13 52.73	0.276
Thur.	22 22 19 16.25	9.552	10 27 21.6	54.38	1 6.04	13 45.77	0.304
Frid.	23 22 23 5.16	9.525	10 5 31.8	54.76	1 5.95	13 38.15	0.331
Sat.	24 22 26 53.43	9.498	9 43 32.9	55.14	1 5.86	13 29.89	0.357
Sun.	25 22 30 41.07	9.472	9 21 25.2	55.49	1 5.77	13 21.01	0.383
Mon.	26 22 34 28.11	9.447	8 59 9.2	55.83	1 5.69	13 11.51	0.408
Tues.	27 22 38 14.55	9.423	8 36 45.2	56.16	1 5.60	13 1.43	0.432
Wed.	28 22 42 0.41	9.399	8 14 13.7	56.46	1 5.52	12 50.77	0.456
Thur.	29 22 45 45.72	9.377	S. 7 51 35.1	56.75	1 5.45	12 39.56	0.478

* Mean Time of the Semidiameter passing may be found by subtracting 0.18 from the Sidereal Time.

AT MEAN NOON.

Date.		THE SUN'S			Equation of Time, to be added to Apparent Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*		
		h m s	S. ° ' "	° ' "	m s	h m s
Thur.	1	20 56 19.37	S. 17 18 17.6	16 15.42	13 38.78	20 42 40.59
Frid.	2	21 0 24.00	17 1 17.5	16 15.27	13 46.86	20 46 37.14
Sat.	3	21 4 27.82	16 43 59.5	16 15.12	13 54.13	20 50 33.70
Sun.	4	21 8 30.84	16 26 23.9	16 14.96	14 0.59	20 54 30.25
Mon.	5	21 12 33.05	16 8 31.2	16 14.80	14 6.24	20 58 26.80
Tues.	6	21 16 34.46	15 50 21.7	16 14.64	14 11.10	21 2 23.36
Wed.	7	21 20 35.08	15 31 55.9	16 14.46	14 15.17	21 6 19.91
Thur.	8	21 24 34.93	15 13 14.2	16 14.29	14 18.46	21 10 16.47
Frid.	9	21 28 33.99	14 54 16.9	16 14.11	14 20.97	21 14 13.02
Sat.	10	21 32 32.28	14 35 4.6	16 13.92	14 22.71	21 18 9.58
Sun.	11	21 36 29.81	14 15 37.6	16 13.74	14 23.69	21 22 6.13
Mon.	12	21 40 26.58	13 55 56.3	16 13.55	14 23.90	21 26 2.68
Tues.	13	21 44 22.60	13 36 1.2	16 13.36	14 23.36	21 29 59.24
Wed.	14	21 48 17.87	13 15 52.7	16 13.16	14 22.07	21 33 55.79
Thur.	15	21 52 12.39	12 55 31.3	16 12.96	14 20.05	21 37 52.34
Frid.	16	21 56 6.18	12 34 57.3	16 12.76	14 17.29	21 41 48.90
Sat.	17	21 59 59.25	12 14 11.2	16 12.56	14 13.80	21 45 45.45
Sun.	18	22 3 51.60	11 53 13.4	16 12.36	14 9.60	21 49 42.00
Mon.	19	22 7 43.24	11 32 4.4	16 12.15	14 4.69	21 53 38.56
Tues.	20	22 11 34.19	11 10 44.6	16 11.94	13 59.08	21 57 35.11
Wed.	21	22 15 24.46	10 49 14.3	16 11.73	13 52.80	22 1 31.66
Thur.	22	22 19 14.06	10 27 34.1	16 11.52	13 45.84	22 5 28.22
Frid.	23	22 23 3.00	10 5 44.3	16 11.30	13 38.23	22 9 24.77
Sat.	24	22 26 51.30	9 43 45.3	16 11.09	13 29.97	22 13 21.32
Sun.	25	22 30 38.97	9 21 37.5	16 10.86	13 21.09	22 17 17.87
Mon.	26	22 34 26.03	8 59 21.5	16 10.64	13 11.60	22 21 14.43
Tues.	27	22 38 12.50	8 36 57.4	16 10.41	13 1.52	22 25 10.98
Wed.	28	22 41 58.40	8 14 25.8	16 10.18	12 50.87	22 29 7.53
Thur.	29	22 45 43.75	S. 7 51 47.1	16 9.94	12 39.66	22 33 4.08

* The Semidiameter for Apparent Noon may be assumed the same as that for Mean Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
				h m s				
1	311° 37' 10".4	S. 0° 14'	9.9936136	3 16 47.09	16' 9".06	16' 13".48	59' 16".58	59' 32".80
2	312 38 20.0	S. 0.03	.9936784	3 12 51.18	16 17.10	16 19.87	59 46.11	59 56.26
3	313 38 52.4	N. 0.10	.9937457	3 8 55.27	16 21.74	16 22.71	60 3.13	60 6.68
4	314 39 41.9	0.24	9.9938156	3 4 59.36	16 22.80	16 22.05	60 7.01	60 4.28
5	315 40 30.4	0.38	.9938879	3 1 3.45	16 20.55	16 18.38	59 58.77	59 50.80
6	316 41 18.0	0.50	.9939624	2 57 7.54	16 15.64	16 12.41	59 40.72	59 28.90
7	317 42 4.7	0.61	9.9940390	2 53 11.64	16 8.82	16 4.94	59 15.70	59 1.47
8	318 42 50.4	0.71	.9941175	2 49 15.73	16 0.86	15 56.66	58 46.50	58 31.06
9	319 43 35.1	0.77	.9941978	2 45 19.82	15 52.38	15 48.08	58 15.36	57 59.57
10	320 44 18.8	0.79	9.9942797	2 41 23.91	15 43.79	15 39.53	57 43.83	57 28.20
11	321 45 1.5	0.78	.9943631	2 37 28.00	15 35.32	15 31.17	57 12.76	56 57.53
12	322 45 43.0	0.75	.9944477	2 33 32.10	15 27.09	15 23.07	56 42.55	56 27.81
13	323 46 23.2	0.69	9.9945335	2 29 36.19	15 19.14	15 15.28	56 13.36	55 59.21
14	324 47 2.2	0.61	.9946204	2 25 40.28	15 11.52	15 7.86	55 45.39	55 31.98
15	325 47 39.8	0.50	.9947084	2 21 44.37	15 4.33	15 0.96	55 19.03	55 6.66
16	326 48 16.0	0.37	9.9947974	2 17 48.47	14 57.78	14 54.83	54 54.99	54 44.14
17	327 48 50.6	0.24	.9948874	2 13 52.56	14 52.14	14 49.76	54 34.28	54 25.55
18	328 49 23.5	N. 0.11	.9949784	2 9 56.65	14 47.74	14 46.13	54 18.14	54 12.22
19	329 49 54.8	S. 0.02	9.9950704	2 6 0.74	14 44.97	14 44.31	54 7.97	54 5.55
20	330 50 24.4	0.13	.9951635	2 2 4.84	14 44.20	14 44.67	54 5.14	54 6.87
21	331 50 52.1	0.23	.9952577	1 58 8.93	14 45.76	14 47.51	54 10.88	54 17.28
22	332 51 18.0	0.31	9.9953530	1 54 13.02	14 49.92	14 53.02	54 26.13	54 37.51
23	333 51 42.0	0.37	.9954495	1 50 17.12	14 56.81	15 1.27	54 51.41	55 7.80
24	334 52 4.0	0.40	.9955473	1 46 21.21	15 6.39	15 12.14	55 26.60	55 47.68
25	335 52 24.1	0.40	9.9956465	1 42 25.30	15 18.45	15 25.25	56 10.84	56 35.82
26	336 52 42.2	0.37	.9957471	1 38 29.39	15 32.46	15 39.96	57 2.26	57 29.77
27	337 52 58.3	0.31	.9958492	1 34 33.49	15 47.61	15 55.27	57 57.86	58 25.97
28	338 53 12.4	0.23	.9959530	1 30 37.58	16 2.76	16 9.92	58 53.47	59 19.73
29	339 53 24.5	S. 0.12	9.9960584	1 26 41.67	16 16.55	16 22.47	59 44.06	60 5.81

MEAN TIME.

THE MOON'S							
Day.	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
					d	h m	h m
1	129° 28' 19".1	136° 37' 50".3	S. 3° 26' 27".4	S. 2° 55' 54".6	15.39	12 29.2	0 1.2
2	143 50 27.2	151 5 23.7	2 22 18.0	1 46 10.3	16.39	13 24.5	0 56.9
3	158 21 52.9	165 39 8.2	S. 1 8 8.7	S. 0 28 53.7	17.39	14 18.9	1 51.8
4	172 56 25.3	180 13 3.6	N. 0 10 52.2	N. 0 50 25.7	18.39	15 12.5	2 45.8
5	187 28 26.8	194 42 3.6	1 29 5.2	2 6 10.3	19.39	16 5.7	3 39.2
6	201 53 28.2	209 2 20.0	2 41 4.6	3 13 15.4	20.39	16 58.9	4 32.3
7	216 8 23.1	223 11 25.8	3 42 14.4	4 7 38.3	21.39	17 52.4	5 25.6
8	230 11 20.4	237 8 1.7	4 29 8.2	4 46 30.4	22.39	18 46.4	6 19.3
9	244 1 26.7	250 51 33.9	4 59 35.2	5 8 17.5	23.39	19 40.7	7 13.5
10	257 38 22.8	264 21 53.5	5 12 36.5	5 12 34.5	24.39	20 34.9	8 7.8
11	271 2 5.6	277 38 59.6	5 8 17.9	4 59 56.0	25.39	21 28.2	9 1.7
12	284 12 35.3	290 42 52.8	4 47 40.9	4 31 47.7	26.39	22 20.1	9 54.4
13	297 9 51.9	303 33 33.5	4 12 33.6	3 50 17.7	27.39	23 10.0	10 45.3
14	309 53 58.9	316 11 10.6	3 25 20.7	2 58 4.8	28.39	23 57.9	11 34.2
15	322 25 12.1	328 36 9.0	2 28 52.6	1 58 7.3	29.39	* *	12 21.0
16	334 44 8.8	340 49 21.4	1 26 12.4	N. 0 53 30.7	0.70	0 43.7	13 6.0
17	346 51 58.7	352 52 15.5	N. 0 20 24.8	S. 0 12 43.6	1.70	1 28.0	13 49.6
18	358 50 29.2	4 46 59.8	S. 0 45 33.8	1 17 46.1	2.70	2 11.0	14 32.3
19	10 42 10.0	16 36 24.8	1 49 1.8	2 19 3.3	3.70	2 53.5	15 14.7
20	22 30 12.0	28 24 1.3	2 47 34.1	3 14 18.4	4.70	3 36.1	15 57.6
21	34 18 24.3	40 13 54.7	3 39 1.3	4 1 28.5	5.70	4 19.3	16 41.3
22	46 11 7.2	52 10 37.7	4 21 26.2	4 38 40.8	6.70	5 3.8	17 26.6
23	58 13 2.3	64 18 57.2	4 52 59.1	5 4 8.3	7.70	5 50.0	18 13.9
24	70 28 57.9	76 43 38.4	5 11 55.9	5 16 9.4	8.70	6 38.4	19 3.5
25	83 3 30.3	89 29 1.8	5 16 37.7	5 13 10.5	9.70	7 29.1	19 55.3
26	96 0 37.0	102 38 34.4	5 5 39.3	4 53 57.7	10.70	8 21.9	20 49.0
27	109 23 5.9	116 14 15.9	4 38 2.6	4 17 55.1	11.70	9 16.4	21 44.1
28	123 12 0.3	130 16 5.7	3 53 40.7	3 25 31.1	12.70	10 11.9	22 39.9
29	137 26 9.3	144 41 38.5	S. 2 53 44.3	S. 2 18 45.2	13.70	11 7.8	23 35.8

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 1.					SATURDAY 3.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	8 43 52.26	24.089	N. 14 34 5.6	69.78	0	10 38 18.20	23.519	N. 7 22 56.4	105.83
1	8 46 16.78	24.083	14 27 4.0	70.75	1	10 40 39.27	23.505	7 12 20.0	106.29
2	8 48 41.26	24.077	14 19 56.6	71.72	2	10 43 0.26	23.492	7 1 40.9	106.75
3	8 51 5.70	24.070	14 12 43.4	72.68	3	10 45 21.17	23.477	6 50 59.0	107.20
4	8 53 30.10	24.064	14 5 24.5	73.62	4	10 47 41.98	23.462	6 40 14.5	107.63
5	8 55 54.47	24.057	13 57 59.8	74.58	5	10 50 2.71	23.449	6 29 27.4	108.06
6	8 58 18.78	24.048	13 50 29.5	75.52	6	10 52 23.37	23.435	6 18 37.8	108.47
7	9 0 43.05	24.041	13 42 53.6	76.44	7	10 54 43.93	23.420	6 7 45.8	108.86
8	9 3 7.27	24.033	13 35 12.2	77.36	8	10 57 4.41	23.407	5 56 51.5	109.23
9	9 5 31.45	24.024	13 27 25.3	78.28	9	10 59 24.81	23.393	5 45 55.0	109.60
10	9 7 55.56	24.015	13 19 32.9	79.18	10	11 1 45.13	23.380	5 34 56.3	109.97
11	9 10 19.63	24.006	13 11 35.1	80.08	11	11 4 5.37	23.367	5 23 55.4	110.31
12	9 12 43.63	23.996	13 3 32.0	80.96	12	11 6 25.53	23.353	5 12 52.6	110.63
13	9 15 7.58	23.986	12 55 23.6	81.84	13	11 8 45.61	23.340	5 1 47.8	110.95
14	9 17 31.46	23.975	12 47 9.9	82.71	14	11 11 5.61	23.327	4 50 41.2	111.25
15	9 19 55.28	23.965	12 38 51.1	83.56	15	11 13 25.53	23.314	4 39 32.8	111.55
16	9 22 19.04	23.954	12 30 27.2	84.41	16	11 15 45.38	23.302	4 28 22.6	111.83
17	9 24 42.73	23.943	12 21 58.2	85.25	17	11 18 5.15	23.289	4 17 10.9	112.08
18	9 27 6.35	23.932	12 13 24.2	86.08	18	11 20 24.85	23.277	4 5 57.6	112.33
19	9 29 29.91	23.920	12 4 45.3	86.90	19	11 22 44.48	23.265	3 54 42.9	112.57
20	9 31 53.39	23.908	11 56 1.4	87.71	20	11 25 4.03	23.253	3 43 26.7	112.80
21	9 34 16.80	23.896	11 47 12.8	88.50	21	11 27 23.51	23.242	3 32 9.3	113.01
22	9 36 40.14	23.883	11 38 19.4	89.29	22	11 29 42.93	23.230	3 20 50.6	113.21
23	9 39 3.40	23.871	N. 11 29 21.3	90.07	23	11 32 2.27	23.218	N. 3 9 30.8	113.39
FRIDAY 2.					SUNDAY 4.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	9 41 26.59	23.858	N. 11 20 18.5	90.85	0	11 34 21.55	23.207	N. 2 58 9.9	113.57
1	9 43 49.70	23.845	11 11 11.1	91.60	1	11 36 40.76	23.197	2 46 48.0	113.72
2	9 46 12.73	23.832	11 1 59.3	92.34	2	11 38 59.91	23.187	2 35 25.2	113.87
3	9 48 35.68	23.818	10 52 43.0	93.08	3	11 41 19.00	23.176	2 24 1.5	114.01
4	9 50 58.55	23.805	10 43 22.3	93.80	4	11 43 38.02	23.166	2 12 37.1	114.13
5	9 53 21.34	23.792	10 33 57.4	94.51	5	11 45 56.99	23.156	2 1 12.0	114.23
6	9 55 44.05	23.778	10 24 28.2	95.22	6	11 48 15.89	23.146	1 49 46.3	114.32
7	9 58 6.68	23.764	10 14 54.8	95.91	7	11 50 34.74	23.137	1 38 20.2	114.40
8	10 0 29.22	23.750	10 5 17.3	96.58	8	11 52 53.54	23.129	1 26 53.5	114.47
9	10 2 51.68	23.736	9 55 35.8	97.25	9	11 55 12.29	23.119	1 15 26.5	114.53
10	10 5 14.05	23.722	9 45 50.3	97.91	10	11 57 30.97	23.109	1 3 59.2	114.57
11	10 7 36.34	23.707	9 36 0.9	98.56	11	11 59 49.60	23.102	0 52 31.7	114.59
12	10 9 58.54	23.692	9 26 7.6	99.19	12	12 2 8.19	23.094	0 41 4.1	114.61
13	10 12 20.65	23.678	9 16 10.6	99.81	13	12 4 26.73	23.086	0 29 36.4	114.62
14	10 14 42.68	23.665	9 6 9.9	100.42	14	12 6 45.22	23.078	0 18 8.7	114.60
15	10 17 4.63	23.650	8 56 5.6	101.00	15	12 9 3.67	23.071	N. 0 6 41.2	114.57
16	10 19 26.48	23.635	8 45 57.8	101.59	16	12 11 22.07	23.063	S. 0 4 46.2	114.54
17	10 21 48.25	23.621	8 35 46.5	102.17	17	12 13 40.43	23.057	0 16 13.3	114.49
18	10 24 9.93	23.607	8 25 31.8	102.73	18	12 15 58.76	23.052	0 27 40.1	114.43
19	10 26 31.53	23.592	8 15 13.7	103.28	19	12 18 17.05	23.045	0 39 6.5	114.35
20	10 28 53.04	23.577	8 4 52.4	103.81	20	12 20 35.30	23.038	0 50 32.3	114.26
21	10 31 14.46	23.562	7 54 28.0	104.32	21	12 22 53.51	23.033	1 1 57.6	114.17
22	10 33 35.79	23.548	7 44 0.5	104.84	22	12 25 11.69	23.028	1 13 22.4	114.07
23	10 35 57.04	23.534	7 33 29.9	105.34	23	12 27 29.84	23.023	1 24 46.4	113.94
24	10 38 18.20	23.519	N. 7 22 56.4	105.83	24	12 29 47.96	23.018	S. 1 36 9.7	113.81

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 5.					WEDNESDAY 7.				
	h m s	s				h m s	s		
0	12 29 47.96	23.018	S. 1° 36' 9".7	113.81	0	14 20 15.36	23.100	S. 10° 4' 23".1	93.77
1	12 32 6.05	23.013	1 47 32.1	113.65	1	14 22 33.98	23.107	10 13 43.7	93.10
2	12 34 24.12	23.009	1 58 53.5	113.49	2	14 24 52.64	23.113	10 23 0.3	92.42
3	12 36 42.16	23.005	2 10 14.0	113.32	3	14 27 11.34	23.121	10 32 12.7	91.73
4	12 39 0.18	23.001	2 21 33.3	113.13	4	14 29 30.09	23.128	10 41 21.0	91.03
5	12 41 18.17	22.997	2 32 51.5	112.93	5	14 31 48.88	23.135	10 50 25.1	90.32
6	12 43 36.15	22.995	2 44 8.5	112.72	6	14 34 7.71	23.142	10 59 24.9	89.61
7	12 45 54.11	22.993	2 55 24.2	112.50	7	14 36 26.58	23.149	11 8 20.4	88.89
8	12 48 12.06	22.990	3 6 38.5	112.27	8	14 38 45.50	23.157	11 17 11.6	88.16
9	12 50 29.99	22.987	3 17 51.4	112.02	9	14 41 4.47	23.165	11 25 58.3	87.42
10	12 52 47.91	22.986	3 29 2.7	111.76	10	14 43 23.48	23.173	11 34 40.6	86.67
11	12 55 5.82	22.984	3 40 12.5	111.48	11	14 45 42.54	23.181	11 43 18.4	85.92
12	12 57 23.72	22.983	3 51 20.6	111.21	12	14 48 1.65	23.188	11 51 51.6	85.15
13	12 59 41.61	22.982	4 2 27.0	110.92	13	14 50 20.80	23.196	12 0 20.2	84.38
14	13 1 59.50	22.981	4 13 31.6	110.61	14	14 52 40.00	23.204	12 8 44.2	83.60
15	13 4 17.38	22.981	4 24 34.3	110.29	15	14 54 59.25	23.212	12 17 3.4	82.81
16	13 6 35.27	22.981	4 35 35.1	109.97	16	14 57 18.54	23.219	12 25 17.9	82.02
17	13 8 53.15	22.980	4 46 33.9	109.63	17	14 59 37.88	23.227	12 33 27.6	81.21
18	13 11 11.03	22.980	4 57 30.6	109.27	18	15 1 57.27	23.236	12 41 32.4	80.40
19	13 13 28.91	22.981	5 8 25.1	108.91	19	15 4 16.71	23.243	12 49 32.4	79.58
20	13 15 46.80	22.982	5 19 17.5	108.54	20	15 6 36.19	23.251	12 57 27.4	78.76
21	13 18 4.69	22.983	5 30 7.6	108.15	21	15 8 55.72	23.259	13 5 17.5	77.93
22	13 20 22.59	22.985	5 40 55.3	107.75	22	15 11 15.30	23.267	13 13 2.5	77.08
23	13 22 40.51	22.987	S. 5 51 40.6	107.34	23	15 13 34.93	23.275	S. 13 20 42.4	76.23
TUESDAY 6.					THURSDAY 8.				
0	13 24 58.43	22.988	S. 6 2 23.4	106.93	0	15 15 54.60	23.282	S. 13 28 17.3	75.38
1	13 27 16.36	22.990	6 13 3.7	106.50	1	15 18 14.32	23.291	13 35 47.0	74.52
2	13 29 34.31	22.993	6 23 41.4	106.06	2	15 20 34.09	23.298	13 43 11.5	73.66
3	13 31 52.28	22.996	6 34 16.4	105.61	3	15 22 53.90	23.306	13 50 30.9	72.78
4	13 34 10.26	22.998	6 44 48.7	105.15	4	15 25 13.76	23.314	13 57 44.9	71.89
5	13 36 28.26	23.001	6 55 18.2	104.68	5	15 27 33.67	23.322	14 4 53.6	71.01
6	13 38 46.27	23.004	7 5 44.8	104.18	6	15 29 53.62	23.328	14 11 57.0	70.12
7	13 41 4.31	23.008	7 16 8.4	103.69	7	15 32 13.61	23.336	14 18 55.0	69.21
8	13 43 22.37	23.013	7 26 29.1	103.19	8	15 34 33.65	23.343	14 25 47.5	68.31
9	13 45 40.46	23.017	7 36 46.7	102.68	9	15 36 53.73	23.350	14 32 34.7	67.40
10	13 47 58.57	23.021	7 47 1.2	102.15	10	15 39 13.85	23.357	14 39 16.3	66.48
11	13 50 16.71	23.025	7 57 12.5	101.62	11	15 41 34.01	23.363	14 45 52.4	65.55
12	13 52 34.87	23.029	8 7 20.6	101.08	12	15 43 54.21	23.370	14 52 22.9	64.62
13	13 54 53.06	23.034	8 17 25.4	100.52	13	15 46 14.45	23.377	14 58 47.9	63.69
14	13 57 11.28	23.039	8 27 26.8	99.95	14	15 48 34.73	23.383	15 5 7.2	62.74
15	13 59 29.53	23.045	8 37 24.8	99.37	15	15 50 55.05	23.389	15 11 20.8	61.80
16	14 1 47.82	23.050	8 47 19.3	98.78	16	15 53 15.40	23.395	15 17 28.8	60.85
17	14 4 6.13	23.055	8 57 10.2	98.19	17	15 55 35.79	23.401	15 23 31.0	59.89
18	14 6 24.48	23.062	9 6 57.6	97.59	18	15 57 56.21	23.406	15 29 27.5	58.93
19	14 8 42.87	23.068	9 16 41.3	96.98	19	16 0 16.66	23.412	15 35 18.2	57.96
20	14 11 1.29	23.075	9 26 21.3	96.36	20	16 2 37.15	23.417	15 41 3.0	56.98
21	14 13 19.75	23.080	9 35 57.6	95.73	21	16 4 57.66	23.421	15 46 42.0	56.02
22	14 15 38.25	23.086	9 45 30.0	95.08	22	16 7 18.20	23.426	15 52 15.2	55.04
23	14 17 56.78	23.093	9 54 58.5	94.43	23	16 9 38.77	23.431	15 57 42.5	54.05
24	14 20 15.36	23.100	S. 10 4 23.1	93.77	24	16 11 59.37	23.435	S. 16 3 3.8	53.06

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.	Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.
FRIDAY 9.					SUNDAY 11.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	16 11 59.37	23.435	S. 16° 3' 3.8	53.06	0	18 4 20.56	23.230	S. 18° 18' 16.4	2.79
1	16 14 19.99	23.438	16 8 19.2	52.07	1	18 6 39.90	23.216	18 18 30.0	1.73
2	16 16 40.63	23.443	16 13 28.6	51.07	2	18 8 59.15	23.201	18 18 37.2	0.68
3	16 19 1.30	23.447	16 18 32.0	50.06	3	18 11 18.31	23.186	18 18 38.2	0.36
4	16 21 21.99	23.449	16 23 29.3	49.05	4	18 13 37.38	23.170	18 18 32.9	1.41
5	16 23 42.69	23.452	16 28 20.6	48.04	5	18 15 56.35	23.154	18 18 21.3	2.46
6	16 26 3.41	23.454	16 33 5.8	47.03	6	18 18 15.23	23.137	18 18 3.4	3.50
7	16 28 24.14	23.457	16 37 45.0	46.02	7	18 20 34.00	23.120	18 17 39.3	4.53
8	16 30 44.89	23.459	16 42 18.0	44.99	8	18 22 52.67	23.103	18 17 9.0	5.57
9	16 33 5.65	23.460	16 46 44.9	43.97	9	18 25 11.24	23.085	18 16 32.5	6.60
10	16 35 26.41	23.462	16 51 5.6	42.93	10	18 27 29.69	23.067	18 15 49.8	7.63
11	16 37 47.19	23.463	16 55 20.1	41.91	11	18 29 48.04	23.048	18 15 0.9	8.67
12	16 40 7.97	23.463	16 59 28.5	40.88	12	18 32 6.27	23.029	18 14 5.8	9.69
13	16 42 28.75	23.464	17 3 30.7	39.84	13	18 34 24.39	23.010	18 13 4.6	10.71
14	16 44 49.54	23.464	17 7 26.6	38.80	14	18 36 42.39	22.989	18 11 57.3	11.72
15	16 47 10.32	23.463	17 11 16.3	37.76	15	18 39 0.26	22.969	18 10 43.9	12.74
16	16 49 31.10	23.464	17 14 59.7	36.71	16	18 41 18.02	22.949	18 9 24.4	13.76
17	16 51 51.89	23.463	17 18 36.8	35.67	17	18 43 35.65	22.928	18 7 58.8	14.78
18	16 54 12.65	23.460	17 22 7.7	34.62	18	18 45 53.15	22.906	18 6 27.1	15.78
19	16 56 33.41	23.459	17 25 32.3	33.57	19	18 48 10.52	22.884	18 4 49.5	16.77
20	16 58 54.16	23.457	17 28 50.5	32.52	20	18 50 27.76	22.862	18 3 5.9	17.77
21	17 1 14.89	23.454	17 32 2.5	31.47	21	18 52 44.86	22.839	18 1 16.3	18.76
22	17 3 35.61	23.452	17 35 8.1	30.41	22	18 55 1.83	22.816	17 59 20.8	19.75
23	17 5 56.31	23.448	S. 17 38 7.4	29.35	23	18 57 18.65	22.793	S. 17 57 19.3	20.73
SATURDAY 10.					MONDAY 12.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	17 8 16.99	23.445	S. 17 41 0.3	28.29	0	18 59 35.34	22.769	S. 17 55 12.0	21.71
1	17 10 37.65	23.441	17 43 46.9	27.23	1	19 1 51.88	22.744	17 52 58.8	22.69
2	17 12 58.28	23.436	17 46 27.1	26.17	2	19 4 8.27	22.720	17 50 39.7	23.66
3	17 15 18.88	23.431	17 49 0.9	25.11	3	19 6 24.52	22.696	17 48 14.9	24.63
4	17 17 39.45	23.426	17 51 28.4	24.04	4	19 8 40.62	22.670	17 45 44.2	25.59
5	17 19 59.99	23.420	17 53 49.4	22.98	5	19 10 56.56	22.644	17 43 7.8	26.54
6	17 22 20.49	23.414	17 56 4.1	21.92	6	19 13 12.35	22.619	17 40 25.7	27.49
7	17 24 40.96	23.408	17 58 12.4	20.86	7	19 15 27.99	22.593	17 37 37.9	28.43
8	17 27 1.39	23.401	18 0 14.4	19.79	8	19 17 43.46	22.566	17 34 44.5	29.37
9	17 29 21.77	23.393	18 2 9.9	18.72	9	19 19 58.78	22.539	17 31 45.4	30.32
10	17 31 42.11	23.385	18 3 59.0	17.66	10	19 22 13.93	22.512	17 28 40.7	31.25
11	17 34 2.39	23.377	18 5 41.8	16.59	11	19 24 28.92	22.484	17 25 30.4	32.17
12	17 36 22.63	23.368	18 7 18.1	15.52	12	19 26 43.74	22.456	17 22 14.6	33.09
13	17 38 42.81	23.359	18 8 48.0	14.46	13	19 28 58.39	22.428	17 18 53.3	34.01
14	17 41 2.94	23.350	18 10 11.6	13.40	14	19 31 12.88	22.401	17 15 26.5	34.92
15	17 43 23.01	23.340	18 11 28.8	12.33	15	19 33 27.20	22.372	17 11 54.3	35.82
16	17 45 43.02	23.329	18 12 39.5	11.26	16	19 35 41.34	22.342	17 8 16.7	36.72
17	17 48 2.96	23.318	18 13 43.9	10.20	17	19 37 55.31	22.313	17 4 33.7	37.61
18	17 50 22.84	23.307	18 14 41.9	9.13	18	19 40 9.10	22.284	17 0 45.4	38.50
19	17 52 42.65	23.295	18 15 33.5	8.07	19	19 42 22.72	22.255	16 56 51.7	39.37
20	17 55 2.38	23.283	18 16 18.8	7.02	20	19 44 36.16	22.225	16 52 52.9	40.24
21	17 57 22.05	23.271	18 16 57.7	5.96	21	19 46 49.42	22.194	16 48 48.8	41.12
22	17 59 41.63	23.258	18 17 30.3	4.90	22	19 49 2.49	22.164	16 44 39.5	41.98
23	18 2 1.14	23.244	18 17 56.5	3.84	23	19 51 15.39	22.134	16 40 25.1	42.83
24	18 4 20.56	23.230	S. 18 18 16.4	2.79	24	19 53 28.10	22.103	S. 16 36 5.5	43.68

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 13.					THURSDAY 15.				
	h m s	s				h m s	s		
0	19 53 28.10	22.103	S. 16 36 5.5	43.68	0	21 35 49.03	20.536	S. 11 41 45.7	76.15
1	19 55 40.63	22.072	16 31 40.9	44.52	1	21 37 52.15	20.504	11 34 7.3	76.65
2	19 57 52.97	22.041	16 27 11.2	45.36	2	21 39 55.08	20.473	11 26 25.9	77.13
3	20 0 5.12	22.010	16 22 36.6	46.18	3	21 41 57.83	20.442	11 18 41.7	77.62
4	20 2 17.09	21.978	16 17 57.0	47.02	4	21 44 0.39	20.411	11 10 54.5	78.09
5	20 4 28.86	21.947	16 13 12.4	47.83	5	21 46 2.76	20.379	11 3 4.6	78.55
6	20 6 40.45	21.915	16 8 23.0	48.63	6	21 48 4.94	20.348	10 55 11.9	79.01
7	20 8 51.84	21.883	16 3 28.8	49.44	7	21 50 6.94	20.318	10 47 16.5	79.46
8	20 11 3.04	21.851	15 58 29.7	50.24	8	21 52 8.76	20.288	10 39 18.4	79.90
9	20 13 14.05	21.819	15 53 25.9	51.03	9	21 54 10.40	20.258	10 31 17.7	80.34
10	20 15 24.87	21.787	15 48 17.4	51.81	10	21 56 11.86	20.228	10 23 14.3	80.77
11	20 17 35.49	21.754	15 43 4.2	52.58	11	21 58 13.14	20.198	10 15 8.5	81.18
12	20 19 45.92	21.722	15 37 46.4	53.35	12	22 0 14.24	20.169	10 7 0.2	81.59
13	20 21 56.15	21.688	15 32 24.0	54.12	13	22 2 15.17	20.139	9 58 49.4	81.99
14	20 24 6.18	21.656	15 26 57.0	54.88	14	22 4 15.91	20.110	9 50 36.3	82.39
15	20 26 16.02	21.622	15 21 25.5	55.62	15	22 6 16.49	20.082	9 42 20.7	82.78
16	20 28 25.65	21.589	15 15 49.6	56.36	16	22 8 16.89	20.053	9 34 2.9	83.17
17	20 30 35.09	21.557	15 10 9.2	57.09	17	22 10 17.13	20.025	9 25 42.7	83.54
18	20 32 44.33	21.524	15 4 24.5	57.82	18	22 12 17.19	19.996	9 17 20.4	83.91
19	20 34 53.38	21.491	14 58 35.4	58.53	19	22 14 17.08	19.968	9 8 55.8	84.28
20	20 37 2.22	21.458	14 52 42.1	59.24	20	22 16 16.81	19.942	9 0 29.1	84.63
21	20 39 10.87	21.424	14 46 44.5	59.95	21	22 18 16.38	19.914	8 52 0.3	84.97
22	20 41 19.31	21.390	14 40 42.7	60.65	22	22 20 15.78	19.886	8 43 29.5	85.31
23	20 43 27.55	21.357	S. 14 34 36.7	61.34	23	22 22 15.01	19.859	S. 8 34 56.6	85.64
WEDNESDAY 14.					FRIDAY 16.				
0	20 45 35.60	21.325	S. 14 28 26.6	62.02	0	22 24 14.09	19.833	S. 8 26 21.8	85.96
1	20 47 43.45	21.291	14 22 12.4	62.70	1	22 26 13.01	19.807	8 17 45.1	86.28
2	20 49 51.09	21.257	14 15 54.2	63.36	2	22 28 11.77	19.780	8 9 6.5	86.59
3	20 51 58.53	21.224	14 9 32.1	64.03	3	22 30 10.37	19.754	8 0 26.0	86.89
4	20 54 5.78	21.191	14 3 5.9	64.68	4	22 32 8.82	19.729	7 51 43.8	87.18
5	20 56 12.82	21.157	13 56 35.9	65.32	5	22 34 7.12	19.704	7 42 59.8	87.48
6	20 58 19.66	21.124	13 50 2.1	65.96	6	22 36 5.27	19.679	7 34 14.0	87.77
7	21 0 26.31	21.091	13 43 24.4	66.59	7	22 38 3.27	19.654	7 25 26.6	88.03
8	21 2 32.75	21.058	13 36 43.0	67.21	8	22 40 1.12	19.630	7 16 37.6	88.30
9	21 4 39.00	21.024	13 29 57.9	67.83	9	22 41 58.83	19.606	7 7 47.0	88.56
10	21 6 45.04	20.991	13 23 9.1	68.44	10	22 43 56.39	19.583	6 58 54.9	88.82
11	21 8 50.89	20.958	13 16 16.6	69.04	11	22 45 53.82	19.559	6 50 1.2	89.07
12	21 10 56.54	20.925	13 9 20.6	69.63	12	22 47 51.10	19.536	6 41 6.1	89.30
13	21 13 1.99	20.892	13 2 21.1	70.22	13	22 49 48.25	19.513	6 32 9.6	89.53
14	21 15 7.24	20.858	12 55 18.0	70.79	14	22 51 45.26	19.490	6 23 11.7	89.77
15	21 17 12.29	20.826	12 48 11.6	71.36	15	22 53 42.13	19.468	6 14 12.4	89.98
16	21 19 17.15	20.794	12 41 1.7	71.92	16	22 55 38.88	19.447	6 5 11.9	90.19
17	21 21 21.82	20.762	12 33 48.5	72.48	17	22 57 35.49	19.425	5 56 10.1	90.40
18	21 23 26.29	20.728	12 26 31.9	73.03	18	22 59 31.98	19.404	5 47 7.1	90.60
19	21 25 30.56	20.696	12 19 12.1	73.57	19	23 1 28.34	19.383	5 38 2.9	90.79
20	21 27 34.64	20.664	12 11 49.1	74.10	20	23 3 24.57	19.363	5 28 57.6	90.97
21	21 29 38.53	20.632	12 4 22.9	74.63	21	23 5 20.69	19.343	5 19 51.2	91.15
22	21 31 42.22	20.599	11 56 53.5	75.15	22	23 7 16.68	19.323	5 10 43.8	91.32
23	21 33 45.72	20.567	11 49 21.1	75.65	23	23 9 12.56	19.303	5 1 35.3	91.49
24	21 35 49.03	20.536	S. 11 41 45.7	76.15	24	23 11 8.32	19.284	S. 4 52 25.9	91.65

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 17.					MONDAY 19.				
	h m s	s				h m s	s		
0	23 11 8.32	19.284	S. 4 52 25.9	91.65	0	0 42 12.02	18.808	N. 2 33 56.8	92.07
1	23 13 3.97	19.265	4 43 15.5	91.80	1	0 44 4.86	18.807	2 43 8.8	91.93
2	23 14 59.50	19.247	4 34 4.3	91.95	2	0 45 57.71	18.807	2 52 20.0	91.80
3	23 16 54.93	19.229	4 24 52.1	92.09	3	0 47 50.55	18.808	3 1 30.4	91.66
4	23 18 50.25	19.211	4 15 39.2	92.22	4	0 49 43.40	18.809	3 10 39.9	91.50
5	23 20 45.46	19.193	4 6 25.5	92.34	5	0 51 36.26	18.811	3 19 48.4	91.35
6	23 22 40.57	19.177	3 57 11.1	92.47	6	0 53 29.13	18.813	3 28 56.1	91.20
7	23 24 35.58	19.160	3 47 55.9	92.58	7	0 55 22.01	18.815	3 38 2.8	91.03
8	23 26 30.49	19.143	3 38 40.1	92.68	8	0 57 14.91	18.818	3 47 8.4	90.86
9	23 28 25.30	19.128	3 29 23.7	92.78	9	0 59 7.82	18.820	3 56 13.1	90.69
10	23 30 20.02	19.113	3 20 6.7	92.88	10	1 1 0.75	18.823	4 5 16.7	90.50
11	23 32 14.65	19.097	3 10 49.1	92.97	11	1 2 53.70	18.827	4 14 19.1	90.32
12	23 34 9.18	19.082	3 1 31.0	93.05	12	1 4 46.68	18.832	4 23 20.5	90.13
13	23 36 3.63	19.068	2 52 12.5	93.12	13	1 6 39.68	18.837	4 32 20.7	89.93
14	23 37 57.99	19.053	2 42 53.5	93.20	14	1 8 32.72	18.842	4 41 19.7	89.73
15	23 39 52.27	19.040	2 33 34.1	93.27	15	1 10 25.78	18.847	4 50 17.5	89.52
16	23 41 46.47	19.027	2 24 14.3	93.33	16	1 12 18.88	18.853	4 59 14.0	89.32
17	23 43 40.59	19.013	2 14 54.2	93.38	17	1 14 12.02	18.859	5 8 9.3	89.10
18	23 45 34.63	19.002	2 5 33.8	93.42	18	1 16 5.19	18.866	5 17 3.2	88.88
19	23 47 28.61	18.990	1 56 13.2	93.45	19	1 17 58.41	18.873	5 25 55.8	88.65
20	23 49 22.51	18.977	1 46 52.4	93.48	20	1 19 51.67	18.880	5 34 47.0	88.42
21	23 51 16.33	18.965	1 37 31.4	93.52	21	1 21 44.97	18.888	5 43 36.8	88.18
22	23 53 10.09	18.955	1 28 10.2	93.54	22	1 23 38.33	18.897	5 52 25.1	87.93
23	23 55 3.79	18.944	S. 1 18 48.9	93.55	23	1 25 31.73	18.905	N. 6 1 12.0	87.69
SUNDAY 18.					TUESDAY 20.				
	h m s	s				h m s	s		
0	23 56 57.42	18.933	S. 1 9 27.6	93.56	0	1 27 25.19	18.914	N. 6 9 57.4	87.43
1	23 58 50.99	18.924	1 0 6.2	93.57	1	1 29 18.70	18.924	6 18 41.2	87.17
2	0 0 44.51	18.915	0 50 44.8	93.57	2	1 31 12.28	18.934	6 27 23.5	86.91
3	0 2 37.97	18.906	0 41 23.4	93.56	3	1 33 5.91	18.944	6 36 4.1	86.63
4	0 4 31.38	18.897	0 32 2.1	93.54	4	1 34 59.61	18.955	6 44 43.1	86.37
5	0 6 24.73	18.888	0 22 40.9	93.52	5	1 36 53.37	18.966	6 53 20.5	86.09
6	0 8 18.04	18.881	0 13 19.9	93.49	6	1 38 47.20	18.977	7 1 56.2	85.81
7	0 10 11.30	18.873	S. 0 3 59.0	93.47	7	1 40 41.10	18.990	7 10 30.2	85.52
8	0 12 4.52	18.867	N. 0 5 21.7	93.43	8	1 42 35.08	19.003	7 19 2.4	85.22
9	0 13 57.70	18.859	0 14 42.1	93.38	9	1 44 29.13	19.014	7 27 32.8	84.92
10	0 15 50.83	18.853	0 24 2.3	93.34	10	1 46 23.25	19.027	7 36 1.4	84.61
11	0 17 43.93	18.848	0 33 22.2	93.28	11	1 48 17.46	19.042	7 44 28.1	84.30
12	0 19 37.00	18.842	0 42 41.7	93.22	12	1 50 11.75	19.055	7 52 53.0	83.98
13	0 21 30.03	18.837	0 52 0.8	93.15	13	1 52 6.12	19.069	8 1 15.9	83.67
14	0 23 23.04	18.832	1 1 19.5	93.08	14	1 54 0.58	19.084	8 9 37.0	83.34
15	0 25 16.02	18.827	1 10 37.8	93.01	15	1 55 55.13	19.100	8 17 56.0	83.01
16	0 27 8.97	18.824	1 19 55.6	92.93	16	1 57 49.78	19.115	8 26 13.1	82.68
17	0 29 1.91	18.820	1 29 12.9	92.83	17	1 59 44.51	19.130	8 34 28.1	82.33
18	0 30 54.81	18.817	1 38 29.6	92.74	18	2 1 39.34	19.147	8 42 41.0	81.98
19	0 32 47.71	18.816	1 47 45.8	92.65	19	2 3 34.27	19.163	8 50 51.8	81.63
20	0 34 40.60	18.813	1 57 1.4	92.54	20	2 5 29.30	19.180	8 59 0.5	81.28
21	0 36 33.47	18.810	2 6 16.3	92.43	21	2 7 24.43	19.198	9 7 7.1	80.92
22	0 38 26.32	18.808	2 15 30.5	92.31	22	2 9 19.67	19.216	9 15 11.5	80.54
23	0 40 19.17	18.808	2 24 44.0	92.19	23	2 11 15.02	19.233	9 23 13.6	80.17
24	0 42 12.02	18.808	N. 2 33 56.8	92.07	24	2 13 10.47	19.252	N. 9 31 13.5	79.79

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 21.					FRIDAY 23.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	2 13 10.47	19.252	N. 9 31 13.5	79.79	0	3 48 21.71	20.526	N. 15 0 19.8	55.21
1	2 15 6.04	19.271	9 39 11.1	79.41	1	3 50 24.96	20.559	15 5 49.1	54.55
2	2 17 1.72	19.289	9 47 6.4	79.02	2	3 52 28.42	20.592	15 11 14.4	53.89
3	2 18 57.51	19.309	9 54 59.3	78.62	3	3 54 32.07	20.626	15 16 35.8	53.23
4	2 20 53.43	19.330	10 2 49.8	78.22	4	3 56 35.93	20.660	15 21 53.2	52.56
5	2 22 49.47	19.350	10 10 37.9	77.82	5	3 58 39.99	20.694	15 27 6.5	51.88
6	2 24 45.63	19.370	10 18 23.6	77.41	6	4 0 44.26	20.728	15 32 15.8	51.21
7	2 26 41.91	19.392	10 26 6.8	76.99	7	4 2 48.73	20.762	15 37 21.0	50.52
8	2 28 38.33	19.413	10 33 47.5	76.57	8	4 4 53.40	20.796	15 42 22.0	49.83
9	2 30 34.87	19.434	10 41 25.6	76.13	9	4 6 58.28	20.831	15 47 18.9	49.13
10	2 32 31.54	19.457	10 49 1.1	75.71	10	4 9 3.37	20.866	15 52 11.6	48.42
11	2 34 28.35	19.479	10 56 34.1	75.28	11	4 11 8.67	20.901	15 57 0.0	47.71
12	2 36 25.29	19.502	11 4 4.4	74.83	12	4 13 14.18	20.936	16 1 44.1	46.99
13	2 38 22.37	19.525	11 11 32.1	74.38	13	4 15 19.90	20.971	16 6 23.9	46.27
14	2 40 19.59	19.548	11 18 57.0	73.93	14	4 17 25.83	21.006	16 10 59.4	45.55
15	2 42 16.95	19.572	11 26 19.2	73.48	15	4 19 31.97	21.041	16 15 30.5	44.81
16	2 44 14.45	19.597	11 33 38.7	73.01	16	4 21 38.32	21.077	16 19 57.1	44.07
17	2 46 12.11	19.622	11 40 55.3	72.53	17	4 23 44.89	21.113	16 24 19.3	43.33
18	2 48 9.91	19.645	11 48 9.1	72.07	18	4 25 51.67	21.148	16 28 37.0	42.57
19	2 50 7.85	19.670	11 55 20.1	71.58	19	4 27 58.66	21.183	16 32 50.1	41.81
20	2 52 5.95	19.697	12 2 28.1	71.09	20	4 30 5.87	21.219	16 36 58.7	41.05
21	2 54 4.21	19.723	12 9 33.2	70.60	21	4 32 13.29	21.255	16 41 2.7	40.28
22	2 56 2.62	19.748	12 16 35.3	70.11	22	4 34 20.93	21.291	16 45 2.0	39.49
23	2 58 1.19	19.775	N. 12 23 34.5	69.61	23	4 36 28.78	21.327	N. 16 48 56.6	38.72
THURSDAY 22.					SATURDAY 24.				
0	2 59 59.92	19.802	N. 12 30 30.6	69.09	0	4 38 36.85	21.363	N. 16 52 46.6	37.93
1	3 1 58.81	19.828	12 37 23.6	68.58	1	4 40 45.14	21.399	16 56 31.8	37.13
2	3 3 57.86	19.856	12 44 13.6	68.07	2	4 42 53.64	21.435	17 0 12.2	36.33
3	3 5 57.08	19.884	12 51 0.4	67.53	3	4 45 2.36	21.471	17 3 47.8	35.53
4	3 7 56.47	19.912	12 57 44.0	67.01	4	4 47 11.29	21.507	17 7 18.6	34.72
5	3 9 56.02	19.939	13 4 24.5	66.48	5	4 49 20.45	21.544	17 10 44.4	33.89
6	3 11 55.74	19.968	13 11 1.7	65.93	6	4 51 29.82	21.580	17 14 5.3	33.07
7	3 13 55.64	19.997	13 17 35.7	65.38	7	4 53 39.41	21.616	17 17 21.3	32.25
8	3 15 55.70	20.026	13 24 6.3	64.83	8	4 55 49.21	21.652	17 20 32.3	31.42
9	3 17 55.95	20.056	13 30 33.6	64.28	9	4 57 59.23	21.688	17 23 38.3	30.57
10	3 19 56.37	20.085	13 36 57.6	63.71	10	5 0 9.47	21.724	17 26 39.1	29.72
11	3 21 56.97	20.115	13 43 18.1	63.13	11	5 2 19.92	21.760	17 29 34.9	28.87
12	3 23 57.75	20.145	13 49 35.2	62.56	12	5 4 30.59	21.796	17 32 25.6	28.02
13	3 25 58.71	20.176	13 55 48.8	61.98	13	5 6 41.47	21.832	17 35 11.1	27.14
14	3 27 59.86	20.207	14 1 59.0	61.40	14	5 8 52.58	21.868	17 37 51.3	26.28
15	3 30 1.19	20.237	14 8 5.6	60.80	15	5 11 3.89	21.904	17 40 26.4	25.41
16	3 32 2.70	20.268	14 14 8.6	60.20	16	5 13 15.43	21.940	17 42 56.2	24.52
17	3 34 4.41	20.300	14 20 8.0	59.59	17	5 15 27.17	21.975	17 45 20.7	23.63
18	3 36 6.30	20.331	14 26 3.7	58.98	18	5 17 39.13	22.012	17 47 39.8	22.74
19	3 38 8.38	20.363	14 31 55.8	58.37	19	5 19 51.31	22.047	17 49 53.6	21.85
20	3 40 10.66	20.396	14 37 44.2	57.75	20	5 22 3.69	22.082	17 52 2.0	20.94
21	3 42 13.13	20.428	14 43 28.8	57.12	21	5 24 16.29	22.117	17 54 4.9	20.03
22	3 44 15.79	20.460	14 49 9.6	56.48	22	5 26 29.10	22.152	17 56 2.4	19.12
23	3 46 18.65	20.493	14 54 46.6	55.85	23	5 28 42.12	22.187	17 57 54.3	18.19
24	3 48 21.71	20.526	N. 15 0 19.8	55.21	24	5 30 55.35	22.222	N. 17 59 40.7	17.28

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SUNDAY 25.					TUESDAY 27.				
	h m s	s	N. 17° 59' 40".7	17.28		h m s	s	N. 17° 27' 26".0	32.03
0	5 30 55.35	22.222	18 1 21.6	16.34	0	7 21 10.04	23.592	17 24 10.6	33.11
1	5 33 8.79	22.257	18 2 56.8	15.41	1	7 23 31.65	23.611	17 20 48.7	34.19
2	5 35 22.44	22.292	18 4 26.5	14.47	2	7 25 53.37	23.630	17 17 20.3	35.28
3	5 37 36.29	22.326	18 5 50.4	13.52	3	7 28 15.21	23.650	17 13 45.3	36.37
4	5 39 50.35	22.361	18 7 8.7	12.57	4	7 30 37.17	23.668	17 10 3.8	37.46
5	5 42 4.62	22.395	18 8 21.2	11.61	5	7 32 59.23	23.686	17 6 15.8	38.54
6	5 44 19.09	22.428	18 9 28.0	10.65	6	7 35 21.40	23.703	17 2 21.3	39.63
7	5 46 33.76	22.462	18 10 29.0	9.68	7	7 37 43.67	23.721	16 58 20.2	40.73
8	5 48 48.63	22.496	18 11 24.2	8.71	8	7 40 6.05	23.738	16 54 12.6	41.81
9	5 51 3.71	22.529	18 12 13.5	7.73	9	7 42 28.52	23.753	16 49 58.5	42.90
10	5 53 18.98	22.562	18 12 57.0	6.76	10	7 44 51.09	23.769	16 45 37.8	43.98
11	5 55 34.45	22.595	18 13 34.6	5.78	11	7 47 13.75	23.785	16 41 10.7	45.06
12	5 57 50.12	22.628	18 14 6.3	4.78	12	7 49 36.51	23.800	16 36 37.1	46.14
13	6 0 5.98	22.660	18 14 32.0	3.78	13	7 51 59.35	23.814	16 31 57.0	47.22
14	6 2 22.04	22.692	18 15 14.8	2.79	14	7 54 22.28	23.829	16 27 10.5	48.29
15	6 4 38.29	22.724	18 15 10.3	1.25	15	7 56 45.30	23.843	16 22 17.5	49.38
16	6 6 54.73	22.756	18 14 43.1	3.29	16	7 59 8.39	23.856	16 17 18.0	50.45
17	6 9 11.36	22.787	18 14 20.3	4.32	17	8 1 31.57	23.868	16 12 12.1	51.52
18	6 11 28.17	22.818	17 59 54.2	17.97	18	8 3 54.81	23.880	16 6 59.7	52.59
19	6 13 45.17	22.849	17 58 3.1	19.05	19	8 6 18.13	23.892	15 56 15.9	54.72
20	6 16 2.36	22.880	17 56 5.6	20.12	20	8 8 41.52	23.904	15 50 44.4	55.78
21	6 18 19.73	22.909	17 54 1.7	21.19	21	8 11 4.98	23.916	15 45 6.5	56.84
22	6 20 37.27	22.939	17 51 51.3	22.27	22	8 13 28.51	23.926		
23	6 22 55.00	22.969	17 49 34.5	23.35	23	8 15 52.09	23.936		
MONDAY 26.					WEDNESDAY 28.				
0	6 25 12.90	22.998	17 47 11.1	24.43	0	8 18 15.74	23.947	N. 15° 39' 22".3	57.89
1	6 27 30.98	23.027	17 44 41.3	25.50	1	8 20 39.45	23.956	15 33 31.8	58.94
2	6 29 49.23	23.056	17 42 5.1	26.58	2	8 23 3.21	23.964	15 27 35.0	59.99
3	6 32 7.65	23.084	17 39 22.3	27.67	3	8 25 27.02	23.973	15 21 31.9	61.03
4	6 34 26.24	23.112	17 36 33.0	28.76	4	8 27 50.88	23.981	15 15 22.6	62.07
5	6 36 44.99	23.139	17 33 37.2	29.84	5	8 30 14.79	23.989	14 8 12.1	72.20
6	6 39 3.91	23.167	17 30 34.9	30.93	6	8 32 38.75	23.997	14 0 55.9	73.18
7	6 41 22.99	23.193	17 27 26.0	32.03	7	8 35 2.75	24.004	13 53 33.9	74.15
8	6 43 42.23	23.220	17 24 11.1	24.43	8	8 37 26.80	24.011	13 46 6.1	75.12
9	6 46 1.63	23.247	17 20 4.3	25.50	9	8 39 50.88	24.017	13 38 32.5	76.08
10	6 48 21.19	23.273	17 16 41.3	26.58	10	8 42 15.00	24.023	13 30 53.2	77.03
11	6 50 40.90	23.298	17 12 5.1	27.67	11	8 44 39.15	24.028	13 23 8.1	77.98
12	6 53 0.76	23.323	17 8 44.1	28.76	12	8 47 3.34	24.034	13 15 17.4	78.92
13	6 55 20.77	23.348	17 4 34.5	29.84	13	8 49 27.56	24.038	13 7 21.1	79.85
14	6 57 40.93	23.372	17 0 34.9	30.93	14	8 51 51.80	24.042	12 59 19.2	80.78
15	7 0 1.23	23.395	16 56 34.9	32.03	15	8 54 16.07	24.047	12 51 11.7	81.70
16	7 2 21.67	23.418			16	8 56 40.36	24.051		
17	7 4 42.25	23.442			17	8 59 4.68	24.054		
18	7 7 2.97	23.465			18	9 1 29.01	24.057		
19	7 9 23.83	23.487			19	9 3 53.36	24.060		
20	7 11 44.81	23.508			20	9 6 17.73	24.063		
21	7 14 5.93	23.531			21	9 8 42.11	24.065		
22	7 16 27.18	23.552			22	9 11 6.51	24.067		
23	7 18 48.55	23.572			23	9 13 30.91	24.068		
24	7 21 10.04	23.592			24	9 15 55.32	24.069		

PHASES OF THE MOON.

[illegible]

												h
Feb.	3		(	Perigee	-	-	-	-	-	-	-	19·3
	19		(	Apogee	-	-	-	-	-	-	-	20·3

AT APPARENT NOON.

Date.	THE SUN'S				Sidereal Time of the Semi- diameter passing the Meridian.*	Equation of Time, to be added to Apparent Time.	Var. in hour.
	Apparent Right Ascension.	Var. in hour.	Apparent Declination.	Var. in hour.			
	h m s	s	° ' "		m s	m s	s
Thur.	1 22 45 45.72	9.377	S. 7 51 35.1	56.75	1 5 45	12 39.56	0.478
Frid.	2 22 49 30.51	9.355	7 28 49.7	57.03	1 5 37	12 27.82	0.500
Sat.	3 22 53 14.78	9.335	7 5 57.9	57.29	1 5 30	12 15.58	0.520
Sun.	4 22 56 58.57	9.315	6 43 0.1	57.53	1 5 23	12 2.85	0.540
Mon.	5 23 0 41.90	9.296	6 19 56.6	57.76	1 5 16	11 49.66	0.559
Tues.	6 23 4 24.79	9.279	5 56 47.8	57.97	1 5 10	11 36.04	0.576
Wed.	7 23 8 7.27	9.262	5 33 34.1	58.17	1 5 04	11 22.01	0.593
Thur.	8 23 11 49.36	9.246	5 10 15.9	58.35	1 4 98	11 7.58	0.609
Frid.	9 23 15 31.07	9.231	4 46 53.5	58.52	1 4 92	10 52.78	0.624
Sat.	10 23 19 12.43	9.217	4 23 27.2	58.67	1 4 87	10 37.64	0.638
Sun.	11 23 22 53.47	9.203	3 59 57.6	58.80	1 4 82	10 22.16	0.651
Mon.	12 23 26 34.19	9.190	3 36 25.0	58.91	1 4 77	10 6.37	0.664
Tues.	13 23 30 14.61	9.178	3 12 49.8	59.01	1 4 73	9 50.28	0.676
Wed.	14 23 33 54.75	9.167	2 49 12.3	59.10	1 4 68	9 33.92	0.687
Thur.	15 23 37 34.64	9.157	2 25 32.9	59.17	1 4 64	9 17.30	0.698
Frid.	16 23 41 14.28	9.147	2 1 52.1	59.22	1 4 61	9 0.43	0.708
Sat.	17 23 44 53.69	9.138	1 38 10.2	59.26	1 4 58	8 43.34	0.716
Sun.	18 23 48 32.90	9.130	1 14 27.6	59.28	1 4 55	8 26.04	0.725
Mon.	19 23 52 11.91	9.122	0 50 44.6	59.29	1 4 52	8 8.55	0.732
Tues.	20 23 55 50.75	9.115	0 27 1.7	59.28	1 4 50	7 50.89	0.739
Wed.	21 23 59 29.43	9.109	S. 0 3 19.3	59.25	1 4 48	7 33.07	0.745
Thur.	22 0 3 7.98	9.104	N. 0 20 22.4	59.21	1 4 46	7 15.11	0.751
Frid.	23 0 6 46.40	9.099	0 44 2.9	59.15	1 4 45	6 57.04	0.755
Sat.	24 0 10 24.72	9.095	1 7 41.8	59.08	1 4 44	6 38.86	0.759
Sun.	25 0 14 2.96	9.092	1 31 18.8	59.00	1 4 43	6 20.60	0.762
Mon.	26 0 17 41.14	9.090	1 54 53.6	58.89	1 4 42	6 2.27	0.765
Tues.	27 0 21 19.27	9.088	2 18 25.7	58.77	1 4 42	5 43.90	0.766
Wed.	28 0 24 57.38	9.088	2 41 54.8	58.64	1 4 42	5 25.51	0.766
Thur.	29 0 28 35.49	9.088	3 5 20.6	58.50	1 4 43	5 7.12	0.766
Frid.	30 0 32 13.62	9.090	3 28 42.7	58.34	1 4 43	4 48.74	0.765
Sat.	31 0 35 51.80	9.092	3 52 0.8	58.16	1 4 44	4 30.42	0.762
Sun.	32 0 39 30.04	9.095	N. 4 15 14.5	57.98	1 4 45	4 12.16	0.759

* Mean Time of the Semidiameter passing may be found by subtracting 0.18 from the Sidereal Time.

AT MEAN NOON.

Date.		THE SUN'S			Equation of Time, to be added to Apparent Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*		
		h m s	° ' "	' "	m s	h m s
Thur.	1	22 45 43.75	S. 7 51 47.1	16 9.94	12 39.66	22 33 4.08
Frid.	2	22 49 28.56	7 29 1.6	16 9.70	12 27.93	22 37 0.64
Sat.	3	22 53 12.87	7 6 9.6	16 9.46	12 15.69	22 40 57.19
Sun.	4	22 56 56.70	6 43 11.6	16 9.21	12 2.96	22 44 53.74
Mon.	5	23 0 40.07	6 20 8.0	16 8.96	11 49.77	22 48 50.29
Tues.	6	23 4 23.00	5 56 59.0	16 8.71	11 36.15	22 52 46.84
Wed.	7	23 8 5.51	5 33 45.1	16 8.45	11 22.12	22 56 43.40
Thur.	8	23 11 47.64	5 10 26.7	16 8.19	11 7.69	23 0 39.95
Frid.	9	23 15 29.40	4 47 4.1	16 7.93	10 52.90	23 4 36.50
Sat.	10	23 19 10.80	4 23 37.6	16 7.66	10 37.75	23 8 33.05
Sun.	11	23 22 51.88	4 0 7.8	16 7.40	10 22.27	23 12 29.60
Mon.	12	23 26 32.64	3 36 34.9	16 7.13	10 6.48	23 16 26.16
Tues.	13	23 30 13.10	3 12 59.4	16 6.86	9 50.39	23 20 22.71
Wed.	14	23 33 53.29	2 49 21.7	16 6.60	9 34.03	23 24 19.26
Thur.	15	23 37 33.22	2 25 42.1	16 6.33	9 17.41	23 28 15.81
Frid.	16	23 41 12.90	2 2 1.0	16 6.06	9 0.54	23 32 12.36
Sat.	17	23 44 52.36	1 38 18.8	16 5.79	8 43.45	23 36 8.92
Sun.	18	23 48 31.61	1 14 35.9	16 5.52	8 26.15	23 40 5.47
Mon.	19	23 52 10.67	0 50 52.7	16 5.25	8 8.65	23 44 2.02
Tues.	20	23 55 49.56	0 27 9.5	16 4.98	7 50.99	23 47 58.57
Wed.	21	23 59 28.29	S. 0 3 26.7	16 4.71	7 33.16	23 51 55.12
Thur.	22	0 3 6.88	N. 0 20 15.2	16 4.44	7 15.20	23 55 51.67
Frid.	23	0 6 45.35	0 43 56.0	16 4.17	6 57.12	23 59 48.22
Sat.	24	0 10 23.72	1 7 35.3	16 3.90	6 38.94	0 3 44.78
Sun.	25	0 14 2.00	1 31 12.6	16 3.64	6 20.68	0 7 41.33
Mon.	26	0 17 40.23	1 54 47.6	16 3.37	6 2.35	0 11 37.88
Tues.	27	0 21 18.41	2 18 20.0	16 3.10	5 43.98	0 15 34.43
Wed.	28	0 24 56.56	2 41 49.5	16 2.82	5 25.58	0 19 30.98
Thur.	29	0 28 34.72	3 5 15.6	16 2.55	5 7.18	0 23 27.53
Frid.	30	0 32 12.89	3 28 38.0	16 2.28	4 48.80	0 27 24.09
Sat.	31	0 35 51.11	3 51 56.4	16 2.00	4 30.47	0 31 20.64
Sun.	32	0 39 29.40	N. 4 15 10.5	16 1.73	4 12.21	0 35 17.19

* The Semidiameter for *Apparent* Noon may be assumed the same as that for *Mean* Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
				h m s				
1	339° 53' 24.5	S. 0° 12	9.9960584	1 26 41.67	16 16.55	16 22.47	59 44.06	60 5.81
2	340 53 34.8	N. 0.01	.9961656	1 22 45.77	16 27.53	16 31.57	60 24.37	60 39.20
3	341 53 43.2	0.14	.9962746	1 18 49.86	16 34.49	16 36.20	60 49.91	60 56.21
4	342 53 49.8	0.28	9.9963854	1 14 53.96	16 36.69	16 35.97	60 58.00	60 55.35
5	343 53 54.7	0.42	.9964978	1 10 58.05	16 34.09	16 31.16	60 48.47	60 37.71
6	344 53 57.9	0.54	.9966118	1 7 2.14	16 27.30	16 22.66	60 23.54	60 6.50
7	345 53 59.5	0.63	9.9967272	1 3 6.24	16 17.39	16 11.64	59 47.15	59 26.08
8	346 53 59.5	0.70	.9968439	0 59 10.33	16 5.59	15 59.35	59 3.85	58 40.96
9	347 53 57.9	0.74	.9969616	0 55 14.42	15 53.07	15 46.84	58 17.90	57 55.03
10	348 53 54.7	0.75	9.9970803	0 51 18.52	15 40.75	15 34.87	57 32.68	57 11.11
11	349 53 49.9	0.72	.9971996	0 47 22.61	15 29.25	15 23.93	56 50.49	56 30.96
12	350 53 43.4	0.66	.9973195	0 43 26.71	15 18.93	15 14.26	56 12.60	55 55.45
13	351 53 35.2	0.58	9.9974398	0 39 30.80	15 9.92	15 5.91	55 39.53	55 24.82
14	352 53 25.2	0.47	.9975604	0 35 34.90	15 2.23	14 58.86	55 11.30	54 58.93
15	353 53 13.4	0.35	.9976813	0 31 38.99	14 55.80	14 53.04	54 47.71	54 37.59
16	354 52 59.8	0.23	9.9978022	0 27 43.08	14 50.58	14 48.43	54 28.57	54 20.65
17	355 52 44.2	N. 0.10	.9979232	0 23 47.18	14 46.57	14 45.03	54 13.85	54 8.19
18	356 52 26.6	S. 0.03	.9980442	0 19 51.27	14 43.82	14 42.96	54 3.75	54 0.60
19	357 52 6.9	0.16	9.9981653	0 15 55.37	14 42.48	14 42.39	53 58.81	53 58.50
20	358 51 45.2	0.27	.9982863	0 11 59.46	14 42.74	14 43.54	53 59.77	54 2.73
21	359 51 21.3	0.36	.9984073	0 8 3.56	14 44.85	14 46.67	54 7.51	54 14.22
22	0 50 55.2	0.43	9.9985283	0 4 7.65	14 49.06	14 52.02	54 22.96	54 33.83
23	1 50 26.9	0.47	.9986494	{ 0 0 11.74 23 56 15.84 }	14 55.57	14 59.74	54 46.88	55 2.18
24	2 49 56.3	0.47	.9987706	23 52 19.93	15 4.53	15 9.91	55 19.74	55 39.50
25	3 49 23.4	0.45	9.9988919	23 48 24.03	15 15.88	15 22.39	56 1.41	56 25.31
26	4 48 48.1	0.41	.9990134	23 44 28.12	15 29.39	15 36.80	56 51.00	57 18.19
27	5 48 10.5	0.34	.9991352	23 40 32.21	15 44.52	15 52.43	57 46.53	58 15.55
28	6 47 30.6	0.24	9.9992575	23 36 36.31	16 0.38	16 8.21	58 44.73	59 13.45
29	7 46 48.4	S. 0.12	.9993803	23 32 40.40	16 15.72	16 22.73	59 41.04	60 6.76
30	8 46 3.9	N. 0.02	.9995037	23 28 44.50	16 29.04	16 34.44	60 29.90	60 49.73
31	9 45 17.3	0.15	.9996278	23 24 48.59	16 38.77	16 41.87	61 5.61	61 17.01
32	10 44 28.5	N. 0.28	9.9997526	23 20 52.68	16 43.65	16 44.04	61 23.52	61 24.95

MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	[°] _' ["]	[°] _' ["]	S. [°] _' ["]	S. [°] _' ["]	d	h m	h m
1	137 26 9.3	144 41 38.5	S. 2 53 44.3	S. 2 18 45.2	13.70	11 7.8	23 35.8
2	152 1 51.8	159 25 59.7	1 41 5.2	S. 1 1 22.5	14.70	12 3.6	* *
3	166 53 6.0	174 22 10.0	S. 0 20 20.3	N. 0 21 14.6	15.70	12 59.2	0 31.4
4	181 52 8.3	189 21 57.5	N. 1 2 32.7	1 42 45.4	16.70	13 54.5	1 26.8
5	196 50 36.1	204 17 6.9	2 21 5.8	2 56 51.0	17.70	14 49.8	2 22.1
6	211 40 38.5	219 0 26.5	3 29 23.6	3 58 12.4	18.70	15 45.2	3 17.5
7	226 15 54.9	233 26 35.7	4 22 53.4	4 43 9.3	19.70	16 40.8	4 13.0
8	240 32 9.4	247 32 23.8	4 58 49.6	5 9 49.9	20.70	17 36.3	5 8.6
9	254 27 14.5	261 16 42.6	5 16 10.9	5 17 57.8	21.70	18 31.2	6 3.9
10	268 0 54.4	274 40 0.5	5 15 19.6	5 8 28.4	22.70	19 24.9	6 58.2
11	281 14 14.6	287 43 52.4	4 57 38.7	4 43 6.6	23.70	20 16.9	7 51.2
12	294 9 11.3	300 30 29.3	4 25 9.9	4 4 7.7	24.70	21 6.9	8 42.2
13	306 48 4.6	313 2 15.3	3 40 19.7	3 14 6.5	25.70	21 54.8	9 31.1
14	319 13 19.0	325 21 32.8	2 45 49.2	2 15 49.1	26.70	22 40.7	10 18.0
15	331 27 13.1	337 30 35.5	1 44 28.1	1 12 7.9	27.70	23 25.1	11 3.1
16	343 31 55.3	349 31 27.3	N. 0 39 10.1	N. 0 5 56.3	28.70	* *	11 46.8
17	355 29 26.0	1 26 6.3	S. 0 27 12.5	S. 0 59 55.8	29.70	0 8.3	12 29.6
18	7 21 43.1	13 16 31.9	1 31 53.7	2 2 47.2	0.96	0 50.8	13 12.0
19	19 10 49.2	25 4 52.8	2 32 18.2	3 0 9.5	1.96	1 33.3	13 54.7
20	30 59 1.2	36 53 34.8	3 26 5.0	3 49 49.4	2.96	2 16.2	14 38.0
21	42 48 55.4	48 45 26.4	4 11 8.7	4 29 49.6	3.96	3 0.1	15 22.5
22	54 43 33.0	60 43 41.8	4 45 39.8	4 58 27.8	4.96	3 45.3	16 8.6
23	66 46 21.0	72 51 59.9	5 8 2.9	5 14 15.3	5.96	4 32.3	16 56.4
24	79 1 8.9	85 14 18.7	5 16 55.8	5 15 56.4	6.96	5 21.0	17 46.0
25	91 31 59.8	97 54 42.1	5 11 10.3	5 2 31.8	7.96	6 11.5	18 37.4
26	104 22 54.0	110 57 0.9	4 49 57.3	4 33 25.2	8.96	7 3.6	19 30.1
27	117 37 24.8	124 24 22.7	4 12 57.0	3 48 38.0	9.96	7 56.9	20 23.9
28	131 18 5.4	138 18 36.0	3 20 37.7	2 49 10.8	10.96	8 51.1	21 18.4
29	145 25 49.1	152 39 29.1	2 14 37.8	1 37 25.5	11.96	9 45.8	22 13.3
30	159 59 10.0	167 24 14.6	S. 0 58 7.2	S. 0 17 22.3	12.96	10 40.9	23 8.7
31	174 53 55.3	182 27 13.8	N. 0 24 4.4	N. 1 5 24.4	13.96	11 36.6	* *
32	190 3 3.9	197 40 13.3	N. 1 45 46.9	N. 2 24 21.5	14.96	12 32.9	0 4.6

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 1.					SATURDAY 3.				
	h m s	s	N. 12 51 11.7	81.70		h m s	s	N. 4 52 4.0	113.46
0	9 15 55.32	24.069	12 42 58.8	82.61	0	11 11 12.59	23.924	4 40 42.2	113.81
1	9 18 19.74	24.070	12 34 40.4	83.51	1	11 13 36.12	23.919	4 29 18.3	114.15
2	9 20 44.16	24.070	12 26 16.7	84.40	2	11 15 59.62	23.915	4 17 52.4	114.48
3	9 23 8.58	24.071	12 17 47.6	85.29	3	11 18 23.10	23.912	4 6 24.6	114.78
4	9 25 33.01	24.071	12 9 13.2	86.17	4	11 20 46.56	23.908	3 54 55.0	115.07
5	9 27 57.43	24.070	11 51 48.9	87.89	5	11 23 9.99	23.903	3 43 23.7	115.35
6	9 30 21.85	24.071	11 42 58.9	88.74	6	11 25 33.39	23.898	3 31 50.8	115.62
7	9 32 46.28	24.071	11 34 4.0	89.58	7	11 27 56.77	23.895	3 20 16.3	115.87
8	9 35 10.70	24.069	11 25 4.0	90.41	8	11 30 20.13	23.891	3 8 40.4	116.10
9	9 37 35.11	24.068	11 15 59.1	91.22	9	11 32 43.46	23.887	2 57 3.1	116.32
10	9 39 59.52	24.067	11 6 49.3	92.03	10	11 35 6.77	23.883	2 45 24.5	116.53
11	9 42 23.91	24.065	10 57 34.7	92.84	11	11 37 30.06	23.879	2 33 44.7	116.72
12	9 44 48.30	24.063	10 48 15.2	93.63	12	11 39 53.32	23.875	2 22 3.8	116.90
13	9 47 12.67	24.061	10 38 51.1	94.41	13	11 42 16.56	23.873	2 10 21.9	117.07
14	9 49 37.03	24.059	10 29 22.3	95.18	14	11 44 39.79	23.869	1 58 39.0	117.22
15	9 52 1.38	24.057	10 19 48.9	95.94	15	11 47 2.99	23.866	1 46 55.3	117.34
16	9 54 25.71	24.055	10 10 11.0	96.68	16	11 49 26.18	23.863	1 35 10.9	117.46
17	9 56 50.04	24.052	10 0 28.7	97.42	17	11 51 49.34	23.859	1 23 25.8	117.57
18	9 59 14.34	24.049	9 50 41.9	98.15	18	11 54 12.49	23.857	1 11 40.1	117.65
19	10 1 38.63	24.047	9 40 50.9	98.87	19	11 56 35.62	23.854	0 59 54.0	117.72
20	10 4 2.90	24.043	9 30 55.5	99.58	20	11 58 58.74	23.852	0 48 7.5	117.78
21	10 6 27.15	24.039	9 20 56.0	100.26	21	12 1 21.84	23.848	0 36 20.6	117.82
22	10 8 51.37	24.036			22	12 3 44.92	23.846	0 24 33.6	117.85
23	10 11 15.58	24.032			23	12 6 7.99	23.843		
FRIDAY 2.					SUNDAY 4.				
0	10 13 39.76	24.028	N. 9 10 52.4	100.94	0	12 8 31.04	23.842	N. 0 12 46.4	117.87
1	10 16 3.92	24.025	9 0 44.7	101.61	1	12 10 54.09	23.840	N. 0 0 59.2	117.87
2	10 18 28.06	24.022	8 50 33.1	102.27	2	12 13 17.12	23.838	S. 0 10 48.0	117.85
3	10 20 52.18	24.018	8 40 17.5	102.91	3	12 15 40.14	23.836	0 22 35.0	117.81
4	10 23 16.28	24.014	8 29 58.2	103.54	4	12 18 3.15	23.834	0 34 21.7	117.77
5	10 25 40.35	24.009	8 19 35.0	104.17	5	12 20 26.15	23.832	0 46 8.2	117.71
6	10 28 4.39	24.005	8 9 8.2	104.78	6	12 22 49.13	23.830	0 57 54.2	117.63
7	10 30 28.41	24.001	7 58 37.7	105.37	7	12 25 12.11	23.830	1 9 39.7	117.54
8	10 32 52.40	23.997	7 48 3.8	105.94	8	12 27 35.09	23.829	1 21 24.7	117.43
9	10 35 16.37	23.993	7 37 26.4	106.52	9	12 29 58.06	23.828	1 33 8.9	117.31
10	10 37 40.31	23.988	7 26 45.5	107.08	10	12 32 21.02	23.827	1 44 52.4	117.18
11	10 40 4.22	23.983	7 16 1.4	107.62	11	12 34 43.98	23.826	1 56 35.1	117.03
12	10 42 28.11	23.979	7 5 14.1	108.15	12	12 37 6.93	23.825	2 8 16.8	116.87
13	10 44 51.97	23.974	6 54 23.6	108.67	13	12 39 29.88	23.825	2 19 57.5	116.69
14	10 47 15.80	23.969	6 43 30.1	109.17	14	12 41 52.83	23.825	2 31 37.1	116.49
15	10 49 39.60	23.965	6 32 33.6	109.67	15	12 44 15.78	23.824	2 43 15.4	116.28
16	10 52 3.38	23.960	6 21 34.1	110.14	16	12 46 38.72	23.823	2 54 52.5	116.07
17	10 54 27.12	23.955	6 10 31.9	110.60	17	12 49 1.67	23.822	3 6 28.2	115.83
18	10 56 50.84	23.952	5 59 26.9	111.06	18	12 51 24.61	23.824	3 18 2.4	115.58
19	10 59 14.54	23.947	5 48 19.2	111.49	19	12 53 47.56	23.825	3 29 35.1	115.31
20	11 1 38.20	23.942	5 37 9.0	111.91	20	12 56 10.51	23.826	3 41 6.1	115.03
21	11 4 1.84	23.938	5 25 56.3	112.32	21	12 58 33.47	23.827	3 52 35.5	114.74
22	11 6 25.45	23.933	5 14 41.1	112.72	22	13 0 56.43	23.828	4 4 3.0	114.43
23	11 8 49.03	23.928	5 3 23.7	113.09	23	13 3 19.40	23.828	4 15 28.7	114.12
24	11 11 12.59	23.924	N. 4 52 4.0	113.46	24	13 5 42.37	23.828	S. 4 26 52.4	113.78

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 5.					WEDNESDAY 7.				
	h m s	s	° ' " S.	"		h m s	s	° ' " S.	"
0	13 5 42.37	23.828	4 26 52.4	113.78	0	15 0 20.39	23.942	12 30 27.9	83.40
1	13 8 5.34	23.829	4 38 14.1	113.43	1	15 2 44.05	23.943	12 38 45.7	82.52
2	13 10 28.32	23.831	4 49 33.6	113.07	2	15 5 7.71	23.944	12 46 58.1	81.63
3	13 12 51.31	23.832	5 0 50.9	112.69	3	15 7 31.38	23.946	12 55 5.2	80.73
4	13 15 14.31	23.834	5 12 5.9	112.30	4	15 9 55.06	23.948	13 3 6.9	79.83
5	13 17 37.32	23.835	5 23 18.5	111.90	5	15 12 18.75	23.949	13 11 3.2	78.92
6	13 20 0.33	23.837	5 34 28.7	111.49	6	15 14 42.45	23.949	13 18 54.0	78.00
7	13 22 23.36	23.839	5 45 36.4	111.06	7	15 17 6.14	23.949	13 26 39.2	77.07
8	13 24 46.40	23.841	5 56 41.4	110.61	8	15 19 29.84	23.950	13 34 18.9	76.14
9	13 27 9.45	23.843	6 7 43.7	110.16	9	15 21 53.54	23.951	13 41 52.9	75.20
10	13 29 32.51	23.845	6 18 43.3	109.69	10	15 24 17.25	23.951	13 49 21.3	74.26
11	13 31 55.59	23.847	6 29 40.0	109.21	11	15 26 40.95	23.950	13 56 44.0	73.30
12	13 34 18.67	23.848	6 40 33.8	108.72	12	15 29 4.65	23.950	14 4 0.9	72.34
13	13 36 41.77	23.851	6 51 24.6	108.21	13	15 31 28.35	23.950	14 11 12.1	71.37
14	13 39 4.88	23.853	7 2 12.3	107.69	14	15 33 52.05	23.949	14 18 17.4	70.40
15	13 41 28.01	23.857	7 12 56.9	107.16	15	15 36 15.74	23.948	14 25 16.9	69.43
16	13 43 51.16	23.858	7 23 38.2	106.61	16	15 38 39.42	23.947	14 32 10.6	68.45
17	13 46 14.31	23.861	7 34 16.2	106.06	17	15 41 3.10	23.946	14 38 58.3	67.45
18	13 48 37.49	23.864	7 44 50.9	105.49	18	15 43 26.77	23.944	14 45 40.0	66.46
19	13 51 0.68	23.866	7 55 22.1	104.91	19	15 45 50.43	23.942	14 52 15.8	65.45
20	13 53 23.88	23.868	8 5 49.8	104.32	20	15 48 14.07	23.939	14 58 45.6	64.46
21	13 55 47.10	23.872	8 16 13.9	103.71	21	15 50 37.70	23.937	15 5 9.3	63.45
22	13 58 10.34	23.875	8 26 34.3	103.09	22	15 53 1.32	23.935	15 11 27.0	62.43
23	14 0 33.60	23.877	8 36 51.0	102.47	23	15 55 24.92	23.932	15 17 38.5	61.41
TUESDAY 6.					THURSDAY 8.				
	h m s	s	° ' " S.	"		h m s	s	° ' " S.	"
0	14 2 56.87	23.880	8 47 3.9	101.83	0	15 57 48.50	23.928	15 23 43.9	60.38
1	14 5 20.16	23.883	8 57 12.9	101.17	1	16 0 12.06	23.926	15 29 43.1	59.36
2	14 7 43.47	23.886	9 7 18.0	100.52	2	16 2 35.61	23.922	15 35 36.2	58.33
3	14 10 6.79	23.888	9 17 19.1	99.84	3	16 4 59.12	23.917	15 41 23.1	57.29
4	14 12 30.13	23.892	9 27 16.1	99.16	4	16 7 22.61	23.913	15 47 3.7	56.24
5	14 14 53.49	23.895	9 37 9.0	98.47	5	16 9 46.08	23.909	15 52 38.0	55.20
6	14 17 16.87	23.897	9 46 57.7	97.77	6	16 12 9.52	23.903	15 58 6.1	54.16
7	14 19 40.26	23.900	9 56 42.2	97.05	7	16 14 32.92	23.898	16 3 27.9	53.11
8	14 22 3.67	23.903	10 6 22.3	96.32	8	16 16 56.30	23.893	16 8 43.4	52.05
9	14 24 27.10	23.907	10 15 58.0	95.58	9	16 19 19.64	23.887	16 13 52.5	50.99
10	14 26 50.55	23.909	10 25 29.3	94.84	10	16 21 42.94	23.881	16 18 55.3	49.93
11	14 29 14.01	23.912	10 34 56.1	94.08	11	16 24 6.21	23.874	16 23 51.7	48.87
12	14 31 37.49	23.915	10 44 18.3	93.32	12	16 26 29.43	23.867	16 28 41.7	47.80
13	14 34 0.99	23.917	10 53 35.9	92.54	13	16 28 52.61	23.860	16 33 25.3	46.73
14	14 36 24.50	23.920	11 2 48.8	91.75	14	16 31 15.75	23.853	16 38 2.5	45.67
15	14 38 48.03	23.923	11 11 56.9	90.96	15	16 33 38.85	23.845	16 42 33.3	44.59
16	14 41 11.57	23.925	11 21 0.3	90.16	16	16 36 1.89	23.837	16 46 57.6	43.52
17	14 43 35.13	23.927	11 29 58.8	89.33	17	16 38 24.89	23.828	16 51 15.5	42.43
18	14 45 58.70	23.929	11 38 52.3	88.52	18	16 40 47.83	23.818	16 55 26.8	41.35
19	14 48 22.28	23.932	11 47 41.0	87.69	19	16 43 10.71	23.809	16 59 31.7	40.28
20	14 50 45.88	23.934	11 56 24.6	86.84	20	16 45 33.54	23.800	17 3 30.2	39.20
21	14 53 9.49	23.936	12 5 3.1	86.00	21	16 47 56.31	23.790	17 7 22.1	38.11
22	14 55 33.11	23.938	12 13 36.6	85.15	22	16 50 19.02	23.780	17 11 7.5	37.02
23	14 57 56.75	23.940	12 22 4.9	84.28	23	16 52 41.67	23.769	17 14 46.4	35.93
24	15 0 20.39	23.942	12 30 27.9	83.40	24	16 55 4.25	23.758	17 18 18.7	34.84

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
FRIDAY 9.					SUNDAY 11.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	16 55 4.25	23.758	S. 17 18 18.7	34.84	0	18 47 7.39	22.794	S. 18 1 39.4	15.96
1	16 57 26.76	23.747	17 21 44.5	33.76	1	18 49 24.07	22.766	18 0 0.7	16.94
2	16 59 49.21	23.735	17 25 3.8	32.68	2	18 51 40.58	22.738	17 58 16.1	17.92
3	17 2 11.58	23.722	17 28 16.6	31.59	3	18 53 56.92	22.709	17 56 25.7	18.89
4	17 4 33.87	23.710	17 31 22.9	30.50	4	18 56 13.09	22.681	17 54 29.4	19.87
5	17 6 56.10	23.697	17 34 22.6	29.40	5	18 58 29.09	22.652	17 52 27.3	20.83
6	17 9 18.24	23.683	17 37 15.7	28.32	6	19 0 44.91	22.622	17 50 19.5	21.78
7	17 11 40.30	23.669	17 40 2.4	27.23	7	19 3 0.55	22.592	17 48 5.9	22.74
8	17 14 2.27	23.656	17 42 42.5	26.13	8	19 5 16.01	22.562	17 45 46.6	23.69
9	17 16 24.17	23.642	17 45 16.0	25.04	9	19 7 31.30	22.532	17 43 21.6	24.64
10	17 18 45.97	23.626	17 47 43.0	23.96	10	19 9 46.40	22.502	17 40 50.9	25.58
11	17 21 7.68	23.611	17 50 3.5	22.87	11	19 12 1.32	22.472	17 38 14.7	26.51
12	17 23 29.30	23.595	17 52 17.4	21.78	12	19 14 16.06	22.441	17 35 32.8	27.44
13	17 25 50.82	23.579	17 54 24.8	20.69	13	19 16 30.61	22.410	17 32 45.4	28.36
14	17 28 12.25	23.563	17 56 25.7	19.61	14	19 18 44.98	22.380	17 29 52.5	29.27
15	17 30 33.58	23.547	17 58 20.1	18.52	15	19 20 59.17	22.348	17 26 54.1	30.19
16	17 32 54.81	23.529	18 0 7.9	17.43	16	19 23 13.16	22.316	17 23 50.2	31.10
17	17 35 15.93	23.512	18 1 49.3	16.36	17	19 25 26.96	22.285	17 20 40.9	32.00
18	17 37 36.95	23.494	18 3 24.2	15.28	18	19 27 40.58	22.254	17 17 26.2	32.89
19	17 39 57.86	23.476	18 4 52.6	14.19	19	19 29 54.01	22.222	17 14 6.2	33.78
20	17 42 18.66	23.457	18 6 14.5	13.11	20	19 32 7.24	22.189	17 10 40.8	34.67
21	17 44 39.34	23.438	18 7 29.9	12.03	21	19 34 20.28	22.157	17 7 10.2	35.54
22	17 46 59.91	23.418	18 8 38.9	10.97	22	19 36 33.13	22.126	17 3 34.3	36.42
23	17 49 20.36	23.399	S. 18 9 41.5	9.89	23	19 38 45.79	22.093	S. 16 59 53.2	37.28
SATURDAY 10.					MONDAY 12.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	17 51 40.70	23.379	S. 18 10 37.6	8.82	0	19 40 58.25	22.060	S. 16 56 6.9	38.14
1	17 54 0.91	23.358	18 11 27.3	7.75	1	19 43 10.51	22.028	16 52 15.5	39.00
2	17 56 21.00	23.337	18 12 10.6	6.68	2	19 45 22.59	21.996	16 48 18.9	39.85
3	17 58 40.96	23.316	18 12 47.5	5.62	3	19 47 34.46	21.962	16 44 17.3	40.68
4	18 1 0.79	23.294	18 13 18.0	4.56	4	19 49 46.13	21.929	16 40 10.7	41.52
5	18 3 20.49	23.272	18 13 42.2	3.50	5	19 51 57.61	21.897	16 35 59.0	42.36
6	18 5 40.06	23.250	18 14 0.0	2.44	6	19 54 8.89	21.864	16 31 42.4	43.18
7	18 7 59.49	23.228	18 14 11.5	1.39	7	19 56 19.98	21.831	16 27 20.9	43.99
8	18 10 18.79	23.205	18 14 16.7	0.35	8	19 58 30.86	21.797	16 22 54.5	44.81
9	18 12 37.95	23.182	18 14 15.7	0.70	9	20 0 41.54	21.764	16 18 23.2	45.61
10	18 14 56.97	23.158	18 14 8.3	1.75	10	20 2 52.03	21.731	16 13 47.2	46.40
11	18 17 15.85	23.134	18 13 54.7	2.78	11	20 5 2.31	21.697	16 9 6.4	47.20
12	18 19 34.58	23.110	18 13 34.9	3.82	12	20 7 12.39	21.663	16 4 20.8	47.98
13	18 21 53.17	23.086	18 13 8.9	4.85	13	20 9 22.27	21.630	15 59 30.6	48.76
14	18 24 11.61	23.060	18 12 36.7	5.88	14	20 11 31.95	21.597	15 54 35.7	49.53
15	18 26 29.89	23.034	18 11 58.3	6.92	15	20 13 41.43	21.563	15 49 36.2	50.30
16	18 28 48.02	23.009	18 11 13.7	7.93	16	20 15 50.71	21.530	15 44 32.1	51.06
17	18 31 6.00	22.983	18 10 23.1	8.94	17	20 17 59.79	21.497	15 39 23.5	51.81
18	18 33 23.82	22.957	18 9 26.4	9.96	18	20 20 8.67	21.463	15 34 10.4	52.56
19	18 35 41.49	22.931	18 8 23.6	10.97	19	20 22 17.34	21.429	15 28 52.8	53.30
20	18 37 58.99	22.904	18 7 14.7	11.98	20	20 24 25.82	21.397	15 23 30.8	54.02
21	18 40 16.34	22.877	18 5 59.9	12.98	21	20 26 34.10	21.363	15 18 4.5	54.75
22	18 42 33.52	22.850	18 4 39.0	13.98	22	20 28 42.17	21.329	15 12 33.8	55.47
23	18 44 50.54	22.822	18 3 12.2	14.97	23	20 30 50.05	21.296	15 6 58.8	56.18
24	18 47 7.39	22.794	S. 18 1 39.4	15.96	24	20 32 57.72	21.263	S. 15 1 19.6	56.89

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 13.					THURSDAY 15.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	20 32 57.72	21.263	S. 15° 1' 19.6	56.89	0	22 11 23.70	19.818	S. 9° 20' 0.6	82.68
1	20 35 5.20	21.229	14 55 36.1	57.59	1	22 13 22.53	19.793	9 11 43.4	83.04
2	20 37 12.47	21.196	14 49 48.5	58.28	2	22 15 21.21	19.768	9 3 24.1	83.40
3	20 39 19.55	21.163	14 43 56.8	58.97	3	22 17 19.75	19.743	8 55 2.6	83.76
4	20 41 26.43	21.130	14 38 0.9	59.65	4	22 19 18.13	19.718	8 46 39.0	84.11
5	20 43 33.11	21.097	14 32 1.0	60.32	5	22 21 16.37	19.695	8 38 13.3	84.45
6	20 45 39.59	21.063	14 25 57.1	60.98	6	22 23 14.47	19.672	8 29 45.6	84.78
7	20 47 45.87	21.031	14 19 49.3	61.63	7	22 25 12.43	19.649	8 21 15.9	85.11
8	20 49 51.96	20.998	14 13 37.5	62.29	8	22 27 10.26	19.626	8 12 44.3	85.43
9	20 51 57.85	20.965	14 7 21.8	62.93	9	22 29 7.94	19.603	8 4 10.7	85.75
10	20 54 3.54	20.933	14 1 2.3	63.57	10	22 31 5.49	19.580	7 55 35.3	86.06
11	20 56 9.04	20.901	13 54 38.9	64.21	11	22 33 2.90	19.558	7 46 58.0	86.36
12	20 58 14.35	20.868	13 48 11.8	64.83	12	22 35 0.18	19.536	7 38 19.0	86.65
13	21 0 19.46	20.836	13 41 41.0	65.44	13	22 36 57.33	19.514	7 29 38.2	86.94
14	21 2 24.38	20.803	13 35 6.5	66.06	14	22 38 54.35	19.493	7 20 55.7	87.22
15	21 4 29.10	20.772	13 28 28.3	66.66	15	22 40 51.24	19.472	7 12 11.6	87.49
16	21 6 33.64	20.740	13 21 46.6	67.25	16	22 42 48.01	19.452	7 3 25.8	87.77
17	21 8 37.98	20.708	13 15 1.3	67.84	17	22 44 44.66	19.431	6 54 38.4	88.03
18	21 10 42.13	20.677	13 8 12.5	68.42	18	22 46 41.18	19.411	6 45 49.4	88.28
19	21 12 46.10	20.646	13 1 20.3	68.99	19	22 48 37.59	19.392	6 36 59.0	88.53
20	21 14 49.88	20.614	12 54 24.6	69.57	20	22 50 33.88	19.372	6 28 7.1	88.78
21	21 16 53.47	20.583	12 47 25.5	70.13	21	22 52 30.05	19.352	6 19 13.7	88.92
22	21 18 56.87	20.552	12 40 23.1	70.68	22	22 54 26.10	19.333	6 10 18.9	89.24
23	21 21 0.09	20.521	S. 12 33 17.3	71.23	23	22 56 22.05	19.315	S. 6 1 22.8	89.46
WEDNESDAY 14.					FRIDAY 16.				
0	21 23 3.12	20.490	S. 12 26 8.3	71.77	0	22 58 17.88	19.297	S. 5 52 25.4	89.68
1	21 25 5.97	20.460	12 18 56.1	72.30	1	23 0 13.61	19.279	5 43 26.7	89.89
2	21 27 8.64	20.429	12 11 40.7	72.83	2	23 2 9.23	19.262	5 34 26.7	90.09
3	21 29 11.12	20.399	12 4 22.1	73.36	3	23 4 4.75	19.244	5 25 25.6	90.28
4	21 31 13.43	20.370	11 57 0.4	73.87	4	23 6 0.16	19.227	5 16 23.3	90.47
5	21 33 15.56	20.340	11 49 35.7	74.37	5	23 7 55.47	19.211	5 7 19.9	90.66
6	21 35 17.51	20.310	11 42 8.0	74.87	6	23 9 50.69	19.195	4 58 15.4	90.84
7	21 37 19.28	20.281	11 34 37.3	75.36	7	23 11 45.81	19.178	4 49 9.8	91.01
8	21 39 20.88	20.252	11 27 3.7	75.84	8	23 13 40.83	19.163	4 40 3.3	91.17
9	21 41 22.30	20.223	11 19 27.2	76.32	9	23 15 35.76	19.148	4 30 55.8	91.33
10	21 43 23.55	20.194	11 11 47.9	76.79	10	23 17 30.60	19.133	4 21 47.3	91.49
11	21 45 24.63	20.166	11 4 5.7	77.27	11	23 19 25.35	19.118	4 12 37.9	91.63
12	21 47 25.54	20.138	10 56 20.7	77.72	12	23 21 20.02	19.104	4 3 27.7	91.77
13	21 49 26.28	20.109	10 48 33.1	78.17	13	23 23 14.60	19.090	3 54 16.7	91.90
14	21 51 26.85	20.082	10 40 42.7	78.62	14	23 25 9.10	19.077	3 45 4.9	92.03
15	21 53 27.26	20.054	10 32 49.7	79.05	15	23 27 3.52	19.063	3 35 52.3	92.15
16	21 55 27.50	20.027	10 24 54.1	79.47	16	23 28 57.86	19.050	3 26 39.1	92.26
17	21 57 27.58	20.000	10 16 56.0	79.90	17	23 30 52.12	19.038	3 17 25.2	92.37
18	21 59 27.50	19.973	10 8 55.3	80.32	18	23 32 46.31	19.026	3 8 10.7	92.48
19	22 1 27.26	19.947	10 0 52.2	80.73	19	23 34 40.43	19.013	2 58 55.5	92.58
20	22 3 26.86	19.920	9 52 46.6	81.13	20	23 36 34.47	19.001	2 49 39.8	92.66
21	22 5 26.30	19.894	9 44 38.6	81.53	21	23 38 28.44	18.991	2 40 23.6	92.74
22	22 7 25.59	19.868	9 36 28.2	81.92	22	23 40 22.36	18.981	2 31 6.9	92.82
23	22 9 24.72	19.843	9 28 15.5	82.30	23	23 42 16.21	18.970	2 21 49.8	92.88
24	22 11 23.70	19.818	S. 9 20 0.6	82.68	24	23 44 10.00	18.960	S. 2 12 32.3	92.95

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 17.					MONDAY 19.				
	h m s	s				h m s	s		
0	23 44 10.00	18.960	S. 2 12 32.3	92.95	0	1 14 39.67	18.880	N. 5 9 42.1	89.07
1	23 46 3.73	18.950	2 3 14.4	93.01	1	1 16 32.97	18.887	5 18 35.9	88.85
2	23 47 57.40	18.940	1 53 56.2	93.06	2	1 18 26.31	18.894	5 27 28.3	88.62
3	23 49 51.01	18.930	1 44 37.7	93.11	3	1 20 19.70	18.902	5 36 19.3	88.38
4	23 51 44.56	18.922	1 35 18.9	93.15	4	1 22 13.13	18.909	5 45 8.9	88.15
5	23 53 38.07	18.914	1 25 59.9	93.18	5	1 24 6.61	18.917	5 53 57.1	87.91
6	23 55 31.53	18.906	1 16 40.7	93.22	6	1 26 0.14	18.926	6 2 43.8	87.66
7	23 57 24.94	18.898	1 7 21.3	93.23	7	1 27 53.72	18.935	6 11 29.0	87.41
8	23 59 18.30	18.890	0 58 1.9	93.25	8	1 29 47.36	18.944	6 20 12.7	87.15
9	0 1 11.62	18.883	0 48 42.3	93.27	9	1 31 41.05	18.953	6 28 54.8	86.87
10	0 3 4.90	18.877	0 39 22.7	93.26	10	1 33 34.80	18.963	6 37 35.2	86.60
11	0 4 58.14	18.870	0 30 3.2	93.26	11	1 35 28.61	18.973	6 46 14.0	86.32
12	0 6 51.34	18.864	0 20 43.6	93.26	12	1 37 22.48	18.983	6 54 51.1	86.04
13	0 8 44.51	18.858	0 11 24.1	93.24	13	1 39 16.41	18.994	7 3 26.5	85.75
14	0 10 37.64	18.853	S. 0 2 4.7	93.22	14	1 41 10.41	19.006	7 12 0.1	85.46
15	0 12 30.75	18.849	N. 0 7 14.5	93.19	15	1 43 4.48	19.017	7 20 32.0	85.17
16	0 14 23.83	18.844	0 16 33.6	93.17	16	1 44 58.61	19.028	7 29 2.1	84.86
17	0 16 16.88	18.840	0 25 52.5	93.13	17	1 46 52.82	19.041	7 37 30.3	84.54
18	0 18 9.91	18.836	0 35 11.1	93.08	18	1 48 47.10	19.053	7 45 56.6	84.22
19	0 20 2.91	18.832	0 44 29.4	93.03	19	1 50 41.45	19.065	7 54 21.0	83.91
20	0 21 55.89	18.829	0 53 47.4	92.98	20	1 52 35.88	19.078	8 2 43.5	83.58
21	0 23 48.86	18.827	1 3 5.1	92.91	21	1 54 30.39	19.092	8 11 4.0	83.25
22	0 25 41.81	18.824	1 12 22.3	92.84	22	1 56 24.98	19.105	8 19 22.5	82.92
23	0 27 34.75	18.822	N. 1 21 39.2	92.77	23	1 58 19.65	19.118	N. 8 27 39.0	82.58
SUNDAY 18.					TUESDAY 20.				
0	0 29 27.67	18.819	N. 1 30 55.6	92.69	0	2 0 14.40	19.133	N. 8 35 53.4	82.23
1	0 31 20.58	18.818	1 40 11.5	92.61	1	2 2 9.24	19.148	8 44 5.7	81.87
2	0 33 13.49	18.817	1 49 26.9	92.52	2	2 4 4.17	19.163	8 52 15.8	81.51
3	0 35 6.39	18.817	1 58 41.7	92.42	3	2 5 59.19	19.178	9 0 23.8	81.14
4	0 36 59.29	18.816	2 7 55.9	92.32	4	2 7 54.30	19.193	9 8 29.5	80.77
5	0 38 52.18	18.816	2 17 9.5	92.22	5	2 9 49.50	19.208	9 16 33.0	80.40
6	0 40 45.08	18.817	2 26 22.5	92.10	6	2 11 44.80	19.225	9 24 34.3	80.02
7	0 42 37.98	18.817	2 35 34.7	91.97	7	2 13 40.20	19.241	9 32 33.2	79.63
8	0 44 30.88	18.818	2 44 46.2	91.85	8	2 15 35.69	19.257	9 40 29.8	79.23
9	0 46 23.79	18.819	2 53 56.9	91.72	9	2 17 31.28	19.274	9 48 24.0	78.83
10	0 48 16.71	18.821	3 3 6.8	91.58	10	2 19 26.98	19.292	9 56 15.8	78.43
11	0 50 9.64	18.823	3 12 15.9	91.44	11	2 21 22.78	19.308	10 4 5.2	78.02
12	0 52 2.58	18.825	3 21 24.1	91.29	12	2 23 18.68	19.326	10 11 52.1	77.61
13	0 53 55.54	18.827	3 30 31.4	91.13	13	2 25 14.69	19.344	10 19 36.5	77.19
14	0 55 48.51	18.831	3 39 37.7	90.97	14	2 27 10.81	19.362	10 27 18.4	76.77
15	0 57 41.51	18.835	3 48 43.1	90.82	15	2 29 7.04	19.381	10 34 57.7	76.33
16	0 59 34.53	18.838	3 57 47.5	90.65	16	2 31 3.38	19.399	10 42 34.4	75.90
17	1 1 27.57	18.842	4 6 50.9	90.47	17	2 32 59.83	19.417	10 50 8.5	75.46
18	1 3 20.63	18.846	4 15 53.1	90.28	18	2 34 56.39	19.437	10 57 39.9	75.01
19	1 5 13.72	18.851	4 24 54.3	90.10	19	2 36 53.08	19.457	11 5 8.6	74.56
20	1 7 6.84	18.857	4 33 54.3	89.90	20	2 38 49.88	19.477	11 12 34.6	74.10
21	1 9 0.00	18.862	4 42 53.1	89.70	21	2 40 46.80	19.497	11 19 57.8	73.64
22	1 10 53.19	18.867	4 51 50.7	89.49	22	2 42 43.85	19.518	11 27 18.3	73.17
23	1 12 46.41	18.873	5 0 47.0	89.28	23	2 44 41.02	19.538	11 34 35.9	72.69
24	1 14 39.67	18.880	N. 5 9 42.1	89.07	24	2 46 38.31	19.559	N. 11 41 50.6	72.22

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 21.					FRIDAY 23.				
	h m s	s	N. ° ' "	"		h m s	s	N. ° ' "	"
0	2 46 38.31	19.559	N. 11 41 50.6	72.22	0	4 23 19.47	20.790	N. 16 23 4.2	42.92
1	2 48 35.73	19.580	11 49 2.5	71.73	1	4 25 24.30	20.819	16 27 19.5	42.17
2	2 50 33.27	19.602	11 56 11.4	71.24	2	4 27 29.30	20.848	16 31 30.3	41.42
3	2 52 30.95	19.623	12 3 17.4	70.75	3	4 29 34.47	20.876	16 35 36.6	40.67
4	2 54 28.75	19.645	12 10 20.4	70.24	4	4 31 39.81	20.905	16 39 38.4	39.92
5	2 56 26.69	19.667	12 17 20.3	69.74	5	4 33 45.33	20.934	16 43 35.6	39.16
6	2 58 24.76	19.690	12 24 17.3	69.23	6	4 35 51.02	20.963	16 47 28.3	38.40
7	3 0 22.97	19.712	12 31 11.1	68.71	7	4 37 56.89	20.992	16 51 16.4	37.63
8	3 2 21.31	19.734	12 38 1.8	68.18	8	4 40 2.93	21.022	16 54 59.8	36.85
9	3 4 19.78	19.757	12 44 49.3	67.66	9	4 42 9.15	21.051	16 58 38.6	36.07
10	3 6 18.40	19.781	12 51 33.7	67.13	10	4 44 15.54	21.080	17 2 12.7	35.28
11	3 8 17.15	19.804	12 58 14.9	66.59	11	4 46 22.11	21.109	17 5 42.0	34.49
12	3 10 16.05	19.828	13 4 52.8	66.04	12	4 48 28.85	21.138	17 9 6.6	33.70
13	3 12 15.09	19.852	13 11 27.4	65.50	13	4 50 35.76	21.167	17 12 26.4	32.90
14	3 14 14.27	19.876	13 17 58.8	64.94	14	4 52 42.85	21.197	17 15 41.4	32.09
15	3 16 13.60	19.900	13 24 26.7	64.38	15	4 54 50.12	21.226	17 18 51.5	31.28
16	3 18 13.07	19.924	13 30 51.3	63.82	16	4 56 57.56	21.255	17 21 56.8	30.47
17	3 20 12.69	19.949	13 37 12.5	63.25	17	4 59 5.18	21.284	17 24 57.2	29.66
18	3 22 12.46	19.974	13 43 30.3	62.67	18	5 1 12.97	21.312	17 27 52.7	28.83
19	3 24 12.38	19.999	13 49 44.6	62.09	19	5 3 20.93	21.342	17 30 43.1	27.99
20	3 26 12.45	20.024	13 55 55.4	61.50	20	5 5 29.07	21.371	17 33 28.6	27.17
21	3 28 12.67	20.050	14 2 2.6	60.91	21	5 7 37.38	21.400	17 36 9.1	26.33
22	3 30 13.05	20.076	14 8 6.3	60.32	22	5 9 45.87	21.429	17 38 44.6	25.48
23	3 32 13.58	20.101	N. 14 14 6.4	59.71	23	5 11 54.53	21.458	N. 17 41 14.9	24.63
THURSDAY 22.					SATURDAY 24.				
	h m s	s	N. ° ' "	"		h m s	s	N. ° ' "	"
0	3 34 14.26	20.127	N. 14 20 2.8	59.10	0	5 14 3.36	21.486	N. 17 43 40.2	23.78
1	3 36 15.10	20.152	14 25 55.6	58.48	1	5 16 12.36	21.515	17 46 0.3	22.93
2	3 38 16.09	20.179	14 31 44.6	57.87	2	5 18 21.54	21.544	17 48 15.3	22.07
3	3 40 17.25	20.206	14 37 30.0	57.24	3	5 20 30.89	21.573	17 50 25.1	21.20
4	3 42 18.56	20.232	14 43 11.5	56.61	4	5 22 40.42	21.602	17 52 29.7	20.33
5	3 44 20.04	20.259	14 48 49.3	55.98	5	5 24 50.11	21.629	17 54 29.1	19.45
6	3 46 21.67	20.286	14 54 23.3	55.34	6	5 26 59.97	21.658	17 56 23.1	18.57
7	3 48 23.47	20.313	14 59 53.4	54.69	7	5 29 10.01	21.687	17 58 11.9	17.69
8	3 50 25.43	20.340	15 5 19.6	54.04	8	5 31 20.21	21.714	17 59 55.4	16.80
9	3 52 27.55	20.367	15 10 41.9	53.38	9	5 33 30.58	21.742	18 1 33.5	15.91
10	3 54 29.84	20.395	15 16 0.2	52.72	10	5 35 41.12	21.771	18 3 6.3	15.02
11	3 56 32.29	20.423	15 21 14.6	52.06	11	5 37 51.83	21.798	18 4 33.7	14.11
12	3 58 34.91	20.450	15 26 24.9	51.38	12	5 40 2.70	21.826	18 5 55.6	13.20
13	4 0 37.69	20.478	15 31 31.2	50.71	13	5 42 13.74	21.853	18 7 12.1	12.29
14	4 2 40.65	20.507	15 36 33.4	50.02	14	5 44 24.94	21.881	18 8 23.1	11.38
15	4 4 43.77	20.533	15 41 31.5	49.33	15	5 46 36.31	21.909	18 9 28.7	10.47
16	4 6 47.05	20.562	15 46 25.4	48.64	16	5 48 47.85	21.936	18 10 28.7	9.54
17	4 8 50.51	20.590	15 51 15.2	47.95	17	5 50 59.54	21.963	18 11 23.2	8.62
18	4 10 54.13	20.618	15 56 0.8	47.24	18	5 53 11.40	21.990	18 12 12.1	7.68
19	4 12 57.93	20.647	16 0 42.1	46.53	19	5 55 23.42	22.017	18 12 55.4	6.76
20	4 15 1.89	20.675	16 5 19.2	45.82	20	5 57 35.60	22.043	18 13 33.2	5.83
21	4 17 6.03	20.704	16 9 52.0	45.10	21	5 59 47.94	22.069	18 14 5.3	4.88
22	4 19 10.34	20.732	16 14 20.4	44.38	22	6 2 0.43	22.096	18 14 31.7	3.93
23	4 21 14.82	20.761	16 18 44.5	43.65	23	6 4 13.09	22.123	18 14 52.5	2.99
24	4 23 19.47	20.790	N. 16 23 4.2	42.92	24	6 6 25.90	22.148	N. 18 15 7.6	2.04

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.	Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.
SUNDAY 25.					TUESDAY 27.				
	h m s	s	N. 18° 15' 7".6	2".04		h m s	s	N. 16° 30' 28".1	46".22
0	6 6 25.90	22.148	18 15 17.0	1.08	0	7 55 20.34	23.139	16 25 47.7	47.24
1	6 8 38.86	22.174	18 15 20.6	0.13	1	7 57 39.22	23.154	16 21 1.2	48.26
2	6 10 51.99	22.200	18 15 18.5	0.83	2	7 59 58.19	23.168	16 16 8.6	49.28
3	6 13 5.26	22.225	18 15 10.6	1.80	3	8 2 17.24	23.183	16 11 9.8	50.30
4	6 15 18.69	22.251	18 14 56.9	2.77	4	8 4 36.38	23.197	16 6 5.0	51.31
5	6 17 32.27	22.275	18 14 37.4	3.73	5	8 6 55.60	23.210	16 0 54.1	52.32
6	6 19 45.99	22.300	18 14 12.1	4.71	6	8 9 14.90	23.223	15 55 37.1	53.34
7	6 21 59.87	22.325	18 13 40.9	5.68	7	8 11 34.28	23.237	15 50 14.0	54.35
8	6 24 13.89	22.350	18 13 3.9	6.66	8	8 13 53.75	23.251	15 44 44.9	55.35
9	6 26 28.07	22.374	18 12 21.0	7.65	9	8 16 13.29	23.263	15 39 9.8	56.36
10	6 28 42.38	22.397	18 11 32.1	8.63	10	8 18 32.90	23.275	15 33 28.6	57.37
11	6 30 56.84	22.422	18 10 37.4	9.62	11	8 20 52.59	23.288	15 27 41.4	58.36
12	6 33 11.44	22.445	18 9 36.7	10.61	12	8 23 12.36	23.301	15 21 48.3	59.36
13	6 35 26.18	22.469	18 8 30.1	11.60	13	8 25 32.20	23.313	15 15 49.1	60.36
14	6 37 41.07	22.492	18 7 17.5	12.60	14	8 27 52.11	23.324	15 9 44.0	61.35
15	6 39 56.09	22.515	18 5 58.9	13.60	15	8 30 12.09	23.335	15 3 32.9	62.33
16	6 42 11.25	22.537	18 4 34.3	14.60	16	8 32 32.13	23.347	14 57 16.0	63.32
17	6 44 26.54	22.560	18 3 3.7	15.61	17	8 34 52.25	23.358	14 50 53.1	64.31
18	6 46 41.97	22.583	18 1 27.0	16.61	18	8 37 12.43	23.368	14 44 24.3	65.28
19	6 48 57.54	22.606	17 59 44.4	17.61	19	8 39 32.67	23.379	14 37 49.7	66.25
20	6 51 13.24	22.627	17 57 55.7	18.62	20	8 41 52.98	23.390	14 31 9.3	67.22
21	6 53 29.06	22.648	17 56 0.9	19.63	21	8 44 13.35	23.401	14 24 23.1	68.18
22	6 55 45.02	22.671	17 54 0.1	20.64	22	8 46 33.79	23.411	14 17 31.1	69.15
23	6 58 1.11	22.691			23	8 48 54.28	23.420		
MONDAY 26.					WEDNESDAY 28.				
0	7 0 17.31	22.711	17 51 53.2	21.66	0	8 51 14.83	23.430	14 10 33.3	70.11
1	7 2 33.64	22.732	17 49 40.2	22.68	1	8 53 35.44	23.440	14 3 29.8	71.06
2	7 4 50.10	22.753	17 47 21.1	23.69	2	8 55 56.11	23.449	13 56 20.6	72.01
3	7 7 6.68	22.773	17 44 55.9	24.71	3	8 58 16.83	23.458	13 49 5.7	72.95
4	7 9 23.37	22.793	17 42 24.6	25.73	4	9 0 37.61	23.467	13 41 45.2	73.89
5	7 11 40.19	22.813	17 39 47.2	26.75	5	9 2 58.44	23.477	13 34 19.0	74.82
6	7 13 57.12	22.832	17 37 3.6	27.77	6	9 5 19.33	23.485	13 26 47.3	75.74
7	7 16 14.17	22.852	17 34 13.9	28.79	7	9 7 40.26	23.493	13 19 10.1	76.67
8	7 18 31.34	22.871	17 31 18.1	29.82	8	9 10 1.25	23.503	13 11 27.3	77.59
9	7 20 48.62	22.890	17 28 16.1	30.84	9	9 12 22.30	23.512	13 3 39.0	78.50
10	7 23 6.02	22.908	17 25 8.0	31.87	10	9 14 43.39	23.519	12 55 45.3	79.41
11	7 25 23.52	22.926	17 21 53.7	32.89	11	9 17 4.53	23.527	12 47 46.1	80.31
12	7 27 41.13	22.944	17 18 33.3	33.91	12	9 19 25.72	23.536	12 39 41.6	81.20
13	7 29 58.85	22.962	17 15 6.8	34.93	13	9 21 46.96	23.543	12 31 31.7	82.08
14	7 32 16.67	22.978	17 11 34.1	35.97	14	9 24 8.24	23.551	12 23 16.6	82.96
15	7 34 34.59	22.996	17 7 55.2	37.00	15	9 26 29.57	23.559	12 14 56.2	83.84
16	7 36 52.62	23.013	17 4 10.1	38.03	16	9 28 50.95	23.567	12 6 30.5	84.71
17	7 39 10.74	23.029	17 0 18.9	39.05	17	9 31 12.37	23.574	11 57 59.7	85.57
18	7 41 28.97	23.047	16 56 21.5	40.07	18	9 33 33.84	23.582	11 49 23.7	86.42
19	7 43 47.30	23.063	16 52 18.0	41.10	19	9 35 55.35	23.588	11 40 42.6	87.27
20	7 46 5.72	23.078	16 48 8.3	42.13	20	9 38 16.90	23.596	11 31 56.5	88.10
21	7 48 24.23	23.094	16 43 52.4	43.15	21	9 40 38.50	23.603	11 23 5.4	88.93
22	7 50 42.85	23.110	16 39 30.5	44.17	22	9 43 0.14	23.610	11 14 9.3	89.75
23	7 53 1.55	23.124	16 35 2.4	45.20	23	9 45 21.82	23.617	11 5 8.4	90.56
24	7 55 20.34	23.139	16 30 28.1	46.22	24	9 47 43.54	23.623	10 56 2.6	91.37

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 29.					SATURDAY 31.				
	h m s	s				h m s	s		
0	9 47 43.54	23.623	N. 10 56' 2".6	91.37	0	11 41 54.53	23.969	N. 2 23 45".2	117.53
1	9 50 5.30	23.631	10 46 51.9	92.18	1	11 44 18.37	23.978	2 11 59.3	117.76
2	9 52 27.11	23.638	10 37 36.4	92.97	2	11 46 42.27	23.988	2 0 12.1	117.97
3	9 54 48.95	23.644	10 28 16.3	93.74	3	11 49 6.23	23.997	1 48 23.7	118.17
4	9 57 10.84	23.652	10 18 51.5	94.51	4	11 51 30.24	24.006	1 36 34.1	118.36
5	9 59 32.77	23.658	10 9 22.2	95.27	5	11 53 54.30	24.015	1 24 43.4	118.52
6	10 1 54.73	23.664	9 59 48.2	96.03	6	11 56 18.42	24.025	1 12 51.8	118.67
7	10 4 16.74	23.672	9 50 9.8	96.77	7	11 58 42.60	24.034	1 0 59.3	118.82
8	10 6 38.79	23.678	9 40 27.0	97.50	8	12 1 6.83	24.044	0 49 6.0	118.93
9	10 9 0.88	23.684	9 30 39.8	98.23	9	12 3 31.13	24.054	0 37 12.1	119.04
10	10 11 23.00	23.691	9 20 48.2	98.95	10	12 5 55.48	24.063	0 25 17.5	119.14
11	10 13 45.17	23.698	9 10 52.4	99.65	11	12 8 19.89	24.073	0 13 22.4	119.22
12	10 16 7.37	23.703	9 0 22.2	100.35	12	12 10 44.36	24.083	N. 0 1 26.9	119.28
13	10 18 29.61	23.711	8 50 48.2	101.03	13	12 13 8.89	24.094	S. 0 10 28.9	119.32
14	10 20 51.90	23.718	8 40 40.0	101.71	14	12 15 33.49	24.105	0 22 25.0	119.36
15	10 23 14.22	23.723	8 30 27.7	102.38	15	12 17 58.15	24.115	0 34 21.2	119.37
16	10 25 36.58	23.730	8 20 11.4	103.03	16	12 20 22.87	24.125	0 46 17.4	119.37
17	10 27 58.98	23.737	8 9 51.3	103.67	17	12 22 47.65	24.136	0 58 13.6	119.35
18	10 30 21.42	23.743	7 59 27.3	104.31	18	12 25 12.50	24.147	1 10 9.6	119.32
19	10 32 43.90	23.750	7 48 59.6	104.93	19	12 27 37.41	24.157	1 22 5.4	119.28
20	10 35 6.42	23.757	7 38 28.2	105.54	20	12 30 2.39	24.168	1 34 0.9	119.21
21	10 37 28.98	23.763	7 27 53.1	106.14	21	12 32 27.43	24.179	1 45 55.9	119.12
22	10 39 51.58	23.770	7 17 14.5	106.73	22	12 34 52.54	24.191	1 57 50.4	119.03
23	10 42 14.22	23.777	N. 7 6 32.4	107.30	23	12 37 17.72	24.202	S. 2 9 44.3	118.92
FRIDAY 30.					SUNDAY, APRIL 1.				
0	10 44 36.90	23.783	N. 6 55 46.9	107.87	0	12 39 42.96	24.213	S. 2 21 37.5	118.80
1	10 46 59.62	23.791	6 44 58.0	108.42					
2	10 49 22.39	23.797	6 34 5.9	108.96					
3	10 51 45.19	23.803	6 23 10.5	109.49					
4	10 54 8.03	23.811	6 12 12.0	110.00					
5	10 56 30.92	23.818	6 1 10.5	110.51					
6	10 58 53.85	23.826	5 50 5.9	111.00					
7	11 1 16.83	23.833	5 38 58.5	111.47					
8	11 3 39.85	23.840	5 27 48.3	111.93					
9	11 6 2.91	23.847	5 16 35.3	112.39					
10	11 8 26.02	23.855	5 5 19.6	112.83					
11	11 10 49.17	23.862	4 54 1.3	113.26					
12	11 13 12.37	23.871	4 42 40.5	113.67					
13	11 15 35.62	23.878	4 31 17.3	114.07					
14	11 17 58.91	23.886	4 19 51.7	114.45					
15	11 20 22.25	23.893	4 8 23.9	114.82					
16	11 22 45.63	23.902	3 56 53.9	115.18					
17	11 25 9.07	23.911	3 45 21.7	115.52					
18	11 27 32.56	23.918	3 33 47.6	115.85					
19	11 29 56.09	23.927	3 22 11.5	116.17					
20	11 32 19.68	23.935	3 10 33.6	116.46					
21	11 34 43.31	23.943	2 58 54.0	116.75					
22	11 37 7.00	23.952	2 47 12.6	117.03					
23	11 39 30.74	23.961	2 35 29.7	117.28					
24	11 41 54.53	23.969	N. 2 23 45.2	117.53					

PHASES OF THE MOON.

Mar. 2	○ Full Moon	- -	15 23.6	h m
9	☾ Last Quarter	- -	6 31.0	
17	● New Moon	- -	0 51.3	
25	☽ First Quarter	- -	4 41.5	
Mar. 3	☾ Perigee	- - - -	22.8	h
19	☾ Apogee	- - - -	8.4	

AT APPARENT NOON.

Date.		THE SUN'S				Sidereal Time of the Semi-diameter passing the Meridian.*	Equation of Time, to be added to		Var. in 1 hour.
		Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.		subtracted from Apparent Time.		
		h m s	s	N. ° ' "	"	m s	m s	s	
Sun.	1	0 39 30.04	9.095	4 15 14.5	57.98	1 4.45	4 12.16	0.759	
Mon.	2	0 43 8.37	9.100	4 38 23.6	57.78	1 4.47	3 53.99	0.755	
Tues.	3	0 46 46.83	9.105	5 1 27.8	57.56	1 4.49	3 35.94	0.749	
Wed.	4	0 50 25.43	9.112	5 24 26.6	57.34	1 4.51	3 18.04	0.743	
Thur.	5	0 54 4.19	9.119	5 47 19.8	57.10	1 4.53	3 0.30	0.735	
Frid.	6	0 57 43.14	9.127	6 10 7.1	56.84	1 4.56	2 42.75	0.727	
Sat.	7	1 1 22.30	9.136	6 32 48.1	56.57	1 4.59	2 25.40	0.718	
Sun.	8	1 5 1.68	9.146	6 55 22.4	56.29	1 4.62	2 8.27	0.709	
Mon.	9	1 8 41.30	9.156	7 17 49.7	55.99	1 4.65	1 51.39	0.698	
Tues.	10	1 12 21.19	9.168	7 40 9.8	55.68	1 4.69	1 34.77	0.687	
Wed.	11	1 16 1.35	9.179	8 2 22.2	55.35	1 4.73	1 18.42	0.675	
Thur.	12	1 19 41.80	9.192	8 24 26.5	55.01	1 4.77	1 2.36	0.663	
Frid.	13	1 23 22.55	9.205	8 46 22.5	54.65	1 4.81	0 46.60	0.650	
Sat.	14	1 27 3.62	9.218	9 8 9.9	54.28	1 4.86	0 31.17	0.636	
Sun.	15	1 30 45.02	9.232	9 29 48.1	53.90	1 4.91	0 16.06	0.623	
Mon.	16	1 34 26.77	9.247	9 51 16.9	53.50	1 4.96	0 1.29	0.608	
Tues.	17	1 38 8.87	9.262	10 12 36.0	53.09	1 5.01	0 13.12	0.593	
Wed.	18	1 41 51.34	9.277	10 33 45.0	52.66	1 5.07	0 27.16	0.577	
Thur.	19	1 45 34.19	9.294	10 54 43.5	52.21	1 5.13	0 40.83	0.561	
Frid.	20	1 49 17.43	9.310	11 15 31.2	51.76	1 5.19	0 54.11	0.545	
Sat.	21	1 53 1.08	9.327	11 36 7.8	51.29	1 5.25	1 6.98	0.528	
Sun.	22	1 56 45.13	9.344	11 56 32.9	50.80	1 5.31	1 19.44	0.510	
Mon.	23	2 0 29.61	9.362	12 16 46.2	50.30	1 5.38	1 31.48	0.493	
Tues.	24	2 4 14.52	9.381	12 36 47.3	49.79	1 5.45	1 43.09	0.475	
Wed.	25	2 7 59.88	9.400	12 56 35.9	49.26	1 5.52	1 54.26	0.456	
Thur.	26	2 11 45.70	9.419	13 16 11.7	48.72	1 5.59	2 4.97	0.436	
Frid.	27	2 15 31.98	9.439	13 35 34.3	48.16	1 5.66	2 15.21	0.417	
Sat.	28	2 19 18.75	9.459	13 54 43.5	47.60	1 5.73	2 24.97	0.396	
Sun.	29	2 23 6.01	9.480	14 13 38.9	47.01	1 5.81	2 34.24	0.375	
Mon.	30	2 26 53.78	9.501	14 32 20.2	46.43	1 5.88	2 42.99	0.354	
Tues.	31	2 30 42.07	9.523	N.14 50 47.2	45.82	1 5.96	2 51.23	0.332	

* Mean Time of the Semidiameter passing may be found by subtracting 0.18 from the Sidereal Time.

AT MEAN NOON.

Date.		THE SUN'S			Equation of Time, to be added to		Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*	subtracted from Apparent Time.		
		h m s	N. ° ' "	16 ' "	m s	h m s	
Sun.	1	0 39 29.40	N. 4 15 10.5	16 1.73	4 12.21	0 35 17.19	
Mon.	2	0 43 7.78	4 38 19.9	16 1.45	3 54.04	0 39 13.74	
Tues.	3	0 46 46.28	5 1 24.3	16 1.17	3 35.99	0 43 10.29	
Wed.	4	0 50 24.93	5 24 23.5	16 0.89	3 18.08	0 47 6.85	
Thur.	5	0 54 3.73	5 47 17.0	16 0.61	3 0.34	0 51 3.40	
Frid.	6	0 57 42.73	6 10 4.5	16 0.33	2 42.78	0 54 59.95	
Sat.	7	1 1 21.93	6 32 45.8	16 0.05	2 25.43	0 58 56.50	
Sun.	8	1 5 1.35	6 55 20.4	15 59.76	2 8.30	1 2 53.06	
Mon.	9	1 8 41.02	7 17 48.0	15 59.48	1 51.41	1 6 49.61	
Tues.	10	1 12 20.95	7 40 8.3	15 59.21	1 34.79	1 10 46.16	
Wed.	11	1 16 1.15	8 2 21.0	15 58.93	1 18.43	1 14 42.71	
Thur.	12	1 19 41.64	8 24 25.6	15 58.65	1 2.37	1 18 39.26	
Frid.	13	1 23 22.43	8 46 21.8	15 58.38	0 46.61	1 22 35.82	
Sat.	14	1 27 3.54	9 8 9.4	15 58.11	0 31.17	1 26 32.37	
Sun.	15	1 30 44.98	9 29 47.9	15 57.84	0 16.06	1 30 28.92	
Mon.	16	1 34 26.76	9 51 16.9	15 57.57	0 1.29	1 34 25.47	
Tues.	17	1 38 8.90	10 12 36.2	15 57.30	0 13.12	1 38 22.03	
Wed.	18	1 41 51.41	10 33 45.4	15 57.04	0 27.17	1 42 18.58	
Thur.	19	1 45 34.30	10 54 44.1	15 56.78	0 40.84	1 46 15.13	
Frid.	20	1 49 17.57	11 15 32.0	15 56.52	0 54.11	1 50 11.69	
Sat.	21	1 53 1.25	11 36 8.8	15 56.26	1 6.99	1 54 8.24	
Sun.	22	1 56 45.34	11 56 34.0	15 56.01	1 19.45	1 58 4.79	
Mon.	23	2 0 29.85	12 16 47.4	15 55.76	1 31.50	2 2 1.34	
Tues.	24	2 4 14.79	12 36 48.7	15 55.51	1 43.11	2 5 57.90	
Wed.	25	2 8 0.18	12 56 37.4	15 55.26	1 54.27	2 9 54.45	
Thur.	26	2 11 46.03	13 16 13.4	15 55.02	2 4.98	2 13 51.00	
Frid.	27	2 15 32.34	13 35 36.1	15 54.77	2 15.22	2 17 47.56	
Sat.	28	2 19 19.13	13 54 45.4	15 54.53	2 24.98	2 21 44.11	
Sun.	29	2 23 6.41	14 13 40.9	15 54.29	2 34.25	2 25 40.66	
Mon.	30	2 26 54.21	14 32 22.3	15 54.04	2 43.01	2 29 37.22	
Tues.	31	2 30 42.52	N. 14 50 49.4	15 53.80	2 51.25	2 33 33.77	

* The Semidiameter for Apparent Noon may be assumed the same as that for Mean Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
	^o ['] ["]	^o ['] ["]		^h ^m ^s	['] ["] ["]	['] ["] ["]	['] ["] ["]	['] ["] ["]
1	10 44 28.5	N. 0.28	9.9997526	23 20 52.68	16 43.65	16 44.04	61 23.52	61 24.95
2	11 43 37.6	0.41	9.9998781	23 16 56.78	16 43.03	16 40.69	61 21.28	61 12.68
3	12 42 44.8	0.52	0.0000043	23 13 0.87	16 37.10	16 32.40	60 59.50	60 42.25
4	13 41 50.1	0.60	0.0001309	23 9 4.97	16 26.76	16 20.36	60 21.55	59 58.06
5	14 40 53.6	0.64	.0002580	23 5 9.06	16 13.40	16 6.06	59 32.52	59 5.59
6	15 39 55.3	0.66	.0003853	23 1 13.15	15 58.53	15 50.97	58 37.96	58 10.20
7	16 38 55.2	0.65	0.0005126	22 57 17.25	15 43.52	15 36.29	57 42.84	57 16.31
8	17 37 53.4	0.60	.0006398	22 53 21.34	15 29.38	15 22.87	56 50.96	56 27.06
9	18 36 50.0	0.52	.0007667	22 49 25.43	15 16.81	15 11.23	56 4.81	55 44.35
10	19 35 44.7	0.42	0.0008932	22 45 29.53	15 6.16	15 1.61	55 25.75	55 9.04
11	20 34 37.7	0.30	.0010191	22 41 33.62	14 57.57	14 54.04	54 54.22	54 41.25
12	21 33 28.9	0.17	.0011442	22 37 37.71	14 50.99	14 48.42	54 30.07	54 20.63
13	22 32 18.3	N. 0.04	0.0012686	22 33 41.81	14 46.30	14 44.60	54 12.83	54 6.60
14	23 31 5.8	S. 0.09	.0013920	22 29 45.90	14 43.31	14 42.41	54 1.87	53 58.57
15	24 29 51.4	0.22	.0015145	22 25 50.00	14 41.89	14 41.73	53 56.66	53 56.08
16	25 28 35.1	0.33	0.0016359	22 21 54.09	14 41.93	14 42.50	53 56.83	53 58.88
17	26 27 16.8	0.42	.0017563	22 17 58.18	14 43.42	14 44.71	54 2.28	54 7.02
18	27 25 56.5	0.49	.0018756	22 14 2.27	14 46.39	14 48.46	54 13.16	54 20.76
19	28 24 34.1	0.54	0.0019938	22 10 6.37	14 50.94	14 53.86	54 29.88	54 40.58
20	29 23 9.7	0.56	.0021109	22 6 10.46	14 57.22	15 1.05	54 52.93	55 6.98
21	30 21 43.2	0.55	.0022269	22 2 14.55	15 5.36	15 10.14	55 22.79	55 40.36
22	31 20 14.5	0.51	0.0023419	21 58 18.65	15 15.41	15 21.14	55 59.68	56 20.71
23	32 18 43.7	0.45	.0024560	21 54 22.74	15 27.31	15 33.88	56 43.36	57 7.45
24	33 17 10.7	0.36	.0025692	21 50 26.83	15 40.78	15 47.93	57 32.79	57 59.06
25	34 15 35.5	0.25	0.0026816	21 46 30.92	15 55.25	16 2.59	58 25.90	58 52.85
26	35 13 58.2	S. 0.12	.0027933	21 42 35.02	16 9.82	16 16.77	59 19.38	59 44.88
27	36 12 18.8	N. 0.02	.0029045	21 38 39.11	16 23.26	16 29.11	60 8.71	60 30.18
28	37 10 37.3	0.16	0.0030153	21 34 43.20	16 34.13	16 38.16	60 48.61	61 3.38
29	38 8 53.8	0.28	.0031257	21 30 47.29	16 41.03	16 42.64	61 13.93	61 19.84
30	39 7 8.4	0.39	.0032357	21 26 51.38	16 42.91	16 41.82	61 20.83	61 16.82
31	40 5 21.2	N. 0.48	0.0033455	21 22 55.48	16 39.39	16 35.70	61 7.91	60 54.37

MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	^h ^m ^s	^h ^m ^s	[°] ['] ["]	[°] ['] ["]	d	^h ^m	^h ^m
1	190° 3' 3.9	197° 40' 13.3	N. 1° 45' 46.9	N. 2° 24' 21.5	14.96	12 32.9	0 4.6
2	205 17 25.7	212 53 24.7	3 0 20.0	3 32 59.1	15.96	13 29.9	1 1.3
3	220 26 56.6	227 56 53.1	4 1 42.3	4 26 0.4	16.96	14 27.6	1 58.7
4	235 22 14.0	242 42 9.4	4 45 33.5	5 0 9.6	17.96	15 25.5	2 56.5
5	249 56 0.3	257 3 19.2	5 9 45.1	5 14 23.4	18.96	16 22.8	3 54.3
6	264 3 50.2	270 57 27.7	5 14 13.8	5 9 30.4	19.96	17 18.8	4 51.0
7	277 44 15.6	284 24 25.9	5 0 30.5	4 47 33.9	20.96	18 12.7	5 46.1
8	290 58 16.8	297 26 12.0	4 31 1.8	4 11 16.2	21.96	19 4.1	6 38.7
9	303 48 38.6	310 6 6.1	3 48 39.3	3 23 33.5	22.96	19 52.9	7 28.8
10	316 19 5.5	322 28 8.1	2 56 20.6	2 27 22.1	23.96	20 39.3	8 16.3
11	328 33 45.0	334 36 26.2	1 56 59.3	1 25 32.9	24.96	21 23.8	9 1.8
12	340 36 40.6	346 34 55.5	N. 0 53 23.3	N. 0 20 50.5	25.96	22 7.0	9 45.5
13	352 31 36.0	358 27 5.5	S. 0 11 45.7	S. 0 44 5.8	26.96	22 49.5	10 28.3
14	4 21 45.4	10 15 55.3	1 15 50.8	1 46 42.0	27.96	23 31.8	11 10.6
15	16 9 53.2	22 3 55.6	2 16 21.1	2 44 30.5	28.96	* *	11 53.1
16	27 58 17.4	33 53 13.1	3 10 53.2	3 35 13.2	0.23	0 14.5	12 36.2
17	39 48 56.6	45 45 41.2	3 57 15.3	4 16 45.4	1.23	0 58.1	13 20.3
18	51 43 40.8	57 43 9.4	4 33 30.3	4 47 18.3	2.23	1 42.9	14 5.9
19	63 44 22.2	69 47 35.1	4 57 58.9	5 5 22.9	3.23	2 29.3	14 53.1
20	75 53 5.7	82 1 12.5	5 9 22.4	5 9 51.1	4.23	3 17.2	15 41.7
21	88 12 16.3	94 26 38.5	5 6 44.0	4 59 57.8	5.23	4 6.6	16 31.8
22	100 44 42.3	107 6 51.8	4 49 30.9	4 35 23.5	6.23	4 57.2	17 22.9
23	113 33 31.2	120 5 4.9	4 17 38.2	3 56 19.6	7.23	5 48.7	18 14.7
24	126 41 56.3	133 24 26.5	3 31 35.5	3 3 36.9	8.23	6 40.8	19 7.0
25	140 12 53.8	147 7 31.8	2 32 38.5	1 58 59.5	9.23	7 33.3	19 59.7
26	154 8 28.1	161 15 42.8	1 23 3.4	S. 0 45 19.3	10.23	8 26.3	20 53.0
27	168 29 7.1	175 48 21.9	S. 0 6 20.9	N. 0 33 13.3	11.23	9 19.9	21 47.1
28	183 12 56.8	190 42 10.0	N. 1 12 40.2	1 51 14.1	12.23	10 14.6	22 42.5
29	198 15 7.9	205 50 47.0	2 28 7.9	3 2 34.6	13.23	11 10.8	23 39.4
30	213 27 55.0	221 5 13.9	3 33 50.4	4 1 16.0	14.23	12 8.5	* *
31	228 41 23.2	236 15 3.7	N. 4 24 18.7	N. 4 42 34.5	15.23	13 7.4	0 37.8

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SUNDAY 1.					TUESDAY 3.				
	h m s	s	S. ° ' "	"		h m s	s	S. ° ' "	"
0	12 39 42.96	24.213	S. 2 21 37.5	118.80	0	14 37 15.97	24.743	S. 11 7 52.5	94.87
1	12 42 8.27	24.224	2 33 29.9	118.65	1	14 39 44.45	24.751	11 17 19.2	94.02
2	12 44 33.65	24.236	2 45 21.3	118.49	2	14 42 12.98	24.759	11 26 40.8	93.17
3	12 46 59.10	24.247	2 57 11.8	118.32	3	14 44 41.56	24.767	11 35 57.3	92.32
4	12 49 24.62	24.258	3 9 1.2	118.13	4	14 47 10.18	24.773	11 45 8.7	91.46
5	12 51 50.20	24.270	3 20 49.4	117.92	5	14 49 38.84	24.781	11 54 14.8	90.57
6	12 54 15.86	24.282	3 32 36.3	117.70	6	14 52 7.55	24.787	12 3 15.5	89.67
7	12 56 41.58	24.293	3 44 21.8	117.47	7	14 54 36.29	24.793	12 12 10.9	88.78
8	12 59 7.38	24.306	3 56 5.9	117.22	8	14 57 5.07	24.799	12 21 0.9	87.87
9	13 1 33.25	24.317	4 7 48.4	116.94	9	14 59 33.88	24.805	12 29 45.4	86.95
10	13 3 59.18	24.328	4 19 29.2	116.66	10	15 2 2.73	24.811	12 38 24.3	86.02
11	13 6 25.19	24.341	4 31 8.3	116.36	11	15 4 31.61	24.816	12 46 57.6	85.08
12	13 8 51.27	24.353	4 42 45.5	116.04	12	15 7 0.52	24.821	12 55 25.2	84.13
13	13 11 17.42	24.364	4 54 20.8	115.71	13	15 9 29.46	24.825	13 3 47.1	83.16
14	13 13 43.64	24.376	5 5 54.0	115.36	14	15 11 58.42	24.829	13 12 3.1	82.18
15	13 16 9.93	24.388	5 17 25.1	115.00	15	15 14 27.41	24.832	13 20 13.3	81.21
16	13 18 36.30	24.401	5 28 54.0	114.62	16	15 16 56.41	24.835	13 28 17.6	80.22
17	13 21 2.74	24.412	5 40 20.6	114.23	17	15 19 25.43	24.838	13 36 15.9	79.22
18	13 23 29.24	24.423	5 51 44.8	113.82	18	15 21 54.47	24.841	13 44 8.3	78.22
19	13 25 55.82	24.436	6 3 6.5	113.40	19	15 24 23.52	24.843	13 51 54.5	77.20
20	13 28 22.47	24.448	6 14 25.6	112.96	20	15 26 52.59	24.845	13 59 34.7	76.18
21	13 30 49.20	24.460	6 25 42.0	112.50	21	15 29 21.66	24.845	14 7 8.7	75.15
22	13 33 15.99	24.471	6 36 55.6	112.02	22	15 31 50.73	24.847	14 14 36.5	74.12
23	13 35 42.85	24.483	S. 6 48 6.3	111.54	23	15 34 19.82	24.848	S. 14 21 58.1	73.07
MONDAY 2.					WEDNESDAY 4.				
	h m s	s	S. ° ' "	"		h m s	s	S. ° ' "	"
0	13 38 9.79	24.496	S. 6 59 14.1	111.05	0	15 36 48.90	24.847	S. 14 29 13.3	72.01
1	13 40 36.80	24.507	7 10 18.9	110.53	1	15 39 17.98	24.847	14 36 22.2	70.96
2	13 43 3.87	24.518	7 21 20.5	110.00	2	15 41 47.06	24.846	14 43 24.8	69.89
3	13 45 31.02	24.530	7 32 18.9	109.45	3	15 44 16.13	24.844	14 50 20.9	68.82
4	13 47 58.23	24.542	7 43 13.9	108.89	4	15 46 45.19	24.842	14 57 10.6	67.73
5	13 50 25.52	24.553	7 54 5.6	108.32	5	15 49 14.23	24.839	15 3 53.7	66.65
6	13 52 52.87	24.564	8 4 53.8	107.74	6	15 51 43.26	24.837	15 10 30.4	65.57
7	13 55 20.29	24.575	8 15 38.5	107.14	7	15 54 12.27	24.833	15 17 0.5	64.46
8	13 57 47.77	24.586	8 26 19.5	106.52	8	15 56 41.26	24.830	15 23 23.9	63.36
9	14 0 15.32	24.597	8 36 56.7	105.89	9	15 59 10.23	24.826	15 29 40.8	62.26
10	14 2 42.94	24.608	8 47 30.2	105.25	10	16 1 39.17	24.820	15 35 51.0	61.14
11	14 5 10.62	24.619	8 57 59.7	104.59	11	16 4 8.07	24.815	15 41 54.5	60.02
12	14 7 38.37	24.630	9 8 25.3	103.92	12	16 6 36.95	24.810	15 47 51.2	58.89
13	14 10 6.18	24.640	9 18 46.8	103.23	13	16 9 5.79	24.803	15 53 41.2	57.77
14	14 12 34.05	24.651	9 29 4.1	102.54	14	16 11 34.59	24.797	15 59 24.4	56.63
15	14 15 1.99	24.661	9 39 17.3	101.83	15	16 14 3.35	24.790	16 5 0.8	55.50
16	14 17 29.98	24.670	9 49 26.1	101.10	16	16 16 32.07	24.782	16 10 30.4	54.37
17	14 19 58.03	24.681	9 59 30.5	100.37	17	16 19 0.73	24.773	16 15 53.2	53.22
18	14 22 26.15	24.690	10 9 30.5	99.62	18	16 21 29.34	24.764	16 21 9.0	52.07
19	14 24 54.31	24.699	10 19 25.9	98.85	19	16 23 57.90	24.754	16 26 18.0	50.93
20	14 27 22.54	24.709	10 29 16.7	98.08	20	16 26 26.39	24.744	16 31 20.1	49.78
21	14 29 50.82	24.718	10 39 2.9	97.30	21	16 28 54.83	24.734	16 36 15.3	48.62
22	14 32 19.15	24.726	10 48 44.3	96.49	22	16 31 23.20	24.723	16 41 3.5	47.45
23	14 34 47.53	24.735	10 58 20.8	95.68	23	16 33 51.50	24.711	16 45 44.7	46.28
24	14 37 15.97	24.743	S. 11 7 52.5	94.87	24	16 36 19.73	24.699	S. 16 50 18.9	45.13

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10m.	Declination.	Var. in 10m.	Hour.	Right Ascension.	Var. in 10m.	Declination.	Var. in 10m.
THURSDAY 5.					SATURDAY 7.				
	h m s	s				h m s	s		
0	16 36 19.73	24.699	S. 16 50' 18.9"	45.13	0	18 32 28.20	23.506	S. 18 13' 14.0"	9.72
1	16 38 47.89	24.687	16 54 46.2	43.96	1	18 34 49.13	23.470	18 12 12.5	10.77
2	16 41 15.97	24.673	16 59 6.4	42.79	2	18 37 9.84	23.433	18 11 4.8	11.82
3	16 43 43.96	24.659	17 3 19.7	41.62	3	18 39 30.33	23.397	18 9 50.7	12.87
4	16 46 11.88	24.645	17 7 25.9	40.45	4	18 41 50.60	23.361	18 8 30.3	13.92
5	16 48 39.70	24.629	17 11 25.1	39.28	5	18 44 10.66	23.324	18 7 3.7	14.94
6	16 51 7.43	24.614	17 15 17.3	38.12	6	18 46 30.49	23.287	18 5 31.0	15.97
7	16 53 35.07	24.598	17 19 2.5	36.94	7	18 48 50.10	23.249	18 3 52.1	17.00
8	16 56 2.61	24.582	17 22 40.6	35.77	8	18 51 9.48	23.212	18 2 7.0	18.02
9	16 58 30.06	24.565	17 26 11.7	34.59	9	18 53 28.64	23.174	18 0 15.8	19.03
10	17 0 57.39	24.547	17 29 35.7	33.42	10	18 55 47.57	23.136	17 58 18.6	20.03
11	17 3 24.62	24.529	17 32 52.7	32.24	11	18 58 6.27	23.097	17 56 15.4	21.03
12	17 5 51.74	24.510	17 36 2.6	31.07	12	19 0 24.73	23.058	17 54 6.2	22.02
13	17 8 18.74	24.491	17 39 5.5	29.90	13	19 2 42.97	23.020	17 51 51.1	23.01
14	17 10 45.63	24.471	17 42 1.4	28.72	14	19 5 0.97	22.980	17 49 30.1	23.99
15	17 13 12.39	24.451	17 44 50.2	27.54	15	19 7 18.73	22.940	17 47 3.2	24.97
16	17 15 39.04	24.430	17 47 31.9	26.37	16	19 9 36.25	22.902	17 44 30.4	25.94
17	17 18 5.55	24.408	17 50 6.7	25.21	17	19 11 53.55	22.863	17 41 51.9	26.89
18	17 20 31.93	24.387	17 52 34.4	24.03	18	19 14 10.60	22.822	17 39 7.7	27.85
19	17 22 58.19	24.364	17 54 55.1	22.87	19	19 16 27.41	22.782	17 36 17.7	28.80
20	17 25 24.30	24.340	17 57 8.8	21.70	20	19 18 43.98	22.742	17 33 22.1	29.73
21	17 27 50.27	24.317	17 59 15.5	20.54	21	19 21 0.31	22.702	17 30 20.9	30.67
22	17 30 16.11	24.293	18 1 15.3	19.38	22	19 23 16.40	22.662	17 27 14.1	31.60
23	17 32 41.79	24.268	S. 18 3 8.0	18.21	23	19 25 32.25	22.621	S. 17 24 1.7	32.52
FRIDAY 6.					SUNDAY 8.				
	h m s	s				h m s	s		
0	17 35 7.33	24.244	S. 18 4 53.8	17.06	0	19 27 47.85	22.580	S. 17 20 43.8	33.43
1	17 37 32.72	24.218	18 6 32.7	15.90	1	19 30 3.21	22.539	17 17 20.5	34.34
2	17 39 57.95	24.192	18 8 4.6	14.73	2	19 32 18.32	22.498	17 13 51.7	35.24
3	17 42 23.02	24.165	18 9 29.5	13.58	3	19 34 33.19	22.457	17 10 17.6	36.13
4	17 44 47.93	24.138	18 10 47.6	12.44	4	19 36 47.81	22.417	17 6 38.1	37.02
5	17 47 12.68	24.111	18 11 58.8	11.30	5	19 39 2.19	22.375	17 2 53.4	37.89
6	17 49 37.26	24.083	18 13 3.2	10.16	6	19 41 16.31	22.333	16 59 3.4	38.77
7	17 52 1.67	24.054	18 14 0.7	9.01	7	19 43 30.19	22.293	16 55 8.2	39.63
8	17 54 25.91	24.026	18 14 51.3	7.88	8	19 45 43.83	22.252	16 51 7.8	40.49
9	17 56 49.98	23.996	18 15 35.2	6.75	9	19 47 57.22	22.211	16 47 2.3	41.33
10	17 59 13.86	23.966	18 16 12.3	5.62	10	19 50 10.36	22.169	16 42 51.8	42.18
11	18 1 37.57	23.936	18 16 42.7	4.50	11	19 52 23.25	22.128	16 38 36.2	43.02
12	18 4 1.09	23.905	18 17 6.3	3.37	12	19 54 35.89	22.087	16 34 15.6	43.84
13	18 6 24.43	23.874	18 17 23.2	2.26	13	19 56 48.29	22.045	16 29 50.1	44.66
14	18 8 47.58	23.842	18 17 33.4	1.15	14	19 59 0.43	22.003	16 25 19.7	45.47
15	18 11 10.54	23.810	18 17 37.0	0.04	15	20 1 12.33	21.963	16 20 44.4	46.28
16	18 13 33.30	23.778	18 17 33.9	1.07	16	20 3 12.99	21.922	16 16 4.3	47.08
17	18 15 55.87	23.746	18 17 24.2	2.16	17	20 5 35.39	21.880	16 11 19.5	47.87
18	18 18 18.25	23.713	18 17 8.0	3.25	18	20 7 46.55	21.840	16 6 29.9	48.66
19	18 20 40.42	23.678	18 16 45.2	4.35	19	20 9 57.47	21.798	16 1 35.6	49.43
20	18 23 2.39	23.644	18 16 15.8	5.43	20	20 12 8.13	21.757	15 56 36.7	50.20
21	18 25 24.15	23.610	18 15 40.0	6.50	21	20 14 18.55	21.717	15 51 33.2	50.97
22	18 27 45.71	23.576	18 14 57.8	7.57	22	20 16 28.73	21.676	15 46 25.1	51.73
23	18 30 7.06	23.541	18 14 9.1	8.65	23	20 18 38.66	21.634	15 41 12.5	52.47
24	18 32 28.20	23.506	S. 18 13 14.0	9.72	24	20 20 48.34	21.593	S. 15 35 55.5	53.21

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 9.					WEDNESDAY 11.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	20 20 48.34	21.593	S. 15 35 55.5	53.21	0	22 0 6.68	19.878	S. 10 8 53.8	80.35
1	20 22 57.78	21.553	15 30 34.0	53.94	1	22 2 5.86	19.850	10 0 50.5	80.75
2	20 25 6.98	21.513	15 25 8.2	54.67	2	22 4 4.88	19.822	9 52 44.8	81.14
3	20 27 15.93	21.473	15 19 38.0	55.39	3	22 6 3.72	19.793	9 44 36.8	81.52
4	20 29 24.65	21.433	15 14 3.5	56.10	4	22 8 2.39	19.765	9 36 26.5	81.90
5	20 31 33.12	21.392	15 8 24.8	56.80	5	22 10 0.90	19.738	9 28 14.0	82.27
6	20 33 41.35	21.352	15 2 41.9	57.50	6	22 11 59.25	19.711	9 19 59.3	82.63
7	20 35 49.34	21.312	14 56 54.8	58.19	7	22 13 57.43	19.684	9 11 42.4	82.99
8	20 37 57.10	21.273	14 51 3.6	58.87	8	22 15 55.46	19.658	9 3 23.4	83.34
9	20 40 4.62	21.233	14 45 8.3	59.55	9	22 17 53.33	19.633	8 55 2.3	83.69
10	20 42 11.90	21.194	14 39 9.0	60.22	10	22 19 51.05	19.607	8 46 39.1	84.03
11	20 44 18.95	21.155	14 33 5.7	60.88	11	22 21 48.61	19.581	8 38 14.0	84.36
12	20 46 25.76	21.116	14 26 58.5	61.53	12	22 23 46.02	19.556	8 29 46.8	84.69
13	20 48 32.34	21.077	14 20 47.4	62.17	13	22 25 43.28	19.532	8 21 17.7	85.01
14	20 50 38.69	21.038	14 14 32.4	62.81	14	22 27 40.40	19.507	8 12 46.7	85.32
15	20 52 44.80	21.000	14 8 13.7	63.44	15	22 29 37.37	19.483	8 4 13.9	85.62
16	20 54 50.69	20.962	14 1 51.1	64.07	16	22 31 34.20	19.460	7 55 39.2	85.93
17	20 56 56.35	20.924	13 55 24.9	64.68	17	22 33 30.89	19.437	7 47 2.7	86.23
18	20 59 1.78	20.887	13 48 54.9	65.30	18	22 35 27.45	19.415	7 38 24.5	86.51
19	21 1 6.99	20.849	13 42 21.3	65.90	19	22 37 23.87	19.392	7 29 44.6	86.79
20	21 3 11.97	20.812	13 35 44.1	66.49	20	22 39 20.15	19.370	7 21 3.0	87.07
21	21 5 16.73	20.775	13 29 3.4	67.08	21	22 41 16.31	19.349	7 12 19.7	87.34
22	21 7 21.27	20.738	13 22 19.1	67.67	22	22 43 12.34	19.328	7 3 34.9	87.60
23	21 9 25.58	20.701	S. 13 15 31.4	68.23	23	22 45 8.24	19.307	S. 6 54 48.5	87.86
TUESDAY 10.					THURSDAY 12.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	21 11 29.68	20.665	S. 13 8 40.3	68.80	0	22 47 4.02	19.287	S. 6 46 0.6	88.11
1	21 13 33.56	20.628	13 1 45.8	69.37	1	22 48 59.68	19.267	6 37 11.2	88.36
2	21 15 37.22	20.592	12 54 47.9	69.93	2	22 50 55.22	19.247	6 28 20.3	88.59
3	21 17 40.67	20.557	12 47 46.7	70.47	3	22 52 50.64	19.228	6 19 28.1	88.82
4	21 19 43.91	20.522	12 40 42.3	71.00	4	22 54 45.95	19.209	6 10 34.4	89.06
5	21 21 46.94	20.487	12 33 34.7	71.53	5	22 56 41.15	19.190	6 1 39.4	89.28
6	21 23 49.75	20.452	12 26 23.9	72.06	6	22 58 36.23	19.172	5 52 43.1	89.49
7	21 25 52.36	20.417	12 19 10.0	72.58	7	23 0 31.21	19.154	5 43 45.5	89.70
8	21 27 54.76	20.383	12 11 53.0	73.09	8	23 2 26.08	19.137	5 34 46.7	89.90
9	21 29 56.96	20.350	12 4 32.9	73.60	9	23 4 20.85	19.120	5 25 46.7	90.09
10	21 31 58.96	20.316	11 57 9.8	74.09	10	23 6 15.52	19.103	5 16 45.6	90.28
11	21 34 0.75	20.283	11 49 43.8	74.58	11	23 8 10.09	19.087	5 7 43.3	90.47
12	21 36 2.35	20.250	11 42 14.8	75.07	12	23 10 4.57	19.072	4 58 40.0	90.64
13	21 38 3.75	20.217	11 34 42.9	75.54	13	23 11 58.95	19.056	4 49 35.6	90.82
14	21 40 4.96	20.185	11 27 8.3	76.01	14	23 13 53.24	19.042	4 40 30.2	90.98
15	21 42 5.97	20.153	11 19 30.8	76.48	15	23 15 47.45	19.027	4 31 23.8	91.15
16	21 44 6.79	20.121	11 11 50.5	76.94	16	23 17 41.56	19.012	4 22 16.4	91.31
17	21 46 7.42	20.089	11 4 7.5	77.38	17	23 19 35.59	18.998	4 13 8.1	91.45
18	21 48 7.86	20.058	10 56 21.9	77.83	18	23 21 29.54	18.985	4 3 59.0	91.58
19	21 50 8.12	20.027	10 48 33.5	78.27	19	23 23 23.41	18.972	3 54 49.1	91.72
20	21 52 8.19	19.997	10 40 42.6	78.69	20	23 25 17.20	18.959	3 45 38.3	91.87
21	21 54 8.08	19.967	10 32 49.2	79.12	21	23 27 10.92	18.947	3 36 26.7	91.99
22	21 56 7.79	19.937	10 24 53.2	79.54	22	23 29 4.56	18.934	3 27 14.4	92.10
23	21 58 7.32	19.907	10 16 54.7	79.95	23	23 30 58.13	18.923	3 18 1.5	92.22
24	22 0 6.68	19.878	S. 10 8 53.8	80.35	24	23 32 51.64	18.913	S. 3 8 47.8	92.33

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
FRIDAY 13.					SUNDAY 15.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	23 32 51.64	18.913	S. 3 8 47.8	92.33	0	1 3 4.30	18.817	N. 4 15 41.6	90.67
1	23 34 45.08	18.901	2 59 33.5	92.42	1	1 4 57.23	18.824	4 24 45.1	90.49
2	23 36 38.45	18.891	2 50 18.7	92.52	2	1 6 50.19	18.831	4 33 47.5	90.30
3	23 38 31.77	18.881	2 41 3.3	92.62	3	1 8 43.20	18.839	4 42 48.7	90.12
4	23 40 25.02	18.871	2 31 47.3	92.70	4	1 10 36.26	18.847	4 51 48.9	89.93
5	23 42 18.22	18.862	2 22 30.9	92.77	5	1 12 29.36	18.854	5 0 47.9	89.73
6	23 44 11.37	18.853	2 13 14.1	92.84	6	1 14 22.51	18.863	5 9 45.6	89.52
7	23 46 4.46	18.844	2 3 56.8	92.92	7	1 16 15.71	18.872	5 18 42.1	89.32
8	23 47 57.50	18.837	1 54 39.1	92.98	8	1 18 8.97	18.881	5 27 37.4	89.10
9	23 49 50.50	18.829	1 45 21.1	93.03	9	1 20 2.28	18.890	5 36 31.3	88.88
10	23 51 43.45	18.821	1 36 2.8	93.08	10	1 21 55.65	18.900	5 45 23.9	88.65
11	23 53 36.35	18.814	1 26 44.1	93.12	11	1 23 49.08	18.910	5 54 15.1	88.42
12	23 55 29.22	18.808	1 17 25.3	93.15	12	1 25 42.57	18.920	6 3 4.9	88.18
13	23 57 22.05	18.802	1 8 6.3	93.18	13	1 27 36.12	18.931	6 11 53.2	87.93
14	23 59 14.84	18.796	0 58 47.1	93.22	14	1 29 29.74	18.942	6 20 40.1	87.68
15	0 1 7.60	18.791	0 49 27.7	93.24	15	1 31 23.42	18.953	6 29 25.4	87.43
16	0 3 0.33	18.786	0 40 8.2	93.25	16	1 33 17.17	18.964	6 38 9.2	87.17
17	0 4 53.03	18.781	0 30 48.7	93.26	17	1 35 10.99	18.977	6 46 51.4	86.90
18	0 6 45.70	18.777	0 21 29.1	93.26	18	1 37 4.89	18.988	6 55 32.0	86.62
19	0 8 38.35	18.772	0 12 9.6	93.25	19	1 38 58.85	19.000	7 4 10.9	86.34
20	0 10 30.97	18.768	S. 0 2 50.1	93.25	20	1 40 52.89	19.013	7 12 48.1	86.06
21	0 12 23.57	18.766	N. 0 6 29.4	93.23	21	1 42 47.01	19.027	7 21 23.6	85.77
22	0 14 16.16	18.763	0 15 48.7	93.21	22	1 44 41.21	19.040	7 29 57.3	85.47
23	0 16 8.73	18.761	N. 0 25 7.9	93.18	23	1 46 35.49	19.053	N. 7 38 29.2	85.17
SATURDAY 14.					MONDAY 16.				
0	0 18 1.29	18.759	N. 0 34 26.9	93.15	0	1 48 29.85	19.067	N. 7 46 59.3	84.86
1	0 19 53.84	18.757	0 43 45.7	93.12	1	1 50 24.30	19.082	7 55 27.5	84.54
2	0 21 46.37	18.755	0 53 4.3	93.08	2	1 52 18.83	19.096	8 3 53.8	84.22
3	0 23 38.90	18.755	1 2 22.6	93.03	3	1 54 13.45	19.111	8 12 18.2	83.90
4	0 25 31.43	18.754	1 11 40.6	92.97	4	1 56 8.16	19.126	8 20 40.6	83.57
5	0 27 23.95	18.753	1 20 58.2	92.91	5	1 58 2.96	19.141	8 29 1.0	83.23
6	0 29 16.47	18.754	1 30 15.5	92.84	6	1 59 57.85	19.156	8 37 19.4	82.89
7	0 31 9.00	18.755	1 39 32.3	92.77	7	2 1 52.83	19.172	8 45 35.7	82.53
8	0 33 1.53	18.755							

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.	Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.
TUESDAY 17.					THURSDAY 19.				
	h m s	s	N. 11 0 21.2	75.73		h m s	s	N. 16 1 32.6	47.65
0	2 34 43.46	19.478	11 7 54.2	75.27	0	4 10 48.54	20.599	16 6 16.4	46.93
1	2 36 40.39	19.498	11 15 24.4	74.81	1	4 12 52.21	20.623	16 10 55.8	46.21
2	2 38 37.44	19.518	11 22 51.9	74.35	2	4 14 56.02	20.648	16 15 30.9	45.48
3	2 40 34.61	19.539	11 30 16.6	73.88	3	4 16 59.99	20.674	16 20 1.6	44.75
4	2 42 31.91	19.560	11 37 38.4	73.40	4	4 19 4.11	20.698	16 24 27.9	44.02
5	2 44 29.33	19.580	11 44 57.4	72.92	5	4 21 8.37	20.723	16 28 49.8	43.28
6	2 46 26.87	19.602	11 52 13.5	72.43	6	4 23 12.79	20.749	16 33 7.2	42.53
7	2 48 24.55	19.623	11 59 26.6	71.93	7	4 25 17.36	20.773	16 37 20.1	41.78
8	2 50 22.35	19.643	12 6 36.7	71.43	8	4 27 22.07	20.798	16 41 28.5	41.02
9	2 52 20.27	19.665	12 13 43.8	70.93	9	4 29 26.94	20.824	16 45 32.3	40.26
10	2 54 18.33	19.687	12 20 47.9	70.42	10	4 31 31.96	20.848	16 49 31.6	39.49
11	2 56 16.52	19.709	12 27 48.9	69.91	11	4 33 37.12	20.872	16 53 26.2	38.72
12	2 58 14.84	19.731	12 34 46.8	69.39	12	4 35 42.43	20.897	16 57 16.2	37.94
13	3 0 13.29	19.753	12 41 41.6	68.86	13	4 37 47.89	20.922	17 1 1.5	37.17
14	3 2 11.88	19.776	12 48 33.1	68.32	14	4 39 53.50	20.947	17 4 42.2	36.38
15	3 4 10.60	19.798	12 55 21.5	67.79	15	4 41 59.26	20.972	17 8 18.1	35.59
16	3 6 9.46	19.822	13 2 6.6	67.25	16	4 44 5.16	20.996	17 11 49.3	34.79
17	3 8 8.46	19.844	13 8 48.5	66.70	17	4 46 11.21	21.021	17 15 15.6	33.99
18	3 10 7.59	19.867	13 15 27.0	66.14	18	4 48 17.41	21.045	17 18 37.2	33.20
19	3 12 6.86	19.890	13 22 2.2	65.58	19	4 50 23.75	21.069	17 21 54.0	32.39
20	3 14 6.27	19.913	13 28 34.0	65.02	20	4 52 30.24	21.093	17 25 5.9	31.57
21	3 16 5.82	19.937	13 35 2.4	64.44	21	4 54 36.87	21.117	17 28 12.9	30.76
22	3 18 5.51	19.960	13 41 27.3	63.86	22	4 56 43.65	21.142	N. 17 31 15.0	29.94
23	3 20 5.34	19.983			23	4 58 50.57	21.165		
WEDNESDAY 18.					FRIDAY 20.				
	h m s	s	N. 13 47 48.7	63.27		h m s	s	N. 17 34 12.2	29.12
0	3 22 5.31	20.007	13 54 6.6	62.69	0	5 0 57.63	21.188	17 37 4.4	28.28
1	3 24 5.43	20.032	14 0 21.0	62.10	1	5 3 4.83	21.212	17 39 51.6	27.45
2	3 26 5.69	20.055	14 6 31.8	61.49	2	5 5 12.18	21.236	17 42 33.8	26.62
3	3 28 6.09	20.078	14 12 38.9	60.88	3	5 7 19.66	21.259	17 45 11.0	25.78
4	3 30 6.63	20.102	14 18 42.4	60.28	4	5 9 27.29	21.282	17 47 43.1	24.93
5	3 32 7.32	20.127	14 24 42.3	59.67	5	5 11 35.05	21.305	17 50 10.2	24.08
6	3 34 8.16	20.152	14 30 38.4	59.03	6	5 13 42.95	21.328	17 52 32.1	23.22
7	3 36 9.14	20.176	14 36 30.7	58.41	7	5 15 50.99	21.352	17 54 48.9	22.37
8	3 38 10.27	20.200	14 42 19.3	57.78	8	5 17 59.17	21.375	17 57 0.6	21.52
9	3 40 11.54	20.225	14 48 4.1	57.14	9	5 20 7.49	21.397	17 59 7.1	20.64
10	3 42 12.97	20.250	14 53 45.0	56.50	10	5 22 15.93	21.418	18 1 8.3	19.77
11	3 44 14.54	20.274	14 59 22.1	55.85	11	5 24 24.51	21.442	18 3 4.4	18.91
12	3 46 16.26	20.299	15 4 55.2	55.19	12	5 26 33.23	21.464	18 4 55.2	18.03
13	3 48 18.13	20.323	15 10 24.4	54.53	13	5 28 42.08	21.486	18 6 40.8	17.16
14	3 50 20.14	20.348	15 15 49.6	53.87	14	5 30 51.06	21.507	18 8 21.1	16.27
15	3 52 22.31	20.373	15 21 10.8	53.20	15	5 33 0.17	21.529	18 9 56.0	15.38
16	3 54 24.62	20.398	15 26 28.0	52.53	16	5 35 9.41	21.551	18 11 25.7	14.50
17	3 56 27.09	20.423	15 31 41.1	51.84	17	5 37 18.78	21.572	18 12 50.0	13.60
18	3 58 29.70	20.448	15 36 50.1	51.16	18	5 39 28.27	21.593	18 14 8.9	12.70
19	4 0 32.46	20.473	15 41 55.0	50.47	19	5 41 37.90	21.615	18 15 22.4	11.81
20	4 2 35.38	20.498	15 46 55.8	49.77	20	5 43 47.65	21.635	18 16 30.6	10.91
21	4 4 38.44	20.523	15 51 52.3	49.07	21	5 45 57.52	21.655	18 17 33.3	9.99
22	4 6 41.66	20.548	15 56 44.6	48.36	22	5 48 7.51	21.676	18 18 30.5	9.08
23	4 8 45.02	20.573			23	5 50 17.63	21.697	N. 18 19 22.3	8.17
24	4 10 48.54	20.599			24	5 52 27.87	21.717		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 21.					MONDAY 23.				
	h m s	s	N. 18° 19' 22.3	8.17		h m s	s	N. 17° 9' 31.1	37.74
0	5 52 27.87	21.717	18 20 8.6	7.26	0	7 38 36.88	22.432	17 5 41.8	38.71
1	5 54 38.23	21.736	18 20 49.4	6.34	1	7 40 51.50	22.441	17 1 46.6	39.68
2	5 56 48.70	21.755	18 21 24.7	5.42	2	7 43 6.17	22.451	16 57 45.6	40.66
3	5 58 59.29	21.775	18 21 54.5	4.50	3	7 45 20.91	22.461	16 53 38.7	41.63
4	6 1 10.00	21.795	18 22 18.7	3.57	4	7 47 35.70	22.470	16 49 26.1	42.58
5	6 3 20.83	21.814	18 22 37.3	2.64	5	7 49 50.55	22.479	16 45 7.7	43.55
6	6 5 31.77	21.832	18 22 50.4	1.72	6	7 52 5.45	22.488	16 40 43.5	44.51
7	6 7 42.82	21.851	18 22 57.9	0.78	7	7 54 20.40	22.497	16 36 13.6	45.47
8	6 9 53.98	21.869	18 22 59.8	0.16	8	7 56 35.41	22.506	16 31 37.9	46.43
9	6 12 5.25	21.887	18 22 56.0	1.10	9	7 58 50.47	22.514	16 26 56.4	47.39
10	6 14 16.63	21.905	18 22 31.6	2.03	10	8 1 5.58	22.522	16 22 9.2	48.35
11	6 16 28.11	21.923	18 22 10.9	3.92	11	8 3 20.74	22.531	16 17 16.2	49.31
12	6 18 39.71	21.942	18 21 44.5	4.87	12	8 5 35.95	22.539	16 12 17.5	50.26
13	6 20 51.41	21.958	18 21 12.5	5.82	13	8 7 51.21	22.547	16 7 13.1	51.21
14	6 23 3.21	21.976	18 20 34.7	6.77	14	8 10 6.51	22.555	16 2 3.0	52.15
15	6 25 15.12	21.993	18 19 51.2	7.72	15	8 12 21.87	22.563	15 56 47.3	53.10
16	6 27 27.12	22.009	18 18 7.2	8.67	16	8 14 37.27	22.570	15 51 25.8	54.05
17	6 29 39.23	22.026	18 17 6.5	9.63	17	8 16 52.71	22.577	15 45 58.7	54.98
18	6 31 51.43	22.042	18 16 0.1	10.59	18	8 19 8.20	22.585	15 40 26.0	55.92
19	6 34 3.73	22.058	18 14 48.0	11.54	19	8 21 23.73	22.592	15 34 47.6	56.87
20	6 36 16.13	22.074	18 13 30.0	12.51	20	8 23 39.31	22.600	15 29 3.6	57.80
21	6 38 28.62	22.089		13.47	21	8 25 54.93	22.607	15 23 14.0	58.73
22	6 40 41.20	22.105			22	8 28 10.60	22.614		59.66
23	6 42 53.88	22.121			23	8 30 26.30	22.621		
SUNDAY 22.					TUESDAY 24.				
	h m s	s	N. 18° 12' 36.8	14.43		h m s	s	N. 15° 11' 18.1	60.58
0	6 45 6.65	22.136	18 9 1.5	15.40	0	8 32 42.05	22.628	15 5 11.8	61.51
1	6 47 19.51	22.150	18 7 20.4	16.37	1	8 34 57.84	22.635	14 59 0.0	62.43
2	6 49 32.45	22.165	18 5 33.5	17.33	2	8 37 13.67	22.641	14 52 42.7	63.34
3	6 51 45.49	22.179	18 3 40.8	18.30	3	8 39 29.53	22.648	14 46 19.9	64.25
4	6 53 58.60	22.193	18 1 42.3	19.27	4	8 41 45.44	22.655	14 39 51.7	65.16
5	6 56 11.80	22.208	17 59 38.0	20.23	5	8 44 1.39	22.661	14 33 18.0	66.07
6	6 58 25.09	22.221	17 57 27.8	21.21	6	8 46 17.37	22.667	14 26 38.9	66.97
7	7 0 38.45	22.234	17 55 11.8	22.18	7	8 48 33.39	22.674	14 19 54.4	67.87
8	7 2 51.90	22.247	17 52 50.0	23.15	8	8 50 49.46	22.681	14 13 4.5	68.76
9	7 5 5.42	22.260	17 50 22.3	24.12	9	8 53 5.56	22.686	14 6 9.3	69.65
10	7 7 19.02	22.273	17 47 48.8	25.10	10	8 55 21.69	22.693	13 59 8.7	70.53
11	7 9 32.70	22.286	17 45 9.5	26.07	11	8 57 37.87	22.699	13 52 2.9	71.41
12	7 11 46.45	22.298	17 42 24.3	27.04	12	8 59 54.08	22.705	13 44 51.8	72.28
13	7 14 0.28	22.311	17 39 33.2	28.02	13	9 2 10.33	22.712	13 37 35.5	73.16
14	7 16 14.18	22.323	17 36 36.3	29.00	14	9 4 26.62	22.718	13 30 13.9	74.03
15	7 18 28.15	22.334	17 33 33.6	30.94	15	9 6 42.94	22.724	13 22 47.1	74.89
16	7 20 42.19	22.346	17 30 25.0	31.92	16	9 8 59.31	22.731	13 15 15.2	75.75
17	7 22 56.30	22.357	17 27 10.6	32.88	17	9 11 15.71	22.737	13 7 38.1	76.61
18	7 25 10.47	22.368	17 23 50.4	33.86	18	9 13 32.15	22.743	12 59 55.9	77.45
19	7 27 24.71	22.379	17 20 24.3	34.83	19	9 15 48.62	22.748	12 52 8.7	78.28
20	7 29 39.02	22.390	17 16 52.4	35.80	20	9 18 5.13	22.755	12 44 16.5	79.12
21	7 31 53.39	22.401	17 13 14.7	36.77	21	9 20 21.68	22.762	12 36 19.2	79.96
22	7 34 7.83	22.411		37.74	22	9 22 38.27	22.768	12 28 17.0	80.78
23	7 36 22.32	22.421			23	9 24 54.90	22.774		81.61
24	7 38 36.88	22.432			24	9 27 11.56	22.780		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 25.					FRIDAY 27.				
	h m s	s	N. ° ' "	° ' "		h m s	s	N. ° ' "	° ' "
0	9 27 11.56	22.780	N. 12 20 9.8	81.61	0	11 17 29.31	23.240	N. 4 27 30.0	112.00
1	9 29 28.26	22.788	12 11 57.7	82.42	1	11 19 48.79	23.253	4 16 16.8	112.40
2	9 31 45.01	22.794	12 3 40.7	83.23	2	11 22 8.35	23.268	4 5 1.2	112.79
3	9 34 1.79	22.800	11 55 18.9	84.03	3	11 24 28.01	23.283	3 53 43.3	113.17
4	9 36 18.61	22.807	* 11 46 52.3	84.82	4	11 26 47.75	23.298	3 42 23.2	113.53
5	9 38 35.47	22.813	11 38 21.0	85.62	5	11 29 7.59	23.313	3 31 1.0	113.87
6	9 40 52.37	22.820	11 29 44.9	86.41	6	11 31 27.51	23.328	3 19 36.8	114.21
7	9 43 9.31	22.827	11 21 4.1	87.18	7	11 33 47.53	23.345	3 8 10.5	114.53
8	9 45 26.30	22.835	11 12 18.7	87.95	8	11 36 7.65	23.361	2 56 42.4	114.83
9	9 47 43.33	22.842	11 3 28.7	88.72	9	11 38 27.86	23.377	2 45 12.5	115.13
10	9 50 0.40	22.848	10 54 34.1	89.48	10	11 40 48.17	23.394	2 33 40.8	115.42
11	9 52 17.51	22.856	10 45 35.0	90.23	11	11 43 8.59	23.411	2 22 7.4	115.70
12	9 54 34.67	22.863	10 36 31.4	90.98	12	11 45 29.10	23.427	2 10 32.4	115.96
13	9 56 51.87	22.871	10 27 23.3	91.71	13	11 47 49.71	23.444	1 58 55.9	116.21
14	9 59 9.12	22.879	10 18 10.9	92.43	14	11 50 10.43	23.462	1 47 17.9	116.44
15	10 1 26.42	22.887	10 8 54.1	93.16	15	11 52 31.26	23.480	1 35 38.6	116.66
16	10 3 43.76	22.894	9 59 33.0	93.88	16	11 54 52.19	23.498	1 23 58.0	116.86
17	10 6 1.15	22.902	9 50 7.6	94.58	17	11 57 13.23	23.516	1 12 16.3	117.06
18	10 8 18.58	22.910	9 40 38.1	95.28	18	11 59 34.38	23.535	1 0 33.3	117.24
19	10 10 36.07	22.919	9 31 4.3	95.97	19	12 1 55.65	23.553	0 48 49.4	117.40
20	10 12 53.61	22.927	9 21 26.4	96.65	20	12 4 17.02	23.572	0 37 4.5	117.56
21	10 15 11.19	22.935	9 11 44.5	97.32	21	12 6 38.51	23.592	0 25 18.7	117.70
22	10 17 28.83	22.944	9 1 58.5	97.99	22	12 9 0.12	23.611	0 13 32.1	117.82
23	10 19 46.52	22.953	N. 8 52 8.6	98.65	23	12 11 21.84	23.630	N. 0 1 44.8	117.93
THURSDAY 26.					SATURDAY 28.				
	h m s	s	N. ° ' "	° ' "		h m s	s	S. ° ' "	° ' "
0	10 22 4.27	22.962	N. 8 42 14.7	99.30	0	12 13 43.68	23.650	S. 0 10 3.1	118.03
1	10 24 22.07	22.972	8 32 17.0	99.94	1	12 16 5.64	23.670	0 21 51.5	118.11
2	10 26 39.93	22.981	8 22 15.4	100.57	2	12 18 27.72	23.691	0 33 40.4	118.18
3	10 28 57.84	22.990	8 12 10.1	101.20	3	12 20 49.93	23.712	0 45 29.7	118.24
4	10 31 15.81	23.001	8 2 1.0	101.82	4	12 23 12.26	23.732	0 57 19.3	118.28
5	10 33 33.85	23.011	7 51 48.3	102.42	5	12 25 34.71	23.752	1 9 9.0	118.29
6	10 35 51.94	23.020	7 41 32.0	103.02	6	12 27 57.28	23.773	1 20 58.8	118.30
7	10 38 10.09	23.031	7 31 12.1	103.60	7	12 30 19.99	23.796	1 32 48.6	118.30
8	10 40 28.31	23.042	7 20 48.8	104.18	8	12 32 42.83	23.817	1 44 38.4	118.28
9	10 42 46.59	23.052	7 10 22.0	104.74	9	12 35 5.79	23.838	1 56 28.0	118.25
10	10 45 4.93	23.063	6 59 51.9	105.30	10	12 37 28.89	23.861	2 8 17.4	118.20
11	10 47 23.34	23.074	6 49 18.4	105.85	11	12 39 52.12	23.883	2 20 6.4	118.13
12	10 49 41.82	23.086	6 38 41.7	106.38	12	12 42 15.48	23.905	2 31 55.0	118.06
13	10 52 0.37	23.097	6 28 1.8	106.91	13	12 44 38.98	23.927	2 43 43.1	117.96
14	10 54 18.98	23.108	6 17 18.8	107.43	14	12 47 2.61	23.949	2 55 30.5	117.85
15	10 56 37.67	23.121	6 6 32.6	107.94	15	12 49 26.37	23.972	3 7 17.3	117.73
16	10 58 56.43	23.133	5 55 43.5	108.43	16	12 51 50.27	23.996	3 19 3.2	117.58
17	11 1 15.27	23.146	5 44 51.4	108.92	17	12 54 14.32	24.019	3 30 48.3	117.42
18	11 3 34.18	23.158	5 33 56.5	109.39	18	12 56 38.50	24.042	3 42 32.3	117.25
19	11 5 53.16	23.171	5 22 58.7	109.86	19	12 59 2.82	24.065	3 54 15.3	117.06
20	11 8 12.23	23.185	5 11 58.2	110.31	20	13 1 27.28	24.088	4 5 57.1	116.87
21	11 10 31.38	23.198	5 0 55.0	110.75	21	13 3 51.88	24.112	4 17 37.7	116.65
22	11 12 50.61	23.211	4 49 49.2	111.18	22	13 6 16.62	24.136	4 29 16.9	116.42
23	11 15 9.91	23.225	4 38 40.8	111.60	23	13 8 41.51	24.160	4 40 54.7	116.17
24	11 17 29.31	23.240	N. 4 27 30.0	112.00	24	13 11 6.54	24.183	S. 4 52 30.9	115.90

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SUNDAY 29.					MONDAY 30.				
	h m s	s	° ′ ″	″		h m s	s	° ′ ″	″
0	13 11 6.54	24.183	S. 4 52 30.9	115.90	0	14 9 50.91	24.763	S. 9 19 14.0	104.87
1	13 13 31.71	24.207	5 4 5.5	115.62	1	14 12 19.56	24.787	9 29 41.3	104.22
2	13 15 57.08	24.232	5 15 38.4	115.32	2	14 14 48.35	24.810	9 40 4.6	103.55
3	13 18 22.49	24.256	5 27 9.4	115.01	3	14 17 17.28	24.833	9 50 23.9	102.87
4	13 20 48.10	24.280	5 38 38.5	114.68	4	14 19 46.35	24.856	10 0 39.0	102.18
5	13 23 13.85	24.304	5 50 5.6	114.34	5	14 22 15.55	24.878	10 10 50.0	101.47
6	13 25 39.75	24.329	6 1 30.6	113.98	6	14 24 44.89	24.901	10 20 56.6	100.73
7	13 28 5.80	24.353	6 12 53.4	113.61	7	14 27 14.36	24.923	10 30 58.8	100.00
8	13 30 31.99	24.377	6 24 13.9	113.23	8	14 29 43.96	24.944	10 40 56.6	99.25
9	13 32 58.33	24.402	6 35 32.1	112.82	9	14 32 13.69	24.965	10 50 49.8	98.48
10	13 35 24.82	24.427	6 46 47.7	112.39	10	14 34 43.54	24.986	11 0 38.4	97.71
11	13 37 51.45	24.451	6 58 0.8	111.96	11	14 37 13.52	25.007	11 10 22.3	96.91
12	13 40 18.23	24.475	7 9 11.2	111.50	12	14 39 43.63	25.029	11 20 1.3	96.10
13	13 42 45.15	24.499	7 20 18.8	111.03	13	14 42 13.87	25.050	11 29 35.5	95.28
14	13 45 12.22	24.523	7 31 23.6	110.56	14	14 44 44.23	25.070	11 39 4.7	94.44
15	13 47 39.44	24.549	7 42 25.5	110.06	15	14 47 14.71	25.089	11 48 28.8	93.59
16	13 50 6.81	24.573	7 53 24.3	109.53	16	14 49 45.30	25.107	11 57 47.8	92.72
17	13 52 34.31	24.597	8 4 19.9	109.01	17	14 52 16.00	25.127	12 7 1.5	91.85
18	13 55 1.97	24.622	8 15 12.4	108.47	18	14 54 46.82	25.146	12 16 10.0	90.97
19	13 57 29.77	24.645	8 26 1.5	107.90	19	14 57 17.75	25.164	12 25 13.2	90.08
20	13 59 57.71	24.669	8 36 47.2	107.32	20	14 59 48.79	25.182	12 34 10.9	89.16
21	14 2 25.80	24.693	8 47 29.4	106.73	21	15 2 19.93	25.198	12 43 3.1	88.23
22	14 4 54.03	24.717	8 58 8.0	106.12	22	15 4 51.17	25.216	12 51 49.7	87.29
23	14 7 22.40	24.740	9 8 42.9	105.50	23	15 7 22.52	25.233	13 0 30.6	86.34
24	14 9 50.91	24.763	S. 9 19 14.0	104.87	24	15 9 53.96	25.248	S. 13 9 5.8	85.38

PHASES OF THE MOON.

										h m
Apr. 1	○	Full Moon	-	-	-	-	-	-	-	1 9.8
7	☾	Last Quarter	-	-	-	-	-	-	-	17 22.5
15	●	New Moon	-	-	-	-	-	-	-	18 28.4
23	☽	First Quarter	-	-	-	-	-	-	-	17 20.3
30	○	Full Moon	-	-	-	-	-	-	-	9 30.3
										h
Apr. 1	☾	Perigee	-	-	-	-	-	-	-	9.4
15	☾	Apogee	-	-	-	-	-	-	-	11.2
29	☾	Perigee	-	-	-	-	-	-	-	20.4

AT APPARENT NOON.

Date.	THE SUN'S				Sidereal Time of the Semi- diameter passing the Meridian.*	Equation of Time, to be subtracted from Apparent Time.	Var. in 1 hour.
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.			
	h m s	s	N. 14 50 47.2	" 82	m s	m s	s
Tues.	1 2 30 42.07	9.523	N. 14 50 47.2	45.82	1 5.96	2 51.23	0.332
Wed.	2 2 34 30.90	9.546	15 8 59.5	45.20	1 6.03	2 58.94	0.310
Thur.	3 2 38 20.28	9.569	15 26 56.8	44.57	1 6.11	3 6.09	0.286
Frid.	4 2 42 10.22	9.593	15 44 38.9	43.93	1 6.19	3 12.69	0.263
Sat.	5 2 46 0.73	9.616	16 2 5.4	43.27	1 6.27	3 18.72	0.239
Sun.	6 2 49 51.81	9.641	16 19 16.0	42.60	1 6.35	3 24.17	0.215
Mon.	7 2 53 43.48	9.665	16 36 10.4	41.93	1 6.43	3 29.05	0.191
Tues.	8 2 57 35.73	9.689	16 52 48.4	41.23	1 6.51	3 33.34	0.166
Wed.	9 3 1 28.57	9.714	17 9 9.6	40.53	1 6.60	3 37.04	0.142
Thur.	10 3 5 22.00	9.739	17 25 13.8	39.81	1 6.68	3 40.16	0.117
Frid.	11 3 9 16.02	9.763	17 41 0.5	39.08	1 6.76	3 42.68	0.093
Sat.	12 3 13 10.63	9.788	17 56 29.5	38.34	1 6.84	3 44.62	0.069
Sun.	13 3 17 5.83	9.812	18 11 40.6	37.58	1 6.92	3 45.98	0.044
Mon.	14 3 21 1.61	9.836	18 26 33.3	36.81	1 7.00	3 46.75	0.020
Tues.	15 3 24 57.96	9.860	18 41 7.5	36.03	1 7.09	3 46.95	0.004
Wed.	16 3 28 54.89	9.884	18 55 22.8	35.24	1 7.17	3 46.58	0.027
Thur.	17 3 32 52.39	9.908	19 9 19.0	34.44	1 7.25	3 45.64	0.051
Frid.	18 3 36 50.45	9.931	19 22 55.7	33.62	1 7.33	3 44.14	0.074
Sat.	19 3 40 49.06	9.953	19 36 12.7	32.79	1 7.41	3 42.09	0.097
Sun.	20 3 44 48.21	9.976	19 49 9.7	31.95	1 7.49	3 39.50	0.119
Mon.	21 3 48 47.90	9.998	20 1 46.4	31.10	1 7.56	3 36.37	0.141
Tues.	22 3 52 48.11	10.020	20 14 2.6	30.24	1 7.64	3 32.73	0.162
Wed.	23 3 56 48.84	10.041	20 25 58.0	29.37	1 7.72	3 28.57	0.184
Thur.	24 4 0 50.07	10.062	20 37 32.4	28.49	1 7.79	3 23.90	0.205
Frid.	25 4 4 51.80	10.082	20 48 45.5	27.60	1 7.86	3 18.75	0.225
Sat.	26 4 8 54.01	10.102	20 59 37.1	26.70	1 7.93	3 13.11	0.245
Sun.	27 4 12 56.70	10.122	21 10 7.0	25.79	1 8.00	3 6.99	0.265
Mon.	28 4 16 59.86	10.141	21 20 15.0	24.87	1 8.07	3 0.40	0.284
Tues.	29 4 21 3.48	10.160	21 30 0.8	23.94	1 8.13	2 53.36	0.303
Wed.	30 4 25 7.56	10.179	21 39 24.2	23.01	1 8.20	2 45.86	0.322
Thur.	31 4 29 12.08	10.197	21 48 25.2	22.07	1 8.26	2 37.91	0.340
Frid.	32 4 33 17.04	10.215	N. 21 57 3.4	21.11	1 8.32	2 29.53	0.358

* Mean Time of the Semidiameter passing may be found by subtracting 0^s.18 from the *Sidereal* Time.

AT MEAN NOON.

Date.		THE SUN'S			Equation of Time, to be subtracted from Apparent Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*		
		h m s	N. ° ' "	' "	m s	h m s
Tues.	1	2 30 42.52	N. 14 50 49.4	15 53.80	2 51.25	2 33 33.77
Wed.	2	2 34 31.38	15 9 1.7	15 53.56	2 58.95	2 37 30.33
Thur.	3	2 38 20.78	15 26 59.1	15 53.32	3 6.10	2 41 26.88
Frid.	4	2 42 10.73	15 44 41.2	15 53.09	3 12.70	2 45 23.44
Sat.	5	2 46 1.26	16 2 7.7	15 52.85	3 18.73	2 49 19.99
Sun.	6	2 49 52.36	16 19 18.4	15 52.62	3 24.19	2 53 16.54
Mon.	7	2 53 44.04	16 36 12.9	15 52.38	3 29.06	2 57 13.10
Tues.	8	2 57 36.31	16 52 50.9	15 52.16	3 33.35	3 1 9.65
Wed.	9	3 1 29.16	17 9 12.1	15 51.93	3 37.05	3 5 6.21
Thur.	10	3 5 22.60	17 25 16.2	15 51.70	3 40.16	3 9 2.76
Frid.	11	3 9 16.63	17 41 2.9	15 51.48	3 42.69	3 12 59.32
Sat.	12	3 13 11.24	17 56 31.9	15 51.27	3 44.63	3 16 55.87
Sun.	13	3 17 6.44	18 11 42.9	15 51.06	3 45.98	3 20 52.43
Mon.	14	3 21 2.23	18 26 35.6	15 50.85	3 46.75	3 24 48.98
Tues.	15	3 24 58.59	18 41 9.8	15 50.64	3 46.95	3 28 45.54
Wed.	16	3 28 55.52	18 55 25.0	15 50.44	3 46.57	3 32 42.09
Thur.	17	3 32 53.01	19 9 21.1	15 50.25	3 45.63	3 36 38.64
Frid.	18	3 36 51.07	19 22 57.8	15 50.06	3 44.13	3 40 35.20
Sat.	19	3 40 49.68	19 36 14.7	15 49.87	3 42.08	3 44 31.76
Sun.	20	3 44 48.82	19 49 11.6	15 49.69	3 39.49	3 48 28.31
Mon.	21	3 48 48.50	20 1 48.3	15 49.51	3 36.37	3 52 24.87
Tues.	22	3 52 48.71	20 14 4.4	15 49.34	3 32.72	3 56 21.42
Wed.	23	3 56 49.42	20 25 59.7	15 49.17	3 28.56	4 0 17.98
Thur.	24	4 0 50.64	20 37 34.0	15 49.00	3 23.89	4 4 14.53
Frid.	25	4 4 52.35	20 48 47.1	15 48.84	3 18.74	4 8 11.09
Sat.	26	4 8 54.55	20 59 38.6	15 48.68	3 13.09	4 12 7.65
Sun.	27	4 12 57.23	21 10 8.4	15 48.52	3 6.97	4 16 4.20
Mon.	28	4 17 0.37	21 20 16.2	15 48.36	3 0.39	4 20 0.76
Tues.	29	4 21 3.97	21 30 1.9	15 48.21	2 53.34	4 23 57.31
Wed.	30	4 25 8.03	21 39 25.3	15 48.06	2 45.84	4 27 53.87
Thur.	31	4 29 12.53	21 48 26.1	15 47.91	2 37.90	4 31 50.43
Frid.	32	4 33 17.46	N. 21 57 4.2	15 47.76	2 29.52	4 35 46.98

* The Semidiameter for *Apparent* Noon may be assumed the same as that for *Mean* Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
	° ' " .2	N. " .48		h m s				
1	40 5 21.2	0.48	0.0033455	21 22 55.48	16 39.39	16 35.70	61 7.91	60 54.37
2	41 3 32.3	0.53	0.0034549	21 18 59.57	16 30.88	16 25.07	60 36.66	60 15.34
3	42 1 41.8	0.55	0.0035639	21 15 3.66	16 18.46	16 11.23	59 51.07	59 24.57
4	42 59 49.8	0.54	0.0036724	21 11 7.75	16 3.59	15 55.73	58 56.53	58 27.67
5	43 57 56.3	0.50	0.0037802	21 7 11.84	15 47.82	15 40.01	57 58.63	57 29.98
6	44 56 1.4	0.43	0.0038871	21 3 15.94	15 32.45	15 25.24	57 2.22	56 35.77
7	45 54 5.1	0.34	0.0039930	20 59 20.03	15 18.48	15 12.24	56 10.96	55 48.05
8	46 52 7.5	0.23	0.0040977	20 55 24.12	15 6.56	15 1.49	55 27.22	55 8.60
9	47 50 8.5	N. 0.11	0.0042011	20 51 28.21	14 57.04	14 53.21	54 52.26	54 38.20
10	48 48 8.2	S. 0.02	0.0043030	20 47 32.30	14 50.00	14 47.40	54 26.43	54 16.89
11	49 46 6.5	0.15	0.0044033	20 43 36.39	14 45.39	14 43.93	54 9.49	54 4.16
12	50 44 3.4	0.27	0.0045021	20 39 40.48	14 43.01	14 42.59	54 0.77	53 59.21
13	51 41 58.9	0.38	0.0045990	20 35 44.57	14 42.63	14 43.11	53 59.38	54 1.15
14	52 39 53.1	0.48	0.0046942	20 31 48.66	14 44.00	14 45.26	54 4.39	54 9.01
15	53 37 45.8	0.56	0.0047874	20 27 52.76	14 46.87	14 48.81	54 14.94	54 22.07
16	54 35 37.0	0.61	0.0048787	20 23 56.85	14 51.07	14 53.62	54 30.34	54 39.71
17	55 33 26.8	0.64	0.0049680	20 20 0.94	14 56.46	14 59.59	54 50.14	55 1.63
18	56 31 15.1	0.64	0.0050553	20 16 5.03	15 3.00	15 6.70	55 14.15	55 27.71
19	57 29 1.9	0.60	0.0051406	20 12 9.12	15 10.68	15 14.95	55 42.33	55 58.00
20	58 26 47.1	0.54	0.0052240	20 8 13.21	15 19.51	15 24.35	56 14.74	56 32.51
21	59 24 30.8	0.46	0.0053056	20 4 17.30	15 29.47	15 34.84	56 51.28	57 10.98
22	60 22 12.8	0.35	0.0053853	20 0 21.39	15 40.43	15 46.20	57 31.50	57 52.67
23	61 19 53.3	0.23	0.0054633	19 56 25.48	15 52.08	15 58.02	58 14.28	58 36.06
24	62 17 32.2	S. 0.10	0.0055396	19 52 29.57	16 3.91	16 9.64	58 57.67	59 18.71
25	63 15 9.5	N. 0.02	0.0056145	19 48 33.66	16 15.09	16 20.13	59 38.72	59 57.21
26	64 12 45.3	0.14	0.0056881	19 44 37.75	16 24.61	16 28.38	60 13.64	60 27.51
27	65 10 19.7	0.26	0.0057604	19 40 41.84	16 31.32	16 33.30	60 38.29	60 45.56
28	66 7 52.7	0.35	0.0058315	19 36 45.93	16 34.22	16 34.02	60 48.94	60 48.20
29	67 5 24.4	0.41	0.0059016	19 32 50.02	16 32.67	16 30.17	60 43.23	60 34.08
30	68 2 55.0	0.43	0.0059707	19 28 54.11	16 26.59	16 22.01	60 20.92	60 4.11
31	69 0 24.5	0.42	0.0060387	19 24 58.20	16 16.55	16 10.36	59 44.07	59 21.36
32	69 57 53.0	N. 0.38	0.0061055	19 21 2.29	16 3.60	15 56.45	58 56.56	58 30.32

MEAN TIME.

Day.	THE MOON'S							
	Longitude.		Latitude.		Age.	Meridian Passage.		
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.	
					d	h m	h m	
1	228° 41' 23.2	236° 15' 3.7	N. 4° 24' 18.7	N. 4° 42' 34.5	15.23	13 7.4	0 37.8	
2	243 45 0.6	251 10 7.0	4 55 47.7	5 3 51.9	16.23	14 6.9	1 37.2	
3	258 29 26.3	265 42 14.4	5 6 49.5	5 4 49.7	17.23	15 5.8	2 36.5	
4	272 47 59.6	279 46 23.5	4 58 8.6	4 47 6.3	18.23	16 2.8	3 34.6	
5	286 37 19.7	293 20 53.2	4 32 6.6	4 13 34.9	19.23	16 57.0	4 30.3	
6	299 57 18.3	306 26 57.1	3 51 57.3	3 27 40.2	20.23	17 48.2	5 23.0	
7	312 50 18.0	319 7 53.9	3 1 9.0	2 32 48.3	21.23	18 36.3	6 12.6	
8	325 20 20.9	331 28 16.7	2 3 1.4	1 32 10.5	22.23	19 22.0	6 59.4	
9	337 32 20.4	343 33 10.2	N. 1 0 36.7	N. 0 28 40.1	23.23	20 5.7	7 44.1	
10	349 31 23.9	355 27 37.6	S. 0 3 20.5	S. 0 35 6.3	24.23	20 48.4	8 27.1	
11	1 22 25.6	7 16 19.8	1 6 19.8	1 36 43.4	25.23	21 30.5	9 9.5	
12	13 9 49.6	19 3 21.6	2 6 0.2	2 33 53.6	26.23	22 12.9	9 51.7	
13	24 57 19.6	30 52 4.6	3 0 7.3	3 24 25.5	27.23	22 56.2	10 34.4	
14	36 47 54.8	42 45 5.9	3 46 33.0	4 6 15.1	28.23	23 40.7	11 18.3	
15	48 43 51.2	54 44 22.0	4 23 18.3	4 37 29.7	29.23	* *	12 3.5	
16	60 46 47.5	66 51 16.2	4 48 38.1	4 56 33.4	0.56	0 26.8	12 50.5	
17	72 57 55.3	79 6 52.0	5 1 7.2	5 2 13.1	1.56	1 14.6	13 39.0	
18	85 18 13.4	91 32 7.2	4 59 46.5	4 53 44.9	2.56	2 3.8	14 28.9	
19	97 48 42.2	104 8 8.6	4 44 8.0	4 30 57.9	3.56	2 54.3	15 19.7	
20	110 30 37.9	116 56 23.3	4 14 18.8	3 54 17.6	4.56	3 45.3	16 11.0	
21	123 25 39.5	129 58 42.4	3 31 3.8	3 4 49.4	5.56	4 36.6	17 2.3	
22	136 35 48.8	143 17 15.7	2 35 49.4	2 4 21.7	6.56	5 27.9	17 53.5	
23	150 3 19.0	156 54 13.2	1 30 47.3	S. 0 55 30.5	7.56	6 19.1	18 44.8	
24	163 50 9.4	170 51 14.5	S. 0 18 59.2	N. 0 18 15.6	8.56	7 10.6	19 36.6	
25	177 57 29.2	185 8 46.9	N. 0 55 39.5	1 32 35.3	9.56	8 2.8	20 29.3	
26	192 24 52.2	199 45 19.8	2 8 23.6	2 42 23.9	10.56	8 56.3	21 23.7	
27	207 9 34.0	214 36 48.8	3 13 55.6	3 42 19.8	11.56	9 51.5	22 19.9	
28	222 6 8.6	229 36 29.8	4 7 0.6	4 27 27.2	12.56	10 48.8	23 18.2	
29	237 6 43.1	244 35 36.2	4 43 15.2	4 54 7.8	13.56	11 47.8	* *	
30	252 1 57.6	259 24 39.1	4 59 56.2	5 0 40.2	14.56	12 47.6	0 17.7	
31	266 42 39.5	273 55 6.4	4 56 27.7	4 47 33.0	15.56	13 46.8	1 17.4	
32	281 1 18.7	288 0 46.9	N. 4 34 16.7	N. 4 17 3.4	16.56	14 44.1	2 15.8	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 1.					THURSDAY 3.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	15 9 53.96	25.248	S. 13 9 5.8	85.38	0	17 11 47.69	25.269	S. 17 51 9.6	29.83
1	15 12 25.50	25.264	13 17 35.2	84.42	1	17 14 19.25	25.252	17 54 4.8	28.58
2	15 14 57.13	25.279	13 25 58.8	83.43	2	17 16 50.71	25.233	17 56 52.5	27.33
3	15 17 28.85	25.294	13 34 16.4	82.43	3	17 19 22.05	25.213	17 59 32.7	26.07
4	15 20 0.66	25.308	13 42 27.9	81.43	4	17 21 53.27	25.193	18 2 5.3	24.81
5	15 22 32.55	25.321	13 50 33.5	80.42	5	17 24 24.37	25.172	18 4 30.4	23.56
6	15 25 4.51	25.333	13 58 32.9	79.38	6	17 26 55.34	25.151	18 6 48.0	22.31
7	15 27 36.55	25.347	14 6 26.0	78.34	7	17 29 26.18	25.128	18 8 58.1	21.07
8	15 30 8.67	25.359	14 14 13.0	77.30	8	17 31 56.88	25.105	18 11 0.8	19.83
9	15 32 40.86	25.370	14 21 53.6	76.24	9	17 34 27.44	25.081	18 12 56.0	18.58
10	15 35 13.11	25.380	14 29 27.9	75.18	10	17 36 57.85	25.056	18 14 43.7	17.33
11	15 37 45.42	25.391	14 36 55.7	74.09	11	17 39 28.11	25.030	18 16 23.9	16.08
12	15 40 17.80	25.401	14 44 17.0	73.01	12	17 41 58.21	25.003	18 17 56.7	14.85
13	15 42 50.23	25.409	14 51 31.8	71.92	13	17 44 28.15	24.977	18 19 22.1	13.61
14	15 45 22.71	25.417	14 58 40.0	70.81	14	17 46 57.93	24.949	18 20 40.0	12.37
15	15 47 55.24	25.425	15 5 41.5	69.70	15	17 49 27.54	24.921	18 21 50.6	11.15
16	15 50 27.81	25.432	15 12 36.4	68.58	16	17 51 56.98	24.892	18 22 53.8	9.92
17	15 53 0.42	25.438	15 19 24.5	67.45	17	17 54 26.24	24.862	18 23 49.6	8.69
18	15 55 33.07	25.444	15 26 5.8	66.31	18	17 56 55.32	24.831	18 24 38.1	7.48
19	15 58 5.75	25.449	15 32 40.2	65.17	19	17 59 24.21	24.799	18 25 19.3	6.27
20	16 0 38.46	25.453	15 39 7.8	64.03	20	18 1 52.91	24.767	18 25 53.3	5.06
21	16 3 11.19	25.457	15 45 28.5	62.87	21	18 4 21.42	24.735	18 26 20.0	3.85
22	16 5 43.94	25.459	15 51 42.2	61.69	22	18 6 49.73	24.702	18 26 39.5	2.64
23	16 8 16.70	25.462	S. 15 57 48.8	60.52	23	18 9 17.85	24.668	S. 18 26 51.7	1.44
WEDNESDAY 2.					FRIDAY 4.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	16 10 49.48	25.463	S. 16 3 48.4	59.34	0	18 11 45.75	24.633	S. 18 26 56.8	0.26
1	16 13 22.26	25.464	16 9 40.9	58.16	1	18 14 13.45	24.598	18 26 54.8	0.93
2	16 15 55.05	25.464	16 15 26.3	56.97	2	18 16 40.93	24.563	18 26 45.6	2.12
3	16 18 27.83	25.463	16 21 4.6	55.77	3	18 19 8.20	24.527	18 26 29.4	3.29
4	16 21 0.61	25.462	16 26 35.6	54.57	4	18 21 35.25	24.489	18 26 6.1	4.47
5	16 23 33.38	25.460	16 31 59.4	53.37	5	18 24 2.07	24.452	18 25 35.8	5.63
6	16 26 6.13	25.457	16 37 16.0	52.16	6	18 26 28.67	24.414	18 24 58.6	6.78
7	16 28 38.86	25.453	16 42 25.3	50.94	7	18 28 55.04	24.376	18 24 14.4	7.94
8	16 31 11.57	25.449	16 47 27.3	49.72	8	18 31 21.18	24.337	18 23 23.3	9.09
9	16 33 44.25	25.443	16 52 22.0	48.51	9	18 33 47.08	24.297	18 22 25.3	10.23
10	16 36 16.89	25.437	16 57 9.4	47.28	10	18 36 12.74	24.257	18 21 20.5	11.37
11	16 38 49.50	25.431	17 1 49.3	46.03	11	18 38 38.16	24.216	18 20 8.9	12.50
12	16 41 22.06	25.423	17 6 21.8	44.80	12	18 41 3.33	24.174	18 18 50.5	13.63
13	16 43 54.57	25.415	17 10 46.9	43.57	13	18 43 28.25	24.133	18 17 25.4	14.74
14	16 46 27.04	25.406	17 15 4.6	42.33	14	18 45 52.93	24.092	18 15 53.6	15.85
15	16 48 59.44	25.395	17 19 14.8	41.08	15	18 48 17.35	24.048	18 14 15.2	16.95
16	16 51 31.78	25.384	17 23 17.5	39.83	16	18 50 41.51	24.005	18 12 30.2	18.04
17	16 54 4.05	25.373	17 27 12.8	38.59	17	18 53 5.41	23.962	18 10 38.7	19.13
18	16 56 36.26	25.361	17 31 0.6	37.34	18	18 55 29.06	23.919	18 8 40.7	20.22
19	16 59 8.38	25.347	17 34 40.9	36.09	19	18 57 52.44	23.874	18 6 36.1	21.29
20	17 1 40.42	25.333	17 38 13.7	34.83	20	19 0 15.55	23.830	18 4 25.2	22.35
21	17 4 12.38	25.319	17 41 38.9	33.58	21	19 2 38.40	23.786	18 2 7.9	23.41
22	17 6 44.25	25.303	17 44 56.7	32.33	22	19 5 0.98	23.740	17 59 44.3	24.46
23	17 9 16.02	25.287	17 48 6.9	31.08	23	19 7 23.28	23.694	17 57 14.4	25.50
24	17 11 47.69	25.269	S. 17 51 9.6	29.83	24	19 9 45.31	23.648	S. 17 54 38.3	26.53

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 5.					MONDAY 7.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	19 9 45.31	23.648	S. 17 54 38.3	26.53	0	20 57 42.02	21.331	S. 14 3 58.0	66.28
1	19 12 7.06	23.602	17 51 56.0	27.57	1	20 59 49.87	21.285	13 57 18.5	66.89
2	19 14 28.54	23.556	17 49 7.5	28.58	2	21 1 57.44	21.239	13 50 35.3	67.51
3	19 16 49.73	23.509	17 46 13.0	29.59	3	21 4 4.74	21.194	13 43 48.4	68.11
4	19 19 10.65	23.462	17 43 12.4	30.60	4	21 6 11.77	21.149	13 36 58.0	68.70
5	19 21 31.28	23.414	17 40 5.8	31.59	5	21 8 18.53	21.105	13 30 4.0	69.29
6	19 23 51.62	23.367	17 36 53.3	32.57	6	21 10 25.03	21.060	13 23 6.5	69.87
7	19 26 11.68	23.320	17 33 34.9	33.55	7	21 12 31.25	21.016	13 16 5.6	70.43
8	19 28 31.46	23.272	17 30 10.7	34.52	8	21 14 37.22	20.972	13 9 1.3	71.00
9	19 30 50.95	23.223	17 26 40.6	35.49	9	21 16 42.92	20.928	13 1 53.6	71.56
10	19 33 10.14	23.175	17 23 4.8	36.44	10	21 18 48.36	20.885	12 54 42.6	72.11
11	19 35 29.05	23.127	17 19 23.3	37.38	11	21 20 53.54	20.842	12 47 28.3	72.64
12	19 37 47.66	23.078	17 15 36.2	38.32	12	21 22 58.46	20.799	12 40 10.9	73.17
13	19 40 5.99	23.030	17 11 43.5	39.25	13	21 25 3.13	20.757	12 32 50.3	73.69
14	19 42 24.02	22.980	17 7 45.2	40.17	14	21 27 7.55	20.716	12 25 26.6	74.21
15	19 44 41.75	22.931	17 3 41.4	41.08	15	21 29 11.72	20.674	12 17 59.8	74.72
16	19 46 59.19	22.882	16 59 32.2	41.98	16	21 31 15.64	20.632	12 10 30.0	75.22
17	19 49 16.34	22.833	16 55 17.6	42.87	17	21 33 19.31	20.592	12 2 57.2	75.71
18	19 51 33.19	22.784	16 50 57.7	43.76	18	21 35 22.74	20.552	11 55 21.5	76.19
19	19 53 49.75	22.735	16 46 32.5	44.63	19	21 37 25.93	20.512	11 47 42.9	76.67
20	19 56 6.01	22.685	16 42 2.1	45.50	20	21 39 28.88	20.472	11 40 1.4	77.14
21	19 58 21.97	22.636	16 37 26.5	46.37	21	21 41 31.59	20.432	11 32 17.2	77.60
22	20 0 37.64	22.587	16 32 45.7	47.22	22	21 43 34.06	20.393	11 24 30.2	78.06
23	20 2 53.01	22.537	S. 16 27 59.9	48.05	23	21 45 36.31	20.355	S. 11 16 40.5	78.51
SUNDAY 6.					TUESDAY 8.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	20 5 8.09	22.488	S. 16 23 9.1	48.88	0	21 47 38.32	20.317	S. 11 8 48.1	78.95
1	20 7 22.87	22.438	16 18 13.3	49.71	1	21 49 40.11	20.279	11 0 53.1	79.38
2	20 9 37.35	22.388	16 13 12.6	50.52	2	21 51 41.67	20.241	10 52 55.6	79.80
3	20 11 51.53	22.339	16 8 7.0	51.33	3	21 53 43.00	20.204	10 44 55.5	80.22
4	20 14 5.42	22.290	16 2 56.6	52.13	4	21 55 44.12	20.167	10 36 52.9	80.64
5	20 16 19.01	22.241	15 57 41.5	52.92	5	21 57 45.01	20.131	10 28 47.8	81.04
6	20 18 32.31	22.192	15 52 21.6	53.70	6	21 59 45.69	20.096	10 20 40.4	81.44
7	20 20 45.31	22.142	15 46 57.1	54.47	7	22 1 46.16	20.061	10 12 30.5	81.83
8	20 22 58.01	22.093	15 41 28.0	55.23	8	22 3 46.42	20.026	10 4 18.4	82.21
9	20 25 10.43	22.045	15 35 54.3	55.99	9	22 5 46.47	19.991	9 56 4.0	82.59
10	20 27 22.55	21.996	15 30 16.1	56.73	10	22 7 46.31	19.957	9 47 47.3	82.96
11	20 29 34.38	21.947	15 24 33.5	57.47	11	22 9 45.95	19.923	9 39 28.5	83.32
12	20 31 45.92	21.899	15 18 46.5	58.20	12	22 11 45.39	19.890	9 31 7.5	83.67
13	20 33 57.17	21.851	15 12 55.1	58.92	13	22 13 44.63	19.857	9 22 44.4	84.02
14	20 36 8.13	21.802	15 6 59.4	59.63	14	22 15 43.68	19.825	9 14 19.2	84.37
15	20 38 18.80	21.754	15 0 59.5	60.33	15	22 17 42.53	19.793	9 5 52.0	84.71
16	20 40 29.18	21.706	14 54 55.5	61.02	16	22 19 41.19	19.762	8 57 22.7	85.04
17	20 42 39.27	21.658	14 48 47.3	61.72	17	22 21 39.67	19.731	8 48 51.5	85.36
18	20 44 49.08	21.612	14 42 34.9	62.39	18	22 23 37.96	19.700	8 40 18.4	85.67
19	20 46 58.61	21.564	14 36 18.6	63.05	19	22 25 36.07	19.670	8 31 43.4	85.98
20	20 49 7.85	21.517	14 29 58.3	63.72	20	22 27 34.00	19.640	8 23 6.6	86.28
21	20 51 16.81	21.470	14 23 34.0	64.37	21	22 29 31.75	19.611	8 14 28.0	86.58
22	20 53 25.49	21.424	14 17 5.8	65.02	22	22 31 29.33	19.582	8 5 47.6	86.87
23	20 55 33.90	21.377	14 10 33.8	65.65	23	22 33 26.74	19.554	7 57 5.5	87.16
24	20 57 42.02	21.331	S. 14 3 58.0	66.28	24	22 35 23.98	19.526	S. 7 48 21.7	87.43

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 9.					FRIDAY 11.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	22 35 23.98	19.526	S. 7 48 21.7	87.43	0	0 6 48.04	18.736	S. 0 28 3.7	93.83
1	22 37 21.05	19.498	7 39 36.3	87.71	1	0 8 40.44	18.731	0 18 40.8	93.82
2	22 39 17.96	19.472	7 30 49.2	87.97	2	0 10 32.81	18.727	S. 0 9 17.9	93.82
3	22 41 14.71	19.445	7 22 0.6	88.23	3	0 12 25.16	18.722	N. 0 0 5.0	93.80
4	22 43 11.30	19.419	7 13 10.4	88.49	4	0 14 17.48	18.718	0 9 27.7	93.78
5	22 45 7.74	19.394	7 4 18.7	88.73	5	0 16 9.78	18.715	0 18 50.3	93.75
6	22 47 4.03	19.368	6 55 25.6	88.97	6	0 18 2.06	18.713	0 28 12.7	93.72
7	22 49 0.16	19.343	6 46 31.1	89.21	7	0 19 54.33	18.710	0 37 34.9	93.68
8	22 50 56.15	19.320	6 37 35.1	89.44	8	0 21 46.58	18.707	0 46 56.9	93.64
9	22 52 52.00	19.297	6 28 37.8	89.66	9	0 23 38.82	18.706	0 56 18.6	93.59
10	22 54 47.71	19.273	6 19 39.2	89.87	10	0 25 31.05	18.705	1 5 40.0	93.54
11	22 56 43.27	19.250	6 10 39.3	90.08	11	0 27 23.28	18.704	1 15 1.1	93.48
12	22 58 38.71	19.228	6 1 38.2	90.28	12	0 29 15.50	18.703	1 24 21.8	93.42
13	23 0 34.01	19.207	5 52 35.9	90.48	13	0 31 7.72	18.704	1 33 42.1	93.35
14	23 2 29.19	19.185	5 43 32.4	90.67	14	0 32 59.95	18.704	1 43 2.0	93.28
15	23 4 24.23	19.163	5 34 27.8	90.86	15	0 34 52.17	18.705	1 52 21.5	93.20
16	23 6 19.15	19.143	5 25 22.1	91.04	16	0 36 44.41	18.707	2 1 40.4	93.11
17	23 8 13.95	19.123	5 16 15.3	91.22	17	0 38 36.65	18.708	2 10 58.8	93.02
18	23 10 8.63	19.104	5 7 7.5	91.38	18	0 40 28.91	18.711	2 20 16.6	92.92
19	23 12 3.20	19.086	4 57 58.7	91.55	19	0 42 21.18	18.713	2 29 33.9	92.82
20	23 13 57.66	19.067	4 48 48.9	91.71	20	0 44 13.47	18.716	2 38 50.5	92.72
21	23 15 52.00	19.048	4 39 38.2	91.85	21	0 46 5.77	18.719	2 48 6.5	92.60
22	23 17 46.24	19.032	4 30 26.7	92.00	22	0 47 58.10	18.724	2 57 21.7	92.48
23	23 19 40.38	19.014	S. 4 21 14.2	92.14	23	0 49 50.46	18.728	N. 3 6 36.3	92.37
THURSDAY 10.					SATURDAY 12.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	23 21 34.41	18.997	S. 4 12 1.0	92.27	0	0 51 42.84	18.732	N. 3 15 50.1	92.23
1	23 23 28.35	18.982	4 2 47.0	92.40	1	0 53 35.25	18.737	3 25 3.1	92.10
2	23 25 22.19	18.965	3 53 32.2	92.52	2	0 55 27.69	18.743	3 34 15.3	91.97
3	23 27 15.93	18.950	3 44 16.7	92.64	3	0 57 20.17	18.749	3 43 26.7	91.82
4	23 29 9.59	18.935	3 35 0.5	92.76	4	0 59 12.68	18.755	3 52 37.1	91.66
5	23 31 3.15	18.921	3 25 43.6	92.86	5	1 1 5.23	18.762	4 1 46.6	91.51
6	23 32 56.64	18.907	3 16 26.2	92.96	6	1 2 57.82	18.769	4 10 55.2	91.35
7	23 34 50.04	18.893	3 7 8.1	93.06	7	1 4 50.46	18.777	4 20 2.8	91.17
8	23 36 43.36	18.880	2 57 49.5	93.15	8	1 6 43.14	18.784	4 29 9.3	91.01
9	23 38 36.60	18.868	2 48 30.3	93.23	9	1 8 35.87	18.792	4 38 14.9	90.83
10	23 40 29.77	18.857	2 39 10.7	93.30	10	1 10 28.65	18.801	4 47 19.3	90.64
11	23 42 22.88	18.845	2 29 50.7	93.37	11	1 12 21.48	18.810	4 56 22.6	90.46
12	23 44 15.91	18.833	2 20 30.2	93.45	12	1 14 14.37	18.819	5 5 24.8	90.27
13	23 46 8.88	18.823	2 11 9.3	93.51	13	1 16 7.31	18.828	5 14 25.8	90.06
14	23 48 1.79	18.812	2 1 48.1	93.57	14	1 18 0.31	18.839	5 23 25.5	89.85
15	23 49 54.63	18.802	1 52 26.5	93.62	15	1 19 53.38	18.850	5 32 24.0	89.64
16	23 51 47.42	18.794	1 43 4.7	93.66	16	1 21 46.51	18.861	5 41 21.2	89.42
17	23 53 40.16	18.786	1 33 42.6	93.70	17	1 23 39.71	18.872	5 50 17.1	89.20
18	23 55 32.85	18.778	1 24 20.3	93.73	18	1 25 32.97	18.883	5 59 11.6	88.97
19	23 57 25.49	18.769	1 14 57.8	93.76	19	1 27 26.31	18.896	6 8 4.8	88.74
20	23 59 18.08	18.762	1 5 35.2	93.78	20	1 29 19.72	18.908	6 16 56.5	88.50
21	0 1 10.63	18.755	0 56 12.4	93.80	21	1 31 13.20	18.919	6 25 46.8	88.26
22	0 3 3.14	18.748	0 46 49.6	93.81	22	1 33 6.75	18.933	6 34 35.6	88.00
23	0 4 55.61	18.742	0 37 26.7	93.82	23	1 35 0.39	18.947	6 43 22.8	87.74
24	0 6 48.04	18.736	S. 0 28 3.7	93.83	24	1 36 54.11	18.960	N. 6 52 8.5	87.48

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SUNDAY 13.					TUESDAY 15.				
	h m s	s				h m s	s		
0	1 36 54.11	18.960	N. 6 52' 8.5	87.48	0	3 10 2.58	19.942	N. 13 10' 43.6	67.98
1	1 38 47.91	18.974	7 0 52.6	87.22	1	3 12 2.31	19.968	13 17 29.8	67.43
2	1 40 41.80	18.988	7 9 35.1	86.94	2	3 14 2.19	19.993	13 24 12.7	66.87
3	1 42 35.77	19.003	7 18 15.9	86.66	3	3 16 2.22	20.018	13 30 52.2	66.30
4	1 44 29.83	19.018	7 26 55.0	86.37	4	3 18 2.41	20.044	13 37 28.3	65.72
5	1 46 23.99	19.033	7 35 32.4	86.08	5	3 20 2.75	20.070	13 44 0.9	65.15
6	1 48 18.23	19.048	7 44 8.0	85.79	6	3 22 3.25	20.096	13 50 30.1	64.57
7	1 50 12.57	19.065	7 52 41.9	85.49	7	3 24 3.90	20.122	13 56 55.7	63.98
8	1 52 7.01	19.082	8 1 13.9	85.18	8	3 26 4.71	20.148	14 3 17.8	63.38
9	1 54 1.55	19.098	8 9 44.0	84.86	9	3 28 5.68	20.174	14 9 36.3	62.78
10	1 55 56.18	19.114	8 18 12.2	84.54	10	3 30 6.80	20.201	14 15 51.2	62.17
11	1 57 50.92	19.132	8 26 38.5	84.22	11	3 32 8.09	20.228	14 22 2.4	61.56
12	1 59 45.77	19.150	8 35 2.8	83.88	12	3 34 9.53	20.253	14 28 9.9	60.94
13	2 1 40.72	19.168	8 43 25.1	83.55	13	3 36 11.13	20.280	14 34 13.7	60.32
14	2 3 35.78	19.185	8 51 45.4	83.21	14	3 38 12.89	20.306	14 40 13.7	59.69
15	2 5 30.94	19.203	9 0 3.6	82.86	15	3 40 14.80	20.333	14 46 10.0	59.06
16	2 7 26.22	19.222	9 8 19.7	82.50	16	3 42 16.88	20.360	14 52 2.4	58.41
17	2 9 21.61	19.241	9 16 33.6	82.13	17	3 44 19.12	20.386	14 57 50.9	57.76
18	2 11 17.11	19.260	9 24 45.3	81.77	18	3 46 21.51	20.412	15 3 35.5	57.10
19	2 13 12.73	19.280	9 32 54.8	81.40	19	3 48 24.07	20.439	15 9 16.1	56.44
20	2 15 8.47	19.300	9 41 2.1	81.02	20	3 50 26.78	20.465	15 14 52.8	55.78
21	2 17 4.33	19.319	9 49 7.0	80.63	21	3 52 29.65	20.493	15 20 25.5	55.12
22	2 19 0.30	19.339	9 57 9.7	80.24	22	3 54 32.69	20.519	15 25 54.2	54.44
23	2 20 56.40	19.361	N. 10 5 9.9	79.84	23	3 56 35.88	20.545	N. 15 31 18.8	53.75
MONDAY 14.					WEDNESDAY 16.				
	h m s	s				h m s	s		
0	2 22 52.63	19.382	N. 10 13 7.8	79.44	0	3 58 39.23	20.572	N. 15 36 39.2	53.06
1	2 24 48.98	19.403	10 21 3.2	79.03	1	4 0 42.74	20.598	15 41 55.5	52.37
2	2 26 45.46	19.423	10 28 56.2	78.62	2	4 2 46.41	20.625	15 47 7.7	51.67
3	2 28 42.06	19.445	10 36 46.7	78.20	3	4 4 50.24	20.652	15 52 15.6	50.96
4	2 30 38.80	19.467	10 44 34.6	77.77	4	4 6 54.23	20.678	15 57 19.2	50.25
5	2 32 35.66	19.488	10 52 19.9	77.33	5	4 8 58.38	20.704	16 2 18.6	49.54
6	2 34 32.66	19.511	11 0 2.6	76.90	6	4 11 2.68	20.730	16 7 13.7	48.82
7	2 36 29.79	19.533	11 7 42.7	76.46	7	4 13 7.14	20.757	16 12 4.4	48.09
8	2 38 27.06	19.556	11 15 20.1	76.00	8	4 15 11.76	20.783	16 16 50.8	47.36
9	2 40 24.46	19.578	11 22 54.7	75.55	9	4 17 16.54	20.809	16 21 32.7	46.62
10	2 42 22.00	19.601	11 30 26.7	75.09	10	4 19 21.47	20.835	16 26 10.2	45.88
11	2 44 19.67	19.624	11 37 55.8	74.62	11	4 21 26.56	20.862	16 30 43.3	45.13
12	2 46 17.49	19.648	11 45 22.1	74.14	12	4 23 31.81	20.888	16 35 11.8	44.37
13	2 48 15.45	19.672	11 52 45.5	73.67	13	4 25 37.21	20.913	16 39 35.8	43.62
14	2 50 13.55	19.695	12 0 6.1	73.18	14	4 27 42.77	20.939	16 43 55.2	42.86
15	2 52 11.79	19.719	12 7 23.6	72.68	15	4 29 48.48	20.964	16 48 10.1	42.09
16	2 54 10.18	19.743	12 14 38.2	72.18	16	4 31 54.34	20.989	16 52 20.3	41.31
17	2 56 8.71	19.768	12 21 49.8	71.68	17	4 34 0.35	21.015	16 56 25.8	40.52
18	2 58 7.39	19.793	12 28 58.3	71.17	18	4 36 6.52	21.040	17 0 26.6	39.74
19	3 0 6.22	19.817	12 36 3.8	70.65	19	4 38 12.83	21.065	17 4 22.7	38.96
20	3 2 5.19	19.841	12 43 6.1	70.12	20	4 40 19.30	21.091	17 8 14.1	38.16
21	3 4 4.31	19.866	12 50 5.3	69.60	21	4 42 25.92	21.115	17 12 0.6	37.36
22	3 6 3.58	19.892	12 57 1.3	69.07	22	4 44 32.68	21.139	17 15 42.4	36.56
23	3 8 3.01	19.917	13 3 54.1	68.53	23	4 46 39.59	21.164	17 19 19.3	35.75
24	3 10 2.58	19.942	N. 13 10 43.6	67.98	24	4 48 46.65	21.188	N. 17 22 51.4	34.94

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 17.					SATURDAY 19.				
0	4 48 46.65	21.188	N. 17 22 51.4	34.94	0	6 32 50.74	22.069	N. 18 29 19.2	8.42
1	4 50 53.85	21.212	17 26 18.6	34.12	1	6 35 3.19	22.080	18 28 25.8	9.38
2	4 53 1.20	21.237	17 29 40.8	33.29	2	6 37 15.70	22.090	18 27 26.7	10.34
3	4 55 8.69	21.260	17 32 58.1	32.47	3	6 39 28.27	22.100	18 26 21.7	11.31
4	4 57 16.32	21.283	17 36 10.4	31.63	4	6 41 40.90	22.111	18 25 11.0	12.27
5	4 59 24.09	21.307	17 39 17.7	30.80	5	6 43 53.60	22.121	18 23 54.5	13.23
6	5 1 32.00	21.331	17 42 20.0	29.96	6	6 46 6.35	22.130	18 22 32.2	14.20
7	5 3 40.05	21.353	17 45 17.2	29.11	7	6 48 19.16	22.140	18 21 4.1	15.17
8	5 5 48.24	21.376	17 48 9.3	28.26	8	6 50 32.03	22.148	18 19 30.2	16.13
9	5 7 56.56	21.398	17 50 56.3	27.41	9	6 52 44.94	22.157	18 17 50.5	17.09
10	5 10 5.02	21.421	17 53 38.2	26.55	10	6 54 57.91	22.166	18 16 5.1	18.06
11	5 12 13.61	21.443	17 56 14.9	25.68	11	6 57 10.93	22.174	18 14 13.8	19.03
12	5 14 22.33	21.464	17 58 46.4	24.82	12	6 59 24.00	22.182	18 12 16.7	20.00
13	5 16 31.18	21.486	18 1 12.7	23.95	13	7 1 37.11	22.189	18 10 13.8	20.97
14	5 18 40.16	21.508	18 3 33.8	23.08	14	7 3 50.27	22.196	18 8 5.1	21.93
15	5 20 49.27	21.529	18 5 49.7	22.20	15	7 6 3.46	22.203	18 5 50.6	22.90
16	5 22 58.51	21.550	18 8 0.2	21.32	16	7 8 16.70	22.209	18 3 30.3	23.87
17	5 25 7.87	21.570	18 10 5.5	20.43	17	7 10 29.97	22.215	18 1 4.2	24.83
18	5 27 17.35	21.590	18 12 5.4	19.54	18	7 12 43.28	22.222	17 58 32.8	25.80
19	5 29 26.95	21.610	18 14 0.0	18.66	19	7 14 56.63	22.228	17 55 54.6	26.76
20	5 31 36.67	21.631	18 15 49.3	17.76	20	7 17 10.02	22.233	17 53 11.2	27.72
21	5 33 46.52	21.651	18 17 33.1	16.86	21	7 19 23.43	22.238	17 50 21.9	28.69
22	5 35 56.48	21.669	18 19 11.6	15.96	22	7 21 36.87	22.243	17 47 26.9	29.65
23	5 38 6.55	21.688	N. 18 20 44.6	15.05	23	7 23 50.34	22.248	N. 17 44 26.1	30.62
FRIDAY 18.					SUNDAY 20.				
0	5 40 16.74	21.707	N. 18 22 12.2	14.14	0	7 26 3.84	22.252	N. 17 41 19.5	31.58
1	5 42 27.04	21.726	18 23 34.3	13.23	1	7 28 17.36	22.256	17 38 7.2	32.53
2	5 44 37.45	21.744	18 24 51.0	12.32	2	7 30 30.91	22.260	17 34 49.1	33.49
3	5 46 47.97	21.762	18 26 2.1	11.40	3	7 32 44.48	22.263	17 31 25.3	34.45
4	5 48 58.60	21.780	18 27 7.8	10.48	4	7 34 58.07	22.267	17 27 55.7	35.41
5	5 51 9.33	21.797	18 28 7.9	9.55	5	7 37 11.68	22.270	17 24 20.4	36.36
6	5 53 20.17	21.814	18 29 2.4	8.62	6	7 39 25.31	22.272	17 20 39.4	37.31
7	5 55 31.10	21.831	18 29 51.4	7.70	7	7 41 38.95	22.276	17 16 52.7	38.26
8	5 57 42.14	21.847	18 30 34.8	6.77	8	7 43 52.62	22.278	17 13 0.3	39.21
9	5 59 53.27	21.863	18 31 12.6	5.83	9	7 46 6.29	22.280	17 9 2.2	40.16
10	6 2 4.50	21.879	18 31 44.8	4.90	10	7 48 19.98	22.282	17 4 58.4	41.10
11	6 4 15.82	21.895	18 32 11.4	3.95	11	7 50 33.67	22.283	17 0 49.0	42.04
12	6 6 27.24	21.911	18 32 32.2	3.01	12	7 52 47.38	22.286	16 56 33.9	42.98
13	6 8 38.75	21.925	18 32 47.5	2.08	13	7 55 1.10	22.287	16 52 13.2	43.92
14	6 10 50.34	21.939	18 32 57.1	1.13	14	7 57 14.82	22.287	16 47 46.8	44.86
15	6 13 2.02	21.954	18 33 1.0	0.17	15	7 59 28.55	22.289	16 43 14.9	45.79
16	6 15 13.79	21.968	18 32 59.2	0.78	16	8 1 42.29	22.290	16 38 37.3	46.73
17	6 17 25.64	21.982	18 32 51.7	1.72	17	8 3 56.03	22.290	16 33 54.2	47.65
18	6 19 37.57	21.994	18 32 38.6	2.67	18	8 6 9.77	22.291	16 29 5.5	48.57
19	6 21 49.57	22.007	18 32 19.7	3.62	19	8 8 23.52	22.291	16 24 11.3	49.50
20	6 24 1.66	22.021	18 31 55.1	4.58	20	8 10 37.26	22.291	16 19 11.5	50.42
21	6 26 13.82	22.033	18 31 24.7	5.54	21	8 12 51.01	22.292	16 14 6.2	51.33
22	6 28 26.06	22.045	18 30 48.6	6.49	22	8 15 4.76	22.292	16 8 55.5	52.25
23	6 30 38.36	22.057	18 30 6.8	7.45	23	8 17 18.51	22.291	16 3 39.2	53.17
24	6 32 50.74	22.069	N. 18 29 19.2	8.42	24	8 19 32.25	22.290	N. 15 58 17.5	54.07

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 21.					WEDNESDAY 23.				
	h m s	s	N. 15° 58' 17".5	54".07		h m s	s	N. 10° 2' 20".7	92".21
0	8 19 32.25	22.290	15 52 50.4	54.98	0	10 6 24.73	22.259	9 53 5.5	92.86
1	8 21 45.99	22.290	15 47 17.8	55.88	1	10 8 38.29	22.262	9 43 46.4	93.50
2	8 23 59.73	22.289	15 41 39.9	56.78	2	10 10 51.87	22.263	9 34 23.5	94.13
3	8 26 13.46	22.288	15 35 56.5	57.67	3	10 13 5.45	22.266	9 24 56.9	94.75
4	8 28 27.19	22.288	15 30 7.9	58.55	4	10 15 19.06	22.269	9 15 26.5	95.37
5	8 30 40.92	22.287	15 24 13.9	59.45	5	10 17 32.68	22.272	9 5 52.4	95.98
6	8 32 54.64	22.286	15 18 14.5	60.33	6	10 19 46.32	22.275	8 56 14.7	96.58
7	8 35 8.35	22.285	15 12 9.9	61.20	7	10 21 59.98	22.278	8 46 33.4	97.18
8	8 37 22.06	22.284	15 6 0.1	62.07	8	10 24 13.66	22.282	8 36 48.5	97.77
9	8 39 35.76	22.283	14 59 45.0	62.95	9	10 26 27.36	22.286	8 27 0.1	98.35
10	8 41 49.45	22.281	14 53 24.7	63.82	10	10 28 41.09	22.290	8 17 8.3	98.92
11	8 44 3.13	22.279	14 46 59.2	64.68	11	10 30 54.84	22.294	8 7 13.1	99.48
12	8 46 16.80	22.278	14 40 28.5	65.53	12	10 33 8.62	22.299	7 57 14.5	100.04
13	8 48 30.47	22.278	14 33 52.8	66.38	13	10 35 22.43	22.304	7 47 12.6	100.58
14	8 50 44.13	22.276	14 27 11.9	67.24	14	10 37 36.27	22.309	7 37 7.5	101.12
15	8 52 57.78	22.274	14 20 25.9	68.08	15	10 39 50.14	22.314	7 26 59.1	101.66
16	8 55 11.42	22.272	14 13 34.9	68.92	16	10 42 4.04	22.320	7 16 47.6	102.18
17	8 57 25.05	22.271	14 6 38.8	69.76	17	10 44 17.98	22.327	7 6 33.0	102.68
18	8 59 38.67	22.269	13 59 37.8	70.58	18	10 46 31.97	22.334	6 56 15.4	103.19
19	9 1 52.28	22.268	13 52 31.8	71.42	19	10 48 45.99	22.340	6 45 54.7	103.69
20	9 4 5.89	22.267	13 45 20.8	72.23	20	10 51 0.05	22.347	6 35 31.1	104.17
21	9 6 19.48	22.265	13 38 5.0	73.04	21	10 53 14.15	22.354	6 25 4.7	104.65
22	9 8 33.07	22.263	13 30 44.3	73.86	22	10 55 28.30	22.362	6 14 35.3	105.12
23	9 10 46.64	22.262			23	10 57 42.50	22.371		
TUESDAY 22.					THURSDAY 24.				
0	9 13 0.21	22.261	13 23 18.7	74.67	0	10 59 56.75	22.379	N. 6 4 3.2	105.58
1	9 15 13.77	22.259	13 15 48.3	75.47	1	11 2 11.05	22.388	5 53 28.3	106.03
2	9 17 27.32	22.258	13 8 13.1	76.26	2	11 4 25.40	22.397	5 42 50.8	106.47
3	9 19 40.87	22.257	13 0 33.2	77.04	3	11 6 39.81	22.406	5 32 10.7	106.91
4	9 21 54.41	22.256	12 52 48.6	77.83	4	11 8 54.27	22.416	5 21 27.9	107.33
5	9 24 7.94	22.254	12 44 59.3	78.61	5	11 11 8.80	22.427	5 10 42.7	107.73
6	9 26 21.46	22.253	12 37 5.3	79.38	6	11 13 23.39	22.437	4 59 55.1	108.13
7	9 28 34.98	22.253	12 29 6.7	80.14	7	11 15 38.04	22.448	4 49 5.1	108.53
8	9 30 48.50	22.252	12 21 3.6	80.90	8	11 17 52.76	22.459	4 38 12.7	108.92
9	9 33 2.01	22.252	12 12 55.9	81.66	9	11 20 7.55	22.470	4 27 18.1	109.29
10	9 35 15.52	22.252	12 4 43.7	82.41	10	11 22 22.40	22.482	4 16 21.2	109.66
11	9 37 29.03	22.251	11 56 27.0	83.15	11	11 24 37.33	22.494	4 5 22.2	110.01
12	9 39 42.53	22.250	11 48 5.9	83.88	12	11 26 52.33	22.507	3 54 21.1	110.35
13	9 41 56.03	22.250	11 39 40.4	84.62	13	11 29 7.41	22.519	3 43 18.0	110.68
14	9 44 9.53	22.250	11 31 10.5	85.34	14	11 31 22.56	22.532	3 32 12.9	111.01
15	9 46 23.03	22.251	11 22 36.3	86.05	15	11 33 37.80	22.547	3 21 5.9	111.32
16	9 48 36.54	22.251	11 13 57.9	86.77	16	11 35 53.12	22.561	3 9 57.1	111.62
17	9 50 50.04	22.251	11 5 15.1	87.48	17	11 38 8.53	22.575	2 58 46.5	111.90
18	9 53 3.55	22.252	10 56 28.2	88.17	18	11 40 24.02	22.589	2 47 34.3	112.18
19	9 55 17.06	22.252	10 47 37.1	88.86	19	11 42 39.60	22.605	2 36 20.3	112.46
20	9 57 30.58	22.253	10 38 41.9	89.53	20	11 44 55.28	22.621	2 25 4.8	112.71
21	9 59 44.10	22.255	10 29 42.7	90.22	21	11 47 11.05	22.637	2 13 47.8	112.96
22	10 1 57.64	22.257	10 20 39.3	90.89	22	11 49 26.92	22.652	2 2 29.3	113.19
23	10 4 11.18	22.258	10 11 32.0	91.55	23	11 51 42.88	22.669	1 51 9.5	113.42
24	10 6 24.73	22.259	N. 10 2 20.7	92.21	24	11 53 58.95	22.687	N. 1 39 48.3	113.63

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
FRIDAY 25.					SUNDAY 27.				
	h m s	s	N. ° ' "	" "		h m s	s	S. ° ' "	" "
0	11 53 58.95	22.687	N. 1 39 48.3	113.63	0	13 45 30.76	23.900	S. 7 26 49.7	109.04
1	11 56 15.12	22.704	1 28 25.9	113.83	1	13 47 54.25	23.931	7 37 42.7	108.62
2	11 58 31.40	22.722	1 17 2.3	114.02	2	13 50 17.93	23.963	7 48 33.1	108.17
3	12 0 47.79	22.740	1 5 37.6	114.21	3	13 52 41.81	23.995	7 59 20.7	107.70
4	12 3 4.28	22.758	0 54 11.8	114.38	4	13 55 5.87	24.025	8 10 5.5	107.22
5	12 5 20.89	22.777	0 42 45.1	114.53	5	13 57 30.11	24.057	8 20 47.4	106.74
6	12 7 37.61	22.797	0 31 17.5	114.67	6	13 59 54.55	24.090	8 31 26.4	106.24
7	12 9 54.45	22.817	0 19 49.0	114.81	7	14 2 19.19	24.122	8 42 2.3	105.72
8	12 12 11.41	22.837	N. 0 8 19.8	114.93	8	14 4 44.01	24.153	8 52 35.0	105.18
9	12 14 28.49	22.857	S. 0 3 10.1	115.03	9	14 7 9.02	24.184	9 3 4.5	104.63
10	12 16 45.70	22.878	0 14 40.6	115.12	10	14 9 34.22	24.216	9 13 30.6	104.07
11	12 19 3.03	22.899	0 26 11.6	115.21	11	14 11 59.61	24.248	9 23 53.4	103.50
12	12 21 20.49	22.921	0 37 43.1	115.28	12	14 14 25.20	24.281	9 34 12.6	102.91
13	12 23 38.08	22.942	0 49 15.0	115.34	13	14 16 50.98	24.313	9 44 28.3	102.31
14	12 25 55.80	22.964	1 0 47.2	115.39	14	14 19 16.95	24.344	9 54 40.3	101.68
15	12 28 13.65	22.987	1 12 19.7	115.43	15	14 21 43.11	24.376	10 4 48.5	101.05
16	12 30 31.64	23.010	1 23 52.3	115.45	16	14 24 9.46	24.408	10 14 52.9	100.40
17	12 32 49.77	23.033	1 35 25.1	115.46	17	14 26 36.00	24.439	10 24 53.3	99.73
18	12 35 8.04	23.057	1 46 57.8	115.45	18	14 29 2.73	24.471	10 34 49.7	99.07
19	12 37 26.45	23.081	1 58 30.5	115.44	19	14 31 29.65	24.502	10 44 42.1	98.38
20	12 39 45.01	23.106	2 10 3.1	115.42	20	14 33 56.75	24.533	10 54 30.2	97.67
21	12 42 3.72	23.130	2 21 35.5	115.37	21	14 36 24.04	24.564	11 4 14.1	96.96
22	12 44 22.57	23.154	2 33 7.5	115.31	22	14 38 51.52	24.595	11 13 53.7	96.23
23	12 46 41.57	23.180	S. 2 44 39.2	115.24	23	14 41 19.18	24.626	S. 11 23 28.8	95.48
SATURDAY 26.					MONDAY 28.				
	h m s	s	S. ° ' "	" "		h m s	s	S. ° ' "	" "
0	12 49 0.73	23.206	S. 2 56 10.4	115.16	0	14 43 47.03	24.657	S. 11 32 59.4	94.72
1	12 51 20.04	23.232	3 7 41.1	115.06	1	14 46 15.06	24.687	11 42 25.4	93.95
2	12 53 39.51	23.258	3 19 11.1	114.95	2	14 48 43.27	24.717	11 51 46.8	93.16
3	12 55 59.14	23.285	3 30 40.5	114.83	3	14 51 11.66	24.747	12 1 3.3	92.36
4	12 58 18.93	23.312	3 42 9.1	114.69	4	14 53 40.23	24.777	12 10 15.1	91.55
5	13 0 38.88	23.338	3 53 36.8	114.53	5	14 56 8.98	24.806	12 19 21.9	90.72
6	13 2 58.99	23.366	4 5 3.5	114.37	6	14 58 37.90	24.834	12 28 23.7	89.88
7	13 5 19.27	23.394	4 16 29.3	114.20	7	15 1 6.99	24.863	12 37 20.5	89.03
8	13 7 39.72	23.422	4 27 53.9	114.01	8	15 3 36.26	24.892	12 46 12.1	88.16
9	13 10 0.33	23.450	4 39 17.4	113.81	9	15 6 5.69	24.919	12 54 58.4	87.28
10	13 12 21.12	23.479	4 50 39.6	113.58	10	15 8 35.29	24.947	13 3 39.5	86.39
11	13 14 42.08	23.508	5 2 0.4	113.35	11	15 11 5.06	24.975	13 12 15.1	85.48
12	13 17 3.21	23.536	5 13 19.8	113.11	12	15 13 34.99	25.002	13 20 45.3	84.57
13	13 19 24.51	23.566	5 24 37.7	112.84	13	15 16 5.08	25.028	13 29 10.0	83.64
14	13 21 46.00	23.596	5 35 53.9	112.57	14	15 18 35.33	25.055	13 37 29.0	82.70
15	13 24 7.66	23.624	5 47 8.5	112.28	15	15 21 5.74	25.081	13 45 42.4	81.75
16	13 26 29.49	23.654	5 58 21.3	111.98	16	15 23 36.30	25.106	13 53 50.0	80.78
17	13 28 51.51	23.685	6 9 32.3	111.67	17	15 26 7.01	25.131	14 1 51.7	79.80
18	13 31 13.71	23.715	6 20 41.3	111.33	18	15 28 37.87	25.155	14 9 47.6	78.82
19	13 33 36.09	23.745	6 31 48.3	110.99	19	15 31 8.87	25.178	14 17 37.5	77.82
20	13 35 58.65	23.776	6 42 53.2	110.62	20	15 33 40.01	25.202	14 25 21.4	76.81
21	13 38 21.40	23.807	6 53 55.8	110.25	21	15 36 11.30	25.225	14 32 59.2	75.78
22	13 40 44.33	23.838	7 4 56.2	109.87	22	15 38 42.71	25.247	14 40 30.8	74.75
23	13 43 7.45	23.869	7 15 54.2	109.46	23	15 41 14.26	25.269	14 47 56.2	73.71
24	13 45 30.76	23.900	S. 7 26 49.7	109.04	24	15 43 45.94	25.290	S. 14 55 15.3	72.66

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 29.					THURSDAY 31.				
	h m s	s	S. ° ' "	"		h m s	s	S. ° ' "	"
0	15 43 45.94	25.290	S. 14 55 15.3	72.66	0	17 46 10.83	25.388	S. 18 27 58.2	14.21
1	15 46 17.74	25.311	15 2 28.1	71.59	1	17 48 43.10	25.368	18 29 19.6	12.93
2	15 48 49.67	25.331	15 9 34.4	70.52	2	17 51 15.25	25.347	18 30 33.3	11.65
3	15 51 21.71	25.350	15 16 34.3	69.43	3	17 53 47.27	25.325	18 31 39.4	10.38
4	15 53 53.87	25.368	15 23 27.6	68.33	4	17 56 19.15	25.302	18 32 37.9	9.12
5	15 56 26.13	25.386	15 30 14.3	67.23	5	17 58 50.90	25.280	18 33 28.8	7.84
6	15 58 58.50	25.403	15 36 54.4	66.12	6	18 1 22.51	25.256	18 34 12.0	6.57
7	16 1 30.97	25.420	15 43 27.7	65.00	7	18 3 53.97	25.230	18 34 47.7	5.32
8	16 4 3.54	25.436	15 49 54.4	63.87	8	18 6 25.27	25.204	18 35 15.8	4.06
9	16 6 36.20	25.451	15 56 14.2	62.73	9	18 8 56.42	25.177	18 35 36.4	2.81
10	16 9 8.95	25.466	16 2 27.1	61.58	10	18 11 27.40	25.149	18 35 49.5	1.55
11	16 11 41.79	25.480	16 8 33.2	60.42	11	18 13 58.21	25.121	18 35 55.0	0.30
12	16 14 14.71	25.493	16 14 32.2	59.26	12	18 16 28.85	25.092	18 35 53.1	0.94
13	16 16 47.70	25.505	16 20 24.3	58.09	13	18 18 59.31	25.062	18 35 43.7	2.17
14	16 19 20.77	25.517	16 26 9.3	56.91	14	18 21 29.59	25.031	18 35 27.0	3.41
15	16 21 53.90	25.527	16 31 47.2	55.72	15	18 23 59.68	24.998	18 35 2.8	4.64
16	16 24 27.09	25.537	16 37 17.9	54.53	16	18 26 29.57	24.966	18 34 31.3	5.87
17	16 27 0.35	25.547	16 42 41.5	53.33	17	18 28 59.27	24.933	18 33 52.4	7.08
18	16 29 33.65	25.553	16 47 57.9	52.13	18	18 31 28.77	24.899	18 33 6.3	8.29
19	16 32 6.99	25.561	16 53 7.0	50.91	19	18 33 58.06	24.863	18 32 12.9	9.50
20	16 34 40.38	25.568	16 58 8.8	49.69	20	18 36 27.13	24.828	18 31 12.3	10.70
21	16 37 13.81	25.574	17 3 3.3	48.47	21	18 38 56.00	24.793	18 30 4.5	11.89
22	16 39 47.27	25.579	17 7 50.4	47.23	22	18 41 24.64	24.755	18 28 49.6	13.08
23	16 42 20.76	25.583	S. 17 12 30.1	46.00	23	18 43 53.06	24.717	S. 18 27 27.5	14.27
WEDNESDAY 30.					FRIDAY, JUNE 1.				
	h m s	s	S. ° ' "	"		h m s	s	S. ° ' "	"
0	16 44 54.27	25.586	S. 17 17 2.4	44.77	0	18 46 21.25	24.678	S. 18 25 58.4	15.44
1	16 47 27.79	25.588	17 21 27.3	43.52					
2	16 50 1.33	25.590	17 25 44.6	42.27					
3	16 52 34.87	25.590	17 29 54.5	41.02					
4	16 55 8.41	25.590	17 33 56.8	39.75					
5	16 57 41.95	25.588	17 37 51.5	38.49					
6	17 0 15.47	25.586	17 41 38.7	37.23					
7	17 2 48.98	25.583	17 45 18.3	35.97					
8	17 5 22.47	25.579	17 48 50.3	34.69					
9	17 7 55.93	25.574	17 52 14.6	33.42					
10	17 10 29.36	25.568	17 55 31.3	32.14					
11	17 13 2.75	25.562	17 58 40.3	30.87					
12	17 15 36.10	25.554	18 1 41.7	29.59					
13	17 18 9.40	25.545	18 4 35.4	28.31					
14	17 20 42.64	25.536	18 7 21.4	27.03					
15	17 23 15.83	25.525	18 9 59.7	25.74					
16	17 25 48.94	25.513	18 12 30.3	24.46					
17	17 28 21.99	25.502	18 14 53.2	23.17					
18	17 30 54.96	25.488	18 17 8.4	21.90					
19	17 33 27.84	25.473	18 19 16.0	20.62					
20	17 36 0.64	25.458	18 21 15.8	19.33					
21	17 38 33.34	25.442	18 23 7.9	18.05					
22	17 41 5.94	25.425	18 24 52.4	16.77					
23	17 43 38.44	25.407	18 26 29.1	15.48					
24	17 46 10.83	25.388	S. 18 27 58.2	14.21					

PHASES OF THE MOON.

		h	m
May 7	☾ Last Quarter	-	6 18.2
15	● New Moon	-	10 38.4
23	☽ First Quarter	-	2 25.0
29	○ Full Moon	-	17 7.2

		h
May 12	☾ Apogee	- - - - 16.8
28	☾ Perigee	- - - - 3.8

AT APPARENT NOON.

Date		THE SUN'S				Sidereal Time of the Semi-diameter passing the Meridian.*	Equation of Time, to be subtracted from		Var. in 1 hour.
		Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.		added to Apparent Time.		
		h m s	s	N. 21 57 3.4	"	m s	m s	s	
Frid.	1	4 33 17.04	10.215	22 57 3.4	21.11	1 8.32	2 29.53	0.358	
Sat.	2	4 37 22.42	10.233	22 5 18.7	20.16	1 8.37	2 20.73	0.375	
Sun.	3	4 41 28.22	10.250	22 13 11.0	19.19	1 8.43	2 11.52	0.392	
Mon.	4	4 45 34.41	10.266	22 20 40.0	18.22	1 8.48	2 1.91	0.409	
Tues.	5	4 49 40.99	10.282	22 27 45.7	17.25	1 8.53	1 51.91	0.424	
Wed.	6	4 53 47.93	10.296	22 34 27.8	16.26	1 8.57	1 41.56	0.439	
Thur.	7	4 57 55.21	10.310	22 40 46.3	15.27	1 8.62	1 30.86	0.453	
Frid.	8	5 2 2.82	10.324	22 46 40.9	14.28	1 8.66	1 19.84	0.466	
Sat.	9	5 6 10.74	10.336	22 52 11.6	13.28	1 8.70	1 8.51	0.478	
Sun.	10	5 10 18.93	10.347	22 57 18.3	12.27	1 8.73	0 56.90	0.489	
Mon.	11	5 14 27.39	10.357	23 2 0.7	11.26	1 8.76	0 45.04	0.499	
Tues.	12	5 18 36.08	10.366	23 6 18.8	10.25	1 8.79	0 32.94	0.509	
Wed.	13	5 22 44.98	10.375	23 10 12.6	9.23	1 8.82	0 20.63	0.517	
Thur.	14	5 26 54.06	10.382	23 13 41.8	8.21	1 8.84	0 8.14	0.524	
Frid.	15	5 31 3.30	10.388	23 16 46.6	7.19	1 8.86	0 4.52	0.530	
Sat.	16	5 35 12.68	10.393	23 19 26.7	6.16	1 8.88	0 17.30	0.535	
Sun.	17	5 39 22.15	10.396	23 21 42.1	5.13	1 8.90	0 30.18	0.538	
Mon.	18	5 43 31.71	10.399	23 23 32.8	4.10	1 8.91	0 43.14	0.541	
Tues.	19	5 47 41.31	10.401	23 24 58.8	3.06	1 8.91	0 56.15	0.543	
Wed.	20	5 51 50.94	10.401	23 25 59.9	2.03	1 8.92	1 9.19	0.543	
Thur.	21	5 56 0.56	10.400	23 26 36.2	1.00	1 8.92	1 22.22	0.542	
Frid.	22	6 0 10.15	10.399	23 26 47.8	0.04	1 8.92	1 35.22	0.541	
Sat.	23	6 4 19.70	10.396	23 26 34.5	1.07	1 8.91	1 48.17	0.538	
Sun.	24	6 8 29.16	10.393	23 25 56.4	2.10	1 8.89	2 1.05	0.535	
Mon.	25	6 12 38.54	10.388	23 24 53.5	3.14	1 8.88	2 13.83	0.530	
Tues.	26	6 16 47.79	10.383	23 23 25.9	4.17	1 8.88	2 26.49	0.525	
Wed.	27	6 20 56.91	10.377	23 21 33.5	5.19	1 8.86	2 39.02	0.519	
Thur.	28	6 25 5.88	10.370	23 19 16.6	6.22	1 8.84	2 51.40	0.512	
Frid.	29	6 29 14.68	10.363	23 16 35.0	7.24	1 8.81	3 3.60	0.505	
Sat.	30	6 33 23.29	10.354	23 13 29.0	8.26	1 8.78	3 15.62	0.497	
Sun.	31	6 37 31.69	10.345	N.23 9 58.5	9.28	1 8.75	3 27.43	0.488	

* Mean Time of the Semidiameter passing may be found by subtracting 0^s.19 from the Sidereal Time.

AT MEAN NOON.

Date.		THE SUN'S			Equation of Time, to be subtracted from	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*	added to Apparent Time.	
		h m s	N. ° ' "	' "	m s	h m s
Frid.	1	4 33 17.46	N. 21 57 4.2	15 47.76	2 29.52	4 35 46.98
Sat.	2	4 37 22.82	22 5 19.5	15 47.62	2 20.72	4 39 43.54
Sun.	3	4 41 28.59	22 13 11.7	15 47.48	2 11.50	4 43 40.10
Mon.	4	4 45 34.76	22 20 40.6	15 47.34	2 1.89	4 47 36.65
Tues.	5	4 49 41.31	22 27 46.2	15 47.21	1 51.90	4 51 33.21
Wed.	6	4 53 48.22	22 34 28.3	15 47.08	1 41.55	4 55 29.76
Thur.	7	4 57 55.47	22 40 46.7	15 46.95	1 30.85	4 59 26.32
Frid.	8	5 2 3.05	22 46 41.3	15 46.83	1 19.83	5 3 22.88
Sat.	9	5 6 10.93	22 52 11.9	15 46.71	1 8.50	5 7 19.43
Sun.	10	5 10 19.10	22 57 18.4	15 46.60	0 56.89	5 11 15.99
Mon.	11	5 14 27.52	23 2 0.8	15 46.49	0 45.03	5 15 12.55
Tues.	12	5 18 36.17	23 6 18.9	15 46.39	0 32.93	5 19 9.10
Wed.	13	5 22 45.03	23 10 12.6	15 46.30	0 20.63	5 23 5.66
Thur.	14	5 26 54.08	23 13 41.9	15 46.20	0 8.14	5 27 2.22
Frid.	15	5 31 3.29	23 16 46.6	15 46.12	0 4.51	5 30 58.78
Sat.	16	5 35 12.63	23 19 26.7	15 46.04	0 17.29	5 34 55.33
Sun.	17	5 39 22.06	23 21 42.1	15 45.96	0 30.18	5 38 51.89
Mon.	18	5 43 31.58	23 23 32.8	15 45.89	0 43.14	5 42 48.44
Tues.	19	5 47 41.15	23 24 58.7	15 45.83	0 56.15	5 46 45.00
Wed.	20	5 51 50.74	23 25 59.9	15 45.77	1 9.18	5 50 41.56
Thur.	21	5 56 0.32	23 26 36.2	15 45.72	1 22.21	5 54 38.12
Frid.	22	6 0 9.88	23 26 47.8	15 45.67	1 35.21	5 58 34.67
Sat.	23	6 4 19.38	23 26 34.5	15 45.62	1 48.16	6 2 31.23
Sun.	24	6 8 28.81	23 25 56.4	15 45.58	2 1.03	6 6 27.79
Mon.	25	6 12 38.15	23 24 53.6	15 45.54	2 13.81	6 10 24.34
Tues.	26	6 16 47.37	23 23 26.0	15 45.51	2 26.47	6 14 20.90
Wed.	27	6 20 56.45	23 21 33.8	15 45.47	2 39.00	6 18 17.46
Thur.	28	6 25 5.39	23 19 16.9	15 45.44	2 51.37	6 22 14.01
Frid.	29	6 29 14.15	23 16 35.4	15 45.42	3 3.58	6 26 10.57
Sat.	30	6 33 22.72	23 13 29.4	15 45.40	3 15.60	6 30 7.13
Sun.	31	6 37 31.09	N. 23 9 59.0	15 45.38	3 27.41	6 34 3.68

* The Semidiameter for *Apparent* Noon may be assumed the same as that for *Mean* Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
1	69° 57' 53".0	N. 0°.38	0.0061055	^h 19 ^m 21 ^s 2.29	16' 3".60	15' 56".45	58' 56".56	58' 30".32
2	70 55 20.6	0.32	.0061712	19 17 6.38	15 49.07	15 41.64	58 3.24	57 35.94
3	71 52 47.5	0.23	.0062355	19 13 10.47	15 34.28	15 27.16	57 8.96	56 42.80
4	72 50 13.7	N. 0.11	0.0062984	19 9 14.56	15 20.37	15 14.03	56 17.90	55 54.60
5	73 47 39.1	S. 0.01	.0063596	19 5 18.65	15 8.20	15 2.96	55 33.23	55 13.98
6	74 45 3.9	0.13	.0064191	19 1 22.73	14 58.34	14 54.39	54 57.04	54 42.52
7	75 42 28.1	0.25	0.0064767	18 57 26.82	14 51.10	14 48.50	54 30.48	54 20.93
8	76 39 51.7	0.37	.0065324	18 53 30.91	14 46.58	14 45.31	54 13.86	54 9.21
9	77 37 14.7	0.49	.0065860	18 49 35.00	14 44.68	14 44.66	54 6.90	54 6.81
10	78 34 37.1	0.58	0.0066374	18 45 39.09	14 45.20	14 46.28	54 8.82	54 12.79
11	79 31 58.9	0.65	.0066865	18 41 43.18	14 47.86	14 49.87	54 18.56	54 25.95
12	80 29 20.2	0.70	.0067333	18 37 47.27	14 52.28	14 55.04	54 34.79	54 44.92
13	81 26 40.8	0.73	0.0067777	18 33 51.36	14 58.10	15 1.41	54 56.14	55 8.31
14	82 24 0.8	0.74	.0068196	18 29 55.45	15 4.94	15 8.64	55 21.26	55 34.85
15	83 21 20.2	0.71	.0068590	18 25 59.54	15 12.49	15 16.44	55 48.95	56 3.46
16	84 18 38.9	0.65	0.0068958	18 22 3.63	15 20.48	15 24.58	56 18.29	56 33.35
17	85 15 56.9	0.57	.0069302	18 18 7.72	15 28.73	15 32.92	56 48.59	57 3.96
18	86 13 14.2	0.47	.0069621	18 14 11.81	15 37.13	15 41.35	57 19.40	57 34.88
19	87 10 30.8	0.35	0.0069916	18 10 15.90	15 45.56	15 49.75	57 50.35	58 5.73
20	88 7 46.6	0.22	.0070188	18 6 19.98	15 53.90	15 57.96	58 20.93	58 35.86
21	89 5 1.6	S. 0.09	.0070439	18 2 24.07	16 1.90	16 5.68	58 50.33	59 4.16
22	90 2 15.9	N. 0.03	0.0070669	17 58 28.16	16 9.21	16 12.44	59 17.15	59 29.01
23	90 59 29.6	0.15	.0070879	17 54 32.25	16 15.29	16 17.67	59 39.47	59 48.20
24	91 56 42.6	0.24	.0071072	17 50 36.34	16 19.50	16 20.69	59 54.91	59 59.28
25	92 53 54.9	0.30	0.0071249	17 46 40.43	16 21.17	16 20.88	60 1.05	59 59.98
26	93 51 6.8	0.33	.0071410	17 42 44.52	16 19.78	16 17.85	59 55.94	59 48.84
27	94 48 18.3	0.32	.0071556	17 38 48.61	16 15.09	16 11.53	59 38.70	59 25.67
28	95 45 29.4	0.29	0.0071689	17 34 52.70	16 7.25	16 2.31	59 9.94	58 51.83
29	96 42 40.3	0.23	.0071807	17 30 56.79	15 56.83	15 50.92	58 31.70	58 10.00
30	97 39 51.2	0.14	.0071912	17 27 0.88	15 44.70	15 38.32	57 47.18	57 23.75
31	98 37 2.0	N. 0.03	0.0072001	17 23 4.96	15 31.89	15 25.55	57 0.17	56 36.91

MEAN TIME.

THE MOON'S							
Day.	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
1	281° 1' 18"7	288° 0' 46"9	N. 4 34' 16"7	N. 4 17' 3"4	d 16.56	h m 14 44.1	h m 2 15.8
2	294 53 13.7	301 38 33.2	3 56 20.6	3 32 37.3	17.56	15 38.3	3 11.6
3	308 16 50.4	314 48 19.5	3 6 22.7	2 38 5.5	18.56	16 29.2	4 4.2
4	321 13 22.6	327 32 28.2	2 8 13.3	1 37 12.0	19.56	17 17.1	4 53.5
5	333 46 9.7	339 55 4.1	1 5 25.8	N. 0 33 17.2	20.56	18 2.3	5 40.0
6	345 59 50.7	352 1 10.1	N. 0 1 6.8	S. 0 30 46.1	21.56	18 45.8	6 24.2
7	357 59 43.2	3 56 10.9	S. 1 2 3.4	1 32 28.3	22.56	19 28.3	7 7.1
8	9 51 12.3	15 45 25.5	2 1 44.7	2 29 37.0	23.56	20 10.6	7 49.4
9	21 39 26.1	27 33 47.5	2 55 50.4	3 20 10.3	24.56	20 53.4	8 31.9
10	33 28 59.9	39 25 30.6	3 42 22.5	4 2 13.2	25.56	21 37.4	9 15.2
11	45 23 43.4	51 23 58.8	4 19 29.0	4 33 57.1	26.56	22 22.9	9 59.9
12	57 26 33.7	63 31 41.3	4 45 25.6	4 53 43.7	27.56	23 10.4	10 46.4
13	69 39 31.9	75 50 12.2	4 58 41.9	5 0 12.2	28.56	23 59.6	11 34.8
14	82 3 46.5	88 20 16.7	4 58 9.0	4 52 28.4	29.56	* *	12 24.9
15	94 39 42.8	101 2 3.6	4 43 9.5	4 30 14.2	0.97	0 50.4	13 16.1
16	107 27 17.4	113 55 22.8	4 13 47.0	3 53 55.7	1.97	1 42.0	14 8.0
17	120 26 18.3	127 0 4.2	3 30 51.3	3 4 47.6	2.97	2 33.9	14 59.8
18	133 36 41.5	140 16 13.0	2 36 1.8	2 4 53.9	3.97	3 25.5	15 51.2
19	146 58 43.0	153 44 17.0	1 31 46.3	S. 0 57 4.6	4.97	4 16.7	16 42.1
20	160 33 1.0	167 25 1.4	S. 0 21 16.2	N. 0 15 9.0	5.97	5 7.4	17 32.8
21	174 20 23.5	181 19 11.0	N. 0 51 39.1	1 27 41.2	6.97	5 58.2	18 23.7
22	188 21 24.3	195 26 59.9	2 2 40.7	2 36 2.7	7.97	6 49.6	19 15.7
23	202 35 48.8	209 47 35.7	3 7 12.5	3 35 36.1	8.97	7 42.2	20 9.2
24	217 1 58.3	224 18 26.8	4 0 41.5	4 21 59.6	9.97	8 36.7	21 4.7
25	231 36 24.0	238 55 6.5	4 39 5.1	4 51 38.3	10.97	9 33.2	22 2.1
26	246 13 45.1	253 31 26.9	4 59 24.8	5 2 17.4	11.97	10 31.3	23 0.7
27	260 47 17.9	268 0 24.1	5 0 15.7	4 53 26.2	12.97	11 30.2	23 59.5
28	275 9 55.0	282 15 4.8	4 42 2.1	4 26 22.2	13.97	12 28.4	* *
29	289 15 15.0	296 9 55.0	4 6 50.0	3 43 52.7	14.97	13 24.7	0 56.9
30	302 58 43.2	309 41 27.3	3 17 59.6	2 49 41.1	15.97	14 18.1	1 51.8
31	316 18 4.1	322 48 38.8	N. 2 19 27.8	N. 1 47 49.2	16.97	15 8.4	2 43.7

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
FRIDAY 1.					SUNDAY 3.				
	h m s	s	S. 18° 25' 58".4	15".44		h m s	s	S. 15° 11' 55".5	61".89
0	18 46 21.25	24.678	18 24 22.2	16.61	0	20 39 28.40	22.346	15 5 41.9	62.62
1	18 48 49.20	24.639	18 22 39.1	17.77	1	20 41 42.32	22.293	14 59 24.0	63.35
2	18 51 16.92	24.600	18 20 49.0	18.93	2	20 43 55.92	22.242	14 53 1.7	64.07
3	18 53 44.40	24.560	18 18 51.9	20.08	3	20 46 9.22	22.190	14 46 35.2	64.78
4	18 56 11.64	24.519	18 16 48.0	21.22	4	20 48 22.20	22.137	14 40 4.4	65.48
5	18 58 38.63	24.477	18 14 37.3	22.34	5	20 50 34.87	22.085	14 33 29.5	66.15
6	19 1 5.36	24.434	18 12 19.9	23.47	6	20 52 47.22	22.033	14 26 50.6	66.83
7	19 3 31.84	24.392	18 9 55.7	24.59	7	20 54 59.27	21.982	14 20 7.5	67.51
8	19 5 58.03	24.349	18 7 24.8	25.71	8	20 57 11.01	21.932	14 13 20.5	68.16
9	19 8 24.03	24.305	18 4 47.2	26.81	9	20 59 22.45	21.880	14 6 29.6	68.80
10	19 10 49.73	24.260	17 59 12.5	27.89	10	21 1 33.57	21.828	13 59 34.9	69.44
11	19 13 15.15	24.215	17 56 15.4	28.97	11	21 3 44.39	21.778	13 52 36.3	70.07
12	19 15 40.31	24.170	17 53 11.8	30.06	12	21 5 54.91	21.727	13 45 34.0	70.69
13	19 18 5.19	24.124	17 50 1.9	31.13	13	21 8 5.12	21.677	13 38 28.0	71.31
14	19 20 29.80	24.078	17 46 45.6	32.18	14	21 10 15.03	21.627	13 31 18.3	71.91
15	19 22 54.13	24.032	17 43 23.1	33.23	15	21 12 24.65	21.578	13 24 5.1	72.50
16	19 25 18.18	23.984	17 39 54.3	34.27	16	21 14 33.96	21.527	13 16 48.3	73.08
17	19 27 41.94	23.937	17 36 19.4	35.31	17	21 16 42.97	21.477	13 9 28.1	73.66
18	19 30 5.42	23.889	17 32 38.3	36.33	18	21 18 51.69	21.429	13 2 4.4	74.23
19	19 32 28.61	23.840	17 28 51.2	37.35	19	21 21 0.12	21.380	12 54 37.4	74.78
20	19 34 51.50	23.792	17 24 58.1	38.35	20	21 23 8.25	21.332	12 47 7.0	75.33
21	19 37 14.11	23.743	17 20 59.0	39.35	21	21 25 16.10	21.283	12 39 33.4	75.87
22	19 39 36.42	23.693	40.34		22	21 27 23.66	21.236	12 31 56.6	76.39
23	19 41 58.43	23.643			23	21 29 30.93	21.188		
SATURDAY 2.					MONDAY 4.				
	h m s	s	S. 17 16 54.0	41.32		h m s	s	S. 12 24 16.7	76.92
0	19 44 20.14	23.593	17 12 43.2	42.28	0	21 31 37.91	21.140	12 16 33.6	77.43
1	19 46 41.55	23.543	17 8 26.6	43.24	1	21 33 44.61	21.094	12 8 47.5	77.93
2	19 49 2.66	23.492	17 4 4.3	44.19	2	21 35 51.04	21.047	12 0 58.5	78.42
3	19 51 23.46	23.442	16 59 36.3	45.13	3	21 37 57.18	21.001	11 53 6.5	78.92
4	19 53 43.96	23.391	16 55 2.7	46.07	4	21 40 3.05	20.955	11 45 11.5	79.39
5	19 56 4.15	23.339	16 50 23.5	46.98	5	21 42 8.64	20.909	11 37 13.8	79.85
6	19 58 24.03	23.288	16 45 38.9	47.89	6	21 44 13.96	20.864	11 29 13.3	80.32
7	20 0 43.61	23.237	16 40 48.8	48.80	7	21 46 19.01	20.819	11 21 10.0	80.78
8	20 3 2.87	23.184	16 35 53.3	49.69	8	21 48 23.79	20.775	11 13 4.0	81.22
9	20 5 21.82	23.132	16 30 52.5	50.57	9	21 50 28.31	20.732	10 56 44.2	81.65
10	20 7 40.46	23.081	16 25 46.5	51.44	10	21 52 32.57	20.688	10 48 30.4	82.08
11	20 9 58.79	23.028	16 15 18.8	52.31	11	21 54 36.56	20.644	10 40 14.1	82.51
12	20 12 16.80	22.976	16 9 57.3	53.16	12	21 56 40.30	20.602	10 31 55.5	83.31
13	20 14 34.50	22.924	16 4 30.7	54.01	13	21 58 43.78	20.559	10 23 34.4	83.72
14	20 16 51.89	22.872	15 58 59.2	54.84	14	22 0 47.01	20.517	10 15 10.9	84.10
15	20 19 8.96	22.818	15 53 22.8	55.66	15	22 2 49.98	20.475	10 6 45.2	84.47
16	20 21 25.71	22.766	15 47 41.6	56.47	16	22 4 52.71	20.434	9 58 17.2	84.85
17	20 23 42.15	22.713	15 41 55.6	57.27	17	22 6 55.19	20.393	9 49 47.0	85.21
18	20 25 58.27	22.661	15 36 4.8	58.07	18	22 8 57.43	20.353	9 41 14.7	85.57
19	20 28 14.08	22.609	15 30 9.3	58.86	19	22 10 59.43	20.313	9 32 40.2	85.92
20	20 30 29.58	22.557	15 24 9.3	59.63	20	22 13 1.19	20.274	9 24 3.6	86.26
21	20 32 44.76	22.503	15 18 4.6	60.39	21	22 15 2.72	20.235	9 15 25.1	86.59
22	20 34 59.62	22.451	15 11 55.5	61.15	22	22 17 4.01	20.196	9 6 44.5	86.93
23	20 37 14.17	22.398			23	22 19 5.07	20.158		
24	20 39 28.40	22.346			24	22 21 5.91	20.121		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	
TUESDAY 5.					THURSDAY 7.					
	h m s	s	° ' "	"		h m s	s	° ' "	"	
0	22 21	5.91	20.121	S. 9 6 44.5	86.93	0	23 54 17.34	18.905	S. 1 44 47.2	94.84
1	22 23	6.52	20.084	8 58 2.0	87.23	1	23 56 10.73	18.893	1 35 18.1	94.87
2	22 25	6.92	20.047	8 49 17.7	87.54	2	23 58 4.05	18.881	1 25 48.8	94.88
3	22 27	7.09	20.011	8 40 31.5	87.85	3	23 59 57.30	18.869	1 16 19.5	94.89
4	22 29	7.05	19.975	8 31 43.5	88.15	4	0 1 50.48	18.857	1 6 50.1	94.89
5	22 31	6.79	19.940	8 22 53.7	88.45	5	0 3 43.59	18.847	0 57 20.8	94.89
6	22 33	6.33	19.906	8 14 2.1	88.73	6	0 5 36.64	18.837	0 47 51.4	94.89
7	22 35	5.66	19.871	8 5 8.9	89.00	7	0 7 29.63	18.827	0 38 22.1	94.88
8	22 37	4.78	19.837	7 56 14.1	89.27	8	0 9 22.56	18.817	0 28 52.9	94.86
9	22 39	3.71	19.804	7 47 17.7	89.53	9	0 11 15.44	18.809	0 19 23.8	94.84
10	22 41	2.43	19.771	7 38 19.8	89.78	10	0 13 8.27	18.802	0 9 54.8	94.81
11	22 43	0.96	19.739	7 29 20.3	90.03	11	0 15 1.06	18.794	S. 0 0 26.1	94.78
12	22 44	59.30	19.707	7 20 19.4	90.27	12	0 16 53.80	18.787	N. 0 9 2.5	94.74
13	22 46	57.45	19.676	7 11 17.0	90.51	13	0 18 46.50	18.780	0 18 30.8	94.69
14	22 48	55.41	19.645	7 2 13.3	90.74	14	0 20 39.16	18.774	0 27 58.8	94.64
15	22 50	53.19	19.615	6 53 8.1	90.97	15	0 22 31.79	18.769	0 37 26.5	94.59
16	22 52	50.79	19.585	6 44 1.7	91.18	16	0 24 24.39	18.763	0 46 53.9	94.53
17	22 54	48.21	19.556	6 34 54.0	91.38	17	0 26 16.95	18.759	0 56 20.9	94.48
18	22 56	45.46	19.527	6 25 45.1	91.58	18	0 28 9.50	18.756	1 5 47.6	94.41
19	22 58	42.54	19.499	6 16 35.0	91.78	19	0 30 2.02	18.752	1 15 13.8	94.33
20	23 0	39.45	19.471	6 7 23.7	91.97	20	0 31 54.52	18.748	1 24 39.5	94.25
21	23 2	36.19	19.443	5 58 11.3	92.15	21	0 33 47.00	18.746	1 34 4.8	94.17
22	23 4	32.77	19.417	5 48 57.9	92.33	22	0 35 39.47	18.743	1 43 29.5	94.08
23	23 6	29.20	19.392	S. 5 39 43.3	92.51	23	0 37 31.92	18.742	N. 1 52 53.7	93.98
WEDNESDAY 6.					FRIDAY 8.					
0	23 8 25.47	19.366	S. 5 30 27.8	92.67	0	0 39 24.37	18.741	N. 2 2 17.3	93.88	
1	23 10 21.59	19.340	5 21 11.3	92.83	1	0 41 16.81	18.740	2 11 40.3	93.77	
2	23 12 17.55	19.315	5 11 53.9	92.98	2	0 43 9.25	18.741	2 21 2.6	93.67	
3	23 14 13.37	19.292	5 2 35.6	93.13	3	0 45 1.70	18.741	2 30 24.3	93.55	
4	23 16 9.05	19.268	4 53 16.4	93.27	4	0 46 54.14	18.741	2 39 45.2	93.43	
5	23 18 4.59	19.245	4 43 56.4	93.39	5	0 48 46.59	18.743	2 49 5.5	93.32	
6	23 19 59.99	19.222	4 34 35.7	93.52	6	0 50 39.06	18.745	2 58 25.0	93.18	
7	23 21 55.25	19.200	4 25 14.1	93.65	7	0 52 31.53	18.747	3 7 43.7	93.04	
8	23 23 50.39	19.179	4 15 51.9	93.76	8	0 54 24.02	18.749	3 17 1.5	92.90	
9	23 25 45.40	19.157	4 6 29.0	93.87	9	0 56 16.52	18.752	3 26 18.5	92.75	
10	23 27 40.28	19.137	3 57 5.4	93.97	10	0 58 9.05	18.757	3 35 34.5	92.60	
11	23 29 35.04	19.117	3 47 41.3	94.08	11	1 0 1.60	18.761	3 44 49.7	92.45	
12	23 31 29.69	19.098	3 38 16.5	94.18	12	1 1 54.18	18.765	3 54 3.9	92.28	
13	23 33 24.22	19.079	3 28 51.2	94.25	13	1 3 46.78	18.770	4 3 17.1	92.12	
14	23 35 18.64	19.061	3 19 25.5	94.33	14	1 5 39.42	18.776	4 12 29.3	91.94	
15	23 37 12.95	19.043	3 9 59.2	94.42	15	1 7 32.09	18.782	4 21 40.4	91.77	
16	23 39 7.15	19.025	3 0 32.5	94.48	16	1 9 24.80	18.788	4 30 50.5	91.59	
17	23 41 1.25	19.008	2 51 5.4	94.55	17	1 11 17.55	18.796	4 39 59.5	91.40	
18	23 42 55.25	18.992	2 41 37.9	94.61	18	1 13 10.35	18.803	4 49 7.3	91.20	
19	23 44 49.16	18.977	2 32 10.1	94.66	19	1 15 3.19	18.810	4 58 13.9	91.00	
20	23 46 42.97	18.961	2 22 42.0	94.71	20	1 16 56.07	18.818	5 7 19.3	90.80	
21	23 48 36.69	18.946	2 13 13.6	94.75	21	1 18 49.01	18.827	5 16 23.5	90.60	
22	23 50 30.32	18.932	2 3 45.0	94.78	22	1 20 42.00	18.837	5 25 26.5	90.38	
23	23 52 23.87	18.918	1 54 16.2	94.82	23	1 22 35.05	18.846	5 34 28.1	90.16	
24	23 54 17.34	18.905	S. 1 44 47.2	94.84	24	1 24 28.15	18.855	N. 5 43 28.4	89.93	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 9.					MONDAY 11.				
	h m s	s	N. ° ' "	"		h m s	s	N. ° ' "	"
0	1 24 28.15	18.855	5 43 28.4	89.93	0	2 56 52.06	19.775	12 18 56.8	72.67
1	1 26 21.31	18.866	5 52 27.3	89.71	1	2 58 50.79	19.801	12 26 11.3	72.16
2	1 28 14.54	18.877	6 1 24.9	89.47	2	3 0 49.67	19.828	12 33 22.7	71.64
3	1 30 7.84	18.888	6 10 21.0	89.23	3	3 2 48.72	19.855	12 40 31.0	71.13
4	1 32 1.20	18.900	6 19 15.7	88.99	4	3 4 47.93	19.882	12 47 36.3	70.62
5	1 33 54.64	18.912	6 28 8.9	88.73	5	3 6 47.30	19.908	12 54 38.4	70.08
6	1 35 48.15	18.925	6 37 0.5	88.48	6	3 8 46.83	19.937	13 1 37.3	69.55
7	1 37 41.74	18.937	6 45 50.7	88.22	7	3 10 46.54	19.965	13 8 33.0	69.02
8	1 39 35.40	18.951	6 54 39.2	87.95	8	3 12 46.41	19.993	13 15 25.5	68.48
9	1 41 29.15	18.965	7 3 26.1	87.68	9	3 14 46.45	20.020	13 22 14.7	67.92
10	1 43 22.98	18.979	7 12 11.3	87.40	10	3 16 46.65	20.048	13 29 0.5	67.36
11	1 45 16.90	18.993	7 20 54.9	87.12	11	3 18 47.03	20.077	13 35 43.0	66.80
12	1 47 10.90	19.008	7 29 36.8	86.83	12	3 20 47.58	20.106	13 42 22.1	66.23
13	1 49 5.00	19.024	7 38 16.9	86.53	13	3 22 48.30	20.134	13 48 57.7	65.65
14	1 50 59.19	19.039	7 46 55.2	86.23	14	3 24 49.19	20.163	13 55 29.9	65.07
15	1 52 53.47	19.055	7 55 31.7	85.93	15	3 26 50.26	20.192	14 1 58.5	64.48
16	1 54 47.85	19.072	8 4 6.4	85.62	16	3 28 51.50	20.222	14 8 23.6	63.88
17	1 56 42.33	19.088	8 12 39.2	85.31	17	3 30 52.92	20.251	14 14 45.1	63.28
18	1 58 36.91	19.106	8 21 10.1	84.98	18	3 32 54.51	20.279	14 21 3.0	62.68
19	2 0 31.60	19.123	8 29 39.0	84.65	19	3 34 56.27	20.308	14 27 17.3	62.07
20	2 2 26.39	19.142	8 38 5.9	84.32	20	3 36 58.21	20.338	14 33 27.8	61.44
21	2 4 21.30	19.160	8 46 30.9	83.98	21	3 39 0.33	20.368	14 39 34.6	60.82
22	2 6 16.31	19.178	8 54 53.7	83.63	22	3 41 2.63	20.398	14 45 37.6	60.18
23	2 8 11.44	19.197	9 3 14.5	83.29	23	3 43 5.11	20.427	14 51 36.8	59.55
SUNDAY 10.					TUESDAY 12.				
	h m s	s	N. ° ' "	"		h m s	s	N. ° ' "	"
0	2 10 6.68	19.217	9 11 33.2	82.93	0	3 45 7.76	20.457	15 57 32.2	58.91
1	2 12 2.04	19.237	9 19 49.7	82.57	1	3 47 10.59	20.487	15 3 23.7	58.25
2	2 13 57.52	19.257	9 28 4.1	82.21	2	3 49 13.60	20.517	15 9 11.2	57.59
3	2 15 53.12	19.277	9 36 16.2	81.83	3	3 51 16.79	20.547	15 14 54.8	56.94
4	2 17 48.84	19.298	9 44 26.1	81.46	4	3 53 20.16	20.577	15 20 34.5	56.28
5	2 19 44.69	19.319	9 52 33.7	81.08	5	3 55 23.71	20.607	15 26 10.1	55.59
6	2 21 40.67	19.340	10 0 39.0	80.68	6	3 57 27.44	20.637	15 31 41.6	54.91
7	2 23 36.77	19.362	10 8 41.9	80.28	7	3 59 31.35	20.667	15 37 9.0	54.23
8	2 25 33.01	19.383	10 16 42.4	79.88	8	4 1 35.44	20.697	15 42 32.3	53.54
9	2 27 29.37	19.406	10 24 40.5	79.48	9	4 3 39.71	20.727	15 47 51.5	52.84
10	2 29 25.88	19.429	10 32 36.2	79.07	10	4 5 44.16	20.757	15 53 6.4	52.13
11	2 31 22.52	19.452	10 40 29.3	78.64	11	4 7 48.79	20.787	15 58 17.0	51.42
12	2 33 19.30	19.475	10 48 19.9	78.22	12	4 9 53.60	20.817	16 3 23.4	50.70
13	2 35 16.22	19.498	10 56 8.0	77.79	13	4 11 58.59	20.846	16 8 25.4	49.98
14	2 37 13.28	19.522	11 3 53.4	77.35	14	4 14 3.75	20.876	16 13 23.1	49.25
15	2 39 10.48	19.546	11 11 36.2	76.91	15	4 16 9.10	20.907	16 18 16.4	48.52
16	2 41 7.83	19.571	11 19 16.3	76.46	16	4 18 14.63	20.936	16 23 5.3	47.78
17	2 43 5.33	19.596	11 26 53.7	76.01	17	4 20 20.33	20.965	16 27 49.7	47.03
18	2 45 2.98	19.621	11 34 28.4	75.55	18	4 22 26.21	20.995	16 32 29.7	46.28
19	2 47 0.78	19.646	11 42 0.3	75.08	19	4 24 32.27	21.025	16 37 5.1	45.52
20	2 48 58.73	19.670	11 49 29.4	74.61	20	4 26 38.51	21.054	16 41 35.9	44.75
21	2 50 56.82	19.696	11 56 55.6	74.13	21	4 28 44.92	21.083	16 46 2.1	43.98
22	2 52 55.08	19.722	12 4 18.9	73.64	22	4 30 51.57	21.112	16 50 23.7	43.22
23	2 54 53.49	19.748	12 11 39.3	73.16	23	4 32 58.27	21.142	16 54 40.7	42.43
24	2 56 52.06	19.775	12 18 56.8	72.67	24	4 35 5.21	21.171	16 58 52.9	41.64

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 13.					FRIDAY 15.				
	h m s	s	N. 10 58 52.9	41.64		h m s	s	N. 18 38 52.6	1.53
0	4 35 5.21	21.171	17 3 0.4	40.86	0	6 19 36.98	22.268	18 38 40.5	2.51
1	4 37 12.32	21.199	17 7 3.2	40.06	1	6 21 50.63	22.282	18 38 22.5	3.49
2	4 39 19.60	21.228	17 11 1.1	39.25	2	6 24 4.36	22.295	18 37 58.6	4.48
3	4 41 27.05	21.257	17 14 54.2	38.45	3	6 26 18.17	22.308	18 37 28.7	5.47
4	4 43 34.68	21.285	17 18 42.5	37.63	4	6 28 32.06	22.322	18 36 53.0	6.45
5	4 45 42.47	21.313	17 22 25.8	36.81	5	6 30 46.03	22.334	18 36 11.3	7.44
6	4 47 50.43	21.341	17 26 4.2	35.99	6	6 33 0.07	22.347	18 35 23.7	8.43
7	4 49 58.56	21.369	17 29 37.7	35.16	7	6 35 14.19	22.358	18 34 30.2	9.42
8	4 52 6.86	21.397	17 33 6.1	34.32	8	6 37 28.37	22.369	18 33 30.7	10.42
9	4 54 15.32	21.423	17 36 29.5	33.48	9	6 39 42.62	22.381	18 32 25.2	11.40
10	4 56 23.94	21.451	17 39 47.9	32.64	10	6 41 56.94	22.391	18 31 13.9	12.39
11	4 58 32.73	21.478	17 43 1.2	31.79	11	6 44 11.31	22.401	18 29 56.5	13.39
12	5 0 41.68	21.505	17 46 9.4	30.93	12	6 46 25.75	22.412	18 28 33.2	14.38
13	5 2 50.79	21.531	17 49 12.4	30.07	13	6 48 40.25	22.420	18 27 3.9	15.38
14	5 5 0.05	21.558	17 52 10.3	29.21	14	6 50 54.79	22.428	18 25 28.6	16.37
15	5 7 9.48	21.584	17 55 2.9	28.33	15	6 53 9.39	22.437	18 23 47.4	17.37
16	5 9 19.06	21.609	17 57 50.3	27.47	16	6 55 24.04	22.446	18 22 0.2	18.37
17	5 11 28.79	21.635	18 0 32.5	26.58	17	6 57 38.74	22.453	18 20 7.0	19.36
18	5 13 38.68	21.661	18 3 9.3	25.70	18	6 59 53.47	22.459	18 18 7.9	20.35
19	5 15 48.72	21.686	18 5 40.9	24.82	19	7 2 8.25	22.467	18 16 2.8	21.35
20	5 17 58.91	21.710	18 8 7.1	23.93	20	7 4 23.07	22.473	18 13 51.7	22.34
21	5 20 9.24	21.735	18 10 28.0	23.03	21	7 6 37.93	22.479	18 11 34.7	23.33
22	5 22 19.73	21.759	N. 18 12 43.5	22.13	22	7 8 52.82	22.485	N. 18 9 11.7	24.33
23	5 24 30.35	21.782			23	7 11 7.75	22.490		
THURSDAY 14.					SATURDAY 16.				
0	5 26 41.12	21.807	18 16 58.1	20.32	0	7 13 22.70	22.494	18 4 7.8	26.32
1	5 28 52.03	21.830	18 20 51.0	19.41	1	7 15 37.68	22.499	17 58 40.1	27.31
2	5 31 3.08	21.852	18 22 39.1	17.56	2	7 17 52.69	22.503	17 55 47.4	29.27
3	5 33 14.26	21.875	18 24 21.7	16.63	3	7 20 7.72	22.506	17 52 48.8	30.27
4	5 35 25.58	21.898	18 25 58.7	15.71	4	7 22 22.76	22.509	17 49 44.2	31.26
5	5 37 37.03	21.920	18 27 30.2	14.78	5	7 24 37.83	22.512	17 46 33.7	32.23
6	5 39 48.62	21.942	18 28 56.1	13.84	6	7 26 52.91	22.515	17 43 17.4	33.22
7	5 42 0.33	21.963	18 30 16.3	12.90	7	7 29 8.01	22.517	17 39 55.1	34.20
8	5 44 12.17	21.983	18 31 30.9	11.96	8	7 31 23.11	22.518	17 36 27.0	35.17
9	5 46 24.13	22.003	18 32 39.8	11.02	9	7 33 38.23	22.520	17 32 53.1	36.15
10	5 48 36.21	22.024	18 33 43.1	10.07	10	7 35 53.35	22.522	17 29 13.2	37.13
11	5 50 48.42	22.044	18 34 40.7	9.12	11	7 38 8.47	22.522	17 25 27.5	38.10
12	5 53 0.74	22.063	18 35 32.5	8.16	12	7 40 23.60	22.522	17 21 36.0	39.07
13	5 55 13.18	22.082	18 36 18.6	7.20	13	7 42 38.73	22.521	17 17 38.7	40.03
14	5 57 25.73	22.101	18 36 58.9	6.24	14	7 44 53.85	22.519	17 13 53.6	41.00
15	5 59 38.39	22.120	18 37 33.5	5.28	15	7 47 8.97	22.518	17 9 26.7	41.96
16	6 1 51.17	22.138	18 38 2.2	4.31	16	7 49 24.08	22.518	17 5 12.1	42.92
17	6 4 4.05	22.155	18 38 25.2	3.35	17	7 51 39.18	22.517	16 56 25.7	44.82
18	6 6 17.03	22.172	18 38 42.4	2.38	18	7 53 54.28	22.515	16 51 53.9	45.77
19	6 8 30.11	22.189	18 38 53.7	1.40	19	7 56 9.36	22.513	16 47 16.4	46.72
20	6 10 43.30	22.206	18 38 58.8	0.55	20	7 58 24.43	22.510	16 42 33.2	47.67
21	6 12 56.58	22.221	N. 18 38 52.6	1.53	21	8 0 39.48	22.507		
22	6 15 9.95	22.237			22	8 2 54.52	22.504		
23	6 17 23.42	22.253			23	8 5 9.53	22.501		
24	6 19 36.98	22.268			24	8 7 24.53	22.498		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.	Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.
SUNDAY 17.					TUESDAY 19.				
	h m s	s	N. 16° 37' 44".4	48".60		h m s	s	N. 11° 5' 6".6	87".78
0	8 7 24.53	22.498	16 32 50.0	49.54	0	9 54 38.60	22.157	10 56 17.9	88.44
1	8 9 39.50	22.493	16 27 49.9	50.47	1	9 56 51.52	22.149	10 47 25.3	89.10
2	8 11 54.45	22.490	16 22 44.3	51.40	2	9 59 4.39	22.142	10 38 28.7	89.74
3	8 14 9.38	22.485	16 17 33.1	52.32	3	10 1 17.23	22.136	10 29 28.4	90.38
4	8 16 24.27	22.480	16 12 16.4	53.25	4	10 3 30.02	22.128	10 20 24.2	91.01
5	8 18 39.14	22.476	16 6 54.1	54.17	5	10 5 42.77	22.122	10 11 16.3	91.63
6	8 20 53.98	22.471	15 55 53.2	55.08	6	10 7 55.49	22.117	10 2 4.7	92.24
7	8 23 8.79	22.466	15 50 14.6	55.98	7	10 10 8.17	22.110	9 52 49.4	92.85
8	8 25 23.57	22.460	15 44 30.6	56.88	8	10 12 20.81	22.104	9 43 30.5	93.45
9	8 27 38.31	22.453	15 38 41.2	57.78	9	10 14 33.42	22.098	9 34 8.0	94.03
10	8 29 53.01	22.448	15 32 46.5	58.67	10	10 16 45.99	22.093	9 24 42.1	94.62
11	8 32 7.68	22.442	15 26 46.4	59.57	11	10 18 58.54	22.088	9 15 12.6	95.19
12	8 34 22.31	22.435	15 20 41.1	60.45	12	10 21 11.05	22.083	9 5 39.8	95.75
13	8 36 36.90	22.428	15 15 53.5	61.33	13	10 23 23.53	22.078	8 56 3.6	96.31
14	8 38 51.45	22.422	15 14 30.4	62.22	14	10 25 35.99	22.073	8 46 24.1	96.86
15	8 41 5.96	22.415	15 8 14.5	63.08	15	10 27 48.41	22.068	8 36 41.3	97.40
16	8 43 20.43	22.408	15 1 53.5	63.94	16	10 30 0.81	22.065	8 26 55.3	97.93
17	8 45 34.86	22.401	14 55 27.2	64.81	17	10 32 13.19	22.062	8 17 6.1	98.46
18	8 47 49.24	22.393	14 48 55.8	65.66	18	10 34 25.55	22.057	8 7 13.8	98.98
19	8 50 3.58	22.387	14 42 19.3	66.51	19	10 36 37.88	22.053	7 57 18.4	99.48
20	8 52 17.88	22.379	14 35 37.7	67.35	20	10 38 50.19	22.051	7 47 20.1	99.98
21	8 54 32.13	22.371	14 28 51.1	68.19	21	10 41 2.49	22.048	7 37 18.7	100.47
22	8 56 46.33	22.363	14 21 59.4	69.02	22	10 43 14.77	22.046	N. 7 27 14.5	100.94
23	8 59 0.48	22.355			23	10 45 27.04	22.044		
MONDAY 18.					WEDNESDAY 20.				
	h m s	s	N. 14° 15' 2.8	69.85		h m s	s	N. 7° 17' 7.4	101.42
0	9 1 14.59	22.348	14 8 1.2	70.67	0	10 47 39.30	22.042	7 6 57.5	101.88
1	9 3 28.65	22.339	14 0 54.7	71.48	1	10 49 51.55	22.041	6 56 44.9	102.33
2	9 5 42.66	22.332	13 53 43.4	72.30	2	10 52 3.79	22.039	6 46 29.5	102.78
3	9 7 56.63	22.323	13 46 27.1	73.11	3	10 54 16.02	22.038	6 36 11.5	103.21
4	9 10 10.54	22.315	13 39 6.1	73.89	4	10 56 28.25	22.037	6 25 51.0	103.64
5	9 12 24.41	22.307	13 31 40.4	74.68	5	10 58 40.47	22.037	6 15 27.8	104.07
6	9 14 38.22	22.298	13 24 9.9	75.47	6	11 0 52.69	22.037	6 5 2.2	104.47
7	9 16 51.99	22.291	13 16 34.7	76.26	7	11 3 4.92	22.038	5 54 34.2	104.87
8	9 19 5.71	22.282	13 8 54.8	77.03	8	11 5 17.15	22.038	5 44 3.8	105.26
9	9 21 19.37	22.273	12 53 21.4	77.78	9	11 7 29.38	22.040	5 33 31.1	105.63
10	9 23 32.99	22.266	12 45 27.8	78.55	10	11 9 41.63	22.042	5 22 56.2	106.01
11	9 25 46.56	22.257	12 37 29.8	79.30	11	11 11 53.88	22.043	5 12 19.0	106.37
12	9 28 0.08	22.249	12 29 27.3	80.04	12	11 14 6.14	22.045	5 1 39.7	106.73
13	9 30 13.55	22.241	12 21 20.4	80.78	13	11 16 18.42	22.047	4 50 58.3	107.08
14	9 32 26.97	22.233	12 13 9.1	81.52	14	11 18 30.71	22.050	4 40 14.8	107.41
15	9 34 40.35	22.225	12 4 53.5	82.24	15	11 20 43.02	22.054	4 29 29.4	107.73
16	9 36 53.67	22.217	11 56 33.6	82.96	16	11 22 55.36	22.058	4 18 42.0	108.05
17	9 39 6.95	22.209	11 48 9.4	83.68	17	11 25 7.72	22.062	4 7 52.8	108.35
18	9 41 20.18	22.201	11 39 41.1	84.38	18	11 27 20.10	22.066	3 57 1.8	108.64
19	9 43 33.36	22.193	11 31 8.6	85.07	19	11 29 32.51	22.071	3 46 9.1	108.93
20	9 45 46.50	22.186	11 22 32.0	85.76	20	11 31 44.95	22.077	3 35 14.7	109.21
21	9 47 59.59	22.178	11 13 51.3	86.44	21	11 33 57.43	22.082	3 24 18.6	109.48
22	9 50 12.64	22.171	11 5 6.6	87.12	22	11 36 9.93	22.088	3 13 20.9	109.73
23	9 52 25.64	22.163			23	11 38 22.48	22.095	N. 3 2 21.8	109.98
24	9 54 38.60	22.157			24	11 40 35.07	22.102		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.	Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.
THURSDAY 21.					 SATURDAY 23.				
	h m s	s	N. ° ' "	109° "		h m s	s	S. ° ' "	109° "
0	11 40 35.07	22.102	N. 3 2 21.8	109.98	0	13 28 15.33	22.920	S. 5 53 46.4	109.11
1	11 42 47.70	22.108	2 51 21.2	110.22	1	13 30 32.93	22.946	6 4 40.2	108.81
2	11 45 0.37	22.116	2 40 19.2	110.44	2	13 32 50.68	22.973	6 15 32.1	108.49
3	11 47 13.09	22.124	2 29 15.9	110.65	3	13 35 8.60	23.001	6 26 22.1	108.17
4	11 49 25.86	22.133	2 18 11.4	110.86	4	13 37 26.69	23.028	6 37 10.1	107.83
5	11 51 38.69	22.142	2 7 5.6	111.06	5	13 39 44.93	23.055	6 47 56.0	107.48
6	11 53 51.56	22.151	1 55 58.7	111.24	6	13 42 3.35	23.084	6 58 39.8	107.12
7	11 56 4.50	22.161	1 44 50.7	111.42	7	13 44 21.94	23.112	7 9 21.4	106.74
8	11 58 17.49	22.171	1 33 41.7	111.58	8	13 46 40.69	23.140	7 20 0.7	106.35
9	12 0 30.55	22.182	1 22 31.7	111.73	9	13 48 59.62	23.169	7 30 37.6	105.95
10	12 2 43.67	22.193	1 11 20.9	111.87	10	13 51 18.72	23.198	7 41 12.1	105.53
11	12 4 56.86	22.204	1 0 9.2	112.02	11	13 53 38.00	23.228	7 51 44.0	105.11
12	12 7 10.12	22.216	0 48 56.7	112.14	12	13 55 57.46	23.257	8 2 13.4	104.68
13	12 9 23.45	22.228	0 37 43.5	112.25	13	13 58 17.09	23.287	8 12 40.1	104.23
14	12 11 36.86	22.241	0 26 29.7	112.35	14	14 0 36.90	23.317	8 23 4.1	103.77
15	12 13 50.34	22.254	0 15 15.3	112.44	15	14 2 56.89	23.348	8 33 25.3	103.28
16	12 16 3.91	22.267	N. 0 4 0.4	112.52	16	14 5 17.07	23.378	8 43 43.5	102.79
17	12 18 17.55	22.281	S. 0 7 14.9	112.59	17	14 7 37.43	23.408	8 53 58.8	102.30
18	12 20 31.28	22.296	0 18 30.7	112.65	18	14 9 57.97	23.438	9 4 11.1	101.78
19	12 22 45.10	22.311	0 29 46.7	112.69	19	14 12 18.69	23.470	9 14 20.2	101.25
20	12 24 59.01	22.327	0 41 3.0	112.73	20	14 14 39.61	23.502	9 24 26.1	100.72
21	12 27 13.02	22.343	0 52 19.5	112.76	21	14 17 0.71	23.533	9 34 28.8	100.17
22	12 29 27.12	22.358	1 3 36.1	112.78	22	14 19 22.00	23.563	9 44 28.2	99.61
23	12 31 41.31	22.374	S. 1 14 52.8	112.78	23	14 21 43.47	23.595	S. 9 54 24.1	99.03
FRIDAY 22.					SUNDAY 24.				
	h m s	s	S. ° ' "	112° "		h m s	s	S. ° ' "	98° "
0	12 33 55.61	22.392	S. 1 26 9.4	112.77	0	14 24 5.14	23.627	S. 10 4 16.5	98.44
1	12 36 10.01	22.409	1 37 26.0	112.75	1	14 26 26.99	23.658	10 14 5.4	97.84
2	12 38 24.52	22.427	1 48 42.4	112.72	2	14 28 49.04	23.691	10 23 50.6	97.22
3	12 40 39.13	22.445	1 59 58.6	112.68	3	14 31 11.28	23.723	10 33 32.1	96.59
4	12 42 53.86	22.464	2 11 14.5	112.63	4	14 33 33.71	23.754	10 43 9.7	95.96
5	12 45 8.70	22.483	2 22 30.1	112.56	5	14 35 56.33	23.786	10 52 43.6	95.32
6	12 47 23.66	22.502	2 33 45.2	112.48	6	14 38 19.14	23.818	11 2 13.5	94.64
7	12 49 38.73	22.522	2 44 59.9	112.40	7	14 40 42.15	23.850	11 11 39.3	93.97
8	12 51 53.92	22.542	2 56 14.0	112.30	8	14 43 5.34	23.882	11 21 1.1	93.28
9	12 54 9.24	22.563	3 7 27.5	112.19	9	14 45 28.73	23.914	11 30 18.7	92.58
10	12 56 24.68	22.584	3 18 40.3	112.07	10	14 47 52.31	23.946	11 39 32.1	91.87
11	12 58 40.25	22.606	3 29 52.3	111.93	11	14 50 16.08	23.978	11 48 41.1	91.14
12	13 0 55.95	22.628	3 41 3.5	111.79	12	14 52 40.04	24.009	11 57 45.8	90.41
13	13 3 11.78	22.650	3 52 13.8	111.63	13	14 55 4.19	24.041	12 6 46.0	89.66
14	13 5 27.75	22.672	4 3.23.1	111.46	14	14 57 28.53	24.073	12 15 41.7	88.90
15	13 7 43.85	22.696	4 14 31.3	111.28	15	14 59 53.07	24.105	12 24 32.8	88.13
16	13 10 0.10	22.720	4 25 38.5	111.09	16	15 2 17.79	24.136	12 33 19.2	87.34
17	13 12 16.49	22.743	4 36 44.4	110.88	17	15 4 42.70	24.167	12 42 0.9	86.54
18	13 14 33.01	22.767	4 47 49.1	110.67	18	15 7 7.79	24.198	12 50 37.7	85.73
19	13 16 49.69	22.792	4 58 52.4	110.43	19	15 9 33.08	24.230	12 59 9.6	84.91
20	13 19 6.51	22.817	5 9 54.3	110.19	20	15 11 58.55	24.260	13 7 36.6	84.08
21	13 21 23.49	22.842	5 20 54.7	109.94	21	15 14 24.20	24.291	13 15 58.6	83.24
22	13 23 40.61	22.867	5 31 53.6	109.68	22	15 16 50.04	24.322	13 24 15.5	82.38
23	13 25 57.89	22.893	5 42 50.9	109.40	23	15 19 16.06	24.352	13 32 27.1	81.51
24	13 28 15.33	22.920	S. 5 53 46.4	109.11	24	15 21 42.26	24.382	S. 13 40 33.6	80.63

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.	Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.
MONDAY 25.					WEDNESDAY 27.				
	h m s	s	° ' "	° ' "		h m s	s	° ' "	° ' "
0	15 21 42.26	24.382	S. 13 40 33.6	80.63	0	17 21 21.51	25.237	S. 18 8 1.5	27.88
1	15 24 8.64	24.412	13 48 34.7	79.74	1	17 23 52.93	25.237	18 10 45.1	26.64
2	15 26 35.20	24.441	13 56 30.5	78.85	2	17 26 24.35	25.236	18 13 21.2	25.40
3	15 29 1.93	24.470	14 4 20.9	77.93	3	17 28 55.76	25.234	18 15 49.9	24.15
4	15 31 28.84	24.499	14 12 5.7	77.01	4	17 31 27.16	25.232	18 18 11.0	22.89
5	15 33 55.92	24.528	14 19 45.0	76.08	5	17 33 58.54	25.228	18 20 24.6	21.64
6	15 36 23.17	24.556	14 27 18.6	75.13	6	17 36 29.89	25.223	18 22 30.7	20.39
7	15 38 50.59	24.583	14 34 46.5	74.17	7	17 39 1.22	25.219	18 24 29.3	19.14
8	15 41 18.17	24.611	14 42 8.7	73.22	8	17 41 32.52	25.213	18 26 20.4	17.88
9	15 43 45.92	24.638	14 49 25.1	72.24	9	17 44 3.77	25.205	18 28 3.9	16.62
10	15 46 13.83	24.665	14 56 35.6	71.25	10	17 46 34.98	25.197	18 29 39.9	15.37
11	15 48 41.90	24.692	15 3 40.1	70.25	11	17 49 6.14	25.188	18 31 8.4	14.12
12	15 51 10.13	24.718	15 10 38.6	69.25	12	17 51 37.24	25.178	18 32 29.3	12.86
13	15 53 38.51	24.743	15 17 31.1	68.23	13	17 54 8.28	25.168	18 33 42.7	11.61
14	15 56 7.04	24.768	15 24 17.4	67.21	14	17 56 39.26	25.157	18 34 48.6	10.35
15	15 58 35.72	24.793	15 30 57.6	66.18	15	17 59 10.16	25.143	18 35 46.9	9.09
16	16 1 4.55	24.817	15 37 31.5	65.13	16	18 1 40.98	25.131	18 36 37.7	7.84
17	16 3 33.52	24.839	15 43 59.1	64.08	17	18 4 11.73	25.117	18 37 21.0	6.59
18	16 6 2.62	24.862	15 50 20.4	63.02	18	18 6 42.38	25.101	18 37 56.8	5.35
19	16 8 31.86	24.885	15 56 35.3	61.94	19	18 9 12.94	25.085	18 38 25.2	4.10
20	16 11 1.24	24.907	16 2 43.7	60.86	20	18 11 43.40	25.068	18 38 46.0	2.85
21	16 13 30.74	24.928	16 8 45.6	59.77	21	18 14 13.75	25.050	18 38 59.4	1.62
22	16 16 0.37	24.948	16 14 41.0	58.68	22	18 16 44.00	25.032	18 39 5.4	0.37
23	16 18 30.12	24.968	S. 16 20 29.8	57.58	23	18 19 14.13	25.012	S. 18 39 3.9	0.87
TUESDAY 26.					THURSDAY 28.				
	h m s	s	° ' "	° ' "		h m s	s	° ' "	° ' "
0	16 20 59.99	24.987	S. 16 26 11.9	56.46	0	18 21 44.14	24.992	S. 18 38 55.0	2.10
1	16 23 29.97	25.007	16 31 47.3	55.34	1	18 24 14.03	24.970	18 38 38.7	3.33
2	16 26 0.07	25.025	16 37 16.0	54.21	2	18 26 43.78	24.947	18 38 15.0	4.56
3	16 28 30.27	25.042	16 42 37.8	53.08	3	18 29 13.40	24.925	18 37 44.0	5.78
4	16 31 0.57	25.059	16 47 52.9	51.93	4	18 31 42.88	24.901	18 37 5.6	7.01
5	16 33 30.98	25.076	16 53 1.0	50.78	5	18 34 12.21	24.876	18 36 19.9	8.22
6	16 36 1.48	25.091	16 58 2.2	49.63	6	18 36 41.39	24.851	18 35 26.9	9.43
7	16 38 32.07	25.106	17 2 56.5	48.47	7	18 39 10.42	24.825	18 34 26.7	10.63
8	16 41 2.75	25.119	17 7 43.8	47.30	8	18 41 39.29	24.798	18 33 19.3	11.83
9	16 43 33.50	25.133	17 12 24.1	46.12	9	18 44 7.99	24.769	18 32 4.7	13.03
10	16 46 4.34	25.145	17 16 57.2	44.93	10	18 46 36.52	24.740	18 30 42.9	14.22
11	16 48 35.24	25.157	17 21 23.3	43.75	11	18 49 4.87	24.711	18 29 14.0	15.42
12	16 51 6.22	25.168	17 25 42.2	42.55	12	18 51 33.05	24.681	18 27 37.9	16.60
13	16 53 37.26	25.178	17 29 53.9	41.36	13	18 54 1.04	24.650	18 25 54.8	17.77
14	16 56 8.36	25.187	17 33 58.5	40.16	14	18 56 28.85	24.618	18 24 4.6	18.94
15	16 58 39.51	25.196	17 37 55.8	38.94	15	18 58 56.46	24.585	18 22 7.5	20.10
16	17 1 10.71	25.204	17 41 45.8	37.72	16	19 1 23.87	24.552	18 20 3.4	21.27
17	17 3 41.96	25.212	17 45 28.5	36.51	17	19 3 51.09	24.518	18 17 52.3	22.42
18	17 6 13.25	25.218	17 49 3.9	35.29	18	19 6 18.09	24.483	18 15 34.4	23.55
19	17 8 44.57	25.223	17 52 32.0	34.07	19	19 8 44.89	24.449	18 13 9.7	24.69
20	17 11 15.92	25.227	17 55 52.7	32.83	20	19 11 11.48	24.413	18 10 38.1	25.82
21	17 13 47.29	25.230	17 59 6.0	31.61	21	19 13 37.85	24.376	18 7 59.8	26.94
22	17 16 18.68	25.233	18 2 12.0	30.37	22	19 16 3.99	24.338	18 5 14.8	28.06
23	17 18 50.09	25.236	18 5 10.5	29.13	23	19 18 29.91	24.301	18 2 23.1	29.17
24	17 21 21.51	25.237	S. 18 8 1.5	27.88	24	19 20 55.60	24.263	S. 17 59 24.7	30.28

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.												
Hour.	Right Ascension.		Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.		Var. in 10 ^m .	Declination.	Var. in 10 ^m .	
FRIDAY 29.						SATURDAY 30.						
	h	m	s				h	m	s			
0	19	20	55.60	24.263	S. 17 59 24.7	30.28	0	20	17 55.54	23.198	S. 16 17 7.1	54.11
1	19	23	21.06	24.223	17 56 19.8	31.37	1	20	20 14.58	23.149	16 11 39.8	54.98
2	19	25	46.28	24.183	17 53 8.3	32.45	2	20	22 33.33	23.100	16 6 7.3	55.84
3	19	28	11.26	24.143	17 49 50.4	33.52	3	20	24 51.78	23.051	16 0 29.7	56.70
4	19	30	36.00	24.103	17 46 26.0	34.59	4	20	27 9.94	23.002	15 54 46.9	57.56
5	19	33	0.50	24.062	17 42 55.3	35.65	5	20	29 27.80	22.953	15 48 59.0	58.39
6	19	35	24.74	24.019	17 39 18.2	36.71	6	20	31 45.37	22.904	15 43 6.2	59.22
7	19	37	48.73	23.977	17 35 34.8	37.75	7	20	34 2.65	22.854	15 37 8.4	60.03
8	19	40	12.47	23.935	17 31 45.2	38.78	8	20	36 19.62	22.804	15 31 5.8	60.83
9	19	42	35.95	23.892	17 27 49.4	39.81	9	20	38 36.30	22.754	15 24 58.4	61.63
10	19	44	59.17	23.848	17 23 47.5	40.83	10	20	40 52.67	22.704	15 18 46.2	62.42
11	19	47	22.13	23.804	17 19 39.5	41.84	11	20	43 8.75	22.655	15 12 29.4	63.19
12	19	49	44.82	23.759	17 15 25.4	42.84	12	20	45 24.53	22.605	15 6 7.9	63.96
13	19	52	7.24	23.715	17 11 5.4	43.83	13	20	47 40.01	22.555	14 59 41.9	64.72
14	19	54	29.40	23.669	17 6 39.5	44.81	14	20	49 55.19	22.505	14 53 11.3	65.46
15	19	56	51.27	23.622	17 2 7.7	45.78	15	20	52 10.07	22.455	14 46 36.4	66.19
16	19	59	12.87	23.577	16 57 30.1	46.75	16	20	54 24.65	22.405	14 39 57.0	66.92
17	20	1	34.20	23.531	16 52 46.7	47.70	17	20	56 38.93	22.355	14 33 13.3	67.63
18	20	3	55.24	23.484	16 47 57.7	48.64	18	20	58 52.91	22.305	14 26 25.4	68.34
19	20	6	16.01	23.437	16 43 3.0	49.58	19	21	1 6.59	22.255	14 19 33.2	69.04
20	20	8	36.49	23.389	16 38 2.7	50.50	20	21	3 19.97	22.205	14 12 36.9	69.72
21	20	10	56.68	23.342	16 32 57.0	51.42	21	21	5 33.05	22.156	14 5 36.6	70.39
22	20	13	16.59	23.294	16 27 45.7	52.33	22	21	7 45.84	22.106	13 58 32.2	71.07
23	20	15	36.21	23.246	16 22 29.1	53.22	23	21	9 58.32	22.056	13 51 23.8	71.72
24	20	17	55.54	23.198	S. 16 17 7.1	54.11	24	21	12 10.51	22.007	S. 13 44 11.6	72.36

PHASES OF THE MOON.

				h m	
June	5	☾	Last Quarter	- - - - -	21 19.1
	14	●	New Moon	- - - - -	0 42.1
	21	☽	First Quarter	- - - - -	8 45.9
	28	○	Full Moon	- - - - -	1 4.2
				h	
June	9	☾	Apogee	- - - - -	6.5
	25	☾	Perigee	- - - - -	1.5

AT APPARENT NOON.

Date.	THE SUN'S				Sidereal Time of the Semi- diameter passing the Meridian.*	Equation of Time, to be added to Apparent Time.	Var. in hour.
	Apparent Right Ascension.	Var. in hour.	Apparent Declination.	Var. in hour.			
	h m s	s	N. 23 9 58.5	" 28	m s	m s	s
Sun. 1	6 37 31.69	10.345	23 9 58.5	9.28	1 8.75	3 27.43	0.488
Mon. 2	6 41 39.86	10.336	23 6 3.7	10.29	1 8.72	3 39.02	0.478
Tues. 3	6 45 47.80	10.325	23 1 44.6	11.30	1 8.68	3 50.37	0.468
Wed. 4	6 49 55.47	10.314	22 57 1.4	12.30	1 8.64	4 1.46	0.456
Thur. 5	6 54 2.86	10.301	22 51 54.2	13.30	1 8.59	4 12.26	0.444
Frid. 6	6 58 9.94	10.288	22 46 23.1	14.29	1 8.55	4 22.76	0.431
Sat. 7	7 2 16.70	10.275	22 40 28.2	15.28	1 8.50	4 32.93	0.417
Sun. 8	7 6 23.12	10.260	22 34 9.8	16.26	1 8.45	4 42.77	0.402
Mon. 9	7 10 29.18	10.244	22 27 27.9	17.23	1 8.39	4 52.24	0.387
Tues. 10	7 14 34.85	10.228	22 20 22.7	18.20	1 8.33	5 1.33	0.370
Wed. 11	7 18 40.12	10.211	22 12 54.3	19.16	1 8.27	5 10.02	0.354
Thur. 12	7 22 44.97	10.193	22 5 3.0	20.11	1 8.21	5 18.30	0.336
Frid. 13	7 26 49.38	10.174	21 56 49.0	21.05	1 8.15	5 26.13	0.317
Sat. 14	7 30 53.33	10.155	21 48 12.4	21.99	1 8.08	5 33.50	0.297
Sun. 15	7 34 56.80	10.134	21 39 13.4	22.92	1 8.02	5 40.39	0.277
Mon. 16	7 38 59.77	10.113	21 29 52.3	23.84	1 7.95	5 46.79	0.256
Tues. 17	7 43 2.22	10.091	21 20 9.2	24.75	1 7.87	5 52.67	0.234
Wed. 18	7 47 4.15	10.069	21 10 4.5	25.65	1 7.80	5 58.02	0.212
Thur. 19	7 51 5.52	10.046	20 59 38.2	26.54	1 7.73	6 2.83	0.189
Frid. 20	7 55 6.34	10.022	20 48 50.7	27.42	1 7.65	6 7.08	0.165
Sat. 21	7 59 6.58	9.998	20 37 42.2	28.29	1 7.57	6 10.76	0.141
Sun. 22	8 3 6.24	9.974	20 26 12.9	29.15	1 7.49	6 13.86	0.117
Mon. 23	8 7 5.32	9.949	20 14 23.1	30.00	1 7.41	6 16.37	0.092
Tues. 24	8 11 3.80	9.924	20 2 13.0	30.84	1 7.33	6 18.29	0.068
Wed. 25	8 15 1.69	9.899	19 49 42.9	31.67	1 7.25	6 19.62	0.043
Thur. 26	8 18 58.97	9.874	19 36 52.9	32.49	1 7.17	6 20.35	0.018
Frid. 27	8 22 55.66	9.850	19 23 43.5	33.30	1 7.08	6 20.48	0.007
Sat. 28	8 26 51.75	9.825	19 10 14.7	34.09	1 7.00	6 20.01	0.032
Sun. 29	8 30 47.24	9.800	18 56 27.0	34.88	1 6.91	6 18.95	0.057
Mon. 30	8 34 42.13	9.775	18 42 20.6	35.65	1 6.82	6 17.29	0.081
Tues. 31	8 38 36.43	9.750	18 27 55.6	36.42	1 6.74	6 15.04	0.106
Wed. 32	8 42 30.13	9.725	N.18 13 12.5	37.17	1 6.65	6 12.20	0.131

* Mean Time of the Semidiameter passing may be found by subtracting 0^s.19 from the Sidereal Time.

AT MEAN NOON.

Date.		THE SUN'S			Equation of Time, to be added to Apparent Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*		
		h m s	N. ° ' "	' "	m s	h m s
Sun.	1	6 37 31.09	N. 23 9 59.0	15 45.38	3 27.41	6 34 3.68
Mon.	2	6 41 39.24	23 6 4.3	15 45.36	3 39.00	6 38 0.24
Tues.	3	6 45 47.14	23 1 45.3	15 45.35	3 50.34	6 41 56.80
Wed.	4	6 49 54.78	22 57 2.2	15 45.34	4 1.42	6 45 53.35
Thur.	5	6 54 2.13	22 51 55.1	15 45.34	4 12.22	6 49 49.91
Frid.	6	6 58 9.19	22 46 24.1	15 45.34	4 22.72	6 53 46.47
Sat.	7	7 2 15.93	22 40 29.4	15 45.34	4 32.90	6 57 43.02
Sun.	8	7 6 22.32	22 34 11.1	15 45.35	4 42.74	7 1 39.58
Mon.	9	7 10 28.35	22 27 29.3	15 45.36	4 52.21	7 5 36.14
Tues.	10	7 14 34.00	22 20 24.2	15 45.38	5 1.30	7 9 32.69
Wed.	11	7 18 39.24	22 12 56.0	15 45.41	5 9.99	7 13 29.25
Thur.	12	7 22 44.07	22 5 4.8	15 45.44	5 18.27	7 17 25.80
Frid.	13	7 26 48.46	21 56 50.9	15 45.47	5 26.10	7 21 22.36
Sat.	14	7 30 52.39	21 48 14.4	15 45.51	5 33.47	7 25 18.92
Sun.	15	7 34 55.84	21 39 15.6	15 45.56	5 40.37	7 29 15.47
Mon.	16	7 38 58.80	21 29 54.6	15 45.62	5 46.77	7 33 12.03
Tues.	17	7 43 1.24	21 20 11.7	15 45.67	5 52.65	7 37 8.59
Wed.	18	7 47 3.15	21 10 7.0	15 45.74	5 58.00	7 41 5.14
Thur.	19	7 51 4.51	20 59 40.9	15 45.81	6 2.81	7 45 1.70
Frid.	20	7 55 5.31	20 48 53.5	15 45.88	6 7.06	7 48 58.25
Sat.	21	7 59 5.55	20 37 45.1	15 45.96	6 10.74	7 52 54.81
Sun.	22	8 3 5.21	20 26 15.9	15 46.04	6 13.84	7 56 51.36
Mon.	23	8 7 4.28	20 14 26.2	15 46.13	6 16.36	8 0 47.92
Tues.	24	8 11 2.76	20 2 16.2	15 46.22	6 18.28	8 4 44.48
Wed.	25	8 15 0.64	19 49 46.2	15 46.31	6 19.61	8 8 41.03
Thur.	26	8 18 57.93	19 36 56.4	15 46.41	6 20.34	8 12 37.59
Frid.	27	8 22 54.62	19 23 47.0	15 46.51	6 20.48	8 16 34.14
Sat.	28	8 26 50.71	19 10 18.3	15 46.61	6 20.01	8 20 30.70
Sun.	29	8 30 46.21	18 56 30.7	15 46.71	6 18.95	8 24 27.25
Mon.	30	8 34 41.11	18 42 24.3	15 46.82	6 17.30	8 28 23.81
Tues.	31	8 38 35.41	18 27 59.4	15 46.93	6 15.05	8 32 20.36
Wed.	32	8 42 29.13	N. 18 13 16.3	15 47.05	6 12.21	8 36 16.92

* The Semidiameter for *Apparent* Noon may be assumed the same as that for *Mean* Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
				h m s				
1	98° 37' 20"	N. 0° 03'	0.0072001	17 23 4.96	15° 31' 89"	15° 25' 55"	57° 0' 17"	56° 36' 91"
2	99 34 12.9	S. 0° 09'	0.0072075	17 19 9.05	15 19.42	15 13.60	56 14.41	55 53.05
3	100 31 23.9	0° 21'	0.0072132	17 15 13.14	15 8.19	15 3.26	55 33.18	55 15.11
4	101 28 35.2	0° 33'	0.0072171	17 11 17.23	14 58.90	14 55.14	54 59.08	54 45.28
5	102 25 46.7	0° 46'	0.0072192	17 7 21.32	14 52.03	14 49.60	54 33.87	54 24.96
6	103 22 58.5	0° 58'	0.0072192	17 3 25.41	14 47.87	14 46.84	54 18.60	54 14.82
7	104 20 10.6	0° 68'	0.0072171	16 59 29.50	14 46.51	14 46.86	54 13.60	54 14.89
8	105 17 23.0	0° 75'	0.0072128	16 55 33.59	14 47.87	14 49.51	54 18.60	54 24.62
9	106 14 35.8	0° 80'	0.0072063	16 51 37.68	14 51.74	14 54.50	54 32.80	54 42.96
10	107 11 48.9	0° 83'	0.0071973	16 47 41.77	14 57.76	15 1.43	54 54.89	55 8.37
11	108 9 2.4	0° 83'	0.0071860	16 43 45.86	15 5.46	15 9.77	55 23.15	55 38.98
12	109 6 16.3	0° 81'	0.0071721	16 39 49.95	15 14.29	15 18.94	55 55.58	56 12.66
13	110 3 30.5	0° 75'	0.0071556	16 35 54.04	15 23.66	15 28.36	56 29.96	56 47.21
14	111 0 45.0	0° 66'	0.0071365	16 31 58.13	15 32.98	15 37.46	57 4.17	57 20.62
15	111 57 59.8	0° 56'	0.0071148	16 28 2.22	15 41.75	15 45.80	57 36.35	57 51.22
16	112 55 14.9	0° 45'	0.0070905	16 24 6.31	15 49.58	15 53.06	58 5.08	58 17.85
17	113 52 30.2	0° 32'	0.0070636	16 20 10.40	15 56.22	15 59.07	58 29.48	58 39.94
18	114 49 45.7	0° 19'	0.0070343	16 16 14.49	16 1.60	16 3.80	58 49.20	58 57.29
19	115 47 1.3	S. 0° 06'	0.0070026	16 12 18.58	16 5.68	16 7.25	59 4.20	59 9.94
20	116 44 17.2	N. 0° 06'	0.0069687	16 8 22.67	16 8.50	16 9.42	59 14.52	59 17.91
21	117 41 33.2	0° 16'	0.0069328	16 4 26.76	16 10.01	16 10.25	59 20.08	59 20.96
22	118 38 49.5	0° 23'	0.0068949	16 0 30.85	16 10.13	16 9.61	59 20.50	59 18.61
23	119 36 6.1	0° 27'	0.0068552	15 56 34.94	16 8.68	16 7.30	59 15.18	59 10.15
24	120 33 23.0	0° 28'	0.0068140	15 52 39.03	16 5.47	16 3.17	59 3.43	58 54.98
25	121 30 40.3	0° 26'	0.0067712	15 48 43.12	16 0.40	15 57.15	58 44.79	58 32.88
26	122 27 58.1	0° 20'	0.0067271	15 44 47.21	15 53.46	15 49.35	58 19.32	58 4.25
27	123 25 16.5	N. 0° 11'	0.0066816	15 40 51.30	15 44.88	15 40.11	57 47.84	57 30.33
28	124 22 35.6	0° 00'	0.0066348	15 36 55.39	15 35.10	15 29.95	57 11.96	56 53.04
29	125 19 55.4	S. 0° 12'	0.0065867	15 32 59.48	15 24.73	15 19.54	56 33.88	56 14.83
30	126 17 16.2	0° 25'	0.0065372	15 29 3.57	15 14.46	15 9.60	55 56.20	55 38.35
31	127 14 37.9	0° 37'	0.0064864	15 25 7.66	15 5.02	15 0.83	55 21.57	55 6.16
32	128 12 0.7	S. 0° 50'	0.0064342	15 21 11.75	14 57.07	14 53.84	54 52.39	54 40.51

MEAN TIME.

THE MOON'S								
Day.	Longitude.		Latitude.		Age.	Meridian Passage.		
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.	
					d	h m	h m	
1	316 18 4.1	322 48 38.8	N. 2 19 27.8	N. 1 47 49.2	16.97	15 8.4	2 43.7	
2	329 13 24.6	335 32 41.0	1 15 13.8	N. 0 42 7.7	17.97	15 55.7	3 32.4	
3	341 46 53.6	347 56 32.5	N. 0 8 55.5	S. 0 24 0.5	18.97	16 40.7	4 18.5	
4	354 2 11.4	0 4 27.0	S. 0 56 19.9	1 27 44.1	19.97	17 24.1	5 2.6	
5	6 3 57.4	12 1 22.1	1 57 56.3	2 26 40.7	20.97	18 6.8	5 45.5	
6	17 57 20.6	23 52 32.5	2 53 42.7	3 18 48.6	21.97	18 49.4	6 28.0	
7	29 47 36.4	35 43 9.4	3 41 45.4	4 2 20.3	22.97	19 32.8	7 10.9	
8	41 39 46.7	47 38 1.2	4 20 21.3	4 35 36.6	23.97	20 17.5	7 54.9	
9	53 38 23.0	59 41 18.9	4 47 54.8	4 57 5.1	24.97	21 4.0	8 40.5	
10	65 47 12.3	71 56 22.2	5 2 57.6	5 5 23.4	25.97	21 52.6	9 28.1	
11	78 9 4.0	84 25 28.5	5 4 14.9	4 59 26.6	26.97	22 43.1	10 17.7	
12	90 45 42.3	97 9 47.8	4 50 54.9	4 38 39.3	27.97	23 35.1	11 9.0	
13	103 37 43.4	110 9 24.1	4 22 42.0	4 3 9.1	28.97	* *	12 1.4	
14	116 44 41.9	123 23 26.1	3 40 9.9	3 13 58.0	0.47	0 27.9	12 54.3	
15	130 5 24.5	136 50 24.0	2 44 51.2	2 13 10.4	1.47	1 20.7	13 47.0	
16	143 38 10.9	150 28 32.2	1 39 20.5	S. 1 3 49.6	2.47	2 13.1	14 39.0	
17	157 21 15.2	164 16 8.5	S. 0 27 8.5	N. 0 10 10.4	3.47	3 4.8	15 30.4	
18	171 13 1.8	178 11 45.7	N. 0 47 32.9	1 24 24.0	4.47	3 56.0	16 21.5	
19	185 12 11.7	192 14 11.7	2 0 8.8	2 34 12.8	5.47	4 47.1	17 12.8	
20	199 17 37.0	206 22 18.2	3 6 2.9	3 35 7.7	6.47	5 38.8	18 5.0	
21	213 28 4.2	220 34 41.7	4 0 58.3	4 23 9.0	7.47	6 31.5	18 58.5	
22	227 41 54.4	234 49 23.2	4 41 17.3	4 55 5.4	8.47	7 25.8	19 53.6	
23	241 56 45.4	249 3 35.5	5 4 19.8	5 8 52.0	9.47	8 21.7	20 50.1	
24	256 9 25.1	263 13 43.8	5 8 39.0	5 3 43.6	10.47	9 18.7	21 47.4	
25	270 16 0.1	277 15 42.4	4 54 13.5	4 40 21.9	11.47	10 15.9	22 44.3	
26	284 12 20.2	291 5 25.3	4 22 26.9	4 0 50.4	12.47	11 12.2	23 39.7	
27	297 54 32.7	304 39 21.6	3 35 57.8	3 8 16.9	13.47	12 6.6	* *	
28	311 19 36.2	317 55 6.2	2 38 17.2	2 6 28.7	14.47	12 58.3	0 32.8	
29	324 25 46.8	330 51 39.0	1 33 21.4	N. 0 59 24.3	15.47	13 47.2	1 23.1	
30	337 12 49.3	343 29 29.8	N. 0 25 4.9	S. 0 9 10.5	16.47	14 33.7	2 10.8	
31	349 41 57.1	355 50 32.5	S. 0 42 58.3	1 15 56.5	17.47	15 18.3	2 56.2	
32	1 55 40.9	7 57 50.7	S. 1 47 45.4	S. 2 18 7.0	18.47	16 1.6	3 40.1	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10m.	Declination.	Var. in 10m.	Hour.	Right Ascension.	Var. in 10m.	Declination.	Var. in 10m.
SUNDAY 1.					TUESDAY 3.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	21 12 10.51	22.007	S. 13 44 11.6	72.36	0	22 52 33.72	19.952	S. 7 0 30.4	92.47
1	21 14 22.40	21.958	13 36 55.5	72.99	1	22 54 33.33	19.918	6 51 14.9	92.68
2	21 16 34.00	21.908	13 29 35.7	73.62	2	22 56 32.74	19.885	6 41 58.2	92.89
3	21 18 45.30	21.859	13 22 12.1	74.23	3	22 58 31.95	19.853	6 32 40.2	93.09
4	21 20 56.31	21.810	13 14 44.9	74.84	4	23 0 30.98	19.822	6 23 21.1	93.28
5	21 23 7.02	21.762	13 7 14.0	75.43	5	23 2 29.81	19.790	6 14 0.8	93.47
6	21 25 17.45	21.713	12 59 39.7	76.02	6	23 4 28.46	19.759	6 4 39.4	93.65
7	21 27 27.58	21.664	12 52 1.8	76.60	7	23 6 26.92	19.728	5 55 17.0	93.82
8	21 29 37.42	21.616	12 44 20.5	77.17	8	23 8 25.20	19.699	5 45 53.5	93.99
9	21 31 46.97	21.568	12 36 35.8	77.72	9	23 10 23.31	19.669	5 36 29.1	94.15
10	21 33 56.24	21.521	12 28 47.9	78.27	10	23 12 21.23	19.640	5 27 3.7	94.31
11	21 36 5.22	21.473	12 20 56.6	78.81	11	23 14 18.99	19.613	5 17 37.4	94.45
12	21 38 13.92	21.426	12 13 2.2	79.33	12	23 16 16.58	19.584	5 8 10.3	94.59
13	21 40 22.33	21.379	12 5 4.6	79.85	13	23 18 14.00	19.557	4 58 42.3	94.72
14	21 42 30.47	21.333	11 57 4.0	80.36	14	23 20 11.26	19.530	4 49 13.6	94.84
15	21 44 38.32	21.286	11 49 0.3	80.87	15	23 22 8.36	19.504	4 39 44.2	94.96
16	21 46 45.90	21.240	11 40 53.6	81.35	16	23 24 5.31	19.478	4 30 14.1	95.08
17	21 48 53.20	21.193	11 32 44.1	81.83	17	23 26 2.09	19.452	4 20 43.3	95.19
18	21 51 0.22	21.148	11 24 31.6	82.31	18	23 27 58.73	19.428	4 11 11.8	95.29
19	21 53 6.97	21.103	11 16 16.4	82.77	19	23 29 55.22	19.403	4 1 39.8	95.38
20	21 55 13.46	21.058	11 7 58.4	83.23	20	23 31 51.57	19.379	3 52 7.3	95.46
21	21 57 19.67	21.013	10 59 37.7	83.67	21	23 33 47.77	19.356	3 42 34.3	95.54
22	21 59 25.61	20.968	10 51 14.4	84.10	22	23 35 43.84	19.333	3 33 0.8	95.62
23	22 1 31.29	20.925	S. 10 42 48.5	84.53	23	23 37 39.77	19.311	S. 3 23 26.8	95.69
MONDAY 2.					WEDNESDAY 4.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	22 3 36.71	20.882	S. 10 34 20.1	84.94	0	23 39 35.57	19.289	S. 3 13 52.5	95.75
1	22 5 41.87	20.838	10 25 49.2	85.35	1	23 41 31.24	19.268	3 4 17.8	95.81
2	22 7 46.76	20.794	10 17 15.9	85.76	2	23 43 26.78	19.248	2 54 42.8	95.85
3	22 9 51.40	20.752	10 8 40.1	86.15	3	23 45 22.21	19.228	2 45 7.6	95.89
4	22 11 55.79	20.710	10 0 2.1	86.53	4	23 47 17.51	19.208	2 35 32.1	95.94
5	22 13 59.92	20.668	9 51 21.8	86.90	5	23 49 12.70	19.188	2 25 56.3	95.97
6	22 16 3.80	20.627	9 42 39.3	87.26	6	23 51 7.77	19.169	2 16 20.4	95.99
7	22 18 7.44	20.586	9 33 54.7	87.62	7	23 53 2.73	19.151	2 6 44.4	96.02
8	22 20 10.83	20.544	9 25 7.9	87.98	8	23 54 57.58	19.133	1 57 8.2	96.03
9	22 22 13.97	20.504	9 16 19.0	88.32	9	23 56 52.33	19.117	1 47 32.0	96.04
10	22 24 16.88	20.465	9 7 28.1	88.65	10	23 58 46.98	19.100	1 37 55.7	96.05
11	22 26 19.55	20.425	8 58 35.2	88.98	11	0 0 41.53	19.084	1 28 19.4	96.04
12	22 28 21.98	20.386	8 49 40.4	89.29	12	0 2 35.99	19.068	1 18 43.2	96.03
13	22 30 24.18	20.347	8 40 43.7	89.59	13	0 4 30.35	19.053	1 9 7.0	96.02
14	22 32 26.14	20.308	8 31 45.3	89.89	14	0 6 24.63	19.039	0 59 30.9	96.00
15	22 34 27.88	20.272	8 22 45.0	90.19	15	0 8 18.82	19.025	0 49 55.0	95.97
16	22 36 29.40	20.234	8 13 43.0	90.48	16	0 10 12.93	19.012	0 40 19.3	95.94
17	22 38 30.69	20.197	8 4 39.3	90.75	17	0 12 6.96	18.998	0 30 43.7	95.92
18	22 40 31.76	20.161	7 55 34.0	91.02	18	0 14 0.91	18.986	0 21 8.3	95.87
19	22 42 32.62	20.125	7 46 27.1	91.28	19	0 15 54.79	18.974	0 11 33.3	95.82
20	22 44 33.26	20.088	7 37 18.7	91.53	20	0 17 48.60	18.963	S. 0 1 58.5	95.77
21	22 46 33.68	20.053	7 28 8.8	91.78	21	0 19 42.35	18.952	N. 0 7 35.9	95.71
22	22 48 33.90	20.019	7 18 57.4	92.02	22	0 21 36.03	18.942	0 17 10.0	95.65
23	22 50 33.91	19.985	7 9 44.6	92.25	23	0 23 29.65	18.932	0 26 43.7	95.58
24	22 52 33.72	19.952	S. 7 0 30.4	92.47	24	0 25 23.21	18.923	N. 0 36 17.0	95.51

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 5.					SATURDAY 7.				
	h m s	s	N. ° ' "	" "		h m s	s	N. ° ' "	" "
0	0 25 23.21	18.923	N. 0 36 17.0	95.51	0	1 56 6.17	19.063	N. 7 56 27.7	85.96
1	0 27 16.72	18.914	0 45 49.8	95.43	1	1 58 0.59	19.077	8 5 2.5	85.63
2	0 29 10.18	18.906	0 55 22.1	95.34	2	1 59 55.09	19.091	8 13 35.3	85.30
3	0 31 3.59	18.898	1 4 53.9	95.25	3	2 1 49.68	19.106	8 22 6.1	84.98
4	0 32 56.95	18.890	1 14 25.1	95.15	4	2 3 44.36	19.122	8 30 35.0	84.64
5	0 34 50.27	18.884	1 23 55.7	95.06	5	2 5 39.14	19.138	8 39 1.8	84.29
6	0 36 43.56	18.878	1 33 25.8	94.96	6	2 7 34.02	19.155	8 47 26.5	83.94
7	0 38 36.81	18.872	1 42 55.2	94.84	7	2 9 29.00	19.172	8 55 49.1	83.58
8	0 40 30.02	18.867	1 52 23.9	94.72	8	2 11 24.08	19.188	9 4 9.5	83.23
9	0 42 23.21	18.863	2 1 51.9	94.60	9	2 13 19.26	19.206	9 12 27.8	82.87
10	0 44 16.37	18.858	2 11 19.1	94.48	10	2 15 14.55	19.224	9 20 43.9	82.49
11	0 46 9.50	18.854	2 20 45.6	94.35	11	2 17 9.95	19.243	9 28 57.7	82.12
12	0 48 2.62	18.852	2 30 11.3	94.22	12	2 19 5.47	19.263	9 37 9.3	81.74
13	0 49 55.72	18.849	2 39 36.2	94.08	13	2 21 1.10	19.282	9 45 18.6	81.35
14	0 51 48.81	18.847	2 49 0.2	93.93	14	2 22 56.85	19.301	9 53 25.5	80.96
15	0 53 41.88	18.845	2 58 23.3	93.78	15	2 24 52.71	19.321	10 1 30.1	80.57
16	0 55 34.95	18.844	3 7 45.5	93.62	16	2 26 48.70	19.342	10 9 32.3	80.16
17	0 57 28.01	18.843	3 17 6.7	93.45	17	2 28 44.81	19.362	10 17 32.0	79.75
18	0 59 21.06	18.843	3 26 26.9	93.29	18	2 30 41.04	19.383	10 25 29.3	79.34
19	1 1 14.12	18.843	3 35 46.2	93.12	19	2 32 37.40	19.404	10 33 24.1	78.92
20	1 3 7.18	18.844	3 45 4.4	92.94	20	2 34 33.89	19.427	10 41 16.3	78.49
21	1 5 0.25	18.846	3 54 21.5	92.76	21	2 36 30.52	19.449	10 49 6.0	78.07
22	1 6 53.33	18.848	4 3 37.5	92.57	22	2 38 27.28	19.471	10 56 53.1	77.63
23	1 8 46.42	18.849	N. 4 12 52.4	92.38	23	2 40 24.17	19.494	N. 11 4 37.6	77.19
FRIDAY 6.					SUNDAY 8.				
	h m s	s	N. ° ' "	" "		h m s	s	N. ° ' "	" "
0	1 10 39.52	18.852	N. 4 22 6.1	92.18	0	2 42 21.21	19.517	N. 11 12 19.4	76.74
1	1 12 32.64	18.856	4 31 18.6	91.98	1	2 44 18.38	19.541	11 19 58.5	76.29
2	1 14 25.79	18.860	4 40 29.9	91.78	2	2 46 15.70	19.565	11 27 34.9	75.83
3	1 16 18.96	18.864	4 49 40.0	91.57	3	2 48 13.16	19.589	11 35 8.5	75.37
4	1 18 12.16	18.868	4 58 48.7	91.35	4	2 50 10.77	19.614	11 42 39.3	74.90
5	1 20 5.38	18.873	5 7 56.2	91.13	5	2 52 8.53	19.639	11 50 7.3	74.42
6	1 21 58.64	18.880	5 17 2.3	90.90	6	2 54 6.44	19.664	11 57 32.4	73.94
7	1 23 51.94	18.886	5 26 7.0	90.67	7	2 56 4.50	19.689	12 4 54.6	73.46
8	1 25 45.27	18.893	5 35 10.3	90.43	8	2 58 2.71	19.715	12 12 13.9	72.97
9	1 27 38.65	18.900	5 44 12.1	90.19	9	3 0 1.08	19.742	12 19 30.2	72.47
10	1 29 32.07	18.907	5 53 12.6	89.95	10	3 1 59.61	19.768	12 26 43.5	71.97
11	1 31 25.53	18.915	6 2 11.5	89.69	11	3 3 58.29	19.794	12 33 53.8	71.46
12	1 33 19.05	18.924	6 11 8.9	89.43	12	3 5 57.14	19.822	12 41 1.0	70.94
13	1 35 12.62	18.933	6 20 4.7	89.17	13	3 7 56.15	19.848	12 48 5.1	70.42
14	1 37 6.25	18.943	6 28 59.0	88.92	14	3 9 55.32	19.876	12 55 6.1	69.90
15	1 38 59.93	18.953	6 37 51.7	88.64	15	3 11 54.66	19.904	13 2 3.9	69.36
16	1 40 53.68	18.963	6 46 42.7	88.36	16	3 13 54.17	19.932	13 8 58.4	68.82
17	1 42 47.49	18.974	6 55 32.0	88.08	17	3 15 53.84	19.960	13 15 49.7	68.28
18	1 44 41.37	18.985	7 4 19.6	87.79	18	3 17 53.69	19.989	13 22 37.8	67.73
19	1 46 35.31	18.997	7 13 5.5	87.50	19	3 19 53.71	20.018	13 29 22.5	67.18
20	1 48 29.33	19.009	7 21 49.6	87.20	20	3 21 53.90	20.047	13 36 3.9	66.62
21	1 50 23.42	19.022	7 30 31.9	86.90	21	3 23 54.27	20.075	13 42 41.9	66.05
22	1 52 17.59	19.035	7 39 12.4	86.59	22	3 25 54.80	20.104	13 49 16.5	65.47
23	1 54 11.84	19.048	7 47 51.0	86.28	23	3 27 55.52	20.135	13 55 47.6	64.89
24	1 56 6.17	19.063	N. 7 56 27.7	85.96	24	3 29 56.42	20.165	N. 14 2 15.2	64.31

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 9.					WEDNESDAY 11.				
	h m s	s	N. ° ' "	"		h m s	s	N. ° ' "	"
0	3 29 56.42	20.165	N. 14 2 15.2	64.31	0	5 10 21.81	21.680	N. 17 52 0.1	29.15
1	3 31 57.50	20.195	14 8 39.3	63.72	1	5 12 31.98	21.710	17 54 52.4	28.27
2	3 33 58.76	20.225	14 14 59.8	63.12	2	5 14 42.33	21.740	17 57 39.4	27.39
3	3 36 0.20	20.255	14 21 16.7	62.52	3	5 16 52.86	21.770	18 0 21.1	26.51
4	3 38 1.82	20.286	14 27 30.0	61.91	4	5 19 3.57	21.799	18 2 57.5	25.62
5	3 40 3.63	20.317	14 33 39.6	61.29	5	5 21 14.45	21.828	18 5 28.5	24.73
6	3 42 5.62	20.347	14 39 45.5	60.67	6	5 23 25.51	21.857	18 7 54.2	23.83
7	3 44 7.79	20.378	14 45 47.6	60.03	7	5 25 36.73	21.885	18 10 14.5	22.93
8	3 46 10.15	20.408	14 51 45.9	59.41	8	5 27 48.13	21.914	18 12 29.3	22.02
9	3 48 12.69	20.439	14 57 40.5	58.77	9	5 29 59.70	21.942	18 14 38.7	21.10
10	3 50 15.42	20.471	15 3 31.1	58.12	10	5 32 11.43	21.969	18 16 42.5	20.18
11	3 52 18.34	20.503	15 9 17.9	57.47	11	5 34 23.33	21.997	18 18 40.9	19.27
12	3 54 21.45	20.534	15 15 0.7	56.81	12	5 36 35.39	22.023	18 20 33.7	18.33
13	3 56 24.75	20.567	15 20 39.6	56.14	13	5 38 47.61	22.051	18 22 20.9	17.40
14	3 58 28.25	20.599	15 26 14.4	55.47	14	5 41 0.00	22.078	18 24 2.5	16.47
15	4 0 31.94	20.631	15 31 45.2	54.80	15	5 43 12.54	22.103	18 25 38.5	15.53
16	4 2 35.82	20.663	15 37 12.0	54.12	16	5 45 25.24	22.129	18 27 8.9	14.58
17	4 4 39.89	20.694	15 42 34.6	53.43	17	5 47 38.09	22.154	18 28 33.5	13.63
18	4 6 44.15	20.727	15 47 53.1	52.73	18	5 49 51.09	22.180	18 29 52.5	12.68
19	4 8 48.61	20.759	15 53 7.4	52.03	19	5 52 4.25	22.205	18 31 5.7	11.73
20	4 10 53.26	20.792	15 58 17.5	51.32	20	5 54 17.55	22.229	18 32 13.2	10.78
21	4 12 58.11	20.824	16 3 23.3	50.61	21	5 56 31.00	22.253	18 33 15.0	9.81
22	4 15 3.15	20.856	16 8 24.8	49.89	22	5 58 44.59	22.278	18 34 10.9	8.83
23	4 17 8.38	20.888	N. 16 13 22.0	49.17	23	6 0 58.33	22.301	N. 18 35 1.0	7.87
TUESDAY 10.					THURSDAY 12.				
	h m s	s	N. ° ' "	"		h m s	s	N. ° ' "	"
0	4 19 13.81	20.921	N. 16 18 14.8	48.43	0	6 3 12.20	22.323	N. 18 35 45.3	6.89
1	4 21 19.43	20.953	16 23 3.2	47.70	1	6 5 26.21	22.346	18 36 23.7	5.92
2	4 23 25.24	20.985	16 27 47.2	46.96	2	6 7 40.35	22.368	18 36 56.3	4.93
3	4 25 31.25	21.018	16 32 26.7	46.21	3	6 9 54.62	22.390	18 37 22.9	3.94
4	4 27 37.46	21.050	16 37 1.7	45.45	4	6 12 9.03	22.412	18 37 43.6	2.96
5	4 29 43.85	21.083	16 41 32.1	44.69	5	6 14 23.56	22.433	18 37 58.4	1.98
6	4 31 50.45	21.116	16 45 58.0	43.92	6	6 16 38.22	22.453	18 38 7.3	0.98
7	4 33 57.24	21.148	16 50 19.2	43.15	7	6 18 53.00	22.473	18 38 10.2	0.02
8	4 36 4.22	21.180	16 54 35.8	42.37	8	6 21 7.90	22.493	18 38 7.1	1.02
9	4 38 11.40	21.213	16 58 47.7	41.59	9	6 23 22.92	22.513	18 37 58.0	2.02
10	4 40 18.77	21.244	17 2 54.9	40.80	10	6 25 38.05	22.531	18 37 42.8	3.03
11	4 42 26.33	21.277	17 6 57.3	40.00	11	6 27 53.29	22.549	18 37 21.7	4.03
12	4 44 34.09	21.308	17 10 54.9	39.20	12	6 30 8.64	22.567	18 36 54.5	5.03
13	4 46 42.03	21.340	17 14 47.7	38.39	13	6 32 24.09	22.585	18 36 21.3	6.05
14	4 48 50.17	21.372	17 18 35.6	37.58	14	6 34 39.66	22.602	18 35 41.9	7.07
15	4 50 58.49	21.403	17 22 18.6	36.76	15	6 36 55.32	22.618	18 34 56.5	8.07
16	4 53 7.01	21.435	17 25 56.7	35.94	16	6 39 11.08	22.635	18 34 5.1	9.08
17	4 55 15.71	21.466	17 29 29.9	35.11	17	6 41 26.94	22.651	18 33 7.5	10.11
18	4 57 24.60	21.497	17 32 58.0	34.27	18	6 43 42.89	22.666	18 32 3.8	11.13
19	4 59 33.67	21.528	17 36 21.1	33.43	19	6 45 58.93	22.680	18 30 54.0	12.15
20	5 1 42.93	21.559	17 39 39.1	32.58	20	6 48 15.05	22.695	18 29 38.0	13.17
21	5 3 52.38	21.590	17 42 52.1	31.73	21	6 50 31.27	22.709	18 28 16.0	14.18
22	5 6 2.01	21.620	17 45 59.9	30.88	22	6 52 47.56	22.722	18 26 47.8	15.22
23	5 8 11.82	21.650	17 49 2.6	30.02	23	6 55 3.93	22.735	18 25 13.4	16.24
24	5 10 21.81	21.680	N. 17 52 0.1	29.15	24	6 57 20.38	22.748	N. 18 23 32.9	17.26

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
FRIDAY 13.					SUNDAY 15.				
	h m s	s	N. 18° 23' 32" 9	17° 26'		h m s	s	N. 15° 4' 28" 3	64° 66'
0	6 57 20.38	22.748	18 23 32.9	17.26	0	8 47 5.43	22.823	15 4 28.3	64.66
1	6 59 36.90	22.759	18 21 46.3	18.28	1	8 49 22.35	22.817	14 57 57.7	65.55
2	7 1 53.49	22.771	18 19 53.5	19.32	2	8 51 39.23	22.808	14 51 21.7	66.44
3	7 4 10.15	22.782	18 17 54.5	20.35	3	8 53 56.05	22.800	14 44 40.4	67.33
4	7 6 26.87	22.793	18 15 49.3	21.37	4	8 56 12.83	22.793	14 37 53.8	68.21
5	7 8 43.66	22.803	18 13 38.0	22.40	5	8 58 29.56	22.784	14 31 1.9	69.08
6	7 11 0.50	22.812	18 11 20.5	23.43	6	9 0 46.24	22.776	14 24 4.9	69.93
7	7 13 17.40	22.822	18 8 56.9	24.45	7	9 3 2.87	22.767	14 17 2.7	70.79
8	7 15 34.36	22.830	18 6 27.1	25.48	8	9 5 19.45	22.758	14 9 55.4	71.65
9	7 17 51.36	22.838	18 3 51.2	26.50	9	9 7 35.97	22.749	14 2 42.9	72.49
10	7 20 8.41	22.846	18 1 9.1	27.53	10	9 9 52.44	22.740	13 55 25.5	73.33
11	7 22 25.51	22.853	17 58 20.9	28.55	11	9 12 8.85	22.731	13 48 3.0	74.17
12	7 24 42.64	22.859	17 55 26.5	29.58	12	9 14 25.21	22.722	13 40 35.5	74.99
13	7 26 59.82	22.866	17 52 26.0	30.60	13	9 16 41.51	22.712	13 33 3.1	75.80
14	7 29 17.03	22.872	17 49 19.3	31.62	14	9 18 57.75	22.701	13 25 25.9	76.61
15	7 31 34.28	22.877	17 46 6.6	32.63	15	9 21 13.92	22.691	13 17 43.8	77.42
16	7 33 51.55	22.882	17 42 47.7	33.66	16	9 23 30.04	22.682	13 9 56.9	78.21
17	7 36 8.86	22.887	17 39 22.7	34.67	17	9 25 46.10	22.672	13 2 5.3	78.99
18	7 38 26.19	22.890	17 35 51.7	35.68	18	9 28 2.10	22.661	12 54 9.0	79.77
19	7 40 43.54	22.893	17 32 14.5	36.70	19	9 30 18.03	22.650	12 46 8.0	80.55
20	7 43 0.91	22.897	17 28 31.3	37.70	20	9 32 33.90	22.640	12 38 2.4	81.32
21	7 45 18.30	22.900	17 24 42.1	38.72	21	9 34 49.71	22.630	12 29 52.2	82.08
22	7 47 35.71	22.902	17 20 46.7	39.73	22	9 37 5.46	22.619	12 21 37.5	82.83
23	7 49 53.12	22.903	N. 17 16 45.4	40.73	23	9 39 21.14	22.608	N. 12 13 18.3	83.57
SATURDAY 14.					MONDAY 16.				
	h m s	s	N. 17 12 38.0	41.75		h m s	s	N. 12 4 54.7	84.30
0	7 52 10.55	22.905	17 12 38.0	41.75	0	9 41 36.76	22.598	11 56 26.7	85.02
1	7 54 27.98	22.906	17 8 24.4	42.75	1	9 43 52.31	22.587	11 47 54.4	85.73
2	7 56 45.42	22.906	17 4 5.0	43.73	2	9 46 7.80	22.576	11 39 17.9	86.45
3	7 59 2.85	22.906	16 59 39.7	44.71	3	9 48 23.22	22.565	11 30 37.0	87.16
4	8 1 20.29	22.906	16 55 8.5	45.70	4	9 50 38.58	22.554	11 21 52.0	87.84
5	8 3 37.72	22.905	16 50 31.3	46.70	5	9 52 53.87	22.543	11 13 2.9	88.52
6	8 5 55.15	22.904	16 45 48.1	47.68	6	9 55 9.10	22.532	11 4 9.7	89.20
7	8 8 12.57	22.903	16 40 59.1	48.65	7	9 57 24.26	22.522	10 55 12.5	89.87
8	8 10 29.99	22.902	16 36 4.3	49.63	8	9 59 39.36	22.512	10 46 11.3	90.53
9	8 12 47.39	22.898	16 31 3.5	50.61	9	10 1 54.40	22.501	10 37 6.2	91.18
10	8 15 4.77	22.896	16 25 57.0	51.58	10	10 4 9.37	22.490	10 27 57.2	91.82
11	8 17 22.14	22.893	16 20 44.6	52.54	11	10 6 24.28	22.480	10 18 44.4	92.45
12	8 19 39.49	22.890	16 15 26.5	53.50	12	10 8 39.13	22.469	10 9 27.8	93.07
13	8 21 56.82	22.886	16 10 2.6	54.46	13	10 10 53.91	22.459	10 0 7.5	93.68
14	8 24 14.12	22.882	16 4 33.0	55.41	14	10 13 8.64	22.449	9 50 43.6	94.28
15	8 26 31.40	22.877	15 58 57.7	56.36	15	10 15 23.30	22.438	9 41 16.1	94.88
16	8 28 48.64	22.872	15 53 16.7	57.30	16	10 17 37.89	22.428	9 31 45.0	95.47
17	8 31 5.86	22.868	15 47 30.1	58.24	17	10 19 52.43	22.418	9 22 10.5	96.04
18	8 33 23.05	22.863	15 41 37.8	59.17	18	10 22 6.91	22.408	9 12 32.5	96.61
19	8 35 40.21	22.857	15 35 40.0	60.09	19	10 24 21.33	22.398	9 2 51.2	97.17
20	8 37 57.33	22.850	15 29 36.7	61.02	20	10 26 35.69	22.389	8 53 6.5	97.72
21	8 40 14.41	22.844	15 23 27.8	61.94	21	10 28 50.00	22.380	8 43 18.6	98.25
22	8 42 31.46	22.838	15 17 13.4	62.85	22	10 31 4.25	22.370	8 33 27.5	98.78
23	8 44 48.47	22.831	15 10 53.6	63.76	23	10 33 18.44	22.361	N. 8 23 33.2	99.31
24	8 47 5.43	22.823	N. 15 4 28.3	64.66	24	10 35 32.58	22.353		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 17.					THURSDAY 19.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	10 35 32.58	22.353	N. 8 23 33.2	99.31	0	12 22 16.70	22.244	S. 0 13 46.3	112.23
1	10 37 46.67	22.343	8 13 35.8	99.81	1	12 24 30.18	22.251	0 24 59.7	112.24
2	10 40 0.70	22.334	8 3 35.5	100.31	2	12 26 43.71	22.258	0 36 13.2	112.25
3	10 42 14.68	22.326	7 53 32.1	100.81	3	12 28 57.27	22.264	0 47 26.7	112.23
4	10 44 28.61	22.318	7 43 25.8	101.28	4	12 31 10.88	22.272	0 58 40.0	112.20
5	10 46 42.49	22.309	7 33 16.7	101.75	5	12 33 24.53	22.280	1 9 53.1	112.17
6	10 48 56.32	22.302	7 23 4.8	102.21	6	12 35 38.24	22.289	1 21 6.0	112.12
7	10 51 10.11	22.294	7 12 50.2	102.66	7	12 37 52.00	22.298	1 32 18.5	112.06
8	10 53 23.85	22.287	7 2 32.9	103.10	8	12 40 5.81	22.306	1 43 30.7	112.00
9	10 55 37.55	22.280	6 52 13.0	103.53	9	12 42 19.67	22.316	1 54 42.5	111.92
10	10 57 51.21	22.273	6 41 50.5	103.96	10	12 44 33.60	22.326	2 5 53.7	111.83
11	11 0 4.82	22.266	6 31 25.5	104.37	11	12 46 47.58	22.336	2 17 4.4	111.73
12	11 2 18.40	22.260	6 20 58.1	104.77	12	12 49 1.63	22.348	2 28 14.4	111.61
13	11 4 31.94	22.253	6 10 28.3	105.16	13	12 51 15.75	22.358	2 39 23.7	111.49
14	11 6 45.44	22.248	5 59 56.2	105.54	14	12 53 29.93	22.369	2 50 32.3	111.36
15	11 8 58.91	22.243	5 49 21.8	105.91	15	12 55 44.18	22.382	3 1 40.0	111.20
16	11 11 12.35	22.238	5 38 45.3	106.27	16	12 57 58.51	22.394	3 12 46.7	111.04
17	11 13 25.76	22.233	5 28 6.6	106.62	17	13 0 12.91	22.406	3 23 52.5	110.88
18	11 15 39.14	22.228	5 17 25.8	106.96	18	13 2 27.38	22.419	3 34 57.3	110.70
19	11 17 52.49	22.223	5 6 43.1	107.28	19	13 4 41.94	22.433	3 46 0.9	110.51
20	11 20 5.82	22.219	4 55 58.4	107.61	20	13 6 56.58	22.447	3 57 3.4	110.31
21	11 22 19.12	22.215	4 45 11.8	107.92	21	13 9 11.30	22.461	4 8 4.6	110.10
22	11 24 32.40	22.212	4 34 23.4	108.22	22	13 11 26.11	22.476	4 19 4.6	109.88
23	11 26 45.66	22.208	N. 4 23 33.2	108.51	23	13 13 41.01	22.491	S. 4 30 3.1	109.63
WEDNESDAY 18.					FRIDAY 20.				
0	11 28 58.90	22.206	N. 4 12 41.3	108.78	0	13 15 56.00	22.506	S. 4 41 0.2	109.39
1	11 31 12.13	22.203	4 1 47.8	109.05	1	13 18 11.08	22.522	4 51 55.8	109.13
2	11 33 25.34	22.200	3 50 52.7	109.31	2	13 20 26.26	22.538	5 2 49.8	108.87
3	11 35 38.53	22.198	3 39 56.1	109.55	3	13 22 41.53	22.554	5 13 42.2	108.59
4	11 37 51.72	22.197	3 28 58.1	109.78	4	13 24 56.91	22.572	5 24 32.9	108.29
5	11 40 4.90	22.197	3 17 58.7	110.01	5	13 27 12.39	22.588	5 35 21.7	107.99
6	11 42 18.08	22.196	3 6 58.0	110.23	6	13 29 27.97	22.606	5 46 8.8	107.68
7	11 44 31.25	22.195	2 55 56.0	110.43	7	13 31 43.66	22.623	5 56 53.9	107.36
8	11 46 44.42	22.195	2 44 52.9	110.62	8	13 33 59.45	22.642	6 7 37.1	107.02
9	11 48 57.59	22.195	2 33 48.6	110.80	9	13 36 15.36	22.661	6 18 18.1	106.67
10	11 51 10.76	22.196	2 22 43.3	110.97	10	13 38 31.38	22.679	6 28 57.1	106.32
11	11 53 23.94	22.197	2 11 37.0	111.13	11	13 40 47.51	22.698	6 39 33.9	105.95
12	11 55 37.12	22.198	2 0 29.7	111.28	12	13 43 3.76	22.718	6 50 8.5	105.57
13	11 57 50.31	22.200	1 49 21.6	111.42	13	13 45 20.13	22.738	7 0 40.7	105.18
14	12 0 3.52	22.202	1 38 12.6	111.55	14	13 47 36.61	22.758	7 11 10.6	104.78
15	12 2 16.74	22.204	1 27 3.0	111.66	15	13 49 53.22	22.779	7 21 38.1	104.37
16	12 4 29.97	22.207	1 15 52.7	111.77	16	13 52 9.96	22.799	7 32 3.0	103.93
17	12 6 43.22	22.211	1 4 41.7	111.87	17	13 54 26.81	22.820	7 42 25.3	103.50
18	12 8 56.50	22.215	0 53 30.3	111.95	18	13 56 43.80	22.842	7 52 45.0	103.05
19	12 11 9.80	22.218	0 42 18.3	112.02	19	13 59 0.91	22.863	8 3 1.9	102.59
20	12 13 23.12	22.222	0 31 6.0	112.08	20	14 1 18.15	22.884	8 13 16.1	102.13
21	12 15 36.46	22.227	0 19 53.3	112.14	21	14 3 35.52	22.907	8 23 27.5	101.65
22	12 17 49.84	22.233	N. 0 8 40.3	112.18	22	14 5 53.03	22.930	8 33 35.9	101.15
23	12 20 3.25	22.238	S. 0 2 32.9	112.22	23	14 8 10.68	22.952	8 43 41.3	100.65
24	12 22 16.70	22.244	S. 0 13 46.3	112.23	24	14 10 28.46	22.974	S. 8 53 43.7	100.14

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 21.					MONDAY 23.				
	h m s	s	S. ° ' "	100. "		h m s	s	S. ° ' "	100. "
0	14 10 28.46	22.974	S. 8 53 43.7	100.14	0	16 3 35.88	24.152	S. 15 35 4.2	63.24
1	14 12 46.37	22.997	9 3 43.0	99.62	1	16 6 0.85	24.173	15 41 20.7	62.24
2	14 15 4.43	23.021	9 13 39.1	99.08	2	16 8 25.95	24.193	15 47 31.1	61.23
3	14 17 22.62	23.044	9 23 31.9	98.53	3	16 10 51.17	24.214	15 53 35.5	60.22
4	14 19 40.96	23.068	9 33 21.5	97.98	4	16 13 16.52	24.235	15 59 33.8	59.20
5	14 21 59.44	23.092	9 43 7.7	97.41	5	16 15 41.99	24.254	16 5 25.9	58.17
6	14 24 18.06	23.116	9 52 50.4	96.83	6	16 18 7.57	24.273	16 11 11.9	57.14
7	14 26 36.83	23.140	10 2 29.7	96.24	7	16 20 33.27	24.293	16 16 51.6	56.09
8	14 28 55.74	23.164	10 12 5.3	95.63	8	16 22 59.09	24.312	16 22 25.0	55.04
9	14 31 14.80	23.189	10 21 37.3	95.03	9	16 25 25.01	24.330	16 27 52.1	53.98
10	14 33 34.01	23.213	10 31 5.7	94.41	10	16 27 51.05	24.348	16 33 12.8	52.92
11	14 35 53.36	23.238	10 40 30.2	93.77	11	16 30 17.19	24.365	16 38 27.1	51.84
12	14 38 12.87	23.264	10 49 50.9	93.13	12	16 32 43.43	24.382	16 43 34.9	50.77
13	14 40 32.53	23.288	10 59 7.7	92.48	13	16 35 9.77	24.398	16 48 36.3	49.68
14	14 42 52.33	23.313	11 8 20.6	91.81	14	16 37 36.21	24.414	16 53 31.1	48.59
15	14 45 12.29	23.339	11 17 29.4	91.13	15	16 40 2.74	24.429	16 58 19.4	47.50
16	14 47 32.40	23.365	11 26 34.2	90.45	16	16 42 29.36	24.444	17 3 1.1	46.40
17	14 49 52.67	23.390	11 35 34.8	89.74	17	16 44 56.07	24.459	17 7 36.2	45.29
18	14 52 13.08	23.415	11 44 31.1	89.03	18	16 47 22.87	24.473	17 12 4.6	44.17
19	14 54 33.65	23.441	11 53 23.2	88.32	19	16 49 49.74	24.485	17 16 26.3	43.06
20	14 56 54.37	23.467	12 2 11.0	87.60	20	16 52 16.69	24.498	17 20 41.3	41.93
21	14 59 15.25	23.493	12 10 54.4	86.86	21	16 54 43.72	24.510	17 24 49.5	40.80
22	15 1 36.29	23.518	12 19 33.3	86.10	22	16 57 10.81	24.521	17 28 50.9	39.67
23	15 3 57.47	23.543	S. 12 28 7.6	85.34	23	16 59 37.97	24.532	S. 17 32 45.5	38.53
SUNDAY 22.					TUESDAY 24.				
	h m s	s	S. ° ' "	84. 57		h m s	s	S. ° ' "	37. 39
0	15 6 18.81	23.569	S. 12 36 37.4	84.57	0	17 2 5.20	24.543	S. 17 36 33.3	37.39
1	15 8 40.30	23.595	12 45 2.5	83.80	1	17 4 32.48	24.553	17 40 14.2	36.24
2	15 11 1.95	23.621	12 53 23.0	83.02	2	17 6 59.83	24.562	17 43 48.2	35.08
3	15 13 23.75	23.647	13 1 38.7	82.21	3	17 9 27.22	24.569	17 47 15.2	33.93
4	15 15 45.71	23.672	13 9 49.5	81.39	4	17 11 54.66	24.577	17 50 35.3	32.78
5	15 18 7.81	23.697	13 17 55.4	80.57	5	17 14 22.15	24.584	17 53 48.5	31.62
6	15 20 30.07	23.723	13 25 56.4	79.75	6	17 16 49.67	24.590	17 56 54.7	30.44
7	15 22 52.49	23.748	13 33 52.4	78.91	7	17 19 17.23	24.597	17 59 53.8	29.27
8	15 25 15.05	23.773	13 41 43.3	78.06	8	17 21 44.83	24.602	18 2 46.0	28.11
9	15 27 37.76	23.798	13 49 29.1	77.21	9	17 24 12.45	24.605	18 5 31.1	26.93
10	15 30 0.63	23.823	13 57 9.8	76.34	10	17 26 40.09	24.609	18 8 9.1	25.75
11	15 32 23.64	23.848	14 4 45.2	75.46	11	17 29 7.76	24.612	18 10 40.1	24.57
12	15 34 46.80	23.873	14 12 15.3	74.57	12	17 31 35.44	24.614	18 13 3.9	23.38
13	15 37 10.11	23.898	14 19 40.1	73.67	13	17 34 3.13	24.616	18 15 20.7	22.20
14	15 39 33.57	23.922	14 26 59.4	72.77	14	17 36 30.83	24.618	18 17 30.3	21.02
15	15 41 57.17	23.945	14 34 13.3	71.86	15	17 38 58.54	24.618	18 19 32.9	19.83
16	15 44 20.91	23.969	14 41 21.7	70.93	16	17 41 26.24	24.616	18 21 28.3	18.63
17	15 46 44.80	23.993	14 48 24.5	70.00	17	17 43 53.93	24.615	18 23 16.5	17.44
18	15 49 8.83	24.016	14 55 21.7	69.07	18	17 46 21.62	24.613	18 24 57.6	16.25
19	15 51 32.99	24.039	15 2 13.3	68.12	19	17 48 49.29	24.610	18 26 31.5	15.06
20	15 53 57.30	24.063	15 8 59.1	67.16	20	17 51 16.94	24.607	18 27 58.3	13.87
21	15 56 21.74	24.085	15 15 39.2	66.19	21	17 53 44.57	24.602	18 29 18.0	12.68
22	15 58 46.32	24.108	15 22 13.4	65.22	22	17 56 12.16	24.597	18 30 30.4	11.48
23	16 1 11.03	24.130	15 28 41.8	64.23	23	17 58 39.73	24.592	18 31 35.7	10.28
24	16 3 35.88	24.152	S. 15 35 4.2	63.24	24	18 1 7.26	24.585	S. 18 32 33.8	9.08

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 25.					FRIDAY 27.				
	h m s	s	S. 18 32 33.8	9.08		h m s	s	S. 17 3 26.2	44.40
0	18 1 7.26	24.585	18 32 33.8	9.08	0	19 57 0.31	23.452	16 58 56.9	45.37
1	18 3 34.75	24.578	18 33 24.7	7.89	1	19 59 20.91	23.414	16 54 21.8	46.33
2	18 6 2.19	24.570	18 34 8.5	6.70	2	20 1 41.28	23.377	16 49 40.9	47.28
3	18 8 29.59	24.561	18 34 45.1	5.50	3	20 4 1.43	23.338	16 44 54.4	48.22
4	18 10 56.92	24.551	18 35 14.5	4.31	4	20 6 21.34	23.299	16 40 2.3	49.15
5	18 13 24.20	24.541	18 35 36.8	3.12	5	20 8 41.02	23.261	16 35 4.6	50.07
6	18 15 51.41	24.530	18 35 52.0	1.94	6	20 11 0.47	23.222	16 30 1.4	50.99
7	18 18 18.56	24.518	18 36 0.1	0.75	7	20 13 19.68	23.182	16 24 52.7	51.90
8	18 20 45.63	24.505	18 36 1.0	0.44	8	20 15 38.65	23.141	16 19 38.6	52.80
9	18 23 12.62	24.492	18 35 54.8	1.63	9	20 17 57.37	23.101	16 14 19.1	53.69
10	18 25 39.53	24.478	18 35 41.5	2.81	10	20 20 15.86	23.061	16 8 54.3	54.57
11	18 28 6.35	24.463	18 35 21.1	3.99	11	20 22 34.10	23.019	16 3 24.3	55.44
12	18 30 33.09	24.448	18 34 53.6	5.17	12	20 24 52.09	22.978	15 57 49.0	56.31
13	18 32 59.73	24.432	18 34 19.1	6.34	13	20 27 9.83	22.937	15 52 8.6	57.16
14	18 35 26.27	24.414	18 33 37.5	7.52	14	20 29 27.33	22.895	15 46 23.1	58.01
15	18 37 52.70	24.396	18 32 48.9	8.68	15	20 31 44.57	22.853	15 40 32.5	58.84
16	18 40 19.02	24.378	18 31 53.4	9.84	16	20 34 1.57	22.812	15 34 37.0	59.67
17	18 42 45.23	24.359	18 30 50.8	11.01	17	20 36 18.31	22.768	15 28 36.5	60.48
18	18 45 11.33	24.339	18 29 41.3	12.17	18	20 38 34.79	22.727	15 22 31.2	61.28
19	18 47 37.30	24.318	18 28 24.8	13.32	19	20 40 51.03	22.684	15 16 21.1	62.09
20	18 50 3.14	24.297	18 27 1.4	14.47	20	20 43 7.00	22.641	15 10 6.1	62.88
21	18 52 28.86	24.276	18 25 31.2	15.61	21	20 45 22.72	22.598	15 3 46.5	63.65
22	18 54 54.45	24.253	18 23 54.1	16.76	22	20 47 38.17	22.554	14 57 22.3	64.42
23	18 57 19.89	24.229	S. 18 22 10.1	17.90	23	20 49 53.37	22.512		
THURSDAY 26.					SATURDAY 28.				
0	18 59 45.20	24.206	S. 18 20 19.3	19.03	0	20 52 8.31	22.468	S. 14 50 53.4	65.19
1	19 2 10.36	24.181	18 18 21.8	20.15	1	20 54 22.99	22.425	14 44 20.0	65.93
2	19 4 35.37	24.155	18 16 17.5	21.28	2	20 56 37.41	22.382	14 37 42.2	66.67
3	19 7 0.22	24.129	18 14 6.4	22.40	3	20 58 51.57	22.338	14 30 59.9	67.41
4	19 9 24.92	24.102	18 11 48.7	23.51	4	21 1 5.46	22.294	14 24 13.3	68.13
5	19 11 49.45	24.075	18 9 24.3	24.62	5	21 3 19.10	22.251	14 17 22.3	68.85
6	19 14 13.82	24.048	18 6 53.3	25.72	6	21 5 32.47	22.207	14 10 27.1	69.55
7	19 16 38.02	24.019	18 4 15.7	26.81	7	21 7 45.58	22.163	14 3 27.7	70.23
8	19 19 2.05	23.991	18 1 31.6	27.90	8	21 9 58.43	22.120	13 56 24.3	70.92
9	19 21 25.91	23.961	17 58 40.9	28.98	9	21 12 11.02	22.077	13 49 16.7	71.60
10	19 23 49.58	23.930	17 55 43.8	30.06	10	21 14 23.35	22.033	13 42 5.1	72.27
11	19 26 13.07	23.899	17 52 40.2	31.13	11	21 16 35.41	21.988	13 34 49.5	72.92
12	19 28 36.37	23.868	17 49 30.2	32.20	12	21 18 47.21	21.945	13 27 30.1	73.56
13	19 30 59.48	23.836	17 46 13.8	33.26	13	21 20 58.75	21.902	13 20 6.8	74.19
14	19 33 22.40	23.803	17 42 51.1	34.30	14	21 23 10.03	21.858	13 12 39.8	74.82
15	19 35 45.12	23.771	17 39 22.2	35.34	15	21 25 21.04	21.813	13 5 9.0	75.43
16	19 38 7.65	23.738	17 35 47.0	36.38	16	21 27 31.79	21.771	12 57 34.6	76.04
17	19 40 29.97	23.703	17 32 5.6	37.41	17	21 29 42.29	21.728	12 49 56.5	76.64
18	19 42 52.08	23.668	17 28 18.1	38.43	18	21 31 52.53	21.684	12 42 14.9	77.22
19	19 45 13.99	23.634	17 24 24.4	39.43	19	21 34 2.50	21.641	12 34 29.8	77.80
20	19 47 35.69	23.598	17 20 24.7	40.45	20	21 36 12.22	21.598	12 26 41.3	78.37
21	19 49 57.17	23.562	17 16 19.0	41.45	21	21 38 21.68	21.556	12 18 49.4	78.93
22	19 52 18.44	23.526	17 12 7.3	42.44	22	21 40 30.89	21.513	12 10 54.2	79.48
23	19 54 39.48	23.489	17 7 49.7	43.43	23	21 42 39.84	21.470	12 2 55.7	80.02
24	19 57 0.31	23.452	S. 17 3 26.2	44.40	24	21 44 48.53	21.428	S. 11 54 54.0	80.54

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SUNDAY 29.					TUESDAY 31.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	21 44 48.53	21.428	S. 11 54 54.0	80.54	0	23 23 15.77	19.722	S. 4 44 19.4	95.63
1	21 46 56.97	21.386	11 46 49.2	81.07	1	23 25 14.02	19.696	4 34 45.2	95.75
2	21 49 5.16	21.343	11 38 41.2	81.58	2	23 27 12.12	19.670	4 25 10.4	95.86
3	21 51 13.09	21.302	11 30 30.3	82.08	3	23 29 10.06	19.644	4 15 34.9	95.97
4	21 53 20.78	21.260	11 22 16.3	82.57	4	23 31 7.85	19.620	4 5 58.8	96.07
5	21 55 28.21	21.218	11 13 59.4	83.05	5	23 33 5.50	19.595	3 56 22.1	96.16
6	21 57 35.40	21.178	11 5 39.7	83.52	6	23 35 2.99	19.570	3 46 44.9	96.24
7	21 59 42.35	21.137	10 57 17.1	83.99	7	23 37 0.34	19.547	3 37 7.2	96.32
8	22 1 49.04	21.095	10 48 51.8	84.44	8	23 38 57.55	19.524	3 27 29.1	96.39
9	22 3 55.49	21.055	10 40 23.8	84.89	9	23 40 54.63	19.502	3 17 50.5	96.46
10	22 6 1.70	21.015	10 31 53.1	85.33	10	23 42 51.57	19.478	3 8 11.6	96.51
11	22 8 7.67	20.974	10 23 19.8	85.76	11	23 44 48.37	19.456	2 58 32.4	96.56
12	22 10 13.39	20.934	10 14 44.0	86.18	12	23 46 45.04	19.435	2 48 52.9	96.61
13	22 12 18.88	20.895	10 6 5.7	86.58	13	23 48 41.59	19.414	2 39 13.1	96.64
14	22 14 24.13	20.855	9 57 25.0	86.98	14	23 50 38.01	19.393	2 29 33.2	96.67
15	22 16 29.14	20.817	9 48 41.9	87.37	15	23 52 34.30	19.373	2 19 53.1	96.70
16	22 18 33.93	20.778	9 39 56.5	87.76	16	23 54 30.48	19.354	2 10 12.8	96.72
17	22 20 38.48	20.739	9 31 8.8	88.13	17	23 56 26.55	19.334	2 0 32.5	96.73
18	22 22 42.80	20.701	9 22 18.9	88.50	18	23 58 22.49	19.315	1 50 52.1	96.73
19	22 24 46.89	20.663	9 13 26.8	88.86	19	0 0 18.33	19.297	1 41 11.7	96.73
20	22 26 50.76	20.627	9 4 32.6	89.21	20	0 2 14.06	19.280	1 31 31.3	96.72
21	22 28 54.41	20.589	8 55 36.3	89.54	21	0 4 9.69	19.263	1 21 51.0	96.71
22	22 30 57.83	20.552	8 46 38.1	89.87	22	0 6 5.21	19.245	1 12 10.8	96.69
23	22 33 1.03	20.515	S. 8 37 37.8	90.20	23	0 8 0.63	19.229	S. 1 2 30.7	96.67
MONDAY 30.					WEDNESDAY, AUG. 1.				
0	22 35 4.01	20.479	S. 8 28 35.7	90.51	0	0 9 55.96	19.213	S. 0 52 50.8	96.63
1	22 37 6.78	20.443	8 19 31.7	90.82					
2	22 39 9.33	20.408	8 10 25.9	91.11					
3	22 41 11.67	20.373	8 1 18.4	91.40					
4	22 43 13.80	20.338	7 52 9.1	91.68					
5	22 45 15.72	20.303	7 42 58.2	91.95					
6	22 47 17.43	20.268	7 33 45.7	92.22					
7	22 49 18.94	20.235	7 24 31.6	92.48					
8	22 51 20.25	20.203	7 15 16.0	92.73					
9	22 53 21.37	20.169	7 5 58.9	92.96					
10	22 55 22.28	20.136	6 56 40.5	93.19					
11	22 57 23.00	20.104	6 47 20.6	93.42					
12	22 59 23.53	20.073	6 37 59.5	93.63					
13	23 1 23.87	20.041	6 28 37.1	93.84					
14	23 3 24.02	20.010	6 19 13.4	94.04					
15	23 5 23.99	19.979	6 9 48.6	94.23					
16	23 7 23.77	19.949	6 0 22.6	94.42					
17	23 9 23.38	19.919	5 50 55.6	94.59					
18	23 11 22.80	19.889	5 41 27.5	94.77					
19	23 13 22.05	19.861	5 31 58.3	94.93					
20	23 15 21.13	19.833	5 22 28.3	95.08					
21	23 17 20.04	19.804	5 12 57.3	95.23					
22	23 19 18.78	19.777	5 3 25.5	95.37					
23	23 21 17.36	19.749	4 53 52.8	95.51					
24	23 23 15.77	19.722	S. 4 44 19.4	95.63					
					PHASES OF THE MOON.				
								h m	
					July 5	☾ Last Quarter - -		13 56.4	
					13	● New Moon - -		12 44.8	
					20	☾ First Quarter - -		13 31.9	
					27	○ Full Moon - -		10 32.6	
								h	
					July 6	☾ Apogee - - - -		23.8	
					21	☾ Perigee - - - -		13.9	

AT APPARENT NOON.

Date.	THE SUN'S				Sidereal Time of the Semi- diameter passing the Meridian.*	Equation of Time, to be added to Apparent Time.	Var. in hour.
	Apparent Right Ascension.	Var. in hour.	Apparent Declination.	Var. in hour.			
	h m s	s	N. 18 13 12.5	"	m s	m s	s
Wed.	1 8 42 30.13	9.725	N. 18 13 12.5	37.17	I 6.65	6 12.20	0.131
Thur.	2 8 46 23.25	9.701	17 58 11.4	37.91	I 6.56	6 8.76	0.155
Frid.	3 8 50 15.77	9.676	17 42 52.7	38.64	I 6.48	6 4.74	0.180
Sat.	4 8 54 7.70	9.652	17 27 16.7	39.36	I 6.39	6 0.14	0.204
Sun.	5 8 57 59.05	9.627	17 11 23.6	40.06	I 6.30	5 54.94	0.229
Mon.	6 9 1 49.81	9.603	16 55 13.8	40.75	I 6.21	5 49.16	0.253
Tues.	7 9 5 39.99	9.579	16 38 47.5	41.44	I 6.13	5 42.81	0.277
Wed.	8 9 9 29.60	9.555	16 22 5.0	42.10	I 6.04	5 35.88	0.301
Thur.	9 9 13 18.62	9.531	16 5 6.7	42.75	I 5.96	5 28.37	0.325
Frid.	10 9 17 7.08	9.507	15 47 52.8	43.40	I 5.87	5 20.29	0.348
Sat.	11 9 20 54.97	9.483	15 30 23.7	44.02	I 5.79	5 11.65	0.372
Sun.	12 9 24 42.28	9.460	15 12 39.7	44.64	I 5.71	5 2.44	0.395
Mon.	13 9 28 29.04	9.436	14 54 41.1	45.24	I 5.63	4 52.67	0.419
Tues.	14 9 32 15.23	9.413	14 36 28.3	45.82	I 5.55	4 42.33	0.442
Wed.	15 9 36 0.86	9.390	14 18 1.6	46.40	I 5.47	4 31.44	0.465
Thur.	16 9 39 45.95	9.367	13 59 21.2	46.96	I 5.39	4 20.00	0.488
Frid.	17 9 43 30.48	9.344	13 40 27.5	47.51	I 5.31	4 8.02	0.511
Sat.	18 9 47 14.48	9.322	13 21 20.9	48.04	I 5.24	3 55.49	0.533
Sun.	19 9 50 57.94	9.300	13 2 1.7	48.56	I 5.16	3 42.44	0.554
Mon.	20 9 54 40.89	9.279	12 42 30.1	49.07	I 5.09	3 28.88	0.576
Tues.	21 9 58 23.34	9.258	12 22 46.5	49.56	I 5.02	3 14.81	0.596
Wed.	22 10 2 5.29	9.238	12 2 51.3	50.04	I 4.95	3 0.25	0.616
Thur.	23 10 5 46.77	9.219	11 42 44.6	50.51	I 4.89	2 45.22	0.636
Frid.	24 10 9 27.79	9.200	11 22 26.8	50.96	I 4.82	2 29.72	0.655
Sat.	25 10 13 8.37	9.182	11 1 58.3	51.41	I 4.76	2 13.79	0.673
Sun.	26 10 16 48.53	9.165	10 41 19.3	51.84	I 4.70	1 57.44	0.690
Mon.	27 10 20 28.28	9.148	10 20 30.2	52.25	I 4.64	1 40.68	0.706
Tues.	28 10 24 7.64	9.132	9 59 31.2	52.66	I 4.58	1 23.54	0.722
Wed.	29 10 27 46.64	9.118	9 38 22.6	53.05	I 4.53	1 6.04	0.737
Thur.	30 10 31 25.29	9.104	9 17 4.8	53.43	I 4.48	0 48.18	0.751
Frid.	31 10 35 3.61	9.090	8 55 38.0	53.80	I 4.43	0 30.00	0.764
Sat.	32 10 38 41.61	9.077	N. 8 34 2.6	54.15	I 4.38	0 11.50	0.777

* Mean time of the Semidiameter passing may be found by subtracting 0.18 from the Sidereal Time.

AT MEAN NOON.

Date.		THE SUN'S			Equation of Time, to be added to Apparent Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*		
		h m s			m s	h m s
Wed.	1	8 42 29.13	N. 18 13 16.3	15 47.05	6 12.21	8 36 16.92
Thur.	2	8 46 22.25	17 58 15.3	15 47.16	6 8.78	8 40 13.47
Frid.	3	8 50 14.79	17 42 56.6	15 47.28	6 4.76	8 44 10.03
Sat.	4	8 54 6.74	17 27 20.6	15 47.41	6 0.16	8 48 6.58
Sun.	5	8 57 58.10	17 11 27.5	15 47.54	5 54.96	8 52 3.14
Mon.	6	9 1 48.88	16 55 17.7	15 47.67	5 49.19	8 55 59.69
Tues.	7	9 5 39.08	16 38 51.4	15 47.81	5 42.84	8 59 56.24
Wed.	8	9 9 28.71	16 22 8.9	15 47.95	5 35.90	9 3 52.80
Thur.	9	9 13 17.76	16 5 10.6	15 48.09	5 28.40	9 7 49.35
Frid.	10	9 17 6.23	15 47 56.7	15 48.24	5 20.33	9 11 45.91
Sat.	11	9 20 54.14	15 30 27.5	15 48.40	5 11.68	9 15 42.46
Sun.	12	9 24 41.49	15 12 43.5	15 48.56	5 2.47	9 19 39.02
Mon.	13	9 28 28.27	14 54 44.8	15 48.73	4 52.70	9 23 35.57
Tues.	14	9 32 14.49	14 36 31.9	15 48.90	4 42.37	9 27 32.12
Wed.	15	9 36 0.16	14 18 5.1	15 49.07	4 31.48	9 31 28.68
Thur.	16	9 39 45.27	13 59 24.6	15 49.25	4 20.04	9 35 25.23
Frid.	17	9 43 29.84	13 40 30.8	15 49.44	4 8.05	9 39 21.78
Sat.	18	9 47 13.87	13 21 24.1	15 49.63	3 55.53	9 43 18.34
Sun.	19	9 50 57.37	13 2 4.7	15 49.82	3 42.48	9 47 14.89
Mon.	20	9 54 40.36	12 42 33.0	15 50.01	3 28.91	9 51 11.44
Tues.	21	9 58 22.84	12 22 49.2	15 50.21	3 14.84	9 55 8.00
Wed.	22	10 2 4.83	12 2 53.8	15 50.41	3 0.28	9 59 4.55
Thur.	23	10 5 46.35	11 42 46.9	15 50.62	2 45.24	10 3 1.10
Frid.	24	10 9 27.41	11 22 29.0	15 50.82	2 29.75	10 6 57.66
Sat.	25	10 13 8.03	11 2 0.2	15 51.03	2 13.82	10 10 54.21
Sun.	26	10 16 48.23	10 41 21.0	15 51.24	1 57.46	10 14 50.76
Mon.	27	10 20 28.02	10 20 31.7	15 51.45	1 40.70	10 18 47.32
Tues.	28	10 24 7.43	9 59 32.4	15 51.66	1 23.56	10 22 43.87
Wed.	29	10 27 46.47	9 38 23.6	15 51.88	1 6.05	10 26 40.42
Thur.	30	10 31 25.17	9 17 5.5	15 52.09	0 48.19	10 30 36.98
Frid.	31	10 35 3.53	8 55 38.5	15 52.31	0 30.00	10 34 33.53
Sat.	32	10 38 41.58	N. 8 34 2.8	15 52.53	0 11.50	10 38 30.08

* The Semidiameter for Apparent Noon may be assumed the same as that for Mean Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
				h m s				
1	128 12 0.7	S. 0.50	0.0064342	15 21 11.75	14 57.07	14 53.84	54 52.39	54 40.51
2	129 9 24.5	0.63	.0063804	15 17 15.84	14 51.17	14 49.11	54 30.71	54 23.17
3	130 6 49.5	0.73	.0063249	15 13 19.94	14 47.71	14 46.99	54 18.02	54 15.38
4	131 4 15.7	0.81	0.0062678	15 9 24.03	14 46.97	14 47.65	54 15.30	54 17.82
5	132 1 43.1	0.87	.0062089	15 5 28.12	14 49.04	14 51.13	54 22.92	54 30.57
6	132 59 11.7	0.91	.0061481	15 1 32.21	14 53.88	14 57.26	54 40.66	54 53.09
7	133 56 41.6	0.92	0.0060854	14 57 36.30	15 1.24	15 5.74	55 7.67	55 24.19
8	134 54 12.8	0.89	.0060206	14 53 40.39	15 10.70	15 16.05	55 42.41	56 2.03
9	135 51 45.2	0.83	.0059538	14 49 44.48	15 21.68	15 27.50	56 22.70	56 44.06
10	136 49 19.0	0.75	0.0058847	14 45 48.58	15 33.40	15 39.26	57 5.71	57 27.22
11	137 46 54.0	0.66	.0058134	14 41 52.67	15 44.98	15 50.43	57 48.20	58 8.22
12	138 44 30.2	0.55	.0057399	14 37 56.76	15 55.52	16 0.15	58 26.90	58 43.87
13	139 42 7.6	0.41	0.0056640	14 34 0.85	16 4.23	16 7.70	58 58.85	59 11.60
14	140 39 46.2	0.26	.0055858	14 30 4.94	16 10.52	16 12.67	59 21.96	59 29.85
15	141 37 25.8	0.13	.0055055	14 26 9.04	16 14.15	16 14.97	59 35.27	59 38.27
16	142 35 6.5	S. 0.01	0.0054230	14 22 13.13	16 15.16	16 14.77	59 38.98	59 37.56
17	143 32 48.2	N. 0.10	.0053385	14 18 17.22	16 13.86	16 12.48	59 34.21	59 29.14
18	144 30 31.0	0.18	.0052522	14 14 21.31	16 10.69	16 8.55	59 22.58	59 14.71
19	145 28 14.8	0.24	0.0051643	14 10 25.41	16 6.10	16 3.40	59 5.73	58 55.80
20	146 25 59.7	0.26	.0050749	14 6 29.50	16 0.47	15 57.34	58 45.06	58 33.58
21	147 23 45.6	0.24	.0049842	14 2 33.59	15 54.04	15 50.58	58 21.47	58 8.77
22	148 21 32.7	0.19	0.0048923	13 58 37.68	15 46.98	15 43.24	57 55.54	57 41.81
23	149 19 21.1	0.11	.0047993	13 54 41.78	15 39.37	15 35.39	57 27.62	57 13.01
24	150 17 10.7	N. 0.01	.0047055	13 50 45.87	15 31.32	15 27.17	56 58.06	56 42.83
25	151 15 1.7	S. 0.11	0.0046107	13 46 49.96	15 22.97	15 18.76	56 27.43	56 11.99
26	152 12 54.1	0.24	.0045152	13 42 54.06	15 14.58	15 10.47	55 56.63	55 41.55
27	153 10 48.1	0.37	.0044189	13 38 58.15	15 6.48	15 2.68	55 26.92	55 12.95
28	154 8 43.7	0.50	0.0043219	13 35 2.24	14 59.10	14 55.83	54 59.84	54 47.81
29	155 6 41.0	0.62	.0042240	13 31 6.34	14 52.90	14 50.38	54 37.07	54 27.84
30	156 4 40.0	0.73	.0041254	13 27 10.43	14 48.33	14 46.80	54 20.31	54 14.68
31	157 2 40.9	0.82	.0040258	13 23 14.52	14 45.83	14 45.46	54 11.13	54 9.78
32	158 0 43.6	S. 0.89	0.0039253	13 19 18.62	14 45.74	14 46.68	54 10.78	54 14.23

MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	^h ^m ^s	^h ^m ^s	S. ^h ^m ^s	S. ^h ^m ^s	d	^h ^m	^h ^m
1	1 55 40.9	7 57 50.7	S. 1 47 45.4	S. 2 18 7.0	18.47	16 1.6	3 40.1
2	13 57 32.8	19 55 20.7	2 46 45.4	3 13 26.0	19.47	16 44.5	4 23.1
3	25 51 49.2	31 47 34.5	3 37 55.4	4 0 1.5	20.47	17 27.5	5 5.9
4	37 43 13.1	43 39 22.2	4 19 33.0	4 36 19.1	21.47	18 11.4	5 49.3
5	49 36 38.3	55 35 37.1	4 50 9.8	5 0 55.4	22.47	18 56.8	6 33.9
6	61 36 52.8	67 40 57.9	5 8 26.9	5 12 35.7	23.47	19 44.1	7 20.2
7	73 48 22.4	79 59 33.0	5 13 14.1	5 10 15.3	24.47	20 33.4	8 8.5
8	86 14 53.0	92 34 41.6	5 3 34.2	4 53 7.2	25.47	21 24.6	8 58.8
9	98 59 13.3	105 28 37.1	4 38 53.3	4 20 54.2	26.47	22 17.2	9 50.7
10	112 2 57.2	118 42 12.2	3 59 15.4	3 34 5.9	27.47	23 10.6	10 43.8
11	125 26 14.3	132 14 51.6	3 5 39.6	2 34 14.7	28.47	* *	11 37.4
12	139 7 46.2	146 4 36.2	2 0 14.4	1 24 6.3	0.03	0 4.2	12 30.8
13	153 4 55.8	160 8 16.5	S. 0 46 22.5	S. 0 7 38.4	1.03	0 57.4	13 23.9
14	167 14 7.6	174 21 57.8	N. 0 31 28.0	N. 1 10 16.9	2.03	1 50.2	14 16.5
15	181 31 15.3	188 41 29.3	1 48 8.2	2 24 22.8	3.03	2 42.7	15 8.9
16	195 52 9.8	203 2 49.3	2 58 23.3	3 29 35.0	4.03	3 35.2	16 1.7
17	210 13 2.2	217 22 25.1	3 57 27.3	4 21 33.8	5.03	4 28.3	16 55.2
18	224 30 36.9	231 37 18.9	4 41 32.8	4 57 7.7	6.03	5 22.3	17 49.6
19	238 42 14.2	245 45 7.7	5 8 7.0	5 14 24.2	7.03	6 17.3	18 45.1
20	252 45 45.7	259 43 55.9	5 15 58.0	5 12 51.5	8.03	7 13.1	19 41.1
21	266 39 26.8	273 32 7.8	5 5 12.4	4 53 12.5	9.03	8 9.1	20 37.0
22	280 21 49.0	287 8 21.4	4 37 7.5	4 17 16.2	10.03	9 4.6	21 31.8
23	293 51 36.9	300 31 28.2	3 54 0.4	3 27 44.1	11.03	9 58.5	22 24.7
24	307 7 49.4	313 40 35.8	2 58 53.4	2 27 55.7	12.03	10 50.4	23 15.4
25	320 9 44.7	326 35 15.1	1 55 18.8	1 21 30.9	13.03	11 39.9	* *
26	332 57 8.0	339 15 27.3	N. 0 46 59.9	N. 0 12 12.5	14.03	12 27.1	0 3.7
27	345 30 18.7	351 41 51.3	S. 0 22 25.3	S. 0 56 29.4	15.03	13 12.4	0 50.0
28	357 50 16.2	3 55 47.7	1 29 37.2	2 1 28.0	16.03	13 56.4	1 34.5
29	9 58 42.8	15 59 21.0	2 31 43.0	3 0 5.6	17.03	14 39.5	2 18.0
30	21 58 4.6	27 55 18.1	3 26 20.4	3 50 14.1	18.03	15 22.6	3 1.0
31	33 51 28.3	39 47 3.9	4 11 34.7	4 30 11.4	19.03	16 6.0	3 44.2
32	45 42 35.6	51 38 35.5	S. 4 45 54.8	S. 4 58 36.0	20.03	16 50.5	4 28.1

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 1.					FRIDAY 3.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	0 9 55.96	19.213	S. 0 52 50.8	96.63	0	1 41 13.49	19.005	N. 6 36 35.5	88.58
1	0 11 51.19	19.198	0 43 11.1	96.60	1	1 43 7.54	19.012	6 45 26.1	88.29
2	0 13 46.34	19.183	0 33 31.6	96.55	2	1 45 1.64	19.020	6 54 15.0	87.99
3	0 15 41.39	19.168	0 23 52.5	96.50	3	1 46 55.78	19.028	7 3 2.0	87.68
4	0 17 36.36	19.154	0 14 13.6	96.45	4	1 48 49.97	19.036	7 11 47.2	87.38
5	0 19 31.24	19.141	S. 0 4 35.1	96.38	5	1 50 44.21	19.045	7 20 30.6	87.07
6	0 21 26.05	19.128	N. 0 5 3.0	96.32	6	1 52 38.51	19.055	7 29 12.0	86.73
7	0 23 20.78	19.115	0 14 40.7	96.24	7	1 54 32.87	19.064	7 37 51.4	86.42
8	0 25 15.43	19.103	0 24 17.9	96.17	8	1 56 27.28	19.073	7 46 29.0	86.09
9	0 27 10.01	19.092	0 33 54.7	96.08	9	1 58 21.75	19.084	7 55 4.5	85.75
10	0 29 4.53	19.080	0 43 30.9	95.98	10	2 0 16.29	19.095	8 3 38.0	85.41
11	0 30 58.97	19.069	0 53 6.5	95.89	11	2 2 10.89	19.107	8 12 9.4	85.07
12	0 32 53.36	19.060	1 2 41.6	95.80	12	2 4 5.57	19.119	8 20 38.8	84.72
13	0 34 47.69	19.050	1 12 16.1	95.68	13	2 6 0.32	19.131	8 29 6.1	84.37
14	0 36 41.96	19.040	1 21 49.8	95.57	14	2 7 55.14	19.143	8 37 31.2	84.00
15	0 38 36.17	19.032	1 31 22.9	95.46	15	2 9 50.03	19.156	8 45 54.1	83.63
16	0 40 30.34	19.023	1 40 55.3	95.33	16	2 11 45.01	19.170	8 54 14.8	83.27
17	0 42 24.45	19.015	1 50 26.8	95.19	17	2 13 40.07	19.184	9 2 33.3	82.89
18	0 44 18.52	19.008	1 59 57.6	95.07	18	2 15 35.22	19.198	9 10 49.5	82.52
19	0 46 12.55	19.002	2 9 27.6	94.93	19	2 17 30.45	19.213	9 19 3.5	82.13
20	0 48 6.54	18.995	2 18 56.7	94.78	20	2 19 25.77	19.228	9 27 15.1	81.74
21	0 50 0.49	18.989	2 28 24.9	94.63	21	2 21 21.18	19.243	9 35 24.4	81.35
22	0 51 54.41	18.983	2 37 52.2	94.47	22	2 23 16.69	19.259	9 43 31.3	80.94
23	0 53 48.29	18.978	N. 2 47 18.5	94.31	23	2 25 12.29	19.275	N. 9 51 35.7	80.54
THURSDAY 2.					SATURDAY 4.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	0 55 42.15	18.974	N. 2 56 43.9	94.14	0	2 27 7.99	19.292	N. 9 59 37.8	80.14
1	0 57 35.98	18.970	3 6 8.2	93.97	1	2 29 3.79	19.309	10 7 37.4	79.72
2	0 59 29.79	18.967	3 15 31.5	93.79	2	2 30 59.70	19.327	10 15 34.4	79.30
3	1 1 23.58	18.963	3 24 53.7	93.61	3	2 32 55.71	19.344	10 23 29.0	78.87
4	1 3 17.35	18.961	3 34 14.8	93.42	4	2 34 51.83	19.363	10 31 20.9	78.44
5	1 5 11.11	18.959	3 43 34.8	93.23	5	2 36 48.07	19.382	10 39 10.3	78.02
6	1 7 4.86	18.957	3 52 53.5	93.03	6	2 38 44.41	19.400	10 46 57.1	77.58
7	1 8 58.59	18.955	4 2 11.1	92.83	7	2 40 40.87	19.419	10 54 41.2	77.13
8	1 10 52.32	18.955	4 11 27.5	92.62	8	2 42 37.44	19.438	11 2 22.6	76.68
9	1 12 46.05	18.955	4 20 42.5	92.40	9	2 44 34.13	19.459	11 10 1.3	76.22
10	1 14 39.78	18.955	4 29 56.3	92.18	10	2 46 30.95	19.480	11 17 37.2	75.76
11	1 16 33.51	18.956	4 39 8.7	91.96	11	2 48 27.89	19.500	11 25 10.4	75.29
12	1 18 27.25	18.957	4 48 19.8	91.73	12	2 50 24.95	19.521	11 32 40.7	74.82
13	1 20 20.99	18.958	4 57 29.5	91.50	13	2 52 22.14	19.543	11 40 8.2	74.34
14	1 22 14.75	18.961	5 6 37.8	91.26	14	2 54 19.47	19.565	11 47 32.8	73.86
15	1 24 8.52	18.963	5 15 44.6	91.01	15	2 56 16.92	19.587	11 54 54.5	73.37
16	1 26 2.30	18.966	5 24 49.9	90.76	16	2 58 14.51	19.609	12 2 13.3	72.88
17	1 27 56.11	18.969	5 33 53.7	90.51	17	3 0 12.23	19.632	12 9 29.1	72.38
18	1 29 49.93	18.973	5 42 56.0	90.25	18	3 2 10.09	19.655	12 16 41.9	71.88
19	1 31 43.78	18.978	5 51 56.7	89.98	19	3 4 8.09	19.678	12 23 51.6	71.37
20	1 33 37.66	18.983	6 0 55.7	89.71	20	3 6 6.23	19.702	12 30 58.3	70.86
21	1 35 31.57	18.988	6 9 53.2	89.44	21	3 8 4.52	19.727	12 38 1.9	70.34
22	1 37 25.51	18.993	6 18 49.0	89.16	22	3 10 2.95	19.751	12 45 2.4	69.82
23	1 39 19.48	18.998	6 27 43.1	88.87	23	3 12 1.53	19.776	12 51 59.7	69.28
24	1 41 13.49	19.005	N. 6 36 35.5	88.58	24	3 14 0.26	19.800	N. 12 58 53.8	68.75

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SUNDAY 5.					TUESDAY 7.				
	h m s	s	N. 12 58 53.8	68.75		h m s	s	N. 17 16 49.3	36.57
0	3 14 0.26	19.800	13 5 44.7	68.22	0	4 52 21.75	21.239	17 20 26.3	35.76
1	3 15 59.13	19.826	13 12 32.4	67.67	1	4 54 29.28	21.272	17 23 58.4	34.93
2	3 17 58.17	19.852	13 19 16.7	67.12	2	4 56 37.02	21.305	17 27 25.5	34.12
3	3 19 57.36	19.878	13 25 57.8	66.57	3	4 58 44.94	21.337	17 30 47.8	33.30
4	3 21 56.70	19.903	13 32 35.5	66.00	4	5 0 53.06	21.369	17 34 5.1	32.47
5	3 23 56.19	19.929	13 39 9.8	65.42	5	5 3 1.37	21.401	17 37 17.4	31.63
6	3 25 55.85	19.957	13 45 40.6	64.86	6	5 5 9.87	21.433	17 40 24.7	30.80
7	3 27 55.67	19.983	13 52 8.1	64.28	7	5 7 18.56	21.465	17 43 27.0	29.95
8	3 29 55.65	20.010	13 58 32.0	63.69	8	5 9 27.45	21.497	17 46 24.1	29.09
9	3 31 55.79	20.038	14 4 52.4	63.11	9	5 11 36.52	21.528	17 49 16.1	28.24
10	3 33 56.10	20.066	14 11 9.3	62.52	10	5 13 45.79	21.560	17 52 3.0	27.38
11	3 35 56.58	20.094	14 17 22.6	61.92	11	5 15 55.24	21.591	17 54 44.7	26.52
12	3 37 57.23	20.122	14 23 32.3	61.31	12	5 18 4.88	21.623	17 57 21.2	25.64
13	3 39 58.05	20.151	14 29 38.3	60.69	13	5 20 14.71	21.654	17 59 52.4	24.77
14	3 41 59.04	20.179	14 35 40.6	60.07	14	5 22 24.73	21.685	18 2 18.4	23.88
15	3 44 0.20	20.208	14 41 39.2	59.45	15	5 24 34.93	21.716	18 4 39.0	22.99
16	3 46 1.53	20.237	14 47 34.0	58.83	16	5 26 45.32	21.747	18 6 54.3	22.11
17	3 48 3.04	20.267	14 53 25.1	58.20	17	5 28 55.90	21.778	18 9 4.3	21.21
18	3 50 4.73	20.296	14 59 12.4	57.56	18	5 31 6.66	21.808	18 11 8.8	20.30
19	3 52 6.59	20.325	15 4 55.8	56.91	19	5 33 17.60	21.838	18 13 7.9	19.40
20	3 54 8.63	20.355	15 10 35.3	56.26	20	5 35 28.72	21.869	18 15 1.6	18.49
21	3 56 10.85	20.386	15 16 10.9	55.60	21	5 37 40.03	21.899	18 16 49.8	17.57
22	3 58 13.26	20.416	N. 15 21 42.5	54.93	22	5 39 51.51	21.928	N. 18 18 32.5	16.65
23	4 0 15.84	20.446			23	5 42 3.16	21.958		
MONDAY 6.					WEDNESDAY 8.				
	h m s	s	N. 15 27 10.1	54.27		h m s	s	N. 18 20 9.6	15.73
0	4 2 18.61	20.477	15 32 33.7	53.60	0	5 44 15.00	21.988	18 21 41.2	14.80
1	4 4 21.56	20.508	15 37 53.3	52.92	1	5 46 27.01	22.017	18 23 7.2	13.86
2	4 6 24.70	20.538	15 43 8.8	52.24	2	5 48 39.20	22.046	18 24 27.5	12.92
3	4 8 28.02	20.569	15 48 20.2	51.54	3	5 50 51.56	22.074	18 25 42.3	11.98
4	4 10 31.53	20.601	15 53 27.3	50.84	4	5 53 4.09	22.102	18 26 51.3	11.03
5	4 12 35.23	20.632	15 58 30.3	50.15	5	5 55 16.79	22.131	18 27 54.6	10.08
6	4 14 39.11	20.663	16 3 29.1	49.45	6	5 57 29.66	22.158	18 28 52.2	9.13
7	4 16 43.19	20.695	16 8 23.7	48.73	7	5 59 42.69	22.186	18 29 44.1	8.17
8	4 18 47.45	20.726	16 13 13.9	48.01	8	6 1 55.89	22.213	18 30 30.3	7.21
9	4 20 51.90	20.757	16 17 59.8	47.29	9	6 4 9.25	22.241	18 31 10.6	6.23
10	4 22 56.54	20.789	16 22 41.4	46.56	10	6 6 22.78	22.268	18 31 45.1	5.27
11	4 25 1.37	20.822	16 27 18.5	45.82	11	6 8 36.46	22.293	18 32 13.8	4.39
12	4 27 6.40	20.853	16 31 51.2	45.08	12	6 10 50.30	22.320	18 32 36.7	3.32
13	4 29 11.61	20.885	16 36 19.5	44.34	13	6 13 4.30	22.346	18 32 53.7	2.33
14	4 31 17.02	20.918	16 40 43.3	43.58	14	6 15 18.45	22.371	18 33 4.7	1.34
15	4 33 22.63	20.950	16 45 2.5	42.83	15	6 17 32.75	22.396	18 33 9.8	0.36
16	4 35 28.42	20.982	16 49 17.2	42.07	16	6 19 47.20	22.422	18 33 9.0	0.63
17	4 37 34.41	21.014	16 53 27.3	41.29	17	6 22 1.81	22.446	18 32 49.4	2.63
18	4 39 40.59	21.047	17 1 33.5	39.74	18	6 24 16.55	22.469	18 32 30.6	3.63
19	4 41 46.97	21.079	17 5 29.6	38.95	19	6 26 31.44	22.494	18 32 5.8	4.63
20	4 43 53.54	21.111	17 9 20.9	38.16	20	6 28 46.48	22.518	18 31 35.0	5.64
21	4 46 0.30	21.143	17 13 7.5	37.37	21	6 31 16.06	22.542	18 30 58.1	6.65
22	4 48 7.26	21.176			22	6 33 32.40	22.565		
23	4 50 14.41	21.208			23	6 35 47.98	22.588		
24	4 52 21.75	21.239			24				

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 9.					SATURDAY 11.				
	h m s	s	N. 18° 30' 15" 2	7.66		h m s	s	N. 15° 54' 49" 7	56.86
0	6 37 47.98	22.608	18 29 26.2	8.68	0	8 28 3.87	23.173	15 49 5.6	57.84
1	6 40 3.69	22.629	18 28 31.1	9.70	1	8 30 22.91	23.174	15 43 15.6	58.82
2	6 42 19.53	22.651	18 27 29.8	10.72	2	8 32 41.96	23.176	15 37 19.7	59.80
3	6 44 35.50	22.672	18 26 22.5	11.73	3	8 35 1.02	23.177	15 31 18.0	60.76
4	6 46 51.59	22.691	18 25 9.0	12.76	4	8 37 20.08	23.177	15 25 10.6	61.72
5	6 49 7.79	22.711	18 23 49.4	13.78	5	8 39 39.14	23.177	15 18 57.4	62.68
6	6 51 24.12	22.732	18 22 23.6	14.82	6	8 41 58.20	23.177	15 12 38.4	63.63
7	6 53 40.57	22.751	18 20 51.6	15.84	7	8 44 17.26	23.177	15 6 13.8	64.58
8	6 55 57.13	22.769	18 19 13.5	16.87	8	8 46 36.32	23.176	14 59 43.5	65.53
9	6 58 13.80	22.788	18 17 29.2	17.91	9	8 48 55.37	23.175	14 53 7.5	66.47
10	7 0 30.59	22.807	18 15 38.6	18.94	10	8 51 14.42	23.173	14 46 25.9	67.39
11	7 2 47.48	22.823	18 13 41.9	19.97	11	8 53 33.45	23.171	14 39 38.8	68.32
12	7 5 4.47	22.840	18 11 38.9	21.01	12	8 55 52.47	23.169	14 32 46.1	69.24
13	7 7 21.56	22.857	18 9 29.8	22.04	13	8 58 11.48	23.167	14 25 47.9	70.15
14	7 9 38.76	22.874	18 7 14.4	23.09	14	9 0 30.47	23.164	14 18 44.3	71.06
15	7 11 56.05	22.889	18 4 52.7	24.13	15	9 2 49.45	23.162	14 11 35.2	71.97
16	7 14 13.43	22.905	18 2 24.9	25.16	16	9 5 8.41	23.158	14 4 20.7	72.86
17	7 16 30.91	22.921	17 59 50.8	26.20	17	9 7 27.35	23.154	13 57 0.9	73.75
18	7 18 48.48	22.935	17 57 10.5	27.23	18	9 9 46.26	23.150	13 49 35.7	74.63
19	7 21 6.13	22.949	17 54 24.0	28.27	19	9 12 5.15	23.147	13 42 5.3	75.50
20	7 23 23.87	22.963	17 51 31.2	29.32	20	9 14 24.03	23.143	13 34 29.7	76.37
21	7 25 41.69	22.976	17 48 32.2	30.36	21	9 16 42.87	23.138	13 26 48.9	77.23
22	7 27 59.58	22.988	17 45 26.9	31.40	22	9 19 1.69	23.133	13 19 2.9	78.09
23	7 30 17.55	23.002			23	9 21 20.47	23.128		
FRIDAY 10.					SUNDAY 12.				
	h m s	s	N. 17° 42' 15" 4	32.43		h m s	s	N. 13° 11' 11" 8	78.93
0	7 32 35.60	23.013	17 38 57.7	33.47	0	9 23 39.23	23.122	13 3 15.7	79.77
1	7 34 53.71	23.025	17 35 33.7	34.52	1	9 25 57.95	23.118	12 55 14.5	80.61
2	7 37 11.90	23.037	17 32 3.5	35.55	2	9 28 16.65	23.113	12 47 8.4	81.43
3	7 39 30.15	23.047	17 28 27.1	36.58	3	9 30 35.31	23.107	12 38 57.4	82.23
4	7 41 48.46	23.057	17 24 44.5	37.62	4	9 32 53.93	23.101	12 30 41.6	83.04
5	7 44 6.83	23.067	17 20 55.7	38.66	5	9 35 12.52	23.095	12 22 20.9	83.85
6	7 46 25.26	23.076	17 17 0.6	39.69	6	9 37 31.07	23.088	12 13 55.4	84.64
7	7 48 43.74	23.085	17 12 59.4	40.71	7	9 39 49.58	23.082	12 5 25.2	85.42
8	7 51 2.28	23.093	17 8 52.1	41.74	8	9 42 8.06	23.077	11 56 50.4	86.19
9	7 53 20.86	23.101	17 4 38.5	42.77	9	9 44 26.50	23.069	11 48 10.9	86.96
10	7 55 39.49	23.109	17 0 18.8	43.79	10	9 46 44.89	23.062	11 39 26.9	87.72
11	7 57 58.17	23.117	16 55 53.0	44.82	11	9 49 3.25	23.056	11 30 38.3	88.47
12	8 0 16.89	23.123	16 51 21.0	45.83	12	9 51 21.56	23.048	11 21 45.3	89.20
13	8 2 35.65	23.129	16 46 43.0	46.85	13	9 53 39.83	23.042	11 12 47.9	89.93
14	8 4 54.44	23.135	16 41 58.8	47.87	14	9 55 58.06	23.034	11 3 46.1	90.66
15	8 7 13.27	23.141	16 37 8.5	48.88	15	9 58 16.24	23.027	10 54 40.0	91.37
16	8 9 32.13	23.146	16 32 12.2	49.89	16	10 0 34.38	23.020	10 45 29.7	92.07
17	8 11 51.02	23.151	16 27 9.8	50.90	17	10 2 52.48	23.012	10 36 15.2	92.77
18	8 14 9.94	23.155	16 22 1.4	51.90	18	10 5 10.53	23.004	10 26 56.5	93.45
19	8 16 28.88	23.158	16 16 47.0	52.90	19	10 7 28.53	22.997	10 17 33.8	94.12
20	8 18 47.84	23.162	16 11 26.6	53.90	20	10 9 46.50	22.991	10 8 7.1	94.78
21	8 21 6.82	23.165	16 0 27.9	54.89	21	10 12 4.42	22.983	9 58 36.4	95.44
22	8 23 25.82	23.168		55.88	22	10 14 22.29	22.974	9 49 1.8	96.08
23	8 25 44.84	23.171		56.86	23	10 16 40.11	22.967		
24	8 28 3.87	23.173	N. 15° 54' 49" 7		24	10 18 57.89	22.959	N. 9° 39' 23" 4	96.72

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 13.					WEDNESDAY 15.				
	h m s	s	N. ° ' "	° ' "		h m s	s	N. ° ' "	° ' "
0	10 18 57.89	22.959	N. 9 39 23.4	96.72	0	12 8 26.96	22.723	N. 1 2 54.5	114.03
1	10 21 15.62	22.952	9 29 41.2	97.34	1	12 10 43.30	22.724	0 51 30.1	114.09
2	10 23 33.31	22.944	9 19 55.3	97.95	2	12 12 59.65	22.724	0 40 5.4	114.15
3	10 25 50.95	22.936	9 10 5.8	98.56	3	12 15 15.99	22.725	0 28 40.3	114.19
4	10 28 8.54	22.928	9 0 12.6	99.16	4	12 17 32.35	22.727	0 17 15.1	114.22
5	10 30 26.09	22.922	8 50 15.9	99.73	5	12 19 48.71	22.728	N. 0 5 49.7	114.25
6	10 32 43.60	22.914	8 40 15.8	100.30	6	12 22 5.08	22.729	S. 0 5 35.9	114.26
7	10 35 1.06	22.906	8 30 12.3	100.87	7	12 24 21.46	22.732	0 17 1.4	114.25
8	10 37 18.47	22.898	8 20 5.4	101.42	8	12 26 37.86	22.734	0 28 26.9	114.23
9	10 39 35.84	22.892	8 9 55.2	101.96	9	12 28 54.27	22.736	0 39 52.2	114.20
10	10 41 53.17	22.884	7 59 41.9	102.48	10	12 31 10.69	22.739	0 51 17.3	114.16
11	10 44 10.45	22.876	7 49 25.4	103.01	11	12 33 27.14	22.742	1 2 42.1	114.09
12	10 46 27.68	22.868	7 39 5.8	103.52	12	12 35 43.60	22.745	1 14 6.4	114.02
13	10 48 44.87	22.862	7 28 43.2	104.01	13	12 38 0.08	22.749	1 25 30.4	113.96
14	10 51 2.03	22.856	7 18 17.7	104.49	14	12 40 16.59	22.753	1 36 53.9	113.87
15	10 53 19.14	22.848	7 7 49.3	104.97	15	12 42 33.12	22.758	1 48 16.8	113.76
16	10 55 36.21	22.842	6 57 18.1	105.43	16	12 44 49.68	22.763	1 59 39.0	113.65
17	10 57 53.24	22.835	6 46 44.2	105.88	17	12 47 6.27	22.768	2 11 0.6	113.52
18	11 0 10.23	22.828	6 36 7.6	106.32	18	12 49 22.89	22.773	2 22 21.3	113.38
19	11 2 27.18	22.822	6 25 28.3	106.75	19	12 51 39.54	22.778	2 33 41.1	113.23
20	11 4 44.09	22.816	6 14 46.6	107.16	20	12 53 56.23	22.784	2 45 0.0	113.07
21	11 7 0.97	22.811	6 4 2.4	107.57	21	12 56 12.95	22.789	2 56 17.9	112.89
22	11 9 17.82	22.805	5 53 15.7	107.97	22	12 58 29.70	22.796	3 7 34.7	112.71
23	11 11 34.63	22.798	N. 5 42 26.8	108.34	23	13 0 46.50	22.803	S. 3 18 50.4	112.51
TUESDAY 14.					THURSDAY 16.				
	h m s	s	N. ° ' "	° ' "		h m s	s	S. ° ' "	° ' "
0	11 13 51.40	22.792	N. 5 31 35.6	108.72	0	13 3 3.34	22.810	S. 3 30 4.8	112.29
1	11 16 8.14	22.787	5 20 42.2	109.08	1	13 5 20.22	22.817	3 41 17.9	112.06
2	11 18 24.84	22.782	5 9 46.7	109.43	2	13 7 37.15	22.825	3 52 29.5	111.82
3	11 20 41.52	22.777	4 58 49.1	109.76	3	13 9 54.12	22.833	4 3 39.8	111.58
4	11 22 58.17	22.773	4 47 49.6	110.08	4	13 12 11.15	22.842	4 14 48.5	111.32
5	11 25 14.79	22.768	4 36 48.1	110.39	5	13 14 28.22	22.849	4 25 55.6	111.05
6	11 27 31.39	22.764	4 25 44.9	110.69	6	13 16 45.34	22.858	4 37 1.1	110.77
7	11 29 47.96	22.759	4 14 39.8	110.98	7	13 19 2.52	22.867	4 48 4.8	110.48
8	11 32 4.50	22.755	4 3 33.1	111.26	8	13 21 19.75	22.877	4 59 6.8	110.17
9	11 34 21.02	22.752	3 52 24.7	111.53	9	13 23 37.04	22.887	5 10 6.8	109.84
10	11 36 37.52	22.748	3 41 14.8	111.78	10	13 25 54.39	22.897	5 21 4.9	109.52
11	11 38 53.99	22.744	3 30 3.4	112.02	11	13 28 11.80	22.907	5 32 1.0	109.18
12	11 41 10.45	22.741	3 18 50.6	112.24	12	13 30 29.27	22.917	5 42 55.1	108.82
13	11 43 26.88	22.738	3 7 36.5	112.46	13	13 32 46.81	22.928	5 53 46.9	108.45
14	11 45 43.31	22.737	2 56 21.1	112.66	14	13 35 4.41	22.938	6 4 36.5	108.07
15	11 47 59.72	22.733	2 45 4.6	112.84	15	13 37 22.07	22.949	6 15 23.8	107.68
16	11 50 16.11	22.732	2 33 47.0	113.02	16	13 39 39.80	22.962	6 26 8.7	107.28
17	11 52 32.50	22.730	2 22 28.3	113.20	17	13 41 57.61	22.973	6 36 51.2	106.87
18	11 54 48.87	22.728	2 11 8.6	113.35	18	13 44 15.48	22.985	6 47 31.2	106.45
19	11 57 5.23	22.727	1 59 48.1	113.49	19	13 46 33.43	22.997	6 58 8.6	106.01
20	11 59 21.59	22.726	1 48 26.7	113.62	20	13 48 51.45	23.009	7 8 43.3	105.57
21	12 1 37.94	22.724	1 37 4.6	113.74	21	13 51 9.54	23.022	7 19 15.4	105.11
22	12 3 54.28	22.723	1 25 41.8	113.85	22	13 53 27.71	23.035	7 29 44.6	104.63
23	12 6 10.62	22.723	1 14 18.4	113.94	23	13 55 45.96	23.048	7 40 11.0	104.16
24	12 8 26.96	22.723	N. 1 2 54.5	114.03	24	13 58 4.29	23.062	S. 7 50 34.5	103.67

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.	Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.	
FRIDAY 17.					SUNDAY 19.					
	h m s	s	° ' "	"		h m s	s	° ' "	"	
0	13 58 4	29	23° 062	S. 7 50 34	5	15 50 32	80	23° 815	S. 14 51 49	2
1	14 0 22	70	23° 075	8 0 55	0	15 52 55	73	23° 830	14 58 35	6
2	14 2 41	19	23° 088	8 11 12	5	15 55 18	76	23° 844	15 5 16	2
3	14 4 59	76	23° 102	8 21 26	0	15 57 41	86	23° 858	15 11 51	1
4	14 7 18	42	23° 117	8 31 38	5	16 0 5	05	23° 872	15 18 20	1
5	14 9 37	16	23° 131	8 41 45	0	16 2 28	32	23° 886	15 24 43	3
6	14 11 55	99	23° 145	8 51 50	5	16 4 51	68	23° 899	15 31 0	5
7	14 14 14	90	23° 159	9 1 51	0	16 7 15	11	23° 912	15 37 11	8
8	14 16 33	90	23° 174	9 11 49	5	16 9 38	62	23° 925	15 43 17	1
9	14 18 52	99	23° 190	9 21 43	0	16 12 2	21	23° 938	15 49 16	4
10	14 21 12	18	23° 205	9 31 34	5	16 14 25	87	23° 950	15 55 9	6
11	14 23 31	45	23° 220	9 41 21	0	16 16 49	61	23° 962	16 0 56	7
12	14 25 50	82	23° 236	9 51 5	5	16 19 13	42	23° 974	16 6 37	7
13	14 28 10	28	23° 252	10 0 44	0	16 21 37	30	23° 985	16 12 12	5
14	14 30 29	84	23° 268	10 10 20	5	16 24 1	24	23° 996	16 17 41	1
15	14 32 49	49	23° 283	10 19 52	0	16 26 25	25	24° 007	16 23 3	5
16	14 35 9	23	23° 298	10 29 20	5	16 28 49	33	24° 018	16 28 19	5
17	14 37 29	07	23° 315	10 38 44	0	16 31 13	47	24° 028	16 33 29	3
18	14 39 49	01	23° 331	10 48 4	5	16 33 37	66	24° 037	16 38 32	7
19	14 42 9	04	23° 347	10 57 20	0	16 36 1	91	24° 047	16 43 29	8
20	14 44 29	17	23° 363	11 6 31	5	16 38 26	22	24° 056	16 48 20	5
21	14 46 49	40	23° 380	11 15 39	0	16 40 50	58	24° 063	16 53 4	7
22	14 49 9	73	23° 396	11 24 42	5	16 43 14	98	24° 072	16 57 42	5
23	14 51 30	15	23° 413	S. 11 33 40	0	16 45 39	44	24° 080	S. 17 2 13	8
SATURDAY 18.					MONDAY 20.					
0	14 53 50	68	23° 430	S. 11 42 35	0	16 48 3	94	24° 087	S. 17 6 38	6
1	14 56 11	31	23° 446	11 51 24	5	16 50 28	48	24° 093	17 10 56	9
2	14 58 32	03	23° 462	12 0 10	0	16 52 53	06	24° 100	17 15 8	6
3	15 0 52	85	23° 479	12 8 50	5	16 55 17	68	24° 107	17 19 13	7
4	15 3 13	78	23° 496	12 17 26	0	16 57 42	34	24° 112	17 23 12	2
5	15 5 34	80	23° 512	12 25 58	5	17 0 7	02	24° 117	17 27 4	1
6	15 7 55	92	23° 528	12 34 24	0	17 2 31	74	24° 122	17 30 49	4
7	15 10 17	14	23° 545	12 42 46	5	17 4 56	48	24° 126	17 34 28	1
8	15 12 38	46	23° 562	12 51 3	0	17 7 21	25	24° 130	17 38 0	0
9	15 14 59	88	23° 578	12 59 15	5	17 9 46	04	24° 133	17 41 25	2
10	15 17 21	40	23° 595	13 7 22	0	17 12 10	84	24° 135	17 44 43	7
11	15 19 43	02	23° 612	13 15 24	5	17 14 35	66	24° 137	17 47 55	5
12	15 22 4	74	23° 628	13 23 21	0	17 17 0	49	24° 139	17 51 0	5
13	15 24 26	55	23° 644	13 31 12	5	17 19 25	33	24° 141	17 53 58	7
14	15 26 48	47	23° 661	13 38 59	0	17 21 50	18	24° 141	17 56 50	2
15	15 29 10	48	23° 676	13 46 40	5	17 24 15	02	24° 141	17 59 34	9
16	15 31 32	58	23° 692	13 54 16	0	17 26 39	87	24° 142	18 2 12	7
17	15 33 54	79	23° 708	14 1 47	5	17 29 4	72	24° 140	18 4 43	8
18	15 36 17	08	23° 723	14 9 12	0	17 31 29	55	24° 138	18 7 8	0
19	15 38 39	47	23° 740	14 16 32	5	17 33 54	38	24° 137	18 9 25	4
20	15 41 1	96	23° 755	14 23 47	0	17 36 19	19	24° 134	18 11 36	0
21	15 43 24	53	23° 770	14 30 56	5	17 38 43	99	24° 131	18 13 39	7
22	15 45 47	20	23° 785	14 37 59	0	17 41 8	76	24° 127	18 15 36	6
23	15 48 9	95	23° 800	14 44 57	5	17 43 33	51	24° 123	18 17 26	6
24	15 50 32	80	23° 815	S. 14 51 49	2	17 45 58	24	24° 118	S. 18 19 9	7

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 21.					THURSDAY 23.				
	h m s	s	S. 18° 19' 9".	16".62		h m s	s	S. 17° 29' 47".	35".94
0	17 45 58.24	24.118	18 20 46.0	15.48	0	19 40 8.02	23.247	17 26 8.9	36.93
1	17 48 22.93	24.113	18 22 15.4	14.33	1	19 42 27.41	23.217	17 22 24.3	37.92
2	17 50 47.60	24.107	18 23 37.9	13.18	2	19 44 46.62	23.187	17 18 33.9	38.88
3	17 53 12.22	24.101	18 24 53.6	12.04	3	19 47 5.65	23.157	17 14 37.7	39.85
4	17 55 36.81	24.094	18 26 2.4	10.89	4	19 49 24.50	23.125	17 10 35.7	40.82
5	17 58 1.35	24.087	18 27 59.4	9.75	5	19 51 43.15	23.093	17 6 27.9	41.77
6	18 0 25.85	24.078	18 28 47.6	8.61	6	19 54 1.62	23.062	17 2 14.5	42.72
7	18 2 50.29	24.069	18 29 28.9	7.46	7	19 56 19.89	23.029	16 57 55.3	43.66
8	18 5 14.68	24.061	18 30 3.5	6.32	8	19 58 37.97	22.997	16 53 30.6	44.58
9	18 7 39.02	24.051	18 30 51.9	5.18	9	20 0 55.86	22.965	16 49 0.3	45.52
10	18 10 3.29	24.040	18 31 13.1	4.03	10	20 3 13.55	22.931	16 44 24.4	46.44
11	18 12 27.50	24.029	18 31 5.9	2.90	11	20 5 31.03	22.898	16 39 43.0	47.35
12	18 14 51.64	24.018	18 31 13.1	1.77	12	20 7 48.32	22.865	16 34 56.2	48.26
13	18 17 15.71	24.006	18 31 13.5	0.63	13	20 10 5.41	22.831	16 30 3.9	49.15
14	18 19 39.71	23.993	18 31 7.0	0.51	14	20 12 22.29	22.796	16 25 6.4	50.03
15	18 22 3.62	23.979	18 30 53.8	2.76	15	20 14 38.96	22.762	16 20 3.5	50.92
16	18 24 27.46	23.966	18 30 33.9	3.89	16	20 16 55.43	22.728	16 14 55.3	51.80
17	18 26 51.21	23.952	18 30 7.1	5.02	17	20 19 11.69	22.693	16 9 41.9	52.66
18	18 29 14.88	23.937	18 29 33.7	6.13	18	20 21 27.74	22.658	15 58 59.7	53.52
19	18 31 38.45	23.921	18 28 53.5	7.26	19	20 23 43.58	22.622	15 53 30.9	54.37
20	18 34 1.93	23.905	18 28 6.6	8.38	20	20 25 59.20	22.587	15 47 57.1	55.22
21	18 36 25.31	23.888	18 27 13.0	9.49	21	20 28 14.62	22.551	15 42 18.3	56.05
22	18 38 48.59	23.872			22	20 30 29.81	22.514		
23	18 41 11.77	23.853			23	20 32 44.79	22.479		
WEDNESDAY 22.					FRIDAY 24.				
	h m s	s	S. 18 26 12.7	10.60		h m s	s	S. 15 36 34.6	57.69
0	18 43 34.83	23.835	18 25 5.8	11.71	0	20 34 59.56	22.443	15 30 46.0	58.50
1	18 45 57.79	23.817	18 23 52.2	12.81	1	20 37 14.11	22.406	15 24 52.6	59.31
2	18 48 20.63	23.797	18 22 32.1	13.91	2	20 39 28.43	22.369	15 18 54.3	60.10
3	18 50 43.35	23.777	18 21 5.3	15.02	3	20 41 42.54	22.333	15 12 51.4	60.88
4	18 53 5.95	23.756	18 19 31.9	16.10	4	20 43 56.43	22.297	15 6 43.8	61.66
5	18 55 28.42	23.735	18 17 52.1	17.18	5	20 46 10.10	22.259	15 0 31.5	62.43
6	18 57 50.77	23.714	18 16 5.7	18.27	6	20 48 23.54	22.222	14 54 14.7	63.18
7	19 0 12.99	23.692	18 14 12.8	19.36	7	20 50 36.76	22.185	14 47 53.3	63.94
8	19 2 35.08	23.670	18 12 13.4	20.43	8	20 52 49.76	22.148	14 41 27.4	64.68
9	19 4 57.03	23.647	18 10 7.7	21.49	9	20 55 2.54	22.111	14 34 57.1	65.42
10	19 7 18.84	23.623	18 7 55.5	22.57	10	20 57 15.09	22.073	14 28 22.4	66.14
11	19 9 40.51	23.600	18 5 36.9	23.63	11	20 59 27.42	22.036	14 21 43.4	66.86
12	19 12 2.04	23.575	18 3 12.0	24.68	12	21 1 39.52	21.998	14 15 0.1	67.57
13	19 14 23.41	23.550	18 0 40.7	25.73	13	21 3 51.40	21.961	14 8 12.5	68.27
14	19 16 44.64	23.525	17 58 3.2	26.78	14	21 6 3.05	21.924	14 1 20.8	68.96
15	19 19 5.71	23.499	17 55 19.4	27.83	15	21 8 14.49	21.887	13 54 25.0	69.64
16	19 21 26.63	23.473	17 52 29.3	28.86	16	21 10 25.69	21.848	13 47 25.1	70.32
17	19 23 47.39	23.446	17 49 33.1	29.88	17	21 12 36.67	21.812	13 40 21.1	70.99
18	19 26 7.98	23.418	17 46 30.7	30.91	18	21 14 47.43	21.774	13 33 13.2	71.64
19	19 28 28.41	23.392	17 43 22.2	31.93	19	21 16 57.96	21.736	13 26 1.4	72.29
20	19 30 48.68	23.363	17 40 7.5	32.94	20	21 19 8.26	21.698	13 18 45.7	72.93
21	19 33 8.77	23.335	17 36 46.9	33.94	21	21 21 18.34	21.661	13 11 26.3	73.56
22	19 35 28.70	23.307	17 33 20.2	34.95	22	21 23 28.19	21.624	13 4 3.0	74.18
23	19 37 48.45	23.277			23	21 25 37.83	21.587		
24	19 40 8.02	23.247			24	21 27 47.23	21.548		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 25.					MONDAY 27.				
	h m s	s				h m s	s		
0	21 27 47.23	21.548	S. 12 56' 36".1	74.79	0	23 7 12.70	19.965	S. 6 33' 36".5	94.03
1	21 29 56.41	21.512	12 49 5.5	75.40	1	23 9 12.41	19.938	5 54 11.7	94.23
2	21 32 5.37	21.475	12 41 31.3	75.99	2	23 11 11.96	19.912	5 44 45.8	94.42
3	21 34 14.11	21.438	12 33 53.6	76.57	3	23 13 11.36	19.887	5 35 18.7	94.61
4	21 36 22.63	21.401	12 26 12.4	77.15	4	23 15 10.60	19.861	5 25 50.5	94.78
5	21 38 30.92	21.363	12 18 27.8	77.72	5	23 17 9.69	19.836	5 16 21.3	94.94
6	21 40 38.99	21.327	12 10 39.8	78.28	6	23 19 8.63	19.812	5 6 51.2	95.10
7	21 42 46.85	21.291	12 2 48.4	78.83	7	23 21 7.43	19.788	4 57 20.1	95.26
8	21 44 54.48	21.253	11 54 53.8	79.37	8	23 23 6.08	19.763	4 47 48.1	95.41
9	21 47 1.89	21.217	11 46 56.0	79.91	9	23 25 4.59	19.739	4 38 15.2	95.55
10	21 49 9.09	21.182	11 38 54.9	80.43	10	23 27 2.95	19.716	4 28 41.5	95.67
11	21 51 16.07	21.145	11 30 50.8	80.94	11	23 29 1.18	19.693	4 19 7.1	95.79
12	21 53 22.83	21.109	11 22 43.6	81.45	12	23 30 59.27	19.671	4 9 32.0	95.91
13	21 55 29.38	21.073	11 14 33.4	81.95	13	23 32 57.23	19.648	3 59 56.2	96.02
14	21 57 35.71	21.037	11 6 20.2	82.44	14	23 34 55.05	19.627	3 50 19.7	96.13
15	21 59 41.83	21.002	10 58 4.1	82.92	15	23 36 52.75	19.606	3 40 42.7	96.22
16	22 1 47.73	20.967	10 49 45.1	83.39	16	23 38 50.32	19.584	3 31 5.1	96.30
17	22 3 53.43	20.932	10 41 23.4	83.85	17	23 40 47.76	19.563	3 21 27.1	96.38
18	22 5 58.91	20.897	10 32 58.9	84.31	18	23 42 45.08	19.543	3 11 48.5	96.47
19	22 8 4.19	20.862	10 24 31.7	84.76	19	23 44 42.28	19.523	3 2 9.5	96.53
20	22 10 9.26	20.828	10 16 1.8	85.20	20	23 46 39.36	19.503	2 52 30.2	96.58
21	22 12 14.12	20.793	10 7 29.3	85.62	21	23 48 36.32	19.484	2 42 50.5	96.63
22	22 14 18.77	20.758	9 58 54.3	86.04	22	23 50 33.17	19.466	2 33 10.6	96.68
23	22 16 23.22	20.725	S. 9 50 16.8	86.45	23	23 52 29.91	19.447	S. 2 23 30.4	96.72
SUNDAY 26.					TUESDAY 28.				
	h m s	s				h m s	s		
0	22 18 27.47	20.692	S. 9 41 36.9	86.86	0	23 54 26.54	19.429	S. 2 13 50.0	96.75
1	22 20 31.52	20.658	9 32 54.5	87.25	1	23 56 23.06	19.412	2 4 9.4	96.77
2	22 22 35.37	20.625	9 24 9.9	87.63	2	23 58 19.48	19.394	1 54 28.7	96.79
3	22 24 39.02	20.592	9 15 22.9	88.02	3	0 0 15.79	19.378	1 44 47.9	96.80
4	22 26 42.47	20.559	9 6 33.7	88.38	4	0 2 12.01	19.362	1 35 7.1	96.81
5	22 28 45.73	20.527	8 57 42.3	88.74	5	0 4 8.13	19.345	1 25 26.2	96.81
6	22 30 48.79	20.495	8 48 48.8	89.09	6	0 6 4.15	19.329	1 15 45.4	96.80
7	22 32 51.67	20.463	8 39 53.2	89.43	7	0 8 0.08	19.314	1 6 4.6	96.78
8	22 34 54.35	20.431	8 30 55.6	89.77	8	0 9 55.92	19.299	0 56 24.0	96.76
9	22 36 56.84	20.399	8 21 55.9	90.10	9	0 11 51.67	19.285	0 46 43.5	96.73
10	22 38 59.14	20.368	8 12 54.4	90.42	10	0 13 47.34	19.271	0 37 3.2	96.69
11	22 41 1.26	20.337	8 3 50.9	90.73	11	0 15 42.92	19.257	0 27 23.2	96.65
12	22 43 3.19	20.307	7 54 45.6	91.03	12	0 17 38.42	19.243	0 17 43.4	96.61
13	22 45 4.94	20.277	7 45 38.5	91.32	13	0 19 33.84	19.231	S. 0 8 3.9	96.55
14	22 47 6.51	20.247	7 36 29.7	91.61	14	0 21 29.19	19.218	N. 0 1 35.2	96.49
15	22 49 7.90	20.217	7 27 19.2	91.89	15	0 23 24.46	19.207	0 11 14.0	96.43
16	22 51 9.12	20.188	7 18 7.0	92.16	16	0 25 19.67	19.196	0 20 52.3	96.36
17	22 53 10.16	20.158	7 8 53.3	92.42	17	0 27 14.81	19.184	0 30 30.3	96.28
18	22 55 11.02	20.130	6 59 38.0	92.67	18	0 29 9.88	19.173	0 40 7.7	96.18
19	22 57 11.72	20.102	6 50 21.3	92.92	19	0 31 4.88	19.163	0 49 44.5	96.10
20	22 59 12.24	20.073	6 41 3.0	93.16	20	0 32 59.83	19.153	0 59 20.9	96.01
21	23 1 12.60	20.047	6 31 43.4	93.38	21	0 34 54.71	19.143	1 8 56.6	95.89
22	23 3 12.80	20.019	6 22 22.4	93.61	22	0 36 49.54	19.133	1 18 31.6	95.78
23	23 5 12.83	19.992	6 13 0.1	93.83	23	0 38 44.31	19.124	1 28 6.0	95.67
24	23 7 12.70	19.965	S. 6 3 36.5	94.03	24	0 40 39.03	19.116	N. 1 37 39.7	95.55

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.	Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.
WEDNESDAY 29.					FRIDAY 31.				
	h m s	s	N. ° ' "	"		h m s	s	N. ° ' "	"
0	0 40 39.03	19.116	N. 1 37 39.7	95.55	0	2 12 11.87	19.179	N. 8 51 34.0	83.18
1	0 42 33.70	19.107	1 47 12.6	95.42	1	2 14 6.98	19.190	8 59 51.9	82.79
2	0 44 28.32	19.100	1 56 44.8	95.29	2	2 16 2.15	19.201	9 8 7.5	82.40
3	0 46 22.90	19.093	2 6 16.1	95.15	3	2 17 57.39	19.212	9 16 20.7	82.00
4	0 48 17.44	19.087	2 15 46.6	95.01	4	2 19 52.70	19.224	9 24 31.5	81.60
5	0 50 11.94	19.081	2 25 16.2	94.86	5	2 21 48.08	19.236	9 32 39.9	81.19
6	0 52 6.41	19.074	2 34 44.9	94.70	6	2 23 43.53	19.248	9 40 45.8	80.78
7	0 54 0.83	19.068	2 44 12.6	94.53	7	2 25 39.06	19.262	9 48 49.3	80.37
8	0 55 55.23	19.063	2 53 39.3	94.36	8	2 27 34.67	19.275	9 56 50.2	79.94
9	0 57 49.59	19.058	3 3 4.9	94.19	9	2 29 30.36	19.288	10 4 48.6	79.52
10	0 59 43.93	19.054	3 12 29.6	94.02	10	2 31 26.13	19.302	10 12 44.5	79.09
11	1 1 38.24	19.050	3 21 53.1	93.83	11	2 33 21.98	19.316	10 20 37.7	78.65
12	1 3 32.53	19.047	3 31 15.5	93.63	12	2 35 17.92	19.331	10 28 28.3	78.21
13	1 5 26.80	19.043	3 40 36.7	93.43	13	2 37 13.95	19.346	10 36 16.2	77.77
14	1 7 21.05	19.040	3 49 56.7	93.23	14	2 39 10.07	19.361	10 44 1.5	77.32
15	1 9 15.28	19.038	3 59 15.5	93.03	15	2 41 6.28	19.377	10 51 44.0	76.85
16	1 11 9.51	19.037	4 8 33.1	92.82	16	2 43 2.59	19.392	10 59 23.7	76.39
17	1 13 3.72	19.034	4 17 49.3	92.59	17	2 44 58.99	19.408	11 7 0.7	75.93
18	1 14 57.92	19.033	4 27 4.2	92.37	18	2 46 55.49	19.425	11 14 34.9	75.46
19	1 16 52.12	19.033	4 36 17.8	92.15	19	2 48 52.09	19.442	11 22 6.2	74.98
20	1 18 46.31	19.033	4 45 30.0	91.91	20	2 50 48.79	19.458	11 29 34.7	74.50
21	1 20 40.51	19.033	4 54 40.7	91.67	21	2 52 45.59	19.476	11 37 0.2	74.01
22	1 22 34.70	19.033	5 3 50.0	91.42	22	2 54 42.50	19.494	11 44 22.8	73.52
23	1 24 28.90	19.033	N. 5 12 57.8	91.17	23	2 56 39.52	19.512	N. 11 51 42.5	73.03
THURSDAY 30.					SATURDAY, SEPT. 1.				
	h m s	s	N. ° ' "	"		h m s	s	N. ° ' "	"
0	1 26 23.10	19.034	N. 5 22 4.0	90.91	0	2 58 36.65	19.531	N. 11 58 59.2	72.53
1	1 28 17.31	19.036	5 31 8.7	90.65					
2	1 30 11.53	19.038	5 40 11.8	90.38					
3	1 32 5.77	19.041	5 49 13.3	90.11					
4	1 34 0.02	19.043	5 58 13.1	89.83					
5	1 35 54.29	19.047	6 7 11.2	89.55					
6	1 37 48.58	19.051	6 16 7.7	89.26					
7	1 39 42.90	19.054	6 25 2.3	88.96					
8	1 41 37.23	19.058	6 33 55.2	88.67					
9	1 43 31.60	19.063	6 42 46.3	88.36					
10	1 45 25.99	19.068	6 51 35.5	88.05					
11	1 47 20.42	19.074	7 0 22.9	87.73					
12	1 49 14.88	19.080	7 9 8.3	87.41					
13	1 51 9.38	19.086	7 17 51.8	87.08					
14	1 53 3.91	19.093	7 26 33.3	86.76					
15	1 54 58.49	19.100	7 35 12.9	86.43					
16	1 56 53.11	19.107	7 43 50.4	86.08					
17	1 58 47.77	19.114	7 52 25.9	85.74					
18	2 0 42.48	19.122	8 0 59.3	85.38					
19	2 2 37.24	19.131	8 9 30.5	85.03					
20	2 4 32.05	19.140	8 17 59.7	84.67					
21	2 6 26.92	19.150	8 26 26.6	84.30					
22	2 8 21.85	19.159	8 34 51.3	83.93					
23	2 10 16.83	19.168	8 43 13.8	83.56					
24	2 12 11.87	19.179	N. 8 51 34.0	83.18					

PHASES OF THE MOON.

		h m
Aug. 4	☾ Last Quarter	- - 7 22.3
11	● New Moon	- - 23 16.6
18	☾ First Quarter	- - 18 6.9
25	○ Full Moon	- - 22 29.4
		h
Aug. 3	☾ Apogee	- - - - 18.4
15	☾ Perigee	- - - - 22.0
31	☾ Apogee	- - - - 12.9

AT APPARENT NOON.

Date.		THE SUN'S				Sidereal Time of the Semi- diameter passing the Meridian.*	Equation of Time, to be added to		Var. in 1 hour.
		Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.		subtracted from Apparent Time.		
		h m s	s	N. ° ' "	"	m s	m s	s	
Sat.	1	10 38 41.61	9.077	8 34 2.6	54.15	1 4.38	0 11.50	0.777	
Sun.	2	10 42 19.32	9.065	8 12 19.0	54.49	1 4.34	0 7.29	0.789	
Mon.	3	10 45 56.75	9.054	7 50 27.3	54.81	1 4.29	0 26.36	0.800	
Tues.	4	10 49 33.92	9.044	7 28 27.9	55.13	1 4.25	0 45.69	0.810	
Wed.	5	10 53 10.85	9.034	7 6 21.2	55.43	1 4.22	1 5.26	0.820	
Thur.	6	10 56 47.56	9.025	6 44 7.5	55.71	1 4.18	1 25.05	0.829	
Frid.	7	11 0 24.06	9.017	6 21 47.1	55.98	1 4.15	1 45.05	0.837	
Sat.	8	11 4 0.37	9.009	5 59 20.3	56.24	1 4.12	2 5.24	0.845	
Sun.	9	11 7 36.50	9.002	5 36 47.5	56.49	1 4.09	2 25.60	0.852	
Mon.	10	11 11 12.47	8.996	5 14 9.0	56.72	1 4.07	2 46.13	0.858	
Tues.	11	11 14 48.29	8.990	4 51 25.2	56.93	1 4.05	3 6.80	0.864	
Wed.	12	11 18 23.97	8.984	4 28 36.4	57.13	1 4.03	3 27.61	0.870	
Thur.	13	11 21 59.54	8.980	4 5 42.9	57.32	1 4.02	3 48.54	0.874	
Frid.	14	11 25 35.00	8.976	3 42 45.2	57.49	1 4.00	4 9.57	0.878	
Sat.	15	11 29 10.38	8.973	3 19 43.5	57.65	1 4.00	4 30.69	0.881	
Sun.	16	11 32 45.69	8.970	2 56 38.2	57.79	1 3.99	4 51.87	0.884	
Mon.	17	11 36 20.94	8.968	2 33 29.7	57.91	1 3.99	5 13.11	0.886	
Tues.	18	11 39 56.17	8.967	2 10 18.3	58.03	1 3.99	5 34.39	0.887	
Wed.	19	11 43 31.38	8.967	1 47 4.2	58.13	1 3.99	5 55.67	0.886	
Thur.	20	11 47 6.60	8.968	1 23 47.9	58.22	1 3.99	6 16.94	0.886	
Frid.	21	11 50 41.86	8.970	1 0 29.7	58.29	1 4.00	6 38.18	0.884	
Sat.	22	11 54 17.17	8.973	0 37 9.8	58.35	1 4.02	6 59.36	0.881	
Sun.	23	11 57 52.56	8.977	N. 0 13 48.7	58.40	1 4.03	7 20.46	0.877	
Mon.	24	12 1 28.06	8.982	S. 0 9 33.4	58.43	1 4.05	7 41.45	0.872	
Tues.	25	12 5 3.69	8.988	0 32 56.1	58.45	1 4.07	8 2.32	0.866	
Wed.	26	12 8 39.47	8.995	0 56 19.1	58.46	1 4.09	8 23.03	0.859	
Thur.	27	12 12 15.43	9.002	1 19 42.1	58.45	1 4.12	8 43.57	0.852	
Frid.	28	12 15 51.58	9.011	1 43 4.8	58.43	1 4.15	9 3.91	0.843	
Sat.	29	12 19 27.96	9.021	2 6 26.8	58.39	1 4.18	9 24.03	0.833	
Sun.	30	12 23 4.59	9.032	2 29 47.7	58.34	1 4.22	9 43.90	0.822	
Mon.	31	12 26 41.48	9.043	S. 2 53 7.3	58.28	1 4.26	10 3.50	0.811	

* Mean Time of the Semidiameter passing may be found by subtracting 0^s.18 from the Sidereal Time.

AT MEAN NOON.

THE SUN'S				Equation of Time, to be added to	Sidereal Time.	
Date.	Apparent Right Ascension.	Apparent Declination.	Semi-diameter.*	subtracted from Apparent Time.		
Sat.	1	h m s 10 38 41.58	N. 8 34 2.8	15 52.53	m s 0 11.50	h m s 10 38 30.08
Sun.	2	10 42 19.34	8 12 18.9	15 52.75	0 7.29	10 42 26.63
Mon.	3	10 45 56.82	7 50 26.9	15 52.98	0 26.37	10 46 23.18
Tues.	4	10 49 34.04	7 28 27.2	15 53.21	0 45.70	10 50 19.74
Wed.	5	10 53 11.02	7 6 20.2	15 53.44	1 5.27	10 54 16.29
Thur.	6	10 56 47.77	6 44 6.2	15 53.67	1 25.07	10 58 12.84
Frid.	7	11 0 24.32	6 21 45.5	15 53.91	1 45.07	11 2 9.39
Sat.	8	11 4 0.68	5 59 18.4	15 54.15	2 5.27	11 6 5.95
Sun.	9	11 7 36.86	5 36 45.2	15 54.39	2 25.64	11 10 2.50
Mon.	10	11 11 12.88	5 14 6.4	15 54.63	2 46.17	11 13 59.05
Tues.	11	11 14 48.75	4 51 22.2	15 54.88	3 6.85	11 17 55.60
Wed.	12	11 18 24.49	4 28 33.1	15 55.14	3 27.66	11 21 52.15
Thur.	13	11 22 0.11	4 5 39.3	15 55.39	3 48.59	11 25 48.71
Frid.	14	11 25 35.63	3 42 41.2	15 55.65	4 9.63	11 29 45.26
Sat.	15	11 29 11.06	3 19 39.2	15 55.92	4 30.75	11 33 41.81
Sun.	16	11 32 46.42	2 56 33.5	15 56.18	4 51.95	11 37 38.36
Mon.	17	11 36 21.72	2 33 24.6	15 56.45	5 13.19	11 41 34.91
Tues.	18	11 39 57.00	2 10 12.9	15 56.72	5 34.47	11 45 31.47
Wed.	19	11 43 32.26	1 46 58.5	15 56.99	5 55.76	11 49 28.02
Thur.	20	11 47 7.54	1 23 41.8	15 57.26	6 17.03	11 53 24.57
Frid.	21	11 50 42.85	1 0 23.2	15 57.53	6 38.27	11 57 21.12
Sat.	22	11 54 18.22	0 37 3.0	15 57.80	6 59.46	12 1 17.67
Sun.	23	11 57 53.66	N. 0 13 41.6	15 58.07	7 20.56	12 5 14.22
Mon.	24	12 1 29.21	S. 0 9 40.9	15 58.34	7 41.56	12 9 10.78
Tues.	25	12 5 4.89	0 33 3.9	15 58.61	8 2.43	12 13 7.33
Wed.	26	12 8 40.73	0 56 27.3	15 58.89	8 23.15	12 17 3.88
Thur.	27	12 12 16.74	1 19 50.6	15 59.16	8 43.70	12 21 0.43
Frid.	28	12 15 52.95	1 43 13.6	15 59.43	9 4.04	12 24 56.98
Sat.	29	12 19 29.38	2 6 35.9	15 59.70	9 24.16	12 28 53.54
Sun.	30	12 23 6.05	2 29 57.2	15 59.97	9 44.03	12 32 50.09
Mon.	31	12 26 43.00	S. 2 53 17.1	16 0.24	10 3.64	12 36 46.64

* The Semidiameter for *Apparent* Noon may be assumed the same as that for *Mean* Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
				h m s				
1	158° 0' 43.6	S. 0.89	0.0039253	13 19 18.62	14 45.74	14 46.68	54 10.78	54 14.23
2	158 58 48.2	0.93	0.0038239	13 15 22.71	14 48.30	14 50.62	54 20.20	54 28.72
3	159 56 54.7	0.94	0.0037213	13 11 26.80	14 53.64	14 57.35	54 39.79	54 53.39
4	160 55 3.2	0.93	0.0036176	13 7 30.90	15 1.71	15 6.70	55 9.41	55 27.73
5	161 53 13.6	0.89	0.0035128	13 3 34.99	15 12.27	15 18.34	55 48.16	56 10.44
6	162 51 26.1	0.82	0.0034067	12 59 39.08	15 24.83	15 31.64	56 34.26	56 59.25
7	163 49 40.6	0.72	0.0032992	12 55 43.18	15 38.65	15 45.73	57 24.99	57 50.97
8	164 47 57.0	0.60	0.0031903	12 51 47.27	15 52.73	15 59.50	58 16.66	58 41.50
9	165 46 15.4	0.47	0.0030798	12 47 51.36	16 5.88	16 11.71	59 4.91	59 26.32
10	166 44 35.7	0.33	0.0029678	12 43 55.46	16 16.86	16 21.18	59 45.20	60 1.09
11	167 42 57.8	0.19	0.0028542	12 39 59.55	16 24.59	16 27.01	60 13.60	60 22.48
12	168 41 21.8	S. 0.05	0.0027390	12 36 3.65	16 28.41	16 28.77	60 27.59	60 28.93
13	169 39 47.4	N. 0.07	0.0026224	12 32 7.74	16 28.14	16 26.58	60 26.62	60 20.89
14	170 38 14.7	0.16	0.0025044	12 28 11.83	16 24.18	16 21.04	60 12.07	60 0.55
15	171 36 43.7	0.22	0.0023852	12 24 15.93	16 17.28	16 13.04	59 46.77	59 31.18
16	172 35 14.3	0.25	0.0022649	12 20 20.02	16 8.41	16 3.53	59 14.21	58 56.28
17	173 33 46.4	0.25	0.0021437	12 16 24.12	15 58.48	15 53.36	58 37.75	58 18.95
18	174 32 20.2	0.21	0.0020219	12 12 28.21	15 48.23	15 43.16	58 0.14	57 41.54
19	175 30 55.6	0.15	0.0018995	12 8 32.30	15 38.20	15 33.36	57 23.31	57 5.57
20	176 29 32.7	N. 0.06	0.0017767	12 4 36.40	15 28.68	15 24.17	56 48.40	56 31.85
21	177 28 11.5	S. 0.05	0.0016537	12 0 40.49	15 19.84	15 15.70	56 15.96	56 0.73
22	178 26 52.1	0.17	0.0015307	11 56 44.59	15 11.74	15 7.97	55 46.20	55 32.36
23	179 25 34.5	0.30	0.0014076	11 52 48.68	15 4.39	15 1.02	55 19.24	55 6.88
24	180 24 18.8	0.43	0.0012845	11 48 52.78	14 57.87	14 54.95	54 55.31	54 44.60
25	181 23 5.1	0.55	0.0011616	11 44 56.87	14 52.29	14 49.90	54 34.82	54 26.08
26	182 21 53.4	0.66	0.0010388	11 41 0.96	14 47.83	14 46.10	54 18.47	54 12.12
27	183 20 43.8	0.75	0.0009161	11 37 5.06	14 44.75	14 43.83	54 7.18	54 3.77
28	184 19 36.4	0.82	0.0007936	11 33 9.15	14 43.36	14 43.38	54 2.04	54 2.13
29	185 18 31.1	0.87	0.0006711	11 29 13.25	14 43.94	14 45.07	54 4.19	54 8.33
30	186 17 28.0	0.88	0.0005488	11 25 17.34	14 46.80	14 49.16	54 14.68	54 23.33
31	187 16 27.2	S. 0.87	0.0004265	11 21 21.43	14 52.16	14 55.82	54 34.36	54 47.79

MEAN TIME.

Day.	THE MOON'S									
	Longitude.		Latitude.		Age.	Meridian Passage.		Noon.	Upper.	Lower.
	Noon.	Midnight.	Noon.	Midnight.						
	° ' "	° ' "	S. ° ' "	S. ° ' "	d	h m	h m			
1	45 42 35.6	51 38 35.5	S. 4 45 54.8	S. 4 58 36.0	20.03	16 50.5	4 28.1			
2	57 35 36.9	63 34 13.8	5 8 7.3	5 14 21.5	21.03	17 36.5	5 13.3			
3	69 35 0.7	75 38 32.1	5 17 12.1	5 16 33.3	22.03	18 24.1	6 0.1			
4	81 45 21.7	87 56 2.2	5 12 20.3	5 4 29.3	23.03	19 13.6	6 48.6			
5	94 11 4.4	100 30 56.3	4 52 57.6	4 37 44.5	24.03	20 4.8	7 39.0			
6	106 56 2.4	113 26 43.5	4 18 51.5	3 56 22.8	25.03	20 57.2	8 30.8			
7	120 3 14.5	126 45 44.7	3 30 26.3	3 1 13.6	26.03	21 50.5	9 23.8			
8	133 34 16.5	140 28 44.9	2 29 1.4	1 54 10.9	27.03	22 44.1	10 17.3			
9	147 28 56.7	154 34 30.8	S. 1 17 9.0	S. 0 38 27.7	28.03	23 37.9	11 11.0			
10	161 44 58.0	168 59 41.5	N. 0 1 16.3	N. 0 41 22.3	29.03	* *	12 4.8			
11	176 17 57.8	183 38 58.0	1 21 6.5	1 59 44.2	0.63	0 31.8	12 58.8			
12	191 1 49.5	198 25 37.2	2 36 30.6	3 10 43.3	1.63	1 25.9	13 53.1			
13	205 49 26.6	213 12 24.1	3 41 43.6	4 8 57.7	2.63	2 20.5	14 48.1			
14	220 33 40.2	227 52 30.3	4 31 58.1	4 50 24.2	3.63	3 15.9	15 43.8			
15	235 8 15.6	242 20 24.2	5 4 2.2	5 12 45.1	4.63	4 12.0	16 40.2			
16	249 28 31.3	256 32 19.0	5 16 32.4	5 15 29.2	5.63	5 8.5	17 36.8			
17	263 31 36.0	270 26 16.6	5 9 45.3	4 59 34.7	6.63	6 5.0	18 32.9			
18	277 16 20.8	284 1 52.3	4 45 15.1	4 27 6.1	7.63	7 0.5	19 27.7			
19	290 42 58.3	297 19 48.4	4 5 30.1	3 40 50.4	8.63	7 54.5	20 20.6			
20	303 52 34.0	310 21 27.5	3 13 31.6	2 43 59.2	9.63	8 46.2	21 11.2			
21	316 46 41.7	323 8 29.5	2 12 38.7	1 39 56.0	10.63	9 35.7	21 59.6			
22	329 27 3.6	335 42 36.4	N. 1 6 16.8	N. 0 32 6.4	11.63	10 23.0	22 45.9			
23	341 55 19.7	348 5 25.1	S. 0 2 10.6	S. 0 36 10.4	12.63	11 8.4	23 30.6			
24	354 13 3.8	0 18 27.1	1 9 30.1	1 41 48.4	13.63	11 52.5	* *			
25	6 21 46.4	12 23 13.3	2 12 45.1	2 42 1.4	14.63	12 35.7	0 14.2			
26	18 23 0.4	24 21 21.3	3 9 20.5	3 34 27.1	15.63	13 18.7	0 57.2			
27	30 18 30.9	36 14 45.2	3 57 7.4	4 17 9.5	16.63	14 2.0	1 40.3			
28	42 10 22.4	48 5 42.5	4 34 22.6	4 48 37.9	17.63	14 46.1	2 23.9			
29	54 1 7.1	59 57 0.2	4 59 47.7	5 7 45.5	18.63	15 31.2	3 8.5			
30	65 53 47.7	71 51 57.6	5 12 25.9	5 13 44.7	19.63	16 17.7	3 54.3			
31	77 51 59.5	83 54 24.5	S. 5 11 38.6	S. 5 6 5.2	20.63	17 5.7	4 41.5			

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 1.					MONDAY 3.				
	h m s	s	N. 11 58 59.2	72.53		h m s	s	N. 16 39 56.3	42.61
0	2 58 36.65	19.531	12 6 12.9	72.02	0	4 34 57.79	20.696	16 44 9.7	41.87
1	3 0 33.89	19.549	12 13 23.5	71.51	1	4 37 2.05	20.724	16 48 18.7	41.12
2	3 2 31.24	19.568	12 20 31.0	70.99	2	4 39 6.48	20.752	16 52 23.1	40.36
3	3 4 28.70	19.587	12 27 35.4	70.47	3	4 41 11.08	20.781	16 56 23.0	39.60
4	3 6 26.28	19.607	12 34 36.7	69.95	4	4 43 15.85	20.809	17 0 18.3	38.83
5	3 8 23.98	19.627	12 41 34.8	69.42	5	4 45 20.79	20.838	17 4 9.0	38.06
6	3 10 21.80	19.647	12 48 29.7	68.88	6	4 47 25.91	20.867	17 7 55.0	37.28
7	3 12 19.74	19.667	12 55 21.3	68.34	7	4 49 31.19	20.895	17 11 36.4	36.50
8	3 14 17.81	19.688	13 2 9.8	67.80	8	4 51 36.65	20.924	17 15 13.0	35.72
9	3 16 16.00	19.708	13 8 54.9	67.24	9	4 53 42.28	20.952	17 18 45.0	34.93
10	3 18 14.31	19.730	13 15 36.7	66.69	10	4 55 48.09	20.982	17 22 12.2	34.13
11	3 20 12.76	19.752	13 22 15.2	66.13	11	4 57 54.07	21.011	17 25 34.6	33.33
12	3 22 11.33	19.773	13 28 50.3	65.57	12	5 0 0.22	21.040	17 28 52.2	32.53
13	3 24 10.03	19.795	13 35 22.0	64.99	13	5 2 6.55	21.069	17 32 4.9	31.72
14	3 26 8.87	19.818	13 41 50.2	64.42	14	5 4 13.05	21.097	17 35 12.8	30.91
15	3 28 7.85	19.840	13 48 15.0	63.84	15	5 6 19.72	21.126	17 38 15.8	30.09
16	3 30 6.95	19.863	13 54 36.3	63.25	16	5 8 26.56	21.155	17 41 13.9	29.27
17	3 32 6.20	19.887	14 0 54.0	62.66	17	5 10 33.58	21.185	17 44 7.0	28.43
18	3 34 5.59	19.909	14 7 8.2	62.07	18	5 12 40.78	21.213	17 46 55.1	27.59
19	3 36 5.11	19.932	14 13 18.8	61.47	19	5 14 48.14	21.242	17 49 38.1	26.76
20	3 38 4.78	19.957	14 19 25.8	60.86	20	5 16 55.68	21.271	17 52 16.2	25.92
21	3 40 4.59	19.980	14 25 29.1	60.24	21	5 19 3.39	21.300	17 54 49.2	25.08
22	3 42 4.54	20.004	N. 14 31 28.7	59.63	22	5 21 11.28	21.329	N. 17 57 17.1	24.22
23	3 44 4.64	20.029			23	5 23 19.34	21.358		
SUNDAY 2.					TUESDAY 4.				
	h m s	s	N. 14 37 24.7	59.02		h m s	s	N. 17 59 39.8	23.36
0	3 46 4.89	20.054	14 43 16.9	58.38	0	5 25 27.57	21.386	18 1 57.4	22.50
1	3 48 5.29	20.078	14 49 5.3	57.76	1	5 27 35.97	21.415	18 4 9.8	21.63
2	3 50 5.83	20.103	14 54 50.0	57.13	2	5 29 44.55	21.443	18 6 17.0	20.77
3	3 52 6.53	20.128	15 0 30.8	56.48	3	5 31 53.29	21.472	18 8 19.0	19.90
4	3 54 7.37	20.153	15 6 7.7	55.83	4	5 34 2.21	21.500	18 10 15.8	19.02
5	3 56 8.37	20.180	15 11 40.8	55.18	5	5 36 11.29	21.528	18 12 7.2	18.13
6	3 58 9.53	20.205	15 17 9.9	54.53	6	5 38 20.55	21.557	18 13 53.3	17.24
7	4 0 10.83	20.231	15 22 35.1	53.87	7	5 40 29.97	21.584	18 15 34.1	16.36
8	4 2 12.30	20.257	15 27 56.3	53.20	8	5 42 39.56	21.612	18 17 9.6	15.47
9	4 4 13.92	20.284	15 33 13.5	52.53	9	5 44 49.32	21.641	18 18 39.7	14.56
10	4 6 15.71	20.311	15 38 26.6	51.85	10	5 46 59.25	21.668	18 20 4.3	13.65
11	4 8 17.65	20.337	15 43 35.7	51.17	11	5 49 9.34	21.696	18 21 23.5	12.74
12	4 10 19.75	20.363	15 48 40.7	50.49	12	5 51 19.60	21.723	18 22 37.2	11.83
13	4 12 22.01	20.391	15 53 41.6	49.80	13	5 53 30.02	21.751	18 23 45.5	10.92
14	4 14 24.44	20.418	15 58 38.3	49.10	14	5 55 40.61	21.778	18 24 48.2	10.00
15	4 16 27.03	20.445	16 3 30.8	48.39	15	5 57 51.36	21.805	18 25 45.5	9.07
16	4 18 29.78	20.472	16 8 19.0	47.69	16	6 0 2.27	21.832	18 26 37.1	8.14
17	4 20 32.70	20.500	16 13 3.1	46.98	17	6 2 13.34	21.858	18 27 23.2	7.22
18	4 22 35.78	20.528	16 17 42.8	46.26	18	6 4 24.57	21.886	18 28 3.7	6.28
19	4 24 39.03	20.556	16 22 18.2	45.54	19	6 6 35.97	21.913	18 28 38.5	5.34
20	4 26 42.45	20.583	16 26 49.3	44.82	20	6 8 47.52	21.938	18 29 7.8	4.40
21	4 28 46.03	20.611	16 31 16.1	44.09	21	6 10 59.23	21.964	18 29 31.3	3.45
22	4 30 49.78	20.639	16 35 38.4	43.35	22	6 13 11.09	21.990	18 29 49.2	2.50
23	4 32 53.70	20.667	N. 16 39 56.3	42.61	23	6 15 23.11	22.016		
24	4 34 57.79	20.696			24	6 17 35.28	22.041		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 5.					FRIDAY 7.				
	h m s	s	N. 18° 30' 1" 3	"		h m s	s	N. 16° 42' 58" 8	"
0	6 17 35.28	22.041	18 30 1.3	1.54	0	8 5 50.91	22.957	16 42 58.8	46.63
1	6 19 47.60	22.067	18 30 7.7	0.59	1	8 8 8.69	22.968	16 38 16.0	47.64
2	6 22 0.08	22.092	18 30 8.4	0.37	2	8 10 26.53	22.980	16 33 27.1	48.65
3	6 24 12.70	22.117	18 30 3.3	1.33	3	8 12 44.45	22.992	16 28 32.2	49.66
4	6 26 25.48	22.142	18 29 52.4	2.30	4	8 15 2.43	23.002	16 23 31.2	50.67
5	6 28 38.40	22.166	18 29 35.7	3.27	5	8 17 20.47	23.013	16 18 24.2	51.68
6	6 30 51.47	22.190	18 29 13.1	4.24	6	8 19 38.58	23.023	16 13 11.1	52.68
7	6 33 4.68	22.213	18 28 44.8	5.22	7	8 21 56.75	23.033	16 7 52.1	53.67
8	6 35 18.03	22.237	18 28 10.5	6.20	8	8 24 14.98	23.043	16 2 27.1	54.67
9	6 37 31.53	22.261	18 27 30.4	7.18	9	8 26 33.26	23.052	15 56 56.1	55.66
10	6 39 45.16	22.284	18 26 44.4	8.16	10	8 28 51.60	23.061	15 51 19.2	56.65
11	6 41 58.94	22.307	18 25 52.5	9.15	11	8 31 9.99	23.070	15 45 36.3	57.64
12	6 44 12.85	22.330	18 24 54.6	10.14	12	8 33 28.44	23.079	15 39 47.5	58.62
13	6 46 26.90	22.353	18 23 50.8	11.13	13	8 35 46.94	23.087	15 33 52.8	59.60
14	6 48 41.08	22.375	18 22 41.0	12.13	14	8 38 5.48	23.094	15 27 52.3	60.58
15	6 50 55.40	22.397	18 21 25.3	13.12	15	8 40 24.07	23.102	15 21 45.8	61.57
16	6 53 9.84	22.418	18 20 3.6	14.12	16	8 42 42.71	23.110	15 15 33.5	62.53
17	6 55 24.42	22.440	18 18 35.9	15.12	17	8 45 1.39	23.117	15 9 15.4	63.50
18	6 57 39.12	22.461	18 17 2.2	16.13	18	8 47 20.11	23.123	15 2 51.5	64.47
19	6 59 53.95	22.482	18 15 22.4	17.13	19	8 49 38.87	23.130	14 56 21.8	65.43
20	7 2 8.91	22.503	18 13 36.6	18.13	20	8 51 57.67	23.137	14 49 46.4	66.38
21	7 4 23.98	22.523	18 11 44.8	19.13	21	8 54 16.51	23.143	14 43 5.3	67.33
22	7 6 39.18	22.543	18 9 47.0	20.15	22	8 56 35.39	23.149	14 36 18.5	68.28
23	7 8 54.50	22.563	N. 18 7 43.0	21.17	23	8 58 54.30	23.154	N. 14 29 26.0	69.22
THURSDAY 6.					SATURDAY 8.				
	h m s	s	N. 18 5 33.0	22.18		h m s	s	N. 14 22 27.9	70.15
0	7 11 9.93	22.582	18 5 33.0	22.18	0	9 1 13.24	23.160	14 22 27.9	70.15
1	7 13 25.48	22.602	18 3 16.9	23.18	1	9 3 32.22	23.165	14 15 24.2	71.08
2	7 15 41.15	22.621	18 0 54.8	24.20	2	9 5 51.22	23.170	14 8 14.9	72.02
3	7 17 56.93	22.639	17 58 26.5	25.22	3	9 8 10.26	23.175	14 1 0.0	72.93
4	7 20 12.82	22.657	17 55 52.1	26.24	4	9 10 29.32	23.179	13 53 39.7	73.85
5	7 22 28.81	22.675	17 53 11.6	27.26	5	9 12 48.41	23.184	13 46 13.8	74.77
6	7 24 44.92	22.693	17 50 25.0	28.28	6	9 15 7.53	23.188	13 38 42.5	75.66
7	7 27 1.13	22.710	17 47 32.2	29.30	7	9 17 26.67	23.192	13 31 5.9	76.55
8	7 29 17.44	22.727	17 44 33.4	30.32	8	9 19 45.83	23.195	13 23 23.9	77.45
9	7 31 33.85	22.743	17 41 28.4	31.34	9	9 22 5.01	23.199	13 15 36.5	78.34
10	7 33 50.36	22.760	17 38 17.3	32.36	10	9 24 24.22	23.203	13 7 43.8	79.22
11	7 36 6.97	22.777	17 35 0.1	33.38	11	9 26 43.45	23.206	12 59 45.9	80.09
12	7 38 23.68	22.793	17 31 36.7	34.41	12	9 29 2.69	23.208	12 51 42.7	80.96
13	7 40 40.48	22.808	17 28 7.2	35.43	13	9 31 21.95	23.212	12 43 34.4	81.82
14	7 42 57.37	22.823	17 24 31.6	36.44	14	9 33 41.23	23.214	12 35 20.9	82.67
15	7 45 14.35	22.837	17 20 49.9	37.47	15	9 36 0.52	23.217	12 27 2.4	83.51
16	7 47 31.41	22.852	17 17 2.0	38.50	16	9 38 19.83	23.220	12 18 38.8	84.35
17	7 49 48.57	22.867	17 13 7.9	39.52	17	9 40 39.16	23.222	12 10 10.2	85.18
18	7 52 5.81	22.880	17 9 7.8	40.53	18	9 42 58.49	23.223	12 1 36.6	86.00
19	7 54 23.13	22.893	17 5 1.6	41.55	19	9 45 17.84	23.227	11 52 58.2	86.82
20	7 56 40.53	22.907	17 0 49.2	42.57	20	9 47 37.21	23.228	11 44 14.8	87.63
21	7 58 58.01	22.920	16 56 30.7	43.58	21	9 49 56.58	23.229	11 35 26.6	88.42
22	8 1 15.57	22.933	16 52 6.2	44.60	22	9 52 15.96	23.231	11 26 33.7	89.21
23	8 3 33.20	22.945	16 47 35.5	45.62	23	9 54 35.35	23.233	11 17 36.1	90.00
24	8 5 50.91	22.957	N. 16 42 58.8	46.63	24	9 56 54.75	23.234	N. 11 8 33.7	90.78

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SUNDAY 9.					TUESDAY 11.				
	h m s	s	N. 11° 8' 33" 7	90° 78'		h m s	s	N. 24° 43' 7"	115° 58'
0	9 56 54.75	23.234	10 59 26.7	91.54	0	11 48 34.01	23.307	2 31 9.5	115.80
1	9 59 14.16	23.236	10 50 15.2	92.30	1	11 50 53.86	23.311	2 19 34.1	116.00
2	10 1 33.58	23.237	10 40 59.1	93.05	2	11 53 13.74	23.314	2 7 57.5	116.19
3	10 3 53.01	23.238	10 31 38.6	93.78	3	11 55 33.63	23.318	1 56 19.8	116.37
4	10 6 12.44	23.239	10 22 13.7	94.52	4	11 57 53.56	23.323	1 44 41.1	116.53
5	10 8 31.88	23.240	10 12 44.4	95.24	5	12 0 13.51	23.327	1 33 1.5	116.68
6	10 10 51.32	23.241	10 3 10.8	95.95	6	12 2 33.48	23.331	1 21 21.0	116.81
7	10 13 10.77	23.242	9 53 33.0	96.65	7	12 4 53.48	23.336	1 9 39.8	116.93
8	10 15 30.23	23.243	9 43 51.0	97.34	8	12 7 13.51	23.342	0 57 57.8	117.04
9	10 17 49.69	23.244	9 34 4.9	98.03	9	12 9 33.58	23.347	0 46 15.3	117.13
10	10 20 9.16	23.245	9 24 14.7	98.70	10	12 11 53.67	23.351	0 34 32.3	117.21
11	10 22 28.63	23.246	9 14 20.5	99.37	11	12 14 13.79	23.356	0 22 48.8	117.28
12	10 24 48.11	23.247	9 4 22.3	100.02	12	12 16 33.94	23.362	N. 0 11 5.0	117.33
13	10 27 7.59	23.247	8 54 20.3	100.65	13	12 18 54.13	23.367	S. 0 0 39.1	117.37
14	10 29 27.07	23.248	8 44 14.5	101.28	14	12 21 14.35	23.373	0 12 23.4	117.38
15	10 31 46.56	23.249	8 34 4.9	101.92	15	12 23 34.61	23.379	0 24 7.7	117.39
16	10 34 6.06	23.250	8 23 51.5	102.53	16	12 25 54.90	23.385	0 35 52.1	117.39
17	10 36 25.56	23.250	8 13 34.6	103.12	17	12 28 15.23	23.392	0 47 36.4	117.37
18	10 38 45.06	23.251	8 3 14.1	103.71	18	12 30 35.61	23.399	0 59 20.5	117.33
19	10 41 4.57	23.252	7 52 50.1	104.28	19	12 32 56.02	23.405	1 11 4.4	117.28
20	10 43 24.09	23.253	7 42 22.7	104.85	20	12 35 16.47	23.412	1 22 47.9	117.22
21	10 45 43.60	23.253	7 31 51.9	105.41	21	12 37 36.97	23.420	1 34 31.1	117.15
22	10 48 3.13	23.255	N. 7 21 17.8	105.95	22	12 39 57.51	23.427	S. 1 46 13.7	117.06
23	10 50 22.66	23.255			23	12 42 18.09	23.434		
MONDAY 10.					WEDNESDAY 12.				
	h m s	s	N. 7 10 40.5	106.48'		h m s	s	S. 1 57 55.8	116.96'
0	10 52 42.19	23.256	7 0 0.0	107.01	0	12 44 38.72	23.442	2 9 37.2	116.83
1	10 55 1.73	23.257	6 49 16.4	107.52	1	12 46 59.39	23.450	2 21 17.8	116.70
2	10 57 21.28	23.259	6 38 29.8	108.02	2	12 49 20.12	23.458	2 32 57.6	116.56
3	10 59 40.84	23.260	6 27 40.2	108.50	3	12 51 40.89	23.466	2 44 36.5	116.40
4	11 2 0.40	23.261	6 16 47.8	108.97	4	12 54 1.71	23.474	2 56 14.4	116.22
5	11 4 19.97	23.262	6 5 52.5	109.43	5	12 56 22.58	23.483	3 7 51.2	116.03
6	11 6 39.55	23.264	5 54 54.6	109.88	6	12 58 43.51	23.492	3 19 26.8	115.83
7	11 8 59.14	23.265	5 43 53.9	110.32	7	13 1 4.49	23.501	3 31 1.1	115.61
8	11 11 18.73	23.267	5 32 50.7	110.75	8	13 3 25.52	23.510	3 42 34.1	115.38
9	11 13 38.34	23.268	5 21 44.9	111.16	9	13 5 46.61	23.519	3 54 5.7	115.14
10	11 15 57.95	23.270	5 10 36.8	111.56	10	13 8 7.75	23.528	4 5 35.8	114.88
11	11 18 17.58	23.272	4 59 26.2	111.95	11	13 10 28.95	23.537	4 17 4.3	114.61
12	11 20 37.22	23.274	4 48 13.4	112.32	12	13 12 50.20	23.547	4 28 31.1	114.32
13	11 22 56.87	23.276	4 36 58.3	112.68	13	13 15 11.51	23.557	4 39 56.1	114.02
14	11 25 16.53	23.278	4 25 41.2	113.03	14	13 17 32.89	23.568	4 51 19.3	113.71
15	11 27 36.21	23.281	4 14 22.0	113.37	15	13 19 54.32	23.578	5 2 40.6	113.38
16	11 29 55.90	23.283	4 3 0.8	113.69	16	13 22 15.82	23.588	5 13 59.9	113.03
17	11 32 15.60	23.285	3 51 37.7	114.00	17	13 24 37.37	23.598	5 25 17.0	112.68
18	11 34 35.32	23.288	3 40 12.8	114.30	18	13 26 58.99	23.609	5 36 32.0	112.32
19	11 36 55.06	23.291	3 28 46.1	114.58	19	13 29 20.68	23.620	5 47 44.8	111.93
20	11 39 14.81	23.293	3 17 17.8	114.85	20	13 31 42.43	23.630	5 58 55.2	111.53
21	11 41 34.58	23.297	3 5 47.9	115.11	21	13 34 4.24	23.641	6 10 3.2	111.12
22	11 43 54.37	23.300	2 54 16.5	115.35	22	13 36 26.12	23.653	6 21 8.7	110.70
23	11 46 14.18	23.303	N. 2 42 43.7	115.58	23	13 38 48.07	23.664	S. 6 32 11.6	110.27
24	11 48 34.01	23.307			24	13 41 10.09	23.675		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 13.					SATURDAY 15.				
	h m s	s				h m s	s		
0	13 41 10.09	23.675	S. 6 32 11.6	110.27	0	15 36 10.87	24.227	S. 14 8' 0.0	75.43
1	13 43 32.17	23.687	6 43 11.9	109.82	1	15 38 36.26	24.236	14 15 29.7	74.47
2	13 45 54.33	23.698	6 54 9.4	109.35	2	15 41 1.70	24.244	14 22 53.7	73.50
3	13 48 16.55	23.709	7 5 4.1	108.88	3	15 43 27.19	24.253	14 30 11.7	72.50
4	13 50 38.84	23.721	7 15 56.0	108.40	4	15 45 52.73	24.261	14 37 23.7	71.51
5	13 53 1.20	23.733	7 26 44.9	107.89	5	15 48 18.32	24.268	14 44 29.8	70.52
6	13 55 23.63	23.745	7 37 30.7	107.37	6	15 50 43.95	24.276	14 51 29.9	69.51
7	13 57 46.14	23.757	7 48 13.4	106.85	7	15 53 9.63	24.282	14 58 23.9	68.49
8	14 0 8.71	23.768	7 58 52.9	106.32	8	15 55 35.34	24.288	15 5 11.8	67.47
9	14 2 31.36	23.781	8 9 29.2	105.76	9	15 58 1.09	24.295	15 11 53.6	66.46
10	14 4 54.08	23.793	8 20 2.0	105.19	10	16 0 26.88	24.301	15 18 29.3	65.43
11	14 7 16.88	23.806	8 30 31.5	104.62	11	16 2 52.70	24.307	15 24 58.7	64.38
12	14 9 39.75	23.818	8 40 57.4	104.03	12	16 5 18.57	24.313	15 31 21.8	63.33
13	14 12 2.69	23.830	8 51 19.8	103.43	13	16 7 44.46	24.318	15 37 38.7	62.28
14	14 14 25.71	23.842	9 1 38.5	102.81	14	16 10 10.38	24.323	15 43 49.2	61.22
15	14 16 48.80	23.854	9 11 53.5	102.18	15	16 12 36.33	24.327	15 49 53.3	60.16
16	14 19 11.96	23.867	9 22 4.7	101.54	16	16 15 2.30	24.330	15 55 51.1	59.09
17	14 21 35.20	23.879	9 32 12.0	100.89	17	16 17 28.29	24.334	16 1 42.4	58.02
18	14 23 58.51	23.892	9 42 15.4	100.23	18	16 19 54.31	24.337	16 7 27.3	56.94
19	14 26 21.90	23.904	9 52 14.8	99.56	19	16 22 20.34	24.340	16 13 5.7	55.86
20	14 28 45.36	23.917	10 2 10.1	98.87	20	16 24 46.39	24.342	16 18 37.6	54.77
21	14 31 8.90	23.929	10 12 1.2	98.17	21	16 27 12.45	24.344	16 24 2.9	53.67
22	14 33 32.51	23.941	10 21 48.1	97.47	22	16 29 38.52	24.346	16 29 21.6	52.58
23	14 35 56.19	23.953	S. 10 31 30.8	96.75	23	16 32 4.60	24.347	S. 16 34 33.8	51.48
FRIDAY 14.					SUNDAY 16.				
	h m s	s				h m s	s		
0	14 38 19.95	23.966	S. 10 41 9.1	96.02	0	16 34 30.69	24.348	S. 16 39 39.3	50.37
1	14 40 43.78	23.978	10 50 43.0	95.28	1	16 36 56.78	24.348	16 44 38.2	49.26
2	14 43 7.68	23.990	11 0 12.4	94.53	2	16 39 22.87	24.348	16 49 30.4	48.14
3	14 45 31.66	24.003	11 9 37.3	93.76	3	16 41 48.96	24.348	16 54 15.9	47.02
4	14 47 55.71	24.015	11 18 57.5	92.98	4	16 44 15.04	24.347	16 58 54.7	45.90
5	14 50 19.84	24.027	11 28 13.0	92.19	5	16 46 41.12	24.346	17 3 26.7	44.78
6	14 52 44.03	24.038	11 37 23.8	91.41	6	16 49 7.19	24.343	17 7 52.0	43.65
7	14 55 8.29	24.050	11 46 29.9	90.60	7	16 51 33.24	24.341	17 12 10.5	42.52
8	14 57 32.63	24.062	11 55 31.0	89.78	8	16 53 59.28	24.338	17 16 22.2	41.38
9	14 59 57.03	24.073	12 4 27.2	88.95	9	16 56 25.30	24.335	17 20 27.1	40.25
10	15 2 21.51	24.085	12 13 18.4	88.12	10	16 58 51.30	24.332	17 24 25.2	39.11
11	15 4 46.05	24.096	12 22 4.6	87.28	11	17 1 17.28	24.328	17 28 16.4	37.97
12	15 7 10.66	24.107	12 30 45.7	86.42	12	17 3 43.23	24.323	17 32 0.8	36.83
13	15 9 35.33	24.118	12 39 21.6	85.55	13	17 6 9.15	24.318	17 35 38.3	35.68
14	15 12 0.08	24.129	12 47 52.3	84.67	14	17 8 35.04	24.313	17 39 8.9	34.53
15	15 14 24.88	24.139	12 56 17.7	83.78	15	17 11 0.90	24.306	17 42 32.7	33.38
16	15 16 49.75	24.150	13 4 37.7	82.89	16	17 13 26.71	24.299	17 45 49.5	32.23
17	15 19 14.68	24.161	13 12 52.4	82.00	17	17 15 52.49	24.292	17 48 59.4	31.08
18	15 21 39.68	24.171	13 21 1.7	81.08	18	17 18 18.22	24.284	17 52 2.4	29.93
19	15 24 4.73	24.181	13 29 5.4	80.16	19	17 20 43.90	24.277	17 54 58.5	28.78
20	15 26 29.85	24.191	13 37 3.6	79.23	20	17 23 9.54	24.268	17 57 47.7	27.62
21	15 28 55.02	24.200	13 44 56.2	78.30	21	17 25 35.12	24.258	18 0 29.9	26.46
22	15 31 20.25	24.209	13 52 43.2	77.36	22	17 28 0.64	24.249	18 3 5.2	25.31
23	15 33 45.53	24.218	14 0 24.5	76.40	23	17 30 26.11	24.239	18 5 33.6	24.15
24	15 36 10.87	24.227	S. 14 8 0.0	75.43	24	17 32 51.51	24.228	S. 18 7 55.0	22.99

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.	Hour.	Right Ascension.	Var. in rom.	Declination.	Var. in rom.
MONDAY 17.					WEDNESDAY 19.				
	h m s	s	S. 18° 7' 55" 0	22.99		h m s	s	S. 17° 48' 14" 7	29.90
0	17 32 51.51	24.228	18 10 9.5	21.84	0	19 27 0.42	23.163	17 45 12.3	30.90
1	17 35 16.85	24.217	18 12 17.1	20.68	1	19 29 19.30	23.132	17 42 3.9	31.89
2	17 37 42.12	24.205	18 14 17.7	19.52	2	19 31 38.00	23.100	17 38 49.6	32.87
3	17 40 7.31	24.193	18 16 11.3	18.37	3	19 33 56.50	23.067	17 35 29.5	33.84
4	17 42 32.43	24.181	18 17 58.1	17.22	4	19 36 14.81	23.034	17 32 3.5	34.82
5	17 44 57.48	24.168	18 19 37.9	16.06	5	19 38 32.91	23.001	17 28 31.7	35.78
6	17 47 22.45	24.154	18 21 10.8	14.91	6	19 40 50.82	22.968	17 24 54.1	36.73
7	17 49 47.33	24.139	18 22 36.8	13.76	7	19 43 8.53	22.935	17 21 10.9	37.68
8	17 52 12.12	24.125	18 23 55.9	12.60	8	19 45 26.04	22.902	17 17 21.9	38.63
9	17 54 36.83	24.110	18 25 8.0	11.45	9	19 47 43.35	22.868	17 13 27.3	39.57
10	17 57 1.44	24.094	18 26 13.3	10.31	10	19 50 0.45	22.833	17 9 27.0	40.51
11	17 59 25.96	24.078	18 27 11.7	9.16	11	19 52 17.35	22.799	17 5 21.2	41.43
12	18 1 50.38	24.062	18 28 3.2	8.01	12	19 54 34.04	22.764	17 1 9.9	42.34
13	18 4 14.70	24.044	18 28 47.8	6.87	13	19 56 50.52	22.730	16 56 53.1	43.26
14	18 6 38.91	24.027	18 29 25.6	5.73	14	19 59 6.80	22.695	16 52 30.8	44.17
15	18 9 3.02	24.009	18 29 56.5	4.58	15	20 1 22.86	22.660	16 48 3.1	45.06
16	18 11 27.02	23.990	18 30 20.6	3.45	16	20 3 38.72	22.625	16 43 30.1	45.94
17	18 13 50.90	23.971	18 30 37.9	2.32	17	20 5 54.36	22.589	16 38 51.8	46.83
18	18 16 14.67	23.952	18 30 48.5	1.19	18	20 8 9.79	22.553	16 34 8.2	47.71
19	18 18 38.32	23.931	18 30 52.2	0.06	19	20 10 25.00	22.518	16 29 19.3	48.58
20	18 21 1.84	23.911	18 30 49.2	1.07	20	20 12 40.01	22.482	16 24 25.3	49.43
21	18 23 25.25	23.890	18 30 39.4	2.19	21	20 14 54.79	22.446	16 19 26.2	50.28
22	18 25 48.52	23.868	18 29 59.7	3.31	22	20 17 9.36	22.410	16 14 21.9	51.13
23	18 28 11.67	23.847			23	20 19 23.71	22.374		
TUESDAY 18.					THURSDAY 20.				
	h m s	s	S. 18 29 59.7	4.42		h m s	s	S. 16 9 12.6	51.97
0	18 30 34.68	23.823	18 29 29.8	5.53	0	20 21 37.85	22.338	16 3 58.3	52.80
1	18 32 57.55	23.801	18 28 53.3	6.64	1	20 23 51.77	22.302	15 58 39.0	53.62
2	18 35 20.29	23.778	18 28 10.1	7.76	2	20 26 5.47	22.265	15 53 14.8	54.44
3	18 37 42.89	23.754	18 27 20.2	8.86	3	20 28 18.95	22.228	15 47 45.7	55.25
4	18 40 5.34	23.729	18 26 23.8	9.94	4	20 30 32.21	22.192	15 42 11.8	56.05
5	18 42 27.64	23.705	18 25 20.9	11.04	5	20 32 45.25	22.156	15 36 33.1	56.84
6	18 44 49.80	23.680	18 24 11.3	12.14	6	20 34 58.08	22.119	15 30 49.7	57.63
7	18 47 11.80	23.655	18 22 55.2	13.22	7	20 37 10.68	22.083	15 25 1.5	58.41
8	18 49 33.66	23.629	18 21 32.7	14.30	8	20 39 23.07	22.046	15 19 8.8	59.18
9	18 51 55.35	23.602	18 20 3.6	15.37	9	20 41 35.23	22.008	15 13 11.4	59.93
10	18 54 16.89	23.576	18 18 28.2	16.44	10	20 43 47.17	21.972	15 7 9.6	60.68
11	18 56 38.26	23.548	18 16 46.3	17.52	11	20 45 58.90	21.936	15 1 3.2	61.44
12	18 58 59.47	23.521	18 14 58.0	18.58	12	20 48 10.40	21.898	14 54 52.3	62.18
13	19 1 20.51	23.493	18 13 3.4	19.63	13	20 50 21.68	21.862	14 48 37.1	62.90
14	19 3 41.39	23.465	18 11 2.5	20.68	14	20 52 32.75	21.826	14 42 17.5	63.63
15	19 6 2.09	23.437	18 8 55.2	21.73	15	20 54 43.59	21.788	14 35 53.5	64.35
16	19 8 22.63	23.408	18 6 41.7	22.77	16	20 56 54.21	21.752	14 29 25.3	65.05
17	19 10 42.98	23.378	18 4 22.0	23.80	17	20 59 4.62	21.716	14 22 52.9	65.74
18	19 13 3.16	23.349	18 1 56.1	24.83	18	21 1 14.80	21.679	14 16 16.4	66.43
19	19 15 23.17	23.319	17 59 24.0	25.86	19	21 3 24.77	21.643	14 9 35.7	67.12
20	19 17 42.99	23.288	17 56 45.8	26.88	20	21 5 34.52	21.607	14 2 50.9	67.79
21	19 20 2.63	23.257	17 54 1.5	27.89	21	21 7 44.05	21.570	13 56 2.2	68.46
22	19 22 22.08	23.226	17 51 11.1	28.90	22	21 9 53.36	21.533	13 49 9.4	69.12
23	19 24 41.34	23.195	17 48 14.7	29.90	23	21 12 2.45	21.497	13 42 12.7	69.78
24	19 27 0.42	23.163			24	21 14 11.33	21.462		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
FRIDAY 21.					SUNDAY 23.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	21 14 11.33	21.462	S. 13 42 12.7	69.78	0	22 53 22.22	19.952	S. 7 7 33.8	91.02
1	21 16 19.99	21.426	13 35 12.1	70.42	1	22 55 21.86	19.927	6 58 23.3	91.88
2	21 18 28.44	21.390	13 28 7.7	71.05	2	22 57 21.35	19.903	6 49 11.2	92.14
3	21 20 36.67	21.354	13 20 59.5	71.67	3	22 59 20.70	19.879	6 39 57.6	92.39
4	21 22 44.69	21.318	13 13 47.6	72.29	4	23 1 19.90	19.854	6 30 42.5	92.63
5	21 24 52.49	21.283	13 6 32.0	72.91	5	23 3 18.95	19.831	6 21 26.0	92.87
6	21 27 0.08	21.248	12 59 12.7	73.51	6	23 5 17.87	19.807	6 12 8.1	93.09
7	21 29 7.46	21.213	12 51 49.9	74.10	7	23 7 16.64	19.784	6 2 48.9	93.31
8	21 31 14.63	21.178	12 44 23.5	74.69	8	23 9 15.28	19.762	5 53 28.4	93.52
9	21 33 21.59	21.143	12 36 53.6	75.27	9	23 11 13.78	19.739	5 44 6.6	93.73
10	21 35 28.34	21.108	12 29 20.3	75.83	10	23 13 12.15	19.717	5 34 43.6	93.93
11	21 37 34.88	21.073	12 21 43.6	76.40	11	23 15 10.39	19.696	5 25 19.5	94.12
12	21 39 41.21	21.038	12 14 3.5	76.96	12	23 17 8.50	19.674	5 15 54.2	94.30
13	21 41 47.34	21.004	12 6 20.1	77.50	13	23 19 6.48	19.653	5 6 27.9	94.48
14	21 43 53.26	20.970	11 58 33.5	78.03	14	23 21 4.34	19.633	4 57 0.5	94.65
15	21 45 58.98	20.936	11 50 43.7	78.57	15	23 23 2.07	19.613	4 47 32.1	94.81
16	21 48 4.49	20.902	11 42 50.7	79.09	16	23 24 59.69	19.593	4 38 2.8	94.96
17	21 50 9.81	20.869	11 34 54.6	79.60	17	23 26 57.18	19.573	4 28 32.6	95.11
18	21 52 14.92	20.835	11 26 55.5	80.11	18	23 28 54.56	19.553	4 19 1.5	95.24
19	21 54 19.83	20.802	11 18 53.3	80.62	19	23 30 51.82	19.534	4 9 29.7	95.38
20	21 56 24.55	20.770	11 10 48.1	81.10	20	23 32 48.97	19.516	3 59 57.0	95.51
21	21 58 29.07	20.738	11 2 40.1	81.58	21	23 34 46.01	19.498	3 50 23.6	95.63
22	22 0 33.40	20.705	10 54 29.1	82.06	22	23 36 42.94	19.480	3 40 49.5	95.73
23	22 2 37.53	20.673	S. 10 46 15.4	82.52	23	23 38 39.77	19.462	S. 3 31 14.8	95.83
SATURDAY 22.					MONDAY 24.				
0	22 4 41.47	20.641	S. 10 37 58.9	82.98	0	23 40 36.49	19.445	S. 3 21 39.5	95.93
1	22 6 45.22	20.608	10 29 39.7	83.43	1	23 42 33.11	19.428	3 12 3.6	96.02
2	22 8 48.77	20.577	10 21 17.7	83.87	2	23 44 29.63	19.412	3 2 27.2	96.11
3	22 10 52.14	20.547	10 12 53.2	84.30	3	23 46 26.05	19.395	2 52 50.3	96.18
4	22 12 55.33	20.515	10 4 26.1	84.73	4	23 48 22.37	19.379	2 43 13.0	96.26
5	22 14 58.32	20.484	9 55 56.4	85.15	5	23 50 18.60	19.364	2 33 35.2	96.33
6	22 17 1.14	20.454	9 47 24.3	85.56	6	23 52 14.74	19.349	2 23 57.1	96.38
7	22 19 3.77	20.423	9 38 49.7	85.97	7	23 54 10.79	19.335	2 14 18.7	96.42
8	22 21 6.22	20.393	9 30 12.7	86.36	8	23 56 6.76	19.320	2 4 40.1	96.47
9	22 23 8.49	20.363	9 21 33.4	86.74	9	23 58 2.63	19.306	1 55 1.1	96.51
10	22 25 10.58	20.334	9 12 51.8	87.12	10	23 59 58.43	19.293	1 45 22.0	96.53
11	22 27 12.50	20.305	9 4 7.9	87.50	11	0 1 54.15	19.279	1 35 42.8	96.55
12	22 29 14.24	20.276	8 55 21.8	87.86	12	0 3 49.78	19.266	1 26 3.4	96.57
13	22 31 15.81	20.247	8 46 33.6	88.22	13	0 5 45.34	19.253	1 16 24.0	96.58
14	22 33 17.21	20.219	8 37 43.2	88.57	14	0 7 40.82	19.241	1 6 44.5	96.58
15	22 35 18.44	20.192	8 28 50.8	88.90	15	0 9 36.23	19.230	0 57 5.1	96.58
16	22 37 19.51	20.164	8 19 56.4	89.23	16	0 11 31.58	19.218	0 47 25.6	96.57
17	22 39 20.41	20.136	8 11 0.0	89.56	17	0 13 26.85	19.207	0 37 46.3	96.54
18	22 41 21.14	20.109	8 2 1.7	89.88	18	0 15 22.06	19.197	0 28 7.1	96.52
19	22 43 21.72	20.082	7 53 1.5	90.19	19	0 17 17.21	19.186	0 18 28.0	96.50
20	22 45 22.13	20.056	7 43 59.4	90.49	20	0 19 12.29	19.176	S. 0 8 49.1	96.46
21	22 47 22.39	20.030	7 34 55.6	90.78	21	0 21 7.32	19.167	N. 0 0 49.5	96.41
22	22 49 22.49	20.003	7 25 50.0	91.07	22	0 23 2.29	19.157	0 10 27.8	96.36
23	22 51 22.43	19.977	7 16 42.7	91.35	23	0 24 57.20	19.148	0 20 5.8	96.30
24	22 53 22.22	19.952	S. 7 7 33.8	91.62	24	0 26 52.06	19.139	N. 0 29 43.4	96.24

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 25.					THURSDAY 27.				
	h m s	s				h m s	s		
0	0 26 52.06	19.139	N. 0 29 43.4	96.24	0	1 58 24.50	19.133	N. 7 52 47.1	86.11
1	0 28 46.87	19.131	0 39 20.7	96.17	1	2 0 19.32	19.141	8 1 22.7	85.76
2	0 30 41.63	19.123	0 48 57.5	96.09	2	2 2 14.19	19.149	8 9 56.2	85.40
3	0 32 36.35	19.116	0 58 33.8	96.01	3	2 4 9.11	19.158	8 18 27.5	85.03
4	0 34 31.02	19.108	1 8 9.6	95.92	4	2 6 4.08	19.167	8 26 56.6	84.67
5	0 36 25.65	19.102	1 17 44.9	95.83	5	2 7 59.11	19.176	8 35 23.5	84.30
6	0 38 20.24	19.095	1 27 19.6	95.73	6	2 9 54.19	19.184	8 43 48.2	83.92
7	0 40 14.79	19.088	1 36 53.7	95.62	7	2 11 49.32	19.194	8 52 10.5	83.53
8	0 42 9.30	19.083	1 46 27.1	95.51	8	2 13 44.52	19.204	9 0 30.6	83.15
9	0 44 3.79	19.078	1 55 59.8	95.38	9	2 15 39.77	19.214	9 8 48.3	82.75
10	0 45 58.24	19.073	2 5 31.7	95.26	10	2 17 35.09	19.225	9 17 3.6	82.35
11	0 47 52.66	19.068	2 15 2.9	95.13	11	2 19 30.47	19.236	9 25 16.5	81.95
12	0 49 47.05	19.063	2 24 33.3	95.00	12	2 21 25.92	19.247	9 33 27.0	81.54
13	0 51 41.41	19.059	2 34 2.9	94.85	13	2 23 21.43	19.258	9 41 35.0	81.12
14	0 53 35.76	19.057	2 43 31.5	94.70	14	2 25 17.02	19.270	9 49 40.4	80.70
15	0 55 30.09	19.053	2 52 59.3	94.54	15	2 27 12.67	19.282	9 57 43.4	80.27
16	0 57 24.39	19.049	3 2 26.0	94.38	16	2 29 8.40	19.294	10 5 43.7	79.84
17	0 59 18.68	19.047	3 11 51.8	94.22	17	2 31 4.20	19.307	10 13 41.5	79.41
18	1 1 12.95	19.045	3 21 16.6	94.04	18	2 33 0.08	19.320	10 21 36.6	78.97
19	1 3 7.22	19.043	3 30 40.3	93.86	19	2 34 56.04	19.333	10 29 29.1	78.52
20	1 5 1.47	19.041	3 40 2.9	93.67	20	2 36 52.07	19.346	10 37 18.9	78.07
21	1 6 55.71	19.040	3 49 24.3	93.48	21	2 38 48.19	19.359	10 45 5.9	77.61
22	1 8 49.95	19.039	3 58 44.6	93.28	22	2 40 44.38	19.373	10 52 50.2	77.15
23	1 10 44.18	19.038	N. 4 8 3.7	93.08	23	2 42 40.66	19.387	N. 11 0 31.7	76.68
WEDNESDAY 26.					FRIDAY 28.				
0	1 12 38.41	19.038	N. 4 17 21.6	92.87	0	2 44 37.02	19.401	N. 11 8 10.4	76.21
1	1 14 32.64	19.038	4 26 38.2	92.65	1	2 46 33.47	19.416	11 15 46.2	75.73
2	1 16 26.87	19.039	4 35 53.4	92.43	2	2 48 30.01	19.431	11 23 19.2	75.25
3	1 18 21.11	19.040	4 45 7.3	92.20	3	2 50 26.64	19.446	11 30 49.2	74.76
4	1 20 15.35	19.041	4 54 19.8	91.97	4	2 52 23.36	19.461	11 38 16.3	74.27
5	1 22 9.60	19.042	5 3 30.9	91.73	5	2 54 20.17	19.476	11 45 40.4	73.77
6	1 24 3.86	19.044	5 12 40.6	91.49	6	2 56 17.07	19.492	11 53 1.5	73.27
7	1 25 58.13	19.047	5 21 48.8	91.23	7	2 58 14.07	19.508	12 0 19.6	72.76
8	1 27 52.42	19.049	5 30 55.4	90.97	8	3 0 11.17	19.524	12 7 34.6	72.24
9	1 29 46.72	19.052	5 40 0.5	90.72	9	3 2 8.36	19.540	12 14 46.5	71.73
10	1 31 41.04	19.056	5 49 4.0	90.45	10	3 4 5.65	19.557	12 21 55.3	71.21
11	1 33 35.39	19.059	5 58 5.9	90.17	11	3 6 3.05	19.574	12 29 1.0	70.68
12	1 35 29.75	19.063	6 7 6.1	89.89	12	3 8 0.54	19.591	12 36 3.4	70.13
13	1 37 24.14	19.067	6 16 4.6	89.61	13	3 9 58.14	19.608	12 43 2.6	69.60
14	1 39 18.55	19.071	6 25 1.4	89.32	14	3 11 55.84	19.626	12 49 58.6	69.06
15	1 41 12.99	19.075	6 33 56.4	89.03	15	3 13 53.65	19.643	12 56 51.3	68.51
16	1 43 7.45	19.080	6 42 49.7	88.73	16	3 15 51.56	19.661	1 3 40.7	67.95
17	1 45 1.95	19.087	6 51 41.1	88.42	17	3 17 49.58	19.679	1 10 26.7	67.39
18	1 46 56.49	19.092	7 0 30.7	88.10	18	3 19 47.71	19.698	1 17 9.4	66.83
19	1 48 51.05	19.098	7 9 18.3	87.78	19	3 21 45.96	19.717	1 23 48.7	66.27
20	1 50 45.66	19.105	7 18 4.1	87.47	20	3 23 44.31	19.734	1 30 24.6	65.69
21	1 52 40.31	19.111	7 26 47.9	87.13	21	3 25 42.77	19.753	1 36 57.0	65.12
22	1 54 34.99	19.118	7 35 29.7	86.79	22	3 27 41.35	19.772	1 43 26.0	64.53
23	1 56 29.72	19.126	7 44 9.4	86.45	23	3 29 40.04	19.792	1 49 51.4	63.94
24	1 58 24.50	19.133	N. 7 52 47.1	86.11	24	3 31 38.85	19.811	N. 13 56 13.3	63.36

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 29.					SUNDAY 30.				
	h m s	s	N. 13 56 13.3	63.36		h m s	s	N. 16 10 2.5	47.72
0	3 31 38.85	19.811	14 2 31.7	62.76	0	4 19 47.45	20.321	16 14 46.7	47.00
1	3 33 37.77	19.831	14 8 46.4	62.15	1	4 21 49.44	20.343	16 19 26.5	46.28
2	3 35 36.82	19.851	14 14 57.5	61.55	2	4 23 51.57	20.366	16 24 2.1	45.57
3	3 37 35.98	19.870	14 21 5.0	60.94	3	4 25 53.83	20.388	16 28 33.4	44.85
4	3 39 35.26	19.891	14 27 8.8	60.32	4	4 27 56.23	20.411	16 33 0.3	44.12
5	3 41 34.67	19.911	14 33 8.8	59.69	5	4 29 58.76	20.434	16 37 22.9	43.39
6	3 43 34.19	19.931	14 39 5.1	59.07	6	4 32 1.44	20.457	16 41 41.0	42.65
7	3 45 33.84	19.952	14 44 57.7	58.44	7	4 34 4.25	20.479	16 45 54.7	41.91
8	3 47 33.61	19.973	14 50 46.4	57.80	8	4 36 7.19	20.502	16 50 3.9	41.17
9	3 49 33.51	19.993	14 56 31.3	57.17	9	4 38 10.28	20.526	16 54 8.7	40.42
10	3 51 33.53	20.014	15 2 12.4	56.52	10	4 40 13.50	20.549	16 58 9.0	39.67
11	3 53 33.68	20.036	15 7 49.5	55.87	11	4 42 16.87	20.572	17 2 4.7	38.91
12	3 55 33.96	20.057	15 13 22.8	55.22	12	4 44 20.37	20.595	17 5 55.9	38.14
13	3 57 34.36	20.078	15 18 52.1	54.55	13	4 46 24.01	20.618	17 9 42.4	37.37
14	3 59 34.90	20.100	15 24 17.4	53.89	14	4 48 27.79	20.642	17 13 24.4	36.61
15	4 1 35.56	20.121	15 29 38.8	53.22	15	4 50 31.72	20.666	17 17 1.7	35.83
16	4 3 36.35	20.143	15 34 56.1	52.55	16	4 52 35.78	20.688	17 20 34.4	35.06
17	4 5 37.27	20.165	15 40 9.4	51.87	17	4 54 39.98	20.712	17 24 2.4	34.28
18	4 7 38.33	20.187	15 45 18.6	51.19	18	4 56 44.33	20.736	17 27 25.7	33.49
19	4 9 39.52	20.209	15 50 23.7	50.51	19	4 58 48.81	20.758	17 30 44.3	32.70
20	4 11 40.84	20.231	15 55 24.7	49.82	20	5 0 53.43	20.782	17 33 58.1	31.90
21	4 13 42.29	20.253	16 0 21.5	49.12	21	5 2 58.19	20.805	17 37 7.1	31.10
22	4 15 43.87	20.275	16 5 14.1	48.42	22	5 5 3.09	20.829	17 40 11.3	30.29
23	4 17 45.59	20.298	16 10 2.5	47.72	23	5 7 8.14	20.852	17 43 10.6	29.48
24	4 19 47.45	20.321			24	5 9 13.32	20.875		

PHASES OF THE MOON.

Sept. 3	☾ Last Quarter	- - - - -	h m	0 47.3
10	● New Moon	- - - - -	8 52.6	
17	☽ First Quarter	- - - - -	0 4.0	
24	○ Full Moon	- - - - -	13 15.8	
				h
Sept. 12	☾ Perigee	- - - - -	10.4	
28	☾ Apogee	- - - - -	5.4	

AT APPARENT NOON.

Date.	THE SUN'S				Sidereal Time of the Semi- diameter passing the Meridian.*	Equation of Time, to be subtracted from Apparent Time.	Var. in hour.
	Apparent Right Ascension.	Var. in hour.	Apparent Declination.	Var. in hour.			
	h m s	s	S. ° ' "	"	m s	m s	s
Mon.	1 12 26 41.48	9.043	S. 2 53 7.3	58.28	1 4.26	10 3.50	0.811
Tues.	2 12 30 18.66	9.056	3 16 25.2	58.20	1 4.30	10 22.82	0.799
Wed.	3 12 33 56.16	9.069	3 39 41.1	58.11	1 4.34	10 41.83	0.785
Thur.	4 12 37 33.98	9.083	4 2 54.5	58.00	1 4.39	11 0.50	0.771
Frid.	5 12 41 12.16	9.099	4 26 5.2	57.88	1 4.44	11 18.82	0.756
Sat.	6 12 44 50.71	9.114	4 49 12.8	57.74	1 4.50	11 36.78	0.740
Sun.	7 12 48 29.65	9.131	5 12 16.9	57.59	1 4.55	11 54.34	0.723
Mon.	8 12 52 9.00	9.148	5 35 17.2	57.43	1 4.61	12 11.49	0.706
Tues.	9 12 55 48.77	9.166	5 58 13.2	57.24	1 4.68	12 28.23	0.688
Wed.	10 12 59 28.98	9.185	6 21 4.6	57.04	1 4.74	12 44.53	0.670
Thur.	11 13 3 9.65	9.204	6 43 51.0	56.82	1 4.81	13 0.37	0.650
Frid.	12 13 6 50.78	9.224	7 6 31.9	56.59	1 4.88	13 15.75	0.631
Sat.	13 13 10 32.39	9.244	7 29 7.1	56.34	1 4.95	13 30.66	0.611
Sun.	14 13 14 14.49	9.265	7 51 36.1	56.07	1 5.03	13 45.06	0.590
Mon.	15 13 17 57.11	9.287	8 13 58.4	55.78	1 5.11	13 58.96	0.568
Tues.	16 13 21 40.25	9.309	8 36 13.7	55.49	1 5.19	14 12.33	0.546
Wed.	17 13 25 23.94	9.332	8 58 21.7	55.17	1 5.28	14 25.16	0.523
Thur.	18 13 29 8.19	9.356	9 20 21.9	54.84	1 5.36	14 37.43	0.499
Frid.	19 13 32 53.03	9.381	9 42 14.0	54.49	1 5.45	14 49.11	0.474
Sat.	20 13 36 38.46	9.406	10 3 57.5	54.13	1 5.54	15 0.20	0.449
Sun.	21 13 40 24.52	9.432	10 25 32.2	53.75	1 5.64	15 10.67	0.423
Mon.	22 13 44 11.22	9.460	10 46 57.5	53.35	1 5.73	15 20.50	0.396
Tues.	23 13 47 58.58	9.487	11 8 13.2	52.95	1 5.83	15 29.67	0.368
Wed.	24 13 51 46.61	9.516	11 29 18.9	52.52	1 5.93	15 38.17	0.340
Thur.	25 13 55 35.33	9.545	11 50 14.2	52.08	1 6.03	15 45.97	0.310
Frid.	26 13 59 24.77	9.575	12 10 58.6	51.62	1 6.14	15 53.07	0.281
Sat.	27 14 3 14.94	9.606	12 31 31.8	51.14	1 6.24	15 59.44	0.250
Sun.	28 14 7 5.85	9.637	12 51 53.5	50.65	1 6.35	16 5.06	0.219
Mon.	29 14 10 57.53	9.669	13 12 3.2	50.15	1 6.46	16 9.93	0.187
Tues.	30 14 14 49.98	9.702	13 32 0.5	49.62	1 6.57	16 14.02	0.154
Wed.	31 14 18 43.22	9.735	13 51 45.1	49.08	1 6.68	16 17.32	0.121
Thur.	32 14 22 37.26	9.769	S. 14 11 16.5	48.53	1 6.79	16 19.83	0.088

* Mean Time of the Semidiameter passing may be found by subtracting 0^s.18 from the Sidereal Time.

AT MEAN NOON.

Date.		THE SUN'S			Equation of Time, to be subtracted from Apparent Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*		
		h m s	S. ° ' "	' "	m s	h m s
Mon.	1	12 26 43.00	S. 2 53 17.1	16 0.24	10 3.64	12 36 46.64
Tues.	2	12 30 20.23	3 16 35.3	16 0.51	10 22.96	12 40 43.19
Wed.	3	12 33 57.77	3 39 51.5	16 0.78	10 41.97	12 44 39.74
Thur.	4	12 37 35.65	4 3 5.2	16 1.05	11 0.64	12 48 36.29
Frid.	5	12 41 13.88	4 26 16.2	16 1.32	11 18.97	12 52 32.84
Sat.	6	12 44 52.48	4 49 24.0	16 1.59	11 36.92	12 56 29.40
Sun.	7	12 48 31.47	5 12 28.4	16 1.87	11 54.48	13 0 25.95
Mon.	8	12 52 10.86	5 35 28.9	16 2.14	12 11.64	13 4 22.50
Tues.	9	12 55 50.68	5 58 25.1	16 2.42	12 28.37	13 8 19.05
Wed.	10	12 59 30.94	6 21 16.7	16 2.70	12 44.67	13 12 15.61
Thur.	11	13 3 11.64	6 44 3.3	16 2.98	13 0.51	13 16 12.16
Frid.	12	13 6 52.82	7 6 44.5	16 3.26	13 15.89	13 20 8.71
Sat.	13	13 10 34.47	7 29 19.8	16 3.54	13 30.79	13 24 5.26
Sun.	14	13 14 16.62	7 51 48.9	16 3.82	13 45.20	13 28 1.82
Mon.	15	13 17 59.27	8 14 11.4	16 4.10	13 59.09	13 31 58.37
Tues.	16	13 21 42.46	8 36 26.9	16 4.38	14 12.46	13 35 54.92
Wed.	17	13 25 26.18	8 58 35.0	16 4.66	14 25.29	13 39 51.47
Thur.	18	13 29 10.47	9 20 35.3	16 4.94	14 37.55	13 43 48.02
Frid.	19	13 32 55.35	9 42 27.4	16 5.22	14 49.23	13 47 44.58
Sat.	20	13 36 40.82	10 4 11.1	16 5.50	15 0.31	13 51 41.13
Sun.	21	13 40 26.91	10 25 45.8	16 5.77	15 10.78	13 55 37.68
Mon.	22	13 44 13.64	10 47 11.2	16 6.04	15 20.60	13 59 34.24
Tues.	23	13 48 1.03	11 8 26.9	16 6.31	15 29.76	14 3 30.79
Wed.	24	13 51 49.09	11 29 32.6	16 6.58	15 38.26	14 7 27.34
Thur.	25	13 55 37.84	11 50 27.9	16 6.85	15 46.06	14 11 23.90
Frid.	26	13 59 27.31	12 11 12.3	16 7.11	15 53.14	14 15 20.45
Sat.	27	14 3 17.50	12 31 45.5	16 7.37	15 59.50	14 19 17.00
Sun.	28	14 7 8.44	12 52 7.1	16 7.63	16 5.12	14 23 13.56
Mon.	29	14 11 0.13	13 12 16.7	16 7.88	16 9.98	14 27 10.11
Tues.	30	14 14 52.60	13 32 14.0	16 8.13	16 14.06	14 31 6.66
Wed.	31	14 18 45.86	13 51 58.4	16 8.38	16 17.36	14 35 3.22
Thur.	32	14 22 39.91	S. 14 11 29.7	16 8.63	16 19.86	14 38 59.77

* The Semidiameter for *Apparent* Noon may be assumed the same as that for *Mean* Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
				^h ^m ^s				
1	187° 16' 27.2	S. 0.87	0.0004265	11 21 21.43	14 52.16	14 55.82	54 34.36	54 47.79
2	188 15 28.7	0.84	.0003041	11 17 25.53	15 0.14	15 5.11	55 3.65	55 21.90
3	189 14 32.5	0.78	.0001817	11 13 29.62	15 10.71	15 16.90	55 42.45	56 5.15
4	190 13 38.6	0.69	0.0000592	11 9 33.72	15 23.61	15 30.78	56 29.79	56 56.11
5	191 12 47.0	0.58	9.9999364	11 5 37.81	15 38.31	15 46.07	57 23.73	57 52.21
6	192 11 57.7	0.45	.9998133	11 1 41.90	15 53.93	16 1.72	58 21.05	58 49.65
7	193 11 10.8	0.31	9.9996897	10 57 46.00	16 9.27	16 16.39	59 17.36	59 43.49
8	194 10 26.1	0.17	.9995657	10 53 50.09	16 22.88	16 28.57	60 7.33	60 28.20
9	195 9 43.5	S. 0.04	.9994412	10 49 54.18	16 33.28	16 36.86	60 45.47	60 58.62
10	196 9 3.1	N. 0.08	9.9993160	10 45 58.28	16 39.22	16 40.27	61 7.26	61 11.15
11	197 8 24.8	0.19	.9991904	10 42 2.37	16 40.03	16 38.50	61 10.24	61 4.66
12	198 7 48.4	0.27	.9990642	10 38 6.47	16 35.79	16 31.99	60 54.68	60 40.74
13	199 7 13.8	0.31	9.9989376	10 34 10.56	16 27.26	16 21.77	60 23.38	60 3.22
14	200 6 41.1	0.32	.9988108	10 30 14.65	16 15.68	16 9.18	59 40.89	59 17.03
15	201 6 10.2	0.29	.9986840	10 26 18.75	16 2.42	15 55.56	58 52.23	58 27.05
16	202 5 41.0	0.24	9.9985572	10 22 22.84	15 48.73	15 42.03	58 1.96	57 37.38
17	203 5 13.5	0.16	.9984308	10 18 26.93	15 35.55	15 29.38	57 13.62	56 50.94
18	204 4 47.7	N. 0.06	.9983048	10 14 31.03	15 23.54	15 18.09	56 29.53	56 9.51
19	205 4 23.7	S. 0.06	9.9981795	10 10 35.12	15 13.03	15 8.39	55 50.96	55 33.92
20	206 4 1.5	0.19	.9980550	10 6 39.21	15 4.16	15 0.33	55 18.38	55 4.32
21	207 3 41.1	0.31	.9979314	10 2 43.31	14 56.89	14 53.83	54 51.71	54 40.49
22	208 3 22.5	0.43	9.9978088	9 58 47.40	14 51.14	14 48.81	54 30.62	54 22.07
23	209 3 5.8	0.54	.9976873	9 54 51.49	14 46.83	14 45.18	54 14.78	54 8.74
24	210 2 51.1	0.63	.9975669	9 50 55.58	14 43.87	14 42.90	54 3.93	54 0.37
25	211 2 38.3	0.70	9.9974477	9 46 59.68	14 42.28	14 42.01	53 58.08	53 57.11
26	212 2 27.5	0.75	.9973298	9 43 3.77	14 42.12	14 42.62	53 57.50	53 59.35
27	213 2 18.8	0.77	.9972131	9 39 7.86	14 43.54	14 44.90	54 2.72	54 7.72
28	214 2 12.1	0.77	9.9970976	9 35 11.96	14 46.74	14 49.07	54 14.45	54 23.00
29	215 2 7.6	0.74	.9969834	9 31 16.05	14 51.92	14 55.31	54 33.47	54 45.93
30	216 2 5.1	0.68	.9968703	9 27 20.14	14 59.27	15 3.80	55 0.45	55 17.06
31	217 2 4.8	0.59	.9967584	9 23 24.23	15 8.89	15 14.55	55 35.77	55 56.53
32	218 2 6.7	S. 0.49	9.9966476	9 19 28.32	15 20.74	15 27.44	56 19.27	56 43.82

MEAN TIME.

THE MOON'S							
Day.	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
1	77° 51' 59" 5	83° 54' 24" 5	S. 5° 11' 38" 6	S. 5° 6' 5" 2	20·63	17 5·7	4 41·5
2	89 59 45·3	96 8 35·0	4 57 3·1	4 44 32·3	21·63	17 55·0	5 30·2
3	102 21 27·3	108 38 55·3	4 28 34·0	4 9 11·1	22·63	18 45·6	6 20·2
4	115 1 31·0	121 29 44·3	3 46 28·5	3 20 33·6	23·63	19 37·2	7 11·3
5	128 4 2·0	134 44 46·0	2 51 37·3	2 19 53·6	24·63	20 29·4	8 3·2
6	141 32 13·1	148 26 32·2	1 45 41·2	S. 1 9 23·1	25·63	21 22·3	8 55·8
7	155 27 43·9	162 35 39·0	S. 0 31 27·8	N. 0 7 31·2	26·63	22 15·7	9 48·9
8	169 49 57·2	177 10 6·9	N. 0 46 55·8	1 26 3·5	27·63	23 10·0	10 42·7
9	184 35 24·6	192 4 56·2	2 4 8·9	2 40 25·4	28·63	* *	11 37·5
10	199 37 37·8	207 12 18·6	3 14 6·9	3 44 30·3	0·25	0 5·3	12 33·5
11	214 47 42·5	222 22 32·4	4 10 57·2	4 32 55·9	1·25	1 1·9	13 30·7
12	229 55 33·3	237 25 35·0	4 50 2·6	5 2 2·6	2·25	1 59·8	14 29·0
13	244 51 35·3	252 12 42·2	5 8 49·4	5 10 25·2	3·25	2 58·4	15 27·8
14	259 28 14·7	266 37 43·8	5 6 59·5	4 58 47·5	4·25	3 57·1	16 26·1
15	273 40 51·7	280 37 31·6	4 46 9·4	4 29 28·7	5·25	4 54·7	17 22·8
16	287 27 46·0	294 11 45·4	4 9 11·0	3 45 43·4	6·25	5 50·4	18 17·2
17	300 49 46·5	307 22 11·0	3 19 33·0	2 51 6·9	7·25	6 43·4	19 8·8
18	313 49 24·0	320 11 52·3	2 20 51·6	1 49 13·2	8·25	7 33·6	19 57·7
19	326 30 3·8	332 44 26·4	1 16 36·3	N. 0 43 25·0	9·25	8 21·2	20 44·2
20	338 55 27·2	345 3 32·0	N. 0 10 2·5	S. 0 23 9·4	10·25	9 6·7	21 28·9
21	351 9 5·0	357 12 28·4	S. 0 55 49·4	1 27 37·3	11·25	9 50·7	22 12·3
22	3 14 2·2	9 14 4·7	1 58 14·0	2 27 21·3	12·25	10 33·8	22 55·2
23	15 12 52·0	21 10 38·9	2 54 42·1	3 20 0·8	13·25	11 16·5	23 38·0
24	27 7 38·3	33 4 2·5	3 43 2·8	4 3 34·8	14·25	11 59·6	* *
25	39 0 2·9	44 55 51·0	4 21 25·2	4 36 24·0	15·25	12 43·3	0 21·3
26	50 51 38·1	56 47 36·7	4 48 22·3	4 57 13·1	16·25	13 28·1	1 5·5
27	62 44 0·2	68 41 3·2	5 2 51·2	5 5 12·2	17·25	14 14·1	1 50·9
28	74 39 2·5	80 38 16·9	5 4 13·7	4 59 54·8	18·25	15 1·4	2 37·6
29	86 39 7·3	92 41 56·8	4 52 15·6	4 41 17·8	19·25	15 49·8	3 25·4
30	98 47 11·5	104 55 18·8	4 27 4·6	4 9 40·3	20·25	16 39·1	4 14·3
31	111 6 48·6	117 22 12·2	3 49 10·9	3 25 44·0	21·25	17 29·0	5 4·0
32	123 42 1·7	130 6 49·6	S. 2 59 29·4	S. 2 30 38·9	22·25	18 19·3	5 54·1

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 1.					WEDNESDAY 3.				
	h m s	s	N. 17° 43' 10" 6	29.48		h m s	s	N. 18° 24' 53" 6	13.29
0	5 9 13.32	20.875			0	6 51 58.92	21.900		
1	5 11 18.64	20.898	17 46 5.1	28.68	1	6 54 10.37	21.918	18 23 31.0	14.24
2	5 13 24.10	20.922	17 48 54.7	27.87	2	6 56 21.94	21.937	18 22 2.7	15.20
3	5 15 29.70	20.945	17 51 39.5	27.05	3	6 58 33.61	21.953	18 20 28.6	16.16
4	5 17 35.44	20.968	17 54 19.3	26.22	4	7 0 45.38	21.971	18 18 48.8	17.13
5	5 19 41.32	20.992	17 56 54.1	25.39	5	7 2 57.26	21.989	18 17 3.1	18.09
6	5 21 47.34	21.014	17 59 24.0	24.57	6	7 5 9.25	22.006	18 15 11.7	19.04
7	5 23 53.49	21.037	18 1 48.9	23.73	7	7 7 21.33	22.023	18 13 14.6	20.01
8	5 25 59.79	21.061	18 4 8.7	22.88	8	7 9 33.52	22.040	18 11 11.6	20.98
9	5 28 6.22	21.083	18 6 23.5	22.05	9	7 11 45.81	22.057	18 9 2.8	21.95
10	5 30 12.79	21.107	18 8 33.3	21.20	10	7 13 58.20	22.073	18 6 48.2	22.92
11	5 32 19.50	21.129	18 10 37.9	20.35	11	7 16 10.69	22.089	18 4 27.8	23.89
12	5 34 26.34	21.152	18 12 37.5	19.50	12	7 18 23.27	22.105	18 2 1.5	24.87
13	5 36 33.32	21.175	18 14 31.9	18.64	13	7 20 35.95	22.122	17 59 29.4	25.83
14	5 38 40.44	21.198	18 16 21.2	17.78	14	7 22 48.73	22.138	17 56 51.5	26.80
15	5 40 47.69	21.220	18 18 5.3	16.92	15	7 25 1.60	22.153	17 54 7.8	27.78
16	5 42 55.08	21.242	18 19 44.2	16.05	16	7 27 14.57	22.169	17 51 18.2	28.76
17	5 45 2.60	21.264	18 21 17.9	15.18	17	7 29 27.63	22.184	17 48 22.7	29.73
18	5 47 10.25	21.287	18 22 46.3	14.30	18	7 31 40.78	22.199	17 45 21.4	30.70
19	5 49 18.04	21.310	18 24 9.5	13.42	19	7 33 54.02	22.214	17 42 14.3	31.68
20	5 51 25.97	21.332	18 25 27.4	12.54	20	7 36 7.35	22.229	17 39 1.3	32.66
21	5 53 34.02	21.353	18 26 40.0	11.66	21	7 38 20.77	22.243	17 35 42.4	33.63
22	5 55 42.21	21.375	18 27 47.3	10.77	22	7 40 34.27	22.257	17 32 17.7	34.61
23	5 57 50.52	21.397	N. 18 28 49.3	9.88	23	7 42 47.86	22.272	N. 17 28 47.1	35.58
TUESDAY 2.					THURSDAY 4.				
	h m s	s	N. 18 29 45.9	8.98		h m s	s	N. 17 25 10.7	36.56
0	5 59 58.97	21.419			0	7 45 1.54	22.287		
1	6 2 7.55	21.440	18 30 37.1	8.09	1	7 47 15.30	22.300	17 21 28.4	37.53
2	6 4 16.25	21.462	18 31 23.0	7.19	2	7 49 29.14	22.314	17 17 40.3	38.51
3	6 6 25.09	21.483	18 32 3.4	6.28	3	7 51 43.07	22.328	17 13 46.3	39.49
4	6 8 34.05	21.504	18 32 38.4	5.38	4	7 53 57.07	22.341	17 9 46.4	40.47
5	6 10 43.14	21.526	18 33 8.0	4.47	5	7 56 11.16	22.354	17 5 40.7	41.44
6	6 12 52.36	21.547	18 33 32.1	3.56	6	7 58 25.32	22.368	17 1 29.1	42.42
7	6 15 1.70	21.568	18 33 50.7	2.64	7	8 0 39.57	22.381	16 57 11.7	43.38
8	6 17 11.17	21.588	18 34 3.8	1.73	8	8 2 53.89	22.393	16 52 48.5	44.36
9	6 19 20.76	21.608	18 34 11.4	0.81	9	8 5 8.28	22.405	16 48 19.4	45.33
10	6 21 30.47	21.629	18 34 13.5	0.12	10	8 7 22.75	22.418	16 43 44.5	46.30
11	6 23 40.31	21.650	18 34 10.0	1.04	11	8 9 37.30	22.431	16 39 3.8	47.27
12	6 25 50.27	21.670	18 34 1.0	1.97	12	8 11 51.92	22.443	16 34 17.2	48.24
13	6 28 0.35	21.690	18 33 46.4	2.90	13	8 14 6.61	22.454	16 29 24.9	49.21
14	6 30 10.55	21.710	18 33 26.2	3.83	14	8 16 21.37	22.466	16 24 26.7	50.18
15	6 32 20.87	21.730	18 33 0.4	4.77	15	8 18 36.20	22.478	16 19 22.7	51.14
16	6 34 31.31	21.749	18 32 29.0	5.71	16	8 20 51.11	22.490	16 14 13.0	52.10
17	6 36 41.86	21.768	18 31 51.9	6.65	17	8 23 6.08	22.501	16 8 57.5	53.07
18	6 38 52.53	21.788	18 31 9.2	7.59	18	8 25 21.12	22.512	16 3 36.2	54.03
19	6 41 3.31	21.807	18 30 20.8	8.54	19	8 27 36.22	22.523	15 58 9.2	54.98
20	6 43 14.21	21.826	18 29 26.7	9.48	20	8 29 51.39	22.534	15 52 36.4	55.94
21	6 45 25.22	21.844	18 28 27.0	10.43	21	8 32 6.63	22.546	15 46 57.9	56.89
22	6 47 36.34	21.863	18 27 21.6	11.38	22	8 34 21.94	22.556	15 41 13.7	57.84
23	6 49 47.57	21.882	18 26 10.5	12.33	23	8 36 37.30	22.566	15 35 23.8	58.79
24	6 51 58.92	21.900	N. 18 24 53.6	13.29	24	8 38 52.73	22.577	N. 15 29 28.2	59.74

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
FRIDAY 5.					SUNDAY 7.				
	h m s	s	N. 15° 29' 28".2	59".74		h m s	s	N. 9° 1' 25".0	99".78
0	8 38 52.73	22.577	15 23 26.9	60.68	0	10 28 19.16	23.017	8 51 24.3	100.46
1	8 41 8.22	22.587	15 17 20.1	61.62	1	10 30 37.29	23.026	8 41 19.5	101.12
2	8 43 23.78	22.597	15 11 7.5	62.57	2	10 32 55.47	23.035	8 31 10.9	101.76
3	8 45 39.39	22.607	14 58 25.6	63.49	3	10 35 13.71	23.045	8 20 58.4	102.40
4	8 47 55.07	22.617	14 51 56.2	64.42	4	10 37 32.01	23.056	8 10 42.1	103.03
5	8 50 10.80	22.627	14 45 21.3	65.36	5	10 39 50.38	23.066	8 0 22.0	103.65
6	8 52 26.60	22.637	14 38 40.9	66.28	6	10 42 8.80	23.075	7 49 58.3	104.26
7	8 54 42.45	22.647	14 31 54.9	67.20	7	10 44 27.28	23.086	7 39 30.9	104.86
8	8 56 58.36	22.657	14 25 3.4	68.12	8	10 46 45.83	23.097	7 29 0.0	105.45
9	8 59 14.33	22.667	14 18 6.5	69.03	9	10 49 4.44	23.107	7 18 25.5	106.03
10	9 1 30.36	22.676	14 11 4.1	69.94	10	10 51 23.11	23.117	7 7 47.6	106.60
11	9 3 46.44	22.685	13 56 43.0	70.85	11	10 53 41.84	23.128	6 57 6.3	107.17
12	9 6 2.58	22.695	13 49 24.4	71.76	12	10 56 0.64	23.138	6 46 21.6	107.72
13	9 8 18.78	22.704	13 42 0.4	72.66	13	10 58 19.50	23.149	6 35 33.7	108.26
14	9 10 35.03	22.713	13 34 31.1	73.55	14	11 0 38.43	23.161	6 24 42.5	108.78
15	9 12 51.33	22.722	13 26 56.5	74.44	15	11 2 57.43	23.172	6 13 48.3	109.30
16	9 15 7.69	22.732	13 19 16.6	75.33	16	11 5 16.49	23.183	6 2 50.9	109.81
17	9 17 24.11	22.740	13 11 31.5	76.21	17	11 7 35.62	23.195	5 51 50.6	110.30
18	9 19 40.57	22.748	12 55 45.6	77.08	18	11 9 54.83	23.207	5 40 47.3	110.79
19	9 21 57.09	22.758	12 47 45.0	77.96	19	11 12 14.10	23.218	5 29 41.1	111.26
20	9 24 13.67	22.767	80.53	78.83	20	11 14 33.44	23.230	5 18 32.2	111.72
21	9 26 30.29	22.775		79.68	21	11 16 52.86	23.242	5 7 20.5	112.17
22	9 28 46.97	22.785			22	11 19 12.35	23.254	4 56 6.2	112.60
23	9 31 3.71	22.793			23	11 21 31.91	23.267		
SATURDAY 6.					MONDAY 8.				
	h m s	s	N. 12° 39' 39".2	81.39		h m s	s	N. 4° 44' 49".3	113.02
0	9 33 20.49	22.802	12 31 28.3	82.23	0	11 23 51.55	23.280	4 33 29.9	113.43
1	9 35 37.33	22.811	12 23 12.4	83.07	1	11 26 11.27	23.293	4 22 8.1	113.84
2	9 37 54.22	22.819	12 14 51.5	83.90	2	11 28 31.06	23.305	4 10 43.8	114.23
3	9 40 11.16	22.828	12 6 25.6	84.72	3	11 30 50.93	23.318	3 59 17.3	114.60
4	9 42 28.15	22.837	11 57 54.8	85.54	4	11 33 10.88	23.332	3 47 48.6	114.97
5	9 44 45.20	22.846	11 49 19.1	86.36	5	11 35 30.91	23.345	3 36 17.7	115.32
6	9 47 2.30	22.854	11 40 38.5	87.17	6	11 37 51.02	23.358	3 24 44.8	115.64
7	9 49 19.45	22.863	11 31 53.1	87.97	7	11 40 11.21	23.372	3 13 10.0	115.97
8	9 51 36.65	22.872	11 23 2.9	88.76	8	11 42 31.48	23.386	3 1 33.2	116.28
9	9 53 53.91	22.881	11 14 8.0	89.55	9	11 44 51.84	23.400	2 49 54.6	116.58
10	9 56 11.22	22.889	11 5 8.3	90.33	10	11 47 12.28	23.414	2 38 14.2	116.87
11	9 58 28.58	22.898	10 56 4.0	91.10	11	11 49 32.81	23.429	2 26 32.2	117.13
12	10 0 45.99	22.906	10 46 55.1	91.87	12	11 51 53.43	23.444	2 14 48.6	117.39
13	10 3 3.45	22.915	10 37 41.6	92.63	13	11 54 14.14	23.458	2 3 3.5	117.63
14	10 5 20.97	22.925	10 28 23.5	93.38	14	11 56 34.93	23.473	1 51 17.0	117.87
15	10 7 38.55	22.933	10 19 1.0	94.13	15	11 58 55.82	23.489	1 39 29.1	118.08
16	10 9 56.17	22.942	10 9 34.0	94.87	16	12 1 16.80	23.504	1 27 40.1	118.28
17	10 12 13.85	22.952	10 0 2.6	95.59	17	12 3 37.87	23.519	1 15 49.8	118.47
18	10 14 31.59	22.961	9 50 26.9	96.31	18	12 5 59.03	23.535	1 3 58.5	118.64
19	10 16 49.38	22.969	9 40 46.9	97.02	19	12 8 20.29	23.551	0 52 6.1	118.80
20	10 19 7.22	22.978	9 31 2.7	97.72	20	12 10 41.64	23.567	0 40 12.9	118.94
21	10 21 25.12	22.988	9 21 14.2	98.42	21	12 13 3.09	23.583	0 28 18.8	119.07
22	10 23 43.08	22.998	9 11 21.7	99.10	22	12 15 24.64	23.600	0 16 24.0	119.19
23	10 26 1.09	23.007	N. 9° 1' 25".0	99.78	23	12 17 46.29	23.617		
24	10 28 19.16	23.017			24	12 20 8.04	23.633		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 9.					THURSDAY 11.				
	h m s	s	N. ° ' "	"		h m s	s	S. ° ' "	"
0	12 20 8.04	23.633	N. 0 4 28.5	119.29	0	14 15 45.24	24.568	S. 9 10 49.0	106.15
1	12 22 29.89	23.650	S. 0 7 27.5	119.38	1	14 18 12.71	24.588	9 21 24.0	105.51
2	12 24 51.84	23.668	0 19 24.0	119.45	2	14 20 40.29	24.607	9 31 55.1	104.85
3	12 27 13.90	23.685	0 31 20.9	119.51	3	14 23 7.99	24.627	9 42 22.2	104.17
4	12 29 36.06	23.703	0 43 18.1	119.54	4	14 25 35.81	24.647	9 52 45.2	103.48
5	12 31 58.33	23.720	0 55 15.4	119.57	5	14 28 3.75	24.666	10 3 4.0	102.78
6	12 34 20.70	23.737	1 7 12.9	119.58	6	14 30 31.80	24.684	10 13 18.5	102.06
7	12 36 43.17	23.755	1 19 10.4	119.58	7	14 32 59.96	24.703	10 23 28.7	101.33
8	12 39 5.76	23.773	1 31 7.9	119.57	8	14 35 28.23	24.722	10 33 34.5	100.58
9	12 41 28.45	23.792	1 43 5.2	119.53	9	14 37 56.62	24.740	10 43 35.7	99.82
10	12 43 51.26	23.810	1 55 2.2	119.48	10	14 40 25.11	24.758	10 53 32.3	99.05
11	12 46 14.17	23.828	2 6 58.9	119.42	11	14 42 53.72	24.777	11 3 24.3	98.27
12	12 48 37.20	23.847	2 18 55.2	119.34	12	14 45 22.43	24.794	11 13 11.5	97.47
13	12 51 0.34	23.866	2 30 51.0	119.24	13	14 47 51.25	24.812	11 22 53.9	96.66
14	12 53 23.59	23.884	2 42 46.1	119.13	14	14 50 20.17	24.829	11 32 31.4	95.83
15	12 55 46.95	23.903	2 54 40.6	119.01	15	14 52 49.20	24.846	11 42 3.8	94.98
16	12 58 10.43	23.923	3 6 34.2	118.86	16	14 55 18.32	24.863	11 51 31.2	94.14
17	13 0 34.03	23.943	3 18 26.9	118.71	17	14 57 47.55	24.879	12 0 53.5	93.28
18	13 2 57.75	23.962	3 30 18.7	118.54	18	15 0 16.87	24.895	12 10 10.6	92.40
19	13 5 21.57	23.981	3 42 9.4	118.35	19	15 2 46.29	24.911	12 19 22.3	91.52
20	13 7 45.52	24.002	3 53 58.9	118.14	20	15 5 15.80	24.927	12 28 28.8	90.62
21	13 10 9.59	24.021	4 5 47.1	117.92	21	15 7 45.41	24.942	12 37 29.8	89.71
22	13 12 33.77	24.040	4 17 34.0	117.69	22	15 10 15.10	24.957	12 46 25.3	88.78
23	13 14 58.07	24.060	S. 4 29 19.4	117.44	23	15 12 44.89	24.972	S. 12 55 15.2	87.85
WEDNESDAY 10.					FRIDAY 12.				
	h m s	s	N. ° ' "	"		h m s	s	S. ° ' "	"
0	13 17 22.49	24.080	S. 4 41 3.3	117.18	0	15 15 14.76	24.985	S. 13 3 59.5	86.91
1	13 19 47.03	24.101	4 52 45.5	116.89	1	15 17 44.71	24.999	13 12 38.1	85.95
2	13 22 11.70	24.121	5 4 26.0	116.60	2	15 20 14.75	25.013	13 21 10.9	84.98
3	13 24 36.48	24.141	5 16 4.7	116.29	3	15 22 44.87	25.026	13 29 37.9	84.01
4	13 27 1.39	24.162	5 27 41.5	115.96	4	15 25 15.06	25.038	13 37 59.0	83.02
5	13 29 26.42	24.182	5 39 16.2	115.61	5	15 27 45.33	25.051	13 46 14.1	82.02
6	13 31 51.57	24.202	5 50 48.8	115.25	6	15 30 15.67	25.062	13 54 23.2	81.01
7	13 34 16.84	24.222	6 2 19.2	114.87	7	15 32 46.07	25.073	14 2 26.2	79.99
8	13 36 42.23	24.243	6 13 47.3	114.48	8	15 35 16.55	25.085	14 10 23.1	78.97
9	13 39 7.75	24.263	6 25 13.0	114.08	9	15 37 47.09	25.094	14 18 13.8	77.93
10	13 41 33.39	24.283	6 36 36.3	113.66	10	15 40 17.68	25.104	14 25 58.2	76.88
11	13 43 59.15	24.304	6 47 56.9	113.22	11	15 42 48.34	25.114	14 33 36.3	75.82
12	13 46 25.04	24.325	6 59 14.9	112.77	12	15 45 19.05	25.123	14 41 8.0	74.75
13	13 48 51.05	24.346	7 10 30.1	112.30	13	15 47 49.81	25.132	14 48 33.3	73.68
14	13 51 17.19	24.367	7 21 42.5	111.82	14	15 50 20.63	25.140	14 55 52.2	72.60
15	13 53 43.45	24.387	7 32 51.9	111.31	15	15 52 51.49	25.147	15 3 4.5	71.51
16	13 56 9.83	24.407	7 43 58.2	110.79	16	15 55 22.39	25.153	15 10 10.3	70.41
17	13 58 36.33	24.427	7 55 1.4	110.27	17	15 57 53.33	25.160	15 17 9.4	69.29
18	14 1 2.95	24.448	8 6 1.5	109.73	18	16 0 24.31	25.167	15 24 1.8	68.18
19	14 3 29.70	24.468	8 16 58.2	109.17	19	16 2 55.33	25.172	15 30 47.6	67.07
20	14 5 56.57	24.488	8 27 51.5	108.59	20	16 5 26.37	25.176	15 37 26.6	65.93
21	14 8 23.55	24.508	8 38 41.3	108.01	21	16 7 57.44	25.180	15 43 58.8	64.80
22	14 10 50.66	24.528	8 49 27.6	107.41	22	16 10 28.53	25.184	15 50 24.2	63.66
23	14 13 17.89	24.548	9 0 10.2	106.78	23	16 12 59.65	25.187	15 56 42.7	62.51
24	14 15 45.24	24.568	S. 9 10 49.0	106.15	24	16 15 30.78	25.189	S. 16 2 54.3	61.35

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 13.					MONDAY 15.				
	h m s	s	S. 16 2 54.3	61.35		h m s	s	S. 18 37 41.4	2.87
0	16 15 30.78	25.189	16 8 58.9	60.18	0	18 15 29.13	24.546	18 37 55.0	1.67
1	16 18 1.92	25.191	16 14 56.5	59.02	1	18 17 56.32	24.517	18 38 1.5	0.48
2	16 20 33.07	25.193	16 20 47.1	57.85	2	18 20 23.34	24.488	18 38 0.8	0.71
3	16 23 4.23	25.194	16 26 30.7	56.67	3	18 22 50.18	24.458	18 37 53.0	1.88
4	16 25 35.40	25.194	16 32 7.2	55.48	4	18 25 16.83	24.427	18 37 38.2	3.06
5	16 28 6.56	25.193	16 37 36.5	54.29	5	18 27 43.31	24.397	18 36 47.4	4.23
6	16 30 37.71	25.191	16 42 58.7	53.11	6	18 30 9.59	24.364	18 35 28.7	5.40
7	16 33 8.85	25.190	16 48 13.8	51.91	7	18 32 35.68	24.332	18 34 38.9	6.56
8	16 35 39.99	25.188	16 53 21.6	50.70	8	18 35 1.58	24.299	18 33 42.2	7.72
9	16 38 11.11	25.184	16 58 22.2	49.49	9	18 37 27.27	24.266	18 32 38.7	8.88
10	16 40 42.20	25.180	17 3 15.5	48.28	10	18 39 52.77	24.232	18 31 28.3	10.02
11	16 43 13.27	25.176	17 8 1.6	47.07	11	18 42 18.06	24.198	18 30 11.2	11.16
12	16 45 44.31	25.170	17 12 40.4	45.86	12	18 44 43.15	24.164	18 28 47.3	12.29
13	16 48 15.31	25.165	17 17 11.9	44.63	13	18 47 8.03	24.128	18 27 16.7	13.42
14	16 50 46.29	25.160	17 21 36.0	43.40	14	18 49 32.69	24.092	18 25 39.3	14.54
15	16 53 17.23	25.152	17 25 52.7	42.18	15	18 51 57.14	24.057	18 23 55.4	15.67
16	16 55 48.11	25.143	17 30 2.2	40.96	16	18 54 21.37	24.021	18 22 5.8	16.78
17	16 58 18.95	25.136	17 34 4.2	39.73	17	18 56 45.39	23.984	18 20 7.6	17.88
18	17 0 49.74	25.127	17 37 58.9	38.50	18	18 59 9.18	23.946	18 18 3.9	18.98
19	17 3 20.47	25.117	17 41 46.2	37.27	19	19 1 32.74	23.908	18 15 53.7	20.07
20	17 5 51.15	25.107	17 45 26.1	36.03	20	19 3 56.08	23.871	18 13 37.1	21.16
21	17 8 21.75	25.095	17 48 58.5	34.78	21	19 6 19.19	23.833		22.23
22	17 10 52.29	25.084	17 52 23.5	33.55	22	19 8 42.07	23.794		23.31
23	17 13 22.76	25.072			23	19 11 4.72	23.755		
SUNDAY 14.					TUESDAY 16.				
	h m s	s	S. 17 55 41.1	32.32		h m s	s	S. 18 11 14.0	24.38
0	17 15 53.15	25.058	17 58 51.3	31.08	0	19 13 27.13	23.715	18 8 44.6	25.43
1	17 18 23.46	25.044	18 1 54.0	29.83	1	19 15 49.30	23.676	18 6 8.8	26.49
2	17 20 53.68	25.030	18 4 49.2	28.59	2	19 18 11.24	23.636	18 3 26.7	27.53
3	17 23 23.82	25.015	18 7 37.1	27.36	3	19 20 32.93	23.594	18 0 38.5	28.56
4	17 25 53.86	24.998	18 10 17.5	26.11	4	19 22 54.37	23.554	17 57 44.0	29.60
5	17 28 23.80	24.982	18 12 50.4	24.87	5	19 25 15.58	23.513	17 54 43.3	30.62
6	17 30 53.65	24.966	18 15 15.9	23.63	6	19 27 36.53	23.472	17 51 36.5	31.63
7	17 33 23.39	24.948	18 17 34.0	22.40	7	19 29 57.24	23.431	17 48 23.7	32.63
8	17 35 53.02	24.929	18 19 44.7	21.17	8	19 32 17.70	23.389	17 45 4.9	33.64
9	17 38 22.54	24.910	18 21 48.0	19.93	9	19 34 37.91	23.347	17 41 40.0	34.63
10	17 40 51.94	24.890	18 23 43.8	18.68	10	19 36 57.86	23.304	17 38 9.3	35.62
11	17 43 21.22	24.869	18 25 32.2	17.46	11	19 39 17.56	23.262	17 34 32.6	36.60
12	17 45 50.37	24.848	18 27 13.3	16.23	12	19 41 37.01	23.220	17 30 50.1	37.56
13	17 48 19.40	24.827	18 28 47.0	15.00	13	19 43 56.20	23.177	17 27 1.9	38.52
14	17 50 48.29	24.804	18 30 13.3	13.77	14	19 46 15.13	23.134	17 23 7.8	39.48
15	17 53 17.05	24.782	18 31 32.2	12.55	15	19 48 33.81	23.092	17 19 8.1	40.43
16	17 55 45.67	24.758	18 32 43.9	11.33	16	19 50 52.23	23.048	17 15 2.7	41.37
17	17 58 14.14	24.733	18 33 48.2	10.11	17	19 53 10.38	23.004	17 10 51.7	42.30
18	18 0 42.47	24.709	18 34 45.2	8.89	18	19 55 28.28	22.961	17 6 35.1	43.22
19	18 3 10.65	24.683	18 35 34.9	7.68	19	19 57 45.91	22.917	16 57 45.6	44.13
20	18 5 38.67	24.657	18 36 17.4	6.47	20	20 0 3.28	22.873	16 53 12.7	45.03
21	18 8 6.53	24.630	18 37 20.6	5.27	21	20 2 20.39	22.830	16 48 34.4	45.93
22	18 10 34.23	24.603	18 37 41.4	4.07	22	20 4 37.24	22.786		46.82
23	18 13 1.77	24.575			23	20 6 53.82	22.742		47.71
24	18 15 29.13	24.546			24	20 9 10.14	22.698		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 17.					FRIDAY 19.				
	h m s	s				h m s	s		
0	20 9 10.14	22.698	S. 16 43 50.8	47.71	0	21 53 9.70	20.695	S. 11 29 6.2	80.27
1	20 11 26.19	22.654	16 39 1.9	48.58	1	21 55 13.76	20.659	11 21 3.1	80.75
2	20 13 41.99	22.610	16 34 7.9	49.44	2	21 57 17.61	20.624	11 12 57.2	81.22
3	20 15 57.51	22.565	16 29 8.6	50.30	3	21 59 21.25	20.588	11 4 48.5	81.68
4	20 18 12.77	22.521	16 24 4.3	51.14	4	22 1 24.66	20.552	10 56 37.0	82.14
5	20 20 27.76	22.477	16 18 54.9	51.99	5	22 3 27.87	20.517	10 48 22.8	82.59
6	20 22 42.49	22.433	16 13 40.4	52.82	6	22 5 30.87	20.483	10 40 5.9	83.04
7	20 24 56.96	22.390	16 8 21.0	53.64	7	22 7 33.67	20.449	10 31 46.3	83.47
8	20 27 11.17	22.345	16 2 56.7	54.46	8	22 9 36.26	20.414	10 23 24.2	83.89
9	20 29 25.10	22.300	15 57 27.5	55.27	9	22 11 38.64	20.381	10 14 59.6	84.31
10	20 31 38.77	22.257	15 51 53.5	56.06	10	22 13 40.83	20.348	10 6 32.5	84.72
11	20 33 52.18	22.213	15 46 14.8	56.85	11	22 15 42.82	20.315	9 58 2.9	85.13
12	20 36 5.32	22.168	15 40 31.3	57.64	12	22 17 44.61	20.282	9 49 31.0	85.52
13	20 38 18.20	22.125	15 34 43.1	58.41	13	22 19 46.21	20.250	9 40 56.7	85.91
14	20 40 30.82	22.081	15 28 50.4	59.17	14	22 21 47.61	20.218	9 32 20.1	86.29
15	20 42 43.17	22.037	15 22 53.1	59.93	15	22 23 48.83	20.187	9 23 41.2	86.67
16	20 44 55.26	21.993	15 16 51.2	60.68	16	22 25 49.86	20.156	9 15 0.1	87.03
17	20 47 7.09	21.950	15 10 44.9	61.42	17	22 27 50.70	20.124	9 6 16.8	87.39
18	20 49 18.66	21.907	15 4 34.2	62.15	18	22 29 51.35	20.094	8 57 31.4	87.74
19	20 51 29.97	21.863	14 58 19.1	62.87	19	22 31 51.83	20.065	8 48 43.9	88.08
20	20 53 41.02	21.820	14 51 59.7	63.58	20	22 33 52.13	20.036	8 39 54.4	88.42
21	20 55 51.81	21.777	14 45 36.1	64.29	21	22 35 52.26	20.007	8 31 2.9	88.75
22	20 58 2.34	21.734	14 39 8.2	64.99	22	22 37 52.21	19.977	8 22 9.4	89.07
23	21 0 12.62	21.692	S. 14 32 36.2	65.68	23	22 39 51.98	19.948	S. 8 13 14.0	89.39
THURSDAY 18.					SATURDAY 20.				
	h m s	s				h m s	s		
0	21 2 22.64	21.649	S. 14 26 0.0	66.37	0	22 41 51.59	19.921	S. 8 4 16.7	89.70
1	21 4 32.41	21.607	14 19 19.8	67.03	1	22 43 51.03	19.893	7 55 17.6	90.00
2	21 6 41.92	21.564	14 12 35.6	67.70	2	22 45 50.31	19.866	7 46 16.7	90.29
3	21 8 51.18	21.522	14 5 47.4	68.36	3	22 47 49.42	19.838	7 37 14.1	90.58
4	21 11 0.19	21.481	13 58 55.3	69.01	4	22 49 48.37	19.812	7 28 9.8	90.86
5	21 13 8.95	21.439	13 51 59.3	69.65	5	22 51 47.17	19.787	7 19 3.8	91.13
6	21 15 17.46	21.398	13 44 59.5	70.28	6	22 53 45.81	19.760	7 9 56.2	91.40
7	21 17 25.72	21.356	13 37 56.0	70.90	7	22 55 44.29	19.735	7 0 47.0	91.66
8	21 19 33.73	21.315	13 30 48.7	71.52	8	22 57 42.63	19.711	6 51 36.3	91.90
9	21 21 41.50	21.275	13 23 37.7	72.13	9	22 59 40.82	19.686	6 42 24.2	92.15
10	21 23 49.03	21.235	13 16 23.2	72.72	10	23 1 38.86	19.661	6 33 10.5	92.39
11	21 25 56.32	21.194	13 9 5.1	73.32	11	23 3 36.75	19.637	6 23 55.5	92.62
12	21 28 3.36	21.153	13 1 43.4	73.90	12	23 5 34.51	19.615	6 14 39.1	92.84
13	21 30 10.16	21.114	12 54 18.3	74.47	13	23 7 32.13	19.592	6 5 21.4	93.07
14	21 32 16.73	21.075	12 46 49.7	75.04	14	23 9 29.61	19.568	5 56 2.3	93.28
15	21 34 23.06	21.036	12 39 17.8	75.60	15	23 11 26.95	19.547	5 46 42.1	93.47
16	21 36 29.16	20.997	12 31 42.5	76.15	16	23 13 24.17	19.526	5 37 20.7	93.67
17	21 38 35.02	20.958	12 24 4.0	76.69	17	23 15 21.26	19.504	5 27 58.0	93.87
18	21 40 40.65	20.920	12 16 22.2	77.23	18	23 17 18.22	19.483	5 18 34.3	94.04
19	21 42 46.06	20.882	12 8 37.2	77.76	19	23 19 15.05	19.463	5 9 9.5	94.22
20	21 44 51.23	20.843	12 0 49.1	78.28	20	23 21 11.77	19.443	4 59 43.7	94.39
21	21 46 56.18	20.807	11 52 57.9	78.79	21	23 23 8.36	19.423	4 50 16.8	94.55
22	21 49 0.91	20.770	11 45 3.6	79.29	22	23 25 4.84	19.403	4 40 49.1	94.70
23	21 51 5.42	20.733	11 37 6.4	79.78	23	23 27 1.20	19.384	4 31 20.4	94.86
24	21 53 9.70	20.695	S. 11 29 6.2	80.27	24	23 28 57.45	19.366	S. 4 21 50.8	95.00

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SUNDAY 21.					TUESDAY 23.				
	h m s	s				h m s	s		
0	23 28 57.45	19.366	S. 4 21 50.8	95.00	0	1 0 32.47	18.943	N. 3 18 24.8	94.38
1	23 30 53.59	19.348	4 12 20.4	95.13	1	1 2 26.13	18.944	3 27 50.6	94.22
2	23 32 49.62	19.330	4 2 49.2	95.27	2	1 4 19.80	18.945	3 37 15.4	94.05
3	23 34 45.55	19.313	3 53 17.2	95.39	3	1 6 13.47	18.945	3 46 39.2	93.87
4	23 36 41.37	19.296	3 43 44.5	95.50	4	1 8 7.14	18.947	3 56 1.9	93.69
5	23 38 37.10	19.280	3 34 11.2	95.61	5	1 10 0.83	18.949	4 5 23.5	93.51
6	23 40 32.73	19.263	3 24 37.2	95.72	6	1 11 54.53	18.951	4 14 44.0	93.32
7	23 42 28.26	19.247	3 15 2.6	95.81	7	1 13 48.24	18.953	4 24 3.3	93.11
8	23 44 23.70	19.232	3 5 27.5	95.90	8	1 15 41.97	18.957	4 33 21.3	92.91
9	23 46 19.05	19.217	2 55 51.8	95.99	9	1 17 35.72	18.960	4 42 38.2	92.70
10	23 48 14.31	19.203	2 46 15.6	96.07	10	1 19 29.49	18.963	4 51 53.7	92.48
11	23 50 9.49	19.189	2 36 39.0	96.13	11	1 21 23.28	18.967	5 1 7.9	92.26
12	23 52 4.58	19.175	2 27 2.0	96.20	12	1 23 17.09	18.971	5 10 20.8	92.03
13	23 53 59.59	19.162	2 17 24.6	96.26	13	1 25 10.93	18.975	5 19 32.3	91.79
14	23 55 54.52	19.149	2 7 46.9	96.31	14	1 27 4.79	18.980	5 28 42.3	91.55
15	23 57 49.38	19.137	1 58 8.9	96.36	15	1 28 58.69	18.986	5 37 50.9	91.31
16	23 59 44.17	19.125	1 48 30.6	96.40	16	1 30 52.62	18.991	5 46 58.0	91.06
17	0 1 38.88	19.113	1 38 52.1	96.43	17	1 32 46.58	18.997	5 56 3.6	90.80
18	0 3 33.52	19.102	1 29 13.5	96.45	18	1 34 40.58	19.002	6 5 7.6	90.53
19	0 5 28.10	19.092	1 19 34.7	96.48	19	1 36 34.61	19.008	6 14 10.0	90.27
20	0 7 22.62	19.081	1 9 55.7	96.50	20	1 38 28.68	19.016	6 23 10.8	89.99
21	0 9 17.07	19.070	1 0 16.7	96.50	21	1 40 22.80	19.023	6 32 9.9	89.71
22	0 11 11.46	19.061	0 50 37.7	96.50	22	1 42 16.95	19.029	6 41 7.3	89.42
23	0 13 5.80	19.052	S. 0 40 58.7	96.49	23	1 44 11.15	19.037	N. 6 50 2.9	89.13
MONDAY 22.					WEDNESDAY 24.				
0	0 15 0.08	19.043	S. 0 31 19.8	96.48	0	1 46 5.40	19.046	N. 6 58 56.8	88.83
1	0 16 54.31	19.034	0 21 40.9	96.47	1	1 47 59.70	19.053	7 7 48.9	88.53
2	0 18 48.49	19.026	0 12 2.2	96.44	2	1 49 54.04	19.062	7 16 39.1	88.22
3	0 20 42.62	19.018	S. 0 2 23.6	96.42	3	1 51 48.44	19.071	7 25 27.5	87.90
4	0 22 36.71	19.011	N. 0 7 14.8	96.38	4	1 53 42.89	19.080	7 34 13.9	87.58
5	0 24 30.75	19.004	0 16 53.0	96.34	5	1 55 37.40	19.089	7 42 58.4	87.25
6	0 26 24.76	18.997	0 26 30.9	96.28	6	1 57 31.96	19.099	7 51 40.9	86.92
7	0 28 18.72	18.991	0 36 8.4	96.23	7	1 59 26.59	19.109	8 0 21.5	86.58
8	0 30 12.65	18.986	0 45 45.7	96.18	8	2 1 21.27	19.118	8 8 59.9	86.23
9	0 32 6.55	18.980	0 55 22.6	96.11	9	2 3 16.01	19.129	8 17 36.3	85.89
10	0 34 0.41	18.975	1 4 59.0	96.03	10	2 5 10.82	19.141	8 26 10.6	85.53
11	0 35 54.25	18.971	1 14 35.0	95.96	11	2 7 5.70	19.152	8 34 42.7	85.17
12	0 37 48.06	18.967	1 24 10.5	95.88	12	2 9 0.64	19.163	8 43 12.6	84.80
13	0 39 41.85	18.962	1 33 45.5	95.78	13	2 10 55.65	19.174	8 51 40.3	84.43
14	0 41 35.61	18.958	1 43 19.9	95.68	14	2 12 50.73	19.186	9 0 5.7	84.05
15	0 43 29.35	18.955	1 52 53.7	95.58	15	2 14 45.88	19.198	9 8 28.9	83.67
16	0 45 23.07	18.952	2 2 26.9	95.47	16	2 16 41.10	19.210	9 16 49.7	83.28
17	0 47 16.78	18.950	2 11 59.3	95.35	17	2 18 36.40	19.222	9 25 8.2	82.88
18	0 49 10.47	18.948	2 21 31.1	95.23	18	2 20 31.77	19.235	9 33 24.3	82.48
19	0 51 4.15	18.947	2 31 2.1	95.10	19	2 22 27.22	19.248	9 41 38.0	82.07
20	0 52 57.83	18.945	2 40 32.3	94.97	20	2 24 22.75	19.262	9 49 49.2	81.66
21	0 54 51.49	18.943	2 50 1.8	94.83	21	2 26 18.36	19.275	9 57 57.9	81.23
22	0 56 45.15	18.943	2 59 30.3	94.68	22	2 28 14.05	19.288	10 6 4.0	80.81
23	0 58 38.81	18.943	3 8 58.0	94.54	23	2 30 9.82	19.302	10 14 7.6	80.39
24	1 0 32.47	18.943	N. 3 18 24.8	94.38	24	2 32 5.68	19.317	N. 10 22 8.7	79.96

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 25.					SATURDAY 27.				
	h m s	s	N. 10 22 8.7	79.96		h m s	s	N. 15 45 33.4	52.81
0	2 32 5.68	19.317	10 30 7.1	79.52	0	4 6 46.58	20.182	15 50 48.2	52.12
1	2 34 1.62	19.331	10 38 2.9	79.07	1	4 8 47.73	20.203	15 55 58.8	51.43
2	2 35 57.65	19.346	10 45 55.9	78.62	2	4 10 49.01	20.223	16 1 5.3	50.73
3	2 37 53.77	19.361	10 53 46.3	78.17	3	4 12 50.40	20.243	16 6 7.5	50.02
4	2 39 49.98	19.376	11 1 33.9	77.69	4	4 14 51.92	20.263	16 11 5.5	49.32
5	2 41 46.28	19.391	11 9 18.6	77.22	5	4 16 53.56	20.283	16 15 59.3	48.61
6	2 43 42.67	19.406	11 17 0.6	76.76	6	4 18 55.32	20.303	16 20 48.8	47.89
7	2 45 39.15	19.422	11 24 39.7	76.28	7	4 20 57.20	20.323	16 25 34.0	47.17
8	2 47 35.73	19.438	11 32 15.9	75.78	8	4 22 59.20	20.344	16 30 14.8	46.44
9	2 49 32.41	19.453	11 39 49.1	75.30	9	4 25 1.33	20.364	16 34 51.3	45.72
10	2 51 29.17	19.469	11 47 19.5	74.81	10	4 27 3.57	20.384	16 39 23.4	44.98
11	2 53 26.04	19.487	11 54 46.8	74.30	11	4 29 5.94	20.405	16 43 51.1	44.25
12	2 55 23.01	19.503	12 2 11.1	73.80	12	4 31 8.43	20.425	16 48 14.4	43.50
13	2 57 20.07	19.519	12 9 32.4	73.28	13	4 33 11.04	20.445	16 52 33.1	42.75
14	2 59 17.24	19.536	12 16 50.5	72.77	14	4 35 13.77	20.465	16 56 47.4	42.01
15	3 1 14.50	19.553	12 24 5.6	72.25	15	4 37 16.62	20.485	17 0 57.2	41.25
16	3 3 11.87	19.571	12 31 17.5	71.72	16	4 39 19.59	20.505	17 5 2.4	40.49
17	3 5 9.35	19.588	12 38 26.2	71.18	17	4 41 22.68	20.525	17 9 3.1	39.72
18	3 7 6.93	19.605	12 45 31.7	70.65	18	4 43 25.89	20.545	17 12 59.1	38.95
19	3 9 4.61	19.623	12 52 34.0	70.11	19	4 45 29.22	20.565	17 16 50.5	38.18
20	3 11 2.40	19.641	12 59 33.0	69.55	20	4 47 32.67	20.585	17 20 37.3	37.42
21	3 13 0.30	19.658	13 6 28.6	68.99	21	4 49 36.24	20.604	17 24 19.5	36.63
22	3 14 58.30	19.676	N. 13 13 20.9	68.44	22	4 51 39.92	20.624	N. 17 27 56.9	35.85
23	3 16 56.41	19.695			23	4 53 43.73	20.644		
FRIDAY 26.					SUNDAY 28.				
0	3 18 54.64	19.713	13 26 55.5	67.88	0	4 55 47.65	20.663	N. 17 31 29.7	35.07
1	3 20 52.97	19.732	13 33 37.6	66.73	1	4 57 51.69	20.683	17 34 57.7	34.28
2	3 22 51.42	19.751	13 40 16.3	66.15	2	4 59 55.84	20.702	17 38 21.0	33.48
3	3 24 49.98	19.769	13 46 51.4	65.57	3	5 2 0.11	20.722	17 41 39.5	32.68
4	3 26 48.65	19.788	13 53 23.1	64.98	4	5 4 4.50	20.741	17 44 53.1	31.87
5	3 28 47.43	19.807	14 6 15.6	63.78	5	5 6 9.00	20.760	17 48 1.9	31.07
6	3 30 46.33	19.827	14 12 36.5	63.18	6	5 8 13.62	20.779	17 51 5.9	30.26
7	3 32 45.35	19.845	14 18 53.7	62.56	7	5 10 18.35	20.798	17 54 5.0	29.45
8	3 34 44.47	19.864	14 25 7.2	61.94	8	5 12 23.19	20.817	17 56 59.3	28.63
9	3 36 43.72	19.884	14 31 17.0	61.32	9	5 14 28.15	20.836	17 59 48.6	27.81
10	3 38 43.08	19.903	14 37 23.1	60.70	10	5 16 33.22	20.854	18 2 33.0	26.98
11	3 40 42.56	19.922	14 43 25.4	60.07	11	5 18 38.40	20.873	18 5 12.4	26.16
12	3 42 42.15	19.942	14 49 23.9	59.43	12	5 20 43.69	20.891	18 7 46.9	25.33
13	3 44 41.86	19.962	14 55 18.6	58.79	13	5 22 49.09	20.909	18 10 16.4	24.50
14	3 46 41.69	19.982	15 1 9.4	58.14	14	5 24 54.60	20.928	18 12 40.9	23.66
15	3 48 41.64	20.002	15 6 56.3	57.49	15	5 27 0.22	20.946	18 15 0.3	22.82
16	3 50 41.71	20.022	15 12 39.3	56.84	16	5 29 5.95	20.963	18 17 14.7	21.98
17	3 52 41.90	20.042	15 18 18.4	56.18	17	5 31 11.78	20.981	18 19 24.0	21.13
18	3 54 42.21	20.062	15 23 53.5	55.51	18	5 33 17.72	20.999	18 21 28.3	20.28
19	3 56 42.64	20.082	15 29 24.5	54.83	19	5 35 23.77	21.017	18 23 27.4	19.43
20	3 58 43.19	20.101	15 34 51.5	54.17	20	5 37 29.92	21.033	18 25 21.4	18.58
21	4 0 43.85	20.121	15 40 14.5	53.49	21	5 39 36.17	21.051	18 27 10.3	17.72
22	4 2 44.64	20.142	N. 15 45 33.4	52.81	22	5 41 42.53	21.068	18 28 54.0	16.85
23	4 4 45.55	20.162			23	5 43 48.98	21.084	18 30 32.5	15.99
24	4 6 46.58	20.182			24	5 45 55.54	21.102	N. 18 32 5.9	15.12

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 29.					WEDNESDAY 31.				
	h m s	s	N. 18 32 5.9	15.12		h m s	s	N. 18 04 9.6	28.67
0	5 45 55.54	21.102	18 33 34.0	14.25	0	7 28 49.51	21.708	17 57 54.7	29.61
1	5 48 2.20	21.118	18 34 56.9	13.38	1	7 30 59.78	21.716	17 54 54.3	30.53
2	5 50 8.95	21.134	18 36 14.6	12.51	2	7 33 10.10	21.725	17 51 48.3	31.47
3	5 52 15.81	21.151	18 37 27.0	11.63	3	7 35 20.48	21.733	17 48 36.7	32.40
4	5 54 22.76	21.167	18 38 34.1	10.74	4	7 37 30.90	21.741	17 45 10.5	33.33
5	5 56 29.81	21.183	18 39 35.9	9.86	5	7 39 41.37	21.749	17 41 56.7	34.26
6	5 58 36.95	21.198	18 40 32.4	8.98	6	7 41 51.89	21.757	17 38 28.4	35.18
7	6 0 44.19	21.214	18 41 23.6	8.09	7	7 44 2.46	21.765	17 34 54.5	36.12
8	6 2 51.52	21.229	18 42 9.5	7.20	8	7 46 13.07	21.773	17 31 15.0	37.05
9	6 4 58.94	21.245	18 42 50.0	6.31	9	7 48 23.73	21.780	17 27 29.9	37.98
10	6 7 6.46	21.260	18 43 25.2	5.42	10	7 50 34.43	21.788	17 23 39.2	38.91
11	6 9 14.06	21.275	18 43 55.0	4.52	11	7 52 45.18	21.795	17 19 43.0	39.83
12	6 11 21.76	21.290	18 44 19.4	3.62	12	7 54 55.97	21.802	17 15 41.2	40.76
13	6 13 29.54	21.304	18 44 38.4	2.72	13	7 57 6.80	21.809	17 11 33.9	41.68
14	6 15 37.41	21.319	18 44 52.0	1.82	14	7 59 17.68	21.817	17 7 21.1	42.60
15	6 17 45.37	21.333	18 45 0.2	0.92	15	8 1 28.60	21.823	17 3 2.7	43.53
16	6 19 53.41	21.348	18 45 3.0	0.01	16	8 3 39.56	21.830	16 58 38.7	44.45
17	6 22 1.54	21.362	18 45 0.3	0.91	17	8 5 50.56	21.837	16 54 9.3	45.36
18	6 24 9.75	21.375	18 44 52.1	1.82	18	8 8 1.60	21.843	16 49 34.4	46.28
19	6 26 18.04	21.389	18 44 38.5	2.72	19	8 10 12.68	21.849	16 44 53.9	47.20
20	6 28 26.42	21.402	18 44 19.5	3.63	20	8 12 23.79	21.856	16 40 8.0	48.11
21	6 30 34.87	21.415	18 43 54.9	4.55	21	8 14 34.95	21.863	16 35 16.6	49.02
22	6 32 43.40	21.428	18 43 24.9	5.47	22	8 16 46.15	21.869	16 30 19.7	49.93
23	6 34 52.01	21.442			23	8 18 57.38	21.875		
TUESDAY 30.					THURSDAY, NOV. 1.				
0	6 37 0.70	21.454	18 42 49.3	6.38	0	8 21 8.65	21.882	16 25 17.4	50.84
1	6 39 9.46	21.467	18 42 8.3	7.30					
2	6 41 18.30	21.479	18 41 21.7	8.22					
3	6 43 27.21	21.491	18 40 29.6	9.14					
4	6 45 36.19	21.503	18 39 32.0	10.07					
5	6 47 45.25	21.515	18 38 28.8	10.99					
6	6 49 54.37	21.527	18 37 20.1	11.92					
7	6 52 3.57	21.538	18 36 5.8	12.84					
8	6 54 12.83	21.550	18 34 46.0	13.77					
9	6 56 22.17	21.561	18 33 20.6	14.69					
10	6 58 31.56	21.571	18 31 49.7	15.62					
11	7 0 41.02	21.582	18 30 13.1	16.56					
12	7 2 50.55	21.593	18 28 31.0	17.48					
13	7 5 0.14	21.603	18 26 43.3	18.42					
14	7 7 9.79	21.613	18 24 50.0	19.34					
15	7 9 19.50	21.624	18 22 51.2	20.28					
16	7 11 29.28	21.634	18 20 46.7	21.22					
17	7 13 39.11	21.643	18 18 36.6	22.14					
18	7 15 49.00	21.653	18 16 21.0	23.08					
19	7 17 58.95	21.663	18 13 59.7	24.01					
20	7 20 8.95	21.672	18 11 32.9	24.93					
21	7 22 19.01	21.681	18 9 0.5	25.87					
22	7 24 29.12	21.690	18 6 22.4	26.81					
23	7 26 39.29	21.699	18 3 38.8	27.73					
24	7 28 49.51	21.708	N. 18 0 49.6	28.67					

PHASES OF THE MOON.			
		h m	
Oct. 2	☾ Last Quarter -	17 29.2	
9	● New Moon -	18 5.5	
16	☽ First Quarter -	8 53.6	
24	○ Full Moon -	6 26.2	

		h	
Oct. 10	☾ Perigee - - -	15.7	
25	☾ Apogee - - -	14.6	

AT APPARENT NOON.

Date.	THE SUN'S				Sidereal Time of the Semi- diameter passing the Meridian.*	Equation of Time, to be subtracted from Apparent Time.	Var. in 1 hour.
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.			
	h m s	s	° ' "	"	m s	m s	s
Thur. 1	14 22 37.26	9.769	S. 14 11 16.5	48.53	1 6.79	16 19.83	0.088
Frid. 2	14 26 32.11	9.802	14 30 34.4	47.95	1 6.90	16 21.53	0.054
Sat. 3	14 30 27.78	9.837	14 49 38.3	47.37	1 7.02	16 22.41	0.019
Sun. 4	14 34 24.29	9.872	15 8 27.9	46.76	1 7.13	16 22.45	0.015
Mon. 5	14 38 21.63	9.907	15 27 2.7	46.13	1 7.25	16 21.67	0.050
Tues. 6	14 42 19.82	9.942	15 45 22.3	45.49	1 7.37	16 20.04	0.085
Wed. 7	14 46 18.85	9.977	16 3 26.2	44.83	1 7.48	16 17.57	0.120
Thur. 8	14 50 18.73	10.012	16 21 14.2	44.16	1 7.60	16 14.26	0.156
Frid. 9	14 54 19.45	10.047	16 38 45.7	43.46	1 7.72	16 10.10	0.191
Sat. 10	14 58 21.01	10.082	16 56 0.3	42.75	1 7.84	16 5.11	0.225
Sun. 11	15 2 23.41	10.117	17 12 57.6	42.02	1 7.96	15 59.28	0.260
Mon. 12	15 6 26.65	10.152	17 29 37.2	41.27	1 8.08	15 52.61	0.295
Tues. 13	15 10 30.72	10.187	17 45 58.6	40.51	1 8.20	15 45.11	0.330
Wed. 14	15 14 35.63	10.222	18 2 1.5	39.73	1 8.32	15 36.78	0.364
Thur. 15	15 18 41.37	10.256	18 17 45.4	38.93	1 8.44	15 27.62	0.399
Frid. 16	15 22 47.94	10.291	18 33 10.0	38.11	1 8.56	15 17.64	0.433
Sat. 17	15 26 55.33	10.325	18 48 14.8	37.29	1 8.68	15 6.83	0.468
Sun. 18	15 31 3.55	10.360	19 2 59.6	36.44	1 8.79	14 55.20	0.502
Mon. 19	15 35 12.59	10.394	19 17 23.8	35.57	1 8.91	14 42.75	0.536
Tues. 20	15 39 22.44	10.428	19 31 27.2	34.70	1 9.02	14 29.49	0.570
Wed. 21	15 43 33.11	10.461	19 45 9.4	33.81	1 9.14	14 15.41	0.603
Thur. 22	15 47 44.59	10.495	19 58 30.0	32.90	1 9.25	14 0.53	0.636
Frid. 23	15 51 56.86	10.528	20 11 28.7	31.98	1 9.36	13 44.86	0.670
Sat. 24	15 56 9.93	10.561	20 24 5.1	31.04	1 9.46	13 28.39	0.702
Sun. 25	16 0 23.78	10.593	20 36 18.8	30.09	1 9.57	13 11.15	0.735
Mon. 26	16 4 38.40	10.625	20 48 9.6	29.13	1 9.68	12 53.13	0.767
Tues. 27	16 8 53.78	10.657	20 59 37.1	28.15	1 9.78	12 34.35	0.798
Wed. 28	16 13 9.92	10.688	21 10 41.0	27.17	1 9.88	12 14.83	0.829
Thur. 29	16 17 26.79	10.718	21 21 21.0	26.16	1 9.97	11 54.57	0.859
Frid. 30	16 21 44.38	10.748	21 31 36.8	25.15	1 10.07	11 33.59	0.889
Sat. 31	16 26 2.68	10.776	S. 21 41 28.0	24.12	1 10.16	11 11.91	0.918

* Mean Time of the Semidiameter passing may be found by subtracting 0^s.19 from the Sidereal Time.

AT MEAN NOON.

Date.	THE SUN'S			Equation of Time, to be subtracted from Apparent Time.	Sidereal Time.
	Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*		
	h m s	S. ° ' "	° ' "	m s	h m s
Thur. 1	14 22 39.91	S. 14 11 29.7	16 8.63	16 19.86	14 38 59.77
Frid. 2	14 26 34.78	14 30 47.5	16 8.88	16 21.54	14 42 56.32
Sat. 3	14 30 30.47	14 49 51.3	16 9.12	16 22.41	14 46 52.88
Sun. 4	14 34 26.98	15 8 40.6	16 9.36	16 22.45	14 50 49.43
Mon. 5	14 38 24.33	15 27 15.2	16 9.60	16 21.65	14 54 45.99
Tues. 6	14 42 22.53	15 45 34.6	16 9.84	16 20.02	14 58 42.54
Wed. 7	14 46 21.56	16 3 38.4	16 10.07	16 17.54	15 2 39.10
Thur. 8	14 50 21.43	16 21 26.1	16 10.31	16 14.21	15 6 35.65
Frid. 9	14 54 22.15	16 38 57.4	16 10.55	16 10.05	15 10 32.20
Sat. 10	14 58 23.71	16 56 11.8	16 10.78	16 5.05	15 14 28.76
Sun. 11	15 2 26.11	17 13 8.8	16 11.01	15 59.21	15 18 25.31
Mon. 12	15 6 29.34	17 29 48.1	16 11.24	15 52.53	15 22 21.87
Tues. 13	15 10 33.40	17 46 9.2	16 11.47	15 45.03	15 26 18.42
Wed. 14	15 14 38.29	18 2 11.8	16 11.70	15 36.69	15 30 14.98
Thur. 15	15 18 44.01	18 17 55.4	16 11.92	15 27.52	15 34 11.53
Frid. 16	15 22 50.56	18 33 19.7	16 12.14	15 17.53	15 38 8.09
Sat. 17	15 26 57.93	18 48 24.2	16 12.36	15 6.71	15 42 4.64
Sun. 18	15 31 6.12	19 3 8.6	16 12.57	14 55.08	15 46 1.20
Mon. 19	15 35 15.14	19 17 32.5	16 12.78	14 42.62	15 49 57.76
Tues. 20	15 39 24.96	19 31 35.6	16 12.99	14 29.35	15 53 54.31
Wed. 21	15 43 35.60	19 45 17.4	16 13.19	14 15.27	15 57 50.87
Thur. 22	15 47 47.04	19 58 37.7	16 13.38	14 0.38	16 1 47.42
Frid. 23	15 51 59.27	20 11 36.0	16 13.57	13 44.70	16 5 43.98
Sat. 24	15 56 12.30	20 24 12.0	16 13.76	13 28.24	16 9 40.53
Sun. 25	16 0 26.10	20 36 25.4	16 13.94	13 10.99	16 13 37.09
Mon. 26	16 4 40.68	20 48 15.9	16 14.12	12 52.97	16 17 33.65
Tues. 27	16 8 56.02	20 59 43.0	16 14.29	12 34.19	16 21 30.20
Wed. 28	16 13 12.10	21 10 46.6	16 14.46	12 14.66	16 25 26.76
Thur. 29	16 17 28.92	21 21 26.2	16 14.62	11 54.40	16 29 23.32
Frid. 30	16 21 46.45	21 31 41.6	16 14.77	11 33.42	16 33 19.87
Sat. 31	16 26 4.69	S. 21 41 32.5	16 14.92	11 11.74	16 37 16.43

* The Semidiameter for Apparent Noon may be assumed the same as that for Mean Noon.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
1	218° 2' 6.7	S. 0.49	9.9966476	h m s 9 19 28.32	15° 20' 74	15° 27' 44	56° 19' 27	56° 43' 82
2	219 2 10.8	0.37	.9965377	9 15 32.42	15 34.56	15 42.04	57 9.96	57 37.41
3	220 2 17.0	0.24	.9964288	9 11 36.51	15 49.77	15 57.62	58 5.78	58 34.60
4	221 2 25.3	S. 0.11	9.9963207	9 7 40.60	16 5.44	16 13.07	59 3.32	59 31.29
5	222 2 35.8	N. 0.02	.9962133	9 3 44.69	16 20.30	16 26.95	59 57.85	60 22.24
6	223 2 48.2	0.15	.9961065	8 59 48.78	16 32.81	16 37.68	60 43.74	61 1.64
7	224 3 2.7	0.25	9.9960003	8 55 52.87	16 41.41	16 43.85	61 15.32	61 24.28
8	225 3 19.0	0.33	.9958946	8 51 56.97	16 44.91	16 44.55	61 28.17	61 26.85
9	226 3 37.1	0.38	.9957893	8 48 1.06	16 42.78	16 39.68	61 20.36	61 8.95
10	227 3 56.9	0.40	9.9956846	8 44 5.15	16 35.34	16 29.94	60 53.05	60 33.23
11	228 4 18.2	0.39	.9955805	8 40 9.24	16 23.65	16 16.67	60 10.15	59 44.53
12	229 4 41.1	0.34	.9954772	8 36 13.33	16 9.21	16 1.45	59 17.13	58 48.66
13	230 5 5.3	0.26	9.9953748	8 32 17.42	15 53.58	15 45.76	58 19.78	57 51.09
14	231 5 30.9	0.16	.9952736	8 28 21.51	15 38.14	15 30.83	57 23.11	56 56.26
15	232 5 57.9	N. 0.05	.9951736	8 24 25.60	15 23.91	15 17.46	56 30.88	56 7.22
16	233 6 26.2	S. 0.07	9.9950751	8 20 29.69	15 11.54	15 6.17	55 45.49	55 25.78
17	234 6 55.8	0.19	.9949782	8 16 33.78	15 1.37	14 57.15	55 8.16	54 52.67
18	235 7 26.7	0.31	.9948830	8 12 37.87	14 53.49	14 50.39	54 39.25	54 27.88
19	236 7 58.9	0.42	9.9947896	8 8 41.96	14 47.83	14 45.78	54 18.46	54 10.92
20	237 8 32.5	0.51	.9946982	8 4 46.05	14 44.20	14 43.09	54 5.16	54 1.06
21	238 9 7.4	0.58	.9946088	8 0 50.14	14 42.40	14 42.12	53 58.55	53 57.51
22	239 9 43.7	0.63	9.9945215	7 56 54.24	14 42.22	14 42.68	53 57.87	53 59.55
23	240 10 21.4	0.65	.9944364	7 52 58.33	14 43.48	14 44.62	54 2.50	54 6.69
24	241 11 0.4	0.65	.9943535	7 49 2.42	14 46.09	14 47.90	54 12.09	54 18.71
25	242 11 40.9	0.62	9.9942728	7 45 6.50	14 50.04	14 52.52	54 26.56	54 35.66
26	243 12 22.9	0.57	.9941944	7 41 10.59	14 55.35	14 58.56	54 46.07	54 57.84
27	244 13 6.3	0.49	.9941182	7 37 14.68	15 2.15	15 6.13	55 11.00	55 25.62
28	245 13 51.2	0.39	9.9940441	7 33 18.77	15 10.51	15 15.31	55 41.72	55 59.32
29	246 14 37.6	0.27	.9939722	7 29 22.86	15 20.51	15 26.11	56 18.42	56 38.96
30	247 15 25.5	S. 0.14	.9939023	7 25 26.95	15 32.08	15 38.37	57 0.86	57 23.96
31	248 16 14.9	0.00	9.9938345	7 21 31.04	15 44.94	15 51.70	57 48.06	58 12.86

MEAN TIME.

THE MOON'S									
Day.	Longitude.		Latitude.		Age.	Meridian Passage.			
	Noon.	Midnight.	Noon.	Midnight.		Noon.	Upper.	Lower.	
					d	h	m	h	m
1	123° 42' 1" 7	130° 6' 49" 6	S. 2° 59' 29" 4	S. 2° 30' 38" 9	22.25	18	19.3	5	54.1
2	136 37 7.5	143 13 25.1	1 59 27.1	1 26 11.5	23.25	19	10.1	6	44.7
3	149 56 9.1	156 45 40.8	S. 0 51 13.1	S. 0 14 57.0	24.25	20	1.4	7	35.7
4	163 42 15.0	170 45 58.2	N. 0 22 8.1	N. 0 59 28.8	25.25	20	53.7	8	27.4
5	177 56 46.2	185 14 23.0	1 36 28.0	2 12 25.3	26.25	21	47.3	9	20.3
6	192 38 19.1	200 7 51.3	2 46 37.7	3 18 21.5	27.25	22	42.8	10	14.8
7	207 42 2.5	215 19 43.3	3 46 53.6	4 11 34.2	28.25	23	40.4	11	11.3
8	222 59 34.1	230 40 8.5	4 31 48.7	4 47 9.6	29.25	*	*	12	10.0
9	238 19 57.2	245 57 32.0	4 57 18.1	5 2 5.0	0.86	0	40.0	13	10.3
10	253 31 31.0	261 0 41.0	5 1 30.8	4 55 45.1	1.86	1	40.7	14	11.1
11	268 24 1.3	275 40 45.0	4 45 5.2	4 29 54.9	2.86	2	41.3	15	11.1
12	282 50 19.4	289 52 26.6	4 10 42.3	3 47 58.5	3.86	3	40.3	16	8.7
13	296 47 1.3	303 34 10.3	3 22 15.8	2 54 6.4	4.86	4	36.4	17	3.2
14	310 14 9.6	316 47 23.0	2 24 1.7	1 52 31.4	5.86	5	29.2	17	54.3
15	323 14 20.1	329 35 34.6	1 20 3.6	N. 0 47 4.3	6.86	6	18.6	18	42.2
16	335 51 42.5	342 3 20.8	N. 0 13 57.3	S. 0 18 55.1	7.86	7	5.2	19	27.7
17	348 11 6.6	354 15 36.3	S. 0 51 12.5	1 22 35.9	8.86	7	49.7	20	11.4
18	0 17 24.3	6 17 3.2	1 52 47.7	2 21 31.2	9.86	8	32.9	20	54.2
19	12 15 2.9	18 11 50.5	2 48 31.0	3 13 32.5	10.86	9	15.4	21	36.7
20	24 7 50.5	30 3 24.2	3 36 22.0	3 56 47.1	11.86	9	58.0	22	19.6
21	35 58 50.2	41 54 24.5	4 14 35.8	4 29 37.9	12.86	10	41.3	23	3.4
22	47 50 20.7	53 46 50.2	4 41 44.1	4 50 46.5	13.86	11	25.7	23	48.5
23	59 44 3.1	65 42 8.2	4 56 38.5	4 59 15.6	14.86	12	11.5	*	*
24	71 41 13.8	77 41 28.2	4 58 34.5	4 54 34.1	15.86	12	58.6	0	34.9
25	83 43 0.0	89 45 59.0	4 47 14.8	4 36 39.0	16.86	13	46.9	1	22.6
26	95 50 36.3	101 57 5.2	4 22 50.9	4 5 56.6	17.86	14	36.1	2	11.4
27	108 5 40.7	114 16 40.6	3 46 4.0	3 23 22.7	18.86	15	25.6	3	0.8
28	120 30 25.0	126 47 16.2	2 58 4.3	2 30 22.1	19.86	16	15.2	3	50.4
29	133 7 38.9	139 31 59.2	2 0 31.5	1 28 49.7	20.86	17	4.7	4	39.9
30	146 0 44.4	152 34 21.8	S. 0 55 36.3	S. 0 21 13.1	21.86	17	54.1	5	29.4
31	159 13 18.1	165 57 57.4	N. 0 13 55.4	N. 0 49 22.3	22.86	18	44.0	6	19.0

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 1.					SATURDAY 3.				
	^h ^m ^s	^s	[°] ['] ["]	["]		^h ^m ^s	^s	[°] ['] ["]	["]
0	8 21 8.65	21.882	N. 16 25 17.4	50.84	0	10 6 53.82	22.207	N. 10 41 55.3	90.73
1	8 23 10.96	21.888	16 20 9.6	51.75	1	10 9 7.09	22.217	10 32 48.8	91.44
2	8 25 31.30	21.893	16 14 56.4	52.66	2	10 11 20.43	22.227	10 23 38.0	92.15
3	8 27 42.68	21.900	16 9 37.7	53.56	3	10 13 33.82	22.237	10 14 23.0	92.85
4	8 29 54.10	21.907	16 4 13.7	54.46	4	10 15 47.27	22.247	10 5 3.8	93.55
5	8 32 5.56	21.913	15 58 44.2	55.37	5	10 18 0.78	22.257	9 55 40.4	94.24
6	8 34 17.05	21.918	15 53 9.3	56.26	6	10 20 14.36	22.268	9 46 12.9	94.92
7	8 36 28.57	21.923	15 47 29.1	57.15	7	10 22 28.00	22.278	9 36 41.3	95.60
8	8 38 40.13	21.930	15 41 43.5	58.04	8	10 24 41.70	22.289	9 27 5.7	96.27
9	8 40 51.73	21.936	15 35 52.6	58.93	9	10 26 55.47	22.301	9 17 26.1	96.93
10	8 43 3.36	21.942	15 29 56.3	59.82	10	10 29 9.31	22.312	9 7 42.6	97.58
11	8 45 15.03	21.948	15 23 54.8	60.70	11	10 31 23.22	22.324	8 57 55.1	98.23
12	8 47 26.73	21.953	15 17 47.9	61.59	12	10 33 37.20	22.336	8 48 3.8	98.87
13	8 49 38.47	21.959	15 11 35.7	62.47	13	10 35 51.25	22.348	8 38 8.7	99.51
14	8 51 50.24	21.965	15 5 18.3	63.33	14	10 38 5.37	22.360	8 28 9.7	100.13
15	8 54 2.05	21.971	14 58 55.7	64.21	15	10 40 19.57	22.373	8 18 7.1	100.75
16	8 56 13.89	21.977	14 52 27.8	65.08	16	10 42 33.85	22.386	8 8 0.7	101.37
17	8 58 25.77	21.983	14 45 54.7	65.95	17	10 44 48.20	22.399	7 57 50.7	101.96
18	9 0 37.68	21.988	14 39 16.4	66.81	18	10 47 2.64	22.412	7 47 37.2	102.55
19	9 2 49.63	21.995	14 32 33.0	67.67	19	10 49 17.15	22.426	7 37 20.1	103.14
20	9 5 1.62	22.001	14 25 44.4	68.52	20	10 51 31.75	22.440	7 26 59.5	103.72
21	9 7 13.64	22.007	14 18 50.8	69.37	21	10 53 46.43	22.454	7 16 35.5	104.28
22	9 9 25.70	22.013	14 11 52.0	70.22	22	10 56 1.20	22.469	7 6 8.1	104.85
23	9 11 37.79	22.019	N. 14 4 48.1	71.07	23	10 58 16.06	22.484	N. 6 55 37.3	105.40
FRIDAY 2.					SUNDAY 4.				
	^h ^m ^s	^s	[°] ['] ["]	["]		^h ^m ^s	^s	[°] ['] ["]	["]
0	9 13 49.93	22.026	N. 13 57 39.2	71.91	0	11 0 31.01	22.499	N. 6 45 3.3	105.93
1	9 16 2.10	22.032	13 50 25.2	72.74	1	11 2 46.05	22.514	6 34 26.1	106.47
2	9 18 14.31	22.038	13 43 6.3	73.58	2	11 5 1.18	22.530	6 23 45.6	107.00
3	9 20 26.56	22.044	13 35 42.3	74.41	3	11 7 16.41	22.546	6 13 2.1	107.51
4	9 22 38.84	22.051	13 28 13.4	75.23	4	11 9 31.73	22.562	6 2 15.5	108.02
5	9 24 51.17	22.058	13 20 39.5	76.06	5	11 11 47.15	22.578	5 51 25.8	108.52
6	9 27 3.53	22.064	13 13 0.7	76.87	6	11 14 2.67	22.596	5 40 33.3	109.00
7	9 29 15.94	22.072	13 5 17.1	77.68	7	11 16 18.30	22.613	5 29 37.8	109.48
8	9 31 28.39	22.078	12 57 28.5	78.49	8	11 18 34.03	22.630	5 18 39.5	109.95
9	9 33 40.88	22.085	12 49 35.2	79.29	9	11 20 49.86	22.648	5 7 38.4	110.41
10	9 35 53.41	22.092	12 41 37.0	80.09	10	11 23 5.80	22.666	4 56 34.6	110.85
11	9 38 5.99	22.100	12 33 34.1	80.88	11	11 25 21.85	22.684	4 45 28.2	111.29
12	9 40 18.61	22.107	12 25 26.4	81.67	12	11 27 38.01	22.703	4 34 19.1	111.72
13	9 42 31.27	22.114	12 17 14.0	82.46	13	11 29 54.29	22.722	4 23 7.5	112.14
14	9 44 43.98	22.122	12 8 56.9	83.23	14	11 32 10.68	22.741	4 11 53.4	112.54
15	9 46 56.74	22.131	12 0 35.2	84.01	15	11 34 27.18	22.761	4 0 37.0	112.93
16	9 49 9.55	22.138	11 52 8.8	84.78	16	11 36 43.81	22.782	3 49 18.2	113.32
17	9 51 22.40	22.147	11 43 37.8	85.54	17	11 39 0.56	22.801	3 37 57.1	113.69
18	9 53 35.31	22.155	11 35 2.3	86.30	18	11 41 17.42	22.821	3 26 33.9	114.05
19	9 55 48.26	22.163	11 26 22.2	87.05	19	11 43 34.41	22.843	3 15 8.5	114.41
20	9 58 1.27	22.172	11 17 37.7	87.79	20	11 45 51.53	22.864	3 3 41.0	114.75
21	10 0 14.33	22.181	11 8 48.7	88.53	21	11 48 8.78	22.886	2 52 11.5	115.07
22	10 2 27.44	22.189	10 59 55.3	89.27	22	11 50 26.16	22.908	2 40 40.1	115.38
23	10 4 40.60	22.198	10 50 57.5	90.00	23	11 52 43.67	22.929	2 29 6.9	115.69
24	10 6 53.82	22.207	N. 10 41 55.3	90.73	24	11 55 1.31	22.952	N. 2 17 31.8	115.99

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 5.					WEDNESDAY 7.				
	h m s	s	N. ° ' "	"		h m s	s	S. ° ' "	"
0	11 55 1.31	22.952	N. 2 17 31.8	115.99	0	13 48 20.23	24.353	S. 7 7 34.0	113.85
1	11 57 19.09	22.975	2 5 55.0	116.27	1	13 50 46.45	24.387	7 18 55.9	113.43
2	11 59 37.01	22.998	1 54 16.6	116.53	2	13 53 12.87	24.421	7 30 15.2	113.00
3	12 1 55.06	23.021	1 42 36.6	116.79	3	13 55 39.50	24.455	7 41 31.9	112.55
4	12 4 13.26	23.046	1 30 55.1	117.04	4	13 58 6.33	24.488	7 52 45.8	112.08
5	12 6 31.61	23.069	1 19 12.1	117.27	5	14 0 33.36	24.522	8 3 56.8	111.59
6	12 8 50.09	23.093	1 7 27.8	117.48	6	14 3 0.59	24.556	8 15 4.9	111.10
7	12 11 8.73	23.119	0 55 42.3	117.69	7	14 5 28.03	24.590	8 26 10.0	110.58
8	12 13 27.52	23.143	0 43 55.5	117.89	8	14 7 55.67	24.623	8 37 11.9	110.04
9	12 15 46.45	23.168	0 32 7.6	118.07	9	14 10 23.50	24.656	8 48 10.5	109.49
10	12 18 5.54	23.194	0 20 18.7	118.23	10	14 12 51.54	24.690	8 59 5.8	108.93
11	12 20 24.78	23.220	N. 0 8 28.8	118.39	11	14 15 19.78	24.723	9 9 57.7	108.36
12	12 22 44.18	23.247	S. 0 3 22.0	118.53	12	14 17 48.22	24.757	9 20 46.1	107.76
13	12 25 3.74	23.273	0 15 13.6	118.66	13	14 20 16.86	24.790	9 31 30.8	107.14
14	12 27 23.46	23.300	0 27 5.9	118.77	14	14 22 45.70	24.823	9 42 11.8	106.52
15	12 29 43.34	23.327	0 38 58.9	118.88	15	14 25 14.73	24.856	9 52 49.0	105.87
16	12 32 3.39	23.355	0 50 52.4	118.96	16	14 27 43.97	24.889	10 3 22.2	105.21
17	12 34 23.60	23.382	1 2 46.4	119.03	17	14 30 13.40	24.921	10 13 51.5	104.53
18	12 36 43.97	23.410	1 14 40.7	119.08	18	14 32 43.02	24.953	10 24 16.6	103.83
19	12 39 4.52	23.438	1 26 35.4	119.13	19	14 35 12.84	24.986	10 34 37.5	103.13
20	12 41 25.23	23.467	1 38 30.3	119.17	20	14 37 42.85	25.018	10 44 54.2	102.41
21	12 43 46.12	23.497	1 50 25.4	119.18	21	14 40 13.05	25.050	10 55 6.4	101.67
22	12 46 7.19	23.525	2 2 20.5	119.18	22	14 42 43.45	25.082	11 5 14.2	100.92
23	12 48 28.42	23.554	S. 2 14 15.5	119.17	23	14 45 14.03	25.113	S. 11 15 17.5	100.15
TUESDAY 6.					THURSDAY 8.				
	h m s	s	S. ° ' "	"		h m s	s	S. ° ' "	"
0	12 50 49.84	23.584	S. 2 26 10.5	119.14	0	14 47 44.80	25.143	S. 11 25 16.0	99.36
1	12 53 11.43	23.613	2 38 5.2	119.09	1	14 50 15.75	25.174	11 35 9.8	98.56
2	12 55 33.20	23.644	2 49 59.6	119.04	2	14 52 46.89	25.205	11 44 58.7	97.74
3	12 57 55.16	23.674	3 1 53.7	118.97	3	14 55 18.21	25.234	11 54 42.7	96.92
4	13 0 17.29	23.704	3 13 47.2	118.88	4	14 57 49.70	25.263	12 4 21.7	96.08
5	13 2 39.61	23.736	3 25 40.2	118.77	5	15 0 21.37	25.294	12 13 55.6	95.21
6	13 5 2.12	23.767	3 37 32.5	118.65	6	15 2 53.23	25.323	12 23 24.2	94.33
7	13 7 24.82	23.798	3 49 24.0	118.52	7	15 5 25.25	25.351	12 32 47.6	93.45
8	13 9 47.70	23.829	4 1 14.7	118.37	8	15 7 57.44	25.379	12 42 5.6	92.55
9	13 12 10.77	23.861	4 13 4.5	118.21	9	15 10 29.80	25.407	12 51 18.2	91.63
10	13 14 34.03	23.893	4 24 53.2	118.02	10	15 13 2.33	25.435	13 0 25.2	90.69
11	13 16 57.49	23.925	4 36 40.7	117.82	11	15 15 35.02	25.462	13 9 26.5	89.75
12	13 19 21.13	23.957	4 48 27.1	117.62	12	15 18 7.87	25.488	13 18 22.2	88.80
13	13 21 44.97	23.989	5 0 12.2	117.39	13	15 20 40.88	25.514	13 27 12.1	87.83
14	13 24 9.00	24.022	5 11 55.8	117.15	14	15 23 14.04	25.540	13 35 56.1	86.84
15	13 26 33.23	24.055	5 23 38.0	116.89	15	15 25 47.36	25.565	13 44 34.2	85.84
16	13 28 57.66	24.088	5 35 18.5	116.62	16	15 28 20.82	25.589	13 53 6.2	84.83
17	13 31 22.28	24.121	5 46 57.4	116.33	17	15 30 54.43	25.613	14 1 32.1	83.81
18	13 33 47.11	24.154	5 58 34.5	116.02	18	15 33 28.17	25.636	14 9 51.9	82.77
19	13 36 12.13	24.187	6 10 9.7	115.70	19	15 36 2.06	25.659	14 18 5.3	81.72
20	13 38 37.35	24.220	6 21 42.9	115.36	20	15 38 36.08	25.681	14 26 12.5	80.67
21	13 41 2.77	24.253	6 33 14.0	115.01	21	15 41 10.23	25.702	14 34 13.3	79.59
22	13 43 28.39	24.287	6 44 43.0	114.64	22	15 43 44.51	25.723	14 42 7.6	78.51
23	13 45 54.21	24.320	6 56 9.7	114.25	23	15 46 18.91	25.743	14 49 55.4	77.41
24	13 48 20.23	24.353	S. 7 7 34.0	113.85	24	15 48 53.43	25.763	S. 14 57 36.5	76.30

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
FRIDAY 9.					SUNDAY 11.				
	h m s	s	S. 14° 57' 36".5	76".30		h m s	s	S. 18° 41' 9".6	15".11
0	15 48 53.43	25.763	15 5 11.0	75.18	0	17 53 16.11	25.713	18 42 36.3	13.78
1	15 51 28.07	25.782	15 12 38.7	74.05	1	17 55 50.32	25.690	18 43 55.0	12.46
2	15 54 2.81	25.800	15 19 59.6	72.91	2	17 58 24.39	25.665	18 45 5.8	11.14
3	15 56 37.67	25.818	15 27 13.6	71.76	3	18 0 58.30	25.639	18 46 8.7	9.82
4	15 59 12.63	25.834	15 34 20.7	70.61	4	18 3 32.06	25.612	18 47 3.6	8.50
5	16 1 47.68	25.850	15 48 13.9	68.25	5	18 6 5.65	25.586	18 47 50.7	7.19
6	16 4 22.83	25.866	15 54 59.9	67.07	6	18 8 39.09	25.558	18 48 29.9	5.88
7	16 6 58.07	25.881	16 1 38.7	65.88	7	18 11 12.35	25.528	18 49 1.3	4.58
8	16 9 33.40	25.894	16 8 10.4	64.67	8	18 13 45.43	25.498	18 49 24.9	3.28
9	16 12 8.80	25.907	16 14 34.7	63.44	9	18 16 18.33	25.468	18 49 40.7	1.98
10	16 14 44.28	25.919	16 20 51.7	62.22	10	18 18 51.05	25.437	18 49 48.7	0.69
11	16 17 19.83	25.931	16 27 1.4	60.99	11	18 21 23.57	25.403	18 49 49.0	0.59
12	16 19 55.45	25.942	16 33 3.6	59.75	12	18 23 55.89	25.370	18 49 41.6	1.87
13	16 22 31.13	25.951	16 38 58.4	58.51	13	18 26 28.01	25.337	18 49 26.6	3.14
14	16 25 6.86	25.960	16 44 45.7	57.26	14	18 28 59.93	25.302	18 49 3.9	4.42
15	16 27 42.65	25.968	16 50 25.5	56.00	15	18 31 31.63	25.266	18 48 33.6	5.68
16	16 30 18.48	25.975	16 55 57.7	54.73	16	18 34 3.12	25.230	18 47 55.7	6.94
17	16 32 54.35	25.981	17 1 22.3	53.46	17	18 36 34.39	25.193	18 47 10.3	8.18
18	16 35 30.25	25.986	17 6 39.2	52.18	18	18 39 5.43	25.155	18 45 17.2	10.67
19	16 38 6.18	25.991	17 11 48.5	50.90	19	18 41 36.25	25.117	18 44 9.5	11.90
20	16 40 42.14	25.995	17 16 50.0	49.60	20	18 44 6.83	25.078	18 42 54.4	13.13
21	16 43 18.12	25.997	17 21 43.7	48.31	21	18 46 37.18	25.038	18 41 31.9	14.35
22	16 45 54.11	25.999			22	18 49 7.28	24.997		
23	16 48 30.11	26.000			23	18 51 37.14	24.956		
SATURDAY 10.					MONDAY 12.				
	h m s	s	S. 17° 26' 29".7	47".02		h m s	s	S. 18° 40' 2.2	15".56
0	16 51 6.11	26.000	17 31 7.9	45.70	0	18 54 6.75	24.914	18 38 25.2	16.77
1	16 53 42.11	25.999	17 35 38.1	44.38	1	18 56 36.11	24.872	18 36 41.0	17.96
2	16 56 18.10	25.997	17 40 0.5	43.08	2	18 59 5.21	24.828	18 34 49.7	19.15
3	16 58 54.07	25.994	17 44 15.1	41.77	3	19 1 34.05	24.784	18 32 51.2	20.33
4	17 1 30.03	25.991	17 48 21.7	40.44	4	19 4 2.62	24.740	18 30 45.7	21.50
5	17 4 5.96	25.986	17 52 20.4	39.12	5	19 6 30.93	24.696	18 28 33.2	22.67
6	17 6 41.86	25.980	17 56 11.1	37.79	6	19 8 58.97	24.650	18 26 13.7	23.83
7	17 9 17.72	25.973	17 59 53.9	36.47	7	19 11 26.73	24.603	18 23 47.3	24.98
8	17 11 53.54	25.966	18 3 28.8	35.14	8	19 13 54.21	24.557	18 21 14.0	26.12
9	17 14 29.31	25.958	18 6 55.6	33.80	9	19 16 21.42	24.511	18 18 33.9	27.24
10	17 17 5.03	25.948	18 10 14.4	32.47	10	19 18 48.34	24.463	18 15 47.1	28.37
11	17 19 40.68	25.937	18 13 25.2	31.13	11	19 21 14.98	24.416	18 12 53.5	29.48
12	17 22 16.27	25.926	18 16 28.0	29.80	12	19 23 41.33	24.368	18 9 53.3	30.58
13	17 24 51.79	25.913	18 19 22.8	28.46	13	19 26 7.39	24.318	18 6 46.5	31.68
14	17 27 27.23	25.900	18 22 9.5	27.12	14	19 28 33.15	24.269	18 3 33.1	32.77
15	17 30 2.59	25.886	18 24 48.3	25.79	15	19 30 58.62	24.220	18 0 13.2	33.85
16	17 32 37.86	25.870	18 27 19.0	24.44	16	19 33 23.79	24.170	17 56 46.9	34.92
17	17 35 13.03	25.853	18 29 41.6	23.11	17	19 35 48.66	24.120	17 49 35.2	37.03
18	17 37 48.10	25.837	18 31 56.3	21.78	18	19 38 13.23	24.069	17 45 49.9	38.06
19	17 40 23.07	25.818	18 34 3.0	20.44	19	19 40 37.49	24.018	17 41 58.5	39.09
20	17 42 57.92	25.799	18 36 1.6	19.11	20	19 43 1.45	23.967	17 38 0.8	40.12
21	17 45 32.66	25.779	18 37 52.3	17.78	21	19 45 25.10	23.916	17 33 57.0	41.13
22	17 48 7.27	25.758	18 39 35.0	16.44	22	19 47 48.44	23.864	17 29 47.2	42.13
23	17 50 41.76	25.737			23	19 50 11.47	23.812		
24	17 53 16.11	25.713			24	19 52 34.18	23.759		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 13.					THURSDAY 15.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	19 52 34.18	23.759	S. 17 29 47.2	42.13	0	21 40 30.35	21.258	S. 12 30 56.0	78.63
1	19 54 56.58	23.707	17 25 31.4	43.12	1	21 42 37.76	21.212	12 23 2.6	79.16
2	19 57 18.67	23.655	17 21 9.7	44.11	2	21 44 44.89	21.165	12 15 6.1	79.67
3	19 59 40.44	23.602	17 16 42.1	45.08	3	21 46 51.74	21.118	12 7 6.6	80.18
4	20 2 1.89	23.548	17 12 8.7	46.04	4	21 48 58.31	21.072	11 59 4.0	80.68
5	20 4 23.02	23.495	17 7 29.6	46.99	5	21 51 4.61	21.027	11 50 58.4	81.17
6	20 6 43.83	23.442	17 2 44.8	47.94	6	21 53 10.64	20.983	11 42 40.9	81.66
7	20 9 4.33	23.389	16 57 54.3	48.87	7	21 55 16.40	20.938	11 34 38.5	82.14
8	20 11 24.50	23.335	16 52 58.3	49.80	8	21 57 21.89	20.893	11 26 24.2	82.61
9	20 13 44.35	23.282	16 47 56.7	50.71	9	21 59 27.12	20.850	11 18 7.2	83.06
10	20 16 3.88	23.228	16 42 49.8	51.61	10	22 1 32.09	20.806	11 9 47.5	83.50
11	20 18 23.08	23.173	16 37 37.4	52.51	11	22 3 36.79	20.763	11 1 25.2	83.94
12	20 20 41.96	23.120	16 32 19.7	53.39	12	22 5 41.24	20.721	10 53 0.2	84.38
13	20 23 0.52	23.066	16 26 56.7	54.26	13	22 7 45.44	20.678	10 44 32.6	84.81
14	20 25 18.75	23.012	16 21 28.6	55.12	14	22 9 49.38	20.636	10 36 2.5	85.22
15	20 27 36.66	22.958	16 15 55.3	55.98	15	22 11 53.07	20.595	10 27 30.0	85.63
16	20 29 54.24	22.904	16 10 16.9	56.83	16	22 13 56.52	20.555	10 18 55.0	86.03
17	20 32 11.51	22.851	16 4 33.4	57.66	17	22 15 59.73	20.514	10 10 17.7	86.42
18	20 34 28.45	22.796	15 58 45.0	58.48	18	22 18 2.69	20.473	10 1 38.0	86.80
19	20 36 45.06	22.742	15 52 51.7	59.29	19	22 20 5.41	20.434	9 52 56.1	87.18
20	20 39 1.36	22.689	15 46 53.5	60.09	20	22 22 7.90	20.395	9 44 11.9	87.55
21	20 41 17.33	22.635	15 40 50.6	60.88	21	22 24 10.15	20.357	9 35 25.5	87.91
22	20 43 32.98	22.582	15 34 42.9	61.67	22	22 26 12.18	20.318	9 26 37.0	88.26
23	20 45 48.31	22.528	S. 15 28 30.5	62.44	23	22 28 13.97	20.280	S. 9 17 46.4	88.61
WEDNESDAY 14.					FRIDAY 16.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	20 48 3.32	22.475	S. 15 22 13.6	63.20	0	22 30 15.54	20.243	S. 9 8 53.7	88.95
1	20 50 18.01	22.422	15 15 52.1	63.96	1	22 32 16.89	20.206	8 59 59.0	89.28
2	20 52 32.38	22.368	15 9 26.1	64.70	2	22 34 18.01	20.169	8 51 2.4	89.59
3	20 54 46.43	22.316	15 2 55.7	65.43	3	22 36 18.92	20.134	8 42 3.9	89.91
4	20 57 0.17	22.263	14 56 20.9	66.16	4	22 38 19.62	20.099	8 33 3.5	90.22
5	20 59 13.59	22.211	14 49 41.8	66.87	5	22 40 20.11	20.064	8 24 1.3	90.52
6	21 1 26.70	22.158	14 42 58.5	67.58	6	22 42 20.39	20.029	8 14 57.3	90.81
7	21 3 39.49	22.106	14 36 10.9	68.28	7	22 44 20.46	19.995	8 5 51.6	91.09
8	21 5 51.97	22.054	14 29 19.2	68.96	8	22 46 20.33	19.962	7 56 44.2	91.37
9	21 8 4.14	22.002	14 22 23.4	69.63	9	22 48 20.00	19.929	7 47 35.2	91.64
10	21 10 16.00	21.951	14 15 23.6	70.29	10	22 50 19.48	19.897	7 38 24.5	91.91
11	21 12 27.55	21.899	14 8 19.9	70.95	11	22 52 18.76	19.864	7 29 12.3	92.16
12	21 14 38.79	21.848	14 1 12.2	71.60	12	22 54 17.85	19.832	7 19 58.6	92.41
13	21 16 49.73	21.797	13 54 0.7	72.23	13	22 56 16.75	19.802	7 10 43.4	92.65
14	21 19 0.36	21.747	13 46 45.4	72.87	14	22 58 15.47	19.772	7 1 26.8	92.88
15	21 21 10.69	21.697	13 39 26.3	73.48	15	23 0 14.01	19.742	6 52 8.8	93.12
16	21 23 20.72	21.647	13 32 3.6	74.08	16	23 2 12.37	19.712	6 42 49.4	93.34
17	21 25 30.45	21.597	13 24 37.3	74.69	17	23 4 10.55	19.683	6 33 28.7	93.55
18	21 27 39.88	21.548	13 17 7.3	75.28	18	23 6 8.57	19.655	6 24 6.8	93.75
19	21 29 49.02	21.499	13 9 33.9	75.86	19	23 8 6.41	19.626	6 14 43.7	93.96
20	21 31 57.87	21.450	13 1 57.0	76.43	20	23 10 4.08	19.598	6 5 19.3	94.16
21	21 34 6.42	21.401	12 54 16.7	76.99	21	23 12 1.59	19.572	5 55 53.8	94.34
22	21 36 14.68	21.353	12 46 33.1	77.54	22	23 13 58.94	19.545	5 46 27.2	94.52
23	21 38 22.66	21.306	12 38 46.2	78.09	23	23 15 56.13	19.519	5 36 59.5	94.70
24	21 40 30.35	21.258	S. 12 30 56.0	78.63	24	23 17 53.17	19.493	S. 5 27 30.8	94.87

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 17.					MONDAY 19.				
	h m s	s				h m s	s		
0	23 17 53.17	19.493	S. 5° 27' 30".8	94".87	0	0 49 27.05	18.843	N. 2° 15' 23".8	95".73
1	23 19 50.05	19.468	5 18 1.1	95.63	1	0 51 20.10	18.840	2 24 57.8	95.61
2	23 21 46.79	19.444	5 8 30.5	95.18	2	0 53 13.13	18.838	2 34 31.1	95.48
3	23 23 43.38	19.420	4 58 58.9	95.33	3	0 55 6.16	18.837	2 44 3.6	95.35
4	23 25 39.83	19.397	4 49 26.5	95.48	4	0 56 59.18	18.837	2 53 35.3	95.21
5	23 27 36.14	19.374	4 39 53.2	95.61	5	0 58 52.20	18.836	3 3 6.1	95.06
6	23 29 32.32	19.352	4 30 19.2	95.73	6	1 0 45.21	18.836	3 12 36.0	94.91
7	23 31 28.36	19.329	4 20 44.4	95.87	7	1 2 38.23	18.836	3 22 5.0	94.76
8	23 33 24.27	19.307	4 11 8.8	95.98	8	1 4 31.25	18.837	3 31 33.1	94.59
9	23 35 20.05	19.286	4 1 32.6	96.08	9	1 6 24.28	18.838	3 41 0.1	94.42
10	23 37 15.70	19.265	3 51 55.8	96.19	10	1 8 17.31	18.840	3 50 26.1	94.25
11	23 39 11.23	19.246	3 42 18.3	96.29	11	1 10 10.36	18.842	3 59 51.1	94.07
12	23 41 6.65	19.227	3 32 40.3	96.38	12	1 12 3.42	18.844	4 9 14.9	93.88
13	23 43 1.95	19.207	3 23 1.8	96.47	13	1 13 56.49	18.847	4 18 37.6	93.69
14	23 44 57.13	19.188	3 13 22.7	96.55	14	1 15 49.59	18.851	4 27 59.2	93.49
15	23 46 52.21	19.170	3 3 43.2	96.62	15	1 17 42.70	18.854	4 37 19.5	93.29
16	23 48 47.17	19.153	2 54 3.3	96.68	16	1 19 35.84	18.858	4 46 38.7	93.09
17	23 50 42.04	19.136	2 44 23.0	96.74	17	1 21 29.00	18.863	4 55 56.6	92.88
18	23 52 36.80	19.119	2 34 42.4	96.80	18	1 23 22.20	18.868	5 5 13.2	92.65
19	23 54 31.47	19.103	2 25 1.4	96.85	19	1 25 15.42	18.873	5 14 28.4	92.43
20	23 56 26.04	19.088	2 15 20.2	96.89	20	1 27 8.67	18.878	5 23 42.3	92.20
21	23 58 20.52	19.073	2 5 38.7	96.93	21	1 29 1.96	18.885	5 32 54.8	91.97
22	0 0 14.91	19.058	1 55 57.1	96.96	22	1 30 55.29	18.891	5 42 5.9	91.73
23	0 2 9.21	19.043	S. 1 46 15.2	96.99	23	1 32 48.65	18.898	N. 5 51 15.5	91.48
SUNDAY 18.					TUESDAY 20.				
0	0 4 3.43	19.030	S. 1 36 33.2	97.01	0	1 34 42.06	18.905	N. 6 0 23.6	91.23
1	0 5 57.57	19.017	1 26 51.1	97.02	1	1 36 35.51	18.912	6 9 30.2	90.97
2	0 7 51.63	19.004	1 17 9.0	97.03	2	1 38 29.01	18.920	6 18 35.2	90.70
3	0 9 45.62	18.992	1 7 26.8	97.03	3	1 40 22.55	18.928	6 27 38.6	90.43
4	0 11 39.54	18.980	0 57 44.7	97.03	4	1 42 16.15	18.937	6 36 40.3	90.16
5	0 13 33.38	18.968	0 48 2.5	97.02	5	1 44 9.79	18.945	6 45 40.5	89.88
6	0 15 27.16	18.958	0 38 20.5	96.99	6	1 46 3.49	18.955	6 54 38.9	89.59
7	0 17 20.88	18.948	0 28 38.6	96.97	7	1 47 57.25	18.965	7 3 35.6	89.30
8	0 19 14.54	18.938	0 18 56.8	96.95	8	1 49 51.07	18.974	7 12 30.5	89.00
9	0 21 8.13	18.928	S. 0 9 15.2	96.92	9	1 51 44.94	18.984	7 21 23.6	88.70
10	0 23 1.68	18.920	N. 0 0 26.2	96.88	10	1 53 38.88	18.995	7 30 14.9	88.39
11	0 24 55.17	18.911	0 10 7.4	96.83	11	1 55 32.88	19.006	7 39 4.3	88.08
12	0 26 48.61	18.903	0 19 48.2	96.78	12	1 57 26.95	19.017	7 47 51.8	87.76
13	0 28 42.00	18.895	0 29 28.7	96.73	13	1 59 21.09	19.029	7 56 37.4	87.43
14	0 30 35.35	18.888	0 39 8.9	96.67	14	2 1 15.30	19.041	8 5 21.0	87.10
15	0 32 28.66	18.882	0 48 48.7	96.60	15	2 3 9.58	19.053	8 14 2.6	86.77
16	0 34 21.93	18.876	0 58 28.1	96.52	16	2 5 3.93	19.066	8 22 42.2	86.43
17	0 36 15.17	18.870	1 8 7.0	96.44	17	2 6 58.37	19.079	8 31 19.7	86.08
18	0 38 8.37	18.865	1 17 45.4	96.36	18	2 8 52.88	19.092	8 39 55.1	85.73
19	0 40 1.55	18.860	1 27 23.3	96.27	19	2 10 47.47	19.105	8 48 28.4	85.37
20	0 41 54.69	18.855	1 37 0.7	96.18	20	2 12 42.14	19.119	8 56 59.5	84.99
21	0 43 47.81	18.852	1 46 37.5	96.08	21	2 14 36.90	19.133	9 5 28.3	84.62
22	0 45 40.91	18.848	1 56 13.6	95.96	22	2 16 31.74	19.147	9 13 55.0	84.25
23	0 47 33.99	18.845	2 5 49.0	95.85	23	2 18 26.66	19.162	9 22 19.3	83.87
24	0 49 27.05	18.843	N. 2 15 23.8	95.73	24	2 20 21.68	19.178	N. 9 30 41.4	83.48

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 21.					FRIDAY 23.				
	h m s	s	N. ° ' "	" "		h m s	s	N. ° ' "	" "
0	2 20 21.68	19.178	N. 9 30 41.4	83.48	0	3 54 32.11	20.122	N. 15 16 1.0	58.25
1	2 22 16.79	19.192	9 39 1.1	83.09	1	3 56 32.91	20.143	15 21 48.5	57.59
2	2 24 11.98	19.207	9 47 18.5	82.69	2	3 58 33.83	20.165	15 27 32.1	56.93
3	2 26 7.27	19.223	9 55 33.4	82.28	3	4 0 34.89	20.188	15 33 11.7	56.26
4	2 28 2.66	19.239	10 3 45.9	81.88	4	4 2 36.09	20.210	15 38 47.2	55.58
5	2 29 58.14	19.255	10 11 55.9	81.47	5	4 4 37.41	20.232	15 44 18.7	54.90
6	2 31 53.72	19.272	10 20 3.5	81.04	6	4 6 38.87	20.255	15 49 46.0	54.22
7	2 33 49.40	19.288	10 28 8.4	80.61	7	4 8 40.47	20.277	15 55 9.3	53.53
8	2 35 45.18	19.305	10 36 10.8	80.18	8	4 10 42.20	20.299	16 0 28.3	52.83
9	2 37 41.06	19.322	10 44 10.6	79.74	9	4 12 44.06	20.321	16 5 43.2	52.13
10	2 39 37.05	19.340	10 52 7.7	79.30	10	4 14 46.05	20.343	16 10 53.8	51.42
11	2 41 33.14	19.358	11 0 2.2	78.85	11	4 16 48.18	20.366	16 16 0.2	50.71
12	2 43 29.34	19.376	11 7 53.9	78.39	12	4 18 50.44	20.388	16 21 2.3	49.99
13	2 45 25.65	19.393	11 15 42.9	77.93	13	4 20 52.83	20.410	16 26 0.1	49.27
14	2 47 22.06	19.412	11 23 29.0	77.46	14	4 22 55.36	20.432	16 30 53.6	48.55
15	2 49 18.59	19.430	11 31 12.4	76.99	15	4 24 58.01	20.453	16 35 42.7	47.81
16	2 51 15.22	19.448	11 38 52.9	76.51	16	4 27 0.80	20.476	16 40 27.3	47.07
17	2 53 11.97	19.467	11 46 30.5	76.02	17	4 29 3.72	20.497	16 45 7.6	46.34
18	2 55 8.83	19.487	11 54 5.2	75.53	18	4 31 6.76	20.518	16 49 43.4	45.59
19	2 57 5.81	19.506	12 1 36.9	75.04	19	4 33 9.94	20.541	16 54 14.7	44.84
20	2 59 2.90	19.525	12 9 5.7	74.54	20	4 35 13.25	20.562	16 58 41.5	44.09
21	3 1 0.11	19.545	12 16 31.4	74.03	21	4 37 16.68	20.583	17 3 3.8	43.33
22	3 2 57.44	19.565	12 23 54.1	73.52	22	4 39 20.24	20.604	17 7 21.5	42.56
23	3 4 54.89	19.585	N. 12 31 13.7	73.00	23	4 41 23.93	20.626	N. 17 11 34.5	41.79
THURSDAY 22.					SATURDAY 24.				
	h m s	s	N. ° ' "	" "		h m s	s	N. ° ' "	" "
0	3 6 52.46	19.605	N. 12 38 30.1	72.48	0	4 43 27.75	20.647	N. 17 15 43.0	41.02
1	3 8 50.15	19.625	12 45 43.4	71.95	1	4 45 31.69	20.668	17 19 46.8	40.25
2	3 10 47.96	19.646	12 52 53.5	71.42	2	4 47 35.76	20.688	17 23 46.0	39.47
3	3 12 45.90	19.666	13 0 0.4	70.88	3	4 49 39.95	20.708	17 27 40.4	38.68
4	3 14 43.95	19.686	13 7 4.0	70.33	4	4 51 44.26	20.729	17 31 30.2	37.89
5	3 16 42.13	19.707	13 14 4.3	69.78	5	4 53 48.70	20.749	17 35 15.1	37.09
6	3 18 40.44	19.728	13 21 1.3	69.23	6	4 55 53.25	20.769	17 38 55.3	36.30
7	3 20 38.87	19.749	13 27 55.0	68.67	7	4 57 57.93	20.790	17 42 30.7	35.49
8	3 22 37.43	19.771	13 34 45.3	68.09	8	5 0 2.73	20.810	17 46 1.2	34.68
9	3 24 36.12	19.793	13 41 32.1	67.52	9	5 2 7.65	20.829	17 49 26.9	33.87
10	3 26 34.94	19.813	13 48 15.5	66.94	10	5 4 12.68	20.848	17 52 47.7	33.07
11	3 28 33.88	19.835	13 54 55.4	66.35	11	5 6 17.83	20.868	17 56 3.7	32.25
12	3 30 32.96	19.857	14 1 31.7	65.76	12	5 8 23.10	20.888	17 59 14.7	31.43
13	3 32 32.16	19.878	14 8 4.5	65.17	13	5 10 28.48	20.907	18 2 20.8	30.60
14	3 34 31.50	19.901	14 14 33.7	64.57	14	5 12 33.98	20.926	18 5 21.9	29.77
15	3 36 30.97	19.922	14 20 59.3	63.96	15	5 14 39.59	20.943	18 8 18.0	28.93
16	3 38 30.56	19.943	14 27 21.2	63.34	16	5 16 45.30	20.962	18 11 9.1	28.10
17	3 40 30.29	19.966	14 33 39.4	62.72	17	5 18 51.13	20.981	18 13 55.2	27.26
18	3 42 30.15	19.988	14 39 53.9	62.11	18	5 20 57.07	20.998	18 16 36.2	26.42
19	3 44 30.15	20.010	14 46 4.7	61.48	19	5 23 3.11	21.016	18 19 12.2	25.57
20	3 46 30.27	20.032	14 52 11.6	60.84	20	5 25 9.26	21.034	18 21 43.0	24.72
21	3 48 30.53	20.055	14 58 14.8	60.21	21	5 27 15.52	21.052	18 24 8.8	23.87
22	3 50 30.93	20.077	15 4 14.1	59.56	22	5 29 21.88	21.068	18 26 29.4	23.00
23	3 52 31.45	20.098	15 10 9.5	58.91	23	5 31 28.34	21.085	18 28 44.8	22.14
24	3 54 32.11	20.122	N. 15 16 1.0	58.25	24	5 33 34.90	21.102	N. 18 30 55.1	21.28

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SUNDAY 25.					TUESDAY 27.				
	h m s	s	N. 18° 30' 55" 1	" 28		h m s	s	N. 18° 29' 18" 5	" 46
0	5 33 34.90	21.102	18 33 0.2	20.42	0	7 16 17.66	21.590	18 27 1.0	23.38
1	5 35 41.56	21.118	18 35 0.1	19.54	1	7 18 27.21	21.594	18 24 37.9	24.31
2	5 37 48.32	21.134	18 36 54.7	18.67	2	7 20 36.79	21.598	18 22 9.3	25.23
3	5 39 55.17	21.150	18 38 44.1	17.79	3	7 22 46.39	21.601	18 19 35.1	26.16
4	5 42 2.12	21.167	18 40 28.2	16.92	4	7 24 56.00	21.603	18 16 55.4	27.08
5	5 44 9.17	21.182	18 42 7.1	16.03	5	7 27 5.63	21.607	18 11 19.3	28.93
6	5 46 16.30	21.196	18 43 40.6	15.15	6	7 29 15.28	21.610	18 8 22.9	29.86
7	5 48 23.52	21.212	18 45 8.9	14.27	7	7 31 24.95	21.612	18 5 21.0	30.78
8	5 50 30.84	21.227	18 46 31.8	13.38	8	7 33 34.62	21.613	18 2 13.6	31.69
9	5 52 38.24	21.241	18 47 49.4	12.48	9	7 35 44.31	21.615	17 59 0.7	32.61
10	5 54 45.73	21.255	18 50 8.5	11.59	10	7 37 54.00	21.617	17 55 42.3	33.52
11	5 56 53.30	21.268	18 51 10.0	10.70	11	7 40 3.71	21.618	17 52 18.4	34.44
12	5 59 0.95	21.282	18 52 6.1	9.80	12	7 42 13.42	21.619	17 48 49.0	35.36
13	6 1 8.69	21.296	18 52 56.8	8.90	13	7 44 23.14	21.621	17 45 14.1	36.27
14	6 3 16.50	21.308	18 53 42.0	7.99	14	7 46 32.87	21.622	17 41 33.8	37.18
15	6 5 24.39	21.322	18 54 21.8	7.08	15	7 48 42.60	21.623	17 37 48.0	38.09
16	6 7 32.36	21.335	18 55 25.2	6.18	16	7 50 52.33	21.623	17 30 0.0	39.00
17	6 9 40.41	21.347	18 55 48.6	5.28	17	7 53 2.07	21.623	17 25 57.9	40.80
18	6 11 48.52	21.358	18 56 6.6	4.37	18	7 55 11.81	21.623	17 21 50.4	41.70
19	6 13 56.71	21.371	18 56 19.1	3.45	19	7 57 21.55	21.622	17 17 37.5	42.59
20	6 16 4.97	21.383	18 56 26.1	2.54	20	7 59 31.28	21.622	17 13 19.3	43.49
21	6 18 13.30	21.393		1.63	21	8 1 41.02			
22	6 20 21.69	21.403		0.71	22	8 3 50.75			
23	6 22 30.14	21.414			23	8 6 0.48			
MONDAY 26.					WEDNESDAY 28.				
	h m s	s	N. 18° 56' 27.6	0.21		h m s	s	N. 17° 8' 55.6	44.39
0	6 24 38.66	21.425	18 56 23.6	1.13	0	8 8 10.21	21.621	17 4 26.6	45.28
1	6 26 47.24	21.435	18 56 14.0	2.05	1	8 10 19.93	21.620	16 59 52.2	46.17
2	6 28 55.88	21.445	18 55 59.0	2.97	2	8 12 29.65	21.619	16 55 12.5	47.06
3	6 31 4.58	21.454	18 55 38.4	3.89	3	8 14 39.36	21.618	16 50 27.5	47.93
4	6 33 13.33	21.463	18 55 12.3	4.82	4	8 16 49.06	21.616	16 45 37.3	48.82
5	6 35 22.14	21.472	18 54 40.6	5.75	5	8 18 58.75	21.615	16 40 41.7	49.71
6	6 37 31.00	21.482	18 54 3.3	6.67	6	8 21 8.44	21.614	16 35 40.8	50.58
7	6 39 39.92	21.490	18 53 20.6	7.59	7	8 23 18.12	21.613	16 30 34.7	51.45
8	6 41 48.88	21.498	18 52 32.2	8.52	8	8 25 27.79	21.611	16 25 23.4	52.32
9	6 43 57.89	21.506	18 51 38.3	9.44	9	8 27 37.45	21.609	16 20 6.9	53.19
10	6 46 6.95	21.513	18 50 38.9	10.37	10	8 29 47.10	21.607	16 14 45.1	54.06
11	6 48 16.05	21.520	18 49 33.8	11.31	11	8 31 56.73	21.605	16 9 18.2	54.92
12	6 50 25.19	21.527	18 48 23.2	12.23	12	8 34 6.36	21.604	16 3 46.1	55.78
13	6 52 34.37	21.534	18 47 7.0	13.16	13	8 36 15.98	21.602	15 58 8.9	56.63
14	6 54 43.60	21.541	18 45 45.3	14.09	14	8 38 25.58	21.599	15 52 26.5	57.48
15	6 56 52.86	21.547	18 44 17.9	15.02	15	8 40 35.17	21.598	15 46 39.1	58.33
16	6 59 2.16	21.553	18 42 45.0	15.95	16	8 42 44.75	21.596	15 40 46.6	59.18
17	7 1 11.49	21.558	18 41 6.5	16.88	17	8 44 54.32	21.594	15 34 49.0	60.02
18	7 3 20.86	21.563	18 39 22.5	17.81	18	8 47 3.88	21.592	15 28 46.4	60.86
19	7 5 30.25	21.568	18 37 32.8	18.74	19	8 49 13.42	21.589	15 22 38.7	61.69
20	7 7 39.68	21.574	18 35 37.6	19.67	20	8 51 22.95	21.586	15 16 26.1	62.52
21	7 9 49.14	21.578	18 33 36.8	20.59	21	8 53 32.47	21.584	15 10 8.5	63.35
22	7 11 58.62	21.582	18 31 30.5	21.52	22	8 55 41.98	21.582	15 3 45.9	64.17
23	7 14 8.13	21.587		22.46	23	8 57 51.48			
24	7 16 17.66	21.590			24	9 0 0.96	21.579		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 29.					FRIDAY 30.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	9 0 0.96	21.579	N. 14 57 18.4	64.99	0	9 51 45.96	21.557	N. 11 58 46.2	83.33
1	9 2 10.43	21.577	14 50 46.0	65.81	1	9 53 55.30	21.558	11 50 24.1	84.04
2	9 4 19.89	21.576	14 44 8.7	66.62	2	9 56 4.65	21.559	11 41 57.7	84.74
3	9 6 29.34	21.573	14 37 26.6	67.42	3	9 58 14.01	21.560	11 33 27.2	85.43
4	9 8 38.77	21.572	14 30 39.6	68.23	4	10 0 23.37	21.562	11 24 52.6	86.12
5	9 10 48.20	21.570	14 23 47.8	69.03	5	10 2 32.75	21.563	11 16 13.8	86.80
6	9 12 57.61	21.568	14 16 51.3	69.82	6	10 4 42.13	21.565	11 7 31.0	87.47
7	9 15 7.01	21.567	14 9 50.0	70.62	7	10 6 51.53	21.568	10 58 44.2	88.13
8	9 17 16.41	21.565	14 2 43.9	71.41	8	10 9 0.95	21.570	10 49 53.4	88.80
9	9 19 25.79	21.563	13 55 33.1	72.18	9	10 11 10.37	21.573	10 40 58.6	89.46
10	9 21 35.17	21.562	13 48 17.7	72.96	10	10 13 19.82	21.577	10 31 59.9	90.11
11	9 23 44.54	21.561	13 40 57.6	73.73	11	10 15 29.29	21.579	10 22 57.3	90.75
12	9 25 53.90	21.559	13 33 32.9	74.50	12	10 17 38.77	21.582	10 13 50.9	91.38
13	9 28 3.25	21.558	13 26 3.6	75.27	13	10 19 48.28	21.587	10 4 40.7	92.02
14	9 30 12.60	21.558	13 18 29.7	76.03	14	10 21 57.81	21.590	9 55 26.6	92.66
15	9 32 21.95	21.557	13 10 51.3	76.78	15	10 24 7.36	21.595	9 46 8.8	93.28
16	9 34 31.29	21.556	13 3 8.4	77.53	16	10 26 16.95	21.600	9 36 47.3	93.88
17	9 36 40.62	21.555	12 55 21.0	78.28	17	10 28 26.56	21.604	9 27 22.2	94.49
18	9 38 49.95	21.556	12 47 29.1	79.02	18	10 30 36.20	21.610	9 17 53.4	95.10
19	9 40 59.29	21.556	12 39 32.8	79.75	19	10 32 45.88	21.616	9 8 21.0	95.69
20	9 43 8.62	21.555	12 31 32.1	80.47	20	10 34 55.59	21.622	8 58 45.1	96.27
21	9 45 17.95	21.556	12 23 27.1	81.19	21	10 37 5.34	21.627	8 49 5.7	96.85
22	9 47 27.29	21.556	12 15 17.8	81.92	22	10 39 15.12	21.633	8 39 22.9	97.43
23	9 49 36.62	21.556	12 7 4.1	82.63	23	10 41 24.94	21.641	8 29 36.6	98.00
24	9 51 45.96	21.557	N. 11 58 46.2	83.33	24	10 43 34.81	21.648	N. 8 19 46.9	98.56

PHASES OF THE MOON.

[illegible]

Nov. 8		(Perigee	- - . - - - - - - - - - -	^h 3·0
21		(Apogee	- - - - - - - - - - - - -	14·9

AT APPARENT NOON.

Date.	THE SUN'S				Sidereal Time of the Semi- diameter passing the Meridian.*	Equation of Time, to be subtracted from		Var. in 1 hour.
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.		added to Apparent Time.		
	h m s	s	S. 21 41 28.0	"	m s	m s	s	
Sat.	1 16 26 2.68	10.776	21 41 28.0	24.12	1 10.16	11 11.91	0.918	
Sun.	2 16 30 21.65	10.805	21 50 54.4	23.08	1 10.25	10 49.55	0.945	
Mon.	3 16 34 41.30	10.832	21 59 55.8	22.03	1 10.33	10 26.53	0.973	
Tues.	4 16 39 1.58	10.858	22 8 31.7	20.96	1 10.41	10 2.87	0.999	
Wed.	5 16 43 22.47	10.883	22 16 42.0	19.89	1 10.49	9 38.60	1.024	
Thur.	6 16 47 43.95	10.907	22 24 26.4	18.80	1 10.57	9 13.74	1.047	
Frid.	7 16 52 5.99	10.929	22 31 44.6	17.71	1 10.64	8 48.33	1.070	
Sat.	8 16 56 28.55	10.950	22 38 36.4	16.60	1 10.71	8 22.40	1.091	
Sun.	9 17 0 51.60	10.970	22 45 1.6	15.49	1 10.77	7 55.98	1.110	
Mon.	10 17 5 15.11	10.988	22 50 59.9	14.36	1 10.83	7 29.10	1.129	
Tues.	11 17 9 39.04	11.005	22 56 31.1	13.24	1 10.89	7 1.80	1.146	
Wed.	12 17 14 3.36	11.021	23 1 35.2	12.10	1 10.94	6 34.11	1.161	
Thur.	13 17 18 28.04	11.035	23 6 11.8	10.95	1 10.99	6 6.07	1.175	
Frid.	14 17 22 53.04	11.048	23 10 20.8	9.80	1 11.04	5 37.70	1.188	
Sat.	15 17 27 18.34	11.060	23 14 2.1	8.64	1 11.08	5 9.04	1.200	
Sun.	16 17 31 43.90	11.070	23 17 15.6	7.48	1 11.11	4 40.12	1.210	
Mon.	17 17 36 9.68	11.078	23 20 1.1	6.31	1 11.14	4 10.97	1.219	
Tues.	18 17 40 35.66	11.086	23 22 18.6	5.14	1 11.17	3 41.63	1.226	
Wed.	19 17 45 1.81	11.093	23 24 7.9	3.97	1 11.19	3 12.12	1.233	
Thur.	20 17 49 28.10	11.098	23 25 29.0	2.79	1 11.21	2 42.47	1.238	
Frid.	21 17 53 54.49	11.101	23 26 21.9	1.62	1 11.22	2 12.72	1.241	
Sat.	22 17 58 20.95	11.103	23 26 46.6	0.44	1 11.23	1 42.90	1.243	
Sun.	23 18 2 47.45	11.104	23 26 42.9	0.74	1 11.24	1 13.04	1.244	
Mon.	24 18 7 13.96	11.104	23 26 10.9	1.92	1 11.24	0 43.17	1.244	
Tues.	25 18 11 40.45	11.103	23 25 10.6	3.10	1 11.23	0 13.32	1.243	
Wed.	26 18 16 6.89	11.100	23 23 42.1	4.28	1 11.22	0 16.48	1.240	
Thur.	27 18 20 33.25	11.096	23 21 45.3	5.45	1 11.20	0 46.20	1.236	
Frid.	28 18 24 59.49	11.091	23 19 20.3	6.63	1 11.18	1 15.81	1.231	
Sat.	29 18 29 25.60	11.084	23 16 27.2	7.80	1 11.16	1 45.28	1.224	
Sun.	30 18 33 51.53	11.076	23 13 6.0	8.96	1 11.13	2 14.57	1.216	
Mon.	31 18 38 17.25	11.067	23 9 17.0	10.12	1 11.10	2 43.66	1.207	
Tues.	32 18 42 42.74	11.056	S. 23 5 0.1	11.28	1 11.06	3 12.51	1.196	

* Mean Time of the Semidiameter passing may be found by subtracting 0^m.19 from the Sidereal Time.

AT MEAN NOON.

Date.		THE SUN'S			Equation of Time, to be subtracted from	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semi- diameter.*	added to Apparent Time.	
		h m s	S. ° ' "	h m s	m s	h m s
Sat.	1	16 26 4.69	S. 21 41 32.5	16 14.92	11 11.74	16 37 16.43
Sun.	2	16 30 23.60	21 50 58.6	16 15.07	10 49.38	16 41 12.98
Mon.	3	16 34 43.18	21 59 59.6	16 15.22	10 26.36	16 45 9.54
Tues.	4	16 39 3.39	22 8 35.2	16 15.36	10 2.70	16 49 6.10
Wed.	5	16 43 24.22	22 16 45.2	16 15.50	9 38.43	16 53 2.66
Thur.	6	16 47 45.63	22 24 29.3	16 15.63	9 13.58	16 56 59.21
Frid.	7	16 52 7.60	22 31 47.2	16 15.76	8 48.17	17 0 55.77
Sat.	8	16 56 30.08	22 38 38.7	16 15.89	8 22.25	17 4 52.33
Sun.	9	17 0 53.05	22 45 3.6	16 16.01	7 55.83	17 8 48.88
Mon.	10	17 5 16.48	22 51 1.7	16 16.13	7 28.96	17 12 45.44
Tues.	11	17 9 40.33	22 56 32.7	16 16.25	7 1.67	17 16 42.00
Wed.	12	17 14 4.57	23 1 36.5	16 16.37	6 33.99	17 20 38.55
Thur.	13	17 18 29.16	23 6 12.9	16 16.48	6 5.95	17 24 35.11
Frid.	14	17 22 54.08	23 10 21.7	16 16.59	5 37.59	17 28 31.67
Sat.	15	17 27 19.29	23 14 2.9	16 16.69	5 8.94	17 32 28.23
Sun.	16	17 31 44.76	23 17 16.2	16 16.79	4 40.03	17 36 24.78
Mon.	17	17 36 10.45	23 20 1.6	16 16.88	4 10.89	17 40 21.34
Tues.	18	17 40 36.34	23 22 18.9	16 16.97	3 41.55	17 44 17.90
Wed.	19	17 45 2.40	23 24 8.1	16 17.05	3 12.05	17 48 14.46
Thur.	20	17 49 28.60	23 25 29.2	16 17.12	2 42.42	17 52 11.01
Frid.	21	17 53 54.90	23 26 22.0	16 17.19	2 12.68	17 56 7.57
Sat.	22	17 58 21.26	23 26 46.6	16 17.26	1 42.87	18 0 4.13
Sun.	23	18 2 47.67	23 26 42.9	16 17.31	1 13.02	18 4 0.69
Mon.	24	18 7 14.09	23 26 10.9	16 17.36	0 43.15	18 7 57.24
Tues.	25	18 11 40.49	23 25 10.6	16 17.41	0 13.31	18 11 53.80
Wed.	26	18 16 6.84	23 23 42.1	16 17.45	0 16.48	18 15 50.36
Thur.	27	18 20 33.10	23 21 45.3	16 17.48	0 46.19	18 19 46.92
Frid.	28	18 24 59.26	23 19 20.4	16 17.51	1 15.79	18 23 43.47
Sat.	29	18 29 25.27	23 16 27.4	16 17.53	1 45.24	18 27 40.03
Sun.	30	18 33 51.12	23 13 6.4	16 17.54	2 14.53	18 31 36.59
Mon.	31	18 38 16.75	23 9 17.4	16 17.55	2 43.61	18 35 33.14
Tues.	32	18 42 42.15	S. 23 5 0.7	16 17.56	3 12.45	18 39 29.70

* The Semidiameter for *Apparent Noon* may be assumed the same as that for *Mean Noon*.

MEAN TIME.

Day.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	Transit of the First Point of Aries.	THE MOON'S			
	Longitude.	Latitude.			Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.			Noon.	Midnight.	Noon.	Midnight.
				h m s				
1	248° 16' 14".9	0° 00'	9.9938345	7 21 31.04	15° 44' 94"	15° 51' 70"	57° 48' 06"	58° 12' 86"
2	249 17 5.8	N. 0° 13'	.9937685	7 17 35.13	15 58.55	16 5.38	58 38.02	59 3.10
3	250 17 58.2	0° 26'	.9937042	7 13 39.22	16 12.05	16 18.41	59 27.58	59 50.89
4	251 18 51.9	0° 37'	9.9936415	7 9 43.31	16 24.27	16 29.47	60 12.41	60 31.48
5	252 19 47.0	0° 45'	.9935803	7 5 47.40	16 33.82	16 37.18	60 47.47	60 59.81
6	253 20 43.3	0° 50'	.9935205	7 1 51.49	16 39.40	16 40.39	61 7.96	61 11.56
7	254 21 40.7	0° 52'	9.9934621	6 57 55.58	16 40.06	16 38.42	61 10.37	61 4.34
8	255 22 39.2	0° 50'	.9934050	6 53 59.67	16 35.50	16 31.37	60 53.61	60 38.47
9	256 23 38.6	0° 46'	.9933492	6 50 3.75	16 26.17	16 20.06	60 19.40	59 56.96
10	257 24 38.8	0° 39'	9.9932948	6 46 7.84	16 13.21	16 5.82	59 31.82	59 4.70
11	258 25 39.7	0° 29'	.9932419	6 42 11.93	15 58.08	15 50.19	58 36.31	58 7.32
12	259 26 41.2	0° 18'	.9931906	6 38 16.02	15 42.30	15 34.59	57 38.39	57 10.07
13	260 27 43.3	N. 0° 05'	9.9931411	6 34 20.11	15 27.17	15 20.17	56 42.85	56 17.14
14	261 28 45.8	S. 0° 08'	.9930935	6 30 24.20	15 13.66	15 7.73	55 53.27	55 31.50
15	262 29 48.8	0° 19'	.9930479	6 26 28.29	15 2.42	14 57.76	55 12.01	54 54.90
16	263 30 52.3	0° 29'	9.9930046	6 22 32.37	14 53.77	14 50.45	54 40.25	54 28.08
17	264 31 56.1	0° 39'	.9929635	6 18 36.46	14 47.80	14 45.79	54 18.34	54 10.98
18	265 33 0.4	0° 46'	.9929248	6 14 40.55	14 44.41	14 43.63	54 5.92	54 3.04
19	266 34 5.0	0° 51'	9.9928887	6 10 44.64	14 43.40	14 43.70	54 2.21	54 3.29
20	267 35 10.0	0° 53'	.9928551	6 6 48.73	14 44.47	14 45.68	54 6.13	54 10.58
21	268 36 15.4	0° 53'	.9928242	6 2 52.82	14 47.29	14 49.25	54 16.48	54 23.68
22	269 37 21.2	0° 50'	9.9927960	5 58 56.91	14 51.53	14 54.09	54 32.03	54 41.43
23	270 38 27.4	0° 45'	.9927706	5 55 0.99	14 56.00	14 59.93	54 51.74	55 2.88
24	271 39 34.0	0° 37'	.9927480	5 51 5.08	15 3.17	15 6.59	55 14.75	55 27.32
25	272 40 41.1	0° 27'	9.9927281	5 47 9.17	15 10.19	15 13.96	55 40.54	55 54.37
26	273 41 48.6	0° 14'	.9927110	5 43 13.26	15 17.90	15 22.00	56 8.82	56 23.86
27	274 42 56.5	S. 0° 01'	.9926967	5 39 17.35	15 26.26	15 30.69	56 39.51	56 55.75
28	275 44 4.9	N. 0° 13'	9.9926850	5 35 21.44	15 35.27	15 39.99	57 12.56	57 29.88
29	276 45 13.9	0° 27'	.9926759	5 31 25.52	15 44.83	15 49.76	57 47.65	58 5.75
30	277 46 23.3	0° 40'	.9926692	5 27 29.61	15 54.73	15 59.70	58 24.01	58 42.23
31	278 47 33.1	0° 50'	.9926648	5 23 33.70	16 4.57	16 9.27	59 0.12	59 17.38
32	279 48 43.4	N. 0° 58'	9.9926626	5 19 37.79	16 13.70	16 17.73	59 33.61	59 48.42

MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	^d h m	^d h m	^d h m	^d h m	^d h m	^d h m	^d h m
1	159° 13' 18".1	165° 57' 57".4	N. 0° 13' 55".4	N. 0° 49' 22".3	22.86	18 44.0	6 19.0
2	172 48 40.1	179 45 41.0	1 24 37.8	1 59 9.6	23.86	19 34.7	7 9.2
3	186 49 7.7	193 58 58.2	2 32 22.9	3 3 41.1	24.86	20 27.1	8 0.7
4	201 14 59.9	208 36 47.4	3 32 26.8	3 58 2.5	25.86	21 21.8	8 54.2
5	216 3 42.6	223 34 53.7	4 19 52.6	4 37 24.9	26.86	22 19.2	9 50.1
6	231 9 17.2	238 45 38.9	4 50 12.3	4 57 54.4	27.86	23 19.0	10 48.8
7	246 22 37.8	253 58 49.1	5 0 19.5	4 57 24.8	28.86	* *	11 49.6
8	261 32 48.3	269 3 15.7	4 49 16.8	4 36 10.7	0.44	0 20.5	12 51.3
9	276 28 59.7	283 48 59.8	4 18 29.7	3 56 43.0	1.44	1 21.9	13 52.0
10	291 2 28.4	298 8 52.0	3 31 24.0	3 3 8.9	2.44	2 21.5	14 50.2
11	305 7 51.0	311 59 18.5	2 32 34.2	2 0 16.0	3.44	3 17.9	15 44.8
12	318 43 19.7	325 20 9.6	1 26 48.5	N. 0 52 43.6	4.44	4 10.7	16 35.8
13	331 50 11.7	338 13 55.4	N. 0 18 30.2	S. 0 15 25.6	5.44	5 0.0	17 23.5
14	344 31 55.2	350 44 48.7	S. 0 48 40.4	1 20 53.9	6.44	5 46.3	18 8.7
15	356 53 15.2	2 57 54.7	1 51 47.7	2 21 5.4	7.44	6 30.6	18 52.1
16	8 59 27.2	14 58 31.5	2 48 32.5	3 13 55.7	8.44	7 13.5	19 34.8
17	20 55 44.9	26 51 42.4	3 37 2.9	3 57 43.0	9.44	7 56.1	20 17.5
18	32 46 56.6	38 41 57.1	4 15 45.8	4 31 1.8	10.44	8 39.0	21 0.8
19	44 37 10.8	50 33 1.2	4 43 22.6	4 52 40.3	11.44	9 22.8	21 45.3
20	56 29 48.6	62 27 50.3	4 58 48.3	5 1 41.3	12.44	10 8.0	22 31.2
21	68 27 20.7	74 28 31.3	5 1 15.1	4 57 27.5	13.44	10 54.8	23 18.8
22	80 31 31.2	86 36 27.7	4 50 17.5	4 39 46.6	14.44	11 43.1	* *
23	92 43 26.6	98 52 32.3	4 25 58.4	4 8 58.4	15.44	12 32.6	0 7.7
24	105 3 49.2	111 17 21.5	3 48 54.8	3 25 58.1	16.44	13 22.7	0 57.6
25	117 33 14.3	123 51 33.6	3 0 21.4	2 32 19.8	17.44	14 12.8	1 47.8
26	130 12 26.9	136 36 3.4	2 2 10.8	1 30 13.9	18.44	15 2.6	2 37.8
27	143 2 34.2	149 32 12.0	S. 0 56 50.9	S. 0 22 25.0	19.44	15 52.0	3 27.4
28	156 5 11.1	162 41 47.0	N. 0 12 38.5	N. 0 47 52.8	20.44	16 41.0	4 16.5
29	169 22 15.4	176 6 51.7	1 22 49.8	1 57 0.0	21.44	17 30.1	5 5.5
30	182 55 49.9	189 49 20.9	2 29 53.0	3 0 57.5	22.44	18 20.1	5 55.0
31	196 47 32.1	203 50 25.3	3 29 41.9	3 55 34.9	23.44	19 11.7	6 45.7
32	210 57 55.3	218 9 49.1	N. 4 18 6.1	N. 4 36 46.7	24.44	20 5.5	7 38.3

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 1.					MONDAY 3.				
	h m s	s	N. ° ' "	"		h m s	s	S. ° ' "	"
0	10 43 34.81	21.648	N. 8 19 46.9	98.56	0	12 29 3.52	22.464	S. 0 22 29.6	115.56
1	10 45 44.72	21.656	8 9 53.9	99.11	1	12 31 18.39	22.492	0 34 3.3	115.67
2	10 47 54.68	21.664	7 59 57.6	99.65	2	12 33 33.43	22.521	0 45 37.6	115.77
3	10 50 4.69	21.672	7 49 58.1	100.19	3	12 35 48.64	22.549	0 57 12.5	115.86
4	10 52 14.74	21.680	7 39 55.3	100.72	4	12 38 4.02	22.578	1 8 47.9	115.93
5	10 54 24.85	21.690	7 29 49.4	101.24	5	12 40 19.57	22.608	1 20 23.7	116.00
6	10 56 35.02	21.699	7 19 40.4	101.76	6	12 42 35.31	22.638	1 31 59.9	116.05
7	10 58 45.24	21.708	7 9 28.3	102.27	7	12 44 51.23	22.668	1 43 36.3	116.09
8	11 0 55.52	21.718	6 59 13.2	102.77	8	12 47 7.33	22.698	1 55 13.0	116.12
9	11 3 5.86	21.728	6 48 55.1	103.26	9	12 49 23.61	22.730	2 6 49.8	116.13
10	11 5 16.26	21.739	6 38 34.1	103.75	10	12 51 40.09	22.762	2 18 26.6	116.13
11	11 7 26.73	21.751	6 28 10.1	104.22	11	12 53 56.75	22.793	2 30 3.4	116.12
12	11 9 37.27	21.763	6 17 43.4	104.69	12	12 56 13.61	22.827	2 41 40.1	116.10
13	11 11 47.88	21.775	6 7 13.8	105.16	13	12 58 30.67	22.859	2 53 16.6	116.07
14	11 13 58.57	21.787	5 56 41.5	105.61	14	13 0 47.92	22.892	3 4 52.9	116.03
15	11 16 9.32	21.799	5 46 6.5	106.05	15	13 3 5.37	22.926	3 16 28.9	115.97
16	11 18 20.16	21.813	5 35 28.9	106.49	16	13 5 23.03	22.960	3 28 4.5	115.89
17	11 20 31.08	21.827	5 24 48.6	106.92	17	13 7 40.89	22.994	3 39 39.6	115.81
18	11 22 42.08	21.840	5 14 5.8	107.34	18	13 9 58.96	23.029	3 51 14.2	115.71
19	11 24 53.16	21.855	5 3 20.5	107.75	19	13 12 17.24	23.064	4 2 48.1	115.59
20	11 27 4.34	21.870	4 52 32.8	108.15	20	13 14 35.73	23.099	4 14 21.3	115.47
21	11 29 15.60	21.885	4 41 42.7	108.55	21	13 16 54.43	23.136	4 25 53.7	115.32
22	11 31 26.96	21.901	4 30 50.2	108.93	22	13 19 13.36	23.172	4 37 25.1	115.17
23	11 33 38.41	21.917	N. 4 19 55.5	109.31	23	13 21 32.50	23.208	S. 4 48 55.7	115.01
SUNDAY 2.					TUESDAY 4.				
	h m s	s	N. ° ' "	"		h m s	s	S. ° ' "	"
0	11 35 49.96	21.933	N. 4 8 58.5	109.68	0	13 23 51.86	23.245	S. 5 0 25.2	114.83
1	11 38 1.61	21.951	3 57 59.3	110.03	1	13 26 11.44	23.283	5 11 53.6	114.63
2	11 40 13.37	21.968	3 46 58.1	110.38	2	13 28 31.25	23.321	5 23 20.7	114.42
3	11 42 25.23	21.986	3 35 54.7	110.73	3	13 30 51.29	23.358	5 34 46.6	114.20
4	11 44 37.20	22.004	3 24 49.3	111.06	4	13 33 11.55	23.397	5 46 11.1	113.97
5	11 46 49.28	22.023	3 13 42.0	111.38	5	13 35 32.05	23.436	5 57 34.2	113.72
6	11 49 1.47	22.043	3 2 32.8	111.69	6	13 37 52.78	23.474	6 8 55.7	113.44
7	11 51 13.79	22.063	2 51 21.7	111.99	7	13 40 13.74	23.513	6 20 15.5	113.16
8	11 53 26.22	22.082	2 40 8.9	112.28	8	13 42 34.94	23.553	6 31 33.6	112.87
9	11 55 38.77	22.102	2 28 54.3	112.57	9	13 44 56.37	23.593	6 42 49.9	112.56
10	11 57 51.45	22.123	2 17 38.1	112.84	10	13 47 18.05	23.633	6 54 4.3	112.23
11	12 0 4.25	22.145	2 6 20.2	113.11	11	13 49 39.96	23.673	7 5 16.7	111.90
12	12 2 17.19	22.167	1 55 0.8	113.36	12	13 52 2.12	23.713	7 16 27.1	111.55
13	12 4 30.25	22.189	1 43 39.9	113.59	13	13 54 24.52	23.754	7 27 35.3	111.18
14	12 6 43.46	22.212	1 32 17.7	113.83	14	13 56 47.17	23.795	7 38 41.3	110.79
15	12 8 56.80	22.235	1 20 54.0	114.06	15	13 59 10.06	23.835	7 49 44.8	110.39
16	12 11 10.28	22.258	1 9 29.0	114.27	16	14 1 33.19	23.877	8 0 46.0	109.98
17	12 13 23.90	22.282	0 58 2.8	114.46	17	14 3 56.58	23.919	8 11 44.6	109.56
18	12 15 37.67	22.307	0 46 35.5	114.65	18	14 6 20.22	23.960	8 22 40.7	109.12
19	12 17 51.59	22.333	0 35 7.0	114.83	19	14 8 44.10	24.002	8 33 34.0	108.65
20	12 20 5.67	22.358	0 23 37.5	115.00	20	14 11 8.24	24.043	8 44 24.5	108.18
21	12 22 19.89	22.383	0 12 7.0	115.16	21	14 13 32.62	24.085	8 55 12.2	107.70
22	12 24 34.27	22.411	N. 0 0 35.6	115.30	22	14 15 57.26	24.127	9 5 56.9	107.19
23	12 26 48.82	22.438	S. 0 10 56.6	115.43	23	14 18 22.15	24.170	9 16 38.5	106.67
24	12 29 3.52	22.464	S. 0 22 29.6	115.56	24	14 20 47.30	24.213	S. 9 27 17.0	106.14

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
WEDNESDAY 5.					FRIDAY 7.				
	h m s	s				h m s	s		
0	14 20 47.30	24.213	S. 9° 27' 17.0"	106.14	0	16 21 36.99	25.992	S. 16° 26' 46.8"	63.25
1	14 23 12.70	24.254	9 37 52.2	105.59	1	16 24 13.01	26.016	16 33 2.7	62.04
2	14 25 38.35	24.296	9 48 24.1	105.02	2	16 26 49.18	26.039	16 39 11.3	60.82
3	14 28 4.25	24.339	9 58 52.5	104.44	3	16 29 25.48	26.061	16 45 12.5	59.59
4	14 30 30.42	24.382	10 9 17.4	103.85	4	16 32 1.91	26.082	16 51 6.4	58.35
5	14 32 56.84	24.424	10 19 38.7	103.24	5	16 34 38.46	26.103	16 56 52.7	57.10
6	14 35 23.51	24.466	10 29 56.3	102.62	6	16 37 15.14	26.123	17 2 31.6	55.85
7	14 37 50.43	24.508	10 40 10.1	101.98	7	16 39 51.93	26.141	17 8 2.9	54.58
8	14 40 17.61	24.551	10 50 20.0	101.33	8	16 42 28.83	26.158	17 13 26.6	53.31
9	14 42 45.04	24.593	11 0 26.0	100.65	9	16 45 5.83	26.175	17 18 42.6	52.03
10	14 45 12.73	24.636	11 10 27.8	99.96	10	16 47 42.93	26.191	17 23 50.9	50.74
11	14 47 40.67	24.678	11 20 25.5	99.26	11	16 50 20.12	26.206	17 28 51.5	49.44
12	14 50 8.86	24.719	11 30 18.9	98.54	12	16 52 57.40	26.220	17 33 44.2	48.13
13	14 52 37.30	24.762	11 40 8.0	97.81	13	16 55 34.76	26.233	17 38 29.1	46.82
14	14 55 6.00	24.803	11 49 52.6	97.06	14	16 58 12.19	26.244	17 43 6.1	45.50
15	14 57 34.94	24.844	11 59 32.7	96.30	15	17 0 49.69	26.255	17 47 35.1	44.18
16	15 0 4.13	24.886	12 9 8.2	95.52	16	17 3 27.25	26.264	17 51 56.2	42.85
17	15 2 33.57	24.927	12 18 38.9	94.73	17	17 6 4.86	26.272	17 56 9.3	41.51
18	15 5 3.26	24.968	12 28 4.9	93.92	18	17 8 42.52	26.280	18 0 14.3	40.17
19	15 7 33.19	25.008	12 37 25.9	93.09	19	17 11 20.22	26.286	18 4 11.3	38.83
20	15 10 3.36	25.049	12 46 42.0	92.26	20	17 13 57.95	26.292	18 8 0.3	37.48
21	15 12 33.78	25.089	12 55 53.0	91.41	21	17 16 35.72	26.296	18 11 41.1	36.12
22	15 15 4.43	25.129	13 4 58.9	90.54	22	17 19 13.50	26.298	18 15 13.7	34.76
23	15 17 35.33	25.169	S. 13 13 59.5	89.65	23	17 21 51.30	26.301	S. 18 18 38.2	33.40
THURSDAY 6.					SATURDAY 8.				
0	15 20 6.46	25.208	S. 13 22 54.7	88.75	0	17 24 29.11	26.302	S. 18 21 54.5	32.03
1	15 22 37.82	25.247	13 31 44.5	87.85	1	17 27 6.92	26.301	18 25 2.6	30.66
2	15 25 9.42	25.285	13 40 28.9	86.93	2	17 29 44.72	26.300	18 28 2.4	29.28
3	15 27 41.24	25.323	13 49 7.6	85.98	3	17 32 22.52	26.297	18 30 54.0	27.91
4	15 30 13.29	25.361	13 57 40.6	85.03	4	17 35 0.29	26.293	18 33 37.3	26.53
5	15 32 45.57	25.398	14 6 7.9	84.07	5	17 37 38.04	26.288	18 36 12.4	25.16
6	15 35 18.06	25.433	14 14 29.4	83.08	6	17 40 15.75	26.282	18 38 39.2	23.78
7	15 37 50.77	25.470	14 22 44.9	82.08	7	17 42 53.43	26.276	18 40 57.7	22.39
8	15 40 23.70	25.506	14 30 54.4	81.07	8	17 45 31.06	26.267	18 43 7.9	21.01
9	15 42 56.84	25.541	14 38 57.8	80.06	9	17 48 8.63	26.258	18 45 9.8	19.63
10	15 45 30.19	25.576	14 46 55.1	79.03	10	17 50 46.15	26.248	18 47 3.4	18.24
11	15 48 3.75	25.610	14 54 46.1	77.98	11	17 53 23.60	26.235	18 48 48.7	16.85
12	15 50 37.51	25.643	15 2 30.8	76.92	12	17 56 0.97	26.222	18 50 25.6	15.47
13	15 53 11.47	25.676	15 10 9.1	75.84	13	17 58 38.26	26.208	18 51 54.3	14.09
14	15 55 45.62	25.708	15 17 40.9	74.75	14	18 1 15.47	26.193	18 53 14.7	12.71
15	15 58 19.97	25.740	15 25 6.1	73.65	15	18 3 52.58	26.177	18 54 26.8	11.33
16	16 0 54.50	25.771	15 32 24.7	72.54	16	18 6 29.59	26.159	18 55 30.6	9.94
17	16 3 29.22	25.801	15 39 36.6	71.42	17	18 9 6.49	26.141	18 56 26.1	8.57
18	16 6 4.11	25.830	15 46 41.8	70.29	18	18 11 43.28	26.122	18 57 13.4	7.20
19	16 8 39.18	25.859	15 53 40.1	69.14	19	18 14 19.95	26.101	18 57 52.5	5.83
20	16 11 14.42	25.887	16 0 31.5	67.99	20	18 16 56.49	26.078	18 58 23.3	4.45
21	16 13 49.83	25.914	16 7 16.0	66.82	21	18 19 32.89	26.055	18 58 45.9	3.08
22	16 16 25.39	25.940	16 13 53.4	65.64	22	18 22 9.15	26.032	18 59 0.3	1.72
23	16 19 1.11	25.967	16 20 23.7	64.45	23	18 24 45.27	26.007	18 59 6.6	0.37
24	16 21 36.99	25.992	S. 16 26 46.8	63.25	24	18 27 21.23	25.980	S. 18 59 4.7	0.99

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10m.	Declination.	Var. in 10m.	Hour.	Right Ascension.	Var. in 10m.	Declination.	Var. in 10m.
SUNDAY 9.					TUESDAY 11.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	18 27 21.23	25.980	S. 18 59 4.7	0.99	0	20 27 22.57	23.778	S. 16 31 20.9	57.03
1	18 29 57.03	25.952	18 58 54.7	2.34	1	20 29.45.07	23.721	16 25 35.9	57.95
2	18 32 32.66	25.924	18 58 36.6	3.69	2	20 32 7.22	23.663	16 19 45.5	58.85
3	18 35 8.12	25.894	18 58 10.4	5.03	3	20 34 29.02	23.604	16 13 49.7	59.75
4	18 37 43.41	25.865	18 57 36.2	6.37	4	20 36 50.47	23.547	16 7 48.5	60.64
5	18 40 18.50	25.833	18 56 54.0	7.70	5	20 39 11.58	23.488	16 1 42.0	61.51
6	18 42 53.41	25.802	18 56 3.8	9.03	6	20 41 32.33	23.429	15 55 30.4	62.37
7	18 45 28.12	25.768	18 55 5.6	10.35	7	20 43 52.73	23.372	15 49 13.6	63.22
8	18 48 2.62	25.733	18 53 59.6	11.66	8	20 46 12.79	23.313	15 42 51.8	64.05
9	18 50 36.92	25.699	18 52 45.7	12.97	9	20 48 32.49	23.254	15 36 25.0	64.87
10	18 53 11.01	25.663	18 51 24.0	14.27	10	20 50 51.84	23.196	15 29 53.3	65.69
11	18 55 44.87	25.625	18 49 54.5	15.57	11	20 53 10.84	23.138	15 23 16.7	66.49
12	18 58 18.51	25.587	18 48 17.2	16.86	12	20 55 29.49	23.079	15 16 35.4	67.28
13	19 0 51.92	25.548	18 46 32.2	18.13	13	20 57 47.79	23.020	15 9 49.4	68.06
14	19 3 25.09	25.508	18 44 39.6	19.40	14	21 0 5.73	22.962	15 2 58.7	68.83
15	19 5 58.02	25.468	18 42 39.4	20.67	15	21 2 23.33	22.903	14 56 3.5	69.58
16	19 8 30.70	25.427	18 40 31.6	21.93	16	21 4 40.57	22.845	14 49 3.7	70.32
17	19 11 3.14	25.384	18 38 16.3	23.18	17	21 6 57.47	22.787	14 41 59.6	71.06
18	19 13 35.31	25.341	18 35 53.5	24.42	18	21 9 14.02	22.729	14 34 51.0	71.78
19	19 16 7.23	25.298	18 33 23.3	25.65	19	21 11 30.22	22.672	14 27 38.2	72.49
20	19 18 38.89	25.253	18 30 45.7	26.87	20	21 13 46.08	22.614	14 20 21.1	73.19
21	19 21 10.27	25.208	18 28 0.9	28.08	21	21 16 1.59	22.556	14 12 59.9	73.88
22	19 23 41.38	25.162	18 25 8.8	29.29	22	21 18 16.75	22.498	14 5 34.6	74.56
23	19 26 12.21	25.115	S. 18 22 9.4	30.49	23	21 20 31.57	22.442	S. 13 58 5.2	75.23
MONDAY 10.					WEDNESDAY 12.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	19 28 42.76	25.068	S. 18 19 2.9	31.68	0	21 22 46.05	22.385	S. 13 50 31.9	75.88
1	19 31 13.03	25.020	18 15 49.3	32.85	1	21 25 0.19	22.328	13 42 54.7	76.52
2	19 33 43.00	24.970	18 12 28.7	34.02	2	21 27 13.98	22.271	13 35 13.7	77.15
3	19 36 12.67	24.921	18 9 1.1	35.18	3	21 29 27.44	22.215	13 27 28.9	77.77
4	19 38 42.05	24.872	18 5 26.6	36.33	4	21 31 40.56	22.159	13 19 40.4	78.38
5	19 41 11.13	24.822	18 1 45.2	37.47	5	21 33 53.35	22.103	13 11 48.3	78.98
6	19 43 39.91	24.770	17 57 57.0	38.59	6	21 36 5.80	22.047	13 3 52.6	79.57
7	19 46 8.37	24.718	17 54 2.1	39.70	7	21 38 17.91	21.992	12 55 53.4	80.16
8	19 48 36.53	24.667	17 50 0.6	40.81	8	21 40 29.70	21.937	12 47 50.7	80.73
9	19 51 4.37	24.613	17 45 52.4	41.91	9	21 42 41.16	21.883	12 39 44.7	81.28
10	19 53 31.89	24.561	17 41 37.7	42.99	10	21 44 52.29	21.828	12 31 35.4	81.83
11	19 55 59.10	24.508	17 37 16.5	44.07	11	21 47 3.10	21.774	12 23 22.8	82.37
12	19 58 25.98	24.453	17 32 48.8	45.14	12	21 49 13.58	21.720	12 15 7.0	82.89
13	20 0 52.54	24.398	17 28 14.8	46.19	13	21 51 23.74	21.667	12 6 48.1	83.41
14	20 3 18.76	24.343	17 23 34.5	47.23	14	21 53 33.59	21.614	11 58 26.1	83.91
15	20 5 44.66	24.288	17 18 48.1	48.26	15	21 55 43.11	21.562	11 50 1.2	84.40
16	20 8 10.22	24.233	17 13 55.4	49.28	16	21 57 52.33	21.510	11 41 33.3	84.89
17	20 10 35.45	24.178	17 8 56.7	50.28	17	22 0 1.23	21.458	11 33 2.5	85.37
18	20 13 0.35	24.122	17 3 52.0	51.28	18	22 2 9.82	21.407	11 24 28.9	85.83
19	20 15 24.91	24.065	16 58 41.3	52.27	19	22 4 18.11	21.356	11 15 52.5	86.28
20	20 17 49.13	24.008	16 53 24.7	53.25	20	22 6 26.09	21.304	11 7 13.5	86.73
21	20 20 13.00	23.951	16 48 2.3	54.21	21	22 8 33.76	21.254	10 58 31.7	87.17
22	20 22 36.54	23.894	16 42 34.2	55.17	22	22 10 41.14	21.204	10 49 47.4	87.60
23	20 24 59.73	23.836	16 37 0.3	56.11	23	22 12 48.21	21.155	10 41 0.5	88.02
24	20 27 22.57	23.778	S. 16 31 20.9	57.03	24	22 14 55.00	21.107	S. 10 32 11.2	88.42

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
THURSDAY 13.					SATURDAY 15.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	22 14 55.00	21.107	S. 10 32 11.2	88.42	0	23 51 32.50	19.360	S. 2 56 51.2	98.37
1	22 17 1.49	21.058	10 23 19.5	88.83	1	23 53 28.59	19.336	2 47 0.8	98.41
2	22 19 7.70	21.011	10 14 25.3	89.22	2	23 55 24.53	19.313	2 37 10.3	98.44
3	22 21 13.62	20.962	10 5 28.9	89.58	3	23 57 20.35	19.292	2 27 19.5	98.47
4	22 23 19.25	20.915	9 56 30.3	89.96	4	23 59 16.04	19.271	2 17 28.7	98.47
5	22 25 24.60	20.869	9 47 29.4	90.33	5	0 1 11.60	19.250	2 7 37.9	98.48
6	22 27 29.68	20.823	9 38 26.4	90.68	6	0 3 7.04	19.229	1 57 46.9	98.49
7	22 29 34.47	20.777	9 29 21.3	91.03	7	0 5 2.35	19.209	1 47 56.0	98.48
8	22 31 39.00	20.732	9 20 14.1	91.36	8	0 6 57.55	19.191	1 38 5.1	98.48
9	22 33 43.26	20.688	9 11 5.0	91.68	9	0 8 52.64	19.172	1 28 14.3	98.47
10	22 35 47.25	20.643	9 1 53.9	92.00	10	0 10 47.62	19.154	1 18 23.5	98.45
11	22 37 50.97	20.599	8 52 41.0	92.31	11	0 12 42.49	19.137	1 8 32.9	98.42
12	22 39 54.44	20.557	8 43 26.2	92.61	12	0 14 37.26	19.120	0 58 42.5	98.38
13	22 41 57.65	20.513	8 34 9.7	92.90	13	0 16 31.93	19.103	0 48 52.3	98.35
14	22 44 0.60	20.472	8 24 51.4	93.19	14	0 18 26.50	19.088	0 39 2.3	98.31
15	22 46 3.31	20.430	8 15 31.4	93.47	15	0 20 20.98	19.073	0 29 12.6	98.26
16	22 48 5.76	20.388	8 6 9.8	93.73	16	0 22 15.37	19.058	0 19 23.2	98.21
17	22 50 7.97	20.347	7 56 46.6	93.99	17	0 24 9.67	19.043	S. 0 9 34.1	98.15
18	22 52 9.93	20.307	7 47 21.9	94.24	18	0 26 3.89	19.030	N. 0 0 14.6	98.08
19	22 54 11.66	20.268	7 37 55.7	94.49	19	0 27 58.03	19.017	0 10 2.9	98.01
20	22 56 13.15	20.229	7 28 28.0	94.73	20	0 29 52.09	19.003	0 19 50.7	97.93
21	22 58 14.41	20.192	7 18 59.0	94.95	21	0 31 46.07	18.992	0 29 38.1	97.86
22	23 0 15.45	20.153	7 9 28.6	95.17	22	0 33 39.99	18.981	0 39 25.0	97.77
23	23 2 16.25	20.115	S. 6 59 56.9	95.38	23	0 35 33.84	18.969	N. 0 49 11.3	97.67
FRIDAY 14.					SUNDAY 16.				
	h m s	s	° ' "	"		h m s	s	° ' "	"
0	23 4 16.83	20.078	S. 6 50 24.0	95.58	0	0 37 27.62	18.958	N. 0 58 57.0	97.57
1	23 6 17.19	20.042	6 40 49.9	95.78	1	0 39 21.34	18.949	1 8 42.1	97.47
2	23 8 17.34	20.007	6 31 14.6	95.97	2	0 41 15.01	18.940	1 18 26.6	97.36
3	23 10 17.27	19.971	6 21 38.2	96.16	3	0 43 8.62	18.931	1 28 10.4	97.24
4	23 12 16.99	19.937	6 12 0.7	96.33	4	0 45 2.18	18.922	1 37 53.5	97.12
5	23 14 16.51	19.903	6 2 22.2	96.50	5	0 46 55.69	18.914	1 47 35.9	97.00
6	23 16 15.83	19.869	5 52 42.7	96.66	6	0 48 49.15	18.907	1 57 17.5	96.87
7	23 18 14.94	19.836	5 43 2.3	96.81	7	0 50 42.57	18.900	2 6 58.3	96.73
8	23 20 13.86	19.803	5 33 21.0	96.96	8	0 52 35.95	18.894	2 16 38.3	96.59
9	23 22 12.58	19.771	5 23 38.8	97.10	9	0 54 29.30	18.888	2 26 17.4	96.45
10	23 24 11.11	19.740	5 13 55.8	97.23	10	0 56 22.61	18.883	2 35 55.7	96.30
11	23 26 9.46	19.709	5 4 12.1	97.35	11	0 58 15.89	18.878	2 45 33.0	96.13
12	23 28 7.62	19.678	4 54 27.6	97.47	12	1 0 9.15	18.874	2 55 9.3	95.97
13	23 30 5.60	19.649	4 44 42.4	97.58	13	1 2 2.38	18.870	3 4 44.6	95.81
14	23 32 3.41	19.620	4 34 56.6	97.69	14	1 3 55.59	18.867	3 14 19.0	95.64
15	23 34 1.04	19.592	4 25 10.1	97.79	15	1 5 48.79	18.864	3 23 52.3	95.46
16	23 35 58.51	19.563	4 15 23.1	97.88	16	1 7 41.96	18.862	3 33 24.5	95.27
17	23 37 55.80	19.535	4 5 35.6	97.97	17	1 9 35.13	18.860	3 42 55.6	95.08
18	23 39 52.93	19.509	3 55 47.5	98.05	18	1 11 28.28	18.858	3 52 25.5	94.89
19	23 41 49.91	19.482	3 45 59.0	98.12	19	1 13 21.43	18.858	4 1 54.3	94.70
20	23 43 46.72	19.456	3 36 10.1	98.18	20	1 15 14.58	18.858	4 11 21.9	94.49
21	23 45 43.38	19.432	3 26 20.8	98.24	21	1 17 7.72	18.858	4 20 48.2	94.28
22	23 47 39.90	19.407	3 16 31.2	98.29	22	1 19 0.87	18.858	4 30 13.3	94.07
23	23 49 36.27	19.383	3 6 41.3	98.33	23	1 20 54.02	18.859	4 39 37.1	93.85
24	23 51 32.50	19.360	S. 2 56 51.2	98.37	24	1 22 47.18	18.861	N. 4 48 59.5	93.63

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
MONDAY 17.					WEDNESDAY 19.				
	h m s	s	N. ° ' "	"		h m s	s	N. ° ' "	"
0	1 22 47.18	18.861	N. 4 48 59.5	93.63	0	2 54 18.43	19.418	N. 11 42 43.3	76.74
1	1 24 40.35	18.862	4 58 20.6	93.39	1	2 56 15.00	19.438	11 50 22.3	76.26
2	1 26 33.53	18.865	5 7 40.2	93.16	2	2 58 11.69	19.459	11 57 58.4	75.77
3	1 28 26.73	18.868	5 16 58.5	92.92	3	3 0 8.51	19.480	12 5 31.6	75.28
4	1 30 19.95	18.872	5 26 15.3	92.68	4	3 2 5.45	19.500	12 13 1.8	74.78
5	1 32 13.19	18.876	5 35 30.6	92.43	5	3 4 2.51	19.521	12 20 28.9	74.27
6	1 34 6.46	18.880	5 44 44.4	92.18	6	3 5 59.70	19.542	12 27 53.0	73.77
7	1 35 59.75	18.884	5 53 56.7	91.92	7	3 7 57.02	19.564	12 35 14.1	73.25
8	1 37 53.07	18.890	6 3 7.4	91.64	8	3 9 54.47	19.586	12 42 32.0	72.73
9	1 39 46.43	18.896	6 12 16.4	91.37	9	3 11 52.05	19.608	12 49 46.8	72.20
10	1 41 39.82	18.901	6 21 23.9	91.10	10	3 13 49.76	19.630	12 56 58.4	71.67
11	1 43 33.24	18.907	6 30 29.6	90.82	11	3 15 47.61	19.652	13 4 6.8	71.13
12	1 45 26.71	18.915	6 39 33.7	90.53	12	3 17 45.59	19.675	13 11 12.0	70.59
13	1 47 20.22	18.922	6 48 36.0	90.24	13	3 19 43.71	19.698	13 18 13.9	70.04
14	1 49 13.77	18.929	6 57 36.6	89.95	14	3 21 41.96	19.720	13 25 12.5	69.48
15	1 51 7.37	18.937	7 6 35.4	89.64	15	3 23 40.35	19.743	13 32 7.7	68.93
16	1 53 1.02	18.947	7 15 32.3	89.33	16	3 25 38.88	19.767	13 38 59.6	68.37
17	1 54 54.73	18.956	7 24 27.4	89.02	17	3 27 37.55	19.790	13 45 48.1	67.79
18	1 56 48.49	18.965	7 33 20.6	88.71	18	3 29 36.36	19.813	13 52 33.1	67.22
19	1 58 42.31	18.975	7 42 11.9	88.39	19	3 31 35.31	19.837	13 59 14.7	66.64
20	2 0 36.19	18.985	7 51 1.3	88.07	20	3 33 34.41	19.862	14 5 52.8	66.05
21	2 2 30.13	18.996	7 59 48.7	87.73	21	3 35 33.65	19.885	14 12 27.3	65.46
22	2 4 24.14	19.007	8 8 34.0	87.39	22	3 37 33.03	19.909	14 18 58.3	64.86
23	2 6 18.22	19.018	N. 8 17 17.4	87.05	23	3 39 32.56	19.934	N. 14 25 25.6	64.25
TUESDAY 18.					THURSDAY 20.				
	h m s	s	N. ° ' "	"		h m s	s	N. ° ' "	"
0	2 8 12.36	19.030	N. 8 25 58.6	86.69	0	3 41 32.24	19.958	N. 14 31 49.3	63.64
1	2 10 6.58	19.042	8 34 37.7	86.34	1	3 43 32.06	19.983	14 38 9.3	63.03
2	2 12 0.87	19.055	8 43 14.7	85.98	2	3 45 32.03	20.008	14 44 25.7	62.41
3	2 13 55.24	19.068	8 51 49.5	85.62	3	3 47 32.15	20.033	14 50 38.2	61.78
4	2 15 49.69	19.082	9 0 22.1	85.25	4	3 49 32.42	20.057	14 56 47.0	61.15
5	2 17 44.22	19.095	9 8 52.5	84.88	5	3 51 32.83	20.082	15 2 52.0	60.52
6	2 19 38.83	19.109	9 17 20.7	84.50	6	3 53 33.40	20.107	15 8 53.2	59.88
7	2 21 33.53	19.123	9 25 46.5	84.11	7	3 55 34.11	20.132	15 14 50.5	59.23
8	2 23 28.31	19.138	9 34 10.0	83.72	8	3 57 34.98	20.157	15 20 43.9	58.57
9	2 25 23.19	19.154	9 42 31.1	83.33	9	3 59 36.00	20.183	15 26 33.3	57.91
10	2 27 18.16	19.169	9 50 49.9	82.93	10	4 1 37.17	20.208	15 32 18.8	57.25
11	2 29 13.22	19.185	9 59 6.2	82.52	11	4 3 38.49	20.233	15 38 0.3	56.58
12	2 31 8.38	19.201	10 7 20.1	82.11	12	4 5 39.97	20.259	15 43 37.7	55.90
13	2 33 3.63	19.217	10 15 31.5	81.68	13	4 7 41.60	20.284	15 49 11.1	55.22
14	2 34 58.99	19.234	10 23 40.3	81.27	14	4 9 43.38	20.309	15 54 40.3	54.53
15	2 36 54.44	19.251	10 31 46.7	80.84	15	4 11 45.31	20.334	16 0 5.5	53.84
16	2 38 50.00	19.269	10 39 50.4	80.40	16	4 13 47.39	20.359	16 5 26.4	53.14
17	2 40 45.67	19.287	10 47 51.5	79.96	17	4 15 49.62	20.386	16 10 43.2	52.44
18	2 42 41.44	19.304	10 55 49.9	79.52	18	4 17 52.02	20.412	16 15 55.7	51.73
19	2 44 37.32	19.322	11 3 45.7	79.07	19	4 19 54.56	20.436	16 21 4.0	51.02
20	2 46 33.31	19.342	11 11 38.8	78.62	20	4 21 57.25	20.462	16 26 8.0	50.31
21	2 48 29.42	19.361	11 19 29.1	78.16	21	4 24 0.10	20.488	16 31 7.7	49.58
22	2 50 25.64	19.380	11 27 16.7	77.69	22	4 26 3.10	20.513	16 36 3.0	48.85
23	2 52 21.98	19.399	11 35 1.4	77.22	23	4 28 6.25	20.538	16 40 53.9	48.12
24	2 54 18.43	19.418	N. 11 42 43.3	76.74	24	4 30 9.55	20.563	N. 16 45 40.4	47.38

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
FRIDAY 21.					SUNDAY 23.				
	h m s	s	N. 16 45 40.4	47.38		h m s	s	N. 18 59 11.9	6.73
0	4 30 9.55	20.563	16 50 22.5	46.64	0	6 11 29.34	21.571	18 59 49.5	5.80
1	4 32 13.00	20.588	16 55 0.1	45.88	1	6 13 38.81	21.586	19 0 21.5	4.87
2	4 34 16.60	20.613	16 59 33.1	45.13	2	6 15 48.37	21.600	19 0 48.0	3.94
3	4 36 20.36	20.638	17 4 1.7	44.37	3	6 17 58.01	21.613	19 1 8.8	3.00
4	4 38 24.26	20.663	17 8 25.6	43.61	4	6 20 7.73	21.627	19 1 24.0	2.06
5	4 40 28.31	20.688	17 12 45.0	42.84	5	6 22 17.53	21.639	19 1 33.5	1.12
6	4 42 32.51	20.713	17 16 59.7	42.07	6	6 24 27.40	21.652	19 1 37.4	0.18
7	4 44 36.86	20.737	17 21 9.8	41.29	7	6 26 37.35	21.664	19 1 35.7	0.76
8	4 46 41.35	20.762	17 25 15.2	40.50	8	6 28 47.37	21.677	19 1 28.3	1.71
9	4 48 46.00	20.787	17 29 15.8	39.71	9	6 30 57.47	21.688	19 1 15.2	2.66
10	4 50 50.79	20.810	17 33 11.7	38.92	10	6 33 7.63	21.698	19 0 56.4	3.60
11	4 52 55.72	20.834	17 37 2.9	38.13	11	6 35 17.85	21.708	19 0 32.0	4.54
12	4 55 0.80	20.858	17 40 49.3	37.33	12	6 37 28.13	21.719	19 0 1.9	5.49
13	4 57 6.02	20.882	17 44 30.8	36.51	13	6 39 38.48	21.729	18 59 26.1	6.45
14	4 59 11.38	20.906	17 48 7.4	35.70	14	6 41 48.88	21.739	18 58 44.5	7.40
15	5 1 16.89	20.929	17 51 39.2	34.89	15	6 43 59.35	21.748	18 57 57.3	8.35
16	5 3 22.53	20.952	17 55 6.1	34.07	16	6 46 9.86	21.757	18 57 4.3	9.31
17	5 5 28.32	20.976	17 58 28.0	33.24	17	6 48 20.43	21.766	18 56 5.6	10.26
18	5 7 34.24	20.998	18 1 45.0	32.42	18	6 50 31.05	21.774	18 55 1.2	11.21
19	5 9 40.30	21.022	18 4 57.0	31.58	19	6 52 41.72	21.782	18 53 51.1	12.17
20	5 11 46.50	21.044	18 8 3.9	30.74	20	6 54 52.43	21.788	18 52 35.2	13.13
21	5 13 52.83	21.066	18 11 5.9	29.90	21	6 57 3.97	21.795	18 51 13.6	14.08
22	5 15 59.29	21.088	18 14 2.7	29.05	22	7 1 24.80	21.802	N. 18 49 46.3	15.03
23	5 18 5.89	21.111			23				
SATURDAY 22.					MONDAY 24.				
0	5 20 12.62	21.133	18 16 54.5	28.20	0	7 3 35.67	21.814	N. 18 48 13.2	15.99
1	5 22 19.48	21.153	18 19 41.1	27.34	1	7 5 46.57	21.820	18 46 34.4	16.94
2	5 24 26.46	21.175	18 22 22.6	26.49	2	7 7 57.51	21.825	18 44 49.9	17.90
3	5 26 33.58	21.197	18 24 59.0	25.63	3	7 10 8.47	21.829	18 42 59.6	18.86
4	5 28 40.82	21.217	18 27 30.1	24.76	4	7 12 19.46	21.834	18 41 3.6	19.81
5	5 30 48.18	21.238	18 29 56.1	23.89	5	7 14 30.48	21.838	18 39 1.9	20.76
6	5 32 55.67	21.258	18 32 16.8	23.02	6	7 16 41.52	21.842	18 36 54.5	21.71
7	5 35 3.27	21.278	18 34 32.3	22.14	7	7 18 52.58	21.845	18 34 41.4	22.67
8	5 37 11.00	21.298	18 36 42.5	21.26	8	7 21 3.66	21.848	18 32 22.5	23.62
9	5 39 18.84	21.317	18 38 47.4	20.37	9	7 23 14.75	21.850	18 29 58.0	24.57
10	5 41 26.80	21.336	18 40 46.9	19.48	10	7 25 25.86	21.853	18 27 27.7	25.52
11	5 43 34.87	21.354	18 42 41.1	18.59	11	7 27 36.98	21.855	18 24 51.8	26.47
12	5 45 43.05	21.372	18 44 30.0	17.70	12	7 29 48.12	21.857	18 22 10.1	27.42
13	5 47 51.34	21.391	18 46 13.5	16.79	13	7 31 59.26	21.858	18 19 22.8	28.36
14	5 49 59.74	21.410	18 47 51.5	15.89	14	7 34 10.41	21.858	18 16 29.8	29.31
15	5 52 8.26	21.428	18 49 24.2	15.00	15	7 36 21.56	21.859	18 13 31.1	30.26
16	5 54 16.88	21.444	18 50 51.5	14.09	16	7 38 32.72	21.859	18 10 26.7	31.20
17	5 56 25.59	21.461	18 52 13.3	13.18	17	7 40 43.87	21.858	18 7 16.7	32.13
18	5 58 34.41	21.478	18 53 29.6	12.27	18	7 42 55.02	21.858	18 4 1.1	33.07
19	6 0 43.33	21.495	18 54 40.5	11.35	19	7 45 6.17	21.858	18 0 39.8	34.02
20	6 2 52.35	21.511	18 55 45.8	10.43	20	7 47 17.31	21.857	17 57 12.9	34.95
21	6 5 1.46	21.526	18 56 45.6	9.51	21	7 49 28.45	21.856	17 53 40.4	35.88
22	6 7 10.66	21.542	18 57 39.9	8.59	22	7 51 39.58	21.853	17 50 2.4	36.81
23	6 9 19.96	21.557	18 58 28.7	7.67	23	7 53 50.69	21.852	17 46 18.7	37.74
24	6 11 29.34	21.571	N. 18 59 11.9	6.73	24	7 56 1.80	21.850	N. 17 42 29.5	38.67

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
TUESDAY 25.					THURSDAY 27.				
	h m s	s	N. ° ' "	" "		h m s	s	N. ° ' "	" "
0	7 56 1.80	21.850	N. 17 42 29.5	38.67	0	9 40 15.82	21.538	N. 12 56 42.7	78.72
1	7 58 12.89	21.848	17 38 34.7	39.59	1	9 42 25.03	21.531	12 48 48.3	79.43
2	8 0 23.97	21.845	17 34 34.4	40.51	2	9 44 34.19	21.523	12 40 49.6	80.13
3	8 2 35.03	21.841	17 30 28.6	41.43	3	9 46 43.31	21.516	12 32 46.7	80.84
4	8 4 46.06	21.838	17 26 17.3	42.34	4	9 48 52.38	21.508	12 24 39.5	81.53
5	8 6 57.08	21.834	17 22 0.5	43.26	5	9 51 1.41	21.502	12 16 28.3	82.21
6	8 9 8.07	21.831	17 17 38.2	44.17	6	9 53 10.40	21.495	12 8 13.0	82.89
7	8 11 19.05	21.827	17 13 10.4	45.08	7	9 55 19.35	21.488	11 59 53.6	83.57
8	8 13 29.99	21.822	17 8 37.3	45.98	8	9 57 28.25	21.481	11 51 30.1	84.24
9	8 15 40.91	21.818	17 3 58.7	46.88	9	9 59 37.12	21.474	11 43 2.7	84.89
10	8 17 51.81	21.813	16 59 14.7	47.78	10	10 1 45.94	21.468	11 34 31.4	85.55
11	8 20 2.67	21.808	16 54 25.3	48.68	11	10 3 54.73	21.462	11 25 56.1	86.21
12	8 22 13.50	21.803	16 49 30.6	49.57	12	10 6 3.48	21.456	11 17 16.9	86.85
13	8 24 24.30	21.798	16 44 30.5	50.45	13	10 8 12.20	21.450	11 8 33.9	87.48
14	8 26 35.07	21.792	16 39 25.2	51.33	14	10 10 20.88	21.443	10 59 47.1	88.11
15	8 28 45.80	21.785	16 34 14.5	52.22	15	10 12 29.52	21.437	10 50 56.6	88.73
16	8 30 56.49	21.779	16 28 58.6	53.09	16	10 14 38.13	21.433	10 42 2.3	89.34
17	8 33 7.15	21.773	16 23 37.4	53.97	17	10 16 46.72	21.428	10 33 4.4	89.95
18	8 35 17.77	21.767	16 18 11.0	54.83	18	10 18 55.27	21.423	10 24 2.9	90.56
19	8 37 28.36	21.761	16 12 39.4	55.70	19	10 21 3.79	21.418	10 14 57.7	91.16
20	8 39 38.90	21.754	16 7 2.6	56.57	20	10 23 12.29	21.414	10 5 49.0	91.74
21	8 41 49.41	21.747	16 1 20.6	57.42	21	10 25 20.76	21.409	9 56 36.8	92.32
22	8 43 59.87	21.740	15 55 33.6	58.27	22	10 27 29.20	21.406	9 47 21.1	92.90
23	8 46 10.29	21.733	N. 15 49 41.4	59.12	23	10 29 37.63	21.402	N. 9 38 2.0	93.47
WEDNESDAY 26.					FRIDAY 28.				
	h m s	s	N. ° ' "	" "		h m s	s	N. ° ' "	" "
0	8 48 20.67	21.727	N. 15 43 44.1	59.97	0	10 31 46.03	21.398	N. 9 28 39.5	94.03
1	8 50 31.01	21.719	15 37 41.8	60.80	1	10 33 54.41	21.395	9 19 13.7	94.58
2	8 52 41.30	21.711	15 31 34.5	61.63	2	10 36 2.77	21.392	9 9 44.6	95.12
3	8 54 51.54	21.703	15 25 22.2	62.47	3	10 38 11.12	21.390	9 0 12.2	95.66
4	8 57 1.74	21.697	15 19 4.9	63.30	4	10 40 19.45	21.388	8 50 36.7	96.19
5	8 59 11.90	21.689	15 12 42.6	64.12	5	10 42 27.77	21.385	8 40 57.9	96.72
6	9 1 22.01	21.681	15 6 15.5	64.93	6	10 44 36.07	21.383	8 31 16.1	97.23
7	9 3 32.07	21.673	14 59 43.5	65.74	7	10 46 44.37	21.382	8 21 31.2	97.74
8	9 5 42.08	21.665	14 53 6.6	66.54	8	10 48 52.66	21.382	8 11 43.2	98.24
9	9 7 52.05	21.657	14 46 25.0	67.34	9	10 51 0.95	21.381	8 1 52.3	98.73
10	9 10 1.97	21.650	14 39 38.5	68.14	10	10 53 9.23	21.379	7 51 58.5	99.21
11	9 12 11.85	21.642	14 32 47.3	68.93	11	10 55 17.50	21.379	7 42 1.8	99.69
12	9 14 21.67	21.633	14 25 51.3	69.72	12	10 57 25.78	21.380	7 32 2.2	100.17
13	9 16 31.44	21.625	14 18 50.7	70.50	13	10 59 34.06	21.381	7 21 59.8	100.63
14	9 18 41.17	21.617	14 11 45.3	71.27	14	11 1 42.35	21.382	7 11 54.7	101.08
15	9 20 50.85	21.609	14 4 35.4	72.04	15	11 3 50.64	21.383	7 1 46.9	101.53
16	9 23 0.48	21.602	13 57 20.8	72.81	16	11 5 58.94	21.384	6 51 36.4	101.97
17	9 25 10.07	21.593	13 50 1.7	73.57	17	11 8 7.25	21.386	6 41 23.3	102.39
18	9 27 19.60	21.585	13 42 38.0	74.32	18	11 10 15.57	21.388	6 31 7.7	102.82
19	9 29 29.09	21.577	13 35 9.8	75.07	19	11 12 23.91	21.392	6 20 49.5	103.23
20	9 31 38.53	21.569	13 27 37.2	75.81	20	11 14 32.27	21.395	6 10 28.9	103.63
21	9 33 47.92	21.562	13 20 0.1	76.54	21	11 16 40.65	21.398	6 0 5.9	104.03
22	9 35 57.27	21.554	13 12 18.7	77.27	22	11 18 49.05	21.402	5 49 40.5	104.42
23	9 38 6.57	21.546	13 4 32.9	78.00	23	11 20 57.48	21.407	5 39 12.8	104.81
24	9 40 15.82	21.538	N. 12 56 42.7	78.72	24	11 23 5.93	21.411	N. 5 28 42.8	105.18

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .	Hour.	Right Ascension.	Var. in 10 ^m .	Declination.	Var. in 10 ^m .
SATURDAY 29.					MONDAY 31.				
	h m s	s	N. ° ' "	"		h m s	s	S. ° ' "	"
0	11 23 5.93	21.411	N. 5 28 42.8	105.18	0	13 7 16.02	22.175	S. 3 22 17.8	112.38
1	11 25 14.41	21.417	5 18 10.6	105.55	1	13 9 29.15	22.203	3 33 31.8	112.28
2	11 27 22.93	21.422	5 7 36.2	105.91	2	13 11 42.45	22.230	3 44 45.1	112.16
3	11 29 31.47	21.428	4 56 59.7	106.26	3	13 13 55.91	22.258	3 55 57.7	112.04
4	11 31 40.06	21.434	4 46 21.1	106.60	4	13 16 9.55	22.288	4 7 9.6	111.92
5	11 33 48.68	21.441	4 35 40.5	106.93	5	13 18 23.37	22.318	4 18 20.7	111.78
6	11 35 57.35	21.448	4 24 58.0	107.25	6	13 20 37.37	22.348	4 29 30.9	111.62
7	11 38 6.06	21.456	4 14 13.5	107.57	7	13 22 51.54	22.378	4 40 40.1	111.45
8	11 40 14.82	21.464	4 3 27.2	107.87	8	13 25 5.90	22.408	4 51 48.3	111.27
9	11 42 23.63	21.473	3 52 39.1	108.17	9	13 27 20.44	22.440	5 2 55.3	111.08
10	11 44 32.49	21.482	3 41 49.1	108.47	10	13 29 35.18	22.472	5 14 1.2	110.88
11	11 46 41.41	21.491	3 30 57.5	108.73	11	13 31 50.10	22.503	5 25 5.9	110.67
12	11 48 50.38	21.501	3 20 4.3	109.00	12	13 34 5.22	22.537	5 36 9.2	110.44
13	11 50 59.42	21.512	3 9 9.5	109.27	13	13 36 20.54	22.569	5 47 11.2	110.21
14	11 53 8.52	21.522	2 58 13.1	109.53	14	13 38 36.05	22.603	5 58 11.7	109.96
15	11 55 17.68	21.533	2 47 15.2	109.77	15	13 40 51.77	22.637	6 9 10.7	109.69
16	11 57 26.91	21.545	2 36 15.9	110.00	16	13 43 7.69	22.671	6 20 8.0	109.42
17	11 59 36.22	21.557	2 25 15.2	110.23	17	13 45 23.82	22.706	6 31 3.7	109.14
18	12 1 45.60	21.570	2 14 13.1	110.45	18	13 47 40.16	22.741	6 41 57.7	108.84
19	12 3 55.06	21.583	2 3 9.8	110.65	19	13 49 56.71	22.776	6 52 49.8	108.53
20	12 6 4.60	21.597	1 52 5.3	110.85	20	13 52 13.47	22.812	7 3 40.0	108.21
21	12 8 14.22	21.611	1 40 59.6	111.03	21	13 54 30.45	22.848	7 14 28.3	107.88
22	12 10 23.93	21.625	1 29 52.9	111.22	22	13 56 47.65	22.884	7 25 14.5	107.53
23	12 12 33.72	21.640	N. 1 18 45.0	111.39	23	13 59 5.06	22.921	S. 7 35 58.6	107.17
SUNDAY 30.					TUESDAY, JAN. 1, 1924.				
	h m s	s	N. ° ' "	"		h m s	s	S. ° ' "	"
0	12 14 43.61	21.656	N. 1 7 36.2	111.54	0	14 1 22.70	22.959	S. 7 46 40.5	106.80
1	12 16 53.59	21.672	0 56 26.5	111.70					
2	12 19 3.67	21.688	0 45 15.8	111.84					
3	12 21 13.85	21.705	0 34 4.4	111.97					
4	12 23 24.13	21.723	0 22 52.2	112.09					
5	12 25 34.52	21.741	0 11 39.3	112.21					
6	12 27 45.02	21.759	N. 0 0 25.7	112.31					
7	12 29 55.63	21.778	S. 0 10 48.4	112.39					
8	12 32 6.36	21.798	0 22 3.0	112.47					
9	12 34 17.20	21.818	0 33 18.1	112.55					
10	12 36 28.17	21.838	0 44 33.6	112.62					
11	12 38 39.25	21.858	0 55 49.5	112.67					
12	12 40 50.47	21.881	1 7 5.6	112.70					
13	12 43 1.82	21.902	1 18 21.9	112.74					
14	12 45 13.29	21.924	1 29 38.5	112.77					
15	12 47 24.91	21.947	1 40 55.1	112.77					
16	12 49 36.66	21.971	1 52 11.7	112.76					
17	12 51 48.56	21.994	2 3 28.2	112.75					
18	12 54 0.59	22.018	2 14 44.7	112.73					
19	12 56 12.78	22.044	2 26 1.0	112.70					
20	12 58 25.12	22.069	2 37 17.1	112.66					
21	13 0 37.61	22.094	2 48 32.9	112.60					
22	13 2 50.25	22.120	2 59 48.3	112.53					
23	13 5 3.05	22.147	3 11 3.3	112.46					
24	13 7 16.02	22.175	S. 3 22 17.8	112.38					

PHASES OF THE MOON.

		h	m
Dec. 7	● New Moon	-	13 30.4
14	☾ First Quarter	-	14 37.9
22	○ Full Moon	-	19 33.0
30	☾ Last Quarter	-	9 7.1
		h	
Dec. 6	☾ Perigee	-	15.0
18	☾ Apogee	-	23.2

MEAN TIME.

Date.	Apparent Right Ascension.			Sid. Time of Semid. pass Merid.	Apparent Declination.			Semidiameter.	Hor. Par.	Log. of True Dist. from the Earth.	Meridian Passage.	Heliocentric Longitude.			Heliocentric Latitude.			Log. of Rad. Vect.	
	Noon.				Noon.							Noon.			Noon.				
	h	m	s	s	°	'	"	"	"		h	m	°	'	"	°	'	"	
Jan.	1	19	47	48.12	0.19	S. 23	14	36.5	2.68	7.06	0.0956717	1 7.5	334	42	29.2	S. 6	41	23.3	9.5875088
	2	19	54	25.59	0.19	22	54	11.1	2.71	7.16	.0894416	1 10.2	338	48	10.3	6	31	31.7	.5810322
	3	20	0	56.89	0.20	22	32	20.8	2.75	7.27	.0828027	1 12.7	343	1	12.4	6	19	17.7	.5743937
	4	20	7	21.01	0.20	22	9	9.1	2.80	7.39	.0757340	1 15.2	347	21	57.2	6	4	32.8	.5676224
	5	20	13	36.77	0.20	21	44	40.5	2.86	7.52	.0682144	1 17.5	351	50	45.4	5	47	9.0	.5607528
	6	20	19	42.84	0.21	21	19	0.3	2.91	7.66	.0602227	1 19.7	356	27	56.1	5	26	59.1	.5538255
	7	20	25	37.74	0.21	S. 20	52	15.2	2.96	7.81	0.0517391	1 21.6	1	13	46.2	S. 5	3	57.2	9.5468879
	8	20	31	19.79	0.22	20	24	33.0	3.02	7.97	.0427452	1 23.4	6	8	29.3	4	37	59.3	.5399944
	9	20	36	47.10	0.22	19	56	3.4	3.09	8.15	.0332263	1 24.9	11	12	15.1	4	9	3.9	.5332068
	10	20	41	57.55	0.23	19	26	57.5	3.17	8.34	.0231714	1 26.1	16	25	8.6	3	37	12.7	.5265942
	11	20	46	48.82	0.23	18	57	28.6	3.25	8.55	.0125764	1 27.0	21	47	8.3	3	2	31.3	.5202322
	12	20	51	18.33	0.24	18	27	51.5	3.33	8.77	0.0014451	1 27.5	27	18	5.7	2	25	9.8	.5142023
	13	20	55	23.31	0.24	S. 17	58	23.5	3.42	9.01	9.9897921	1 27.6	32	57	43.9	S. 1	45	23.7	9.5085901
	14	20	59	0.79	0.25	17	29	23.8	3.52	9.27	.9776460	1 27.3	38	45	36.9	1	3	34.2	.5034837
	15	21	2	7.65	0.25	17	1	13.5	3.62	9.54	.9650518	1 26.4	44	41	8.2	S. 0	20	8.3	.4989700
	16	21	4	40.70	0.26	16	34	15.4	3.73	9.83	.9520747	1 25.0	50	43	31.1	N. 0	24	21.3	.4951319
	17	21	6	36.82	0.27	16	8	53.6	3.84	10.13	.9388027	1 22.9	56	51	48.0	1	9	17.1	.4920451
	18	21	7	53.06	0.27	15	45	32.8	3.96	10.45	.9253489	1 20.2	63	4	51.4	1	53	57.8	.4897735
	19	21	8	26.84	0.28	S. 15	24	37.5	4.09	10.78	9.9118542	1 16.8	69	21	24.8	N. 2	37	39.7	9.4883661
	20	21	8	16.16	0.29	15	6	30.6	4.22	11.12	.8984863	1 12.7	75	40	4.3	3	19	39.1	.4878544
	21	21	7	19.86	0.30	14	51	32.9	4.35	11.46	.8854387	1 7.8	81	59	21.2	3	59	14.0	.4882495
	22	21	5	37.84	0.31	14	40	0.9	4.47	11.79	.8729260	1 2.1	88	17	44.6	4	35	46.5	.4895426
	23	21	3	11.30	0.32	14	32	6.2	4.59	12.11	.8611768	0 55.7	94	33	44.4	5	8	44.3	.4917051
	24	21	0	2.94	0.33	14	27	53.8	4.71	12.41	8.504232	0 48.7	100	45	54.1	5	37	42.2	.4946899
	25	20	56	17.01	0.33	S. 14	27	21.8	4.82	12.69	9.8408884	0 41.0	106	52	53.7	N. 6	2	22.8	9.4984350
	26	20	51	59.30	0.34	14	30	20.7	4.91	12.93	.8327722	0 32.8	112	53	31.8	6	22	36.5	.5028661
	27	20	47	16.93	0.34	14	36	34.1	4.98	13.13	.8262371	0 24.2	118	46	47.6	6	38	21.6	.5079010
	28	20	42	18.03	0.34	14	45	39.8	5.04	13.28	.8213967	0 15.3	124	31	51.2	6	49	42.8	.5134528
	29	20	37	11.34	0.35	14	57	11.1	5.08	13.37	.8183069	{ 23 57.3 }	130	8	4.7	6	56	50.4	.5194337
	30	20	32	5.59	0.35	15	10	39.2	5.10	13.41	.8169644	23 48.5	135	35	1.1	6	59	59.1	.5257575
Feb.	31	20	27	9.10	0.35	S. 15	25	34.4	5.09	13.40	9.8173092	23 39.9	140	52	24.3	N. 6	59	26.6	9.5323421
	1	20	22	29.32	0.35	15	41	28.5	5.07	13.34	.8192323	23 31.7	146	0	7.5	6	55	32.3	.5391111
	2	20	18	12.50	0.35	15	57	55.5	5.03	13.24	.8225877	23 24.0	150	58	12.0	6	48	36.8	.5459945
	3	20	14	23.56	0.34	16	14	32.8	4.98	13.10	.8272055	23 16.8	155	46	46.0	6	39	0.3	.5529298
	4	20	11	6.00	0.34	16	31	0.9	4.91	12.93	.8329030	23 10.2	160	26	3.4	6	27	2.8	.5598612
	5	20	8	22.08	0.34	16	47	4.3	4.83	12.73	.8394978	23 4.1	164	56	22.1	6	13	3.0	.5667406
	6	20	6	12.85	0.33	S. 17	2	30.2	4.75	12.52	9.8468145	22 58.6	169	18	3.4	N. 5	57	18.3	9.5735267
	7	20	4	38.46	0.33	17	17	8.8	4.66	12.29	.8546914	22 53.6	173	31	30.7	5	40	4.8	.5801842
	8	20	3	38.29	0.32	17	30	52.0	4.57	12.06	.8629839	22 49.2	177	37	8.8	5	21	36.9	.5866832
	9	20	3	11.17	0.32	17	43	34.0	4.49	11.83	.8715657	22 45.3	181	35	23.4	5	2	7.7	.5929989
	10	20	3	15.56	0.31	17	55	10.2	4.40	11.59	.8803291	22 41.9	185	26	40.5	4	41	48.5	.5991114
	11	20	3	49.66	0.31	18	5	36.9	4.31	11.36	.8891842	22 39.0	189	11	25.8	4	20	49.5	.6050044
	12	20	4	51.58	0.30	S. 18	14	51.5	4.22	11.13	9.8980567	22 36.5	192	50	4.6	N. 3	59	19.6	9.6106643
	13	20	6	19.35	0.30	18	22	51.8	4.14	10.91	.9068865	22 34.4	196	23	1.8	3	37	26.4	.6160809
	14	20	8	11.03	0.29	18	29	36.3	4.06	10.69	.9156268	22 32.6	199	50	41.3	3	15	16.8	.6212462
	15	20	10	24.74	0.28	18	35	3.7	3.98	10.48	.9242396	22 31.2	203	13	26.1	2	52	56.4	.6261539
16	20	12	58.71	0.27	S. 18	39	13.1	3.90	10.28	9.9326967	22 30.2	206	31	38.3	N. 2	30	30.3	9.6307999	

MERCURY, 1923.

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MEAN TIME.

Date.	Apparent Ascension.			Sid. Time of Semi-d. pass* Merid.	Apparent Declination.			Semidiameter.	Hor. Par.	Log. of True Dist. from the Earth.			Meridian Passage.	Heliocentric Longitude.			Heliocentric Latitude.			Log. of Rad. Vect.	
	Noon.				Noon.					Noon.				Noon.			Noon.				
	h	m	s	s	°	'	"	"	"	°	'	"	h	m	°	'	"	°	'	"	
Feb. 16	20	12	58.71	0.27	S. 18	39	13.1	3.90	10.28	9.9326967	22	30.2	206	31	38.3	N. 2	30	30.3	9.6307999		
17	20	15	51.25	0.27	18	42	3.6	3.83	10.08	.9409767	22	29.4	209	45	39.2	2	8	2.9	.6351800		
18	20	19	0.80	0.26	18	43	34.8	3.76	9.89	.9490642	22	28.8	212	55	49.1	1	45	37.8	.6392946		
19	20	22	25.91	0.26	18	43	46.2	3.69	9.72	.9569491	22	28.5	216	2	27.2	1	23	18.3	.6431404		
20	20	26	5.25	0.25	18	42	37.4	3.63	9.55	.9646245	22	28.4	219	5	52.1	1	1	7.1	.6467172		
21	20	29	57.58	0.25	18	40	8.3	3.56	9.39	.9720865	22	28.5	222	6	21.4	0	39	6.7	.6500254		
22	20	34	1.82	0.25	S. 18	36	18.7	3.50	9.23	9.9793342	22	28.8	225	4	12.0	N. 0	17	19.1	9.6530652		
23	20	38	16.89	0.24	18	31	8.7	3.45	9.08	.9863684	22	29.3	227	59	40.1	S. 0	4	13.9	.6558373		
24	20	42	41.93	0.24	18	24	38.3	3.40	8.94	.9931910	22	29.9	230	53	1.2	0	25	30.6	.6583425		
25	20	47	16.07	0.23	18	16	47.4	3.34	8.80	9.9998050	22	30.7	233	44	30.2	0	46	29.7	.6605819		
26	20	51	58.55	0.23	18	7	36.1	3.29	8.67	0.0062148	22	31.6	236	34	21.5	1	7	9.7	.6625563		
27	20	56	48.69	0.23	17	57	4.7	3.24	8.55	.0124249	22	32.6	239	22	49.0	1	27	29.6	.6642668		
28	21	1	45.87	0.22	S. 17	45	13.2	3.20	8.43	0.0184401	22	33.7	242	10	6.3	S. 1	47	28.2	9.6657145		
Mar. 1	21	6	49.51	0.22	17	32	1.9	3.15	8.32	.0242656	22	34.9	244	56	26.5	2	7	4.4	.6668999		
2	21	11	59.12	0.22	17	17	31.0	3.11	8.21	.0299067	22	36.2	247	42	2.6	2	26	17.2	.6678240		
3	21	17	14.25	0.22	17	1	40.9	3.07	8.11	.0353683	22	37.6	250	27	7.0	2	45	5.6	.6684872		
4	21	22	34.48	0.21	16	44	31.4	3.04	8.01	.0406557	22	39.1	253	11	52.2	3	3	28.5	.6688902		
5	21	27	59.44	0.21	16	26	3.3	3.00	7.92	.0457737	22	40.6	255	56	30.6	3	21	24.8	.6690330		
6	21	33	28.83	0.21	S. 16	6	16.7	2.97	7.83	0.0507269	22	42.2	258	41	14.4	S. 3	38	53.3	9.6689159		
7	21	39	2.32	0.21	15	45	11.8	2.94	7.75	.0555197	22	43.9	261	26	15.8	3	55	52.9	.6685389		
8	21	44	39.70	0.20	15	22	49.4	2.91	7.67	.0601562	22	45.6	264	11	47.0	4	12	22.3	.6679013		
9	21	50	20.69	0.20	14	59	9.4	2.88	7.59	.0646403	22	47.4	266	58	0.2	4	28	20.0	.6670031		
10	21	56	5.14	0.20	14	34	12.3	2.85	7.51	.0689755	22	49.3	269	45	8.0	4	43	44.5	.6658436		
11	22	1	52.86	0.20	14	7	58.6	2.82	7.44	.0731648	22	51.2	272	33	22.9	4	58	34.0	.6644220		
12	22	7	43.70	0.19	S. 13	40	28.6	2.80	7.37	0.0772109	22	53.2	275	22	57.8	S. 5	12	46.7	9.6627373		
13	22	13	37.55	0.19	13	11	42.7	2.77	7.30	.0811165	22	55.2	278	14	5.7	5	26	20.6	.6607891		
14	22	19	34.31	0.19	12	41	41.3	2.75	7.24	.0848834	22	57.2	281	7	0.0	5	39	13.4	.6585761		
15	22	25	33.91	0.19	12	10	25.0	2.73	7.18	.0885127	22	59.3	284	1	54.6	5	51	22.5	.6560972		
16	22	31	36.31	0.18	11	37	54.0	2.71	7.12	.0920061	23	1.4	286	59	3.7	6	2	45.2	.6533514		
17	22	37	41.45	0.18	11	4	9.1	2.68	7.06	.0953638	23	3.6	289	58	42.0	6	13	18.5	.6503383		
18	22	43	49.35	0.18	S. 10	29	10.4	2.66	7.01	0.0985849	23	5.9	293	1	4.6	S. 6	22	59.0	9.6470566		
19	22	50	0.01	0.18	9	52	58.7	2.64	6.96	.1016696	23	8.2	296	6	27.4	6	31	43.0	.6435063		
20	22	56	13.45	0.18	9	15	34.6	2.62	6.91	.1046165	23	10.5	299	15	6.8	6	39	26.4	.6396869		
21	23	2	29.71	0.18	8	36	58.5	2.60	6.87	.1074237	23	12.9	302	27	19.8	6	46	4.8	.6355995		
22	23	8	48.86	0.17	7	57	11.1	2.59	6.83	.1100880	23	15.3	305	43	24.1	6	51	33.3	.6312447		
23	23	15	10.98	0.17	7	16	13.2	2.57	6.79	.1126065	23	17.8	309	3	38.2	6	55	46.6	.6266246		
24	23	21	36.15	0.17	S. 6	34	5.5	2.56	6.75	0.1149742	23	20.3	312	28	21.2	S. 6	58	38.9	9.6217423		
25	23	28	4.48	0.17	5	50	49.0	2.55	6.72	.1171864	23	22.9	315	57	52.9	7	0	3.9	.6166021		
26	23	34	36.07	0.17	5	6	24.7	2.54	6.69	.1192366	23	25.5	319	32	33.9	6	59	54.8	.6112098		
27	23	41	11.07	0.17	4	20	53.7	2.52	6.66	.1211177	23	28.2	323	12	45.4	6	58	4.5	.6055734		
28	23	47	49.61	0.17	3	34	17.3	2.51	6.63	.1228210	23	31.0	326	58	49.0	6	54	25.3	.5997026		
29	23	54	31.81	0.17	2	46	37.0	2.50	6.61	.1243375	23	33.8	330	51	6.9	6	48	49.0	.5936106		
30	0	1	17.85	0.17	S. 1	57	55.0	2.50	6.59	0.1256559	23	36.7	334	50	1.8	S. 6	41	7.3	9.5873136		
31	0	8	7.84	0.17	1	8	13.0	2.49	6.57	.1267642	23	39.7	338	55	56.0	6	31	11.6	.5808313		
Apr. 1	0	15	1.95	0.17	S. 0	17	33.4	2.49	6.56	.1276486	23	42.7	343	9	11.8	6	18	53.1	.5741879		
2	0	22	0.28	0.17	N. 0	34	0.8	2.48	6.55	.1282942	23	45.8	347	30	11.1	6	4	3.5	.5674127		
3	0	29	2.98	0.17	N. 1	26	26.4	2.48	6.54	0.1286844	23	49.0	351	59	14.5	S. 5	46	34.7	9.5605402		

MEAN TIME.

Date.	Apparent Right Ascension.			Sid. Time of Semid. pass ⁸ Merid.	Apparent Declination.			Semidiameter.	Hor. Par.	Log. of True Dist. from the Earth.		Meridian Passage.	Heliocentric Longitude.		Heliocentric Latitude.		Log. of Rad. Vect.
	Noon.				Noon.					Noon.			Noon.		Noon.		
	h	m	s	s	°	'	"	"	"			h	m	°	'	"	
Apr.	3	0 29	2.98	0.17	N. 1	26	26.4	2.48	6.54	0.1286844	23 49.0	351 59 14.5	S. 5 46 34.7	9.5605402			
	4	0 36	10.11	0.17		2	19 39.6	2.48	6.54	.1288008	23 52.3	356 36 41.0	5 26 19.6	.5536113			
	5	0 43	21.75	0.17		3	13 35.8	2.48	6.54	.1286245	23 55.6	1 22 47.3	5 3 12.3	.5466737			
	6	0 50	37.91	0.17		4	8 9.8	2.49	6.55	.1281340	23 59.0	6 17 47.0	4 37 9.0	.5397818			
	7	0 57	58.55	0.17		5	3 15.9	2.49	6.56	.1273078	* *	11 21 49.8	4 8 8.2	.5329980			
	8	1 5	23.59	0.17		5	58 47.1	2.50	6.58	.1261231	0 2.5	16 35 0.3	3 36 11.7	.5263914			
	9	1 12	52.86	0.17	N. 6	54 35.9	2.50	6.61	0.1245562	0 6.1	21 57 16.9	S. 3 1 25.1	9.5200378				
	10	1 20	26.08	0.17		7	50 33.6	2.51	6.64	.1225837	0 9.7	27 28 30.9	2 23 58.9	.5140186			
	11	1 28	2.92	0.17		8	46 30.7	2.53	6.67	.1201823	0 13.4	33 8 25.2	1 44 8.6	.5084200			
	12	1 35	42.90	0.17		9	42 16.8	2.55	6.72	.1173303	0 17.1	38 56 33.3	1 2 15.7	.5033297			
	13	1 43	25.46	0.17		10	37 40.6	2.57	6.77	.1140072	0 20.9	44 52 18.6	S. 0 18 47.3	.4988349			
	14	1 51	9.91	0.18		11	32 30.3	2.59	6.83	.1101954	0 24.7	50 54 53.8	N. 0 25 43.8	.4950186			
	15	1 58	55.40	0.18	N. 12	26 33.0	2.62	6.90	0.1058803	0 28.5	57 3 21.2	N. 1 10 39.8	9.4919556				
	16	2 6	41.05	0.18		13	19 36.0	2.65	6.98	.1010514	0 32.3	63 16 33.0	1 55 19.4	.4897095			
	17	2 14	25.80	0.18		14	11 26.6	2.68	7.06	.0957027	0 36.1	69 33 12.2	2 38 58.9	.4883291			
	18	2 22	8.56	0.19		15	1 52.0	2.72	7.16	.0898338	0 39.9	75 51 55.0	3 20 54.5	.4878448			
	19	2 29	48.14	0.19		15	50 40.2	2.76	7.26	.0834485	0 43.7	82 11 12.4	4 0 24.5	.4882676			
	20	2 37	23.33	0.19		16	37 39.8	2.80	7.38	.0765567	0 47.3	88 29 33.5	4 36 50.9	.4895883			
	21	2 44	52.88	0.20	N. 17	22 40.8	2.85	7.50	0.0691727	0 50.9	94 45 28.2	N. 5 9 41.7	9.4917770				
	22	2 52	15.55	0.20		18	5 34.0	2.90	7.64	.0613159	0 54.3	100 57 30.2	5 38 31.9	.4947866			
23	2 59	30.15	0.21		18	46 12.2	2.96	7.79	.0530090	0 57.6	107 4 19.8	6 3 4.4	.4985542				
24	3 6	35.50	0.21		19	24 29.1	3.01	7.95	.0442784	1 0.7	113 4 45.8	6 23 9.9	.5030055				
25	3 13	30.49	0.22		20	0 20.2	3.07	8.11	.0351532	1 3.7	118 57 47.7	6 38 46.7	.5080581				
26	3 20	14.06	0.22		20	33 42.3	3.14	8.29	.0256635	1 6.5	124 42 36.1	6 49 59.8	.5136249				
27	3 26	45.25	0.23	N. 21	4 33.4	3.22	8.48	0.0158413	1 9.1	130 18 33.2	N. 6 56 59.8	9.5196183					
28	3 33	3.12	0.23		21	32 52.8	3.30	8.69	0.0057189	1 11.4	135 45 12.6	7 0 1.3	.5259519				
29	3 39	6.83	0.24		21	58 40.6	3.38	8.90	.99953290	1 13.5	141 2 18.3	6 59 22.2	.5325440				
30	3 44	55.58	0.25		22	21 57.9	3.46	9.12	.9847039	1 15.4	146 9 43.8	6 55 22.0	.5393180				
May	1	3 50	28.66	0.26		22	42 46.4	3.55	9.35	.9738763	1 17.0	151 7 30.8	6 48 21.2	.5462044			
	2	3 55	45.36	0.26		23	1 8.3	3.64	9.59	.9628778	1 18.3	155 55 47.6	6 38 40.0	.5531407			
	3	4 0	45.05	0.27	N. 23	17 6.1	3.73	9.83	9.9517406	1 19.3	160 34 48.2	N. 6 26 38.4	9.5600718				
	4	4 5	27.11	0.28		23	30 42.8	3.83	10.09	.9404961	1 20.1	165 4 50.7	6 12 35.0	.5669494			
	5	4 9	50.99	0.29		23	42 1.4	3.93	10.36	.9291765	1 20.5	169 26 16.5	5 56 47.3	.5737325			
	6	4 13	56.15	0.29		23	51 4.9	4.04	10.64	.9178138	1 20.6	173 39 28.9	5 39 3.2	.5803860			
	7	4 17	42.09	0.30		23	57 56.5	4.15	10.92	.9064412	1 20.4	177 44 53.0	5 21 1.2	.5868800			
	8	4 21	8.34	0.31		24	2 39.3	4.25	11.21	.8950926	1 19.9	181 42 54.3	5 1 30.2	.5931902			
	9	4 24	14.48	0.32	N. 24	5 16.3	4.36	11.50	.8838031	1 19.1	185 33 58.9	N. 4 41 9.6	9.5992966				
	10	4 27	0.15	0.32		24	5 50.5	4.47	11.80	.8726099	1 17.9	189 18 32.4	4 20 9.5	.6051825			
	11	4 29	25.03	0.33		24	4 24.9	4.59	12.10	.8615515	1 16.3	192 57 0.3	3 58 38.7	.6108354			
	12	4 31	28.89	0.34		24	1 2.6	4.71	12.41	.8506689	1 14.4	196 29 47.3	3 36 45.0	.6162446			
	13	4 33	11.57	0.35		23	55 46.4	4.83	12.72	.8400049	1 12.2	199 57 17.2	3 14 34.9	.6214021			
	14	4 34	33.03	0.36		23	48 39.4	4.94	13.03	.8296051	1 9.6	203 19 53.2	2 52 14.3	.6263020			
	15	4 35	33.33	0.37	N. 23	39 44.9	5.06	13.33	.8195173	1 6.6	206 37 57.2	N. 2 29 48.1	9.6309401				
	16	4 36	12.67	0.37		23	29 6.6	5.18	13.63	.8097917	1 3.3	209 51 50.6	2 7 20.7	.6353130			
	17	4 36	31.43	0.38		23	16 48.4	5.29	13.93	.8004799	0 59.7	213 1 53.6	1 44 55.7	.6394188			
	18	4 36	30.14	0.39		23	2 54.8	5.40	14.21	.7916356	0 55.7	216 8 25.4	1 22 36.4	.6432561			
	19	4 36	9.52	0.40	N. 22	47 31.0	5.50	14.49	.7833135	0 51.5	219 11 44.5	N. 1 0 25.6	9.6468250				

MERCURY, 1923.

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MEAN TIME.

Date.	Apparent Right Ascension.			Sid. Time of Semid. pass ^W Merid.	Apparent Declination.			Semidiameter.	Hor. Par.	Log. of True Dist. from the Earth.	Meridian Passage.	Heliocentric Longitude.	Heliocentric Latitude.	Log. of Rad. Vect.	
	Noon.				Noon.										
	h	m	s	s	°	'	"	"	"		h	m	°	'	"
May	19	4 36	9.52	0.40	N.22 47	31.0	5.50	14.49	9.7833135	0 51.5	219 11 44.5	N. 1 0 25.6	9.6468250		
	20	4 35	30.50	0.40	22 30 43.0	5.60	14.75	.7755687	0 46.9	222 12 8.5	0 38 25.5	.6501247			
	21	4 34	34.23	0.41	22 12 37.8	5.69	15.00	.7684549	0 42.0	225 9 54.4	N. 0 16 38.3	.6531562			
	22	4 33	22.07	0.41	21 53 23.4	5.77	15.22	.7620249	0 36.9	228 5 18.2	S. 0 4 54.2	.6559200			
	23	4 31	55.59	0.42	21 33 8.8	5.85	15.42	.7563280	0 31.5	230 58 35.5	0 26 10.4	.6584171			
	24	4 30	16.57	0.42	21 12 4.6	5.93	15.60	.7514104	0 25.9	233 50 1.2	0 47 8.8	.6606481			
June	25	4 28	26.95	0.43	N.20 50	22.0	5.98	15.75	9.7473115	0 20.2	236 39 49.6	S. 1 7 48.3	9.6626145		
	26	4 26	28.87	0.43	20 28 13.7	6.02	15.87	.7440651	0 14.3	239 28 14.7	1 28 7.5	.6643170			
	27	4 24	24.55	0.43	20 5 53.2	6.05	15.95	.7416970	0 8.3	242 15 29.9	1 48 5.4	.6657565			
	28	4 22	16.31	0.43	19 43 34.5	6.07	16.01	.7402241	{ _{23 56 3} }	245 1 48.5	2 7 40.9	.6669340			
	29	4 20	6.50	0.43	19 21 32.3	6.08	16.03	.7396545	23 50.1	247 47 23.3	2 26 52.9	.6678500			
	30	4 17	57.47	0.43	19 0 1.3	6.08	16.02	.7399869	23 44.1	250 32 26.8	2 45 40.5	.6685053			
	31	4 15	51.50	0.43	N.18 39	16.0	6.06	15.97	9.7412100	23 38.1	253 17 11.6	S. 3 4 2.6	9.6689001		
	1	4 13	50.77	0.42	18 19 30.3	6.03	15.89	.7433039	23 32.3	256 1 49.9	3 21 58.0	.6690349			
	2	4 11	57.33	0.42	18 0 57.3	5.99	15.78	.7462407	23 26.7	258 46 34.0	3 39 25.7	.6689097			
	3	4 10	13.07	0.41	17 43 48.8	5.94	15.65	.7499845	23 21.2	261 31 36.0	3 56 24.4	.6685245			
	4	4 8	39.66	0.41	17 28 15.2	5.88	15.49	.7544942	23 15.9	264 17 8.2	4 12 52.7	.6678789			
	5	4 7	18.61	0.40	17 14 25.5	5.81	15.31	.7597238	23 10.9	267 3 22.9	4 28 49.4	.6669726			
	6	4 6	11.18	0.40	N.17 2 26.9	5.73	15.10	9.7656234	23 6.1	269 50 32.5	S. 4 44 12.8	9.6658049			
	7	4 5	18.47	0.39	16 52 24.9	5.64	14.87	.7721414	23 1.5	272 38 49.6	4 59 1.2	.6643753			
	8	4 4	41.35	0.39	16 44 23.6	5.55	14.63	.7792252	22 57.2	275 28 27.1	5 13 12.8	.6626826			
	9	4 4	20.54	0.38	16 38 25.1	5.45	14.38	.7868219	22 53.2	278 19 37.9	5 26 45.4	.6607261			
	10	4 4	16.58	0.37	16 34 30.4	5.35	14.11	.7948797	22 49.5	281 12 35.7	5 39 36.8	.6585048			
	11	4 4	29.85	0.37	16 32 38.8	5.25	13.84	.8033481	22 46.0	284 7 34.1	5 51 44.5	.6560177			
July	12	4 5	0.63	0.36	N.16 32	48.8	5.14	13.56	9.8121792	22 42.9	287 4 47.5	S. 6 3 5.7	9.6532637		
	13	4 5	49.10	0.35	16 34 57.2	5.04	13.28	.8213272	22 40.0	290 4 30.5	6 13 37.4	.6502421			
	14	4 6	55.32	0.34	16 39 0.6	4.93	12.99	.8307493	22 37.5	293 6 58.4	6 23 16.2	.6469523			
	15	4 8	19.33	0.34	16 44 54.7	4.83	12.70	.8404049	22 35.2	296 12 27.0	6 31 58.4	.6433936			
	16	4 10	1.07	0.33	16 52 34.0	4.72	12.42	.8502573	22 33.3	299 21 12.6	6 39 39.8	.6395661			
	17	4 12	0.48	0.32	17 1 53.1	4.61	12.14	.8602715	22 31.6	302 33 32.4	6 46 16.1	.6354701			
	18	4 14	17.46	0.31	N.17 12	45.8	4.50	11.86	9.8704156	22 30.2	305 49 44.1	S. 6 51 42.4	9.6311070		
	19	4 16	51.92	0.31	17 25 5.6	4.39	11.58	.8806600	22 29.1	309 10 6.2	6 55 53.2	.6264788			
	20	4 19	43.75	0.30	17 38 45.8	4.29	11.31	.8909775	22 28.3	312 34 57.7	6 58 42.9	.6215884			
	21	4 22	52.86	0.30	17 53 39.3	4.19	11.04	.9013422	22 27.8	316 4 38.6	7 0 5.1	.6164400			
	22	4 26	19.15	0.29	18 9 38.8	4.09	10.78	.9117302	22 27.5	319 39 29.3	6 59 53.0	.6110400			
	23	4 30	2.55	0.29	18 26 36.7	3.99	10.53	.9221192	22 27.6	323 19 51.2	6 57 59.4	.6053959			
	24	4 34	3.02	0.28	N.18 44	25.3	3.90	10.28	9.9324872	22 27.9	327 6 6.0	S. 6 54 16.6	9.5995181		
	25	4 38	20.52	0.27	19 2 56.5	3.81	10.04	.9428136	22 28.5	330 58 35.8	6 48 36.6	.5934195			
	26	4 42	55.04	0.26	19 22 2.2	3.72	9.80	.9530779	22 29.4	334 57 43.2	6 40 50.9	.5871164			
	27	4 47	46.57	0.26	19 41 33.7	3.63	9.58	.9632600	22 30.6	339 3 50.6	6 30 50.9	.5806286			
	28	4 52	55.12	0.25	20 1 22.3	3.55	9.36	.9733395	22 32.1	343 17 20.5	6 18 27.9	.5739804			
	29	4 58	20.69	0.25	20 21 18.5	3.47	9.15	.9832959	22 33.8	347 38 34.4	6 3 33.4	.5672015			
30	5 4	3.28	0.24	N.20 41	13.0	3.40	8.94	9.9931079	22 35.9	352 7 53.0	S. 5 45 59.6	9.5603264			
1	5 10	2.88	0.24	21 0 55.8	3.32	8.74	.00027538	22 38.2	356 45 35.3	5 25 39.2	.5533964				
2	5 16	19.45	0.23	21 20 16.4	3.25	8.55	.0122114	22 40.8	1 31 57.9	5 2 26.6	.5464590				
3	5 22	52.87	0.23	21 39 4.0	3.18	8.37	.0214563	22 43.7	6 27 14.3	4 36 17.8	.5395693				
4	5 29	43.00	0.22	N.21 57	7.4	3.11	8.20	.0304645	22 46.8	11 31 34.0	S. 4 7 11.5	9.5327896			

MERCURY, 1923.

MEAN TIME.

Date.	Apparent Right Ascension.			Sid. Time of Semid. pass. Merid.	Apparent Declination.			Semidiameter.	Hor. Par.	Log. of True Dist. from the Earth.			Meridian Passage.	Heliocentric Longitude.			Heliocentric Latitude.			Log. of Rad. Vect.	
	Noon.				Noon.					Noon.				Noon.			Noon.				
July	4	h	m	s	s	°	'	"	"	"	°	'	"	h	m	°	'	"	°	'	"
	4	5	29	43.00	0.22	N.21	57	7.4	3.11	8.20	0.0304645	22	46.8	11	31	34.0	S. 4	7	11.5	9.5327896	
	5	5	36	49.59	0.22	22	14	15.1	3.05	8.04	.0392104	22	50.3	16	45	1.5	3	35	9.6	.5261893	
	6	5	44	12.31	0.22	22	30	15.2	2.99	7.88	.0476677	22	54.0	22	7	35.0	3	0	17.9	.5198444	
	7	5	51	50.69	0.21	22	44	55.5	2.93	7.74	.0558096	22	57.9	27	39	5.5	2	22	46.9	.5138367	
	8	5	59	44.13	0.21	22	58	4.1	2.88	7.60	.0636089	23	2.1	33	19	15.7	1	42	52.5	.5082524	
	9	6	7	51.85	0.21	23	9	29.0	2.83	7.47	.0710387	23	6.5	39	7	38.7	1	0	56.2	.5031790	
	10	6	16	12.93	0.20	N.23	18	58.4	2.79	7.35	.0780728	23	11.1	45	3	37.6	S. 0	17	25.3	9.4987037	
	11	6	24	46.26	0.20	23	26	21.5	2.75	7.24	.0846865	23	15.9	51	6	24.9	N. 0	27	7.2	.4949093	
	12	6	33	30.55	0.20	23	31	28.1	2.72	7.14	.0908575	23	20.9	57	15	2.5	1	12	3.5	.4918705	
	13	6	42	24.35	0.20	23	34	9.4	2.68	7.05	.0965663	23	26.0	63	28	22.1	1	56	41.9	.4896505	
	14	6	51	26.07	0.19	23	34	18.0	2.64	6.96	.1017966	23	31.2	69	45	6.8	2	40	18.8	.4882973	
	15	7	0	34.01	0.19	23	31	48.0	2.61	6.89	.1065369	23	36.5	76	3	52.3	3	22	10.6	.4878411	
	16	7	9	46.40	0.19	N.23	26	35.6	2.59	6.82	.11107803	23	41.8	82	23	9.6	N. 4	1	35.4	9.4882921	
	17	7	19	1.42	0.19	23	18	39.0	2.56	6.76	.1145245	23	47.2	88	41	27.8	4	37	55.6	.4896398	
	18	7	28	17.31	0.18	23	7	58.0	2.54	6.71	.1177723	23	52.5	94	57	16.9	5	10	39.3	.4918548	
	19	7	37	32.34	0.18	22	54	34.7	2.52	6.67	.1205310	23	57.8	101	9	10.7	5	39	21.7	.4948890	
	20	7	46	44.88	0.18	22	38	32.8	2.51	6.63	.1228123	*	*	107	15	49.7	6	3	46.0	.4986792	
	21	7	55	53.46	0.18	22	19	57.4	2.50	6.60	.1246313	0	3.0	113	16	3.1	6	23	43.1	.5031507	
	22	8	4	56.74	0.18	N.21	58	55.1	2.49	6.58	.1260065	0	8.1	119	8	50.6	N. 6	39	11.6	9.5082206	
	23	8	13	53.58	0.18	21	35	33.3	2.49	6.57	.1269581	0	13.1	124	53	23.2	6	50	16.7	.5138021	
	24	8	22	42.99	0.18	21	10	0.4	2.49	6.56	.1275081	0	18.0	130	29	3.5	6	57	9.0	.5198076	
	25	8	31	24.17	0.18	20	42	25.0	2.49	6.56	.1276792	0	22.8	135	55	25.5	7	0	3.4	.5261506	
	26	8	39	56.49	0.18	20	12	56.2	2.49	6.56	.1274944	0	27.4	141	12	13.4	6	59	17.7	.5327496	
	27	8	48	19.48	0.18	19	41	43.1	2.49	6.57	.1269762	0	31.8	146	19	21.1	6	55	11.5	.5395283	
	28	8	56	32.78	0.18	N.19	8	54.5	2.49	6.58	.1261467	0	36.1	151	16	50.3	N. 6	48	5.3	9.5464174	
	29	9	4	36.21	0.18	18	34	39.2	2.50	6.60	.1250267	0	40.3	156	4	49.7	6	38	19.5	.5533547	
	30	9	12	29.62	0.18	17	59	5.8	2.51	6.62	.1236361	0	44.2	160	43	33.4	6	26	13.7	.5602851	
	31	9	20	13.00	0.18	17	22	22.2	2.52	6.64	.1219931	0	48.0	165	13	19.6	6	12	6.8	.5671605	
Aug.	1	9	27	46.41	0.18	16	44	36.1	2.53	6.67	.1201145	0	51.6	169	34	29.7	5	56	16.1	.5739402	
	2	9	35	9.95	0.18	16	5	54.7	2.54	6.70	.1180158	0	55.1	173	47	27.3	5	38	57.5	.5805892	
	3	9	42	23.76	0.18	N.15	26	24.8	2.56	6.74	.1157108	0	58.4	177	52	37.2	N. 5	20	25.4	9.5870781	
	4	9	49	28.04	0.18	14	46	12.8	2.57	6.78	.1132122	1	1.5	181	50	25.2	5	0	52.7	.5933823	
	5	9	56	22.99	0.18	14	5	24.6	2.59	6.82	.1105308	1	4.5	185	41	17.3	4	40	30.7	.5994822	
	6	10	3	8.84	0.18	13	24	5.7	2.60	6.86	.1076768	1	7.3	189	25	39.1	4	19	29.5	.6053612	
	7	10	9	45.84	0.18	12	42	21.3	2.62	6.91	.1046585	1	9.9	193	13	35.0	3	57	57.9	.6110067	
	8	10	16	14.21	0.18	12	0	16.2	2.64	6.96	.1014833	1	12.5	196	36	32.7	3	36	3.5	.6164083	
	9	10	22	34.20	0.18	N.11	17	55.1	2.67	7.02	.0981575	1	14.9	200	3	53.1	N. 3	13	53.0	9.6215582	
	10	10	28	46.04	0.18	10	35	22.1	2.69	7.07	.0946865	1	17.1	203	26	20.3	2	51	32.1	.6264502	
	11	10	34	49.95	0.18	9	52	41.1	2.71	7.13	.0910745	1	19.2	206	44	16.2	2	29	5.8	.6310800	
	12	10	40	46.15	0.18	9	9	56.0	2.74	7.19	.0873249	1	21.2	209	58	2.1	2	6	38.4	.6354446	
	13	10	46	34.83	0.19	8	27	10.4	2.76	7.26	.0834406	1	23.1	213	7	58.2	1	44	13.6	.6395422	
	14	10	52	16.19	0.19	7	44	27.5	2.78	7.33	.0794235	1	24.8	216	14	23.7	1	21	54.5	.6433713	
	15	10	57	50.37	0.19	N. 7	1	50.7	2.81	7.40	.0752749	1	26.5	219	17	37.0	N. 0	59	44.0	9.6469318	
	16	11	3	17.54	0.19	6	19	23.1	2.84	7.47	.0709958	1	28.0	222	17	55.9	0	37	44.3	.6502233	
	17	11	8	37.82	0.19	5	37	7.6	2.87	7.55	.0665860	1	29.3	225	15	37.0	N. 0	15	57.5	.6532465	
	18	11	13	51.30	0.19	4	55	7.2	2.89	7.63	.0620453	1	30.6	228	10	56.7	S. 0	5	34.5	.6560021	
	19	11	18	58.09	0.20	N. 4	13	24.8	2.92	7.71	.0573729	1	31.8	231	4	10.2	S. 0	26	50.2	9.6584909	

MERCURY, 1923.

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MEAN TIME.

Date.	Apparent Right Ascension.			Sid. Time of Semid. pass* Merid.	Apparent Declination.			Semidiameter.	Hor. Par.	Log. of True Dist. from the Earth.	Meridian Passage.	Heliocentric Longitude.	Heliocentric Latitude.	Log. of Rad. Vect.	
	Noon.				Noon.					Noon.		Noon.	Noon.	Noon.	
	h	m	s	s	°	'	"	"	"		h	m	°	'	"
Aug. 19	11	18	58.09	0.20	N. 4	13	24.8	2.92	7.71	0.0573729	1 31.8	231 4 10.2	S. 0 26 50.2	9.6584909	
20	11	23	58.23	0.20		3 32	3.1	2.95	7.79	.0525679	1 32.9	233 55 32.6	0 47 48.1	.6607138	
21	11	28	51.77	0.20		2 51	5.1	2.99	7.88	.0476286	1 33.8	236 45 18.2	1 8 26.9	.6626719	
22	11	33	38.70	0.20		2 10	33.4	3.02	7.97	.0425530	1 34.6	239 33 40.9	1 28 45.4	.6643662	
23	11	38	19.02	0.20		1 30	31.0	3.06	8.07	.0373386	1 35.3	242 20 54.2	1 48 42.6	.6657975	
24	11	42	52.68	0.21		0 51	0.7	3.10	8.17	.0319833	1 36.0	245 7 11.2	2 8 17.4	.6669668	
25	11	47	19.60	0.21	N. 0	12	5.5	3.14	8.28	0.0264842	1 36.5	247 52 44.7	S. 2 27 28.7	9.6678746	
26	11	51	39.66	0.21	S. 0	26	11.6	3.18	8.39	.0208385	1 36.8	250 37 47.5	2 46 15.5	.6685217	
27	11	55	52.73	0.22		1	347.4	3.23	8.50	.0150431	1 37.1	253 22 31.8	3 4 36.7	.6689084	
28	11	59	58.60	0.22		1 40	38.5	3.27	8.62	.0090950	1 37.3	256 7 10.0	3 23 31.3	.6690351	
29	12	3	57.06	0.22		2 16	41.4	3.32	8.74	0.0029912	1 37.3	258 51 54.5	3 39 58.1	.6689020	
30	12	7	47.84	0.22		2 51	52.5	3.37	8.87	9.9967289	1 37.2	261 36 57.2	3 56 55.8	.6685086	
31	12	11	30.60	0.23	S. 3	26	7.6	3.42	9.00	9.9903056	1 36.9	264 22 30.5	S. 4 13 23.2	9.6678549	
Sept. 1	12	15	4.99	0.23		3 59	22.6	3.47	9.14	.9837189	1 36.5	267 8 46.7	4 29 18.9	.6669405	
2	12	18	30.58	0.23		4 31	32.8	3.52	9.28	.9769672	1 36.0	269 55 58.2	4 44 41.2	.6657646	
3	12	21	46.88	0.24		5	233.2	3.57	9.43	.9700497	1 35.3	272 44 17.6	4 59 28.5	.6643267	
4	12	24	53.35	0.24		5 32	18.3	3.63	9.58	.9629665	1 34.5	275 33 57.7	5 13 38.8	.6626259	
5	12	27	49.38	0.25		6	042.3	3.69	9.74	.9557191	1 33.5	278 25 11.7	5 27 10.2	.6606612	
6	12	30	34.29	0.25	S. 6	27	38.5	3.76	9.91	9.9483105	1 32.3	281 18 13.0	S. 5 40 0.3	9.6584316	
7	12	33	7.32	0.26		6 53	0.1	3.83	10.09	.9407457	1 30.9	284 13 15.5	5 52 6.6	.6559360	
8	12	35	27.66	0.26		7 16	39.2	3.90	10.27	.9330323	1 29.2	287 10 33.3	6 3 26.3	.6531737	
9	12	37	34.41	0.27		7 38	27.4	3.97	10.46	.9251807	1 27.4	290 10 21.2	6 13 56.4	.6501437	
10	12	39	26.61	0.27		7 58	15.4	4.04	10.65	.9172053	1 25.3	293 12 54.5	6 23 33.5	.6468454	
11	12	41	3.20	0.28		8 15	53.1	4.11	10.85	.9091252	1 23.0	296 18 29.0	6 32 13.8	.6432782	
12	12	42	23.11	0.28	S. 8	31	9.5	4.19	11.05	9.9009641	1 20.4	299 27 21.0	S. 6 39 53.3	9.6394423	
13	12	43	25.18	0.29		8 43	53.0	4.27	11.26	.8927529	1 17.4	302 39 47.8	6 46 27.5	.6353380	
14	12	44	8.28	0.29		8 53	50.8	4.35	11.48	.8845300	1 14.2	305 56 7.0	6 51 51.4	.6309666	
15	12	44	31.23	0.30		9	049.6	4.44	11.70	.8763421	1 10.6	309 16 37.1	6 55 59.8	.6263301	
16	12	44	32.95	0.31		9	435.6	4.53	11.92	.8682460	1 6.7	312 41 37.4	6 58 46.8	.6214315	
17	12	44	12.42	0.31		9	454.8	4.61	12.14	.8603101	1 2.4	316 11 27.6	7 0 6.1	.6162752	
18	12	43	28.79	0.32	S. 9	1	33.2	4.69	12.36	9.8526146	0 57.8	319 46 28.5	S. 6 59 51.0	9.6108675	
19	12	42	21.46	0.32		8 54	17.9	4.77	12.57	.8452532	0 52.7	323 27 1.1	6 57 54.1	.6052158	
20	12	40	50.16	0.33		8 42	57.5	4.85	12.77	.8383327	0 47.2	327 13 27.2	6 54 7.8	.5993310	
21	12	38	55.04	0.33		8 27	23.1	4.92	12.96	.8319733	0 41.4	331 6 9.1	6 48 24.0	.5932257	
22	12	36	36.80	0.34		8	729.8	4.98	13.13	.8263068	0 35.2	335 5 29.3	6 40 34.2	.5869165	
23	12	33	56.77	0.34		7 43	17.8	5.04	13.27	.8214739	0 28.6	339 11 50.2	6 30 29.8	.5804234	
24	12	30	57.03	0.34	S. 7	14	53.9	5.09	13.39	9.8176205	0 21.7	343 25 34.3	S. 6 18 2.2	9.5737707	
25	12	27	40.44	0.34		6 42	32.7	5.12	13.48	.8148915	0 14.5	347 47 3.0	6 3 2.9	.5669882	
26	12	24	10.70	0.34		6	637.9	5.13	13.52	.8134241	$\left\{ \begin{smallmatrix} 0.71 \\ 23.59 \end{smallmatrix} \right\}$	352 16 37.1	5 45 23.9	.5601108	
27	12	20	32.27	0.34		5 27	42.2	5.13	13.53	.8133392	23 51.9	356 54 35.3	5 24 58.3	.5551797	
28	12	16	50.31	0.34		4 46	27.9	5.12	13.48	.8147325	23 44.4	1 41 14.4	5 14 0.2	.5462430	
29	12	13	10.48	0.34		4	345.1	5.09	13.39	.8176668	23 36.9	6 36 47.7	4 35 25.8	.5393560	
30	12	9	38.72	0.34	S. 3	20	30.3	5.03	13.25	9.8221656	23 29.7	11 41 24.4	S. 4 6 14.0	9.5325811	
Oct. 1	12	6	21.00	0.33		2 37	43.3	4.96	13.07	.8282092	23 22.8	16 55 9.0	3 34 6.6	.5259876	
2	12	3	23.05	0.33		1 56	24.6	4.88	12.85	.8357331	23 16.4	22 17 59.5	2 59 9.8	.5196521	
3	12	0	50.03	0.32		1	17 32.0	4.78	12.58	.8446325	23 10.4	27 49 46.5	2 21 34.1	.5136464	
4	11	58	46.39	0.31	S. 0	41	57.8	4.67	12.29	9.8547667	23 4.9	33 30 12.4	S. 1 41 35.5	9.5080868	

MERCURY, 1923.

MEAN TIME.

Date.	Apparent Right Ascension.			Sid. Time of Semid. pass Merid.	Apparent Declination.			Semidiameter.	Hor. Par.	Log. of True Dist. from the Earth.		Meridian Passage.	Heliocentric Longitude.		Heliocentric Latitude.		Log. of Rad. Vect.		
	Noon.				Noon.					Noon.			Noon.		Noon.				
	h	m	s	s	°	'	"	"	"		h	m	°	'	"	°	'	"	
Oct.	4	11	58	46.39	0.31	S.	041	57.8	4.67	12.29	9.8547667	23	4.9	33	30	12.4	S.	1 41 35.5	9.5080868
	5	11	57	15.66	0.31	S.	010	27.0	4.55	11.98	.8659681	23	0.0	39	18	50.2	0 59 35.8	.5030309	
	6	11	56	20.36	0.30	N.	016	25.0	4.42	11.65	.8780503	22	55.8	45	15	2.5	S.	0 16 2.5	.4985755
	7	11	56	2.02	0.29		038	12.0	4.29	11.31	.8908194	22	52.1	51	18	1.6	N.	0 28 31.4	.4948040
	8	11	56	21.15	0.28		054	37.7	4.16	10.97	.9040803	22	49.1	57	26	48.9	1 13 27.7	.4917900	
	9	11	57	17.38	0.27		1 53	4.7	4.03	10.64	.9176461	22	46.7	63	40	16.0	1 58 4.8	.4895965	
	10	11	58	49.61	0.26	N.	111	3.9	3.91	10.31	9.9313433	22	44.8	69	57	5.6	N.	2 41 39.1	.94882711
	11	12	0	56.07	0.25		111	12.8	3.79	9.99	.9450156	22	43.5	76	15	53.3	3 23 26.9	.4878430	
	12	12	3	34.55	0.24		1 61	4.5	3.67	9.68	.9585267	22	42.7	82	35	10.0	4 24 6.5	.4883221	
	13	12	6	42.49	0.23		056	26.5	3.57	9.39	.9717618	22	42.3	88	53	24.7	4 39 0.3	.4896977	
	14	12	10	17.17	0.23		042	9.2	3.47	9.12	.9846271	22	42.3	95	9	7.6	5 11 36.8	.4919390	
	15	12	14	15.79	0.22		023	45.2	3.37	8.86	9.9970494	22	42.6	101	20	52.7	5 40 11.4	.4949978	
	16	12	18	35.57	0.22	N.	0 138.2	3.27	8.62	8.62	0.0089735	22	43.3	107	27	20.5	N.	6 42 27.4	.94988103
	17	12	23	13.84	0.21	S.	023	48.2	3.19	8.40	.0203618	22	44.3	113	27	20.7	6 24 16.1	.5033015	
	18	12	28	8.11	0.21		052	10.5	3.11	8.19	.0311907	22	45.5	119	19	53.3	6 39 36.3	.5083887	
	19	12	33	16.07	0.20		1 23	5.9	3.04	8.00	.0414490	22	46.8	125	4	9.8	6 50 33.3	.5139847	
	20	12	38	35.63	0.20		1 56	13.2	2.97	7.82	.0511354	22	48.4	130	39	32.9	6 57 17.9	.5200018	
	21	12	44	4.97	0.19		2 31	12.4	2.91	7.66	.0602567	22	50.1	136	5	53.1	7 0 5.2	.5263539	
	22	12	49	42.45	0.19	S.	3 744.9	2.85	7.51	7.51	0.0688253	22	51.9	141	22	6.9	N.	6 59 13.0	.95329595
	23	12	55	26.68	0.19		345	34.1	2.80	7.37	.0768581	22	53.7	146	28	56.4	6 55 0.9	.5397427	
	24	13	1	16.46	0.18		424	24.8	2.76	7.25	.0843755	22	55.7	151	26	7.7	6 47 49.4	.5466340	
	25	13	7	10.78	0.18		5 4	3.4	2.71	7.13	.0913996	22	57.7	156	13	49.5	6 37 58.9	.5535716	
	26	13	13	8.78	0.18		544	17.8	2.67	7.02	.0979531	22	59.8	160	52	16.1	6 25 49.1	.5605008	
	27	13	19	9.79	0.18		624	57.1	2.63	6.92	.1040591	23	1.9	165	21	45.9	6 11 38.7	.5673739	
	28	13	25	13.21	0.17	S.	7 551.8	2.59	6.83	6.83	0.1097411	23	4.0	169	42	40.3	N.	5 55 45.0	.95741498
	29	13	31	18.61	0.17		746	53.4	2.56	6.75	.1150213	23	6.2	173	55	22.9	5 38 23.9	.5807941	
	30	13	37	25.60	0.17		827	54.4	2.53	6.68	.1199216	23	8.4	178	0	18.7	5 19 49.7	.5872774	
31	13	43	33.91	0.17		9 848.3	2.50	6.61	6.61	.1244623	23	10.6	181	57	53.4	5 0 15.3	.5935757		
Nov.	1	13	49	43.32	0.17		949	29.2	2.48	6.54	.1286625	23	12.9	185	48	32.9	4 39 51.9	.5996687	
	2	13	55	53.68	0.17		1029	52.1	2.46	6.48	.1325404	23	15.1	189	32	43.0	4 18 49.6	.6055407	
	3	14	2	4.86	0.17	S.	11 952.3	2.44	6.43	6.43	0.1361132	23	17.4	193	10	48.9	N.	3 57 17.2	.96111786
	4	14	8	16.81	0.17		1149	25.8	2.42	6.38	.1393960	23	19.7	196	43	15.4	3 35 22.2	.6165724	
	5	14	14	29.47	0.16		1228	29.1	2.41	6.34	.1424036	23	21.9	200	10	26.4	3 13 11.3	.6217142	
	6	14	20	42.84	0.16		13 658.8	2.39	6.30	6.30	.1451485	23	24.2	203	32	44.8	2 50 50.2	.6265981	
	7	14	26	56.92	0.16		1344	52.1	2.37	6.26	.1476429	23	26.6	206	50	32.7	2 28 23.8	.6312196	
	8	14	33	11.72	0.16		1422	6.2	2.36	6.23	.1498984	23	28.9	210	4	11.2	2 5 56.4	.6355760	
	9	14	39	27.32	0.16	S.	14 58 38.9	2.35	6.20	6.20	0.1519246	23	31.2	213	14	0.4	N.	1 43 31.7	.96396652
	10	14	45	43.72	0.16		1534	27.9	2.34	6.17	.1537297	23	33.6	216	20	19.7	1 21 12.9	.6434858	
	11	14	52	0.98	0.16		16 931.1	2.34	6.15	6.15	.1553231	23	35.9	219	23	27.4	0 59 2.6	.6470379	
	12	14	58	19.18	0.16		1643	40.8	2.33	6.13	.1567118	23	38.3	222	23	41.1	0 37 3.3	.6503211	
	13	15	4	38.36	0.16		1717	13.0	2.33	6.12	.1579020	23	40.7	225	21	17.7	N.	0 15 17.0	.6533360
	14	15	10	58.60	0.16		1749	48.1	2.32	6.10	.1588998	23	43.1	228	16	33.2	S.	0 61 4.6	.6560832
	15	15	17	19.97	0.16	S.	18 21 30.5	2.32	6.09	6.09	0.1597100	23	45.5	231	9	43.1	S.	0 27 29.7	.96585636
	16	15	23	42.52	0.16		1852	18.7	2.31	6.08	.1603371	23	48.0	234	1	2.2	0 48 27.0	.6607783	
	17	15	30	6.31	0.16		1922	11.1	2.31	6.08	.1607848	23	50.5	236	50	45.1	1 9 5.2	.6627282	
	18	15	36	31.42	0.16		1951	6.3	2.31	6.07	.1610562	23	53.0	239	39	5.5	1 29 23.1	.6644142	
	19	15	42	57.89	0.16	S.	20 19 2.9	2.31	6.07	6.07	0.1611536	23	55.5	242	26	16.8	S.	1 49 19.6	.96658374

MERCURY, 1923.

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MEAN TIME.

Date.	Apparent Right Ascension.			Sid. Time of Semid. pass ^g Merid.	Apparent Declination.			Semidiameter.	Hor. Par.	Log. of True Dist. from the Earth.		Meridian Passage.	Heliocentric Longitude.		Heliocentric Latitude.		Log. of Rad. Vect.		
	Noon.				Noon.					Noon.			Noon.		Noon.				
	h	m	s	s	°	'	"	"	"	°	'	h	m	°	'	"	"		
Nov. 19	15	42	57.89	0.16	S. 20	19	2.9	2.31	6.07	0.1611536	23	55.5	242	26	16.8	S. 1 49	19.6	9.6658374	
20	15	49	25.76	0.16	20	45	59.4	2.31	6.07	.1610795	23	58.1	245	12	32.3	2 8	53.7	.6669986	
21	15	55	55.08	0.16	21	11	54.6	2.31	6.08	.1608342	*	*	247	58	4.7	2 28	4.3	.6678983	
22	16	2	25.88	0.17	21	36	47.0	2.31	6.08	.1604190	0	0.7	250	43	6.7	2 46	50.3	.6685374	
23	16	8	58.21	0.17	22	0	35.2	2.32	6.09	.1598342	0	3.3	253	27	50.8	3 5	10.7	.6689162	
24	16	15	32.03	0.17	22	23	17.8	2.32	6.10	.1590797	0	5.9	256	12	29.1	3 23	4.4	.6690348	
25	16	22	7.39	0.17	S. 22	44	53.4	2.32	6.11	0.1581540	0	8.5	258	57	13.9	S. 3 40	30.4	9.6688935	
26	16	28	44.28	0.17	23	5	20.7	2.33	6.13	.1570563	0	11.2	261	42	17.5	3 57	27.2	.6684921	
27	16	35	22.66	0.17	23	24	38.2	2.33	6.15	.1557841	0	13.9	264	27	52.0	4 13	53.6	.6678302	
28	16	42	2.52	0.17	23	42	44.5	2.34	6.18	.1543353	0	16.6	267	14	9.8	4 29	48.3	.6669077	
29	16	48	43.80	0.17	23	59	38.2	2.35	6.20	.1527069	0	19.4	270	1	23.2	4 45	9.5	.6657239	
30	16	55	26.44	0.17	24	15	18.1	2.36	6.22	.1508953	0	22.2	272	49	44.9	4 59	55.6	.6642779	
Dec. 1	17	2	10.36	0.17	S. 24	29	42.6	2.37	6.25	0.1488959	0	25.0	275	39	27.8	S. 5 14	4.8	9.6625689	
2	17	8	55.45	0.18	24	42	50.3	2.38	6.28	.1467043	0	27.8	278	30	45.0	5 27	34.9	.6605961	
3	17	15	41.60	0.18	24	54	39.7	2.39	6.31	.1443145	0	30.6	281	23	49.9	5 40	23.7	.6583584	
4	17	22	28.67	0.18	25	5	9.7	2.41	6.35	.1417208	0	33.4	284	18	56.3	5 52	28.6	.6558549	
5	17	29	16.47	0.18	25	14	18.8	2.43	6.39	.1389160	0	36.3	287	16	18.5	6 3	46.8	.6530845	
6	17	36	4.83	0.18	25	22	5.7	2.45	6.44	.1358929	0	39.2	290	16	11.4	6 14	15.3	.6500462	
7	17	42	53.50	0.18	S. 25	28	29.0	2.47	6.49	0.1326428	0	42.0	293	18	50.0	S. 6 23	50.6	9.6467397	
8	17	49	42.23	0.18	25	33	27.8	2.49	6.54	.1291567	0	44.9	296	24	30.3	6 32	29.1	.6431642	
9	17	56	30.73	0.18	25	37	0.6	2.50	6.59	.1254248	0	47.8	299	33	28.8	6 40	6.6	.6393201	
10	18	3	18.65	0.19	25	39	6.7	2.52	6.65	.1214364	0	50.7	302	46	2.5	6 46	38.7	.6352078	
11	18	10	5.62	0.19	25	39	44.9	2.54	6.72	.1171796	0	53.5	306	2	29.2	6 52	0.4	.6308284	
12	18	16	51.21	0.19	25	38	54.6	2.57	6.79	.1126419	0	56.3	309	23	7.4	6 56	6.3	.6261840	
13	18	23	34.94	0.19	S. 25	36	35.1	2.60	6.87	0.1078101	0	59.1	312	48	16.3	S. 6 58	50.7	9.6212776	
14	18	30	16.25	0.19	25	32	46.1	2.64	6.95	.1026696	1	1.9	316	18	15.7	7 0	7.2	.6161139	
15	18	36	54.53	0.20	25	27	27.2	2.67	7.04	.0972050	1	4.6	319	53	26.4	6 59	49.0	.6106988	
16	18	43	29.09	0.20	25	20	39.0	2.71	7.13	.0913993	1	7.2	323	34	9.5	6 57	48.8	.6050402	
17	18	49	59.14	0.20	25	12	21.7	2.75	7.23	.0852361	1	9.7	327	20	46.8	6 53	59.0	.5991485	
18	18	56	23.79	0.21	25	2	36.1	2.79	7.34	.0786974	1	12.2	331	13	40.6	6 48	11.3	.5930371	
19	19	2	42.04	0.21	S. 24	51	23.9	2.83	7.46	0.0717640	1	14.6	335	13	13.2	S. 6 40	17.5	9.5867222	
20	19	8	52.75	0.21	24	38	46.9	2.88	7.59	.0644177	1	16.8	339	19	47.3	6 30	8.8	.5802243	
21	19	14	54.64	0.21	24	24	48.0	2.93	7.73	.0566393	1	18.9	343	33	45.2	6 17	36.6	.5735674	
22	19	20	46.26	0.22	24	9	30.5	2.99	7.87	.0484104	1	20.8	347	55	28.3	6	2	32.4	.5667817
23	19	26	25.97	0.22	23	52	58.9	3.05	8.03	.0397142	1	22.5	352	25	17.3	5 44	48.4	.5599024	
24	19	31	51.93	0.22	23	35	18.6	3.11	8.20	.0305356	1	24.0	357	3	31.1	5 24	17.5	.5529709	
25	19	37	2.07	0.23	S. 23	16	36.1	3.18	8.39	0.0208628	1	25.2	1	50	26.1	S. 5	0	54.0	9.5460353
26	19	41	54.08	0.24	22	56	59.6	3.26	8.59	.0106891	1	26.1	6	46	15.6	4 34	34.2	.5391512	
27	19	46	25.40	0.25	22	36	38.3	3.34	8.80	0.0000138	1	26.7	11	51	8.7	4	5	17.0	.5323810
28	19	50	33.20	0.25	22	15	43.3	3.43	9.03	.99888459	1	26.8	17	5	9.7	3 33	4.4	.5257947	
29	19	54	14.42	0.26	21	54	27.0	3.52	9.27	.9772054	1	26.5	22	28	16.3	2 58	2.5	.5194687	
30	19	57	25.76	0.26	21	33	3.8	3.62	9.54	.9651271	1	25.7	28	0	19.1	2	20	22.2	.5134851
31	20	0	3.77	0.27	S. 21	11	49.3	3.72	9.81	.9526647	1	24.4	33	41	0.0	S. 1 40	19.6	9.5079303	
32	20	2	4.90	0.27	S. 20	51	0.5	3.83	10.11	.9398932	1	22.4	39	29	51.8	S. 0	58	16.6	9.5028917

Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
Jan. 1	15 53 6.99	S. 15 57 21.0	9.6245884	21 11.2	Feb. 16	18 44 20.54	S. 20 18 21.6	9.8839126	21 3.1
2	15 55 26.95	16 1 54.2	.6315829	21 9.7	17	18 48 56.38	20 17 34.2	.8882263	21 3.8
3	15 57 52.55	16 6 56.0	.6385298	21 8.3	18	18 53 33.20	20 16 17.2	.8924939	21 4.5
4	16 0 23.61	16 12 24.4	.6454258	21 6.9	19	18 58 10.94	20 14 30.3	.8967159	21 5.2
5	16 2 59.96	16 18 17.0	.6522683	21 5.7	20	19 2 49.52	20 12 13.2	.9008933	21 5.9
6	16 5 41.43	16 24 31.8	.6590545	21 4.5	21	19 7 28.89	20 9 25.5	.9050268	21 6.6
7	16 8 27.85	16 31 6.7	.6657821	21 3.4	22	19 12 8.97	20 6 7.1	.9091170	21 7.3
8	16 11 19.07	16 37 59.5	.6724491	21 2.4	23	19 16 49.70	20 2 17.6	.9131647	21 8.1
9	16 14 14.94	16 45 8.3	.6790539	21 1.4	24	19 21 31.02	19 57 56.9	.9171707	21 8.8
10	16 17 15.30	16 52 31.0	.6855952	21 0.6	25	19 26 12.88	19 53 4.8	.9211355	21 9.6
11	16 20 20.00	17 0 5.8	.6920719	20 59.8	26	19 30 55.21	19 47 41.3	.9250600	21 10.4
12	16 23 28.91	17 7 50.7	.6984831	20 59.0	27	19 35 37.97	19 41 46.1	.9289446	21 11.1
13	16 26 41.87	17 15 43.9	.7048282	20 58.4	28	19 40 21.10	19 35 19.1	.9327900	21 11.9
14	16 29 58.76	17 23 43.6	.7111070	20 57.8	Mar. 1	19 45 4.54	19 28 20.4	.9365967	21 12.7
15	16 33 19.44	17 31 48.1	.7173193	20 57.2	2	19 49 48.26	19 20 49.9	.9403653	21 13.5
16	16 36 43.79	17 39 55.7	.7234651	20 56.7	3	19 54 32.19	19 12 47.6	.9440960	21 14.3
17	16 40 11.69	17 48 4.8	.7295446	20 56.3	4	19 59 16.28	19 4 13.5	.9477894	21 15.1
18	16 43 43.04	17 56 13.8	.7355582	20 55.9	5	20 4 0.49	18 55 7.8	.9514458	21 15.9
19	16 47 17.72	18 4 21.2	.7415062	20 55.6	6	20 8 44.78	18 45 30.6	.9550656	21 16.7
20	16 50 55.64	18 12 25.4	.7473891	20 55.3	7	20 13 29.08	18 35 21.9	.9586490	21 17.5
21	16 54 36.69	18 20 25.0	.7532076	20 55.1	8	20 18 13.36	18 24 42.0	.9621964	21 18.2
22	16 58 20.79	18 28 18.7	.7589622	20 55.0	9	20 22 57.57	18 13 31.1	.9657082	21 19.0
23	17 2 7.84	18 36 5.0	.7646536	20 54.8	10	20 27 41.66	18 1 49.3	.9691847	21 19.8
24	17 5 57.76	18 43 42.7	.7702823	20 54.8	11	20 32 25.59	17 49 37.0	.9726262	21 20.6
25	17 9 50.46	18 51 10.5	.7758490	20 54.8	12	20 37 9.31	17 36 54.3	.9760332	21 21.4
26	17 13 45.87	18 58 27.2	.7813545	20 54.8	13	20 41 52.78	17 23 41.7	.9794061	21 22.2
27	17 17 43.90	19 5 31.5	.7867993	20 54.8	14	20 46 35.97	17 9 59.4	.9827454	21 23.0
28	17 21 44.47	19 12 22.3	.7921842	20 54.9	15	20 51 18.83	16 55 47.7	.9860515	21 23.7
29	17 25 47.51	19 18 58.5	.7975099	20 55.1	16	20 56 1.34	16 41 7.1	.9893248	21 24.5
30	17 29 52.94	19 25 18.9	.8027770	20 55.3	17	21 0 43.46	16 25 57.8	.9925658	21 25.2
31	17 34 0.69	19 31 22.5	.8079862	20 55.5	18	21 5 25.16	16 10 20.3	.9957750	21 26.0
Feb. 1	17 38 10.70	19 37 8.4	.8131380	20 55.7	19	21 10 6.43	15 54 15.0	.9989530	21 26.7
2	17 42 22.90	19 42 35.5	.8182333	20 56.0	20	21 14 47.23	15 37 42.3	.00021000	21 27.5
3	17 46 37.20	19 47 43.0	.8232723	20 56.4	21	21 19 27.54	15 20 42.7	.0052167	21 28.2
4	17 50 53.54	19 52 29.8	.8282555	20 56.7	22	21 24 7.35	15 3 16.6	.0083035	21 28.9
5	17 55 11.84	19 56 55.1	.8331835	20 57.1	23	21 28 46.64	14 45 24.6	.0113609	21 29.6
6	17 59 32.02	20 0 58.1	.8380566	20 57.5	24	21 33 25.40	14 27 7.0	.0143892	21 30.3
7	18 3 54.01	20 4 37.9	.8428755	20 58.0	25	21 38 3.62	14 8 24.4	.0173889	21 31.0
8	18 8 17.73	20 7 53.9	.8476407	20 58.5	26	21 42 41.28	13 49 17.2	.0203604	21 31.7
9	18 12 43.11	20 10 45.2	.8523530	20 59.0	27	21 47 18.38	13 29 46.1	.0233042	21 32.3
10	18 17 10.06	20 13 11.2	.8570129	20 59.5	28	21 51 54.93	13 9 51.5	.0262205	21 33.0
11	18 21 38.51	20 15 11.2	.8616212	21 0.0	29	21 56 30.91	12 49 33.9	.0291098	21 33.6
12	18 26 8.38	20 16 44.7	.8661785	21 0.6	30	22 1 6.34	12 28 53.8	.0319725	21 34.3
13	18 30 39.59	20 17 51.0	.8706855	21 1.2	31	22 5 41.21	12 7 51.9	.0348088	21 34.9
14	18 35 12.07	20 18 29.6	.8751430	21 1.8	Apr. 1	22 10 15.53	11 46 28.7	.0376188	21 35.5
15	18 39 45.74	20 18 39.9	.8795517	21 2.5	2	22 14 49.30	11 24 44.7	.0404028	21 36.1
16	18 44 20.54	S. 20 18 21.6	9.8839126	21 3.1	3	22 19 22.54	S. 11 2 40.5	.0431611	21 36.7

	H. P.	S. D.		H. P.	S. D.		H. P.	S. D.		H. P.	S. D.
Jan. 1	20.89	19.96	Jan. 25	14.74	14.09	Feb. 18	11.27	10.77	Mar. 14	9.16	8.75
5	19.60	18.73	29	14.03	13.41	22	10.85	10.37	18	8.89	8.50
9	18.43	17.61	Feb. 2	13.37	12.78	26	10.46	10.00	22	8.63	8.25
13	17.36	16.59	6	12.78	12.21	Mar. 2	10.10	9.65	26	8.40	8.03
17	16.40	15.67	10	12.23	11.60	6	9.76	9.33	30	8.17	7.81
21	15.53	14.84	14	11.73	11.21	10	9.45	9.03	Apr. 3	7.97	7.62

VENUS, 1923.

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Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.		
	h m s	° ' "		h m		h m s	° ' "		h m		
Apr. 3	22 19 22.54	S. 11 2 40.5	0.0431611	21 36.7	May 19	1 44 30.23	N. 8 55 23.4	0.1452798	22 0.5		
4	22 23 55.25	10 40 16.6	0.0458936	21 37.3	20	1 49 2.64	9 21 20.1	0.1470200	22 1.1		
5	22 28 27.44	10 17 33.7	0.0486006	21 37.9	21	1 53 35.75	9 47 5.8	0.1487416	22 1.7		
6	22 32 59.12	9 54 32.4	0.0512822	21 38.5	22	1 58 9.59	10 12 39.8	0.1504448	22 2.4		
7	22 37 30.30	9 31 13.2	0.0539383	21 39.1	23	2 2 44.19	10 38 1.5	0.1521298	22 3.0		
8	22 42 0.98	9 7 36.8	0.0565693	21 39.6	24	2 7 19.57	11 3 10.0	0.1537967	22 3.7		
9	22 46 31.19	8 43 43.8	0.0591753	21 40.2	25	2 11 55.77	11 28 4.8	0.1554456	22 4.4		
10	22 51 0.93	8 19 34.9	0.0617565	21 40.7	26	2 16 32.82	11 52 45.1	0.1570767	22 5.1		
11	22 55 30.21	7 55 10.6	0.0643131	21 41.3	27	2 21 10.74	12 17 10.3	0.1586901	22 5.8		
12	22 59 59.05	7 30 31.7	0.0668452	21 41.8	28	2 25 49.57	12 41 19.6	0.1602859	22 6.5		
13	23 4 27.47	7 5 38.7	0.0693532	21 42.3	29	2 30 29.32	13 5 12.4	0.1618643	22 7.2		
14	23 8 55.48	6 40 32.3	0.0718372	21 42.9	30	2 35 10.03	13 28 48.0	0.1634253	22 8.0		
15	23 13 23.10	6 15 13.2	0.0742975	21 43.4	31	2 39 51.71	13 52 5.7	0.1649688	22 8.7		
16	23 17 50.36	5 49 41.9	0.0767343	21 43.9	June 1	2 44 34.40	14 15 4.8	0.1664948	22 9.5		
17	23 22 17.27	5 23 59.2	0.0791478	21 44.4	2	2 49 18.11	14 37 44.6	0.1680033	22 10.3		
18	23 26 43.85	4 58 5.6	0.0815383	21 44.9	3	2 54 2.85	15 0 4.4	0.1694942	22 11.1		
19	23 31 10.13	4 32 1.8	0.0839061	21 45.4	4	2 58 48.65	15 22 3.5	0.1709675	22 12.0		
20	23 35 36.13	4 5 48.5	0.0862514	21 45.8	5	3 3 35.52	15 43 41.2	0.1724233	22 12.8		
21	23 40 1.88	3 39 26.3	0.0885746	21 46.3	6	3 8 23.47	16 4 56.7	0.1738614	22 13.7		
22	23 44 27.40	3 12 55.9	0.0908758	21 46.8	7	3 13 12.52	16 25 49.5	0.1752820	22 14.6		
23	23 48 52.73	2 46 17.9	0.0931553	21 47.3	8	3 18 2.67	16 46 18.7	0.1766849	22 15.5		
24	23 53 17.89	2 19 32.9	0.0954134	21 47.8	9	3 22 53.93	17 6 23.7	0.1780703	22 16.4		
25	23 57 42.92	1 52 41.6	0.0976503	21 48.2	10	3 27 46.30	17 26 3.8	0.1794381	22 17.4		
26	0 2 7.84	1 25 44.6	0.0998662	21 48.7	11	3 32 39.79	17 45 18.4	0.1807884	22 18.3		
27	0 6 32.69	0 58 42.6	0.1020614	21 49.2	12	3 37 34.39	18 4 6.6	0.1821211	22 19.3		
28	0 10 57.51	0 31 36.1	0.1042361	21 49.6	13	3 42 30.10	18 22 27.9	0.1834363	22 20.3		
29	0 15 22.32	S. 0 4 25.9	0.1063903	21 50.1	14	3 47 26.92	18 40 21.5	0.1847340	22 21.4		
30	0 19 47.17	N. 0 22 47.4	0.1085242	21 50.6	15	3 52 24.85	18 57 46.8	0.1860144	22 22.4		
May 1	0 24 12.09	0 50 3.3	0.1106380	21 51.1	16	3 57 23.88	19 14 43.1	0.1872774	22 23.5		
2	0 28 37.11	1 17 21.0	0.1127317	21 51.5	17	4 2 24.00	19 31 9.7	0.1885233	22 24.5		
3	0 33 2.27	1 44 40.0	0.1148052	21 52.0	18	4 7 25.19	19 47 6.1	0.1897521	22 25.6		
4	0 37 27.60	2 11 59.5	0.1168587	21 52.5	19	4 12 27.45	20 2 31.6	0.1909639	22 26.7		
5	0 41 53.14	2 39 18.9	0.1188921	21 53.0	20	4 17 30.76	20 17 25.6	0.1921588	22 27.9		
6	0 46 18.92	3 6 37.6	0.1209054	21 53.5	21	4 22 35.10	20 31 47.5	0.1933370	22 29.0		
7	0 50 44.98	3 33 54.9	0.1228987	21 54.0	22	4 27 40.45	20 45 36.6	0.1944985	22 30.2		
8	0 55 11.34	4 1 10.0	0.1248719	21 54.5	23	4 32 46.79	20 58 52.5	0.1956435	22 31.4		
9	0 59 38.03	4 28 22.4	0.1268252	21 55.0	24	4 37 54.11	21 11 34.5	0.1967722	22 32.6		
10	1 4 5.09	4 55 31.3	0.1287586	21 55.5	25	4 43 2.37	21 23 42.2	0.1978845	22 33.8		
11	1 8 32.55	5 22 36.1	0.1306722	21 56.0	26	4 48 11.55	21 35 14.9	0.1989808	22 35.0		
12	1 13 0.44	5 49 36.0	0.1325660	21 56.6	27	4 53 21.63	21 46 12.2	0.2000609	22 36.2		
13	1 17 28.78	6 16 30.5	0.1344402	21 57.1	28	4 58 32.58	21 56 33.5	0.2011249	22 37.5		
14	1 21 57.62	6 43 18.8	0.1362949	21 57.6	29	5 3 44.37	22 6 18.4	0.2021727	22 38.8		
15	1 26 26.98	7 10 0.2	0.1381302	21 58.2	30	5 8 56.97	22 15 26.5	0.2032045	22 40.0		
16	1 30 56.89	7 36 34.0	0.1399462	21 58.8	July 1	5 14 10.33	22 23 57.3	0.2042201	22 41.3		
17	1 35 27.38	8 2 59.6	0.1417430	21 59.3	2	5 19 24.42	22 31 50.4	0.2052196	22 42.6		
18	1 39 58.48	8 29 16.3	0.1435209	21 59.9	3	5 24 39.20	22 39 5.4	0.2062028	22 43.9		
19	1 44 30.23	N. 8 55 23.4	0.1452798	22 0.5	4	5 29 54.62	N. 22 45 41.9	0.2071698	22 45.3		
	H. P.	S. D.		H. P.	S. D.		H. P.	S. D.		H. P.	S. D.
Apr. 3	7.97	7.62	Apr. 27	6.96	6.65	May 21	6.25	5.97	June 14	5.75	5.49
7	7.77	7.43	May 1	6.82	6.52	25	6.15	5.88	18	5.68	5.43
11	7.59	7.25	5	6.69	6.39	29	6.06	5.79	22	5.62	5.37
15	7.42	7.09	9	6.57	6.28	June 2	5.98	5.72	26	5.57	5.32
19	7.25	6.93	13	6.46	6.17	6	5.90	5.64	30	5.51	5.27
23	7.10	6.78	17	6.35	6.07	10	5.82	5.56	July 4	5.46	5.22

Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.		
	h m s	° ' "		h. m		h m s	° ' "		h m		
July 4	5 29 54.62	N. 22 45 41.9	0.2071698	22 45.3	Aug. 19	9 29 7.76	N. 16 5 11.4	0.2346696	23 42.8		
5	5 35 10.65	22 51 39.6	0.2081206	22 46.6	20	9 34 1.93	15 42 54.2	0.2349147	23 43.8		
6	5 40 27.23	22 56 58.2	0.2090550	22 47.9	21	9 38 55.05	15 20 10.8	0.2351458	23 44.7		
7	5 45 44.31	23 1 37.3	0.2099732	22 49.3	22	9 43 47.15	14 57 1.9	0.2353630	23 45.6		
8	5 51 1.85	23 5 36.7	0.2108751	22 50.7	23	9 48 38.23	14 33.28.1	0.2355663	23 46.5		
9	5 56 19.79	23 8 56.2	0.2117606	22 52.0	24	9 53 28.32	14 9 30.3	0.2357559	23 47.4		
10	6 1 38.08	23 11 35.6	0.2126299	22 53.4	25	9 58 17.42	13 45 9.0	0.2359318	23 48.2		
11	6 6 56.67	23 13 34.5	0.2134828	22 54.8	26	10 3 5.55	13 20 24.9	0.2360941	23 49.1		
12	6 12 15.50	23 14 53.0	0.2143195	22 56.1	27	10 7 52.73	12 55 18.8	0.2362429	23 49.9		
13	6 17 34.51	23 15 30.8	0.2151398	22 57.5	28	10 12 38.99	12 29 51.4	0.2363783	23 50.7		
14	6 22 53.64	23 15 27.8	0.2159440	22 58.9	29	10 17 24.35	12 4 3.3	0.2365002	23 51.5		
15	6 28 12.85	23 14 44.0	0.2167320	23 0.3	30	10 22 8.84	11 37 55.4	0.2366088	23 52.3		
16	6 33 32.08	23 13 19.4	0.2175038	23 1.6	31	10 26 52.47	11 11 28.2	0.2367038	23 53.1		
17	6 38 51.26	23 11 13.9	0.2182596	23 3.0	Sept. 1	10 31 35.27	10 44 42.6	0.2367855	23 53.8		
18	6 44 10.34	23 8 27.5	0.2189995	23 4.4	2	10 36 17.28	10 17 39.3	0.2368536	23 54.6		
19	6 49 29.27	23 5 0.3	0.2197236	23 5.8	3	10 40 58.51	9 50 18.9	0.2369083	23 55.3		
20	6 54 47.99	23 0 52.4	0.2204320	23 7.1	4	10 45 39.01	9 22 42.2	0.2369496	23 56.0		
21	7 0 6.45	22 56 3.8	0.2211248	23 8.5	5	10 50 18.79	8 54 49.9	0.2369774	23 56.7		
22	7 5 24.59	22 50 34.7	0.2218022	23 9.9	6	10 54 57.90	8 26 42.8	0.2369919	23 57.5		
23	7 10 42.37	22 44 25.4	0.2224642	23 11.2	7	10 59 36.36	7 58 21.5	0.2369929	23 58.1		
24	7 15 59.74	22 37 35.9	0.2231111	23 12.5	8	11 4 14.21	7 29 46.9	0.2369804	23 58.8		
25	7 21 16.65	22 30 6.5	0.2237428	23 13.9	9	11 8 51.47	7 0 59.6	0.2369545	23 59.5		
26	7 26 33.06	22 21 57.3	0.2243594	23 15.2	10	11 13 28.18	6 32 0.4	0.2369152	* *		
27	7 31 48.93	22 13 8.8	0.2249610	23 16.5	11	11 18 4.38	6 2 50.0	0.2368624	0 0.2		
28	7 37 4.21	22 3 41.1	0.2255477	23 17.8	12	11 22 40.09	5 33 29.2	0.2367963	0 0.8		
29	7 42 18.86	21 53 34.6	0.2261194	23 19.1	13	11 27 15.36	5 3 58.7	0.2367170	0 1.5		
30	7 47 32.84	21 42 49.6	0.2266762	23 20.4	14	11 31 50.22	4 34 19.3	0.2366244	0 2.1		
31	7 52 46.12	21 31 26.5	0.2272180	23 21.7	15	11 36 24.70	4 4 31.6	0.2365188	0 2.7		
Aug. 1	7 57 58.66	21 19 25.7	0.2277449	23 22.9	16	11 40 58.85	3 34 36.5	0.2364002	0 3.3		
2	8 3 10.42	21 6 47.6	0.2282568	23 24.2	17	11 45 32.69	3 4 34.7	0.2362688	0 4.0		
3	8 8 21.37	20 53 32.7	0.2287537	23 25.4	18	11 50 6.28	2 34 26.8	0.2361248	0 4.6		
4	8 13 31.49	20 39 41.4	0.2292356	23 26.6	19	11 54 39.65	2 4 13.7	0.2359682	0 5.2		
5	8 18 40.74	20 25 14.2	0.2297025	23 27.8	20	11 59 12.84	1 33 56.1	0.2357991	0 5.8		
6	8 23 49.09	20 10 11.6	0.2301544	23 29.0	21	12 3 45.90	1 3 34.6	0.2356177	0 6.4		
7	8 28 56.53	19 54 34.0	0.2305913	23 30.1	22	12 8 18.87	0 33 10.0	0.2354242	0 7.0		
8	8 34 3.02	19 38 22.1	0.2310131	23 31.3	23	12 12 51.79	N. 0 243.1	0.2352185	0 7.6		
9	8 39 8.55	19 21 36.4	0.2314199	23 32.4	24	12 17 24.71	S. 0 2745.5	0.2350007	0 8.2		
10	8 44 13.10	19 4 17.4	0.2318117	23 33.5	25	12 21 57.67	0 58 14.9	0.2347710	0 8.8		
11	8 49 16.65	18 46 25.7	0.2321884	23 34.6	26	12 26 30.72	1 28 44.5	0.2345293	0 9.5		
12	8 54 19.19	18 28 2.0	0.2325502	23 35.7	27	12 31 3.90	1 59 13.5	0.2342756	0 10.1		
13	8 59 20.70	18 9 6.9	0.2328970	23 36.8	28	12 35 37.25	2 29 41.3	0.2340100	0 10.7		
14	9 4 21.17	17 49 40.9	0.2332290	23 37.8	29	12 40 10.81	3 0 7.0	0.2337326	0 11.3		
15	9 9 20.60	17 29 44.8	0.2335463	23 38.9	30	12 44 44.64	3 30 30.0	0.2334434	0 11.9		
16	9 14 18.97	17 9 19.1	0.2338488	23 39.9	Oct. 1	12 49 18.77	4 0 49.4	0.2331423	0 12.5		
17	9 19 16.29	16 48 24.5	0.2341368	23 40.9	2	12 53 53.25	4 31 4.6	0.2328294	0 13.2		
18	9 24 12.55	16 27 1.7	0.2344103	23 41.9	3	12 58 28.11	5 1 14.8	0.2325046	0 13.8		
19	9 29 7.76	N. 16 5 11.4	0.2346696	23 42.8	4	13 3 34.1	S. 5 31 19.2	0.2321680	0 14.5		
	H. P.	S. D.		H. P.	S. D.		H. P.	S. D.			
July 4	5.46	5.22	July 28	5.23	5.00	Aug. 21	5.12	4.89	Sept. 14	5.10	4.87
8	5.41	5.17	Aug. 1	5.21	4.98	25	5.11	4.88	18	5.11	4.88
12	5.37	5.13	5	5.18	4.95	29	5.10	4.87	22	5.12	4.89
16	5.33	5.09	9	5.16	4.93	Sept. 2	5.10	4.87	26	5.13	4.90
20	5.30	5.06	13	5.15	4.92	6	5.10	4.87	30	5.14	4.91
24	5.26	5.03	17	5.13	4.90	10	5.10	4.87	Oct. 4	5.16	4.93

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Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage
	h m s	° ' "		h m		h m s	° ' "		h m
Oct. 4	13 3 3.41	S. 53 19.2	0.2321680	0 14.5	Nov. 19	16 50 37.05	S. 23 5 33.4	0.2042583	1 0.7
5	13 7 39.18	6 1 17.1	.2318195	0 15.1	20	16 55 59.65	23 16 30.9	.2033869	1 2.1
6	13 12 15.46	6 31 7.7	.2314590	0 15.8	21	17 1 23.09	23 26 47.0	.2025044	1 3.6
7	13 16 52.30	7 0 50.2	.2310865	0 16.4	22	17 6 47.31	23 36 21.3	.2016108	1 5.1
8	13 21 29.73	7 30 23.9	.2307021	0 17.1	23	17 12 12.27	23 45 13.2	.2007061	1 6.5
9	13 26 7.79	7 59 48.1	.2303056	0 17.8	24	17 17 37.90	23 53 22.3	.1997903	1 8.0
10	13 30 46.52	8 29 1.9	.2298971	0 18.5	25	17 23 4.17	24 0 48.3	.1988634	1 9.5
11	13 35 25.95	8 58 4.6	.2294767	0 19.2	26	17 28 31.02	24 7 30.8	.1979253	1 11.0
12	13 40 6.12	9 26 55.3	.2290442	0 20.0	27	17 33 58.38	24 13 29.5	.1969761	1 12.6
13	13 44 47.06	9 55 33.3	.2285999	0 20.7	28	17 39 26.20	24 18 44.1	.1960156	1 14.1
14	13 49 28.80	10 23 57.7	.2281437	0 21.5	29	17 44 54.42	24 23 14.3	.1950439	1 15.6
15	13 54 11.37	10 52 7.8	.2276758	0 22.2	30	17 50 22.98	24 26 59.8	.1940608	1 17.1
16	13 58 54.82	11 20 2.8	.2271963	0 23.0	Dec. 1	17 55 51.81	24 30 0.5	.1930663	1 18.7
17	14 3 39.17	11 47 41.8	.2267052	0 23.8	2	18 1 20.85	24 32 16.2	.1920602	1 20.2
18	14 8 24.45	12 15 4.2	.2262028	0 24.6	3	18 6 50.03	24 33 46.8	.1910423	1 21.8
19	14 13 10.70	12 42 9.0	.2256890	0 25.5	4	18 12 19.29	24 34 32.3	.1900125	1 23.3
20	14 17 57.95	13 8 55.5	.2251640	0 26.3	5	18 17 48.56	24 34 32.4	.1889707	1 24.9
21	14 22 46.23	13 35 23.0	.2246279	0 27.2	6	18 23 17.76	24 33 47.2	.1879167	1 26.4
22	14 27 35.56	14 1 30.5	.2240807	0 28.0	7	18 28 46.84	24 32 16.8	.1868504	1 27.9
23	14 32 25.96	14 27 17.4	.2235225	0 28.9	8	18 34 15.71	24 30 1.1	.1857717	1 29.5
24	14 37 17.47	14 52 42.8	.2229533	0 29.9	9	18 39 44.31	24 27 0.3	.1846805	1 31.0
25	14 42 10.11	15 17 45.9	.2223731	0 30.8	10	18 45 12.56	24 23 14.5	.1835576	1 32.6
26	14 47 3.91	15 42 25.9	.2217821	0 31.8	11	18 50 40.40	24 18 43.8	.1824601	1 34.1
27	14 51 58.88	16 6 42.1	.2211802	0 32.7	12	18 56 7.76	24 13 28.5	.1813309	1 35.6
28	14 56 55.04	16 30 33.6	.2205674	0 33.7	13	19 1 34.57	24 7 28.7	.1801888	1 37.1
29	15 1 52.40	16 53 59.7	.2199437	0 34.7	14	19 7 0.76	24 0 44.8	.1790340	1 38.6
30	15 6 50.99	17 16 59.5	.2193091	0 35.8	15	19 12 26.28	23 53 17.0	.1778664	1 40.1
Nov. 1	15 11 50.81	17 39 32.3	.2186636	0 36.8	16	19 17 51.06	23 45 5.6	.1766861	1 41.5
2	15 16 51.88	18 1 37.3	.2180071	0 37.9	17	19 23 15.05	23 36 11.0	.1754929	1 43.0
3	15 21 54.20	18 23 13.7	.2173397	0 39.0	18	19 28 38.19	23 26 33.6	.1742868	1 44.4
4	15 26 57.78	18 44 20.7	.2166611	0 40.1	19	19 34 0.43	23 16 13.8	.1730679	1 45.9
5	15 32 2.61	19 4 57.5	.2159713	0 41.3	20	19 39 21.73	23 5 12.0	.1718361	1 47.3
6	15 37 8.70	19 25 3.4	.2152704	0 42.4	21	19 44 42.02	22 53 28.8	.1705913	1 48.7
7	15 42 16.03	19 44 37.7	.2145581	0 43.6	22	19 50 1.26	22 41 4.6	.1693335	1 50.1
8	15 47 24.60	20 3 39.5	.2138345	0 44.8	23	19 55 19.42	22 27 59.9	.1680627	1 51.4
9	15 52 34.40	20 22 8.1	.2130995	0 46.0	24	20 0 36.46	22 14 15.3	.1667788	1 52.8
10	15 57 45.42	20 40 2.8	.2123529	0 47.3	25	20 5 52.33	21 59 51.4	.1654817	1 54.1
11	16 2 57.63	20 57 22.9	.2115949	0 48.5	26	20 11 7.01	21 44 48.7	.1641713	1 55.4
12	16 8 11.02	21 14 7.7	.2108252	0 49.8	27	20 16 20.47	21 29 7.8	.1628476	1 56.7
13	16 13 25.56	21 30 16.4	.2100441	0 51.1	28	20 21 32.67	21 12 49.4	.1615103	1 57.9
14	16 18 41.22	21 45 48.3	.2092515	0 52.4	29	20 26 43.60	20 55 54.2	.1601594	1 59.2
15	16 23 57.98	22 0 42.9	.2084475	0 53.8	30	20 31 53.23	20 38 22.7	.1587947	2 0.4
16	16 29 15.80	22 14 59.5	.2076322	0 55.1	31	20 37 1.55	20 20 15.6	.1574161	2 1.6
17	16 34 34.65	22 28 37.4	.2068055	0 56.5	32	20 42 8.53	S. 20 1 33.7	.1560232	2 2.8
18	16 39 54.50	22 41 36.1	.2059676	0 57.9					
19	16 45 15.32	22 53 54.9	.2051185	0 59.3					
20	16 50 37.05	S. 23 5 33.4	0.2042583	1 0.7					

	H. P.	S. D.		H. P.	S. D.
Oct. 4	5.16	4.93	Oct. 28	5.30	5.07
8	5.17	4.94	Nov. 1	5.33	5.09
12	5.19	4.96	5	5.36	5.12
16	5.22	4.99	9	5.40	5.16
20	5.24	5.01	13	5.43	5.19
24	5.27	5.04	17	5.47	5.23

	H. P.	S. D.		H. P.	S. D.
Nov. 21	5.52	5.28	Dec. 15	5.84	5.58
25	5.57	5.33	19	5.91	5.65
29	5.62	5.37	23	5.98	5.72
Dec. 3	5.67	5.42	27	6.05	5.78
7	5.72	5.47	31	6.12	5.85
11	5.78	5.52	35	6.21	5.93

Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
Jan. 1	23 7 20.75	S. 6 25 38.4	0.1816610	4 26.7	Feb. 16	1 9 42.50	N. 7 27 3.2	0.2698811	3 27.7
2	23 10 2.47	6 7 27.7	.1837576	4 25.4	17	1 12 22.22	7 44 10.0	.2716017	3 26.4
3	23 12 44.00	5 49 14.9	.1858466	4 24.2	18	1 15 2.04	8 1 11.9	.2733133	3 25.1
4	23 15 25.34	5 31 0.2	.1879282	4 22.9	19	1 17 41.99	8 18 9.0	.2750157	3 23.9
5	23 18 6.49	5 12 43.7	.1900026	4 21.7	20	1 20 22.03	8 35 1.1	.2767089	3 22.6
6	23 20 47.47	4 54 25.6	.1920695	4 20.4	21	1 23 2.19	8 51 47.9	.2783929	3 21.3
7	23 23 28.28	4 36 6.1	.1941290	4 19.1	22	1 25 42.47	9 8 29.4	.2800677	3 20.1
8	23 26 8.94	4 17 45.2	.1961812	4 17.9	23	1 28 22.88	9 25 5.3	.2817335	3 18.8
9	23 28 49.45	3 59 23.2	.1982260	4 16.6	24	1 31 3.42	9 41 35.7	.2833899	3 17.5
10	23 31 29.82	3 41 0.1	.2002634	4 15.3	25	1 33 44.08	9 58 0.2	.2850372	3 16.3
11	23 34 10.06	3 22 36.2	.2022932	4 14.1	26	1 36 24.88	10 14 18.9	.2866752	3 15.0
12	23 36 50.19	3 4 11.6	.2043154	4 12.8	27	1 39 5.82	10 30 31.5	.2883043	3 13.8
13	23 39 30.20	2 45 46.5	.2063299	4 11.5	28	1 41 46.90	10 46 38.0	.2899242	3 12.5
14	23 42 10.10	2 27 21.0	.2083366	4 10.2	Mar. 1	1 44 28.13	11 2 38.2	.2915352	3 11.3
15	23 44 49.89	2 8 55.2	.2103354	4 8.9	2	1 47 9.51	11 18 32.0	.2931374	3 10.0
16	23 47 29.60	1 50 29.4	.2123261	4 7.7	3	1 49 51.04	11 34 19.2	.2947305	3 8.7
17	23 50 9.22	1 32 3.6	.2143086	4 6.4	4	1 52 32.74	11 49 59.8	.2963149	3 7.5
18	23 52 48.75	1 13 38.1	.2162829	4 5.1	5	1 55 14.61	12 5 33.6	.2978905	3 6.2
19	23 55 28.20	0 55 13.1	.2182489	4 3.8	6	1 57 56.65	12 21 0.5	.2994574	3 5.0
20	23 58 7.57	0 36 48.6	.2202064	4 2.5	7	2 0 38.88	12 36 20.5	.3010153	3 3.8
21	0 0 46.87	0 18 24.9	.2221555	4 1.2	8	2 3 21.30	12 51 33.4	.3025644	3 2.5
22	0 3 26.11	S. 0 0 2.1	.2240960	4 0.0	9	2 6 3.91	13 6 39.0	.3041047	3 1.3
23	0 6 5.28	N. 0 18 19.6	.2260282	3 58.7	10	2 8 46.72	13 21 37.3	.3056360	3 0.1
24	0 8 44.40	0 36 40.2	.2279517	3 57.4	11	2 11 29.74	13 36 28.2	.3071583	2 58.8
25	0 11 23.47	0 54 59.3	.2298667	3 56.1	12	2 14 12.97	13 51 11.6	.3086716	2 57.6
26	0 14 2.48	1 13 16.8	.2317732	3 54.8	13	2 16 56.40	14 5 47.3	.3101756	2 56.4
27	0 16 41.46	1 31 32.6	.2336712	3 53.5	14	2 19 40.05	14 20 15.2	.3116704	2 55.2
28	0 19 20.39	1 49 46.5	.2355607	3 52.2	15	2 22 23.92	14 34 35.2	.3131558	2 54.0
29	0 21 59.30	2 7 58.4	.2374417	3 50.9	16	2 25 8.00	14 48 47.3	.3146320	2 52.8
30	0 24 38.17	2 26 8.0	.2393142	3 49.6	17	2 27 52.30	15 2 51.2	.3160986	2 51.6
31	0 27 17.02	2 44 15.3	.2411785	3 48.3	18	2 30 36.82	15 16 46.9	.3175557	2 50.4
Feb. 1	0 29 55.86	3 2 20.2	.2430345	3 47.0	19	2 33 21.57	15 30 34.1	.3190032	2 49.2
2	0 32 34.69	3 20 22.4	.2448824	3 45.8	20	2 36 6.53	15 44 13.0	.3204412	2 48.0
3	0 35 13.53	3 38 21.9	.2467220	3 44.5	21	2 38 51.72	15 57 43.3	.3218695	2 46.8
4	0 37 52.38	3 56 18.5	.2485535	3 43.2	22	2 41 37.13	16 11 4.9	.3232882	2 45.6
5	0 40 31.25	4 14 12.0	.2503769	3 41.9	23	2 44 22.75	16 24 17.8	.3246974	2 44.4
6	0 43 10.15	4 32 2.4	.2521921	3 40.6	24	2 47 8.60	16 37 21.7	.3260968	2 43.3
7	0 45 49.09	4 49 49.4	.2539992	3 39.3	25	2 49 54.67	16 50 16.6	.3274866	2 42.1
8	0 48 28.07	5 7 33.1	.2557980	3 38.0	26	2 52 40.96	17 3 2.4	.3288668	2 40.9
9	0 51 7.11	5 25 13.2	.2575884	3 36.7	27	2 55 27.46	17 15 38.9	.3302376	2 39.8
10	0 53 46.21	5 42 49.6	.2593705	3 35.4	28	2 58 14.18	17 28 6.1	.3315987	2 38.6
11	0 56 25.38	6 0 22.2	.2611440	3 34.1	29	3 1 1.12	17 40 23.8	.3329504	2 37.4
12	0 59 4.63	6 17 50.9	.2629091	3 32.9	30	3 3 48.28	17 52 32.0	.3342928	2 36.3
13	1 1 43.96	6 35 15.4	.2646654	3 31.6	31	3 6 35.65	18 4 30.5	.3356258	2 35.1
14	1 4 23.38	6 52 35.7	.2664129	3 30.3	Apr. 1	3 9 23.23	18 16 19.3	.3369497	2 34.0
15	1 7 2.89	7 9 51.7	.2681515	3 29.0	2	3 12 11.04	18 27 58.2	.3382643	2 32.8
16	1 9 42.50	N. 7 27 3.2	0.2698811	3 27.7	3	3 14 59.07	N. 18 39 27.2	0.3395697	2 31.7

		Hor. Par.	Semidiameter.			Hor. Par.	Semidiameter.
January	1	5.79	3.08	February	20	4.65	2.47
	11	5.52	2.93	March	2	4.48	2.38
	21	5.28	2.81		12	4.32	2.30
	31	5.05	2.69		22	4.18	2.22
February	10	4.84	2.57	April	1	4.05	2.15

Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
Apr. 3	3 14 59.07	N. 18 39 27.2	0.3395697	2 31.7	May 19	5 26 58.44	N. 24 8 21.9	0.3892995	1 42.4
4	3 17 47.31	18 50 46.3	0.3408659	2 30.6	20	5 29 52.73	24 10 51.8	0.3901530	1 41.3
5	3 20 35.79	19 1 55.2	0.3421529	2 29.4	21	5 32 47.00	24 13 9.4	0.3909966	1 40.3
6	3 23 24.48	19 12 54.0	0.3434306	2 28.3	22	5 35 41.22	24 15 14.7	0.3918303	1 39.3
7	3 26 13.40	19 23 42.4	0.3446992	2 27.1	23	5 38 35.40	24 17 7.7	0.3926542	1 38.2
8	3 29 2.55	19 34 20.7	0.3459585	2 26.0	24	5 41 29.53	24 18 48.4	0.3934683	1 37.2
9	3 31 51.91	19 44 48.5	0.3472084	2 24.9	25	5 44 23.59	24 20 16.9	0.3942725	1 36.1
10	3 34 41.50	19 55 5.8	0.3484489	2 23.8	26	5 47 17.58	24 21 33.2	0.3950669	1 35.1
11	3 37 31.31	20 5 12.6	0.3496800	2 22.7	27	5 50 11.48	24 22 37.2	0.3958518	1 34.1
12	3 40 21.34	20 15 8.8	0.3509016	2 21.6	28	5 53 5.30	24 23 29.0	0.3966270	1 33.0
13	3 43 11.58	20 24 54.2	0.3521135	2 20.5	29	5 55 59.02	24 24 8.6	0.3973928	1 32.0
14	3 46 2.04	20 34 28.9	0.3533157	2 19.4	30	5 58 52.64	24 24 36.1	0.3981490	1 30.9
15	3 48 52.70	20 43 52.7	0.3545082	2 18.3	31	6 1 46.14	24 24 51.3	0.3988956	1 29.9
16	3 51 43.56	20 53 5.5	0.3556909	2 17.2	June 1	6 4 39.53	24 24 54.4	0.3996328	1 28.8
17	3 54 34.62	21 2 7.3	0.3568639	2 16.1	2	6 7 32.81	24 24 45.4	0.4003605	1 27.8
18	3 57 25.87	21 10 57.9	0.3580270	2 15.0	3	6 10 25.96	24 24 24.3	0.4010787	1 26.7
19	4 0 17.31	21 19 37.4	0.3591803	2 13.9	4	6 13 18.99	24 23 51.1	0.4017873	1 25.6
20	4 3 8.93	21 28 5.7	0.3603238	2 12.9	5	6 16 11.87	24 23 5.9	0.4024864	1 24.6
21	4 6 0.71	21 36 22.6	0.3614574	2 11.8	6	6 19 4.61	24 22 8.7	0.4031756	1 23.5
22	4 8 52.67	21 44 28.2	0.3625812	2 10.7	7	6 21 57.21	24 20 59.6	0.4038551	1 22.5
23	4 11 44.79	21 52 22.3	0.3636952	2 9.6	8	6 24 49.64	24 19 38.6	0.4045248	1 21.4
24	4 14 37.07	22 0 4.9	0.3647994	2 8.6	9	6 27 41.90	24 18 5.8	0.4051848	1 20.3
25	4 17 29.49	22 7 36.0	0.3658938	2 7.5	10	6 30 33.99	24 16 21.2	0.4058349	1 19.2
26	4 20 22.06	22 14 55.4	0.3669785	2 6.4	11	6 33 25.89	24 14 24.8	0.4064752	1 18.2
27	4 23 14.76	22 22 3.2	0.3680536	2 5.4	12	6 36 17.61	24 12 16.7	0.4071054	1 17.1
28	4 26 7.60	22 28 59.2	0.3691193	2 4.3	13	6 39 9.12	24 9 56.9	0.4077258	1 16.0
29	4 29 0.55	22 35 43.5	0.3701754	2 3.2	14	6 42 0.43	24 7 25.5	0.4083360	1 14.9
30	4 31 53.63	22 42 15.9	0.3712220	2 2.2	15	6 44 51.52	24 4 42.5	0.4089362	1 13.8
May 1	4 34 46.83	22 48 36.5	0.3722593	2 1.1	16	6 47 42.38	24 1 48.0	0.4095263	1 12.7
2	4 37 40.14	22 54 45.1	0.3732873	2 0.1	17	6 50 33.02	23 58 42.2	0.4101063	1 11.6
3	4 40 33.56	23 0 41.8	0.3743058	1 59.0	18	6 53 23.42	23 55 25.0	0.4106761	1 10.5
4	4 43 27.09	23 6 26.5	0.3753149	1 58.0	19	6 56 13.57	23 51 56.4	0.4112359	1 9.4
5	4 46 20.72	23 11 59.2	0.3763147	1 56.9	20	6 59 3.46	23 48 16.6	0.4117856	1 8.3
6	4 49 14.45	23 17 19.9	0.3773051	1 55.9	21	7 1 53.09	23 44 25.6	0.4123254	1 7.2
7	4 52 8.26	23 22 28.4	0.3782860	1 54.8	22	7 4 42.45	23 40 23.5	0.4128551	1 6.1
8	4 55 2.16	23 27 24.8	0.3792574	1 53.8	23	7 7 31.53	23 36 10.3	0.4133749	1 5.0
9	4 57 56.13	23 32 9.2	0.3802193	1 52.8	24	7 10 20.33	23 31 46.1	0.4138849	1 3.8
10	5 0 50.18	23 36 41.5	0.3811714	1 51.7	25	7 13 8.84	23 27 11.0	0.4143850	1 2.7
11	5 3 44.29	23 41 1.5	0.3821139	1 50.7	26	7 15 57.06	23 22 25.0	0.4148754	1 1.6
12	5 6 38.45	23 45 9.4	0.3830466	1 49.6	27	7 18 44.99	23 17 28.3	0.4153561	1 0.4
13	5 9 32.66	23 49 5.1	0.3839695	1 48.6	28	7 21 32.61	23 12 20.8	0.4158270	0 59.3
14	5 12 26.92	23 52 48.6	0.3848827	1 47.6	29	7 24 19.93	23 7 2.8	0.4162883	0 58.1
15	5 15 21.20	23 56 19.8	0.3857858	1 46.5	30	7 27 6.96	23 1 34.1	0.4167398	0 57.0
16	5 18 15.50	23 59 38.7	0.3866791	1 45.5	July 1	7 29 53.67	22 55 55.0	0.4171816	0 55.8
17	5 21 9.81	24 2 45.4	0.3875625	1 44.4	2	7 32 40.08	22 50 5.4	0.4176135	0 54.6
18	5 24 4.13	24 5 39.8	0.3884359	1 43.4	3	7 35 26.18	22 44 5.5	0.4180357	0 53.5
19	5 26 58.44	N. 24 8 21.9	0.3892995	1 42.4	4	7 38 11.97	N. 22 37 55.4	0.4184481	0 52.3

		Hor. Par.	Semidiameter.			Hor. Par.	Semidiameter.
April	11	3.93	2.09	May	31	3.51	1.87
	21	3.83	2.03	June	10	3.46	1.84
May	1	3.73	1.98		20	3.41	1.81
	11	3.65	1.94		30	3.37	1.79
	21	3.58	1.90	July	10	3.34	1.77

Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
July 4	7 38 11.97	N. 22 37 55.4	0.4184481	0 52.3	Aug. 19	9 39 54.0	N. 15 15 44.9	0.4263512	23 50.4
5	7 40 57.44	22 31 35.1	.4188506	0 51.1	20	9 41 35.09	15 3 17.6	.4262762	23 48.9
6	7 43 42.58	22 25 4.7	.4192432	0 49.9	21	9 44 4.47	14 50 44.8	.4261906	23 47.5
7	7 46 27.41	22 18 24.3	.4196257	0 48.7	22	9 46 33.54	14 38 6.3	.4260940	23 46.0
8	7 49 11.91	22 11 34.0	.4199982	0 47.5	23	9 49 2.31	14 25 22.3	.4259870	23 44.6
9	7 51 56.08	22 4 33.8	.4203607	0 46.3	24	9 51 30.78	14 12 32.9	.4258693	23 43.1
10	7 54 39.92	21 57 23.9	.4207129	0 45.1	25	9 53 58.96	13 59 38.2	.4257410	23 41.6
11	7 57 23.42	21 50 4.4	.4210549	0 43.9	26	9 56 26.85	13 46 38.3	.4256021	23 40.1
12	8 0 6.59	21 42 35.3	.4213866	0 42.6	27	9 58 54.46	13 33 33.3	.4254525	23 38.6
13	8 2 49.41	21 34 56.7	.4217080	0 41.4	28	10 1 21.80	13 20 23.3	.4252922	23 37.1
14	8 5 31.88	21 27 8.8	.4220191	0 40.2	29	10 3 48.87	13 7 8.3	.4251212	23 35.6
15	8 8 14.01	21 19 11.6	.4223198	0 38.9	30	10 6 15.68	12 53 48.5	.4249394	23 34.1
16	8 10 55.79	21 11 5.2	.4226101	0 37.7	31	10 8 42.23	12 40 24.0	.4247468	23 32.6
17	8 13 37.21	21 2 49.8	.4228901	0 36.5	Sept. 1	10 11 8.53	12 26 54.8	.4245432	23 31.1
18	8 16 18.27	20 54 25.3	.4231597	0 35.2	2	10 13 34.58	12 13 21.1	.4243286	23 29.6
19	8 18 58.96	20 45 51.9	.4234190	0 33.9	3	10 16 0.39	11 59 42.8	.4241030	23 28.1
20	8 21 39.29	20 37 9.8	.4236679	0 32.7	4	10 18 25.95	11 46 0.3	.4238662	23 26.6
21	8 24 19.26	20 28 18.9	.4239065	0 31.4	5	10 20 51.29	11 32 13.4	.4236182	23 25.1
22	8 26 58.86	20 19 19.5	.4241349	0 30.1	6	10 23 16.40	11 18 22.4	.4233590	23 23.5
23	8 29 38.09	20 10 11.5	.4243531	0 28.8	7	10 25 41.28	11 4 27.3	.4230885	23 22.0
24	8 32 16.96	20 0 55.1	.4245613	0 27.5	8	10 28 5.95	10 50 28.2	.4228066	23 20.5
25	8 34 55.47	19 51 30.4	.4247594	0 26.2	9	10 30 30.39	10 36 25.2	.4225132	23 19.0
26	8 37 33.61	19 41 57.5	.4249474	0 24.9	10	10 32 54.62	10 22 18.4	.4222083	23 17.4
27	8 40 11.39	19 32 16.4	.4251254	0 23.6	11	10 35 18.63	10 8 8.0	.4218920	23 15.9
28	8 42 48.81	19 22 27.3	.4252934	0 22.3	12	10 37 42.43	9 53 54.0	.4215641	23 14.3
29	8 45 25.86	19 12 30.1	.4254512	0 21.0	13	10 40 6.04	9 39 36.5	.4212245	23 12.8
30	8 48 2.57	19 2 25.2	.4255989	0 19.6	14	10 42 29.45	9 25 15.7	.4208735	23 11.2
31	8 50 38.93	18 52 12.4	.4257364	0 18.3	15	10 44 52.66	9 10 51.5	.4205110	23 9.6
Aug. 1	8 53 14.94	18 41 52.0	.4258638	0 17.0	16	10 47 15.68	8 56 24.3	.4201371	23 8.1
2	8 55 50.61	18 31 24.0	.4259803	0 15.6	17	10 49 38.51	8 41 53.9	.4197517	23 6.5
3	8 58 25.93	18 20 48.5	.4260877	0 14.3	18	10 52 1.16	8 27 20.5	.4193549	23 5.0
4	9 1 0.90	18 10 5.6	.4261841	0 12.9	19	10 54 23.64	8 12 44.3	.4189467	23 3.4
5	9 3 35.53	17 59 15.4	.4262700	0 11.5	20	10 56 45.95	7 58 5.2	.4185271	23 1.8
6	9 6 9.83	17 48 18.0	.4263455	0 10.2	21	10 59 8.10	7 43 23.4	.4180962	23 0.3
7	9 8 43.78	17 37 13.6	.4264104	0 8.8	22	11 1 30.09	7 28 38.9	.4176540	22 58.7
8	9 11 17.40	17 26 2.2	.4264647	0 7.4	23	11 3 51.93	7 13 51.9	.4172004	22 57.1
9	9 13 50.69	17 14 43.9	.4265084	0 6.0	24	11 6 13.64	6 59 2.5	.4167354	22 55.6
10	9 16 23.64	17 3 18.8	.4265414	0 4.6	25	11 8 35.21	6 44 10.6	.4162590	22 54.0
11	9 18 56.26	16 51 47.0	.4265636	0 3.2	26	11 10 56.66	6 29 16.4	.4157711	22 52.4
12	9 21 28.54	16 40 8.7	.4265750	0 1.8	27	11 13 17.99	6 14 20.0	.4152716	22 50.8
13	9 24 0.50	16 28 23.9	.4265756	{ 0 0.4 } { 23 59.0 }	28	11 15 39.19	5 59 21.5	.4147605	22 49.2
14	9 26 32.13	16 16 32.7	.4265652	23 57.6	29	11 18 0.30	5 44 21.0	.4142378	22 47.6
15	9 29 3.43	16 4 35.2	.4265440	23 56.1	30	11 20 21.31	5 29 18.5	.4137034	22 46.0
16	9 31 34.41	15 52 31.6	.4265120	23 54.7	Oct. 1	11 22 42.23	5 14 14.2	.4131573	22 44.4
17	9 34 5.06	15 40 22.0	.4264692	23 53.3	2	11 25 3.07	4 59 8.1	.4125992	22 42.8
18	9 36 35.39	15 28 6.3	.4264156	23 51.8	3	11 27 23.82	4 44 0.3	.4120292	22 41.2
19	9 39 5.40	N. 15 15 44.9	0.4263512	23 50.4	4	11 29 44.50	N. 4 28 50.9	0.4114473	22 39.6

		Hor. Par.	Semidiameter.			Hor. Par.	Semidiameter.
July	20	3.32	1.76	September	8	3.32	1.76
	30	3.30	1.75		18	3.35	1.78
August	9	3.30	1.75		28	3.39	1.81
	19	3.30	1.75	October	8	3.43	1.83
	29	3.31	1.76		18	3.49	1.86

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Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
Oct. 4	11 29 44.50	N. 4 28 50.9	0.4114473	22 39.6	Nov. 19	13 17 45.88	S. 7 9 44.9	0.3712030	21 26.4
5	11 32 5.10	4 13 40.1	.4108533	22 38.0	20	13 20 9.08	7 24 22.7	.3700248	21 24.8
6	11 34 25.64	3 58 27.8	.4102471	22 36.4	21	13 22 32.47	7 38 57.6	.3688333	21 23.3
7	11 36 46.11	3 43 14.2	.4096286	22 34.8	22	13 24 56.04	7 53 29.5	.3676287	21 21.8
8	11 39 6.53	3 27 59.5	.4089978	22 33.2	23	13 27 19.81	8 7 58.3	.3664109	21 20.2
9	11 41 26.90	3 12 43.7	.4083548	22 31.6	24	13 29 43.79	8 22 23.9	.3651797	21 18.7
10	11 43 47.22	2 57 26.8	.4076993	22 30.0	25	13 32 7.97	8 36 46.2	.3639352	21 17.1
11	11 46 7.50	2 42 9.0	.4070315	22 28.4	26	13 34 32.36	8 51 5.1	.3626773	21 15.6
12	11 48 27.74	2 26 50.5	.4063513	22 26.8	27	13 36 56.97	9 5 20.5	.3614058	21 14.1
13	11 50 47.94	2 11 31.2	.4056587	22 25.2	28	13 39 21.80	9 19 32.3	.3601208	21 12.5
14	11 53 8.11	1 56 11.3	.4049538	22 23.6	29	13 41 46.86	9 33 40.4	.3588222	21 11.0
15	11 55 28.24	1 40 50.9	.4042364	22 22.0	30	13 44 12.15	9 47 44.7	.3575099	21 9.5
16	11 57 48.36	1 25 30.1	.4035069	22 20.4	Dec. 1	13 46 37.67	10 1 45.2	.3561838	21 8.0
17	12 0 8.47	1 10 9.0	.4027651	22 18.8	2	13 49 3.43	10 15 41.7	.3548437	21 6.5
18	12 2 28.56	0 54 47.7	.4020111	22 17.2	3	13 51 29.42	10 29 34.2	.3534895	21 5.0
19	12 4 48.66	0 39 26.2	.4012449	22 15.6	4	13 53 55.67	10 43 22.4	.3521213	21 3.5
20	12 7 8.76	0 24 4.7	.4004665	22 14.0	5	13 56 22.15	10 57 6.4	.3507390	21 2.0
21	12 9 28.88	N. 0 8 43.2	.3996758	22 12.4	6	13 58 48.88	11 10 46.0	.3493425	21 0.5
22	12 11 49.02	S. 0 6 38.2	.3988729	22 10.8	7	14 1 15.86	11 24 21.1	.3479318	20 59.0
23	12 14 9.19	0 21 59.4	.3980577	22 9.2	8	14 3 43.08	11 37 51.5	.3465069	20 57.5
24	12 16 29.40	0 37 20.4	.3972303	22 7.5	9	14 6 10.55	11 51 17.2	.3450679	20 56.1
25	12 18 49.64	0 52 41.0	.3963905	22 5.9	10	14 8 38.27	12 4 38.1	.3436149	20 54.6
26	12 21 9.94	1 8 1.1	.3955382	22 4.3	11	14 11 6.24	12 17 54.0	.3421478	20 53.1
27	12 23 30.29	1 23 20.7	.3946734	22 2.7	12	14 13 34.47	12 31 4.9	.3406668	20 51.6
28	12 25 50.70	1 38 39.7	.3937962	22 1.1	13	14 16 2.95	12 44 10.7	.3391717	20 50.2
29	12 28 11.18	1 53 58.0	.3929063	21 59.5	14	14 18 31.70	12 57 11.2	.3376627	20 48.7
30	12 30 31.74	2 9 15.4	.3920037	21 57.9	15	14 21 0.71	13 10 6.4	.3361398	20 47.3
31	12 32 52.38	2 24 31.9	.3910884	21 56.4	16	14 23 29.99	13 22 56.2	.3346030	20 45.8
Nov. 1	12 35 13.10	2 39 47.5	.3901603	21 54.8	17	14 25 59.54	13 35 40.4	.3330523	20 44.4
2	12 37 33.92	2 55 2.0	.3892192	21 53.2	18	14 28 29.37	13 48 19.1	.3314877	20 42.9
3	12 39 54.84	3 10 15.3	.3882652	21 51.6	19	14 30 59.49	14 0 52.0	.3299091	20 41.5
4	12 42 15.86	3 25 27.3	.3872980	21 50.0	20	14 33 29.88	14 13 19.2	.3283167	20 40.1
5	12 44 36.99	3 40 38.0	.3863175	21 48.4	21	14 36 0.57	14 25 40.4	.3267103	20 38.6
6	12 46 58.22	3 55 47.2	.3853240	21 46.8	22	14 38 31.55	14 37 55.7	.3250899	20 37.2
7	12 49 19.56	4 10 54.7	.3843171	21 45.2	23	14 41 2.82	14 50 4.9	.3234555	20 35.8
8	12 51 41.02	4 26 0.6	.3832970	21 43.6	24	14 43 34.39	15 2 8.0	.3218068	20 34.4
9	12 54 2.60	4 41 4.7	.3822635	21 42.1	25	14 46 6.26	15 14 4.9	.3201441	20 33.0
10	12 56 24.30	4 56 6.9	.3812167	21 40.5	26	14 48 38.43	15 25 55.4	.3184670	20 31.6
11	12 58 46.13	5 11 7.1	.3801567	21 38.9	27	14 51 10.91	15 37 39.5	.3167756	20 30.2
12	13 1 8.09	5 26 5.2	.3790835	21 37.4	28	14 53 43.69	15 49 17.0	.3150696	20 28.8
13	13 3 30.18	5 41 1.1	.3779970	21 35.8	29	14 56 16.77	16 0 47.9	.3133493	20 27.4
14	13 5 52.41	5 55 54.7	.3768975	21 34.2	30	14 58 50.16	16 12 12.1	.3116143	20 26.1
15	13 8 14.79	6 10 45.9	.3757848	21 32.6	31	15 1 23.85	16 23 29.5	.3098647	20 24.7
16	13 10 37.32	6 25 34.6	.3746590	21 31.1	32	15 3 57.85	S. 16 34 39.9	0.3081002	20 23.3
17	13 13 0.01	6 40 20.7	.3735201	21 29.5					
18	13 15 22.85	6 55 4.2	.3723682	21 28.0					
19	13 17 45.88	S. 7 9 44.9	0.3712030	21 26.4					

		Hor. Par.	Semidiameter.			Hor. Par.	Semidiameter.
October	28	3.55	1.88	December	7	3.95	2.10
November	7	3.63	1.92		17	4.09	2.17
	17	3.72	1.98		27	4.24	2.25
	27	3.83	2.04		37	4.42	2.35

Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
Jan. 1	14 44 43.88	S. 14 47 39.8	0.7718110	20 1.5	Feb. 16	15 5 26.81	S. 16 10 32.1	0.7158931	17 20.9
2	14 45 22.23	14 50 27.2	.7708017	19 58.2	17	15 5 39.40	16 11 13.4	.7145476	17 17.2
3	14 46 0.19	14 53 12.2	.7697807	19 54.9	18	15 5 51.28	16 11 51.6	.7132016	17 13.5
4	14 46 37.74	14 55 54.8	.7687481	19 51.6	19	15 6 2.43	16 12 26.8	.7118555	17 9.7
5	14 47 14.89	14 58 35.0	.7677040	19 48.3	20	15 6 12.86	16 12 59.0	.7105097	17 5.9
6	14 47 51.63	15 1 12.7	.7666486	19 45.0	21	15 6 22.57	16 13 28.1	.7091647	17 2.1
7	14 48 27.95	15 3 48.0	.7655819	19 41.6	22	15 6 31.54	16 13 54.2	.7078208	16 58.3
8	14 49 3.84	15 6 20.8	.7645041	19 38.3	23	15 6 39.78	16 14 17.3	.7064785	16 54.5
9	14 49 39.30	15 8 51.1	.7634152	19 34.9	24	15 6 47.28	16 14 37.3	.7051382	16 50.7
10	14 50 14.31	15 11 18.9	.7623155	19 31.6	25	15 6 54.04	16 14 54.3	.7038004	16 46.9
11	14 50 48.87	15 13 44.1	.7612049	19 28.2	26	15 7 0.06	16 15 8.3	.7024654	16 43.1
12	14 51 22.96	15 16 6.8	.7600838	19 24.8	27	15 7 5.34	16 15 19.2	.7011336	16 39.2
13	14 51 56.58	15 18 26.9	.7589523	19 21.5	28	15 7 9.87	16 15 27.1	.6998055	16 35.3
14	14 52 29.73	15 20 44.4	.7578106	19 18.1	Mar. 1	15 7 13.65	16 15 32.0	.6984815	16 31.5
15	14 53 2.39	15 22 59.3	.7566588	19 14.7	2	15 7 16.69	16 15 33.9	.6971620	16 27.6
16	14 53 34.55	15 25 11.5	.7554972	19 11.2	3	15 7 18.98	16 15 32.8	.6958475	16 23.7
17	14 54 6.21	15 27 21.1	.7543260	19 7.8	4	15 7 20.51	16 15 28.6	.6945383	16 19.8
18	14 54 37.36	15 29 28.0	.7531454	19 4.4	5	15 7 21.29	16 15 21.4	.6932349	16 15.8
19	14 55 7.98	15 31 32.3	.7519555	19 1.0	6	15 7 21.32	16 15 11.2	.6919378	16 11.9
20	14 55 38.08	15 33 33.8	.7507566	18 57.6	7	15 7 20.60	16 14 58.0	.6906475	16 8.0
21	14 56 7.65	15 35 32.7	.7495490	18 54.1	8	15 7 19.12	16 14 41.8	.6893643	16 4.0
22	14 56 36.67	15 37 28.8	.7483328	18 50.6	9	15 7 16.88	16 14 22.6	.6880889	16 0.0
23	14 57 5.15	15 39 22.2	.7471084	18 47.2	10	15 7 13.88	16 14 0.4	.6868217	15 56.0
24	14 57 33.08	15 41 12.8	.7458759	18 43.7	11	15 7 10.13	16 13 35.2	.6855633	15 52.0
25	14 58 0.44	15 43 0.6	.7446356	18 40.2	12	15 7 5.62	16 13 7.0	.6843141	15 48.0
26	14 58 27.23	15 44 45.7	.7433878	18 36.7	13	15 7 0.35	16 12 35.8	.6830747	15 44.0
27	14 58 53.45	15 46 28.0	.7421327	18 33.2	14	15 6 54.33	16 12 1.6	.6818457	15 39.9
28	14 59 19.09	15 48 7.5	.7408705	18 29.7	15	15 6 47.57	16 11 24.4	.6806276	15 35.9
29	14 59 44.14	15 49 44.2	.7396015	18 26.2	16	15 6 40.06	16 10 44.3	.6794210	15 31.8
30	15 0 8.59	15 51 18.0	.7383259	18 22.6	17	15 6 31.80	16 10 1.3	.6782264	15 27.7
31	15 0 32.44	15 52 49.1	.7370440	18 19.1	18	15 6 22.81	16 9 15.4	.6770443	15 23.6
Feb. 1	15 0 55.69	15 54 17.3	.7357560	18 15.6	19	15 6 13.09	16 8 26.6	.6758753	15 19.5
2	15 1 18.33	15 55 42.6	.7344621	18 12.0	20	15 6 2.64	16 7 34.9	.6747199	15 15.4
3	15 1 40.34	15 57 5.1	.7331627	18 8.4	21	15 5 51.48	16 6 40.4	.6735786	15 11.3
4	15 2 1.72	15 58 24.8	.7318579	18 4.8	22	15 5 39.60	16 5 43.0	.6724520	15 7.2
5	15 2 22.47	15 59 41.5	.7305481	18 1.2	23	15 5 27.02	16 4 42.8	.6713406	15 3.0
6	15 2 42.58	16 0 55.4	.7292334	17 57.6	24	15 5 13.74	16 3 39.9	.6702449	14 58.9
7	15 3 2.04	16 2 6.3	.7279142	17 54.0	25	15 4 59.77	16 2 34.2	.6691655	14 54.7
8	15 3 20.85	16 3 14.3	.7265908	17 50.4	26	15 4 45.12	16 1 25.9	.6681028	14 50.5
9	15 3 38.99	16 4 19.4	.7252635	17 46.7	27	15 4 29.80	16 0 14.9	.6670574	14 46.3
10	15 3 56.46	16 5 21.6	.7239326	17 43.1	28	15 4 13.82	15 59 1.3	.6660298	14 42.1
11	15 4 13.25	16 6 20.8	.7225986	17 39.4	29	15 3 57.20	15 57 45.1	.6650204	14 37.9
12	15 4 29.36	16 7 17.1	.7212617	17 35.8	30	15 3 39.93	15 56 26.3	.6640296	14 33.7
13	15 4 44.77	16 8 10.3	.7199223	17 32.1	31	15 3 22.02	15 55 5.0	.6630579	14 29.4
14	15 4 59.49	16 9 0.6	.7185808	17 28.4	Apr. 1	15 3 3.50	15 53 41.2	.6621058	14 25.2
15	15 5 13.50	16 9 47.8	.7172376	17 24.7	2	15 2 44.37	15 52 15.0	.6611737	14 21.0
16	15 5 26.81	S. 16 10 32.1	0.7158931	17 20.9	3	15 2 24.64	S. 15 50 46.3	0.6602620	14 16.7

		Hor. Par.	Polar Semidiameter.			Hor. Par.	Polar Semidiameter.
January	1	1.49	15.54	February	20	1.71	17.90
	11	1.52	15.93	March	2	1.77	18.46
	21	1.57	16.37		12	1.82	19.01
	31	1.61	16.84		22	1.87	19.54
February	10	1.66	17.36	April	1	1.92	20.01

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Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
Apr. 3	15 2 24.64	S. 15 50 46.3	0.6602620	14 16.7	May 19	14 41 12.80	S. 14 18 12.7	0.6466229	10 54.7
4	15 2 4.32	15 49 15.4	0.6593714	14 12.4	20	14 40 44.58	14 16 11.0	0.6470007	10 50.3
5	15 1 43.43	15 47 42.1	0.6585022	14 8.1	21	14 40 16.66	14 14 10.7	0.6474063	10 45.9
6	15 1 21.97	15 46 6.5	0.6576550	14 3.8	22	14 39 49.07	14 12 12.0	0.6478392	10 41.5
7	15 0 59.95	15 44 28.7	0.6568301	13 59.5	23	14 39 21.81	14 10 14.9	0.6482992	10 37.1
8	15 0 37.40	15 42 48.7	0.6560282	13 55.2	24	14 38 54.90	14 8 19.5	0.6487859	10 32.7
9	15 0 14.32	15 41 6.6	0.6552495	13 50.9	25	14 38 28.37	14 6 25.9	0.6492990	10 28.4
10	14 59 50.73	15 39 22.4	0.6544946	13 46.6	26	14 38 2.23	14 4 43.2	0.6498381	10 24.0
11	14 59 26.65	15 37 36.2	0.6537639	13 42.3	27	14 37 36.49	14 2 44.4	0.6504027	10 19.7
12	14 59 2.08	15 35 48.1	0.6530579	13 37.9	28	14 37 11.17	14 0 56.6	0.6509926	10 15.3
13	14 58 37.06	15 33 58.1	0.6523771	13 33.5	29	14 36 46.28	13 59 11.0	0.6516074	10 11.0
14	14 58 11.59	15 32 6.3	0.6517217	13 29.2	30	14 36 21.83	13 57 27.5	0.6522466	10 6.6
15	14 57 45.70	15 30 12.7	0.6510923	13 24.8	31	14 35 57.85	13 55 46.2	0.6529099	10 2.3
16	14 57 19.39	15 28 17.4	0.6504892	13 20.5	June 1	14 35 34.33	13 54 7.3	0.6535969	9 58.0
17	14 56 52.69	15 26 20.5	0.6499126	13 16.1	2	14 35 11.30	13 52 30.7	0.6543073	9 53.7
18	14 56 25.63	15 24 22.1	0.6493630	13 11.7	3	14 34 48.77	13 50 56.5	0.6550405	9 49.4
19	14 55 58.21	15 22 22.2	0.6488406	13 7.3	4	14 34 26.75	13 49 24.8	0.6557963	9 45.1
20	14 55 30.46	15 20 20.9	0.6483459	13 2.9	5	14 34 5.25	13 47 55.7	0.6565742	9 40.8
21	14 55 2.40	15 18 18.3	0.6478791	12 58.5	6	14 33 44.28	13 46 29.3	0.6573738	9 36.5
22	14 54 34.05	15 16 14.5	0.6474403	12 54.1	7	14 33 23.87	13 45 5.5	0.6581947	9 32.3
23	14 54 5.43	15 14 9.6	0.6470299	12 49.7	8	14 33 4.02	13 43 44.4	0.6590365	9 28.0
24	14 53 36.56	15 12 3.7	0.6466480	12 45.3	9	14 32 44.74	13 42 26.2	0.6598988	9 23.8
25	14 53 7.46	15 9 56.7	0.6462947	12 40.9	10	14 32 26.05	13 41 10.9	0.6607810	9 19.5
26	14 52 38.15	15 7 48.9	0.6459702	12 36.4	11	14 32 7.95	13 39 58.5	0.6616826	9 15.3
27	14 52 8.65	15 5 40.3	0.6456746	12 32.0	12	14 31 50.45	13 38 49.0	0.6626032	9 11.1
28	14 51 38.99	15 3 31.0	0.6454082	12 27.6	13	14 31 33.57	13 37 42.6	0.6635422	9 6.9
29	14 51 9.17	15 1 21.1	0.6451710	12 23.2	14	14 31 17.31	13 36 39.2	0.6644992	9 2.7
30	14 50 39.22	14 59 10.7	0.6449631	12 18.8	15	14 31 1.68	13 35 39.0	0.6654737	8 58.5
May 1	14 50 9.16	14 56 59.9	0.6447846	12 14.3	16	14 30 46.69	13 34 41.9	0.6664652	8 54.3
2	14 49 39.02	14 54 48.7	0.6446356	12 9.9	17	14 30 32.35	13 33 48.0	0.6674730	8 50.1
3	14 49 8.81	14 52 37.2	0.6445161	12 5.5	18	14 30 18.66	13 32 57.3	0.6684967	8 46.0
4	14 48 38.55	14 50 25.6	0.6444261	12 1.0	19	14 30 5.64	13 32 9.9	0.6695358	8 41.8
5	14 48 8.26	14 48 13.8	0.6443658	11 56.6	20	14 29 53.28	13 31 25.8	0.6705896	8 37.7
6	14 47 37.97	14 46 2.1	0.6443353	11 52.2	21	14 29 41.60	13 30 45.0	0.6716577	8 33.6
7	14 47 7.68	14 43 50.5	0.6443345	11 47.7	22	14 29 30.59	13 30 7.6	0.6727396	8 29.5
8	14 46 37.42	14 41 39.0	0.6443635	11 43.3	23	14 29 20.27	13 29 33.5	0.6738346	8 25.4
9	14 46 7.22	14 39 27.8	0.6444222	11 38.9	24	14 29 10.62	13 29 2.8	0.6749424	8 21.3
10	14 45 37.09	14 37 17.0	0.6445105	11 34.4	25	14 29 1.66	13 28 35.5	0.6760624	8 17.2
11	14 45 7.06	14 35 6.7	0.6446284	11 30.0	26	14 28 53.39	13 28 11.6	0.6771941	8 13.2
12	14 44 37.14	14 32 56.9	0.6447757	11 25.6	27	14 28 45.82	13 27 51.1	0.6783371	8 9.1
13	14 44 7.36	14 30 47.8	0.6449525	11 21.2	28	14 28 38.93	13 27 34.1	0.6794908	8 5.1
14	14 43 37.75	14 28 39.4	0.6451586	11 16.7	29	14 28 32.74	13 27 20.5	0.6806549	8 1.0
15	14 43 8.31	14 26 31.9	0.6453940	11 12.3	30	14 28 27.24	13 27 10.4	0.6818289	7 57.0
16	14 42 39.08	14 24 25.4	0.6456583	11 7.9	July 1	14 28 22.44	13 27 3.7	0.6830122	7 53.0
17	14 42 10.07	14 22 20.0	0.6459514	11 3.5	2	14 28 18.34	13 27 0.5	0.6842046	7 49.0
18	14 41 41.30	14 20 15.7	0.6462730	10 59.1	3	14 28 14.94	13 27 0.7	0.6854055	7 45.0
19	14 41 12.80	S. 14 18 12.7	0.6466229	10 54.7	4	14 28 12.24	S. 13 27 4.3	0.6866146	7 41.1

		Hor. Par.	Polar Semidiameter.			Hor. Par.	Polar Semidiameter.
April	11	1.95	20.40	May	31	1.96	20.44
	21	1.98	20.68	June	10	1.92	20.07
May	1	1.99	20.83		20	1.88	19.62
	11	1.99	20.84		30	1.83	19.12
	21	1.98	20.70	July	10	1.78	18.59

Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
h m s	° ' "	° ' "		h m	h m s	° ' "	° ' "		h m
July 4	14 28 12.24	S. 13 27 4.3	0.6866146	7 41.1	Aug. 19	14 38 17.63	S. 14 27 34.1	0.7440373	4 50.3
5	14 28 10.24	13 27 11.4	.6878313	7 37.1	20	14 38 45.26	14 29 57.3	.7452012	4 46.9
6	14 28 8.95	13 27 22.0	.6890553	7 33.1	21	14 39 13.42	14 32 22.6	.7463573	4 43.4
7	14 28 8.36	13 27 36.0	.6902861	7 29.2	22	14 39 42.10	14 34 50.0	.7475055	4 40.0
8	14 28 8.47	13 27 53.5	.6915232	7 25.3	23	14 40 11.32	14 37 19.5	.7486454	4 36.5
9	14 28 9.29	13 28 14.4	.6927661	7 21.4	24	14 40 41.05	14 39 51.0	.7497770	4 33.1
10	14 28 10.82	13 28 38.8	.6940145	7 17.5	25	14 41 11.29	14 42 24.5	.7509002	4 29.6
11	14 28 13.05	13 29 6.5	.6952679	7 13.6	26	14 41 42.04	14 44 59.8	.7520148	4 26.2
12	14 28 15.98	13 29 37.7	.6965259	7 9.7	27	14 42 13.29	14 47 37.0	.7531207	4 22.8
13	14 28 19.62	13 30 12.3	.6977880	7 5.8	28	14 42 45.04	14 50 16.1	.7542178	4 19.4
14	14 28 23.96	13 30 50.3	.6990538	7 2.0	29	14 43 17.28	14 52 56.9	.7553058	4 16.0
15	14 28 29.00	13 31 31.7	.7003229	6 58.1	30	14 43 50.00	14 55 39.5	.7563846	4 12.6
16	14 28 34.74	13 32 16.5	.7015949	6 54.3	31	14 44 23.21	14 58 23.8	.7574541	4 9.2
17	14 28 41.17	13 33 4.6	.7028692	6 50.5	Sept. 1	14 44 56.90	15 1 9.8	.7585142	4 5.9
18	14 28 48.30	13 33 56.1	.7041456	6 46.6	2	14 45 31.07	15 3 57.4	.7595646	4 2.5
19	14 28 56.12	13 34 50.9	.7054235	6 42.8	3	14 46 5.70	15 6 46.6	.7606052	3 59.1
20	14 29 4.63	13 35 48.9	.7067026	6 39.1	4	14 46 40.80	15 9 37.4	.7616359	3 55.8
21	14 29 13.81	13 36 50.1	.7079824	6 35.3	5	14 47 16.35	15 12 29.7	.7626566	3 52.5
22	14 29 23.67	13 37 54.6	.7092626	6 31.5	6	14 47 52.36	15 15 23.5	.7636670	3 49.1
23	14 29 34.21	13 39 2.3	.7105428	6 27.8	7	14 48 28.81	15 18 18.6	.7646671	3 45.8
24	14 29 45.42	13 40 13.1	.7118226	6 24.0	8	14 49 5.72	15 21 15.2	.7656567	3 42.5
25	14 29 57.29	13 41 27.0	.7131019	6 20.3	9	14 49 43.06	15 24 13.2	.7666356	3 39.2
26	14 30 9.82	13 42 44.0	.7143803	6 16.6	10	14 50 20.84	15 27 12.5	.7676037	3 35.9
27	14 30 23.00	13 44 4.1	.7156574	6 12.9	11	14 50 59.04	15 30 13.0	.7685608	3 32.6
28	14 30 36.83	13 45 27.2	.7169330	6 9.2	12	14 51 37.67	15 33 14.8	.7695068	3 29.3
29	14 30 51.31	13 46 53.3	.7182068	6 5.5	13	14 52 16.71	15 36 17.8	.7704415	3 26.0
30	14 31 6.44	13 48 22.4	.7194784	6 1.8	14	14 52 56.17	15 39 21.9	.7713648	3 22.7
31	14 31 22.20	13 49 54.4	.7207477	5 58.1	15	14 53 36.02	15 42 27.1	.7722765	3 19.5
Aug. 1	14 31 38.60	13 51 29.3	.7220142	5 54.5	16	14 54 16.28	15 45 33.4	.7731766	3 16.2
2	14 31 55.63	13 53 7.1	.7232777	5 50.8	17	14 54 56.92	15 48 40.7	.7740650	3 12.9
3	14 32 13.29	13 54 47.7	.7245380	5 47.2	18	14 55 37.96	15 51 49.0	.7749417	3 9.7
4	14 32 31.57	13 56 31.1	.7257948	5 43.6	19	14 56 19.37	15 54 58.1	.7758064	3 6.4
5	14 32 50.48	13 58 17.3	.7270477	5 39.9	20	14 57 1.16	15 58 8.1	.7766593	3 3.2
6	14 33 9.99	14 0 6.2	.7282966	5 36.3	21	14 57 43.31	16 1 19.0	.7775002	3 0.0
7	14 33 30.12	14 1 57.8	.7295411	5 32.7	22	14 58 25.83	16 4 30.6	.7783290	2 56.7
8	14 33 50.85	14 3 52.1	.7307809	5 29.2	23	14 59 8.70	16 7 43.1	.7791457	2 53.5
9	14 34 12.19	14 5 48.9	.7320159	5 25.6	24	14 59 51.93	16 10 56.3	.7799501	2 50.3
10	14 34 34.12	14 7 48.4	.7332457	5 22.0	25	15 0 35.51	16 14 10.2	.7807423	2 47.1
11	14 34 56.65	14 9 50.5	.7344701	5 18.4	26	15 1 19.44	16 17 24.8	.7815221	2 43.9
12	14 35 19.77	14 11 55.0	.7356887	5 14.9	27	15 2 3.70	16 20 39.9	.7822895	2 40.7
13	14 35 43.48	14 14 2.1	.7369013	5 11.4	28	15 2 48.30	16 23 55.6	.7830444	2 37.5
14	14 36 7.76	14 16 11.5	.7381077	5 7.8	29	15 3 33.24	16 27 11.8	.7837868	2 34.3
15	14 36 32.62	14 18 23.4	.7393075	5 4.3	30	15 4 18.50	16 30 28.6	.7845166	2 31.1
16	14 36 58.04	14 20 37.7	.7405006	5 0.8	Oct. 1	15 5 4.08	16 33 45.8	.7852336	2 28.0
17	14 37 24.02	14 22 54.2	.7416868	4 57.3	2	15 5 49.98	16 37 3.4	.7859379	2 24.8
18	14 37 50.55	14 25 13.0	.7428657	4 53.8	3	15 6 36.19	16 40 21.5	.7866293	2 21.6
19	14 38 17.63	S. 14 27 34.1	0.7440373	4 50.3	4	15 7 22.71	S. 16 43 39.9	0.7873077	2 18.5

		Hor. Par.	Polar Semidiameter.			Hor. Par.	Polar Semidiameter.
July	20	1.73	18.06	September	8	1.51	15.76
	30	1.68	17.54		18	1.48	15.44
August	9	1.63	17.03		28	1.45	15.14
	19	1.59	16.58	October	8	1.43	14.91
	29	1.55	16.15		18	1.41	14.73

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Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
Oct. 4	15 7 22.71	S. 16 43 39.9	0.7873077	2 18.5	Nov. 19	15 47 5.63	S. 19 12 25.9	0.8035168	23 54.1
5	15 8 9.53	16 46 58.6	.7879731	2 15.3	20	15 48 0.75	19 15 24.2	.8035293	23 51.1
6	15 8 56.66	16 50 17.6	.7886253	2 12.2	21	15 48 55.93	19 18 21.4	.8035271	23 48.1
7	15 9 44.08	16 53 36.9	.7892643	2 9.0	22	15 49 51.16	19 21 17.5	.8035101	23 45.1
8	15 10 31.79	16 56 56.4	.7898900	2 5.9	23	15 50 46.43	19 24 12.4	.8034783	23 42.1
9	15 11 19.77	17 0 16.1	.7905022	2 2.7	24	15 51 41.74	19 27 6.2	.8034318	23 39.1
10	15 12 8.04	17 3 35.9	.7911009	1 59.6	25	15 52 37.09	19 29 58.9	.8033704	23 36.0
11	15 12 56.58	17 6 55.9	.7916861	1 56.5	26	15 53 32.46	19 32 50.3	.8032942	23 33.0
12	15 13 45.39	17 10 15.9	.7922577	1 53.4	27	15 54 27.86	19 35 40.5	.8032033	23 30.0
13	15 14 34.45	17 13 35.9	.7928155	1 50.2	28	15 55 23.29	19 38 29.6	.8030975	23 27.0
14	15 15 23.77	17 16 55.9	.7933597	1 47.1	29	15 56 18.72	19 41 17.4	.8029768	23 24.0
15	15 16 13.34	17 20 15.9	.7938901	1 44.0	30	15 57 14.16	19 44 3.9	.8028413	23 21.0
16	15 17 3.15	17 23 35.9	.7944066	1 40.9	Dec. 1	15 58 9.61	19 46 49.2	.8026909	23 18.0
17	15 17 53.20	17 26 55.7	.7949093	1 37.8	2	15 59 5.06	19 49 33.2	.8025255	23 15.0
18	15 18 43.48	17 30 15.4	.7953881	1 34.7	3	16 0 0.49	19 52 15.8	.8023451	23 11.9
19	15 19 33.98	17 33 34.9	.7958729	1 31.6	4	16 0 55.91	19 54 57.2	.8021498	23 8.9
20	15 20 24.71	17 36 54.2	.7963338	1 28.5	5	16 1 51.31	19 57 37.2	.8019395	23 5.9
21	15 21 15.65	17 40 13.2	.7967808	1 25.4	6	16 2 46.68	20 0 15.9	.8017141	23 2.9
22	15 22 6.81	17 43 32.0	.7972140	1 22.4	7	16 3 42.02	20 2 53.2	.8014737	22 59.9
23	15 22 58.17	17 46 50.4	.7976331	1 19.3	8	16 4 37.31	20 5 29.1	.8012184	22 56.9
24	15 23 49.74	17 50 8.5	.7980383	1 16.2	9	16 5 32.56	20 8 3.6	.8009480	22 53.9
25	15 24 41.50	17 53 26.2	.7984293	1 13.1	10	16 6 27.75	20 10 36.7	.8006626	22 50.8
26	15 25 33.46	17 56 43.5	.7988062	1 10.1	11	16 7 22.88	20 13 8.3	.8003623	22 47.8
27	15 26 25.60	18 0 0.4	.7991689	1 7.0	12	16 8 17.94	20 15 38.5	.8000471	22 44.8
28	15 27 17.93	18 3 16.7	.7995175	1 3.9	13	16 9 12.92	20 18 7.2	.7997170	22 41.7
29	15 28 10.44	18 6 32.6	.7998518	1 0.9	14	16 10 7.82	20 20 34.5	.7993721	22 38.7
30	15 29 3.13	18 9 48.0	.8001720	0 57.8	15	16 11 2.64	20 23 0.2	.7990123	22 35.7
31	15 29 55.99	18 13 2.9	.8004780	0 54.8	16	16 11 57.35	20 25 24.5	.7986378	22 32.7
Nov. 1	15 30 49.01	18 16 17.2	.8007696	0 51.7	17	16 12 51.97	20 27 47.3	.7982485	22 29.6
2	15 31 42.20	18 19 30.9	.8010468	0 48.7	18	16 13 46.48	20 30 8.5	.7978445	22 26.6
3	15 32 35.54	18 22 44.0	.8013096	0 45.6	19	16 14 40.88	20 32 28.2	.7974258	22 23.6
4	15 33 29.03	18 25 56.4	.8015578	0 42.6	20	16 15 35.16	20 34 46.4	.7969925	22 20.5
5	15 34 22.67	18 29 8.2	.8017915	0 39.5	21	16 16 29.32	20 37 3.0	.7965446	22 17.5
6	15 35 16.45	18 32 19.2	.8020106	0 36.5	22	16 17 23.35	20 39 18.0	.7960821	22 14.5
7	15 36 10.37	18 35 29.5	.8022150	0 33.5	23	16 18 17.25	20 41 31.5	.7956051	22 11.4
8	15 37 4.41	18 38 39.1	.8024047	0 30.4	24	16 19 11.00	20 43 43.4	.7951135	22 8.4
9	15 37 58.58	18 41 47.9	.8025797	0 27.4	25	16 20 4.61	20 45 53.8	.7946074	22 5.4
10	15 38 52.86	18 44 55.8	.8027399	0 24.4	26	16 20 58.06	20 48 2.6	.7940868	22 2.3
11	15 39 47.25	18 48 2.9	.8028853	0 21.3	27	16 21 51.35	20 50 9.9	.7935517	21 59.3
12	15 40 41.75	18 51 9.2	.8030160	0 18.3	28	16 22 44.48	20 52 15.5	.7930021	21 56.2
13	15 41 36.34	18 54 14.5	.8031319	0 15.3	29	16 23 37.44	20 54 19.5	.7924380	21 53.2
14	15 42 31.02	18 57 18.9	.8032330	0 12.2	30	16 24 30.22	20 56 22.0	.7918595	21 50.1
15	15 43 25.79	19 0 22.3	.8033193	0 9.2	31	16 25 22.81	20 58 22.9	.7912665	21 47.0
16	15 44 20.65	19 3 24.7	.8033909	0 6.2	32	16 26 15.21	S. 21 0 22.2	0.7906591	21 44.0
17	15 45 15.58	19 6 26.2	.8034476	0 3.2					
18	15 46 10.57	19 9 26.6	.8034896	{ 0 0.2 23 57.1 }					
19	15 47 5.63	S. 19 12 25.9	0.8035168	23 54.1					

		Hor. Par.	Polar Semidiameter.			Hor. Par.	Polar Semidiameter.
October	28	1.40	14.58	December	7	1.39	14.52
November	7	1.39	14.50		17	1.40	14.62
	17	1.38	14.45		27	1.42	14.79
	27	1.38	14.45		37	1.44	15.00

Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
h m s	° ' "	h m	h m	h m	h m s	° ' "	h m	h m	h m
Jan. 1	13 15 19.83	S. 5 20 58.7	0.9883183	18 32.0	Feb. 16	13 17 14.65	S. 5 19 3.1	0.9547938	15 32.8
2	13 15 30.98	5 21 49.3	.9875853	18 28.2	17	13 17 8.00	5 18 6.7	.9541577	15 28.8
3	13 15 41.78	5 22 37.7	.9868492	18 24.5	18	13 17 0.99	5 17 8.2	.9535298	15 24.7
4	13 15 52.22	5 23 23.7	.9861103	18 20.7	19	13 16 53.61	5 16 7.7	.9529102	15 20.7
5	13 16 2.29	5 24 7.5	.9853686	18 16.9	20	13 16 45.88	5 15 5.2	.9522993	15 16.6
6	13 16 11.99	5 24 48.9	.9846245	18 13.1	21	13 16 37.79	5 14 0.7	.9516972	15 12.5
7	13 16 21.33	5 25 28.0	.9838780	18 9.4	22	13 16 29.35	5 12 54.4	.9511043	15 8.4
8	13 16 30.29	5 26 4.7	.9831295	18 5.6	23	13 16 20.57	5 11 46.1	.9505208	15 4.3
9	13 16 38.88	5 26 39.1	.9823790	18 1.8	24	13 16 11.46	5 10 36.0	.9499469	15 0.3
10	13 16 47.09	5 27 11.1	.9816268	17 58.0	25	13 16 2.01	5 9 24.0	.9493829	14 56.2
11	13 16 54.92	5 27 40.8	.9808731	17 54.2	26	13 15 52.24	5 8 10.3	.9488289	14 52.1
12	13 17 2.37	5 28 8.0	.9801181	17 50.4	27	13 15 42.14	5 6 54.8	.9482852	14 48.0
13	13 17 9.44	5 28 32.9	.9793620	17 46.6	28	13 15 31.73	5 5 37.6	.9477520	14 43.9
14	13 17 16.12	5 28 55.3	.9786051	17 42.7	Mar. 1	13 15 21.01	5 4 18.7	.9472296	14 39.8
15	13 17 22.41	5 29 15.3	.9778476	17 38.9	2	13 15 9.98	5 2 58.2	.9467181	14 35.6
16	13 17 28.30	5 29 33.0	.9770898	17 35.1	3	13 14 58.65	5 1 36.1	.9462178	14 31.5
17	13 17 33.80	5 29 48.2	.9763318	17 31.2	4	13 14 47.02	5 0 12.5	.9457288	14 27.4
18	13 17 38.91	5 30 1.0	.9755741	17 27.4	5	13 14 35.11	4 58 47.3	.9452513	14 23.3
19	13 17 43.62	5 30 11.4	.9748168	17 23.5	6	13 14 22.91	4 57 20.6	.9447856	14 19.1
20	13 17 47.94	5 30 19.3	.9740602	17 19.6	7	13 14 10.44	4 55 52.5	.9443319	14 15.0
21	13 17 51.86	5 30 24.8	.9733046	17 15.8	8	13 13 57.69	4 54 23.0	.9438903	14 10.8
22	13 17 55.37	5 30 27.9	.9725501	17 11.9	9	13 13 44.68	4 52 52.1	.9434610	14 6.7
23	13 17 58.49	5 30 28.6	.9717970	17 8.0	10	13 13 31.42	4 51 19.9	.9430443	14 2.5
24	13 18 1.20	5 30 26.9	.9710456	17 4.1	11	13 13 17.90	4 49 46.4	.9426404	13 58.4
25	13 18 3.52	5 30 22.8	.9702961	17 0.2	12	13 13 4.13	4 48 11.7	.9422495	13 54.2
26	13 18 5.44	5 30 16.3	.9695488	16 56.3	13	13 12 50.13	4 46 35.9	.9418717	13 50.1
27	13 18 6.96	5 30 7.4	.9688039	16 52.4	14	13 12 35.89	4 44 59.0	.9415073	13 45.9
28	13 18 8.09	5 29 56.1	.9680617	16 48.5	15	13 12 21.44	4 43 21.0	.9411565	13 41.7
29	13 18 8.81	5 29 42.5	.9673224	16 44.5	16	13 12 6.77	4 41 41.9	.9408194	13 37.5
30	13 18 9.14	5 29 26.5	.9665862	16 40.6	17	13 11 51.90	4 40 1.9	.9404962	13 33.3
31	13 18 9.07	5 29 8.1	.9658534	16 36.7	18	13 11 36.83	4 38 21.0	.9401870	13 29.2
Feb. 1	13 18 8.61	5 28 47.4	.9651242	16 32.8	19	13 11 21.57	4 36 39.3	.9398919	13 25.0
2	13 18 7.75	5 28 24.4	.9643989	16 28.8	20	13 11 6.13	4 34 56.7	.9396112	13 20.8
3	13 18 6.49	5 27 59.0	.9636777	16 24.8	21	13 10 50.52	4 33 13.4	.9393449	13 16.6
4	13 18 4.84	5 27 31.3	.9629609	16 20.9	22	13 10 34.75	4 31 29.4	.9390931	13 12.4
5	13 18 2.79	5 27 1.3	.9622487	16 16.9	23	13 10 18.83	4 29 44.8	.9388560	13 8.2
6	13 18 0.35	5 26 29.0	.9615413	16 12.9	24	13 10 2.76	4 27 59.6	.9386336	13 4.0
7	13 17 57.52	5 25 54.4	.9608390	16 9.0	25	13 9 46.56	4 26 13.9	.9384261	12 59.8
8	13 17 54.30	5 25 17.5	.9601421	16 5.0	26	13 9 30.24	4 24 27.8	.9382335	12 55.6
9	13 17 50.68	5 24 38.4	.9594509	16 1.0	27	13 9 13.80	4 22 41.3	.9380559	12 51.4
10	13 17 46.68	5 23 57.1	.9587656	15 57.0	28	13 8 57.25	4 20 54.4	.9378934	12 47.2
11	13 17 42.30	5 23 13.5	.9580865	15 52.9	29	13 8 40.60	4 19 7.2	.9377460	12 43.0
12	13 17 37.53	5 22 27.7	.9574139	15 48.9	30	13 8 23.86	4 17 19.8	.9376137	12 38.8
13	13 17 32.37	5 21 39.8	.9567480	15 44.9	31	13 8 7.04	4 15 32.3	.9374966	12 34.6
14	13 17 26.84	5 20 49.7	.9560892	15 40.9	Apr. 1	13 7 50.15	4 13 44.6	.9373946	12 30.4
15	13 17 20.93	5 19 57.5	.9554377	15 36.9	2	13 7 33.20	4 11 56.8	.9373078	12 26.1
16	13 17 14.65	S. 5 19 3.1	0.9547938	15 32.8	3	13 7 16.19	S. 4 10 9.1	0.9372363	12 21.9

		Hor. Par.	Polar Semidiameter.			Hor. Par.	Polar Semidiameter.
January	1	0.90	7.66	February	20	0.98	8.32
	11	0.92	7.80	March	2	0.99	8.43
	21	0.93	7.93		12	1.00	8.52
	31	0.95	8.07		22	1.01	8.58
February	10	0.97	8.20	April	1	1.02	8.61

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Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
Apr. 3	13 7 16.19	S. 4 10 9.1	0.9372363	12 21.9	May 19	12 55 45.72	S. 3 2 50.8	0.9496446	9 9.7
4	13 6 59.13	4 8 21.4	.9371802	12 17.7	20	12 55 35.63	3 2 0.2	.9502070	9 5.6
5	13 6 42.03	4 6 33.8	.9371394	12 13.5	21	12 55 25.85	3 1 11.8	.9507787	9 1.5
6	13 6 24.91	4 4 46.4	.9371141	12 9.3	22	12 55 16.39	3 0 25.5	.9513595	8 57.4
7	13 6 7.76	4 2 59.2	.9371041	12 5.1	23	12 55 7.25	2 59 41.4	.9519492	8 53.3
8	13 5 50.61	4 1 12.2	.9371096	12 0.8	24	12 54 58.42	2 58 59.6	.9525474	8 49.2
9	13 5 33.45	3 59 25.5	.9371305	11 56.6	25	12 54 49.92	2 58 19.9	.9531540	8 45.2
10	13 5 16.30	3 57 39.3	.9371669	11 52.4	26	12 54 41.75	2 57 42.5	.9537687	8 41.1
11	13 4 59.16	3 55 53.4	.9372186	11 48.2	27	12 54 33.92	2 57 7.3	.9543913	8 37.0
12	13 4 42.05	3 54 8.1	.9372858	11 44.0	28	12 54 26.42	2 56 34.4	.9550215	8 33.0
13	13 4 24.98	3 52 23.3	.9373683	11 39.8	29	12 54 19.26	2 56 3.8	.9556591	8 28.9
14	13 4 7.95	3 50 39.2	.9374661	11 35.6	30	12 54 12.43	2 55 35.5	.9563040	8 24.9
15	13 3 50.98	3 48 55.7	.9375792	11 31.3	31	12 54 5.94	2 55 9.4	.9569558	8 20.9
16	13 3 34.07	3 47 13.0	.9377074	11 27.1	June 1	12 53 59.80	2 54 45.7	.9576144	8 16.8
17	13 3 17.23	3 45 31.0	.9378508	11 22.9	2	12 53 54.01	2 54 24.3	.9582796	8 12.8
18	13 3 0.48	3 43 49.9	.9380092	11 18.7	3	12 53 48.57	2 54 5.3	.9589510	8 8.8
19	13 2 43.82	3 42 9.6	.9381825	11 14.5	4	12 53 43.47	2 53 48.5	.9596285	8 4.7
20	13 2 27.26	3 40 30.4	.9383707	11 10.3	5	12 53 38.73	2 53 34.1	.9603119	8 0.7
21	13 2 10.81	3 38 52.2	.9385737	11 6.1	6	12 53 34.35	2 53 22.1	.9610009	7 56.7
22	13 1 54.47	3 37 15.0	.9387914	11 1.9	7	12 53 30.32	2 53 12.4	.9616953	7 52.7
23	13 1 38.27	3 35 38.9	.9390236	10 57.7	8	12 53 26.65	2 53 5.1	.9623950	7 48.8
24	13 1 22.20	3 34 3.9	.9392701	10 53.5	9	12 53 23.35	2 53 0.2	.9630996	7 44.8
25	13 1 6.28	3 32 30.2	.9395308	10 49.3	10	12 53 20.41	2 52 57.6	.9638089	7 40.8
26	13 0 50.50	3 30 57.7	.9398056	10 45.1	11	12 53 17.84	2 52 57.4	.9645226	7 36.8
27	13 0 34.89	3 29 26.5	.9400944	10 40.9	12	12 53 15.63	2 52 59.6	.9652405	7 32.9
28	13 0 19.45	3 27 56.7	.9403970	10 36.7	13	12 53 13.79	2 53 4.2	.9659624	7 28.9
29	13 0 4.18	3 26 28.2	.9407132	10 32.5	14	12 53 12.32	2 53 11.2	.9666879	7 25.0
30	12 59 49.09	3 25 1.2	.9410429	10 28.4	15	12 53 11.22	2 53 20.5	.9674168	7 21.0
May 1	12 59 34.19	3 23 35.7	.9413859	10 24.2	16	12 53 10.49	2 53 32.2	.9681490	7 17.1
2	12 59 19.49	3 22 11.7	.9417420	10 20.0	17	12 53 10.13	2 53 46.3	.9688841	7 13.1
3	12 59 4.99	3 20 49.3	.9421111	10 15.9	18	12 53 10.14	2 54 2.8	.9696219	7 9.2
4	12 58 50.69	3 19 28.4	.9424931	10 11.7	19	12 53 10.52	2 54 21.7	.9703623	7 5.3
5	12 58 36.60	3 18 9.1	.9428877	10 7.5	20	12 53 11.28	2 54 43.0	.9711050	7 1.4
6	12 58 22.74	3 16 51.5	.9432949	10 3.3	21	12 53 12.40	2 55 6.6	.9718497	6 57.4
7	12 58 9.11	3 15 35.6	.9437144	9 59.2	22	12 53 13.90	2 55 32.5	.9725962	6 53.5
8	12 57 55.71	3 14 21.4	.9441461	9 55.0	23	12 53 15.76	2 56 0.7	.9733443	6 49.6
9	12 57 42.55	3 13 9.0	.9445898	9 50.9	24	12 53 17.99	2 56 31.3	.9740937	6 45.7
10	12 57 29.64	3 11 58.4	.9450454	9 46.7	25	12 53 20.59	2 57 4.3	.9748442	6 41.8
11	12 57 16.99	3 10 49.7	.9455128	9 42.6	26	12 53 23.56	2 57 39.5	.9755956	6 38.0
12	12 57 4.60	3 9 42.9	.9459916	9 38.5	27	12 53 26.89	2 58 17.0	.9763477	6 34.1
13	12 56 52.48	3 8 38.0	.9464816	9 34.3	28	12 53 30.58	2 58 56.8	.9771003	6 30.2
14	12 56 40.64	3 7 35.1	.9469826	9 30.2	29	12 53 34.64	2 59 38.9	.9778533	6 26.4
15	12 56 29.08	3 6 34.1	.9474943	9 26.1	30	12 53 39.06	3 0 23.2	.9786065	6 22.5
16	12 56 17.80	3 5 35.2	.9480166	9 22.0	July 1	12 53 43.83	3 1 9.7	.9793596	6 18.7
17	12 56 6.81	3 4 38.3	.9485492	9 17.9	2	12 53 48.97	3 1 58.5	.9801125	6 14.8
18	12 55 56.11	3 3 43.5	.9490919	9 13.8	3	12 53 54.47	3 2 49.5	.9808651	6 11.0
19	12 55 45.72	S. 3 2 50.8	0.9496446	9 9.7	4	12 54 0.32	S. 3 3 42.7	0.9816170	6 7.1

		Hor. Par.	Polar Semidiameter.			Hor. Par.	Polar Semidiameter.
April	11	1.02	8.62	May	31	0.97	8.24
	21	1.01	8.59	June	10	0.96	8.10
May	1	1.01	8.53		20	0.94	7.97
	11	1.00	8.46		30	0.92	7.83
	21	0.99	8.36	July	10	0.91	7.70

Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
July 4	12 54 0.32	S. 3 342.7	0.9816170	6 7.1	Aug. 19	13 4 20.48	S. 4 19 6.4	1.0125800	3 16.6
5	12 54 6.53	3 4 38.1	.9823682	6 3.3	20	13 4 40.56	4 21 21.7	.0131206	3 13.0
6	12 54 13.10	3 5 35.7	.9831183	5 59.5	21	13 5 0.87	4 23 38.1	.0136536	3 9.4
7	12 54 20.02	3 6 35.5	.9838673	5 55.7	22	13 5 21.40	4 25 55.7	.0141791	3 5.8
8	12 54 27.29	3 7 37.4	.9846149	5 51.9	23	13 5 42.15	4 28 14.5	.0146968	3 2.2
9	12 54 34.92	3 8 41.5	.9853610	5 48.1	24	13 6 3.12	4 30 34.3	.0152068	2 58.6
10	12 54 42.90	3 9 47.7	.9861053	5 44.3	25	13 6 24.30	4 32 55.2	.0157090	2 55.1
11	12 54 51.22	3 10 56.0	.9868477	5 40.5	26	13 6 45.70	4 35 17.2	.0162033	2 51.5
12	12 54 59.89	3 12 6.4	.9875880	5 36.7	27	13 7 7.30	4 37 40.2	.0166897	2 47.9
13	12 55 8.90	3 13 18.8	.9883260	5 32.9	28	13 7 29.11	4 40 4.2	.0171681	2 44.3
14	12 55 18.26	3 14 33.4	.9890615	5 29.1	29	13 7 51.12	4 42 29.2	.0176384	2 40.8
15	12 55 27.96	3 15 50.0	.9897943	5 25.4	30	13 8 13.33	4 44 55.1	.0181005	2 37.2
16	12 55 38.00	3 17 8.6	.9905243	5 21.6	31	13 8 35.73	4 47 22.0	.0185543	2 33.7
17	12 55 48.37	3 18 29.2	.9912512	5 17.8	Sept. 1	13 8 58.33	4 49 49.8	.0189998	2 30.1
18	12 55 59.08	3 19 51.8	.9919748	5 14.1	2	13 9 21.11	4 52 18.5	.0194369	2 26.6
19	12 56 10.12	3 21 16.3	.9926950	5 10.3	3	13 9 44.08	4 54 48.0	.0198655	2 23.0
20	12 56 21.49	3 22 42.8	.9934117	5 6.6	4	13 10 7.23	4 57 18.4	.0202855	2 19.4
21	12 56 33.18	3 24 11.2	.9941246	5 2.9	5	13 10 30.56	4 59 49.6	.0206969	2 15.9
22	12 56 45.19	3 25 41.5	.9948336	4 59.1	6	13 10 54.07	5 2 21.6	.0210996	2 12.4
23	12 56 57.52	3 27 13.7	.9955386	4 55.4	7	13 11 17.74	5 4 54.3	.0214934	2 8.8
24	12 57 10.17	3 28 47.7	.9962393	4 51.7	8	13 11 41.59	5 7 27.8	.0218784	2 5.3
25	12 57 23.12	3 30 23.5	.9969358	4 48.0	9	13 12 5.60	5 10 2.0	.0222545	2 1.8
26	12 57 36.39	3 32 1.1	.9976279	4 44.3	10	13 12 29.77	5 12 36.8	.0226215	1 58.2
27	12 57 49.96	3 33 40.5	.9983154	4 40.5	11	13 12 54.09	5 15 12.3	.0229794	1 54.7
28	12 58 3.84	3 35 21.6	.9989982	4 36.8	12	13 13 18.57	5 17 48.5	.0233281	1 51.2
29	12 58 18.01	3 37 4.5	.9996763	4 33.1	13	13 13 43.20	5 20 25.2	.0236676	1 47.6
30	12 58 32.49	3 38 49.1	1.0003494	4 29.4	14	13 14 7.97	5 23 2.5	.0239978	1 44.1
31	12 58 47.26	3 40 35.3	.0010175	4 25.8	15	13 14 32.88	5 25 40.4	.0243186	1 40.6
Aug. 1	12 59 2.33	3 42 23.3	.0016804	4 22.1	16	13 14 57.93	5 28 18.8	.0246300	1 37.1
2	12 59 17.68	3 44 12.9	.0023379	4 18.4	17	13 15 23.11	5 30 57.7	.0249319	1 33.6
3	12 59 33.33	3 46 4.1	.0029900	4 14.7	18	13 15 48.42	5 33 37.0	.0252244	1 30.1
4	12 59 49.26	3 47 56.9	.0036365	4 11.1	19	13 16 13.84	5 36 16.7	.0255075	1 26.6
5	13 0 5.47	3 49 51.3	.0042773	4 7.4	20	13 16 39.39	5 38 56.8	.0257812	1 23.0
6	13 0 21.96	3 51 47.3	.0049123	4 3.8	21	13 17 5.05	5 41 37.3	.0260453	1 19.5
7	13 0 38.73	3 53 44.8	.0055413	4 0.1	22	13 17 30.83	5 44 18.2	.0262998	1 16.0
8	13 0 55.78	3 55 43.9	.0061643	3 56.5	23	13 17 56.72	5 46 59.4	.0265447	1 12.5
9	13 1 13.10	3 57 44.4	.0067811	3 52.8	24	13 18 22.71	5 49 40.9	.0267799	1 9.0
10	13 1 30.69	3 59 46.4	.0073916	3 49.2	25	13 18 48.80	5 52 22.7	.0270055	1 5.5
11	13 1 48.54	4 1 49.9	.0079956	3 45.5	26	13 19 14.99	5 55 4.8	.0272213	1 2.0
12	13 2 6.66	4 3 54.7	.0085930	3 41.9	27	13 19 41.28	5 57 47.1	.0274273	0 58.5
13	13 2 25.03	4 6 1.0	.0091836	3 38.3	28	13 20 7.66	6 0 29.6	.0276236	0 55.1
14	13 2 43.65	4 8 8.6	.0097674	3 34.6	29	13 20 34.12	6 3 12.3	.0278101	0 51.6
15	13 3 2.53	4 10 17.6	.0103442	3 31.0	30	13 21 0.66	6 5 55.2	.0279868	0 48.1
16	13 3 21.66	4 12 27.9	.0109140	3 27.4	Oct. 1	13 21 27.29	6 8 38.1	.0281535	0 44.6
17	13 3 41.03	4 14 39.5	.0114766	3 23.8	2	13 21 54.00	6 11 21.2	.0283103	0 41.1
18	13 4 0.64	4 16 52.3	.0120320	3 20.2	3	13 22 20.78	6 14 4.4	.0284572	0 37.6
19	13 4 20.48	S. 4 19 6.4	1.0125800	3 16.6	4	13 22 47.63	S. 6 16 47.6	1.0285940	0 34.1

		Hor. Par.	Polar Semidiameter.			Hor. Par.	Polar Semidiameter.
July	20	0.89	7.57	September	8	0.84	7.09
	30	0.88	7.45		18	0.83	7.03
August	9	0.87	7.34		28	0.83	7.00
	19	0.85	7.25	October	8	0.82	6.97
	29	0.84	7.16		18	0.82	6.97

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Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
	h m s	° ' "		h m		h m s	° ' "		h m
Oct. 4	13 22 47.63	S. 6 16 47.6	1.0285940	0 34.1	Nov. 19	13 43 24.82	S. 8 15 34.8	1.0238748	21 50.3
5	13 23 14.54	6 19 30.9	.0287207	0 30.6	20	13 43 50.15	8 17 52.0	.0235565	21 46.8
6	13 23 41.52	6 22 14.2	.0288373	0 27.1	21	13 44 15.35	8 20 8.1	.0231887	21 43.2
7	13 24 8.55	6 24 57.5	.0289438	0 23.7	22	13 44 40.40	8 22 23.1	.0228315	21 39.7
8	13 24 35.64	6 27 40.7	.0290402	0 20.2	23	13 45 5.31	8 24 36.9	.0224648	21 36.2
9	13 25 2.77	6 30 23.8	.0291264	0 16.7	24	13 45 30.08	8 26 49.5	.0220887	21 32.6
10	13 25 29.95	6 33 6.9	.0292024	0 13.2	25	13 45 54.69	8 29 0.9	.0217033	21 29.1
11	13 25 57.17	6 35 49.8	.0292682	0 9.7	26	13 46 19.14	8 31 11.0	.0213087	21 25.6
12	13 26 24.42	6 38 32.6	.0293237	0 6.3	27	13 46 43.43	8 33 19.8	.0209049	21 22.1
13	13 26 51.70	6 41 15.2	.0293689	{ ₂₃ 59.3}	28	13 47 7.55	8 35 27.4	.0204920	21 18.5
14	13 27 19.01	6 43 57.6	.0294039	23 55.8	29	13 47 31.50	8 37 33.7	.0200700	21 15.0
15	13 27 46.34	6 46 39.8	.0294286	23 52.3	30	13 47 55.28	8 39 38.7	.0196390	21 11.5
16	13 28 13.69	6 49 21.6	.0294430	23 48.9	Dec. 1	13 48 18.88	8 41 42.3	.0191989	21 7.9
17	13 28 41.05	6 52 3.2	.0294471	23 45.4	2	13 48 42.29	8 43 44.5	.0187499	21 4.4
18	13 29 8.42	6 54 44.5	.0294410	23 41.9	3	13 49 5.52	8 45 45.4	.0182921	21 0.8
19	13 29 35.80	6 57 25.5	.0294247	23 38.4	4	13 49 28.55	8 47 44.8	.0178255	20 57.3
20	13 30 3.18	7 0 6.0	.0293981	23 35.0	5	13 49 51.38	8 49 42.8	.0173502	20 53.7
21	13 30 30.55	7 2 46.2	.0293613	23 31.5	6	13 50 14.01	8 51 39.3	.0168662	20 50.1
22	13 30 57.92	7 5 26.0	.0293143	23 28.0	7	13 50 36.42	8 53 34.4	.0163738	20 46.6
23	13 31 25.27	7 8 5.4	.0292571	23 24.5	8	13 50 58.62	8 55 27.9	.0158729	20 43.0
24	13 31 52.61	7 10 44.2	.0291897	23 21.0	9	13 51 20.60	8 57 19.9	.0153636	20 39.5
25	13 32 19.94	7 13 22.6	.0291120	23 17.6	10	13 51 42.36	8 59 10.3	.0148461	20 35.9
26	13 32 47.24	7 16 0.5	.0290242	23 14.1	11	13 52 3.89	9 0 59.2	.0143205	20 32.3
27	13 33 14.52	7 18 37.9	.0289261	23 10.6	12	13 52 25.18	9 2 46.5	.0137868	20 28.7
28	13 33 41.77	7 21 14.7	.0288179	23 7.1	13	13 52 46.24	9 4 32.2	.0132453	20 25.1
29	13 34 8.98	7 23 50.9	.0286995	23 3.6	14	13 53 7.05	9 6 16.2	.0126961	20 21.5
30	13 34 36.16	7 26 26.6	.0285709	23 0.2	15	13 53 27.62	9 7 58.6	.0121392	20 17.9
31	13 35 3.29	7 29 1.6	.0284320	22 56.7	16	13 53 47.94	9 9 39.3	.0115747	20 14.3
Nov. 1	13 35 30.38	7 31 36.0	.0282829	22 53.2	17	13 54 8.01	9 11 18.3	.0110028	20 10.7
2	13 35 57.41	7 34 9.6	.0281237	22 49.7	18	13 54 27.82	9 12 55.6	.0104235	20 7.1
3	13 36 24.39	7 36 42.6	.0279542	22 46.2	19	13 54 47.36	9 14 31.2	.0098371	20 3.5
4	13 36 51.32	7 39 14.9	.0277746	22 42.7	20	13 55 6.64	9 16 5.1	.0092437	19 59.9
5	13 37 18.18	7 41 46.4	.0275848	22 39.2	21	13 55 25.65	9 17 37.2	.0086432	19 56.3
6	13 37 44.97	7 44 17.1	.0273848	22 35.7	22	13 55 44.39	9 19 7.6	.0080359	19 52.6
7	13 38 11.69	7 46 47.1	.0271747	22 32.2	23	13 56 2.85	9 20 36.2	.0074219	19 49.0
8	13 38 38.33	7 49 16.2	.0269544	22 28.7	24	13 56 21.02	9 22 3.0	.0068013	19 45.4
9	13 39 4.88	7 51 44.5	.0267240	22 25.2	25	13 56 38.91	9 23 28.0	.0061742	19 41.8
10	13 39 31.35	7 54 11.9	.0264836	22 21.8	26	13 56 56.51	9 24 51.2	.0055407	19 38.1
11	13 39 57.72	7 56 38.4	.0262331	22 18.3	27	13 57 13.82	9 26 12.5	.0049010	19 34.5
12	13 40 24.00	7 59 4.0	.0259727	22 14.8	28	13 57 30.82	9 27 31.9	.0042552	19 30.8
13	13 40 50.17	8 1 28.6	.0257023	22 11.3	29	13 57 47.53	9 28 49.5	.0036033	19 27.1
14	13 41 16.24	8 3 52.2	.0254221	22 7.8	30	13 58 3.93	9 30 5.2	.0029455	19 23.5
15	13 41 42.20	8 6 14.8	.0251320	22 4.3	31	13 58 20.02	9 31 19.0	.0022821	19 19.8
16	13 42 8.04	8 8 36.4	.0248322	22 0.8	32	13 58 35.79	S. 9 32 30.8	1.0016131	19 16.2
17	13 42 33.76	8 10 56.9	.0245226	21 57.3					
18	13 42 59.35	8 13 16.4	.0242035	21 53.8					
19	13 43 24.82	S. 8 15 34.8	1.0238748	21 50.3					

		Hor. Par.	Polar Semidiameter.			Hor. Par.	Polar Semidiameter.
October	28	0.82	6.97	December	7	0.85	7.18
November	7	0.83	7.01		17	0.86	7.27
	17	0.83	7.05		27	0.87	7.37
	27	0.84	7.10		37	0.88	7.49

Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
h m s	° ' "	° ' "		h m	h m s	° ' "	° ' "		h m
Jan. 0	22 48 48.11	S. 8 22 5.6	1.3125743	4 11.6	July 3	23 15 17.63	S. 5 39 42.5	1.2938285	16 30.6
4	22 49 19.50	8 18 46.3	.3183337	3 56.4	7	23 15 9.19	5 40 45.4	.2924893	16 14.7
8	22 49 53.28	8 15 12.7	.3150372	3 41.3	11	23 14 58.02	5 42 5.3	.2911916	15 58.8
12	22 50 29.32	8 11 25.5	.3161798	3 26.1	15	23 14 44.19	5 43 41.8	.2899426	15 42.8
16	22 51 7.50	8 7 25.5	.3172565	3 11.0	19	23 14 27.78	5 45 34.1	.2887484	15 26.8
20	22 51 47.67	8 3 13.5	.3182629	2 56.0	23	23 14 8.92	5 47 41.4	.2876164	15 10.8
24	22 52 29.68	7 58 50.6	.3191946	2 40.9	27	23 13 47.74	5 50 2.9	.2865516	14 54.7
28	22 53 13.34	7 54 17.7	.3200488	2 25.9	31	23 13 24.36	5 52 37.8	.2855597	14 38.6
Feb. 1	22 53 58.50	7 49 35.8	.3208223	2 10.9	Aug. 4	23 12 58.91	5 55 25.1	.2846461	14 22.4
5	22 54 44.99	7 44 45.8	.3215131	1 56.0	8	23 12 31.53	5 58 23.8	.2838164	14 6.3
9	22 55 32.67	7 39 48.7	.3221187	1 41.1	12	23 12 2.41	6 1 32.8	.2830754	13 50.1
13	22 56 21.39	7 34 45.5	.3226363	1 26.1	16	23 11 31.72	6 4 50.9	.2824281	13 33.8
17	22 57 10.95	7 29 37.3	.3230648	1 11.2	20	23 10 59.68	6 8 16.6	.2818786	13 17.5
21	22 58 1.17	7 24 25.1	.3234016	0 56.3	24	23 10 26.50	6 11 48.7	.2814300	13 1.3
25	22 58 51.88	7 19 10.1	.3236470	0 41.5	28	23 9 52.40	6 15 25.7	.2810842	12 45.0
Mar. 1	22 59 42.90	7 13 53.3	.3237998	0 26.6	Sept. 1	23 9 17.58	6 19 6.2	.2808439	12 28.7
5	23 0 34.07	7 8 35.8	.3238612	0 11.7	5	23 8 42.25	6 22 49.0	.2807115	12 12.4
9	23 1 25.22	7 3 18.6	.3238302	23 53.1	9	23 8 6.65	6 26 32.4	.2806875	11 56.0
13	23 2 16.20	6 58 2.6	.3237079	23 38.2	13	23 7 31.04	6 30 14.9	.2807735	11 39.7
17	23 3 6.83	6 52 49.0	.3234933	23 23.3	17	23 6 55.65	6 33 55.1	.2809692	11 23.4
21	23 3 56.94	6 47 38.9	.3231884	23 8.4	21	23 6 20.75	6 37 31.2	.2812732	11 7.1
25	23 4 46.35	6 42 33.3	.3227943	22 53.5	25	23 5 46.54	6 41 2.1	.2816834	10 50.8
29	23 5 34.90	6 37 33.2	.3223133	22 38.6	29	23 5 13.27	6 44 26.2	.2821979	10 34.5
Apr. 2	23 6 22.44	6 32 39.7	.3217475	22 23.6	Oct. 3	23 4 41.13	6 47 42.2	.2828143	10 18.3
6	23 7 8.84	6 27 53.5	.3210992	22 8.7	7	23 4 10.37	6 50 48.9	.2835295	10 2.0
10	23 7 53.95	6 23 15.7	.3203705	21 53.7	11	23 3 41.18	6 53 44.8	.2843399	9 45.8
14	23 8 37.63	6 18 47.1	.3195642	21 38.7	15	23 3 13.81	6 56 28.7	.2852413	9 29.6
18	23 9 19.71	6 14 28.7	.3186830	21 23.7	19	23 2 48.44	6 58 59.4	.2862279	9 13.5
22	23 10 0.05	6 10 21.6	.3177306	21 8.6	23	23 2 25.23	7 1 16.1	.2872932	8 57.4
26	23 10 38.53	6 6 26.3	.3167111	20 53.5	27	23 2 4.33	7 3 17.7	.2884324	8 41.3
30	23 11 15.02	6 2 43.8	.3156289	20 38.3	31	23 1 45.90	7 5 3.5	.2896395	8 25.3
May 4	23 11 49.43	5 59 14.7	.3144879	20 23.2	Nov. 4	23 1 30.06	7 6 32.7	.2909077	8 9.3
8	23 12 21.65	5 55 59.6	.3132922	20 8.0	8	23 1 16.94	7 7 44.6	.2922310	7 53.4
12	23 12 51.57	5 52 59.4	.3120458	19 52.8	12	23 1 6.66	7 8 38.6	.2936017	7 37.5
16	23 13 19.06	5 50 14.6	.3107543	19 37.5	16	23 0 59.30	7 9 14.2	.2950119	7 21.6
20	23 13 44.05	5 47 45.8	.3094227	19 22.2	20	23 0 54.92	7 9 31.2	.2964543	7 5.8
24	23 14 6.44	5 45 33.6	.3080569	19 6.8	24	23 0 53.54	7 9 29.3	.2979214	6 50.1
28	23 14 26.18	5 43 38.4	.3066631	18 51.4	28	23 0 55.20	7 9 8.5	.2994061	6 34.4
June 1	23 14 43.21	5 42 0.4	.3052463	18 36.0	Dec. 2	23 0 59.91	7 8 28.7	.3009015	6 18.8
5	23 14 57.49	5 40 40.0	.3038123	18 20.5	6	23 1 7.69	7 7 29.9	.3023999	6 3.2
9	23 15 8.96	5 39 37.5	.3023674	18 4.9	10	23 1 18.53	7 6 12.2	.3038942	5 47.6
13	23 15 17.58	5 38 53.1	.3009167	17 49.3	14	23 1 32.39	7 4 35.8	.3053765	5 32.1
17	23 15 23.32	5 38 26.8	.2994683	17 33.6	18	23 1 49.22	7 2 41.1	.3068397	5 16.7
21	23 15 26.17	5 38 18.8	.2980285	17 17.9	22	23 2 8.93	7 0 28.6	.3082773	5 1.3
25	23 15 26.15	5 38 28.9	.2966044	17 2.2	26	23 2 31.46	6 57 58.8	.3096831	4 45.9
29	23 15 23.29	5 38 56.9	.2952025	16 46.4	30	23 2 56.72	6 55 12.2	.3110510	4 30.6
July 3	23 15 17.63	S. 5 39 42.5	1.2938285	16 30.6	34	23 3 24.62	S. 6 52 9.3	1.3123755	4 15.4

NEPTUNE, 1923.

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Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.	Mean Noon.	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Merid. Passage.
h m s	° ' "	° ' "		h m	h m s	° ' "	° ' "		h m
Jan. 0	9 21 00.1	N. 15 41 18.6	1.4669804	14 42.0	July 3	9 16 13.46	N. 16 4 44.3	1.4899775	2 33.9
4	9 20 39.95	15 42 55.5	.4663669	14 26.0	7	9 16 43.73	16 2 28.5	.4905092	2 18.6
8	9 20 18.53	15 44 38.4	.4658131	14 9.9	11	9 17 15.00	16 0 7.8	.4909881	2 3.4
12	9 19 55.89	15 46 26.8	.4653220	13 53.8	15	9 17 47.19	15 57 42.8	.4914122	1 48.2
16	9 19 32.16	15 48 19.9	.4648972	13 37.7	19	9 18 20.15	15 55 13.9	.4917798	1 33.1
20	9 19 7.51	15 50 16.9	.4645409	13 21.5	23	9 18 53.77	15 52 41.7	.4920897	1 17.9
24	9 18 42.11	15 52 17.1	.4642556	13 5.4	27	9 19 27.95	15 50 6.7	.4923409	1 2.7
28	9 18 16.13	15 54 19.6	.4640424	12 49.2	31	9 20 2.56	15 47 29.4	.4925329	0 47.6
Feb. 1	9 17 49.73	15 56 23.7	.4639023	12 33.0	Aug. 4	9 20 37.49	15 44 50.3	.4926646	0 32.4
5	9 17 23.10	15 58 28.5	.4638360	12 16.9	8	9 21 12.65	15 42 9.9	.4927352	0 17.3
9	9 16 56.39	16 0 33.3	.4638436	12 0.7	12	9 21 47.89	15 39 28.7	.4927443	{ 0 2.1 23 58.3 }
13	9 16 29.77	16 2 37.3	.4639252	11 44.5	16	9 22 23.11	15 36 47.4	.4926917	23 43.2
17	9 16 3.43	16 4 39.6	.4640808	11 28.3	20	9 22 58.16	15 34 6.5	.4925772	23 28.1
21	9 15 37.54	16 6 39.6	.4640386	11 12.2	24	9 23 32.92	15 31 26.7	.4924015	23 12.9
25	9 15 12.27	16 8 36.3	.4646080	10 56.1	28	9 24 7.29	15 28 48.4	.4921659	22 57.8
Mar. 1	9 14 47.80	16 10 29.2	.4649748	10 39.9	Sept. 1	9 24 41.16	15 26 12.3	.4918702	22 42.6
5	9 14 24.26	16 12 17.6	.4654087	10 23.8	5	9 25 14.40	15 23 38.7	.4915156	22 27.4
9	9 14 1.79	16 14 0.8	.4659060	10 7.7	9	9 25 46.90	15 21 8.5	.4911027	22 12.2
13	9 13 40.54	16 15 38.2	.4664648	9 51.6	13	9 26 18.55	15 18 42.1	.4906332	21 57.0
17	9 13 20.64	16 17 9.3	.4670811	9 35.6	17	9 26 49.20	15 16 20.2	.4901085	21 41.8
21	9 13 2.23	16 18 33.5	.4677517	9 19.6	21	9 27 18.76	15 14 3.2	.4895310	21 26.6
25	9 12 45.42	16 19 50.3	.4684725	9 3.6	25	9 27 47.12	15 11 51.8	.4889032	21 11.3
29	9 12 30.31	16 20 59.4	.4692393	8 47.6	29	9 28 14.19	15 9 46.4	.4882269	20 56.0
Apr. 2	9 12 16.98	16 22 0.3	.4700475	8 31.6	Oct. 3	9 28 39.86	15 7 47.6	.4875043	20 40.7
6	9 12 5.51	16 22 52.8	.4708929	8 15.7	7	9 29 4.04	15 5 55.8	.4867385	20 25.4
10	9 11 55.97	16 23 36.6	.4717716	7 59.8	11	9 29 26.63	15 4 11.6	.4859319	20 10.0
14	9 11 48.41	16 24 11.5	.4726791	7 44.0	15	9 29 47.52	15 2 35.4	.4850883	19 54.6
18	9 11 42.90	16 24 37.2	.4736105	7 28.2	19	9 30 6.64	15 1 7.7	.4842114	19 39.2
22	9 11 39.47	16 24 53.6	.4745611	7 12.4	23	9 30 23.92	14 59 48.8	.4833049	19 23.7
26	9 11 38.14	16 25 0.6	.4755253	6 56.6	27	9 30 39.29	14 58 39.1	.4823729	19 8.3
30	9 11 38.92	16 24 58.2	.4764992	6 40.9	31	9 30 52.70	14 57 38.9	.4814189	18 52.8
May 4	9 11 41.79	16 24 46.5	.4774780	6 25.3	Nov. 4	9 31 4.09	14 56 48.5	.4804469	18 37.2
8	9 11 46.76	16 24 25.4	.4784579	6 9.6	8	9 31 13.40	14 56 8.2	.4794618	18 21.6
12	9 11 53.82	16 23 55.0	.4794341	5 54.0	12	9 31 20.59	14 55 38.1	.4784678	18 6.0
16	9 12 2.95	16 23 15.4	.4804023	5 38.4	16	9 31 25.64	14 55 18.4	.4774703	17 50.4
20	9 12 14.12	16 22 26.7	.4813575	5 22.9	20	9 31 28.53	14 55 9.2	.4764743	17 34.7
24	9 12 27.27	16 21 29.1	.4822963	5 7.4	24	9 31 29.27	14 55 10.4	.4754842	17 19.0
28	9 12 42.35	16 20 22.9	.4832140	4 51.9	28	9 31 27.86	14 55 22.0	.4745047	17 3.2
June 1	9 12 59.30	16 19 8.3	.4841074	4 36.5	Dec. 2	9 31 24.32	14 55 44.0	.4735413	16 47.4
5	9 13 18.04	16 17 45.5	.4849731	4 21.1	6	9 31 18.66	14 56 16.3	.4725982	16 31.6
9	9 13 38.54	16 16 14.8	.4858073	4 5.7	10	9 31 10.91	14 56 58.5	.4716811	16 15.7
13	9 14 0.70	16 14 36.6	.4866070	3 50.3	14	9 31 1.13	14 57 50.5	.4707953	15 59.8
17	9 14 24.46	16 12 51.1	.4873687	3 35.0	18	9 30 49.41	14 58 51.9	.4699453	15 43.9
21	9 14 49.71	16 10 58.7	.4880891	3 19.7	22	9 30 35.81	15 0 2.2	.4691360	15 27.9
25	9 15 16.36	16 8 59.8	.4887656	3 4.4	26	9 30 20.42	15 1 21.1	.4683712	15 12.0
29	9 15 44.31	16 6 54.9	.4893957	2 49.1	30	9 30 3.35	15 2 47.8	.4676553	14 56.0
July 3	9 16 13.46	N. 16 4 44.3	1.4899775	2 33.9	34	9 29 44.68	N. 15 4 22.0	1.4669923	14 39.9

AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^a Merid.	Apparent Declination.	Semidiameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^a Merid.	Apparent Declination.	Semidiameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
Jan. 1	15 55 10.25	1.37	S. 16 1 20.6	19.68	20.59	Feb. 16	18 48 22.44	0.77	S. 20 17 41.6	10.90	11.40
2	15 57 35.04	1.34	16 6 18.9	19.37	20.27	17	18 52 59.28	0.76	20 16 28.2	10.79	11.29
3	16 0 5.31	1.32	16 11 43.9	19.07	19.95	18	18 57 37.04	0.76	20 14 44.9	10.68	11.18
4	16 2 40.89	1.30	16 17 33.4	18.77	19.64	19	19 2 15.66	0.75	20 12 31.4	10.57	11.07
5	16 5 21.61	1.28	16 23 45.3	18.47	19.33	20	19 6 55.07	0.75	20 9 47.4	10.47	10.96
6	16 8 7.31	1.26	16 30 17.5	18.19	19.03	21	19 11 35.20	0.74	20 6 32.6	10.37	10.86
7	16 10 57.82	1.24	S. 16 37 8.0	17.91	18.74	22	19 16 16.00	0.73	S. 20 2 46.8	10.28	10.76
8	16 13 53.00	1.22	16 44 14.6	17.64	18.46	23	19 20 57.40	0.72	19 58 29.7	10.19	10.66
9	16 16 52.70	1.21	16 51 35.4	17.37	18.18	24	19 25 39.35	0.72	19 53 41.2	10.10	10.57
10	16 19 56.76	1.19	16 59 8.5	17.12	17.91	25	19 30 21.78	0.71	19 48 21.2	10.01	10.47
11	16 23 5.04	1.17	17 6 52.0	16.87	17.65	26	19 35 4.64	0.70	19 42 29.6	9.92	10.38
12	16 26 17.40	1.15	17 14 44.0	16.63	17.40	27	19 39 47.88	0.69	19 36 6.1	9.83	10.28
13	16 29 33.71	1.14	S. 17 22 42.8	16.39	17.15	28	19 44 31.44	0.69	S. 19 29 10.9	9.74	10.19
14	16 32 53.83	1.12	17 30 46.6	16.16	16.91	Mar. 1	19 49 15.28	0.68	19 21 43.8	9.66	10.10
15	16 36 17.65	1.11	17 38 53.7	15.93	16.67	2	19 53 59.35	0.68	19 13 44.9	9.58	10.02
16	16 39 45.04	1.10	17 47 2.5	15.71	16.44	3	19 58 43.58	0.67	19 5 14.3	9.49	9.93
17	16 43 15.89	1.09	17 55 11.5	15.49	16.21	4	20 3 27.93	0.66	18 56 11.9	9.41	9.85
18	16 46 50.10	1.07	18 3 19.0	15.28	15.99	5	20 8 12.37	0.65	18 46 37.9	9.33	9.77
19	16 50 27.56	1.06	S. 18 11 23.6	15.07	15.77	6	20 12 56.84	0.65	S. 18 36 32.5	9.26	9.69
20	16 54 8.17	1.04	18 19 23.8	14.87	15.56	7	20 17 41.28	0.64	18 25 55.8	9.18	9.61
21	16 57 51.85	1.03	18 27 18.2	14.67	15.35	8	20 22 25.65	0.64	18 14 48.0	9.11	9.53
22	17 1 38.50	1.02	18 35 5.5	14.48	15.15	9	20 27 9.91	0.63	18 3 9.3	9.03	9.45
23	17 5 28.04	1.01	18 42 44.4	14.30	14.96	10	20 31 54.02	0.63	17 51 0.0	8.96	9.38
24	17 9 20.38	0.99	18 50 13.5	14.11	14.77	11	20 36 37.92	0.62	17 38 20.3	8.89	9.31
25	17 13 15.44	0.98	S. 18 57 31.7	13.93	14.58	12	20 41 21.58	0.62	S. 17 25 10.5	8.83	9.24
26	17 17 13.14	0.97	19 4 37.7	13.76	14.40	13	20 46 4.95	0.61	17 11 30.9	8.76	9.17
27	17 21 13.39	0.96	19 11 30.3	13.59	14.22	14	20 50 48.00	0.61	16 57 22.0	8.70	9.10
28	17 25 16.13	0.95	19 18 8.4	13.42	14.05	15	20 55 30.70	0.60	16 42 44.1	8.63	9.03
29	17 29 21.29	0.94	19 24 30.9	13.26	13.88	16	21 0 13.01	0.59	16 27 37.4	8.56	8.96
30	17 33 28.78	0.93	19 30 36.8	13.10	13.71	17	21 4 54.91	0.59	16 12 2.4	8.50	8.89
31	17 37 38.54	0.92	S. 19 36 25.1	12.95	13.55	18	21 9 36.37	0.59	S. 15 55 59.6	8.44	8.83
Feb. 1	17 41 50.51	0.91	19 41 54.7	12.80	13.39	19	21 14 17.36	0.58	15 39 29.3	8.38	8.76
2	17 46 4.60	0.90	19 47 4.8	12.65	13.24	20	21 18 57.87	0.57	15 22 32.0	8.32	8.70
3	17 50 20.74	0.89	19 51 54.4	12.51	13.09	21	21 23 37.88	0.57	15 5 8.2	8.26	8.64
4	17 54 38.85	0.88	19 56 22.6	12.37	12.94	22	21 28 17.36	0.56	14 47 18.3	8.20	8.58
5	17 58 58.87	0.87	20 0 28.5	12.23	12.79	23	21 32 56.31	0.56	14 29 2.8	8.14	8.53
6	18 3 20.72	0.86	S. 20 4 11.4	12.09	12.65	24	21 37 34.72	0.56	S. 14 10 22.3	8.09	8.46
7	18 7 44.31	0.85	20 7 30.5	11.96	12.51	25	21 42 12.57	0.55	13 51 17.1	8.03	8.40
8	18 12 9.56	0.84	20 10 25.0	11.83	12.38	26	21 46 49.86	0.55	13 31 47.8	7.98	8.35
9	18 16 36.41	0.83	20 12 54.2	11.70	12.25	27	21 51 26.59	0.54	13 11 55.0	7.92	8.29
10	18 21 4.78	0.82	20 14 57.6	11.58	12.12	28	21 56 2.76	0.54	12 51 39.2	7.87	8.24
11	18 25 34.58	0.81	20 16 34.5	11.46	11.99	29	22 0 38.37	0.53	12 31 0.9	7.82	8.18
12	18 30 5.73	0.80	S. 20 17 44.2	11.34	11.87	30	22 5 13.42	0.53	S. 12 10 0.6	7.77	8.13
13	18 34 38.17	0.79	20 18 26.3	11.22	11.75	31	22 9 47.91	0.53	11 48 38.9	7.71	8.07
14	18 39 11.82	0.79	20 18 40.2	11.11	11.63	Apr. 1	22 14 21.86	0.52	11 26 56.4	7.66	8.02
15	18 43 46.60	0.78	S. 20 18 25.5	11.00	11.51	2	22 18 55.27	0.52	S. 11 4 53.6	7.62	7.97

AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Semid. pass* Merid.	Apparent Declination.	Semidiameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Semid. pass* Merid.	Apparent Declination.	Semidiameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
Apr. 3	22 23 28.15	0.51	S. 10 42 31.1	7.57	7.92	May 19	1 48 40.01	0.41	N. 9 19 11.3	5.99	6.27
4	22 28 0.50	0.51	10 19 49.6	7.52	7.87	20	1 53 13.18	0.40	9 44 58.6	5.97	6.25
5	22 32 32.34	0.51	9 56 49.5	7.47	7.82	21	1 57 47.08	0.40	10 10 34.3	5.95	6.23
6	22 37 3.67	0.50	9 33 31.5	7.43	7.77	22	2 221.73	0.40	10 35 57.7	5.93	6.20
7	22 41 34.51	0.50	9 9 56.2	7.39	7.73	23	2 6 57.17	0.40	11 1 8.0	5.91	6.18
8	22 46 4.87	0.49	8 46 4.3	7.34	7.68	24	2 11 33.43	0.40	11 26 4.6	5.88	6.15
9	22 50 34.76	0.49	S. 8 21 56.3	7.30	7.64	25	2 16 10.54	0.40	N. 11 50 46.8	5.86	6.13
10	22 55 4.19	0.49	7 57 32.9	7.25	7.59	26	2 20 48.53	0.40	12 15 13.9	5.84	6.11
11	22 59 33.17	0.48	7 32 54.8	7.21	7.55	27	2 25 27.42	0.40	12 39 25.2	5.82	6.09
12	23 4 1.73	0.48	7 8 2.6	7.17	7.50	28	2 30 7.23	0.40	13 3 20.0	5.79	6.06
13	23 8 29.88	0.48	6 42 56.9	7.13	7.46	29	2 34 48.00	0.40	13 26 57.7	5.77	6.04
14	23 12 57.63	0.47	6 17 38.4	7.09	7.42	30	2 39 29.76	0.40	13 50 17.6	5.75	6.02
15	23 17 25.01	0.47	S. 5 52 7.7	7.05	7.38	31	2 44 12.52	0.39	N. 14 13 18.9	5.73	6.00
16	23 21 52.05	0.47	5 26 25.5	7.01	7.34	June 1	2 48 56.30	0.39	14 36 1.0	5.71	5.98
17	23 26 18.76	0.47	5 0 32.4	6.98	7.30	2	2 53 41.13	0.39	14 58 23.1	5.70	5.96
18	23 30 45.16	0.46	4 34 29.0	6.94	7.26	3	2 58 27.01	0.39	15 20 24.5	5.68	5.94
19	23 35 11.27	0.46	4 8 16.0	6.90	7.22	4	3 3 13.96	0.39	15 42 4.6	5.66	5.92
20	23 39 37.13	0.46	3 41 54.1	6.86	7.18	5	3 8.2.01	0.39	16 3 22.6	5.64	5.90
21	23 44 2.76	0.46	S. 3 15 23.9	6.82	7.14	6	3 12 51.15	0.39	N. 16 24 17.8	5.62	5.88
22	23 48 28.20	0.45	2 48 46.0	6.79	7.10	7	3 17 41.40	0.39	16 44 49.5	5.60	5.86
23	23 52 53.46	0.45	2 22 1.1	6.76	7.07	8	3 22 32.76	0.39	17 4 57.1	5.58	5.84
24	23 57 18.58	0.45	1 55 9.8	6.72	7.03	9	3 27 25.44	0.39	17 24 39.8	5.56	5.82
25	0 1 43.60	0.45	1 28 12.8	6.69	7.00	10	3 32 18.83	0.39	17 43 57.0	5.54	5.80
26	0 6 8.55	0.44	1 1 10.6	6.65	6.96	11	3 37 13.55	0.39	18 2 47.9	5.52	5.78
27	0 10 33.45	0.44	S. 0 34 4.0	6.62	6.93	12	3 42 9.39	0.39	N. 18 21 11.8	5.51	5.77
28	0 14 58.35	0.44	S. 0 6 53.6	6.59	6.89	13	3 47 6.35	0.39	18 39 8.1	5.50	5.75
29	0 19 23.28	0.44	N. 0 20 20.0	6.56	6.86	14	3 52 4.41	0.39	18 56 36.1	5.49	5.74
30	0 23 48.28	0.44	0 47 36.2	6.52	6.82	15	3 57 3.59	0.39	19 13 35.1	5.47	5.72
May 1	0 28 13.38	0.43	1 14 54.3	6.49	6.79	16	4 2 3.85	0.38	19 30 4.5	5.45	5.70
2	0 32 38.61	0.43	1 42 13.7	6.46	6.76	17	4 7 5.19	0.38	19 46 3.6	5.43	5.68
3	0 37 4.01	0.43	N. 2 9 33.8	6.43	6.73	18	4 12 7.61	0.38	N. 20 1 31.9	5.42	5.67
4	0 41 29.62	0.43	2 36 53.8	6.39	6.69	19	4 17 11.09	0.38	20 16 28.7	5.40	5.65
5	0 45 55.47	0.43	3 4 13.1	6.36	6.66	20	4 22 15.60	0.38	20 30 53.3	5.39	5.64
6	0 50 21.59	0.42	3 31 31.1	6.33	6.63	21	4 27 21.13	0.38	20 44 45.2	5.37	5.62
7	0 54 48.02	0.42	3 58 47.0	6.31	6.60	22	4 32 27.66	0.38	20 58 3.9	5.36	5.61
8	0 59 14.77	0.42	4 26 0.2	6.28	6.57	23	4 37 35.16	0.38	21 10 48.7	5.34	5.59
9	1 3 41.89	0.42	N. 4 53 10.0	6.25	6.54	24	4 42 43.62	0.38	N. 21 22 59.0	5.33	5.58
10	1 8 9.41	0.42	5 20 15.8	6.22	6.51	25	4 47 53.01	0.38	21 34 34.4	5.31	5.56
11	1 12 37.36	0.42	5 47 16.8	6.20	6.49	26	4 53 3.30	0.38	21 45 34.4	5.30	5.55
12	1 17 5.77	0.41	6 14 12.3	6.17	6.46	27	4 58 14.47	0.38	21 55 58.4	5.29	5.54
13	1 21 34.66	0.41	6 41 1.8	6.14	6.43	28	5 3 26.48	0.38	22 5 45.9	5.28	5.53
14	1 26 4.07	0.41	7 7 44.4	6.12	6.40	29	5 8 39.31	0.38	22 14 56.6	5.27	5.51
15	1 30 34.04	0.41	N. 7 34 19.5	6.10	6.38	30	5 13 52.91	0.38	N. 22 23 30.0	5.26	5.50
16	1 35 4.59	0.41	8 0 46.5	6.07	6.35	July 1	5 19 7.25	0.38	22 31 25.6	5.24	5.48
17	1 39 35.75	0.41	8 27 4.5	6.05	6.33	2	5 24 22.27	0.38	22 38 43.0	5.23	5.47
18	1 44 7.55	0.41	N. 8 53 13.1	6.02	6.30	3	5 29 37.95	0.38	N. 22 45 21.9	5.22	5.46

AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^r Merid.	Apparent Declination.	Semidiameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^r Merid.	Apparent Declination.	Semidiameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
July 4	5 34 54.24	0.38	N. 22 51 22.0	5.21	5.45	Aug. 19	9 33 58.43	0.34	N. 15 43 10.3	4.89	5.12
5	5 40 11.08	0.38	22 56 42.9	5.20	5.44	20	9 38 51.76	0.34	15 20 26.3	4.89	5.12
6	5 45 28.43	0.38	23 1 24.3	5.19	5.43	21	9 43 44.05	0.34	14 57 16.8	4.89	5.12
7	5 50 46.25	0.38	23 5 25.9	5.18	5.42	22	9 48 35.33	0.34	14 33 42.4	4.88	5.11
8	5 56 4.47	0.37	23 8 47.6	5.17	5.41	23	9 53 25.61	0.34	14 9 43.9	4.88	5.11
9	6 1 23.05	0.37	23 11 29.0	5.15	5.39	24	9 58 14.89	0.34	13 45 21.9	4.88	5.11
10	6 6 41.93	0.37	N. 23 13 29.9	5.14	5.38	25	10 3 3.20	0.34	N. 13 20 37.1	4.88	5.11
11	6 12 1.05	0.37	23 14 50.3	5.13	5.37	26	10 7 50.56	0.33	12 55 30.3	4.88	5.11
12	6 17 20.36	0.37	23 15 30.0	5.12	5.36	27	10 12 36.99	0.33	12 30 2.2	4.87	5.10
13	6 22 39.79	0.37	23 15 28.8	5.11	5.35	28	10 17 22.52	0.33	12 4 13.4	4.87	5.10
14	6 27 59.30	0.37	23 14 46.7	5.10	5.34	29	10 22 7.17	0.33	11 38 4.7	4.87	5.10
15	6 33 18.84	0.37	23 13 23.7	5.09	5.33	30	10 26 50.96	0.33	11 11 36.8	4.87	5.10
16	6 38 38.33	0.37	N. 23 11 19.8	5.08	5.32	31	10 31 33.91	0.33	N. 10 44 50.4	4.87	5.10
17	6 43 57.72	0.37	23 8 34.9	5.07	5.31	Sept. 1	10 36 16.07	0.33	10 17 46.3	4.87	5.10
18	6 49 16.96	0.37	23 5 9.1	5.07	5.30	2	10 40 57.46	0.33	9 50 25.1	4.87	5.10
19	6 54 35.99	0.37	23 1 2.4	5.06	5.29	3	10 45 38.10	0.33	9 22 47.6	4.87	5.10
20	6 59 54.76	0.37	22 56 15.1	5.06	5.29	4	10 50 18.02	0.33	8 54 54.5	4.87	5.10
21	7 5 13.22	0.37	22 50 47.2	5.05	5.28	5	10 54 57.27	0.33	8 26 46.6	4.87	5.10
22	7 10 31.31	0.36	N. 22 44 38.9	5.04	5.27	6	10 59 35.87	0.33	N. 7 58 24.6	4.87	5.10
23	7 15 48.99	0.36	22 37 50.4	5.03	5.26	7	* * *	*	* * *	*	*
24	7 21 6.22	0.36	22 30 21.9	5.03	5.26	8	11 4 13.85	0.33	7 29 49.1	4.87	5.10
25	7 26 22.94	0.36	22 22 13.6	5.02	5.25	9	11 8 51.24	0.33	7 1 1.0	4.87	5.10
26	7 31 39.11	0.36	22 13 25.8	5.01	5.24	10	11 13 28.08	0.33	6 32 1.0	4.87	5.10
27	7 36 54.70	0.36	22 3 58.8	5.00	5.23	11	11 18 4.41	0.33	6 2 49.8	4.87	5.10
28	7 42 9.66	0.36	N. 21 53 52.9	5.00	5.23	12	11 22 40.25	0.33	N. 5 33 28.2	4.87	5.10
29	7 47 23.94	0.36	21 43 8.4	4.99	5.22	13	11 27 15.64	0.33	5 3 56.9	4.87	5.10
30	7 52 37.52	0.36	21 31 45.8	4.99	5.22	14	11 31 50.62	0.33	4 34 16.7	4.87	5.10
31	7 57 50.35	0.36	21 19 45.4	4.98	5.21	15	11 36 25.22	0.33	4 4 28.3	4.87	5.10
Aug. 1	8 3 2.40	0.36	21 7 7.6	4.97	5.20	16	11 40 59.48	0.33	3 34 32.4	4.87	5.10
2	8 8 13.65	0.35	20 53 52.9	4.96	5.19	17	11 45 33.44	0.33	3 4 29.7	4.88	5.11
3	8 13 24.05	0.35	N. 20 40 1.8	4.96	5.19	18	11 50 7.15	0.33	N. 2 34 21.1	4.88	5.11
4	8 18 33.57	0.35	20 25 34.7	4.95	5.18	19	11 54 40.63	0.33	2 4 7.2	4.88	5.11
5	8 23 42.20	0.35	20 10 32.1	4.95	5.18	20	11 59 13.94	0.33	1 33 48.7	4.88	5.11
6	8 28 49.91	0.35	19 54 54.6	4.94	5.17	21	12 3 47.12	0.33	1 3 26.5	4.88	5.11
7	8 33 56.67	0.35	19 38 42.6	4.94	5.17	22	12 8 20.20	0.33	0 33 1.1	4.89	5.12
8	8 39 2.47	0.35	19 21 56.7	4.93	5.16	23	12 12 53.24	0.33	N. 0 2 33.4	4.89	5.12
9	8 44 7.28	0.35	N. 19 4 37.6	4.93	5.16	24	12 17 26.28	0.33	S. 0 27 55.9	4.89	5.12
10	8 49 11.08	0.35	18 46 45.7	4.92	5.15	25	12 21 59.35	0.33	0 58 26.1	4.89	5.12
11	8 54 13.87	0.35	18 28 21.7	4.92	5.15	26	12 26 32.51	0.33	1 28 56.5	4.89	5.12
12	8 59 15.63	0.34	18 9 26.2	4.91	5.15	27	12 31 5.80	0.33	1 59 26.3	4.90	5.13
13	9 4 16.34	0.34	17 49 59.9	4.91	5.14	28	12 35 39.27	0.33	2 29 54.8	4.90	5.13
14	9 9 16.00	0.34	17 30 3.4	4.91	5.14	29	12 40 12.96	0.33	3 0 21.3	4.90	5.13
15	9 14 14.60	0.34	N. 17 9 37.3	4.91	5.14	30	12 44 46.91	0.33	S. 3 30 45.0	4.91	5.14
16	9 19 12.14	0.34	16 48 42.3	4.90	5.13	Oct. 1	12 49 21.16	0.33	4 1 5.2	4.91	5.14
17	9 24 8.62	0.34	16 27 19.0	4.90	5.13	2	12 53 55.76	0.33	4 31 21.2	4.92	5.15
18	9 29 4.05	0.34	N. 16 5 28.1	4.90	5.13	3	12 58 30.75	0.33	S. 5 1 32.1	4.92	5.15

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Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^g Merid.	Apparent Declination.	Semidiameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^g Merid.	Apparent Declination.	Semidiameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
Oct. 4	13 3 6.18	0.33	S. 53 37.3	4.93	5.16	Nov. 19	16 50 50.63	0.38	S. 23 6 1.9	5.26	5.50
5	13 7 42.08	0.33	6 1 35.9	4.93	5.16	20	16 56 13.59	0.38	23 16 58.4	5.27	5.51
6	13 12 18.49	0.33	6 31 27.2	4.93	5.16	21	17 1 37.39	0.38	23 27 13.3	5.28	5.52
7	13 16 55.47	0.33	7 1 10.5	4.94	5.17	22	17 7 1.98	0.38	23 36 46.2	5.28	5.53
8	13 21 33.04	0.33	7 30 45.0	4.94	5.17	23	17 12 27.30	0.39	23 45 36.7	5.29	5.54
9	13 26 11.24	0.33	8 0 9.9	4.95	5.18	24	17 17 53.30	0.39	23 53 44.3	5.30	5.55
10	13 30 50.11	0.33	S. 8 29 24.4	4.95	5.18	25	17 23 19.94	0.39	S. 24 1 8.8	5.32	5.57
11	13 35 29.69	0.34	8 58 27.8	4.96	5.19	26	17 28 47.15	0.39	24 7 49.6	5.33	5.58
12	13 40 10.01	0.34	9 27 19.2	4.96	5.19	27	17 34 14.88	0.39	24 13 46.4	5.34	5.59
13	13 44 51.10	0.34	9 55 57.9	4.97	5.20	28	17 39 43.07	0.39	24 18 59.1	5.35	5.60
14	13 49 33.00	0.34	10 24 23.0	4.97	5.20	29	17 45 11.66	0.39	24 23 27.2	5.37	5.62
15	13 54 15.74	0.34	10 52 33.8	4.98	5.21	30	17 50 40.59	0.40	24 27 10.6	5.38	5.63
16	13 58 59.35	0.34	S. 11 20 29.4	4.99	5.22	Dec. 1	17 56 9.79	0.40	S. 24 30 9.1	5.39	5.64
17	14 3 43.88	0.34	11 48 9.1	4.99	5.22	2	18 1 39.19	0.40	24 32 22.4	5.40	5.65
18	14 8 29.34	0.34	12 15 32.1	5.00	5.23	3	18 7 8.73	0.40	24 33 50.6	5.42	5.67
19	14 13 15.77	0.34	12 42 37.6	5.00	5.23	4	18 12 38.34	0.40	24 34 33.5	5.43	5.68
20	14 18 3.20	0.34	13 9 24.7	5.01	5.24	5	18 18 7.96	0.40	24 34 31.0	5.45	5.70
21	14 22 51.67	0.34	13 35 52.7	5.01	5.24	6	18 23 37.51	0.40	24 33 43.1	5.46	5.71
22	14 27 41.20	0.35	S. 14 2 0.8	5.02	5.25	7	18 29 6.93	0.40	S. 24 32 9.8	5.48	5.73
23	14 32 31.81	0.35	14 27 48.1	5.03	5.26	8	18 34 36.14	0.40	24 29 51.2	5.49	5.74
24	14 37 23.53	0.35	14 53 14.2	5.04	5.27	9	18 40 5.07	0.40	24 26 47.4	5.50	5.75
25	14 42 16.38	0.35	15 18 17.8	5.04	5.27	10	18 45 33.65	0.41	24 22 58.5	5.51	5.76
26	14 47 10.40	0.35	15 42 58.3	5.05	5.28	11	18 51 1.80	0.41	24 18 24.6	5.52	5.78
27	14 52 5.60	0.35	16 7 14.9	5.06	5.29	12	18 56 29.47	0.41	24 13 6.0	5.53	5.79
28	14 57 1.98	0.35	S. 16 31 6.9	5.07	5.30	13	19 1 56.58	0.41	S. 24 7 2.9	5.55	5.81
29	15 1 59.58	0.35	16 54 33.3	5.07	5.30	14	19 7 23.07	0.41	24 0 15.5	5.56	5.82
30	15 6 58.42	0.35	17 17 33.5	5.07	5.31	15	19 12 48.87	0.41	23 52 44.2	5.58	5.84
31	15 11 58.49	0.36	17 40 6.5	5.08	5.32	16	19 18 13.93	0.41	23 44 29.3	5.60	5.86
Nov. 1	15 16 59.82	0.36	18 2 11.8	5.09	5.33	17	19 23				

AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^g Merid.	Apparent Declination.	Semidiameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^g Merid.	Apparent Declination.	Semidiameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
Jan. 1	23 7 50.71	0.21	S. 6 22 16.6	3.08	5.79	Jan. 12	23 37 18.28	0.20	S. 3 0 57.6	2.92	5.49
2	23 10 32.26	0.21	6 4 6.5	3.06	5.76	13	23 39 58.13	0.19	2 42 33.4	2.90	5.46
3	23 13 13.61	0.20	5 45 54.2	3.05	5.73	14	23 42 37.87	0.19	2 24 8.8	2.89	5.44
4	23 15 54.78	0.20	5 27 40.1	3.03	5.70	15	23 45 17.51	0.19	2 5 44.0	2.88	5.41
5	23 18 35.76	0.20	5 9 24.3	3.02	5.68	16	23 47 57.06	0.19	1 47 19.2	2.87	5.39
6	23 21 16.56	0.20	4 51 6.9	3.00	5.65	17	23 50 36.52	0.19	1 28 54.4	2.85	5.36
7	23 23 57.20	0.20	S. 4 32 48.1	2.99	5.62	18	23 53 15.89	0.19	S. 1 10 30.0	2.84	5.34
8	23 26 37.70	0.20	4 14 27.9	2.97	5.59	19	23 55 55.19	0.19	0 52 6.0	2.83	5.32
9	23 29 18.04	0.20	3 56 6.7	2.96	5.57	20	23 58 34.41	0.19	0 33 42.6	2.82	5.30
10	23 31 58.25	0.20	3 37 44.4	2.94	5.54	21	0 1 13.56	0.19	S. 0 15 20.0	2.81	5.27
11	23 34 38.33	0.20	S. 3 19 21.4	2.93	5.52	22	0 3 52.64	0.19	N. 0 3 1.6	2.80	5.25

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AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Equat. Semi- pass ^g Merid.	Apparent Declination.	Polar Semidiameter.	Hor. Par.	*Date.	Apparent Right Ascension.	Sid. Time of Equat. Semi- pass ^g Merid.	Apparent Declination.	Polar Semidiameter.	Hor. Par.
Jan. 1	h m s	s	° ' "	"	"	Feb. 16	h m s	s	° ' "	"	"
2	14 45 15.91	1.15	S. 14 49 59.7	15.57	1.49	17	15 535.99	1.32	S. 16 11 2.2	17.72	1.70
3	14 45 53.84	1.15	14 52 44.7	15.60	1.49	18	15 548.03	1.32	16 11 41.2	17.77	1.70
4	14 46 31.38	1.15	14 55 27.3	15.64	1.50	19	15 559.36	1.33	16 12 17.2	17.83	1.71
5	14 47 8.51	1.16	14 58 7.5	15.68	1.50	20	15 6 9.96	1.33	16 12 50.1	17.88	1.71
6	14 47 45.24	1.16	15 0 45.3	15.72	1.50	21	15 619.85	1.33	16 13 20.0	17.94	1.72
7	14 48 21.54	1.16	15 3 20.7	15.76	1.51	22	15 629.01	1.34	16 13 46.9	17.99	1.72
8	14 48 57.43	1.16	S. 15 5 53.5	15.80	1.51	23	15 637.44	1.34	S. 16 14 10.8	18.05	1.73
9	14 49 32.89	1.17	15 8 23.9	15.84	1.52	24	15 645.14	1.35	16 14 31.7	18.10	1.73
10	14 50 7.90	1.17	15 10 51.8	15.88	1.52	25	15 652.10	1.35	16 14 49.6	18.16	1.74
11	14 50 42.46	1.17	15 13 17.2	15.92	1.52	26	15 658.33	1.35	16 15 4.4	18.22	1.74
12	14 51 16.56	1.18	15 15 40.1	15.96	1.53	27	15 7 3.82	1.36	16 15 16.2	18.28	1.75
13	14 51 50.20	1.18	15 18 0.3	16.00	1.53	28	15 7 8.56	1.36	16 15 25.0	18.33	1.76
14	14 52 23.36	1.18	S. 15 20 18.0	16.05	1.54	29	15 7 12.57	1.36	S. 16 15 30.8	18.39	1.76
15	14 52 56.04	1.19	15 22 33.1	16.09	1.54	Mar. 1	15 7 15.83	1.37	16 15 33.7	18.44	1.77
16	14 53 28.22	1.19	15 24 45.5	16.13	1.54	2	15 7 18.34	1.37	16 15 33.5	18.50	1.77
17	14 53 59.91	1.20	15 26 55.3	16.18	1.55	3	15 7 20.11	1.38	16 15 30.3	18.55	1.78
18	14 54 31.08	1.20	15 29 2.5	16.22	1.55	4	15 7 21.13	1.38	16 15 24.1	18.61	1.78
19	14 55 1.74	1.20	15 31 7.0	16.26	1.56	5	15 7 21.39	1.39	16 15 14.9	18.66	1.79
20	14 55 31.88	1.21	S. 15 33 8.8	16.31	1.56	6	15 7 20.91	1.39	S. 16 15 2.7	18.72	1.79
21	14 56 1.48	1.21	15 35 8.0	16.35	1.57	7	15 7 19.69	1.40	16 14 47.5	18.78	1.80
22	14 56 30.55	1.22	15 37 4.4	16.40	1.57	8	15 7 17.70	1.40	16 14 29.3	18.84	1.80
23	14 56 59.08	1.22	15 38 58.1	16.44	1.57	9	15 7 14.96	1.40	16 14 8.1	18.89	1.81
24	14 57 27.06	1.22	15 40 49.0	16.49	1.58	10	15 7 11.47	1.41	16 13 44.0	18.94	1.81
25	14 57 54.48	1.23	15 42 37.2	16.53	1.58	11	15 7 7.23	1.41	16 13 16.9	19.00	1.82
26	14 58 21.33	1.23	S. 15 44 22.6	16.58	1.59	12	15 7 2.24	1.41	S. 16 12 46.8	19.05	1.82
27	14 58 47.61	1.24	15 46 5.3	16.63	1.59	13	15 6 56.49	1.42	16 12 13.7	19.11	1.83
28	14 59 13.32	1.24	15 47 45.2	16.68	1.60	14	15 6 50.00	1.42	16 11 37.6	19.16	1.83
29	14 59 38.44	1.24	15 49 22.3	16.73	1.60	15	15 6 42.77	1.42	16 10 58.7	19.21	1.84
30	15 0 2.98	1.25	15 50 56.5	16.78	1.61	16	15 6 34.80	1.43	16 10 16.8	19.27	1.84
31	15 0 26.91	1.25	15 52 28.0	16.83	1.61	17	15 6 26.09	1.43	16 9 32.1	19.32	1.85
Feb. 1	15 0 50.25	1.26	S. 15 53 56.6	16.88	1.62	18	15 6 16.66	1.43	S. 16 8 44.4	19.37	1.85
2	15 1 12.97	1.26	15 55 22.5	16.93	1.62	19	15 6 6.51	1.44	16 7 53.9	19.42	1.86
3	15 1 35.07	1.26	15 56 45.5	16.98	1.63	20	15 5 55.63	1.44	16 7 0.5	19.47	1.86
4	15 1 56.56	1.27	15 58 5.6	17.03	1.63	21	15 5 44.05	1.44	16 6 4.4	19.52	1.87
5	15 2 17.41	1.27	15 59 22.9	17.08	1.64	22	15 5 31.76	1.45	16 5 5.4	19.57	1.87
6	15 2 37.63	1.27	16 0 37.3	17.13	1.64	23	15 5 18.77	1.45	16 4 3.7	19.62	1.88
7	15 2 57.21	1.28	S. 16 1 48.8	17.18	1.65	24	15 5 5.10	1.45	S. 16 2 59.2	19.67	1.88
8	15 3 16.13	1.28	16 2 57.4	17.23	1.65	25	15 4 50.75	1.46	16 1 52.1	19.72	1.89
9	15 3 34.39	1.28	16 4 3.0	17.28	1.66	26	15 4 35.72	1.46	16 0 42.3	19.77	1.89
10	15 3 51.99	1.29	16 5 5.8	17.33	1.66	27	15 4 20.04	1.46	15 59 29.9	19.82	1.90
11	15 4 8.92	1.29	16 6 5.6	17.39	1.67	28	15 4 3.71	1.47	15 58 14.9	19.86	1.90
12	15 4 25.17	1.30	16 7 2.5	17.44	1.67	29	15 3 46.74	1.47	15 56 57.3	19.91	1.91
13	15 4 40.73	1.30	S. 16 7 56.4	17.49	1.68	30	15 3 29.14	1.48	S. 15 55 37.3	19.95	1.91
14	15 4 55.60	1.31	16 8 47.4	17.55	1.68	31	15 3 10.91	1.48	15 54 14.7	20.00	1.91
15	15 5 9.77	1.31	16 9 35.3	17.61	1.69	Apr. 1	15 2 52.08	1.48	15 52 49.7	20.04	1.92
	15 5 23.23	1.31	S. 16 10 20.2	17.66	1.69	2	15 2 32.65	1.49	S. 15 51 22.3	20.08	1.92

AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Equat. Semi- pass. Merid.	Apparent Declination.	Polar Semidiameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Equat. Semi- pass. Merid.	Apparent Declination.	Polar Semidiameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
Apr. 3	15 2 12.62	1.49	S. 15 49 52.5	20.12	1.93	May 19	14 40 59.93	1.52	S. 14 17 17.2	20.73	1.98
4	15 1 52.02	1.49	15 48 20.5	20.16	1.93	20	14 40 31.93	1.52	14 15 16.5	20.71	1.98
5	15 1 30.86	1.50	15 46 46.1	20.20	1.93	21	14 40 4.24	1.52	14 13 17.3	20.69	1.98
6	15 1 9.14	1.50	15 45 9.5	20.24	1.94	22	14 39 36.88	1.52	14 11 19.6	20.67	1.98
7	15 0 46.87	1.50	15 43 30.7	20.28	1.94	23	14 39 9.86	1.52	14 9 23.6	20.65	1.97
8	15 0 24.08	1.50	15 41 49.7	20.32	1.94	24	14 38 43.20	1.52	14 7 29.4	20.63	1.97
9	15 0 0.77	1.51	S. 15 40 6.7	20.36	1.95	25	14 38 16.92	1.52	S. 14 5 36.9	20.60	1.97
10	14 59 36.96	1.51	15 38 21.7	20.39	1.95	26	14 37 51.03	1.51	14 3 46.4	20.58	1.97
11	14 59 12.67	1.51	15 36 34.7	20.42	1.96	27	14 37 25.54	1.51	14 1 57.8	20.55	1.97
12	14 58 47.92	1.51	15 34 45.9	20.45	1.96	28	14 37 0.48	1.51	14 0 11.2	20.52	1.96
13	14 58 22.72	1.52	15 32 55.2	20.48	1.96	29	14 36 35.85	1.51	13 58 26.8	20.49	1.96
14	14 57 57.09	1.52	15 31 2.7	20.51	1.96	30	14 36 11.67	1.51	13 56 44.5	20.46	1.96
15	14 57 31.04	1.52	S. 15 29 8.5	20.54	1.97	31	14 35 47.95	1.50	S. 13 55 4.6	20.43	1.96
16	14 57 4.60	1.52	15 27 12.6	20.57	1.97	June 1	14 35 24.71	1.50	13 53 26.9	20.40	1.95
17	14 56 37.77	1.52	15 25 15.2	20.60	1.97	2	14 35 1.95	1.50	13 51 51.5	20.36	1.95
18	14 56 10.59	1.52	15 23 16.3	20.63	1.97	3	14 34 39.70	1.50	13 50 18.7	20.33	1.95
19	14 55 43.07	1.52	15 21 16.0	20.65	1.98	4	14 34 17.95	1.49	13 48 48.3	20.29	1.94
20	14 55 15.24	1.52	15 19 14.4	20.67	1.98	5	14 33 56.73	1.49	13 47 20.6	20.26	1.94
21	14 54 47.11	1.53	S. 15 17 11.6	20.69	1.98	6	14 33 36.05	1.49	S. 13 45 55.4	20.22	1.94
22	14 54 18.70	1.53	15 15 7.6	20.71	1.98	7	14 33 15.92	1.48	13 44 33.0	20.18	1.93
23	14 53 50.03	1.53	15 13 2.5	20.73	1.99	8	14 32 56.35	1.48	13 43 13.3	20.14	1.93
24	14 53 21.12	1.53	15 10 56.4	20.75	1.99	9	14 32 37.35	1.48	13 41 56.4	20.10	1.92
25	14 52 52.00	1.53	15 8 49.3	20.77	1.99	10	14 32 18.95	1.47	13 40 42.4	20.06	1.92
26	14 52 22.68	1.53	15 6 41.5	20.78	1.99	11	14 32 1.13	1.47	13 39 31.4	20.02	1.92
27	14 51 53.18	1.53	S. 15 4 32.9	20.79	1.99	12	14 31 43.92	1.47	S. 13 38 23.3	19.98	1.91
28	14 51 23.53	1.53	15 2 23.6	20.80	1.99	13	14 31 27.32	1.46	13 37 18.2	19.94	1.91
29	14 50 53.73	1.53	15 0 13.9	20.81	1.99	14	14 31 11.35	1.46	13 36 16.2	19.89	1.90
30	14 50 23.81	1.53	14 58 3.6	20.82	1.99	15	14 30 56.00	1.46	13 35 17.3	19.85	1.90
May 1	14 49 53.80	1.54	14 55 53.0	20.83	1.99	16	14 30 41.29	1.46	13 34 21.5	19.80	1.90
2	14 49 23.71	1.54	14 53 42.1	20.83	1.99	17	14 30 27.23	1.45	13 33 29.0	19.75	1.89
3	14 48 53.57	1.54	S. 14 51 30.9	20.84	1.99	18	14 30 13.83	1.45	S. 13 32 39.6	19.70	1.89
4	14 48 23.38	1.54	14 49 19.6	20.84	1.99	19	14 30 1.08	1.45	13 31 53.5	19.66	1.88
5	14 47 53.18	1.54	14 47 8.3	20.84	2.00	20	14 29 49.00	1.44	13 31 10.8	19.61	1.88
6	14 47 22.99	1.54	14 44 57.0	20.84	2.00	21	14 29 37.59	1.44	13 30 31.3	19.56	1.87
7	14 46 52.81	1.54	14 42 45.8	20.84	2.00	22	14 29 26.86	1.44	13 29 55.2	19.51	1.87
8	14 46 22.66	1.54	14 40 34.9	20.84	2.00	23	14 29 16.81	1.43	13 29 22.3	19.46	1.86
9	14 45 52.58	1.54	S. 14 38 24.3	20.84	2.00	24	14 29 7.43	1.43	S. 13 28 52.9	19.41	1.86
10	14 45 22.59	1.54	14 36 14.1	20.83	2.00	25	14 28 58.73	1.43	13 28 26.8	19.36	1.85
11	14 44 52.71	1.54	14 34 4.4	20.83	1.99	26	14 28 50.72	1.42	13 28 4.2	19.31	1.85
12	14 44 22.95	1.53	14 31 55.3	20.82	1.99	27	14 28 43.40	1.42	13 27 45.0	19.26	1.84
13	14 43 53.34	1.53	14 29 46.9	20.81	1.99	28	14 28 36.77	1.42	13 27 29.2	19.21	1.84
14	14 43 23.90	1.53	14 27 39.4	20.80	1.99	29	14 28 30.83	1.41	13 27 16.8	19.16	1.83
15	14 42 54.64	1.53	S. 14 25 32.8	20.79	1.99	30	14 28 25.58	1.41	S. 13 27 7.8	19.11	1.83
16	14 42 25.60	1.53	14 23 27.1	20.78	1.99	July 1	14 28 21.02	1.41	13 27 2.3	19.06	1.82
17	14 41 56.78	1.53	14 21 22.6	20.76	1.99	2	14 28 17.15	1.40	13 27 0.2	19.01	1.82
18	14 41 28.22	1.53	S. 14 19 19.2	20.75	1.99	3	14 28 13.99	1.40	S. 13 27 1.5	18.96	1.81

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AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Equat. Semi- pass# Merid.	Apparent Declination.	Polar Semidiameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Equat. Semi- pass# Merid.	Apparent Declination.	Polar Semidiameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
July 4	14 28 11.52	1.39	S. 13 27 6.2	18.90	1.81	Aug. 4	14 32 36.03	1.27	S. 13 56 56.2	17.28	1.65
5	14 28 9.75	1.39	13 27 14.4	18.85	1.80	5	14 32 55.03	1.27	13 58 42.8	17.23	1.65
6	14 28 8.68	1.39	13 27 26.0	18.80	1.80	6	14 33 14.64	1.26	14 0 32.0	17.18	1.64
7	14 28 8.32	1.38	13 27 41.1	18.75	1.79	7	14 33 34.86	1.26	14 2 24.0	17.13	1.64
8	14 28 8.65	1.38	13 27 59.6	18.69	1.79	8	14 33 55.68	1.26	14 4 18.6	17.08	1.63
9	14 28 9.69	1.38	13 28 21.5	18.64	1.78	9	14 34 17.10	1.25	14 6 15.7	17.03	1.63
10	14 28 11.42	1.37	S. 13 28 46.9	18.58	1.78	10	14 34 39.11	1.25	S. 14 8 15.5	16.98	1.63
11	14 28 13.86	1.37	13 29 15.6	18.53	1.77	11	14 35 1.72	1.25	14 10 17.8	16.93	1.62
12	14 28 16.99	1.36	13 29 47.7	18.47	1.77	12	14 35 24.91	1.24	14 12 22.6	16.88	1.62
13	14 28 20.83	1.36	13 30 23.2	18.42	1.76	13	14 35 48.68	1.24	14 14 29.9	16.84	1.61
14	14 28 25.36	1.36	13 31 2.1	18.36	1.76	14	14 36 13.03	1.24	14 16 39.5	16.79	1.61
15	14 28 30.59	1.35	13 31 44.4	18.31	1.75	15	14 36 37.94	1.24	14 18 51.6	16.74	1.60
16	14 28 36.52	1.35	S. 13 32 30.0	18.25	1.75	16	14 37 3.42	1.23	S. 14 21 6.0	16.69	1.60
17	14 28 43.13	1.34	13 33 18.9	18.20	1.74	17	14 37 29.45	1.23	14 23 22.7	16.65	1.59
18	14 28 50.44	1.34	13 34 11.2	18.15	1.74	18	14 37 56.03	1.23	14 25 41.6	16.60	1.59
19	14 28 58.43	1.34	13 35 6.8	18.09	1.73	19	14 38 23.16	1.22	14 28 2.8	16.56	1.59
20	14 29 7.11	1.33	13 36 5.5	18.04	1.73	20	14 38 50.82	1.22	14 30 26.1	16.51	1.58
21	14 29 16.45	1.33	13 37 7.5	17.99	1.72	21	14 39 19.02	1.22	14 32 51.5	16.47	1.58
22	14 29 26.47	1.33	S. 13 38 12.7	17.93	1.72	22	14 39 47.74	1.21	S. 14 35 18.9	16.43	1.57
23	14 29 37.17	1.32	13 39 21.0	17.88	1.71	23	14 40 16.98	1.21	14 37 48.4	16.38	1.57
24	14 29 48.52	1.32	13 40 32.5	17.83	1.71	24	14 40 46.74	1.21	14 40 20.0	16.34	1.56
25	14 30 0.53	1.31	13 41 47.0	17.78	1.70	25	14 41 17.01	1.20	14 42 53.4	16.30	1.56
26	14 30 13.20	1.31	13 43 4.7	17.73	1.70	26	14 41 47.78	1.20	14 45 28.7	16.26	1.56
27	14 30 26.52	1.31	13 44 25.4	17.68	1.69	27	14 42 19.05	1.20	14 48 5.9	16.22	1.55
28	14 30 40.48	1.30	S. 13 45 49.0	17.63	1.69	28	14 42 50.81	1.19	S. 14 50 44.9	16.18	1.55
29	14 30 55.09	1.30	13 47 15.6	17.58	1.68	29	14 43 23.06	1.19	14 53 25.7	16.14	1.54
30	14 31 10.34	1.29	13 48 45.2	17.53	1.68	30	14 43 55.79	1.19	14 56 8.2	16.10	1.54
31	14 31 26.22	1.29	13 50 17.7	17.48	1.67	31	14 44 29.01	1.19	14 58 52.4	16.06	1.54
Aug. 1	14 31 42.74	1.28	13 51 53.1	17.43	1.67	Sept. 1	14 45 2.70	1.18	15 1 38.3	16.02	1.54
2	14 31 59.88	1.28	13 53 31.4	17.38	1.66	2	14 45 36.87	1.18	15 4 25.8	15.98	1.53
3	14 32 17.64	1.28	S. 13 55 12.4	17.33	1.66	3	14 46 11.50	1.18	S. 15 7 14.9	15.94	1.53

AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Equat. Semid. pass ^g Merid.	Apparent Declination.	Polar Semidiameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Equat. Semid. pass ^g Merid.	Apparent Declination.	Polar Semidiameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
Jan. 1	13 15 28.47	0.57	S. 5 21 37.9	7.67	0.91	Feb. 16	13 17 10.38	0.62	S. 5 18 26.8	8.29	0.98
2	13 15 39.32	0.57	5 22 26.7	7.68	0.91	17	13 17 3.51	0.62	5 17 29.2	8.30	0.98
3	13 15 49.82	0.58	5 23 13.2	7.69	0.91	18	13 16 56.29	0.62	5 16 29.6	8.31	0.98
4	13 15 59.95	0.58	5 23 57.4	7.71	0.91	19	13 16 48.70	0.62	5 15 28.0	8.32	0.98
5	13 16 9.71	0.58	5 24 39.3	7.72	0.91	20	13 16 40.77	0.62	5 14 24.4	8.33	0.98
6	13 16 19.11	0.58	5 25 18.8	7.74	0.91	21	13 16 32.48	0.62	5 13 18.9	8.35	0.98
7	13 16 28.15	0.58	S. 5 25 56.0	7.75	0.91	22	13 16 23.85	0.62	S. 5 12 11.5	8.36	0.99
8	13 16 36.81	0.58	5 26 30.9	7.76	0.92	23	13 16 14.88	0.63	5 11 2.2	8.37	0.99
9	13 16 45.09	0.58	5 27 3.4	7.77	0.92	24	13 16 5.59	0.63	5 9 51.2	8.38	0.99
10	13 16 52.99	0.58	5 27 33.6	7.79	0.92	25	13 15 55.97	0.63	5 8 38.3	8.39	0.99
11	13 17 0.52	0.58	5 28 1.3	7.80	0.92	26	13 15 46.02	0.63	5 7 23.7	8.40	0.99
12	13 17 7.67	0.58	5 28 26.7	7.82	0.92	27	13 15 35.76	0.63	5 6 7.4	8.41	0.99
13	13 17 14.43	0.59	S. 5 28 49.7	7.83	0.92	28	13 15 25.19	0.63	S. 5 4 49.4	8.42	0.99
14	13 17 20.80	0.59	5 29 10.3	7.85	0.92	Mar. 1	13 15 14.31	0.63	5 3 29.8	8.43	0.99
15	13 17 26.78	0.59	5 29 28.5	7.86	0.93	2	13 15 3.12	0.63	5 2 8.5	8.44	1.00
16	13 17 32.37	0.59	5 29 44.3	7.87	0.93	3	13 14 51.65	0.63	5 0 45.7	8.45	1.00
17	13 17 37.57	0.59	5 29 57.7	7.89	0.93	4	13 14 39.88	0.63	4 59 21.3	8.46	1.00
18	13 17 42.38	0.59	5 30 8.7	7.90	0.93	5	13 14 27.83	0.63	4 57 55.5	8.47	1.00
19	13 17 46.79	0.59	S. 5 30 17.3	7.91	0.93	6	13 14 15.50	0.63	S. 4 56 28.2	8.48	1.00
20	13 17 50.81	0.59	5 30 23.5	7.93	0.93	7	13 14 2.91	0.63	4 54 59.5	8.48	1.00
21	13 17 54.43	0.59	5 30 27.3	7.94	0.94	8	13 13 50.04	0.63	4 53 29.4	8.49	1.00
22	13 17 57.65	0.59	5 30 28.6	7.96	0.94	9	13 13 36.91	0.63	4 51 58.0	8.50	1.00
23	13 18 0.47	0.60	5 30 27.6	7.97	0.94	10	13 13 23.53	0.64	4 50 25.3	8.51	1.00
24	13 18 2.89	0.60	5 30 24.3	7.99	0.94	11	13 13 9.91	0.64	4 48 51.4	8.52	1.00
25	13 18 4.92	0.60	S. 5 30 18.5	8.00	0.94	12	13 12 56.05	0.64	S. 4 47 16.3	8.52	1.01
26	13 18 6.56	0.60	5 30 10.3	8.02	0.95	13	13 12 41.95	0.64	4 45 40.2	8.53	1.01
27	13 18 7.80	0.60	5 29 59.7	8.03	0.95	14	13 12 27.63	0.64	4 44 2.9	8.53	1.01
28	13 18 8.64	0.60	5 29 46.8	8.05	0.95	15	13 12 13.10	0.64	4 42 24.6	8.54	1.01
29	13 18 9.09	0.60	5 29 31.6	8.06	0.95	16	13 11 58.35	0.64	4 40 45.3	8.54	1.01
30	13 18 9.14	0.60	5 29 14.0	8.07	0.95	17	13 11 43.41	0.64	4 39 5.0	8.55	1.01
31	13 18 8.80	0.60	S. 5 28 54.0	8.08	0.95	18	13 11 28.28	0.64	S. 4 37 23.9	8.55	1.01
Feb. 1	13 18 8.06	0.60	5 28 31.8	8.10	0.96	19	13 11 12.96	0.64	4 35 42.1	8.56	1.01
2	13 18 6.93	0.61	5 28 7.2	8.11	0.96	20	13 10 57.47	0.64	4 33 59.4	8.56	1.01
3	13 18 5.40	0.61	5 27 40.3	8.12	0.96	21	13 10 41.82	0.64	4 32 15.9	8.57	1.01
4	13 18 3.48	0.61	5 27 11.1	8.14	0.96	22	13 10 26.01	0.64	4 30 31.9	8.57	1.01
5	13 18 1.17	0.61	5 26 39.6	8.15	0.96	23	13 10 10.05	0.64	4 28 47.3	8.58	1.01
6	13 17 58.48	0.61	S. 5 26 5.8	8.17	0.96	24	13 9 53.96	0.64	S. 4 27 2.1	8.58	1.01
7	13 17 55.40	0.61	5 25 29.8	8.18	0.96	25	13 9 37.74	0.64	4 25 16.5	8.58	1.01
8	13 17 51.92	0.61	5 24 51.5	8.19	0.97	26	13 9 21.40	0.64	4 23 30.5	8.59	1.01
9	13 17 48.06	0.61	5 24 11.0	8.20	0.97	27	13 9 4.95	0.64	4 21 44.1	8.59	1.01
10	13 17 43.81	0.61	5 23 28.4	8.22	0.97	28	13 8 48.39	0.64	4 19 57.3	8.60	1.01
11	13 17 39.18	0.61	5 22 43.5	8.23	0.97	29	13 8 31.74	0.64	4 18 10.3	8.60	1.02
12	13 17 34.17	0.62	S. 5 21 56.4	8.25	0.97	30	13 8 15.01	0.64	S. 4 16 23.2	8.60	1.02
13	13 17 28.78	0.62	5 21 7.2	8.26	0.97	31	13 7 58.20	0.64	4 14 35.9	8.61	1.02
14	13 17 23.02	0.62	5 20 15.8	8.27	0.98	Apr. 1	13 7 41.33	0.64	4 12 48.4	8.61	1.02
15	13 17 16.89	0.62	S. 5 19 22.4	8.29	0.98	2	13 7 24.39	0.64	S. 4 11 1.0	8.61	1.02

SATURN, 1923.

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AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Equat. Semi- pass- Merid.	Apparent Declination,	Polar Semi- diameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Equat. Semi- pass- Merid.	Apparent Declination.	Polar Semi- diameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
Apr. 3	13 7 7.40	0.64	S. 4 9 13.6	8.61	1.02	May 19	12 55 41.83	0.62	S. 3 2 31.3	8.37	0.99
4	13 6 50.37	0.64	4 7 26.3	8.62	1.02	20	12 55 31.89	0.62	3 1 41.6	8.36	0.99
5	13 6 33.31	0.64	4 5 39.1	8.62	1.02	21	12 55 22.25	0.62	3 0 54.1	8.35	0.99
6	13 6 16.23	0.64	4 3 52.0	8.62	1.02	22	12 55 12.94	0.62	3 0 8.8	8.34	0.98
7	13 5 59.13	0.64	4 2 5.2	8.62	1.02	23	12 55 3.94	0.62	2 59 25.7	8.32	0.98
8	13 5 42.02	0.64	4 0 18.8	8.62	1.02	24	12 54 55.26	0.62	2 58 44.8	8.31	0.98
9	13 5 24.91	0.64	S. 3 58 32.6	8.62	1.02	25	12 54 46.90	0.62	S. 2 58 6.0	8.30	0.98
10	13 5 7.82	0.64	3 56 46.9	8.62	1.02	26	12 54 38.88	0.62	2 57 29.5	8.28	0.98
11	13 4 50.74	0.64	3 55 1.6	8.62	1.02	27	12 54 31.19	0.62	2 56 55.3	8.27	0.98
12	13 4 33.70	0.64	3 53 16.8	8.61	1.02	28	12 54 23.83	0.62	2 56 23.3	8.26	0.97
13	13 4 16.70	0.64	3 51 32.6	8.61	1.02	29	12 54 16.81	0.62	2 55 53.6	8.25	0.97
14	13 3 59.74	0.64	3 49 49.1	8.61	1.02	30	12 54 10.12	0.61	2 55 26.1	8.24	0.97
15	13 3 42.85	0.64	S. 3 48 6.2	8.61	1.02	31	12 54 3.77	0.61	S. 2 55 1.0	8.23	0.97
16	13 3 26.02	0.64	3 46 24.2	8.60	1.02	June 1	12 53 57.76	0.61	2 54 38.1	8.21	0.97
17	13 3 9.28	0.64	3 44 42.9	8.60	1.01	2	12 53 52.11	0.61	2 54 17.6	8.20	0.97
18	13 2 52.62	0.64	3 43 2.5	8.60	1.01	3	12 53 46.80	0.61	2 53 59.3	8.19	0.97
19	13 2 36.05	0.64	3 41 23.0	8.59	1.01	4	12 53 41.84	0.61	2 53 43.4	8.17	0.96
20	13 2 19.59	0.64	3 39 44.5	8.59	1.01	5	12 53 37.23	0.61	2 53 29.8	8.16	0.96
21	13 2 3.24	0.64	S. 3 38 7.1	8.59	1.01	6	12 53 32.97	0.61	S. 2 53 18.6	8.15	0.96
22	13 1 47.01	0.64	3 36 30.6	8.58	1.01	7	12 53 29.08	0.61	2 53 9.7	8.13	0.96
23	13 1 30.91	0.64	3 34 55.3	8.58	1.01	8	12 53 25.54	0.61	2 53 3.2	8.12	0.96
24	13 1 14.95	0.64	3 33 21.2	8.57	1.01	9	12 53 22.36	0.60	2 52 59.1	8.11	0.96
25	13 0 59.15	0.64	3 31 48.3	8.57	1.01	10	12 53 19.55	0.60	2 52 57.3	8.10	0.96
26	13 0 43.49	0.64	3 30 16.7	8.56	1.01	11	12 53 17.10	0.60	2 52 57.8	8.08	0.95
27	13 0 28.00	0.64	S. 3 28 46.3	8.56	1.01	12	12 53 15.01	0.60	S. 2 53 0.8	8.07	0.95
28	13 0 12.68	0.64	3 27 17.4	8.55	1.01	13	12 53 13.29	0.60	2 53 6.1	8.05	0.95
29	12 59 57.53	0.64	3 25 49.9	8.55	1.01	14	12 53 11.94	0.60	2 53 13.8	8.04	0.95
30	12 59 42.57	0.64	3 24 23.7	8.54	1.01	15	12 53 10.96	0.60	2 53 23.8	8.03	0.95
May 1	12 59 27.79	0.64	3 22 59.1	8.53	1.01	16	12 53 10.34	0.60	2 53 36.2	8.01	0.95
2	12 59 13.22	0.64	3 21 36.0	8.53	1.01	17	12 53 10.09	0.60	2 53 51.0	8.00	0.95
3	12 58 58.85	0.64	S. 3 20 14.5	8.52	1.01	18	12 53 10.21	0.60	S. 2 54 8.2	7.98	0.94
4	12 58 44.68	0.63	3 18 54.5	8.51	1.00	19	12 53 10.70	0.59	2 54 27.7	7.97	0.94
5	12 58 30.73	0.63	3 17 36.2	8.51	1.00	20	12 53 11.57	0.59	2 54 49.6	7.96	0.94
6	12 58 17.00	0.63	3 16 19.5	8.50	1.00	21	12 53 12.80	0.59	2 55 13.8	7.94	0.94
7	12 58 3.50	0.63	3 15 4.5	8.49	1.00	22	12 53 14.40	0.59	2 55 40.3	7.93	0.94
8	12 57 50.24	0.63	3 13 51.2	8.48	1.00	23	12 53 16.36	0.59	2 56 9.2	7.92	0.94
9	12 57 37.22	0.63	S. 3 12 39.8	8.47	1.00	24	12 53 18.69	0.59	S. 2 56 40.4	7.90	0.94
10	12 57 24.46	0.63	3 11 30.2	8.46	1.00	25	12 53 21.39	0.59	2 57 13.9	7.89	0.93
11	12 57 11.95	0.63	3 10 22.5	8.45	1.00	26	12 53 24.45	0.59	2 57 49.6	7.88	0.93
12	12 56 59.70	0.63	3 9 16.6	8.44	1.00	27	12 53 27.87	0.59	2 58 27.7	7.86	0.93
13	12 56 47.73	0.63	3 8 12.7	8.43	1.00	28	12 53 31.65	0.59	2 59 8.0	7.85	0.93
14	12 56 36.03	0.63	3 7 10.7	8.42	0.99	29	12 53 35.79	0.58	2 59 50.6	7.84	0.93
15	12 56 24.61	0.63	S. 3 6 10.7	8.41	0.99	30	12 53 40.29	0.58	S. 3 0 35.3	7.83	0.92
16	12 56 13.47	0.63	3 5 12.7	8.40	0.99	July 1	12 53 45.15	0.58	3 1 22.3	7.81	0.92
17	12 56 2.63	0.63	3 4 16.8	8.39	0.99	2	12 53 50.36	0.58	3 2 11.6	7.80	0.92
18	12 55 52.08	0.62	S. 3 3 23.0	8.38	0.99	3	12 53 55.94	0.58	S. 3 3 3.0	7.79	0.92

AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Equat. Semi-d. pass# Merid.	Apparent Declination.	Polar Semi-diameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Equat. Semi-d. pass# Merid.	Apparent Declination.	Polar Semi-diameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
July 4	12 54 1.87	0.58	S. 3 3 56.6	7.77	0.92	July 22	12 56 47.73	0.56	S. 3 26 0.5	7.54	0.89
5	12 54 8.15	0.58	3 4 52.4	7.76	0.92	23	12 57 0.09	0.56	3 27 32.8	7.53	0.89
6	12 54 14.79	0.58	3 5 50.4	7.75	0.91	24	12 57 12.77	0.56	3 29 7.0	7.52	0.89
7	12 54 21.78	0.58	3 6 50.6	7.73	0.91	25	12 57 25.75	0.56	3 30 42.9	7.50	0.89
8	12 54 29.13	0.58	3 7 52.9	7.72	0.91	26	12 57 39.04	0.56	3 32 20.6	7.49	0.88
9	12 54 36.82	0.57	3 8 57.3	7.71	0.91	27	12 57 52.64	0.56	3 34 0.1	7.48	0.88
10	12 54 44.85	0.57	S. 3 10 3.8	7.70	0.91	28	12 58 6.54	0.56	S. 3 35 41.3	7.47	0.88
11	12 54 53.24	0.57	3 11 12.4	7.68	0.90	29	12 58 20.73	0.56	3 37 24.2	7.46	0.88
12	12 55 1.96	0.57	3 12 23.1	7.67	0.90	30	12 58 35.23	0.56	3 39 8.8	7.45	0.88
13	12 55 11.03	0.57	3 13 35.9	7.66	0.90	31	12 58 50.02	0.56	3 40 55.1	7.44	0.88
14	12 55 20.45	0.57	3 14 50.7	7.64	0.90	Aug. 1	12 59 5.10	0.55	3 42 43.1	7.43	0.88
15	12 55 30.20	0.57	3 16 7.6	7.63	0.90	2	12 59 20.47	0.55	3 44 32.7	7.42	0.88
16	12 55 40.29	0.57	S. 3 17 26.4	7.62	0.90	3	12 59 36.12	0.55	S. 3 46 23.9	7.41	0.87
17	12 55 50.71	0.57	3 18 47.2	7.61	0.90	4	12 59 52.06	0.55	3 48 16.7	7.40	0.87
18	12 56 1.46	0.57	3 20 10.0	7.59	0.89	5	13 0 8.28	0.55	3 50 11.1	7.39	0.87
19	12 56 12.54	0.56	3 21 34.8	7.58	0.89	6	13 0 24.78	0.55	3 52 7.1	7.37	0.87
20	12 56 23.95	0.56	3 23 1.4	7.57	0.89	7	13 0 41.56	0.55	S. 3 54 4.6	7.36	0.87
21	12 56 35.68	0.56	S. 3 24 30.0	7.55	0.89						

Dec. 20	13 55 22.50	0.55	S. 9 17 22.0	7.31	0.86	Dec. 27	13 57 27.70	0.56	S. 9 27 17.4	7.38	0.87
21	13 55 41.24	0.55	9 18 52.5	7.32	0.86	28	13 57 44.42	0.56	9 28 35.1	7.39	0.87
22	13 55 59.70	0.55	9 20 21.1	7.33	0.87	29	13 58 0.84	0.56	9 29 51.0	7.40	0.87
23	13 56 17.88	0.55	9 21 48.0	7.34	0.87	30	13 58 16.95	0.56	9 31 5.0	7.42	0.88
24	13 56 35.77	0.55	9 23 13.1	7.35	0.87	31	13 58 32.75	0.56	9 32 17.0	7.43	0.88
25	13 56 53.37	0.56	9 24 36.4	7.36	0.87	32	13 58 48.22	0.56	S. 9 33 27.1	7.44	0.88
26	13 57 10.69	0.56	S. 9 25 57.8	7.37	0.87						

AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^W Merid.	Apparent Declination.	Semidiameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^W Merid.	Apparent Declination.	Semidiameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
July 26	23 13 49.82	0.12	S. 5 49 49.1	1.8	0.5	Sept. 10	23 7 53.34	0.12	S. 6 27 55.7	1.8	0.5
27	23 13 44.25	0.12	5 50 26.1	1.8	0.5	11	23 7 44.46	0.12	6 28 51.2	1.8	0.5
28	23 13 38.54	0.12	5 51 4.0	1.8	0.5	12	23 7 35.59	0.12	6 29 46.6	1.8	0.5
29	23 13 32.70	0.12	5 51 42.7	1.8	0.5	13	23 7 26.72	0.12	6 30 41.8	1.8	0.5
30	23 13 26.72	0.12	5 52 22.2	1.8	0.5	14	23 7 17.88	0.12	6 31 36.9	1.8	0.5
31	23 13 20.61	0.12	5 53 2.5	1.8	0.5	15	23 7 9.05	0.12	6 32 31.9	1.8	0.5
Aug. 1	23 13 14.38	0.12	S. 5 53 43.6	1.8	0.5	16	23 7 0.25	0.12	S. 6 33 26.6	1.8	0.5
2	23 13 8.02	0.12	5 54 25.4	1.8	0.5	17	23 6 51.48	0.12	6 34 21.0	1.8	0.5
3	23 13 1.54	0.12	5 55 7.9	1.8	0.5	18	23 6 42.74	0.12	6 35 15.2	1.8	0.5
4	23 12 54.93	0.12	5 55 51.2	1.8	0.5	19	23 6 34.03	0.12	6 36 9.1	1.8	0.5
5	23 12 48.20	0.12	5 56 35.1	1.8	0.5	20	23 6 25.37	0.12	6 37 2.7	1.8	0.5
6	23 12 41.36	0.12	5 57 19.7	1.8	0.5	21	23 6 16.75	0.12	6 37 55.9	1.8	0.5
7	23 12 34.41	0.12	S. 5 58 5.0	1.8	0.5	22	23 6 8.17	0.12	S. 6 38 48.9	1.8	0.5
8	23 12 27.36	0.12	5 58 51.0	1.8	0.5	23	23 5 59.63	0.12	6 39 41.5	1.8	0.5
9	23 12 20.19	0.12	5 59 37.5	1.8	0.5	24	23 5 51.15	0.12	6 40 33.7	1.8	0.5
10	23 12 12.92	0.12	6 0 24.7	1.8	0.5	25	23 5 42.73	0.12	6 41 25.5	1.8	0.5
11	23 12 5.55	0.12	6 1 12.5	1.8	0.5	26	23 5 34.37	0.12	6 42 16.9	1.8	0.5
12	23 11 58.08	0.12	6 2 0.9	1.8	0.5	27	23 5 26.07	0.12	6 43 7.8	1.8	0.5
13	23 11 50.51	0.12	S. 6 2 49.8	1.8	0.5	28	23 5 17.83	0.12	S. 6 43 58.3	1.8	0.5
14	23 11 42.85	0.12	6 3 39.2	1.8	0.5	29	23 5 9.67	0.12	6 44 48.2	1.8	0.5
15	23 11 35.11	0.12	6 4 29.2	1.8	0.5	30	23 5 1.55	0.12	6 45 37.7	1.8	0.5
16	23 11 27.27	0.12	6 5 19.6	1.8	0.5	Oct. 1	23 4 53.55	0.12	6 46 26.6	1.8	0.5
17	23 11 19.36	0.12	6 6 10.4	1.8	0.5	2	23 4 45.61	0.12	6 47 14.9	1.8	0.5
18	23 11 11.36	0.12	6 7 1.7	1.8	0.5	3	23 4 37.76	0.12	6 48 2.7	1.8	0.5
19	23 11 3.29	0.12	S. 6 7 53.5	1.8	0.5	4	23 4 29.99	0.12	S. 6 48 50.0	1.8	0.5
20	23 10 55.15	0.12	6 8 45.6	1.8	0.5	5	23 4 22.31	0.12	6 49 36.6	1.8	0.5
21	23 10 46.94	0.12	6 9 38.2	1.8	0.5	6	23 4 14.73	0.12	6 50 22.5	1.8	0.5
22	23 10 38.66	0.12	6 10 31.1	1.8	0.5	7	23 4 7.24	0.12	6 51 7.8	1.8	0.5
23	23 10 30.32	0.12	6 11 24.3	1.8	0.5	8	23 3 59.85	0.12	6 51 52.4	1.8	0.5
24	23 10 21.92	0.12	6 12 17.9	1.8	0.5	9	23 3 52.56	0.12	6 52 36.3	1.8	0.5
25	23 10 13.47	0.12	S. 6 13 11.7	1.8	0.5	10	23 3 45.38	0.12	S. 6 53 19.5	1.8	0.5
26	23 10 4.97	0.12	6 14 5.8	1.8	0.5	11	23 3 38.31	0.12	6 54 2.0	1.8	0.5
27	23 9 56.41	0.12	6 15 0.2	1.8	0.5	12	23 3 31.35	0.12	6 54 43.8	1.8	0.5
28	23 9 47.81	0.12	6 15 54.8	1.8	0.5	13	23 3 24.51	0.12	6 55 24.7	1.8	0.5
29	23 9 39.17	0.12	6 16 49.6	1.8	0.5	14	23 3 17.80	0.12	6 56 4.9	1.8	0.5
30	23 9 30.48	0.12	6 17 44.6	1.8	0.5	15	23 3 11.21	0.12	6 56 44.2	1.8	0.5
31	23 9 21.76	0.12	S. 6 18 39.7	1.8	0.5	16	23 3 4.74	0.12	S. 6 57 22.8	1.8	0.5
Sept. 1	23 9 13.01	0.12	6 19 35.1	1.8	0.5	17	23 2 58.40	0.12	6 58 0.4	1.8	0.5
2	23 9 4.23	0.12	6 20 30.6	1.8	0.5	18	23 2 52.19	0.12	6 58 37.2	1.8	0.5
3	23 8 55.42	0.12	6 21 26.1	1.8	0.5	19	23 2 46.11	0.12	6 59 13.2	1.8	0.5
4	23 8 46.59	0.12	6 22 21.8	1.8	0.5	20	23 2 40.17	0.12	6 59 48.3	1.8	0.5
5	23 8 37.73	0.12	6 23 17.4	1.8	0.5	21	23 2 34.37	0.12	7 0 22.5	1.8	0.5
6	23 8 28.86	0.12	S. 6 24 13.1	1.8	0.5	22	23 2 28.70	0.12	S. 7 0 55.7	1.8	0.5
7	23 8 19.99	0.12	6 25 8.9	1.8	0.5	23	23 2 23.18	0.12	7 1 28.1	1.8	0.5
8	23 8 11.10	0.12	6 26 4.6	1.8	0.5	24	23 2 17.80	0.12	7 1 59.5	1.8	0.5
9	23 8 2.22	0.12	S. 6 27 0.2	1.8	0.5	25	23 2 12.57	0.12	S. 7 2 30.0	1.8	0.5

AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^W Merid.	Apparent Declination.	Semidiameter.	Hor. Par.	Date.	Apparent Right Ascension.	Sid. Time of Semid. pass ^W Merid.	Apparent Declination.	Semidiameter.	Hor. Par.
	h m s	s	° ' "	"	"		h m s	s	° ' "	"	"
Oct. 26	23 2 7.48	0.12	S. 7 2 59.5	1.8	0.5	Nov. 29	23 0 56.37	0.12	S. 7 8 57.9	1.7	0.4
27	23 2 2.56	0.12	7 3 28.0	1.8	0.5	30	23 0 57.50	0.12	7 8 48.2	1.7	0.4
28	23 1 57.79	0.12	7 3 55.5	1.8	0.5	Dec. 1	23 0 58.82	0.12	7 8 37.4	1.7	0.4
29	23 1 53.17	0.12	7 4 22.0	1.8	0.5	2	23 1 0.33	0.12	7 8 25.4	1.7	0.4
30	23 1 48.71	0.12	7 4 47.5	1.8	0.5	3	23 1 2.03	0.11	7 8 12.2	1.7	0.4
31	23 1 44.41	0.12	7 5 12.0	1.8	0.5	4	23 1 3.93	0.11	7 7 57.8	1.7	0.4
Nov. 1	23 1 40.27	0.12	S. 7 5 35.5	1.8	0.5	5	23 1 6.01	0.11	S. 7 7 42.3	1.7	0.4
2	23 1 36.29	0.12	7 5 57.9	1.8	0.5	6	23 1 8.28	0.11	7 7 25.6	1.7	0.4
3	23 1 32.48	0.12	7 6 19.2	1.8	0.5	7	23 1 10.75	0.11	7 7 7.7	1.7	0.4
4	23 1 28.84	0.12	7 6 39.5	1.8	0.5	8	23 1 13.40	0.11	7 6 48.6	1.7	0.4
5	23 1 25.37	0.12	7 6 58.7	1.8	0.5	9	23 1 16.25	0.11	7 6 28.3	1.7	0.4
6	23 1 22.07	0.12	7 7 16.8	1.8	0.5	10	23 1 19.28	0.11	7 6 6.9	1.7	0.4
7	23 1 18.94	0.12	S. 7 7 33.8	1.8	0.5	11	23 1 22.50	0.11	S. 7 5 44.4	1.7	0.4
8	23 1 15.99	0.12	7 7 49.7	1.8	0.5	12	23 1 25.91	0.11	7 5 20.6	1.7	0.4
9	23 1 13.21	0.12	7 8 4.5	1.8	0.5	13	23 1 29.50	0.11	7 4 55.7	1.7	0.4
10	23 1 10.62	0.12	7 8 18.2	1.8	0.5	14	23 1 33.28	0.11	7 4 29.7	1.7	0.4
11	23 1 8.20	0.12	7 8 30.8	1.7	0.5	15	23 1 37.24	0.11	7 4 2.5	1.7	0.4
12	23 1 5.97	0.12	7 8 42.1	1.7	0.5	16	23 1 41.39	0.11	7 3 34.2	1.7	0.4
13	23 1 3.91	0.12	S. 7 8 52.3	1.7	0.5	17	23 1 45.72	0.11	S. 7 3 4.8	1.7	0.4
14	23 1 2.04	0.12	7 9 1.4	1.7	0.5	18	23 1 50.23	0.11	7 2 34.3	1.7	0.4
15	23 1 0.36	0.12	7 9 9.3	1.7	0.5	19	23 1 54.92	0.11	7 2 2.6	1.7	0.4
16	23 0 58.86	0.12	7 9 16.2	1.7	0.5	20	23 1 59.78	0.11	7 1 29.9	1.7	0.4
17	23 0 57.54	0.12	7 9 21.8	1.7	0.5	21	23 2 4.82	0.11	7 0 56.1	1.7	0.4
18	23 0 56.42	0.12	7 9 26.2	1.7	0.5	22	23 2 10.04	0.11	7 0 21.2	1.7	0.4
19	23 0 55.47	0.12	S. 7 9 29.5	1.7	0.4	23	23 2 15.44	0.11	S. 6 59 45.2	1.7	0.4
20	23 0 54.71	0.12	7 9 31.7	1.7	0.4	24	23 2 21.00	0.11	6 59 8.2	1.7	0.4
21	23 0 54.14	0.12	7 9 32.6	1.7	0.4	25	23 2 26.74	0.11	6 58 30.1	1.7	0.4
22	23 0 53.76	0.12	7 9 32.4	1.7	0.4	26	23 2 32.65	0.11	6 57 50.9	1.7	0.4
23	23 0 53.57	0.12	7 9 31.0	1.7	0.4	27	23 2 38.73	0.11	6 57 10.7	1.7	0.4
24	23 0 53.56	0.12	7 9 28.4	1.7	0.4	28	23 2 44.98	0.11	6 56 29.5	1.7	0.4
25	23 0 53.74	0.12	S. 7 9 24.7	1.7	0.4	29	23 2 51.39	0.11	S. 6 55 47.2	1.7	0.4
26	23 0 54.11	0.12	7 9 19.8	1.7	0.4	30	23 2 57.97	0.11	6 55 4.0	1.7	0.4
27	23 0 54.67	0.12	7 9 13.7	1.7	0.4	31	23 3 4.72	0.11	6 54 19.7	1.7	0.4
28	23 0 55.42	0.12	S. 7 9 6.4	1.7	0.4	32	23 3 11.62	0.11	S. 6 53 34.4	1.7	0.4

NEPTUNE, 1923.

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AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Apparent Declination.	Hor. Par.	Date.	Apparent Right Ascension.	Apparent Declination.	Hor. Par.
	h m s	° ' "	"		h m s	° ' "	"
Jan. 1	9 20 52.11	N. 15 41 56.8	0.3	Feb. 16	9 16 6.82	N. 16 4 23.9	0.3
2	9 20 47.10	15 42 21.0	0.3	17	9 16 0.31	16 4 54.1	0.3
3	9 20 42.00	15 42 45.6	0.3	18	9 15 53.82	16 5 24.2	0.3
4	9 20 36.81	15 43 10.6	0.3	19	9 15 47.36	16 5 54.1	0.3
5	9 20 31.54	15 43 36.0	0.3	20	9 15 40.94	16 6 23.9	0.3
6	9 20 26.20	15 44 1.7	0.3	21	9 15 34.56	16 6 53.4	0.3
7	9 20 20.77	N. 15 44 27.7	0.3	22	9 15 28.21	N. 16 7 22.8	0.3
8	9 20 15.26	15 44 54.1	0.3	23	9 15 21.90	16 7 51.9	0.3
9	9 20 9.68	15 45 20.9	0.3	24	9 15 15.65	16 8 20.7	0.3
10	9 20 4.03	15 45 47.9	0.3	25	9 15 9.44	16 8 49.4	0.3
11	9 19 58.31	15 46 15.3	0.3	26	9 15 3.28	16 9 17.8	0.3
12	9 19 52.52	15 46 42.9	0.3	27	9 14 57.18	16 9 46.0	0.3
13	9 19 46.66	N. 15 47 10.9	0.3	28	9 14 51.13	N. 16 10 13.9	0.3
14	9 19 40.73	15 47 39.1	0.3	Mar. 1	9 14 45.14	16 10 41.5	0.3
15	9 19 34.75	15 48 7.6	0.3	2	9 14 39.20	16 11 8.8	0.3
16	9 19 28.71	15 48 36.3	0.3	3	9 14 33.33	16 11 35.9	0.3
17	9 19 22.61	15 49 5.3	0.3	4	9 14 27.52	16 12 2.6	0.3
18	9 19 16.46	15 49 34.5	0.3	5	9 14 21.77	16 12 29.0	0.3
19	9 19 10.26	N. 15 50 3.9	0.3	6	9 14 16.09	N. 16 12 55.1	0.3
20	9 19 4.02	15 50 33.5	0.3	7	9 14 10.48	16 13 20.9	0.3
21	9 18 57.72	15 51 3.3	0.3	8	9 14 4.95	16 13 46.3	0.3
22	9 18 51.38	15 51 33.3	0.3	9	9 13 59.49	16 14 11.4	0.3
23	9 18 45.01	15 52 3.4	0.3	10	9 13 54.11	16 14 36.1	0.3
24	9 18 38.60	15 52 33.7	0.3	11	9 13 48.80	16 15 0.4	0.3
25	9 18 32.15	N. 15 53 4.2	0.3	12	9 13 43.58	N. 16 15 24.3	0.3
26	9 18 25.67	15 53 34.7	0.3	13	9 13 38.43	16 15 47.9	0.3
27	9 18 19.16	15 54 5.3	0.3	14	9 13 33.37	16 16 11.0	0.3
28	9 18 12.63	15 54 36.1	0.3	15	9 13 28.40	16 16 33.8	0.3
29	9 18 6.06	15 55 7.0	0.3	16	9 13 23.52	16 16 56.1	0.3
30	9 17 59.48	15 55 38.0	0.3	17	9 13 18.73	16 17 18.0	0.3
31	9 17 52.88	N. 15 56 9.0	0.3	18	9 13 14.03	N. 16 17 39.5	0.3
Feb. 1	9 17 46.26	15 56 40.0	0.3	19	9 13 9.43	16 18 0.6	0.3
2	9 17 39.62	15 57 11.1	0.3	20	9 13 4.93	16 18 21.2	0.3
3	9 17 32.98	15 57 42.2	0.3	21	9 13 0.52	16 18 41.3	0.3
4	9 17 26.33	15 58 13.4	0.3	22	9 12 56.22	16 19 0.9	0.3
5	9 17 19.68	15 58 44.5	0.3	23	9 12 52.01	16 19 20.1	0.3
6	9 17 13.02	N. 15 59 15.6	0.3	24	9 12 47.91	N. 16 19 38.9	0.3
7	9 17 6.36	15 59 46.8	0.3	25	9 12 43.92	16 19 57.2	0.3
8	9 16 59.70	16 0 17.9	0.3	26	9 12 40.03	16 20 15.0	0.3
9	9 16 53.05	16 0 48.9	0.3	27	9 12 36.25	16 20 32.3	0.3
10	9 16 46.40	16 1 19.9	0.3	28	9 12 32.57	16 20 49.1	0.3
11	9 16 39.76	16 1 50.8	0.3	29	9 12 29.01	16 21 5.3	0.3
12	9 16 33.14	N. 16 2 21.7	0.3	30	9 12 25.56	N. 16 21 21.1	0.3
13	9 16 26.53	16 2 52.4	0.3	31	9 12 22.22	16 21 36.4	0.3
14	9 16 19.94	16 3 23.0	0.3	Apr. 1	9 12 18.99	16 21 51.1	0.3
15	9 16 13.37	N. 16 3 53.5	0.3	2	9 12 15.88	N. 16 22 5.3	0.3

AT TRANSIT AT GREENWICH.

Date.	Apparent Right Ascension.	Apparent Declination.	Hor. Par.	Date.	Apparent Right Ascension.	Apparent Declination.	Hor. Par.
	h m s	° ' "	"		h m s	° ' "	"
Apr. 3	9 12 12.89	N. 16 22 19.0	0.3	May 8	9 11 47.15	N. 16 24 23.7	0.3
4	9 12 10.01	16 22 32.2	0.3	9	9 11 48.75	16 24 16.9	0.3
5	9 12 7.25	16 22 44.8	0.3	10	9 11 50.48	16 24 9.4	0.3
6	9 12 4.61	16 22 56.9	0.3	11	9 11 52.34	16 24 1.4	0.3
7	9 12 2.09	16 23 8.5	0.3	12	9 11 54.32	16 23 52.8	0.3
8	9 11 59.69	16 23 19.5	0.3	13	9 11 56.44	16 23 43.7	0.3
9	9 11 57.42	N. 16 23 30.0	0.3	14	9 11 58.68	N. 16 23 34.0	0.3
10	9 11 55.26	16 23 39.9	0.3	15	9 12 1.05	16 23 23.7	0.3
11	9 11 53.23	16 23 49.2	0.3	16	9 12 3.55	16 23 12.8	0.3
12	9 11 51.32	16 23 58.0	0.3	17	9 12 6.18	16 23 1.4	0.3
13	9 11 49.54	16 24 6.3	0.3	18	9 12 8.93	16 22 49.4	0.3
14	9 11 47.89	16 24 13.9	0.3	19	9 12 11.81	16 22 36.8	0.3
15	9 11 46.36	N. 16 24 21.0	0.3	20	9 12 14.81	N. 16 22 23.7	0.3
16	9 11 44.96	16 24 27.5	0.3	21	9 12 17.93	16 22 10.1	0.3
17	9 11 43.70	16 24 33.5	0.3	22	9 12 21.18	16 21 55.9	0.3
18	9 11 42.56	16 24 38.8	0.3	23	9 12 24.54	16 21 41.1	0.3
19	9 11 41.55	16 24 43.6	0.3	24	9 12 28.03	16 21 25.8	0.3
20	9 11 40.67	16 24 47.8	0.3	25	9 12 31.64	16 21 10.0	0.3
21	9 11 39.92	N. 16 24 51.4	0.3	26	9 12 35.36	N. 16 20 53.6	0.3
22	9 11 39.30	16 24 54.5	0.3	27	9 12 39.20	16 20 36.7	0.3
23	9 11 38.81	16 24 56.9	0.3	28	9 12 43.16	16 20 19.3	0.3
24	9 11 38.45	16 24 58.8	0.3	29	9 12 47.24	16 20 1.4	0.3
25	9 11 38.22	16 25 0.0	0.3	30	9 12 51.44	16 19 43.0	0.3
26	9 11 38.13	16 25 0.7	0.3	31	9 12 55.74	16 19 24.0	0.3
27	9 11 38.16	N. 16 25 0.8	0.3	June 1	9 13 0.16	N. 16 19 4.5	0.3
28	9 11 38.33	16 25 0.4	0.3	2	9 13 4.69	16 18 44.6	0.3
29	9 11 38.62	16 24 59.3	0.3	3	9 13 9.33	16 18 24.1	0.3
30	9 11 39.05	16 24 57.7	0.3	4	9 13 14.07	16 18 3.1	0.3
May 1	9 11 39.61	16 24 55.5	0.3	5	9 13 18.93	16 17 41.6	0.3
2	9 11 40.30	16 24 52.7	0.3	6	9 13 23.90	16 17 19.6	0.3
3	9 11 41.11	N. 16 24 49.3	0.3	7	9 13 28.98	N. 16 16 57.1	0.3
4	9 11 42.06	16 24 45.4	0.3	8	9 13 34.16	16 16 34.2	0.3
5	9 11 43.13	16 24 40.8	0.3	9	9 13 39.45	16 16 10.8	0.3
6	9 11 44.34	16 24 35.7	0.3	10	9 13 44.84	N. 16 15 46.9	0.3
7	9 11 45.68	N. 16 24 30.0	0.3				
Dec. 29	9 30 5.02	N. 15 2 39.3	0.3	Dec. 31	9 29 55.98	N. 15 3 25.1	0.3
30	9 30 0.55	N. 15 3 2.0	0.3	32	9 29 51.31	N. 15 3 48.7	0.3

SUN'S CO-ORDINATES, 1923.

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Date.	X, True Eq ^s of Date.		Red. to M. Eq ^s of 1923.0	Y, True Eq ^s of Date.		Red. to M. Eq ^s of 1923.0	Z, True Eq ^s of Date.		Red. to M. Eq ^s of 1923.0
	Noon.	Midnight.		Noon.	Midnight.		Noon.	Midnight.	
	+	+		-	-		-	-	
Jan. 1	0.1719264	0.185272	+ 60	0.8881505	0.8867093	+ 193	0.3851962	0.3845711	- 417
2	.1891140	.1976861	52	.8851994	.8836210	191	.3839162	.3832315	416
3	.2062429	.2147838	44	.8819742	.8802592	190	.3825172	.3817732	414
4	.2233081	.2318152	36	.8784760	.8766248	188	.3809997	.3801966	412
5	.2403046	.2487756	29	.8747056	.8727187	186	.3793641	.3785021	411
6	0.2572276	0.2656599	+ 21	0.8706641	0.8685420	+ 184	0.3776107	0.3766900	- 409
7	.2740720	.2824631	13	.8663524	.8640955	181	.3757401	.3747610	407
8	.2908327	.2991801	+ 6	.8617715	.8593804	178	.3737527	.3727153	405
9	.3075046	.3158057	- 1	.8569224	.8543977	174	.3716490	.3705537	403
10	.3240826	.3323347	9	.8518064	.8491486	171	.3694296	.3682767	401
11	0.3405613	0.3487618	- 16	0.8464246	0.8436345	+ 167	0.3670950	0.3658847	- 399
12	.3569354	.3650815	23	.8407784	.8378566	163	.3646458	.3633785	397
13	.3731995	.3812886	29	.8348693	.8318167	158	.3620828	.3607588	395
14	.3893482	.3973776	36	.8286991	.8255166	154	.3594067	.3580265	393
15	.4053761	.4133431	43	.8222695	.8189581	149	.3566183	.3551823	391
16	0.4212778	0.4291797	- 49	0.8155827	0.8121435	+ 144	0.3537185	0.3522271	- 389
17	.4370481	.4448823	55	.8086409	.8050751	138	.3507082	.3491620	387
18	.4526817	.4604457	61	.8014465	.7977553	132	.3475885	.3459879	384
19	.4681736	.4758648	66	.7940020	.7901868	126	.3443604	.3427061	382
20	.4835187	.4911347	72	.7863100	.7823721	120	.3410251	.3393176	379
21	0.4987122	0.5062506	- 77	0.7783734	0.7743142	+ 114	0.3375837	0.3358235	- 377
22	.5137494	.5212080	82	.7701949	.7660158	108	.3340373	.3322252	375
23	.5286257	.5360021	87	.7617774	.7574800	101	.3303873	.3285238	372
24	.5433366	.5506286	92	.7531239	.7487096	94	.3266348	.3247206	369
25	.5578776	.5650830	96	.7442374	.7397077	87	.3227813	.3208170	367
26	0.5722444	0.5793612	- 101	0.7351210	0.7304776	+ 80	0.3188280	0.3168143	- 364
27	.5864328	.5934588	105	.7257778	.7210221	72	.3147761	.3127136	362
28	.6004387	.6073720	108	.7162110	.7113448	65	.3106271	.3085166	359
29	.6142582	.6210969	112	.7064239	.7014487	57	.3063824	.3042246	356
30	.6278875	.6346296	115	.6964196	.6913370	49	.3020433	.2998388	353
31	0.6413228	0.6479665	- 118	0.6862013	0.6810129	+ 41	0.2976113	0.2953609	- 350
Feb. 1	.6545604	.6611039	121	.6757722	.6704796	33	.2930878	.2907921	347
2	.6675966	.6740381	124	.6651354	.6597401	25	.2884740	.2861337	344
3	.6804279	.6867655	126	.6542940	.6487975	17	.2837714	.2813872	341
4	.6930506	.6992827	128	.6432509	.6376548	+ 9	.2789813	.2765539	338
5	0.7054612	0.7115857	- 130	0.6320094	0.6263152	0	0.2741051	0.2716352	- 335
6	.7176557	.7236708	132	.6205726	.6147819	- 8	.2691444	.2666327	332
7	.7296304	.7355341	133	.6089437	.6030583	17	.2641003	.2615475	329
8	.7413815	.7471720	134	.5971261	.5911476	25	.2589745	.2563814	326
9	.7529052	.7585806	135	.5851232	.5790533	34	.2537685	.2511359	322
10	0.7641978	0.7697562	- 136	0.5729385	0.5667792	- 43	0.2484839	0.2458126	- 319
11	.7752555	.7806951	136	.5605759	.5543291	51	.2431222	.2404130	316
12	.7860747	.7913937	136	.5480393	.5417070	60	.2376852	.2349390	312
13	.7966517	.8018484	136	.5353327	.5289169	69	.2321746	.2293923	309
14	.8069832	.8120558	136	.5224602	.5159631	78	.2265922	.2237746	305
15	0.8170658	0.8220128	- 136	0.5094261	0.5028498	- 86	0.2209398	0.2180879	- 302
	+	+		-	-		-	-	

Date.	X, True Eq ^s of Date.		Red. to M. Eq ^s of 1923.0	Y, True Eq ^s of Date.		Red. to M. Eq ^s of 1923.0	Z, True Eq ^s of Date.		Red. to M. Eq ^s of 1923.0
	Noon.	Midnight.		Noon.	Midnight.		Noon.	Midnight.	
	+	+		—	—		—	—	
Feb. 16	0.8268964	0.8317163	— 135	0.4962347	0.4895814	— 95	0.2152193	0.2123341	— 298
17	.8364720	.8411633	134	.4828905	.4761625	104	.2094325	.2065149	295
18	.8457897	.8503509	133	.4693980	.4625975	113	.2035814	.2006324	291
19	.8548467	.8592767	131	.4557617	.4488910	121	.1976680	.1946884	287
20	.8636406	.8679381	129	.4419860	.4350474	130	.1916940	.1886849	283
21	0.8721689	0.8763327	— 128	0.4280757	0.4210715	— 139	0.1856615	0.1826239	— 280
22	.8804292	.8844582	126	.4140353	.4069677	147	.1795725	.1765074	276
23	.8884195	.8923127	123	.3998693	.3927408	156	.1734289	.1703373	272
24	.8961377	.8998941	121	.3855826	.3783953	165	.1672329	.1641158	268
25	.9035818	.9072006	118	.3711796	.3639359	173	.1609862	.1578445	264
26	0.9107503	0.9142306	— 115	0.3566649	0.3493671	— 182	0.1546909	0.1515256	— 260
27	.9176413	.9209824	112	.3420431	.3346934	190	.1483490	.1451612	256
28	.9242535	.9274545	109	.3273187	.3199194	198	.1419625	.1387531	252
Mar. 1	.9305853	.9336457	106	.3124961	.3050493	207	.1355332	.1323031	248
2	.9366356	.9395547	102	.2975795	.2900873	215	.1290631	.1258134	243
3	0.9424029	0.9451800	— 98	0.2825733	0.2750379	— 223	0.1225541	0.1192856	— 239
4	.9478858	.9505202	94	.2674817	.2599052	231	.1160080	.1127216	235
5	.9530830	.9555740	90	.2523089	.2446934	239	.1094267	.1061234	231
6	.9579930	.9603398	85	.2370591	.2294066	247	.1028121	.0994929	226
7	.9626143	.9648162	81	.2217365	.2140493	255	.0961660	.0928318	222
8	0.9669455	0.9690019	— 76	0.2063455	0.1986258	— 262	0.0894905	0.0861423	— 217
9	.9709852	.9728952	71	.1908908	.1831409	270	.0827874	.0794262	213
10	.9747318	.9764949	66	.1753768	.1675990	278	.0760588	.0726856	208
11	.9781842	.9797997	61	.1598082	.1520050	285	.0693067	.0659225	204
12	.9813412	.9828086	56	.1441899	.1363636	292	.0625332	.0591390	199
13	0.9842018	0.9855206	— 50	0.1285267	0.1206798	— 300	0.0557403	0.0523373	— 194
14	.9867649	.9879347	45	.1128236	.1049587	307	.0489303	.0455195	190
15	.9890299	.9900504	39	.0970856	.0892051	314	.0421052	.0386877	185
16	.9909962	.9918672	33	.0813177	.0734241	321	.0352672	.0318440	180
17	.9926633	.9933846	27	.0655250	.0576209	328	.0284184	.0249906	175
18	0.9940310	0.9946024	— 20	0.0497125	0.0418004	— 334	0.0215610	0.0181298	— 170
19	.9950990	.9955207	14	.0338853	.0259677	341	.0146972	.0112636	165
20	.9958675	.9961394	8	.0180484	.0101279	348	.0078292	.0043942	160
21	.9963365	.9964588	— 1	.0022068	.0057142	354	.0009590	.0024762	155
22	.9965063	.9964791	+ 6	.0136345	.0215535	360	.0059112	.0093456	150
23	0.9963773	0.9962009	+ 13	0.0294706	0.0373851	— 367	0.0127792	0.0162118	— 145
24	.9959501	.9956248	20	.0452965	.0532042	373	.0196431	.0230728	140
25	.9952253	.9947516	27	.0611075	.0690059	379	.0265006	.0299263	135
26	.9942038	.9935821	34	.0768987	.0847854	385	.0333496	.0367703	130
27	.9928865	.9921172	41	.0926655	.1005383	391	.0401882	.0436029	124
28	0.9912744	0.9903582	+ 49	0.1084032	0.1162598	— 396	0.0470143	0.0504221	— 119
29	.9893687	.9883061	57	.1241074	.1319456	402	.0538260	.0572259	113
30	.9871705	.9859620	64	.1397738	.1475915	407	.0606215	.0640124	108
31	.9846808	.9833271	72	.1553982	.1631933	413	.0673986	.0707798	103
Apr. 1	.9819009	.9804024	80	.1709764	.1787468	418	.0741557	.0775261	97
2	0.9778318	0.9771891	+ 88	0.1865042	0.1942480	— 423	0.0808909	0.0842498	— 92
	+	+		+	+		+	+	

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Date.	X, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0	Y, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0	Z, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0
	Noon.	Midnight.	Noon.	Noon.	Midnight.	Noon.	Noon.	Midnight.	Noon.
	+	+		+	+		+	+	
Apr. 3	0·9754745	0·9736881	+ 96	0·2019776	0·2096926	— 428	0·0876025	0·0909488	— 86
4	·9718300	·9699003	105	·2173924	·2250765	433	·0942884	·0976212	80
5	·9678991	·9658266	113	·2327443	·2403953	438	·1009469	·1042653	75
6	·9636829	·9614682	122	·2480290	·2556448	443	·1075762	·1108792	69
7	·9591825	·9568261	130	·2632422	·2708206	447	·1141742	·1174609	63
8	0·9543991	0·9519016	+ 139	0·2783794	0·2859181	— 451	0·1207391	0·1240085	— 57
9	·9493339	·9466961	148	·2934361	·3009328	456	·1272689	·1305200	52
10	·9439884	·9412110	157	·3084077	·3158601	460	·1337616	·1369935	46
11	·9383642	·9354481	166	·3232895	·3306954	464	·1402154	·1434270	40
12	·9324630	·9294090	175	·3380771	·3454341	468	·1466282	·1498187	34
13	0·9262865	0·9230957	+ 184	0·3527659	0·3600719	— 472	0·1529982	0·1561665	— 28
14	·9198369	·9165103	194	·3673515	·3746042	475	·1593234	·1624686	22
15	·9131162	·9096549	203	·3818293	·3890264	479	·1656018	·1687229	16
16	·9061267	·9025319	213	·3961949	·4033342	482	·1718317	·1749278	10
17	·8988708	·8951437	222	·4104439	·4175234	486	·1780111	·1810813	— 4
18	0·8913509	0·8874928	+ 232	0·4245721	0·4315895	— 489	0·1841382	0·1871815	+ 2
19	·8835698	·8795821	242	·4385751	·4455284	491	·1902111	·1932267	9
20	·8755301	·8714142	252	·4524488	·4593359	494	·1962281	·1992151	15
21	·8672347	·8629920	262	·4661892	·4730081	497	·2021875	·2051450	21
22	·8586865	·8543185	272	·4797922	·4865410	499	·2080874	·2110145	27
23	0·8498885	0·8453968	+ 283	0·4932540	0·4999308	— 502	0·2139262	0·2168222	+ 33
24	·8408439	·8362301	293	·5065709	·5131739	504	·2197023	·2225663	40
25	·8315559	·8268216	304	·5197393	·5262667	506	·2254141	·2282454	46
26	·8220277	·8171745	314	·5327556	·5392057	508	·2310600	·2338578	53
27	·8122625	·8072920	325	·5456166	·5519878	509	·2366386	·2394022	59
28	0·8022635	0·7971773	+ 336	0·5583190	0·5646098	— 511	0·2421484	0·2448771	+ 65
29	·7920338	·7868334	347	·5708598	·5770686	512	·2475880	·2502811	72
30	·7815765	·7762634	358	·5832358	·5893611	513	·2529561	·2556129	78
May 1	·7708946	·7654703	369	·5954441	·6014844	514	·2582514	·2608713	85
2	·7599910	·7544570	380	·6074816	·6134352	514	·2634724	·2660546	91
3	0·7488687	0·7432264	+ 391	0·6193450	0·6252105	— 515	0·2686177	0·2711616	+ 98
4	·7375305	·7317814	402	·6310314	·6368072	515	·2736860	·2761909	105
5	·7259794	·7201250	413	·6425375	·6482218	515	·2786760	·2811411	111
6	·7142186	·7082605	425	·6538598	·6594510	515	·2835861	·2860108	118
7	·7022512	·6961910	436	·6649951	·6704916	515	·2884150	·2907986	124
8	0·6900805	0·6839200	+ 448	0·6759401	0·6813402	— 514	0·2931613	0·2955030	+ 131
9	·6777100	·6714510	460	·6866915	·6919936	513	·2978236	·3001228	138
10	·6651433	·6587875	471	·6972460	·7024484	512	·3024004	·3046563	144
11	·6523841	·6459334	483	·7076005	·7127017	511	·3068904	·3091025	151
12	·6394361	·6328926	495	·7177518	·7227503	509	·3112924	·3134600	158
13	0·6263033	0·6196688	+ 507	0·7276969	0·7325912	— 507	0·3156050	0·3177274	+ 165
14	·6129896	·6062662	519	·7374328	·7422214	505	·3198269	·3219035	171
15	·5994991	·5926889	530	·7469566	·7516381	503	·3239570	·3259872	178
16	·5858360	·5789410	542	·7562655	·7608385	500	·3279940	·3299771	185
17	·5720045	·5650269	554	·7653568	·7698200	497	·3319366	·3338723	192
18	0·5580089	0·5509510	+ 566	0·7742279	0·7785800	— 494	0·3357840	0·3376716	+ 198
	+	+		+	+		+	+	

Date.	X, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0	Y, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0	Z, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0
	Noon.	Midnight.		Noon.	Midnight.		Noon.	Midnight.	
	+	+		+	+		+	+	
May 19	0·5438538	0·5367178	+ 578	0·7828762	0·7871161	- 491	0·3395350	0·3413739	+ 205
20	·5295436	·5223317	·590	·7912994	·7954259	487	·3431884	·3449783	212
21	·5150827	·5077973	603	·7994953	·8035074	483	·3467434	·3484837	219
22	·5004759	·4931192	615	·8074619	·8113586	479	·3501991	·3518894	226
23	·4857276	·4783018	627	·8151972	·8189775	474	·3535545	·3551943	233
24	0·4708423	0·4633497	+ 639	0·8226993	0·8263624	- 469	0·3568088	0·3583978	+ 239
25	·4558246	·4482675	651	·8299667	·8335119	464	·3599613	·3614992	246
26	·4406790	·4330596	663	·8369978	·8404243	458	·3630113	·3644977	253
27	·4254098	·4177302	675	·8437912	·8470983	453	·3659582	·3673928	260
28	·4100212	·4022834	686	·8503454	·8535324	446	·3688013	·3701837	266
29	0·3945174	0·3867236	+ 698	0·8566591	0·8597254	- 440	0·3715398	0·3728697	+ 273
30	·3789026	·3710548	710	·8627310	·8656758	433	·3741732	·3754503	280
31	·3631807	·3552809	722	·8685595	·8713820	426	·3767010	·3779250	287
June 1	·3473558	·3394060	733	·8741431	·8768426	419	·3791224	·3802930	294
2	·3314321	·3234344	745	·8794804	·8820562	411	·3814368	·3825536	300
3	0·3154136	0·3073702	+ 757	0·8845698	0·8870210	- 403	0·3836435	0·3847063	+ 307
4	·2993047	·2912177	768	·8894097	·8917356	395	·3857419	·3867504	314
5	·2831098	·2749815	779	·8939985	·8961983	386	·3877315	·3886852	321
6	·2668333	·2586659	790	·8983347	·9004076	377	·3896114	·3905101	327
7	·2504798	·2422756	801	·9024169	·9043624	367	·3913812	·3922246	334
8	0·2340539	0·2258153	+ 812	0·9062439	0·9080612	- 358	0·3930402	0·3938281	+ 341
9	·2175603	·2092897	823	·9098142	·9115027	348	·3945881	·3953201	347
10	·2010039	·1927036	834	·9131267	·9146859	337	·3960242	·3967003	354
11	·1843895	·1760620	844	·9161803	·9176097	326	·3973482	·3979679	361
12	·1677219	·1593697	855	·9189741	·9202732	315	·3985595	·3991228	367
13	0·1510061	0·1426317	+ 865	0·9215071	0·9226755	- 304	0·3996579	0·4001646	+ 373
14	·1342471	·1258530	875	·9237785	·9248158	292	·4006429	·4010929	380
15	·1174500	·1090387	884	·9257875	·9266935	280	·4015144	·4019075	387
16	·1006198	·0921940	894	·9275338	·9283083	267	·4022721	·4026082	393
17	·0837618	·0753239	903	·9290169	·9296596	255	·4029157	·4031947	399
18	0·0668810	0·0584336	+ 913	0·9302365	0·9307475	- 242	0·4034452	0·4036671	+ 406
19	·0499825	·0415282	921	·9311927	·9315720	228	·4038605	·4040254	412
20	·0330713	·0246125	930	·9318855	·9321332	214	·4041617	·4042695	418
21	·0161524	·0076916	938	·9323151	·9324312	200	·4043487	·4043994	425
22	·0007693	·0092297	947	·9324817	·9324665	186	·4044216	·4044153	431
23	0·0176890	0·0261467	+ 955	0·9323857	0·9322394	- 172	0·4043806	0·4043174	+ 437
24	·0346021	·0430548	962	·9320276	·9317505	157	·4042258	·4041058	443
25	·0515041	·0599495	969	·9314081	·9310004	141	·4039575	·4037808	449
26	·0683904	·0768263	976	·9305275	·9299895	126	·4035758	·4033424	455
27	·0852567	·0936810	983	·9293864	·9287182	110	·4030808	·4027910	461
28	0·1020987	0·1105092	+ 990	0·9279851	0·9271871	- 94	0·4024729	0·4021266	+ 467
29	·1189120	·1273066	996	·9263242	·9253965	78	·4017522	·4013497	473
30	·1356924	·1440689	1001	·9244040	·9233467	61	·4009190	·4004602	479
July 1	·1524356	·1607918	1007	·9222248	·9210382	44	·3999734	·3994585	485
2	·1691370	·1774706	1012	·9197870	·9184712	27	·3989155	·3983445	490
3	0·1857921	0·1941009	+ 1017	0·9170909	0·9156462	- 9	0·3977456	0·3971187	+ 496
	-	-		+	+		+	+	

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Date.	X, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0	Y, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0	Z, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0
	Noon.	Midnight.	Noon.	Noon.	Midnight.	Noon.	Noon.	Midnight.	Noon.
July 4	0·2023965	0·2106781	+ 1021	0·9141371	0·9125637	+ 8	0·3964639	0·3957812	+ 502
5	·2189453	·2271975	1025	·9109261	·9092243	26	·3950706	·3943322	507
6	·2354341	·2436544	1029	·9074584	·9056285	45	·3935661	·3927722	513
7	·2518579	·2600440	1032	·9037348	·9017773	63	·3919506	·3911014	518
8	·2682120	·2763614	1035	·8997561	·8976713	81	·3902247	·3893204	523
9	0·2844917	0·2926022	+ 1037	0·8955231	0·8933115	+ 100	0·3883886	0·3874294	+ 529
10	·3006922	·3087612	1039	·8910368	·8886990	119	·3864428	·3854289	534
11	·3168087	·3248339	1041	·8862983	·8838348	138	·3843877	·3833193	539
12	·3328363	·3408152	1042	·8813087	·8787202	158	·3822239	·3811014	544
13	·3487701	·3567003	1043	·8760694	·8733566	177	·3799520	·3787756	549
14	0·3646053	0·3724844	+ 1044	0·8705819	0·8677456	+ 197	0·3775725	0·3763427	+ 554
15	·3803370	·3881626	1044	·8648478	·8618888	217	·3750862	·3738032	559
16	·3959605	·4037302	1043	·8588688	·8557880	237	·3724938	·3711580	563
17	·4114710	·4191825	1042	·8526468	·8494453	257	·3697960	·3684079	568
18	·4268640	·4345150	1041	·8461839	·8428628	277	·3669938	·3655538	573
19	0·4421349	0·4497232	+ 1039	0·8394823	0·8360427	+ 297	0·3640881	0·3625967	+ 577
20	·4572793	·4648028	1037	·8325444	·8289871	318	·3610797	·3595373	581
21	·4722932	·4797499	1034	·8253718	·8216985	338	·3579696	·3563767	586
22	·4871724	·4945602	1031	·8179675	·8141791	358	·3547587	·3531158	590
23	·5019129	·5092299	1028	·8103337	·8064315	379	·3514482	·3497559	594
24	0·5165109	0·5237553	+ 1024	0·8024727	0·7984577	+ 400	0·3480390	0·3462977	+ 598
25	·5309626	·5381324	1019	·7943868	·7902601	420	·3445320	·3427422	602
26	·5452643	·5523578	1015	·7860781	·7818410	441	·3409283	·3390905	605
27	·5594124	·5664277	1009	·7775490	·7732024	462	·3372288	·3353434	609
28	·5734032	·5803385	1003	·7688016	·7643467	483	·3334344	·3315020	613
29	0·5872331	0·5940865	+ 997	0·7598381	0·7552760	+ 503	0·3295463	0·3275674	+ 616
30	·6008983	·6076679	990	·7506606	·7459923	524	·3255654	·3235404	619
31	·6143949	·6210788	983	·7412713	·7364980	545	·3214926	·3194220	623
Aug. 1	·6277192	·6343155	975	·7316726	·7267954	565	·3173289	·3152133	626
2	·6408673	·6473741	967	·7218666	·7168866	586	·3130754	·3109153	629
3	0·6538354	0·6602507	+ 959	0·7118558	0·7067744	+ 607	0·3087332	0·3065292	+ 632
4	·6666195	·6729414	950	·7016428	·6964612	627	·3043034	·3020560	635
5	·6792159	·6854425	940	·6912301	·6859497	647	·2997871	·2974969	637
6	·6916207	·6977500	930	·6806203	·6752424	668	·2951855	·2928530	640
7	·7038300	·7098601	920	·6698163	·6643423	688	·2904997	·2881256	642
8	0·7158400	0·7217691	+ 909	0·6588207	0·6532520	+ 708	0·2857310	0·2833160	+ 644
9	·7276470	·7334732	897	·6476367	·6419750	728	·2808808	·2784255	647
10	·7392471	·7449683	886	·6362673	·6305140	747	·2759503	·2734553	649
11	·7506364	·7562509	873	·6247156	·6188725	767	·2709408	·2684069	651
12	·7618114	·7673174	861	·6129850	·6070536	787	·2658538	·2632817	652
13	0·7727684	0·7781641	+ 848	0·6010789	0·5950613	+ 806	0·2606909	0·2580814	+ 654
14	·7835040	·7887877	834	·5890012	·5828991	825	·2554535	·2528073	656
15	·7940147	·7991847	820	·5767554	·5705706	844	·2501431	·2474611	657
16	·8042974	·8093523	806	·5643453	·5580799	863	·2447615	·2420444	658
17	·8143491	·8192874	791	·5517749	·5454308	882	·2393102	·2365590	659
18	0·8241670	0·8289875	+ 776	0·5390480	0·5326271	+ 900	0·2337910	0·2310064	+ 660
	—	—		+	+		+	+	

Date.	X, True Eq ^s of Date.		Red. to M. Eq ^s of 1923.0	Y, True Eq ^s of Date.		Red. to M. Eq ^s of 1923.0	Z, True Eq ^s of Date.		Red. to M. Eq ^s of 1923.0
	Noon.	Midnight.		Noon.	Midnight.		Noon.	Midnight.	
Aug. 19	—	—	+	+	+	+	+	+	+
	0.8337485	0.8384498	760	0.5261685	0.5196727	918	0.2282054	0.2253882	661
20	8430910	8476719	744	5131402	5065714	936	2225550	2197061	662
21	8521921	8566514	728	4999668	4933269	953	2168416	2139617	662
22	8610494	8653859	711	4866521	4799429	971	2110667	2081567	663
23	8696606	8738733	694	4731998	4664232	988	2052319	2022926	663
24	0.8780236	0.8821113	677	0.4596135	0.4527712	1005	0.1993389	0.1963711	663
25	8861360	8900975	659	4458968	4389906	1021	1933893	1903937	663
26	8939956	8978299	640	4320532	4250850	1037	1873845	1843620	663
27	9016002	9053062	622	4180864	4110579	1053	1813263	1782776	663
28	9089476	9125241	603	4039999	3969129	1069	1752162	1721422	662
29	0.9160354	0.9194813	584	0.3897974	0.3826538	1085	0.1690558	0.1659573	662
30	9228615	9261756	564	3754827	3682844	1100	1628468	1597246	661
31	9294235	9326048	544	3610594	3538082	1114	1565908	1534457	660
Sept. 1	9357192	9387665	524	3465313	3392292	1129	1502895	1471224	659
2	9417464	9446586	503	3319025	3245515	1143	1439446	1407564	658
3	0.9475029	0.9502790	482	0.3171768	0.3097789	1157	0.1375579	0.1343494	656
4	9529867	9556257	461	3023583	2949155	1170	1311311	1279032	655
5	9581957	9606965	440	2874511	2799655	1183	1246659	1214195	653
6	9631279	9658485	418	2724594	2649332	1196	1181642	1149003	651
7	9677812	9700027	396	2573874	2498227	1208	1116279	1083473	649
8	0.9721538	0.9742342	374	0.2422396	0.2346387	1220	0.1050588	0.1017625	647
9	9762437	9781821	352	2270206	2193858	1231	0984588	0951479	645
10	9800493	9818451	329	2117349	2040685	1243	0918300	0885054	642
11	9835692	9852215	306	1963873	1886918	1254	0851743	0818371	639
12	9868018	9883100	283	1809826	1732604	1265	0784939	0751450	636
13	0.9897460	0.9911097	259	0.1655258	0.1577793	1275	0.0717907	0.0684312	633
14	9924010	9936198	235	1500216	1422533	1285	0650669	0616979	630
15	9947660	9958396	212	1344750	1266872	1294	0583245	0549469	627
16	9968404	9977685	188	1188906	1110857	1303	0515655	0481804	623
17	0.9986238	0.9994062	163	1032731	0954534	1312	0447920	0414004	620
18	1.0001157	1.0007523	139	0.0876272	0.0797950	1320	0.0380060	0.0346089	616
19	0013160	0018067	114	0719573	0641148	1328	0312095	0278079	612
20	0022245	0025693	90	0562679	0484172	1335	0244043	0209991	607
21	0028410	0030396	65	0405632	0327066	1342	0175925	0141847	603
22	0031652	0032177	40	0248479	0169876	1349	0107759	0073664	599
23	1.0031970	1.0031032	15	0.0091261	0.0012640	1355	0.0039565	0.0005463	594
24	0029363	0026962	11	0065981	0144597	1361	0028639	00062739	589
25	0023830	0019966	36	0223202	0301791	1366	0096834	0130922	584
26	0015370	1.0010042	62	0380359	0458901	1371	0165001	0199068	579
27	1.0003981	0.9997188	87	0537410	0615881	1376	0233121	0267157	573
28	0.9989663	0.9981405	113	0.0694309	0.0772689	1380	0.0301174	0.0335169	568
29	9972415	9962693	139	0851014	0929280	1384	0369141	0403086	562
30	9952239	9941053	165	1007480	1085609	1387	0437002	0470887	556
Oct. 1	9929135	9916485	191	1163662	1241632	1390	0504739	0538555	550
2	9903104	9888992	217	1319514	1397302	1393	0572333	0606069	544
3	0.9874149	0.9858576	243	0.1474991	0.1552575	1395	0.0639762	0.0673409	538

SUN'S CO-ORDINATES, 1923.

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Date.	X, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0	Y, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0	Z, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0
	Noon.	Midnight.		Noon.	Midnight.		Noon.	Midnight.	
Oct. 4	0° 9842273	0° 9825241	— 270	0° 1630047	0° 1707402	+ 1397	0° 0707007	0° 0740554	+ 531
5	·9807479	·9788988	296	·1784634	·1861737	1398	·0774047	·0807484	524
6	·9769770	·9749825	322	·1938705	·2015532	1399	·0840862	·0874179	517
7	·9729154	·9707757	349	·2092212	·2168739	1400	·0907433	·0940620	510
8	·9685636	·9662792	375	·2245106	·2321307	1400	·0973737	·1006782	503
9	0° 9639226	0° 9614939	— 402	0° 2397336	0° 2473186	+ 1400	0° 1039753	0° 1072647	+ 496
10	·9589934	·9564211	428	·2548852	·2624327	1399	·1105461	·1138193	488
11	·9537773	·9510621	455	·2699605	·2774679	1398	·1170839	·1203397	480
12	·9482758	·9454186	481	·2849544	·2924193	1396	·1235865	·1268240	472
13	·9424907	·9394924	508	·2998621	·3072821	1394	·1300519	·1332700	464
14	0° 9364239	0° 9332854	— 534	0° 3146788	0° 3220516	+ 1392	0° 1364780	0° 1396757	+ 456
15	·9300772	·9267996	561	·3294000	·3367233	1389	·1428628	·1460391	448
16	·9234529	·9200373	587	·3440211	·3512928	1386	·1492044	·1523584	439
17	·9165531	·9130006	614	·3585378	·3657557	1383	·1555009	·1586316	431
18	·9093800	·9056917	641	·3729459	·3801080	1379	·1617503	·1648569	422
19	0° 9019358	0° 8981127	— 667	0° 3872413	0° 3943454	+ 1374	0° 1679510	0° 1710324	+ 413
20	·8942226	·8902658	693	·4014198	·4084640	1369	·1741010	·1771564	404
21	·8862426	·8821533	720	·4154774	·4224596	1364	·1801985	·1832271	394
22	·8779982	·8737774	746	·4294101	·4363284	1359	·1862419	·1892427	385
23	·8694914	·8651404	772	·4432139	·4500662	1353	·1922293	·1952014	375
24	0° 8607247	0° 8562445	— 799	0° 4568848	0° 4636692	+ 1346	0° 1981589	0° 2011015	+ 365
25	·8517002	·8470920	825	·4704190	·4771335	1339	·2040291	·2069414	356
26	·8424203	·8376853	851	·4838124	·4904550	1332	·2098382	·2127192	346
27	·8328874	·8280268	877	·4970610	·5036298	1324	·2155843	·2184333	335
28	·8231039	·8181190	903	·5101609	·5166539	1316	·2212659	·2240819	325
29	0° 8130724	0° 8079644	— 929	0° 5231082	0° 5295234	+ 1307	0° 2268810	0° 2296632	+ 314
30	·8027952	·7975653	955	·5358989	·5422343	1298	·2324281	·2351755	304
31	·7922750	·7869246	980	·5485290	·5547825	1289	·2379053	·2406172	293
Nov. 1	·7815145	·7760450	1006	·5609944	·5671641	1279	·2433111	·2459867	282
2	·7705165	·7649293	1032	·5732911	·5793750	1269	·2486437	·2512820	271
3	0° 7592837	0° 7535802	— 1057	0° 5854152	0° 5914113	+ 1258	0° 2539013	0° 2565014	+ 260
4	·7478191	·7420008	1082	·5973626	·6032687	1247	·2590822	·2616434	249
5	·7361257	·7301943	1107	·6091290	·6149431	1235	·2641847	·2667059	237
6	·7242070	·7181642	1132	·6207105	·6264306	1223	·2692069	·2716874	226
7	·7120664	·7059140	1157	·6321029	·6377269	1211	·2741473	·2765862	214
8	0° 6997074	0° 6934472	— 1182	0° 6433021	0° 6488281	+ 1198	0° 2790040	0° 2814005	+ 202
9	·6871340	·6807682	1206	·6543043	·6597303	1184	·2837754	·2861286	190
10	·6743504	·6678810	1231	·6651056	·6704298	1170	·2884599	·2907690	178
11	·6613605	·6547896	1255	·6757024	·6809231	1156	·2930558	·2953201	166
12	·6481688	·6414986	1279	·6860914	·6912069	1141	·2975618	·2997806	154
13	0° 6347795	0° 6280122	— 1303	0° 6962692	0° 7012780	+ 1126	0° 3019764	0° 3041489	+ 142
14	·6211971	·6143348	1326	·7062328	·7111334	1111	·3062981	·3084237	129
15	·6074259	·6004708	1350	·7159793	·7207703	1095	·3105257	·3126038	117
16	·5934701	·5864243	1373	·7255059	·7301858	1078	·3146580	·3166880	104
17	·5793340	·5721997	1396	·7348097	·7393773	1061	·3186937	·3206750	91
18	0° 5650219	0° 5578012	— 1419	0° 7438882	0° 7483421	+ 1044	0° 3226317	0° 3245636	+ 78

Date.	X, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0	Y, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0	Z, True Eq ^s of Date.		Red. to M. Eq ^s of 1923·0
	Noon.	Midnight.	Noon.	Noon.	Midnight.	Noon.	Noon.	Midnight.	Noon.
Nov. 19	0° 5505381	0° 5432332	-1441	0° 7527387	0° 7570776	+1026	0° 3264707	0° 3283527	+ 66
20	·5358870	·5284999	1463	·7613585	·7655811	1007	·3302096	·3320412	53
21	·5210726	·5136055	1485	·7697452	·7738504	988	·3338473	·3356279	39
22	·5060993	·4985544	1507	·7778964	·7818829	969	·3373827	·3391117	26
23	·4909715	·4833510	1529	·7858095	·7896761	949	·3408147	·3424917	+ 13
24	0° 4756935	0° 4679995	-1550	0° 7934822	0° 7972276	+ 929	0° 3441424	0° 3457667	0
25	·4602695	·4525041	1571	·8009121	·8045352	908	·3473645	·3489357	- 14
26	·4447039	·4368695	1591	·8080968	·8115965	887	·3504802	·3519978	27
27	·4290013	·4210999	1611	·8150340	·8184091	866	·3534885	·3549520	41
28	·4131659	·4051998	1631	·8217215	·8249708	844	·3563883	·3577972	54
29	0° 3972023	0° 3891739	-1651	0° 8281568	0° 8312792	+ 821	0° 3591787	0° 3605326	- 68
30	·3811151	·3730266	1670	·8343377	·8373321	798	·3618587	·3631570	82
Dec. 1	·3649089	·3567626	1689	·8402620	·8431272	775	·3644273	·3656695	95
2	·3485884	·3403868	1707	·8459274	·8486623	751	·3668836	·3680694	109
3	·3321585	·3239040	1725	·8513315	·8539349	727	·3692267	·3703555	123
4	0° 3156241	0° 3073194	-1743	0° 8564722	0° 8589431	+ 702	0° 3714557	0° 3725271	- 137
5	·2989905	·2906381	1760	·8613474	·8636849	677	·3735696	·3745832	151
6	·2822629	·2738656	1777	·8659552	·8681581	651	·3755677	·3765230	165
7	·2654468	·2570073	1794	·8702935	·8723611	625	·3774491	·3783459	179
8	·2485477	·2400689	1810	·8743608	·8762923	598	·3792132	·3800510	193
9	0° 2315714	0° 2230560	-1825	0° 8781556	0° 8799503	+ 571	0° 3808592	0° 3816378	- 207
10	·2145234	·2059744	1840	·8816765	·8833340	544	·3823866	·3831057	221
11	·1974096	·1888298	1855	·8849226	·8864423	516	·3837949	·3844543	235
12	·1802356	·1716277	1869	·8878929	·8892744	487	·3850837	·3856832	249
13	·1630069	·1543738	1883	·8905867	·8918298	459	·3862527	·3867921	263
14	0° 1457291	0° 1370735	-1896	0° 8930035	0° 8941079	+ 430	0° 3873015	0° 3877808	- 277
15	·1284076	·1197322	1908	·8951428	·8961082	400	·3882299	·3886489	291
16	·1110478	·1023552	1920	·8970041	·8978304	370	·3890377	·3893963	305
17	·0936550	·0849479	1932	·8985870	·8992739	340	·3897247	·3900228	319
18	·0762345	·0675155	1943	·8998912	·9004388	309	·3902907	·3905283	333
19	0° 0587915	0° 0500632	-1953	0° 9009166	0° 9013247	+ 278	0° 3907357	0° 3909127	- 347
20	·0413312	·0325962	1963	·9016631	·9019316	247	·3910595	·3911760	361
21	·0238589	·0151199	1972	·9021303	·9022592	215	·3912622	·3913181	375
22	·0063798	·0023607	1980	·9023183	·9023076	183	·3913436	·3913389	389
23	·0111011	·0198406	1988	·9022270	·9020767	150	·3913038	·3912384	403
24	0° 0285786	0° 0373145	-1996	0° 9018566	0° 9015667	+ 117	0° 3911427	0° 3910167	- 417
25	·0460476	·0547773	2002	·9012070	·9007775	84	·3908604	·3906738	430
26	·0635030	·0722240	2008	·9002783	·8997093	51	·3904570	·3902099	444
27	·0809397	·0896494	2014	·8990705	·8983620	+ 17	·3899325	·3896249	458
28	·0983524	·1070482	2019	·8975838	·8967359	- 17	·3892870	·3889190	471
29	0° 1157361	0° 1244154	-2023	0° 8958183	0° 8948311	- 51	0° 3885207	0° 3880922	- 485
30	·1330854	·1417455	2026	·8937743	·8926478	85	·3876335	·3871447	499
31	·1503950	·1590332	2029	·8914518	·8901862	120	·3866257	·3860766	512
32	0° 1676595	0° 1762730	-2031	0° 8888512	0° 8874468	- 155	0° 3854975	0° 3848883	- 525
	+	+		-	-		-	-	

PRECESSION, NUTATION, &c., 1923. 195

Mean Noon.	LONGITUDE.			Appar- ent Obliquity.	OBLIQUITY.		Mean Noon.	LONGITUDE.			Appar- ent Obliquity.	OBLIQUITY.	
	Pre- cession from 1923·0	Nutation.			Nutation.	Pre- cession from 1923·0		Nutation.		Nutation.			
		ΔL	$d L$					$\Delta \omega$	$d \omega$			ΔL	$d L$
		—		23° 26'	—				—		23° 26'	—	
Jan. 1	0·02	1·30	—·12	47·70	9·79	—·06	Feb. 16	6·35	1·21	+·16	48·45	8·98	+·04
2	0·15	1·27	—·04	47·71	9·78	—·07	17	6·48	1·24	+·09	48·46	8·96	+·06
3	0·29	1·24	+·04	47·71	9·77	—·06	18	6·62	1·28	+·02	48·48	8·94	+·06
4	0·43	1·21	+·11	47·72	9·76	—·04	19	6·76	1·31	—·06	48·50	8·92	+·06
5	0·57	1·19	+·15	47·73	9·75	—·01	20	6·90	1·35	—·13	48·52	8·91	+·05
6	0·70	1·16	+·14	47·74	9·74	+·03	21	7·03	1·39	—·18	48·53	8·89	+·03
7	0·84	1·13	+·10	47·75	9·73	+·06	22	7·17	1·43	—·21	48·55	8·87	·00
8	0·98	1·11	+·02	47·76	9·72	+·08	23	7·31	1·47	—·21	48·56	8·85	—·03
9	1·12	1·09	—·06	47·77	9·71	+·07	24	7·45	1·52	—·18	48·58	8·84	—·05
10	1·25	1·06	—·12	47·78	9·69	+·05	25	7·58	1·56	—·12	48·60	8·82	—·07
11	1·39	1·04	—·15	47·79	9·68	+·02	26	7·72	1·61	—·04	48·61	8·80	—·07
12	1·53	1·02	—·14	47·81	9·66	—·02	27	7·86	1·65	+·04	48·62	8·79	—·06
13	1·67	1·00	—·09	47·82	9·65	—·05	28	8·00	1·70	+·10	48·64	8·77	—·03
14	1·80	0·98	—·01	47·84	9·63	—·07	Mar. 1	8·14	1·75	+·13	48·65	8·76	·00
15	1·94	0·97	+·08	47·85	9·62	—·07	2	8·27	1·80	+·12	48·66	8·75	+·04
16	2·08	0·95	+·16	47·86	9·60	—·06	3	8·41	1·85	+·07	48·68	8·73	+·07
17	2·22	0·94	+·20	47·88	9·58	—·03	4	8·55	1·90	·00	48·69	8·72	+·08
18	2·36	0·92	+·21	47·90	9·57	·00	5	8·69	1·96	—·07	48·70	8·71	+·07
19	2·49	0·91	+·19	47·91	9·55	+·03	6	8·82	2·01	—·12	48·71	8·70	+·04
20	2·63	0·90	+·14	47·93	9·53	+·05	7	8·96	2·06	—·14	48·72	8·68	·00
21	2·77	0·89	+·07	47·95	9·51	+·06	8	9·10	2·12	—·11	48·73	8·67	—·03
22	2·91	0·88	—·01	47·96	9·49	+·06	9	9·24	2·18	—·04	48·74	8·66	—·06
23	3·04	0·88	—·08	47·98	9·48	+·06	10	9·37	2·23	+·05	48·74	8·65	—·07
24	3·18	0·87	—·15	48·00	9·46	+·04	11	9·51	2·29	+·13	48·75	8·65	—·07
25	3·32	0·87	—·19	48·02	9·44	+·02	12	9·65	2·35	+·20	48·76	8·64	—·05
26	3·46	0·87	—·21	48·04	9·42	—·01	13	9·79	2·40	+·23	48·76	8·63	—·02
27	3·59	0·87	—·20	48·06	9·40	—·04	14	9·92	2·46	+·22	48·77	8·62	+·01
28	3·73	0·87	—·15	48·07	9·38	—·06	15	10·06	2·52	+·19	48·77	8·62	+·03
29	3·87	0·87	—·08	48·09	9·36	—·07	16	10·20	2·58	+·12	48·78	8·61	+·05
30	4·01	0·88	·00	48·11	9·34	—·07	17	10·34	2·64	+·05	48·78	8·61	+·06
31	4·14	0·88	+·08	48·13	9·31	—·05	18	10·47	2·70	—·03	48·78	8·61	+·06
Feb. 1	4·28	0·89	+·13	48·15	9·29	—·02	19	10·61	2·76	—·10	48·79	8·60	+·05
2	4·42	0·90	+·15	48·17	9·27	+·02	20	10·75	2·82	—·16	48·79	8·60	+·03
3	4·56	0·91	+·11	48·19	9·25	+·05	21	10·89	2·88	—·20	48·79	8·60	+·01
4	4·69	0·93	+·06	48·21	9·23	+·07	22	11·02	2·94	—·21	48·79	8·60	—·02
5	4·83	0·94	—·02	48·23	9·21	+·07	23	11·16	3·00	—·19	48·79	8·59	—·04
6	4·97	0·96	—·09	48·25	9·19	+·06	24	11·30	3·06	—·14	48·79	8·59	—·06
7	5·11	0·97	—·13	48·27	9·17	+·03	25	11·44	3·12	—·07	48·78	8·59	—·07
8	5·25	0·99	—·14	48·29	9·14	—·01	26	11·58	3·18	·00	48·78	8·60	—·06
9	5·38	1·02	—·10	48·31	9·12	—·04	27	11·71	3·24	+·07	48·78	8·60	—·04
10	5·52	1·04	—·02	48·33	9·10	—·07	28	11·85	3·30	+·11	48·77	8·60	—·01
11	5·66	1·06	+·06	48·35	9·08	—·07	29	11·99	3·36	+·11	48·77	8·61	+·03
12	5·80	1·09	+·14	48·37	9·06	—·06	30	12·13	3·42	+·07	48·76	8·61	+·06
13	5·93	1·12	+·20	48·39	9·04	—·04	31	12·26	3·48	+·01	48·76	8·61	+·08
14	6·07	1·14	+·22	48·41	9·02	—·01	Apr. 1	12·40	3·53	—·07	48·75	8·62	+·07
15	6·21	1·17	+·20	48·43	9·00	+·02	2	12·54	3·59	—·13	48·74	8·62	+·05
16	6·35	1·21	+·16	48·45	8·98	+·04	3	12·68	3·65	—·15	48·74	8·63	+·02

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Mean Noon.	LONGITUDE.			Appar- ent Obliqu- ity.	OBLIQUITY.			Mean Noon.	LONGITUDE.			Appar- ent Obliqu- ity.	OBLIQUITY.			
	Pre- cession from 1923 ^o	Nutation.			Nutation.	Pre- cession from 1923 ^o	Nutation.		Nutation.							
		ΔL	$d L$				$\Delta \omega$			$d \omega$	ΔL		$d L$	$\Delta \omega$	$d \omega$	
				23° 26'								23° 26'				
Apr.	3	12.68	3.65	— .15	48.74	8.63	+ .02	May	19	19.01	5.03	— .03	48.02	9.29	— .07	
	4	12.81	3.70	— .13	48.73	8.64	— .02		20	19.14	5.02	+ .04	48.01	9.30	— .06	
	5	12.95	3.76	— .07	48.72	8.65	— .05		21	19.28	5.02	+ .09	47.99	9.31	— .03	
	6	13.09	3.81	+ .02	48.71	8.65	— .07		22	19.42	5.02	+ .11	47.98	9.33	.00	
	7	13.23	3.87	+ .11	48.70	8.66	— .07		23	19.56	5.01	+ .09	47.96	9.34	+ .04	
	8	13.36	3.92	+ .19	48.69	8.67	— .06		24	19.69	5.01	+ .04	47.95	9.35	+ .07	
	9	13.50	3.97	+ .23	48.68	8.68	— .03		25	19.83	5.00	— .04	47.93	9.37	+ .08	
	10	13.64	4.02	+ .24	48.67	8.69	.00		26	19.97	4.99	— .12	47.92	9.38	+ .07	
	11	13.78	4.07	+ .21	48.66	8.70	+ .03		27	20.11	4.98	— .17	47.91	9.39	+ .04	
	12	13.91	4.12	+ .16	48.64	8.71	+ .05		28	20.24	4.97	— .18	47.89	9.40	+ .01	
	13	14.05	4.17	+ .08	48.63	8.73	+ .06		29	20.38	4.96	— .15	47.88	9.42	— .03	
	14	14.19	4.21	.00	48.62	8.74	+ .06		30	20.52	4.95	— .07	47.87	9.43	— .06	
	15	14.33	4.26	— .07	48.60	8.75	+ .06		31	20.66	4.93	+ .02	47.86	9.44	— .07	
	16	14.47	4.30	— .13	48.59	8.76	+ .04		June	1	20.80	4.92	+ .12	47.85	9.45	— .07
	17	14.60	4.35	— .18	48.57	8.78	+ .02			2	20.93	4.90	+ .20	47.84	9.45	— .05
	18	14.74	4.39	— .20	48.56	8.79	— .01			3	21.07	4.89	+ .25	47.83	9.46	— .02
	19	14.88	4.43	— .19	48.54	8.80	— .04			4	21.21	4.87	+ .24	47.82	9.47	+ .01
	20	15.02	4.47	— .15	48.53	8.82	— .06			5	21.35	4.85	+ .21	47.81	9.48	+ .04
	21	15.15	4.51	— .09	48.51	8.83	— .07			6	21.48	4.83	+ .15	47.80	9.49	+ .06
22	15.29	4.55	— .02	48.50	8.85	— .07	7	21.62		4.82	+ .07	47.79	9.50	+ .06		
23	15.43	4.58	+ .05	48.48	8.86	— .05	8	21.76		4.80	— .01	47.78	9.50	+ .06		
24	15.57	4.62	+ .09	48.46	8.88	— .02	9	21.90		4.78	— .08	47.77	9.51	+ .05		
25	15.70	4.65	+ .10	48.45	8.89	+ .02	10	22.03		4.75	— .14	47.77	9.51	+ .03		
26	15.84	4.68	+ .07	48.43	8.91	+ .05	11	22.17	4.73	— .17	47.76	9.52	+ .01			
27	15.98	4.71	+ .01	48.41	8.93	+ .07	12	22.31	4.71	— .18	47.76	9.52	— .02			
28	16.12	4.74	— .06	48.39	8.94	+ .08	13	22.45	4.69	— .16	47.75	9.52	— .05			
29	16.25	4.77	— .13	48.38	8.96	+ .06	14	22.58	4.67	— .11	47.75	9.53	— .06			
30	16.39	4.79	— .17	48.36	8.98	+ .03	15	22.72	4.64	— .04	47.74	9.53	— .07			
May	1	16.53	4.82	— .16	48.34	8.99	— .01	16	22.86	4.62	+ .03	47.74	9.53	— .07		
	2	16.67	4.84	— .11	48.32	9.01	— .04	17	23.00	4.60	+ .08	47.74	9.53	— .04		
	3	16.80	4.87	— .02	48.30	9.03	— .07	18	23.13	4.57	+ .12	47.74	9.53	— .01		
	4	16.94	4.89	+ .07	48.29	9.04	— .07	19	23.27	4.55	+ .12	47.74	9.53	+ .03		
	5	17.08	4.91	+ .16	48.27	9.06	— .06	20	23.41	4.52	+ .07	47.74	9.53	+ .06		
	6	17.22	4.92	+ .23	48.25	9.08	— .04	21	23.55	4.50	.00	47.74	9.53	+ .08		
	7	17.36	4.94	+ .25	48.23	9.09	— .01	22	23.69	4.48	— .09	47.74	9.53	+ .07		
	8	17.49	4.95	+ .23	48.21	9.11	+ .02	23	23.82	4.45	— .16	47.74	9.52	+ .05		
	9	17.63	4.97	+ .19	48.19	9.13	+ .04	24	23.96	4.43	— .19	47.74	9.52	+ .02		
	10	17.77	4.98	+ .12	48.18	9.14	+ .06	25	24.10	4.40	— .18	47.74	9.52	— .02		
	11	17.91	4.99	+ .04	48.16	9.16	+ .07	26	24.24	4.38	— .12	47.75	9.51	— .05		
	12	18.04	5.00	— .04	48.14	9.18	+ .06	27	24.37	4.36	— .03	47.75	9.51	— .07		
	13	18.18	5.01	— .11	48.13	9.19	+ .04	28	24.51	4.33	+ .07	47.75	9.50	— .07		
	14	18.32	5.01	— .16	48.11	9.21	+ .02	29	24.65	4.31	+ .16	47.76	9.50	— .06		
	15	18.46	5.02	— .18	48.09	9.22	.00	30	24.79	4.29	+ .21	47.76	9.49	— .03		
	16	18.59	5.02	— .18	48.07	9.24	— .03	July	1	24.92	4.27	+ .23	47.77	9.48	.00	
	17	18.73	5.02	— .15	48.06	9.25	— .05		2	25.06	4.24	+ .21	47.78	9.47	+ .03	
	18	18.87	5.03	— .10	48.04	9.27	— .07		3	25.20	4.22	+ .16	47.79	9.46	+ .05	
	19	19.01	5.03	— .03	48.02	9.29	— .07	4	25.34	4.20	+ .09	47.79	9.46	+ .06		

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Mean Noon.	LONGITUDE.				Appar- ent Obliqui- ty.	OBLIQUITY.		Mean Noon.	LONGITUDE.				Appar- ent Obliqui- ty.	OBLIQUITY.										
	Pre- cession from 1923·0	Nutation.		Nutation.		Pre- cession from 1923·0	Nutation.		Nutation.															
		ΔL	$d L$				$\Delta \omega$				$d \omega$	ΔL		$d L$	$\Delta \omega$	$d \omega$								
					23° 26'																			
July	4	25·34	4·20	+·09	47·79	9·46	+·06	Aug.	19	31·67	4·33	-·14	48·55	8·64	-·03	Sept.	1	33·46	4·85	-·18	48·77	8·40	-·00	
	5	25·47	4·18	+·01	47·80	9·45	+·06		20	31·80	4·36	-·08	48·57	8·62	-·06		2	33·59	4·90	-·18	48·79	8·39	-·02	
	6	25·61	4·16	-·06	47·81	9·44	+·05		21	31·94	4·39	+·01	48·59	8·60	-·08		3	33·73	4·95	-·16	48·80	8·37	-·05	
	7	25·75	4·14	-·12	47·82	9·42	+·04		22	32·08	4·43	+·11	48·61	8·58	-·07		4	33·87	5·00	-·12	48·81	8·36	-·06	
	8	25·89	4·12	-·16	47·83	9·41	+·01		23	32·22	4·46	+·18	48·63	8·56	-·05		5	34·01	5·05	-·05	48·83	8·34	-·07	
	9	26·02	4·10	-·18	47·84	9·40	-·01		24	32·35	4·50	+·22	48·64	8·54	-·02		6	34·14	5·10	+·02	48·84	8·33	-·06	
	10	26·16	4·09	-·17	47·85	9·39	-·04		25	32·49	4·54	+·22	48·66	8·52	+·01		7	34·28	5·15	+·08	48·85	8·31	-·04	
	11	26·30	4·07	-·12	47·86	9·38	-·06		26	32·63	4·58	+·19	48·68	8·50	+·04		8	34·42	5·20	+·11	48·86	8·30	-·01	
	12	26·44	4·06	-·06	47·88	9·36	-·07		27	32·77	4·62	+·13	48·69	8·49	+·06		9	34·56	5·26	+·11	48·87	8·29	+·03	
	13	26·58	4·04	+·01	47·89	9·35	-·07		28	32·91	4·67	+·05	48·71	8·47	+·07		10	34·69	5·31	+·08	48·88	8·28	+·06	
	14	26·71	4·03	+·08	47·90	9·34	-·05		29	33·04	4·71	-·03	48·73	8·45	+·06		11	34·83	5·37	+·01	48·89	8·27	+·08	
	15	26·85	4·01	+·12	47·91	9·32	-·02		30	33·18	4·76	-·10	48·74	8·44	+·05		12	34·97	5·42	-·06	48·90	8·26	+·08	
	16	26·99	4·00	+·13	47·93	9·30	+·01		31	33·32	4·80	-·15	48·76	8·42	+·03		13	35·11	5·48	-·13	48·91	8·25	+·06	
	17	27·13	3·99	+·10	47·95	9·29	+·05		Oct.	1	33·46	4·85	-·18	48·77	8·40		-·00	14	35·24	5·54	-·16	48·92	8·24	+·02
	18	27·26	3·98	+·04	47·96	9·27	+·07			2	33·59	4·90	-·18	48·79	8·39		-·02	15	35·38	5·60	-·15	48·93	8·23	-·02
	19	27·40	3·97	-·04	47·97	9·25	+·08			3	33·73	4·95	-·16	48·80	8·37		-·05	16	35·52	5·65	-·09	48·93	8·22	-·05
	20	27·54	3·97	-·12	47·99	9·24	+·06			4	33·87	5·00	-·12	48·81	8·36		-·06	17	35·66	5·71	-·01	48·94	8·21	-·07
	21	27·68	3·96	-·17	48·01	9·22	+·03			5	34·01	5·05	-·05	48·83	8·34		-·07	18	35·80	5·77	+·09	48·94	8·21	-·08
	22	27·81	3·95	-·18	48·02	9·20	-·00			6	34·14	5·10	+·02	48·84	8·33		-·06	19	35·93	5·83	+·17	48·95	8·20	-·06
23	27·95	3·95	-·14	48·04	9·19	-·04	7	34·28		5·15	+·08	48·85	8·31	-·04	20	36·07	5·89	+·22	48·95	8·20	-·03			
24	28·09	3·95	-·06	48·06	9·17	-·07	8	34·42		5·20	+·11	48·86	8·30	-·01	21	36·21	5·95	+·24	48·96	8·19	-·00			
25	28·23	3·94	+·03	48·07	9·15	-·08	9	34·56		5·26	+·11	48·87	8·29	+·03	22	36·35	6·01	+·21	48·96	8·19	+·03			
26	28·36	3·94	+·13	48·09	9·13	-·07	10	34·69		5·31	+·08	48·88	8·28	+·06	23	36·48	6·07	+·16	48·96	8·18	+·05			
27	28·50	3·94	+·19	48·11	9·11	-·04	11	34·83		5·37	+·01	48·89	8·27	+·08	24	36·62	6·13	+·08	48·96	8·18	+·07			
28	28·64	3·95	+·22	48·13	9·09	-·01	12	34·97		5·42	-·06	48·90	8·26	+·08	25	36·76	6·18	-·00	48·96	8·18	+·07			
29	28·78	3·95	+·21	48·15	9·07	+·02	13	35·11		5·48	-·13	48·91	8·25	+·06	26	36·90	6·24	-·07	48·97	8·18	+·06			
30	28·91	3·95	+·17	48·16	9·05	+·04	14	35·24		5·54	-·16	48·92	8·24	+·02	27	37·03	6·30	-·13	48·97	8·17	+·04			
31	29·05	3·96	+·11	48·18	9·03	+·06	15	35·38		5·60	-·15	48·93	8·23	-·02	28	37·17	6·36	-·17	48·96	8·17	+·01			
Aug.	1	29·19	3·96	+·03	48·20	9·01	+·07	16		35·52	5·65	-·09	48·93	8·22	-·05	29	37·31	6·42	-·18	48·96	8·17	-·01		
	2	29·33	3·97	-·04	48·22	8·99	+·06	17		35·66	5·71	-·01	48·94	8·21	-·07	30	37·45	6·48	-·17	48·96	8·18	-·04		
	3	29·46	3·98	-·11	48·24	8·97	+·04	18		35·80	5·77	+·09	48·94	8·21	-·08	1	37·58	6·54	-·14	48·96	8·18	-·06		
	4	29·60	3·99	-·16	48·26	8·95	+·02	19		35·93	5·83	+·17	48·95	8·20	-·06	2	37·72	6·60	-·08	48·95	8·18	-·07		
	5	29·74	4·01	-·19	48·28	8·93	-·00	20	36·07	5·89	+·22	48·95	8·20	-·03	3	37·86	6·65	-·01	48·95	8·18	-·07			
	6	29·88	4·02	-·18	48·30	8·91	-·03	21	36·21	5·95	+·24	48·96	8·19	-·00	4	38·00	6·71	+·05	48·95	8·19	-·05			
	7	30·02	4·04	-·15	48·32	8·89	-·05	22	36·35	6·01	+·21	48·96	8·19	+·03										
	8	30·15	4·05	-·09	48·34	8·87	-·07	23	36·48	6·07	+·16	48·96	8·18	+·05										
	9	30·29	4·07	-·02	48·36	8·84	-·07	24	36·62	6·13	+·08	48·96	8·18	+·07										
	10	30·43	4·09	+·05	48·38	8·82	-·06	25	36·76	6·18	-·00	48·96	8·18	+·07										
	11	30·57	4·11	+·11	48·40	8·80	-·03	26	36·90	6·24	-·07	48·97	8·18	+·06										
	12	30·70	4·13	+·13	48·42	8·78	-·00	27	37·03	6·30	-·13	48·97	8·17	+·04										
	13	30·84	4·16	+·12	48·44	8·76	+·04	28	37·17	6·36	-·17	48·96	8·17	+·01										
	14	30·98	4·18	+·07	48·46	8·74	+·07	29	37·31	6·42	-·18	48·96	8·17	-·01										
	15	31·12	4·21	-·00	48·48	8·72	+·08	30	37·45	6·48	-·17	48·96	8·18	-·04										
	16	31·25	4·23	-·08	48·50	8·70	+·07	1	37·58	6·54	-·14	48·96	8·18	-·06										
	17	31·39	4·26	-·14	48·52	8·68	+·05	2	37·72	6·60	-·08	48·95	8·18	-·07										
	18	31·53	4·29	-·16	48·53	8·66	+·01	3	37·86	6·65	-·01	48·95	8·18	-·07										
	19	31·67	4·33	-·14	48·55	8·64	-·03	4	38·00	6·71	+·05	48·95	8·19	-·05										

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Mean Noon.	LONGITUDE.			Appar- ent Obliqui- ty.	OBLIQUITY.			Mean Noon.	LONGITUDE.			Appar- ent Obliqui- ty.	OBLIQUITY.		
	Pre- cession from 1923·0	Nutation.			Nutation.	Pre- cession from 1923·0	Nutation.		Nutation.						
		ΔL	$d L$				$\Delta \omega$			$d \omega$	ΔL		$d L$	$\Delta \omega$	$d \omega$
				23° 26'								23° 26'			
Oct.	4	38·00	6·71	+·05	48·95	8·19	—·05	Nov.	19	44·33	8·10	—·01	48·29	8·78	+·06
	5	38·13	6·77	+·09	48·94	8·19	—·02		20	44·46	8·09	—·08	48·28	8·80	+·05
	6	38·27	6·82	+·10	48·93	8·19	+·01		21	44·60	8·09	—·13	48·26	8·81	+·03
	7	38·41	6·88	+·08	48·93	8·20	+·05		22	44·74	8·08	—·16	48·24	8·82	·00
	8	38·55	6·93	+·02	48·92	8·21	+·07		23	44·88	8·07	—·16	48·23	8·84	—·02
	9	38·68	6·99	—·05	48·91	8·21	+·08		24	45·02	8·06	—·14	48·21	8·85	—·05
	10	38·82	7·04	—·12	48·90	8·22	+·07		25	45·15	8·05	—·10	48·20	8·86	—·07
	11	38·96	7·09	—·16	48·90	8·23	+·04		26	45·29	8·03	—·04	48·19	8·88	—·07
	12	39·10	7·14	—·16	48·89	8·24	·00		27	45·43	8·02	+·03	48·17	8·89	—·06
	13	39·24	7·19	—·12	48·88	8·24	—·04		28	45·57	8·00	+·07	48·16	8·90	—·04
	14	39·37	7·24	—·04	48·86	8·25	—·07		29	45·70	7·98	+·10	48·15	8·91	—·01
	15	39·51	7·29	+·06	48·85	8·26	—·08		30	45·84	7·97	+·09	48·14	8·92	+·02
	16	39·65	7·34	+·16	48·84	8·27	—·07		Dec.	1	45·98	7·95	+·05	48·12	8·93
17	39·79	7·38	+·22	48·83	8·28	—·04	2	46·12		7·92	—·02	48·11	8·94	+·08	
18	39·92	7·43	+·25	48·82	8·30	—·01	3	46·25		7·90	—·10	48·10	8·95	+·08	
19	40·06	7·47	+·24	48·80	8·31	+·02	4	46·39		7·88	—·17	48·09	8·96	+·06	
20	40·20	7·51	+·19	48·79	8·32	+·05	5	46·53		7·86	—·21	48·08	8·97	+·03	
21	40·34	7·55	+·12	48·78	8·33	+·06	6	46·67		7·83	—·19	48·07	8·98	—·01	
22	40·47	7·59	+·04	48·76	8·34	+·07	7	46·80		7·80	—·13	48·06	8·98	—·05	
23	40·61	7·63	—·04	48·75	8·36	+·06	8	46·94		7·78	—·04	48·06	8·99	—·07	
24	40·75	7·67	—·11	48·73	8·37	+·04	9	47·08		7·75	+·07	48·05	9·00	—·08	
25	40·89	7·71	—·15	48·72	8·38	+·02	10	47·22		7·72	+·17	48·04	9·00	—·06	
26	41·02	7·74	—·17	48·70	8·40	—·01	11	47·35		7·69	+·23	48·04	9·01	—·03	
27	41·16	7·77	—·17	48·69	8·41	—·03	12	47·49		7·66	+·25	48·03	9·01	·00	
28	41·30	7·81	—·14	48·67	8·43	—·06	13	47·63		7·63	+·23	48·03	9·01	+·03	
Nov.	29	41·44	7·84	—·09	48·65	8·44	—·07	14	47·77	7·60	+·18	48·02	9·02	+·05	
	30	41·57	7·86	—·03	48·64	8·46	—·07	15	47·90	7·57	+·11	48·02	9·02	+·07	
	31	41·71	7·89	+·03	48·62	8·48	—·06	16	48·04	7·53	+·03	48·02	9·02	+·07	
	1	41·85	7·92	+·08	48·60	8·49	—·03	17	48·18	7·50	—·05	48·02	9·02	+·05	
	2	41·99	7·94	+·10	48·59	8·51	·00	18	48·32	7·47	—·10	48·02	9·02	+·03	
	3	42·13	7·96	+·08	48·57	8·52	+·04	19	48·46	7·44	—·14	48·02	9·02	+·01	
	4	42·26	7·98	+·03	48·55	8·54	+·06	20	48·59	7·40	—·15	48·02	9·02	—·02	
	5	42·40	8·00	—·05	48·54	8·56	+·08	21	48·73	7·37	—·14	48·02	9·01	—·04	
	6	42·54	8·02	—·12	48·52	8·57	+·07	22	48·87	7·34	—·10	48·02	9·01	—·06	
	7	42·68	8·04	—·17	48·50	8·59	+·05	23	49·01	7·30	—·04	48·02	9·01	—·07	
	8	42·81	8·05	—·19	48·48	8·61	+·01	24	49·14	7·27	+·02	48·03	9·00	—·07	
	9	42·95	8·06	—·16	48·46	8·62	—·03	25	49·28	7·23	+·07	48·03	9·00	—·05	
	10	43·09	8·07	—·08	48·45	8·64	—·06	26	49·42	7·20	+·11	48·03	8·99	—·02	
	11	43·23	8·08	+·02	48·43	8·65	—·07	27	49·56	7·17	+·12	48·04	8·98	+·01	
	12	43·36	8·09	+·12	48·41	8·67	—·07	28	49·69	7·14	+·08	48·05	8·98	+·05	
	13	43·50	8·10	+·20	48·39	8·69	—·05	29	49·83	7·10	+·01	48·05	8·97	+·07	
	14	43·64	8·10	+·25	48·38	8·70	—·02	30	49·97	7·07	—·07	48·06	8·96	+·08	
	15	43·78	8·10	+·26	48·36	8·72	+·01	31	50·11	7·04	—·15	48·07	8·95	+·07	
	16	43·91	8·11	+·22	48·34	8·74	+·04	32	50·24	7·01	—·20	48·08	8·94	+·04	
17	44·05	8·11	+·15	48·32	8·75	+·06									
18	44·19	8·10	+·07	48·31	8·76	+·07									
19	44·33	8·10	—·01	48·29	8·78	+·06									

MEAN PLACES OF STARS, 1923. 199

FOR JANUARY 0d.884

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			^h ^m ^s	^s	^s			
α Andromedæ	2.2	A o p	0 4 24.224	+ 3.0868	+ .0107	N.28 39 55.26	+ 20.042	- .163
β Cassiopeiæ	2.4	F 5	0 5 3.554	3.1213	+ .0681	N.58 43 30.44	20.040	- .180
γ Pegasi	2.9	B 2	0 9 16.115	+ 3.0870	+ .0003	N.14 45 19.97	20.029	- .010
δ Octantis	7.2	A o	0 12 17.181	- 0.3203	+ .0057	S. 88 47 27.78	20.016	+ .006
ϵ Ceti	3.8	K o	0 15 30.299	+ 3.0581	- .0013	S. 9 15 2.35	20.000	- .030
ζ Tucanæ	4.3	F 8	0 16 4.349	+ 2.8689	+ .2735	S. 65 19 36.93	+ 19.996	+ 1.172
d Piscium	5.6	K o	0 16 38.078	3.0860	+ .0003	N. 7 45 45.92	19.992	- .016
44 Piscium	6.0	G 5	0 21 27.283	3.0761	- .0014	N. 1 30 47.80	19.957	- .023
β Hydri	2.9	G o	0 21 43.780	2.4931	+ .6954	S. 77 41 16.44	19.955	+ .318
α Phœnicis	2.4	K o	0 22 28.945	2.9519	+ .0188	S. 42 43 26.92	19.948	- .403
12 Ceti	6.0	K 5	0 26 6.569	+ 3.0611	+ .0011	S. 4 22 57.15	+ 19.915	.000
ϵ Andromedæ	4.5	G 5	0 34 28.927	3.1833	- .0173	N.28 53 37.89	19.818	- .251
δ Andromedæ	3.5	K o	0 35 12.368	3.1929	+ .0110	N.30 26 22.85	19.809	- .097
α Cassiopeiæ	var.	K o	0 36 7.611	3.3851	+ .0063	N.56 6 55.01	19.797	- .032
β Ceti	2.2	K o	0 39 43.517	2.9960	+ .0160	S. 18 24 32.12	19.745	+ .041
δ Piscium	4.6	K 5	0 44 41.117	+ 3.1053	+ .0052	N. 7 9 58.47	+ 19.665	- .046
20 Ceti	4.9	K o	0 49 4.262	3.0650	- .0005	S. 1 33 42.94	19.587	- .003
γ Cassiopeiæ	2.3	B o p	0 52 2.841	3.6002	+ .0036	N.60 18 0.41	19.530	- .005
μ Andromedæ	3.9	A 2	0 52 28.396	3.3104	+ .0132	N.38 4 55.13	19.522	+ .030
α Sculptoris	4.4	B 5	0 54 53.709	2.8914	- .0018	S. 29 46 24.92	19.473	- .013
ϵ Piscium	4.5	K o	0 58 56.700	+ 3.1174	- .0054	N. 7 28 33.23	+ 19.385	+ .026
72 Piscium	5.7	F 2	1 1 1.278	3.1640	- .0001	N.14 31 56.27	19.338	+ .054
β Phœnicis	3.4	K o	1 2 38.880	2.6841	- .0057	S. 47 7 52.37	19.300	- .024
β Andromedæ	2.4	M a	1 5 24.876	3.3383	+ .0148	N.35 12 45.58	19.234	- .117
ζ^1 Piscium	5.6	A 5	1 9 42.392	3.1231	+ .0096	N. 7 10 6.83	19.124	- .052
θ Ceti	3.8	K o	1 20 10.431	+ 3.0036	- .0057	S. 8 34 48.95	+ 18.831	- .215
δ Cassiopeiæ	2.8	A 5	1 20 45.872	3.8664	+ .0407	N.59 50 8.96	18.813	- .037
γ Phœnicis	3.4	K 5	1 25 1.310	2.6096	- .0038	S. 43 42 44.95	18.681	- .218
η Piscium	3.7	G 5	1 27 21.575	3.2055	+ .0015	N.14 56 57.72	18.606	- .003
α Ursæ Minoris	2.1	F 8	1 33 11.900	3.04236	+ .1512	N.88 53 34.33	18.410	+ .001
α Eridani	0.6	B 5	1 34 50.866	+ 2.2251	+ .0103	S. 57 37 39.77	+ 18.353	- .041
ν Piscium	4.7	K o	1 37 25.324	3.1219	- .0017	N. 5 5 54.26	18.261	+ .002
δ Piscium	4.5	K o	1 41 19.510	3.1610	+ .0049	N. 8 46 14.47	18.117	+ .045
ζ Ceti	3.9	K o	1 47 39.545	2.9583	+ .0020	S. 10 42 53.31	17.874	- .027
ϵ Cassiopeiæ	3.4	B 3	1 48 50.224	4.2872	+ .0053	N.63 17 30.13	17.827	- .015
β Arietis	2.7	A 5	1 50 22.913	+ 3.3034	+ .0064	N.20 25 56.01	+ 17.765	- .111
α Hydri	3.0	F o	1 56 20.135	1.8540	+ .0276	S. 61 56 39.10	17.518	+ .026
ν Ceti	4.2	K 5	1 56 22.572	2.8175	+ .0082	S. 21 27 1.05	17.516	- .009
γ Andromedæ	2.3	K o	1 59 9.903	3.6698	+ .0046	N.41 57 39.58	17.396	- .051
α Arietis	2.2	K 2	2 2 49.691	3.3638	+ .0139	N.23 5 56.58	17.234	- .144
β Trianguli	3.1	A 5	2 4 57.344	+ 3.5512	+ .0127	N.34 37 25.60	+ 17.138	- .044
ζ^1 Ceti	4.5	G 5	2 8 54.975	3.1792	- .0013	N. 8 29 9.78	16.955	- .016
67 Ceti	5.7	G 5	2 13 8.479	2.9856	+ .0054	S. 6 46 35.11	16.756	- .110
ϕ Eridani	3.8	B 8	2 13 45.472	+ 2.1347	+ .0081	S. 51 52 5.83	+ 16.727	- .036

PROPER NAMES.— γ Pegasi - *Algenib*. α Ursæ Minoris - *Polaris*. α Eridani - *Achernar*.

VARIABLE STARS.— α Cassiopeiæ. The limits of magnitude are 2.2 and 2.8. Period irregular.

200 MEAN PLACES OF STARS, 1923.

FOR JANUARY o^d.884

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			h m s	s	s	N. 19 32 44.32	+16.723	— .002
θ Arietis - -	5.7	A o	2 13 50.308	+ 3.3343	— .0010	N. 19 32 44.32	+16.723	— .002
$\circ$ Ceti - -	var.	M d	2 15 27.327	3.0294	+ .0002	S. 3 19 35.28	16.645	— .229
κ Fornacis - -	5.4	F 5	2 19 1.147	2.7310	+ .0142	S. 24 9 56.47	16.469	— .063
δ Hydri - -	4.3	A 2	2 20 22.376	1.0705	— .0097	S. 69 0 33.94	16.400	+ .020
ξ^2 Ceti - -	4.3	A o	2 24 3.739	3.1849	+ .0025	N. 8 6 56.48	16.213	— .007
ν Ceti - -	5.0	G 5	2 31 49.840	+ 3.1485	— .0025	N. 5 15 29.13	+15.803	— .018
ρ B Octantis -	7.8	F o	2 31 58.969	— 8.8749	— .0203	S. 86 3 40.20	15.796	+ .006
δ Ceti - -	4.0	B 2	2 35 32.048	+ 3.0727	+ .0011	S. 0 0 10.05	15.598	+ .004
γ Ceti - -	3.6	A o	2 39 18.507	3.1163	— .0098	N. 2 54 43.41	15.394	— .148
π Ceti - -	4.4	B 5	2 40 27.392	2.8552	— .0012	S. 14 11 2.55	15.329	— .011
β Fornacis - -	4.5	K o	2 45 52.089	+ 2.5041	+ .0080	S. 32 43 43.46	+15.020	+ .156
σ Arietis - -	5.5	B 5	2 47 14.280	+ 3.3077	+ .0016	N. 14 45 55.80	14.939	— .034
ι B Octantis -	8.4	G 5	2 51 6.393	— 31.1522	— .0618	S. 88 28 51.69	14.713	— .025
ϵ Arietis (mean)	4.6	A 2	2 54 48.293	+ 3.4279	— .0009	N. 21 1 59.62	14.490	— .010
θ Eridani - -	3.1	A 2	2 55 20.624	2.2792	— .0025	S. 40 36 45.40	14.459	+ .024
α Ceti - -	2.8	M a	2 58 15.125	+ 3.1349	— .0009	N. 3 47 18.58	+14.282	— .078
γ Persei - -	3.1	F 5 p	2 59 12.522	4.3318	+ .0010	N. 53 12 22.13	14.222	— .004
μ Horologii -	5.2	F o	3 1 47.627	1.4209	— .0123	S. 60 2 8.80	14.062	— .054
β Persei - -	var.	B 8	3 3 9.095	3.8955	+ .0008	N. 40 39 36.35	13.978	— .002
δ Arietis - -	4.5	K o	3 7 13.351	3.4165	+ .0110	N. 19 26 11.58	13.720	+ .001
τ^1 Arietis - -	5.2	B 3	3 16 46.690	+ 3.4585	+ .0023	N. 20 52 13.46	+13.097	— .033
α Persei - -	1.9	F 5	3 18 48.964	4.2699	+ .0030	N. 49 35 18.15	12.964	— .028
$\circ$ Tauri - -	3.8	G 5	3 20 40.019	3.2309	— .0046	N. 8 45 31.99	12.840	— .074
f Tauri - -	4.3	K o	3 26 37.162	3.3084	+ .0016	N. 12 40 25.80	12.436	+ .002
ϵ Eridani - -	3.8	K o p	3 29 18.094	2.8917	— .0660	S. 9 43 4.48	12.251	+ .027
45 G Horologii	5.6	K o	3 30 16.736	+ 1.7791	+ .0048	S. 50 38 21.73	+12.183	+ .080
τ^5 Eridani - -	4.3	B 8	3 30 23.093	2.6463	+ .0023	S. 21 53 25.56	12.174	— .039
11 Tauri - -	6.2	A o	3 36 10.150	3.5791	+ .0014	N. 25 4 53.91	11.768	— .008
δ Persei - -	3.1	B 5	3 37 26.077	4.2598	+ .0035	N. 47 32 33.63	11.680	— .036
δ Eridani - -	3.7	K o	3 39 33.500	2.8796	— .0064	S. 10 1 23.30	11.529	+ .747
17 Tauri - -	3.8	B 5	3 40 17.955	+ 3.5577	+ .0017	N. 23 52 20.53	+11.476	— .044
η Tauri - -	3.0	B 5	3 42 54.217	+ 3.5614	+ .0016	N. 23 52 5.22	11.289	— .050
γ Hydri - -	3.2	M a	3 48 24.754	— 0.9665	+ .0097	S. 74 28 30.94	10.887	+ .117
ζ Persei - -	2.9	B 1	3 49 17.236	+ 3.7663	+ .0010	N. 31 39 22.17	10.822	— .014
ϵ Persei - -	3.0	B 1	3 52 40.909	4.0184	+ .0031	N. 39 47 19.58	10.571	— .027
γ Eridani - -	3.2	K 5	3 54 26.182	+ 2.7941	+ .0047	S. 13 43 35.88	+10.441	— .111
A Tauri - -	4.5	K o	4 0 8.403	3.5376	+ .0069	N. 21 52 21.76	10.009	— .058
43 Tauri - -	5.7	G 5	4 4 40.655	3.4852	+ .0079	N. 19 24 23.83	9.664	— .044
$\circ^1$ Eridani - -	4.1	F 5	4 8 6.354	2.9271	+ .0007	S. 7 2 14.26	9.402	+ .086
α Horologii -	3.8	K o	4 11 26.997	1.9837	+ .0040	S. 42 29 2.18	9.143	— .231
α Reticuli - -	3.4	G 5	4 13 25.667	+ 0.7619	+ .0048	S. 62 39 58.79	+ 8.989	+ .044
ν^4 Eridani - -	3.6	B 9	4 14 58.670	2.2648	+ .0025	S. 33 59 7.33	8.867	— .000
γ Tauri - -	3.9	K o	4 15 24.533	3.4042	+ .0082	N. 15 26 33.98	8.834	— .029
ϵ Tauri - -	3.6	K o	4 24 7.094	3.4934	+ .0082	N. 19 0 39.17	8.143	— .034
α Tauri - -	1.1	K 5	4 31 30.001	+ 3.4361	+ .0047	N. 16 21 20.55	+ 7.549	— .189

PROPER NAMES.— $\circ$ Ceti - *Mira* β Persei - *Algol*, α Tauri - *Aldebaran*.VARIABLE STARS.— $\circ$ Ceti. The limits of magnitude are 1.7–9.6. Period 331^d.6. β Persei. The limits of magnitude are 2.1 and 3.2. Period 2^d 21^h.NOTE.— ϵ Eridani. The apparent places are affected with a parallax of 0".32.

MEAN PLACES OF STARS, 1923. 201

FOR JANUARY 0d.884

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			h m s	s	s	° ' "		
α Doradûs -	3.5	A o p	4 32 19.880	+ 1.2887	+ .0067	S. 55 12 14.01	+ 7.482	- .011
53 Eridani -	4.0	K o	4 34 39.121	2.7519	- .0061	S. 14 27 12.51	7.293	- .154
τ Tauri -	4.3	B 5	4 37 37.287	3.5989	+ .0007	N. 22 48 37.62	7.051	- .020
μ Eridani -	4.2	B 5	4 41 39.082	2.9981	+ .0013	S. 3 23 41.13	6.720	- .012
π^3 Orionis -	3.3	F 8	4 45 39.515	3.2245	+ .0312	N. 6 49 41.30	6.387	+ .023
ι Aurigæ -	2.9	K 2	4 51 58.583	+ 3.9041	+ .0009	N. 33 2 44.04	+ 5.862	- .021
ϵ Aurigæ -	var.	F 5 p	4 56 26.433	4.3015	+ .0012	N. 43 42 39.07	5.488	- .013
η Aurigæ -	3.3	B 3	5 1 6.755	4.2015	+ .0039	N. 41 7 54.56	5.094	- .072
ϵ Leporis -	3.3	K 5	5 2 12.043	2.5375	+ .0012	S. 22 28 24.54	5.002	- .064
β Eridani -	2.9	A 2	5 4 3.844	2.9551	- .0056	S. 5 11 5.33	4.844	- .074
μ Leporis -	3.3	A o p	5 9 28.326	+ 2.6916	+ .0027	S. 16 17 44.26	+ 4.382	- .028
β Orionis -	0.3	B 8 p	5 10 50.186	2.8826	.0000	S. 8 17 22.17	4.267	.000
α Aurigæ -	0.2	G o	5 10 59.883	4.4213	+ .0086	N. 45 55 16.73	4.253	- .429
σ Orionis -	4.6	B 3	5 17 49.825	3.0623	- .0001	S. 0 27 26.18	3.666	+ .005
η Orionis (mean)	3.4	B 1	5 20 36.307	3.0161	+ .0005	S. 2 28 0.72	3.429	+ .001
γ Orionis -	1.7	B 2	5 21 0.014	+ 3.2177	- .0004	N. 6 16 51.92	+ 3.394	- .017
β Tauri -	1.8	B 8	5 21 25.385	3.7894	+ .0025	N. 28 32 37.71	3.358	- .177
β Leporis -	3.0	G o	5 24 56.767	2.5706	+ .0004	S. 20 49 11.90	3.054	- .093
20 G Pictoris -	5.5	G 5	5 28 2.360	1.6470	- .0005	S. 47 7 59.70	2.785	- .188
δ Orionis -	2.5	B o	5 28 4.324	3.0645	.0000	S. 0 21 17.92	2.783	- .002
α Leporis -	2.7	F o	5 29 20.031	+ 2.6456	+ .0003	S. 17 52 35.14	+ 2.674	.000
ι Orionis -	2.9	O e 5	5 31 39.965	2.9344	+ .0001	S. 5 57 33.77	2.472	- .002
ϵ Orionis -	1.7	B o	5 32 18.338	3.0438	.0000	S. 1 14 59.62	2.416	+ .001
β Doradûs -	3.8	F 5	5 32 57.422	0.5191	+ .0002	S. 62 32 25.48	2.360	- .026
ζ Tauri -	3.0	B 3	5 33 2.531	3.5847	+ .0006	N. 21 5 48.42	2.352	- .032
α Columbæ -	2.7	B 5 p	5 36 51.645	+ 2.1721	+ .0006	S. 34 6 52.05	+ 2.020	- .038
ζ Orionis -	2.0	B o	5 36 52.390	3.0268	+ .0005	S. 1 58 56.36	2.017	- .014
130 Tauri -	5.5	F o	5 42 56.801	3.4981	+ .0004	N. 17 42 5.63	1.490	- .006
κ Orionis -	2.2	B o	5 44 6.256	+ 2.8450	+ .0001	S. 9 41 45.27	1.389	- .003
31 G Mensæ -	6.2	A o	5 45 4.701	- 11.6581	- .0119	S. 84 49 38.84	1.304	+ .087
β Columbæ -	3.2	K o	5 48 14.641	+ 2.1104	+ .0034	S. 35 47 47.19	+ 1.028	+ .404
α Orionis -	var.	M a	5 51 0.171	3.2460	+ .0020	N. 7 23 38.18	0.787	+ .009
β Aurigæ -	2.1	A o p	5 53 52.876	4.4059	- .0038	N. 44 56 28.51	0.535	- .006
θ Aurigæ -	2.7	A o p	5 54 28.235	4.0871	+ .0047	N. 37 12 31.02	0.484	- .091
1 Geminorum -	4.3	G 5	5 59 26.391	+ 3.6474	+ .0002	N. 23 16 7.57	+ 0.046	- .109
12 B Octantis -	6.8	K o	6 0 7.369	- 15.7221	- .0265	S. 85 55 59.07	- 0.011	+ .005
ν Orionis -	4.4	B 2	6 3 10.569	+ 3.4253	+ .0012	N. 14 46 44.07	0.278	- .025
η Geminorum -	var.	M a	6 10 13.835	3.6266	- .0039	N. 22 31 49.55	0.895	- .016
ζ Canis Maj. -	3.1	B 3	6 17 21.341	2.3026	- .0006	S. 30 1 43.21	1.517	- .023
μ Geminorum -	3.2	M a	6 18 18.170	3.6260	+ .0046	N. 22 33 16.11	1.600	- .114
β Canis Maj. -	2.0	B 1	6 19 18.505	+ 2.6423	- .0006	S. 17 54 59.71	- 1.687	+ .004
α Argûs -	- 0.9	F o	6 22 14.557	1.3298	+ .0022	S. 52 39 11.61	1.943	+ .009
ν Geminorum -	4.1	B 5	6 24 23.482	3.5633	- .0005	N. 20 15 43.98	2.132	- .016
γ Geminorum -	1.9	A o	6 33 15.865	+ 3.4636	+ .0033	N. 16 27 58.47	- 2.899	- .048

PROPER NAMES.— β Orionis - *Rigel*.

α Aurigæ - *Capella*.

γ Orionis - *Bellatrix*.

α Orionis - *Betelgeuse*.

α Argûs - *Canopus*.

VARIABLE STARS.— ϵ Aurigæ - The limits of magnitude are 3.4 and 4.1.

α Orionis - The limits of magnitude are 0.3 and 1.1. Period irregular.

η Geminorum - The limits of magnitude are 3.2 and 4.2. Period 231.4 days.

202 MEAN PLACES OF STARS, 1923.

FOR JANUARY ^{od}884

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			h m s	s	s	S. ° ' "		
ν Argûs - -	3.2	B 8	6 35 24.403	+ 1.8360	+ .0008	S. 43 7 40.15	- 3.085	- .019
ϵ Geminorum -	3.2	G 5	6 39 11.746	3.6926	- .0001	N. 25 12 31.47	3.412	- .018
ξ Geminorum -	3.4	F 5	6 40 58.106	3.3758	- .0076	N. 12 58 47.58	3.564	- .193
α Canis Maj. -	-1.6	A 0	6 41 45.294	2.6808	- .0374	S. 16 36 34.35	3.632	- 1.206
α Pictoris - -	3.3	A 5	6 47 24.180	0.6276	- .0104	S. 61 51 31.16	4.116	+ .238
τ Argûs - -	2.8	K 0	6 48 1.512	+ 1.4859	+ .0029	S. 50 31 21.16	- 4.170	- .096
θ Canis Maj. -	4.3	K 2	6 50 36.775	2.7971	- .0091	S. 11 56 27.56	4.391	- .007
ϵ Canis Maj. -	1.6	B 1	6 55 35.962	2.3576	- .0001	S. 28 51 58.91	4.816	+ .003
22 Canis Maj. -	3.7	K 5	6 58 39.091	2.3905	- .0006	S. 27 49 24.96	5.076	+ .002
ζ Geminorum -	var.	G 0	6 59 32.610	3.5604	- .0002	N. 20 41 4.20	5.149	- .007
α^2 Canis Maj. -	3.1	B 5 p	6 59 48.546	+ 2.5055	- .0002	S. 23 43 11.67	- 5.172	.000
γ Canis Maj. -	4.1	B 5	7 0 16.508	2.7145	+ .0003	S. 15 31 6.54	5.211	- .010
51 H Cephei -	5.3	M a	7 4 58.548	29.0512	- .0582	N. 87 10 21.61	5.607	- .034
δ Canis Maj. -	2.0	F 8 p	7 5 15.560	2.4397	- .0015	S. 26 16 12.08	5.631	+ .003
51 Geminorum	5.3	M b	7 8 57.104	3.4457	+ .0019	N. 16 17 27.18	5.942	- .042
π Argûs - -	2.7	K 5	7 14 25.394	+ 2.1198	- .0008	S. 36 57 31.33	- 6.395	- .010
δ Geminorum -	3.5	F 0	7 15 31.602	+ 3.5869	- .0010	N. 22 7 31.43	6.486	- .015
δ Volantis - -	4.0	F 5	7 16 52.835	- 0.0218	+ .0004	S. 67 48 58.97	6.599	- .006
η Canis Maj. -	2.4	B 5 p	7 21 2.948	+ 2.3735	- .0005	S. 29 9 6.96	6.942	+ .013
β Canis Min. -	3.1	B 8	7 22 58.581	3.2583	- .0032	N. 8 26 44.12	7.100	- .047
σ Argûs - -	3.3	K 5	7 26 47.211	+ 1.9091	- .0072	S. 43 8 41.42	- 7.411	+ .180
α Geminorum -	2.0	A 0	7 29 41.397	3.8465	- .0144	N. 32 3 32.79	7.645	- .082
Q Carinæ - -	4.9	K 5	7 33 45.121	1.4829	- .0045	S. 52 21 42.55	7.974	- .052
α Canis Min. -	0.5	F 5	7 35 16.327	+ 3.1889	- .0472	N. 5 25 23.65	8.095	- 1.036
A Octantis -	7.8	A 0	7 35 19.771	- 48.0326	- .0398	S. 88 37 47.34	8.099	+ .009
26 Monocerotis	4.1	K 0	7 37 34.091	+ 2.8719	- .0057	S. 9 22 13.95	- 8.278	- .021
β Geminorum -	1.2	K 0	7 40 36.420	3.7217	- .0470	N. 28 12 48.27	8.520	- .054
ξ Argûs - -	3.5	G 0	7 46 3.351	2.5237	- .0004	S. 24 39 56.20	8.950	.000
χ Geminorum -	5.0	K 0	7 58 47.576	3.6903	- .0012	N. 28 0 40.80	9.930	- .053
ζ Argûs - -	2.3	O d	8 0 52.613	2.1112	- .0044	S. 39 47 8.69	10.089	- .005
ρ Argûs - -	2.9	F 5	8 4 15.865	+ 2.5612	- .0065	S. 24 4 52.88	- 10.343	+ .052
γ Argûs - -	2.2	O a p	8 7 9.645	1.8501	- .0003	S. 47 6 33.15	10.560	- .011
20 Puppis - -	5.1	G 5	8 9 47.619	2.7588	- .0009	S. 15 33 19.05	10.755	+ .001
β Cancri - -	3.8	K 2	8 12 20.447	3.2586	- .0035	N. 9 25 26.04	10.942	- .052
δ^1 Cancri - -	5.9	F 0	8 18 57.447	3.4419	- .0038	N. 18 34 49.66	11.424	- .031
ϵ Argûs - -	1.7	K o p	8 20 56.114	+ 1.2372	- .0042	S. 59 15 40.88	- 11.565	+ .008
4 B Ursæ Min.	7.0	A 0	8 21 41.997	58.0084	- .0380	N. 88 51 51.94	11.619	+ .018
30 Monocerotis	4.0	A 0	8 21 48.864	3.0032	- .0039	S. 3 39 15.24	11.627	- .019
α Ursæ Maj. -	3.5	G 0	8 23 52.980	5.0220	- .0160	N. 60 58 37.57	11.774	- .112
η Cancri - -	5.5	K 0	8 28 15.551	3.4758	- .0025	N. 20 42 13.38	12.081	- .055
γ Cancri - -	4.7	A 0	8 38 50.012	+ 3.4827	- .0071	N. 21 44 47.14	- 12.808	- .043
α Mali - -	3.7	B 2	8 40 29.851	2.4115	- .0003	S. 32 54 29.08	12.918	+ .011
δ Argûs - -	2.0	A 0	8 42 34.411	+ 1.6551	- .0035	S. 54 25 33.38	- 13.056	- .100

PROPER NAMES.— α Canis Majoris - *Sirius*. α Canis Minoris - *Procyon*. α Geminorum - *Castor*. β Geminorum - *Pollux*.VARIABLE STARS.— ζ Geminorum. The limits of magnitude are 3.7 and 4.3. Period 10.2 days.NOTES.— α Canis Majoris. The mean place is that of the centre of the orbit; the apparent places, those of the brighter star. The apparent places are affected with a parallax of $0''.38$. α Geminorum. Both mean and apparent places refer to the brighter star. α Canis Minoris. The mean place is that of the centre of the orbit; the apparent places, those of the brighter star. The apparent places are affected with a parallax of $0''.33$.

MEAN PLACES OF STARS, 1923. 203

FOR JANUARY od.884

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			h m s	s	s			
ε Hydræ -	3.5	F 8	8 42 42.011	+ 3.1919	—0126	N. 6 42 8.08	—13.065	—050
ζ Hydræ -	3.3	K 0	8 51 19.547	3.1799	—0060	N. 6 14 22.14	13.628	+ 007
ι Ursæ Maj. -	3.1	A 5	8 53 56.681	4.1627	—0435	N. 48 20 42.05	13.795	—248
α Cancrī -	4.3	A 3	8 54 16.697	3.2814	+0024	N. 12 9 23.85	13.815	—042
κ Cancrī -	5.1	B 8	9 3 34.737	3.2532	—0013	N. 10 58 44.10	14.395	—013
ξ Cancrī -	5.2	G 5	9 4 56.176	+ 3.4529	+0011	N. 22 21 28.24	—14.477	+ 002
λ Argûs -	2.2	K 5	9 5 9.789	2.2081	—0015	S. 43 7 16.74	14.489	—007
β Argûs -	1.8	A 0	9 12 21.673	0.6980	—0310	S. 69 23 59.76	14.917	+ 094
83 Cancrī -	6.6	F 5	9 14 41.249	3.3601	—0076	N. 18 1 57.25	15.053	—136
ι Argûs -	2.3	F 0	9 15 1.705	1.6094	—0035	S. 58 57 6.24	15.072	+ 002
40 Lyncis -	3.3	K 5	9 16 22.178	+ 3.6792	—0178	N. 34 43 8.64	—15.149	+ 012
h Mali -	4.9	M a	9 18 4.792	2.6565	—0048	S. 25 38 15.04	15.248	—032
κ Argûs -	2.6	B 3	9 19 43.648	1.8587	—0033	S. 54 40 54.00	15.340	—018
α Hydræ -	2.2	K 2	9 23 48.242	2.9496	—0010	S. 8 19 26.59	15.567	+ 033
ψ Argûs -	3.6	F 5	9 27 39.840	2.3780	—0181	S. 40 7 45.88	15.777	+ 038
θ Ursæ Maj. -	3.3	F 8	9 27 43.080	+ 4.1286	—1026	N. 52 1 45.23	—15.781	—542
ξ Leonis -	5.1	G 5	9 27 47.866	3.2424	—0063	N. 11 38 29.73	15.786	—084
N Velorum -	3.0	K 5	9 28 52.934	1.8268	—0036	S. 56 41 38.93	15.843	+ 001
κ Hydræ -	5.0	B 3	9 36 36.890	2.8779	—0018	S. 13 58 55.90	16.248	—011
o Leonis -	3.8	F 5 p	9 37 2.599	3.2138	—0094	N. 10 14 36.08	16.270	—037
ε Leonis -	3.1	G o p	9 41 29.053	+ 3.4129	—0034	N. 24 7 45.98	—16.494	—022
μ Leonis -	4.1	K 0	9 48 23.302	3.4327	—0162	N. 26 22 13.21	16.830	—056
π Leonis -	4.9	M a	9 56 8.750	3.1745	—0029	N. 8 24 51.45	17.188	—027
α Leonis -	1.3	B 8	10 4 16.407	3.2143	—0169	N. 12 20 38.76	17.543	—002
q Velorum -	4.1	A 2	10 11 29.967	2.5292	—0153	S. 41 44 24.10	17.840	+ 032
22 Sextantis -	5.4	F 0	10 13 48.254	+ 2.9922	—0106	S. 7 41 1.99	—17.932	+ 004
q Carinæ -	3.4	K 5	10 14 30.533	2.0043	—0045	S. 60 56 49.74	17.959	+ 001
γ Leonis (1st *) -	2.6	K 0	10 15 43.803	3.2891	+0212	N. 20 13 53.80	18.007	—152
μ Ursæ Maj. -	3.2	K 5	10 17 44.951	3.5899	—0068	N. 41 53 14.45	18.043	+ 027
μ Hydræ -	4.1	K 5	10 22 21.941	2.9098	—0089	S. 16 26 33.63	18.253	—079
α Antliæ -	4.4	K 5	10 23 37.572	+ 2.7492	—0060	S. 30 40 32.45	—18.298	—023
ρ Leonis -	3.9	B o p	10 28 45.507	+ 3.1614	—0006	N. 9 42 11.87	18.477	—005
10 G Octantis -	6.7	A 0	10 35 41.821	— 3.3069	—0097	S. 85 41 32.51	18.704	—023
34 Sextantis -	6.6	F 5	10 38 38.991	+ 3.1051	—0059	N. 3 59 9.43	18.796	+ 028
θ Argûs -	3.0	B 0	10 40 12.289	2.1383	—0043	S. 63 59 28.90	18.842	—027
η Argûs -	var.	Pec	10 42 4.166	+ 2.3229	—0002	S. 59 16 46.00	—18.898	—009
μ Argûs -	2.8	G 5	10 43 27.206	2.5685	+0066	S. 49 0 48.02	18.937	—081
l Leonis -	5.3	A 0	10 45 12.722	3.1557	+0001	N. 10 57 10.57	18.987	—033
ν Hydræ -	3.3	K 0	10 45 49.477	2.9526	+0066	S. 15 47 25.45	19.004	+ 195
ι Antliæ -	4.7	K 0	10 53 7.571	2.7860	+0062	S. 36 43 24.88	19.198	—137
d Leonis -	5.1	K 0	10 56 35.074	+ 3.0985	+0004	N. 4 1 52.28	—19.283	—022
β Ursæ Maj. -	2.4	A 0	10 57 12.420	3.6252	+0105	N. 56 47 43.75	19.297	+ 026
α Ursæ Maj. -	2.0	K 0	10 58 59.480	+ 3.7386	—0164	N. 62 10 1.27	19.339	—071
η Octantis -	6.3	A 0	10 59 53.036	— 0.3267	—0577	S. 84 10 46.79	19.359	—005
χ Leonis -	4.7	F 0	11 1 2.780	+ 3.1191	—0234	N. 7 45 9.85	—19.386	—040

PROPER NAMES.—α Leonis - *Regulus*.

α Ursæ Majoris - *Dubhe*.

VARIABLE STARS.—η Argûs. The limits of magnitude are > 1, and 7.4. Period irregular.

204 MEAN PLACES OF STARS, 1923.

FOR JANUARY od.884

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			h m s	s	s	$^{\circ}$		
ψ Ursæ Maj.	- 3.2	K o	11 5 20.538	+ 3.3875	- .0053	N.44 54 59.76	- 19.477	- .033
β Crateris	- 4.5	A 2	11 7 52.114	2.9485	.0000	S. 22 24 19.20	19.529	- .106
δ Leonis	- 2.6	A 2	11 10 0.991	3.1834	+ .0108	N.20 56 44.76	19.570	- .141
θ Leonis	- 3.4	A o	11 10 12.060	3.1546	- .0049	N.15 51 2.38	19.573	- .085
δ Crateris	- 3.8	K o	11 15 29.362	3.0067	- .0088	S. 14 21 42.01	19.668	+ .195
τ Leonis	- 5.2	K o	11 23 58.670	+ 3.0848	+ .0008	N. 3 16 49.80	- 19.798	- .017
λ Draconis	- 4.1	M a	11 26 51.176	3.5950	- .0072	N.69 45 22.43	19.835	- .021
ξ Hydræ	- 3.7	G 5	11 29 12.687	2.9634	- .0158	S. 31 25 53.52	19.864	- .055
λ Centauri	- 3.3	B 9	11 32 13.157	2.7611	- .0073	S. 62 35 37.41	19.897	- .027
ν Leonis	- 4.5	K o	11 33 0.371	3.0716	.0000	S. 0 23 54.53	19.906	+ .039
ν Virginis	- 4.2	M a	11 41 54.141	+ 3.0857	- .0015	N. 6 57 39.52	- 19.983	- .186
β Leonis	- 2.2	A 2	11 45 8.025	3.0960	- .0341	N.15 0 9.20	20.003	- .118
β Virginis	- 3.8	F 8	11 46 41.062	3.0758	+ .0494	N. 2 11 55.45	20.011	- .275
B Centauri	- 4.7	K o	11 47 17.240	2.9993	- .0111	S. 44 44 42.85	20.014	- .046
γ Ursæ Maj.	- 2.5	A o	11 49 47.360	3.1551	+ .0115	N.54 7 22.35	20.025	+ .004
π Virginis	- 4.6	A 3	11 56 55.625	+ 3.0750	- .0009	N. 7 2 37.27	- 20.043	- .032
σ Virginis	- 4.2	G 5	12 1 17.249	3.0716	- .0148	N. 9 9 37.87	20.044	+ .032
δ Centauri	- 2.9	B 3 p	12 4 21.570	3.1033	- .0050	S. 50 17 37.62	20.041	- .030
ϵ Corvi	- 3.2	K o	12 6 9.698	3.0875	- .0051	S. 22 11 29.81	20.038	+ .003
δ Crucis	- 3.1	B 3	12 11 2.790	3.1771	- .0050	S. 58 19 14.77	20.022	- .027
δ Ursæ Maj.	- 3.4	A 2	12 11 37.514	+ 2.9666	+ .0149	N.57 27 37.41	- 20.019	+ .005
γ Corvi	- 2.8	B 8	12 11 50.612	3.0940	- .0112	S. 17 6 52.19	20.018	+ .017
β Chamæleontis	- 4.4	B 5	12 13 47.568	3.4818	- .0188	S. 78 53 4.89	20.009	+ .017
6 B Ursæ Min.	- 6.3	F o	12 14 30.801	0.4870	- .0706	N.88 7 36.41	20.005	+ .058
η Virginis	- 4.0	A o	12 15 57.985	3.0732	- .0036	S. 0 14 20.45	19.997	- .027
α Crucis	- 1.6	B 1	12 22 18.075	+ 3.3240	- .0064	S. 62 40 21.37	- 19.951	- .039
δ Corvi	- 3.1	A o	12 25 52.676	3.1162	- .0140	S. 16 5 12.89	19.917	- .149
γ Crucis	- 1.6	M b	12 26 53.035	3.3107	+ .0026	S. 56 40 56.19	19.907	- .278
β Corvi	- 2.8	G 5	12 30 20.283	3.1476	- .0008	S. 22 58 16.00	19.870	- .061
α Muscæ	- 2.9	B 3	12 32 34.353	3.5585	- .0088	S. 68 42 41.42	19.843	- .029
γ Centauri	- 2.4	A o	12 37 15.733	+ 3.3176	- .0196	S. 48 32 13.90	- 19.780	- .020
γ Virginis(mean)	- 2.9	F o	12 37 45.452	3.0767	- .0375	S. 1 1 38.51	19.774	+ .005
ρ Virginis	- 5.0	A o	12 37 59.272	3.0312	+ .0059	N.10 39 34.61	19.769	- .107
β Muscæ	- 3.3	B 3	12 41 32.478	3.6598	- .0053	S. 67 41 12.83	19.717	- .031
β Crucis	- 1.5	B 1	12 43 12.560	3.4941	- .0064	S. 59 16 5.49	19.690	- .033
35 Virginis	- 6.7	M a	12 43 56.159	+ 3.0550	- .0004	N. 3 59 34.58	- 19.677	- .012
31 Comæ	- 5.1	G o	12 47 56.948	2.9255	- .0023	N.27 57 33.71	19.608	- .024
ψ Virginis	- 4.9	M b	12 50 20.771	3.1196	- .0024	S. 9 7 16.00	19.563	- .028
ϵ Ursæ Maj.	- 1.7	A o p	12 50 38.817	2.6322	+ .0138	N.56 22 39.03	19.557	- .013
δ Virginis	- 3.7	M a	12 51 43.434	3.0528	- .0318	N. 3 48 56.19	19.537	- .060
12 Canum Ven.	- 2.9	A o p	12 52 25.715	+ 2.8297	- .0203	N.38 44 2.12	- 19.523	+ .049
ϵ Virginis	- 3.0	K o	12 58 20.632	3.0050	- .0186	N.11 22 21.64	19.399	+ .015
θ Virginis	- 4.4	A o	13 5 57.657	3.1068	- .0029	S. 5 7 41.85	19.220	- .040
γ Hydræ	- 3.3	G 5	13 14 43.877	3.2524	+ .0046	S. 22 45 56.48	18.988	- .053
ι Centauri	- 2.9	A 2	13 16 15.645	+ 3.3935	- .0294	S. 36 18 23.68	- 18.945	- .097

PROPER NAMES.— β Leonis - *Denebola*.NOTE.— α Crucis. Both mean and apparent places are those of the brighter star.

MEAN PLACES OF STARS, 1923. 205

FOR JANUARY od-884

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			h m s	s	s			
ζ ¹ Ursæ Maj.	- 2.4	A o p	13 20 49.777	+ 2.4055	+ .0153	N.55° 19' 37".61	-18.811	- .030
α Virginis -	- 1.2	B 2	13 21 8.036	3.1608	- .0028	S. 10 45 35.23	18.802	- .032
i Virginis -	- 5.6	K 2	13 22 38.902	3.1757	- .0096	S. 12 18 26.36	18.755	- .023
ζ Virginis -	- 3.4	A 2	13 30 46.064	3.0745	- .0195	S. 0 12 9.52	18.493	+ .039
ε Centauri -	- 2.6	B 1	13 34 59.828	3.7889	- .0039	S. 53 4 32.27	18.348	- .039
m Virginis -	- 5.2	M a	13 37 34.075	+ 3.1534	- .0073	S. 8 18 53.93	-18.254	+ .032
τ Boötis -	- 4.5	F 5	13 43 36.176	2.8849	- .0341	N.17 50 23.73	18.031	+ .026
η Ursæ Maj.	- 1.9	B 3	13 44 30.546	2.3790	- .0118	N.49 41 49.43	17.996	- .023
μ Centauri -	- 3.3	B 2 p	13 44 58.181	3.6065	- .0028	S. 42 5 26.15	17.979	- .019
ζ Centauri -	- 3.1	B 2 p	13 50 43.591	3.7364	- .0070	S. 46 54 36.33	17.750	- .064
η Boötis -	- 2.8	G o	13 51 1.108	+ 2.8611	- .0044	N.18 46 59.32	-17.739	- .363
τ Virginis -	- 4.3	A 2	13 57 43.578	3.0508	+ .0010	N. 1 54 59.59	17.458	- .029
β Centauri -	- 0.9	B 1	13 58 22.493	4.2159	- .0033	S. 60 0 8.35	17.430	- .033
π Hydræ -	- 3.5	K o	14 1 58.883	3.4081	+ .0030	S. 26 18 43.87	17.272	- .153
θ Centauri -	- 2.3	K o	14 2 8.646	3.5659	- .0437	S. 35 59 30.63	17.265	- .525
94 Virginis -	- 6.6	A o	14 2 12.938	+ 3.1746	- .0010	S. 8 31 29.54	-17.261	+ .009
α Draconis -	- 3.6	A o	14 2 18.301	1.6319	- .0071	N.64 44 36.51	17.258	+ .011
κ Virginis -	- 4.3	K o	14 8 47.140	3.1972	+ .0006	S. 9 54 57.61	16.962	+ .132
α Boötis -	- 0.2	K o	14 12 8.915	2.8136	- .0779	N.19 34 57.51	16.804	- 2.004
z Libræ -	- 6.3	K o	14 19 16.824	3.2263	- .0014	S. 11 21 47.08	16.454	- .067
f Boötis -	- 5.4	A 5	14 22 52.444	+ 2.7954	- .0052	N.19 34 20.51	-16.274	+ .015
ρ Boötis -	- 3.8	K o	14 28 30.727	2.5937	- .0073	N.30 42 31.48	15.981	+ .113
γ Boötis -	- 3.0	F o	14 28 58.702	2.4261	- .0091	N.38 38 40.00	15.957	+ .145
η Centauri -	- 2.7	B 3 p	14 30 36.617	3.8032	- .0032	S. 41 49 13.39	15.870	- .032
α Centauri -	- 0.3	G o	14 34 21.402	4.5471	- .4866	S. 60 31 6.45	15.668	+ .721
α Circini -	- 3.4	F o	14 36 15.747	+ 4.8496	- .0320	S. 64 38 27.24	-15.563	- .238
α Lupi -	- 2.9	B 2	14 36 47.962	3.9804	- .0020	S. 47 3 31.47	15.534	- .036
ε Boötis -	- 2.7	K o p	14 41 37.456	2.6238	- .0035	N.27 23 53.00	15.262	+ .009
α Libræ -	- 2.9	A 2	14 46 36.895	+ 3.3228	- .0078	S. 15 43 21.59	14.977	- .077
β Ursæ Min.	- 2.2	K 5	14 50 54.862	- 0.1902	- .0065	N.74 28 12.48	14.725	+ .003
ξ ² Libræ -	- 5.6	K o	14 52 35.187	+ 3.2522	- .0006	S. 11 5 59.34	-14.623	- .001
β Lupi -	- 2.8	B 2 p	14 53 28.669	3.9232	- .0070	S. 42 49 29.92	14.572	- .062
κ Centauri -	- 3.4	B 3	14 54 8.661	3.8957	- .0021	S. 41 47 46.53	14.531	- .033
β Boötis -	- 3.6	G 5	14 59 2.742	2.2636	- .0036	N.40 41 36.77	14.233	- .040
γ Scorpii -	- 3.4	M a	14 59 33.547	3.5121	- .0056	S. 24 58 48.75	14.201	- .048
ψ Boötis -	- 4.7	K o	15 1 8.757	+ 2.5837	- .0133	N.27 14 49.48	-14.103	- .014
57 B Ursæ Min.	- 7.2	K o	15 1 45.966	-18.9976	- .0070	N.87 31 46.67	14.064	+ .031
ζ Lupi -	- 3.5	K o	15 6 44.585	+ 4.3087	- .0126	S. 51 48 25.62	13.751	- .066
ε Libræ -	- 4.7	A o p	15 7 49.684	3.4186	- .0032	S. 19 30 4.89	13.682	- .047
γ Triang. Aust.	- 3.1	A o	15 11 41.719	5.5776	- .0137	S. 68 23 48.13	13.432	- .042
δ Boötis -	- 3.5	K o	15 12 23.922	+ 2.4119	+ .0075	N.33 36 4.47	-13.387	- .125
β Libræ -	- 2.7	B 8	15 12 51.646	3.2324	- .0066	S. 9 5 59.08	13.357	- .024
o ² Libræ -	- 6.7	K 2	15 18 43.897	+ 3.3432	- .0005	S. 14 51 37.00	12.968	+ .003
γ ² Ursæ Min.	- 3.1	A 2	15 20 50.387	- 0.1079	- .0020	N.72 6 28.60	12.828	+ .013
ε Draconis -	- 3.5	K o	15 23 12.997	+ 1.3330	+ .0014	N.59 14 6.99	-12.668	+ .010

PROPER NAMES.—α Virginis - *Spica*.

α Boötis - *Arcturus*.

NOTE.—α Centauri. The mean place is that of the centre of gravity of the system: the apparent places, those of the brighter star. The apparent places are affected with a parallax of 0".75.

206 MEAN PLACES OF STARS, 1923.

FOR JANUARY ^od.884

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			h m s	s	s	S. ^o ['] ["]		"
32 Libræ -	5.9	K o	15 23 54.630	+ 3.3794	+ .0006	S. 16 26 56.75	- 12.619	- .043
ρ Octantis -	5.7	A 2	15 25 17.035	13.3655	+ .0843	S. 84 12 45.34	12.527	+ .081
113 G Lupi -	3.0	B 3	15 30 0.161	3.9915	- .0020	S. 40 54 33.62	12.202	- .049
α Coronæ Bor.	2.3	A o	15 31 25.629	2.5306	+ .0090	N. 26 58 22.53	12.103	- .100
α Serpentis -	2.8	K o	15 40 28.422	2.9446	+ .0089	N. 6 40 0.90	11.464	+ .043
μ Serpentis -	3.6	A o	15 45 35.979	+ 3.1349	- .0058	S. 3 11 44.17	- 11.093	- .028
ζ Ursæ Min. -	4.3	A 2	15 46 46.529	- 2.1960	+ .0082	N. 78 1 55.35	11.006	- .004
ε Serpentis -	3.8	A o	15 46 58.557	+ 2.9808	+ .0081	N. 4 42 31.26	10.992	+ .070
β Triang. Aust.	3.0	F o	15 48 20.575	5.2931	- .0290	S. 63 11 40.84	10.892	- .408
γ Serpentis -	3.9	F 8	15 52 53.718	2.7489	+ .0213	N. 15 54 42.71	10.556	- 1.295
π Scorpii -	3.0	B 2 p	15 54 11.348	+ 3.6262	- .0015	S. 25 53 37.50	- 10.459	- .037
δ Scorpii -	2.5	B 1 p	15 55 46.590	3.5447	- .0011	S. 22 24 13.52	10.340	- .035
β ¹ Scorpii -	2.9	B 1	16 0 57.345	3.4857	- .0011	S. 19 35 44.95	9.950	- .028
δ Ophiuchi -	3.0	M a	16 10 18.507	3.1452	- .0031	S. 3 29 49.54	9.232	- .144
γ ² Normæ -	4.1	K o	16 14 4.037	4.4966	- .0216	S. 49 58 5.39	8.938	- .064
ε Ophiuchi -	3.3	K o	16 14 14.704	+ 3.1671	+ .0054	S. 4 30 21.23	- 8.925	+ .037
σ Scorpii -	3.1	B 1	16 16 30.265	3.6439	- .0011	S. 25 24 33.78	8.747	- .033
γ Herculis -	3.8	F o	16 18 31.350	2.6491	- .0034	N. 19 19 58.50	8.589	+ .037
η Draconis -	2.9	G 5	16 22 56.743	0.8113	- .0020	N. 61 41 17.36	8.237	+ .058
α Scorpii -	1.2	M a p	16 24 40.972	3.6759	- .0006	S. 26 15 44.61	8.099	- .028
β Herculis -	2.8	K o	16 26 54.497	+ 2.5853	- .0076	N. 21 39 22.77	- 7.920	- .025
λ Ophiuchi -	3.9	A o	16 27 1.694	3.0267	- .0023	N. 2 9 4.27	7.910	- .090
τ Scorpii -	2.9	B o	16 31 5.117	3.7321	- .0011	S. 28 3 27.52	7.583	- .033
ζ Ophiuchi -	2.7	B o	16 32 55.002	3.3008	+ .0007	S. 10 24 44.23	7.434	+ .022
24 Scorpii -	5.0	K o	16 37 7.020	3.4691	- .0019	S. 17 35 39.72	7.092	- .002
ζ Herculis -	3.0	G o	16 38 22.987	+ 2.2980	- .0364	N. 31 44 29.24	- 6.987	+ .390
η Herculis -	3.6	K o	16 40 15.320	2.0530	+ .0031	N. 39 4 4.15	6.835	- .093
α Triang. Aust.	1.9	K 2	16 40 29.723	6.3278	+ .0028	S. 68 53 18.81	6.815	- .049
ε Scorpii -	2.4	K o	16 45 10.311	3.9315	- .0505	S. 34 9 17.97	6.429	- .264
ζ Aræ -	3.1	K 5	16 52 14.187	+ 4.9588	- .0015	S. 55 52 13.34	5.841	- .048
ε Ursæ Min. -	4.4	G 5	16 53 48.037	- 6.2378	+ .0057	N. 82 9 58.65	- 5.710	- .001
κ Ophiuchi -	3.4	K o	16 54 1.345	+ 2.8584	- .0199	N. 9 29 37.11	5.691	- .011
30 Ophiuchi -	5.0	K o	16 56 59.978	3.1652	- .0018	S. 4 6 29.75	5.438	- .076
ε Herculis -	3.9	A o	16 57 20.574	2.2985	- .0036	N. 31 2 19.92	5.412	+ .023
η Ophiuchi -	2.6	A o	17 5 57.577	3.4363	+ .0017	S. 15 37 50.88	4.682	+ .091
ζ Draconis -	3.2	B 5	17 8 33.663	+ 0.1726	- .0021	N. 65 48 33.61	- 4.462	+ .018
α Herculis -	var.	M b	17 11 8.138	2.7355	- .0008	N. 14 28 37.12	4.241	+ .029
δ Herculis -	3.2	A o	17 11 52.076	2.4653	- .0019	N. 24 55 44.52	4.179	- .158
π Herculis -	3.4	K 2	17 12 21.847	2.0912	- .0025	N. 36 53 42.27	4.136	- .001
θ Ophiuchi -	3.4	B 3	17 17 16.713	3.6830	- .0006	S. 24 55 26.73	3.715	- .036
β Aræ -	2.8	K 2	17 18 53.716	+ 4.9830	- .0004	S. 55 27 31.53	- 3.576	- .027
σ Ophiuchi -	4.4	K o	17 22 41.608	2.9758	+ .0002	N. 4 12 22.37	3.246	+ .008
υ Scorpii -	2.8	B 3	17 25 31.464	4.0770	- .0024	S. 37 14 9.20	3.004	- .039
α Aræ -	3.0	B 3 p	17 25 53.175	+ 4.6376	- .0036	S. 49 49 0.67	- 2.973	- .083

PROPER NAMES.—α Scorpii - *Antares*.

VARIABLE STARS.—α Herculis. The limits of magnitude are 3.1 and 3.9. Period irregular.

MEAN PLACES OF STARS, 1923. 207

FOR JANUARY *od.884*

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			h m s	s	s	S. ° ' "	"	"
λ Scorpii -	1.7	B 2	17 28 22.661	+ 4.0719	- .0003	S. 37 2 56.42	- 2.757	- .027
β Draconis -	3.0	G 0	17 28 41.520	1.3563	- .0017	N. 52 21 28.10	2.730	+ .009
α Ophiuchi -	2.1	A 5	17 31 21.561	2.7760	+ .0080	N. 12 36 53.66	2.498	- .235
θ Scorpii -	2.0	F 0	17 31 46.929	4.3074	- .0009	S. 42 57 1.30	2.462	- .009
κ Scorpii -	2.5	B 2	17 37 9.510	4.1492	- .0015	S. 38 59 30.23	1.994	- .026
η Pavonis -	3.6	K 0	17 38 10.213	+ 5.8856	- .0027	S. 64 41 21.13	- 1.906	- .080
β Ophiuchi -	2.9	K 0	17 39 40.091	2.9657	- .0026	N. 4 35 54.02	1.776	+ .158
ι Scorpii -	3.1	F 5 <i>p</i>	17 42 11.804	4.1946	- .0011	S. 40 5 54.86	1.556	- .003
μ Herculis -	3.5	G 5	17 43 26.656	2.3710	- .0237	N. 27 45 53.19	1.447	- .749
89 Herculis -	5.5	F 2	17 52 18.835	2.4196	+ .0013	N. 26 3 40.69	0.671	+ .006
ν Ophiuchi -	3.5	K 0	17 54 47.206	+ 3.3027	- .0006	S. 9 45 55.47	- 0.456	- .120
γ Draconis -	2.4	K 5	17 54 49.073	+ 1.3933	- .0006	N. 51 29 50.46	0.453	- .024
δ Ursæ Min. -	4.4	A 0	17 57 4.325	- 19.5116	+ .0170	N. 86 36 50.43	- 0.256	+ .048
γ Sagittarii -	3.1	K 0	18 0 51.594	+ 3.8576	- .0055	S. 30 25 35.40	+ 0.075	- .198
72 Ophiuchi -	3.7	A 2	18 3 41.908	2.8479	- .0045	N. 9 33 6.80	0.323	+ .087
μ Sagittarii -	4.0	B 8 <i>p</i>	18 9 9.465	+ 3.5874	- .0004	S. 21 4 49.14	+ 0.801	- .002
η Sagittarii -	3.2	M b	18 12 24.963	4.0705	- .0117	S. 36 47 10.36	1.085	- .163
δ Sagittarii -	2.8	K 0	18 16 3.864	3.8381	+ .0027	S. 29 51 44.01	1.404	- .032
η Serpentis -	3.4	K 0	18 17 19.465	3.1407	- .0378	S. 2 55 11.60	1.514	- .692
ϵ Sagittarii -	2.0	A 0	18 19 3.643	3.9854	- .0041	S. 34 25 20.40	1.665	- .122
α Telescopii -	3.8	B 3	18 21 15.864	+ 4.4512	- .0016	S. 46 0 45.06	+ 1.857	- .068
λ Sagittarii -	2.9	K 0	18 23 13.104	3.7059	- .0037	S. 25 27 56.24	2.027	- .188
α Lyræ -	0.1	A 0	18 34 19.884	2.0138	+ .0177	N. 38 42 40.19	2.992	+ .280
4 H Scuti -	4.7	F 0	18 38 3.536	3.2845	+ .0020	S. 9 7 38.90	3.316	- .006
ϕ Sagittarii -	3.3	B 8	18 40 50.755	3.7449	+ .0034	S. 27 4 16.61	3.556	- .006
λ Pavonis -	4.4	B 2	18 45 5.174	+ 5.5667	- .0030	S. 62 16 39.81	+ 3.918	- .022
30 Sagittarii -	6.2	F 0	18 46 12.706	3.6084	- .0041	S. 22 15 4.98	4.017	- .024
β Lyræ -	var.	B 2 <i>p</i>	18 47 14.207	2.2144	+ .0004	N. 33 16 20.63	4.100	- .003
σ Sagittarii -	2.1	B 3	18 50 29.433	3.7199	- .0003	S. 26 23 37.92	4.381	- .075
ξ Sagittarii -	3.6	K 0	18 53 8.211	+ 3.5775	+ .0018	S. 21 12 33.13	4.606	- .016
λ Ursæ Min -	6.6	M b	18 55 23.390	- 73.2283	- .1125	N. 89 1 32.84	+ 4.797	+ .005
γ Lyræ -	3.3	A 0	18 56 3.759	+ 2.2442	- .0006	N. 32 34 58.78	4.855	- .006
ϵ Aquilæ -	4.2	K 0	18 56 7.629	2.7263	- .0042	N. 14 57 45.38	4.860	- .080
ζ Sagittarii -	2.7	A 2	18 57 42.802	3.8197	- .0021	S. 29 59 29.37	4.995	+ .002
ζ Aquilæ -	3.0	A 0	19 1 52.239	2.7577	- .0008	N. 13 44 52.54	5.346	- .099
τ Sagittarii -	3.4	K 0	19 2 8.052	+ 3.7512	- .0046	S. 27 47 3.56	+ 5.371	- .254
λ Aquilæ -	3.6	A 0	19 2 9.751	3.1854	- .0020	S. 4 59 56.56	5.371	- .083
α Coronæ Aust. -	4.1	A 2	19 4 14.053	4.0771	+ .0051	S. 38 1 33.88	5.545	- .118
π Sagittarii -	3.0	F 2	19 5 11.124	3.5689	- .0005	S. 21 8 50.17	5.625	- .036
ψ Sagittarii -	4.9	F 5	19 10 49.207	3.6770	+ .0025	S. 25 23 26.68	6.098	- .035
δ Draconis -	3.2	K 0	19 12 32.541	+ 0.0029	+ .0175	N. 67 31 33.81	+ 6.239	+ .088
ω Aquilæ -	5.1	A 5	19 14 12.131	2.8160	- .0002	N. 11 27 19.77	6.377	+ .014
δ Aquilæ -	3.4	F 0	19 21 36.968	3.0080	+ .0168	N. 2 57 36.56	6.988	+ .082
59 G Telescopii -	5.6	K 2	19 21 37.464	+ 4.8273	- .0009	S. 54 28 52.22	+ 6.992	- .044

PROPER NAMES.— α Lyræ - *Vega*.

VARIABLE STARS.— β Lyræ. The limits of magnitude are 3.4 and 4.1 Period 12.9 days.

208 MEAN PLACES OF STARS, 1923.

FOR JANUARY ^{od}884

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			h m s	s	s			
6 Vulpeculæ -	4.6	M a	19 25 30.050	+ 2.5055	- .0097	N. 24 30 28.88	+ 7.308	- .110
β Cygni -	3.2	K o p	19 27 36.940	2.4192	- .0002	N. 27 47 49.15	7.478	- .010
μ Aquilæ -	4.7	K o	19 30 19.700	2.9166	+ .0145	N. 7 12 52.34	7.699	- .146
h Sagittarii -	4.7	B 9	19 32 1.374	3.6477	+ .0045	S. 25 3 17.44	7.834	- .027
54 Sagittarii -	5.5	K o	19 36 18.797	3.4335	+ .0046	S. 16 28 15.61	8.180	- .047
σ Octantis -	5.5	F o	19 37 1.735	+ 91.5970	+ .1059	S. 89 12 41.40	+ 8.235	.000
f Sagittarii -	5.1	K o	19 41 52.301	3.5106	- .0099	S. 19 56 50.45	8.621	- .088
44 G Octantis -	6.3	K o	19 41 55.111	11.1893	- .0055	S. 81 32 45.89	8.623	+ .009
δ Cygni -	3.0	A o	19 42 34.153	1.8705	+ .0055	N. 44 56 31.50	8.675	+ .044
γ Aquilæ -	2.8	K 2	19 42 35.929	2.8512	+ .0007	N. 10 25 28.46	8.677	- .003
α Aquilæ -	0.9	A 5	19 47 1.586	+ 2.8910	+ .0360	N. 8 39 49.94	+ 9.024	+ .379
ι Sagittarii -	4.2	K o	19 49 57.063	4.1427	- .0017	S. 42 4 19.01	9.254	+ .045
β Aquilæ -	3.9	K o	19 51 31.855	2.9442	+ .0025	N. 6 12 48.38	9.375	- .481
g Sagittarii -	5.1	A o	19 53 35.093	3.4031	+ .0004	S. 15 41 47.89	9.535	- .081
c Sagittarii -	4.6	M b	19 57 55.552	3.6894	+ .0021	S. 27 55 30.34	9.865	+ .018
δ Pavonis -	3.6	G 5	20 1 10.978	+ 5.7118	+ .1924	S. 66 22 47.41	+ 10.118	- 1.128
θ Aquilæ -	3.4	A o	20 7 19.946	3.0936	+ .0020	S. 1 3 3.08	10.572	+ .006
4 Capricorni -	6.0	K o	20 13 30.050	3.5247	+ .0012	S. 22 2 56.06	11.030	- .033
α ² Capricorni -	3.8	K o	20 13 47.026	3.3258	+ .0040	S. 12 47 4.28	11.048	+ .008
β Capricorni -	3.3	G o p	20 16 41.195	3.3696	+ .0023	S. 15 1 32.11	11.259	+ .006
γ Cygni -	2.3	F 8 p	20 19 27.864	+ 2.1524	+ .0004	N. 40 0 34.18	+ 11.459	+ .001
α Pavonis -	2.1	B 3	20 19 33.906	4.7595	.0000	S. 56 58 59.72	11.466	- .092
ρ Capricorni -	5.0	F o	20 24 28.233	3.4250	- .0014	S. 18 4 9.20	11.815	- .016
48 G Octantis -	7.1	A o	20 24 29.292	14.6480	+ .0296	S. 84 40 20.53	11.817	+ .034
ε Delphini -	4.0	B 5	20 29 32.075	2.8656	+ .0007	N. 11 2 26.21	12.170	- .025
α Indi -	3.2	K o	20 32 9.326	+ 4.2238	+ .0027	S. 47 33 40.90	+ 12.352	+ .053
α Delphini -	3.9	B 8	20 36 3.709	2.7821	+ .0047	N. 15 38 23.37	12.619	+ .017
β Pavonis -	3.6	A 5	20 38 2.305	5.4418	- .0079	S. 66 28 53.51	12.753	- .003
α Cygni -	1.3	A 2 p	20 38 48.388	2.0445	+ .0004	N. 45 0 16.16	12.804	- .002
ε Cygni -	2.6	K o	20 43 5.735	2.3983	+ .0294	N. 33 40 51.94	13.090	+ .327
ε Aquarii -	3.8	A o	20 43 30.547	+ 3.2469	+ .0017	S. 9 46 42.70	+ 13.118	- .030
μ Aquarii -	4.8	A 3	20 48 30.130	3.2346	+ .0025	S. 9 16 23.80	13.447	- .039
32 Vulpeculæ -	5.2	K 2	20 51 16.676	2.5568	- .0003	N. 27 45 50.64	13.625	+ .004
γ Microscopii -	4.7	G 5	20 56 34.372	3.6850	- .0004	S. 32 33 34.89	13.952	- .004
θ Capricorni -	4.2	A o	21 1 37.250	3.3692	+ .0051	S. 17 32 23.36	14.275	- .066
61 Cygni (1st *) -	5.6	K 5	21 3 26.578	+ 2.3360	+ .3496	N. 38 22 11.89	+ 14.385	+ 3.251
ζ Cygni -	3.4	K o	21 9 39.489	2.5526	- .0002	N. 29 54 37.17	14.758	- .061
α Equulei -	4.1	F 8 p	21 11 58.500	+ 2.9956	+ .0034	N. 4 55 43.41	14.894	- .085
B.A.C. 7504 -	7.4	A 3	21 15 1.767	- 12.3036	+ .0300	N. 86 43 15.24	15.072	+ .030
61 Microscopii -	4.9	A 2 p	21 15 50.528	+ 3.8391	+ .0070	S. 41 8 8.74	15.119	+ .014
α Cephei -	2.6	A 5	21 16 44.630	+ 1.4120	+ .0224	N. 62 15 32.23	+ 15.170	+ .050
ι Capricorni -	4.3	K o	21 17 57.712	3.3408	+ .0022	S. 17 9 47.91	15.241	+ .004
γ Pavonis -	4.3	F 8	21 20 5.838	4.9756	+ .0153	S. 65 42 57.47	15.361	+ .784
ζ Capricorni -	3.9	G 5 p	21 22 16.470	+ 3.4286	+ .0004	S. 22 44 44.44	+ 15.482	+ .020

PROPER NAMES.—α Aquilæ - *Altair*.

α Cygni - *Deneb*.

NOTES.—α Aquilæ. The apparent places are affected with a parallax of 0".23.

61 Cygni. The apparent places are affected with a parallax of 0".40.

MEAN PLACES OF STARS, 1923. 209

FOR JANUARY ^od.884

Star's Name.	Mag.	Spect.	Right Ascension.	Annual Precession.	Annual Proper Motion.	Declination.	Annual Precession.	Annual Proper Motion.
			^h ^m ^s	^s	^s	[°] ['] ["]		
β Aquarii -	3.1	G o	21 27 30.400	+ 3.1581	+ .0012	S. 5 54 38.61	+ 15.769	- .011
β Cephei -	3.3	B 1	21 27 40.438	0.7806	+ .0026	N. 70 13 20.91	15.778	+ .005
ξ Aquarii -	4.8	A 5	21 33 39.261	3.1875	+ .0075	S. 8 12 0.90	16.097	- .023
ε Pegasi -	2.5	K o	21 40 24.230	2.9445	+ .0016	N. 9 31 16.58	16.440	.000
δ Capricorni -	3.0	A 5	21 42 47.579	3.2955	+ .0176	S. 16 28 38.74	16.558	- .297
γ Gruis -	3.2	B 8	21 49 16.252	+ 3.6310	+ .0077	S. 37 43 40.13	+ 16.872	- .021
16 Pegasi -	5.1	B 3	21 49 33.454	2.7283	+ .0005	N. 25 33 44.52	16.885	+ .006
α Aquarii -	3.2	G o	22 1 49.786	3.0807	+ .0010	S. 0 41 40.03	17.439	- .002
α Gruis -	2.2	B 5	22 3 23.225	3.7791	+ .0110	S. 47 20 5.49	17.505	- .174
ι Pegasi -	4.0	F 5	22 3 25.498	2.7697	+ .0219	N. 24 58 6.27	17.507	+ .022
ζ Cephei -	3.6	K o	22 8 10.837	+ 2.0772	+ .0018	N. 57 49 16.93	+ 17.706	+ .010
θ Aquarii -	4.3	K o	22 12 46.296	3.1592	+ .0074	S. 8 10 1.93	17.890	- .018
α Tucanæ -	2.9	K 2	22 13 14.279	4.1399	- .0118	S. 60 38 37.85	17.909	- .035
ν Octantis -	5.7	K o	22 17 21.968	12.1703	- .0400	S. 86 21 38.42	18.068	+ .074
γ Aquarii -	4.0	A o	22 17 40.779	3.0907	+ .0081	S. 1 46 32.68	18.080	+ .015
σ Aquarii -	4.9	A o	22 26 34.450	+ 3.1764	.0000	S. 11 4 20.64	+ 18.404	- .026
η Aquarii -	4.1	B 8	22 31 24.002	3.0773	+ .0057	S. 0 30 53.25	18.566	- .053
κ Aquarii -	5.3	K o	22 33 46.178	3.1125	- .0049	S. 4 37 32.14	18.644	- .113
ζ Pegasi -	3.6	B 8	22 37 37.275	2.9862	+ .0054	N. 10 25 44.14	18.764	- .014
β Gruis -	2.2	M b	22 38 4.603	3.5792	+ .0133	S. 47 17 16.49	18.778	- .026
η Pegasi -	3.1	G o	22 39 23.424	+ 2.8090	+ .0011	N. 29 49 4.71	+ 18.817	- .037
ε Gruis -	3.7	A 2	22 43 54.648	3.6247	+ .0093	S. 51 43 19.45	18.951	- .059
μ Pegasi -	3.7	K o	22 46 17.091	2.8830	+ .0109	N. 24 11 40.59	19.017	- .041
λ Aquarii -	3.8	M a	22 48 35.896	3.1302	+ .0002	S. 7 59 23.03	19.080	+ .035
δ Aquarii -	3.5	A 2	22 50 33.921	3.1888	- .0034	S. 16 13 50.49	19.132	- .026
α Piscis Aust.	1.3	A 3	22 53 23.969	+ 3.2941	+ .0252	S. 30 1 50.80	+ 19.204	- .171
β Piscium -	4.6	B 5	22 59 57.508	3.0522	+ .0008	N. 3 24 18.75	19.361	- .006
β Pegasi -	var.	M a	23 0 2.343	2.8916	+ .0146	N. 27 39 53.20	19.363	+ .135
α Pegasi -	2.6	A o	23 0 55.423	2.9828	+ .0040	N. 14 47 26.45	19.382	- .039
ε ² Aquarii -	3.8	K o	23 5 20.584	3.1977	+ .0032	S. 21 35 26.55	19.478	+ .041
γ Tucanæ -	4.1	F 2	23 12 56.650	+ 3.5202	- .0057	S. 58 39 30.68	+ 19.624	+ .060
γ Piscium -	3.9	K o	23 13 10.389	3.0592	+ .0503	N. 2 51 40.50	19.628	+ .018
ψ ³ Aquarii -	5.2	A o	23 14 57.434	3.1189	+ .0027	S. 10 1 55.20	19.659	- .001
τ Pegasi -	4.7	A 5	23 16 49.383	2.9649	+ .0018	N. 23 19 6.92	19.690	- .012
κ Piscium -	4.9	A 2 p	23 22 59.110	+ 3.0696	+ .0056	N. 0 50 2.20	19.785	- .093
39 H Cephei -	5.6	F o	23 27 42.388	- 0.3734	+ .0645	N. 86 52 58.10	+ 19.846	+ .020
ι Phœnicis -	4.8	A 2 p	23 30 56.182	+ 3.2304	+ .0008	S. 43 2 27.83	19.885	- .004
ι Piscium -	4.3	G o	23 35 59.332	3.0600	+ .0246	N. 5 12 31.76	19.935	- .436
γ Cephei -	3.4	K o	23 36 10.514	2.4622	- .0173	N. 77 12 9.38	19.937	+ .157
λ Piscium -	4.6	A 5	23 38 7.022	3.0698	- .0092	N. 1 21 22.12	19.954	- .154
δ Sculptoris -	4.6	A o	23 44 55.002	+ 3.1206	+ .0059	S. 28 33 23.67	+ 20.001	- .133
φ Pegasi -	5.2	M a	23 48 34.072	3.0502	- .0013	N. 18 41 33.28	20.020	- .039
27 Piscium -	5.1	K o	23 54 43.851	3.0749	- .0037	S. 3 58 59.54	20.040	- .068
ω Piscium -	4.0	F 5	23 55 21.376	3.0697	+ .0102	N. 6 26 13.52	20.041	- .108
2 Ceti -	4.6	A o	23 59 47.776	+ 3.0732	+ .0012	S. 17 45 52.63	+ 20.045	- .004

PROPER NAMES.—α Piscis Australis - *Fomalhaut*.

α Pegasi - *Markab*.

VARIABLE STARS.—β Pegasi. The limits of magnitude are 2.2 and 2.7. Period irregular.

210 APPARENT PLACES OF STARS, 1923.

Mean Midnight.		<i>t</i>	BESSEL'S DAY NUMBERS.			
			Log. A.	Log. B.	Log. C.	Log. D.
Jan.	1	0.00169	−8.37676	+0.99047	−0.53740	+1.30368
	6	0.01538	−7.86923	0.98836	0.70526	1.29467
	11	0.02907	+7.93399	0.98545	0.82338	1.28194
	16	0.04276	8.38093	0.98198	0.91333	1.26530
	21	0.05645	+8.58917	+0.97789	−0.98488	+1.24441
Feb.	26	0.07014	8.72337	0.97343	1.04326	1.21888
	31	0.08382	8.82079	0.96860	1.09162	1.18815
	5	0.09751	8.89586	0.96363	1.13197	1.15143
	10	0.11120	+8.95598	+0.95861	−1.16569	+1.10767
	15	0.12489	9.00540	0.95379	1.19378	1.05529
Mar.	20	0.13858	9.04681	0.94919	1.21694	0.99196
	25	0.15227	9.08221	0.94503	1.23567	0.91397
	2	0.16596	+9.11304	+0.94144	−1.25038	+0.81493
	7	0.17965	9.14030	0.93840	1.26134	0.68231
	12	0.19334	9.16487	0.93619	1.26877	0.48599
Apr.	17	0.20703	9.18746	0.93483	1.27282	+0.11170
	22	0.22072	+9.20870	+0.93423	−1.27357	−0.68160
	27	0.23441	9.22902	0.93453	1.27105	0.35137
	1	0.24810	9.24885	0.93559	1.26527	0.60089
	6	0.26179	9.26851	0.93745	1.25617	0.75572
May	11	0.27548	+9.28820	+0.93990	−1.24363	−0.86686
	16	0.28917	9.30812	0.94295	1.22746	0.95246
	21	0.30286	9.32833	0.94648	1.20742	1.02107
	26	0.31655	9.34892	0.95022	1.18316	1.07742
	1	0.33024	+9.36981	+0.95422	−1.15421	−1.12437
June	6	0.34393	9.39100	0.95830	1.11993	1.16380
	11	0.35762	9.41239	0.96223	1.07942	1.19700
	16	0.37131	9.43390	0.96600	1.03142	1.22490
	21	0.38499	+9.45538	+0.96946	−0.97406	−1.24818
	26	0.39868	9.47669	0.97248	0.90452	1.26732
July	31	0.41237	9.49773	0.97502	0.81815	1.28269
	5	0.42606	9.51840	0.97704	0.70653	1.29457
	10	0.43975	+9.53855	+0.97843	−0.55186	−1.30316
	15	0.45344	9.55811	0.97912	0.30447	1.30860
	20	0.46713	9.57699	0.97912	−0.65830	1.31099
Aug.	25	0.48082	9.59508	0.97843	+0.04438	1.31037
	30	0.49451	+9.61237	+0.97708	+0.42519	−1.30671
	5	0.50820	+9.62881	+0.97500	+0.62296	−1.29999

APPARENT PLACES OF STARS, 1923. 211

Mean Midnight.		<i>t</i>	BESSEL'S DAY NUMBERS.				
			Log. A.	Log. B.	Log. C.	Log. D.	
July	5	0.50820	+9.62881	+0.97500	+0.62296	-1.29999	
	10	0.52189	9.64435	0.97232	0.75614	1.29010	
	15	0.53558	9.65895	0.96904	0.85558	1.27689	
	20	0.54927	9.67267	0.96518	0.93399	1.26014	
	25	0.56296	+9.68543	+0.96088	+0.99784	-1.23956	
	30	0.57665	9.69734	0.95624	1.05088	1.21475	
	Aug.	4	0.59034	9.70835	0.95127	1.09545	1.18518
		9	0.60403	9.71853	0.94614	1.13316	1.15013
	14	0.61772	+9.72793	+0.94094	+1.16510	-1.10859	
	19	0.63141	9.73656	0.93586	1.19205	1.05915	
	24	0.64510	9.74454	0.93103	1.21456	0.99972	
	29	0.65879	9.75190	0.92650	1.23307	0.92709	
Sept.	3	0.67248	+9.75875	+0.92239	+1.24788	-0.83582	
	8	0.68616	9.76515	0.91887	1.25921	0.71572	
	13	0.69985	9.77122	0.91606	1.26724	0.54397	
	18	0.71354	9.77700	0.91403	1.27205	0.24846	
	23	0.72723	+9.78260	+0.91284	+1.27368	-8.42911	
	28	0.74092	9.78818	0.91243	1.27214	+0.23629	
	Oct.	3	0.75461	9.79376	0.91300	1.26737	0.53970
		8	0.76830	9.79945	0.91432	1.25928	0.71484
	13	0.78199	+9.80532	+0.91638	+1.24770	+0.83722	
	18	0.79568	9.81144	0.91913	1.23242	0.93023	
	23	0.80937	9.81788	0.92241	1.21313	1.00425	
	28	0.82306	9.82465	0.92617	1.18943	1.06476	
Nov.	2	0.83675	+9.83179	+0.93018	+1.16080	+1.11506	
	7	0.85044	9.83933	0.93433	1.12648	1.15725	
	12	0.86413	9.84723	0.93847	1.08545	1.19273	
	17	0.87782	9.85548	0.94240	1.03629	1.22248	
	22	0.89151	+9.86403	+0.94601	+0.97688	+1.24722	
	27	0.90520	9.87284	0.94915	0.90392	1.26745	
	Dec.	2	0.91889	9.88182	0.95175	0.81185	1.28355
		7	0.93258	9.89094	0.95366	0.69018	1.29581
	12	0.94627	+9.90009	+0.95485	+0.51515	+1.30442	
	17	0.95996	9.90921	0.95521	+0.20994	1.30950	
	22	0.97365	9.91822	0.95468	-8.65811	1.31112	
	27	0.98733	9.92704	0.95328	0.23376	1.30930	
	32	1.00102	+9.93562	+0.95103	-0.52725	+1.30402	
	37	1.01471	+9.94389	+0.94802	-0.69855	+1.29519	

212 APPARENT PLACES OF STARS, 1923.

BESSEL'S DAY NUMBERS.

Mean Midnight.		Log. A.	Log. B.	Log. C.	Log. D.	Log. A'.	Log. B'.
Jan.	1	— 8.3768	+ 0.9905	— 0.5374	+ 1.3037	— 7.218	+ 8.833
	2	8.3118	0.9901	0.5769	1.3022	— 5.299	+ 8.833
	3	8.2355	0.9897	0.6129	1.3005	+ 7.186	+ 8.716
	4	8.1436	0.9893	0.6461	1.2987	+ 7.426	+ 8.362
	5	8.0274	0.9888	0.6767	1.2968	+ 7.475	— 8.079
	6	— 7.8692	+ 0.9884	— 0.7053	+ 1.2947	+ 7.389	— 8.653
	7	7.6191	0.9878	0.7319	1.2924	+ 7.084	— 8.839
	8	— 6.9731	0.9873	0.7569	1.2900	— 6.600	— 8.869
	9	+ 7.3541	0.9867	0.7803	1.2875	— 7.277	— 8.785
	10	7.7356	0.9861	0.8025	1.2848	— 7.460	— 8.519
	11	+ 7.9340	+ 0.9855	— 0.8234	+ 1.2819	— 7.489	+ 7.477
	12	8.0690	0.9848	0.8432	1.2789	— 7.375	+ 8.580
	13	8.1714	0.9841	0.8621	1.2758	— 6.989	+ 8.792
	14	8.2536	0.9834	0.8800	1.2724	+ 6.879	+ 8.851
	15	8.3222	0.9827	0.8970	1.2689	+ 7.392	+ 8.806
	16	+ 8.3809	+ 0.9820	— 0.9133	+ 1.2653	+ 7.566	+ 8.643
	17	8.4323	0.9812	0.9289	1.2615	+ 7.627	+ 8.204
	18	8.4778	0.9804	0.9438	1.2575	+ 7.613	— 8.146
	19	8.5185	0.9796	0.9581	1.2533	+ 7.522	— 8.580
	20	8.5555	0.9787	0.9718	1.2490	+ 7.324	— 8.740
	21	+ 8.5892	+ 0.9779	— 0.9849	+ 1.2444	+ 6.776	— 8.792
	22	8.6201	0.9770	0.9975	1.2397	— 6.980	— 8.778
	23	8.6488	0.9761	1.0096	1.2348	— 7.371	— 8.690
	24	8.6753	0.9753	1.0213	1.2297	— 7.537	— 8.462
	25	8.7002	0.9744	1.0325	1.2244	— 7.611	— 7.602
	26	+ 8.7234	+ 0.9734	— 1.0433	+ 1.2189	— 7.613	+ 8.362
	27	8.7452	0.9725	1.0537	1.2132	— 7.549	+ 8.681
	28	8.7658	0.9716	1.0637	1.2073	— 7.371	+ 8.813
	29	8.7851	0.9706	1.0733	1.2011	— 6.901	+ 8.839
	30	8.8034	0.9696	1.0826	1.1948	+ 6.922	+ 8.763
Feb.	31	+ 8.8208	+ 0.9686	— 1.0916	+ 1.1882	+ 7.336	+ 8.531
	1	8.8373	0.9676	1.1003	1.1813	+ 7.460	+ 7.000
	2	8.8530	0.9666	1.1086	1.1742	+ 7.436	— 8.544
	3	8.8680	0.9656	1.1167	1.1669	+ 7.253	— 8.792
	4	8.8822	0.9646	1.1245	1.1593	+ 6.529	— 8.869
	5	+ 8.8959	+ 0.9636	— 1.1320	+ 1.1514	— 7.070	— 8.826
	6	8.9089	0.9626	1.1392	1.1433	— 7.367	— 8.643
	7	8.9214	0.9616	1.1462	1.1349	— 7.445	— 8.000
	8	8.9334	0.9606	1.1529	1.1261	— 7.382	+ 8.415
	9	8.9449	0.9596	1.1594	1.1171	— 7.098	+ 8.740
	10	+ 8.9560	+ 0.9586	— 1.1657	+ 1.1077	+ 6.600	+ 8.845
	11	8.9666	0.9576	1.1717	1.0980	+ 7.316	+ 8.833
	12	8.9769	0.9567	1.1776	1.0879	+ 7.540	+ 8.716
	13	8.9867	0.9557	1.1832	1.0774	+ 7.627	+ 8.398
	14	8.9963	0.9547	1.1886	1.0666	+ 7.629	— 7.602
	15	+ 9.0054	+ 0.9538	— 1.1938	+ 1.0553	+ 7.559	— 8.491
	16	+ 9.0142	+ 0.9528	— 1.1988	+ 1.0436	+ 7.396	— 8.708

APPARENT PLACES OF STARS, 1923. 213

BESSEL'S DAY NUMBERS.

Mean Midnight.	Log. A.	Log. B.	Log. C.	Log. D.	Log. A'.	Log. B'.
Feb. 16	+ 9.0142	+ 0.9528	- 1.1988	+ 1.0436	+ 7.396	- 8.708
17	9.0228	0.9518	1.2036	1.0314	+ 7.047	- 8.785
18	9.0310	0.9510	1.2082	1.0188	- 6.641	- 8.785
19	9.0391	0.9501	1.2127	1.0057	- 7.281	- 8.724
20	9.0468	0.9492	1.2169	0.9920	- 7.498	- 8.556
21	+ 9.0543	+ 0.9483	- 1.2210	+ 0.9777	- 7.598	- 8.114
22	9.0616	0.9475	1.2249	0.9628	- 7.627	+ 8.146
23	9.0687	0.9467	1.2287	0.9473	- 7.594	+ 8.602
24	9.0756	0.9458	1.2323	0.9310	- 7.475	+ 8.778
25	9.0822	0.9450	1.2357	0.9140	- 7.202	+ 8.839
26	+ 9.0887	+ 0.9443	- 1.2389	+ 0.8961	- 5.299	+ 8.799
27	9.0951	0.9435	1.2420	0.8774	+ 7.168	+ 8.623
28	9.1012	0.9428	1.2450	0.8578	+ 7.382	+ 8.079
Mar. 1	9.1072	0.9421	1.2477	0.8369	+ 7.413	- 8.362
2	9.1130	0.9414	1.2504	0.8149	+ 7.290	- 8.724
3	+ 9.1188	+ 0.9408	- 1.2529	+ 0.7917	+ 6.867	- 8.851
4	9.1243	0.9401	1.2552	0.7670	- 6.843	- 8.851
5	9.1298	0.9395	1.2574	0.7407	- 7.308	- 8.724
6	9.1351	0.9390	1.2594	0.7125	- 7.429	- 8.362
7	9.1403	0.9384	1.2613	0.6823	- 7.396	+ 8.146
8	+ 9.1454	+ 0.9379	- 1.2631	+ 0.6497	- 7.186	+ 8.672
9	9.1504	0.9374	1.2647	0.6144	+ 5.600	+ 8.839
10	9.1553	0.9370	1.2662	0.5757	+ 7.253	+ 8.857
11	9.1601	0.9366	1.2676	0.5332	+ 7.522	+ 8.771
12	9.1649	0.9362	1.2688	0.4860	+ 7.638	+ 8.556
13	+ 9.1695	+ 0.9359	- 1.2699	+ 0.4329	+ 7.661	+ 7.778
14	9.1741	0.9356	1.2708	0.3722	+ 7.617	- 8.342
15	9.1787	0.9353	1.2716	0.3015	+ 7.492	- 8.653
16	9.1831	0.9350	1.2723	0.2169	+ 7.234	- 8.771
17	9.1875	0.9348	1.2728	0.1117	+ 6.144	- 8.799
18	+ 9.1918	+ 0.9347	- 1.2732	+ 9.9724	- 7.138	- 8.756
19	9.1961	0.9345	1.2735	9.7661	- 7.426	- 8.623
20	9.2003	0.9344	1.2737	+ 9.3595	- 7.559	- 8.322
21	9.2045	0.9343	1.2737	- 9.1000	- 7.617	+ 7.699
22	9.2087	0.9342	1.2736	9.6816	- 7.607	+ 8.491
23	+ 9.2128	+ 0.9342	- 1.2733	- 9.9215	- 7.522	+ 8.732
24	9.2169	0.9342	1.2730	0.0750	- 7.336	+ 8.826
25	9.2210	0.9343	1.2725	0.1880	- 6.831	+ 8.820
26	9.2250	0.9344	1.2718	0.2774	+ 6.890	+ 8.708
27	9.2290	0.9345	1.2711	0.3514	+ 7.268	+ 8.362
28	+ 9.2330	+ 0.9347	- 1.2702	- 0.4144	+ 7.336	- 8.041
29	9.2370	0.9349	1.2691	0.4693	+ 7.263	- 8.643
30	9.2410	0.9351	1.2680	0.5179	+ 6.901	- 8.839
31	9.2449	0.9353	1.2667	0.5615	- 6.776	- 8.869
Apr. 1	9.2489	0.9356	1.2653	0.6009	- 7.299	- 8.792
2	+ 9.2528	+ 0.9359	- 1.2637	- 0.6369	- 7.451	- 8.531
3	+ 9.2567	+ 0.9362	- 1.2620	- 0.6700	- 7.448	+ 7.477

214 APPARENT PLACES OF STARS, 1923.

BESSEL'S DAY NUMBERS.

Mean Midnight.	Log. A.	Log. B.	Log. C.	Log. D.	Log. A'.	Log. B'.		
Apr.	3	+ 9.2567	+ 0.9362	- 1.2620	- 0.6700	- 7.448	+ 7.477	
	4	9.2607	0.9366	1.2602	0.7006	- 7.299	+ 8.568	
	5	9.2646	0.9370	1.2583	0.7291	- 6.697	+ 8.792	
	6	9.2685	0.9374	1.2562	0.7557	+ 7.125	+ 8.863	
	7	9.2725	0.9379	1.2539	0.7806	+ 7.487	+ 8.820	
	8	+ 9.2764	+ 0.9383	- 1.2516	- 0.8041	+ 7.634	+ 8.653	
	9	9.2803	0.9388	1.2491	0.8262	+ 7.686	+ 8.230	
	10	9.2842	0.9393	1.2464	0.8471	+ 7.665	- 8.146	
	11	9.2882	0.9399	1.2436	0.8669	+ 7.576	- 8.591	
	12	9.2922	0.9405	1.2407	0.8857	+ 7.385	- 8.748	
	13	+ 9.2961	+ 0.9411	- 1.2376	- 0.9036	+ 6.943	- 8.806	
	14	9.3001	0.9417	1.2344	0.9206	- 6.831	- 8.785	
	15	9.3041	0.9423	1.2310	0.9369	- 7.320	- 8.681	
	16	9.3081	0.9430	1.2275	0.9525	- 7.503	- 8.447	
	17	9.3121	0.9436	1.2238	0.9674	- 7.580	- 7.477	
	18	+ 9.3162	+ 0.9443	- 1.2199	- 0.9816	- 7.591	+ 8.380	
	19	9.3202	0.9450	1.2159	0.9953	- 7.532	+ 8.681	
	20	9.3243	0.9457	1.2118	1.0085	- 7.382	+ 8.813	
	21	9.3283	0.9465	1.2074	1.0211	- 7.015	+ 8.839	
	22	9.3324	0.9472	1.2029	1.0332	+ 6.578	+ 8.771	
	23	+ 9.3365	+ 0.9479	1.1982	- 1.0449	+ 7.180	+ 8.556	
	24	9.3407	0.9487	1.1934	1.0561	+ 7.316	+ 7.477	
	25	9.3448	0.9494	1.1884	1.0670	+ 7.268	- 8.519	
	26	9.3489	0.9502	1.1832	1.0774	+ 6.971	- 8.785	
	27	9.3531	0.9510	1.1778	1.0875	- 6.697	- 8.869	
	May	28	+ 9.3572	+ 0.9518	- 1.1722	- 1.0972	- 7.268	- 8.833
		29	9.3614	0.9526	1.1664	1.1066	- 7.475	- 8.663
30		9.3656	0.9534	1.1604	1.1156	- 7.519	- 8.079	
1		9.3698	0.9542	1.1542	1.1244	- 7.439	+ 8.398	
2		9.3740	0.9550	1.1478	1.1328	- 7.132	+ 8.732	
3		+ 9.3783	+ 0.9559	- 1.1412	- 1.1410	+ 6.697	+ 8.845	
4		9.3825	0.9567	1.1343	1.1488	+ 7.378	+ 8.833	
5		9.3867	0.9575	1.1272	1.1564	+ 7.596	+ 8.708	
6		9.3910	0.9583	1.1199	1.1638	+ 7.685	+ 8.398	
7		9.3953	0.9591	1.1124	1.1709	+ 7.690	- 7.778	
8		+ 9.3995	+ 0.9599	- 1.1045	- 1.1778	+ 7.631	- 8.519	
9		9.4038	0.9607	1.0964	1.1844	+ 7.487	- 8.724	
10		9.4081	0.9615	1.0881	1.1908	+ 7.186	- 8.799	
11		9.4124	0.9622	1.0794	1.1970	- 5.600	- 8.792	
12		9.4167	0.9630	1.0705	1.2030	- 7.174	- 8.716	
13		+ 9.4210	+ 0.9637	- 1.0612	- 1.2088	- 7.429	- 8.519	
14		9.4253	0.9645	1.0516	1.2143	- 7.537	- 8.000	
15		9.4296	0.9653	1.0417	1.2197	- 7.564	+ 8.204	
16		9.4339	0.9660	1.0314	1.2249	- 7.527	+ 8.613	
17	9.4382	0.9667	1.0208	1.2299	- 7.396	+ 8.778		
18	+ 9.4425	+ 0.9674	- 1.0097	- 1.2347	- 7.084	+ 8.839		
19	+ 9.4468	+ 0.9681	- 0.9983	- 1.2394	+ 6.253	+ 8.806		

APPARENT PLACES OF STARS, 1923. 215

BESSEL'S DAY NUMBERS.

Mean Midnight.		Log. A.	Log. B.	Log. C.	Log. D.	Log. A'.	Log. B'.
May	19	+ 9.4468	+ 0.9681	— 0.9983	— 1.2394	+ 6.253	+ 8.806
	20	9.4511	0.9688	0.9864	1.2439	+ 7.138	+ 8.653
	21	9.4554	0.9695	0.9741	1.2482	+ 7.320	+ 8.146
	22	9.4597	0.9701	0.9613	1.2523	+ 7.324	— 8.322
	23	9.4639	0.9707	0.9479	1.2563	+ 7.125	— 8.716
	24	+ 9.4682	+ 0.9713	— 0.9340	— 1.2601	— 5.776	— 8.851
	25	9.4725	0.9719	0.9196	1.2638	— 7.213	— 8.863
	26	9.4767	0.9725	0.9045	1.2673	— 7.475	— 8.748
	27	9.4809	0.9730	0.8888	1.2707	— 7.562	— 8.398
	28	9.4852	0.9736	0.8723	1.2739	— 7.532	+ 8.079
	29	+ 9.4894	+ 0.9741	— 0.8551	— 1.2770	— 7.360	+ 8.663
	30	9.4936	0.9746	0.8371	1.2799	— 6.714	+ 8.826
June	31	9.4977	0.9750	0.8182	1.2827	+ 7.162	+ 8.845
	1	9.5019	0.9755	0.7982	1.2853	+ 7.511	+ 8.771
	2	9.5061	0.9759	0.7772	1.2878	+ 7.651	+ 8.556
	3	+ 9.5102	+ 0.9763	— 0.7550	— 1.2902	+ 7.692	+ 7.699
	4	9.5143	0.9767	0.7315	1.2925	+ 7.659	— 8.398
	5	9.5184	0.9770	0.7065	1.2946	+ 7.552	— 8.672
	6	9.5225	0.9774	0.6799	1.2965	+ 7.332	— 8.785
	7	9.5265	0.9777	0.6514	1.2984	+ 6.746	— 8.799
	8	+ 9.5306	+ 0.9780	— 0.6208	— 1.3001	— 6.998	— 8.748
	9	9.5346	0.9782	0.5878	1.3017	— 7.348	— 8.602
	10	9.5386	0.9784	0.5519	1.3032	— 7.495	— 8.255
	11	9.5425	0.9786	0.5126	1.3045	— 7.547	+ 7.903
	12	9.5464	0.9788	0.4693	1.3057	— 7.527	+ 8.531
	13	+ 9.5503	+ 0.9789	— 0.4211	— 1.3068	— 7.426	+ 8.740
	14	9.5542	0.9790	0.3668	1.3078	— 7.174	+ 8.832
	15	9.5581	0.9791	0.3045	1.3086	— 5.776	+ 8.832
	16	9.5620	0.9792	0.2316	1.3093	+ 7.125	+ 8.732
	17	9.5658	0.9792	0.1438	1.3099	+ 7.348	+ 8.415
	18	+ 9.5695	+ 0.9792	— 0.0336	— 1.3104	+ 7.392	— 7.903
	19	9.5733	0.9792	9.8854	1.3108	+ 7.281	— 8.623
	20	9.5770	0.9791	9.6583	1.3110	+ 6.831	— 8.820
	21	9.5807	0.9790	— 9.1538	1.3111	— 6.962	— 8.869
	22	9.5843	0.9789	+ 9.2310	1.3111	— 7.392	— 8.806
	23	+ 9.5879	+ 0.9788	+ 9.6839	— 1.3110	— 7.547	— 8.568
	24	9.5915	0.9786	9.9005	1.3107	— 7.571	— 7.000
	25	9.5951	0.9784	0.0444	1.3104	— 7.478	+ 8.544
	26	9.5986	0.9782	0.1521	1.3099	— 7.174	+ 8.785
	27	9.6021	0.9780	0.2383	1.3093	+ 6.679	+ 8.863
	28	+ 9.6056	+ 0.9777	+ 0.3100	— 1.3085	+ 7.378	+ 8.826
	29	9.6090	0.9774	0.3715	1.3077	+ 7.585	+ 8.663
	30	9.6124	0.9771	0.4252	1.3067	+ 7.663	+ 8.204
July	1	9.6157	0.9767	0.4729	1.3056	+ 7.655	— 8.176
	2	9.6190	0.9763	0.5157	1.3044	+ 7.576	— 8.602
	3	+ 9.6223	+ 0.9759	+ 0.5546	— 1.3031	+ 7.403	— 8.763
	4	+ 9.6256	+ 0.9755	+ 0.5902	— 1.3016	+ 6.998	— 8.799

216 APPARENT PLACES OF STARS, 1923.

BESSEL'S DAY NUMBERS.

Mean Midnight.	Log. A.	Log. B.	Log. C.	Log. D.	Log. A'.	Log. B'.		
July	4	+ 9.6256	+ 0.9755	+ 0.5902	— 1.3016	+ 6.998	— 8.799	
	5	9.6288	0.9750	0.6230	1.3000	— 6.730	— 8.763	
	6	9.6320	0.9745	0.6533	1.2983	— 7.281	— 8.653	
	7	9.6351	0.9740	0.6816	1.2964	— 7.466	— 8.398	
	8	9.6382	0.9735	0.7080	1.2944	— 7.542	— 6.000	
	9	+ 9.6413	+ 0.9729	+ 0.7328	— 1.2923	— 7.545	+ 8.415	
	10	9.6444	0.9723	0.7561	1.2901	— 7.469	+ 8.699	
	11	9.6474	0.9717	0.7782	1.2877	— 7.281	+ 8.813	
	12	9.6503	0.9711	0.7990	1.2852	— 6.697	+ 8.839	
	13	9.6532	0.9704	0.8188	1.2826	+ 6.980	+ 8.778	
	14	+ 9.6561	+ 0.9698	+ 0.8377	— 1.2798	+ 7.320	+ 8.568	
	15	9.6590	0.9690	0.8556	1.2769	+ 7.429	+ 7.602	
	16	9.6618	0.9683	0.8727	1.2738	+ 7.392	— 8.491	
	17	9.6646	0.9675	0.8890	1.2706	+ 7.168	— 8.771	
	18	9.6673	0.9668	0.9047	1.2673	— 5.600	— 8.869	
	19	+ 9.6700	+ 0.9660	+ 0.9196	— 1.2638	— 7.223	— 8.839	
	20	9.6727	0.9652	0.9340	1.2601	— 7.475	— 8.681	
	21	9.6753	0.9644	0.9478	1.2563	— 7.557	— 8.146	
	22	9.6779	0.9636	0.9610	1.2524	— 7.511	+ 8.362	
	23	9.6804	0.9627	0.9738	1.2483	— 7.308	+ 8.724	
	24	+ 9.6829	+ 0.9618	+ 0.9860	— 1.2440	— 6.445	+ 8.851	
	25	9.6854	0.9609	0.9978	1.2396	+ 7.213	+ 8.845	
	26	9.6879	0.9600	1.0092	1.2350	+ 7.514	+ 8.732	
	27	9.6903	0.9590	1.0202	1.2302	+ 7.626	+ 8.415	
	28	9.6927	0.9581	1.0308	1.2252	+ 7.649	— 7.699	
	Aug.	29	+ 9.6950	+ 0.9572	+ 1.0410	— 1.2201	+ 7.596	— 8.519
		30	9.6973	0.9562	1.0509	1.2148	+ 7.448	— 8.732
		31	9.6996	0.9553	1.0604	1.2092	+ 7.132	— 8.799
1		9.7018	0.9543	1.0696	1.2035	— 6.202	— 8.785	
2		9.7040	0.9533	1.0785	1.1976	— 7.197	— 8.699	
3		+ 9.7062	+ 0.9523	+ 1.0871	— 1.1915	— 7.433	— 8.505	
4		9.7084	0.9513	1.0954	1.1852	— 7.535	— 7.903	
5		9.7105	0.9502	1.1035	1.1786	— 7.562	+ 8.255	
6		9.7125	0.9492	1.1113	1.1719	— 7.514	+ 8.623	
7		9.7146	0.9482	1.1188	1.1649	— 7.378	+ 8.785	
8		+ 9.7166	+ 0.9472	+ 1.1261	— 1.1576	— 7.047	+ 8.839	
9		9.7185	0.9461	1.1332	1.1501	+ 6.529	+ 8.799	
10		9.7205	0.9451	1.1400	1.1424	+ 7.218	+ 8.653	
11		9.7224	0.9441	1.1466	1.1344	+ 7.399	+ 8.176	
12		9.7243	0.9430	1.1530	1.1261	+ 7.416	— 8.301	
13		+ 9.7261	+ 0.9420	+ 1.1591	— 1.1175	+ 7.290	— 8.708	
14		9.7279	0.9409	1.1651	1.1086	+ 6.830	— 8.851	
15		9.7297	0.9399	1.1709	1.0994	— 6.962	— 8.863	
16		9.7315	0.9389	1.1764	1.0899	— 7.375	— 8.763	
17		9.7332	0.9379	1.1818	1.0800	— 7.503	— 8.431	
18	+ 9.7349	+ 0.9369	+ 1.1870	— 1.0698	— 7.500	+ 8.000		
19	+ 9.7366	+ 0.9359	+ 1.1921	— 1.0592	— 7.356	+ 8.633		

APPARENT PLACES OF STARS, 1923. 217

BESSEL'S DAY NUMBERS.

Mean Midnight.		Log. A.	Log. B.	Log. C.	Log. D.	Log. A'.	Log. B'.
Aug.	19	+ 9.7366	+ 0.9359	+ 1.1921	- 1.0592	- 7.356	+ 8.633
	20	9.7382	0.9349	1.1969	1.0481	- 6.831	+ 8.826
	21	9.7398	0.9339	1.2016	1.0367	+ 7.084	+ 8.863
	22	9.7414	0.9329	1.2061	1.0249	+ 7.466	+ 8.785
	23	9.7430	0.9320	1.2104	1.0126	+ 7.615	+ 8.556
	24	+ 9.7445	+ 0.9310	+ 1.2146	- 0.9997	+ 7.655	+ 7.699
	25	9.7461	0.9301	1.2186	0.9864	+ 7.619	- 8.398
	26	9.7476	0.9292	1.2224	0.9725	+ 7.503	- 8.690
	27	9.7490	0.9282	1.2261	0.9580	+ 7.253	- 8.792
	28	9.7505	0.9273	1.2297	0.9429	+ 6.378	- 8.806
	29	+ 9.7519	+ 0.9265	+ 1.2331	- 0.9271	- 7.098	- 8.748
	30	9.7533	0.9256	1.2363	0.9106	- 7.389	- 8.591
	31	9.7547	0.9248	1.2394	0.8932	- 7.519	- 8.204
Sept.	1	9.7561	0.9240	1.2424	0.8751	- 7.571	+ 8.000
	2	9.7574	0.9232	1.2452	0.8560	- 7.545	+ 8.544
	3	+ 9.7588	+ 0.9224	+ 1.2479	- 0.8358	- 7.454	+ 8.748
	4	9.7601	0.9216	1.2504	0.8146	- 7.239	+ 8.833
	5	9.7614	0.9209	1.2528	0.7921	- 6.554	+ 8.826
	6	9.7627	0.9202	1.2551	0.7682	+ 6.989	+ 8.716
	7	9.7639	0.9195	1.2572	0.7428	+ 7.299	+ 8.415
	8	+ 9.7652	+ 0.9189	+ 1.2592	- 0.7157	+ 7.378	- 7.903
	9	9.7664	0.9183	1.2611	0.6866	+ 7.303	- 8.613
	10	9.7676	0.9177	1.2628	0.6553	+ 6.998	- 8.820
	11	9.7688	0.9171	1.2644	0.6214	- 6.479	- 8.875
	12	9.7700	0.9166	1.2659	0.5845	- 7.286	- 8.820
	13	+ 9.7712	+ 0.9161	+ 1.2672	- 0.5440	- 7.466	- 8.602
	14	9.7724	0.9156	1.2685	0.4991	- 7.495	- 7.602
	15	9.7736	0.9152	1.2696	0.4489	- 7.392	+ 8.505
	16	9.7747	0.9148	1.2705	0.3920	- 7.023	+ 8.778
	17	9.7759	0.9144	1.2713	0.3262	+ 6.901	+ 8.863
	18	+ 9.7770	+ 0.9140	+ 1.2720	- 0.2485	+ 7.423	+ 8.826
	19	9.7781	0.9137	1.2726	0.1535	+ 7.604	+ 8.663
	20	9.7792	0.9134	1.2731	0.0315	+ 7.674	+ 8.204
	21	9.7804	0.9132	1.2734	9.8611	+ 7.659	- 8.176
	22	9.7815	0.9130	1.2736	9.5759	+ 7.571	- 8.633
	23	+ 9.7826	+ 0.9128	+ 1.2737	- 8.4291	+ 7.382	- 8.778
	24	9.7837	0.9127	1.2736	+ 9.5093	+ 6.922	- 8.813
	25	9.7849	0.9126	1.2734	9.8282	- 6.855	- 8.778
	26	9.7860	0.9125	1.2731	0.0100	- 7.312	- 8.653
	27	9.7871	0.9125	1.2727	0.1378	- 7.481	- 8.380
	28	+ 9.7882	+ 0.9124	+ 1.2721	+ 0.2363	- 7.549	+ 7.000
	29	9.7893	0.9125	1.2714	0.3165	- 7.552	+ 8.431
	30	9.7904	0.9125	1.2706	0.3841	- 7.492	+ 8.699
Oct.	1	9.7915	0.9127	1.2697	0.4425	- 7.336	+ 8.813
	2	9.7926	0.9128	1.2686	0.4939	- 6.952	+ 8.833
	3	+ 9.7938	+ 0.9130	+ 1.2674	+ 0.5397	+ 6.578	+ 8.763
	4	+ 9.7949	+ 0.9132	+ 1.2660	+ 0.5810	+ 7.168	+ 8.556

218 APPARENT PLACES OF STARS, 1923.

BESSEL'S DAY NUMBERS.

Mean Midnight.		Log. A.	Log. B.	Log. C.	Log. D.	Log. A'.	Log. B'.
Oct.	4	+ 9.7949	+ 0.9132	+ 1.2660	+ 0.5810	+ 7.168	+ 8.556
	5	9.7960	0.9134	1.2645	0.6187	+ 7.308	+ 7.602
	6	9.7972	0.9137	1.2629	0.6533	+ 7.277	- 8.491
	7	9.7983	0.9140	1.2612	0.6852	+ 7.015	- 8.771
	8	9.7994	0.9143	1.2593	0.7148	- 6.445	- 8.869
	9	+ 9.8006	+ 0.9147	+ 1.2573	+ 0.7425	- 7.253	- 8.857
	10	9.8018	0.9151	1.2551	0.7683	- 7.466	- 8.708
	11	9.8030	0.9155	1.2528	0.7927	- 7.527	- 8.230
	12	9.8041	0.9159	1.2503	0.8156	- 7.463	+ 8.301
	13	9.8053	0.9164	1.2477	0.8372	- 7.208	+ 8.716
	14	+ 9.8065	+ 0.9169	+ 1.2450	+ 0.8577	+ 6.378	+ 8.845
	15	9.8077	0.9174	1.2421	0.8772	+ 7.344	+ 8.845
	16	9.8089	0.9180	1.2390	0.8957	+ 7.587	+ 8.732
	17	9.8102	0.9185	1.2358	0.9134	+ 7.685	+ 8.431
	18	9.8114	0.9191	1.2324	0.9302	+ 7.700	- 7.699
	19	+ 9.8127	+ 0.9198	+ 1.2289	+ 0.9463	+ 7.641	- 8.531
	20	9.8140	0.9204	1.2252	0.9617	+ 7.492	- 8.740
	21	9.8153	0.9210	1.2213	0.9765	+ 7.180	- 8.813
	22	9.8166	0.9217	1.2173	0.9907	- 5.901	- 8.799
	23	9.8179	0.9224	1.2131	1.0043	- 7.174	- 8.699
	24	+ 9.8192	+ 0.9231	+ 1.2088	+ 1.0173	- 7.413	- 8.491
	25	9.8205	0.9239	1.2042	1.0298	- 7.511	- 7.845
	26	9.8219	0.9246	1.1995	1.0419	- 7.535	+ 8.301
	27	9.8233	0.9254	1.1946	1.0536	- 7.492	+ 8.643
	28	9.8247	0.9262	1.1894	1.0648	- 7.364	+ 8.792
Nov.	29	+ 9.8260	+ 0.9269	+ 1.1841	+ 1.0756	- 7.070	+ 8.845
	30	9.8275	0.9277	1.1786	1.0860	+ 5.901	+ 8.799
	31	9.8289	0.9286	1.1729	1.0960	+ 7.077	+ 8.653
	1	9.8303	0.9294	1.1669	1.1057	+ 7.268	+ 8.176
	2	9.8318	0.9302	1.1608	1.1151	+ 7.268	- 8.279
	3	+ 9.8333	+ 0.9310	+ 1.1544	+ 1.1241	+ 7.062	- 8.699
	4	9.8348	0.9318	1.1478	1.1328	- 6.202	- 8.851
	5	9.8363	0.9327	1.1409	1.1413	- 7.223	- 8.869
	6	9.8378	0.9335	1.1338	1.1494	- 7.478	- 8.778
	7	9.8393	0.9343	1.1265	1.1573	- 7.571	- 8.477
	8	+ 9.8409	+ 0.9352	+ 1.1188	+ 1.1649	- 7.552	+ 7.845
	9	9.8424	0.9360	1.1109	1.1722	- 7.392	+ 8.623
	10	9.8440	0.9368	1.1027	1.1793	- 6.855	+ 8.820
	11	9.8456	0.9376	1.0942	1.1861	+ 7.138	+ 8.863
	12	9.8472	0.9385	1.0854	1.1927	+ 7.519	+ 8.792
	13	+ 9.8489	+ 0.9393	+ 1.0763	+ 1.1991	+ 7.668	+ 8.580
	14	9.8505	0.9401	1.0669	1.2053	+ 7.714	+ 7.778
	15	9.8521	0.9409	1.0571	1.2112	+ 7.683	- 8.398
	16	9.8538	0.9417	1.0469	1.2170	+ 7.580	- 8.699
	17	9.8555	0.9424	1.0363	1.2225	+ 7.364	- 8.799
	18	+ 9.8572	+ 0.9431	+ 1.0253	+ 1.2278	+ 6.818	- 8.806
	19	+ 9.8589	+ 0.9439	+ 1.0139	+ 1.2329	- 6.933	- 8.740

APPARENT PLACES OF STARS, 1923. 219

BESSEL'S DAY NUMBERS.

Mean Midnight.		Log. A.	Log. B.	Log. C.	Log. D.	Log. A'.	Log. B'.
Nov.	19	+ 9.8589	+ 0.9439	+ 1.0139	+ 1.2329	— 6.933	— 8.740
	20	9.8606	0.9446	1.0021	1.2379	— 7.320	— 8.568
	21	9.8623	0.9453	0.9897	1.2427	— 7.460	— 8.146
	22	9.8640	0.9460	0.9769	1.2472	— 7.506	+ 8.041
	23	9.8658	0.9467	0.9635	1.2516	— 7.481	+ 8.556
	24	+ 9.8675	+ 0.9473	+ 0.9496	+ 1.2558	— 7.378	+ 8.756
	25	9.8693	0.9479	0.9350	1.2599	— 7.132	+ 8.833
	26	9.8711	0.9486	0.9198	1.2638	— 6.077	+ 8.826
Dec.	27	9.8728	0.9492	0.9039	1.2675	+ 7.039	+ 8.724
	28	9.8746	0.9497	0.8873	1.2710	+ 7.272	+ 8.431
	29	+ 9.8764	+ 0.9502	+ 0.8698	+ 1.2744	+ 7.314	— 7.845
	30	9.8782	0.9508	0.8515	1.2776	+ 7.186	— 8.602
	1	9.8800	0.9513	0.8322	1.2807	+ 6.529	— 8.820
	2	9.8818	0.9518	0.8119	1.2836	— 7.098	— 8.881
	3	9.8836	0.9522	0.7904	1.2863	— 7.451	— 8.833
	4	+ 9.8855	+ 0.9526	+ 0.7676	+ 1.2889	— 7.591	— 8.623
	5	9.8873	0.9530	0.7434	1.2914	— 7.615	— 7.778
	6	9.8891	0.9533	0.7177	1.2937	— 7.527	+ 8.505
	7	9.8909	0.9537	0.6902	1.2958	— 7.248	+ 8.778
	8	9.8928	0.9540	0.6606	1.2978	+ 6.413	+ 8.869
	9	+ 9.8946	+ 0.9542	+ 0.6288	+ 1.2997	+ 7.371	+ 8.839
	10	9.8964	0.9545	0.5942	1.3014	+ 7.607	+ 8.681
	11	9.8983	0.9547	0.5566	1.3030	+ 7.694	+ 8.230
	12	9.9001	0.9548	0.5152	1.3044	+ 7.695	— 8.176
	13	9.9019	0.9550	0.4692	1.3057	+ 7.625	— 8.633
	14	+ 9.9038	+ 0.9551	+ 0.4176	+ 1.3069	+ 7.460	— 8.778
	15	9.9056	0.9552	0.3589	1.3079	+ 7.112	— 8.820
	16	9.9074	0.9552	0.2909	1.3088	— 6.413	— 8.778
	17	9.9092	0.9552	0.2099	1.3095	— 7.191	— 8.643
	18	9.9110	0.9552	0.1102	1.3101	— 7.399	— 8.342
	19	+ 9.9128	+ 0.9551	+ 0.9803	+ 1.3106	— 7.478	+ 7.602
	20	9.9146	0.9550	9.7939	1.3109	— 7.472	+ 8.462
	21	9.9164	0.9548	+ 9.4598	1.3111	— 7.385	+ 8.708
	22	9.9182	0.9547	— 8.6581	1.3111	— 7.162	+ 8.813
	23	9.9200	0.9545	9.5791	1.3110	— 6.413	+ 8.833
	24	+ 9.9218	+ 0.9542	— 9.8532	+ 1.3108	+ 6.989	+ 8.771
	25	9.9235	0.9540	0.0199	1.3104	+ 7.286	+ 8.556
	26	9.9253	0.9536	0.1399	1.3099	+ 7.375	+ 7.602
	27	9.9270	0.9533	0.2338	1.3093	+ 7.303	— 8.477
	28	9.9288	0.9529	0.3108	1.3085	+ 7.007	— 8.771
	29	+ 9.9305	+ 0.9525	— 0.3760	+ 1.3076	— 6.714	— 8.869
	30	9.9322	0.9520	0.4326	1.3066	— 7.348	— 8.851
	31	9.9339	0.9516	0.4826	1.3054	— 7.557	— 8.716
	32	+ 9.9356	+ 0.9510	— 0.5273	+ 1.3040	— 7.631	— 8.279

220 APPARENT PLACES OF STARS, 1923.

QUANTITIES FOR CORRECTING THE PLACES OF STARS.

Mean Midnight.	<i>f</i>	Log. <i>g</i>	<i>G</i>	Log. <i>h</i>	<i>H</i>	Log. <i>i</i>	<i>f'</i>	Log. <i>g'</i>	<i>G'</i>	
Jan.	1	^s -0.073	0.9910	92 48	1.3100	350 17	-0.1747	^s -0.005	8.879	116
	2	0.063	0.9905	92 24	1.3098	349 21	0.2142	.000	8.833	90
	3	0.053	0.9900	92 1	1.3095	348 25	0.2502	+0.005	8.781	59
	4	0.043	0.9895	91 38	1.3092	347 28	0.2834	+0.008	8.765	23
	5	0.033	0.9889	91 15	1.3089	346 31	0.3140	+0.009	8.786	349
	6	-0.023	0.9884	90 52	1.3086	345 34	-0.3426	+0.008	8.823	317
	7	0.013	0.9878	90 29	1.3083	344 37	0.3692	+0.004	8.864	289
	8	-0.003	0.9873	90 6	1.3080	343 40	0.3942	-0.001	8.872	264
	9	+0.007	0.9867	89 44	1.3076	342 43	0.4176	-0.006	8.856	238
	10	0.017	0.9861	89 21	1.3072	341 46	0.4398	-0.009	8.823	210
	11	+0.027	0.9855	88 59	1.3068	340 49	-0.4607	-0.010	8.791	177
	12	0.037	0.9849	88 36	1.3064	339 52	0.4805	-0.007	8.784	141
	13	0.046	0.9843	88 14	1.3059	338 54	0.4994	-0.003	8.813	108
	14	0.056	0.9837	87 52	1.3055	337 57	0.5173	+0.002	8.861	78
	15	0.065	0.9831	87 30	1.3050	336 59	0.5343	+0.008	8.908	52
	16	+0.074	0.9825	87 8	1.3045	336 2	-0.5506	+0.011	8.934	31
	17	0.083	0.9819	86 46	1.3040	335 4	0.5662	+0.013	8.937	11
	18	0.092	0.9813	86 24	1.3035	334 6	0.5811	+0.013	8.921	350
	19	0.101	0.9806	86 2	1.3030	333 8	0.5954	+0.010	8.885	330
	20	0.110	0.9800	85 40	1.3024	332 10	0.6091	+0.007	8.841	308
	21	+0.119	0.9793	85 19	1.3018	331 11	-0.6222	+0.002	8.800	281
	22	0.128	0.9787	84 58	1.3013	330 13	0.6348	-0.003	8.799	252
	23	0.137	0.9780	84 37	1.3007	329 14	0.6469	-0.007	8.832	226
	24	0.146	0.9774	84 16	1.3001	328 15	0.6586	-0.011	8.874	203
	25	0.154	0.9768	83 55	1.2995	327 16	0.6698	-0.013	8.913	183
	26	+0.163	0.9762	83 34	1.2989	326 17	-0.6806	-0.013	8.931	164
	27	0.171	0.9755	83 13	1.2983	325 18	0.6910	-0.011	8.933	146
	28	0.179	0.9749	82 53	1.2977	324 19	0.7010	-0.007	8.905	126
	29	0.187	0.9743	82 33	1.2970	323 19	0.7106	-0.002	8.850	103
	30	0.195	0.9736	82 13	1.2964	322 19	0.7199	+0.003	8.780	74
Feb.	31	+0.203	0.9730	81 53	1.2957	321 19	-0.7289	+0.007	8.741	38
	1	0.211	0.9723	81 33	1.2951	320 19	0.7376	+0.009	8.762	1
	2	0.219	0.9717	81 14	1.2944	319 19	0.7459	+0.008	8.812	327
	3	0.227	0.9711	80 54	1.2938	318 18	0.7540	+0.006	8.855	300
	4	0.235	0.9705	80 35	1.2931	317 18	0.7618	+0.001	8.871	275
	5	+0.242	0.9699	80 16	1.2925	316 17	-0.7693	-0.004	8.851	251
	6	0.249	0.9693	79 57	1.2918	315 16	0.7765	-0.007	8.807	223
	7	0.257	0.9687	79 38	1.2912	314 15	0.7835	-0.009	8.754	190
	8	0.264	0.9681	79 20	1.2905	313 14	0.7902	-0.007	8.739	152
	9	0.271	0.9676	79 2	1.2898	312 13	0.7967	-0.004	8.781	114
	10	+0.278	0.9671	78 44	1.2891	311 11	-0.8030	+0.001	8.848	83
	11	0.285	0.9665	78 26	1.2885	310 9	0.8090	+0.006	8.902	59
	12	0.292	0.9660	78 8	1.2878	309 7	0.8149	+0.011	8.939	37
	13	0.298	0.9655	77 51	1.2872	308 5	0.8205	+0.013	8.947	16
	14	0.305	0.9650	77 34	1.2866	307 3	0.8259	+0.013	8.932	357
	15	+0.311	0.9646	77 17	1.2859	306 1	-0.8311	+0.011	8.897	337
16	+0.317	0.9641	77 0	1.2853	304 59	-0.8361	+0.008	8.854	314	

APPARENT PLACES OF STARS, 1923. 221

QUANTITIES FOR CORRECTING THE PLACES OF STARS.

Mean Midnight.	<i>f</i>	Log. <i>g</i>	<i>G</i>	Log. <i>h</i>	<i>H</i>	Log. <i>i</i>	<i>f'</i>	Log. <i>g'</i>	<i>G'</i>
Feb. 16	^s +0.317	0.9641	[°] 77 0	1.2853	[°] 304 59	-0.8361	^s +0.008	8.854	[°] 314
17	0.324	0.9637	76 43	1.2846	303 56	0.8409	+0.003	8.812	290
18	0.330	0.9633	76 27	1.2840	302 53	0.8455	-0.001	8.789	261
19	0.336	0.9629	76 11	1.2834	301 50	0.8500	-0.006	8.815	234
20	0.342	0.9625	75 55	1.2828	300 47	0.8542	-0.010	8.861	210
21	+0.348	0.9621	75 39	1.2823	299 44	-0.8583	-0.012	8.906	189
22	0.354	0.9618	75 23	1.2818	298 40	0.8622	-0.013	8.935	171
23	0.360	0.9615	75 8	1.2812	297 37	0.8660	-0.012	8.946	153
24	0.366	0.9612	74 53	1.2807	296 33	0.8696	-0.009	8.928	135
25	0.372	0.9609	74 38	1.2801	295 29	0.8730	-0.005	8.881	115
26	+0.377	0.9606	74 23	1.2796	294 25	-0.8762	0.000	8.799	90
27	0.383	0.9603	74 8	1.2791	293 21	0.8793	+0.004	8.710	55
28	0.388	0.9601	73 54	1.2786	292 17	0.8823	+0.007	8.697	14
Mar. 1	0.394	0.9599	73 40	1.2782	291 13	0.8850	+0.008	8.754	336
2	0.399	0.9598	73 26	1.2778	290 9	0.8877	+0.006	8.818	306
3	+0.404	0.9598	73 12	1.2774	289 5	-0.8902	+0.002	8.860	282
4	0.409	0.9597	72 58	1.2770	288 1	0.8925	-0.002	8.859	259
5	0.414	0.9596	72 44	1.2766	286 56	0.8947	-0.006	8.825	232
6	0.419	0.9595	72 31	1.2762	285 51	0.8967	-0.008	8.767	203
7	0.424	0.9595	72 18	1.2759	284 47	0.8986	-0.008	8.715	164
8	+0.429	0.9595	72 5	1.2756	283 42	-0.9004	-0.005	8.749	123
9	0.434	0.9596	71 52	1.2753	282 37	0.9020	0.000	8.839	89
10	0.439	0.9596	71 40	1.2750	281 32	0.9035	+0.005	8.905	64
11	0.444	0.9597	71 27	1.2748	280 27	0.9049	+0.010	8.950	41
12	0.449	0.9599	71 15	1.2746	279 22	0.9061	+0.013	8.974	23
13	+0.454	0.9601	71 3	1.2744	278 17	-0.9072	+0.014	8.964	4
14	0.459	0.9603	70 51	1.2742	277 12	0.9081	+0.013	8.934	345
15	0.464	0.9605	70 39	1.2741	276 7	0.9089	+0.010	8.885	324
16	0.469	0.9608	70 27	1.2740	275 2	0.9096	+0.005	8.834	300
17	0.474	0.9611	70 16	1.2738	273 57	0.9101	0.000	8.799	273
18	+0.478	0.9615	70 5	1.2737	272 52	-0.9105	-0.004	8.802	244
19	0.483	0.9618	69 53	1.2737	271 47	0.9108	-0.008	8.832	218
20	0.487	0.9622	69 42	1.2737	270 42	0.9110	-0.011	8.878	196
21	0.492	0.9626	69 31	1.2737	269 37	0.9110	-0.013	8.920	177
22	0.497	0.9631	69 20	1.2737	268 32	0.9109	-0.012	8.939	159
23	+0.501	0.9636	69 9	1.2738	267 27	-0.9106	-0.010	8.933	141
24	0.506	0.9641	68 58	1.2738	266 22	0.9103	-0.007	8.902	123
25	0.511	0.9647	68 48	1.2739	265 17	0.9098	-0.002	8.829	102
26	0.516	0.9653	68 38	1.2740	264 13	0.9091	+0.002	8.727	73
27	0.521	0.9659	68 27	1.2742	263 8	0.9084	+0.006	8.640	32
28	+0.525	0.9666	68 17	1.2744	262 4	-0.9075	+0.007	8.651	346
29	0.530	0.9673	68 6	1.2746	260 59	0.9064	+0.006	8.758	310
30	0.535	0.9681	67 56	1.2748	259 55	0.9053	+0.002	8.850	283
31	0.540	0.9689	67 45	1.2750	258 51	0.9040	-0.002	8.875	261
Apr. 1	0.545	0.9697	67 35	1.2752	257 47	0.9026	-0.006	8.867	237
2	+0.550	0.9705	67 25	1.2755	256 43	-0.9010	-0.009	8.820	211
3	+0.555	0.9714	67 15	1.2758	255 39	-0.8993	-0.009	8.750	177

222 APPARENT PLACES OF STARS, 1923.

QUANTITIES FOR CORRECTING THE PLACES OF STARS.

Mean Midnight.	<i>f</i>	Log. <i>g</i>	<i>G</i>	Log. <i>h</i>	<i>H</i>	Log. <i>i</i>	<i>f'</i>	Log. <i>g'</i>	<i>G'</i>		
Apr.	^s +0.555	0.9714	67° 15	1.2758	255° 39	-0.8993	^s -0.009	8.750	177°		
	4	0.560	0.9723	67 5	1.2761	254 35	0.8975	-0.006	8.736	137	
	5	0.565	0.9732	66 55	1.2764	253 31	0.8956	-0.002	8.798	99	
	6	0.570	0.9742	66 45	1.2768	252 28	0.8935	+0.004	8.890	70	
	7	0.575	0.9752	66 35	1.2772	251 25	0.8912	+0.009	8.956	47	
	8	+0.580	0.9762	66 25	1.2776	250 22	-0.8889	+0.013	8.988	28	
	9	0.586	0.9772	66 15	1.2780	249 19	0.8864	+0.015	8.995	10	
	10	0.591	0.9783	66 5	1.2784	248 16	0.8837	+0.014	8.972	351	
	11	0.597	0.9794	65 55	1.2789	247 13	0.8809	+0.012	8.930	333	
	12	0.602	0.9805	65 45	1.2794	246 10	0.8780	+0.007	8.870	311	
	13	+0.608	0.9817	65 35	1.2799	245 8	-0.8749	+0.003	8.822	285	
	14	0.613	0.9829	65 25	1.2804	244 6	0.8717	-0.002	8.796	257	
	15	0.619	0.9841	65 15	1.2809	243 4	0.8683	-0.006	8.804	229	
	16	0.625	0.9854	65 5	1.2814	242 2	0.8648	-0.010	8.843	204	
	17	0.630	0.9867	64 55	1.2819	241 0	0.8611	-0.012	8.883	182	
	18	+0.636	0.9880	64 45	1.2824	239 59	-0.8572	-0.012	8.913	163	
	19	0.642	0.9893	64 34	1.2830	238 58	0.8532	-0.010	8.921	145	
	20	0.648	0.9906	64 24	1.2835	237 57	0.8491	-0.007	8.908	127	
	21	0.654	0.9919	64 13	1.2841	236 56	0.8447	-0.003	8.858	107	
	22	0.660	0.9933	64 3	1.2847	235 55	0.8402	+0.001	8.775	83	
	23	+0.667	0.9947	63 52	1.2853	234 55	-0.8355	+0.005	8.673	50	
	24	0.673	0.9961	63 42	1.2859	233 54	0.8307	+0.006	8.619	4	
	25	0.680	0.9975	63 31	1.2865	232 54	0.8257	+0.006	8.697	318	
	26	0.686	0.9990	63 21	1.2871	231 54	0.8205	+0.003	8.805	287	
	27	0.693	1.0005	63 10	1.2878	230 55	0.8151	-0.002	8.873	262	
	28	+0.700	1.0020	63 0	1.2884	229 55	-0.8095	-0.006	8.890	241	
	29	0.706	1.0035	62 49	1.2891	228 56	0.8037	-0.009	8.878	218	
	30	0.713	1.0050	62 38	1.2897	227 57	0.7977	-0.010	8.828	190	
	May	1	0.720	1.0065	62 27	1.2903	226 58	0.7915	-0.008	8.782	156
		2	0.727	1.0080	62 16	1.2909	225 59	0.7851	-0.004	8.781	117
3		+0.734	1.0096	62 5	1.2916	225 1	-0.7785	+0.001	8.849	82	
4		0.741	1.0112	61 54	1.2922	224 3	0.7716	+0.007	8.920	55	
5		0.749	1.0128	61 42	1.2928	223 5	0.7645	+0.012	8.974	33	
6		0.756	1.0144	61 31	1.2934	222 7	0.7572	+0.015	9.001	14	
7		0.764	1.0160	61 20	1.2941	221 9	0.7497	+0.015	8.992	355	
8		+0.772	1.0176	61 8	1.2947	220 11	-0.7418	+0.013	8.963	339	
9		0.779	1.0192	60 56	1.2953	219 14	0.7337	+0.009	8.909	319	
10		0.787	1.0208	60 44	1.2960	218 17	0.7254	+0.005	8.846	296	
11		0.794	1.0224	60 32	1.2966	217 20	0.7167	-0.000	8.792	269	
12		0.802	1.0240	60 20	1.2972	216 23	0.7078	-0.005	8.778	240	
13		+0.810	1.0257	60 7	1.2978	215 27	-0.6985	-0.008	8.800	212	
14		0.818	1.0273	59 55	1.2984	214 31	0.6889	-0.011	8.844	188	
15		0.826	1.0290	59 43	1.2990	213 35	0.6790	-0.011	8.876	168	
16		0.834	1.0306	59 31	1.2996	212 39	0.6687	-0.010	8.897	149	
17		0.843	1.0322	59 18	1.3001	211 43	0.6581	-0.008	8.892	130	
18		+0.851	1.0339	59 6	1.3007	210 47	-0.6470	-0.004	8.864	109	
19		+0.860	1.0355	58 53	1.3013	209 51	-0.6356	+0.001	8.807	87	

APPARENT PLACES OF STARS, 1923. 223

QUANTITIES FOR CORRECTING THE PLACES OF STARS.

Mean Midnight.	<i>f</i>	Log. <i>g</i>	<i>G</i>	Log. <i>h</i>	<i>H</i>	Log. <i>i</i>	<i>f'</i>	Log. <i>g'</i>	<i>G'</i>		
May	19	+0.860	1.0355	58 53	1.3013	209 51	-0.6356	+0.001	8.807	87	
	20	0.868	1.0372	58 41	1.3018	208 56	0.6237	+0.004	8.722	59	
	21	0.877	1.0389	58 28	1.3024	208 1	0.6114	+0.006	8.645	19	
	22	0.885	1.0405	58 15	1.3029	207 6	0.5986	+0.006	8.674	334	
	23	0.894	1.0422	58 2	1.3033	206 11	0.5852	+0.004	8.767	297	
	24	+0.903	1.0438	57 49	1.3038	205 16	-0.5713	.000	8.851	269	
	25	0.912	1.0454	57 36	1.3043	204 21	0.5569	-0.005	8.903	246	
	26	0.921	1.0471	57 23	1.3047	203 26	0.5418	-0.009	8.914	223	
	27	0.930	1.0487	57 10	1.3052	202 32	0.5261	-0.011	8.887	199	
	28	0.939	1.0503	56 57	1.3056	201 38	0.5096	-0.010	8.841	170	
	29	+0.948	1.0519	56 43	1.3061	200 44	-0.4924	-0.007	8.813	135	
	30	0.957	1.0535	56 30	1.3065	199 50	0.4744	-0.002	8.831	99	
June	31	0.966	1.0551	56 16	1.3069	198 56	0.4555	+0.004	8.880	67	
	1	0.975	1.0567	56 2	1.3073	198 2	0.4355	+0.010	8.944	42	
	2	0.985	1.0583	55 48	1.3076	197 9	0.4145	+0.014	8.985	22	
	3	+0.994	1.0599	55 35	1.3079	196 15	-0.3923	+0.015	8.995	3	
	4	1.004	1.0615	55 21	1.3082	195 21	0.3688	+0.014	8.977	345	
	5	1.013	1.0631	55 7	1.3085	194 28	0.3438	+0.011	8.932	327	
	6	1.023	1.0647	54 53	1.3088	193 35	0.3172	+0.007	8.873	305	
	7	1.032	1.0663	54 39	1.3091	192 42	0.2887	+0.002	8.806	280	
	8	+1.042	1.0678	54 25	1.3094	191 49	-0.2581	-0.003	8.774	250	
	9	1.052	1.0693	54 11	1.3097	190 56	0.2251	-0.007	8.778	222	
	10	1.062	1.0708	53 56	1.3099	190 3	0.1892	-0.010	8.814	196	
	11	1.072	1.0723	53 42	1.3101	189 10	0.1499	-0.011	8.852	174	
12	1.081	1.0738	53 28	1.3103	188 17	0.1066	-0.010	8.878	153		
	13	+1.091	1.0753	53 14	1.3105	187 24	-0.0584	-0.008	8.884	134	
	14	1.101	1.0767	53 0	1.3106	186 32	0.0041	-0.005	8.870	114	
	15	1.111	1.0782	52 46	1.3107	185 39	9.9418	.000	8.832	91	
	16	1.120	1.0796	52 31	1.3108	184 47	9.8689	+0.004	8.780	64	
	17	1.130	1.0811	52 17	1.3109	183 55	9.7811	+0.007	8.714	30	
	18	+1.140	1.0825	52 2	1.3110	183 2	-9.6709	+0.008	8.700	351	
	19	1.150	1.0839	51 48	1.3110	182 9	9.5227	+0.006	8.754	312	
	20	1.160	1.0853	51 33	1.3111	181 16	9.2956	+0.002	8.829	282	
	21	1.170	1.0867	51 19	1.3111	180 24	-8.7911	-0.003	8.882	256	
	22	1.180	1.0880	51 4	1.3111	179 31	+8.8683	-0.008	8.907	232	
	23	+1.190	1.0894	50 50	1.3111	178 39	+9.3212	-0.011	8.902	208	
	24	1.200	1.0908	50 35	1.3110	177 46	9.5378	-0.011	8.873	181	
	25	1.209	1.0921	50 21	1.3110	176 54	9.6817	-0.009	8.843	150	
	26	1.219	1.0934	50 6	1.3109	176 1	9.7894	-0.005	8.832	116	
	27	1.229	1.0947	49 52	1.3108	175 9	9.8756	+0.001	8.867	83	
	28	+1.239	1.0960	49 37	1.3107	174 16	+9.9473	+0.007	8.915	55	
	29	1.249	1.0973	49 22	1.3106	173 24	0.0088	+0.012	8.953	31	
	30	1.259	1.0985	49 7	1.3104	172 31	0.0625	+0.014	8.971	10	
	July	1	1.269	1.0998	48 52	1.3102	171 39	0.1102	+0.014	8.963	351
		2	1.278	1.1010	48 38	1.3100	170 46	0.1530	+0.012	8.932	332
		3	+1.288	1.1022	48 23	1.3098	169 53	+0.1919	+0.008	8.886	311
		4	+1.297	1.1034	48 9	1.3096	169 0	+0.2275	+0.003	8.820	288

224 APPARENT PLACES OF STARS, 1923.

QUANTITIES FOR CORRECTING THE PLACES OF STARS.

Mean Midnight.	<i>f</i>	Log. <i>g</i>	<i>G</i>	Log. <i>h</i>	<i>H</i>	Log. <i>i</i>	<i>f'</i>	Log. <i>g'</i>	<i>G'</i>		
July	4	+1.297	1.1034	48 9	1.3096	169 0	+0.2275	+0.003	8.820	288	
	5	1.307	1.1046	47 54	1.3094	168 7	0.2603	—0.002	8.770	259	
	6	1.317	1.1058	47 40	1.3091	167 14	0.2906	—0.006	8.771	230	
	7	1.327	1.1069	47 26	1.3088	166 21	0.3189	—0.009	8.804	203	
	8	1.336	1.1080	47 12	1.3085	165 28	0.3453	—0.011	8.844	180	
	9	+1.346	1.1091	46 57	1.3082	164 35	+0.3701	—0.011	8.874	160	
	10	1.355	1.1102	46 43	1.3079	163 42	0.3934	—0.009	8.888	140	
	11	1.364	1.1113	46 28	1.3076	162 49	0.4155	—0.006	8.878	121	
	12	1.373	1.1124	46 14	1.3072	161 55	0.4363	—0.002	8.843	98	
	13	1.382	1.1135	46 0	1.3068	161 2	0.4561	+0.003	8.799	72	
	14	+1.392	1.1145	45 46	1.3064	160 8	+0.4750	+0.006	8.747	41	
	15	1.401	1.1155	45 32	1.3060	159 14	0.4929	+0.008	8.732	4	
	16	1.410	1.1165	45 18	1.3056	158 20	0.5100	+0.008	8.766	328	
	17	1.419	1.1175	45 4	1.3051	157 26	0.5263	+0.005	8.819	297	
	18	1.428	1.1185	44 50	1.3047	156 32	0.5420	0.000	8.870	269	
	19	+1.437	1.1195	44 36	1.3042	155 38	+0.5569	—0.005	8.885	244	
	20	1.446	1.1205	44 22	1.3037	154 44	0.5713	—0.009	8.885	219	
	21	1.455	1.1215	44 8	1.3032	153 50	0.5851	—0.011	8.867	191	
	22	1.464	1.1224	43 54	1.3028	152 56	0.5983	—0.010	8.839	160	
	23	1.473	1.1233	43 41	1.3023	152 1	0.6111	—0.006	8.825	128	
	24	+1.481	1.1242	43 28	1.3018	151 6	+0.6233	—0.001	8.852	94	
	25	1.490	1.1251	43 14	1.3013	150 11	0.6351	+0.005	8.888	65	
	26	1.498	1.1260	43 1	1.3008	149 16	0.6465	+0.009	8.929	40	
	27	1.507	1.1269	42 48	1.3002	148 21	0.6575	+0.013	8.950	17	
	28	1.515	1.1277	42 35	1.2996	147 25	0.6681	+0.014	8.952	357	
	29	+1.523	1.1286	42 22	1.2990	146 30	+0.6783	+0.012	8.933	337	
	30	1.531	1.1294	42 9	1.2984	145 34	0.6882	+0.009	8.892	316	
	31	1.539	1.1302	41 56	1.2978	144 38	0.6977	+0.004	8.836	293	
	Aug.	1	1.546	1.1310	41 44	1.2972	143 42	0.7069	—0.001	8.786	267
		2	1.554	1.1318	41 31	1.2966	142 46	0.7158	—0.005	8.772	238
		3	+1.562	1.1326	41 19	1.2960	141 50	+0.7244	—0.008	8.800	210
4		1.570	1.1334	41 6	1.2954	140 53	0.7327	—0.011	8.840	187	
5		1.578	1.1341	40 54	1.2948	139 56	0.7408	—0.011	8.877	166	
6		1.586	1.1349	40 42	1.2942	138 59	0.7486	—0.010	8.891	147	
7		1.593	1.1356	40 30	1.2936	138 2	0.7561	—0.007	8.889	128	
8		+1.600	1.1363	40 18	1.2930	137 5	+0.7634	—0.003	8.861	108	
9		1.607	1.1370	40 7	1.2923	136 7	0.7705	+0.001	8.801	84	
10		1.614	1.1377	39 55	1.2917	135 10	0.7773	+0.005	8.747	54	
11		1.621	1.1384	39 44	1.2910	134 12	0.7839	+0.008	8.720	17	
12		1.628	1.1391	39 32	1.2904	133 14	0.7903	+0.008	8.748	339	
13		+1.635	1.1398	39 21	1.2898	132 16	+0.7964	+0.006	8.808	307	
14		1.642	1.1405	39 10	1.2891	131 18	0.8024	+0.002	8.859	281	
15		1.649	1.1412	38 59	1.2885	130 19	0.8082	—0.003	8.876	256	
16		1.656	1.1419	38 48	1.2879	129 20	0.8137	—0.007	8.875	231	
17		1.662	1.1425	38 38	1.2873	128 21	0.8191	—0.010	8.841	203	
18		+1.669	1.1432	38 27	1.2867	127 22	+0.8243	—0.010	8.807	171	
19		+1.675	1.1438	38 17	1.2861	126 23	+0.8294	—0.007	8.797	137	

APPARENT PLACES OF STARS, 1923. 225

QUANTITIES FOR CORRECTING THE PLACES OF STARS.

Mean Midnight.	<i>f</i>	Log. <i>g</i>	<i>G</i>	Log. <i>h</i>	<i>H</i>	Log. <i>i</i>	<i>f'</i>	Log. <i>g'</i>	<i>G'</i>
Aug. 19	+1 ⁸ .675	1.1438	38 ⁸ 17	1.2861	126 ⁰ 23	+0.8294	— ⁸ .007	8.797	137 ⁰
20	1.682	1.1444	38 7	1.2855	125 23	0.8342	—0.002	8.835	101
21	1.688	1.1450	37 57	1.2850	124 23	0.8389	+0.004	8.886	72
22	1.694	1.1457	37 47	1.2844	123 23	0.8434	+0.009	8.927	46
23	1.700	1.1463	37 37	1.2838	122 23	0.8477	+0.013	8.955	24
24	+1.706	1.1469	37 28	1.2833	121 23	+0.8519	+0.014	8.958	3
25	1.712	1.1475	37 19	1.2827	120 22	0.8559	+0.013	8.940	343
26	1.718	1.1481	37 10	1.2822	119 21	0.8597	+0.010	8.905	322
27	1.724	1.1487	37 1	1.2816	118 20	0.8634	+0.006	8.855	300
28	1.730	1.1493	36 52	1.2811	117 19	0.8670	+0.001	8.807	274
29	+1.736	1.1499	36 43	1.2806	116 18	+0.8704	—0.004	8.788	246
30	1.742	1.1505	36 34	1.2801	115 17	0.8736	—0.008	8.797	218
Sept. 31	1.747	1.1511	36 26	1.2796	114 16	0.8767	—0.010	8.833	194
1	1.753	1.1517	36 18	1.2792	113 14	0.8797	—0.011	8.867	172
2	1.758	1.1523	36 10	1.2787	112 12	0.8825	—0.011	8.895	154
3	+1.763	1.1530	36 2	1.2783	111 10	+0.8852	—0.009	8.903	135
4	1.769	1.1536	35 54	1.2778	110 8	0.8877	—0.005	8.883	117
5	1.774	1.1542	35 46	1.2774	109 6	0.8901	—0.001	8.828	96
6	1.779	1.1548	35 39	1.2770	108 3	0.8924	+0.003	8.745	69
7	1.784	1.1554	35 32	1.2766	107 1	0.8945	+0.006	8.678	33
8	+1.789	1.1560	35 25	1.2763	105 58	+0.8965	+0.007	8.686	351
9	1.794	1.1565	35 18	1.2760	104 55	0.8984	+0.006	8.760	314
10	1.799	1.1571	35 11	1.2757	103 52	0.9001	+0.003	8.839	287
11	1.804	1.1577	35 4	1.2754	102 49	0.9017	—0.001	8.878	263
12	1.810	1.1583	34 57	1.2751	101 46	0.9032	—0.006	8.884	240
13	+1.815	1.1590	34 51	1.2749	100 43	+0.9045	—0.009	8.851	214
14	1.820	1.1597	34 45	1.2747	99 39	0.9058	—0.010	8.798	184
15	1.825	1.1603	34 39	1.2745	98 36	0.9069	—0.008	8.770	147
16	1.830	1.1609	34 33	1.2743	97 32	0.9078	—0.003	8.803	109
17	1.834	1.1616	34 27	1.2741	96 28	0.9086	+0.002	8.873	78
18	+1.839	1.1623	34 22	1.2739	95 24	+0.9093	+0.008	8.932	52
19	1.844	1.1630	34 17	1.2738	94 21	0.9099	+0.012	8.968	30
20	1.848	1.1637	34 12	1.2737	93 17	0.9104	+0.015	8.982	10
21	1.853	1.1644	34 7	1.2737	92 13	0.9107	+0.014	8.967	351
22	1.858	1.1651	34 2	1.2737	91 9	0.9109	+0.011	8.935	330
23	+1.863	1.1658	33 57	1.2737	90 5	+0.9110	+0.007	8.886	309
24	1.867	1.1665	33 52	1.2737	89 1	0.9109	+0.003	8.827	285
25	1.872	1.1672	33 48	1.2737	87 57	0.9107	—0.002	8.792	257
26	1.877	1.1679	33 44	1.2737	86 53	0.9104	—0.006	8.785	228
27	1.882	1.1686	33 40	1.2738	85 49	0.9100	—0.009	8.815	202
28	+1.887	1.1694	33 36	1.2739	84 45	+0.9094	—0.011	8.851	179
29	1.892	1.1702	33 32	1.2740	83 41	0.9087	—0.011	8.883	159
30	1.897	1.1710	33 28	1.2742	82 36	0.9079	—0.010	8.902	141
Oct. 1	1.902	1.1718	33 24	1.2744	81 32	0.9070	—0.007	8.893	124
2	1.906	1.1726	33 20	1.2746	80 28	0.9059	—0.003	8.848	105
3	+1.911	1.1735	33 17	1.2748	79 24	+0.9047	+0.001	8.767	83
4	+1.916	1.1744	33 14	1.2751	78 20	+0.9033	+0.004	8.668	51

226 APPARENT PLACES OF STARS, 1923.

QUANTITIES FOR CORRECTING THE PLACES OF STARS.

Mean Midnight.	f	Log. g	G	Log. h	H	Log. i	f'	Log. g'	G'
Oct. 4	+1.916	1.1744	33 14	1.2751	78° 20'	+0.9033	+0.004	8.668	51
5	1.921	1.1752	33 10	1.2754	77 16	0.9018	+0.006	8.612	6
6	1.926	1.1761	33 7	1.2757	76 12	0.9002	+0.006	8.690	321
7	1.931	1.1770	33 4	1.2760	75 8	0.8985	+0.003	8.796	289
8	1.936	1.1779	33 1	1.2763	74 4	0.8966	-0.001	8.870	266
9	+1.941	1.1788	32 58	1.2766	73 0	+0.8946	-0.006	8.905	244
10	1.946	1.1797	32 55	1.2770	71 56	0.8924	-0.009	8.891	221
11	1.951	1.1807	32 52	1.2774	70 52	0.8901	-0.010	8.842	194
12	1.957	1.1817	32 50	1.2778	69 49	0.8876	-0.009	8.789	161
13	1.962	1.1827	32 47	1.2782	68 45	0.8850	-0.005	8.787	122
14	+1.968	1.1837	32 45	1.2786	67 42	+0.8823	+0.001	8.846	86
15	1.973	1.1847	32 43	1.2791	66 39	0.8794	+0.007	8.918	58
16	1.979	1.1857	32 41	1.2796	65 36	0.8763	+0.012	8.975	35
17	1.984	1.1868	32 38	1.2801	64 33	0.8731	+0.015	9.003	16
18	1.990	1.1878	32 36	1.2806	63 30	0.8697	+0.015	9.003	357
19	+1.996	1.1889	32 33	1.2811	62 27	+0.8662	+0.013	8.973	339
20	2.002	1.1900	32 31	1.2817	61 24	0.8625	+0.010	8.919	319
21	2.008	1.1911	32 28	1.2822	60 21	0.8586	+0.005	8.856	295
22	2.014	1.1922	32 26	1.2828	59 19	0.8546	.000	8.799	269
23	2.020	1.1933	32 24	1.2834	58 17	0.8504	-0.005	8.765	239
24	+2.027	1.1945	32 22	1.2840	57 15	+0.8461	-0.008	8.781	211
25	2.033	1.1957	32 19	1.2846	56 13	0.8415	-0.010	8.815	186
26	2.039	1.1969	32 17	1.2852	55 11	0.8368	-0.011	8.855	164
27	2.046	1.1981	32 15	1.2858	54 9	0.8319	-0.010	8.882	145
28	2.052	1.1993	32 13	1.2864	53 7	0.8267	-0.007	8.888	127
29	+2.059	1.2005	32 11	1.2870	52 5	+0.8214	-0.004	8.868	109
30	2.065	1.2017	32 9	1.2876	51 3	0.8159	.000	8.799	89
31	2.072	1.2029	32 7	1.2882	50 2	0.8102	+0.004	8.707	62
Nov. 1	2.079	1.2042	32 5	1.2889	49 1	0.8042	+0.006	8.603	22
2	2.086	1.2055	32 3	1.2895	48 0	0.7981	+0.006	8.620	333
3	+2.093	1.2068	32 0	1.2902	46 59	+0.7917	+0.004	8.741	295
4	2.100	1.2081	31 58	1.2909	45 58	0.7851	.000	8.851	267
5	2.108	1.2095	31 55	1.2916	44 58	0.7782	-0.005	8.909	246
6	2.115	1.2108	31 53	1.2922	43 58	0.7711	-0.009	8.930	225
7	2.122	1.2121	31 50	1.2929	42 58	0.7638	-0.011	8.906	202
8	+2.130	1.2135	31 48	1.2935	41 58	+0.7561	-0.011	8.855	174
9	2.138	1.2148	31 45	1.2942	40 58	0.7482	-0.008	8.812	140
10	2.146	1.2162	31 43	1.2949	39 58	0.7400	-0.002	8.830	102
11	2.154	1.2176	31 40	1.2955	38 59	0.7315	+0.004	8.892	69
12	2.162	1.2190	31 37	1.2962	37 59	0.7227	+0.010	8.958	43
13	+2.170	1.2204	31 34	1.2968	37 0	+0.7136	+0.014	9.003	22
14	2.178	1.2218	31 31	1.2975	36 1	0.7042	+0.016	9.017	3
15	2.186	1.2232	31 28	1.2981	35 2	0.6944	+0.015	8.999	345
16	2.195	1.2246	31 25	1.2987	34 3	0.6842	+0.012	8.960	327
17	2.203	1.2261	31 22	1.2993	33 5	0.6736	+0.007	8.893	306
18	+2.212	1.2275	31 19	1.2999	32 6	+0.6626	+0.002	8.815	282
19	+2.220	1.2289	31 16	1.3005	31 7	+0.6512	-0.003	8.760	253

APPARENT PLACES OF STARS, 1923. 227

QUANTITIES FOR CORRECTING THE PLACES OF STARS.

Mean Midnight.	f	Log. g	G	Log. h	H	Log. i	f'	Log. g'	G'
Nov. 19	^s +2.220	1.2289	31° 16'	1.3005	31° 7'	+0.6512	^s -0.003	8.760	253°
20	2.229	1.2304	31 12	1.3011	30 9	0.6394	-0.006	8.747	221
21	2.238	1.2318	31 8	1.3016	29 11	0.6270	-0.009	8.774	194
22	2.247	1.2333	31 4	1.3022	28 13	0.6142	-0.010	8.814	170
23	2.256	1.2347	31 0	1.3027	27 15	0.6008	-0.009	8.850	149
24	+2.265	1.2362	30 56	1.3033	26 17	+0.5869	-0.007	8.872	130
25	2.274	1.2377	30 52	1.3038	25 20	0.5723	-0.004	8.865	112
26	2.283	1.2391	30 48	1.3043	24 22	0.5571	0.000	8.826	92
27	2.292	1.2406	30 44	1.3048	23 25	0.5412	+0.003	8.758	67
28	2.302	1.2420	30 40	1.3053	22 27	0.5246	+0.006	8.665	36
29	-2.312	1.2435	30 36	1.3057	21 30	+0.5071	+0.006	8.620	350
30	2.322	1.2449	30 32	1.3062	20 33	0.4888	+0.005	8.703	308
Dec. 1	2.331	1.2464	30 28	1.3066	19 36	0.4695	+0.001	8.822	276
2	2.341	1.2479	30 23	1.3070	18 39	0.4492	-0.004	8.903	252
3	2.351	1.2494	30 18	1.3074	17 42	0.4277	-0.009	8.947	230
4	+2.360	1.2509	30 13	1.3078	16 45	+0.4049	-0.012	8.948	208
5	2.370	1.2523	30 8	1.3081	15 48	0.3807	-0.013	8.918	184
6	2.380	1.2538	30 3	1.3084	14 52	0.3550	-0.010	8.873	155
7	2.390	1.2552	29 58	1.3087	13 56	0.3275	-0.005	8.843	121
8	2.400	1.2567	29 53	1.3090	12 59	0.2979	+0.001	8.870	86
9	+2.410	1.2581	29 48	1.3093	12 3	+0.2661	+0.007	8.922	56
10	2.420	1.2596	29 42	1.3096	11 6	0.2315	+0.012	8.974	31
11	2.431	1.2610	29 36	1.3099	10 10	0.1939	+0.015	9.002	10
12	2.441	1.2625	29 31	1.3101	9 13	0.1525	+0.015	9.002	351
13	2.452	1.2639	29 25	1.3103	8 17	0.1065	+0.013	8.977	333
14	+2.462	1.2653	29 19	1.3105	7 21	+0.0549	+0.009	8.922	314
15	2.473	1.2667	29 13	1.3106	6 25	9.9962	+0.004	8.851	291
16	2.483	1.2681	29 7	1.3108	5 28	9.9282	-0.001	8.780	265
17	2.494	1.2695	29 1	1.3109	4 32	9.8472	-0.005	8.731	235
18	2.504	1.2709	28 55	1.3110	3 36	9.7475	-0.008	8.739	204
19	+2.514	1.2722	28 48	1.3111	2 40	+9.6176	-0.009	8.781	176
20	2.525	1.2736	28 42	1.3111	1 44	9.4312	-0.009	8.820	154
21	2.535	1.2749	28 35	1.3111	0 48	+9.0971	-0.007	8.848	134
22	2.546	1.2763	28 29	1.3111	359 52	-8.2954	-0.004	8.853	114
23	2.556	1.2776	28 22	1.3111	358 56	-9.2164	-0.001	8.834	94
24	+2.567	1.2789	28 16	1.3111	357 59	-9.4905	+0.003	8.794	72
25	2.577	1.2802	28 9	1.3110	357 3	9.6572	+0.006	8.723	43
26	2.587	1.2815	28 2	1.3109	356 7	9.7772	+0.007	8.679	5
27	2.597	1.2828	27 55	1.3108	355 11	9.8711	+0.006	8.701	323
28	2.608	1.2841	27 48	1.3107	354 15	9.9481	+0.003	8.795	289
29	+2.618	1.2854	27 41	1.3106	353 19	-0.0133	-0.002	8.873	262
30	2.628	1.2866	27 34	1.3104	352 23	0.0699	-0.007	8.923	238
31	2.638	1.2878	27 27	1.3102	351 27	0.1199	-0.011	8.949	216
32	+2.649	1.2890	27 20	1.3100	350 30	-0.1646	-0.013	8.943	192

228 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

 α Ursæ Minoris (*Polaris*). Mag. 2.1

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m I 33 88° 53'		^h ^m I 32 88° 53'		^h ^m I 32 88° 53'		^h ^m I 32 88° 53'		^h ^m I 32 88° 53'		^h ^m I 33 88° 53'	
1	59.29	49.72	84.71	50.80	57.16	46.52	40.62	37.79	44.52	28.17	5.98	21.14
2	58.28	49.87	83.49	50.75	56.24	46.30	40.46	37.44	45.08	27.91	6.83	21.01
3	57.22	50.03	82.27	50.68	55.35	46.06	40.38	37.11	45.62	27.67	7.65	20.87
4	56.10	50.19	81.08	50.58	54.52	45.79	40.36	36.78	46.13	27.43	8.47	20.72
5	54.92	50.32	79.95	50.46	53.76	45.52	40.36	36.48	46.60	27.19	9.31	20.55
6	53.71	50.44	78.89	50.32	53.09	45.24	40.36	36.19	47.03	26.94	10.18	20.38
7	52.50	50.53	77.90	50.19	52.49	44.97	40.32	35.92	47.45	26.68	11.09	20.21
8	51.32	50.59	76.97	50.06	51.93	44.72	40.25	35.63	47.89	26.41	12.05	20.05
9	50.20	50.64	76.05	49.94	51.38	44.47	40.14	35.35	48.35	26.13	13.06	19.89
10	49.14	50.69	75.11	49.84	50.80	44.24	40.01	35.04	48.86	25.84	14.11	19.75
11	48.14	50.74	74.14	49.75	50.19	44.01	39.89	34.73	49.43	25.55	15.19	19.62
12	47.15	50.79	73.12	49.65	49.54	43.77	39.80	34.40	50.04	25.27	16.29	19.50
13	46.16	50.86	72.05	49.54	48.86	43.52	39.74	34.06	50.71	24.99	17.40	19.40
14	45.12	50.94	70.95	49.40	48.17	43.25	39.75	33.71	51.43	24.72	18.50	19.32
15	44.03	51.01	69.84	49.25	47.49	42.96	$\left\{ \begin{smallmatrix} 39.81 \\ 39.92 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 33.86 \\ 33.92 \end{smallmatrix} \right\}$	52.18	24.47	19.56	19.25
16	42.89	51.08	68.75	49.09	46.84	42.66	40.08	32.68	52.95	24.23	20.57	19.19
17	41.70	51.14	67.68	48.91	46.23	42.34	40.30	32.35	53.73	24.02	21.53	19.13
18	40.47	51.19	66.65	48.71	45.68	42.02	40.55	32.03	54.50	23.81	22.47	19.06
19	39.23	51.21	65.68	48.50	45.19	41.70	40.82	31.72	55.24	23.61	23.40	18.99
20	38.00	51.20	64.75	48.29	44.75	41.38	41.09	31.43	55.93	23.42	24.35	18.90
21	36.80	51.19	63.86	48.07	44.36	41.06	41.35	31.15	56.58	23.22	25.36	18.81
22	35.61	51.16	63.01	47.86	44.02	40.76	41.59	30.89	57.22	23.02	26.45	18.72
23	34.46	51.11	62.20	47.65	43.70	40.47	41.79	30.62	57.88	22.80	27.61	18.64
24	33.34	51.07	61.41	47.46	43.40	40.18	41.95	30.33	58.58	22.58	28.82	18.58
25	32.27	51.03	60.63	47.27	43.09	39.90	42.12	30.03	59.36	22.35	30.05	18.55
26	31.23	50.98	59.82	47.09	42.75	39.63	42.34	29.72	60.22	22.13	31.27	18.53
27	30.20	50.93	58.97	46.91	42.38	39.35	42.62	29.40	61.17	21.92	32.45	18.53
28	29.17	50.90	58.08	46.72	41.99	39.07	42.98	29.08	62.16	21.72	33.57	18.54
29	28.12	50.88	57.16	46.52	41.59	38.77	43.43	28.76	63.17	21.55	34.64	18.56
30	27.03	50.87			41.21	38.46	43.95	28.46	64.15	21.40	35.67	18.56
31	25.90	50.84			40.87	38.13	44.52	28.17	65.08	21.27	36.67	18.56
32	24.71	50.80			40.62	37.79			65.98	21.14		

Mean R.A. $1^h 33^m 11^s.900$ Mean Dec. $+ 88^\circ 53' 34''.33$ Sec $\delta 51.755$ Tan $\delta + 51.745$

APPARENT PLACES OF STARS, 1923. 229

AT UPPER TRANSIT AT GREENWICH.

α Ursæ Minoris (*Polaris*). Mag. 2.1

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m		^h ^m		^h ^m		^h ^m		^h ^m		^h ^m	
	1 33	88° 53'	1 34	88° 53'	1 34	88° 53'	1 34	88° 53'	1 34	88° 53'	1 34	88° 53'
1	^s 36.67	18° 56'	^s 11.01	20° 84'	^s 40.96	27° 74'	^s 59.76	37° 64'	^s 64.05	49° 33'	^s 51.55	59° 55'
2	37.68	18.55	12.08	20.96	41.86	28.02	60.20	38.02	63.79	49.71	50.78	59.81
3	38.71	18.52	13.19	21.09	42.75	28.31	60.58	38.42	63.49	50.08	50.06	60.06
4	39.77	18.50	14.32	21.24	43.61	28.63	60.90	38.82	63.20	50.44	49.39	60.32
5	40.88	18.48	15.46	21.40	44.41	28.96	61.15	39.21	62.94	50.78	48.78	60.58
6	42.02	18.47	16.60	21.58	45.16	29.29	61.36	39.59	62.73	51.11	48.18	60.86
7	43.20	18.47	17.72	21.77	45.85	29.63	61.55	39.96	62.57	51.44	47.57	61.15
8	44.40	18.48	18.82	21.99	46.49	29.96	61.76	40.31	62.45	51.80	46.91	61.46
9	45.61	18.50	19.87	22.21	47.09	30.28	62.01	40.66	62.32	52.17	46.17	61.76
10	46.83	18.54	20.87	22.44	47.68	30.58	62.31	41.00	62.16	52.55	45.36	62.06
11	48.04	18.60	21.81	22.66	48.31	30.87	62.66	41.36	61.94	52.95	44.48	62.34
12	49.22	18.68	22.70	22.88	49.00	31.16	63.05	41.73	61.64	53.34	43.55	62.60
13	50.35	18.76	23.58	23.09	49.73	31.45	63.38	42.12	61.25	53.72	42.59	62.85
14	51.43	18.85	24.48	23.28	50.50	31.76	63.68	42.51	60.80	54.10	41.63	63.07
15	52.46	18.94	25.41	23.47	51.29	32.09	63.92	42.93	60.31	54.46	40.69	63.28
16	53.46	19.02	26.41	23.66	52.06	32.44	64.08	43.34	59.80	54.79	39.77	63.48
17	54.47	19.09	27.47	23.86	52.78	32.81	64.16	43.75	59.30	55.12	38.87	63.67
18	55.52	19.14	28.56	24.08	53.41	33.18	64.19	44.14	58.80	55.42	38.00	63.86
19	56.62	19.20	29.65	24.32	53.96	33.55	64.18	44.52	58.32	55.72	37.15	64.05
20	57.79	19.26	30.70	24.58	54.45	33.92	64.16	44.88	57.87	56.03	36.29	64.25
21	59.02	19.34	31.70	24.86	54.90	34.27	64.16	45.24	57.43	56.34	35.43	64.45
22	60.27	19.43	32.64	25.15	55.34	34.61	64.18	45.59	56.99	56.66	34.56	64.66
23	61.51	19.55	33.50	25.44	55.78	34.94	64.21	45.93	56.56	56.97	33.64	64.88
24	62.72	19.69	34.32	25.72	56.23	35.26	64.25	46.28	56.11	57.29	32.67	65.10
25	63.87	19.85	35.09	25.98	56.70	35.58	64.31	46.63	55.62	57.63	31.65	65.31
26	64.96	20.01	35.87	26.23	57.20	35.90	64.37	46.98	55.09	57.96	30.56	65.51
27	65.99	20.17	36.67	26.47	57.71	36.23	64.42	47.36	54.49	58.30	29.42	65.68
28	66.99	20.33	37.48	26.71	58.24	36.56	64.45	47.75	53.82	58.63	28.27	65.83
29	67.97	20.47	38.32	26.95	58.76	36.91	64.44	48.14	53.09	58.95	27.13	65.97
30	68.96	20.59	39.18	27.21	59.27	37.27	64.37	48.53	52.33	59.26	26.02	66.09
31	69.97	20.72	40.06	27.47	59.76	37.64	64.24	48.93	51.55	59.55	24.97	66.20
32	71.01	20.84	40.96	27.74			64.05	49.33			23.99	66.31

Mean R.A. $1^h 33^m 11^s.900$ Mean Dec. $+ 88^\circ 53' 34''.33$ Sec $\delta 51.755$ Tan $\delta + 51.745$

230 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

51 H Cephei. Mag. 5.3

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m ^s 7 5 87 10		^h ^m ^s 7 5 87 10		^h ^m ^s 7 5 87 10		^h ^m ^s 7 4 87 10		^h ^m ^s 7 4 87 10		^h ^m ^s 7 4 87 10	
1	21.48	9.90	21.58	19.82	14.69	27.12	62.31	30.79	50.07	28.77	41.64	22.06
2	21.66	10.20	21.45	20.16	14.35	27.35	61.84	30.80	49.73	28.59	41.53	21.80
3	21.83	10.52	21.29	20.49	13.98	27.57	61.40	30.78	49.41	28.41	41.40	21.54
4	21.99	10.87	21.10	20.81	13.59	27.77	60.97	30.75	49.11	28.24	41.25	21.29
5	22.11	11.21	20.88	21.12	13.19	27.95	60.57	30.71	48.81	28.08	41.07	21.04
6	22.21	11.56	20.65	21.40	12.79	28.10	60.19	30.67	48.51	27.92	40.89	20.79
7	22.28	11.91	20.45	21.66	12.40	28.24	59.82	30.65	48.20	27.77	40.71	20.52
8	22.32	12.24	20.25	21.90	12.04	28.37	59.44	30.64	47.88	27.62	40.53	20.24
9	22.34	12.56	20.06	22.14	11.71	28.50	59.05	30.64	47.55	27.47	40.37	19.94
10	22.36	12.87	19.89	22.40	11.38	28.64	58.63	30.64	47.20	27.30	40.22	19.63
11	22.40	13.16	19.73	22.66	11.05	28.79	58.20	30.65	46.84	27.13	40.08	19.31
12	22.45	13.45	19.56	22.95	10.70	28.95	57.75	30.64	46.48	26.93	39.97	19.00
13	22.50	13.74	19.36	23.24	10.33	29.12	57.29	30.62	46.13	26.72	39.88	18.67
14	22.57	14.05	19.14	23.54	9.94	29.28	56.84	30.57	45.79	26.49	39.81	18.36
15	22.63	14.37	18.89	23.84	9.52	29.44	56.37	30.51	45.48	26.26	39.77	18.04
16	22.69	14.71	18.62	24.12	9.09	29.58	55.92	30.44	45.19	26.03	39.75	17.74
17	22.72	15.04	18.32	24.40	8.65	29.71	55.48	30.35	44.92	25.78	39.72	17.46
18	22.71	15.40	18.00	24.67	8.19	29.82	55.05	30.26	44.67	25.54	39.69	17.19
19	22.67	15.77	17.68	24.92	7.73	29.92	54.64	30.15	44.44	25.30	39.65	16.92
20	22.61	16.12	17.36	25.16	7.29	30.01	54.26	30.04	44.23	25.08	39.60	16.65
21	22.54	16.45	17.04	25.38	6.85	30.08	53.89	29.94	44.02	24.88	39.53	16.36
22	22.46	16.77	16.72	25.60	6.42	30.14	53.53	29.84	43.79	24.67	39.46	16.05
23	22.36	17.09	16.42	25.80	6.01	30.19	53.18	29.75	43.55	24.46	39.39	15.73
24	22.25	17.40	16.12	26.01	5.62	30.25	52.83	29.67	43.29	24.25	39.35	15.40
25	22.14	17.70	15.84	26.21	5.24	30.31	52.46	29.59	43.02	24.03	39.33	15.06
26	22.05	17.98	15.57	26.43	4.86	30.39	52.08	29.50	42.75	23.78	39.35	14.71
27	21.97	18.27	15.30	26.65	4.47	30.47	51.67	29.40	42.50	23.51	39.41	14.37
28	21.90	18.55	15.01	26.89	4.08	30.55	51.25	29.28	42.27	23.21	39.49	14.04
29	21.83	18.85	14.69	27.12	3.66	30.64	50.83	29.13	42.07	22.91	39.57	13.73
30	21.76	19.17			3.23	30.71	50.43	28.96	41.90	22.61	39.65	13.44
31	21.68	19.50			2.77	30.76	50.07	28.77	41.76	22.33	39.71	13.15
32	21.58	19.82			2.31	30.79			41.64	22.06		

Mean R.A. 7^h 4^m 58^s.548 Mean Dec. + 87° 10' 21".61 Sec δ 20.273 Tan δ + 20.249

APPARENT PLACES OF STARS, 1923. 231

AT UPPER TRANSIT AT GREENWICH.

51 H Cephei. Mag. 5.3

Day.	JULY.			AUGUST.			SEPTEMBER.			OCTOBER.			NOVEMBER.			DECEMBER.		
	R.A.	Dec. N.		R.A.	Dec. N.		R.A.	Dec. N.		R.A.	Dec. N.		R.A.	Dec. N.		R.A.	Dec. N.	
	h m	s	°	h m	s	°	h m	s	°	h m	s	°	h m	s	°	h m	s	°
	7 4	87	10	7 4	87	9	7 4	87	9	7 5	87	9	7 5	87	9	7 5	87	9
1	39.71	13.15		44.71	63.52		55.61	55.98		9.97	51.99		26.00	52.27		39.32	57.08	
2	39.76	12.87		44.93	63.23		56.04	55.77		10.52	51.91		26.50	52.40		39.65	57.33	
3	39.79	12.58		45.18	62.93		56.49	55.56		11.08	51.85		26.99	52.52		39.96	57.56	
4	39.82	12.29		45.44	62.64		56.96	55.36		11.63	51.81		27.45	52.64		40.28	57.78	
5	39.84	11.98		45.72	62.34		57.46	55.17		12.17	51.79		27.90	52.75		40.61	57.98	
6	39.87	11.66		46.03	62.05		57.96	55.00		12.68	51.78		28.35	52.85		40.97	58.19	
7	{ 39.92 }	{ 11.34 }		46.35	61.76		58.44	54.86		13.18	51.77		28.80	52.93		41.35	58.40	
8	40.07	10.69		46.69	61.48		58.90	54.73		13.66	51.74		29.27	53.01		41.73	58.63	
9	40.17	10.35		47.05	61.21		59.35	54.60		14.14	51.72		29.77	53.09		42.11	58.87	
10	40.30	10.02		47.42	60.97		59.78	54.47		14.62	51.68		30.28	53.19		42.49	59.14	
11	40.45	9.68		47.78	60.74		60.21	54.32		15.12	51.63		30.81	53.31		42.84	59.42	
12	40.63	9.36		48.12	60.51		60.64	54.16		15.64	51.58		31.34	53.45		43.16	59.72	
13	40.82	9.06		48.45	60.28		61.08	53.99		16.18	51.53		31.84	53.60		43.45	60.02	
14	41.00	8.77		48.75	60.05		61.54	53.81		16.75	51.50		32.32	53.77		43.71	60.32	
15	41.17	8.49		49.04	59.81		62.03	53.63		17.33	51.49		32.77	53.96		43.95	60.61	
16	41.33	8.22		49.35	59.56		62.55	53.46		17.91	51.50		33.20	54.14		44.18	60.89	
17	41.46	7.95		49.68	59.29		63.08	53.32		18.46	51.53		33.62	54.32		44.40	61.16	
18	41.58	7.66		50.03	59.01		63.61	53.18		18.99	51.57		34.01	54.50		44.62	61.42	
19	41.71	7.36		50.42	58.73		64.15	53.07		19.49	51.62		34.40	54.67		44.85	61.68	
20	41.86	7.03		50.84	58.47		64.67	52.98		19.98	51.66		34.79	54.84		45.09	61.95	
21	42.03	6.69		51.28	58.23		65.16	52.90		20.44	51.71		35.19	55.00		45.34	62.21	
22	42.24	6.35		51.72	58.01		65.63	52.83		20.91	51.75		35.60	55.17		45.59	62.48	
23	42.48	6.01		52.15	57.80		66.09	52.76		21.38	51.79		36.02	55.33		45.84	62.77	
24	42.74	5.69		52.56	57.61		66.55	52.67		21.85	51.81		36.45	55.50		46.09	63.07	
25	43.02	5.40		52.95	57.42		67.00	52.57		22.33	51.84		36.89	55.68		46.33	63.39	
26	43.30	5.12		53.33	57.24		67.46	52.47		22.83	51.87		37.32	55.87		46.55	63.73	
27	43.56	4.85		53.69	57.05		67.93	52.37		23.34	51.91		37.76	56.09		46.75	64.08	
28	43.81	4.59		54.06	56.85		68.41	52.27		23.87	51.95		38.19	56.32		46.91	64.42	
29	44.05	4.33		54.42	56.63		68.91	52.16		24.40	52.00		38.60	56.56		47.04	64.75	
30	44.27	4.06		54.80	56.41		69.43	52.07		24.93	52.07		38.97	56.82		47.15	65.08	
31	44.49	3.80		55.19	56.19		69.97	51.99		25.47	52.16		39.32	57.08		47.25	65.38	
32	44.71	3.52		55.61	55.98					26.00	52.27					47.37	65.67	

Mean R.A. 7^h 4^m 58^s.548 Mean Dec. + 87° 10' 21".61 Sec δ 20.273 Tan δ + 20.249

232 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

4 B Ursæ Minoris. Mag. 7.0

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m		^h ^m		^h ^m		^h ^m		^h ^m		^h ^m	
	8 22	88° 51'	8 22	88° 51'	8 22	88° 51'	8 21	88° 52'	8 21	88° 51'	8 20	88° 51'
	^s		^s		^s		^s		^s		^s	
1	23.07	35.32	34.16	44.87	25.94	53.55	60.70	0.07	29.38	61.14	61.58	56.77
2	23.82	35.57	34.21	45.22	25.38	53.85	59.61	0.18	28.35	61.04	60.98	56.55
3	24.57	35.85	34.19	45.58	24.75	54.15	58.53	0.28	27.39	60.94	60.37	56.35
4	25.31	36.14	34.08	45.93	24.05	54.43	57.50	0.35	26.49	60.85	59.72	56.16
5	25.99	36.45	33.91	46.27	23.31	54.69	56.51	0.42	25.60	60.78	59.04	55.96
6	26.60	36.76	33.70	46.59	22.55	54.94	55.56	0.49	24.71	60.71	58.33	55.76
7	27.13	37.08	33.50	46.89	21.81	55.17	54.65	0.57	23.79	60.65	57.60	55.54
8	27.59	37.39	33.30	47.19	21.10	55.38	53.74	0.66	22.83	60.59	56.86	55.31
9	28.00	37.69	33.14	47.47	20.44	55.59	52.80	0.75	21.84	60.52	56.13	55.07
10	28.39	37.98	33.02	47.76	19.81	55.81	51.83	0.85	20.80	60.44	55.42	54.81
11	28.78	38.25	32.93	48.06	19.18	56.04	50.80	0.95	19.74	60.35	54.73	54.55
12	29.21	38.52	32.81	48.38	18.54	56.28	49.73	1.05	18.68	60.25	54.09	54.28
13	29.67	38.80	32.67	48.71	17.85	56.54	48.61	1.14	17.63	60.13	53.50	54.00
14	30.16	39.08	32.46	49.05	17.11	56.79	47.47	1.21	16.59	60.00	52.98	53.71
15	30.66	39.37	32.20	49.39	16.30	57.04	46.31	1.26	15.58	59.85	52.51	53.42
16	31.14	39.68	31.87	49.73	15.44	57.28	45.16	1.29	14.60	59.70	52.09	53.15
17	31.58	40.01	31.48	50.07	14.54	57.51	44.02	1.31	13.69	59.54	51.71	52.89
18	31.96	40.34	31.04	50.40	13.60	57.73	42.90	1.32	12.82	59.36	51.33	52.64
19	32.27	40.68	30.57	50.70	12.64	57.93	41.81	1.32	12.02	59.20	50.92	52.39
20	32.52	41.03	30.06	51.00	11.68	58.13	40.78	1.32	11.24	59.04	50.47	52.15
21	32.71	41.37	29.55	51.29	10.72	58.30	39.78	1.31	10.48	58.89	49.97	51.89
22	32.85	41.71	29.05	51.57	9.79	58.46	38.83	1.31	9.69	58.75	49.44	51.61
23	32.96	42.04	28.56	51.85	8.88	58.61	37.89	1.32	8.87	58.61	48.91	51.31
24	33.06	42.36	28.10	52.12	8.00	58.76	36.95	1.33	8.01	58.47	48.42	51.00
25	33.14	42.66	27.67	52.39	7.16	58.92	35.97	1.33	7.11	58.32	48.00	50.67
26	33.24	42.97	27.26	52.68	6.34	59.07	34.94	1.34	6.18	58.15	47.66	50.34
27	33.36	43.27	26.85	52.96	5.52	59.25	33.86	1.34	5.26	57.95	47.40	50.01
28	33.50	43.57	26.42	53.25	4.67	59.43	32.73	1.32	4.39	57.73	47.20	49.68
29	33.66	43.87	25.94	53.55	3.77	59.61	31.58	1.28	3.59	57.49	47.03	49.37
30	33.85	44.19			2.80	59.78	30.46	1.22	2.86	57.24	46.87	49.08
31	34.02	44.52			1.77	59.94	29.38	1.14	2.19	56.99	46.68	48.80
32	34.16	44.87			0.70	60.07			1.58	56.77		

Mean R.A. 8^h 21^m 41^s.997 Mean Dec. + 88° 51' 51".94 Sec δ 50.458 Tan δ + 50.449

APPARENT PLACES OF STARS, 1923. 233

AT UPPER TRANSIT AT GREENWICH.

4 B Ursæ Minoris. Mag. 7.0

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m 8 20	88° 51'	^h ^m 8 20	88° 51'	^h ^m 8 21	88° 51'	^h ^m 8 21	88° 51'	^h ^m 8 22	88° 51'	^h ^m 8 22	88° 51'
1	^s 46.68	48.80	^s 47.34	38.43	^s 4.34	28.63	^s 33.42	21.39	^s 11.12	17.89	^s 47.39	19.34
2	46.46	48.52	47.55	38.10	5.12	28.32	34.62	21.20	12.43	17.89	48.43	19.49
3	46.21	48.24	47.79	37.77	5.94	28.01	35.85	21.02	13.69	17.89	49.42	19.64
4	45.94	47.96	48.06	37.41	6.81	27.71	37.10	20.86	14.89	17.89	50.40	19.77
5	45.65	47.66	48.38	37.06	7.74	27.43	38.33	20.72	16.05	17.89	51.40	19.90
6	45.36	47.34	48.75	36.71	8.70	27.17	39.52	20.58	17.19	17.88	52.44	20.01
7	45.09	47.01	49.19	36.36	9.68	26.92	40.67	20.45	18.34	17.85	53.54	20.13
8	44.85	46.68	49.69	36.01	10.63	26.68	41.78	20.31	19.53	17.82	54.69	20.26
9	44.66	46.34	50.23	35.67	11.55	26.45	42.85	20.17	20.79	17.79	55.87	20.41
10	44.53	46.00	50.79	35.35	12.42	26.21	43.92	20.01	22.10	17.76	57.03	20.58
11	44.45	45.64	51.36	35.04	13.24	25.96	45.03	19.84	23.46	17.75	58.15	20.78
12	44.43	45.30	51.90	34.75	14.05	25.70	46.19	19.66	24.83	17.76	59.21	20.98
13	44.47	44.96	52.40	34.46	14.89	25.44	47.42	19.49	26.18	17.80	60.21	21.20
14	44.56	44.63	52.86	34.17	15.77	25.16	48.70	19.33	27.48	17.86	61.13	21.42
15	44.65	44.32	53.28	33.86	16.72	24.88	50.03	19.20	28.74	17.93	62.01	21.63
16	44.73	44.02	53.71	33.53	17.73	24.60	51.36	19.08	29.95	18.00	62.85	21.84
17	44.78	43.72	54.17	33.19	18.81	24.33	52.68	18.98	31.11	18.07	63.67	22.06
18	44.79	43.42	54.70	32.85	19.92	24.08	53.96	18.89	32.22	18.13	64.49	22.26
19	44.75	43.11	55.31	32.49	21.03	23.86	55.19	18.81	33.32	18.20	65.31	22.46
20	44.70	42.79	55.99	32.15	22.13	23.65	56.38	18.74	34.42	18.26	66.16	22.66
21	44.67	42.45	56.73	31.83	23.20	23.45	57.53	18.66	35.53	18.32	67.02	22.87
22	44.69	42.09	57.51	31.52	24.23	23.26	58.66	18.58	36.65	18.38	67.91	23.08
23	44.80	41.71	58.26	31.22	25.22	23.07	59.79	18.51	37.80	18.44	68.82	23.29
24	44.99	41.34	59.00	30.94	26.18	22.88	60.93	18.42	38.98	18.50	69.74	23.52
25	45.25	40.97	59.70	30.66	27.13	22.68	62.09	18.33	40.19	18.57	70.65	23.77
26	$\left\{ \begin{smallmatrix} 45.55 \\ 45.86 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 40.63 \\ 40.29 \end{smallmatrix} \right\}$	60.37	30.39	28.09	22.47	63.27	18.24	41.43	18.66	71.52	24.05
27	46.18	39.98	61.01	30.12	29.08	22.26	64.50	18.15	42.68	18.77	72.34	24.33
28	46.47	39.67	61.64	29.83	30.10	22.04	65.77	18.07	43.93	18.90	73.09	24.61
29	46.72	39.37	62.28	29.53	31.16	21.82	67.08	18.00	45.14	19.03	73.77	24.90
30	46.94	39.06	62.94	29.24	32.27	21.60	68.42	17.95	46.29	19.18	74.39	25.17
31	47.14	38.75	63.62	28.94	33.42	21.39	69.77	17.91	47.39	19.34	74.98	25.43
32	47.34	38.43	64.34	28.63			71.12	17.89			75.56	25.68

Mean R.A. 8^h 21^m 41^s.997 Mean Dec. + 88° 51' 51".94 Sec δ 50.458 Tan δ + 50.449

234 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

6 B Ursæ Minoris. Mag. 6.3

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m 12 14 88 7		^h ^m 12 14 88 7		^h ^m 12 14 88 7		^h ^m 12 14 88 7		^h ^m 12 14 88 7		^h ^m 12 14 88 7	
1	15.35	17.17	35.71	19.48	48.21	26.16	51.47	36.01	43.35	44.52	26.96	49.36
2	16.06	17.14	36.35	19.66	48.56	26.46	51.32	36.33	42.86	44.73	26.40	49.41
3	16.79	17.09	36.97	19.85	48.88	26.78	51.14	36.65	42.39	44.92	25.85	49.47
4	17.54	17.07	37.54	20.07	49.15	27.11	50.94	36.95	41.95	45.10	25.30	49.54
5	18.31	17.05	38.07	20.29	49.36	27.44	50.75	37.23	41.53	45.29	24.73	49.62
6	19.07	17.07	38.55	20.51	49.53	27.75	50.57	37.50	41.14	45.48	24.14	49.70
7	19.80	17.10	39.01	20.72	49.69	28.06	50.42	37.78	40.74	45.69	23.53	49.78
8	20.48	17.15	39.46	20.91	49.84	28.34	50.28	38.07	40.32	45.91	22.90	49.85
9	21.13	17.21	39.91	21.09	50.00	28.62	50.15	38.37	39.89	46.13	22.25	49.90
10	21.75	17.26	40.38	21.28	50.18	28.89	50.03	38.67	39.42	46.36	21.59	49.95
11	22.35	17.30	40.89	21.47	50.39	29.17	49.88	38.99	38.92	46.58	20.91	49.98
12	22.96	17.33	41.42	21.67	50.61	29.47	49.70	39.31	38.40	46.80	20.23	50.00
13	23.59	17.35	41.94	21.89	50.82	29.78	49.48	39.64	37.86	47.00	19.55	49.99
14	24.25	17.38	42.46	22.13	51.02	30.11	49.23	39.96	37.30	47.20	18.89	49.98
15	24.94	17.43	42.98	22.38	51.19	30.45	48.96	40.28	36.72	47.37	18.26	49.95
16	25.65	17.48	43.47	22.64	51.34	30.80	48.65	40.59	36.14	47.54	17.65	49.93
17	26.37	17.54	43.92	22.92	51.45	31.15	48.32	40.89	35.57	47.68	17.07	49.90
18	27.09	17.63	44.34	23.20	51.53	31.50	47.98	41.18	35.01	47.82	16.51	49.87
19	27.79	17.74	44.74	23.49	51.58	31.84	47.64	41.45	34.47	47.94	15.95	49.86
20	28.47	17.87	45.11	23.77	51.60	32.18	47.29	41.71	33.96	48.06	15.38	49.85
21	29.12	18.00	45.45	24.03	51.59	32.51	46.96	41.95	33.46	48.19	14.77	49.85
22	29.75	18.14	45.77	24.30	51.57	32.83	46.65	42.19	32.97	48.33	14.13	49.84
23	30.35	18.28	46.09	24.58	51.56	33.15	46.36	42.44	32.47	48.47	13.45	49.81
24	30.94	18.42	46.41	24.84	51.55	33.45	46.08	42.69	31.95	48.62	12.75	49.77
25	31.51	18.56	46.75	25.09	51.55	33.74	45.80	42.95	31.39	48.77	12.05	49.70
26	32.07	18.69	47.11	25.34	51.57	34.03	45.49	43.22	30.78	48.91	11.36	49.62
27	32.63	18.82	47.47	25.60	51.60	34.33	45.14	43.50	30.14	49.03	10.70	49.51
28	33.21	18.94	47.84	25.87	51.63	34.65	44.75	43.78	29.47	49.13	10.08	49.40
29	33.81	19.06	48.21	26.16	51.65	34.97	44.31	44.05	28.80	49.21	9.50	49.29
30	34.43	19.19			51.64	35.31	43.83	44.29	28.15	49.26	8.94	49.19
31	35.06	19.32			51.58	35.66	43.35	44.52	27.54	49.31	8.39	49.09
32	35.71	19.48			51.47	36.01			26.96	49.36		

APPARENT PLACES OF STARS, 1923. 235

AT UPPER TRANSIT AT GREENWICH.

6 B Ursæ Minoris. Mag. 6.3

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m 12 13 88 7		^h ^m 12 13 88 7		^h ^m 12 13 88 7		^h ^m 12 13 88 7		^h ^m 12 13 88 7		^h ^m 12 13 88 6	
1	68.39 ^s	49.09	51.12 ^s	43.84	39.47 ^s	34.58	36.16 ^s	23.06	42.56 ^s	11.65	57.13 ^s	63.25
2	67.83	49.01	50.62	43.62	39.18	34.23	36.22	22.66	42.98	11.32	57.74	63.07
3	67.26	48.94	50.11	43.40	38.90	33.87	36.32	22.26	43.40	11.01	58.31	62.89
4	66.67	48.87	49.59	43.16	38.64	33.50	36.45	21.86	43.81	10.71	58.86	62.71
5	66.06	48.79	49.07	42.90	38.41	33.12	36.61	21.47	44.19	10.41	59.40	62.52
6	65.42	48.70	48.57	42.63	38.23	32.74	36.77	21.10	44.54	10.11	59.94	62.31
7	64.78	48.61	48.09	42.35	38.08	32.35	36.92	20.74	44.87	9.80	60.51	62.10
8	64.13	48.49	47.63	42.06	37.96	31.98	37.04	20.39	45.21	9.48	61.13	61.88
9	63.47	48.35	47.20	41.76	37.85	31.62	37.15	20.03	45.56	9.15	61.79	61.67
10	62.83	48.21	46.80	41.45	37.74	31.28	37.23	19.67	45.95	8.80	62.48	61.47
11	62.20	48.04	46.44	41.15	37.61	30.94	37.29	19.30	46.39	8.45	63.18	61.29
12	61.59	47.86	46.09	40.86	37.46	30.61	37.36	18.91	46.86	8.12	63.90	61.13
13	61.02	47.67	45.75	40.58	37.28	30.26	37.46	18.51	47.37	7.80	64.61	61.00
14	60.48	47.48	45.40	40.31	37.08	29.90	37.61	18.11	47.91	7.50	65.30	60.89
15	59.98	47.31	45.03	40.04	36.87	29.52	37.81	17.70	48.45	7.22	65.96	60.78
16	59.48	47.14	44.63	39.77	36.68	29.13	38.05	17.30	48.98	6.95	66.61	60.68
17	58.97	46.98	44.21	39.49	36.54	28.72	38.32	16.91	49.49	6.70	67.24	60.58
18	58.46	46.83	43.77	39.19	36.44	28.31	38.61	16.54	49.98	6.46	67.86	60.48
19	57.91	46.69	43.33	38.87	36.39	27.90	38.89	16.20	50.46	6.22	68.47	60.38
20	57.32	46.53	42.91	38.53	36.37	27.51	39.16	15.86	50.93	5.97	69.10	60.27
21	56.70	46.35	42.54	38.17	36.38	27.12	39.41	15.53	51.40	5.71	69.74	60.15
22	56.08	46.15	42.21	37.81	36.39	26.75	39.64	15.20	51.87	5.45	70.40	60.03
23	55.47	45.93	41.94	37.46	36.39	26.40	39.86	14.86	52.35	5.19	71.08	59.91
24	54.90	45.69	41.68	37.12	36.38	26.05	40.08	14.52	52.85	4.92	71.80	59.81
25	54.36	45.44	41.44	36.79	36.35	25.70	40.31	14.17	53.38	4.65	72.54	59.73
26	53.86	45.19	41.20	36.48	36.32	25.35	40.55	13.82	53.95	4.38	73.30	59.65
27	53.39	44.94	40.95	36.18	{ ^{36.21} _{36.22} }	{ ^{24.89} _{24.82} }	40.80	13.46	54.56	4.12	74.06	59.60
28	52.95	44.70	40.67	35.87	36.17	24.24	41.08	13.09	55.20	3.88	74.81	59.57
29	52.51	44.48	40.38	35.56	36.14	23.86	41.40	12.73	55.86	3.65	75.53	59.55
30	52.06	44.27	40.08	35.24	36.14	23.46	41.75	12.37	56.50	3.45	76.22	59.54
31	51.60	44.05	39.77	34.92	36.16	23.06	42.14	12.01	57.13	3.25	76.86	59.53
32	51.12	43.84	39.47	34.58			42.56	11.65			77.48	59.51

Mean R.A. 12^h 14^m 30^s.801 Mean Dec. + 88° 7' 36".41 Sec δ 30.592 Tan δ + 30.576

236 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

57 B Ursæ Minoris. Mag. 7.2

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m	[°] [']	^h ^m	[°] [']	^h ^m	[°] [']	^h ^m	[°] [']	^h ^m	[°] [']	^h ^m	[°] [']
	15 ^s 1	87 31	15 ^s 1	87 31	15 ^s 1	87 31	15 ^s 1	87 31	15 ^s 1	87 31	15 ^s 1	87 31
1	17.47	37.31	31.65	32.41	45.75	33.33	57.76	39.68	61.93	48.77	57.66	57.85
2	17.83	37.05	32.20	32.33	46.26	33.45	58.02	39.98	61.87	49.09	57.39	58.08
3	18.22	36.78	32.75	32.27	46.76	33.59	58.25	40.28	61.81	49.39	57.15	58.31
4	18.64	36.51	33.29	32.24	47.24	33.75	58.44	40.58	61.76	49.67	56.91	58.54
5	19.07	36.26	33.82	32.24	47.70	33.92	58.62	40.86	61.72	49.95	56.67	58.79
6	19.52	36.04	34.33	32.25	48.14	34.10	58.81	41.12	61.70	50.23	56.41	59.05
7	19.98	35.84	34.82	32.27	48.55	34.27	59.02	41.37	61.69	50.52	56.14	59.30
8	20.42	35.66	35.28	32.27	48.93	34.44	59.24	41.62	61.67	50.82	55.85	59.57
9	20.86	35.49	35.75	32.26	49.31	34.60	59.47	41.88	61.65	51.13	55.55	59.83
10	21.28	35.32	36.21	32.24	49.70	34.75	59.71	42.15	61.62	51.45	55.22	60.09
11	21.68	35.15	36.70	32.21	50.12	34.90	59.95	42.44	61.57	51.78	54.87	60.35
12	22.06	34.97	37.21	32.19	50.55	35.05	60.18	42.75	61.50	52.12	54.50	60.58
13	22.44	34.78	37.74	32.19	50.99	35.22	60.39	43.07	61.40	52.46	54.12	60.80
14	22.86	34.58	38.29	32.20	51.44	35.40	60.58	43.39	61.28	52.79	53.74	61.02
15	23.30	34.39	38.84	32.22	51.89	35.60	60.74	43.72	61.13	53.11	53.35	61.21
16	23.76	34.19	39.39	32.25	52.32	35.81	60.89	44.06	60.98	53.43	52.98	61.39
17	24.24	34.00	39.93	32.30	52.74	36.04	61.01	44.39	60.81	53.73	52.62	61.56
18	24.75	33.83	40.46	32.38	53.14	36.27	61.11	44.72	60.63	54.02	52.28	61.73
19	25.26	33.68	40.98	32.48	53.53	36.51	61.20	45.04	60.45	54.30	51.95	61.91
20	25.78	33.55	41.48	32.58	53.89	36.76	61.27	45.35	60.29	54.56	51.61	62.10
21	26.30	33.44	41.96	32.68	54.23	37.00	61.34	45.64	60.14	54.81	51.25	62.30
22	26.80	33.34	42.43	32.78	54.55	37.25	61.42	45.92	60.00	55.06	50.87	62.51
23	27.30	33.25	42.89	32.86	54.86	37.49	61.51	46.20	59.85	55.34	50.47	62.72
24	27.78	33.17	43.34	32.95	55.16	37.72	61.62	46.48	59.70	55.64	50.04	62.92
25	28.25	33.08	43.80	33.03	55.47	37.94	61.72	46.77	59.53	55.94	49.58	63.11
26	28.72	33.00	44.27	33.10	55.80	38.16	61.82	47.09	59.33	56.25	49.10	63.27
27	29.18	32.92	44.75	33.16	56.13	38.38	61.91	47.41	59.11	56.56	48.62	63.41
28	29.64	32.82	45.25	33.24	56.47	38.61	61.96	47.75	58.84	56.85	48.16	63.53
29	30.11	32.71	45.75	33.33	56.82	38.85	61.99	48.09	58.54	57.13	47.72	63.64
30	30.60	32.60			57.15	39.10	61.98	48.44	58.24	57.38	47.29	63.76
31	31.11	32.50			57.47	39.38	61.93	48.77	57.95	57.62	46.88	63.88
32	31.65	32.41			57.76	39.68			57.66	57.85		

Mean R.A. 15^h 1^m 45^s.966 Mean Dec. + 87° 31' 46".67 Sec δ 23.200 Tan δ + 23.179

APPARENT PLACES OF STARS, 1923. 237

AT UPPER TRANSIT AT GREENWICH.

57 B Ursæ Minoris. Mag. 7.2

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^{h m} 15 1	[°] 87 32	^{h m} 15 1	[°] 87 32	^{h m} 15 1	[°] 87 31	^{h m} 15 0	[°] 87 31	^{h m} 15 0	[°] 87 31	^{h m} 15 0	[°] 87 31
1	46.88	3.88	31.67	5.73	15.50	62.77	62.18	55.62	53.91	45.14	53.67	33.73
2	46.47	4.01	31.16	5.74	14.97	62.61	61.78	55.31	53.79	44.74	53.83	33.40
3	46.07	4.14	30.63	5.75	14.44	62.43	61.40	54.98	53.71	44.36	53.97	33.08
4	45.66	4.28	30.09	5.75	13.91	62.23	61.05	54.65	53.63	43.99	54.10	32.76
5	45.22	4.43	29.53	5.73	13.39	62.02	60.72	54.31	53.55	43.63	54.22	32.44
6	44.78	4.57	28.98	5.69	12.90	61.80	60.41	53.98	53.46	43.28	54.33	32.10
7	44.31	4.71	28.42	5.64	12.43	61.57	60.12	53.66	53.36	42.94	54.45	31.74
8	43.82	4.84	27.86	5.58	11.98	61.34	59.84	53.35	53.25	42.60	54.58	31.38
9	43.31	4.96	27.30	5.50	11.55	61.11	59.55	53.05	53.11	42.25	54.75	31.01
10	42.80	5.07	26.76	5.40	11.12	60.89	59.23	52.76	$\left\{ \begin{smallmatrix} 52.97 \\ 52.83 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 41.89 \\ 41.51 \end{smallmatrix} \right\}$	54.95	30.64
11	42.28	5.16	26.24	5.30	10.69	60.68	58.90	52.47	52.73	41.11	55.18	30.27
12	41.77	5.23	25.75	5.20	10.25	60.48	58.56	52.17	52.67	40.70	55.44	29.92
13	41.26	5.29	25.26	5.10	9.79	60.28	58.20	51.85	52.64	40.29	55.72	29.60
14	40.77	5.34	24.78	5.02	9.31	60.08	57.85	51.51	52.65	39.89	55.99	29.29
15	40.29	5.38	24.29	4.94	8.81	59.87	57.52	51.15	52.68	39.51	56.28	28.99
16	39.83	5.41	23.77	4.88	8.30	59.63	57.23	50.78	52.71	39.14	56.55	28.71
17	39.38	5.46	23.23	4.81	7.81	59.38	56.96	50.41	52.75	38.79	56.81	28.43
18	38.93	5.52	22.67	4.74	7.33	59.11	56.72	50.04	52.77	38.44	57.07	28.15
19	38.45	5.59	22.09	4.65	6.89	58.83	56.52	49.67	52.79	38.10	57.32	27.87
20	37.94	5.66	21.51	4.54	6.47	58.55	56.32	49.33	52.81	37.76	57.57	27.58
21	37.41	5.73	20.94	4.40	6.09	58.26	56.12	48.99	52.82	37.42	57.83	27.29
22	36.86	5.80	20.40	4.24	5.71	57.99	55.92	48.66	52.83	37.08	58.10	26.99
23	36.28	5.84	19.88	4.08	5.34	57.73	55.71	48.33	52.85	36.72	58.39	26.68
24	35.71	5.86	19.39	3.91	4.97	57.47	55.51	48.01	52.88	36.36	58.71	26.37
25	35.15	5.85	18.91	3.75	4.58	57.21	55.29	47.68	52.92	35.98	59.05	26.06
26	34.62	5.83	18.44	3.59	4.20	56.96	55.07	47.35	52.98	35.60	59.41	25.75
27	34.11	5.81	17.97	3.45	3.81	56.71	54.85	47.01	53.07	35.21	59.80	25.47
28	33.61	5.79	17.50	3.32	3.40	56.45	54.63	46.66	53.18	34.82	60.20	25.20
29	33.13	5.76	17.01	3.18	3.00	56.18	54.42	46.30	53.34	34.44	60.60	24.95
30	32.66	5.74	16.52	3.05	2.59	55.91	54.22	45.92	53.50	34.08	60.98	24.72
31	32.17	5.74	16.02	2.91	2.18	55.62	54.05	45.53	53.67	33.73	61.35	24.51
32	31.67	5.73	15.50	2.77			53.91	45.14			61.69	24.29

Mean R.A. 15^h 1^m 45^s.966 Mean Dec. + 87° 31' 46".67 Sec δ 23.200 Tan δ + 23.179

238 APPARENT PLACES. OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

ε Ursæ Minoris. Mag. 4.4

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m 16 53	^s 82 9	^h ^m 16 53	^s 82 9	^h ^m 16 53	^s 82 9	^h ^m 16 53	^s 82 9	^h ^m 16 53	^s 82 9	^h ^m 16 53	^s 82 10
1	37.90	58.93	40.99	50.05	45.31	46.47	50.22	48.43	53.58	55.37	54.64	5.04
2	37.95	58.58	41.14	49.81	45.48	46.42	50.36	48.62	53.65	55.68	54.63	5.33
3	38.01	58.22	41.29	49.60	45.66	46.38	50.50	48.82	53.72	55.98	54.62	5.62
4	38.08	57.85	41.44	49.40	45.84	46.37	50.63	49.02	53.78	56.26	54.61	5.91
5	38.16	57.49	41.59	49.23	46.01	46.39	50.75	49.21	53.84	56.53	54.60	6.21
6	38.24	57.14	41.73	49.07	46.17	46.41	50.87	49.39	53.91	56.80	54.60	6.53
7	38.32	56.81	41.87	48.93	46.32	46.44	50.99	49.57	53.97	57.07	54.59	6.86
8	38.41	56.50	42.01	48.79	46.47	46.47	51.12	49.73	54.04	57.35	54.58	7.19
9	38.49	56.21	42.15	48.63	46.62	46.50	51.25	49.90	54.11	57.63	54.55	7.52
10	38.57	55.93	42.28	48.47	46.77	46.51	51.38	50.07	54.17	57.94	54.52	7.87
11	38.65	55.65	42.42	48.30	46.93	46.51	51.52	50.26	54.23	58.25	54.48	8.21
12	38.73	55.38	42.57	48.13	47.10	46.51	51.65	50.46	54.29	58.58	54.44	8.54
13	38.80	55.09	42.72	47.95	47.26	46.52	51.78	50.69	54.34	58.92	54.39	8.87
14	38.88	54.78	42.88	47.78	47.43	46.54	51.91	50.92	54.38	59.26	54.34	9.19
15	38.97	54.46	43.05	47.63	47.60	46.57	52.04	51.17	54.42	59.59	54.28	9.49
16	39.07	54.14	43.22	47.50	47.77	46.63	52.15	51.42	54.46	59.92	54.23	9.77
17	39.17	53.82	43.39	47.37	47.94	46.70	52.26	51.68	54.49	60.25	54.18	10.04
18	39.29	53.52	43.56	47.27	48.11	46.79	52.37	51.95	54.51	60.57	54.13	10.31
19	39.41	53.22	43.72	47.18	48.28	46.89	52.47	52.21	54.53	60.88	54.08	10.58
20	39.53	52.95	43.88	47.11	48.44	46.99	52.57	52.45	54.55	61.17	54.04	10.87
21	39.65	52.68	44.04	47.04	48.59	47.11	52.67	52.70	54.58	61.46	53.99	11.17
22	39.78	52.42	44.20	46.98	48.74	47.23	52.76	52.95	54.61	61.75	53.94	11.48
23	39.90	52.18	44.36	46.92	48.88	47.35	52.86	53.18	54.64	62.04	53.87	11.80
24	40.02	51.95	44.51	46.86	49.03	47.47	52.96	53.40	54.66	62.35	53.80	12.12
25	40.14	51.73	44.67	46.78	49.17	47.57	53.06	53.63	54.68	62.68	53.72	12.44
26	40.25	51.50	44.82	46.70	49.32	47.66	53.16	53.88	54.70	63.02	53.63	12.74
27	40.36	51.28	44.97	46.62	49.47	47.75	53.26	54.14	54.71	63.37	53.54	13.03
28	40.48	51.05	45.14	46.54	49.62	47.85	53.35	54.43	54.70	63.73	53.46	13.30
29	40.60	50.81	45.31	46.47	49.77	47.97	53.43	54.74	54.69	64.08	53.37	13.54
30	40.72	50.56			49.93	48.10	53.51	55.06	54.67	64.42	53.29	13.78
31	40.85	50.30			50.08	48.25	53.58	55.37	54.66	64.74	53.20	14.02
32	40.99	50.05			50.22	48.43			54.64	65.04		

Mean R.A. 16^h 53^m 48^s.037 Mean Dec. + 82° 9' 58".65 Sec δ 7.337 Tan δ + 7.268

APPARENT PLACES OF STARS, 1923. 239

AT UPPER TRANSIT AT GREENWICH.

ε Ursæ Minoris. Mag. 4.4

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m ^s 16 53 82° 10'		^h ^m ^s 16 53 82° 10'		^h ^m ^s 16 53 82° 10'		^h ^m ^s 16 53 82° 10'		^h ^m ^s 16 53 82° 10'		^h ^m ^s 16 53 82° 9'	
1	53.20	14.02	49.55	20.67	44.46	23.20	39.22	21.05	34.65	14.26	32.20	64.46
2	53.12	14.27	49.41	20.84	44.28	23.23	39.04	20.90	34.53	13.95	32.17	64.09
3	53.04	14.52	49.26	21.02	44.10	23.25	38.87	20.74	34.42	13.63	32.14	63.74
4	52.96	14.78	49.11	21.19	43.91	23.25	38.70	20.56	34.32	13.32	32.12	63.41
5	52.87	15.05	48.96	21.35	43.73	23.23	38.54	20.37	34.22	13.03	32.09	63.08
6	52.78	15.33	48.80	21.50	43.55	23.19	38.38	20.16	34.12	12.75	32.05	62.75
7	52.69	15.61	48.64	21.64	43.38	23.13	38.22	19.96	34.01	12.48	{ 32.02 } 31.98	{ 62.41 } 62.06
8	52.59	15.89	48.47	21.76	43.20	23.06	38.07	19.77	33.90	12.22	31.95	61.70
9	52.48	16.17	48.31	21.87	43.02	23.00	37.92	19.60	33.79	11.95	31.92	61.32
10	52.37	16.43	48.14	21.95	42.85	22.94	37.77	19.43	33.68	11.65	31.91	60.92
11	52.25	16.67	47.98	22.03	42.69	22.88	37.62	19.27	33.57	11.34	31.90	60.51
12	52.13	16.91	47.82	22.10	42.52	22.84	37.46	19.11	33.46	11.01	31.91	60.11
13	52.01	17.12	47.66	22.17	42.35	22.81	37.29	18.94	33.37	10.66	31.92	59.74
14	51.90	17.31	47.51	22.25	42.17	22.78	37.12	18.74	33.28	10.31	31.93	59.37
15	51.78	17.50	47.36	22.34	41.98	22.75	36.95	18.53	33.19	9.96	31.94	59.01
16	51.67	17.69	47.20	22.44	41.79	22.71	36.79	18.30	33.11	9.61	31.96	58.66
17	51.56	17.89	47.03	22.55	41.61	22.64	36.64	18.05	33.03	9.27	31.97	58.32
18	51.45	18.10	46.86	22.66	41.42	22.55	36.49	17.80	32.96	8.94	31.98	57.99
19	51.33	18.32	46.69	22.76	41.24	22.44	36.35	17.54	32.89	8.62	32.00	57.66
20	51.20	18.56	46.52	22.84	41.06	22.32	36.22	17.28	32.83	8.30	32.02	57.33
21	51.07	18.80	46.34	22.90	40.89	22.19	36.10	17.04	32.76	7.99	32.03	56.98
22	50.94	19.03	46.16	22.94	40.72	22.06	35.97	16.80	32.70	7.68	32.05	56.62
23	50.80	19.24	45.98	22.97	40.56	21.94	35.84	16.58	32.64	7.37	32.07	56.25
24	50.65	19.44	45.81	22.99	40.39	21.83	35.70	16.35	32.57	7.04	32.09	55.88
25	50.50	19.61	45.65	23.00	40.23	21.73	35.57	16.13	32.50	6.71	32.12	55.49
26	50.36	19.76	45.49	23.02	40.07	21.63	35.44	15.90	32.43	6.35	32.17	55.11
27	50.22	19.91	45.33	23.04	39.90	21.52	35.31	15.66	32.36	5.98	32.22	54.73
28	50.08	20.05	45.17	23.07	39.73	21.42	35.17	15.41	32.31	5.60	32.28	54.36
29	49.95	20.20	45.00	23.10	39.56	21.31	35.03	15.16	32.26	5.22	32.34	54.01
30	49.82	20.35	44.82	23.13	39.39	21.19	34.89	14.88	32.23	4.84	32.40	53.69
31	49.68	20.50	44.64	23.16	39.22	21.05	34.77	14.57	32.20	4.46	32.45	53.37
32	49.55	20.67	44.46	23.20			34.65	14.26			32.51	53.07

Mean R.A. 16^h 53^m 48^s.037 Mean Dec. + 82° 9' 58".65 Sec δ 7.337 Tan δ + 7.268

240 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

δ Ursæ Minoris. Mag. 4.4

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m 17 56	^h ^m 86° 36'	^h ^m 17 56	^h ^m 86° 36'	^h ^m 17 56	^h ^m 86° 36'	^h ^m 17 57	^h ^m 86° 36'	^h ^m 17 57	^h ^m 86° 36'	^h ^m 17 57	^h ^m 86° 36'
1	42°00	56°33	45°93	46°47	54°27	40°88	5°64	40°17	14°95	45°01	19°81	53°70
2	41°99	55°98	46°17	46°17	54°64	40°73	6°00	40°28	15°17	45°27	19°84	53°99
3	41°99	55°62	46°43	45°89	55°01	40°61	6°35	40°40	15°37	45°52	19°89	54°28
4	42°02	55°25	46°70	45°62	55°39	40°51	6°68	40°52	15°58	45°76	19°95	54°57
5	42°07	54°87	46°98	45°38	55°77	40°43	7°00	40°64	15°78	46°00	20°01	54°86
6	42°13	54°51	47°26	45°16	56°14	40°37	7°31	40°75	15°99	46°22	20°08	55°15
7	42°21	54°15	47°52	44°96	56°49	40°32	7°63	40°85	16°21	46°44	20°14	55°46
8	42°31	53°82	47°77	44°76	56°83	40°27	7°95	40°94	16°43	46°67	20°19	55°79
9	42°42	53°49	48°02	44°55	57°16	40°22	8°28	41°03	16°66	46°91	20°23	56°13
10	42°51	53°19	48°27	44°33	57°49	40°15	8°62	41°13	16°89	47°16	20°26	56°47
11	42°60	52°90	48°52	44°09	57°83	40°07	8°97	41°24	17°12	47°42	20°27	56°82
12	42°68	52°60	48°79	43°85	58°18	40°00	9°33	41°36	17°34	47°70	20°27	57°17
13	42°76	52°28	49°07	43°61	58°55	39°92	9°69	41°49	17°54	47°99	20°24	57°50
14	42°83	51°96	49°36	43°37	58°93	39°85	10°04	41°65	17°74	48°29	20°20	57°83
15	42°92	51°62	49°68	43°15	59°33	39°79	10°38	41°82	17°91	48°60	20°15	58°15
16	43°02	51°28	50°00	42°93	59°73	39°75	10°72	42°00	18°07	48°90	20°10	58°46
17	43°15	50°93	50°34	42°73	60°13	39°73	11°04	42°19	18°21	49°20	20°05	58°75
18	43°29	50°58	50°68	42°54	60°53	39°73	11°35	42°38	18°35	49°50	20°00	59°03
19	43°46	50°24	51°03	42°37	60°91	39°74	11°64	42°57	18°47	49°78	19°96	59°32
20	43°64	49°91	51°37	42°21	61°29	39°76	11°92	42°77	18°60	50°05	19°93	59°61
21	43°83	49°59	51°70	42°07	61°67	39°79	12°19	42°96	18°73	50°31	19°90	59°92
22	44°02	49°30	52°03	41°94	62°04	39°82	12°46	43°14	18°86	50°57	19°86	60°25
23	44°21	49°02	52°35	41°80	62°39	39°86	12°73	43°31	19°00	50°84	19°81	60°59
24	44°41	48°74	52°66	41°66	62°73	39°89	13°00	43°48	19°14	51°12	19°73	60°95
25	44°60	48°47	52°97	41°52	63°07	39°92	13°29	43°65	19°28	51°42	19°64	61°30
26	44°79	48°21	53°28	41°37	63°41	39°94	13°58	43°83	19°42	51°73	19°52	61°63
27	44°97	47°94	53°60	41°21	63°76	39°95	13°87	44°03	19°53	52°06	19°38	61°95
28	45°14	47°66	53°92	41°05	64°12	39°96	14°16	44°24	19°62	52°41	19°23	62°26
29	45°32	47°38	54°27	40°88	64°49	39°98	14°45	44°48	19°69	52°76	19°09	62°55
30	45°51	47°08			64°87	40°02	14°71	44°74	19°74	53°09	18°96	62°83
31	45°71	46°78			65°26	40°09	14°95	45°01	19°77	53°40	18°84	63°10
32	45°93	46°47			65°64	40°17			19°81	53°70		

Mean R.A. 17^h 57^m 48^s.325 Mean Dec. + 86° 36' 50".43 Sec δ 16.931 Tan δ + 16.902

APPARENT PLACES OF STARS, 1923. 241

AT UPPER TRANSIT AT GREENWICH.

δ Ursæ Minoris. Mag. 4.4

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m	[°] [']	^h ^m	[°] [']	^h ^m	[°] [']	^h ^m	[°] [']	^h ^m	[°] [']	^h ^m	[°] [']
	17 57	86 37	17 57	86 37	17 56	86 37	17 56	86 37	17 56	86 37	17 56	86 36
1	18.84	3.10	12.30	11.47	61.44	16.69	48.89	17.58	36.46	13.75	27.80	65.97
2	18.73	3.38	12.03	11.70	61.04	16.82	48.44	17.53	36.09	13.51	27.63	65.64
3	18.62	3.66	11.75	11.94	60.63	16.93	47.99	17.47	35.75	13.28	27.46	65.33
4	18.51	3.95	11.46	12.18	60.21	17.03	47.55	17.39	35.42	13.05	27.30	65.03
5	18.39	4.26	11.15	12.42	59.77	17.11	47.11	17.30	35.10	12.82	27.13	64.75
6	18.27	4.57	10.83	12.65	59.34	17.17	46.69	17.19	34.79	12.61	26.94	64.47
7	18.13	4.88	10.50	12.88	58.91	17.22	46.29	17.09	34.47	12.42	26.75	64.18
8	17.97	5.21	10.16	13.09	58.49	17.26	45.89	16.99	34.14	12.24	26.54	63.88
9	17.80	5.53	9.81	13.29	58.09	17.29	45.50	16.91	33.80	12.04	26.34	63.56
10	17.61	5.84	9.45	13.47	57.70	17.32	45.11	16.83	33.45	11.84	26.15	63.22
11	17.41	6.15	9.10	13.63	57.30	17.36	44.71	16.77	33.09	11.62	25.99	62.86
12	17.19	6.44	8.76	13.78	56.91	17.41	44.30	16.71	32.74	11.38	25.84	62.49
13	16.97	6.71	8.43	13.93	56.51	17.48	43.87	16.64	32.40	11.11	25.72	62.13
14	16.75	6.97	8.10	14.09	56.10	17.55	43.43	16.55	32.08	10.83	25.62	61.77
15	16.54	7.22	7.78	14.27	55.67	17.63	42.99	16.45	31.78	10.54	25.53	61.42
16	16.33	7.46	7.46	14.45	55.23	17.70	42.55	16.32	31.51	10.25	25.45	61.08
17	16.13	7.70	7.13	14.65	54.78	17.75	42.12	16.18	31.25	9.97	25.38	60.75
18	15.94	7.96	6.77	14.85	54.33	17.77	41.71	16.02	30.99	9.70	25.30	60.43
19	15.74	8.23	6.40	15.05	53.88	17.76	41.32	15.85	30.74	9.43	25.23	60.12
20	15.54	8.52	6.00	15.23	53.43	17.74	40.94	15.68	30.49	9.18	25.15	59.80
21	15.31	8.81	5.59	15.38	52.99	17.70	40.58	15.53	30.24	8.93	^{25 07} _{24 92}	^{59 48} _{59 15}
22	15.06	9.11	5.19	15.52	52.58	17.67	40.22	15.38	29.99	8.68	24.91	58.82
23	14.79	9.40	4.79	15.64	52.18	17.65	39.86	15.24	29.73	8.43	24.83	58.47
24	14.51	9.68	4.40	15.75	51.79	17.63	39.50	15.10	29.47	8.17	24.77	58.10
25	14.21	9.93	4.03	15.85	51.40	17.62	39.13	14.96	29.20	7.89	24.72	57.72
26	13.92	10.17	3.67	15.95	51.00	17.61	38.75	14.82	28.94	7.60	24.69	57.34
27	13.63	10.38	3.31	16.06	50.60	17.61	38.38	14.68	28.69	7.30	24.68	56.96
28	13.35	10.59	2.95	16.17	50.18	17.61	38.00	14.52	28.44	6.97	24.69	56.59
29	13.08	10.80	2.59	16.30	49.76	17.61	37.61	14.35	28.21	6.64	24.71	56.23
30	12.82	11.01	2.21	16.43	49.33	17.60	37.22	14.17	27.99	6.31	24.74	55.90
31	12.56	11.23	1.83	16.56	48.89	17.58	36.84	13.97	27.80	5.97	24.77	55.58
32	12.30	11.47	1.44	16.69			36.46	13.75			24.78	55.28

Mean R.A. 17^h 57^m 4^s.325 Mean Dec. + 86° 36' 50".43 Sec δ 16.931 Tan δ + 16.902
16—23 (NAUTICAL ALMANAC, 1923.) R

242 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

 λ Ursæ Minoris. Mag. 6.6

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m 18 54 89° I		^h ^m 18 54 89° I		^h ^m 18 54 89° I		^h ^m 18 55 89° I		^h ^m 18 55 89° I		^h ^m 18 56 89° I	
1	14.64	43.85	17.40	33.32	39.70	26.19	16.82	23.01	52.29	25.61	16.36	32.85
2	14.23	43.53	17.91	32.99	40.78	25.97	18.16	23.04	53.24	25.81	16.74	33.12
3	^{13.82} 13 46	^{43.20} 43 20	18.52	32.66	41.93	25.77	19.43	23.09	54.14	26.00	17.16	33.39
4	13.16	42.49	19.19	32.35	43.12	25.59	20.65	23.14	55.00	26.18	17.61	33.65
5	12.94	42.12	19.90	32.07	44.31	25.43	21.80	23.18	55.87	26.35	18.08	33.91
6	12.81	41.75	20.61	31.80	45.48	25.29	22.92	23.21	56.76	26.52	18.57	34.18
7	12.76	41.40	21.28	31.55	46.60	25.17	24.03	23.24	57.69	26.69	19.07	34.47
8	12.76	41.06	21.91	31.30	47.66	25.05	25.17	23.26	58.67	26.86	19.56	34.77
9	12.79	40.74	22.50	31.04	48.69	24.93	26.35	23.27	59.68	27.04	20.01	35.08
10	12.81	40.43	23.09	30.77	49.71	24.80	27.58	23.28	60.71	27.23	20.42	35.40
11	12.79	40.13	23.67	30.49	50.75	24.65	28.86	23.30	61.72	27.43	20.77	35.74
12	12.73	39.83	24.29	30.21	51.83	24.50	30.17	23.34	62.71	27.65	21.05	36.07
13	12.63	39.52	24.98	29.92	52.98	24.34	31.50	23.40	63.68	27.89	21.28	36.40
14	12.55	39.19	25.75	29.63	54.18	24.19	32.83	23.47	64.61	28.14	21.44	36.73
15	12.48	38.85	26.58	29.34	55.44	24.04	34.15	23.56	65.48	28.39	21.54	37.04
16	12.47	38.50	27.47	29.05	56.73	23.91	35.44	23.67	66.29	28.64	21.62	37.34
17	12.54	38.15	28.41	28.79	58.05	23.81	36.69	23.78	67.04	28.89	21.70	37.63
18	12.69	37.80	29.38	28.54	59.39	23.72	37.91	23.89	67.74	29.14	21.80	37.91
19	12.91	37.44	30.37	28.30	60.72	23.65	39.07	24.01	68.39	29.39	21.93	38.19
20	13.19	37.09	31.36	28.08	62.03	23.59	40.16	24.13	69.03	29.63	22.10	38.47
21	13.52	36.75	32.34	27.87	63.31	23.54	41.21	24.25	69.69	29.85	22.29	38.78
22	13.89	36.43	33.30	27.66	64.54	23.49	42.25	24.35	70.36	30.07	22.47	39.11
23	14.27	36.11	34.22	27.47	65.74	23.44	43.29	24.44	71.08	30.29	22.61	39.45
24	14.66	35.81	35.11	27.27	66.90	23.39	44.34	24.54	71.83	30.52	22.68	39.80
25	15.04	35.51	35.99	27.07	68.03	23.34	45.44	24.64	72.60	30.77	22.65	40.16
26	15.39	35.21	36.86	26.86	69.16	23.28	46.60	24.75	73.34	31.05	22.54	40.51
27	15.72	34.92	37.75	26.64	70.31	23.21	47.80	24.88	74.02	31.35	22.36	40.85
28	16.02	34.62	38.69	26.41	71.51	23.15	49.00	25.03	74.63	31.66	22.14	41.17
29	16.31	34.31	39.70	26.19	72.78	23.09	50.16	25.21	75.16	31.97	21.91	41.48
30	16.62	33.99			74.10	23.04	51.26	25.41	75.60	32.28	21.71	41.78
31	16.97	33.66			75.46	23.01	52.29	25.61	75.99	32.57	21.54	42.08
32	17.40	33.32			76.82	23.01			76.36	32.85		

Mean R.A. 18^h 55^m 23^s.390 Mean Dec. + 89° 1' 32".84 Sec δ 58.815 Tan δ + 58.807

APPARENT PLACES OF STARS, 1923. 243

AT UPPER TRANSIT AT GREENWICH.

λ Ursæ Minoris. Mag. 6.6

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m ^s 18 56 89 I		^h ^m ^s 18 55 89 I		^h ^m ^s 18 54 89 I		^h ^m ^s 18 54 89 2		^h ^m ^s 18 53 89 I		^h ^m ^s 18 53 89 I	
1	21.54	42.08	66.99	51.56	94.93	59.00	52.93	2.66	66.68	61.78	29.37	56.31
2	21.40	42.37	66.31	51.85	93.68	59.21	51.36	2.72	65.22	61.64	28.45	56.04
3	21.30	42.66	65.61	52.14	92.38	59.41	49.76	2.75	63.82	61.49	27.58	55.78
4	21.20	42.97	64.85	52.44	91.03	59.59	48.16	2.77	62.48	61.34	26.73	55.53
5	21.09	43.29	64.03	52.74	89.62	59.76	46.57	2.78	61.19	61.20	25.87	55.30
6	20.95	43.61	63.16	53.04	88.20	59.92	45.03	2.78	59.92	61.07	24.95	55.08
7	20.78	43.95	62.23	53.33	86.77	60.06	43.55	2.77	58.65	60.95	23.97	54.85
8	20.56	44.30	61.24	53.62	85.37	60.19	42.12	2.76	57.34	60.84	22.96	54.61
9	20.26	44.65	60.21	53.88	84.00	60.31	40.73	2.76	55.97	60.73	21.95	54.35
10	19.90	44.99	59.15	54.12	82.68	60.43	39.34	2.78	54.55	60.62	20.95	54.06
11	19.49	45.33	58.10	54.35	81.41	60.56	37.92	2.82	53.09	60.49	20.00	53.76
12	19.01	45.66	57.08	54.57	80.16	60.70	36.44	2.86	51.63	60.33	19.14	53.44
13	18.49	45.96	56.10	54.79	78.88	60.86	34.89	2.88	50.19	60.16	18.37	53.11
14	17.97	46.26	55.16	55.02	77.54	61.03	33.29	2.90	48.81	59.97	17.66	52.79
15	17.46	46.54	54.26	55.26	76.14	61.20	31.65	2.90	47.50	59.77	17.02	52.49
16	16.98	46.82	53.34	55.51	74.67	61.35	30.01	2.88	46.28	59.55	16.42	52.19
17	16.54	47.10	52.38	55.77	73.15	61.49	28.40	2.83	45.11	59.34	15.85	51.89
18	16.13	47.39	51.35	56.04	71.59	61.61	26.85	2.77	43.98	59.14	15.28	51.61
19	15.73	47.70	50.25	56.31	70.03	61.71	25.36	2.70	42.88	58.96	14.70	51.33
20	15.31	48.02	49.06	56.57	68.50	61.80	23.93	2.63	41.78	58.77	14.12	51.05
21	14.82	48.35	47.82	56.81	67.03	61.87	22.55	2.55	40.69	58.59	13.52	50.77
22	14.24	48.69	46.55	57.03	65.60	61.93	21.19	2.49	39.58	58.40	12.90	50.47
23	13.59	49.02	45.30	57.24	64.22	61.99	19.83	2.43	38.45	58.22	12.28	50.16
24	12.86	49.35	44.07	57.43	62.87	62.07	18.46	2.39	37.29	58.03	11.65	49.84
25	12.07	49.66	42.89	57.61	61.53	62.15	17.07	2.34	36.10	57.83	11.05	49.50
26	11.26	49.95	41.76	57.79	60.17	62.24	15.66	2.30	34.91	57.62	10.49	49.15
27	10.48	50.22	40.64	57.98	58.80	62.33	14.23	2.24	33.72	57.38	10.00	48.80
28	9.73	50.48	39.53	58.17	57.39	62.42	12.75	2.17	32.55	57.12	9.59	48.45
29	9.01	50.74	38.43	58.37	55.94	62.51	11.24	2.10	31.43	56.85	9.26	48.10
30	8.33	51.00	37.30	58.57	54.46	62.59	9.72	2.01	30.36	56.58	9.00	47.76
31	7.66	51.27	36.14	58.78	52.93	62.66	8.19	1.90	29.37	56.31	8.78	47.44
32	6.99	51.56	34.93	59.00			6.68	1.78			8.55	47.13

Mean R.A. 18^h 55^m 25.^s 390 Mean Dec. + 89° 1' 32".84 Sec δ 58.815 Tan δ + 58.807

R 2

244 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

B.A.C. 7504. Mag. 7.4

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m 21 14 86° 43'		^h ^m 21 14 86° 43'		^h ^m 21 14 86° 43'		^h ^m 21 14 86° 43'		^h ^m 21 15 86° 43'		^h ^m 21 15 86° 43'	
1	52.31	34.17	46.34	25.39	47.06	15.89	54.15	7.89	4.66	4.97	15.51	7.60
2	52.01	33.97	46.23	25.05	47.19	15.55	54.49	7.72	5.04	5.00	15.79	7.77
3	51.71	33.75	46.14	24.69	47.33	15.22	54.83	7.57	5.40	5.04	16.07	7.93
4	51.41	33.52	46.08	24.33	47.50	14.89	55.17	7.44	5.74	5.06	16.36	8.08
5	51.10	33.27	46.02	23.82	47.70	14.59	55.49	7.31	6.07	5.07	16.66	8.25
6	50.81	33.00	46.02	23.31	47.90	14.31	55.79	7.18	6.41	5.08	16.97	8.42
7	50.55	32.72	46.02	23.00	48.09	14.05	56.09	7.03	6.75	5.09	17.29	8.59
8	50.30	32.43	46.01	22.71	48.28	13.80	56.39	6.88	7.10	5.09	17.61	8.77
9	50.08	32.15	45.99	22.42	48.45	13.54	56.69	6.72	7.47	5.10	17.93	8.96
10	49.88	31.88	45.97	22.11	48.62	13.27	57.00	6.55	7.84	5.12	18.24	9.17
11	49.69	31.62	45.94	21.78	48.79	13.00	57.33	6.39	8.23	5.15	18.54	9.40
12	49.50	31.38	45.92	21.45	48.96	12.71	57.68	6.23	8.62	5.19	18.84	9.64
13	49.29	31.15	45.90	21.11	49.14	12.41	58.04	6.09	9.01	5.24	19.12	9.90
14	49.07	30.90	45.89	20.76	49.33	12.12	58.41	5.96	9.40	5.30	19.39	10.16
15	48.84	30.64	45.90	20.41	49.55	11.82	58.79	5.84	9.78	5.39	19.63	10.41
16	48.61	30.36	45.93	20.05	49.79	11.53	59.17	5.74	10.16	5.49	19.86	10.65
17	48.39	30.07	45.99	19.69	50.04	11.24	59.55	5.65	10.53	5.59	20.07	10.88
18	48.17	29.76	46.06	19.33	50.31	10.98	59.93	5.58	10.87	5.71	20.29	11.10
19	47.97	29.44	46.15	18.99	50.58	10.73	60.31	5.52	11.19	5.83	20.52	11.32
20	47.79	29.11	46.25	18.66	50.86	10.49	60.67	5.46	11.51	5.93	20.76	11.53
21	47.64	28.78	46.35	18.35	51.14	10.26	61.01	5.41	11.82	6.02	21.01	11.76
22	47.50	28.45	46.45	18.05	51.42	10.04	61.34	5.35	12.14	6.11	21.27	12.01
23	47.37	28.13	46.55	17.75	51.68	9.83	61.67	5.29	12.48	6.20	21.53	12.29
24	47.26	27.81	46.64	17.46	51.94	9.63	62.00	5.21	12.82	6.29	21.79	12.58
25	47.15	27.50	46.72	17.17	52.19	9.43	62.33	5.13	13.18	6.40	22.03	12.88
26	47.05	27.21	46.80	16.86	52.44	9.22	62.69	5.06	13.54	6.54	22.24	13.19
27	46.95	26.93	46.87	16.55	52.68	8.99	63.06	4.99	13.91	6.70	22.44	13.51
28	46.84	26.64	46.96	16.22	52.93	8.76	63.46	4.95	14.27	6.88	22.61	13.81
29	46.72	26.35	47.06	15.89	53.20	8.53	63.86	4.94	14.61	7.06	22.77	14.11
30	46.60	26.04			53.50	8.30	64.26	4.94	14.92	7.24	22.92	14.39
31	46.47	25.72			53.82	8.09	64.66	4.97	15.22	7.42	23.08	14.66
32	46.34	25.39			54.15	7.89			15.51	7.60		

Mean R.A. 21^h 15^m 18.767 Mean Dec. + 86° 43' 15".24 Sec δ 17.483 Tan δ + 17.454

APPARENT PLACES OF STARS, 1923. 245

AT UPPER TRANSIT AT GREENWICH.

B.A.C. 7504. Mag. 7.4

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m	^s	^h ^m	^s	^h ^m	^s	^h ^m	^s	^h ^m	^s	^h ^m	^s
	21 15	86 43	21 15	86 43	21 15	86 43	21 15	86 43	21 14	86 43	21 14	86 43
1	23.08	14.66	26.00	24.75	23.29	35.61	15.68	44.75	64.08	50.69	51.61	51.54
2	23.25	14.92	26.02	25.09	23.13	35.97	15.35	45.02	63.64	50.78	51.22	51.45
3	23.42	15.19	26.04	25.44	22.95	36.33	14.99	45.28	63.21	50.86	50.84	51.36
4	23.60	15.46	26.06	25.80	22.76	36.69	14.62	45.52	62.79	50.93	50.47	51.29
5	23.78	15.75	26.07	26.16	22.55	37.04	14.25	45.75	62.39	51.00	50.11	51.23
6	23.97	16.05	26.06	26.54	22.32	37.37	13.88	45.97	62.00	51.08	49.75	51.18
7	24.16	16.36	26.04	26.92	22.07	37.70	13.52	46.18	61.62	51.17	49.37	51.13
8	24.34	16.68	25.99	27.30	21.82	38.01	13.17	46.38	61.24	51.27	48.97	51.07
9	24.50	17.01	25.92	27.67	21.58	38.30	12.84	46.59	60.85	51.38	48.55	51.00
10	24.65	17.34	25.84	28.03	21.34	38.58	12.52	46.81	60.43	51.49	48.14	50.90
11	24.78	17.68	25.74	28.38	21.12	38.87	12.20	47.04	60.01	51.59	47.72	50.79
12	24.89	18.02	25.65	28.72	20.90	39.18	11.87	47.28	59.56	51.67	47.31	50.66
13	24.98	18.36	25.56	29.05	20.69	39.50	11.52	47.53	59.11	51.72	46.92	50.50
14	25.06	18.69	25.49	29.37	20.48	39.83	11.16	47.78	58.65	51.76	46.54	50.34
15	25.13	19.00	25.43	29.70	20.26	40.17	10.77	48.01	58.20	51.78	46.18	50.17
16	25.20	19.31	25.38	30.04	20.02	40.52	10.36	48.23	57.77	51.79	45.84	50.01
17	25.28	19.61	25.33	30.41	19.75	40.86	9.95	48.42	57.35	51.79	45.51	49.85
18	25.38	19.91	25.26	30.78	19.46	41.18	9.54	48.60	56.95	51.79	45.18	49.70
19	25.48	20.23	25.18	31.17	19.16	41.49	9.14	48.75	56.55	51.78	44.86	49.54
20	25.59	20.57	25.07	31.56	18.85	41.78	8.75	48.90	56.17	51.78	44.53	49.39
21	25.70	20.92	24.93	31.94	18.54	42.05	8.37	49.04	55.79	51.80	44.20	49.24
22	25.79	21.29	24.78	32.30	18.25	42.31	8.00	49.19	55.41	51.81	43.87	49.10
23	25.86	21.67	24.61	32.65	17.96	42.56	7.64	49.34	55.01	51.82	43.52	48.95
24	25.90	22.05	24.45	32.98	17.68	42.81	7.28	49.49	54.61	51.83	43.17	48.77
25	25.93	22.42	24.29	33.31	17.40	43.07	6.92	49.66	54.20	51.84	42.81	48.58
26	25.94	22.77	24.14	33.63	17.13	43.34	6.55	49.82	53.78	51.84	42.46	48.37
27	25.94	23.12	23.99	33.95	16.86	43.61	6.17	49.99	53.34	51.82	42.11	48.15
28	25.94	23.45	23.86	34.26	16.58	43.89	5.78	50.15	52.89	51.77	41.78	47.92
29	25.94	23.78	23.72	34.58	16.29	44.18	5.37	50.31	52.45	51.71	41.47	47.67
30	25.96	24.10	23.58	34.92	15.99	44.46	4.95	50.46	52.03	51.63	41.18	47.42
31	25.98	24.42	23.44	35.26	15.68	44.75	4.52	50.58	51.61	51.54	40.91	47.19
32	26.00	24.75	23.29	35.61			4.08	50.69			40.66	46.97

Mean R.A. 21^h 15^m 18.767 Mean Dec. + 86° 43' 15".24 Sec δ 17.483 Tan δ + 17.454

246 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

39 H Cephei. Mag. 5.6

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^{h m} 23 27	^s 86° 53'	^{h m} 23 27	^s 86° 53'	^{h m} 23 27	^s 86° 52'	^{h m} 23 27	^s 86° 52'	^{h m} 23 27	^s 86° 52'	^{h m} 23 27	^s 86° 52'
1	46.82	18.31	35.83	13.85	30.33	65.96	31.11	55.69	38.38	48.41	49.61	45.73
2	46.43	18.29	35.50	13.62	30.20	65.63	31.30	55.39	38.73	48.27	49.97	45.75
3	46.02	18.26	35.18	13.36	30.08	65.29	31.51	55.11	39.06	48.14	50.32	45.76
4	45.59	18.21	34.89	13.09	29.99	64.94	31.71	54.85	39.38	48.02	50.67	45.75
5	45.15	18.14	34.63	12.82	29.93	64.59	31.90	54.60	39.69	47.89	51.03	45.74
6	44.71	18.05	34.39	12.54	29.90	64.26	32.08	54.35	39.98	47.75	51.41	45.73
7	44.29	17.93	34.18	12.28	29.88	63.94	32.25	54.10	40.28	47.59	51.80	45.73
8	43.90	17.81	33.98	12.03	29.89	63.64	32.41	53.84	40.59	47.42	52.20	45.75
9	43.53	17.68	33.78	11.80	29.89	63.35	32.57	53.57	40.91	47.25	52.62	45.77
10	43.18	17.56	33.56	11.56	29.88	63.06	32.74	53.28	41.25	47.09	53.04	45.81
11	42.84	17.45	33.33	11.32	29.86	62.76	32.92	52.99	41.60	46.93	53.45	45.85
12	42.51	17.34	33.10	11.08	$\left\{ \begin{smallmatrix} 29.83 \\ 29.78 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 62.45 \\ 62.43 \end{smallmatrix} \right\}$	33.11	52.70	41.97	46.79	53.87	45.92
13	42.18	17.24	32.86	10.81	29.73	61.81	33.33	52.41	42.36	46.66	54.28	46.01
14	41.83	17.15	32.61	10.53	29.70	61.46	33.57	52.12	42.75	46.54	54.68	46.11
15	41.46	17.04	32.37	10.23	29.69	61.11	33.82	51.84	43.14	46.44	55.06	46.20
16	41.08	16.92	32.15	9.92	29.70	60.76	34.09	51.58	43.54	46.35	55.42	46.29
17	40.68	16.78	31.95	9.60	29.73	60.40	34.36	51.34	43.93	46.29	55.76	46.39
18	40.29	16.62	31.77	9.28	29.79	60.04	34.64	51.10	44.30	46.23	56.10	46.48
19	39.91	16.44	31.60	8.95	29.86	59.70	34.92	50.88	44.66	46.17	56.44	46.56
20	39.54	16.25	31.44	8.63	29.95	59.37	35.20	50.67	45.00	46.11	56.80	46.64
21	39.19	16.05	31.31	8.31	30.05	59.05	35.47	50.47	45.33	46.04	57.16	46.72
22	38.85	15.84	31.19	8.01	30.15	58.74	35.72	50.28	45.67	45.97	57.54	46.81
23	38.53	15.63	31.08	7.71	30.25	58.45	35.96	50.07	46.02	45.89	57.94	46.92
24	38.23	15.42	30.97	7.41	30.35	58.16	36.20	49.86	46.39	45.81	58.36	47.06
25	37.94	15.22	30.86	7.13	30.43	57.88	36.45	49.64	46.77	45.74	58.78	47.21
26	37.65	15.02	30.74	6.85	30.50	57.59	36.72	49.41	47.17	45.68	59.18	47.39
27	37.36	14.83	30.61	6.57	30.56	57.29	37.01	49.18	47.59	45.65	59.55	47.57
28	37.08	14.64	30.47	6.28	30.63	56.98	37.32	48.95	48.02	45.63	59.90	47.75
29	36.78	14.45	30.33	5.96	30.71	56.66	37.66	48.75	48.45	45.64	60.23	47.93
30	36.47	14.26			30.82	56.34	38.02	48.57	48.86	45.67	60.55	48.09
31	36.16	14.06			30.95	56.01	38.38	48.41	49.24	45.70	60.86	48.24
32	35.83	13.85			31.11	55.69			49.61	45.73		

Mean R.A. 23^h 27^m 42^s.388 Mean Dec. + 86° 52' 58".10 Sec δ 18.390 Tan δ + 18.362

APPARENT PLACES OF STARS, 1923. 247

AT UPPER TRANSIT AT GREENWICH.

39 II Cephei. Mag. 5.6

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m		^h ^m		^h ^m		^h ^m		^h ^m		^h ^m	
	23 28	86° 52'	23 28	86° 52'	23 28	86° 53'	23 28	86° 53'	23 27	86° 53'	23 27	86° 53'
1	0.86	48.24	10.09	55.50	14.94	5.97	14.36	17.26	68.25	27.74	58.03	34.38
2	1.18	48.39	10.34	55.77	15.03	6.35	14.26	17.65	67.93	28.02	57.62	34.40
3	1.51	48.54	10.59	56.05	15.11	6.74	14.13	18.04	67.61	28.28	57.23	34.59
4	1.86	48.69	10.84	56.35	15.17	7.13	13.98	18.43	67.30	28.54	56.86	34.60
5	2.21	48.85	11.09	56.66	15.22	7.53	13.81	18.80	67.00	28.79	56.51	34.80
6	2.57	49.02	11.34	56.98	15.24	7.92	13.64	19.15	66.71	29.04	56.16	34.93
7	2.94	49.20	11.57	57.32	15.25	8.31	13.46	19.48	66.44	29.30	55.80	35.07
8	3.30	49.39	11.78	57.67	15.24	8.70	13.29	19.81	66.18	29.56	55.42	35.23
9	3.66	49.59	11.96	58.02	15.22	9.07	13.14	20.14	65.92	29.84	55.02	35.38
10	4.02	49.82	12.12	58.37	15.21	9.42	13.00	20.47	65.63	30.13	54.59	35.50
11	4.36	50.06	12.26	58.71	15.21	9.76	12.88	20.82	65.32	30.42	54.16	35.60
12	4.68	50.31	12.40	59.04	15.22	10.10	12.76	21.19	64.99	30.70	53.71	35.68
13	4.98	50.56	12.54	59.35	15.25	10.46	12.62	21.57	64.63	30.97	53.26	35.73
14	5.26	50.80	12.69	59.66	15.28	10.84	12.46	21.95	64.26	31.22	52.83	35.78
15	5.53	51.03	12.86	59.96	15.32	11.24	12.27	22.33	63.89	31.44	52.41	35.81
16	5.80	51.25	13.04	60.28	15.34	11.65	12.07	22.70	63.52	31.65	52.00	35.83
17	6.07	51.47	13.24	60.61	15.33	12.06	11.84	23.06	63.16	31.84	51.61	35.85
18	6.36	51.68	13.43	60.96	15.29	12.47	11.60	23.40	62.81	32.03	51.23	35.88
19	6.66	51.90	13.61	61.33	15.24	12.87	11.35	23.71	62.47	32.21	50.85	35.92
20	6.98	52.13	13.78	61.71	15.16	13.26	11.11	24.01	62.14	32.39	50.47	35.95
21	7.30	52.37	13.92	62.09	15.07	13.63	10.88	24.31	61.81	32.58	50.09	35.99
22	7.62	52.64	14.04	62.47	14.99	13.99	10.66	24.60	61.48	32.78	49.70	36.03
23	7.94	52.93	14.13	62.85	14.91	14.35	10.45	24.89	61.14	32.98	49.30	36.06
24	8.23	53.23	14.21	63.22	14.83	14.70	10.24	25.19	60.80	33.18	48.88	36.08
25	8.50	53.54	14.28	63.57	14.76	15.05	10.03	25.50	60.45	33.38	48.44	36.10
26	8.74	53.85	14.35	63.90	14.70	15.40	9.82	25.82	60.08	33.58	47.99	36.10
27	8.96	54.14	14.43	64.23	14.65	15.75	9.60	26.14	59.70	33.77	47.54	36.08
28	9.18	54.43	14.52	64.56	14.59	16.11	9.37	26.47	59.29	33.95	47.09	36.04
29	9.39	54.71	14.62	64.89	14.52	16.48	9.12	26.80	58.87	34.11	46.66	35.98
30	9.62	54.97	14.72	65.24	14.45	16.87	8.85	27.12	58.45	34.25	46.26	35.92
31	9.85	55.23	14.83	65.60	14.36	17.26	8.56	27.44	58.03	34.38	45.87	35.85
32	10.09	55.50	14.94	65.97			8.25	27.74			45.50	35.79

Mean R.A. 23^h 27^m 42^s.388 Mean Dec. + 86° 52' 58".10 Sec δ 18.390 Tan δ + 18.362

248 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

o Octantis. Mag. 7.2

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 0 11 88 47		^h ^m 0 10 88 47		^h ^m 0 10 88 47		^h ^m 0 10 88 47		^h ^m 0 11 88 47		^h ^m 0 11 88 46	
1	38.71	49.14	70.70	42.85	54.95	33.69	51.49	21.64	1.85	11.02	24.57	62.90
2	37.68	49.00	70.07	42.57	54.71	33.32	51.53	21.27	2.33	10.67	25.54	62.69
3	36.71	48.85	69.43	42.29	54.45	32.97	51.57	20.89	2.88	10.33	26.53	62.50
4	35.78	48.69	68.77	42.02	54.15	32.63	51.63	20.49	3.49	9.98	27.52	62.33
5	34.89	48.54	68.06	41.76	53.81	32.29	51.75	20.08	4.16	9.64	28.50	62.19
6	34.00	48.41	67.30	41.49	53.43	31.94	51.94	19.67	4.88	9.33	29.45	62.05
7	33.09	48.29	66.52	41.21	53.04	31.57	52.21	19.27	5.61	9.04	30.37	61.92
8	32.13	48.17	65.73	40.90	52.66	31.18	52.53	18.88	6.34	8.77	31.25	61.79
9	31.13	48.04	64.96	40.58	52.32	30.77	52.88	18.50	7.06	8.50	32.12	61.66
10	30.07	47.90	64.24	40.24	52.05	30.36	53.24	18.14	7.74	8.24	32.98	61.52
11	28.99	47.74	63.59	39.88	51.86	29.95	53.59	17.79	8.40	7.98	33.84	61.38
12	27.91	47.55	63.01	39.53	51.72	29.55	53.92	17.45	9.04	7.73	34.71	61.24
13	26.85	47.35	62.49	39.19	51.63	29.16	54.24	17.12	9.67	7.47	35.59	61.09
14	25.87	47.13	61.99	38.86	51.56	28.78	54.54	16.79	10.30	7.21	36.52	60.95
15	24.95	46.91	61.51	38.53	51.50	28.42	54.83	16.45	10.93	6.94	37.50	60.80
16	24.07	46.68	61.03	38.22	51.42	28.06	55.10	16.11	11.58	6.67	38.52	60.66
17	23.23	46.46	60.53	37.92	51.33	27.71	55.37	15.76	12.27	6.39	39.59	60.54
18	22.42	46.25	60.01	37.61	51.21	27.36	55.66	15.41	13.01	6.11	40.68	60.43
19	21.60	46.05	59.47	37.31	51.08	27.01	55.99	15.05	13.81	5.83	41.76	60.34
20	20.78	45.85	58.92	37.00	50.95	26.64	56.36	14.68	14.66	5.56	42.81	60.28
21	19.94	45.66	58.36	36.66	50.81	26.27	56.79	14.31	15.55	5.31	43.80	60.22
22	19.07	45.46	57.81	36.32	50.68	25.88	57.29	13.94	16.45	5.07	44.73	60.17
23	18.18	45.26	57.26	35.97	50.57	25.49	57.83	13.58	17.34	4.85	45.63	60.11
24	17.27	45.05	56.73	35.60	$\left\{ \begin{smallmatrix} 50.50 \\ 50.49 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 25.08 \\ 24.67 \end{smallmatrix} \right\}$	58.40	13.23	18.20	4.65	46.50	60.04
25	16.35	44.82	56.25	35.22	50.53	24.26	58.98	12.90	19.01	4.46	47.38	59.96
26	15.43	44.57	55.84	34.83	50.63	23.85	59.55	12.59	19.77	4.26	48.29	59.87
27	14.53	44.31	55.49	34.44	50.79	23.46	60.07	12.29	20.49	4.05	49.26	59.78
28	13.65	44.03	55.20	34.06	50.98	23.08	60.55	11.99	21.21	3.83	50.29	59.70
29	12.82	43.74	54.95	33.69	51.16	22.71	60.99	11.68	21.96	3.60	51.36	59.63
30	12.06	43.43			51.31	22.35	61.41	11.36	22.77	3.36	52.46	59.58
31	11.35	43.13			51.42	22.00	61.85	11.02	23.64	3.12	53.56	59.55
32	10.70	42.85			51.49	21.64			24.57	2.90		

Mean R.A. $0^h 12^m 17^s.181$ Mean Dec. — $88^\circ 47' 27''.78$ Sec δ 47.397 Tan δ — 47.386

APPARENT PLACES OF STARS, 1923. 249

AT UPPER TRANSIT AT GREENWICH.

o Octantis. Mag. 7.2

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^{h m} O I I 88° 46'		^{h m} O I 2 88° 47'		^{h m} O I 2 88° 47'		^{h m} O I 2 88° 47'		^{h m} O I 2 88° 47'		^{h m} O I I 88° 47'	
1	53.56	59.55	23.25	1.51	44.25	8.30	50.08	17.44	38.67	26.43	73.81	31.67
2	54.63	59.55	24.07	1.69	44.63	8.58	49.98	17.74	38.13	26.67	72.86	31.78
3	55.68	59.56	24.86	1.87	45.00	8.85	49.90	18.03	37.57	26.93	71.85	31.89
4	56.69	59.58	25.62	2.05	45.40	9.11	49.83	18.33	36.95	27.19	70.77	31.98
5	57.67	59.60	26.36	2.21	45.81	9.37	49.77	18.63	36.27	27.46	69.65	32.06
6	58.62	59.62	27.10	2.36	46.25	9.63	49.71	18.95	35.52	27.72	68.52	32.11
7	59.54	59.64	27.87	2.51	46.71	9.90	49.63	19.29	34.70	27.95	67.41	32.13
8	60.44	59.66	28.65	2.67	47.18	10.18	49.48	19.63	33.84	28.17	66.33	32.14
9	61.35	59.67	29.46	2.83	47.62	10.49	49.24	19.97	32.96	28.36	65.31	32.14
10	62.27	59.67	30.30	3.00	48.02	10.81	48.93	20.30	32.11	28.53	64.34	32.14
11	63.22	59.67	31.17	3.18	48.35	11.14	48.55	20.62	31.30	28.70	63.41	32.15
12	64.19	59.68	32.04	3.37	48.61	11.47	48.15	20.91	30.53	28.86	62.49	32.17
13	65.21	59.70	32.88	3.58	48.80	11.80	47.74	21.19	29.80	29.03	61.54	32.19
14	66.27	59.73	33.67	3.82	48.93	12.11	47.36	21.46	29.08	29.21	60.57	32.22
15	67.35	59.77	34.39	4.06	49.04	12.41	47.01	21.72	28.36	29.40	59.56	32.25
16	68.43	59.83	35.04	4.30	49.17	12.69	46.70	21.98	27.61	29.60	58.51	32.29
17	69.48	59.91	35.64	4.53	49.33	12.96	46.41	22.26	26.80	29.80	57.42	32.31
18	70.48	60.01	36.21	4.75	49.52	13.24	46.12	22.55	25.94	30.00	56.31	32.31
19	71.42	60.11	36.77	4.96	49.74	13.52	45.81	22.85	25.05	30.20	55.19	32.29
20	72.29	60.21	37.35	5.16	49.98	13.82	45.45	23.17	24.10	30.38	54.06	32.26
21	73.12	60.31	37.97	5.37	50.20	14.14	45.03	23.49	23.12	30.55	52.94	32.21
22	73.94	60.39	38.64	5.58	50.39	14.47	44.56	23.81	22.12	30.70	51.85	32.15
23	74.77	60.46	39.33	5.80	50.52	14.81	44.03	24.12	21.13	30.84	50.78	32.07
24	75.65	60.53	40.03	6.04	50.60	15.16	43.47	24.42	20.15	30.96	49.77	31.99
25	76.58	60.60	40.71	6.30	50.63	15.51	42.87	24.70	19.17	31.07	48.80	31.91
26	77.55	60.68	41.36	6.57	50.60	15.85	42.24	24.97	18.22	31.17	47.86	31.83
27	78.56	60.77	41.96	6.86	50.54	16.19	41.60	25.24	17.30	31.26	46.94	31.75
28	79.56	60.88	42.51	7.15	50.45	16.52	40.97	25.50	16.42	31.35	46.01	31.69
29	80.54	61.02	43.00	7.45	50.34	16.84	40.35	25.74	15.56	31.45	45.05	31.63
30	81.48	61.17	43.45	7.74	50.20	17.15	39.76	25.97	14.70	31.56	44.04	31.57
31	82.39	61.34	43.86	8.02	50.08	17.44	39.20	26.20	13.81	31.67	42.97	31.50
32	83.25	61.51	44.25	8.30			38.67	26.43			41.85	31.41

Mean R.A. $\circ^h 12^m 17^s.181$ Mean Dec. — $88^\circ 47' 27''.78$ Sec $\delta 47.397$ Tan δ — 47.386

250 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

9 B Octantis. Mag. 7.8

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^{h m} 23 ^s 1	86° 4'	^{h m} 23 ^s 1	86° 4'	^{h m} 23 ^s 1	86° 3'	^{h m} 23 ^s 1	86° 3'	^{h m} 23 ^s 1	86° 3'	^{h m} 23 ^s 1	86° 3'
1	61.13	4.71	50.76	4.87	41.78	60.38	34.46	51.53	{ ^{31.19} _{31.13} }	{ ^{40.96} _{40.60} }	32.58	29.70
2	60.80	4.78	50.45	4.76	41.52	60.14	34.28	51.22	31.07	40.22	32.72	29.35
3	60.47	4.84	50.14	4.65	41.27	59.90	34.08	50.91	31.02	39.84	32.88	29.01
4	60.15	4.88	49.82	4.56	41.00	59.68	33.88	50.60	30.99	39.45	33.05	28.68
5	59.86	4.93	49.49	4.48	40.71	59.47	33.69	50.26	30.99	39.05	33.22	28.38
6	59.56	5.00	49.16	4.40	40.42	59.25	33.50	49.90	31.01	38.66	33.39	28.10
7	59.26	5.07	48.80	4.31	40.12	59.03	33.33	49.52	31.03	38.28	33.55	27.82
8	58.96	5.15	48.44	4.21	39.82	58.78	33.18	49.14	31.06	37.92	33.71	27.54
9	58.64	5.24	48.06	4.09	39.52	58.51	33.04	48.77	31.10	37.57	33.87	27.27
10	58.30	5.32	47.70	3.94	39.22	58.22	32.92	48.40	31.13	37.23	34.02	27.00
11	57.94	5.39	47.36	3.77	38.95	57.92	32.82	48.04	31.15	36.89	34.17	26.73
12	57.58	5.44	47.03	3.59	38.70	57.61	32.72	47.70	31.18	36.56	34.31	26.45
13	57.21	5.48	46.71	3.41	38.47	57.31	32.61	47.36	31.21	36.23	34.47	26.16
14	56.85	5.50	46.40	3.23	38.24	57.02	32.51	47.03	31.22	35.90	34.63	25.86
15	56.50	5.49	46.09	3.06	38.02	56.74	32.41	46.71	31.24	35.57	34.81	25.56
16	56.17	5.46	45.80	2.90	37.79	56.46	32.30	46.38	31.26	35.22	35.01	25.25
17	55.84	5.44	45.50	2.75	37.57	56.18	32.17	46.05	31.29	34.86	35.22	24.95
18	55.53	5.42	45.20	2.60	37.35	55.91	32.05	45.71	31.33	34.49	35.45	24.66
19	55.21	5.41	44.89	2.46	37.12	55.65	31.93	45.35	31.38	34.12	35.68	24.39
20	54.90	5.40	44.58	2.31	36.88	55.39	31.82	44.99	31.46	33.74	35.92	24.14
21	54.58	5.41	44.26	2.15	36.65	55.12	31.72	44.62	31.55	33.37	36.14	23.90
22	54.25	5.41	43.93	1.98	36.41	54.83	31.63	44.23	31.66	33.00	36.35	23.69
23	53.92	5.41	43.60	1.80	36.16	54.53	31.55	43.84	31.77	32.65	36.55	23.48
24	53.58	5.41	43.26	1.60	35.93	54.21	31.50	43.44	31.88	32.32	36.74	23.26
25	53.22	5.40	42.94	1.38	35.71	53.88	31.46	43.05	31.98	32.01	36.94	23.03
26	52.85	5.37	42.63	1.15	35.49	53.53	31.43	42.68	32.07	31.70	37.14	22.78
27	52.49	5.33	42.33	0.90	35.30	53.18	31.39	42.32	32.14	31.40	37.34	22.53
28	52.12	5.26	42.04	0.64	35.12	52.83	31.36	41.98	32.21	31.09	37.56	22.27
29	51.76	5.18	41.78	0.38	34.96	52.49	31.32	41.65	32.28	30.76	37.81	22.01
30	51.42	5.08			34.80	52.16	31.26	41.31	32.37	30.41	38.07	21.77
31	51.08	4.98			34.63	51.84	{ ^{31.19} _{31.13} }	{ ^{40.96} _{40.60} }	32.46	30.06	38.34	21.54
32	50.76	4.87			34.46	51.53			32.58	29.70		

APPARENT PLACES OF STARS, 1923. 251

AT UPPER TRANSIT AT GREENWICH.

9 B Octantis. Mag. 7.8

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 2 31	^s 86° 3'	^h ^m 2 31	^s 86° 3'	^h ^m 2 31	^s 86° 3'	^h ^m 2 32	^s 86° 3'	^h ^m 2 32	^s 86° 3'	^h ^m 2 31	^s 86° 3'
1	38.34	21.54	47.20	17.62	56.44	19.30	3.07	25.75	5.29	35.29	62.06	44.28
2	38.62	21.33	47.52	17.61	56.69	19.45	3.22	26.01	5.29	35.59	61.88	44.56
3	38.89	21.14	47.81	17.60	56.94	19.60	3.37	26.27	5.29	35.90	61.69	44.83
4	39.17	20.97	48.10	17.59	57.19	19.74	3.53	26.53	5.29	36.23	61.48	45.11
5	39.43	20.81	48.39	17.59	57.45	19.88	3.69	26.79	5.26	36.58	61.24	45.39
6	39.69	20.65	48.68	17.59	57.71	20.02	3.85	27.06	5.21	36.93	60.99	45.64
7	39.94	20.50	48.97	17.59	57.98	20.16	4.01	27.35	5.14	37.28	60.73	45.87
8	40.18	20.35	49.26	17.57	58.27	20.31	4.15	27.66	5.05	37.62	60.48	46.08
9	40.43	20.19	49.56	17.54	58.55	20.47	4.28	27.98	4.94	37.95	60.23	46.27
10	40.68	20.03	49.87	17.51	58.83	20.66	4.38	28.31	4.83	38.26	59.99	46.45
11	40.93	19.85	50.20	17.50	59.10	20.87	4.47	28.64	4.73	38.54	59.77	46.63
12	41.20	19.66	50.53	17.51	59.34	21.09	4.54	28.96	4.64	38.82	59.55	46.82
13	41.48	19.48	50.87	17.53	59.57	21.32	4.60	29.27	4.56	39.09	59.34	47.01
14	41.77	19.31	51.20	17.57	59.78	21.55	4.66	29.57	4.48	39.37	59.12	47.22
15	42.07	19.14	51.52	17.63	59.97	21.78	4.72	29.85	4.40	39.67	58.88	47.44
16	42.39	18.99	51.83	17.71	60.17	21.99	4.80	30.13	4.32	39.97	58.63	47.67
17	42.71	18.86	52.11	17.79	60.36	22.19	4.89	30.41	4.23	40.28	58.37	47.90
18	43.02	18.75	52.38	17.87	60.57	22.39	4.98	30.70	4.12	40.61	58.10	48.11
19	43.32	18.66	52.64	17.94	60.80	22.58	5.07	31.01	4.00	40.94	57.82	48.31
20	43.60	18.59	52.91	18.00	61.03	22.78	5.15	31.34	3.87	41.27	57.53	48.50
21	43.86	18.51	53.19	18.05	61.26	23.00	5.22	31.68	3.72	41.60	57.22	48.66
22	44.12	18.42	53.49	18.10	61.49	23.23	5.27	32.03	3.56	41.91	56.92	48.81
23	44.39	18.32	53.79	18.15	61.71	23.49	5.31	32.38	3.39	42.21	56.62	48.95
24	44.66	18.21	54.10	18.22	61.93	23.76	5.34	32.73	3.22	42.49	56.33	49.08
25	44.95	18.10	54.42	18.31	62.13	24.04	5.34	33.08	3.04	42.76	56.05	49.19
26	45.25	17.98	54.74	18.41	62.31	24.33	5.34	33.42	2.86	43.02	55.77	49.30
27	45.56	17.87	55.05	18.53	62.49	24.62	5.33	33.76	2.69	43.27	55.51	49.42
28	45.89	17.79	55.34	18.67	62.65	24.92	5.32	34.09	2.53	43.51	55.24	49.55
29	46.23	17.72	55.63	18.82	62.80	25.21	5.31	34.40	2.38	43.76	54.97	49.68
30	46.56	17.68	55.91	18.98	62.93	25.48	5.30	34.70	2.22	44.01	54.68	49.83
31	46.88	17.65	56.18	19.14	63.07	25.75	5.29	34.99	2.06	44.28	54.38	49.97
32	47.20	17.62	56.44	19.30			5.29	35.29			54.05	50.10

Mean R.A. 2^h 31^m 58^s.969 Mean Dec. — 86° 3' 40''-20 Sec δ 14.558 Tan δ — 14.523

252 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

10 B Octantis. Mag. 8.4

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 2 50	88° 29'	^h ^m 2 50	88° 29'	^h ^m 2 50	88° 29'	^h ^m 2 49	88° 28'	^h ^m 2 49	88° 28'	^h ^m 2 49	88° 28'
	^s		^s		^s		^s		^s		^s	
1	77.19	15.88	49.83	16.79	25.36	13.02	64.37	64.78	53.51	54.60	54.48	43.42
2	76.32	15.98	48.98	16.71	24.64	12.79	63.83	64.50	53.25	54.25	54.75	43.06
3	75.48	16.07	48.15	16.64	23.92	12.56	63.26	64.21	53.00	53.88	55.07	42.71
4	74.67	16.14	47.32	16.58	23.18	12.35	62.67	63.90	52.79	53.50	55.42	42.38
5	73.89	16.21	46.45	16.52	22.40	12.16	62.08	63.58	52.64	53.11	55.79	42.06
6	73.13	16.30	45.55	16.47	21.60	11.97	61.51	63.24	{ ⁵² 53}	{ ⁵² 35}	56.16	41.76
7	72.37	16.39	44.60	16.41	20.76	11.78	60.97	62.88	52.45	51.97	56.52	41.47
8	71.59	16.50	43.62	16.33	19.90	11.56	60.49	62.52	52.46	51.60	56.87	41.19
9	70.76	16.61	42.63	16.24	19.05	11.32	60.06	62.16	52.47	51.25	57.21	40.92
10	69.88	16.71	41.64	16.12	18.23	11.06	59.67	61.80	52.48	50.92	57.54	40.64
11	68.95	16.80	40.68	15.99	17.45	10.78	59.31	61.46	52.49	50.58	57.86	40.36
12	68.00	16.87	39.76	15.84	16.72	10.50	58.98	61.12	52.48	50.25	58.17	40.07
13	67.03	16.93	38.89	15.69	16.03	10.22	58.65	60.80	52.47	49.92	58.49	39.78
14	66.07	16.97	38.05	15.54	15.37	9.94	58.31	60.48	52.44	49.60	58.83	39.48
15	65.15	17.00	37.24	15.39	14.73	9.68	57.96	60.16	52.41	49.27	59.21	39.18
16	64.25	17.01	36.43	15.25	14.10	9.42	57.60	59.84	52.38	48.93	59.63	38.87
17	63.39	17.01	35.62	15.11	13.47	9.17	57.22	59.53	52.36	48.57	60.10	38.56
18	62.54	17.01	34.80	14.98	12.84	8.92	56.84	59.21	52.37	48.20	60.62	38.26
19	61.71	17.02	33.97	14.85	12.19	8.67	56.45	58.87	52.42	47.83	61.15	37.98
20	60.89	17.04	33.12	14.72	11.53	8.42	56.07	58.52	52.53	47.45	61.69	37.71
21	60.06	17.07	32.25	14.59	10.85	8.16	55.70	58.16	52.68	47.08	62.22	37.46
22	59.19	17.09	31.36	14.44	10.16	7.90	55.37	57.79	52.87	46.72	62.73	37.23
23	58.31	17.11	30.45	14.27	9.46	7.63	55.08	57.40	53.09	46.37	63.19	37.00
24	57.40	17.13	29.54	14.09	8.77	7.34	54.84	57.01	53.30	46.04	63.61	36.77
25	56.47	17.15	28.64	13.90	8.10	7.02	54.65	56.64	53.48	45.72	64.03	36.53
26	55.51	17.15	27.77	13.69	7.47	6.69	54.49	56.27	53.64	45.42	64.47	36.27
27	54.54	17.13	26.92	13.47	6.88	6.35	54.33	55.92	53.76	45.11	64.94	36.01
28	53.55	17.10	26.12	13.24	6.34	6.02	54.17	55.58	53.86	44.80	65.45	35.74
29	52.57	17.05	25.36	13.02	5.84	5.69	53.99	55.26	53.96	44.47	66.02	35.48
30	51.62	16.98			5.35	5.37	53.77	54.93	54.08	44.12	66.64	35.23
31	50.71	16.89			4.87	5.06	53.51	54.60	54.25	43.77	67.27	34.99
32	49.83	16.79			4.37	4.78			54.48	43.42		

Mean R.A. 2^h 51^m 68.393 Mean Dec. — 88° 28' 51".69 Sec δ 37.724 Tan δ — 37.711

APPARENT PLACES OF STARS, 1923. 253

AT UPPER TRANSIT AT GREENWICH.

10 B Octantis. Mag. 8.4

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 2 50 ^s 88° 28'		^h ^m 2 50 ^s 88° 28'		^h ^m 2 50 ^s 88° 28'		^h ^m 2 51 ^s 88° 28'		^h ^m 2 51 ^s 88° 28'		^h ^m 2 50 ^s 88° 28'	
1	7.27	34.99	28.92	30.52	52.80	31.53	11.01	37.44	18.38	46.74	71.50	55.86
2	7.92	34.76	29.71	30.49	53.47	31.66	11.42	37.69	18.44	47.04	71.10	56.15
3	8.58	34.55	30.47	30.47	54.13	31.79	11.84	37.93	18.50	47.35	70.65	56.44
4	9.24	34.36	31.22	30.44	54.80	31.92	12.28	38.17	18.54	47.67	70.14	56.73
5	9.88	34.17	31.95	30.41	55.47	32.04	12.74	38.42	18.54	48.01	69.57	57.02
6	10.51	34.00	32.67	30.38	56.17	32.16	13.22	38.68	18.48	48.36	68.95	57.28
7	11.13	33.83	33.39	30.35	56.89	32.28	13.69	38.95	18.36	48.71	68.31	57.53
8	11.73	33.66	34.12	30.32	57.64	32.42	14.13	39.24	18.19	49.05	67.67	57.76
9	12.31	33.49	34.87	30.27	58.41	32.56	14.52	39.55	17.97	49.38	67.05	57.97
10	12.89	33.31	35.66	30.23	59.16	32.72	14.85	39.87	17.73	49.69	66.45	58.17
11	13.49	33.12	36.48	30.19	59.89	32.90	15.13	40.20	17.50	49.99	65.89	58.37
12	14.12	32.93	37.34	30.17	60.57	33.11	15.36	40.52	17.29	50.28	65.36	58.57
13	14.77	32.73	38.21	30.17	61.19	33.32	15.56	40.83	17.11	50.56	64.82	58.78
14	15.47	32.54	39.07	30.19	61.76	33.53	15.76	41.12	16.95	50.84	64.27	59.01
15	16.22	32.36	39.91	30.23	62.31	33.74	15.97	41.39	16.81	51.14	63.70	59.24
16	16.99	32.20	40.69	30.28	62.84	33.94	16.21	41.66	16.66	51.45	63.09	59.47
17	17.77	32.04	41.43	30.34	63.38	34.13	16.48	41.93	16.48	51.77	62.44	59.70
18	18.55	31.91	42.13	30.40	63.93	34.31	16.77	42.22	16.27	52.10	61.77	59.93
19	19.29	31.80	42.82	30.45	64.53	34.48	17.05	42.52	16.02	52.43	61.06	60.15
20	19.99	31.71	43.51	30.50	65.17	34.66	17.33	42.83	15.74	52.76	60.32	60.36
21	20.65	31.61	44.23	30.54	65.82	34.86	17.58	43.16	15.41	53.09	59.56	60.55
22	21.30	31.50	44.98	30.57	66.46	35.07	17.79	43.50	15.05	53.41	58.80	60.72
23	21.94	31.39	45.76	30.60	67.09	35.31	17.96	43.85	14.66	53.72	58.04	60.89
24	22.60	31.26	46.58	30.64	67.70	35.56	18.10	44.19	14.24	54.02	57.29	61.04
25	23.28	31.13	47.41	30.71	68.27	35.82	18.19	44.53	13.82	54.31	56.55	61.18
26	24.02	31.00	48.25	30.79	68.80	36.09	18.25	44.87	13.39	54.58	55.84	61.31
27	24.81	30.89	49.08	30.89	69.30	36.37	18.28	45.20	12.98	54.84	55.15	61.44
28	25.62	30.78	49.88	31.00	69.76	36.65	18.29	45.52	12.59	55.09	54.47	61.59
29	26.45	30.69	50.65	31.13	70.19	36.92	18.30	45.84	12.22	55.34	53.78	61.74
30	27.28	30.61	51.39	31.26	70.61	37.18	18.32	46.15	11.86	55.59	53.05	61.90
31	28.11	30.55	52.11	31.39	71.01	37.44	18.35	46.44	11.50	55.86	52.27	62.07
32	28.92	30.52	52.80	31.53			18.38	46.74			51.43	62.23

Mean R.A. 2^h 51^m 68.393 Mean Dec. — 88° 28' 51".69 Sec δ 37.724 Tan δ — 37.711

254 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

31 G Mensæ. Mag. 6.2

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 5 45 ^s	84° 49'	^h ^m 5 45 ^s	84° 50'	^h ^m 5 44 ^s	84° 50'	^h ^m 5 44 ^s	84° 50'	^h ^m 5 44 ^s	84° 49'	^h ^m 5 44 ^s	84° 49'
1	19.23	53.56	14.06	1.96	67.03	6.08	58.48	5.91	51.11	61.45	46.01	53.24
2	19.10	53.88	13.83	2.13	66.76	6.12	58.22	5.85	50.89	61.26	45.88	52.91
3	18.97	54.18	13.62	2.32	66.50	6.17	57.95	5.80	50.66	61.06	45.77	52.57
4	18.85	54.46	13.42	2.52	66.24	6.22	57.68	5.74	50.44	60.84	45.68	52.23
5	18.73	54.73	13.21	2.72	65.98	6.29	57.40	5.67	50.22	60.60	45.60	51.90
6	18.62	55.01	12.98	2.94	65.72	6.37	57.11	5.58	50.00	60.34	45.52	51.57
7	18.50	55.30	12.75	3.16	65.44	6.46	56.82	5.47	49.80	60.07	45.45	51.24
8	18.39	55.60	12.51	3.38	65.15	6.54	56.54	5.33	49.62	59.80	45.39	50.92
9	18.27	55.91	12.26	3.60	64.85	6.60	56.27	5.18	49.44	59.54	45.32	50.62
10	18.14	56.24	12.00	3.80	64.55	6.64	56.02	5.02	49.27	59.28	45.26	50.32
11	18.00	56.57	11.73	3.97	64.25	6.66	55.78	4.86	49.11	59.03	45.20	50.03
12	17.84	56.89	11.47	4.11	63.96	6.66	55.53	4.71	48.95	58.79	45.13	49.74
13	17.67	57.20	11.21	4.24	63.69	6.65	55.29	4.56	48.78	58.54	45.06	49.44
14	17.50	57.50	10.96	4.37	63.41	6.63	55.06	4.42	48.62	58.30	44.99	49.13
15	17.32	57.79	10.73	4.50	63.14	6.62	54.83	4.29	48.45	58.07	44.93	48.81
16	17.14	58.05	10.49	4.62	62.87	6.60	54.59	4.16	48.28	57.84	44.86	48.48
17	16.96	58.30	10.25	4.75	62.61	6.59	54.35	4.04	48.10	57.59	44.81	48.13
18	16.79	58.54	10.01	4.88	62.35	6.58	54.10	3.91	47.93	57.33	{ ⁴⁴ 76 ⁴⁴ 72}	{ ⁴⁷ 76 ⁴⁷ 71}
19	16.63	58.78	9.77	5.02	62.09	6.58	53.85	3.77	47.75	57.06	44.70	47.06
20	16.47	59.03	9.51	5.16	61.82	6.58	53.60	3.61	47.58	56.77	44.69	46.71
21	16.31	59.29	9.26	5.31	61.54	6.59	53.35	3.43	47.42	56.45	44.68	46.38
22	16.14	59.55	9.00	5.45	61.26	6.59	53.10	3.24	47.27	56.13	44.68	46.07
23	15.96	59.81	8.72	5.58	60.97	6.58	52.86	3.04	47.14	55.82	44.68	45.78
24	15.78	60.08	8.44	5.70	60.68	6.55	52.62	2.83	47.02	55.51	44.66	45.49
25	15.60	60.36	8.16	5.81	60.39	6.51	52.39	2.61	46.90	55.20	44.63	45.19
26	15.40	60.63	7.88	5.90	60.09	6.45	52.17	2.39	46.78	54.91	44.61	44.88
27	15.19	60.89	7.59	5.98	59.80	6.38	51.95	2.17	46.66	54.64	44.59	44.55
28	14.97	61.15	7.31	6.04	59.52	6.28	51.75	1.97	46.54	54.38	44.58	44.21
29	14.74	61.38	7.03	6.08	59.25	6.17	51.55	1.79	46.41	54.12	44.58	43.85
30	14.51	61.59			58.99	6.07	51.33	1.62	46.27	53.85	44.59	43.49
31	14.29	61.79			58.74	5.98	51.11	1.45	46.14	53.56	44.61	43.14
32	14.06	61.96			58.48	5.91			46.01	53.24		

Mean R.A. 5^h 45^m 48.701 Mean Dec. — 84° 49' 38".84 Sec δ 11.092 Tan δ — 11.047

APPARENT PLACES OF STARS, 1923. 255

AT UPPER TRANSIT AT GREENWICH.

31 G Mensæ. Mag. 6.2

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m ^s 5 44 84 49	^h ^m ^s 5 44 84 49	^h ^m ^s 5 44 84 49	^h ^m ^s 5 44 84 49	^h ^m ^s 5 44 84 49	^h ^m ^s 5 44 84 49	^h ^m ^s 5 45 84 49	^h ^m ^s 5 45 84 49	^h ^m ^s 5 45 84 49	^h ^m ^s 5 45 84 49	^h ^m ^s 5 45 84 49	^h ^m ^s 5 45 84 49
1	44.61	43.14	47.24	33.79	53.06	27.86	0.10	27.17	6.51	32.07	9.82	40.85
2	44.64	42.79	47.40	33.55	53.28	27.78	0.32	27.24	6.68	32.28	9.88	41.17
3	44.69	42.45	47.56	33.31	53.50	27.69	0.54	27.31	6.85	32.50	9.94	41.52
4	44.74	42.12	47.71	33.08	53.71	27.59	0.76	27.36	7.03	32.73	9.99	41.89
5	44.79	41.80	47.86	32.86	53.92	27.48	0.99	27.41	7.21	32.99	10.02	42.27
6	44.84	41.50	48.01	32.63	54.13	27.37	1.22	27.47	7.37	33.26	10.03	42.65
7	44.90	41.21	48.16	32.40	54.35	27.27	1.46	27.55	7.53	33.55	10.03	43.02
8	44.95	40.92	48.30	32.17	54.58	27.16	1.70	27.65	7.67	33.85	10.02	43.37
9	45.00	40.62	48.46	31.93	54.82	27.06	1.95	27.76	7.79	34.16	10.00	43.70
10	45.04	40.32	48.62	31.68	55.07	26.98	2.19	27.90	7.91	34.47	9.98	44.02
11	45.09	40.02	48.78	31.43	55.33	26.92	2.41	28.07	8.02	34.77	9.97	44.33
12	45.13	39.70	48.95	31.18	55.58	26.88	2.62	28.25	8.13	35.04	9.96	44.63
13	45.18	39.37	49.14	30.93	55.82	26.86	2.82	28.42	8.24	35.29	9.96	44.93
14	45.24	39.03	49.34	30.70	56.05	26.86	3.02	28.58	8.36	35.54	9.97	45.26
15	45.32	38.69	49.54	30.49	56.28	26.85	3.22	28.73	8.49	35.80	9.97	45.60
16	45.41	38.35	49.74	30.31	56.50	26.85	3.41	28.87	8.61	36.08	9.97	45.94
17	45.50	38.02	49.93	30.16	56.72	26.84	3.61	29.00	8.74	36.36	9.95	46.29
18	45.61	37.71	50.12	30.01	56.94	26.82	3.82	29.13	8.86	36.66	9.92	46.65
19	45.72	37.42	50.30	29.85	57.17	26.78	4.04	29.27	8.98	36.98	9.88	47.02
20	45.83	37.16	50.48	29.69	57.41	26.73	4.27	29.43	9.09	37.31	9.84	47.39
21	45.93	36.90	50.66	29.52	57.65	26.70	4.49	29.61	9.19	37.66	9.78	47.75
22	46.02	36.64	50.84	29.33	57.90	26.69	4.70	29.80	9.28	38.01	9.72	48.10
23	46.11	36.37	51.03	29.13	58.16	26.69	4.91	30.01	9.36	38.35	9.65	48.43
24	46.20	36.09	51.24	28.94	58.41	26.70	5.12	30.23	9.43	38.69	9.57	48.75
25	46.29	35.81	51.46	28.76	58.67	26.74	5.32	30.46	9.49	39.02	9.49	49.06
26	46.39	35.51	51.68	28.59	58.92	26.80	5.51	30.70	9.55	39.34	9.42	49.36
27	46.51	35.19	51.91	28.43	59.17	26.87	5.68	30.94	9.61	39.65	9.35	49.66
28	46.64	34.88	52.15	28.29	59.40	26.95	5.85	31.18	9.66	39.95	9.28	49.96
29	46.78	34.59	52.38	28.16	59.64	27.02	6.02	31.42	9.71	40.25	9.21	50.26
30	46.92	34.30	52.61	28.05	59.87	27.10	6.18	31.65	9.77	40.55	9.14	50.59
31	47.08	34.04	52.84	27.95	60.10	27.17	6.34	31.86	9.82	40.85	9.05	50.94
32	47.24	33.79	53.06	27.86			6.51	32.07			8.95	51.30

256 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

12 B Octantis. Mag. 6.8

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 6 0	^s 85 56	^h ^m 6 0	^s 85 56	^h ^m 6 0	^s 85 56	^h ^m 5 59	^s 85 56	^h ^m 5 59	^s 85 56	^h ^m 5 59	^s 85 56
1	26.72	12.44	20.58	21.26	11.86	25.98	60.94	26.57	51.29	22.82	44.24	15.18
2	26.57	12.77	20.31	21.46	11.52	26.04	60.61	26.53	50.99	22.65	44.07	14.86
3	26.43	13.08	20.05	21.66	11.19	26.11	60.27	26.50	50.68	22.47	43.91	14.53
4	26.28	13.37	19.79	21.87	10.86	26.20	59.91	26.47	50.38	22.27	43.76	14.21
5	26.14	13.65	19.54	22.09	10.53	26.29	59.54	26.42	50.09	22.06	43.63	13.88
6	26.01	13.94	19.27	22.33	10.19	26.40	59.17	26.36	49.80	21.83	43.52	13.56
7	25.88	14.24	18.98	22.57	9.84	26.51	58.80	26.28	49.53	21.59	43.41	13.24
8	25.75	14.56	18.69	22.81	9.48	26.61	58.44	26.19	49.27	21.34	43.31	12.93
9	25.62	14.89	18.38	23.04	9.11	26.70	58.09	26.07	49.02	21.10	43.21	12.64
10	25.48	15.22	18.06	23.26	8.73	26.77	57.75	25.94	48.79	20.85	43.12	12.35
11	25.32	15.55	17.73	23.45	8.34	26.81	57.42	25.80	48.57	20.61	43.02	12.07
12	25.14	15.88	17.41	23.62	7.96	26.83	57.11	25.66	48.35	20.38	42.91	11.79
13	24.94	16.21	17.09	23.77	7.60	26.85	56.80	25.54	48.13	20.15	42.80	11.50
14	24.73	16.52	16.77	23.92	7.25	26.86	56.49	25.43	47.90	19.93	42.69	11.20
15	24.51	16.82	16.47	24.07	6.91	26.87	56.19	25.33	47.68	19.71	42.58	10.88
16	24.30	17.09	16.17	24.22	6.57	26.88	55.88	25.22	47.45	19.49	42.48	10.55
17	24.09	17.35	15.87	24.37	6.24	26.89	55.57	25.10	47.21	19.26	42.38	10.21
18	23.89	17.61	15.57	24.53	5.91	26.91	55.25	24.99	46.97	19.03	42.29	9.86
19	23.70	17.87	15.28	24.69	5.57	26.94	54.93	24.87	46.73	18.78	42.22	9.50
20	23.51	18.13	14.97	24.85	5.23	26.96	54.60	24.75	46.49	18.50	42.18	9.15
21	23.31	18.39	14.65	25.01	4.88	26.97	54.26	24.61	46.26	18.21	{ 42.14 } { 42.12 }	{ 8.81 } { 8.48 }
22	23.11	18.67	14.32	25.18	4.53	26.98	53.92	24.45	46.05	17.91	42.09	8.18
23	22.90	18.96	13.99	25.34	4.16	27.00	53.59	24.28	45.86	17.61	42.06	7.90
24	22.69	19.25	13.65	25.49	3.79	27.01	53.27	24.09	45.68	17.32	42.02	7.61
25	22.46	19.54	13.29	25.62	3.41	27.00	52.97	23.89	45.52	17.03	41.97	7.31
26	22.23	19.83	12.93	25.74	3.03	26.97	52.68	23.69	45.35	16.75	41.91	7.01
27	21.97	20.11	12.56	25.84	2.65	26.92	52.40	23.49	45.19	16.49	41.86	6.69
28	21.70	20.38	12.20	25.92	2.29	26.84	52.13	23.31	45.01	16.25	41.82	6.36
29	21.43	20.62	11.86	25.98	1.94	26.76	51.86	23.14	44.82	16.01	41.79	6.01
30	21.14	20.85			1.60	26.69	51.58	22.98	44.62	15.75	41.78	5.65
31	20.86	21.06			1.27	26.62	51.29	22.82	44.43	15.47	41.79	5.30
32	20.58	21.26			0.94	26.57			44.24	15.18		

Mean R.A. 6^h 0^m 7^s.369 Mean Dec. — 85° 55' 59".07 Sec δ 14.100 Tan δ — 14.065

APPARENT PLACES OF STARS, 1923. 257

AT UPPER TRANSIT AT GREENWICH.

12 B Octantis. Mag. 6.8

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	h m	s	h m	s	h m	s	h m	s	h m	s	h m	s
	5 59	85 55	5 59	85 55	5 59	85 55	6 0	85 55	6 0	85 55	6 0	85 56
1	41.79	65.30	44.50	55.82	51.48	49.47	0.32	48.19	8.70	52.51	13.36	0.97
2	41.81	64.96	44.68	55.57	51.75	49.36	0.60	48.24	8.92	52.69	13.45	1.29
3	41.84	64.62	44.87	55.33	52.02	49.25	0.88	48.29	9.15	52.89	13.54	1.64
4	41.88	64.29	45.05	55.09	52.28	49.14	1.16	48.33	9.39	53.11	13.62	2.00
5	41.94	63.98	45.23	54.86	52.54	49.02	1.46	48.37	9.63	53.36	13.68	2.36
6	41.99	63.67	45.40	54.63	52.80	48.89	1.76	48.41	9.86	53.62	13.72	2.73
7	42.04	63.37	45.57	54.40	53.08	48.76	2.08	48.46	10.07	53.90	13.73	3.09
8	42.08	63.09	45.74	54.15	53.36	48.63	2.39	48.54	10.27	54.20	13.72	3.44
9	42.11	62.80	45.92	53.89	53.66	48.51	2.70	48.64	10.44	54.49	13.72	3.78
10	42.15	62.50	46.10	53.63	53.97	48.41	3.01	48.76	10.60	54.77	13.71	4.10
11	42.18	62.19	46.29	53.36	54.29	48.34	3.30	48.90	10.74	55.05	13.72	4.41
12	42.22	61.87	46.49	53.10	54.60	48.28	3.58	49.05	10.89	55.31	13.73	4.72
13	42.26	61.53	46.72	52.84	54.91	48.24	3.84	49.19	11.05	55.57	13.74	5.03
14	42.31	61.19	46.96	52.60	55.21	48.21	4.09	49.33	11.22	55.82	13.76	5.34
15	42.39	60.85	47.20	52.38	55.49	48.20	4.34	49.47	11.39	56.07	13.78	5.67
16	42.48	60.51	47.44	52.18	55.77	48.18	4.59	49.60	11.57	56.32	13.80	6.02
17	42.59	60.17	47.68	52.00	56.04	48.15	4.86	49.72	11.74	56.59	13.80	6.38
18	42.70	59.85	47.91	51.84	56.31	48.10	5.13	49.83	11.92	56.88	13.78	6.74
19	42.82	59.55	48.12	51.68	56.59	48.04	5.41	49.94	12.09	57.19	13.76	7.10
20	42.94	59.28	48.33	51.50	56.89	47.99	5.70	50.08	12.25	57.52	13.72	7.47
21	43.05	59.02	48.54	51.31	57.19	47.94	6.00	50.24	12.39	57.85	13.66	7.83
22	43.15	58.76	48.76	51.11	57.51	47.91	6.29	50.42	12.52	58.18	13.59	8.19
23	43.24	58.49	48.99	50.90	57.83	47.88	6.57	50.61	12.64	58.51	13.51	8.53
24	43.33	58.20	49.24	50.69	58.16	47.87	6.84	50.81	12.75	58.84	13.43	8.85
25	43.43	57.91	49.50	50.49	58.50	47.88	7.10	51.02	12.84	59.17	13.35	9.16
26	43.54	57.60	49.78	50.31	58.82	47.91	7.35	51.24	12.92	59.49	13.27	9.47
27	43.67	57.29	50.06	50.13	59.14	47.96	7.60	51.46	13.00	59.79	13.19	9.77
28	43.81	56.98	50.34	49.96	59.45	48.02	7.83	51.68	13.09	60.08	13.12	10.06
29	43.96	56.67	50.63	49.82	59.75	48.08	8.05	51.90	13.18	60.37	13.06	10.37
30	44.13	56.37	50.92	49.69	60.04	48.14	8.27	52.12	13.27	60.67	12.99	10.70
31	44.32	56.08	51.21	49.58	60.32	48.19	8.48	52.32	13.36	60.97	12.90	11.05
32	44.50	55.82	51.48	49.47			8.70	52.51			12.80	11.41

258 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

A Octantis. Mag. 7.8

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 7 36 ^s 88° 37'		^h ^m 7 36 ^s 88° 38'		^h ^m 7 35 ^s 88° 38'		^h ^m 7 35 ^s 88° 38'		^h ^m 7 34 ^s 88° 38'		^h ^m 7 34 ^s 88° 38'	
1	27.35	51.17	19.89	1.87	61.07	9.92	31.81	15.22	61.08	16.04	33.03	12.29
2	27.30	51.53	19.37	2.17	60.21	10.13	30.86	15.33	60.06	16.03	32.18	12.08
3	27.22	51.88	18.87	2.46	59.39	10.33	29.88	15.45	59.01	16.00	31.36	11.86
4	27.13	52.21	18.39	2.76	58.60	10.55	28.86	15.58	57.94	15.97	30.59	11.63
5	27.04	52.53	17.94	3.07	57.82	10.79	27.80	15.70	56.87	15.91	29.86	11.39
6	26.97	52.85	17.47	3.40	57.01	11.03	26.70	15.81	55.81	15.83	29.19	11.15
7	26.94	53.17	16.97	3.74	56.16	11.28	25.57	15.89	54.79	15.72	28.56	10.92
8	26.93	53.51	16.42	4.08	55.27	11.53	24.44	15.95	53.82	15.60	27.95	10.69
9	26.92	53.87	15.81	4.42	54.33	11.77	23.34	15.99	52.88	15.47	27.34	10.47
10	26.89	54.23	15.14	4.76	53.34	12.00	22.27	16.02	51.97	15.35	26.74	10.26
11	26.81	54.60	14.44	5.08	52.33	12.20	21.24	16.05	51.09	15.24	26.15	10.05
12	26.67	54.99	13.72	5.38	51.33	12.38	20.23	16.07	50.23	15.14	25.55	9.84
13	26.46	55.38	13.01	5.66	50.35	12.55	19.25	16.09	49.37	15.04	24.91	9.63
14	26.21	55.76	12.31	5.93	49.39	12.71	18.29	16.12	48.51	14.94	24.26	9.42
15	25.92	56.12	11.63	6.19	48.47	12.87	17.33	16.16	47.64	14.84	23.60	9.19
16	25.62	56.46	10.97	6.45	47.57	13.02	16.37	16.20	46.76	14.74	22.93	8.94
17	25.33	56.79	10.33	6.72	46.67	13.17	15.40	16.23	45.84	14.64	22.27	8.67
18	25.05	57.11	9.69	6.99	45.79	13.34	14.40	16.27	44.90	14.54	21.64	8.40
19	24.79	57.43	9.05	7.27	44.90	13.51	13.38	16.31	43.94	14.42	21.06	8.12
20	24.54	57.75	8.40	7.56	44.00	13.68	12.33	16.34	42.98	14.28	20.53	7.83
21	24.30	58.07	7.73	7.84	43.08	13.86	11.24	16.35	42.03	14.11	20.06	7.54
22	24.05	58.41	7.02	8.13	42.12	14.04	10.13	16.35	41.11	13.93	19.63	7.27
23	23.80	58.75	6.27	8.42	41.13	14.21	9.02	16.33	40.24	13.74	19.22	7.00
24	23.53	59.10	5.47	8.70	40.10	14.37	7.93	16.30	39.42	13.56	18.80	6.75
25	23.22	59.47	4.63	8.98	39.03	14.53	6.87	16.25	38.65	13.38	18.35	6.51
26	22.88	59.84	3.75	9.24	37.93	14.66	5.85	16.20	37.90	13.21	17.87	6.28
27	22.48	60.21	2.85	9.48	36.84	14.77	4.87	16.15	37.15	13.06	17.37	6.04
28	22.02	60.57	1.96	9.71	35.77	14.86	3.93	16.11	36.39	12.92	16.85	5.78
29	21.52	60.91	1.07	9.92	34.73	14.95	3.00	16.07	35.59	12.78	16.34	5.50
30	20.99	61.25			33.73	15.03	2.06	16.05	34.76	12.64	15.85	5.19
31	20.44	61.57			32.76	15.12	1.08	16.04	33.90	12.47	15.42	4.87
32	19.89	61.87			31.81	15.22			33.03	12.29		

Mean R.A. 7^h 35^m 19^s.771 Mean Dec. — 88° 37' 47".34 Sec δ 41.820 Tan δ — 41.808

APPARENT PLACES OF STARS, 1923. 259

AT UPPER TRANSIT AT GREENWICH.

A Octantis. Mag. 7.8

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 7 34 ^s 88° 37'		^h ^m 7 34 ^s 88° 37'		^h ^m 7 34 ^s 88° 37'		^h ^m 7 34 ^s 88° 37'		^h ^m 7 35 ^s 88° 37'		^h ^m 7 35 ^s 88° 37'	
1	15.42	64.87	11.65	54.98	23.42	46.36	45.79	41.50	12.89	41.88	34.35	47.63
2	15.04	64.55	11.87	54.67	24.03	46.15	46.59	41.43	13.71	41.96	34.96	47.88
3	14.72	64.23	12.10	54.37	24.62	45.95	47.38	41.36	14.56	42.05	35.55	48.15
4	14.44	63.92	12.33	54.09	25.19	45.74	48.17	41.27	15.43	42.16	36.14	48.44
5	14.19	63.62	12.55	53.81	25.75	45.53	48.99	41.19	16.33	42.28	36.68	48.75
6	13.96	63.33	12.76	53.53	26.32	45.30	49.85	41.10	17.23	42.43	37.15	49.08
7	13.75	63.05	12.94	53.24	26.90	45.07	50.75	41.02	18.10	42.60	37.56	49.41
8	13.54	62.76	13.11	52.95	27.52	44.83	51.70	40.96	18.93	42.78	37.93	49.73
9	13.32	62.48	13.28	52.65	28.19	44.60	52.67	40.91	19.71	42.97	38.26	50.03
10	13.09	62.20	13.47	52.34	28.92	44.37	53.63	40.89	20.43	43.16	38.57	50.32
11	12.85	61.92	13.70	52.02	29.69	44.17	54.58	40.90	21.12	43.35	38.89	50.60
12	12.58	61.63	13.97	51.69	30.49	43.98	55.49	40.92	21.79	43.52	39.23	50.88
13	12.30	61.33	14.30	51.37	31.29	43.81	56.34	40.95	22.46	43.69	39.60	51.16
14	{ 12.04 11 80 }	{ 61.04 60 68 }	14.68	51.06	32.06	43.66	57.15	40.97	23.16	43.85	40.00	51.45
15	11.60	60.34	15.10	50.76	32.80	43.53	57.96	40.98	23.90	44.00	40.40	51.75
16	11.46	60.00	15.54	50.48	33.50	43.40	58.77	40.98	24.65	44.16	40.80	52.07
17	11.38	59.67	15.99	50.23	34.18	43.26	59.59	40.97	25.42	44.34	41.18	52.39
18	11.35	59.34	16.41	49.99	34.85	43.10	60.45	40.97	26.21	44.54	41.53	52.72
19	11.35	59.03	16.80	49.75	35.54	42.93	61.35	40.97	27.00	44.74	41.84	53.07
20	11.37	58.73	17.15	49.51	36.28	42.76	62.28	40.97	27.76	44.96	42.12	53.42
21	11.37	58.45	17.50	49.25	37.05	42.59	63.24	40.99	28.49	45.20	42.35	53.77
22	11.33	58.17	17.86	48.97	37.87	42.42	64.21	41.02	29.20	45.45	42.54	54.12
23	11.27	57.89	18.25	48.68	38.73	42.27	65.18	41.07	29.88	45.70	42.68	54.46
24	11.19	57.60	18.68	48.38	39.63	42.13	66.13	41.14	30.51	45.95	42.79	54.79
25	11.10	57.30	19.16	48.09	40.53	42.01	67.07	41.22	31.10	46.21	42.88	55.12
26	11.04	56.98	19.70	47.81	41.44	41.89	67.98	41.31	31.64	46.46	42.97	55.43
27	11.01	56.65	20.28	47.54	42.35	41.79	68.87	41.41	32.16	46.71	43.07	55.74
28	11.04	56.31	20.89	47.28	43.24	41.71	69.72	41.52	32.69	46.94	43.20	56.05
29	11.13	55.97	21.52	47.03	44.11	41.63	70.54	41.62	33.22	47.17	43.36	56.37
30	11.26	55.63	22.16	46.80	44.96	41.56	71.33	41.71	33.77	47.39	43.52	56.70
31	11.44	55.30	22.79	46.58	45.79	41.50	72.10	41.80	34.35	47.63	43.66	57.06
32	11.65	54.98	23.42	46.36			72.89	41.88			43.76	57.43

Mean R.A. 7^h 35^m 19^s.771 Mean Dec. — 88° 37' 47".34 Sec δ 41.820 Tan δ — 41.808

S 2

260 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

10 G Octantis. Mag. 6.7

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h _s ^m [°]		^h _s ^m [°]		^h _s ^m [°]		^h _s ^m [°]		^h _s ^m [°]		^h _s ^m [°]	
	10 35 85 41		10 36 85 41		10 36 85 41		10 35 85 41		10 35 85 41		10 35 85 42	
1	59.34 18.22		4.53 28.00		5.45 38.61		62.32 49.74		56.12 58.01		47.75 2.34	
2	59.57 18.50		4.60 28.35		5.39 38.98		62.19 50.07		55.90 58.26		47.45 2.40	
3	59.78 18.78		4.67 28.69		5.34 39.33		62.05 50.40		55.66 58.51		47.14 2.44	
4	59.97 19.06		4.75 29.02		5.30 39.68		61.90 50.74		55.40 58.75		46.82 2.47	
5	60.15 19.33		4.84 29.36		5.27 40.04		61.74 51.10		55.13 58.97		46.52 2.48	
6	60.34 19.58		4.95 29.72		5.25 40.42		61.57 51.46		54.85 59.17		46.22 2.48	
7	60.54 19.83		5.06 30.10		5.22 40.82		61.38 51.80		54.56 59.34		45.94 2.47	
8	60.76 20.08		5.16 30.49		5.19 41.22		61.18 52.13		54.28 59.50		45.67 2.46	
9	60.98 20.34		5.24 30.90		5.14 41.64		60.96 52.43		54.01 59.66		45.40 2.44	
10	61.21 20.62		5.31 31.32		5.06 42.05		60.74 52.71		53.74 59.80		45.14 2.43	
11	61.44 20.92		5.35 31.73		4.96 42.45		60.53 52.99		53.47 59.93		44.88 2.43	
12	61.65 21.23		5.38 32.12		4.86 42.83		60.32 53.26		53.22 60.06		44.62 2.43	
13	61.86 21.56		5.41 32.51		4.74 43.20		60.12 53.52		52.97 60.21		44.36 2.44	
14	62.04 21.91		5.42 32.88		4.63 43.55		59.93 53.77		52.72 60.36		44.09 2.45	
15	62.21 22.25		5.44 33.24		4.52 43.89		59.73 54.02		52.47 60.51		43.81 2.46	
16	62.37 22.58		5.46 33.59		4.41 44.23		59.54 54.29		52.22 60.66		43.52 2.45	
17	62.51 22.90		5.49 33.94		4.31 44.57		59.35 54.57		51.96 60.82		43.21 2.43	
18	62.65 23.20		5.51 34.29		4.22 44.90		59.16 54.85		51.69 60.98		42.91 2.39	
19	62.79 23.50		5.53 34.65		4.13 45.24		58.96 55.14		51.41 61.13		42.61 2.33	
20	62.94 23.80		5.56 35.03		4.03 45.59		58.75 55.42		51.12 61.27		42.31 2.25	
21	63.09 24.10		5.59 35.42		3.94 45.95		58.53 55.71		50.81 61.39		42.03 2.15	
22	63.25 24.40		5.62 35.81		3.84 46.32		58.30 55.99		50.50 61.49		41.77 2.06	
23	63.41 24.72		5.64 36.20		3.74 46.70		58.05 56.25		50.20 61.57		41.52 1.98	
24	63.57 25.05		5.64 36.60		3.62 47.08		57.79 56.49		49.90 61.64		41.28 1.91	
25	63.73 25.38		5.64 37.01		3.47 47.45		57.53 56.71		49.62 61.70		41.04 1.85	
26	63.88 25.74		5.61 37.43		3.31 47.82		57.27 56.92		49.36 61.77		40.80 1.80	
27	64.03 26.11		5.56 37.84		3.15 48.17		57.02 57.13		49.10 61.85		40.54 1.76	
28	64.16 26.49		5.51 38.23		2.98 48.50		56.78 57.33		48.84 61.94		40.27 1.71	
29	64.28 26.88		5.45 38.61		2.80 48.82		56.56 57.54		48.59 62.04		39.99 1.64	
30	64.38 27.27				2.63 49.12		56.34 57.77		48.33 62.15		39.71 1.54	
31	64.46 27.64				2.47 49.43		56.12 58.01		48.05 62.25		39.42 1.42	
32	64.53 28.00				2.32 49.74				47.75 62.34			

Mean R.A. 10^h 35^m 41^s.821 Mean Dec. — 85° 41' 32".51 Sec δ 13.314 Tan δ — 13.276

APPARENT PLACES OF STARS, 1923. 261

AT UPPER TRANSIT AT GREENWICH.

10 G Octantis. Mag. 6.7

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41	^h ^m ^s 10 35 85 41
1	39.42	61.42	32.75	55.55	30.01	46.11	32.12	37.06	38.58	30.62	47.16	29.50
2	39.15	61.29	32.60	55.27	30.03	45.81	32.26	36.82	38.82	30.47	47.45	29.54
3	38.88	61.14	32.47	54.99	30.04	45.53	32.39	36.57	39.07	30.33	47.76	29.59
4	38.63	60.98	32.34	54.73	30.04	45.24	32.52	36.30	39.33	30.18	48.08	29.66
5	38.39	60.82	32.22	54.47	30.04	44.95	32.65	36.03	39.61	30.04	48.40	29.76
6	38.15	60.66	32.10	54.21	30.03	44.65	32.80	35.75	39.91	29.93	48.73	29.88
7	37.93	60.51	31.98	53.96	30.02	44.34	32.95	35.46	40.22	29.83	49.04	30.03
8	37.71	60.36	31.85	53.72	30.01	44.01	33.12	35.18	40.53	29.76	49.33	30.18
9	37.50	60.22	31.72	53.47	30.02	43.67	33.31	34.91	40.83	29.72	49.60	30.33
10	37.28	60.08	31.57	53.21	30.05	43.33	33.53	34.67	41.12	29.68	49.86	30.47
11	37.06	59.94	31.43	52.94	30.09	42.99	33.75	34.44	41.40	29.64	50.11	30.60
12	36.83	59.80	31.29	52.65	30.15	42.66	33.97	34.24	41.67	29.60	50.37	30.71
13	36.59	59.65	31.15	52.34	30.23	42.35	34.19	34.05	41.93	29.56	50.64	30.82
14	36.34	59.50	31.03	52.02	30.32	42.05	34.39	33.86	42.19	29.51	50.91	30.93
15	36.10	59.32	30.93	51.69	30.41	41.76	34.59	33.67	42.46	29.45	51.19	31.04
16	35.85	59.12	30.84	51.37	30.49	41.49	34.78	33.47	42.73	29.38	51.48	31.17
17	35.61	58.91	30.76	51.06	30.56	41.22	34.96	33.25	43.02	29.31	51.77	31.31
18	35.38	58.69	30.70	50.77	30.62	40.94	35.15	33.03	43.32	29.25	52.06	31.47
19	35.17	58.46	30.65	50.50	30.68	40.65	35.35	32.80	43.62	29.20	52.36	31.64
20	34.98	58.23	30.59	50.23	30.74	40.34	35.56	32.57	43.94	29.18	52.65	31.83
21	34.81	58.01	30.52	49.96	30.80	40.02	35.79	32.35	44.26	29.17	52.92	32.04
22	34.64	57.81	30.44	49.68	30.88	39.70	36.03	32.13	44.58	29.17	53.19	32.26
23	34.47	57.63	30.36	49.40	30.98	39.37	36.29	31.93	44.89	29.20	53.45	32.48
24	34.29	57.45	30.27	49.09	31.09	39.04	36.55	31.74	45.20	29.24	53.69	32.70
25	34.10	57.26	30.19	48.77	31.22	38.72	36.81	31.57	45.50	29.28	53.92	32.92
26	33.90	57.06	30.12	48.44	31.36	38.42	37.08	31.41	45.79	29.33	54.14	33.12
27	33.69	56.85	30.07	48.10	31.50	38.13	37.35	31.27	46.06	29.37	54.36	33.32
28	33.48	56.62	30.03	47.76	31.65	37.85	37.61	31.14	46.34	29.41	54.59	33.52
29	33.29	56.37	30.01	47.43	31.81	37.58	37.86	31.01	46.61	29.44	54.83	33.72
30	33.10	56.11	30.00	47.09	31.97	37.32	38.11	30.89	46.88	29.47	55.08	33.92
31	32.92	55.83	{ 30.00 }	{ 46.75 }	32.12	37.06	38.35	30.76	47.16	29.50	55.33	34.14
32	32.75	55.55	30.01	46.11			38.58	30.62			55.59	34.39

Mean R.A. 10^h 35^m 41^s.821 Mean Dec. — 85° 41' 32".51 Sec δ 13.314 Tan δ — 13.276

262 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

 η Octantis. Mag. 6.3

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h _{II} ^m ₀ ^s _{84 10}	^h _{II} ^m ₀ ^s _{84 10}	^h _{II} ^m ₀ ^s _{84 10}	^h _{II} ^m ₀ ^s _{84 10}	^h _{II} ^m ₀ ^s _{84 10}	^h _{II} ^m ₀ ^s _{84 10}	^h _{II} ^m ₀ ^s _{84 11}	^h _{II} ^m ₀ ^s _{84 11}	^h _{II} ^m ₀ ^s _{84 11}	^h _{II} ^m ₀ ^s _{84 11}	^h _{II} ^m ₀ ^s _{84 11}	^h _{II} ^m ₀ ^s _{84 11}
1	4.91	30.59	9.46	39.82	10.90	50.31	9.41	1.77	65.46	10.67	59.68	15.87
2	5.10	30.85	9.54	40.16	10.88	50.68	9.33	2.10	65.31	10.94	59.46	15.97
3	5.27	31.11	9.62	40.50	10.87	51.03	9.25	2.45	65.16	11.21	59.24	16.05
4	5.44	31.37	9.70	40.83	10.86	51.39	9.17	2.81	64.99	11.47	59.02	16.11
5	5.60	31.62	9.80	41.16	10.86	51.76	9.08	3.19	64.81	11.72	58.80	16.16
6	5.76	31.85	9.90	41.51	10.87	52.14	8.98	3.56	64.62	11.95	58.58	16.20
7	5.92	32.07	10.00	41.87	10.88	52.53	8.86	3.92	64.43	12.16	58.37	16.22
8	6.09	32.29	10.10	42.25	10.89	52.95	8.74	4.26	64.23	12.35	58.17	16.23
9	6.27	32.52	10.20	42.65	10.88	53.38	8.60	4.58	64.04	12.54	57.98	16.25
10	6.46	32.78	10.28	43.06	10.86	53.79	8.46	4.89	63.85	12.71	57.78	16.27
11	6.66	33.06	10.34	43.46	10.82	54.20	8.32	5.19	63.67	12.87	57.59	16.29
12	6.84	33.37	10.39	43.85	10.77	54.59	8.19	5.47	63.49	13.03	57.41	16.33
13	7.01	33.68	10.44	44.23	10.72	54.97	8.06	5.75	63.31	13.20	57.22	16.37
14	7.17	34.00	10.48	44.60	10.66	55.33	7.93	6.03	63.14	13.37	57.03	16.40
15	7.33	34.32	10.51	44.96	10.61	55.69	7.81	6.31	62.98	13.55	56.84	16.43
16	7.47	34.64	10.55	45.31	10.55	56.04	7.69	6.60	62.81	13.74	56.62	16.45
17	7.60	34.94	10.59	45.66	10.50	56.38	7.58	6.90	62.63	13.92	56.39	16.46
18	7.73	35.23	10.63	46.01	10.45	56.72	7.46	7.19	62.44	14.11	56.17	16.46
19	7.85	35.52	10.68	46.37	10.40	57.07	7.33	7.49	62.25	14.29	55.95	16.43
20	7.98	35.80	10.73	46.74	10.35	57.43	7.20	7.81	62.05	14.46	55.73	16.38
21	8.12	36.08	10.77	47.11	10.31	57.80	7.06	8.12	61.84	14.60	55.52	16.32
22	8.25	36.37	10.82	47.49	10.27	58.18	6.90	8.43	61.62	14.73	55.32	16.26
23	8.39	36.67	10.87	47.88	10.22	58.57	6.73	8.71	61.40	14.84	55.13	16.21
24	8.53	36.99	10.90	48.29	10.16	58.96	6.56	8.98	61.19	14.94	54.95	16.17
25	8.68	37.32	10.92	48.71	10.09	59.35	6.39	9.24	60.99	15.03	54.78	16.14
26	8.82	37.65	10.93	49.13	10.00	59.73	6.22	9.47	60.80	15.13	54.61	16.12
27	8.96	38.00	10.93	49.54	9.90	60.10	6.05	9.69	60.62	15.24	54.42	16.10
28	9.08	38.37	10.92	49.93	9.79	60.46	5.89	9.91	60.44	15.36	54.22	16.07
29	9.19	38.74	10.90	50.31	9.69	60.80	5.75	10.15	60.26	15.49	54.01	16.02
30	9.29	39.11			9.59	61.13	5.61	10.41	60.08	15.63	53.80	15.95
31	9.38	39.47			9.49	61.45	5.46	10.67	59.89	15.76	53.59	15.87
32	9.46	39.82			9.41	61.77			59.68	15.87		

Mean R.A. $10^h 59^m 53^s.036$ Mean Dec. $- 84^\circ 10' 46''.79$ Sec δ 9.861 Tan δ $- 9.810$

APPARENT PLACES OF STARS, 1923. 263

AT UPPER TRANSIT AT GREENWICH.

η Octantis. Mag. 6.3

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h _s ^m _s	^h _s ^m _s	^h _s ^m _s	^h _s ^m _s	^h _s ^m _s	^h _s ^m _s	^h _s ^m _s	^h _s ^m _s	^h _s ^m _s	^h _s ^m _s	^h _s ^m _s	^h _s ^m _s
	10 59	84 11	10 59	84 11	10 59	84 10	10 59	84 10	10 59	84 10	10 59	84 10
1	53.59	15.87	48.35	10.76	45.75	62.02	46.69	52.48	51.05	45.39	57.33	43.41
2	53.38	15.77	48.22	10.51	45.74	61.71	46.78	52.22	51.22	45.22	57.55	43.41
3	53.17	15.65	48.10	10.25	45.72	61.42	46.86	51.96	51.39	45.05	57.78	43.42
4	52.98	15.52	47.99	9.99	45.71	61.13	46.94	51.68	51.57	44.87	58.02	43.46
5	52.79	15.39	47.89	9.74	45.69	60.84	47.02	51.40	51.77	44.70	58.27	43.53
6	52.61	15.25	47.79	9.50	{ ⁴⁵ ₆₈ }	{ ⁶⁰ ₅₅ }	47.11	51.11	51.98	44.55	58.51	43.63
7	52.43	15.12	47.68	9.27	45.63	59.94	47.20	50.81	52.20	44.43	58.76	43.74
8	52.26	15.00	47.57	9.04	45.60	59.61	47.31	50.51	52.43	44.33	58.99	43.86
9	52.10	14.89	47.46	8.81	45.58	59.27	47.44	50.22	52.65	44.26	59.20	43.98
10	51.93	14.77	47.34	8.57	45.58	58.92	47.58	49.95	52.86	44.20	59.41	44.09
11	51.76	14.66	47.22	8.32	45.59	58.57	47.72	49.70	53.07	44.14	59.61	44.19
12	51.58	14.55	47.08	8.05	45.61	58.24	47.87	49.47	53.27	44.07	59.81	44.28
13	51.40	14.43	46.96	7.75	45.65	57.92	48.02	49.25	53.46	43.99	60.01	44.36
14	51.22	14.30	46.85	7.44	45.70	57.61	48.17	49.04	53.65	43.90	60.22	44.44
15	51.03	14.15	46.76	7.13	45.74	57.32	48.30	48.84	53.84	43.81	60.44	44.53
16	50.84	13.98	46.67	6.82	45.79	57.05	48.43	48.62	54.04	43.71	60.66	44.63
17	50.65	13.80	46.60	6.53	45.83	56.78	48.55	48.39	54.25	43.62	60.88	44.74
18	50.46	13.60	46.54	6.25	45.86	56.50	48.67	48.14	54.47	43.54	61.11	44.87
19	50.29	13.40	46.49	5.99	45.88	56.20	48.80	47.89	54.69	43.47	61.34	45.02
20	50.14	13.20	46.43	5.73	45.90	55.88	48.95	47.64	54.92	43.41	61.57	45.18
21	50.00	13.01	46.37	5.47	45.93	55.56	49.11	47.40	55.16	43.36	61.79	45.36
22	49.87	12.83	46.30	5.21	45.97	55.22	49.27	47.16	55.40	43.33	62.00	45.55
23	49.73	12.66	46.22	4.93	46.02	54.88	49.44	46.93	55.63	43.32	62.21	45.74
24	49.58	12.50	46.13	4.64	46.08	54.55	49.61	46.72	55.86	43.33	62.41	45.93
25	49.43	12.34	46.05	4.33	46.14	54.22	49.80	46.52	56.08	43.35	62.59	46.12
26	49.28	12.16	45.97	4.01	46.22	53.90	49.99	46.33	56.30	43.36	62.77	46.31
27	49.12	11.97	45.91	3.68	46.31	53.59	50.17	46.17	56.51	43.38	62.95	46.48
28	48.95	11.76	45.86	3.34	46.41	53.29	50.36	46.01	56.72	43.40	63.13	46.65
29	48.79	11.53	45.82	3.00	46.51	53.01	50.54	45.86	56.92	43.41	63.32	46.82
30	48.64	11.28	45.79	2.67	46.60	52.74	50.72	45.71	57.12	43.41	63.51	47.00
31	48.49	11.02	45.76	2.34	46.69	52.48	50.88	45.55	57.33	43.41	63.72	47.20
32	48.35	10.76	45.75	2.02			51.05	45.39			63.93	47.42

Mean R.A. 10^h 59^m 53^s.036 Mean Dec. — 84° 10' 46".79 Sec δ 9.861 Tan δ — 9.810

264 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

 ρ Octantis. Mag. 5.7

Day.	JANUARY.			FEBRUARY.			MARCH.			APRIL.			MAY.			JUNE.		
	R.A.	Dec. S.		R.A.	Dec. S.		R.A.	Dec. S.		R.A.	Dec. S.		R.A.	Dec. S.		R.A.	Dec. S.	
	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]
1	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12	15 25 84 12
2	11.88 22.24	19.25 20.32	26.19 22.94	32.60 29.84	36.64 38.98	37.83 49.24												
3	12.11 22.11	19.48 20.36	26.40 23.11	32.77 30.09	36.75 39.30	37.82 49.60												
4	12.34 22.00	19.71 20.40	26.61 23.28	32.95 30.34	36.86 39.65	37.79 49.95												
5	12.55 21.91	19.94 20.42	26.82 23.44	33.15 30.60	36.96 40.01	37.74 50.28												
6	12.76 21.82	20.18 20.43	27.05 23.59	33.35 30.88	37.04 40.37	37.69 50.59												
7	12.96 21.71	20.43 20.45	27.29 23.74	33.55 31.19	37.11 40.73	37.63 50.90												
8	13.15 21.59	20.69 20.47	27.54 23.90	33.73 31.50	37.17 41.08	37.57 51.19												
9	13.35 21.45	20.97 20.50	27.79 24.08	33.90 31.82	37.23 41.43	37.51 51.47												
10	13.57 21.30	21.25 20.55	28.04 24.27	34.04 32.14	37.27 41.77	37.46 51.74												
11	13.80 21.16	21.53 20.63	28.29 24.49	34.17 32.46	37.30 42.09	37.41 52.01												
12	14.05 21.03	21.80 20.73	28.52 24.72	34.30 32.77	37.34 42.41	37.37 52.29												
13	14.30 20.93	22.06 20.84	28.74 24.96	34.43 33.07	37.38 42.72	37.33 52.57												
14	14.57 20.84	22.30 20.95	28.95 25.20	34.55 33.36	37.42 43.02	37.29 52.86												
15	14.83 20.78	22.54 21.06	29.15 25.43	34.67 33.64	37.47 43.33	37.25 53.16												
16	15.08 20.73	22.77 21.16	29.35 25.65	34.80 33.92	37.52 43.64	37.21 53.47												
17	15.33 20.69	23.00 21.25	29.53 25.86	34.94 34.20	37.57 43.95	37.15 53.79												
18	15.56 20.64	23.22 21.34	29.72 26.07	35.07 34.48	37.63 44.27	37.08 54.10												
19	15.78 20.60	23.45 21.43	29.92 26.28	35.21 34.77	37.68 44.62	37.00 54.40												
20	16.00 20.56	23.69 21.51	30.12 26.48	35.36 35.07	37.73 44.97	36.90 54.70												
21	16.23 20.51	23.93 21.60	30.32 26.69	35.50 35.39	37.76 45.33	36.79 54.99												
22	16.46 20.46	24.18 21.69	30.52 26.90	35.64 35.72	37.77 45.70	36.68 55.25												
23	16.69 20.39	24.43 21.80	30.73 27.12	35.77 36.06	37.78 46.06	36.57 55.49												
24	16.92 20.33	24.69 21.92	30.95 27.37	35.89 36.42	37.78 46.40	36.48 55.72												
25	17.16 20.27	24.96 22.05	31.17 27.62	35.99 36.78	37.76 46.73	36.40 55.96												
26	17.41 20.23	25.22 22.20	31.38 27.89	36.08 37.12	37.75 47.04	36.33 56.20												
27	17.67 20.19	25.48 22.37	31.58 28.17	36.16 37.46	37.74 47.33	36.26 56.46												
28	17.94 20.17	25.73 22.56	31.77 28.47	36.24 37.78	37.74 47.62	36.19 56.73												
29	18.22 20.17	25.97 22.75	31.95 28.76	36.33 38.08	37.76 47.92	36.11 57.01												
30	18.49 20.19	26.19 22.94	32.11 29.05	36.42 38.37	37.79 48.23	36.01 57.30												
31	18.75 20.22		32.27 29.32	36.52 38.67	37.81 48.55	35.90 57.57												
32	19.00 20.27		32.43 29.58	36.64 38.98	37.83 48.89	35.78 57.83												
33	19.25 20.32		32.60 29.84		37.83 49.24													

Mean R.A. 15^h 25^m 17^s.035 Mean Dec. — 84° 12' 45".34 Sec δ 9.917 Tan δ — 9.866

APPARENT PLACES OF STARS, 1923. 265

AT UPPER TRANSIT AT GREENWICH.

ρ Octantis. Mag. 5.7

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	h m	s	h m	s	h m	s	h m	s	h m	s	h m	s
1	15 25	84 12	15 25	84 13	15 25	84 12	15 25	84 12	15 25	84 12	15 25	84 12
2	35.78	57.83	30.94	3.14	24.83	63.32	19.66	58.57	17.04	50.09	18.27	40.83
3	35.65	58.08	30.74	3.21	24.65	63.22	19.54	58.35	17.01	49.81	18.36	40.54
4	35.51	58.31	30.54	3.26	24.47	63.12	19.42	58.14	16.97	49.53	18.47	40.24
5	35.36	58.52	30.35	3.31	24.30	63.04	19.30	57.93	16.93	49.23	18.59	39.94
6	35.21	58.73	30.17	3.36	24.12	62.95	19.16	57.72	16.89	48.91	18.73	39.65
7	35.07	58.92	29.99	3.42	23.94	62.87	19.02	57.49	16.87	48.57	18.89	39.38
8	34.93	59.11	29.82	3.49	23.75	62.79	18.88	57.26	16.86	48.23	19.06	39.12
9	34.80	59.30	29.65	3.56	23.56	62.70	18.73	57.02	16.88	47.89	19.22	38.88
10	34.67	59.49	29.47	3.63	23.36	62.61	18.59	56.75	16.91	47.56	19.38	38.67
11	34.55	59.68	29.29	3.70	23.15	62.50	18.47	56.46	16.95	47.25	19.53	38.46
12	34.43	59.88	29.10	3.77	22.94	62.37	18.36	56.16	17.00	46.95	19.66	38.25
13	34.31	60.09	28.89	3.84	22.73	62.21	18.27	55.86	17.05	46.67	19.79	38.02
14	34.17	60.31	28.67	3.89	22.54	62.04	18.20	55.58	17.09	46.40	19.92	37.79
15	34.03	60.53	28.44	3.93	22.37	61.85	18.13	55.31	17.12	46.12	20.05	37.56
16	33.88	60.74	28.22	3.94	22.21	61.67	18.07	55.06	17.14	45.84	20.19	37.31
17	33.71	60.95	28.01	3.93	22.06	61.50	18.00	54.81	{ 17 16 }	{ 45 55 }	20.34	37.06
18	33.53	61.13	27.81	3.90	21.92	61.35	17.92	54.56	17.20	44.92	20.50	36.81
19	33.34	61.29	27.63	3.87	21.77	61.22	17.82	54.31	17.23	44.60	20.67	36.57
20	33.16	61.44	27.45	3.85	21.61	61.08	17.72	54.04	17.27	44.27	20.85	36.33
21	32.99	61.57	27.28	3.84	21.44	60.94	17.63	53.76	17.33	43.94	21.03	36.10
22	32.83	61.68	27.11	3.84	21.25	60.79	17.53	53.47	17.40	43.61	21.23	35.89
23	32.68	61.80	26.93	3.85	21.08	60.61	17.44	53.16	17.48	43.29	21.43	35.69
24	32.54	61.93	26.74	3.86	20.90	60.42	17.35	52.84	17.56	42.98	21.63	35.52
25	32.40	62.08	26.54	3.86	20.71	60.21	17.28	52.52	17.66	42.69	21.83	35.35
26	32.25	62.24	26.32	3.85	20.53	59.99	17.23	52.19	17.76	42.42	22.02	35.20
27	32.10	62.40	26.10	3.82	20.36	59.77	17.19	51.86	17.85	42.15	22.20	35.05
28	31.94	62.55	25.87	3.76	20.20	59.53	17.15	51.54	17.94	41.88	22.38	34.89
29	31.75	62.70	25.65	3.70	20.05	59.29	17.12	51.23	18.04	41.63	22.55	34.72
30	31.55	62.83	25.43	3.62	19.91	59.04	17.10	50.93	18.13	41.38	22.72	34.54
31	31.35	62.94	25.23	3.52	19.78	58.80	17.08	50.65	18.20	41.11	22.90	34.36
32	31.14	63.05	25.03	3.42	19.66	58.57	17.06	50.37	18.27	40.83	23.11	34.18
33	30.94	63.14	24.83	3.32			17.04	50.09			23.33	34.00

Mean R.A. 15^h 25^m 17^s.035 Mean Dec. — 84° 12' 45".34 Sec δ 9.917 Tan δ — 9.866

266 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

 σ Octantis. Mag. 5.5

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m	[°] ['] ["]	^h ^m	[°] ['] ["]	^h ^m	[°] ['] ["]	^h ^m	[°] ['] ["]	^h ^m	[°] ['] ["]	^h ^m	[°] ['] ["]
	19 35	89 12	19 35	89 12	19 35	89 12	19 36	89 12	19 37	89 12	19 38	89 12
1	4.15	37.83	18.69	26.96	51.93	19.05	42.43	13.79	35.46	12.86	24.39	16.44
2	4.27	37.47	19.60	26.68	53.37	18.84	44.08	13.67	37.26	12.88	25.88	16.65
3	4.45	37.13	20.44	26.39	54.75	18.64	45.79	13.55	39.12	12.91	27.28	16.86
4	4.66	36.80	21.25	26.08	56.09	18.42	47.59	13.43	41.01	12.95	28.59	17.09
5	4.86	36.48	22.04	25.77	57.45	18.19	49.48	13.32	42.88	13.01	29.82	17.31
6	5.02	36.16	22.88	25.44	58.86	17.94	51.42	13.22	44.69	13.10	30.98	17.53
7	5.12	35.85	23.80	25.10	60.37	17.69	53.37	13.14	46.43	13.20	32.08	17.76
8	5.17	35.53	24.83	24.76	61.97	17.44	55.31	13.08	48.10	13.31	33.14	17.98
9	5.20	35.20	25.97	24.42	63.65	17.20	57.19	13.03	49.69	13.42	34.20	18.18
10	5.26	34.84	27.19	24.10	65.39	16.99	59.00	13.00	51.22	13.53	35.27	18.38
11	5.38	34.46	28.45	23.79	67.14	16.80	60.75	12.97	52.71	13.63	36.35	18.58
12	$\left\{ \begin{smallmatrix} 5.51 \\ 5.55 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 34.07 \\ 33.69 \end{smallmatrix} \right\}$	29.72	23.50	68.86	16.63	62.44	12.94	54.20	13.73	37.46	18.78
13	6.40	33.31	30.98	23.23	70.55	16.46	64.10	12.91	55.69	13.82	38.61	18.99
14	6.94	32.95	32.19	22.97	72.18	16.30	65.73	12.88	57.18	13.90	39.79	19.20
15	7.51	32.61	33.35	22.71	73.75	16.15	67.37	12.85	58.71	13.99	40.99	19.43
16	8.08	32.28	34.48	22.45	75.28	15.99	69.03	12.81	60.29	14.07	42.19	19.67
17	8.61	31.95	35.58	22.19	76.79	15.83	70.72	12.76	61.92	14.17	43.37	19.93
18	9.12	31.63	36.68	21.92	78.30	15.67	72.45	12.71	63.59	14.29	44.47	20.21
19	9.58	31.32	37.80	21.65	79.82	15.50	74.25	12.67	65.28	14.41	45.47	20.49
20	10.02	31.00	38.94	21.37	81.38	15.32	76.11	12.64	66.97	14.55	46.37	20.77
21	10.45	30.68	40.14	21.08	83.00	15.14	78.02	12.62	68.61	14.72	47.18	21.05
22	10.89	30.35	41.40	20.79	84.68	14.97	79.94	12.62	70.18	14.89	47.94	21.30
23	11.36	30.00	42.75	20.50	86.43	14.80	81.86	12.63	71.66	15.06	48.70	21.55
24	11.89	29.65	44.19	20.22	88.25	14.64	83.73	12.67	73.04	15.23	49.48	21.78
25	12.48	29.29	45.70	19.96	90.12	14.49	85.53	12.71	74.37	15.40	50.32	22.01
26	13.15	28.94	47.27	19.71	92.01	14.37	87.25	12.75	75.67	15.55	51.22	22.24
27	13.92	28.59	48.85	19.48	93.90	14.26	88.89	12.79	76.98	15.69	52.18	22.48
28	14.78	28.24	50.41	19.26	95.74	14.17	90.49	12.83	78.35	15.82	53.15	22.74
29	15.72	27.90	51.93	19.05	97.50	14.08	92.09	12.85	79.79	15.95	54.07	23.03
30	16.71	27.57			99.19	14.00	93.74	12.86	81.30	16.10	54.93	23.33
31	17.72	27.25			100.82	13.90	95.46	12.86	82.85	16.26	55.69	23.64
32	18.69	26.96			102.43	13.79			84.39	16.44		

Mean R.A. 19^h 37^m 18.735 Mean Dec. — 89° 12' 41".40 Sec δ 72.667 Tan δ — 72.660

APPARENT PLACES OF STARS, 1923. 267

AT UPPER TRANSIT AT GREENWICH.

σ Octantis. Mag. 5.5

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m
1	19 38	89 12	19 38	89 12	19 38	89 12	19 37	89 12	19 36	89 12	19 36	89 12
2	55.69	23.64	63.70	33.05	45.04	41.70	67.11	46.75	80.36	46.62	43.32	41.14
3	56.34	23.95	63.37	33.35	44.00	41.92	65.73	46.83	78.99	46.55	42.29	40.90
4	56.91	24.26	63.02	33.65	43.00	42.12	64.38	46.91	77.55	46.47	41.25	40.64
5	57.40	24.56	62.67	33.93	42.04	42.33	63.04	46.99	76.05	46.38	40.22	40.36
6	57.85	24.85	62.33	34.22	41.10	42.54	61.65	47.08	74.50	46.28	39.26	40.07
7	58.27	25.14	62.02	34.50	40.17	42.76	60.19	47.17	72.93	46.15	38.40	39.76
8	58.68	25.42	61.74	34.78	39.22	43.00	58.67	47.26	71.38	46.00	37.66	39.45
9	59.10	25.69	61.49	35.06	38.21	43.24	57.07	47.33	69.90	45.83	37.04	39.13
10	59.54	25.96	61.25	35.35	37.11	43.48	55.41	47.39	68.52	45.65	36.49	38.82
11	60.01	26.23	61.01	35.66	35.91	43.71	53.73	47.42	67.25	45.46	35.98	38.53
12	60.51	26.51	60.72	35.98	34.62	43.93	52.07	47.43	66.06	45.27	35.47	38.25
13	61.03	26.80	60.35	36.30	33.27	44.12	50.47	47.42	64.92	45.09	34.92	37.97
14	61.56	27.10	59.87	36.62	31.90	44.29	48.96	47.40	63.79	44.92	34.32	37.70
15	62.08	27.42	59.29	36.94	30.56	44.45	47.54	47.39	62.62	44.77	33.67	37.42
16	62.53	27.75	58.61	37.24	29.28	44.60	46.16	47.39	61.40	44.63	32.98	37.13
17	62.88	28.08	57.88	37.51	28.07	44.75	44.79	47.39	60.11	44.49	32.29	36.83
18	63.12	28.42	57.14	37.78	26.92	44.89	43.40	47.41	58.77	44.33	31.62	36.52
19	63.25	28.75	56.44	38.03	25.78	45.05	41.95	47.42	57.42	44.15	30.99	36.20
20	63.31	29.07	55.80	38.28	24.63	45.22	40.43	47.43	56.06	43.95	30.43	35.86
21	63.34	29.36	55.22	38.53	23.43	45.39	38.83	47.44	54.71	43.74	29.94	35.52
22	63.38	29.64	54.67	38.79	22.15	45.57	37.17	47.44	53.40	43.51	29.53	35.18
23	63.46	29.90	54.13	39.06	20.77	45.74	35.49	47.41	52.15	43.27	29.20	34.83
24	63.61	30.17	53.54	39.34	19.31	45.91	33.80	47.37	50.97	43.03	28.95	34.49
25	63.82	30.45	52.87	39.63	17.80	46.06	32.12	47.31	49.87	42.79	28.77	34.15
26	64.04	30.75	52.11	39.92	16.24	46.19	30.48	47.25	48.85	42.54	28.64	33.83
27	64.24	31.07	51.25	40.21	14.67	46.31	28.88	47.17	47.89	42.29	28.52	33.52
28	64.38	31.40	50.31	40.50	13.10	46.42	27.34	47.08	46.98	42.04	28.39	33.22
29	64.44	31.73	49.30	40.76	11.55	46.51	25.85	46.98	46.10	41.80	28.21	32.91
30	64.38	32.07	48.25	41.01	10.02	46.60	24.42	46.88	45.21	41.58	27.98	32.60
31	64.22	32.41	47.18	41.25	8.54	46.67	23.04	46.78	44.29	41.36	27.71	32.29
32	63.99	32.73	46.10	41.48	7.11	46.75	21.70	46.70	43.32	41.14	27.45	31.95
33	63.70	33.05	45.04	41.70			20.36	46.62			27.23	31.59

Mean R.A. 19^h 37^m 18.735 Mean Dec. — 89° 12' 41".40 Sec δ 72.667 Tan δ — 72.660

268 APPARENT PLACES OF STARS, 1923

AT UPPER TRANSIT AT GREENWICH.

44 G Octantis. Mag. 6.3

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 19 41 ^s 81 32	^h ^m 19 41 ^s 81 32	^h ^m 19 41 ^s 81 32	^h ^m 19 41 ^s 81 32	^h ^m 19 41 ^s 81 32	^h ^m 19 41 ^s 81 32	^h ^m 19 41 ^s 81 32	^h ^m 19 41 ^s 81 32	^h ^m 19 41 ^s 81 32	^h ^m 19 41 ^s 81 32	^h ^m 19 42 ^s 81 32	^h ^m 19 42 ^s 81 32
1	44°01	43°06	45°49	32°76	48°68	25°05	53°50	19°63	58°66	18°24	3°55	21°12
2	44°03	42°72	45°58	32°49	48°82	24°85	53°66	19°50	58°84	18°23	3°71	21°29
3	44°05	42°40	45°66	32°21	48°95	24°65	53°83	19°37	59°03	18°24	3°85	21°49
4	44°08	42°08	45°73	31°93	49°07	24°43	54°01	19°23	59°22	18°27	3°98	21°69
5	44°10	41°79	45°80	31°63	49°19	24°20	54°20	19°10	59°41	18°31	4°10	21°90
6	44°11	41°50	45°89	31°31	49°33	23°95	54°39	18°99	59°59	18°38	4°22	22°11
7	44°13	41°20	45°98	30°98	49°48	23°69	54°58	18°89	59°76	18°46	4°33	22°31
8	44°14	40°90	46°08	30°65	49°64	23°44	54°76	18°82	59°92	18°55	4°43	22°50
9	44°14	40°58	46°19	30°33	49°80	23°20	54°94	18°77	60°07	18°64	4°53	22°69
10	44°15	40°24	46°31	30°01	49°97	22°98	55°12	18°72	60°22	18°72	4°64	22°87
11	44°17	39°89	46°44	29°71	50°14	22°78	55°29	18°68	60°37	18°80	4°75	23°05
12	44°20	39°53	46°57	29°43	50°30	22°59	55°46	18°65	60°51	18°87	4°87	23°22
13	44°23	39°17	46°69	29°16	50°46	22°43	55°61	18°61	60°66	18°94	4°99	23°39
14	{ 44 27 } { 44 33 }	{ 38 81 } { 38 47 }	46°80	28°91	50°62	22°27	55°76	18°56	60°81	19°00	5°11	23°58
15	44°39	38°14	46°90	28°66	50°77	22°12	55°92	18°51	60°96	19°06	5°23	23°78
16	44°45	37°83	47°01	28°40	50°92	21°97	56°08	18°45	61°12	19°13	5°36	24°00
17	44°51	37°53	47°12	28°15	51°06	21°80	56°24	18°39	61°28	19°21	5°49	24°24
18	44°56	37°23	47°22	27°89	51°20	21°63	56°41	18°32	61°45	19°29	5°61	24°49
19	44°60	36°93	47°32	27°63	51°34	21°46	56°58	18°26	61°62	19°40	5°71	24°74
20	44°64	36°63	47°43	27°35	51°49	21°28	56°77	18°21	61°79	19°52	5°80	25°00
21	44°68	36°33	47°54	27°07	51°64	21°09	56°96	18°17	61°95	19°65	5°88	25°25
22	44°72	36°02	47°66	26°78	51°80	20°90	57°15	18°15	62°10	19°81	5°96	25°49
23	44°76	35°69	47°79	26°49	51°96	20°73	57°33	18°16	62°25	19°97	6°04	25°72
24	44°81	35°35	47°93	26°22	52°14	20°57	57°51	18°18	62°39	20°12	6°12	25°93
25	44°87	35°00	48°08	25°95	52°33	20°42	57°69	18°20	62°52	20°26	6°21	26°13
26	44°94	34°65	48°23	25°70	52°51	20°28	57°86	18°23	62°65	20°38	6°31	26°33
27	45°02	34°31	48°39	25°47	52°70	20°16	58°02	18°26	62°78	20°50	6°42	26°55
28	45°11	33°97	48°54	25°26	52°88	20°06	58°17	18°27	62°92	20°60	6°53	26°79
29	45°21	33°64	48°68	25°05	53°04	19°96	58°33	18°27	63°07	20°71	6°63	27°05
30	45°31	33°33			53°20	19°87	58°49	18°26	63°23	20°83	6°72	27°32
31	45°40	33°04			53°35	19°76	58°66	18°24	63°39	20°97	6°80	27°61
32	45°49	32°76			53°50	19°63			63°55	21°12		

Mean R.A. 19^h 41^m 55^s.111 Mean Dec. — 81° 32' 45".89 Sec δ 6.802 Tan δ — 6.728

APPARENT PLACES OF STARS, 1923. 269

AT UPPER TRANSIT AT GREENWICH.

44 G Octantis. Mag. 6.3

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m	[°] ['] [″]	^h ^m	[°] ['] [″]	^h ^m	[°] ['] [″]	^h ^m	[°] ['] [″]	^h ^m	[°] ['] [″]	^h ^m	[°] ['] [″]
	19 42	81 32	19 42	81 32	19 42	81 32	19 41	81 32	19 41	81 32	19 41	81 32
1	6 80	27.61	7.84	36.39	6.32	44.67	62.94	49.70	58.73	49.96	55.43	45.16
2	6.87	27.90	7.81	36.68	6.23	44.87	62.82	49.79	58.61	49.91	55.34	44.94
3	6.93	28.18	7.78	36.95	6.14	45.07	62.70	49.88	58.49	49.86	55.24	44.71
4	6.99	28.46	7.76	37.22	6.06	45.27	62.58	49.97	58.35	49.79	55.15	44.46
5	7.04	28.74	7.73	37.49	5.98	45.48	62.46	50.07	58.20	49.71	55.07	44.19
6	7.08	29.01	7.71	37.76	5.90	45.70	62.32	50.17	58.05	49.60	54.99	43.91
7	7.12	29.27	7.70	38.03	5.82	45.93	62.18	50.27	57.91	49.47	54.93	43.61
8	7.17	29.52	7.69	38.29	5.73	46.17	62.04	50.36	57.78	49.32	54.88	43.31
9	7.23	29.77	7.68	38.56	5.63	46.41	61.89	50.42	57.66	49.15	54.83	43.03
10	7.28	30.01	7.67	38.85	5.52	46.64	61.73	50.47	57.55	48.99	54.79	42.76
11	7.34	30.27	7.65	39.15	5.41	46.85	61.58	50.50	57.45	48.82	54.76	42.50
12	7.40	30.53	7.62	39.46	5.29	47.05	61.44	50.50	57.36	48.66	54.72	42.26
13	7.47	30.81	7.58	39.77	5.16	47.23	61.30	50.49	57.26	48.51	54.67	42.02
14	7.53	31.10	7.53	40.08	5.04	47.39	61.17	50.48	57.15	48.38	54.61	41.77
15	7.58	31.41	7.48	40.38	4.93	47.53	61.05	50.48	57.03	48.26	54.54	41.51
16	7.62	31.73	7.42	40.65	4.83	47.66	60.93	50.49	56.92	48.14	54.48	41.23
17	7.66	32.04	7.35	40.90	4.73	47.80	60.81	50.51	56.80	48.00	54.42	40.93
18	7.68	32.35	7.29	41.13	4.63	47.96	60.69	50.53	56.68	47.84	54.37	40.63
19	7.69	32.65	7.24	41.36	4.53	48.13	60.55	50.56	56.55	47.66	54.32	40.33
20	7.70	32.93	7.20	41.60	4.42	48.30	60.41	50.58	56.43	47.48	54.28	40.01
21	7.70	33.19	7.16	41.85	4.31	48.48	60.26	50.60	56.32	47.28	54.25	39.68
22	7.72	33.44	7.12	42.10	4.19	48.66	60.10	50.60	56.21	47.07	54.23	39.36
23	7.75	33.69	7.08	42.37	4.05	48.83	59.94	50.57	56.10	46.85	54.21	39.04
24	7.79	33.95	7.02	42.65	3.91	48.99	59.78	50.52	56.00	46.62	54.20	38.74
25	7.82	34.22	6.95	42.93	3.77	49.13	59.63	50.47	55.91	46.40	54.20	38.44
26	7.85	34.51	6.88	43.21	3.62	49.25	59.49	50.41	55.83	46.18	54.19	38.15
27	7.87	34.81	6.80	43.49	3.47	49.36	59.35	50.33	55.76	45.96	54.18	37.87
28	7.89	35.13	6.70	43.75	3.33	49.46	59.21	50.25	55.68	45.75	54.17	37.59
29	7.89	35.46	6.60	43.99	3.20	49.54	59.08	50.17	55.60	45.55	54.15	37.31
30	7.88	35.78	6.50	44.23	3.07	49.62	58.96	50.09	55.51	45.36	54.13	37.02
31	7.87	36.09	6.41	44.46	2.94	49.70	58.85	50.02	55.43	45.16	54.11	36.70
32	7.84	36.39	6.32	44.67			58.73	49.96			54.09	36.36

Mean R.A. 19^h 41^m 55^s.111 Mean Dec. — 81° 32' 45".89 Sec δ 6.802 Tan δ — 6.728

270 APPARENT PLACES OF STARS, 192.

AT UPPER TRANSIT AT GREENWICH.

48 G Octantis. Mag. 7.1

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m
	20 24	84 40	20 24	84 40	20 24	84 39	20 24	84 39	20 24	84 39	20 24	84 39
1	11.65	22.17	12.35	11.30	16.15	62.33	22.86	55.06	30.64	51.76	38.55	52.93
2	11.62	21.83	12.44	10.99	16.33	62.07	23.09	54.86	30.91	51.69	38.80	53.06
3	11.61	21.50	12.53	10.68	16.50	61.81	23.33	54.66	31.20	51.63	39.05	53.20
4	11.60	21.18	12.61	10.36	16.67	61.54	23.58	54.46	31.49	51.58	39.29	53.35
5	11.59	20.87	12.69	10.03	16.83	61.25	23.84	54.26	31.78	51.56	39.50	53.51
6	11.57	20.57	12.77	9.68	17.00	60.96	24.12	54.08	32.07	51.56	39.70	53.67
7	11.54	20.27	12.85	9.31	17.19	60.66	24.40	53.92	32.35	51.58	39.90	53.84
8	11.51	19.96	12.95	8.93	17.40	60.35	24.68	53.78	32.62	51.62	40.10	54.00
9	11.46	19.64	13.06	8.56	17.62	60.04	24.96	53.66	32.87	51.65	40.29	54.15
10	11.42	19.31	13.20	8.21	17.84	59.76	25.23	53.55	33.11	51.68	40.48	54.29
11	11.39	18.95	13.35	7.86	18.07	59.50	25.48	53.44	33.35	51.70	40.67	54.43
12	11.37	18.57	13.51	7.53	18.31	59.26	25.73	53.34	33.58	51.73	40.87	54.57
13	11.38	18.19	13.66	7.22	18.54	59.03	25.97	53.24	33.81	51.75	41.08	54.71
14	11.41	17.82	13.80	6.92	18.75	58.81	26.20	53.13	34.05	51.76	41.29	54.86
15	11.44	17.46	13.93	6.63	18.96	58.59	26.43	53.02	34.30	51.77	41.51	55.02
16	11.48	17.12	14.05	6.33	19.16	58.38	26.67	52.90	34.55	51.79	41.74	55.20
17	11.52	16.78	14.17	6.03	19.36	58.16	26.91	52.77	34.81	51.80	41.96	55.39
18	11.55	16.46	14.30	5.73	19.56	57.93	27.17	52.65	35.08	51.83	42.17	55.61
19	11.57	16.14	14.42	5.42	19.75	57.70	27.43	52.54	35.35	51.87	42.37	55.83
20	11.60	15.83	14.55	5.10	19.96	57.46	27.71	52.43	35.63	51.92	42.54	56.05
21	11.62	15.50	14.68	4.78	20.17	57.22	27.99	52.32	35.90	52.00	42.70	56.27
22	11.64	15.17	14.83	4.45	20.40	56.97	28.28	52.23	36.16	52.10	42.85	56.48
23	11.65	14.83	14.98	4.12	20.63	56.72	28.57	52.16	36.41	52.20	43.01	56.68
24	{ 11.67 }	{ 14.49 }	15.16	3.79	20.88	56.49	28.86	52.11	36.65	52.30	43.16	56.86
25	11.73	13.76	15.35	3.47	21.14	56.27	29.13	52.07	36.87	52.40	43.32	57.04
26	11.79	13.40	15.55	3.16	21.41	56.07	29.40	52.04	37.08	52.49	43.50	57.22
27	11.85	13.03	15.75	2.86	21.67	55.88	29.65	52.01	37.30	52.56	43.69	57.41
28	11.93	12.67	15.95	2.59	21.93	55.72	29.89	51.97	37.53	52.62	43.88	57.62
29	12.03	12.30	16.15	2.33	22.18	55.57	30.13	51.91	37.78	52.68	44.07	57.85
30	12.14	11.95			22.41	55.41	30.38	51.84	38.04	52.74	44.24	58.10
31	12.25	11.61			22.64	55.24	30.64	51.76	38.29	52.82	44.40	58.35
32	12.35	11.30			22.86	55.06			38.55	52.93		

Mean R.A. 20^h 24^m 29^s.292 Mean Dec. — 84° 40' 20".53 Sec δ 10.769 Tan δ — 10.723

APPARENT PLACES OF STARS, 1923. 271

AT UPPER TRANSIT AT GREENWICH.

48 G Octantis. Mag. 7.1

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]	^h _s ^m [°]
	20 24	84 39	20 24	84 40	20 24	84 40	20 24	84 40	20 24	84 40	20 24	84 40
1	44.40	58.35	47.14	6.91	45.82	15.93	41.18	22.36	34.53	24.32	28.57	20.82
2	44.55	58.62	47.14	7.22	45.70	16.17	40.99	22.49	34.33	24.32	28.39	20.64
3	44.68	58.89	47.13	7.52	45.59	16.41	40.81	22.63	34.12	24.31	28.21	20.45
4	44.80	59.16	47.12	7.81	45.49	16.65	40.63	22.78	33.89	24.29	28.02	20.24
5	44.92	59.42	47.12	8.09	45.39	16.90	40.45	22.93	33.65	24.27	27.84	20.00
6	45.03	59.67	47.13	8.37	45.30	17.16	40.26	23.08	33.41	24.22	27.68	19.73
7	45.13	59.91	47.13	8.64	45.21	17.42	40.06	23.23	33.17	24.15	27.53	19.46
8	45.24	60.15	47.14	8.91	45.10	17.69	39.84	23.37	32.94	24.05	27.41	19.19
9	45.35	60.39	47.16	9.20	44.98	17.97	39.61	23.50	32.72	23.93	27.30	18.92
10	45.47	60.62	47.18	9.50	44.83	18.24	39.37	23.61	32.52	23.81	27.20	18.67
11	45.59	60.86	47.19	9.81	44.67	18.51	39.14	23.70	32.33	23.69	27.09	18.43
12	45.72	61.11	47.19	10.14	44.51	18.76	38.91	23.76	32.15	23.58	26.97	18.21
13	45.85	61.37	47.17	10.47	44.35	18.98	38.69	23.81	31.97	23.48	26.85	18.00
14	45.98	61.65	47.13	10.80	44.18	19.18	38.50	23.85	31.79	23.38	26.73	17.77
15	46.10	61.94	47.08	11.12	44.02	19.37	38.31	23.90	31.59	23.29	26.59	17.52
16	46.20	62.24	47.02	11.41	43.87	19.55	38.12	23.96	31.39	23.20	26.44	17.26
17	46.29	62.55	46.95	11.70	43.73	19.74	37.92	24.03	31.18	23.11	26.30	16.99
18	46.36	62.86	46.89	11.96	43.59	19.93	37.72	24.11	30.96	23.00	26.17	16.72
19	46.42	63.16	46.84	12.21	43.46	20.14	37.50	24.19	30.73	22.88	26.05	16.43
20	46.47	63.44	46.80	12.47	43.32	20.36	37.27	24.27	30.51	22.74	25.94	16.13
21	46.52	63.70	46.76	12.74	43.16	20.59	37.03	24.34	30.30	22.58	25.84	15.82
22	46.58	63.95	46.73	13.02	42.99	20.82	36.79	24.39	30.09	22.42	25.75	15.50
23	46.66	64.20	46.69	13.31	42.80	21.04	36.54	24.43	29.89	22.24	25.67	15.19
24	46.74	64.45	46.64	13.62	42.60	21.25	36.29	24.46	29.70	22.06	25.61	14.88
25	46.82	64.72	46.58	13.93	42.40	21.45	36.05	24.47	29.52	21.87	25.55	14.58
26	46.90	65.00	46.50	14.24	42.19	21.63	35.81	24.46	29.36	21.68	25.49	14.30
27	46.98	65.30	46.40	14.55	41.98	21.81	35.58	24.44	29.20	21.50	25.44	14.03
28	47.04	65.62	46.29	14.85	41.77	21.96	35.35	24.41	29.05	21.33	25.38	13.76
29	47.08	65.95	46.18	15.14	41.57	22.10	35.14	24.38	28.90	21.16	25.31	13.48
30	47.11	66.28	46.06	15.42	41.38	22.24	34.94	24.36	28.74	20.99	25.22	13.19
31	47.13	66.60	45.94	15.68	41.18	22.36	34.73	24.34	28.57	20.82	25.13	12.87
32	47.14	66.91	45.82	15.93			34.53	24.32			25.05	12.54

Mean R.A. 20^h 24^m 29^s.292 Mean Dec. — 84° 40' 20".53 Sec δ 10.769 Tan δ — 10.723

272 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

v Octantis. Mag. 5.7

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m	^h _s ^m
	22 16	86 21	22 16	86 21	22 16	86 21	22 17	86 21	22 17	86 21	22 17	86 21
1	59.98	51.41	55.26	41.79	55.50	31.08	0.50	20.33	8.92	12.48	19.79	8.57
2	59.76	51.13	55.22	41.45	55.61	30.74	0.69	20.02	9.24	12.24	20.19	8.52
3	59.57	50.86	55.17	41.12	55.70	30.40	0.89	19.69	9.58	12.01	20.58	8.49
4	59.39	50.59	55.11	40.79	55.78	30.05	1.11	19.35	9.94	11.79	20.96	8.48
5	59.21	50.33	55.04	40.46	55.84	29.69	1.36	19.01	10.31	11.60	21.32	8.49
6	59.03	50.08	54.96	40.11	55.91	29.31	1.63	18.68	10.68	11.42	21.67	8.50
7	58.84	49.82	54.88	39.74	55.99	28.91	1.91	18.36	11.05	11.25	22.01	8.52
8	58.64	49.57	54.80	39.37	56.10	28.51	2.20	18.06	11.41	11.11	22.34	8.53
9	58.42	49.31	54.75	38.97	56.23	28.12	2.50	17.78	11.75	10.98	22.66	8.54
10	58.19	49.04	54.72	38.57	56.38	27.74	2.79	17.51	12.08	10.85	22.98	8.56
11	57.96	48.75	54.72	38.17	56.55	27.36	3.07	17.26	12.40	10.72	23.30	8.57
12	57.74	48.43	54.73	37.77	56.73	26.99	3.33	17.01	12.71	10.59	23.63	8.58
13	57.54	48.10	54.75	37.39	56.91	26.64	3.58	16.75	13.03	10.46	23.97	8.57
14	57.37	47.76	54.78	37.03	57.08	26.30	3.84	16.50	13.35	10.32	24.33	8.57
15	57.22	47.43	54.81	36.68	57.23	25.97	4.09	16.25	13.67	10.17	24.69	8.58
16	57.09	47.10	54.83	36.34	57.38	25.64	4.35	16.00	14.00	10.02	25.07	8.61
17	56.97	46.78	54.84	35.99	57.53	25.32	4.61	15.74	14.35	9.88	25.45	8.64
18	56.85	46.48	54.85	35.65	57.67	24.99	4.87	15.47	14.71	9.74	25.82	8.70
19	56.72	46.19	54.84	35.30	57.81	24.66	5.15	15.19	15.09	9.61	26.18	8.78
20	56.59	45.90	54.84	34.94	57.95	24.32	5.45	14.91	15.48	9.49	26.53	8.87
21	56.45	45.61	$\left\{ \begin{smallmatrix} 54.85 \\ 54.86 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 34.57 \\ 34.26 \end{smallmatrix} \right\}$	58.10	23.97	5.77	14.64	15.87	9.39	26.86	8.96
22	56.30	45.31	54.88	33.81	58.27	23.61	6.10	14.39	16.26	9.31	27.17	9.05
23	56.14	45.00	54.91	33.42	58.45	23.25	6.44	14.14	16.64	9.25	27.46	9.14
24	55.99	44.67	54.97	33.02	58.66	22.89	6.78	13.92	17.00	9.19	27.75	9.21
25	55.85	44.33	55.05	32.61	58.89	22.53	7.12	13.71	17.34	9.13	28.06	9.27
26	55.71	43.99	55.15	32.20	59.12	22.19	7.44	13.51	17.66	9.06	28.39	9.32
27	55.58	43.63	55.27	31.81	59.37	21.86	7.75	13.32	17.98	8.99	28.72	9.38
28	55.47	43.26	55.39	31.43	59.62	21.54	8.04	13.13	18.30	8.90	29.07	9.45
29	55.39	42.89	55.50	31.08	59.86	21.23	8.33	12.93	18.65	8.80	29.43	9.55
30	55.33	42.52			60.08	20.94	8.62	12.71	19.01	8.71	29.78	9.66
31	55.29	42.15			60.30	20.64	8.92	12.48	19.39	8.63	30.12	9.80
32	55.26	41.79			60.50	20.33			19.79	8.57		

Mean R.A. 22^h 17^m 21^s.968 Mean Dec. — 86° 21' 38".42 Sec δ 15.754 Tan δ — 15.722

APPARENT PLACES OF STARS, 1923. 273

AT UPPER TRANSIT AT GREENWICH.

ν Octantis. Mag. 5.7

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	h m		h m		h m		h m		h m		h m	
	22 17	86 21	22 17	86 21	22 17	86 21	22 17	86 21	22 17	86 21	22 17	86 21
	^s	^s	^s	^s	^s	^s	^s	^s	^s	^s	^s	^s
1	30.12	9.80	38.00	15.80	40.83	24.81	38.02	33.64	30.30	39.80	20.62	40.73
2	30.45	9.94	38.15	16.08	40.80	25.11	37.84	33.88	30.02	39.93	20.30	40.69
3	30.76	10.08	38.30	16.35	40.78	25.39	37.67	34.12	29.74	40.07	19.96	40.64
4	31.05	10.24	38.44	16.61	40.77	25.67	37.51	34.37	29.44	40.21	19.60	40.57
5	31.33	10.40	38.57	16.86	40.77	25.96	37.35	34.62	29.12	40.33	19.24	40.47
6	31.60	10.56	38.71	17.11	40.77	26.25	37.18	34.89	28.77	40.45	18.90	40.35
7	31.85	10.72	38.85	17.36	40.78	26.55	36.99	35.16	28.41	40.54	18.57	40.21
8	32.11	10.87	39.01	17.60	40.78	26.87	36.78	35.43	28.06	40.61	18.26	40.06
9	32.38	11.02	39.18	17.85	40.75	27.20	36.54	35.69	27.71	40.66	17.97	39.91
10	32.65	11.16	39.35	18.12	40.71	27.54	36.28	35.94	27.37	40.69	17.70	39.76
11	32.92	11.30	39.52	18.40	40.64	27.87	36.02	36.17	27.06	40.71	17.43	39.62
12	33.22	11.45	39.68	18.69	40.55	28.20	35.76	36.38	26.77	40.74	17.16	39.50
13	33.52	11.61	39.82	19.00	40.44	28.51	35.50	36.57	26.48	40.78	16.89	39.38
14	33.82	11.78	39.94	19.32	40.33	28.81	35.26	36.75	26.19	40.82	16.60	39.27
15	34.12	11.96	40.04	19.64	40.22	29.09	35.03	36.93	25.89	40.87	16.29	39.15
16	34.42	12.17	40.11	19.94	40.12	29.35	34.82	37.11	25.58	40.92	15.97	39.02
17	34.69	12.39	40.16	20.23	40.03	29.61	34.60	37.30	25.25	40.99	15.65	38.88
18	34.94	12.62	40.21	20.52	39.95	29.88	34.37	37.51	24.91	41.05	15.34	38.72
19	35.17	12.85	40.27	20.79	39.88	30.15	34.13	37.73	24.55	41.08	15.03	38.55
20	35.37	13.07	40.35	21.05	39.80	30.45	33.87	37.95	24.19	41.10	14.72	38.37
21	35.57	13.28	40.43	21.32	39.71	30.76	33.60	38.17	23.83	41.10	14.42	38.16
22	35.78	13.47	40.53	21.60	39.60	31.07	33.30	38.38	23.47	41.10	14.14	37.94
23	36.00	13.66	40.63	21.89	39.47	31.39	32.99	38.57	23.11	41.08	13.88	37.72
24	36.23	13.84	40.73	22.19	39.32	31.71	32.67	38.75	22.77	41.04	13.64	37.50
25	36.48	14.03	40.81	22.51	39.15	32.01	32.35	38.91	22.44	40.98	13.41	37.29
26	36.73	14.24	40.86	22.85	38.97	32.31	32.03	39.06	22.12	40.93	13.19	37.08
27	36.98	14.47	40.88	23.19	38.78	32.60	31.72	39.19	21.81	40.88	12.97	36.88
28	37.22	14.72	40.89	23.53	38.59	32.88	31.42	39.32	21.51	40.83	12.74	36.68
29	37.44	14.98	40.89	23.86	38.39	33.14	31.13	39.44	21.22	40.79	12.50	36.48
30	37.65	15.24	40.88	24.18	38.20	33.39	30.85	39.56	20.93	40.76	12.24	36.28
31	37.83	15.52	40.86	24.50	38.02	33.64	30.57	39.68	20.62	40.73	11.97	36.06
32	38.00	15.80	40.83	24.81			30.30	39.80			11.70	35.83

Mean R.A. 22^h 17^m 21^s.968 Mean Dec. — 86° 21' 38".42 Sec δ 15.754 Tan δ — 15.722

274 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Andromedæ. Mag. 2.2		β Cassiopeiæ. Mag. 2.4		γ Pegasi. Mag. 2.9	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.
	h m 0 4	28 39	h m 0 5	58 43	h m 0 9	14 45
Jan. 0.2	24.291 ¹⁴⁹	63.08 ⁹⁹	4.207 ³²⁶	46.33 ⁸²	16.046 ¹²⁵	22.91 ⁸⁹
10.2	24.142 ¹⁴⁴	62.09 ¹²²	3.881 ³¹³	45.51 ¹²⁹	15.921 ¹²¹	22.02 ¹⁰²
20.2	23.998 ¹³¹	60.87 ¹⁴⁷	3.568 ²⁸⁹	44.22 ¹⁷⁷	15.800 ¹¹⁴	21.00 ¹⁰⁸
30.1	23.867 ¹¹⁴	59.40 ¹⁵⁹	3.279 ²⁵¹	42.45 ²¹⁷	15.686 ⁹⁶	19.92 ¹¹¹
Feb. 9.1	23.753 ⁹⁰	57.81 ¹⁶⁸	3.028 ²⁰⁵	40.28 ²⁴⁸	15.590 ⁷⁶	18.81 ¹⁰⁸
19.1	23.663 ⁵⁷	56.13 ¹⁶⁹	2.823 ¹⁴⁷	37.80 ²⁶⁵	15.514 ⁵⁰	17.73 ¹⁰²
Mar. 1.1	23.606 ²²	54.44 ¹⁶³	2.676 ⁷⁷	35.15 ²⁸⁰	15.464 ¹⁹	16.71 ⁸⁹
11.0	23.584 ²¹	52.81 ¹⁴⁷	2.599 ²	32.35 ²⁷⁷	15.445 ¹⁷	15.82 ⁷⁰
21.0	23.605 ⁶⁴	51.34 ¹²⁹	2.597 ⁷⁸	29.58 ²⁶⁴	15.462 ⁵⁷	15.12 ⁴⁷
31.0	23.669 ¹¹²	50.05 ¹⁰⁰	2.675 ¹⁵⁷	26.94 ²³⁹	15.519 ¹⁰¹	14.65 ¹⁹
Apr. 10.0	23.781 ¹⁵⁷	49.05 ⁶⁸	2.832 ²³³	24.55 ²⁰⁹	15.620 ¹⁴⁰	14.46 ¹¹
19.9	23.938 ²⁰¹	48.37 ³⁰	3.065 ³⁰⁶	22.46 ¹⁶⁶	15.760 ¹⁸²	14.57 ⁴²
29.9	24.139 ²⁴¹	48.07 ⁹	3.371 ³⁶⁸	20.80 ¹²¹	15.942 ²²⁰	14.99 ⁷⁰
May 9.9	24.380 ²⁷⁷	48.16 ⁴⁹	3.739 ⁴²⁰	19.59 ⁷²	16.162 ²⁵²	15.69 ¹⁰⁵
19.8	24.657 ³⁰²	48.65 ⁸⁶	4.159 ⁴⁵⁹	18.87 ¹⁶	16.414 ²⁷⁹	16.74 ¹³²
29.8	24.959 ³²³	49.51 ¹²⁴	4.618 ⁴⁸⁵	18.71 ³⁵	16.693 ²⁹⁸	18.06 ¹⁵⁵
June 8.8	25.282 ³³⁴	50.75 ¹⁵³	5.103 ⁴⁹⁸	19.06 ⁸⁷	16.991 ³¹⁰	19.61 ¹⁷⁹
18.8	25.616 ³³⁴	52.28 ¹⁸⁴	5.601 ⁴⁹⁷	19.93 ¹³⁵	17.301 ³¹³	21.40 ¹⁹⁴
28.7	25.950 ³²⁵	54.12 ²⁰⁵	6.098 ⁴⁸⁵	21.28 ¹⁸¹	17.614 ³⁰⁸	23.34 ²⁰⁵
July 8.7	26.275 ³¹¹	56.17 ²²⁷	6.583 ⁴⁵⁸	23.09 ²²²	17.922 ²⁹²	25.39 ²⁰⁹
18.7	26.586 ²⁸⁸	58.44 ²³⁹	7.041 ⁴²¹	25.31 ²⁵⁸	18.214 ²⁷²	27.48 ²¹¹
28.7	26.874 ²⁵⁷	60.83 ²⁴⁴	7.462 ³⁷⁴	27.89 ²⁸⁸	18.486 ²⁴⁸	29.59 ²⁰⁵
Aug. 7.6	27.131 ²²¹	63.27 ²⁴⁵	7.836 ³¹⁸	30.77 ³⁰⁷	18.734 ²¹⁶	31.64 ¹⁹⁶
17.6	27.352 ¹⁸³	65.72 ²⁴¹	8.154 ²⁵⁹	33.84 ³²⁶	18.950 ¹⁷⁷	33.60 ¹⁸²
27.6	27.535 ¹⁴³	68.13 ²³²	8.413 ²⁰⁰	37.10 ³³⁴	19.127 ¹⁴²	35.42 ¹⁶⁵
Sept. 6.5	27.678 ¹⁰³	70.45 ²¹⁸	8.613 ¹³⁵	40.44 ³³⁶	19.269 ¹⁰²	37.07 ¹⁴⁶
16.5	27.781 ⁶⁰	72.63 ²⁰⁵	8.748 ⁶⁹	43.80 ³³¹	19.371 ⁶⁵	38.53 ¹²⁷
26.5	27.841 ²³	74.68 ¹⁸⁰	8.817 ⁹	47.11 ³¹⁹	19.436 ³¹	39.80 ¹⁰¹
Oct. 6.5	27.864 ¹⁴	76.48 ¹⁵⁹	8.826 ⁵⁰	50.30 ²⁹⁸	19.467 ⁴	40.81 ⁸⁰
16.4	27.850 ⁴³	78.07 ¹³⁵	8.776 ¹⁰⁸	53.28 ²⁷⁶	19.463 ³¹	41.61 ⁵⁷
26.4	27.807 ⁷³	79.42 ¹⁰⁴	8.668 ¹⁶⁰	56.04 ²⁴⁴	19.432 ⁵⁹	42.18 ³⁵
Nov. 5.4	27.734 ⁹⁵	80.46 ⁷⁸	8.508 ²⁰³	58.48 ²⁰⁷	19.373 ⁷⁸	42.53 ¹¹
15.4	27.639 ¹¹⁵	81.24 ⁴⁴	8.305 ²⁴⁶	60.55 ¹⁶⁴	19.295 ⁹⁶	42.64 ⁷
25.3	27.524 ¹³³	81.68 ¹⁶	8.059 ²⁸⁰	62.19 ¹¹⁶	19.199 ¹¹¹	42.57 ²⁸
Dec. 5.3	27.391 ¹⁴⁰	81.84 ¹⁹	7.779 ³⁰⁵	63.35 ⁶⁴	19.088 ¹¹⁷	42.29 ⁴⁹
15.3	27.251 ¹⁴⁹	81.65 ⁴⁹	7.474 ³²¹	63.99 ¹⁰	18.971 ¹²⁶	41.80 ⁶³
25.2	27.102 ¹⁵⁰	81.16 ⁸⁰	7.153 ³²⁷	64.09 ⁴²	18.845 ¹²⁶	41.17 ⁸¹
35.2	26.952	80.36	6.826	63.67	18.719	40.36
Mean Place	24.224	55.26	3.554	30.44	16.115	19.97
Sec δ , Tan δ	1.140	+0.547	1.926	+1.646	1.034	+0.263
L α , L δ	0.00	+0.4	0.00	+0.4	0.00	+0.4
ω α , ω δ	-0.04	0.0	-0.11	0.0	-0.02	0.0
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 275

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ι Ceti. Mag. 3·8		ζ Tucanæ. Mag. 4·3		δ Piscium. Mag. 5·6	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	^h ^m 0 15	[°] ['] 9 14	^h ^m 0 16	[°] ['] 65 19	^h ^m 0 16	[°] ['] 7 45
Jan.	0·2 29·995 ¹²²	68·14 ⁶¹	2·59 ⁴⁰	57·25 ⁷⁴	37·975 ¹²¹	46·09 ⁸¹
	10·2 29·873 ¹¹⁶	68·75 ⁴⁸	2·19 ³⁹	56·51 ¹²⁶	37·854 ¹¹⁸	45·28 ⁸⁵
	20·2 29·757 ¹⁰⁷	69·23 ³²	1·80 ³⁴	55·25 ¹⁸⁰	37·736 ¹¹⁰	44·43 ⁸⁶
	30·2 29·650 ⁹³	69·55 ¹¹	1·46 ²⁹	53·45 ²²⁷	37·626 ⁹⁶	43·57 ⁸²
Feb.	9·1 29·557 ⁷⁴	69·66 ⁸	1·17 ²⁴	51·18 ²⁶⁸	37·530 ⁷⁸	42·75 ⁷⁵
	19·1 29·483 ⁵²	69·58 ³⁰	0·93 ¹⁷	48·50 ³⁰²	37·452 ⁵³	42·00 ⁶⁴
Mar.	1·1 29·431 ²⁰	69·28 ⁵³	0·76 ¹⁰	45·48 ³²⁸	37·399 ²³	41·36 ⁴⁸
	11·0 29·411 ¹³	68·75 ⁷²	0·66 ³	42·20 ³⁴⁶	37·376 ¹⁰	40·88 ²⁸
	21·0 29·424 ⁵²	68·03 ¹⁰²	0·63 ⁵	38·74 ³⁶⁰	37·386 ⁵⁰	40·60 ⁵
	31·0 29·476 ⁸⁹	67·01 ¹²⁴	0·68 ¹⁴	35·14 ³⁶³	37·436 ⁸⁹	40·55 ²¹
Apr.	10·0 29·565 ¹³²	65·77 ¹⁴³	0·82 ²²	31·51 ³⁵⁹	37·525 ¹³²	40·76 ⁴⁹
	19·9 29·697 ¹⁶⁷	64·34 ¹⁶⁵	1·04 ²⁹	27·92 ³⁴⁷	37·657 ¹⁷¹	41·25 ⁷⁷
	29·9 29·864 ²⁰⁷	62·69 ¹⁸²	1·33 ³⁸	24·45 ³²⁹	37·828 ²⁰⁹	42·02 ¹⁰⁴
May	9·9 30·071 ²⁴⁰	60·87 ¹⁹⁶	1·71 ⁴⁴	21·16 ³⁰¹	38·037 ²⁴³	43·06 ¹³¹
	19·9 30·311 ²⁶⁶	58·91 ²⁰⁴	2·15 ⁵⁰	18·15 ²⁶⁹	38·280 ²⁷¹	44·37 ¹⁵³
	29·8 30·577 ²⁹¹	56·87 ²⁰⁸	2·65 ⁵⁴	15·46 ²²⁸	38·551 ²⁹⁰	45·90 ¹⁷³
June	8·8 30·868 ³⁰²	54·79 ²⁰⁶	3·19 ⁵⁸	13·18 ¹⁸⁴	38·841 ³⁰⁴	47·63 ¹⁸⁷
	18·8 31·170 ³⁰⁷	52·73 ¹⁹⁸	3·77 ⁶¹	11·34 ¹³⁶	39·145 ³⁰⁸	49·50 ¹⁹⁶
	28·7 31·477 ³⁰⁷	50·75 ¹⁸⁶	4·38 ⁶⁰	9·98 ⁸⁰	39·453 ³⁰⁴	51·46 ²⁰⁰
July	8·7 31·784 ²⁹³	48·89 ¹⁶⁹	4·98 ⁵⁹	9·18 ²⁷	39·757 ²⁹²	53·46 ²⁰⁰
	18·7 32·077 ²⁷⁵	47·20 ¹⁴⁶	5·57 ⁵⁶	8·91 ³⁰	40·049 ²⁷⁴	55·46 ¹⁹³
	28·7 32·352 ²⁵⁴	45·74 ¹²⁴	6·13 ⁵²	9·21 ⁸²	40·323 ²⁴⁸	57·39 ¹⁸³
Aug.	7·6 32·606 ²²⁰	44·50 ⁹⁵	6·65 ⁴⁵	10·03 ¹³⁵	40·571 ²¹⁸	59·22 ¹⁶⁸
	17·6 32·826 ¹⁸⁵	43·55 ⁶⁴	7·10 ³⁹	11·38 ¹⁸⁴	40·789 ¹⁸³	60·90 ¹⁴⁸
	27·6 33·011 ¹⁴⁹	42·91 ³⁹	7·49 ³⁰	13·22 ²²¹	40·972 ¹⁴⁶	62·38 ¹²⁹
Sept.	6·6 33·160 ¹¹¹	42·52 ⁵	7·79 ²¹	15·43 ²⁵⁶	41·118 ¹¹⁰	63·67 ¹⁰⁶
	16·5 33·271 ⁷³	42·47 ¹⁸	8·00 ¹²	17·99 ²⁷⁷	41·228 ⁷²	64·73 ⁸³
	26·5 33·344 ³⁷	42·65 ⁴³	8·12 ²	20·76 ²⁹⁰	41·300 ³⁷	65·56 ⁶¹
Oct.	6·5 33·381 ⁰	43·08 ⁶³	8·14 ⁸	23·66 ²⁹¹	41·337 ⁴	66·17 ³⁷
	16·4 33·381 ²⁵	43·71 ⁷⁸	8·06 ¹⁵	26·57 ²⁸⁰	41·341 ²⁴	66·54 ¹⁸
	26·4 33·356 ⁵⁷	44·49 ⁸⁸	7·91 ²⁴	29·37 ²⁵⁹	41·317 ⁴⁹	66·72 ²
Nov.	5·4 33·299 ⁷⁶	45·37 ⁹²	7·67 ³⁰	31·96 ²²⁶	41·268 ⁷²	66·70 ¹⁹
	15·4 33·223 ⁹²	46·29 ⁹⁷	7·37 ³⁵	34·22 ¹⁸³	41·196 ⁸⁷	66·51 ³⁵
	25·3 33·131 ¹⁰⁷	47·26 ⁹⁶	7·02 ³⁹	36·05 ¹³⁴	41·109 ¹⁰²	66·16 ⁴⁹
Dec.	5·3 33·024 ¹¹⁵	48·22 ⁸⁹	6·63 ⁴²	37·39 ⁸¹	41·007 ¹¹¹	65·67 ⁵⁹
	15·3 32·909 ¹²⁰	49·11 ⁸⁰	6·21 ⁴²	38·20 ²³	40·896 ¹¹⁸	65·08 ⁷⁰
	25·3 32·789 ¹²¹	49·91 ⁷²	5·79 ⁴¹	38·43 ³⁸	40·778 ¹²⁰	64·38 ⁷⁸
	35·2 32·668	50·63	5·38	38·05	40·658	63·60
Mean Place	30·299	62·35	4·35	36·93	38·078	45·92
Sec δ, Tan δ	1·013	—0·163	2·396	—2·177	1·009	+0·136
L α, L δ	0·00	+0·4	0·00	+0·4	0·00	+0·4
ω α, ω δ	+0·01	+0·1	+0·15	+0·1	—0·01	+0·1

AUTHORITY A. E. A. E.

276 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.		44 Piscium. Mag. 6.0		β Hydri. Mag. 2.9		α Phœnicis. Mag. 2.4	
		R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
		h m O 21	° I 30	h m O 21	° 77 40	h m O 22	° 42 43
Jan.		27.138 ¹²⁰	45.54 ⁷⁵	40.39 ⁹⁰	98.13 ⁹⁴	28.166 ¹⁹⁶	43.26 ²
	10.2	27.018 ¹¹⁶	44.79 ⁷²	39.49 ⁸⁴	97.19 ¹⁵²	27.970 ¹⁸⁶	43.24 ⁴⁸
	20.2	26.902 ¹¹⁰	44.07 ⁶⁶	38.65 ⁷⁷	95.67 ²⁰⁸	27.784 ¹⁷⁰	42.76 ⁸⁹
	30.2	26.792 ⁹⁶	43.41 ⁵⁷	37.88 ⁶⁶	93.59 ²⁵⁴	27.614 ¹⁵⁰	41.87 ¹³¹
Feb.		26.696 ⁸⁰	42.84 ⁴⁵	37.22 ⁵⁵	91.05 ²⁹⁸	27.464 ¹²¹	40.56 ¹⁷⁰
	19.1	26.616 ⁵⁵	42.39 ³⁰	36.67 ⁴¹	88.07 ³²⁸	27.343 ⁸⁹	38.86 ²⁰²
Mar.		26.561 ²⁷	42.09 ¹¹	36.26 ²⁷	84.79 ³⁵⁵	27.254 ⁵⁰	36.84 ²³⁴
	11.1	26.534 ⁶	41.98 ⁹	35.99 ¹²	81.24 ³⁷⁰	27.204 ⁸	34.50 ²⁵⁶
	21.0	26.540 ⁴⁴	42.07 ³³	35.87 ³	77.54 ³⁷⁹	27.196 ³⁹	31.94 ²⁷⁸
	31.0	26.584 ⁸⁴	42.40 ⁵⁹	35.90 ¹⁹	73.75 ³⁷⁹	27.235 ⁸⁸	29.16 ²⁹²
Apr.		26.668 ¹²⁵	42.99 ⁸⁴	36.09 ³⁵	69.96 ³⁶⁹	27.323 ¹³⁹	26.24 ³⁰⁰
	19.9	26.793 ¹⁶⁵	43.83 ¹⁰⁹	36.44 ⁴⁹	66.27 ³⁵⁵	27.462 ¹⁸⁷	23.24 ³⁰²
	29.9	26.958 ²⁰²	44.92 ¹³⁴	36.93 ⁶⁴	62.72 ³²⁷	27.649 ²³⁵	20.22 ²⁹⁶
May		27.160 ²³⁷	46.26 ¹⁵⁵	37.57 ⁷⁶	59.45 ²⁹⁶	27.884 ²⁸¹	17.26 ²⁸⁴
	19.9	27.397 ²⁶⁵	47.81 ¹⁷³	38.33 ⁸⁸	56.49 ²⁶⁰	28.165 ³¹⁶	14.42 ²⁶⁹
	29.8	27.662 ²⁸⁶	49.54 ¹⁸⁶	39.21 ⁹⁷	53.89 ²¹⁵	28.481 ³⁴⁶	11.73 ²⁴¹
June		27.948 ³⁰¹	51.40 ¹⁹⁵	40.18 ¹⁰⁴	51.74 ¹⁶⁸	28.827 ³⁶⁷	9.32 ²¹³
	18.8	28.249 ³⁰⁵	53.35 ¹⁹⁹	41.22 ¹⁰⁸	50.06 ¹¹⁰	29.194 ³⁸⁰	7.19 ¹⁷⁶
	28.7	28.554 ³⁰³	55.34 ¹⁹⁷	42.30 ¹⁰⁹	48.96 ⁵⁵	29.574 ³⁸¹	5.43 ¹³⁶
July		28.857 ²⁹³	57.31 ¹⁸⁹	43.39 ¹⁰⁸	48.41 ⁰	29.955 ³⁷⁰	4.07 ⁹¹
	18.7	29.150 ²⁷⁵	59.20 ¹⁷⁸	44.47 ¹⁰³	48.41 ⁵⁸	30.325 ³⁵³	3.16 ⁴⁴
	28.7	29.425 ²⁵¹	60.98 ¹⁶²	45.50 ⁹⁶	48.99 ¹¹⁴	30.678 ³²³	2.72 ⁴
Aug.		29.676 ²²¹	62.60 ¹⁴²	46.46 ⁸⁴	50.13 ¹⁶⁵	31.001 ²⁸⁷	2.76 ⁵¹
	17.6	29.897 ¹⁸⁷	64.02 ¹²⁰	47.30 ⁷²	51.78 ²¹⁴	31.288 ²⁴⁴	3.27 ⁹⁵
	27.6	30.084 ¹⁵⁰	65.22 ⁹⁴	48.02 ⁵⁷	53.92 ²⁵³	31.532 ¹⁹⁷	4.22 ¹³⁶
Sept.		30.234 ¹¹⁴	66.16 ⁷¹	48.59 ³⁹	56.45 ²⁸²	31.729 ¹⁴⁴	5.58 ¹⁷²
	16.5	30.348 ⁷⁷	66.87 ⁴⁵	48.98 ²¹	59.27 ³⁰⁵	31.873 ⁹¹	7.30 ¹⁹⁹
	26.5	30.425 ⁴²	67.32 ²²	49.19 ²	62.32 ³¹²	31.964 ³⁶	9.29 ²²¹
Oct.		30.467 ⁹	67.54 ⁰	49.21 ¹⁷	65.44 ³¹⁰	32.000 ¹²	11.50 ²³²
	16.5	30.476 ²¹	67.54 ¹⁹	49.04 ³⁴	68.54 ²⁹³	31.988 ⁵⁷	13.82 ²³⁴
	26.4	30.455 ⁴⁵	67.35 ³⁵	48.70 ⁵¹	71.47 ²⁷²	31.931 ⁹⁹	16.16 ²²⁵
Nov.		30.410 ⁶⁷	67.00 ⁴⁹	48.19 ⁶⁴	74.19 ²³⁰	31.832 ¹³¹	18.41 ²⁰⁹
	15.4	30.343 ⁸⁵	66.51 ⁵⁹	47.55 ⁷⁶	76.49 ¹⁸¹	31.701 ¹⁵⁷	20.50 ¹⁸²
	25.3	30.258 ⁹⁸	65.92 ⁶⁷	46.79 ⁸⁵	78.30 ¹²⁸	31.544 ¹⁷⁷	22.32 ¹⁵¹
Dec.		30.160 ¹⁰⁹	65.25 ⁷³	45.94 ⁹⁰	79.58 ⁷⁰	31.367 ¹⁹³	23.83 ¹¹⁴
	15.3	30.051 ¹¹⁵	64.52 ⁷⁵	45.04 ⁹²	80.28 ⁷	31.174 ¹⁹⁶	24.97 ⁶⁹
	25.3	29.936 ¹¹⁹	63.77 ⁷⁵	44.12 ⁹¹	80.35 ⁵⁸	30.978 ¹⁹⁷	25.66 ²⁷
	35.2	29.817	63.02	43.21	79.77	30.781	25.93
Mean Place		27.283	47.80	43.78	76.44	28.945	26.92
Sec δ, Tan δ		1.000	+0.026	4.690	-4.581	1.361	-0.924
L α, L δ		0.00	+0.4	-0.01	+0.4	0.00	+0.4
ω α, ω δ		0.00	+0.1	+0.31	+0.1	+0.06	+0.1
AUTHORITY				A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 277

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.		12 Ceti. Mag. 6.0		ε Andromedæ. Mag. 4.5		δ Andromedæ. Mag. 3.5	
		R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
		h m 0 26	° ' 22	h m 0 34	28 53	h m 0 35	30 26
Jan.	0.2	6.385 ¹²¹	61.70 ⁶⁹	29.196 ¹⁵⁵	44.58 ⁷⁶	12.663 ¹⁵⁷	30.02 ⁷⁷
	10.2	6.264 ¹¹⁸	62.39 ⁶⁰	29.041 ¹⁵³	43.82 ¹⁰³	12.506 ¹⁵⁹	29.25 ¹⁰²
	20.2	6.146 ¹¹⁰	62.99 ⁴⁹	28.888 ¹⁴⁸	42.79 ¹²⁵	12.347 ¹⁵⁰	28.23 ¹²⁵
	30.2	6.036 ¹⁰⁰	63.48 ³²	28.740 ¹³⁶	41.54 ¹⁴²	12.197 ¹³⁹	26.98 ¹⁴⁵
Feb.	9.1	5.936 ⁸¹	63.80 ¹⁶	28.604 ¹¹⁶	40.12 ¹⁵⁴	12.058 ¹¹⁹	25.53 ¹⁵⁹
	19.1	5.855 ⁵⁹	63.96 ³	28.488 ⁸⁹	38.58 ¹⁵⁹	11.939 ⁹¹	23.94 ¹⁶³
Mar.	1.1	5.796 ³²	63.93 ²³	28.399 ⁵⁵	36.99 ¹⁵⁷	11.848 ⁵⁷	22.31 ¹⁶⁴
	11.1	5.764 ³	63.70 ⁴⁷	28.344 ¹⁵	35.42 ¹⁴⁷	11.791 ¹⁴	20.67 ¹⁵⁴
	21.0	5.767 ⁴⁰	63.23 ⁶⁹	28.329 ³⁰	33.95 ¹²⁹	11.777 ³⁰	19.13 ¹³⁶
	31.0	5.807 ⁷⁷	62.54 ⁹⁴	28.359 ⁷⁸	32.66 ¹⁰⁶	11.807 ⁷⁸	17.77 ¹¹⁴
Apr.	10.0	5.884 ¹²⁰	61.60 ¹¹⁸	28.437 ¹²⁶	31.60 ⁷⁷	11.885 ¹²⁷	16.63 ⁸⁷
	19.9	6.004 ¹⁵⁹	60.42 ¹⁴¹	28.563 ¹⁷³	30.83 ⁴⁴	12.012 ¹⁷⁴	15.76 ⁵¹
	29.9	6.163 ¹⁹⁷	59.01 ¹⁵⁸	28.736 ²¹⁷	30.39 ⁷	12.186 ²²²	15.25 ¹⁶
May	9.9	6.360 ²³⁵	57.43 ¹⁷⁹	28.953 ²⁵⁷	30.32 ²⁹	12.408 ²⁵⁹	15.09 ²²
	19.9	6.595 ²⁶⁰	55.64 ¹⁹¹	29.210 ²⁸⁹	30.61 ⁶⁷	12.667 ²⁹²	15.31 ⁶¹
	29.8	6.855 ²⁸³	53.73 ¹⁹⁸	29.499 ³¹³	31.28 ¹⁰²	12.959 ³¹⁷	15.92 ⁹⁷
June	8.8	7.138 ³⁰⁰	51.75 ²⁰³	29.812 ³²⁹	32.30 ¹³⁵	13.276 ³³³	16.89 ¹²⁹
	18.8	7.438 ³⁰⁵	49.72 ²⁰¹	30.141 ³³⁵	33.65 ¹⁶⁴	13.609 ³⁴²	18.18 ¹⁶¹
	28.8	7.743 ³⁰⁴	47.71 ¹⁹³	30.476 ³³³	35.29 ¹⁸⁸	13.951 ³³⁷	19.79 ¹⁸⁷
July	8.7	8.047 ²⁹⁴	45.78 ¹⁷⁹	30.809 ³²³	37.17 ²⁰⁸	14.288 ³²⁶	21.66 ²⁰⁷
	18.7	8.341 ²⁷⁷	43.99 ¹⁶³	31.132 ³⁰⁴	39.25 ²²²	14.614 ³⁰⁹	23.73 ²¹⁴
	28.7	8.618 ²⁵⁷	42.36 ¹⁴²	31.436 ²⁷⁸	41.47 ²³⁰	14.923 ²⁸³	25.97 ²³³
Aug.	7.6	8.875 ²²⁴	40.94 ¹²⁰	31.714 ²⁴⁷	43.77 ²³⁴	15.206 ²⁵²	28.30 ²³⁹
	17.6	9.099 ¹⁹¹	39.74 ⁹¹	31.961 ²¹²	46.11 ²³²	15.458 ²¹⁵	30.69 ²³⁷
	27.6	9.290 ¹⁵⁷	38.83 ⁶³	32.173 ¹⁷⁴	48.43 ²²⁵	15.673 ¹⁷⁸	33.06 ²³²
Sept.	6.6	9.447 ¹²⁰	38.20 ³⁶	32.347 ¹³⁵	50.68 ²¹⁵	15.851 ¹³⁷	35.38 ²²²
	16.5	9.567 ⁸³	37.84 ¹¹	32.482 ⁹⁵	52.83 ²⁰¹	15.988 ⁹⁹	37.60 ²⁰⁹
	26.5	9.650 ⁴⁴	37.73 ¹⁵	32.577 ⁵⁸	54.84 ¹⁸²	16.087 ⁶¹	39.69 ¹⁹³
Oct.	6.5	9.694 ¹⁴	37.88 ³³	32.635 ²²	56.66 ¹⁶³	16.148 ²³	41.62 ¹⁷¹
	16.5	9.708 ¹⁴	38.21 ⁵⁴	32.657 ¹²	58.29 ¹³⁹	16.171 ¹¹	43.33 ¹⁴⁹
	26.4	9.694 ⁴⁴	38.75 ⁶⁵	32.645 ⁴¹	59.68 ¹¹⁵	16.160 ⁴¹	44.82 ¹²⁶
Nov.	5.4	9.650 ⁶⁶	39.40 ⁷⁸	32.604 ⁶⁸	60.83 ⁸⁹	16.119 ⁶⁹	46.08 ⁹⁷
	15.4	9.584 ⁸³	40.18 ⁸²	32.536 ⁹²	61.72 ⁶⁰	16.050 ⁹²	47.05 ⁶⁷
	25.3	9.501 ⁹⁹	41.00 ⁸⁵	32.444 ¹¹²	62.32 ³¹	15.958 ¹¹⁴	47.72 ³⁹
Dec.	5.3	9.402 ¹⁰⁹	41.85 ⁸³	32.332 ¹²⁸	62.63 ²	15.844 ¹³²	48.11 ⁵
	15.3	9.293 ¹¹⁶	42.68 ⁸⁰	32.204 ¹⁴²	62.65 ³⁰	15.712 ¹⁴⁵	48.16 ²³
	25.3	9.177 ¹¹⁹	43.48 ⁷³	32.062 ¹⁵¹	62.35 ⁵⁸	15.567 ¹⁵⁴	47.93 ⁵⁸
	35.2	9.058	44.21	31.911	61.77	15.413	47.35
Mean Place		6.569	57.15	28.927	37.89	12.368	22.85
Sec δ, Tan δ		1.003	-0.077	1.142	+0.552	1.160	+0.588
L α, L δ		0.00	+0.4	0.00	+0.4	0.00	+0.4
ω α, ω δ		+0.01	+0.1	-0.04	+0.1	-0.04	+0.2
AUTHORITY		A. E.		A. N.		A. E.	

278 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Cassiopeiæ. Mag. 2.2-2.8		β Ceti. Mag. 2.2		δ Piscium. Mag. 4.6	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	^h 0 36	[°] 56 6	^h 0 39	[°] 18 24	^h 0 44	[°] 7 9
Jan. 0.2	8.494 ²⁹⁸	69.14 ⁴³	43.253 ¹³⁵	42.06 ⁵⁵	41.173 ¹²⁴	57.26 ⁷⁶
10.2	8.196 ²⁹⁸	68.71 ⁹⁴	43.118 ¹³²	42.61 ³⁴	41.049 ¹²⁵	56.50 ⁷⁸
20.2	7.898 ²⁸⁸	67.77 ¹⁴⁴	42.986 ¹²⁶	42.95 ⁴	40.924 ¹²²	55.72 ⁷⁸
30.2	7.610 ²⁶²	66.33 ¹⁸³	42.860 ¹¹⁴	42.99 ²⁰	40.802 ¹¹³	54.94 ⁷⁴
Feb. 9.1	7.348 ²²⁵	64.50 ²¹⁷	42.746 ¹⁰⁰	42.79 ⁵¹	40.689 ⁹⁹	54.20 ⁶⁷
19.1	7.123 ¹⁷⁶	62.33 ²⁴¹	42.646 ⁷⁴	42.28 ⁷⁶	40.590 ⁷⁷	53.53 ⁵⁷
Mar. 1.1	6.947 ¹¹⁸	59.92 ²⁵⁶	42.572 ⁴⁹	41.52 ¹⁰³	40.513 ⁵⁰	52.96 ⁴³
11.1	6.829 ⁵²	57.36 ²⁶⁰	42.523 ¹³	40.49 ¹²⁷	40.463 ¹⁷	52.53 ²³
21.0	6.777 ²¹	54.76 ²⁵⁴	42.510 ²²	39.22 ¹⁵³	40.446 ²⁰	52.30 ¹
31.0	6.798 ⁹⁵	52.22 ²³⁸	42.532 ⁶⁵	37.69 ¹⁷⁵	40.466 ⁶²	52.29 ²²
Apr. 10.0	6.893 ¹⁷³	49.84 ²¹¹	42.597 ¹⁰⁷	35.94 ¹⁹⁴	40.528 ¹⁰⁴	52.51 ⁴⁹
19.9	7.066 ²⁴³	47.73 ¹⁷⁵	42.704 ¹⁴⁹	34.00 ²¹²	40.632 ¹⁴⁷	53.00 ⁷⁵
29.9	7.309 ³⁰⁷	45.98 ¹³⁷	42.853 ¹⁸⁷	31.88 ²²³	40.779 ¹⁸⁷	53.75 ¹⁰²
May 9.9	7.616 ³⁶⁵	44.61 ⁸⁸	43.040 ²²⁸	29.65 ²³¹	40.966 ²²⁴	54.77 ¹²⁶
19.9	7.981 ⁴¹⁰	43.73 ⁴³	43.268 ²⁵⁷	27.34 ²³²	41.190 ²⁵⁴	56.03 ¹⁴⁹
29.8	8.391 ⁴⁴⁶	43.30 ⁸	43.525 ²⁸⁶	25.02 ²²⁹	41.444 ²⁸⁰	57.52 ¹⁶⁸
June 8.8	8.837 ⁴⁶⁷	43.38 ⁵⁸	43.811 ³⁰²	22.73 ²²¹	41.724 ²⁹⁷	59.20 ¹⁸¹
18.8	9.304 ⁴⁷⁵	43.96 ¹¹⁰	44.113 ³¹⁴	20.52 ²⁰⁶	42.021 ³⁰⁶	61.01 ¹⁹¹
28.8	9.779 ⁴⁷⁰	45.06 ¹⁵¹	44.427 ³¹⁶	18.46 ¹⁸⁵	42.327 ³⁰⁶	62.92 ¹⁹⁶
July 8.7	10.249 ⁴⁵⁴	46.57 ¹⁹¹	44.743 ³⁰⁹	16.61 ¹⁵⁹	42.633 ³⁰⁰	64.88 ¹⁹⁵
18.7	10.703 ⁴²⁷	48.48 ²²⁸	45.052 ²⁹⁴	15.02 ¹³¹	42.933 ²⁸⁵	66.83 ¹⁸⁸
28.7	11.130 ³⁹⁰	50.76 ²⁶⁰	45.346 ²⁷⁴	13.71 ⁹⁹	43.218 ²⁶³	68.71 ¹⁷⁸
Aug. 7.6	11.520 ³⁴⁷	53.36 ²⁸²	45.620 ²⁴⁴	12.72 ⁶¹	43.481 ²³⁷	70.49 ¹⁶³
17.6	11.867 ²⁹⁶	56.18 ³⁰²	45.864 ²¹³	12.11 ²⁹	43.718 ²⁰⁶	72.12 ¹⁴⁴
27.6	12.163 ²⁴¹	59.20 ³¹⁴	46.077 ¹⁷⁷	11.82 ⁹	43.924 ¹⁷²	73.56 ¹²⁴
Sept. 6.6	12.404 ¹⁸⁹	62.34 ³¹⁹	46.254 ¹³⁷	11.91 ⁴²	44.096 ¹³⁶	74.80 ¹⁰²
16.5	12.593 ¹²⁸	65.53 ³¹⁹	46.391 ¹⁰⁰	12.33 ⁷⁰	44.232 ¹⁰⁰	75.82 ⁷⁸
26.5	12.721 ⁶⁸	68.72 ³¹¹	46.491 ⁵⁹	13.03 ⁹⁸	44.332 ⁶⁶	76.60 ⁵⁶
Oct. 6.5	12.789 ¹³	71.83 ²⁹⁶	46.550 ²⁴	14.01 ¹¹⁷	44.398 ³⁴	77.16 ³³
16.5	12.802 ⁴¹	74.79 ²⁷⁹	46.574 ¹¹	15.18 ¹²⁹	44.432 ³	77.49 ¹³
26.4	12.761 ⁹⁰	77.58 ²⁵¹	46.563 ³⁹	16.47 ¹⁴⁰	44.435 ²⁴	77.62 ⁵
Nov. 5.4	12.671 ¹⁴⁰	80.09 ²¹⁹	46.524 ⁶⁵	17.87 ¹⁴¹	44.411 ⁴⁷	77.57 ²²
15.4	12.531 ¹⁸²	82.28 ¹⁷⁹	46.459 ⁸⁶	19.28 ¹³⁶	44.364 ⁶⁸	77.35 ³⁶
25.3	12.349 ²²⁰	84.07 ¹³⁹	46.373 ¹⁰⁵	20.64 ¹²⁵	44.296 ⁸⁶	76.99 ⁴⁹
Dec. 5.3	12.129 ²⁵¹	85.46 ⁹³	46.268 ¹¹⁷	21.89 ¹¹³	44.210 ¹⁰⁰	76.50 ⁵⁸
15.3	11.878 ²⁷⁷	86.39 ⁴⁰	46.151 ¹²⁵	23.02 ⁹³	44.110 ¹¹³	75.92 ⁶⁶
25.3	11.601 ²⁹⁴	86.79 ¹⁰	46.026 ¹³²	23.95 ⁶⁸	43.997 ¹²⁰	75.26 ⁷²
35.2	11.307	86.69	45.894	24.63	43.877	74.54
Mean Place	7.611	55.01	43.517	32.12	41.117	58.47
Sec δ , Tan δ	1.793	+1.489	1.054	-0.333	1.008	+0.126
L α , L δ	+0.01	+0.4	0.00	+0.4	0.00	+0.4
ω α , ω δ	-0.10	+0.2	+0.02	+0.2	-0.01	+0.2
AUTHORITY	A. E.		A. E.		A. N.	

APPARENT PLACES OF STARS, 1923. 279

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	20 Ceti. Mag. 4.9		γ Cassiopeie. Mag. 2.3		μ Andromedæ. Mag. 3.9	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	h m 0 49 s	° ' 33 I 33	h m 0 52 s	° ' 17 60 17	h m 0 52 s	° ' 38 38 4
Jan. 0.2	4.247 ¹²³	47.45 ⁷³	4.07 ³⁵	74.70 ¹⁷	28.940 ¹⁸³	63.88 ⁵²
10.2	4.124 ¹²⁵	48.18 ⁶⁵	3.72 ³⁵	74.53 ⁷²	28.757 ¹⁸⁶	63.36 ⁸⁹
20.2	3.999 ¹²²	48.83 ⁵⁶	3.37 ³⁴	73.81 ¹²³	28.571 ¹⁸²	62.47 ¹²⁰
30.2	3.877 ¹¹⁴	49.39 ⁴⁴	3.03 ³²	72.58 ¹⁶⁷	28.389 ¹⁷²	61.27 ¹⁴⁸
Feb. 9.1	3.763 ⁹⁹	49.83 ³⁰	2.71 ²⁸	70.91 ²⁰⁷	28.217 ¹⁵³	59.79 ¹⁶⁹
19.1	3.664 ⁷⁹	50.13 ¹²	2.43 ²⁴	68.84 ²³⁶	28.064 ¹²²	58.10 ¹⁸²
Mar. 1.1	3.585 ⁵³	50.25 ⁷	2.19 ¹⁶	66.48 ²⁵⁷	27.942 ⁸⁹	56.28 ¹⁸⁸
11.1	3.532 ²¹	50.18 ²⁸	2.03 ¹⁰	63.91 ²⁶⁷	27.853 ³⁹	54.40 ¹⁸⁶
21.0	3.511 ¹⁵	49.90 ⁵¹	1.93 ¹	61.24 ²⁶⁷	27.814 ⁸	52.54 ¹⁷⁴
31.0	3.526 ⁵⁶	49.39 ⁷⁶	1.92 ⁸	58.57 ²⁵⁶	27.822 ⁶²	50.80 ¹⁵⁷
Apr. 10.0	3.582 ⁹⁷	48.63 ¹⁰⁰	2.00 ¹⁵	56.01 ²³¹	27.884 ¹¹⁵	49.23 ¹³²
19.9	3.679 ¹³⁹	47.63 ¹²³	2.15 ²⁴	53.70 ²⁰²	27.999 ¹⁷⁰	47.91 ⁹⁶
29.9	3.818 ¹⁸⁰	46.40 ¹⁴⁶	2.39 ³²	51.68 ¹⁶²	28.169 ²²²	46.95 ⁶⁴
May 9.9	3.998 ²¹⁷	44.94 ¹⁶⁵	2.71 ³⁸	50.06 ¹¹⁹	28.391 ²⁶⁴	46.31 ²²
19.9	4.215 ²⁴⁸	43.29 ¹⁸⁰	3.09 ⁴⁴	48.87 ⁷⁴	28.655 ³⁰²	46.09 ¹⁶
29.8	4.463 ²⁷⁴	41.49 ¹⁹³	3.53 ⁴⁸	48.13 ²²	28.957 ³³³	46.25 ⁵⁷
June 8.8	4.737 ²⁹³	39.56 ¹⁹⁹	4.01 ⁵¹	47.91 ²⁸	29.290 ³⁵¹	46.82 ⁹⁸
18.8	5.030 ³⁰²	37.57 ¹⁹⁹	4.52 ⁵²	48.19 ⁷⁸	29.641 ³⁶⁴	47.80 ¹²⁹
28.8	5.332 ³⁰⁵	35.58 ¹⁹⁷	5.04 ⁵²	48.97 ¹²⁵	30.005 ³⁶⁴	49.09 ¹⁶⁵
July 8.7	5.637 ²⁹⁹	33.61 ¹⁸⁶	5.56 ⁵¹	50.22 ¹⁷⁰	30.369 ³⁵⁵	50.74 ¹⁹²
18.7	5.936 ²⁸⁶	31.75 ¹⁷²	6.07 ⁵⁰	51.92 ²⁰⁷	30.724 ³³⁹	52.66 ²¹⁷
28.7	6.222 ²⁶⁵	30.03 ¹⁵⁴	6.57 ⁴⁴	53.99 ²⁴⁴	31.063 ³¹⁴	54.83 ²³³
Aug. 7.6	6.487 ²³⁹	28.49 ¹³¹	7.01 ⁴⁰	56.43 ²⁷²	31.377 ²⁸³	57.16 ²⁴⁷
17.6	6.726 ²⁰⁹	27.18 ¹⁰⁷	7.41 ³⁵	59.15 ²⁹⁵	31.660 ²⁴⁷	59.63 ²⁵³
27.6	6.935 ¹⁷⁵	26.11 ⁸⁰	7.76 ³⁰	62.10 ³¹¹	31.907 ²¹⁰	62.16 ²⁵⁵
Sept. 6.6	7.110 ¹⁴⁰	25.31 ⁵⁴	8.06 ²³	65.21 ³²³	32.117 ¹⁶⁸	64.71 ²⁵¹
16.5	7.250 ¹⁰⁴	24.77 ²⁷	8.29 ¹⁷	68.44 ³²⁷	32.285 ¹²⁷	67.22 ²⁴²
26.5	7.354 ⁷⁰	24.50 ²	8.46 ¹¹	71.71 ³²³	32.412 ⁸⁶	69.64 ²³⁰
Oct. 6.5	7.424 ³⁶	24.48 ²⁰	8.57 ⁵	74.94 ³¹⁶	32.498 ⁴³	71.94 ²¹³
16.5	7.460 ⁶	24.68 ³⁹	8.62 ²	78.10 ²⁹⁸	32.541 ⁹	74.07 ¹⁹³
26.4	7.466 ²¹	25.07 ⁵⁵	8.60 ⁸	81.08 ²⁷⁴	32.550 ²⁷	76.00 ¹⁷¹
Nov. 5.4	7.445 ⁴⁶	25.62 ⁶⁶	8.52 ¹³	83.82 ²⁴⁸	32.523 ⁶²	77.71 ¹⁴²
15.4	7.399 ⁶⁷	26.28 ⁷⁵	8.39 ¹⁹	86.30 ²¹¹	32.461 ⁹⁰	79.13 ¹¹²
25.3	7.332 ⁸⁵	27.03 ⁷⁹	8.20 ²⁴	88.41 ¹⁶⁸	32.371 ¹¹⁸	80.25 ⁷⁹
Dec. 5.3	7.247 ⁹⁸	27.82 ⁸¹	7.96 ²⁷	90.09 ¹²⁰	32.253 ¹⁴¹	81.04 ⁴⁴
15.3	7.149 ¹¹¹	28.63 ⁷⁹	7.69 ³²	91.29 ⁷³	32.112 ¹⁶⁰	81.48 ⁹
25.3	7.038 ¹¹⁹	29.42 ⁷⁶	7.37 ³³	92.02 ¹⁸	31.952 ¹⁷⁵	81.57 ³¹
35.2	6.919	30.18	7.04	92.20	31.777	81.26
Mean Place	4.262	42.94	2.84	60.41	28.396	55.13
Sec δ, Tan δ	1.000	-0.027	2.018	+1.753	1.270	+0.784
L α, L δ	0.00	+0.4	+0.01	+0.4	0.00	+0.4
ω α, ω δ	0.00	+0.2	-0.11	+0.2	-0.05	+0.2
AUTHORITY			A. E.		A. E.	

280 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Sculptoris. Mag. 4.4		ε Piscium. Mag. 4.5		72 Piscium. Mag. 5.7	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	h m 0 54	° ′ 29 46	h m 0 58	° ′ 7 28	h m 1 51	° ′ 14 31
Jan. 0.3	53.407 ¹⁵⁹	39.04 ⁵⁰	56.843 ¹²⁶	31.53 ⁷³	1.517 ¹³⁰	56.96 ⁶⁹
10.2	53.248 ¹⁵⁹	39.54 ¹³	56.717 ¹²⁹	30.80 ⁷⁵	1.387 ¹³⁵	56.27 ⁸¹
20.2	53.089 ¹⁵⁶	39.67 ²²	56.588 ¹²⁹	30.05 ⁷⁸	1.252 ¹³⁴	55.46 ⁸⁸
30.2	52.933 ¹⁴²	39.45 ⁶⁰	56.459 ¹²³	29.27 ⁷³	1.118 ¹²⁸	54.58 ⁹¹
Feb. 9.2	52.791 ¹²⁵	38.85 ⁹⁵	56.336 ¹⁰⁸	28.54 ⁶⁴	0.990 ¹¹⁵	53.67 ⁹¹
19.1	52.666 ¹⁰⁴	37.90 ¹²⁷	56.228 ⁸⁷	27.90 ⁵⁵	0.875 ⁹⁵	52.76 ⁸⁸
Mar. 1.1	52.562 ⁷⁴	36.63 ¹⁶⁰	56.141 ⁶⁴	27.35 ⁴³	0.780 ⁶⁸	51.88 ⁷⁸
11.1	52.488 ³⁹	35.03 ¹⁸⁷	56.077 ³⁰	26.92 ²⁵	0.712 ³⁵	51.10 ⁶⁴
21.0	52.449 ⁰	33.16 ²¹³	56.047 ⁶	26.67 ¹	0.677 ⁴	50.46 ⁴⁵
31.0	52.449 ⁴⁵	31.03 ²³⁴	56.053 ⁴⁹	26.66 ¹⁸	0.681 ⁴⁶	50.01 ²⁴
Apr. 10.0	52.494 ⁹¹	28.69 ²⁵⁰	56.102 ⁹⁰	26.84 ⁴⁵	0.727 ⁹¹	49.77 ³
20.0	52.585 ¹³⁵	26.19 ²⁶⁵	56.192 ¹³⁵	27.29 ⁷¹	0.818 ¹³⁵	49.80 ³⁰
29.9	52.720 ¹⁸⁰	23.54 ²⁷⁰	56.327 ¹⁷³	28.00 ¹⁰⁰	0.953 ¹⁷⁸	50.10 ⁵⁹
May 9.9	52.900 ²²²	20.84 ²⁷¹	56.500 ²¹²	29.00 ¹²³	1.131 ²¹⁸	50.69 ⁸⁷
19.9	53.122 ²⁵⁸	18.13 ²⁶⁶	56.712 ²⁴⁵	30.23 ¹⁴¹	1.349 ²⁵¹	51.56 ¹¹⁴
29.9	53.380 ²⁹¹	15.47 ²⁵⁴	56.957 ²⁷⁴	31.64 ¹⁶⁴	1.600 ²⁷⁸	52.70 ¹³⁹
June 8.8	53.671 ³¹²	12.93 ²³⁶	57.231 ²⁹⁰	33.28 ¹⁷⁸	1.878 ²⁹⁸	54.09 ¹⁵⁹
18.8	53.983 ³²⁹	10.57 ²¹³	57.521 ³⁰²	35.06 ¹⁸⁷	2.176 ³¹⁰	55.68 ¹⁷⁵
28.8	54.312 ³³⁴	8.44 ¹⁸¹	57.823 ³⁰⁸	36.93 ¹⁹²	2.486 ³¹³	57.43 ¹⁸⁸
July 8.7	54.646 ³³¹	6.63 ¹⁴⁷	58.131 ³⁰³	38.85 ¹⁹²	2.799 ³⁰⁷	59.31 ¹⁹⁴
18.7	54.977 ³¹⁹	5.16 ¹⁰⁹	58.434 ²⁸⁹	40.77 ¹⁸⁸	3.106 ²⁹⁶	61.25 ¹⁹⁵
28.7	55.296 ³⁰⁰	4.07 ⁶⁸	58.723 ²⁶⁹	42.65 ¹⁷⁷	3.402 ²⁷⁵	63.20 ¹⁹³
Aug. 7.7	55.596 ²⁷³	3.39 ²⁶	58.992 ²⁴⁶	44.42 ¹⁶²	3.677 ²⁵¹	65.13 ¹⁸⁴
17.6	55.869 ²³⁹	3.13 ¹⁹	59.238 ²¹⁹	46.04 ¹⁴⁵	3.928 ²²¹	66.97 ¹⁷³
27.6	56.108 ²⁰²	3.32 ⁶⁰	59.457 ¹⁸²	47.49 ¹²⁵	4.149 ¹⁸⁸	68.70 ¹⁵⁷
Sept. 6.6	56.310 ¹⁶¹	3.92 ⁹⁸	59.639 ¹⁵²	48.74 ¹⁰³	4.337 ¹⁵⁴	70.27 ¹³⁹
16.6	56.471 ¹¹⁸	4.90 ¹³⁰	59.791 ¹¹⁴	49.77 ⁸¹	4.491 ¹¹⁹	71.66 ¹¹⁹
26.5	56.589 ⁷⁷	6.20 ¹⁵⁶	59.905 ⁸¹	50.58 ⁵⁸	4.610 ⁸⁵	72.85 ⁹⁹
Oct. 6.5	56.666 ³⁶	7.76 ¹⁸¹	59.986 ⁴⁷	51.16 ³⁶	4.695 ⁵¹	73.84 ⁷⁸
16.5	56.702 ⁵	9.57 ¹⁹¹	60.033 ²¹	51.52 ¹⁴	4.746 ²¹	74.62 ⁵⁷
26.5	56.697 ³⁸	11.48 ¹⁹⁵	60.054 ¹⁰	51.66 ⁶	4.767 ⁸	75.19 ³⁷
Nov. 5.4	56.659 ⁷⁰	13.43 ¹⁹⁰	60.044 ³⁶	51.60 ¹⁹	4.759 ³⁴	75.56 ¹⁹
15.4	56.589 ⁹⁵	15.33 ¹⁷⁸	60.008 ⁵⁹	51.41 ³⁴	4.725 ⁵⁷	75.75 ¹
25.4	56.494 ¹¹⁷	17.11 ¹⁶²	59.949 ⁷⁸	51.07 ⁴⁷	4.668 ⁷⁸	75.74 ¹⁷
Dec. 5.3	56.377 ¹³⁴	18.73 ¹³³	59.871 ⁹⁶	50.60 ⁵⁷	4.590 ⁹⁶	75.57 ³³
15.3	56.243 ¹⁴⁸	20.06 ¹⁰⁵	59.775 ¹¹⁰	50.03 ⁶⁴	4.494 ¹¹¹	75.24 ⁴⁸
25.3	56.095 ¹⁵³	21.11 ⁶⁹	59.665 ¹¹⁹	49.39 ⁷⁰	4.383 ¹²⁴	74.76 ⁶²
35.3	55.942	21.80	59.546	48.69	4.259	74.14
Mean Place	53.709	24.92	56.700	33.23	1.278	56.27
Sec δ, Tan δ	1.152	-0.572	1.009	+0.131	1.033	+0.259
L α, L δ	0.00	+0.4	0.00	+0.4	0.00	+0.4
ω α, ω δ	+0.04	+0.2	-0.01	+0.3	-0.02	+0.3
AUTHORITY	A. E.		A. E.			

APPARENT PLACES OF STARS, 1923. 281

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Phœnicis. Mag. 3.4		β Andromedæ. Mag. 2.4		ζ^1 Piscium. Mag. 5.6	
	R. A.		R. A.		R. A.	
	h m	° ' "	h m	° ' "	h m	° ' "
	I 2	47 7	I 5	35 12	I 9	7 9
Jan. 0.3	38.376 ²³⁴	71.31 ³⁰	25.449 ¹⁷⁰	52.87 ⁴⁷	42.595 ¹²⁴	64.57 ⁷²
10.2	38.142 ²³²	71.61 ²⁰	25.279 ¹⁷⁶	52.40 ⁷⁸	42.471 ¹³¹	63.85 ⁷⁴
20.2	37.910 ²²⁵	71.41 ⁷⁰	25.103 ¹⁷⁷	51.62 ¹⁰⁸	42.340 ¹³¹	63.11 ⁷³
30.2	37.685 ²¹⁰	70.71 ¹¹⁸	24.926 ¹⁷¹	50.54 ¹³⁵	42.209 ¹²⁶	62.38 ⁶⁹
Feb. 9.2	37.475 ¹⁸⁵	69.53 ¹⁵⁹	24.755 ¹⁵¹	49.19 ¹⁵³	42.083 ¹¹⁶	61.69 ⁶³
19.1	37.290 ¹⁵⁷	67.94 ²⁰¹	24.604 ¹²⁷	47.66 ¹⁶⁶	41.967 ⁹⁷	61.06 ⁵³
Mar. 1.1	37.133 ¹¹⁷	65.93 ²³⁷	24.477 ⁹⁶	46.00 ¹⁷¹	41.870 ⁷³	60.53 ⁴⁰
11.1	37.016 ⁷⁶	63.56 ²⁶⁶	24.381 ⁵¹	44.29 ¹⁶⁹	41.797 ⁴¹	60.13 ²²
21.0	36.940 ²⁶	60.90 ²⁹²	24.330 ⁷	42.60 ¹⁶⁰	41.756 ⁴	59.91 ²
31.0	36.914 ²⁵	57.98 ³⁰⁸	24.323 ⁴⁵	41.00 ¹⁴¹	41.752 ³⁶	59.89 ²¹
Apr. 10.0	36.939 ⁸³	54.90 ³²⁰	24.368 ¹⁰⁰	39.59 ¹¹⁸	41.788 ⁸⁰	60.10 ⁴⁶
20.0	37.022 ¹³⁷	51.70 ³²⁷	24.468 ¹⁴⁸	38.41 ⁸⁹	41.868 ¹²⁴	60.56 ⁷¹
29.9	37.159 ¹⁹³	48.43 ³²⁴	24.616 ²⁰³	37.52 ⁵⁵	41.992 ¹⁶⁶	61.27 ⁹⁶
May 9.9	37.352 ²⁴⁴	45.19 ³¹⁶	24.819 ²⁴⁷	36.97 ¹⁷	42.158 ²⁰⁴	62.23 ¹²¹
19.9	37.596 ²⁹²	42.03 ²⁹⁹	25.066 ²⁸⁵	36.80 ¹⁹	42.362 ²⁴⁰	63.44 ¹⁴³
29.9	37.888 ³³²	39.04 ²⁷⁵	25.351 ³¹⁷	36.99 ⁵⁷	42.602 ²⁶⁸	64.87 ¹⁶¹
June 8.8	38.220 ³⁶²	36.29 ²⁴⁵	25.668 ³³⁷	37.56 ⁹⁴	42.870 ²⁸⁹	66.48 ¹⁷⁶
18.8	38.582 ³⁸⁵	33.84 ²¹⁰	26.005 ³⁵¹	38.50 ¹²⁵	43.159 ³⁰¹	68.24 ¹⁸⁶
28.8	38.967 ³⁹⁶	31.74 ¹⁶⁵	26.356 ³⁵⁶	39.75 ¹⁵⁸	43.460 ³⁰⁷	70.10 ¹⁹¹
July 8.7	39.363 ³⁹⁸	30.09 ¹²¹	26.712 ³⁴⁹	41.33 ¹⁸⁵	43.767 ³⁰³	72.01 ¹⁹⁰
18.7	39.761 ³⁸⁶	28.88 ⁷¹	27.061 ³³⁴	43.18 ²⁰⁴	44.070 ²⁹³	73.91 ¹⁸⁵
28.7	40.147 ³⁶⁶	28.17 ¹⁹	27.395 ³¹⁵	45.22 ²²⁰	44.363 ²⁷⁶	75.76 ¹⁷⁵
Aug. 7.7	40.513 ³³⁷	27.98 ³⁴	27.710 ²⁸⁵	47.42 ²³³	44.639 ²⁵²	77.51 ¹⁶⁰
17.6	40.850 ²⁹⁶	28.32 ⁸⁴	27.995 ²⁵⁵	49.75 ²³⁸	44.891 ²²⁴	79.11 ¹⁴²
27.6	41.146 ²⁵¹	29.16 ¹³¹	28.250 ²¹⁸	52.13 ²³⁷	45.115 ¹⁹³	80.53 ¹²²
Sept. 6.6	41.397 ²⁰²	30.47 ¹⁷³	28.468 ¹⁸⁰	54.50 ²³³	45.308 ¹⁶⁰	81.75 ¹⁰⁰
16.6	41.599 ¹⁴⁷	32.20 ²⁰⁸	28.648 ¹³⁸	56.83 ²²⁷	45.468 ¹²⁵	82.75 ⁷⁷
26.5	41.746 ⁹²	34.28 ²³⁷	28.786 ¹⁰⁰	59.10 ²¹⁴	45.593 ⁹³	83.52 ⁵⁴
Oct. 6.5	41.838 ³⁷	36.65 ²⁵³	28.886 ⁶³	61.24 ¹⁹⁸	45.686 ⁵⁹	84.06 ³¹
16.5	41.875 ¹⁵	39.18 ²⁶²	28.949 ²⁷	63.22 ¹⁷⁸	45.745 ²⁸	84.37 ¹²
26.5	41.860 ⁶⁵	41.80 ²⁶⁰	28.976 ¹⁰	65.00 ¹⁵⁷	45.773 ¹	84.49 ⁷
Nov. 5.4	41.795 ¹⁰⁶	44.40 ²⁴⁵	28.966 ⁴²	66.57 ¹²⁹	45.774 ²⁵	84.42 ²³
15.4	41.689 ¹⁴⁶	46.85 ²²²	28.924 ⁷³	67.86 ¹⁰⁵	45.749 ⁴⁹	84.19 ³⁶
25.4	41.543 ¹⁷⁶	49.07 ¹⁸⁹	28.851 ⁹⁹	68.91 ⁷³	45.700 ⁷¹	83.83 ⁴⁷
Dec. 5.3	41.367 ²⁰⁰	50.96 ¹⁵³	28.752 ¹²⁴	69.64 ⁴³	45.629 ⁸⁸	83.36 ⁵⁷
15.3	41.167 ²¹⁷	52.49 ¹⁰⁸	28.628 ¹⁴⁶	70.07 ⁶	45.541 ¹⁰⁴	82.79 ⁶⁴
25.3	40.950 ²²⁸	53.57 ⁵⁹	28.482 ¹⁵⁹	70.13 ²²	45.437 ¹¹⁷	82.15 ⁶⁸
35.3	40.722	54.16	28.323	69.91	45.320	81.47
Mean Place	38.880	52.37	24.876	45.58	42.392	66.83
Sec δ , Tan δ	1.470	-1.077	1.224	+0.706	1.008	+0.126
L α , L δ	-0.01	+0.4	+0.01	+0.4	0.00	+0.4
ω α , ω δ	+0.07	+0.3	-0.05	+0.3	-0.01	+0.3
AUTHORITY	A. E.		A. E.			

282 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	θ Ceti. Mag. 3·8		δ Cassiopeiæ. Mag. 2·8		γ Phœnicis. Mag. 3·4	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	^h I 20	^m 8 34	^h I 20	^m 59 49	^h I 24	^m 43 42
Jan. 0·3	10·529 ^s ₁₂₈	57·12 [°] ₇₉	47·363 ^s ₃₂₈	81·68 [°] ₁₇	61·069 ^s ₂₁₆	63·74 [°] ₆₀
10·3	10·401 ^s ₁₃₅	57·91 [°] ₆₂	47·035 ^s ₃₄₄	81·85 [°] ₃₄	60·853 ^s ₂₂₁	64·34 [°] ₁₁
20·2	10·266 ^s ₁₃₄	58·53 [°] ₄₆	46·691 ^s ₃₄₇	81·51 [°] ₈₇	60·632 ^s ₂₂₀	64·45 [°] ₃₇
30·2	10·132 ^s ₁₃₁	58·99 [°] ₂₄	46·344 ^s ₃₃₄	80·64 [°] ₁₃₄	60·412 ^s ₂₁₀	64·08 [°] ₈₄
Feb. 9·2	10·001 ^s ₁₂₃	59·23 [°] ₂	46·010 ^s ₃₀₈	79·30 [°] ₁₇₇	60·202 ^s ₁₉₄	63·24 [°] ₁₂₉
19·1	9·878 ^s ₁₀₆	59·25 [°] ₁₇	45·702 ^s ₂₆₆	77·53 [°] ₂₀₉	60·008 ^s ₁₆₉	61·95 [°] ₁₇₁
Mar. 1·1	9·772 ^s ₈₁	59·08 [°] ₄₄	45·436 ^s ₂₀₉	75·44 [°] ₂₃₉	59·839 ^s ₁₃₈	60·24 [°] ₂₀₈
11·1	9·691 ^s ₅₄	58·64 [°] ₆₈	45·227 ^s ₁₄₃	73·05 [°] ₂₅₄	59·701 ^s ₁₀₀	58·16 [°] ₂₄₁
21·1	9·637 ^s ₁₆	57·96 [°] ₈₈	45·084 ^s ₆₃	70·51 [°] ₂₅₈	59·601 ^s ₅₄	55·75 [°] ₂₇₀
31·0	9·621 ^s ₂₂	57·08 [°] ₁₁₆	45·021 ^s ₂₁	67·93 [°] ₂₅₂	59·547 ^s ₅	53·05 [°] ₂₉₁
Apr. 10·0	9·643 ^s ₆₆	55·92 [°] ₁₄₀	45·042 ^s ₁₀₅	65·41 [°] ₂₃₇	59·542 ^s ₄₈	50·14 [°] ₃₀₈
20·0	9·709 ^s ₁₀₈	54·52 [°] ₁₅₇	45·147 ^s ₁₉₀	63·04 [°] ₂₁₄	59·590 ^s ₁₀₃	47·06 [°] ₃₁₈
30·0	9·817 ^s ₁₅₁	52·95 [°] ₁₇₉	45·337 ^s ₂₇₀	60·90 [°] ₁₈₁	59·693 ^s ₁₅₇	43·88 [°] ₃₂₁
May 9·9	9·968 ^s ₁₈₉	51·16 [°] ₁₉₅	45·607 ^s ₃₄₁	59·09 [°] ₁₄₀	59·850 ^s ₂₀₉	40·67 [°] ₃₁₈
19·9	10·157 ^s ₂₂₇	49·21 [°] ₂₀₅	45·948 ^s ₄₀₃	57·69 [°] ₉₈	60·059 ^s ₂₅₇	37·49 [°] ₃₀₅
29·9	10·384 ^s ₂₅₇	47·16 [°] ₂₀₉	46·351 ^s ₄₅₄	56·71 [°] ₅₂	60·316 ^s ₂₉₇	34·44 [°] ₂₈₈
June 8·8	10·641 ^s ₂₈₁	45·07 [°] ₂₁₃	46·805 ^s ₄₉₀	56·19 [°] ₃	60·613 ^s ₃₃₂	31·56 [°] ₂₆₁
18·8	10·922 ^s ₂₉₃	42·94 [°] ₂₁₀	47·295 ^s ₅₁₄	56·16 [°] ₄₅	60·945 ^s ₃₅₆	28·95 [°] ₂₂₉
28·8	11·215 ^s ₃₀₂	40·84 [°] ₁₉₉	47·809 ^s ₅₂₃	56·61 [°] ₉₁	61·301 ^s ₃₇₂	26·66 [°] ₁₉₁
July 8·8	11·517 ^s ₃₀₅	38·85 [°] ₁₈₄	48·332 ^s ₅₁₉	57·52 [°] ₁₃₅	61·673 ^s ₃₇₇	24·75 [°] ₁₄₇
18·7	11·822 ^s ₂₉₄	37·01 [°] ₁₆₃	48·851 ^s ₅₀₂	58·87 [°] ₁₇₆	62·050 ^s ₃₇₃	23·28 [°] ₁₀₀
28·7	12·116 ^s ₂₇₉	35·38 [°] ₁₃₉	49·353 ^s ₄₇₆	60·63 [°] ₂₁₂	62·423 ^s ₃₅₈	22·28 [°] ₄₉
Aug. 7·7	12·395 ^s ₂₆₀	33·99 [°] ₁₀₉	49·829 ^s ₄₄₀	62·75 [°] ₂₄₄	62·781 ^s ₃₃₂	21·79 [°] ₃
17·6	12·655 ^s ₂₃₃	32·90 [°] ₈₁	50·269 ^s ₃₉₄	65·19 [°] ₂₇₀	63·113 ^s ₃₀₁	21·82 [°] ₅₄
27·6	12·888 ^s ₂₀₁	32·09 [°] ₄₉	50·663 ^s ₃₄₅	67·89 [°] ₂₉₀	63·414 ^s ₂₆₁	22·36 [°] ₁₀₄
Sept. 6·6	13·089 ^s ₁₇₀	31·60 [°] ₁₇	51·008 ^s ₂₈₈	70·79 [°] ₃₀₃	63·675 ^s ₂₁₇	23·40 [°] ₁₄₈
16·6	13·259 ^s ₁₃₅	31·43 [°] ₁₄	51·296 ^s ₂₃₀	73·82 [°] ₃₁₂	63·892 ^s ₁₆₉	24·88 [°] ₁₈₈
26·5	13·394 ^s ₁₀₂	31·57 [°] ₄₀	51·526 ^s ₁₇₀	76·94 [°] ₃₁₅	64·061 ^s ₁₁₈	26·76 [°] ₂₂₀
Oct. 6·5	13·496 ^s ₆₆	31·97 [°] ₆₄	51·696 ^s ₁₀₉	80·09 [°] ₃₀₉	64·179 ^s ₆₈	28·96 [°] ₂₄₂
16·5	13·562 ^s ₃₆	32·61 [°] ₈₇	51·805 ^s ₄₇	83·18 [°] ₂₉₉	64·247 ^s ₁₉	31·38 [°] ₂₅₆
26·5	13·598 ^s ₅	33·48 [°] ₉₇	51·852 ^s ₁₅	86·17 [°] ₂₈₀	64·266 ^s ₂₈	33·94 [°] ₂₅₈
Nov. 5·4	13·603 ^s ₂₃	34·45 [°] ₁₁₀	51·837 ^s ₇₄	88·97 [°] ₂₅₈	64·238 ^s ₇₁	36·52 [°] ₂₅₁
15·4	13·580 ^s ₄₉	35·55 [°] ₁₁₃	51·763 ^s ₁₃₂	91·55 [°] ₂₂₈	64·167 ^s ₁₀₈	39·03 [°] ₂₃₄
25·4	13·531 ^s ₆₉	36·68 [°] ₁₁₂	51·631 ^s ₁₈₅	93·83 [°] ₁₉₁	64·059 ^s ₁₄₂	41·37 [°] ₂₀₆
Dec. 5·3	13·462 ^s ₉₀	37·80 [°] ₁₀₅	51·446 ^s ₂₃₄	95·74 [°] ₁₄₈	63·917 ^s ₁₆₉	43·43 [°] ₁₇₃
15·3	13·372 ^s ₁₀₇	38·85 [°] ₉₉	51·212 ^s ₂₇₈	97·22 [°] ₁₀₂	63·748 ^s ₁₉₂	45·16 [°] ₁₃₂
25·3	13·265 ^s ₁₂₀	39·84 [°] ₈₄	50·934 ^s ₃₁₄	98·24 [°] ₅₂	63·556 ^s ₂₀₇	46·48 [°] ₈₇
35·3	13·145 ^s	40·68 [°]	50·620 ^s	98·76 [°]	63·349 ^s	47·35 [°]
Mean Place	10·431	48·95	45·872	68·96	61·310	44·95
Sec δ , Tan δ	1·011	—0·151	1·990	+1·721	1·383	—0·956
L α , L δ	0·00	+0·4	+0·02	+0·4	—0·01	+0·4
ω α , ω δ	+0·01	+0·3	—0·11	+0·3	+0·06	+0·4
AUTHORITY	A. E.		A. E.		A. N.	

APPARENT PLACES OF STARS, 1923. 283

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Piscium. Mag. 3.7		α Eridani. Mag. 0.6		ν Piscium. Mag. 4.7	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	h m I 27	° ' " 14 56	h m I 34	° ' " 57 37	h m I 37	° ' " 5 5
Jan. 0.3	21.970 ¹²⁸	57.44 64	50.524 ³²⁹	61.57 52	25.662 ¹²⁰	50.14 71
10.3	21.842 ¹³⁸	56.80 71	50.195 ³³⁷	62.09 7	25.542 ¹³²	49.43 69
20.2	21.704 ¹⁴¹	56.09 79	49.858 ³³⁴	62.02 61	25.410 ¹³⁸	48.74 66
30.2	21.563 ¹⁴¹	55.30 84	49.524 ³²¹	61.41 115	25.272 ¹³⁸	48.08 60
Feb. 9.2	21.422 ¹²⁹	54.46 85	49.203 ²⁹⁵	60.26 168	25.134 ¹³¹	47.48 52
19.2	21.293 ¹¹⁵	53.61 81	48.908 ²⁶⁴	58.58 211	25.003 ¹¹⁷	46.96 40
Mar. 1.1	21.178 ⁹¹	52.80 75	48.644 ²²¹	56.47 254	24.886 ⁹⁵	46.56 26
11.1	21.087 ⁶²	52.05 63	48.423 ¹⁷⁰	53.93 286	24.791 ⁶⁷	46.30 10
21.1	21.025 ²⁰	51.42 48	48.253 ¹¹¹	51.07 315	24.724 ³²	46.20 10
31.0	21.005 ¹⁸	50.94 27	48.142 ⁴⁷	47.92 337	24.692 ⁸	46.30 32
Apr. 10.0	21.023 ⁶⁶	50.67 1	48.095 ²⁴	44.55 351	24.700 ⁵¹	46.62 55
20.0	21.089 ¹¹¹	50.66 21	48.119 ⁹²	41.04 356	24.751 ⁹⁶	47.17 79
30.0	21.200 ¹⁵⁴	50.87 50	48.211 ¹⁶¹	37.48 354	24.847 ¹⁴⁰	47.96 103
May 9.9	21.354 ¹⁹⁵	51.37 75	48.372 ²³⁰	33.94 343	24.987 ¹⁸¹	48.99 126
19.9	21.549 ²³⁶	52.12 104	48.602 ²⁹⁴	30.51 327	25.168 ²¹⁹	50.25 145
29.9	21.785 ²⁶⁴	53.16 124	48.896 ³⁵⁰	27.24 301	25.387 ²⁵⁰	51.70 163
June 8.9	22.049 ²⁸⁸	54.40 147	49.246 ³⁹⁹	24.23 268	25.637 ²⁷⁵	53.33 175
18.8	22.337 ³⁰⁴	55.87 165	49.645 ⁴³⁴	21.55 230	25.912 ²⁹³	55.08 184
28.8	22.641 ³¹⁰	57.52 176	50.079 ⁴⁶²	19.25 184	26.205 ³⁰¹	56.92 187
July 8.8	22.951 ³¹¹	59.28 183	50.541 ⁴⁷¹	17.41 133	26.506 ³⁰⁴	58.79 186
18.7	23.262 ³⁰³	61.11 187	51.012 ⁴⁷³	16.08 80	26.810 ²⁹⁷	60.65 178
28.7	23.565 ²⁸⁶	62.98 187	51.485 ⁴⁵⁹	15.28 22	27.107 ²⁸⁵	62.43 167
Aug. 7.7	23.851 ²⁶⁷	64.85 176	51.944 ⁴³³	15.06 33	27.392 ²⁶⁵	64.10 152
17.7	24.118 ²⁴⁰	66.61 168	52.377 ³⁹⁶	15.39 90	27.657 ²⁴¹	65.62 132
27.6	24.358 ²¹²	68.29 152	52.773 ³⁴⁷	16.29 144	27.898 ²¹³	66.94 110
Sept. 6.6	24.570 ¹⁸⁰	69.81 135	53.120 ²⁸⁹	17.73 191	28.111 ¹⁸³	68.04 87
16.6	24.750 ¹⁴⁴	71.16 117	53.409 ²²⁵	19.64 233	28.294 ¹⁵¹	68.91 63
26.6	24.894 ¹¹³	72.33 98	53.634 ¹⁵⁹	21.97 263	28.445 ¹¹⁹	69.54 39
Oct. 6.5	25.007 ⁸²	73.31 79	53.793 ⁸⁹	24.60 288	28.564 ⁸⁷	69.93 16
16.5	25.089 ⁴⁹	74.10 58	53.882 ¹⁵	27.48 298	28.651 ⁵⁶	70.09 3
26.5	25.138 ¹⁹	74.68 39	53.897 ⁵¹	30.46 297	28.707 ²⁷	70.06 22
Nov. 5.4	25.157 ¹¹	75.07 21	53.846 ¹¹⁵	33.43 284	28.734 ¹	69.84 36
15.4	25.146 ³³	75.28 6	53.731 ¹⁷⁰	36.27 263	28.733 ²⁷	69.48 48
25.4	25.113 ⁶¹	75.34 12	53.561 ²²¹	38.90 231	28.706 ⁵⁰	69.00 58
Dec. 5.4	25.052 ⁸³	75.22 28	53.340 ²⁶²	41.21 184	28.656 ⁷³	68.42 63
15.3	24.969 ⁹⁹	74.94 42	53.078 ²⁹³	43.05 137	28.583 ⁹⁴	67.79 67
25.3	24.870 ¹¹⁸	74.52 52	52.785 ³¹⁸	44.42 84	28.489 ¹¹⁰	67.12 69
35.3	24.752	74.00	52.467	45.26	28.379	66.43
Mean Place	21.575	57.72	50.866	39.77	25.324	54.26
Sec δ , Tan δ	1.035	+0.267	1.868	-1.577	1.004	+0.089
L α , L δ	0.00	+0.4	-0.02	+0.4	0.00	+0.4
ω α , ω δ	-0.02	+0.4	+0.10	+0.4	-0.01	+0.4
AUTHORITY	A. E.		A. E.		A. N.	

284 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	♋ Piscium. Mag. 4·5		ζ Ceti. Mag. 3·9		ε Cassiopeiæ. Mag. 3·4	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	^h ^m I 4I	[°] ['] 8 46	^h ^m I 47	[°] ['] IO 42	^h ^m I 48	[°] ['] 63 17
Jan. 0·3	19·909 ¹²¹	11·44 ⁶⁶	39·789 ¹²⁷	63·15 ⁸⁵	52·23 ³⁷	41·84 ⁵⁹
10·3	19·788 ¹³⁵	10·78 ⁶⁷	39·662 ¹³⁸	64·00 ⁶⁸	51·86 ³⁸	42·43 ⁶
20·2	19·653 ¹³⁹	10·11 ⁶⁹	39·524 ¹⁴⁴	64·68 ⁴⁹	51·48 ⁴¹	42·49 ⁴⁷
30·2	19·514 ¹⁴²	9·42 ⁶⁸	39·380 ¹⁴⁵	65·17 ²⁶	51·07 ⁴⁰	42·02 ¹⁰⁰
Feb. 9·2	19·372 ¹³²	8·74 ⁶¹	39·235 ¹³⁹	65·43 ¹	50·67 ³⁸	41·02 ¹⁴⁵
19·2	19·240 ¹²²	8·13 ⁵⁴	39·096 ¹²⁷	65·42 ²²	50·29 ³⁴	39·57 ¹⁸⁹
Mar. 1·1	19·118 ⁹⁸	7·59 ⁴⁴	38·969 ¹⁰⁶	65·20 ⁵⁰	49·95 ²⁹	37·68 ²²⁰
11·1	19·020 ⁷¹	7·15 ³⁰	38·863 ⁷⁹	64·70 ⁷⁴	49·66 ²¹	35·48 ²⁴⁵
21·1	18·949 ³⁵	6·85 ⁹	38·784 ⁴⁴	63·96 ⁹⁹	49·45 ¹⁴	33·03 ²⁵⁷
31·0	18·914 ⁵	6·76 ¹⁰	38·740 ⁵	62·97 ¹²⁵	49·31 ⁴	30·46 ²⁶⁰
Apr. 10·0	18·919 ⁵¹	6·86 ³²	38·735 ³⁶	61·72 ¹⁴⁵	49·27 ⁵	27·86 ²⁵⁴
20·0	18·970 ⁹³	7·18 ⁵⁹	38·771 ⁸⁰	60·27 ¹⁷⁰	49·32 ¹⁵	25·32 ²³⁵
30·0	19·063 ¹³⁸	7·77 ⁸¹	38·851 ¹²²	58·57 ¹⁹⁰	49·47 ²⁴	22·97 ²⁰⁹
May 10·0	19·201 ¹⁷⁹	8·58 ¹⁰⁵	38·973 ¹⁶⁷	56·67 ²⁰¹	49·71 ³³	20·88 ¹⁷⁷
19·9	19·380 ²¹⁹	9·63 ¹²⁵	39·140 ²⁰⁵	54·66 ²¹³	50·04 ⁴⁰	19·11 ¹³⁷
29·9	19·599 ²⁵⁰	10·88 ¹⁴⁶	39·345 ²⁴¹	52·53 ²²⁰	50·44 ⁴⁷	17·74 ⁹³
June 8·9	19·849 ²⁷⁶	12·34 ¹⁶³	39·586 ²⁶⁶	50·33 ²²¹	50·91 ⁵²	16·81 ⁴⁷
18·8	20·125 ²⁹⁴	13·97 ¹⁷³	39·852 ²⁸⁶	48·12 ²¹⁵	51·43 ⁵⁵	16·34 ¹
28·8	20·419 ³⁰³	15·70 ¹⁸²	40·138 ²⁹⁸	45·97 ²⁰⁷	51·98 ⁵⁷	16·35 ⁴⁷
July 8·8	20·722 ³⁰⁶	17·52 ¹⁸³	40·436 ³⁰⁴	43·90 ¹⁸⁶	52·55 ⁵⁸	16·82 ⁹⁴
18·8	21·028 ³⁰⁰	19·35 ¹⁸⁰	40·740 ³⁰⁰	42·04 ¹⁶⁷	53·13 ⁵⁷	17·76 ¹³⁸
28·7	21·328 ²⁸⁷	21·15 ¹⁷¹	41·040 ²⁸⁹	40·37 ¹⁴¹	53·70 ⁵⁵	19·14 ¹⁷⁷
Aug. 7·7	21·615 ²⁶⁸	22·86 ¹⁶¹	41·329 ²⁷³	38·96 ¹¹¹	54·25 ⁵¹	20·91 ²¹¹
17·7	21·883 ²⁴⁶	24·47 ¹⁴⁵	41·602 ²⁵¹	37·85 ⁷⁹	54·76 ⁴⁸	23·02 ²⁴⁴
27·6	22·129 ²¹⁹	25·92 ¹²⁴	41·853 ²²³	37·06 ⁴⁴	55·24 ⁴³	25·46 ²⁶⁸
Sept. 6·6	22·348 ¹⁸⁷	27·16 ¹⁰⁵	42·076 ¹⁹³	36·62 ¹²	55·67 ³⁷	28·14 ²⁹¹
16·6	22·535 ¹⁵⁷	28·21 ⁸²	42·269 ¹⁶⁰	36·50 ²¹	56·04 ³¹	31·05 ³⁰³
26·6	22·692 ¹²⁵	29·03 ⁶¹	42·429 ¹²⁸	36·71 ⁵³	56·35 ²⁵	34·08 ³¹²
Oct. 6·5	22·817 ⁹³	29·64 ³⁷	42·557 ⁹³	37·24 ⁷⁹	56·60 ¹⁹	37·20 ³¹⁵
16·5	22·910 ⁶³	30·01 ¹⁹	42·650 ⁶¹	38·03 ⁹⁷	56·79 ¹¹	40·35 ³⁰⁹
26·5	22·973 ³²	30·20 ⁰	42·711 ³⁰	39·00 ¹¹⁶	56·90 ⁴	43·44 ³⁰¹
Nov. 5·5	23·005 ⁴	30·20 ¹⁴	42·741 ¹	40·16 ¹²⁶	56·94 ³	46·45 ²⁸⁰
15·4	23·009 ²⁵	30·06 ²⁸	42·740 ²³	41·42 ¹³⁰	56·91 ⁹	49·25 ²⁵⁹
25·4	22·984 ⁴⁷	29·78 ⁴¹	42·717 ⁵³	42·72 ¹²⁸	56·82 ¹⁷	51·84 ²²⁴
Dec. 5·4	22·937 ⁷⁰	29·37 ⁵¹	42·664 ⁷⁶	44·00 ¹²²	56·65 ²³	54·08 ¹⁸⁵
15·3	22·867 ⁹³	28·86 ⁵⁶	42·588 ⁹⁶	45·22 ¹¹⁰	56·42 ²⁸	55·93 ¹⁴³
25·3	22·774 ¹¹⁰	28·30 ⁶³	42·492 ¹¹⁴	46·32 ⁹⁶	56·14 ³⁴	57·36 ⁹⁴
35·3	22·664	27·67	42·378	47·28	55·80	58·30
Mean Place	19·510	14·47	39·545	53·31	50·22	30·13
Sec δ, Tan δ	1·012	+0·154	1·018	-0·189	2·225	+1·988
L α, L δ	0·00	+0·4	0·00	+0·4	+0·02	+0·4
ω α, ω δ	-0·01	+0·4	+0·01	+0·5	-0·12	+0·5
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 285

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Arietis. Mag. 2.7		α Hydri. Mag. 3.0		ν Ceti. Mag. 4.2	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	h m I 50	$^{\circ}$ ' 20 25	h m I 56	$^{\circ}$ ' 61 56	h m I 56	$^{\circ}$ ' 21 26
Jan. 0.3	23.511 ^s	56.48 [']	20.03 ^s	61.86 [']	22.781 ^s	74.53 [']
10.3	23.381 ¹³⁰	56.02 ⁴⁶	19.64 ³⁹	62.58 ⁷²	22.641 ¹⁴⁰	75.49 ⁹⁶
20.3	23.237 ¹⁴⁴	55.44 ⁵⁸	19.23 ⁴¹	62.71 ¹³	22.490 ¹⁵¹	76.16 ⁶⁷
30.2	23.084 ¹⁵³	54.72 ⁷²	18.83 ⁴⁰	62.27 ¹⁰¹	22.329 ¹⁶¹	76.52 ³⁶
Feb. 9.2	22.928 ¹⁵⁶	53.88 ⁸⁴	18.43 ⁴⁰	61.26 ¹⁵⁴	22.168 ¹⁶¹	76.52 ⁰
19.2	22.780 ¹⁴⁸	52.98 ⁹⁰	18.05 ³⁸	59.72 ¹⁵⁷	22.011 ¹⁵⁷	76.22 ³⁰
Mar. 1.1	22.645 ¹³⁵	52.02 ⁹⁶	17.71 ³⁴	57.70 ²⁰²	21.868 ¹⁴³	75.58 ⁶⁴
11.1	22.529 ¹¹⁶	51.10 ⁹²	17.41 ³⁰	55.24 ²⁴⁶	21.746 ¹²²	74.62 ⁹⁶
21.1	22.447 ⁸²	50.25 ⁸⁵	17.17 ²⁴	52.37 ²⁸⁷	21.650 ⁹⁶	73.35 ¹²⁷
31.1	22.399 ⁴⁸	49.49 ⁷⁶	16.99 ¹⁸	49.24 ³¹³	21.589 ⁶¹	71.82 ¹⁵³
Apr. 10.0	22.396 ³	48.88 ⁶¹	16.88 ¹¹	45.85 ³³⁹	21.567 ²²	70.01 ¹⁸¹
20.0	22.441 ⁴⁵	48.50 ³⁸	16.85 ³	42.28 ³⁵⁷	21.589 ²²	67.97 ²⁰⁴
30.0	22.532 ⁹¹	48.36 ¹⁴	16.89 ⁴	38.67 ³⁶¹	21.656 ⁶⁷	65.73 ²²⁴
May 10.0	22.670 ¹³⁸	48.46 ¹⁰	17.02 ¹³	35.04 ³⁶³	21.772 ¹¹⁶	63.31 ²⁴²
19.9	22.850 ¹⁸⁰	48.86 ⁴⁰	17.23 ²¹	31.46 ³⁵⁸	21.929 ¹⁵⁷	60.79 ²⁵²
29.9	23.074 ²²⁴	49.51 ⁶⁵	17.51 ²⁸	28.07 ³³⁹	22.129 ²⁰⁰	58.23 ²⁵⁶
June 8.9	23.332 ²⁵⁸	50.44 ⁹³	17.86 ³⁵	24.89 ³¹⁸	22.366 ²³⁷	55.67 ²⁵⁶
18.8	23.619 ²⁸⁷	51.57 ¹¹³	18.27 ⁴¹	22.06 ²⁸³	22.632 ²⁶⁶	53.20 ²⁴⁷
28.8	23.923 ³⁰⁴	52.95 ¹³⁸	18.72 ⁴⁵	19.59 ²⁴⁷	22.922 ²⁹⁰	50.85 ²³⁵
July 8.8	24.238 ³¹⁵	54.50 ¹⁵⁵	19.21 ⁴⁹	17.58 ²⁰¹	23.226 ³⁰⁴	48.69 ²¹⁶
18.8	24.557 ³¹⁹	56.19 ¹⁶⁹	19.73 ⁵²	16.06 ¹⁵²	23.539 ³¹³	46.79 ¹⁹⁰
28.7	24.871 ³¹⁴	57.96 ¹⁷⁷	20.25 ⁵²	15.09 ⁹⁷	23.850 ³¹¹	45.19 ¹⁶⁰
Aug. 7.7	25.174 ³⁰³	59.76 ¹⁸⁰	20.77 ⁵²	14.72 ³⁷	24.153 ³⁰³	43.96 ¹²³
17.7	25.457 ²⁸³	61.55 ¹⁷⁹	21.27 ⁵⁰	14.93 ²¹	24.439 ²⁸⁶	43.10 ⁸⁶
27.6	25.721 ²⁶⁴	63.29 ¹⁷⁴	21.73 ⁴⁶	15.74 ⁸¹	24.705 ²⁶⁶	42.65 ⁴⁵
Sept. 6.6	25.954 ²³³	64.96 ¹⁶⁷	22.14 ⁴¹	17.10 ¹³⁶	24.941 ²³⁶	42.63 ²
16.6	26.159 ²⁰⁵	66.49 ¹⁵³	22.50 ³⁶	18.96 ¹⁸⁶	25.149 ²⁰⁸	43.00 ³⁷
26.6	26.329 ¹⁷⁰	67.90 ¹⁴¹	22.79 ²⁹	21.30 ²³⁴	25.321 ¹⁷²	43.75 ⁷⁵
Oct. 6.5	26.470 ¹⁴¹	69.14 ¹²⁴	23.00 ²¹	23.95 ²⁶⁵	25.461 ¹⁴⁰	44.84 ¹⁰⁹
16.5	26.579 ¹⁰⁹	70.20 ¹⁰⁶	23.13 ¹³	26.91 ²⁹⁶	25.562 ¹⁰¹	46.23 ¹³⁹
26.5	26.655 ⁷⁶	71.10 ⁹⁰	23.19 ⁶	30.00 ³⁰⁹	25.630 ⁶⁸	47.82 ¹⁵⁹
Nov. 5.5	26.698 ⁴³	71.81 ⁷¹	23.16 ³	33.12 ³¹²	25.663 ³³	49.57 ¹⁷⁵
15.4	26.715 ¹⁷	72.32 ⁵¹	23.06 ¹⁰	36.15 ³⁰³	25.663 ⁰	51.38 ¹⁸¹
25.4	26.700 ¹⁵	72.68 ³⁶	22.88 ¹⁸	38.97 ²⁸²	25.634 ²⁹	53.19 ¹⁸¹
Dec. 5.4	26.658 ⁴²	72.86 ¹⁸	22.65 ³⁰	41.47 ²⁵⁰	25.577 ⁵⁷	54.90 ¹⁷¹
15.3	26.587 ⁷¹	72.85 ¹	22.35 ³⁷	43.56 ²⁰⁹	25.492 ⁸⁵	56.50 ¹⁶⁰
25.3	26.493 ⁹⁴	72.68 ¹⁷	22.02 ¹⁶⁰	45.16 ¹⁰⁵	25.385 ¹⁰⁷	57.85 ¹³⁵
35.3	26.378 ¹¹⁵	72.37 ³¹	21.65 ³⁷	46.21 ¹⁰⁵	25.257 ¹²⁸	58.97 ¹¹²
Mean Place	22.913	56.01	20.14	39.10	22.572	61.05
Sec δ , Tan δ	1.067	+0.373	2.126	-1.876	1.074	-0.393
L α , L δ	0.00	+0.4	-0.02	+0.3	-0.01	+0.3
ω α , ω δ	-0.02	+0.5	+0.11	+0.5	+0.02	+0.5
AUTHORITY	A. E.		A. E.		A. E.	

286 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Andromedæ. Mag. 2.3			α Arietis. Mag. 2.2			β Trianguli. Mag. 3.1		
	R. A.	Dec. N.		R. A.	Dec. N.		R. A.	Dec. N.	
	^h I 59	^m 41 57		^h 2 2	^m 23 5		^h 2 4	^m 34 37	
Jan. 0.3	10.972 ^s 180	45.97 14		50.394 ^s 129	57.29 33		58.269 ^s 150	29.67 3	
10.3	10.792 199	46.11 24		50.265 147	56.96 52		58.119 172	29.64 33	
20.3	10.593 211	45.87 60		50.118 156	56.44 64		57.947 183	29.31 58	
30.2	10.382 216	45.27 94		49.962 164	55.80 80		57.764 193	28.73 86	
Feb. 9.2	10.166 212	44.33 121		49.798 160	55.00 90		57.571 185	27.87 109	
19.2	9.954 192	43.12 147		49.638 146	54.10 97		57.386 172	26.78 125	
Mar. 1.1	9.762 161	41.65 165		49.492 126	53.13 99		57.214 146	25.53 140	
11.1	9.601 126	40.00 174		49.366 94	52.14 97		57.068 115	24.13 143	
21.1	9.475 76	38.26 178		49.272 59	51.17 86		56.953 72	22.70 143	
31.1	9.399 23	36.48 172		49.213 16	50.31 73		56.881 23	21.27 134	
Apr. 10.0	9.376 38	34.76 160		49.197 29	49.58 57		56.858 29	19.93 122	
20.0	9.414 96	33.16 137		49.226 80	49.01 33		56.887 84	18.71 100	
30.0	9.510 154	31.79 114		49.306 130	48.68 8		56.971 139	17.71 76	
May 10.0	9.664 212	30.65 82		49.436 174	48.60 18		57.110 187	16.95 46	
19.9	9.876 262	29.83 50		49.610 217	48.78 46		57.297 236	16.49 14	
29.9	10.138 301	29.33 13		49.827 254	49.24 73		57.533 279	16.35 18	
June 8.9	10.439 338	29.20 23		50.081 284	49.97 98		57.812 305	16.53 50	
18.8	10.777 361	29.43 63		50.365 301	50.95 122		58.117 333	17.03 81	
28.8	11.138 377	30.06 92		50.666 318	52.17 140		58.450 347	17.84 108	
July 8.8	11.515 384	30.98 126		50.984 325	53.57 158		58.797 352	18.92 135	
18.8	11.899 378	32.24 154		51.309 321	55.15 169		59.149 352	20.27 158	
28.7	12.277 365	33.78 179		51.630 311	56.84 174		59.501 339	21.85 175	
Aug. 7.7	12.642 349	35.57 199		51.941 292	58.58 178		59.840 325	23.60 190	
17.7	12.991 322	37.56 212		52.233 275	60.36 175		60.165 299	25.50 195	
27.7	13.313 289	39.68 223		52.508 247	62.11 170		60.464 274	27.45 201	
Sept. 6.6	13.602 256	41.91 229		52.755 218	63.81 160		60.738 239	29.46 203	
16.6	13.858 220	44.20 232		52.973 187	65.41 150		60.977 209	31.49 200	
26.6	14.078 181	46.52 229		53.160 157	66.91 134		61.186 174	33.49 191	
Oct. 6.5	14.259 141	48.81 222		53.317 125	68.25 119		61.360 138	35.40 183	
16.5	14.400 101	51.03 212		53.442 90	69.44 101		61.498 102	37.23 169	
26.5	14.501 61	53.15 197		53.532 59	70.45 87		61.600 68	38.92 155	
Nov. 5.5	14.562 21	55.12 178		53.591 30	71.32 68		61.668 29	40.47 138	
15.4	14.583 21	56.90 157		53.621 4	72.00 52		61.697 5	41.85 119	
25.4	14.562 57	58.47 131		53.617 32	72.52 32		61.692 39	43.04 95	
Dec. 5.4	14.505 93	59.78 103		53.585 63	72.84 18		61.653 73	43.99 70	
15.3	14.412 131	60.81 71		53.522 88	73.02 4		61.580 106	44.69 42	
25.3	14.281 160	61.52 35		53.434 112	72.98 22		61.474 133	45.11 18	
35.3	14.121	61.87		53.322	72.76		61.341	45.29	
Mean Place	9.903	39.58		49.691	56.58		57.344	25.60	
Sec δ, Tan δ	1.345	+0.899		1.087	+0.427		1.215	+0.691	
L α, L δ	+0.01	+0.3		+0.01	+0.3		+0.01	+0.3	
ω α, ω δ	-0.05	+0.5		-0.02	+0.5		-0.04	+0.5	
AUTHORITY	A. E.			A. E.			A. E.		

APPARENT PLACES OF STARS, 1923. 287

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ξ ¹ Ceti. Mag. 4·5		67 Ceti. Mag. 5·7		φ Eridani. Mag. 3·8	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	^h ^m 2 8	[°] ['] 8 29	^h ^m 2 13	[°] ['] 6 46	^h ^m 2 13	[°] ['] 51 51
Jan. 0·3	55·521 ¹¹⁴	5·54 ⁶⁴	8·905 ¹¹⁹	44·45 ⁹¹	45·644 ²⁶⁷	87·08 ¹⁰⁷
10·3	55·407 ¹³¹	4·90 ⁶⁴	8·786 ¹³³	45·36 ⁷⁷	45·377 ²⁸⁵	88·15 ⁵³
20·3	55·276 ¹⁴⁴	4·26 ⁶⁵	8·653 ¹⁴⁶	46·13 ⁵⁹	45·092 ²⁹⁵	88·68 ¹
30·2	55·132 ¹⁴⁹	3·61 ⁶⁰	8·507 ¹⁵⁰	46·72 ³⁹	44·797 ²⁹⁵	88·67 ⁵⁵
Feb. 9·2	54·983 ¹⁴⁸	3·01 ⁵⁷	8·357 ¹⁴⁹	47·11 ¹⁸	44·502 ²⁸⁶	88·12 ¹⁰⁷
19·2	54·835 ¹³⁸	2·44 ⁴⁹	8·208 ¹⁴¹	47·29 ⁵	44·216 ²⁶⁶	87·05 ¹⁵⁶
Mar. 1·2	54·697 ¹²⁰	1·95 ³⁸	8·067 ¹²³	47·24 ²⁵	43·950 ²³⁸	85·49 ²⁰⁰
11·1	54·577 ⁹⁴	1·57 ²⁵	7·944 ⁹⁷	46·99 ⁵⁰	43·712 ¹⁹⁹	83·49 ²⁴⁰
21·1	54·483 ⁶²	1·32 ⁹	7·847 ⁷⁰	46·49 ⁷²	43·513 ¹⁵²	81·09 ²⁷⁵
31·1	54·421 ²²	1·23 ¹⁰	7·777 ²⁹	45·77 ⁹⁷	43·361 ⁹⁸	78·34 ³⁰³
Apr. 10·0	54·399 ²²	1·33 ³¹	7·748 ¹²	44·80 ¹²³	43·263 ³⁸	75·31 ³²⁵
20·0	54·421 ⁶⁷	1·64 ⁵⁴	7·760 ⁵⁷	43·57 ¹⁴⁴	43·225 ²⁴	72·06 ³³⁹
30·0	54·488 ¹¹²	2·18 ⁷⁷	7·817 ¹⁰⁰	42·13 ¹⁶⁰	43·249 ⁸⁹	68·67 ³⁴⁷
May 10·0	54·600 ¹⁵⁶	2·95 ¹⁰⁰	7·917 ¹⁴⁶	40·53 ¹⁸²	43·338 ¹⁵³	65·20 ³⁴⁷
19·9	54·756 ¹⁹⁷	3·95 ¹²¹	8·063 ¹⁸⁷	38·71 ¹⁹⁷	43·491 ²¹³	61·73 ³³⁹
29·9	54·953 ²³²	5·16 ¹³⁹	8·250 ²²⁰	36·74 ²⁰²	43·704 ²⁶⁹	58·34 ³²²
June 8·9	55·185 ²⁶¹	6·55 ¹⁵⁶	8·470 ²⁴⁹	34·72 ²⁰⁹	43·973 ³¹⁷	55·12 ²⁹⁸
18·8	55·446 ²⁸³	8·11 ¹⁶⁶	8·719 ²⁷⁴	32·63 ²¹⁰	44·290 ³⁵⁸	52·14 ²⁶⁷
28·8	55·729 ²⁹⁷	9·77 ¹⁷³	8·993 ²⁹⁰	30·53 ²⁰²	44·648 ³⁸⁸	49·47 ²²⁸
July 8·8	56·026 ³⁰³	11·50 ¹⁷⁶	9·283 ²⁹⁹	28·51 ¹⁹⁰	45·036 ⁴⁰⁹	47·19 ¹⁸²
18·8	56·329 ³⁰²	13·26 ¹⁷²	9·582 ²⁹⁸	26·61 ¹⁷²	45·445 ⁴¹⁷	45·37 ¹³³
28·7	56·631 ²⁹⁵	14·98 ¹⁶⁶	9·880 ²⁹¹	24·89 ¹⁵¹	45·862 ⁴¹⁵	44·04 ⁷⁸
Aug. 7·7	56·926 ²⁷⁹	16·64 ¹⁵²	10·171 ²⁷⁸	23·38 ¹²³	46·277 ⁴⁰¹	43·26 ²²
17·7	57·205 ²⁶⁰	18·16 ¹³⁸	10·449 ²⁶²	22·15 ⁹⁵	46·678 ³⁷⁷	43·04 ³⁶
27·7	57·465 ²³⁶	19·54 ¹¹⁹	10·711 ²³⁸	21·20 ⁶⁵	47·055 ³⁴³	43·40 ⁹¹
Sept. 6·6	57·701 ²⁰⁹	20·73 ⁹⁷	10·949 ²¹¹	20·55 ³⁰	47·398 ³⁰²	44·31 ¹⁴⁵
16·6	57·910 ¹⁸⁰	21·70 ⁷⁶	11·160 ¹⁸²	20·25 ¹	47·700 ²⁵³	45·76 ¹⁹³
26·6	58·090 ¹⁵¹	22·46 ⁵⁴	11·342 ¹⁵²	20·26 ³⁰	47·953 ¹⁹⁹	47·69 ²³³
Oct. 6·6	58·241 ¹²⁰	23·00 ³²	11·494 ¹²⁰	20·56 ⁵⁷	48·152 ¹⁴²	50·02 ²⁶⁴
16·5	58·361 ⁹⁰	23·32 ¹³	11·614 ⁸⁹	21·13 ⁸¹	48·294 ⁸⁴	52·66 ²⁸⁶
26·5	58·451 ⁶⁰	23·45 ⁵	11·703 ⁵⁸	21·94 ⁹⁷	48·378 ²⁵	55·52 ²⁹⁶
Nov. 5·5	58·511 ³¹	23·40 ²⁰	11·761 ²⁸	22·91 ¹¹⁰	48·403 ³¹	58·48 ²⁹⁵
15·4	58·542 ²	23·20 ³³	11·789 ¹	24·01 ¹¹⁹	48·372 ⁸⁵	61·43 ²⁸²
25·4	58·544 ²⁵	22·87 ⁴²	11·788 ²⁶	25·20 ¹¹⁹	48·287 ¹³⁵	64·25 ²⁵⁸
Dec. 5·4	58·519 ⁵²	22·45 ⁵¹	11·762 ⁵⁷	26·39 ¹¹⁶	48·152 ¹⁷⁹	66·83 ²²⁴
15·4	58·467 ⁷⁷	21·94 ⁵⁶	11·705 ⁸¹	27·55 ¹⁰⁸	47·973 ²¹⁷	69·07 ¹⁸³
25·3	58·390 ¹⁰⁰	21·38 ⁶⁰	11·624 ¹⁰³	28·63 ⁹⁷	47·756 ²⁴⁹	70·90 ¹³⁷
35·3	58·290	20·78	11·521	29·60	47·507	72·27
Mean Place	54·975	9·78	8·479	35·11	45·472	65·83
Sec δ, Tan δ	1·011	+0·149	1·007	—0·119	1·620	—1·274
L α, L δ	0·00	+0·3	0·00	+0·3	—0·02	+0·3
ω α, ω δ	—0·01	+0·5	+0·01	+0·5	+0·07	+0·5
AUTHORITY			A. E.		A. N.	

288 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	θ Arietis. Mag. 5·7		ο Ceti. Mag. 1·7-9·6		κ Fornacis. Mag. 5·4	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	h m 2 13	° 19 32	h m 2 15	° 3 19	h m 2 19	° 24 9
Jan. 0·3	51·017 ¹²⁰	43·41 ³⁸	27·793 ¹¹⁴	43·59 ⁸⁶	1·488 ¹³⁹	71·23 ¹¹²
10·3	50·897 ¹³⁹	43·03 ⁵⁰	27·679 ¹³²	44·45 ⁷⁶	1·349 ¹⁵⁷	72·35 ⁸¹
20·3	50·758 ¹⁵³	42·53 ⁶¹	27·547 ¹⁴³	45·21 ⁶⁰	1·192 ¹⁶⁹	73·16 ⁴⁵
30·2	50·605 ¹⁶⁰	41·92 ⁷¹	27·404 ¹⁵⁰	45·81 ⁴⁴	1·023 ¹⁷⁴	73·61 ¹⁰
Feb. 9·2	50·445 ¹⁵⁹	41·21 ⁷⁸	27·254 ¹⁴⁹	46·25 ³⁰	0·849 ¹⁷³	73·71 ²⁷
19·2	50·286 ¹⁵⁰	40·43 ⁸²	27·105 ¹⁴¹	46·55 ⁸	0·676 ¹⁶³	73·44 ⁶¹
Mar. 1·2	50·136 ¹³¹	39·61 ⁸¹	26·964 ¹²³	46·63 ¹¹	0·513 ¹⁴⁶	72·83 ⁹⁶
11·1	50·005 ¹⁰³	38·80 ⁷⁶	26·841 ¹⁰⁰	46·52 ³¹	0·367 ¹²⁰	71·87 ¹²⁹
21·1	49·902 ⁶⁹	38·04 ⁶⁷	26·741 ⁶⁸	46·21 ⁵⁵	0·247 ⁸⁷	70·58 ¹⁶⁰
31·1	49·833 ²⁷	37·37 ⁵³	26·673 ³¹	45·66 ⁷⁶	0·160 ⁴⁹	68·98 ¹⁸⁸
Apr. 10·1	49·806 ¹⁸	36·84 ³⁵	26·642 ¹¹	44·90 ¹⁰²	0·111 ⁴	67·10 ²¹³
20·0	49·824 ⁶⁶	36·49 ¹³	26·653 ⁵⁵	43·88 ¹²³	0·107 ⁴¹	64·97 ²³⁴
30·0	49·890 ¹¹⁵	36·36 ¹⁰	26·708 ¹⁰²	42·65 ¹⁴²	0·148 ⁸⁹	62·63 ²⁵¹
May 10·0	50·005 ¹⁶¹	36·46 ³⁶	26·810 ¹⁴³	41·23 ¹⁶¹	0·237 ¹³⁶	60·12 ²⁶²
20·0	50·166 ²⁰⁴	36·82 ⁶¹	26·953 ¹⁸⁶	39·62 ¹⁷⁹	0·373 ¹⁸⁰	57·50 ²⁶⁸
29·9	50·370 ²⁴¹	37·43 ⁸⁵	27·139 ²²⁰	37·83 ¹⁹⁰	0·553 ²¹⁹	54·82 ²⁶⁷
June 8·9	50·611 ²⁷¹	38·28 ¹⁰⁸	27·359 ²⁴⁹	35·93 ¹⁹⁷	0·772 ²⁵³	52·15 ²⁶¹
18·9	50·882 ²⁹⁴	39·36 ¹²⁹	27·608 ²⁷⁴	33·96 ²⁰⁰	1·025 ²⁸¹	49·54 ²⁴⁷
28·8	51·176 ³⁰⁸	40·65 ¹⁴⁴	27·882 ²⁸⁹	31·96 ¹⁹⁵	1·306 ²⁹⁹	47·07 ²²⁶
July 8·8	51·484 ³¹⁶	42·09 ¹⁵⁷	28·171 ²⁹⁸	30·01 ¹⁸⁶	1·605 ³¹⁰	44·81 ²⁰⁰
18·8	51·800 ³¹⁵	43·66 ¹⁶⁵	28·469 ²⁹⁹	28·15 ¹⁷²	1·915 ³¹⁵	42·81 ¹⁶⁸
28·8	52·115 ³⁰⁷	45·31 ¹⁶⁹	28·768 ²⁹¹	26·43 ¹⁵⁴	2·230 ³⁰⁹	41·13 ¹³⁰
Aug. 7·7	52·422 ²⁹³	47·00 ¹⁶⁷	29·059 ²⁷⁷	24·89 ¹³²	2·539 ²⁹⁷	39·83 ⁹⁰
17·7	52·715 ²⁷³	48·67 ¹⁶²	29·336 ²⁶¹	23·57 ¹⁰⁵	2·836 ²⁷⁹	38·93 ⁴⁶
27·7	52·988 ²⁴⁹	50·29 ¹⁵⁴	29·597 ²³⁹	22·52 ⁷⁵	3·115 ²⁵⁶	38·47 ³
Sept. 6·7	53·237 ²²²	51·83 ¹⁴²	29·836 ²¹²	21·77 ⁴⁶	3·371 ²²⁷	38·44 ⁴²
16·6	53·459 ¹⁹³	53·25 ¹²⁸	30·048 ¹⁸²	21·31 ¹⁷	3·598 ¹⁹⁵	38·86 ⁸²
26·6	53·652 ¹⁶³	54·53 ¹¹²	30·230 ¹⁵³	21·14 ¹³	3·793 ¹⁶¹	39·68 ¹¹⁹
Oct. 6·6	53·815 ¹³¹	55·65 ⁹⁶	30·383 ¹²²	21·27 ³⁸	3·954 ¹²⁶	40·87 ¹⁵¹
16·5	53·946 ¹⁰¹	56·61 ⁷⁹	30·505 ⁹²	21·65 ⁶¹	4·080 ⁹¹	42·38 ¹⁷⁶
26·5	54·047 ⁷⁰	57·40 ⁶³	30·597 ⁶²	22·26 ⁷⁷	4·171 ⁵⁵	44·14 ¹⁹²
Nov. 5·5	54·117 ³⁹	58·03 ⁴⁷	30·659 ³³	23·03 ⁹¹	4·226 ²¹	46·06 ²⁰¹
15·5	54·156 ⁹	58·50 ³¹	30·692 ¹	23·94 ¹⁰⁰	4·247 ¹²	48·07 ²⁰¹
25·4	54·165 ²¹	58·81 ¹⁶	30·693 ²⁴	24·94 ¹⁰⁴	4·235 ⁴³	50·08 ¹⁹³
Dec. 5·4	54·144 ⁵¹	58·97 ¹	30·669 ⁵³	25·98 ¹⁰³	4·192 ⁷³	52·01 ¹⁷⁸
15·4	54·093 ⁷⁸	58·98 ¹³	30·616 ⁷⁷	27·01 ⁹⁸	4·119 ¹⁰¹	53·79 ¹⁵⁶
25·3	54·015 ¹⁰⁴	58·85 ²⁷	30·539 ⁹⁹	27·99 ⁹²	4·018 ¹²⁵	55·35 ¹³⁰
35·3	53·911	58·58	30·440	28·91	3·893	56·65
Mean Place	50·308	44·32	27·327	35·28	1·147	56·47
Sec δ, Tan δ	1·061	+0·355	1·002	-0·058	1·096	-0·449
L α, L δ	+0·01	+0·3	0·00	+0·3	-0·01	+0·3
ω α, ω δ	-0·02	+0·5	0·00	+0·6	+0·02	+0·6
AUTHORITY	A. N.		A. E.		A. N.	

APPARENT PLACES OF STARS, 1923. 289

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	δ Hydri. Mag. 4·3		ξ ² Ceti. Mag. 4·3		ν Ceti. Mag. 5·0	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	h m 2 20	69° 0'	h m 2 24	8 6	h m 2 31	5 15
Jan. 0·3	22·65 ⁵⁴	57·58 ⁹⁴	4·358 ¹¹⁰	51·50 ⁶³	50·470 ¹⁰⁶	22·98 ⁷⁰
10·3	22·11 ⁵⁶	58·52 ³⁴	4·248 ¹³⁰	50·87 ⁶⁴	50·364 ¹²⁷	22·28 ⁶⁷
20·3	21·55 ⁵⁸	58·86 ²⁵	4·118 ¹⁴⁴	50·23 ⁶¹	50·237 ¹⁴²	21·61 ⁶¹
30·3	20·97 ⁵⁷	58·61 ⁸⁵	3·974 ¹⁵²	49·62 ⁵⁸	50·095 ¹⁵³	21·00 ⁵⁵
Feb. 9·2	20·40 ⁵⁶	57·76 ¹⁴⁰	3·822 ¹⁵³	49·04 ⁵³	49·942 ¹⁵⁵	20·45 ⁴⁶
19·2	19·84 ⁵¹	56·36 ¹⁹²	3·669 ¹⁴⁴	48·51 ⁴⁴	49·787 ¹⁴⁹	19·99 ³⁶
Mar. 1·2	19·33 ⁴⁷	54·44 ²³⁸	3·525 ¹²⁹	48·07 ³⁷	49·638 ¹³⁵	19·63 ²⁴
11·1	18·86 ³⁹	52·06 ²⁷⁹	3·396 ¹⁰⁶	47·70 ²²	49·503 ¹¹²	19·39 ⁸
21·1	18·47 ³²	49·27 ³¹²	3·290 ⁷⁶	47·48 ³	49·391 ⁸¹	19·31 ⁸
31·1	18·15 ²⁴	46·15 ³³⁸	3·214 ³⁵	47·45 ¹²	49·310 ⁴	19·39 ²⁸
Apr. 10·1	17·91 ¹³	42·77 ³⁵⁷	3·179 ⁶	47·57 ³²	49·266 ²	19·67 ⁴⁸
20·0	17·78 ³	39·20 ³⁶⁸	3·185 ⁵⁴	47·89 ⁵⁴	49·264 ⁴³	20·15 ⁷⁰
30·0	17·75 ⁷	35·52 ³⁷⁰	3·239 ⁹⁷	48·43 ⁷⁶	49·307 ⁸⁹	20·85 ⁹¹
May 10·0	17·82 ¹⁷	31·82 ³⁶⁶	3·336 ¹⁴³	49·19 ⁹⁸	49·396 ¹³³	21·76 ¹¹²
20·0	17·99 ²⁸	28·16 ³⁵¹	3·479 ¹⁸⁵	50·17 ¹¹⁸	49·529 ¹⁷⁶	22·88 ¹³²
29·9	18·27 ³⁶	24·65 ³³⁰	3·664 ²¹⁹	51·35 ¹³⁶	49·705 ²¹³	24·20 ¹⁴⁹
June 8·9	18·63 ⁴⁶	21·35 ²⁹⁹	3·883 ²⁵¹	52·71 ¹⁵³	49·918 ²⁴⁵	25·69 ¹⁶¹
18·9	19·09 ⁵²	18·36 ²⁶²	4·134 ²⁷⁶	54·24 ¹⁶¹	50·163 ²⁶⁹	27·30 ¹⁷⁰
28·8	19·61 ⁵⁸	15·74 ²¹⁸	4·410 ²⁹³	55·85 ¹⁷⁰	50·432 ²⁸⁷	29·00 ¹⁷⁵
July 8·8	20·19 ⁶³	13·56 ¹⁶⁷	4·703 ³⁰⁰	57·55 ¹⁷¹	50·719 ²⁹⁶	30·75 ¹⁷⁴
18·8	20·82 ⁶⁵	11·89 ¹¹¹	5·003 ³⁰²	59·26 ¹⁷⁰	51·015 ³⁰⁰	32·49 ¹⁶⁹
28·8	21·47 ⁶⁵	10·78 ⁵²	5·305 ²⁹⁵	60·06 ¹⁶¹	51·315 ²⁹⁵	34·18 ¹⁵⁸
Aug. 7·7	22·12 ⁶⁴	10·26 ⁸	5·600 ²⁸⁴	62·57 ¹⁵⁰	51·610 ²⁸⁵	35·76 ¹⁴⁴
17·7	22·76 ⁶¹	10·34 ⁶⁸	5·884 ²⁶⁷	64·07 ¹³⁰	51·895 ²⁶⁸	37·20 ¹²⁶
27·7	23·37 ⁵⁶	11·02 ¹²⁸	6·151 ²⁴⁶	65·37 ¹¹⁵	52·163 ²⁴⁸	38·46 ¹⁰³
Sept. 6·7	23·93 ⁴⁹	12·30 ¹⁸²	6·397 ²²¹	66·52 ⁹⁴	52·411 ²²⁴	39·49 ⁸¹
16·6	24·42 ⁴²	14·12 ²³⁰	6·618 ¹⁹³	67·46 ⁷³	52·635 ¹⁹⁸	40·30 ⁵⁶
26·6	24·84 ³¹	16·42 ²⁷¹	6·811 ¹⁶⁶	68·19 ⁴⁹	52·833 ¹⁷⁰	40·86 ³²
Oct. 6·6	25·15 ²²	19·13 ³⁰⁰	6·977 ¹³⁴	68·68 ²⁸	53·003 ¹⁴⁰	41·18 ¹⁰
16·5	25·37 ¹¹	22·13 ³²⁰	7·111 ¹⁰⁶	68·96 ⁶	53·143 ¹¹²	41·28 ¹¹
26·5	25·48 ¹	25·33 ³²⁶	7·217 ⁷⁸	69·02 ¹⁰	53·255 ⁸¹	41·17 ²⁹
Nov. 5·5	25·47 ¹⁰	28·59 ³²⁰	7·295 ⁴⁴	68·92 ²⁵	53·336 ⁵³	40·88 ⁴³
15·5	25·37 ²¹	31·79 ³⁰¹	7·339 ¹⁸	68·67 ³⁴	53·389 ²³	40·45 ⁵⁵
25·4	25·16 ³⁰	34·80 ²⁷¹	7·357 ¹⁴	68·33 ⁴⁶	53·412 ⁷	39·90 ⁶¹
Dec. 5·4	24·86 ³⁸	37·51 ²³¹	7·343 ⁴¹	67·87 ⁵⁴	53·405 ³⁵	39·29 ⁶⁸
15·4	24·48 ⁴⁶	39·82 ¹⁸³	7·302 ⁶⁹	67·33 ⁵⁸	53·370 ⁶³	38·61 ⁶⁸
25·3	24·02 ⁵⁰	41·65 ¹²⁸	7·233 ⁹⁴	66·75 ⁶²	53·307 ⁹⁰	37·93 ⁶⁹
35·3	23·52	42·93	7·139	66·13	53·217	37·24
Mean Place	22·38	33·94	3·739	56·48	49·840	29·13
Sec δ, Tan δ	2·792	—2·606	1·010	+0·143	1·004	+0·092
L α, L δ	—0·04	+0·3	0·00	+0·3	0·00	+0·3
ω α, ω δ	+0·14	+0·6	—0·01	+0·6	—0·01	+0·6

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290 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	δ Ceti. Mag. 4.0			γ Ceti. Mag. 3.6			π Ceti. Mag. 4.4		
	R. A.		Dec. N. or S.	R. A.		Dec. N.	R. A.		Dec. S.
	h m	° ' "		h m	° ' "		h m	° ' "	
	2 35	0 0		2 39	2 54		2 40	14 10	
Jan. 0.3	32.648 ¹⁰⁶	17.97 ⁸⁰		19.152 ¹⁰³	36.27 ⁷⁶		27.920 ¹¹⁵	74.84 ¹¹²	
10.3	32.542 ¹²⁷	18.77 ⁷⁷		19.049 ¹²⁵	35.51 ⁷⁰		27.805 ¹³⁸	75.96 ⁸⁹	
20.3	32.415 ¹⁴³	19.54 ⁶²		18.924 ¹⁴²	34.81 ⁶³		27.667 ¹⁵³	76.85 ⁶⁶	
30.3	32.272 ¹⁵⁴	20.16 ⁵¹		18.782 ¹⁵⁴	34.18 ⁵³		27.514 ¹⁶⁴	77.51 ³⁷	
Feb. 9.2	32.118 ¹⁵⁵	20.67 ³⁶		18.628 ¹⁵⁷	33.65 ⁴²		27.350 ¹⁶⁷	77.88 ⁸	
19.2	31.963 ¹⁴⁹	21.03 ²⁰		18.471 ¹⁵²	33.23 ²⁹		27.183 ¹⁶³	77.96 ¹⁹	
Mar. 1.2	31.814 ¹³⁷	21.23 ³		18.319 ¹⁴⁰	32.94 ¹⁵		27.020 ¹⁴⁸	77.77 ⁵⁰	
11.1	31.677 ¹¹⁴	21.26 ¹⁴		18.179 ¹¹⁷	32.79 ¹		26.872 ¹²⁵	77.27 ⁷⁶	
21.1	31.563 ⁸³	21.12 ³⁶		18.062 ⁸⁸	32.80 ²⁰		26.747 ⁹⁶	76.51 ¹⁰⁴	
31.1	31.480 ⁴⁹	20.76 ⁵⁸		17.974 ⁵²	33.00 ³⁹		26.651 ⁶¹	75.47 ¹³²	
Apr. 10.1	31.431 ⁷	20.18 ⁷⁶		17.922 ⁹	33.39 ⁶¹		26.590 ²⁰	74.15 ¹⁵⁷	
20.0	31.424 ³⁷	19.42 ¹⁰²		17.913 ³⁴	34.00 ⁸²		26.570 ²⁴	72.58 ¹⁷⁸	
30.0	31.461 ⁸²	18.40 ¹²⁴		17.947 ⁸⁰	34.82 ¹⁰⁴		26.594 ⁷²	70.80 ¹⁹⁹	
May 10.0	31.543 ¹²⁸	17.16 ¹³⁸		18.027 ¹²⁵	35.86 ¹²⁴		26.666 ¹¹⁷	68.81 ²¹⁵	
20.0	31.671 ¹⁷⁰	15.78 ¹⁵⁸		18.152 ¹⁶⁸	37.10 ¹⁴²		26.783 ¹⁶⁰	66.66 ²²⁷	
29.9	31.841 ²⁰⁶	14.20 ¹⁷⁴		18.320 ²⁰⁵	38.52 ¹⁵⁷		26.943 ¹⁹⁹	64.39 ²³⁴	
June 8.9	32.047 ²³⁷	12.46 ¹⁸¹		18.525 ²³⁸	40.09 ¹⁶⁹		27.142 ²³⁴	62.05 ²³³	
18.9	32.284 ²⁶⁴	10.65 ¹⁸⁶		18.763 ²⁶⁴	41.78 ¹⁷⁶		27.376 ²⁵⁹	59.72 ²²⁹	
28.8	32.548 ²⁸³	8.79 ¹⁸⁸		19.027 ²⁸²	43.54 ¹⁷⁹		27.635 ²⁸⁰	57.43 ²¹⁸	
July 8.8	32.831 ²⁹⁴	6.91 ¹⁸⁵		19.309 ²⁹⁴	45.33 ¹⁷⁶		27.915 ²⁹⁴	55.25 ²⁰¹	
18.8	33.125 ²⁹⁷	5.06 ¹⁶⁹		19.603 ²⁹⁷	47.09 ¹⁶⁹		28.209 ³⁰⁰	53.24 ¹⁷⁷	
28.8	33.422 ²⁹³	3.37 ¹⁵⁶		19.900 ²⁹⁴	48.78 ¹⁵⁶		28.509 ²⁹⁷	51.47 ¹⁵¹	
Aug. 7.7	33.715 ²⁸⁴	1.81 ¹³⁵		20.194 ²⁸⁵	50.34 ¹⁴⁰		28.806 ²⁹⁰	49.96 ¹¹⁷	
17.7	33.999 ²⁶⁷	0.46 ¹¹⁴		20.479 ²⁷⁰	51.74 ¹¹⁸		29.096 ²⁷⁴	48.79 ⁸²	
27.7	34.266 ²⁵⁰	0.68 ⁸⁷		20.749 ²⁵¹	52.92 ⁹⁶		29.370 ²⁵⁷	47.97 ⁴²	
Sept. 6.7	34.516 ²²⁶	1.55 ⁶⁰		21.000 ²²⁸	53.88 ⁷⁰		29.627 ²³¹	47.55 ⁵	
16.6	34.742 ²⁰⁰	2.15 ³²		21.228 ²⁰²	54.58 ⁴⁴		29.858 ²⁰⁷	47.50 ³¹	
26.6	34.942 ¹⁷¹	2.47 ⁴		21.430 ¹⁷⁵	55.02 ¹⁸		30.065 ¹⁷⁴	47.81 ⁶⁸	
Oct. 6.6	35.113 ¹⁴³	2.51 ¹⁹		21.605 ¹⁴⁶	55.20 ⁵		30.239 ¹⁴⁵	48.49 ⁹⁸	
16.5	35.256 ¹¹³	2.32 ⁴³		21.751 ¹¹⁸	55.15 ²⁷		30.384 ¹¹⁴	49.47 ¹²⁴	
26.5	35.369 ⁸⁵	1.89 ⁶²		21.869 ⁸⁸	54.88 ⁴⁴		30.498 ⁸²	50.71 ¹⁴³	
Nov. 5.5	35.454 ⁵³	1.27 ⁷⁵		21.957 ⁵⁸	54.44 ⁵⁹		30.580 ⁴⁹	52.14 ¹⁵⁸	
15.5	35.507 ²³	0.52 ⁸⁶		22.015 ²⁹	53.85 ⁷⁰		30.629 ¹⁸	53.72 ¹⁶²	
25.4	35.530 ⁸	0.34 ⁹⁰		22.044 ¹	53.15 ⁷⁶		30.647 ¹²	55.34 ¹⁶²	
Dec. 5.4	35.522 ³⁴	1.24 ⁹³		22.043 ³¹	52.39 ⁸⁰		30.635 ⁴⁴	56.96 ¹⁵⁵	
15.4	35.488 ⁶³	2.17 ⁹¹		22.012 ⁶⁰	51.59 ⁷⁹		30.591 ⁷²	58.51 ¹⁴¹	
25.4	35.425 ⁸⁹	3.08 ⁸⁴		21.952 ⁸⁶	50.80 ⁷⁶		30.519 ⁹⁹	59.92 ¹²²	
35.3	35.336	3.92		21.866	50.04		30.420	61.14	
Mean Place	32.048	10.05		18.507	43.41		27.392	62.55	
Sec δ , Tan δ	1.000	0.000		1.001	+0.051		1.031	-0.253	
L α , L δ	0.00	+0.3		0.00	+0.3		0.00	+0.3	
ω α , ω δ	0.00	+0.6		0.00	+0.6		+0.01	+0.6	
AUTHORITY	A. E.			A. N.			A. E.		

APPARENT PLACES OF STARS, 1923. 291

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Fornacis. Mag. 4.5		σ Arietis. Mag. 5.5		ϵ Arietis (<i>mean</i>). Mag. 4.6	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	^h 2 45 ^s	[°] 32 43 [']	^h 2 47 ^s	[°] 14 45 [']	^h 2 54 ^s	[°] 21 1 [']
Jan. 0.3	52.583 ₁₅₄	60.77 ₁₃₉	15.087 ₁₀₁	51.93 ₄₂	49.218 ₁₀₂	57.21 ₁₉
10.3	52.429 ₁₇₈	62.16 ₁₀₀	14.986 ₁₂₆	51.51 ₄₈	49.116 ₁₂₉	57.02 ₃₂
20.3	52.251 ₁₉₄	63.16 ₅₈	14.860 ₁₄₆	51.03 ₅₃	48.987 ₁₅₂	56.70 ₄₃
30.3	52.057 ₂₀₅	63.74 ₁₆	14.714 ₁₅₉	50.50 ₅₆	48.835 ₁₆₇	56.27 ₅₂
Feb. 9.2	51.852 ₂₀₇	63.90 ₂₈	14.555 ₁₆₅	49.94 ₅₈	48.668 ₁₇₄	55.75 ₆₂
19.2	51.645 ₂₀₁	63.62 ₇₀	14.390 ₁₆₁	49.36 ₅₈	48.494 ₁₇₀	55.13 ₆₈
Mar. 1.2	51.444 ₁₈₄	62.92 ₁₁₂	14.229 ₁₄₈	48.78 ₅₄	48.324 ₁₅₉	54.45 ₇₀
11.1	51.260 ₁₆₂	61.80 ₁₅₀	14.081 ₁₂₆	48.24 ₄₈	48.165 ₁₃₇	53.75 ₇₀
21.1	51.098 ₁₂₈	60.30 ₁₈₅	13.955 ₉₆	47.76 ₃₈	48.028 ₁₀₅	53.05 ₆₆
31.1	50.970 ₉₁	58.45 ₂₁₆	13.859 ₅₈	47.38 ₂₄	47.923 ₆₇	52.39 ₅₆
Apr. 10.1	50.879 ₄	56.29 ₂₄₅	13.801 ₁₄	47.14 ₈	47.856 ₂₂	51.83 ₄₄
20.0	50.835 ₂₂	53.84 ₂₆₆	13.787 ₃₁	47.06 ₁₁	47.834 ₂₅	51.39 ₂₇
30.0	50.837 ₅₄	51.18 ₂₈₄	13.818 ₇₉	47.17 ₃₁	47.859 ₇₅	51.12 ₇
May 10.0	50.891 ₁₀₇	48.34 ₂₉₇	13.897 ₁₂₆	47.48 ₅₄	47.934 ₁₂₄	51.05 ₁₄
20.0	50.998 ₁₅₃	45.37 ₂₉₉	14.023 ₁₇₀	48.02 ₇₅	48.058 ₁₇₀	51.19 ₃₇
29.9	51.151 ₁₉₉	42.38 ₂₉₈	14.193 ₂₁₀	48.77 ₉₆	48.228 ₂₁₀	51.56 ₆₀
June 8.9	51.350 ₂₃₈	39.40 ₂₈₈	14.403 ₂₄₄	49.73 ₁₁₄	48.438 ₂₄₇	52.16 ₈₁
18.9	51.588 ₂₇₂	36.52 ₂₇₁	14.647 ₂₇₀	50.87 ₁₃₀	48.685 ₂₇₅	52.97 ₁₀₀
28.8	51.860 ₂₉₈	33.81 ₂₄₇	14.917 ₂₉₀	52.17 ₁₄₁	48.960 ₂₉₇	53.97 ₁₁₇
July 8.8	52.158 ₃₁₅	31.34 ₂₁₇	15.207 ₃₀₂	53.58 ₁₅₀	49.257 ₃₀₉	55.14 ₁₃₁
18.8	52.473 ₃₂₆	29.17 ₁₇₉	15.509 ₃₀₇	55.08 ₁₅₄	49.566 ₃₁₆	56.45 ₁₃₉
28.8	52.799 ₃₂₇	27.38 ₁₃₇	15.816 ₃₀₅	56.62 ₁₅₃	49.882 ₃₁₅	57.84 ₁₄₆
Aug. 7.7	53.126 ₃₂₃	26.01 ₉₁	16.121 ₂₉₆	58.15 ₁₄₇	50.197 ₃₀₇	59.30 ₁₄₆
17.7	53.449 ₃₀₇	25.10 ₄₀	16.417 ₂₈₂	59.62 ₁₃₉	50.504 ₂₉₄	60.76 ₁₄₄
27.7	53.756 ₂₈₅	24.70 ₉	16.699 ₂₆₃	61.01 ₁₂₇	50.798 ₂₇₅	62.20 ₁₃₇
Sept. 6.7	54.041 ₂₆₁	24.79 ₆₀	16.962 ₂₄₂	62.28 ₁₁₁	51.073 ₂₅₄	63.57 ₁₂₉
16.6	54.302 ₂₂₈	25.39 ₁₀₆	17.204 ₂₁₆	63.39 ₉₄	51.327 ₂₃₀	64.86 ₁₁₇
26.6	54.530 ₁₉₆	26.45 ₁₄₉	17.420 ₁₉₀	64.33 ₇₈	51.557 ₂₀₄	66.03 ₁₀₅
Oct. 6.6	54.726 ₁₅₉	27.94 ₁₈₇	17.610 ₁₆₂	65.11 ₅₉	51.761 ₁₇₅	67.08 ₉₁
16.5	54.885 ₁₂₀	29.81 ₂₁₄	17.772 ₁₃₂	65.70 ₄₃	51.936 ₁₄₆	67.99 ₇₇
26.5	55.005 ₈₁	31.95 ₂₃₅	17.904 ₁₀₃	66.13 ₂₆	52.082 ₁₁₅	68.76 ₆₃
Nov. 5.5	55.086 ₄₁	34.30 ₂₄₅	18.007 ₇₃	66.39 ₁₃	52.197 ₈₅	69.39 ₅₁
15.5	55.127 ₂	36.75 ₂₄₆	18.080 ₄₂	66.52 ₀	52.282 ₅₂	69.90 ₃₇
25.4	55.129 ₃₆	39.21 ₂₃₆	18.122 ₁₀	66.52 ₁₁	52.334 ₁₈	70.27 ₂₆
Dec. 5.4	55.093 ₇₀	41.57 ₂₂₀	18.132 ₂₁	66.41 ₂₀	52.352 ₁₆	70.53 ₁₄
15.4	55.023 ₁₀₄	43.77 ₁₉₁	18.111 ₅₃	66.21 ₂₉	52.336 ₄₉	70.67 ₂
25.4	54.919 ₁₃₇	45.68 ₁₆₁	18.058 ₈₃	65.92 ₃₅	52.287 ₈₂	70.69 ₁₀
35.3	54.782	47.29	17.975	65.57	52.205	70.59
Mean Place	52.089	43.46	14.280	55.80	48.293	59.62
Sec δ , Tan δ	1.189	-0.643	1.034	+0.264	1.071	+0.385
L α , L δ	-0.01	+0.3	0.00	+0.3	+0.01	+0.3
ω α , ω δ	+0.03	+0.7	-0.01	+0.7	-0.02	+0.7

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292 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	θ Eridani. Mag. 3.1		α Ceti. Mag. 2.8		γ Persei. Mag. 3.1	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	^h ^m 2 55	[°] ['] 40 36	^h ^m 2 58	[°] ['] 3 47	^h ^m 2 59	[°] ['] 53 12
Jan. 0.3	21.193 ¹⁸²	64.46 ¹⁵⁵	15.870 ⁹⁶	11.07 ⁷⁶	14.363 ¹⁹²	27.23 ¹⁰¹
10.3	21.011 ²⁰⁷	66.01 ¹⁰⁹	15.774 ¹²¹	10.31 ⁷⁰	14.171 ²³⁷	28.24 ⁶¹
20.3	20.804 ²²⁸	67.10 ⁶²	15.653 ¹⁴²	9.61 ⁶¹	13.934 ²⁶⁹	28.85 ¹⁸
30.3	20.576 ²⁴⁰	67.72 ¹³	15.511 ¹⁵⁵	9.00 ⁵⁴	13.665 ²⁹³	29.03 ²³
Feb. 9.2	20.336 ²⁴²	67.85 ³⁵	15.356 ¹⁶¹	8.46 ⁴²	13.372 ³⁰⁰	28.80 ⁶⁵
19.2	20.094 ²³⁶	67.50 ⁸²	15.195 ¹⁶⁰	8.04 ³¹	13.072 ²⁹³	28.15 ¹⁰⁴
Mar. 1.2	19.858 ²²¹	66.68 ¹²⁹	15.035 ¹⁴⁸	7.73 ¹⁸	12.779 ²⁷²	27.11 ¹³⁹
11.1	19.637 ¹⁹⁴	65.39 ¹⁶⁹	14.887 ¹³¹	7.55 ¹	12.507 ²³⁴	25.72 ¹⁶⁶
21.1	19.443 ¹⁶¹	63.70 ²⁰⁸	14.756 ¹⁰¹	7.54 ¹³	12.273 ¹⁸⁵	24.06 ¹⁸⁸
31.1	19.282 ¹²¹	61.62 ²⁴¹	14.655 ⁶⁸	7.67 ³⁵	12.088 ¹²⁴	22.18 ¹⁹⁹
Apr. 10.1	19.161 ⁷²	59.21 ²⁷¹	14.587 ²⁶	8.02 ⁵⁶	11.964 ⁵⁶	20.19 ²⁰³
20.0	19.089 ¹⁹	56.50 ²⁹⁴	14.561 ¹⁵	8.58 ⁷³	11.908 ¹⁷	18.16 ¹⁹⁸
30.0	19.070 ³⁵	53.56 ³¹⁰	14.576 ⁶⁴	9.31 ⁹⁵	11.925 ⁹³	16.18 ¹⁸⁵
May 10.0	19.105 ⁹¹	50.46 ³²⁰	14.640 ¹⁰⁸	10.26 ¹¹⁶	12.018 ¹⁶⁴	14.33 ¹⁶⁶
20.0	19.196 ¹⁴²	47.26 ³²⁴	14.748 ¹⁵²	11.42 ¹³²	12.182 ²³²	12.67 ¹⁴¹
29.9	19.338 ¹⁹⁵	44.02 ³¹⁹	14.900 ¹⁹²	12.74 ¹⁴⁸	12.414 ²⁹⁴	11.26 ¹⁰⁹
June 8.9	19.533 ²³⁹	40.83 ³⁰⁸	15.092 ²²²	14.22 ¹⁶¹	12.708 ³⁴⁸	10.17 ⁷⁹
18.9	19.772 ²⁷⁹	37.75 ²⁸⁵	15.314 ²⁵³	15.83 ¹⁶⁷	13.056 ³⁹²	9.38 ⁴⁰
28.8	20.051 ³⁰⁸	34.90 ²⁵⁹	15.567 ²⁷⁴	17.50 ¹⁷³	13.448 ⁴²³	8.98 ²
July 8.8	20.359 ³³²	32.31 ²²⁴	15.841 ²⁹¹	19.23 ¹⁷¹	13.871 ⁴⁴⁵	8.96 ³¹
18.8	20.691 ³⁴⁶	30.07 ¹⁸¹	16.132 ²⁹⁵	20.94 ¹⁶⁵	14.316 ⁴⁵⁶	9.27 ⁶⁷
28.8	21.037 ³⁵²	28.26 ¹³⁶	16.427 ²⁹⁵	22.59 ¹⁵⁴	14.772 ⁴⁵⁸	9.94 ¹⁰³
Aug. 7.7	21.389 ³⁴⁷	26.90 ⁸³	16.722 ²⁸⁸	24.13 ¹³⁶	15.230 ⁴⁵⁰	10.97 ¹³¹
17.7	21.736 ³³⁵	26.07 ³¹	17.010 ²⁷⁷	25.49 ¹¹⁸	15.680 ⁴³⁴	12.28 ¹⁶⁰
27.7	22.071 ³¹⁶	25.76 ²⁵	17.287 ²⁶¹	26.67 ⁹⁵	16.114 ⁴¹⁰	13.88 ¹⁸⁴
Sept. 6.7	22.387 ²⁸⁷	26.01 ⁷⁸	17.548 ²⁴²	27.62 ⁷¹	16.524 ³⁸⁰	15.72 ²⁰³
16.6	22.674 ²⁵⁶	26.79 ¹³⁰	17.790 ²¹⁷	28.33 ⁴⁵	16.904 ³⁴⁷	17.75 ²²⁰
26.6	22.930 ²²⁰	28.09 ¹⁷⁶	18.007 ¹⁹¹	28.78 ²²	17.251 ³⁰⁸	19.95 ²³¹
Oct. 6.6	23.150 ¹⁷⁷	29.85 ²¹⁵	18.198 ¹⁶⁶	29.00 ⁴	17.559 ²⁶⁵	22.26 ²³⁹
16.5	23.327 ¹³⁵	32.00 ²⁴⁶	18.364 ¹³⁶	28.96 ²³	17.824 ²¹⁹	24.65 ²⁴³
26.5	23.462 ⁹¹	34.46 ²⁶⁵	18.500 ¹⁰⁸	28.73 ⁴⁴	18.043 ¹⁷⁰	27.08 ²⁴²
Nov. 5.5	23.553 ⁴⁵	37.11 ²⁷⁷	18.608 ⁷⁸	28.29 ⁵⁹	18.213 ¹¹⁹	29.50 ²³⁵
15.5	23.598 ²	39.88 ²⁷⁶	18.686 ⁴⁸	27.70 ⁶⁶	18.332 ⁶³	31.85 ²²⁶
25.4	23.596 ⁴⁵	42.64 ²⁶⁶	18.734 ¹⁵	27.04 ⁷⁵	18.395 ⁷	34.11 ²⁰⁹
Dec. 5.4	23.551 ⁸⁵	45.30 ²⁴⁴	18.749 ¹⁵	26.29 ⁷⁹	18.402 ⁴⁹	36.20 ¹⁸⁴
15.4	23.466 ¹²⁴	47.74 ²¹⁴	18.734 ⁴⁷	25.50 ⁷⁸	18.353 ¹⁰⁸	38.04 ¹⁵⁸
25.4	23.342 ¹⁶⁰	49.88 ¹⁷⁸	18.687 ⁷⁶	24.72 ⁷⁴	18.245 ¹⁶¹	39.62 ¹²⁶
35.3	23.182	51.66	18.611	23.98	18.084	40.88
Mean Place	20.624	45.40	15.125	18.58	12.522	22.13
Sec δ , Tan δ	1.317	-0.858	1.002	+0.066	1.670	+1.337
L α , L δ	-0.02	+0.3	0.00	+0.3	+0.02	+0.3
ω α , ω δ	+0.04	+0.7	0.00	+0.7	-0.06	+0.7
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 293

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	μ Horologii. Mag. 5.2		β Persei. Mag. 2.1-3.2		δ Arietis. Mag. 4.5	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	^h 3 ^m I	^o 60 ['] I	^h 3 ^m 3	^o 40 ['] 39	^h 3 ^m 7	^o 19 ['] 26
Jan. 0.4	48.43 ³⁴	91.00 ¹⁶²	10.463 ¹³⁶	38.57 ⁵³	14.306 ⁹⁴	8.17 ²³
10.3	48.09 ³⁷	92.62 ¹⁰⁵	10.327 ¹⁶⁸	39.10 ²⁸	14.212 ¹²²	7.94 ³¹
20.3	47.72 ³⁹	93.67 ⁵⁰	10.159 ¹⁹⁹	39.38 ⁵	14.090 ¹⁴⁹	7.63 ⁴⁰
30.3	47.33 ⁴¹	94.17 ¹⁰	9.960 ²¹⁵	39.33 ³²	13.941 ¹⁶²	7.23 ⁴⁹
Feb. 9.2	46.92 ⁴¹	94.07 ⁶⁵	9.745 ²²⁶	39.01 ⁶³	13.779 ¹⁷³	6.74 ⁵⁶
19.2	46.51 ⁴⁰	93.42 ¹²⁰	9.519 ²²⁵	38.38 ⁹²	13.606 ¹⁷³	6.18 ⁵⁹
Mar. 1.2	46.11 ³⁸	92.22 ¹⁷⁰	9.294 ²⁰⁸	37.46 ¹¹²	13.433 ¹⁶³	5.59 ⁶³
11.2	45.73 ³³	90.52 ²¹⁷	9.086 ¹⁸⁰	36.34 ¹³²	13.270 ¹⁴³	4.96 ⁵⁹
21.1	45.40 ²⁹	88.35 ²⁵⁵	8.906 ¹⁴¹	35.02 ¹⁴⁴	13.127 ¹¹⁴	4.37 ⁵⁶
31.1	45.11 ²³	85.80 ²⁹³	8.765 ⁹⁶	33.58 ¹⁴⁷	13.013 ⁷⁶	3.81 ⁴⁵
Apr. 10.1	44.88 ¹⁶	82.87 ³²⁰	8.669 ⁴²	32.11 ¹⁴⁴	12.937 ³⁴	3.36 ³⁵
20.1	44.72 ⁹	79.67 ³⁴²	8.627 ¹⁸	30.67 ¹³⁵	12.903 ¹³	3.01 ¹⁸
30.0	44.63 ¹	76.25 ³⁵⁴	8.645 ⁷⁹	29.32 ¹²³	12.916 ⁶²	2.83 ²
May 10.0	44.62 ⁷	72.71 ³⁶¹	8.724 ¹³⁶	28.00 ¹⁰¹	12.978 ¹¹²	2.85 ²⁰
20.0	44.69 ¹⁴	69.10 ³⁵⁸	8.860 ¹⁹⁰	27.08 ⁷⁹	13.090 ¹⁵⁶	3.05 ⁴³
29.9	44.83 ²²	65.52 ³⁴⁷	9.050 ²⁴¹	26.29 ⁴⁹	13.246 ¹⁹⁸	3.48 ⁶²
June 8.9	45.05 ²⁹	62.05 ³²⁸	9.291 ²⁸⁶	25.80 ²²	13.444 ²³⁷	4.10 ⁸²
18.9	45.34 ³⁵	58.77 ³⁰¹	9.577 ³²¹	25.58 ¹⁰	13.681 ²⁶⁴	4.92 ¹⁰²
28.9	45.69 ⁴⁰	55.76 ²⁶⁵	9.898 ³⁴⁷	25.68 ⁴⁰	13.945 ²⁸⁸	5.94 ¹¹⁵
July 8.8	46.09 ⁴⁴	53.11 ²²¹	10.245 ³⁶⁶	26.08 ⁶⁵	14.233 ³⁰³	7.09 ¹²⁸
18.8	46.53 ⁴⁷	50.90 ¹⁷³	10.611 ³⁷⁴	26.73 ⁹¹	14.536 ³¹¹	8.37 ¹³⁶
28.8	47.00 ⁴⁹	49.17 ¹¹⁷	10.985 ³⁷⁵	27.64 ¹¹⁶	14.847 ³¹³	9.73 ¹⁴⁰
Aug. 7.8	47.49 ⁴⁹	48.00 ⁵⁸	11.360 ³⁶⁹	28.80 ¹³⁸	15.160 ³⁰⁷	11.13 ¹³⁸
17.7	47.98 ⁴⁷	47.42 ²	11.729 ³⁵⁵	30.18 ¹⁵²	15.467 ²⁹⁵	12.51 ¹³⁶
27.7	48.45 ⁴⁵	47.44 ⁶⁴	12.084 ³³⁶	31.70 ¹⁶⁶	15.762 ²⁸⁰	13.87 ¹²⁶
Sept. 6.7	48.90 ⁴¹	48.08 ¹²²	12.420 ³¹⁴	33.36 ¹⁷⁶	16.042 ²⁶¹	15.13 ¹¹⁹
16.7	49.31 ³⁷	49.30 ¹⁷⁹	12.734 ²⁸⁴	35.12 ¹⁸³	16.303 ²³⁷	16.32 ¹⁰⁵
26.6	49.68 ³¹	51.09 ²²⁸	13.018 ²⁵⁵	36.95 ¹⁸³	16.540 ²¹³	17.37 ⁹²
Oct. 6.6	49.99 ²⁴	53.37 ²⁶⁷	13.273 ²²¹	38.78 ¹⁸⁵	16.753 ¹⁸⁵	18.29 ⁷⁸
16.6	50.23 ¹⁸	56.04 ²⁹⁸	13.494 ¹⁸⁵	40.63 ¹⁸¹	16.938 ¹⁵⁷	19.07 ⁶⁴
26.5	50.41 ¹⁰	59.02 ³¹⁸	13.679 ¹⁴⁹	42.44 ¹⁷⁶	17.095 ¹²⁹	19.71 ⁴⁹
Nov. 5.5	50.51 ²	62.20 ³²⁵	13.828 ¹⁰⁹	44.20 ¹⁶⁸	17.224 ⁹⁶	20.20 ³⁸
15.5	50.53 ⁴	65.45 ³¹⁸	13.937 ⁶⁸	45.88 ¹⁵⁵	17.320 ⁶⁵	20.58 ²⁸
25.5	50.49 ¹³	68.63 ³⁰³	14.005 ²³	47.43 ¹³⁹	17.385 ³²	20.86 ¹⁶
Dec. 5.4	50.36 ¹⁹	71.66 ²⁷⁴	14.028 ²⁰	48.82 ¹²³	17.417 ⁵	21.02 ⁴
15.4	50.17 ²⁴	74.40 ²³⁴	14.008 ⁶⁵	50.05 ¹⁰¹	17.412 ³⁹	21.06 ⁴
25.4	49.93 ³¹	76.74 ¹⁹¹	13.943 ¹⁰⁷	51.06 ⁷⁶	17.373 ⁷²	21.02 ¹⁴
35.4	49.62	78.65	13.836	51.82	17.301	20.88
Mean Place	47.63	68.80	9.095	36.35	13.351	11.58
Sec δ , Tan δ	2.003	-1.735	1.317	+0.857	1.060	+0.353
L α , L δ	-0.03	+0.3	+0.02	+0.3	+0.01	+0.3
ω α , ω δ	+0.08	+0.7	-0.04	+0.7	-0.02	+0.7
AUTHORITY	A. E.		A. E.		A. E.	

294 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	τ^1 Arietis. Mag. 5.2			α Persei. Mag. 1.9			σ Tauri. Mag. 3.8		
	R. A.		Dec. N.	R. A.		Dec. N.	R. A.		Dec. N.
	h	m	°	h	m	°	h	m	°
	3	16	20	3	18	49	3	20	8
	s		'	s		'	s		'
Jan. 0.4	47.703	87	9.97	50.720	155	21.17	40.908	84	25.12
10.3	47.616	120	9.83	50.565	197	22.20	40.824	110	24.53
20.3	47.496	146	9.59	50.368	236	22.89	40.714	139	23.95
30.3	47.350	166	9.25	50.132	261	23.17	40.575	155	23.41
Feb. 9.2	47.184	177	8.81	49.871	277	23.09	40.420	166	22.89
19.2	47.007	178	8.30	49.594	273	22.62	40.254	168	22.44
Mar. 1.2	46.829	169	7.72	49.321	262	21.82	40.086	164	22.06
11.2	46.660	151	7.11	49.059	230	20.68	39.922	144	21.75
21.1	46.509	123	6.49	48.829	187	19.26	39.778	119	21.55
31.1	46.386	86	5.90	48.642	135	17.65	39.659	86	21.49
Apr. 10.1	46.300	44	5.38	48.507	75	15.89	39.573	47	21.57
20.1	46.256	4	4.96	48.432	11	14.07	39.526	2	21.81
30.0	46.260	53	4.70	48.421	63	12.30	39.524	44	22.24
May 10.0	46.313	102	4.60	48.484	129	10.57	39.568	91	22.86
20.0	46.415	150	4.70	48.613	193	9.04	39.659	134	23.66
29.9	46.565	192	5.00	48.806	256	7.72	39.793	176	24.67
June 8.9	46.757	230	5.51	49.062	306	6.67	39.969	214	25.82
18.9	46.987	261	6.22	49.368	349	5.91	40.183	241	27.14
28.9	47.248	286	7.11	49.717	383	5.46	40.424	267	28.54
July 8.8	47.534	302	8.16	50.100	410	5.37	40.691	285	30.03
18.8	47.836	312	9.34	50.510	423	5.59	40.976	294	31.55
28.8	48.148	314	10.60	50.933	430	6.13	41.270	297	33.05
Aug. 7.8	48.462	309	11.92	51.363	425	6.96	41.567	293	34.50
17.7	48.771	301	13.26	51.788	414	8.09	41.860	286	35.83
27.7	49.072	286	14.57	52.202	400	9.44	42.146	271	37.02
Sept. 6.7	49.358	267	15.82	52.602	372	11.01	42.417	257	38.03
16.6	49.625	245	16.98	52.974	345	12.79	42.674	234	38.85
26.6	49.870	223	18.04	53.319	312	14.73	42.908	213	39.46
Oct. 6.6	50.093	196	18.98	53.631	276	16.74	43.121	187	39.84
16.6	50.289	169	19.79	53.907	236	18.86	43.308	161	40.03
26.5	50.458	139	20.47	54.143	192	20.99	43.469	132	40.00
Nov. 5.5	50.597	109	21.03	54.335	145	23.16	43.601	103	39.83
15.5	50.706	75	21.48	54.480	96	25.28	43.704	74	39.52
25.5	50.781	40	21.81	54.576	41	27.33	43.778	39	39.08
Dec. 5.4	50.821	6	22.05	54.617	13	29.24	43.817	6	38.57
15.4	50.827	32	22.18	54.604	68	31.00	43.823	28	38.02
25.4	50.795	66	22.22	54.536	123	32.49	43.795	61	37.45
35.4	50.729		22.16	54.413		33.74	43.734		36.88
Mean Place	46.690		13.46	48.964		18.15	40.019		31.99
Sec δ , Tan δ	1.070		+0.381	1.543		+1.175	1.012		+0.154
L α , L δ	+0.01		+0.3	+0.02		+0.3	0.00		+0.3
ω α , ω δ	-0.02		+0.8	-0.05		+0.8	-0.01		+0.8
AUTHORITY				A. E.			A. E.		

APPARENT PLACES OF STARS, 1923. 295

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	♋ Tauri. Mag. +3		♋ Eridani. Mag. 3·8		45 G. Horologii. Mag. 5·6	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	^h ^m 3 26	[°] ['] 12 40	^h ^m 3 29	[°] ['] 9 42	^h ^m 3 30	[°] ['] 50 38
Jan. 0·4	38·114 ₈₂	19·76 ₄₅	18·885 ₉₂	76·54 ₁₂₄	17·691 ₂₁₈	42·06 ₁₉₅
10·3	38·032 ₁₀₉	19·31 ₄₇	18·793 ₁₂₁	77·78 ₁₀₁	17·473 ₂₅₇	44·01 ₁₄₈
20·3	37·923 ₁₃₇	18·84 ₄₆	18·672 ₁₄₆	78·79 ₈₀	17·216 ₂₈₇	45·49 ₉₅
30·3	37·786 ₁₅₆	18·38 ₄₇	18·526 ₁₆₃	79·59 ₅₅	16·929 ₃₀₈	46·44 ₄₂
Feb. 9·3	37·630 ₁₇₀	17·91 ₄₆	18·363 ₁₇₄	80·14 ₃₂	16·621 ₃₁₉	46·86 ₁₂
19·2	37·460 ₁₇₂	17·45 ₄₃	18·189 ₁₇₆	80·46 ₆	16·302 ₃₁₈	46·74 ₆₅
Mar. 1·2	37·288 ₁₆₇	17·02 ₃₈	18·013 ₁₆₉	80·52 ₂₀	15·984 ₃₀₅	46·09 ₁₁₆
11·2	37·121 ₁₄₇	16·64 ₃₂	17·844 ₁₅₈	80·32 ₄₈	15·679 ₂₈₃	44·93 ₁₆₄
21·2	36·974 ₁₂₅	16·32 ₂₃	17·686 ₁₃₁	79·84 ₇₁	15·396 ₂₄₉	43·29 ₂₀₈
31·1	36·849 ₉₀	16·09 ₁₂	17·555 ₉₇	79·13 ₉₉	15·147 ₂₀₄	41·21 ₂₄₆
Apr. 10·1	36·759 ₅₄	15·97 ₅	17·458 ₆₂	78·14 ₁₂₃	14·943 ₁₅₃	38·75 ₂₇₉
20·1	36·705 ₅	16·02 ₁₉	17·396 ₁₈	76·91 ₁₄₅	14·790 ₉₅	35·96 ₃₀₇
30·0	36·700 ₃₉	16·21 ₃₉	17·378 ₂₈	75·46 ₁₆₆	14·695 ₃₃	32·89 ₃₂₈
May 10·0	36·739 ₈₉	16·60 ₅₅	17·406 ₇₃	73·80 ₁₈₅	14·662 ₃₂	29·61 ₃₄₁
20·0	36·828 ₁₃₁	17·15 ₇₈	17·479 ₁₁₇	71·95 ₁₉₉	14·694 ₉₆	26·20 ₃₄₆
30·0	36·959 ₁₇₆	17·93 ₉₄	17·596 ₁₅₈	69·96 ₂₀₉	14·790 ₁₅₇	22·74 ₃₄₅
June 8·9	37·135 ₂₀₈	18·87 ₁₀₇	17·754 ₁₉₄	67·87 ₂₁₅	14·947 ₂₁₅	19·29 ₃₃₂
18·9	37·343 ₂₄₄	19·94 ₁₂₁	17·948 ₂₂₈	65·72 ₂₁₅	15·162 ₂₆₇	15·97 ₃₁₄
28·9	37·587 ₂₆₇	21·15 ₁₃₁	18·176 ₂₅₄	63·57 ₂₁₁	15·429 ₃₁₁	12·83 ₂₈₅
July 8·9	37·854 ₂₈₇	22·46 ₁₃₉	18·430 ₂₇₄	61·46 ₁₉₆	15·740 ₃₄₈	9·98 ₂₅₀
18·8	38·141 ₂₉₇	23·85 ₁₄₀	18·704 ₂₈₄	59·50 ₁₇₉	16·088 ₃₇₄	7·48 ₂₀₈
28·8	38·438 ₃₀₀	25·25 ₁₃₉	18·988 ₂₉₁	57·71 ₁₅₉	16·462 ₃₉₀	5·40 ₁₅₇
Aug. 7·8	38·738 ₃₀₀	26·64 ₁₂₉	19·279 ₂₈₈	56·12 ₁₂₈	16·852 ₃₉₈	3·83 ₁₀₃
17·7	39·038 ₂₈₉	27·93 ₁₂₁	19·567 ₂₈₂	54·84 ₉₇	17·250 ₃₉₃	2·80 ₄₅
27·7	39·327 ₂₇₈	29·14 ₁₀₇	19·849 ₂₆₈	53·87 ₆₂	17·643 ₃₈₁	2·35 ₁₅
Sept. 6·7	39·605 ₂₆₇	30·21 ₉₂	20·117 ₂₅₃	53·25 ₂₇	18·024 ₃₅₈	2·50 ₇₄
16·7	39·872 ₂₄₀	31·13 ₇₄	20·370 ₂₃₂	52·98 ₁₀	18·382 ₃₂₆	3·24 ₁₃₁
26·6	40·112 ₂₂₀	31·87 ₅₃	20·602 ₂₁₀	53·08 ₄₅	18·708 ₂₈₉	4·55 ₁₈₅
Oct. 6·6	40·332 ₁₉₅	32·40 ₃₆	20·812 ₁₈₅	53·53 ₇₆	18·997 ₂₄₄	6·40 ₂₃₀
16·6	40·527 ₁₇₁	32·76 ₂₀	20·997 ₁₅₆	54·29 ₁₀₆	19·241 ₁₉₃	8·70 ₂₆₈
26·6	40·698 ₁₄₃	32·96 ₄	21·153 ₁₂₇	55·35 ₁₂₈	19·434 ₁₄₀	11·38 ₂₉₄
Nov. 5·5	40·841 ₁₁₄	33·00 ₉	21·280 ₉₅	56·63 ₁₄₄	19·574 ₈₄	14·32 ₃₁₁
15·5	40·955 ₇₉	32·91 ₁₉	21·375 ₆₄	58·07 ₁₅₄	19·658 ₂₇	17·43 ₃₁₄
25·5	41·034 ₄₆	32·72 ₂₆	21·439 ₃₃	59·61 ₁₅₆	19·685 ₃₁	20·57 ₃₀₆
Dec. 5·4	41·080 ₁₃	32·46 ₃₅	21·472 ₅	61·17 ₁₅₃	19·654 ₈₇	23·63 ₂₈₇
15·4	41·093 ₂₂	32·11 ₃₉	21·467 ₄₀	62·70 ₁₄₅	19·567 ₁₄₀	26·50 ₂₅₇
25·4	41·071 ₅₈	31·72 ₄₁	21·427 ₇₁	64·15 ₁₂₉	19·427 ₁₈₉	29·07 ₂₂₀
35·4	41·013	31·31	21·356	65·44	19·238	31·27
Mean Place	37·162	25·80	18·094	64·48	16·736	21·73
Sec δ, Tan δ	1·025	+0·225	1·015	-0·171	1·577	-1·219
L α, L δ	0·00	+0·2	0·00	+0·2	-0·02	+0·2
ω α, ω δ	-0·01	+0·8	+0·01	+0·8	+0·05	+0·8
AUTHORITY	A. E.		A. E.		A. N.	

296 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	τ^5 Eridani. Mag. 4.3		ι^1 Tauri. Mag. 6.2		δ Persei. Mag. 3.1	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	^h ^m 3 30	[°] ['] 21 53	^h ^m 3 36	[°] ['] 25 4	^h ^m 3 37	[°] ['] 47 32
Jan. 0.4	23.879 ¹⁰⁵	40.40 ¹⁵⁷	11.301 ⁷⁹	50.53 ⁸	27.819 ¹²⁷	34.99 ¹⁰⁵
10.3	23.774 ¹³⁵	41.97 ¹²⁷	11.222 ¹¹⁶	50.61 ⁴	27.692 ¹⁷⁴	36.04 ⁷⁸
20.3	23.639 ¹⁶⁰	43.24 ⁹⁴	11.106 ¹⁴⁵	50.57 ¹⁶	27.518 ²¹¹	36.82 ⁴¹
30.3	23.479 ¹⁸⁰	44.18 ⁵⁹	10.961 ¹⁶⁹	50.41 ²⁹	27.307 ²⁴⁶	37.23 ⁸
Feb. 9.3	23.299 ¹⁹⁰	44.77 ²⁴	10.792 ¹⁸⁴	50.12 ⁴²	27.061 ²⁶⁰	37.31 ²⁹
19.2	23.109 ¹⁹⁴	45.01 ¹²	10.608 ¹⁹⁰	49.70 ⁵³	26.801 ²⁶⁹	37.02 ⁶¹
Mar. 1.2	22.915 ¹⁸⁸	44.89 ⁴⁸	10.418 ¹⁸⁴	49.17 ⁶¹	26.532 ²⁵⁹	36.41 ⁹⁵
11.2	22.727 ¹⁷²	44.41 ⁸³	10.234 ¹⁶⁸	48.56 ⁶⁷	26.273 ²³³	35.46 ¹²⁰
21.2	22.555 ¹⁴⁷	43.58 ¹¹⁶	10.066 ¹⁴¹	47.89 ⁶⁹	26.040 ¹⁹⁸	34.26 ¹⁴²
31.1	22.408 ¹¹⁵	42.42 ¹⁴⁸	9.925 ¹⁰⁶	47.20 ⁶⁷	25.842 ¹⁵⁰	32.84 ¹⁵⁹
Apr. 10.1	22.293 ⁷⁶	40.94 ¹⁷⁷	9.819 ⁶³	46.53 ⁶¹	25.692 ⁹⁴	31.25 ¹⁶⁶
20.1	22.217 ³³	39.17 ²⁰³	9.756 ¹⁷	45.92 ⁵⁰	25.598 ³⁰	29.59 ¹⁶⁷
30.0	22.184 ¹⁵	37.14 ²²⁵	9.739 ³⁶	45.42 ³⁷	25.568 ³⁴	27.92 ¹⁵⁹
May 10.0	22.199 ⁶¹	34.89 ²⁴³	9.775 ⁸⁶	45.05 ²⁰	25.602 ¹⁰³	26.33 ¹⁴⁷
20.0	22.260 ¹⁰⁹	32.46 ²⁵⁶	9.861 ¹³⁵	44.85 ⁰	25.705 ¹⁶⁵	24.86 ¹²⁹
30.0	22.369 ¹⁵³	29.90 ²⁶²	9.996 ¹⁸⁰	44.85 ¹⁹	25.870 ²²⁴	23.57 ¹⁰⁹
June 8.9	22.522 ¹⁹³	27.28 ²⁶³	10.176 ²²¹	45.04 ⁴⁰	26.094 ²⁷⁹	22.48 ⁷⁷
18.9	22.715 ²²⁷	24.65 ²⁵⁶	10.397 ²⁵⁵	45.44 ⁵⁸	26.373 ³²¹	21.71 ⁴⁹
28.9	22.942 ²⁵⁶	22.09 ²⁴⁴	10.652 ²⁸³	46.02 ⁷⁶	26.694 ³⁵⁷	21.22 ²³
July 8.9	23.198 ²⁷⁷	19.65 ²²⁴	10.935 ³⁰²	46.78 ⁹²	27.051 ³⁸⁶	20.99 ⁷
18.8	23.475 ²⁹³	17.41 ¹⁹⁷	11.237 ³¹⁵	47.70 ¹⁰⁴	27.437 ⁴⁰⁴	21.06 ⁴⁰
28.8	23.768 ³⁰⁰	15.44 ¹⁶⁵	11.552 ³²¹	48.74 ¹¹²	27.841 ⁴¹²	21.46 ⁶⁶
Aug. 7.8	24.068 ³⁰⁰	13.79 ¹²⁷	11.873 ³²⁰	49.86 ¹¹⁸	28.253 ⁴¹⁵	22.12 ⁹⁵
17.7	24.368 ²⁹⁵	12.52 ⁸⁶	12.193 ³¹³	51.04 ¹²¹	28.668 ⁴⁰⁵	23.07 ¹¹²
27.7	24.663 ²⁸²	11.66 ⁴¹	12.506 ³⁰¹	52.25 ¹¹⁸	29.073 ³⁹⁵	24.19 ¹³⁷
Sept. 6.7	24.945 ²⁶⁶	11.25 ⁴	12.807 ²⁸⁷	53.43 ¹¹⁵	29.468 ³⁷⁴	25.56 ¹⁵⁴
16.7	25.211 ²⁴⁵	11.29 ⁴⁹	13.094 ²⁶⁶	54.58 ¹⁰⁹	29.842 ³⁵¹	27.10 ¹⁶⁹
26.6	25.456 ²²¹	11.78 ⁹²	13.360 ²⁴⁵	55.67 ¹⁰¹	30.193 ³²⁰	28.79 ¹⁸⁰
Oct. 6.6	25.677 ¹⁹³	12.70 ¹³¹	13.605 ²²¹	56.68 ⁹³	30.513 ²⁹⁰	30.59 ¹⁸⁹
16.6	25.870 ¹⁶²	14.01 ¹⁶³	13.826 ¹⁹⁴	57.61 ⁸²	30.803 ²⁵⁶	32.48 ¹⁹²
26.6	26.032 ¹³¹	15.64 ¹⁸⁹	14.020 ¹⁶⁴	58.43 ⁷⁵	31.059 ²¹⁵	34.40 ¹⁹⁶
Nov. 5.5	26.163 ⁹⁶	17.53 ²⁰⁵	14.184 ¹³³	59.18 ⁶⁴	31.274 ¹⁶⁸	36.36 ¹⁹⁵
15.5	26.259 ⁶²	19.58 ²¹⁵	14.317 ⁹⁹	59.82 ⁵⁶	31.442 ¹²¹	38.31 ¹⁹⁰
25.5	26.321 ²⁵	21.73 ²¹⁵	14.416 ⁶³	60.38 ⁴⁷	31.563 ⁷⁰	40.21 ¹⁸³
Dec. 5.4	26.346 ¹¹	23.88 ²⁰⁸	14.479 ²⁵	60.85 ³⁸	31.633 ¹⁶	42.04 ¹⁶⁴
15.4	26.335 ⁴⁷	25.96 ¹⁹²	14.504 ¹⁶	61.23 ²⁹	31.649 ³⁷	43.68 ¹⁵¹
25.4	26.288 ⁸³	27.88 ¹⁷⁰	14.488 ⁵⁵	61.52 ¹⁸	31.612 ⁹²	45.19 ¹²⁴
35.4	26.205	29.58	14.433	61.70	31.520	46.43
Mean Place	23.093	25.56	10.150	53.91	26.077	33.63
Sec δ , Tan δ	1.078	-0.402	1.104	+0.468	1.481	+1.093
L α , L δ	-0.01	+0.2	-0.01	+0.2	+0.02	+0.2
ω α , ω δ	+0.02	+0.8	-0.02	+0.8	-0.04	+0.8

AUTHORITY

A. E.

APPARENT PLACES OF STARS, 1923. 297

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	δ Eridani. Mag. 3·7		17 Tauri. Mag. 3·8		η Tauri. Mag. 3·0	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	h m 3 39 s	° ′ 10 1	h m 3 40 s	° ′ 23 52	h m 3 42 s	° ′ 23 51
Jan. 0·4	34·352 ₈₂	35·40 ₁₂₆	19·101 ₇₅	16·66 ₄	55·371 ₇₆	61·24 ₄
10·3	34·270 ₁₁₂	36·66 ₁₀₆	19·026 ₁₁₁	16·70 ₇	55·295 ₁₀₈	61·28 ₄
20·3	34·158 ₁₄₀	37·72 ₈₅	18·915 ₁₄₂	16·63 ₁₇	55·187 ₁₄₂	61·24 ₁₈
30·3	34·018 ₁₆₀	38·57 ₆₀	18·773 ₁₆₆	16·46 ₂₉	55·045 ₁₆₅	61·06 ₂₇
Feb. 9·3	33·858 ₁₇₄	39·17 ₃₅	18·607 ₁₈₂	16·17 ₄₀	54·880 ₁₈₃	60·79 ₃₉
19·2	33·684 ₁₇₉	39·52 ₁₀	18·425 ₁₈₈	15·77 ₄₉	54·697 ₁₈₈	60·49 ₄₉
Mar. 1·2	33·505 ₁₇₅	39·62 ₁₇	18·237 ₁₈₄	15·28 ₅₈	54·509 ₁₈₃	59·91 ₅₇
11·2	33·330 ₁₆₂	39·45 ₄₃	18·053 ₁₆₉	14·70 ₆₂	54·326 ₁₇₂	59·34 ₆₁
21·2	33·168 ₁₃₉	39·02 ₇₀	17·884 ₁₄₂	14·08 ₆₃	54·154 ₁₄₀	58·73 ₆₃
31·1	33·029 ₁₀₉	38·32 ₉₅	17·742 ₁₀₈	13·45 ₆₁	54·014 ₁₁₁	58·10 ₅₉
Apr. 10·1	32·920 ₇₂	37·37 ₁₂₀	17·634 ₆₆	12·84 ₅₄	53·903 ₆₈	57·51 ₅₃
20·1	32·848 ₃₀	36·17 ₁₄₄	17·568 ₂₀	12·30 ₄₃	53·835 ₂₃	56·98 ₄₁
30·0	32·818 ₁₅	34·73 ₁₆₆	17·548 ₃₀	11·87 ₃₀	53·812 ₂₇	56·57 ₃₁
May 10·0	32·833 ₆₁	33·07 ₁₈₄	17·578 ₈₁	11·57 ₁₃	53·839 ₈₀	56·26 ₁₅
20·0	32·894 ₁₀₆	31·23 ₂₀₀	17·659 ₁₃₀	11·44 ₅	53·919 ₁₂₅	56·11 ₆
30·0	33·000 ₁₄₈	29·23 ₂₁₁	17·789 ₁₇₅	11·49 ₂₄	54·044 ₁₇₂	56·17 ₂₃
June 8·9	33·148 ₁₈₆	27·12 ₂₁₇	17·964 ₂₁₆	11·73 ₄₄	54·216 ₂₁₂	56·40 ₄₁
18·9	33·334 ₂₂₀	24·95 ₂₁₈	18·180 ₂₅₀	12·17 ₆₂	54·428 ₂₄₇	56·81 ₆₃
28·9	33·554 ₂₄₇	22·77 ₂₁₃	18·430 ₂₇₇	12·79 ₇₉	54·675 ₂₇₆	57·44 ₇₅
July 8·9	33·801 ₂₆₇	20·64 ₂₀₂	18·707 ₂₉₈	13·58 ₉₃	54·951 ₂₉₅	58·19 ₉₁
18·8	34·068 ₂₈₁	18·62 ₁₈₅	19·005 ₃₁₁	14·51 ₁₀₄	55·246 ₃₁₁	59·10 ₁₀₂
28·8	34·349 ₂₈₉	16·77 ₁₆₃	19·316 ₃₁₇	15·55 ₁₁₂	55·557 ₃₁₆	60·12 ₁₁₀
Aug. 7·8	34·638 ₂₈₉	15·14 ₁₃₅	19·633 ₃₁₇	16·67 ₁₁₇	55·873 ₃₁₇	61·22 ₁₁₄
17·7	34·927 ₂₈₄	13·79 ₁₀₃	19·950 ₃₁₁	17·84 ₁₁₇	56·190 ₃₁₄	62·36 ₁₁₅
27·7	35·211 ₂₇₅	12·76 ₆₈	20·261 ₃₀₀	19·01 ₁₁₄	56·504 ₃₀₂	63·51 ₁₁₁
Sept. 6·7	35·486 ₂₅₉	12·08 ₃₂	20·561 ₂₈₆	20·15 ₁₁₀	56·806 ₂₈₇	64·62 ₁₀₉
16·7	35·745 ₂₄₂	11·76 ₆	20·847 ₂₆₇	21·25 ₁₀₂	57·093 ₂₇₁	65·71 ₁₀₁
26·6	35·987 ₂₂₀	11·82 ₄₁	21·114 ₂₄₅	22·27 ₉₄	57·364 ₂₄₇	66·72 ₉₃
Oct. 6·6	36·207 ₁₉₆	12·23 ₇₅	21·359 ₂₂₂	23·21 ₈₄	57·611 ₂₂₄	67·65 ₈₂
16·6	36·403 ₁₇₀	12·98 ₁₀₃	21·581 ₁₉₆	24·05 ₇₅	57·835 ₁₉₉	68·47 ₇₅
26·6	36·573 ₁₄₂	14·01 ₁₂₆	21·777 ₁₆₇	24·80 ₆₅	58·034 ₁₇₁	69·22 ₆₃
Nov. 5·5	36·715 ₁₁₁	15·27 ₁₄₄	21·944 ₁₃₆	25·45 ₅₆	58·205 ₁₄₀	69·85 ₅₅
15·5	36·826 ₇₉	16·71 ₁₅₅	22·080 ₁₀₃	26·01 ₄₇	58·345 ₁₀₅	70·40 ₄₇
25·5	36·905 ₄₆	18·26 ₁₅₈	22·183 ₆₇	26·48 ₃₉	58·450 ₆₈	70·87 ₃₈
Dec. 5·4	36·951 ₁₀	19·84 ₁₅₆	22·250 ₂₈	26·87 ₃₁	58·518 ₃₂	71·25 ₃₁
15·4	36·961 ₂₅	21·40 ₁₄₇	22·278 ₁₁	27·18 ₂₂	58·550 ₁₁	71·56 ₂₃
25·4	36·936 ₆₀	22·87 ₁₃₄	22·267 ₅₀	27·40 ₁₃	58·539 ₄₈	71·79 ₁₂
35·4	36·876	24·21	22·217	27·53	58·491	71·91
Mean Place	33·500	23·30	17·955	20·53	54·217	65·22
Sec δ, Tan δ	1·015	—0·177	1·094	+0·443	1·094	+0·442
L α, L δ	0·00	+0·2	+0·01	+0·2	+0·01	+0·2
ω α, ω δ	+0·01	+0·8	—0·02	+0·8	—0·02	+0·8
AUTHORITY	A. N.		A. N.		A. E.	

298 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Hydri. Mag. 3.2		ζ Persei. Mag. 2.9		ϵ Persei. Mag. 3.0	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	^h ^m 3 48	[°] ['] 74 28	^h ^m 3 49	[°] ['] 31 39	^h ^m 3 52	[°] ['] 39 47
Jan. 0.4	27.31 ⁶⁴	52.88 ²⁰⁷	18.550 ⁷⁶	19.59 ⁴⁰	42.432 ⁹⁰	18.42 ⁸¹
10.4	26.67 ⁷⁴	54.95 ¹⁵¹	18.474 ¹¹⁸	19.99 ²⁶	42.342 ¹³¹	19.23 ⁵⁹
20.3	25.93 ⁸⁰	56.46 ⁹⁹	18.356 ¹⁵²	20.25 ⁸	42.211 ¹⁷²	19.82 ³²
30.3	25.13 ⁸⁴	57.45 ³⁹	18.204 ¹⁷⁷	20.33 ¹⁴	42.039 ²⁰³	20.14 ⁷
Feb. 9.3	24.29 ⁸⁷	57.84 ¹⁹	18.027 ²⁰¹	20.19 ³⁰	41.836 ²²³	20.21 ²¹
19.2	23.42 ⁸⁶	57.65 ⁷⁵	17.826 ²⁰⁵	19.89 ⁴⁸	41.613 ²³²	20.00 ⁴⁸
Mar. 1.2	22.56 ⁸⁴	56.90 ¹³³	17.621 ²⁰²	19.41 ⁶⁴	41.381 ²²⁷	19.52 ⁷³
11.2	21.72 ⁷⁸	55.57 ¹⁸⁰	17.419 ¹⁸⁴	18.77 ⁷⁹	41.154 ²¹⁴	18.79 ⁹⁰
21.2	20.94 ⁷¹	53.77 ²²⁴	17.235 ¹⁶³	17.98 ⁸⁴	40.940 ¹⁸⁰	17.89 ¹¹⁰
31.1	20.23 ⁶³	51.53 ²⁶⁶	17.072 ¹²²	17.14 ⁹⁰	40.760 ¹⁴²	16.79 ¹²¹
Apr. 10.1	19.60 ⁵²	48.87 ²⁹⁸	16.950 ⁸⁰	16.24 ⁸⁹	40.618 ⁹⁷	15.58 ¹²⁶
20.1	19.08 ³⁹	45.89 ³²⁵	16.870 ³²	15.35 ⁸⁴	40.521 ⁴⁰	14.32 ¹²³
30.1	18.69 ²⁶	42.64 ³⁴⁹	16.838 ²³	14.51 ⁷⁷	40.481 ¹⁹	13.09 ¹¹⁹
May 10.0	18.43 ¹³	39.15 ³⁵⁷	16.861 ⁷⁵	13.74 ⁶⁰	40.500 ⁷⁶	11.90 ¹⁰⁶
20.0	18.30 ¹	35.58 ³⁶⁰	16.936 ¹²⁷	13.14 ⁴¹	40.576 ¹³⁴	10.84 ⁹⁰
30.0	18.31 ¹⁵	31.98 ³⁵⁵	17.063 ¹⁷⁷	12.73 ²⁷	40.710 ¹⁸⁸	9.94 ⁷⁴
June 8.9	18.46 ²⁹	28.43 ³⁴³	17.240 ²²¹	12.46 ²	40.898 ²³⁶	9.20 ⁴⁹
18.9	18.75 ⁴²	25.00 ³¹⁸	17.461 ²⁵⁷	12.44 ¹⁶	41.134 ²⁷⁸	8.71 ²⁵
28.9	19.17 ⁵⁴	21.82 ²⁸⁸	17.718 ²⁸⁹	12.60 ⁴⁰	41.412 ³¹⁰	8.46 ¹
July 8.9	19.71 ⁶³	18.94 ²⁵⁰	18.007 ³¹¹	13.00 ⁵⁷	41.722 ³³⁹	8.45 ²¹
18.8	20.34 ⁷²	16.44 ²⁰⁵	18.318 ³²⁹	13.57 ⁷⁵	42.061 ³⁵⁶	8.66 ⁴⁹
28.8	21.06 ⁷⁸	14.39 ¹⁵³	18.647 ³³⁶	14.32 ⁸⁹	42.417 ³⁶⁷	9.15 ⁶⁷
Aug. 7.8	21.84 ⁸³	12.86 ⁹⁵	18.983 ³³⁹	15.21 ¹⁰¹	42.784 ³⁷¹	9.82 ⁸⁵
17.8	22.67 ⁸⁴	11.91 ³³	19.322 ³³³	16.22 ¹¹⁰	43.155 ³⁶⁵	10.67 ¹⁰²
27.7	23.51 ⁸³	11.58 ²⁹	19.655 ³²³	17.32 ¹¹³	43.520 ³⁵⁸	11.69 ¹¹⁷
Sept. 6.7	24.34 ⁷⁹	11.87 ⁹³	19.978 ³¹⁰	18.45 ¹¹⁸	43.878 ³⁴⁰	12.86 ¹²⁶
16.7	25.13 ⁷³	12.80 ¹⁵⁰	20.288 ²⁹⁶	19.63 ¹¹⁷	44.218 ³²⁵	14.12 ¹³⁸
26.6	25.86 ⁶⁵	14.30 ²⁰⁶	20.584 ²⁶⁹	20.80 ¹²⁰	44.543 ³⁰²	15.50 ¹⁴¹
Oct. 6.6	26.51 ⁵⁴	16.36 ²⁵³	20.853 ²⁴⁸	22.00 ¹¹²	44.845 ²⁷²	16.91 ¹⁴⁷
16.6	27.05 ⁴²	18.89 ²⁹³	21.101 ²²⁰	23.12 ¹¹¹	45.117 ²⁴⁴	18.38 ¹⁴⁵
26.6	27.47 ²⁸	21.82 ³¹⁸	21.321 ¹⁹⁰	24.23 ¹⁰⁶	45.361 ²¹²	19.83 ¹⁴⁹
Nov. 5.5	27.75 ¹³	25.00 ³³⁶	21.511 ¹⁵⁴	25.29 ⁹⁹	45.573 ¹⁷³	21.32 ¹⁴⁷
15.5	27.88 ²	28.36 ³⁴⁰	21.665 ¹²⁰	26.28 ⁹³	45.746 ¹³⁵	22.79 ¹⁴⁰
25.5	27.86 ¹⁷	31.76 ³³⁰	21.785 ⁸¹	27.21 ⁸⁷	45.881 ⁸⁹	24.19 ¹³⁵
Dec. 5.5	27.69 ³²	35.06 ³⁰⁷	21.866 ³⁹	28.08 ⁷⁸	45.970 ⁴²	25.54 ¹²⁴
15.4	27.37 ⁴⁵	38.13 ²⁷⁶	21.905 ⁸	28.86 ⁶⁵	46.012 ¹¹	26.78 ¹¹¹
25.4	26.92 ⁵⁸	40.89 ²³³	21.897 ⁵⁰	29.51 ⁵³	46.001 ⁵⁶	27.89 ⁹⁷
35.4	26.34	43.22	21.847	30.04	45.945	28.86
Mean Place	24.75	30.94	17.236	22.17	40.909	19.58
Sec δ , Tan δ	3.736	-3.600	1.175	+0.617	1.301	+0.833
L α , L δ	-0.08	+0.2	+0.01	+0.2	+0.02	+0.2
ω α , ω δ	+0.13	+0.8	-0.02	+0.8	-0.03	+0.8
AUTHORITY	A. E.		A. E.		A. E.	

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AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	♋ Piscium. Mag. 4·5		ζ Ceti. Mag. 3·9		ε Cassiopeiæ. Mag. 3·4	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	^h I ^m 41	[°] 8 ['] 46	^h I ^m 47	[°] 10 ['] 42	^h I ^m 48	[°] 63 ['] 17
Jan. 0·3	19·909 ¹²¹	11·44 ⁶⁶	39·789 ¹²⁷	63·15 ⁸⁵	52·23 ³⁷	41·84 ⁵⁹
10·3	19·788 ¹³⁵	10·78 ⁶⁷	39·662 ¹³⁸	64·00 ⁶⁸	51·86 ³⁸	42·43 ⁶
20·2	19·653 ¹³⁹	10·11 ⁶⁹	39·524 ¹⁴⁴	64·68 ⁴⁹	51·48 ⁴¹	42·49 ⁴⁷
30·2	19·514 ¹⁴²	9·42 ⁶⁸	39·380 ¹⁴⁵	65·17 ²⁶	51·07 ⁴⁰	42·02 ¹⁰⁰
Feb. 9·2	19·372 ¹³²	8·74 ⁶¹	39·235 ¹³⁹	65·43 ¹	50·67 ³⁸	41·02 ¹⁴⁵
19·2	19·240 ¹²²	8·13 ⁵⁴	39·096 ¹²⁷	65·42 ²²	50·29 ³⁴	39·57 ¹⁸⁹
Mar. 1·1	19·118 ⁹⁸	7·59 ⁴⁴	38·969 ¹⁰⁶	65·20 ⁵⁰	49·95 ²⁹	37·68 ²²⁰
11·1	19·020 ⁷¹	7·15 ³⁰	38·863 ⁷⁹	64·70 ⁷⁴	49·66 ²¹	35·48 ²⁴⁵
21·1	18·949 ³⁵	6·85 ⁹	38·784 ⁴⁴	63·96 ⁹⁹	49·45 ¹⁴	33·03 ²⁵⁷
31·0	18·914 ⁵	6·76 ¹⁰	38·740 ⁵	62·97 ¹²⁵	49·31 ⁴	30·46 ²⁶⁰
Apr. 10·0	18·919 ⁵¹	6·86 ³²	38·735 ³⁶	61·72 ¹⁴⁵	49·27 ⁵	27·86 ²⁵⁴
20·0	18·970 ⁹³	7·18 ⁵⁹	38·771 ⁸⁰	60·27 ¹⁷⁰	49·32 ¹⁵	25·32 ²³⁵
30·0	19·063 ¹³⁸	7·77 ⁸¹	38·851 ¹²²	58·57 ¹⁹⁰	49·47 ²⁴	22·97 ²⁰⁹
May 10·0	19·201 ¹⁷⁹	8·58 ¹⁰⁵	38·973 ¹⁶⁷	56·67 ²⁰¹	49·71 ³³	20·88 ¹⁷⁷
19·9	19·380 ²¹⁹	9·63 ¹²⁵	39·140 ²⁰⁵	54·66 ²¹³	50·04 ⁴⁰	19·11 ¹³⁷
29·9	19·599 ²⁵⁰	10·88 ¹⁴⁶	39·345 ²⁴¹	52·53 ²²⁰	50·44 ⁴⁷	17·74 ⁹³
June 8·9	19·849 ²⁷⁶	12·34 ¹⁶³	39·586 ²⁶⁶	50·33 ²²¹	50·91 ⁵²	16·81 ⁴⁷
18·8	20·125 ²⁹⁴	13·97 ¹⁷³	39·852 ²⁸⁶	48·12 ²¹⁵	51·43 ⁵⁵	16·34 ¹
28·8	20·419 ³⁰³	15·70 ¹⁸²	40·138 ²⁹⁸	45·97 ²⁰⁷	51·98 ⁵⁷	16·35 ⁴⁷
July 8·8	20·722 ³⁰⁶	17·52 ¹⁸³	40·436 ³⁰⁴	43·90 ¹⁸⁶	52·55 ⁵⁸	16·82 ⁹⁴
18·8	21·028 ³⁰⁰	19·35 ¹⁸⁰	40·740 ³⁰⁰	42·04 ¹⁶⁷	53·13 ⁵⁷	17·76 ¹³⁸
28·7	21·328 ²⁸⁷	21·15 ¹⁷¹	41·040 ²⁸⁹	40·37 ¹⁴¹	53·70 ⁵⁵	19·14 ¹⁷⁷
Aug. 7·7	21·615 ²⁶⁸	22·86 ¹⁶¹	41·329 ²⁷³	38·96 ¹¹¹	54·25 ⁵¹	20·91 ²¹¹
17·7	21·883 ²⁴⁶	24·47 ¹⁴⁵	41·602 ²⁵¹	37·85 ⁷⁹	54·76 ⁴⁸	23·02 ²⁴⁴
27·6	22·129 ²¹⁹	25·92 ¹²⁴	41·853 ²²³	37·06 ⁴⁴	55·24 ⁴³	25·46 ²⁶⁸
Sept. 6·6	22·348 ¹⁸⁷	27·16 ¹⁰⁵	42·076 ¹⁹³	36·62 ¹²	55·67 ³⁷	28·14 ²⁹¹
16·6	22·535 ¹⁵⁷	28·21 ⁸²	42·269 ¹⁶⁰	36·50 ²¹	56·04 ³¹	31·05 ³⁰³
26·6	22·692 ¹²⁵	29·03 ⁶¹	42·429 ¹²⁸	36·71 ⁵³	56·35 ²⁵	34·08 ³¹²
Oct. 6·5	22·817 ⁹³	29·64 ³⁷	42·557 ⁹³	37·24 ⁷⁹	56·60 ¹⁹	37·20 ³¹⁵
16·5	22·910 ⁶³	30·01 ¹⁹	42·650 ⁶¹	38·03 ⁹⁷	56·79 ¹¹	40·35 ³⁰⁹
26·5	22·973 ³²	30·20 ⁰	42·711 ³⁰	39·00 ¹¹⁶	56·90 ⁴	43·44 ³⁰¹
Nov. 5·5	23·005 ⁴	30·20 ¹⁴	42·741 ¹	40·16 ¹²⁶	56·94 ³	46·45 ²⁸⁰
15·4	23·009 ²⁵	30·06 ²⁸	42·740 ²³	41·42 ¹³⁰	56·91 ⁹	49·25 ²⁵⁹
25·4	22·984 ⁴⁷	29·78 ⁴¹	42·717 ⁵³	42·72 ¹²⁸	56·82 ¹⁷	51·84 ²²⁴
Dec. 5·4	22·937 ⁷⁰	29·37 ⁵¹	42·664 ⁷⁶	44·00 ¹²²	56·65 ²³	54·08 ¹⁸⁵
15·3	22·867 ⁹³	28·86 ⁵⁶	42·588 ⁹⁶	45·22 ¹¹⁰	56·42 ²⁸	55·93 ¹⁴³
25·3	22·774 ¹¹⁰	28·30 ⁶³	42·492 ¹¹⁴	46·32 ⁹⁶	56·14 ³⁴	57·36 ⁹⁴
35·3	22·664	27·67	42·378	47·28	55·80	58·30
Mean Place	19·510	14·47	39·545	53·31	50·22	30·13
Sec δ, Tan δ	1·012	+0·154	1·018	-0·189	2·225	+1·988
L α, L δ	0·00	+0·4	0·00	+0·4	+0·02	+0·4
ω α, ω δ	-0·01	+0·4	+0·01	+0·5	-0·12	+0·5
AUTHORITY	A. E.		A. E.		A. E.	

300 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	♂ Eridani. Mag. 4·1		α Horologii. Mag. 3·8		α Reticuli. Mag. 3·4	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	h m 4 8	° ′ 7 2	h m 4 11	° ′ 42 28	h m 4 13	° ′ 62 39
Jan. 0·4	7·336 ⁶¹	25·98 ¹²⁷	28·168 ¹⁴⁰	80·21 ²²⁹	27·50 ³⁰	78·91 ²⁴⁸
10·4	7·275 ⁹⁷	27·25 ¹¹¹	28·028 ¹⁸¹	82·50 ¹⁹⁰	27·20 ³⁶	81·39 ¹⁹⁴
20·3	7·178 ¹²⁵	28·36 ⁹³	27·8·7 ²¹⁸	84·40 ¹⁴⁵	26·84 ⁴¹	83·33 ¹⁴⁴
30·3	7·053 ¹⁵⁵	29·29 ⁷¹	27·629 ²⁴⁷	85·85 ⁹⁷	26·43 ⁴⁵	84·77 ⁹²
Feb. 9·3	6·898 ¹⁶⁹	30·00 ⁴⁶	27·382 ²⁶⁷	86·82 ⁴⁸	25·98 ⁴⁸	85·69 ³³
19·3	6·729 ¹⁸⁰	30·46 ²⁶	27·115 ²⁷⁷	87·30 ³	25·50 ⁴⁹	86·02 ²⁴
Mar. 1·2	6·549 ¹⁸³	30·72 ²	26·838 ²⁷⁵	87·27 ⁵⁵	25·01 ⁴⁸	85·78 ⁷⁹
11·2	6·366 ¹⁷²	30·70 ²⁵	26·563 ²⁶⁴	86·72 ¹⁰⁰	24·53 ⁴⁶	84·99 ¹³¹
21·2	6·194 ¹⁵⁵	30·45 ⁴⁸	26·299 ²⁴⁰	85·72 ¹⁴⁷	24·07 ⁴³	83·68 ¹⁸⁰
31·2	6·039 ¹²⁵	29·97 ⁷⁴	26·059 ²⁰⁸	84·25 ¹⁸⁷	23·64 ³⁸	81·88 ²²⁵
Apr. 10·1	5·914 ⁹¹	29·23 ⁹⁶	25·851 ¹⁶⁷	82·38 ²²⁶	23·26 ³¹	79·63 ²⁶⁴
20·1	5·823 ⁵⁴	28·27 ¹¹⁹	25·684 ¹¹⁸	80·12 ²⁵⁷	22·95 ²⁵	76·99 ²⁹⁷
30·1	5·769 ⁸	27·08 ¹³⁹	25·566 ⁶⁷	77·55 ²⁸⁵	22·70 ¹⁷	74·02 ³²³
May 10·0	5·761 ³⁴	25·69 ¹⁵⁹	25·499 ⁹	74·70 ³⁰⁶	22·53 ⁹	70·79 ³⁴³
20·0	5·795 ⁸¹	24·10 ¹⁷⁸	25·490 ⁴⁴	71·64 ³¹⁹	22·44 ⁰	67·36 ³⁵⁴
30·0	5·876 ¹²⁴	22·32 ¹⁸⁹	25·534 ¹⁰¹	68·45 ³²⁷	22·44 ⁸	63·82 ³⁵⁷
June 9·0	6·000 ¹⁶²	20·43 ¹⁹⁶	25·635 ¹⁵⁴	65·18 ³²⁵	22·52 ¹⁷	60·25 ³⁵¹
18·9	6·162 ¹⁹⁸	18·47 ²⁰¹	25·789 ²⁰¹	61·93 ³¹⁵	22·69 ²⁴	56·74 ³³⁷
28·9	6·360 ²²⁶	16·46 ¹⁹⁸	25·990 ²⁴⁵	58·78 ²⁹⁷	22·93 ³²	53·37 ³¹⁴
July 8·9	6·586 ²⁵¹	14·48 ¹⁹¹	26·235 ²⁸¹	55·81 ²⁷¹	23·25 ³⁷	50·23 ²⁸⁰
18·9	6·837 ²⁷⁰	12·57 ¹⁷⁸	26·516 ³⁰⁸	53·10 ²³⁴	23·62 ⁴³	47·43 ²³⁹
28·8	7·107 ²⁷⁹	10·79 ¹⁵⁹	26·824 ³³¹	50·76 ¹⁹⁴	24·05 ⁴⁷	45·04 ¹⁹³
Aug. 7·8	7·386 ²⁸⁸	9·20 ¹³³	27·155 ³⁴⁵	48·82 ¹⁴⁶	24·52 ⁵⁰	43·11 ¹³⁷
17·8	7·674 ²⁸⁵	7·87 ¹⁰⁶	27·500 ³⁴⁸	47·36 ⁹³	25·02 ⁵²	41·74 ⁷⁸
27·7	7·959 ²⁷⁹	6·81 ⁷³	27·848 ³⁴⁵	46·43 ³⁶	25·54 ⁵¹	40·96 ¹⁶
Sept. 6·7	8·238 ²⁶⁸	6·08 ⁴²	28·193 ³³⁴	46·07 ²³	26·05 ⁵⁰	40·80 ⁴⁸
16·7	8·506 ²⁵⁸	5·66 ³	28·527 ³¹⁷	46·30 ⁷⁹	26·55 ⁴⁷	41·28 ¹¹⁰
26·7	8·764 ²³⁸	5·63 ³⁰	28·844 ²⁹¹	47·09 ¹³⁶	27·02 ⁴³	42·38 ¹⁶⁹
Oct. 6·6	9·002 ²²¹	5·93 ⁶⁴	29·135 ²⁶²	48·45 ¹⁸⁶	27·45 ³⁸	44·07 ²²³
16·6	9·223 ¹⁹⁴	6·57 ⁹²	29·397 ²²⁶	50·31 ²³⁰	27·83 ³²	46·30 ²⁶⁸
26·6	9·417 ¹⁷¹	7·49 ¹¹⁶	29·623 ¹⁸⁵	52·61 ²⁶⁴	28·15 ²⁵	48·98 ³⁰⁴
Nov. 5·6	9·588 ¹³⁹	8·65 ¹³⁵	29·808 ¹⁴⁰	55·25 ²⁸⁹	28·40 ¹⁶	52·02 ³²⁸
15·5	9·727 ¹⁰⁸	10·00 ¹⁴⁵	29·948 ⁹²	58·14 ³⁰³	28·56 ⁸	55·30 ³⁴¹
25·5	9·835 ⁷⁵	11·45 ¹⁵³	30·040 ⁴²	61·17 ³⁰⁶	28·64 ⁰	58·71 ³³⁹
Dec. 5·5	9·910 ⁴⁰	12·98 ¹⁵³	30·082 ⁸	64·23 ²⁹⁶	28·64 ⁹	62·10 ³²⁶
15·4	9·950 ³	14·51 ¹⁴⁵	30·074 ⁶¹	67·19 ²⁷⁷	28·55 ¹⁷	65·36 ³⁰³
25·4	9·953 ³⁵	15·96 ¹³⁵	30·013 ¹⁰⁶	69·96 ²⁵⁰	28·38 ²⁵	68·39 ²⁶⁸
35·4	9·918	17·31	29·907	72·46	28·13	71·07
Mean Place	6·354	14·26	26·997	62·18	25·67	58·79
Sec δ, Tan δ	1·008	—0·123	1·356	—0·916	2·178	—1·935
L α, L δ	0·00	+0·2	—0·02	+0·2	—0·05	+0·2
ω α, ω δ	0·00	+0·9	+0·03	+0·9	+0·06	+0·9
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 301

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ν^4 Eridani. Mag. 3.6		γ Tauri. Mag. 3.9		ϵ Tauri. Mag. 3.6	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	^h 4 ^m 14	[°] 33 ['] 58	^h 4 ^m 15	[°] 15 ['] 26	^h 4 ^m 24	[°] 19 ['] 0
Jan. 0.4	59.760 ₁₀₄	84.01 ₂₁₆	25.679 ₄₅	26.76 ₃₀	8.299 ₃₅	32.32 ₁₂
10.4	59.656 ₁₄₄	86.17 ₁₈₂	25.634 ₈₄	26.46 ₃₀	8.264 ₈₁	32.20 ₁₅
20.3	59.512 ₁₈₀	87.99 ₁₄₀	25.550 ₁₁₈	26.16 ₃₁	8.183 ₁₁₈	32.05 ₁₇
30.3	59.332 ₂₀₈	89.39 ₉₈	25.432 ₁₄₇	25.85 ₃₂	8.065 ₁₄₈	31.88 ₂₁
Feb. 9.3	59.124 ₂₂₇	90.37 ₅₃	25.285 ₁₇₀	25.53 ₃₂	7.917 ₁₇₁	31.67 ₂₆
19.3	58.897 ₂₃₉	90.90 ₇	25.115 ₁₈₂	25.21 ₃₁	7.746 ₁₈₄	31.41 ₂₈
Mar. 1.2	58.658 ₂₃₈	90.97 ₃₇	24.933 ₁₈₃	24.90 ₃₁	7.562 ₁₈₈	31.13 ₃₂
11.2	58.420 ₂₂₇	90.60 ₈₂	24.750 ₁₇₅	24.59 ₂₉	7.374 ₁₈₀	30.81 ₃₄
21.2	58.193 ₂₀₈	89.78 ₁₂₂	24.575 ₁₅₆	24.30 ₂₄	7.194 ₁₆₄	30.47 ₃₂
31.2	57.985 ₁₈₀	88.56 ₁₆₂	24.419 ₁₂₈	24.06 ₁₇	7.030 ₁₃₆	30.15 ₂₈
Apr. 10.1	57.805 ₁₄₁	86.94 ₁₉₈	24.291 ₉₃	23.89 ₉	6.894 ₉₉	29.87 ₂₃
20.1	57.664 ₉₉	84.96 ₂₃₀	24.198 ₅₀	23.80 ₃	6.795 ₅₇	29.64 ₁₆
30.1	57.565 ₅₀	82.66 ₂₅₇	24.148 ₅	23.83 ₁₆	6.738 ₁₃	29.48 ₂
May 10.0	57.515 ₁	80.09 ₂₇₇	24.143 ₄₃	23.99 ₃₁	6.725 ₃₄	29.46 ₉
20.0	57.516 ₅₁	77.32 ₂₉₃	24.186 ₈₉	24.30 ₄₆	6.759 ₈₄	29.55 ₂₂
30.0	57.567 ₁₀₂	74.39 ₃₀₁	24.275 ₁₃₄	24.76 ₆₁	6.843 ₁₂₉	29.77 ₃₉
June 9.0	57.669 ₁₄₉	71.38 ₃₀₄	24.409 ₁₇₅	25.37 ₇₆	6.972 ₁₇₀	30.16 ₅₂
18.9	57.818 ₁₉₁	68.34 ₂₉₈	24.584 ₂₁₁	26.13 ₈₉	7.142 ₂₀₈	30.68 ₆₅
28.9	58.009 ₂₃₀	65.36 ₂₈₂	24.795 ₂₄₀	27.02 ₉₈	7.350 ₂₃₈	31.33 ₇₆
July 8.9	58.239 ₂₆₂	62.54 ₂₆₀	25.035 ₂₆₅	28.00 ₁₀₆	7.588 ₂₆₄	32.09 ₈₅
18.9	58.501 ₂₈₆	59.94 ₂₃₀	25.300 ₂₈₃	29.06 ₁₁₀	7.852 ₂₈₄	32.94 ₉₁
28.8	58.787 ₃₀₅	57.64 ₁₉₃	25.583 ₂₉₃	30.16 ₁₀₉	8.136 ₂₉₇	33.85 ₉₆
Aug. 7.8	59.092 ₃₁₆	55.71 ₁₅₀	25.876 ₂₉₉	31.25 ₁₀₅	8.433 ₃₀₁	34.81 ₉₂
17.8	59.408 ₃₁₈	54.21 ₁₀₀	26.175 ₂₉₈	32.30 ₉₈	8.734 ₃₀₃	35.73 ₉₂
27.7	59.726 ₃₁₄	53.21 ₄₉	26.473 ₂₉₄	33.28 ₈₈	9.037 ₃₀₄	36.65 ₈₅
Sept. 6.7	60.040 ₃₀₇	52.72 ₅	26.767 ₂₈₄	34.16 ₇₄	9.341 ₂₉₂	37.50 ₇₃
16.7	60.347 ₂₉₁	52.77 ₅₉	27.051 ₂₇₂	34.90 ₆₀	9.633 ₂₈₁	38.23 ₆₄
26.7	60.638 ₂₆₉	53.36 ₁₁₂	27.323 ₂₅₇	35.50 ₄₅	9.914 ₂₆₇	38.87 ₅₃
Oct. 6.6	60.907 ₂₄₄	54.48 ₁₆₁	27.580 ₂₃₇	35.95 ₃₀	10.181 ₂₅₃	39.40 ₄₀
16.6	61.151 ₂₁₄	56.09 ₂₀₁	27.817 ₂₁₅	36.25 ₁₅	10.434 ₂₂₆	39.80 ₂₉
26.6	61.365 ₁₇₉	58.10 ₂₃₆	28.032 ₁₉₂	36.40 ₃	10.660 ₂₀₅	40.09 ₁₉
Nov. 5.6	61.544 ₁₄₂	60.46 ₂₆₀	28.224 ₁₆₄	36.43 ₇	10.865 ₁₇₆	40.28 ₁₂
15.5	61.686 ₁₀₂	63.06 ₂₇₆	28.388 ₁₃₃	36.36 ₁₅	11.041 ₁₄₄	40.40 ₃
25.5	61.788 ₅₈	65.82 ₂₇₈	28.521 ₉₉	36.21 ₂₁	11.185 ₁₁₂	40.43 ₁
Dec. 5.5	61.846 ₁₄	68.60 ₂₇₃	28.620 ₆₁	36.00 ₂₄	11.297 ₇₀	40.42 ₄
15.4	61.860 ₃₂	71.33 ₂₅₆	28.681 ₂₂	35.76 ₂₆	11.367 ₃₂	40.38 ₆
25.4	61.828 ₇₆	73.89 ₂₃₂	28.703 ₁₉	35.50 ₂₆	11.399 ₁₃	40.32 ₈
35.4	61.752	76.21	28.684	35.24	11.386	40.24
Mean Place	58.670	67.33	24.533	33.98	7.094	39.17
Sec δ , Tan δ	1.206	-0.674	1.037	+0.276	1.058	+0.345
L α , L δ	-0.02	+0.2	+0.01	+0.2	+0.01	+0.2
ω α , ω δ	+0.02	+0.9	-0.01	+0.9	-0.01	+0.9
AUTHORITY	A. E.		A. N.		A. E.	

302 APPARENT PLACES OF STARS, 1923

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Tauri. Mag. 1.1			α Doradus. Mag. 3.5			53 Eridani. Mag. 4.0					
	R. A.		Dec. N.	R. A.		Dec. S.	R. A.		Dec. S.			
	h	m		h	m		h	m				
	4	31	16 21	4	32	55 11	4	34	14 27			
	s			s			s					
Jan. 0.4	31.196	31	12.94	26	21.548	194	92.60	265	40.200	49	25.68	168
10.4	31.165	74	12.68	26	21.354	251	95.25	221	40.151	88	27.36	148
20.4	31.091	110	12.42	25	21.103	300	97.46	172	40.063	123	28.84	120
30.3	30.981	143	12.17	26	20.803	338	99.18	120	39.940	153	30.04	93
Feb. 9.3	30.838	166	11.91	28	20.465	368	100.38	66	39.787	178	30.97	63
19.3	30.672	182	11.63	28	20.097	383	101.04	10	39.609	192	31.60	33
Mar. 1.2	30.490	188	11.35	28	19.714	383	101.14	43	39.417	194	31.93	0
11.2	30.302	180	11.07	26	19.331	373	100.71	96	39.223	190	31.93	28
21.2	30.122	165	10.81	24	18.958	347	99.75	146	39.033	174	31.65	60
31.2	29.957	137	10.57	18	18.611	313	98.29	192	38.859	153	31.05	89
Apr. 10.1	29.820	104	10.39	11	18.298	266	96.37	235	38.706	118	30.16	116
20.1	29.716	63	10.28	1	18.032	210	94.02	269	38.588	84	29.00	144
30.1	29.653	23	10.29	10	17.822	148	91.33	299	38.504	40	27.56	167
May 10.1	29.630	28	10.39	23	17.674	81	88.34	324	38.464	4	25.89	190
20.0	29.658	73	10.62	38	17.593	12	85.10	340	38.468	51	23.99	203
30.0	29.731	120	11.00	50	17.581	57	81.70	348	38.519	96	21.96	219
June 9.0	29.851	160	11.50	65	17.638	127	78.22	347	38.615	134	19.77	227
18.9	30.011	199	12.15	75	17.765	189	74.75	337	38.749	174	17.50	228
28.9	30.210	228	12.90	85	17.954	250	71.38	319	38.923	205	15.22	224
July 8.9	30.438	255	13.75	95	18.204	303	68.19	292	39.128	234	12.98	214
18.9	30.693	276	14.70	96	18.507	346	65.27	257	39.362	255	10.84	197
28.8	30.969	290	15.66	99	18.853	381	62.70	213	39.617	271	8.87	172
Aug. 7.8	31.259	295	16.65	96	19.234	408	60.57	162	39.888	281	7.15	146
17.8	31.554	299	17.61	88	19.642	423	58.95	106	40.169	285	5.69	110
27.8	31.853	300	18.49	78	20.065	427	57.89	45	40.454	285	4.59	72
Sept. 6.7	32.153	290	19.27	68	20.492	419	57.44	18	40.739	278	3.87	33
16.7	32.443	281	19.95	52	20.911	403	57.62	82	41.017	268	3.54	10
26.7	32.724	265	20.47	38	21.314	376	58.44	140	41.285	256	3.64	52
Oct. 6.6	32.989	254	20.85	29	21.690	341	59.84	198	41.541	236	4.16	91
16.6	33.243	228	21.14	12	22.031	294	61.82	245	41.777	216	5.07	125
26.6	33.471	209	21.26	2	22.325	241	64.27	286	41.993	191	6.32	153
Nov. 5.6	33.680	177	21.24	7	22.566	183	67.13	313	42.184	163	7.85	178
15.5	33.857	152	21.17	16	22.749	120	70.26	333	42.347	131	9.63	192
25.5	34.009	115	21.01	20	22.869	50	73.59	338	42.478	95	11.55	200
Dec. 5.5	34.124	78	20.81	22	22.919	19	76.97	330	42.573	57	13.55	199
15.5	34.202	38	20.59	22	22.900	84	80.27	312	42.630	19	15.54	190
25.4	34.240	7	20.37	23	22.816	156	83.39	281	42.649	23	17.44	177
35.4	34.233		20.14		22.660		86.20		42.626		19.21	
Mean Place	30.001		20.55		19.880		74.01		39.121		12.51	
Sec δ , Tan δ	1.042		+0.293		1.752		-1.439		1.033		-0.258	
L α , L δ	+0.01		+0.2		-0.03		+0.1		-0.01		+0.1	
ω α , ω δ	-0.01		+0.9		+0.03		+0.9		+0.01		+0.9	
AUTHORITY	A. E.			A. E.			A. E.					

APPARENT PLACES OF STARS, 1923. 303

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	τ Tauri. Mag. 4.3		μ Eridani. Mag. 4.2		π^3 Orionis. Mag. 3.3	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	^h ^m 4 37	[°] 22 48	^h ^m 4 41	[°] 3 23	^h ^m 4 45	[°] 6 49
Jan. 0.4	38.573 ₈ 28	30.93 9	40.188 ₃₂	52.46 ₁₂₃	40.670 ₂₂	31.63 ₇₅
10.4	38.545 ₇₄	31.02 3	40.156 ₇₁	53.69 ₁₀₉	40.648 ₆₂	30.88 ₆₇
20.4	38.471 ₁₁₁	31.05 2	40.085 ₁₀₈	54.78 ₉₂	40.586 ₁₀₁	30.21 ₅₉
30.3	38.360 ₁₄₅	31.03 8	39.977 ₁₃₉	55.70 ₇₃	40.485 ₁₃₃	29.62 ₄₈
Feb. 9.3	38.215 ₁₇₃	30.95 13	39.838 ₁₆₄	56.43 ₅₃	40.352 ₁₅₉	29.14 ₃₈
19.3	38.042 ₁₉₁	30.82 21	39.674 ₁₇₉	56.96 ₃₃	40.193 ₁₇₆	28.76 ₂₉
Mar. 1.3	37.851 ₁₉₅	30.61 27	39.495 ₁₈₅	57.29 ₁₃	40.017 ₁₈₃	28.47 ₁₉
11.2	37.656 ₁₉₁	30.34 33	39.310 ₁₈₂	57.42 ₈	39.834 ₁₈₀	28.28 ₇
21.2	37.465 ₁₇₃	30.01 39	39.128 ₁₆₈	57.34 ₂₉	39.654 ₁₆₆	28.21 ₄
31.2	37.292 ₁₄₆	29.62 40	38.960 ₁₄₅	57.05 ₅₁	39.488 ₁₄₃	28.25 ₁₆
Apr. 10.2	37.146 ₁₁₅	29.22 34	38.815 ₁₁₄	56.54 ₇₂	39.345 ₁₁₃	28.41 ₃₀
20.1	37.031 ₆₉	28.88 33	38.701 ₇₈	55.82 ₉₂	39.232 ₇₅	28.71 ₄₅
30.1	36.962 ₂₈	28.55 26	38.623 ₃₆	54.90 ₁₁₃	39.157 ₃₃	29.16 ₆₀
May 10.1	36.934 ₂₆	28.29 14	38.587 ₈	53.77 ₁₃₁	39.124 ₁₂	29.76 ₇₄
20.0	36.960 ₆₉	28.15 0	38.595 ₅₃	52.46 ₁₄₇	39.136 ₅₆	30.50 ₉₁
30.0	37.029 ₁₂₀	28.15 12	38.648 ₉₅	50.99 ₁₆₁	39.192 ₉₉	31.41 ₁₀₃
June 9.0	37.149 ₁₆₂	28.27 23	38.743 ₁₃₆	49.38 ₁₇₁	39.291 ₁₄₂	32.44 ₁₁₄
19.0	37.311 ₂₀₂	28.50 40	38.879 ₁₇₃	47.67 ₁₇₇	39.433 ₁₇₇	33.58 ₁₂₄
28.9	37.513 ₂₃₃	28.90 52	39.052 ₂₀₅	45.90 ₁₇₈	39.610 ₂₁₀	34.82 ₁₂₈
July 8.9	37.746 ₂₆₂	29.42 61	39.257 ₂₃₁	44.12 ₁₇₃	39.820 ₂₃₆	36.10 ₁₃₁
18.9	38.008 ₂₈₆	30.03 69	39.488 ₂₅₂	42.39 ₁₆₄	40.056 ₂₅₈	37.41 ₁₂₇
28.9	38.294 ₂₉₆	30.72 75	39.740 ₂₆₈	40.75 ₁₄₉	40.314 ₂₇₂	38.68 ₁₂₀
Aug. 7.8	38.590 ₃₀₇	31.47 80	40.008 ₂₇₇	39.26 ₁₂₉	40.586 ₂₈₂	39.88 ₁₀₉
17.8	38.897 ₃₁₀	32.27 76	40.285 ₂₈₁	37.97 ₁₀₄	40.868 ₂₈₇	40.97 ₉₃
27.8	39.207 ₃₀₉	33.03 75	40.566 ₂₈₁	36.93 ₇₆	41.155 ₂₈₆	41.90 ₇₄
Sept. 6.7	39.516 ₃₀₆	33.78 68	40.847 ₂₇₇	36.17 ₄₅	41.441 ₂₈₂	42.64 ₅₃
16.7	39.822 ₂₉₄	34.46 64	41.124 ₂₆₈	35.72 ₁₃	41.723 ₂₇₅	43.17 ₃₁
26.7	40.116 ₂₈₀	35.10 54	41.392 ₂₅₆	35.59 ₂₁	41.998 ₂₆₃	43.48 ₇
Oct. 6.7	40.396 ₂₆₆	35.64 46	41.648 ₂₄₀	35.80 ₅₁	42.261 ₂₄₉	43.55 ₁₅
16.6	40.662 ₂₄₈	36.10 38	41.888 ₂₂₁	36.31 ₇₈	42.510 ₂₃₁	43.40 ₃₇
26.6	40.910 ₂₂₀	36.48 35	42.109 ₁₉₉	37.09 ₁₀₃	42.741 ₂₁₀	43.03 ₅₂
Nov. 5.6	41.130 ₁₉₅	36.83 27	42.308 ₁₇₄	38.12 ₁₂₂	42.951 ₁₈₅	42.51 ₆₈
15.5	41.325 ₁₆₂	37.10 24	42.482 ₁₄₄	39.34 ₁₃₄	43.136 ₁₅₆	41.83 ₇₆
25.5	41.487 ₁₃₀	37.34 19	42.626 ₁₁₁	40.68 ₁₄₁	43.292 ₁₂₃	41.07 ₈₂
Dec. 5.5	41.617 ₈₆	37.53 17	42.737 ₇₄	42.09 ₁₄₂	43.415 ₈₇	40.25 ₈₃
15.5	41.703 ₄₆	37.70 16	42.811 ₃₅	43.51 ₁₃₈	43.502 ₄₆	39.42 ₈₂
25.4	41.749 ₀	37.86 14	42.846 ₆	44.89 ₁₂₈	43.548 ₅	38.60 ₇₆
35.4	41.749	38.00	42.840	46.17	43.553	37.84
Mean Place Sec δ , Tan δ	37.287 1.085	37.62 +0.421	39.082 1.002	41.13 -0.059	39.515 1.007	41.30 +0.120
L α , L δ	+0.01	+0.1	0.00	+0.1	0.00	+0.1
ω α , ω δ	-0.01	+0.9	0.00	+0.9	0.00	+0.9
AUTHORITY	A. E.		A. N.			

304 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ι Aurigæ. Mag. 2·9		ε Aurigæ. Mag. 3·4-4·1		η Aurigæ. Mag. 3·3	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.
	^h 4 5 ^I	^m 33 2	^h 4 56	^m 43 42	^h 5 I	^m 41 7
Jan. 0·4	60·063 ¹⁹	38·23 ⁶⁸	28·198 ²⁵	34·41 ¹²³	8·444 ¹⁷	49·30 ¹¹⁰
10·4	60·044 ⁷²	38·91 ⁵⁴	28·173 ⁸³	35·64 ¹¹¹	8·427 ⁷⁴	50·40 ⁹⁹
20·4	59·972 ¹¹⁵	39·45 ⁴⁴	28·090 ¹³⁷	36·75 ⁹⁰	8·353 ¹²³	51·39 ⁸²
30·3	59·857 ¹⁵⁴	39·89 ³⁴	27·953 ¹⁸⁴	37·65 ⁶⁸	8·230 ¹⁷²	52·21 ⁶³
Feb. 9·3	59·703 ¹⁹⁰	40·23 ¹²	27·769 ²²⁰	38·33 ⁴¹	8·058 ²⁰⁷	52·84 ³⁹
19·3	59·513 ²⁰⁸	40·35 ³	27·549 ²⁴⁷	38·74 ¹³	7·851 ²³⁵	53·23 ¹³
Mar. 1·3	59·305 ²¹⁶	40·32 ²²	27·302 ²⁵⁷	38·87 ¹⁶	7·616 ²⁴⁴	53·36 ¹²
11·2	59·089 ²¹⁴	40·10 ⁴⁰	27·045 ²⁵³	38·71 ⁴⁵	7·372 ²⁴⁴	53·24 ³⁹
21·2	58·875 ¹⁹⁷	39·70 ⁵²	26·792 ²³⁶	38·26 ⁷⁰	7·128 ²²⁷	52·85 ⁶¹
31·2	58·678 ¹⁷⁵	39·18 ⁶⁴	26·556 ²⁰⁶	37·56 ⁹⁰	6·901 ²⁰¹	52·24 ⁸¹
Apr. 10·2	58·503 ¹³⁴	38·54 ⁷³	26·350 ¹⁶⁷	36·66 ¹⁰⁹	6·700 ¹⁶¹	51·43 ⁹⁸
20·1	58·369 ⁹²	37·81 ⁷⁷	26·183 ¹¹³	35·57 ¹²⁰	6·539 ¹¹⁵	50·45 ¹⁰⁷
30·1	58·277 ⁴³	37·04 ⁷⁶	26·070 ⁶¹	34·37 ¹²⁷	6·424 ⁵⁹	49·38 ¹¹³
May 10·1	58·234 ⁹	36·28 ⁷²	26·009 ¹	33·10 ¹²⁸	6·365 ⁶	48·25 ¹¹⁴
20·0	58·243 ⁶²	35·56 ⁶³	26·008 ⁶¹	31·82 ¹²⁴	6·359 ⁵⁵	47·11 ¹¹⁰
30·0	58·305 ¹¹⁵	34·93 ⁵³	26·069 ¹¹⁹	30·58 ¹¹⁴	6·414 ¹¹²	46·01 ¹⁰¹
June 9·0	58·420 ¹⁶¹	34·40 ³⁹	26·188 ¹⁷⁷	29·44 ¹⁰⁴	6·526 ¹⁶⁶	45·00 ⁹²
19·0	58·581 ²⁰⁶	34·01 ²⁶	26·365 ²²⁵	28·40 ⁸⁶	6·692 ²¹³	44·08 ⁷⁵
28·9	58·787 ²³⁹	33·75 ¹⁰	26·590 ²⁷⁰	27·54 ⁶⁸	6·905 ²⁵⁵	43·33 ⁵⁸
July 8·9	59·026 ²⁷⁷	33·65 ⁵	26·860 ³⁰⁷	26·86 ⁴⁹	7·160 ²⁹³	42·75 ³⁹
18·9	59·303 ²⁹⁹	33·70 ¹⁸	27·167 ³³⁸	26·37 ³⁰	7·453 ³²⁴	42·36 ²⁴
28·9	59·602 ³¹⁸	33·88 ³²	27·505 ³⁵⁹	26·07 ⁹	7·777 ³⁴⁵	42·12 ⁵
Aug. 7·8	59·920 ³³²	34·20 ⁴¹	27·864 ³⁷⁶	25·98 ¹⁰	8·122 ³⁶⁰	42·07 ¹²
17·8	60·252 ³³⁶	34·61 ⁵¹	28·240 ³⁸⁵	26·08 ²⁸	8·482 ³⁶⁹	42·19 ²⁶
27·8	60·588 ³³⁹	35·12 ⁶⁰	28·625 ³⁸⁷	26·36 ⁴⁵	8·851 ³⁷⁴	42·45 ⁴³
Sept. 6·7	60·927 ³³⁶	35·72 ⁶²	29·012 ³⁸⁵	26·81 ⁶⁰	9·225 ³⁷³	42·88 ⁵⁵
16·7	61·263 ³²⁷	36·34 ⁶⁷	29·397 ³⁷⁸	27·41 ⁷⁶	9·598 ³⁶⁵	43·43 ⁶⁶
26·7	61·590 ³¹⁸	37·01 ⁶⁹	29·775 ³⁶⁵	28·17 ⁸⁷	9·963 ³⁵⁴	44·09 ⁷⁹
Oct. 6·7	61·908 ³⁰⁰	37·70 ⁷⁰	30·140 ³⁴⁹	29·04 ¹⁰¹	10·317 ³³⁸	44·88 ⁸⁷
16·6	62·208 ²⁸²	38·40 ⁷⁴	30·489 ³²⁴	30·05 ¹¹⁰	10·655 ³¹⁸	45·75 ⁹⁷
26·6	62·490 ²⁵⁸	39·14 ⁷⁴	30·813 ²⁹⁹	31·15 ¹²²	10·973 ²⁹³	46·72 ¹⁰⁶
Nov. 5·6	62·748 ²²⁶	39·88 ⁷⁸	31·112 ²⁶⁶	32·37 ¹²⁸	11·266 ²⁶¹	47·78 ¹¹¹
15·5	62·974 ¹⁹⁵	40·66 ⁷⁸	31·378 ²²⁴	33·65 ¹³⁷	11·527 ²²³	48·89 ¹¹⁹
25·5	63·169 ¹⁵⁵	41·44 ⁷⁹	31·602 ¹⁸⁰	35·02 ¹³⁹	11·750 ¹⁸¹	50·08 ¹²³
Dec. 5·5	63·324 ¹¹¹	42·23 ⁷⁸	31·782 ¹²⁸	36·41 ¹⁴³	11·931 ¹³¹	51·31 ¹²⁶
15·5	63·435 ⁶³	43·01 ⁷⁶	31·910 ⁷²	37·84 ¹³⁹	12·062 ⁷⁷	52·57 ¹²³
25·4	63·498 ¹³	43·77 ⁷³	31·982 ¹³	39·23 ¹³³	12·139 ²²	53·80 ¹¹⁹
35·4	63·511	44·50	31·995	40·56	12·161	54·99
Mean Place	58·583	44·04	26·433	39·07	6·755	54·56
Sec δ, Tan δ	1·193	+0·651	1·383	+0·956	1·328	+0·873
L α, L δ	+0·02	+0·1	+0·02	+0·1	+0·02	+0·1
ω α, ω δ	-0·01	+1·0	-0·02	+1·0	-0·02	+1·0
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 305

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ε Leporis. Mag. 3·3			β Eridani. Mag. 2·9			μ Leporis. Mag. 3·3		
	R. A.		Dec. S.	R. A.		Dec. S.	R. A.		Dec. S.
	h 5	m 2	° 22 28	h 5	m 4	° 5 11	h 5	m 9	° 16 17
Jan.	0·4	13·259 ₃₈	38°46' ₂₁₄	5·008 ₁₇	17°03' ₁₃₉	29·532 ₂₃	57°31' ₁₉₂		
	10·4	13·221 ₈₀	40·60 ₁₈₈	4·991 ₅₅	18·42' ₁₂₃	29·509 ₆₆	59·23 ₁₇₀		
	20·4	13·141 ₁₂₄	42·48 ₁₅₇	4·936 ₉₉	19·65' ₁₀₄	29·443 ₁₀₇	60·93 ₁₄₄		
	30·4	13·017 ₁₅₆	44·05 ₁₂₄	4·837 ₁₃₁	20·69' ₈₄	29·336 ₁₄₁	62·37 ₁₁₄		
Feb.	9·3	12·861 ₁₈₅	45·29 ₈₈	4·706 ₁₅₉	21·53' ₆₄	29·195 ₁₇₀	63·51 ₈₄		
	19·3	12·676 ₂₀₄	46·17 ₄₈	4·547 ₁₇₆	22·17' ₃₉	29·025 ₁₉₁	64·35 ₅₂		
Mar.	1·3	12·472 ₂₁₂	46·65 ₁₄	4·371 ₁₈₉	22·56' ₁₇	28·834 ₂₀₀	64·87 ₁₈		
	11·2	12·260 ₂₁₂	46·79 ₂₄	4·182 ₁₈₆	22·73' ₄	28·634 ₂₀₂	65·05 ₁₄		
	21·2	12·048 ₂₀₀	46·55 ₆₁	3·996 ₁₇₇	22·69' ₂₈	28·432 ₁₉₂	64·91 ₄₆		
	31·2	11·848 ₁₇₉	45·94 ₉₇	3·819 ₁₅₉	22·41' ₅₂	28·240 ₁₇₃	64·45 ₇₇		
Apr.	10·2	11·669 ₁₅₂	44·97 ₁₂₉	3·660 ₁₂₉	21·89' ₇₃	28·067 ₁₄₅	63·68 ₁₀₇		
	20·1	11·517 ₁₁₇	43·68 ₁₆₁	3·531 ₉₄	21·16' ₉₆	27·922 ₁₁₁	62·61 ₁₃₅		
	30·1	11·400 ₇₄	42·07 ₁₉₀	3·437 ₅₉	20·20' ₁₁₅	27·811 ₇₁	61·26 ₁₆₁		
May	10·1	11·326 ₃₁	40·17 ₂₁₂	3·378 ₁₂	19·05' ₁₃₃	27·740 ₂₉	59·65 ₁₈₄		
	20·1	11·295 ₁₆	38·05 ₂₃₃	3·366 ₃₂	17·72' ₁₅₀	27·711 ₁₆	57·81 ₂₀₂		
	30·0	11·311 ₆₀	35·72 ₂₄₈	3·398 ₇₂	16·22' ₁₆₄	27·727 ₅₉	55·79 ₂₁₉		
June	9·0	11·371 ₁₀₅	33·24 ₂₅₄	3·470 ₁₁₅	14·58' ₁₇₆	27·786 ₁₀₂	53·60 ₂₂₇		
	19·0	11·476 ₁₄₆	30·70 ₂₆₀	3·585 ₁₄₉	12·82' ₁₇₈	27·888 ₁₄₂	51·33 ₂₃₂		
	28·9	11·622 ₁₈₂	28·10 ₂₅₂	3·734 ₁₈₆	11·04' ₁₈₁	28·030 ₁₇₇	49·01 ₂₂₉		
July	8·9	11·804 ₂₁₄	25·58 ₂₄₁	3·920 ₂₁₅	9·23' ₁₇₇	28·207 ₂₀₇	46·72 ₂₂₀		
	18·9	12·018 ₂₄₀	23·17 ₂₂₂	4·135 ₂₃₆	7·46' ₁₆₈	28·414 ₂₃₄	44·52 ₂₀₅		
	28·9	12·258 ₂₆₁	20·95 ₁₉₆	4·371 ₂₅₅	5·78' ₁₅₁	28·648 ₂₅₃	42·47 ₁₈₃		
Aug.	7·8	12·519 ₂₇₇	18·99 ₁₆₄	4·626 ₂₇₀	4·27' ₁₃₁	28·901 ₂₆₉	40·64 ₁₅₅		
	17·8	12·796 ₂₈₈	17·35 ₁₂₄	4·896 ₂₇₈	2·96' ₁₀₇	29·170 ₂₇₉	39·09 ₁₂₀		
	27·8	13·084 ₂₉₁	16·11 ₈₁	5·174 ₂₈₀	1·89' ₇₅	29·449 ₂₈₃	37·89 ₈₂		
Sept.	6·8	13·375 ₂₉₁	15·30 ₃₅	5·454 ₂₇₉	1·14' ₄₃	29·732 ₂₈₄	37·07 ₄₀		
	16·7	13·666 ₂₈₄	14·95 ₁₄	5·733 ₂₇₃	0·71' ₉	30·016 ₂₇₉	36·67 ₃		
	26·7	13·950 ₂₇₄	15·09 ₆₂	6·006 ₂₆₅	0·62' ₂₅	30·295 ₂₇₁	36·70 ₄₈		
Oct.	6·7	14·224 ₂₆₂	15·71 ₁₀₇	6·271 ₂₅₃	0·87' ₅₈	30·566 ₂₅₉	37·18 ₈₉		
	16·6	14·486 ₂₄₀	16·78 ₁₄₈	6·524 ₂₃₅	1·45' ₈₉	30·825 ₂₄₁	38·07 ₁₂₇		
	26·6	14·726 ₂₁₆	18·26 ₁₈₆	6·759 ₂₁₈	2·34' ₁₁₄	31·066 ₂₂₀	39·34 ₁₆₁		
Nov.	5·6	14·942 ₁₈₉	20·12 ₂₁₂	6·977 ₁₉₂	3·48' ₁₃₅	31·286 ₁₉₅	40·95 ₁₈₇		
	15·6	15·131 ₁₅₅	22·24 ₂₃₄	7·169 ₁₆₄	4·83' ₁₄₈	31·481 ₁₆₄	42·82 ₂₀₆		
	25·5	15·286 ₁₁₈	24·58 ₂₄₄	7·333 ₁₃₀	6·31' ₁₆₀	31·645 ₁₂₉	44·88 ₂₁₆		
Dec.	5·5	15·404 ₇₉	27·02 ₂₄₅	7·463 ₉₄	7·91' ₁₅₈	31·774 ₉₁	47·04 ₂₁₉		
	15·5	15·483 ₃₅	29·47 ₂₃₈	7·557 ₅₂	9·49' ₁₅₄	31·865 ₅₀	49·23 ₂₁₃		
	25·5	15·518 ₁₀	31·85 ₂₂₃	7·609 ₁₃	11·03' ₁₄₆	31·915 ₆	51·36 ₂₀₀		
	35·4	15·508	34·08	7·622	12·49'	31·921	53·36		
Mean Place	12·043	24·54		3·844	5·33	28·326	44·26		
Sec δ, Tan δ	1·082	—0·414		1·004	—0·091	1·042	—0·292		
L α, L δ	—0·01	+0·1		0·00	+0·1	—0·01	+0·1		
ω α, ω δ	+0·01	+1·0		0·00	+1·0	0·00	+1·0		
AUTHORITY	A. E.			A. E.					

306 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Orionis. Mag. 0.3		α Aurigæ. Mag. 0.2		σ Orionis. Mag. 4.6	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	^h ^m 5 10	[°] ['] 8 17	^h ^m 5 10	[°] ['] 45 55	^h ^m 5 17	[°] ['] 0 27
Jan. 0.4	51.371 ₁₄	34.25 ₁₅₇	61.732 ₉	11.39 ₁₃₆	51.025 ₁	37.30 ₁₂₀
10.4	51.357 ₅₄	35.82 ₁₃₈	61.723 ₇₄	12.75 ₁₂₅	51.026 ₄₃	38.50 ₁₀₆
20.4	51.303 ₉₇	37.20 ₁₁₈	61.649 ₁₃₀	14.00 ₁₀₇	50.983 ₈₅	39.56 ₉₁
30.4	51.206 ₁₃₁	38.38 ₉₄	61.519 ₁₈₂	15.07 ₈₄	50.898 ₁₂₀	40.47 ₇₃
Feb. 9.3	51.075 ₁₅₆	39.32 ₇₀	61.337 ₂₂₂	15.91 ₅₆	50.778 ₁₅₁	41.20 ₅₅
19.3	50.919 ₁₈₀	40.02 ₄₄	61.115 ₂₅₀	16.47 ₃₁	50.627 ₁₇₃	41.75 ₃₈
Mar. 1.3	50.739 ₁₉₁	40.46 ₂₀	60.865 ₂₆₆	16.78 ₅	50.454 ₁₈₅	42.13 ₂₀
11.2	50.548 ₁₉₁	40.66 ₈	60.599 ₂₆₈	16.73 ₃₀	50.269 ₁₈₇	42.33 ₁
21.2	50.357 ₁₈₁	40.58 ₂₉	60.331 ₂₅₂	16.43 ₆₂	50.082 ₁₈₀	42.34 ₁₇
31.2	50.176 ₁₆₅	40.29 ₅₇	60.079 ₂₂₆	15.81 ₈₈	49.902 ₁₆₁	42.17 ₃₆
Apr. 10.2	50.011 ₁₃₅	39.72 ₈₂	59.853 ₁₈₇	14.93 ₁₀₇	49.741 ₁₃₅	41.81 ₅₃
20.1	49.876 ₁₀₁	38.90 ₁₀₇	59.666 ₁₃₅	13.86 ₁₂₀	49.606 ₁₀₁	41.28 ₇₂
30.1	49.775 ₆₆	37.83 ₁₂₄	59.531 ₈₀	12.66 ₁₃₃	49.505 ₆₃	40.56 ₈₉
May 10.1	49.709 ₂₂	36.59 ₁₄₈	59.451 ₁₉	11.33 ₁₃₈	49.442 ₂₂	39.67 ₁₀₇
20.1	49.687 ₂₁	35.11 ₁₆₄	59.432 ₄₀	9.95 ₁₃₆	49.420 ₂₂	38.60 ₁₂₂
30.0	49.708 ₆₅	33.47 ₁₈₀	59.472 ₁₀₄	8.59 ₁₃₀	49.442 ₆₅	37.38 ₁₃₆
June 9.0	49.773 ₁₀₇	31.67 ₁₈₉	59.576 ₁₆₂	7.29 ₁₂₃	49.507 ₁₀₅	36.02 ₁₄₅
19.0	49.880 ₁₄₃	29.78 ₁₉₃	59.738 ₂₁₅	6.06 ₁₀₆	49.612 ₁₄₄	34.57 ₁₅₃
28.9	50.023 ₁₈₀	27.85 ₁₉₄	59.953 ₂₆₂	5.00 ₉₁	49.756 ₁₇₇	33.04 ₁₅₆
July 8.9	50.203 ₂₀₇	25.91 ₁₈₉	60.215 ₃₀₁	4.09 ₇₂	49.933 ₂₀₇	31.48 ₁₅₃
18.9	50.410 ₂₃₀	24.02 ₁₇₇	60.516 ₃₃₉	3.37 ₅₃	50.140 ₂₃₁	29.95 ₁₄₇
28.9	50.640 ₂₅₁	22.25 ₁₆₃	60.855 ₃₆₂	2.84 ₃₃	50.371 ₂₅₀	28.48 ₁₃₅
Aug. 7.8	50.891 ₂₆₈	20.62 ₁₃₆	61.217 ₃₈₃	2.51 ₁₅	50.621 ₂₆₄	27.13 ₁₁₈
17.8	51.159 ₂₇₆	19.26 ₁₁₀	61.600 ₃₉₃	2.36 ₈	50.885 ₂₇₄	25.95 ₉₇
27.8	51.435 ₂₈₀	18.16 ₇₇	61.993 ₄₀₁	2.44 ₂₄	51.159 ₂₇₈	24.98 ₇₂
Sept. 6.8	51.715 ₂₇₉	17.39 ₄₄	62.394 ₄₀₁	2.68 ₄₂	51.437 ₂₈₀	24.26 ₄₃
16.7	51.994 ₂₇₆	16.95 ₆	62.795 ₃₉₉	3.10 ₆₀	51.717 ₂₇₇	23.83 ₁₄
26.7	52.270 ₂₆₇	16.89 ₃₁	63.194 ₃₈₆	3.70 ₇₄	51.994 ₂₇₁	23.69 ₁₇
Oct. 6.7	52.537 ₂₅₇	17.20 ₆₈	63.580 ₃₇₂	4.44 ₈₇	52.265 ₂₆₀	23.86 ₄₆
16.6	52.794 ₂₄₀	17.88 ₉₉	63.952 ₃₅₂	5.31 ₁₀₄	52.525 ₂₄₇	24.32 ₇₂
26.6	53.034 ₂₂₄	18.87 ₁₂₈	64.304 ₃₂₅	6.35 ₁₁₆	52.772 ₂₂₈	25.04 ₉₆
Nov. 5.6	53.258 ₁₉₆	20.15 ₁₅₀	64.629 ₂₉₂	7.51 ₁₂₉	53.000 ₂₀₇	26.00 ₁₁₄
15.6	53.454 ₁₆₉	21.65 ₁₆₆	64.921 ₂₅₁	8.80 ₁₃₉	53.207 ₁₇₉	27.14 ₁₂₇
25.5	53.623 ₁₃₄	23.31 ₁₇₆	65.172 ₂₀₆	10.19 ₁₄₉	53.386 ₁₄₈	28.41 ₁₃₅
Dec. 5.5	53.757 ₉₉	25.07 ₁₇₇	65.378 ₁₅₀	11.65 ₁₄₆	53.534 ₁₁₁	29.76 ₁₃₅
15.5	53.856 ₅₆	26.84 ₁₇₃	65.528 ₉₃	13.14 ₁₅₀	53.645 ₇₂	31.11 ₁₃₂
25.5	53.912 ₁₈	28.57 ₁₆₅	65.621 ₃₂	14.64 ₁₄₆	53.717 ₂₈	32.43 ₁₂₃
35.4	53.930	30.22	65.653	16.10	53.745	33.66
Mean Place	50.186	22.17	59.883	16.73	49.825	26.18
Sec δ , Tan δ	1.011	-0.146	1.438	+1.033	1.000	-0.008
L α , L δ	0.00	+0.1	+0.03	+0.1	0.00	+0.1
ω α , ω δ	0.00	+1.0	-0.01	+1.0	0.00	+1.0
AUTHORITY	A. E.		A. E.			

APPARENT PLACES OF STARS, 1923. 307

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Orionis (mean). Mag. 3.4		γ Orionis. Mag. 1.7		β Tauri. Mag. 1.8	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	^h 5 ^m 20	[°] 2 ['] 27	^h 5 ^m 20	[°] 6 ['] 16	^h 5 ^m 21	[°] 28 ['] 32
Jan. 0.5	37.511 ¹	72.08 ¹³¹	61.235 ⁸	41.56 ⁸⁴	26.812 ¹¹	29.88 ⁴³
10.4	37.512 ⁴²	73.39 ¹¹⁶	61.243 ³⁷	40.72 ⁷⁵	26.823 ³⁷	30.31 ⁴⁰
20.4	37.470 ⁸⁴	74.55 ⁹⁹	61.206 ⁷⁸	39.97 ⁶⁴	26.786 ⁸⁷	30.71 ³⁴
30.4	37.386 ¹²⁰	75.54 ⁸¹	61.128 ¹¹⁸	39.33 ⁵¹	26.699 ¹²⁸	31.05 ²⁹
Feb. 9.3	37.266 ¹⁵¹	76.35 ⁶⁰	61.010 ¹⁴⁷	38.82 ⁴⁰	26.571 ¹⁶⁵	31.34 ²²
19.3	37.115 ¹⁷³	76.95 ⁴¹	60.863 ¹⁷¹	38.42 ²⁹	26.406 ¹⁹²	31.56 ⁷
1.3	36.942 ¹⁸⁶	77.36 ²¹	60.692 ¹⁸³	38.13 ¹⁶	26.214 ²⁰⁵	31.63 ⁵
Mar. 11.3	36.756 ¹⁸⁸	77.57 ⁰	60.509 ¹⁸⁷	37.97 ⁶	26.009 ²⁰⁸	31.58 ¹⁵
21.2	36.568 ¹⁸¹	77.57 ¹⁹	60.322 ¹⁷⁸	37.91 ⁷	25.801 ¹⁹⁸	31.43 ²⁷
31.2	36.387 ¹⁶³	77.38 ⁴⁰	60.144 ¹⁶¹	37.98 ¹⁷	25.603 ¹⁷⁸	31.16 ³⁹
Apr. 10.2	36.224 ¹³⁷	76.98 ⁶⁰	59.983 ¹³³	38.15 ³²	25.425 ¹⁵⁰	30.77 ⁴⁴
20.2	36.087 ¹⁰⁵	76.38 ⁷⁹	59.850 ¹⁰²	38.47 ⁴⁵	25.275 ¹¹⁰	30.33 ⁴⁸
30.1	35.982 ⁶⁶	75.59 ⁹⁸	59.748 ⁶²	38.92 ⁵⁸	25.165 ⁷⁰	29.85 ⁴⁹
May 10.1	35.916 ²⁵	74.61 ¹¹⁶	59.686 ²²	39.50 ⁷²	25.095 ¹⁶	29.36 ⁴⁵
20.1	35.891 ¹⁷	73.45 ¹³²	59.664 ²³	40.22 ⁸⁵	25.079 ²⁹	28.91 ⁴⁰
30.0	35.908 ⁶¹	72.13 ¹⁴⁵	59.687 ⁶⁶	41.07 ⁹⁶	25.108 ⁷⁹	28.51 ³⁴
June 9.0	35.969 ¹⁰²	70.68 ¹⁵⁶	59.753 ¹⁰⁹	42.03 ¹⁰⁷	25.187 ¹²⁷	28.17 ²³
19.0	36.071 ¹⁴⁰	69.12 ¹⁶²	59.862 ¹⁴⁵	43.10 ¹¹⁶	25.314 ¹⁶⁸	27.94 ¹³
29.0	36.211 ¹⁷³	67.50 ¹⁶⁵	60.007 ¹⁸⁰	44.26 ¹¹⁹	25.482 ²⁰⁷	27.81 ³
July 8.9	36.384 ²⁰⁴	65.85 ¹⁶²	60.187 ²⁰⁹	45.45 ¹²⁰	25.689 ²³⁹	27.78 ⁷
18.9	36.588 ²²⁸	64.23 ¹⁵⁴	60.396 ²³⁵	46.65 ¹¹⁹	25.928 ²⁶⁷	27.85 ¹⁵
28.9	36.816 ²⁴⁷	62.69 ¹⁴²	60.631 ²⁵¹	47.84 ¹¹⁰	26.195 ²⁸⁸	28.00 ²⁵
Aug. 7.9	37.063 ²⁶²	61.27 ¹²³	60.882 ²⁶⁸	48.94 ⁹⁸	26.483 ³⁰⁶	28.25 ²⁸
17.8	37.325 ²⁷²	60.04 ¹⁰⁰	61.150 ²⁷⁷	49.92 ⁸⁴	26.789 ³¹⁵	28.53 ³⁴
27.8	37.597 ²⁷⁸	59.04 ⁷³	61.427 ²⁸²	50.76 ⁶³	27.104 ³²²	28.87 ³⁶
Sept. 6.8	37.875 ²⁸⁰	58.31 ⁴³	61.709 ²⁸⁴	51.39 ⁴³	27.426 ³²³	29.23 ³⁷
16.7	38.155 ²⁷⁶	57.88 ¹²	61.993 ²⁸¹	51.82 ¹⁹	27.749 ³²³	29.60 ³⁵
26.7	38.431 ²⁷¹	57.76 ²¹	62.274 ²⁷⁶	52.01 ⁵	28.072 ³¹⁴	29.95 ³⁵
Oct. 6.7	38.702 ²⁶¹	57.97 ⁵¹	62.550 ²⁶⁵	51.96 ²⁷	28.386 ³⁰⁵	30.30 ³³
16.7	38.963 ²⁴⁷	58.48 ⁸⁰	62.815 ²⁵⁴	51.69 ⁵⁰	28.691 ²⁸⁹	30.63 ³³
26.6	39.210 ²³⁰	59.28 ¹⁰⁵	63.069 ²³⁵	51.19 ⁶⁷	28.980 ²⁷¹	30.96 ³¹
Nov. 5.6	39.440 ²⁰⁷	60.33 ¹²⁵	63.304 ²¹⁵	50.52 ⁸⁰	29.251 ²⁴⁸	31.27 ³⁶
15.6	39.647 ¹⁸⁰	61.58 ¹³⁹	63.519 ¹⁸⁶	49.72 ⁹¹	29.499 ²¹⁸	31.63 ³⁶
25.6	39.827 ¹⁴⁹	62.97 ¹⁴⁵	63.705 ¹⁵⁷	48.81 ⁹⁶	29.717 ¹⁸⁰	31.99 ³⁸
Dec. 5.5	39.976 ¹¹³	64.42 ¹⁴⁸	63.862 ¹¹⁸	47.85 ⁹⁸	29.897 ¹⁴⁰	32.37 ⁴¹
15.5	40.089 ⁷²	65.90 ¹⁴³	63.980 ⁸⁰	46.87 ⁹³	30.037 ⁹⁶	32.78 ⁴⁵
25.5	40.161 ²⁹	67.33 ¹³⁶	64.060 ³⁶	45.94 ⁸⁸	30.133 ⁴⁷	33.23 ⁴⁵
35.4	40.190	68.69	64.096	45.06	30.180	33.68
Mean Place	36.307	60.72	60.014	51.92	25.385	37.71
Sec δ , Tan δ	1.001	-0.043	1.006	+0.110	1.138	+0.544
L α , L δ	0.00	+0.1	0.00	+0.1	+0.01	+0.1
ω α , ω δ	0.00	+1.0	0.00	+1.0	-0.01	+1.0

AUTHORITY A. N. A. E. A. E.

308 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Leporis. Mag. 3.0		20 G. Pictoris. Mag. 5.5		δ Orionis. Mag. 2.5	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	^h ^m 5 24	[°] ['] 20 49	^h ^m 5 28	[°] ['] 47 7	^h ^m 5 28	[°] ['] 0 21
Jan. 0.5	58.048 ₈ 16	25.10 ₂₁₈	4.134 ₇₈	74.70 ₃₀₀	5.542 ₈	29.06 ₁₂₂
10.4	58.032 ₆₁	27.28 ₁₉₅	4.056 ₁₃₆	77.70 ₂₆₈	5.550 ₃₂	30.28 ₁₀₈
20.4	57.971 ₁₀₃	29.23 ₁₆₇	3.920 ₁₉₁	80.38 ₂₃₁	5.518 ₇₈	31.36 ₉₃
30.4	57.868 ₁₄₁	30.90 ₁₃₅	3.729 ₂₃₇	82.69 ₁₈₅	5.440 ₁₁₇	32.29 ₇₆
Feb. 9.3	57.727 ₁₇₃	32.25 ₁₀₁	3.492 ₂₇₅	84.54 ₁₃₈	5.323 ₁₄₅	33.05 ₅₇
19.3	57.554 ₁₉₆	33.26 ₆₅	3.217 ₃₀₂	85.92 ₈₇	5.178 ₁₇₁	33.62 ₃₈
Mar. 1.3	57.358 ₂₀₈	33.91 ₂₉	2.915 ₃₁₇	86.79 ₃₅	5.007 ₁₈₄	34.00 ₂₂
11.3	57.150 ₂₁₂	34.20 ₇	2.598 ₃₂₀	87.14 ₁₆	4.823 ₁₈₆	34.22 ₃
21.2	56.938 ₂₀₅	34.13 ₄₃	2.278 ₃₁₂	86.98 ₆₇	4.637 ₁₈₀	34.25 ₁₄
31.2	56.733 ₁₈₇	33.70 ₇₈	1.966 ₂₉₁	86.31 ₁₁₅	4.457 ₁₆₈	34.11 ₃₄
Apr. 10.2	56.546 ₁₆₂	32.92 ₁₁₀	1.675 ₂₆₀	85.16 ₁₆₀	4.289 ₁₃₉	33.77 ₅₃
20.2	56.384 ₁₂₉	31.82 ₁₄₂	1.415 ₂₂₀	83.56 ₂₀₃	4.150 ₁₀₈	33.24 ₇₀
30.1	56.255 ₉₀	30.40 ₁₇₁	1.195 ₁₇₃	81.53 ₂₃₉	4.042 ₇₂	32.54 ₈₇
May 10.1	56.165 ₄₈	28.69 ₁₉₅	1.022 ₁₂₁	79.14 ₂₇₁	3.970 ₂₈	31.67 ₁₀₄
20.1	56.117 ₅	26.74 ₂₁₆	0.901 ₆₄	76.43 ₂₉₆	3.942 ₁₃	30.63 ₁₁₇
30.0	56.112 ₄₁	24.58 ₂₃₃	0.837 ₇	73.47 ₃₁₆	3.955 ₅₃	29.46 ₁₃₃
June 9.0	56.153 ₈₃	22.25 ₂₄₃	0.830 ₅₁	70.31 ₃₂₆	4.008 ₉₉	28.13 ₁₄₄
19.0	56.236 ₁₂₅	19.82 ₂₄₈	0.881 ₁₀₆	67.05 ₃₂₉	4.107 ₁₃₁	26.69 ₁₄₈
29.0	56.361 ₁₆₁	17.34 ₂₄₆	0.987 ₁₆₀	63.76 ₃₂₁	4.238 ₁₇₀	25.21 ₁₅₃
July 8.9	56.522 ₁₉₅	14.88 ₂₃₇	1.147 ₂₀₈	60.55 ₃₀₈	4.408 ₁₉₈	23.68 ₁₄₉
18.9	56.717 ₂₂₃	12.51 ₂₂₀	1.355 ₂₅₁	57.47 ₂₈₂	4.606 ₂₂₃	22.19 ₁₄₄
28.9	56.940 ₂₄₆	10.31 ₁₉₇	1.606 ₂₈₉	54.65 ₂₄₉	4.829 ₂₄₅	20.75 ₁₃₂
Aug. 7.9	57.186 ₂₆₄	8.34 ₁₆₇	1.895 ₃₁₉	52.16 ₂₀₇	5.074 ₂₆₀	19.43 ₁₁₆
17.8	57.450 ₂₇₇	6.67 ₁₃₁	2.214 ₃₄₃	50.09 ₁₅₉	5.334 ₂₇₀	18.27 ₉₅
27.8	57.727 ₂₈₅	5.36 ₈₉	2.557 ₃₅₇	48.50 ₁₀₄	5.604 ₂₇₀	17.32 ₇₀
Sept. 6.8	58.012 ₂₈₈	4.47 ₄₅	2.914 ₃₆₆	47.46 ₄₄	5.883 ₂₈₁	16.62 ₄₃
16.7	58.300 ₂₈₇	4.02 ₃	3.280 ₃₆₅	47.02 ₁₈	6.164 ₂₇₈	16.19 ₁₀
26.7	58.587 ₂₈₀	4.05 ₅₀	3.645 ₃₅₆	47.20 ₇₉	6.442 ₂₇₃	16.09 ₁₅
Oct. 6.7	58.867 ₂₆₉	4.55 ₉₆	4.001 ₃₄₀	47.99 ₁₃₈	6.715 ₂₆₅	16.24 ₄₉
16.7	59.136 ₂₅₄	5.51 ₁₃₈	4.341 ₃₁₄	49.37 ₁₉₅	6.980 ₂₅₃	16.73 ₇₄
26.6	59.390 ₂₃₄	6.89 ₁₇₅	4.655 ₂₈₂	51.32 ₂₄₂	7.233 ₂₃₇	17.47 ₉₅
Nov. 5.6	59.624 ₂₀₈	8.64 ₂₀₆	4.937 ₂₄₁	53.74 ₂₈₂	7.470 ₂₁₅	18.42 ₁₁₆
15.6	59.832 ₁₇₈	10.70 ₂₂₆	5.178 ₁₉₄	56.56 ₃₁₁	7.685 ₁₈₉	19.58 ₁₂₈
25.6	60.010 ₁₄₂	12.96 ₂₄₀	5.372 ₁₄₁	59.67 ₃₂₈	7.874 ₁₅₆	20.86 ₁₃₇
Dec. 5.5	60.152 ₁₀₃	15.36 ₂₄₄	5.513 ₈₃	62.95 ₃₃₅	8.030 ₁₂₁	22.23 ₁₃₇
15.5	60.255 ₆₀	17.80 ₂₄₀	5.596 ₂₃	66.30 ₃₃₀	8.151 ₈₀	23.60 ₁₃₄
25.5	60.315 ₁₄	20.20 ₂₂₆	5.619 ₄₀	69.60 ₃₁₂	8.231 ₃₇	24.94 ₁₂₆
35.4	60.329	22.46	5.579	72.72	8.268	26.20
Mean Place	56.767	11.90	2.360	59.70	4.324	17.92
Sec δ , Tan δ	1.070	-0.380	1.470	-1.077	1.000	-0.006
L α , L δ	-0.01	+0.1	-0.03	+0.1	0.00	+0.1
ω α , ω δ	0.00	+1.0	+0.01	+1.0	0.00	+1.0
AUTHORITY	A. N.				A. F.	

APPARENT PLACES OF STARS, 1923. 309

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Leporis. Mag. 2.7		ι Orionis. Mag. 2.9		ϵ Orionis. Mag. 1.7	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	^h ^m 5 29	[°] ['] 17 52	^h ^m 5 31	[°] ['] 5 57	^h ^m 5 32	[°] ['] 1 14
Jan. 0.5	21.303 ₈ 9	47.96 ₂₀₉	41.192 ₈	45.47 ₁₅₃	19.563 ₁₁	70.86 ₁₂₈
10.4	21.294 ₅₁	50.05 ₁₈₃	41.200 ₃₅	47.00 ₁₃₅	19.574 ₃₁	72.14 ₁₁₄
20.4	21.243 ₉₅	51.88 ₁₆₃	41.165 ₇₉	48.35 ₁₁₆	19.543 ₇₆	73.28 ₉₈
30.4	21.148 ₁₃₇	53.51 ₁₂₉	41.086 ₁₁₈	49.51 ₉₅	19.467 ₁₁₃	74.26 ₇₉
Feb. 9.3	21.011 ₁₆₄	54.80 ₉₈	40.968 ₁₄₈	50.46 ₇₃	19.354 ₁₄₅	75.05 ₅₉
19.3	20.847 ₁₉₀	55.78 ₆₄	40.820 ₁₇₃	51.19 ₄₇	19.209 ₁₆₉	75.64 ₄₂
Mar. 1.3	20.657 ₂₀₃	56.42 ₃₃	40.647 ₁₈₈	51.66 ₂₆	19.040 ₁₈₄	76.06 ₂₄
11.3	20.454 ₂₀₅	56.75 ₅	40.459 ₁₉₁	51.92 ₂	18.856 ₁₈₇	76.30 ₂
21.2	20.249 ₁₉₉	56.70 ₃₈	40.268 ₁₈₅	51.94 ₂₂	18.669 ₁₈₂	76.32 ₁₅
31.2	20.050 ₁₈₂	56.32 ₇₁	40.083 ₁₆₉	51.72 ₄₅	18.487 ₁₇₀	76.17 ₃₅
Apr. 10.2	19.868 ₁₅₉	55.61 ₉₉	39.914 ₁₄₅	51.27 ₆₈	18.317 ₁₄₁	75.82 ₅₅
20.2	19.709 ₁₂₆	54.62 ₁₃₂	39.769 ₁₁₅	50.59 ₈₈	18.176 ₁₁₀	75.27 ₇₂
30.1	19.583 ₉₂	53.30 ₁₅₆	39.654 ₇₇	49.71 ₁₁₀	18.066 ₇₆	74.55 ₈₇
May 10.1	19.491 ₄₇	51.74 ₁₈₃	39.577 ₃₈	48.61 ₁₃₀	17.990 ₃₃	73.68 ₁₀₈
20.1	19.444 ₅	49.91 ₂₀₀	39.539 ₆	47.31 ₁₄₆	17.957 ₈	72.60 ₁₂₃
30.0	19.439 ₃₈	47.91 ₂₂₀	39.545 ₄₉	45.85 ₁₆₀	17.965 ₅₁	71.37 ₁₃₆
June 9.0	19.477 ₈₂	45.71 ₂₂₀	39.594 ₈₇	44.25 ₁₇₁	18.016 ₉₂	70.01 ₁₄₇
19.0	19.559 ₁₂₁	43.42 ₂₃₅	39.681 ₁₂₇	42.54 ₁₇₈	18.108 ₁₂₈	68.54 ₁₅₂
29.0	19.680 ₁₅₈	41.07 ₂₃₄	39.808 ₁₆₃	40.76 ₁₇₉	18.236 ₁₆₄	67.02 ₁₅₄
July 8.9	19.838 ₁₉₁	38.73 ₂₂₄	39.971 ₁₉₄	38.97 ₁₇₄	18.400 ₁₉₆	65.48 ₁₅₄
18.9	20.029 ₂₁₇	36.49 ₂₁₃	40.165 ₂₁₈	37.23 ₁₆₇	18.596 ₂₁₉	63.94 ₁₄₇
28.9	20.246 ₂₄₃	34.36 ₁₈₉	40.383 ₂₃₉	35.56 ₁₅₃	18.815 ₂₄₂	62.47 ₁₃₅
Aug. 7.9	20.489 ₂₅₉	32.47 ₁₆₂	40.622 ₂₅₅	34.03 ₁₂₉	19.057 ₂₅₆	61.12 ₁₁₇
17.8	20.748 ₂₇₄	30.85 ₁₂₇	40.877 ₂₆₉	32.74 ₁₀₆	19.313 ₂₇₀	59.95 ₉₇
27.8	21.022 ₂₈₂	29.58 ₈₈	41.146 ₂₇₅	31.68 ₇₈	19.583 ₂₇₇	58.98 ₇₀
Sept. 6.8	21.304 ₂₈₅	28.70 ₄₆	41.421 ₂₇₉	30.90 ₄₃	19.860 ₂₈₀	58.28 ₄₂
16.7	21.589 ₂₈₅	28.24 ₁	41.700 ₂₇₈	30.47 ₉	20.140 ₂₇₉	57.86 ₁₃
26.7	21.874 ₂₇₉	28.25 ₄₂	41.978 ₂₇₄	30.38 ₂₆	20.419 ₂₇₄	57.73 ₁₉
Oct. 6.7	22.153 ₂₆₈	28.67 ₈₆	42.252 ₂₆₅	30.64 ₆₀	20.693 ₂₆₆	57.92 ₅₃
16.7	22.421 ₂₅₆	29.53 ₁₂₉	42.517 ₂₅₅	31.24 ₉₃	20.959 ₂₅₅	58.45 ₇₆
26.6	22.677 ₂₃₆	30.82 ₁₆₄	42.772 ₂₃₅	32.17 ₁₂₀	21.214 ₂₄₀	59.21 ₁₀₁
Nov. 5.6	22.913 ₂₁₄	32.46 ₁₉₃	43.007 ₂₁₆	33.37 ₁₄₂	21.454 ₂₁₇	60.22 ₁₁₉
15.6	23.127 ₁₈₀	34.39 ₂₁₃	43.223 ₁₈₇	34.79 ₁₅₉	21.671 ₁₉₂	61.41 ₁₃₇
25.6	23.307 ₁₄₈	36.52 ₂₂₈	43.410 ₁₅₈	36.38 ₁₆₈	21.863 ₁₅₉	62.78 ₁₄₂
Dec. 5.5	23.455 ₁₀₈	38.80 ₂₃₁	43.568 ₁₁₉	38.06 ₁₇₀	22.022 ₁₂₄	64.20 ₁₄₄
15.5	23.563 ₆₇	41.11 ₂₂₉	43.687 ₈₁	39.76 ₁₆₈	22.146 ₈₅	65.64 ₁₄₀
25.5	23.630 ₂₄	43.40 ₂₁₅	43.768 ₃₆	41.44 ₁₅₇	22.231 ₃₉	67.04 ₁₃₂
35.4	23.654	45.55	43.804	43.01	22.270	68.36
Mean Place	20.031	35.14	39.965	33.77	18.338	59.62
Sec δ , Tan δ	1.051	-0.323	1.005	-0.104	1.000	-0.022
L α , L δ	-0.01	+0.1	0.00	0.0	0.00	0.0
ω α , ω δ	0.00	+1.0	0.00	+1.0	0.00	+1.0
AUTHORITY	A. E.		A. E.		A. E.	

310 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Doradûs. Mag. 3·8		ζ Tauri. Mag. 3·0		α Columbæ. Mag. 2·7	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	^h ^m 5 32	[°] ['] 62 32	^h ^m 5 33	[°] ['] 21 5	^h ^m 5 36	[°] ['] 34 6
Jan. 0·5	60·11 ^s 17	40·74 ^s 321	3·869 ^s 24	39·34 ^s 1	53·134 ^s 29	65·83 ^s 271
10·4	59·94 25	43·95 288	3·893 24	39·33 3	53·105 81	68·54 250
20·4	59·69 33	46·83 246	3·869 72	39·36 4	53·024 126	71·04 212
30·4	59·36 39	49·29 199	3·797 114	39·40 5	52·898 169	73·16 173
Feb. 9·3	58·97 44	51·28 147	3·683 149	39·45 3	52·729 203	74·89 135
19·3	58·53 48	52·75 94	3·534 177	39·48 0	52·526 232	76·24 88
Mar. 1·3	58·05 50	53·69 40	3·357 192	39·48 3	52·294 248	77·12 42
11·3	57·55 50	54·09 15	3·165 197	39·45 9	52·046 250	77·54 2
21·2	57·05 49	53·94 70	2·968 190	39·36 11	51·796 244	77·52 47
31·2	56·56 46	53·24 120	2·778 174	39·25 15	51·552 228	77·05 92
Apr. 10·2	56·10 43	52·04 169	2·604 146	39·10 15	51·324 203	76·13 129
20·2	55·67 37	50·35 213	2·458 113	38·95 14	51·121 170	74·84 171
30·1	55·30 31	48·22 252	2·345 71	38·81 11	50·951 127	73·13 204
May 10·1	54·99 23	45·70 287	2·274 30	38·70 6	50·824 88	71·09 234
20·1	54·76 16	42·83 313	2·244 19	38·64 1	50·736 39	68·75 257
30·0	54·60 8	39·70 332	2·263 64	38·65 9	50·697 9	66·18 280
June 9·0	54·52 0	36·38 345	2·327 109	38·74 18	50·706 58	63·38 290
19·0	54·52 8	32·93 346	2·436 147	38·92 26	50·764 105	60·48 295
29·0	54·60 17	29·47 340	2·583 186	39·18 33	50·869 146	57·53 291
July 8·9	54·77 24	26·07 322	2·769 217	39·51 40	51·015 187	54·62 280
18·9	55·01 31	22·85 297	2·986 244	39·91 45	51·202 221	51·82 261
28·9	55·32 38	19·88 263	3·230 266	40·36 46	51·423 250	49·21 230
Aug. 7·9	55·70 42	17·25 218	3·496 283	40·82 45	51·673 275	46·91 197
17·8	56·12 46	15·07 166	3·779 294	41·27 44	51·948 295	44·94 154
27·8	56·58 49	13·41 110	4·073 301	41·71 38	52·243 306	43·40 104
Sept. 6·8	57·07 51	12·31 48	4·374 303	42·09 31	52·549 314	42·36 54
16·7	57·58 51	11·83 18	4·677 305	42·40 25	52·863 314	41·82 2
26·7	58·09 50	12·01 83	4·982 299	42·65 12	53·177 311	41·84 61
Oct. 6·7	58·59 47	12·84 147	5·281 291	42·77 6	53·488 296	42·45 116
16·7	59·06 43	14·31 204	5·572 280	42·83 0	53·784 279	43·61 162
26·6	59·49 38	16·35 255	5·852 264	42·83 10	54·063 258	45·23 209
Nov. 5·6	59·87 32	18·90 297	6·116 242	42·73 12	54·321 228	47·32 247
15·6	60·19 24	21·87 328	6·358 216	42·61 12	54·549 192	49·79 276
25·6	60·43 16	25·15 349	6·574 182	42·49 12	54·741 152	52·55 294
Dec. 5·5	60·59 7	28·64 357	6·756 145	42·37 9	54·893 105	55·49 300
15·5	60·66 2	32·21 352	6·901 103	42·28 4	54·998 56	58·49 295
25·5	60·64 12	35·73 333	7·004 55	42·24 1	55·054 4	61·44 282
35·4	60·52	39·06	7·059	42·23	55·058	64·26
Mean Place	57·42	25·48	2·531	48·42	51·645	52·05
Sec δ , Tan δ	2·169	—1·924	1·072	+0·386	1·208	—0·677
L α , L δ	—0·05	0·0	+0·01	0·0	—0·02	0·0
ω α , ω δ	+0·01	+1·0	0·00	+1·0	0·00	+1·0
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 311

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ζ Orionis. Mag. 2.0		ι30 Tauri. Mag. 5.5		κ Orionis. Mag. 2.2	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	^h ^m 5 36	[°] ['] 1 58	^h ^m 5 42	[°] ['] 17 41	^h ^m 5 44	[°] ['] 9 41
Jan. 0.5	53.624 ₈ 16	67.68 ₁₃₃	58.114 ₃₂	55.94 ₂₂	7.518 ₁₄	57.14 ₁₇₆
10.4	53.640 ₂₉	69.01 ₁₁₈	58.146 ₁₅	55.72 ₁₆	7.532 ₃₂	58.90 ₁₅₉
20.4	53.611 ₇₂	70.19 ₁₀₂	58.131 ₆₂	55.56 ₁₁	7.500 ₇₂	60.49 ₁₃₇
30.4	53.539 ₁₁₁	71.21 ₈₂	58.069 ₁₀₅	55.45 ₇	7.428 ₁₁₅	61.86 ₁₁₁
Feb. 9.4	53.428 ₁₄₄	72.03 ₆₄	57.964 ₁₄₁	55.38 ₄	7.313 ₁₄₇	62.97 ₈₆
19.3	53.284 ₁₆₈	72.67 ₄₃	57.823 ₁₆₉	55.34 ₄	7.166 ₁₇₂	63.83 ₆₀
Mar. 1.3	53.116 ₁₈₄	73.10 ₂₄	57.654 ₁₈₇	55.30 ₃	6.994 ₁₈₉	64.43 ₃₃
11.3	52.932 ₁₈₉	73.34 ₄	57.467 ₁₉₄	55.27 ₄	6.805 ₁₉₅	64.76 ₆
21.2	52.743 ₁₈₄	73.38 ₁₆	57.273 ₁₈₉	55.23 ₅	6.610 ₁₉₀	64.82 ₂₀
31.2	52.559 ₁₆₉	73.22 ₃₅	57.084 ₁₇₃	55.18 ₄	6.420 ₁₇₆	64.62 ₄₉
Apr. 10.2	52.390 ₁₄₆	72.87 ₅₅	56.911 ₁₅₀	55.14 ₂	6.244 ₁₅₆	64.13 ₇₄
20.2	52.244 ₁₁₄	72.32 ₇₄	56.761 ₁₁₇	55.12 ₁	6.088 ₁₂₃	63.39 ₉₅
30.1	52.130 ₇₉	71.58 ₉₁	56.644 ₇₈	55.13 ₅	5.965 ₉₁	62.44 ₁₂₁
May 10.1	52.051 ₃₇	70.67 ₁₀₉	56.566 ₃₆	55.18 ₁₂	5.874 ₅₀	61.23 ₁₄₃
20.1	52.014 ₄	69.58 ₁₂₅	56.530 ₉	55.30 ₁₉	5.824 ₇	59.80 ₁₆₀
30.1	52.018 ₄₆	68.33 ₁₃₉	56.539 ₅₃	55.49 ₂₇	5.817 ₃₂	58.20 ₁₇₄
June 9.0	52.064 ₈₈	66.94 ₁₄₈	56.592 ₉₆	55.76 ₃₅	5.849 ₇₄	56.46 ₁₈₇
19.0	52.152 ₁₂₅	65.46 ₁₅₆	56.688 ₁₃₆	56.11 ₄₃	5.923 ₁₁₅	54.59 ₁₉₄
29.0	52.277 ₁₆₀	63.90 ₁₅₈	56.824 ₁₇₂	56.54 ₄₉	6.038 ₁₄₆	52.65 ₁₉₅
July 8.9	52.437 ₁₉₁	62.32 ₁₅₆	56.996 ₂₀₅	57.03 ₅₄	6.184 ₁₈₁	50.70 ₁₉₁
18.9	52.628 ₂₁₇	60.76 ₁₄₉	57.201 ₂₃₁	57.57 ₅₆	6.365 ₂₀₈	48.79 ₁₇₉
28.9	52.845 ₂₃₈	59.27 ₁₃₇	57.432 ₂₅₄	58.13 ₅₆	6.573 ₂₃₀	47.00 ₁₆₅
Aug. 7.9	53.083 ₂₅₄	57.90 ₁₁₉	57.686 ₂₇₀	58.69 ₅₂	6.803 ₂₅₀	45.35 ₁₄₄
17.8	53.337 ₂₆₇	56.71 ₉₈	57.956 ₂₈₄	59.21 ₄₆	7.053 ₂₆₃	43.91 ₁₁₂
27.8	53.604 ₂₇₅	55.73 ₇₁	58.240 ₂₉₂	59.67 ₃₈	7.316 ₂₇₄	42.79 ₈₃
Sept. 6.8	53.879 ₂₇₈	55.02 ₄₂	58.532 ₂₉₆	60.05 ₂₇	7.590 ₂₇₉	41.96 ₄₆
16.8	54.157 ₂₇₉	54.60 ₁₀	58.828 ₂₉₇	60.32 ₁₅	7.869 ₂₈₁	41.50 ₇
26.7	54.436 ₂₇₅	54.50 ₂₀	59.125 ₂₉₆	60.47 ₃	8.150 ₂₇₆	41.43 ₃₀
Oct. 6.7	54.711 ₂₆₆	54.70 ₅₃	59.421 ₂₈₉	60.50 ₉	8.426 ₂₇₀	41.73 ₆₈
16.7	54.977 ₂₅₉	55.23 ₈₁	59.710 ₂₇₉	60.41 ₁₉	8.696 ₂₆₄	42.41 ₁₀₄
26.6	55.236 ₂₄₁	56.04 ₁₀₅	59.989 ₂₆₅	60.22 ₂₈	8.960 ₂₄₃	43.45 ₁₃₄
Nov. 5.6	55.477 ₂₂₁	57.09 ₁₂₆	60.254 ₂₄₄	59.94 ₃₃	9.203 ₂₂₁	44.79 ₁₅₉
15.6	55.698 ₁₉₅	58.35 ₁₃₉	60.498 ₂₂₀	59.61 ₃₇	9.424 ₂₀₀	46.38 ₁₈₀
25.6	55.893 ₁₆₅	59.74 ₁₄₈	60.718 ₁₈₈	59.24 ₃₆	9.624 ₁₆₃	48.18 ₁₈₉
Dec. 5.5	56.058 ₁₂₈	61.22 ₁₅₁	60.906 ₁₅₂	58.88 ₃₃	9.787 ₁₂₉	50.07 ₁₉₄
15.5	56.186 ₈₈	62.73 ₁₄₅	61.058 ₁₀₉	58.55 ₂₉	9.916 ₉₁	52.01 ₁₉₁
25.5	56.274 ₄₆	64.18 ₁₃₈	61.167 ₆₄	58.26 ₂₃	10.007 ₄₅	53.92 ₁₈₀
35.5	56.320	65.56	61.231	58.03	10.052	55.72
Mean Place	52.390	56.36	56.801	65.63	6.256	45.27
Sec δ, Tan δ	1.001	-0.035	1.050	+0.319	1.015	-0.171
L α, L δ	0.00	0.0	+0.01	0.0	0.00	0.0
ω α, ω δ	0.00	+1.0	0.00	+1.0	0.00	+1.0
AUTHORITY			A. N.		A. E.	

312 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Columbae. Mag. 3.2		α Orionis. Mag. 1.0-1.4		β Aurigae. Mag. 2.1	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	^h 5 ^m 48 ^s	[°] 35 ['] 47	^h 5 ^m 50 ^s	[°] 7 ['] 23	^h 5 ^m 53 ^s	[°] 44 ['] 56
Jan. 0.5	16.203 ₂₀	60.51 ₂₈₃	61.434 ₃₄	27.55 ₈₄	54.666 ₄₉	20.33 ₁₄₀
10.4	16.183 ₇₃	63.34 ₂₅₈	61.468 ₁₂	26.71 ₇₄	54.715 ₁₉	21.73 ₁₃₆
20.4	16.110 ₁₂₂	65.92 ₂₂₅	61.456 ₅₇	25.97 ₆₁	54.696 ₈₂	23.09 ₁₂₄
30.4	15.988 ₁₆₇	68.17 ₁₈₆	61.399 ₉₉	25.36 ₄₉	54.614 ₁₃₇	24.33 ₁₁₀
Feb. 9.4	15.821 ₂₀₄	70.03 ₁₄₅	61.300 ₁₃₃	24.87 ₃₇	54.477 ₁₉₁	25.43 ₉₀
19.3	15.617 ₂₃₃	71.48 ₁₀₀	61.167 ₁₆₀	24.50 ₂₇	54.286 ₂₂₅	26.33 ₆₇
Mar. 1.3	15.384 ₂₅₁	72.48 ₅₄	61.007 ₁₈₀	24.23 ₁₄	54.061 ₂₅₃	27.00 ₃₇
11.3	15.133 ₂₅₈	73.02 ₈	60.827 ₁₈₇	24.09 ₄	53.808 ₂₆₅	27.37 ₁₂
21.2	14.875 ₂₅₄	73.10 ₃₈	60.640 ₁₈₅	24.05 ₇	53.543 ₂₆₁	27.49 ₁₉
31.2	14.621 ₂₃₉	72.72 ₈₃	60.455 ₁₇₀	24.12 ₁₅	53.282 ₂₄₃	27.30 ₄₉
Apr. 10.2	14.382 ₂₁₆	71.89 ₁₂₄	60.285 ₁₄₇	24.27 ₂₈	53.039 ₂₁₂	26.81 ₆₉
20.2	14.166 ₁₈₃	70.65 ₁₆₄	60.138 ₁₁₉	24.55 ₃₉	52.827 ₁₇₄	26.12 ₉₂
30.1	13.983 ₁₄₄	69.01 ₂₀₀	60.019 ₈₆	24.94 ₅₂	52.653 ₁₂₄	25.20 ₁₀₆
May 10.1	13.839 ₁₀₁	67.01 ₂₃₂	59.933 ₄₅	25.46 ₆₂	52.529 ₆₇	24.14 ₁₁₉
20.1	13.738 ₅₃	64.69 ₂₅₉	59.888 ₂	26.08 ₇₄	52.462 ₁₀	22.95 ₁₂₆
30.1	13.685 ₅	62.10 ₂₇₈	59.886 ₄₀	26.82 ₈₅	52.452 ₄₅	21.69 ₁₂₇
June 9.0	13.680 ₄₃	59.32 ₂₉₃	59.926 ₈₁	27.67 ₈₉	52.497 ₁₀₅	20.42 ₁₂₄
19.0	13.723 ₉₀	56.39 ₂₉₉	60.007 ₁₁₉	28.56 ₁₀₁	52.602 ₁₆₂	19.18 ₁₂₁
29.0	13.813 ₁₃₅	53.40 ₂₉₇	60.126 ₁₅₅	29.57 ₁₀₄	52.764 ₂₀₆	17.97 ₁₀₉
July 8.9	13.948 ₁₇₆	50.43 ₂₈₇	60.281 ₁₈₆	30.61 ₁₀₆	52.970 ₂₅₁	16.88 ₉₈
18.9	14.124 ₂₁₂	47.56 ₂₆₉	60.467 ₂₁₁	31.67 ₁₀₂	53.221 ₂₉₃	15.90 ₈₄
28.9	14.336 ₂₄₄	44.87 ₂₄₃	60.678 ₂₃₇	32.69 ₉₅	53.514 ₃₂₄	15.06 ₇₀
Aug. 7.9	14.580 ₂₇₀	42.44 ₂₀₅	60.915 ₂₅₃	33.64 ₈₄	53.838 ₃₅₀	14.36 ₅₆
17.8	14.850 ₂₉₁	40.39 ₁₆₄	61.168 ₂₆₇	34.48 ₇₂	54.188 ₃₆₇	13.80 ₃₆
27.8	15.141 ₃₀₆	38.75 ₁₁₆	61.435 ₂₇₇	35.20 ₅₂	54.555 ₃₈₅	13.44 ₂₆
Sept. 6.8	15.447 ₃₁₆	37.59 ₆₂	61.712 ₂₈₃	35.72 ₃₃	54.940 ₃₉₄	13.18 ₇
16.8	15.763 ₃₁₉	36.97 ₆	61.995 ₂₈₅	36.05 ₉	55.334 ₃₉₇	13.11 ₇
26.7	16.082 ₃₁₆	36.91 ₅₂	62.280 ₂₈₄	36.14 ₁₂	55.731 ₃₉₆	13.18 ₂₃
Oct. 6.7	16.398 ₃₀₇	37.43 ₁₀₈	62.564 ₂₈₁	36.02 ₃₄	56.127 ₃₈₈	13.41 ₃₉
16.7	16.705 ₂₉₂	38.51 ₁₆₁	62.845 ₂₆₈	35.68 ₅₅	56.515 ₃₈₀	13.80 ₅₅
26.6	16.997 ₂₆₉	40.12 ₂₀₇	63.113 ₂₅₇	35.13 ₇₁	56.895 ₃₅₈	14.35 ₆₉
Nov. 5.6	17.266 ₂₄₁	42.19 ₂₄₇	63.370 ₂₄₀	34.42 ₈₈	57.253 ₃₃₃	15.04 ₈₉
15.6	17.507 ₂₀₅	44.66 ₂₇₇	63.610 ₂₁₃	33.54 ₉₄	57.586 ₃₀₁	15.93 ₁₀₃
25.6	17.712 ₁₆₅	47.43 ₂₉₇	63.823 ₁₈₅	32.60 ₉₉	57.887 ₂₅₈	16.96 ₁₁₇
Dec. 5.5	17.877 ₁₁₈	50.40 ₃₀₅	64.008 ₁₄₉	31.61 ₉₉	58.145 ₂₀₈	18.13 ₁₂₇
15.5	17.995 ₆₇	53.45 ₃₀₄	64.157 ₁₀₉	30.62 ₉₄	58.353 ₁₅₀	19.40 ₁₃₉
25.5	18.062 ₁₅	56.49 ₂₉₃	64.266 ₆₅	29.68 ₈₉	58.503 ₉₁	20.79 ₁₄₁
35.5	18.077	59.42	64.331	28.79	58.594	22.20
Mean Place	14.641	47.19	60.171	38.18	52.876	28.51
Sec δ , Tan δ	1.233	-0.721	1.008	+0.130	1.413	+0.998
L α , L δ	-0.02	0.0	0.00	0.0	+0.03	0.0
ω α , ω δ	0.00	+1.0	0.00	+1.0	0.00	+1.0
AUTHORITY	A. N.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 313

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	θ Aurigæ. Mag. 2·7		ι Geminorum. Mag. 4·3		ν Orionis. Mag. 4·4	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.
	^h ^m 5 54	[°] ['] 37 12	^h ^m 5 59	[°] ['] 23 15	^h ^m 6 3	[°] ['] 14 46
Jan. 0·5	29·818 ⁵⁰	22·31 ⁹⁵	27·757 ⁵¹	57·79 ⁹	11·870 ⁴⁷	33·72 ⁴²
10·5	29·868 ¹²	23·26 ⁹³	27·808 ⁰	57·88 ¹⁵	11·917 ⁵	33·30 ³³
20·4	29·856 ⁶⁷	24·19 ⁹⁰	27·808 ⁵⁰	58·03 ¹⁸	11·922 ⁴⁸	32·97 ²⁸
30·4	29·789 ¹²⁷	25·09 ⁷⁸	27·758 ⁹⁶	58·21 ²⁰	11·874 ⁹¹	32·69 ¹⁷
Feb. 9·4	29·672 ¹⁶⁴	25·87 ⁶³	27·662 ¹³⁷	58·41 ¹⁹	11·783 ¹²⁷	32·52 ¹¹
19·3	29·508 ²⁰¹	26·50 ⁴⁸	27·525 ¹⁶⁸	58·60 ¹⁵	11·656 ¹⁵⁹	32·41 ⁷
Mar. 1·3	29·307 ²¹⁷	26·98 ²⁷	27·357 ¹⁹⁰	58·75 ¹⁰	11·497 ¹⁸⁰	32·34 ²
11·3	29·090 ²³²	27·25 ⁹	27·167 ²⁰⁰	58·85 ⁵	11·317 ¹⁸⁹	32·32 ¹
21·3	28·858 ²³²	27·34 ¹⁵	26·967 ¹⁹⁸	58·90 ³	11·128 ¹⁸⁸	32·33 ³
31·2	28·626 ²¹³	27·19 ³²	26·769 ¹⁸⁵	58·87 ⁸	10·940 ¹⁷⁶	32·36 ⁷
Apr. 10·2	28·413 ¹⁸³	26·87 ⁵²	26·584 ¹⁶²	58·79 ¹³	10·764 ¹⁵⁷	32·43 ⁹
20·2	28·230 ¹⁵¹	26·35 ⁶⁴	26·422 ¹³¹	58·66 ¹⁵	10·607 ¹²⁷	32·52 ¹⁵
30·2	28·079 ¹⁰⁵	25·71 ⁷⁷	26·291 ⁹³	58·51 ¹⁷	10·480 ⁹⁰	32·67 ²⁰
May 10·1	27·974 ⁵⁷	24·94 ⁸⁴	26·198 ⁵⁰	58·34 ¹⁵	10·390 ⁵¹	32·87 ²⁷
20·1	27·917 ⁷	24·10 ⁸⁶	26·148 ⁶	58·19 ¹²	10·339 ¹¹	33·14 ³²
30·1	27·910 ⁴⁹	23·24 ⁸⁵	26·142 ⁴⁰	58·07 ⁷	10·328 ³³	33·46 ⁴¹
June 9·0	27·959 ⁹⁷	22·39 ⁸¹	26·182 ⁸⁴	58·00 ¹	10·361 ⁷³	33·87 ⁴⁹
19·0	28·056 ¹⁴⁷	21·58 ⁷⁴	26·266 ¹²⁵	57·99 ⁴	10·434 ¹¹⁶	34·36 ⁵³
29·0	28·203 ¹⁹¹	20·84 ⁷¹	26·391 ¹⁶⁴	58·03 ¹⁰	10·550 ¹⁴⁹	34·89 ⁵⁷
July 9·0	28·394 ²²⁸	20·13 ⁵⁶	26·555 ¹⁹⁸	58·13 ¹⁶	10·699 ¹⁸⁵	35·46 ⁶¹
18·9	28·622 ²⁶¹	19·57 ⁴⁸	26·753 ²²⁷	58·29 ¹⁹	10·883 ²⁰⁹	36·07 ⁶¹
28·9	28·883 ²⁹¹	19·09 ³⁶	26·980 ²⁵²	58·48 ²²	11·092 ²³⁸	36·68 ⁵⁹
Aug. 7·9	29·174 ³¹⁵	18·73 ³⁰	27·232 ²⁷¹	58·70 ²¹	11·330 ²⁵³	37·27 ⁵⁰
17·9	29·489 ³³³	18·43 ¹⁹	27·503 ²⁸⁷	58·91 ¹⁹	11·583 ²⁷¹	37·77 ⁴⁴
27·8	29·822 ³⁴⁶	18·24 ⁷	27·790 ²⁹⁸	59·10 ¹⁶	11·854 ²⁸²	38·21 ³⁴
Sept. 6·8	30·168 ³⁵²	18·17 ⁰	28·088 ³⁰⁶	59·26 ¹¹	12·136 ²⁹¹	38·55 ²⁰
16·8	30·520 ³⁵⁶	18·17 ⁵	28·394 ³⁰⁹	59·37 ⁴	12·427 ²⁹³	38·75 ¹
26·7	30·876 ³⁵⁴	18·22 ¹⁶	28·703 ³⁰⁹	59·41 ²	12·720 ²⁹⁵	38·76 ¹⁰
Oct. 6·7	31·230 ³⁵⁰	18·38 ²⁵	29·012 ³⁰⁶	59·39 ⁹	13·015 ²⁹⁰	38·66 ²³
16·7	31·580 ³⁴¹	18·63 ³⁰	29·318 ²⁹⁸	59·30 ¹³	13·305 ²⁸⁴	38·43 ⁴³
26·7	31·921 ³²²	18·93 ⁴²	29·616 ²⁸⁶	59·17 ¹⁶	13·589 ²⁷³	38·00 ⁴⁹
Nov. 5·6	32·243 ³⁰²	19·35 ⁵²	29·902 ²⁶⁸	59·01 ¹⁸	13·862 ²⁵⁶	37·51 ⁵⁷
15·6	32·545 ²⁷³	19·87 ⁶²	30·170 ²⁴³	58·83 ¹⁵	14·118 ²³³	36·94 ⁶³
25·6	32·818 ²³²	20·49 ⁷³	30·413 ²¹²	58·68 ¹¹	14·351 ²⁰²	36·31 ⁶¹
Dec. 5·6	33·050 ¹⁹¹	21·22 ⁸³	30·625 ¹⁷⁵	58·57 ⁶	14·553 ¹⁶⁹	35·70 ⁵⁹
15·5	33·241 ¹⁴³	22·05 ⁸⁷	30·800 ¹³²	58·51 ¹	14·722 ¹²⁷	35·11 ⁵²
25·5	33·384 ⁸⁷	22·92 ⁹⁵	30·932 ⁸³	58·52 ⁹	14·849 ⁸¹	34·59 ⁴⁵
35·5	33·471	23·87	31·015	58·61	14·930	34·14
Mean Place	28·235	31·02	26·391	67·57	10·569	44·07
Sec δ , Tan δ	1·256	+0·759	1·089	+0·430	1·034	+0·264
L α , L δ	+0·02	0·0	+0·01	0·0	+0·01	0·0
ω α , ω δ	0·00	+1·0	0·00	+1·0	0·00	+1·0
AUTHORITY	A. E.				A. E.	

314 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Geminorum. Mag. 3.2-4.2		ζ Canis Majoris. Mag. 3.1		μ Geminorum. Mag. 3.2							
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.						
	^h 6	^m 10	[°] 22	['] 31	^h 6	^m 17	[°] 30	['] 1	^h 6	^m 18	[°] 22	['] 33
Jan. 0.5	15.189	61	39.40	4	22.874	23	54.88	279	19.519	70	5.73	3
10.5	15.250	9	39.44	10	22.897	30	57.67	260	19.589	18	5.76	9
20.4	15.259	39	39.54	17	22.867	81	60.27	229	19.607	31	5.85	17
30.4	15.220	89	39.71	17	22.786	126	62.56	198	19.576	81	6.02	19
Feb. 9.4	15.131	129	39.88	19	22.660	167	64.54	161	19.495	123	6.21	21
19.3	15.002	162	40.07	17	22.493	198	66.15	118	19.372	159	6.42	20
Mar. 1.3	14.840	185	40.24	14	22.295	222	67.33	78	19.213	184	6.62	16
11.3	14.655	196	40.38	10	22.073	234	68.11	35	19.029	193	6.78	15
21.3	14.459	196	40.48	2	21.839	235	68.46	8	18.836	197	6.93	5
31.2	14.263	188	40.50	2	21.604	226	68.38	49	18.639	190	6.98	0
Apr. 10.2	14.075	165	40.48	6	21.378	208	67.89	88	18.449	169	6.98	4
20.2	13.910	135	40.42	8	21.170	180	67.01	129	18.280	138	6.94	4
30.2	13.775	99	40.34	10	20.990	149	65.72	162	18.142	105	6.90	10
May 10.1	13.676	61	40.24	9	20.841	110	64.10	196	18.037	66	6.80	8
20.1	13.615	16	40.15	9	20.731	67	62.14	222	17.971	24	6.72	9
30.1	13.599	29	40.06	2	20.664	23	59.92	245	17.947	22	6.63	4
June 9.0	13.628	70	40.04	1	20.641	21	57.47	261	17.969	64	6.59	0
19.0	13.698	117	40.05	5	20.662	63	54.86	271	18.033	107	6.59	1
29.0	13.815	149	40.10	10	20.725	107	52.15	273	18.140	144	6.60	9
July 9.0	13.964	188	40.20	16	20.832	144	49.42	270	18.284	179	6.69	12
18.9	14.152	215	40.36	19	20.976	181	46.72	256	18.463	209	6.81	12
28.9	14.367	244	40.55	16	21.157	213	44.16	233	18.672	239	6.93	11
Aug. 7.9	14.611	261	40.71	18	21.370	238	41.83	206	18.911	256	7.04	15
17.9	14.872	281	40.89	17	21.608	261	39.77	168	19.167	277	7.19	9
27.8	15.153	294	41.06	8	21.869	282	38.09	123	19.444	292	7.28	3
Sept. 6.8	15.447	299	41.14	4	22.151	294	36.86	77	19.736	298	7.31	1
16.8	15.746	309	41.18	4	22.445	302	36.09	23	20.034	307	7.30	11
26.7	16.055	310	41.14	9	22.747	306	35.86	31	20.341	311	7.19	16
Oct. 6.7	16.365	309	41.05	18	23.053	304	36.17	85	20.652	311	7.03	25
16.7	16.674	302	40.87	21	23.357	294	37.02	136	20.963	305	6.78	25
26.7	16.976	288	40.66	26	23.651	279	38.38	181	21.268	294	6.53	32
Nov. 5.6	17.264	273	40.40	27	23.930	259	40.19	224	21.562	281	6.21	31
15.6	17.537	252	40.13	24	24.189	229	42.43	255	21.843	256	5.90	29
25.6	17.789	223	39.89	22	24.418	194	44.98	278	22.099	230	5.61	29
Dec. 5.6	18.012	184	39.67	14	24.612	153	47.76	291	22.329	190	5.32	17
15.5	18.196	140	39.53	7	24.765	106	50.67	293	22.519	151	5.15	9
25.5	18.336	94	39.46	1	24.871	55	53.60	285	22.670	102	5.06	0
35.5	18.430		39.47		24.926		56.45		22.772		5.06	
Mean Place	13.835		49.55		21.341		43.21		18.170		16.11	
Sec δ , Tan δ	1.083		+0.415		1.155		-0.579		1.083		+0.415	
L α , L δ	+0.01		0.0		-0.02		0.0		+0.01		0.0	
ω α , ω δ	0.00		+1.0		0.00		+1.0		0.00		+1.0	
AUTHORITY	A. E.		A. E.		A. E.		A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 315

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Canis Majoris. Mag. 2.0		α Argûs. Mag. -0.9		ν Geminorum. Mag. 4.1	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	^h 6 ^m 19	[°] 17 ['] 54	^h 6 ^m 22	[°] 52 ['] 39	^h 6 ^m 24	[°] 20 ['] 15
Jan. 0.5	19.880 ^s	71.12 ^s	16.844 ^s	23.01 ^s	24.809 ^s	33.36 ^s
10.5	19.920 ⁴⁰	73.42 ²³⁰	16.821 ²³	26.45 ³⁴⁴	24.885 ⁷⁶	33.23 ¹³
20.4	19.910 ¹⁰	75.52 ²¹⁰	16.725 ⁹⁶	29.66 ³²¹	24.909 ²⁴	33.20 ³
30.4	19.856 ⁵⁴	77.38 ¹⁸⁶	16.562 ¹⁶³	32.54 ²⁸⁸	24.882 ²⁷	33.24 ⁴
Feb. 9.4	19.755 ¹⁰¹	78.96 ¹⁵⁸	16.341 ²²¹	35.04 ²⁵⁰	24.807 ⁷⁵	33.35 ¹¹
19.3	19.615 ¹⁴⁰	80.24 ¹²⁸	16.064 ²⁷⁷	37.09 ²⁰⁵	24.689 ¹¹⁸	33.49 ¹⁴
Mar. 1.3	19.445 ¹⁷⁰	81.18 ⁹⁴	15.748 ³¹⁶	38.68 ¹⁵⁹	24.537 ¹⁵²	33.64 ¹⁵
11.3	19.253 ¹⁹²	81.78 ⁶⁰	15.401 ³⁴⁷	39.75 ¹⁰⁷	24.359 ¹⁷⁸	33.79 ¹⁵
21.3	19.048 ²⁰⁵	82.06 ²⁸	15.038 ³⁶³	40.27 ⁵²	24.166 ¹⁹³	33.91 ¹⁰
31.2	18.843 ²⁰⁵	81.98 ⁸	14.672 ³⁶⁶	40.30 ³	23.971 ¹⁹⁵	34.01 ⁶
Apr. 10.2	18.646 ¹⁹⁷	81.58 ⁴⁰	14.316 ³⁵⁶	39.80 ⁵⁰	23.785 ¹⁸⁶	34.07 ⁴
20.2	18.468 ¹⁷⁸	80.86 ⁷²	13.982 ³³⁴	38.78 ¹⁰²	23.617 ¹⁶⁸	34.11 ⁴
30.2	18.312 ¹⁵⁶	79.84 ¹⁰²	13.680 ³⁰²	37.34 ¹⁴⁴	23.475 ¹⁴²	34.12 ¹
May 10.1	18.190 ¹²²	78.52 ¹³²	13.416 ²⁶⁴	35.41 ¹⁹³	23.367 ¹⁰⁸	34.14 ²
20.1	18.102 ⁸⁸	76.95 ¹⁵⁷	13.203 ²¹³	33.08 ²³³	23.299 ⁶⁸	34.16 ²
30.1	18.055 ⁴⁷	75.14 ¹⁸¹	13.046 ¹⁵⁷	30.42 ²⁶⁶	23.272 ²⁷	34.20 ⁴
June 9.0	18.049 ⁶	73.14 ²⁰⁰	12.944 ¹⁰²	27.48 ²⁹⁴	23.288 ¹⁶	34.28 ⁸
19.0	18.083 ³⁴	71.02 ²¹²	12.906 ³⁸	24.35 ³¹³	23.346 ⁵⁸	34.40 ¹²
29.0	18.157 ⁷⁴	68.79 ²²³	12.928 ²²	21.10 ³²⁵	23.445 ⁹⁹	34.55 ¹⁵
July 9.0	18.268 ¹¹¹	66.54 ²²⁵	13.011 ⁸³	17.80 ³³⁰	23.582 ¹³⁷	34.75 ²⁰
18.9	18.414 ¹⁴⁶	64.33 ²²¹	13.150 ¹³⁹	14.55 ³²⁵	23.752 ¹⁷⁰	34.97 ²²
28.9	18.593 ¹⁷⁹	62.20 ²¹³	13.346 ¹⁹⁶	11.46 ³⁰⁹	23.954 ²⁰²	35.19 ²²
Aug. 7.9	18.798 ²⁰⁵	60.27 ¹⁹³	13.592 ²⁴⁶	8.61 ²⁸⁵	24.181 ²²⁷	35.41 ¹⁹
17.9	19.027 ²²⁹	58.57 ¹⁷⁰	13.883 ²⁹¹	6.10 ²⁵¹	24.430 ²⁴⁹	35.60 ¹⁴
27.8	19.275 ²⁴⁸	57.18 ¹³⁹	14.212 ³²⁹	4.03 ²⁰⁷	24.698 ²⁶⁸	35.74 ⁷
Sept. 6.8	19.540 ²⁶⁵	56.16 ¹⁰²	14.575 ³⁶³	2.47 ¹⁵⁶	24.980 ²⁸²	35.81 ³
16.8	19.816 ²⁷⁶	55.55 ⁶¹	14.961 ³⁸⁶	1.46 ¹⁰¹	25.273 ²⁹³	35.78 ¹¹
26.7	20.100 ²⁸⁴	55.36 ¹⁹	15.360 ³⁹⁹	1.09 ³⁷	25.573 ³⁰⁰	35.67 ²¹
Oct. 6.7	20.388 ²⁸⁸	55.65 ²⁹	15.766 ⁴⁰⁶	1.33 ²⁴	25.879 ³⁰⁶	35.46 ³¹
16.7	20.674 ²⁸⁶	56.38 ⁷³	16.166 ⁴⁰⁰	2.23 ⁹⁰	26.184 ³⁰⁵	35.15 ³¹
26.7	20.953 ²⁷⁹	57.56 ¹¹⁸	16.552 ³⁸⁶	3.75 ¹⁵²	26.486 ³⁰²	34.77 ³⁸
Nov. 5.6	21.220 ²⁶⁷	59.10 ¹⁵⁴	16.915 ³⁶³	5.84 ²⁰⁹	26.779 ²⁹³	34.34 ⁴³
15.6	21.471 ²⁵¹	60.99 ¹⁸⁹	17.240 ³²⁵	8.40 ²⁵⁶	27.058 ²⁷⁹	33.88 ⁴⁶
25.6	21.697 ²²⁶	63.14 ²¹⁵	17.516 ²⁷⁶	11.39 ²⁹⁹	27.316 ²⁵⁸	33.43 ⁴⁵
Dec. 5.6	21.893 ¹⁹⁶	65.47 ²³³	17.741 ²²⁵	14.68 ³²⁹	27.546 ²³⁰	33.03 ⁴⁰
15.5	22.052 ¹⁵⁹	67.89 ²⁴²	17.901 ¹⁶⁰	18.15 ³⁴⁷	27.742 ¹⁹⁶	32.68 ³⁵
25.5	22.169 ¹¹⁷	70.31 ²⁴²	18.016 ⁹²	21.68 ³⁵³	28.004 ¹⁵⁵	32.42 ²⁶
35.5	22.240 ⁷¹	72.64 ²³³		25.17 ³⁴⁹		32.26 ¹⁶
Mean Place	18.505	59.71	14.557	11.61	23.482	43.98
Sec δ , Tan δ	1.051	-0.323	1.648	-1.311	1.066	+0.369
L α , L δ	-0.01	0.0	-0.03	0.0	+0.01	0.0
ω α , ω δ	0.00	+1.0	-0.01	+1.0	0.00	+1.0
AUTHORITY	A. E.		A. E.			

316 APPARENT PLACES OF STARS, 1923

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Geminorum. Mag. 1·9		ν Argûs. Mag. 3·2		ϵ Geminorum. Mag. 3·2	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	^h 6 ^m 33 ^s	[°] 16 ['] 27	^h 6 ^m 35 ^s	[°] 43 ['] 7	^h 6 ^m 39 ^s	[°] 25 ['] 12
Jan. 0·5	17·162 ₈₃	47·61 ₄₀	26·313 ₂₁	50·71 ₃₂₉	13·100 ₉₁	20·56 ₁₂
10·5	17·245 ₂₉	47·21 ₂₇	26·334 ₄₀	54·00 ₃₀₈	13·191 ₄₁	20·68 ₂₄
20·4	17·274 ₁₇	46·94 ₁₆	26·294 ₁₀₁	57·08 ₂₈₀	13·232 ₁₂	20·92 ₃₂
30·4	17·257 ₆₉	46·78 ₈	26·193 ₁₅₄	59·88 ₂₄₆	13·220 ₆₈	21·24 ₃₉
Feb. 9·4	17·188 ₁₁₀	46·70 ₀	26·039 ₂₀₃	62·34 ₂₀₆	13·152 ₁₁₀	21·63 ₃₈
19·3	17·078 ₁₄₃	46·70 ₄	25·836 ₂₄₂	64·40 ₁₆₀	13·042 ₁₄₉	22·01 ₃₆
Mar. 1·3	16·935 ₁₇₀	46·74 ₁₀	25·594 ₂₆₉	66·00 ₁₁₂	12·893 ₁₇₈	22·37 ₃₄
11·3	16·765 ₁₈₇	46·84 ₁₀	25·325 ₂₈₇	67·12 ₆₄	12·715 ₁₉₄	22·71 ₂₅
21·3	16·578 ₁₉₀	46·94 ₁₄	25·038 ₂₉₁	67·76 ₁₆	12·521 ₂₀₀	22·96 ₂₀
31·2	16·388 ₁₈₃	47·08 ₁₃	24·747 ₂₈₆	67·92 ₃₄	12·321 ₁₉₆	23·16 ₈
Apr. 10·2	16·205 ₁₆₈	47·21 ₁₂	24·461 ₂₇₀	67·58 ₈₁	12·125 ₁₇₇	23·24 ₀
20·2	16·037 ₁₄₀	47·33 ₁₅	24·191 ₂₄₂	66·77 ₁₂₇	11·948 ₁₅₅	23·24 ₅
30·2	15·897 ₁₁₂	47·48 ₁₆	23·949 ₂₀₉	65·50 ₁₆₇	11·793 ₁₁₉	23·19 ₁₃
May 10·1	15·785 ₇₃	47·64 ₂₀	23·740 ₁₆₉	63·83 ₂₀₇	11·674 ₈₄	23·06 ₁₇
20·1	15·712 ₃₄	47·84 ₂₃	23·571 ₁₂₃	61·76 ₂₄₂	11·590 ₄₀	22·89 ₁₉
30·1	15·678 ₄	48·07 ₂₉	23·448 ₇₇	59·34 ₂₆₇	11·550 ₁	22·70 ₁₉
June 9·0	15·682 ₅₀	48·36 ₃₀	23·371 ₂₅	56·67 ₂₉₀	11·551 ₄₈	22·51 ₁₈
19·0	15·732 ₈₆	48·66 ₃₆	23·346 ₂₅	53·77 ₃₀₃	11·599 ₈₆	22·33 ₁₆
29·0	15·818 ₁₂₅	49·02 ₃₉	23·371 ₇₅	50·74 ₃₀₉	11·685 ₁₂₅	22·17 ₁₅
July 9·0	15·943 ₁₅₈	49·41 ₄₀	23·446 ₁₂₂	47·65 ₃₀₆	11·810 ₁₆₄	22·02 ₁₅
18·9	16·101 ₁₈₆	49·81 ₃₆	23·568 ₁₆₈	44·59 ₂₉₄	11·974 ₁₉₃	21·87 ₁₀
28·9	16·287 ₂₁₆	50·17 ₃₇	23·736 ₂₀₈	41·65 ₂₇₃	12·167 ₂₂₆	21·77 ₁₁
Aug. 7·9	16·503 ₂₄₁	50·54 ₃₂	23·944 ₂₄₄	38·92 ₂₄₁	12·393 ₂₄₆	21·66 ₁₄
17·9	16·744 ₂₅₃	50·86 ₂₄	24·188 ₂₇₉	36·51 ₂₀₄	12·639 ₂₇₀	21·52 ₁₄
27·8	16·997 ₂₇₃	51·10 ₁₀	24·467 ₃₀₅	34·47 ₁₅₆	12·909 ₂₈₈	21·38 ₁₉
Sept. 6·8	17·270 ₂₈₆	51·20 ₀	24·772 ₃₂₆	32·91 ₁₀₃	13·197 ₂₉₈	21·19 ₂₁
16·8	17·556 ₂₉₃	51·20 ₁₄	25·098 ₃₄₃	31·88 ₄₆	13·495 ₃₁₀	20·98 ₂₄
26·7	17·849 ₂₉₉	51·06 ₂₈	25·441 ₃₄₉	31·42 ₁₄	13·805 ₃₁₅	20·74 ₃₃
Oct. 6·7	18·148 ₃₀₀	50·78 ₄₀	25·790 ₃₄₉	31·56 ₇₇	14·120 ₃₁₉	20·41 ₃₄
16·7	18·448 ₂₉₈	50·38 ₄₉	26·139 ₃₄₀	32·33 ₁₃₅	14·439 ₃₁₈	20·07 ₃₉
26·7	18·746 ₂₈₉	49·89 ₆₃	26·479 ₃₂₅	33·68 ₁₉₁	14·757 ₃₁₄	19·68 ₃₇
Nov. 5·6	19·035 ₂₇₇	49·26 ₆₅	26·804 ₂₉₉	35·59 ₂₃₉	15·071 ₂₉₈	19·31 ₃₅
15·6	19·312 ₂₅₉	48·61 ₆₈	27·103 ₂₆₈	37·98 ₂₈₁	15·369 ₂₇₇	18·96 ₃₀
25·6	19·571 ₂₃₁	47·93 ₆₇	27·371 ₂₂₄	40·79 ₃₀₈	15·646 ₂₅₃	18·66 ₂₃
Dec. 5·6	19·802 ₂₀₁	47·26 ₆₁	27·595 ₁₇₃	43·87 ₃₂₉	15·899 ₂₁₅	18·43 ₁₂
15·5	20·003 ₁₆₀	46·65 ₅₂	27·768 ₁₁₉	47·16 ₃₃₇	16·114 ₁₇₇	18·31 ₁
25·5	20·163 ₁₁₂	46·13 ₄₅	27·887 ₅₉	50·53 ₃₃₃	16·291 ₁₂₇	18·32 ₉
35·5	20·275	45·68	27·946	53·86	16·418	18·41
Mean Place	15·865	58·47	24·403	40·15	11·746	31·47
Sec δ , Tan δ	1·043	+0·296	1·370	-0·937	1·105	+0·471
L α , L δ	+0·01	-0·1	-0·02	-0·1	+0·01	-0·1
ω α , ω δ	0·00	+1·0	-0·01	+1·0	+0·01	+1·0
AUTHORITY	A. E.		A. E.		A. E.	

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AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ξ Geminorum. Mag. 3.4		α Canis Majoris. Mag. —1.6		α Pictoris. Mag. 3.3	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	^h 6 ^m 40	[°] 12 ['] 58	^h 6 ^m 41	[°] 16 ['] 36	^h 6 ^m 47	[°] 61 ['] 51
Jan. 0.5	59.385 ^s 87	36.60 ⁶²	46.546 ^s 55	46.55 ²³²	27.30 ^s 2	40.31 ³⁶²
10.5	59.472 37	35.98 ⁵⁰	46.601 9	48.87 ²¹⁶	27.28 11	43.93 ³⁴⁶
20.4	59.509 13	35.48 ³⁸	46.610 38	51.03 ¹⁹³	27.17 19	47.39 ³²⁰
30.4	59.496 61	35.10 ²⁷	46.572 83	52.96 ¹⁶⁵	26.98 28	50.59 ²⁸³
Feb. 9.4	59.435 104	34.83 ¹⁵	46.489 127	54.61 ¹³⁴	26.70 35	53.42 ²⁴⁴
19.4	59.331 140	34.68 5	46.362 159	55.95 ¹⁰³	26.35 40	55.86 ¹⁹⁶
Mar. 1.3	59.191 165	34.63 2	46.203 185	56.98 72	25.95 44	57.82 ¹⁴⁷
11.3	59.026 181	34.65 6	46.018 198	57.70 39	25.51 48	59.29 ⁹⁶
21.3	58.845 188	34.71 13	45.820 203	58.09 3	25.03 48	60.25 ⁴⁰
31.3	58.657 182	34.84 16	45.617 197	58.12 25	24.55 48	60.65 ¹⁴
Apr. 10.2	58.475 169	35.00 ²⁰	45.420 182	57.87 59	24.07 46	60.51 ⁶⁶
20.2	58.306 142	35.20 ²⁵	45.238 160	57.28 89	23.61 43	59.85 ¹¹⁸
30.2	58.164 115	35.45 ²⁹	45.078 130	56.39 115	23.18 39	58.67 ¹⁶³
May 10.1	58.049 78	35.74 34	44.948 95	55.24 ¹⁴¹	22.79 33	57.04 ²¹⁰
20.1	57.971 42	36.08 ⁴⁰	44.853 63	53.83 ¹⁶³	22.46 28	54.94 ²⁴⁸
30.1	57.929 0	36.48 ⁴⁵	44.790 22	52.20 ¹⁸³	22.18 20	52.46 ²⁸¹
June 9.1	57.929 39	36.93 ⁴⁹	44.768 19	50.37 ¹⁹⁷	21.98 13	49.65 ³⁰⁷
19.0	57.968 78	37.42 ⁵⁵	44.787 58	48.40 ²⁰⁵	21.85 5	46.58 ³²⁵
29.0	58.046 114	37.97 ⁵⁶	44.845 95	46.35 ²¹⁰	21.80 2	43.33 ³³⁵
July 9.0	58.160 148	38.53 ⁵⁶	44.940 128	44.25 ²⁰⁸	21.82 10	39.98 ³³⁴
19.0	58.308 179	39.09 ⁵⁴	45.068 161	42.17 ¹⁹⁷	21.92 17	36.64 ³²⁶
28.9	58.487 202	39.63 ⁵⁰	45.229 190	40.20 ¹⁸³	22.00 24	33.38 ³⁰⁶
Aug. 7.9	58.689 228	40.13 ⁴²	45.419 215	38.37 ¹⁶¹	22.33 31	30.32 ²⁷⁶
17.9	58.917 246	40.55 ³²	45.634 238	36.76 ¹³¹	22.64 37	27.56 ²³⁴
27.8	59.163 263	40.87 ¹⁸	45.872 253	35.45 ⁹⁶	23.01 42	25.22 ¹⁹⁰
Sept. 6.8	59.426 277	41.05 2	46.125 268	34.49 ⁵⁸	23.43 46	23.32 ¹³¹
16.8	59.703 286	41.07 ¹⁴	46.393 278	33.91 ¹⁷	23.89 48	22.01 ⁷²
26.8	59.989 292	40.93 ³⁰	46.671 285	33.74 29	24.37 51	21.29 ⁹
Oct. 6.7	60.281 296	40.63 ⁴⁹	46.956 289	34.03 74	24.88 50	21.20 ⁶⁰
16.7	60.577 294	40.14 ⁶³	47.245 284	34.77 117	25.38 50	21.80 ¹²⁶
26.7	60.871 289	39.51 ⁷⁷	47.529 274	35.94 ¹⁵³	25.88 46	23.06 ¹⁸⁶
Nov. 5.7	61.160 276	38.74 ⁸³	47.803 261	37.47 189	26.34 42	24.92 ²⁴¹
15.6	61.436 260	37.91 ⁸⁹	48.064 239	39.36 ²¹⁴	26.76 37	27.33 ²⁸⁸
25.6	61.696 232	37.02 ⁸⁸	48.303 210	41.50 ²³⁴	27.13 30	30.21 ³²⁵
Dec. 5.6	61.928 202	36.14 ⁸⁶	48.513 175	43.84 ²⁴⁴	27.43 22	33.46 ³⁵⁰
15.5	62.130 162	35.28 ⁷⁷	48.688 136	46.28 ²⁴⁴	27.65 13	36.96 ³⁶⁴
25.5	62.292 119	34.51 ⁶⁸	48.824 88	48.72 ²³⁹	27.78 4	40.60 ³⁶⁴
35.5	62.411	33.83	48.912	51.11	27.82	44.24
Mean Place	58.106	47.58	45.294	34.35	24.18	31.16
Sec δ, Tan δ	1.027	+0.231	1.044	—0.298	2.120	—1.870
L α, L δ	+0.01	—0.1	—0.01	—0.1	—0.05	—0.1
ω α, ω δ	0.00	+1.0	0.00	+1.0	—0.03	+1.0
AUTHORITY	A. E.		A. E.		A. E.	

318 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	τ Argûs. Mag. 2.8		θ Canis Majoris. Mag. 4.3		ϵ Canis Majoris. Mag. 1.6	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	^h 6 ^m 48 ^s	[°] 50 ['] 31 ["]	^h 6 ^m 50 ^s	[°] 11 ['] 56 ["]	^h 6 ^m 55 ^s	[°] 28 ['] 51 ["]
Jan. 0.5	3.773 ²³	30.60 ³⁵⁰	38.118 ⁷⁷	38.04 ²⁰⁹	37.532 ⁶⁵	68.59 ²⁸⁸
10.5	3.796 ⁴⁷	34.10 ³³²	38.195 ²⁸	40.13 ¹⁹³	37.597 ¹³	71.47 ²⁷⁵
20.5	3.749 ¹¹⁶	37.42 ³⁰⁶	38.223 ²¹	42.06 ¹⁷³	37.610 ⁴¹	74.22 ²⁴⁹
30.4	3.633 ¹⁷⁸	40.48 ²⁷²	38.202 ⁶⁹	43.79 ¹⁴⁹	37.569 ⁸⁷	76.71 ²²⁰
Feb. 9.4	3.455 ²³³	43.20 ²³¹	38.133 ¹⁰⁹	45.28 ¹²¹	37.482 ¹³⁶	78.91 ¹⁸⁵
19.4	3.222 ²⁷⁷	45.51 ¹⁸⁶	38.024 ¹⁴⁴	46.49 ⁹²	37.346 ¹⁷⁴	80.76 ¹⁴⁷
Mar. 1.3	2.945 ³¹³	47.37 ¹³⁷	37.880 ¹⁷⁰	47.41 ⁶⁴	37.172 ²⁰⁰	82.23 ¹⁰⁷
11.3	2.632 ³³³	48.74 ⁸⁷	37.710 ¹⁸⁸	48.05 ³⁶	36.972 ²¹⁹	83.30 ⁶⁹
21.3	2.299 ³⁴³	49.61 ³⁶	37.522 ¹⁹⁴	48.41 ⁶	36.753 ²²⁵	83.99 ²⁵
31.3	1.956 ³³⁹	49.97 ¹⁶	37.328 ¹⁹¹	48.47 ²¹	36.528 ²²⁷	84.24 ¹⁶
Apr. 10.2	1.617 ³²⁴	49.81 ⁶⁷	37.137 ¹⁷⁸	48.26 ⁵⁰	36.301 ²¹⁵	84.08 ⁵⁴
20.2	1.293 ²⁹⁸	49.14 ¹¹⁵	36.959 ¹⁵⁹	47.76 ⁷⁴	36.086 ¹⁹¹	83.54 ⁹⁵
30.2	0.995 ²⁶⁴	47.99 ¹⁶⁰	36.800 ¹³⁰	47.02 ¹⁰¹	35.895 ¹⁶⁷	82.59 ¹³³
May 10.2	0.731 ²²¹	46.39 ²⁰³	36.670 ⁹⁸	46.01 ¹²³	35.728 ¹³¹	81.26 ¹⁶¹
20.1	0.510 ¹⁷⁴	44.36 ²³⁹	36.572 ⁶⁴	44.78 ¹⁴³	35.597 ⁹⁸	79.65 ¹⁹⁵
30.1	0.336 ¹²⁰	41.97 ²⁷¹	36.508 ²⁶	43.35 ¹⁶⁰	35.499 ⁵⁶	77.70 ²²⁰
June 9.1	0.216 ⁶⁶	39.26 ²⁹⁶	36.482 ¹⁴	41.75 ¹⁷⁷	35.443 ¹³	75.50 ²⁴¹
19.0	0.150 ⁹	36.30 ³¹²	36.496 ⁵¹	39.98 ¹⁸⁴	35.430 ²⁴	73.09 ²⁵³
29.0	0.141 ⁴⁸	33.18 ³²²	36.547 ⁸⁷	38.14 ¹⁹⁰	35.454 ⁶⁸	70.56 ²⁵⁸
July 9.0	0.189 ¹⁰⁴	29.96 ³²⁰	36.634 ¹²⁰	36.24 ¹⁸⁸	35.522 ¹⁰⁵	67.98 ²⁶¹
19.0	0.293 ¹⁵⁶	26.76 ³¹¹	36.754 ¹⁵¹	34.36 ¹⁸¹	35.627 ¹⁴³	65.37 ²⁵²
28.9	0.449 ²⁰⁷	23.65 ²⁹¹	36.905 ¹⁸²	32.55 ¹⁶⁹	35.770 ¹⁷⁸	62.85 ²³⁵
Aug. 7.9	0.656 ²⁵³	20.74 ²⁶²	37.087 ²⁰³	30.86 ¹⁴⁸	35.948 ²⁰²	60.50 ²¹⁵
17.9	0.909 ²⁹³	18.12 ²²³	37.290 ²²⁸	29.38 ¹²⁴	36.150 ²³⁶	58.35 ¹⁷⁹
27.9	1.202 ³²⁹	15.89 ¹⁷⁷	37.518 ²⁴⁶	28.14 ⁹³	36.386 ²⁵⁷	56.56 ¹⁴¹
Sept. 6.8	1.531 ³⁵⁶	14.12 ¹²²	37.764 ²⁵⁹	27.21 ⁵⁷	36.643 ²⁷⁸	55.15 ⁹³
16.8	1.887 ³⁷⁸	12.90 ⁶³	38.023 ²⁷⁵	26.64 ²⁰	36.921 ²⁹³	54.22 ⁴⁵
26.8	2.265 ³⁸⁹	12.27 ⁰	38.298 ²⁸¹	26.44 ²²	37.214 ³⁰²	53.77 ⁷
Oct. 6.7	2.654 ³⁹²	12.27 ⁶⁴	38.579 ²⁸⁷	26.66 ⁶²	37.516 ³⁰⁷	53.84 ⁶¹
16.7	3.046 ³⁸⁵	12.91 ¹²⁶	38.866 ²⁸⁴	27.28 ¹⁰¹	37.823 ³⁰⁷	54.45 ¹¹⁶
26.7	3.431 ³⁶⁹	14.17 ¹⁸⁶	39.150 ²⁸⁰	28.29 ¹³⁷	38.130 ²⁹⁸	55.61 ¹⁶²
Nov. 5.7	3.800 ³⁴⁰	16.03 ²³⁸	39.430 ²⁶⁷	29.66 ¹⁶⁹	38.428 ²⁸³	57.23 ²⁰⁴
15.6	4.140 ³⁰²	18.41 ²⁸³	39.697 ²⁵⁰	31.35 ¹⁹²	38.711 ²⁶²	59.27 ²⁴²
25.6	4.442 ²⁵⁵	21.24 ³¹⁸	39.947 ²²⁴	33.27 ²¹⁰	38.973 ²²⁹	61.69 ²⁷⁰
Dec. 5.6	4.697 ¹⁹⁸	24.42 ³⁴⁰	40.171 ¹⁹⁰	35.37 ²¹⁸	39.202 ¹⁹²	64.39 ²⁸⁷
15.6	4.895 ¹³⁴	27.82 ³⁵²	40.361 ¹⁵³	37.55 ²²⁰	39.394 ¹⁵²	67.26 ²⁹⁷
25.5	5.029 ⁶⁶	31.34 ³⁵³	40.514 ¹⁰⁵	39.75 ²¹⁴	39.546 ⁹⁹	70.23 ²⁹²
35.5	5.095	34.87	40.619	41.89	39.645	73.15
Mean Place	1.512	21.16	36.775	27.56	35.962	58.91
Sec δ , Tan δ	1.573	-1.214	1.022	-0.211	1.142	-0.551
L α , L δ	-0.03	-0.1	-0.01	-0.1	-0.01	-0.1
ω α , ω δ	-0.02	+1.0	0.00	+1.0	-0.01	+1.0
AUTHORITY	A. N.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 319

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	22 Canis Majoris. Mag. 3.7		ζ Geminorum. Mag. 3.7-4.3		ο² Canis Majoris. Mag. 3.1	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	^h 6 ^m 58	[°] 27 ['] 49	^h 6 ^m 59	[°] 20 ['] 40	^h 6 ^m 59	[°] 23 ['] 43
Jan. 0.5	40.645 ^s ₇₁	34.51 ^s ₂₈₇	33.899 ^s ₁₀₈	52.84 ^s ₁₇	50.029 ^s ₇₇	21.35 ^s ₂₆₉
10.5	40.716 ^s ₁₈	37.38 ^s ₂₆₉	34.007 ^s ₆₀	52.67 ^s ₅	50.106 ^s ₂₅	24.04 ^s ₂₅₃
20.5	40.734 ^s ₃₅	40.07 ^s ₂₄₇	34.067 ^s ₅	52.62 ^s ₇	50.131 ^s ₂₇	26.57 ^s ₂₃₀
30.4	40.699 ^s ₈₅	42.54 ^s ₂₁₇	34.072 ^s ₄₄	52.69 ^s ₁₅	50.104 ^s ₇₆	28.87 ^s ₂₀₃
Feb. 9.4	40.614 ^s ₁₃₀	44.71 ^s ₁₈₄	34.028 ^s ₉₂	52.84 ^s ₂₂	50.028 ^s ₁₂₀	30.90 ^s ₁₇₀
19.4	40.484 ^s ₁₆₈	46.55 ^s ₁₄₇	33.936 ^s ₁₃₀	53.06 ^s ₂₆	49.908 ^s ₁₅₈	32.60 ^s ₁₃₅
Mar. 1.3	40.316 ^s ₁₉₇	48.02 ^s ₁₀₈	33.806 ^s ₁₆₁	53.32 ^s ₂₈	49.750 ^s ₁₈₆	33.95 ^s ₁₀₀
11.3	40.119 ^s ₂₁₆	49.10 ^s ₆₈	33.645 ^s ₁₈₃	53.60 ^s ₂₆	49.564 ^s ₂₀₄	34.95 ^s ₆₁
21.3	39.903 ^s ₂₂₄	49.78 ^s ₂₇	33.462 ^s ₁₉₂	53.86 ^s ₂₄	49.360 ^s ₂₁₄	35.56 ^s ₂₄
31.3	39.679 ^s ₂₂₂	50.05 ^s ₁₃	33.270 ^s ₁₈₆	54.10 ^s ₁₉	49.146 ^s ₂₁₁	35.80 ^s ₁₄
Apr. 10.2	39.457 ^s ₂₁₁	49.92 ^s ₅₃	33.084 ^s ₁₇₈	54.29 ^s ₁₉	48.935 ^s ₂₀₁	35.66 ^s ₅₀
20.2	39.246 ^s ₁₉₂	49.39 ^s ₉₁	32.906 ^s ₁₅₇	54.48 ^s ₁₁	48.734 ^s ₁₈₁	35.16 ^s ₈₆
30.2	39.054 ^s ₁₆₄	48.48 ^s ₁₂₆	32.749 ^s ₁₂₇	54.59 ^s ₈	48.553 ^s ₁₅₄	34.30 ^s ₁₁₈
May 10.2	38.890 ^s ₁₃₁	47.22 ^s ₁₅₉	32.622 ^s ₉₅	54.67 ^s ₆	48.399 ^s ₁₂₃	33.12 ^s ₁₅₀
20.1	38.759 ^s ₉₆	45.63 ^s ₁₈₉	32.527 ^s ₅₅	54.73 ^s ₄	48.276 ^s ₈₈	31.62 ^s ₁₇₈
30.1	38.663 ^s ₅₆	43.74 ^s ₂₁₅	32.472 ^s ₁₃	54.77 ^s ₆	48.188 ^s ₄₉	29.84 ^s ₂₀₀
June 9.1	38.607 ^s ₁₅	41.59 ^s ₂₃₄	32.459 ^s ₂₃	54.83 ^s ₆	48.139 ^s ₉	27.84 ^s ₂₂₀
19.0	38.592 ^s ₂₅	39.25 ^s ₂₄₉	32.482 ^s ₆₃	54.89 ^s ₅	48.130 ^s ₃₀	25.64 ^s ₂₃₂
29.0	38.617 ^s ₆₆	36.76 ^s ₂₅₆	32.545 ^s ₁₀₄	54.94 ^s ₆	48.160 ^s ₆₈	23.32 ^s ₂₄₀
July 9.0	38.683 ^s ₁₀₃	34.20 ^s ₂₅₆	32.649 ^s ₁₃₈	55.00 ^s ₇	48.228 ^s ₁₀₅	20.92 ^s ₂₄₀
19.0	38.786 ^s ₁₃₉	31.64 ^s ₂₄₉	32.787 ^s ₁₇₀	55.07 ^s ₅	48.333 ^s ₁₃₉	18.52 ^s ₂₃₂
28.9	38.925 ^s ₁₇₃	29.15 ^s ₂₃₃	32.957 ^s ₁₉₆	55.12 ^s ₂	48.472 ^s ₁₇₁	16.20 ^s ₂₁₇
Aug. 7.9	39.098 ^s ₂₀₃	26.82 ^s ₂₀₈	33.153 ^s ₂₂₄	55.14 ^s ₄	48.643 ^s ₂₀₀	14.03 ^s ₁₉₆
17.9	39.301 ^s ₂₃₁	24.74 ^s ₁₇₈	33.377 ^s ₂₄₇	55.10 ^s ₈	48.843 ^s ₂₂₅	12.07 ^s ₁₆₄
27.9	39.532 ^s ₂₅₃	22.96 ^s ₁₃₉	33.624 ^s ₂₆₅	55.02 ^s ₁₆	49.068 ^s ₂₄₈	10.43 ^s ₁₂₉
Sept. 6.8	39.785 ^s ₂₇₃	21.57 ^s ₉₄	33.889 ^s ₂₈₀	54.86 ^s ₂₃	49.316 ^s ₂₆₇	9.14 ^s ₈₆
16.8	40.058 ^s ₂₈₉	20.63 ^s ₄₅	34.169 ^s ₂₉₆	54.63 ^s ₃₇	49.583 ^s ₂₈₁	8.28 ^s ₄₀
26.8	40.347 ^s ₃₀₀	20.18 ^s ₇	34.465 ^s ₃₀₃	54.26 ^s ₄₃	49.864 ^s ₂₉₃	7.88 ^s ₁₀
Oct. 6.7	40.647 ^s ₃₀₅	20.25 ^s ₆₀	34.768 ^s ₃₁₁	53.83 ^s ₅₆	50.157 ^s ₂₉₇	7.98 ^s ₆₀
16.7	40.952 ^s ₃₀₅	20.85 ^s ₁₁₁	35.079 ^s ₃₁₂	53.27 ^s ₅₉	50.454 ^s ₂₉₉	8.58 ^s ₁₀₉
26.7	41.257 ^s ₂₉₈	21.96 ^s ₁₆₀	35.391 ^s ₃₀₉	52.68 ^s ₆₆	50.753 ^s ₂₉₃	9.67 ^s ₁₅₄
Nov. 5.7	41.555 ^s ₂₈₄	23.56 ^s ₂₀₄	35.700 ^s ₃₀₁	52.02 ^s ₆₆	51.046 ^s ₂₈₀	11.21 ^s ₁₉₅
15.6	41.839 ^s ₂₆₃	25.60 ^s ₂₃₈	36.001 ^s ₂₈₃	51.36 ^s ₆₃	51.326 ^s ₂₅₉	13.16 ^s ₂₂₈
25.6	42.102 ^s ₂₃₃	27.98 ^s ₂₆₆	36.284 ^s ₂₆₀	50.73 ^s ₅₈	51.585 ^s ₂₃₃	15.44 ^s ₂₅₃
Dec. 5.6	42.335 ^s ₁₉₆	30.64 ^s ₂₈₃	36.544 ^s ₂₂₇	50.15 ^s ₄₈	51.818 ^s ₁₉₆	17.97 ^s ₂₆₈
15.6	42.531 ^s ₁₅₄	33.47 ^s ₂₉₁	36.771 ^s ₁₉₀	49.67 ^s ₃₇	52.014 ^s ₁₅₆	20.65 ^s ₂₇₅
25.5	42.685 ^s ₁₀₃	36.38 ^s ₂₈₉	36.961 ^s ₁₄₅	49.30 ^s ₂₆	52.170 ^s ₁₀₈	23.40 ^s ₂₇₂
35.5	42.788 ^s	39.27 ^s	37.106 ^s	49.04 ^s	52.278 ^s	26.12 ^s
Mean Place	39.091	24.96	32.610	64.20	48.546	11.67
Sec δ, Tan δ	1.131	-0.528	1.069	+0.378	1.092	-0.439
L α, L δ	-0.01	-0.1	+0.01	-0.1	-0.01	-0.1
ω α, ω δ	-0.01	+1.0	+0.01	+1.0	-0.01	+1.0
AUTHORITY			A. E.		A. N.	

320 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Canis Majoris. Mag. 4.1		δ Canis Majoris. Mag. 2.0		ϵ 1 Geminorum. Mag. 5.3	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	^h 7 ^m 0	[°] 15 ['] 31	^h 7 ^m 5	[°] 26 ['] 16	^h 7 ^m 8	[°] 16 ['] 17
Jan. 0.5	17.886 ⁸⁴	16.57 ²²⁹	17.090 ⁷⁸	21.34 ²⁸²	58.357 ¹¹⁷	15.85 ⁵⁰
10.5	17.970 ³⁴	18.86 ²¹⁶	17.168 ²⁸	24.16 ²⁶⁷	58.474 ⁶⁸	15.35 ³⁴
20.5	18.004 ¹⁵	21.02 ¹⁹⁴	17.196 ²⁸	26.83 ²⁴³	58.542 ¹⁵	15.01 ²¹
30.4	17.989 ⁶³	22.96 ¹⁶⁹	17.168 ⁷⁴	29.26 ²¹⁸	58.557 ³⁶	14.80 ⁸
Feb. 9.4	17.926 ¹⁰⁷	24.65 ¹⁴⁰	17.094 ¹²¹	31.44 ¹⁸²	58.521 ⁸²	14.72 ²
19.4	17.819 ¹⁴³	26.05 ¹⁰⁹	16.973 ¹⁵⁹	33.26 ¹⁴⁷	58.439 ¹²³	14.74 ¹¹
Mar. 1.4	17.676 ¹⁷¹	27.14 ⁷⁹	16.814 ¹⁹⁰	34.73 ¹⁰⁹	58.316 ¹⁵⁴	14.85 ¹⁷
11.3	17.505 ¹⁸⁸	27.93 ⁴⁵	16.624 ²⁰⁷	35.82 ⁷⁰	58.162 ¹⁷⁴	15.02 ²¹
21.3	17.317 ¹⁹⁸	28.38 ¹⁵	16.417 ²¹⁸	36.52 ³²	57.988 ¹⁸⁶	15.23 ²²
31.3	17.119 ¹⁹⁵	28.53 ¹⁶	16.199 ²¹⁷	36.84 ⁹	57.802 ¹⁸⁴	15.45 ²³
Apr. 10.3	16.924 ¹⁸⁵	28.37 ⁴⁶	15.982 ²⁰⁹	36.75 ⁴⁸	57.618 ¹⁷⁵	15.68 ²³
20.2	16.739 ¹⁶⁵	27.91 ⁷⁶	15.773 ¹⁸⁹	36.27 ⁸³	57.443 ¹⁵⁵	15.91 ²³
30.2	16.574 ¹³⁹	27.15 ¹⁰³	15.584 ¹⁶²	35.44 ¹²¹	57.288 ¹²⁹	16.14 ²³
May 10.2	16.435 ¹⁰⁹	26.12 ¹³⁰	15.422 ¹³¹	34.23 ¹⁵⁰	57.159 ⁹⁶	16.37 ²⁴
20.1	16.326 ⁷⁵	24.82 ¹⁵²	15.291 ⁹⁹	32.73 ¹⁸²	57.063 ⁶¹	16.61 ²⁵
30.1	16.251 ³⁸	23.30 ¹⁷¹	15.192 ⁵⁹	30.91 ²⁰⁵	57.002 ²²	16.86 ²⁶
June 9.1	16.213 ²	21.59 ¹⁸⁸	15.133 ¹⁸	28.86 ²²⁷	56.980 ¹⁶	17.12 ²⁹
19.1	16.215 ³⁹	19.71 ¹⁹⁷	15.115 ²⁰	26.59 ²⁴¹	56.996 ⁵⁴	17.41 ²⁹
29.0	16.254 ⁷⁵	17.74 ²⁰⁴	15.135 ⁶⁰	24.18 ²⁴⁸	57.050 ⁹¹	17.70 ³⁰
July 9.0	16.329 ¹⁰⁹	15.70 ²⁰³	15.195 ¹⁰⁰	21.70 ²⁴⁸	57.141 ¹²⁵	18.00 ³⁰
19.0	16.438 ¹⁴³	13.67 ¹⁹⁷	15.295 ¹³¹	19.22 ²⁴¹	57.266 ¹⁵⁶	18.30 ²⁶
29.0	16.581 ¹⁷⁰	11.70 ¹⁸³	15.426 ¹⁶⁷	16.81 ²²⁶	57.422 ¹⁸⁵	18.56 ²¹
Aug. 7.9	16.751 ¹⁹⁸	9.87 ¹⁶⁵	15.593 ¹⁹⁴	14.55 ²⁰⁷	57.607 ²⁰⁹	18.77 ¹⁶
17.9	16.949 ²²⁰	8.22 ¹³⁶	15.787 ²²⁶	12.48 ¹⁷³	57.816 ²³³	18.93 ⁵
27.9	17.169 ²⁴³	6.86 ¹⁰⁵	16.013 ²⁴⁷	10.75 ¹³⁷	58.049 ²⁵¹	18.98 ⁶
Sept. 6.8	17.412 ²⁵⁸	5.81 ⁶⁸	16.260 ²⁶⁸	9.38 ⁹⁴	58.300 ²⁶⁹	18.92 ¹⁹
16.8	17.670 ²⁷³	5.13 ²⁶	16.528 ²⁸⁵	8.44 ⁴⁷	58.569 ²⁸²	18.73 ³³
26.8	17.943 ²⁸⁴	4.87 ¹⁶	16.813 ²⁹⁸	7.97 ²	58.851 ²⁹⁴	18.40 ⁴⁷
Oct. 6.8	18.227 ²⁸⁹	5.03 ⁶²	17.111 ³⁰²	7.99 ⁵⁹	59.145 ³⁰²	17.93 ⁶¹
16.7	18.516 ²⁹⁰	5.65 ¹⁰²	17.413 ³⁰⁴	8.58 ¹⁰⁹	59.447 ³⁰⁵	17.32 ⁷³
26.7	18.806 ²⁸⁶	6.67 ¹⁴²	17.717 ²⁹⁷	9.67 ¹⁵⁵	59.752 ³⁰⁴	16.59 ⁸¹
Nov. 5.7	19.092 ²⁷³	8.09 ¹⁷⁷	18.014 ²⁸⁵	11.22 ¹⁹⁷	60.056 ²⁹⁷	15.78 ⁸⁷
15.7	19.365 ²⁵⁷	9.86 ²⁰³	18.299 ²⁶⁶	13.19 ²³⁴	60.353 ²⁸²	14.91 ⁸⁸
25.6	19.622 ²³¹	11.89 ²²⁵	18.565 ²³⁹	15.53 ²⁵⁸	60.635 ²⁶¹	14.03 ⁸⁵
Dec. 5.6	19.853 ¹⁹⁹	14.14 ²³⁶	18.804 ²⁰²	18.11 ²⁷⁹	60.896 ²³⁰	13.18 ⁷⁹
15.6	20.052 ¹⁶⁰	16.50 ²³⁹	19.006 ¹⁶¹	20.90 ²⁸⁵	61.126 ¹⁹⁴	12.39 ⁶⁸
25.5	20.212 ¹¹⁴	18.89 ²³⁵	19.167 ¹¹¹	23.75 ²⁸³	61.320 ¹⁴⁹	11.71 ⁵⁵
35.5	20.326	21.24	19.278	26.58	61.469	11.16
Mean Place	16.508	6.54	15.560	12.08	57.104	27.18
Sec δ , Tan δ	1.038	-0.278	1.115	-0.494	1.042	+0.292
L α , L δ	-0.01	-0.1	-0.01	-0.1	+0.01	-0.1
ω α , ω δ	0.00	+1.0	-0.01	+1.0	+0.01	+1.0
AUTHORITY	A. E.		A. E.			

APPARENT PLACES OF STARS, 1923. 321

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	π Argüs. Mag. 2·7		δ Geminorum. Mag. 3·5		δ Volantis. Mag. 4·0	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	^h 7 ^m 14	^s 36 ['] 57	^h 7 ^m 15	^s 22 ['] 7	^h 7 ^m 16	^s 67 ['] 48
Jan. 0·5	27·172	80	32·866	129	56·91	3
10·5	27·252	21	32·995	76	56·94	9
20·5	27·273	37	33·071	23	56·85	20
30·4	27·236	92	33·094	30	56·65	30
Feb. 9·4	27·144	138	33·064	78	56·35	40
19·4	27·006	185	32·986	121	55·95	47
Mar. 1·4	26·821	216	32·865	154	55·48	53
11·3	26·605	240	32·711	179	54·95	58
21·3	26·365	252	32·532	191	54·37	60
31·3	26·113	253	32·341	189	53·77	61
Apr. 10·3	25·860	241	32·152	180	53·16	59
20·2	25·616	226	31·972	164	52·57	58
30·2	25·390	202	31·808	136	51·99	53
May 10·2	25·188	172	31·672	104	51·46	48
20·1	25·016	131	31·568	67	50·98	41
30·1	24·885	92	31·501	29	50·57	34
June 9·1	24·793	50	31·472	10	50·23	25
19·1	24·743	6	31·482	51	49·98	16
29·0	24·737	37	31·533	88	49·82	7
July 9·0	24·774	80	31·621	122	49·75	2
19·0	24·854	120	31·743	156	49·77	13
29·0	24·974	161	31·899	181	49·90	21
Aug. 7·9	25·135	196	32·083	214	50·11	31
17·9	25·331	229	32·297	238	50·42	38
27·9	25·560	258	32·535	256	50·80	46
Sept. 6·8	25·818	286	32·791	276	51·26	53
16·8	26·104	305	33·067	293	51·79	57
26·8	26·409	319	33·360	304	52·36	60
Oct. 6·8	26·728	330	33·664	313	52·96	62
16·7	27·058	332	33·977	317	53·58	62
26·7	27·390	325	34·294	318	54·20	59
Nov. 5·7	27·715	310	34·612	310	54·79	55
15·7	28·025	289	34·922	297	55·34	49
25·6	28·314	258	35·219	272	55·83	41
Dec. 5·6	28·572	217	35·491	246	56·24	32
15·6	28·789	168	35·737	206	56·56	21
25·5	28·957	116	35·943	163	56·77	10
35·5	29·073		36·106	147	56·87	
Mean Place	25·394	31·33	31·602	31·43	52·84	58·97
Sec δ , Tan δ	1·251	—0·752	1·080	+0·407	2·649	—2·452
L α , L δ	—0·02	—0·1	+0·01	—0·1	—0·06	—0·1
ω α , ω δ	—0·02	+0·9	+0·01	+0·9	—0·05	+0·9

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322 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Canis Majoris. Mag. 2.4		β Canis Minoris. Mag. 3.1		σ Argus. Mag. 3.3	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	^h ^m 7 21	[°] ['] 29 9	^h ^m 7 22	[°] ['] 8 26	^h ^m 7 26	[°] ['] 43 8
Jan. 0.5	4.537 ⁹⁵	15.18 ²⁹⁶	59.804 ¹²⁶	33.18 ¹⁰¹	49.205 ⁹⁰	48.19 ³⁴⁴
10.5	4.632 ⁴¹	18.14 ²⁸⁴	59.930 ⁷³	32.17 ⁸⁶	49.295 ²⁷	51.63 ³³²
20.5	4.673 ¹³	20.08 ²⁶²	60.003 ²⁶	31.31 ⁷⁰	49.322 ³⁶	54.95 ³¹³
30.5	4.660 ⁶⁶	23.60 ²³⁶	60.029 ²⁷	30.61 ⁵⁴	49.286 ⁹⁷	58.08 ²⁸⁵
Feb. 9.4	4.594 ¹¹⁴	25.96 ²⁰³	60.002 ⁶⁹	30.07 ³⁶	49.189 ¹⁵²	60.93 ²⁵⁰
19.4	4.480 ¹⁵⁴	27.99 ¹⁶⁷	59.933 ¹¹⁰	29.71 ²³	49.037 ¹⁹⁷	63.43 ²¹²
Mar. 1.4	4.326 ¹⁸⁷	29.66 ¹²⁹	59.823 ¹⁴³	29.48 ⁷	48.840 ²³⁶	65.55 ¹⁶⁷
11.3	4.139 ²⁰⁹	30.95 ⁸⁹	59.680 ¹⁶⁴	29.41 ⁴	48.604 ²⁶²	67.22 ¹²²
21.3	3.930 ²²²	31.84 ⁴⁷	59.516 ¹⁷⁹	29.45 ¹⁴	48.342 ²⁷⁸	68.44 ⁷⁵
31.3	3.708 ²²³	32.31 ⁷	59.337 ¹⁷⁸	29.59 ²²	48.064 ²⁸²	69.19 ²⁵
Apr. 10.3	3.485 ²¹⁷	32.38 ³³	59.159 ¹⁷¹	29.81 ³²	47.782 ²⁷⁶	69.44 ²²
20.2	3.268 ²⁰⁰	32.05 ⁷³	58.988 ¹⁵⁵	30.13 ³⁸	47.506 ²⁶⁰	69.22 ⁷⁰
30.2	3.068 ¹⁷⁷	31.32 ¹¹¹	58.833 ¹³²	30.51 ⁴⁶	47.246 ²³⁵	68.52 ¹¹⁴
May 10.2	2.891 ¹⁴⁸	30.21 ¹⁴⁵	58.701 ¹⁰⁵	30.97 ⁵¹	47.011 ²⁰⁴	67.38 ¹⁵⁷
20.2	2.743 ¹¹⁴	28.76 ¹⁷⁶	58.596 ⁶⁹	31.48 ⁵⁷	46.807 ¹⁶⁷	65.81 ¹⁹⁵
30.1	2.629 ⁷⁶	27.00 ²⁰⁴	58.527 ³⁵	32.05 ⁶³	46.640 ¹²⁶	63.86 ²³⁰
June 9.1	2.553 ³⁸	24.96 ²²⁷	58.492 ⁰	32.68 ⁶⁹	46.514 ⁸¹	61.56 ²⁵⁸
19.1	2.515 ²	22.69 ²⁴³	58.492 ³⁸	33.37 ⁶⁹	46.433 ³⁵	58.98 ²⁷⁹
29.0	2.517 ⁴¹	20.26 ²⁵³	58.530 ⁷¹	34.06 ⁷³	46.398 ¹²	56.19 ²⁹³
July 9.0	2.558 ⁷⁹	17.73 ²⁵⁷	58.601 ¹⁰⁵	34.79 ⁷¹	46.410 ⁵⁹	53.26 ³⁰⁰
19.0	2.637 ¹¹⁷	15.16 ²⁵²	58.706 ¹³⁵	35.50 ⁶⁷	46.469 ¹⁰⁴	50.26 ²⁹⁶
29.0	2.754 ¹⁵¹	12.64 ²³⁸	58.841 ¹⁶⁵	36.17 ⁵⁸	46.573 ¹⁴⁹	47.30 ²⁸⁴
Aug. 7.9	2.905 ¹⁸³	10.26 ²¹⁸	59.006 ¹⁸⁸	36.75 ⁴⁹	46.722 ¹⁹¹	44.46 ²⁶²
17.9	3.088 ²¹³	8.08 ¹⁸⁸	59.194 ²¹⁴	37.24 ³⁵	46.913 ²²⁹	41.84 ²³¹
27.9	3.301 ²⁴¹	6.20 ¹⁵¹	59.408 ²³³	37.59 ¹⁸	47.142 ²⁶⁴	39.53 ¹⁹²
Sept. 6.9	3.542 ²⁶³	4.69 ¹⁰⁹	59.641 ²⁵²	37.77 ²	47.406 ²⁹⁶	37.61 ¹⁴⁴
16.8	3.805 ²⁸³	3.60 ⁵⁹	59.893 ²⁷⁰	37.75 ²³	47.702 ³²⁰	36.17 ⁸⁹
26.8	4.088 ²⁹⁸	3.01 ⁸	60.163 ²⁸³	37.52 ⁴⁶	48.022 ³⁴⁰	35.28 ³²
Oct. 6.8	4.386 ³⁰⁸	2.93 ⁴⁶	60.446 ²⁹¹	37.06 ⁶⁶	48.362 ³⁵³	34.96 ³⁰
16.7	4.694 ³¹²	3.39 ⁹⁹	60.737 ²⁹⁷	36.40 ⁸⁶	48.715 ³⁵⁷	35.26 ⁹¹
26.7	5.006 ³⁰⁹	4.38 ¹⁵⁰	61.034 ²⁹⁷	35.54 ¹⁰⁴	49.072 ³⁵³	36.17 ¹⁵⁰
Nov. 5.7	5.315 ³⁰⁰	5.88 ¹⁹⁶	61.331 ²⁹¹	34.50 ¹¹⁶	49.425 ³³⁹	37.67 ²⁰⁴
15.7	5.615 ²⁸⁰	7.84 ²³⁴	61.622 ²⁷⁹	33.34 ¹²⁴	49.764 ³¹⁴	39.71 ²⁵¹
25.6	5.895 ²⁵⁴	10.18 ²⁶⁴	61.901 ²⁶⁰	32.10 ¹²⁸	50.078 ²⁸¹	42.22 ²⁹⁰
Dec. 5.6	6.149 ²¹⁸	12.82 ²⁸⁶	62.161 ²³²	30.82 ¹²⁶	50.359 ²³⁷	45.12 ³¹⁸
15.6	6.367 ¹⁷⁷	15.68 ²⁹⁶	62.393 ¹⁹⁷	29.56 ¹²²	50.596 ¹⁸⁷	48.30 ³³⁶
25.6	6.544 ¹²⁷	18.64 ²⁹⁸	62.590 ¹⁵⁶	28.34 ¹⁰⁸	50.783 ¹²⁸	51.66 ³⁴²
35.5	6.671	21.62	62.746	27.26	50.911	55.08
Mean Place	2.948	6.96	58.581	44.12	47.211	41.42
Sec δ , Tan δ	1.145	-0.558	1.011	+0.149	1.371	-0.937
L α , L δ	-0.01	-0.1	0.00	-0.1	-0.02	-0.1
ω α , ω δ	-0.01	+0.9	0.00	+0.9	-0.02	+0.9
AUTHORITY	A. N.		A. E.			

APPARENT PLACES OF STARS, 1923. 323

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Geminorum. Mag. 2.0		γ Carinae. Mag. 4.9		α Canis Minoris. Mag. 0.5	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	^h ^m 7 29	[°] ['] 32 3	^h ^m 7 33	[°] ['] 52 21	^h ^m 7 35	[°] ['] 5 25
Jan. 0.5	42.701 ¹⁵²	20.25 44	47.575 ⁹²	48.06 364	17.519 ¹³¹	13.67 ¹²⁶
10.5	42.853 ⁹⁹	20.69 59	47.667 ¹⁸	51.70 357	17.650 ¹³¹	12.41 ¹¹⁰
20.5	42.952 ⁴⁰	21.28 72	47.685 ⁵⁵	55.27 339	17.729 ⁷⁹	11.31 ⁹³
30.5	42.992 ²⁰	22.00 80	47.630 ¹²⁶	58.66 312	17.759 ¹⁹	10.38 ⁷⁴
Feb. 9.4	42.972 ⁷²	22.80 84	47.504 ¹⁹⁰	61.78 278	17.740 ⁶⁷	9.64 ⁵⁵
19.4	42.900 ¹²⁴	23.64 85	47.314 ²⁴³	64.56 239	17.673 ¹⁰⁴	9.09 ³⁴
Mar. 1.4	42.776 ¹⁵⁹	24.49 77	47.071 ²⁸⁹	66.95 195	17.569 ¹⁴⁰	8.75 ²¹
11.3	42.617 ¹⁸⁹	25.26 65	46.782 ³²⁰	68.90 146	17.429 ¹⁶⁰	8.54 ⁶
21.3	42.428 ²⁰⁴	25.91 54	46.462 ³⁴¹	70.36 96	17.269 ¹⁷⁶	8.48 ⁹
31.3	42.224 ²⁰⁶	26.45 38	46.121 ³⁴⁸	71.32 45	17.093 ¹⁷⁷	8.57 ²⁰
Apr. 10.3	42.018 ²⁰¹	26.83 22	45.773 ³⁴³	71.77 6	16.916 ¹⁷¹	8.77 ²⁹
20.2	41.817 ¹⁸³	27.05 6	45.430 ³²⁸	71.71 57	16.745 ¹⁵⁹	9.06 ⁴¹
30.2	41.634 ¹⁶¹	27.11 11	45.102 ³⁰³	71.14 107	16.586 ¹³⁵	9.47 ⁵¹
May 10.2	41.473 ¹²³	27.00 22	44.799 ²⁶⁸	70.07 152	16.451 ¹⁰⁷	9.98 ⁶⁰
20.2	41.350 ⁸⁷	26.78 39	44.531 ²²⁸	68.55 195	16.344 ⁷⁶	10.58 ⁶⁵
30.1	41.263 ⁴⁸	26.39 47	44.303 ¹⁸²	66.60 232	16.268 ⁴³	11.23 ⁷²
June 9.1	41.215 ⁵	25.92 57	44.121 ¹³¹	64.28 265	16.225 ⁹	11.95 ⁷⁸
19.1	41.210 ⁴⁰	25.35 62	43.990 ⁷⁷	61.63 290	16.216 ²⁶	12.73 ⁸²
29.0	41.250 ⁷⁸	24.73 67	43.913 ²²	58.73 308	16.242 ⁶²	13.55 ⁸²
July 9.0	41.328 ¹¹⁶	24.06 69	43.891 ³⁵	55.65 316	16.304 ⁹⁵	14.37 ⁸¹
19.0	41.444 ¹⁵⁷	23.37 72	43.926 ⁹¹	52.49 315	16.399 ¹²³	15.18 ⁷⁷
29.0	41.601 ¹⁸⁵	22.65 74	44.017 ¹⁴⁶	49.34 305	16.522 ¹⁵²	15.95 ⁶⁹
Aug. 7.9	41.786 ²¹⁹	21.91 77	44.163 ²⁰⁰	46.29 284	16.674 ¹⁸¹	16.64 ⁵⁶
17.9	42.005 ²⁴⁵	21.14 79	44.363 ²⁴⁷	43.45 254	16.855 ²⁰³	17.20 ⁴⁰
27.9	42.250 ²⁷¹	20.35 79	44.610 ²⁹⁴	40.91 213	17.058 ²²⁶	17.60 ²²
Sept. 6.9	42.521 ²⁹⁴	19.56 82	44.904 ³³³	38.78 166	17.284 ²⁴⁴	17.82 ⁰
16.8	42.815 ³⁰⁸	18.74 78	45.237 ³⁶⁶	37.12 110	17.528 ²⁶¹	17.82 ²³
26.8	43.123 ³²⁹	17.96 80	45.603 ³⁹¹	36.02 50	17.789 ²⁷⁶	17.59 ⁴⁸
Oct. 6.8	43.452 ³³⁹	17.16 77	45.994 ⁴⁰⁷	35.52 15	18.065 ²⁸⁸	17.11 ⁷²
16.7	43.791 ³⁴⁷	16.39 71	46.401 ⁴¹²	35.67 79	18.353 ²⁹³	16.39 ⁹⁷
26.7	44.138 ³⁴⁷	15.68 65	46.813 ⁴⁰⁸	36.46 141	18.646 ²⁹⁵	15.42 ¹¹⁵
Nov. 5.7	44.485 ³⁴²	15.03 52	47.221 ³⁹⁰	37.87 202	18.941 ²⁹¹	14.27 ¹³³
15.7	44.827 ³³⁰	14.51 39	47.611 ³⁶⁰	39.89 251	19.232 ²⁸⁰	12.94 ¹⁴²
25.6	45.157 ³¹¹	14.12 24	47.971 ³¹⁹	42.40 296	19.512 ²⁶³	11.52 ¹⁴⁹
Dec. 5.6	45.468 ²⁷⁷	13.88 4	48.290 ²⁶⁶	45.36 329	19.775 ²³³	10.03 ¹⁴⁹
15.6	45.745 ²³⁹	13.84 15	48.556 ²⁰⁵	48.65 351	20.008 ²⁰⁰	8.54 ¹⁴⁴
25.6	45.984 ¹⁸⁹	13.99 35	48.761 ¹³⁷	52.16 361	20.208 ¹⁶⁰	7.10 ¹³¹
35.5	46.173	14.34	48.898	55.77	20.368	5.79
Mean Place	41.397	32.79	45.121	42.55	16.327	23.65
Sec δ , Tan δ	1.180	+0.626	1.638	-1.297	1.005	+0.095
L α , L δ	+0.02	-0.2	-0.03	-0.2	0.00	-0.2
ω α , ω δ	+0.02	+0.9	-0.03	+0.9	0.00	+0.9

AUTHORITY

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324 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	26 Monocerotis. Mag. 4.1		β Geminorum. Mag. 1.2		ξ Argus. Mag. 3.5	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	^h 7 ^m 37	[°] 9 ['] 22	^h 7 ^m 40	[°] 28 ['] 12	^h 7 ^m 46	[°] 24 ['] 39
Jan. 0.6	35.387 ¹²⁶	23.10 ²⁰⁹	37.655 ¹⁵⁹	35.74 ¹⁴	4.844 ¹²⁶	63.36 ²⁸⁴
10.5	35.513 ⁷⁶	25.19 ¹⁹¹	37.814 ¹⁰⁶	35.88 ³³	4.970 ⁷³	66.20 ²⁷³
20.5	35.589 ²⁷	27.13 ¹⁷⁵	37.920 ⁵¹	36.21 ⁴⁹	5.043 ²⁰	68.93 ²⁵⁴
30.5	35.616 ²²	28.88 ¹⁵³	37.971 ¹⁰	36.70 ⁵⁹	5.063 ³³	71.47 ²³⁰
Feb. 9.4	35.594 ⁷⁰	30.41 ¹²⁸	37.961 ⁶¹	37.29 ⁶⁸	5.030 ⁸¹	73.77 ²⁰¹
19.4	35.524 ¹⁰⁹	31.69 ¹⁰²	37.900 ¹⁰⁷	37.97 ⁷⁰	4.949 ¹²⁴	75.78 ¹⁶⁸
Mar. 1.4	35.415 ¹⁴¹	32.71 ⁷⁵	37.793 ¹⁴⁵	38.67 ⁶⁸	4.825 ¹⁵⁹	77.46 ¹³³
11.4	35.274 ¹⁶⁶	33.46 ⁴⁸	37.648 ¹⁷⁶	39.35 ⁶¹	4.666 ¹⁸⁴	78.79 ⁹⁶
21.3	35.108 ¹⁷⁹	33.94 ²¹	37.472 ¹⁹³	39.96 ⁵⁴	4.482 ²⁰⁰	79.75 ⁵⁹
31.3	34.929 ¹⁸⁴	34.15 ⁴	37.279 ¹⁹⁹	40.50 ⁴³	4.282 ²⁰⁷	80.34 ²¹
Apr. 10.3	34.745 ¹⁷⁸	34.11 ²⁸	37.080 ¹⁹¹	40.93 ³⁰	4.075 ²⁰³	80.55 ¹⁶
20.3	34.567 ¹⁶⁶	33.83 ⁵³	36.889 ¹⁸¹	41.23 ²¹	3.872 ¹⁹²	80.39 ⁵²
30.2	34.401 ¹⁴⁴	33.30 ⁷⁶	36.708 ¹⁵⁶	41.44 ²	3.680 ¹⁷²	79.87 ⁸⁷
May 10.2	34.257 ¹²⁰	32.54 ⁹⁶	36.552 ¹²⁵	41.46 ⁸	3.508 ¹⁴⁷	79.00 ¹¹⁹
20.2	34.137 ⁸⁹	31.58 ¹¹⁶	36.427 ⁹²	41.38 ²⁰	3.361 ¹¹⁸	77.81 ¹⁵⁰
30.1	34.048 ⁵⁶	30.42 ¹³³	36.335 ⁵²	41.18 ²²	3.243 ⁸⁵	76.31 ¹⁷⁶
June 9.1	33.992 ²²	29.09 ¹⁴⁶	36.283 ¹²	40.96 ³⁵	3.158 ⁴⁹	74.55 ¹⁹⁸
19.1	33.970 ¹²	27.63 ¹⁵⁷	36.271 ²³	40.61 ⁴²	3.109 ¹⁴	72.57 ²¹⁶
29.1	33.982 ⁴⁶	26.06 ¹⁶³	36.294 ⁶³	40.19 ⁴⁶	3.095 ²²	70.41 ²²⁷
July 9.0	34.028 ⁷⁹	24.43 ¹⁶⁴	36.357 ¹⁰⁴	39.73 ⁵⁰	3.117 ⁵⁹	68.14 ²³²
19.0	34.107 ¹¹¹	22.79 ¹⁶⁰	36.461 ¹³⁷	39.23 ⁵⁴	3.176 ⁹³	65.82 ²³⁰
29.0	34.218 ¹³⁹	21.19 ¹⁵¹	36.598 ¹⁶⁸	38.69 ⁵⁹	3.269 ¹²⁶	63.52 ²²⁰
Aug. 8.0	34.357 ¹⁶⁷	19.68 ¹³⁴	36.766 ¹⁹⁹	38.10 ⁶³	3.395 ¹⁵⁹	61.32 ²⁰³
17.9	34.524 ¹⁹³	18.34 ¹¹³	36.965 ²²⁵	37.47 ⁶⁷	3.554 ¹⁸⁸	59.29 ¹⁷⁸
27.9	34.717 ²¹⁶	17.21 ⁸⁸	37.190 ²⁵¹	36.80 ⁷⁰	3.742 ²¹⁷	57.51 ¹⁴⁵
Sept. 6.9	34.933 ²³⁷	16.33 ⁵⁴	37.441 ²⁷⁴	36.10 ⁷⁶	3.959 ²⁴¹	56.06 ¹⁰⁶
16.8	35.170 ²⁵⁵	15.79 ¹⁹	37.715 ²⁹⁵	35.34 ⁸²	4.200 ²⁶⁴	55.00 ⁶²
26.8	35.425 ²⁷²	15.60 ¹⁸	38.010 ³⁰⁷	34.52 ⁸²	4.464 ²⁸³	54.38 ¹⁴
Oct. 6.8	35.697 ²⁸³	15.78 ⁵⁶	38.317 ³²⁵	33.70 ⁸⁵	4.747 ²⁹⁷	54.24 ³⁷
16.8	35.980 ²⁹²	16.34 ⁹⁴	38.642 ³³³	32.85 ⁸⁴	5.044 ³⁰⁶	54.61 ⁸⁷
26.7	36.272 ²⁹³	17.28 ¹³⁰	38.975 ³³⁷	32.01 ⁸⁰	5.350 ³⁰⁹	55.48 ¹³⁵
Nov. 5.7	36.565 ²⁹⁰	18.58 ¹⁵⁹	39.312 ³³³	31.21 ⁷⁶	5.659 ³⁰⁴	56.83 ¹⁷⁹
15.7	36.855 ²⁷⁸	20.17 ¹⁸⁵	39.645 ³²⁶	30.45 ⁶¹	5.963 ²⁹¹	58.62 ²¹⁷
25.7	37.133 ²⁵⁹	22.02 ²⁰³	39.971 ³⁰⁶	29.84 ⁵⁰	6.254 ²⁷⁰	60.79 ²⁴⁸
Dec. 5.6	37.392 ²³²	24.05 ²¹³	40.277 ²⁷⁶	29.34 ³²	6.524 ²³⁹	63.27 ²⁶⁹
15.6	37.624 ¹⁹⁷	26.18 ²¹⁶	40.553 ²⁴⁰	29.02 ¹⁴	6.763 ²⁰²	65.96 ²⁸⁰
25.6	37.821 ¹⁵⁵	28.34 ²¹²	40.793 ¹⁹³	28.88 ⁷	6.965 ¹⁵⁷	68.76 ²⁸⁴
35.5	37.976	30.46	40.986	28.95	7.122	71.60
Mean Place	34.091	13.95	36.420	48.27	3.351	56.20
Sec δ , Tan δ	1.014	-0.165	1.135	+0.537	1.100	-0.459
L α , L δ	0.00	-0.2	+0.01	-0.2	-0.01	-0.2
ω α , ω δ	0.00	+0.9	+0.02	+0.9	-0.01	+0.9
AUTHORITY	A. N.		A. E.			

APPARENT PLACES OF STARS, 1923. 325

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	χ Geminorum. Mag. 5.0		ζ Argūs. Mag. 2.3		ρ Argūs. Mag. 2.9	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. S.
	^h 7 ^m 58 ^s 7	[°] 28 ['] 0 ["] 0	^h 8 ^m 0 ^s 8	[°] 39 ['] 47 ["] 16	^h 8 ^m 4 ^s 8	[°] 24 ['] 4 ["] 0
Jan. 0.6	48.745 ¹⁸¹	27.95 ⁷	54.480 ¹³⁸	13.16 ³³⁸	17.326 ¹⁴⁶	50.07 ²⁸³
10.5	48.026 ¹²⁹	28.02 ²⁶	54.618 ⁷⁷	16.54 ³³⁴	17.472 ⁹³	61.90 ²⁷⁷
20.5	49.055 ⁷⁰	28.28 ⁴⁶	54.695 ¹⁶	19.88 ³²⁰	17.565 ⁴¹	64.67 ²⁵⁸
30.5	49.125 ¹³	28.74 ⁵⁰	54.711 ⁴⁵	23.08 ²⁹⁵	17.606 ¹⁴	67.25 ²³⁴
Feb. 9.4	49.138 ⁴²	29.33 ⁶⁸	54.666 ¹⁰¹	26.03 ²⁶⁶	17.592 ⁶⁴	69.59 ²⁰⁷
19.4	49.096 ⁸⁹	30.01 ⁷⁴	54.565 ¹⁴⁹	28.69 ²³²	17.528 ¹⁰³	71.66 ¹⁷⁷
Mar. 1.4	49.007 ¹³²	30.75 ⁷⁶	54.416 ¹⁹⁰	31.01 ¹⁹¹	17.425 ¹⁴⁴	73.43 ¹⁴²
11.4	48.875 ¹⁶³	31.51 ⁷²	54.226 ²²²	32.92 ¹⁴⁹	17.281 ¹⁷²	74.85 ¹⁰⁵
21.3	48.712 ¹⁸³	32.23 ⁶³	54.004 ²⁴¹	34.41 ¹⁰⁴	17.109 ¹⁹²	75.90 ⁷¹
31.3	48.529 ¹⁹⁴	32.86 ⁵²	53.763 ²⁵³	35.45 ⁵⁸	16.917 ¹⁹⁸	76.61 ³³
Apr. 10.3	48.335 ¹⁹¹	33.38 ⁴¹	53.510 ²⁵³	36.03 ¹³	16.719 ¹⁹⁷	76.94 ³
20.3	48.144 ¹⁷⁹	33.79 ²⁸	53.257 ²⁴⁵	36.16 ³²	16.522 ¹⁹²	76.91 ³⁹
30.2	47.965 ¹⁶²	34.07 ¹⁴	53.012 ²²⁸	35.84 ⁷⁸	16.330 ¹⁷³	76.52 ⁷⁵
May 10.2	47.803 ¹³³	34.21 ⁰	52.784 ²⁰¹	35.06 ¹¹⁹	16.157 ¹⁵⁵	75.77 ¹⁰⁴
20.2	47.670 ¹⁰⁰	34.21 ¹¹	52.583 ¹⁷⁴	33.87 ¹⁵⁹	16.002 ¹²⁵	74.73 ¹³⁸
30.1	47.570 ⁶⁵	34.10 ²⁰	52.409 ¹³⁸	32.28 ¹⁹⁴	15.877 ⁹⁵	73.35 ¹⁶³
June 9.1	47.505 ²⁹	33.90 ³²	52.271 ¹⁰⁰	30.34 ²²⁶	15.782 ⁶⁴	71.72 ¹⁸⁷
19.1	47.476 ⁸	33.58 ⁴⁰	52.171 ⁶²	28.08 ²⁵⁰	15.718 ²⁹	69.85 ²⁰⁵
29.1	47.484 ⁵⁰	33.18 ⁴⁷	52.109 ¹⁸	25.58 ²⁷⁰	15.689 ⁵	67.80 ²¹⁸
July 9.0	47.534 ⁸³	32.71 ⁵³	52.091 ²⁴	22.88 ²⁷⁹	15.694 ⁴¹	65.62 ²²²
19.0	47.617 ¹¹⁹	32.18 ⁵⁹	52.115 ⁶⁵	20.09 ²⁸²	15.735 ⁷⁶	63.40 ²²⁴
29.0	47.736 ¹⁵¹	31.59 ⁶⁴	52.180 ¹⁰⁷	17.27 ²⁷⁶	15.811 ¹⁰⁷	61.16 ²¹⁹
Aug. 8.0	47.887 ¹⁸¹	30.95 ⁷⁰	52.287 ¹⁵⁰	14.51 ²⁵⁹	15.918 ¹⁴³	58.97 ²⁰⁰
17.9	48.068 ²¹⁰	30.25 ⁷⁶	52.437 ¹⁸⁷	11.92 ²³⁴	16.061 ¹⁷²	56.97 ¹⁷⁶
27.9	48.278 ²³⁸	29.49 ⁸²	52.624 ²²⁴	9.58 ¹⁹⁹	16.233 ¹⁹⁹	55.21 ¹⁴⁷
Sept. 6.9	48.516 ²⁶⁰	28.67 ⁸⁸	52.848 ²⁵⁹	7.59 ¹⁵⁷	16.432 ²³⁰	53.74 ¹¹⁰
16.8	48.776 ²⁸⁴	27.79 ⁹³	53.107 ²⁸⁸	6.02 ¹⁰⁸	16.662 ²⁵³	52.64 ⁶⁸
26.8	49.060 ³⁰¹	26.86 ⁹⁹	53.395 ³¹⁴	4.94 ⁵³	16.915 ²⁷⁶	51.96 ²¹
Oct. 6.8	49.361 ³²⁰	25.87 ⁹⁹	53.709 ³³³	4.41 ⁴	17.191 ²⁹⁴	51.75 ²⁹
16.8	49.681 ³³²	24.88 ¹⁰⁰	54.042 ³¹⁴	4.45 ⁶⁴	17.485 ³⁰⁵	52.04 ⁷⁸
26.7	50.013 ³⁴⁰	23.88 ⁹⁵	54.386 ³⁴⁹	5.09 ¹²²	17.790 ³¹⁰	52.82 ¹²⁶
Nov. 5.7	50.353 ³³⁹	22.93 ⁸⁹	54.735 ³⁴⁵	6.31 ¹⁷⁸	18.100 ³⁰⁹	54.08 ¹⁶⁹
15.7	50.692 ³³²	22.04 ⁷⁸	55.080 ³³⁰	8.09 ²²⁷	18.409 ³⁰⁰	55.77 ²⁰⁸
25.7	51.024 ³¹⁶	21.26 ⁶⁵	55.410 ³⁰⁵	10.36 ²⁶⁹	18.709 ²⁷⁹	57.85 ²⁴³
Dec. 5.6	51.340 ²⁹³	20.61 ⁴⁵	55.715 ²⁷⁰	13.05 ³⁰²	18.988 ²⁵⁷	60.28 ²⁶²
15.6	51.633 ²⁵⁸	20.16 ²⁸	55.985 ²²⁴	16.07 ³²²	19.245 ²¹⁸	62.90 ²⁷⁹
25.6	51.891 ²¹⁴	19.88 ³	56.209 ¹⁷²	19.29 ³³⁶	19.463 ¹⁷⁴	65.69 ²⁸⁶
35.5	52.105	19.85	56.381	22.65	19.637	68.55
Mean Place	47.576	40.80	52.613	8.69	15.865	52.88
Sec δ, Tan δ	1.133	+0.532	1.301	-0.833	1.095	-0.447
L α, L δ	+0.01	-0.2	-0.02	-0.2	-0.01	-0.2
ω α, ω δ	+0.02	+0.9	-0.03	+0.9	-0.02	+0.9
AUTHORITY	A. E.		A. E.		A. E.	

326 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Argûs. Mag. 2.2		α Puppis. Mag. 5.1		β Cancri. Mag. 3.8	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. N.
	^h 8	^m 7	^h 8	^m 9	^h 8	^m 12
	^s 8	[°] 47	^s 8	[°] 15	^s 8	[°] 9
	7	6	9	33	12	25
Jan. 0.6	11.808	36.25	48.937	26.14	21.559	15.42
10.5	11.953	39.84	49.091	28.61	21.729	14.30
20.5	12.031	43.39	49.196	30.97	21.854	13.37
30.5	12.043	46.80	49.249	33.14	21.927	12.63
Feb. 9.5	11.987	50.01	49.251	35.10	21.950	12.07
19.4	11.871	52.95	49.205	36.81	21.921	11.72
Mar. 1.4	11.698	55.52	49.118	38.22	21.851	11.54
11.4	11.482	57.70	48.992	39.34	21.742	11.51
21.4	11.228	59.42	48.839	40.15	21.601	11.62
31.3	10.952	60.69	48.666	40.65	21.443	11.82
Apr. 10.3	10.660	61.48	48.484	40.86	21.277	12.13
20.3	10.366	61.77	48.302	40.75	21.109	12.48
30.2	10.082	61.58	48.128	40.35	20.947	12.90
May 10.2	9.812	60.90	47.969	39.67	20.802	13.37
20.2	9.567	59.76	47.831	38.74	20.677	13.87
30.2	9.351	58.19	47.717	37.58	20.580	14.40
June 9.1	9.174	56.23	47.635	36.18	20.514	14.94
19.1	9.038	53.90	47.580	34.62	20.477	15.52
29.1	8.944	51.31	47.560	32.91	20.473	16.09
July 9.1	8.899	48.49	47.572	31.10	20.501	16.67
19.0	8.899	45.54	47.617	29.25	20.560	17.18
29.0	8.950	42.55	47.692	27.42	20.651	17.66
Aug. 8.0	9.049	39.61	47.799	25.67	20.770	18.05
17.9	9.194	36.81	47.937	24.04	20.919	18.34
27.9	9.387	34.24	48.102	22.65	21.092	18.46
Sept. 6.9	9.622	32.01	48.294	21.52	21.290	18.44
16.9	9.900	30.22	48.513	20.71	21.513	18.23
26.8	10.211	28.93	48.757	20.27	21.758	17.81
Oct. 6.8	10.554	28.19	49.019	20.28	22.024	17.16
16.8	10.920	28.07	49.301	20.69	22.307	16.31
26.8	11.299	28.55	49.595	21.53	22.603	15.28
Nov. 5.7	11.683	29.67	49.897	22.77	22.908	14.09
15.7	12.063	31.38	50.200	24.40	23.216	12.75
25.7	12.425	33.64	50.494	26.35	23.520	11.33
Dec. 5.6	12.758	36.34	50.774	28.56	23.808	9.88
15.6	13.049	39.42	51.030	30.94	24.079	8.46
25.6	13.291	42.76	51.254	33.42	24.318	7.14
35.6	13.475	46.25	51.436	35.90	24.518	5.95
Mean Place	9.645	33.15	47.619	19.05	20.447	26.04
Sec δ , Tan δ	1.469	-1.076	1.038	-0.278	1.014	+0.166
L α , L δ	-0.02	-0.2	-0.01	-0.2	0.00	-0.2
ω α , ω δ	-0.04	+0.9	-0.01	+0.8	+0.01	+0.8
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 327

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	d ¹ Cancri. Mag. 5.9		ε Argûs. Mag. 1.7		30 Monocerotis. Mag. 4.0	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. S.
	^h 8	^m 18	^h 8	^m 20	^h 8	^m 21
		18 34		59 15		3 39
Jan. 0.6	^s 58.521	189 37.79	^s 59.100	176 41.46	^s 50.029	170 23.67
10.5	58.710 ¹³⁹	37.19 ⁶⁰	59.276 ¹⁷⁶	45.17 ³⁷¹	50.199 ¹⁷⁰	25.56 ¹⁸⁹
20.5	58.849 ⁸⁷	36.80 ³⁹	59.369 ⁹³	48.94 ³⁷⁷	50.324 ¹²⁵	27.29 ¹⁷³
30.5	58.936 ³²	36.62 ¹⁸	59.374 ⁵	52.63 ³⁶⁹	50.397 ⁷³	28.84 ¹⁵⁵
Feb. 9.5	58.968 ¹⁹	36.63 ¹	59.294 ⁸⁰	56.17 ³⁵⁴	50.422 ²⁵	30.18 ¹³⁴
19.4	58.949 ⁶⁷	36.81 ¹⁸	59.133 ¹⁶¹	59.47 ³³⁰	50.396 ²⁶	31.30 ¹¹²
Mar. 1.4	58.882 ¹⁰⁸	37.11 ³⁰	58.903 ²³⁰	62.42 ²⁹⁵	50.328 ⁶⁸	32.17 ⁸⁷
11.4	58.774 ¹³⁹	37.51 ⁴⁰	58.611 ²⁹²	65.00 ²⁵⁸	50.224 ¹⁰⁴	32.79 ⁶²
21.4	58.635 ¹⁶²	37.98 ⁴⁷	58.272 ³³⁹	67.14 ²¹⁴	50.087 ¹³⁷	33.19 ⁴⁰
31.3	58.473 ¹⁷³	38.46 ⁴⁸	57.897 ³⁷⁵	68.81 ¹⁶⁷	49.932 ¹⁵⁵	33.38 ¹⁹
Apr. 10.3	58.300 ¹⁷⁴	38.94 ⁴⁸	57.500 ³⁹⁷	69.96 ¹¹⁵	49.768 ¹⁶⁴	33.38 ⁰
20.3	58.126 ¹⁶⁷	39.40 ⁴⁶	57.093 ⁴⁰⁷	70.61 ⁶⁵	49.600 ¹⁶⁸	33.17 ²¹
30.2	57.959 ¹⁵²	39.82 ⁴²	56.690 ⁴⁰³	70.73 ¹²	49.437 ¹⁶³	32.77 ⁴⁰
May 10.2	57.807 ¹³⁰	40.18 ³⁶	56.298 ³⁹²	70.32 ⁴¹	49.288 ¹⁴⁹	32.19 ⁵⁸
20.2	57.677 ¹⁰³	40.50 ³²	55.934 ³⁶⁴	69.41 ⁹¹	49.159 ¹²⁹	31.48 ⁷¹
30.2	57.574 ⁷³	40.77 ²⁷	55.604 ³³⁰	68.02 ¹³⁹	49.053 ¹⁰⁶	30.60 ⁸⁸
June 9.1	57.501 ⁴⁰	40.98 ²¹	55.316 ²⁸⁸	66.17 ¹⁸⁵	48.976 ⁷⁷	29.61 ⁹⁹
19.1	57.461 ⁸	41.13 ¹⁵	55.078 ²³⁸	63.93 ²²⁴	48.927 ⁴⁹	28.51 ¹¹⁰
29.1	57.453 ²⁶	41.24 ¹¹	54.892 ¹⁸⁶	61.33 ²⁶⁰	48.907 ²⁰	27.37 ¹¹⁴
July 9.1	57.479 ⁵⁹	41.29 ⁵	54.767 ¹²⁵	58.46 ²⁸⁷	48.918 ¹¹	26.15 ¹²²
19.0	57.538 ⁹⁰	41.28 ¹	54.707 ⁶⁰	55.40 ³⁰⁶	48.961 ⁴³	24.93 ¹²²
29.0	57.628 ¹²¹	41.20 ⁸	54.710 ³	52.23 ³¹⁷	49.034 ⁷³	23.70 ¹²³
Aug. 8.0	57.749 ¹⁴⁹	41.04 ¹⁶	54.784 ⁷⁴	49.06 ³¹⁷	49.136 ¹⁰²	22.61 ¹⁰⁹
17.9	57.898 ¹⁷⁷	40.78 ²⁶	54.922 ¹³⁸	45.98 ³⁰⁸	49.267 ¹³¹	21.62 ⁹⁹
27.9	58.075 ²⁰²	40.41 ³⁷	55.129 ²⁰⁷	43.13 ²⁸⁵	49.423 ¹⁵⁶	20.81 ⁸¹
Sept. 6.9	58.277 ²²⁸	39.92 ⁴⁹	55.398 ²⁶⁹	40.56 ²⁵⁷	49.609 ¹⁸⁶	20.24 ⁵⁷
16.9	58.505 ²⁵²	39.29 ⁶³	55.725 ³²⁷	38.40 ²¹⁶	49.818 ²⁰⁹	19.91 ³³
26.8	58.757 ²⁷³	38.53 ⁷⁶	56.106 ³⁸¹	36.73 ¹⁶⁷	50.052 ²³⁴	19.90 ¹
Oct. 6.8	59.030 ²⁹¹	37.63 ⁹⁰	56.530 ⁴²⁴	35.64 ¹⁰⁹	50.305 ²⁵³	20.20 ³⁰
16.8	59.321 ³⁰⁷	36.61 ¹⁰²	56.989 ⁴⁵⁹	35.16 ⁴⁸	50.579 ²⁷⁴	20.83 ⁶³
26.8	59.628 ³¹⁸	35.48 ¹¹³	57.469 ⁴⁸⁰	35.35 ¹⁹	50.868 ²⁸⁹	21.78 ⁹⁵
Nov. 5.7	59.946 ³²²	34.29 ¹¹⁹	57.957 ⁴⁸⁸	36.18 ⁸³	51.166 ²⁹⁸	23.04 ¹²⁶
15.7	60.268 ³¹⁹	33.06 ¹²³	58.437 ⁴⁸⁰	37.66 ¹⁴⁸	51.468 ³⁰²	24.55 ¹⁵¹
25.7	60.587 ³⁰⁷	31.86 ¹²⁰	58.897 ⁴⁶⁰	39.74 ²⁰⁸	51.767 ²⁹⁹	26.28 ¹⁷³
Dec. 5.6	60.894 ²⁸⁷	30.71 ¹¹⁵	59.317 ⁴²⁰	42.34 ²⁶⁰	52.053 ²⁸⁶	28.16 ¹⁸⁸
15.6	61.181 ²⁵⁷	29.67 ¹⁰⁴	59.684 ³⁶⁷	45.39 ³⁰⁵	52.319 ²⁶⁶	30.13 ¹⁹⁷
25.6	61.438 ²¹⁸	28.79 ⁸⁸	59.985 ³⁰¹	48.77 ³³⁸	52.554 ²³⁵	32.12 ¹⁹⁹
35.6	61.656	28.09 ⁷⁰	60.212 ²²⁷	52.39 ³⁶²	52.755 ²⁰¹	34.03 ¹⁹¹
Mean Place	57.447	49.66	56.114	40.88	48.864	15.24
Sec δ, Tan δ	1.055	+0.336	1.956	-1.682	1.002	-0.064
L α, L δ	+0.01	-0.2	-0.04	-0.2	0.00	-0.2
ω α, ω δ	+0.01	+0.8	-0.06	+0.8	0.00	+0.8
AUTHORITY			A. E.		A. E.	

328 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	♌ Ursæ Majoris. Mag. 3·5		η Cancri. Mag. 5·5		γ Cancri. Mag. 4·7	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h 8 23	[°] 60 58	^h 8 28	[°] 20 41	^h 8 38	[°] 21 44
Jan. 0·6	54·65 ³³	21·16 ¹⁸⁰	16·590 ²⁰³	61·21 ⁵¹	51·010 ²¹²	34·80 ⁵⁰
10·6	54·98 ²⁴	22·96 ²⁰⁴	16·793 ¹⁵¹	60·70 ²⁸	51·222 ¹⁶²	34·30 ²⁵
20·5	55·22 ¹⁴	25·00 ²²⁵	16·944 ⁹⁶	60·42 ⁷	51·384 ¹⁰⁹	34·05 ³
30·5	55·36 ⁴	27·25 ²³⁵	17·040 ⁴⁴	60·35 ¹²	51·493 ⁵⁴	34·02 ¹⁷
Feb. 9·5	55·40 ⁶	29·60 ²³⁶	17·084 ¹⁰	60·47 ²⁸	51·547 ¹	34·19 ³⁶
19·4	55·34 ¹⁴	31·96 ²²⁵	17·074 ⁵⁹	60·75 ⁴⁴	51·548 ⁵⁰	34·55 ⁴⁹
Mar. 1·4	55·20 ²³	34·21 ²⁰⁸	17·015 ⁹⁹	61·19 ⁵¹	51·498 ⁹³	35·04 ⁵⁹
11·4	54·97 ²⁹	36·29 ¹⁷⁸	16·916 ¹³⁷	61·70 ⁵⁶	51·405 ¹²⁸	35·63 ⁶⁴
21·4	54·68 ³⁴	38·07 ¹⁴⁵	16·779 ¹⁵⁸	62·26 ⁵⁸	51·277 ¹⁵³	36·27 ⁶⁵
31·3	54·34 ³⁶	39·52 ¹⁰⁹	16·621 ¹⁶⁹	62·84 ⁵⁶	51·124 ¹⁶⁹	36·92 ⁶³
Apr. 10·3	53·98 ³⁸	40·61 ⁶³	16·452 ¹⁷⁶	63·40 ⁵²	50·955 ¹⁷⁴	37·55 ⁵⁷
20·3	53·60 ³⁷	41·24 ¹⁹	16·276 ¹⁷⁰	63·92 ⁴⁵	50·781 ¹⁷⁰	38·12 ⁵⁰
30·3	53·23 ³⁴	41·43 ²³	16·106 ¹⁵⁵	64·37 ³⁹	50·611 ¹⁵⁸	38·62 ⁴¹
May 10·2	52·89 ³¹	41·20 ⁶⁶	15·951 ¹³⁶	64·76 ³⁰	50·453 ¹³⁹	39·03 ³²
20·2	52·58 ²⁶	40·54 ¹⁰⁶	15·815 ¹¹¹	65·06 ²¹	50·314 ¹¹⁵	39·35 ²²
30·2	52·32 ²¹	39·48 ¹⁴⁰	15·704 ⁷⁸	65·27 ¹⁷	50·199 ⁸⁶	39·57 ¹³
June 9·1	52·11 ¹⁴	38·08 ¹⁷⁰	15·626 ⁵⁰	65·44 ⁸	50·113 ⁵⁶	39·70 ⁴
19·1	51·97 ⁷	36·38 ¹⁹⁶	15·576 ¹⁸	65·52 ⁰	50·057 ²⁴	39·74 ⁴
29·1	51·90 ¹	34·42 ²¹⁶	15·558 ¹⁹	65·52 ⁹	50·033 ⁸	39·70 ¹³
July 9·1	51·89 ⁶	32·26 ²³²	15·577 ⁵⁰	65·43 ¹⁵	50·041 ⁴⁰	39·57 ²²
19·0	51·95 ¹³	29·94 ²⁴⁰	15·627 ⁸⁰	65·28 ²¹	50·081 ⁷²	39·35 ³¹
29·0	52·08 ¹⁹	27·54 ²⁴⁶	15·707 ¹¹²	65·07 ³¹	50·153 ¹⁰³	39·04 ⁴⁰
Aug. 8·0	52·27 ²⁵	25·08 ²⁴⁴	15·819 ¹⁴³	64·76 ⁴²	50·256 ¹³³	38·64 ⁵¹
18·0	52·52 ³¹	22·64 ²⁴¹	15·962 ¹⁷¹	64·34 ⁵⁴	50·389 ¹⁶¹	38·13 ⁶²
27·9	52·83 ³⁷	20·23 ²³¹	16·133 ¹⁹⁸	63·80 ⁶⁵	50·550 ¹⁹⁰	37·51 ⁷³
Sept. 6·9	53·20 ⁴¹	17·92 ²¹⁷	16·331 ²²⁶	63·15 ⁷⁵	50·740 ²¹⁶	36·78 ⁸⁷
16·9	53·61 ⁴⁷	15·75 ¹⁹⁹	16·557 ²⁴⁸	62·40 ⁹⁰	50·956 ²⁴²	35·91 ⁹⁸
26·8	54·08 ⁴⁹	13·76 ¹⁷⁷	16·805 ²⁷²	61·50 ¹⁰⁰	51·198 ²⁶⁸	34·93 ¹¹⁰
Oct. 6·8	54·57 ⁵⁴	11·99 ¹⁴⁹	17·077 ²⁹⁴	60·50 ¹¹³	51·466 ²⁸⁹	33·83 ¹¹⁹
16·8	55·11 ⁵⁶	10·50 ¹¹⁹	17·371 ³⁰⁹	59·37 ¹¹⁹	51·755 ³⁰⁷	32·64 ¹²⁷
26·8	55·67 ⁵⁷	9·31 ⁸⁵	17·680 ³²¹	58·18 ¹²³	52·062 ³²²	31·37 ¹³¹
Nov. 5·7	56·24 ⁵⁸	8·46 ⁴⁴	18·001 ³²⁷	56·95 ¹²⁷	52·384 ³³¹	30·06 ¹³²
15·7	56·82 ⁵⁷	8·02 ⁵	18·328 ³²⁶	55·68 ¹²²	52·715 ³³¹	28·74 ¹²⁵
25·7	57·39 ⁵⁵	7·97 ³⁶	18·654 ³¹⁸	54·46 ¹¹¹	53·046 ³²²	27·49 ¹¹⁷
Dec. 5·7	57·94 ⁵¹	8·33 ⁸⁰	18·972 ²⁹⁶	53·35 ⁹⁸	53·368 ³⁰⁴	26·32 ¹⁰²
15·6	58·45 ⁴⁵	9·13 ¹²³	19·268 ²⁶⁸	52·37 ⁸⁴	53·672 ²⁷⁷	25·30 ⁸³
25·6	58·90 ³⁸	10·36 ¹⁵⁷	19·536 ²²⁶	51·53 ⁶⁴	53·949 ²⁴⁰	24·47 ⁶²
35·6	59·28	11·93	19·762	50·89	54·189	23·85
Mean Place	52·980	37·57	15·551	73·38	50·012	47·14
Sec δ, Tan δ	2·061	+1·802	1·069	+0·378	1·077	+0·399
L α, L δ	+0·04	-0·2	+0·01	-0·2	+0·01	-0·3
ω α, ω δ	+0·07	+0·8	+0·02	+0·8	+0·02	+0·8
AUTHORITY	A. E.		A. E.			

APPARENT PLACES OF STARS, 1923. 329

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Mali. Mag. 3.7		δ Argûs. Mag. 2.0		ϵ Hydræ. Mag. 3.5	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. N.
	^h 8 ^m 40 ^s	[°] 32 ['] 54 ["]	^h 8 ^m 42 ^s	[°] 54 ['] 25 ["]	^h 8 ^m 42 ^s	[°] 6 ['] 41 ["]
Jan. 0.6	31.445 ¹⁸⁴	31.60 ³¹⁷	36.951 ²⁰⁵	32.40 ³⁶¹	43.040 ¹⁹⁷	58.39 ¹³⁷
10.6	31.629 ¹²⁹	34.77 ³¹⁵	37.156 ¹³⁴	36.13 ³⁷¹	43.237 ¹⁵²	57.02 ¹²⁰
20.5	31.758 ⁷⁴	37.92 ³⁰⁷	37.290 ⁵⁷	39.84 ³⁶⁷	43.380 ¹⁰²	55.82 ⁹⁸
30.5	31.832 ¹⁶	40.99 ²⁸⁶	37.347 ²²	43.51 ³⁵⁵	43.491 ⁵⁰	54.84 ⁷⁷
Feb. 9.5	31.848 ³⁷	43.85 ²⁶⁴	37.325 ⁹³	47.06 ³³²	43.541 ¹	54.07 ⁵⁴
19.5	31.811 ⁸⁶	46.49 ²³²	37.232 ¹⁶⁰	50.38 ³⁰⁵	43.542 ⁴⁶	53.53 ³⁴
Mar. 1.4	31.725 ¹³⁰	48.81 ¹⁹⁹	37.072 ²¹⁷	53.43 ²⁷⁰	43.496 ⁸⁶	53.19 ¹⁶
11.4	31.595 ¹⁶⁵	50.80 ¹⁶⁰	36.855 ²⁶⁴	56.13 ²²⁶	43.410 ¹¹⁹	53.03 ¹
21.4	31.430 ¹⁹⁰	52.40 ¹²²	36.591 ³⁰⁰	58.39 ¹⁸³	43.291 ¹⁴²	53.04 ¹⁴
31.3	31.240 ²⁰⁶	53.62 ⁸¹	36.291 ³²³	60.22 ¹³⁵	43.149 ¹⁵⁶	53.18 ²⁷
Apr. 10.3	31.034 ²¹¹	54.43 ⁴⁰	35.968 ³³⁸	61.57 ⁸⁴	42.993 ¹⁶¹	53.45 ³⁶
20.3	30.823 ²¹²	54.83 ²	35.630 ³³⁸	62.41 ³⁵	42.832 ¹⁵⁹	53.81 ⁴⁴
30.3	30.611 ²⁰⁰	54.81 ⁴³	35.292 ³³¹	62.76 ¹⁸	42.673 ¹⁴⁷	54.25 ⁵⁰
May 10.2	30.411 ¹⁸⁴	54.38 ⁸⁰	34.961 ³¹³	62.58 ⁶⁶	42.526 ¹³¹	54.75 ⁵⁶
20.2	30.227 ¹⁶⁴	53.58 ¹¹⁹	34.648 ²⁸⁸	61.92 ¹¹⁶	42.395 ¹¹⁰	55.31 ⁶⁰
30.2	30.063 ¹³⁶	52.39 ¹⁵²	34.360 ²⁵⁴	60.76 ¹⁶¹	42.285 ⁸⁴	55.91 ⁶⁴
June 9.2	29.927 ¹¹⁰	50.87 ¹⁸⁴	34.106 ²¹⁵	59.15 ²⁰¹	42.201 ⁵⁷	56.55 ⁶⁵
19.1	29.817 ⁷⁵	49.03 ²⁰⁷	33.891 ¹⁷¹	57.14 ²³⁹	42.144 ²⁸	57.20 ⁶⁷
29.1	29.742 ⁴¹	46.96 ²²⁹	33.720 ¹²¹	54.75 ²⁶⁶	42.116 ²	57.87 ⁶⁵
July 9.1	29.701 ⁶	44.67 ²⁴²	33.599 ⁷¹	52.09 ²⁹⁰	42.118 ³¹	58.52 ⁶²
19.0	29.695 ²⁹	42.25 ²⁴⁸	33.528 ¹⁵	49.19 ³⁰²	42.149 ⁵⁹	59.14 ⁵⁶
29.0	29.724 ⁶⁶	39.77 ²⁴⁶	33.513 ⁴²	46.17 ³⁰⁷	42.208 ⁸⁹	59.70 ⁴⁸
Aug. 8.0	29.790 ¹⁰³	37.31 ²³⁷	33.555 ⁹⁹	43.10 ³⁰⁰	42.297 ¹¹⁷	60.18 ³⁶
18.0	29.893 ¹³⁹	34.94 ²¹⁷	33.654 ¹⁵⁹	40.10 ²⁸³	42.414 ¹⁴⁴	60.54 ²¹
27.9	30.032 ¹⁷⁶	32.77 ¹⁸⁸	33.813 ²¹⁵	37.27 ²⁵⁸	42.558 ¹⁷⁰	60.75 ²
Sept. 6.9	30.208 ²¹⁰	30.89 ¹⁵⁵	34.028 ²⁶⁹	34.69 ²²⁰	42.728 ¹⁹⁸	60.77 ¹⁸
16.9	30.418 ²⁴³	29.34 ¹¹³	34.297 ³¹⁹	32.49 ¹⁷⁶	42.926 ²²²	60.59 ⁴⁰
26.9	30.661 ²⁷⁴	28.21 ⁶⁴	34.616 ³⁶³	30.73 ¹²¹	43.148 ²⁴⁷	60.19 ⁶⁵
Oct. 6.8	30.935 ²⁹⁹	27.57 ¹⁰	34.979 ⁴⁰⁰	29.52 ⁶³	43.395 ²⁶⁸	59.54 ⁸⁹
16.8	31.234 ³¹⁸	27.47 ⁴³	35.379 ⁴²⁵	28.89 ²	43.663 ²⁸⁷	58.65 ¹¹¹
26.8	31.552 ³³¹	27.90 ⁹⁷	35.804 ⁴⁴¹	28.91 ⁶⁷	43.950 ³⁰¹	57.51 ¹³¹
Nov. 5.7	31.883 ³³⁷	28.87 ¹⁵¹	36.245 ⁴⁴²	29.58 ¹²⁹	44.251 ³⁰⁹	56.23 ¹⁴⁷
15.7	32.220 ³³⁰	30.38 ¹⁹⁸	36.687 ⁴³¹	30.87 ¹⁹⁰	44.560 ³¹⁰	54.76 ¹⁵⁸
25.7	32.550 ³¹⁸	32.36 ²³⁹	37.118 ⁴⁰⁴	32.77 ²⁴⁴	44.870 ³⁰²	53.18 ¹⁶⁴
Dec. 5.7	32.868 ²⁹³	34.75 ²⁷⁵	37.522 ³⁶⁵	35.21 ²⁹⁰	45.172 ²⁸⁵	51.54 ¹⁶⁵
15.6	33.161 ²⁵⁸	37.50 ²⁹⁷	37.887 ³¹²	38.11 ³²⁵	45.457 ²⁵⁹	49.89 ¹⁵⁶
25.6	33.419 ²¹⁵	40.47 ³¹¹	38.199 ²⁴⁸	41.36 ³⁵²	45.716 ²²⁴	48.33 ¹⁴⁵
35.6	33.634	43.58	38.447	44.88	45.940	46.88
Mean Place	29.851	29.08	34.411	33.38	42.011	68.08
Sec δ , Tan δ	1.191	-0.647	1.719	-1.398	1.007	+0.117
L α , L δ	-0.01	-0.3	-0.03	-0.3	0.00	-0.3
ω α , ω δ	-0.03	+0.8	-0.06	+0.8	+0.01	+0.8
AUTHORITY	A. E.		A. E.		A. N.	

330 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ζ Hydreæ. Mag. 3·3		ι Ursæ Majoris. Mag. 3·1		α Cancri. Mag. 4·3	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h 8 ^m 51	[°] 6 ['] 14	^h 8 ^m 53	[°] 48 ['] 20	^h 8 ^m 54	[°] 12 ['] 9
Jan. 0·6	20·548 ^s	12·74 ["]	57·748 ^s	25·76 ["]	17·656 ^s	13·35 ["]
10·6	20·755 ²⁰⁷	11·32 ¹⁴²	58·043 ²⁹⁵	26·68 ⁹²	17·869 ²¹³	12·24 ¹¹¹
20·5	20·913 ¹⁵⁸	10·07 ¹²⁵	58·273 ²³⁰	27·93 ¹²⁵	18·037 ¹⁶⁸	11·34 ⁹⁰
30·5	21·023 ¹¹⁰	9·05 ¹⁰²	58·434 ¹⁶¹	29·43 ¹⁵⁰	18·154 ¹¹⁷	10·67 ⁶⁷
Feb. 9·5	21·080 ⁵⁷	8·22 ⁸³	58·520 ⁸⁶	31·14 ¹⁷¹	18·220 ⁶⁶	10·22 ⁴⁵
19·5	21·090 ¹⁰	7·64 ⁵⁸	58·533 ¹³	32·98 ¹⁸⁴	18·233 ¹³	9·97 ²⁵
Mar. 1·4	21·052 ³⁸	7·26 ³⁸	58·473 ⁶⁰	34·84 ¹⁸⁶	18·200 ³³	9·93 ⁴
11·4	20·974 ⁷⁸	7·07 ¹⁹	58·352 ¹²¹	36·67 ¹⁸³	18·124 ⁷⁶	10·07 ¹⁴
21·4	20·863 ¹¹¹	7·06 ¹	58·181 ¹⁷¹	38·36 ¹⁶⁹	18·015 ¹⁰⁹	10·31 ²⁴
31·3	20·725 ¹³⁸	7·21 ¹⁵	57·970 ²¹¹	39·86 ¹⁵⁰	17·878 ¹³⁷	10·67 ³⁶
Apr. 10·3	20·573 ¹⁵²	7·46 ²⁵	57·731 ²³⁹	41·08 ¹²²	17·726 ¹⁵²	11·10 ⁴³
20·3	20·415 ¹⁵⁸	7·81 ³⁵	57·477 ²⁵⁴	42·01 ⁹³	17·567 ¹⁵⁹	11·57 ⁴⁷
30·3	20·258 ¹⁵⁷	8·25 ⁴⁴	57·224 ²⁵³	42·61 ⁶⁰	17·409 ¹⁵⁸	12·07 ⁵⁰
May 10·2	20·111 ¹⁴⁷	8·78 ⁵³	56·984 ²⁴⁰	42·87 ²⁶	17·260 ¹⁴⁹	12·58 ⁵¹
20·2	19·979 ¹³²	9·34 ⁵⁶	56·761 ²²³	42·81 ⁶	17·126 ¹³⁴	13·08 ⁵⁰
30·2	19·867 ¹¹²	9·96 ⁶²	56·567 ¹⁹⁴	42·38 ⁴³	17·013 ¹¹³	13·57 ⁴⁹
June 9·2	19·778 ⁸⁹	10·61 ⁶⁵	56·410 ¹⁵⁷	41·65 ⁷³	16·923 ⁹⁰	14·05 ⁴⁸
19·1	19·717 ⁶¹	11·28 ⁶⁷	56·293 ¹¹⁷	40·62 ¹⁰³	16·861 ⁶²	14·49 ⁴⁴
29·1	19·682 ³⁵	11·94 ⁶⁶	56·223 ⁷⁰	39·34 ¹²⁸	16·824 ³⁷	14·91 ⁴²
July 9·1	19·677 ⁵	12·61 ⁶⁷	56·194 ²⁹	37·87 ¹⁴⁷	16·819 ⁵	15·28 ³⁷
19·0	19·699 ²²	13·24 ⁶³	56·212 ¹⁸	36·19 ¹⁶⁸	16·841 ²²	15·58 ³⁰
29·0	19·751 ⁵²	13·80 ⁵⁶	56·277 ⁶⁵	34·36 ¹⁸³	16·894 ⁵³	15·81 ²³
Aug. 8·0	19·832 ⁸¹	14·28 ⁴⁸	56·387 ¹¹⁰	32·41 ¹⁹⁵	16·975 ⁸¹	15·94 ¹³
18·0	19·940 ¹⁰⁸	14·67 ³⁹	56·537 ¹⁵⁰	30·39 ²⁰²	17·085 ¹¹⁰	15·94 ⁰
27·9	20·077 ¹³⁷	14·88 ²¹	56·732 ¹⁹⁵	28·32 ²⁰⁷	17·222 ¹³⁷	15·81 ¹³
Sept. 6·9	20·239 ¹⁶²	14·90 ²	56·968 ²³⁶	26·21 ²¹¹	17·387 ¹⁶⁵	15·53 ²⁸
16·9	20·430 ¹⁹¹	14·73 ¹⁷	57·246 ²⁷⁸	24·14 ²⁰⁷	17·580 ¹⁹³	15·04 ⁴⁹
26·9	20·647 ²¹⁷	14·32 ⁴¹	57·560 ³¹⁴	22·13 ²⁰¹	17·799 ²¹⁹	14·38 ⁶⁶
Oct. 6·8	20·890 ²⁴³	13·67 ⁶⁵	57·909 ³⁴⁹	20·23 ¹⁹⁰	18·044 ²⁴⁵	13·52 ⁸⁶
16·8	21·153 ²⁶³	12·79 ⁸⁸	58·289 ³⁸⁰	18·47 ¹⁷⁶	18·313 ²⁶⁹	12·46 ¹⁰⁶
26·8	21·439 ²⁸⁶	11·66 ¹¹³	58·694 ⁴⁰⁵	16·86 ¹⁶¹	18·602 ²⁸⁹	11·23 ¹²³
Nov. 5·7	21·738 ²⁹⁹	10·34 ¹³²	59·120 ⁴²⁶	15·51 ¹³⁵	18·907 ³⁰⁵	9·87 ¹³⁶
15·7	22·048 ³¹⁰	8·82 ¹⁵²	59·561 ⁴⁴¹	14·42 ¹⁰⁹	19·221 ³¹⁴	8·37 ¹⁵⁰
25·7	22·358 ³¹⁰	7·21 ¹⁶¹	60·004 ⁴⁴³	13·65 ⁷⁷	19·539 ³¹⁸	6·84 ¹⁵³
Dec. 5·7	22·664 ³⁰⁶	5·53 ¹⁶⁸	60·437 ⁴³³	13·21 ⁴⁴	19·852 ³¹³	5·30 ¹⁵⁴
15·6	22·953 ²⁸⁹	3·86 ¹⁶⁷	60·849 ⁴¹²	13·17 ⁴	20·150 ²⁹⁸	3·83 ¹⁴⁷
25·6	23·218 ²⁶⁵	2·24 ¹⁶²	61·228 ³⁷⁹	13·49 ³²	20·423 ²⁷³	2·46 ¹³⁷
35·6	23·448 ²³⁰	0·74 ¹⁵⁰	61·559 ³³¹	14·21 ⁷²	20·662 ²³⁹	1·25 ¹²¹
Mean Place	19·547	22·14	56·681	42·05	16·697	23·85
Sec δ, Tan δ	1·006	+0·109	1·505	+1·123	1·023	+0·215
L α, L δ	0·00	-0·3	+0·02	-0·3	0·00	-0·3
ω α, ω δ	0·00	+0·7	+0·05	+0·7	+0·01	+0·7
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 331

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	κ Caneri. Mag. 5.1		ξ Caneri. Mag. 5.2		λ Argūs. Mag. 2.2	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. S.
	h m 9 3	° ′ 10 58	h m 9 4	° ′ 22 21	h m 9 5	° ′ 43 7
Jan. 0.6	35.666 ^s	33.99 ¹²¹	57.060 ^s	15.88 ⁵⁹	11.654 ^s	15.62 ²²⁰
10.6	35.886 ²²⁰	32.78 ¹²¹	57.295 ²³⁵	15.29 ⁵⁹	11.874 ²²⁰	19.01 ³³⁹
20.6	36.061 ¹⁷⁵	31.78 ¹⁰⁰	57.485 ¹⁹⁰	14.96 ³³	12.035 ¹⁶¹	22.48 ³⁴⁷
30.5	36.187 ¹²⁶	31.00 ⁷⁸	57.621 ¹³⁶	14.89 ⁷	12.137 ¹⁰²	25.91 ³⁴³
Feb. 9.5	36.261 ⁷⁴	30.46 ⁵⁴	57.704 ⁸³	15.07 ¹⁸	12.173 ³⁶	29.23 ³³²
19.5	36.284 ²³	30.15 ³¹	57.732 ²⁸	15.45 ³⁸	12.149 ²⁴	32.36 ³¹³
Mar. 1.4	36.259 ²⁵	30.04 ¹¹	57.708 ²⁴	16.00 ⁵⁵	12.067 ⁸²	35.19 ²⁸³
11.4	36.192 ⁶⁷	30.11 ⁷	57.639 ⁶⁹	16.67 ⁶⁷	11.935 ¹³²	37.73 ²⁵⁴
21.4	36.089 ¹⁰³	30.32 ²¹	57.531 ¹⁰⁸	17.41 ⁷⁴	11.763 ¹⁷²	39.88 ²¹⁵
31.4	35.958 ¹³¹	30.64 ³²	57.395 ¹³⁶	18.17 ⁷⁶	11.559 ²⁰⁴	41.62 ¹⁷⁴
Apr. 10.3	35.811 ¹⁴⁷	31.05 ⁴¹	57.238 ¹⁵⁷	18.92 ⁷⁵	11.330 ²²⁹	42.93 ¹³¹
20.3	35.655 ¹⁵⁶	31.52 ⁴⁷	57.072 ¹⁶⁶	19.62 ⁷⁰	11.087 ²⁴³	43.78 ⁸⁵
30.3	35.499 ¹⁵⁶	32.04 ⁵²	56.905 ¹⁶⁷	20.24 ⁶²	10.841 ²⁴⁶	44.18 ⁴⁰
May 10.3	35.350 ¹⁴⁹	32.56 ⁵²	56.746 ¹⁵⁹	20.77 ⁵³	10.601 ²⁴⁰	44.12 ⁶
20.2	35.216 ¹³⁴	33.09 ⁵³	56.601 ¹⁴⁵	21.18 ⁴¹	10.371 ²³⁰	43.61 ⁵¹
30.2	35.099 ¹¹⁷	33.62 ⁵³	56.476 ¹²⁵	21.48 ³⁰	10.157 ²¹⁴	42.65 ⁹⁶
June 9.2	35.005 ⁹⁴	34.13 ⁵¹	56.375 ¹⁰¹	21.67 ¹⁹	9.970 ¹⁸⁷	41.28 ¹³⁷
19.1	34.937 ⁶⁸	34.63 ⁵⁰	56.302 ⁷³	21.74 ⁷	9.807 ¹⁶³	39.53 ¹⁷⁵
29.1	34.896 ⁴¹	35.09 ⁴⁶	56.257 ⁴⁵	21.70 ⁴	9.678 ¹²⁹	37.45 ²⁰⁸
July 9.1	34.882 ¹⁴	35.50 ⁴¹	56.243 ¹⁴	21.55 ¹⁵	9.586 ⁹²	35.09 ²³⁶
19.1	34.896 ¹⁴	35.86 ³⁶	56.258 ¹⁵	21.28 ²⁷	9.530 ⁵⁶	32.53 ²⁵⁶
29.0	34.940 ⁴⁴	36.14 ²⁸	56.305 ⁴⁷	20.90 ³⁸	9.516 ¹⁴	29.85 ²⁶⁸
Aug. 8.0	35.011 ⁷¹	36.31 ¹⁷	56.381 ⁷⁶	20.41 ⁴⁹	9.543 ²⁷	27.10 ²⁷⁵
18.0	35.110 ⁹⁹	36.38 ⁷	56.487 ¹⁰⁶	19.79 ⁶²	9.615 ⁷²	24.39 ²⁷¹
28.0	35.238 ¹²⁸	36.29 ⁹	56.623 ¹³⁶	19.04 ⁷⁵	9.730 ¹¹⁵	21.82 ²⁵⁷
Sept. 6.9	35.303 ¹⁵⁵	36.03 ²⁶	56.788 ¹⁶⁵	18.16 ⁸⁸	9.890 ¹⁶⁰	19.51 ²³¹
16.9	35.576 ¹⁸³	35.59 ⁴⁴	56.983 ¹⁹⁵	17.15 ¹⁰¹	10.094 ²⁰⁴	17.50 ²⁰¹
26.9	35.787 ²¹¹	34.94 ⁶⁵	57.206 ²²³	16.01 ¹¹⁴	10.339 ²⁴⁵	15.90 ¹⁶⁰
Oct. 6.8	36.025 ²³⁸	34.09 ⁸⁵	57.457 ²⁵¹	14.75 ¹²⁶	10.626 ²⁸⁷	14.80 ¹¹⁰
16.8	36.287 ²⁶²	33.03 ¹⁰⁶	57.734 ²⁷⁷	13.38 ¹³⁷	10.945 ³¹⁹	14.22 ⁵⁸
26.8	36.571 ²⁸⁴	31.79 ¹²⁴	58.034 ³⁰⁰	11.94 ¹⁴⁴	11.292 ³⁴⁷	14.25 ³
Nov. 5.8	36.873 ³⁰²	30.38 ¹⁴¹	58.352 ³¹⁸	10.46 ¹⁴⁸	11.658 ³⁶⁶	14.86 ⁶¹
15.7	37.187 ³¹⁴	28.86 ¹⁵²	58.684 ³³²	8.98 ¹⁴⁸	12.033 ³⁷⁵	16.09 ¹²³
25.7	37.505 ³¹⁸	27.26 ¹⁶⁰	59.021 ³³⁷	7.56 ¹⁴²	12.408 ³⁷⁵	17.86 ¹⁷⁷
Dec. 5.7	37.819 ³¹⁴	25.66 ¹⁶⁰	59.354 ³³³	6.24 ¹³²	12.770 ³⁶²	20.15 ²²⁹
15.7	38.120 ³⁰¹	24.10 ¹⁵⁶	59.673 ³¹⁹	5.08 ¹¹⁶	13.106 ³³⁶	22.84 ²⁶⁹
25.6	38.398 ²⁷⁸	22.64 ¹⁴⁶	59.970 ²⁹⁷	4.11 ⁹⁷	13.406 ³⁰⁰	25.87 ³⁰³
35.6	38.644 ²⁴⁶	21.33 ¹³¹	60.232 ²⁶²	3.39 ⁷²	13.660 ²⁵⁴	29.16 ³²⁹
Mean Place	34.737	44.10	56.176	28.24	9.789	16.74
Sec δ, Tan δ	1.019	+0.194	1.081	+0.411	1.370	-0.937
L α, L δ	0.00	-0.3	+0.01	-0.3	-0.02	-0.3
ω α, ω δ	+0.01	+0.7	+0.02	+0.7	-0.04	+0.7
AUTHORITY						A. E.

332 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Argûs. Mag. 1.8		83 Cancrî. Mag. 6.6		ϵ Argûs. Mag. 2.3	
	R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. S.
	^h ^m 9 12	[°] ['] 69 23	^h ^m 9 14	[°] ['] 18 1	^h ^m 9 15	[°] ['] 58 57
Jan. 0.6	25.95 ^s	54.29 ^s 356	42.097 ^s 238	45.85 ^s 88	4.502 ^s 277	1.80 ^s 355
10.6	26.29 ³⁴	57.85 ³⁷⁵	42.335 ¹⁹²	44.97 ⁶³	4.779 ¹⁹⁸	5.35 ³⁷¹
20.6	26.52 ¹¹	61.60 ³⁸⁵	42.527 ¹⁴⁵	44.34 ³⁵	4.977 ¹¹⁵	9.06 ³⁷⁶
30.5	26.63 ⁰	65.45 ³⁸¹	42.672 ⁸⁹	43.99 ¹⁵	5.092 ³⁰	12.82 ³⁷¹
Feb. 9.5	26.63 ¹²	69.26 ³⁷¹	42.761 ³⁶	43.84 ¹¹	5.122 ⁵¹	16.53 ³⁵⁷
19.5	26.51 ²³	72.97 ³⁴⁹	42.797 ¹⁴	43.95 ²⁹	5.071 ¹²⁸	20.10 ³³⁵
Mar. 1.4	26.28 ³²	76.46 ³²²	42.783 ⁵⁹	44.24 ⁴⁶	4.943 ¹⁹⁵	23.45 ³⁰⁵
11.4	25.96 ⁴¹	79.68 ²⁸⁷	42.724 ⁹⁶	44.70 ⁵⁵	4.748 ²⁵⁴	26.50 ²⁶⁸
21.4	25.55 ⁴⁷	82.55 ²⁴⁷	42.628 ¹²⁶	45.25 ⁶²	4.494 ³⁰⁰	29.18 ²²⁸
31.4	25.08 ⁵³	85.02 ¹⁹⁹	42.502 ¹⁴⁶	45.87 ⁶⁶	4.194 ³³⁶	31.46 ¹⁸²
Apr. 10.3	24.55 ⁵⁶	87.01 ¹⁵²	42.356 ¹⁵⁶	46.53 ⁶⁵	3.858 ³⁵⁹	33.28 ¹³⁴
20.3	23.99 ⁵⁸	88.53 ⁹⁹	42.200 ¹⁶⁰	47.18 ⁶²	3.499 ³⁷²	34.62 ⁸⁴
30.3	23.41 ⁵⁹	89.52 ⁴⁷	42.040 ¹⁵⁴	47.80 ⁵⁵	3.127 ³⁷²	35.46 ³²
May 10.3	22.82 ⁵⁷	89.99 ⁶	41.886 ¹⁴¹	48.35 ⁴⁹	2.755 ³⁶⁵	35.78 ²⁰
20.2	22.25 ⁵⁵	89.93 ⁶³	41.745 ¹²⁴	48.84 ⁴¹	2.390 ³⁴⁵	35.58 ⁷¹
30.2	21.70 ⁵²	89.30 ¹¹²	41.621 ¹⁰¹	49.25 ³⁴	2.045 ³²⁰	34.87 ¹¹⁹
June 9.2	21.18 ⁴⁷	88.18 ¹⁶²	41.520 ⁷⁷	49.59 ²⁶	1.725 ²⁸⁵	33.68 ¹⁶⁷
19.1	20.71 ⁴¹	86.56 ²⁰⁷	41.443 ⁵²	49.85 ¹⁷	1.440 ²⁴³	32.01 ²⁰⁷
29.1	20.30 ³³	84.49 ²⁴⁵	41.391 ²²	50.02 ⁵	1.197 ¹⁹⁶	29.94 ²⁴³
July 9.1	19.97 ²⁵	82.04 ²⁷⁴	41.369 ⁶	50.07 ⁴	1.001 ¹⁴²	27.51 ²⁷²
19.1	19.72 ¹⁷	79.30 ²⁹⁹	41.375 ³⁵	50.03 ¹⁵	0.859 ⁸⁵	24.79 ²⁹⁴
29.0	19.55 ⁷	76.31 ³¹⁶	41.410 ⁶⁵	49.88 ²⁵	0.774 ²¹	21.85 ³⁰⁵
Aug. 8.0	19.48 ³	73.15 ³¹⁹	41.475 ⁹²	49.63 ³⁹	0.753 ⁴³	18.80 ³⁰⁸
18.0	19.51 ¹⁴	69.96 ³¹⁴	41.567 ¹²²	49.24 ⁵⁴	0.796 ¹¹²	15.72 ²⁹⁹
28.0	19.65 ²⁴	66.82 ²⁹⁸	41.689 ¹⁴⁹	48.70 ⁶⁷	0.908 ¹⁷⁹	12.73 ²⁸⁰
Sept. 6.9	19.89 ³⁴	63.84 ²⁶⁹	41.838 ¹⁸²	48.03 ⁸⁴	1.087 ²⁴⁶	9.93 ²⁵⁰
16.9	20.23 ⁴³	61.15 ²²⁸	42.020 ²⁰⁹	47.19 ¹⁰¹	1.333 ³⁰⁹	7.43 ²¹⁰
26.9	20.66 ⁵¹	58.87 ¹⁸²	42.229 ²³⁹	46.18 ¹¹⁵	1.642 ³⁶⁷	5.33 ¹⁶²
Oct. 6.8	21.17 ⁵⁹	57.05 ¹²³	42.468 ²⁶⁴	45.03 ¹³²	2.009 ⁴¹⁷	3.71 ¹⁰⁶
16.8	21.76 ⁶⁴	55.82 ⁶⁴	42.732 ²⁸⁸	43.71 ¹⁴¹	2.426 ⁴⁵⁶	2.65 ⁴⁴
26.8	22.40 ⁶⁷	55.18 ²	43.020 ³⁰⁸	42.30 ¹⁵¹	2.882 ⁴⁸³	2.21 ²⁰
Nov. 5.8	23.07 ⁶⁹	55.20 ⁷¹	43.328 ³²²	40.79 ¹⁵⁶	3.365 ⁴⁹⁶	2.41 ⁸⁷
15.7	23.76 ⁶⁷	55.91 ¹³⁷	43.650 ³²⁸	39.23 ¹⁵⁷	3.861 ⁴⁹²	3.28 ¹⁵⁰
25.7	24.43 ⁶⁴	57.28 ¹⁹⁸	43.978 ³²⁷	37.66 ¹⁴⁸	4.353 ⁴⁷²	4.78 ²⁰⁸
Dec. 5.7	25.07 ⁵⁸	59.26 ²⁵³	44.305 ³¹⁷	36.18 ¹³⁸	4.825 ⁴³⁵	6.86 ²⁶¹
15.7	25.65 ⁵⁰	61.79 ²⁹⁹	44.622 ²⁹⁴	34.80 ¹²¹	5.260 ³⁸⁵	9.47 ³⁰⁴
25.6	26.15 ⁴¹	64.78 ³³⁵	44.916 ²⁶³	33.59 ¹⁰⁰	5.645 ³²⁴	12.51 ³⁴¹
35.6	26.56 ⁴¹	68.13 ³³⁵	45.179 ²⁶³	32.59 ¹⁰⁰	5.969 ³²⁴	15.92 ³⁴¹
Mean Place	21.67	59.76	41.249	57.25	1.705	6.24
Sec δ , Tan δ	2.842	-2.660	1.052	+0.326	1.939	-1.661
L α , L δ	-0.05	-0.3	+0.01	-0.3	-0.03	-0.3
ω α , ω δ	-0.13	+0.7	+0.02	+0.7	-0.08	+0.7
AUTHORITY	A. E.		A. E.		A. N.	

APPARENT PLACES OF STARS, 1923. 333

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	40 Lynceis. Mag. 3.3		h Mali. Mag. 4.9		κ Argūs. Mag. 2.6	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. S.
	^h 9	^m 16	^h 9	^m 18	^h 9	^m 19
	^s 9	[°] 34	^s 9	[°] 25	^s 9	[°] 54
	[′] 42	[′] 42	[′] 38	[′] 38	[′] 40	[′] 40
Jan. 0.6	23.005	53.99	6.105	16.46	46.079	49.74
10.6	23.275	54.05	6.325	19.36	46.347	53.22
20.6	23.495	54.40	6.498	22.24	46.544	56.88
30.5	23.657	55.05	6.619	25.04	46.667	60.57
Feb. 9.5	23.760	55.93	6.687	27.60	46.712	64.22
19.5	23.805	57.03	6.703	30.12	46.685	67.74
Mar. 1.4	23.787	58.29	6.669	32.29	46.586	71.01
11.4	23.719	59.62	6.591	34.16	46.425	73.99
21.4	23.609	60.93	6.477	35.71	46.213	76.61
31.4	23.459	62.18	6.333	36.92	45.958	78.83
Apr. 10.3	23.285	63.34	6.170	37.78	45.671	80.60
20.3	23.099	64.31	5.995	38.29	45.362	81.91
30.3	22.909	65.10	5.816	38.44	45.040	82.73
May 10.3	22.725	65.64	5.640	38.24	44.718	83.02
20.2	22.553	65.99	5.474	37.70	44.405	82.82
30.2	22.400	66.06	5.323	36.84	44.106	82.12
June 9.2	22.272	65.94	5.190	35.68	43.831	80.96
19.1	22.174	65.56	5.080	34.25	43.586	79.35
29.1	22.110	65.00	4.995	32.58	43.376	77.32
July 9.1	22.077	64.24	4.937	30.73	43.209	74.93
19.1	22.077	63.31	4.908	28.74	43.090	72.28
29.0	22.113	62.23	4.909	26.67	43.019	69.43
Aug. 8.0	22.183	60.99	4.942	24.59	43.004	66.44
18.0	22.287	59.65	5.008	22.58	43.046	63.46
28.0	22.423	58.16	5.108	20.71	43.147	60.54
Sept. 6.9	22.595	56.58	5.241	19.07	43.306	57.83
16.9	22.799	54.94	5.409	17.71	43.526	55.40
26.9	23.040	53.25	5.611	16.72	43.802	53.36
Oct. 6.8	23.308	51.49	5.846	16.14	44.129	51.81
16.8	23.608	49.75	6.111	16.02	44.503	50.82
26.8	23.934	48.05	6.401	16.40	44.915	50.44
Nov. 5.8	24.283	46.42	6.712	17.26	45.353	50.69
15.7	24.649	44.93	7.036	18.60	45.805	51.57
25.7	25.022	43.63	7.364	20.38	46.257	53.08
Dec. 5.7	25.391	42.57	7.687	22.54	46.694	55.16
15.7	25.749	41.78	7.994	25.01	47.102	57.75
25.6	26.083	41.30	8.276	27.71	47.464	60.76
35.6	26.383	41.11	8.522	30.54	47.771	64.10
Mean Place	22.178	68.64	4.792	15.04	43.648	54.00
Sec δ, Tan δ	1.217	+0.693	1.109	-0.480	1.730	-1.411
L α, L δ	+0.01	-0.3	-0.01	-0.3	-0.02	-0.3
ω α, ω δ	+0.03	+0.7	-0.02	+0.7	-0.07	+0.7
AUTHORITY	A. E.				A. E.	

334 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Hydræ. Mag. 2.2		ψ Argûs. Mag. 3.6		θ Ursæ Majoris. Mag. 3.3	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. N.
	h m 9 23	° ′ 8 19	h m 9 27	° ′ 40 7	h m 9 27	° ′ 52 1
Jan. 0.6	49.258 ²²⁴	31.71 ²²²	41.512 ²⁴²	43.55 ³²⁶	43.930 ³⁵⁰	27.78 ⁸⁵
10.6	49.482 ¹⁸¹	33.93 ²¹¹	41.754 ¹⁹⁰	46.81 ³³⁵	44.280 ²⁸⁸	28.63 ¹²²
20.6	49.663 ¹³³	36.04 ¹⁹⁶	41.944 ¹³⁰	50.16 ³³⁵	44.568 ²¹⁷	29.85 ¹⁵⁴
30.5	49.796 ⁸⁴	38.00 ¹⁷⁶	42.074 ⁷⁰	53.51 ³²⁶	44.785 ¹⁴¹	31.39 ¹⁸³
Feb. 9.5	49.880 ³⁵	39.76 ¹⁵⁰	42.144 ¹¹	56.77 ³⁰⁸	44.926 ⁶⁰	33.22 ²⁰²
19.5	49.915 ¹³	41.26 ¹²⁶	42.155 ⁴²	59.85 ²⁸³	44.986 ¹⁶	35.24 ²⁰⁸
Mar. 1.5	49.902 ⁵⁴	42.52 ¹⁰⁰	42.113 ⁹⁵	62.68 ²⁵⁶	44.970 ⁸⁵	37.32 ²¹²
11.4	49.848 ⁹⁰	43.52 ⁷⁶	42.018 ¹³⁷	65.24 ²²⁰	44.885 ¹⁴⁹	39.44 ²⁰²
21.4	49.758 ¹¹⁹	44.28 ⁴⁸	41.881 ¹⁷³	67.44 ¹⁸²	44.736 ²⁰¹	41.46 ¹⁸²
31.4	49.639 ¹³⁶	44.76 ²⁹	41.708 ¹⁹⁷	69.26 ¹⁴¹	44.535 ²³⁷	43.28 ¹⁶⁰
Apr. 10.3	49.503 ¹⁴⁹	45.05 ⁰	41.511 ²¹¹	70.67 ¹⁰⁰	44.298 ²⁵⁸	44.88 ¹²⁸
20.3	49.354 ¹⁵³	45.05 ¹⁹	41.300 ²²¹	71.67 ⁵⁵	44.040 ²⁷⁰	46.16 ⁹⁴
30.3	49.201 ¹⁴⁸	44.86 ⁴¹	41.079 ²²¹	72.22 ¹¹	43.770 ²⁶⁸	47.10 ⁵⁷
May 10.3	49.053 ¹⁴⁰	44.45 ⁶⁰	40.858 ²¹⁷	72.33 ³⁰	43.502 ²⁵⁸	47.67 ¹⁶
20.2	48.913 ¹²⁵	43.85 ⁷⁴	40.641 ²⁰⁰	72.03 ⁷³	43.244 ²³⁴	47.83 ²⁰
30.2	48.788 ¹¹¹	43.11 ⁹¹	40.441 ¹⁸¹	71.30 ¹¹⁵	43.010 ²⁰²	47.63 ⁵⁹
June 9.2	48.677 ⁸⁶	42.20 ¹⁰⁶	40.260 ¹⁶¹	70.15 ¹⁵¹	42.808 ¹⁶⁸	47.04 ⁹⁵
19.2	48.591 ⁶²	41.14 ¹¹⁶	40.099 ¹³²	68.61 ¹⁸⁷	42.610 ¹²⁷	46.09 ¹²³
29.1	48.529 ⁴¹	39.98 ¹²⁴	39.967 ¹⁰⁵	66.77 ²¹²	42.513 ⁸⁵	44.86 ¹⁵⁶
July 9.1	48.488 ¹⁴	38.74 ¹²⁷	39.862 ⁶⁸	64.65 ²³⁶	42.428 ³³	43.30 ¹⁷⁸
19.1	48.474 ¹⁴	37.47 ¹²⁷	39.794 ³⁴	62.29 ²⁵¹	42.395 ¹¹	41.52 ²⁰¹
29.0	48.488 ⁴²	36.20 ¹²⁴	39.760 ⁴	59.78 ²⁵⁹	42.406 ⁵⁸	39.51 ²¹⁷
Aug. 8.0	48.530 ⁶⁸	34.96 ¹¹³	39.764 ⁴⁷	57.19 ²⁵⁷	42.464 ¹⁰⁷	37.34 ²³³
18.0	48.598 ¹⁰⁰	33.83 ⁹⁸	39.811 ⁸⁷	54.62 ²⁴⁷	42.571 ¹⁵²	35.01 ²³⁹
28.0	48.698 ¹²⁹	32.85 ⁷⁵	39.898 ¹²⁹	52.15 ²²⁶	42.723 ¹⁹⁸	32.62 ²⁴⁵
Sept. 6.9	48.827 ¹⁵⁷	32.10 ⁵¹	40.027 ¹⁷⁵	49.89 ¹⁹⁹	42.921 ²⁴⁶	30.17 ²⁴⁴
16.9	48.984 ¹⁹⁰	31.59 ²⁵	40.202 ²¹⁵	47.90 ¹⁶¹	43.167 ²⁹¹	27.73 ²⁴²
26.9	49.174 ²²⁰	31.34 ¹¹	40.417 ²⁵⁶	46.29 ¹¹⁷	43.458 ³³²	25.31 ²³⁴
Oct. 6.9	49.394 ²⁴³	31.45 ⁴⁸	40.673 ²⁹³	45.12 ⁶⁵	43.790 ³⁷¹	22.97 ²²¹
16.8	49.637 ²⁷³	31.93 ⁸²	40.966 ³²⁵	44.47 ⁸	44.161 ⁴⁰⁹	20.76 ²⁰⁰
26.8	49.910 ²⁹²	32.75 ¹¹⁸	41.291 ³⁴⁷	44.39 ⁴⁷	44.570 ⁴³⁹	18.76 ¹⁷⁷
Nov. 5.8	50.202 ³⁰⁶	33.93 ¹⁴⁸	41.638 ³⁶⁵	44.86 ¹⁰⁶	45.009 ⁴⁶⁰	16.99 ¹⁴⁷
15.7	50.508 ³¹²	35.41 ¹⁷⁹	42.003 ³⁶⁷	45.92 ¹⁶¹	45.469 ⁴⁷⁵	15.52 ¹¹³
25.7	50.820 ³⁰⁹	37.20 ¹⁹⁹	42.370 ³⁶²	47.53 ²¹⁰	45.944 ⁴⁶⁸	14.39 ⁷⁴
Dec. 5.7	51.129 ³⁰¹	39.19 ²¹⁴	42.732 ³⁴³	49.63 ²⁵³	46.412 ⁴⁵⁷	13.65 ³³
15.7	51.430 ²⁷⁷	41.33 ²²¹	43.075 ³¹³	52.16 ²⁹⁰	46.869 ⁴²⁹	13.32 ¹³
25.6	51.707 ²⁴⁷	43.54 ²²⁴	43.388 ²⁷³	55.06 ³¹²	47.298 ³⁸⁸	13.45 ⁵⁸
35.6	51.954	45.78	43.661	58.18	47.686	14.03
Mean Place	48.242	26.59	39.840	45.88	43.080	45.23
Sec δ , Tan δ	1.011	-0.146	1.308	-0.843	1.625	+1.281
L α , L δ	0.00	-0.3	-0.01	-0.3	+0.02	-0.3
ω α , ω δ	-0.01	+0.6	-0.04	+0.6	+0.07	+0.6
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 335

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ξ Leonis. Mag. 5.1		N Velorum. Mag. 3.0		κ Hydræ. Mag. 5.0	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m	[°] [']	^h ^m	[°] [']	^h ^m	[°] [']
	9 27	11 38	9 28	56 41	9 36	13 58
Jan. 0.6	48.689 ²⁴⁰	19.96 ¹²⁶	55.473 ²⁹⁰	33.56 ³⁴⁷	37.933 ²³³	59.03 ²⁴⁵
10.6	48.929 ¹⁹⁷	18.70 ¹⁰⁵	55.763 ²¹⁹	37.03 ³⁶⁵	38.166 ¹⁹¹	61.48 ²³⁹
20.6	49.126 ¹⁵⁰	17.65 ⁸⁰	55.982 ¹⁴⁰	40.68 ³⁷²	38.357 ¹⁴⁵	63.87 ²²⁷
30.5	49.276 ⁹⁹	16.85 ⁵⁶	56.122 ⁶¹	44.40 ³⁷⁰	38.502 ⁹⁴	66.14 ²⁰⁹
Feb. 9.5	49.375 ⁴⁸	16.29 ³⁰	56.183 ¹⁷	48.10 ³⁵⁷	38.596 ⁴⁴	68.23 ¹⁸⁶
19.5	49.423 ²	15.99 ⁹	56.166 ⁸⁹	51.67 ³³⁷	38.640 ³	70.09 ¹⁶¹
Mar. 1.5	49.421 ⁴⁵	15.90 ¹⁰	56.077 ¹⁵⁶	55.04 ³⁰⁹	38.637 ⁴⁷	71.70 ¹³⁵
11.4	49.376 ⁸³	16.00 ²⁶	55.921 ²¹²	58.13 ²⁷⁴	38.590 ⁸³	73.05 ¹⁰⁶
21.4	49.293 ¹¹³	16.26 ³⁹	55.709 ²⁵⁹	60.87 ²³⁶	38.507 ¹¹²	74.11 ⁷⁹
31.4	49.180 ¹³⁴	16.65 ⁴⁷	55.450 ²⁹⁵	63.23 ¹⁹²	38.395 ¹³⁴	74.90 ⁵¹
Apr. 10.3	49.046 ¹⁴⁶	17.12 ⁵³	55.155 ³¹⁹	65.15 ¹⁴⁵	38.261 ¹⁴⁷	75.41 ²⁴
20.3	48.900 ¹⁵¹	17.65 ⁵⁷	54.836 ³³⁴	66.60 ⁹⁶	38.114 ¹⁵³	75.65 ²
30.3	48.749 ¹⁴⁶	18.22 ⁵⁷	54.502 ³³⁹	67.56 ⁴⁶	37.961 ¹⁵¹	75.63 ²⁷
May 10.3	48.603 ¹³⁸	18.79 ⁵⁷	54.163 ³³⁴	68.02 ⁶	37.810 ¹⁴⁵	75.36 ⁵²
20.2	48.465 ¹²²	19.36 ⁵⁵	53.829 ³²⁰	67.96 ⁵⁶	37.665 ¹³³	74.84 ⁷³
30.2	48.343 ¹⁰³	19.91 ⁵²	53.509 ²⁹⁸	67.40 ¹⁰⁵	37.532 ¹¹⁷	74.11 ⁹⁴
June 9.2	48.240 ⁸²	20.43 ⁴⁸	53.211 ²⁷⁰	66.35 ¹⁵¹	37.415 ⁹⁸	73.17 ¹¹²
19.2	48.158 ⁵⁷	20.91 ⁴³	52.941 ²³⁴	64.84 ¹⁹³	37.317 ⁷⁶	72.05 ¹²⁸
29.1	48.101 ³²	21.34 ³⁷	52.707 ¹⁹²	62.91 ²³⁰	37.241 ⁵⁴	70.77 ¹³⁹
July 9.1	48.069 ⁷	21.71 ³⁰	52.515 ¹⁴⁴	60.61 ²⁶²	37.187 ²⁹	69.38 ¹⁴⁷
19.1	48.062 ²¹	22.01 ²⁰	52.371 ⁹⁴	57.99 ²⁸¹	37.158 ²	67.91 ¹⁵¹
29.1	48.083 ⁴⁸	22.21 ¹⁰	52.277 ³⁶	55.18 ²⁹⁷	37.156 ²⁵	66.40 ¹⁴⁸
Aug. 8.0	48.131 ⁷⁵	22.31 ⁴	52.241 ²³	52.21 ³⁰¹	37.181 ⁵⁴	64.92 ¹⁴¹
18.0	48.206 ¹⁰⁵	22.27 ¹⁹	52.264 ⁸⁷	49.20 ²⁹⁵	37.235 ⁸⁴	63.51 ¹²⁷
28.0	48.311 ¹³²	22.08 ³⁶	52.351 ¹⁵⁰	46.25 ²⁷⁹	37.319 ¹¹⁵	62.24 ¹⁰⁷
Sept. 6.9	48.443 ¹⁶³	21.72 ⁵⁴	52.501 ²¹⁴	43.46 ²⁵²	37.434 ¹⁴⁷	61.17 ⁸¹
16.9	48.606 ¹⁹¹	21.18 ⁷⁵	52.715 ²⁷⁵	40.94 ²¹⁴	37.581 ¹⁷⁹	60.36 ⁵⁰
26.9	48.797 ²²¹	20.43 ⁹⁶	52.990 ³³²	38.80 ¹⁶⁸	37.760 ²¹¹	59.86 ¹⁵
Oct. 6.9	49.018 ²⁴⁹	19.47 ¹¹⁶	53.322 ³⁸³	37.12 ¹¹⁴	37.971 ²⁴¹	59.71 ²³
16.8	49.267 ²⁷⁵	18.31 ¹³⁴	53.705 ⁴²⁴	35.98 ⁵⁴	38.212 ²⁶⁸	59.94 ⁶⁴
26.8	49.542 ²⁹⁵	16.97 ¹⁵⁰	54.129 ⁴⁵⁵	35.44 ⁹	38.480 ²⁹¹	60.58 ¹⁰³
Nov. 5.8	49.837 ³¹²	15.47 ¹⁶²	54.584 ⁴⁷¹	35.53 ⁷⁵	38.771 ³⁰⁸	61.61 ¹⁴¹
15.8	50.149 ³²²	13.85 ¹⁶⁹	55.055 ⁴⁷⁴	36.28 ¹³⁷	39.079 ³¹⁶	63.02 ¹⁷⁴
25.7	50.471 ³²¹	12.16 ¹⁶⁹	55.529 ⁴⁶⁰	37.65 ¹⁹⁷	39.395 ³¹⁷	64.76 ²⁰³
Dec. 5.7	50.792 ³¹²	10.47 ¹⁶⁵	55.989 ⁴³¹	39.62 ²⁴⁹	39.712 ³⁰⁷	66.79 ²²⁵
15.7	51.104 ²⁹³	8.82 ¹⁵³	56.420 ³⁸⁷	42.11 ²⁹⁴	40.019 ²⁸⁶	69.04 ²³⁸
25.6	51.397 ²⁶⁴	7.29 ¹³⁸	56.807 ³²⁹	45.05 ³²⁹	40.305 ²⁵⁷	71.42 ²⁴⁴
35.6	51.661	5.91	57.136	48.34	40.562	73.86
Mean Place	47.866	29.73	52.934	38.93	36.890	55.90
Sec δ, Tan δ	1.021	+0.206	1.821	-1.522	1.031	-0.249
L α, L δ	0.00	-0.3	-0.02	-0.3	0.00	-0.3
ω α, ω δ	+0.01	+0.6	-0.08	+0.6	-0.01	+0.6
AUTHORITY			A. N.		A. N.	

336 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	o Leonis. Mag. 3.8		ε Leonis. Mag. 3.1		μ Leonis. Mag. 4.1	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m 9 37	[°] ['] 10 14	^h ^m 9 41	[°] ['] 24 7	^h ^m 9 48	[°] ['] 26 21
Jan. 0.6	3.389 ²⁴⁵	26.86 ¹³⁷	29.749 ²⁶⁸	33.59 ⁷⁰	23.951 ²⁷⁷	60.35 ⁶²
10.6	3.634 ²⁰⁵	25.49 ¹¹⁵	30.017 ²²⁴	32.89 ⁴¹	24.228 ²³⁵	59.73 ³⁰
20.6	3.839 ¹⁵⁷	24.34 ⁹¹	30.241 ¹⁷⁴	32.48 ⁸	24.463 ¹⁸⁶	59.43 ²
30.6	3.996 ¹⁰⁷	23.43 ⁶⁷	30.415 ¹²³	32.40 ²⁰	24.649 ¹³¹	59.45 ³¹
Feb. 9.5	4.103 ⁵⁶	22.76 ⁴¹	30.538 ⁶⁷	32.60 ⁴³	24.780 ⁷⁶	59.76 ⁵⁷
19.5	4.159 ⁸	22.35 ¹⁸	30.605 ¹⁴	33.03 ⁶⁶	24.856 ²²	60.33 ⁷⁸
Mar. 1.5	4.167 ³⁷	22.17 ³	30.619 ³¹	33.69 ⁸²	24.878 ²⁸	61.11 ⁹⁵
11.4	4.130 ⁷⁵	22.20 ¹⁹	30.588 ⁷⁶	34.51 ⁹¹	24.850 ⁷³	62.06 ¹⁰⁴
21.4	4.055 ¹⁰⁵	22.39 ³⁴	30.512 ¹¹⁰	35.42 ⁹⁵	24.777 ¹⁰⁷	63.10 ¹⁰⁷
31.4	3.950 ¹²⁷	22.73 ⁴⁴	30.402 ¹³⁸	36.37 ⁹⁷	24.670 ¹³⁴	64.17 ¹⁰⁶
Apr. 10.4	3.823 ¹⁴¹	23.17 ⁵¹	30.264 ¹⁵³	37.34 ⁸⁹	24.536 ¹⁵³	65.23 ⁹⁹
20.3	3.682 ¹⁴⁷	23.68 ⁵⁶	30.111 ¹⁵⁷	38.23 ⁸²	24.383 ¹⁶⁰	66.22 ⁸⁹
30.3	3.535 ¹⁴⁴	24.24 ⁵⁸	29.954 ¹⁵⁹	39.05 ⁷⁰	24.223 ¹⁶¹	67.11 ⁷⁶
May 10.3	3.391 ¹³⁷	24.82 ⁶⁰	29.795 ¹⁴⁹	39.75 ⁵⁹	24.062 ¹⁵⁵	67.87 ⁶⁰
20.3	3.254 ¹²³	25.42 ⁵⁸	29.646 ¹³⁶	40.34 ⁴²	23.907 ¹⁴¹	68.47 ⁴²
30.2	3.131 ¹⁰⁶	26.00 ⁵⁶	29.510 ¹¹⁹	40.76 ²⁷	23.766 ¹²⁵	68.89 ²⁵
June 9.2	3.025 ⁸⁶	26.56 ⁵³	29.391 ⁹⁷	41.03 ¹³	23.641 ¹⁰³	69.14 ⁷
19.2	2.939 ⁶³	27.09 ⁴⁹	29.294 ⁷²	41.16 ⁵	23.538 ⁷⁸	69.21 ¹¹
29.1	2.876 ³⁹	27.58 ⁴³	29.222 ⁴⁶	41.11 ¹⁸	23.460 ⁵³	69.10 ²⁸
July 9.1	2.837 ¹⁴	28.01 ³⁶	29.176 ²¹	40.93 ³⁴	23.407 ²⁶	68.82 ⁴⁵
19.1	2.823 ¹²	28.37 ²⁸	29.155 ⁹	40.59 ⁵²	23.381 ²	68.37 ⁶²
29.1	2.835 ³⁸	28.65 ¹⁶	29.164 ⁴⁰	40.07 ⁶⁴	23.383 ³²	67.75 ⁷⁸
Aug. 8.0	2.873 ⁶⁶	28.81 ²	29.204 ⁶⁸	39.43 ⁸¹	23.415 ⁶¹	66.97 ⁹⁴
18.0	2.939 ⁹⁴	28.83 ¹²	29.272 ¹⁰⁰	38.62 ⁹⁶	23.476 ⁹²	66.03 ¹¹⁰
28.0	3.033 ¹²³	28.71 ³⁰	29.372 ¹²⁷	37.66 ¹¹¹	23.568 ¹²⁴	64.93 ¹²⁵
Sept. 7.0	3.156 ¹⁵³	28.41 ⁴⁹	29.499 ¹⁶²	36.55 ¹²⁶	23.692 ¹⁵⁶	63.68 ¹³⁹
16.9	3.309 ¹⁸²	27.92 ⁷⁰	29.661 ¹⁹³	35.29 ¹³⁹	23.848 ¹⁸⁹	62.29 ¹⁵³
26.9	3.491 ²¹³	27.22 ⁹²	29.854 ²²⁶	33.90 ¹⁵²	24.037 ²²²	60.76 ¹⁶⁴
Oct. 6.9	3.704 ²⁴²	26.30 ¹¹⁴	30.080 ²⁵⁷	32.38 ¹⁶²	24.259 ²⁵⁴	59.12 ¹⁷³
16.8	3.946 ²⁶⁸	25.16 ¹³⁴	30.337 ²⁸⁶	30.76 ¹⁶⁹	24.513 ²⁸⁴	57.39 ¹⁷⁹
26.8	4.214 ²⁹²	23.82 ¹⁵¹	30.623 ³⁰⁶	29.07 ¹⁷²	24.797 ³¹¹	55.60 ¹⁸¹
Nov. 5.8	4.506 ³⁰⁹	22.31 ¹⁶⁴	30.929 ³³¹	27.35 ¹⁷³	25.108 ³³²	53.79 ¹⁷⁷
15.8	4.815 ³¹⁹	20.67 ¹⁷³	31.260 ³⁴¹	25.62 ¹⁶⁶	25.440 ³⁴⁵	52.02 ¹⁶⁹
25.7	5.134 ³²²	18.94 ¹⁷⁵	31.601 ³⁴⁴	23.96 ¹⁵⁴	25.785 ³⁵¹	50.33 ¹⁵⁴
Dec. 5.7	5.456 ³¹³	17.19 ¹⁷²	31.945 ³³⁷	22.42 ¹³³	26.136 ³⁴⁵	48.79 ¹³³
15.7	5.769 ²⁹⁶	15.47 ¹⁶³	32.282 ³²⁰	21.09 ¹¹³	26.481 ³²⁸	47.46 ¹⁰⁹
25.7	6.065 ²⁶⁸	13.84 ¹⁴⁷	32.602 ²⁹¹	19.96 ⁸⁴	26.809 ³⁰²	46.37 ⁸⁰
35.6	6.333	12.37	32.893	19.12	27.111	45.57
Mean Place	2.599	36.08	29.053	45.98	23.302	73.21
Sec δ, Tan δ	1.016	+0.181	1.096	+0.448	1.116	+0.496
L α, L δ	0.00	-0.3	+0.01	-0.3	+0.01	-0.3
ω α, ω δ	+0.01	+0.6	+0.02	+0.6	+0.03	+0.5
AUTHORITY	A. N.		A. E.		A. N.	

APPARENT PLACES OF STARS, 1923. 337

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	π Leonis. Mag. 4.9		α Leonis. Mag. 1.3		γ Velorum. Mag. 4.1	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. S.
	^h 9 ^m 56 ^s	[°] 8 ['] 24	^h 10 ^m 4 ^s	[°] 12 ['] 20	^h 10 ^m 11 ^s	[°] 41 ['] 44
Jan. 0.6	9.462 ₂₆₀	43.24 ₁₅₅	17.052 ₂₆₇	29.72 ₁₄₀	31.492 ₂₉₂	18.13 ₃₀₉
10.6	9.722 ₂₁₈	41.69 ₁₃₀	17.319 ₂₂₆	28.32 ₁₁₂	31.784 ₂₄₅	21.22 ₃₂₆
20.6	9.940 ₁₇₃	40.39 ₁₀₆	17.545 ₁₈₄	27.20 ₈₇	32.029 ₁₉₂	24.48 ₃₃₃
30.6	10.113 ₁₂₅	39.33 ₈₃	17.729 ₁₃₆	26.33 ₅₉	32.221 ₁₃₀	27.81 ₃₃₁
Feb. 9.5	10.238 ₇₆	38.50 ₅₅	17.865 ₈₅	25.74 ₃₃	32.351 ₇₁	31.12 ₃₂₃
19.5	10.314 ₂₆	37.95 ₃₅	17.950 ₃₆	25.41 ₉	32.422 ₁₅	34.35 ₃₀₄
Mar. 1.5	10.340 ₁₈	37.60 ₈	17.986 ₁₀	25.32 ₁₄	32.437 ₃₉	37.39 ₂₇₉
11.4	10.322 ₅₆	37.52 ₁₂	17.976 ₅₂	25.46 ₃₃	32.398 ₈₅	40.18 ₂₅₂
21.4	10.266 ₈₈	37.64 ₂₇	17.924 ₈₀	25.79 ₄₈	32.313 ₁₂₇	42.70 ₂₁₉
31.4	10.178 ₁₁₄	37.91 ₃₈	17.844 ₁₁₀	26.27 ₅₄	32.186 ₁₅₈	44.89 ₁₈₁
Apr. 10.4	10.064 ₁₃₁	38.29 ₄₀	17.734 ₁₂₉	26.81 ₆₃	32.028 ₁₈₃	46.70 ₁₄₂
20.3	9.933 ₁₃₇	38.78 ₅₆	17.605 ₁₃₇	27.44 ₆₈	31.845 ₁₉₉	48.12 ₁₀₀
30.3	9.796 ₁₃₈	39.34 ₅₉	17.468 ₁₃₈	28.12 ₆₇	31.646 ₂₀₈	49.12 ₅₇
May 10.3	9.658 ₁₃₅	39.93 ₆₁	17.330 ₁₃₆	28.79 ₆₇	31.438 ₂₁₀	49.69 ₁₄
20.3	9.523 ₁₂₅	40.54 ₆₄	17.194 ₁₂₇	29.46 ₆₁	31.228 ₂₀₆	49.83 ₂₈
30.2	9.398 ₁₁₀	41.18 ₆₂	17.067 ₁₁₅	30.07 ₅₈	31.022 ₁₉₆	49.55 ₇₁
June 9.2	9.288 ₉₃	41.80 ₅₈	16.952 ₁₀₀	30.65 ₄₉	30.826 ₁₈₂	48.84 ₁₀₉
19.2	9.195 ₇₆	42.38 ₅₆	16.852 ₇₉	31.14 ₄₂	30.644 ₁₆₅	47.75 ₁₄₇
29.1	9.119 ₅₂	42.94 ₄₉	16.773 ₅₆	31.56 ₃₆	30.479 ₁₃₉	46.28 ₁₈₁
July 9.1	9.067 ₃₀	43.43 ₄₃	16.717 ₃₆	31.92 ₂₇	30.340 ₁₁₅	44.47 ₂₀₇
19.1	9.037 ₇	43.86 ₃₉	16.681 ₁₅	32.19 ₁₃	30.225 ₈₂	42.40 ₂₃₁
29.1	9.030 ₂₁	44.25 ₂₄	16.666 ₁₄	32.32 ₁	30.143 ₄₇	40.09 ₂₄₄
Aug. 8.0	9.051 ₄₆	44.49 ₉	16.680 ₄₀	32.33 ₁₄	30.096 ₁₀	37.65 ₂₅₁
18.0	9.097 ₇₆	44.58 ₇	16.720 ₆₈	32.19 ₂₉	30.086 ₃₃	35.14 ₂₄₈
28.0	9.173 ₁₀₂	44.51 ₂₀	16.788 ₉₈	31.90 ₄₉	30.119 ₇₈	32.66 ₂₃₇
Sept. 7.0	9.275 ₁₃₄	44.31 ₄₄	16.886 ₁₂₆	31.41 ₆₇	30.197 ₁₂₃	30.29 ₂₁₇
16.9	9.409 ₁₆₆	43.87 ₆₅	17.012 ₁₆₁	30.74 ₈₈	30.320 ₁₇₂	28.12 ₁₈₄
26.9	9.575 ₁₉₆	43.22 ₈₉	17.173 ₁₉₂	29.86 ₁₀₉	30.492 ₂₁₉	26.28 ₁₄₇
Oct. 6.9	9.771 ₂₃₀	42.33 ₁₁₂	17.365 ₂₂₅	28.77 ₁₃₀	30.711 ₂₆₃	24.81 ₁₀₁
16.8	10.001 ₂₅₉	41.21 ₁₃₃	17.590 ₂₅₄	27.47 ₁₄₇	30.974 ₃₀₄	23.80 ₅₁
26.8	10.260 ₂₈₂	39.88 ₁₅₄	17.844 ₂₈₄	26.00 ₁₆₂	31.278 ₃₃₉	23.20 ₅
Nov. 5.8	10.542 ₃₀₃	38.34 ₁₆₇	18.128 ₃₀₄	24.38 ₁₇₆	31.617 ₃₆₄	23.34 ₆₄
15.8	10.845 ₃₁₅	36.67 ₁₈₀	18.432 ₃₁₈	22.62 ₁₈₂	31.981 ₃₇₈	23.98 ₁₂₀
25.7	11.160 ₃₂₂	34.87 ₁₈₅	18.750 ₃₂₇	20.80 ₁₈₃	32.359 ₃₈₄	25.18 ₁₇₃
Dec. 5.7	11.482 ₃₁₈	33.02 ₁₈₃	19.077 ₃₂₃	18.97 ₁₇₈	32.743 ₃₇₅	26.91 ₂₂₁
15.7	11.800 ₃₀₃	31.19 ₁₇₅	19.400 ₃₁₁	17.19 ₁₆₆	33.118 ₃₅₃	29.12 ₂₆₁
25.7	12.103 ₂₇₉	29.44 ₁₆₄	19.711 ₂₈₅	15.53 ₁₅₂	33.471 ₃₁₈	31.73 ₂₉₄
35.6	12.382	27.80	19.996	14.01	33.789	34.67
Mean Place	8.750	51.45	16.407	38.76	29.967	24.10
Sec δ , Tan δ	1.011	+0.148	1.024	+0.219	1.340	-0.892
L α , L δ	0.00	-0.3	0.00	-0.3	-0.01	-0.4
ω α , ω δ	+0.01	+0.5	+0.01	+0.5	-0.05	+0.5
AUTHORITY	A. E.		A. E.		A. E.	

338 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	22 Sextantis. Mag. 5.4		g Carinæ. Mag. 3.4		γ Leonis (1st star). Mag. 2.6	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. N.
	h m 10 13	° ′ 7 41	h m 10 14	° ′ 60 56	h m 10 15	° ′ 20 13
Jan. 0.6	49.050 ²⁶²	5.02 ²²³	33.15 ³⁹	39.70 ³¹⁹	44.331 ²⁸⁶	42.90 ¹⁰⁷
10.6	49.312 ²²⁴	7.25 ²¹²	33.54 ³²	42.89 ³⁴⁸	44.617 ²⁴⁹	41.83 ⁷⁷
20.6	49.536 ¹⁸²	9.37 ¹⁹⁹	33.86 ²⁴	46.37 ³⁶⁶	44.866 ²⁰⁴	41.06 ⁴⁷
30.6	49.718 ¹³⁴	11.36 ¹⁷⁹	34.10 ¹⁶	50.03 ³⁷⁴	45.070 ¹⁵⁴	40.59 ¹⁵
Feb. 9.5	49.852 ⁸⁶	13.15 ¹⁵⁶	34.26 ⁷	53.77 ³⁷³	45.224 ¹⁰³	40.44 ¹⁴
19.5	49.938 ³⁸	14.71 ¹³³	34.33 ¹	57.50 ³⁶³	45.327 ⁵⁰	40.58 ⁴⁰
Mar. 1.5	49.976 ⁵	16.04 ¹⁰⁶	34.32 ⁸	61.13 ³⁴⁴	45.377 ³	40.98 ⁶⁰
11.5	49.971 ⁴⁵	17.10 ⁸¹	34.24 ¹⁶	64.57 ³¹⁹	45.380 ⁴¹	41.58 ⁷⁷
21.4	49.926 ⁷⁷	17.91 ⁵⁶	34.08 ²²	67.76 ²⁸⁶	45.339 ⁷⁷	42.35 ⁸⁷
31.4	49.849 ¹⁰¹	18.47 ³³	33.86 ²⁷	70.62 ²⁴⁸	45.262 ¹⁰⁵	43.22 ⁹²
Apr. 10.4	49.748 ¹²⁰	18.80 ¹¹	33.59 ³⁰	73.10 ²⁰⁶	45.157 ¹²⁶	44.14 ⁹⁴
20.3	49.628 ¹³¹	18.91 ¹⁰	33.29 ³⁴	75.16 ¹⁶⁰	45.031 ¹³⁹	45.08 ⁸⁹
30.3	49.497 ¹³⁵	18.81 ²⁸	32.95 ³⁶	76.76 ¹¹¹	44.892 ¹⁴³	45.97 ⁸³
May 10.3	49.362 ¹³³	18.53 ⁴⁶	32.59 ³⁶	77.87 ⁶⁰	44.749 ¹⁴⁰	46.80 ⁷²
20.3	49.229 ¹²⁸	18.07 ⁶²	32.23 ³⁷	78.47 ¹⁰	44.609 ¹³⁴	47.52 ⁶¹
30.2	49.101 ¹¹⁸	17.45 ⁷⁶	31.86 ³⁶	78.57 ⁴³	44.475 ¹²²	48.13 ⁴⁸
June 9.2	48.983 ¹⁰⁴	16.69 ⁸⁸	31.50 ³⁴	78.14 ⁹³	44.353 ¹⁰⁶	48.61 ³⁴
19.2	48.879 ⁸⁸	15.81 ⁹⁸	31.16 ³²	77.21 ¹⁴⁰	44.247 ⁸⁹	48.95 ¹⁹
29.2	48.791 ⁷⁰	14.83 ¹⁰⁶	30.84 ²⁷	75.81 ¹⁸⁴	44.158 ⁶⁷	49.14 ⁴
July 9.1	48.721 ⁵⁰	13.77 ¹⁰⁹	30.57 ²⁴	73.97 ²²³	44.091 ⁴⁵	49.18 ¹²
19.1	48.671 ²⁸	12.68 ¹¹¹	30.33 ¹⁹	71.74 ²⁵⁵	44.046 ²¹	49.06 ²⁸
29.1	48.643 ⁴	11.57 ¹⁰⁷	30.14 ¹³	69.19 ²⁷⁹	44.025 ⁴	48.78 ⁴⁴
Aug. 8.0	48.639 ²¹	10.50 ⁹⁹	30.01 ⁷	66.40 ²⁹⁴	44.029 ³¹	48.34 ⁶¹
18.0	48.660 ⁵⁰	9.51 ⁸⁷	29.94 ⁰	63.46 ³⁰⁰	44.060 ⁶⁰	47.73 ⁷⁹
28.0	48.710 ⁸⁰	8.64 ⁶⁹	29.94 ⁸	60.46 ²⁹⁵	44.120 ⁹¹	46.94 ⁹⁶
Sept. 7.0	48.790 ¹¹²	7.95 ⁴⁷	30.02 ¹⁵	57.51 ²⁷⁹	44.211 ¹²¹	45.98 ¹¹⁴
16.9	48.902 ¹⁴⁵	7.48 ²⁰	30.17 ²³	54.72 ²⁵²	44.332 ¹⁵⁶	44.84 ¹³³
26.9	49.047 ¹⁷⁹	7.28 ¹¹	30.40 ³⁰	52.20 ²¹⁴	44.488 ¹⁹⁰	43.51 ¹⁵⁰
Oct. 6.9	49.226 ²¹³	7.39 ⁴³	30.70 ³⁷	50.06 ¹⁶⁷	44.678 ²²⁴	42.01 ¹⁶⁴
16.9	49.439 ²⁴⁴	7.82 ⁷⁸	31.07 ⁴³	48.39 ¹¹⁴	44.902 ²⁵⁶	40.37 ¹⁷⁸
26.8	49.683 ²⁷⁴	8.60 ¹¹²	31.50 ⁴⁸	47.25 ⁵³	45.158 ²⁸⁷	38.59 ¹⁸⁶
Nov. 5.8	49.957 ²⁹⁶	9.72 ¹⁴⁴	31.98 ⁵²	46.72 ¹¹	45.445 ³¹¹	36.73 ¹⁹¹
15.8	50.253 ³¹²	11.16 ¹⁷¹	32.50 ⁵³	46.83 ⁷⁶	45.756 ³²⁹	34.82 ¹⁸⁸
25.7	50.565 ³¹⁹	12.87 ¹⁹⁵	33.03 ⁵³	47.59 ¹³⁹	46.085 ³³⁹	32.94 ¹⁸²
Dec. 5.7	50.884 ³¹⁷	14.82 ²¹²	33.56 ⁵²	48.98 ¹⁹⁷	46.424 ³³⁹	31.12 ¹⁶⁷
15.7	51.201 ³⁰⁵	16.94 ²²¹	34.08 ⁴⁸	50.95 ²⁵¹	46.763 ³²⁹	29.45 ¹⁴⁹
25.7	51.506 ²⁸¹	19.15 ²²³	34.56 ⁴²	53.46 ²⁹⁴	47.092 ³⁰⁶	27.96 ¹²⁴
35.6	51.787	21.38	34.98	56.40	47.398	26.72
Mean Place	48.254	1.99	30.53	49.74	43.803	53.80
Sec δ, Tan δ	1.009	-0.135	2.059	-1.800	1.066	+0.369
L α, L δ	0.00	-0.4	-0.02	-0.4	0.00	-0.4
ω α, ω δ	-0.01	+0.5	-0.11	+0.4	+0.02	+0.4
AUTHORITY						

APPARENT PLACES OF STARS, 1923. 339

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	μ Ursæ Majoris. Mag. 3.2		μ Hydræ. Mag. 4.1		α Antliæ. Mag. 4.4	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 10 17	[°] ['] 41 52	^h ^m 10 22	[°] ['] 16 26	^h ^m 10 23	[°] ['] 30 40
Jan. 0.7	45.363 ₃₄₅	58.45 ₁₀	22.819 ₂₆₈	33.68 ₂₅₀	38.715 ₂₈₂	28.39 ₂₈₆
10.6	45.708 ₃₀₃	58.35 ₃₄	23.087 ₂₂₉	36.18 ₂₄₇	38.997 ₂₄₃	31.25 ₂₉₅
20.6	46.011 ₂₄₈	58.69 ₇₅	23.316 ₁₉₁	38.65 ₂₄₁	39.240 ₁₉₃	34.20 ₂₉₇
30.6	46.259 ₁₈₈	59.44 ₁₁₀	23.507 ₁₄₃	41.06 ₂₂₅	39.433 ₁₄₄	37.17 ₂₉₁
Feb. 9.6	46.447 ₁₂₃	60.54 ₁₄₃	23.650 ₉₀	43.31 ₂₁₀	39.577 ₉₁	40.08 ₂₇₇
19.5	46.570 ₅₉	61.97 ₁₆₅	23.740 ₄₅	45.41 ₁₈₃	39.668 ₄₀	42.85 ₂₅₉
Mar. 1.5	46.629 ₁	63.62 ₁₇₉	23.785 ₃	47.24 ₁₆₀	39.708 ₈	45.44 ₂₃₆
11.5	46.630 ₅₇	65.41 ₁₈₆	23.782 ₃₇	48.84 ₁₃₁	39.700 ₅₃	47.80 ₂₀₇
21.4	46.573 ₁₀₄	67.27 ₁₈₃	23.745 ₇₅	50.15 ₁₀₃	39.647 ₈₉	49.87 ₁₇₄
31.4	46.469 ₁₄₄	69.10 ₁₇₃	23.670 ₁₀₁	51.18 ₈₀	39.558 ₁₁₆	51.61 ₁₄₄
Apr. 10.4	46.325 ₁₇₀	70.83 ₁₅₇	23.569 ₁₁₈	51.98 ₄₇	39.442 ₁₄₁	53.05 ₁₀₇
20.4	46.155 ₁₉₀	72.40 ₁₃₃	23.451 ₁₃₄	52.45 ₂₂	39.301 ₁₅₅	54.12 ₇₄
30.3	45.965 ₁₉₈	73.73 ₁₀₇	23.317 ₁₃₈	52.67 ₂	39.146 ₁₆₀	54.86 ₃₇
May 10.3	45.767 ₁₉₈	74.80 ₇₆	23.179 ₁₄₁	52.65 ₂₉	38.986 ₁₆₇	55.23 ₁
20.3	45.569 ₁₈₈	75.56 ₄₃	23.038 ₁₃₅	52.36 ₅₃	38.819 ₁₆₃	55.24 ₃₅
30.3	45.381 ₁₇₄	75.99 ₁₂	22.903 ₁₂₆	51.83 ₇₅	38.656 ₁₅₇	54.89 ₇₀
June 9.2	45.207 ₁₅₅	76.11 ₂₁	22.777 ₁₁₇	51.08 ₉₃	38.499 ₁₄₇	54.19 ₉₈
19.2	45.052 ₁₃₀	75.90 ₅₄	22.660 ₁₀₁	50.15 ₁₁₁	38.352 ₁₂₈	53.21 ₁₃₁
29.2	44.922 ₁₀₂	75.36 ₈₃	22.559 ₈₆	49.04 ₁₂₉	38.224 ₁₁₂	51.90 ₁₅₅
July 9.1	44.820 ₇₂	74.53 ₁₁₁	22.473 ₆₄	47.75 ₁₃₇	38.112 ₉₂	50.35 ₁₇₆
19.1	44.748 ₄₁	73.42 ₁₃₇	22.409 ₄₄	46.38 ₁₄₅	38.020 ₆₃	48.59 ₁₉₄
29.1	44.707 ₆	72.05 ₁₆₀	22.365 ₁₈	44.93 ₁₄₆	37.957 ₄₁	46.65 ₂₀₅
Aug. 8.1	44.701 ₂₈	70.45 ₁₈₃	22.347 ₆	43.47 ₁₄₁	37.916 ₃	44.60 ₂₀₅
18.0	44.729 ₆₇	68.62 ₂₀₀	22.353 ₄₁	42.06 ₁₃₂	37.913 ₂₅	42.55 ₂₀₂
28.0	44.796 ₁₀₃	66.62 ₂₁₅	22.394 ₇₀	40.74 ₁₁₈	37.938 ₆₆	40.53 ₁₈₉
Sept. 7.0	44.899 ₁₄₅	64.47 ₂₂₈	22.464 ₁₀₃	39.56 ₉₄	38.004 ₁₀₅	38.64 ₁₆₉
17.0	45.044 ₁₈₆	62.19 ₂₃₅	22.567 ₁₃₉	38.62 ₆₇	38.109 ₁₄₆	36.95 ₁₃₉
26.9	45.230 ₂₂₆	59.84 ₂₄₁	22.706 ₁₇₅	37.95 ₃₆	38.255 ₁₈₅	35.56 ₁₀₅
Oct. 6.9	45.456 ₂₆₈	57.43 ₂₄₀	22.881 ₂₁₁	37.59 ₂	38.440 ₂₂₈	34.51 ₆₂
16.9	45.724 ₃₀₆	55.03 ₂₃₅	23.092 ₂₄₅	37.61 ₄₃	38.668 ₂₆₅	33.89 ₁₈
26.8	46.030 ₃₄₃	52.68 ₂₂₂	23.337 ₂₇₅	38.04 ₈₁	38.933 ₂₉₉	33.71 ₃₃
Nov. 5.8	46.373 ₃₇₂	50.46 ₂₀₇	23.612 ₃₀₀	38.85 ₁₂₁	39.232 ₃₂₃	34.04 ₈₂
15.8	46.745 ₃₉₅	48.39 ₁₈₂	23.912 ₃₁₇	40.06 ₁₆₀	39.555 ₃₄₂	34.86 ₁₃₄
25.8	47.140 ₄₀₆	46.57 ₁₅₄	24.229 ₃₂₆	41.66 ₁₉₀	39.897 ₃₄₈	36.20 ₁₇₈
Dec. 5.7	47.516 ₄₀₇	45.03 ₁₁₇	24.555 ₃₂₆	43.56 ₂₁₆	40.245 ₃₄₅	37.98 ₂₁₄
15.7	47.953 ₃₉₅	43.86 ₇₈	24.881 ₃₁₁	45.72 ₂₃₆	40.590 ₃₂₉	40.12 ₂₄₈
25.7	48.348 ₃₇₁	43.08 ₃₆	25.192 ₂₈₆	48.08 ₂₄₄	40.919 ₃₀₆	42.60 ₂₇₄
35.7	48.719	42.72	25.478	50.52	41.225	45.34
Mean Place	44.951	74.45	21.941	33.63	37.572	32.45
Sec δ , Tan δ	1.343	+0.897	1.043	-0.295	1.163	-0.593
L α , L δ	+0.01	-0.4	0.00	-0.4	-0.01	-0.4
ω α , ω δ	+0.05	+0.4	-0.02	+0.4	-0.04	+0.4
AUTHORITY	A. E.		A. E.		A. E.	

340 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ρ Leonis. Mag. 3.9		34 Sextantis. Mag. 6.6		θ Argûs. Mag. 3.0	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. S.
	^h 10 ^s 28 ^m	[°] 9 ['] 41 ["]	^h 10 ^s 38 ^m	[°] 3 ['] 58 ["]	^h 10 ^s 40 ^m	[°] 63 ['] 59 ["]
Jan. 0.7	46.047 ²⁷⁹	64.28 ¹⁵⁸	39.533 ²⁸¹	63.92 ¹⁸³	14.99 ⁴⁷	16.27 ²⁹⁶
10.6	46.326 ²⁴⁶	62.70 ¹³⁵	39.814 ²⁴⁸	62.09 ¹⁶⁴	15.46 ³⁹	19.23 ³³¹
20.6	46.572 ²⁰⁴	61.35 ¹⁰⁹	40.062 ²⁰⁹	60.45 ¹⁴²	15.85 ³²	22.54 ³⁵⁵
30.6	46.776 ¹⁵⁷	60.26 ⁸²	40.271 ¹⁶³	59.03 ¹¹⁷	16.17 ²²	26.09 ³⁷²
Feb. 9.6	46.933 ¹⁰⁹	59.44 ⁵³	40.434 ¹¹⁵	57.86 ⁹¹	16.39 ¹⁴	29.81 ³⁷⁶
19.5	47.042 ⁶⁰	58.91 ²⁷	40.549 ⁶⁸	56.95 ⁶⁴	16.53 ⁴	33.57 ³⁷¹
Mar. 1.5	47.102 ¹⁴	58.64 ³	40.617 ²³	56.31 ³⁸	16.57 ⁴	37.28 ³⁶¹
11.5	47.116 ²⁶	58.61 ¹⁸	40.640 ¹⁷	55.93 ¹⁶	16.53 ¹²	40.89 ³³⁷
21.4	47.090 ⁶¹	58.79 ³⁶	40.623 ⁵²	55.77 ⁶	16.41 ¹⁹	44.26 ³¹⁴
31.4	47.029 ⁸⁹	59.15 ⁴⁹	40.571 ⁸⁰	55.83 ²²	16.22 ²⁵	47.40 ²⁷⁷
Apr. 10.4	46.940 ¹¹⁰	59.64 ⁵⁸	40.491 ¹⁰¹	56.05 ³⁶	15.97 ³⁰	50.17 ²³⁹
20.4	46.830 ¹²³	60.22 ⁶⁵	40.390 ¹¹⁵	56.41 ⁴⁸	15.67 ³⁴	52.56 ¹⁹⁷
30.3	46.707 ¹²⁸	60.87 ⁶⁸	40.275 ¹²³	56.89 ⁵⁶	15.33 ³⁷	54.53 ¹⁴⁸
May 10.3	46.579 ¹³⁰	61.55 ⁶⁹	40.152 ¹²⁵	57.45 ⁶¹	14.96 ³⁹	56.01 ¹⁰⁰
20.3	46.449 ¹²⁵	62.24 ⁶⁷	40.027 ¹²²	58.06 ⁶⁶	14.57 ⁴⁰	57.01 ⁴⁹
30.3	46.324 ¹¹⁶	62.91 ⁶³	39.905 ¹¹⁶	58.72 ⁶⁹	14.17 ⁴¹	57.50 ⁵
June 9.2	46.208 ¹⁰⁴	63.54 ⁶⁰	39.789 ¹⁰⁵	59.41 ⁶⁹	13.76 ³⁹	57.45 ⁵⁶
19.2	46.104 ⁸⁹	64.14 ⁵³	39.684 ⁹³	60.10 ⁶⁷	13.37 ³⁷	56.89 ¹⁰⁵
29.2	46.015 ⁷²	64.67 ⁴⁵	39.591 ⁷⁷	60.77 ⁶⁴	13.00 ³⁵	55.84 ¹⁵⁴
July 9.1	45.943 ⁵³	65.12 ³⁷	39.514 ⁶¹	61.41 ⁶⁰	12.65 ³¹	54.30 ¹⁹⁵
19.1	45.890 ³²	65.49 ²⁶	39.453 ⁴¹	62.01 ⁵³	12.34 ²⁵	52.35 ²³⁵
29.1	45.858 ⁹	65.75 ¹³	39.412 ¹⁹	62.54 ⁴³	12.09 ²⁰	50.00 ²⁶²
Aug. 8.1	45.849 ¹⁵	65.88 ⁰	39.393 ⁴	62.97 ³⁰	11.89 ¹⁴	47.38 ²⁸⁷
18.0	45.864 ⁴²	65.88 ¹⁷	39.397 ³¹	63.27 ¹⁶	11.75 ⁵	44.51 ²⁹⁷
28.0	45.906 ⁷²	65.71 ³⁶	39.428 ⁵⁸	63.43 ³	11.70 ²	41.54 ³⁰⁰
Sept. 7.0	45.978 ¹⁰²	65.35 ⁵⁶	39.486 ⁹¹	63.40 ²³	11.72 ¹¹	38.54 ²⁹⁰
17.0	46.080 ¹³⁵	64.79 ⁷⁸	39.577 ¹²³	63.17 ⁴⁷	11.83 ¹⁹	35.64 ²⁷²
26.9	46.215 ¹⁷⁰	64.01 ¹⁰¹	39.700 ¹⁵⁸	62.70 ⁷²	12.02 ²⁹	32.92 ²³⁷
Oct. 6.9	46.385 ²⁰³	63.00 ¹²⁴	39.858 ¹⁹⁴	61.98 ⁹⁸	12.31 ³⁶	30.55 ¹⁹⁸
16.9	46.588 ²³⁷	61.76 ¹⁴⁴	40.052 ²²⁸	61.00 ¹²⁴	12.67 ⁴⁴	28.57 ¹⁴⁷
26.8	46.825 ²⁶⁸	60.32 ¹⁶⁴	40.280 ²⁶⁰	59.76 ¹⁴⁷	13.11 ⁵⁰	27.10 ⁹¹
Nov. 5.8	47.093 ²⁹⁴	58.68 ¹⁷⁹	40.540 ²⁸⁷	58.29 ¹⁶⁹	13.61 ⁵⁵	26.19 ²⁹
15.8	47.387 ³¹³	56.89 ¹⁸⁹	40.827 ³⁰⁷	56.60 ¹⁸⁵	14.16 ⁵⁷	25.90 ³⁷
25.8	47.700 ³²⁵	55.00 ¹⁹⁴	41.134 ³²⁰	54.75 ¹⁹⁷	14.73 ⁵⁹	26.27 ¹⁰¹
Dec. 5.7	48.025 ³²⁶	53.06 ¹⁹²	41.454 ³²³	52.78 ²⁰¹	15.32 ⁵⁸	27.28 ¹⁶³
15.7	48.351 ³¹⁷	51.14 ¹⁸⁴	41.777 ³¹⁷	50.77 ¹⁹⁹	15.90 ⁵⁵	28.91 ²¹⁹
25.7	48.668 ²⁹⁸	49.30 ¹⁶⁹	42.094 ²⁹⁸	48.78 ¹⁹¹	16.45 ⁵⁰	31.10 ²⁶⁶
35.7	48.966	47.61	42.392	46.87	16.95	33.76
Mean Place	45.507	71.87	38.991	69.43	12.29	28.90
Sec δ , Tan δ	1.015	+0.171	1.002	+0.070	2.280	-2.049
L α , L δ	0.00	-0.4	0.00	-0.4	-0.02	-0.4
ω α , ω δ	+0.01	+0.4	+0.01	+0.3	-0.13	+0.3
AUTHORITY	A. N.				A. E.	

APPARENT PLACES OF STARS, 1923. 341

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Argûs. Mag. > 1-7.4		μ Argûs. Mag. 2-8		ι Leonis. Mag. 5.3	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. N.
	h m 10 42	° 59 16	h m 10 43	° 49 0	h m 10 45	° 10 56
Jan. 0.7	6.408 ^s	34.03	28.824 ^s	38.02	13.162 ^s	63.15
10.6	6.828 ⁴²⁰	36.99 ²⁹⁶	29.177 ³⁵³	40.98 ²⁹⁶	13.451 ²⁸⁹	61.56 ¹⁵⁹
20.6	7.185 ³⁵⁷	40.27 ³²⁸	29.483 ³⁰⁶	44.19 ³²¹	13.711 ²⁶⁰	60.22 ¹³⁴
28.7	7.472 ²⁸⁷	43.80 ³⁵³	29.730 ²⁴⁷	47.58 ³³⁹	13.928 ²¹⁷	59.15 ¹⁰⁷
30.6	7.472 ²⁰⁹	43.80 ³⁶⁵	29.730 ¹⁸⁷	47.58 ³⁴⁶	13.928 ¹⁷⁴	59.15 ⁷⁹
Feb. 9.6	7.681 ¹³¹	47.45 ³⁶⁸	29.917 ¹²¹	51.04 ³⁴⁵	14.102 ¹²⁵	58.36 ⁴⁹
19.5	7.812 ⁵³	51.13 ³⁶³	30.038 ⁶⁰	54.49 ³³⁴	14.227 ⁸⁰	57.87 ²¹
Mar. 1.5	7.865 ²²	54.76 ³⁴⁹	30.098 ¹	57.83 ³¹⁸	14.307 ³¹	57.66 ¹
11.5	7.843 ⁹⁰	58.25 ³²⁷	30.097 ⁵⁵	61.01 ²⁹³	14.338 ¹⁰	57.67 ²⁵
21.5	7.753 ¹⁵¹	61.52 ³⁰⁰	30.042 ¹⁰⁴	63.94 ²⁶⁵	14.328 ⁴⁷	57.92 ⁴⁵
31.4	7.602 ²⁰³	64.52 ²⁶⁵	29.938 ¹⁴⁵	66.59 ²³⁰	14.281 ⁷⁴	58.37 ⁵⁸
Apr. 10.4	7.399 ²⁴⁷	67.17 ²²⁷	29.793 ¹⁷⁸	68.89 ¹⁹⁵	14.207 ⁹⁹	58.95 ⁶⁷
20.4	7.152 ²⁸¹	69.44 ¹⁸⁴	29.615 ²⁰¹	70.84 ¹⁵³	14.108 ¹¹⁴	59.62 ⁷²
30.3	6.871 ³⁰⁶	71.28 ¹³⁹	29.414 ²²¹	72.37 ¹⁰⁸	13.994 ¹²¹	60.34 ⁷⁵
May 10.3	6.565 ³²²	72.67 ⁸⁹	29.193 ²³³	73.45 ⁶⁴	13.873 ¹²⁷	61.09 ⁷³
20.3	6.243 ³³²	73.56 ⁴⁰	28.960 ²³⁸	74.09 ¹⁹	13.746 ¹²⁴	61.82 ⁷²
30.3	5.911 ³³¹	73.96 ¹¹	28.722 ²³⁶	74.28 ²⁷	13.622 ¹²⁰	62.54 ⁶⁶
June 9.2	5.580 ³²³	73.85 ⁶⁰	28.486 ²²⁷	74.01 ⁷¹	13.502 ¹⁰⁸	63.20 ⁵⁹
19.2	5.257 ³⁰⁷	73.25 ¹⁰⁹	28.259 ²¹⁶	73.30 ¹¹⁶	13.394 ⁹⁷	63.79 ⁵²
29.2	4.950 ²⁸³	72.16 ¹⁵⁵	28.043 ¹⁹⁵	72.14 ¹⁵⁴	13.297 ⁸²	64.31 ⁴¹
July 9.2	4.667 ²⁵⁰	70.61 ¹⁹⁵	27.848 ¹⁷³	70.60 ¹⁹¹	13.215 ⁶⁵	64.72 ³⁵
19.1	4.417 ²¹⁰	68.66 ²³¹	27.675 ¹⁴⁰	68.69 ²¹⁹	13.150 ⁴⁴	65.07 ²⁰
29.1	4.207 ¹⁶¹	66.35 ²⁵⁸	27.535 ¹⁰⁸	66.50 ²⁴³	13.106 ²⁵	65.27 ⁴
Aug. 8.1	4.046 ¹⁰⁵	63.77 ²⁷⁹	27.427 ⁶²	64.07 ²⁵⁷	13.081 ²	65.31 ¹⁰
18.0	3.941 ⁴³	60.98 ²⁸⁰	27.365 ¹⁸	61.50 ²⁶³	13.083 ²⁵	65.21 ²⁶
28.0	3.898 ²⁵	58.09 ²⁹⁰	27.347 ³³	58.87 ²⁶²	13.108 ⁵⁷	64.95 ⁴⁶
Sept. 7.0	3.923 ⁹⁸	55.19 ²⁸⁰	27.380 ⁸⁶	56.25 ²⁴⁷	13.165 ⁸⁶	64.49 ⁶⁶
17.0	4.021 ¹⁷³	52.39 ²⁵⁸	27.466 ¹⁴⁵	53.78 ²²⁶	13.251 ¹²¹	63.83 ⁸⁸
26.9	4.194 ²⁴⁷	49.81 ²²⁷	27.611 ²⁰⁴	51.52 ¹⁸⁹	13.372 ¹⁵⁵	62.95 ¹¹⁰
Oct. 6.9	4.441 ³¹⁸	47.54 ¹⁸⁵	27.815 ²⁵⁸	49.63 ¹⁵⁰	13.527 ¹⁹¹	61.85 ¹³²
16.9	4.759 ³⁸²	45.69 ¹³⁵	28.073 ³¹⁰	48.13 ¹⁰¹	13.718 ²²⁶	60.53 ¹⁵³
26.9	5.141 ⁴³⁸	44.34 ⁷⁸	28.383 ³⁵⁴	47.12 ⁴⁷	13.944 ²⁵⁹	59.00 ¹⁷²
Nov. 5.8	5.579 ⁴⁸¹	43.56 ¹⁷	28.737 ³⁹²	46.65 ¹¹	14.203 ²⁸⁸	57.28 ¹⁸⁷
15.8	6.060 ⁵⁰⁸	43.39 ⁴⁶	29.129 ⁴¹⁶	46.76 ⁷³	14.491 ³⁰⁹	55.41 ¹⁹⁵
25.8	6.568 ⁵²⁰	43.85 ¹¹⁰	29.545 ⁴²⁸	47.49 ¹³⁰	14.800 ³²³	53.46 ¹⁹⁹
Dec. 5.7	7.088 ⁵¹³	44.95 ¹⁶⁸	29.973 ⁴²³	48.79 ¹⁸⁴	15.123 ³²⁹	51.47 ¹⁹⁶
15.7	7.601 ⁴⁹⁰	46.63 ²²⁴	30.396 ⁴¹⁰	50.63 ²³³	15.452 ³²³	49.51 ¹⁸⁶
25.7	8.091 ⁴⁴⁹	48.87 ²⁷⁰	30.806 ³⁷⁸	52.96 ²⁷²	15.775 ³⁰⁶	47.65 ¹⁷¹
35.7	8.540	51.57	31.184	55.68	16.081	45.94
Mean Place	4.166	46.00	27.206	48.02	12.722	70.57
Sec δ , Tan δ	1.958	-1.683	1.525	-1.151	1.018	+0.194
L α , L δ	-0.01	-0.4	-0.01	-0.4	0.00	-0.4
ω α , ω δ	-0.11	+0.3	-0.07	+0.3	+0.01	+0.3
AUTHORITY			A. E.		A. E.	

342 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ν Hydræ. Mag. 3.3		ι Antliæ. Mag. 4.7		d Leonis. Mag. 5.1	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. N.
	^h 10 ^m 45 ^s	[°] 15 ['] 47 ["]	^h 10 ^m 53 ^s	[°] 36 ['] 43 ["]	^h 10 ^m 56 ^s	[°] 4 ['] 1 ["]
Jan. 0.7	50.227 ²⁸⁴	24.46 ²⁴⁴	8.699 ³¹⁹	17.30 ²⁷⁹	35.520 ²⁹¹	47.44 ¹⁸⁶
10.6	50.511 ²⁵¹	26.90 ²⁴³	9.018 ²⁸¹	20.09 ²⁰⁸	35.811 ²⁶⁰	45.58 ¹⁶⁹
20.6	50.762 ²¹⁰	29.33 ²³⁶	9.299 ²³⁴	23.07 ³⁰⁸	36.071 ²²³	43.89 ¹⁴⁶
30.6	50.972 ¹⁶⁵	31.69 ²²²	9.533 ¹⁸²	26.15 ³⁰⁸	36.294 ¹⁸⁰	42.43 ¹²⁰
Feb. 9.6	51.137 ¹¹⁸	33.91 ²⁰⁴	9.715 ¹²⁸	29.23 ³⁰²	36.474 ¹³³	41.23 ⁹³
19.5	51.255 ⁷⁰	35.95 ¹⁸³	9.843 ⁷⁵	32.25 ²⁸⁹	36.607 ⁸⁷	40.30 ⁶⁶
Mar. 1.5	51.325 ²⁵	37.78 ¹⁵⁷	9.918 ²⁵	35.14 ²⁶⁹	36.694 ⁴¹	39.64 ⁴⁰
11.5	51.350 ¹⁵	39.35 ¹³²	9.943 ²³	37.83 ²⁴⁴	36.735 ¹	39.24 ¹⁶
21.5	51.335 ⁵⁰	40.67 ¹⁰⁶	9.920 ⁶³	40.27 ²¹⁷	36.736 ³⁵	39.08 ⁵
31.4	51.285 ⁷⁹	41.73 ⁷⁸	9.857 ⁹⁷	42.44 ¹⁸⁴	36.701 ⁶⁴	39.13 ²⁴
Apr. 10.4	51.206 ¹⁰¹	42.51 ⁵³	9.760 ¹²⁵	44.28 ¹⁵¹	36.637 ⁸⁸	39.37 ³⁸
20.4	51.105 ¹¹⁶	43.04 ²⁶	9.635 ¹⁴⁶	45.79 ¹¹⁴	36.549 ¹⁰⁴	39.75 ⁴⁸
30.3	50.989 ¹²⁶	43.30 ³	9.489 ¹⁶⁰	46.93 ⁷⁸	36.445 ¹¹⁴	40.23 ⁵⁸
May 10.3	50.863 ¹³¹	43.33 ²²	9.329 ¹⁷⁰	47.71 ³⁹	36.331 ¹¹⁹	40.81 ⁶³
20.3	50.732 ¹³⁰	43.11 ⁴³	9.159 ¹⁷³	48.10 ¹	36.212 ¹¹⁹	41.44 ⁶⁸
30.3	50.602 ¹²⁶	42.68 ⁶⁵	8.986 ¹⁷²	48.11 ³⁷	36.093 ¹¹⁵	42.12 ⁶⁹
June 9.2	50.476 ¹¹⁸	42.03 ⁸⁴	8.814 ¹⁶⁷	47.74 ⁷⁴	35.978 ¹⁰⁹	42.81 ⁶⁹
19.2	50.358 ¹⁰⁷	41.19 ¹⁰¹	8.647 ¹⁵⁷	47.00 ¹⁰⁸	35.869 ⁹⁸	43.50 ⁶⁶
29.2	50.251 ⁹⁴	40.18 ¹¹⁵	8.490 ¹⁴⁴	45.92 ¹⁴⁰	35.771 ⁸⁶	44.16 ⁶⁴
July 9.2	50.157 ⁷⁸	39.03 ¹²⁶	8.346 ¹²⁵	44.52 ¹⁶⁷	35.685 ⁷¹	44.80 ⁵⁸
19.1	50.079 ⁵⁹	37.77 ¹³⁴	8.221 ¹⁰³	42.85 ¹⁹⁰	35.614 ⁵⁴	45.38 ⁵¹
29.1	50.020 ³⁸	36.43 ¹³⁶	8.118 ⁷⁷	40.95 ²⁰⁷	35.560 ³⁵	45.89 ⁴⁰
Aug. 8.1	49.982 ¹³	35.07 ¹³³	8.041 ⁴⁶	38.88 ²¹⁷	35.525 ¹²	46.29 ²⁹
18.0	49.969 ¹⁶	33.74 ¹²⁶	7.995 ¹¹	36.71 ²¹⁹	35.513 ¹⁴	46.58 ¹³
28.0	49.985 ⁴⁶	32.48 ¹¹²	7.984 ²⁹	34.52 ²¹⁴	35.527 ⁴¹	46.71 ⁵
Sept. 7.0	50.031 ⁸⁰	31.36 ⁹²	8.013 ⁷²	32.38 ¹⁹⁸	35.568 ⁷²	46.66 ²⁵
17.0	50.111 ¹¹⁶	30.44 ⁶⁶	8.085 ¹¹⁸	30.40 ¹⁷⁵	35.640 ¹⁰⁷	46.41 ⁵⁰
26.9	50.227 ¹⁵⁴	29.78 ³⁶	8.203 ¹⁶⁵	28.65 ¹⁴³	35.747 ¹⁴²	45.91 ⁷³
Oct. 6.9	50.381 ¹⁹²	29.42 ¹	8.368 ²¹²	27.22 ¹⁰⁴	35.889 ¹⁷⁸	45.18 ¹⁰⁰
16.9	50.573 ²²⁹	29.41 ³⁶	8.580 ²⁵⁷	26.18 ⁵⁸	36.067 ²¹⁶	44.18 ¹²⁶
26.9	50.802 ²⁶³	29.77 ⁷⁶	8.837 ²⁹⁷	25.60 ⁹	36.283 ²⁴⁸	42.92 ¹⁴⁹
Nov. 5.8	51.065 ²⁹¹	30.53 ¹¹⁴	9.134 ³³⁰	25.51 ⁴⁴	36.531 ²⁷⁹	41.43 ¹⁷¹
15.8	51.356 ³¹³	31.67 ¹⁵⁰	9.464 ³⁵⁵	25.95 ⁹⁵	36.810 ³⁰³	39.72 ¹⁸⁷
25.8	51.669 ³²⁶	33.17 ¹⁸²	9.819 ³⁶⁹	26.90 ¹⁴⁶	37.113 ³¹⁸	37.85 ¹⁹⁹
Dec. 5.7	51.995 ³²⁸	34.99 ²⁰⁹	10.188 ³⁷¹	28.36 ¹⁹¹	37.431 ³²⁵	35.86 ²⁰⁵
15.7	52.323 ³²⁰	37.08 ²²⁷	10.559 ³⁶⁰	30.27 ²³¹	37.756 ³²¹	33.81 ²⁰³
25.7	52.643 ³⁰²	39.35 ²⁴⁰	10.919 ³³⁹	32.58 ²⁶⁴	38.077 ³⁰⁶	31.78 ¹⁹⁴
35.7	52.945	41.75	11.258	35.22	38.383	29.84
Mean Place	49.477	25.45	7.571	24.88	35.074	52.28
Sec δ , Tan δ	1.039	-0.283	1.248	-0.746	1.002	+0.071
L a , L δ	0.00	-0.4	-0.01	-0.4	0.00	-0.4
ω a , ω δ	-0.02	+0.3	-0.05	+0.3	0.00	+0.3
AUTHORITY	A. N.		A. N.			

APPARENT PLACES OF STARS, 1923. 343

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Ursæ Majoris. Mag. 2.4		α Ursæ Majoris. Mag. 2.0		χ Leonis. Mag. 4.7	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	^h 10 ^m 57 ^s	[°] 56 ['] 47 ["]	^h 10 ^m 58 ^s	[°] 62 ['] 9 ["]	^h 11 ^m 1 ^s	[°] 7 ['] 44 ["]
Jan. 0.7	12.401 ⁴⁷⁴	25.34 ¹⁰	59.39 ⁵⁴	42.10 ²⁹	3.163 ²⁹⁴	63.99 ¹⁷⁵
10.6	12.875 ⁴³⁰	25.44 ⁶⁷	59.93 ⁴⁹	42.39 ⁸³	3.457 ²⁶⁶	62.24 ¹⁵⁵
20.6	13.305 ³⁶⁹	26.11 ¹¹⁸	60.42 ⁴²	43.22 ¹³⁹	3.723 ²²⁷	60.69 ¹²⁸
30.6	13.674 ²⁹⁸	27.29 ¹⁶¹	60.84 ³⁴	44.61 ¹⁸³	3.950 ¹⁸⁵	59.41 ¹⁰⁰
Feb. 9.6	13.972 ²¹⁸	28.90 ²⁰¹	61.18 ²⁵	46.44 ²²²	4.135 ¹⁴⁰	58.41 ⁷²
19.5	14.190 ¹³⁶	30.91 ²²⁹	61.43 ¹⁵	48.66 ²⁴⁹	4.275 ⁹²	57.69 ⁴²
Mar. 1.5	14.326 ⁵⁶	33.20 ²⁴⁸	61.58 ⁶	51.15 ²⁶⁷	4.367 ⁴⁴	57.27 ¹⁹
11.5	14.382 ²⁷	35.68 ²⁵⁶	61.64 ³	53.82 ²⁷⁴	4.411 ⁷	57.08 ⁸
21.5	14.355 ⁹⁵	38.24 ²⁵¹	61.61 ¹²	56.56 ²⁶⁵	4.418 ³¹	57.16 ²⁵
31.4	14.260 ¹⁵⁶	40.75 ²³⁹	61.49 ¹⁹	59.21 ²⁵³	4.387 ⁶²	57.41 ⁴²
Apr. 10.4	14.104 ²⁰⁶	43.14 ²¹⁷	61.30 ²⁵	61.74 ²²⁶	4.325 ⁸⁶	57.83 ⁵⁵
20.4	13.898 ²⁴⁵	45.31 ¹⁸⁷	61.05 ²⁹	64.00 ¹⁹³	4.239 ¹⁰²	58.38 ⁶⁴
30.3	13.653 ²⁶⁹	47.18 ¹⁴⁹	60.76 ³³	65.93 ¹⁵⁴	4.137 ¹¹⁴	59.02 ⁶⁹
May 10.3	13.384 ²⁸³	48.67 ¹¹³	60.43 ³⁵	67.47 ¹⁰⁸	4.023 ¹¹⁷	59.71 ⁷²
20.3	13.101 ²⁸⁸	19.80 ⁶⁵	60.08 ³⁵	68.55 ⁶²	3.906 ¹²¹	60.43 ⁷¹
30.3	12.813 ²⁷⁹	50.45 ²³	59.73 ³⁴	69.17 ¹⁵	3.785 ¹²⁰	61.14 ⁷¹
June 9.2	12.534 ²⁶⁴	50.68 ²³	59.39 ³³	69.32 ³⁴	3.665 ¹⁰⁹	61.85 ⁶⁵
19.2	12.270 ²⁴⁰	50.45 ⁶⁷	59.06 ³³	68.98 ⁸²	3.556 ¹⁰²	62.50 ⁶⁰
29.2	12.030 ²¹²	49.78 ¹¹¹	58.76 ²⁷	68.16 ¹²⁶	3.454 ⁸⁸	63.10 ⁵²
July 9.2	11.818 ¹⁷⁷	48.67 ¹⁴⁸	58.49 ²²	66.90 ¹⁶⁶	3.366 ⁷⁵	63.62 ⁴⁶
19.1	11.641 ¹³⁹	47.19 ¹⁸⁵	58.27 ¹⁸	65.24 ²⁰³	3.291 ⁵⁶	64.08 ³⁵
29.1	11.502 ⁹⁵	45.34 ²¹⁹	58.09 ¹³	63.21 ²⁴²	3.235 ³⁸	64.43 ²¹
Aug. 8.1	11.407 ⁴⁹	43.15 ²⁴⁴	57.96 ⁷	60.79 ²⁶⁵	3.197 ¹⁷	64.64 ⁷
18.0	11.358 ⁰	40.71 ²⁷¹	57.89 ¹	58.14 ²⁹³	3.180 ⁹	64.71 ¹⁰
28.0	11.358 ⁵²	38.00 ²⁸⁸	57.88 ⁴	55.21 ³⁰⁸	3.189 ³⁹	64.61 ²⁶
Sept. 7.0	11.410 ¹⁰⁸	35.12 ³⁰¹	57.92 ¹²	52.13 ³¹⁹	3.228 ⁶⁸	64.35 ⁵⁰
17.0	11.518 ¹⁶⁷	32.11 ³⁰⁹	58.04 ¹⁸	48.94 ³²⁷	3.296 ¹⁰³	63.85 ⁷⁰
26.9	11.685 ²²³	29.02 ³¹²	58.22 ²⁵	45.67 ³²⁷	3.399 ¹³⁸	63.15 ⁹⁷
Oct. 6.9	11.908 ²⁸²	25.90 ³⁰⁷	58.47 ³²	42.40 ³¹⁹	3.537 ¹⁷⁵	62.18 ¹¹⁸
16.9	12.190 ³⁴¹	22.83 ²⁹³	58.79 ³⁸	39.21 ³⁰²	3.712 ²¹²	61.00 ¹⁴²
26.9	12.531 ³⁹⁴	19.90 ²⁷⁵	59.17 ⁴⁵	36.19 ²⁸¹	3.924 ²⁴⁵	59.58 ¹⁶³
Nov. 5.8	12.925 ⁴⁴⁰	17.15 ²⁵⁰	59.62 ⁵⁰	33.38 ²⁵¹	4.169 ²⁷⁹	57.95 ¹⁸²
15.8	13.365 ⁴⁸¹	14.65 ²¹⁷	60.12 ⁵⁵	30.87 ²¹⁴	4.448 ³⁰¹	56.13 ¹⁹⁴
25.8	13.846 ⁵⁰⁶	12.48 ¹⁷⁵	60.67 ⁵⁷	28.73 ¹⁶⁸	4.749 ³¹⁸	54.19 ²⁰³
Dec. 5.7	14.352 ⁵²²	10.73 ¹²⁶	61.24 ⁶⁰	27.05 ¹¹⁸	5.067 ³²⁶	52.16 ²⁰²
15.7	14.874 ⁵¹⁸	9.47 ⁷⁹	61.84 ⁵⁹	25.87 ⁶⁵	5.393 ³²³	50.14 ¹⁹⁹
25.7	15.392 ⁴⁹⁹	8.68 ²¹	62.43 ⁵⁷	25.22 ⁸	5.716 ³¹⁰	48.15 ¹⁸⁵
35.7	15.891	8.47	63.00	25.14	6.026	46.30
Mean Place	12.420	43.75	59.48	61.27	2.780	69.85
Sec δ , Tan δ	1.826	+1.528	2.142	+1.894	1.009	+0.136
L α , L δ	+0.01	-0.4	+0.01	-0.4	0.00	-0.4
ω α , ω δ	+0.10	+0.3	+0.12	+0.3	+0.01	+0.3
AUTHORITY	A. E.		A. E.		A. E.	

344 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ψ Ursæ Majoris. Mag. 3.2		β Crateris. Mag. 4.5		δ Leonis. Mag. 2.6	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. N.
	^h ^m II 5	[°] ['] 44 54	^h ^m II 7	[°] ['] 22 24	^h ^m II 10	[°] ['] 20 56
Jan. 0.7	20.555 ³⁹⁰	43.68 ⁴²	52.848 ³⁰⁴	14.96 ²⁵²	I.197 ³¹⁷	35.08 ¹³³
10.7	20.945 ³⁵²	43.26 ⁹	53.152 ²⁷²	17.48 ²⁵⁸	I.514 ²⁸⁵	33.75 ¹⁰³
20.6	21.297 ³⁰⁸	43.35 ⁵⁴	53.424 ²³³	20.06 ²⁶¹	I.799 ²⁴⁸	32.72 ⁶⁴
30.6	21.605 ²⁵³	43.89 ¹⁰¹	53.657 ¹⁸⁹	22.67 ²⁵¹	2.047 ²⁰⁵	32.08 ³²
Feb. 9.6	21.858 ¹⁹¹	44.90 ¹⁴¹	53.846 ¹⁴¹	25.18 ²³⁸	2.252 ¹⁵⁸	31.76 ⁵
19.5	22.049 ¹²³	46.31 ¹⁷²	53.987 ⁹³	27.56 ²²⁰	2.410 ¹⁰⁹	31.81 ³⁴
Mar. 1.5	22.172 ⁶²	48.03 ¹⁹⁴	54.080 ⁴⁶	29.76 ¹⁹⁸	2.519 ⁶²	32.15 ⁶²
11.5	22.234 ⁴	49.97 ²¹⁰	54.126 ⁷	31.74 ¹⁷⁵	2.581 ¹⁵	32.77 ⁸⁷
21.5	22.238 ⁵³	52.07 ²¹³	54.133 ³⁰	33.49 ¹⁴⁷	2.596 ²⁶	33.64 ⁹⁷
31.4	22.185 ¹⁰²	54.20 ²⁰⁹	54.103 ⁶³	34.96 ¹¹⁹	2.570 ⁵⁹	34.61 ¹¹²
Apr. 10.4	22.083 ¹⁴⁰	56.29 ¹⁹⁶	54.040 ⁸⁸	36.15 ⁹⁰	2.511 ⁸⁵	35.73 ¹¹⁵
20.4	21.943 ¹⁶⁵	58.25 ¹⁷⁶	53.952 ¹⁰⁸	37.05 ⁶³	2.426 ¹⁰⁷	36.88 ¹¹³
30.4	21.778 ¹⁸⁷	60.01 ¹⁵¹	53.844 ¹²⁰	37.68 ³⁵	2.319 ¹²⁰	38.01 ¹⁰⁸
May 10.3	21.591 ¹⁹⁹	61.52 ¹¹⁸	53.724 ¹³⁰	38.03 ⁶	2.199 ¹²⁷	39.09 ¹⁰¹
20.3	21.392 ²⁰²	62.70 ⁸⁵	53.594 ¹³⁴	38.09 ²⁰	2.072 ¹³¹	40.10 ⁸⁴
30.3	21.190 ¹⁹⁷	63.55 ⁵⁰	53.460 ¹³³	37.89 ⁴⁷	I.941 ¹²⁷	40.94 ⁷¹
June 9.2	20.993 ¹⁸⁶	64.05 ¹¹	53.327 ¹³⁰	37.42 ⁷²	I.814 ¹²²	41.65 ⁵³
19.2	20.807 ¹⁷²	64.16 ²⁶	53.197 ¹²³	36.70 ⁹⁴	I.692 ¹¹³	42.18 ³⁵
29.2	20.635 ¹⁵³	63.90 ⁶⁵	53.074 ¹¹³	35.76 ¹¹⁵	I.579 ¹⁰⁰	42.53 ¹⁹
July 9.2	20.482 ¹²⁷	63.25 ⁹⁸	52.961 ¹⁰¹	34.61 ¹³²	I.479 ⁸⁶	42.72 ⁴
19.1	20.355 ¹⁰²	62.27 ¹³²	52.860 ⁸⁴	33.29 ¹⁴⁶	I.393 ⁶⁶	42.68 ²³
29.1	20.253 ⁷⁰	60.95 ¹⁶⁰	52.776 ⁶²	31.83 ¹⁵²	I.327 ⁴⁶	42.45 ⁴⁴
Aug. 8.1	20.183 ⁴⁰	59.35 ¹⁹⁰	52.714 ³⁹	30.31 ¹⁵⁶	I.281 ²⁶	42.01 ⁶⁵
18.1	20.143 ¹	57.45 ²¹⁴	52.675 ¹⁰	28.75 ¹⁵²	I.255 ³	41.36 ⁸⁸
28.0	20.142 ³⁷	55.31 ²³⁸	52.665 ²⁰	27.23 ¹⁴³	I.258 ³²	40.48 ¹⁰⁵
Sept. 7.0	20.179 ⁸³	52.93 ²⁵³	52.685 ⁵⁷	25.80 ¹²⁸	I.290 ⁶³	39.43 ¹³⁰
17.0	20.262 ¹²⁵	50.40 ²⁶⁰	52.742 ⁹⁶	24.52 ¹⁰²	I.353 ¹⁰⁰	38.13 ¹⁴⁹
26.9	20.387 ¹⁷²	47.71 ²⁷⁶	52.838 ¹³⁷	23.50 ⁷⁵	I.453 ¹³⁵	36.64 ¹⁷⁰
Oct. 6.9	20.559 ²²¹	44.95 ²⁸	52.975 ¹⁷⁸	22.75 ⁴⁰	I.588 ¹⁷⁶	34.94 ¹⁸⁵
16.9	20.780 ²⁶⁶	42.15 ²⁷⁶	53.153 ²¹⁹	22.35 ⁰	I.764 ²¹⁴	33.09 ¹⁹⁷
26.9	21.046 ³¹²	39.39 ²⁶⁹	53.372 ²⁵⁵	22.35 ⁴¹	I.978 ²⁴⁹	31.12 ²¹²
Nov. 5.8	21.358 ³⁵²	36.70 ²⁵³	53.627 ²⁹⁰	22.76 ⁸³	2.227 ²⁸⁷	29.00 ²¹⁷
15.8	21.710 ³⁸⁸	34.17 ²²⁹	53.917 ³¹⁶	23.59 ¹²⁵	2.514 ³¹¹	26.83 ²²⁰
25.8	22.098 ⁴⁰⁹	31.88 ¹⁹⁹	54.233 ³³²	24.84 ¹⁶³	2.825 ³³¹	24.63 ²¹⁰
Dec. 5.8	22.507 ⁴²²	29.89 ¹⁶²	54.565 ³³⁹	26.47 ¹⁹⁶	3.156 ³⁴¹	22.53 ¹⁹⁹
15.7	22.929 ⁴²¹	28.27 ¹¹⁸	54.904 ³³³	28.43 ²²⁴	3.497 ³⁴³	20.54 ¹⁸⁰
25.7	23.350 ⁴⁰⁷	27.09 ⁷²	55.237 ³²¹	30.67 ²⁴⁵	3.840 ³²⁹	18.74 ¹⁵¹
35.7	23.757	26.37	55.558	33.12	4.169	17.23
Mean Place	20.538	59.76	52.114	19.20	0.991	44.76
Sec δ , Tan δ	1.412	+0.997	1.082	-0.412	1.072	+0.383
L α , L δ	+0.01	-0.4	0.00	-0.4	0.00	-0.4
ω α , ω δ	+0.06	+0.2	-0.03	+0.2	+0.02	+0.2
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 345

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	θ Leonis. Mag. 3.4		δ Crateris. Mag. 3.8		τ Leonis. Mag. 5.2	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. N.
	h m II IO	$^{\circ}$ $'$ 15 50	h m II 15	$^{\circ}$ $'$ 14 21	h m II 23	$^{\circ}$ $'$ 3 16
Jan. 0.7	12.311 ^s	54.27 ["]	29.929 ^s	39.97 ["]	58.972 ^s	46.31 ["]
10.7	12.620 ³⁰⁹	52.75 ¹⁵²	30.229 ³⁰⁰	42.30 ²³³	59.275 ³⁰³	44.37 ¹⁹⁴
20.6	12.898 ²⁷⁸	51.52 ¹²³	30.500 ²⁷¹	44.64 ²³⁴	59.552 ²⁷⁷	42.60 ¹⁷⁷
30.6	13.141 ²⁴³	50.60 ⁹²	30.735 ²³⁵	46.92 ²²⁸	59.795 ²⁴³	41.05 ¹⁵⁵
Feb. 9.6	13.341 ²⁰⁰	50.03 ⁵⁷	30.927 ¹⁹²	49.06 ²¹⁴	59.998 ²⁰³	39.76 ¹²⁹
19.6	13.494 ¹⁵³	49.76 ²⁷	31.075 ¹⁴⁸	51.02 ¹⁹⁶	60.157 ¹⁵⁹	38.74 ¹⁰²
Mar. 1.5	13.599 ¹⁰⁵	49.80 ⁴	31.177 ¹⁰²	52.80 ¹⁷⁸	60.271 ¹¹⁴	38.00 ⁷⁴
11.5	13.657 ⁵⁸	50.12 ³²	31.233 ⁵⁶	54.33 ¹⁵³	60.340 ⁶⁹	37.54 ⁴⁶
21.5	13.673 ¹⁶	50.67 ⁵⁵	31.252 ¹⁹	55.59 ¹²⁶	60.360 ²⁹	37.32 ²²
31.4	13.650 ²³	51.40 ⁷³	31.234 ¹⁸	56.62 ¹⁰³	60.360 ⁹	37.34 ²
Apr. 10.4	13.593 ⁵⁷	52.25 ⁸⁵	31.183 ⁵¹	57.40 ⁷⁸	60.321 ³⁹	37.54 ²⁰
20.4	13.510 ⁸³	53.18 ⁹³	31.107 ⁷⁶	57.90 ⁵⁰	60.255 ⁶⁶	37.90 ³⁶
30.4	13.410 ¹⁰⁰	54.14 ⁹⁶	31.014 ⁹³	58.21 ³¹	60.170 ⁸⁵	38.30 ⁴⁹
May 10.3	13.296 ¹¹⁴	55.10 ⁹⁶	30.905 ¹⁰⁹	58.25 ⁴	60.071 ⁹⁹	38.97 ⁵⁸
20.3	13.174 ¹²²	55.99 ⁸⁹	30.789 ¹¹⁶	58.12 ¹³	59.964 ¹⁰⁷	39.61 ⁶⁴
30.3	13.049 ¹²⁵	56.80 ⁸¹	30.667 ¹²²	57.76 ³⁶	59.852 ¹¹²	40.30 ⁶⁹
June 9.3	12.928 ¹²¹	57.53 ⁷³	30.545 ¹²²	57.20 ⁵⁶	59.739 ¹¹³	41.00 ⁷⁰
19.2	12.810 ¹¹⁸	58.12 ⁵⁹	30.424 ¹²¹	56.48 ⁷²	59.628 ¹¹¹	41.70 ⁷⁰
29.2	12.704 ¹⁰⁶	58.57 ⁴⁵	30.312 ¹¹²	55.59 ⁸⁹	59.523 ¹⁰⁵	42.39 ⁶⁹
July 9.2	12.607 ⁹⁷	58.90 ³³	30.208 ¹⁰⁴	54.60 ⁹⁹	59.427 ⁹⁶	43.04 ⁶⁵
19.1	12.527 ⁸⁰	59.07 ¹⁷	30.115 ⁹³	53.48 ¹¹²	59.340 ⁸⁷	43.63 ⁵⁹
29.1	12.462 ⁶⁵	59.06 ¹	30.035 ⁸⁰	52.32 ¹¹⁶	59.268 ⁷²	44.15 ⁵²
Aug. 8.1	12.416 ⁴⁶	58.88 ¹⁸	29.978 ⁵⁷	51.13 ¹¹⁹	59.212 ⁵⁶	44.57 ⁴²
18.1	12.392 ²⁴	58.51 ³⁷	29.941 ³⁷	49.93 ¹²⁰	59.176 ³⁶	44.86 ²⁹
28.0	12.395 ³	57.93 ⁵⁸	29.927 ¹⁴	48.83 ¹¹⁰	59.164 ¹²	45.01 ¹⁵
Sept. 7.0	12.425 ³⁰	57.17 ⁷⁶	29.943 ¹⁶	47.82 ¹⁰¹	59.177 ¹³	44.98 ³
17.0	12.486 ⁶¹	56.19 ⁹⁸	29.995 ⁵²	47.02 ⁸⁰	59.222 ⁴⁵	44.75 ²³
27.0	12.583 ⁹⁷	54.98 ¹²¹	30.081 ⁸⁶	46.41 ⁶¹	59.301 ⁷⁰	44.29 ⁴⁶
Oct. 6.9	12.716 ¹³³	53.58 ¹⁴⁰	30.207 ¹²⁶	46.10 ³¹	59.416 ¹¹⁵	43.58 ⁷¹
16.9	12.887 ¹⁷¹	51.96 ¹⁶²	30.371 ¹⁶⁴	46.13 ³	59.571 ¹⁵⁵	42.61 ⁹⁷
26.9	13.096 ²⁰⁹	50.17 ¹⁷⁹	30.576 ²⁰⁵	46.47 ³⁴	59.763 ¹⁹²	41.38 ¹²³
Nov. 5.8	13.341 ²⁴⁵	48.24 ¹⁹³	30.819 ²⁴³	47.19 ⁷²	59.994 ²³¹	39.90 ¹⁴⁸
15.8	13.619 ²⁷⁸	46.19 ²⁰⁵	31.094 ²⁷⁵	48.28 ¹⁰⁹	60.258 ²⁶⁴	38.20 ¹⁷⁰
25.8	13.924 ³⁰⁵	44.08 ²¹¹	31.397 ³⁰³	49.71 ¹⁴³	60.550 ²⁹²	36.31 ¹⁸⁹
Dec. 5.8	14.249 ³²⁵	41.99 ²⁰⁹	31.716 ³¹⁹	51.45 ¹⁷⁴	60.862 ³¹²	34.30 ²⁰¹
15.7	14.583 ³³⁴	39.96 ²⁰³	32.047 ³³¹	53.45 ²⁰⁰	61.187 ³²⁵	32.22 ²⁰⁸
25.7	14.916 ³³³	38.08 ¹⁸⁸	32.373 ³²⁶	55.63 ²¹⁸	61.512 ³²⁵	30.14 ²⁰²
35.7	15.238 ³²²	36.42 ¹⁶⁶	32.689 ³¹⁶	57.94 ²³¹	61.827 ³¹⁵	28.12 ²⁰²
Mean Place	12.060	62.38	29.362	42.01	58.670	49.80
Sec δ , Tan δ	1.040	+0.284	1.032	-0.256	1.002	+0.057
L α , L δ	0.00	-0.4	0.00	-0.4	0.00	-0.4
ω α , ω δ	+0.02	+0.2	-0.02	+0.2	0.00	+0.2
AUTHORITY	A. E.		A. E.		A. E.	

346 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	λ Draconis. Mag. 4.1		ξ Hydræ. Mag. 3.7		λ Centauri. Mag. 3.3	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. S.
	h m 11 26	69 44	h m 11 29	31 25	h m 11 32	62 35
Jan. 0.7	50.50 ^s	62.76 ^s	13.461 ^s	45.28 ^s	15.14 ^s	21.26 ^s
10.7	51.22 ⁷²	62.94 ¹⁸	13.792 ³³¹	47.79 ²⁵¹	15.66 ⁵²	23.71 ²⁴⁵
20.6	51.89 ⁶⁷	63.75 ⁸¹	14.091 ²⁹⁹	50.50 ²⁷¹	16.13 ⁴⁷	26.57 ²⁸⁶
30.6	52.48 ⁵⁹	65.13 ¹³⁸	14.353 ²⁶²	53.30 ²⁸⁰	16.54 ⁴¹	29.77 ³²⁰
Feb. 9.6	52.98 ⁵⁰	67.03 ¹⁹⁰	14.569 ²¹⁶	56.10 ²⁸⁰	16.87 ³³	33.19 ³⁴²
19.6	53.37 ³⁹	69.34 ²³¹	14.738 ¹⁶⁹	58.85 ²⁷⁵	17.12 ²⁵	36.79 ³⁶⁰
Mar. 1.5	53.63 ²⁶	71.99 ²⁶⁵	14.856 ¹¹⁸	61.50 ²⁶⁵	17.20 ¹⁷	40.43 ³⁶⁴
11.5	53.77 ¹⁴	74.86 ²⁸⁷	14.929 ⁷³	63.96 ²⁴⁶	17.38 ⁹	44.03 ³⁶⁰
21.5	53.79 ²	77.82 ²⁹⁶	14.958 ²⁹	66.19 ²²³	17.39 ¹	47.53 ³⁵⁰
31.4	53.69 ¹⁰	80.76 ²⁹⁴	14.944 ¹⁴	68.19 ²⁰⁰	17.33 ⁶	50.83 ³³⁰
Apr. 10.4	53.48 ²¹	83.59 ²⁸³	14.897 ⁴⁷	69.93 ¹⁷⁴	17.33 ¹²	53.91 ³⁰⁸
20.4	53.18 ³⁰	86.14 ²⁵⁵	14.818 ⁷⁹	71.34 ¹⁴¹	17.21 ¹⁸	56.66 ²⁷⁵
30.4	52.80 ³⁸	88.39 ²²⁵	14.718 ¹⁰⁰	72.47 ¹¹³	17.03 ²³	59.05 ²³⁹
May 10.3	52.37 ⁴³	90.23 ¹⁸⁴	14.598 ¹²⁰	73.27 ⁸⁰	16.80 ²⁸	61.04 ¹⁹⁹
20.3	51.90 ⁴⁷	91.57 ¹³⁴	14.463 ¹³⁵	73.73 ⁴⁶	16.52 ³¹	62.59 ¹⁵⁵
30.3	51.40 ⁵⁰	92.45 ⁸⁸	14.319 ¹⁴⁴	73.87 ¹⁴	16.21 ³³	63.65 ¹⁰⁶
June 9.3	50.90 ⁵⁰	92.79 ³⁴	14.171 ¹⁵⁰	73.70 ¹⁷	15.88 ³⁵	64.21 ⁵⁶
19.2	50.40 ⁴⁶	92.62 ¹⁷	14.021 ¹⁵⁰	73.19 ⁵¹	15.53 ³⁷	64.29 ⁸
29.2	49.94 ⁴⁴	91.89 ⁷³	13.875 ¹⁴⁶	72.38 ⁸¹	15.16 ³⁶	63.85 ⁴⁴
July 9.2	49.50 ³⁸	90.71 ¹¹⁸	13.735 ¹⁴⁰	71.31 ¹⁰⁷	14.80 ³⁵	62.93 ⁹²
19.1	49.12 ³³	89.04 ¹⁶⁷	13.605 ¹³⁰	69.95 ¹³⁶	14.45 ³³	61.53 ¹⁴⁰
29.1	48.79 ²⁷	86.96 ²⁰⁸	13.491 ¹¹⁴	68.40 ¹⁵⁵	14.12 ³⁰	59.70 ¹⁸³
Aug. 8.1	48.52 ²⁰	84.47 ²⁴⁹	13.394 ⁹⁷	66.69 ¹⁷¹	13.82 ²⁶	57.51 ²¹⁹
18.1	48.32 ¹¹	81.65 ²⁸²	13.323 ⁷¹	64.86 ¹⁸³	13.56 ²¹	55.02 ²⁴⁹
28.0	48.21 ⁴	78.55 ³¹⁰	13.280 ⁴³	63.01 ¹⁸⁵	13.35 ¹⁵	52.29 ²⁷³
Sept. 7.0	48.17 ⁵	75.26 ³²⁹	13.274 ⁶	61.19 ¹⁸²	13.20 ⁸	49.45 ²⁸⁴
17.0	48.22 ¹⁵	71.81 ³⁴⁵	13.305 ³¹	59.48 ¹⁷¹	13.12 ⁰	46.58 ²⁸⁷
27.0	48.37 ²³	68.29 ³⁵²	13.380 ⁷⁵	57.93 ¹⁵⁵	13.12 ⁹	43.78 ²⁸⁰
Oct. 6.9	48.60 ³³	64.74 ³⁵⁵	13.498 ¹¹⁸	56.68 ¹²⁵	13.21 ¹⁷	41.20 ²⁵⁸
16.9	48.93 ³³	61.24 ³⁵⁰	13.668 ¹⁷⁰	55.75 ⁹³	13.38 ²⁷	38.90 ²³⁰
26.9	49.36 ⁴³	57.91 ³³³	13.881 ²¹³	55.19 ⁵⁶	13.65 ³⁴	37.03 ¹⁸⁷
Nov. 5.8	49.87 ⁵¹	54.79 ³¹²	14.135 ²⁵⁴	55.10 ⁹	13.99 ⁴²	35.64 ¹³⁹
15.8	50.46 ⁵⁹	52.03 ²⁷⁶	14.432 ²⁹⁷	55.47 ³⁷	14.41 ⁴⁸	34.82 ⁸²
25.8	51.13 ⁶⁷	49.63 ²⁴⁰	14.757 ³²⁵	56.31 ⁸⁴	14.89 ⁵³	34.56 ²⁶
Dec. 5.8	51.84 ⁷¹	47.69 ¹⁹⁴	15.104 ³⁴⁷	57.59 ¹²⁸	15.42 ⁵⁷	34.95 ³⁹
15.7	52.59 ⁷⁵	46.29 ¹⁴⁰	15.462 ³⁵⁸	59.32 ¹⁷³	15.99 ⁵⁷	35.97 ¹⁰²
25.7	53.35 ⁷⁶	45.47 ⁸²	15.822 ³⁶⁰	61.37 ²⁰⁵	16.56 ⁵⁷	37.58 ¹⁶¹
35.7	54.10	45.27 ²⁰	16.165 ³⁴³	63.77 ²⁴⁰	17.13 ⁵⁵	39.71 ²¹³
Mean Place	51.18	82.43	12.687	53.52	13.16	37.41
Sec δ , Tan δ	2.890	+2.712	1.172	-0.611	2.172	-1.929
L α , L δ	+0.01	-0.4	0.00	-0.4	-0.01	-0.4
ω α , ω δ	+0.18	+0.1	-0.04	+0.1	-0.13	+0.1
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 347

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ν Leonis. Mag. 4.5		ν Virginis. Mag. 4.2		β Leonis. Mag. 2.2	
	R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. N.
	h m II 33	° ' 0 23	h m II 41	° ' 6 57	h m II 45	° ' 14 59
Jan. 0.7	0.664 ³⁰⁸	56.39 ²⁰⁴	54.300 ³¹¹	35.50 ¹⁸⁹	8.078 ³¹⁸	62.61 ¹⁷¹
10.7	0.972 ²⁷⁸	58.43 ¹⁹⁰	54.611 ²⁸⁹	33.61 ¹⁶⁸	8.396 ²⁹⁷	60.90 ¹⁴¹
20.7	1.250 ²⁴⁷	60.33 ¹⁷⁴	54.900 ²⁵⁷	31.93 ¹⁴³	8.693 ²⁶⁶	59.49 ¹⁰⁷
30.6	1.497 ²⁰⁸	62.07 ¹⁴⁷	55.157 ²¹⁹	30.50 ¹¹⁵	8.959 ²²⁶	58.42 ⁷⁵
Feb. 9.6	1.705 ¹⁶⁵	63.54 ¹²⁸	55.376 ¹⁷⁷	29.35 ⁸⁵	9.185 ¹⁸⁷	57.67 ⁴¹
19.6	1.870 ¹²⁴	64.82 ⁹⁶	55.553 ¹³³	28.50 ⁵⁴	9.372 ¹³⁸	57.26 ⁹
Mar. 1.5	1.994 ⁷⁸	65.78 ⁶⁸	55.686 ⁸⁸	27.96 ²⁶	9.510 ⁹⁴	57.17 ²³
11.5	2.072 ³⁷	66.46 ⁴⁴	55.774 ⁴⁷	27.70 ¹	9.604 ⁴⁸	57.40 ⁵¹
21.5	2.109 ⁰	66.90 ¹⁹	55.821 ⁹	27.71 ²³	9.652 ¹¹	57.91 ⁶⁸
31.5	2.109 ³⁰	67.09 ⁰	55.830 ²³	27.94 ⁴²	9.663 ²²	58.59 ⁸⁸
Apr. 10.4	2.070 ⁵⁶	67.09 ¹⁹	55.807 ⁵¹	28.36 ⁵⁶	9.641 ⁵²	59.47 ⁹⁶
20.4	2.023 ⁷⁷	66.90 ³²	55.756 ⁷³	28.92 ⁶⁷	9.589 ⁷⁶	60.43 ¹⁰⁴
30.4	1.946 ⁹³	66.58 ⁴⁴	55.683 ⁸⁹	29.59 ⁷⁴	9.513 ⁹⁵	61.47 ¹⁰³
May 10.4	1.853 ¹⁰²	66.14 ⁵⁴	55.594 ¹⁰⁰	30.33 ⁷⁷	9.418 ¹⁰⁷	62.50 ¹⁰¹
20.3	1.751 ¹¹⁰	65.60 ⁶⁴	55.494 ¹⁰⁸	31.10 ⁷⁷	9.311 ¹¹⁶	63.51 ⁹⁴
30.3	1.641 ¹¹²	64.96 ⁶⁸	55.386 ¹¹²	31.87 ⁷⁵	9.195 ¹¹⁵	64.45 ⁸²
June 9.3	1.529 ¹¹¹	64.28 ⁷⁰	55.274 ¹¹¹	32.62 ⁷¹	9.080 ¹¹⁸	65.27 ⁷³
19.2	1.418 ¹⁰⁷	63.58 ⁷³	55.163 ¹⁰⁹	33.33 ⁶⁶	8.962 ¹¹⁷	66.00 ⁵⁷
29.2	1.311 ¹⁰¹	62.85 ⁷²	55.054 ¹⁰²	33.99 ⁵⁸	8.845 ¹¹¹	66.57 ⁴⁶
July 9.2	1.210 ⁹²	62.13 ⁷⁰	54.952 ⁹⁵	34.57 ⁴⁸	8.734 ¹⁰¹	67.03 ²⁵
19.2	1.118 ⁷⁸	61.43 ⁶⁴	54.857 ⁸⁴	35.05 ³⁷	8.633 ⁸⁶	67.28 ⁷
29.1	1.040 ⁶³	60.79 ⁵⁸	54.773 ⁶⁸	35.42 ²⁵	8.547 ⁷⁴	67.35 ¹⁰
Aug. 8.1	0.977 ⁴⁶	60.21 ⁴⁸	54.705 ⁵¹	35.67 ¹⁰	8.473 ⁵⁶	67.25 ³⁰
18.1	0.931 ²¹	59.73 ³⁵	54.654 ²⁸	35.77 ⁷	8.417 ³³	66.95 ⁵¹
28.1	0.910 ⁴	59.38 ¹⁷	54.626 ⁴	35.70 ²⁶	8.384 ⁶	66.44 ⁷²
Sept. 7.0	0.914 ³⁸	59.21 ²	54.622 ²⁷	35.44 ⁴⁷	8.378 ²⁴	65.72 ⁹⁶
17.0	0.952 ⁷⁰	59.23 ²⁴	54.649 ⁶¹	34.97 ⁷⁰	8.402 ⁶⁰	64.76 ¹¹⁹
27.0	1.022 ¹⁰⁷	59.47 ⁵²	54.710 ⁹⁸	34.27 ⁹⁴	8.462 ⁹⁶	63.57 ¹⁴¹
Oct. 6.9	1.129 ¹⁴⁶	59.99 ⁷⁶	54.808 ¹³⁷	33.33 ¹¹⁸	8.558 ¹³⁵	62.16 ¹⁶⁰
16.9	1.275 ¹⁸⁴	60.75 ¹⁰⁴	54.945 ¹⁷⁸	32.15 ¹⁴³	8.693 ¹⁷⁶	60.56 ¹⁸⁴
26.9	1.459 ²²⁵	61.79 ¹³¹	55.123 ²¹⁸	30.72 ¹⁶⁵	8.869 ²¹⁷	58.72 ¹⁹⁹
Nov. 5.9	1.684 ²⁵⁷	63.10 ¹⁵⁷	55.341 ²⁵³	29.07 ¹⁸⁴	9.086 ²⁵⁴	56.73 ²¹³
15.8	1.941 ²⁸⁸	64.67 ¹⁸⁰	55.594 ²⁸⁴	27.23 ²⁰⁰	9.340 ²⁸⁷	54.60 ²²⁰
25.8	2.229 ³⁰⁹	66.47 ¹⁹⁵	55.878 ³⁰⁸	25.23 ²⁰⁹	9.627 ³¹⁰	52.40 ²²²
Dec. 5.8	2.538 ³²²	68.42 ²⁰⁷	56.186 ³²⁴	23.14 ²¹³	9.937 ³²⁷	50.18 ²¹⁶
15.8	2.860 ³²⁴	70.49 ²¹¹	56.510 ³²⁸	21.01 ²⁰⁹	10.264 ³³⁴	48.02 ²⁰⁴
25.7	3.184 ³¹⁷	72.60 ²¹⁰	56.838 ³²¹	18.92 ¹⁹⁹	10.598 ³²⁸	45.98 ¹⁸⁶
35.7	3.501	74.70	57.159	16.93	10.926	44.12
Mean Place	0.371	54.53	54.141	39.52	8.025	69.20
Sec δ , Tan δ	1.000	-0.007	1.007	+0.122	1.035	+0.268
L α , L δ	0.00	-0.4	0.00	-0.4	0.00	-0.4
ω α , ω δ	0.00	+0.1	+0.01	+0.1	+0.02	+0.1
AUTHORITY	A. E.		A. E.		A. E.	

348 APPARENT PLACES OF STARS, 1923

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Virginis. Mag. 3.8		B Centauri. Mag. 4.7		γ Ursae Majoris. Mag. 2.5	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. N.
	^h ^m II 46	[°] ['] 2 II	^h ^m II 47	[°] ['] 44 44	^h ^m II 49	[°] ['] 54 6
Jan. 0.7	41.245 ³¹³	53.26 ²⁰⁰	18.211 ³⁸⁶	29.82 ²⁴¹	46.841 ⁴⁷⁴	65.41 ⁵⁶
10.7	41.558 ²⁸⁹	51.26 ¹⁸⁴	18.597 ³⁵⁴	32.23 ²⁷²	47.315 ⁴⁴⁴	64.85 ²
20.7	41.847 ²⁵⁹	49.42 ¹⁶³	18.951 ³¹²	34.95 ²⁹⁴	47.759 ⁴⁰²	64.83 ⁵⁴
30.6	42.106 ²²¹	47.79 ¹⁴¹	19.263 ²⁶⁴	37.89 ³⁰⁹	48.161 ³⁴⁷	65.37 ¹⁰⁷
Feb. 9.6	42.327 ¹⁸⁰	46.38 ¹¹⁰	19.527 ²¹⁰	40.98 ³¹⁴	48.508 ²⁸⁵	66.44 ¹⁵⁹
19.6	42.507 ¹³⁹	45.28 ⁸⁵	19.737 ¹⁵⁶	44.12 ³¹²	48.793 ²¹⁰	68.03 ¹⁹⁵
Mar. 1.5	42.646 ⁹³	44.43 ⁵⁴	19.893 ¹⁰¹	47.24 ³⁰³	49.003 ¹³⁹	69.98 ²³¹
11.5	42.739 ⁵³	43.89 ³¹	19.994 ⁴⁹	50.27 ²⁸⁸	49.142 ⁶⁵	72.29 ²⁴⁹
21.5	42.792 ¹⁶	43.58 ⁴	20.043 ²	53.15 ²⁶⁷	49.207 ²	74.78 ²⁵⁸
31.5	42.808 ¹⁷	43.54 ¹⁴	20.045 ⁴¹	55.82 ²⁴²	49.205 ⁶⁷	77.36 ²⁵⁹
Apr. 10.4	42.791 ⁴³	43.68 ³¹	20.004 ⁷⁹	58.24 ²¹⁴	49.138 ¹²²	79.95 ²⁴⁴
20.4	42.748 ⁶⁵	43.99 ⁴⁶	19.925 ¹¹¹	60.38 ¹⁸⁰	49.016 ¹⁶⁷	82.39 ²²⁸
30.4	42.683 ⁸⁴	44.45 ⁵⁵	19.814 ¹³⁸	62.18 ¹⁴⁵	48.849 ²⁰³	84.67 ²⁰¹
May 10.4	42.599 ⁹⁴	45.00 ⁶³	19.676 ¹⁶⁰	63.63 ¹⁰⁸	48.646 ²²⁹	86.68 ¹⁶⁵
20.3	42.505 ¹⁰⁴	45.63 ⁶⁷	19.516 ¹⁷⁶	64.71 ⁶⁸	48.417 ²⁵⁰	88.33 ¹²⁶
30.3	42.401 ¹⁰⁸	46.30 ⁶⁹	19.340 ¹⁸⁸	65.39 ²⁸	48.167 ²⁵⁴	89.59 ⁸²
June 9.3	42.293 ¹⁰⁸	46.99 ⁷¹	19.152 ¹⁹⁶	65.67 ¹³	47.913 ²⁵⁶	90.41 ⁴²
19.2	42.185 ¹⁰⁷	47.70 ⁷⁰	18.956 ¹⁹⁷	65.54 ⁵³	47.657 ²⁴⁷	90.83 ⁶
29.2	42.078 ¹⁰²	48.40 ⁶⁶	18.759 ¹⁹⁵	65.01 ⁹²	47.410 ²³⁴	90.77 ⁵³
July 9.2	41.976 ⁹⁶	49.06 ⁶²	18.564 ¹⁸⁶	64.09 ¹²⁷	47.176 ²¹⁸	90.24 ⁹⁵
19.2	41.880 ⁸⁴	49.68 ⁵³	18.378 ¹⁷¹	62.82 ¹⁶¹	46.958 ¹⁹²	89.29 ¹³⁵
29.1	41.796 ⁷⁰	50.21 ⁴⁴	18.207 ¹⁵⁰	61.21 ¹⁸⁸	46.766 ¹⁶⁰	87.94 ¹⁷⁸
Aug. 8.1	41.726 ⁵⁴	50.65 ³³	18.057 ¹²³	59.33 ²¹⁰	46.606 ¹²⁸	86.16 ²¹⁰
18.1	41.672 ³³	50.98 ¹⁹	17.934 ⁸⁸	57.23 ²²⁴	46.478 ⁸⁵	84.06 ²⁴³
28.1	41.639 ⁵	51.17 ⁰	17.846 ⁴⁷	54.99 ²³⁰	46.393 ⁴⁴	81.63 ²⁷²
Sept. 7.0	41.634 ²³	51.17 ¹⁸	17.799 ¹	52.69 ²²⁹	46.349 ⁸	78.91 ²⁹⁴
17.0	41.657 ⁵⁸	50.99 ⁴³	17.800 ⁵³	50.40 ²¹⁶	46.357 ⁶²	75.97 ³¹¹
27.0	41.715 ⁹⁴	50.56 ⁶⁵	17.853 ¹¹¹	48.24 ¹⁹⁶	46.419 ¹²⁰	72.86 ³²²
Oct. 6.9	41.809 ¹³⁴	49.91 ⁹³	17.964 ¹⁶⁸	46.28 ¹⁶⁵	46.539 ¹⁷⁸	69.64 ³²⁸
16.9	41.943 ¹⁷⁴	48.98 ¹¹⁸	18.132 ²²⁶	44.63 ¹²⁷	46.717 ²⁴⁰	66.36 ³²⁷
26.9	42.117 ²¹⁵	47.80 ¹⁴⁴	18.358 ²⁸⁰	43.36 ⁸²	46.957 ³⁰⁰	63.09 ³¹⁸
Nov. 5.9	42.332 ²⁵¹	46.36 ¹⁶⁶	18.638 ³²⁸	42.54 ³¹	47.257 ³⁵⁶	59.91 ²⁹⁸
15.8	42.583 ²⁸³	44.70 ¹⁸⁷	18.966 ³⁶⁷	42.23 ²¹	47.613 ⁴⁰⁶	56.93 ²⁷⁵
25.8	42.866 ³⁰⁶	42.83 ²⁰¹	19.333 ³⁹⁵	42.44 ⁷⁵	48.019 ⁴⁴⁴	54.18 ²³⁶
Dec. 5.8	43.172 ³²²	40.82 ²¹⁰	19.728 ⁴¹⁰	43.19 ¹²⁸	48.463 ⁴⁷³	51.82 ¹⁹⁹
15.8	43.494 ³²⁵	38.72 ²¹²	20.138 ⁴¹²	44.47 ¹⁷⁶	48.936 ⁴⁸⁷	49.83 ¹⁴⁷
25.7	43.819 ³²¹	36.60 ²⁰⁷	20.550 ³⁹⁹	46.23 ²¹⁸	49.423 ⁴⁸⁶	48.36 ⁹⁵
35.7	44.140 ³²¹	34.53 ²⁰⁷	20.949 ³⁹⁹	48.41 ²¹⁸	49.909 ⁴⁸⁶	47.41 ⁹⁵
Mean Place	41.062	55.45	17.240	42.85	47.360	82.35
Sec δ , Tan δ	1.001	+0.038	1.408	-0.991	1.706	+1.383
L α , L δ	0.00	-0.4	0.00	-0.4	0.00	-0.4
ω α , ω δ	0.00	+0.1	-0.07	+0.1	+0.09	0.0
AUTHORITY	A. E.		A. N.		A. E.	

APPARENT PLACES OF STARS, 1923. 349

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	π Virginis. Mag. 4.6		σ Virginis. Mag. 4.2		δ Centauri. Mag. 2.9	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. S.
	^h ^m II 56	[°] ['] 7 2	^h ^m 12 I	[°] ['] 9 9	^h ^m 12 4	[°] ['] 50 17
Jan. 0.7	55.695 ³¹⁶	33.83 ¹⁹²	17.270 ³¹⁷	33.88 ¹⁸⁷	22.565 ⁴³¹	22.21 ²²⁴
10.7	56.011 ²⁹⁶	31.91 ¹⁷¹	17.587 ²⁹⁸	32.01 ¹⁶⁷	22.996 ³⁹⁷	24.45 ²⁵⁷
20.7	56.307 ²⁶⁶	30.20 ¹⁴⁶	17.885 ²⁷²	30.34 ¹³⁸	23.393 ³⁵⁸	27.02 ²⁸⁸
30.6	56.573 ²³¹	28.74 ¹¹⁷	18.157 ²³²	28.96 ¹⁰⁶	23.751 ³⁰⁷	29.90 ³⁰⁷
Feb. 9.6	56.804 ¹⁹⁰	27.57 ⁸⁶	18.389 ¹⁹⁴	27.90 ⁷⁹	24.058 ²⁵⁰	32.97 ³¹⁹
19.6	56.994 ¹⁴⁷	26.71 ⁵⁶	18.583 ¹⁵⁴	27.11 ⁴²	24.308 ¹⁹³	36.16 ³²⁵
Mar. 1.6	57.141 ¹⁰⁴	26.15 ²⁶	18.737 ¹⁰⁷	26.69 ¹⁴	24.501 ¹³⁷	39.41 ³²¹
11.5	57.245 ⁶²	25.89 ¹	18.844 ⁶⁸	26.55 ¹³	24.638 ⁷⁷	42.62 ³⁰⁹
21.5	57.307 ²⁵	25.90 ²⁵	18.912 ²⁹	26.68 ³⁸	24.715 ²⁶	45.71 ²⁹³
31.5	57.332 ⁹	26.15 ⁴³	18.941 ⁵	27.06 ⁵⁷	24.741 ²²	48.64 ²⁷²
Apr. 10.5	57.323 ³⁸	26.58 ⁵⁹	18.936 ³⁴	27.63 ⁶⁷	24.719 ⁶⁷	51.36 ²⁴⁵
20.4	57.285 ⁶¹	27.17 ⁷¹	18.902 ⁵⁸	28.30 ⁸²	24.652 ¹⁰⁶	53.81 ²¹³
30.4	57.224 ⁷⁹	27.88 ⁷⁷	18.844 ⁷⁸	29.12 ⁸⁸	24.546 ¹⁴⁰	55.94 ¹⁷⁸
May 10.4	57.145 ⁹²	28.65 ⁸⁰	18.766 ⁹²	30.00 ⁸⁸	24.406 ¹⁶⁷	57.72 ¹⁴¹
20.3	57.053 ¹⁰²	29.45 ⁸¹	18.674 ¹⁰¹	30.88 ⁸⁷	24.239 ¹⁹¹	59.13 ¹⁰¹
30.3	56.951 ¹⁰⁸	30.26 ⁷⁹	18.573 ¹¹⁰	31.75 ⁸²	24.048 ²⁰⁸	60.14 ⁵⁹
June 9.3	56.843 ¹¹¹	31.05 ⁷⁴	18.463 ¹¹²	32.57 ⁷⁷	23.840 ²²¹	60.73 ¹⁶
19.3	56.732 ¹¹⁰	31.79 ⁶⁸	18.351 ¹¹³	33.34 ⁶⁷	23.619 ²²⁸	60.89 ²⁸
29.2	56.622 ¹⁰⁷	32.47 ⁵⁹	18.238 ¹⁰⁹	34.01 ⁶⁰	23.391 ²³¹	60.61 ⁶⁹
July 9.2	56.515 ¹⁰¹	33.06 ⁵⁰	18.129 ¹⁰³	34.61 ⁴⁴	23.160 ²²³	59.92 ¹¹⁰
19.2	56.414 ⁹²	33.56 ³⁸	18.026 ⁹⁷	35.05 ³²	22.937 ²¹⁵	58.82 ¹⁴⁷
29.2	56.322 ⁷⁹	33.94 ²⁵	17.929 ⁸¹	35.37 ¹⁷	22.722 ¹⁸⁹	57.35 ¹⁸²
Aug. 8.1	56.243 ⁶²	34.19 ¹⁰	17.848 ⁶⁶	35.54 ¹	22.533 ¹⁶⁴	55.53 ²⁰⁹
18.1	56.181 ⁴³	34.29 ⁷	17.782 ⁴⁸	35.55 ¹⁸	22.369 ¹²⁵	53.44 ²²⁹
28.1	56.138 ¹⁷	34.22 ²⁷	17.734 ²⁰	35.37 ⁴⁰	22.244 ⁸²	51.15 ²⁴²
Sept. 7.0	56.121 ¹²	33.95 ⁴⁷	17.714 ⁵	34.97 ⁶¹	22.162 ²⁹	48.73 ²⁴⁴
17.0	56.133 ⁴⁵	33.48 ⁷¹	17.719 ⁴⁴	34.36 ⁸²	22.133 ³⁰	46.29 ²³⁸
27.0	56.178 ⁸³	32.77 ⁹⁴	17.763 ⁷⁷	33.54 ¹⁰⁷	22.163 ⁹³	43.91 ²²⁴
Oct. 7.0	56.261 ¹²³	31.83 ¹¹⁹	17.840 ¹²⁰	32.47 ¹³¹	22.256 ¹⁵⁸	41.67 ¹⁹⁵
16.9	56.384 ¹⁶⁴	30.64 ¹⁴³	17.960 ¹⁵⁹	31.16 ¹⁵²	22.414 ²²³	39.72 ¹⁶¹
26.9	56.548 ²⁰⁵	29.21 ¹⁶⁶	18.119 ²⁰¹	29.64 ¹⁷⁷	22.637 ²⁸⁵	38.11 ¹²⁰
Nov. 5.9	56.753 ²⁴³	27.55 ¹⁸⁵	18.320 ²³⁸	27.87 ¹⁹³	22.922 ³⁴²	36.91 ⁶⁹
15.9	56.996 ²⁷⁶	25.70 ²⁰¹	18.558 ²⁷⁸	25.94 ²⁰⁸	23.264 ³⁸⁸	36.22 ¹⁵
25.8	57.272 ³⁰³	23.69 ²¹¹	18.836 ³⁰¹	23.86 ²¹⁶	23.652 ⁴²²	36.07 ⁴⁰
Dec. 5.8	57.575 ³²⁰	21.58 ²¹⁵	19.137 ³¹⁸	21.70 ²¹⁷	24.074 ⁴⁴³	36.47 ⁹⁴
15.8	57.895 ³²⁸	19.43 ²¹²	19.455 ³²⁸	19.53 ²¹²	24.517 ⁴⁵⁰	37.41 ¹⁴⁶
25.7	58.223 ³²⁵	17.31 ²⁰²	19.783 ³²⁴	17.41 ²⁰⁰	24.967 ⁴⁴¹	38.87 ¹⁹⁶
35.7	58.548	15.29	20.107	15.41	25.408	40.83
Mean Place	55.625	37.27	17.249	37.87	21.570	37.62
Sec δ , Tan δ	1.008	+0.124	1.013	+0.161	1.565	-1.204
L α , L δ	0.00	-0.4	0.00	-0.4	0.00	-0.4
ω α , ω δ	+0.01	0.0	+0.01	0.0	-0.08	0.0
AUTHORITY			A. E.		A. E.	

350 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ε Corvi. Mag. 3·2		δ Crucis. Mag. 3·1		δ Ursæ Majoris. Mag. 3·4	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. N.
	h m 12 6	° ' 22 11	h m 12 11	° ' 58 18	h m 12 11	° ' 57 27
Jan. 0·7	10·073 ³²⁹	22°·65' 228	4·045 ⁵⁰⁴	57°·25' 204	36·683 ⁵¹¹	20°·56' 75
10·7	10·402 ³¹⁰	24·93 235	4·549 ⁴⁷⁰	59·29 248	37·194 ⁴⁹²	19·81 15
20·7	10·712 ²⁷⁷	27·28 241	5·019 ⁴²²	61·77 284	37·686 ⁴⁵¹	19·66 43
30·6	10·989 ²⁴³	29·69 236	5·441 ³⁶⁵	64·61 311	38·137 ³⁹⁸	20·09 103
Feb. 9·6	11·232 ²⁰⁰	32·05 218	5·806 ³⁰²	67·72 330	38·535 ³³⁴	21·12 153
19·6	11·432 ¹⁵⁹	34·33 215	6·108 ²³³	71·02 339	38·869 ²⁶⁰	22·65 198
Mar. 1·6	11·591 ¹¹²	36·48 195	6·341 ¹⁶⁶	74·41 342	39·129 ¹⁸⁴	24·63 235
11·5	11·703 ⁷³	38·43 175	6·507 ⁹⁹	77·83 336	39·313 ¹⁰⁷	26·98 259
21·5	11·776 ³⁴	40·18 155	6·606 ³⁵	81·19 324	39·420 ²⁹	29·57 272
31·5	11·810 ¹	41·73 127	6·641 ²⁴	84·43 304	39·449 ⁴¹	32·29 274
Apr. 10·5	11·809 ²⁹	43·00 101	6·617 ⁷⁹	87·47 280	39·408 ¹⁰⁴	35·03 267
20·4	11·780 ⁵⁵	44·01 82	6·538 ¹²⁸	90·27 249	39·304 ¹⁵⁹	37·70 248
30·4	11·725 ⁷⁸	44·83 51	6·410 ¹⁷²	92·76 215	39·145 ²⁰⁴	40·18 223
May 10·4	11·647 ⁹⁴	45·34 29	6·238 ²¹⁰	94·91 177	38·941 ²⁴²	42·41 186
20·3	11·553 ¹⁰⁶	45·63 5	6·028 ²⁴⁰	96·68 134	38·699 ²⁶³	44·27 149
30·3	11·447 ¹¹⁶	45·68 19	5·788 ²⁶⁸	98·02 89	38·436 ²⁸¹	45·76 105
June 9·3	11·331 ¹²⁴	45·49 42	5·520 ²⁸⁶	98·91 43	38·155 ²⁸⁹	46·81 59
19·3	11·207 ¹²⁸	45·07 61	5·234 ²⁹⁷	99·34 5	37·866 ²⁸⁷	47·40 10
29·2	11·079 ¹²⁶	44·46 84	4·937 ³⁰²	99·29 52	37·579 ²⁷⁹	47·50 37
July 9·2	10·953 ¹²⁵	43·62 100	4·635 ²⁹⁷	98·77 98	37·300 ²⁶³	47·13 83
19·2	10·828 ¹¹⁶	42·62 114	4·338 ²⁸²	97·79 141	37·037 ²⁴⁰	46·30 128
29·2	10·712 ¹⁰³	41·48 124	4·056 ²⁵⁸	96·38 179	36·797 ²¹³	45·02 172
Aug. 8·1	10·609 ⁸⁸	40·24 133	3·798 ²²⁴	94·59 214	36·584 ¹⁷⁷	43·30 210
18·1	10·521 ⁶³	38·91 134	3·574 ¹⁷⁸	92·45 241	36·407 ¹⁴⁰	41·20 244
28·1	10·458 ³⁸	37·57 131	3·396 ¹²³	90·04 258	36·267 ⁹²	38·76 277
Sept. 7·0	10·420 ²	36·26 121	3·273 ⁶⁰	87·46 267	36·175 ³⁹	35·99 302
17·0	10·418 ³³	35·05 101	3·213 ¹³	84·79 266	36·136 ²¹	32·97 322
27·0	10·451 ⁷⁸	34·04 82	3·226 ⁹¹	82·13 254	36·157 ⁸¹	29·75 337
Oct. 7·0	10·529 ¹²³	33·22 52	3·317 ¹⁷⁰	79·59 232	36·238 ¹⁴⁷	26·38 344
16·9	10·652 ¹⁶⁸	32·70 20	3·487 ²⁵⁰	77·27 199	36·385 ²¹⁴	22·94 344
26·9	10·820 ²¹³	32·50 17	3·737 ³²⁶	75·28 157	36·599 ²⁸²	19·50 335
Nov. 5·9	11·033 ²⁵¹	32·67 57	4·063 ³⁹³	73·71 107	36·881 ³⁴⁵	16·15 319
15·9	11·284 ²⁸⁹	33·24 95	4·456 ⁴⁴⁹	72·64 53	37·226 ⁴⁰⁶	12·96 294
25·8	11·573 ³¹⁷	34·19 129	4·905 ⁴⁹¹	72·11 5	37·632 ⁴⁵⁴	10·02 260
Dec. 5·8	11·890 ³³⁵	35·48 165	5·396 ⁵¹⁷	72·16 65	38·086 ⁴⁹⁰	7·42 218
15·8	12·225 ³⁴²	37·13 195	5·913 ⁵²⁵	72·81 121	38·576 ⁵¹⁵	5·24 170
25·7	12·567 ³³⁸	39·08 218	6·438 ⁵¹⁷	74·02 175	39·091 ⁵²¹	3·54 112
35·7	12·905	41·26	6·955	75·77	39·612	2·42
Mean Place	9·698	29·81	2·790	74·77	37·514	37·41
Sec δ, Tan δ	1·080	—0·408	1·904	—1·620	1·859	+1·567
L α, L δ	0·00	—0·4	0·00	—0·4	0·00	—0·4
ω α, ω δ	—0·03	0·0	—0·11	0·0	+0·10	0·0
AUTHORITY	A. E.		A. N.		A. E.	

APPARENT PLACES OF STARS, 1923. 351

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Corvi. Mag. 2.8		β Chamæleontis. Mag. 4.4		η Virginis. Mag. 4.0	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h 12 ^m II	[°] 17 ['] 6	^h 12 ^m 13	[°] 78 ['] 52	^h 12 ^m 15	[°] 0 ['] 14
Jan. 0.7	50.881 ^s	46.51 [°]	51.48 ^s	44.09 [°]	58.024 ^s	20.54 [°]
10.7	51.206 ³²⁵	48.72 ²²¹	52.68 ¹²⁰	45.75 ¹⁶⁶	58.344 ³²⁰	22.60 ²⁰⁶
20.7	51.512 ³⁰⁶	50.99 ²²⁷	53.80 ¹¹²	47.92 ²¹⁷	58.643 ²⁹⁰	24.52 ¹⁹²
30.7	51.789 ²⁷⁷	53.24 ²²⁵	54.81 ¹⁰¹	50.59 ²⁶⁷	58.915 ²⁷²	26.25 ¹⁷³
Feb. 9.6	52.031 ²⁴²	55.42 ²¹⁸	55.68 ⁸⁷	53.66 ³⁰⁷	59.158 ²⁴³	27.80 ¹⁵⁵
19.6	52.233 ²⁰²	57.47 ²⁰⁵	56.39 ⁷¹	57.03 ³³⁷	59.361 ²⁰³	29.06 ¹²⁶
Mar. 1.6	52.393 ¹⁶⁰	59.35 ¹⁸⁸	56.94 ⁵⁵	60.65 ³⁶²	59.525 ¹⁶⁴	30.04 ⁹⁸
11.5	52.511 ¹¹⁸	61.03 ¹⁶⁸	57.32 ³⁸	64.39 ³⁷⁴	59.646 ¹²¹	30.77 ⁷³
21.5	52.589 ⁷⁸	62.48 ¹⁴⁵	57.52 ²⁰	68.16 ³⁷⁷	59.729 ⁸³	31.19 ⁴²
31.5	52.629 ⁴⁰	63.70 ¹²²	57.55 ³	71.90 ³⁷⁴	59.772 ⁴³	31.39 ²⁰
Apr. 10.5	52.636 ⁷	64.69 ⁹⁹	57.42 ¹³	75.51 ³⁶¹	59.783 ¹¹	31.36 ³
20.4	52.613 ²³	65.44 ⁷⁵	57.12 ³⁰	78.96 ³⁴⁵	59.767 ¹⁶	31.18 ¹⁸
30.4	52.565 ⁴⁸	65.97 ⁵³	56.68 ⁴⁴	82.12 ³¹⁶	59.724 ⁴³	30.82 ³⁶
May 10.4	52.497 ⁶⁸	66.28 ³¹	56.11 ⁵⁷	84.93 ²⁸¹	59.663 ⁶¹	30.31 ⁵¹
20.4	52.411 ⁸⁶	66.38 ¹⁰	55.42 ⁶⁹	87.35 ²⁴²	59.584 ⁷⁹	29.73 ⁵⁸
30.3	52.313 ⁹⁸	66.27 ¹¹	54.62 ⁸⁰	89.34 ¹⁹⁹	59.491 ⁹³	29.09 ⁶⁴
June 9.3	52.205 ¹⁰⁸	65.98 ²⁹	53.74 ⁸⁸	90.86 ¹⁵²	59.393 ⁹⁸	28.43 ⁶⁶
19.3	52.090 ¹¹⁵	65.51 ⁴⁷	52.80 ⁹⁴	91.85 ⁹⁹	59.286 ¹⁰⁷	27.73 ⁷⁰
29.2	51.971 ¹¹⁹	64.87 ⁶⁴	51.82 ⁹⁸	92.26 ¹¹	59.176 ¹¹⁰	27.02 ⁷¹
July 9.2	51.850 ¹²¹	64.08 ⁷⁹	50.83 ⁹⁹	92.14 ⁴²	59.066 ¹¹⁰	26.32 ⁷⁰
19.2	51.733 ¹¹⁷	63.17 ⁹¹	49.86 ⁹⁷	91.48 ⁶⁶	58.959 ¹⁰⁷	25.67 ⁶⁵
29.2	51.622 ¹¹¹	62.15 ¹⁰²	48.93 ⁹³	90.26 ¹²²	58.856 ¹⁰³	25.04 ⁶³
Aug. 8.1	51.521 ¹⁰¹	61.07 ¹⁰⁸	48.08 ⁸⁵	88.58 ¹⁶⁸	58.765 ⁹¹	24.53 ⁵¹
18.1	51.436 ⁸⁵	59.95 ¹¹²	47.34 ⁷⁴	86.42 ²¹⁶	58.686 ⁷⁹	24.10 ⁴³
28.1	51.371 ⁶⁵	58.85 ¹¹⁰	46.73 ⁶¹	83.91 ²⁵¹	58.626 ⁶⁰	23.81 ²⁹
Sept. 7.1	51.332 ³⁹	57.82 ¹⁰³	46.28 ⁴⁵	81.09 ²⁸²	58.590 ³⁶	23.66 ¹⁵
17.0	51.324 ⁸	56.90 ⁹²	46.02 ²⁶	78.08 ³⁰¹	58.583 ⁷	23.73 ⁷
27.0	51.352 ²⁸	56.16 ⁷⁴	45.96 ⁶	74.98 ³¹⁰	58.610 ²⁷	24.00 ²⁷
Oct. 7.0	51.421 ⁶⁹	55.64 ⁵²	46.11 ¹⁵	71.93 ³⁰⁵	58.675 ⁶⁵	24.53 ⁵³
16.9	51.534 ¹¹³	55.40 ²⁴	46.47 ³⁶	69.00 ²⁹³	58.779 ¹⁰⁴	25.27 ⁷⁴
26.9	51.692 ¹⁵⁸	55.47 ⁷	47.05 ⁵⁸	66.36 ²⁶⁴	58.924 ¹⁴⁵	26.31 ¹⁰⁴
Nov. 5.9	51.894 ²⁰²	55.89 ⁴²	47.81 ⁷⁶	64.09 ²²⁷	59.114 ¹⁹⁰	27.61 ¹³⁰
15.9	52.137 ²⁴³	56.66 ⁷⁷	48.74 ⁹³	62.32 ¹⁷⁷	59.344 ²³⁰	29.14 ¹⁵³
25.8	52.416 ²⁷⁹	57.79 ¹¹³	49.82 ¹⁰⁸	61.09 ⁶²	59.608 ²⁶⁴	30.92 ¹⁷⁸
Dec. 5.8	52.724 ³⁰⁸	59.24 ¹⁴⁵	50.99 ¹¹⁷	60.47 ¹²³	59.902 ²⁹⁴	32.87 ¹⁹⁵
15.8	53.051 ³²⁷	60.98 ¹⁷⁴	52.23 ¹²⁴	60.48 ¹	60.215 ³¹³	34.93 ²⁰⁶
25.8	53.386 ³³⁵	62.95 ¹⁹⁷	53.48 ¹²⁵	61.15 ⁶⁷	60.541 ³²⁶	37.04 ²¹¹
35.7	53.718 ³³²	65.10 ²¹⁵	54.71 ¹²³	62.44 ¹²⁹	60.865 ³²⁴	39.13 ²⁰⁹
Mean Place	50.612	52.19	47.57	64.89	57.985	20.45
Sec δ , Tan δ	1.046	-0.308	5.187	-5.090	1.000	-0.004
L α , L δ	0.00	-0.4	+0.01	-0.4	0.00	-0.4
ω α , ω δ	-0.02	0.0	-0.34	-0.1	0.00	-0.1
AUTHORITY	A. N.		A. E.		A. E.	

352 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Crucis. Mag. 1.6		δ Corvi. Mag. 3.1		γ Crucis. Mag. 1.6	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	h m 12 22	62 40	h m 12 25	16 5	h m 12 26	56 40
Jan. 0.7	19.42 ^s	2.42 ^s 185	52.842 ^s 327	6.93 ^s 217	54.035 ^s 496	38.26 ^s 189
10.7	19.99 57	4.27 ^s 232	53.169 311	9.10 ^s 219	54.531 468	40.15 ^s 232
20.7	20.53 54	6.59 ^s 272	53.480 284	11.29 ^s 217	54.999 428	42.47 ^s 269
30.7	21.01 43	9.31 ^s 302	53.764 251	13.46 ^s 213	55.427 377	45.16 ^s 297
Feb. 9.6	21.44 36	12.33 ^s 329	54.015 217	15.59 ^s 201	55.804 317	48.13 ^s 317
19.6	21.80 29	15.62 ^s 343	54.232 173	17.60 ^s 181	56.121 256	51.30 ^s 328
Mar. 1.6	22.09 20	19.05 ^s 346	54.405 134	19.41 ^s 161	56.377 191	54.58 ^s 332
11.5	22.29 14	22.51 ^s 347	54.539 90	21.02 ^s 139	56.568 128	57.90 ^s 329
21.5	22.43 6	25.98 ^s 339	54.629 57	22.41 ^s 120	56.696 68	61.19 ^s 318
31.5	22.49 1	29.37 ^s 321	54.686 21	23.61 ^s 93	56.764 10	64.37 ^s 301
Apr. 10.5	22.48 7	32.58 ^s 301	54.707 7	24.54 ^s 70	56.774 43	67.38 ^s 279
20.4	22.41 14	35.59 ^s 273	54.700 34	25.24 ^s 50	56.731 92	70.17 ^s 252
30.4	22.27 18	38.32 ^s 236	54.666 57	25.74 ^s 27	56.639 136	72.69 ^s 219
May 10.4	22.09 23	40.68 ^s 202	54.609 75	26.01 ^s 8	56.503 175	74.88 ^s 184
20.4	21.86 28	42.70 ^s 161	54.534 92	26.09 ^s 9	56.328 208	76.72 ^s 143
30.3	21.58 30	44.31 ^s 111	54.442 99	26.00 ^s 27	56.120 237	78.15 ^s 101
June 9.3	21.28 33	45.42 ^s 67	54.343 112	25.73 ^s 47	55.883 259	79.16 ^s 57
19.3	20.95 35	46.09 ^s 17	54.231 117	25.26 ^s 57	55.624 274	79.73 ^s 10
29.2	20.60 36	46.26 ^s 33	54.114 120	24.69 ^s 73	55.350 283	79.83 ^s 35
July 9.2	20.24 36	45.93 ^s 79	53.994 123	23.96 ^s 85	55.067 283	79.48 ^s 81
19.2	19.88 35	45.14 ^s 127	53.871 115	23.11 ^s 93	54.784 274	78.67 ^s 124
29.2	19.53 31	43.87 ^s 170	53.756 106	22.18 ^s 100	54.510 256	77.43 ^s 162
Aug. 8.1	19.22 28	42.17 ^s 204	53.650 94	21.18 ^s 102	54.254 228	75.81 ^s 198
18.1	18.94 24	40.13 ^s 240	53.556 76	20.16 ^s 100	54.026 187	73.83 ^s 225
28.1	18.70 16	37.73 ^s 260	53.480 50	19.16 ^s 96	53.839 139	71.58 ^s 245
Sept. 7.1	18.54 10	35.13 ^s 273	53.430 22	18.20 ^s 82	53.700 80	69.13 ^s 256
17.0	18.44 1	32.40 ^s 278	53.408 15	17.38 ^s 70	53.620 12	66.57 ^s 258
27.0	18.43 7	29.62 ^s 268	53.423 55	16.68 ^s 44	53.608 62	63.99 ^s 249
Oct. 7.0	18.50 16	26.94 ^s 251	53.478 101	16.24 ^s 20	53.670 139	61.50 ^s 229
16.9	18.66 26	24.43 ^s 222	53.579 142	16.04 ^s 10	53.809 217	59.21 ^s 200
26.9	18.92 35	22.21 ^s 182	53.721 190	16.14 ^s 45	54.026 293	57.21 ^s 161
Nov. 5.9	19.27 42	20.39 ^s 134	53.911 234	16.59 ^s 77	54.319 360	55.60 ^s 115
15.9	19.69 49	19.05 ^s 82	54.145 265	17.36 ^s 112	54.679 419	54.45 ^s 63
25.8	20.18 54	18.23 ^s 22	54.410 301	18.48 ^s 142	55.098 465	53.82 ^s 6
Dec. 5.8	20.72 58	18.01 ^s 38	54.711 321	19.90 ^s 170	55.563 496	53.76 ^s 50
15.8	21.30 59	18.39 ^s 96	55.032 333	21.60 ^s 192	56.059 508	54.26 ^s 107
25.8	21.89 58	19.35 ^s 153	55.365 332	23.52 ^s 211	56.567 506	55.33 ^s 160
35.7	22.47	20.88	55.697	25.63	57.073	56.93
Mean Place	18.08	21.37	52.676	12.89	53.035	56.19
Sec δ , Tan δ	2.178	-1.936	1.041	-0.288	1.821	-1.521
L α , L δ	0.00	-0.4	0.00	-0.4	0.00	-0.4
ω α , ω δ	-0.13	-0.1	-0.02	-0.1	-0.10	-0.1
AUTHORITY	A. E.		A. E.		A. N.	

APPARENT PLACES OF STARS, 1923. 353

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Corvi. Mag. 2·8		α Muscæ. Mag. 2·9		γ Centauri. Mag. 2·4		
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.	
	^h 12 ^m 30 ^s	[°] 22 ['] 58 ["]	^h 12 ^m 32 ^s	[°] 68 ['] 42 ["]	^h 12 ^m 37 ^s	[°] 48 ['] 31 ["]	
Jan.	0·7 10·7 20·7 30·7	20·510 ³³⁷ 20·847 ³²¹ 21·168 ²⁹⁷ 21·465 ²⁶¹	7·48 ²¹⁶ 9·64 ²²⁵ 11·89 ²³² 14·21 ²³¹	35·97 ⁷¹ 36·68 ⁶⁷ 37·35 ⁶¹ 37·96 ⁵⁴	20·99 ¹⁶⁰ 22·59 ²¹² 24·71 ²⁵⁶ 27·27 ²⁹³	16·362 ⁴³⁶ 16·798 ⁴¹² 17·210 ³⁷⁹ 17·589 ³³⁶	57·40 ¹⁹⁰ 59·30 ²²⁶ 61·56 ²⁵⁶ 64·12 ²⁸¹
Feb.	9·6 19·6	21·726 ²²⁶ 21·952 ¹⁸²	16·52 ²²⁵ 18·77 ²¹²	38·50 ⁴⁶ 38·96 ³⁷	30·20 ³²³ 33·43 ³⁴⁴	17·925 ²⁹¹ 18·216 ²³⁸	66·93 ²⁹⁵ 69·88 ³⁰³
Mar.	1·6 11·6 21·5 31·5	22·134 ¹⁴¹ 22·275 ¹⁰¹ 22·376 ⁵⁹ 22·435 ³⁰	20·89 ¹⁹⁹ 22·88 ¹⁷⁶ 24·64 ¹⁵⁷ 26·21 ¹³³	39·33 ²⁸ 39·61 ¹⁸ 39·79 ¹⁰ 39·89 ¹	36·87 ³⁵⁴ 40·41 ³⁵⁷ 43·98 ³⁵⁴ 47·52 ³⁴¹	18·454 ¹⁸³ 18·637 ¹³² 18·769 ⁸⁰ 18·849 ³²	72·91 ³⁰³ 75·94 ²⁹⁶ 78·90 ²⁸⁴ 81·74 ²⁶⁸
Apr.	10·5 20·4 30·4	22·465 ⁶ 22·459 ³¹ 22·428 ⁵⁷	27·54 ¹¹³ 28·67 ⁸⁷ 29·54 ⁶³	39·90 ⁸ 39·82 ¹⁵ 39·67 ²³	50·93 ³²³ 54·16 ²⁹⁹ 57·15 ²⁶⁷	18·881 ¹² 18·869 ⁵³ 18·816 ⁸⁹	84·42 ²⁴⁶ 86·88 ²¹⁹ 89·07 ¹⁹⁰
May	10·4 20·4 30·3	22·371 ⁷⁵ 22·296 ⁹² 22·204 ¹⁰⁸	30·17 ³⁸ 30·55 ¹⁸ 30·73 ⁶	39·44 ²⁹ 39·15 ³⁴ 38·81 ⁴⁰	59·82 ²²⁹ 62·11 ¹⁸⁸ 63·99 ¹⁴³	18·727 ¹²² 18·605 ¹⁵⁰ 18·455 ¹⁷⁴	90·97 ¹⁵⁷ 92·54 ¹²¹ 93·75 ⁸³
June	9·3 19·3 29·3	22·096 ¹¹⁷ 21·979 ¹²⁶ 21·853 ¹³⁰	30·67 ²⁸ 30·39 ⁵¹ 29·88 ⁶⁶	38·41 ⁴³ 37·98 ⁴⁷ 37·51 ⁴⁷	65·42 ⁹⁶ 66·38 ⁴⁵ 66·83 ⁸	18·281 ¹⁹⁴ 18·087 ²⁰⁸ 17·879 ²¹⁷	94·58 ⁴⁴ 95·02 ¹ 95·03 ³⁸
July	9·2 19·2 29·2	21·723 ¹³⁰ 21·593 ¹²⁸ 21·465 ¹¹⁹	29·22 ⁸⁸ 28·34 ¹⁰⁵ 27·29 ¹¹⁴	37·04 ⁴⁸ 36·56 ⁴⁷ 36·09 ⁴³	66·75 ⁶⁰ 66·15 ¹⁰⁹ 65·06 ¹⁵⁷	17·662 ²²⁰ 17·442 ²¹⁷ 17·225 ²⁰⁵	94·65 ⁷⁶ 93·89 ¹¹⁶ 92·73 ¹⁴⁸
Aug.	8·1 18·1 28·1	21·346 ¹⁰⁴ 21·242 ⁸⁷ 21·155 ⁵⁵	26·15 ¹²⁴ 24·91 ¹²⁷ 23·64 ¹²⁶	35·66 ³⁹ 35·27 ³³ 34·94 ²⁵	63·49 ¹⁹⁷ 61·52 ²³⁶ 59·16 ²⁶²	17·020 ¹⁸⁵ 16·835 ¹⁵⁶ 16·679 ¹¹⁸	91·25 ¹⁸⁰ 89·45 ²⁰¹ 87·44 ²²⁰
Sept.	7·1 17·0 27·0	21·100 ³¹ 21·069 ⁸ 21·077 ⁵²	22·38 ¹²⁰ 21·18 ¹⁰⁵ 20·13 ⁸⁸	34·69 ¹⁶ 34·53 ⁶ 34·47 ⁵	56·54 ²⁸¹ 53·73 ²⁸⁹ 50·84 ²⁸⁷	16·561 ⁶⁹ 16·492 ¹⁶ 16·476 ⁴⁰	85·24 ²²⁸ 82·96 ²²⁷ 80·69 ²¹⁸
Oct.	7·0 17·0 26·9	21·129 ⁹⁹ 21·228 ¹⁴⁴ 21·372 ¹⁹²	19·25 ⁵⁹ 18·66 ³³ 18·33 ⁵	34·52 ¹⁷ 34·69 ²⁹ 34·98 ⁴⁰	47·97 ²⁷³ 45·24 ²⁴⁹ 42·75 ²¹¹	16·516 ¹¹⁰ 16·626 ¹⁷⁵ 16·801 ²³⁹	78·51 ¹⁹⁷ 76·54 ¹⁷⁰ 74·84 ¹³²
Nov.	5·9 15·9 25·8	21·564 ²³⁷ 21·801 ²⁷⁷ 22·078 ³⁰⁶	18·38 ⁴¹ 18·79 ⁸¹ 19·60 ¹¹³	35·38 ⁵⁰ 35·88 ⁵⁸ 36·46 ⁶⁵	40·64 ¹⁶⁷ 38·97 ¹¹⁴ 37·83 ⁵⁵	17·040 ²⁹⁹ 17·339 ³⁵¹ 17·690 ³⁹⁴	73·52 ⁸⁹ 72·63 ⁴⁰ 72·23 ¹²
Dec.	5·8 15·8 25·8 35·7	22·384 ³³² 22·716 ³⁴² 23·058 ³⁴⁶ 23·404	20·73 ¹⁵⁰ 22·23 ¹⁸⁰ 24·03 ²⁰³ 26·06	37·11 ⁷⁰ 37·81 ⁷² 38·53 ⁷¹ 39·24	37·28 ⁵ 37·33 ⁶⁸ 38·01 ¹²⁶ 39·27	18·084 ⁴²³ 18·507 ⁴⁴⁰ 18·947 ⁴³⁸ 19·385	72·35 ⁶⁴ 72·99 ¹¹⁶ 74·15 ¹⁶² 75·77
Mean Place	20·283	16·00	34·353	41·42	15·733	73·90	
Sec δ , Tan δ	1·086	—0·424	2·754	—2·566	1·510	—1·132	
L α , L δ	0·00	—0·4	+0·01	—0·4	0·00	—0·4	
ω α , ω δ	—0·03	—0·1	—0·17	—0·1	—0·07	—0·2	
AUTHORITY	A. E.		A. E.		A. E.		

354 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Virginis (mean). Mag. 2.9		ρ Virginis. Mag. 5.0		β Muscæ. Mag. 3.3	
	R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. S.
	h m 12 37	° ' I I	h m 12 37	° ' 10 39	h m 12 41	° ' 67 40
Jan. 0.7	45.373 ₃₂₀	37.41 ₂₀₆	59.059 ₃₂₆	31.60 ₁₉₆	33.86 ₆₉	52.22 ₁₄₉
10.7	45.693 ₃₀₇	39.47 ₁₉₅	59.385 ₃₁₂	29.64 ₁₇₂	34.55 ₆₅	53.71 ₂₀₂
20.7	46.000 ₂₈₄	41.42 ₁₇₈	59.697 ₂₉₁	27.92 ₁₄₄	35.20 ₆₀	55.73 ₂₄₇
30.7	46.284 ₂₅₅	43.20 ₁₅₆	59.988 ₂₆₁	26.48 ₁₁₂	35.80 ₅₄	58.20 ₂₈₅
Feb. 9.6	46.539 ₂₁₉	44.76 ₁₃₁	60.249 ₂₂₅	25.36 ₇₇	36.34 ₄₆	61.05 ₃₁₄
19.6	46.758 ₁₈₁	46.07 ₁₀₄	60.474 ₁₈₆	24.59 ₄₂	36.80 ₃₈	64.19 ₃₃₅
Mar. 1.6	46.939 ₁₄₁	47.11 ₇₆	60.660 ₁₄₅	24.17 ₁₀	37.18 ₃₀	67.54 ₃₄₇
11.6	47.080 ₁₀₂	47.87 ₄₉	60.805 ₁₀₅	24.07 ₂₁	37.48 ₂₀	71.01 ₃₅₃
21.5	47.182 ₆₆	48.36 ₂₄	60.910 ₆₆	24.28 ₄₇	37.68 ₁₂	74.54 ₃₄₉
31.5	47.248 ₃₂	48.60 ₁	60.976 ₃₁	24.75 ₆₈	37.80 ₄	78.03 ₃₃₉
Apr. 10.5	47.280 ₂	48.61 ₁₈	61.007 ₀	25.43 ₈₅	37.84 ₅	81.42 ₃₂₂
20.4	47.282 ₂₄	48.43 ₃₄	61.007 ₂₇	26.28 ₉₅	37.79 ₁₂	84.64 ₂₉₈
30.4	47.258 ₄₆	48.09 ₄₆	60.980 ₅₁	27.23 ₁₀₂	37.67 ₁₉	87.62 ₂₆₈
May 10.4	47.212 ₆₅	47.63 ₅₆	60.929 ₆₉	28.25 ₁₀₃	37.48 ₂₅	90.30 ₂₃₄
20.4	47.147 ₈₀	47.07 ₆₄	60.860 ₈₄	29.28 ₁₀₀	37.23 ₃₁	92.64 ₁₉₃
30.3	47.067 ₉₂	46.43 ₆₇	60.776 ₉₇	30.28 ₉₅	36.92 ₃₆	94.57 ₁₅₀
June 9.3	46.975 ₁₀₂	45.76 ₇₀	60.679 ₁₀₆	31.23 ₈₆	36.56 ₄₀	96.07 ₁₀₃
19.3	46.873 ₁₀₈	45.06 ₇₁	60.573 ₁₁₂	32.09 ₇₆	36.16 ₄₃	97.10 ₅₂
29.3	46.765 ₁₁₃	44.35 ₆₉	60.461 ₁₁₅	32.85 ₆₃	35.73 ₄₅	97.62 ₂
July 9.2	46.652 ₁₁₃	43.66 ₆₅	60.346 ₁₁₆	33.48 ₄₈	35.28 ₄₆	97.64 ₅₀
19.2	46.539 ₁₁₁	43.01 ₆₁	60.230 ₁₁₂	33.96 ₃₃	34.82 ₄₄	97.14 ₉₉
29.2	46.428 ₁₀₅	42.40 ₅₃	60.118 ₁₀₅	34.29 ₁₅	34.38 ₄₂	96.15 ₁₄₆
Aug. 8.1	46.323 ₉₄	41.87 ₄₄	60.013 ₉₃	34.44 ₃	33.96 ₃₉	94.69 ₁₉₀
18.1	46.229 ₇₈	41.43 ₃₂	59.920 ₇₈	34.41 ₂₄	33.57 ₃₃	92.79 ₂₂₅
28.1	46.151 ₅₆	41.11 ₁₇	59.842 ₅₆	34.17 ₄₅	33.24 ₂₅	90.54 ₂₅₅
Sept. 7.1	46.095 ₂₉	40.94 ₁	59.786 ₂₉	33.72 ₆₇	32.99 ₁₇	87.99 ₂₇₅
17.0	46.066 ₃	40.95 ₂₂	59.757 ₃	33.05 ₉₂	32.82 ₈	85.24 ₂₈₅
27.0	46.069 ₄₀	41.17 ₄₅	59.760 ₄₀	32.13 ₁₁₆	32.74 ₃	82.39 ₂₈₅
Oct. 7.0	46.109 ₈₂	41.62 ₇₀	59.800 ₈₁	30.97 ₁₄₀	32.77 ₁₅	79.54 ₂₇₂
17.0	46.191 ₁₂₅	42.32 ₉₇	59.881 ₁₂₅	29.57 ₁₆₃	32.92 ₂₆	76.82 ₂₄₈
26.9	46.316 ₁₇₀	43.29 ₁₂₃	60.006 ₁₆₉	27.94 ₁₈₅	33.18 ₃₆	74.34 ₂₁₅
Nov. 5.9	46.486 ₂₁₂	44.52 ₁₄₉	60.175 ₂₁₂	26.09 ₂₀₄	33.54 ₄₇	72.19 ₁₇₁
15.9	46.698 ₂₅₁	46.01 ₁₇₁	60.387 ₂₅₁	24.05 ₂₁₇	34.01 ₅₅	70.48 ₁₁₉
25.8	46.949 ₂₈₂	47.72 ₁₉₀	60.638 ₂₈₄	21.88 ₂₂₅	34.56 ₆₁	69.29 ₆₃
Dec. 5.8	47.231 ₃₀₆	49.62 ₂₀₄	60.922 ₃₁₀	19.63 ₂₂₇	35.17 ₆₇	68.66 ₃
15.8	47.537 ₃₂₁	51.66 ₂₁₀	61.232 ₃₂₅	17.36 ₂₂₂	35.84 ₆₉	68.63 ₅₇
25.8	47.858 ₃₂₅	53.76 ₂₁₀	61.557 ₃₂₉	15.14 ₂₀₈	36.53 ₆₉	69.20 ₁₁₇
35.7	48.183	55.86	61.886	13.06	37.22	70.37
Mean Place	45.452	38.51	59.272	34.61	32.48	72.83
Sec δ , Tan δ	1.000	-0.018	1.018	+0.188	2.634	-2.437
L a , L δ	0.00	-0.4	0.00	-0.4	+0.01	-0.4
ω a , ω δ	0.00	-0.2	+0.01	-0.2	-0.16	-0.2
AUTHORITY	A. N.				A. N.	

APPARENT PLACES OF STARS, 1923. 355

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Crucis. Mag. 1.5		35 Virginis. Mag. 6.7		31 Comae. Mag. 5.1	
	R.A.		R.A.		R.A.	
	h m	Dec. S.	h m	Dec. N.	h m	Dec. N.
	^s 12 43	['] 59 15	^s 12 43	['] 3 59	^s 12 47	['] 27 57
Jan. 0.8	13.464 ⁵³⁵	46.31 ¹⁶⁴	55.987 ³²²	34.16 ²⁰³	56.452 ³⁵¹	25.47 ¹⁷⁸
10.7	13.999 ⁵¹⁰	47.95 ²¹¹	56.309 ³¹¹	32.13 ¹⁸⁷	56.803 ³⁴¹	23.69 ¹³⁷
20.7	14.509 ⁴⁷³	50.06 ²⁵⁰	56.620 ²⁸⁹	30.26 ¹⁶⁴	57.144 ³¹⁹	22.32 ⁹³
30.7	14.982 ⁴²⁴	52.56 ²⁸⁴	56.909 ²⁶¹	28.62 ¹³⁹	57.463 ²⁹¹	21.39 ⁴⁶
Feb. 9.6	15.406 ³⁶⁵	55.40 ³⁰⁷	57.170 ²²⁶	27.23 ¹⁰⁹	57.754 ²⁵⁴	20.93 ⁰
19.6	15.771 ²⁹⁹	58.47 ³²¹	57.396 ¹⁸⁸	26.14 ⁷⁷	58.008 ²¹¹	20.93 ⁴⁴
Mar. 1.6	16.070 ²³⁶	61.68 ³³¹	57.584 ¹⁴⁹	25.37 ⁴⁸	58.219 ¹⁶⁶	21.37 ⁸⁴
11.6	16.306 ¹⁷⁰	64.99 ³³¹	57.733 ¹⁰⁹	24.89 ¹⁹	58.385 ¹²²	22.21 ¹¹⁸
21.5	16.476 ¹⁰⁴	68.30 ³²⁴	57.842 ⁷³	24.70 ⁷	58.507 ⁷⁷	23.39 ¹⁴⁵
31.5	16.580 ⁴²	71.54 ³¹³	57.915 ³⁸	24.77 ³⁰	58.584 ³⁷	24.84 ¹⁶⁴
Apr. 10.5	16.622 ¹⁸	74.67 ²⁹³	57.953 ⁸	25.07 ⁴⁷	58.621 ⁰	26.48 ¹⁷⁶
20.5	16.604 ⁷²	77.60 ²⁶⁹	57.961 ¹⁹	25.54 ⁶²	58.621 ³⁴	28.24 ¹⁸⁰
30.4	16.532 ¹²²	80.29 ²³⁷	57.942 ⁴²	26.16 ⁷²	58.587 ⁶⁰	30.04 ¹⁷⁶
May 10.4	16.410 ¹⁶⁷	82.66 ²⁰⁵	57.900 ⁶¹	26.88 ⁷⁸	58.527 ⁸⁴	31.80 ¹⁶⁶
20.4	16.243 ²⁰⁸	84.71 ¹⁶⁵	57.839 ⁷⁷	27.66 ⁸¹	58.443 ¹⁰⁴	33.46 ¹⁵⁰
30.3	16.035 ²⁴³	86.36 ¹²⁴	57.762 ⁹¹	28.47 ⁸¹	58.339 ¹¹⁸	34.96 ¹³¹
June 9.3	15.792 ²⁷³	87.60 ⁸¹	57.671 ¹⁰⁰	29.28 ⁷⁸	58.221 ¹²⁹	36.27 ¹⁰⁶
19.3	15.519 ²⁹⁵	88.41 ³⁴	57.571 ¹⁰⁸	30.06 ⁷⁵	58.092 ¹³⁷	37.33 ⁸⁰
29.3	15.224 ³⁰⁸	88.75 ¹³	57.463 ¹¹²	30.81 ⁶⁸	57.955 ¹⁴¹	38.13 ⁵¹
July 9.2	14.916 ³¹³	88.62 ⁶¹	57.351 ¹¹⁵	31.49 ⁵⁹	57.814 ¹⁴¹	38.64 ²²
19.2	14.603 ³¹²	88.01 ¹⁰⁴	57.236 ¹¹²	32.08 ⁵⁰	57.673 ¹³⁸	38.86 ¹⁰
29.2	14.291 ²⁹²	86.97 ¹⁴⁶	57.124 ¹⁰⁶	32.58 ³⁷	57.535 ¹³⁰	38.76 ³⁹
Aug. 8.2	13.999 ²⁶⁸	85.51 ¹⁸⁷	57.018 ⁹⁷	32.95 ²⁴	57.405 ¹¹⁷	38.37 ⁷²
18.1	13.731 ²²⁷	83.64 ²¹⁵	56.921 ⁸¹	33.19 ⁹	57.288 ¹⁰⁰	37.65 ¹⁰¹
28.1	13.504 ¹⁸⁰	81.49 ²⁴²	56.840 ⁶¹	33.28 ¹⁰	57.188 ⁷⁷	36.64 ¹³¹
Sept. 7.1	13.324 ¹¹⁶	79.07 ²⁵⁶	56.779 ³⁴	33.18 ²⁹	57.111 ⁴⁸	35.33 ¹⁶¹
17.0	13.208 ⁴⁵	76.51 ²⁶³	56.745 ²	32.89 ⁵¹	57.063 ¹⁴	33.72 ¹⁸⁶
27.0	13.163 ³²	73.88 ²⁵⁹	56.743 ³⁵	32.38 ⁷⁶	57.049 ²⁵	31.86 ²¹²
Oct. 7.0	13.195 ¹¹⁷	71.29 ²⁴³	56.778 ⁷⁶	31.62 ¹⁰⁰	57.074 ⁷⁰	29.74 ²³⁵
17.0	13.312 ²⁰²	68.86 ²¹⁹	56.854 ¹¹⁹	30.62 ¹²⁵	57.144 ¹¹⁵	27.39 ²⁵²
26.9	13.514 ²⁸³	66.67 ¹⁸³	56.973 ¹⁶⁴	29.37 ¹⁵⁰	57.259 ¹⁶⁵	24.87 ²⁶⁶
Nov. 5.9	13.797 ³⁶¹	64.84 ¹⁴⁰	57.137 ²⁰⁷	27.87 ¹⁷³	57.424 ²¹²	22.21 ²⁷⁴
15.9	14.158 ⁴²⁶	63.44 ⁹²	57.344 ²⁴⁶	26.14 ¹⁹¹	57.636 ²⁵⁵	19.47 ²⁷⁵
25.9	14.584 ⁴⁸⁰	62.52 ³⁴	57.590 ²⁷⁹	24.23 ²⁰⁶	57.891 ²⁹⁴	16.72 ²⁶⁸
Dec. 5.8	15.064 ⁵²⁰	62.18 ²²	57.869 ³⁰⁵	22.17 ²¹⁵	58.185 ³²³	14.04 ²⁵⁴
15.8	15.584 ⁵³⁹	62.40 ⁷⁹	58.174 ³²¹	20.02 ²¹⁵	58.508 ³⁴⁵	11.50 ²³²
25.8	16.123 ⁵⁴⁰	63.19 ¹³³	58.495 ³²⁵	17.87 ²¹¹	58.853 ³⁵²	9.18 ²⁰¹
35.7	16.663	64.52	58.820	15.76	59.205	7.17
Mean Place	12.560	65.49	56.159	34.58	56.948	33.71
Sec δ , Tan δ	1.957	-1.682	1.002	+0.070	1.132	+0.531
L α , L δ	+0.01	-0.4	0.00	-0.4	0.00	-0.4
ω α , L δ	-0.11	-0.2	+0.01	-0.2	+0.03	-0.2
AUTHORITY	A. E.					

356 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ψ Virginis. Mag. 4.9		ϵ Ursæ Majoris. Mag. 1.7		δ Virginis. Mag. 3.7	
	R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m 12 50	[°] ['] 9 7	^h ^m 12 50	[°] ['] 56 22	^h ^m 12 51	[°] ['] 3 48
Jan. 0.8	20.705 ³²⁶	11.49 ²⁰⁷	37.633 ⁵⁰⁰	23.94 ¹²⁶	43.218 ³²¹	56.17 ²⁰⁶
10.7	21.031 ³¹⁴	13.56 ²⁰⁵	38.133 ⁴⁹¹	22.68 ⁶⁵	43.539 ³¹³	54.11 ¹⁸⁷
20.7	21.345 ²⁹³	15.61 ¹⁹⁸	38.624 ⁴⁶⁵	22.03 ⁴	43.852 ²⁹⁰	52.24 ¹⁶⁵
30.7	21.638 ²⁶⁵	17.59 ¹⁸³	39.089 ⁴²⁵	21.99 ⁵⁸	44.142 ²⁶⁵	50.59 ¹⁴⁰
Feb. 9.6	21.903 ²³¹	19.42 ¹⁶⁶	39.514 ³⁷⁵	22.57 ¹¹⁶	44.407 ²²⁹	49.19 ¹¹¹
19.6	22.134 ¹⁹³	21.08 ¹⁴³	39.889 ³¹⁰	23.73 ¹⁶⁷	44.636 ¹⁹⁴	48.08 ⁸¹
Mar. 1.6	22.327 ¹⁵⁶	22.51 ¹²¹	40.199 ²⁴²	25.40 ²¹⁰	44.830 ¹⁵⁷	47.27 ⁴⁸
11.6	22.483 ¹¹⁶	23.72 ⁹⁶	40.441 ¹⁶⁹	27.50 ²⁴⁵	44.987 ¹¹⁶	46.79 ²²
21.5	22.599 ⁸¹	24.68 ⁷³	40.610 ⁹⁸	29.95 ²⁶⁷	45.103 ⁸¹	46.57 ⁷
31.5	22.680 ⁴⁶	25.41 ⁵⁰	40.708 ²⁶	32.62 ²⁷⁹	45.184 ⁴³	46.64 ²⁸
Apr. 10.5	22.726 ¹⁷	25.91 ²⁹	40.734 ³⁹	35.41 ²⁸⁰	45.227 ¹⁶	46.92 ⁴⁸
20.5	22.743 ¹⁰	26.20 ¹¹	40.695 ⁹⁶	38.21 ²⁷¹	45.243 ¹²	47.40 ⁶²
30.4	22.733 ³⁴	26.31 ⁶	40.599 ¹⁴⁸	40.92 ²⁵⁰	45.231 ³⁶	48.02 ⁷¹
May 10.4	22.699 ⁵⁴	26.25 ²¹	40.451 ¹⁹¹	43.42 ²²⁴	45.195 ⁵⁷	48.73 ⁷⁹
20.4	22.645 ⁷¹	26.04 ³³	40.260 ²²⁷	45.66 ¹⁸⁷	45.138 ⁷³	49.52 ⁸²
30.3	22.574 ⁸⁶	25.71 ⁴⁴	40.033 ²⁵¹	47.53 ¹⁴⁹	45.065 ⁸⁸	50.34 ⁸²
June 9.3	22.488 ⁹⁸	25.27 ⁵³	39.782 ²⁶⁹	49.02 ¹⁰⁴	44.977 ⁹⁹	51.16 ⁷⁹
19.3	22.390 ¹⁰⁸	24.74 ⁶¹	39.513 ²⁸²	50.06 ⁵⁹	44.878 ¹⁰⁷	51.95 ⁷⁵
29.3	22.282 ¹¹⁴	24.13 ⁶⁷	39.231 ²⁸⁴	50.65 ⁸	44.771 ¹¹⁵	52.70 ⁶⁹
July 9.2	22.168 ¹¹⁸	23.46 ⁷²	38.947 ²⁸⁰	50.73 ³⁹	44.656 ¹¹⁶	53.39 ⁶⁰
19.2	22.050 ¹¹⁷	22.74 ⁷⁴	38.667 ²⁶⁹	50.34 ⁸⁷	44.540 ¹¹⁵	53.99 ⁴⁹
29.2	21.933 ¹¹³	22.00 ⁷⁴	38.398 ²⁵²	49.47 ¹³⁰	44.425 ¹¹¹	54.48 ⁴⁰
Aug. 8.2	21.820 ¹⁰⁴	21.26 ⁷²	38.146 ²²⁶	48.17 ¹⁷⁶	44.314 ¹⁰³	54.88 ²⁴
18.1	21.716 ⁸⁹	20.54 ⁶⁵	37.920 ¹⁹⁵	46.41 ²¹⁵	44.211 ⁸⁷	55.12 ¹⁰
28.1	21.627 ⁶⁹	19.89 ⁵⁶	37.725 ¹⁵⁶	44.26 ²⁵²	44.124 ⁶⁷	55.22 ¹⁰
Sept. 7.1	21.558 ⁴¹	19.33 ⁴⁴	37.569 ¹⁰⁹	41.74 ²⁸⁵	44.057 ⁴³	55.12 ²⁸
17.0	21.517 ⁹	18.89 ²⁵	37.460 ⁵⁷	38.89 ³¹⁰	44.014 ⁹	54.84 ⁵¹
27.0	21.508 ³⁰	18.64 ⁵	37.403 ²	35.79 ³³²	44.005 ²⁵	54.33 ⁷⁴
Oct. 7.0	21.538 ⁷¹	18.59 ²⁰	37.405 ⁶⁹	32.47 ³⁴⁶	44.030 ⁶⁷	53.59 ⁹⁹
17.0	21.609 ¹¹⁷	18.79 ⁴⁷	37.474 ¹³⁶	29.01 ³⁵³	44.097 ¹¹¹	52.60 ¹²³
26.9	21.726 ¹⁶²	19.26 ⁷⁶	37.610 ²⁰⁷	25.48 ³⁵⁵	44.208 ¹⁵⁶	51.37 ¹⁴⁹
Nov. 5.9	21.888 ²⁰⁷	20.02 ¹⁰⁶	37.817 ²⁷⁴	21.93 ³⁴⁵	44.364 ¹⁹⁸	49.88 ¹⁷¹
15.9	22.095 ²⁴⁷	21.08 ¹³³	38.091 ³⁴²	18.48 ³²⁶	44.562 ²³⁹	48.17 ¹⁹¹
25.9	22.342 ²⁸²	22.41 ¹⁵⁹	38.433 ³⁹⁶	15.22 ²⁹⁷	44.801 ²⁷⁵	46.26 ²⁰⁵
Dec. 5.8	22.624 ³⁰⁷	24.00 ¹⁸¹	38.829 ⁴⁴⁶	12.25 ²⁶¹	45.076 ³⁰⁰	44.21 ²¹³
15.8	22.931 ³²³	25.81 ¹⁹⁷	39.275 ⁴⁸¹	9.64 ²¹⁶	45.376 ³¹⁷	42.08 ²¹⁶
25.8	23.254 ³²⁸	27.78 ²⁰⁵	39.756 ⁴⁹⁷	7.48 ¹⁶²	45.693 ³²⁴	39.92 ²¹³
35.7	23.582	29.83	40.253	5.86	46.017	37.79
Mean Place	20.771	16.00	38.817	39.03	43.434	56.19
Sec δ , Tan δ	1.013	-0.161	1.806	+1.504	1.002	+0.067
L α , L δ	0.00	-0.4	-0.01	-0.4	0.00	-0.4
ω α , ω δ	-0.01	-0.2	+0.10	-0.2	0.00	-0.2
AUTHORITY			A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 357

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	12 Canum Venat. Mag. 2·9		ε Virginis. Mag. 3·0		θ Virginis. Mag. 4·4	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.
	^h 12 ^m 52	[°] 38 ['] 43	^h 12 ^m 58	[°] 11 ['] 22	^h 13 ^m 5	[°] 5 ['] 7
Jan. 0·8	25·007 ^s 383	51·01 ^s 164	20·291 ^s 325	19·25 ^s 201	57·453 ^s 323	38·12 ^s 206
10·7	25·390 372	49·37 111	20·616 317	17·24 176	57·776 316	40·18 198
20·7	25·762 354	48·26 60	20·933 299	15·48 148	58·092 298	42·16 187
30·7	26·116 323	47·66 7	21·232 273	14·00 112	58·390 272	44·03 170
Feb. 9·6	26·439 282	47·59 44	21·505 238	12·88 79	58·662 240	45·73 147
19·6	26·721 236	48·03 94	21·743 203	12·09 42	58·902 209	47·20 122
Mar. 1·6	26·957 187	48·97 134	21·946 165	11·67 7	59·111 167	48·42 101
11·6	27·144 137	50·31 172	22·111 124	11·60 22	59·278 134	49·43 72
21·5	27·281 84	52·03 199	22·235 88	11·82 51	59·412 95	50·15 47
31·5	27·365 40	54·02 212	22·323 49	12·33 75	59·507 63	50·62 25
Apr. 10·5	27·405 5	56·14 224	22·372 22	13·08 91	59·570 32	50·87 5
20·5	27·400 46	58·38 222	22·394 11	13·99 104	59·602 5	50·92 12
30·4	27·354 78	60·60 216	22·383 33	15·03 111	59·607 22	50·80 29
May 10·4	27·276 106	62·76 197	22·350 58	16·14 112	59·585 42	50·51 40
20·4	27·170 129	64·73 173	22·292 75	17·26 109	59·543 62	50·11 51
30·3	27·041 148	66·46 146	22·217 89	18·35 102	59·481 78	49·60 54
June 9·3	26·893 162	67·92 116	22·128 101	19·37 96	59·403 92	49·06 63
19·3	26·731 169	69·08 78	22·027 112	20·33 82	59·311 105	48·43 66
29·3	26·562 175	69·86 42	21·915 117	21·15 69	59·206 113	47·77 68
July 9·2	26·387 174	70·28 1	21·798 121	21·84 52	59·093 117	47·09 67
19·2	26·213 168	70·29 35	21·677 121	22·36 35	58·976 120	46·42 64
29·2	26·045 161	69·94 72	21·556 118	22·71 19	58·856 117	45·78 61
Aug. 8·2	25·884 146	69·22 112	21·438 107	22·90 3	58·739 110	45·17 56
18·1	25·738 124	68·10 144	21·331 94	22·87 24	58·629 99	44·61 46
28·1	25·614 100	66·66 182	21·237 77	22·63 46	58·530 78	44·15 37
Sept. 7·1	25·514 65	64·84 209	21·160 49	22·17 69	58·452 57	43·78 20
17·0	25·449 30	62·75 242	21·111 17	21·48 96	58·395 20	43·58 0
27·0	25·419 16	60·33 261	21·094 18	20·52 116	58·375 12	43·58 21
Oct. 7·0	25·435 63	57·72 286	21·112 61	19·36 145	58·387 56	43·79 44
17·0	25·498 116	54·86 300	21·173 104	17·91 167	58·443 101	44·23 68
26·9	25·614 168	51·86 307	21·277 149	16·24 188	58·544 146	44·91 96
Nov. 5·9	25·782 220	48·79 309	21·426 192	14·36 207	58·690 192	45·87 125
15·9	26·002 270	45·70 304	21·618 237	12·29 221	58·882 232	47·12 149
25·9	26·272 311	42·66 287	21·855 269	10·08 229	59·114 268	48·61 170
Dec. 5·8	26·583 347	39·79 266	22·124 299	7·79 231	59·382 298	50·31 189
15·8	26·930 370	37·13 229	22·423 319	5·48 226	59·680 316	52·20 199
25·8	27·300 383	34·84 195	22·742 327	3·22 213	59·996 324	54·19 206
35·7	27·683	32·89	23·069	1·09	60·320	56·25
Mean Place	25·715	62·12	20·632	21·64	57·657	41·85
Sec δ, Tan δ	1·282	+0·802	1·020	+0·201	1·004	-0·090
L α, L δ	0·00	-0·4	0·00	-0·4	0·00	-0·4
ω α, ω δ	+0·05	-0·2	+0·01	-0·2	-0·01	-0·3
AUTHORITY	A. E.		A. E.		A. E.	

358 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Hydræ. Mag. 3.3		ϵ Centauri. Mag. 2.9		ζ^1 Ursæ Majoris. Mag. 2.4	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	h m 13 14	° ' 22 45	h m 13 16	° ' 36 18	h m 13 20	° ' 55 19
Jan. 0.8	43.805 ³⁴⁴	46.34 ¹⁸⁸	15.715 ³⁸⁰	9.20 ¹⁶⁸	48.367 ⁴⁷⁹	24.23 ¹⁶⁴
10.7	44.149 ³³⁵	48.22 ²⁰²	16.095 ³⁷²	10.88 ¹⁹⁵	48.846 ⁴⁸⁰	22.59 ¹⁰³
20.7	44.484 ³¹⁸	50.24 ²¹⁰	16.467 ³⁵¹	12.83 ²¹⁹	49.326 ⁴⁶⁷	21.56 ⁴³
30.7	44.802 ²⁹²	52.34 ²¹²	16.818 ³²⁴	15.02 ²³³	49.793 ⁴³⁸	21.13 ²³
Feb. 9.7	45.094 ²⁶¹	54.46 ²⁰⁷	17.142 ²⁸⁷	17.35 ²⁴¹	50.231 ³⁹⁴	21.36 ⁸³
19.6	45.355 ²²⁵	56.53 ¹⁹⁷	17.429 ²⁵⁰	19.76 ²⁴⁴	50.625 ³⁴¹	22.19 ¹³⁶
Mar. 1.6	45.580 ¹⁸⁶	58.50 ¹⁸⁴	17.679 ²⁰⁸	22.20 ²⁴¹	50.966 ²⁷⁹	23.55 ¹⁹⁰
11.6	45.766 ¹⁵¹	60.34 ¹⁶⁸	17.887 ¹⁶⁴	24.61 ²³²	51.245 ²¹³	25.45 ²²⁷
21.6	45.917 ¹¹¹	62.02 ¹⁵⁰	18.051 ¹²⁵	26.93 ²²¹	51.458 ¹⁴⁶	27.72 ²⁵⁸
31.5	46.028 ⁷⁷	63.52 ¹²⁸	18.176 ⁸⁶	29.14 ²⁰⁶	51.604 ⁷⁷	30.30 ²⁷⁶
Apr. 10.5	46.105 ⁴⁴	64.80 ¹¹¹	18.262 ⁴⁶	31.20 ¹⁸⁷	51.681 ¹²	33.06 ²⁸⁵
20.5	46.149 ¹⁵	65.91 ⁸⁹	18.308 ¹⁴	33.07 ¹⁶⁶	51.693 ⁴⁶	35.91 ²⁸⁰
30.4	46.164 ¹²	66.80 ⁷¹	18.322 ²⁰	34.73 ¹⁴³	51.647 ¹⁰⁰	38.71 ²⁶⁹
May 10.4	46.152 ³⁸	67.51 ⁴⁷	18.302 ⁴⁷	36.16 ¹¹⁸	51.547 ¹⁴⁹	41.40 ²⁴⁶
20.4	46.114 ⁶⁰	67.98 ³¹	18.255 ⁷⁶	37.34 ⁹⁴	51.398 ¹⁹⁰	43.86 ²¹⁶
30.4	46.054 ⁸¹	68.29 ⁹	18.179 ¹⁰⁰	38.28 ⁶⁴	51.208 ²²¹	46.02 ¹⁷⁹
June 9.3	45.973 ⁹⁶	68.38 ¹¹	18.079 ¹²²	38.92 ³⁶	50.987 ²⁴⁸	47.81 ¹⁴⁰
19.3	45.877 ¹¹³	68.27 ²⁷	17.957 ¹⁴¹	39.28 ⁵	50.739 ²⁶⁶	49.21 ⁹³
29.3	45.764 ¹²⁵	68.00 ⁴⁸	17.816 ¹⁵⁶	39.33 ²³	50.473 ²⁸⁰	50.14 ⁴⁶
July 9.3	45.639 ¹³⁵	67.52 ⁶³	17.660 ¹⁶⁵	39.10 ⁵³	50.193 ²⁸³	50.60 ²
19.2	45.504 ¹³⁹	66.89 ⁷⁹	17.495 ¹⁷²	38.57 ⁸⁰	49.910 ²⁸¹	50.58 ⁵¹
29.2	45.365 ¹³⁷	66.10 ⁹²	17.323 ¹⁷⁰	37.77 ¹⁰⁵	49.629 ²⁷²	50.07 ⁹⁸
Aug. 8.2	45.228 ¹³⁰	65.18 ¹⁰²	17.153 ¹⁶⁵	36.72 ¹²⁹	49.357 ²⁵⁵	49.09 ¹⁴³
18.1	45.098 ¹¹⁹	64.16 ¹⁰⁸	16.988 ¹⁴⁵	35.43 ¹⁴⁶	49.102 ²²⁹	47.66 ¹⁸⁸
28.1	44.979 ⁹⁸	63.08 ¹¹¹	16.843 ¹²³	33.97 ¹⁵⁹	48.873 ¹⁹⁹	45.78 ²²⁷
Sept. 7.1	44.881 ⁷¹	61.97 ¹⁰⁷	16.720 ⁹¹	32.38 ¹⁶⁵	48.674 ¹⁵⁶	43.51 ²⁶³
17.1	44.810 ³⁷	60.90 ¹⁰⁰	16.629 ⁴⁹	30.73 ¹⁶⁶	48.518 ¹⁰⁸	40.88 ²⁹⁵
27.0	44.773 ⁴	59.90 ⁸³	16.580 ⁴	29.07 ¹⁵⁶	48.410 ⁵³	37.93 ³²²
Oct. 7.0	44.777 ⁵²	59.07 ⁶⁵	16.576 ⁵⁰	27.51 ¹⁴¹	48.357 ⁹	34.71 ³⁴²
17.0	44.829 ⁹⁹	58.42 ⁴⁰	16.626 ¹⁰⁷	26.10 ¹¹⁹	48.366 ⁷⁹	31.29 ³⁵³
26.9	44.928 ¹⁵⁰	58.02 ⁹	16.733 ¹⁶⁴	24.91 ⁸⁸	48.445 ¹⁴⁸	27.76 ³⁶¹
Nov. 5.9	45.078 ¹⁹⁹	57.93 ²³	16.897 ²²⁰	24.03 ⁵³	48.593 ²²⁰	24.15 ³⁵⁶
15.9	45.277 ²⁴⁴	58.16 ⁵⁶	17.117 ²⁷⁰	23.50 ¹²	48.813 ²⁸⁵	20.59 ³⁴⁵
25.9	45.521 ²⁸⁴	58.72 ⁹³	17.387 ³¹³	23.38 ²⁹	49.098 ³⁵¹	17.14 ³²²
Dec. 5.8	45.805 ³¹⁴	59.65 ¹²⁴	17.700 ³⁴⁷	23.67 ⁶⁹	49.449 ⁴⁰³	13.92 ²⁹⁰
15.8	46.119 ³³⁶	60.89 ¹⁵³	18.047 ³⁷¹	24.36 ¹¹³	49.852 ⁴⁴⁴	11.02 ²⁴⁹
25.8	46.455 ³⁴⁴	62.42 ¹⁷⁷	18.418 ³⁸⁰	25.49 ¹⁴⁹	50.296 ⁴⁷⁵	8.53 ¹⁹⁹
35.8	46.799	64.19	18.798	26.98	50.771	6.54
Mean Place	43.877	56.48	15.645	23.68	49.777	37.61
Sec δ , Tan δ	1.085	-0.420	1.241	-0.735	1.758	+1.446
L α , L δ	0.00	-0.4	+0.01	-0.4	-0.01	-0.4
ω α , ω δ	-0.03	-0.3	-0.05	-0.3	+0.09	-0.3
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 359

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Virginis. Mag. 1.2		ι Virginis. Mag. 5.6		ζ Virginis. Mag. 3.4		
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.	
	^h 13 21 ^m s	[°] 10 45 ['] s	^h 13 22 ^m s	[°] 12 18 ['] s	^h 13 30 ^m s	[°] 0 12 ['] s	
Jan.	0.8	7.799 ³²⁷	28.97 ¹⁹⁸	38.671 ³²⁹	19.51 ¹⁹⁵	45.663 ³²⁰	6.58 ²⁰⁴
	10.8	8.126 ³²¹	30.95 ¹⁹⁸	39.000 ³²³	21.46 ¹⁹⁹	45.983 ³¹⁸	8.62 ¹⁹³
	20.7	8.447 ³⁰⁶	32.93 ¹⁹³	39.323 ³⁰⁸	23.45 ¹⁹⁴	46.301 ³⁰⁵	10.55 ¹⁷⁵
	30.7	8.753 ²⁸³	34.86 ¹⁸¹	39.631 ²⁸⁴	25.39 ¹⁸⁶	46.606 ²⁸³	12.30 ¹⁵⁵
Feb.	9.7	9.036 ²⁵⁵	36.67 ¹⁶⁷	39.915 ²⁵⁶	27.25 ¹⁷¹	46.889 ²⁵⁶	13.85 ¹²⁷
	19.6	9.291 ²¹⁹	38.34 ¹⁴⁷	40.171 ²²¹	28.06 ¹⁵³	47.145 ²²²	15.12 ¹⁰³
Mar.	1.6	9.510 ¹⁸⁵	39.81 ¹²⁴	40.392 ¹⁸⁶	30.49 ¹³²	47.367 ¹⁹²	16.15 ⁷²
	11.6	9.695 ¹⁴⁹	41.05 ¹⁰¹	40.578 ¹⁵⁰	31.81 ¹¹⁰	47.559 ¹⁵⁵	16.87 ³⁹
	21.6	9.844 ¹¹²	42.06 ⁷⁹	40.728 ¹¹⁴	32.91 ⁸⁸	47.714 ¹²⁰	17.26 ¹⁸
	31.5	9.956 ⁸¹	42.85 ⁶⁰	40.842 ⁸¹	33.79 ⁶⁷	47.834 ⁸⁵	17.44 ⁷
Apr.	10.5	10.037 ⁴⁷	43.45 ³⁷	40.923 ⁵¹	34.46 ⁴⁶	47.919 ⁵³	17.37 ²⁶
	20.5	10.084 ²²	43.82 ²⁰	40.974 ²¹	34.92 ²⁸	47.972 ²⁷	17.11 ⁴⁶
	30.5	10.106 ⁸	44.02 ²	40.995 ⁴	35.20 ¹⁰	47.999 ²	16.65 ⁵⁷
May	10.4	10.098 ²⁷	44.04 ¹³	40.991 ²⁸	35.30 ⁴	47.997 ²²	16.08 ⁶⁷
	20.4	10.071 ⁵²	43.91 ²⁵	40.963 ⁵⁰	35.26 ¹⁸	47.975 ⁴⁷	15.41 ⁷²
	30.4	10.019 ⁷⁰	43.66 ³⁵	40.913 ⁶⁹	35.08 ²⁹	47.928 ⁶⁴	14.69 ⁷⁴
June	9.3	9.949 ⁸⁶	43.31 ⁴⁷	40.844 ⁸⁵	34.79 ⁴¹	47.864 ⁸³	13.95 ⁷⁶
	19.3	9.863 ¹⁰¹	42.84 ⁵¹	40.759 ¹⁰²	34.38 ⁴⁹	47.781 ⁹⁷	13.19 ⁷⁵
	29.3	9.762 ¹¹³	42.33 ⁶¹	40.657 ¹¹²	33.89 ⁵⁸	47.684 ¹¹¹	12.44 ⁷³
July	9.3	9.649 ¹²¹	41.72 ⁶⁶	40.545 ¹²³	33.31 ⁶⁵	47.573 ¹¹⁸	11.71 ⁶⁵
	19.2	9.528 ¹²⁶	41.06 ⁶⁹	40.422 ¹²⁸	32.66 ⁶⁹	47.455 ¹²⁵	11.06 ⁵⁸
	29.2	9.402 ¹²⁸	40.37 ⁷¹	40.294 ¹²⁸	31.97 ⁷³	47.330 ¹²⁶	10.48 ⁵⁰
Aug.	8.2	9.274 ¹²²	39.66 ⁶⁸	40.166 ¹²⁴	31.24 ⁷³	47.204 ¹²³	9.98 ³⁹
	18.2	9.152 ¹⁰⁹	38.98 ⁶⁵	40.042 ¹¹³	30.51 ⁷⁰	47.081 ¹¹⁵	9.59 ²⁷
	28.1	9.043 ⁹³	38.33 ⁵⁹	39.929 ⁹⁶	29.81 ⁶⁵	46.966 ⁹⁶	9.32 ¹⁰
Sept.	7.1	8.950 ⁶⁹	37.74 ⁴⁶	39.833 ⁷¹	29.16 ⁵⁶	46.870 ⁷⁵	9.22 ⁸
	17.1	8.881 ⁴¹	37.28 ³⁴	39.762 ⁴¹	28.60 ⁴²	46.795 ⁴⁸	9.30 ²³
	27.0	8.840 ¹	36.94 ¹⁴	39.721 ³	28.18 ²³	46.747 ¹¹	9.53 ⁵⁰
Oct.	7.0	8.839 ⁴³	36.80 ¹⁰	39.718 ⁴⁰	27.95 ²	46.736 ²⁸	10.03 ⁶⁹
	17.0	8.882 ⁸⁸	36.90 ³⁰	39.758 ⁸⁵	27.93 ²³	46.764 ⁷⁴	10.72 ⁹⁶
	27.0	8.970 ¹³³	37.20 ⁶²	39.843 ¹³⁴	28.16 ⁵¹	46.838 ¹²²	11.68 ¹²³
Nov.	5.9	9.103 ¹⁸²	37.82 ⁸⁷	39.977 ¹⁸²	28.67 ⁷⁹	46.960 ¹⁶⁷	12.91 ¹⁴⁷
	15.9	9.285 ²²⁸	38.69 ¹¹⁸	40.159 ²²⁵	29.46 ¹⁰⁸	47.127 ²¹¹	14.38 ¹⁶⁸
	25.9	9.513 ²⁶⁰	39.87 ¹⁴²	40.384 ²⁶⁴	30.54 ¹³⁶	47.338 ²⁴⁷	16.06 ¹⁸⁶
Dec.	5.9	9.773 ²⁹⁴	41.29 ¹⁶⁵	40.648 ²⁹⁵	31.90 ¹⁵⁹	47.585 ²⁸³	17.92 ¹⁹⁹
	15.8	10.067 ³¹⁵	42.94 ¹⁸⁴	40.943 ³¹⁸	33.49 ¹⁷⁹	47.868 ³⁰⁶	19.91 ²⁰⁵
	25.8	10.382 ³²⁷	44.78 ¹⁹³	41.261 ³²⁷	35.28 ¹⁹²	48.174 ³¹⁵	21.96 ²⁰⁸
	35.8	10.709	46.71	41.588	37.20	48.489	24.04
Mean Place	8.036	35.23	38.902	26.36	46.064	9.52	
Sec δ , Tan δ	1.018	-0.190	1.024	-0.218	1.000	-0.003	
L α , L δ	0.00	-0.4	0.00	-0.4	0.00	-0.4	
ω α , ω δ	-0.01	-0.3	-0.01	-0.4	0.00	-0.4	
AUTHORITY	A. E.		A. E.		A. E.		

360 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ε Centauri. Mag. 2.6		m Virginis. Mag. 5.2		τ Boötis. Mag. 4.5	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	h m 13 34	° ' 53 4	h m 13 37	° ' 8 18	h m 13 43	° ' 17 50
Jan. 0.8	59.948 ⁴⁸²	12.89 ¹¹³	33.715 ³²⁵	47.94 ¹⁹⁵	35.496 ³²⁶	21.16 ²¹⁵
10.8	60.430 ⁴⁷⁶	14.02 ¹⁵⁶	34.040 ³²¹	49.89 ¹⁹³	35.822 ³²⁷	19.01 ¹⁸¹
20.7	60.906 ⁴⁵⁶	15.58 ¹⁹⁴	34.361 ³⁰⁹	51.82 ¹⁸⁶	36.149 ³¹⁷	17.20 ¹⁵¹
30.7	61.362 ⁴²⁷	17.52 ²²⁸	34.670 ²⁸⁹	53.68 ¹⁷³	36.466 ²⁹⁸	15.69 ¹⁰⁸
Feb. 9.7	61.789 ³⁸⁷	19.80 ²⁵⁰	34.959 ²⁶²	55.41 ¹⁵⁵	36.764 ²⁷²	14.61 ⁶⁸
19.6	62.176 ³⁴¹	22.30 ²⁷¹	35.221 ²³¹	56.96 ¹³³	37.036 ²⁴¹	13.93 ²⁵
Mar. 1.6	62.517 ²⁹⁰	25.01 ²⁸³	35.452 ¹⁹⁷	58.29 ¹¹⁰	37.277 ²⁰⁶	13.68 ¹⁵
11.6	62.807 ²³⁸	27.84 ²⁸⁶	35.649 ¹⁶²	59.39 ⁸⁷	37.483 ¹⁶⁹	13.83 ⁵⁵
21.6	63.045 ¹⁸⁹	30.70 ²⁸⁷	35.811 ¹²⁸	60.26 ⁶²	37.652 ¹³³	14.38 ⁸⁶
31.5	63.234 ¹³⁵	33.57 ²⁸⁰	35.939 ⁹⁵	60.88 ⁴¹	37.785 ⁹⁵	15.24 ¹¹³
Apr. 10.5	63.369 ⁸⁴	36.37 ²⁶⁸	36.034 ⁶⁵	61.29 ¹⁹	37.880 ⁶²	16.37 ¹³³
20.5	63.453 ³⁶	39.05 ²⁵³	36.099 ³⁵	61.48 ³	37.942 ²⁹	17.70 ¹⁴⁷
30.5	63.489 ¹³	41.58 ²³¹	36.134 ⁹	61.51 ¹³	37.971 ⁰	19.17 ¹⁵²
May 10.4	63.476 ⁵⁵	43.89 ²⁰⁶	36.143 ¹⁶	61.38 ²⁵	37.971 ²⁴	20.69 ¹⁵⁵
20.4	63.421 ⁹⁸	45.95 ¹⁷⁶	36.127 ³⁷	61.13 ³⁷	37.947 ⁵²	22.24 ¹⁴⁹
30.4	63.323 ¹³⁹	47.71 ¹⁴³	36.090 ⁵⁹	60.76 ⁴⁵	37.895 ⁷²	23.73 ¹³⁷
June 9.3	63.184 ¹⁷²	49.14 ¹⁰⁷	36.031 ⁷⁸	60.31 ⁵¹	37.823 ⁹¹	25.10 ¹²⁶
19.3	63.012 ²⁰⁴	50.21 ⁷²	35.953 ⁹⁴	59.80 ⁵⁷	37.732 ¹⁰⁹	26.36 ¹⁰⁶
29.3	62.808 ²²⁹	50.93 ²⁹	35.859 ¹⁰⁸	59.23 ⁶⁰	37.623 ¹²¹	27.42 ⁸⁷
July 9.3	62.579 ²⁴⁹	51.22 ¹²	35.751 ¹²⁰	58.63 ⁶⁴	37.502 ¹³⁴	28.29 ⁶⁴
19.2	62.330 ²⁵⁹	51.10 ⁵³	35.631 ¹²⁷	57.99 ⁶³	37.368 ¹³⁹	28.93 ⁴⁰
29.2	62.071 ²⁶³	50.57 ⁹²	35.504 ¹³⁰	57.36 ⁶³	37.229 ¹⁴³	29.33 ¹⁶
Aug. 8.2	61.808 ²⁵³	49.65 ¹²⁹	35.374 ¹²⁸	56.73 ⁶⁰	37.086 ¹³⁸	29.49 ¹¹
18.2	61.555 ²³⁴	48.36 ¹⁶¹	35.246 ¹²⁰	56.13 ⁵³	36.948 ¹³¹	29.38 ³⁹
28.1	61.321 ²⁰³	46.75 ¹⁹²	35.126 ¹⁰⁵	55.60 ⁴⁶	36.817 ¹¹⁷	28.99 ⁶⁵
Sept. 7.1	61.118 ¹⁶¹	44.83 ²⁰⁹	35.021 ⁸²	55.14 ³⁴	36.700 ⁹⁴	28.34 ⁹³
17.1	60.957 ¹⁰⁹	42.74 ²²⁴	34.939 ⁵⁴	54.80 ¹⁹	36.606 ⁶⁷	27.41 ¹²²
27.0	60.848 ⁴⁵	40.50 ²²⁸	34.885 ¹⁷	54.61 ¹	36.539 ³³	26.19 ¹⁴⁸
Oct. 7.0	60.803 ²⁶	38.22 ²²²	34.868 ²⁴	54.60 ²¹	36.506 ⁹	24.71 ¹⁷⁵
17.0	60.829 ⁹⁸	36.00 ²⁰⁸	34.892 ⁶⁹	54.81 ⁴⁶	36.515 ⁵⁵	22.96 ¹⁹⁹
27.0	60.927 ¹⁷⁶	33.92 ¹⁸¹	34.961 ¹¹⁷	55.27 ⁷²	36.570 ¹⁰¹	20.97 ²²¹
Nov. 5.9	61.103 ²⁵¹	32.11 ¹⁵⁰	35.078 ¹⁶⁵	55.99 ⁹⁸	36.671 ¹⁵⁰	18.76 ²³⁹
15.9	61.354 ³²⁰	30.61 ¹¹²	35.243 ²¹⁰	56.97 ¹²⁵	36.821 ¹⁹⁷	16.37 ²⁵¹
25.9	61.674 ³⁷⁹	29.49 ⁶²	35.453 ²⁵¹	58.22 ¹⁴⁹	37.018 ²³⁹	13.86 ²⁵⁷
Dec. 5.9	62.053 ⁴²⁵	28.87 ¹⁵	35.704 ²⁸³	59.71 ¹⁶⁹	37.257 ²⁷⁷	11.29 ²⁵⁵
15.8	62.478 ⁴⁶¹	28.72 ³⁵	35.987 ³⁰⁸	61.40 ¹⁸⁴	37.534 ³⁰³	8.74 ²⁴⁶
25.8	62.939 ⁴⁷⁶	29.07 ⁸⁵	36.295 ³²²	63.24 ¹⁹⁴	37.837 ³²¹	6.28 ²²⁹
35.8	63.415	29.92	36.617	65.18	38.158	3.99
Mean Place	59.828	32.27	34.075	53.93	36.176	23.73
Sec δ, Tan δ	1.665	-1.331	1.011	-0.146	1.051	+0.322
L α, L δ	+0.01	-0.4	0.00	-0.4	0.00	-0.4
ω α, ω δ	-0.08	-0.4	-0.01	-0.4	+0.02	-0.4
AUTHORITY	A. E.				A. E.	

APPARENT PLACES OF STARS, 1923. 361

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Ursæ Majoris. Mag. 1.9		μ Centauri. Mag. 3.3		ζ Centauri. Mag. 3.1	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	h m 13 44	° ' 49 41	h m 13 44	° ' 42 5	h m 13 50	° ' 46 54
Jan. 0.8	29.175 ⁴²⁶	38.41 ¹⁹⁸	58.076 ⁴⁰⁶	9.33 ¹²⁷	43.475 ⁴³⁴	18.13 ¹¹⁰
10.8	29.601 ⁴³⁰	36.43 ¹⁴¹	58.482 ⁴⁰⁴	10.60 ¹⁶²	43.909 ⁴³³	19.23 ¹⁴⁶
20.7	30.031 ⁴²³	35.02 ⁸²	58.886 ³⁸⁹	12.22 ¹⁹⁰	44.342 ⁴²⁰	20.69 ¹⁸³
30.7	30.454 ⁴⁰⁴	34.20 ²⁰	59.275 ³⁶⁶	14.12 ²¹³	44.762 ³⁹⁴	22.52 ²⁰⁸
Feb. 9.7	30.858 ³⁷¹	34.00 ⁴⁰	59.641 ³³³	16.25 ²³⁰	45.156 ³⁶²	24.60 ²³¹
19.7	31.229 ³²⁹	34.40 ¹⁰¹	59.974 ²⁹⁷	18.55 ²³⁹	45.518 ³²⁴	26.91 ²⁴⁶
Mar. 1.6	31.558 ²⁷⁹	35.41 ¹⁴⁸	60.271 ²⁵⁶	20.94 ²⁴⁴	45.842 ²⁸²	29.37 ²⁵⁵
11.6	31.837 ²²⁵	36.89 ¹⁹⁶	60.527 ²¹⁴	23.38 ²⁴³	46.124 ²³⁶	31.92 ²⁵⁷
21.6	32.062 ¹⁶⁶	38.85 ²³³	60.741 ¹⁷²	25.81 ²³⁷	46.360 ¹⁹²	34.49 ²⁵⁵
31.6	32.228 ¹⁰⁷	41.18 ²⁵⁵	60.913 ¹³¹	28.18 ²²⁷	46.552 ¹⁴⁹	37.04 ²⁴⁷
Apr. 10.5	32.335 ⁵⁴	43.73 ²⁷⁰	61.044 ⁹⁰	30.45 ²¹⁴	46.701 ¹⁰²	39.51 ²³⁷
20.5	32.389 ³	46.43 ²⁷⁶	61.134 ⁵¹	32.59 ¹⁹⁷	46.803 ⁶¹	41.88 ²²²
30.5	32.392 ⁴⁹	49.19 ²⁷⁰	61.185 ¹⁵	34.56 ¹⁷⁸	46.864 ²⁰	44.10 ²⁰⁵
May 10.4	32.343 ⁹³	51.89 ²⁵⁵	61.200 ²²	36.34 ¹⁵⁵	46.884 ²¹	46.15 ¹⁸¹
20.4	32.250 ¹³²	54.44 ²²⁹	61.178 ⁵⁵	37.89 ¹³¹	46.863 ⁵⁸	47.96 ¹⁵⁶
30.4	32.118 ¹⁶⁵	56.73 ¹⁹⁹	61.123 ⁸⁶	39.20 ¹⁰³	46.805 ⁹⁵	49.52 ¹²⁸
June 9.4	31.953 ¹⁹²	58.72 ¹⁶⁷	61.037 ¹¹⁶	40.23 ⁷⁴	46.710 ¹²⁸	50.80 ⁹⁶
19.3	31.761 ²¹⁶	60.39 ¹²¹	60.921 ¹⁴³	40.97 ⁴⁴	46.582 ¹⁵⁷	51.76 ⁶³
29.3	31.545 ²³¹	61.60 ⁸³	60.778 ¹⁶⁵	41.41 ¹¹	46.425 ¹⁸⁵	52.39 ²⁹
July 9.3	31.314 ²⁴⁵	62.43 ³³	60.613 ¹⁸³	41.52 ²¹	46.240 ²⁰⁴	52.68 ⁸
19.3	31.069 ²⁴⁹	62.76 ¹³	60.430 ¹⁹⁵	41.31 ⁵³	46.036 ²¹⁸	52.60 ⁴³
29.2	30.820 ²⁴⁷	62.63 ⁵⁷	60.235 ²⁰⁰	40.78 ⁸⁴	45.818 ²²⁵	52.17 ⁷⁷
Aug. 8.2	30.573 ²³⁸	62.06 ¹⁰³	60.035 ¹⁹⁷	39.94 ¹¹³	45.593 ²²³	51.40 ¹¹²
18.2	30.335 ²²³	61.03 ¹⁴⁸	59.838 ¹⁸⁴	38.81 ¹³⁸	45.370 ²¹⁰	50.28 ¹³⁹
28.1	30.112 ¹⁹⁵	59.55 ¹⁸⁹	59.654 ¹⁶⁴	37.43 ¹⁵⁷	45.160 ¹⁸⁵	48.89 ¹⁶⁴
Sept. 7.1	29.917 ¹⁶⁵	57.66 ²³¹	59.490 ¹³²	35.86 ¹⁷³	44.975 ¹⁵³	47.25 ¹⁸⁴
17.1	29.752 ¹²⁶	55.35 ²⁶⁴	59.358 ⁹¹	34.13 ¹⁷⁹	44.822 ¹¹⁰	45.41 ¹⁹⁵
27.1	29.626 ⁷⁷	52.71 ²⁹²	59.267 ⁴¹	32.34 ¹⁸⁰	44.712 ⁵⁶	43.46 ¹⁹⁹
Oct. 7.0	29.549 ²⁵	49.79 ³²⁰	59.226 ¹⁵	30.54 ¹⁷¹	44.656 ⁵	41.47 ¹⁹³
17.0	29.524 ³⁸	46.59 ³³⁹	59.241 ⁷⁶	28.83 ¹⁵⁵	44.661 ⁷²	39.54 ¹⁷⁹
27.0	29.562 ¹⁰¹	43.20 ³⁴⁹	59.317 ¹⁴⁰	27.28 ¹³⁰	44.733 ¹⁴⁰	37.75 ¹⁶⁰
Nov. 6.0	29.663 ¹⁶⁶	39.71 ³⁵⁴	59.457 ²⁰²	25.98 ⁹⁸	44.873 ²⁰⁹	36.15 ¹²⁷
15.9	29.829 ²³¹	36.17 ³⁵⁰	59.659 ²⁶²	25.00 ⁶²	45.082 ²⁷¹	34.88 ⁹⁰
25.9	30.060 ²⁹⁰	32.67 ³³¹	59.921 ³¹²	24.38 ²¹	45.353 ³²⁷	33.98 ⁴⁸
Dec. 5.9	30.350 ³⁴³	29.36 ³⁰⁸	60.233 ³⁵⁴	24.17 ²²	45.680 ³⁷⁴	33.50 ⁴
15.8	30.693 ³⁸⁵	26.28 ²⁷³	60.587 ³⁸⁵	24.39 ⁶⁵	46.054 ⁴⁰⁸	33.46 ⁴⁰
25.8	31.078 ⁴¹⁴	23.55 ²³¹	60.972 ⁴⁰²	25.04 ¹⁰⁵	46.462 ⁴²⁷	33.86 ⁸⁴
35.8	31.492	21.24	61.374	26.09	46.889	34.70
Mean Place	30.546	49.43	58.181	26.15	43.591	36.33
Sec δ , Tan δ	1.546	+1.179	1.347	-0.903	1.464	-1.069
L α , L δ	-0.01	-0.4	+0.01	-0.4	+0.01	-0.4
ω α , ω δ	+0.07	-0.4	-0.05	-0.4	-0.06	-0.5
AUTHORITY	A. E.		A. N.		A. E.	

362 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Boötis. Mag. 2.8		τ Virginis. Mag. 4.3		β Centauri. Mag. 0.9	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.
	^h ^m 13 51	[°] ['] 18 46	^h ^m 13 57	[°] ['] 1 54	^h ^m 13 58	[°] ['] 59 59
Jan. 0.8	0.373 ³²⁷	56.79 ²¹⁷	43.005 ³¹⁶	62.83 ²⁰⁶	22.41 ⁵⁶	47.19 ⁶⁶
10.8	0.700 ³²⁷	54.62 ¹⁸⁶	43.321 ³¹⁸	60.77 ¹⁹¹	22.97 ⁵⁶	47.85 ¹¹⁵
20.7	1.027 ³²⁰	52.76 ¹⁵³	43.639 ³¹²	58.86 ¹⁷⁴	23.53 ⁵⁵	49.00 ¹⁵⁶
30.7	1.347 ³⁰³	51.23 ¹¹⁰	43.951 ²⁹³	57.12 ¹⁵⁰	24.08 ⁵²	50.56 ¹⁹⁶
Feb. 9.7	1.650 ²⁷⁷	50.13 ⁶⁹	44.244 ²⁷⁰	55.62 ¹²²	24.60 ⁴⁸	52.52 ²³¹
19.7	1.927 ²⁴⁹	49.44 ²⁶	44.514 ²⁴²	54.40 ⁹²	25.08 ⁴³	54.83 ²⁵⁵
Mar. 1.6	2.176 ²¹⁴	49.18 ¹⁸	44.756 ²¹²	53.48 ⁶¹	25.51 ³⁹	57.38 ²⁷⁸
11.6	2.390 ¹⁷⁷	49.36 ⁵⁶	44.968 ¹⁸⁰	52.87 ³³	25.90 ³²	60.16 ²⁹¹
21.6	2.567 ¹⁴²	49.92 ⁸⁸	45.148 ¹⁴⁴	52.54 ¹	26.22 ²⁶	63.07 ²⁹⁸
31.6	2.709 ¹⁰²	50.80 ¹¹⁷	45.292 ¹¹²	52.53 ²²	26.48 ²¹	66.05 ²⁹⁷
Apr. 10.5	2.811 ⁷²	51.97 ¹³⁹	45.404 ⁸¹	52.75 ⁴⁵	26.69 ¹⁴	69.02 ²⁹²
20.5	2.883 ³⁸	53.36 ¹⁵⁰	45.485 ⁵¹	53.20 ⁶¹	26.83 ⁸	71.94 ²⁸¹
30.5	2.921 ⁶	54.86 ¹⁵⁹	45.536 ²⁵	53.81 ⁷²	26.91 ²	74.75 ²⁶⁶
May 10.4	2.927 ²¹	56.45 ¹⁵⁹	45.561 ¹	54.53 ⁸³	26.93 ³	77.41 ²⁴³
20.4	2.906 ⁴³	58.04 ¹⁵⁶	45.560 ²⁶	55.36 ⁸⁷	26.90 ⁹	79.84 ²¹⁸
30.4	2.863 ⁶⁸	59.60 ¹⁴²	45.534 ⁴⁸	56.23 ⁸⁷	26.81 ¹⁵	82.02 ¹⁸⁸
June 9.4	2.795 ⁹⁰	61.02 ¹²⁹	45.486 ⁶⁸	57.10 ⁸⁷	26.66 ²⁰	83.90 ¹⁵⁰
19.3	2.705 ¹⁰⁶	62.31 ¹¹¹	45.418 ⁸⁹	57.97 ⁸¹	26.46 ²³	85.40 ¹¹³
29.3	2.599 ¹²²	63.42 ⁹¹	45.329 ¹⁰⁴	58.78 ⁷⁶	26.23 ²⁸	86.53 ⁷²
July 9.3	2.477 ¹³³	64.33 ⁶⁹	45.225 ¹¹⁸	59.54 ⁶⁸	25.95 ³¹	87.25 ²⁹
19.3	2.344 ¹⁴¹	65.02 ⁴¹	45.107 ¹²⁷	60.22 ⁵⁸	25.64 ³³	87.54 ¹⁷
29.2	2.203 ¹⁴⁶	65.43 ¹⁵	44.980 ¹³⁴	60.80 ⁴⁶	25.32 ³⁴	87.37 ⁶⁵
Aug. 8.2	2.057 ¹⁴²	65.58 ¹¹	44.846 ¹³³	61.26 ³⁴	24.98 ³³	86.72 ¹⁰⁵
18.2	1.915 ¹³⁸	65.47 ³⁹	44.713 ¹²⁹	61.60 ²⁰	24.65 ³²	85.67 ¹⁴³
28.1	1.777 ¹²¹	65.08 ⁷⁰	44.584 ¹¹⁷	61.80 ²	24.33 ²⁸	84.24 ¹⁸¹
Sept. 7.1	1.656 ¹⁰⁰	64.38 ⁹⁴	44.467 ⁹⁷	61.82 ¹⁴	24.05 ²⁴	82.43 ²⁰⁸
17.1	1.556 ⁷⁶	63.44 ¹²⁷	44.370 ⁷²	61.68 ³⁸	23.81 ¹⁷	80.35 ²³¹
27.1	1.480 ³⁹	62.17 ¹⁵⁴	44.298 ³⁸	61.30 ⁵⁸	23.64 ¹¹	78.04 ²⁴⁵
Oct. 7.0	1.441 ⁰	60.63 ¹⁷⁹	44.260 ²	60.72 ⁸¹	23.53 ²	75.59 ²⁴⁶
17.0	1.441 ⁴⁸	58.84 ²⁰³	44.262 ⁴⁷	59.91 ¹⁰⁶	23.51 ⁷	73.13 ²³⁹
27.0	1.489 ⁹⁵	56.81 ²²⁸	44.309 ⁹³	58.85 ¹³²	23.58 ¹⁶	70.74 ²²¹
Nov. 6.0	1.584 ¹⁴³	54.53 ²⁴³	44.402 ¹⁴¹	57.53 ¹⁵²	23.74 ²⁴	68.53 ¹⁹⁴
15.9	1.727 ¹⁹³	52.10 ²⁵⁶	44.543 ¹⁸⁸	56.01 ¹⁷⁶	23.98 ³⁴	66.59 ¹⁶²
25.9	1.920 ²³³	49.54 ²⁶²	44.731 ²³¹	54.25 ¹⁹¹	24.32 ⁴¹	64.97 ¹¹⁷
Dec. 5.9	2.153 ²⁷¹	46.92 ²⁶²	44.962 ²⁶⁴	52.34 ²⁰⁴	24.73 ⁴⁷	63.80 ⁶⁶
15.8	2.424 ³⁰¹	44.30 ²⁵¹	45.226 ²⁹⁴	50.30 ²¹⁰	25.20 ⁵²	63.14 ¹⁸
25.8	2.725 ³²⁰	41.79 ²³³	45.520 ³¹⁰	48.20 ²¹¹	25.72 ⁵⁵	62.96 ³⁷
35.8	3.045	39.46	45.830	46.09	26.27	63.33
Mean Place	1.108	59.32	43.578	59.59	22.49	68.35
Sec δ , Tan δ	1.056	+0.340	1.001	+0.033	2.000	-1.732
L α , L δ	0.00	-0.4	0.00	-0.3	+0.02	-0.3
ω α , ω δ	+0.02	-0.5	0.00	-0.5	-0.10	-0.5
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 363

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	π Hydræ. Mag. 3.5		θ Centauri. Mag. 2.3		94 Virginis. Mag. 6.6	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	h m 14 I	° ' 20 18	h m 14 2	° ' 35 59	h m 14 2	° ' 8 31
Jan. 0.8	58.519 ³⁴⁸	31.29 ¹⁵⁰	8.344 ³⁷⁷	15.17 ¹²⁷	12.435 ³¹⁹	22.67 ¹⁸⁸
10.8	58.867 ³⁵⁰	32.79 ¹⁶⁹	8.721 ³⁷⁹	16.44 ¹⁵⁵	12.754 ³²⁴	24.55 ¹⁸⁶
20.7	59.217 ³⁴⁰	34.48 ¹⁸²	9.100 ³⁶⁸	17.99 ¹⁷⁹	13.078 ³¹⁴	26.41 ¹⁸⁰
30.7	59.557 ³²³	36.30 ¹⁸⁹	9.468 ³⁴⁹	19.78 ¹⁹⁶	13.392 ²⁹⁹	28.21 ¹⁶⁸
Feb. 9.7	59.880 ²⁹⁷	38.19 ¹⁹¹	9.817 ³²²	21.74 ²⁰⁷	13.691 ²⁷⁵	29.89 ¹⁵¹
19.7	60.177 ²⁶⁹	40.10 ¹⁸⁷	10.139 ²⁹⁰	23.81 ²¹⁴	13.966 ²⁴⁸	31.40 ¹²⁹
Mar. 1.6	60.446 ²³⁵	41.97 ¹⁷⁹	10.429 ²⁵⁷	25.95 ²¹⁵	14.214 ²¹⁷	32.69 ¹⁰⁷
11.6	60.681 ²⁰¹	43.76 ¹⁶⁸	10.686 ²¹⁸	28.10 ²¹¹	14.431 ¹⁸⁵	33.76 ⁸³
21.6	60.882 ¹⁶⁷	45.44 ¹⁵⁵	10.904 ¹⁸¹	30.21 ²⁰⁵	14.616 ¹⁵²	34.59 ⁶⁰
31.6	61.049 ¹³³	46.99 ¹⁴¹	11.085 ¹⁴³	32.26 ¹⁹²	14.768 ¹²⁰	35.19 ³⁸
Apr. 10.5	61.182 ⁹⁹	48.40 ¹²⁴	11.228 ¹⁰⁷	34.18 ¹⁷⁸	14.888 ⁸⁹	35.57 ¹⁸
20.5	61.281 ⁶⁷	49.64 ¹⁰⁸	11.335 ⁷¹	35.96 ¹⁶⁶	14.977 ⁶¹	35.75 ¹
30.5	61.348 ³⁷	50.72 ⁹¹	11.406 ³⁶	37.62 ¹⁴⁷	15.038 ³³	35.76 ¹⁵
May 10.4	61.385 ⁸	51.63 ⁷³	11.442 ²	39.09 ¹²⁷	15.071 ⁶	35.61 ²⁶
20.4	61.393 ²⁰	52.36 ⁵⁶	11.444 ²⁶	40.36 ¹⁰⁷	15.077 ¹⁸	35.35 ³⁷
30.4	61.373 ⁴⁸	52.92 ³⁸	11.418 ⁶⁰	41.43 ⁸⁵	15.059 ⁴²	34.98 ⁴⁴
June 9.4	61.325 ⁷³	53.30 ²⁰	11.358 ⁸⁹	42.28 ⁶¹	15.017 ⁶³	34.54 ⁵⁰
19.3	61.252 ⁹⁶	53.50 ²	11.269 ¹¹⁵	42.89 ³⁶	14.954 ⁸⁴	34.04 ⁵⁴
29.3	61.156 ¹¹⁷	53.52 ¹⁷	11.154 ¹⁴⁰	43.25 ⁸	14.870 ¹⁰²	33.50 ⁵⁸
July 9.3	61.039 ¹³⁵	53.35 ³⁵	11.014 ¹⁵⁷	43.33 ¹⁷	14.768 ¹¹⁸	32.92 ⁶⁰
19.3	60.904 ¹⁴⁸	53.00 ⁵³	10.857 ¹⁷³	43.16 ⁴⁴	14.650 ¹²⁸	32.32 ⁶⁰
29.2	60.756 ¹⁵⁵	52.47 ⁶⁹	10.684 ¹⁸¹	42.72 ⁶⁹	14.522 ¹³⁶	31.72 ⁵⁸
Aug. 8.2	60.601 ¹⁵⁸	51.78 ⁸³	10.503 ¹⁸³	42.03 ⁹¹	14.386 ¹³⁷	31.14 ⁵⁵
18.2	60.443 ¹⁵¹	50.95 ⁹⁵	10.320 ¹⁷⁵	41.12 ¹¹²	14.249 ¹³³	30.59 ⁵¹
28.1	60.292 ¹³⁸	50.00 ¹⁰²	10.145 ¹⁶¹	40.00 ¹³⁰	14.116 ¹²¹	30.08 ⁴³
Sept. 7.1	60.154 ¹¹⁵	48.98 ¹⁰⁷	9.984 ¹³³	38.70 ¹⁴⁰	13.995 ¹⁰²	29.65 ³²
17.1	60.039 ⁸⁵	47.91 ¹⁰⁵	9.851 ⁹⁸	37.30 ¹⁴⁶	13.893 ⁷⁵	29.33 ¹⁸
27.1	59.954 ⁴⁶	46.86 ⁹⁹	9.753 ⁵⁶	35.84 ¹⁴⁵	13.818 ⁴¹	29.15 ²
Oct. 7.0	59.908 ¹	45.87 ⁸⁴	9.697 ⁵	34.39 ¹³⁷	13.777 ⁰	29.13 ¹⁸
17.0	59.907 ⁵¹	45.03 ⁶⁷	9.692 ⁵²	33.02 ¹²²	13.777 ⁴⁴	29.31 ⁴²
27.0	59.958 ¹⁰⁴	44.36 ⁴³	9.744 ¹¹¹	31.80 ⁹⁹	13.821 ⁹³	29.73 ⁶⁶
Nov. 6.0	60.062 ¹⁵⁸	43.93 ¹⁵	9.855 ¹⁷⁰	30.81 ⁷¹	13.914 ¹⁴³	30.39 ⁹¹
15.9	60.220 ²¹⁰	43.78 ¹⁶	10.025 ²²⁶	30.10 ³⁸	14.057 ¹⁸⁹	31.30 ¹¹⁷
25.9	60.430 ²⁵⁶	43.94 ⁴⁹	10.251 ²⁷⁷	29.72 ⁰	14.246 ²³³	32.47 ¹⁴¹
Dec. 5.9	60.686 ²⁹⁴	44.43 ⁸¹	10.528 ³¹⁸	29.72 ³⁵	14.479 ²⁶⁸	33.88 ¹⁶⁰
15.8	60.980 ³²⁴	45.24 ¹¹¹	10.846 ³⁵⁰	30.07 ⁷³	14.747 ²⁹⁸	35.48 ¹⁷⁷
25.8	61.304 ³⁴³	46.35 ¹³⁸	11.196 ³⁷⁰	30.80 ¹¹⁰	15.045 ³¹⁵	37.25 ¹⁸⁶
35.8	61.647	47.73	11.566	31.90	15.360	39.11
Mean Place	58.883	43.87	8.646	30.63	12.938	29.54
Sec δ , Tan δ	1.116	-0.494	1.236	-0.726	1.011	-0.150
L α , L δ	+0.01	-0.3	+0.01	-0.3	0.00	-0.3
ω α , ω δ	-0.03	-0.5	-0.04	-0.5	-0.01	-0.5
AUTHORITY	A. N.		A. E.			

364 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Draconis. Mag. 3.6		κ Virginis. Mag. 4.3		α Boötis. Mag. 0.2	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	h m 14 2	° ' " 64 44	h m 14 8	° ' " 9 54	h m 14 12	° ' " 19 34
Jan. 0.8	15.90 ⁵⁷	24.15 ¹⁹⁵	46.609 ³¹⁹	50.11 ¹⁸⁰	8.062 ³¹⁵	55.69 ²²⁸
10.8	16.47 ⁶⁰	22.20 ¹³⁴	46.928 ³²²	51.91 ¹⁸³	8.377 ³²⁴	53.41 ²⁰⁰
20.7	17.07 ⁶⁰	20.86 ⁷⁰	47.250 ³¹⁹	53.74 ¹⁷⁸	8.701 ³²⁰	51.41 ¹⁶⁴
30.7	17.67 ⁵⁸	20.16 ³	47.569 ³⁰²	55.52 ¹⁶⁸	9.021 ³⁰⁷	49.77 ¹²⁴
Feb. 9.7	18.25 ⁵⁴	20.13 ⁶³	47.871 ²⁷⁷	57.20 ¹⁵²	9.328 ²⁸⁶	48.53 ⁷⁸
19.7	18.79 ⁴⁹	20.76 ¹²⁷	48.148 ²⁵⁶	58.72 ¹³²	9.614 ²⁶²	47.75 ³³
Mar. 1.6	19.28 ⁴³	22.03 ¹⁸¹	48.404 ²²⁴	60.04 ¹¹¹	9.876 ²²⁶	47.42 ⁷
11.6	19.71 ³⁴	23.84 ²²⁹	48.628 ¹⁹¹	61.15 ⁸⁹	10.102 ¹⁹⁴	47.49 ⁵²
21.6	20.05 ²⁶	26.13 ²⁶⁶	48.819 ¹⁵⁹	62.04 ⁶⁵	10.296 ¹⁶⁰	48.01 ⁸⁵
31.6	20.31 ¹⁷	28.79 ²⁹⁴	48.978 ¹²⁸	62.69 ⁴³	10.456 ¹²³	48.86 ¹¹⁵
Apr. 10.5	20.48 ⁹	31.73 ³⁰⁷	49.106 ⁹⁷	63.12 ²⁶	10.579 ⁹⁰	50.01 ¹³⁹
20.5	20.57 ⁰	34.80 ³⁰⁹	49.203 ⁶⁹	63.38 ¹⁰	10.669 ⁵⁶	51.40 ¹⁵⁵
30.5	20.57 ⁸	37.89 ³⁰³	49.272 ⁴⁰	63.48 ⁸	10.725 ²⁵	52.95 ¹⁶³
May 10.4	20.49 ¹⁶	40.92 ²⁸¹	49.312 ¹³	63.40 ²⁰	10.750 ⁵	54.58 ¹⁶⁷
20.4	20.33 ²³	43.73 ²⁵⁶	49.325 ¹⁴	63.20 ³⁰	10.745 ³²	56.25 ¹⁶²
30.4	20.10 ²⁸	46.29 ²²⁴	49.311 ³⁶	62.90 ⁴⁰	10.713 ⁵⁶	57.87 ¹⁵²
June 9.4	19.82 ³³	48.53 ¹⁸⁰	49.275 ⁶¹	62.50 ⁴⁵	10.657 ⁸¹	59.39 ¹³⁷
19.3	19.49 ³⁸	50.33 ¹³²	49.214 ⁸⁴	62.05 ⁵⁰	10.576 ¹⁰³	60.76 ¹¹⁹
29.3	19.11 ⁴⁰	51.65 ⁸⁶	49.130 ⁹⁷	61.55 ⁵⁵	10.473 ¹¹⁷	61.95 ⁹⁷
July 9.3	18.71 ⁴²	52.51 ³¹	49.033 ¹¹⁶	61.00 ⁵⁸	10.356 ¹³⁶	62.92 ⁷⁶
19.3	18.29 ⁴⁴	52.82 ¹⁸	48.917 ¹³⁴	60.42 ⁶⁰	10.220 ¹⁴⁸	63.68 ⁴⁸
29.2	17.85 ⁴³	52.64 ⁷³	48.783 ¹³⁷	59.82 ⁵⁸	10.072 ¹⁵³	64.16 ¹⁹
Aug. 8.2	17.42 ⁴¹	51.91 ¹²⁴	48.646 ¹⁴⁰	59.24 ⁵⁷	9.919 ¹⁵⁵	64.35 ¹¹
18.2	17.01 ⁴⁰	50.67 ¹⁷⁰	48.506 ¹³⁷	58.67 ⁵³	9.764 ¹⁵⁰	64.24 ³⁶
28.1	16.61 ³⁶	48.97 ²¹⁷	48.369 ¹²⁵	58.14 ⁴⁶	9.614 ¹⁴⁰	63.88 ⁶⁸
Sept. 7.1	16.25 ³¹	46.80 ²⁵⁷	48.244 ¹⁰⁸	57.68 ³⁸	9.474 ¹²³	63.20 ⁹⁵
17.1	15.94 ²⁶	44.23 ²⁹⁶	48.136 ⁷⁸	57.30 ²⁵	9.351 ⁹⁶	62.25 ¹²⁸
27.1	15.68 ¹⁹	41.27 ³²⁸	48.058 ⁴⁸	57.05 ⁷	9.255 ⁶³	60.97 ¹⁵⁶
Oct. 7.0	15.49 ¹¹	37.99 ³⁵²	48.010 ⁵	56.98 ⁹	9.192 ²⁴	59.41 ¹⁸⁴
17.0	15.38 ³	34.47 ³⁶⁸	48.005 ³⁹	57.07 ³¹	9.168 ²²	57.57 ²¹⁰
27.0	15.35 ⁷	30.79 ³⁸⁰	48.044 ⁸⁷	57.38 ⁵⁹	9.190 ⁶⁸	55.47 ²³²
Nov. 6.0	15.42 ¹⁶	26.99 ³⁸⁰	48.131 ¹³⁷	57.97 ⁷⁹	9.258 ¹²⁰	53.15 ²⁵²
15.9	15.58 ²⁶	23.19 ³⁷⁰	48.268 ¹⁸⁴	58.76 ¹⁰⁷	9.378 ¹⁶⁸	50.63 ²⁶⁵
25.9	15.84 ³⁴	19.49 ³⁵⁰	48.452 ²²⁹	59.83 ¹³¹	9.546 ²¹⁶	47.98 ²⁷³
Dec. 5.9	16.18 ⁴³	15.99 ³²⁴	48.681 ²⁶⁶	61.14 ¹⁵²	9.762 ²⁵¹	45.25 ²⁷¹
15.8	16.61 ⁴⁹	12.75 ²⁸¹	48.947 ²⁹⁴	62.66 ¹⁶⁷	10.013 ²⁹⁰	42.54 ²⁶⁴
25.8	17.10 ⁵⁶	9.94 ²³²	49.241 ³¹⁴	64.33 ¹⁸²	10.303 ³⁰⁸	39.90 ²⁴³
35.8	17.66	7.62	49.555	66.15	10.611	37.47
Mean Place	18.30	36.51	47.140	57.61	8.915	57.51
Sec δ , Tan δ	2.344	+2.120	1.015	-0.175	1.061	+0.356
L α , L δ	-0.03	-0.3	0.00	-0.3	-0.01	-0.3
ω α , ω δ	+0.12	-0.5	-0.01	-0.5	+0.02	-0.5
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 365

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	2 Libræ. Mag. 6.3		f Boötis. Mag. 5.4		ρ Boötis. Mag. 3.8	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	h m 14 19	° ′ 11 21	h m 14 22	° ′ 19 34	h m 14 28	° ′ 30 42
Jan. 0.8	16.244 ³¹⁹	38.81 ¹⁷⁵	51.535 ³¹⁶	19.22 ²²⁸	29.607 ³³⁰	27.39 ²³⁶
10.8	16.563 ³²⁴	40.56 ¹⁷⁹	51.851 ³²⁴	16.94 ¹⁹⁹	29.937 ³⁴⁰	25.03 ²⁰⁰
20.8	16.887 ³¹⁹	42.35 ¹⁷⁵	52.175 ³²³	14.95 ¹⁶³	30.277 ³⁴²	23.03 ¹⁵⁶
30.7	17.206 ³⁰⁶	44.10 ¹⁶⁶	52.498 ³¹¹	13.32 ¹²²	30.619 ³³³	21.47 ¹⁰⁵
Feb. 9.7	17.512 ²⁸⁵	45.76 ¹⁵³	52.809 ²⁹²	12.10 ⁷⁹	30.952 ³¹⁵	20.42 ⁵¹
19.7	17.797 ²⁶⁰	47.29 ¹³⁵	53.101 ²⁶⁸	11.31 ³³	31.267 ²⁸⁸	19.91 ⁰
Mar. 1.7	18.057 ²³²	48.64 ¹¹⁵	53.369 ²³⁷	10.08 ¹¹	31.555 ²⁶⁰	19.91 ⁵²
11.6	18.289 ²⁰¹	49.79 ⁹³	53.606 ²⁰⁵	11.09 ⁵³	31.815 ²²³	20.43 ¹⁰¹
21.6	18.490 ¹⁶⁹	50.72 ⁷²	53.811 ¹⁷⁰	11.62 ⁹⁰	32.038 ¹⁸⁴	21.44 ¹³⁹
31.6	18.659 ¹³⁹	51.44 ⁵¹	53.981 ¹³⁶	12.52 ¹²⁰	32.222 ¹⁴⁸	22.83 ¹⁷⁴
Apr. 10.5	18.798 ¹⁰⁸	51.95 ³²	54.117 ¹⁰¹	13.72 ¹⁴⁵	32.370 ¹⁰⁷	24.57 ²⁰⁰
20.5	18.906 ⁷⁹	52.27 ¹⁶	54.218 ⁷⁰	15.17 ¹⁶²	32.477 ⁷³	26.57 ²¹³
30.5	18.985 ⁵⁰	52.43 ⁰	54.288 ³⁷	16.79 ¹⁷²	32.550 ³⁴	28.70 ²²²
May 10.5	19.035 ²³	52.43 ¹²	54.325 ⁸	18.51 ¹⁷⁵	32.584 ⁰	30.92 ²²³
20.4	19.058 ³	52.31 ²³	54.333 ²⁰	20.26 ¹⁷¹	32.584 ³³	33.15 ²¹⁷
30.4	19.055 ²⁹	52.08 ³¹	54.313 ⁴⁷	21.97 ¹⁶²	32.551 ⁶²	35.32 ¹⁹⁹
June 9.4	19.026 ⁵³	51.77 ³⁹	54.266 ⁷²	23.59 ¹⁴⁸	32.489 ⁸⁸	37.31 ¹⁷⁷
19.4	18.973 ⁷⁶	51.38 ⁴⁴	54.194 ⁹⁴	25.07 ¹³⁰	32.401 ¹¹⁷	39.08 ¹⁵⁴
29.3	18.897 ⁹⁷	50.94 ⁵⁰	54.100 ¹¹⁴	26.37 ¹⁰⁹	32.284 ¹³⁸	40.62 ¹²⁵
July 9.3	18.800 ¹¹⁵	50.44 ⁵³	53.986 ¹³²	27.46 ⁸⁵	32.146 ¹⁵⁵	41.87 ⁹²
19.3	18.685 ¹²⁹	49.91 ⁵⁵	53.854 ¹⁴⁵	28.31 ⁵⁸	31.991 ¹⁶⁸	42.79 ⁵⁴
29.2	18.556 ¹⁴⁰	49.36 ⁵⁷	53.709 ¹⁵³	28.89 ³¹	31.823 ¹⁷⁹	43.33 ²¹
Aug. 8.2	18.416 ¹⁴⁴	48.79 ⁵⁷	53.556 ¹⁵⁷	29.20 ²	31.644 ¹⁸³	43.54 ¹⁶
18.2	18.272 ¹⁴²	48.22 ⁵⁴	53.399 ¹⁵⁵	29.22 ²⁷	31.461 ¹⁷⁹	43.38 ⁵⁶
28.2	18.130 ¹³³	47.68 ⁴⁹	53.244 ¹⁴⁶	28.95 ⁵⁷	31.282 ¹⁷¹	42.82 ⁹⁰
Sept. 7.1	17.997 ¹¹⁶	47.19 ⁴¹	53.098 ¹²⁹	28.38 ⁸⁷	31.111 ¹⁵²	41.92 ¹²⁹
17.1	17.881 ⁹⁰	46.78 ³¹	52.969 ¹⁰⁴	27.51 ¹¹⁸	30.959 ¹²⁵	40.63 ¹⁶³
27.1	17.791 ⁵⁶	46.47 ¹⁷	52.865 ⁷³	26.33 ¹⁴⁶	30.834 ⁹⁴	39.00 ¹⁹⁸
Oct. 7.1	17.735 ¹⁷	46.30 ¹	52.792 ³⁴	24.87 ¹⁷⁵	30.740 ⁵¹	37.02 ²³⁰
17.0	17.718 ²⁸	46.31 ²²	52.758 ¹¹	23.12 ²⁰²	30.689 ⁷	34.72 ²⁵²
27.0	17.746 ⁷⁷	46.53 ⁴⁶	52.769 ⁶⁰	21.10 ²²⁵	30.682 ⁴⁸	32.20 ²⁷⁹
Nov. 6.0	17.823 ¹²⁸	46.99 ⁷¹	52.829 ¹⁰⁹	18.85 ²⁴⁵	30.730 ⁹⁹	29.41 ²⁹⁷
15.9	17.951 ¹⁷⁷	47.70 ⁹⁶	52.938 ¹⁵⁹	16.40 ²⁵⁹	30.829 ¹⁵⁴	26.44 ³⁰¹
25.9	18.128 ²²¹	48.66 ¹²⁰	53.097 ²⁰⁸	13.81 ²⁶⁷	30.983 ²⁰⁷	23.43 ³⁰⁹
Dec. 5.9	18.349 ²⁶⁰	49.86 ¹⁴²	53.305 ²⁴⁷	11.14 ²⁶⁸	31.190 ²⁴⁸	20.34 ³⁰¹
15.9	18.609 ²⁹¹	51.28 ¹⁶⁰	53.552 ²⁸³	8.46 ²⁶⁰	31.438 ²⁹¹	17.33 ²⁸⁸
25.8	18.900 ³¹²	52.88 ¹⁷³	53.835 ³⁰⁶	5.86 ²⁴⁵	31.729 ³¹⁸	14.45 ²⁶⁰
35.8	19.212	54.61	54.141	3.41	32.047	11.85
Mean Place	16.824	47.08	52.444	20.51	30.727	31.48
Sec δ, Tan δ	1.020	-0.201	1.061	+0.356	1.163	+0.594
L α, L δ	0.00	-0.3	-0.01	-0.3	-0.01	-0.3
ω α, ω δ	-0.01	-0.6	+0.02	-0.6	+0.03	-0.6
AUTHORITY	A. E.					

366 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Boötis. Mag. 3.0		η Centauri. Mag. 2.7		α Centauri. Mag. 0.3	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	^h 14 ^m 28 ^s	[°] 38 ['] 38 ["]	^h 14 ^m 30 ^s	[°] 41 ['] 48 ["]	^h 14 ^m 34 ^s	[°] 60 ['] 30 ["]
Jan. 0.8	57.400 ³⁵¹	33.99 ²⁴⁰	36.106 ³⁹⁶	56.07 ⁸²	21.46 ⁵⁵	40.87 ²²
10.8	57.751 ³⁶⁴	31.59 ¹⁹⁷	36.502 ⁴⁰⁵	56.89 ¹¹⁴	22.01 ⁵⁶	41.09 ⁷²
20.8	58.115 ³⁶⁷	29.62 ¹⁴⁵	36.907 ⁴⁰²	58.03 ¹⁴²	22.57 ⁵⁶	41.81 ¹¹⁹
30.7	58.482 ³⁵⁸	28.17 ⁹²	37.309 ³⁸⁸	59.45 ¹⁶⁷	23.13 ⁵⁴	43.00 ¹⁵⁵
Feb. 9.7	58.840 ³³⁸	27.25 ³¹	37.697 ³⁶⁵	61.12 ¹⁸⁸	23.67 ⁵¹	44.55 ¹⁹⁴
19.7	59.178 ³¹³	26.94 ²⁶	38.062 ³³⁶	63.00 ²⁰⁰	24.18 ⁴⁷	46.49 ²²¹
Mar. 1.7	59.491 ²⁷⁷	27.20 ⁸⁰	38.398 ³⁰⁴	65.00 ²⁰⁸	24.65 ⁴²	48.70 ²⁴⁶
11.6	59.768 ²³⁹	28.00 ¹³¹	38.702 ²⁷¹	67.08 ²⁰⁹	25.07 ³⁶	51.16 ²⁶¹
21.6	60.007 ¹⁹⁷	29.31 ¹⁷³	38.973 ²²⁹	69.17 ²¹³	25.43 ³¹	53.77 ²⁷⁴
31.6	60.204 ¹⁵⁴	31.04 ²⁰⁵	39.202 ¹⁹¹	71.30 ²⁰⁷	25.74 ²⁵	56.51 ²⁸¹
Apr. 10.5	60.358 ¹¹¹	33.09 ²³³	39.393 ¹⁵⁴	73.37 ²⁰⁰	25.99 ¹⁹	59.32 ²⁸⁰
20.5	60.469 ⁶⁸	35.42 ²⁴⁸	39.547 ¹¹⁴	75.37 ¹⁸⁹	26.18 ¹³	62.12 ²⁷²
30.5	60.537 ²⁸	37.90 ²⁵⁴	39.661 ⁷⁷	77.26 ¹⁷⁶	26.31 ⁷	64.84 ²⁶⁵
May 10.5	60.565 ¹³	40.44 ²⁵⁰	39.738 ³⁷	79.02 ¹⁶²	26.38 ⁰	67.49 ²⁴⁵
20.4	60.552 ⁴⁹	42.94 ²³⁸	39.775 ¹	80.64 ¹⁴²	26.38 ⁵	69.94 ²²⁵
30.4	60.503 ⁸¹	45.32 ²³²	39.774 ³⁷	82.06 ¹²⁰	26.33 ¹²	72.19 ²⁰²
June 9.4	60.422 ¹¹²	47.54 ¹⁹²	39.737 ⁷⁵	83.26 ⁹⁹	26.21 ¹⁷	74.21 ¹⁷⁰
19.4	60.310 ¹⁴⁰	49.46 ¹⁶⁵	39.662 ¹⁰⁷	84.25 ⁷¹	26.04 ²²	75.91 ¹³⁶
29.3	60.170 ¹⁶¹	51.11 ¹²⁷	39.555 ¹⁴¹	84.96 ⁴⁵	25.82 ²⁷	77.27 ⁹⁸
July 9.3	60.009 ¹⁸⁴	52.38 ⁹²	39.414 ¹⁶⁵	85.41 ¹⁵	25.55 ³¹	78.25 ⁵⁷
19.3	59.825 ¹⁹⁷	53.30 ⁴⁹	39.249 ¹⁸⁹	85.56 ¹³	25.24 ³⁴	78.82 ¹³
29.2	59.628 ²⁰⁶	53.79 ⁸	39.060 ²⁰³	85.43 ⁴⁴	24.90 ³⁶	78.95 ²⁹
Aug. 8.2	59.422 ²¹⁰	53.87 ³³	38.857 ²¹⁰	84.99 ⁷⁴	24.54 ³⁶	78.66 ⁷²
18.2	59.212 ²⁰⁵	53.54 ⁷⁴	38.647 ²⁰⁷	84.25 ¹⁰⁰	24.18 ³⁵	77.94 ¹¹³
28.2	59.007 ¹⁹³	52.80 ¹¹⁷	38.440 ¹⁹⁵	83.25 ¹²²	23.83 ³³	76.81 ¹⁵¹
Sept. 7.1	58.814 ¹⁷³	51.63 ¹⁵⁶	38.245 ¹⁷³	82.03 ¹⁴³	23.50 ²⁹	75.30 ¹⁸⁹
17.1	58.641 ¹⁴⁶	50.07 ¹⁹⁴	38.072 ¹³⁹	80.60 ¹⁵⁴	23.21 ²⁴	73.41 ²¹²
27.1	58.495 ¹⁰⁹	48.13 ²³²	37.933 ⁹⁴	79.06 ¹⁶²	22.97 ¹⁷	71.29 ²³⁰
Oct. 7.1	58.386 ⁶⁶	45.81 ²⁶⁰	37.839 ⁴²	77.44 ¹⁶³	22.80 ⁹	68.99 ²⁴⁰
17.0	58.320 ¹⁶	43.21 ²⁸⁹	37.797 ¹⁹	75.81 ¹⁵⁵	22.71 ¹	66.59 ²⁴⁰
27.0	58.304 ³⁹	40.32 ³⁰⁸	37.816 ⁸¹	74.26 ¹³⁹	22.72 ⁹	64.19 ²³¹
Nov. 6.0	58.343 ⁹⁹	37.24 ³²⁵	37.897 ¹⁴⁶	72.87 ¹¹⁵	22.81 ¹⁹	61.88 ²¹⁰
15.9	58.442 ¹⁵⁵	33.99 ³³²	38.043 ²¹²	71.72 ⁸⁸	23.00 ²⁹	59.78 ¹⁸²
25.9	58.597 ²¹²	30.67 ³³⁰	38.255 ²⁶⁷	70.84 ⁵¹	23.29 ³⁶	57.96 ¹⁴²
Dec. 5.9	58.809 ²⁵⁹	27.37 ³¹⁹	38.522 ³¹⁸	70.33 ¹⁸	23.65 ⁴⁴	56.54 ¹⁰²
15.9	59.068 ³⁰⁴	24.18 ²⁹⁹	38.840 ³⁵⁷	70.15 ²²	24.09 ⁴⁹	55.52 ⁵⁴
25.8	59.372 ³³⁸	21.19 ²⁶⁸	39.197 ³⁸⁶	70.37 ⁶¹	24.58 ⁵³	54.98 ⁴
35.8	59.710	18.51	39.583	70.98	25.11	54.94
Mean Place	58.702	40.00	36.617	73.39	21.40	66.45
Sec δ , Tan δ	1.280	+0.799	1.342	-0.895	2.032	-1.769
L α , L δ	-0.01	-0.3	+0.01	-0.3	+0.03	-0.3
ω α , ω δ	+0.04	-0.6	-0.05	-0.6	-0.09	-0.6
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 367

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Circini. Mag. 3.4		α Lupi. Mag. 2.9		ϵ Boötis. Mag. 2.7	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	^h ^m 14 36	[°] ['] 64 38	^h ^m 14 36	[°] ['] 47 3	^h ^m 14 41	[°] ['] 27 23
Jan. 0.8	15.11 ⁶²	5.30 ¹	47.403 ⁴²⁴	12.92 ⁵⁶	36.334 ³¹⁶	50.47 ²⁴³
10.8	15.73 ⁶⁴	5.31 ⁵⁰	47.827 ⁴³⁴	13.48 ⁹⁵	36.650 ³³¹	48.04 ²⁰⁹
20.8	16.37 ⁶⁴	5.81 ⁹⁹	48.261 ⁴³³	14.43 ¹²⁸	36.981 ³³⁴	45.95 ¹⁶⁷
30.8	17.01 ⁶³	6.80 ¹⁴²	48.694 ⁴²⁰	15.71 ¹⁵⁸	37.315 ³²⁷	44.28 ¹¹⁹
Feb. 9.7	17.64 ⁶⁰	8.22 ¹⁸²	49.114 ³⁹⁸	17.29 ¹⁸²	37.642 ³¹²	43.09 ⁶⁹
19.7	18.24 ⁵⁵	10.04 ²¹⁶	49.512 ³⁶⁸	19.11 ²⁰¹	37.954 ²⁸⁸	42.40 ¹⁷
Mar. 1.7	18.79 ⁵⁰	12.20 ²⁴³	49.880 ³³⁴	21.12 ²¹⁴	38.242 ²⁶¹	42.23 ³²
11.6	19.29 ⁴⁵	14.63 ²⁶⁶	50.214 ²⁹⁷	23.26 ²²³	38.503 ²²⁸	42.55 ⁸⁰
21.6	19.74 ³⁹	17.29 ²⁸¹	50.511 ²⁵⁷	25.49 ²²⁷	38.731 ¹⁹⁴	43.35 ¹²²
31.6	20.13 ³¹	20.10 ²⁹⁰	50.768 ²¹⁵	27.76 ²²⁶	38.925 ¹⁵⁷	44.57 ¹⁵⁵
Apr. 10.6	20.44 ²⁵	23.00 ²⁹⁵	50.983 ¹⁷³	30.02 ²²³	39.082 ¹²¹	46.12 ¹⁸³
20.5	20.69 ¹⁸	25.95 ²⁹²	51.156 ¹³¹	32.25 ²¹⁴	39.203 ⁸⁶	47.95 ²⁰²
30.5	20.87 ¹¹	28.87 ²⁸⁵	51.287 ⁸⁹	34.39 ²⁰³	39.289 ⁵¹	49.97 ²¹²
May 10.5	20.98 ³	31.72 ²⁷¹	51.376 ⁴⁵	36.42 ¹⁸⁸	39.340 ¹⁷	52.09 ²¹⁴
20.5	21.01 ⁴	34.43 ²⁵²	51.421 ³	38.30 ¹⁷⁰	39.357 ¹³	54.23 ²⁰⁹
30.4	20.97 ¹⁰	36.95 ²²⁷	51.424 ⁴⁰	40.00 ¹⁴⁹	39.344 ⁴⁶	56.32 ¹⁹⁷
June 9.4	20.87 ¹⁸	39.22 ¹⁹⁷	51.384 ⁸⁰	41.49 ¹²⁴	39.298 ⁷³	58.29 ¹⁸⁰
19.4	20.69 ²⁴	41.19 ¹⁶³	51.304 ¹¹⁹	42.73 ⁹⁷	39.225 ⁹⁹	60.09 ¹⁵⁷
29.3	20.45 ²⁹	42.82 ¹²⁴	51.185 ¹⁵⁴	43.70 ⁶⁶	39.126 ¹²³	61.66 ¹²⁹
July 9.3	20.16 ³⁵	44.06 ⁸¹	51.031 ¹⁸⁶	44.36 ³⁴	39.003 ¹⁴⁴	62.95 ¹⁰⁰
19.3	19.81 ³⁸	44.87 ³⁶	50.845 ²¹⁰	44.70 ¹	38.859 ¹⁶¹	63.95 ⁶⁸
29.3	19.43 ⁴⁰	45.23 ¹⁰	50.635 ²²⁸	44.71 ³³	38.698 ¹⁷²	64.63 ³⁴
Aug. 8.2	19.03 ⁴²	45.13 ⁵⁸	50.407 ²³⁸	44.38 ⁶⁶	38.526 ¹⁷⁸	64.97 ²
18.2	18.61 ⁴¹	44.55 ¹⁰²	50.169 ²³⁵	43.72 ⁹⁸	38.348 ¹⁷⁸	64.95 ³⁶
28.2	18.20 ³⁸	43.53 ¹⁴⁵	49.934 ²²²	42.74 ¹²⁷	38.170 ¹⁷¹	64.59 ⁷³
Sept. 7.2	17.82 ³⁴	42.08 ¹⁸³	49.712 ¹⁹⁹	41.47 ¹⁵¹	37.999 ¹⁵⁶	63.86 ¹⁰⁸
17.1	17.48 ²⁸	40.25 ²¹³	49.513 ¹⁶¹	39.96 ¹⁶⁹	37.843 ¹³²	62.78 ¹⁴³
27.1	17.20 ²¹	38.12 ²³⁸	49.352 ¹¹⁴	38.27 ¹⁸¹	37.711 ¹⁰¹	61.35 ¹⁷⁶
Oct. 7.1	16.99 ¹¹	35.74 ²⁵¹	49.238 ⁵⁸	36.46 ¹⁸⁵	37.610 ⁶²	59.59 ²⁰⁷
17.0	16.88 ²	33.23 ²⁵⁵	49.180 ⁸	34.61 ¹⁸¹	37.548 ¹⁷	57.52 ²³⁶
27.0	16.86 ¹⁰	30.68 ²⁴⁸	49.188 ⁷⁷	32.80 ¹⁶⁸	37.531 ³³	55.16 ²⁵⁹
Nov. 6.0	16.96 ²⁰	28.20 ²³²	49.265 ¹⁴⁸	31.12 ¹⁴⁶	37.564 ⁸⁶	52.57 ²⁸⁰
16.0	17.16 ³¹	25.88 ²⁰⁴	49.413 ²¹⁷	29.66 ¹¹⁹	37.650 ¹³⁹	49.77 ²⁹²
25.9	17.47 ⁴⁰	23.84 ¹⁶⁹	49.630 ²⁸⁰	28.47 ⁸⁵	37.789 ¹⁹⁰	46.85 ²⁹⁹
Dec. 5.9	17.87 ⁴⁸	22.15 ¹²⁶	49.910 ³³⁶	27.62 ⁴⁷	37.979 ²³⁵	43.86 ²⁹⁵
15.9	18.35 ⁵⁶	20.89 ⁷⁹	50.246 ³⁷⁹	27.15 ⁷	38.214 ²⁷⁶	40.91 ²⁸⁴
25.9	18.91 ⁶⁰	20.10 ²⁹	50.625 ⁴¹¹	27.08 ³⁵	38.490 ³⁰⁵	38.07 ²⁶³
35.8	19.51	19.81	51.036	27.43	38.795	35.44
Mean Place	15.75	27.24	47.962	31.47	37.456	53.00
Sec δ , Tan δ	2.335	-2.110	1.468	-1.075	1.126	+0.518
L α , L δ	+0.03	-0.3	+0.02	-0.3	-0.01	-0.3
ω α , ω δ	-0.11	-0.6	-0.06	-0.6	+0.03	-0.6
AUTHORITY	A. N.		A. N.			

368 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Libræ. Mag. 2.9		β Ursæ Minoris. Mag. 2.2		ξ^2 Libræ. Mag. 5.6	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	h m 14 46	° ' 15 43	h m 14 50	° ' 74 27	h m 14 52	° ' 11 5
Jan. 0.8	36.184 ⁸	11.36 ¹⁵³	50.33 ⁸	62.73 ²³⁶	34.419 ³¹⁰	50.38 ¹⁶³
10.8	36.498 ³¹⁴	12.89 ¹⁵⁷	51.09 ⁸³	60.37 ¹⁷⁷	34.729 ³¹⁵	52.01 ¹⁶⁵
20.8	36.823 ³²⁵	14.46 ¹⁶²	51.92 ⁸⁸	58.60 ¹¹³	35.044 ³¹⁹	53.66 ¹⁶³
30.8	37.147 ³²⁴	16.08 ¹⁵⁸	52.80 ⁸⁹	57.47 ⁴⁷	35.363 ³¹²	55.29 ¹⁵⁵
Feb. 9.7	37.463 ³⁰⁰	17.66 ¹⁵⁰	53.69 ⁸⁷	57.00 ²²	35.675 ²⁹⁷	56.84 ¹⁴¹
19.7	37.763 ²⁸⁰	19.16 ¹³⁴	54.56 ⁸²	57.22 ⁸⁸	35.972 ²⁷⁷	58.25 ¹²³
Mar. 1.7	38.043 ²⁵⁵	20.50 ¹²²	55.38 ⁷⁵	58.10 ¹⁴⁸	36.249 ²⁵³	59.48 ¹⁰⁴
11.6	38.298 ²²⁸	21.72 ¹⁰⁵	56.13 ⁶⁴	59.58 ²⁰⁵	36.502 ²²⁷	60.52 ⁸³
21.6	38.526 ¹⁹⁷	22.77 ⁸⁶	56.77 ⁵³	61.63 ²⁴⁹	36.729 ¹⁹⁸	61.35 ⁶²
31.6	38.723 ¹⁶⁹	23.63 ⁷¹	57.30 ⁴⁰	64.12 ²⁸⁶	36.927 ¹⁷⁰	61.97 ⁴¹
Apr. 10.6	38.892 ¹³⁷	24.34 ⁵¹	57.70 ²⁶	66.98 ³⁰⁷	37.097 ¹⁴¹	62.38 ²³
20.5	39.029 ¹¹⁰	24.85 ³⁴	57.96 ¹²	70.05 ³²⁰	37.238 ¹¹²	62.61 ⁷
30.5	39.139 ⁷⁹	25.19 ²⁴	58.08 ²	73.25 ³²¹	37.350 ⁸⁴	62.68 ⁸
May 10.5	39.218 ⁵²	25.43 ⁹	58.06 ¹⁶	76.46 ³¹⁰	37.434 ⁵⁴	62.60 ¹⁸
20.5	39.270 ²¹	25.52 ¹	57.90 ²⁸	79.56 ²⁸⁸	37.488 ²⁷	62.42 ²⁷
30.4	39.291 ⁷	25.51 ⁷	57.62 ⁴⁰	82.44 ²⁶¹	37.515 ²	62.15 ³⁵
June 9.4	39.284 ³⁵	25.44 ¹⁹	57.22 ⁵¹	85.05 ²²⁴	37.513 ³⁰	61.80 ⁴⁰
19.4	39.249 ⁶²	25.25 ²⁸	56.71 ⁵⁹	87.29 ¹⁸⁰	37.483 ⁵⁶	61.40 ⁴⁴
29.3	39.187 ⁸⁶	24.97 ³³	56.12 ⁶⁶	89.09 ¹³³	37.427 ⁸³	60.96 ⁴⁷
July 9.3	39.101 ¹¹¹	24.64 ⁴⁰	55.46 ⁷²	90.42 ⁸³	37.344 ¹⁰⁵	60.49 ⁴⁹
19.3	38.990 ¹³²	24.24 ⁴⁶	54.74 ⁷⁶	91.25 ²⁹	37.239 ¹²⁵	60.00 ⁵⁰
29.3	38.858 ¹⁴³	23.78 ⁴⁸	53.98 ⁷⁷	91.54 ²³	37.114 ¹⁴¹	59.50 ⁵⁰
Aug. 8.2	38.715 ¹⁵⁴	23.30 ⁵³	53.21 ⁷⁹	91.31 ⁷⁷	36.973 ¹⁵⁰	59.00 ⁴⁹
18.2	38.561 ¹⁵⁴	22.77 ⁵⁶	52.42 ⁷⁶	90.54 ¹²⁸	36.823 ¹⁵⁴	58.51 ⁴⁷
28.2	38.407 ¹⁴⁹	22.21 ⁵⁵	51.66 ⁷³	89.26 ¹⁷⁸	36.669 ¹⁵⁰	58.04 ⁴²
Sept. 7.2	38.258 ¹³⁶	21.66 ⁵³	50.93 ⁶⁷	87.48 ²²⁴	36.519 ¹³⁷	57.62 ³⁵
17.1	38.122 ¹¹³	21.13 ⁴⁵	50.26 ⁶⁰	85.24 ²⁶⁴	36.382 ¹¹⁵	57.27 ²⁶
27.1	38.009 ⁸³	20.68 ³⁷	49.66 ⁵¹	82.60 ³⁰⁵	36.267 ⁸⁶	57.01 ¹³
Oct. 7.1	37.926 ⁴¹	20.31 ²⁴	49.15 ³⁹	79.55 ³³⁵	36.181 ⁴⁹	56.88 ²
17.0	37.885 ¹	20.07 ⁵	48.76 ²⁸	76.20 ³⁵⁹	36.132 ⁴	56.90 ²¹
27.0	37.884 ⁵³	20.02 ¹²	48.48 ¹⁴	72.61 ³⁷⁷	36.128 ⁴⁴	57.11 ⁴²
Nov. 6.0	37.937 ¹⁰³	20.14 ³⁷	48.34 ¹	68.84 ³⁸⁵	36.172 ⁹⁵	57.53 ⁶⁴
16.0	38.040 ¹⁵⁵	20.51 ⁶⁴	48.35 ¹⁶	64.99 ³⁸²	36.267 ¹⁴⁵	58.17 ⁸⁸
25.9	38.195 ²⁰¹	21.15 ⁸⁶	48.51 ³²	61.17 ³⁷⁰	36.412 ¹⁹³	59.05 ¹¹¹
Dec. 5.9	38.396 ²⁴⁵	22.01 ¹¹⁰	48.83 ⁴⁵	57.47 ³⁴⁷	36.605 ²³⁵	60.16 ¹³⁰
15.9	38.641 ²⁸¹	23.11 ¹²⁹	49.28 ⁵⁹	54.00 ³¹⁴	36.840 ²⁷¹	61.46 ¹⁴⁸
25.9	38.922 ³⁰²	24.40 ¹⁴⁶	49.87 ⁷⁰	50.86 ²⁷⁰	37.111 ²⁹⁶	62.94 ¹⁶⁰
35.8	39.224	25.86	50.57	48.16	37.407	64.54
Mean Place	36.895	21.59	54.86	72.48	35.187	59.34
Sec δ , Tan δ	1.039	-0.282	3.735	+3.599	1.019	-0.196
L α , I. δ	0.00	-0.3	-0.06	-0.3	0.00	-0.3
ω α , ω δ	-0.01	-0.7	+0.18	-0.7	-0.01	-0.7
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 369

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Lupi. Mag. 2.8		κ Centauri. Mag. 3.4		β Boötis. Mag. 3.6	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	^h 14 53 _s	[°] 42 49 _'	^h 14 54 _s	[°] 41 47 _'	^h 14 59 _s	[°] 40 41 _'
Jan. 0.8	27.960 ₃₉₃	12.37 ₅₅	7.953 ₃₈₇	29.24 ₅₆	1.237 ₃₃₈	32.15 ₂₆₃
10.8	28.353 ₄₀₇	12.92 ₈₆	8.340 ₄₀₀	29.80 ₈₉	1.575 ₃₅₈	29.52 ₂₁₉
20.8	28.760 ₄₀₇	13.78 ₁₁₇	8.740 ₄₀₃	30.69 ₁₁₈	1.933 ₃₆₇	27.33 ₁₇₃
30.8	29.167 ₄₀₀	14.95 ₁₄₂	9.143 ₃₉₄	31.87 ₁₄₂	2.300 ₃₆₈	25.60 ₁₁₂
Feb. 9.7	29.567 ₃₈₃	16.37 ₁₆₂	9.537 ₃₇₇	33.29 ₁₆₃	2.668 ₃₅₆	24.48 ₅₄
19.7	29.950 ₃₅₉	17.99 ₁₈₀	9.914 ₃₅₃	34.92 ₁₇₆	3.024 ₃₃₄	23.94 ₅
Mar. 1.7	30.309 ₃₂₈	19.79 ₁₉₁	10.267 ₃₂₅	36.68 ₁₈₇	3.358 ₃₀₇	23.99 ₆₆
11.7	30.637 ₂₉₅	21.70 ₁₉₆	10.592 ₂₉₂	38.55 ₁₉₃	3.665 ₂₇₁	24.65 ₁₁₈
21.6	30.932 ₂₆₃	23.66 ₂₀₀	10.884 ₂₅₇	40.48 ₁₉₅	3.936 ₂₃₃	25.83 ₁₆₆
31.6	31.195 ₂₂₃	25.66 ₁₉₇	11.141 ₂₂₂	42.43 ₁₉₃	4.169 ₁₉₀	27.49 ₂₀₄
Apr. 10.6	31.418 ₁₈₅	27.63 ₁₉₅	11.363 ₁₈₄	44.36 ₁₈₉	4.359 ₁₄₉	29.53 ₂₃₃
20.5	31.603 ₁₄₉	29.58 ₁₈₈	11.547 ₁₄₆	46.25 ₁₈₁	4.508 ₁₀₅	31.86 ₂₅₄
30.5	31.752 ₁₀₆	31.46 ₁₇₇	11.693 ₁₀₈	48.06 ₁₇₂	4.613 ₆₀	34.40 ₂₆₅
May 10.5	31.858 ₆₈	33.23 ₁₆₆	11.801 ₆₉	49.78 ₁₆₀	4.673 ₁₉	37.05 ₂₇₀
20.5	31.926 ₂₉	34.89 ₁₅₁	11.870 ₂₉	51.38 ₁₄₅	4.692 ₂₁	39.75 ₂₆₀
30.4	31.955 ₁₃	36.40 ₁₃₂	11.899 ₁₀	52.83 ₁₂₇	4.671 ₅₉	42.35 ₂₄₃
June 9.4	31.942 ₅₂	37.72 ₁₁₂	11.889 ₅₀	54.10 ₁₀₈	4.612 ₉₈	44.78 ₂₂₀
19.4	31.890 ₉₂	38.84 ₈₉	11.839 ₈₆	55.18 ₈₅	4.514 ₁₂₇	46.98 ₁₈₉
29.4	31.798 ₁₂₆	39.73 ₆₃	11.753 ₁₂₃	56.03 ₆₀	4.387 ₁₅₉	48.87 ₁₅₈
July 9.3	31.672 ₁₅₈	40.36 ₃₇	11.630 ₁₅₄	56.63 ₃₃	4.228 ₁₈₅	50.45 ₁₁₇
19.3	31.514 ₁₈₆	40.73 ₅	11.476 ₁₈₀	56.96 ₅	4.043 ₂₀₆	51.62 ₇₇
29.3	31.328 ₂₀₆	40.78 ₂₁	11.296 ₂₀₂	57.01 ₂₃	3.837 ₂₁₈	52.39 ₃₈
Aug. 8.2	31.122 ₂₁₆	40.57 ₅₃	11.094 ₂₁₃	56.78 ₅₂	3.619 ₂₂₉	52.77 ₁₀
18.2	30.906 ₂₂₁	40.04 ₇₉	10.881 ₂₁₆	56.26 ₇₉	3.390 ₂₃₀	52.67 ₅₁
28.2	30.685 ₂₁₅	39.25 ₁₀₇	10.665 ₂₀₉	55.47 ₁₀₄	3.160 ₂₂₃	52.16 ₉₇
Sept. 7.2	30.470 ₁₉₂	38.18 ₁₂₈	10.456 ₁₉₁	54.43 ₁₂₅	2.937 ₂₀₉	51.19 ₁₄₂
17.1	30.278 ₁₆₃	36.90 ₁₄₆	10.265 ₁₆₁	53.18 ₁₄₂	2.728 ₁₈₃	49.77 ₁₈₀
27.1	30.115 ₁₂₂	35.44 ₁₅₆	10.104 ₁₂₀	51.76 ₁₅₂	2.545 ₁₅₀	47.97 ₂₁₈
Oct. 7.1	29.993 ₇₁	33.88 ₁₆₁	9.984 ₇₀	50.24 ₁₅₆	2.395 ₁₀₇	45.79 ₂₅₂
17.1	29.922 ₁₁	32.27 ₁₅₇	9.914 ₁₁	48.68 ₁₅₂	2.288 ₆₀	43.27 ₂₈₆
27.0	29.911 ₅₃	30.70 ₁₄₇	9.903 ₅₁	47.16 ₁₄₁	2.228 ₄	40.41 ₃₁₁
Nov. 6.0	29.964 ₁₁₉	29.23 ₁₂₈	9.954 ₁₁₈	45.75 ₁₂₃	2.224 ₅₄	37.30 ₃₂₈
16.0	30.083 ₁₈₄	27.95 ₁₀₃	10.072 ₁₈₃	44.52 ₉₇	2.278 ₁₁₈	34.02 ₃₃₈
25.9	30.267 ₂₄₇	26.92 ₇₃	10.255 ₂₄₃	43.55 ₆₈	2.396 ₁₇₆	30.64 ₃₄₁
Dec. 5.9	30.514 ₃₀₀	26.19 ₄₀	10.498 ₂₉₇	42.87 ₃₄	2.572 ₂₃₁	27.23 ₃₃₄
15.9	30.814 ₃₄₆	25.79 ₂	10.795 ₃₄₀	42.53 ₁	2.803 ₂₈₁	23.89 ₃₁₇
25.9	31.160 ₃₇₈	25.77 ₃₅	11.135 ₃₇₃	42.54 ₃₈	3.084 ₃₁₆	20.72 ₂₉₀
35.8	31.538	26.12	11.508	42.92	3.400	17.82
Mean Place	28.669	29.92	8.661	46.53	2.742	36.77
Sec δ , Tan δ	1.363	-0.927	1.341	-0.894	1.319	+0.860
L α , L δ	+0.02	-0.3	+0.02	-0.3	-0.02	-0.3
ω α , ω δ	-0.04	-0.7	-0.04	-0.7	+0.04	-0.7
AUTHORITY	A. E.		A. N.		A. E.	

370 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Scorpii. Mag. 3.4		ψ Boötis. Mag. 4.7		ζ Lupi. Mag. 3.5	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	h m 14 59	° ′ 24 58	h m 15 1	° ′ 27 14	h m 15 6	° ′ 51 48
Jan. 0.8	32.794 ³²⁸	35.73 ¹¹²	7.549 ³⁰⁵	48.01 ²⁵¹	43.700 ⁴⁴³	6.29 ⁴
10.8	33.122 ³³⁸	36.85 ¹²⁹	7.854 ³²³	45.50 ²¹⁹	44.143 ⁴⁶⁴	6.33 ⁴⁸
20.8	33.460 ³⁴²	38.14 ¹⁴⁰	8.177 ³²⁹	43.31 ¹⁷⁸	44.607 ⁴⁷²	6.81 ⁸²
30.8	33.802 ³³⁴	39.54 ¹⁵¹	8.506 ³²⁷	41.53 ¹³²	45.079 ⁴⁶⁴	7.63 ¹¹⁷
Feb. 9.7	34.136 ³²¹	41.05 ¹⁵¹	8.833 ³¹⁶	40.21 ⁸¹	45.543 ⁴⁵⁰	8.80 ¹⁴⁶
19.7	34.457 ³⁰⁰	42.56 ¹⁴⁸	9.149 ²⁹⁷	39.40 ³⁰	45.993 ⁴²⁶	10.26 ¹⁷³
Mar. 1.7	34.757 ²⁷⁷	44.04 ¹⁴²	9.446 ²⁷²	39.10 ²³	46.419 ³⁹⁵	11.99 ¹⁹³
11.7	35.034 ²⁵⁰	45.46 ¹³⁴	9.718 ²⁴¹	39.33 ⁷⁰	46.814 ³⁶¹	13.92 ²⁰⁵
21.6	35.284 ²²³	46.80 ¹²³	9.959 ²¹¹	40.03 ¹¹⁵	47.175 ³²¹	15.97 ²¹⁹
31.6	35.507 ¹⁹²	48.03 ¹¹³	10.170 ¹⁷⁶	41.18 ¹⁵⁰	47.496 ²⁷⁷	18.16 ²²⁵
Apr. 10.6	35.699 ¹⁶²	49.16 ⁹⁸	10.346 ¹⁴¹	42.68 ¹⁸²	47.773 ²³⁴	20.41 ²²⁸
20.5	35.861 ¹³⁰	50.14 ⁸⁸	10.487 ¹⁰⁵	44.50 ²⁰¹	48.007 ¹⁸⁹	22.69 ²²⁶
30.5	35.991 ⁹⁸	51.02 ⁷⁵	10.592 ⁷³	46.51 ²¹⁴	48.196 ¹⁴¹	24.95 ²²¹
May 10.5	36.089 ⁶⁸	51.77 ⁶²	10.665 ³⁷	48.65 ²¹⁹	48.337 ⁹⁴	27.16 ²¹¹
20.5	36.157 ³⁶	52.39 ⁵¹	10.702 ²	50.84 ²¹⁷	48.431 ⁴¹	29.27 ¹⁹⁸
30.4	36.193 ²	52.90 ³⁷	10.704 ²⁷	53.01 ²⁰⁸	48.472 ⁹	31.25 ¹⁸⁰
June 9.4	36.195 ²⁶	53.27 ³⁰	10.677 ⁶⁰	55.09 ¹⁹⁰	48.463 ⁵⁷	33.05 ¹⁵⁸
19.4	36.169 ⁵⁹	53.57 ¹⁴	10.617 ⁸⁷	56.99 ¹⁶⁹	48.406 ¹⁰⁵	34.63 ¹³⁵
29.4	36.110 ⁸⁵	53.71 ¹	10.530 ¹¹⁶	58.68 ¹⁴³	48.301 ¹⁵⁰	35.98 ¹⁰⁵
July 9.3	36.025 ¹¹⁵	53.70 ¹⁰	10.414 ¹³⁹	60.11 ¹¹⁴	48.151 ¹⁹²	37.03 ⁷³
19.3	35.910 ¹³⁷	53.60 ²⁵	10.275 ¹⁵⁶	61.25 ⁸²	47.959 ²²⁷	37.76 ⁴⁰
29.3	35.773 ¹⁵⁵	53.35 ³⁹	10.119 ¹⁷⁵	62.07 ⁴⁸	47.732 ²⁵³	38.16 ¹
Aug. 8.2	35.618 ¹⁶⁶	52.96 ⁵¹	9.944 ¹⁸³	62.55 ¹²	47.479 ²⁷⁰	38.17 ³²
18.2	35.452 ¹⁷¹	52.45 ⁶³	9.761 ¹⁸⁷	62.67 ²²	47.209 ²⁷⁵	37.85 ⁷¹
28.2	35.281 ¹⁷⁰	51.82 ⁷¹	9.574 ¹⁸¹	62.45 ⁵⁹	46.934 ²⁶⁹	37.14 ¹⁰⁴
Sept. 7.2	35.111 ¹⁵¹	51.11 ⁷⁷	9.393 ¹⁷⁰	61.86 ⁹⁷	46.665 ²⁴⁸	36.10 ¹³⁶
17.1	34.960 ¹³¹	50.34 ⁷⁹	9.223 ¹⁴⁹	60.89 ¹³¹	46.417 ²¹⁴	34.74 ¹⁵⁹
27.1	34.829 ⁹⁸	49.55 ⁷⁸	9.074 ¹¹⁹	59.58 ¹⁶⁵	46.203 ¹⁶⁷	33.15 ¹⁸⁰
Oct. 7.1	34.731 ⁵⁸	48.77 ⁷³	8.955 ⁸³	57.93 ¹⁹⁸	46.036 ¹⁰⁷	31.35 ¹⁹³
17.1	34.673 ⁹	48.04 ⁵⁹	8.872 ³⁹	55.95 ²²⁹	45.929 ⁴¹	29.42 ¹⁹⁷
27.0	34.664 ⁴⁰	47.45 ⁴⁴	8.833 ¹¹	53.66 ²⁵³	45.888 ³³	27.45 ¹⁹³
Nov. 6.0	34.704 ⁹⁵	47.01 ²³	8.844 ⁶³	51.13 ²⁷⁶	45.921 ¹¹³	25.52 ¹⁷⁹
16.0	34.799 ¹⁵¹	46.78 ¹	8.907 ¹¹⁸	48.37 ²⁹²	46.034 ¹⁹⁰	23.73 ¹⁵⁹
25.9	34.950 ²⁰⁴	46.79 ²⁷	9.025 ¹⁶⁹	45.45 ²⁹⁷	46.224 ²⁶³	22.14 ¹²⁹
Dec. 5.9	35.154 ²⁴⁷	47.06 ⁵³	9.194 ²¹⁷	42.48 ²⁹⁸	46.487 ³²⁷	20.85 ⁹⁶
15.9	35.401 ²⁸⁸	47.59 ⁸⁰	9.411 ²⁵⁶	39.50 ²⁸⁹	46.814 ³⁸²	19.89 ⁵⁷
25.9	35.689 ³¹⁴	48.39 ¹⁰¹	9.667 ²⁹³	36.61 ²⁷⁰	47.196 ⁴²⁶	19.32 ¹⁸
35.8	36.003	49.40	9.960	33.91	47.622	19.14
Mean Place	33.547	48.75	8.757	49.48	44.585	25.62
Sec δ , Tan δ	1.103	-0.466	1.125	+0.515	1.617	-1.271
L α , L δ	+0.01	-0.3	-0.01	-0.3	+0.02	-0.3
ω α , ω δ	-0.02	-0.7	+0.02	-0.7	-0.06	-0.7
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 371

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ι Libræ. Mag. 4·7		γ Triang. Aust. Mag. 3·1		δ Boötis. Mag. 3·5	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	^h 15 ^m 7	[°] 19 ['] 29	^h 15 ^m 11	[°] 68 ['] 23	^h 15 ^m 12	[°] 33 ['] 35
Jan. 0·9	48·869 ³¹²	53·33 ¹²⁶	40·36 ⁶⁹	26·24 ⁵⁹	22·54 ¹⁰⁹	62·14 ²⁶⁶
10·8	49·181 ³²⁶	54·59 ¹³⁹	41·05 ⁷²	25·65 ¹¹	22·85 ¹³²	59·48 ²²⁷
20·8	49·507 ³²⁹	55·98 ¹⁴⁴	41·77 ⁷⁴	25·54 ³⁸	23·18 ³⁴¹	57·21 ¹⁸⁵
30·8	49·836 ³²⁴	57·42 ¹⁴⁵	42·51 ⁷³	25·92 ⁸⁵	23·52 ³⁴²	55·36 ¹³³
Feb. 9·7	50·160 ³¹²	58·87 ¹⁴²	43·24 ⁷³	26·77 ¹²⁸	23·86 ³³²	54·03 ⁷⁷
19·7	50·472 ²⁹⁴	60·29 ¹³⁴	43·97 ⁶⁸	28·05 ¹⁶⁹	24·19 ³¹⁶	53·26 ²²
Mar. 1·7	50·766 ²⁷²	61·63 ¹²²	44·65 ⁶⁴	29·74 ²⁰¹	24·51 ²⁹²	53·04 ³⁵
11·7	51·038 ²⁴⁷	62·85 ¹⁰⁹	45·29 ⁵⁹	31·75 ²³¹	24·80 ²⁶⁵	53·39 ⁸⁷
21·6	51·285 ²²⁰	63·94 ⁹⁵	45·88 ⁵²	34·06 ²⁵³	25·07 ²²⁸	54·26 ¹³²
31·6	51·505 ¹⁹²	64·89 ⁸⁰	46·40 ⁴⁶	36·59 ²⁷²	25·29 ¹⁹⁴	55·58 ¹⁷⁴
Apr. 10·6	51·697 ¹⁶³	65·69 ⁶⁶	46·86 ³⁷	39·31 ²⁸⁴	25·49 ¹⁶⁰	57·32 ²⁰⁵
20·6	51·860 ¹³³	66·35 ⁵²	47·23 ³⁰	42·15 ²⁹¹	25·65 ¹¹⁸	59·37 ²²⁹
30·5	51·993 ¹⁰⁴	66·87 ⁴⁰	47·53 ²¹	45·06 ²⁹¹	25·77 ⁸²	61·66 ²⁴²
May 10·5	52·097 ⁷⁴	67·27 ²⁹	47·74 ¹³	47·97 ²⁸⁴	25·85 ⁴²	64·08 ²⁴⁸
20·5	52·171 ⁴⁴	67·56 ¹⁹	47·87 ⁴	50·81 ²⁷²	25·89 ⁴	66·56 ²⁴³
30·4	52·215 ¹³	67·75 ⁹	47·91 ⁵	53·53 ²⁵⁸	25·89 ²⁸	68·99 ²³¹
June 9·4	52·228 ¹⁹	67·84 ¹	47·86 ¹⁴	56·11 ²³⁰	25·87 ⁶⁴	71·30 ²¹⁵
19·4	52·209 ⁴⁸	67·85 ⁷	47·72 ²²	58·41 ²⁰⁴	25·80 ⁹⁵	73·45 ¹⁸⁷
29·4	52·161 ⁷⁷	67·78 ¹⁶	47·50 ³⁰	60·45 ¹⁶⁶	25·71 ¹²⁶	75·32 ¹⁶⁴
July 9·3	52·084 ¹⁰⁴	67·62 ²⁵	47·20 ³⁷	62·11 ¹³¹	25·58 ¹⁵¹	76·96 ¹²⁷
19·3	51·980 ¹²⁸	67·37 ³²	46·83 ⁴³	63·42 ⁸²	25·43 ¹⁷⁶	78·23 ⁹¹
29·3	51·852 ¹⁴⁶	67·05 ⁴⁰	46·40 ⁴⁶	64·24 ³⁹	25·25 ¹⁹²	79·14 ⁵⁴
Aug. 8·3	51·706 ¹⁶⁰	66·65 ⁴⁶	45·94 ⁵⁰	64·63 ¹¹	25·06 ²⁰⁴	79·68 ¹³
18·2	51·546 ¹⁶⁵	66·19 ⁵³	45·44 ⁵⁰	64·52 ⁵⁹	24·86 ²⁰⁸	79·81 ²⁸
28·2	51·381 ¹⁶²	65·66 ⁵⁷	44·94 ⁴⁹	63·93 ¹⁰⁶	24·65 ²⁰⁴	79·53 ⁶⁵
Sept. 7·2	51·219 ¹⁵²	65·09 ⁵⁸	44·45 ⁴⁵	62·87 ¹⁵⁰	24·45 ¹⁹⁵	78·88 ¹⁰⁹
17·1	51·067 ¹³²	64·51 ⁵⁶	44·00 ⁴⁰	61·37 ¹⁸⁹	24·25 ¹⁷²	77·79 ¹⁴⁵
27·1	50·935 ¹⁰¹	63·95 ⁵¹	43·60 ³¹	59·48 ²²⁰	24·08 ¹⁴²	76·34 ¹⁸⁸
Oct. 7·1	50·834 ⁶⁴	63·44 ⁴²	43·29 ²³	57·28 ²⁴⁶	23·94 ¹⁰⁴	74·46 ²²¹
17·1	50·770 ¹⁹	63·02 ²⁸	43·06 ¹¹	54·82 ²⁵⁹	23·83 ⁶⁴	72·25 ²⁴⁶
27·0	50·751 ³¹	62·74 ¹²	42·95 ¹	52·23 ²⁶²	23·77 ⁸	69·79 ²⁸¹
Nov. 6·0	50·782 ⁸⁵	62·62 ⁹	42·96 ¹⁴	49·61 ²⁵⁷	23·76 ⁴⁵	66·98 ³⁰⁰
16·0	50·867 ¹³⁷	62·71 ³²	43·10 ²⁶	47·04 ²³⁷	23·81 ¹⁰²	63·98 ³¹⁴
26·0	51·004 ¹⁸⁸	63·03 ⁵⁶	43·36 ³⁸	44·67 ²¹⁴	23·91 ¹⁵⁸	60·84 ³²²
Dec. 5·9	51·192 ²³³	63·59 ⁸⁰	43·74 ⁴⁸	42·53 ¹⁷⁵	24·07 ²⁰⁸	57·62 ³¹⁹
15·9	51·425 ²⁷¹	64·39 ¹⁰¹	44·22 ⁵⁸	40·78 ¹³⁵	24·27 ²⁵⁵	54·43 ³⁰⁸
25·9	51·696 ³⁰⁰	65·40 ¹¹⁹	44·80 ⁶⁵	39·43 ⁸⁸	24·53 ²⁹¹	51·35 ²⁸⁹
35·8	51·996	66·59	45·45	38·55	24·824	48·46
Mean Place	49·684	64·89	41·72	48·13	23·922	64·47
Sec δ, Tan δ	1·061	—0·354	2·716	—2·525	1·200	+0·664
L α, L δ	+0·01	—0·3	+0·05	—0·3	—0·01	—0·3
ω α, ω δ	—0·02	—0·7	—0·11	—0·7	+0·03	—0·7
AUTHORITY	A. N.		A. E.		A. E.	

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AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Libræ. Mag. 2·7		α^2 Libræ. Mag. 6·7		γ^2 Ursæ Minoris. Mag. 3·1	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	^h 15 ^m 12	[°] 9 ['] 5	^h 15 ^m 18	[°] 14 ['] 51	^h 15 ^m 20	[°] 72 ['] 6
Jan. 0·9	50·760 ²⁹⁶	50·31 ¹⁶⁴	43·006 ³⁰⁰	26·58 ¹³⁷	46·18 ⁶²	21·35 ²⁷⁰
10·8	51·056 ³⁰⁹	51·95 ¹⁶²	43·306 ³¹⁵	27·95 ¹⁴⁵	46·80 ⁶⁹	18·65 ²¹⁷
20·8	51·365 ³¹⁴	53·57 ¹⁵⁵	43·621 ³²¹	29·40 ¹⁴⁶	47·49 ⁷⁵	16·48 ¹⁵⁶
30·8	51·679 ³¹¹	55·12 ¹⁴⁷	43·942 ³¹⁷	30·86 ¹⁴³	48·24 ⁷⁸	14·92 ⁹⁰
Feb. 9·7	51·990 ³⁰¹	56·59 ¹³²	44·259 ³⁰⁸	32·29 ¹³³	49·02 ⁷⁷	14·02 ²³
19·7	52·291 ²⁸⁵	57·91 ¹¹⁴	44·567 ²⁹²	33·62 ¹²¹	49·79 ⁷⁵	13·79 ⁴⁵
Mar. 1·7	52·576 ²⁶²	59·05 ⁹²	44·859 ²⁷¹	34·83 ¹⁰⁵	50·54 ⁷⁰	14·24 ¹¹¹
11·7	52·838 ²³⁹	59·97 ⁶⁹	45·130 ²⁴⁸	35·88 ⁸⁷	51·24 ⁶³	15·35 ¹⁷⁰
21·6	53·077 ²¹⁶	60·66 ⁴⁷	45·378 ²²³	36·75 ⁷¹	51·87 ⁵⁴	17·05 ²²¹
31·6	53·293 ¹⁸⁵	61·13 ²⁷	45·601 ¹⁹⁷	37·46 ⁵²	52·41 ⁴³	19·26 ²⁶²
Apr. 10·6	53·478 ¹⁵⁸	61·40 ⁶	45·798 ¹⁶⁸	37·98 ³⁶	52·84 ³²	21·88 ²⁹⁴
20·6	53·636 ¹³¹	61·46 ¹⁰	45·966 ¹⁴¹	38·34 ²²	53·16 ²⁰	24·82 ³¹⁶
30·5	53·767 ¹⁰²	61·36 ²³	46·107 ¹¹²	38·56 ⁹	53·36 ⁸	27·98 ³²³
May 10·5	53·869 ⁷³	61·13 ³³	46·219 ⁸³	38·65 ¹	53·44 ⁵	31·21 ³²⁰
20·5	53·942 ⁴⁴	60·80 ⁴³	46·302 ⁵²	38·64 ¹⁰	53·39 ¹⁵	34·41 ³⁰⁷
30·4	53·986 ¹⁴	60·37 ⁴⁷	46·354 ²²	38·54 ¹⁷	53·24 ²⁷	37·48 ²⁸⁴
June 9·4	54·000 ¹⁵	59·90 ⁵¹	46·376 ⁹	38·37 ²²	52·97 ³⁶	40·32 ²⁵⁵
19·4	53·985 ⁴⁵	59·39 ⁵⁰	46·367 ⁴⁰	38·15 ²⁷	52·61 ⁴⁶	42·87 ²²⁰
29·4	53·940 ⁷³	58·89 ⁵⁴	46·327 ⁶⁸	37·88 ³²	52·15 ⁵³	45·07 ¹⁷⁵
July 9·3	53·867 ⁹⁶	58·35 ⁵³	46·259 ⁹⁶	37·56 ³⁵	51·62 ⁵⁹	46·82 ¹²⁴
19·3	53·771 ¹²¹	57·82 ⁵⁰	46·163 ¹²¹	37·21 ³⁹	51·03 ⁶⁴	48·06 ⁷⁵
29·3	53·650 ¹³⁹	57·32 ⁴⁸	46·042 ¹⁴¹	36·82 ⁴²	50·39 ⁶⁷	48·81 ²³
Aug. 8·3	53·511 ¹⁵³	56·84 ⁴⁶	45·901 ¹⁵⁵	36·40 ⁴³	49·72 ⁷⁰	49·04 ²⁸
18·2	53·358 ¹⁵⁶	56·38 ⁴⁰	45·746 ¹⁶²	35·97 ⁴⁵	49·02 ⁶⁹	48·76 ⁸²
28·2	53·202 ¹⁵⁸	55·98 ³⁵	45·584 ¹⁶³	35·52 ⁴⁴	48·33 ⁶⁷	47·94 ¹³⁴
Sept. 7·2	53·044 ¹⁴⁶	55·63 ²⁶	45·421 ¹⁵³	35·08 ⁴²	47·66 ⁶⁴	46·60 ¹⁸¹
17·1	52·898 ¹²⁸	55·37 ¹⁵	45·268 ¹³⁵	34·66 ³⁶	47·02 ⁵⁹	44·79 ²³⁰
27·1	52·770 ¹⁰²	55·22 ⁰	45·133 ¹⁰⁸	34·30 ²⁸	46·43 ⁵²	42·49 ²⁶⁹
Oct. 7·1	52·668 ⁶⁴	55·22 ¹⁵	45·025 ⁷²	34·02 ¹⁷	45·91 ⁴³	39·80 ³⁰⁸
17·1	52·604 ²⁷	55·37 ²⁷	44·953 ²⁹	33·85 ³	45·48 ³³	36·72 ³³⁷
27·0	52·577 ²⁴	55·64 ⁵⁴	44·924 ¹⁹	33·82 ¹⁶	45·15 ²¹	33·35 ³⁶³
Nov. 6·0	52·601 ⁷²	56·18 ⁷³	44·943 ⁷¹	33·98 ³⁶	44·94 ⁸	29·72 ³⁷⁸
16·0	52·673 ¹²⁶	56·91 ⁹⁵	45·014 ¹²³	34·34 ⁵⁷	44·86 ⁵	25·94 ³⁸³
26·0	52·799 ¹⁷⁴	57·86 ¹¹⁵	45·137 ¹⁷²	34·91 ⁸⁰	44·91 ¹⁹	22·11 ³⁸⁰
Dec. 5·9	52·973 ²¹⁴	59·01 ¹³⁴	45·309 ²¹⁸	35·71 ¹⁰⁰	45·10 ³²	18·31 ³⁶³
15·9	53·187 ²⁵³	60·35 ¹⁵⁰	45·527 ²⁵⁷	36·71 ¹¹⁹	45·42 ⁴⁵	14·68 ³³⁹
25·9	53·440 ²⁸²	61·85 ¹⁵⁸	45·784 ²⁸⁶	37·90 ¹³⁴	45·87 ⁵⁵	11·29 ³⁰²
35·8	53·722	63·43	46·070	39·24	46·42	8·27
Mean Place	51·646	59·08	43·897	37·00	50·39	28·60
Sec δ , Tan δ	1·013	—0·160	1·035	—0·265	3·255	+3·098
L α , L δ	0·00	—0·3	+0·01	—0·3	—0·06	—0·3
ω α , ω δ	—0·01	—0·7	—0·01	—0·8	+0·13	—0·8
AUTHORITY	A. E.				A. E.	

APPARENT PLACES OF STARS, 1923. 373

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	♈ Draconis. Mag. 3.5		♐ 32 Libræ. Mag. 5.9		♏ 113 G. Lupi. Mag. 3.0	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	^h ^m 15 23	[°] ['] 59 13	^h ^m 15 23	[°] ['] 16 26	^h ^m 15 29	[°] ['] 40 54
Jan. 0.9	10.499 ⁴¹²	61.09 ²⁸⁴	53.717 ²⁹⁹	45.86 ¹²⁹	59.163 ³⁶⁴	16.88 ²³
10.8	10.911 ⁴⁵⁴	58.25 ²³⁴	54.016 ³¹⁵	47.15 ¹³⁷	59.527 ³⁸⁵	17.11 ⁵⁵
20.8	11.365 ⁴⁸⁶	55.91 ¹⁷⁸	54.331 ³²²	48.52 ¹⁴¹	59.912 ³⁹⁵	17.66 ⁸¹
30.8	11.851 ⁴⁹⁶	54.13 ¹¹²	54.653 ³²⁰	49.93 ¹³⁸	60.307 ³⁹³	18.47 ¹⁰⁴
Feb. 9.8	12.347 ⁴⁹⁶	53.01 ⁴⁷	54.973 ³¹¹	51.31 ¹³²	60.700 ³⁸⁵	19.51 ¹²³
19.7	12.843 ⁴⁷⁶	52.54 ²¹	55.284 ²⁹⁵	52.63 ¹²¹	61.085 ³⁷⁰	20.74 ¹⁴⁰
Mar. 1.7	13.319 ⁴⁴⁶	52.75 ⁸⁷	55.579 ²⁷⁷	53.84 ¹⁰⁷	61.455 ³⁴⁸	22.14 ¹⁵¹
11.7	13.765 ⁴⁰¹	53.62 ¹⁴⁴	55.856 ²⁵⁴	54.91 ⁹⁰	61.803 ³²⁰	23.65 ¹⁵⁹
21.6	14.166 ³⁴⁸	55.06 ²⁰⁰	56.110 ²²⁸	55.81 ⁷⁵	62.123 ²⁹³	25.24 ¹⁶²
31.6	14.514 ²⁸⁹	57.06 ²⁴⁴	56.338 ²⁰³	56.56 ⁵⁹	62.416 ²⁶¹	26.86 ¹⁶⁵
Apr. 10.6	14.803 ²²³	59.50 ²⁷⁷	56.541 ¹⁷⁵	57.15 ⁴²	62.677 ²²⁶	28.51 ¹⁶⁵
20.6	15.026 ¹⁵⁴	62.27 ³⁰¹	56.716 ¹⁴⁷	57.57 ³⁰	62.903 ¹⁹¹	30.16 ¹⁶²
30.5	15.180 ⁸⁷	65.28 ³¹²	56.863 ¹¹⁸	57.87 ¹⁸	63.094 ¹⁵⁴	31.78 ¹⁵⁷
May 10.5	15.267 ¹⁷	68.40 ³¹⁴	56.981 ⁸⁹	58.05 ⁷	63.248 ¹¹⁴	33.35 ¹⁴⁹
20.5	15.284 ⁴⁸	71.54 ³⁰⁶	57.070 ⁵⁸	58.12 ¹	63.362 ⁷⁵	34.84 ¹⁴⁰
30.5	15.236 ¹¹²	74.60 ²⁸⁵	57.128 ²⁷	58.11 ⁸	63.437 ³⁴	36.24 ¹²⁷
June 9.4	15.124 ¹⁷²	77.45 ²⁶⁰	57.155 ⁴	58.03 ¹⁵	63.471 ⁹	37.51 ¹¹⁴
19.4	14.952 ²²⁴	80.05 ²²⁵	57.151 ³⁶	57.88 ¹⁹	63.462 ⁵¹	38.65 ⁹⁶
29.4	14.728 ²⁷³	82.30 ¹⁸⁵	57.115 ⁶⁶	57.69 ²⁵	63.411 ⁹¹	39.61 ⁷⁶
July 9.3	14.455 ³¹²	84.15 ¹⁴⁰	57.049 ⁹⁵	57.44 ³⁰	63.320 ¹²⁸	40.37 ⁵⁴
19.3	14.143 ³⁴⁷	85.55 ⁹⁵	56.954 ¹¹⁹	57.14 ³⁵	63.192 ¹⁶¹	40.91 ³¹
29.3	13.796 ³⁷¹	86.50 ⁴⁴	56.835 ¹⁴¹	56.79 ³⁸	63.031 ¹⁹⁰	41.22 ⁴
Aug. 8.3	13.425 ³⁸⁶	86.94 ⁸	56.694 ¹⁵⁷	56.41 ⁴¹	62.841 ²⁰⁹	41.26 ²⁰
18.2	13.039 ³⁹⁰	86.86 ⁶²	56.537 ¹⁶⁴	56.00 ⁴⁴	62.632 ²¹⁹	41.06 ⁴⁹
28.2	12.649 ³⁸⁵	86.24 ¹⁰⁶	56.373 ¹⁶⁶	55.56 ⁴⁵	62.413 ²²¹	40.57 ⁷⁴
Sept. 7.2	12.264 ³⁶⁵	85.18 ¹⁵⁸	56.207 ¹⁵⁷	55.11 ⁴⁵	62.192 ²⁰⁹	39.83 ⁹⁵
17.2	11.899 ³³⁴	83.60 ²⁰⁵	56.050 ¹⁴⁰	54.66 ⁴⁰	61.983 ¹⁸⁶	38.88 ¹¹⁵
27.1	11.565 ²⁹²	81.55 ²⁴⁷	55.910 ¹¹²	54.26 ³⁵	61.797 ¹⁵⁵	37.73 ¹³⁰
Oct. 7.1	11.273 ²³⁸	79.08 ²⁸⁸	55.798 ⁷⁷	53.91 ²⁴	61.642 ¹⁰⁷	36.43 ¹³⁸
17.1	11.035 ¹⁷²	76.20 ³²¹	55.721 ³⁴	53.67 ¹¹	61.535 ⁵⁴	35.05 ¹⁴⁰
27.0	10.863 ⁹⁹	72.99 ³⁴⁷	55.687 ¹⁵	53.56 ⁵	61.481 ⁶	33.65 ¹³⁵
Nov. 6.0	10.764 ¹⁷	69.52 ³⁶⁸	55.702 ⁶⁶	53.61 ²⁵	61.487 ⁷²	32.30 ¹²⁴
16.0	10.747 ⁶⁸	65.84 ³⁷⁶	55.768 ¹¹⁹	53.86 ⁴⁷	61.559 ¹³⁷	31.06 ¹⁰³
26.0	10.815 ¹⁵⁴	62.08 ³⁷⁷	55.887 ¹⁶⁹	54.33 ⁶⁸	61.696 ²⁰⁰	30.03 ⁸³
Dec. 5.9	10.969 ²³²	58.31 ³⁶⁶	56.056 ²¹⁵	55.01 ⁸⁹	61.896 ²⁵⁷	29.20 ⁵⁴
15.9	11.201 ³¹³	54.65 ³⁴⁵	56.271 ²⁵⁵	55.90 ¹⁰⁹	62.153 ³⁰⁶	28.66 ²⁵
25.9	11.514 ³⁷⁸	51.20 ³¹²	56.526 ²⁸⁶	56.99 ¹²⁴	62.459 ³⁴⁶	28.41 ⁸
35.9	11.892	48.08	56.812	58.23	62.805	28.49
Mean Place	12.997	66.99	54.630	56.75	60.161	33.62
Sec δ, Tan δ	1.955	+1.680	1.043	-0.295	1.323	-0.866
L α, L δ	-0.03	-0.3	+0.01	-0.3	+0.02	-0.2
ω α, ω δ	+0.07	-0.8	-0.01	-0.8	-0.04	-0.8
AUTHORITY	A. E.				A. E.	

374 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Coronæ Bor. Mag. 2.3		α Serpentis. Mag. 2.8		μ Serpentis. Mag. 3.6	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.
	^h 15 ^m 31 ^s	[°] 26 ['] 58 ["]	^h 15 ^m 40 ^s	[°] 6 ['] 39 ["]	^h 15 ^m 45 ^s	[°] 3 ['] 11 ["]
Jan. 0.9	24.305 ²⁸⁷	22.70 ²⁶⁵	27.313 ²⁷³	66.17 ²¹⁰	34.915 ²⁷³	36.36 ¹⁷³
10.8	24.592 ³⁰⁷	20.05 ²³⁰	27.586 ²⁸⁹	64.07 ¹⁹³	35.188 ²⁹²	38.09 ¹⁶⁹
20.8	24.899 ³¹⁸	17.75 ¹⁹³	27.875 ³⁰¹	62.14 ¹⁷⁶	35.480 ³⁰²	39.78 ¹⁵⁸
30.8	25.217 ³²⁴	15.82 ¹⁵¹	28.176 ³⁰³	60.38 ¹⁵⁰	35.782 ³⁰⁴	41.36 ¹⁴²
Feb. 9.8	25.541 ³²⁰	14.31 ¹⁰⁰	28.479 ²⁹⁹	58.88 ⁸⁵	36.086 ²⁹⁹	42.78 ¹²⁰
19.7	25.861 ³⁰⁶	13.31 ⁴⁸	28.778 ²⁸⁹	57.67 ¹²¹	36.385 ²⁸⁹	43.98 ⁹⁷
Mar. 1.7	26.167 ²⁸⁶	12.83 ²	29.067 ²⁷⁰	56.82 ⁴⁶	36.674 ²⁷³	44.95 ⁶⁹
11.7	26.453 ²⁶⁵	12.85 ⁵⁷	29.337 ²⁵¹	56.36 ¹²	36.947 ²⁵⁵	45.64 ⁴¹
21.6	26.718 ²³⁴	13.42 ¹⁰²	29.588 ²²⁶	56.24 ²³	37.202 ²³²	46.05 ¹⁶
31.6	26.952 ²⁰³	14.44 ¹⁴²	29.814 ²⁰⁶	56.47 ⁵⁶	37.434 ²¹⁰	46.21 ¹²
Apr. 10.6	27.155 ¹⁷³	15.86 ¹⁷³	30.020 ¹⁷⁶	57.03 ⁷⁹	37.644 ¹⁸³	46.09 ³¹
20.6	27.328 ¹³⁸	17.59 ²⁰⁰	30.196 ¹⁴⁹	57.82 ¹⁰⁴	37.827 ¹⁵⁷	45.78 ⁵²
30.5	27.466 ¹⁰⁴	19.59 ²¹⁷	30.345 ¹¹⁷	58.86 ¹²⁰	37.984 ¹³¹	45.26 ⁶⁵
May 10.5	27.570 ⁶⁸	21.76 ²²⁶	30.462 ⁹⁰	60.06 ¹³⁰	38.115 ⁹⁹	44.61 ⁷⁶
20.5	27.638 ³⁴	24.02 ²²⁶	30.552 ⁶⁰	61.36 ¹³⁵	38.214 ⁷²	43.85 ⁸³
30.5	27.672 ⁰	26.28 ²¹⁸	30.612 ³⁰	62.71 ¹³⁵	38.286 ⁴⁰	43.02 ⁸⁵
June 9.4	27.672 ³⁵	28.46 ²¹⁰	30.642 ¹	64.06 ¹³²	38.326 ⁹	42.17 ⁸⁴
19.4	27.637 ⁶⁵	30.56 ¹⁸⁶	30.641 ³³	65.38 ¹²²	38.335 ²¹	41.33 ⁸³
29.4	27.572 ⁹⁹	32.42 ¹⁶⁴	30.608 ⁶³	66.60 ¹¹³	38.314 ⁵⁴	40.50 ⁷⁵
July 9.3	27.473 ¹²⁶	34.06 ¹³⁴	30.545 ⁹⁰	67.73 ⁹⁹	38.260 ⁸⁵	39.75 ⁷²
19.3	27.347 ¹⁴⁹	35.40 ¹⁰⁵	30.455 ¹¹⁷	68.72 ⁸²	38.175 ¹⁰⁸	39.03 ⁶²
29.3	27.198 ¹⁷¹	36.45 ⁶⁹	30.338 ¹³⁹	69.54 ⁶⁵	38.067 ¹³³	38.41 ⁵⁴
Aug. 8.3	27.027 ¹⁸⁸	37.14 ³⁸	30.199 ¹⁵³	70.19 ⁴⁵	37.934 ¹⁵⁰	37.87 ⁴⁵
18.2	26.839 ¹⁹⁴	37.52 ⁴	30.046 ¹⁶⁴	70.64 ²⁸	37.784 ¹⁶¹	37.42 ³³
28.2	26.645 ¹⁹⁴	37.48 ³⁵	29.882 ¹⁶⁷	70.92 ⁶	37.623 ¹⁶⁵	37.09 ²²
Sept. 7.2	26.451 ¹⁸⁴	37.13 ⁷⁵	29.715 ¹⁶³	70.98 ¹⁵	37.458 ¹⁶³	36.87 ⁷
17.2	26.267 ¹⁷³	36.38 ¹¹²	29.552 ¹⁴⁸	70.83 ⁴²	37.295 ¹⁴⁷	36.80 ⁷
27.1	26.094 ¹⁴⁴	35.26 ¹⁴⁷	29.404 ¹²³	70.41 ⁶⁶	37.148 ¹²⁵	36.87 ²³
Oct. 7.1	25.950 ¹¹¹	33.79 ¹⁸⁵	29.281 ⁹⁴	69.75 ⁸⁷	37.023 ⁹³	37.10 ⁴²
17.1	25.839 ⁷¹	31.94 ²¹²	29.187 ⁵⁹	68.88 ¹¹⁴	36.930 ⁵⁷	37.52 ⁶⁰
27.0	25.768 ²²	29.82 ²⁴⁵	29.128 ¹⁰	67.74 ¹³⁹	36.873 ¹⁰	38.12 ⁸²
Nov. 6.0	25.746 ²⁹	27.37 ²⁶⁶	29.118 ³⁶	66.35 ¹⁵⁹	36.863 ³⁷	38.94 ¹⁰³
16.0	25.775 ⁸⁵	24.71 ²⁸⁴	29.154 ⁸⁸	64.76 ¹⁸³	36.900 ⁸⁸	39.97 ¹²³
26.0	25.860 ¹³⁶	21.87 ²⁹⁷	29.242 ¹³⁷	62.93 ¹⁹⁹	36.988 ¹³⁷	41.20 ¹⁴⁰
Dec. 5.9	25.996 ¹⁸⁴	18.90 ³⁰⁰	29.379 ¹⁸⁰	60.94 ²¹⁰	37.125 ¹⁸³	42.60 ¹⁵⁶
15.9	26.180 ²³⁴	15.90 ²⁹⁵	29.559 ²²⁴	58.84 ²¹⁴	37.308 ²²⁵	44.16 ¹⁶⁹
25.9	26.414 ²⁶⁵	12.95 ²⁷⁹	29.783 ²⁵³	56.70 ²¹⁶	37.533 ²⁵⁴	45.85 ¹⁷⁴
35.9	26.679	10.16	30.036	54.54	37.787	47.59
Mean Place	25.629	22.53	28.422	60.90	35.979	44.17
Sec δ, Tan δ	1.122	+0.509	1.007	+0.117	1.002	-0.056
L α, L δ	-0.01	-0.2	0.00	-0.2	0.00	-0.2
ω α, ω δ	+0.02	-0.8	0.00	-0.8	0.00	-0.8
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 375

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ζ Ursæ Minoris. Mag. 4·3		ε Serpentis. Mag. 3·8		β Triang. Aust. Mag. 3·0	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.
	^h 15 ^m 46	[°] 78 ['] 1	^h 15 ^m 46	[°] 4 ['] 42	^h 15 ^m 48	[°] 63 ['] 11
Jan. 0·9	40·05 ^s 77	50·02 ^s 285	57·44 ^s 267	37·17 ^s 201	18·90 ^s 54	20·76 ^s 87
10·9	40·82 91	47·17 238	57·708 288	35·16 190	19·44 58	19·89 43
20·8	41·73 101	44·79 178	57·996 298	33·26 174	20·02 60	19·46 1
30·8	42·74 108	43·01 117	58·294 303	31·52 147	20·62 62	19·45 42
Feb. 9·8	43·82 111	41·84 50	58·597 298	30·05 119	21·24 62	19·87 80
19·7	44·93 111	41·34 19	58·895 289	28·86 88	21·86 60	20·67 118
Mar. 1·7	46·04 105	41·53 82	59·184 272	27·98 50	22·46 57	21·85 151
11·7	47·09 97	42·35 148	59·456 254	27·48 18	23·03 53	23·36 179
21·7	48·06 85	43·83 200	59·710 231	27·30 14	23·56 50	25·15 202
31·6	48·91 70	45·83 245	59·941 210	27·44 48	24·06 45	27·17 224
Apr. 10·6	49·61 55	48·28 285	60·151 180	27·92 72	24·51 38	29·41 240
20·6	50·16 37	51·13 307	60·331 156	28·64 93	24·89 33	31·81 248
30·6	50·53 19	54·20 320	60·487 127	29·57 109	25·22 27	34·29 257
May 10·5	50·72 1	57·40 323	60·614 95	30·66 121	25·49 19	36·86 255
20·5	50·73 18	60·63 315	60·709 69	31·87 127	25·68 12	39·41 251
30·5	50·55 34	63·78 298	60·778 36	33·14 127	25·80 5	41·92 240
June 9·4	50·21 51	66·76 268	60·814 5	34·41 124	25·85 2	44·32 227
19·4	49·70 65	69·44 236	60·819 27	35·65 118	25·83 10	46·59 204
29·4	49·05 77	71·80 198	60·792 58	36·83 107	25·73 18	48·63 179
July 9·4	48·28 89	73·78 153	60·734 84	37·90 96	25·55 24	50·42 145
19·3	47·39 97	75·31 104	60·650 113	38·86 80	25·31 30	51·87 110
29·3	46·42 103	76·35 52	60·537 136	39·66 64	25·01 34	52·97 71
Aug. 8·3	45·39 107	76·87 3	60·401 152	40·30 48	24·67 39	53·68 27
18·3	44·32 109	76·90 54	60·249 163	40·78 33	24·28 40	53·95 16
28·2	43·23 108	76·36 102	60·086 167	41·11 9	23·88 41	53·79 62
Sept. 7·2	42·15 104	75·34 154	59·919 164	41·20 12	23·47 39	53·17 103
17·2	41·11 98	73·80 199	59·755 150	41·08 31	23·08 35	52·14 143
27·1	40·13 89	71·81 246	59·605 130	40·77 56	22·73 32	50·71 178
Oct. 7·1	39·24 77	69·35 284	59·475 97	40·21 77	22·41 24	48·93 204
17·1	38·47 63	66·51 319	59·378 63	39·44 102	22·17 15	46·89 226
27·1	37·84 48	63·32 345	59·315 14	38·42 127	22·02 5	44·63 234
Nov. 6·0	37·36 29	59·87 365	59·301 32	37·15 148	21·97 4	42·29 235
16·0	37·07 10	56·22 377	59·333 82	35·67 167	22·01 15	39·94 227
26·0	36·97 10	52·45 375	59·415 132	34·00 186	22·16 25	37·67 209
Dec. 6·0	37·07 29	48·70 367	59·547 174	32·14 201	22·41 35	35·58 180
15·9	37·36 50	45·03 346	59·721 220	30·13 203	22·76 43	33·78 149
25·9	37·86 67	41·57 314	59·941 249	28·10 208	23·19 51	32·29 111
35·9	38·53	38·43	60·190	26·02	23·70	31·18
Mean Place	46·53	55·35	58·557	31·26	20·58	40·84
Sec δ, Tan δ	4·824	+4·718	1·003	+0·082	2·217	-1·979
L α, L δ	-0·10	-0·2	0·00	-0·2	+0·04	-0·2
ω α, ω δ	+0·17	-0·8	0·00	-0·8	-0·07	-0·8
AUTHORITY	A. E.		A. E.		A. E.	

376 APPARENT PLACES OF STARS, 1923

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Serpentis. Mag. 3.9		π Scorpii. Mag. 3.0		δ Scorpii. Mag. 2.5	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	° '	h m	° '	h m	° '
	15 52	15 54	15 54	25 53	15 55	22 24
Jan. 0.9	52.481 ²⁶³	46.29 ²⁴²	10.273 ²⁹⁹	24.35 ⁷⁰	45.512 ²⁹¹	1.15 ⁸⁶
10.9	52.744 ²⁸⁶	43.87 ²²³	10.572 ³²⁰	25.05 ⁸⁶	45.803 ³¹²	2.01 ⁹⁸
20.8	53.030 ³⁰⁰	41.64 ¹⁹⁵	10.892 ³³³	25.91 ⁹⁸	46.115 ³²⁵	2.99 ¹⁰⁶
30.8	53.330 ³⁰⁶	39.69 ¹⁶¹	11.225 ³³⁷	26.89 ¹⁰⁶	46.440 ³²⁹	4.05 ¹¹¹
Feb. 9.8	53.636 ³⁰³	38.08 ¹²¹	11.562 ³³³	27.95 ¹¹⁰	46.769 ³²⁴	5.16 ¹⁰⁹
19.8	53.939 ²⁹⁴	36.87 ⁷⁸	11.895 ³²²	29.05 ¹¹⁰	47.093 ³¹⁵	6.25 ¹⁰⁸
Mar. 1.7	54.233 ²⁸⁰	36.09 ³³	12.217 ³⁰⁷	30.15 ¹⁰⁶	47.408 ³⁰²	7.33 ¹⁰⁰
11.7	54.513 ²⁶⁰	35.76 ¹¹	12.524 ²⁸⁸	31.21 ¹⁰¹	47.710 ²⁸¹	8.33 ⁹¹
21.7	54.773 ²³⁸	35.87 ⁵²	12.812 ²⁶⁶	32.22 ⁹⁴	47.991 ²⁶¹	9.24 ⁸²
31.6	55.011 ²¹⁴	36.39 ⁹⁰	13.078 ²⁴³	33.16 ⁸⁶	48.252 ²³⁸	10.06 ⁷²
Apr. 10.6	55.225 ¹⁸⁷	37.29 ¹²¹	13.321 ²¹⁶	34.02 ⁷⁸	48.490 ²¹²	10.78 ⁶⁰
20.6	55.412 ¹⁵⁸	38.50 ¹⁴⁶	13.537 ¹⁸⁸	34.80 ⁷⁰	48.702 ¹⁸⁵	11.38 ⁵⁰
30.6	55.570 ¹²⁸	39.96 ¹⁶⁵	13.725 ¹⁵⁹	35.50 ⁶³	48.887 ¹⁵⁵	11.88 ⁴²
May 10.5	55.698 ⁹⁷	41.61 ¹⁷⁶	13.884 ¹²⁷	36.13 ⁵⁶	49.042 ¹²⁵	12.30 ³⁵
20.5	55.795 ⁶⁶	43.37 ¹⁸¹	14.011 ⁹⁴	36.69 ⁵⁰	49.167 ⁹⁵	12.65 ²⁹
30.5	55.861 ³²	45.18 ¹⁸⁰	14.105 ⁵⁹	37.19 ⁴²	49.262 ⁵⁸	12.94 ²³
June 9.5	55.893 ⁰	46.98 ¹⁷²	14.164 ²³	37.61 ³⁶	49.320 ²³	13.17 ¹⁸
19.4	55.893 ³³	48.70 ¹⁵⁹	14.187 ¹³	37.97 ²⁸	49.343 ¹²	13.35 ⁹
29.4	55.860 ⁶³	50.29 ¹⁴³	14.174 ⁵⁰	38.25 ²⁰	49.331 ⁴⁷	13.44 ³
July 9.4	55.796 ⁹⁴	51.72 ¹²³	14.124 ⁸⁵	38.45 ¹¹	49.284 ⁸³	13.47 ³
19.3	55.702 ¹²²	52.95 ¹⁰¹	14.039 ¹¹⁶	38.56 ⁰	49.201 ¹¹⁰	13.44 ¹¹
29.3	55.580 ¹⁴⁵	53.96 ⁷⁵	13.923 ¹⁴⁴	38.56 ¹⁰	49.091 ¹⁴⁰	13.33 ¹⁷
Aug. 8.3	55.435 ¹⁶⁴	54.71 ⁴⁸	13.779 ¹⁶⁵	38.46 ²²	48.951 ¹⁶⁰	13.16 ²³
18.3	55.271 ¹⁷⁵	55.19 ²¹	13.614 ¹⁸⁰	38.24 ³⁴	48.791 ¹⁷⁴	12.93 ³⁵
28.2	55.096 ¹⁸⁰	55.40 ⁹	13.434 ¹⁸⁶	37.90 ⁴⁴	48.617 ¹⁷⁹	12.58 ³⁹
Sept. 7.2	54.916 ¹⁷⁷	55.31 ³⁸	13.248 ¹⁸¹	37.46 ⁵²	48.438 ¹⁷⁵	12.19 ⁴⁷
17.2	54.739 ¹⁶⁴	54.93 ⁶⁹	13.067 ¹⁶⁸	36.94 ⁶⁰	48.263 ¹⁶³	11.72 ⁴⁸
27.2	54.575 ¹⁴³	54.24 ⁹⁸	12.899 ¹⁴²	36.34 ⁶⁴	48.100 ¹⁴¹	11.24 ⁵¹
Oct. 7.1	54.432 ¹¹³	53.26 ¹²⁹	12.757 ¹⁰⁹	35.70 ⁶³	47.959 ¹⁰⁴	10.73 ⁴⁶
17.1	54.319 ⁷⁵	51.97 ¹⁵⁸	12.648 ⁶⁵	35.07 ⁵⁹	47.855 ⁶⁶	10.27 ⁴⁰
27.1	54.244 ³¹	50.39 ¹⁸⁵	12.583 ¹⁵	34.48 ⁵⁰	47.789 ¹⁴	9.87 ³⁰
Nov. 6.0	54.213 ¹⁸	48.54 ²¹⁰	12.568 ³⁹	33.98 ³⁷	47.775 ³⁴	9.57 ¹⁹
16.0	54.231 ⁶⁸	46.44 ²³¹	12.607 ⁹⁵	33.61 ²¹	47.809 ⁹⁰	9.38 ²
26.0	54.299 ¹¹⁹	44.13 ²⁴⁸	12.702 ¹⁴⁹	33.40 ⁰	47.899 ¹⁴⁴	9.40 ²⁰
Dec. 6.0	54.418 ¹⁶⁷	41.65 ²⁵⁷	12.851 ²⁰¹	33.40 ²⁰	48.043 ¹⁹³	9.60 ⁴¹
15.9	54.585 ²¹⁰	39.08 ²⁵⁹	13.052 ²⁴⁵	33.60 ⁴²	48.236 ²³⁷	10.01 ⁶¹
25.9	54.795 ²⁴⁷	36.49 ²⁵³	13.297 ²⁸²	34.02 ⁶²	48.473 ²⁷⁵	10.62 ⁸⁰
35.9	55.042	33.96	13.579	34.64	48.748	11.42
Mean Place	53.718	42.71	11.348	37.50	46.590	13.52
Sec δ , Tan δ	1.040	+0.285	1.112	-0.485	1.082	-0.412
L α , L δ	-0.01	-0.2	+0.01	-0.2	+0.01	-0.2
ω α , ω δ	+0.01	-0.8	-0.02	-0.9	-0.01	-0.9
AUTHORITY	A. N.		A. N.		A. E.	

APPARENT PLACES OF STARS, 1923. 377

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β^1 Scorpii. Mag. 2.9		δ Ophiuchi. Mag. 3.0		γ^2 Normæ. Mag. 4.1	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	^h 16 ^m 0	[°] 19 ['] 35	^h 16 ^m 10	[°] 3 ['] 29	^h 16 ^m 14	[°] 49 ['] 57
Jan. 0.9	56.244 ²⁸⁴	33.21 ⁹⁷	17.348 ²⁵⁶	41.29 ¹⁶⁴	2.548 ³⁷⁷	48.19 ⁵⁸
10.9	56.528 ³⁰³	34.18 ¹⁰⁶	17.604 ²⁷⁷	42.93 ¹⁶⁰	2.925 ⁴¹³	47.61 ²⁸
20.8	56.831 ³¹⁶	35.24 ¹¹⁰	17.881 ²⁹⁵	44.53 ¹⁵³	3.338 ⁴³⁴	47.33 ⁵
30.8	57.147 ³²²	36.34 ¹¹³	18.176 ²⁹⁸	46.06 ¹³⁶	3.772 ⁴⁴⁷	47.38 ³³
Feb. 9.8	57.469 ³²⁰	37.47 ¹⁰⁸	18.474 ³⁰⁰	47.42 ¹¹⁶	4.219 ⁴⁴⁸	47.71 ⁶²
19.8	57.789 ³¹¹	38.55 ¹⁰²	18.774 ²⁹²	48.58 ⁸⁹	4.667 ⁴⁴²	48.33 ⁸⁷
Mar. 1.7	58.100 ²⁹⁶	39.57 ⁹³	19.066 ²⁸¹	49.47 ⁶⁶	5.109 ⁴²⁸	49.20 ¹⁰⁹
11.7	58.396 ²⁸⁰	40.50 ⁸¹	19.347 ²⁶⁷	50.13 ³⁹	5.537 ⁴⁰⁷	50.29 ¹²⁹
21.7	58.676 ²⁶⁰	41.31 ⁷⁰	19.614 ²⁴⁸	50.52 ¹²	5.944 ³⁸²	51.58 ¹⁴⁴
31.6	58.936 ²³⁹	42.01 ⁵⁵	19.862 ²²⁶	50.64 ¹⁴	6.326 ³⁵⁰	53.02 ¹⁵⁷
Apr. 10.6	59.175 ²¹²	42.56 ⁴⁴	20.088 ²⁰⁷	50.50 ³⁶	6.676 ³¹⁸	54.59 ¹⁶⁹
20.6	59.387 ¹⁸⁵	43.00 ³⁴	20.295 ¹⁷⁶	50.14 ⁵⁵	6.994 ²⁷⁷	56.28 ¹⁷⁶
30.6	59.572 ¹⁵⁷	43.34 ²⁷	20.471 ¹⁵⁶	49.59 ⁶⁹	7.271 ²³⁹	58.04 ¹⁸⁰
May 10.5	59.729 ¹²⁹	43.61 ¹⁶	20.627 ¹²³	48.90 ⁸⁰	7.510 ¹⁹³	59.84 ¹⁸³
20.5	59.858 ⁹⁵	43.77 ¹⁰	20.750 ⁹⁵	48.10 ⁸⁶	7.703 ¹⁴⁴	61.67 ¹⁸¹
30.5	59.953 ⁶³	43.87 ⁵	20.845 ⁶¹	47.24 ⁸⁹	7.847 ⁹³	63.48 ¹⁷⁵
June 9.5	60.016 ²⁸	43.92 ⁰	20.906 ³¹	46.35 ⁸⁸	7.940 ⁴⁰	65.23 ¹⁶⁷
19.4	60.044 ⁸	43.92 ⁴	20.937 ⁵	45.47 ⁸⁴	7.980 ¹⁵	66.90 ¹⁵⁵
29.4	60.036 ⁴³	43.88 ⁸	20.932 ³⁷	44.63 ⁸⁰	7.965 ⁷⁰	68.45 ¹³⁵
July 9.4	59.993 ⁷⁵	43.80 ¹²	20.895 ⁷⁰	43.83 ⁷⁴	7.895 ¹²¹	69.80 ¹¹⁶
19.3	59.918 ¹⁰⁶	43.68 ¹⁸	20.825 ¹⁰⁰	43.09 ⁶³	7.774 ¹⁶⁸	70.96 ⁹⁰
29.3	59.812 ¹³⁶	43.50 ²¹	20.725 ¹²⁶	42.46 ⁵⁶	7.606 ²⁰⁸	71.86 ⁶²
Aug. 8.3	59.676 ¹⁵⁵	43.29 ²⁶	20.599 ¹⁴⁷	41.90 ⁴³	7.398 ²⁴³	72.48 ³³
18.3	59.521 ¹⁷⁰	43.03 ³³	20.452 ¹⁶¹	41.47 ³⁵	7.155 ²⁶⁶	72.81 ⁴
28.2	59.351 ¹⁷⁷	42.70 ³⁷	20.291 ¹⁷⁰	41.12 ²¹	6.889 ²⁷⁸	72.77 ³⁴
Sept. 7.2	59.174 ¹⁷³	42.33 ³⁵	20.121 ¹⁶⁹	40.91 ⁸	6.611 ²⁷⁵	72.43 ⁶⁸
17.2	59.001 ¹⁶³	41.98 ⁴¹	19.952 ¹⁶⁰	40.83 ⁷	6.336 ²⁵⁸	71.75 ⁹⁸
27.2	58.838 ¹³⁹	41.57 ³⁸	19.792 ¹³⁹	40.90 ²⁰	6.078 ²²⁷	70.77 ¹²⁴
Oct. 7.1	58.699 ¹⁰⁸	41.19 ³⁵	19.653 ¹¹⁴	41.10 ³⁹	5.851 ¹⁸⁴	69.53 ¹⁴⁷
17.1	58.591 ⁶⁹	40.84 ²⁵	19.539 ⁷⁴	41.49 ⁵⁹	5.667 ¹²⁶	68.06 ¹⁶³
27.1	58.522 ²⁰	40.59 ¹⁶	19.465 ³²	42.08 ⁷⁵	5.541 ⁶¹	66.43 ¹⁷¹
Nov. 6.0	58.502 ²⁸	40.43 ²	19.433 ¹¹	42.83 ⁹⁶	5.480 ¹²	64.72 ¹⁷²
16.0	58.530 ⁸⁶	40.45 ¹⁸	19.444 ⁶⁶	43.79 ¹¹⁶	5.492 ⁸⁷	63.00 ¹⁶⁶
26.0	58.616 ¹³⁴	40.63 ³⁶	19.510 ¹¹¹	44.95 ¹³²	5.579 ¹⁶¹	61.34 ¹⁵¹
Dec. 6.0	58.750 ¹⁸⁶	40.99 ⁵⁷	19.621 ¹⁶³	46.27 ¹⁴⁸	5.740 ²³²	59.83 ¹³¹
15.9	58.936 ²²⁸	41.56 ⁷³	19.784 ²⁰¹	47.75 ¹⁶¹	5.972 ²⁹⁷	58.52 ¹⁰⁵
25.9	59.164 ²⁶⁵	42.29 ⁸⁸	19.985 ²⁴²	49.36 ¹⁶³	6.269 ³⁴⁹	57.47 ⁷⁸
35.9	59.429	43.17	20.227	50.99	6.618	56.69
Mean Place	57.345	44.95	18.507	49.54	4.037	65.39
Sec δ , Tan δ	1.061	-0.356	1.002	-0.061	1.555	-1.190
L α , L δ	+0.01	-0.2	0.00	-0.2	+0.03	-0.2
ω α , ω δ	-0.01	-0.9	0.00	-0.9	-0.04	-0.9
AUTHORITY	A. E.		A. E.		A. E.	

378 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ε Ophiuchi. Mag. 3.3		σ Scorp.ii. Mag. 3.1		γ Herculis. Mag. 3.8	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	^h ^m 16 14	[°] ['] 4 30	^h ^m 16 16	[°] ['] 25 24	^h ^m 16 18	[°] ['] 19 19
Jan. 0.9	13.534 ²⁵⁴	12.71 ¹⁵⁹	29.075 ²⁸²	20.99 ⁵⁸	29.995 ²⁴³	62.41 ²⁵¹
10.9	13.788 ²⁷⁸	14.30 ¹⁵⁵	29.357 ³⁰⁷	21.57 ⁷²	30.238 ²⁷³	59.90 ²³²
20.8	14.066 ²⁹³	15.85 ¹⁴⁹	29.664 ³²³	22.29 ⁸²	30.511 ²⁹⁰	57.58 ²⁰⁴
30.8	14.359 ³⁰⁰	17.34 ¹³³	29.987 ³³¹	23.11 ⁹⁰	30.801 ³⁰¹	55.54 ¹⁶⁸
Feb. 9.8	14.659 ³⁰⁰	18.67 ¹¹³	30.318 ³³¹	24.01 ⁹³	31.102 ³⁰⁴	53.86 ¹²⁵
19.8	14.959 ²⁹³	19.80 ⁹²	30.649 ³²⁵	24.94 ⁹²	31.406 ³⁰⁰	52.61 ⁸²
Mar. 1.7	15.252 ²⁸³	20.72 ⁶⁵	30.974 ³¹³	25.86 ⁸⁹	31.706 ²⁸⁸	51.79 ³²
11.7	15.535 ²⁶⁶	21.37 ⁴⁰	31.287 ²⁹⁸	26.75 ⁸⁴	31.994 ²⁷⁵	51.47 ¹⁵
21.7	15.801 ²⁵³	21.77 ¹²	31.585 ²⁸⁰	27.59 ⁷⁸	32.269 ²⁵⁶	51.62 ⁶¹
31.7	16.054 ²²⁹	21.89 ¹¹	31.865 ²⁵⁹	28.37 ⁷⁰	32.525 ²³²	52.23 ¹⁰⁰
Apr. 10.6	16.283 ²¹⁰	21.78 ³¹	32.124 ²³⁵	29.07 ⁶³	32.757 ²⁰⁹	53.23 ¹³⁷
20.6	16.493 ¹⁸²	21.47 ⁵²	32.359 ²⁰⁸	29.70 ⁵⁶	32.966 ¹⁸¹	54.60 ¹⁶⁵
30.6	16.675 ¹⁵⁶	20.95 ⁶⁵	32.567 ¹⁸¹	30.26 ⁵¹	33.147 ¹⁵¹	56.25 ¹⁸⁸
May 10.5	16.831 ¹³⁰	20.30 ⁷⁶	32.748 ¹⁵⁰	30.77 ⁴⁵	33.298 ¹¹⁹	58.13 ²⁰¹
20.5	16.961 ⁹⁷	19.54 ⁸²	32.898 ¹¹⁷	31.22 ⁴¹	33.417 ⁸⁸	60.14 ²⁰⁶
30.5	17.058 ⁶⁸	18.72 ⁸⁵	33.015 ⁸²	31.63 ³⁷	33.505 ⁵⁰	62.20 ²⁰⁸
June 9.5	17.126 ³⁵	17.87 ⁸⁴	33.097 ⁴⁵	32.00 ³²	33.555 ¹⁸	64.28 ¹⁹⁹
19.4	17.161 ⁰	17.03 ⁸²	33.142 ⁷	32.32 ²⁷	33.573 ¹⁹	66.27 ¹⁸⁷
29.4	17.161 ³	16.21 ⁷⁶	33.149 ³²	32.59 ²²	33.554 ⁵²	68.14 ¹⁷⁰
July 9.4	17.128 ⁶⁷	15.45 ⁷¹	33.117 ⁶⁹	32.81 ¹⁴	33.502 ⁸⁷	69.84 ¹⁵⁰
19.4	17.061 ⁹⁷	14.74 ⁶¹	33.048 ¹⁰³	32.95 ⁷	33.415 ¹¹⁷	71.34 ¹²⁴
29.3	16.964 ¹²⁴	14.13 ⁵³	32.945 ¹³⁵	33.02 ²	33.298 ¹⁴⁵	72.58 ⁹⁷
Aug. 8.3	16.840 ¹⁴⁶	13.60 ⁴⁴	32.810 ¹⁵⁹	33.00 ¹²	33.153 ¹⁶⁵	73.55 ⁶⁷
18.3	16.694 ¹⁶⁰	13.16 ³⁵	32.651 ¹⁷⁸	32.88 ²²	32.988 ¹⁸³	74.22 ³⁹
28.2	16.534 ¹⁷¹	12.81 ²³	32.473 ¹⁸⁸	32.66 ³¹	32.805 ¹⁹²	74.61 ⁴
Sept. 7.2	16.363 ¹⁷¹	12.58 ¹⁰	32.285 ¹⁸⁸	32.35 ⁴¹	32.613 ¹⁹²	74.65 ²⁷
17.2	16.192 ¹⁶²	12.48 ³	32.097 ¹⁷⁸	31.94 ⁴⁸	32.421 ¹⁸¹	74.38 ⁶²
27.2	16.030 ¹⁴²	12.51 ¹⁷	31.919 ¹⁵⁶	31.46 ⁵³	32.240 ¹⁶⁶	73.76 ⁹⁵
Oct. 7.1	15.888 ¹¹⁴	12.68 ³³	31.763 ¹²⁶	30.93 ⁵⁴	32.074 ¹³⁶	72.81 ¹²⁷
17.1	15.774 ⁷⁹	13.01 ⁵¹	31.637 ⁸⁵	30.39 ⁵²	31.938 ¹⁰³	71.54 ¹⁵⁷
27.1	15.695 ³⁷	13.52 ⁶⁹	31.552 ³⁷	29.87 ⁴⁶	31.835 ⁶²	69.97 ¹⁸⁸
Nov. 6.1	15.658 ¹¹	14.21 ⁸⁹	31.515 ¹⁵	29.41 ³⁶	31.773 ¹¹	68.09 ²¹⁴
16.0	15.669 ⁶¹	15.10 ¹⁰⁷	31.530 ⁷¹	29.05 ²¹	31.762 ³⁸	65.95 ²³⁷
26.0	15.730 ¹¹²	16.17 ¹²⁷	31.601 ¹²⁶	28.84 ⁵	31.800 ⁹⁰	63.58 ²⁵⁴
Dec. 6.0	15.842 ¹⁵⁸	17.44 ¹⁴⁰	31.727 ¹⁷⁸	28.79 ¹⁴	31.890 ¹³⁸	61.04 ²⁶⁴
15.9	16.000 ²⁰¹	18.84 ¹⁵³	31.905 ²²⁴	28.93 ³²	32.028 ¹⁸⁶	58.40 ²⁶⁹
25.9	16.201 ²³⁸	20.37 ¹⁵⁸	32.129 ²⁶³	29.25 ⁵⁰	32.214 ²²³	55.71 ²⁶³
35.9	16.439	21.95	32.392	29.75	32.437	53.08
Mean Place	14.704	21.23	30.265	33.78	31.350	58.50
Sec δ, Tan δ	1.003	−0.079	1.107	−0.475	1.060	+0.351
L α, L δ	0.00	−0.2	+0.01	−0.2	−0.01	−0.2
ω α, ω δ	0.00	−0.9	−0.01	−0.9	+0.01	−0.9
AUTHORITY	A. E.		A. N.		A. E.	

APPARENT PLACES OF STARS, 1923. 379

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Draconis. Mag. 2.9		α Scorpii. Mag. 1.2		β Herculis. Mag. 2.8	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	^h 16 ^m 22 ^s	[°] 61 ['] 41 ["]	^h 16 ^m 24 ^s	[°] 26 ['] 15 ["]	^h 16 ^m 26 ^s	[°] 21 ['] 39 ["]
Jan. 0.9	53.83 ^s 34	15.92 ^s 326	39.732 ^s 281	31.78 ^s 49	53.092 ^s 238	26.62 ^s 260
10.9	54.17 ^s 40	12.66 ^s 287	40.013 ^s 303	32.27 ^s 62	53.330 ^s 265	24.02 ^s 240
20.8	54.57 ^s 46	9.79 ^s 237	40.316 ^s 319	32.89 ^s 74	53.595 ^s 289	21.62 ^s 210
30.8	55.03 ^s 49	7.42 ^s 179	40.635 ^s 332	33.63 ^s 82	53.884 ^s 300	19.52 ^s 175
Feb. 9.8	55.52 ^s 52	5.63 ^s 117	40.967 ^s 333	34.45 ^s 85	54.184 ^s 304	17.77 ^s 130
19.8	56.04 ^s 52	4.46 ^s 50	41.300 ^s 330	35.30 ^s 85	54.488 ^s 304	16.47 ^s 82
Mar. 1.7	56.56 ^s 50	3.96 ^s 21	41.630 ^s 319	36.15 ^s 85	54.792 ^s 293	15.65 ^s 33
11.7	57.06 ^s 48	4.17 ^s 87	41.949 ^s 304	37.00 ^s 77	55.085 ^s 279	15.32 ^s 17
21.7	57.54 ^s 45	5.04 ^s 147	42.253 ^s 287	37.77 ^s 75	55.364 ^s 263	15.49 ^s 65
31.7	57.99 ^s 39	6.51 ^s 201	42.540 ^s 266	38.52 ^s 69	55.627 ^s 239	16.14 ^s 104
Apr. 10.6	58.38 ^s 34	8.52 ^s 245	42.806 ^s 245	39.21 ^s 62	55.866 ^s 216	17.18 ^s 144
20.6	58.72 ^s 26	10.97 ^s 284	43.051 ^s 216	39.83 ^s 56	56.082 ^s 190	18.62 ^s 173
30.6	58.98 ^s 20	13.81 ^s 307	43.267 ^s 192	40.39 ^s 52	56.272 ^s 158	20.35 ^s 197
May 10.5	59.18 ^s 13	16.88 ^s 322	43.459 ^s 159	40.91 ^s 49	56.430 ^s 128	22.32 ^s 209
20.5	59.31 ^s 5	20.10 ^s 326	43.618 ^s 125	41.40 ^s 44	56.558 ^s 92	24.41 ^s 220
30.5	59.36 ^s 3	23.36 ^s 318	43.743 ^s 91	41.84 ^s 40	56.650 ^s 59	26.61 ^s 218
June 9.5	59.33 ^s 10	26.54 ^s 303	43.834 ^s 54	42.24 ^s 35	56.709 ^s 21	28.79 ^s 214
19.4	59.23 ^s 17	29.57 ^s 282	43.888 ^s 13	42.59 ^s 33	56.730 ^s 17	30.93 ^s 199
29.4	59.06 ^s 24	32.39 ^s 247	43.901 ^s 26	42.92 ^s 26	56.713 ^s 49	32.92 ^s 182
July 9.4	58.82 ^s 29	34.86 ^s 211	43.875 ^s 64	43.18 ^s 19	56.664 ^s 85	34.74 ^s 161
19.4	58.53 ^s 35	36.97 ^s 167	43.811 ^s 101	43.37 ^s 14	56.579 ^s 120	36.35 ^s 136
29.3	58.18 ^s 38	38.64 ^s 119	43.710 ^s 131	43.51 ^s 2	56.459 ^s 143	37.71 ^s 105
Aug. 8.3	57.80 ^s 43	39.83 ^s 72	43.579 ^s 157	43.53 ^s 7	56.316 ^s 170	38.76 ^s 74
18.3	57.37 ^s 44	40.55 ^s 23	43.422 ^s 178	43.46 ^s 17	56.146 ^s 188	39.50 ^s 45
28.2	56.93 ^s 46	40.78 ^s 33	43.244 ^s 190	43.29 ^s 27	55.958 ^s 196	39.95 ^s 8
Sept. 7.2	56.47 ^s 45	40.45 ^s 84	43.054 ^s 193	43.02 ^s 39	55.762 ^s 198	40.03 ^s 27
17.2	56.02 ^s 44	39.61 ^s 135	42.861 ^s 180	42.63 ^s 45	55.564 ^s 191	39.76 ^s 61
27.2	55.58 ^s 40	38.26 ^s 184	42.681 ^s 163	42.18 ^s 53	55.373 ^s 174	39.15 ^s 96
Oct. 7.1	55.18 ^s 36	36.42 ^s 228	42.518 ^s 132	41.65 ^s 51	55.199 ^s 148	38.19 ^s 132
17.1	54.82 ^s 31	34.14 ^s 272	42.386 ^s 92	41.14 ^s 54	55.051 ^s 113	36.87 ^s 161
27.1	54.51 ^s 23	31.42 ^s 310	42.294 ^s 46	40.60 ^s 52	54.938 ^s 72	35.26 ^s 194
Nov. 6.1	54.28 ^s 15	28.32 ^s 339	42.248 ^s 6	40.08 ^s 39	54.866 ^s 23	33.32 ^s 225
16.0	54.13 ^s 7	24.93 ^s 363	42.254 ^s 63	39.69 ^s 29	54.843 ^s 28	31.07 ^s 246
26.0	54.06 ^s 3	21.30 ^s 375	42.317 ^s 117	39.40 ^s 12	54.871 ^s 78	28.61 ^s 259
Dec. 6.0	54.09 ^s 12	17.55 ^s 377	42.434 ^s 171	39.28 ^s 4	54.949 ^s 130	26.02 ^s 275
15.9	54.21 ^s 22	13.78 ^s 368	42.605 ^s 217	39.32 ^s 23	55.079 ^s 175	23.27 ^s 278
25.9	54.43 ^s 29	10.10 ^s 349	42.822 ^s 259	39.55 ^s 41	55.254 ^s 218	20.49 ^s 273
35.9	54.72 ^s	6.61 ^s	43.081 ^s	39.96 ^s	55.472 ^s	17.76 ^s
Mean Place	56.74	17.36	40.972	44.61	54.497	22.77
Sec δ , Tan δ	2.109	+1.856	1.115	-0.493	1.076	+0.397
L α , L δ	-0.04	-0.2	+0.01	-0.2	-0.01	-0.2
ω α , ω δ	+0.05	-0.9	-0.01	-0.9	+0.01	-0.9
AUTHORITY	A. E.		A. E.		A. E.	

380 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	λ Ophiuchi. Mag. 3·9		τ Scorp.ii. Mag. 2·9		ζ Ophiuchi. Mag. 2·7	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	^h 16 ^m 27 ^s	[°] 2 [′] 9 [″]	^h 16 ^m 31 ^s	[°] 28 [′] 3 [″]	^h 16 ^m 32 ^s	[°] 10 [′] 24 [″]
Jan. 0·9	0·459 ²³⁹	11·65 ¹⁸⁴	3·838 ²⁷⁷	14·51 ³⁵	53·773 ²⁴⁵	34·44 ¹²³
10·9	0·698 ²⁶⁶	9·81 ¹⁷⁸	4·115 ³⁰⁴	14·86 ⁵⁰	54·018 ²⁷³	35·67 ¹²⁷
20·9	0·964 ²⁸³	8·03 ¹⁶⁴	4·419 ³²⁴	15·36 ⁶²	54·291 ²⁹⁰	36·94 ¹²¹
30·8	1·247 ²⁹²	6·39 ¹⁴³	4·743 ³³⁴	15·98 ⁷¹	54·581 ²⁹⁹	38·15 ¹¹⁶
Feb. 9·8	1·539 ²⁹⁴	4·96 ¹¹⁸	5·077 ³³⁶	16·69 ⁷⁷	54·880 ³⁰³	39·31 ¹⁰¹
19·8	1·833 ²⁹¹	3·78 ⁸⁸	5·413 ³³³	17·46 ⁸⁰	55·183 ³⁰⁰	40·32 ⁸³
Mar. 1·7	2·124 ²⁸³	2·90 ⁵⁶	5·746 ³²⁴	18·26 ⁸⁰	55·483 ²⁹¹	41·15 ⁶⁷
11·7	2·407 ²⁷⁰	2·34 ²³	6·070 ³¹¹	19·06 ⁷⁷	55·774 ²⁷⁹	41·82 ⁴⁵
21·7	2·677 ²⁵³	2·11 ⁹	6·381 ²⁹⁵	19·83 ⁷⁴	56·053 ²⁶⁷	42·27 ²⁷
31·7	2·930 ²³⁵	2·20 ³⁸	6·676 ²⁷⁵	20·57 ⁷⁰	56·320 ²⁴⁶	42·54 ⁶
Apr. 10·6	3·165 ²¹³	2·58 ⁶⁵	6·951 ²⁵²	21·27 ⁶⁵	56·566 ²²⁸	42·60 ¹¹
20·6	3·378 ¹⁹⁰	3·23 ⁸⁷	7·203 ²²⁷	21·92 ⁶²	56·794 ²⁰³	42·49 ²⁵
30·6	3·568 ¹⁶⁴	4·10 ¹⁰³	7·430 ²⁰⁰	22·54 ⁵⁸	56·997 ¹⁷⁸	42·24 ³⁹
May 10·6	3·732 ¹³⁶	5·13 ¹¹⁵	7·630 ¹⁶⁸	23·12 ⁵⁵	57·175 ¹⁵⁰	41·85 ⁴⁷
20·5	3·868 ¹⁰⁶	6·28 ¹²²	7·798 ¹³⁵	23·67 ⁵²	57·325 ¹²¹	41·38 ⁵²
30·5	3·974 ⁷⁴	7·50 ¹²⁴	7·933 ⁹⁹	24·19 ⁵⁰	57·446 ⁸⁷	40·86 ⁵⁵
June 9·5	4·048 ⁴¹	8·74 ¹²³	8·032 ⁶⁰	24·69 ⁴⁶	57·533 ⁵⁴	40·31 ⁵⁶
19·4	4·089 ⁶	9·97 ¹¹⁶	8·092 ²¹	25·15 ⁴²	57·587 ¹⁸	39·75 ⁵⁵
29·4	4·095 ²⁸	11·13 ¹⁰⁷	8·113 ²¹	25·57 ³⁶	57·605 ¹⁹	39·20 ⁵²
July 9·4	4·067 ⁶¹	12·20 ⁹⁷	8·092 ⁶⁰	25·93 ³⁰	57·586 ⁵²	38·68 ⁴⁸
19·4	4·006 ⁹⁴	13·17 ⁸³	8·032 ⁹⁷	26·23 ²¹	57·534 ⁸⁷	38·20 ⁴³
29·3	3·912 ¹²¹	14·00 ⁶⁹	7·935 ¹³¹	26·44 ¹¹	57·447 ¹¹⁸	37·77 ³⁹
Aug. 8·3	3·791 ¹⁴⁶	14·69 ⁵³	7·804 ¹⁶⁰	26·55 ¹	57·329 ¹⁴⁴	37·38 ³³
18·3	3·645 ¹⁶³	15·22 ³⁷	7·644 ¹⁸¹	26·56 ¹²	57·185 ¹⁵⁸	37·05 ³¹
28·3	3·482 ¹⁷³	15·59 ²⁰	7·463 ¹⁹³	26·44 ²⁴	57·027 ¹⁷³	36·74 ²⁴
Sept. 7·2	3·309 ¹⁷⁶	15·79 ¹	7·270 ¹⁹⁷	26·20 ³⁶	56·854 ¹⁷⁷	36·50 ¹⁸
17·2	3·133 ¹⁶⁸	15·80 ¹⁷	7·073 ¹⁸⁸	25·84 ⁴⁶	56·677 ¹⁶⁹	36·32 ¹⁰
27·2	2·965 ¹⁵²	15·63 ³⁸	6·885 ¹⁶⁹	25·38 ⁵⁴	56·508 ¹⁵⁴	36·22 ¹
Oct. 7·1	2·813 ¹²⁶	15·25 ⁵⁹	6·716 ¹³⁹	24·84 ⁵⁹	56·354 ¹²⁵	36·21 ¹⁰
17·1	2·687 ⁹²	14·66 ⁸⁰	6·577 ¹⁰⁰	24·25 ⁶¹	56·229 ⁹³	36·31 ¹⁹
27·1	2·595 ⁵¹	13·86 ¹⁰²	6·477 ⁵²	23·64 ⁵⁸	56·136 ⁵⁰	36·50 ³⁶
Nov. 6·1	2·544 ⁵	12·84 ¹²³	6·425 ⁰	23·06 ⁵¹	56·086 ⁶	36·86 ⁵³
16·0	2·539 ⁴⁴	11·61 ¹⁴⁴	6·425 ⁵⁶	22·55 ⁴⁰	56·080 ⁴⁷	37·39 ⁶⁸
26·0	2·583 ⁹⁴	10·17 ¹⁶²	6·481 ¹¹³	22·15 ²⁵	56·127 ⁹⁶	38·07 ⁸⁵
Dec. 6·0	2·677 ¹⁴¹	8·55 ¹⁷⁶	6·594 ¹⁶⁷	21·90 ⁸	56·223 ¹⁴⁶	38·92 ¹⁰⁰
16·0	2·818 ¹⁸⁵	6·79 ¹⁸⁵	6·761 ²¹⁵	21·82 ⁹	56·369 ¹⁸⁸	39·92 ¹¹²
25·9	3·003 ²²²	4·94 ¹⁸⁹	6·976 ²⁵⁶	21·91 ²⁷	56·557 ²³⁰	41·04 ¹²³
35·9	3·225	3·05	7·232	22·18	56·787	42·27
Mean Place	1·694	4·27	5·117	27·52	55·002	44·23
Sec δ, Tan δ	1·001	+0·038	1·133	−0·533	1·017	−0·184
L α, L δ	0·00	−0·2	+0·01	−0·2	0·00	−0·1
ω α, ω δ	0·00	−0·9	−0·01	−0·9	0·00	−0·9
AUTHORITY	A. N.		A. N.		A. E.	

APPARENT PLACES OF STARS, 1923. 381

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	24 Scorpii. Mag. 5.0		ζ Herculis. Mag. 3.0		η Herculis. Mag. 3.6	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	^h ^m 16 37	[°] ['] 17 35	^h ^m 16 38	[°] ['] 31 44	^h ^m 16 40	[°] ['] 39 3
Jan. 0.9	5.769 ²⁵²	28.65 ⁸⁵	21.395 ²³²	32.09 ²⁹¹	13.554 ²³⁹	66.15 ³¹¹
10.9	6.021 ²⁷⁹	29.50 ⁹³	21.627 ²⁶⁷	29.18 ²⁶⁶	13.793 ²⁷⁶	63.04 ²⁸¹
20.9	6.300 ²⁹⁸	30.43 ⁹⁶	21.894 ²⁹²	26.52 ²³²	14.069 ³⁰⁷	60.23 ²⁴²
30.8	6.598 ³⁰⁸	31.39 ⁹⁴	22.186 ³¹¹	24.20 ¹⁸⁹	14.376 ³³¹	57.81 ¹⁹⁸
Feb. 9.8	6.906 ³¹¹	32.33 ⁹⁰	22.497 ³¹⁹	22.31 ¹³⁹	14.707 ³⁴¹	55.83 ¹⁴³
19.8	7.217 ³⁰⁹	33.23 ⁸¹	22.816 ³²⁰	20.92 ⁸³	15.048 ³⁴⁵	54.40 ⁸³
Mar. 1.7	7.526 ³⁰²	34.04 ⁶⁹	23.136 ³¹⁴	20.09 ²⁷	15.393 ³³⁸	53.57 ²²
11.7	7.828 ²⁹⁰	34.73 ⁵⁶	23.450 ³⁰²	19.82 ²⁹	15.731 ³²⁵	53.35 ³⁶
21.7	8.118 ²⁷⁶	35.29 ⁴²	23.752 ²⁸³	20.11 ⁸³	16.056 ³⁰⁵	53.71 ⁹⁷
31.7	8.394 ²⁵⁸	35.71 ³⁰	24.035 ²⁶¹	20.94 ¹³²	16.361 ²⁷⁹	54.68 ¹⁴⁶
Apr. 10.6	8.652 ²³⁸	36.01 ¹⁷	24.296 ²³⁴	22.26 ¹⁷⁵	16.640 ²⁵²	56.14 ¹⁹²
20.6	8.890 ²¹⁴	36.18 ⁷	24.530 ²⁰⁴	24.01 ²¹⁰	16.892 ²²⁰	58.06 ²³⁰
30.6	9.104 ¹⁹⁰	36.25 ²	24.734 ¹⁷¹	26.11 ²³⁶	17.112 ¹⁷⁸	60.36 ²⁵⁶
May 10.6	9.294 ¹⁶¹	36.23 ⁷	24.905 ¹³⁶	28.47 ²⁵⁴	17.290 ¹³⁷	62.92 ²⁷⁷
20.5	9.455 ¹³¹	36.16 ¹²	25.041 ⁹⁸	31.01 ²⁶³	17.427 ⁹⁸	65.69 ²⁸⁵
30.5	9.586 ⁹⁷	36.04 ¹⁴	25.139 ⁵⁹	33.64 ²⁶³	17.525 ⁵¹	68.54 ²⁸⁵
June 9.5	9.683 ⁶²	35.90 ¹⁵	25.198 ¹⁸	36.27 ²⁵⁵	17.576 ⁸	71.39 ²⁷⁶
19.4	9.745 ²⁴	35.75 ¹⁶	25.216 ²²	38.82 ²⁴¹	17.584 ³⁵	74.15 ²⁶²
29.4	9.769 ¹³	35.59 ¹⁶	25.194 ⁶²	41.23 ²²⁰	17.549 ⁸⁰	76.77 ²³⁸
July 9.4	9.756 ⁵⁰	35.43 ¹⁶	25.132 ¹⁰¹	43.43 ¹⁹³	17.469 ¹¹⁹	79.15 ²⁰⁹
19.4	9.706 ⁸⁵	35.27 ¹⁷	25.031 ¹³⁶	45.36 ¹⁶³	17.350 ¹⁵⁹	81.24 ¹⁷³
29.3	9.621 ¹¹⁸	35.10 ¹⁸	24.895 ¹⁶⁷	46.99 ¹²⁹	17.191 ¹⁹⁵	82.97 ¹³⁸
Aug. 8.3	9.503 ¹⁴⁵	34.92 ¹⁹	24.728 ¹⁹⁴	48.28 ⁹²	16.996 ²²⁰	84.35 ⁹⁶
18.3	9.358 ¹⁶⁵	34.73 ²⁰	24.534 ²¹⁴	49.20 ⁵²	16.776 ²⁴⁰	85.31 ⁵²
28.3	9.193 ¹⁷⁹	34.53 ²³	24.320 ²²⁵	49.72 ¹³	16.536 ²⁵³	85.83 ¹¹
Sept. 7.2	9.014 ¹⁸²	34.30 ²³	24.095 ²²⁹	49.85 ³⁰	16.283 ²⁵⁸	85.94 ³⁸
17.2	8.832 ¹⁷⁶	34.07 ²⁴	23.866 ²²³	49.55 ⁷¹	16.025 ²⁴⁹	85.56 ⁸³
27.2	8.656 ¹⁵⁹	33.83 ²²	23.643 ²⁰⁷	48.84 ¹¹¹	15.776 ²³²	84.73 ¹²⁵
Oct. 7.1	8.497 ¹³³	33.61 ¹⁸	23.436 ¹⁸⁰	47.73 ¹⁵²	15.544 ²⁰⁸	83.48 ¹⁷¹
17.1	8.364 ⁹⁸	33.43 ¹¹	23.256 ¹⁴⁵	46.21 ¹⁹⁰	15.336 ¹⁷⁰	81.77 ²¹²
27.1	8.266 ⁵⁵	33.32 ³	23.111 ¹⁰³	44.31 ²²⁵	15.166 ¹²²	79.65 ²⁴⁸
Nov. 6.1	8.211 ⁵	33.29 ¹⁰	23.008 ⁵³	42.06 ²⁵⁶	15.044 ⁷²	77.17 ²⁸³
16.0	8.206 ⁴⁶	33.39 ²³	22.955 ⁰	39.50 ²⁸²	14.972 ¹³	74.34 ³⁰⁹
26.0	8.252 ⁹⁸	33.62 ³⁹	22.955 ⁵⁶	36.68 ³⁰²	14.959 ⁴⁴	71.25 ³²³
Dec. 6.0	8.350 ¹⁴⁸	34.01 ⁵⁴	23.011 ¹¹⁰	33.66 ³¹¹	15.003 ¹⁰⁴	68.02 ³³⁷
16.0	8.498 ¹⁹⁴	34.55 ⁶⁹	23.121 ¹⁶²	30.55 ³¹⁴	15.107 ¹⁶⁰	64.65 ³³⁷
25.9	8.692 ²³³	35.24 ⁸²	23.283 ²⁰⁷	27.41 ³⁰⁵	15.267 ²¹¹	61.28 ³²⁷
35.9	8.925	36.06	23.490	24.36	15.478	58.01
Mean Place	7.020	39.72	22.987	29.24	15.320	64.15
Sec δ, Tan δ	1.049	-0.317	1.176	+0.619	1.288	+0.812
L α, L δ	+0.01	-0.1	-0.02	-0.1	-0.02	-0.1
ω α, ω δ	-0.01	-0.9	+0.01	-0.9	+0.02	-0.9
AUTHORITY	A. N.				A. E.	

382 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Triang. Aust. Mag. 1·9		ε Scorp.ii. Mag. 2·4		ζ Aræ. Mag. 3·1	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	^h ^m 16 40	[°] ['] 68 52	^h ^m 16 45	[°] ['] 34 9	^h ^m 16 52	[°] ['] 55 51
Jan. 0·9	26·83 ^s ₅₆	60·68 ^s ₁₆₈	8·898 ^s ₂₈₀	4·35 ^s ₆	12·161 ^s ₃₇₇	57·17 ^s ₁₂₃
10·9	27·39 ₆₄	59·00 ₁₃₁	9·178 ₃₁₀	4·29 ₁₂	12·538 ₄₂₅	55·94 ₉₅
20·9	28·03 ₇₀	57·69 ₉₂	9·488 ₃₃₄	4·41 ₂₅	12·963 ₄₆₂	54·99 ₆₃
30·8	28·73 ₇₄	56·77 ₅₂	9·822 ₃₄₇	4·66 ₄₄	13·425 ₄₈₈	54·36 ₃₀
Feb. 9·8	29·47 ₇₅	56·25 ₅	10·169 ₃₅₃	5·10 ₅₄	13·913 ₅₀₀	54·06 ₁
19·8	30·22 ₇₆	56·20 ₃₄	10·522 ₃₅₄	5·64 ₆₂	14·413 ₅₀₄	54·07 ₃₁
Mar. 1·8	30·98 ₇₅	56·54 ₆₉	10·876 ₃₄₅	6·26 ₇₀	14·917 ₄₉₉	54·38 ₅₉
11·7	31·73 ₇₃	57·23 ₁₁₁	11·221 ₃₃₆	6·96 ₇₄	15·416 ₄₈₅	54·97 ₈₄
21·7	32·46 ₆₉	58·34 ₁₄₂	11·557 ₃₂₀	7·70 ₇₈	15·901 ₄₆₆	55·81 ₁₀₉
31·7	33·15 ₆₅	59·76 ₁₇₃	11·877 ₃₀₀	8·48 ₈₀	16·367 ₄₃₉	56·90 ₁₃₀
Apr. 10·7	33·80 ₅₉	61·49 ₁₉₈	12·177 ₂₇₈	9·28 ₈₁	16·806 ₄₀₇	58·20 ₁₄₉
20·6	34·39 ₅₂	63·47 ₂₂₁	12·455 ₂₅₅	10·09 ₈₁	17·213 ₃₆₉	59·69 ₁₆₅
30·6	34·91 ₄₅	65·68 ₂₄₀	12·710 ₂₂₅	10·90 ₈₃	17·582 ₃₂₅	61·34 ₁₈₀
May 10·6	35·36 ₃₆	68·08 ₂₅₁	12·935 ₁₉₁	11·73 ₈₃	17·907 ₂₇₆	63·14 ₁₉₀
20·5	35·72 ₂₈	70·59 ₂₆₀	13·126 ₁₅₆	12·56 ₈₄	18·183 ₂₂₁	65·04 ₁₉₅
30·5	36·00 ₁₈	73·19 ₂₆₁	13·282 ₁₁₉	13·40 ₈₂	18·404 ₁₆₄	66·99 ₁₉₈
June 9·5	36·18 ₈	75·80 ₂₅₆	13·401 ₇₆	14·22 ₈₀	18·568 ₉₉	68·97 ₁₉₇
19·5	36·26 ₂	78·36 ₂₄₄	13·477 ₃₃	15·02 ₇₇	18·667 ₃₃	70·94 ₁₈₉
29·4	36·24 ₁₂	80·80 ₂₂₉	13·510 ₁₂	15·79 ₇₀	18·700 ₃₃	72·83 ₁₇₈
July 9·4	36·12 ₂₃	83·09 ₂₀₄	13·498 ₅₆	16·49 ₆₁	18·667 ₉₆	74·61 ₁₆₁
19·4	35·89 ₃₁	85·13 ₁₇₂	13·442 ₉₇	17·10 ₅₂	18·571 ₁₆₁	76·22 ₁₃₇
29·4	35·58 ₃₈	86·85 ₁₃₇	13·345 ₁₃₆	17·62 ₃₈	18·410 ₂₁₅	77·59 ₁₁₃
Aug. 8·3	35·20 ₄₅	88·22 ₁₀₀	13·209 ₁₆₇	18·00 ₂₂	18·195 ₂₆₀	78·72 ₈₀
18·3	34·75 ₅₀	89·22 ₅₂	13·042 ₁₉₄	18·22 ₅	17·935 ₃₀₀	79·52 ₄₆
28·3	34·25 ₅₂	89·74 ₂	12·848 ₂₀₈	18·27 ₁₄	17·635 ₃₂₁	79·98 ₈
Sept. 7·2	33·73 ₅₄	89·76 ₄₀	12·640 ₂₁₃	18·13 ₂₈	17·314 ₃₃₁	80·06 ₂₉
17·2	33·19 ₅₁	89·36 ₉₂	12·427 ₂₁₀	17·85 ₄₈	16·983 ₃₂₃	79·77 ₆₆
27·2	32·68 ₄₇	88·44 ₁₃₅	12·217 ₁₈₈	17·37 ₆₃	16·660 ₂₉₈	79·11 ₁₀₂
Oct. 7·2	32·21 ₄₀	87·09 ₁₇₆	12·029 ₁₆₄	16·74 ₇₂	16·362 ₂₅₇	78·09 ₁₃₄
17·1	31·81 ₃₂	85·33 ₂₀₉	11·865 ₁₂₀	16·02 ₈₃	16·105 ₂₀₀	76·75 ₁₆₂
27·1	31·49 ₂₁	83·24 ₂₃₃	11·745 ₇₂	15·19 ₈₄	15·905 ₁₃₃	75·13 ₁₈₀
Nov. 6·1	31·28 ₉	80·91 ₂₅₀	11·673 ₁₇	14·35 ₈₄	15·772 ₅₅	73·33 ₁₉₂
16·1	31·19 ₄	78·41 ₂₅₅	11·656 ₃₉	13·51 ₇₅	15·717 ₂₈	71·41 ₁₉₆
26·0	31·23 ₁₆	75·86 ₂₅₂	11·695 ₁₀₁	12·76 ₆₈	15·745 ₁₁₃	69·45 ₁₉₃
Dec. 6·0	31·39 ₂₉	73·34 ₂₃₉	11·796 ₁₅₉	12·08 ₅₁	15·858 ₁₉₇	67·52 ₁₇₉
16·0	31·68 ₄₁	70·95 ₂₁₇	11·955 ₂₁₀	11·57 ₃₄	16·055 ₂₇₂	65·73 ₁₆₂
25·9	32·09 ₅₁	68·78 ₁₈₇	12·165 ₂₅₆	11·23 ₁₅	16·327 ₃₄₀	64·11 ₁₃₈
35·9	32·60	66·91	12·421	11·08	16·667	62·73
Mean Place	29·72	78·81	10·311	17·97	14·187	73·34
Sec δ, Tan δ	2·776	—2·590	1·208	—0·678	1·782	—1·475
L α, L δ	+0·06	—0·1	+0·02	—0·1	+0·04	—0·1
ω α, ω δ	—0·06	—0·9	—0·01	—0·9	—0·03	—1·0
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 383

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	κ Ophiuchi. Mag. 3.4		ζ Ophiuchi. Mag. 5.0		ϵ Herculis. Mag. 3.9	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	^h 16 ^m 53	[°] 9 ['] 29	^h 16 ^m 56	[°] 4 ['] 6	^h 16 ^m 57	[°] 31 ['] 2
Jan. 0.9	59.995 ²¹⁴	43.78 ²¹⁴	58.672 ²²¹	20.98 ¹⁴⁷	18.968 ²¹⁴	23.84 ²⁹³
10.9	60.209 ²⁴⁵	41.64 ²⁰¹	58.893 ²⁵⁰	22.45 ¹⁴⁵	19.182 ²⁴⁸	20.91 ²⁷³
20.9	60.454 ²⁶⁶	39.63 ¹⁸⁴	59.143 ²⁷⁰	23.90 ¹³⁷	19.430 ²⁸⁰	18.18 ²³⁸
30.8	60.720 ²⁸²	37.79 ¹⁵⁸	59.413 ²⁸⁴	25.27 ¹²³	19.710 ²⁰⁸	15.80 ¹⁹⁹
Feb. 9.8	61.002 ²⁹⁰	36.21 ¹²⁵	59.697 ²⁹²	26.50 ¹⁰⁴	20.008 ³¹³	13.81 ¹⁵¹
19.8	61.292 ²⁸⁸	34.96 ⁹¹	59.989 ²⁹²	27.54 ⁸¹	20.321 ³¹⁷	12.30 ⁹⁹
Mar. 1.8	61.580 ²⁸⁶	34.05 ⁴⁹	60.281 ²⁸⁸	28.35 ⁵⁶	20.638 ³¹⁴	11.31 ⁴⁰
11.7	61.866 ²⁷⁹	33.56 ¹²	60.569 ²⁸¹	28.91 ²⁹	20.952 ³⁰⁶	10.91 ¹⁵
21.7	62.145 ²⁶⁵	33.44 ²⁹	60.850 ²⁶⁹	29.20 ²	21.258 ²⁹¹	11.06 ⁷⁰
31.7	62.410 ²⁵¹	33.73 ⁶⁴	61.119 ²⁵⁵	29.22 ²³	21.549 ²⁷²	11.76 ¹²⁰
Apr. 10.7	62.661 ²²⁹	34.37 ⁹⁵	61.374 ²³⁶	28.99 ⁴⁵	21.821 ²⁵⁰	12.96 ¹⁶³
20.6	62.890 ²¹²	35.32 ¹²²	61.610 ²¹⁷	28.54 ⁶⁴	22.071 ²²²	14.59 ²⁰⁰
30.6	63.102 ¹⁸¹	36.54 ¹⁴³	61.827 ¹⁹³	27.90 ⁷⁹	22.293 ¹⁹⁰	16.59 ²³¹
May 10.6	63.283 ¹⁵⁷	37.97 ¹⁵⁹	62.020 ¹⁶⁸	27.11 ⁸⁹	22.483 ¹⁵⁶	18.90 ²⁵⁰
20.5	63.440 ¹²⁴	39.56 ¹⁶⁶	62.188 ¹³⁷	26.22 ⁹⁵	22.639 ¹¹⁹	21.40 ²⁶²
30.5	63.564 ⁹²	41.22 ¹⁶⁹	62.325 ¹⁰⁶	25.27 ⁹⁸	22.758 ⁸⁰	24.02 ²⁶⁴
June 9.5	63.656 ⁵⁹	42.91 ¹⁶⁸	62.431 ⁷²	24.29 ⁹⁶	22.838 ⁴⁰	26.66 ²⁶⁰
19.5	63.715 ²²	44.59 ¹⁶⁰	62.503 ³⁶	23.33 ⁹²	22.878 ²	29.26 ²⁴⁷
29.4	63.737 ¹⁴	46.19 ¹⁴⁹	62.539 ¹	22.41 ⁸⁶	22.876 ⁴⁴	31.73 ²²⁸
July 9.4	63.723 ⁵²	47.68 ¹³³	62.538 ³⁹	21.55 ⁷⁷	22.832 ⁸²	34.01 ²⁰⁵
19.4	63.671 ⁸⁶	49.01 ¹¹⁵	62.499 ⁷³	20.78 ⁶⁸	22.750 ¹²³	36.06 ¹⁷⁵
29.4	63.585 ¹¹⁶	50.16 ⁹⁸	62.426 ¹⁰⁶	20.10 ⁵⁷	22.627 ¹⁵⁵	37.81 ¹⁴¹
Aug. 8.3	63.469 ¹⁴⁴	51.14 ⁷⁴	62.320 ¹³⁴	19.53 ⁴⁶	22.472 ¹⁸⁵	39.22 ¹⁰⁹
18.3	63.325 ¹⁶⁵	51.88 ⁴⁹	62.186 ¹⁵⁷	19.07 ³⁵	22.287 ²⁰⁷	40.31 ⁶⁸
28.3	63.160 ¹⁸⁰	52.37 ²⁶	62.029 ¹⁷²	18.72 ²²	22.080 ²²³	40.99 ²⁹
Sept. 7.2	62.980 ¹⁸⁶	52.63 ¹	61.857 ¹⁷⁹	18.50 ¹⁰	21.857 ²³⁰	41.28 ¹²
17.2	62.794 ¹⁸²	52.64 ²²	61.678 ¹⁷⁶	18.40 ²	21.627 ²²⁵	41.16 ⁵⁶
27.2	62.612 ¹⁷⁰	52.42 ⁵⁴	61.502 ¹⁶⁴	18.42 ¹⁷	21.402 ²¹⁵	40.60 ⁹⁵
Oct. 7.2	62.442 ¹⁵⁰	51.88 ⁷⁶	61.338 ¹⁴²	18.59 ³²	21.187 ¹⁸⁹	39.65 ¹³⁷
17.1	62.292 ¹¹⁷	51.12 ¹⁰⁴	61.196 ¹¹¹	18.91 ⁴⁸	20.998 ¹⁵⁸	38.28 ¹⁷⁵
27.1	62.175 ⁷⁹	50.08 ¹³⁰	61.085 ⁷³	19.39 ⁶⁵	20.840 ¹¹⁸	36.53 ²¹²
Nov. 6.1	62.096 ³⁸	48.78 ¹⁵³	61.012 ²⁷	20.04 ⁸³	20.722 ⁷¹	34.41 ²⁴⁴
16.1	62.058 ¹³	47.25 ¹⁷⁸	60.985 ¹⁹	20.87 ¹⁰⁰	20.651 ¹⁸	31.97 ²⁷¹
26.0	62.071 ⁵⁹	45.47 ¹⁹⁵	61.004 ⁷⁰	21.87 ¹¹⁷	20.633 ³⁵	29.26 ²⁹³
Dec. 6.0	62.130 ¹¹¹	43.52 ²⁰⁵	61.074 ¹¹⁷	23.04 ¹³¹	20.668 ⁸⁹	26.33 ³⁰⁵
16.0	62.241 ¹⁵³	41.47 ²¹⁸	61.191 ¹⁶²	24.35 ¹⁴²	20.757 ¹⁴¹	23.28 ³¹¹
25.9	62.394 ¹⁹⁶	39.29 ²¹⁹	61.353 ²⁰¹	25.77 ¹⁴⁹	20.898 ¹⁸⁹	20.17 ³⁰⁵
35.9	62.590	37.10	61.554	27.26	21.087	17.12
Mean Place	61.345	37.11	59.978	29.75	20.574	19.92
Sec δ , Tan δ	1.014	+0.167	1.003	-0.072	1.167	+0.602
L α , L δ	0.00	-0.1	0.00	-0.1	-0.02	-0.1
ω α , ω δ	0.00	-1.0	0.00	-1.0	+0.01	-1.0
AUTHORITY	A. E.				A. E.	

384 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Ophiuchi. Mag. 2.6		ζ Draconis. Mag. 3.2		α Herculis. Mag. 3.1-3.9	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	h m 17 5	° ' 15 37	h m 17 8	° ' 65 48	h m 17 11	° ' 14 28
Jan. 0.9	56.226 ⁸ ₂₂₈	40.49 ⁸ ₈₁	30.26 ⁸ ₂₇	35.68 ⁸ ₃₄₈	6.724 ⁸ ₁₉₉	43.54 ⁸ ₂₃₃
10.9	56.454 ²⁵⁶	41.30 ⁸⁷	30.53 ²⁷	32.20 ³²⁰	6.923 ²²⁸	41.21 ²²⁰
20.9	56.710 ²⁷⁸	42.17 ⁸⁸	30.90 ³⁷	29.00 ²⁷⁷	7.151 ²⁵⁶	39.01 ²⁰⁰
30.9	56.988 ²⁹²	43.05 ⁸⁰	31.34 ⁵⁰	26.23 ²²⁶	7.407 ²⁷⁶	37.01 ¹⁶⁹
Feb. 9.8	57.280 ³⁰²	43.85 ⁷⁸	31.84 ⁵⁵	23.97 ¹⁶⁷	7.683 ²⁸⁷	35.32 ¹³⁶
19.8	57.582 ³⁰⁵	44.63 ⁶⁶	32.39 ⁵⁸	22.30 ¹⁰²	7.970 ²⁹⁰	33.96 ⁹⁵
Mar. 1.8	57.887 ³⁰²	45.29 ⁵⁰	32.97 ⁵⁸	21.28 ³⁴	8.260 ²⁸⁹	33.01 ⁵⁴
11.7	58.189 ²⁹⁴	45.79 ³⁸	33.55 ⁵⁷	20.94 ³⁵	8.549 ²⁸⁵	32.47 ⁹
21.7	58.483 ²⁸⁵	46.17 ²⁴	34.12 ⁵⁴	21.29 ¹⁰⁰	8.834 ²⁷³	32.38 ³⁵
31.7	58.768 ²⁷¹	46.41 ⁹	34.66 ⁵¹	22.29 ¹⁵⁹	9.107 ²⁶¹	32.73 ⁷⁶
Apr. 10.7	59.039 ²⁵⁵	46.50 ⁶	35.17 ⁴⁵	23.88 ²¹³	9.368 ²⁴²	33.49 ¹¹¹
20.6	59.294 ²³⁶	46.44 ¹⁶	35.62 ³⁸	26.01 ²⁵⁷	9.610 ²²³	34.60 ¹⁴²
30.6	59.530 ²¹²	46.28 ²⁴	36.00 ³¹	28.58 ²⁹¹	9.833 ¹⁹⁶	36.02 ¹⁶⁵
May 10.6	59.742 ¹⁸⁶	46.04 ²⁷	36.31 ²³	31.49 ³¹⁷	10.029 ¹⁷⁰	37.67 ¹⁸⁵
20.6	59.928 ¹⁵⁵	45.77 ³⁴	36.54 ¹³	34.66 ³³¹	10.199 ¹⁴⁰	39.52 ¹⁹⁵
30.5	60.083 ¹²³	45.43 ³³	36.67 ⁵	37.97 ³³³	10.339 ¹⁰³	41.47 ¹⁹⁸
June 9.5	60.206 ⁸⁶	45.10 ³³	36.72 ⁴	41.30 ³²⁷	10.442 ⁷⁰	43.45 ¹⁹⁵
19.5	60.292 ⁵⁰	44.77 ³¹	36.68 ¹²	44.57 ³¹²	10.512 ³⁴	45.40 ¹⁸⁹
29.4	60.342 ¹⁰	44.46 ³¹	36.56 ²²	47.69 ²⁸⁶	10.546 ⁷	47.29 ¹⁷⁶
July 9.4	60.352 ²⁷	44.15 ²⁵	36.34 ²⁹	50.55 ²⁵⁸	10.539 ⁴³	49.05 ¹⁵⁹
19.4	60.325 ⁶⁸	43.90 ²³	36.05 ³⁶	53.13 ²²⁰	10.496 ⁸⁰	50.64 ¹³⁸
29.4	60.257 ¹⁰¹	43.67 ²⁰	35.69 ⁴³	55.33 ¹⁷⁷	10.416 ¹¹⁵	52.02 ¹¹⁸
Aug. 8.3	60.156 ¹³⁵	43.47 ¹⁷	35.26 ⁴⁸	57.10 ¹³¹	10.301 ¹⁴⁴	53.20 ⁹¹
18.3	60.021 ¹⁵⁵	43.30 ¹⁷	34.78 ⁵¹	58.41 ⁸³	10.157 ¹⁶⁵	54.11 ⁶³
28.3	59.866 ¹⁷⁶	43.13 ¹⁶	34.27 ⁵⁵	59.24 ³²	9.992 ¹⁸⁵	54.74 ³⁶
Sept. 7.3	59.690 ¹⁸¹	42.97 ¹³	33.72 ⁵⁵	59.56 ²¹	9.807 ¹⁹³	55.10 ⁴
17.2	59.509 ¹⁸³	42.84 ¹³	33.17 ⁵⁵	59.35 ⁷⁴	9.614 ¹⁹¹	55.14 ²¹
27.2	59.326 ¹⁷⁰	42.71 ¹⁰	32.62 ⁵³	58.61 ¹²⁵	9.423 ¹⁸¹	54.93 ⁵⁵
Oct. 7.2	59.156 ¹⁴⁷	42.61 ⁶	32.09 ⁵⁰	57.36 ¹⁷⁷	9.242 ¹⁶⁵	54.38 ⁸⁵
17.1	59.009 ¹¹⁸	42.55 ²	31.59 ⁴⁴	55.59 ²²⁴	9.077 ¹³⁴	53.53 ¹¹⁵
27.1	58.891 ⁷⁸	42.57 ¹⁰	31.15 ³⁷	53.35 ²⁶⁶	8.943 ⁹⁷	52.38 ¹⁴²
Nov. 6.1	58.813 ³²	42.67 ²⁰	30.78 ²⁹	50.69 ³⁰⁶	8.846 ⁵⁸	50.96 ¹⁷²
16.1	58.781 ¹⁵	42.87 ²⁹	30.49 ²⁰	47.63 ³³⁷	8.788 ⁷	49.24 ¹⁹⁷
26.0	58.796 ⁶⁹	43.16 ⁴⁵	30.29 ¹⁰	44.26 ³⁵⁹	8.781 ⁴¹	47.27 ²¹³
Dec. 6.0	58.865 ¹¹⁶	43.61 ⁵⁷	30.19 ¹	40.67 ³⁷²	8.822 ⁸⁸	45.14 ²²⁷
16.0	58.981 ¹⁶⁵	44.18 ⁶⁹	30.20 ¹¹	36.95 ³⁷⁴	8.910 ¹³⁵	42.87 ²³⁹
26.0	59.146 ²⁰⁶	44.87 ⁸¹	30.31 ²²	33.21 ³⁶⁴	9.045 ¹⁷⁶	40.48 ²³⁹
35.9	59.352	45.68	30.53	29.57	9.221	38.09
Mean Place	57.577	50.88	33.66	33.61	8.138	37.12
Sec δ , Tan δ	1.038	-0.280	2.440	+2.226	1.033	+0.258
L α , L δ	+0.01	-0.1	-0.06	-0.1	-0.01	-0.1
ω α , ω δ	0.00	-1.0	+0.03	-1.0	0.00	-1.0
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 385

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	δ Herculis. Mag. 3.2		π Herculis. Mag. 3.4		θ Ophiuchi. Mag. 3.4	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.
	h m 17 11	° ' " 24 55	h m 17 12	° ' " 36 53	h m 17 17	° ' " 24 55
Jan. 0.9	50.550 ¹⁹⁷	49.81 ²⁷⁵	20.103 ²⁰²	46.39 ³¹³	15.262 ²³²	15.39 ²⁰
10.9	50.747 ²³³	47.06 ²⁵⁹	20.305 ²⁴⁰	43.26 ²⁸⁷	15.494 ²⁶²	15.59 ³⁴
20.9	50.980 ²⁶⁰	44.47 ²²⁹	20.545 ²⁷⁸	40.39 ²⁵⁸	15.756 ²⁸⁷	15.93 ⁴⁰
30.9	51.240 ²⁸²	42.18 ¹⁹⁶	20.823 ³⁰⁴	37.81 ²¹⁸	16.043 ³⁰⁶	16.33 ⁴⁶
Feb. 9.8	51.522 ²⁹⁵	40.22 ¹⁵³	21.127 ³¹⁹	35.63 ¹⁶⁴	16.349 ³¹⁷	16.79 ⁴⁸
19.8	51.817 ³⁰²	38.69 ¹⁰⁵	21.446 ³³⁰	33.99 ¹⁰⁸	16.666 ³²¹	17.27 ⁴⁴
Mar. 1.8	52.119 ³⁰²	37.64 ⁵²	21.776 ³³²	32.91 ⁵⁰	16.987 ³²⁰	17.71 ⁴²
11.7	52.421 ²⁹⁶	37.12 ¹	22.108 ³²⁵	32.41 ⁸	17.307 ³¹⁶	18.13 ³⁶
21.7	52.717 ²⁸⁵	37.11 ⁵¹	22.433 ³¹³	32.49 ⁶⁸	17.623 ³⁰⁷	18.49 ³³
31.7	53.002 ²⁷⁰	37.62 ⁹⁸	22.746 ²⁹⁵	33.17 ¹²²	17.930 ²⁹³	18.82 ²⁶
Apr. 10.7	53.272 ²⁵¹	38.60 ¹⁴²	23.041 ²⁷⁰	34.39 ¹⁷¹	18.223 ²⁷⁸	19.08 ²⁴
20.6	53.523 ²²⁸	40.02 ¹⁷⁸	23.311 ²⁴⁴	36.10 ²¹²	18.501 ²⁶¹	19.32 ¹⁷
30.6	53.751 ²⁰¹	41.80 ²⁰⁴	23.555 ²¹¹	38.22 ²⁴⁵	18.762 ²³⁵	19.49 ¹⁸
May 10.6	53.952 ¹⁷⁰	43.84 ²²⁸	23.766 ¹⁷²	40.67 ²⁶⁴	18.997 ²¹⁰	19.67 ¹⁶
20.6	54.122 ¹³⁵	46.12 ²³⁹	23.938 ¹³⁵	43.31 ²⁸²	19.207 ¹⁷⁷	19.83 ¹⁷
30.5	54.257 ⁹⁹	48.51 ²⁴⁴	24.073 ⁹¹	46.13 ²⁸⁹	19.384 ¹⁴¹	20.00 ¹⁸
June 9.5	54.356 ⁶¹	50.95 ²⁴¹	24.164 ⁴⁶	49.02 ²⁸³	19.525 ¹⁰⁵	20.18 ²⁰
19.5	54.417 ²¹	53.36 ²³²	24.210 ²	51.85 ²⁷²	19.630 ⁶⁷	20.38 ¹⁹
29.4	54.438 ¹⁸	55.68 ²¹⁷	24.212 ⁴⁵	54.57 ²⁵³	19.697 ²¹	20.57 ²²
July 9.4	54.420 ⁶⁰	57.85 ¹⁹⁶	24.167 ⁸⁵	57.10 ²²⁷	19.718 ¹⁸	20.79 ²¹
19.4	54.360 ⁹⁷	59.81 ¹⁷⁰	24.082 ¹³⁰	59.37 ²⁰⁰	19.700 ⁶⁴	21.00 ²³
29.4	54.263 ¹³³	61.51 ¹⁴⁰	23.952 ¹⁶⁶	61.37 ¹⁶⁶	19.636 ⁹⁹	21.23 ¹⁶
Aug. 8.3	54.130 ¹⁶¹	62.91 ¹⁰⁹	23.786 ¹⁹⁹	63.03 ¹²⁶	19.537 ¹³⁸	21.39 ¹³
18.3	53.969 ¹⁸⁹	64.00 ⁷⁷	23.587 ²²⁶	64.29 ⁸⁵	19.399 ¹⁶²	21.52 ⁴
28.3	53.780 ²⁰⁴	64.77 ⁴⁰	23.361 ²⁴⁵	65.14 ⁴⁵	19.237 ¹⁸⁴	21.56 ¹
Sept. 7.3	53.576 ²¹¹	65.17 ⁰	23.116 ²⁵³	65.59 ⁴	19.053 ¹⁹⁴	21.55 ¹⁰
17.2	53.365 ²¹⁴	65.17 ³⁵	22.863 ²⁵²	65.55 ⁴⁶	18.859 ¹⁹⁵	21.45 ¹⁸
27.2	53.151 ²⁰³	64.82 ⁷²	22.611 ²⁴⁰	65.09 ⁹⁰	18.664 ¹⁸³	21.27 ²³
Oct. 7.2	52.948 ¹⁸²	64.10 ¹¹²	22.371 ²²⁰	64.19 ¹³⁶	18.481 ¹⁶⁵	21.04 ³¹
17.1	52.766 ¹⁵⁴	62.98 ¹⁴⁷	22.151 ¹⁸⁷	62.83 ¹⁷⁸	18.316 ¹³⁰	20.73 ³¹
27.1	52.612 ¹¹⁶	61.51 ¹⁸³	21.964 ¹⁴⁸	61.05 ²¹⁷	18.186 ⁸⁹	20.42 ³³
Nov. 6.1	52.496 ⁷²	59.68 ²¹³	21.816 ¹⁰⁴	58.88 ²⁵³	18.097 ⁴⁵	20.09 ³¹
16.1	52.424 ²³	57.55 ²⁴¹	21.712 ⁴⁷	56.35 ²⁸⁶	18.052 ⁶	19.78 ²³
26.0	52.401 ²⁷	55.14 ²⁶¹	21.665 ⁸	53.49 ³⁰⁴	18.058 ⁶³	19.55 ¹⁵
Dec. 6.0	52.428 ⁷⁹	52.53 ²⁷⁹	21.673 ⁶⁶	50.45 ³²²	18.121 ¹¹³	19.40 ⁴
16.0	52.507 ¹²⁹	49.74 ²⁸⁵	21.739 ¹²¹	47.23 ³²⁹	18.234 ¹⁶⁶	19.36 ¹⁰
26.0	52.636 ¹⁷³	46.89 ²⁸⁵	21.860 ¹⁷³	43.94 ³²⁴	18.400 ²⁰⁴	19.46 ¹⁹
35.9	52.809	44.04	22.033	40.70	18.604	19.65
Mean Place	52.076	44.52	21.847	42.27	16.713	26.73
Sec δ, Tan δ	1.103	+0.465	1.250	+0.751	1.103	-0.465
L α, L δ	-0.01	-0.1	-0.02	-0.1	+0.01	-0.1
ω α, ω δ	+0.01	-1.0	+0.01	-1.0	-0.01	-1.0
AUTHORITY	A. E.		A. E.		A. E.	

386 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Aræ. Mag. 2·8		σ Ophiuchi. Mag. 4·4		ν Scorpii. Mag. 2·8	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	h m 17 18	° ' 55 27	h m 17 22	° ' 4 12	h m 17 25	° ' 37 13
Jan. 0·9	51·493 ³³⁶	17·00 ¹⁴⁵	40·230 ¹⁹³	30·23 ¹⁸²	29·810 ²⁴⁹	56·79 ⁵²
10·9	51·829 ³⁹¹	15·55 ¹²¹	40·423 ²²⁵	28·41 ¹⁷⁶	30·059 ²⁸⁸	56·27 ³⁶
20·9	52·220 ⁴³¹	14·34 ⁹²	40·648 ²⁵⁰	26·65 ¹⁶³	30·347 ³¹⁷	55·91 ²²
30·9	52·651 ⁴⁶⁶	13·42 ⁶³	40·898 ²⁶⁷	25·02 ¹⁴³	30·664 ³³⁹	55·69 ⁷
Feb. 9·8	53·117 ⁴⁸⁴	12·79 ³⁶	41·165 ²⁷⁹	23·59 ¹¹⁷	31·003 ³⁵⁴	55·62 ⁶
19·8	53·601 ⁴⁹⁴	12·43 ⁵	41·444 ²⁸⁴	22·42 ⁸⁶	31·357 ³⁶⁰	55·68 ¹⁷
Mar. 1·8	54·095 ⁴⁹⁷	12·38 ²¹	41·728 ²⁸⁶	21·56 ⁵²	31·717 ³⁶¹	55·85 ²⁶
11·8	54·592 ⁴⁹¹	12·59 ⁴⁸	42·014 ²⁸¹	21·04 ¹⁸	32·078 ³⁵⁸	56·11 ³⁵
21·7	55·083 ⁴⁷⁶	13·07 ⁷⁴	42·295 ²⁷⁴	20·86 ¹⁷	32·436 ³⁵⁰	56·46 ⁴²
31·7	55·559 ⁴⁵⁷	13·81 ⁹⁴	42·569 ²⁶³	21·03 ⁴⁹	32·786 ³³⁷	56·88 ⁴⁹
Apr. 10·7	56·016 ⁴³¹	14·75 ¹¹⁸	42·832 ²⁴⁹	21·52 ⁷⁹	33·123 ³²⁰	57·37 ⁵⁶
20·6	56·447 ³⁹⁹	15·93 ¹³⁸	43·081 ²³⁰	22·31 ¹⁰⁴	33·443 ²⁹⁹	57·93 ⁶³
30·6	56·846 ³⁵⁹	17·31 ¹⁵³	43·311 ²⁰⁸	23·35 ¹²⁴	33·742 ²⁷⁴	58·56 ⁶⁹
May 10·6	57·205 ³¹⁴	18·84 ¹⁶⁷	43·519 ¹⁸⁴	24·59 ¹³⁸	34·016 ²⁴³	59·25 ⁷⁵
20·6	57·519 ²⁶¹	20·51 ¹⁷⁹	43·703 ¹⁵⁵	25·97 ¹⁴⁵	34·259 ²⁰⁹	60·00 ⁸²
30·5	57·780 ²⁰⁴	22·30 ¹⁸⁷	43·858 ¹²⁴	27·42 ¹⁵¹	34·468 ¹⁶⁹	60·82 ⁸⁶
June 9·5	57·984 ¹⁴⁴	24·17 ¹⁹⁰	43·982 ⁸⁹	28·93 ¹⁴⁹	34·637 ¹²⁶	61·68 ⁸⁹
19·5	58·128 ⁷⁷	26·07 ¹⁸⁹	44·071 ⁵²	30·42 ¹⁴³	34·763 ⁷⁹	62·57 ⁹¹
29·5	58·205 ¹¹	27·96 ¹⁸²	44·123 ¹⁴	31·85 ¹³³	34·842 ³¹	63·48 ⁹⁰
July 9·4	58·216 ⁶⁰	29·78 ¹⁷⁰	44·137 ²⁴	33·18 ¹²¹	34·873 ¹⁸	64·38 ⁸⁶
19·4	58·156 ¹²⁴	31·48 ¹⁵⁶	44·113 ⁶¹	34·39 ¹⁰⁵	34·855 ⁶⁷	65·24 ⁷⁸
29·4	58·032 ¹⁸³	33·04 ¹²⁹	44·052 ⁹⁷	35·44 ⁸⁹	34·788 ¹¹²	66·02 ⁶⁸
Aug. 8·3	57·849 ²³⁶	34·33 ¹⁰⁵	43·955 ¹²⁸	36·33 ⁷²	34·676 ¹⁵²	66·70 ⁵⁵
18·3	57·613 ²⁸⁰	35·38 ⁷⁰	43·827 ¹⁵³	37·05 ⁵¹	34·524 ¹⁸⁶	67·25 ³⁸
28·3	57·333 ³¹¹	36·08 ³⁸	43·674 ¹⁷²	37·56 ³²	34·338 ²¹⁰	67·63 ¹⁹
Sept. 7·3	57·022 ³²⁸	36·46 ⁰	43·502 ¹⁸³	37·88 ¹²	34·128 ²²⁴	67·82 ⁰
17·2	56·694 ³²⁶	36·46 ³⁸	43·319 ¹⁸⁴	38·00 ⁹	33·904 ²²⁶	67·82 ²¹
27·2	56·368 ³¹¹	36·08 ⁷³	43·135 ¹⁷⁶	37·91 ³¹	33·678 ²¹⁵	67·61 ⁴²
Oct. 7·2	56·057 ²⁷⁹	35·35 ¹⁰⁹	42·959 ¹⁵⁸	37·60 ⁵³	33·463 ¹⁹⁴	67·19 ⁵⁹
17·2	55·778 ²²⁹	34·26 ¹³⁷	42·801 ¹³²	37·07 ⁷⁴	33·269 ¹⁵⁸	66·60 ⁷³
27·1	55·549 ¹⁶⁶	32·89 ¹⁶²	42·669 ⁹⁶	36·33 ⁹⁷	33·111 ¹¹⁴	65·87 ⁸⁵
Nov. 6·1	55·383 ⁹⁴	31·27 ¹⁸⁰	42·573 ⁵⁵	35·36 ¹¹⁸	32·997 ⁶¹	65·02 ⁹²
16·1	55·289 ¹⁷	29·47 ¹⁹⁰	42·518 ⁹	34·18 ¹³⁹	32·936 ⁴	64·10 ⁹⁴
26·0	55·272 ⁶⁹	27·57 ¹⁹¹	42·509 ³⁹	32·79 ¹⁵⁸	32·932 ⁵⁷	63·16 ⁹⁰
Dec. 6·0	55·341 ¹⁴⁹	25·66 ¹⁸⁷	42·548 ⁸⁶	31·21 ¹⁷²	32·989 ¹¹⁶	62·26 ⁸³
16·0	55·490 ²²⁸	23·79 ¹⁷³	42·634 ¹³¹	29·49 ¹⁸¹	33·105 ¹⁷²	61·43 ⁷¹
26·0	55·718 ²⁹⁹	22·06 ¹⁵⁸	42·765 ¹⁷²	27·68 ¹⁸⁶	33·277 ²²⁴	60·72 ⁵⁸
35·9	56·017	20·48	42·937	25·82	33·501	60·14
Mean Place	53·716	31·53	41·608	22·37	31·464	69·20
Sec δ , Tan δ	1·764	—1·453	1·003	+0·074	1·256	—0·760
L α , L δ	+0·04	—0·1	0·00	—0·1	+0·02	—0·1
ω α , ω δ	—0·02	—1·0	0·00	—1·0	—0·01	—1·0
AUTHORITY	A. E.				A. N.	

APPARENT PLACES OF STARS, 1923. 387

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Aræ. Mag. 3.0		λ Scorpii. Mag. 1.7		β Draconis. Mag. 3.0	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	^h 17 25	^m 49 48	^h 17 28	^m 37 2	^h 17 28	^m 52 21
Jan. 0.9	51.160 ²⁹⁵	47.09 ¹²³	20.994 ²⁴⁶	44.17 ⁵²	39.238 ¹⁹⁵	32.27 ³⁴⁷
10.9	51.455 ³⁴³	45.86 ¹⁰⁰	21.240 ²⁸⁶	43.65 ³⁸	39.433 ²⁵⁵	28.80 ³⁴⁷
20.9	51.798 ³⁷⁹	44.86 ⁷⁶	21.526 ³¹³	43.27 ²⁴	39.688 ³⁰⁷	25.55 ²⁸⁸
30.9	52.177 ⁴⁰⁹	44.10 ⁵²	21.839 ³³⁸	43.03 ⁹	39.995 ³⁴⁸	22.67 ²⁴¹
Feb. 9.8	52.586 ⁴²⁷	43.58 ³¹	22.177 ³⁵²	42.94 ³	40.343 ³⁷⁷	20.26 ¹⁸⁹
19.8	53.013 ⁴³⁸	43.27 ⁵	22.529 ³⁵⁸	42.97 ¹⁵	40.720 ³⁹⁹	18.37 ¹²⁸
Mar. 1.8	53.451 ⁴⁴⁰	43.22 ¹⁷	22.887 ³⁶³	43.12 ²³	41.119 ⁴¹⁰	17.09 ⁶²
11.8	53.891 ⁴³⁶	43.39 ³⁶	23.250 ³⁵⁷	43.35 ³¹	41.529 ⁴⁰⁷	16.47 ²
21.7	54.327 ⁴²⁷	43.75 ⁵⁹	23.607 ³⁵⁰	43.66 ³⁹	41.936 ³⁹⁶	16.49 ⁷⁰
31.7	54.754 ⁴⁰⁹	44.34 ⁷⁵	23.957 ³³⁸	44.05 ⁴⁷	42.332 ³⁷⁴	17.19 ¹²⁹
Apr. 10.7	55.163 ³⁸⁹	45.09 ⁹³	24.295 ³²¹	44.52 ⁵³	42.706 ³⁴⁴	18.48 ¹⁸³
20.6	55.552 ³⁶³	46.02 ¹¹⁰	24.616 ³⁰²	45.05 ⁵⁹	43.050 ³¹⁰	20.31 ²³⁰
30.6	55.915 ³²⁹	47.12 ¹²⁴	24.918 ²⁷⁴	45.64 ⁶⁶	43.360 ²⁶²	22.61 ²⁶⁹
May 10.6	56.244 ²⁸⁹	48.36 ¹³⁷	25.192 ²⁴⁷	46.30 ⁷²	43.622 ²¹³	25.30 ²⁹⁶
20.6	56.533 ²⁴⁷	49.73 ¹⁴⁷	25.439 ²¹²	47.02 ⁷⁹	43.835 ¹⁶⁰	28.26 ³¹⁶
30.5	56.780 ¹⁹⁷	51.20 ¹⁵⁶	25.651 ¹⁷¹	47.81 ⁸³	43.995 ¹⁰¹	31.42 ³²⁵
June 9.5	56.977 ¹⁴⁵	52.76 ¹⁶⁰	25.822 ¹²⁹	48.64 ⁸⁹	44.096 ⁴¹	34.67 ³²²
19.5	57.122 ⁸⁵	54.36 ¹⁵⁹	25.951 ⁸³	49.53 ⁸⁹	44.137 ¹⁸	37.89 ³¹⁴
29.5	57.207 ²⁵	55.95 ¹⁵⁷	26.034 ³⁴	50.42 ⁸⁹	44.119 ⁷⁷	41.03 ²⁹³
July 9.4	57.232 ³⁵	57.52 ¹⁴⁷	26.068 ¹⁶	51.31 ⁸⁴	44.042 ¹³⁵	43.96 ²⁶⁹
19.4	57.197 ⁹³	58.99 ¹³⁴	26.052 ⁶⁴	52.15 ⁷⁹	43.907 ¹⁹⁰	46.65 ²³⁵
29.4	57.104 ¹⁴⁷	60.33 ¹¹⁶	25.988 ¹⁰⁹	52.94 ⁶⁹	43.717 ²³⁷	49.00 ²⁰⁰
Aug. 8.3	56.957 ¹⁹⁸	61.49 ⁹³	25.879 ¹⁴⁹	53.63 ⁵⁴	43.480 ²⁸⁰	51.00 ¹⁵⁷
18.3	56.759 ²³⁸	62.42 ⁶⁶	25.730 ¹⁸⁴	54.17 ⁴⁰	43.200 ³¹⁴	52.57 ¹¹³
28.3	56.521 ²⁶⁶	63.08 ³⁸	25.546 ²⁰⁸	54.57 ²²	42.886 ³⁴¹	53.70 ⁶¹
Sept. 7.3	56.255 ²⁸²	63.46 ⁵	25.338 ²²²	54.79 ⁰	42.545 ³⁵³	54.31 ¹³
17.2	55.973 ²⁸⁴	63.51 ²⁷	25.116 ²²⁶	54.79 ¹⁸	42.192 ³⁵⁷	54.44 ³⁶
27.2	55.689 ²⁷³	63.24 ⁶⁰	24.890 ²¹⁶	54.61 ³⁸	41.835 ³⁴⁵	54.08 ⁹⁰
Oct. 7.2	55.416 ²⁴⁴	62.64 ⁸⁹	24.674 ¹⁹³	54.23 ⁵⁷	41.490 ³²⁴	53.18 ¹³⁹
17.2	55.172 ²⁰³	61.75 ¹¹⁵	24.481 ¹⁶¹	53.66 ⁷²	41.166 ²⁹⁰	51.79 ¹⁸⁵
27.1	54.969 ¹⁴⁹	60.60 ¹³⁶	24.320 ¹¹⁶	52.94 ⁸²	40.876 ²⁴³	49.94 ²³⁶
Nov. 6.1	54.820 ⁸⁶	59.24 ¹⁵²	24.204 ⁶³	52.12 ⁹⁰	40.633 ¹⁸⁹	47.58 ²⁷⁴
16.1	54.734 ¹⁶	57.72 ¹⁶¹	24.141 ⁸	51.22 ⁹²	40.444 ¹³⁰	44.84 ³¹¹
26.0	54.718 ⁵⁷	56.11 ¹⁶¹	24.133 ⁵²	50.30 ⁹⁰	40.314 ⁵⁶	41.73 ³³⁵
Dec. 6.0	54.775 ¹²⁹	54.50 ¹⁵⁷	24.185 ¹¹³	49.40 ⁸²	40.258 ¹⁵	38.38 ³⁵³
16.0	54.904 ¹⁹⁹	52.93 ¹⁴⁷	24.298 ¹⁶⁹	48.58 ⁷²	40.273 ⁸⁴	34.85 ³⁶⁰
26.0	55.103 ²⁶¹	51.46 ¹²⁹	24.467 ²¹⁹	47.86 ⁵⁷	40.357 ¹⁵⁸	31.25 ³⁵⁸
35.9	55.364	50.17	24.686	47.29	40.515	27.67
Mean Place	53.175	60.67	22.661	56.42	41.520	28.10
Sec δ , Tan δ	1.550	-1.184	1.253	-0.755	1.637	+1.297
L α , L δ	+0.03	-0.1	+0.02	-0.1	-0.03	-0.1
ω α , ω δ	-0.01	-1.0	-0.01	-1.0	+0.01	-1.0
AUTHORITY	A. E.		A. E.		A. E.	

388 APPARENT PLACES OF STARS, 1925.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.		α Ophiuchi. Mag. 2.1		θ Scorp.ii. Mag. 2.0		κ Scorp.ii. Mag. 2.5	
		R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
		^h ^m 17 31	[°] ['] 12 36	^h ^m 17 31	[°] ['] 42 56	^h ^m 17 37	[°] ['] 38 59
Jan.	1.0	20.131 ¹⁸³	60.78 ²²²	45.107 ²⁶⁰	48.67 ⁹⁰	7.768 ²⁴¹	18.23 ⁶⁹
	10.9	20.314 ²¹³	58.56 ²¹⁵	45.367 ³⁰³	47.77 ⁷⁰	8.009 ²⁸³	17.54 ⁵⁵
	20.9	20.527 ²⁴⁴	56.41 ¹⁹³	45.670 ³³⁷	47.07 ⁵³	8.292 ³¹⁴	16.99 ³⁹
	30.9	20.771 ²⁶¹	54.48 ¹⁶⁹	46.007 ³⁶¹	46.54 ³⁶	8.606 ³³⁹	16.60 ²⁵
Feb.	9.8	21.032 ²⁷⁷	52.79 ¹³⁵	46.368 ³⁷⁸	46.18 ¹⁶	8.945 ³⁵⁵	16.35 ¹²
	19.8	21.309 ²⁸⁵	51.44 ⁹⁹	46.746 ³⁸⁸	46.02 ¹	9.300 ³⁶⁵	16.23 ¹
Mar.	1.8	21.594 ²⁸⁷	50.45 ⁵⁷	47.134 ³⁹¹	46.01 ¹⁵	9.665 ³⁶⁹	16.24 ¹²
	11.8	21.881 ²⁸⁶	49.88 ¹⁶	47.525 ³⁸⁸	46.16 ²⁸	10.034 ³⁶⁷	16.36 ²³
	21.7	22.167 ²⁷⁹	49.72 ²⁷	47.913 ³⁸⁰	46.44 ⁴³	10.401 ³⁶¹	16.59 ³²
	31.7	22.446 ²⁶⁷	49.99 ⁶⁸	48.293 ³⁶⁸	46.87 ⁵⁴	10.762 ³⁵⁰	16.91 ⁴¹
Apr.	10.7	22.713 ²⁵³	50.67 ¹⁰¹	48.661 ³⁵¹	47.41 ⁶⁷	11.112 ³³⁵	17.32 ⁵⁰
	20.7	22.966 ²³³	51.68 ¹³³	49.012 ³²⁷	48.08 ⁷⁸	11.447 ³¹⁴	17.82 ⁵⁹
	30.6	23.199 ²¹⁸	53.01 ¹⁵⁸	49.339 ³⁰²	48.86 ⁹⁰	11.761 ²⁹⁰	18.41 ⁶⁷
May	10.6	23.417 ¹⁸⁶	54.59 ¹⁷⁸	49.641 ²⁷⁰	49.76 ⁹⁹	12.051 ²⁶¹	19.08 ⁷⁷
	20.6	23.603 ¹⁵⁹	56.37 ¹⁸⁸	49.911 ²³¹	50.75 ¹⁰⁹	12.312 ²²⁵	19.85 ⁸⁴
	30.5	23.762 ¹²⁵	58.25 ¹⁹⁴	50.142 ¹⁸⁹	51.84 ¹¹⁵	12.537 ¹⁸⁶	20.69 ⁹¹
June	9.5	23.887 ⁸⁹	60.19 ¹⁹³	50.331 ¹⁴²	52.99 ¹¹⁹	12.723 ¹⁴²	21.60 ⁹⁶
	19.5	23.976 ⁵³	62.12 ¹⁸⁶	50.473 ⁸⁹	54.18 ¹²³	12.865 ⁹⁴	22.56 ⁹⁹
	29.5	24.029 ¹⁴	63.98 ¹⁷⁵	50.562 ³⁶	55.41 ¹²¹	12.959 ⁴³	23.55 ¹⁰⁰
July	9.4	24.043 ²³	65.73 ¹⁵⁹	50.598 ¹⁷	56.62 ¹¹⁵	13.002 ⁷	24.55 ⁹⁶
	19.4	24.020 ⁶⁵	67.32 ¹⁴³	50.581 ⁷¹	57.77 ¹⁰⁷	12.995 ⁵⁶	25.51 ⁹¹
	29.4	23.955 ¹⁰⁰	68.75 ¹²⁰	50.510 ¹¹⁹	58.84 ⁹⁴	12.939 ¹⁰⁶	26.42 ⁸¹
Aug.	8.4	23.855 ¹³³	69.95 ⁹⁶	50.391 ¹⁶⁴	59.78 ⁷⁶	12.833 ¹⁵¹	27.23 ⁶⁶
	18.3	23.722 ¹⁵⁷	70.91 ⁶⁹	50.227 ²⁰²	60.54 ⁵⁷	12.682 ¹⁸⁴	27.89 ⁵⁰
	28.3	23.565 ¹⁷⁸	71.60 ⁴²	50.025 ²²⁹	61.11 ³³	12.498 ²¹³	28.39 ³¹
Sept.	7.3	23.387 ¹⁹⁰	72.02 ¹⁸	49.796 ²⁴⁷	61.44 ⁸	12.285 ²²⁸	28.70 ¹⁰
	17.2	23.197 ¹⁹²	72.20 ¹⁵	49.549 ²⁴⁹	61.52 ¹⁸	12.057 ²³⁴	28.80 ¹³
	27.2	23.005 ¹⁸⁶	72.05 ⁴²	49.300 ²⁴¹	61.34 ⁴⁵	11.823 ²²⁵	28.67 ³⁵
Oct.	7.2	22.819 ¹⁶⁹	71.63 ⁷³	49.059 ²¹⁵	60.89 ⁶⁹	11.598 ²⁰⁵	28.32 ⁵⁵
	17.2	22.650 ¹⁴⁵	70.90 ¹⁰⁰	48.844 ¹⁷⁸	60.20 ⁹⁰	11.393 ¹⁷¹	27.77 ⁷³
	27.1	22.505 ¹¹⁰	69.90 ¹²⁸	48.666 ¹³⁴	59.30 ¹⁰⁵	11.222 ¹²⁸	27.04 ⁸⁷
Nov.	6.1	22.395 ⁶⁸	68.62 ¹⁵⁴	48.532 ⁷⁶	58.25 ¹¹⁸	11.094 ⁷⁶	26.17 ⁹⁷
	16.1	22.327 ²⁹	67.08 ¹⁸⁰	48.456 ¹⁵	57.07 ¹²⁴	11.018 ¹⁷	25.20 ¹⁰⁰
	26.1	22.298 ²⁴	65.28 ¹⁹⁹	48.441 ⁵¹	55.83 ¹²³	11.001 ⁴³	24.20 ¹⁰¹
Dec.	6.0	22.322 ⁷⁰	63.29 ²¹¹	48.492 ¹¹⁴	54.60 ¹²⁰	11.044 ¹⁰³	23.19 ⁹⁶
	16.0	22.392 ¹¹⁶	61.18 ²²⁶	48.606 ¹⁷⁶	53.40 ¹¹⁰	11.147 ¹⁶²	22.23 ⁸⁷
	26.0	22.508 ¹⁶⁰	58.92 ²²⁸	48.782 ²²⁹	52.30 ⁹⁵	11.309 ²¹⁴	21.36 ⁷⁵
	35.9	22.668	56.64	49.011	51.35	11.523	20.61
Mean Place		21.561	53.66	46.929	61.30	9.510	30.23
Sec δ , Tan δ		1.025	+0.224	1.366	-0.931	1.287	-0.810
L α , L δ		-0.01	-0.1	+0.02	-0.1	+0.02	0.0
ω α , ω δ		0.00	-1.0	-0.01	-1.0	-0.01	-1.0
AUTHORITY		A. E.		A. E.		A. N.	

APPARENT PLACES OF STARS, 1923. 389

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.		η Pavonis. Mag. 3.6		β Ophiuchi. Mag. 2.9		ϵ^1 Scorp.ii. Mag. 3.1	
		R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
		^h 17	^m 38	^h 17	^m 39	^h 17	^m 42
		^s	[°] 64	^s	[°] 4	^s	[°] 40
			['] 40		['] 35		['] 5
Jan.	1.0	7.11	67.28	38.686	61.98	10.014	43.04
	10.9	7.50	65.23	38.864	60.18	10.252	42.25
	20.9	7.96	63.45	39.073	58.44	10.533	41.60
	30.9	8.48	61.95	39.312	56.82	10.847	41.11
Feb.	9.8	9.06	60.76	39.568	55.41	11.187	40.77
	19.8	9.67	59.92	39.839	54.25	11.545	40.57
Mar.	1.8	10.30	59.45	40.120	53.38	11.914	40.50
	11.8	10.94	59.30	40.403	52.87	12.287	40.55
	21.7	11.58	59.49	40.686	52.71	12.660	40.72
	31.7	12.22	60.03	40.963	52.89	13.028	40.99
Apr.	10.7	12.83	60.88	41.232	53.41	13.385	41.37
	20.7	13.40	62.03	41.491	54.22	13.728	41.85
May	30.6	13.95	63.46	41.732	55.29	14.051	42.43
	10.6	14.44	65.14	41.953	56.57	14.350	43.11
	20.6	14.87	67.05	42.150	58.01	14.619	43.89
	30.5	15.23	69.10	42.319	59.55	14.853	44.76
June	9.5	15.52	71.32	42.458	61.11	15.046	45.71
	19.5	15.73	73.61	42.561	62.67	15.196	46.72
	29.5	15.85	75.92	42.628	64.17	15.296	47.76
July	9.4	15.88	78.18	42.656	65.59	15.346	48.82
	19.4	15.81	80.36	42.645	66.87	15.343	49.85
	29.4	15.67	82.36	42.595	68.00	15.289	50.82
Aug.	8.4	15.43	84.12	42.509	68.96	15.185	51.69
	18.3	15.13	85.57	42.389	69.74	15.037	52.43
	28.3	14.76	86.69	42.241	70.31	14.852	52.99
Sept.	7.3	14.34	87.39	42.073	70.69	14.637	53.36
	17.2	13.90	87.66	41.890	70.85	14.405	53.50
	27.2	13.45	87.49	41.704	70.79	14.168	53.41
Oct.	7.2	13.01	86.86	41.524	70.53	13.937	53.09
	17.2	12.61	85.80	41.357	70.04	13.726	52.55
	27.1	12.27	84.35	41.219	69.32	13.548	51.82
Nov.	6.1	12.00	82.55	41.109	68.39	13.413	50.93
	16.1	11.82	80.50	41.041	67.23	13.330	49.93
	26.1	11.73	78.24	41.016	65.87	13.306	48.87
Dec.	6.0	11.76	75.88	41.038	64.33	13.343	47.80
	16.0	11.89	73.53	41.106	62.66	13.441	46.77
	26.0	12.12	71.24	41.221	60.88	13.598	45.81
	35.9	12.45	69.11	41.377	59.05	13.808	44.97
Mean Place		10.21	81.13	40.091	54.02	11.804	54.86
Sec δ , Tan δ		2.339	-2.115	1.003	+0.080	1.307	-0.842
L α , L δ		+0.05	0.0	0.00	0.0	+0.02	0.0
ω α , ω δ		-0.01	-1.0	0.00	-1.0	0.00	-1.0
AUTHORITY		A. E.		A. E.		A. N.	

390 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	μ Herculis. Mag. 3.5		89 Herculis. Mag. 5.5		ν Ophiuchi. Mag. 3.5	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.
	^h ^m 17 43	[°] ['] 27 45	^h ^m 17 52	[°] ['] 26 3	^h ^m 17 54	[°] ['] 9 45
Jan. 1.0	25.072 ¹⁶⁷	59.53 ²⁸⁷	17.276 ¹⁵⁶	47.48 ²⁷⁷	45.766 ¹⁷⁷	46.43 ⁹⁶
10.9	25.239 ²⁰³	56.66 ²⁷²	17.432 ¹⁹⁶	44.71 ²⁶⁶	45.943 ²⁰⁸	47.39 ⁹⁷
20.9	25.442 ²³⁷	53.94 ²⁴⁸	17.628 ²²⁹	42.05 ²⁴²	46.151 ²³⁷	48.36 ⁹²
30.9	25.679 ²⁶³	51.46 ²¹⁷	17.857 ²⁵⁶	39.63 ²¹²	46.388 ²⁵⁷	49.28 ⁸²
Feb. 9.9	25.942 ²⁸⁴	49.29 ¹⁷²	18.113 ²⁷⁶	37.51 ¹⁷⁰	46.645 ²⁷⁴	50.10 ⁷⁰
19.8	26.226 ²⁹⁷	47.57 ¹²²	18.389 ²⁹⁰	35.81 ¹²⁵	46.919 ²⁸³	50.80 ⁵³
Mar. 1.8	26.523 ³⁰²	46.35 ⁷²	18.679 ²⁹⁷	34.56 ⁷³	47.202 ²⁹⁰	51.33 ³⁵
11.8	26.825 ³⁰⁴	45.63 ¹⁷	18.976 ³⁰⁰	33.83 ²¹	47.492 ²⁹⁰	51.68 ¹³
21.7	27.129 ²⁹⁸	45.46 ³⁷	19.276 ²⁹⁷	33.62 ³²	47.782 ²⁸⁹	51.81 ⁹
31.7	27.427 ²⁸⁷	45.83 ⁸⁴	19.573 ²⁸⁹	33.94 ⁸²	48.071 ²⁸¹	51.72 ²⁷
Apr. 10.7	27.714 ²⁷²	46.67 ¹³⁴	19.862 ²⁷⁵	34.76 ¹²⁹	48.352 ²⁷²	51.45 ⁴⁵
20.7	27.986 ²⁵³	48.01 ¹⁷⁴	20.137 ²⁵⁷	36.05 ¹⁶⁹	48.624 ²⁶⁰	51.00 ⁶⁰
30.6	28.239 ²²⁹	49.75 ²⁰⁸	20.394 ²³⁴	37.74 ²⁰³	48.884 ²⁴¹	50.40 ⁷²
May 10.6	28.468 ¹⁹⁷	51.83 ²³³	20.628 ²⁰⁶	39.77 ²²⁸	49.125 ²¹⁹	49.68 ⁷⁹
20.6	28.665 ¹⁶⁴	54.16 ²⁵⁰	20.834 ¹⁷⁵	42.05 ²⁴⁶	49.344 ¹⁹⁴	48.89 ⁸²
30.6	28.829 ¹³¹	56.66 ²⁵⁷	21.009 ¹⁴⁰	44.51 ²⁵⁵	49.538 ¹⁶³	48.07 ⁸³
June 9.5	28.960 ⁸⁹	59.23 ²⁶⁰	21.149 ¹⁰⁰	47.06 ²⁵⁸	49.701 ¹²⁹	47.24 ⁸⁰
19.5	29.049 ⁴⁷	61.83 ²⁵³	21.249 ⁶⁰	49.64 ²⁵¹	49.830 ⁹¹	46.44 ⁷³
29.5	29.096 ⁴	64.36 ²³⁸	21.309 ¹⁵	52.15 ²⁴⁰	49.921 ⁴⁹	45.71 ⁶⁹
July 9.4	29.100 ³⁹	66.74 ²²¹	21.324 ²⁶	54.55 ²²¹	49.970 ¹²	45.02 ⁵⁹
19.4	29.061 ⁷⁸	68.95 ¹⁹⁸	21.298 ⁶⁹	56.76 ¹⁹⁹	49.982 ³⁰	44.43 ⁴⁸
29.4	28.983 ¹²⁰	70.93 ¹⁶⁷	21.229 ¹⁰⁹	58.75 ¹⁷¹	49.952 ⁷¹	43.95 ⁴⁰
Aug. 8.4	28.863 ¹⁵⁶	72.60 ¹³⁴	21.120 ¹⁴⁵	60.46 ¹⁴²	49.881 ¹⁰⁷	43.55 ³²
18.3	28.707 ¹⁸²	73.94 ¹⁰⁵	20.975 ¹⁷⁵	61.88 ¹⁰⁷	49.774 ¹³⁸	43.23 ²³
28.3	28.525 ²⁰⁶	74.99 ⁶⁵	20.800 ¹⁹⁹	62.95 ⁷¹	49.636 ¹⁶⁰	43.00 ¹³
Sept. 7.3	28.319 ²²¹	75.64 ²⁶	20.601 ²¹⁵	63.66 ³⁵	49.476 ¹⁷⁸	42.87 ⁶
17.3	28.098 ²²⁵	75.90 ¹²	20.386 ²²¹	64.01 ⁴	49.298 ¹⁸³	42.81 ²
27.2	27.873 ²²¹	75.78 ⁵⁵	20.165 ²¹⁷	63.97 ⁴³	49.115 ¹⁸¹	42.83 ⁹
Oct. 7.2	27.652 ²⁰⁸	75.23 ⁹⁵	19.948 ²⁰³	63.54 ⁸²	48.934 ¹⁶⁸	42.92 ¹⁸
17.2	27.444 ¹⁸⁰	74.28 ¹³²	19.745 ¹⁸¹	62.72 ¹²⁰	48.766 ¹⁴³	43.10 ²⁶
27.1	27.264 ¹⁴⁶	72.96 ¹⁷²	19.564 ¹⁴⁹	61.52 ¹⁵⁷	48.623 ¹¹³	43.36 ³⁶
Nov. 6.1	27.118 ¹⁰⁵	71.24 ²⁰⁵	19.415 ¹⁰⁹	59.95 ¹⁹²	48.510 ⁷²	43.72 ⁴⁸
16.1	27.013 ⁶³	69.19 ²³⁸	19.306 ⁶⁴	58.03 ²²³	48.438 ²⁹	44.20 ⁶¹
26.1	26.950 ⁹	66.81 ²⁵⁸	19.242 ¹⁵	55.80 ²⁴⁹	48.409 ¹⁷	44.81 ⁶⁹
Dec. 6.0	26.941 ⁴¹	64.23 ²⁸³	19.227 ³⁴	53.31 ²⁶⁸	48.426 ⁶⁵	45.50 ⁸¹
16.0	26.982 ⁹⁰	61.40 ²⁹²	19.261 ⁸⁴	50.63 ²⁸¹	48.491 ¹¹³	46.31 ⁹⁰
26.0	27.072 ¹⁴⁰	58.48 ²⁹⁵	19.345 ¹³¹	47.82 ²⁸⁴	48.604 ¹⁵²	47.21 ⁹⁸
36.0	27.212	55.53	19.476	44.98	48.756	48.19
Mean Place	26.656	53.19	18.835	40.69	47.206	55.47
Sec δ , Tan δ	1.130	+0.526	1.113	+0.489	1.015	-0.172
L α , L δ	-0.01	0.0	-0.01	0.0	0.00	0.0
ω α , ω δ	0.00	-1.0	0.00	-1.0	0.00	-1.0
AUTHORITY	A. E.				A. E.	

APPARENT PLACES OF STARS, 1923. 391

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Draconis. Mag. 2.4		γ Sagittarii. Mag. 3.1		72 Ophiuchi. Mag. 3.7	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	^h ^m 17 54	[°] ['] 51 29	^h ^m 18 0	[°] ['] 30 25	^h ^m 18 3	[°] ['] 9 33
Jan. 1.0	46.868 ^s ₁₅₆	56.46 ^s ₃₄₉	49.934 ^s ₁₉₈	25.24 ^s ₃₄	40.471 ^s ₁₅₂	14.68 ^s ₂₀₁
10.9	47.024 ₂₁₃	52.97 ₃₃₁	50.132 ₂₃₄	24.90 ₂₃	40.623 ₁₈₈	12.67 ₁₉₃
20.9	47.237 ₂₇₁	49.66 ₃₀₀	50.366 ₂₆₆	24.67 ₁₃	40.811 ₂₁₅	10.74 ₁₇₉
30.9	47.508 ₃₁₃	46.66 ₂₆₄	50.632 ₂₉₄	24.54 ₁₃	41.026 ₂₄₂	8.95 ₁₅₉
Feb. 9.9	47.821 ₃₅₃	44.02 ₂₁₀	50.926 ₃₁₀	24.41 ₇	41.268 ₂₅₇	7.36 ₁₃₀
19.8	48.174 ₃₇₈	41.92 ₁₅₂	51.236 ₃₂₃	24.34 ₁	41.525 ₂₇₂	6.06 ₉₆
Mar. 1.8	48.552 ₃₉₄	40.40 ₉₁	51.559 ₃₃₁	24.33 ₀	41.797 ₂₈₀	5.10 ₅₈
11.8	48.946 ₄₀₁	39.49 ₂₆	51.890 ₃₃₄	24.33 ₂	42.077 ₂₈₂	4.52 ₂₀
21.7	49.347 ₃₉₆	39.23 ₃₉	52.224 ₃₃₀	24.35 ₁	42.359 ₂₈₂	4.32 ₂₁
31.7	49.743 ₃₈₄	39.62 ₁₀₄	52.554 ₃₂₄	24.36 ₄	42.641 ₂₇₆	4.53 ₅₉
Apr. 10.7	50.127 ₃₆₀	40.66 ₁₆₀	52.878 ₃₁₈	24.40 ₅	42.917 ₂₆₇	5.12 ₉₃
20.7	50.487 ₃₂₉	42.26 ₂₁₁	53.196 ₃₀₂	24.45 ₇	43.184 ₂₅₅	6.05 ₁₂₄
30.6	50.816 ₂₉₀	44.37 ₂₅₁	53.498 ₂₇₉	24.52 ₁₄	43.439 ₂₃₆	7.29 ₁₄₈
May 10.6	51.106 ₂₄₄	46.88 ₂₈₈	53.777 ₂₅₉	24.66 ₂₀	43.675 ₂₁₄	8.77 ₁₆₇
20.6	51.350 ₁₉₅	49.76 ₃₀₉	54.036 ₂₂₉	24.86 ₂₂	43.889 ₁₈₇	10.44 ₁₈₁
30.6	51.545 ₁₄₂	52.85 ₃₂₂	54.265 ₁₉₄	25.08 ₃₁	44.076 ₁₅₇	12.25 ₁₈₇
June 9.5	51.687 ₈₀	56.07 ₃₂₇	54.459 ₁₅₆	25.39 ₄₁	44.233 ₁₂₁	14.12 ₁₈₆
19.5	51.767 ₂₀	59.34 ₃₂₂	54.615 ₁₁₀	25.80 ₄₄	44.354 ₈₆	15.98 ₁₈₃
29.5	51.787 ₃₇	62.56 ₃₀₉	54.725 ₆₈	26.24 ₅₁	44.440 ₄₃	17.81 ₁₇₂
July 9.4	51.750 ₉₉	65.65 ₂₈₆	54.793 ₂₁	26.75 ₅₃	44.483 ₅	19.53 ₁₆₀
19.4	51.651 ₁₅₅	68.51 ₂₅₉	54.814 ₂₉	27.28 ₅₅	44.488 ₃₆	21.13 ₁₄₂
29.4	51.496 ₂₀₄	71.10 ₂₂₅	54.785 ₇₄	27.83 ₅₃	44.452 ₇₅	22.55 ₁₂₂
Aug. 8.4	51.292 ₂₅₄	73.35 ₁₈₄	54.711 ₁₁₅	28.36 ₄₇	44.377 ₁₁₁	23.77 ₁₀₀
18.3	51.038 ₂₉₅	75.19 ₁₄₅	54.596 ₁₅₀	28.83 ₄₀	44.266 ₁₄₁	24.77 ₇₈
28.3	50.743 ₃₂₃	76.64 ₉₅	54.446 ₁₈₂	29.23 ₃₂	44.125 ₁₆₇	25.55 ₅₂
Sept. 7.3	50.420 ₃₄₃	77.59 ₄₈	54.264 ₂₀₁	29.55 ₂₁	43.958 ₁₈₄	26.07 ₂₉
17.3	50.077 ₃₅₀	78.07 ₄	54.063 ₂₀₉	29.76 ₅	43.774 ₁₉₀	26.36 ₁
27.2	49.727 ₃₄₇	78.03 ₅₂	53.854 ₂₀₄	29.81 ₈	43.584 ₁₈₉	26.37 ₂₄
Oct. 7.2	49.380 ₃₃₁	77.51 ₁₀₆	53.650 ₁₉₂	29.73 ₁₉	43.395 ₁₇₇	26.13 ₅₁
17.2	49.049 ₃₀₃	76.45 ₁₅₇	53.458 ₁₆₆	29.54 ₃₄	43.218 ₁₅₈	25.62 ₇₇
27.1	48.746 ₂₆₃	74.88 ₂₀₂	53.292 ₁₃₀	29.20 ₄₂	43.060 ₁₂₈	24.85 ₁₀₃
Nov. 6.1	48.483 ₂₁₇	72.86 ₂₄₇	53.162 ₈₆	28.78 ₄₆	42.932 ₉₀	23.82 ₁₂₇
16.1	48.266 ₁₅₆	70.39 ₂₈₈	53.076 ₃₈	28.32 ₅₁	42.842 ₅₁	22.55 ₁₅₁
26.1	48.110 ₉₂	67.51 ₃₁₆	53.038 ₁₄	27.81 ₄₉	42.791 ₃	21.04 ₁₇₁
Dec. 6.0	48.018 ₂₂	64.35 ₃₄₃	53.052 ₇₀	27.32 ₄₇	42.788 ₄₁	19.33 ₁₈₇
16.0	47.996 ₄₂	60.92 ₃₅₂	53.122 ₁₂₅	26.85 ₄₁	42.829 ₈₇	17.46 ₁₉₉
26.0	48.038 ₁₁₆	57.40 ₃₅₇	53.247 ₁₇₀	26.44 ₃₃	42.916 ₁₂₈	15.47 ₂₀₄
36.0	48.154	53.83	53.417	26.11	43.044	13.43
Mean Place	49.073	50.46	51.594	35.40	41.908	6.80
Sec δ , Tan δ	1.606	+1.257	1.160	-0.587	1.015	+0.168
L α , L δ	-0.03	0.0	+0.02	0.0	0.00	0.0
ω α , ω δ	0.00	-1.0	0.00	-1.0	0.00	-1.0
AUTHORITY	A. E.		A. E.		A. E.	

392 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	μ Sagittarii. Mag. 4.0		η Sagittarii. Mag. 3.2		δ Sagittarii. Mag. 2.8	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	^h 18 ^m 9	[°] 21 ['] 4	^h 18 ^m 12	[°] 36 ['] 46	^h 18 ^m 16	[°] 29 ['] 51
Jan. 1.0	7.916 ^s ₁₇₄	39.85 ₂₂	23.146 ^s ₁₉₆	60.44 ₇₆	2.181 ^s ₁₇₉	34.58 ₃₅
11.0	8.090 ₂₀₈	40.07 ₂₂	23.342 ₂₃₈	59.68 ₆₆	2.360 ₂₁₉	34.23 ₂₉
20.9	8.298 ₂₄₂	40.29 ₂₈	23.580 ₂₇₄	59.02 ₅₇	2.579 ₂₅₂	33.94 ₂₄
30.9	8.540 ₂₆₄	40.57 ₂₅	23.854 ₃₀₂	58.45 ₄₈	2.831 ₂₇₉	33.70 ₂₀
Feb. 9.9	8.804 ₂₈₃	40.82 ₂₁	24.156 ₃₂₅	57.97 ₃₈	3.110 ₂₉₉	33.50 ₁₆
19.8	9.087 ₂₉₇	41.03 ₁₇	24.481 ₃₄₀	57.59 ₃₀	3.409 ₃₁₃	33.34 ₁₄
Mar. 1.8	9.384 ₃₀₃	41.20 ₆	24.821 ₃₄₉	57.29 ₂₂	3.722 ₃₂₄	33.20 ₁₃
11.8	9.687 ₃₀₈	41.26 ₀	25.170 ₃₅₅	57.07 ₁₄	4.046 ₃₂₉	33.07 ₁₃
21.8	9.995 ₃₀₇	41.26 ₁₂	25.525 ₃₅₆	56.93 ₇	4.375 ₃₃₀	32.94 ₁₃
31.7	10.302 ₃₀₄	41.14 ₁₈	25.881 ₃₅₁	56.86 ₁	4.705 ₃₂₇	32.81 ₁₂
Apr. 10.7	10.606 ₂₉₅	40.96 ₂₂	26.232 ₃₄₃	56.87 ₉	5.032 ₃₂₀	32.69 ₉
20.7	10.901 ₂₈₂	40.74 ₃₀	26.575 ₃₂₈	56.96 ₁₉	5.352 ₃₀₇	32.60 ₇
30.7	11.183 ₂₆₈	40.44 ₃₀	26.903 ₃₁₀	57.15 ₂₉	5.659 ₂₉₁	32.53 ₂
May 10.6	11.451 ₂₄₄	40.14 ₃₃	27.213 ₂₈₆	57.44 ₃₉	5.950 ₂₆₉	32.51 ₅
20.6	11.695 ₂₂₀	39.81 ₃₁	27.499 ₂₅₅	57.83 ₅₁	6.219 ₂₄₂	32.56 ₁₃
30.6	11.915 ₁₈₇	39.50 ₂₄	27.754 ₂₁₉	58.34 ₆₁	6.461 ₂₀₈	32.69 ₂₀
June 9.5	12.102 ₁₅₄	39.26 ₁₉	27.973 ₁₇₈	58.95 ₇₁	6.669 ₁₇₁	32.89 ₂₉
19.5	12.256 ₁₁₀	39.07 ₁₁	28.151 ₁₃₂	59.66 ₇₉	6.840 ₁₂₉	33.18 ₃₈
29.5	12.366 ₇₁	38.96 ₁₀	28.283 ₈₃	60.45 ₈₅	6.969 ₈₃	33.56 ₄₄
July 9.5	12.437 ₂₅	38.86 ₂	28.366 ₃₁	61.30 ₈₉	7.052 ₃₆	34.00 ₅₀
19.4	12.462 ₁₆	38.88 ₇	28.397 ₂₀	62.19 ₈₈	7.088 ₁₃	34.50 ₅₃
29.4	12.446 ₆₁	38.95 ₁₁	28.377 ₇₀	63.07 ₈₅	7.075 ₆₀	35.03 ₅₄
Aug. 8.4	12.385 ₉₉	39.06 ₁₇	28.307 ₁₁₈	63.92 ₇₈	7.015 ₁₀₃	35.57 ₅₁
18.4	12.286 ₁₃₈	39.23 ₁₃	28.189 ₁₅₈	64.70 ₆₆	6.912 ₁₄₂	36.08 ₄₅
28.3	12.148 ₁₆₂	39.36 ₁₂	28.031 ₁₉₀	65.36 ₅₂	6.770 ₁₇₃	36.53 ₃₇
Sept. 7.3	11.986 ₁₈₃	39.48 ₁₀	27.841 ₂₁₄	65.88 ₃₅	6.597 ₁₉₅	36.90 ₂₇
17.3	11.803 ₁₉₃	39.58 ₆	27.627 ₂₂₆	66.23 ₁₆	6.402 ₂₀₇	37.17 ₁₅
27.2	11.610 ₁₈₉	39.64 ₅	27.401 ₂₂₆	66.39 ₅	6.195 ₂₀₆	37.32 ₂
Oct. 7.2	11.421 ₁₇₉	39.69 ₁	27.175 ₂₁₂	66.34 ₂₄	5.989 ₁₉₆	37.34 ₁₂
17.2	11.242 ₁₅₈	39.68 ₄	26.963 ₁₈₇	66.10 ₄₃	5.793 ₁₇₃	37.22 ₂₃
27.2	11.084 ₁₂₃	39.64 ₃	26.776 ₁₅₂	65.67 ₅₉	5.620 ₁₃₉	36.99 ₃₃
Nov. 6.1	10.961 ₈₇	39.61 ₄	26.624 ₁₀₅	65.08 ₇₂	5.481 ₉₈	36.66 ₄₁
16.1	10.874 ₄₀	39.57 ₀	26.519 ₅₄	64.36 ₈₁	5.383 ₅₁	36.25 ₄₅
26.1	10.834 ₇	39.57 ₃	26.465 ₃	63.55 ₈₆	5.332 ₂	35.80 ₄₇
Dec. 6.1	10.841 ₅₈	39.60 ₁₀	26.468 ₅₉	62.69 ₈₇	5.334 ₅₄	35.33 ₄₅
16.0	10.899 ₁₀₇	39.70 ₁₅	26.527 ₁₁₆	61.82 ₈₃	5.388 ₁₀₆	34.88 ₄₂
26.0	11.006 ₁₅₁	39.85 ₂₁	26.643 ₁₆₇	60.99 ₇₇	5.494 ₁₅₄	34.46 ₃₆
36.0	11.157	40.06	26.810	60.22	5.648	34.10
Mean Place	9.465	49.14	24.963	70.36	3.864	44.01
Sec δ , Tan δ	1.072	-0.386	1.249	-0.748	1.153	-0.574
L α , L δ	+0.01	0.0	+0.02	0.0	+0.02	0.0
ω α , ω δ	0.00	-1.0	0.00	-1.0	0.00	-1.0
AUTHORITY	A. E.		A. N.		A. N.	

APPARENT PLACES OF STARS, 1923. 393

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Serpentis. Mag. 3.4		ϵ Sagittarii. Mag. 2.0		α Telescopii. Mag. 3.8	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	^h 18 ^m 17	[°] 2 ['] 54	^h 18 ^m 19	[°] 34 ['] 25	^h 18 ^m 21	[°] 46 ['] 0
Jan. 1.0	18.025 ⁸	63.23 ¹³⁰	1.859 ¹⁸⁵	10.96 ⁶⁴	13.732 ²⁰⁸	35.36 ¹³⁵
11.0	18.170 ¹⁴⁵	64.53 ¹²⁸	2.044 ²²⁵	10.32 ⁵⁷	13.940 ²⁵⁶	34.01 ¹²⁴
20.9	18.351 ²¹⁰	65.81 ¹¹⁹	2.269 ²⁶⁰	9.75 ⁵⁰	14.196 ²⁹⁸	32.77 ¹¹³
30.9	18.561 ²³⁶	67.00 ¹⁰⁷	2.529 ²⁹⁰	9.25 ⁴²	14.494 ³³⁶	31.64 ⁹⁶
Feb. 9.9	18.797 ²⁵³	68.07 ⁸⁶	2.819 ³¹⁰	8.83 ³⁸	14.830 ³⁶³	30.68 ⁸²
19.8	19.050 ²⁶⁷	68.93 ⁶⁶	3.129 ³²⁷	8.45 ³⁰	15.193 ³⁸³	29.86 ⁶⁶
Mar. 1.8	19.317 ²⁷⁶	69.59 ³⁹	3.456 ³⁴⁰	8.15 ²⁵	15.576 ³⁹⁷	29.20 ⁴⁸
11.8	19.593 ²⁸³	69.98 ¹²	3.796 ³⁴⁶	7.90 ¹⁹	15.973 ⁴⁰⁵	28.72 ³²
21.8	19.876 ²⁸³	70.10 ¹⁴	4.142 ³⁴⁶	7.71 ¹⁵	16.378 ⁴⁰⁷	28.40 ¹⁷
31.7	20.159 ²⁸⁰	69.96 ⁴⁴	4.488 ³⁴³	7.56 ⁹	16.785 ⁴⁰⁴	28.23 ³
Apr. 10.7	20.439 ²⁷⁵	69.52 ⁶⁶	4.831 ³³⁵	7.47 ²	17.189 ³⁹⁵	28.26 ²⁰
20.7	20.714 ²⁶⁴	68.86 ⁸⁶	5.166 ³²⁴	7.45 ⁷	17.584 ³⁸⁰	28.46 ³⁶
30.7	20.978 ²⁴⁹	68.00 ¹⁰⁷	5.490 ³⁰⁷	7.52 ¹⁴	17.964 ³⁶⁰	28.82 ⁵⁷
May 10.6	21.227 ²²⁹	66.93 ¹¹⁵	5.797 ²⁸³	7.66 ²³	18.324 ³³¹	29.39 ⁷²
20.6	21.456 ²⁰³	65.78 ¹²³	6.080 ²⁵⁵	7.89 ³³	18.655 ²⁹⁶	30.11 ⁸⁹
30.6	21.659 ¹⁷⁴	64.55 ¹²⁴	6.335 ²²¹	8.22 ⁴⁵	18.951 ²⁵⁶	31.00 ¹⁰⁶
June 9.5	21.833 ¹⁴³	63.31 ¹²³	6.556 ¹⁸²	8.67 ⁵⁵	19.207 ²¹⁰	32.06 ¹¹⁷
19.5	21.976 ¹⁰⁴	62.08 ¹¹⁹	6.738 ¹³⁶	9.22 ⁶⁴	19.417 ¹⁵⁷	33.23 ¹²⁹
29.5	22.080 ⁶⁶	60.89 ¹¹¹	6.874 ⁸⁹	9.86 ⁷⁰	19.574 ¹⁰⁰	34.52 ¹³⁵
July 9.5	22.146 ²⁴	59.78 ⁹⁷	6.963 ³⁹	10.56 ⁷⁶	19.674 ⁴⁰	35.87 ¹³⁸
19.4	22.170 ¹⁶	58.81 ⁸⁶	7.002 ¹¹	11.32 ⁷⁷	19.714 ²⁰	37.25 ¹³⁶
29.4	22.154 ⁵⁷	57.95 ⁷²	6.991 ⁶²	12.09 ⁷⁵	19.694 ⁷⁷	38.61 ¹²⁹
Aug. 8.4	22.097 ⁹⁷	57.23 ⁵⁵	6.929 ¹⁰⁷	12.84 ⁷³	19.617 ¹³³	39.90 ¹¹⁹
18.4	22.000 ¹²⁷	56.68 ⁴³	6.822 ¹⁴⁷	13.57 ⁶¹	19.484 ¹⁷⁷	41.09 ¹⁰⁰
28.3	21.873 ¹⁵¹	56.25 ²⁹	6.675 ¹⁸³	14.18 ⁵⁰	19.307 ²¹⁹	42.09 ⁸⁰
Sept. 7.3	21.722 ¹⁷³	55.96 ¹²	6.492 ²⁰⁴	14.68 ³⁶	19.088 ²⁴⁷	42.89 ⁵³
17.3	21.549 ¹⁸³	55.84 ³	6.288 ²¹⁷	15.04 ¹⁹	18.841 ²⁶²	43.42 ²⁸
27.2	21.366 ¹⁸³	55.87 ¹⁷	6.071 ²¹⁹	15.23 ³	18.579 ²⁶⁴	43.70 ³
Oct. 7.2	21.183 ¹⁷⁴	56.04 ³⁰	5.852 ²⁰⁸	15.26 ¹⁶	18.315 ²⁵²	43.67 ³⁰
17.2	21.009 ¹⁵⁶	56.34 ⁴⁷	5.644 ¹⁸³	15.10 ³³	18.063 ²²⁶	43.37 ⁶⁰
27.2	20.853 ¹²⁷	56.81 ⁶¹	5.461 ¹⁵¹	14.77 ⁴⁷	17.837 ¹⁸⁷	42.77 ⁸⁴
Nov. 6.1	20.726 ⁹⁰	57.42 ⁷⁷	5.310 ¹⁰⁷	14.30 ⁵⁹	17.650 ¹³⁷	41.93 ¹⁰⁷
16.1	20.636 ⁵¹	58.19 ⁹⁰	5.203 ⁵⁷	13.71 ⁶⁷	17.513 ⁷⁸	40.86 ¹²³
26.1	20.585 ⁸	59.09 ¹⁰⁷	5.146 ⁵	13.04 ⁷²	17.435 ¹⁶	39.63 ¹³⁴
Dec. 6.1	20.577 ³⁸	60.16 ¹¹⁷	5.141 ⁵²	12.32 ⁷³	17.419 ⁴⁷	38.29 ¹⁴¹
16.0	20.615 ⁸¹	61.33 ¹²⁹	5.193 ¹⁰⁷	11.59 ⁷¹	17.466 ¹¹⁴	36.88 ¹⁴¹
26.0	20.696 ¹²⁶	62.62 ¹³¹	5.300 ¹⁵⁶	10.88 ⁶⁶	17.580 ¹⁷⁵	35.47 ¹³⁶
36.0	20.822	63.93	5.456	10.22	17.755	34.11
Mean Place	19.465	71.60	3.643	20.40	15.864	45.06
Sec δ , Tan δ	1.001	-0.051	1.212	-0.685	1.440	-1.036
L α , L δ	0.00	0.0	+0.02	0.0	+0.03	0.0
ω α , ω δ	0.00	-1.0	0.00	-1.0	+0.01	-1.0
AUTHORITY	A. E.		A. E.		A. E.	

394 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	λ Sagittarii. Mag. 2·9		α Lyrae. Mag. 0·1		4 H. Scuti. Mag. 4·7	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	^h 18 ^m 23	[°] 25 ['] 27	^h 18 ^m 34	[°] 38 ['] 42	^h 18 ^m 38	[°] 9 ['] 7
Jan. 1·0	11·476 ^s 166	47·30 ¹¹	18·167 ^s 103	48·53 ³¹⁶	2·057 ^s 133	30·75 ⁸⁵
11·0	11·642 204	47·19 ⁷	18·270 153	45·37 ³⁰⁹	2·190 170	31·60 ⁸⁴
20·9	11·846 235	47·12 ⁴	18·423 198	42·28 ²⁸⁸	2·360 200	32·44 ⁷⁸
30·9	12·081 263	47·08 ³	18·621 234	39·40 ²⁵⁸	2·560 226	33·22 ⁶⁹
Feb. 9·9	12·344 282	47·05 ⁴	18·855 268	36·82 ²²¹	2·786 246	33·91 ⁵⁵
19·9	12·626 298	47·01 ⁶	19·123 295	34·61 ¹⁶⁷	3·032 263	34·46 ³⁸
Mar. 1·8	12·924 309	46·95 ¹⁰	19·418 314	32·94 ¹¹⁴	3·295 275	34·84 ¹⁸
11·8	13·233 314	46·85 ¹⁵	19·732 328	31·80 ⁵⁴	3·570 284	35·02 ³
21·8	13·547 317	46·70 ¹⁹	20·060 332	31·26 ²	3·854 288	34·99 ²⁵
31·7	13·864 316	46·51 ²²	20·392 330	31·28 ⁶⁵	4·142 288	34·74 ⁴⁶
Apr. 10·7	14·180 309	46·29 ²⁵	20·722 323	31·93 ¹²⁰	4·430 286	34·28 ⁶⁴
20·7	14·489 299	46·04 ²⁵	21·045 307	33·13 ¹⁷⁰	4·716 278	33·64 ⁷⁹
30·7	14·788 285	45·79 ²⁴	21·352 283	34·83 ²¹⁴	4·994 266	32·85 ⁹²
May 10·6	15·073 264	45·55 ¹⁹	21·635 258	36·97 ²⁴⁶	5·260 249	31·93 ⁹⁸
20·6	15·337 239	45·36 ¹⁴	21·893 224	39·43 ²⁷⁸	5·509 227	30·95 ¹⁰³
30·6	15·576 207	45·22 ⁷	22·117 183	42·21 ²⁹⁶	5·736 200	29·92 ¹⁰²
June 9·6	15·783 172	45·15 ¹	22·300 140	45·17 ³⁰⁶	5·936 167	28·90 ⁹⁷
19·5	15·955 131	45·16 ¹⁰	22·440 92	48·23 ³⁰⁶	6·103 130	27·93 ⁹²
29·5	16·086 87	45·26 ¹⁸	22·532 40	51·29 ²⁹⁷	6·233 90	27·01 ⁸¹
July 9·5	16·173 42	45·44 ²⁵	22·572 7	54·26 ²⁸⁴	6·323 48	26·20 ⁷¹
19·4	16·215 5	45·69 ³⁰	22·565 60	57·10 ²⁶⁴	6·371 5	25·49 ⁵⁹
29·4	16·210 51	45·99 ³⁴	22·505 106	59·74 ²³⁶	6·376 38	24·90 ⁴⁷
Aug. 8·4	16·159 94	46·33 ³⁶	22·399 150	62·10 ²⁰⁵	6·338 78	24·43 ³⁵
18·4	16·065 132	46·69 ³³	22·249 195	64·15 ¹⁶⁶	6·260 114	24·08 ²³
28·3	15·933 162	47·02 ³⁰	22·054 221	65·81 ¹²⁹	6·146 144	23·85 ¹³
Sept. 7·3	15·771 186	47·32 ²⁴	21·833 248	67·10 ⁸⁸	6·002 166	23·72 ³
17·3	15·585 197	47·56 ¹⁷	21·585 261	67·98 ⁴⁰	5·836 181	23·69 ⁶
27·3	15·388 199	47·73 ⁸	21·324 265	68·38 ⁵	5·655 183	23·75 ¹⁴
Oct. 7·2	15·189 190	47·81 ¹	21·059 261	68·33 ⁵²	5·472 177	23·89 ²²
17·2	14·999 168	47·80 ⁸	20·798 241	67·81 ¹⁰⁰	5·295 161	24·11 ³⁰
27·2	14·831 138	47·72 ¹⁵	20·557 217	66·81 ¹⁴³	5·134 136	24·41 ⁴⁰
Nov. 6·1	14·693 99	47·57 ¹⁹	20·340 176	65·38 ¹⁹¹	4·998 102	24·81 ⁴⁹
16·1	14·594 54	47·38 ²¹	20·164 139	63·47 ²²⁸	4·896 63	25·30 ⁵⁷
26·1	14·540 5	47·17 ²¹	20·025 86	61·19 ²⁵⁹	4·833 20	25·87 ⁶⁷
Dec. 6·1	14·535 45	46·96 ¹⁹	19·939 34	58·60 ²⁹¹	4·813 25	26·54 ⁷⁵
16·0	14·580 95	46·77 ¹⁵	19·905 17	55·69 ³⁰⁹	4·838 69	27·29 ⁸²
26·0	14·675 140	46·62 ¹¹	19·922 73	52·60 ³¹⁹	4·907 110	28·11 ⁸⁸
36·0	14·815	46·51	19·995	49·41	5·017	28·99
Mean Place	13·104	56·24	19·884	40·19	3·536	38·90
Sec δ , Tan δ	1·108	—0·476	1·282	+0·802	1·013	—0·161
L α , L δ	+0·01	0·0	—0·02	+0·1	0·00	+0·1
ω α , ω δ	0·00	—1·0	—0·01	—1·0	0·00	—1·0
AUTHORITY	A. N.		A. E.			

APPARENT PLACES OF STARS, 1923. 395

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ϕ Sagittarii. Mag. 3.3		λ Pavonis. Mag. 4.4		30 Sagittarii. Mag. 6.2	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	^h 18 ^m 40	[°] 27 ['] 4	^h 18 ^m 45	[°] 62 ['] 16	^h 18 ^m 46	[°] 22 ['] 14
Jan. 1.0	49.072 ⁸	8.49	1.86 ⁸	31.61	11.092 ⁸	57.12
11.0	49.221 ¹⁴⁹	8.21 ²⁸	2.09 ²³	29.29 ²³²	11.229 ¹³⁷	57.12 ⁰
20.9	49.410 ¹⁸⁹	7.95 ²⁶	2.40 ³¹	27.07 ²²²	11.405 ¹⁷⁶	57.14 ²
30.9	49.633 ²²³	7.71 ²⁴	2.77 ³⁷	24.98 ²⁰⁹	11.614 ²⁰⁹	57.14 ⁰
Feb. 9.9	49.884 ²⁵¹	7.48 ²³	3.21 ⁴⁴	23.12 ¹⁸⁶	11.852 ²³⁸	57.14 ¹
19.9	50.158 ²⁷⁴	7.25 ²³	3.70 ⁴⁹	21.46 ¹⁶⁶	12.111 ²⁵⁹	57.13 ⁶
Mar. 1.8	50.451 ²⁹³	6.99 ²⁶	4.23 ⁵³	20.09 ¹³⁷	12.389 ²⁷⁸	57.07 ¹²
11.8	50.757 ³⁰⁶	6.71 ²⁸	4.78 ⁵⁵	18.99 ¹¹⁰	12.681 ²⁹²	56.95 ²⁰
21.8	51.072 ³¹⁵	6.40 ³¹	5.36 ⁵⁸	18.20 ⁷⁹	12.982 ³⁰¹	56.75 ²⁸
31.7	51.393 ³²¹	6.06 ³⁴	5.95 ⁵⁹	17.72 ⁴⁸	13.290 ³⁰⁸	56.47 ³⁶
Apr. 10.7	51.714 ³²¹	5.70 ³⁶	6.54 ⁵⁹	17.56 ¹⁶	13.600 ³¹⁰	56.11 ⁴³
20.7	52.034 ³²⁰	5.34 ³⁶	7.12 ⁵⁸	17.71 ¹⁵	13.908 ³⁰⁸	55.68 ⁴⁸
30.7	52.345 ³¹¹	4.99 ³⁵	7.68 ⁵⁶	18.21 ⁵⁰	14.210 ³⁰²	55.20 ⁵¹
May 10.6	52.643 ²⁹⁸	4.68 ³¹	8.22 ⁵⁴	19.01 ⁸⁰	14.500 ²⁹⁰	54.69 ⁵¹
20.6	52.924 ²⁸¹	4.43 ²⁵	8.71 ⁴⁹	20.11 ¹¹⁰	14.773 ²⁷³	54.18 ⁴⁹
30.6	53.180 ²⁵⁶	4.25 ¹⁸	9.16 ⁴⁵	21.48 ¹³⁷	15.023 ²⁵⁰	53.69 ⁴³
June 9.6	53.406 ²²⁶	4.18 ⁷	9.55 ³⁹	23.11 ¹⁶³	15.246 ²²³	53.26 ³⁷
19.5	53.597 ¹⁹¹	4.20 ²	9.87 ³²	24.97 ¹⁸⁶	15.435 ¹⁸⁹	52.89 ²⁷
29.5	53.748 ¹⁵¹	4.32 ¹²	10.12 ²⁵	26.99 ²⁰²	15.585 ¹⁵⁰	52.62 ¹⁸
July 9.5	53.855 ¹⁰⁷	4.55 ²³	10.28 ¹⁶	29.10 ²¹¹	15.693 ¹⁰⁸	52.44 ⁷
19.4	53.915 ⁶⁰	4.87 ³²	10.36 ⁸	31.26 ²¹⁶	15.756 ⁶³	52.37 ³
29.4	53.926 ¹¹	5.26 ³⁹	10.35 ¹	33.42 ²¹⁶	15.771 ¹⁵	52.40 ¹³
Aug. 8.4	53.890 ³⁶	5.70 ⁴⁴	10.25 ¹⁰	35.51 ²⁰⁹	15.741 ³⁰	52.53 ¹⁹
18.4	53.809 ⁸¹	6.16 ⁴⁶	10.07 ¹⁸	37.40 ¹⁸⁹	15.667 ⁷⁴	52.72 ²⁶
28.3	53.687 ¹²²	6.61 ⁴⁵	9.81 ²⁶	39.07 ¹⁶⁷	15.554 ¹¹³	52.98 ²⁸
Sept. 7.3	53.531 ¹⁵⁶	7.03 ⁴²	9.49 ³²	40.45 ¹³⁸	15.406 ¹⁴⁸	53.26 ²⁸
17.3	53.350 ¹⁸¹	7.38 ³⁵	9.12 ³⁷	41.49 ¹⁰⁴	15.234 ¹⁷²	53.54 ²⁷
27.3	53.153 ¹⁹⁷	7.64 ²⁶	8.72 ⁴⁰	42.11 ⁶²	15.045 ¹⁸⁹	53.81 ²⁴
Oct. 7.2	52.951 ²⁰²	7.81 ¹⁷	8.31 ⁴¹	42.31 ²⁰	14.851 ¹⁹⁴	54.05 ¹⁹
17.2	52.756 ¹⁹⁵	7.87 ⁶	7.90 ⁴¹	42.06 ²⁵	14.663 ¹⁸⁸	54.24 ¹⁴
27.2	52.578 ¹⁷⁸	7.83 ⁴	7.53 ³⁷	41.38 ⁶⁸	14.490 ¹⁷³	54.38 ⁷
Nov. 6.1	52.428 ¹⁵⁰	7.70 ¹³	7.20 ³³	40.27 ¹¹¹	14.343 ¹⁴⁷	54.45 ³
16.1	52.315 ¹¹³	7.49 ²¹	6.94 ²⁶	38.78 ¹⁴⁹	14.231 ¹¹²	54.48 ¹
26.1	52.245 ⁷⁰	7.23 ²⁶	6.75 ¹⁹	37.00 ¹⁷⁸	14.160 ⁷¹	54.47 ²
Dec. 6.1	52.223 ²²	6.94 ²⁹	6.65 ²⁰³	34.97 ²²¹	14.134 ²²	54.45 ³
16.0	52.251 ²⁸	6.64 ³⁰	6.64 ¹	32.76 ²³¹	14.156 ²²	54.42 ²
26.0	52.328 ⁷⁷	6.35 ²⁹	6.72 ⁸	30.45 ²³¹	14.225 ⁶⁹	54.40 ⁰
36.0	52.451 ¹²³	6.08 ²⁷	6.89 ¹⁷	28.13 ²³²	14.338 ¹¹³	54.40 ³
Mean Place	50.755	16.61	5.17	39.81	12.706	64.98
Sec δ , Tan δ	1.123	-0.511	2.150	-1.903	1.080	-0.409
L α , L δ	+0.01	+0.1	+0.05	+0.1	+0.01	+0.1
ω α , ω δ	+0.01	-1.0	+0.02	-1.0	+0.01	-1.0

AUTHORITY

A. E.

396 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Lyræ. Mag. 3.4-4.1		σ Sagittarii. Mag. 2.1		ξ Sagittarii. Mag. 3.6	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	^h 18 ^m 47	[°] 33 ['] 16	^h 18 ^m 50	[°] 26 ['] 23	^h 18 ^m 53	[°] 21 ['] 12
Jan. 1.0	12.611 ^s ₉₃	29.41 ^s ₂₉₉	27.749 ^s ₁₃₉	30.28 ^s ₂₅	6.609 ^s ₁₂₉	25.56 ^s ₄
11.0	12.704 ₁₃₆	26.42 ₂₈₉	27.888 ₁₇₆	30.03 ₂₆	6.738 ₁₆₈	25.60 ₅
20.9	12.840 ₁₈₀	23.53 ₂₇₅	28.064 ₂₁₁	29.77 ₂₄	6.906 ₂₀₁	25.65 ₃
30.9	13.020 ₂₁₂	20.78 ₂₄₇	28.275 ₂₄₃	29.53 ₂₈	7.107 ₂₂₉	25.68 ₀
Feb. 9.9	13.232 ₂₄₆	18.31 ₂₁₁	28.518 ₂₆₄	29.25 ₂₆	7.336 ₂₅₃	25.68 ₅
19.9	13.478 ₂₇₄	16.20 ₁₆₉	28.782 ₂₈₇	28.99 ₃₁	7.589 ₂₇₁	25.63 ₁₃
Mar. 1.8	13.752 ₂₉₄	14.51 ₁₁₄	29.069 ₃₀₀	28.68 ₃₃	7.860 ₂₈₆	25.50 ₂₂
11.8	14.046 ₃₀₄	13.37 ₅₉	29.369 ₃₁₀	28.35 ₃₇	8.146 ₂₉₇	25.28 ₃₀
21.8	14.350 ₃₁₅	12.78 ₃	29.679 ₃₁₇	27.98 ₄₂	8.443 ₃₀₅	24.98 ₄₀
31.7	14.665 ₃₁₅	12.75 ₅₄	29.996 ₃₂₁	27.56 ₄₂	8.748 ₃₀₇	24.58 ₄₈
Apr. 10.7	14.980 ₃₀₉	13.29 ₁₀₇	30.317 ₃₁₉	27.14 ₄₇	9.055 ₃₀₇	24.10 ₅₅
20.7	15.289 ₃₀₀	14.36 ₁₅₆	30.636 ₃₁₄	26.67 ₄₂	9.362 ₃₀₂	23.55 ₅₈
30.7	15.589 ₂₈₀	15.92 ₁₉₇	30.950 ₃₀₃	26.25 ₄₀	9.664 ₂₉₁	22.97 ₅₉
May 10.6	15.869 ₂₆₂	17.89 ₂₃₄	31.253 ₂₈₃	25.85 ₃₂	9.955 ₂₇₆	22.38 ₅₇
20.6	16.131 ₂₂₇	20.23 ₂₆₀	31.536 ₂₆₃	25.53 ₂₉	10.231 ₂₅₄	21.81 ₅₂
30.6	16.358 ₁₉₂	22.83 ₂₈₀	31.799 ₂₃₁	25.24 ₁₇	10.485 ₂₂₆	21.29 ₄₆
June 9.6	16.550 ₁₅₅	25.63 ₂₈₇	32.030 ₂₀₁	25.07 ₇	10.711 ₁₉₄	20.83 ₃₆
19.5	16.705 ₁₀₉	28.50 ₂₉₁	32.231 ₁₅₇	25.00 ₇	10.905 ₁₅₅	20.47 ₂₆
29.5	16.814 ₆₂	31.41 ₂₈₅	32.388 ₁₁₅	25.07 ₁₇	11.060 ₁₁₄	20.21 ₁₅
July 9.5	16.876 ₁₅	34.26 ₂₇₂	32.503 ₆₈	25.24 ₂₇	11.174 ₆₉	20.06 ₄
19.4	16.891 ₃₃	36.98 ₂₅₄	32.571 ₂₂	25.51 ₃₃	11.243 ₂₃	20.02 ₆
29.4	16.858 ₇₈	39.52 ₂₂₉	32.593 ₂₉	25.84 ₄₂	11.266 ₂₄	20.08 ₁₄
Aug. 8.4	16.780 ₁₂₅	41.81 ₂₀₁	32.564 ₇₂	26.26 ₄₄	11.242 ₆₈	20.22 ₂₁
18.4	16.655 ₁₆₂	43.82 ₁₆₅	32.492 ₁₁₄	26.70 ₄₅	11.174 ₁₀₈	20.43 ₂₆
28.3	16.493 ₁₉₈	45.47 ₁₂₉	32.378 ₁₄₇	27.15 ₄₂	11.066 ₁₄₂	20.69 ₂₇
Sept. 7.3	16.295 ₂₁₉	46.76 ₉₃	32.231 ₁₇₇	27.57 ₃₇	10.924 ₁₆₈	20.96 ₂₈
17.3	16.076 ₂₃₆	47.69 ₄₇	32.054 ₁₉₄	27.94 ₃₂	10.756 ₁₈₅	21.24 ₂₅
27.3	15.840 ₂₄₂	48.16 ₄	31.860 ₂₀₁	28.26 ₂₄	10.571 ₁₉₂	21.49 ₂₁
Oct. 7.2	15.598 ₂₃₈	48.20 ₃₉	31.659 ₁₉₄	28.50 ₁₃	10.379 ₁₈₈	21.70 ₁₇
17.2	15.360 ₂₂₄	47.81 ₈₄	31.465 ₁₇₈	28.63 ₀	10.191 ₁₇₃	21.87 ₁₃
27.2	15.136 ₁₉₉	46.97 ₁₂₆	31.287 ₁₅₄	28.63 ₄	10.018 ₁₄₈	22.00 ₈
Nov. 6.1	14.937 ₁₆₉	45.71 ₁₇₀	31.133 ₁₂₁	28.59 ₁₆	9.870 ₁₁₆	22.08 ₅
16.1	14.768 ₁₃₀	44.01 ₂₀₃	31.012 ₇₄	28.43 ₂₀	9.754 ₇₅	22.13 ₃
26.1	14.638 ₈₄	41.98 ₂₃₈	30.938 ₃₃	28.23 ₂₃	9.679 ₃₁	22.16 ₃
Dec. 6.1	14.554 ₃₅	39.60 ₂₆₆	30.905 ₁₇	28.00 ₂₆	9.648 ₁₄	22.19 ₄
16.0	14.519 ₁₂	36.94 ₂₈₇	30.922 ₆₆	27.74 ₂₆	9.662 ₆₁	22.23 ₅
26.0	14.531 ₆₄	34.07 ₂₉₈	30.988 ₁₁₃	27.48 ₂₇	9.723 ₁₀₅	22.28 ₇
36.0	14.595	31.09	31.101	27.21	9.828	22.35
Mean Place	14.207	20.63	29.433	37.92	8.211	33.13
Sec δ , Tan δ	1.196	+0.656	1.116	-0.496	1.073	-0.388
L α , L δ	-0.02	+0.1	+0.01	+0.1	+0.01	+0.1
ω α , ω δ	-0.01	-1.0	+0.01	-1.0	+0.01	-1.0
AUTHORITY	A. E.		A. E.		A. N.	

APPARENT PLACES OF STARS, 1923. 397

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Lyræ. Mag. 3.3		ϵ Aquilæ. Mag. 4.2		ζ Sagittarii. Mag. 2.7	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.
	^h 18 ^m 56	[°] 32 ['] 34	^h 18 ^m 56	[°] 14 ['] 57	^h 18 ^m 57	[°] 29 ['] 59
Jan. 1.0	2.192 ^s ₈₄	67.86	6.200 ^s	53.82	41.050 ^s	22.16
11.0	2.276 ₁₂₅	64.92 ²⁹⁴	6.209 ₉₉	51.67 ²¹⁵	41.183 ₁₃₃	21.64 ⁵²
21.0	2.401 ₁₇₁	62.06 ²⁸⁶	6.433 ₁₃₄	49.55 ²¹²	41.358 ₁₇₅	21.13 ⁵¹
30.9	2.572 ₂₀₂	59.32 ²⁷⁴	6.602 ₁₆₉	47.55 ²⁰⁰	41.569 ₂₁₁	20.63 ⁵⁰
Feb. 9.9	2.774 ₂₄₀	56.86 ²⁴⁶	6.801 ₁₉₉	45.75 ¹⁸⁰	41.811 ₂₄₂	20.14 ⁴⁹
19.9	3.014 ₂₆₅	54.73 ²¹³	7.025 ₂₂₄	44.23 ¹⁵²	42.079 ₂₆₈	19.65 ⁴⁹
Mar. 1.9	3.279 ₂₈₆	53.02 ¹⁷¹	7.270 ₂₄₅	43.06 ¹¹⁷	42.368 ₂₈₉	19.16 ⁴⁹
11.8	3.565 ₃₀₀	51.84 ¹¹⁸	7.531 ₂₆₁	42.27 ⁷⁹	42.673 ₃₀₅	18.67 ⁴⁹
21.8	3.865 ₃₁₀	51.21 ⁶³	7.805 ₂₇₄	41.92 ³⁵	42.991 ₃₁₈	18.17 ⁵⁰
31.8	4.175 ₃₁₄	51.13 ⁸	8.087 ₂₈₂	42.01 ⁹	43.317 ₃₂₆	17.67 ⁵⁰
Apr. 10.7	4.489 ₃₁₁	51.60 ⁴⁷	8.373 ₂₈₆	42.52 ⁵¹	43.647 ₃₃₀	17.18 ⁴⁹
20.7	4.800 ₃₀₂	52.61 ¹⁰¹	8.657 ₂₈₄	43.45 ⁹³	43.978 ₃₃₁	16.72 ⁴⁶
30.7	5.102 ₂₈₄	54.10 ¹⁴⁹	8.935 ₂₇₈	44.74 ¹²⁹	44.303 ₃₂₅	16.30 ⁴²
May 10.7	5.386 ₂₆₇	56.03 ¹⁹³	9.202 ₂₆₇	46.35 ¹⁶¹	44.617 ₃₁₄	15.96 ³⁴
20.6	5.653 ₂₃₄	58.32 ²²⁹	9.452 ₂₅₀	48.20 ¹⁸⁵	44.915 ₂₉₈	15.70 ²⁶
30.6	5.887 ₂₀₂	60.87 ²⁵⁵	9.679 ₂₂₇	50.25 ²⁰⁵	45.191 ₂₇₆	15.55 ¹⁵
June 9.6	6.089 ₁₆₄	63.64 ²⁷⁷	9.878 ₁₉₉	52.42 ²¹⁷	45.437 ₂₄₆	15.53 ²
19.6	6.253 ₁₁₇	66.49 ²⁸⁵	10.045 ₁₆₇	54.63 ²²¹	45.649 ₂₁₂	15.64 ¹¹
29.5	6.370 ₇₂	69.40 ²⁹¹	10.174 ₁₂₉	56.84 ²²¹	45.821 ₁₇₂	15.87 ²³
July 9.5	6.442 ₂₈	72.25 ²⁸⁵	10.263 ₈₉	58.97 ²¹³	45.947 ₁₂₆	16.22 ³⁵
19.5	6.470 ₂₄	74.98 ²⁷³	10.309 ₄₆	60.99 ²⁰²	46.025 ₇₈	16.68 ⁴⁶
29.4	6.446 ₆₈	77.54 ²⁵⁶	10.311 ₂	62.84 ¹⁸⁵	46.054 ₂₉	17.23 ⁵⁵
Aug. 8.4	6.378 ₁₁₆	79.87 ²³³	10.270 ₄₁	64.49 ¹⁶⁵	46.032 ₂₂	17.84 ⁶¹
18.4	6.262 ₁₅₄	81.92 ²⁰⁵	10.188 ₈₂	65.91 ¹⁴²	45.963 ₆₉	18.47 ⁶³
28.4	6.108 ₁₈₉	83.62 ¹⁷⁰	10.070 ₁₁₈	67.07 ¹¹⁶	45.850 ₁₁₃	19.10 ⁶³
Sept. 7.3	5.919 ₂₁₃	84.99 ¹³⁷	9.920 ₁₅₀	67.95 ⁸⁸	45.700 ₁₅₀	19.68 ⁵⁸
17.3	5.706 ₂₂₉	85.96 ⁹⁷	9.746 ₁₇₄	68.55 ⁶⁰	45.521 ₁₇₉	20.18 ⁵⁰
27.3	5.477 ₂₃₉	86.50 ⁵⁴	9.556 ₁₉₀	68.86 ³¹	45.323 ₁₉₈	20.58 ⁴⁰
Oct. 7.3	5.238 ₂₃₉	86.64 ¹⁴	9.360 ₁₉₆	68.86 ⁰	45.116 ₂₀₇	20.85 ²⁷
17.2	4.999 ₂₂₃	86.33 ³¹	9.167 ₁₉₃	68.55 ³¹	44.912 ₂₀₄	20.99 ¹⁴
27.2	4.776 ₂₀₁	85.59 ⁷⁴	8.986 ₁₈₁	67.93 ⁶²	44.724 ₁₈₈	20.99 ⁰
Nov. 6.2	4.575 ₁₇₀	84.42 ¹¹⁷	8.827 ₁₅₉	67.01 ⁹²	44.561 ₁₆₃	20.86 ¹³
16.1	4.405 ₁₃₂	82.82 ¹⁶⁰	8.697 ₁₃₀	65.80 ¹²¹	44.433 ₁₂₈	20.86 ²⁶
26.1	4.273 ₉₁	80.86 ¹⁹⁶	8.602 ₉₅	64.32 ¹⁴⁸	44.346 ₈₇	20.60 ³⁵
Dec. 6.1	4.182 ₄₄	78.55 ²³¹	8.547 ₅₅	62.59 ¹⁷³	44.307 ₃₉	20.25 ⁴²
16.1	4.138 ₅	75.96 ²⁵⁹	8.535 ₁₂	60.65 ¹⁹⁴	44.317 ₁₀	19.83 ⁴⁷
26.0	4.143 ₅₅	73.15 ²⁸¹	8.566 ₇₃	58.57 ²⁰⁸	44.377 ₆₀	19.36 ⁴⁹
36.0	4.198	70.23 ²⁹²	8.639	56.40 ²¹⁷	44.484	18.87 ⁴⁹
Mean Place	3.759	58.78	7.629	45.38	42.802	29.37
Sec δ , Tan δ	1.187	+0.639	1.035	+0.267	1.155	-0.577
L α , L δ	-0.02	+0.1	-0.01	+0.1	+0.01	+0.1
ω α , ω δ	-0.01	-1.0	0.00	-1.0	+0.01	-1.0
AUTHORITY	A. E.		A. N.		A. N.	

398 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ζ Aquilæ. Mag. 3.0		τ Sagittarii. Mag. 3.4		λ Aquilæ. Mag. 3.6	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	h m 19 I	° ′ 13 44	h m 19 2	° ′ 27 46	h m 19 - 2	° ′ 4 59
Jan. 1.0	50.818 ⁸ 94	60.95 ²⁰⁸	6.335 ¹²⁷	56.57 ⁴⁰	8.296 ¹⁰⁷	48.88 ¹⁰³
11.0	50.912 ¹²⁸	58.87 ²⁰⁴	6.462 ¹⁶⁷	56.17 ³⁸	8.403 ¹⁴³	49.91 ¹⁰⁰
21.0	51.040 ¹⁶⁵	56.83 ¹⁹³	6.629 ²⁰²	55.79 ³⁹	8.546 ¹⁷⁵	50.91 ⁹⁵
30.9	51.205 ¹⁹⁵	54.90 ¹⁷³	6.831 ²³³	55.40 ³⁹	8.721 ²⁰⁰	51.86 ⁸⁰
Feb. 9.9	51.400 ²¹⁸	53.17 ¹⁴⁸	7.064 ²⁶⁰	55.01 ⁴¹	8.921 ²²⁶	52.66 ⁶⁶
19.9	51.618 ²⁴²	51.69 ¹¹³	7.324 ²⁸⁰	54.60 ⁴⁴	9.147 ²⁴⁵	53.32 ⁴⁴
Mar. 1.9	51.860 ²⁵⁸	50.56 ⁷⁶	7.604 ²⁹⁶	54.16 ⁴⁶	9.392 ²⁶¹	53.76 ²³
11.8	52.118 ²⁷⁴	49.80 ³⁵	7.900 ³¹⁰	53.70 ⁴⁹	9.653 ²⁷³	53.99 ⁴
21.8	52.392 ²⁸⁰	49.45 ⁸	8.210 ³¹⁹	53.21 ⁵¹	9.926 ²⁸¹	53.95 ²⁸
31.8	52.672 ²⁸⁵	49.53 ⁵⁰	8.529 ³²⁴	52.70 ⁵³	10.207 ²⁸⁶	53.67 ⁵⁵
Apr. 10.7	52.957 ²⁸⁵	50.03 ⁹⁰	8.853 ³²⁴	52.17 ⁵²	10.493 ²⁸⁷	53.12 ⁷⁵
20.7	53.242 ²⁸⁰	50.93 ¹²⁶	9.177 ³²⁰	51.65 ⁵⁰	10.780 ²⁸²	52.37 ⁹⁸
30.7	53.522 ²⁶⁹	52.19 ¹⁵⁶	9.497 ³¹¹	51.15 ⁴⁴	11.062 ²⁷³	51.39 ¹¹⁰
May 10.7	53.791 ²⁵³	53.75 ¹⁸⁴	9.808 ²⁹⁵	50.71 ³⁷	11.335 ²⁶⁰	50.29 ¹²⁴
20.6	54.044 ²³²	55.59 ¹⁹⁹	10.103 ²⁷³	50.34 ²⁷	11.595 ²³⁹	49.05 ¹²⁹
30.6	54.276 ²⁰³	57.58 ²¹³	10.376 ²⁴⁶	50.07 ¹⁶	11.834 ²¹⁵	47.76 ¹²⁹
June 9.6	54.479 ¹⁷¹	59.71 ²¹⁷	10.622 ²¹²	49.91 ³	12.049 ¹⁸³	46.47 ¹²⁸
19.6	54.650 ¹³⁶	61.88 ²¹⁷	10.834 ¹⁷³	49.88 ⁹	12.232 ¹⁴⁹	45.19 ¹²¹
29.5	54.786 ⁹⁵	64.05 ²¹⁰	11.007 ¹²⁸	49.97 ²²	12.381 ¹⁰⁸	43.98 ¹¹¹
July 9.5	54.881 ⁵²	66.15 ¹⁹⁷	11.135 ⁸²	50.19 ³³	12.489 ⁶⁷	42.87 ⁹⁹
19.5	54.933 ⁷	68.12 ¹⁸⁴	11.217 ³²	50.52 ⁴³	12.556 ²⁴	41.88 ⁸⁷
29.4	54.940 ³⁴	69.96 ¹⁶²	11.249 ¹⁷	50.95 ⁵⁰	12.580 ¹⁹	41.01 ⁷¹
Aug. 8.4	54.906 ⁷⁶	71.58 ¹³⁹	11.232 ⁶⁴	51.45 ⁵⁵	12.561 ⁶²	40.30 ⁵⁵
18.4	54.830 ¹¹¹	72.97 ¹¹⁴	11.168 ¹⁰⁶	52.00 ⁵⁶	12.499 ⁹⁹	39.75 ⁴⁰
28.4	54.719 ¹⁴⁵	74.11 ⁸⁹	11.062 ¹⁴⁴	52.56 ⁵³	12.400 ¹³²	39.35 ²⁸
Sept. 7.3	54.574 ¹⁶⁹	75.00 ⁵⁸	10.918 ¹⁷⁴	53.09 ⁴⁷	12.268 ¹⁵⁵	39.07 ¹²
17.3	54.405 ¹⁸⁸	75.58 ³³	10.744 ¹⁹³	53.56 ⁴¹	12.113 ¹⁷⁴	38.95 ²
27.3	54.217 ¹⁹³	75.91 ⁰	10.551 ²⁰¹	53.97 ²⁹	11.939 ¹⁸²	38.97 ¹⁴
Oct. 7.3	54.024 ¹⁹¹	75.91 ²⁸	10.350 ¹⁹⁹	54.26 ¹⁸	11.757 ¹⁷⁷	39.11 ²⁵
17.2	53.833 ¹⁷⁹	75.63 ⁵⁶	10.151 ¹⁸⁶	54.44 ⁷	11.580 ¹⁶⁸	39.36 ³⁸
27.2	53.654 ¹⁶⁰	75.07 ⁸⁸	9.965 ¹⁶¹	54.51 ⁵	11.412 ¹⁴⁵	39.74 ⁵⁰
Nov. 6.2	53.494 ¹³¹	74.19 ¹¹⁷	9.804 ¹²⁸	54.46 ¹⁵	11.267 ¹¹⁷	40.24 ⁶³
16.1	53.363 ⁹⁵	73.02 ¹⁴²	9.676 ⁸⁸	54.31 ²³	11.150 ⁸⁰	40.87 ⁷³
26.1	53.268 ⁶¹	71.60 ¹⁶³	9.588 ⁴¹	54.08 ²⁹	11.070 ⁴⁴	41.60 ⁸⁴
Dec. 6.1	53.207 ¹⁴	69.97 ¹⁸⁷	9.547 ⁵	53.79 ³⁴	11.026 ¹	42.44 ⁹³
16.1	53.193 ²⁶	68.10 ²⁰²	9.552 ⁵⁵	53.45 ³⁵	11.027 ⁴⁵	43.37 ¹⁰¹
26.0	53.219 ⁶⁸	66.08 ²¹⁰	9.607 ¹⁰⁰	53.10 ³⁶	11.072 ⁸³	44.38 ¹⁰⁵
36.0	53.287	63.98	9.707	52.74	11.155	45.43
Mean Place	52.239	52.54	8.052	63.56	9.751	56.56
Sec δ, Tan δ	1.029	+0.245	1.130	-0.527	1.004	-0.087
L α, L δ	-0.01	+0.1	+0.01	+0.1	0.00	+0.1
ω α, ω δ	0.00	-1.0	+0.01	-1.0	0.00	-1.0
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 399

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Coronæ Aust. Mag. 4.1		π Sagittarii. Mag. 3.0		ψ Sagittarii. Mag. 4.9	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	h m 19 4	° ' 38 1	h m 19 5	° ' 21 8	h m 19 10	° ' 25 23
Jan. 1.0	12.091 ¹³⁷	27.23 ¹⁰³	9.512 ¹¹⁷	43.16 ²	47.530 ¹¹⁴	20.08 ²⁷
11.0	12.228 ¹⁸²	26.20 ¹⁰²	9.629 ¹⁵⁷	43.18 ¹	47.644 ¹⁵⁵	19.81 ²⁸
21.0	12.410 ²²²	25.18 ¹⁰⁰	9.786 ¹⁸⁹	43.19 ⁴	47.799 ¹⁸⁹	19.53 ³⁰
30.9	12.632 ²⁵⁷	24.18 ⁹⁵	9.975 ²¹⁸	43.15 ⁶	47.988 ²²¹	19.23 ³¹
Feb. 9.9	12.889 ²⁸⁷	23.23 ⁸⁹	10.193 ²⁴²	43.09 ¹²	48.209 ²⁴⁷	18.92 ³⁶
19.9	13.176 ³¹¹	22.34 ⁸⁶	10.435 ²⁶⁴	42.97 ²⁰	48.456 ²⁶⁸	18.56 ⁴¹
Mar. 1.9	13.487 ³³²	21.48 ⁷⁷	10.699 ²⁸²	42.77 ²⁹	48.724 ²⁸⁶	18.15 ⁴⁶
11.8	13.819 ³⁴⁵	20.71 ⁷⁰	10.981 ²⁹³	42.48 ³⁸	49.010 ³⁰⁰	17.69 ⁵²
21.8	14.164 ³⁵⁶	20.01 ⁶²	11.274 ³⁰²	42.10 ⁴⁸	49.310 ³¹⁰	17.17 ⁵⁶
31.8	14.520 ³⁶¹	19.39 ⁵⁴	11.576 ³⁰⁸	41.62 ⁵⁷	49.620 ³¹⁷	16.61 ⁶¹
Apr. 10.7	14.881 ³⁶²	18.85 ⁴⁰	11.884 ³⁰⁹	41.05 ⁶²	49.937 ³¹⁹	16.00 ⁶²
20.7	15.243 ³⁵⁶	18.45 ³¹	12.193 ³⁰⁶	40.43 ⁶⁷	50.256 ³¹⁷	15.38 ⁶²
30.7	15.599 ³⁴⁸	18.14 ¹⁴	12.499 ²⁹⁶	39.76 ⁶⁷	50.573 ³⁰⁸	14.76 ⁵⁹
May 10.7	15.947 ³²⁸	18.00 ¹	12.795 ²⁸²	39.09 ⁶⁶	50.881 ²⁹⁴	14.17 ⁵³
20.6	16.275 ³⁰⁵	18.01 ¹⁶	13.077 ²⁶³	38.43 ⁵⁸	51.175 ²⁷⁴	13.64 ⁴⁴
30.6	16.580 ²⁷³	18.17 ³⁵	13.340 ²³⁴	37.85 ⁵¹	51.449 ²⁴⁹	13.20 ³⁴
June 9.6	16.853 ²³⁵	18.52 ⁵²	13.574 ²⁰⁶	37.34 ⁴¹	51.698 ²¹⁵	12.86 ²¹
19.6	17.088 ¹⁹²	19.04 ⁶⁶	13.780 ¹⁶⁶	36.93 ³⁴	51.913 ¹⁷⁸	12.65 ⁹
29.5	17.280 ¹⁴⁴	19.70 ⁸¹	13.946 ¹²⁵	36.59 ¹⁹	52.091 ¹³⁶	12.56 ⁴
July 9.5	17.424 ⁹¹	20.51 ⁹¹	14.071 ⁸⁰	36.40 ⁷	52.227 ⁸⁸	12.60 ¹⁸
19.5	17.515 ³⁶	21.42 ⁹⁹	14.151 ³⁴	36.33 ⁵	52.315 ⁴¹	12.78 ²⁸
29.5	17.551 ²⁰	22.41 ¹⁰³	14.185 ¹⁴	36.38 ¹⁵	52.356 ⁸	13.06 ³⁷
Aug. 8.4	17.531 ⁷¹	23.44 ¹⁰⁴	14.171 ⁵⁶	36.53 ²¹	52.348 ⁵⁵	13.43 ⁴⁴
18.4	17.460 ¹¹⁹	24.48 ⁹⁷	14.115 ⁹⁹	36.74 ²⁸	52.293 ⁹⁷	13.87 ⁴⁷
28.4	17.341 ¹⁶²	25.45 ⁸⁷	14.016 ¹³⁷	37.02 ³⁰	52.196 ¹³⁶	14.34 ⁴⁸
Sept. 7.3	17.179 ¹⁹⁶	26.32 ⁷⁴	13.879 ¹⁶¹	37.32 ³³	52.060 ¹⁶⁵	14.82 ⁴⁴
17.3	16.983 ²¹⁵	27.06 ⁵⁶	13.718 ¹⁸²	37.65 ²⁹	51.895 ¹⁸⁵	15.26 ⁴⁰
27.3	16.768 ²²⁸	27.62 ³⁵	13.536 ¹⁹¹	37.94 ²⁶	51.710 ¹⁹⁶	15.66 ³²
Oct. 7.3	16.540 ²²⁴	27.97 ¹⁵	13.345 ¹⁸⁷	38.20 ²²	51.514 ¹⁹⁵	15.98 ²⁴
17.2	16.316 ²¹³	28.12 ¹⁰	13.158 ¹⁷⁶	38.42 ¹⁸	51.319 ¹⁸³	16.22 ¹³
27.2	16.103 ¹⁸⁴	28.02 ²⁸	12.982 ¹⁵⁴	38.60 ¹³	51.136 ¹⁶¹	16.35 ⁴
Nov. 6.2	15.919 ¹⁴⁹	27.74 ⁵⁰	12.828 ¹²³	38.73 ⁸	50.975 ¹²⁹	16.39 ³
16.2	15.770 ¹⁰⁴	27.24 ⁶⁷	12.705 ⁸⁴	38.81 ⁶	50.846 ⁹²	16.36 ¹¹
26.1	15.666 ⁵⁵	26.57 ⁸¹	12.621 ⁴³	38.87 ⁵	50.754 ⁴⁸	16.25 ¹⁷
Dec. 6.1	15.611 ¹	25.76 ⁹¹	12.578 ²	38.92 ³	50.706 ²	16.08 ¹⁹
16.1	15.610 ⁵⁵	24.85 ⁹⁸	12.580 ⁵⁰	38.95 ⁴	50.704 ⁴⁵	15.89 ²³
26.0	15.665 ¹⁰⁷	23.87 ¹⁰⁰	12.630 ⁹³	38.99 ⁵	50.749 ⁹⁰	15.66 ²³
36.0	15.772	22.87	12.723	39.04	50.839	15.43
Mean Place	14.053	33.88	11.124	50.17	49.207	26.68
Sec δ , Tan δ	1.269	-0.782	1.072	-0.387	1.107	-0.475
L α , L δ	+0.02	+0.1	+0.01	+0.1	+0.01	+0.1
ω α , ω δ	+0.01	-1.0	+0.01	-1.0	+0.01	-1.0
AUTHORITY	A. E.		A. E.			

400 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	δ Draconis. Mag. 3.2		ω Aquilæ. Mag. 5.1		δ Aquilæ. Mag. 3.4	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.
	h m 19 12	° ′ 67 31	h m 19 14	° ′ 11 27	h m 19 21	° ′ 2 57
Jan. 1.0	29.51 ^s	45.29 ⁸	10.731 ^s	28.13 ⁸	35.564 ^s	44.31 ⁸
11.0	29.49 ²	41.77 ³⁵²	10.813 ⁸²	26.20 ¹⁹³	35.647 ⁸³	42.87 ¹⁴⁴
21.0	29.58 ⁹	38.21 ³⁵⁶	10.932 ¹¹⁹	24.30 ¹⁹⁰	35.767 ¹²⁰	41.46 ¹⁴¹
30.9	29.77 ¹⁹	34.77 ³⁴⁴	11.085 ¹⁵³	22.50 ¹⁸⁰	35.916 ¹⁴⁹	40.13 ¹³³
Feb. 9.9	30.06 ²⁹	31.57 ³²⁰	11.268 ¹⁸³	20.87 ¹⁶³	36.097 ¹⁸¹	38.94 ¹¹⁹
19.9	30.44 ³⁸	28.74 ²⁸³	11.478 ²¹⁰	19.50 ¹³⁷	36.301 ²⁰⁴	37.97 ⁹⁷
Mar. 1.9	30.91 ⁴⁷	26.37 ²³⁷	11.711 ²³³	18.43 ¹⁰⁷	36.531 ²³⁰	37.24 ⁷³
11.8	31.43 ⁵²	24.53 ¹⁸⁴	11.962 ²⁵¹	17.72 ⁷¹	36.778 ²⁴⁷	36.81 ⁴³
21.8	32.00 ⁵⁷	23.33 ¹²⁰	12.227 ²⁶⁵	17.41 ³¹	37.040 ²⁶²	36.70 ¹¹
31.8	32.60 ⁶⁰	22.76 ⁵⁷	12.504 ²⁷⁷	17.49 ⁸	37.316 ²⁷⁶	36.93 ²³
Apr. 10.7	33.21 ⁶¹	22.87 ¹¹	12.788 ²⁸⁴	18.01 ⁵²	37.597 ²⁸¹	37.47 ⁵⁴
20.7	33.81 ⁶⁰	23.62 ⁷⁵	13.074 ²⁸⁶	18.87 ⁸⁶	37.883 ²⁸⁶	38.34 ⁸⁷
30.7	34.38 ⁵⁷	24.97 ¹³⁵	13.356 ²⁸²	20.09 ¹²²	38.166 ²⁸³	39.45 ¹¹¹
May 10.7	34.92 ⁵⁴	26.91 ¹⁹⁴	13.629 ²⁷³	21.61 ¹⁵²	38.444 ²⁷⁸	40.80 ¹³⁵
20.6	35.40 ⁴⁸	29.31 ²⁴⁰	13.890 ²⁶¹	23.36 ¹⁷⁵	38.710 ²⁶⁶	42.32 ¹⁵²
30.6	35.81 ⁴¹	32.12 ²⁸¹	14.129 ²³⁹	25.30 ¹⁹⁴	38.957 ²⁴⁷	43.96 ¹⁶⁴
June 9.6	36.13 ³²	35.22 ³¹⁰	14.344 ²¹⁵	27.34 ²⁰⁴	39.179 ²²²	45.67 ¹⁷¹
19.6	36.37 ²⁴	38.56 ³³⁴	14.527 ¹⁸³	29.44 ²¹⁰	39.375 ¹⁹⁶	47.38 ¹⁷¹
29.5	36.52 ¹⁵	42.01 ³⁴⁵	14.676 ¹⁴⁹	31.51 ²⁰⁷	39.533 ¹⁵⁸	49.10 ¹⁷²
July 9.5	36.56 ⁴	45.50 ³⁴⁹	14.783 ¹⁰⁷	33.54 ²⁰³	39.655 ¹²²	50.70 ¹⁶⁰
19.5	36.51 ⁵	48.94 ³⁴⁴	14.849 ⁶⁶	35.44 ¹⁹⁰	39.734 ⁷⁹	52.20 ¹⁵⁰
29.5	36.35 ¹⁶	52.24 ³³⁰	14.872 ²³	37.20 ¹⁷⁶	39.771 ³⁷	53.53 ¹³³
Aug. 8.4	36.11 ²⁴	55.31 ³⁰⁷	14.851 ²¹	38.76 ¹⁵⁶	39.762 ⁹	54.72 ¹¹⁹
18.4	35.77 ³⁴	58.11 ²⁸⁰	14.788 ⁶³	40.12 ¹³⁶	39.710 ⁵²	55.69 ⁹⁷
28.4	35.36 ⁴¹	60.57 ²⁴⁶	14.687 ¹⁰¹	41.22 ¹¹⁰	39.625 ⁸⁵	56.49 ⁸⁰
Sept. 7.3	34.88 ⁴⁸	62.65 ²⁰⁸	14.551 ¹³⁶	42.09 ⁸⁷	39.503 ¹²²	57.05 ⁵⁶
17.3	34.34 ⁵⁴	64.27 ¹⁶²	14.391 ¹⁶⁰	42.68 ⁵⁹	39.354 ¹⁴⁹	57.42 ³⁷
27.3	33.76 ⁵⁸	65.39 ¹¹²	14.212 ¹⁷⁹	43.02 ³⁴	39.185 ¹⁶⁹	57.62 ²⁰
Oct. 7.3	33.17 ⁵⁹	66.02 ⁶³	14.023 ¹⁸⁹	43.06 ⁴	39.005 ¹⁸⁰	57.60 ²
17.2	32.57 ⁶⁰	66.11 ⁹	13.835 ¹⁸⁸	42.85 ²¹	38.824 ¹⁸¹	57.37 ²³
27.2	31.97 ⁶⁰	65.65 ⁴⁶	13.656 ¹⁷⁹	42.34 ⁵¹	38.653 ¹⁷¹	56.94 ⁴³
Nov. 6.2	31.41 ⁵⁶	64.62 ¹⁰³	13.495 ¹⁶¹	41.56 ⁷⁸	38.501 ¹⁵²	56.31 ⁶³
16.2	30.89 ⁵²	63.07 ¹⁵⁵	13.363 ¹³²	40.53 ¹⁰³	38.373 ¹²⁸	55.50 ⁸¹
26.1	30.43 ⁴⁶	60.99 ²⁰⁸	13.260 ¹⁰³	39.23 ¹³⁰	38.276 ⁹⁷	54.51 ⁹⁹
Dec. 6.1	30.05 ³⁸	58.45 ²⁵⁴	13.198 ⁶²	37.74 ¹⁴⁹	38.215 ⁶¹	53.37 ¹¹⁴
16.1	29.75 ³⁰	55.50 ²⁹⁵	13.173 ²⁵	36.04 ¹⁷⁰	38.195 ²⁰	52.12 ¹²⁵
26.0	29.56 ¹⁹	52.25 ³²⁵	13.191 ¹⁸	34.20 ¹⁸⁴	38.215 ²⁰	50.72 ¹⁴⁰
36.0	29.47 ⁹	48.76 ³⁴⁹	13.249 ⁵⁸	32.26 ¹⁹⁴	38.274 ⁵⁹	49.27 ¹⁴⁵
Mean Place	32.54	33.81	12.131	19.77	36.968	36.56
Sec δ, Tan δ	2.616	+2.417	1.020	+0.203	1.001	+0.052
L α, L δ	-0.06	+0.1	-0.01	+0.1	0.00	+0.1
ω α, ω δ	-0.05	-1.0	0.00	-0.9	0.00	-0.9
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 401

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.		59 G. Telescopii. Mag. 5·6		6 Vulpeculæ. Mag. 4·6		β Cygni. Mag. 3·2	
		R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
		^h 19 21 ^m	[°] 54 28 [']	^h 19 25 ^m	[°] 24 30 [']	^h 19 27 ^m	[°] 27 47 [']
Jan.	1·0	34·724 ¹³⁴	47·26 ²⁰³	28·632 ⁵⁹	38·29 ²⁵²	35·502 ⁵⁶	58·86 ²⁶⁵
	11·0	34·858 ¹⁹⁸	45·23 ²⁰³	28·691 ⁹⁹	35·77 ²⁵²	35·558 ⁹⁴	56·21 ²⁶⁵
	21·0	35·056 ²⁵⁶	43·20 ¹⁹⁸	28·790 ¹³⁸	33·25 ²⁴¹	35·652 ¹³⁵	53·56 ²⁵⁵
	30·9	35·312 ³⁰⁹	41·22 ¹⁸⁹	28·928 ¹⁷²	30·84 ²²²	35·787 ¹⁷²	51·01 ²³³
Feb.	9·9	35·621 ³⁵³	39·33 ¹⁷⁴	29·100 ²⁰³	28·62 ¹⁹⁴	35·959 ²⁰¹	48·68 ²⁰⁶
	19·9	35·974 ³⁹¹	37·59 ¹⁶⁰	29·303 ²³¹	26·68 ¹⁵⁶	36·160 ²³⁵	46·62 ¹⁷¹
Mar.	1·9	36·365 ⁴²¹	35·99 ¹⁴¹	29·534 ²⁵⁴	25·12 ¹¹³	36·395 ²⁵⁷	44·91 ¹²¹
	11·8	36·786 ⁴⁴⁷	34·58 ¹¹⁹	29·788 ²⁷²	23·99 ⁶⁵	36·652 ²⁷⁸	43·70 ⁷³
	21·8	37·233 ⁴⁶³	33·39 ⁹⁶	30·060 ²⁸⁶	23·34 ¹⁶	36·930 ²⁹³	42·97 ²¹
	31·8	37·696 ⁴⁷⁵	32·43 ⁷²	30·346 ²⁹⁶	23·18 ³⁶	37·223 ³⁰¹	42·76 ³⁰
Apr.	10·8	38·171 ⁴⁷⁹	31·71 ⁴⁴	30·642 ²⁹⁹	23·54 ⁸⁴	37·524 ³⁰⁴	43·06 ⁸¹
	20·7	38·650 ⁴⁷⁵	31·27 ¹⁷	30·941 ²⁹⁶	24·38 ¹²⁹	37·828 ³⁰³	43·87 ¹²⁹
	30·7	39·125 ⁴⁶¹	31·10 ¹¹	31·237 ²⁸⁸	25·67 ¹⁶⁹	38·131 ²⁹³	45·16 ¹⁷²
May	10·7	39·586 ⁴⁴¹	31·21 ⁴¹	31·525 ²⁷³	27·36 ²⁰²	38·424 ²⁷⁷	46·88 ²⁰⁷
	20·6	40·027 ⁴¹⁰	31·62 ⁶⁹	31·798 ²⁵¹	29·38 ²³⁰	38·701 ²⁶⁰	48·95 ²³⁸
	30·6	40·437 ³⁷¹	32·31 ⁹⁷	32·049 ²²⁵	31·68 ²⁴⁸	38·961 ²²⁵	51·33 ²⁵⁵
June	9·6	40·808 ³²²	33·28 ¹²²	32·274 ¹⁹⁰	34·16 ²⁶¹	39·186 ¹⁹¹	53·88 ²⁷²
	19·6	41·130 ²⁶⁵	34·50 ¹⁴⁴	32·464 ¹⁵³	36·77 ²⁶⁵	39·377 ¹⁵⁶	56·60 ²⁷⁶
	29·5	41·395 ²⁰⁰	35·94 ¹⁶³	32·617 ¹¹⁰	39·42 ²⁶²	39·533 ¹⁰⁹	59·36 ²⁷⁵
July	9·5	41·595 ¹³¹	37·57 ¹⁷⁷	32·727 ⁶⁶	42·04 ²⁵³	39·642 ⁶⁶	62·11 ²⁶⁷
	19·5	41·726 ⁵⁸	39·34 ¹⁸⁴	32·793 ¹⁸	44·57 ²³⁷	39·708 ¹⁶	64·78 ²⁵²
	29·5	41·784 ¹⁵	41·18 ¹⁸⁶	32·811 ²⁷	46·94 ²¹⁸	39·724 ³⁰	67·30 ²³⁴
Aug.	8·4	41·769 ⁸⁷	43·04 ¹⁸¹	32·784 ⁷¹	49·12 ¹⁹⁴	39·694 ⁷²	69·64 ²⁰⁸
	18·4	41·682 ¹⁵²	44·85 ¹⁶⁹	32·713 ¹¹³	51·06 ¹⁶⁵	39·622 ¹¹⁸	71·72 ¹⁷⁹
	28·4	41·530 ²¹³	46·54 ¹⁵⁰	32·600 ¹⁴⁸	52·71 ¹³⁵	39·504 ¹⁵⁴	73·51 ¹⁴⁴
Sept.	7·3	41·317 ²⁶⁰	48·04 ¹²⁶	32·452 ¹⁷⁶	54·06 ¹⁰¹	39·350 ¹⁸⁵	74·95 ¹¹⁴
	17·3	41·057 ²⁹⁵	49·30 ⁹⁵	32·276 ¹⁹⁸	55·07 ⁶⁵	39·165 ²⁰⁴	76·09 ⁷⁵
	27·3	40·762 ³¹⁶	50·25 ⁶¹	32·078 ²⁰⁹	55·72 ²⁹	38·961 ²¹³	76·84 ³⁷
Oct.	7·3	40·446 ³¹⁹	50·86 ²²	31·869 ²¹¹	56·01 ⁸	38·748 ²¹⁹	77·21 ⁶
	17·2	40·127 ³⁰⁷	51·08 ¹⁶	31·658 ²⁰³	55·93 ⁴⁸	38·529 ²¹⁵	77·15 ⁴⁷
	27·2	39·820 ²⁷⁹	50·92 ⁵⁴	31·455 ¹⁸⁸	55·45 ⁸⁵	38·314 ¹⁹⁵	76·68 ⁸⁴
Nov.	6·2	39·541 ²³⁵	50·38 ⁹¹	31·267 ¹⁶²	54·60 ¹²¹	38·119 ¹⁷¹	75·84 ¹²⁶
	16·2	39·306 ¹⁸²	49·47 ¹²²	31·105 ¹³¹	53·39 ¹⁵⁷	37·948 ¹³⁹	74·58 ¹⁶¹
	26·1	39·124 ¹¹⁷	48·25 ¹⁵¹	30·974 ⁹³	51·82 ¹⁸⁸	37·809 ¹⁰⁴	72·97 ¹⁹⁴
Dec.	6·1	39·007 ⁴⁹	46·74 ¹⁷³	30·881 ⁵³	49·94 ²¹⁶	37·705 ⁶²	71·03 ²²⁵
	16·1	38·958 ²³	45·01 ¹⁸⁸	30·828 ¹⁰	47·78 ²³⁶	37·643 ¹⁷	68·78 ²⁴⁹
	26·0	38·981 ⁹³	43·13 ¹⁹⁸	30·818 ³³	45·42 ²⁵⁰	37·626 ²⁵	66·29 ²⁶²
	36·0	39·074	41·15	30·851	42·92	37·651	63·67
Mean Place		37·464	52·22	30·050	28·88	36·940	49·15
Sec δ, Tan δ		1·721	—1·401	1·099	+0·456	1·130	+0·527
L α, L δ		+0·03	+0·1	—0·01	+0·1	—0·01	+0·1
ω α, ω δ		+0·03	—0·9	—0·01	—0·9	—0·01	—0·9
AUTHORITY						A. E.	

402 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	μ Aquilæ. Mag. 4·7		λ Sagittarii. Mag. 4·7		54 Sagittarii. Mag. 5·5	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	h m 19 30	° ' 7 12	h m 19 31	° ' 25 3	h m 19 36	° ' 16 27
Jan. 1·0	18·323 ^s 70	60·35 165	59·701 ^s 92	12·00 31	17·259 ^s 82	69·73 23
11·0	18·393 107	58·70 164	59·793 132	11·69 33	17·341 118	69·96 19
21·0	18·500 140	57·06 155	59·925 167	11·36 38	17·459 153	70·15 14
31·0	18·640 171	55·51 140	60·092 198	10·98 41	17·612 183	70·29 6
Feb. 9·9	18·811 198	54·11 118	60·290 228	10·57 49	17·795 209	70·35 4
19·9	19·009 221	52·93 90	60·518 251	10·08 53	18·004 234	70·31 17
Mar. 1·9	19·230 241	52·03 59	60·769 273	9·55 60	18·238 254	70·14 31
11·8	19·471 258	51·44 22	61·042 291	8·95 66	18·492 270	69·83 45
21·8	19·729 272	51·22 14	61·333 302	8·29 73	18·762 285	69·38 60
31·8	20·001 281	51·36 50	61·635 313	7·56 76	19·047 295	68·78 74
Apr. 10·8	20·282 285	51·86 85	61·948 320	6·80 79	19·342 302	68·04 85
20·7	20·567 285	52·71 116	62·268 319	6·01 79	19·644 303	67·19 92
30·7	20·852 280	53·87 143	62·587 316	5·22 74	19·947 299	66·27 99
May 10·7	21·132 269	55·30 164	62·903 303	4·48 70	20·246 289	65·28 98
20·7	21·401 251	56·94 180	63·206 287	3·78 59	20·535 275	64·30 97
30·6	21·652 228	58·74 189	63·493 264	3·19 47	20·810 251	63·33 90
June 9·6	21·880 199	60·63 194	63·757 231	2·72 34	21·061 224	62·43 82
19·6	22·079 165	62·57 191	63·988 197	2·38 20	21·285 189	61·61 70
29·5	22·244 126	64·48 184	64·185 155	2·18 7	21·474 150	60·91 56
July 9·5	22·370 85	66·32 174	64·340 110	2·11 11	21·624 107	60·35 42
19·5	22·455 41	68·06 158	64·450 61	2·22 23	21·731 61	59·93 27
29·5	22·496 3	69·64 140	64·511 13	2·45 35	21·792 15	59·66 13
Aug. 8·4	22·493 47	71·04 120	64·524 35	2·80 44	21·807 30	59·53 1
18·4	22·446 85	72·24 99	64·489 80	3·24 50	21·777 74	59·52 10
28·4	22·361 120	73·23 75	64·409 120	3·74 53	21·703 111	59·62 20
Sept. 7·4	22·241 148	73·98 53	64·289 151	4·27 52	21·592 143	59·82 26
17·3	22·093 169	74·51 29	64·138 177	4·79 49	21·449 165	60·08 30
27·3	21·924 180	74·80 5	63·961 191	5·28 43	21·284 179	60·38 32
Oct. 7·3	21·744 183	74·85 19	63·770 192	5·71 36	21·105 182	60·70 33
17·2	21·561 175	74·66 42	63·578 186	6·07 25	20·923 175	61·03 32
27·2	21·386 159	74·24 66	63·392 168	6·32 14	20·748 159	61·35 32
Nov. 6·2	21·227 135	73·58 88	63·224 139	6·46 6	20·589 134	61·67 30
16·2	21·092 106	72·70 109	63·085 106	6·52 4	20·455 102	61·97 29
26·1	20·986 69	71·61 129	62·979 66	6·48 11	20·353 64	62·26 30
Dec. 6·1	20·917 32	70·32 145	62·913 22	6·37 17	20·289 25	62·56 28
16·1	20·885 9	68·87 158	62·891 23	6·20 19	20·264 18	62·84 29
26·1	20·894 47	67·29 167	62·914 67	6·01 26	20·282 58	63·13 27
36·0	20·941	65·62	62·981	5·75	20·340	63·40
Mean Place	19·700	52·34	61·374	17·44	18·797	75·61
Sec δ , Tan δ	1·008	+0·127	1·104	−0·467	1·043	−0·296
L α , L δ	0·00	+0·2	+0·01	+0·2	+0·01	+0·2
ω α , ω δ	0·00	−0·9	+0·01	−0·9	+0·01	−0·9
AUTHORITY	A. E.					

APPARENT PLACES OF STARS, 1923. 403

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	<i>f</i> Sagittarii. Mag. 5.1		δ Cygni. Mag. 3.0		γ Aquilæ. Mag. 2.8	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	^h 19 41 ^m	[°] 19 56 [']	^h 19 42 ^m	[°] 44 56 [']	^h 19 42 ^m	[°] 10 25 [']
Jan. 1.0	50.720 ⁷⁷	45.11 ¹	32.540 ⁹	43.15 ³¹⁴	34.580 ⁵⁶	36.69 ¹⁷⁹
11.0	50.797 ¹¹⁶	45.12 ⁴	32.549 ⁵⁹	40.01 ³²⁰	34.636 ⁹²	34.90 ¹⁷⁸
21.0	50.913 ¹⁵⁰	45.08 ⁹	32.608 ¹¹⁵	36.81 ³¹³	34.728 ¹²⁴	33.12 ¹⁷⁰
31.0	51.063 ¹⁸¹	44.99 ¹⁷	32.723 ¹⁶³	33.68 ²⁹³	34.852 ¹⁵⁹	31.42 ¹⁵⁴
Feb. 9.9	51.244 ²⁰⁹	44.82 ²⁵	32.886 ²¹²	30.75 ²⁶⁵	35.011 ¹⁸⁴	29.88 ¹³⁰
19.9	51.453 ²³⁵	44.57 ³⁶	33.098 ²⁵³	28.10 ²²⁴	35.195 ²¹³	28.58 ¹⁰⁴
Mar. 1.9	51.688 ²⁵⁵	44.21 ⁴⁷	33.351 ²⁸⁶	25.86 ¹⁸⁰	35.408 ²³⁵	27.54 ⁶⁹
11.9	51.943 ²⁷³	43.74 ⁵⁸	33.637 ³¹⁹	24.06 ¹²¹	35.643 ²⁵²	26.85 ³⁶
21.8	52.216 ²⁸⁸	43.16 ⁷⁰	33.956 ³⁴⁰	22.85 ⁶⁰	35.895 ²⁶⁸	26.49 ⁶
31.8	52.504 ²⁹⁹	42.46 ⁷⁹	34.296 ³⁵⁵	22.25 ²	36.163 ²⁸⁰	26.55 ⁴⁷
Apr. 10.8	52.803 ³⁰⁷	41.67 ⁸⁸	34.651 ³⁶²	22.23 ⁶¹	36.443 ²⁸⁶	27.02 ⁸⁵
20.7	53.110 ³⁰⁹	40.79 ⁹²	35.013 ³⁶⁰	22.84 ¹¹⁷	36.729 ²⁸⁸	27.87 ¹¹⁶
30.7	53.419 ³⁰⁷	39.87 ⁹³	35.373 ³⁴⁸	24.01 ¹⁷²	37.017 ²⁸⁶	29.03 ¹⁴⁸
May 10.7	53.726 ²⁹⁷	38.94 ⁹¹	35.721 ³²⁷	25.73 ²¹⁵	37.303 ²⁷²	30.51 ¹⁷¹
20.7	54.023 ²⁸³	38.03 ⁸⁷	36.048 ³⁰³	27.88 ²⁵⁶	37.575 ²⁵⁷	32.22 ¹⁹¹
30.6	54.306 ²⁶⁰	37.16 ⁷⁷	36.351 ²⁶³	30.44 ²⁸⁷	37.832 ²³⁵	34.13 ²⁰⁰
June 9.6	54.566 ²³³	36.39 ⁶⁷	36.614 ²²³	33.31 ³⁰⁹	38.067 ²⁰⁹	36.13 ²¹¹
19.6	54.799 ¹⁹⁸	35.72 ⁵²	36.837 ¹⁷²	36.40 ³²¹	38.276 ¹⁷¹	38.24 ²⁰⁸
29.6	54.997 ¹⁵⁸	35.20 ³⁸	37.009 ¹¹⁸	39.61 ³²⁸	38.447 ¹³⁶	40.32 ²⁰⁵
July 9.5	55.155 ¹¹⁵	34.82 ²³	37.127 ⁶⁵	42.89 ³²⁴	38.583 ⁹²	42.37 ¹⁹²
19.5	55.270 ⁶⁸	34.59 ⁸	37.192 ⁵	46.13 ³¹⁶	38.675 ⁴⁷	44.29 ¹⁸¹
29.5	55.338 ²¹	34.51 ⁶	37.197 ⁴⁶	49.29 ²⁹⁵	38.722 ⁷	46.10 ¹⁶⁰
Aug. 8.4	55.359 ²⁶	34.57 ¹⁹	37.151 ¹⁰⁶	52.24 ²⁷²	38.729 ³⁸	47.70 ¹⁴⁰
18.4	55.333 ⁷¹	34.76 ²⁷	37.045 ¹⁵⁴	54.96 ²³⁹	38.691 ⁷⁶	49.10 ¹¹⁸
28.4	55.262 ¹⁰⁹	35.03 ³⁵	36.891 ²⁰⁰	57.35 ²⁰⁸	38.615 ¹¹⁶	50.28 ⁹²
Sept. 7.4	55.153 ¹⁴²	35.38 ³⁹	36.691 ²³⁹	59.43 ¹⁶⁵	38.499 ¹⁴⁴	51.20 ⁷⁰
17.3	55.011 ¹⁶⁶	35.77 ⁴⁰	36.452 ²⁶²	61.08 ¹²²	38.355 ¹⁶⁸	51.90 ³⁸
27.3	54.845 ¹⁸¹	36.17 ⁴⁰	36.190 ²⁸⁴	62.30 ⁷⁹	38.187 ¹⁷⁹	52.28 ¹⁷
Oct. 7.3	54.664 ¹⁸⁵	36.57 ³⁷	35.906 ²⁹⁰	63.09 ²⁸	38.008 ¹⁸⁴	52.45 ¹¹
17.2	54.479 ¹⁸⁰	36.94 ³³	35.616 ²⁸⁷	63.37 ²¹	37.824 ¹⁷⁹	52.34 ³⁸
27.2	54.299 ¹⁶⁴	37.27 ²⁷	35.329 ²⁷³	63.16 ⁷²	37.645 ¹⁶⁷	51.96 ⁶⁴
Nov. 6.2	54.135 ¹³⁹	37.54 ²³	35.056 ²⁴⁹	62.44 ¹²²	37.478 ¹⁴²	51.32 ⁹⁰
16.2	53.996 ¹⁰⁸	37.77 ¹⁹	34.807 ²¹⁸	61.22 ¹⁷⁰	37.336 ¹¹⁵	50.42 ¹¹⁴
26.1	53.888 ⁶⁹	37.96 ¹⁴	34.589 ¹⁷⁸	59.52 ²¹³	37.221 ⁸⁰	49.28 ¹³⁶
Dec. 6.1	53.819 ³⁰	38.10 ¹²	34.411 ¹²⁹	57.39 ²⁵³	37.141 ⁴⁸	47.92 ¹⁵¹
16.1	53.789 ¹³	38.22 ⁷	34.282 ⁸¹	54.86 ²⁸⁵	37.093 ⁵	46.41 ¹⁶⁸
26.1	53.802 ⁵³	38.29 ⁵	34.201 ²⁶	52.01 ³⁰⁷	37.088 ³¹	44.73 ¹⁷⁹
36.0	53.855	38.34	34.175	48.94	37.119	42.94
Mean Place	52.301	50.45	34.153	31.50	35.929	28.46
Sec δ , Tan δ	1.064	-0.363	1.413	+0.998	1.017	+0.184
L α , L δ	+0.01	+0.2	-0.02	+0.2	0.00	+0.2
ω α , ω δ	+0.01	-0.9	-0.03	-0.9	-0.01	-0.9
AUTHORITY			A. E.		A. E.	

404 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.		α Aquilæ. Mag. 0·9		ϵ Sagittari. Mag. 4·2		β Aquilæ. Mag. 3·9	
		R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
		^h ^m 19 47	[°] ['] 8 39	^h ^m 19 49	[°] ['] 42 3	^h ^m 19 51	[°] ['] 6 12
Jan.	1·0	0·240 ⁸	57·84 ¹⁶⁷	54·945 ⁷⁹	75·89 ¹³⁷	30·513 ⁵²	56·07 ¹⁵⁴
	11·0	0·296 ⁹³	56·17 ¹⁶⁶	55·024 ¹²⁹	74·52 ¹⁴³	30·565 ⁸⁶	54·53 ¹⁵⁵
	21·0	0·389 ¹²⁶	54·51 ¹⁵⁸	55·153 ¹⁷⁵	73·09 ¹⁴⁷	30·651 ¹²⁰	52·98 ¹⁴⁴
	31·0	0·515 ¹⁵⁷	52·93 ¹⁴¹	55·328 ²¹⁶	71·62 ¹⁴⁶	30·771 ¹⁵⁰	51·54 ¹³²
Feb.	9·9	0·672 ¹⁸⁵	51·52 ¹¹⁹	55·544 ²⁵²	70·16 ¹⁴⁵	30·921 ¹⁸³	50·22 ¹¹¹
	19·9	0·857 ²¹²	50·33 ⁹²	55·796 ²⁸⁵	68·71 ¹⁴¹	31·104 ²⁰²	49·11 ⁸⁶
Mar.	1·9	1·069 ²³⁶	49·41 ⁶⁰	56·081 ³¹²	67·30 ¹³⁴	31·306 ²²⁹	48·25 ⁵⁷
	11·9	1·305 ²⁵¹	48·81 ²⁵	56·393 ³³⁷	65·96 ¹²⁷	31·535 ²⁴⁹	47·68 ²¹
	21·8	1·556 ²⁶⁸	48·56 ¹¹	56·730 ³⁵⁶	64·69 ¹¹⁶	31·784 ²⁶¹	47·47 ¹³
	31·8	1·824 ²⁷⁹	48·67 ⁵¹	57·086 ³⁷¹	63·53 ¹⁰⁴	32·045 ²⁷⁸	47·60 ⁵¹
Apr.	10·8	2·103 ²⁸⁷	49·18 ⁸⁸	57·457 ³⁸⁰	62·49 ⁸⁹	32·323 ²⁸⁶	48·11 ⁸²
	20·7	2·390 ²⁸⁹	50·06 ¹¹⁷	57·837 ³⁸⁵	61·60 ⁷²	32·609 ²⁸⁷	48·93 ¹¹⁴
May	30·7	2·679 ²⁸⁴	51·23 ¹⁴⁸	58·222 ³⁸¹	60·88 ⁵²	32·896 ²⁸⁵	50·07 ¹⁴⁰
	10·7	2·963 ²⁷⁵	52·71 ¹⁷⁰	58·603 ³⁷²	60·36 ³¹	33·181 ²⁷⁸	51·47 ¹⁶¹
	20·7	3·238 ²⁶⁰	54·41 ¹⁸⁸	58·975 ³⁵³	60·05 ⁷	33·459 ²⁶⁴	53·08 ¹⁸⁰
	30·6	3·498 ²³⁶	56·29 ¹⁹⁹	59·328 ³²⁷	59·98 ¹⁶	33·723 ²⁴⁰	54·88 ¹⁸⁶
June	9·6	3·734 ²¹³	58·28 ²⁰⁴	59·655 ²⁹²	60·14 ⁴⁰	33·963 ²¹⁸	56·74 ¹⁹¹
	19·6	3·947 ¹⁷⁵	60·32 ²⁰³	59·947 ²⁵¹	60·54 ⁶³	34·181 ¹⁸²	58·65 ¹⁹⁰
July	29·6	4·122 ¹³⁸	62·35 ¹⁹⁶	60·198 ²⁰³	61·17 ⁸³	34·363 ¹⁴³	60·55 ¹⁸³
	9·5	4·260 ⁹⁶	64·31 ¹⁸⁹	60·401 ¹⁴⁸	62·00 ¹⁰⁴	34·506 ¹⁰⁵	62·38 ¹⁷⁵
	19·5	4·356 ⁵¹	66·20 ¹⁷¹	60·549 ⁹¹	63·04 ¹¹⁷	34·611 ⁶⁰	64·13 ¹⁵⁷
	29·5	4·407 ⁹	67·91 ¹⁵³	60·640 ³²	64·21 ¹²⁸	34·671 ¹⁸	65·70 ¹⁴⁰
Aug.	8·4	4·416 ³⁴	69·44 ¹³⁰	60·672 ²⁷	65·49 ¹³⁴	34·689 ²⁹	67·10 ¹²⁰
	18·4	4·382 ⁷³	70·74 ¹¹²	60·645 ⁸⁴	66·83 ¹³³	34·660 ⁶⁶	68·30 ¹⁰¹
	28·4	4·309 ¹¹⁰	71·86 ⁸⁶	60·561 ¹³³	68·16 ¹²⁷	34·594 ¹⁰⁴	69·31 ⁷⁹
	7·4	4·199 ¹⁴²	72·72 ⁶²	60·428 ¹⁷⁶	69·43 ¹¹⁵	34·490 ¹³⁷	70·10 ⁵²
Sept.	17·3	4·057 ¹⁶¹	73·34 ³⁵	60·252 ²⁰⁹	70·58 ⁹⁹	34·353 ¹⁵⁷	70·62 ³²
	27·3	3·896 ¹⁷⁴	73·69 ¹⁶	60·043 ²³¹	71·57 ⁷⁶	34·196 ¹⁷²	70·94 ⁷
Oct.	7·3	3·722 ¹⁸¹	73·85 ¹⁴	59·812 ²³⁹	72·33 ⁵²	34·024 ¹⁷⁸	71·01 ¹³
	17·2	3·541 ¹⁷⁶	73·71 ³⁸	59·573 ²³⁵	72·85 ²⁵	33·846 ¹⁷⁴	70·88 ³⁸
	27·2	3·365 ¹⁶⁴	73·33 ⁶³	59·338 ²¹⁸	73·10 ⁴	33·672 ¹⁶⁶	70·50 ⁵⁹
	Nov. 6·2	3·201 ¹⁴²	72·70 ⁸⁴	59·120 ¹⁹⁰	73·06 ³¹	33·506 ¹⁴¹	69·91 ⁸²
Dec.	16·2	3·059 ¹¹³	71·86 ¹⁰⁷	58·930 ¹⁵¹	72·75 ⁵⁷	33·365 ¹¹⁴	69·09 ¹⁰⁰
	26·1	2·946 ⁷⁹	70·79 ¹²⁹	58·779 ¹⁰⁷	72·18 ⁸¹	33·251 ⁸²	68·09 ¹¹⁹
	6·1	2·867 ⁴⁴	69·50 ¹⁴⁴	58·672 ⁵⁶	71·37 ¹⁰¹	33·169 ⁴⁹	66·90 ¹³⁵
	16·1	2·823 ⁴	68·06 ¹⁵⁷	58·616 ²	70·36 ¹¹⁷	33·120 ⁹	65·55 ¹⁴⁵
	26·1	2·819 ³³	66·49 ¹⁶⁶	58·614 ⁴⁹	69·19 ¹²⁹	33·111 ²⁹	64·10 ¹⁵³
	36·0	2·852	64·83	58·663	67·90	33·140	62·57
Mean Place		1·586	49·94	57·063	79·01	31·855	48·38
Sec δ , Tan δ		1·012	+0·152	1·347	−0·903	1·006	+0·109
L α , L δ		0·00	+0·2	+0·02	+0·2	0·00	+0·2
ω α , ω δ		0·00	−0·9	+0·03	−0·9	0·00	−0·9
AUTHORITY		A. E.				A. E.	

APPARENT PLACES OF STARS, 1923. 405

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	g Sagittarii. Mag. 5.1		c Sagittarii. Mag. 4.6		δ Pavonis. Mag. 3.6	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h 19 53 ^m	[°] 15 41 [']	^h 19 57 ^m	[°] 27 55 [']	^h 20 1 ^m	[°] 66 22 [']
Jan. 1.0	33.584 ₆₃	42.71 ₂₄	53.846 ₆₅	26.62 ₅₂	6.91 ₆	46.49 ₂₆₁
11.0	33.647 ₁₀₀	42.95 ₂₀	53.911 ₁₀₄	26.10 ₅₉	6.97 ₁₇	43.88 ₂₇₂
21.0	33.747 ₁₃₄	43.15 ₁₃	54.015 ₁₄₃	25.51 ₆₅	7.14 ₂₅	41.16 ₂₇₂
31.0	33.881 ₁₆₅	43.28 ₄	54.158 ₁₇₆	24.86 ₇₁	7.39 ₃₃	38.44 ₂₆₆
Feb. 9.9	34.046 ₁₉₄	43.32 ₇	54.334 ₂₀₇	24.15 ₇₆	7.72 ₄₂	35.78 ₂₅₂
19.9	34.240 ₂₁₈	43.25 ₂₂	54.541 ₂₃₅	23.39 ₈₃	8.14 ₄₇	33.26 ₂₃₇
Mar. 1.9	34.458 ₂₄₁	43.03 ₃₅	54.776 ₂₆₀	22.56 ₈₈	8.61 ₅₄	30.89 ₂₁₄
11.9	34.699 ₂₆₀	42.68 ₅₃	55.036 ₂₈₀	21.68 ₉₄	9.15 ₅₈	28.75 ₁₈₆
21.8	34.959 ₂₇₇	42.15 ₆₇	55.316 ₂₉₉	20.74 ₉₇	9.73 ₆₃	26.89 ₁₅₇
31.8	35.236 ₂₉₀	41.48 ₈₂	55.615 ₃₁₃	19.77 ₉₉	10.36 ₆₅	25.32 ₁₂₃
Apr. 10.8	35.526 ₂₉₈	40.66 ₉₄	55.928 ₃₂₄	18.78 ₉₉	11.01 ₆₇	24.09 ₈₈
20.7	35.824 ₃₀₄	39.72 ₁₀₃	56.252 ₃₂₈	17.79 ₉₆	11.68 ₆₇	23.21 ₅₁
30.7	36.128 ₃₀₂	38.69 ₁₀₈	56.580 ₃₂₈	16.83 ₈₈	12.35 ₆₇	22.70 ₁₂
May 10.7	36.430 ₂₉₅	37.61 ₁₁₁	56.908 ₃₂₂	15.95 ₈₀	13.02 ₆₅	22.58 ₂₈
20.7	36.725 ₂₈₂	36.50 ₁₀₈	57.230 ₃₀₈	15.15 ₆₇	13.67 ₆₁	22.86 ₆₈
30.6	37.007 ₂₆₂	35.42 ₁₀₂	57.538 ₂₈₇	14.48 ₅₂	14.28 ₅₆	23.54 ₁₀₆
June 9.6	37.269 ₂₃₅	34.40 ₉₃	57.825 ₂₅₉	13.96 ₃₅	14.84 ₅₁	24.60 ₁₄₁
19.6	37.504 ₂₀₃	33.47 ₈₁	58.084 ₂₂₅	13.61 ₁₈	15.35 ₄₃	26.01 ₁₇₃
29.6	37.707 ₁₆₄	32.66 ₆₇	58.309 ₁₈₄	13.43 ₂	15.78 ₃₅	27.74 ₂₀₀
July 9.5	37.871 ₁₂₃	31.99 ₅₁	58.493 ₁₃₈	13.45 ₁₉	16.13 ₂₅	29.74 ₂₂₂
19.5	37.994 ₇₇	31.48 ₃₅	58.631 ₉₀	13.64 ₃₅	16.38 ₁₅	31.96 ₂₃₇
29.5	38.071 ₃₁	31.13 ₂₀	58.721 ₃₈	13.99 ₅₀	16.53 ₄	34.33 ₂₄₃
Aug. 8.4	38.102 ₁₆	30.93 ₅	58.759 ₁₁	14.49 ₆₂	16.57 ₅	36.76 ₂₄₄
18.4	38.086 ₅₉	30.88 ₇	58.748 ₅₉	15.11 ₆₈	16.52 ₁₆	39.20 ₂₃₄
28.4	38.027 ₉₈	30.95 ₁₈	58.689 ₁₀₂	15.79 ₇₃	16.36 ₂₆	41.54 ₂₁₇
Sept. 7.4	37.929 ₁₃₂	31.13 ₂₇	58.587 ₁₄₀	16.52 ₇₃	16.10 ₃₃	43.71 ₁₈₉
17.3	37.797 ₁₅₇	31.40 ₃₂	58.447 ₁₆₈	17.25 ₆₈	15.77 ₄₀	45.60 ₁₅₆
27.3	37.640 ₁₇₂	31.72 ₃₆	58.279 ₁₈₇	17.93 ₆₀	15.37 ₄₅	47.16 ₁₁₅
Oct. 7.3	37.468 ₁₇₉	32.08 ₃₇	58.092 ₁₉₅	18.53 ₅₀	14.92 ₄₆	48.31 ₇₁
17.2	37.289 ₁₇₅	32.45 ₃₈	57.897 ₁₉₁	19.03 ₃₈	14.46 ₄₇	49.02 ₂₀
27.2	37.114 ₁₆₂	32.83 ₃₇	57.706 ₁₇₉	19.41 ₂₃	13.99 ₄₅	49.22 ₂₈
Nov. 6.2	36.952 ₁₄₀	33.20 ₃₇	57.527 ₁₅₆	19.64 ₁₀	13.54 ₄₁	48.94 ₇₇
16.2	36.812 ₁₁₁	33.57 ₃₅	57.371 ₁₂₄	19.74 ₄	13.13 ₃₅	48.17 ₁₂₆
26.1	36.701 ₇₇	33.92 ₃₄	57.247 ₈₇	19.70 ₁₇	12.78 ₂₇	46.91 ₁₆₆
Dec. 6.1	36.624 ₃₈	34.26 ₃₂	57.160 ₄₆	19.53 ₂₈	12.51 ₁₈	45.25 ₂₀₂
16.1	36.586 ₁	34.58 ₃₁	57.114 ₄	19.25 ₃₇	12.33 ₉	43.23 ₂₂₉
26.1	36.587 ₄₁	34.89 ₃₀	57.110 ₄₀	18.88 ₄₅	12.24 ₁	40.94 ₂₅₁
36.0	36.628	35.19	57.150	18.43	12.25	38.43
Mean Place	35.093	47.89	55.552	30.34	10.98	47.41
Sec δ, Tan δ	1.039	-0.281	1.132	-0.530	2.496	-2.287
L α, L δ	+0.01	+0.2	+0.01	+0.2	+0.05	+0.2
ω α, ω δ	+0.01	-0.9	+0.02	-0.9	+0.08	-0.9
AUTHORITY			A. N.		A. E.	

406 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	θ Aquilæ. Mag. 3.4		4 Capricorni. Mag. 6.0		α^2 Capricorni. Mag. 3.8	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h 20 ^m 7	[°] 1 ['] 2	^h 20 ^m 13	[°] 22 ['] 2	^h 20 ^m 13	[°] 12 ['] 46
Jan. 1.1	18.601 ^s 43	56.62 ^s 107	28.475 ^s 44	52.62 ^s 18	45.584 ^s 43	59.64 ^s 38
11.0	18.644 43	57.69 107	28.519 84	52.44 25	45.627 76	60.02 34
21.0	18.719 110	58.74 101	28.603 120	52.19 33	45.703 113	60.36 24
31.0	18.829 140	59.75 85	28.723 152	51.86 42	45.816 141	60.60 15
Feb. 10.0	18.969 169	60.60 68	28.875 183	51.44 51	45.957 173	60.75 0
19.9	19.138 193	61.28 48	29.058 210	50.93 63	46.130 196	60.75 13
Mar. 1.9	19.331 219	61.76 21	29.268 235	50.30 73	46.326 225	60.62 36
11.9	19.550 243	61.97 7	29.503 258	49.57 84	46.551 244	60.26 52
21.8	19.793 255	61.90 35	29.761 277	48.73 94	46.795 264	59.74 68
31.8	20.048 273	61.55 64	30.038 294	47.79 103	47.059 281	59.06 86
Apr. 10.8	20.321 285	60.91 90	30.332 307	46.76 108	47.340 294	58.20 101
20.8	20.606 291	60.01 113	30.639 314	45.68 111	47.634 299	57.19 114
30.7	20.897 290	58.88 135	30.953 317	44.57 111	47.933 300	56.05 124
May 10.7	21.187 286	57.53 149	31.270 313	43.46 106	48.233 298	54.81 127
20.7	21.473 272	56.04 162	31.583 301	42.40 98	48.531 286	53.54 127
30.7	21.745 257	54.42 164	31.884 285	41.42 87	48.817 268	52.27 125
June 9.6	22.002 230	52.78 164	32.169 259	40.55 73	49.085 248	51.02 115
19.6	22.232 199	51.14 160	32.428 228	39.82 56	49.333 213	49.87 104
29.6	22.431 166	49.54 153	32.656 190	39.26 39	49.546 179	48.83 92
July 9.5	22.597 122	48.01 138	32.846 147	38.87 20	49.725 141	47.91 74
19.5	22.719 82	46.63 124	32.993 101	38.67 3	49.866 93	47.17 55
29.5	22.801 35	45.39 107	33.094 53	38.64 15	49.959 47	46.62 42
Aug. 8.5	22.836 7	44.32 88	33.147 3	38.79 29	50.006 2	46.20 25
18.4	22.829 53	43.44 69	33.150 42	39.08 41	50.008 40	45.95 8
28.4	22.776 85	42.75 49	33.108 86	39.49 50	49.968 82	45.87 7
Sept. 7.4	22.691 122	42.26 31	33.022 122	39.99 55	49.886 115	45.94 17
17.4	22.569 148	41.95 15	32.900 151	40.54 57	49.771 145	46.11 27
27.3	22.421 161	41.80 6	32.749 171	41.11 56	49.626 160	46.38 32
Oct. 7.3	22.260 173	41.86 19	32.578 181	41.67 52	49.466 173	46.70 39
17.3	22.087 169	42.05 35	32.397 182	42.19 46	49.293 170	47.09 43
27.2	21.918 162	42.40 51	32.215 171	42.65 38	49.123 164	47.52 45
Nov. 6.2	21.756 142	42.91 65	32.044 151	43.03 29	48.959 143	47.97 45
16.2	21.614 117	43.56 77	31.893 126	43.32 20	48.816 119	48.42 47
26.2	21.497 86	44.33 89	31.767 92	43.52 12	48.697 87	48.89 47
Dec. 6.1	21.411 55	45.22 97	31.675 56	43.64 4	48.610 57	49.36 46
16.1	21.356 16	46.19 108	31.619 16	43.68 4	48.553 16	49.82 47
26.1	21.340 21	47.27 110	31.603 23	43.64 11	48.537 19	50.29 41
36.1	21.361	48.37	31.626	43.53	48.556	50.70
Mean Place	19.946	63.08	30.050	56.06	47.026	64.28
Sec δ , Tan δ	1.000	-0.018	1.079	-0.405	1.025	-0.227
L α , L δ	0.00	+0.2	+0.01	+0.2	+0.01	+0.2
ω α , ω δ	0.00	-0.9	+0.01	-0.8	+0.01	-0.8
AUTHORITY	A. E.				A. E.	

APPARENT PLACES OF STARS, 1923. 407

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.		β Capricorni. Mag. 3.3		γ Cygni. Mag. 2.3		α Pavonis. Mag. 2.1	
		R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. S.
		^h 20 ^m 16	[°] 15 ['] 1	^h 20 ^m 19	[°] 40 ['] 0	^h 20 ^m 19	[°] 56 ['] 58
Jan.	1.1	39.736 ⁴¹	27.89 ²⁵	26.516 ²³	46.48 ²⁸⁵	30.958 ³¹	60.16 ²¹⁵
	11.0	39.777 ⁷⁵	28.14 ¹⁸	26.493 ²²	43.63 ²⁹³	30.989 ⁹⁸	58.01 ²³⁵
	21.0	39.852 ¹¹⁰	28.32 ¹⁰	26.515 ⁶⁷	40.70 ²⁹⁵	31.087 ¹⁶⁴	55.66 ²³⁷
	31.0	39.962 ¹⁴²	28.42 ⁰	26.582 ¹¹⁶	37.75 ²⁸¹	31.251 ²²⁵	53.29 ²³⁹
Feb.	10.0	40.104 ¹⁷⁰	28.42 ¹³	26.698 ¹⁵⁸	34.94 ²⁶⁰	31.476 ²⁸¹	50.90 ²³³
	19.9	40.274 ¹⁹⁸	28.29 ²⁸	26.856 ²⁰²	32.34 ²²⁸	31.757 ³³¹	48.57 ²²⁶
Mar.	1.9	40.472 ²²²	28.01 ⁴³	27.058 ²⁴⁰	30.06 ¹⁸⁴	32.088 ³⁷⁵	46.31 ²¹²
	11.9	40.694 ²⁴⁵	27.58 ⁶⁰	27.298 ²⁷⁰	28.22 ¹³⁸	32.463 ⁴¹³	44.19 ¹⁹⁶
	21.8	40.939 ²⁶⁴	26.98 ⁷⁷	27.568 ³⁰¹	26.84 ⁸¹	32.876 ⁴⁴⁸	42.23 ¹⁷⁴
	31.8	41.203 ²⁸¹	26.21 ⁹²	27.869 ³²²	26.03 ²³	33.324 ⁴⁷⁵	40.49 ¹⁴⁸
Apr.	10.8	41.484 ²⁹⁴	25.29 ¹⁰⁶	28.191 ³³⁸	25.80 ³²	33.799 ⁴⁹²	39.01 ¹²¹
	20.8	41.778 ³⁰²	24.23 ¹¹⁵	28.529 ³⁴⁴	26.12 ⁸⁹	34.291 ⁵⁰⁴	37.80 ⁹⁰
	30.7	42.080 ³⁰⁴	23.08 ¹²¹	28.873 ³⁴²	27.01 ¹⁴¹	34.795 ⁵⁰⁵	36.90 ⁵⁶
May	10.7	42.384 ³⁰²	21.87 ¹²⁴	29.215 ³³⁰	28.42 ¹⁹⁰	35.300 ⁴⁹⁶	36.34 ²⁴
	20.7	42.686 ²⁹¹	20.63 ¹²²	29.545 ³¹⁴	30.32 ²³⁰	35.796 ⁴⁷⁷	36.10 ¹¹
	30.7	42.977 ²⁷⁴	19.41 ¹¹⁷	29.859 ²⁸⁷	32.62 ²⁶²	36.273 ⁴⁵⁰	36.21 ⁵⁰
June	9.6	43.251 ²⁵¹	18.24 ¹⁰⁷	30.146 ²⁵²	35.24 ²⁹⁰	36.723 ⁴⁰⁶	36.71 ⁸¹
	19.6	43.502 ²²⁰	17.17 ⁹⁴	30.398 ²¹²	38.14 ³⁰⁵	37.129 ³⁵⁷	37.52 ¹¹⁵
	29.6	43.722 ¹⁸⁴	16.23 ⁷⁹	30.610 ¹⁶⁶	41.19 ³¹⁶	37.486 ²⁹⁷	38.67 ¹⁴⁴
July	9.5	43.906 ¹⁴³	15.44 ⁶²	30.776 ¹¹⁴	44.35 ³¹⁶	37.783 ²²⁸	40.11 ¹⁶⁷
	19.5	44.049 ⁹⁹	14.82 ⁴⁵	30.890 ⁵⁹	47.51 ³⁰⁹	38.011 ¹⁵³	41.78 ¹⁹⁰
	29.5	44.148 ⁵²	14.37 ²⁸	30.949 ⁷	50.60 ³⁰¹	38.164 ⁷⁷	43.68 ²⁰³
Aug.	8.5	44.200 ⁶	14.09 ¹¹	30.956 ⁴³	53.61 ²⁷⁷	38.241 ³	45.71 ²⁰⁸
	18.4	44.206 ³⁹	13.98 ⁴	30.913 ⁹⁵	56.38 ²⁵³	38.238 ⁸²	47.79 ²⁰⁴
	28.4	44.167 ⁸⁰	14.02 ¹⁷	30.818 ¹⁴³	58.91 ²²²	38.156 ¹⁵⁴	49.83 ¹⁹⁶
Sept.	7.4	44.087 ¹¹⁵	14.19 ²⁷	30.675 ¹⁸¹	61.13 ¹⁸⁷	38.002 ²¹⁴	51.79 ¹⁸¹
	17.4	43.972 ¹⁴³	14.46 ³⁵	30.494 ²¹¹	63.00 ¹⁴⁹	37.788 ²⁶⁶	53.60 ¹⁵⁵
	27.3	43.829 ¹⁶³	14.81 ⁴⁰	30.283 ²³⁶	64.49 ¹⁰⁹	37.522 ³⁰⁸	55.15 ¹²⁴
Oct.	7.3	43.666 ¹⁷³	15.21 ⁴³	30.047 ²⁵¹	65.58 ⁶⁰	37.214 ³³⁰	56.39 ⁸⁸
	17.3	43.493 ¹⁷³	15.64 ⁴⁴	29.796 ²⁵²	66.18 ¹⁷	36.884 ³³⁶	57.27 ⁴⁷
	27.2	43.320 ¹⁶⁴	16.08 ⁴⁴	29.544 ²⁴⁶	66.35 ³²	36.548 ³²³	57.74 ⁴
Nov.	6.2	43.156 ¹⁴⁶	16.52 ⁴²	29.298 ²³³	66.03 ⁸²	36.225 ²⁹⁷	57.78 ³⁸
	16.2	43.010 ¹²¹	16.94 ⁴¹	29.065 ²⁰⁹	65.21 ¹²⁹	35.928 ²⁵⁶	57.40 ⁸¹
	26.2	42.889 ⁹⁰	17.35 ³⁹	28.856 ¹⁷⁷	63.92 ¹⁷³	35.672 ²⁰⁶	56.59 ¹²⁰
Dec.	6.1	42.799 ⁵⁶	17.74 ³⁶	28.679 ¹⁴¹	62.19 ²¹³	35.466 ¹⁴⁶	55.39 ¹⁵²
	16.1	42.743 ¹⁹	18.10 ³³	28.538 ¹⁰⁰	60.06 ²⁴³	35.320 ⁷⁹	53.87 ¹⁸⁵
	26.1	42.724 ¹⁹	18.43 ³⁰	28.438 ⁵³	57.63 ²⁷⁴	35.241 ⁷	52.02 ²⁰³
	36.1	42.743	18.73	28.385	54.89	35.234	49.99
Mean Place		41.195	32.11	27.864	34.18	33.906	59.72
Sec δ , Tan δ		1.035	-0.268	1.306	+0.839	1.835	-1.539
L α , L δ		+0.01	+0.2	-0.02	+0.2	+0.03	+0.2
ω α , ω δ		+0.01	-0.8	-0.03	-0.8	+0.06	-0.8
AUTHORITY		A. N.		A. E.		A. E.	

408 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ρ Capricorni. Mag. 5.0		ϵ Delphini. Mag. 4.0		α Indi. Mag. 3.2	
	R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. S.
	^h 20 ^m 24	[°] 18 ['] 3	^h 20 ^m 29	[°] 11 ['] 2	^h 20 ^m 32	[°] 47 ['] 33
Jan. 1.1	26.747 ⁸	65.79	30.855 ⁸	34.10	7.011 ⁸	41.72
11.0	26.780 ³³	65.84 ⁵	30.866 ¹¹	32.43 ¹⁶⁷	7.032 ²¹	40.04 ¹⁶⁸
21.0	26.850 ⁷⁰	65.82 ²	30.910 ⁴⁴	30.77 ¹⁶⁶	7.104 ⁷²	38.22 ¹⁸²
31.0	26.954 ¹⁰⁴	65.71 ¹¹	30.991 ⁸¹	29.14 ¹⁶³	7.228 ¹²⁴	36.29 ¹⁹³
Feb. 10.0	27.090 ¹³⁶	65.49 ²²	31.101 ¹¹⁰	27.64 ¹⁵⁰	7.399 ¹⁷¹	34.31 ¹⁹⁸
19.9	27.256 ¹⁶⁶	65.16 ³³	31.245 ¹⁴⁴	26.33 ¹³¹	7.616 ²¹⁷	32.32 ¹⁹⁹
Mar. 1.9	27.450 ¹⁹⁴	64.69 ⁴⁷	31.416 ¹⁷¹	25.26 ¹⁰⁷	7.872 ²⁵⁶	30.35 ¹⁹⁷
11.9	27.670 ²²⁰	64.08 ⁶¹	31.617 ²⁰¹	24.52 ⁷⁴	8.166 ²⁹⁴	28.43 ¹⁹²
21.9	27.913 ²⁴³	63.33 ⁷⁵	31.843 ²²⁶	24.12 ⁴⁰	8.495 ³²⁹	26.59 ¹⁸⁴
31.8	28.177 ²⁶⁴	62.44 ⁸⁹	32.090 ²⁴⁷	24.12 ⁰	8.851 ³⁵⁶	24.89 ¹⁷⁰
Apr. 10.8	28.459 ²⁸²	61.42 ¹⁰²	32.355 ²⁶⁵	24.49 ³⁷	9.234 ³⁸³	23.32 ¹⁵⁷
20.8	28.756 ²⁹⁷	60.30 ¹¹²	32.636 ²⁸¹	25.23 ⁷⁴	9.635 ⁴⁰¹	21.94 ¹³⁸
30.7	29.062 ³⁰⁶	59.12 ¹¹⁸	32.927 ²⁹¹	26.33 ¹¹⁰	10.050 ⁴¹⁵	20.80 ¹¹⁴
May 10.7	29.372 ³¹⁰	57.89 ¹²³	33.219 ²⁹²	27.76 ¹⁴³	10.468 ⁴¹⁸	19.89 ⁹¹
20.7	29.679 ³⁰⁷	56.68 ¹²¹	33.509 ²⁹⁰	29.44 ¹⁶⁸	10.885 ⁴¹⁷	19.28 ⁶¹
30.7	29.978 ²⁹⁹	55.51 ¹¹⁷	33.792 ²⁸³	31.35 ¹⁹¹	11.291 ⁴⁰⁶	18.94 ³⁴
June 9.6	30.261 ²⁸³	54.42 ¹⁰⁹	34.057 ²⁶⁵	33.38 ²⁰³	11.675 ³⁸⁴	18.94 ⁰
19.6	30.521 ²⁶⁰	53.45 ⁹⁷	34.295 ²³⁸	35.51 ²¹³	12.029 ³⁵⁴	19.22 ²⁸
29.6	30.751 ²³⁰	52.63 ⁸²	34.509 ²¹⁴	37.68 ²¹⁷	12.344 ³¹⁵	19.82 ⁶⁰
July 9.6	30.945 ¹⁹⁴	51.98 ⁶⁵	34.684 ¹⁷⁵	39.81 ²¹³	12.611 ²⁶⁷	20.71 ⁸⁹
19.5	31.099 ¹⁵⁴	51.50 ⁴⁸	34.819 ¹³⁵	41.90 ²⁰⁹	12.822 ²¹¹	21.86 ¹¹⁵
29.5	31.207 ¹⁰⁸	51.21 ²⁹	34.913 ⁹⁴	43.84 ¹⁹⁴	12.974 ¹⁵²	23.24 ¹³⁸
Aug. 8.5	31.268 ⁶¹	51.10 ¹¹	34.960 ⁴⁷	45.59 ¹⁷⁵	13.061 ⁸⁷	24.78 ¹⁵⁴
18.4	31.282 ¹⁴	51.16 ⁶	34.966 ⁶	47.20 ¹⁶¹	13.084 ²³	26.41 ¹⁶³
28.4	31.250 ³²	51.37 ²¹	34.926 ⁴⁰	48.56 ¹³⁶	13.043 ⁴¹	28.13 ¹⁷²
Sept. 7.4	31.176 ⁷⁴	51.69 ³²	34.849 ⁷⁷	49.67 ¹¹¹	12.940 ¹⁰³	29.81 ¹⁶⁸
17.4	31.064 ¹¹²	52.10 ⁴¹	34.736 ¹¹³	50.54 ⁸⁷	12.786 ¹⁵⁴	31.42 ¹⁶¹
27.3	30.923 ¹⁴¹	52.57 ⁴⁷	34.594 ¹⁴²	51.13 ⁵⁹	12.587 ¹⁹⁹	32.85 ¹⁴³
Oct. 7.3	30.762 ¹⁶¹	53.07 ⁵⁰	34.436 ¹⁵⁸	51.48 ³⁵	12.354 ²³³	34.07 ¹²²
17.3	30.589 ¹⁷³	53.58 ⁵¹	34.265 ¹⁷¹	51.54 ⁶	12.102 ²⁵²	35.01 ⁹⁴
27.3	30.414 ¹⁷⁵	54.06 ⁴⁸	34.090 ¹⁷⁵	51.36 ¹⁸	11.841 ²⁶¹	35.63 ⁶²
Nov. 6.2	30.247 ¹⁶⁷	54.51 ⁴⁵	33.921 ¹⁶⁹	50.92 ⁴⁴	11.589 ²⁵²	35.93 ³⁰
16.2	30.096 ¹⁵¹	54.91 ⁴⁰	33.764 ¹⁵⁷	50.21 ⁷¹	11.357 ²³²	35.87 ⁶
26.2	29.970 ¹²⁶	55.25 ³⁴	33.632 ¹³²	49.25 ⁹⁶	11.153 ²⁰⁴	35.43 ⁴⁴
Dec. 6.1	29.874 ⁹⁶	55.54 ²⁹	33.523 ¹⁰⁹	48.09 ¹¹⁶	10.990 ¹⁶³	34.69 ⁷⁴
16.1	29.812 ⁶²	55.77 ²³	33.446 ⁷⁷	46.72 ¹³⁷	10.875 ¹¹⁵	33.63 ¹⁰⁶
26.1	29.786 ²⁶	55.95 ¹⁸	33.398 ⁴⁸	45.20 ¹⁵²	10.809 ⁶⁶	32.33 ¹³⁰
36.1	29.798 ¹²	56.07 ¹²	33.390 ⁸	43.60 ¹⁶⁰	10.799 ¹⁰	30.77 ¹⁵⁶
Mean Place	28.233	69.20	32.075	26.21	9.326	40.90
Sec δ , Tan δ	1.052	-0.326	1.019	+0.195	1.482	-1.094
L α , L δ	+0.01	+0.2	0.00	+0.2	+0.02	+0.2
ω α , ω δ	+0.01	-0.8	-0.01	-0.8	+0.04	-0.8
AUTHORITY	A. N.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 409

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	α Delphini. Mag. 3·9		β Pavonis. Mag. 3·6		α Cygni. Mag. 1·3	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. N.
	^h 20 ^m 36	[°] 15 ['] 38	^h 20 ^m 37	[°] 66 ['] 28	^h 20 ^m 38	[°] 45 ['] 0
Jan. 1·1	2·524 ^s ₂	31·98 ['] ₁₈₄	58·27 ^s ₄	56·26 ['] ₂₅₇	47·090 ^s ₆₂	29·65 ['] ₂₈₅
11·0	2·526 ^s ₃₄	30·14 ['] ₁₈₉	58·23 ^s ₆	53·69 ['] ₂₇₉	47·028 ^s ₁₃	26·80 ['] ₂₉₈
21·0	2·560 ^s ₆₈	28·25 ['] ₁₈₇	58·29 ^s ₁₅	50·90 ['] ₂₈₆	47·015 ^s ₃₇	23·82 ['] ₃₀₅
31·0	2·628 ^s ₁₀₃	26·38 ['] ₁₇₃	58·44 ^s ₂₄	48·04 ['] ₂₉₀	47·052 ^s ₈₈	20·77 ['] ₂₉₉
Feb. 10·0	2·731 ^s ₁₃₈	24·65 ['] ₁₅₅	58·68 ^s ₃₂	45·14 ['] ₂₈₄	47·140 ^s ₁₃₈	17·78 ['] ₂₈₀
19·9	2·869 ^s ₁₆₄	23·10 ['] ₁₂₉	59·00 ^s ₄₀	42·30 ['] ₂₇₄	47·278 ^s ₁₈₈	14·98 ['] ₂₅₀
Mar. 1·9	3·033 ^s ₁₉₆	21·81 ['] ₉₆	59·40 ^s ₄₆	39·56 ['] ₂₆₀	47·466 ^s ₂₃₂	12·48 ['] ₂₁₀
11·9	3·229 ^s ₂₂₃	20·85 ['] ₅₉	59·86 ^s ₅₂	36·96 ['] ₂₃₃	47·698 ^s ₂₇₁	10·38 ['] ₁₆₃
21·9	3·452 ^s ₂₄₆	20·26 ['] ₁₇	60·38 ^s ₅₆	34·63 ['] ₂₀₉	47·969 ^s ₃₀₅	8·75 ['] ₁₁₀
31·8	3·698 ^s ₂₆₆	20·09 ['] ₂₃	60·94 ^s ₆₁	32·54 ['] ₁₇₉	48·274 ^s ₃₃₅	7·65 ['] ₅₂
Apr. 10·8	3·964 ^s ₂₈₃	20·32 ['] ₆₆	61·55 ^s ₆₅	30·75 ['] ₁₄₃	48·609 ^s ₃₅₅	7·13 ['] ₇
20·8	4·247 ^s ₂₉₃	20·98 ['] ₁₀₄	62·20 ^s ₆₅	29·32 ['] ₁₀₆	48·964 ^s ₃₆₅	7·20 ['] ₆₆
30·7	4·540 ^s ₂₉₆	22·02 ['] ₁₄₂	62·85 ^s ₆₇	28·26 ['] ₆₉	49·329 ^s ₃₆₈	7·86 ['] ₁₂₂
May 10·7	4·836 ^s ₂₉₆	23·44 ['] ₁₇₁	63·52 ^s ₆₆	27·57 ['] ₂₅	49·697 ^s ₃₆₀	9·08 ['] ₁₇₃
20·7	5·132 ^s ₂₈₅	25·15 ['] ₁₉₈	64·18 ^s ₆₄	27·32 ['] ₁₄	50·057 ^s ₃₄₁	10·81 ['] ₂₁₈
30·7	5·417 ^s ₂₆₈	27·13 ['] ₂₁₆	64·82 ^s ₆₀	27·46 ['] ₆₁	50·398 ^s ₃₂₀	12·99 ['] ₂₅₅
June 9·6	5·685 ^s ₂₄₄	29·29 ['] ₂₂₈	65·42 ^s ₅₅	28·07 ['] ₁₀₀	50·718 ^s ₂₇₉	15·54 ['] ₂₈₉
19·6	5·929 ^s ₂₁₉	31·57 ['] ₂₃₄	65·97 ^s ₄₉	29·07 ['] ₁₃₆	50·997 ^s ₂₄₂	18·43 ['] ₃₀₈
29·6	6·148 ^s ₁₈₀	33·91 ['] ₂₃₅	66·46 ^s ₄₁	30·43 ['] ₁₇₂	51·239 ^s ₁₉₀	21·51 ['] ₃₂₄
July 9·6	6·328 ^s ₁₄₁	36·26 ['] ₂₂₉	66·87 ^s ₃₂	32·15 ['] ₁₉₉	51·429 ^s ₁₄₀	24·75 ['] ₃₂₉
19·5	6·469 ^s ₉₆	38·55 ['] ₂₁₈	67·19 ^s ₂₃	34·14 ['] ₂₂₇	51·569 ^s ₈₂	28·04 ['] ₃₂₈
29·5	6·565 ^s ₄₉	40·73 ['] ₂₀₃	67·42 ^s ₁₂	36·41 ['] ₂₄₀	51·651 ^s ₂₃	31·32 ['] ₃₁₈
Aug. 8·5	6·614 ^s ₁₀	42·76 ['] ₁₈₀	67·54 ^s ₂	38·81 ['] ₂₄₈	51·674 ^s ₃₀	34·50 ['] ₃₀₂
18·4	6·624 ^s ₃₈	44·56 ['] ₁₆₀	67·56 ^s ₉	41·29 ['] ₂₄₆	51·644 ^s ₈₇	37·52 ['] ₂₈₁
28·4	6·586 ^s ₇₆	46·16 ['] ₁₃₉	67·47 ^s ₁₉	43·75 ['] ₂₃₅	51·557 ^s ₁₃₈	40·33 ['] ₂₅₂
Sept. 7·4	6·510 ^s ₁₁₃	47·55 ['] ₁₀₇	67·28 ^s ₂₇	46·10 ['] ₂₁₈	51·419 ^s ₁₈₁	42·85 ['] ₂₂₀
17·4	6·397 ^s ₁₄₂	48·62 ['] ₈₁	67·01 ^s ₃₅	48·28 ['] ₁₈₉	51·238 ^s ₂₁₈	45·05 ['] ₁₇₈
27·3	6·255 ^s ₁₅₉	49·43 ['] ₅₀	66·66 ^s ₄₂	50·17 ['] ₁₅₆	51·020 ^s ₂₄₇	46·83 ['] ₁₃₈
Oct. 7·3	6·096 ^s ₁₇₅	49·93 ['] ₂₂	66·24 ^s ₄₅	51·73 ['] ₁₁₁	50·773 ^s ₂₆₄	48·21 ['] ₉₄
17·3	5·921 ^s ₁₈₀	50·15 ['] ₁₀	65·79 ^s ₄₇	52·84 ['] ₆₅	50·509 ^s ₂₇₃	49·15 ['] ₄₄
27·3	5·741 ^s ₁₇₄	50·05 ['] ₃₇	65·32 ^s ₄₇	53·49 ['] ₁₂	50·236 ^s ₂₇₂	49·59 ['] ₅
Nov. 6·2	5·567 ^s ₁₆₂	49·68 ['] ₇₁	64·85 ^s ₄₄	53·61 ['] ₃₆	49·964 ^s ₂₆₂	49·54 ['] ₅₈
16·2	5·405 ^s ₁₄₁	48·97 ['] ₉₈	64·41 ^s ₄₀	53·25 ['] ₈₉	49·702 ^s ₂₄₁	48·96 ['] ₁₀₇
26·2	5·264 ^s ₁₁₈	47·99 ['] ₁₂₄	64·01 ^s ₃₄	52·36 ['] ₁₃₄	49·461 ^s ₂₁₅	47·89 ['] ₁₅₄
Dec. 6·1	5·146 ^s ₈₈	46·75 ['] ₁₄₇	63·67 ^s ₂₆	51·02 ['] ₁₇₇	49·246 ^s ₁₈₀	46·35 ['] ₁₉₉
16·1	5·058 ^s ₅₉	45·28 ['] ₁₆₅	63·41 ^s ₁₈	49·25 ['] ₂₁₂	49·066 ^s ₁₃₆	44·36 ['] ₂₄₀
26·1	4·999 ^s ₁₉	43·63 ['] ₁₈₀	63·23 ^s ₈	47·13 ['] ₂₄₄	48·930 ^s ₉₄	41·96 ['] ₂₆₆
36·1	4·980 ^s	41·83 [']	63·15 ^s	44·69 [']	48·836 ^s	39·30 [']
Mean Place	3·709	23·37	62·31	53·51	48·388	16·16
Sec δ , Tan δ	1·038	+0·280	2·506	-2·298	1·414	+1·000
L α , L δ	-0·01	+0·2	+0·05	+0·3	-0·02	+0·3
ω α , ω δ	-0·01	-0·8	+0·10	-0·8	-0·04	-0·8
AUTHORITY	A. E.		A. E.		A. E.	

410 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ε Cygni. Mag. 2.6		ε Aquarii. Mag. 3.8		μ Aquarii. Mag. 4.8	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. S.
	^h 20 ^m 43	[°] 33 ['] 40	^h 20 ^m 43	[°] 9 ['] 46	^h 20 ^m 48	[°] 9 ['] 16
Jan. 1.1	4.562 ⁸	63.72	29.215 ⁸	38.86	28.818 ⁸	20.08
11.1	4.525 ³⁷	61.21 ²⁵¹	29.227 ¹²	39.38 ⁵²	28.826 ⁸	20.61 ⁵³
21.0	4.532 ⁷	58.58 ²⁶³	29.273 ⁴⁶	39.83 ⁴⁵	28.867 ⁴⁷	21.09 ⁴⁸
31.0	4.580 ⁴⁸	55.93 ²⁶⁵	29.352 ⁷⁹	40.21 ³⁸	28.940 ⁷³	21.47 ³⁸
Feb. 10.0	4.669 ⁸⁹	53.35 ²⁵⁸	29.461 ¹⁰⁹	40.45 ²⁴	29.045 ¹⁰⁵	21.74 ²⁷
19.9	4.799 ¹³⁰	50.98 ²³⁷	29.602 ¹⁴¹	40.54 ⁹	29.179 ¹³⁴	21.86 ¹²
Mar. 1.9	4.966 ¹⁶⁷	48.88 ²¹⁰	29.771 ¹⁶⁹	40.45 ⁹	29.343 ¹⁶⁴	21.78 ⁸
11.9	5.171 ²⁰⁵	47.17 ¹⁷¹	29.966 ¹⁹⁵	40.18 ²⁷	29.533 ¹⁹⁰	21.52 ²⁶
21.9	5.411 ²⁴⁰	45.86 ¹³¹	30.186 ²²⁰	39.69 ⁴⁹	29.749 ²¹⁶	21.04 ⁴⁸
31.8	5.678 ²⁶⁷	45.08 ⁷⁸	30.430 ²⁴⁴	38.98 ⁷¹	29.989 ²⁴⁰	20.33 ⁷¹
Apr. 10.8	5.970 ²⁹²	44.83 ²⁵	30.695 ²⁶⁵	38.07 ⁹¹	30.251 ²⁶²	19.42 ⁹¹
20.8	6.281 ³¹¹	45.10 ²⁷	30.976 ²⁸¹	36.97 ¹¹⁰	30.530 ²⁷⁹	18.31 ¹¹¹
30.8	6.604 ³²³	45.89 ⁷⁹	31.270 ²⁹⁴	35.72 ¹²⁵	30.821 ²⁹¹	17.05 ¹²⁶
May 10.7	6.933 ³²⁹	47.20 ¹³¹	31.569 ²⁹⁹	34.35 ¹³⁷	31.120 ²⁹⁹	15.65 ¹⁴⁰
20.7	7.256 ³²³	48.93 ¹⁷³	31.870 ³⁰¹	32.90 ¹⁴⁵	31.421 ³⁰¹	14.17 ¹⁴⁸
30.7	7.569 ³¹³	51.07 ²¹⁴	32.164 ²⁹⁴	31.41 ¹⁴⁹	31.717 ²⁹⁶	12.66 ¹⁵¹
June 9.6	7.859 ²⁹⁰	53.52 ²⁴⁵	32.444 ²⁸⁰	29.95 ¹⁴⁶	32.001 ²⁸⁴	11.16 ¹⁵⁰
19.6	8.126 ²⁶⁷	56.23 ²⁷¹	32.707 ²⁶³	28.54 ¹⁴¹	32.265 ²⁶⁴	9.72 ¹⁴⁴
29.6	8.354 ²²⁸	59.12 ²⁸⁹	32.940 ²³³	27.23 ¹³¹	32.502 ²³⁷	8.38 ¹³⁴
July 9.6	8.543 ¹⁸⁹	62.10 ²⁹⁸	33.141 ²⁰¹	26.06 ¹¹⁷	32.707 ²⁰⁵	7.17 ¹²¹
19.5	8.687 ¹⁴⁴	65.10 ³⁰⁰	33.303 ¹⁶²	25.06 ¹⁰⁰	32.873 ¹⁶⁶	6.12 ¹⁰⁵
29.5	8.784 ⁹⁷	68.04 ²⁹⁴	33.423 ¹²⁰	24.23 ⁸³	32.997 ¹²⁴	5.25 ⁸⁷
Aug. 8.5	8.828 ⁴⁴	70.89 ²⁸⁵	33.498 ⁷⁵	23.59 ⁶⁴	33.076 ⁷⁹	4.57 ⁶⁸
18.5	8.819 ⁹	73.57 ²⁶⁸	33.528 ³⁰	23.15 ⁴⁴	33.110 ³⁴	4.09 ⁴⁸
28.4	8.767 ⁵²	75.99 ²⁴²	33.511 ¹⁷	22.88 ²⁷	33.099 ¹¹	3.80 ²⁹
Sept. 7.4	8.670 ⁹⁷	78.17 ²¹⁸	33.454 ⁵⁷	22.79 ⁹	33.045 ⁵⁴	3.68 ¹²
17.4	8.532 ¹³⁸	80.01 ¹⁸⁴	33.360 ⁹⁴	22.85 ⁶	32.955 ⁹⁰	3.71 ³
27.3	8.362 ¹⁷⁰	81.50 ¹⁴⁹	33.237 ¹²³	23.05 ²⁰	32.834 ¹²¹	3.89 ¹⁸
Oct. 7.3	8.165 ¹⁹⁷	82.63 ¹¹³	33.089 ¹⁴⁸	23.35 ³⁰	32.691 ¹⁴³	4.18 ²⁹
17.3	7.955 ²¹⁰	83.33 ⁷⁰	32.930 ¹⁵⁹	23.74 ³⁹	32.533 ¹⁵⁸	4.56 ³⁸
27.3	7.737 ²¹⁸	83.64 ³¹	32.766 ¹⁶⁴	24.19 ⁴⁵	32.369 ¹⁶⁴	5.01 ⁴⁵
Nov. 6.2	7.520 ²¹⁷	83.48 ¹⁶	32.604 ¹⁶²	24.69 ⁵⁰	32.209 ¹⁶⁰	5.52 ⁵¹
16.2	7.313 ²⁰⁷	82.89 ⁵⁹	32.455 ¹⁴⁹	25.24 ⁵⁵	32.060 ¹⁴⁹	6.07 ⁵⁵
26.2	7.126 ¹⁸⁷	81.87 ¹⁰²	32.327 ¹²⁸	25.80 ⁵⁶	31.931 ¹²⁹	6.65 ⁵⁸
Dec. 6.2	6.964 ¹⁶²	80.42 ¹⁴⁵	32.224 ¹⁰³	26.39 ⁵⁹	31.825 ¹⁰⁶	7.25 ⁶⁰
16.1	6.832 ¹³²	78.64 ¹⁷⁸	32.151 ⁷³	26.97 ⁵⁸	31.749 ⁷⁶	7.86 ⁶¹
26.1	6.733 ⁹⁹	76.49 ²¹⁵	32.108 ⁴³	27.56 ⁵⁹	31.705 ⁴⁴	8.46 ⁶⁰
36.1	6.674 ⁵⁹	74.09 ²⁴⁰	32.102 ⁶	28.11 ⁵⁵	31.693 ¹²	9.04 ⁵⁸
Mean Place	5.735	51.94	30.547	42.70	30.130	23.80
Sec δ, Tan δ	1.202	+0.666	1.015	-0.172	1.013	-0.163
L α, L δ	-0.01	+0.3	0.00	+0.3	0.00	+0.3
ω α, ω δ	-0.03	-0.8	+0.01	-0.8	+0.01	-0.7
AUTHORITY	A. E.		A. E.			

APPARENT PLACES OF STARS, 1923. 411

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	32 Vulpeculæ. Mag. 5.2		γ Microscopii. Mag. 4.7		θ Capricorni. Mag. 4.2	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. S.
	^h 20 51	[°] 27 45	^h 20 56	[°] 32 33	^h 21 1	[°] 17 32
Jan. 1.1	15.562 ^s	61.46 [′]	32.663 ^s	35.70 [′]	35.865 ^s	21.84 [′]
11.1	15.529 ³³	59.18 ²²⁸	32.663 ⁰	34.90 ⁸⁰	35.863 ²	21.89 ⁵
21.0	15.535 ⁶	56.80 ²³⁸	32.703 ⁴⁰	33.95 ⁹⁵	35.894 ³¹	21.85 ⁴
31.0	15.579 ⁴⁴	54.41 ²³⁹	32.780 ⁷⁷	32.87 ¹⁰⁸	35.958 ⁶⁴	21.70 ¹⁵
Feb. 10.0	15.661 ⁸²	52.10 ²³¹	32.895 ¹¹⁵	31.67 ¹²⁰	36.055 ⁹⁷	21.42 ²⁸
19.9	15.779 ¹¹⁸	49.95 ²¹⁵	33.045 ¹⁵⁰	30.36 ¹³¹	36.182 ¹²⁷	20.99 ⁴³
Mar. 1.9	15.932 ¹⁵³	48.09 ¹⁸⁶	33.229 ¹⁸⁴	28.97 ¹³⁹	36.340 ¹⁵⁸	20.41 ⁵⁸
11.9	16.123 ¹⁹¹	46.56 ¹⁵³	33.444 ²¹⁵	27.50 ¹⁴⁷	36.527 ¹⁸⁷	19.68 ⁷³
21.9	16.344 ²²¹	45.44 ¹¹²	33.690 ²⁴⁶	25.99 ¹⁵¹	36.742 ²¹⁵	18.78 ⁹⁰
Apr. 31.8	16.594 ²⁵⁰	44.80 ⁶⁴	33.963 ²⁷³	24.45 ¹⁵⁴	36.982 ²⁴⁰	17.72 ¹⁰⁶
10.8	16.869 ²⁷⁵	44.65 ¹⁵	34.260 ²⁹⁷	22.91 ¹⁵⁴	37.245 ²⁶³	16.53 ¹¹⁹
20.8	17.164 ²⁹⁵	44.98 ³³	34.579 ³¹⁹	21.41 ¹⁵⁰	37.528 ²⁸³	15.23 ¹³⁰
30.8	17.472 ³⁰⁸	45.81 ⁸³	34.913 ³³⁴	19.97 ¹⁴⁴	37.827 ²⁹⁹	13.84 ¹³⁹
May 10.7	17.785 ³¹³	47.09 ¹²⁸	35.257 ³⁴⁴	18.65 ¹³²	38.135 ³⁰⁸	12.41 ¹⁴³
20.7	18.098 ³¹³	48.80 ¹⁷¹	35.605 ³⁴⁸	17.47 ¹¹⁸	38.448 ³¹³	10.98 ¹⁴³
30.7	18.402 ³⁰⁴	50.84 ²⁰⁴	35.949 ³⁴⁴	16.47 ¹⁰⁰	38.758 ³¹⁰	9.59 ¹³⁹
June 9.6	18.689 ²⁸⁷	53.19 ²³⁵	36.280 ³³¹	15.68 ⁷⁹	39.058 ³⁰⁰	8.28 ¹³¹
19.6	18.954 ²⁶⁵	55.74 ²⁵⁵	36.590 ³¹⁰	15.13 ⁵⁵	39.339 ²⁸¹	7.10 ¹¹⁸
29.6	19.184 ²³⁰	58.46 ²⁷²	36.872 ²⁸²	14.83 ³⁰	39.596 ²⁵⁷	6.07 ¹⁰³
July 9.6	19.379 ¹⁹⁵	61.25 ²⁷⁹	37.118 ²⁴⁶	14.79 ⁴	39.820 ²²⁴	5.24 ⁸³
19.5	19.532 ¹⁵³	64.04 ²⁷⁹	37.321 ²⁰³	15.01 ²²	40.005 ¹⁸⁵	4.60 ⁶⁴
29.5	19.637 ¹⁰⁵	66.77 ²⁷³	37.476 ¹⁵⁵	15.47 ⁴⁶	40.148 ¹⁴³	4.18 ⁴²
Aug. 8.5	19.695 ⁵⁸	69.39 ²⁶²	37.580 ¹⁰⁴	16.15 ⁶⁸	40.245 ⁹⁷	3.96 ²²
18.5	19.706 ¹¹	71.83 ²⁴⁴	37.630 ⁵⁰	17.01 ⁸⁶	40.295 ⁵⁰	3.94 ²
28.4	19.670 ³⁶	74.04 ²²¹	37.628 ²	18.01 ¹⁰⁰	40.298 ³	4.11 ¹⁷
Sept. 7.4	19.592 ⁷⁸	76.00 ¹⁹⁶	37.575 ⁵³	19.10 ¹⁰⁹	40.257 ⁴¹	4.44 ³³
17.4	19.474 ¹¹⁸	77.67 ¹⁶⁷	37.478 ⁹⁷	20.24 ¹¹⁴	40.176 ⁸¹	4.88 ⁴⁴
27.3	19.324 ¹⁵⁰	79.01 ¹³⁴	37.342 ¹³⁶	21.36 ¹¹²	40.061 ¹¹⁵	5.42 ⁵⁴
Oct. 7.3	19.149 ¹⁷⁵	79.99 ⁹⁸	37.177 ¹⁶⁵	22.40 ¹⁰⁴	39.921 ¹⁴⁰	6.02 ⁶⁰
17.3	18.957 ¹⁹²	80.60 ⁶¹	36.992 ¹⁸⁵	23.33 ⁹³	39.763 ¹⁵⁸	6.64 ⁶²
27.3	18.759 ¹⁹⁸	80.83 ²³	36.799 ¹⁹³	24.10 ⁷⁷	39.597 ¹⁶⁶	7.25 ⁶¹
Nov. 6.2	18.563 ¹⁹⁶	80.67 ¹⁶	36.607 ¹⁹²	24.68 ⁵⁸	39.433 ¹⁶⁴	7.82 ⁵⁷
16.2	18.375 ¹⁸⁸	80.11 ⁵⁶	36.426 ¹⁸¹	25.04 ³⁶	39.278 ¹⁵⁵	8.35 ⁵³
26.2	18.204 ¹⁷¹	79.15 ⁹⁶	36.266 ¹⁶⁰	25.18 ¹⁴	39.141 ¹³⁷	8.82 ⁴⁷
Dec. 6.2	18.055 ¹⁴⁹	77.84 ¹³¹	36.134 ¹³²	25.10 ⁸	39.027 ¹¹⁴	9.21 ³⁹
16.1	17.935 ¹²⁰	76.20 ¹⁶⁴	36.035 ⁹⁹	24.81 ²⁹	38.941 ⁸⁶	9.52 ³¹
26.1	17.847 ⁸⁸	74.24 ¹⁹⁶	35.974 ⁶¹	24.33 ⁴⁸	38.887 ⁵⁴	9.74 ²²
36.1	17.792 ⁵⁵	72.08 ²¹⁶	35.951 ²³	23.66 ⁶⁷	38.865 ²²	9.88 ¹⁴
Mean Place	16.676	50.64	34.372	34.89	37.250	23.36
Sec δ, Tan δ	1.130	+0.526	1.186	-0.639	1.049	-0.316
L α, L δ	-0.01	+0.3	+0.01	+0.3	+0.01	+0.3
ω α, ω δ	-0.02	-0.7	+0.03	-0.7	+0.02	-0.7
AUTHORITY	A. E.					

412 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.		61 Cygni (1st star). Mag. 5.6		ζ Cygni. Mag. 3.4		α Equulei. Mag. 4.1	
		R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
		h m	° ' "	h m	° ' "	h m	° ' "
		21 3	38 22	21 9	29 54	21 11	4 55
Jan.	1.1	25.479 ^s	24.51 ^s	38.462 ^s	48.44 ^s	57.400 ^s	49.24 ^s
	11.1	25.427 ⁵²	22.06 ²⁴⁵	38.410 ⁵²	46.20 ²²⁴	57.380 ²⁰	48.02 ¹²²
	21.0	25.414 ¹³	19.46 ²⁶⁰	38.392 ¹⁸	43.81 ²³⁹	57.388 ⁸	46.78 ¹²⁴
	31.0	25.443 ²⁹	16.80 ²⁶⁶	38.414 ²²	41.39 ²⁴²	57.432 ⁴⁴	45.60 ¹¹⁸
Feb.	10.0	25.516 ⁷³	14.15 ²⁶⁵	38.472 ⁵⁸	39.01 ²³⁸	57.503 ⁷¹	44.52 ¹⁰⁸
	20.0	25.634 ¹¹⁸	11.69 ²⁴⁶	38.571 ⁹⁹	36.78 ²²³	57.607 ¹⁰⁴	43.61 ⁹¹
Mar.	1.9	25.798 ¹⁶⁴	9.46 ²²³	38.707 ¹³⁶	34.80 ¹⁹⁸	57.740 ¹³³	42.91 ⁷⁰
	11.9	26.002 ²⁰⁴	7.61 ¹⁸⁵	38.882 ¹⁷⁵	33.14 ¹⁶⁶	57.904 ¹⁶⁴	42.47 ⁴⁴
	21.9	26.243 ²⁴¹	6.16 ¹⁴⁵	39.090 ²⁰⁸	31.86 ¹²⁸	58.097 ¹⁹³	42.33 ¹⁴
	31.8	26.521 ²⁷⁸	5.19 ⁹⁷	39.333 ²⁴³	31.06 ⁸⁰	58.316 ²¹⁹	42.50 ¹⁷
Apr.	10.8	26.827 ³⁰⁶	4.78 ⁴¹	39.599 ²⁶⁶	30.74 ³²	58.560 ²⁴⁴	43.02 ⁵²
	20.8	27.156 ³²⁹	4.93 ¹⁵	39.892 ²⁹³	30.90 ¹⁶	58.825 ²⁶⁵	43.84 ⁸²
	30.8	27.501 ³⁴⁵	5.62 ⁶⁹	40.201 ³⁰⁹	31.58 ⁶⁸	59.107 ²⁸²	44.97 ¹¹³
May	10.7	27.851 ³⁵⁰	6.84 ¹²²	40.519 ³¹⁸	32.74 ¹¹⁶	59.400 ²⁹³	46.36 ¹³⁹
	20.7	28.202 ³⁵¹	8.54 ¹⁷⁰	40.842 ³²³	34.30 ¹⁵⁶	59.697 ²⁹⁷	47.98 ¹⁶²
	30.7	28.542 ³⁴⁰	10.66 ²¹²	41.156 ³¹⁴	36.26 ¹⁹⁶	59.991 ²⁹⁴	49.78 ¹⁸⁰
June	9.7	28.864 ³²²	13.15 ²⁴⁹	41.456 ³⁰⁰	38.55 ²²⁹	60.276 ²⁸⁵	51.70 ¹⁹²
	19.6	29.161 ²⁹⁷	15.96 ²⁸¹	41.735 ²⁷⁹	41.07 ²⁵²	60.543 ²⁶⁷	53.67 ¹⁹⁷
	29.6	29.421 ²⁶⁰	18.96 ³⁰⁰	41.984 ²⁴⁹	43.80 ²⁷³	60.787 ²⁴⁴	55.64 ¹⁹⁷
July	9.6	29.640 ²¹⁹	22.11 ³¹⁵	42.195 ²¹¹	46.61 ²⁸¹	61.000 ²¹³	57.58 ¹⁹⁴
	19.5	29.811 ¹⁷¹	25.32 ³²¹	42.366 ¹⁷¹	49.47 ²⁸⁶	61.177 ¹⁷⁷	59.42 ¹⁸⁴
	29.5	29.934 ¹²³	28.53 ³²¹	42.491 ¹²⁵	52.31 ²⁸⁴	61.315 ¹³⁸	61.13 ¹⁷¹
Aug.	8.5	30.004 ⁷⁰	31.65 ³¹²	42.570 ⁷⁹	55.05 ²⁷⁴	61.408 ⁹³	62.65 ¹⁵²
	18.5	30.021 ¹⁷	34.62 ²⁹⁷	42.598 ²⁸	57.65 ²⁶⁰	61.454 ⁴⁶	64.00 ¹³⁵
	28.4	29.987 ³⁴	37.38 ²⁷⁶	42.581 ¹⁷	60.04 ²³⁹	61.459 ⁵	65.13 ¹¹³
Sept.	7.4	29.906 ⁸¹	39.91 ²⁵³	42.515 ⁶⁶	62.18 ²¹⁴	61.423 ³⁶	66.05 ⁹²
	17.4	29.781 ¹²⁵	42.12 ²²¹	42.411 ¹⁰⁴	64.01 ¹⁸³	61.350 ⁷³	66.74 ⁶⁹
	27.4	29.621 ¹⁶⁰	43.97 ¹⁸⁵	42.272 ¹³⁹	65.53 ¹⁵²	61.245 ¹⁰⁵	67.19 ⁴⁵
Oct.	7.3	29.431 ¹⁹⁰	45.45 ¹⁴⁸	42.109 ¹⁶³	66.74 ¹²¹	61.114 ¹³¹	67.44 ²⁵
	17.3	29.224 ²⁰⁷	46.50 ¹⁰⁵	41.923 ¹⁸⁶	67.54 ⁸⁰	60.965 ¹⁴⁹	67.45 ¹
	27.3	29.005 ²¹⁹	47.11 ⁶¹	41.727 ¹⁹⁶	67.98 ⁴⁴	60.809 ¹⁵⁶	67.27 ¹⁸
Nov.	6.2	28.784 ²²¹	47.25 ¹⁴	41.529 ¹⁹⁸	67.96 ²	60.651 ¹⁵⁸	66.90 ³⁷
	16.2	28.566 ²¹⁸	46.95 ³⁰	41.336 ¹⁹³	67.57 ³⁹	60.500 ¹⁵¹	66.33 ⁵⁷
	26.2	28.366 ²⁰⁰	46.20 ⁷⁵	41.158 ¹⁷⁸	66.78 ⁷⁹	60.363 ¹³⁷	65.59 ⁷⁴
Dec.	6.2	28.190 ¹⁷⁶	44.98 ¹²²	40.996 ¹⁶²	65.60 ¹¹⁸	60.245 ¹¹⁸	64.71 ⁸⁸
	16.1	28.039 ¹⁵¹	43.34 ¹⁶⁴	40.862 ¹³⁴	64.04 ¹⁵⁶	60.151 ⁹⁴	63.68 ¹⁰³
	26.1	27.922 ¹¹⁷	41.35 ¹⁹⁹	40.755 ¹⁰⁷	62.19 ¹⁸⁵	60.084 ⁶⁷	62.54 ¹¹⁴
	36.1	27.843 ⁷⁹	39.02 ²³³	40.678 ⁷⁷	60.07 ²¹²	60.044 ⁴⁰	61.32 ¹²²
Mean Place		26.578	11.89	39.489	37.17	58.500	43.41
Sec δ, Tan δ		1.275	+0.792	1.154	+0.575	1.004	+0.086
L α, L δ		-0.01	+0.3	-0.01	+0.3	0.00	+0.3
ω α, ω δ		-0.04	-0.7	-0.03	-0.7	0.00	-0.7
AUTHORITY		A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 413

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	θ^1 Microscopii. Mag. 4.9		α Cephei. Mag. 2.6		ϵ Capricorni. Mag. 4.3	
	R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. S.
	^h 21 15	^m 41 7	^h 21 16	^m 62 15	^h 21 17	^m 17 9
Jan. 1.1	48.613 ^s	72.32 ^s	43.29 ^s	49.15 ^s	56.386 ^s	47.19 ^s
11.1	48.584 ²⁹	71.09 ¹²³	43.06 ²³	46.42 ²⁷³	56.369 ¹⁷	47.27 ⁸
21.1	48.597 ¹³	69.65 ¹⁴⁴	42.91 ¹⁵	43.39 ³⁰³	56.384 ¹⁵	47.23 ⁴
31.0	48.654 ⁵⁷	68.04 ¹⁶¹	42.84 ⁷	40.16 ³²³	56.431 ⁴⁷	47.08 ¹⁵
Feb. 10.0	48.752 ⁹⁸	66.29 ¹⁷⁵	42.84 ⁰	36.85 ³³¹	56.510 ⁷⁹	46.78 ³⁰
20.0	48.890 ¹³⁸	64.43 ¹⁸⁶	42.93 ⁹	33.62 ³²³	56.620 ¹¹⁰	46.33 ⁴⁵
Mar. 2.0	49.068 ¹⁷⁸	62.50 ¹⁹³	43.10 ¹⁷	30.57 ³⁰⁵	56.761 ¹⁴¹	45.72 ⁶¹
11.9	49.283 ²¹⁵	60.53 ¹⁹⁷	43.35 ²⁵	27.81 ²⁷⁶	56.931 ¹⁷⁰	44.94 ⁷⁸
21.9	49.533 ²⁵⁰	58.55 ¹⁹⁸	43.67 ³²	25.48 ²³³	57.131 ²⁰⁰	44.00 ⁹⁴
31.9	49.817 ²⁸⁴	56.59 ¹⁹⁶	44.06 ³⁹	23.65 ¹⁸³	57.358 ²²⁷	42.89 ¹¹¹
Apr. 10.8	50.131 ³¹⁴	54.71 ¹⁸⁸	44.50 ⁴⁴	22.35 ¹³⁰	57.611 ²⁵³	41.63 ¹²⁶
20.8	50.470 ³³⁹	52.92 ¹⁷⁹	44.99 ⁴⁹	21.68 ⁶⁷	57.886 ²⁷⁵	40.25 ¹³⁸
30.8	50.830 ³⁶⁰	51.29 ¹⁶³	45.50 ⁵¹	21.61 ⁷	58.179 ²⁹³	38.79 ¹⁴⁶
May 10.8	51.205 ³⁷⁵	49.84 ¹⁴⁵	46.01 ⁵¹	22.18 ⁵⁷	58.485 ³⁰⁶	37.27 ¹⁵²
20.7	51.588 ³⁸³	48.61 ¹²³	46.53 ⁵²	23.34 ¹¹⁶	58.798 ³¹³	35.74 ¹⁵³
30.7	51.969 ³⁸¹	47.64 ⁹⁷	47.03 ⁵⁰	25.08 ¹⁷⁴	59.110 ³¹²	34.26 ¹⁴⁸
June 9.7	52.339 ³⁷⁰	46.96 ⁶⁸	47.50 ⁴⁷	27.27 ²¹⁹	59.415 ³⁰⁵	32.86 ¹⁴⁰
19.7	52.691 ³⁵²	46.59 ³⁷	47.92 ⁴²	29.00 ²⁶³	59.704 ²⁸⁹	31.57 ¹²⁹
29.6	53.015 ³²⁴	46.53 ⁶	48.28 ³⁶	32.89 ²⁹⁹	59.970 ²⁶⁶	30.45 ¹¹²
July 9.6	53.301 ²⁸⁶	46.79 ²⁶	48.58 ³⁰	36.16 ³²⁷	60.205 ²³⁵	29.52 ⁹³
19.6	53.543 ²⁴²	47.36 ⁵⁷	48.81 ²³	39.61 ³⁴⁵	60.404 ¹⁹⁹	28.80 ⁷²
29.5	53.734 ¹⁹¹	48.22 ⁸⁶	48.96 ¹⁵	43.16 ³⁵⁵	60.561 ¹⁵⁷	28.29 ⁵¹
Aug. 8.5	53.869 ¹³⁵	49.32 ¹¹⁰	49.03 ⁷	46.75 ³⁵⁹	60.674 ¹¹³	28.01 ²⁸
18.5	53.946 ⁷⁷	50.63 ¹³¹	49.01 ²	50.28 ³⁵³	60.740 ⁶⁶	27.95 ⁶
28.5	53.964 ¹⁸	52.09 ¹⁴⁶	48.91 ¹⁰	53.68 ³⁴⁰	60.759 ¹⁹	28.08 ¹³
Sept. 7.4	53.925 ³⁹	53.64 ¹⁵⁵	48.74 ¹⁷	56.87 ³¹⁹	60.732 ²⁷	28.39 ³¹
17.4	53.834 ⁹¹	55.21 ¹⁵⁷	48.50 ²⁴	59.79 ²⁹²	60.666 ⁶⁶	28.83 ⁴⁴
27.4	53.698 ¹³⁶	56.73 ¹⁵²	48.20 ³⁰	62.42 ²⁶³	60.564 ¹⁰²	29.39 ⁵⁶
Oct. 7.4	53.525 ¹⁷³	58.14 ¹⁴¹	47.85 ³⁵	64.62 ²²⁰	60.434 ¹³⁰	30.01 ⁶²
17.3	53.325 ²⁰⁰	59.37 ¹²³	47.46 ³⁹	66.37 ¹⁷⁵	60.285 ¹⁴⁹	30.67 ⁶⁶
27.3	53.111 ²¹⁴	60.37 ¹⁰⁰	47.04 ⁴²	67.64 ¹²⁷	60.125 ¹⁶⁰	31.32 ⁶⁵
Nov. 6.3	52.893 ²¹⁸	61.10 ⁷³	46.61 ⁴³	68.36 ⁷²	59.965 ¹⁶⁰	31.95 ⁶³
16.2	52.683 ²¹⁰	61.53 ⁴³	46.17 ⁴⁴	68.56 ²⁰	59.810 ¹⁵⁵	32.54 ⁵⁹
26.2	52.490 ¹⁹³	61.64 ¹¹	45.74 ⁴³	68.15 ⁴¹	59.669 ¹⁴¹	33.06 ⁵²
Dec. 6.2	52.324 ¹⁶⁶	61.43 ²¹	45.34 ⁴⁰	67.16 ⁹⁹	59.549 ¹²⁰	33.50 ⁴⁴
16.2	52.191 ¹³³	60.92 ⁵¹	44.97 ³⁷	65.64 ¹⁵²	59.455 ⁹⁴	33.85 ³⁵
26.1	52.096 ⁹⁵	60.11 ⁸¹	44.65 ³²	63.61 ²⁰³	59.389 ⁶⁶	34.11 ²⁶
36.1	52.043 ⁵³	59.05 ¹⁰⁶	44.38 ²⁷	61.10 ²⁵¹	59.353 ³⁶	34.28 ¹⁷
Mean Place	50.528	68.74	44.63	32.23	57.712	47.91
Sec δ , Tan δ	1.328	-0.873	2.148	+1.901	1.047	-0.309
L α , L δ	+0.02	+0.3	-0.03	+0.3	+0.01	+0.3
ω α , ω δ	+0.04	-0.7	-0.10	-0.7	+0.02	-0.7
AUTHORITY	A. N.		A. E.			

414 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Pavonis. Mag. 4.3		ζ Capricorni. Mag. 3.9		β Aquarii. Mag. 3.1	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 21 20	[°] ['] 65 42	^h ^m 21 22	[°] ['] 22 44	^h ^m 21 27	[°] ['] 5 54
Jan. 1.1	^s 2.09	64.30	^s 15.061	45.15	^s 29.257	35.83
11.1	12 1.97	61.88 ²⁴²	21 15.040	44.94 ²¹	26 29.231	36.51 ⁶⁸
21.1	4 1.93	59.18 ²⁷⁰	11 15.051	44.56 ³⁸	2 29.233	37.11 ⁶⁰
31.0	4 1.97	56.30 ²⁸⁸	43 15.094	44.03 ⁵³	33 29.266	37.61 ⁵⁰
Feb. 10.0	13 2.10	53.29 ³⁰¹	76 15.170	43.40 ⁶³	63 29.329	37.99 ³⁸
20.0	20 2.30	50.24 ³⁰⁵	111 15.281	42.60 ⁸⁰	94 29.423	38.22 ²³
Mar. 2.0	29 2.59	47.21 ³⁰³	140 15.421	41.65 ⁹⁵	123 29.546	38.24 ²
11.9	35 2.94	44.27 ²⁹⁴	173 15.594	40.55 ¹¹⁰	154 29.700	38.07 ¹⁷
21.9	42 3.36	41.47 ²⁸⁰	203 15.797	39.31 ¹²⁴	183 29.883	37.66 ⁴¹
31.9	48 3.84	38.87 ²⁶⁰	234 16.031	37.92 ¹³⁹	211 30.094	36.99 ⁶⁷
Apr. 10.8	54 4.38	36.54 ²³³	258 16.289	36.48 ¹⁴⁴	237 30.331	36.09 ⁹⁰
20.8	57 4.95	34.51 ²⁰³	282 16.571	34.96 ¹⁵²	260 30.591	34.96 ¹¹³
30.8	61 5.56	32.82 ¹⁶⁹	301 16.872	33.42 ¹⁵⁴	281 30.872	33.63 ¹³³
May 10.8	63 6.19	31.53 ¹²⁹	315 17.187	31.87 ¹⁵⁵	295 31.167	33.63 ¹⁴⁸
20.7	64 6.83	30.64 ⁸⁹	322 17.509	30.38 ¹⁴⁹	299 31.466	32.15 ¹⁶⁰
30.7	64 7.47	30.19 ⁴⁵	323 17.832	28.95 ¹⁴³	302 31.768	30.55 ¹⁷¹
June 9.7	62 8.09	30.20 ¹	315 18.147	27.69 ¹²⁶	293 32.061	28.84 ¹⁷¹
19.7	58 8.67	30.65 ⁴⁵	300 18.447	26.60 ¹⁰⁹	279 32.340	27.13 ¹⁶⁶
29.6	53 9.20	31.54 ⁸⁹	276 18.723	25.68 ⁹²	259 32.599	25.47 ¹⁶⁴
July 9.6	48 9.68	32.84 ¹³⁰	247 18.970	25.02 ⁶⁶	230 32.829	23.83 ¹⁴⁸
19.6	39 10.07	34.50 ¹⁶⁶	209 19.179	24.57 ⁴⁵	195 33.024	22.35 ¹³⁴
29.5	31 10.38	36.46 ¹⁹⁶	167 19.346	24.37 ²⁰	155 33.294	21.01 ¹¹⁸
Aug. 8.5	21 10.59	38.72 ²²⁶	121 19.467	24.40 ³	115 33.362	19.83 ⁹⁴
18.5	11 10.70	41.14 ²⁴²	74 19.541	24.65 ²⁵	68 33.390	18.89 ⁷⁸
28.5	1 10.71	43.66 ²⁵²	24 19.565	25.13 ⁴⁸	28 33.371	18.11 ⁵⁴
Sept. 7.4	9 10.62	46.16 ²⁵⁰	21 19.544	25.71 ⁵⁸	19 33.314	17.57 ³⁵
17.4	19 10.43	48.57 ²⁴¹	67 19.477	26.44 ⁷³	57 33.221	17.22 ¹¹
27.4	27 10.16	50.79 ²²²	100 19.377	27.25 ⁸¹	93 33.105	17.11 ⁴
Oct. 7.4	34 9.82	52.73 ¹⁹⁴	133 19.244	28.09 ⁸⁴	116 32.967	17.15 ¹⁷
17.3	40 9.42	54.30 ¹⁵⁷	150 19.094	28.91 ⁸²	138 32.816	17.32 ³⁰
27.3	44 8.98	55.45 ¹¹⁵	165 18.929	29.73 ⁸²	151 32.664	17.62 ⁴⁵
Nov. 6.3	44 8.54	56.10 ⁶⁵	167 18.762	30.43 ⁷⁰	152 32.517	18.07 ⁵²
16.2	44 8.10	56.24 ¹⁴	165 18.597	31.02 ⁵⁹	147 32.381	18.59 ⁶⁰
26.2	38 7.68	55.86 ³⁸	147 18.450	31.46 ³⁴	136 32.262	19.19 ⁶⁴
Dec. 6.2	42 7.30	54.97 ⁸⁹	128 18.322	31.80 ⁴⁴	119 32.165	19.83 ⁶⁸
16.2	32 6.98	53.59 ¹³⁸	101 18.221	31.98 ¹⁸	97 32.094	20.51 ⁷⁰
26.1	25 6.73	51.77 ¹⁸²	75 18.146	32.01 ³	71 32.047	21.21 ⁷¹
36.1	17 6.56	49.56 ²²¹	40 18.106	31.90 ¹¹	47 32.000	21.92 ⁷¹
Mean Place	5.84	57.47	16.470	44.44	30.400	38.61
Sec δ , Tan δ	2.432	-2.216	1.084	-0.419	1.005	-0.103
L α , L δ	+0.04	+0.3	+0.01	+0.3	0.00	+0.3
ω α , ω δ	+0.11	-0.6	+0.02	-0.6	+0.01	-0.6
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 415

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.		β Cephei. Mag. 3.3		ξ Aquarii. Mag. 4.8		ε Pegasi. Mag. 2.5	
		R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. N.
		^h 21 ^m 27 ^s	[°] 70 ['] 13 ^{''}	^h 21 ^m 33 ^s	[°] 8 ['] 11 ^{''}	^h 21 ^m 40 ^s	[°] 9 ['] 31 ^{''}
Jan.	1.1	38.88	37 39.04 ²⁶⁰	38.117 ³⁰	58.92 ⁵³	23.281 ⁴⁷	22.75 ¹³³
	11.1	38.51 ²⁸	36.44 ²⁹⁴	38.087 ²	59.45 ⁴⁷	23.234 ¹⁹	21.42 ¹⁴¹
	21.1	38.23 ¹⁷	33.50 ³²⁰	38.085 ²⁷	59.92 ³⁷	23.215 ¹⁰	20.01 ¹³⁵
	31.0	38.06 ⁵	30.30 ³³⁴	38.112 ⁵⁸	60.29 ²³	23.225 ⁴³	18.66 ¹²⁶
Feb.	10.0	38.01 ⁶	26.96 ³³⁵	38.170 ⁸⁸	60.52 ⁸	23.268 ⁷²	17.40 ¹¹⁴
	20.0	38.07 ¹⁸	23.61 ³²²	38.258 ¹¹⁹	60.60 ¹¹	23.340 ¹⁰⁶	16.26 ⁹²
Mar.	2.0	38.25 ²⁹	20.39 ²⁹⁴	38.377 ¹⁴⁸	60.49 ³²	23.446 ¹³⁷	15.34 ⁶⁷
	11.9	38.54 ⁴⁰	17.45 ²⁵⁶	38.525 ¹⁷⁹	60.17 ⁵⁵	23.583 ¹⁶⁹	14.67 ³⁹
	21.9	38.94 ⁴⁹	14.89 ²⁰⁹	38.704 ²⁰⁸	59.62 ⁷⁷	23.752 ¹⁹⁹	14.28 ²
	31.9	39.43 ⁵⁷	12.80 ¹⁵⁵	38.912 ²³⁴	58.85 ¹⁰⁰	23.951 ²³⁰	14.26 ³¹
Apr.	10.9	40.00 ⁶³	11.25 ⁹⁷	39.146 ²⁵⁹	57.85 ¹²¹	24.181 ²⁵³	14.57 ⁶⁷
	20.8	40.63 ⁶⁶	10.28 ³⁶	39.405 ²⁷⁸	56.64 ¹³⁸	24.434 ²⁷⁵	15.24 ¹⁰¹
	30.8	41.29 ⁶⁹	9.92 ²⁷	39.683 ²⁹⁴	55.26 ¹⁵³	24.709 ²⁹⁰	16.25 ¹²⁹
May	10.8	41.98 ⁶⁸	10.19 ⁸⁹	39.977 ³⁰²	53.73 ¹⁶⁴	24.999 ²⁹⁷	17.54 ¹⁵⁹
	20.7	42.66 ⁶⁶	11.08 ¹⁴⁸	40.279 ³⁰⁴	52.09 ¹⁶⁸	25.296 ³⁰¹	19.13 ¹⁸³
	30.7	43.32 ⁶¹	12.56 ¹⁹⁹	40.583 ²⁹⁹	50.41 ¹⁶⁸	25.597 ²⁹³	20.96 ¹⁹⁸
June	9.7	43.93 ⁵⁶	14.55 ²⁴⁶	40.882 ²⁸⁶	48.73 ¹⁶⁴	25.890 ²⁸²	22.94 ²⁰⁸
	19.7	44.49 ⁴⁹	17.01 ²⁸⁷	41.168 ²⁶⁵	47.09 ¹⁵⁴	26.172 ²⁶¹	25.02 ²¹⁵
	29.6	44.98 ³⁹	19.88 ³¹⁷	41.433 ²³⁷	45.55 ¹⁴¹	26.433 ²³⁰	27.17 ²¹⁵
July	9.6	45.37 ³⁰	23.05 ³⁴¹	41.670 ²⁰²	44.14 ¹²⁵	26.663 ²⁰²	29.32 ²¹⁰
	19.6	45.67 ²⁰	26.46 ³⁵⁸	41.872 ¹⁶⁴	42.89 ¹⁰⁵	26.865 ¹⁵⁹	31.42 ¹⁹⁷
	29.6	45.87 ⁹	30.04 ³⁶³	42.036 ¹²¹	41.84 ⁸⁴	27.024 ¹¹⁷	33.39 ¹⁸³
Aug.	8.5	45.96 ²	33.67 ³⁶⁵	42.157 ⁷⁶	41.00 ⁶³	27.141 ⁷³	35.22 ¹⁶⁷
	18.5	45.94 ¹³	37.32 ³⁵⁴	42.233 ³²	40.37 ⁴¹	27.214 ³¹	36.89 ¹⁴⁵
	28.5	45.81 ²²	40.86 ³³⁸	42.265 ¹³	39.96 ²¹	27.245 ¹⁴	38.34 ¹²¹
Sept.	7.4	45.59 ³³	44.24 ³¹⁶	42.252 ⁵¹	39.75 ²	27.231 ⁵²	39.55 ¹⁰⁰
	17.4	45.26 ⁴⁰	47.40 ²⁸³	42.201 ⁸⁷	39.73 ¹⁵	27.179 ⁸³	40.55 ⁷⁶
	27.4	44.86 ⁴⁸	50.23 ²⁵⁰	42.114 ¹¹⁴	39.88 ²⁹	27.096 ¹¹³	41.31 ⁴⁷
Oct.	7.4	44.38 ⁵⁴	52.73 ²⁰⁶	42.000 ¹³⁴	40.17 ⁴¹	26.983 ¹³⁵	41.78 ²⁸
	17.3	43.84 ⁵⁹	54.79 ¹⁵⁶	41.866 ¹⁴⁸	40.58 ⁴⁹	26.848 ¹⁴⁶	42.06 ¹
	27.3	43.25 ⁶¹	56.35 ¹⁰⁴	41.718 ¹⁵¹	41.07 ⁵⁶	26.702 ¹⁵³	42.05 ²³
Nov.	6.3	42.64 ⁶³	57.39 ⁵⁰	41.567 ¹⁴⁷	41.63 ⁶¹	26.549 ¹⁵¹	41.82 ⁴⁴
	16.3	42.01 ⁶²	57.89 ¹¹	41.420 ¹³⁷	42.24 ⁶⁴	26.398 ¹⁴²	41.38 ⁶⁴
	26.2	41.39 ⁶⁰	57.78 ⁷²	41.283 ¹²⁰	42.88 ⁶⁵	26.256 ¹²⁷	40.74 ⁸⁶
Dec.	6.2	40.79 ⁵⁶	57.06 ¹²⁷	41.163 ⁹⁹	43.53 ⁶⁴	26.129 ¹¹²	39.88 ¹⁰⁴
	16.2	40.23 ⁵⁰	55.79 ¹⁸⁵	41.064 ⁷⁴	44.17 ⁶³	26.017 ⁸⁹	38.84 ¹¹⁷
	26.1	39.73 ⁴³	53.94 ²³⁴	40.990 ⁴⁸	44.80 ⁵⁹	25.928 ⁶²	37.67 ¹³²
	36.1	39.30	51.60	40.942	45.39	25.866	36.35
Mean Place		40.44	20.91	39.261	60.90	24.230	16.58
Sec δ, Tan δ		2.955	+2.781	1.010	-0.144	1.014	+0.168
L α, L δ		-0.05	+0.3	0.00	+0.3	0.00	+0.3
ω α, ω δ		-0.15	-0.6	+0.01	-0.6	-0.01	-0.6
AUTHORITY		A. E.				A. E.	

416 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	δ Capricorni. Mag. 3.0		γ Gruis. Mag. 3.2		16 Pegasi. Mag. 5.1	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. N.
	^h 21 42	[°] 16 28	^h 21 49	[°] 37 43	^h 21 49	[°] 25 33
Jan. 1.1	46.356 ^s 38	39.22 [°] 13	14.583 ^s 60	45.68 [°] 93	32.639 ^s 80	54.61 [°] 187
11.1	46.318 8	39.35 0	14.523 26	44.75 118	32.559 44	52.74 203
21.1	46.310 21	39.35 15	14.497 11	43.57 141	32.515 15	50.71 208
31.0	46.331 53	39.20 28	14.508 52	42.16 160	32.500 20	48.63 207
Feb. 10.0	46.384 82	38.92 46	14.560 90	40.56 176	32.520 56	46.56 198
20.0	46.466 115	38.46 63	14.650 127	38.80 190	32.576 94	44.58 178
Mar. 2.0	46.581 146	37.83 81	14.777 166	36.90 198	32.670 131	42.80 153
11.9	46.727 177	37.02 99	14.943 201	34.92 205	32.801 164	41.27 121
21.9	46.904 206	36.03 116	15.144 239	32.87 209	32.965 203	40.06 80
31.9	47.110 237	34.87 133	15.383 272	30.78 207	33.168 239	39.26 35
Apr. 10.9	47.347 261	33.54 146	15.655 301	28.71 203	33.407 264	38.91 9
20.8	47.608 284	32.08 155	15.956 329	26.68 192	33.671 287	39.00 55
30.8	47.892 299	30.53 163	16.285 349	24.76 177	33.958 304	39.55 99
May 10.8	48.191 310	28.90 163	16.634 363	22.99 159	34.262 316	40.54 140
20.7	48.501 315	27.27 162	16.997 368	21.40 136	34.578 318	41.94 177
30.7	48.816 310	25.65 153	17.365 365	20.04 109	34.896 310	43.71 206
June 9.7	49.126 300	24.12 142	17.730 353	18.95 82	35.206 294	45.77 234
19.7	49.426 279	22.70 126	18.083 331	18.13 46	35.500 275	48.11 251
29.6	49.705 252	21.44 107	18.414 301	17.67 16	35.775 243	50.62 262
July 9.6	49.957 218	20.37 85	18.715 264	17.51 19	36.018 207	53.24 268
19.6	50.175 180	19.52 62	18.979 219	17.70 52	36.225 168	55.92 266
29.6	50.355 136	18.90 37	19.198 166	18.22 79	36.393 121	58.58 261
Aug. 8.5	50.491 91	18.53 16	19.364 114	19.01 105	36.514 77	61.19 248
18.5	50.582 44	18.37 9	19.478 57	20.06 128	36.591 29	63.67 231
28.5	50.626 2	18.46 25	19.535 4	21.34 143	36.620 11	65.98 208
Sept. 7.4	50.624 44	18.71 45	19.539 49	22.77 152	36.609 58	68.06 181
17.4	50.580 81	19.16 56	19.490 95	24.29 155	36.551 95	69.87 158
27.4	50.499 109	19.72 67	19.395 136	25.84 151	36.456 121	71.45 123
Oct. 7.4	50.390 134	20.39 71	19.259 164	27.35 138	36.335 149	72.68 93
17.3	50.256 148	21.10 73	19.095 186	28.73 123	36.186 163	73.61 56
27.3	50.108 153	21.83 73	18.909 195	29.96 102	36.023 172	74.17 23
Nov. 6.3	49.955 151	22.56 69	18.714 195	30.98 73	35.851 173	74.40 16
16.3	49.804 143	23.25 60	18.519 187	31.71 43	35.678 168	74.24 53
26.2	49.661 127	23.85 53	18.332 169	32.14 14	35.510 157	73.71 84
Dec. 6.2	49.534 106	24.38 43	18.163 145	32.28 16	35.353 139	72.87 120
16.2	49.428 81	24.81 34	18.018 116	32.12 49	35.214 118	71.67 150
26.1	49.347 54	25.15 23	17.902 81	31.63 74	35.096 95	70.17 172
36.1	49.293	25.38	17.821	30.89	35.001	68.45
Mean Place	47.579	38.74	16.252	40.13	33.454	44.52
Sec δ, Tan δ	1.043	-0.296	1.264	-0.774	1.108	+0.478
L α, L δ	0.00	+0.3	+0.01	+0.3	-0.01	+0.3
ω α, ω δ	+0.02	-0.6	+0.04	-0.5	-0.03	-0.5
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 417

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.		α Aquarii. Mag. 3.2		α Gruis. Mag. 2.2		ι Pegasi. Mag. 4.0	
		R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. N.
		^h ^m 22 I	[°] ['] 0 41	^h ^m 22 3	[°] ['] 47 19	^h ^m 22 3	[°] ['] 24 58
Jan.	1.1	48.846	37.30	21.261	73.90	24.763	16.04
	11.1	48.793	38.15	21.161	72.56	24.677	14.28
	21.1	48.762	38.97	21.101	70.93	24.620	12.36
	31.1	48.758	39.72	21.086	69.03	24.593	10.36
Feb.	10.0	48.784	40.35	21.116	66.92	24.600	8.35
	20.0	48.839	40.84	21.191	64.60	24.641	6.42
Mar.	2.0	48.926	41.14	21.313	62.17	24.719	4.66
	12.0	49.045	41.19	21.481	59.67	24.834	3.15
Apr.	21.9	49.196	41.02	21.690	57.14	24.987	1.96
	31.9	49.376	40.54	21.944	54.63	25.178	1.15
	10.9	49.590	39.81	22.238	52.20	25.403	0.75
	20.8	49.832	38.80	22.570	49.87	25.658	0.80
May	30.8	50.094	37.55	22.931	47.74	25.940	1.29
	10.8	50.377	36.08	23.320	45.80	26.241	2.22
	20.8	50.674	34.44	23.728	44.16	26.555	3.55
	30.7	50.974	32.65	24.144	42.82	26.874	5.25
June	9.7	51.274	30.79	24.558	41.82	27.189	7.27
	19.7	51.564	28.88	24.963	41.19	27.491	9.54
	29.7	51.836	27.02	25.344	40.94	27.773	11.99
July	9.6	52.088	25.24	25.697	41.12	28.028	14.57
	19.6	52.305	23.57	26.007	41.66	28.248	17.22
	29.6	52.487	22.05	26.268	42.57	28.429	19.86
Aug.	8.5	52.630	20.72	26.474	43.82	28.566	22.43
	18.5	52.729	19.61	26.619	45.32	28.658	24.89
	28.5	52.784	18.68	26.700	47.09	28.704	27.19
Sept.	7.5	52.797	18.01	26.716	49.01	28.705	29.28
	17.4	52.772	17.57	26.673	51.01	28.664	31.13
	27.4	52.708	17.30	26.575	53.00	28.586	32.70
Oct.	7.4	52.618	17.26	26.428	54.88	28.477	33.98
	17.4	52.502	17.40	26.239	56.61	28.342	34.95
	27.3	52.369	17.68	26.023	58.13	28.190	35.58
Nov.	6.3	52.229	18.13	25.791	59.31	28.027	35.87
	16.3	52.089	18.68	25.552	60.18	27.860	35.80
	26.2	51.951	19.33	25.324	60.63	27.697	35.39
Dec.	6.2	51.826	20.06	25.107	60.67	27.542	34.63
	16.2	51.714	20.86	24.914	60.34	27.401	33.54
	26.2	51.622	21.70	24.754	59.63	27.278	32.16
	36.1	51.554	22.57	24.633	58.51	27.178	30.53
Mean Place		49.786	40.03	23.225	65.49	25.498	6.27
Sec δ , Tan δ		1.000	-0.012	1.476	-1.085	1.103	+0.466
L α , L δ		0.00	+0.3	+0.01	+0.3	-0.01	+0.3
ω α , ω δ		0.00	-0.5	+0.06	-0.5	-0.03	-0.5
AUTHORITY		A. E.		A. E.		A. N.	

418 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ζ Cephei. Mag. 3·6		θ Aquarii. Mag. 4·3		α Tucanæ. Mag. 2·9	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. S.
	h m 22 8	° ′ 57 49	h m 22 12	° ′ 8 9	h m 22 13	° ′ 60 38
Jan. 1·1	10·150 ²⁴¹	34·05 ²²¹	45·322 ⁶²	61·75 ⁵¹	11·51 ¹⁹	49·01 ¹⁸⁶
11·1	9·909 ¹⁹⁴	31·84 ²⁵⁸	45·260 ³⁷	62·26 ⁴⁴	11·32 ¹³	47·15 ²²²
21·1	9·715 ¹³⁵	29·26 ²⁸⁹	45·223 ¹⁰	62·70 ³²	11·19 ⁶	44·93 ²⁵¹
31·1	9·580 ⁷⁵	26·37 ³⁰⁴	45·213 ¹⁹	63·02 ¹⁷	11·13 ¹	42·42 ²⁷⁷
Feb. 10·0	9·505 ⁵	23·33 ³¹⁰	45·232 ⁴⁶	63·19 ¹	11·12 ⁷	39·65 ²⁹⁴
20·0	9·500 ⁶⁸	20·23 ³⁰³	45·278 ⁸²	63·18 ¹⁸	11·19 ¹³	36·71 ³⁰⁴
Mar. 2·0	9·568 ¹³⁹	17·20 ²⁸⁵	45·360 ¹¹⁰	63·00 ³⁸	11·32 ¹⁹	33·67 ³⁰⁸
12·0	9·707 ²¹⁰	14·35 ²⁵²	45·470 ¹⁴⁴	62·62 ⁶³	11·51 ²⁶	30·59 ³⁰⁶
21·9	9·917 ²⁷⁴	11·83 ²¹⁴	45·614 ¹⁷⁴	61·99 ⁸⁵	11·77 ³¹	27·53 ²⁹⁶
31·9	10·191 ³³⁶	9·69 ¹⁶⁴	45·788 ²⁰⁶	61·14 ¹⁰⁹	12·08 ³⁷	24·57 ²⁸¹
Apr. 10·9	10·527 ³⁸⁷	8·05 ¹¹⁰	45·994 ²³⁶	60·05 ¹²⁹	12·45 ⁴²	21·76 ²⁶⁰
20·8	10·914 ⁴²⁷	6·95 ⁵⁵	46·230 ²⁶¹	58·76 ¹⁴⁷	12·87 ⁴⁷	19·16 ²³¹
30·8	11·341 ⁴⁵⁴	6·40 ⁸	46·491 ²⁸⁴	57·29 ¹⁶¹	13·34 ⁵⁰	16·85 ²⁰³
May 10·8	11·795 ⁴⁶⁹	6·48 ⁶⁵	46·775 ²⁹⁷	55·68 ¹⁷⁴	13·84 ⁵³	14·82 ¹⁶³
20·8	12·264 ⁴⁷¹	7·13 ¹²³	47·072 ³⁰⁴	53·94 ¹⁷⁸	14·37 ⁵⁴	13·19 ¹²⁴
30·7	12·735 ⁴⁵⁸	8·36 ¹⁷³	47·376 ³⁰⁶	52·16 ¹⁷⁹	14·91 ⁵⁴	11·95 ⁸¹
June 9·7	13·193 ⁴³⁶	10·09 ²²³	47·682 ²⁹⁹	50·37 ¹⁷⁷	15·45 ⁵³	11·14 ³⁴
19·7	13·629 ³⁹⁸	12·32 ²⁵⁹	47·981 ²⁸²	48·60 ¹⁶⁷	15·98 ⁵⁰	10·80 ¹²
29·7	14·027 ³⁴⁹	14·91 ²⁹⁶	48·263 ²⁶²	46·93 ¹⁵³	16·48 ⁴⁷	10·92 ⁶⁰
July 9·6	14·376 ²⁹⁵	17·87 ³²¹	48·525 ²³¹	45·40 ¹³⁴	16·95 ⁴¹	11·52 ¹⁰¹
19·6	14·671 ²³⁴	21·08 ³³⁹	48·756 ¹⁹⁶	44·06 ¹¹⁸	17·36 ³⁵	12·53 ¹⁴⁵
29·6	14·905 ¹⁶⁴	24·47 ³⁵⁰	48·952 ¹⁵⁵	42·88 ⁹³	17·71 ²⁸	13·98 ¹⁸⁰
Aug. 8·5	15·069 ⁹⁶	27·97 ³⁵³	49·107 ¹¹⁶	41·95 ⁷⁴	17·99 ²⁰	15·78 ²⁰⁸
18·5	15·165 ²⁴	31·50 ³⁴⁸	49·223 ⁶⁸	41·21 ⁴⁵	18·19 ¹¹	17·86 ²³⁴
28·5	15·189 ⁴³	34·98 ³³⁴	49·291 ²⁸	40·76 ²⁵	18·30 ³	20·20 ²⁴⁷
Sept. 7·5	15·146 ¹⁰⁹	38·32 ³¹⁷	49·319 ¹⁶	40·51 ⁴	18·33 ⁶	22·67 ²⁵¹
17·4	15·037 ¹⁶⁸	41·49 ²⁹⁰	49·303 ⁵²	40·47 ¹⁶	18·27 ¹³	25·18 ²⁴⁶
27·4	14·869 ²²⁰	44·39 ²⁵⁹	49·251 ⁸³	40·63 ³¹	18·14 ²¹	27·64 ²³⁰
Oct. 7·4	14·649 ²⁶⁵	46·98 ²²¹	49·168 ¹⁰⁷	40·94 ⁴⁷	17·93 ²⁷	29·94 ²⁰⁸
17·4	14·384 ³⁰¹	49·19 ¹⁷⁵	49·061 ¹²⁸	41·41 ⁵⁵	17·66 ³¹	32·02 ¹⁷⁴
27·3	14·083 ³²⁶	50·94 ¹²⁸	48·933 ¹³⁶	41·06 ⁶³	17·35 ³⁴	33·76 ¹³³
Nov. 6·3	13·757 ³⁴³	52·22 ⁷⁷	48·797 ¹⁴⁰	42·59 ⁶⁶	17·01 ³⁵	35·09 ⁹⁰
16·3	13·414 ³⁴⁹	52·99 ²³	48·657 ¹³⁸	43·25 ⁶⁹	16·66 ³⁶	35·99 ³⁸
26·2	13·065 ³⁴³	53·22 ³⁵	48·519 ¹²⁶	43·94 ⁶⁹	16·30 ³³	36·37 ¹³
Dec. 6·2	12·722 ³²⁹	52·87 ⁹⁰	48·393 ¹¹⁴	44·63 ⁶⁷	15·97 ³¹	36·24 ⁶³
16·2	12·393 ³⁰⁴	51·97 ¹⁴⁴	48·279 ⁹⁵	45·30 ⁶²	15·66 ²⁶	35·61 ¹¹⁴
26·2	12·089 ²⁷⁰	50·53 ¹⁹⁴	48·184 ⁷³	45·92 ⁵⁶	15·40 ²²	34·47 ¹⁵⁸
36·1	11·819	48·59	48·111	46·48	15·18	32·89
Mean Place	10·837	16·93	46·296	61·93	14·28	37·85
Sec δ, Tan δ	1·878	+1·589	1·010	−0·144	2·040	−1·778
L α, L δ	−0·02	+0·4	0·00	+0·4	+0·02	+0·4
ω α, ω δ	−0·09	−0·5	+0·01	−0·5	+0·11	−0·5
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 419

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	γ Aquarii. Mag. 4.0		σ Aquarii. Mag. 4.9		η Aquarii. Mag. 4.1	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h ^m 22 17	[°] ['] 1 46	^h ^m 22 26	[°] ['] 11 3	^h ^m 22 31	[°] ['] 0 30
Jan. 1.1	39.902 ⁶⁶	30.87 ⁷⁸	33.503 ⁶⁹	81.93 ⁴⁰	23.207 ⁷⁶	51.65 ⁸¹
11.1	39.836 ⁴¹	31.65 ⁷⁶	33.434 ⁴⁸	82.33 ²⁹	23.131 ⁵²	52.46 ⁷⁹
21.1	39.795 ¹⁹	32.41 ⁶⁴	33.386 ²²	82.62 ¹⁴	23.079 ³²	53.25 ⁶⁹
31.1	39.776 ¹²	33.05 ⁵⁵	33.364 ⁶	82.76 ¹	23.047 ⁰	53.94 ⁶¹
Feb. 10.0	39.788 ⁴¹	33.60 ⁴¹	33.370 ³⁴	82.75 ¹⁸	23.047 ²³	54.55 ⁴⁴
20.0	39.829 ⁷¹	34.01 ²¹	33.404 ⁶⁴	82.57 ³⁸	23.070 ⁵⁹	54.99 ²⁹
Mar. 2.0	39.900 ¹⁰²	34.22 ⁴	33.468 ⁹⁷	82.19 ⁵⁹	23.129 ⁸⁸	55.28 ³
12.0	40.002 ¹³⁹	34.18 ²⁶	33.565 ¹³⁰	81.60 ⁸¹	23.217 ¹²³	55.31 ²⁰
21.9	40.141 ¹⁶⁷	33.92 ⁵⁴	33.695 ¹⁶³	80.79 ¹⁰³	23.340 ¹⁵⁵	55.11 ⁴⁷
31.9	40.308 ²⁰²	33.38 ⁷⁷	33.858 ¹⁹⁷	79.76 ¹²³	23.495 ¹⁹⁰	54.64 ⁷²
Apr. 10.9	40.510 ²³¹	32.61 ¹⁰⁶	34.055 ²²⁷	78.53 ¹⁴³	23.685 ²²¹	53.92 ¹⁰²
20.8	40.741 ²⁵⁴	31.55 ¹³⁰	34.282 ²⁵⁵	77.10 ¹⁵⁹	23.906 ²⁴⁹	52.90 ¹²⁷
30.8	40.995 ²⁸⁰	30.25 ¹⁵¹	34.537 ²⁷⁸	75.51 ¹⁷¹	24.155 ²⁷³	51.63 ¹⁴⁸
May 10.8	41.275 ²⁹⁴	28.74 ¹⁶⁷	34.815 ²⁹⁶	73.80 ¹⁸⁰	24.428 ²⁹²	50.15 ¹⁶⁷
20.8	41.569 ³⁰¹	27.07 ¹⁸⁰	35.111 ³⁰⁷	72.00 ¹⁸³	24.720 ³⁰⁰	48.48 ¹⁸⁰
30.7	41.870 ³⁰³	25.27 ¹⁸⁷	35.418 ³¹⁰	70.17 ¹⁸¹	25.020 ³⁰³	46.68 ¹⁸⁹
June 9.7	42.173 ²⁹⁵	23.40 ¹⁸⁹	35.728 ³⁰⁵	68.36 ¹⁷⁵	25.323 ²⁹⁹	44.79 ¹⁹³
19.7	42.468 ²⁸⁰	21.51 ¹⁸⁸	36.033 ²⁹²	66.61 ¹⁶⁴	25.622 ²⁸⁵	42.86 ¹⁹⁰
29.7	42.748 ²⁵⁹	19.63 ¹⁷⁷	36.325 ²⁷¹	64.97 ¹⁴⁷	25.907 ²⁶⁷	40.96 ¹⁸⁵
July 9.6	43.007 ²³¹	17.86 ¹⁶⁵	36.596 ²⁴⁴	63.50 ¹²⁸	26.174 ²³⁸	39.11 ¹⁷³
19.6	43.238 ¹⁹⁶	16.21 ¹⁴⁹	36.840 ²⁰⁹	62.22 ¹⁰⁶	26.412 ²⁰⁶	37.38 ¹⁵⁷
29.6	43.434 ¹⁵⁹	14.72 ¹³¹	37.049 ¹⁷⁰	61.16 ⁸²	26.618 ¹⁶⁹	35.81 ¹³⁹
Aug. 8.5	43.593 ¹¹⁴	13.41 ¹⁰⁸	37.219 ¹²⁸	60.34 ⁵⁶	26.787 ¹²⁷	34.42 ¹¹⁹
18.5	43.707 ⁷²	12.33 ⁸⁶	37.347 ⁸⁴	59.78 ³²	26.914 ⁸⁶	33.23 ⁹⁶
28.5	43.779 ²⁸	11.47 ⁶⁵	37.431 ³⁹	59.46 ⁸	27.000 ⁴¹	32.27 ⁷²
Sept. 7.5	43.807 ¹²	10.82 ³⁹	37.470 ¹	59.38 ¹³	27.041 ³	31.55 ⁵⁰
17.4	43.795 ⁴⁶	10.43 ²⁰	37.469 ⁴¹	59.51 ³²	27.044 ³⁶	31.05 ²⁷
27.4	43.749 ⁸¹	10.23 ²	37.428 ⁷³	59.83 ⁴⁷	27.008 ⁶⁶	30.78 ⁷
Oct. 7.4	43.668 ¹⁰¹	10.21 ¹⁷	37.355 ⁹⁹	60.30 ⁶⁰	26.942 ⁹⁴	30.71 ¹³
17.4	43.567 ¹²²	10.38 ³³	37.256 ¹²¹	60.90 ⁶⁸	26.848 ¹¹⁴	30.84 ²⁶
27.3	43.445 ¹³⁴	10.71 ⁴⁷	37.135 ¹³¹	61.58 ⁷³	26.734 ¹²⁶	31.10 ⁴³
Nov. 6.3	43.311 ¹³⁶	11.18 ⁵⁷	37.004 ¹³⁸	62.31 ⁷³	26.608 ¹³¹	31.53 ⁵⁵
16.3	43.175 ¹³⁵	11.75 ⁶⁵	36.866 ¹³⁶	63.04 ⁷³	26.477 ¹³³	32.08 ⁶⁴
26.2	43.040 ¹²⁶	12.40 ⁷²	36.730 ¹²⁹	63.77 ⁶⁹	26.344 ¹²⁷	32.72 ⁷²
Dec. 6.2	42.914 ¹¹⁵	13.12 ⁷⁷	36.601 ¹¹⁸	64.46 ⁶⁴	26.217 ¹¹⁷	33.44 ⁷⁸
16.2	42.799 ⁹⁹	13.89 ⁸⁰	36.483 ¹⁰⁰	65.10 ⁵⁷	26.100 ¹⁰³	34.22 ⁸²
26.2	42.700 ⁷⁷	14.69 ⁸⁰	36.383 ⁸²	65.67 ⁴⁷	25.997 ⁸⁴	35.04 ⁸²
36.1	42.623	15.49	36.301	66.14	25.913	35.86
Mean Place	40.779	32.68	34.450	80.64	24.002	53.25
Sec δ , Tan δ	1.000	-0.031	1.019	-0.196	1.000	-0.009
L α , L δ	0.00	+0.4	0.00	+0.4	0.00	+0.4
ω α , ω δ	0.00	-0.4	+0.01	-0.4	0.00	-0.4
AUTHORITY	A. E.				A. E.	

420 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	κ Aquarii. Mag. 5.3		ζ Pegasi. Mag. 3.6		β Gruis. Mag. 2.2	
	R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. S.
	^h ^m 22 33	[°] ['] 4 37	^h ^m 22 37	[°] ['] 10 25	^h ^m 22 38	[°] ['] 47 16
Jan. 1.2	45.349 ^s 75	31.86 [°] 66	36.618 ^s 84	48.89 [°] 115	2.852 ^s 138	87.52 [°] 112
11.1	45.274 53	32.52 59	36.534 64	47.74 124	2.714 103	86.40 145
21.1	45.221 30	33.11 49	36.470 42	46.50 123	2.611 65	84.95 181
31.1	45.191 4	33.60 37	36.428 15	45.27 123	2.546 23	83.14 206
Feb. 10.0	45.187 24	33.97 21	36.413 13	44.04 106	2.523 21	81.08 232
20.0	45.211 55	34.18 1	36.426 49	42.98 92	2.544 64	78.76 249
Mar. 2.0	45.266 87	34.19 20	36.475 79	42.06 70	2.608 113	76.27 261
12.0	45.353 120	33.99 44	36.554 117	41.36 42	2.721 159	73.66 269
21.9	45.473 154	33.55 69	36.671 153	40.94 14	2.880 204	70.97 273
31.9	45.627 188	32.86 94	36.824 184	40.80 19	3.084 250	68.24 269
Apr. 10.9	45.815 220	31.92 118	37.008 220	40.99 54	3.334 292	65.55 262
20.9	46.035 248	30.74 139	37.228 245	41.53 86	3.626 332	62.93 247
30.8	46.283 271	29.35 159	37.473 274	42.39 119	3.958 363	60.46 225
May 10.8	46.554 291	27.76 173	37.747 292	43.58 148	4.321 389	58.21 205
20.8	46.845 301	26.03 183	38.039 302	45.06 170	4.710 407	56.16 171
30.7	47.146 305	24.20 188	38.341 305	46.76 190	5.117 415	54.45 137
June 9.7	47.451 302	22.32 187	38.646 301	48.66 206	5.532 412	53.08 101
19.7	47.753 290	20.45 182	38.947 289	50.72 213	5.944 399	52.07 59
29.7	48.043 269	18.63 172	39.236 269	52.85 216	6.343 374	51.48 19
July 9.6	48.312 243	16.91 157	39.505 238	55.01 213	6.717 341	51.29 25
19.6	48.555 209	15.34 139	39.743 210	57.14 206	7.058 297	51.54 67
29.6	48.764 173	13.95 117	39.953 170	59.20 196	7.355 246	52.21 103
Aug. 8.6	48.937 130	12.78 95	40.123 131	61.16 176	7.601 189	53.24 139
18.5	49.067 88	11.83 72	40.254 86	62.92 159	7.790 127	54.63 167
28.5	49.155 45	11.11 47	40.340 44	64.51 136	7.917 65	56.30 191
Sept. 7.5	49.200 4	10.64 24	40.384 5	65.87 116	7.982 3	58.21 206
17.4	49.204 33	10.40 4	40.389 32	67.03 89	7.985 56	60.27 211
27.4	49.171 66	10.36 15	40.357 63	67.92 66	7.929 107	62.38 209
Oct. 7.4	49.105 92	10.51 31	40.294 93	68.58 43	7.822 151	64.47 197
17.4	49.013 113	10.82 44	40.201 110	69.01 18	7.671 190	66.44 179
27.3	48.900 126	11.26 56	40.091 127	69.19 6	7.481 210	68.23 153
Nov. 6.3	48.774 132	11.82 62	39.964 134	69.13 23	7.271 228	69.76 119
16.3	48.642 132	12.44 69	39.830 137	68.90 49	7.043 229	70.95 81
26.3	48.510 127	13.13 73	39.693 132	68.41 66	6.814 223	71.76 40
Dec. 6.2	48.383 117	13.86 73	39.561 124	67.75 86	6.591 209	72.16 2
16.2	48.266 103	14.59 72	39.437 111	66.89 99	6.382 185	72.14 45
26.2	48.163 86	15.31 70	39.326 96	65.90 110	6.197 157	71.69 86
36.1	48.077	16.01	39.230	64.80	6.040	70.83
Mean Place	46.178	32.14	37.275	44.14	4.603	76.49
Sec δ , Tan δ	1.003	-0.081	1.017	+0.184	1.474	-1.083
L α , L δ	0.00	+0.4	0.00	+0.4	+0.01	+0.4
ω α , ω δ	+0.01	-0.4	-0.01	-0.4	+0.07	-0.4
AUTHORITY			A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 421

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	η Pegasi. Mag. 3·1		ε Gruis. Mag. 3·7		μ Pegasi. Mag. 3·7	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. N.
	^h ^m 22 39	[°] 29 48	^h ^m 22 43	[°] 51 42	^h ^m 22 46	[°] 24 11
Jan. 1·2	22·932 ¹²⁰	75·19 ¹⁶³	52·730 ¹⁶⁷	91·73 ¹²⁴	16·603 ¹⁰⁹	49·29 ¹⁴⁷
11·1	22·812 ⁹⁶	73·56 ¹⁸⁷	52·563 ¹²⁷	90·49 ¹⁶³	16·494 ⁸⁹	47·82 ¹⁶⁶
21·1	22·716 ⁷⁰	71·69 ²⁰²	52·436 ⁸⁵	88·86 ¹⁹⁹	16·405 ⁶⁵	46·16 ¹⁷⁷
31·1	22·646 ³⁸	69·67 ²⁰⁸	52·351 ⁴¹	86·87 ²²⁸	16·340 ³⁶	44·39 ¹⁸²
Feb. 10·1	22·608 ¹	67·59 ²⁰⁸	52·310 ⁸	84·59 ²⁵¹	16·304 ⁴	42·57 ¹⁷⁹
20·0	22·607 ³⁵	65·51 ¹⁹⁷	52·318 ⁵⁹	82·08 ²⁷¹	16·300 ³¹	40·78 ¹⁶⁷
Mar. 2·0	22·642 ⁷⁷	63·54 ¹⁷⁷	52·377 ¹⁰⁸	79·37 ²⁸³	16·331 ⁶⁹	39·11 ¹⁴⁸
12·0	22·719 ¹¹⁷	61·77 ¹⁵⁰	52·485 ¹⁶¹	76·54 ²⁹⁰	16·400 ¹⁰⁹	37·63 ¹²²
22·0	22·836 ¹⁶²	60·27 ¹¹⁵	52·646 ²⁰⁹	73·64 ²⁹¹	16·509 ¹⁴⁹	36·41 ⁸⁹
31·9	22·998 ²⁰¹	59·12 ⁷⁷	52·855 ²⁶¹	70·73 ²⁸⁵	16·658 ¹⁸⁸	35·52 ⁵¹
Apr. 10·9	23·199 ²³⁸	58·35 ³²	53·116 ³⁰⁷	67·88 ²⁷⁴	16·846 ²²⁵	35·01 ¹²
20·9	23·437 ²⁷³	58·03 ¹¹	53·423 ³⁵⁰	65·14 ²⁵⁸	17·071 ²⁵⁷	34·89 ³¹
30·8	23·710 ²⁹⁸	58·14 ⁵⁹	53·773 ³⁸⁶	62·56 ²³⁴	17·328 ²⁸⁵	35·20 ⁷³
May 10·8	24·008 ³¹⁷	58·73 ¹⁰³	54·159 ⁴¹⁶	60·22 ²⁰⁸	17·613 ³⁰⁴	35·93 ¹¹²
20·8	24·325 ³²⁹	59·76 ¹⁴⁴	54·575 ⁴³⁴	58·14 ¹⁷⁴	17·917 ³¹⁷	37·05 ¹⁴⁸
30·8	24·654 ³³¹	61·20 ¹⁷⁹	55·009 ⁴⁴⁵	56·40 ¹³⁶	18·234 ³²²	38·53 ¹⁸¹
June 9·7	24·985 ³²³	62·99 ²¹⁰	55·454 ⁴⁴²	55·04 ⁹⁴	18·556 ³¹⁶	40·34 ²⁰⁷
19·7	25·308 ³¹¹	65·09 ²³⁷	55·896 ⁴³¹	54·10 ⁵²	18·872 ³⁰³	42·41 ²²⁹
29·7	25·619 ²⁸⁴	67·46 ²⁵⁴	56·327 ⁴⁰⁵	53·58 ⁷	19·175 ²⁸²	44·70 ²⁴³
July 9·7	25·903 ²⁵⁵	70·00 ²⁶⁸	56·732 ³⁷¹	53·51 ³⁷	19·457 ²⁵⁴	47·13 ²⁵³
19·6	26·158 ²¹⁸	72·68 ²⁷⁴	57·103 ³²⁶	53·88 ⁸¹	19·711 ²¹⁹	49·66 ²⁵⁵
29·6	26·376 ¹⁷⁴	75·42 ²⁷⁴	57·429 ²⁷¹	54·69 ¹²¹	19·930 ¹⁸⁰	52·21 ²⁵¹
Aug. 8·6	26·550 ¹³²	78·16 ²⁶⁷	57·700 ²⁰⁸	55·90 ¹⁵⁷	20·110 ¹³⁷	54·72 ²⁴³
18·5	26·682 ⁸⁴	80·83 ²⁵⁹	57·908 ¹⁴⁴	57·47 ¹⁸⁶	20·247 ⁹³	57·15 ²³⁰
28·5	26·766 ⁴¹	83·42 ²³⁸	58·052 ⁷⁵	59·33 ²⁰⁹	20·340 ⁴⁹	59·45 ²¹³
Sept. 7·5	26·807 ⁶	85·80 ²¹⁸	58·127 ⁸	61·42 ²²⁵	20·389 ⁷	61·58 ¹⁹¹
17·5	26·801 ⁴⁶	87·98 ¹⁹⁴	58·135 ⁵⁵	63·67 ²²⁹	20·396 ³²	63·49 ¹⁶⁷
27·4	26·755 ⁸¹	89·92 ¹⁶⁷	58·080 ¹¹⁶	65·96 ²²⁷	20·364 ⁶⁶	65·16 ¹⁴⁰
Oct. 7·4	26·674 ¹⁰⁹	91·59 ¹³⁴	57·964 ¹⁶⁴	68·23 ²¹⁴	20·298 ⁹⁶	66·56 ¹¹¹
17·4	26·565 ¹³⁶	92·93 ¹⁰¹	57·800 ²⁰⁵	70·37 ¹⁹¹	20·202 ¹¹⁹	67·67 ⁸¹
27·4	26·429 ¹⁵¹	93·94 ⁶⁷	57·595 ²³⁶	72·28 ¹⁶⁴	20·083 ¹³⁵	68·48 ⁵⁰
Nov. 6·3	26·278 ¹⁶¹	94·61 ³²	57·359 ²⁵³	73·92 ¹²⁶	19·948 ¹⁴⁶	68·98 ¹⁸
16·3	26·117 ¹⁶⁸	94·93 ⁷	57·106 ²⁵⁹	75·18 ⁸³	19·802 ¹⁵¹	69·16 ¹⁵
26·3	25·949 ¹⁶⁶	94·86 ⁴⁶	56·847 ²⁵³	76·01 ⁴⁰	19·651 ¹⁵⁰	69·01 ⁴⁸
Dec. 6·2	25·783 ¹⁶⁰	94·40 ⁸¹	56·594 ²³⁸	76·41 ⁷	19·501 ¹⁴⁵	68·53 ⁷⁹
16·2	25·623 ¹⁴⁷	93·59 ¹¹⁷	56·356 ²¹⁶	76·34 ⁵³	19·356 ¹³⁵	67·74 ¹⁰⁸
26·2	25·476 ¹²⁹	92·42 ¹⁴⁷	56·140 ¹⁸⁴	75·81 ⁹⁷	19·221 ¹²¹	66·66 ¹³⁵
36·2	25·347	90·95	55·956	74·84	19·100	65·31
Mean Place	23·424	64·71	54·648	79·45	17·091	40·59
Sec δ, Tan δ	1·153	+0·573	1·614	−1·267	1·096	+0·449
L α, L δ	−0·01	+0·4	+0·01	+0·4	0·00	+0·4
ω α, ω δ	−0·04	−0·3	+0·08	−0·3	−0·03	−0·3
AUTHORITY	A. E.		A. E.		A. N.	

422 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	λ Aquarii. Mag. 3·8		δ Aquarii. Mag. 3·5		α Piscis Australis. Mag. 1·3	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. S.
	^h 22 48	[°] 7 59	^h 22 50	[°] 16 13	^h 22 53	[°] 30 1
Jan. 1·2	35·101 ^s 83	24·49 52	33·021 ^s 87	54·53 24	22·835 ^s 104	58·93 31
11·1	35·018 65	25·01 42	32·934 68	54·77 4	22·731 83	58·62 57
21·1	34·953 42	25·43 31	32·866 43	54·81 12	22·648 53	58·05 86
31·1	34·911 19	25·74 16	32·823 20	54·69 32	22·595 26	57·19 108
Feb. 10·1	34·892 11	25·90 4	32·803 9	54·37 53	22·569 4	56·11 135
20·0	34·903 41	25·86 21	32·812 42	53·84 71	22·573 43	54·76 157
Mar. 2·0	34·944 74	25·65 45	32·854 73	53·13 96	22·616 76	53·19 176
12·0	35·018 108	25·20 65	32·927 109	52·17 113	22·692 115	51·43 193
22·0	35·126 143	24·55 90	33·036 144	51·04 135	22·807 151	49·50 205
31·9	35·269 176	23·65 112	33·180 177	49·69 153	22·958 192	47·45 215
Apr. 10·9	35·445 209	22·53 134	33·357 213	48·16 168	23·150 228	45·30 222
20·9	35·654 241	21·19 152	33·570 244	46·48 183	23·378 263	43·08 224
30·8	35·895 266	19·67 169	33·814 272	44·65 189	23·641 291	40·84 218
May 10·8	36·161 288	17·98 181	34·086 294	42·76 195	23·932 315	38·66 211
20·8	36·449 300	16·17 190	34·380 307	40·81 193	24·247 335	36·55 197
30·8	36·749 308	14·27 189	34·687 314	38·88 186	24·582 339	34·58 175
June 9·7	37·057 305	12·38 187	35·001 315	37·02 175	24·921 342	32·83 154
19·7	37·362 295	10·51 176	35·316 306	35·27 160	25·263 331	31·29 122
29·7	37·657 278	8·75 165	35·622 288	33·67 139	25·594 316	30·07 95
July 9·7	37·935 255	7·10 149	35·910 264	32·28 115	25·910 293	29·12 58
19·6	38·190 223	5·61 126	36·174 231	31·13 89	26·203 257	28·54 27
29·6	38·413 184	4·35 105	36·405 194	30·24 62	26·460 216	28·27 11
Aug. 8·6	38·597 149	3·30 79	36·599 154	29·62 35	26·676 172	28·38 42
18·5	38·746 103	2·51 54	36·753 108	29·27 5	26·848 124	28·80 74
28·5	38·849 63	1·97 33	36·861 67	29·22 20	26·972 75	29·54 99
Sept. 7·5	38·912 19	1·64 4	36·928 24	29·42 43	27·047 26	30·53 122
17·5	38·931 19	1·60 15	36·952 19	29·85 63	27·073 16	31·75 137
27·4	38·912 53	1·75 31	36·933 53	30·48 76	27·057 58	33·12 146
Oct. 7·4	38·859 82	2·06 49	36·880 84	31·24 89	26·999 97	34·58 149
17·4	38·777 100	2·55 60	36·796 106	32·13 93	26·902 122	36·07 144
27·4	38·677 118	3·15 67	36·690 123	33·06 95	26·780 144	37·51 133
Nov. 6·3	38·559 129	3·82 73	36·567 134	34·01 90	26·636 150	38·84 118
16·3	38·430 131	4·55 75	36·433 135	34·91 85	26·486 160	40·02 97
26·3	38·299 126	5·30 72	36·298 134	35·76 75	26·326 158	40·99 71
Dec. 6·2	38·173 121	6·02 71	36·164 126	36·51 63	26·168 148	41·70 46
16·2	38·052 109	6·73 66	36·038 114	37·14 48	26·020 133	42·16 16
26·2	37·943 94	7·39 60	35·924 97	37·62 34	25·887 115	42·32 10
36·2	37·849	7·99	35·827	37·96	25·772	42·22
Mean Place	35·896	23·03	33·921	50·49	23·969	50·80
Sec δ, Tan δ	1·010	—0·140	1·042	—0·291	1·155	—0·578
L α, L δ	0·00	+0·4	0·00	+0·4	0·00	+0·4
ω α, ω δ	+0·01	—0·3	+0·02	—0·3	+0·04	—0·3
AUTHORITY	A. E.		A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 423

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	β Piscium. Mag. 4.6		β Pegasi. Mag. 2.2-2.7		α Pegasi. Mag. 2.6	
	R.A.	Dec. N.	R.A.	Dec. N.	R.A.	Dec. N.
	h m 22 59	° ' 3 24	h m 23 0	° ' 27 39	h m 23 0	° ' 14 47
Jan. 1.2	56.905 ₉₂	20.46 ₈₉	1.966 ₁₂₅	62.61 ₁₄₅	54.939 ₁₀₅	31.81 ₁₂₀
11.2	56.813 ₇₅	19.57 ₈₉	1.841 ₁₀₄	61.16 ₁₆₆	54.834 ₈₄	30.61 ₁₃₀
21.1	56.738 ₅₅	18.68 ₈₆	1.737 ₈₄	59.50 ₁₈₃	54.750 ₆₄	29.31 ₁₃₅
31.1	56.683 ₃₀	17.82 ₇₆	1.653 ₅₃	57.67 ₁₉₀	54.686 ₄₁	27.96 ₁₃₃
Feb. 10.1	56.653 ₄	17.06 ₆₄	1.600 ₂₁	55.77 ₁₉₁	54.645 ₁₀	26.63 ₁₂₆
20.0	56.649 ₂₅	16.42 ₄₈	1.579 ₁₃	53.86 ₁₈₂	54.635 ₁₈	25.37 ₁₁₄
Mar. 2.0	56.674 ₅₉	15.94 ₂₆	1.592 ₅₅	52.04 ₁₆₆	54.653 ₅₆	24.23 ₉₆
12.0	56.733 ₉₃	15.68 ₂	1.647 ₉₆	50.38 ₁₄₀	54.709 ₉₅	23.27 ₇₀
22.0	56.826 ₁₂₉	15.66 ₂₅	1.743 ₁₃₇	48.98 ₁₁₁	54.804 ₁₃₁	22.57 ₃₉
31.9	56.955 ₁₆₅	15.91 ₅₄	1.880 ₁₈₀	47.87 ₇₂	54.935 ₁₆₆	22.18 ₇
Apr. 10.9	57.120 ₂₀₀	16.45 ₈₂	2.060 ₂₂₀	47.15 ₃₃	55.101 ₂₀₄	22.11 ₂₈
20.9	57.320 ₂₃₂	17.27 ₁₁₁	2.280 ₂₅₃	46.82 ₁₁	55.305 ₂₄₀	22.39 ₆₅
30.9	57.552 ₂₆₀	18.38 ₁₃₆	2.533 ₂₈₆	46.93 ₅₃	55.545 ₂₆₃	23.04 ₉₇
May 10.8	57.812 ₂₈₁	19.74 ₁₅₉	2.819 ₃₀₆	47.46 ₉₇	55.808 ₂₈₉	24.01 ₁₂₉
20.8	58.093 ₂₉₇	21.33 ₁₇₇	3.125 ₃₂₂	48.43 ₁₃₃	56.097 ₃₀₁	25.30 ₁₅₉
30.8	58.390 ₃₀₅	23.10 ₁₉₀	3.447 ₃₂₉	49.76 ₁₆₉	56.398 ₃₁₀	26.89 ₁₈₄
June 9.7	58.695 ₃₀₄	25.00 ₁₉₉	3.776 ₃₂₅	51.45 ₂₀₀	56.708 ₃₁₀	28.73 ₁₉₉
19.7	58.999 ₂₉₆	26.99 ₂₀₁	4.101 ₃₁₆	53.45 ₂₂₆	57.018 ₂₉₉	30.72 ₂₁₄
29.7	59.295 ₂₇₈	29.00 ₁₉₉	4.417 ₂₉₅	55.71 ₂₄₅	57.317 ₂₈₁	32.86 ₂₂₃
July 9.7	59.573 ₂₅₅	30.99 ₁₉₁	4.712 ₂₆₉	58.16 ₂₅₄	57.598 ₂₅₇	35.09 ₂₂₅
19.6	59.828 ₂₂₆	32.90 ₁₇₈	4.981 ₂₃₂	60.70 ₂₆₂	57.855 ₂₂₇	37.34 ₂₂₁
29.6	60.054 ₁₉₀	34.68 ₁₆₂	5.213 ₁₉₇	63.32 ₂₆₄	58.082 ₁₉₀	39.55 ₂₁₆
Aug. 8.6	60.244 ₁₅₁	36.30 ₁₄₃	5.410 ₁₅₂	65.96 ₂₅₉	58.272 ₁₅₂	41.71 ₂₀₀
18.6	60.395 ₁₁₁	37.73 ₁₂₂	5.562 ₁₀₉	68.55 ₂₄₇	58.424 ₁₀₈	43.71 ₁₈₃
28.5	60.506 ₆₈	38.95 ₉₈	5.671 ₆₄	71.02 ₂₃₀	58.532 ₆₉	45.54 ₁₆₃
Sept. 7.5	60.574 ₂₈	39.93 ₇₅	5.735 ₂₂	73.32 ₂₁₃	58.601 ₂₆	47.17 ₁₄₂
17.5	60.602 ₉	40.68 ₅₂	5.757 ₁₉	75.45 ₁₈₈	58.627 ₉	48.59 ₁₁₈
27.4	60.593 ₄₃	41.20 ₃₀	5.738 ₅₄	77.33 ₁₆₃	58.618 ₄₆	49.77 ₉₅
Oct. 7.4	60.550 ₇₁	41.50 ₉	5.684 ₈₇	78.96 ₁₃₄	58.572 ₇₂	50.72 ₇₀
17.4	60.479 ₉₃	41.59 ₁₀	5.597 ₁₁₂	80.30 ₁₀₃	58.500 ₉₈	51.42 ₃₉
27.4	60.386 ₁₁₁	41.49 ₂₈	5.485 ₁₃₂	81.33 ₇₁	58.402 ₁₁₄	51.81 ₂₁
Nov. 6.3	60.275 ₁₂₀	41.21 ₄₂	5.353 ₁₄₆	82.04 ₃₉	58.288 ₁₂₆	52.02 ₇
16.3	60.155 ₁₂₆	40.79 ₅₆	5.207 ₁₅₂	82.43 ₀	58.162 ₁₃₃	51.95 ₃₀
26.3	60.029 ₁₂₅	40.23 ₆₇	5.055 ₁₅₆	82.43 ₃₁	58.029 ₁₃₄	51.65 ₅₄
Dec. 6.3	59.904 ₁₂₁	39.56 ₇₇	4.899 ₁₅₃	82.12 ₆₈	57.895 ₁₂₉	51.11 ₇₆
16.2	59.783 ₁₁₂	38.79 ₈₄	4.746 ₁₄₆	81.44 ₁₀₀	57.766 ₁₂₅	50.35 ₉₄
26.2	59.671 ₁₀₀	37.95 ₈₈	4.600 ₁₃₃	80.44 ₁₂₈	57.641 ₁₀₉	49.41 ₁₁₀
36.2	59.571	37.07	4.467	79.16	57.532	48.31
Mean Place	57.508	18.75	2.343	53.20	55.423	26.45
Sec δ , Tan δ	1.002	+0.059	1.129	+0.525	1.034	+0.264
L α , L δ	0.00	+0.4	0.00	+0.4	0.00	+0.4
ω α , ω δ	-0.01	-0.3	-0.03	-0.3	-0.02	-0.3
AUTHORITY	A. E.		A. E.		A. E.	

424 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ε ² Aquarii. Mag. 3.8		γ Tucanæ. Mag. 4.1		γ Piscium. Mag. 3.9	
	R.A.	Dec. S.	R.A.	Dec. S.	R.A.	Dec. N.
	^h ^m 23 5	[°] ['] 21 35	^h ^m 23 12	[°] ['] 58 39	^h ^m 23 13	[°] ['] 2 51
Jan. 1.2	19.680 ¹⁰¹	33.00 ⁶	54.567 ²⁵¹	46.18 ¹²⁵	9.856 ⁹⁷	41.51 ⁸⁶
11.2	19.579 ⁸²	33.06 ¹⁵	54.316 ²¹²	44.93 ¹⁷¹	9.759 ⁸¹	40.65 ⁸⁴
21.1	19.497 ⁵⁸	32.91 ⁴⁰	54.104 ¹⁶⁶	43.22 ²¹³	9.678 ⁶³	39.81 ⁸⁰
31.1	19.439 ³⁶	32.51 ⁶²	53.938 ¹¹⁴	41.09 ²⁴⁶	9.615 ⁴¹	39.01 ⁷¹
Feb. 10.1	19.403 ⁵	31.89 ⁸⁴	53.824 ⁵⁹	38.63 ²⁷⁹	9.574 ¹⁵	38.30 ⁵⁹
20.0	19.398 ²⁴	31.05 ¹⁰⁶	53.765 ²	35.84 ²⁹⁹	9.559 ¹³	37.71 ⁴²
Mar. 2.0	19.422 ⁵⁹	29.99 ¹²⁹	53.763 ⁶⁰	32.85 ³¹⁵	9.572 ⁴⁶	37.29 ²²
12.0	19.481 ⁹⁷	28.70 ¹⁴⁸	53.823 ¹²¹	29.70 ³²⁴	9.618 ⁸¹	37.07 ²
22.0	19.578 ¹³⁰	27.22 ¹⁶⁷	53.944 ¹⁸⁶	26.46 ³²⁶	9.699 ¹¹⁸	37.09 ²⁸
31.9	19.708 ¹⁶⁸	25.55 ¹⁸²	54.130 ²⁴⁵	23.20 ³²²	9.817 ¹⁵⁵	37.37 ⁵⁶
Apr. 10.9	19.876 ²⁰⁴	23.73 ¹⁹⁶	54.375 ³⁰⁷	19.98 ³⁰⁹	9.972 ¹⁹⁰	37.93 ⁸⁵
20.9	20.080 ²⁴⁰	21.77 ²⁰³	54.682 ³⁶⁰	16.89 ²⁹¹	10.162 ²²⁴	38.78 ¹¹¹
30.9	20.320 ²⁶⁸	19.74 ²⁰⁹	55.042 ⁴⁰⁹	13.98 ²⁶⁶	10.386 ²⁵²	39.89 ¹³⁷
May 10.8	20.588 ²⁹⁵	17.65 ²⁰⁸	55.451 ⁴⁵¹	11.32 ²³⁵	10.638 ²⁷⁹	41.26 ¹⁵⁹
20.8	20.883 ³¹⁰	15.57 ²⁰⁴	55.902 ⁴⁸⁰	8.97 ²⁰⁰	10.917 ²⁹⁴	42.85 ¹⁷⁷
30.8	21.193 ³²²	13.53 ¹⁹⁰	56.382 ⁵⁰¹	6.97 ¹⁵⁷	11.211 ³⁰⁵	44.62 ¹⁹⁰
June 9.7	21.515 ³²³	11.63 ¹⁷⁵	56.883 ⁵¹⁰	5.40 ¹¹²	11.516 ³⁰⁶	46.52 ¹⁹⁸
19.7	21.838 ³¹⁹	9.88 ¹⁵⁴	57.393 ⁵⁰²	4.28 ⁶⁶	11.822 ³⁰⁰	48.50 ²⁰⁰
29.7	22.157 ³⁰²	8.34 ¹³¹	57.895 ⁴⁸⁵	3.62 ¹¹	12.122 ²⁸⁶	50.50 ¹⁹⁸
July 9.7	22.459 ²⁷⁸	7.03 ¹⁰⁰	58.380 ⁴⁵¹	3.51 ³⁰	12.408 ²⁶⁴	52.48 ¹⁹⁰
19.6	22.737 ²⁵¹	6.03 ⁷¹	58.831 ⁴⁰⁵	3.81 ⁸³	12.672 ²³⁶	54.38 ¹⁷⁷
29.6	22.988 ²¹³	5.32 ³⁹	59.236 ³⁵⁰	4.64 ¹²⁹	12.908 ²⁰²	56.15 ¹⁶¹
Aug. 8.6	23.201 ¹⁷¹	4.93 ¹⁰	59.586 ²⁸³	5.93 ¹⁷⁰	13.110 ¹⁶⁴	57.76 ¹⁴²
18.6	23.372 ¹²⁸	4.83 ²¹	59.869 ²⁰⁹	7.63 ²⁰²	13.274 ¹²⁵	59.18 ¹¹⁹
28.5	23.500 ⁸³	5.04 ⁵⁰	60.078 ¹³²	9.65 ²³⁴	13.399 ⁸³	60.37 ⁹⁷
Sept. 7.5	23.583 ⁴⁰	5.54 ⁷⁴	60.210 ⁵⁵	11.99 ²⁵³	13.482 ⁴⁴	61.34 ⁷³
17.5	23.623 ⁵	6.28 ⁹²	60.265 ²⁵	14.52 ²⁵⁹	13.526 ⁵	62.07 ⁴⁹
27.4	23.618 ⁴³	7.20 ¹⁰⁸	60.240 ⁹⁸	17.11 ²⁶¹	13.531 ²⁸	62.56 ²⁸
Oct. 7.4	23.575 ⁷⁵	8.28 ¹¹⁵	60.142 ¹⁶⁵	19.72 ²⁴⁷	13.503 ⁵⁸	62.84 ⁶
17.4	23.500 ¹⁰¹	9.43 ¹¹⁹	59.977 ²²⁰	22.19 ²²⁸	13.445 ⁸¹	62.90 ¹²
27.4	23.399 ¹²¹	10.62 ¹¹⁸	59.757 ²⁶⁶	24.47 ¹⁹⁷	13.364 ¹⁰⁰	62.78 ²⁹
Nov. 6.3	23.278 ¹³¹	11.80 ¹⁰⁸	59.491 ²⁹⁶	26.44 ¹⁵⁷	13.264 ¹¹²	62.49 ⁴³
16.3	23.147 ¹⁴¹	12.88 ⁹⁷	59.195 ³¹⁶	28.01 ¹¹³	13.152 ¹¹⁹	62.06 ⁵⁶
26.3	23.006 ¹³⁸	13.85 ⁸⁰	58.879 ³²²	29.14 ⁶¹	13.033 ¹²¹	61.50 ⁶⁷
Dec. 6.3	22.868 ¹³⁴	14.65 ⁶⁴	58.557 ³¹⁵	29.75 ¹⁰	12.912 ¹²⁰	60.83 ⁷⁴
16.2	22.734 ¹²⁴	15.29 ⁴³	58.242 ²⁹⁶	29.85 ⁴³	12.792 ¹¹³	60.09 ⁸¹
26.2	22.610 ¹¹⁰	15.72 ²⁰	57.946 ²⁷⁰	29.42 ⁹⁴	12.679 ¹⁰³	59.28 ⁸⁵
36.2	22.500	15.92	57.676	28.48	12.576	58.43
Mean Place	20.584	26.55	56.650	30.68	10.389	40.50
Sec δ, Tan δ	1.075	-0.396	1.923	-1.642	1.001	+0.050
L α, L δ	0.00	+0.4	+0.01	+0.4	0.00	+0.4
ω α, ω δ	+0.03	-0.2	+0.11	-0.2	0.00	-0.2
AUTHORITY	A. E.		A. E.		A. N.	

APPARENT PLACES OF STARS, 1923. 425

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	ψ^3 Aquarii. Mag. 5.2		τ Pegasi. Mag. 4.7		κ Piscium. Mag. 4.9	
	R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. N.
	^h 23 ^m 14	[°] 10 ['] 1	^h 23 ^m 16	[°] 23 ['] 19	^h 23 ^m 22	[°] 0 ['] 49
Jan. 1.2	56.755 ^s ₉₈	58.53 ₄₈	49.073 ₁₂₆	14.52 ₁₃₀	58.607 ₁₀₂	62.13 ₈₀
11.2	56.657 ₈₂	59.01 ₃₅	48.947 ₁₀₇	13.22 ₁₄₅	58.505 ₈₈	61.33 ₇₆
21.1	56.575 ₆₃	59.36 ₂₀	48.840 ₈₆	11.77 ₁₅₈	58.417 ₇₁	60.57 ₇₁
31.1	56.512 ₄₁	59.56 ₃	48.754 ₆₄	10.19 ₁₆₅	58.346 ₅₁	59.86 ₅₉
Feb. 10.1	56.471 ₁₅	59.59 ₁₅	48.690 ₃₅	8.54 ₁₆₈	58.295 ₂₅	59.27 ₄₇
20.0	56.456 ₁₃	59.44 ₃₇	48.655 ₀	6.86 ₁₅₈	58.270 ₄	58.80 ₃₁
Mar. 2.0	56.469 ₄₅	59.07 ₅₈	48.655 ₃₆	5.28 ₁₃₉	58.274 ₃₆	58.49 ₇
12.0	56.514 ₈₀	58.49 ₈₀	48.691 ₇₅	3.89 ₁₁₇	58.310 ₇₀	58.42 ₁₃
22.0	56.594 ₁₁₆	57.69 ₁₀₄	48.766 ₁₁₉	2.72 ₉₁	58.380 ₁₀₈	58.55 ₄₂
31.9	56.710 ₁₅₃	56.65 ₁₂₆	48.885 ₁₅₈	1.81 ₅₆	58.488 ₁₄₅	58.97 ₆₆
Apr. 10.9	56.863 ₁₈₉	55.39 ₁₄₇	49.043 ₂₀₀	1.25 ₁₈	58.633 ₁₇₉	59.63 ₉₄
20.9	57.052 ₂₂₃	53.92 ₁₆₄	49.243 ₂₃₉	1.07 ₂₀	58.812 ₂₁₇	60.57 ₁₂₀
30.9	57.275 ₂₅₃	52.28 ₁₈₀	49.482 ₂₆₅	1.27 ₆₁	59.029 ₂₄₅	61.77 ₁₄₃
May 10.8	57.528 ₂₇₇	50.48 ₁₉₀	49.747 ₂₉₃	1.88 ₉₉	59.274 ₂₇₄	63.20 ₁₆₃
20.8	57.805 ₂₉₆	48.58 ₁₉₆	50.040 ₃₀₉	2.87 ₁₃₃	59.548 ₂₉₁	64.83 ₁₇₉
30.8	58.101 ₃₀₇	46.62 ₁₉₆	50.349 ₃₁₉	4.20 ₁₆₆	59.839 ₃₀₁	66.62 ₁₉₂
June 9.7	58.408 ₃₁₀	44.66 ₁₉₂	50.668 ₃₂₃	5.86 ₁₉₂	60.140 ₃₀₇	68.54 ₁₉₇
19.7	58.718 ₃₀₅	42.74 ₁₈₂	50.991 ₃₁₃	7.78 ₂₁₄	60.447 ₃₀₀	70.51 ₁₉₉
29.7	59.023 ₂₉₁	40.92 ₁₆₆	51.304 ₂₉₆	9.92 ₂₃₃	60.747 ₂₈₉	72.50 ₁₉₄
July 9.7	59.314 ₂₇₁	39.26 ₁₄₈	51.600 ₂₇₅	12.25 ₂₄₁	61.036 ₂₆₉	74.44 ₁₈₄
19.6	59.585 ₂₄₃	37.78 ₁₂₆	51.875 ₂₄₂	14.66 ₂₄₅	61.305 ₂₄₁	76.28 ₁₇₁
29.6	59.828 ₂₀₈	36.52 ₁₀₁	52.117 ₂₀₉	17.11 ₂₄₄	61.546 ₂₀₉	77.99 ₁₅₂
Aug. 8.6	60.036 ₁₇₀	35.51 ₇₃	52.326 ₁₆₆	19.55 ₂₃₆	61.755 ₁₇₃	79.51 ₁₃₁
18.6	60.206 ₁₃₀	34.78 ₄₇	52.492 ₁₂₇	21.91 ₂₂₆	61.928 ₁₃₃	80.82 ₁₁₀
28.5	60.336 ₈₈	34.31 ₂₀	52.619 ₈₆	24.17 ₂₁₂	62.061 ₉₂	81.92 ₈₅
Sept. 7.5	60.424 ₄₆	34.11 ₅	52.705 ₄₂	26.29 ₁₉₁	62.153 ₅₂	82.77 ₆₁
17.5	60.470 ₇	34.16 ₂₇	52.747 ₀	28.20 ₁₆₇	62.205 ₁₆	83.38 ₃₇
27.4	60.477 ₂₈	34.43 ₄₆	52.747 ₃₁	29.87 ₁₄₅	62.221 ₂₁	83.75 ₁₇
Oct. 7.4	60.449 ₆₀	34.89 ₆₂	52.716 ₆₅	31.32 ₁₁₇	62.200 ₄₉	83.92 ₅
17.4	60.389 ₈₄	35.51 ₇₃	52.651 ₉₀	32.49 ₈₈	62.151 ₇₄	83.87 ₂₂
27.4	60.305 ₁₀₄	36.24 ₈₀	52.561 ₁₁₃	33.37 ₆₁	62.077 ₉₄	83.65 ₃₇
Nov. 6.3	60.201 ₁₁₅	37.04 ₈₃	52.448 ₁₂₈	33.98 ₂₉	61.983 ₁₀₈	83.28 ₅₁
16.3	60.086 ₁₂₄	37.87 ₈₄	52.320 ₁₃₇	34.27 ₁	61.875 ₁₁₇	82.77 ₆₂
26.3	59.962 ₁₂₅	38.71 ₇₉	52.183 ₁₄₁	34.28 ₃₂	61.758 ₁₂₁	82.15 ₆₈
Dec. 6.3	59.837 ₁₂₃	39.50 ₇₅	52.042 ₁₄₃	33.96 ₆₀	61.637 ₁₁₉	81.47 ₇₅
16.2	59.714 ₁₁₅	40.25 ₆₅	51.899 ₁₄₀	33.36 ₈₇	61.518 ₁₁₇	80.72 ₇₈
26.2	59.599 ₁₀₅	40.90 ₅₆	51.759 ₁₂₈	32.49 ₁₁₅	61.401 ₁₀₇	79.94 ₈₁
36.2	59.494	41.46	51.631	31.34	61.294	79.13
Mean Place	57.434	55.20	49.383	6.92	59.110	62.20
Sec δ , Tan δ	1.015	-0.177	1.089	+0.431	1.000	+0.015
L α , L δ	0.00	+0.4	0.00	+0.4	0.00	+0.4
ω α , ω δ	+0.01	-0.2	-0.03	-0.2	0.00	-0.2
AUTHORITY			A. E.		A. E.	

426 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	♋ Phœnicis. Mag. 4.8		♊ Piscium. Mag. 4.3		γ Cephei. Mag. 3.4	
	R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. N.
	^h ^m 23 30	[°] ['] 43 2	^h ^m 23 35	[°] ['] 5 12	^h ^m 23 36	[°] ['] 77 11
Jan. 1.2	54.963 ⁸	41.49	58.951 ⁸	32.62	11.69 ⁸	88.76
11.2	54.793 ¹⁷⁰	40.95 ⁵⁴	58.843 ¹⁰⁸	31.73 ⁸⁹	10.79 ⁹⁰	87.84 ⁹²
21.1	54.649 ¹⁴⁴	40.01 ⁹⁴	58.744 ⁹⁹	30.85 ⁸⁸	9.97 ⁸²	86.34 ¹⁵⁰
31.1	54.531 ¹¹⁸	38.68 ¹³³	58.664 ⁸⁰	29.99 ⁸⁶	9.23 ⁷⁴	84.27 ²⁰⁷
Feb. 10.1	54.443 ⁸⁸	37.01 ¹⁶⁷	58.603 ⁶¹	29.19 ⁸⁰	8.62 ⁶¹	81.78 ²⁴⁹
20.1	54.391 ⁵²	35.03 ¹⁹⁸	58.563 ⁴⁰	28.46 ⁷³	8.16 ⁴⁶	78.93 ²⁸⁵
Mar. 2.0	54.376 ¹⁵	32.78 ²²⁵	58.554 ⁹	27.93 ⁵³	7.86 ³⁰	75.86 ³⁰⁷
12.0	54.404 ²⁸	30.31 ²⁴⁷	58.574 ²⁰	27.57 ³⁶	7.74 ¹²	72.67 ³¹⁹
22.0	54.476 ⁷²	27.67 ²⁶⁴	58.634 ⁶⁰	27.47 ¹⁰	7.81 ⁷	69.52 ³¹⁵
31.9	54.594 ¹¹⁸	24.92 ²⁷⁵	58.730 ⁹⁶	27.57 ¹⁰	8.06 ²⁵	66.51 ³⁰¹
Apr. 10.9	54.760 ¹⁶⁶	22.09 ²⁸³	58.864 ¹³⁴	28.00 ⁴³	8.48 ⁴²	63.75 ²⁷⁶
20.9	54.972 ²¹²	19.26 ²⁸³	59.034 ¹⁷⁰	28.69 ⁶⁹	9.08 ⁶⁰	61.37 ²³⁸
30.9	55.229 ²⁵⁷	16.48 ²⁷⁸	59.241 ²⁰⁷	29.66 ⁹⁷	9.81 ⁷³	59.45 ¹⁹²
May 10.8	55.525 ²⁹⁶	13.82 ²⁶⁶	59.483 ²⁴²	30.92 ¹²⁶	10.66 ⁸⁵	57.99 ¹⁴⁶
20.8	55.856 ³³¹	11.33 ²⁴⁹	59.747 ²⁶⁴	32.41 ¹⁴⁹	11.60 ⁹⁴	57.09 ⁹⁰
30.8	56.215 ³⁵⁹	9.07 ²²⁶	60.037 ²⁹⁰	34.07 ¹⁶⁶	12.59 ⁹⁹	56.81 ²⁸
June 9.8	56.592 ³⁷⁷	7.10 ¹⁹⁷	60.337 ³⁰⁰	35.92 ¹⁸⁵	13.62 ¹⁰³	57.10 ²⁹
19.7	56.978 ³⁸⁶	5.48 ¹⁶²	60.644 ³⁰⁷	37.86 ¹⁹⁴	14.64 ¹⁰²	57.94 ⁸⁴
29.7	57.364 ³⁸⁶	4.23 ¹²⁵	60.949 ³⁰⁵	39.87 ²⁰¹	15.63 ⁹⁹	59.34 ¹⁴⁰
July 9.7	57.738 ³⁷⁴	3.41 ⁸²	61.241 ²⁹²	41.88 ²⁰¹	16.57 ⁹⁴	59.34 ¹⁸⁹
19.6	58.091 ³⁵³	3.01 ⁴⁰	61.516 ²⁷⁵	43.83 ¹⁹⁵	17.43 ⁸⁶	61.23 ²³⁸
29.6	58.412 ³²¹	3.06 ⁵	61.764 ²⁴⁸	45.69 ¹⁸⁶	18.19 ⁷⁶	63.61 ²⁷⁷
Aug. 8.6	58.695 ²⁸³	3.55 ⁴⁹	61.982 ²¹⁸	47.42 ¹⁷³	18.83 ⁶⁴	66.38 ³⁰⁹
18.6	58.931 ²³⁶	4.45 ⁹⁰	62.166 ¹⁸⁴	48.95 ¹⁵³	19.34 ⁵¹	69.47 ³⁴⁰
28.5	59.116 ¹⁸⁵	5.72 ¹²⁷	62.311 ¹⁴⁵	50.27 ¹³²	19.72 ³⁸	72.87 ³⁵⁶
Sept. 7.5	59.245 ¹²⁹	7.32 ¹⁶⁰	62.416 ¹⁰⁵	51.39 ¹¹²	19.95 ²³	76.43 ³⁷⁰
17.5	59.317 ⁷²	9.18 ¹⁸⁶	62.482 ⁶⁶	52.26 ⁸⁷	20.03 ⁸	80.13 ³⁷⁴
27.5	59.335 ¹⁸	11.22 ²⁰⁴	62.511 ²⁹	52.89 ⁶³	19.97 ⁶	83.87 ³⁷²
Oct. 7.4	59.301 ³⁴	13.35 ²¹³	62.503 ⁸	53.28 ³⁹	19.76 ²¹	87.59 ³⁶⁰
17.4	59.220 ⁸¹	15.49 ²¹⁴	62.468 ³⁵	53.49 ²¹	19.41 ³⁵	91.19 ³³⁷
27.4	59.099 ¹²¹	17.55 ²⁰⁶	62.404 ⁶⁴	53.47 ²	18.94 ⁴⁷	94.56 ³¹³
Nov. 6.3	58.946 ¹⁵³	19.44 ⁸³	62.321 ⁸³	53.28 ¹⁹	18.34 ⁶⁰	97.69 ²⁷⁹
16.3	58.769 ¹⁷⁷	21.09 ¹⁶⁵	62.221 ¹⁰⁰	52.96 ³²	17.64 ⁷⁰	100.48 ²³⁶
26.3	58.578 ¹⁹¹	22.42 ¹³³	62.108 ¹¹³	52.45 ⁵¹	16.85 ⁷⁹	102.84 ¹⁸⁴
Dec. 6.3	58.379 ¹⁹⁹	23.38 ⁹⁶	61.992 ¹¹⁶	51.82 ⁶³	16.00 ⁸⁵	104.68 ¹³¹
16.2	58.181 ¹⁹⁸	23.95 ⁵⁷	61.872 ¹²⁰	51.11 ⁷¹	15.09 ⁹¹	105.99 ⁷¹
26.2	57.991 ¹⁹⁰	24.09 ¹⁴	61.753 ¹¹⁹	50.30 ⁸¹	14.17 ⁹²	106.70 ⁸
36.2	57.815 ¹⁷⁶	23.82 ²⁷	61.642 ¹¹¹	49.44 ⁸⁶	13.26 ⁹¹	106.78 ⁵³
Mean Place	56.182	27.83	59.332	31.76	10.51	69.38
Sec δ, Tan δ	1.368	-0.934	1.004	+0.091	4.515	+4.403
L α, L δ	0.00	+0.4	0.00	+0.4	-0.01	+0.4
ω α, ω δ	+0.06	-0.1	-0.01	-0.1	-0.29	-0.1
AUTHORITY			A. E.		A. E.	

APPARENT PLACES OF STARS, 1923. 427

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	λ Piscium. Mag. 4.6		δ Sculptoris. Mag. 4.6		φ Pegasi. Mag. 5.2	
	R.A.	Dec. N.	R.A.	Dec. S.	R.A.	Dec. N.
	^h ^m 23 38	[°] ['] 1 21	^h ^m 23 44	[°] ['] 28 33	^h ^m 23 48	[°] ['] 18 41
Jan. 1.2	6.612 ^s ₁₀₈	21.57 ["] ₇₈	54.217 ^s ₁₃₆	34.31 ["] ₂	33.910 ^s ₁₂₅	38.30 ["] ₁₀₄
11.2	6.504 ["] ₉₇	20.79 ["] ₇₇	54.081 ["] ₁₁₉	34.33 ["] ₂₈	33.785 ["] ₁₁₈	37.26 ["] ₁₁₈
21.2	6.407 ["] ₈₃	20.02 ["] ₇₀	53.962 ["] ₁₀₀	34.05 ["] ₆₁	33.667 ["] ₁₀₄	36.08 ["] ₁₂₉
31.1	6.324 ["] ₆₂	19.32 ["] ₆₀	53.862 ["] ₈₀	33.44 ["] ₈₉	33.563 ["] ₈₃	34.79 ["] ₁₃₅
Feb. 10.1	6.262 ["] ₄₀	18.72 ["] ₄₈	53.782 ["] ₅₂	32.55 ["] ₁₁₉	33.480 ["] ₆₀	33.44 ["] ₁₃₂
20.1	6.222 ["] ₁₂	18.24 ["] ₃₂	53.730 ["] ₂₂	31.36 ["] ₁₄₃	33.420 ["] ₃₁	32.12 ["] ₁₂₅
Mar. 2.0	6.210 ["] ₁₉	17.92 ["] ₁₁	53.708 ["] ₁₃	29.93 ["] ₁₇₀	33.389 ["] ₄	30.87 ["] ₁₁₂
12.0	6.229 ["] ₅₄	17.81 ["] ₁₂	53.721 ["] ₅₁	28.23 ["] ₁₉₂	33.393 ["] ₄₄	29.75 ["] ₉₂
22.0	6.283 ["] ₉₁	17.93 ["] ₃₇	53.772 ["] ₉₂	26.31 ["] ₂₀₉	33.437 ["] ₈₃	28.83 ["] ₆₈
Apr. 1.0	6.374 ["] ₁₃₀	18.30 ["] ₆₃	53.864 ["] ₁₃₂	24.22 ["] ₂₂₄	33.520 ["] ₁₂₆	28.15 ["] ₃₈
10.9	6.504 ["] ₁₆₈	18.93 ["] ₉₀	53.996 ["] ₁₇₃	21.98 ["] ₂₃₇	33.646 ["] ₁₆₈	27.77 ["] ₂
20.9	6.672 ["] ₂₀₄	19.83 ["] ₁₁₇	54.169 ["] ₂₁₃	19.61 ["] ₂₄₀	33.814 ["] ₂₀₆	27.75 ["] ₂₉
30.9	6.876 ["] ₂₃₇	21.00 ["] ₁₄₀	54.382 ["] ₂₄₇	17.21 ["] ₂₄₄	34.020 ["] ₂₄₀	28.04 ["] ₆₅
May 10.9	7.113 ["] ₂₆₄	22.40 ["] ₁₆₁	54.629 ["] ₂₈₃	14.77 ["] ₂₃₉	34.260 ["] ₂₇₂	28.69 ["] ₁₀₁
20.8	7.377 ["] ₂₈₅	24.01 ["] ₁₇₈	54.912 ["] ₃₀₅	12.38 ["] ₂₂₇	34.532 ["] ₂₉₅	29.70 ["] ₁₃₀
30.8	7.662 ["] ₃₀₀	25.79 ["] ₁₉₀	55.217 ["] ₃₂₆	10.11 ["] ₂₁₂	34.827 ["] ₃₀₈	31.00 ["] ₁₅₉
June 9.8	7.962 ["] ₃₀₆	27.69 ["] ₁₉₇	55.543 ["] ₃₃₆	7.99 ["] ₁₈₉	35.135 ["] ₃₁₇	32.59 ["] ₁₈₂
19.7	8.268 ["] ₃₀₃	29.66 ["] ₁₉₉	55.879 ["] ₃₃₈	6.10 ["] ₁₆₆	35.452 ["] ₃₁₅	34.41 ["] ₂₀₂
29.7	8.571 ["] ₂₉₃	31.65 ["] ₁₉₆	56.217 ["] ₃₂₇	4.44 ["] ₁₃₃	35.767 ["] ₃₀₅	36.43 ["] ₂₁₃
July 9.7	8.864 ["] ₂₇₅	33.61 ["] ₁₈₆	56.544 ["] ₃₁₁	3.11 ["] ₁₀₁	36.072 ["] ₂₈₆	38.56 ["] ₂₂₃
19.7	9.139 ["] ₂₅₁	35.47 ["] ₁₇₄	56.855 ["] ₂₈₃	2.10 ["] ₆₂	36.358 ["] ₂₆₃	40.79 ["] ₂₂₅
29.6	9.390 ["] ₂₁₉	37.21 ["] ₁₅₆	57.138 ["] ₂₅₅	1.48 ["] ₂₆	36.621 ["] ₂₂₉	43.04 ["] ₂₂₀
Aug. 8.6	9.609 ["] ₁₈₄	38.77 ["] ₁₃₅	57.393 ["] ₂₁₈	1.22 ["] ₁₄	36.850 ["] ₁₉₇	45.24 ["] ₂₁₄
18.6	9.793 ["] ₁₄₇	40.12 ["] ₁₁₄	57.611 ["] ₁₇₂	1.36 ["] ₄₇	37.047 ["] ₁₅₇	47.38 ["] ₂₀₂
28.5	9.940 ["] ₁₀₆	41.26 ["] ₈₉	57.783 ["] ₁₂₈	1.83 ["] ₈₁	37.204 ["] ₁₁₆	49.40 ["] ₁₈₄
Sept. 7.5	10.046 ["] ₆₇	42.15 ["] ₆₅	57.911 ["] ₈₅	2.64 ["] ₁₁₁	37.320 ["] ₇₇	51.24 ["] ₁₆₈
17.5	10.113 ["] ₂₉	42.80 ["] ₄₀	57.996 ["] ₃₉	3.75 ["] ₁₃₂	37.397 ["] ₃₉	52.92 ["] ₁₄₅
27.5	10.142 ["] ₅	43.20 ["] ₁₉	58.035 ["] ₇	5.07 ["] ₁₅₁	37.436 ["] ₃	54.37 ["] ₁₂₁
Oct. 7.4	10.137 ["] ₃₆	43.39 ["] ₂	58.028 ["] ₄₃	6.58 ["] ₁₆₁	37.439 ["] ₂₈	55.58 ["] ₉₈
17.4	10.101 ["] ₆₃	43.37 ["] ₂₀	57.985 ["] ₇₇	8.19 ["] ₁₆₂	37.411 ["] ₅₈	56.56 ["] ₇₄
27.4	10.038 ["] ₈₄	43.17 ["] ₃₆	57.908 ["] ₁₀₁	9.81 ["] ₁₅₉	37.353 ["] ₈₀	57.30 ["] ₄₇
Nov. 6.4	9.954 ["] ₉₉	42.81 ["] ₄₉	57.807 ["] ₁₂₅	11.40 ["] ₁₄₆	37.273 ["] ₉₉	57.77 ["] ₂₅
16.3	9.855 ["] ₁₁₀	42.32 ["] ₆₀	57.682 ["] ₁₃₈	12.86 ["] ₁₂₈	37.174 ["] ₁₁₄	58.02 ["] ₃
26.3	9.745 ["] ₁₁₇	41.72 ["] ₆₈	57.544 ["] ₁₄₄	14.14 ["] ₁₁₀	37.060 ["] ₁₂₄	57.99 ["] ₂₅
Dec. 6.3	9.628 ["] ₁₁₉	41.04 ["] ₇₄	57.400 ["] ₁₄₉	15.24 ["] ₈₀	36.936 ["] ₁₂₉	57.74 ["] ₅₀
16.2	9.509 ["] ₁₁₇	40.30 ["] ₇₇	57.251 ["] ₁₄₅	16.04 ["] ₅₆	36.807 ["] ₁₃₂	57.24 ["] ₇₂
26.2	9.392 ["] ₁₁₂	39.53 ["] ₈₀	57.106 ["] ₁₃₇	16.60 ["] ₂₀	36.675 ["] ₁₂₉	56.52 ["] ₉₂
36.2	9.280 ["]	38.73 ["]	56.969 ["]	16.80 ["]	36.546 ["]	55.60 ["]
Mean Place	7.022	22.12	55.002	23.67	34.072	33.28
Sec δ, Tan δ	1.000	+0.024	1.139	-0.544	1.056	+0.338
L α, L δ	0.00	+0.4	0.00	+0.4	0.00	+0.4
ω α, ω δ	0.00	-0.1	+0.04	-0.1	-0.02	-0.1
AUTHORITY			A. E.		A. E.	

428 APPARENT PLACES OF STARS, 1923.

AT UPPER TRANSIT AT GREENWICH.

Mean Solar Date.	27 Piscium. Mag. 5.1		ω Piscium. Mag. 4.0		2 Ceti. Mag. 4.6	
	R.A.	Dec. S.	R.A.	Dec. N.	R.A.	Dec. S.
	^h ^m 23 54	[°] ['] 3 58	^h ^m 23 55	[°] ['] 6 26	^h ^m 23 59	[°] ['] 17 45
Jan. 1.2	43.476 ¹¹³	62.64 67	21.120 ¹¹⁵	14.04 87	47.257 ¹²³	60.63 38
11.2	43.363 ¹⁰⁴	63.31 58	21.005 ¹⁰⁸	13.17 87	47.134 ¹¹³	61.01 15
21.2	43.259 ⁹¹	63.89 47	20.897 ⁹⁵	12.30 86	47.021 ¹⁰⁰	61.16 8
31.1	43.168 ⁷⁵	64.36 34	20.802 ⁷⁸	11.44 81	46.921 ⁸²	61.08 32
Feb. 10.1	43.093 ⁵³	64.70 17	20.724 ⁵⁷	10.63 75	46.839 ⁶⁰	60.76 57
20.1	43.040 ²⁷	64.87 1	20.667 ³⁰	9.88 57	46.779 ³³	60.19 81
Mar. 2.0	43.013 ³	64.86 23	20.637 ⁰	9.31 40	46.746 ³	59.38 105
12.0	43.016 ³⁸	64.63 45	20.637 ⁴⁰	8.91 18	46.743 ³³	58.33 129
22.0	43.054 ⁷⁵	64.18 69	20.677 ⁷⁴	8.73 5	46.776 ⁷¹	57.04 152
Apr. 1.0	43.129 ¹¹³	63.49 94	20.751 ¹¹⁶	8.78 34	46.847 ¹⁰⁹	55.52 171
10.9	43.242 ¹⁵³	62.55 118	20.867 ¹⁵³	9.12 64	46.956 ¹⁵⁰	53.81 190
20.9	43.395 ¹⁹⁰	61.37 141	21.020 ¹⁹³	9.76 87	47.106 ¹⁹⁰	51.91 204
30.9	43.585 ²²⁵	59.96 161	21.213 ²³⁰	10.63 118	47.206 ²²⁶	49.87 214
May 10.9	43.810 ²⁵⁵	58.35 177	21.443 ²⁵⁵	11.81 142	47.522 ²⁵⁷	47.73 220
20.8	44.065 ²⁷⁸	56.58 190	21.698 ²⁸²	13.23 161	47.779 ²⁸⁴	45.53 220
30.8	44.343 ²⁹⁶	54.68 198	21.980 ²⁹⁷	14.84 181	48.063 ³⁰²	43.33 214
June 9.8	44.639 ³⁰⁵	52.70 200	22.277 ³⁰⁶	16.65 194	48.365 ³¹⁴	41.19 204
19.7	44.944 ³⁰⁶	50.70 196	22.583 ³⁰⁶	18.59 199	48.679 ³¹⁷	39.15 188
29.7	45.250 ²⁹⁸	48.74 188	22.889 ²⁹⁸	20.58 202	48.996 ³¹¹	37.27 167
July 9.7	45.548 ²⁸⁴	46.86 176	23.187 ²⁸⁴	22.60 199	49.307 ²⁹⁷	35.60 140
19.7	45.832 ²⁶¹	45.10 157	23.471 ²⁶¹	24.59 190	49.604 ²⁷⁵	34.20 111
29.6	46.093 ²³³	43.53 136	23.732 ²³⁰	26.49 174	49.879 ²⁴⁷	33.09 81
Aug. 8.6	46.326 ¹⁹⁹	42.17 112	23.962 ²⁰⁰	28.23 164	50.126 ²¹⁴	32.28 47
18.6	46.525 ¹⁶²	41.05 87	24.162 ¹⁶¹	29.87 140	50.340 ¹⁷⁵	31.81 14
28.6	46.687 ¹²⁴	40.18 60	24.323 ¹²⁵	31.27 119	50.515 ¹³⁴	31.67 17
Sept. 7.5	46.811 ⁸⁴	39.58 34	24.448 ⁸⁵	32.46 95	50.649 ⁹³	31.84 47
17.5	46.895 ⁴⁷	39.24 9	24.533 ⁴⁵	33.41 75	50.742 ⁵³	32.31 73
27.5	46.942 ¹¹	39.15 13	24.578 ¹³	34.16 47	50.795 ¹⁴	33.04 93
Oct. 7.5	46.953 ²¹	39.28 32	24.591 ¹⁸	34.63 28	50.809 ²⁰	33.97 110
17.4	46.932 ⁴⁹	39.60 49	24.573 ⁴⁶	34.91 6	50.789 ⁵²	35.07 119
27.4	46.883 ⁷¹	40.09 61	24.527 ⁶⁸	34.97 11	50.737 ⁷⁶	36.26 124
Nov. 6.4	46.812 ⁹⁰	40.70 71	24.459 ⁹⁰	34.86 28	50.661 ⁹⁷	37.50 122
16.3	46.722 ¹⁰²	41.41 77	24.369 ¹⁰¹	34.58 45	50.564 ¹¹¹	38.72 116
26.3	46.620 ¹¹²	42.18 79	24.268 ¹¹³	34.13 53	50.453 ¹²¹	39.88 104
Dec. 6.3	46.508 ¹¹⁶	42.97 79	24.155 ¹¹⁷	33.60 67	50.332 ¹²⁶	40.92 90
16.3	46.392 ¹¹⁹	43.76 76	24.038 ¹¹⁹	32.93 76	50.206 ¹²⁸	41.82 71
26.2	46.273 ¹¹⁵	44.52 71	23.919 ¹¹⁷	32.17 83	50.078 ¹²⁵	42.53 51
36.2	46.158	45.23	23.802	31.34	49.953	43.04
Mean Place	43.851	59.54	21.376	13.52	47.776	52.63
Sec δ , Tan δ	1.002	-0.070	1.006	+0.113	1.050	-0.320
L α , L δ	0.00	+0.4	0.00	+0.4	0.00	+0.4
ω α , ω δ	0.00	0.0	-0.01	0.0	+0.02	0.0
AUTHORITY	A. N.		A. E.		A. N.	

MOON-CULMINATING STARS, 1923. 429

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of C's R.A. in 1 hour of Long.	Sld. Time of Semi- pass Merid.	Apparent Declination.	Var. of C's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Jan.	0 Moon I. U.	13·4	4 46 55·95	138·65	66·78	N. 17 26 33·5	+213·2	15 20·20	56 17·25
	Moon I. L.	-	5 14 56·98	141·47	67·45	18 2 5·7	+141·2	15 25·69	56 37·43
	<i>m</i> Tauri	5·0	5 2 55			18 32			
	115 Tauri	5·3	5 22 42			17 54			
	1 Moon I. U.	14·5	5 43 29·66	143·91	68·04	N. 18 22 39·6	+63·6	15 31·21	56 57·66
	Moon I. L.	-	6 12 28·81	145·86	68·50	18 27 15·1	-18·3	15 36·62	57 17·51
	64 Orionis	5·1	5 58 55			19 41			
	292 B. Orionis	6·5	6 16 58			17 48			
	2 Moon I. U.	15·5	6 41 47·97	147·23	68·82	N. 18 15 10·1	-102·8	15 41·83	57 36·63
	41 II ¹ . Geminor.	6·0	6 58 8			16 47			
	λ Geminor.	3·6	7 13 41			16 41			
	3 Moon II. L.	-	7 13 37·95	148 01	69·00	N. 17 46 4·7	-188·0	15 46·73	57 54·65
	Moon II. U.	16·5	7 43 15·37	148·13	69·05	17 0 3·3	-271·8	15 51·26	58 11·27
	30 B. Cancri	6·1	8 6 41			14 51			
	<i>d</i> ² Cancri	6·2	8 21 30			17 18			
	4 Moon II. L.	-	8 12 50·97	147·71	68·97	N. 15 57 36·1	352·0	15 55·34	58 26·22
	Moon II. U.	17·6	8 42 18·69	146·84	68·78	14 39 37·9	-426·6	15 58·90	58 39·31
	81 Cancri	6·4	9 8 6			15 18			
	ξ Leonis	5·1	9 27 49			11 38			
	5 Moon II. L.	-	9 11 33·97	145·66	68·51	N. 13 7 25·6	-494·1	16 1·93	58 50·43
	Moon II. U.	18·6	9 40 33·86	144·30	68·21	11 22 33·9	-553·0	16 4·41	58 59·54
	A Leonis	4·6	10 3 50			10 22			
	44 Leonis	5·9	10 21 13			9 10			
	6 Moon II. L.	-	10 9 17·15	142·92	67·91	N. 9 26 51·8	-602·4	16 6·35	59 6·65
	Moon II. U.	19·6	10 37 44·28	141·63	67·62	7 22 18·1	-641·5	16 7·76	59 11·81
	<i>c</i> Leonis	5·1	10 56 46			6 31			
	σ Leonis	4·1	11 17 11			6 27			
	7 Moon II. L.	-	11 5 57·10	140·55	67·38	N. 5 10 57·5	-670·1	16 8·67	59 15·17
	Moon II. U.	20·7	11 33 58·65	139·77	67·21	2 54 57·3	-688·1	16 9·13	59 16·84
	27 B. Virginis	6·5	11 55 7			N. 0 57			
	13 Virginis	5·9	12 14 44			S. 0 22			
	8 Moon II. L.	-	12 1 52·85	139·33	67·12	N. 0 36 26·1	-695·3	16 9·17	59 16·97
	Moon II. U.	21·7	12 29 44·14	139·28	67·12	S. 1 42 28·2	-692·0	16 8·82	59 15·69
	91 G. Virginis	6·5	12 49 40			3 48			
	θ Virginis	4·4	13 5 58			5 8			
	9 Moon II. L.	-	12 57 37·21	139·63	67·21	S. 3 59 39·6	-678·2	16 8·13	59 13·16
	Moon II. U.	22·8	13 25 36·59	140·33	67·39	6 13 3·9	-654·2	16 7·12	59 9·45
	88 Virginis	6·5	13 44 16			6 27			
	623 B. Virginis	6·5	14 0 17			8 53			
10	Moon II. L.	-	13 53 46·47	141·36	67·63	S. 8 20 39·3	-620·1	16 5·81	59 4·65
	Moon II. U.	23·8	14 22 10·22	142·63	67·93	10 20 27·5	-576·3	16 4·22	58 58·81
	22 B. Libræ	6·4	14 43 42			12 31			
	18 Libræ	5·9	14 54 43			S. 10 50			

430 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of C's R.A. in 1 hour of Long.	Sid. Time of Semid. pass Merid.	Apparent Declination.	Var. of C's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Jan. 11	Moon II. L.	-	14 50 50.16	144.04	68.26	S. 12 10 34.5	-523.3	16 2.34	58 51.93
	Moon II. U.	24.8	15 19 47.33	145.48	68.59	13 49 12.8	-461.7	16 0.18	58 44.01
12	Moon II. L.	-	15 49 1.13	146.79	68.88	S. 15 14 43.3	-392.2	15 57.73	58 35.02
	Moon II. U.	25.9	16 18 29.29	147.85	69.10	16 25 39.8	-316.2	15 54.99	58 24.95
13	Moon II. L.	-	16 48 7.86	148.50	69.23	S. 17 20 50.7	-234.9	15 51.94	58 13.74
	Moon II. U.	26.9	17 17 51.37	148.65	69.24	17 59 24.9	-150.3	15 48.58	58 1.41
14	Moon II. L.	-	17 47 33.21	148.22	69.10	S. 18 20 53.0	-64.3	15 44.92	57 47.98
	Moon II. U.	27.9	18 17 6.12	147.16	68.83	18 25 9.6	+21.1	15 40.97	57 33.50
15	Moon II. L.	-	18 46 22.70	145.51	68.40	S. 18 12 33.7	+104.2	15 36.76	57 18.06
	Moon II. U.	29.0	19 15 16.16	143.32	67.86	17 43 46.9	+182.8	15 32.35	57 1.84
16	Moon II. L.	-	19 43 40.67	140.70	67.21	S. 16 59 50.7	+255.5	15 27.76	56 45.00
17	Moon I. U.	0.4	20 9 18.87	137.91	66.48	S. 16 2 2.0	+321.4	15 23.06	56 27.76
	Moon I. L.	-	20 36 35.35	134.82	65.72	14 51 48.5	+379.6	15 18.33	56 10.40
18	Moon I. U.	1.4	21 3 14.43	131.70	64.94	S. 13 30 43.9	+429.8	15 13.64	55 53.19
	Moon I. L.	-	21 29 16.35	128.65	64.18	12 0 24.2	+472.1	15 9.07	55 36.41
19	Moon I. U.	2.5	21 54 42.71	125.78	63.46	S. 10 22 23.8	+506.7	15 4.70	55 20.39
	Moon I. L.	-	22 19 36.21	123.18	62.81	8 38 13.4	+533.9	15 0.62	55 5.42
20	Moon I. U.	3.5	22 44 0.44	120.92	62.25	S. 6 49 18.3	+554.2	14 56.92	54 51.81
	Moon I. L.	-	23 7 59.76	119.03	61.78	4 56 57.6	+568.2	14 53.64	54 39.80
21	Moon I. U.	4.5	23 31 38.93	117.57	61.42	S. 3 2 24.4	+576.4	14 50.89	54 29.70
	Moon I. L.	-	23 55 3.16	116.55	61.18	1 6 46.4	+579.1	14 48.71	54 21.70
24	Piscium	6.1	23 48 58			3 35			
	5 Ceti	6.3	0 4 15			S. 2 53			
22	Moon I. U.	5.6	0 18 17.85	115.98	61.06	N. 0 48 53.3	+576.7	14 47.16	54 16.01
	Moon I. L.	-	0 41 28.53	115.88	61.06	N. 2 43 35.8	+569.6	14 46.29	54 12.82
	15 Ceti	6.9	0 34 8			S. 0 56			
	155 B. Piscium	6.5	0 47 20			N. 2 58			
23	Moon I. U.	6.6	1 4 40.86	116.25	61.18	N. 4 36 23.8	+557.7	14 46.13	54 12.23
	Moon I. L.	-	1 28 0.41	117.08	61.43	6 26 21.0	+541.1	14 46.72	54 14.38
	f Piscium	5.3	1 13 49			3 12			
	v Piscium	4.7	1 37 25			5 6			
24	Moon I. U.	7.6	1 51 32.71	118.37	61.79	N. 8 12 30.8	+519.7	14 48.06	54 19.31
	Moon I. L.	-	2 15 23.14	120.10	62.26	9 53 54.7	+493.4	14 50.17	54 27.04
	64 Ceti	5.8	2 7 17			8 13			
	25 Arietis	6.5	2 23 18			9 51			
25	Moon I. U.	8.7	2 39 36.75	122.23	62.82	N. 11 29 30.7	+461.7	14 53.03	54 37.56
	Moon I. L.	-	3 4 18.19	124.73	63.47	12 58 13.1	+424.4	14 56.65	54 50.82
	147 B. Arietis	5.8	3 2 11			12 53			
	8 B. Tauri	6.2	3 19 56			N. 12 21			

MOON-CULMINATING STARS, 1923. 431

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass [†] Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Jan. 26	Moon I. U.	9.7	3 29 31.56	127.54	64.19	N. 14 18 52.0	+381.0	15 0.96	55 6.64
	Moon I. L.	-	3 55 20.14	130.59	64.95	15 30 12.7	+331.3	15 5.92	55 24.87
	150 B. Tauri	6.9	3 50 5			16 23			
	179 B. Tauri	5.9	4 3 21			14 57			
27	Moon I. U.	10.7	4 21 46.18	133.77	65.74	N. 16 30 56.8	+274.9	15 11.48	55 45.27
	Moon I. L.	-	4 48 50.77	136.99	66.52	17 19 43.7	+211.8	15 17.55	56 7.52
	♄ Tauri	5.2	4 34 46			15 39			
	318 B. Tauri	5.7	4 52 56			17 2			
28	Moon I. U.	11.8	5 16 33.51	140.11	67.26	N. 17 55 13.4	+142.1	15 24.02	56 31.27
	Moon I. L.	-	5 44 52.45	143.00	67.95	18 16 10.3	+66.4	15 30.78	56 56.09
	122 Tauri	5.5	5 32 37			16 59			
	57 Orionis	5.8	5 50 25			19 44			
29	Moon I. U.	12.8	6 13 44.06	145.53	68.53	N. 18 21 26.8	-14.4	15 37.68	57 21.42
	Moon I. L.	-	6 43 3.32	147.59	69.00	18 10 9.5	-99.0	15 44.59	57 46.79
	26 Geminor.	5.2	6 37 57			17 43			
	110 B. Geminor.	6.2	6 57 58			17 52			
30	Moon I. U.	13.8	7 12 44.07	149.10	69.33	N. 17 41 43.6	-185.5	15 51.35	58 11.57
	Moon I. L.	-	7 42 39.37	150.02	69.53	16 55 58.1	-271.9	15 57.78	58 35.18
	f Geminor.	5.3	7 35 3			17 51			
	1 Cancri	6.0	7 52 39			16 0			
31	Moon I. U.	14.9	8 12 42.16	150.35	69.59	N. 15 53 8.1	-355.8	16 3.74	58 57.05
	90 B. Cancri	6.3	8 31 50			15 35			
	54 Cancri	6.3	8 46 46			15 38			
Feb. 1	Moon I. L.	-	8 42 45.71	150.16	69.54	N. 14 33 56.9	-435.0	16 9.07	59 16.61
	Moon II. U.	15.9	9 15 3.00	149.50	69.38	12 59 35.3	-507.2	16 13.64	59 33.41
	o Leonis	3.8	9 37 4			10 14			
	83 B. Leonis	5.9	9 52 23			9 18			
2	Moon II. L.	-	9 44 51.55	148.55	69.16	N. 11 11 39.2	-570.5	16 17.35	59 47.03
	Moon II. U.	17.0	10 14 27.53	147.43	68.91	9 12 5.9	-623.2	16 20.13	59 57.23
	49 Leonis	5.7	10 31 1			9 3			
	56 Leonis	6.1	10 52 3			6 36			
3	Moon II. L.	-	10 43 49.68	146.26	68.65	N. 7 3 8.3	-664.3	16 21.95	60 3.90
	Moon II. U.	18.0	11 12 58.13	145.17	68.40	4 47 10.7	-693.1	16 22.79	60 6.98
	89 Leonis	5.7	11 30 27			3 29			
	β Virginis	3.8	11 46 42			2 12			
4	Moon II. L.	-	11 41 54.32	144.23	68.21	N. 2 26 43.3	-709.3	16 22.70	60 6.64
	Moon II. U.	19.0	12 10 40.66	143.53	68.06	N. 0 4 17.5	-712.9	16 21.72	60 3.07
	γ Virg. (mean)	2.9	12 37 47			S. 1 2			
	38 Virginis	6.1	12 49 15			3 8			
5	Moon II. L.	-	12 39 20.22	143.11	67.99	S. 2 17 37.5	-704.3	16 19.96	59 56.59
	Moon II. U.	20.1	13 7 56.38	142.97	67.98	4 36 38.0	-683.9	16 17.50	59 47.58
	80 Virginis	5.6	13 31 32			5 0			
	88 Virginis	6.5	13 44 17			S. 6 27			

432 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass ^g Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Feb. 6	Moon II. L.	-	13 36 32.52	143.10	68.03	N. 6 50 27.7	-652.6	16 14.47	59 36.43
	Moon II. U.	21.1	14 5 11.69	143.46	68.14	8 56 59.2	-611.0	16 10.96	59 23.57
	4 G. Libræ	6.5	14 20 33			11 19			
	22 B. Libræ	6.4	14 43 43			12 31			
7	Moon II. L.	-	14 33 56.34	144.00	68.29	N. 10 54 15.7	-560.2	16 7.10	59 9.38
	Moon II. U.	22.1	15 2 48.04	144.63	68.45	12 40 31.2	-501.1	16 2.97	58 54.23
	130 B. Libræ	5.9	15 19 39			12 6			
	190 B. Libræ	6.5	15 39 6			14 48			
8	Moon II. L.	-	15 31 47.32	145.25	68.60	N. 14 14 12.3	434.7	15 58.66	58 38.42
	Moon II. U.	23.2	16 0 53.51	145.76	68.72	15 33 59.2	-362.2	15 54.25	58 22.23
	φ Ophiuchi	4.4	16 26 44			16 27			
	24 Scorpæ	5.0	16 37 7			17 36			
9	Moon II. L.	-	16 30 4.64	146.06	68.77	N. 16 38 47.1	-285.1	15 49.79	58 5.86
	Moon II. U.	24.2	16 59 17.63	146.05	68.75	17 27 47.4	-204.6	15 45.33	57 49.49
10	Moon II. L.	-	17 28 28.35	145.67	68.63	N. 18 0 29.9	-122.3	15 40.90	57 33.22
	Moon II. U.	25.3	17 57 31.92	144.86	68.40	18 16 42.2	-39.8	15 36.51	57 17.14
11	Moon II. L.	-	18 26 23.15	143.61	68.06	N. 18 16 31.4	+41.3	15 32.20	57 1.29
	Moon II. U.	26.3	18 54 56.85	141.94	67.62	18 0 22.8	+119.6	15 27.94	56 45.68
12	Moon II. L.	-	19 23 8.29	139.91	67.08	N. 17 28 58.3	+193.7	15 23.77	56 30.36
	Moon II. U.	27.3	19 50 53.43	137.58	66.47	16 43 15.0	+262.6	15 19.68	56 15.35
13	Moon II. L.	-	20 18 9.32	135.05	65.81	N. 15 44 21.3	+325.3	15 15.68	56 0.67
	Moon II. U.	28.4	20 44 54.07	132.40	65.12	14 33 35.2	+381.2	15 11.77	55 46.34
14	Moon II. L.	-	21 11 6.98	129.75	64.42	N. 13 12 19.8	+430.1	15 7.99	55 32.45
	Moon II. U.	29.4	21 36 48.43	127.18	63.75	11 42 1.9	+471.7	15 4.34	55 19.07
15	Moon I. L.	-	21 59 53.56	124.85	63.11	N. 10 4 8.3	+506.0	15 0.87	55 6.31
16	Moon I. U.	0.7	22 24 38.27	122.64	62.54	N. 8 20 5.3	+533.3	14 57.59	54 54.30
	Moon I. L.	-	22 48 57.08	120.70	62.04	6 31 15.6	+553.9	14 54.57	54 43.19
17	Moon I. U.	1.8	23 12 56.20	119.06	61.63	N. 4 38 58.7	+567.9	14 51.83	54 33.14
	Moon I. L.	-	23 36 36.88	117.78	61.31	2 44 30.4	+575.8	14 49.43	54 24.33
18	Moon I. U.	2.8	0 0 4.29	116.85	61.09	N. 0 49 1.6	+578.0	14 47.42	54 16.94
	Moon I. L.	-	0 23 22.91	116.31	60.98	N. 1 6 20.2	+574.7	14 45.84	54 11.17
19	Moon I. U.	3.8	0 46 37.39	116.17	60.97	N. 3 0 31.0	+566.2	14 44.77	54 7.22
	Moon I. L.	-	1 9 52.50	116.42	61.08	4 52 29.5	+552.7	14 44.22	54 5.23
20	Moon I. U.	4.9	1 33 12.95	117.06	61.29	N. 6 41 16.2	+534.3	14 44.28	54 5.43
	Moon I. L.	-	1 56 43.48	118.09	61.60	8 25 52.8	+511.0	14 44.96	54 7.93
	39 B. Arietis	6.5	2 0 47			7 22			
	64 Ceti	5.8	2 7 17			8 12			
21	Moon I. U.	5.9	2 20 28.68	119.50	62.01	N. 10 5 20.4	+482.8	14 46.31	54 12.90
	Moon I. L.	-	2 44 32.96	121.27	62.51	11 38 39.7	+449.6	14 48.37	54 20.44
	85 Ceti	6.3	2 38 20			10 25			
	σ Arietis	5.4	2 47 14			N. 14 46			

MOON-CULMINATING STARS, 1923. 433

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semi-d. pass Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	"	"
Feb. 22	Moon I. U.	6·9	3 9 0·43	123·36	63·09	N. 13 4 49·5	+411·2	14 51·14	54 30·62
	Moon I. L.	-	3 33 54·78	125·74	63·73	14 22 46·4	+367·4	14 54·65	54 43·51
	8 B. Tauri	6·2	3 19 56			12 21			
	30 B. Tauri	6·4	3 33 29			15 11			
23	Moon I. U.	7·9	3 59 19·17	128·36	64·42	N. 15 31 24·7	+318·0	14 58·89	54 59·07
	Moon I. L.	-	4 25 16·03	131·14	65·14	16 29 36·2	+262·9	15 3·85	55 17·27
	63 Tauri	5·7	4 19 0			16 36			
	89 Tauri	5·8	4 33 45			15 53			
24	Moon I. U.	9·0	4 51 46·94	134·02	65·86	N. 17 16 11·4	+202·0	15 9·50	55 37·99
	Moon I. L.	-	5 18 52·44	136·89	66·58	17 50 1·2	+135·4	15 15·78	56 1·06
	m Tauri	5·0	5 2 55			18 32			
	117 Tauri	6·0	5 23 34			17 10			
25	Moon I. U.	10·0	5 46 31·95	139·67	67·25	N. 18 9 58·3	+63·3	15 22·65	56 26·24
	Moon I. L.	-	6 14 43·72	142·25	67·86	18 15 0·8	-13·6	15 29·97	56 53·13
	68 Orionis	5·7	6 7 29			19 48			
	292 B. Orionis	6·5	6 16 57			17 48			
26	Moon I. U.	11·1	6 43 24·78	144·54	68·40	N. 18 4 16·1	-94·4	15 37·66	57 21·35
	Moon I. L.	-	7 12 31·23	146·47	68·83	17 37 4·5	-177·9	15 45·57	57 50·39
	λ Geminor.	3·6	7 13 41			16 41			
	162 B. Geminor.	5·7	7 27 23			17 15			
27	Moon I. U.	12·1	7 41 58·36	147·98	69·17	N. 16 53 3·7	-262·3	15 53·54	58 19·62
	Moon I. L.	-	8 11 41·05	149·06	69·39	15 52 12·9	-345·9	16 1·36	58 48·34
	30 B. Cancri	6·1	8 6 41			14 51			
	d ² Cancri	6·2	8 21 30			17 18			
28	Moon I. U.	13·1	8 41 34·13	149·72	69·52	N. 14 34 55·4	-426·4	16 8·87	59 15·89
	Moon I. L.	-	9 11 32·88	150·01	69·56	13 2 1·6	-501·6	16 15·84	59 41·47
	81 Cancri	6·4	9 8 6			15 18			
	ξ Leonis	5·1	9 27 49			11 38			
Mar. 1	Moon I. U.	14·2	9 41 33·18	150·00	69·54	N. 11 14 47·8	-569·3	16 22·07	60 4·34
	Moon I. L.	-	10 11 32·01	149·78	69·47	9 14 56·9	-627·4	16 27·37	60 23·79
	A Leonis	4·6	10 3 51			10 22			
	44 Leonis	5·9	10 21 14			9 10			
2	Moon I. U.	15·2	10 41 27·41	149·44	69·38	N. 7 4 34·9	-674·2	16 31·59	60 39·26
	χ Leonis	4·7	11 1 4			7 45			
	80 Leonis	6·4	11 21 54			4 17			
3	Moon II. L.	-	11 13 37·05	149·06	69·29	N. 4 46 7·2	-708·2	16 34·59	60 50·28
	Moon II. U.	16·2	11 43 23·77	148·74	69·23	2 22 13·7	-728·4	16 36·29	60 56·53
	10 Virginis	6·2	12 5 46			N. 2 20			
	η Virginis	4·0	12 16 0			S. 0 15			
4	Moon II. L.	-	12 13 7·25	148·53	69·19	S. 0 4 17·1	-734·3	16 36·67	60 57·91
	Moon II. U.	17·3	12 42 48·87	148·44	69·19	2 30 32·8	-726·0	16 35·75	60 54·53
	θ Virginis	4·4	13 5 59			5 8			
	66 Virginis	5·7	13 20 34			S. 4 46			

434 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of C's R.A. in 1 hour of Long.	Sid. Time of Semid. pass Merid.	Apparent Declination.	Var. of C's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Mar. 5	Moon II. L.	-	13 12 30.27	148.49	69.23	S. 4 53 43.6	-703.6	16 33.60	60 46.64
	Moon II. U.	18.3	13 42 12.94	148.64	69.29	7 11 7.4	-668.2	16 30.33	60 34.65
95	Virginis	5.4	14 2 40			8 57			
	4 G. Libræ	6.5	14 20 34			11 19			
6	Moon II. L.	-	14 11 57.95	148.87	69.38	S. 9 20 13.5	-620.9	16 26.10	60 19.13
	Moon II. U.	19.4	14 41 45.71	149.09	69.46	11 18 47.0	-563.0	16 21.07	60 0.66
18	Libræ	5.9	14 54 45			10 50			
	130 B. Libræ	5.9	15 19 40			12 6			
7	Moon II. L.	-	15 11 35.77	149.24	69.53	S. 13 4 50.7	-496.3	16 15.42	59 39.92
	Moon II. U.	20.4	15 41 26.73	149.22	69.55	14 36 48.7	-422.3	16 9.31	59 17.52
49	Libræ	5.4	15 56 1			16 18			
	98 B. Scorpii	6.1	16 14 40			14 41			
8	Moon II. L.	-	16 11 16.15	148.97	69.51	S. 15 53 25.4	-343.1	16 2.93	58 54.08
	Moon II. U.	21.4	16 41 0.76	148.41	69.39	16 53 48.3	-260.3	15 56.42	58 30.19
125	B. Ophiuchi	6.2	17 3 47			17 30			
	192 B. Ophiuchi	6.3	17 20 7			18 22			
9	Moon II. L.	-	17 10 36.53	147.49	69.17	S. 17 37 26.6	-175.9	15 49.91	58 6.30
	Moon II. U.	22.5	17 39 59.06	146.20	68.85	18 4 11.0	-91.6	15 43.51	57 42.81
32	G. Sagittarii	5.7	18 3 21			17 10			
	Y Sagit. (var)	5.4	18 16 51			18 54			
10	Moon II. L.	-	18 9 3.81	144.53	68.44	S. 18 14 11.3	-8.9	15 37.30	57 20.04
	Moon II. U.	23.5	18 37 46.50	142.53	67.93	18 7 55.7	+70.8	15 31.37	56 58.25
173	B. Sagittarii	6.4	18 58 36			19 13			
	ρ Sagittarii	4.0	19 17 12			17 59			
11	Moon II. L.	-	19 6 3.38	140.24	67.34	S. 17 46 7.5	+146.4	15 25.74	56 37.59
	Moon II. U.	24.6	19 33 51.46	137.75	66.68	17 9 42.0	+216.9	15 20.45	56 18.17
12	Moon II. L.	-	20 1 8.74	135.12	65.99	S. 16 19 44.3	+281.7	15 15.51	56 0.05
	Moon II. U.	25.6	20 27 54.13	132.45	65.28	15 17 26.6	+340.2	15 10.93	55 43.24
13	Moon II. L.	-	20 54 7.61	129.82	64.57	S. 14 4 5.5	+392.2	15 6.71	55 27.76
	Moon II. U.	26.6	21 19 50.05	127.28	63.88	12 40 59.9	+437.6	15 2.85	55 13.57
14	Moon II. L.	-	21 45 3.09	124.92	63.23	S. 11 9 29.7	+476.3	14 59.32	55 0.62
	Moon II. U.	27.6	22 9 49.12	122.79	62.65	9 30 54.0	+508.5	14 56.12	54 48.89
15	Moon II. L.	-	22 34 11.03	120.91	62.12	S. 7 46 31.5	+534.2	14 53.25	54 38.35
	Moon II. U.	28.7	22 58 12.13	119.33	61.69	5 57 38.5	+553.6	14 50.69	54 28.97
16	Moon II. L.	-	23 21 56.08	118.05	61.33	S. 4 5 29.1	+566.9	14 48.46	54 20.78
17	Moon II. U.	29.7	23 45 26.73	117.11	61.07	S. 2 11 15.6	+574.4	14 46.55	54 13.78
	Moon I. L.	-	0 6 46.24	116.52	60.91	S. 0 16 7.7	+576.0	14 44.97	54 7.98
18	Moon I. U.	1.0	0 30 2.47	116.24	60.85	N. 1 38 46.5	+572.1	14 43.75	54 3.49
	Moon I. L.	-	0 53 17.34	116.29	60.88	3 32 21.1	+562.8	14 42.90	54 0.36
19	Moon I. U.	2.0	1 16 34.88	116.69	61.01	N. 5 23 31.6	+548.1	14 42.44	53 58.68
	Moon I. L.	-	1 39 59.08	117.40	61.23	N. 7 11 14.7	+528.2	14 42.42	53 58.59

MOON-CULMINATING STARS, 1923. 435

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semi- pass# Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	"	"
Mar. 20	Moon I. U.	3·1	2 33 75	118·43	61·54	N. 8 54 28·1	+503·2	14 42·85	54 0·19
	Moon I. L.	-	2 27 22·54	119·75	61·92	10 32 9·8	+472·9	14 43·79	54 3·62
21	Moon I. U.	4·1	2 51 28·78	121·34	62·39	N. 12 3 18·2	+437·6	14 45·25	54 9·00
	Moon I. L.	-	3 15 55·54	123·16	62·91	13 26 51·5	+397·1	14 47·29	54 16·47
22	Moon I. U.	5·1	3 40 45·43	125·19	63·47	N. 14 41 48·4	+351·5	14 49·92	54 26·13
	Moon I. L.	-	4 6 0·59	127·36	64·07	15 47 7·0	+300·8	14 53·18	54 38·08
	179 B. Tauri	5·9	4 3 20			14 57			
	δ Tauri	3·9	4 18 30			17 22			
23	Moon I. U.	6·2	4 31 42·54	129·64	64·69	N. 16 41 46·4	+245·0	14 57·07	54 52·39
	Moon I. L.	-	4 57 52·15	131·96	65·31	17 24 46·4	+184·2	15 1·64	55 9·14
	318 B. Tauri	5·7	4 52 56			17 2			
	m Tauri	5·0	5 2 54			18 32			
24	Moon I. U.	7·2	5 24 29·56	134·26	65·91	N. 17 55 9·5	+118·8	15 6·85	55 28·28
	Moon I. L.	-	5 51 34·16	136·48	66·48	18 12 1·2	+49·1	15 12·71	55 49·78
	130 Tauri	5·6	5 42 57			17 42			
	64 Orionis	5·1	5 58 54			19 41			
25	Moon I. U.	8·2	6 19 4·60	138·56	67·01	N. 18 14 33·0	-24·4	15 19·17	56 13·50
	Moon I. L.	-	6 46 58·89	140·45	67·47	18 2 4·2	-100·9	15 26·20	56 39·27
	26 Geminor.	5·2	6 37 57			17 43			
	110 B. Geminor.	6·2	6 57 58			17 52			
26	Moon I. U.	9·3	7 15 14·48	142·11	67·87	N. 17 34 3·6	-179·5	15 33·71	57 6·83
	Moon I. L.	-	7 43 48·55	143·52	68·20	16 50 13·5	-258·9	15 41·60	57 35·79
	f Geminor.	5·3	7 35 3			17 51			
	1 Cancri	6·0	7 52 39			16 0			
27	Moon I. U.	10·3	8 12 38·07	144·69	68·46	N. 15 50 30·9	-338·0	15 49·74	58 5·69
	Moon I. L.	-	8 41 40·19	145·63	68·67	14 35 11·0	-414·8	15 58·00	58 36·00
	90 B. Cancri	6·3	8 31 50			15 35			
	54 Cancri	6·3	8 46 46			15 38			
28	Moon I. U.	11·3	9 10 52·44	146·38	68·82	N. 13 4 49·2	-488·0	16 6·18	59 6·00
	Moon I. L.	-	9 40 12·87	147·00	68·94	11 20 22·0	-555·4	16 14·07	59 34·99
	ξ Leonis	5·1	9 27 49			11 38			
	19 Leonis	6·4	9 43 19			11 55			
29	Moon I. U.	12·4	10 9 40·23	147·55	69·04	N. 9 23 9·0	-615·3	16 21·47	60 2·15
	Moon I. L.	-	10 39 14·00	148·08	69·14	7 14 52·7	-665·7	16 28·15	60 26·66
	48 Leonis	5·2	10 30 49			7 21			
	37 Sextantis	6·3	10 42 7			6 47			
30	Moon I. U.	13·4	11 8 54·35	148·66	69·26	N. 4 57 37·5	-704·8	16 33·89	60 47·73
	Moon I. L.	-	11 38 42·08	149·32	69·40	2 33 48·2	-731·1	16 38·49	61 4·62
	89 Leonis	5·7	11 30 27			3 29			
	β Virginis	3·8	11 46 43			2 12			
31	Moon I. U.	14·4	12 8 38·31	150·08	69·57	N. 0 6 6·6	-743·3	16 41·80	61 16·73
	γ Virg. (mean)	2·9	12 37 47			S. 1 2			
	38 Virginis	6·1	12 49 16			S. 3 8			

436 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass# Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Apr. 1	Moon II. L.	-	12 41 3.89	150.98	69.78	S. 2 22 32.2	-740.6	16 43.65	61 23.55
	Moon II. U.	15.5	13 11 21.26	151.93	70.01	4 49 6.3	-722.5	16 44.02	61 24.88
	80 Virginis	5.6	13 31 33			5 0			
	598 B. Virginis	6.1	13 50 58			7 41			
2	Moon II. L.	-	13 41 50.16	152.89	70.25	S. 7 10 32.9	-689.4	16 42.89	61 20.74
	Moon II. U.	16.5	14 12 30.31	153.79	70.48	9 23 54.8	-642.0	16 40.31	61 11.27
	6 B. Libræ	6.2	14 32 56			11 59			
	13 Libræ	5.7	14 50 14			11 35			
3	Moon II. L.	-	14 43 20.36	154.52	70.68	S. 11 26 28.4	-581.6	16 36.40	60 56.91
	Moon II. U.	17.6	15 14 17.70	154.98	70.82	13 15 49.1	-510.2	16 31.31	60 38.26
	190 B. Libræ	6.5	15 39 7			14 48			
	203 B. Libræ	6.2	15 52 15			14 36			
4	Moon II. L.	-	15 45 18.38	155.06	70.88	S. 14 49 57.0	-429.9	16 25.25	60 16.02
	Moon II. U.	18.6	16 16 17.28	154.67	70.82	16 7 21.5	-343.4	16 18.42	59 50.95
	24 Scorpii	5.0	16 37 9			17 36			
	90 B. Ophiuchi	6.5	16 55 16			18 8			
5	Moon II. L.	-	16 47 8.38	153.75	70.64	S. 17 7 2.7	-253.1	16 11.05	59 23.89
	Moon II. U.	19.6	17 17 45.12	152.28	70.31	17 48 31.6	-161.7	16 3.33	58 55.56
	305 B. Ophiuchi	6.3	17 51 24			18 47			
	32 G. Sagittarii	5.7	18 3 22			17 10			
6	Moon II. L.	-	17 48 0.97	150.27	69.86	S. 18 11 48.6	-71.5	15 55.48	58 26.73
	Moon II. U.	20.7	18 17 49.85	147.80	69.27	18 17 19.8	+15.6	15 47.65	57 58.01
	100 B. Sagittarii	5.0	18 26 56			18 27			
	171 B. Sagittarii	6.1	18 58 33			19 21			
7	Moon II. L.	-	18 47 6.66	144.95	68.59	S. 18 5 53.1	+98.0	15 40.00	57 29.95
	Moon II. U.	21.7	19 15 47.46	141.82	67.82	17 38 32.1	+174.5	15 32.66	57 3.01
	54 Sagittarii	5.4	19 36 19			16 28			
	9 Sagittarii	5.1	19 53 35			15 42			
8	Moon II. L.	-	19 43 49.77	138.55	67.00	S. 16 56 32.2	+244.3	15 25.72	56 37.53
	Moon II. U.	22.8	20 11 12.54	135.25	66.16	16 1 15.4	+307.2	15 19.24	56 13.75
	45 B. Capricor.	6.1	20 29 55			13 59			
	94 B. Capricor.	5.7	20 53 22			16 20			
9	Moon II. L.	-	20 37 55.99	132.02	65.32	S. 14 54 6.8	+363.0	15 13.28	55 51.86
	Moon II. U.	23.8	21 4 1.61	128.95	64.51	13 36 31.6	+411.7	15 7.85	55 31.92
	18 Aquarii	5.5	21 19 59			13 12			
	137 B. Capricor.	6.2	21 35 20			10 55			
10	Moon II. L.	-	21 29 31.80	126.12	63.74	S. 12 9 53.5	+453.5	15 2.97	55 14.04
	Moon II. U.	24.8	21 54 29.75	123.59	63.05	10 35 33.0	+488.8	14 58.65	54 58.16
11	Moon II. L.	-	22 18 59.19	121.38	62.43	S. 8 54 47.7	+517.7	14 54.87	54 44.29
	Moon II. U.	25.9	22 43 4.27	119.53	61.90	7 8 51.6	+540.6	14 51.61	54 32.35
12	Moon II. L.	-	23 6 49.36	118.05	61.47	S. 5 18 56.1	+557.7	14 48.87	54 22.27
	Moon II. U.	26.9	23 30 18.97	116.95	61.14	S. 3 26 9.9	+569.1	14 46.60	54 13.94

MOON-CULMINATING STARS, 1923. 437

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass ^g Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Apr. 13	Moon II. L.	-	23 53 37.61	116.22	60.91	S. 1 31 39.4	+575.1	14 44.79	54 7.30
	Moon II. U.	27.9	0 16 49.77	115.87	60.79	N. 0 23 29.8	+575.6	14 43.42	54 2.27
14	Moon II. L.	-	0 39 59.84	115.87	60.78	N. 2 18 12.9	+570.7	14 42.46	53 58.75
	Moon II. U.	28.9	1 3 12.06	116.22	60.86	4 11 25.7	+560.5	14 41.90	53 56.70
15	Moon II. L.	-	1 26 30.47	116.90	61.03	N. 6 2 3.7	+544.9	14 41.73	53 56.08
16	Moon I. U.	0.2	1 47 56.20	117.82	61.29	N. 7 49 2.2	+523.9	14 41.94	53 56.86
	Moon I. L.	-	2 11 37.23	119.06	61.63	9 31 16.1	+497.5	14 42.53	53 59.02
17	Moon I. U.	1.3	2 35 34.61	120.54	62.04	N. 11 7 39.8	+465.6	14 43.51	54 2.61
	Moon I. L.	-	2 59 50.95	122.22	62.51	12 37 7.7	+428.2	14 44.88	54 7.64
18	Moon I. U.	2.3	3 24 28.45	124.05	63.01	N. 13 58 34.9	+385.4	14 46.66	54 14.16
	Moon I. L.	-	3 49 28.61	125.99	63.55	15 10 56.6	+337.3	14 48.86	54 22.25
19	Moon I. U.	3.3	4 14 52.40	127.98	64.10	N. 16 13 10.6	+284.2	14 51.51	54 31.96
	Moon I. L.	-	4 40 40.03	129.96	64.64	17 4 16.9	+226.1	14 54.62	54 43.39
20	Moon I. U.	4.4	5 6 51.07	131.87	65.17	N. 17 43 19.4	+163.6	14 58.22	54 56.61
	Moon I. L.	-	5 33 24.38	133.66	65.66	18 9 27.7	+97.1	15 2.32	55 11.66
21	Moon I. U.	5.4	6 0 18.27	135.29	66.11	N. 18 21 57.4	+27.3	15 6.94	55 28.61
	Moon I. L.	-	6 27 30.55	136.72	66.49	18 20 12.4	-45.2	15 12.08	55 47.46
292 B. Orionis		6.5	6 16 56			17 48			
26 Geminor.		5.2	6 37 56			17 43			
22	Moon I. U.	6.4	6 54 58.76	137.94	66.82	N. 18 3 46.2	-119.4	15 17.72	56 8.16
	Moon I. L.	-	7 22 40.31	138.95	67.09	17 32 22.5	-194.6	15 23.85	56 30.66
λ Geminor.		3.6	7 13 40			16 41			
162 B. Geminor.		5.7	7 27 22			17 15			
23	Moon I. U.	7.5	7 50 32.72	139.76	67.30	N. 16 45 56.9	-269.6	15 30.44	56 54.85
	Moon I. L.	-	8 18 33.87	140.41	67.47	15 44 37.9	-343.3	15 37.43	57 20.49
30 B. Cancri		6.1	8 6 40			14 51			
29 Cancri		5.9	8 24 20			14 28			
24	Moon I. U.	8.5	8 46 42.19	140.96	67.60	N. 14 28 47.4	-414.6	15 44.74	57 47.33
	Moon I. L.	-	9 14 56.76	141.47	67.71	12 59 1.9	-482.3	15 52.26	58 14.94
81 Cancri		6.4	9 8 6			15 18			
ξ Leonis		5.1	9 27 49			11 38			
25	Moon I. U.	9.5	9 43 17.45	141.99	67.83	N. 11 16 13.3	-544.9	15 59.88	58 42.90
	Moon I. L.	-	10 11 44.94	142.61	67.96	9 21 29.4	-601.2	16 7.43	59 10.60
Δ Leonis		4.6	10 3 50			10 22			
44 Leonis		5.9	10 21 13			9 10			
26	Moon I. U.	10.6	10 40 20.67	143.38	68.12	N. 7 16 15.1	-649.7	16 14.74	59 37.45
	Moon I. L.	-	11 9 6.74	144.34	68.33	5 2 12.9	-689.0	16 21.62	60 2.70
χ Leonis		4.7	11 1 4			7 45			
σ Leonis		4.1	11 17 12			N. 6 27			

438 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	"
Apr. 27	Moon I. U.	11.6	11 38 5.82	145.55	68.60	N. 2 41 23.1	-717.4	16 27.89	60 25.64
	Moon I. L.	-	12 7 20.80	146.99	68.92	0 16 3.8	-733.6	16 33.27	60 45.44
	27 B. Virginis	6.5	11 55 9			N. 0 57			
	13 Virginis	5.9	12 14 45			S. 0 22			
28	Moon I. U.	12.7	12 36 54.53	148.67	69.31	S. 2 11 10.5	-736.4	16 37.63	61 1.46
	Moon I. L.	-	13 6 49.55	150.53	69.74	4 37 31.6	-724.6	16 40.78	61 13.00
	48 Virginis	6.5	12 59 58			3 15			
	65 Virginis	6.0	13 19 21			4 31			
29	Moon I. U.	13.7	13 37 7.62	152.49	70.20	S. 7 0 1.5	-697.8	16 42.57	61 19.59
	Moon I. L.	-	14 7 49.34	154.45	70.66	9 15 38.1	-655.8	16 42.92	61 20.87
	623 B. Virginis	6.5	14 0 19			8 53			
	2 Libræ	6.3	14 19 19			11 22			
30	Moon II. U.	14.7	14 41 15.90	156.32	71.08	S. 11 21 22.6	-599.3	16 41.80	61 16.74
	18 Libræ	5.9	14 54 46			10 50			
	130 B. Libræ	5.9	15 19 41			12 6			
May 1	Moon II. L.	-	15 12 40.92	157.79	71.44	S. 13 14 27.6	-529.5	16 39.23	61 7.30
	Moon II. U.	15.8	15 44 20.80	158.76	71.68	14 52 25.2	-448.4	16 35.29	60 52.86
	91 B. Scorpï	6.1	16 11 33			14 39			
	φ Ophiuchi	4.4	16 26 46			16 27			
2	Moon II. L.	-	16 16 8.72	159.10	71.79	S. 16 13 15.8	-358.8	16 30.14	60 33.97
	Moon II. U.	16.8	16 47 56.34	158.70	71.72	17 15 33.8	-263.5	16 23.96	60 11.27
	125 B. Ophiuchi	6.2	17 3 48			17 30			
	192 B. Ophiuchi	6.3	17 20 8			18 22			
3	Moon II. L.	-	17 19 34.27	157.49	71.47	S. 17 58 30.9	-165.9	16 16.93	59 45.48
	Moon II. U.	17.9	17 50 52.95	155.50	71.03	18 21 57.0	-68.9	16 9.30	59 17.45
	17 II ¹ . Sagittarii	6.4	18 14 14			18 39			
	100 B. Sagittarii	5.0	18 26 57			18 27			
4	Moon II. L.	-	18 21 43.38	152.80	70.42	S. 18 26 16.9	+24.7	16 1.27	58 47.98
	Moon II. U.	18.9	18 51 57.84	149.53	69.67	18 12 25.2	+112.8	15 53.06	58 17.88
	d Sagittarii	5.0	19 13 9			19 5			
	266 B. Sagittarii	6.1	19 31 58			19 1			
5	Moon II. L.	-	19 21 30.48	145.86	68.80	S. 17 41 39.0	+193.6	15 44.87	57 47.82
	Moon II. U.	19.9	19 50 17.46	141.95	67.87	16 55 30.3	+266.4	15 36.85	57 18.39
	16 B. Capricor.	6.2	20 16 28			15 2			
	47 B. Capricor.	6.2	20 31 12			16 47			
6	Moon II. L.	-	20 18 17.05	137.99	66.89	S. 15 55 39.4	+330.7	15 29.17	56 50.17
	Moon II. U.	21.0	20 45 29.48	134.11	65.92	14 43 48.5	+386.4	15 21.91	56 23.54
	53 B. Aquarii	6.5	21 11 47			13 31			
	72 B. Aquarii	6.5	21 24 4			11 54			
7	Moon II. L.	-	21 11 56.59	130.45	64.99	S. 13 21 38.2	+434.0	15 15.18	55 58.85
	Moon II. U.	22.0	21 37 41.51	127.10	64.11	11 50 44.0	+473.8	15 9.04	55 36.32
	96 B. Aquarii	6.5	21 49 30			10 40			
	e Aquarii	5.4	22 6 31			S. 11 57			

MOON-CULMINATING STARS, 1923. 439

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of Q's R.A. in 1 hour of Long.	Sid. Time of Semi-d. pass Merid.	Apparent Declination.	Var. of Q's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	"
May 8	Moon II. L.	-	22 248.36	124.11	63.32	S. 10 12 35.1	+506.5	15 3.53	55 16.09
	Moon II. U.	23.0	22 27 21.91	121.55	62.62	8 28 34.3	+532.6	14 58.69	54 58.31
	67 Aquarii	6.4	22 39 13			7 22			
	81 Aquarii	6.4	22 57 24			7 28			
9	Moon II. L.	-	22 51 27.36	119.43	62.03	S. 6 39 57.8	+552.5	14 54.50	54 42.93
	Moon II. U.	24.1	23 15 10.16	117.78	61.56	4 47 56.3	+566.8	14 50.98	54 30.01
10	Moon II. L.	-	23 38 35.80	116.57	61.20	S. 2 53 36.6	+575.6	14 48.11	54 19.48
	Moon II. U.	25.1	0 1 49.75	115.83	60.97	S. 0 58 1.7	+579.3	14 45.87	54 11.25
11	Moon II. L.	-	0 24 57.35	115.51	60.85	N. 0 57 47.0	+578.0	14 44.23	54 5.24
	Moon II. U.	26.1	0 48 3.77	115.63	60.85	2 52 49.1	+571.5	14 43.16	54 1.33
12	Moon II. L.	-	1 11 13.93	116.13	60.95	N. 4 46 3.7	+560.0	14 42.63	53 59.36
	Moon II. U.	27.2	1 34 32.41	117.01	61.16	6 36 29.4	+543.4	14 42.59	53 59.24
13	Moon II. L.	-	1 58 3.45	118.22	61.46	N. 8 23 2.9	+521.3	14 43.03	54 0.86
	Moon II. U.	28.2	2 21 50.84	119.72	61.84	10 4 39.4	+493.8	14 43.90	54 4.04
14	Moon II. L.	-	2 45 57.79	121.47	62.29	N. 11 40 11.9	+460.7	14 45.17	54 8.70
	Moon II. U.	29.2	3 10 26.89	123.41	62.79	13 8 32.2	+421.8	14 40.82	54 14.76
15	Moon I. L.	-	3 33 13.36	125.37	63.33	N. 14 28 31.5	+377.1	14 48.82	54 22.11
16	Moon I. U.	0.6	3 58 30.49	127.48	63.89	N. 15 39 1.0	+326.8	14 51.16	54 30.67
	Moon I. L.	-	4 24 12.86	129.57	64.44	16 38 54.2	+271.1	14 53.81	54 40.40
17	Moon I. U.	1.6	4 50 19.79	131.56	64.97	N. 17 27 8.1	+210.4	14 56.78	54 51.29
	Moon I. L.	-	5 16 49.62	133.38	65.45	18 2 45.1	+145.1	15 0.05	55 3.30
18	Moon I. U.	2.7	5 43 39.92	134.96	65.88	N. 18 24 55.7	+76.1	15 3.62	55 16.41
	Moon I. L.	-	6 10 47.59	136.27	66.23	18 32 59.7	+4.2	15 7.50	55 30.64
19	Moon I. U.	3.7	6 38 9.06	137.26	66.51	N. 18 26 28.2	-69.6	15 11.68	55 46.01
	Moon I. L.	-	7 5 40.58	137.94	66.72	18 5 5.1	-144.3	15 16.18	56 2.52
20	Moon I. U.	4.7	7 33 18.57	138.34	66.85	N. 17 28 47.5	-218.5	15 21.00	56 20.19
	Moon I. L.	-	8 0 59.85	138.50	66.92	16 37 45.9	-291.4	15 26.11	56 38.95
	1 Cancri	6.0	7 52 37			16 0			
	30 B. Cancri	6.1	8 6 40			14 51			
21	Moon I. U.	5.8	8 28 41.92	138.49	66.94	N. 15 32 24.2	-361.7	15 31.50	56 58.74
	Moon I. L.	-	8 56 23.22	138.38	66.93	14 13 19.1	-428.5	15 37.16	57 19.50
	54 Cancri	6.3	8 46 45			15 38			
	81 Cancri	6.4	9 8 5			15 18			
22	Moon I. U.	6.8	9 24 3.14	138.28	66.92	N. 12 41 19.4	-490.7	15 43.03	57 41.06
	Moon I. L.	-	9 51 42.21	138.26	66.92	10 57 25.3	-547.4	15 49.08	58 3.24
	19 Leonis	6.4	9 43 18			11 55			
	A Leonis	4.6	10 3 50			10 22			
23	Moon I. U.	7.8	10 19 22.00	138.41	66.97	N. 9 2 48.5	-597.6	15 55.21	58 25.75
	Moon I. L.	-	10 47 5.03	138.81	67.06	6 58 51.9	-640.5	16 1.34	58 48.26
	37 Sextantis	6.3	10 42 6			6 47			
	e Leonis	5.1	10 56 46			N. 6 31			

440 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of C's R.A. in 1 hour of Long.	Sid. Time of Semid. pass Merid.	Apparent Declination.	Var. of C's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
May 24	Moon I. U.	8·9	11 14 54·63	139·52	67·23	N. 4 47 9·9	-675·0	16 7·36	59 10·34
	Moon I. L.	-	11 42 54·82	140·58	67·48	2 29 28·7	-700·1	16 13·14	59 31·55
	89 Leonis	5·7	11 30 27			3 29			
	β Virginis	3·8	11 46 42			2 12			
25	Moon I. U.	9·9	12 11 9·97	142·01	67·81	N. 0 7 47·7	-714·8	16 18·52	59 51·32
	Moon I. L.	-	12 39 44·56	143·82	68·23	S. 2 15 41·6	-718·0	16 23·36	60 9·06
	γ Virg. (mean)	2·9	12 37 47			1 2			
	38 Virginis	6·1	12 49 16 ·			3 8			
26	Moon I. U.	10·9	13 8 42·84	145·95	68·73	S. 4 38 34·9	-708·6	16 27·49	60 24·24
	Moon I. L.	-	13 38 8·44	148·35	69·29	6 58 16·4	-685·9	16 30·76	60 36·23
	80 Virginis	5·6	13 31 33			5 0			
	88 Virginis	6·5	13 44 18			6 27			
27	Moon I. U.	12·0	14 8 3·86	150·90	69·88	S. 9 12 2·5	-649·4	16 33·02	60 44·54
	Moon I. L.	-	14 38 30·10	153·46	70·47	11 17 5·3	-598·8	16 34·16	60 48·71
	6 B. Libræ	6·2	14 32 56			11 59			
	13 Libræ	5·7	14 50 14			11 35			
28	Moon I. U.	13·0	15 9 26·15	155·84	71·01	S. 13 10 39·5	-534·7	16 34·09	60 48·46
	Moon I. L.	-	15 40 48·69	157·84	71·47	14 50 9·8	-458·4	16 32·78	60 43·63
	γ Libræ	4·0	15 31 15			14 32			
	θ Libræ	4·4	15 49 29			16 30			
29	Moon I. U.	14·0	16 12 31·90	159·25	71·80	S. 16 13 20·0	-371·8	16 30·23	60 34·27
	24 Scorpïi	5·0	16 37 10			17 36			
	78 B. Ophiuchi	6·5	16 51 38			16 41			
30	Moon II. L.	-	16 46 51·54	159·91	71·95	S. 17 18 21·4	277·4	16 26·49	60 20·54
	Moon II. U.	15·1	17 18 49·69	159·63	71·90	18 4 0·2	-178·6	16 21·67	60 2·88
	305 B. Ophiuchi	6·3	17 51 26			18 47			
	32 G. Sagittarii	5·7	18 3 23			17 10			
31	Moon II. L.	-	17 50 38·86	158·40	71·63	S. 18 29 41·8	- 78·5	16 15·91	59 41·73
	Moon II. U.	16·1	18 22 7·79	156·27	71·15	18 35 31·3	+ 19·6	16 9·39	59 17·80
	171 B. Sagittarii	6·1	18 58 35			19 21			
	195 B. Sagittarii	6·3	19 5 18			19 55			
June 1	Moon II. L.	-	18 53 6·19	153·34	70·48	S. 18 22 10·8	+112·8	16 2·28	58 51·69
	Moon II. U.	17·2	19 23 25·47	149·79	69·66	17 50 53·0	+198·8	15 54·79	58 24·20
	e Sagittarii	5·2	19 38 9			16 18			
	g Sagittarii	5·1	19 53 37			15 42			
2	2 Moon II. L.	-	19 52 59·35	145·81	68·72	S. 17 3 13·0	+276·3	15 47·10	57 55·98
	Moon II. U.	18·2	20 21 44·03	141·62	67·72	16 0 59·6	+344·3	15 39·39	57 27·71
	61 B. Capricor.	5·9	20 36 15			16 24			
	95 B. Capricor.	5·9	20 54 28			14 47			
3	Moon II. L.	-	20 49 38·17	137·42	66·70	S. 14 46 8·1	+402·7	15 31·84	56 59·99
	Moon II. U.	19·3	21 16 42·56	133·36	65·70	13 20 32·7	+451·7	15 24·58	56 33·32
	137 B. Capricor.	6·2	21 35 21			10 55			
	96 B. Aquarii	6·5	21 49 30			S. 10 40			

MOON-CULMINATING STARS, 1923. 441

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of (^h s R.A. in 1 hour of Long.	Sid. Time of Semid. pass# Merid.	Apparent Declination.	Var. of (^h s Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			^h ^m ^s	^s	^s	[°] ['] ["]	[°] ['] ["]	['] ["]	['] ["]
June 4	Moon II. L.	-	21 42 59.81	129.57	64.75	S. 11 46 3.1	+491.8	15 17.73	56 8.18
	Moon II. U.	20.3	22 8 33.82	126.17	63.88	10 4 21.1	+523.9	15 11.40	55 44.95
	186 B. Aquarii	6.1	22 27 17			6 57			
5	67 Aquarii	6.4	22 39 14			7 22			
	Moon II. L.	-	22 33 29.52	123.20	63.10	S. 8 16 59.9	+548.5	15 5.65	55 23.87
	Moon II. U.	21.3	22 57 52.43	120.71	62.44	6 25 23.9	+566.5	15 0.55	55 5.16
6	293 B. Aquarii	5.5	23 11 37			3 55			
	342 B. Aquarii	6.5	23 27 34			4 30			
	Moon II. L.	-	23 21 48.45	118.72	61.91	S. 4 30 49.0	+578.4	14 56.15	54 49.00
7	Moon II. U.	22.3	23 45 23.69	117.24	61.50	2 34 24.6	+584.8	14 52.45	54 35.43
	80 B. Piscium	6.3	0 1 8			S. 0 56			
	98 B. Piscium	6.3	0 13 51			N. 1 16			
8	Moon II. L.	-	0 8 44.23	116.27	61.22	S. 0 37 14.7	+586.0	14 49.48	54 24.52
	Moon II. U.	23.4	0 31 56.12	115.79	61.07	N. 1 19 40.5	+582.4	14 47.22	54 16.24
	155 B. Piscium	6.5	0 47 21			2 58			
9	77 Piscium	6.4	1 1 51			4 30			
	Moon II. L.	-	0 55 5.19	115.80	61.05	N. 3 15 23.0	+573.9	14 45.68	54 10.56
	Moon II. U.	24.4	1 18 17.11	116.26	61.14	5 8 55.3	+560.7	14 44.81	54 7.39
10	Moon II. L.	-	1 41 37.16	117.15	61.35	N. 6 59 19.3	+542.5	14 44.60	54 6.62
	Moon II. U.	25.4	2 5 10.30	118.43	61.66	8 45 35.4	+519.3	14 45.01	54 8.10
	Moon II. L.	-	2 29 0.93	120.06	62.07	N. 10 26 41.2	+490.8	14 45.99	54 11.71
11	Moon II. U.	26.5	2 53 12.98	121.99	62.55	12 1 31.9	+456.7	14 47.51	54 17.28
	Moon II. L.	-	3 17 49.58	124.15	63.08	N. 13 29 0.0	+417.0	14 49.51	54 24.61
	Moon II. U.	27.5	3 42 53.10	126.46	63.67	14 47 55.4	+371.3	14 51.93	54 33.52
12	Moon II. L.	-	4 8 24.83	128.84	64.26	N. 15 57 7.1	+319.7	14 54.74	54 43.83
	Moon II. U.	28.5	4 34 25.07	131.19	64.85	16 55 24.7	+262.3	14 57.88	54 55.33
	Moon II. L.	-	5 0 52.90	133.42	65.41	N. 17 41 40.6	+199.5	15 1.30	55 7.88
13	Moon II. U.	29.6	5 27 46.24	135.43	65.91	18 14 52.7	+131.8	15 4.94	55 21.25
	Moon I. L.	-	5 52 49.23	137.06	66.35	N. 18 34 7.7	+60.1	15 8.78	55 35.33
14	Moon I. U.	1.0	6 20 22.48	138.41	66.69	N. 18 38 42.8	-14.6	15 12.76	55 49.96
	Moon I. L.	-	6 48 9.44	139.34	66.94	18 28 9.8	-91.1	15 16.86	56 5.02
	Moon I. U.	2.0	7 16 5.10	139.86	67.09	N. 18 2 15.8	-167.9	15 21.06	56 20.42
15	Moon I. L.	-	7 44 4.62	139.99	67.14	17 21 4.9	-243.6	15 25.32	56 36.05
	Moon I. U.	3.1	8 12 3.55	139.78	67.12	N. 16 24 58.0	-317.0	15 29.63	56 51.86
	Moon I. L.	-	8 39 58.39	139.32	67.03	15 14 31.9	-386.6	15 33.97	57 7.81
16	Moon I. U.	4.1	9 7 46.69	138.71	66.91	N. 13 50 38.4	-451.4	15 38.33	57 23.80
	Moon I. L.	-	9 35 27.24	138.05	66.78	12 14 21.8	-510.3	15 42.70	57 39.85
	Moon I. U.	5.2	10 3 0.23	137.46	66.66	N. 10 26 57.7	-562.5	15 47.06	57 55.86
17	Moon I. L.	-	10 30 27.05	137.04	66.58	8 29 50.8	-607.3	15 51.39	58 11.72
	45 Leonis	5.8	10 23 36			10 9			
	37 Sextantis	6.3	10 42 6			N. 6 47			

442 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of (s) R.A. in 1 hour of Long.	Std. Time of Semid. pass# Merid.	Apparent Declination.	Var. of (s) Dec. in 1 hour of Long.	Semi- diameter.	How. Par.
			h m s	s	s	° ' "	"	' "	' "
June 20	Moon I. U.	6.2	10 57 50.25	136.88	66.55	N. 6 24 34.2	-644.1	15 55.64	58 27.35
	Moon I. L.	-	11 25 13.39	137.04	66.61	4 12 47.8	-672.2	15 59.80	58 42.61
	♄ Leonis	4.1	11 17 11			6 27			
	89 Leonis	5.7	11 30 27			3 29			
21	Moon I. U.	7.2	11 52 40.77	137.59	66.75	N. 1 56 19.0	-691.1	16 3.81	58 57.31
	Moon I. L.	-	12 20 17.24	138.56	66.99	S. 0 22 58.2	-700.1	16 7.59	59 11.20
	13 Virginis	5.9	12 14 45			0 22			
	γ Virg. (mean)	2.9	12 37 47			1 2			
22	Moon I. U.	8.3	12 48 7.87	139.95	67.34	S. 2 43 2.5	-698.8	16 11.10	59 24.06
	Moon I. L.	-	13 16 17.67	141.75	67.77	5 14 5.6	-686.5	16 14.22	59 35.53
	θ Virginis	4.4	13 5 59			5 8			
	66 Virginis	5.7	13 20 34			4 46.			
23	Moon I. U.	9.3	13 44 51.24	143.90	68.28	S. 7 16 51.4	-662.5	16 16.88	59 45.29
	Moon I. L.	-	14 13 52.35	146.32	68.85	9 25 58.6	-626.6	16 18.98	59 53.00
	96 Virginis	6.5	14 4 56			9 58			
	4 G. Libræ	6.5	14 20 34			11 19			
24	Moon I. U.	10.3	14 43 23.51	148.89	69.45	S. 11 26 42.4	-578.6	16 20.42	59 58.30
	Moon I. L.	-	15 13 25.51	151.43	70.02	13 16 37.4	-518.6	16 21.13	60 0.87
	18 Libræ	5.9	14 54 46			10 50			
	130 B. Libræ	5.9	15 19 41			12 6			
25	Moon I. U.	11.4	15 43 57.06	153.78	70.57	S. 14 53 23.7	-447.3	16 21.01	60 0.44
	Moon I. L.	-	16 14 54.52	155.71	71.00	16 14 53.1	-366.0	16 20.02	59 56.81
	91 B. Scorpïi	6.1	16 11 33			14 39			
	φ Ophiuchi	4.4	16 26 46			16 27			
26	Moon I. U.	12.4	16 46 11.78	157.04	71.29	S. 17 19 16.9	-276.7	16 18.13	59 49.87
	Moon I. L.	-	17 17 40.55	157.61	71.40	18 5 12.7	-181.8	16 15.34	59 39.64
	125 B. Ophiuchi	6.2	17 3 49			17 30			
	192 B. Ophiuchi	6.3	17 20 9			18 22			
27	Moon I. U.	13.5	17 49 10.86	157.29	71.31	S. 18 31 50.1	-84.2	16 11.70	59 26.27
	Moon I. L.	-	18 20 31.83	156.05	71.01	18 38 55.1	+13.0	16 7.25	59 9.96
	52 G. Sagittarii	6.4	18 13 0			18 29			
	100 B. Sagittarii	5.0	18 26 58			18 27			
28	Moon II. U.	14.5	18 53 53.72	153.85	70.51	S. 18 26 49.9	+107.0	16 2.11	58 51.08
	ρ Sagittarii	4.0	19 17 15			17 59			
	267 B. Sagittarii	5.8	19 32 38			18 24			
29	Moon II. L.	-	19 24 23.37	150.97	69.83	S. 17 56 29.5	+195.2	15 56.38	58 30.04
	Moon II. U.	15.5	19 54 14.85	147.53	69.02	17 9 16.6	+275.5	15 50.20	58 7.36
	16 B. Capricor.	6.2	20 16 30			15 1			
	47 B. Capricor.	6.2	20 31 13			16 47			
30	Moon II. L.	-	20 23 22.53	143.71	68.11	S. 16 6 53.0	+346.8	15 43.72	57 43.58
	Moon II. U.	16.6	20 51 43.12	139.72	67.14	14 51 12.4	+408.3	15 37.08	57 19.21
	53 B. Aquarii	6.5	21 11 49			13 31			
	72 B. Aquarii	6.5	21 24 6			S. 11 54			

MOON-CULMINATING STARS, 1923. 443

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
July	1 Moon II. L.	-	21 19 15.72	135.74	66.18	S. 13 24 13.4	+459.9	15 30.44	56 54.85
	170 Moon II. U.	17.6	21 46 1.40	131.92	65.23	11 47 52.4	+502.0	15 23.92	56 30.92
	e Aquarii	5.4	22 6 33			11 56			
	170 B. Aquarii	6.0	22 19 32			7 35			
	2 Moon II. L.	-	22 12 2.94	128.39	64.36	S. 10 4 0.8	+535.1	15 17.67	56 7.97
	197 Moon II. U.	18.6	22 37 24.31	125.24	63.56	8 14 21.7	+560.1	15 11.78	55 46.38
	φ G. Aquarii	6.3	22 53 20			5 13			
	φ Aquarii	4.4	23 10 22			6 28			
	3 Moon II. L.	-	23 2 10.45	122.53	62.87	S. 6 20 28.7	+577.6	15 6.36	55 26.48
	20 Moon II. U.	19.7	23 26 26.88	120.29	62.30	4 23 46.8	+588.4	15 1.49	55 8.61
	29 Piscium	5.6	23 44 1			3 11			
	29 Piscium	5.1	23 57 54			3 27			
	4 Moon II. L.	-	23 50 19.48	118.56	61.84	S. 2 25 31.6	+593.2	14 57.24	54 53.00
	10 Moon II. U.	20.7	0 13 54.32	117.33	61.52	0 26 52.3	+592.5	14 53.66	54 39.85
	155 Ceti	6.4	0 22 42			S. 0 28			
	155 B. Piscium	6.5	0 47 22			N. 2 58			
	5 Moon II. L.	-	0 37 17.50	116.61	61.33	N. 1 31 8.0	+586.7	14 50.78	54 29.27
	170 Moon II. U.	21.7	1 0 35.06	116.39	61.27	3 27 29.9	+576.2	14 48.63	54 21.40
	f Piscium	5.3	1 13 51			3 13			
	v Piscium	4.7	1 37 27			5 6			
	6 Moon II. L.	-	1 23 52.89	116.66	61.33	N. 5 21 16.9	+560.9	14 47.22	54 16.24
	39 Moon II. U.	22.8	1 47 16.67	117.38	61.52	7 11 32.6	+541.0	14 46.56	54 13.82
	ξ B. Arietis	6.5	2 0 48			7 22			
	ξ Arietis	5.5	2 20 42			10 16			
	7 Moon II. L.	-	2 10 51.78	118.54	61.81	N. 8 57 20.5	+516.2	14 46.63	54 14.07
	147 Moon II. U.	23.8	2 34 43.18	120.09	62.20	10 37 42.2	+486.5	14 47.42	54 16.94
	σ Arietis	5.4	2 47 15			14 46			
	147 B. Arietis	5.8	3 2 11			12 53			
	8 Moon II. L.	-	2 58 55.37	121.99	62.68	N. 12 11 36.8	+451.7	14 48.88	54 22.32
	24.8 Moon II. U.	24.8	3 23 32.20	124.19	63.23	13 38 0.3	+411.3	14 50.99	54 30.05
	9 Moon II. L.	-	3 48 36.72	126.59	63.83	N. 14 55 45.8	+365.4	14 53.68	54 39.95
	25.9 Moon II. U.	25.9	4 14 10.99	129.13	64.46	16 3 43.8	+313.4	14 56.92	54 51.83
	10 Moon II. L.	-	4 40 16.08	131.71	65.09	N. 17 0 44.0	+255.7	15 0.62	55 5.40
	26.9 Moon II. U.	26.9	5 6 51.77	134.21	65.69	17 45 37.1	+192.3	15 4.72	55 20.44
	11 Moon II. L.	-	5 33 56.49	136.53	66.26	N. 18 17 17.9	+123.7	15 9.14	55 36.68
	27.9 Moon II. U.	27.9	6 1 27.45	138.57	66.75	18 34 47.5	+50.6	15 13.80	55 53.77
	12 Moon II. L.	-	6 29 20.65	140.23	67.14	N. 18 37 18.0	-26.0	15 18.61	56 11.43
	29.0 Moon II. U.	29.0	6 57 31.16	141.45	67.43	18 24 15.4	-104.7	15 23.49	56 29.35
	13 Moon II. L.	-	7 25 53.49	142.20	67.62	N. 17 55 22.3	-184.1	15 28.37	56 47.24
	14 Moon I. U.	0.5	7 52 6.64	142.48	67.70	N. 17 10 41.0	-262.5	15 33.16	57 4.82
	8 Moon I. L.	-	8 20 36.09	142.36	67.67	N. 16 10 33.7	-338.2	15 37.79	57 21.82

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AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass# Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
July 15	Moon I. U.	1.5	8 49 1.96	141.90	67.57	N. 14 55 41.8	-409.6	15 42.21	57 38.06
	Moon I. L.	-	9 17 20.70	141.19	67.42	13 27 5.8	-475.3	15 46.38	57 53.35
16	Moon I. U.	2.6	9 45 30.04	140.35	67.23	N. 11 46 2.4	-534.0	15 50.24	58 7.51
	Moon I. L.	-	10 13 29.12	139.50	67.05	9 54 1.4	-584.7	15 53.78	58 20.52
17	Moon I. U.	3.6	10 41 18.45	138.75	66.89	N. 7 52 44.0	-626.7	15 56.98	58 32.27
	Moon I. L.	-	11 8 59.79	138.19	66.78	5 43 59.4	-659.2	15 59.84	58 42.76
18	Moon I. U.	4.6	11 36 36.06	137.91	66.74	N. 3 29 42.2	-682.0	16 2.36	58 51.98
	Moon I. L.	-	12 4 10.99	137.97	66.78	1 11 52.1	-694.7	16 4.52	58 59.94
27	B. Virginis	6.5	11 55 8			N. 0 57			
	13 Virginis	5.9	12 14 44			S. 0 22			
19	Moon I. U.	5.7	12 31 48.91	138.42	66.91	S. 1 7 28.6	-697.0	16 6.35	59 6.63
	Moon I. L.	-	12 59 34.54	139.25	67.14	3 26 14.8	-688.9	16 7.83	59 12.08
91	G. Virginis	6.5	12 49 41			3 48			
	θ Virginis	4.4	13 5 59			5 8			
20	Moon I. U.	6.7	13 27 32.53	140.48	67.46	S. 5 42 20.0	-670.2	16 8.97	59 16.27
	Moon I. L.	-	13 55 47.32	142.04	67.85	7 53 36.3	-640.7	16 9.76	59 19.17
598	B. Virginis	6.1	13 50 57			7 41			
	96 Virginis	6.5	14 4 56			9 58			
21	Moon I. U.	7.7	14 24 22.67	143.89	68.30	S. 9 57 55.3	-600.6	16 10.19	59 20.72
	Moon I. L.	-	14 53 21.29	145.91	68.78	11 53 9.7	-550.0	16 10.22	59 20.86
22	B. Libræ	6.4	14 43 45			12 31			
	18 Libræ	5.9	14 54 46			10 50			
22	Moon I. U.	8.8	15 22 44.56	147.97	69.27	S. 13 37 15.7	-489.3	16 9.86	59 19.51
	Moon I. L.	-	15 52 32.12	149.93	69.71	15 8 15.9	419.2	16 9.05	59 16.53
η	Libræ	5.5	15 39 47			15 26			
	49 Libræ	5.4	15 56 3			16 18			
23	Moon I. U.	9.8	16 22 41.74	151.61	70.09	S. 16 24 24.0	-340.8	16 7.77	59 11.84
	Moon I. L.	-	16 53 9.11	152.86	70.36	17 24 9.0	-255.7	16 6.00	59 5.37
24	Scorpii	5.0	16 37 10			17 36			
	29 Ophiuchi	6.4	16 57 24			18 46			
24	Moon I. U.	10.9	17 23 47.99	153.51	70.48	S. 18 6 21.1	-165.7	16 3.73	58 57.02
	Moon I. L.	-	17 54 30.64	153.47	70.44	18 30 15.8	-73.2	16 0.94	58 46.80
305	B. Ophiuchi	6.3	17 51 26			18 47			
	39 Sagittarii	6.3	18 6 44			19 51			
25	Moon I. U.	11.9	18 25 8.32	152.68	70.22	S. 18 35 36.8	+19.5	15 57.65	58 34.71
	Moon I. L.	-	18 55 31.97	151.14	69.82	18 22 38.0	+109.7	15 53.87	58 20.82
171	B. Sagittarii	6.1	18 58 35			19 21			
	195 B. Sagittarii	6.3	19 5 19			19 55			
26	Moon I. U.	12.9	19 25 33.05	148.93	69.27	S. 17 52 24.0	+195.3	15 49.63	58 5.29
	Moon I. L.	-	19 55 4.10	146.16	68.59	17 4 56.0	+274.4	15 45.01	57 48.32
ε	Sagittarii	5.2	19 38 10			16 18			
	9 Sagittarii	5.1	19 53 38			S. 15 42			

MOON-CULMINATING STARS, 1923. 445

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of (1's R.A. in 1 hour of Long.	Std. Time of Semid. pass [†] Merid.	Apparent Declination.	Var. of (1's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	+ " "	' "	' "
July 27	Moon II. U.	14.0	20 26 14.97	142.85	67.80	S. 16 2 47.9	+345.5	15 40.06	57 30.16
	61 B. Capricor.	5.9	20 36 16			16 24			
	95 B. Capricor.	5.9	20 54 29			14 47			
28	Moon II. L.	-	20 54 28.84	139.43	66.96	S. 14 47 19.2	+407.7	15 34.87	57 11.10
	Moon II. U.	15.0	21 22 1.07	135.94	66.10	13 20 19.6	+460.6	15 29.53	56 51.49
	λ Capricor.	5.5	21 42 26			11 43			
	ε Aquarii	5.4	22 6 33			11 56			
29	Moon II. L.	-	21 48 51.57	132.51	65.24	S. 11 43 41.8	+504.2	15 24.13	56 31.68
	Moon II. U.	16.0	22 15 1.95	129.26	64.43	9 59 15.9	+538.7	15 18.77	56 12.01
	167 G. Aquarii	6.3	22 34 22			8 18			
	λ Aquarii	3.8	22 48 38			7 59			
30	Moon II. L.	-	22 40 34.98	126.30	63.69	S. 8 8 47.8	+564.6	15 13.56	55 52.89
	Moon II. U.	17.1	23 5 34.53	123.69	63.03	6 13 56.0	+582.7	15 8.60	55 34.68
	337 B. Aquarii	6.4	23 25 36			4 57			
	20 Piscium	5.6	23 44 1			3 11			
31	Moon II. L.	-	23 30 5.12	121.48	62.48	S. 4 16 11.2	+593.6	15 3.06	55 17.65
	Moon II. U.	18.1	23 54 11.80	119.71	62.03	S. 2 16 56.0	+597.9	14 59.75	55 2.20
	98 B. Piscium	6.3	0 13 53			N. 1 16			
	10 Ceti	6.4	0 22 43			S. 0 28			
Aug. 1	Moon II. L.	-	0 17 59.91	118.39	61.70	S. 0 17 25.7	+596.2	14 56.03	54 48.55
	Moon II. U.	19.1	0 41 34.97	117.53	61.50	N. 1 41 11.0	+589.0	14 52.88	54 36.98
	73 Piscium	6.2	1 0 55			5 15			
	f Piscium	5.3	1 13 52			3 13			
2	Moon II. L.	-	1 5 2.51	117.14	61.41	N. 3 37 50.3	+576.7	14 50.35	54 27.69
	Moon II. U.	20.2	1 28 28.10	117.20	61.45	5 31 33.1	+559.6	14 48.48	54 20.85
	ν Piscium	4.7	1 37 27			5 6			
	39 B. Arietis	6.5	2 0 49			7 22			
3	Moon II. L.	-	1 51 57.08	117.71	61.60	N. 7 21 22.1	+537.8	14 47.32	54 16.59
	Moon II. U.	21.2	2 15 34.72	118.64	61.86	9 6 21.1	+511.3	14 46.89	54 15.02
	31 Arietis	5.7	2 32 28			12 7			
	μ Ceti	4.4	2 40 48			9 47			
4	Moon II. L.	-	2 39 25.92	119.96	62.21	N. 10 45 34.3	+480.1	14 47.21	54 16.20
	Moon II. U.	22.2	3 3 35.25	121.65	62.66	12 18 4.1	+444.0	14 48.29	54 20.13
	8 B. Tauri	6.2	3 19 57			12 21			
	30 B. Tauri	6.4	3 33 30			15 11			
5	Moon II. L.	-	3 28 6.77	123.65	63.18	N. 13 42 51.2	+403.0	14 50.10	54 26.79
	Moon II. U.	23.3	3 53 3.92	125.91	63.76	14 58 54.2	+356.6	14 52.64	54 36.12
	48 Tauri	6.3	4 11 26			15 13			
	264 B. Tauri	4.8	4 26 10			16 2			
6	Moon II. L.	-	4 18 29.42	128.36	64.38	N. 16 5 8.9	+304.9	14 55.87	54 47.98
	Moon II. U.	24.3	4 44 24.98	130.91	65.01	17 0 30.1	+247.7	14 59.76	55 2.25
7	Moon II. L.	-	5 10 51.33	133.47	65.64	N. 17 43 52.4	+185.1	15 4.23	55 18.67
	Moon II. U.	25.3	5 37 47.99	135.95	66.23	N. 18 14 11.8	+117.3	15 9.23	55 37.02

446 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Aug. 8	Moon II. L.	-	6 5 13.25	138.23	66.77	N. 18 30 29.4	+ 44.9	15 14.67	55 56.96
	Moon II. U.	26.4	6 33 4.25	140.22	67.24	18 31 53.9	- 31.4	15 20.44	56 18.16
9	Moon II. L.	-	7 1 17.04	141.85	67.62	N. 18 17 45.8	- 110.4	15 26.44	56 40.17
	Moon II. U.	27.4	7 29 46.94	143.06	67.89	17 47 39.8	- 190.7	15 32.56	57 2.61
10	Moon II. L.	-	7 58 28.82	143.84	68.06	N. 17 1 29.4	- 270.8	15 38.65	57 24.96
	Moon II. U.	28.4	8 27 17.50	144.20	68.13	15 59 28.7	- 348.8	15 44.59	57 46.77
11	Moon II. L.	-	8 56 8.20	144.19	68.12	N. 14 42 12.9	- 423.0	15 50.27	58 7.62
12	Moon II. U.	29.4	9 24 56.88	143.88	68.04	N. 13 10 39.0	- 491.5	15 55.55	58 27.00
	Moon I. L.	-	9 51 24.71	143.40	67.92	11 26 4.9	- 552.8	16 0.33	58 44.55
13	Moon I. U.	1.1	10 20 1.89	142.79	67.78	N. 9 30 6.4	- 605.4	16 4.53	58 59.96
	Moon I. L.	-	10 48 31.77	142.20	67.65	7 24 34.8	- 648.1	16 8.06	59 12.93
14	Moon I. U.	2.1	11 16 54.98	141.70	67.56	N. 5 11 33.8	- 680.2	16 10.90	59 23.33
	Moon I. L.	-	11 45 13.24	141.38	67.51	2 53 15.6	- 700.9	16 13.01	59 31.07
15	Moon I. U.	3.1	12 13 29.13	141.31	67.52	N. 0 31 58.0	- 710.0	16 14.39	59 36.16
	Moon I. L.	-	12 41 45.83	141.52	67.60	S. 1 49 58.3	- 707.4	16 15.08	59 38.67
16	Moon I. U.	4.2	13 10 6.83	142.03	67.75	S. 4 10 12.7	- 693.1	16 15.10	59 38.77
	Moon I. L.	-	13 38 35.67	142.82	67.98	6 26 26.7	- 667.4	16 14.52	59 36.63
17	Moon I. U.	5.2	14 7 15.59	143.87	68.26	S. 8 36 25.1	- 630.6	16 13.40	59 32.51
	Moon I. L.	-	14 36 9.20	145.09	68.58	10 37 58.9	- 583.3	16 11.79	59 26.62
	6 B. Libræ	6.2	14 32 55			11 59			
	13 Libræ	5.7	14 50 13			11 35			
18	Moon I. U.	6.3	15 5 18.24	146.42	68.91	S. 12 29 6.6	- 526.4	16 9.77	59 19.20
	Moon I. L.	-	15 34 43.27	147.74	69.24	14 7 56.2	- 460.5	16 7.40	59 10.48
	γ Libræ	4.0	15 31 15			14 32			
	195 B. Libræ	6.2	15 47 22			13 54			
19	Moon I. U.	7.3	16 4 23.43	148.92	69.52	S. 15 32 48.0	- 386.9	16 4.71	59 0.64
	Moon I. L.	-	16 34 16.37	149.85	69.73	16 42 16.7	- 306.9	16 1.78	58 49.86
	φ Ophiuchi	4.4	16 26 46			16 27			
	78 B. Ophiuchi	6.5	16 51 37			16 41			
20	Moon I. U.	8.3	17 4 18.22	150.39	69.85	S. 17 35 14.9	- 222.1	15 58.61	58 38.23
	Moon I. L.	-	17 34 23.83	150.46	69.84	18 10 55.7	- 134.3	15 55.25	58 25.90
	192 B. Ophiuchi	6.3	17 20 9			18 22			
	305 B. Ophiuchi	6.3	17 51 26			18 47			
21	Moon I. U.	9.4	18 4 26.98	149.97	69.69	S. 18 28 54.3	- 45.4	15 51.71	58 12.91
	Moon I. L.	-	18 34 20.93	148.92	69.40	18 29 9.7	+ 42.6	15 48.01	57 59.33
	Y Sagit. (var.)	5.4	18 16 54			18 54			
	100 B. Sagittarii	5.0	18 26 58			18 27			
22	Moon I. U.	10.4	19 3 58.85	147.31	68.97	S. 18 12 4.1	+ 127.7	15 44.16	57 45.21
	Moon I. L.	-	19 33 14.46	145.21	68.43	17 38 22.0	+ 208.4	15 40.18	57 30.59
	45 Sagittarii	6.0	19 17 24			18 27			
	e Sagittarii	5.2	19 38 10			S. 16 18			

MOON-CULMINATING STARS, 1923. 447

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of C's R.A. in 1 hour of Long.	Std. Time of Semid. pass ^g Merid.	Apparent Declination.	Var. of C's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Aug. 23	Moon I. U.	11.5	20 2 2.36	142.71	67.78	S. 16 49 7.1	-1283.0	15 36.07	57 15.51
	Moon I. L.	-	20 30 18.39	139.92	67.06	15 45 38.1	+1350.5	15 31.86	57 0.05
	31 B. Capricor.	6.4	20 24 26			16 0			
	61 B. Capricor.	5.9	20 36 16			16 24			
24	Moon I. U.	12.5	20 57 59.87	136.97	66.30	S. 14 29 26.1	-1410.1	15 27.57	56 44.32
	Moon I. L.	-	21 25 5.55	133.98	65.53	13 2 8.6	+461.4	15 23.23	56 28.38
	18 Aquarii	5.5	21 20 2			13 12			
	137 B. Capricor.	6.2	21 35 23			10 55			
25	Moon I. U.	13.5	21 51 35.52	131.04	64.77	S. 11 25 27.6	+504.1	15 18.88	56 12.43
	150 B. Aquarii	6.0	22 12 52			9 25			
	186 B. Aquarii	6.1	22 27 19			6 57			
26	Moon II. L.	-	22 19 39.24	128.15	64.06	S. 9 41 4.5	+538.4	15 14.56	55 56.55
	Moon II. U.	14.6	22 45 1.56	125.62	63.40	7 50 38.9	+564.5	15 10.31	55 40.98
	h Aquarii	5.4	23 1 12			8 6			
	316 B. Aquarii	6.5	23 16 19			4 20			
27	Moon II. L.	-	23 9 55.19	123.38	62.83	S. 5 55 46.4	+1583.0	15 6.21	55 25.93
	Moon II. U.	15.6	23 34 23.93	121.47	62.33	3 57 57.1	+594.1	15 2.31	55 11.59
	24 Piscium	6.1	23 49 1			3 35			
	5 Ceti	6.3	0 4 18			2 52			
28	Moon II. L.	-	23 58 31.98	119.93	61.95	S. 1 58 35.4	+598.4	14 58.66	54 58.20
	Moon II. U.	16.6	0 22 23.83	118.78	61.66	N. 0 1 0.0	+596.5	14 55.33	54 45.97
	155 B. Piscium	6.5	0 47 23			2 58			
	77 Piscium	6.4	1 1 53			4 30			
29	Moon II. L.	-	0 46 4.17	118.01	61.48	N. 1 59 36.2	+588.6	14 52.39	54 35.18
	Moon II. U.	17.6	1 9 37.71	117.64	61.41	3 56 4.9	+575.3	14 49.89	54 26.02
	μ Piscium	5.0	1 26 12			5 45			
	ν Piscium	4.7	1 37 28			5 6			
30	Moon II. L.	-	1 33 9.15	117.66	61.45	N. 5 49 22.5	+556.8	14 47.90	54 18.71
	Moon II. U.	18.7	1 56 43.15	118.06	61.58	7 38 27.7	+533.3	14 46.47	54 13.47
	ξ ¹ Ceti	4.5	2 8 58			8 29			
	389 B. Ceti	6.3	2 25 31			9 14			
31	Moon II. L.	-	2 20 24.15	118.83	61.82	N. 9 22 22.5	+505.0	14 45.65	54 10.47
	Moon II. U.	19.7	2 44 16.43	119.94	62.14	11 0 9.8	+472.1	14 45.48	54 9.85
	147 B. Arietis	5.8	3 2 12			12 54			
	8 B. Tauri	6.2	3 19 58			12 22			
Sept. 1	Moon II. L.	-	3 8 23.98	121.37	62.55	N. 12 30 53.3	+434.4	14 46.01	54 11.77
	Moon II. U.	20.7	3 32 50.37	123.08	63.02	13 53 36.3	+392.0	14 47.25	54 16.34
	150 B. Tauri	6.9	3 50 7			16 24			
	179 B. Tauri	5.9	4 3 23			14 57			
2	Moon II. L.	-	3 57 38.73	125.02	63.54	N. 15 7 21.8	+344.8	14 49.23	54 23.59
	Moon II. U.	21.8	4 22 51.57	127.15	64.11	16 11 12.1	+292.8	14 51.95	54 33.57
	σ ³ Tauri	4.9	4 34 54			15 46			
	318 B. Tauri	5.7	4 52 57			N. 17 2			

448 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of C's R.A. in 1 hour of Long.	Sid. Time of Semid. pass# Merid.	Apparent Declination.	Var. of C's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	+ - " "	' "	' "
Sept. 3	Moon II. L.	-	4 48 30.73	129.39	64.69	N. 17 4 9.2	+235.9	14 55.41	54 46.28
	Moon II. U.	22.8	5 14 37.24	131.69	65.28	17 45 15.2	+174.3	14 59.60	55 1.64
	122 Tauri	5.5	5 32 37			17 0			
	B.D.+19°1110	6.0	5 47 51			19 51			
4	Moon II. L.	-	5 41 11.31	133.97	65.85	N. 18 13 33.6	+108.1	15 4.47	55 19.54
	Moon II. U.	23.8	6 8 12.18	136.15	66.38	18 28 12.1	+37.7	15 9.99	55 39.79
	292 B. Orionis	6.5	6 16 58			17 48			
	26 Geminor.	5.2	6 37 57			17 43			
5	Moon II. L.	-	6 35 38.19	138.15	66.86	N. 18 28 23.2	-36.4	15 16.09	56 2.17
	Moon II. U.	24.9	7 3 26.89	139.92	67.28	18 13 28.0	-113.2	15 22.66	56 26.31
6	Moon II. L.	-	7 31 35.18	141.41	67.62	N. 17 42 59.1	-191.8	15 29.63	56 51.87
	Moon II. U.	25.9	7 59 59.48	142.59	67.88	16 56 42.9	-270.8	15 36.86	57 18.40
7	Moon II. L.	-	8 28 36.12	143.47	68.06	N. 15 54 43.4	-348.8	15 44.19	57 45.32
	Moon II. U.	26.9	8 57 21.53	144.06	68.18	14 37 23.4	-424.0	15 51.48	58 12.07
8	Moon II. L.	-	9 26 12.56	144.41	68.24	N. 13 5 26.7	-494.6	15 58.55	58 38.01
	Moon II. U.	28.0	9 55 6.77	144.60	68.27	11 19 58.7	-558.9	16 5.23	59 2.53
9	Moon II. L.	-	10 24 2.53	144.69	68.27	N. 9 22 25.8	-615.1	16 11.33	59 24.93
	Moon II. U.	29.0	10 52 59.13	144.75	68.28	7 14 35.4	-661.6	16 16.71	59 44.65
10	Moon I. L.	-	11 19 40.17	144.86	68.31	N. 4 58 32.0	-697.0	16 21.21	60 1.18
11	Moon I. U.	0.7	11 48 39.73	145.09	68.37	N. 2 36 36.1	-720.2	16 24.72	60 14.07
	Moon I. L.	-	12 17 42.85	145.46	68.47	N. 0 11 19.1	-730.4	16 27.17	60 23.04
12	Moon I. U.	1.7	12 46 51.50	146.01	68.63	S. 2 14 39.7	-727.1	16 28.50	60 27.95
	Moon I. L.	-	13 16 7.86	146.74	68.83	4 38 37.7	-710.3	16 28.74	60 28.80
13	Moon I. U.	2.7	13 45 33.89	147.62	69.08	S. 6 57 53.6	-680.2	16 27.91	60 25.76
	Moon I. L.	-	14 15 11.07	148.59	69.34	9 9 51.8	-637.5	16 26.09	60 19.09
14	Moon I. U.	3.8	14 45 0.15	149.59	69.61	S. 11 12 6.0	-583.0	16 23.39	60 9.19
	Moon I. L.	-	15 15 0.86	150.51	69.86	13 2 23.6	-518.3	16 19.93	59 56.49
15	Moon I. U.	4.8	15 45 11.72	151.26	70.07	S. 14 38 49.2	-444.7	16 15.85	59 41.49
	Moon I. L.	-	16 15 30.00	151.73	70.20	15 59 47.4	-364.0	16 11.28	59 24.72
	91 B. Scorpil	6.1	16 11 32			14 39			
	φ Ophiuchi	4.4	16 26 45			16 27			
16	Moon I. U.	5.8	16 45 51.70	151.82	70.24	S. 17 4 4.9	-278.2	16 6.35	59 6.64
	Moon I. L.	-	17 16 11.80	151.45	70.16	17 50 52.6	-189.4	16 1.18	58 47.66
	125 B. Ophiuchi	6.2	17 3 48			17 30			
	192 B. Ophiuchi	6.3	17 20 9			18 22			
17	Moon I. U.	6.9	17 46 24.57	150.59	69.94	S. 18 19 45.9	-99.5	15 55.89	58 28.24
	Moon I. L.	-	18 16 23.93	149.22	69.60	18 30 44.6	-10.6	15 50.55	58 8.67
	39 G. Sagittarii	6.3	18 6 43			19 51			
	85 B. Sagittarii	6.0	18 23 29			S. 17 51			

MOON-CULMINATING STARS, 1923. 449

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of (l's R.A. in 1 hour of Long.	Sid. Time of Semi- pass [†] Merid.	Apparent Declination.	Var. of (l's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Sept. 18	Moon I. U.	7·9	18 46 3·95	147·38	69·13	S. 18 24 10·6	+ 75·6	15 45·26	57 49·24
	Moon I. L.	-	19 15 19·29	145·12	68·56	18 0 46·5	+157·5	15 40·05	57 30·13
195	B. Sagittarii	6·3	19 5 18			19 55			
45	Sagittarii	6·0	19 17 24			18 27			
19	Moon I. U.	9·0	19 44 5·45	142·53	67·90	S. 17 21 31·8	+233·9	15 34·99	57 11·56
	Moon I. L.	-	20 12 19·21	139·73	67·17	16 27 38·8	+303·8	15 30·09	56 53·58
g	Sagittarii	5·1	19 53 38			15 42			
β	Capricor.	3·2	20 16 44			15 1			
20	Moon I. U.	10·0	20 39 58·52	136·81	66·41	S. 15 20 30·1	+366·4	15 25·37	56 36·24
	Moon I. L.	-	21 7 2·68	133·89	65·63	14 1 34·6	+421·5	15 20·84	56 19·63
95	B. Capricor.	5·9	20 54 29			14 47			
53	B. Aquarii	6·5	21 11 50			13 31			
21	Moon I. U.	11·0	21 33 32·13	131·04	64·87	S. 12 32 24·4	+468·9	15 16·51	56 3·73
	Moon I. L.	-	21 59 28·37	128·36	64·16	10 54 32·6	+508·5	15 12·38	55 48·58
96	B. Aquarii	6·5	21 49 32			10 40			
e	Aquarii	5·4	22 6 34			11 56			
22	Moon I. U.	12·1	22 24 53·75	125·91	63·49	S. 9 9 31·7	+540·4	15 8·46	55 34·19
	Moon I. L.	-	22 49 51·29	123·73	62·90	7 18 51·7	+565·0	15 4·75	55 20·56
67	Aquarii	6·4	22 39 16			7 22			
81	Aquarii	6·4	22 57 27			7 28			
23	Moon I. U.	13·1	23 14 24·50	121·86	62·40	S. 5 24 0·6	+582·4	15 1·26	55 7·75
	Moon I. L.	-	23 38 37·24	120·32	61·98	3 26 21·9	+592·9	14 58·00	54 55·77
342	B. Aquarii	6·5	23 27 36			4 30			
20	Piscium	5·6	23 44 2			3 11			
24	Moon II. U.	14·1	0 4 36·91	119·08	61·66	S. 1 27 16·3	+596·9	14 54·98	54 44·71
44	Piscium	6·0	0 22 44			0 28			
15	Ceti	6·9	0 34 11			S. 0 55			
25	Moon II. L.	-	0 28 20·60	118·26	61·44	N. 0 31 59·7	+594·7	14 52·24	54 34·64
	Moon II. U.	15·2	0 51 56·47	117·78	61·32	2 30 12·6	+586·5	14 49·79	54 25·67
e	Piscium	5·6	1 4 27			5 15			
μ	Piscium	5·0	1 26 12			5 45			
26	Moon II. L.	-	1 15 28·67	117·64	61·30	N. 4 26 12·6	+572·6	14 47·68	54 17·92
	Moon II. U.	16·2	1 39 1·25	117·84	61·37	6 18 52·5	+553·2	14 45·94	54 11·51
39	B. Arietis	6·5	2 0 50			7 22			
ξ ¹	Ceti	4·5	2 8 58			8 29			
27	Moon II. L.	-	2 2 38·05	118·35	61·53	N. 8 7 8·1	+528·5	14 44·60	54 6·61
	Moon II. U.	17·2	2 26 22·72	119·15	61·77	9 49 56·8	+498·8	14 43·72	54 3·36
38	Arietis	5·2	2 40 49			12 8			
147	B. Arietis	5·8	3 2 13			12 54			
28	Moon II. L.	-	2 50 18·61	120·21	62·09	N. 11 26 19·1	+464·1	14 43·32	54 1·91
	Moon II. U.	18·3	3 14 28·74	121·51	62·47	12 55 15·7	+424·6	14 43·46	54 2·43
30	B. Tauri	6·4	3 33 31			15 11			
150	B. Tauri	6·9	3 50 7			N. 16 24			

450 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of C's R.A. in 1 hour of Long.	Sld. Time of Semi- pass Merid.	Apparent Declination.	Var. of C's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Sept. 29	Moon II. L.	-	3 38 55.71	123.01	62.90	N. 14 15 49.6	+380.3	14 44.18	54 5.06
	Moon II. U.	19.3	4 3 41.72	124.68	63.37	15 27 5.0	+331.5	14 45.51	54 9.95
	70 Tauri	6.4	4 21 16			15 46			
	σ ² Tauri	4.9	4 34 55			15 46			
30	Moon II. L.	-	4 28 48.39	126.45	63.87	N. 16 28 7.7	+278.2	14 47.49	54 17.23
	Moon II. U.	20.3	4 54 16.77	128.29	64.37	17 18 4.9	+220.6	14 50.16	54 27.00
	111 Tauri	5.1	5 19 58			17 19			
	119 Tauri	4.9	5 27 44			18 32			
Oct. 1	Moon II. L.	-	5 20 7.35	130.14	64.87	N. 17 56 6.9	+159.0	14 53.51	54 39.31
	Moon II. U.	21.3	5 46 19.99	131.95	65.36	18 21 26.5	+93.6	14 57.58	54 54.23
	68 Orionis	5.7	6 7 30			19 48			
	292 B. Orionis	6.5	6 17 0			17 48			
2	Moon II. L.	-	6 12 53.93	133.68	65.81	N. 18 33 20.8	+24.9	15 2.34	55 11.73
	Moon II. U.	22.4	6 39 47.93	135.29	66.23	18 31 13.0	-46.6	15 7.80	55 31.75
	41 H ¹ .Geminor.	6.0	6 58 9			16 47			
	λ Geminor.	3.6	7 13 42			16 41			
3	Moon II. L.	-	7 7 0.28	136.74	66.59	N. 18 14 32.9	-120.3	15 13.91	55 54.18
	Moon II. U.	23.4	7 34 28.99	138.02	66.90	17 42 59.7	-195.4	15 20.62	56 18.80
	2 B. Cancrī	6.0	7 54 10			16 43			
	ζ Cancrī (mean)	4.7	8 7 49			17 53			
4	Moon II. L.	-	8 2 12.02	139.12	67.17	N. 16 56 22.6	-270.8	15 27.86	56 45.37
	Moon II. U.	24.5	8 30 7.33	140.07	67.38	15 54 43.7	-345.5	15 35.53	57 13.52
5	Moon II. L.	-	8 58 13.22	140.89	67.56	N. 14 38 19.2	-418.2	15 43.50	57 42.77
	Moon II. U.	25.5	9 26 28.39	141.63	67.71	13 7 41.4	-487.4	15 51.63	58 12.62
6	Moon II. L.	-	9 54 52.11	142.33	67.85	N. 11 23 40.3	-551.8	15 59.74	58 42.38
	Moon II. U.	26.5	10 23 24.32	143.05	68.00	9 27 24.8	-609.6	16 7.65	59 11.40
7	Moon II. L.	-	10 52 5.65	143.85	68.17	N. 7 20 23.0	-659.2	16 15.13	59 38.87
	Moon II. U.	27.6	11 20 57.29	144.78	68.37	5 4 24.0	-698.9	16 21.99	60 4.03
8	Moon II. L.	-	11 50 0.98	145.87	68.61	N. 2 41 35.9	-727.1	16 28.01	60 26.12
	Moon II. U.	28.6	12 19 18.78	147.13	68.91	N. 0 14 25.0	-742.4	16 32.98	60 44.39
9	Moon II. L.	-	12 48 52.80	148.57	69.25	S. 2 14 26.6	-743.7	16 36.77	60 58.27
10	Moon I. U.	0.3	13 16 25.65	150.07	69.63	S. 4 42 5.6	-730.2	16 39.23	61 7.31
	Moon I. L.	-	13 46 36.39	151.72	70.03	7 5 31.7	-701.6	16 40.29	61 11.21
11	Moon I. U.	1.3	14 17 6.98	153.36	70.45	S. 9 21 44.2	-658.1	16 39.94	61 9.94
	Moon I. L.	-	14 47 56.61	154.88	70.83	11 27 50.0	-600.6	16 38.23	61 3.63
12	Moon I. U.	2.3	15 19 3.01	156.13	71.15	S. 13 21 8.9	-530.6	16 35.23	60 52.62
	Moon I. L.	-	15 50 22.25	156.99	71.39	14 59 22.3	-450.0	16 31.08	60 37.41
13	Moon I. U.	3.4	16 21 48.78	157.33	71.49	S. 16 20 38.0	-361.5	16 25.96	60 18.62
	Moon I. L.	-	16 53 15.75	157.05	71.46	S. 17 23 36.0	-267.6	16 20.06	59 56.96

MOON-CULMINATING STARS, 1923. 451

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass [†] Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	"	"
Oct. 14	Moon I. U.	4.4	17 24 35.35	156.10	71.26	S. 18 7 29.2	-171.1	16 13.58	59 33.18
	Moon I. L.	-	17 55 39 37	154.47	70.89	18 32 4.3	-75.0	16 6.70	59 7.93
15	Moon I. U.	5.5	18 26 20.08	152.22	70.37	S. 18 37 39.8	+18.4	15 59.63	58 41.96
	Moon I. L.	-	18 56 30.45	149.44	69.70	18 25 0.5	+107.2	15 52.49	58 15.77
	171 B. Sagittarii	6.1	18 58 34			19 21			
	195 B. Sagittarii	6.3	19 5 18			19 55			
16	Moon I. U.	6.5	19 26 4.96	146.26	68.94	S. 17 55 12.8	+189.6	15 45.44	57 49.91
	Moon I. L.	-	19 54 59.70	142.83	68.09	17 9 38.7	+264.8	15 38.60	57 24.81
	e Sagittarii	5.2	19 38 9			16 18			
	g Sagittarii	5.1	19 53 37			15 42			
17	Moon I. U.	7.5	20 23 12.51	139.30	67.20	S. 16 9 50.1	+332.0	15 32.05	57 0.77
	Moon I. L.	-	20 50 42.95	135.79	66.30	14 57 23.6	+391.1	15 25.86	56 38.02
	61 B. Capricor.	5.9	20 36 16			16 24			
	95 B. Capricor.	5.9	20 54 29			14 47			
18	Moon I. U.	8.6	21 17 31.97	132.42	65.42	S. 13 33 57.3	+442.0	15 20.06	56 16.75
	Moon I. L.	-	21 43 41.84	129.27	64.59	12 1 7.2	+485.1	15 14.69	55 57.04
	137 B. Capricor.	6.2	21 35 22			10 55			
	96 B. Aquarii	6.5	21 49 32			10 40			
19	Moon I. U.	9.6	22 9 15.73	126.43	63.82	S. 10 20 26.1	+520.5	15 9.76	55 38.94
	Moon I. L.	-	22 34 17.50	123.93	63.13	8 33 23.1	+548.8	15 5.27	55 22.46
	186 B. Aquarii	6.1	22 27 19			6 57			
	67 Aquarii	6.4	22 39 16			7 22			
20	Moon I. U.	10.6	22 58 51.51	121.80	62.54	S. 6 41 22.3	+570.2	15 1.21	55 7.58
	Moon I. L.	-	23 23 2.35	120.07	62.05	4 45 43.9	+585.1	14 57.58	54 54.24
	316 B. Aquarii	6.5	23 16 19			4 20			
	342 B. Aquarii	6.5	23 27 36			4 30			
21	Moon I. U.	11.7	23 46 54.78	118.73	61.67	S. 2 47 45.0	+593.7	14 54.36	54 42.41
	Moon I. L.	-	0 10 33.53	117.79	61.39	0 48 38.9	+596.3	14 51.52	54 32.01
	80 B. Piscium	6.3	0 1 10			S. 0 55			
	44 Piscium	6.0	0 21 30			N. 1 31			
22	Moon I. U.	12.7	0 34 3.27	117.23	61.22	N. 1 10 23.2	+593.1	14 49.07	54 23.03
	Moon I. L.	-	0 57 28.49	117.04	61.15	3 8 12.2	+584.2	14 46.99	54 15.39
	155 B. Piscium	6.5	0 47 24			2 58			
	e Piscium	5.6	1 4 27			5 15			
23	Moon I. U.	13.7	1 20 53.48	117.18	61.18	N. 5 3 40.5	+569.6	14 45.27	54 9.07
	Moon I. L.	-	1 44 22.19	117.65	61.30	6 55 41.2	+549.6	14 43.91	54 4.06
	v Piscium	4.7	1 37 29			5 6			
	39 B. Arietis	6.5	2 0 51			7 22			
24	Moon II. U.	14.8	2 10 1.33	118.45	61.51	N. 8 43 9.0	+524.1	14 42.90	54 0.37
	25 Arietis	6.5	2 23 21			9 52			
	38 Arietis	5.2	2 40 49			N. 12 8			

MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass ^m Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Oct. 25	Moon II. L.	-	2 33 48·67	119·48	61·79	N. 10 24 59·0	+493·3	14 42·26	53 58·03
	Moon II. U.	15·8	2 57 49·62	120·71	62·13	12 0 7·8	+457·3	14 42·01	53 57·10
	8 B. Tauri	6·2	3 19 59			12 22			
	30 B. Tauri	6·4	3 33 32			15 11			
26	Moon II. L.	-	3 22 6·44	122·12	62·53	N. 13 27 32·8	+416·1	14 42·15	53 57·61
	Moon II. U.	16·8	3 46 40·88	123·64	62·95	14 46 13·6	+369·9	14 42·71	53 59·67
	179 B. Tauri	5·9	4 3 24			14 58			
	63 Tauri	5·7	4 19 3			16 36			
27	Moon II. L.	-	4 11 34·05	125·23	63·40	N. 15 55 12·1	+319·1	14 43·72	54 3·38
	Moon II. U.	17·8	4 36 46·46	126·83	63·85	16 53 33·2	+263·8	14 45·21	54 8·83
	318 B. Tauri	5·7	4 52 59			17 2			
	m Tauri	5·0	5 2 57			18 33			
28	Moon II. L.	-	5 2 17·93	128·40	64·29	N. 17 40 25·9	+204·4	14 47·20	54 16·16
	Moon II. U.	18·9	5 28 7·78	129·89	64·71	18 15 3·4	+141·3	14 49·73	54 25·45
	B.D. + 19° 11 10	6·0	5 47 53			19 51			
	68 Orionis	5·7	6 7 31			19 48			
29	Moon II. L.	-	5 54 14·70	131·24	65·10	N. 18 36 45·9	+75·2	14 52·83	54 36·81
	Moon II. U.	19·9	6 20 36·99	132·44	65·44	18 44 59·2	+6·6	14 56·51	54 50·33
	26 Geminor.	5·2	6 37 58			17 43			
	110 B. Geminor.	6·2	6 58 0			17 52			
30	Moon II. L.	-	6 47 12·70	133·48	65·74	N. 18 39 17·4	-63·8	15 0·80	55 6·07
	Moon II. U.	20·9	7 13 59·75	134·34	65·98	18 19 22·7	-135·4	15 5·71	55 24·07
	f Geminor.	5·3	7 35 5			17 51			
	1 Cancri	6·0	7 52 40			16 0			
31	Moon II. L.	-	7 40 56·13	135·04	66·18	N. 17 45 6·3	-207·3	15 11·21	55 44·28
	Moon II. U.	22·0	8 8 0·17	135·62	66·34	16 56 29·3	-278·7	15 17·31	56 6·67
	29 Cancri	5·9	8 24 22			14 28			
	54 Cancri	6·3	8 46 46			15 38			
Nov. 1	Moon II. L.	-	8 35 10·60	136·11	66·47	N. 15 53 42·5	-348·8	15 23·98	56 31·14
	Moon II. U.	23·0	9 2 26·77	136·58	66·59	14 37 7·0	-416·6	15 31·14	56 57·41
	222 B. Cancri	6·3	9 13 43			11 49			
	o Leonis	3·8	9 37 4			10 14			
2	Moon II. L.	-	9 29 48·78	137·10	66·71	N. 13 7 16·2	-481·2	15 38·72	57 25·25
	Moon II. U.	24·1	9 57 17·47	137·71	66·85	11 24 54·3	-541·6	15 46·63	57 54·26
3	Moon II. L.	-	10 24 54·48	138·49	67·02	N. 9 30 59·7	-596·5	15 54·73	58 24·00
	Moon II. U.	25·1	10 52 42·17	139·50	67·25	7 26 44·9	-644·8	16 2·87	58 53·86
4	Moon II. L.	-	11 20 43·56	140·78	67·54	N. 5 13 38·1	-684·9	16 10·85	59 23·15
	Moon II. U.	26·1	11 49 2·14	142·37	67·90	2 53 24·6	-715·6	16 18·47	59 51·14
5	Moon II. L.	-	12 17 41·73	144·28	68·34	N. 0 28 8·4	-735·2	16 25·53	60 17·04
	Moon II. U.	27·2	12 46 46·11	146·50	68·85	S. 1 59 48·9	-742·1	16 31·79	60 40·02
6	Moon II. L.	-	13 16 18·74	148·98	69·43	S. 4 27 47·4	-735·2	16 37·04	60 59·27
	Moon II. U.	28·2	13 46 22·36	151·64	70·06	S. 6 52 52·7	-713·1	16 41·07	61 14·06

MOON-CULMINATING STARS, 1923. 453

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of (λ 's R.A. in 1 hour of Long.	Sld. Time of Semid. pass $\ddagger$ Merid.	Apparent Declination.	Var. of (λ 's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	$^{\circ}$ $'$ $''$	$''$	$'$ $''$	$'$ $''$ $'''$
Nov. 7	Moon II. L.	-	14 16 58.43	154.37	70.70	S. 9 12 0.2	-675.4	16 43.73	61 23.83
	Moon II. U.	29.2	14 48 6.80	157.00	71.31	11 22 0.9	-622.1	16 44.90	61 28.12
8	Moon I. L.	-	15 17 21.39	159.24	71.87	S. 13 19 50.6	-553.8	16 44.54	61 26.80
9	Moon I. U.	0.9	15 49 24.09	161.11	72.32	S. 15 2 39.9	-472.3	16 42.64	61 19.84
	Moon I. L.	-	16 21 45.16	162.27	72.60	16 28 3.9	-380.1	16 39.30	61 7.58
10	Moon I. U.	1.9	16 54 15.25	162.59	72.70	S. 17 34 12.1	-280.3	16 34.65	60 50.50
	Moon I. L.	-	17 26 43.47	161.95	72.58	18 19 54.3	-176.4	16 28.86	60 29.24
11	Moon I. U.	3.0	17 58 58.15	160.34	72.23	S. 18 44 44.6	-72.2	16 22.14	60 4.60
	Moon I. L.	-	18 30 47.95	157.82	71.66	18 48 58.9	+29.0	16 14.73	59 37.41
12	Moon I. U.	4.0	19 2 2.86	154.55	70.91	S. 18 33 31.0	+124.4	16 6.86	59 8.50
	Moon I. L.	-	19 32 34.86	150.71	70.02	17 59 43.6	+212.0	15 58.74	58 38.71
13	Moon I. U.	5.1	20 2 18.51	146.52	69.02	S. 17 9 20.1	+290.3	15 50.57	58 8.71
	Moon I. L.	-	20 31 10.86	142.20	67.97	16 4 14.9	+358.9	15 42.53	57 39.21
31	B. Capricor.	6.4	20 24 25			16 0			
61	B. Capricor.	5.9	20 36 15			16 24			
14	Moon I. U.	6.1	20 59 11.39	137.92	66.92	S. 14 46 26.4	+417.6	15 34.75	57 10.68
	Moon I. L.	-	21 26 21.64	133.84	65.89	13 17 50.4	+466.8	15 27.37	56 43.58
18	Aquarii	5.5	21 20 1			13 12			
137	B. Capricor.	6.2	21 35 22			10 55			
15	Moon I. U.	7.1	21 52 44.73	130.08	64.93	S. 11 40 17.9	+507.2	15 20.46	56 18.23
	Moon I. L.	-	22 18 25.03	126.71	64.04	9 55 31.0	+539.3	15 14.09	55 54.83
θ	Aquarii	4.3	22 12 49			8 10			
186	B. Aquarii	6.1	22 27 19			6 57			
16	Moon I. U.	8.2	22 43 27.62	123.80	63.26	S. 8 5 4.1	+564.0	15 8.30	55 33.59
	Moon I. L.	-	23 7 58.12	121.37	62.60	6 10 23.5	+581.7	15 3.12	55 14.57
82	Aquarii	6.4	22 58 35			6 59			
96	Aquarii	5.7	23 15 27			5 32			
17	Moon I. U.	9.2	23 32 2.34	119.42	62.06	S. 4 12 47.6	+593.2	14 58.56	54 57.83
	Moon I. L.	-	23 55 46.16	117.97	61.64	2 13 29.7	+598.8	14 54.60	54 43.29
24	Piscium	6.1	23 49 1			3 35			
4	Ceti	6.3	0 3 50			2 58			
18	Moon I. U.	10.2	0 19 15.40	116.99	61.35	S. 0 13 38.3	+598.9	14 51.24	54 30.96
	Moon I. L.	-	0 42 35.62	116.46	61.18	N. 1 45 41.4	+593.5	14 48.44	54 20.71
15	Ceti	6.9	0 34 11			S. 0 55			
155	B. Piscium	6.5	0 47 23			N. 2 58			
19	Moon I. U.	11.3	1 5 52.18	116.37	61.12	N. 3 43 25.5	+583.1	14 46.20	54 12.49
	Moon I. L.	-	1 29 10.05	116.68	61.17	5 38 31.8	+567.2	14 44.48	54 6.17
μ	Piscium	5.0	1 26 12			5 45			
ν	Piscium	4.7	1 37 29			N. 5 6			

454 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of C's R.A. in 1 hour of Long.	Sid. Time of Semid. pass ^d Merid.	Apparent Declination.	Var. of C's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Nov. 20	Moon I. U.	12.3	1 52 33.84	117.35	61.33	N. 7 29 57.6	+546.2	14 43.25	54 1.64
	Moon I. L.	-	2 16 7.66	118.34	61.57	9 16 39.8	+520.0	14 42.48	53 58.81
	ξ ¹ Ceti	4.5	2 8 59			8 29			
	25 Arietis	6.5	2 23 21			9 52			
21	Moon I. U.	13.3	2 39 55.14	119.61	61.89	N. 10 57 35.0	+488.3	14 42.13	53 57.55
	Moon I. L.	-	3 3 59.25	121.10	62.28	12 31 38.5	+451.3	14 42.20	53 57.79
	147 B. Arietis	5.8	3 2 14			12 54			
	8 B. Tauri	6.2	3 20 0			12 22			
22	Moon I. U.	14.3	3 28 22.26	122.75	62.71	N. 13 57 45.9	+409.0	14 42.65	53 59.44
	Moon II. L.	-	3 55 12.03	124.57	63.16	15 14 53.6	+361.4	14 43.46	54 2.44
	150 B. Tauri	6.9	3 50 8			16 24			
	179 B. Tauri	5.9	4 3 24			14 58			
23	Moon II. U.	15.4	4 20 17.50	126.34	63.63	N. 16 21 59.7	+308.8	14 44.64	54 6.77
	σ ¹ Tauri	5.2	4 34 49			15 39			
	318 B. Tauri	5.7	4 52 59			17 2			
24	Moon II. L.	-	4 45 43.89	128.05	64.08	N. 17 18 5.4	+251.4	14 46.17	54 12.38
	Moon II. U.	16.4	5 11 30.10	129.63	64.51	18 2 16.6	+189.8	14 48.06	54 19.30
	119 Tauri	4.9	5 27 46			18 32			
	130 Tauri	5.6	5 43 1			17 42			
25	Moon II. L.	-	5 37 34.28	131.03	64.89	N. 18 33 46.1	+124.6	14 50.31	54 27.55
	Moon II. U.	17.4	6 3 53.87	132.19	65.22	18 51 54.3	+56.4	14 52.91	54 37.12
	292 B. Orionis	6.5	6 17 0			17 48			
	26 Geminor.	5.2	6 37 59			17 43			
26	Moon II. L.	-	6 30 25.85	133.09	65.48	N. 18 56 11.6	-13.8	14 55.91	54 48.12
	Moon II. U.	18.5	6 57 6.96	133.71	65.68	18 46 18.6	-85.1	14 59.30	55 0.57
	λ Geminor.	3.6	7 13 44			16 41			
	162 B. Geminor.	5.7	7 27 26			17 15			
27	Moon II. L.	-	7 23 53.93	134.07	65.80	N. 18 22 7.3	-156.7	15 3.11	55 14.53
	Moon II. U.	19.5	7 50 43.81	134.21	65.87	17 43 40.8	-227.5	15 7.34	55 30.07
	ζ Cancri (mean)	4.7	8 7 51			17 53			
	29 Cancri	5.9	8 24 23			14 28			
28	Moon II. L.	-	8 17 34.20	134.17	65.90	N. 16 51 13.5	-296.7	15 12.01	55 47.19
	Moon II. U.	20.5	8 44 23.42	134.03	65.90	15 45 10.4	-363.4	15 17.11	56 5.91
	σ ² Cancri	5.7	8 53 20			15 52			
	222 B. Cancri	6.3	9 13 44			11 49			
29	Moon II. L.	-	9 11 10.78	133.87	65.88	N. 14 26 6.1	-426.7	15 22.65	56 26.24
	Moon II. U.	21.6	9 37 56.52	133.77	65.88	12 54 44.6	-486.1	15 28.59	56 48.06
	ν Leonis	5.0	9 54 7			12 48			
	44 Leonis	5.9	10 21 14			9 10			
30	Moon II. L.	-	10 4 41.98	133.83	65.90	N. 11 11 58.4	-540.7	15 34.92	57 11.28
	Moon II. U.	22.6	10 31 29.48	134.13	65.98	9 18 49.3	-589.8	15 41.57	57 35.71
	56 Leonis	6.1	10 52 4			6 36			
	χ Leonis	4.7	11 1 5			N. 7 45			

MOON-CULMINATING STARS, 1923. 455

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of C's R.A. in 1 hour of Long.	Sid. Time of Semid. pass- Merid.	Apparent Declination.	Var. of C's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Dec. 1	Moon II. L.	-	10 58 22.29	134.73	66.13	N. 7 16 27.3	-632.7	15 48.47	58 1.03
	Moon II. U.	23.6	11 25 24.46	135.70	66.37	5 6 13.4	-668.4	15 55.54	58 26.95
	β Virginis	3.8	11 46 43			2 12			
	10 Virginis	6.2	12 5 46			2 20			
2	Moon II. L.	-	11 52 40.74	137.09	66.70	N. 2 49 38.9	-695.9	16 2.63	58 53.00
	Moon II. U.	24.7	12 20 16.30	138.92	67.14	N. 0 28 28.1	-714.2	16 9.62	59 18.66
3	Moon II. L.	-	12 48 16.54	141.20	67.68	S. 1 55 20.8	-722.1	16 16.34	59 43.31
	Moon II. U.	25.7	13 16 46.72	143.90	68.32	4 19 34.4	-718.1	16 22.59	60 6.26
4	Moon II. L.	-	13 45 51.60	146.97	69.04	S. 6 41 44.0	-701.2	16 28.20	60 26.83
	Moon II. U.	26.8	14 15 34.98	150.30	69.82	8 59 6.9	-670.3	16 32.94	60 44.24
5	Moon II. L.	-	14 45 59.07	153.73	70.61	S. 11 8 49.3	-624.4	16 36.66	60 57.87
	Moon II. U.	27.8	15 17 3.99	157.06	71.39	13 7 52.2	-563.6	16 39.17	61 7.08
6	Moon II. L.	-	15 48 47.20	160.06	72.07	S. 14 53 18.8	-488.5	16 40.35	61 11.41
	Moon II. U.	28.8	16 21 3.16	162.47	72.63	16 22 26.0	-400.7	16 40.12	61 10.57
7	Moon II. L.	-	16 53 43.21	164.04	73.00	S. 17 32 54.2	-302.5	16 38.45	61 4.45
8	Moon I. U.	0.5	17 24 9.78	164.57	73.13	S. 18 22 59.6	-197.5	16 35.40	60 53.25
	Moon I. L.	-	17 57 2.39	164.00	73.00	18 51 41.9	-89.4	16 31.04	60 37.24
9	Moon I. U.	1.5	18 29 41.13	162.27	72.61	S. 18 58 49.1	+17.7	16 25.52	60 16.99
	Moon I. L.	-	19 1 52.66	159.49	71.98	18 44 55.1	+120.2	16 19.03	59 53.19
10	Moon I. U.	2.5	19 33 25.43	155.85	71.14	S. 18 11 15.3	+214.9	16 11.79	59 26.61
	Moon I. L.	-	20 4 10.58	151.59	70.16	17 19 35.5	+299.9	16 4.02	58 58.08
11	Moon I. U.	3.6	20 34 2.29	146.99	69.07	S. 16 12 2.2	+373.8	15 55.92	58 28.37
	Moon I. L.	-	21 2 57.91	142.28	67.95	14 50 50.4	+436.3	15 47.72	57 58.26
12	Moon I. U.	4.6	21 30 57.53	137.69	66.83	S. 13 18 16.1	+487.6	15 39.59	57 28.44
	Moon I. L.	-	21 58 3.49	133.36	65.76	11 36 29.0	+528.5	15 31.71	56 59.50
	96 B. Aquarii	6.5	21 49 31			10 40			
	e Aquarii	5.4	22 6 33			11 56			
13	Moon I. U.	5.7	22 24 19.83	129.44	64.77	S. 9 47 29.4	+559.9	15 24.20	56 31.93
	Moon I. L.	-	22 49 51.85	125.99	63.89	7 53 5.7	+582.7	15 17.18	56 6.18
	67 Aquarii	6.4	22 39 15			7 22			
	81 Aquarii	6.4	22 57 26			7 28			
14	Moon I. U.	6.7	23 14 45.54	123.05	63.13	S. 5 54 54.8	+597.9	15 10.74	55 42.53
	Moon I. L.	-	23 39 7.32	120.67	62.50	3 54 22.6	+606.4	15 4.93	55 21.23
	342 B. Aquarii	6.5	23 27 35			4 30			
	24 Piscium	6.1	23 49 1			3 35			
15	Moon I. U.	7.7	0 3 3.78	118.83	62.00	S. 1 52 46.0	+608.8	14 59.81	55 2.42
	Moon I. L.	-	0 26 41.45	117.54	61.64	N. 0 8 45.9	+605.7	14 55.39	54 46.22
	98 B. Piscium	6.3	0 13 53			N. 1 16			
	15 Ceti	6.9	0 34 11			S. 0 55			

456 MOON-CULMINATING STARS, 1923.

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of C's R.A. in 1 hour of Long.	Std. Time of Semid. pass- Merid.	Apparent Declination.	Var. of C's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	s	s	° ' "	"	' "	' "
Dec. 16	Moon I. U.	8.7	0 50 6.73	116.76	61.42	N. 2 9 9.2	+597.4	14 51.69	54 32.63
	Moon I. L.	-	1 13 25.78	116.49	61.32	4 7 23.9	+584.2	14 48.70	54 21.64
	<i>e</i> Piscium	5.6	1 4 27			5 15			
	<i>μ</i> Piscium	5.0	1 26 12			5 45			
17	Moon I. U.	9.8	1 36 44.36	116.68	61.35	N. 6 2 31.7	+566.3	14 46.40	54 13.22
	Moon I. L.	-	2 0 7.86	117.31	61.49	7 53 35.1	+543.5	14 44.77	54 7.24
	39 B. Arietis	6.5	2 0 51			7 22			
	64 Ceti	5.8	2 7 20			8 13			
18	Moon I. U.	10.8	2 23 41.23	118.32	61.73	N. 9 39 36.0	+515.8	14 43.79	54 3.63
	Moon I. L.	-	2 47 28.84	119.67	62.06	11 19 35.1	+483.2	14 43.41	54 2.24
	38 Arietis	5.2	2 40 49			12 8			
	147 B. Arietis	5.8	3 2 14			12 54			
19	Moon I. U.	11.8	3 11 34.36	121.29	62.46	N. 12 52 31.4	+445.4	14 43.59	54 2.89
	Moon I. L.	-	3 36 0.74	123.13	62.92	14 17 22.5	+402.3	14 44.29	54 5.47
	<i>f</i> Tauri	4.3	3 26 41			12 41			
	150 B. Tauri	6.9	3 50 8			16 24			
20	Moon I. U.	12.9	4 0 50.02	125.10	63.41	N. 15 33 4.8	+353.9	14 45.47	54 9.79
	Moon I. L.	-	4 26 3.29	127.11	63.90	16 38 35.0	+300.3	14 47.07	54 15.68
	63 Tauri	5.7	4 19 4			16 36			
	89 Tauri	5.8	4 33 49			15 53			
21	Moon I. U.	13.9	4 51 40.56	129.08	64.40	N. 17 32 51.6	+241.7	14 49.06	54 22.97
	Moon I. L.	-	5 17 40.74	130.92	64.85	18 14 57.1	+178.5	14 51.39	54 31.52
	<i>m</i> Tauri	5.0	5 2 58			18 33			
	117 Tauri	6.0	5 23 38			17 10			
22	Moon I. U.	14.9	5 44 1.73	132.54	65.26	N. 18 43 59.9	+111.4	14 54.03	54 41.20
	68 Orionis	5.7	6 7 32			19 48			
	292 B. Orionis	6.5	6 17 1			17 48			
23	Moon II. L.	-	6 12 51.62	133.91	65.59	N. 18 59 17.1	+41.0	14 56.93	54 51.86
	Moon II. U.	16.0	6 39 44.74	134.88	65.84	19 0 16.4	-31.6	15 0.07	55 3.39
	110 B. Geminor.	6.2	6 58 1			17 52			
	<i>λ</i> Geminor.	3.6	7 13 44			16 41			
24	Moon II. L.	-	7 6 47.29	135.48	66.01	N. 18 46 38.5	-105.0	15 3.43	55 15.73
	Moon II. U.	17.0	7 33 54.89	135.72	66.09	18 18 18.1	-178.3	15 7.00	55 28.81
	1 Caneri	6.0	7 52 41			16 0			
	<i>ζ</i> Caneri (mean)	4.7	8 7 52			17 53			
25	Moon II. L.	-	8 1 3.33	135.63	66.10	N. 17 35 23.9	-250.4	15 10.75	55 42.58
	Moon II. U.	18.0	8 28 9.04	135.28	66.04	16 38 19.3	-319.9	15 14.67	55 56.97
	54 Caneri	6.3	8 46 48			15 38			
	81 Caneri	6.4	9 8 9			15 18			
26	Moon II. L.	-	8 55 9.26	134.74	65.93	N. 15 27 40.6	-385.9	15 18.78	56 12.06
	Moon II. U.	19.1	9 22 2.34	134.11	65.81	14 4 16.4	-447.4	15 23.06	56 27.77
	18 Leonis	5.8	9 42 18			12 10			
	<i>ν</i> Leonis	5.0	9 54 8			N 12 48			

MOON-CULMINATING STARS, 1923. 457

AT TRANSIT AT GREENWICH.

Date.	Name.	Mag.	Apparent Right Ascension.	Var. of G's R.A. in 1 hour of Long.	Sid. Time of Semid. pass ^d Merid.	Apparent Declination.	Var. of G's Dec. in 1 hour of Long.	Semi- diameter.	Hor. Par.
			h m s	"	s	° ' "	"	"	"
Dec. 27	Moon II. L.		9 48 47.84	133.49	65.68	N. 12 29 5.1	-503.6	15 27.52	56 44.12
	Moon II. U.	20.1	10 15 26.48	132.98	65.59	10 43 14.1	-553.9	15 32.15	57 1.11
	49 Leonis	5.7	10 31 3			9 3			
	56 Leonis	6.1	10 52 5			6 35			
28	Moon II. L.	-	10 42 0.25	132.69	65.54	N. 8 47 58.0	-597.7	15 36.93	57 18.66
	Moon II. U.	21.1	11 8 32.13	132.68	65.56	6 44 38.0	-634.4	15 41.86	57 36.76
	89 Leonis	5.7	11 30 29			3 29			
	β Virginis	3.8	11 46 44			2 12			
29	Moon II. L.	-	11 35 6.15	133.05	65.67	N. 4 34 41.6	663.7	15 46.91	57 55.29
	Moon II. U.	22.2	12 1 47.10	133.85	65.88	N. 2 19 42.7	684.8	15 52.03	58 14.10
	η Virginis	4.0	12 16 1			S. 0 15			
	γ Virg. (mean)	2.9	12 37 48			S. 1 2			
30	Moon II. L.	-	12 28 40.32	135.11	66.21	N. 0 1 22.0	-697.2	15 57.19	58 33.01
	Moon II. U.	23.2	12 55 51.56	136.85	66.65	S. 2 18 31.6	-700.1	16 2.29	58 51.73
	65 Virginis	6.0	13 19 22			4 32			
	80 Virginis	5.6	13 31 33			5 0			
31	Moon II. L.	-	13 23 26.66	139.08	67.19	S. 4 38 0.3	-692.9	16 7.25	59 9.93
	Moon II. U.	24.2	13 51 31.17	141.75	67.84	S. 6 54 56.6	-674.6	16 11.97	59 27.27

Note.—The Mean Places of Moon-Culminating Stars are given in the section headed "Mean Places of Occultation Stars," on pages 467-470, with the exception of three stars whose positions are given below:—

Name of Star.	Magni- tude.	Right Ascension for 1923.0	Annual Proper Motion.	Declination for 1923.0	Annual Proper Motion.
		h m s	s	° ' "	"
15 Ceti	6.9	0 34 8.217	-0.0041	-0 55 36.24	-0.008
σ Arietis	5.5	2 47 14.280	+0.0016	+14 45 55.80	-0.034
150 B. Tauri	6.9	3 50 4.320	+0.0161	+16 23 32.86	-0.221

In the year 1923 there will be four eclipses, two of the Sun and two of the Moon.

I.—*A Partial Eclipse of the Moon*, March 2, 1923, visible at Greenwich; the beginning visible generally in western Asia, Europe, Africa, the Atlantic Ocean, South America, North America except in the extreme northwestern part, and the eastern part of the Pacific Ocean; the ending visible generally in Europe, Africa except the eastern part, the Atlantic Ocean, North America, South America, and the eastern part of the Pacific Ocean.

ELEMENTS OF THE ECLIPSE.

Greenwich Mean Time of $\varnothing$ in Right Ascension, March 2 ^d 15 ^h 57 ^m 27 ^s .0									
									h m s
Sun's Right Ascension	-	-	-	-	-	-	-	-	22 51 57.76
Hourly Motion	-	-	-	-	-	-	-	-	9.34
Moon's Right Ascension	-	-	-	-	-	-	-	-	10 51 57.76
Hourly Motion	-	-	-	-	-	-	-	-	143.76
									° ' "
Sun's Declination	-	-	-	-	-	-	-	-	- 7 13 50.1
Hourly Motion	-	-	-	-	-	-	-	-	+0 57.2
Moon's Declination	-	-	-	-	-	-	-	-	- 6 21 59.4
Hourly Motion	-	-	-	-	-	-	-	-	- 11 0.7
Sun's Equatorial Horizontal Parallax	-	-	-	-	-	-	-	-	8.9
Sun's True Semidiameter	-	-	-	-	-	-	-	-	16 8.0
Moon's Equatorial Horizontal Parallax	-	-	-	-	-	-	-	-	60 43.2
Moon's True Semidiameter	-	-	-	-	-	-	-	-	16 31.9

CIRCUMSTANCES OF THE ECLIPSE.

			d	h	m	} Greenwich Mean Time.
Moon enters Penumbra	-	-	March	2	13 12.6	
Moon enters Umbra	-	-	„	2	14 27.8	
Middle of the Eclipse	-	-	„	2	15 31.8	
Moon leaves Umbra	-	-	„	2	16 35.8	
Moon leaves Penumbra	-	-	„	2	17 50.8	

Contacts of Umbra with Moon's Limb.	Angles of Position from the North Point.	The Moon being in the Zenith	
		in Longitude from Greenwich.	and in Latitude.
First	54° to E.	+34° 42'	+ 6° 38'
Last	20 to W.	+65 31	+ 6 15

Magnitude of the Eclipse=0.376 (Moon's diameter=1.0).

II.—*An Annular Eclipse of the Sun, March 16-17, 1923, invisible at Greenwich.*

ELEMENTS OF THE ECLIPSE.

Greenwich Mean Time of ϕ in Right Ascension, March 17^d 0^h 24^m 3^s.6

Sun and Moon's Right Ascension	-	-	-	-	-	-	-	h m s 23 44 56.02
Hourly Motions	-	-	-	-	-	-	-	9 ^s .14 and 113 ^a .74
Sun's Declination	-	-	-	-	-	-	-	- 1° 37' 55".0
Hourly Motion -	-	-	-	-	-	-	-	+0 59.3
Moon's Declination	-	-	-	-	-	-	-	- 2° 8' 47.1
Hourly Motion -	-	-	-	-	-	-	-	+9 17.8
Sun's Equatorial Horizontal Parallax	-	-	-	-	-	-	-	8.8
Sun's True Semidiameter	-	-	-	-	-	-	-	16 4.2
Moon's Equatorial Horizontal Parallax	-	-	-	-	-	-	-	54 13.6
Moon's True Semidiameter	-	-	-	-	-	-	-	14 45.8

CIRCUMSTANCES OF THE ECLIPSE.

			Greenwich Mean Time.	Longitude from Greenwich.	Latitude.
			d h m		
Eclipse begins - - -	March	16	21 50·4	+ 56° 43'	— 38° 5'
Central Eclipse begins -	„	16	23 5·5	+ 76 13	— 50 49
Central Eclipse at Local Apparent Noon	}	„	17 0 24·1	+ 3 50	— 36 40
Central Eclipse ends -		„	17 2 23·8	— 56 40	— 15 25
Eclipse ends - - -	„	17	3 38·9	— 37 31	— 2 39

BESSELIAN ELEMENTS OF THE ANNULAR ECLIPSE OF THE SUN,
MARCH 16-17, 1923.

Greenwich Mean Time.	Co-ordinates of Centre of Shadow on Fundamental Plane.		Direction of Axis of Shadow.			Radius of Penumbra and Umbra on Fundamental Plane.	
	<i>x</i>	<i>y</i>	Log. sin <i>d</i>	Log. cos <i>d</i>	μ	<i>l</i> ₁	<i>l</i> ₂
h m							
21 50	-1.24067	-0.96488	-8.46502	+9.99982	325° 18.6	+0.56999	+0.02395
22 0	-1.16015	-0.93931	-8.46432	+9.99982	327 48.6	+0.57000	+0.02397
10	1.07962	0.91375	8.46362	9.99982	330 18.7	0.57002	0.02398
20	0.99910	0.88818	8.46292	9.99982	332 48.7	0.57004	0.02400
30	0.91857	0.86261	8.46222	9.99982	335 18.7	0.57005	0.02401
40	0.83804	0.83704	8.46152	9.99982	337 48.8	0.57007	0.02403
50	0.75751	0.81146	8.46082	9.99982	340 18.8	0.57008	0.02404
23 0	-0.67697	-0.78588	-8.46011	+9.99982	342 48.9	+0.57009	+0.02405
10	0.59644	0.76030	8.45941	9.99982	345 18.9	0.57011	0.02407
20	0.51590	0.73472	8.45870	9.99982	347 48.9	0.57012	0.02408
30	0.43537	0.70914	8.45800	9.99982	350 19.0	0.57013	0.02409
40	0.35483	0.68355	8.45729	9.99982	352 49.0	0.57014	0.02410
50	0.27430	0.65797	8.45658	9.99982	355 19.1	0.57015	0.02411
0 0	-0.19376	-0.63238	-8.45587	+9.99982	357 49.1	+0.57016	+0.02412
10	0.11322	0.60679	8.45516	9.99982	0 19.2	0.57017	0.02413
20	-0.03269	0.58119	8.45444	9.99982	2 49.2	0.57018	0.02414
30	+0.04784	0.55560	8.45373	9.99982	5 19.2	0.57019	0.02415
40	0.12838	0.53000	8.45301	9.99982	7 49.3	0.57020	0.02416
50	0.20891	0.50441	8.45230	9.99983	10 19.3	0.57020	0.02416
1 0	+0.28944	-0.47881	-8.45158	+9.99983	12 49.4	+0.57021	+0.02417
10	0.36997	0.45321	8.45086	9.99983	15 19.4	0.57022	0.02418
20	0.45050	0.42761	8.45014	9.99983	17 49.4	0.57022	0.02418
30	0.53103	0.40201	8.44942	9.99983	20 19.5	0.57023	0.02419
40	0.61155	0.37640	8.44870	9.99983	22 49.5	0.57023	0.02419
50	0.69208	0.35080	8.44797	9.99983	25 19.6	0.57023	0.02419
2 0	+0.77260	-0.32519	-8.44725	+9.99983	27 49.6	+0.57024	+0.02420
10	0.85312	0.29958	8.44652	9.99983	30 19.7	0.57024	0.02420
20	0.93363	0.27398	8.44580	9.99983	32 49.7	0.57024	0.02420
30	1.01414	0.24837	8.44507	9.99983	35 19.7	0.57024	0.02421
40	1.09465	0.22276	8.44434	9.99983	37 49.8	0.57025	0.02421
50	1.17516	0.19715	8.44361	9.99983	40 19.8	0.57025	0.02421
3 0	+1.25566	-0.17153	-8.44287	+9.99983	42 49.9	+0.57025	+0.02421
10	1.33616	0.14592	8.44214	9.99983	45 19.9	0.57025	0.02421
20	1.41665	0.12031	8.44141	9.99983	47 49.9	0.57025	0.02421
30	1.49714	0.09469	8.44067	9.99983	50 20.0	0.57024	0.02420
40	+1.57763	-0.06908	-8.43993	+9.99983	52 50.0	+0.57024	+0.02420

Greenwich Mean Time.	Log. <i>x'</i> for 1 Minute.	Log. <i>y'</i> for 1 Minute.	Log. μ' for 1 Minute.	Log. Tangents of Angles of Cones.	
				Penumbra.	Umbra.
h m					
21 0	+ 7.9059	+ 7.4074	+ 1.1762	+ 7.67204	+ 7.66987
22 0	7.9059	7.4077	1.1762	7.67203	7.66986
23 0	7.9060	7.4079	1.1762	7.67203	7.66986
0 0	7.9060	7.4081	1.1762	7.67202	7.66985
1 0	7.9060	7.4082	1.1762	7.67202	7.66985
2 0	7.9059	7.4083	1.1762	7.67201	7.66984
3 0	7.9058	7.4084	1.1762	7.67201	7.66984
4 0	+ 7.9057	+ 7.4085	+ 1.1762	+ 7.67200	+ 7.66984

ECLIPSES, 1923.

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PATH OF ANNULAR PHASE DURING THE ECLIPSE OF THE SUN, MARCH 16-17, 1923.

Greenwich Mean Time.	Northern Limit.		Central Line.		Southern Limit.		Duration of Annular Phase on Central Line.
	Latitude.	Longitude from Greenwich.	Latitude.	Longitude from Greenwich.	Latitude.	Longitude from Greenwich.	
Limits.	$-49^{\circ} 11'$	$+75^{\circ} 38'$	$-50^{\circ} 49'$	$+76^{\circ} 13'$	$52^{\circ} 29'$	$+76^{\circ} 50'$	m s
23 ^h 10 ^m	48 38.9	51 11.5	50 25.7	54 26.5	52 17.4	59 13.5	6 7.2
15	47 50.0	43 34.9	49 33.9	45 25.1	51 22.8	47 48.8	6 21.8
20	46 57.8	37 52.1	48 38.4	39 0.7	50 23.6	40 27.8	6 33.4
25	46 4.3	33 13.0	47 41.8	33 55.5	49 23.4	34 49.9	6 43.5
30	-45 10.0	+29 16.3	-46 44.5	+29 40.5	-48 22.8	+30 12.8	6 52.4
35	44 15.4	25 50.3	45 47.1	26 0.6	47 22.4	26 16.9	7 0.5
40	43 20.7	22 47.5	44 49.8	22 47.1	46 22.3	22 51.2	7 7.8
45	42 26.2	20 2.8	43 52.9	19 53.9	45 22.8	19 48.3	7 14.4
50	41 31.8	17 32.8	42 56.3	17 17.1	44 23.8	17 3.6	7 20.5
55	40 37.5	15 15.1	42 0.0	14 53.7	43 25.3	14 33.6	7 26.0
0 0	-39 43.4	+13 7.6	-41 4.0	+12 41.3	-42 27.3	+12 15.6	7 30.9
5	38 49.5	11 8.6	40 8.4	10 38.1	41 29.8	10 7.7	7 35.3
10	37 55.9	9 16.8	39 13.3	8 42.7	40 33.1	8 8.3	7 39.1
15	37 2.6	7 31.0	38 18.5	6 53.8	39 36.7	6 15.9	7 42.4
20	36 9.5	5 50.6	37 24.1	5 10.5	38 40.9	4 29.5	7 45.1
25	35 16.7	4 14.5	36 30.0	3 31.9	37 45.4	2 48.2	7 47.3
30	-34 24.0	+2 42.1	-35 36.2	+1 57.1	-36 50.5	+1 11.0	7 49.1
35	33 31.5	+1 12.6	34 42.8	+0 25.4	35 56.1	-0 23.0	7 50.4
40	32 39.3	-0 14.5	33 49.7	-1 3.6	35 2.0	1 54.1	7 51.1
45	31 47.3	1 39.7	32 56.9	2 30.6	34 8.4	3 23.1	7 51.3
50	30 55.3	3 3.4	32 4.3	3 56.2	33 15.1	4 50.6	7 51.0
55	30 3.6	4 26.3	31 12.0	5 20.9	32 22.1	6 17.1	7 50.1
1 0	-29 12.0	-5 48.9	-30 19.9	-6 45.2	31 29.5	-7 43.2	7 48.9
5	28 20.5	7 11.6	29 28.0	8 9.7	30 37.2	9 9.5	7 47.1
10	27 29.0	8 34.9	28 36.2	9 34.8	29 45.1	10 36.5	7 44.7
15	26 37.5	9 59.5	27 44.6	11 1.2	28 53.3	12 4.9	7 41.9
20	25 46.3	11 25.8	26 53.3	12 29.5	28 1.9	13 35.3	7 38.6
25	24 55.1	12 54.7	26 2.0	14 0.4	27 10.5	15 8.4	7 34.8
30	-24 3.8	-14 26.8	-25 10.7	-15 34.7	-26 19.2	-16 45.2	7 30.4
35	23 12.5	16 2.9	24 19.5	17 13.4	25 28.1	18 26.8	7 25.5
40	22 21.0	17 44.2	23 28.2	18 57.6	24 37.0	20 14.3	7 20.0
45	21 29.4	19 32.0	22 36.9	20 48.8	23 46.0	22 9.4	7 14.0
50	20 37.5	21 28.2	21 45.4	22 49.0	22 54.9	24 14.2	7 7.5
55	19 45.3	23 35.0	20 53.7	25 0.7	22 3.7	26 31.6	7 0.3
2 0	-18 52.8	-25 55.4	-20 1.7	-27 27.5	-21 12.2	-29 6.0	6 52.3
5	17 59.7	28 34.6	19 9.2	30 15.6	20 20.4	32 4.7	6 43.4
10	17 5.6	31 40.5	18 15.8	33 34.7	19 27.8	35 40.6	6 33.4
15	16 10.1	35 28.9	17 21.0	37 45.6	18 33.8	40 23.0	6 21.7
20	15 11.9	40 37.2	16 23.1	43 48.0	17 35.8	48 5.6	6 6.7
Limits.	-13 46	-56 9	-15 25	-56 40	-17 6	-57 12	

At CAPE OF GOOD HOPE, a Partial Eclipse is visible, Magnitude 0·77.

				d	h	m	
Begins	-	-	-	March	16	23	35
Greatest Phase	-	-	„		17	1	18
Ends	-	-	-	„	17	2	48
} Greenwich Mean Time.							
Angle from North Point of First Contact	-	-	-	-	-	-	253°.
Angle from Vertex of First Contact	-	-	-	-	-	-	88°.
Angle from North Point of Last Contact	-	-	-	-	-	-	53°.
Angle from Vertex of Last Contact	-	-	-	-	-	-	286°.

At JOHANNESBURG, a Partial Eclipse is visible, Magnitude 0·83.

				d	h	m	
Begins	-	-	-	March	17	0	11
Greatest Phase	-	-	„		17	1	49
Ends	-	-	-	„	17	3	12
} Greenwich Mean Time.							
Angle from North Point of First Contact	-	-	-	-	-	-	251°.
Angle from Vertex of First Contact	-	-	-	-	-	-	117°.
Angle from North Point of Last Contact	-	-	-	-	-	-	59°.
Angle from Vertex of Last Contact	-	-	-	-	-	-	303°.

At MAURITIUS, a Partial Eclipse is partly visible, Magnitude 0·85.

				d	h	m	
Begins	-	-	-	March	17	1	6
Greatest Phase	-	-	„		17	2	18
} Greenwich Mean Time.							
Angle from North Point of First Contact	-	-	-	-	-	-	257°.
Angle from Vertex of First Contact	-	-	-	-	-	-	146°.

IV.—*A Total Eclipse of the Sun, September 10, 1923, invisible at Greenwich.*

ELEMENTS OF THE ECLIPSE.

Greenwich Mean Time of ϕ in Right Ascension, Sept. 10^d 8^h 30^m 9^s.1

Sun and Moon's Right Ascension	-	-	-	-	-	-	-	-	h	m	s
									11	12	29.37
Hourly Motions	-	-	-	-	-	-	-	-	9 ^s .00	and	139 ^s .60
Sun's Declination	-	-	-	-	-	-	-	-	-	+	5° 6' 3.7"
Hourly Motion -	-	-	-	-	-	-	-	-	-	-	0 56.8
Moon's Declination	-	-	-	-	-	-	-	-	-	+	5 38 18.1
Hourly Motion -	-	-	-	-	-	-	-	-	-	-	11 3.2
Sun's Equatorial Horizontal Parallax	-	-	-	-	-	-	-	-	-	-	8.7
Sun's True Semidiameter	-	-	-	-	-	-	-	-	-	-	15 53.2
Moon's Equatorial Horizontal Parallax	-	-	-	-	-	-	-	-	-	-	59 56.8
Moon's True Semidiameter	-	-	-	-	-	-	-	-	-	-	16 19.3

CIRCUMSTANCES OF THE ECLIPSE.

	Greenwich Mean Time.	Longitude from Greenwich.	Latitude.
	d h m		
Eclipse begins - -	Sept. 10 6 14.3	- 171° 51'	+ 36° 51'
Central Eclipse begins	„ 10 7 16.9	- 154 18	+ 48 16
Central Eclipse at Local Apparent Noon }	„ 10 8 30.2	+ 128 16	+ 37 58
Central Eclipse ends -	„ 10 10 17.4	+ 63 51	+ 13 43
Eclipse ends - -	„ 10 11 19.9	+ 80 31	+ 2 15

At MONTREAL, a Partial Eclipse is visible, Magnitude 0.38.

	d h m	
Begins - - -	Sept. 10 8 38	} Greenwich Mean Time.
Greatest Phase - -	„ 10 9 29	
Ends - - -	„ 10 10 17	
Angle from North Point of First Contact	- - - - -	253°.
Angle from Vertex of First Contact	- - - - -	212°.
Angle from North Point of Last Contact	- - - - -	149°.
Angle from Vertex of Last Contact	- - - - -	104°.

**BESSELIAN ELEMENTS OF THE TOTAL ECLIPSE OF THE SUN,
SEPTEMBER 10, 1923.**

Greenwich Mean Time.	Co-ordinates of Centre of Shadow on Fundamental Plane.		Direction of Axis of Shadow.			Radius of Penumbra and Umbra on Fundamental Plane.	
	x	y	Log. sin d .	Log. cos d .	μ	l_1	l_2
h m							
6 10	-1.26919	+0.93402	+8.95189	+9.99825	93 12.7	+0.53873	-0.00715
20	1.17865	0.90587	8.95167	9.99825	95 42.7	0.53872	0.00716
30	1.08810	0.87772	8.95146	9.99826	98 12.8	0.53872	0.00716
40	0.99754	0.84957	8.95124	9.99826	100 42.8	0.53871	0.00717
50	0.90699	0.82141	8.95102	9.99826	103 12.9	0.53870	0.00718
7 0	-0.81643	+0.79324	+8.95081	+9.99826	105 42.9	+0.53870	-0.00718
10	0.72588	0.76507	8.95059	9.99826	108 13.0	0.53869	0.00719
20	0.63532	0.73690	8.95037	9.99826	110 43.0	0.53868	0.00720
30	0.54475	0.70872	8.95016	9.99827	113 13.1	0.53867	0.00721
40	0.45419	0.68054	8.94994	9.99827	115 43.1	0.53866	0.00722
50	0.36363	0.65236	8.94972	9.99827	118 13.2	0.53865	0.00723
8 0	-0.27306	+0.62417	+8.94950	+9.99827	120 43.2	+0.53864	-0.00724
10	0.18250	0.59598	8.94929	9.99827	123 13.3	0.53863	0.00725
20	0.09193	0.56778	8.94907	9.99827	125 43.3	0.53861	0.00727
30	-0.00137	0.53958	8.94885	9.99828	128 13.4	0.53860	0.00728
40	+0.08920	0.51138	8.94864	9.99828	130 43.4	0.53858	0.00729
50	0.17976	0.48317	8.94842	9.99828	133 13.5	0.53857	0.00731
9 0	+0.27033	+0.45496	+8.94820	+9.99828	135 43.5	+0.53855	-0.00733
10	0.36089	0.42675	8.94798	9.99828	138 13.6	0.53854	0.00734
20	0.45146	0.39854	8.94776	9.99828	140 43.6	0.53852	0.00736
30	0.54202	0.37032	8.94755	9.99829	143 13.7	0.53850	0.00738
40	0.63259	0.34209	8.94733	9.99829	145 43.7	0.53849	0.00739
50	0.72315	0.31387	8.94711	9.99829	148 13.8	0.53847	0.00741
10 0	+0.81371	+0.28564	+8.94689	+9.99829	150 43.8	+0.53845	-0.00743
10	0.90427	0.25741	8.94667	9.99829	153 13.9	0.53843	0.00745
20	0.99482	0.22918	8.94645	9.99829	155 43.9	0.53841	0.00747
30	1.08538	0.20094	8.94623	9.99830	158 14.0	0.53838	0.00750
40	1.17593	0.17270	8.94601	9.99830	160 44.0	0.53836	0.00752
50	1.26648	0.14446	8.94580	9.99830	163 14.1	0.53834	0.00754
11 0	+1.35702	+0.11621	+8.94558	+9.99830	165 44.1	+0.53831	-0.00757
10	1.44757	0.08796	8.94536	9.99830	168 14.2	0.53829	0.00759
20	+1.53811	+0.05971	+8.94514	+9.99830	170 44.2	+0.53826	-0.00761

Greenwich Mean Time.	Log. x' for 1 Minute.	Log. y' for 1 Minute.	Log. μ' for 1 Minute.	Log. Tangents of Angles of Cones.	
				Penumbra.	Umbra.
h m					
6 0	+ 7.9569	- 7.4494	+ 1.1762	+ 7.66688	+ 7.66471
7 0	7.9569	7.4497	1.1762	7.66689	7.66472
8 0	7.9570	7.4501	1.1762	7.66689	7.66472
9 0	7.9570	7.4504	1.1762	7.66690	7.66473
10 0	7.9569	7.4507	1.1762	7.66690	7.66473
11 0	7.9569	7.4510	1.1762	7.66690	7.66474
12 0	+ 7.9568	- 7.4512	+ 1.1762	+ 7.66691	+ 7.66474

PATH OF TOTAL PHASE DURING THE ECLIPSE OF THE SUN,
SEPTEMBER 10, 1923.

Green- wich Mean Time.	Northern Limit.		Central Line.		Southern Limit.		Duration of Total Phase on Central Line.
	Latitude.	Longitude from Greenwich.	Latitude.	Longitude from Greenwich.	Latitude.	Longitude from Greenwich.	
Limits.	+48° 45'	-154° 5'	+48° 16'	-154° 18'	+47° 47'	-154° 31'	
7 ^h 20 ^m	49 45.9	-171 19.2	49 14.3	-173 4.1	48 41.6	-174 37.3	1 52.8
25	49 40.2	+176 53.1	49 2.4	+175 54.7	48 24.3	+175 0.9	2 9.2
30	+49 11.2	+169 2.2	+48 30.8	+168 23.0	+47 50.4	+167 46.8	2 21.7
35	48 32.5	162 53.2	47 50.6	162 26.4	47 8.8	162 1.9	2 32.3
40	47 48.0	157 45.7	47 5.2	157 28.1	46 22.7	157 12.2	2 41.6
45	46 59.7	153 20.6	46 16.5	153 10.3	45 33.5	153 1.3	2 49.9
50	46 8.9	149 26.3	45 25.5	149 22.0	44 42.3	149 18.7	2 57.4
55	45 16.2	145 56.4	44 32.8	145 57.2	43 49.6	145 58.8	3 4.1
8 0	+44 22.0	+142 46.2	+43 38.8	+142 51.2	+42 55.8	+142 56.9	3 10.2
5	43 26.7	139 51.7	42 43.7	140 0.4	42 0.9	140 9.6	3 15.6
10	42 30.6	137 10.2	41 47.9	137 22.2	41 5.4	137 34.6	3 20.4
15	41 33.8	134 39.8	40 51.5	134 54.6	40 9.4	135 9.8	3 24.6
20	40 36.4	132 18.5	39 54.5	132 35.8	39 12.8	132 53.4	3 28.1
25	39 38.6	130 4.7	38 57.1	130 24.4	38 15.8	130 44.2	3 31.0
30	+38 40.3	+127 57.5	+37 59.3	+128 19.3	+37 18.5	+128 41.1	3 33.4
35	37 41.7	125 55.8	37 1.2	126 19.4	36 20.8	126 43.0	3 35.1
40	36 42.8	123 58.6	36 2.8	124 23.8	35 22.9	124 49.0	3 36.3
45	35 43.5	122 4.9	35 4.1	122 31.6	34 24.7	122 58.2	3 36.9
50	34 44.1	120 14.1	34 5.1	120 42.1	33 26.2	121 10.0	3 36.9
55	33 44.2	118 25.2	33 5.8	118 54.5	32 27.5	119 23.6	3 36.3
9 0	+32 44.0	+116 37.5	+32 6.2	+117 8.0	+31 28.4	+117 38.2	3 35.1
5	31 43.6	114 50.5	31 6.3	115 22.0	30 29.0	115 53.2	3 33.3
10	30 42.6	113 3.2	30 5.9	113 35.7	29 29.2	114 7.9	3 31.0
15	29 41.2	111 14.9	29 5.1	111 48.4	28 29.0	112 21.5	3 28.1
20	28 39.3	109 24.6	28 3.9	109 59.0	27 28.4	110 33.0	3 24.6
25	27 36.9	107 31.1	27 2.1	108 6.6	26 27.2	108 41.6	3 20.5
30	+26 33.8	+105 33.6	+25 59.7	+106 10.1	+25 25.5	+106 46.0	3 15.9
35	25 29.9	103 30.7	24 56.5	104 8.2	24 23.0	104 45.1	3 10.6
40	24 25.0	101 20.7	23 52.4	101 59.3	23 19.6	102 37.3	3 4.7
45	23 18.9	99 1.0	22 47.2	99 41.0	22 15.2	100 20.2	2 58.1
50	22 11.3	96 28.5	21 40.5	97 10.1	21 9.4	97 50.8	2 50.8
55	21 1.9	93 38.8	20 32.1	94 22.4	20 1.9	95 5.0	2 42.6
10 0	+19 49.6	+90 24.0	+19 21.1	+91 10.5	+18 52.1	+91 55.9	2 33.4
5	18 33.4	86 30.9	18 6.4	87 21.9	17 38.9	88 11.6	2 22.9
10	17 10.2	81 28.5	16 45.4	82 28.7	16 20.1	83 26.5	2 10.4
15	15 28.7	73 19.7	15 9.3	74 53.6	14 48.4	76 18.4	1 53.1
Limits.	+14 13	+63 40	+13 43	+63 51	+13 13	+64 1	

MEAN PLACES OF OCCULTATION STARS, 1923. 467

Name of Star.		Magni- tude.	Right Ascension for 1923.0.			Annual Proper Motion.	Declination for 1923.0.	Annual Proper Motion.
			h	m	s	s		
80 B.	Piscium	6.3	0	1	6.967	+0.0037	0 55 49.80	-0.052
4	Ceti	6.3	0	3	47.427	+0.0018	2 58 38.03	+0.009
5	Ceti	6.3	0	4	15.520	+0.0003	2 52 33.13	+0.014
98 B.	Piscium	6.3	0	13	50.328	+0.0051	1 15 38.09	+0.012
44	Piscium	6.0	0	21	27.283	-0.0014	1 30 47.80	-0.023
10	Ceti	6.4	0	22	40.485	+0.0056	0 28 32.58	+0.011
55 B.	Piscium	6.5	0	47	20.319	+0.0011	2 58 1.93	-0.094
73	Piscium	6.2	1	0	53.183	+0.0022	5 14 38.23	-0.008
77	Piscium	6.4	1	1	50.066	+0.0011	4 29 55.63	-0.114
e	Piscium	5.6	1	4	24.065	-0.0180	5 14 34.49	-0.171
f	Piscium	5.3	1	13	49.546	-0.0033	+ 3 12 33.61	-0.026
μ	Piscium	5.0	1	26	8.930	+0.0199	5 44 51.76	-0.027
ν	Piscium	4.7	1	37	25.338	-0.0015	5 5 54.57	+0.003
39 B.	Arietis	6.5	2	0	47.224	+0.0025	7 22 0.01	-0.032
64	Ceti	5.8	2	7	17.037	-0.0092	8 12 36.27	-0.107
ξ ¹	Ceti	4.5	2	8	54.975	-0.0012	+ 8 29 9.78	-0.016
ξ	Arietis	5.5	2	20	41.193	+0.0006	10 15 45.03	-0.022
25	Arietis	6.5	2	23	17.509	-0.0195	9 51 26.38	-0.200
389 B.	Ceti	6.3	2	25	28.491	-0.0003	9 13 21.27	-0.003
31	Arietis	5.7	2	32	25.780	+0.0189	12 6 52.20	-0.085
85	Ceti	6.3	2	38	19.976	-0.0026	+10 24 51.63	-0.012
38	Arietis	5.2	2	40	45.648	+0.0081	12 7 21.46	-0.079
μ	Ceti	4.4	2	40	40.593	+0.0188	9 47 23.86	-0.025
147 B.	Arietis	5.8	3	2	9.947	+0.0016	12 53 27.90	-0.072
8 B.	Tauri	6.2	3	19	55.704	..	12 21 27.09	..
f	Tauri	4.3	3	26	37.162	+0.0016	+12 40 25.80	+0.002
30 B.	Tauri	6.4	3	33	28.328	+0.0015	15 10 44.32	-0.003
179 B.	Tauri	5.9	4	3	20.385	+0.0104	14 57 27.39	-0.044
193 B.	Tauri	6.2	4	8	6.060	+0.0005	17 4 49.90	-0.014
48	Tauri	6.3	4	11	23.873	+0.0085	15 12 33.02	-0.024
γ	Tauri	3.9	4	15	24.550	+0.0083	+15 26 34.24	-0.026
58	Tauri	5.4	4	16	14.135	+0.0071	14 54 43.46	-0.017
δ	Tauri	3.9	4	18	29.500	+0.0076	17 21 47.15	-0.030
63	Tauri	5.7	4	18	59.821	+0.0074	16 35 55.35	-0.027
64	Tauri	4.9	4	19	39.309	+0.0084	17 16 0.49	-0.040
70	Tauri	6.4	4	21	13.426	+0.0073	+15 45 58.24	-0.026
71	Tauri	4.6	4	21	57.344	+0.0075	15 26 40.96	-0.020
75	Tauri	5.2	4	24	2.122	+0.0002	16 11 19.05	+0.020
θ ¹	Tauri	4.2	4	24	10.385	+0.0071	15 47 32.99	-0.023
θ ²	Tauri	3.6	4	24	15.845	+0.0078	15 42 4.93	-0.020
80	Tauri	5.8	4	25	44.968	+0.0059	+15 28 15.99	-0.011
264 B.	Tauri	4.8	4	26	9.100	+0.0084	16 1 39.61	-0.027
81	Tauri	5.5	4	26	15.208	+0.0069	15 31 31.77	-0.032
85	Tauri	6.0	4	27	27.736	+0.0070	15 41 15.60	-0.020
119 H ¹ .	Tauri	6.2	4	29	5.442	+0.0025	17 51 18.97	-0.031
275 B.	Tauri	6.5	4	29	13.595	+0.0010	+16 9 46.20	+0.019
a	Tauri (Aldebaran)	1.1	4	31	30.001	+0.0047	16 21 20.55	-0.189
89	Tauri	5.8	4	33	44.883	+0.0072	15 52 48.75	-0.023
σ ¹	Tauri	5.2	4	34	45.231	+0.0019	15 38 58.32	-0.065
σ ²	Tauri	4.9	4	34	52.121	+0.0062	15 45 59.80	-0.019
318 B.	Tauri	5.7	4	52	55.377	-0.0008	+17 2 2.83	-0.011
m	Tauri	5.0	5	2	53.848	+0.0381	18 32 35.00	+0.025
111	Tauri	5.1	5	19	55.741	+0.0168	17 18 47.53	-0.010
115	Tauri	5.3	5	22	40.568	+0.0016	17 53 50.72	-0.021
117	Tauri	6.0	5	23	33.391	+0.0017	17 10 33.21	-0.078
119	Tauri	4.9	5	27	41.873	+0.0007	+18 32 17.77	-0.004
167 H ¹ .	Tauri	5.5	5	27	46.418	+0.0025	17 0 7.22	-0.040
120	Tauri	5.6	5	29	0.859	+0.0011	18 29 11.92	+0.001
122	Tauri	5.5	5	32	35.503	+0.0034	16 59 38.07	-0.037
130	Tauri	5.6	5	42	56.820	+0.0004	+17 42 5.42	-0.009

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Name of Star.	Magni- tude.	Right Ascension for 1923.0.	Annual Proper Motion.	Declination for 1923.0.	Annual Proper Motion
		h m s	s	° ' "	
B.D.+19°1110 .	6.0	5 47 49.652	-0.0008	+19 50 56.71	-0.031
57 Orionis . . .	5.8	5 50 23.156	+0.0003	19 44 8.98	-0.013
64 Orionis . . .	5.1	5 58 53.907	+0.0014	19 41 35.14	-0.021
68 Orionis . . .	5.7	6 7 27.748	+0.0012	19 48 32.38	-0.013
19 B. Geminorum .	6.2	6 9 1.883	+0.0027	18 42 5.84	-0.042
124 H ¹ . Orionis . .	5.7	6 9 58.785	+0.0010	+17 55 44.95	-0.045
71 Orionis . . .	5.1	6 10 19.068	-0.0062	19 11 1.73	-0.194
B. D.+17°1191 .	6.5	6 11 55.387	+0.0011	17 12 28.99	-0.031
287 B. Orionis . .	6.2	6 14 33.120	-0.0031	17 21 23.44	-0.037
292 B. Orionis . .	6.5	6 16 56.264	+0.0006	17 48 2.86	..
26 Geminorum . .	5.2	6 37 55.378	+0.0010	+17 43 18.45	-0.092
74 B. Geminorum .	6.2	6 42 53.529	+0.0002	18 16 41.02	-0.056
110 B. Geminorum .	6.2	6 57 56.828	..	17 51 57.28	..
41 H ¹ . Geminorum .	6.0	6 58 6.698	-0.0063	16 47 11.29	+0.006
λ Geminorum . . .	3.6	7 13 40.171	-0.0029	16 40 49.62	-0.045
162 B. Geminorum .	5.7	7 27 22.075	+0.0018	+17 15 5.12	-0.065
f Geminorum . . .	5.3	7 35 1.871	-0.0002	17 51 4.30	+0.004
g Geminorum . . .	5.0	7 41 40.107	-0.0048	18 41 56.66	-0.063
1 Cancri . . .	6.0	7 52 37.248	-0.0021	15 59 49.48	-0.044
2 B. Cancri . . .	6.0	7 54 8.044	+0.0003	16 43 38.47	+0.004
3 Cancri . . .	5.7	7 56 22.726	-0.0001	+17 31 14.65	-0.010
5 Cancri . . .	5.9	7 57 7.102	+0.0004	16 40 7.68	0.000
30 B. Cancri . . .	6.1	8 6 39.465	-0.0007	14 51 29.50	-0.013
ζ Cancri (mean) .	4.7	8 7 47.905	+0.0051	17 52 52.41	-0.129
d ¹ Cancri . . .	6.2	8 21 28.535	-0.0132	17 18 3.89	-0.153
29 Cancri . . .	5.9	8 24 19.627	-0.0017	+14 27 59.80	-0.022
90 B. Cancri . . .	6.3	8 31 48.776	+0.0006	15 34 51.01	-0.027
54 Cancri . . .	6.3	8 46 44.318	-0.0075	15 38 14.01	+0.077
e ¹ Cancri . . .	5.1	8 52 57.422	+0.0041	15 37 8.41	+0.022
o ¹ Cancri . . .	5.7	8 53 17.339	+0.0043	15 52 40.55	+0.023
81 Cancri . . .	6.4	9 8 4.925	-0.0359	+15 18 26.02	+0.244
π Cancri . . .	5.6	9 10 58.993	-0.0022	15 15 42.49	-0.008
222 B. Cancri . . .	6.3	9 13 41.291	+0.0046	11 49 27.77	-0.007
ξ Leonis . . .	5.1	9 27 47.866	-0.0063	11 38 29.73	-0.084
o Leonis . . .	3.8	9 37 2.597	-0.0096	10 14 36.48	-0.033
18 Leonis . . .	5.8	9 42 14.609	-0.0006	+12 9 55.20	+0.008
19 Leonis . . .	6.4	9 43 17.622	-0.0049	11 55 30.27	+0.008
R Leonis (var.) .	4.0	9 43 25.132	-0.0005	11 47 12.42	-0.040
83 B. Leonis . . .	5.9	9 52 21.103	-0.0074	9 17 55.47	+0.017
v Leonis . . .	5.0	9 54 4.907	-0.0028	12 48 45.26	-0.027
A Leonis . . .	4.6	10 3 49.215	-0.0057	+10 22 31.94	-0.067
α Leonis (Regulus)	1.3	10 4 16.407	-0.0169	12 20 38.76	-0.002
44 Leonis . . .	5.9	10 21 11.909	+0.0018	9 10 36.38	-0.041
45 Leonis . . .	5.8	10 23 35.100	+0.0011	10 9 19.75	-0.003
ρ Leonis . . .	3.9	10 28 45.526	-0.0004	9 42 12.08	-0.003
48 Leonis . . .	5.2	10 30 47.089	-0.0072	+ 7 21 1.84	+0.047
49 Leonis . . .	5.7	10 30 59.910	-0.0030	9 2 55.12	-0.010
37 Sextantis . . .	6.3	10 42 5.108	-0.0010	6 46 45.63	-0.040
56 Leonis . . .	6.1	10 52 1.681	-0.0013	6 35 48.18	-0.008
c Leonis . . .	5.1	10 56 45.400	-0.0035	6 30 55.89	-0.025
χ Leonis . . .	4.7	11 1 2.780	-0.0234	+ 7 45 9.85	-0.040
σ Leonis . . .	4.1	11 17 10.029	-0.0062	6 27 5.86	-0.013
80 Leonis . . .	6.4	11 21 52.692	-0.0051	4 17 3.00	-0.050
83 Leonis . . .	6.3	11 22 51.444	-0.0492	3 25 59.19	+0.187
τ Leonis . . .	5.2	11 23 58.670	+0.0008	3 16 49.80	-0.016
89 Leonis . . .	5.7	11 30 25.551	-0.0121	+ 3 29 16.83	-0.104
β Virginis . . .	3.8	11 46 41.062	+0.0494	2 11 55.45	-0.275
27 B. Virginis . .	6.5	11 55 7.094	-0.0033	0 57 32.18	+0.034
10 Virginis . . .	6.2	12 5 44.597	+0.0034	+ 2 19 48.99	-0.181
13 Virginis . . .	5.9	12 14 43.415	+0.0019	- 0 21 33.39	-0.021

MEAN PLACES OF OCCULTATION STARS, 1923. 469

Name of Star.		Magni- tude.	Right Ascension. for 1923.0.			Annual Proper Motion.	Declination for 1923.0.	Annual Proper Motion.
			h	m	s	s		
η	Virginis . . .	4.0	12	15	57.985	-0.0036	- 0 14 20.45	-0.027
γ	Virginis (<i>mean</i>) . . .	2.9	12	37	45.530	-0.0365	1 1 38.25	+0.004
38	Virginis . . .	6.1	12	49	14.533	-0.0173	3 8 5.48	-0.004
91 G.	Virginis . . .	6.5	12	49	39.664	-0.0025	3 48 19.73	-0.070
k	Virginis . . .	5.7	12	55	41.441	-0.0027	3 23 49.05	-0.004
46	Virginis . . .	6.1	12	56	37.914	-0.0026	- 2 57 16.98	+0.046
48	Virginis . . .	6.5	12	59	56.262	-0.0033	3 14 56.57	-0.028
θ	Virginis . . .	4.4	13	5	57.657	-0.0029	5 7 41.85	-0.040
65	Virginis . . .	6.0	13	19	19.370	-0.0016	4 31 19.20	-0.016
66	Virginis . . .	5.7	13	20	32.612	+0.0105	4 45 43.08	-0.030
72	Virginis . . .	6.1	13	26	24.541	+0.0023	- 6 4 23.59	+0.014
l	Virginis . . .	4.8	13	27	57.574	-0.0069	5 51 31.13	-0.045
80	Virginis . . .	5.6	13	31	30.815	+0.0010	5 0 15.89	+0.075
m	Virginis . . .	5.2	13	37	34.075	-0.0073	8 18 53.93	+0.032
566 B.	Virginis . . .	6.4	13	39	53.669	-0.0049	5 6 41.58	-0.025
88	Virginis . . .	6.5	13	44	16.128	-0.0032	- 6 27 13.68	-0.033
598 B.	Virginis . . .	6.1	13	50	55.708	-0.0121	7 40 50.09	-0.049
623 B.	Virginis . . .	6.5	14	0	16.704	-0.0026	8 53 17.19	+0.006
95	Virginis . . .	5.4	14	2	38.308	-0.0098	8 56 47.58	+0.011
96	Virginis . . .	6.5	14	4	54.283	-0.0005	9 58 13.49	+0.016
κ	Virginis . . .	4.3	14	8	47.140	+0.0006	- 9 54 57.61	+0.132
2	Libræ . . .	6.3	14	19	16.824	-0.0014	11 21 47.08	-0.066
4 G.	Libræ . . .	6.5	14	20	32.399	-0.0046	11 19 14.45	-0.028
6 B.	Libræ . . .	6.2	14	32	53.858	-0.0591	11 58 42.43	+0.384
22 B.	Libræ . . .	6.4	14	43	42.623	+0.0013	12 30 59.26	-0.083
13	Libræ . . .	5.7	14	50	11.826	-0.0048	-11 35 6.09	-0.020
ξ^2	Libræ . . .	5.6	14	52	35.187	-0.0006	11 5 59.34	-0.001
17	Libræ . . .	6.4	14	54	2.848	-0.0019	10 50 46.93	-0.021
18	Libræ . . .	5.9	14	54	43.523	-0.0079	10 50 7.89	-0.077
130 B.	Libræ . . .	5.9	15	19	38.490	-0.0043	12 5 43.97	-0.038
γ	Libræ . . .	4.0	15	31	12.974	+0.0047	-14 32 1.05	+0.007
190 B.	Libræ . . .	6.5	15	39	5.613	-0.0009	14 47 50.50	-0.115
η	Libræ . . .	5.5	15	39	44.297	-0.0028	15 25 43.10	-0.079
195 B.	Libræ . . .	6.2	15	47	20.233	-0.0010	13 54 7.19	+0.001
θ	Libræ . . .	4.4	15	49	26.279	+0.0066	16 30 16.19	+0.119
202 B.	Libræ . . .	6.4	15	51	55.133	+0.0012	-14 10 26.85	-0.094
203 B.	Libræ . . .	6.2	15	52	13.250	+0.0047	14 36 17.10	..
48	Libræ . . .	4.6	15	53	52.496	-0.0004	14 3 29.70	-0.026
49	Libræ . . .	5.4	15	56	0.210	-0.0434	16 18 26.89	-0.391
91 B.	Scorpii . . .	6.1	16	11	30.542	..	14 39 25.95	..
98 B.	Scorpii . . .	6.1	16	14	39.604	+0.0032	-14 41 11.87	-0.018
ϕ	Ophiuchi . . .	4.4	16	26	43.733	-0.0039	16 26 44.90	-0.029
24	Scorpii . . .	5.0	16	37	7.022	-0.0017	17 35 39.47	-0.004
78 B.	Ophiuchi . . .	6.5	16	51	35.082	+0.0062	16 41 5.39	+0.024
90 B.	Ophiuchi . . .	6.5	16	55	15.042	-0.0047	18 7 47.62	-0.156
29	Ophiuchi . . .	6.4	16	57	20.872	-0.0024	-18 46 24.31	-0.020
125 B.	Ophiuchi . . .	6.2	17	3	46.430	-0.0007	17 30 29.87	-0.049
164 B.	Ophiuchi . . .	6.0	17	15	24.341	-0.0003	17 40 36.54	+0.001
192 B.	Ophiuchi . . .	6.3	17	20	0.503	+0.0016	18 22 30.68	+0.009
305 B.	Ophiuchi . . .	6.3	17	51	23.252	+0.0019	18 47 22.50	-0.003
6	Sagittarii . . .	6.5	17	56	54.674	+0.0005	-17 9 18.05	-0.004
32 G.	Sagittarii . . .	5.7	18	3	20.713	-0.0003	17 9 59.25	..
39 G.	Sagittarii . . .	6.3	18	6	40.857	-0.0027	19 51 29.80	-0.040
64 B.	Sagittarii . . .	6.1	18	10	59.303	..	18 41 10.66	..
6 B.	Scuti . . .	5.9	18	12	42.830	+0.0007	17 24 4.56	+0.013
52 G.	Sagittarii . . .	6.4	18	12	57.639	+0.0004	-18 29 32.53	-0.036
17 H ¹ .	Sagittarii . . .	6.4	18	14	11.904	..	18 39 1.31	..
Υ	Sagittarii (<i>var.</i>) . . .	5.4	18	16	51.187	..	18 53 43.52	-0.001
85 B.	Sagittarii . . .	6.0	18	23	26.898	-0.0006	17 50 53.40	+0.006
95 B.	Sagittarii . . .	5.7	18	25	40.397	+0.0041	-18 46 42.90	-0.072

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Name of Star.	Magni- tude.	Right Ascension for 1923.0.	Annual Proper Motion.	Declination for 1923.0.	Annual Proper Motion.
		h m s	s		
100 B. Sagittarii . . .	5.0	18 26 55.571	-0.0012	-18 27 24.02	-0.026
171 B. Sagittarii . . .	6.1	18 58 32.284	0.0000	19 21 30.29	-0.035
173 B. Sagittarii . . .	6.4	18 58 35.793	+0.0020	19 12 54.72	..
187 B. Sagittarii . . .	6.4	19 2 38.133	+0.0036	18 51 29.30	-0.056
190 B. Sagittarii . . .	5.4	19 3 45.313	+0.0001	19 24 43.55	-0.003
195 B. Sagittarii . . .	6.3	19 5 15.755	+0.0019	-19 55 33.47	-0.050
d Sagittarii . . .	5.0	19 13 7.822	-0.0015	19 5 28.33	-0.017
226 B. Sagittarii . . .	6.4	19 17 6.467	+0.0002	19 22 45.85	+0.009
e Sagittarii . . .	4.0	19 17 12.480	-0.0020	17 59 36.35	+0.015
45 Sagittarii . . .	6.0	19 17 21.450	+0.0064	18 27 7.48	-0.082
266 B. Sagittarii . . .	6.1	19 31 56.788	+0.0003	-19 1 26.56	-0.009
267 B. Sagittarii . . .	5.8	19 32 35.394	+0.0011	18 24 11.47	-0.002
54 Sagittarii . . .	5.4	19 36 18.797	+0.0046	16 28 15.61	-0.047
e Sagittarii . . .	5.2	19 38 6.947	+0.0040	16 18 20.32	-0.015
g Sagittarii . . .	5.1	19 53 35.093	+0.0004	15 41 47.89	-0.081
16 B. Capricorni . . .	6.2	20 16 27.102	+0.0025	-15 1 42.95	+0.005
β Capricorni . . .	3.2	20 16 41.237	+0.0030	15 1 31.97	+0.007
31 B. Capricorni . . .	6.4	20 24 23.367	+0.0013	15 59 49.74	+0.019
27 G. Capricorni . . .	6.2	20 26 45.465	-0.0058	15 18 54.10	-0.092
45 B. Capricorni . . .	6.1	20 29 54.567	+0.0035	13 59 13.03	+0.060
47 B. Capricorni . . .	6.2	20 31 10.937	+0.0055	-16 47 29.02	-0.033
τ Capricorni . . .	5.2	20 34 58.147	+0.0006	15 13 32.73	-0.015
61 B. Capricorni . . .	5.9	20 36 13.127	-0.0032	16 23 56.30	+0.082
94 B. Capricorni . . .	5.7	20 53 22.179	+0.0046	16 19 42.26	+0.030
95 B. Capricorni . . .	5.9	20 54 26.254	..	14 46 52.43	..
29 Capricorni . . .	5.5	21 11 20.267	+0.0016	-15 29 32.33	+0.004
53 B. Aquarii . . .	6.5	21 11 46.662	+0.0004	13 31 19.82	-0.039
18 Aquarii . . .	5.5	21 19 59.121	+0.0054	13 12 33.89	+0.007
72 B. Aquarii . . .	6.5	21 24 3.590	-0.0045	11 54 8.56	+0.008
137 B. Capricorni . . .	6.2	21 35 19.865	+0.0001	10 55 25.85	-0.010
λ Capricorni . . .	5.5	21 42 23.511	+0.0015	-11 43 18.14	-0.004
151 B. Capricorni . . .	6.1	21 45 31.467	-0.0009	13 4 56.36	+0.031
96 B. Aquarii . . .	6.5	21 49 29.094	-0.0001	10 40 29.20	+0.006
e Aquarii . . .	5.4	22 6 30.593	+0.0019	11 56 38.71	+0.020
θ Aquarii . . .	4.3	22 12 46.296	+0.0074	8 10 1.93	-0.018
150 B. Aquarii . . .	6.0	22 12 48.799	-0.0034	- 9 25 27.18	-0.005
ρ Aquarii . . .	5.3	22 16 8.916	+0.0008	8 12 30.53	-0.008
170 B. Aquarii . . .	6.0	22 19 29.991	+0.0012	7 35 2.50	+0.034
186 B. Aquarii . . .	6.1	22 27 16.166	+0.0129	6 56 55.62	-0.129
167 G. Aquarii . . .	6.3	22 34 19.640	+0.0010	8 17 52.33	+0.012
213 B. Aquarii . . .	6.5	22 39 1.444	+0.0014	- 8 42 52.67	+0.031
67 Aquarii . . .	6.4	22 39 13.085	+0.0015	7 21 59.10	-0.007
λ Aquarii . . .	3.8	22 48 35.896	+0.0002	7 59 23.03	+0.035
78 Aquarii . . .	6.3	22 50 33.576	-0.0017	7 36 51.29	-0.029
252 B. Aquarii . . .	5.8	22 51 11.298	-0.0003	5 23 53.43	+0.009
197 G. Aquarii . . .	6.3	22 53 18.017	-0.0024	- 5 13 18.85	+0.006
81 Aquarii . . .	6.4	22 57 23.587	-0.0015	7 28 29.60	-0.001
263 B. Aquarii . . .	6.1	22 57 32.656	+0.0007	5 7 32.38	+0.002
82 Aquarii . . .	6.4	22 58 32.825	0.0000	6 59 16.11	-0.034
h Aquarii . . .	5.4	23 1 8.917	+0.0081	8 6 34.49	+0.016
φ Aquarii . . .	4.4	23 10 20.091	+0.0015	- 6 27 51.79	-0.194
293 B. Aquarii . . .	5.5	23 11 36.287	-0.0011	3 54 58.59	+0.003
96 Aquarii . . .	5.7	23 15 24.436	+0.0128	5 32 42.76	-0.009
316 B. Aquarii . . .	6.5	23 16 16.347	+0.0191	4 20 19.40	-0.118
317 B. Aquarii . . .	6.3	23 16 42.742	-0.0099	6 19 43.38	-0.065
337 B. Aquarii . . .	6.4	23 25 33.260	+0.0121	- 4 57 7.75	-0.218
342 B. Aquarii . . .	6.5	23 27 32.928	+0.0124	4 30 29.31	-0.172
20 Piscium . . .	5.6	23 43 59.064	+0.0064	3 11 23.30	+0.002
24 Piscium . . .	6.1	23 48 58.261	+0.0051	3 34 59.42	-0.048
29 Piscium . . .	5.1	23 57 52.662	+0.0009	- 3 27 22.03	-0.012

ELEMENTS OF OCCULTATIONS, 1923. 471

JANUARY.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	F	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
111 Tauri	5.1	+1.30	-9.1	17 18.6	1 0 17.9	-10 21.7	+0.8325	0.5739	+0.0371	+90	+28
115 Tauri	5.3	1.30	9.1	17 53.7	1 30.1	-9 12.0	+0.2572	0.5744	0.0350	+51	-5
117 Tauri	6.0	1.30	9.2	17 10.4	1 53.2	-8 49.0	+1.0340	0.5746	0.0344	+90	+43
119 Tauri	4.9	1.31	9.2	18 32.1	3 41.8	-7 4.9	-0.3478	0.5753	0.0312	+15	-39
120 Tauri	5.6	1.31	9.2	18 29.0	4 16.2	-6 31.6	-0.2757	0.5755	0.0301	+19	-35
130 Tauri	5.6	+1.32	-9.7	17 41.9	10 19.3	-0 41.6	+0.7020	0.5779	+0.0192	+90	+22
19 B. Geminorum	6.2	1.34	10.3	18 41.9	21 32.2	+10 7.0	-0.2499	0.5815	-0.0015	+20	-30
124 H ¹ . Orionis	5.7	1.33	10.4	17 55.6	21 56.6	+10 30.6	+0.5590	0.5816	0.0022	+75	+15
71 Orionis	5.1	1.34	10.3	19 10.9	22 5.2	+10 38.9	-0.7562	0.5816	0.0025	-9	-71
287 B. Orionis	6.2	1.33	10.5	17 21.2	23 53.7	-11 36.0	+1.1502	0.5821	0.0059	+90	+56
292 B. Orionis	6.5	+1.33	-10.6	17 47.9	2 05.4	-10 37.8	+0.6776	0.5823	-0.0078	+90	+21
26 Geminorum	5.2	1.32	11.0	17 43.1	9 49.6	-2 2.3	+0.6132	0.5842	0.0246	+81	+16
74 B. Geminorum	6.2	1.32	11.1	18 16.5	11 55.8	-0 0.7	-0.0227	0.5846	0.0286	+33	-19
110 B. Geminorum	6.2	1.30	11.4	17 51.8	18 17.2	+6 6.6	+0.1856	0.5855	0.0406	+46	-9
2 Geminorum	3.6	1.28	11.5	16 40.6	3 05.4	-11 30.7	+1.1031	0.5860	0.0531	+90	+47
162 B. Geminorum	5.7	+1.26	-11.7	17 14.9	6 40.4	-5 57.6	+0.1743	0.5862	-0.0637	+45	-12
f Geminorum	5.3	1.25	11.8	17 50.9	9 53.7	-2 51.4	-0.6598	0.5862	0.0696	-3	-67
1 Cancri	6.0	1.21	11.8	15 59.6	17 17.6	+4 16.1	+0.6873	0.5859	0.0828	+90	+15
2 B. Cancri	6.0	1.21	11.8	16 43.4	17 55.8	+4 52.8	-0.1176	0.5859	0.0840	+28	-30
3 Cancri	5.7	1.20	11.9	17 31.0	18 52.4	+5 47.4	-1.0140	0.5859	0.0856	-27	-73
5 Cancri	5.9	+1.20	-11.9	+16 39.9	19 11.1	+6 5.5	-0.1642	0.5858	-0.0862	+25	-33
29 Cancri	5.9	1.14	11.6	14 27.8	4 639.5	-6 51.4	+0.9947	0.5846	0.1055	+90	+33
90 B. Cancri	6.3	1.12	11.7	15 34.7	9 49.4	-3 48.5	-0.4892	0.5841	0.1106	+7	-57
54 Cancri	6.3	1.07	11.6	15 38.0	16 9.0	+2 17.2	-1.2764	0.5830	0.1204	-58	-75
222 B. Cancri	6.3	1.00	10.7	11 49.3	5 338.0	-10 38.9	+1.1371	0.5807	0.1368	+90	+42
ξ Leonis	5.1	+0.94	-10.4	+11 38.3	9 40.9	-4 49.1	+0.4711	0.5793	-0.1446	+65	-4
o Leonis	3.8	0.91	9.9	10 14.4	13 39.5	-0 59.2	+1.3081	0.5783	0.1494	+79	+67
18 Leonis	5.8	0.88	10.2	12 9.8	15 54.1	+1 11.6	-0.9845	0.5778	0.1520	-23	-78
19 Leonis	6.4	0.88	10.2	11 55.3	16 21.3	+1 36.9	-0.8092	0.5777	0.1525	-11	-79
R Leonis (var.)	4.6	0.88	10.2	11 47.0	16 24.5	+1 40.0	-0.6768	0.5777	0.1526	-3	-77
83 B. Leonis	5.9	+0.86	-9.4	+9 17.8	20 16.2	+5 23.3	+1.2540	0.5768	-0.1569	+90	+53
4 Leonis	4.6	0.81	9.4	10 22.4	6 114.7	+10 11.3	-0.6333	0.5756	0.1619	0	-74
44 Leonis	5.9	0.74	8.6	9 10.5	8 49.1	-6 30.5	-0.6700	0.5738	0.1690	-2	-79
48 Leonis	5.2	0.72	7.8	7 20.9	13 0.9	-2 27.6	+0.4657	0.5729	0.1724	+64	-7
49 Leonis	5.7	0.70	8.3	9 2.8	13 6.5	-2 22.1	-1.2718	0.5729	0.1724	-52	-81
37 Sextantis	6.3	+0.67	-7.3	+6 46.6	17 58.5	+2 19.6	+0.1802	0.5719	-0.1760	+45	-23
56 Leonis	6.1	0.63	7.0	6 35.7	22 21.2	+6 33.0	-0.4115	0.5710	0.1788	+12	-59
c Leonis	5.1	0.61	6.8	6 30.8	7 026.3	+8 33.7	-0.7034	0.5707	0.1800	-4	-84
80 Leonis	6.4	0.51	5.2	4 17.0	11 33.0	-4 42.3	+0.4709	0.5688	0.1852	+9	-65
83 Leonis	6.3	0.52	4.9	3 25.9	11 59.7	-4 17.1	+0.3040	0.5688	0.1854	+53	-18
τ Leonis	5.2	+0.51	-4.8	+3 16.8	12 29.5	-3 48.3	+0.3662	0.5687	-0.1856	+57	-14
89 Leonis	5.7	0.48	4.7	3 29.2	15 21.4	-1 2.4	-0.3767	0.5684	0.1864	+14	-58
β Virginis	3.8	0.41	3.7	2 11.9	22 35.5	+5 56.6	-0.4275	0.5676	0.1880	+11	-61
27 B. Virginis	6.5	0.38	2.9	+0 57.5	8 221.1	+9 34.5	+0.1191	0.5674	0.1886	+42	-28
13 Virginis	5.9	0.30	1.7	-0 21.6	11 5.8	-5 59.0	-0.1974	0.5670	0.1887	+24	-46
η Virginis	4.0	+0.29	-1.7	-0 14.4	11 39.1	-5 26.9	-0.4238	0.5670	-0.1887	+11	-61
38 Virginis	6.1	0.14	+0.6	3 8.1	2 29.7	+8 52.9	-0.2735	0.5673	0.1855	+19	-51
91 G. Virginis	6.5	0.15	0.9	3 48.3	2 40.9	+9 3.6	-0.3712	0.5673	0.1855	+57	-14
k Virginis	5.7	0.12	0.9	3 23.8	5 22.0	+11 39.2	-0.5393	0.5675	0.1844	+5	-70
46 Virginis	6.1	0.10	0.8	2 57.3	5 47.1	-11 56.5	-1.0645	0.5676	0.1842	-29	-90
48 Virginis	6.5	+0.09	+1.0	-3 14.9	7 15.4	-10 31.3	-1.0371	0.5677	-0.1836	-27	-90

472 ELEMENTS OF OCCULTATIONS, 1923.

JANUARY.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	γ	γ'	γ''	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
0 Virginis	4.4	+0.08	+1.9	5 7.7	9 9 56.2	- 7 56.2	+0.3768	0.5679	-0.1824	+57	-14
SATURN	0.9	..	..	5 27.0	14 43.2	- 3 19.1	-0.1637	0.5672	-0.1796	+25	-44
65 Virginis	6.0	0.00	2.2	4 31.3	15 52.2	- 2 12.5	-1.3114	0.5686	-0.1793	-60	-84
66 Virginis	5.7	0.00	2.3	4 45.7	16 24.6	- 1 41.2	-1.1651	0.5687	-0.1789	-39	-90
72 Virginis	6.1	-0.02	3.0	6 4.3	19 0.6	+ 0 49.3	-0.2986	0.5690	-0.1773	+17	-53
1 Virginis	4.8	-0.03	+3.0	5 51.5	19 41.8	+ 1 29.0	-0.6380	0.5691	-0.1769	- 2	-81
m Virginis	5.2	0.06	4.2	8 18.8	23 56.7	+ 5 35.0	+1.1086	0.5698	-0.1740	+82	+33
88 Virginis	6.5	0.12	3.7	6 27.2	2 54.2	+ 8 26.3	-1.2917	0.5703	-0.1718	-57	-88
598 B. Virginis	6.1	0.14	4.4	7 40.8	5 50.2	+11 16.2	-0.5471	0.5708	-0.1694	+ 2	-70
623 B. Virginis	6.5	0.18	5.1	8 53.2	9 50.8	- 8 46.0	-0.0101	0.5716	-0.1659	+31	-35
95 Virginis	5.4	-0.19	+5.2	8 56.7	10 58.9	- 7 46.0	-0.1220	0.5718	-0.1649	+25	-42
96 Virginis	6.5	0.19	5.6	9 58.1	11 58.6	- 6 48.4	+0.7549	0.5720	-0.1640	+81	+ 8
x Virginis	4.3	0.22	5.7	9 54.9	13 40.6	- 5 10.1	+0.4221	0.5724	-0.1625	+58	-11
2 Libræ	6.3	0.26	6.5	11 21.7	18 15.8	- 0 44.6	+1.1589	0.5734	-0.1579	+79	+38
4 G. Libræ	6.5	0.27	6.5	11 19.1	18 48.8	- 0 12.7	+1.0292	0.5734	-0.1573	+79	+27
6 B. Libræ	6.2	-0.33	+7.0	11 58.6	11 0 11.6	+ 4 58.6	+0.8684	0.5747	-0.1515	+79	+15
22 B. Libræ	6.4	0.39	7.5	12 30.9	4 53.0	+ 9 30.0	+0.7190	0.5758	-0.1400	+78	+ 6
13 Libræ	5.7	0.43	7.4	11 35.0	7 41.3	-11 47.7	-0.6351	0.5765	-0.1426	- 6	-81
5^a Libræ	5.6	0.44	7.2	11 5.9	8 43.2	-10 48.1	-1.2763	0.5767	-0.1413	-59	-88
7 Libræ	4.0	0.63	9.0	14 31.9	12 1 17.4	+ 5 10.2	+0.0701	0.5806	-0.1184	+31	-31
190 B. Libræ	6.5	-0.66	+9.1	14 47.7	4 38.7	+ 8 24.2	-0.0489	0.5814	-0.1133	+24	-38
7 Libræ	5.5	0.67	9.3	15 25.6	4 55.1	+ 8 40.0	+0.5661	0.5815	-0.1129	+63	- 3
0 Libræ	4.4	0.71	9.7	16 30.1	9 2.3	-11 21.8	+1.2164	0.5823	-0.1064	+74	+48
202 B. Libræ	6.4	0.73	9.1	14 10.3	10 5.4	-10 21.0	-1.2819	0.5826	-0.1048	-66	-81
203 B. Libræ	6.2	0.73	9.2	14 36.1	10 13.0	-10 13.7	-0.8541	0.5826	-0.1046	-23	-90
49 Libræ	5.4	-0.75	+9.7	16 18.3	11 49.2	- 8 41.1	+0.7252	0.5829	-0.1020	+74	+ 7
φ Ophiuchi	4.4	0.89	9.8	16 26.6	10 47.0	+ 3 48.2	-0.3139	0.5850	-0.0800	+ 6	-54
VENUS	-4.3	..	..	17 16.0	0 49.4	+ 3 50.4	+0.5324	0.5544	-0.0746	+57	- 5
24 Scorpii	5.0	0.94	10.0	17 35.5	5 8.9	+ 8 0.4	+0.5352	0.5856	-0.0722	+57	- 4
78 B. Ophiuchi	6.5	1.00	9.7	16 40.9	11 13.2	-10 8.8	-0.8072	0.5862	-0.0612	-25	-90
90 B. Ophiuchi	6.5	-1.02	+10.0	18 7.6	12 45.5	- 8 39.8	+0.5907	0.5863	-0.0584	+60	- 1
29 Ophiuchi	6.4	1.03	10.1	18 46.2	13 38.2	- 7 49.1	+1.2042	0.5864	-0.0568	+72	+48
125 B. Ophiuchi	6.2	1.05	9.8	17 30.3	16 19.8	- 5 13.5	-0.2473	0.5865	-0.0518	+ 7	-50
164 B. Ophiuchi	6.0	1.10	9.6	17 40.4	21 12.3	- 0 31.8	-0.3037	0.5866	-0.0426	+ 3	-54
192 B. Ophiuchi	6.3	1.12	9.7	18 22.4	23 10.6	+ 1 22.1	+0.3383	0.5866	-0.0389	+39	-16
305 B. Ophiuchi	6.3	-1.23	+9.2	18 47.2	14 12 18.3	- 9 59.4	+0.4230	0.5859	-0.0139	+43	-11
NEW MOON.											
137 B. Capricorni	6.2	-1.21	+0.6	10 55.4	18 16 4.6	- 9 40.6	-0.8380	0.5462	+0.1393	-18	-90
Λ Capricorni	5.5	1.20	+0.1	11 43.3	19 30.3	- 6 21.4	+0.5070	0.5445	-0.1423	+63	- 6
96 B. Aquarii	6.5	-1.17	-0.1	10 40.5	22 58.2	- 3 0.0	-0.1272	0.5428	+0.1453	+24	-42
0 Aquarii	4.3	1.06	0.7	8 10.0	19 10 29.5	+ 8 9.8	-1.1249	0.5374	-0.1540	-37	-90
150 B. Aquarii	6.0	1.08	1.0	9 25.5	10 30.7	+ 8 11.0	+0.2455	0.5374	-0.1540	+46	-21
0 Aquarii	5.3	1.05	0.9	8 12.5	12 10.8	+ 9 48.1	-0.8194	0.5366	-0.1552	-14	-90
170 B. Aquarii	6.0	1.04	0.9	7 35.1	13 51.7	+11 25.9	-1.2381	0.5359	-0.1563	-49	-90
186 B. Aquarii	6.1	-1.00	-1.1	6 56.9	17 46.4	- 8 46.5	-1.3158	0.5342	+0.1586	-64	-81
167 G. Aquarii	6.3	1.00	1.7	8 17.9	21 20.9	- 5 18.5	+0.7264	0.5327	-0.1606	+82	+ 6
67 Aquarii	6.4	0.96	1.8	7 22.0	23 50.2	- 2 53.7	+0.1106	0.5317	-0.1619	+39	-28
78 Aquarii	6.3	0.92	2.4	7 36.9	20 5 38.4	+ 2 44.2	+1.3306	0.5295	-0.1646	+74	+68
252 B. Aquarii	5.8	0.89	1.9	5 23.9	5 57.8	+ 3 3.0	-1.0421	0.5294	-0.1647	-28	-90
197 G. Aquarii	6.3	-0.88	-1.9	5 13.3	7 2.9	+ 4 6.2	-1.0563	0.5290	+0.1652	-30	-90

ELEMENTS OF OCCULTATIONS, 1923. 473

JANUARY.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, <i>H</i>	<i>Y</i>	<i>z'</i>	<i>y'</i>	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
		^s	["]	[°] ['] ["]	^d ^h ^m	^h ^m				[°]	[°]
263 B. Aquarii	6.1	-0.86	-2.1	5 7.6	20 9 14.1	+ 6 13.5	-0.8000	0.5283	+0.1061	-12	-90
82 Aquarii	6.4	0.88	2.6	6 59.3	9 45.1	+ 6 43.6	+1.3267	0.5281	0.1663	+78	+64
293 B. Aquarii	5.5	0.79	2.4	3 55.0	16 31.2	-10 42.3	-0.9080	0.5259	0.1686	-18	-90
96 Aquarii	5.7	0.80	3.0	5 32.8	18 30.0	- 8 47.0	+1.2148	0.5253	0.1691	+85	+43
316 B. Aquarii	6.5	0.78	2.8	4 20.4	18 57.1	- 8 20.7	-0.0344	0.5251	0.1692	+32	-37
342 B. Aquarii	6.5	-0.73	-3.3	4 30.5	21 0 51.0	- 2 37.1	+1.1556	0.5236	+0.1706	+86	+37
20 Piscium	5.6	0.64	3.7	3 11.4	9 30.0	+ 5 47.0	+1.1887	0.5216	0.1720	+87	+40
80 B. Piscium	6.3	0.53	3.8	0 55.9	18 34.4	- 9 24.3	+0.2605	0.5200	0.1725	+50	-20
MARS	1.2	..	..	0 3.4	19 32.9	- 8 27.5	-0.5376	0.4902	0.1587	+ 5	-70
98 B. Piscium	6.3	0.44	3.6	+1 15.6	22 1 20.2	- 2 50.1	-0.9944	0.5192	0.1723	-23	-89
44 Piscium	6.0	-0.40	-3.9	+1 30.7	5 23.5	+ 1 6.3	-0.5757	0.5189	+0.1720	+ 3	-74
155 B. Piscium	6.5	0.25	4.5	2 58.0	19 11.3	- 9 29.5	+0.1732	0.5186	0.1694	+45	-25
73 Piscium	6.2	0.16	4.2	5 14.6	2 24.1	- 2 29.2	-1.1318	0.5190	0.1674	-35	-85
77 Piscium	6.4	0.16	4.6	4 29.9	2 54.3	- 1 59.8	-0.2225	0.5190	0.1673	+22	-47
e Piscium	5.6	0.14	4.4	5 14.5	4 16.2	- 0 40.3	-0.8182	0.5191	0.1668	-12	-85
μ Piscium	5.0	-0.02	-5.1	+5 44.8	15 47.7	+10 31.4	+0.5204	0.5206	+0.1622	+69	- 5
64 Ceti	5.8	+0.23	5.8	8 12.5	24 13 19.4	+ 7 25.4	+1.1649	0.5258	0.1499	+90	+41
ξ^1 Ceti	4.5	0.24	5.8	8 29.1	14 10.1	+ 8 14.6	+0.9866	0.5261	0.1493	+90	+26
ξ Arietis	5.5	0.32	5.6	10 15.7	20 14.0	- 9 52.3	-0.0795	0.5281	0.1449	+30	-36
25 Arietis	6.5	0.33	5.9	9 51.3	21 34.1	- 8 34.6	+0.5596	0.5285	0.1439	+73	0
31 Arietis	5.7	+0.40	-5.4	+12 6.8	25 2 14.1	- 4 2.8	-1.2610	0.5302	+0.1402	-52	-78
85 Ceti	6.3	0.42	6.2	10 24.8	5 14.0	- 1 8.3	+1.0247	0.5314	0.1376	+90	+31
38 Arietis	5.2	0.45	5.7	12 7.3	6 27.8	+ 0 3.3	-0.6835	0.5319	0.1366	- 4	-77
147 B. Arietis	5.8	0.50	6.3	12 53.4	17 12.2	+10 27.9	-0.1105	0.5365	0.1266	+28	-35
30 B. Tauri	6.4	0.74	6.6	15 10.6	26 8 34.4	+ 1 21.3	-0.7835	0.5439	0.1100	-10	-75
179 B. Tauri	5.9	+0.88	-7.8	+14 57.3	22 51.1	- 8 49.5	+0.9017	0.5514	+0.0921	+90	+27
193 B. Tauri	6.2	0.92	7.3	17 4.7	1 5.6	- 6 39.3	-1.1891	0.5526	0.0891	-44	-73
48 Tauri	6.3	0.92	8.0	15 12.4	2 38.4	- 5 9.6	+0.9675	0.5534	0.0870	+90	+33
γ Tauri	3.9	0.94	8.0	15 26.4	4 30.9	- 3 20.8	+0.8753	0.5544	0.0843	+90	+26
δ Tauri	3.9	0.97	7.5	17 21.7	5 57.1	- 1 57.4	-1.0745	0.5552	0.0823	-32	-73
63 Tauri	5.7	+0.97	-7.8	+16 35.8	6 11.2	- 1 43.8	-0.2315	0.5553	+0.0820	+22	-37
64 Tauri	4.9	0.98	7.6	17 15.9	6 29.6	- 1 26.0	-0.9260	0.5555	0.0816	-21	-73
70 Tauri	6.4	0.97	8.1	15 45.8	7 13.3	- 0 43.7	+0.7491	0.5558	0.0806	+90	+19
71 Tauri	4.6	0.97	8.3	15 26.5	7 33.7	- 0 24.1	+1.1222	0.5560	0.0800	+90	+46
75 Tauri	5.2	0.98	8.1	16 11.2	8 31.6	+ 0 31.9	+0.3978	0.5565	0.0786	+60	- 1
θ^1 Tauri	4.2	+0.98	-8.2	+15 47.4	8 35.4	+ 0 35.6	+0.8289	0.5566	+0.0786	+90	+24
θ^2 Tauri	3.6	0.98	8.3	15 41.9	8 37.9	+ 0 38.0	+0.9304	0.5566	0.0785	+90	+31
80 Tauri	5.8	0.98	8.4	15 28.1	9 19.2	+ 1 17.9	+1.2313	0.5570	0.0775	+90	+59
264 B. Tauri	4.8	0.99	8.2	16 1.5	9 30.4	+ 1 28.8	+0.6471	0.5571	0.0772	+84	+13
81 Tauri	5.5	0.99	8.4	15 31.4	9 33.2	+ 1 31.5	+1.1907	0.5571	0.0772	+90	+54
85 Tauri	6.0	+0.99	-8.4	+15 41.1	10 6.7	+ 2 3.9	+1.0588	0.5574	+0.0764	+90	+41
119 H ¹ Tauri	6.2	1.02	7.8	17 51.2	10 51.8	+ 2 47.5	-1.2139	0.5578	0.0753	-49	-73
275 B. Tauri	6.5	1.00	8.3	16 9.6	10 55.6	+ 2 51.2	-0.6095	0.5578	0.0752	+80	+11
α Tauri (<i>Alh.</i>)	1.1	1.02	8.3	16 21.2	11 58.4	+ 3 51.9	+0.4799	0.5584	0.0736	+67	+ 4
89 Tauri	5.8	1.02	8.5	15 52.7	13 0.4	+ 4 51.8	+1.0654	0.5590	0.0721	+90	+42
σ^2 Tauri	4.9	+1.02	-8.6	+15 45.9	13 31.3	+ 5 21.6	+1.2240	0.5593	+0.0713	+90	+59
318 B. Tauri	5.7	1.11	8.8	17 1.9	21 44.8	-10 41.5	+0.3980	0.5636	0.0586	+60	+ 1
m Tauri	5.0	1.16	8.7	18 32.4	28 2 14.3	- 6 21.3	-0.9639	0.5660	0.0514	-24	-72
111 Tauri	5.1	1.21	9.6	17 18.6	9 49.7	+ 0 58.4	+0.6868	0.5699	0.0387	+90	+19
115 Tauri	5.3	1.22	9.5	17 53.7	11 2.6	+ 2 8.6	+0.1127	0.5704	0.0367	+41	-13
117 Tauri	6.0	+1.22	-9.7	+17 10.4	11 25.9	+ 2 31.1	+0.8917	0.5706	+0.0360	+90	+32

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THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	P	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
119 Tauri	4.9	+1.24	-9.5	+18° 32.1	28 13 15.5	+ 4 16.9	-0.4890	0.5715	+0.0329	+ 7	-50
167 H ¹ . Tauri	5.5	1.23	9.9	17 0.0	13 17.5	+ 4 18.8	+1.1388	0.5715	0.0328	+90	+52
120 Tauri	5.6	1.24	9.6	18 29.0	13 50.2	+ 4 50.4	-0.4155	0.5718	0.0319	+11	-44
122 Tauri	5.5	1.24	10.0	16 59.5	15 24.6	+ 6 21.5	+1.2115	0.5726	0.0201	+90	+61
130 Tauri	5.6	1.28	10.2	17 41.9	19 50.2	+10 43.5	+0.5756	0.5746	0.0211	+76	+14
19 B. Geminorum	6.2	+1.36	-10.6	+18 41.9	29 7 12.8	- 2 24.3	-0.3532	0.5794	+0.0006	+15	-37
124 H ¹ . Orionis	5.7	1.35	10.8	17 55.6	7 37.2	- 2 0.7	+0.4561	0.5796	-0.0002	+65	+10
71 Orionis	5.1	1.36	10.6	19 10.9	7 45.9	- 1 52.3	-0.8580	0.5797	0.0004	-16	-71
B. D. +17° 1191	6.5	1.35	11.0	17 12.3	8 27.2	- 1 12.5	+1.2100	0.5799	0.0017	+90	+63
287 B. Orionis	6.2	1.36	11.1	17 21.2	9 34.7	- 0 7.5	+1.0508	0.5804	0.0038	+90	+47
292 B. Orionis	6.5	+1.37	-11.0	+17 47.9	10 35.9	+ 0 51.4	+0.5809	0.5807	-0.0057	+77	+16
26 Geminorum	5.2	1.41	11.6	17 43.1	19 31.1	+ 9 27.2	+0.5349	0.5838	0.0225	+72	+12
74 B. Geminorum	6.2	1.43	11.6	18 16.5	21 37.1	+11 28.6	-0.0950	0.5844	0.0205	+29	-23
110 B. Geminorum	6.2	1.45	12.0	17 51.8	30 3 57.3	- 6 25.3	+0.1265	0.5862	0.0385	+42	-12
41 H ¹ . Geminorum	6.0	1.44	12.1	16 47.0	4 1.5	- 6 21.1	+1.2410	0.5862	0.0387	+88	+65
λ Geminorum	3.6	+1.46	-12.4	+16 40.6	10 32.4	- 0 4.8	+1.0543	0.5877	-0.0509	+90	+43
162 B. Geminorum	5.7	1.48	12.5	17 14.9	16 15.4	+ 5 25.4	+0.1424	0.5887	0.0618	+43	-13
f Geminorum	5.3	1.49	12.6	17 50.9	19 26.8	+ 8 29.7	-0.0797	0.5891	0.0677	- 4	-69
1 Cancri	6.0	1.49	13.0	15 59.6	31 2 45.2	- 8 28.2	+0.6751	0.5899	0.0812	+89	+14
2 B. Cancri	6.0	1.49	12.9	16 43.4	3 22.9	- 7 52.0	-0.1228	0.5899	0.0823	+28	-30
3 Cancri	5.7	+1.50	-12.9	+17 31.0	4 18.8	- 6 58.2	-1.0104	0.5900	-0.0840	-27	-73
5 Cancri	5.9	1.49	13.0	16 39.9	4 37.2	- 6 40.4	-0.1661	0.5900	0.0845	+25	-33
29 Cancri	5.9	1.49	13.3	14 27.8	15 54.2	+ 4 11.1	+1.0080	0.5903	0.1043	+90	+34
90 B. Cancri	6.3	+1.49	-13.2	+15 34.6	19 0.4	+ 7 10.4	-0.4553	0.5902	-0.1095	+ 9	-54

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54 Cancri	6.3	+1.48	-13.3	+15 38.0	1 11 12.0	-10 51.8	-1.2203	0.5899	-0.1196	-48	-75
222 B. Cancri	6.3	1.46	13.2	11 49.2	12 24.6	- 0 4.4	+1.1915	0.5888	0.1305	+90	+48
ξ Leonis	5.1	1.44	13.0	11 38.3	18 18.0	+ 5 35.8	+0.5454	0.5880	0.1447	+72	+ 1
18 Leonis	5.8	+1.41	-12.9	+12 9.7	2 0 20.7	+11 25.1	-0.8790	0.5870	-0.1524	-16	-78
19 Leonis	6.4	1.41	12.9	11 55.3	0 47.1	+11 50.5	-0.7050	0.5869	0.1530	- 5	-78
R Leonis (var)	4.6	1.41	12.8	11 47.0	0 50.3	+11 53.6	-0.5742	0.5869	0.1530	+ 3	-68
A Leonis	4.6	1.38	12.5	10 22.3	9 24.8	- 3 50.9	-0.5134	0.5854	0.1628	+ 6	-64
44 Leonis	5.9	1.35	12.0	9 10.4	16 45.2	+ 3 13.4	-0.5353	0.5840	0.1701	+ 5	-67
48 Leonis	5.2	+1.33	-11.5	+ 7 20.8	20 49.0	+ 7 8.2	+0.5922	0.5832	-0.1736	+76	0
49 Leonis	5.7	1.32	11.8	9 2.7	20 54.4	+ 7 13.4	-1.1208	0.5832	0.1737	-34	-81
37 Sextantis	6.3	1.31	11.2	6 46.6	3 1 37.1	+11 45.9	+0.3192	0.5823	0.1774	+54	-15
56 Leonis	6.1	1.28	10.9	6 35.6	5 51.3	- 8 9.1	-0.2566	0.5815	0.1804	+20	-48
c Leonis	5.1	1.27	10.8	6 30.8	7 52.4	- 6 12.5	-0.5410	0.5811	0.1817	+ 5	-69
80 Leonis	6.4	+1.21	-9.6	+ 4 16.9	18 38.3	+ 4 10.1	-0.3010	0.5792	-0.1871	+18	-52
83 Leonis	6.3	1.21	9.4	3 25.8	19 3.5	+ 4 34.3	+0.4695	0.5791	0.1873	+65	- 8
τ Leonis	5.2	1.21	9.3	3 16.7	19 32.4	+ 5 2.2	+0.5316	0.5790	0.1874	+70	- 5
89 Leonis	5.7	1.19	9.2	3 29.1	22 18.9	+ 7 42.7	-0.1970	0.5785	0.1884	+24	-46
β Virginis	3.8	1.15	8.3	2 11.8	4 5 19.5	- 9 31.8	-0.2380	0.5775	0.1901	+21	-48
27 B. Virginis	6.5	+1.13	- 7.7	+ 0 57.4	8 58.2	- 6 0.9	+0.3057	0.5770	-0.1906	+53	-18
13 Virginis	5.9	1.07	6.7	- 0 21.7	17 27.8	+ 2 10.5	+0.0024	0.5760	0.1907	+35	-34
η Virginis	4.0	1.06	6.6	0 14.5	18 0.1	+ 2 41.6	+0.2206	0.5760	0.1906	+22	-48
γ Vir. (mean)	2.9	0.98	5.6	1 1.7	5 3 28.0	+11 49.2	-1.2309	0.5752	0.1889	-45	-90
38 Virginis	6.1	0.95	4.5	3 8.2	8 27.6	- 7 21.9	-0.0607	0.5749	0.1873	+31	-38
91 G. Virginis	6.5	+0.96	- 4.3	- 3 48.4	8 38.5	- 7 11.4	+0.5770	0.5749	-0.1872	+73	- 3

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THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	F	x'	y'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
<i>k</i> Virginis	5.7	+0.93	-4.2	3 23.9	5 11 15.9	-4 39.6	-0.3220	0.5748	-0.1801	+10	-54
46 Virginis	6.1	0.92	4.3	2 57.4	11 40.5	-4 15.8	-0.8116	0.5747	-0.1800	-14	-90
48 Virginis	6.5	0.91	4.0	3 15.0	13 6.8	-2 52.6	-0.8138	0.5747	-0.1853	-12	-90
θ Virginis	4.4	0.90	3.2	5 7.8	15 44.0	-0 21.0	+0.5860	0.5747	-0.1811	1 74	-2
SATURN	0.8	..	..	5 26.6	20 58.3	+4 42.1	-0.0546	0.5752	-0.1815	1 31	-38
65 Virginis	6.0	+0.83	-2.9	4 31.4	21 32.8	+5 15.4	-1.0830	0.5746	-0.1807	-31	-90
66 Virginis	5.7	0.83	2.8	4 45.8	22 4.7	+5 40.1	-0.9380	0.5746	-0.1804	-21	-90
72 Virginis	6.1	0.82	2.1	6 4.4	6 037.8	+8 13.9	-0.0786	0.5746	-0.1788	+29	-39
l Virginis	4.8	0.80	2.1	5 51.6	1 18.3	+8 52.9	-0.4149	0.5746	-0.1783	1 11	-61
m Virginis	5.2	0.78	0.9	8 18.9	5 29.0	-11 5.4	+1.3184	0.5747	-0.1753	+79	+62
88 Virginis	6.5	+0.73	-1.3	6 27.2	8 23.7	-8 16.8	-1.0631	0.5748	-0.1730	-31	-90
598 B. Virginis	6.1	0.71	-0.6	7 10.8	11 17.2	-5 29.3	-0.3241	0.5749	-0.1705	+15	-54
623 B. Virginis	6.5	0.68	+0.2	8 53.3	15 20.8	-1 34.6	+0.2093	0.5751	-0.1669	+44	-23
95 Virginis	5.4	0.67	0.3	8 56.8	16 22.2	-0 35.3	+0.0979	0.5752	-0.1659	+37	-29
96 Virginis	6.5	0.67	0.7	9 58.2	17 21.2	+0 21.6	+0.9696	0.5752	-0.1650	+81	+22
κ Virginis	4.3	+0.65	+0.9	9 54.9	19 2.1	+1 58.8	-0.6387	0.5753	-0.1634	+75	+1
4 G. Libræ	6.5	0.60	1.8	11 10.2	7 0 7.6	+6 53.3	+1.2426	0.5757	-0.1581	+79	+48
6 B. Libræ	6.2	0.53	2.5	11 58.7	5 28.3	-11 57.4	+1.0818	0.5761	-0.1521	+79	+31
22 B. Libræ	6.4	0.48	3.0	12 30.9	10 8.5	-7 27.2	+0.9319	0.5765	-0.1466	+78	+20
13 Libræ	5.7	0.44	2.9	11 35.1	12 56.3	-4 45.5	-0.4197	0.5768	-0.1431	+6	-61
ξ^a Libræ	5.6	+0.42	+2.8	-11 5.9	13 58.1	-3 45.9	-1.0601	0.5769	-0.1418	-34	-90
γ Libræ	4.0	0.24	5.2	14 31.9	8 6 34.1	-11 45.7	+0.2730	0.5785	-0.1187	+43	-19
190 B. Libræ	6.5	0.19	5.4	14 47.8	9 56.6	-8 30.6	+0.1513	0.5788	-0.1136	+35	-26
η Libræ	5.5	0.19	5.7	15 25.6	10 13.1	-8 14.6	+0.7668	0.5788	-0.1132	+75	+9
195 B. Libræ	6.2	0.14	5.3	13 54.0	13 28.2	-5 6.6	-1.1584	0.5791	-0.1081	-47	-90
202 B. Libræ	6.4	+0.11	1 5.5	-14 10.4	15 25.7	-3 13.4	-1.0888	0.5793	-0.1050	-41	-90
203 B. Libræ	6.2	0.12	5.7	14 36.2	15 33.5	-3 5.8	-0.6603	0.5793	-0.1048	-11	-86
49 Libræ	5.4	+0.10	6.3	16 18.3	17 10.5	-1 32.4	+0.9208	0.5794	-0.1023	+74	-20
ϕ Ophiuchi	4.4	-0.07	6.9	16 26.6	9 6 17.2	+11 5.7	-0.1343	0.5802	-0.0804	+16	-43
24 Scorpil	5.0	0.13	7.4	17 35.5	10 42.8	-8 38.3	+0.7136	0.5804	-0.0727	+72	+6
78 B. Ophiuchi	6.5	-0.21	+7.2	-16 41.0	16 52.8	-2 41.8	-0.6427	0.5805	-0.0618	-14	-84
90 B. Ophiuchi	6.5	0.23	7.7	18 7.7	18 26.5	-1 11.5	+0.7609	0.5805	-0.0590	+72	+10
125 B. Ophiuchi	6.2	0.28	7.6	17 30.4	22 4.5	+2 18.5	-0.0864	0.5804	-0.0525	+16	-40
164 B. Ophiuchi	6.0	0.34	7.7	17 40.5	10 3 2.2	+7 5.5	-0.1496	0.5803	-0.0435	+11	-44
192 B. Ophiuchi	6.3	0.36	7.9	18 22.4	5 2.6	+9 1.5	+0.4938	0.5802	-0.0398	+51	-7
305 B. Ophiuchi	6.3	-0.53	+7.8	-18 47.2	18 25.7	-2 4.5	+0.5610	0.5790	-0.0151	+54	-2
6 Sagittarii	6.5	0.55	7.3	17 9.2	20 48.0	+0 12.7	-1.1812	0.5787	-0.0108	-59	-90
32 G. Sagittarii	5.7	0.58	7.3	17 9.9	23 34.0	+2 52.8	-1.1932	0.5783	-0.0057	-61	-90
64 B. Sagittarii	6.1	0.62	7.6	18 41.0	11 2 51.5	+6 3.1	+0.3921	0.5778	+0.0004	+39	-12
6 B. Scuti	5.9	0.63	7.2	17 24.0	3 36.2	+6 40.2	-0.9563	0.5776	-0.0017	-40	-90
52 G. Sagittarii	6.4	-0.63	+7.5	-18 29.4	3 42.6	+6 52.3	+0.1896	0.5776	+0.0019	+27	-24
17 H. Sagittarii	6.4	0.64	7.6	18 38.9	4 14.6	+7 23.2	+0.3569	0.5775	-0.0029	+37	-14
γ Sagit. (var.)	5.4	0.65	7.6	18 53.6	5 23.4	+8 29.6	+0.6190	0.5773	-0.0050	+59	+1
85 B. Sagittarii	6.0	0.68	7.2	17 50.8	8 14.5	+11 14.6	-0.4601	0.5768	-0.0102	-9	-65
95 B. Sagittarii	5.7	0.69	7.4	18 46.6	9 12.3	-11 49.8	+0.5295	0.5766	-0.0119	+51	-4
100 B. Sagittarii	5.0	-0.70	+7.3	-18 27.3	9 44.9	-11 18.3	+0.1975	0.5765	+0.0129	+28	-23
187 B. Sagittarii	6.4	0.85	6.7	18 51.4	1 20.0	+3 43.6	+1.0437	0.5726	-0.0406	+72	+30
ϕ Sagittarii	4.0	0.90	6.1	17 59.5	7 45.9	+9 56.0	+0.4257	0.5709	-0.0515	+47	-11
45 Sagittarii	6.0	0.90	6.2	18 27.0	7 49.8	+9 59.9	+0.9158	0.5707	-0.0517	+72	+20
267 B. Sagittarii	5.8	0.95	5.7	18 24.1	14 36.4	-7 27.8	+1.2549	0.5685	-0.0629	+72	+57
54 Sagittarii	5.4	-0.94	+5.2	-16 28.2	16 16.4	-5 51.3	-0.6936	0.5679	+0.0656	-17	-90

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THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, <i>H</i>	<i>P</i>	<i>x'</i>	<i>y'</i>	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
<i>e</i> Sagittarii	5.2	-0.95	+ 5.2	-16° 18.3	12 17 4.8	- 5 4.5	-0.8163	0.5676	+0.0669	-24	-90
<i>g</i> Sagittarii	5.1	0.99	+ 4.6	15 41.7	13 0 2.7	+ 1 39.1	-0.9636	0.5651	0.0778	-33	-90
NEW MOON.											
342 B. Aquarii	6.5	-0.88	- 4.2	- 43 0.6	17 8 32.2	+ 6 51.9	+1.0440	0.5260	+0.1703	+86	+27
20 Piscium	5.6	-0.82	- 4.7	- 3 11.5	17 9.3	- 8 46.1	+1.0669	0.5241	+0.1718	+87	+29
80 B. Piscium	6.3	0.75	5.1	- 0 55.9	18 2 11.5	+ 0 0.5	+0.1282	0.5226	0.1724	+42	-27
98 B. Piscium	6.3	0.69	5.2	+ 1 15.6	8 55.7	+ 6 33.1	-1.1345	0.5217	0.1722	-35	-89
44 Piscium	6.0	0.66	5.4	1 30.7	12 58.2	+10 28.6	-0.7191	0.5213	0.1719	-5	-89
155 B. Piscium	6.5	0.56	6.1	2 57.9	19 2 43.6	- 0 9.7	+0.0198	0.5206	0.1694	+36	-33
73 Piscium	6.2	-0.48	- 6.0	+ 5 14.5	9 55.7	+ 6 50.0	-1.2922	0.5206	+0.1673	-54	-85
77 Piscium	6.4	0.49	6.2	4 29.8	10 25.9	+ 7 19.4	-0.3814	0.5206	0.1671	+14	-58
<i>e</i> Piscium	5.6	0.47	6.1	5 14.5	11 47.7	+ 8 38.8	-0.9793	0.5207	0.1667	-22	-85
μ Piscium	5.0	0.37	6.8	5 44.8	23 19.5	- 4 9.2	+0.3568	0.5215	0.1620	+56	-14
64 Ceti	5.8	0.17	7.5	8 12.5	20 20 56.1	- 7 10.2	+0.9990	0.5250	0.1495	+90	+27
ξ^1 Ceti	4.5	-0.16	- 7.4	+ 8 29.0	21 47.1	- 6 20.6	+0.8200	0.5251	+0.1488	+90	+15
ξ Arietis	5.5	0.09	7.2	10 15.6	21 3 53.6	- 0 25.0	-0.2515	0.5266	0.1444	+21	-46
25 Arietis	6.5	0.09	7.5	9 51.3	5 14.4	+ 0 53.5	+0.3908	0.5270	0.1433	+59	-10
389 B. Ceti	6.3	0.08	7.8	9 13.2	6 22.1	+ 1 59.1	+1.2541	0.5272	0.1425	+90	+53
85 Ceti	6.3	-0.01	7.8	10 24.7	12 58.8	+ 8 24.1	+0.8592	0.5291	0.1370	+90	+19
38 Arietis	5.2	+0.02	- 7.3	+12 7.2	14 13.3	+ 9 36.3	-0.8588	0.5295	+0.1359	-15	-78
147 B. Arietis	5.8	0.13	7.7	12 53.3	22 1 5.7	- 3 50.8	-0.2809	0.5331	0.1259	+19	-45
30 B. Tauri	6.4	0.30	7.8	15 10.6	16 42.4	+11 17.1	-0.9547	0.5391	0.1092	-22	-75
179 B. Tauri	5.9	0.44	8.8	14 57.3	23 7 15.5	+ 1 22.8	+0.7514	0.5453	0.0915	+90	+17
48 Tauri	6.3	0.48	8.9	15 12.4	11 7.5	+ 5 7.3	+0.8201	0.5471	0.0864	+90	+22
γ Tauri	3.9	+0.50	- 8.9	+15 26.4	13 2.4	+ 6 58.6	+0.7282	0.5480	+0.0838	+90	+17
δ Tauri	3.9	0.53	8.3	17 21.6	14 30.6	+ 8 23.9	-1.2384	0.5487	0.0818	-52	-73
63 Tauri	5.7	0.53	8.6	16 35.8	14 45.0	+ 8 37.8	-0.3876	0.5487	0.0815	+13	-47
64 Tauri	4.9	0.54	8.4	17 15.9	15 3.8	+ 8 56.0	-1.0883	0.5489	0.0811	-34	-73
70 Tauri	6.4	0.54	9.0	15 45.8	15 48.4	+ 9 39.2	+0.6026	0.5492	0.0801	+79	+10
71 Tauri	4.6	+0.54	- 9.1	+15 26.5	16 9.3	+ 9 59.4	+0.9795	0.5494	+0.0796	+90	+34
75 Tauri	5.2	0.55	8.9	16 11.2	17 8.4	+10 56.6	+0.2490	0.5499	0.0782	+50	-10
θ^1 Tauri	4.2	0.55	9.0	15 47.4	17 12.3	+11 0.3	+0.6842	0.5499	0.0781	+90	+15
θ^2 Tauri	3.6	0.55	9.0	15 41.9	17 14.9	+11 2.8	+0.7865	0.5499	0.0781	+90	+21
80 Tauri	5.8	0.55	9.2	15 28.1	17 57.1	+11 43.6	+1.0908	0.5502	0.0771	+90	+43
264 B. Tauri	4.8	+0.56	- 9.0	+16 1.5	18 8.5	+11 54.7	+0.5012	0.5503	+0.0768	+69	+4
81 Tauri	5.5	0.56	9.2	15 31.4	18 11.4	+11 57.5	+1.0499	0.5504	0.0767	+90	+40
85 Tauri	6.0	0.56	9.2	15 41.1	18 45.7	-11 29.3	+0.9173	0.5506	0.0759	+90	+30
275 B. Tauri	6.5	0.58	9.0	16 9.6	19 35.6	-10 41.0	+0.4642	0.5510	0.0748	+66	+3
<i>a</i> Tauri (<i>Ald.</i>)	1.1	0.59	9.0	16 21.2	20 39.9	- 9 38.8	+0.3342	0.5515	0.0732	+56	-4
89 Tauri	5.8	+0.60	- 9.2	+15 52.7	21 43.4	- 8 37.5	+0.9259	0.5520	+0.0717	+90	+31
σ^1 Tauri	5.2	0.60	9.4	15 38.8	22 11.7	- 8 10.1	+1.2092	0.5522	0.0710	+90	+57
σ^2 Tauri	4.9	0.60	9.3	15 45.8	22 14.9	- 8 6.9	+1.0863	0.5522	0.0709	+90	+44
318 B. Tauri	5.7	0.69	9.3	17 1.9	24 6 39.9	+ 0 1.5	+0.2585	0.5562	0.0585	+50	-7
<i>m</i> Tauri	5.0	0.76	9.0	18 32.4	11 15.9	+ 4 28.3	-1.1133	0.5584	0.0514	-37	-72
111 Tauri	5.1	+0.82	- 9.9	+17 18.6	19 2.4	+11 59.0	+0.5597	0.5620	+0.0390	+74	+12
115 Tauri	5.3	0.84	9.8	17 53.7	20 17.1	-10 48.9	-0.0188	0.5626	0.0369	+33	-20
117 Tauri	6.0	0.84	10.0	17 10.4	20 41.0	-10 25.8	-0.7678	0.5628	0.0362	+90	+24
119 Tauri	4.9	0.86	9.7	18 32.1	22 33.2	- 8 37.4	-0.6244	0.5636	0.0331	-1	-61
167 H ¹ Tauri	5.5	0.85	10.2	17 0.0	22 35.3	- 8 35.4	+1.0190	0.5637	0.0331	+90	+42
120 Tauri	5.6	+0.87	- 9.7	+18 29.0	23 8.8	- 8 3.0	-0.5497	0.5639	+0.0322	+3	-54

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THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.		
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	P	α'	γ'	N.	S.	
		$\Delta\alpha$	$\Delta\delta$									
		s	"	°	'	d	h	m	h	m		°
122 Tauri	5.5	+0.88	-10.3	+16 59.5	25 045.5	- 6 29.7	+1.0942	0.5646	+0.0295	+00	+49	
130 Tauri	5.6	0.92	10.3	17 41.9	5 23.7	- 2 1.1	+0.4563	0.5667	0.0216	+05	+ 8	
19 B. Geminorum	6.2	1.04	10.6	18 41.9	16 56.3	+ 9 7.4	-0.4704	0.5717	0.0015	+ 8	-45	
124 H ¹ . Orionis	5.7	1.04	10.8	17 55.6	17 21.2	+ 9 31.3	+0.3464	0.5719	0.0007	+57	+ 4	
71 Orionis	5.1	1.04	10.5	19 10.9	17 30.2	+ 9 40.1	-0.9791	0.5719	+0.0005	-25	-71	
B. D. +17° 1191	6.5	+1.04	-11.1	+17 12.3	18 12.4	+10 20.8	+1.1077	0.5722	-0.0008	+90	+52	
287 B. Orionis	6.2	1.05	11.1	17 21.2	19 21.4	+11 27.3	+0.9481	0.5727	0.0028	+90	+39	
292 B. Orionis	6.5	1.07	11.0	17 47.9	20 24.0	-11 32.3	+0.4751	0.5731	0.0047	+67	+10	
26 Geminorum	5.2	1.14	11.4	17 43.1	26 530.9	- 2 44.9	+0.4375	0.5766	0.0212	+04	+ 7	
74 B. Geminorum	6.2	1.17	11.4	18 16.5	7 39.5	- 0 40.9	-0.1950	0.5773	0.0252	+23	-29	
110 B. Geminorum	6.2	+1.22	-11.7	+17 51.8	14 7.3	+ 5 32.8	+0.0349	0.5795	-0.0370	+36	-17	
41 H ¹ . Geminorum	6.0	1.21	12.1	16 47.0	14 11.5	+ 5 36.9	+1.1572	0.5795	0.0372	+90	+54	
λ Geminorum	3.6	1.26	12.3	16 40.6	20 49.6	-11 59.5	+0.9756	0.5815	0.0494	+90	+37	
162 B. Geminorum	5.7	1.31	12.4	17 14.9	27 238.1	- 6 23.7	+0.0644	0.5831	0.0601	+38	-18	
f Geminorum	5.3	1.33	12.3	17 50.9	5 52.3	- 3 16.6	-0.7580	0.5839	0.0660	- 9	-73	
1 Cancri	6.0	+1.38	-12.9	+15 59.6	13 16.5	+ 3 51.3	+0.6111	0.5855	-0.0794	+80	+11	
2 B. Cancri	6.0	1.38	12.8	16 43.4	13 54.6	+ 4 27.9	-0.1889	0.5856	0.0805	+24	-34	
3 Cancri	5.7	1.39	12.6	17 31.0	14 51.1	+ 5 22.3	-1.0786	0.5858	0.0822	-33	-73	
5 Cancri	5.9	1.39	12.8	16 39.9	15 9.7	+ 5 40.3	-0.2310	0.5859	0.0828	+21	-37	
30 B. Cancri	6.1	1.41	13.3	14 51.3	19 9.5	+ 9 31.1	+1.2756	0.5865	0.0899	+82	+67	
29 Cancri	5.9	+1.45	-13.5	+14 27.8	28 232.5	- 7 22.4	+0.9587	0.5876	-0.1026	+90	+31	
90 B. Cancri	6.3	1.47	13.3	15 34.6	5 39.8	+ 4 22.0	-0.5028	0.5880	0.1079	+ 6	-57	
54 Cancri	6.3	1.49	13.3	15 38.0	11 52.7	+ 1 37.0	-1.2594	0.5886	0.1181	-55	-75	
222 B. Cancri	6.3	+1.54	-13.9	+11 49.2	23 5.0	-11 35.8	+1.1628	0.5892	-0.1354	+90	+45	

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ξ Leonis	5.1	+1.56	-13.8	+11 38.3	1 450.7	- 5 57.3	+0.5249	0.5893	-0.1437	+70	0
18 Leonis	5.8	1.57	13.6	12 9.7	10 56.8	- 0 10.6	-0.8860	0.5894	0.1518	-17	-78
19 Leonis	6.4	1.57	13.6	11 55.3	11 23.0	+ 0 14.7	-0.7122	0.5893	0.1523	- 6	-78
R Leonis (var)	4.6	+1.57	-13.7	+11 47.0	11 26.1	+ 0 17.7	-0.5820	0.5893	-0.1524	+ 2	-68
A Leonis	4.6	1.59	13.6	10 22.3	19 55.0	+ 8 27.6	-0.5105	0.5892	0.1627	+ 6	-64
44 Leonis	5.9	1.60	13.4	9 10.4	2 3 8.9	- 8 34.8	-0.5228	0.5889	0.1703	+ 6	-66
48 Leonis	5.2	1.61	13.3	7 20.8	7 8.5	- 4 44.1	+0.5999	0.5887	0.1741	+76	+ 1
49 Leonis	5.7	1.60	13.2	9 2.7	7 13.8	- 4 39.0	-1.0980	0.5887	0.1742	-32	-81
37 Sextantis	6.3	+1.61	-13.1	+ 6 46.5	11 51.1	- 0 12.0	+0.3346	0.5885	-0.1782	+55	-14
56 Leonis	6.1	1.61	12.8	6 35.6	16 0.0	+ 3 47.5	-0.2308	0.5883	0.1813	+22	-47
c Leonis	5.1	1.61	12.7	6 30.7	17 58.4	+ 5 41.6	-0.5099	0.5882	0.1828	+ 6	-66
80 Leonis	6.4	1.61	12.0	4 16.8	3 428.3	- 8 11.9	-0.2605	0.5876	0.1888	+20	-49
83 Leonis	6.3	1.60	11.9	3 25.8	4 52.9	- 7 48.2	+0.5007	0.5875	0.1890	+67	- 6
τ Leonis	5.2	+1.61	-11.9	+ 3 16.6	5 21.0	- 7 21.1	+0.5625	0.5875	-0.1891	+73	- 3
89 Leonis	5.7	1.60	11.8	3 29.1	8 2.9	+ 4 45.3	-0.1540	0.5873	0.1902	+26	-43
β Virginis	3.8	1.61	11.2	2 11.7	14 51.5	+ 1 48.2	-0.1875	0.5870	0.1923	+24	-45
27 B. Virginis	6.5	1.60	10.7	+ 0 57.4	18 23.6	+ 5 12.4	+0.3520	0.5869	0.1930	+56	-15
13 Virginis	5.9	1.58	9.9	- 0 21.7	4 236.9	-10 52.5	+0.0603	0.5865	0.1933	+38	-31
η Virginis	4.0	+1.58	- 9.8	- 0 14.5	3 8.2	-10 22.5	-0.1588	0.5865	-0.1932	+26	-44
γ Vir. (mean)	2.9	1.53	8.9	1 1.8	12 16.8	- 1 34.0	-1.1454	0.5862	0.1918	-36	-90
38 Virginis	6.1	1.53	8.0	3 8.2	17 6.0	+ 3 4.5	+0.0096	0.5860	0.1902	+35	-34
91 G. Virginis	6.5	1.54	7.9	3 48.5	17 16.6	+ 3 14.6	+0.6372	0.5861	0.1900	+79	+ 1
k Virginis	5.7	1.52	7.7	3 23.9	19 48.4	+ 5 40.9	-0.2455	0.5861	0.1892	+21	-49
46 Virginis	6.1	+1.51	- 7.8	- 2 57.4	20 12.1	+ 6 3.6	-0.7562	0.5861	-0.1889	- 8	-90

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MARCH.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	Y	x'	y'	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
48 <i>Virginis</i>	6.5	+1.51	-7.0	-3 15.1	4 21 35.4	+7 23.8	-0.7279	0.5861	-0.1883	-7	-90
0 <i>Virginis</i>	4.4	1.51	7.0	5 7.8	5 0 7.0	+9 49.8	+0.6513	0.5860	0.1870	180	+2
SATURN	0.7	..	..	4 58.6	3 42.8	-10 42.4	-0.1697	0.5882	0.1860	+24	-44
65 <i>Virginis</i>	6.0	1.47	6.5	4 31.4	5 43.4	-8 46.3	-0.9874	0.5860	0.1838	-24	-90
66 <i>Virginis</i>	5.7	1.47	6.4	4 45.8	6 14.2	-8 16.6	-0.8445	0.5860	0.1834	-14	-90
72 <i>Virginis</i>	6.1	+1.47	-5.9	-6 4.5	8 41.8	-5 54.4	+0.0018	0.5860	-0.1818	+33	-34
1 <i>Virginis</i>	4.8	1.46	5.9	5 51.6	9 20.8	-5 16.9	-0.3285	0.5860	0.1813	+15	-54
88 <i>Virginis</i>	6.5	1.41	5.0	6 27.3	16 11.1	+1 18.3	-0.9626	0.5861	0.1759	-23	-90
598 B. <i>Virginis</i>	6.1	1.40	4.4	7 40.9	18 58.5	+3 59.4	-0.2347	0.5861	0.1734	+20	-48
623 B. <i>Virginis</i>	6.5	1.39	3.6	8 53.3	22 53.5	+7 45.8	+0.2914	0.5862	0.1697	+49	-18
95 <i>Virginis</i>	5.4	+1.38	-3.5	-8 56.9	23 52.8	+8 42.8	+0.1823	0.5862	-0.1688	+43	-24
96 <i>Virginis</i>	6.5	1.38	3.2	9 58.3	6 0 49.7	+9 37.7	+1.0401	0.5862	0.1678	+81	+27
2 <i>Virginis</i>	4.3	1.37	3.0	9 55.0	2 27.2	+11 11.6	+0.7152	0.5862	0.1661	+81	+6
4 G. <i>Libræ</i>	6.5	1.34	2.1	11 19.3	7 22.4	-8 4.2	+1.3111	0.5863	0.1607	+77	+63
6 B. <i>Libræ</i>	6.2	1.28	1.3	11 58.7	12 32.5	-3 5.5	+1.1546	0.5863	0.1546	+79	+38
22 B. <i>Libræ</i>	6.4	+1.25	-0.7	-12 31.0	17 3.7	+1 15.6	+1.0083	0.5864	-0.1489	+78	+26
13 <i>Libræ</i>	5.7	1.21	0.7	11 35.1	19 40.3	+3 52.1	-0.3224	0.5864	0.1453	+12	-54
52 <i>Libræ</i>	5.6	1.20	0.7	11 6.0	20 46.2	+4 49.8	-0.9530	0.5864	0.1440	-26	-90
17 <i>Libræ</i>	6.4	1.18	-0.7	10 50.8	21 22.8	+5 25.0	-1.2950	0.5864	0.1431	-64	-83
7 <i>Libræ</i>	4.0	1.05	+2.0	14 32.0	7 12 54.0	-3 38.4	+0.3618	0.5863	0.1203	+49	-14
190 B. <i>Libræ</i>	6.5	+1.01	+2.3	-14 47.8	16 11.4	-0 28.3	+0.2416	0.5862	-0.1151	+41	-21
7 <i>Libræ</i>	5.5	1.01	2.5	15 25.7	16 27.5	-0 12.9	+0.8494	0.5862	0.1147	+75	+15
195 B. <i>Libræ</i>	6.2	0.96	2.3	13 54.1	19 37.9	+2 50.4	-1.0524	0.5861	0.1095	-37	-90
202 B. <i>Libræ</i>	6.4	0.94	2.6	14 10.4	21 32.8	+4 41.1	-0.9840	0.5860	0.1064	-32	-90
203 B. <i>Libræ</i>	6.2	0.94	2.7	14 36.2	21 40.3	+4 48.4	-0.5607	0.5860	0.1001	-5	-74
48 <i>Libræ</i>	4.6	+0.93	+2.6	-14 3.5	22 21.8	+5 28.3	-1.1884	0.5860	-0.1050	-51	-90
49 <i>Libræ</i>	5.4	0.93	3.4	16 18.4	23 15.1	+6 19.0	+1.0020	0.5859	0.1035	+74	+26
0 <i>Ophiuchi</i>	4.4	0.77	4.5	16 26.7	8 12 6.3	+5 17.7	-0.0430	0.5850	0.0813	+21	-37
24 <i>Scorpii</i>	5.0	0.72	5.2	17 35.6	16 27.6	-1 6.1	+0.7964	0.5846	0.0735	+73	+12
78 B. <i>Ophiuchi</i>	6.5	0.63	5.2	16 41.0	22 32.2	+4 45.0	-0.5500	0.5838	0.0625	-9	-73
90 B. <i>Ophiuchi</i>	6.5	+0.61	+5.8	-18 7.7	9 0 4.8	+6 14.1	+0.8424	0.5836	-0.0596	+72	+15
125 B. <i>Ophiuchi</i>	6.2	0.56	5.8	17 30.4	3 40.2	+9 41.6	+0.0005	0.5831	0.0530	+20	-34
164 B. <i>Ophiuchi</i>	6.0	0.49	6.1	17 40.5	8 34.9	-9 34.5	-0.0638	0.5823	0.0439	+16	-38
192 B. <i>Ophiuchi</i>	6.3	0.47	6.4	18 22.4	10 34.3	-7 39.5	+0.5751	0.5819	0.0403	+57	-2
395 B. <i>Ophiuchi</i>	6.3	0.28	7.0	18 47.3	23 52.7	+5 9.8	+0.6384	0.5790	0.0155	+61	+2
6 <i>Sagittarii</i>	6.5	+0.24	+6.4	-17 9.2	10 2 14.6	+7 26.7	-1.0986	0.5784	-0.0112	-50	-90
32 G. <i>Sagittarii</i>	5.7	0.21	6.5	17 9.9	5 0.2	+10 6.3	-1.1120	0.5777	0.0061	-52	-90
64 B. <i>Sagittarii</i>	6.1	0.16	7.0	18 41.1	8 17.5	-10 43.5	+0.4673	0.5768	-0.0001	+45	-8
6 B. <i>Scuti</i>	5.9	0.15	6.6	17 24.0	9 2.2	-10 0.4	-0.8781	0.5766	+0.0013	-35	-90
52 G. <i>Sagittarii</i>	6.4	0.15	7.0	18 29.4	9 8.6	-9 54.3	+0.2650	0.5766	0.0015	+31	-19
17 H ¹ . <i>Sagittarii</i>	6.4	+0.14	+7.0	-18 38.9	9 40.6	-9 23.4	+0.4317	0.5764	+0.0025	+43	-10
Y <i>Sagit. (var.)</i>	5.4	0.13	7.2	18 53.6	10 49.4	-8 17.1	+0.6929	0.5761	0.0045	+67	+6
85 B. <i>Sagittarii</i>	6.0	0.09	6.8	17 50.8	13 40.7	-5 31.9	-0.3854	0.5753	0.0097	-5	-59
95 B. <i>Sagittarii</i>	5.7	0.08	7.2	18 46.6	14 38.6	-4 36.1	+0.6021	0.5749	0.0115	+57	0
100 B. <i>Sagittarii</i>	5.0	+0.07	7.0	18 27.3	15 11.2	-4 4.6	+0.2705	0.5748	0.0125	+33	-19
187 B. <i>Sagittarii</i>	6.4	-0.13	+6.9	-18 51.4	11 6 50.0	+11 1.0	+1.1102	0.5696	+0.0399	+72	+37
0 <i>Sagittarii</i>	4.0	0.21	6.5	17 59.5	13 18.6	-6 43.9	+0.4890	0.5673	0.0507	+51	-7
45 <i>Sagittarii</i>	6.0	0.21	6.7	18 27.0	13 22.6	-6 40.1	+0.9797	0.5673	0.0508	+72	+25
54 <i>Sagittarii</i>	5.4	0.30	5.8	16 28.2	21 53.4	+1 33.2	-0.6365	0.5640	0.0646	-14	-83
e <i>Sagittarii</i>	5.2	0.31	5.7	16 18.2	22 42.3	+2 20.4	-0.7599	0.5637	0.0658	-21	-90
g <i>Sagittarii</i>	5.1	-0.39	+5.2	-15 41.7	12 5 44.4	+9 8.1	-0.9116	0.5609	+0.0766	-30	-90

ELEMENTS OF OCCULTATIONS, 1923. 479

MARCH.

THE STAR'S				AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	γ	γ'	γ''	N. S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m				
16 B. Capricorni	6.2	-0.49	+ 4.6	-15 1.6	12 16 16.7	- 4 40.6	-0.7429	0.5566	1.0.0918	-17 -90
β Capricorni	3.2	0.48	4.6	15 1.5	16 23.2	- 4 34.3	-0.7360	0.5566	0.0920	-17 -90
31 B. Capricorni	6.4	0.53	4.6	15 59.8	19 58.6	- 1 6.1	+0.6478	0.5551	0.0909	+60 + 2
27 G. Capricorni	6.2	0.53	4.4	15 18.8	21 5.1	- 0 1.7	+0.6218	0.5546	0.0984	+27 -33
45 B. Capricorni	6.1	0.53	4.0	13 59.2	22 33.7	+ 1 23.9	-1.2620	0.5540	0.1003	-62 -87
τ Capricorni	5.2	-0.56	+ 4.1	-15 13.5	13 05.4	+ 3 42.0	+0.3151	0.5530	+0.1034	+45 -17
95 B. Capricorni	5.9	0.64	3.4	14 40.8	10 10.5	-11 21.8	-0.8458	0.5493	0.1148	+70 +14
53 B. Aquarii	6.5	0.68	2.6	13 31.3	18 30.9	- 3 17.5	+0.4812	0.5460	0.1243	+58 - 8
18 Aquarii	5.5	0.71	2.2	13 12.5	22 30.0	+ 0 34.1	+0.6462	0.5445	0.1285	+72 + 2
72 B. Aquarii	6.5	0.71	1.9	11 54.1	14 02.2	+ 2 29.6	-0.5170	0.5437	0.1305	+ 1 -69
137 B. Capricorni	6.2	-0.73	+ 1.3	-10 55.4	6 0.8	+ 7 50.8	-0.8464	0.5416	+0.1359	-18 -90
λ Capricorni	5.5	0.76	1.2	11 43.3	9 29.9	+11 13.4	+0.5023	0.5403	0.1391	+62 - 7
96 B. Aquarii	6.5	0.76	+ 0.7	10 40.5	13 1.0	- 9 22.0	-0.1445	0.5390	0.1422	+22 -43
θ Aquarii	4.3	0.79	- 0.5	8 10.0	15 04.3	+ 1 56.9	-1.1731	0.5351	0.1514	-42 -90
150 B. Aquarii	6.0	0.80	0.4	- 9 25.5	0 42.5	+ 1 58.1	+0.2066	0.5351	0.1514	+44 -23
NEW MOON.										
μ Piscium	5.0	-0.60	- 7.6	+ 5 44.7	19 6 4.3	+ 4 23.2	+0.3450	0.5231	+0.1624	+56 -14
64 Ceti	5.8	0.49	8.5	8 12.5	20 3 40.3	+ 1 21.6	+0.9883	0.5262	0.1497	+90 +26
ξ^1 Ceti	4.5	0.48	8.4	8 29.0	4 31.4	+ 2 11.1	+0.8088	0.5264	0.1491	+90 +14
ξ Arietis	5.5	-0.44	- 8.4	+10 15.6	10 38.2	+ 8 7.2	-0.2657	0.5276	0.1446	+20 -46
25 Arietis	6.5	0.44	8.6	9 51.3	11 59.2	+ 9 25.9	+0.3786	0.5279	0.1436	+58 -10
389 B. Ceti	6.3	0.43	8.8	9 13.2	13 6.9	+10 31.5	+1.2449	0.5282	0.1428	+90 +52
85 Ceti	6.3	0.38	8.9	10 24.7	19 44.4	- 7 2.7	+0.8493	0.5297	0.1372	+90 +18
38 Arietis	5.2	0.36	8.5	12 7.2	20 59.2	- 5 50.2	-0.8751	0.5300	0.1361	-16 -78
147 B. Arietis	5.8	-0.29	- 8.9	+12 53.3	21 7 54.1	+ 4 45.1	-0.2945	0.5329	+0.1259	+18 -46
30 B. Tauri	6.4	0.16	9.0	15 10.6	23 37.1	- 4 0.6	-0.9710	0.5377	0.1091	-23 -75
179 B. Tauri	5.9	-0.04	9.6	14 57.3	22 14 19.4	+10 14.4	+0.7485	0.5427	0.0912	+90 +17
48 Tauri	6.3	0.00	9.7	15 12.4	18 14.4	- 9 58.1	+0.8187	0.5441	0.0861	+90 +22
γ Tauri	3.9	+0.02	9.7	15 26.4	20 11.0	- 8 5.2	+0.7266	0.5447	0.0835	+90 +17
δ Tauri	3.9	+0.03	- 9.2	+17 21.6	21 40.3	- 6 38.7	-1.2561	0.5453	+0.0815	-56 -73
63 Tauri	5.7	0.03	9.4	16 35.8	21 54.9	- 6 24.6	-0.3982	0.5454	0.0812	+12 -48
64 Tauri	4.9	0.04	9.2	17 15.9	22 14.0	- 6 6.1	-1.1048	0.5455	0.0808	-36 -73
70 Tauri	6.4	0.04	9.7	15 45.8	22 59.4	- 5 22.2	+0.6005	0.5458	0.0797	+78 +10
71 Tauri	4.6	0.04	9.8	15 26.5	23 20.5	- 5 1.8	+0.9806	0.5459	0.0792	+90 +34
75 Tauri	5.2	+0.05	- 9.6	+16 11.2	23 0 20.5	- 4 3.6	+0.2442	0.5463	+0.0779	+50 -10
θ^1 Tauri	4.2	0.05	9.8	15 47.4	0 24.5	- 3 59.8	+0.6831	0.5463	0.0778	+90 +15
θ^2 Tauri	3.6	0.06	9.8	15 41.9	0 27.1	- 3 57.3	+0.7863	0.5463	0.0777	+90 +21
80 Tauri	5.8	0.06	9.9	15 28.1	1 10.0	- 3 15.8	+1.0934	0.5466	0.0767	+90 +44
264 B. Tauri	4.8	0.07	9.7	16 1.5	1 21.6	- 3 4.6	+0.4986	0.5466	0.0764	+68 + 4
81 Tauri	5.5	+0.06	- 9.9	+15 31.4	1 24.5	- 3 1.8	+1.0523	0.5467	+0.0764	+90 +40
85 Tauri	6.0	0.07	9.9	15 41.1	1 59.3	- 2 28.1	+0.9185	0.5469	0.0756	+90 +30
275 B. Tauri	6.5	0.08	9.7	16 9.6	2 50.0	- 1 38.9	+0.4617	0.5471	0.0744	+65 + 2
α Tauri (<i>Ald.</i>)	1.1	0.09	9.8	16 21.2	3 55.4	- 0 35.7	+0.3309	0.5475	0.0729	+55 - 5
89 Tauri	5.8	0.10	9.9	15 52.6	4 59.8	+ 0 26.7	+0.9280	0.5479	0.0714	+90 +31
σ^1 Tauri	5.2	+0.10	-10.0	+15 38.8	5 28.6	+ 0 54.6	+1.2142	0.5481	+0.0707	+90 +57
σ^2 Tauri	4.9	0.10	10.0	15 45.8	5 32.0	+ 0 57.7	+1.0900	0.5481	0.0706	+90 +44
318 B. Tauri	5.7	0.18	9.9	17 1.9	14 6.0	+ 9 15.2	+0.2565	0.5513	0.0581	+50 - 7
m Tauri	5.0	0.24	9.5	18 32.4	18 47.4	-10 12.6	-1.1285	0.5530	0.0510	-39 -72
111 Tauri	5.1	0.31	10.2	17 18.6	24 2 43.8	- 2 31.9	+0.5636	0.5558	0.0387	+75 +12
115 Tauri	5.3	+0.32	-10.0	+17 53.7	4 0.2	- 1 18.1	-0.0212	0.5563	+0.0367	+33 -20

480 ELEMENTS OF OCCULTATIONS, 1923.

MARCH.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	γ	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
17 Tauri	6.0	+0.32	-10.3	+17 10.4	24 4 24.7	- 0 54.5	+0.7745	0.5565	+0.0360	+90	+25
119 Tauri	4.9	0.34	9.9	18 32.1	6 19.5	+ 0 56.5	-0.6333	0.5571	0.0330	- 2	-62
167 H ¹ . Tauri	5.5	0.34	10.4	16 59.9	6 21.6	+ 0 58.5	+1.0289	0.5571	0.0329	+90	+43
120 Tauri	5.6	0.35	9.9	18 29.0	6 55.9	+ 1 31.7	-0.5576	0.5574	0.0320	+ 3	-55
122 Tauri	5.5	0.36	10.5	16 59.5	8 34.8	+ 3 7.3	+1.1056	0.5579	0.0293	+90	+49
130 Tauri	5.6	+0.41	-10.4	+17 41.9	13 19.9	+ 7 42.8	+0.4613	0.5595	+0.0215	+66	+ 8
19 B. Geminorum	6.2	0.53	10.4	18 41.9	25 1 10.6	- 4 50.5	-0.4748	0.5635	0.0016	+ 7	-46
124 H ¹ . Orionis	5.7	0.53	10.7	17 55.6	1 36.3	- 4 25.7	+0.3524	0.5637	0.0009	+57	+ 4
71 Orionis	5.1	0.54	10.3	19 10.9	1 45.4	- 4 16.9	-0.9900	0.5638	+0.0007	-26	-71
B. D. +17° 119.1	6.5	0.54	11.0	17 12.3	2 28.8	- 3 35.0	+1.1236	0.5640	-0.0006	+90	-54
287 B. Orionis	6.2	+0.55	-11.0	+17 21.2	3 39.8	- 2 26.5	+0.9623	0.5644	-0.0026	+90	+40
292 B. Orionis	6.5	0.56	10.8	17 47.9	4 44.1	- 1 24.3	+0.4833	0.5647	0.0045	+67	+11
26 Geminorum	5.2	0.66	11.1	17 43.1	14 6.6	+ 7 38.7	+0.4469	0.5676	0.0208	+64	+ 7
74 B. Geminorum	6.2	0.68	10.9	18 16.5	16 19.0	+ 9 46.5	-0.1936	0.5682	0.0246	+23	-29
110 B. Geminorum	6.2	0.75	11.2	17 51.8	22 58.4	- 7 48.0	+0.0402	0.5701	0.0363	+37	-17
41 H ¹ . Geminorum	6.0	+0.75	-11.6	+16 47.0	23 2.8	- 7 43.8	+1.1777	0.5701	-0.0364	+90	+56
162 B. Geminorum	5.7	0.88	11.6	17 14.9	26 5 52.9	- 1 8.2	+0.9945	0.5719	0.0484	+90	+38
f Geminorum	5.3	0.91	11.5	17 50.9	11 52.1	+ 4 38.2	+0.0717	0.5734	0.0590	+39	-17
1 Cancri	6.0	0.98	12.2	15 59.6	15 12.3	+ 7 51.4	-0.7613	0.5741	0.0648	-10	-73
2 B. Cancri	6.0	+0.99	-11.9	+16 43.4	22 49.9	- 8 47.4	+0.6267	0.5758	0.0780	+81	+12
3 Cancri	5.7	1.00	11.7	17 31.0	23 29.2	- 8 9.5	-0.1838	0.5759	-0.0791	+24	-34
5 Cancri	5.9	1.01	11.9	16 39.9	27 0 27.4	- 7 13.3	-1.0850	0.5761	0.0808	-34	-73
29 Cancri	5.9	1.11	12.6	14 27.8	0 46.6	- 6 54.8	-0.2262	0.5761	0.0813	+22	-36
90 B. Cancri	6.3	1.14	12.3	15 34.6	12 29.3	+ 4 22.7	+0.9787	0.5783	0.1009	+90	+32
54 Cancri	6.3	+1.20	-12.3	+15 38.0	15 41.9	+ 7 28.3	-0.5003	0.5789	0.1062	+ 6	-57
222 B. Cancri	6.3	1.30	13.2	11 49.2	22 5.0	-10 22.6	-1.2650	0.5798	-0.1163	-56	-75
Leonis	5.1	1.35	13.1	11 38.3	28 9 34.2	+ 0 41.5	+1.1826	0.5813	0.1337	+90	+47
18 Leonis	5.8	1.40	12.9	12 9.7	15 33.8	+ 6 28.1	+0.5378	0.5820	0.1421	+71	0
19 Leonis	6.4	1.40	12.9	11 55.3	21 41.3	-11 37.9	-0.8852	0.5827	0.1502	-17	-78
R Leonis(var.)	4.6	+1.40	-13.0	+11 47.0	22 8.0	-11 12.2	-0.7101	0.5827	0.1508	- 5	-78
A Leonis	4.6	1.46	13.0	10 22.3	22 11.2	-11 9.1	-0.5789	0.5827	-0.1508	+ 2	-68
44 Leonis	5.9	1.52	13.0	9 10.4	29 6 49.0	- 2 50.2	-0.5069	0.5836	0.1613	+ 7	-64
48 Leonis	5.2	1.55	13.2	7 20.8	14 9.1	+ 4 13.7	-0.5194	0.5844	0.1691	+ 6	-65
49 Leonis	5.7	1.54	12.9	9 2.7	18 11.5	+ 8 7.2	+0.6075	0.5848	0.1732	+77	+ 1
37 Sextantis	6.3	+1.58	-13.0	+ 6 46.5	18 16.9	+ 8 12.4	-1.0971	0.5848	0.1732	-32	-81
56 Leonis	6.1	1.61	12.9	6 35.6	22 56.9	-11 17.9	+0.3400	0.5853	-0.1774	+55	-14
c Leonis	5.1	1.62	12.8	6 30.7	30 3 7.6	- 7 16.6	-0.2278	0.5857	0.1808	+22	-47
80 Leonis	6.4	1.68	12.4	4 16.8	5 6.8	- 5 21.8	-0.5077	0.5859	0.1823	+ 7	-66
83 Leonis	6.3	1.68	12.4	3 25.8	15 38.6	+ 4 46.7	-0.2598	0.5870	0.1889	+20	-49
Leonis					16 3.1	+ 5 10.2	+0.5008	0.5871	0.1891	+67	- 7
Leonis	5.2	+1.69	-12.5	+ 3 16.6	16 31.3	+ 5 37.4	+0.5624	0.5872	-0.1893	+73	- 3
89 Leonis	5.7	1.70	12.3	3 29.1	19 13.0	+ 8 13.1	-0.1542	0.5874	0.1905	+26	-43
Virginis	3.8	1.75	11.9	2 11.7	31 2 0.2	- 9 14.9	-0.1892	0.5882	0.1930	+24	-45
27 B. Virginis	6.5	1.76	11.7	+ 0 57.3	5 31.0	- 5 51.9	+0.3472	0.5887	0.1938	+56	-15
13 Virginis	5.9	1.79	11.0	- 0 21.7	13 40.0	+ 1 58.7	+0.0540	0.5897	0.1946	+38	-31
Virginis	4.0	+1.79	-11.0	- 0 14.5	14 10.9	+ 2 28.5	-0.1641	0.5898	-0.1946	+25	-44
Vir. (mean)	2.9	+1.80	-10.1	- 1 1.8	23 12.2	+11 9.5	-1.1461	0.5910	-0.1937	-36	-90

APRIL.

38 Virginis	6.1	+1.83	- 9.6	- 3 8.3	1 3 56.6	- 8 16.8	-0.0016	0.5916	-0.1924	+34	-35
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ELEMENTS OF OCCULTATIONS, 1923. 481

APRIL.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	γ	γ'	γ''	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
91 G. Virginis	6.5	+1.84	-9.6	3 48.5	1 4 7.0	-8 0.7	+0.6204	0.5917	-0.1923	+77	0
k Virginis	5.7	1.84	9.3	3 24.0	6 36.0	-5 43.3	-0.2555	0.5920	0.1914	+20	-50
46 Virginis	6.1	1.83	9.3	2 57.4	6 59.2	-5 21.0	-0.7616	0.5920	0.1913	-9	-90
48 Virginis	6.5	1.84	9.1	3 15.1	8 20.9	-4 2.4	-0.7340	0.5923	0.1906	-7	-90
0 Virginis	4.4	1.86	8.8	5 7.8	10 49.5	-1 39.4	+0.6310	0.5926	0.1895	+78	0
SATURN	0.5	..	..	-4 12.9	11 31.6	-0 58.9	-0.3970	0.5957	-0.1905	+12	-59
65 Virginis	6.0	+1.84	-8.2	4 31.5	16 18.4	+3 37.0	0.9926	0.5933	0.1865	-25	-90
66 Virginis	5.7	1.85	8.1	4 45.9	16 48.4	+4 5.0	-0.8515	0.5934	0.1862	-15	-90
72 Virginis	6.1	1.86	7.8	6 4.5	19 12.5	+6 21.6	-0.0155	0.5938	0.1846	+33	-35
l Virginis	4.8	1.86	7.7	5 51.6	19 50.6	+7 1.2	-0.3422	0.5939	0.1841	+14	-55
88 Virginis	6.5	+1.85	-6.9	-6 27.3	2 30.2	-10 34.5	-0.9706	0.5947	-0.1788	-24	-90
598 B. Virginis	6.1	1.85	6.4	7 40.9	5 13.0	-7 57.8	-0.2530	0.5951	0.1705	+19	-49
623 B. Virginis	6.5	1.86	5.8	8 53.4	9 1.3	-4 18.3	+0.2645	0.5955	0.1729	+48	-20
95 Virginis	5.4	1.86	5.7	8 56.9	9 58.9	-3 23.0	-0.1565	0.5957	0.1719	+41	-26
96 Virginis	6.5	1.87	5.4	9 58.3	10 54.1	-2 29.8	+1.0019	0.5958	0.1709	+81	+24
z Virginis	4.3	+1.86	-5.2	-9 55.0	12 28.7	-0 58.9	0.6808	0.5960	-0.1692	+79	+3
4 G. Libræ	6.5	1.86	4.4	11 19.3	17 14.7	+3 36.1	+1.2655	0.5965	0.1039	+79	+52
6 B. Libræ	6.2	1.83	3.6	11 58.8	22 14.8	+8 24.8	+1.1086	0.5969	0.1578	+79	+34
22 B. Libræ	6.4	1.83	3.0	12 31.0	2 37.0	-11 23.2	+0.9623	0.5973	0.1520	+78	+22
13 Libræ	5.7	1.80	2.8	11 35.1	5 14.0	-8 52.1	-0.3485	0.5974	0.1485	+10	-56
ξ ² Libræ	5.6	+1.79	-2.8	-11 6.0	6 11.9	-7 56.5	-0.9695	0.5975	-0.1471	-27	-90
17 Libræ	6.4	1.78	2.7	10 50.8	6 47.2	-7 22.6	-1.3062	0.5975	0.1403	-68	-78
7 Libræ	4.0	1.72	-0.1	14 32.0	21 45.5	+7 1.1	0.3179	0.5979	0.1231	+46	-17
190 B. Libræ	6.5	1.70	+0.4	14 47.8	4 05.7	+10 3.9	0.1985	0.5978	0.1178	+38	-23
η Libræ	5.5	1.70	0.6	15 25.7	1 11.3	+10 18.8	0.7958	0.5978	0.1173	+75	+11
195 B. Libræ	6.2	+1.65	+0.6	-13 54.1	4 14.8	-10 44.8	-1.0748	0.5977	-0.1120	-39	-90
202 B. Libræ	6.4	1.64	0.8	14 10.4	6 5.4	-8 58.4	-1.0083	0.5976	0.1087	-34	-90
203 B. Libræ	6.2	1.64	1.0	14 36.3	6 12.8	-8 51.4	-0.5922	0.5975	0.1086	-7	-77
48 Libræ	4.6	1.63	0.9	14 3.5	6 52.7	-8 13.0	-1.2095	0.5975	0.1074	-54	-90
49 Libræ	5.4	1.64	1.5	16 18.4	7 44.1	-7 23.5	+0.9433	0.5975	0.1059	+74	+22
φ Ophiuchi	4.4	+1.52	+3.1	-16 26.7	20 7.6	+4 31.2	-0.0883	0.5961	-0.0831	+18	-40
24 Scorpæ	5.0	1.49	3.9	17 35.6	5 01.8	+8 33.8	+0.7357	0.5955	0.0752	+73	+8
78 B. Ophiuchi	6.5	1.41	4.2	16 41.0	6 11.8	-9 47.7	-0.5904	0.5943	0.0639	-11	-77
90 B. Ophiuchi	6.5	1.40	4.7	18 7.7	7 41.2	-8 21.7	+0.7790	0.5939	0.0610	+72	+11
125 B. Ophiuchi	6.2	1.35	4.9	17 30.4	11 9.4	-5 1.5	-0.0502	0.5932	0.0542	+18	-37
164 B. Ophiuchi	6.0	+1.30	+5.4	-17 40.5	15 54.5	-0 27.2	-0.1148	0.5920	-0.0449	+13	-41
192 B. Ophiuchi	6.3	1.28	5.8	18 22.4	17 50.1	+1 24.0	+0.5137	0.5915	0.0411	+52	-5
305 B. Ophiuchi	6.3	1.10	6.8	18 47.3	6 44.5	-10 10.8	-0.5737	0.5873	0.0160	+55	-2
6 Sagittarii	6.5	1.06	6.4	17 9.2	9 2.4	-7 58.0	-1.1390	0.5864	0.0115	-55	-90
32 G. Sagittarii	5.7	1.02	6.6	17 9.9	11 43.6	-5 23.0	-1.1539	0.5854	0.0063	-57	-90
64 B. Sagittarii	6.1	+0.99	+7.3	-18 41.1	14 55.7	-2 17.8	+0.4037	0.5841	-0.0002	+40	-12
6 B. Scuti	5.9	0.97	6.9	17 24.0	15 39.2	-1 35.9	-0.9243	0.5838	+0.0012	-38	-90
52 G. Sagittarii	6.4	0.98	7.2	18 29.4	15 45.4	-1 30.0	+0.2039	0.5838	0.0014	+27	-23
17 H. Sagittarii	6.4	0.97	7.3	18 38.9	16 16.6	-0 59.9	+0.3684	0.5836	0.0024	+38	-14
Y Sagit. (var.)	5.4	0.96	7.5	18 53.6	17 23.7	+0 4.7	+0.6261	0.5831	0.0045	+59	+1
85 B. Sagittarii	6.0	+0.91	+7.2	-17 50.8	20 10.8	+2 45.5	-0.4389	0.5819	+0.0097	-8	-64
95 B. Sagittarii	5.7	0.90	7.6	18 46.6	21 7.3	+3 40.1	+0.5361	0.5815	0.0115	+52	-4
100 B. Sagittarii	5.0	0.89	7.5	18 27.3	21 39.1	+4 10.8	+0.2085	0.5813	0.0124	+29	-23
187 B. Sagittarii	6.4	0.67	8.1	18 51.4	7 12.5	-5 3.4	+1.0383	0.5742	0.0401	+72	+30
q Sagittarii	4.0	0.58	7.9	17 59.5	19 20.0	+1 4.9	+0.4236	0.5710	0.0511	+46	-11
45 Sagittarii	6.0	+0.58	+8.0	-18 27.0	19 24.0	+1 8.7	+0.9096	0.5710	+0.0512	+72	+20

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APRIL.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	γ	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
267 B. Sagittarii	5.8	+0.49	+8.0	-18 24.1	8 2 7.8	+7 38.4	+1.2445	0.5676	+0.0623	+72	+55
54 Sagittarii	5.4	0.47	7.4	16 28.1	3 47.3	+9 14.5	-0.6925	0.5667	0.0649	-17	-90
e Sagittarii	5.2	0.46	7.3	16 18.2	4 35.5	+10 1.1	-0.8151	0.5663	0.0662	-24	-90
g Sagittarii	5.1	0.37	7.0	15 41.7	11 32.6	-7 16.2	-0.9664	0.5627	0.0770	-34	-90
16 B. Capricorni	6.2	0.24	6.6	15 1.6	21 59.4	+2 49.4	-0.7992	0.5574	0.0921	-20	-90
β Capricorni	3.2	+0.23	+6.6	-15 1.4	22 5.9	+2 55.7	-0.7925	0.5573	1.0923	-20	-90
31 B. Capricorni	6.4	0.19	6.9	15 59.7	9 139.8	+6 22.5	+0.5844	0.5555	0.0971	+63	-2
27 G. Capricorni	6.2	0.17	6.6	15 18.8	2 45.9	+7 26.4	-0.0382	0.5549	0.0986	1 23	-37
τ Capricorni	5.2	0.13	6.5	15 13.4	6 30.0	+11 9.0	+0.2542	0.5530	0.1036	+41	-20
95 B. Capricorni	5.9	+0.02	6.0	14 46.8	15 48.4	-3 56.6	+0.7851	0.5484	0.1149	1 76	+10
53 B. Aquarii	6.5	-0.06	+5.2	-13 31.2	10 0 8.2	+4 7.1	1.0424	0.5445	+0.1243	1 55	-11
18 Aquarii	5.5	0.10	4.9	13 12.5	4 7.4	+7 58.8	-0.5901	0.5427	0.1284	+68	-2
72 B. Aquarii	6.5	0.11	4.4	11 54.1	6 6.7	+9 54.3	-0.5702	0.5418	0.1304	-2	-74
137 B. Capricorni	6.2	0.15	3.8	10 55.4	11 39.0	-8 43.7	-0.8976	0.5395	0.1358	-22	-90
λ Capricorni	5.5	0.19	3.8	11 43.2	15 8.6	-5 20.6	+0.4506	0.5380	0.1390	+58	-10
96 B. Aquarii	6.5	-0.22	+3.3	-10 40.4	18 40.4	-1 55.2	-0.2123	0.5366	+0.1420	+19	-47
θ Aquarii	4.3	0.29	1.9	8 10.0	11 6 23.7	+9 26.6	-1.2179	0.5323	0.1511	-47	-90
150 B. Aquarii	6.0	0.31	2.2	9 25.4	6 25.0	+9 28.0	+0.1619	0.5323	0.1511	1 41	-25
ρ Aquarii	5.3	0.31	1.8	8 12.5	8 6.7	+11 6.6	-0.9129	0.5318	0.1523	-21	-90
167 G. Aquarii	6.3	0.38	1.2	8 17.9	17 24.9	-3 51.8	+0.6298	0.5289	0.1581	+76	0
67 Aquarii	6.4	-0.39	+0.8	-7 22.0	19 56.2	-1 25.0	+0.0067	0.5282	1.01595	1 33	-34
78 Aquarii	6.3	0.43	+0.5	7 30.8	12 148.5	+4 10.9	+1.2266	0.5267	0.1625	+83	+15
252 B. Aquarii	5.8	0.41	0.1	5 23.9	2 8.1	+4 36.0	-1.1611	0.5266	0.1627	-39	-90
197 G. Aquarii	6.3	0.41	0.2	5 13.3	3 14.0	+5 39.9	-1.1766	0.5263	0.1632	-41	-90
263 B. Aquarii	6.1	0.43	-0.3	5 7.5	5 26.6	+7 48.7	-0.9214	0.5258	0.1643	-20	-90
82 Aquarii	6.4	-0.45	0.0	-6 59.3	5 58.0	+8 19.2	1.12174	0.5257	+0.1644	+84	+44
293 B. Aquarii	5.5	0.46	-1.1	3 55.0	12 47.9	-9 2.9	-1.0387	0.5243	0.1670	28	-90
96 Aquarii	5.7	0.49	0.9	5 32.7	14 47.6	-7 6.6	1.10947	0.5239	0.1678	1 85	+31
316 B. Aquarii	6.5	0.47	1.2	4 20.3	15 14.9	-6 40.2	-0.1617	0.5239	0.1679	+25	-44
342 B. Aquarii	6.5	0.51	1.6	4 30.5	21 11.3	-0.54.0	+1.0289	0.5220	0.1666	+86	1 26
20 Piscium	5.6	-0.54	-2.4	-3 11.4	13 5 53.2	+7 32.8	+1.0550	0.5218	+0.1714	+87	+28
80 B. Piscium	6.3	0.55	3.4	-0 55.9	14 59.4	-7 36.6	+0.1169	0.5211	0.1724	+41	-28
NEW MOON.											
30 B. Tauri	6.4	-0.42	-9.6	+15 10.6	18 5 40.0	+3 49.7	-0.8818	0.5393	+0.1104	-17	-75
179 B. Tauri	5.9	-0.36	-10.1	+14 57.3	20 21.8	-5 55.9	+0.8532	0.5438	+0.0922	+90	+24
193 B. Tauri	6.2	0.34	9.7	17 4.7	22 40.9	-3 41.2	-1.2752	0.5445	0.0892	-61	-73
48 Tauri	6.3	0.34	10.2	15 12.4	0 17.0	-2 8.1	1.09268	0.5450	0.0871	+90	+29
γ Tauri	3.9	0.33	10.2	15 26.4	2 13.7	-0 15.1	+0.8358	0.5456	0.0844	+90	+23
δ Tauri	3.9	0.31	9.8	17 21.6	3 43.1	+1 11.5	-1.1522	0.5460	0.0824	-40	-73
63 Tauri	5.7	-0.31	-10.0	+16 35.8	3 57.8	+1 25.7	-0.2914	0.5461	+0.0821	+18	-41
64 Tauri	4.9	0.31	9.8	17 15.8	4 16.9	+1 44.3	-1.0001	0.5462	0.0816	-26	-73
70 Tauri	6.4	0.31	10.2	15 45.8	5 2.3	+2 28.2	+0.7116	0.5464	0.0806	+90	+16
71 Tauri	4.6	0.31	10.3	15 26.5	5 23.5	+2 48.7	1.10934	0.5466	0.0801	+90	+43
75 Tauri	5.2	0.30	10.1	16 11.1	6 23.6	+3 46.9	+0.3550	0.5469	0.0787	+57	-4
θ^1 Tauri	4.2	-0.30	-10.2	+15 47.4	6 27.6	+3 50.8	+0.7956	0.5469	+0.0787	+90	+21
θ^2 Tauri	3.6	0.30	10.2	15 41.9	6 30.2	+3 53.3	+0.8993	0.5469	0.0786	+90	+28
80 Tauri	5.8	0.30	10.3	15 28.1	7 13.1	+4 34.9	+1.2080	0.5471	0.0776	+90	+55
264 B. Tauri	4.8	0.30	10.2	16 1.5	7 24.8	+4 46.2	+0.6112	0.5472	0.0773	+80	+11
81 Tauri	5.5	0.30	10.3	15 31.4	7 27.7	+4 49.0	+1.1669	0.5472	0.0773	+90	+51
85 Tauri	6.0	-0.30	-10.3	+15 41.1	8 2.6	+5 22.7	+1.0332	0.5473	+0.0764	+90	+38

ELEMENTS OF OCCULTATIONS, 1923. 483

APRIL.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	P	x'	y'	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
		s	"	°	d h m	h m				°	°
275 B. Tauri	6.5	-0.29	-10.2	16 9.6	19 8 53.4	6 12.0	+0.5753	0.5477	+0.0752	1 76	1 9
a Tauri (<i>Ald.</i>)	1.1	0.28	10.2	16 21.2	9 58.9	+ 7 15.3	+0.4446	0.5480	0.0737	1 61	1 1
89 Tauri	5.8	0.27	10.3	15 52.6	11 3.6	+ 8 18.0	+0.4500	0.5483	0.0722	1 90	1 40
σ^2 Tauri	4.9	0.28	10.4	15 45.8	11 35.8	+ 8 40.1	+1.2081	0.5484	0.0714	1 90	1 56
318 B. Tauri	5.7	0.22	10.3	17 1.9	20 11.8	- 6 51.5	+0.3709	0.5510	0.0588	1 59	- 1
m Tauri	5.0	-0.17	-10.0	18 32.4	20 0 54.7	- 2 17.9	-1.0126	0.5523	+0.0516	-28	-72
111 Tauri	5.1	0.13	10.4	17 18.6	8 54.4	+ 5 26.3	+0.0937	0.5546	0.0392	1 90	1 19
115 Tauri	5.3	0.12	10.3	17 53.7	10 11.4	+ 6 40.7	+0.1000	0.5549	0.0372	1 41	-13
117 Tauri	6.0	0.12	10.6	17 10.4	10 36.1	+ 7 4.4	+0.9070	0.5550	0.0365	1 90	1 33
119 Tauri	4.9	0.10	10.2	18 32.1	12 31.9	+ 8 56.5	-0.5090	0.5555	0.0335	1 6	-51
167 H ¹ . Tauri	5.5	-0.10	-10.6	+16 59.9	12 34.0	+ 8 58.5	+1.1643	0.5555	+0.0334	1 90	1 55
120 Tauri	5.6	0.10	10.2	18 29.0	13 8.7	+ 9 32.1	-0.4325	0.5557	0.0325	1 10	-45
122 Tauri	5.5	0.09	10.7	16 59.5	14 48.5	+11 8.5	+1.2430	0.5501	0.0298	1 87	1 05
130 Tauri	5.6	-0.05	10.5	17 41.9	19 30.5	- 8 13.0	+0.5068	0.5573	0.0220	1 79	1 15
19 B. Geminorum	6.2	+0.05	10.4	18 41.9	21 7 36.2	+ 3 22.5	-0.3419	0.5601	0.0021	1 15	-36
124 H ¹ . Orionis	5.7	+0.06	-10.6	+17 55.6	8 2.2	+ 3 47.6	+0.4929	0.5602	+0.0013	1 68	+12
71 Orionis	5.1	0.06	10.2	19 10.9	8 11.5	+ 3 56.6	-0.8615	0.5602	+0.0011	-10	-71
B. D. + 17° 11.91	6.5	0.06	10.8	17 12.3	8 55.5	+ 4 39.2	+1.2715	0.5601	-0.0002	+76	1 72
287 B. Orionis	6.2	0.07	10.8	17 21.2	10 7.6	+ 5 48.8	+1.1003	0.5606	0.0022	1 90	1 52
292 B. Orionis	6.5	0.08	10.6	17 47.9	11 12.9	+ 6 51.9	+0.6264	0.5608	0.0040	1 82	1 19
26 Geminorum	5.2	+0.17	-10.8	+17 43.1	20 45.0	- 7 55.4	+0.5931	0.5627	-0.0202	1 78	+15
74 B. Geminorum	6.2	0.19	10.6	18 10.5	22 59.9	- 5 45.1	-0.0537	0.5631	0.0241	1 31	-21
110 B. Geminorum	6.2	0.25	10.7	17 51.8	22 54.7	+ 0 48.5	+0.1844	0.5643	0.0357	1 40	- 9
λ Geminorum	3.6	0.32	11.1	16 40.6	12 51.1	+ 7 37.6	+1.1515	0.5653	0.0477	+90	1 52
162 B. Geminorum	5.7	0.39	10.8	17 14.9	18 59.0	-10 27.2	-0.2179	0.5662	0.0581	1 48	- 9
f Geminorum	5.3	+0.42	-10.6	+17 59.9	22 24.3	- 7 8.9	-0.6261	0.5666	-0.0639	- 1	- 64
1 Cancri	6.0	0.50	11.2	15 59.6	23 6 14.4	+ 0 24.8	+0.7807	0.5675	0.0769	1 90	1 21
2 B. Cancri	6.0	0.51	10.9	16 43.5	6 51.7	+ 1 3.7	-0.0411	0.5676	0.0780	1 32	-25
3 Cancri	5.7	0.52	10.6	17 31.1	7 54.0	+ 2 1.5	-0.0552	0.5677	0.0790	-23	-73
5 Cancri	5.9	0.52	10.9	16 39.9	8 14.3	+ 2 20.6	-0.0843	0.5677	0.0802	1 30	-28
29 Cancri	5.9	+0.66	-11.5	+14 27.8	20 18.1	-10 0.9	+1.1367	0.5689	-0.0995	+90	+46
90 B. Cancri	6.3	0.69	11.1	15 34.7	23 36.8	- 6 49.2	-0.3655	0.5692	0.1047	1 14	-48
54 Cancri	6.3	0.76	10.9	15 38.1	6 12.2	- 0 27.6	-1.1441	0.5697	0.1147	-38	-75
ξ Leonis	5.1	0.96	11.8	11 38.3	24 0 16.4	- 7 1.5	+0.6782	0.5713	0.1401	1 87	- 8
18 Leonis	5.8	1.03	11.4	12 9.7	6 36.5	- 0 54.8	-0.7712	0.5719	0.1480	- 9	-78
19 Leonis	6.4	+1.03	-11.4	+11 55.3	7 4.1	- 0 28.1	-0.5936	0.5720	-0.1486	1 2	-69
R Leonis (<i>var.</i>)	4.6	1.04	11.5	11 47.0	7 7.4	- 0 24.9	-0.4603	0.5720	0.1487	1 9	-59
A Leonis	4.6	1.14	11.6	10 22.3	16 2.9	+ 8 11.6	-0.3937	0.5729	0.1591	1 13	-55
44 Leonis	5.9	1.22	11.6	9 10.4	23 37.7	- 8 29.7	-0.4129	0.5739	0.1670	1 12	-59
48 Leonis	5.2	1.28	11.9	7 20.8	26 3 48.1	- 4 28.3	+0.7267	0.5745	0.1710	+90	+ 8
49 Leonis	5.7	+1.27	-11.4	+ 9 2.7	3 53.6	- 4 23.0	-1.0028	0.5745	-0.1711	-24	-81
37 Sextantis	6.3	1.33	11.8	6 46.6	8 42.6	+ 0 15.7	+0.4500	0.5752	0.1754	+63	- 8
56 Leonis	6.1	1.37	11.6	6 35.6	13 1.2	+ 4 25.0	-0.1302	0.5758	0.1788	1 27	-41
c Leonis	5.1	1.39	11.5	6 30.7	15 4.0	+ 6 23.4	-0.4161	0.5762	0.1804	1 12	-59
80 Leonis	6.4	1.51	11.4	4 16.9	27 1 53.9	- 7 9.9	-0.1776	0.5782	0.1873	+25	-44
83 Leonis	6.3	+1.51	-11.5	+ 3 25.8	2 19.2	- 6 45.5	+0.5915	0.5783	-0.1875	1 75	- 2
τ Leonis	5.2	1.53	11.6	3 16.6	2 48.0	- 6 17.6	+0.6531	0.5784	0.1878	1 82	+ 2
89 Leonis	5.7	1.55	11.3	3 29.1	5 34.1	- 3 37.7	-0.0755	0.5790	0.1891	+30	-39
β Virginis	3.8	1.64	11.1	2 11.7	12 31.4	+ 3 4.6	-0.1201	0.5805	0.1918	+28	-41
27 B. Virginis	6.5	1.66	11.0	+ 0 57.4	16 7.0	+ 6 32.3	+0.4164	0.5814	0.1928	+61	-12
13 Virginis	5.9	+1.75	-10.5	- 0 21.7	28 0 26.0	- 9 27.1	+0.1079	0.5835	-0.1941	+41	-29

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APRIL.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	γ	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
η Virginis	4.0	+1.75	-10.4	-0 14.5	28 0 57.5	- 8 56.6	-0.1127	0.5836	-0.1942	+28	-41
γ Vir. (<i>mean</i>)	2.9	1.81	9.6	1 1.8	10 7.7	- 0 6.7	-1.1146	0.5862	-0.1937	-33	-90
38 Virginis	6.1	1.88	9.5	3 8.2	14 55.8	+ 4 30.8	+0.0291	0.5875	-0.1927	+36	-33
91 G. Virginis	6.5	1.89	9.6	3 48.5	15 6.3	+ 4 40.8	+0.0539	0.5876	-0.1926	+81	+ 1
k Virginis	5.7	1.90	9.2	3 24.0	17 37.0	+ 7 5.9	-0.2302	0.5883	-0.1918	+22	-48
46 Virginis	6.1	+1.90	- 9.1	- 2 57.4	18 0.6	+ 7 28.5	-0.7393	0.5885	-0.1917	- 7	-90
48 Virginis	6.5	1.91	9.0	3 15.1	19 23.0	+ 8 47.9	-0.7135	0.5889	-0.1913	- 6	-90
SATURN	0.6	..	..	3 26.7	19 26.7	+ 8 51.5	-0.5349	0.5917	-0.1923	+ 5	-70
θ Virginis	4.4	1.95	9.0	5 7.8	21 53.0	+11 12.3	+0.0524	0.5896	-0.1902	+80	+ 1
65 Virginis	6.0	1.97	8.2	4 31.5	29 3 24.3	- 7 28.8	-0.9850	0.5913	-0.1875	-24	-90
66 Virginis	5.7	+1.98	- 8.2	- 4 45.9	3 54.4	- 6 59.9	-0.8442	0.5915	-0.1872	-14	-90
72 Virginis	6.1	2.01	8.0	6 4.5	6 19.2	- 4 40.5	-0.0103	0.5922	-0.1858	+33	-35
l Virginis	4.8	2.00	7.9	5 51.6	6 57.4	- 4 3.7	-0.3386	0.5924	-0.1854	+15	-55
88 Virginis	6.5	2.04	7.1	6 27.3	13 38.0	+ 2 21.6	-0.9779	0.5944	-0.1805	-24	-90
598 B. Virginis	6.1	2.07	6.8	7 40.9	16 20.7	+ 4 58.1	-0.2646	0.5952	-0.1782	+18	-50
623 B. Virginis	6.5	+2.10	- 6.4	- 8 53.4	20 8.6	+ 8 37.3	+0.2457	0.5963	-0.1748	+46	-21
95 Virginis	5.4	2.10	6.2	8 56.9	21 5.9	+ 9 32.4	+0.1361	0.5967	-0.1739	+40	-27
96 Virginis	6.5	2.12	6.1	9 58.3	22 1.0	+10 25.4	+0.0783	0.5969	-0.1730	+81	+22
κ Virginis	4.3	2.12	5.9	9 55.1	23 35.1	+11 55.9	+0.0550	0.5974	-0.1714	+77	+ 2
4 G. Libræ	6.5	2.16	5.2	11 19.3	30 4 19.4	- 7 30.9	+1.2290	0.5987	-0.1663	+79	+46
6 B. Libræ	6.2	+2.16	- 4.4	-11 58.8	9 16.9	- 2 44.9	+1.0630	0.6000	-0.1603	+79	+29
22 B. Libræ	6.4	2.19	3.9	12 31.1	13 36.3	+ 1 24.4	+0.9094	0.6011	-0.1547	+78	+18
13 Libræ	5.7	2.17	3.5	11 35.2	16 11.4	+ 3 53.5	-0.3985	0.6016	-0.1511	+ 8	-60
ξ^2 Libræ	5.6	+2.17	- 3.3	-11 6.0	17 8.5	+ 4 48.3	-1.0172	0.6019	-0.1498	-31	-90

MAY.

γ Libræ	4.0	+2.20	- 0.8	-14 32.0	1 8 26.2	- 4 30.1	+0.2369	0.6046	-0.1266	+41	-21
190 B. Libræ	6.5	2.20	0.4	14 47.8	11 32.4	- 1 31.1	+0.1137	0.6049	-0.1207	+33	-28
η Libræ	5.5	2.20	- 0.2	15 25.7	11 47.7	- 1 16.0	+0.7050	0.6050	-0.1202	+74	+ 5
195 B. Libræ	6.2	+2.17	+ 0.1	-13 54.1	14 47.1	+ 1 35.7	-1.1516	0.6052	-0.1150	-46	-90
202 B. Libræ	6.4	2.17	0.3	14 10.4	16 35.2	+ 3 19.5	-1.0883	0.6053	-0.1117	-41	-90
203 B. Libræ	6.2	2.18	0.4	14 30.3	16 42.3	+ 3 26.3	-0.6766	0.6053	-0.1115	-12	-88
48 Libræ	4.6	2.16	0.5	14 3.5	17 21.3	+ 4 3.9	-1.2884	0.6054	-0.1103	-69	-79
49 Libræ	5.4	2.18	0.7	16 18.4	18 11.5	+ 4 52.1	+0.8405	0.6054	-0.1088	+74	+14
φ Ophiuchi	4.4	+2.13	+ 2.7	-16 26.7	2 6 15.6	- 7 32.7	-0.1972	0.6054	-0.0858	+12	-47
24 Scorpïi	5.0	2.12	3.5	17 35.6	10 20.5	- 3 37.5	+0.6107	0.6050	-0.0777	+63	0
78 B. Ophiuchi	6.5	2.07	4.1	16 41.0	16 2.1	+ 1 50.6	-0.7054	0.6043	-0.0662	-18	-90
90 B. Ophiuchi	6.5	2.07	4.5	18 7.7	17 28.8	+ 3 13.9	+0.6436	0.6041	-0.0632	+65	+ 2
29 Ophiuchi	6.4	2.08	4.8	18 46.3	18 18.4	+ 4 1.5	+1.2353	0.6040	-0.0616	+72	+53
125 B. Ophiuchi	6.2	+2.04	+ 4.9	-17 30.4	20 50.6	+ 6 27.7	-0.1785	0.6035	-0.0563	+11	-46
164 B. Ophiuchi	6.0	2.00	5.5	17 40.5	3 126.6	+10 52.8	-0.2478	0.6025	-0.0469	+ 6	-50
192 B. Ophiuchi	6.3	1.99	5.9	18 22.4	3 18.4	-11 19.7	+0.3695	0.6020	-0.0430	+42	-14
395 B. Ophiuchi	6.3	1.87	7.5	18 47.2	15 47.2	+ 0 39.8	+0.4146	0.5980	-0.0172	+43	-11
64 B. Sagittarii	6.1	1.77	8.2	18 41.0	23 41.9	+ 8 16.2	+0.2393	0.5948	-0.0011	+29	-21
6 B. Scuti	5.9	+1.75	+ 8.0	-17 23.9	4 0 23.9	+ 8 56.7	-1.0692	0.5945	+0.0004	-49	-90
52 G. Sagittarii	6.4	1.76	8.2	18 29.4	0 29.9	+ 9 2.4	+0.0417	0.5944	-0.0006	+18	-32
17 H. Sagittarii	6.4	1.76	8.3	18 38.9	1 0.1	+ 9 31.5	+0.2032	0.5942	-0.0016	+27	-23
γ Sagit. (<i>var.</i>)	5.4	1.74	8.5	18 53.6	2 4.9	+10 33.7	+0.4560	0.5937	-0.0038	+44	- 9
85 B. Sagittarii	6.0	1.70	8.5	17 50.7	4 46.3	-10 51.0	-0.5953	0.5925	-0.0091	-17	-78
95 B. Sagittarii	5.7	+1.70	+ 8.8	-18 46.6	5 40.9	- 9 58.5	+0.3642	0.5920	+0.0109	+39	-14

ELEMENTS OF OCCULTATIONS, 1923. 485

MAY.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, <i>H</i>	<i>Y</i>	<i>z'</i>	<i>y'</i>	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
100 B. Sagittarii	5.0	+1.69	+ 8.7	-18 27.3	4 6 11.7	- 9 28.9	+0.0411	0.5018	+0.0119	+19	-32
173 B. Sagittarii	6.4	1.52	9.9	19 12.7	19 18.8	+ 3 8.8	+1.1488	0.5849	-0.0372	+71	+41
187 B. Sagittarii	6.4	1.50	9.9	18 51.3	21 0.5	+ 4 40.7	+0.8171	0.5840	-0.0403	+72	+15
e Sagittarii	4.0	1.41	10.0	17 59.4	5 3 10.3	+10 42.9	+0.2374	0.5803	-0.0514	+34	-21
45 Sagittarii	6.0	1.41	10.1	18 27.0	3 14.1	+10 46.5	+0.7163	0.5803	-0.0516	+71	+ 7
267 B. Sagittarii	5.8	+1.32	+10.4	-18 24.0	9 45.6	- 6 56.1	+1.0430	0.5763	+0.0629	+72	+30
54 Sagittarii	5.4	1.29	9.8	16 28.1	11 22.1	- 5 23.0	-0.8676	0.5753	-0.0650	-28	-90
e Sagittarii	5.2	1.28	9.8	16 18.2	12 8.9	- 4 37.9	-0.9889	0.5748	-0.0669	-36	-90
g Sagittarii	5.1	1.19	9.7	15 41.6	18 54.1	+ 1 52.9	-1.1418	0.5706	-0.0778	-48	-90
16 B. Capricorni	6.2	1.05	9.7	15 1.6	6 5 4.1	+11 41.7	-0.9811	0.5642	-0.0932	-33	-90
β Capricorni	3.2	+1.05	+ 9.7	-15 1.4	5 10.5	+11 47.9	-0.9745	0.5641	+0.0933	-32	-90
31 B. Capricorni	6.4	1.00	10.0	15 59.7	8 39.1	- 8 50.6	+0.3846	0.5619	-0.0983	+48	-13
27 G. Capricorni	6.2	0.99	9.8	15 18.7	9 43.6	- 7 48.3	-0.2308	0.5612	-0.0907	+13	-49
τ Capricorni	5.2	0.91	9.7	15 13.4	13 28.4	- 4 11.1	+0.0576	0.5589	-0.1048	+29	-32
95 B. Capricorni	5.9	0.82	9.5	14 46.7	22 28.8	+ 4 31.3	+0.5823	0.5533	-0.1102	+65	- 2
53 B. Aquarii	6.5	+0.72	+ 8.9	-13 31.2	7 639.1	-11 34.4	+0.2250	0.5485	+0.1255	+42	-22
18 Aquarii	5.5	0.68	8.7	13 12.4	10 34.2	- 7 46.9	+0.3900	0.5463	-0.1297	+53	-13
72 B. Aquarii	6.5	0.66	8.2	11 54.0	12 31.6	- 5 53.2	-0.7584	0.5452	-0.1317	-13	-90
137 B. Capricorni	6.2	0.60	7.6	10 55.3	17 58.9	- 0 36.1	-1.0822	0.5423	-0.1370	-36	-90
λ Capricorni	5.5	0.55	7.8	11 43.2	21 25.7	+ 2 44.0	+0.2560	0.5405	-0.1401	+45	-20
96 B. Aquarii	6.5	+0.52	+ 7.3	-10 40.4	8 054.8	+ 6 6.6	-0.3825	0.5387	+0.1431	+10	-59
150 B. Aquarii	6.0	0.40	6.3	9 25.3	12 32.1	- 6 37.4	-0.0235	0.5334	-0.1521	+30	-36
e Aquarii	5.3	0.39	5.8	8 12.4	14 12.9	- 4 59.8	-1.0908	0.5327	-0.1533	-34	-90
167 G. Aquarii	6.3	0.29	5.3	8 17.8	23 27.2	+ 3 58.0	+0.4491	0.5200	-0.1590	+61	-10
213 B. Aquarii	6.5	0.26	5.3	8 42.8	9 151.7	+ 6 18.1	+1.2903	0.5282	-0.1604	+82	+55
67 Aquarii	6.4	+0.28	+ 4.9	- 7 21.9	1 57.6	+ 6 23.8	-0.1689	0.5281	+0.1604	+23	-45
λ Aquarii	3.8	0.22	4.7	7 59.3	6 47.6	+11 5.2	+1.2961	0.5265	-0.1629	+82	+56
78 Aquarii	6.3	0.21	4.6	7 36.8	7 48.1	-11 55.8	-1.0504	0.5262	-0.1634	+83	+28
252 B. Aquarii	5.8	0.23	3.9	5 23.8	8 8.0	-11 36.8	-1.3265	0.5261	-0.1635	-66	-78
263 B. Aquarii	6.1	0.20	3.6	5 7.5	11 25.8	- 8 24.7	-1.0853	0.5251	-0.1650	-32	-90
82 Aquarii	6.4	+0.18	+ 4.1	- 6 59.2	11 57.0	- 7 54.5	+1.0454	0.5250	+0.1652	+84	+27
293 B. Aquarii	5.5	0.15	2.7	3 54.9	18 46.0	- 1 17.4	-1.1956	0.5232	-0.1678	-42	-90
URANUS	6.2	..	..	5 54.6	19 16.9	- 0 47.4	+1.0863	0.5218	-0.1675	+85	+30
96 Aquarii	5.7	0.12	3.1	5 32.7	20 45.6	+ 0 38.7	+0.9326	0.5227	-0.1685	+85	+19
316 B. Aquarii	6.5	0.13	2.6	4 20.3	21 12.8	+ 1 5.2	-0.3192	0.5226	-0.1686	+17	-54
337 B. Aquarii	6.4	+0.08	+ 2.5	- 4 57.1	10 2 5.9	+ 5 49.6	+1.1846	0.5216	+0.1701	+86	+40
342 B. Aquarii	6.5	0.07	2.3	4 30.4	3 9.0	+ 6 50.9	+0.8744	0.5214	-0.1703	+86	+15
20 Piscium	5.6	+0.01	1.4	3 11.4	11 51.1	- 8 42.0	+0.9113	0.5200	-0.1721	+87	+17
80 B. Piscium	6.3	-0.04	+ 0.1	- 0 55.8	20 58.0	+ 0 9.3	-0.0127	0.5191	-0.1731	+34	-35
98 B. Piscium	6.3	0.06	- 1.0	+ 1 15.6	11 345.5	+ 6 45.3	-1.2644	0.5187	-0.1733	-49	-89
44 Piscium	6.0	-0.09	- 1.3	+ 1 30.8	7 49.6	+10 42.4	-0.8401	0.5187	+0.1731	-13	-89
155 B. Piscium	6.5	0.16	2.6	2 58.0	21 39.7	+ 0 9.0	-0.0694	0.5192	-0.1713	+31	-38
77 Piscium	6.4	0.19	3.5	4 29.9	12 523.8	+ 7 39.8	-0.4531	0.5200	-0.1694	+10	-63
e Piscium	5.6	0.20	3.8	5 14.5	6 45.8	+ 8 59.4	-1.0486	0.5201	-0.1689	-27	-85
VENUS	-3.4	..	..	6 3.7	12 35.5	- 9 20.9	-0.9833	0.4703	-0.1405	-23	-84
μ Piscium	5.0	-0.24	- 4.6	+ 5 44.8	18 18.9	- 3 47.3	+0.3189	0.5219	+0.1647	+54	-16
NEW MOON.											
111 Tauri	5.1	-0.30	-10.3	+17 18.6	17 14 35.0	-11 5.9	+0.8403	0.5572	+0.0410	+90	+28
115 Tauri	5.3	0.30	10.2	17 53.7	15 51.5	- 9 52.0	+0.2546	0.5576	-0.0389	+50	- 5
117 Tauri	6.0	-0.30	-10.4	+17 10.4	16 16.0	- 9 28.2	+1.0561	0.5576	+0.0383	+90	+44

486 ELEMENTS OF OCCULTATIONS, 1923.

MAY.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	γ	α'	δ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
119 Tauri	4.9	-0.29	-10.2	+18 32.1	17 18 11.2	- 7 36.9	-0.3568	0.5581	+0.0352	+14	-40
120 Tauri	5.6	0.29	10.2	18 29.0	18 47.8	- 7 1.5	-0.2795	0.5582	0.0342	+19	-35
130 Tauri	5.6	0.27	10.3	17 41.9	18 11 3.6	- 0 48.5	+0.7591	0.5597	0.0236	+90	+25
64 Orionis	5.1	0.23	10.0	19 41.4	8 32.7	+ 6 15.8	-1.2724	0.5612	0.0113	-69	-71
19 B. Geminorum	6.2	0.21	10.2	18 41.9	13 10.4	+10 44.2	-0.1640	0.5620	0.0035	+25	-25
124 H ¹ . Orionis	5.7	-0.21	-10.4	+17 55.6	13 36.4	+11 9.3	+0.6726	0.5621	+0.0027	+89	+22
71 Orionis	5.1	0.21	10.2	19 10.9	13 45.6	+11 18.3	-0.6830	0.5621	+0.0025	- 5	-65
292 B. Orionis	6.5	0.19	10.4	17 47.9	16 46.6	- 9 47.1	+0.8104	0.5626	-0.0027	+90	+30
26 Geminorum	5.2	0.14	10.4	17 43.1	19 2 17.9	- 0 35.1	+0.7891	0.5638	0.0191	+90	+27
74 B. Geminorum	6.2	0.12	10.2	18 16.5	4 32.8	+ 1 35.1	+0.1431	0.5641	0.0229	+43	-10
110 B. Geminorum	6.2	-0.08	-10.2	+17 51.8	11 20.7	+ 8 9.2	+0.3894	0.5647	-0.0346	+60	+ 3
162 B. Geminorum	5.7	+0.03	10.2	17 14.9	20 0 35.2	- 3 3.6	+0.4362	0.5654	0.0571	+64	+ 3
f Geminorum	5.3	0.05	9.9	17 50.9	4 1.7	+ 0 15.9	+0.4096	0.5655	0.0629	+12	-47
1 Cancri	6.0	0.12	10.3	15 59.7	11 55.5	+ 7 53.4	+1.0123	0.5655	0.0759	+90	+37
2 B. Cancri	6.0	0.13	10.0	16 43.5	12 36.2	+ 8 32.8	+0.1853	0.5656	0.0770	+46	-13
3 Cancri	5.7	0.13	- 9.8	+17 31.1	13 36.7	+ 9 31.0	-0.7346	0.5655	-0.0786	- 7	-73
5 Cancri	5.9	0.14	10.0	16 40.0	13 56.6	+ 9 50.3	+0.1427	0.5655	0.0792	+43	-15
90 B. Cancri	6.3	0.29	9.9	15 34.7	21 5 30.6	+ 0 52.1	-0.1324	0.5652	0.1035	+27	-33
54 Cancri	6.3	0.36	9.6	15 38.1	12 12.5	+ 7 20.2	-0.9169	0.5650	0.1134	-19	-75
o ¹ Cancri	5.1	0.39	9.5	15 37.0	15 0.0	+10 1.9	-1.2186	0.5650	0.1174	-47	-75
ξ Leonis	5.1	0.58	-10.2	+11 38.3	22 6 39.1	+ 1 8.8	+0.9282	0.5645	-0.1384	+90	+24
18 Leonis	5.8	0.05	9.7	12 9.8	13 8.6	+ 7 24.9	-0.5406	0.5644	0.1463	- 5	-65
19 Leonis	6.4	0.65	9.8	11 55.3	13 37.0	+ 7 52.3	-0.3607	0.5644	0.1468	+15	-52
R Leonis(var.)	4.6	0.65	9.8	11 47.0	13 40.3	+ 7 55.5	-0.2257	0.5644	0.1469	+22	-43
A Leonis	4.6	0.77	9.9	10 22.4	22 50.5	- 7 13.1	-0.1612	0.5645	0.1571	+26	-41
44 Leonis	5.9	+0.87	- 9.8	+ 9 10.4	23 6 38.8	+ 0 19.0	-0.1846	0.5648	-0.1649	+25	-43
6 Leonis	3.8	0.90	9.4	9 42.0	10 2.4	+ 3 35.5	-1.2885	0.5649	0.1680	-55	-81
48 Leonis	5.2	0.93	10.2	7 20.9	10 56.9	+ 4 28.2	+0.9695	0.5650	0.1688	+90	+24
49 Leonis	5.7	0.92	9.6	9 2.8	11 2.7	+ 4 33.8	-0.7864	0.5650	0.1689	-10	-81
37 Sextantis	6.3	1.00	10.1	6 46.6	16 1.0	+ 9 21.8	+0.6851	0.5653	0.1731	+87	+ 5
56 Leonis	6.1	+1.05	- 9.8	+ 6 35.6	20 28.0	-10 20.3	+0.0921	0.5657	-0.1766	+40	-28
c Leonis	5.1	1.08	9.7	6 30.8	22 35.0	- 8 17.8	-0.2002	0.5660	0.1781	+24	-45
80 Leonis	6.4	1.23	9.6	4 16.9	24 9 47.3	+ 2 31.2	+0.0300	0.5675	0.1849	+37	-33
83 Leonis	6.3	1.22	9.8	3 25.8	10 13.5	+ 2 56.5	+0.8111	0.5676	0.1852	+90	+11
r Leonis	5.2	1.25	9.9	3 16.7	10 43.4	+ 3 25.4	+0.8731	0.5677	0.1854	+90	+15
89 Leonis	5.7	+1.28	- 9.6	+ 3 29.1	13 35.3	+ 6 11.3	+0.1292	0.5681	-0.1868	+42	-27
β Virginis	3.8	1.40	9.5	2 11.8	20 47.4	-10 51.7	+0.0740	0.5696	0.1866	+39	-30
27 B. Virginis	6.5	1.43	9.5	+ 0 57.4	25 0 30.7	- 7 16.1	+0.6138	0.5704	0.1906	+78	- 1
13 Virginis	5.9	1.55	9.1	- 0 21.7	9 7.2	+ 1 2.2	+0.2866	0.5726	0.1921	+52	-19
η Virginis	4.0	1.55	9.0	0 14.5	9 39.8	+ 1 33.6	+0.0615	0.5728	0.1922	+38	-31
γ Vir. (mean)	2.9	1.65	- 8.2	- 1 1.8	19 9.0	+10 42.6	-0.9724	0.5756	-0.1920	-22	-90
38 Virginis	6.1	1.74	8.3	3 8.2	26 0 6.7	- 8 30.5	+0.1788	0.5772	0.1912	+45	-25
91 G. Virginis	6.5	1.76	8.5	3 48.5	0 17.5	- 8 20.1	+0.8124	0.5773	0.1911	+87	+11
SATURN	0.8	..	..	2 57.6	2 26.4	- 6 15.8	-0.4413	0.5796	0.1911	+10	-63
k Virginis	5.7	1.78	8.0	3 24.0	2 53.2	- 5 49.9	-0.0898	0.5782	0.1905	+29	-40
46 Virginis	6.1	+1.78	- 7.8	- 2 57.4	3 17.4	- 5 26.7	-0.6069	0.5784	-0.1904	+ 1	-77
48 Virginis	6.5	1.80	7.8	3 15.1	4 42.5	- 4 4.6	-0.5835	0.5788	0.1899	+ 2	-75
θ Virginis	4.4	1.85	8.0	5 7.8	7 17.2	- 1 35.5	+0.7902	0.5798	0.1891	+85	+10
65 Virginis	6.0	1.90	7.1	4 31.4	12 58.6	+ 3 53.4	-0.8753	0.5819	0.1866	-16	-90
66 Virginis	5.7	1.92	7.1	4 45.8	13 29.7	+ 4 23.4	-0.7336	0.5821	0.1863	- 7	-90
72 Virginis	6.1	+1.96	- 7.1	- 6 4.5	15 58.7	+ 6 47.0	+0.1056	0.5830	-0.1850	+40	-29

ELEMENTS OF OCCULTATIONS, 1923. 487

MAY.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, <i>H</i>	<i>Y</i>	<i>x'</i>	<i>y'</i>	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
<i>l</i> Virginis	4.8	+1.06	-7.0	5 51.6	26 16 38.0	+ 7 24.9	-0.2282	0.5833	-0.1847	1.21	-18
88 Virginis	6.5	2.03	6.2	6 27.3	23 29.6	- 9 58.7	-0.8901	0.5800	0.1802	-18	-90
598 B. Virginis	6.1	2.07	6.1	7 40.9	27 2 16.6	- 7 17.9	-0.1749	0.5871	0.1781	+23	-45
623 B. Virginis	6.5	2.13	5.8	8 53.4	6 10.1	- 3 33.1	+0.3321	0.5887	0.1749	+52	-16
95 Virginis	5.4	2.13	5.6	8 56.9	7 8.8	- 2 30.6	+0.2190	0.5891	0.1740	+45	-23
96 Virginis	6.5	+2.16	- 5.7	9 58.3	8 5.1	- 1 42.4	+1.0677	0.5895	-0.1731	+81	+29
κ Virginis	4.3	2.17	5.4	9 55.0	9 41.4	- 0 9.7	+0.7369	0.5901	0.1716	+81	+ 6
4 G. Libræ	6.5	2.21	5.0	11 19.3	14 31.9	+ 4 20.8	+1.3041	0.5921	0.1668	+78	+60
6 B. Libræ	6.2	2.26	4.2	11 58.8	19 35.3	+ 9 21.7	+1.1233	0.5941	0.1611	+79	+34
22 B. Libræ	6.4	2.33	3.7	12 31.0	23 59.2	-10 24.5	+0.9569	0.5959	0.1558	+78	+21
13 Libræ	5.7	1.233	- 3.1	-11 35.2	28 2 36.8	- 7 53.0	-0.3669	0.5968	-0.1524	+10	-58
ξ^2 Libræ	5.6	2.33	2.9	11 6.0	3 34.7	- 6 57.3	-0.9922	0.5972	0.1511	-28	-90
γ Libræ	4.0	2.47	0.7	14 32.0	19 2.6	+ 7 54.4	+0.2315	0.6023	0.1280	+41	-22
190 B. Libræ	6.5	2.18	0.2	14 47.8	22 10.1	+10 54.6	+0.1001	0.6032	0.1228	+32	-29
η Libræ	5.5	2.49	- 0.2	15 25.7	22 25.4	+11 9.3	+0.6924	0.6033	0.1224	+74	+ 4
195 B. Libræ	6.2	1.248	+ 0.4	-13 54.1	29 1 25.7	- 9 57.5	-1.1762	0.6040	-0.1172	-48	-90
202 B. Libræ	6.4	2.48	0.7	14 10.1	3 14.2	- 8 13.3	-1.1168	0.6045	0.1140	-43	-90
203 B. Libræ	6.2	2.49	0.7	14 36.3	3 21.3	- 8 6.5	-0.7040	0.6045	0.1138	-13	-90
49 Libræ	5.4	2.51	0.7	16 18.4	4 50.8	- 6 40.4	+0.8115	0.6048	0.1111	+74	+12
φ Ophiuchi	4.4	2.54	3.0	16 26.7	16 54.5	+ 4 54.5	-0.2563	0.6068	0.0884	+ 9	-51
24 Scorpïi	5.0	1.256	+ 3.7	-17 35.6	20 58.4	+ 8 48.6	+0.5409	0.6071	-0.0803	+57	- 4
78 B. Ophiuchi	6.5	2.54	4.0	16 41.0	30 2 37.6	- 9 45.7	-0.7854	0.6073	0.0688	-23	-90
90 B. Ophiuchi	6.5	2.56	4.8	18 7.7	4 3.6	- 8 23.1	+0.5561	0.6073	0.0658	+58	- 3
29 Ophiuchi	6.4	2.57	5.0	18 46.3	4 52.8	- 7 35.9	+1.1442	0.6072	0.0641	+72	+40
125 B. Ophiuchi	6.2	2.54	5.4	17 30.4	7 23.4	- 5 11.3	-0.2707	0.6071	0.0589	+ 6	-52
164 B. Ophiuchi	6.0	1.253	+ 6.1	-17 40.5	11 56.4	- 0 49.1	-0.3498	0.6068	-0.0494	+ 1	-57
192 B. Ophiuchi	6.3	2.53	6.5	18 22.4	13 46.8	+ 0 56.8	+0.2609	0.6066	0.0455	+35	-20
305 B. Ophiuchi	6.3	2.48	8.1	18 47.2	31 2 4.1	-11 15.2	-0.2782	0.6041	0.0194	+33	-19
64 B. Sagittarii	6.1	2.42	9.4	18 41.0	9 49.8	- 3 47.8	+0.6879	0.6018	0.0030	+21	-29
6 B. Scuti	5.9	2.40	9.3	17 23.9	10 31.0	- 3 8.3	-1.2115	0.6015	0.0015	-63	-90
52 G. Sagittarii	6.4	+2.42	+ 9.5	-18 29.4	10 36.8	- 3 2.6	-0.1096	0.6015	-0.0013	+ 9	-41
17 H. Sagittarii	6.4	2.41	9.6	18 38.0	11 6.4	+ 2 34.2	+0.0495	0.6013	-0.0003	+18	-32
γ Sagit. (<i>var.</i>)	5.4	2.41	9.8	18 53.6	12 9.9	+ 1 33.2	+0.2981	0.6009	+0.0019	+33	-18
85 B. Sagittarii	6.0	2.37	9.9	17 50.7	14 47.8	+ 0 58.5	-0.7195	0.5999	0.0074	-26	-90
95 B. Sagittarii	5.7	2.38	10.2	18 40.5	15 41.3	+ 1 50.0	+0.2000	0.5995	0.0093	+28	-23
100 B. Sagittarii	5.0	+2.37	+10.2	-18 27.2	16 11.4	+ 2 18.9	-0.1212	0.5993	+0.0103	+10	-42

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171 B. Sagittarii	6.1	+2.26	+11.8	-19 21.3	1 4 58.3	- 9 23.7	+1.0968	0.5933	+0.0361	+71	+35
173 B. Sagittarii	6.4	1.26	+11.8	-19 12.7	4 59.8	- 9 22.2	+0.9514	0.5933	+0.0361	+71	+23
187 B. Sagittarii	6.4	2.24	11.8	18 51.3	6 38.9	- 7 46.9	+0.6498	0.5924	0.0393	+64	+ 2
190 B. Sagittarii	5.4	2.24	12.0	19 24.5	7 6.1	- 7 20.4	+1.2345	0.5921	0.0402	+71	+53
<i>d</i> Sagittarii	5.0	2.20	12.3	19 5.3	10 57.9	- 3 37.7	+1.0781	0.5900	0.0476	+71	+33
<i>q</i> Sagittarii	4.0	2.17	12.2	17 59.4	12 39.1	- 2 0.2	+0.0360	0.5890	0.0508	+22	-33
45 Sagittarii	6.0	+2.17	+12.3	-18 26.9	12 42.8	- 1 56.7	+0.5097	0.5890	+0.0509	+52	- 6
267 B. Sagittarii	5.8	2.10	12.8	18 24.0	19 3.7	+ 4 10.0	+0.8221	0.5852	0.0625	+72	+13
54 Sagittarii	5.4	2.07	12.5	16 28.1	20 37.6	+ 5 40.5	-1.0695	0.5842	0.0653	-43	-90
<i>e</i> Sagittarii	5.2	2.06	12.5	16 18.1	21 23.1	+ 6 24.2	-1.1906	0.5837	0.0666	-55	-90
16 B. Capricorni	6.2	1.86	13.1	15 1.5	2 13 50.0	- 1 44.5	-1.2056	0.5729	0.0936	-54	-90
β Capricorni	3.2	+1.86	+13.1	-15 1.3	13 56.2	- 1 38.5	-1.1992	0.5729	+0.0938	-53	-90

488 ELEMENTS OF OCCULTATIONS, 1923.

JUNE.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	γ	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
31 B. Capricorni	6.4	+1.83	+13.5	-15 59.6	2 17 19.0	+ 1 37.1	+0.1396	0.5705	+0.0988	+33	-27
27 G. Capricorni	6.2	+1.81	13.3	15 18.7	18 21.6	+ 2 37.5	-0.4697	0.5699	0.1004	0	-66
47 B. Capricorni	6.2	1.79	13.8	16 47.3	20 19.1	+ 4 30.9	+1.2753	0.5685	0.1032	+74	+59
τ Capricorni	5.2	1.77	13.4	15 13.3	22 0.1	+ 6 8.4	-0.1891	0.5674	0.1055	+15	-46
61 B. Capricorni	5.9	1.76	13.8	16 23.7	22 33.6	+ 6 40.8	+1.1003	0.5670	0.1063	+74	+34
95 B. Capricorni	5.9	+1.66	+13.4	-14 46.6	3 6 45.7	- 9 24.0	+0.3202	0.5614	0.1172	+46	-17
53 B. Aquarii	6.5	1.56	13.0	13 31.1	14 43.1	- 1 42.6	-0.0391	0.5561	0.1267	+26	-37
18 Aquarii	5.5	1.52	12.9	13 12.4	18 32.2	+ 1 58.9	+0.1212	0.5536	0.1310	+36	-28
72 B. Aquarii	6.5	1.49	12.5	11 53.9	20 26.6	+ 3 49.6	-1.0167	0.5524	0.1330	-31	-90
λ Capricorni	5.5	1.39	12.3	11 43.1	4 5 7.8	-11 46.2	-0.0190	0.5470	0.1415	+29	-36
96 B. Aquarii	6.5	+1.35	+11.9	-10 40.3	8 32.1	- 8 28.4	-0.6524	0.5449	+0.1446	- 6	-83
150 B. Aquarii	6.0	1.22	11.2	9 25.3	19 54.5	+ 2 32.6	-0.3011	0.5385	0.1537	+15	-53
167 G. Aquarii	6.3	1.11	10.3	8 17.7	5 6 37.4	-11 4.2	+0.1662	0.5332	0.1605	+42	-20
213 B. Aquarii	6.5	1.08	10.4	8 42.7	8 59.4	- 8 46.5	+1.0002	0.5321	0.1619	+82	+24
67 Aquarii	6.4	1.09	9.9	7 21.8	9 5.3	- 8 40.8	-0.4463	0.5321	0.1619	+ 8	-63
λ Aquarii	3.8	+1.03	+ 9.9	- 7 59.2	13 50.6	- 4 4.1	+1.0071	0.5300	+0.1644	+83	+24
78 Aquarii	6.3	1.02	9.7	7 36.7	14 50.5	- 3 6.1	+0.7636	0.5296	0.1648	+83	+ 8
81 Aquarii	6.4	0.98	9.4	7 28.3	18 20.0	+ 0 17.2	+1.1919	0.5283	0.1664	+83	+41
82 Aquarii	6.4	0.98	9.2	6 59.1	18 55.5	+ 0 51.6	+0.7599	0.5280	0.1666	+84	+ 8
φ Aquarii	4.4	0.92	8.6	6 27.7	6 059.7	+ 6 45.0	+1.2104	0.5258	0.1690	+84	+42
URANUS	6.2	..	..	- 5 40.3	3 24.7	+ 9 5.8	+0.7578	0.5245	+0.1696	+85	+ 8
96 Aquarii	5.7	+0.91	+ 8.2	5 32.6	3 37.3	+ 9 18.0	+0.6520	0.5250	0.1699	+80	+ 1
316 B. Aquarii	6.5	0.92	7.7	4 20.2	4 4.3	+ 9 44.2	-0.5908	0.5248	0.1700	+ 2	-76
337 B. Aquarii	6.4	0.86	7.6	4 57.0	8 54.1	- 9 34.5	+0.9056	0.5234	0.1714	+86	+17
342 B. Aquarii	6.5	0.85	7.4	4 30.4	9 50.6	- 8 33.9	+0.5981	0.5231	0.1716	+75	- 2
20 Piscium	5.6	+0.78	+ 6.4	- 3 11.3	18 34.0	- 0 11.5	+0.6414	0.5211	+0.1734	+80	+ 1
80 B. Piscium	6.3	0.71	5.0	- 0 55.7	7 3 37.3	+ 8 36.2	-0.2605	0.5195	0.1743	+20	-51
44 Piscium	6.0	0.63	3.4	+ 1 30.9	14 26.0	- 4 53.7	-1.0820	0.5183	0.1742	-30	-89
10 Ceti	6.4	0.61	4.0	- 0 28.5	15 5.0	- 4 15.8	+1.2280	0.5183	0.1742	+90	+44
155 B. Piscium	6.5	0.53	1.8	+ 2 58.1	8 4 14.2	+ 8 31.0	-0.2969	0.5181	0.1723	+18	-52
77 Piscium	6.4	0.48	+ 0.7	+ 4 29.9	11 58.1	- 7 58.3	-0.6680	0.5186	+0.1704	- 2	-82
e Piscium	5.6	0.47	+ 0.4	5 14.6	13 20.1	- 6 38.7	-1.2597	0.5187	0.1700	-48	-85
μ Piscium	5.0	0.39	- 0.6	5 44.9	9 053.7	+ 4 34.9	+0.1230	0.5202	0.1658	+42	-27
39 B. Arietis	6.5	0.26	2.4	7 22.0	19 8.3	- 1 42.1	+1.2722	0.5242	0.1563	+90	+53
64 Ceti	5.8	0.24	3.0	8 12.6	22 31.8	+ 1 35.5	+0.8638	0.5251	0.1541	+90	+17
ξ^1 Ceti	4.5	+0.24	- 3.1	+ 8 29.1	23 22.8	+ 2 25.0	+0.6887	0.5253	+0.1536	+88	+ 6
ξ Arietis	5.5	0.22	3.9	10 15.7	5 29.4	+ 8 20.9	-0.3537	0.5272	0.1493	+15	-53
25 Arietis	6.5	0.19	4.0	9 51.4	6 50.2	+ 9 39.3	+0.2954	0.5276	0.1483	+53	-15
389 B. Ceti	6.3	0.19	3.9	9 13.3	7 57.8	+10 44.9	+1.1648	0.5279	0.1474	+90	+41
85 Ceti	6.3	0.15	4.6	10 24.8	14 34.2	- 6 50.4	+0.8023	0.5302	0.1422	+90	+15
38 Arietis	5.2	+0.17	- 5.1	+12 7.3	15 48.8	- 5 38.1	-0.9114	0.5306	+0.1411	-18	-78
147 B. Arietis	5.8	0.10	6.0	12 53.4	11 2 40.5	+ 4 53.9	-0.2790	0.5346	0.1312	+19	-46
30 B. Tauri	6.4	+0.03	7.3	15 10.6	18 16.7	- 3 58.6	-0.8774	0.5408	+0.1147	-16	-75
NEW MOON.											
162 B. Geminorum	5.7	-0.09	- 9.6	+17 14.9	16 6 12.9	+ 4 21.4	+0.6049	0.5697	-0.0558	+80	+13
f Geminorum	5.3	0.08	9.4	17 50.9	9 37.1	+ 7 38.6	-0.2324	0.5697	0.0616	+22	-35
1 Cancri	6.0	0.03	9.5	15 59.7	17 25.8	- 8 49.0	+1.1994	0.5696	0.0748	+90	+55
2 B. Cancri	6.0	0.03	9.3	16 43.5	18 6.1	- 8 10.1	+0.3754	0.5695	0.0759	+59	- 2
3 Cancri	5.7	0.03	9.1	17 31.1	19 5.9	- 7 12.5	-0.5407	0.5695	0.0775	+ 4	-58
5 Cancri	5.9	-0.02	- 9.3	+16 40.0	19 25.6	- 6 53.4	+0.3351	0.5694	-0.0781	+56	- 5

ELEMENTS OF OCCULTATIONS, 1923. 489

JUNE.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	P	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
d^3 Cancri	6.2	+0.03	-8.8	+17 17.9	17 6 15.4	+ 3 33.8	-1.2716	0.5687	-0.0955	-59	-73
90 B. Cancri	6.3	0.08	9.0	15 34.7	10 51.6	+ 8 0.5	+0.0843	0.5683	0.1026	+40	-21
54 Cancri	6.3	0.12	8.6	15 38.1	17 31.1	- 9 33.8	-0.6911	0.5675	0.1126	- 4	-73
o^1 Cancri	5.1	0.15	8.5	15 37.0	20 17.7	- 6 53.1	-0.9895	0.5672	0.1166	-24	-75
o^3 Cancri	5.7	0.15	8.4	15 52.5	20 26.6	- 6 44.4	-1.2782	0.5672	0.1168	-58	-75
ξ Leonis	5.1	+0.30	- 8.8	+11 38.3	18 11 54.6	+ 8 11.6	+1.1770	0.5653	-0.1376	+90	+45
18 Leonis	5.8	0.36	8.3	12 9.8	18 24.7	- 9 31.7	-0.2888	0.5645	0.1455	+19	-47
19 Leonis	6.4	0.36	8.3	11 55.4	18 53.1	- 9 4.3	-0.1080	0.5645	0.1460	+29	-36
R Leonis(var.)	4.0	0.37	8.4	11 47.1	18 56.5	- 9 1.0	+0.0275	0.5644	0.1461	+36	-28
A Leonis	4.0	0.47	8.3	10 22.4	19 4 8.9	- 0 7.4	+0.0991	0.5634	0.1502	+41	-26
44 Leonis	5.9	+0.56	- 8.1	+ 9 10.5	12 0.6	+ 7 28.2	+0.0798	0.5628	-0.1630	+39	-28
45 Leonis	5.8	0.57	7.7	10 9.2	13 5.5	+ 8 30.8	-1.1083	0.5627	0.1648	-33	-80
e Leonis	3.8	0.59	7.7	9 42.1	15 26.2	+10 46.7	-1.0297	0.5625	0.1669	-26	-81
48 Leonis	5.2	0.62	8.4	7 20.9	16 21.3	+11 40.0	-1.2433	0.5625	0.1677	+90	+49
49 Leonis	5.7	0.61	7.8	9 2.8	16 27.1	+11 45.6	-0.5241	0.5624	0.1678	+ 6	-66
37 Sextantis	6.3	+0.69	- 8.2	+ 6 46.6	21 28.8	- 7 23.0	+0.9591	0.5621	-0.1719	+90	+22
56 Leonis	6.1	0.74	8.0	6 35.7	20 1 59.4	- 3 1.6	+0.3028	0.5620	0.1753	+57	-13
c Leonis	5.1	0.76	7.9	6 30.8	4 8.1	- 0 57.3	+0.0683	0.5620	0.1767	+39	-30
80 Leonis	6.4	0.92	7.7	4 16.9	15 32.0	+10 3.4	+0.2098	0.5621	0.1834	+53	-18
83 Leonis	6.3	0.92	7.9	3 25.9	15 58.6	+10 29.0	+1.0886	0.5621	0.1836	+90	+31
τ Leonis	5.2	+0.95	- 8.0	+ 3 16.7	16 29.1	+10 58.5	-1.1511	0.5622	-0.1838	+90	+37
89 Leonis	5.7	0.97	7.7	3 29.2	19 24.5	-10 12.0	+0.3991	0.5623	0.1851	+60	-12
β Virginis	3.8	1.10	7.6	2 11.8	2 46.0	- 3 5.6	+0.3404	0.5629	0.1878	+56	-16
27 B. Virginis	6.5	1.14	7.5	+ 0 57.4	6 34.6	+ 0 35.2	+0.8844	0.5633	0.1888	+90	+16
13 Virginis	5.9	1.27	7.2	- 0 21.7	15 24.4	+ 9 6.8	+0.5472	0.5646	0.1902	+71	- 5
η Virginis	4.0	+1.27	- 7.1	- 0 14.5	15 57.9	+ 9 39.1	+0.3188	0.5647	-0.1903	+54	-17
γ Vir. (mean)	2.9	1.39	6.3	1 1.7	1 43.2	- 4 55.7	-0.7386	0.5667	0.1901	- 6	-90
38 Virginis	6.1	1.50	6.5	3 8.2	6 49.9	+ 0 0.3	+0.4224	0.5680	0.1892	+61	-12
91 G. Virginis	6.5	1.52	6.7	3 48.4	7 1.1	+ 0 11.2	+1.0645	0.5680	0.1892	+87	+28
SATURN	1.0	..	..	2 55.7	8 35.8	+ 1 42.6	-0.1215	0.5683	0.1886	+28	-42
k Virginis	5.7	+1.54	- 6.3	- 3 23.9	9 41.5	+ 2 46.0	+0.1464	0.5688	-0.1886	+43	-27
46 Virginis	6.1	1.54	6.1	2 57.4	10 6.5	+ 3 10.1	-0.3786	0.5689	0.1885	+14	-58
48 Virginis	6.5	1.56	6.0	3 15.0	11 34.3	+ 4 34.8	-0.3569	0.5693	0.1881	+15	-57
l Virginis	4.4	1.62	6.4	5 7.8	14 13.9	+ 7 8.8	+1.0389	0.5701	0.1872	+85	+26
65 Virginis	6.0	1.69	5.5	4 31.4	20 6.4	-11 11.1	-0.6655	0.5719	0.1848	- 3	-84
66 Virginis	5.7	+1.71	- 5.5	- 4 45.8	20 38.5	-10 40.1	-0.5226	0.5721	-0.1846	+ 5	-69
72 Virginis	6.1	1.75	5.6	6 4.5	23 12.4	- 8 11.6	+0.3249	0.5730	0.1833	+53	-17
l Virginis	4.8	1.76	5.4	5 51.6	23 53.0	- 7 32.5	-0.0149	0.5732	0.1829	+33	-36
86 Virginis	5.6	1.76	4.9	5 0.3	1 26.0	- 6 2.8	-1.1568	0.5737	0.1821	-38	-90
88 Virginis	6.5	1.85	4.7	6 27.3	6 58.3	- 0 42.4	-0.6987	0.5757	0.1787	- 6	-89
598 B. Virginis	6.1	+1.91	- 4.7	- 7 40.9	9 50.9	+ 2 4.0	+0.0220	0.5768	-0.1766	+34	-34
623 B. Virginis	6.5	1.98	4.5	8 53.4	13 52.2	+ 5 56.7	+0.5290	0.5783	0.1736	+67	- 6
95 Virginis	5.4	1.99	4.4	8 56.0	14 52.9	+ 5 55.1	+0.4123	0.5788	0.1727	+58	-12
96 Virginis	6.5	2.02	4.6	9 58.3	15 51.1	+ 7 51.3	+1.2710	0.5791	0.1719	+81	+52
κ Virginis	4.3	2.04	4.2	9 55.0	17 30.6	+ 9 27.2	+0.9327	0.5797	0.1705	+81	+19
6 B. Libræ	6.2	+2.17	- 3.2	-11 58.8	24 3 44.1	- 4 41.7	+1.3036	0.5839	-0.1604	+77	+60
22 B. Libræ	6.4	2.26	2.8	12 31.0	8 16.6	- 0 19.2	+1.1247	0.5858	0.1552	+78	+35
13 Libræ	5.7	2.27	2.1	11 35.1	10 59.2	+ 2 17.3	-0.2238	0.5869	0.1520	+18	-48
ξ^2 Libræ	5.6	2.27	1.8	11 6.0	11 58.9	+ 3 14.8	-0.8599	0.5873	0.1507	-19	-90
17 Libræ	6.4	2.27	1.7	10 50.8	12 35.4	+ 3 49.9	-1.2048	0.5876	0.1500	-48	-90
18 Libræ	5.9	+2.27	- 1.7	-10 50.2	12 52.4	+ 4 6.2	-1.2579	0.5877	-0.1496	-55	-90

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JUNE.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	γ	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
γ Libræ	4.0	+2.50	0.0	-14 32.0	25 3 54.5	- 5 25.8	+0.3437	0.5936	-0.1284	+8	-16
190 B. Libræ	6.5	+2.53	+0.4	14 47.8	7 7.1	- 2 20.4	+0.2029	0.5947	0.1234	+39	-23
η Libræ	5.5	+2.54	0.3	15 25.7	7 22.9	- 2 5.3	+0.8018	0.5948	0.1230	+75	+11
195 B. Libræ	6.2	+2.54	1.2	13 54.1	10 27.9	+ 0 52.6	-1.0966	0.5959	0.1180	-40	-90
202 B. Libræ	6.4	+2.56	1.4	14 10.4	12 19.2	+ 2 39.6	-1.0406	0.5905	0.1149	-36	-90
203 B. Libræ	6.2	+2.57	+1.4	-14 36.3	12 26.6	+ 2 46.7	-0.6240	0.5965	-0.1147	- 8	-81
48 Libræ	4.6	+2.56	1.6	14 3.5	13 6.7	+ 3 25.4	-1.2469	0.5967	0.1135	-58	-90
49 Libræ	5.4	+2.59	1.2	16 18.4	13 58.3	+ 4 15.0	+0.9056	0.5970	0.1121	174	+18
ϕ Ophiuchi	4.4	+2.70	3.5	16 26.7	26 2 18.5	- 7 53.6	-0.2044	0.6004	0.0899	+12	-47
24 Scorpï	5.0	+2.74	4.1	17 35.6	6 27.2	- 3 54.0	+0.5898	0.6013	0.0820	+62	- 1
78 B. Ophiuchi	6.5	+2.76	+5.2	-16 41.0	12 12.6	+ 1 37.3	-0.7622	0.6022	-0.0707	-21	-90
90 B. Ophiuchi	6.5	+2.79	5.2	18 7.7	13 39.9	+ 3 1.1	+0.5867	0.6024	0.0678	+60	- 2
29 Ophiuchi	6.4	+2.81	5.4	18 40.3	14 29.9	+ 3 49.2	+1.1768	0.6025	0.0662	+72	+44
125 B. Ophiuchi	6.2	+2.79	6.0	17 30.4	17 2.9	+ 6 16.2	-0.2553	0.6028	0.0610	+ 7	-51
164 B. Ophiuchi	6.0	+2.81	6.8	17 40.5	21 39.6	+10 42.0	-0.3462	0.6031	0.0516	+ 1	-57
192 B. Ophiuchi	6.3	+2.83	+7.0	-18 22.4	23 31.4	-11 30.6	+0.2634	0.6031	-0.0477	+35	-20
305 B. Ophiuchi	6.3	+2.85	9.1	18 47.2	27 11 55.6	+ 0 24.5	+0.2495	0.6025	0.0218	+32	-21
39 G. Sagittarii	6.3	+2.86	10.0	19 51.3	18 0.5	+ 6 15.1	+1.2373	0.6016	0.0090	+71	+54
64 B. Sagittarii	6.1	+2.84	10.4	18 41.0	19 43.5	+ 7 54.0	-0.0392	0.6013	0.0054	+18	-33
6 B. Scuti	5.9	+2.82	10.5	17 23.9	20 24.8	+ 8 33.7	-1.2654	0.6012	0.0039	-71	-80
52 G. Sagittarii	6.4	+2.84	+10.5	-18 29.4	20 30.8	+ 8 39.5	-0.1608	0.6011	-0.0037	+ 7	-45
17 H ¹ . Sagittarii	6.4	+2.84	10.6	18 38.8	21 0.4	+ 9 7.9	-0.0024	0.6010	0.0027	+16	-35
Y Sagit. (var.)	5.4	+2.81	10.7	18 53.5	22 4.0	+10 9.0	+0.2441	0.6008	-0.0005	+30	-21
85 B. Sagittarii	6.0	+2.82	11.1	17 50.7	28 0.42.3	-11 18.9	-0.8120	0.6001	+0.0050	-30	-90
95 B. Sagittarii	5.7	+2.83	11.2	18 46.5	1 35.7	-10 27.5	+0.1370	0.5999	0.0069	+24	-27
100 B. Sagittarii	5.0	+2.82	+11.3	-18 27.2	2 5.9	- 9 58.6	-0.1860	0.5998	1.00079	+ 6	-46
171 B. Sagittarii	0.1	+2.80	13.1	19 21.3	14 51.3	+ 2 17.3	+1.0015	0.5954	0.0339	+71	127
173 B. Sagittarii	6.4	+2.80	13.1	19 12.7	14 52.7	+ 2 18.7	+0.8561	0.5954	0.0340	+71	+16
187 B. Sagittarii	6.4	+2.78	13.3	18 51.3	16 31.4	+ 3 53.6	-0.5505	0.5947	0.0372	+55	- 4
190 B. Sagittarii	5.4	+2.79	13.4	19 24.5	16 58.8	+ 4 20.0	+1.1338	0.5946	0.0381	+71	+39
d Sagittarii	5.0	+2.76	+13.8	-19 5.2	20 48.8	+ 8 1.2	+0.9680	0.5929	+0.0456	+71	+24
g Sagittarii	4.0	+2.74	14.0	17 59.4	22 29.3	+ 9 37.9	-0.0767	0.5921	0.0488	+116	-39
45 Sagittarii	6.0	+2.75	14.0	18 26.9	22 33.0	+ 9 41.5	+0.3962	0.5921	0.0490	+44	-12
267 B. Sagittarii	5.8	+2.70	14.7	18 23.9	29 4 50.7	- 8 14.9	+0.6932	0.5890	0.0608	+70	+ 5
54 Sagittarii	5.4	+2.67	14.7	16 28.0	6 23.6	- 6 45.6	-1.1971	0.5882	0.0636	-56	-90
31 B. Capricorni	6.4	+2.52	+16.3	-15 59.6	30 2 48.8	-11 5.0	-0.0346	0.5762	+0.0980	+23	-37
27 G. Capricorni	6.2	+2.50	16.2	15 18.6	3 50.4	-10 5.7	-0.6428	0.5756	0.0996	-11	-84
47 B. Capricorni	6.2	+2.50	16.6	16 47.2	5 46.1	- 8 14.1	+1.0891	0.5744	0.1025	+74	+33
τ Capricorni	5.2	+2.47	16.4	15 13.3	7 25.4	- 6 38.3	-0.3705	0.5733	0.1049	+ 5	-58
61 B. Capricorni	5.9	+2.47	16.7	16 23.7	7 58.2	- 6 6.7	+0.9106	0.5730	0.1057	+74	+19
95 B. Capricorni	5.9	+2.39	+16.7	-14 46.6	16 1.8	+ 1 40.0	+0.1195	0.5677	+0.1169	+34	-28
53 B. Aquarii	6.5	+2.31	+16.7	-13 31.1	23 50.2	+ 9 12.4	-0.2512	0.5626	+0.1267	+14	-50

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18 Aquarii	5.5	+2.28	+16.7	-13 12.3	1 3 34.8	-11 10.5	-0.0984	0.5602	+0.1311	+23	-41
72 B. Aquarii	6.5	+2.25	16.5	11 53.9	5 27.0	- 9 22.1	-1.2311	0.5590	0.1332	-52	-90
λ Capricorni	5.5	+2.17	16.5	11 43.0	13 57.8	- 1 8.2	-0.2536	0.5536	0.1421	+16	-50
96 B. Aquarii	6.5	+2.14	16.2	10 40.2	17 18.0	+ 2 5.3	-0.8870	0.5515	0.1452	-20	-90
150 B. Aquarii	6.0	+2.03	15.8	9 25.2	2 4 26.6	-11 7.5	-0.5527	0.5449	0.1545	+ 1	-72
167 G. Aquarii	6.3	+1.93	+15.2	- 8 17.6	14 56.9	- 0 57.1	-0.1003	0.5392	+0.1616	+27	-41

ELEMENTS OF OCCULTATIONS, 1923. 491

JULY.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	r	r'	y'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
213 B. Aquarii	6.5	+1.90	+15.3	- 8 42.6	2 17 16.2	+ 1 17.9	+0.7251	0.5380	+0.1629	82	+ 6
67 Aquarii	6.4	1.91	14.8	7 21.7	17 22.0	+ 1 23.6	+0.7104	0.5379	+0.1630	- 7	- 90
λ Aquarii	3.8	1.86	14.9	7 59.1	22 1.9	+ 5 54.9	+0.7279	0.5356	+0.1655	83	+ 6
78 Aquarii	6.3	1.85	14.7	7 36.0	23 0.8	+ 6 52.0	+0.4855	0.5351	+0.1660	164	- 8
81 Aquarii	6.4	1.81	14.5	7 28.3	3 226.5	+10 11.4	+0.9080	0.5336	+0.1676	183	+17
82 Aquarii	6.4	+1.81	+14.3	- 6 59.0	3 1.4	+10 45.2	+0.4790	0.5333	+0.1678	164	- 9
φ Aquarii	4.4	1.76	13.8	6 27.6	8 59.3	- 7 27.7	+0.9224	0.5307	+0.1702	181	+18
URANUS	6.1	..	..	5 39.8	11 29.5	- 5 2.0	+0.1857	0.5302	+0.1712	165	- 8
96 Aquarii	5.7	1.74	13.5	5 32.5	11 31.3	- 4 57.3	+0.3666	0.5297	+0.1710	156	-15
316 B. Aquarii	6.5	1.75	13.0	4 20.1	12 0.8	- 4 31.6	+0.8677	0.5295	+0.1712	-15	-90
317 B. Aquarii	6.3	1.72	+13.7	- 6 19.5	12 11.2	- 4 18.6	+1.3316	0.5295	+0.1713	177	+65
337 B. Aquarii	6.4	1.69	12.9	4 50.9	16 46.0	+ 0 5.2	+0.6162	0.5278	+0.1726	177	- 1
342 B. Aquarii	6.5	1.68	12.7	4 30.3	17 47.6	+ 1 4.8	+0.3104	0.5274	+0.1720	153	-18
20 Piscium	5.6	1.61	11.8	3 11.2	4 217.6	+ 9 19.0	+0.3512	0.5247	+0.1745	156	-16
24 Piscium	6.1	1.58	11.8	3 34.8	4 53.3	+11 51.0	+1.2350	0.5240	+0.1749	187	+45
80 B. Piscium	6.3	+1.54	110.4	- 0 55.7	11 14.2	- 5 59.3	+0.5551	0.5224	+0.1754	1 4	-72
10 Ceti	6.4	1.43	9.4	- 0 28.4	22 34.8	+ 5 1.7	+0.9361	0.5204	+0.1752	190	+19
155 B. Piscium	6.5	1.35	7.1	+ 2 58.2	5 11 38.3	+ 0 17.4	+0.5765	0.5192	+0.1732	1 3	-74
77 Piscium	6.4	1.29	5.9	4 30.0	19 19.8	+ 1 10.9	+0.9419	0.5190	+0.1712	-19	-86
μ Piscium	5.0	1.20	4.4	5 44.9	6 8 13.2	+10 18.0	+0.1431	0.5198	+0.1665	127	-42
39 B. Arietis	6.5	1.03	+ 2.2	+ 7 22.0	7 2 27.8	+ 7 25.2	+1.0230	0.5228	+0.1570	190	+28
64 Ceti	5.8	1.01	1.6	8 12.6	5 51.7	+10 43.1	+0.6204	0.5236	+0.1549	179	+ 2
ξ ¹ Ceti	4.5	1.01	1.5	8 29.2	6 42.8	+11 32.7	+0.4467	0.5237	+0.1543	163	- 8
ξ Arietis	5.5	0.97	0.3	10 15.8	12 50.2	- 6 30.7	+0.8557	0.5254	+0.1501	1 2	-70
25 Arietis	6.5	0.95	0.2	9 51.4	14 11.2	- 5 14.1	+0.0641	0.5257	+0.1490	138	-28
389 B. Ceti	6.3	+0.94	+ 0.5	+ 9 13.4	15 19.0	- 4 6.3	+0.9342	0.5261	+0.1483	190	+22
85 Ceti	6.3	0.89	- 0.5	- 10 24.9	21 56.7	+ 2 19.7	+0.5822	0.5281	+0.1430	175	+ 1
38 Arietis	5.2	0.91	1.2	12 7.3	23 11.5	+ 3 32.2	+1.1276	0.5285	+0.1420	35	-78
147 B. Arietis	5.8	0.81	2.4	12 53.4	8 10 5.6	- 9 53.2	+0.4785	0.5324	+0.1322	1 8	-59
8 B. Tauri	6.2	0.72	3.0	12 21.4	19 1.4	- 1 13.7	+1.2503	0.5359	+0.1233	190	+56
30 B. Tauri	6.4	+0.70	- 4.3	+15 10.7	9 1 45.3	+ 5 17.7	+1.0485	0.5387	+0.1160	-29	-75
179 B. Tauri	5.9	0.58	5.3	14 57.4	16 21.8	- 4 33.2	+0.7630	0.5450	+0.0983	190	+17
48 Tauri	6.3	0.54	5.7	15 12.5	20 15.0	- 0 47.5	+0.8590	0.5468	+0.0932	190	+24
γ Tauri	3.9	0.53	5.9	15 26.5	22 10.5	+ 1 4.3	+0.7801	0.5477	+0.0907	+90	+19
δ Tauri	3.9	0.54	6.4	17 21.7	23 39.1	+ 2 30.1	+1.1861	0.5483	+0.0887	-44	-73
63 Tauri	5.7	+0.53	- 6.2	+16 35.8	23 53.6	+ 2 44.1	+0.3295	0.5184	+0.0883	+16	-44
64 Tauri	4.9	0.53	6.4	17 15.9	9 12.4	+ 3 2.3	+1.0315	0.5486	+0.0879	-28	-73
70 Tauri	6.4	0.51	6.1	15 15.9	9 57.4	+ 3 45.9	+0.6731	0.5489	+0.0869	188	+13
71 Tauri	4.6	0.50	6.1	15 26.6	1 18.3	+ 4 6.0	+1.0543	0.5490	+0.0864	190	+39
75 Tauri	5.2	0.50	6.3	16 11.2	2 17.8	+ 5 3.7	+0.3260	0.5495	+0.0857	+55	- 6
θ ¹ Tauri	4.2	0.50	- 6.2	+15 47.4	2 21.8	+ 5 7.4	+0.7649	0.5495	+0.0850	+90	+19
θ ² Tauri	3.6	0.50	6.2	15 42.0	2 24.3	+ 5 9.9	+0.8681	0.5495	+0.0849	+90	+26
80 Tauri	5.8	0.49	6.2	15 28.2	3 6.8	+ 5 1.0	+1.1789	0.5499	+0.0839	+90	+51
264 B. Tauri	4.8	0.49	6.3	16 1.6	3 18.2	+ 6 2.0	+0.5871	0.5500	+0.0836	+77	+ 9
81 Tauri	5.5	0.49	6.2	15 31.4	3 21.1	+ 6 5.0	+1.1395	0.5499	+0.0836	+90	+47
85 Tauri	6.0	+0.48	- 6.3	+15 41.2	3 55.6	+ 6 38.2	+1.0102	0.5502	+0.0827	+90	+36
275 B. Tauri	6.5	0.48	6.4	16 9.7	4 45.9	+ 7 27.0	+0.5603	0.5506	+0.0816	+75	+ 7
α Tauri (Ald.)	1.1	0.47	6.7	16 21.2	5 50.5	+ 8 29.5	+0.4370	0.5511	+0.0800	+64	0
89 Tauri	5.8	0.46	6.5	15 52.7	6 54.4	+ 9 31.2	+1.0394	0.5516	+0.0785	+90	+39
σ ² Tauri	4.9	0.46	6.5	15 45.9	7 26.2	+10 2.0	+1.2045	0.5518	+0.0778	+90	+55
318 B. Tauri	5.7	+0.40	- 7.3	+17 1.9	15 54.8	- 5 46.0	+0.4293	0.5555	+0.0652	+63	+ 2

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JULY.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, <i>H</i>	<i>Y</i>	<i>z'</i>	<i>y'</i>	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
<i>m</i> Tauri	5.0	+0.40	-7.8	+18 32.5	10 20 33.1	-1 16.9	-0.9223	0.5575	+0.0581	-20	-72
111 Tauri	5.1	0.32	8.0	17 18.7	11 4 24.1	+6 18.4	+0.8168	0.5606	-0.0455	+90	+26
115 Tauri	5.3	0.31	8.1	17 53.7	5 39.6	+7 31.3	+0.2410	0.5611	-0.0435	+50	-7
117 Tauri	6.0	0.30	8.1	17 10.4	6 3.7	+7 54.6	+1.0381	0.5613	-0.0428	+90	+42
119 Tauri	4.9	0.30	8.3	18 32.2	7 57.3	+9 44.4	-0.3558	0.5620	-0.0397	+15	-41
120 Tauri	5.6	+0.29	-8.4	+18 29.1	8 33.3	+10 19.2	-0.2765	0.5622	+0.0387	+19	-35
NEW MOON.											
18 Leonis	5.8	+0.23	-7.3	+12 9.8	16 0 16.9	-1 52.1	-0.1249	0.5706	-0.1455	+28	-37
19 Leonis	6.4	0.24	7.4	11 55.4	0 44.8	-1 25.3	+0.0555	0.5705	-0.1460	+38	-27
<i>R</i> Leonis(var.)	4.6	+0.24	-7.4	+11 47.1	0 48.1	-1 22.0	+0.1902	0.5705	-0.1461	+46	-19
<i>A</i> Leonis	4.6	0.30	7.1	10 22.4	9 51.2	+7 22.2	+0.2751	0.5691	-0.1503	+52	-16
44 Leonis	5.9	0.37	6.8	9 10.5	17 35.6	-9 9.5	+0.2668	0.5679	-0.1642	+51	-17
45 Leonis	5.8	0.37	6.5	10 9.2	18 39.5	-8 7.8	-0.9140	0.5678	-0.1651	-18	-80
<i>q</i> Leonis	3.8	0.39	6.4	9 42.1	20 58.2	-5 54.0	-0.8331	0.5675	-0.1671	-12	-81
49 Leonis	5.7	+0.40	-6.5	+9 2.8	21 58.2	-4 56.0	-0.3286	0.5673	-0.1681	+17	-52
37 Sextantis	6.3	0.47	6.8	6 46.6	17 2 50.0	-0 8.5	+1.1542	0.5667	-0.1722	+90	+39
56 Leonis	6.1	0.51	6.5	6 35.7	7 23.4	+4 9.7	+0.5655	0.5661	-0.1755	+73	-2
<i>c</i> Leonis	5.1	0.53	6.3	6 30.8	9 30.7	+6 12.6	+0.2745	0.5659	-0.1769	+51	-18
<i>χ</i> Leonis	4.7	0.52	5.8	7 45.1	11 26.2	+8 4.1	-1.3334	0.5657	-0.1782	-69	-73
<i>σ</i> Leonis	4.1	+0.62	-5.6	+6 27.0	18 41.2	-8 55.8	-1.3093	0.5651	-0.1825	-57	-83
80 Leonis	6.4	0.66	6.0	4 17.0	20 48.4	-6 53.0	+0.5160	0.5649	-0.1835	+69	-6
83 Leonis	6.3	0.65	6.1	3 25.9	21 14.8	-6 27.5	+1.3037	0.5649	-0.1837	+87	+57
89 Leonis	5.7	0.70	6.0	3 29.2	18 03.3	-3 9.9	+0.6182	0.5648	-0.1852	+78	0
<i>β</i> Virginis	3.8	0.83	5.8	2 11.8	7 58.9	+3 54.6	+0.5647	0.5645	-0.1878	+73	-4
27 B. Virginis	6.5	+0.86	-5.7	+0 57.4	11 46.9	+7 34.8	+1.1109	0.5644	-0.1887	+90	+32
10 Virginis	6.2	0.90	4.9	+2 19.7	16 34.0	-11 47.9	-1.1807	0.5645	-0.1895	-40	-88
13 Virginis	5.9	0.98	5.3	-0 21.6	20 36.6	-7 53.6	+0.7770	0.5646	-0.1899	+90	+9
<i>η</i> Virginis	4.0	0.98	5.2	0 14.4	21 10.1	-7 21.3	+0.5492	0.5647	-0.1900	+72	-5
<i>γ</i> Vir. (mean)	2.9	1.09	4.5	1 1.7	19 6 57.6	+2 5.9	-0.5099	0.5655	-0.1895	+7	-68
38 Virginis	6.1	+1.19	-4.7	-3 8.2	12 6.3	+7 4.0	+0.6550	0.5661	-0.1887	+82	+1
91 G. Virginis	6.5	1.20	4.9	3 48.4	12 17.6	+7 14.9	+1.2998	0.5661	-0.1886	+86	+55
<i>k</i> Virginis	5.7	1.24	4.4	3 23.9	14 59.3	+9 51.1	+0.3776	0.5664	-0.1878	+58	-14
SATURN	1.1	..	..	3 22.2	15 14.8	+10 6.0	+0.3004	0.5666	-0.1868	+53	-18
46 Virginis	6.1	1.24	4.2	2 57.4	15 24.6	+10 15.4	-0.1497	0.5665	-0.1878	+26	-44
48 Virginis	6.5	+1.26	-4.2	-3 15.0	16 53.1	+11 40.9	-0.1282	0.5667	-0.1874	+27	-42
<i>θ</i> Virginis	4.4	1.32	4.6	5 7.8	19 34.3	-9 43.5	+1.2740	0.5673	-0.1865	+85	+50
65 Virginis	6.0	1.38	3.6	4 31.4	1 30.9	-3 59.3	-0.4417	0.5682	-0.1840	+10	-63
66 Virginis	5.7	1.40	3.7	4 45.8	2 3.4	-3 27.8	-0.2984	0.5683	-0.1837	+18	-53
72 Virginis	6.1	1.45	3.8	6 4.5	4 39.5	-0 57.1	+0.5533	0.5689	-0.1824	+70	-4
<i>ι</i> Virginis	4.8	1.45	-3.7	-5 51.6	5 20.6	-0 17.5	+0.2110	0.5690	-0.1820	+46	-23
80 Virginis	5.6	1.46	3.1	5 0.3	6 55.0	+1 13.6	-0.9394	0.5694	-0.1811	-20	-90
88 Virginis	6.5	1.56	3.0	6 27.3	12 32.5	+6 39.3	-0.4820	0.5707	-0.1776	+7	-66
598 B. Virginis	6.1	1.61	3.1	7 40.9	15 28.1	+9 28.6	+0.2422	0.5715	-0.1756	+47	-22
623 B. Virginis	6.5	1.69	3.0	8 53.3	19 33.9	-10 34.2	+0.7504	0.5725	-0.1725	+82	+7
95 Virginis	5.4	+1.70	-2.8	-8 56.8	20 35.8	-9 34.5	+0.6320	0.5728	-0.1717	+75	0
<i>κ</i> Virginis	4.3	1.75	2.8	9 55.0	23 16.6	-6 59.4	+1.1549	0.5736	-0.1693	+81	+37
13 Libræ	5.7	2.02	0.9	11 35.1	21 17 9.0	+10 14.6	-0.0306	0.5791	-0.1510	+28	-37
<i>ξ</i> ² Libræ	5.6	2.02	0.5	11 6.0	18 10.3	+11 13.6	-0.6748	0.5795	-0.1498	-7	-86
17 Libræ	6.4	2.03	0.4	10 50.8	18 47.7	+11 49.6	-1.0243	0.5797	-0.1490	-31	-90
18 Libræ	5.9	+2.03	-0.4	-10 50.1	19 5.1	-11 53.7	-1.0783	0.5798	-0.1487	-35	-90

ELEMENTS OF OCCULTATIONS, 1923. 493

JULY.

THE STAR'S				AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0	Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	γ	α'	ψ'	N.	S.
		$\Delta\alpha$ $\Delta\delta$		d h m	h m					
130 B. Libræ	5.9	+2.19 + 0.8	-12 5.7	22 539.2	- 1 42.7	-1.3053	0.5832	-0.1319	-70	-75
γ Libræ	4.0	2.29 0.8	14 32.0	1031.3	+ 2 58.0	0.5204	0.5818	0.1279	161	- 6
190 B. Libræ	6.5	2.34 1.2	14 47.8	13 49.3	+ 6 9.4	+0.3732	0.5859	0.1229	150	-14
η Libræ	5.5	2.35 1.1	15 25.7	14 5.5	+ 6 24.9	+0.9788	0.5860	0.1226	+75	+23
195 B. Libræ	6.2	2.36 2.2	13 54.1	17 15.8	+ 9 28.1	-0.9472	0.5869	0.1177	-28	-90
202 B. Libræ	6.4	+2.39 + 2.3	-14 10.4	19 10.2	+11 18.2	-0.8936	0.5875	-0.1147	-25	-90
203 B. Libræ	6.2	2.40 2.2	14 36.2	19 17.7	+11 25.5	-0.4721	0.5875	0.1144	0	-66
48 Libræ	4.6	2.40 2.5	14 3.5	19 59.0	-11 54.7	-1.1037	0.5878	0.1133	-41	-90
49 Libræ	5.4	2.43 1.8	16 18.4	20 52.1	-11 3.6	+1.0739	0.5881	0.1119	+74	+32
91 B. Scorpii	6.1	2.49 3.6	14 39.4	13 317.3	- 4 53.0	-1.2822	0.5898	0.1012	-67	-80
ϕ Ophiuchi	4.4	+2.59 + 4.1	-16 26.7	9 33.4	+ 1 9.0	-0.0706	0.5914	-0.0902	+20	-39
24 Scorpii	5.0	2.65 4.5	17 35.6	13 49.1	+ 5 15.0	0.7260	0.5923	0.0825	+73	+ 7
78 B. Ophiuchi	6.5	2.70 5.8	16 41.0	19 44.1	+10 56.5	-0.6528	0.5935	0.0714	-14	-85
90 B. Ophiuchi	6.5	2.73 5.6	18 7.7	21 13.9	-11 37.1	+0.7097	0.5937	0.0686	+71	+ 6
125 B. Ophiuchi	6.2	2.75 6.4	17 30.4	24 042.4	- 8 16.6	-0.1486	0.5943	0.0619	+13	-44
164 B. Ophiuchi	6.0	+2.80 + 7.2	-17 40.5	5 26.4	- 3 43.5	-0.2492	0.5948	-0.0527	+ 7	-50
192 B. Ophiuchi	6.3	2.83 7.4	18 22.4	7 21.2	- 1 53.1	+0.3639	0.5949	0.0489	+42	-14
305 B. Ophiuchi	6.3	2.92 9.4	18 47.2	20 3.8	+10 20.4	+0.3258	0.5953	0.0714	+37	-16
64 B. Sagittarii	6.1	2.95 10.8	18 41.0	25 4 2.2	- 5 59.4	+0.0978	0.5948	0.0073	+22	-29
6 B. Scuti	5.9	2.93 11.1	17 23.9	4 44.3	- 5 19.0	-1.2210	0.5947	0.0058	-64	-90
52 G. Sagittarii	6.4	+2.95 +10.9	-18 20.4	4 50.4	- 5 13.1	-0.1057	0.5947	-0.0056	+10	-41
17 H ¹ . Sagittarii	6.4	2.96 11.0	18 38.8	5 20.6	- 4 44.0	+0.0533	0.5947	0.0046	+19	32
Y Sagit. (var.)	5.4	2.97 11.2	18 53.5	6 25.6	- 3 41.5	+0.3001	0.5945	-0.0025	+33	-18
85 B. Sagittarii	6.0	2.96 11.7	17 50.7	9 7.0	- 1 6.3	-0.7713	0.5941	0.0030	-28	-90
95 B. Sagittarii	5.7	2.98 11.7	18 46.5	10 1.6	- 0 13.8	+0.1849	0.5940	0.0048	+27	-24
100 B. Sagittarii	5.0	+2.97 +11.8	-18 27.2	10 32.3	+ 0 15.7	-0.1420	0.5939	+0.0059	+ 8	-43
171 B. Sagittarii	6.1	3.02 13.6	19 21.3	23 31.1	-11 14.9	+1.0295	0.5911	0.0317	+71	+29
173 B. Sagittarii	6.4	3.02 13.7	19 12.7	23 32.6	-11 13.4	0.8830	0.5911	0.0317	+71	+18
187 B. Sagittarii	6.4	3.02 13.9	18 51.3	26 112.7	- 9 37.2	+0.5716	0.5906	0.0350	+56	- 2
190 B. Sagittarii	5.4	3.02 13.9	19 24.5	1 40.5	- 9 10.4	+1.1583	0.5904	0.0359	+71	+42
d Sagittarii	5.0	+3.02 +14.5	-19 5.2	5 33.8	- 5 25.9	0.9832	0.5892	+0.0434	+71	+25
g Sagittarii	4.0	3.00 14.8	17 50.4	7 15.6	- 3 47.9	-0.0722	0.5886	0.0466	+16	-39
45 Sagittarii	6.0	3.01 14.8	18 26.9	7 19.3	- 3 44.3	+0.4037	0.5886	0.0467	+44	-12
267 B. Sagittarii	5.8	3.01 15.6	18 23.9	13 41.5	+ 2 23.7	+0.6898	0.5862	0.0580	+69	+ 5
54 Sagittarii	5.4	2.98 15.9	16 28.0	15 15.4	+ 3 54.1	-1.2149	0.5856	0.0614	-59	-90
31 B. Capricorni	6.4	+2.94 +18.0	-15 59.5	27 11 48.8	- 0 17.1	-0.0854	0.5761	+0.0961	+20	-40
27 G. Capricorni	6.2	2.92 18.0	15 18.6	12 50.6	+ 0 42.6	-0.6974	0.5757	0.0977	-14	-90
47 B. Capricorni	6.2	2.94 18.2	16 47.2	14 46.6	+ 2 34.4	+1.0359	0.5745	0.1007	+74	+29
τ Capricorni	5.2	2.91 18.3	15 13.2	16 26.1	+ 4 10.4	-0.4309	0.5737	0.1031	+ 2	-63
61 B. Capricorni	5.9	2.92 18.4	16 23.6	16 59.0	+ 4 42.1	+0.8525	0.5733	0.1040	+74	+15
95 B. Capricorni	5.9	+2.87 +18.8	-14 46.6	28 1 2.7	-11 31.1	+0.0442	0.5689	+0.1153	+29	-32
53 B. Aquarii	6.5	2.83 19.2	13 31.0	8 50.2	- 3 59.6	-0.3411	0.5646	0.1255	+ 9	-56
18 Aquarii	5.5	2.81 19.3	13 12.2	12 34.1	- 0 23.3	-0.1946	0.5625	0.1300	+18	-46
λ Capricorni	5.5	2.74 19.5	11 43.0	22 53.7	+ 9 35.6	-0.3675	0.5566	0.1414	+10	-58
151 B. Capricorni	6.1	2.74 19.7	13 4.6	29 021.3	+11 0.3	+1.2833	0.5558	0.1428	+77	+56
96 B. Aquarii	6.5	+2.72 +19.4	-10 40.2	2 12.5	-11 12.1	-1.0056	0.5547	+0.1445	-29	-90
150 B. Aquarii	6.0	2.65 19.3	9 25.1	13 15.6	- 0 30.6	-0.6887	0.5487	0.1542	- 7	-88
167 G. Aquarii	6.3	2.58 19.0	8 17.6	23 39.6	+ 9 33.6	-0.2523	0.5433	0.1615	+19	-50
213 B. Aquarii	6.5	2.56 19.0	8 42.6	30 1 57.4	+11 47.0	+0.5678	0.5422	0.1630	+70	- 4
67 Aquarii	6.4	2.57 18.8	7 21.7	2 3.1	+11 52.5	-0.8641	0.5422	0.1630	-17	-90
λ Aquarii	3.8	+2.53 +18.8	- 7 59.1	6 40.0	- 7 39.1	+0.5641	0.5399	+0.1657	+70	- 4

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JULY.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	γ	γ'	γ''	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
78 Aquarii	6.3	+2.53	+18.6	- 7 36.5	30 7 38.2	- 6 42.8	+0.3211	0.5395	+0.1662	+52	-17
81 Aquarii	6.4	2.50	18.5	7 28.2	11 1.5	- 3 25.7	+0.7380	0.5379	0.1678	+83	+ 6
82 Aquarii	6.4	2.50	18.4	6 59.0	11 36.0	- 2 52.3	+0.3095	0.5377	0.1681	+52	-18
φ Aquarii	4.4	2.46	18.0	6 27.6	17 29.7	+ 2 50.6	+0.7445	0.5352	0.1706	+84	+ 7
URANUS	6.1	..	..	5 52.5	19 1.8	+ 4 19.9	+0.3750	0.5358	0.1717	+57	-14
96 Aquarii	5.7	+2.45	+17.8	- 5 32.4	20 2.9	+ 5 19.2	+0.1877	0.5341	+0.1715	+45	-24
316 B. Aquarii	6.5	2.46	17.4	4 20.0	20 29.1	+ 5 44.6	-1.0131	0.5339	0.1716	-28	-90
317 B. Aquarii	6.3	2.43	17.9	6 19.4	20.42.4	+ 5 57.5	+1.1487	0.5338	0.1717	+84	+36
337 B. Aquarii	6.4	2.41	17.3	4 56.8	31 1 11.0	+10 17.9	+0.1309	0.5321	0.1731	+61	-11
342 B. Aquarii	6.5	2.41	17.2	4 30.2	2 11.8	+11 16.9	+0.1250	0.5318	0.1734	+41	-28
20 Piscium	5.6	+2.35	+16.5	- 3 11.1	10 35.9	- 4 34.1	+0.1576	0.5288	+0.1751	+44	-26
24 Piscium	6.1	2.33	16.4	3 34.7	13 9.8	- 2 4.7	+1.0362	0.5281	0.1755	+87	+26
80 B. Piscium	6.3	+2.30	+15.3	- 0 55.6	19 26.4	+ 4 0.7	-0.7526	0.5263	+0.1760	- 7	-90

AUGUST.

10 Ceti	6.4	+2.21	+14.4	- 0 28.3	1 6 40.1	- 9 5.2	+0.7265	0.5237	+0.1758	+90	+ 6
155 B. Piscium	6.5	2.14	12.2	+ 2 58.2	19 36.8	+ 3 28.9	-0.7873	0.5218	0.1738	- 9	-88
77 Piscium	6.4	2.10	11.0	4 30.1	2 3 15.1	+10 53.9	-1.1540	0.5212	0.1717	-36	-86
μ Piscium	5.0	2.01	9.4	5 45.0	16 4.6	- 0 38.8	-0.3588	0.5211	0.1669	+15	-56
39 B. Arietis	6.5	+1.86	+ 7.0	+ 7 22.1	3 10 17.2	- 6 57.7	+0.8102	0.5227	+0.1572	+90	+13
64 Ceti	5.8	1.83	6.3	8 12.7	13 41.0	- 3 39.9	+0.4084	0.5232	0.1550	+60	-10
ξ^1 Ceti	4.5	1.83	6.2	8 29.3	14 32.2	- 2 50.1	+0.2351	0.5234	0.1545	+40	-19
ξ Arietis	5.5	1.80	4.9	10 15.8	20 40.2	+ 3 7.1	-0.7948	0.5216	0.1502	-10	-80
25 Arietis	6.5	1.77	4.8	9 51.5	22 1.3	+ 4 25.8	-0.1441	0.5248	0.1492	+27	-40
389 B. Ceti	6.3	+1.76	+ 5.0	+ 9 13.4	23 9.3	+ 5 31.8	+0.7263	0.5251	+0.1483	+90	+ 9
85 Ceti	6.3	1.72	3.9	10 24.9	4 5 48.3	+11 59.0	+0.3780	0.5267	0.1431	+58	-10
μ Ceti	4.4	1.71	4.0	9 47.5	7 3.8	-10 47.7	+1.2477	0.5270	0.1421	+90	+ 52
147 B. Arietis	5.8	1.64	1.7	12 53.5	18 0.8	- 0 10.3	-0.6755	0.5302	0.1323	- 3	-75
8 B. Tauri	6.2	1.53	0.9	12 21.5	5 2 59.9	+ 8 32.5	+1.0624	0.5332	0.1234	+90	+35
f Tauri	4.3	+1.51	+ 0.5	+12 40.4	6 21.4	+11 47.9	+1.1215	0.5344	+0.1198	+90	+41
30 B. Tauri	6.4	1.51	- 0.8	15 10.7	9 46.9	- 8 52.9	-1.2340	0.5357	0.1161	-49	-75
179 B. Tauri	5.9	1.35	2.2	14 57.4	6 30.8	+ 5 23.5	+0.5948	0.5417	0.0986	+78	+ 7
48 Tauri	6.3	1.32	2.6	15 12.5	4 26.0	+ 9 11.3	+0.6951	0.5433	0.0936	+90	+14
γ Tauri	3.9	1.30	2.9	15 26.5	6 22.6	+11 4.2	+0.6182	0.5441	0.0911	+80	+10
58 Tauri	5.4	+1.28	- 2.8	+14 54.7	6 46.6	+11 27.4	+1.2356	0.5443	+0.0905	+90	+58
63 Tauri	5.7	1.29	3.5	16 35.9	8 6.6	-11 15.1	-0.4914	0.5449	0.0888	+ 7	-55
64 Tauri	4.9	1.30	3.7	17 15.9	8 25.6	-10 56.7	-1.1944	0.5450	0.0883	-45	-73
70 Tauri	6.4	1.27	3.3	15 45.9	9 11.0	-10 12.7	+0.5141	0.5453	0.0873	+70	+ 4
71 Tauri	4.6	1.26	3.2	15 26.6	9 32.1	- 9 52.3	+0.8964	0.5455	0.0868	+90	+27
75 Tauri	5.2	+1.26	- 3.5	+16 11.3	10 32.1	- 8 54.3	+0.1688	0.5460	+0.0855	+45	-15
θ^1 Tauri	4.2	1.26	3.4	15 47.5	10 36.1	- 8 50.4	+0.6077	0.5460	0.0854	+79	+ 9
θ^2 Tauri	3.6	1.26	3.4	15 42.0	10 38.7	- 8 47.9	+0.7110	0.5460	0.0853	+90	+16
80 Tauri	5.8	1.24	3.4	15 28.2	11 21.5	- 8 6.4	+1.0232	0.5463	0.0844	+90	+37
264 B. Tauri	4.8	1.25	3.6	16 1.6	11 33.1	- 7 55.2	+0.4309	0.5464	0.0841	+63	0
81 Tauri	5.5	+1.24	- 3.4	+15 31.5	11 36.0	- 7 52.4	+0.9840	0.5464	+0.0840	+90	+34
85 Tauri	6.0	1.24	3.5	15 41.2	12 10.8	+ 7 18.7	+0.8550	0.5466	0.0832	+90	+25
275 B. Tauri	6.5	1.23	3.7	16 9.7	13 1.5	- 6 29.6	+0.4054	0.5470	0.0821	+61	- 2
α Tauri (<i>Ald.</i>)	1.1	1.23	4.0	16 21.3	14 6.8	- 5 26.4	+0.2831	0.5475	0.0806	+52	- 8
89 Tauri	5.8	1.21	3.9	15 52.7	15 11.2	- 4 24.1	+0.8879	0.5480	0.0791	+90	+28
σ^1 Tauri	5.2	+1.20	- 3.9	+15 38.9	15 40.0	- 3 56.2	+1.1773	0.5482	+0.0784	+90	+52

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THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, <i>H</i>	<i>Y</i>	<i>x'</i>	<i>y'</i>	<i>N.</i>	<i>S.</i>
		$\Delta\alpha$	$\Delta\delta$								
σ^2 Tauri	4.9	+1.20	-3.9	+15 45.9	6 15 43.3	-3 53.0	+1.0538	0.5482	1.0.0783	1.90	+4.0
318 B. Tauri	5.7	1.12	5.0	17 2.0	7 0 16.4	+4 23.4	+0.2875	0.5519	0.0059	+53	-6
<i>m</i> Tauri	5.0	1.11	5.8	18 32.5	4 57.0	+8 54.8	-1.0602	0.5540	0.0589	-32	-72
111 Tauri	5.1	1.00	6.1	17 18.7	12 51.7	-7 26.2	1.0.6912	0.5574	0.0405	1.90	+18
115 Tauri	5.3	0.99	6.4	17 53.7	14 7.8	-6 12.7	+0.1164	0.5579	0.0445	+42	-13
117 Tauri	6.0	+0.98	-6.2	+17 10.4	14 32.1	-5 49.2	+0.9147	0.5581	1.0.0438	1.90	+33
119 Tauri	4.9	0.97	6.7	18 32.2	16 26.4	-3 58.7	-0.4779	0.5589	0.0407	+8	-50
167 H ¹ . Tauri	5.5	0.95	6.3	17 0.0	16 28.5	-3 56.7	+1.1838	0.5589	0.0407	1.90	+57
120 Tauri	5.6	0.96	6.7	18 29.1	17 2.7	-3 43.0	-0.3977	0.5592	0.0397	+12	-44
130 Tauri	5.6	0.89	7.0	17 42.0	23 24.8	+2 45.5	+0.6688	0.5618	0.0292	1.88	+19
19 B. Geminorum	6.2	+0.78	-7.9	+18 42.0	8 11 11.8	-9 51.5	-0.1806	0.5662	1.0.0091	1.24	-27
124 H ¹ . Orionis	5.7	0.77	7.7	17 55.6	11 37.3	-9 26.9	+0.6504	0.5664	0.0083	1.86	+20
71 Orionis	5.1	0.77	8.1	19 10.9	11 46.4	-9 18.2	-0.6919	0.5664	0.0081	-5	-66
292 B. Orionis	6.5	0.74	7.8	17 47.9	14 11.0	-6 26.7	+0.8042	0.5671	1.0.0028	1.90	+30
26 Geminorum	5.2	0.65	8.3	17 43.2	9 0 3.6	+2 33.5	1.0.8343	0.5704	-0.0137	1.90	+30
74 B. Geminorum	6.2	+0.64	-8.4	+18 16.5	2 15.3	+4 40.6	1.0.2077	0.5710	-0.0176	1.18	-6
110 B. Geminorum	6.2	0.58	8.5	17 51.8	8 52.8	+11 4.1	1.0.4875	0.5728	0.0296	1.68	+9
162 B. Geminorum	5.7	0.48	8.7	17 14.9	21 43.0	-0 32.1	1.0.6033	0.5755	0.0527	1.79	+13
NEW MOON.											
σ Leonis	4.1	+0.46	-4.8	+6 27.0	14 1 27.1	-0 22.1	-1.2005	0.5731	-0.1810	-41	-84
80 Leonis	6.4	0.50	5.0	4 17.0	3 31.5	+1 37.7	+0.6075	0.5730	0.1850	1.77	-1
89 Leonis	5.7	0.53	4.8	3 29.2	7 16.8	+1 51.1	1.0.7126	0.5726	0.1868	1.90	+5
β Virginis	3.8	0.63	4.6	2 11.8	14 25.7	-11 51.1	+0.6667	0.5723	0.1894	1.84	+2
27 B. Virginis	6.5	0.64	4.3	0 57.5	18 8.3	-8 16.3	+1.2109	0.5721	0.1904	1.90	+42
10 Virginis	6.2	+0.66	-3.7	+2 19.8	22 48.8	-3 45.8	-1.0629	0.5719	-0.1912	-28	-88
13 Virginis	5.9	0.72	3.8	-0 21.6	15 2 46.0	+0 3.2	+0.8885	0.5719	0.1916	1.90	+16
η Virginis	4.0	0.73	3.8	0 14.4	3 18.8	+0 34.8	+0.6626	0.5719	0.1916	1.83	+2
γ Vir. (mean)	2.9	0.80	3.0	1 1.7	12 53.9	+9 49.7	-0.3801	0.5720	0.1911	1.14	-58
38 Virginis	6.1	0.89	3.1	3 8.1	17 56.7	-9 18.2	1.0.7780	0.5722	0.1901	1.87	+9
k Virginis	5.7	+0.93	-2.8	-3 23.9	20 46.6	-6 34.2	+0.5045	0.5723	-0.1893	1.67	-7
46 Virginis	6.1	0.93	2.6	2 57.3	21 11.4	-6 10.2	-0.6186	0.5723	0.1892	1.33	-36
48 Virginis	6.5	0.95	2.6	3 15.0	22 38.1	-4 46.4	1.0.0034	0.5724	0.1888	1.35	-35
SATURN	1.1	..	..	4 12.5	16 0 8.1	-3 19.9	+0.6856	0.5693	0.1867	1.84	+3
65 Virginis	6.0	1.05	2.1	4 31.4	7 7.8	+3 25.1	-0.3046	0.5731	0.1852	1.17	-53
66 Virginis	5.7	+1.07	-2.1	-4 45.8	7 39.9	+3 56.0	-0.1020	0.5732	-0.1849	1.25	-44
72 Virginis	6.1	1.11	2.2	6 4.4	10 13.6	+6 24.4	+0.6851	0.5735	0.1835	1.83	+3
l Virginis	4.8	1.11	2.1	5 51.6	10 54.3	+7 3.5	+0.3451	0.5735	0.1831	1.55	-16
80 Virginis	5.6	1.12	1.5	5 0.3	12 27.4	+8 33.3	-0.7981	0.5737	0.1822	-11	-90
88 Virginis	6.5	1.20	1.4	6 27.3	18 0.8	-10 5.1	-0.3424	0.5744	0.1786	1.14	-56
598 B. Virginis	6.1	+1.25	-1.5	-7 40.9	17 20 54.5	-7 17.6	+0.3786	0.5748	-0.1765	+56	-14
623 B. Virginis	6.5	1.32	1.3	8 53.3	17 0 58.0	-3 22.7	+0.8854	0.5754	0.1732	+82	+16
95 Virginis	5.4	1.33	1.2	8 56.8	1 59.3	-2 23.7	+0.7677	0.5756	0.1724	1.82	+8
κ Virginis	4.3	1.38	-1.1	9 55.0	4 39.0	+0 10.4	+1.2892	0.5760	0.1700	1.81	+55
13 Libræ	5.7	1.63	+0.5	11 35.1	22 27.2	-6 39.9	+0.1062	0.5793	0.1512	+36	-29
ξ^2 Libræ	5.6	+1.64	+0.8	-11 6.0	23 28.5	-5 40.8	-0.5379	0.5795	-0.1500	+1	-71
17 Libræ	6.4	1.64	1.0	10 50.8	18 0 5.9	-5 4.9	-0.8874	0.5796	0.1492	-21	-90
18 Libræ	5.9	1.64	1.0	10 50.1	0 23.2	+4 48.2	-0.9415	0.5797	0.1489	-24	-90
130 B. Libræ	5.9	1.80	2.1	12 5.7	10 58.8	+1 52.4	-1.1737	0.5818	0.1349	-46	-90
γ Libræ	4.0	1.91	1.9	14 32.0	15 52.5	+10 7.2	1.0.6528	0.5827	0.1278	+72	+2
190 B. Libræ	6.5	+1.96	+2.2	-14 47.8	19 11.8	-10 40.9	+0.5042	0.5834	-0.1229	+59	-6

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AUGUST.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	γ	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
η Libræ	5.5	+1.97	+2.1	-15 25.7	18 19 28.1	10 25.2	+1.1113	0.5834	-0.1225	+75	+35
195 B. Libræ	6.2	1.99	3.2	13 54.1	22 39.9	-7 20.5	-0.8216	0.5840	0.1175	-20	-90
202 B. Libræ	6.4	2.02	3.3	14 10.4	19 03.5	-5 29.3	-0.7690	0.5844	0.1145	-17	-90
203 B. Libræ	6.2	2.03	3.2	14 36.2	0 43.0	-5 22.0	-0.3462	0.5844	0.1143	+7	-56
48 Libræ	4.6	2.02	3.5	14 3.4	1 24.7	-4 41.8	-0.9803	0.5845	0.1132	-31	-90
49 Libræ	5.4	+2.05	+2.6	-16 18.4	2 18.2	-3 50.2	+1.2042	0.5847	-0.1117	+74	+46
91 B. Scorpïi	6.1	2.13	4.4	14 39.4	8 47.7	+2 24.8	-1.1647	0.5858	0.1010	-48	-90
98 B. Scorpïi	6.1	2.15	4.6	14 41.1	10 6.6	+3 40.8	-1.2667	0.5860	0.0988	-63	-85
φ Ophiuchi	4.4	2.24	4.7	16 26.7	15 8.6	+8 31.5	+0.0484	0.5867	0.0901	+27	-32
24 Scorpïi	5.0	2.31	5.0	17 35.6	19 28.0	-11 18.8	+0.8466	0.5873	0.0824	+73	+15
78 B. Ophiuchi	6.5	+2.38	+6.3	-16 41.0	20 1 28.6	-5 31.6	-0.5445	0.5879	-0.0715	-8	-73
90 B. Ophiuchi	6.5	2.41	5.9	18 7.7	2 59.9	-4 3.7	+0.8257	0.5880	0.0686	+72	+14
125 B. Ophiuchi	6.2	2.44	6.8	17 30.4	6 32.0	-0 35.9	-0.0408	0.5883	0.0621	+19	-37
164 B. Ophiuchi	6.0	2.50	7.5	17 40.5	11 21.2	+3 58.9	-0.1459	0.5885	0.0529	+12	-44
192 B. Ophiuchi	6.3	2.54	7.6	18 22.4	13 18.1	+5 51.3	+0.4703	0.5886	0.0492	+50	-8
305 B. Ophiuchi	6.3	+2.68	+9.5	-18 47.2	21 2 15.9	-5 40.0	+0.4215	0.5884	-0.0241	+44	-11
64 B. Sagittarii	6.1	2.75	10.7	18 41.0	10 24.4	+2 10.2	+0.1846	0.5877	0.0081	+27	-24
6 B. Scuti	5.9	2.73	11.2	17 23.9	11 7.5	+2 51.6	-1.1464	0.5876	0.0067	-56	-90
52 G. Sagittarii	6.4	2.75	10.9	18 29.4	11 13.7	+2 57.6	-0.0214	0.5876	0.0065	+15	-36
17 H ¹ . Sagittarii	6.4	2.76	10.9	18 38.8	11 44.6	+3 27.4	+0.1385	0.5876	0.0055	+24	-27
γ Sagit. (var.)	5.4	+2.77	+11.0	-18 53.5	12 50.9	+4 31.2	+0.3866	0.5874	-0.0033	+39	-13
85 B. Sagittarii	6.0	2.77	11.7	17 50.7	15 35.9	+7 10.0	-0.0690	0.5870	1.00020	-23	-90
95 B. Sagittarii	5.7	2.80	11.6	18 46.5	16 31.6	+8 3.7	+0.2671	0.5869	0.0038	+31	-20
100 B. Sagittarii	5.0	2.80	11.8	18 27.2	17 3.0	+8 33.9	-0.0634	0.5868	0.0049	+12	-39
171 B. Sagittarii	6.1	2.91	13.4	19 21.3	22 6 18.7	-2 39.8	+1.1064	0.5841	0.0303	+71	+36
173 B. Sagittarii	6.4	+2.91	+13.4	-19 12.7	6 20.2	-2 38.3	+0.9585	0.5841	+0.0304	+71	+23
187 B. Sagittarii	6.4	2.91	13.7	18 51.3	8 2.5	-0 59.8	+0.0427	0.5837	0.0330	+03	+2
190 B. Sagittarii	5.4	2.92	13.7	19 24.5	8 30.9	-0 32.4	+1.2343	0.5835	0.0345	+71	+54
d Sagittarii	5.0	2.94	14.3	19 5.2	12 29.2	+3 17.2	+1.0536	0.5824	0.0418	+71	+31
q Sagittarii	4.0	2.93	14.8	17 59.4	14 13.1	+4 57.2	-0.0131	0.5820	0.0450	+19	-36
45 Sagittarii	6.0	+2.94	+14.6	-18 26.9	14 16.9	+5 0.9	+0.4671	0.5820	+0.0452	+49	-8
267 B. Sagittarii	5.8	2.97	15.5	18 23.9	20 47.0	+11 16.9	-0.7491	0.5799	0.0569	+72	+8
54 Sagittarii	5.4	2.95	16.0	16 28.0	22 22.8	-11 10.8	-1.1739	0.5794	0.0597	-54	-90
31 B. Capricorni	6.4	3.02	18.3	15 59.5	23 19 18.9	+9 0.7	-0.0556	0.5712	0.0943	+22	-38
27 G. Capricorni	6.2	3.01	18.4	15 18.6	20 21.8	+10 1.3	-0.6735	0.5707	0.0959	-13	-88
47 B. Capricorni	6.2	13.03	+18.4	-16 47.2	22 19.6	+11 55.1	+1.0712	0.5698	+0.0988	+74	+32
τ Capricorni	5.2	3.02	18.8	15 13.2	24 0 0.7	-10 27.3	-0.4086	0.5691	0.1013	+3	-61
61 B. Capricorni	5.9	3.03	18.7	16 23.6	0 34.1	-9 55.1	-0.8840	0.5689	0.1021	+74	+17
95 B. Capricorni	5.9	3.02	19.5	14 46.6	8 45.0	-2 1.1	+0.0611	0.5651	0.1136	+30	-31
53 B. Aquarii	6.5	3.02	20.0	13 31.0	16 38.5	+5 36.4	-0.3346	0.5615	0.1238	+10	-56
18 Aquarii	5.5	+3.02	+20.3	-13 12.2	20 24.8	+9 15.2	-0.1910	0.5597	+0.1283	+18	-46
λ Capricorni	5.5	3.01	20.8	11 43.0	6 50.4	-4 40.0	-0.3748	0.5548	0.1398	+9	-58
151 B. Capricorni	6.1	3.01	20.8	13 4.6	8 18.8	-3 14.5	+1.2827	0.5540	0.1021	+77	+56
96 B. Aquarii	6.5	3.00	20.9	10 40.1	10 10.9	-1 26.0	-1.0192	0.5532	0.1432	-30	-90
150 B. Aquarii	6.0	2.98	21.1	9 25.1	21 18.1	+9 19.6	-0.7107	0.5480	0.1531	-8	-90
167 G. Aquarii	6.3	+2.96	+21.1	-8 17.5	26 7 44.5	-4 33.8	-0.2820	0.5435	+0.1608	+17	-52
213 B. Aquarii	6.5	2.95	21.1	8 42.5	10 2.6	-2 20.1	+0.5384	0.5425	0.1623	+07	-5
67 Aquarii	6.4	2.95	21.0	7 21.6	10 8.3	-2 14.5	-0.8975	0.5425	0.1623	-19	-90
λ Aquarii	3.8	2.94	21.0	7 59.0	14 45.6	+2 14.2	+0.5304	0.5406	0.1650	+67	-6
78 Aquarii	6.3	2.94	20.9	7 36.5	15 43.8	+3 10.6	+0.2861	0.5402	0.1656	+50	-19
81 Aquarii	6.4	+2.93	+20.9	-7 28.1	19 7.4	+6 27.9	+0.7008	0.5389	+0.1673	+83	+4

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THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, <i>h</i>	<i>l'</i>	<i>x'</i>	<i>y'</i>	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
82 Aquarii	6.4	+2.93	+20.8	6 58.9	d h m	h m					
URANUS	6.1	..	..	6 14.6	26 19 41.8	+ 7 1.2	+0.2710	0.5387	+0.1676	+0	-20
ϕ Aquarii	4.4	2.91	20.5	6 27.5	27 1 24.1	-11 26.9	+0.4362	0.5383	+0.1709	+61	-11
96 Aquarii	5.7	2.91	20.5	5 32.4	1 35.4	-11 15.9	+0.7018	0.5305	+0.1702	+84	+ 4
316 B. Aquarii	6.5	2.92	20.3	4 20.0	4 8.4	- 8 47.6	+0.1420	0.5356	+0.1712	+42	-27
					4 34.6	- 8 22.2	-1.0909	0.5354	+0.1714	-32	-90
317 B. Aquarii	6.3	+2.89	+20.5	6 19.4	4 47.9	- 8 9.3	+1.1039	0.5353	+0.1715	+84	+32
337 B. Aquarii	6.4	2.90	20.1	4 56.8	9 16.0	- 3 49.3	+0.3816	0.5338	+0.1730	+58	-14
342 B. Aquarii	6.5	2.90	20.0	4 30.2	10 16.7	- 2 50.4	+0.0746	0.5335	+0.1732	+38	-31
20 Piscium	5.6	2.87	19.6	3 11.1	18 39.3	+ 5 17.2	+0.1013	0.5310	+0.1752	+40	-29
24 Piscium	6.1	2.85	19.4	3 34.7	21 12.7	+ 7 46.0	+0.0987	0.5302	+0.1756	+87	+22
80 B. Piscium	6.3	+2.84	+18.7	0 55.5	28 3 27.9	-10 10.0	-0.8152	0.5287	+0.1762	-11	-90
10 Ceti	6.4	2.80	17.9	0 28.2	14 38.6	+ 0 41.0	+0.6580	0.5263	+0.1761	+83	+ 2
155 B. Piscium	6.5	2.77	16.0	+ 2 58.3	29 3 31.5	-10 48.6	-0.8619	0.5244	+0.1742	-14	-88
77 Piscium	6.4	2.75	15.0	4 30.2	11 7.7	- 3 25.7	-1.2316	0.5236	+0.1722	-45	-86
<i>f</i> Piscium	5.3	2.69	14.7	3 12.8	17 25.5	+ 2 41.2	+1.12673	0.5233	+0.1700	+90	+50
μ Piscium	5.0	+2.70	+13.4	+ 5 45.1	23 54.0	+ 8 58.4	-0.4405	0.5231	+0.1673	+10	-62
ν Piscium	4.7	2.63	13.0	5 6.1	30 5 49.2	- 9 16.7	+1.2597	0.5232	+0.1645	+90	+50
39 B. Arietis	6.5	2.59	11.0	7 22.2	18 3.8	+ 2 36.6	+0.7259	0.5240	+0.1575	+90	+ 8
64 Ceti	5.8	2.57	10.3	8 12.8	21 27.5	+ 5 54.3	+0.3234	0.5243	+0.1552	+54	-15
ξ^1 Ceti	4.5	2.57	10.2	8 29.3	22 18.6	+ 6 43.9	+0.1500	0.5244	+0.1547	+44	-24
ξ Arietis	5.5	+2.56	+ 8.9	+10 15.9	31 4 26.6	-11 18.9	-0.8817	0.5252	+0.1503	-16	-80
25 Arietis	6.5	2.52	8.8	9 51.6	5 47.8	- 9 59.9	-0.2301	0.5254	+0.1493	+22	-45
389 B. Ceti	6.3	2.52	8.9	9 13.5	6 55.8	- 8 54.0	+0.6417	0.5256	+0.1484	+82	+ 4
85 Ceti	6.3	2.48	7.7	10 25.0	13 35.4	- 2 26.2	+0.2928	0.5267	+0.1431	+53	-15
μ Ceti	4.4	+2.48	+ 7.8	+ 9 47.5	14 51.1	- 1 12.7	+1.1644	0.5270	+0.1420	+90	+42

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147 B. Arietis	5.8	+2.43	+ 5.4	+12 53.6	1 1 50.4	+ 9 26.9	-0.7624	0.5294	+0.1321	- 8	-78
8 B. Tauri	6.2	2.33	4.4	12 21.5	10 52.6	- 5 47.1	+0.9821	0.5317	+0.1231	+90	+29
<i>f</i> Tauri	4.3	+2.31	+ 3.9	+12 40.5	14 15.4	- 2 30.5	+1.0422	0.5327	+0.1195	+90	+34
179 B. Tauri	5.9	2.17	0.7	14 57.5	2 8 34.7	- 8 44.9	+0.5184	0.5385	+0.0983	+70	+ 3
48 Tauri	6.3	2.13	+ 0.2	15 12.6	12 32.5	- 4 54.4	+0.6204	0.5399	+0.0933	+81	+ 9
γ Tauri	3.9	2.12	- 0.2	15 26.6	14 30.5	- 3 0.1	+0.5438	0.5406	+0.0907	+73	+ 5
58 Tauri	5.4	2.10	0.0	14 54.7	14 54.7	- 2 36.8	+1.1644	0.5407	+0.0902	+90	+49
63 Tauri	5.7	+2.11	- 0.8	+16 35.9	16 15.7	- 1 18.2	-0.5708	0.5412	+0.0884	+ 2	-62
64 Tauri	4.9	2.12	1.1	17 16.0	16 35.0	- 0 59.6	-1.2772	0.5412	+0.0880	-61	-73
70 Tauri	6.4	2.09	0.6	15 46.0	17 20.9	- 0 15.1	+0.4401	0.5416	+0.0870	+64	0
71 Tauri	4.6	2.08	0.6	15 26.7	17 42.3	+ 0 5.6	+0.8245	0.5417	+0.0865	+90	+22
75 Tauri	5.2	2.08	0.9	16 11.3	18 43.0	+ 1 4.5	+0.0935	0.5421	+0.0851	+40	-19
θ^1 Tauri	4.2	+2.07	- 0.8	+15 47.5	18 47.1	+ 1 8.4	+0.5346	0.5421	+0.0851	+72	+ 5
θ^2 Tauri	3.6	2.07	0.8	15 42.1	18 49.7	+ 1 10.9	+0.6386	0.5422	+0.0850	+83	+11
80 Tauri	5.8	2.06	0.8	15 28.3	19 33.1	+ 1 52.9	+0.9525	0.5424	+0.0840	+90	+31
264 B. Tauri	4.8	2.07	1.0	16 1.6	19 44.8	+ 2 4.2	+0.3572	0.5425	+0.0837	+57	- 4
81 Tauri	5.5	2.06	0.8	15 31.5	19 47.8	+ 2 7.2	+0.9133	0.5425	+0.0837	+90	+29
85 Tauri	6.0	+2.05	- 1.0	+15 41.2	20 23.0	+ 2 41.2	+0.7838	0.5427	+0.0829	+90	+20
275 B. Tauri	6.5	2.05	1.2	16 9.8	21 14.4	+ 3 31.0	+0.3322	0.5430	+0.0817	+56	- 6
α Tauri (<i>Ald.</i>)	1.1	2.04	1.6	16 21.3	22 20.5	+ 4 35.1	+0.2096	0.5434	+0.0802	+48	-12
89 Tauri	5.8	2.02	1.4	15 52.8	23 25.7	+ 5 38.1	+0.8180	0.5438	+0.0787	+90	+23
σ^1 Tauri	5.2	2.01	1.4	15 38.9	23 54.9	+ 6 6.4	+1.1091	0.5440	+0.0781	+90	+45
σ^2 Tauri	4.9	+2.01	- 1.4	+15 46.0	23 58.2	+ 6 9.6	+0.9850	0.5440	+0.0780	+90	+34

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SEPTEMBER.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	γ	α'	δ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
318 B. Tauri	5.7	+1.93	-2.9	+17 2.0	3 8 38.5	-9 26.7	+0.2177	0.5473	+0.0657	+48	-10
m Tauri	5.0	1.93	3.9	18 32.5	13 23.4	-4 50.9	-1.1360	0.5491	0.0587	-39	-72
111 Tauri	5.1	1.80	4.4	17 18.7	21 25.4	+2 55.3	+0.6288	0.5522	0.0404	+83	+15
115 Tauri	5.3	1.78	4.8	17 53.8	22 42.7	+4 10.1	+0.0511	0.5527	0.0444	+38	-17
117 Tauri	6.0	1.76	4.6	17 10.5	23 7.4	+4 34.0	1.08544	0.5528	0.0437	+90	+29
119 Tauri	4.9	+1.76	-5.2	+18 32.2	4 1 3.6	+6 26.4	-0.5458	0.5536	+0.0407	+4	-55
167 H ¹ . Tauri	5.5	1.74	4.7	17 0.0	1 5.7	+6 28.4	+1.1258	0.5535	0.0406	+90	+50
120 Tauri	5.6	1.75	5.3	18 29.1	1 40.4	+7 2.0	-0.4649	0.5538	0.0397	+8	-48
122 Tauri	5.5	1.71	5.0	16 59.6	3 20.5	+8 38.7	+1.2208	0.5544	0.0371	+90	+61
130 Tauri	5.6	1.66	5.7	17 42.0	8 8.8	-10 42.7	-0.6107	0.5562	0.0293	+80	+15
19 B. Geminorum	6.2	+1.52	-7.1	+18 42.0	20 7.2	+0 51.7	-0.2383	0.5605	+0.0094	+121	-30
124 H ¹ . Orionis	5.7	1.51	6.9	17 55.6	20 33.2	+1 16.9	+0.5976	0.5606	0.0087	+79	+17
71 Orionis	5.1	1.52	7.4	19 10.9	20 42.4	+1 25.8	-0.7524	0.5607	0.0084	-9	-71
287 B. Orionis	6.2	1.48	6.9	17 21.3	22 38.0	+3 17.4	+1.2275	0.5614	0.0051	+90	+65
292 B. Orionis	6.5	1.47	7.1	17 47.9	23 43.0	+4 20.2	-0.7536	0.5618	+0.0033	+90	+27
26 Geminorum	5.2	+1.35	-7.8	+17 43.2	5 9 11.3	-10 30.8	+0.7880	0.5648	-0.0131	+90	+28
74 B. Geminorum	6.2	1.33	8.2	18 16.5	11 25.1	-8 21.6	+0.1591	0.5650	0.0170	+44	-8
110 B. Geminorum	6.2	1.24	8.4	17 51.8	18 8.4	-1 52.3	+0.4434	0.5675	0.0289	+64	+6
162 B. Geminorum	5.7	1.09	8.9	17 14.9	6 7 9.7	+10 41.7	+0.5654	0.5710	0.0519	+75	+11
f Geminorum	5.3	1.05	9.2	17 50.9	10 31.9	-10 3.2	-0.2523	0.5718	0.0578	+20	-36
1 Cancri	6.0	0.96	-9.0	+15 59.7	18 14.2	-2 37.2	+1.1973	0.5734	-0.0713	+90	+55
2 B. Cancri	6.0	0.95	9.1	16 43.5	18 53.8	-1 59.1	+0.3838	0.5735	0.0724	+59	-1
3 Cancri	5.7	0.95	9.4	17 31.1	19 52.6	-1 2.3	-0.5194	0.5737	0.0741	+5	-56
5 Cancri	5.9	0.94	9.2	16 40.0	20 12.0	-0 43.6	+0.3490	0.5737	0.0747	+57	-3
5 Can. (mean)	4.7	0.90	9.6	17 52.7	7 0 51.3	+3 45.8	-1.2839	0.5746	0.0827	-67	-72
d ^a Cancri	6.2	+0.82	-9.6	+17 17.9	6 48.1	+9 29.9	-1.1962	0.5755	-0.0927	-45	-73
90 B. Cancri	6.3	0.79	9.1	15 34.7	11 17.2	-10 10.5	+0.1601	0.5761	0.1002	+44	-16
54 Cancri	6.3	0.72	9.0	15 38.1	17 44.8	-3 56.9	-0.5787	0.5768	0.1106	+2	-64
o ¹ Cancri	5.1	0.71	9.0	15 37.0	20 26.1	-1 21.3	-0.8618	0.5771	0.1149	-15	-75
o ² Cancri	5.7	0.71	9.1	+15 52.5	20 34.7	-1 13.0	-1.1454	0.5771	0.1151	-38	-75
NEW MOON.											
SATURN	1.0	..	..	-5 19.1	12 12 17.4	+10 27.8	+0.9716	0.5783	-0.1876	+85	+22
65 Virginis	6.0	+0.80	-1.1	4 31.3	14 45.5	-11 9.5	-0.2850	0.5827	0.1881	+18	-52
66 Virginis	5.7	0.81	1.1	4 45.7	15 16.6	-10 39.6	-0.1443	0.5827	0.1879	+26	-43
72 Virginis	6.1	+0.84	-1.1	-6 4.4	17 45.8	-8 15.8	+0.6912	0.5830	-0.1865	+83	+4
l Virginis	4.8	0.83	1.0	5 51.5	18 25.2	-7 37.9	+0.3560	0.5830	0.1861	+55	-15
80 Virginis	5.6	0.84	0.6	5 0.3	19 55.4	-6 10.9	-0.7710	0.5832	0.1852	-9	-90
566 B. Virginis	6.4	0.87	0.2	5 6.7	23 28.1	-2 46.0	-1.3172	0.5837	0.1828	-62	-82
88 Virginis	6.5	0.90	0.3	6 27.2	13 1 18.9	-0 59.4	-0.3215	0.5839	0.1815	+16	-54
598 B. Virginis	6.1	+0.93	-0.3	-7 40.8	4 7.5	+1 43.1	+0.3898	0.5842	-0.1793	+57	-13
623 B. Virginis	6.5	0.99	-0.1	8 53.3	8 3.8	+5 30.6	+0.8899	0.5847	0.1760	+82	+16
95 Virginis	5.4	0.99	0.0	8 56.8	9 3.3	+6 27.9	+0.7738	0.5848	0.1751	+82	+9
z Virginis	4.3	1.04	+0.2	9 55.0	11 38.4	+8 57.3	+1.2884	0.5852	0.1727	+81	+55
13 Libræ	5.7	1.23	1.7	11 35.1	14 45.2	+1 37.6	+0.1213	0.5874	0.1534	+37	-28
ξ ^a Libræ	5.6	+1.23	+2.0	-11 6.0	5 56.8	+2 35.0	-0.5150	0.5875	-0.1521	+2	-69
17 Libræ	6.4	1.24	2.1	10 50.7	6 33.3	+3 10.1	-0.8604	0.5876	0.1514	-19	-90
18 Libræ	5.9	1.23	2.1	10 50.1	6 50.2	+3 26.4	-0.9139	0.5876	0.1510	-23	-90
130 B. Libræ	5.9	1.37	3.1	12 5.7	17 10.4	-10 36.7	-1.1452	0.5888	0.1366	-43	-90
γ Libræ	4.0	1.47	3.0	14 32.0	21 57.6	-6 0.2	+0.6612	0.5893	0.1294	+72	+2
190 B. Libræ	6.5	+1.50	+3.3	-14 47.8	15 1 12.7	-2 52.5	+0.5140	0.5896	-0.1243	+60	-6

ELEMENTS OF OCCULTATIONS, 1923. 499

SEPTEMBER.

THE STAR'S					AT CONJUNCTION IN R.A.							Limiting Parallels.		
Name.		Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.			Hour Angle, H	F	r'	y'	N	S.
			$\Delta\alpha$	$\Delta\delta$		d	h	m	h	m				
η	Libræ	5.5	+1.52	+3.1	-15 25.7	15	1	28.7	-2 37.2	+1.1150	0.5896	-0.1230	+75	+35
195 B.	Libræ	6.2	1.53	4.1	13 54.1	4	36.7	+0 23.8	-0.7992	0.5899	-0.1188	-18	-90	
202 B.	Libræ	6.4	1.56	4.2	14 10.4	6	30.0	+2 12.9	-0.7475	0.5900	-0.1157	-15	-90	
203 B.	Libræ	6.2	1.57	4.1	14 36.2	6	37.4	+2 20.0	-0.3286	0.5901	-0.1155	+9	-55	
48	Libræ	4.6	1.56	4.4	14 3.4	7	18.3	+2 59.3	-0.9570	0.5901	-0.1143	-29	-90	
49	Libræ	5.4	+1.58	+3.5	-16 18.4	8	10.9	+3 49.9	+1.2074	0.5901	-0.1129	+74	+46	
91 B.	Scorpii	6.1	1.66	5.2	14 39.3	14	33.6	+9 58.2	-1.1417	0.5905	-0.1020	-46	-90	
98 B.	Scorpii	6.1	1.68	5.3	14 41.1	15	51.4	+11 13.0	-1.2433	0.5905	-0.0997	-59	-90	
φ	Ophiuchi	4.4	1.76	5.4	16 26.7	20	48.9	-8 0.8	+0.0607	0.5906	-0.0908	+27	-31	
24	Scorpii	5.0	1.84	5.6	17 35.6	16	1 5.0	-3 54.3	+0.8532	0.5906	-0.0831	+73	+15	
78 B.	Ophiuchi	6.5	+1.90	+6.8	-16 41.0	7	1.5	+1 48.7	-0.5300	0.5905	-0.0720	-7	-71	
90 B.	Ophiuchi	6.5	1.93	6.4	18 7.7	8	31.9	+3 15.6	+0.8324	0.5904	-0.0691	+72	+14	
125 B.	Ophiuchi	6.2	1.96	7.1	17 30.4	12	2.1	+6 37.9	-0.0299	0.5903	-0.0624	+20	-37	
164 B.	Ophiuchi	6.0	2.02	7.8	17 40.5	16	49.2	+11 14.3	-0.1352	0.5899	-0.0532	+13	-43	
192 B.	Ophiuchi	6.3	2.06	7.8	18 22.4	18	45.4	-10 54.0	+0.4783	0.5897	-0.0494	+50	-8	
305 B.	Ophiuchi	6.3	+2.22	+9.4	-18 47.2	17	740.7	+1 32.2	+0.4288	0.5879	-0.0242	+44	-10	
64 B.	Sagittarii	6.1	2.30	10.5	18 41.0	15	49.4	+9 22.6	-0.1914	0.5862	-0.0082	+27	-24	
6 B.	Scuti	5.9	2.29	11.0	17 23.9	16	32.6	+10 4.1	-1.1389	0.5861	-0.0068	-55	-90	
52 G.	Sagittarii	6.4	2.31	10.6	18 29.4	16	38.8	+10 10.0	-0.0146	0.5861	-0.0066	+15	-36	
17 H ¹ .	Sagittarii	6.4	2.32	10.7	18 38.8	17	9.7	+10 39.9	+0.1451	0.5860	-0.0056	+24	-26	
Υ	Sagit. (var.)	5.4	+2.33	+10.8	-18 53.5	18	16.2	+11 43.9	+0.3931	0.5857	-0.0035	+40	-12	
85 B.	Sagittarii	6.0	2.35	11.5	17 50.7	21	1.7	-9 36.7	-0.6907	0.5851	+0.0019	-23	-90	
95 B.	Sagittarii	5.7	2.37	11.2	18 46.5	21	57.6	-8 42.9	+0.2732	0.5848	-0.0037	+32	-19	
100 B.	Sagittarii	5.0	2.37	11.4	18 27.2	22	29.1	-8 12.6	+0.0573	0.5847	-0.0047	+13	-38	
171 B.	Sagittarii	6.1	2.52	12.7	19 21.3	18	11 49.5	+4 38.3	+1.1130	0.5808	-0.0301	+71	+37	
173 B.	Sagittarii	6.4	+2.52	+12.8	-19 12.7	11	51.0	+4 39.8	+0.9648	0.5808	-0.0301	+71	+24	
187 B.	Sagittarii	6.4	2.53	13.1	18 51.3	13	34.1	+6 19.1	-0.6483	0.5802	-0.0333	+63	+2	
190 B.	Sagittarii	5.4	2.54	13.0	19 24.5	14	2.8	+6 46.7	+1.2412	0.5800	-0.0341	+71	+55	
d	Sagittarii	5.0	2.57	13.6	19 5.2	18	3.1	+10 38.4	+1.0602	0.5786	-0.0415	+71	+32	
e	Sagittarii	4.0	2.57	14.1	17 59.4	19	48.0	-11 40.6	-0.0095	0.5780	-0.0446	+19	-35	
45	Sagittarii	6.0	+2.58	+13.9	-18 26.9	19	51.9	-11 36.7	+0.4721	0.5780	+0.0447	+49	-8	
267 B.	Sagittarii	5.8	2.63	14.7	18 23.0	19	2 26.0	-5 16.7	+0.7548	0.5755	-0.0564	+72	+9	
54	Sagittarii	5.4	2.62	15.5	16 28.0	4	2.9	+3 43.3	-1.1753	0.5749	-0.0592	-54	-90	
31 B.	Capricorni	6.4	2.78	17.6	15 59.5	20	1 15.4	-7 15.4	-0.0542	0.5660	-0.0934	+22	-38	
27 G.	Capricorni	6.2	2.77	17.7	15 18.6	2	19.2	-6 13.8	-0.6752	0.5655	-0.0949	-13	-88	
47 B.	Capricorni	6.2	+2.81	+17.5	-16 47.2	4	18.7	-4 18.4	+1.0785	0.5646	+0.0979	+74	+32	
τ	Capricorni	5.2	2.80	18.1	15 13.2	6	1.3	-2 39.3	-0.4091	0.5639	-0.1003	+3	-61	
61 B.	Capricorni	5.9	2.81	17.9	16 23.6	6	35.2	-2 6.6	+0.8903	0.5636	-0.1011	+74	+17	
95 B.	Capricorni	5.9	2.85	18.8	14 46.6	14	53.4	+5 54.7	-0.0631	0.5599	-0.1125	+30	-31	
53 B.	Aquarii	6.5	2.88	19.5	13 31.0	22	54.0	-10 20.6	-0.3348	0.5563	-0.1227	+10	-56	
18	Aquarii	5.5	+2.90	+19.8	-13 12.2	21	2 43.8	-6 38.4	-0.1903	0.5546	+0.1272	+18	-46	
λ	Capricorni	5.5	2.94	20.5	11 43.0	13	18.6	+3 35.8	-0.3745	0.5501	-0.1387	+9	-58	
151 B.	Capricorni	6.1	2.95	20.3	13 4.0	14	48.3	+5 2.5	+1.2928	0.5494	-0.1402	+77	+59	
96 B.	Aquarii	6.5	2.95	20.8	10 40.1	16	41.9	+6 52.5	-1.0224	0.5486	-0.1421	-30	-90	
150 B.	Aquarii	6.0	2.98	21.2	9 25.1	22	3 58.3	-6 12.6	-0.7106	0.5440	-0.1521	-8	-90	
167 G.	Aquarii	6.3	+3.01	+21.4	-8 17.5	14	32.4	+4 1.7	-0.2779	0.5400	+0.1599	+17	-51	
213 B.	Aquarii	6.5	3.02	21.3	8 42.5	16	52.1	+6 17.1	+0.5471	0.5393	-0.1614	+68	-5	
67	Aquarii	6.4	3.02	21.5	7 21.6	16	57.9	+6 22.7	-0.8962	0.5392	-0.1615	-19	-90	
λ	Aquarii	3.8	3.03	21.4	7 59.0	21	38.2	+10 54.5	+0.5399	0.5376	-0.1643	+68	-5	
78	Aquarii	6.3	3.03	21.4	7 36.5	22	37.1	+11 51.5	+0.2945	0.5373	-0.1649	+50	-18	
81	Aquarii	6.4	+3.04	+21.3	-7 28.1	23	2 2.6	-8 49.2	+0.7119	0.5361	+0.1667	+83	+5	

500 ELEMENTS OF OCCULTATIONS, 1923.

SEPTEMBER.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	γ	α	ψ	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
82 Aquarii	6.4	+3.04	+21.4	6 58.9	23 237.5	- 8 15.5	+0.2801	0.5360	+0.1670	+50	-19
URANUS	6.1	...	...	6 39.5	6 21.9	- 4 37.9	+0.5578	0.5365	0.1695	+70	- 4
φ Aquarii	4.4	3.05	21.1	6 27.5	8 34.4	- 2 29.4	+0.7140	0.5342	0.1697	+84	+ 5
96 Aquarii	5.7	3.07	21.2	5 32.4	11 8.7	+ 0 0.2	+0.1523	0.5334	0.1707	+43	-26
316 B. Aquarii	6.5	3.08	21.2	4 20.0	11 35.1	+ 0 25.9	-1.0858	0.5334	0.1709	-31	-90
317 B. Aquarii	6.3	+3.05	+21.1	- 6 19.4	11 48.5	+ 0 38.8	+1.1185	0.5332	+0.1710	+84	+33
337 B. Aquarii	6.4	3.08	21.0	4 56.8	16 18.7	+ 5 1.0	+0.3941	0.5320	0.1726	+58	-13
342 B. Aquarii	6.5	3.08	21.0	4 30.1	17 19.8	+ 6 0.2	+0.0862	0.5318	0.1729	+39	-30
20 Piscium	5.6	3.09	20.8	3 11.0	24 1 45.8	- 9 48.6	+0.1152	0.5298	0.1750	+41	-28
24 Piscium	6.1	3.09	20.6	3 34.6	4 20.1	- 7 19.0	+0.9964	0.5292	0.1755	+87	+23
80 B. Piscium	6.3	+3.11	+20.3	- 0 55.5	10 37.2	- 1 13.2	-0.8016	0.5280	+0.1763	-10	-90
10 Ceti	6.4	3.11	19.5	- 0 28.2	21 50.2	+ 9 40.3	+0.6797	0.5263	0.1765	+84	+ 3
155 B. Piscium	6.5	3.14	18.2	+ 2 58.3	25 10 44.7	- 1 47.8	-0.8396	0.5249	0.1748	-13	-88
77 Piscium	6.4	3.16	17.3	4 30.2	18 21.2	+ 5 35.3	-1.2071	0.5245	0.1729	-42	-86
f Piscium	5.3	3.12	16.8	3 12.8	26 0 39.0	+11 42.3	+1.2993	0.5244	0.1708	+88	+57
μ Piscium	5.0	+3.16	+15.9	+ 5 45.1	7 7.3	- 6 0.6	-0.4092	0.5244	+0.1682	+12	-59
ν Piscium	4.7	3.12	15.3	5 6.2	13 2.3	- 0 16.0	+1.2963	0.5246	0.1653	+88	+56
39 B. Arietis	6.5	3.13	13.5	7 22.2	27 1 16.2	+11 36.6	+0.7663	0.5254	0.1583	+90	+10
64 Ceti	5.8	3.12	12.8	8 12.8	4 39.7	- 9 5.8	+0.3645	0.5257	0.1561	+57	-12
61 Ceti	4.5	3.13	12.7	8 29.4	5 30.8	- 8 16.3	+0.1910	0.5258	0.1555	+46	-22
ξ Arietis	5.5	+3.14	+11.6	+10 15.9	11 38.4	- 2 19.4	-0.8404	0.5266	+0.1511	-13	-80
25 Arietis	6.5	3.11	11.4	9 51.6	12 59.6	- 1 0.6	-0.1869	0.5267	0.1501	+24	-42
389 B. Ceti	6.3	3.11	11.5	9 13.5	14 7.6	+ 0 5.4	+0.6872	0.5269	0.1492	+88	+ 7
85 Ceti	6.3	3.10	10.3	10 25.0	20 47.0	+ 6 33.0	+0.3403	0.5279	0.1438	+56	-12
μ Ceti	4.4	3.10	10.2	9 47.6	22 2.7	+ 7 46.5	+1.2144	0.5281	0.1427	+90	+48
147 B. Arietis	5.8	+3.09	+ 7.9	+12 53.6	28 9 2.4	- 5 33.4	-0.7132	0.5301	+0.1327	- 5	-77
8 B. Tauri	6.2	3.02	6.8	12 21.6	18 5.6	+ 3 13.5	+1.0400	0.5321	0.1235	+90	+33
f Tauri	4.3	3.00	6.2	12 40.5	21 29.0	+ 6 30.7	+1.1018	0.5328	0.1199	+90	+39
30 B. Tauri	6.4	3.03	5.0	15 10.8	29 0 56.8	+ 9 52.4	-1.2693	0.5336	0.1161	-55	-75
179 B. Tauri	5.9	2.92	2.7	14 57.5	15 53.5	+ 0 21.6	+0.5828	0.5375	0.0984	+76	+ 6
48 Tauri	6.3	+2.89	+ 2.1	+15 12.6	19 53.0	+ 4 13.8	+0.6867	0.5386	0.0933	+90	+13
γ Tauri	3.9	2.88	1.7	15 26.6	21 51.9	+ 6 8.9	+0.6103	0.5391	0.0908	+80	+ 9
58 Tauri	5.4	2.86	1.8	14 54.8	22 16.3	+ 6 32.6	+1.2344	0.5392	0.0902	+90	+58
63 Tauri	5.7	2.88	1.1	16 35.9	23 38.0	+ 7 51.8	-0.5098	0.5396	0.0885	+ 6	-57
64 Tauri	4.9	2.90	0.8	17 16.0	23 57.4	+ 8 10.5	-1.2201	0.5397	0.0880	-49	-73
70 Tauri	6.4	+2.86	+ 1.2	+15 46.0	30 0 43.7	+ 8 55.3	+0.5071	0.5399	+0.0870	+69	+ 3
71 Tauri	4.6	2.85	1.2	15 26.7	1 5.3	+ 9 16.3	+0.8937	0.5400	0.0865	+90	+27
75 Tauri	5.2	2.85	0.9	16 11.3	2 6.6	+10 15.6	+0.1588	0.5403	0.0851	+44	-15
θ^1 Tauri	4.2	2.84	0.9	15 47.6	2 10.6	+10 19.6	+0.6025	0.5403	0.0851	+79	+ 9
θ^2 Tauri	3.6	2.84	1.0	15 42.1	2 13.3	+10 22.2	+0.7070	0.5403	0.0850	+90	+15
80 Tauri	5.8	+2.83	+ 0.9	+15 28.3	2 57.0	+11 4.5	+1.0230	0.5405	+0.0840	+90	+37
264 B. Tauri	4.8	2.84	0.7	16 1.7	3 8.9	+11 16.0	+0.4244	0.5406	0.0838	+63	- 1
81 Tauri	5.5	2.83	0.9	15 31.5	3 11.9	+11 18.9	+0.9836	0.5405	0.0837	+90	+34
85 Tauri	6.0	2.83	0.7	15 41.3	3 47.4	+11 53.3	+0.8537	0.5407	0.0829	+90	+25
275 B. Tauri	6.5	2.82	0.5	16 9.8	4 39.3	-11 16.4	+0.3996	0.5410	0.0817	+61	- 2
α Tauri (Ald.)	1.1	+2.82	+ 0.1	+16 21.3	5 46.0	-10 11.8	+0.2766	0.5413	+0.0802	+52	- 9
89 Tauri	5.8	2.80	0.2	15 52.8	6 51.9	+ 9 8.0	+0.8890	0.5416	0.0787	+90	+27
σ^1 Tauri	5.2	2.79	0.2	15 39.0	7 21.4	- 8 39.4	+1.1821	0.5417	0.0780	+90	+52
σ^2 Tauri	4.9	2.80	+ 0.2	15 46.0	7 24.7	- 8 36.2	+1.0572	0.5418	0.0779	+90	+40
318 B. Tauri	5.7	2.73	- 1.5	17 2.0	16 10.8	- 0 6.7	+0.2874	0.5442	0.0655	+53	- 6
m Tauri	5.0	+2.74	- 2.7	+18 32.5	20 59.2	+ 4 32.5	-1.0750	0.5456	+0.0585	-33	-72

ELEMENTS OF OCCULTATIONS, 1923. 501

OCTOBER.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	γ	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
111 Tauri	5.1	+2.60	-3.5	+17 18.7	1 5 8.1	-11 34.3	+0.7045	0.5481	+0.0462	+90	+19
115 Tauri	5.3	+2.59	3.9	17 53.8	6 26.6	-10 18.2	+0.1225	0.5484	0.0443	+42	-13
117 Tauri	6.0	+2.57	3.8	17 10.5	6 51.6	-9 54.1	+0.9323	0.5485	0.0436	+90	+34
119 Tauri	4.9	+2.58	4.4	18 32.2	8 49.7	-7 59.7	-0.4789	0.5491	0.0405	+8	-50
167 H ¹ . Tauri	5.5	+2.55	3.9	17 0.1	8 51.8	-7 57.7	+1.2064	0.5491	0.0405	+90	+59
120 Tauri	5.6	+2.57	-4.5	18 29.1	9 27.1	-7 23.6	-0.3972	0.5493	+0.0396	+12	-44
130 Tauri	5.6	+2.17	5.1	17 42.0	16 2.0	-1 1.0	+0.6885	0.5512	0.0292	+90	+20
19 B. Geminorum	6.2	+2.31	7.0	18 12.0	2 4 14.0	+10 46.3	-0.1671	0.5545	0.0094	+25	-26
124 H ¹ . Orionis	5.7	+2.32	6.8	17 55.6	4 10.5	+11 12.0	+0.6769	0.5546	0.0086	+90	+21
71 Orionis	5.1	+2.33	7.4	19 10.9	4 49.9	+11 21.0	-0.6859	0.5547	0.0084	-5	-66
292 B. Orionis	6.5	+2.28	-7.1	+17 47.9	7 54.2	-9 40.9	+0.8346	0.5555	+0.0033	+90	+32
26 Geminorum	5.2	+2.15	8.2	17 43.2	17 34.8	-0 19.7	+0.8699	0.5579	-0.0130	+90	+33
74 B. Geminorum	6.2	+2.12	8.6	18 16.5	19 51.5	+1 52.6	+0.2346	0.5585	0.0168	+49	-4
110 B. Geminorum	6.2	+2.02	9.1	17 51.8	3 24.2	+8 31.4	+0.5216	0.5601	0.0285	+71	+11
162 B. Geminorum	5.7	+1.84	10.1	17 14.9	16 4.2	-2 35.9	+0.6436	0.5630	0.0513	+84	+15
f Geminorum	5.3	+1.80	-10.5	+17 50.9	19 31.4	+0 44.2	-0.1833	0.5637	-0.0571	+24	-32
g Geminorum	5.0	+1.76	11.0	18 41.8	22 30.4	+3 37.1	-1.2619	0.5643	0.0622	-59	-72
1 Cancri	6.0	+1.67	10.4	15 59.7	4 3.5	+8 21.6	+1.2799	0.5652	0.0705	+77	+70
2 B. Cancri	6.0	+1.67	10.7	16 43.5	4 5.7	+9 0.8	+0.4578	0.5653	0.0716	+65	+3
3 Cancri	5.7	+1.66	11.0	17 31.1	5 5.9	+9 58.9	-0.4550	0.5655	0.0733	+9	-51
5 Cancri	5.9	+1.65	-10.7	+16 40.0	5 25.8	+10 18.2	+0.4223	0.5656	-0.0738	+62	+1
7 Can. (mean)	4.7	+1.60	11.5	17 52.7	10 11.9	-9 5.6	-1.2285	0.5664	0.0818	-50	-73
d ² Cancri	6.2	+1.50	11.5	17 17.9	16 17.3	-3 12.9	-1.1413	0.5674	0.0917	-39	-73
90 B. Cancri	6.3	+1.44	11.0	15 34.7	20 52.7	+1 12.9	+0.2268	0.5682	0.0991	+49	-12
54 Cancri	6.3	+1.35	11.1	15 38.0	5 329.3	+7 35.6	-0.5213	0.5691	0.1095	+6	-59
o ¹ Cancri	5.1	+1.32	-11.2	+15 37.0	6 14.2	+10 14.7	-0.8079	0.5695	-0.1138	-12	-75
o ² Cancri	5.7	+1.32	11.3	15 52.5	6 23.0	+10 23.2	-1.0940	0.5695	0.1140	-33	-75
81 Cancri	6.4	+1.21	11.0	15 18.2	12 54.1	-7 19.1	-1.2718	0.5704	0.1238	-56	-75
18 Leonis	5.8	+1.07	10.2	12 9.8	6 354.5	+7 9.3	-0.0436	0.5724	0.1447	+32	-32
19 Leonis	6.4	+1.06	10.1	11 55.3	4 22.1	+7 36.0	+0.1360	0.5725	0.1453	+43	-22
R Leonis(var.)	4.6	+1.06	-10.1	+11 47.0	4 25.4	+7 39.2	+0.2699	0.5725	-0.1454	+51	-15
A Leonis	4.6	+0.97	9.5	10 22.4	13 20.4	-7 44.7	+0.3637	0.5736	0.1565	+57	-11
44 Leonis	5.9	+0.91	8.9	9 10.5	20 54.6	-0 26.7	+0.3627	0.5746	0.1650	+57	-12
45 Leonis	5.8	+0.90	9.1	10 9.2	21 56.9	+0 33.4	-0.8011	0.5748	0.1661	-10	-80
q Leonis	3.8	+0.88	8.9	9 42.1	7 0 11.8	+2 43.4	-0.7185	0.5751	0.1685	-5	-81
49 Leonis	5.7	+0.87	-8.7	+9 2.8	1 10.2	+3 39.8	-0.2204	0.5753	-0.1695	+23	-45
37 Sextantis	6.3	+0.85	8.0	6 46.6	5 58.8	+8 18.1	+1.2426	0.5759	0.1742	+90	+49
56 Leonis	6.1	+0.82	7.7	6 35.7	10 17.0	-11 32.9	+0.6661	0.5766	0.1780	+84	+4
c Leonis	5.1	+0.81	7.6	6 30.8	12 19.7	-9 34.7	+0.3813	0.5769	0.1797	+58	-12
z Leonis	4.7	+0.77	-7.7	+7 45.0	14 10.8	-7 47.6	-1.1945	0.5772	0.1812	-41	-83
NEW MOON.											
130 B. Libræ	5.9	+1.05	+3.6	-12 5.7	12 145.9	-0 13.4	-1.2075	0.5996	-0.1400	-50	-90
γ Libræ	4.0	+1.12	3.8	14 32.0	6 23.3	+4 13.2	+0.5663	0.6002	0.1326	+64	-3
190 B. Libræ	6.5	+1.15	4.0	14 47.8	9 31.7	+7 14.3	+0.4188	0.6005	0.1274	+53	-12
η Libræ	5.5	+1.16	+3.9	-15 25.7	9 47.2	+7 29.1	+1.0100	0.6005	-0.1270	+75	+26
195 B. Libræ	6.2	+1.16	4.7	13 54.0	12 48.7	+10 23.5	-0.8757	0.6008	0.1218	-23	-90
202 B. Libræ	6.4	+1.18	4.8	14 10.4	14 38.1	-11 51.3	-0.8262	0.6009	0.1186	-20	-90
203 B. Libræ	6.2	+1.19	4.8	14 36.2	14 45.3	-11 44.4	-0.4143	0.6010	0.1184	+4	-62
48 Libræ	4.6	+1.19	5.0	14 3.4	15 24.7	-11 6.6	-1.0330	0.6010	0.1173	-35	-90
49 Libræ	5.4	+1.19	+4.3	-16 18.4	16 15.5	-10 17.7	+1.0958	0.6010	-0.1157	+74	+33

502 ELEMENTS OF OCCULTATIONS, 1923.

OCTOBER.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	γ	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
91 B. Scorpii	6.1	+1.26	+5.7	-14 39.3	12 22 25.1	-4 22.6	-1.2200	0.6013	-0.1046	-55	-90
φ Ophiuchi	4.4	+1.33	6.0	16 26.6	13 4 27.6	+1 25.6	-0.0408	0.6013	0.0931	+22	-37
24 B. Scorpii	5.0	+1.39	6.2	17 35.6	8 35.1	+5 23.5	+0.7306	0.6011	0.0851	+73	+7
78 B. Ophiuchi	6.5	+1.44	7.2	16 41.0	14 20.0	+10 54.9	-0.6286	0.6006	0.0737	-12	-82
90 B. Ophiuchi	6.5	+1.46	6.8	18 7.7	15 47.4	-11 41.2	+0.7121	0.6004	0.0708	+72	+6
125 B. Ophiuchi	6.2	+1.49	+7.5	-17 30.4	19 10.9	-8 25.7	-0.1389	0.6000	-0.0640	+13	-43
164 B. Ophiuchi	6.0	+1.54	8.1	17 40.5	23 49.1	-3 58.3	-0.2450	0.5993	0.0545	+7	-50
192 B. Ophiuchi	6.3	+1.58	8.1	18 22.4	14 1.8	-2 10.0	+0.3587	0.5989	0.0507	+42	-15
305 B. Ophiuchi	6.3	+1.71	9.4	18 47.2	14 14.8	+9 53.7	+0.3052	0.5959	0.0248	+36	-17
64 B. Sagittarii	6.1	+1.79	10.4	18 41.0	22 10.9	-6 28.5	+0.0685	0.5933	0.0086	+20	-31
6 B. Scuti	5.9	+1.78	+10.9	-17 23.9	22 53.0	-5 47.9	-1.2460	0.5931	-0.0071	-68	-86
52 G. Sagittarii	6.4	+1.80	10.5	18 29.1	22 59.0	-5 42.2	-0.1353	0.5930	0.0069	+9	-43
17 H ¹ . Sagittarii	6.4	+1.81	10.5	18 38.8	23 29.3	-5 13.0	+0.0224	0.5929	0.0059	+17	-34
γ Sagit. (var.)	5.4	+1.82	10.6	18 53.6	15 03.2	-4 10.6	+0.2671	0.5924	-0.0037	+31	-20
85 B. Sagittarii	6.0	+1.84	11.2	17 50.7	3 15.8	-1 35.2	-0.8048	0.5915	+0.0017	-30	-90
95 B. Sagittarii	5.7	+1.86	+10.9	-18 46.5	4 10.1	-0 42.6	+0.1479	0.5911	+0.0036	+24	-26
100 B. Sagittarii	5.0	+1.86	11.1	18 27.2	4 41.2	-0 13.0	-0.1791	0.5909	0.0046	+6	-46
171 B. Sagittarii	6.1	+2.01	12.1	19 21.3	17 45.4	-11 38.3	+0.9777	0.5853	0.0302	+71	+25
173 B. Sagittarii	6.4	+2.01	12.2	19 12.7	17 10.9	-11 36.8	+0.8309	0.5853	0.0303	+71	+14
187 B. Sagittarii	6.4	+2.02	12.5	18 51.3	19 28.2	-9 59.3	+0.5173	0.5845	0.0335	+52	-6
190 B. Sagittarii	5.4	+2.03	+12.4	-19 24.5	19 56.3	-9 32.2	+1.1048	0.5843	+0.0344	+71	+36
δ Sagittarii	5.0	+2.07	12.8	19 5.3	23 52.7	-5 41.6	+0.9258	0.5824	0.0418	+71	+21
ϵ Sagittarii	4.0	+2.07	13.4	17 59.4	1 36.0	-4 5.0	-0.1348	0.5816	0.0450	+12	-43
45 Sagittarii	6.0	+2.08	13.2	18 20.9	1 39.8	-4 1.4	+0.3428	0.5815	0.0451	+40	-15
266 B. Sagittarii	6.1	+2.15	13.6	19 1.2	7 52.0	+1 57.2	+1.2532	0.5784	0.0563	+71	+57
267 B. Sagittarii	5.8	+2.15	+13.8	-18 24.0	8 8.5	+2 13.1	+0.6238	0.5782	+0.0567	+63	+1
31 B. Capricorni	6.4	+2.34	16.4	15 59.6	17 64.0	-0 2.6	-0.1761	0.5661	0.0938	+15	-46
27 G. Capricorni	6.2	+2.31	16.6	15 18.6	7 49.5	+1 3.9	-0.7915	0.5655	0.0953	-20	-90
47 B. Capricorni	6.2	+2.38	16.2	16 47.2	9 48.6	+2 58.9	+0.9532	0.5644	0.0982	+74	+22
τ Capricorni	5.2	+2.38	16.9	15 13.3	11 30.8	+4 37.6	-0.5286	0.5635	0.1007	-4	-71
61 B. Capricorni	5.9	+2.39	+16.6	-16 23.7	12 4.6	+5 10.2	+0.7666	0.5631	+0.1015	+74	+9
95 B. Capricorni	5.9	+2.45	17.5	14 40.6	20 21.9	-10 49.4	-0.0546	0.5586	0.1128	+24	-38
53 B. Aquarii	6.5	+2.52	18.2	13 31.0	18 4 22.8	-3 4.5	-0.4482	0.5544	0.1229	+3	-64
18 Aquarii	5.5	+2.55	18.5	13 12.3	8 13.1	+0 38.3	-0.3020	0.5524	0.1274	+12	-53
λ Capricorni	5.5	+2.63	19.2	11 43.0	18 50.5	+10 55.0	-0.1801	0.5471	0.1388	+3	-66
151 B. Capricorni	6.1	+2.64	+18.9	-13 4.6	20 20.6	-11 37.9	+1.1887	0.5464	+0.1402	+77	+42
96 B. Aquarii	6.5	+2.65	19.6	10 40.2	22 14.8	-9 47.2	-1.1260	0.5456	0.1421	-39	-90
150 B. Aquarii	6.0	+2.73	20.1	9 25.1	19 35.8	+1 12.2	-0.8062	0.5405	0.1520	-14	-90
167 G. Aquarii	6.3	+2.81	20.3	8 17.5	20 15.1	+11 31.7	-0.3637	0.5363	0.1598	+13	-57
213 B. Aquarii	6.5	+2.82	20.2	8 42.5	22 30.1	-10 11.6	+0.4653	0.5355	0.1613	+62	-9
67 Aquarii	6.4	+2.82	+20.5	-7 21.6	22 41.9	-10 6.0	-0.9810	0.5354	+0.1614	-24	-90
λ Aquarii	3.8	+2.85	20.3	7 59.0	3 24.9	-5 31.4	+0.4629	0.5337	0.1642	+62	-9
78 Aquarii	6.3	+2.86	20.4	7 36.5	4 24.3	-4 33.9	+0.2178	0.5334	0.1647	+46	-23
81 Aquarii	6.4	+2.88	20.3	7 28.2	7 51.8	-1 12.6	+0.6400	0.5323	0.1666	+78	0
82 Aquarii	6.4	+2.89	20.4	6 58.9	8 26.9	-0 38.6	+0.2077	0.5322	0.1669	+46	-23
URANUS	6.1	..	..	-6 59.8	10 31.0	+1 21.7	+0.5708	0.5326	+0.1684	+72	-3
φ Aquarii	4.4	+2.93	+20.2	6 27.5	14 27.3	+5 11.0	+0.6494	0.5304	0.1697	+79	+1
96 Aquarii	5.7	+2.96	20.5	5 32.4	17 3.1	+7 42.1	+0.0891	0.5297	0.1708	+39	-30
316 B. Aquarii	6.5	+2.97	20.6	4 20.0	17 29.8	+8 8.1	-1.1520	0.5296	0.1709	-37	-90
317 B. Aquarii	6.3	+2.94	20.2	6 19.4	17 43.3	+8 21.1	+1.0587	0.5295	0.1710	+84	+28
337 B. Aquarii	6.4	+2.99	+20.2	-4 56.8	22 16.2	-11 14.0	+0.3376	0.5284	+0.1726	+55	-16

ELEMENTS OF OCCULTATIONS, 1923. 503

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THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	P	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
342 B. Aquarii	6.5	+3.00	+20.3	-4 30.2	20 23 17.9	-10 14.2	+0.0209	0.5281	10.1729	+30	-33
20 Piscium	5.6	3.05	20.3	3 11.0	21 7 48.8	-1 58.3	+0.0694	0.5203	0.1752	+39	-31
24 Piscium	6.1	3.06	20.0	3 34.7	10 24.5	+0 32.8	+0.9565	0.5259	0.1757	+87	+20
80 B. Piscium	6.3	3.12	20.1	0 55.5	16 44.9	+6 42.0	-0.8386	0.5240	0.1766	-12	-90
10 Ceti	6.4	3.18	19.4	-0 28.2	22 4 3.7	-6 18.7	+0.6620	0.5236	0.1770	+83	+2
155 B. Piscium	6.5	+3.27	+18.6	+2 58.3	17 3.6	+6 18.6	-0.8429	0.5230	+0.1755	-13	-88
77 Piscium	6.4	3.32	17.9	4 30.2	23 0 42.7	-10 15.6	-1.2002	0.5230	0.1738	-41	-86
f Piscium	5.3	3.31	17.2	3 12.8	7 2.4	-4 6.8	+1.3211	0.5231	0.1718	+83	+60
μ Piscium	5.0	3.39	16.6	5 45.1	13 32.4	+2 11.8	-0.3815	0.5235	0.1693	+14	-57
39 B. Arietis	6.5	3.44	14.2	7 22.2	24 7 44.0	-4 8.0	+0.8229	0.5254	0.1598	+90	+13
64 Ceti	5.8	13.45	+13.7	+8 12.8	11 7.7	-0 50.3	+0.4253	0.5260	+0.1576	+62	-9
51 Ceti	4.5	3.46	13.7	8 29.4	11 58.8	-0 0.7	+0.2529	0.5261	0.1570	+50	-19
ξ Arietis	5.5	3.50	12.7	10 16.0	18 6.7	+5 56.5	-0.7712	0.5270	0.1527	-8	-80
25 Arietis	6.5	3.48	12.4	9 51.6	19 27.9	+7 15.3	-0.1148	0.5273	0.1517	+28	-38
389 B. Ceti	6.3	3.48	12.4	9 13.6	20 35.9	+8 21.3	+0.7622	0.5275	0.1508	+90	+11
85 Ceti	6.3	+3.51	+11.4	+10 25.0	25 3 15.4	-9 11.2	+0.4242	0.5288	0.1455	+62	-8
38 Arietis	5.2	3.55	11.0	12 7.5	4 30.6	-7 58.1	-1.2935	0.5290	0.1444	-58	-78
μ Ceti	4.4	3.51	11.2	9 47.6	4 31.0	-7 57.7	+1.3014	0.5290	0.1444	+83	+62
147 B. Arietis	5.8	3.56	9.1	12 53.6	15 30.2	+2 41.9	-0.6130	0.5313	0.1344	+1	-70
8 B. Tauri	6.2	3.53	7.7	12 21.6	26 0 32.8	+11 28.2	+1.1542	0.5333	0.1252	+90	+43
f Tauri	4.3	13.53	+7.1	+12 40.5	3 56.0	-9 14.8	+1.2206	0.5342	10.1216	+90	+51
30 B. Tauri	6.4	3.58	6.2	15 10.8	7 23.5	-5 53.5	-1.1504	0.5350	0.1177	-38	-71
179 B. Tauri	5.9	3.53	3.6	14 57.5	22 19.5	+8 35.1	+0.7236	0.5387	0.0998	+90	+11
48 Tauri	6.3	3.52	2.8	15 12.6	27 2 19.0	-11 32.8	+0.8325	0.5396	0.0947	+90	+22
γ Tauri	3.9	3.52	2.4	15 26.6	4 17.8	-9 37.7	+0.7582	0.5402	0.0921	+90	+18
δ Tauri	3.9	+3.55	+1.8	+17 21.8	5 49.0	-8 9.3	-1.2336	0.5405	+0.0901	-51	-73
63 Tauri	5.7	3.53	1.9	16 36.0	6 4.0	-7 54.8	-0.3632	0.5406	0.0898	+15	-46
64 Tauri	4.9	3.55	1.7	17 16.0	6 23.4	-7 36.0	-1.0753	0.5406	0.0894	-32	-73
70 Tauri	6.4	3.51	1.8	15 46.0	7 9.7	-6 51.1	+0.6579	0.5408	0.0883	+86	+12
71 Tauri	4.6	3.50	1.8	15 20.7	7 31.3	-6 30.2	+1.0461	0.5409	0.0878	+90	+38
75 Tauri	5.2	+3.50	+1.6	+16 11.3	8 32.6	-5 30.8	+0.3102	0.5412	10.0864	+54	-7
θ^1 Tauri	4.2	3.50	1.6	15 47.6	8 36.7	-5 26.8	+0.7553	0.5412	0.0864	+90	+18
θ^2 Tauri	3.6	3.50	1.6	15 42.1	8 39.4	-5 24.2	+0.8602	0.5412	0.0863	+90	+25
80 Tauri	5.8	3.49	1.5	15 28.3	9 23.1	-4 41.9	+1.1780	0.5414	0.0853	+90	+51
264 B. Tauri	4.8	3.50	1.4	16 1.7	9 35.0	-4 30.3	+0.5777	0.5414	0.0850	+76	+8
81 Tauri	5.5	+3.49	+1.4	+15 31.6	9 38.0	-4 27.4	+1.1388	0.5415	10.0850	+90	+47
85 Tauri	6.0	3.49	1.3	15 41.3	10 13.6	-3 52.9	+1.0090	0.5416	0.0842	+90	+36
275 B. Tauri	6.5	3.49	1.1	16 9.8	11 5.5	-3 2.7	+0.5545	0.5418	0.0830	+74	+7
a Tauri (Ald.)	1.1	3.49	0.7	16 21.4	12 12.3	-1 58.0	+0.4323	0.5421	0.0815	+63	0
89 Tauri	5.8	3.48	0.8	15 52.8	13 18.2	-0 54.1	+1.0479	0.5424	0.0799	+90	+39
σ^2 Tauri	4.9	+3.47	+0.7	+15 46.0	13 51.1	-0 22.2	+1.2173	0.5425	+0.0792	+90	+56
318 B. Tauri	5.7	3.44	-1.2	17 2.0	22 38.2	+8 8.2	+0.4539	0.5446	0.0666	+65	+3
m Tauri	5.0	3.47	2.3	18 32.5	3 27.6	-11 11.6	-0.9100	0.5457	0.0595	-19	-72
111 Tauri	5.1	3.36	3.5	17 18.7	11 38.6	-3 16.3	+0.8853	0.5475	0.0471	+90	+30
115 Tauri	5.3	3.34	3.9	17 53.8	12 57.5	-1 59.9	+0.3013	0.5478	0.0451	+54	-3
117 Tauri	6.0	+3.32	-3.8	+17 10.5	13 22.8	-1 35.4	+1.1159	0.5479	10.0444	+90	+49
119 Tauri	4.9	3.34	4.5	18 32.2	15 21.5	+0 19.4	-0.3014	0.5483	0.0414	+18	-37
120 Tauri	5.6	3.33	4.6	18 29.1	15 59.2	+0 55.9	-0.2187	0.5484	0.0404	+23	-32
130 Tauri	5.6	3.25	5.5	17 42.0	22 36.8	+7 20.7	+0.8787	0.5498	0.0299	+90	+32
57 Orionis	5.8	3.26	6.6	19 44.0	29 2 8.3	+10 45.5	-1.2622	0.5504	0.0243	-61	-71
64 Orionis	5.1	+3.22	-7.3	+19 41.5	6 9.51	-9 21.3	-1.1290	0.5512	+0.0178	-39	-71

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OCTOBER.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	P	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
68 Orionis	5.7	+3.18	-8.0	+19 48.4	29 10 11.5	-5 27.1	-1.1959	0.5519	+0.0112	-47	-71
19 B. Geminorum	6.2	3.15	7.8	18 42.0	10 55.8	-4 44.3	+0.0258	0.5520	0.0100	+36	-15
124 H ¹ . Orionis	5.7	3.13	7.6	17 55.6	11 22.5	-4 18.4	+0.8766	0.5521	0.0093	+90	+34
71 Orionis	5.1	3.15	8.1	19 10.9	11 32.0	-4 9.3	-0.4967	0.5521	0.0090	+7	-48
292 B. Orionis	6.5	3.09	8.0	17 47.9	14 38.4	-1 9.0	+1.0377	0.5527	+0.0039	+90	+46
26 Geminorum	5.2	+2.97	-9.5	+17 43.1	30 026.0	+8 20.1	+1.0793	0.5542	-0.0123	+90	+49
74 B. Geminorum	6.2	2.96	10.0	18 16.5	2 45.7	+10 34.4	+0.4393	0.5545	0.0162	+64	+7
110 B. Geminorum	6.2	2.86	10.8	17 51.8	9 45.2	-6 40.1	+0.7321	0.5554	0.0279	+90	+23
162 B. Geminorum	5.7	2.67	12.2	17 14.9	23 21.0	+6 28.5	+0.8599	0.5569	0.0505	+90	+29
f Geminorum	5.3	2.63	12.7	17 50.9	31 252.6	+9 53.1	+0.0239	0.5572	0.0563	+36	-20
g Geminorum	5.0	+2.60	-13.4	+18 41.7	5 55.8	-11 9.8	-1.0677	0.5575	-0.0613	-32	-72
2 B. Cancri	6.0	2.50	13.2	16 43.4	11 39.2	-5 38.0	+0.6736	0.5580	0.0706	+89	+15
3 Cancri	5.7	2.49	13.6	17 31.0	12 40.9	-4 38.3	-0.2509	0.5581	0.0723	+21	-37
5 Cancri	5.9	2.48	13.3	16 39.9	13 1.3	-4 18.7	+0.6377	0.5581	0.0729	+83	+13
5 Can. (mean)	4.7	+2.42	-14.2	+17 52.6	17 54.8	+0 25.0	-1.0350	0.5585	-0.0807	-29	-73

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d ^a Cancri	6.2	+2.31	-14.5	+17 17.8	1 010.2	+6 27.7	-0.9480	0.5590	-0.0905	-22	-73
90 B. Cancri	6.3	2.24	14.1	15 34.6	4 53.4	+11 1.3	+0.4379	0.5594	0.0979	+64	-1
54 Cancri	6.3	+2.14	-14.4	+15 38.0	11 41.6	-6 24.3	-0.3229	0.5598	-0.1081	+17	-45
o ¹ Cancri	5.1	2.11	14.0	15 36.9	14 31.5	-3 40.1	-0.6148	0.5601	0.1123	0	-67
o ² Cancri	5.7	2.11	14.7	15 52.4	14 40.0	-3 31.3	-0.9051	0.5601	0.1125	-18	-75
81 Cancri	6.4	1.98	14.5	15 18.2	21 24.2	+2 58.6	-1.0890	0.5606	0.1221	-32	-75
π Cancri	5.0	1.98	14.8	15 15.5	22 43.3	+4 15.0	-1.2024	0.5607	0.1240	-44	-75
18 Leonis	5.8	+1.78	-13.9	+12 9.7	2 1253.3	-6 4.0	+0.1469	0.5621	-0.1429	+44	-22
19 Leonis	6.4	1.77	13.8	11 55.3	13 21.8	-5 36.4	+0.3288	0.5621	0.1435	+55	-12
R Leonis (var.)	4.6	1.78	13.8	11 47.0	13 25.2	-5 33.1	1.04645	0.5621	0.1435	+65	-4
ν Leonis	5.0	1.71	14.1	12 48.5	18 14.1	-0 54.1	-1.3049	0.5627	0.1494	-61	-76
A Leonis	4.6	1.66	13.3	10 22.3	22 37.6	+3 20.4	+0.5514	0.5632	0.1540	+72	-1
44 Leonis	5.9	1.57	-12.7	+9 10.4	3 626.6	+10 53.4	+0.5418	0.5643	-0.1632	+71	-2
45 Leonis	5.8	1.55	13.0	10 9.1	7 30.8	+11 55.3	-0.6395	0.5645	0.1643	0	-75
ρ Leonis	3.8	1.52	12.8	9 42.0	9 50.0	-9 50.3	-0.5583	0.5649	0.1666	+4	-69
49 Leonis	5.7	1.51	12.5	9 2.7	10 50.2	-8 52.1	-0.0546	0.5650	0.1670	+32	-35
56 Leonis	6.1	1.41	11.4	6 35.6	20 14.0	+0 12.1	+0.8312	0.5667	0.1703	+90	+14
o Leonis	5.1	+1.39	-11.3	+6 30.7	22 20.3	+2 14.1	+0.5398	0.5671	-0.1781	+71	-4
χ Leonis	4.7	1.34	11.6	7 45.0	4 014.7	+4 4.4	-1.0585	0.5676	0.1790	-28	-83
σ Leonis	4.1	1.29	10.8	6 26.9	7 23.4	+10 58.2	-1.0375	0.5692	0.1848	-26	-84
80 Leonis	6.4	1.29	10.0	4 16.9	9 28.3	-11 1.2	+0.7664	0.5697	0.1862	+90	+9
89 Leonis	5.7	1.25	9.6	3 29.1	13 14.3	-7 23.1	+0.8617	0.5706	0.1884	+90	+14
β Virginis	3.8	+1.25	-8.9	+2 11.8	20 22.2	-0 30.4	+0.7965	0.5726	-0.1920	+90	+10
27 B. Virginis	6.5	1.18	8.0	0 57.4	5 030.0	+3 2.7	+1.3265	0.5737	0.1934	+82	+61
10 Virginis	6.2	1.13	8.2	1 219.7	4 40.1	+7 29.9	-0.9412	0.5751	0.1949	-19	-88
13 Virginis	5.9	1.13	7.1	-0 21.7	8 33.3	+11 14.8	+0.9801	0.5764	0.1958	+90	+22
η Virginis	4.0	1.12	7.1	0 14.5	9 5.5	+11 45.8	+0.7550	0.5766	0.1959	+90	+7
ν Vir. (mean)	2.9	+1.03	-6.0	-1 1.7	18 26.7	-3 13.3	-0.3012	0.5799	-0.1966	+18	-53
38 Virginis	6.1	1.04	5.1	3 8.2	23 20.0	+1 29.3	+0.8227	0.5817	0.1963	+87	+11
k Virginis	5.7	1.04	4.8	3 23.9	6 230.9	+4 7.2	+0.5449	0.5828	0.1958	+71	-5
46 Virginis	6.1	+1.03	-4.8	-2 57.4	2 27.8	+4 30.3	+0.0305	0.5830	-0.1938	+36	-33

NEW MOON.

ELEMENTS OF OCCULTATIONS, 1923. 505

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THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	P'	α'	η'	N.	S.
		$\Delta\alpha$	$\Delta\delta$								
125 B. Ophiuchi	6.2	+1.24	+7.6	-17 30.4	10 4 53.0	+ 3 4.5	-0.2883	0.6100	-0.0668	+ 6	-53
164 B. Ophiuchi	6.0	+1.26	8.1	17 40.5	9 21.7	+ 7 22.3	-0.4003	0.6104	-0.0571	- 1	-61
192 B. Ophiuchi	6.3	+1.28	8.2	18 22.4	11 10.4	+ 9 6.6	-0.1910	0.6101	-0.0532	+31	-24
305 B. Ophiuchi	6.3	+1.37	9.4	18 47.2	23 16.6	- 3 10.5	+0.1193	0.6074	-0.0267	+25	-28
39 G. Sagittarii	6.3	+1.42	9.7	19 51.3	11 5 14.3	+ 2 26.9	+1.0682	0.6055	-0.0137	+71	+32
64 B. Sagittarii	6.1	+1.42	10.2	-18 41.0	6 55.4	+ 4 3.9	-0.1243	0.6049	-0.0100	+ 9	-43
52 G. Sagittarii	6.4	+1.43	10.3	18 29.4	7 41.8	+ 4 48.5	-0.3257	0.6040	-0.0083	- 2	-50
17 H. Sagittarii	6.4	+1.44	10.4	18 38.8	8 11.0	+ 5 16.4	-0.1712	0.6045	-0.0072	+ 7	-45
Y Sagit. (var.)	5.4	+1.44	10.4	18 53.6	9 13.5	+ 6 16.5	+0.0680	0.6041	-0.0050	+20	-31
85 B. Sagittarii	6.0	+1.45	10.9	17 50.7	11 49.2	+ 8 45.9	-0.9894	0.6030	+0.0006	-42	-90
95 B. Sagittarii	5.7	+1.48	+10.7	-18 46.5	12 41.8	+ 9 36.6	-0.0537	0.6026	+0.0025	+12	-38
100 B. Sagittarii	5.0	+1.47	10.8	18 27.2	13 11.5	+10 5.1	-0.3758	0.6024	-0.0035	- 5	-59
171 B. Sagittarii	6.1	+1.59	11.7	19 21.3	1 47.1	- 1 48.5	+0.7473	0.5962	-0.0299	+71	+ 8
173 B. Sagittarii	6.4	+1.59	11.8	19 12.7	1 48.8	- 1 47.1	+0.6029	0.5962	-0.0300	+58	- 1
187 B. Sagittarii	6.4	+1.60	12.0	18 51.3	3 26.5	- 0 13.2	+0.2928	0.5953	-0.0333	+36	-18
190 B. Sagittarii	5.4	+1.60	+11.9	-19 24.5	3 53.6	+ 0 12.8	-0.8702	0.5951	+0.0342	+71	+17
d Sagittarii	5.0	+1.64	12.3	19 5.3	7 41.8	+ 3 52.3	+0.6005	0.5929	-0.0418	+68	+ 5
226 B. Sagittarii	6.4	+1.65	12.3	19 22.6	9 19.1	+ 5 25.9	+1.0550	0.5920	-0.0449	+71	+31
g Sagittarii	4.0	+1.64	12.7	17 50.4	9 21.5	+ 5 28.2	-0.3547	0.5920	-0.0150	0	-58
45 Sagittarii	6.0	+1.65	12.5	18 26.9	9 25.2	+ 5 31.7	+0.1152	0.5919	-0.0451	+26	-28
266 B. Sagittarii	6.1	+1.70	+12.8	-19 1.2	15 24.7	+11 17.6	+1.0062	0.5882	+0.0566	+71	+27
267 B. Sagittarii	5.8	+1.70	13.1	18 24.0	15 40.7	+11 33.1	+0.3864	0.5881	-0.0571	+44	-13
31 B. Capricorni	6.4	+1.89	15.1	15 59.6	13 36.8	+ 8 40.9	-0.4158	0.5736	-0.0948	+2	-62
27 G. Capricorni	6.2	+1.89	15.3	15 18.6	14 38.5	+ 9 40.4	-1.0264	0.5728	-0.0964	-36	-90
47 B. Capricorni	6.2	+1.93	14.9	16 47.2	16 34.4	+11 32.2	+0.6974	0.5715	-0.0994	+73	+ 5
τ Capricorni	5.2	+1.93	+15.6	-15 13.3	18 13.9	-10 51.8	-0.7657	0.5704	+0.1018	-18	-90
61 B. Capricorni	5.9	+1.94	15.3	16 23.7	18 46.8	-10 20.1	+0.5126	0.5700	-0.1026	+58	- 6
94 B. Capricorni	5.7	+2.02	15.5	16 10.4	2 23.2	- 2 59.6	+1.2656	0.5648	-0.1134	+74	+55
95 B. Capricorni	5.9	+2.01	16.0	14 46.6	2 51.9	- 2 31.9	-0.3004	0.5645	-0.1141	+10	-54
53 B. Aquarii	6.5	+2.09	16.7	13 31.1	10 42.3	+ 5 2.5	-0.6909	0.5593	-0.1242	-11	-90
18 Aquarii	5.5	+2.12	+16.9	-13 12.3	14 28.0	+ 8 40.6	-0.5465	0.5568	+0.1287	- 2	-72
λ Capricorni	5.5	+2.22	17.5	11 43.0	9 51.3	- 5 13.8	-0.7220	0.5503	-0.1401	-10	-90
151 B. Capricorni	6.1	+2.24	17.1	13 4.7	2 23.1	- 3 47.9	+0.9324	0.5494	-0.1415	+77	+19
e Aquarii	5.4	+2.33	17.5	11 56.4	12 45.0	+ 5 54.7	+1.1917	0.5436	-0.1507	+79	+41
150 B. Aquarii	6.0	+2.36	18.3	9 25.1	15 28.2	+ 8 52.0	-1.0412	0.5420	-0.1532	-30	-90
167 G. Aquarii	6.3	+2.47	+18.5	-8 17.6	16 2 2.0	- 4 54.0	-0.5956	0.5366	+0.1609	0	-76
213 B. Aquarii	6.5	+2.49	18.4	8 42.6	4 22.0	- 2 38.3	+0.2306	0.5356	-0.1624	+46	-22
67 Aquarii	6.4	+2.49	18.8	7 21.7	4 27.9	- 2 32.6	+1.2078	0.5356	-0.1624	-44	-90
λ Aquarii	3.8	+2.53	18.5	7 59.1	9 9.2	+ 2 0.2	+0.2325	0.5335	-0.1652	+47	-22
78 Aquarii	6.3	+2.54	18.5	7 36.5	10 8.4	+ 2 57.6	-0.0105	0.5331	-0.1657	+33	-36
81 Aquarii	6.4	+2.57	+18.5	-7 28.2	13 35.1	+ 6 18.0	+0.4131	0.5317	+0.1675	+59	-12
82 Aquarii	6.4	+2.58	18.6	6 59.0	14 10.1	+ 6 51.9	-0.0167	0.5315	-0.1678	+33	-36
URANUS	6.1	..	..	7 9.3	15 22.5	+ 8 2.1	-0.3732	0.5314	-0.1685	+56	-15
ϕ Aquarii	4.4	+2.64	18.4	6 27.6	20 9.5	-11 19.5	+0.4297	0.5292	-0.1705	+61	-11
96 Aquarii	5.7	+2.68	18.7	5 32.4	22 45.1	- 8 48.6	-0.1257	0.5283	-0.1716	+27	-42
317 B. Aquarii	6.3	+2.66	+18.4	-6 19.4	23 25.2	- 8 9.7	+0.8415	0.5281	+0.1718	+84	+12
337 B. Aquarii	6.4	+2.73	18.5	4 56.8	17 35.8	- 3 44.8	+0.1283	0.5267	-0.1735	+42	-28
342 B. Aquarii	6.5	+2.74	18.6	4 30.2	4 59.8	- 2 44.9	-0.1771	0.5264	-0.1738	+25	-45
20 Piscium	5.6	+2.82	18.7	3 11.1	13 31.2	+ 5 31.5	-0.1264	0.5241	-0.1760	+28	-42
24 Piscium	6.1	+2.84	18.4	3 34.7	16 7.3	+ 8 3.1	+0.7629	0.5236	-0.1765	+87	+ 7
80 B. Piscium	6.3	+2.92	+18.7	-0 55.5	22 28.9	- 9 46.5	-1.0200	0.5223	+0.1773	-25	-90

506 ELEMENTS OF OCCULTATIONS, 1923.

NOVEMBER.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, <i>H</i>	<i>F</i>	<i>x'</i>	<i>y'</i>	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
10 Ceti	6.4	+3.03	+18.0	- 0 28.2	18 9 50.4	+ 1 15.3	+0.4978	0.5208	+0.1778	+67	- 8
155 B. Piscium	6.5	3.17	17.6	+ 2 58.3	22 54.4	-10 3.2	-0.9831	0.5200	0.1765	-22	-88
77 Piscium	6.4	3.26	17.1	4 30.2	19 6 36.2	- 2 34.6	-1.3256	0.5201	0.1748	-60	-81
<i>f</i> Piscium	5.3	3.28	16.1	3 12.8	12 58 0	+ 3 36.2	+1.2089	0.5204	0.1730	+90	+42
μ Piscium	5.0	3.39	15.9	5 45.1	19 30.2	+ 9 57.2	-0.4807	0.5209	0.1706	+ 9	-65
ν Piscium	4.7	+3.40	+15.0	+ 5 6.2	20 1 28.1	- 8 15.3	+1.2502	0.5216	+0.1680	+90	+48
39 B. Arietis	6.5	3.53	13.7	7 22.2	13 47.1	+ 3 42.5	+0.7638	0.5235	0.1614	+90	+10
64 Ceti	5.8	3.56	13.3	8 12.8	17 11.6	+ 7 1.0	+0.3736	0.5242	0.1593	+58	-12
ξ^1 Ceti	4.5	3.57	13.3	8 29.4	18 3.0	+ 7 50.9	+0.2030	0.5244	0.1587	+47	-21
ξ Arietis	5.5	3.65	12.6	10 16.0	21 0 12.1	-10 10.8	-0.8076	0.5257	0.1545	-10	-80
25 Arietis	6.5	+3.63	+12.1	+ 9 51.6	1 33.5	- 8 51.8	-0.1480	0.5259	+0.1535	+27	-40
389 B. Ceti	6.3	3.64	12.0	9 13.6	2 41.7	- 7 45.6	+0.7318	0.5262	0.1527	+90	+ 9
85 Ceti	6.3	3.70	11.1	10 25.0	9 22.0	+ 1 17.1	+0.4088	0.5278	0.1475	+61	- 9
38 Arietis	5.2	3.75	11.0	12 7.5	10 37.4	- 0 3.9	-1.3061	0.5281	0.1464	-60	-77
μ Ceti	4.4	3.71	10.8	9 47.6	10 37.9	- 0 3.4	+1.2889	0.5281	0.1464	+86	+59
147 B. Arietis	5.8	+3.82	+ 9.2	+12 53.6	21 37.7	+10 36.9	-0.6015	0.5311	+0.1366	+ 2	-69
8 B. Tauri	6.2	3.83	7.5	12 21.6	22 6 40.1	- 4 37.0	+1.1867	0.5336	0.1276	+90	+47
<i>f</i> Tauri	4.3	3.85	7.0	12 40.5	10 3.1	- 1 20.2	+1.2605	0.5346	0.1239	+89	+57
30 B. Tauri	6.4	3.93	6.4	15 10.8	13 30.2	+ 2 0.7	-1.1018	0.5356	0.1201	-33	-75
179 B. Tauri	5.9	3.95	3.4	14 57.5	23 4 23.9	- 7 33.1	+0.8042	0.5401	0.1023	+90	+19
48 Tauri	6.3	+3.96	+ 2.7	+15 12.6	8 22.5	- 3 41.9	+0.9217	0.5412	+0.0972	+90	+28
γ Tauri	3.9	3.96	2.2	15 26.6	10 20.9	- 1 47.2	+0.8516	0.5418	0.0946	+90	+23
δ Tauri	3.9	4.02	1.9	17 21.8	11 51.7	- 0 19.3	-1.1361	0.5423	0.0926	-38	-73
63 Tauri	5.7	4.00	1.9	16 36.0	12 6.6	- 0 4.8	-0.2655	0.5423	0.0922	+20	-40
64 Tauri	4.9	4.02	1.8	17 16.0	12 25.9	+ 0 13.9	-0.9765	0.5424	0.0918	-23	-73
70 Tauri	6.4	+3.97	+ 1.7	+15 46.0	13 12.0	+ 0 58.6	+0.7574	0.5426	+0.0908	+90	+18
71 Tauri	4.6	3.96	1.6	15 26.7	13 33.5	+ 1 19.4	+1.1462	0.5429	0.0903	+90	+47
75 Tauri	5.2	3.98	1.4	16 11.3	14 34.6	+ 2 18.6	+0.4127	0.5430	0.0889	+62	- 2
θ^1 Tauri	4.2	3.97	1.4	15 47.6	14 38.6	+ 2 22.5	+0.8578	0.5430	0.0888	+90	+24
θ^2 Tauri	3.6	3.97	1.4	15 42.1	14 41.3	+ 2 25.1	+0.9628	0.5430	0.0887	+90	+32
80 Tauri	5.8	+3.96	+ 1.3	+15 28.3	15 24.9	+ 3 7.3	+1.2820	0.5433	+0.0877	+79	+68
264 B. Tauri	4.8	3.98	1.2	16 1.7	15 36.7	+ 3 18.8	+0.6824	0.5433	0.0875	+90	+14
81 Tauri	5.5	3.96	1.2	15 31.6	15 39.7	+ 3 21.7	+1.2433	0.5434	0.0874	+90	+59
85 Tauri	6.0	3.97	1.1	15 41.3	16 15.1	+ 3 56.0	+1.1148	0.5435	0.0866	+90	+44
119 H ¹ . Tauri	6.2	4.02	0.8	17 51.3	17 2.8	+ 4 42.1	-1.2187	0.5437	0.0855	-48	-73
275 B. Tauri	6.5	+3.98	+ 0.9	+16 9.8	17 6.8	+ 4 46.0	+0.6623	0.5437	+0.0854	+87	+13
α Tauri (<i>Ald.</i>)	1.1	3.98	0.5	16 21.4	18 13.3	+ 5 50.4	+0.5425	0.5440	0.0839	+73	+ 6
89 Tauri	5.8	3.97	+ 0.4	15 52.8	19 18.9	+ 6 54.0	+1.1601	0.5444	0.0823	+90	+49
318 B. Tauri	5.7	3.98	- 1.5	17 2.0	24 436.2	- 8 6.3	+0.5854	0.5468	0.0690	+77	+10
<i>m</i> Tauri	5.0	4.05	2.6	18 32.5	9 24.1	- 3 27.7	-0.7688	0.5480	0.0618	- 9	-72
111 Tauri	5.1	+3.97	- 4.2	+17 18.7	17 32.7	+ 4 25.3	+1.0423	0.5500	+0.0493	+90	+42
115 Tauri	5.3	3.96	4.5	17 53.8	18 51.2	+ 5 41.3	+0.4607	0.5502	0.0473	+66	+ 5
117 Tauri	6.0	3.94	4.6	17 10.5	19 16.3	+ 6 5.6	+1.2763	0.5503	0.0466	+75	+71
119 Tauri	4.9	3.97	5.0	18 32.2	21 14.4	+ 7 59.8	-0.1377	0.5508	0.0435	+27	-28
120 Tauri	5.6	3.97	5.2	18 29.1	21 51.9	+ 8 36.1	-0.0539	0.5509	0.0425	+32	-23
130 Tauri	5.6	+3.91	- 6.4	+17 42.0	25 4 27.7	- 9 1.0	+1.0563	0.5522	+0.0319	+90	+45
B. D. + 19° 11.0	6.0	3.95	7.2	19 50.8	6 45.9	- 6 47.3	-1.2381	0.5526	0.0282	-54	-71
57 Orionis	5.8	3.94	7.4	19 44.0	7 58.2	- 5 37.4	-1.0803	0.5528	0.0262	-33	-71
64 Orionis	5.1	3.92	8.2	19 41.4	11 58.5	- 1 44.9	-0.9403	0.5534	0.0196	-22	-71
68 Orionis	5.7	3.90	9.0	19 48.4	15 59.7	+ 2 8.4	-1.0008	0.5540	0.0130	-26	-71
19 B. Geminorum	6.2	+3.86	- 9.0	+18 41.9	16 43.8	+ 2 51.0	+0.2240	0.5541	+0.0117	+49	- 4

ELEMENTS OF OCCULTATIONS, 1923. 507

NOVEMBER.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declination.	Greenwich Mean Time.	Hour Angle, <i>H</i>	<i>T</i>	<i>z'</i>	<i>y'</i>	N.	S.
		Δt	$\Delta \delta$		d h m	h m					
124 H ¹ . Orionis	5.7	+3.84	-8.9	+17 55.6	25 17 10.4	+3 16.8	+1.0769	0.5542	1.0.0110	+90	+4.8
71 Orionis	5.1	3.86	9.3	19 10.9	17 19.9	+3 25.9	-0.2984	0.5542	0.0108	+18	-34
292 B. Orionis	6.5	3.81	9.4	17 47.9	20 25.8	+6 25.8	+1.2430	0.5546	+0.0056	1.86	+67
74 B. Geminorum	6.2	3.72	11.7	18 16.5	26 8 31.8	-5 52.2	+0.6637	0.5558	-0.0147	1.88	+20
110 B. Geminorum	6.2	3.65	12.8	17 51.7	15 31.4	+0 53.6	+0.9680	0.5563	0.0265	1.90	+38
162 B. Geminorum	5.7	+3.50	-14.8	+17 14.8	27 5 9.2	-9 55.9	+1.1154	0.5567	-0.0402	1.90	+48
<i>f</i> Geminorum	5.3	3.47	15.4	17 50.8	8 42.0	-6 30.2	+0.2792	0.5567	0.0551	1.52	-6
<i>g</i> Geminorum	5.0	3.44	16.1	18 41.7	11 40.2	-3 32.1	-0.8156	0.5567	0.0601	-13	-72
2 B. Cancrī	6.0	3.34	16.2	16 43.4	17 32.1	+2 2.3	1.09430	0.5566	0.0695	1.90	+32
3 Cancrī	5.7	3.34	16.6	17 31.0	18 31.3	+3 2.5	+0.0131	0.5566	0.0711	1.36	-22
5 Cancrī	5.9	+3.33	-16.4	+16 39.9	18 54.8	+3 22.2	1.09084	0.5566	-0.0716	1.90	+30
ζ Can. (<i>mean</i>)	4.7	3.29	17.4	17 52.6	23 51.2	+8 8.7	-0.7722	0.5564	0.0795	-9	-73
δ^2 Cancrī	6.2	3.18	18.0	17 17.8	28 6 10.8	-9 44.3	-0.6798	0.5562	0.0893	-3	-70
90 B. Cancrī	6.3	3.11	17.8	15 34.6	10 57.8	-5 6.9	1.07220	0.5560	0.0905	1.90	+15
54 Cancrī	6.3	3.01	18.3	15 37.9	17 52.3	+1 33.8	-0.0418	0.5556	0.1007	1.33	-29
α^1 Cancrī	5.1	+2.98	-18.5	+15 36.8	20 45.1	+4 20.0	-0.3353	0.5555	-0.1108	1.17	-46
α^2 Cancrī	5.7	2.98	18.6	15 52.4	20 54.4	+4 20.9	-0.6286	0.5555	0.1111	0	-68
81 Cancrī	6.4	2.85	18.7	15 18.1	29 3 15.6	+11 7.5	-0.8124	0.5552	0.1206	-11	-75
π Cancrī	5.6	2.86	19.0	15 15.4	5 6.3	-11 34.5	-0.9269	0.5552	0.1224	-19	-75
18 Leonis	5.8	2.65	18.6	12 9.6	19 36.2	+2 26.5	+0.4416	0.5548	0.1410	1.64	-6
19 Leonis	6.4	+2.64	-18.5	+11 55.2	20 5.4	+2 54.8	+0.6260	0.5548	-0.1415	1.80	+5
<i>R</i> Leonis (<i>var.</i>)	4.6	2.64	18.5	11 46.0	20 8.9	+2 58.1	+0.7636	0.5548	0.1416	+90	+13
ν Leonis	5.0	2.57	18.9	12 48.4	30 1 5.6	+7 45.0	-1.0312	0.5548	0.1474	-26	-78
<i>A</i> Leonis	4.6	2.50	18.2	10 22.2	5 36.6	-11 53.1	+0.8514	0.5548	0.1525	1.90	+17
<i>a</i> Leon. (<i>Reg.</i>)	1.3	2.49	18.8	12 20.3	5 49.2	-11 40.8	-1.2456	0.5548	0.1527	-48	-78
44 Leonis	5.9	+2.40	-17.7	+9 10.3	13 39.8	-4 5.9	+0.8397	0.5551	-0.1609	1.90	+15
45 Leonis	5.8	2.39	18.0	10 9.0	14 46.2	-3 1.7	-0.3606	0.5552	0.1620	+15	-54
ρ Leonis	3.8	2.36	17.8	9 41.9	17 9.9	+0 42.8	-0.2795	0.5553	0.1643	1.20	-49
49 Leonis	5.7	+2.34	-17.6	+9 2.6	18 12.1	+0 17.4	+0.2318	0.5554	-0.1653	1.49	-20

DECEMBER.

56 Leonis	6.1	+2.22	-10.5	+6 35.5	1 3 55.0	+9 40.7	+1.1260	0.5562	-0.1738	1.90	+35
<i>c</i> Leonis	5.1	2.20	16.4	6 30.7	6 5.8	+11 47.3	+0.8280	0.5566	0.1755	1.90	+13
χ Leonis	4.7	2.15	16.8	7 44.9	8 4.3	-10 18.2	-0.7990	0.5568	0.1770	-10	-83
σ Leonis	4.1	+2.08	-16.0	+6 26.8	15 28.8	-3 8.6	-0.7854	0.5580	-0.1822	-9	-84
80 Leonis	6.4	2.06	15.1	4 16.8	17 38.3	-1 3.4	+1.0473	0.5583	0.1835	1.90	+28
89 Leonis	5.7	2.02	14.7	3 29.0	21 32.9	+2 43.2	+1.1396	0.5591	0.1858	+90	+35
β Virginis	3.8	2.00	13.9	2 11.7	2 45.7.2	+9 52.5	+1.0634	0.5608	0.1893	+90	+28
10 Virginis	6.2	1.85	13.2	+2 19.6	13 34.3	-5 48.1	-0.7180	0.5632	0.1924	-5	-88
13 Virginis	5.9	+1.84	-11.8	-0 21.8	17 36.5	-1 54.2	+1.2294	0.5645	-0.1934	+90	+44
η Virginis	4.0	1.83	11.8	0 14.5	18 9.9	+1 21.9	+0.9995	0.5647	0.1935	1.90	+23
γ Vir. (<i>mean</i>)	2.9	1.70	10.6	1 1.8	3 35.6	+8 0.6	-0.0931	0.5682	0.1946	+30	+40
38 Virginis	6.1	1.70	9.4	3 8.2	8 56.7	-11 5.9	+1.0385	0.5702	0.1944	1.87	+26
<i>k</i> Virginis	5.7	1.69	9.0	3 24.0	11 46.6	-8 22.0	+0.7500	0.5713	0.1939	+87	+6
46 Virginis	6.1	1.68	-9.1	-2 57.4	12 11.4	-7 58.1	+0.2267	0.5715	-0.1939	+48	-23
48 Virginis	6.5	1.67	8.9	3 15.1	13 38.2	-6 34.4	+0.2409	0.5722	0.1937	+49	-22
65 Virginis	6.0	1.60	7.5	4 31.4	22 3.3	+1 32.8	-0.1097	0.5760	0.1914	+28	-41
66 Virginis	5.7	1.62	7.4	4 45.8	22 34.9	+2 3.2	+0.0287	0.5762	0.1913	+36	-34
72 Virginis	6.1	1.60	6.7	6 4.5	4 1 6.3	+4 29.2	+0.8533	0.5775	0.1902	+84	+13
1 Virginis	4.8	+1.58	-6.7	-5 51.6	1 46.2	+5 7.6	+0.5130	0.5778	-0.1900	+67	-7

508 ELEMENTS OF OCCULTATIONS, 1923.

DECEMBER.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	F	z'	y'	N.	S.
		Δα	Δδ								
80 Virginis	5.6	+1.57	-6.7	5 0.4	4 3 17.6	+6 35.7	-0.6260	0.5785	-0 18.92	0	-79
566 B. Virginis	6.4	+1.53	6.3	5 6.8	6 52.1	+10 2.4	-1.1917	0.5803	0.1875	-41	-90
88 Virginis	6.5	+1.54	5.7	6 27.3	8 43.6	+11 49.8	-0.2056	0.5813	0.1863	+23	-47
598 B. Virginis	6.1	+1.53	5.1	7 40.9	11 32.6	-9 27.4	+0.4885	0.5827	0.1846	+65	-8
623 B. Virginis	6.5	+1.52	4.2	8 53.4	15 28.6	-5 40.1	+0.9628	0.5848	0.1819	+82	+21
95 Virginis	5.4	+1.51	-4.1	-8 56.9	16 27.9	-4 43.0	+0.8409	0.5853	-0.1811	+82	+12
13 Libræ	5.7	+1.42	0.8	11 35.1	5 12 1.8	-9 53.4	+0.0739	0.5957	0.1615	+35	-31
ξ ^a Libræ	5.6	+1.41	-0.8	11 6.0	12 59.7	-8 57.8	-0.5587	0.5962	-0.1603	0	-73
NEW MOON.											
187 B. Sagittarii	6.4	+1.43	+11.5	-18 51.3	9 13 42.2	+11 50.6	+0.1013	0.6052	+0.0318	+24	-30
190 B. Sagittarii	5.4	+1.44	11.5	19 24.5	14 8.5	-11 44.2	+0.6705	0.6050	-0.0327	+65	+3
195 B. Sagittarii	6.3	+1.44	11.4	19 55.4	14 44.0	-11 10.1	+1.2055	0.6047	-0.0340	+71	+48
d Sagittarii	5.0	+1.45	11.8	19 5.3	17 49.7	-8 11.8	+0.4848	0.6031	-0.0405	+50	-8
226 B. Sagittarii	6.4	+1.46	11.9	19 22.6	19 24.0	-6 41.1	+0.8411	0.6023	-0.0438	+71	+14
q Sagittarii	4.0	+1.44	+12.2	-17 59.4	19 26.4	-6 38.8	-0.5503	0.6022	+0.0439	-11	-74
45 Sagittarii	6.0	+1.46	12.0	18 26.9	19 29.9	-6 35.5	-0.0866	0.6022	-0.0440	+14	-40
266 B. Sagittarii	6.1	+1.48	12.3	19 1.2	10 1 18.1	-1 0.9	+0.7802	0.5989	-0.0558	+71	+10
267 B. Sagittarii	5.8	+1.48	12.5	18 24.0	1 33.5	-0 46.0	+0.1685	0.5987	-0.0563	+30	-26
31 B. Capricorni	6.4	+1.60	14.1	15 59.6	22 45.4	-4 22.5	-0.6610	0.5844	-0.0953	-12	-87
27 G. Capricorni	6.2	+1.60	+14.2	-15 18.7	23 45.1	-3 25.0	-1.2642	0.5836	+0.0969	-63	-85
47 B. Capricorni	6.2	+1.63	13.9	16 47.3	11 1 36.9	-1 37.3	+0.4311	0.5823	-0.1000	+51	-11
τ Capricorni	5.2	+1.63	14.4	15 13.3	3 13.0	-0 4.8	-1.0128	0.5811	-0.1025	-35	-90
61 B. Capricorni	5.9	+1.63	14.2	16 23.7	3 44.8	+0 25.9	+0.2457	0.5807	-0.1034	+39	-21
94 B. Capricorni	5.7	+1.70	14.4	16 19.5	11 5.6	+7 30.7	+0.9768	0.5753	-0.1145	+74	+23
95 B. Capricorni	5.9	+1.69	+14.8	-14 46.6	11 33.4	+7 57.5	-0.5666	0.5749	+0.1151	-5	-75
29 Capricorni	5.5	+1.75	14.7	15 29.3	19 0.4	-8 51.3	+1.0667	0.5694	-0.1254	+75	+30
53 B. Aquarii	6.5	+1.75	15.2	13 31.1	19 8.0	-8 44.0	-0.9612	0.5692	-0.1255	-28	-90
18 Aquarii	5.5	+1.79	15.4	13 12.3	22 46.3	-5 13.3	-0.8232	0.5665	-0.1301	-18	-90
λ Capricorni	5.5	+1.87	15.9	11 43.0	12 8 52.8	+4 32.5	-1.0069	0.5591	-0.1418	-29	-90
151 B. Capricorni	6.1	+1.88	+15.5	-13 4.7	10 18.8	+5 55.5	+0.6231	0.5581	+0.1433	+71	0
e Aquarii	5.4	+1.98	15.7	11 56.4	20 3.0	-8 39.6	+0.8723	0.5514	-0.1526	+79	+15
167 G. Aquarii	6.3	+2.11	16.6	8 17.6	13 9 18.6	+4 10.3	-0.8983	0.5431	-0.1628	-19	-90
213 B. Aquarii	6.5	+2.14	16.4	8 42.6	11 35.3	+6 22.7	-0.0826	0.5417	-0.1643	+28	-40
λ Aquarii	3.8	+2.19	16.5	7 59.1	16 15.9	+10 54.6	-0.0815	0.5391	-0.1670	+29	-40
78 Aquarii	6.3	+2.20	+16.5	-7 36.6	17 13.7	+11 50.5	-0.3218	0.5386	+0.1676	+16	-55
81 Aquarii	6.4	+2.23	16.4	7 28.2	20 36.0	-8 53.4	+0.0970	0.5368	-0.1693	+39	-30
82 Aquarii	6.4	+2.24	16.6	6 59.0	21 10.2	-8 20.3	-0.3282	0.5365	-0.1697	+16	-55
h Aquarii	5.4	+2.26	16.2	8 6.3	22 27.7	-7 5.2	+1.0944	0.5358	-0.1703	+82	+31
URANUS	6.2	..	..	7 4.6	22 38.1	-6 55.1	+0.0213	0.5351	-0.1701	+35	-34
φ Aquarii	4.4	+2.31	+16.3	-6 27.6	14 3 2.6	-2 38.8	+0.1141	0.5336	+0.1724	+41	-29
96 Aquarii	5.7	+2.35	16.7	5 32.4	5 35.3	-0 10.7	-0.4353	0.5324	-0.1734	+10	-63
317 B. Aquarii	6.3	+2.33	16.3	6 19.5	6 14.7	+0 27.4	+0.5227	0.5321	-0.1736	+68	-7
337 B. Aquarii	6.4	+2.41	16.4	4 56.9	10 42.9	+4 47.6	-0.1823	0.5302	-0.1752	+24	-46
342 B. Aquarii	6.5	+2.42	16.5	4 30.2	11 43.6	+5 46.4	-0.4846	0.5297	-0.1755	+8	-66
20 Piscium	5.6	+2.51	+16.6	-3 11.1	20 7.6	-10 4.6	-0.4305	0.5266	+0.1775	+11	-62
24 Piscium	6.1	+2.54	16.3	3 34.7	22 41.7	-7 35.1	+0.4532	0.5258	-0.1780	+63	-10
29 Piscium	5.1	+2.58	16.0	3 27.1	15 3 18.1	-3 6.8	+1.1384	0.5244	-0.1786	+87	+34
80 B. Piscium	6.3	+2.63	16.7	0 55.6	4 59.0	-1 28.9	-1.3118	0.5239	-0.1788	-57	-86
4 Ceti	6.3	+2.62	15.9	2 58.4	6 22.4	-0 7.9	+1.1674	0.5235	-0.1789	+88	+37
5 Ceti	6.3	+2.62	+16.0	-2 52.3	6 37.0	+0 6.3	+1.1006	0.5235	+0.1789	+88	+31

ELEMENTS OF OCCULTATIONS, 1923. 509

DECEMBER.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0.		Apparent Declination.	Greenwich Mean Time.	Hour Angle, H	γ	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
10 Ceti	6.4	+2.76	+16.0	- 0 28.3	15 16 14.6	+ 9 27.1	+0.2058	0.5213	+0.1791	+47	-24
155 B. Piscium	6.5	2.94	15.8	+ 2 58.3	16 5 14.6	- 1 55.5	-1.2522	0.5195	0.1770	-46	-88
f Piscium	5.3	3.08	14.4	3 12.8	19 16.6	+11 42.3	+0.9513	0.5190	0.1741	+90	+20
μ Piscium	5.0	3.22	14.4	5 45.1	17 1 48.7	- 5 56.8	-0.7220	0.5192	0.1717	- 5	-85
ν Piscium	4.7	3.24	13.4	5 6.1	7 47.0	- 0 8.8	+1.0145	0.5197	0.1691	+90	+25
39 B. Arietis	6.5	+3.41	+12.3	+ 7 22.2	20 7.6	+11 50.5	+0.5531	0.5212	+0.1627	+72	- 3
64 Ceti	5.8	3.45	12.0	8 12.8	23 32.7	- 8 50.3	+0.1706	0.5219	0.1605	+45	-24
ϵ^1 Ceti	4.5	3.48	12.0	8 29.4	18 0 24.2	- 8 0.4	+0.0020	0.5220	0.1600	+35	-33
ξ Arietis	5.5	3.58	11.6	10 15.9	6 34.5	- 2 0.8	-0.9941	0.5233	0.1559	-23	-80
25 Arietis	6.5	3.56	11.0	9 51.6	7 56.2	- 0 41.6	-0.3328	0.5236	0.1549	+16	-52
389 B. Ceti	6.3	+3.58	+10.9	+ 9 13.5	9 4.6	+ 0 24.9	+0.5481	0.5239	+0.1541	+72	- 2
85 Ceti	6.3	3.66	10.1	10 25.0	15 46.3	+ 6 54.8	+0.2401	0.5255	0.1489	+49	-18
μ Ceti	4.4	3.68	9.7	9 47.6	17 2.4	+ 8 8.7	+1.1217	0.5259	0.1479	+90	+37
147 B. Arietis	5.8	3.83	8.5	12 53.6	19 59.0	+10 17.0	-1.2032	0.5343	0.1222	-44	-75
8 B. Tauri	6.2	3.89	6.7	12 21.6	20 10 53.1	+ 0 43.7	+0.7357	0.5395	0.1046	+90	+15
f Tauri	4.3	+3.93	+ 6.1	+12 40.5	14 51.5	+ 4 34.6	+0.8625	0.5409	0.0995	+90	+23
30 B. Tauri	6.4	4.02	6.0	15 10.8	16 49.8	+ 6 29.3	+0.7973	0.5416	0.0970	+90	+20
179 B. Tauri	5.9	4.12	2.8	14 57.5	18 20.4	+ 7 57.0	-1.1826	0.5422	+0.0950	-43	-73
48 Tauri	6.3	4.15	2.0	15 12.6	18 35.3	+ 8 11.5	-0.3133	0.5423	0.0946	+18	-43
γ Tauri	3.9	4.17	1.7	15 26.6	18 54.6	+ 8 30.2	-1.0220	0.5424	0.0942	-27	-73
δ Tauri	3.9	+4.23	+ 1.6	+17 21.8	19 40.6	+ 9 14.7	+0.7102	0.5426	0.0932	+90	+15
63 Tauri	5.7	4.21	1.4	16 35.9	20 2.1	+ 9 35.6	+1.0990	0.5428	0.0927	+90	+42
64 Tauri	4.9	4.23	1.4	17 16.0	21 3.0	+10 34.5	+0.3695	0.5431	+0.0913	+59	- 5
70 Tauri	6.4	4.19	1.1	15 46.0	21 7.1	+10 38.6	+0.8138	0.5432	0.0912	+90	+21
71 Tauri	4.6	4.18	1.0	15 26.7	21 9.7	+10 41.1	+0.9186	0.5432	0.0912	+90	+28
75 Tauri	5.2	+4.20	+ 0.9	+16 11.3	21 53.2	+11 23.2	+1.2390	0.5434	0.0902	+90	+58
θ^1 Tauri	4.2	4.20	0.8	15 47.6	22 5.0	+11 34.6	+0.6411	0.5435	0.0899	+84	+11
θ^2 Tauri	3.6	4.20	0.8	15 42.1	22 8.0	+11 37.5	+1.2009	0.5435	+0.0899	+90	+53
80 Tauri	5.8	4.19	0.6	15 28.3	22 43.3	-11 48.3	+1.0742	0.5437	0.0890	+90	+40
264 B. Tauri	4.8	4.21	0.6	16 1.7	23 30.9	-11 2.2	-1.2522	0.5440	0.0880	-54	-73
81 Tauri	5.5	+4.20	+ 0.5	+15 31.5	23 34.8	-10 58.4	+0.6247	0.5440	0.0879	+82	+10
85 Tauri	6.0	4.20	0.4	15 41.3	21 0 41.2	- 9 54.2	+0.5079	0.5444	0.0863	+70	+ 4
119 H ¹ . Tauri	6.2	4.27	0.5	17 51.3	1 46.6	- 8 50.8	+1.1267	0.5448	+0.0848	+90	+46
275 B. Tauri	6.5	4.21	+ 0.3	16 9.8	11 1.9	+ 0 6.8	+0.5757	0.5470	0.0715	+76	+ 9
α Tauri (Ald.)	1.1	4.23	- 0.1	16 21.3	15 48.4	+ 4 44.1	-0.7634	0.5494	0.0644	- 9	-72
89 Tauri	5.8	+4.22	- 0.2	+15 52.8	23 54.1	-11 25.9	+1.0621	0.5519	0.0519	+90	+43
318 B. Tauri	5.7	4.28	2.1	17 2.0	1 12.0	-10 10.4	+0.4853	0.5522	0.0498	+68	+ 6
m Tauri	5.0	4.38	3.0	18 32.5	3 34.3	- 7 52.8	-0.1057	0.5530	+0.0460	+29	-26
111 Tauri	5.1	4.34	4.9	17 18.7	4 11.5	- 7 16.8	-0.0206	0.5531	0.0450	+34	-21
115 Tauri	5.3	4.34	5.2	17 53.8	10 44.2	- 0 56.9	+1.1015	0.5548	0.0344	+90	+48
119 Tauri	4.9	+4.36	- 5.7	+18 32.2	13 1.3	+ 1 15.7	-1.1800	0.5553	0.0307	-44	-71
120 Tauri	5.6	4.36	5.8	18 29.1	14 13.0	+ 2 24.9	-1.0200	0.5557	0.0287	-28	-71
130 Tauri	5.6	4.34	7.3	17 42.0	18 11.1	+ 6 15.2	-0.8711	0.5565	+0.0221	-17	-71
B. D. + 19° 1110	6.0	4.40	7.8	19 50.8	22 10.0	+10 6.2	-0.9222	0.5574	0.0154	-20	-71
57 Orionis	5.8	4.40	8.0	19 44.0	22 53.6	+10 48.4	+0.3001	0.5575	0.0142	+54	0
64 Orionis	5.1	+4.39	- 8.9	+19 41.4	23 20.0	+11 13.8	+1.1513	0.5576	0.0134	+90	+55
68 Orionis	5.7	4.39	9.8	19 48.4	23 29.4	+11 23.0	-0.2191	0.5576	+0.0131	+23	-29
19 B. Geminorum	6.2	4.36	10.0	18 41.9	23 14 31.7	+ 1 55.1	+0.7736	0.5599	-0.0126	+90	+27
124 H ¹ . Orionis	5.7	4.34	10.1	17 55.6							
71 Orionis	5.1	4.36	10.2	19 10.9							
74 B. Geminorum	6.2	+4.30	-13.2	+18 16.5							

510 ELEMENTS OF OCCULTATIONS, 1923.

DECEMBER.

THE STAR'S					AT CONJUNCTION IN R.A.					Limiting Parallels.	
Name.	Mag.	Reductions from 1923.0.		Apparent Declina- tion.	Greenwich Mean Time.	Hour Angle, H	γ	α'	γ'	N.	S.
		$\Delta\alpha$	$\Delta\delta$		d h m	h m					
110 B. Geminorum	6.2	+4.25	-14.5	+17 51.7	23 21 26.6	+ 8 36.1	+1.0921	0.5605	-0.0245	+90	+49
162 B. Geminorum	5.7	4.16	17.0	17 14.8	24 10 55.1	- 2 22.5	+1.2677	0.5611	0.0476	+80	+68
<i>f</i> Geminorum	5.3	4.15	17.6	17 50.8	14 25.1	+ 1 0.7	+0.4409	0.5610	0.0535	+64	+ 3
<i>g</i> Geminorum	5.0	4.14	18.3	18 41.6	17 27.6	+ 3 56.8	-0.6453	0.5610	0.0586	- 2	-65
2 B. Cancri	6.0	4.06	18.9	16 43.3	23 9.8	+ 9 27.4	+1.1205	0.5608	0.0681	+90	+47
3 Cancri	5.7	+4.07	-19.2	+17 30.9	25 0 11.4	+10 26.9	+0.1945	0.5608	-0.0697	+47	-12
5 Cancri	5.9	4.05	19.1	16 39.8	0 31.7	+10 46.5	+1.0887	0.5608	0.0703	+90	+44
ζ Can. (<i>mean</i>)	4.7	4.04	20.1	17 52.5	5 25.1	- 8 30.0	-0.5799	0.5605	0.0782	+ 3	-61
d^2 Cancri	6.2	3.95	20.9	17 17.7	11 41.2	- 2 26.5	-0.4768	0.5600	0.0882	+ 8	-54
90 B. Cancri	6.3	3.89	21.1	15 34.5	16 25.8	+ 2 8.5	+0.9320	0.5595	0.0955	+90	+29
54 Cancri	6.3	+3.81	-21.8	+15 37.9	23 17.4	+ 8 46.3	+0.1800	0.5588	-0.1058	+46	-16
θ^1 Cancri	5.1	3.79	22.1	15 36.8	26 2 9.2	+11 32.4	-0.1092	0.5584	0.1099	+29	-32
θ^2 Cancri	5.7	3.79	22.2	15 52.3	2 18.3	+11 41.1	-0.4025	0.5584	0.1101	+13	-51
81 Cancri	6.4	3.67	22.5	15 18.1	9 7.6	- 5 43.2	-0.5769	0.5576	0.1197	+ 3	-65
π Cancri	5.6	3.69	22.9	15 15.3	10 28.0	- 4 25.4	-0.6898	0.5574	0.1215	- 4	-74
18 Leonis	5.8	+3.50	-23.0	+12 9.5	27 0 56.8	+ 9 34.5	+0.7003	0.5556	-0.1401	+90	+ 9
19 Leonis	6.1	3.49	23.0	11 55.1	1 26.0	+10 2.6	+0.8860	0.5556	0.1406	+90	+21
<i>R</i> Leonis(<i>var.</i>)	4.6	3.49	23.0	11 46.8	1 29.5	+10 6.0	+1.0241	0.5555	0.1407	+90	+31
ν Leonis	5.0	3.43	23.5	12 48.4	6 27.0	- 9 6.2	-0.7725	0.5550	0.1405	- 8	-78
<i>A</i> Leonis	4.6	3.37	23.0	10 22.1	10 59.0	- 4 43.3	+1.1235	0.5545	0.1515	+90	+38
α Leon. (<i>Reg.</i>)	1.3	+3.36	-23.5	+12 20.3	11 11.7	- 4 31.0	-0.9840	0.5545	-0.1517	-23	-78
41 Leonis	5.9	3.28	22.8	9 10.2	19 5.3	+ 3 6.9	+1.1197	0.5538	0.1598	+90	+36
45 Leonis	5.8	3.26	23.1	10 8.9	20 12.2	+ 4 11.7	-0.0874	0.5537	0.1608	+30	-37
ρ Leonis	3.8	3.23	23.0	9 41.8	22 37.2	+ 6 31.9	-0.0041	0.5535	0.1631	+35	-32
49 Leonis	5.7	3.22	22.8	9 2.5	23 40.0	+ 7 32.6	+0.5114	0.5534	0.1641	+69	- 4
c Leonis	5.1	+3.08	-21.9	+ 6 30.6	28 11 42.6	- 4 48.6	+1.1198	0.5529	-0.1740	+90	+35
χ Leonis	4.7	3.03	22.3	7 44.8	13 42.9	- 2 52.2	-0.5214	0.5529	0.1754	+ 7	-67
σ Leonis	4.1	2.96	21.6	6 26.7	21 15.1	+ 4 25.1	-0.5069	0.5531	0.1804	+ 7	-67
10 Virginis	6.2	2.73	19.0	+ 2 19.5	29 19 52.0	+ 2 17.2	-0.4449	0.5553	0.1901	+11	-63
η Virginis	4.0	2.70	17.5	- 0 14.6	30 0 35.6	+ 6 51.3	+1.2945	0.5562	0.1911	+89	+53
γ Vir. (<i>mean</i>)	2.9	+2.56	-16.3	- 1 1.9	10 36.6	- 7 27.9	+0.1786	0.5586	-0.1920	+46	-25
38 Virginis	6.1	2.55	14.9	3 8.3	15 51.1	- 2 24.0	+1.3235	0.5601	0.1918	+82	+59
k Virginis	5.7	2.54	14.5	3 24.1	18 46.9	+ 0 25.9	+1.0276	0.5610	0.1914	+87	+25
46 Virginis	6.1	2.52	14.6	2 57.5	19 12.5	+ 0 50.6	+0.4951	0.5611	0.1914	+67	- 8
48 Virginis	6.5	2.51	14.4	3 15.2	20 42.4	+ 2 17.4	+0.5080	0.5616	0.1911	+68	- 7
65 Virginis	6.0	+2.44	-12.9	- 4 31.5	31 5 26.2	+10 43.3	+0.1406	0.5648	-0.1889	+43	-27
66 Virginis	5.7	2.45	12.7	4 45.9	5 59.0	+11 15.0	+0.2808	0.5650	0.1887	+51	-20
72 Virginis	6.1	2.43	11.9	6 4.6	8 36.2	-10 13.2	+1.1161	0.5660	0.1877	+84	+32
l Virginis	4.8	2.41	11.9	5 51.7	9 17.6	- 9 33.3	+0.7689	0.5663	0.1875	+85	+ 8
80 Virginis	5.6	2.39	11.9	5 0.5	10 52.5	- 8 1.7	-0.3922	0.5669	0.1868	+13	-59
566 B. Virginis	6.4	+2.34	-11.4	- 5 6.9	14 35.4	- 4 26.5	-0.9737	0.5686	-0.1850	-22	-90
88 Virginis	6.5	2.35	10.7	6 27.4	16 31.2	- 2 34.8	-0.0267	0.5694	0.1840	+35	-34
598 B. Virginis	6.1	2.33	9.9	7 41.0	19 26.9	+ 0 14.7	+0.7283	0.5707	0.1823	+83	+ 5
623 B. Virginis	6.5	+2.32	- 8.9	- 8 53.4	23 32.2	+ 4 11.5	+1.2041	0.5727	-0.1797	+82	+41

OCCULTATIONS VISIBLE AT GREENWICH.

* * The Angles are reckoned from the North Point and Vertex of the Moon's limb towards the East.

Date.	Star's Name.	Mag.	Disappearance.				Reappearance.			
			Sideral Time.	Mean Time.	Angle from		Sideral Time.	Mean Time.	Angle from	
					N. Point.	Vertex.			N. Point.	Vertex.
			h m	h m	°	°	h m	h m	°	°
Jan. 1	130 Tauri	5.6	4 10	9 28	116	139	5 17	10 35	236	243
2	26 Geminorum	5.2	3 19	8 33	95	133	4 29	9 43	263	292
3	1 Cancri	6.0	12 43	17 52	78	38	13 34	18 43	307	267
5	ξ Leonis	5.1	3 7	8 10	72	111	3 56	8 59	310	350
5	B.D. + 11° 2071	7.0					7 29	12 30	287	312
6	W.Z.C. 696	7.4					5 34	10 32	262	300
6	48 Leonis	5.2	6 39	11 37	85	121	7 40	12 38	312	342
7	83 Leonis	6.3	5 43	10 37	38	77	6 3	10 57	357	35
7	τ Leonis	5.2	6 5	10 59	62	100	6 46	11 40	335	12
10	4 G. Libræ	6.5	13 40	18 21	144	151	14 42	19 23	258	254
11	B.D. - 13° 4111	7.0					11 1	15 39	309	343
27	γ Tauri	3.9	23 20	2 57	98	138	0 20	3 57	233	272
27	70 Tauri	6.4	2 40	6 16	107	131	3 50	7 26	228	236
27	75 Tauri	5.2	4 41	8 17	43	39	5 46	9 22	296	276
27	W.Z.C. 299	6.6	4 49	8 25	95	87				
27	θ ¹ Tauri	4.2	4 55	8 31	153	145	5 20	8 56	189	174
27	264 B. Tauri	4.8	5 51	9 26	101	80	7 4	10 39	244	212
27	W.Z.C. 305	6.7	6 1	9 37	115	92				
27	275 B. Tauri	6.5	7 41	11 16	90	54	8 51	12 26	260	220
27	α Tauri (Aldeb.)	1.1	9 0	12 35	56	16	9 55	13 30	298	258
28	111 Tauri	5.1	6 6	9 37	115	104	7 15	10 46	239	212
29	124 H ¹ . Orionis	5.7	2 58	6 26	55	96	3 59	7 27	297	327
29	292 B. Orionis	6.5	6 50	10 17	97	88	8 6	11 33	269	243
29	W.Z.C. 443	6.8	7 51	11 19	139	117				
30	W.B. (2) VII. 66	6.6	3 12	6 36	125	164				
31	29 Cancri	5.9	13 21	16 39	144	104	14 4	17 22	245	205
Feb. 4	W.Z.C. 793	7.6					13 40	16 43	292	275
5	W.Z.C. 836	7.5					9 44	12 44	282	313
5	θ Virginis	4.4	12 1	15 0	67	79	12 50	15 49	289	292
6	96 Virginis	6.5	14 2	16 57	126	126	15 14	18 9	277	265
8	W.Z.C. 1014	6.9					12 23	15 10	327	357
8	49 Libræ	5.4	13 18	16 5	123	147	14 27	17 14	269	284
9	90 B. Ophiuchi	6.5	14 40	17 23	73	94	15 46	18 29	309	320
21	25 Arietis	6.5	3 24	5 22	20	6	4 17	6 15	300	276
23	179 B. Tauri	5.9	5 25	7 14	123	103	6 23	8 12	217	187
23	48 Tauri	6.3	10 0	11 49	120	80	10 49	12 38	231	193
27	1 Cancri	6.0	12 17	13 50	66	26	13 4	14 37	321	281
Mar. 1	B.D. + 11° 2071	7.0	4 56	6 22	111	149				
2	48 Leonis	5.2	4 17	5 39	108	147	5 11	6 33	281	320
3	B.D. + 1° 2624	6.3					16 6	17 22	334	298
5	W.Z.C. 868	7.1					10 8	11 17	248	279
6	W.Z.C. 931	7.1					13 39	14 43	301	311
6	22 B. Libræ	6.4	15 54	16 59	119	107	17 3	18 8	275	253
7	η Libræ	5.5	14 43	15 44	94	103	15 56	16 57	297	294

OCCULTATIONS VISIBLE AT GREENWICH.

*** The Angles are reckoned from the North Point and Vertex of the Moon's limb towards the East.

Date.	Star's Name.	Mag.	Disappearance.				Reappearance.			
			Sidereal Time.	Mean Time.	Angle from		Sidereal Time.	Mean Time.	Angle from	
					N. Point.	Vertex.			N. Point.	Vertex.
			h m	h m	°	°	h m	h m	°	°
Mar. 8	24 Scorpii	5.0	14 29	15 26	83	103	15 38	16 35	301	311
19	μ Piscium	5.0	6 49	7 4	19	340	7 26	7 41	307	268
23	α Tauri (Aldeb.)	1.1	3 36	3 36	6	20	4 0	4 0	332	340
25	W.Z.C. 456	7.8	10 35	10 26	19	339				
25	W.Z.C. 457	7.2	10 43	10 33	6	326				
27	29 Cancri	5.9	13 30	13 12	134	94	14 19	14 1	255	215
31	W.Z.C. 793	7.6	12 22	11 49	125	123				
Apr. 1	θ Virginis	4.4	10 16	9 39	97	124	11 19	10 42	309	327
2	κ Virginis	4.3	12 12	11 31	86	105	13 13	12 32	317	327
3	B.D.—13° 4111	7.0					14 8	13 23	293	303
18	W.Z.C. 210	6.9	9 13	7 30	173	133				
19	θ^1 Tauri	4.2	8 54	7 7	127	87	9 43	7 56	225	185
19	W.Z.C. 299	6.6	9 2	7 14	79	39				
19	75 Tauri	5.2	9 3	7 16	23	343	9 30	7 43	333	293
19	264 B. Tauri	4.8	9 50	8 3	77	37	10 50	9 3	276	237
19	275 B. Tauri	6.5	11 24	9 36	54	17				
20	111 Tauri	5.1	11 25	9 33	84	45	12 21	10 29	278	242
21	124 H ¹ . Orionis	5.7	10 36	8 40	52	12	11 22	9 26	320	279
22	W.B. (2) VII. 66	6.6	12 39	10 39	107	67				
23	1 Cancri	6.0	8 3	6 0	144	141	9 1	6 58	240	223
24	W.Z.C. 617	6.8	12 29	10 21	99	63				
27	B.D.+1° 2624	6.3	16 49	14 28	77	39				
29	W.Z.C. 868	7.1	10 38	8 11	135	162				
30	22 B. Libræ	6.4	16 2	13 30	92	79	17 10	14 38	296	274
May 1	η Libræ	5.5	13 22	10 46	78	100	14 22	11 46	316	329
2	24 Scorpii	5.0					12 25	9 46	309	342
3	W.Z.C. 1153	6.8					16 51	14 7	213	222
3	W.Z.C. 1154	7.3					17 16	14 32	312	317
4	B.D.—19° 5168	7.0					15 30	12 42	239	267
9	W.Z.C. 1547	7.0					18 38	15 30	232	268
22	ξ Leonis	5.1	10 48	6 51	158	140	11 37	7 40	241	214
22	B.D.+11° 2071	7.0	14 25	10 27	138	99				
23	48 Leonis	5.2	15 37	11 35	114	75	16 33	12 31	284	245
24	W.Z.C. 745	6.7	14 19	10 13	34	4				
24	83 Leonis	6.3	14 41	10 35	88	57	15 38	11 32	316	280
24	τ Leonis	5.2	15 17	11 11	95	60	16 15	12 9	306	268
26	θ Virginis	4.4	10 27	6 14	130	156	11 32	7 19	278	295
27	κ Virginis	4.3	13 17	8 59	87	96	14 22	10 4	318	316
28	B.D.—13° 4111	7.0	14 16	9 55	81	90				
28	W.Z.C. 968	6.6	19 14	14 52	168	135				
June 1	δ Sagittarii	5.0					14 55	10 17	215	249
5	λ Aquarii	3.8					18 6	13 12	248	284
5	78 Aquarii	6.3	18 28	13 34	23	58	19 14	14 20	301	332
7	10 Ceti	6.4	18 29	13 27	127	166	19 4	14 2	194	232

OCCULTATIONS VISIBLE AT GREENWICH.

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Date.	Star's Name.	Mag.	Disappearance.				Reappearance.			
			Sidereal Time.	Mean Time.	Angle from		Sidereal Time.	Mean Time.	Angle from	
					N. Point.	Vertex.			N. Point.	Vertex.
June 21	β Virginis	3.8	h m	h m	°	°	h m	h m	°	°
24	22 B. Libræ	6.4	14 11	8 3	170	176	7 50	1 55	349	24
27	W.Z.C. 1153	6.8	15 40	9 20	117	136	14 47	8 39	231	230
28	W.Z.C. 1251	7.0					19 42	13 17	288	280
28	B.D.—19° 5255	7.0					20 41	14 16	251	234
28	171 B. Sagittarii	6.1	21 29	15 4	113	90	22 26	16 1	229	199
28	173 B. Sagittarii	6.4	21 29	15 4	82	59	22 36	16 11	261	230
July 1	B.D.—13° 6008	6.8					19 40	13 4	209	229
4	W.Z.C. 8	7.3					21 50	15 1	245	269
7	389 B. Ceti	6.3	20 38	13 38	74	113	21 40	14 40	248	287
9	179 B. Tauri	5.9	21 56	14 48	57	96	22 53	15 45	273	313
19	W.Z.C. 822	6.6	16 30	8 43	35	1				
26	267 B. Sagittarii	5.8	22 17	14 2	50	26	23 16	15 1	288	257
27	47 B. Capricorni	6.2	23 35	15 16	144	117	0 0	15 41	188	158
28	Piazzi XXI. 125	6.8					23 28	15 5	270	250
29	W.Z.C. 1479	7.0					18 2	9 36	310	344
29	W.Z.C. 1482	7.4					18 58	10 32	221	249
30	81 Aquarii	6.4	18 19	9 49	14	50	18 54	10 24	311	345
31	24 Piscium	6.1	20 16	11 42	85	117	21 27	12 53	230	254
Aug. 6	89 Tauri	5.8	22 31	13 33	91	131	23 29	14 31	242	282
6	σ^2 Tauri	4.9	23 18	14 20	144	184	23 39	14 41	186	226
7	117 Tauri	6.0	22 2	13 0	98	134	22 54	13 52	245	284
8	292 B. Orionis	6.5					23 15	14 9	268	305
8	W.Z.C. 443	6.8					23 38	14 32	213	251
14	89 Leonis	5.7	17 32	8 3	42	3				
15	SATURN	1.1	8 18	22 43	125	162	9 17	23 42	277	310
17	B.D.—9° 3915	7.0	18 39	8 58	122	87				
18	B.D.—13° 4111	7.0	17 12	7 28	185	165				
22	δ Sagittarii	5.0	23 13	13 12	154	121				
24	B.D.—15° 5908	6.3	1 19	15 9	89	55				
26	λ Aquarii	3.8	1 31	15 14	32	6	2 29	16 12	281	249
28	10 Ceti	6.4	0 47	14 22	50	45	2 6	15 41	259	240
Sept. 1	8 B. Tauri	6.2					20 51	10 11	246	284
1	Lalande 6357	6.7					22 18	11 37	214	253
1	f Tauri	4.3	23 35	12 54	135	172	0 7	13 26	188	223
2	48 Tauri	6.3	21 59	11 14	17	56	22 30	11 45	314	354
2	γ Tauri	3.9	0 0	13 15	25	64	0 45	14 0	303	340
2	70 Tauri	6.4	3 31	16 45	43	56	4 40	17 54	290	286
2	71 Tauri	4.6	4 0	17 14	135	141	4 43	17 57	197	192
2	θ^1 Tauri	4.2	5 20	18 34	76	62	6 42	19 56	265	235
2	θ^2 Tauri	3.6	5 23	18 37	97	82	6 42	19 56	243	213
5	W.Z.C. 478	6.9					1 41	14 45	301	342
5	110 B. Geminorum	6.2	3 52	16 55	61	97	4 58	18 1	297	325
15	W.Z.C. 1014	6.9	18 39	7 5	81	57				

OCCULTATIONS VISIBLE AT GREENWICH.

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Date.	Star's Name.	Mag.	Disappearance.				Reappearance.			
			Sidereal Time.	Mean Time.	Angle from		Sidereal Time.	Mean Time.	Angle from	
					N. Point.	Vertex.			N. Point.	Vertex.
			h m	h m	°	°	h m	h m	°	°
Sept. 16	90 B. Ophiuchi	6.5	20 36	8 57	80	49				
18	W.Z.C. 1251	7.0	21 31	9 44	102	79				
20	61 B. Capricorni	5.9	17 10	5 16	68	98	18 21	6 27	274	295
23	♌ Aquarii	4.4	19 42	7 35	8	39	20 16	8 9	312	340
27	389 B. Ceti	6.3	1 50	13 27	72	80	3 13	14 50	244	233
28	B.D. + 11° 445	6.8					22 55	10 28	214	251
29	179 B. Tauri	5.9	3 51	15 20	77	80	5 16	16 45	256	238
Oct. 1	130 Tauri	5.6	3 37	14 58	106	135	4 52	16 13	240	253
2	W.Z.C. 456	7.8					1 0	12 17	253	294
2	W.Z.C. 457	7.2					1 1	12 18	254	295
3	162 B. Geminorum	5.7	3 25	14 38	104	143	4 34	15 47	260	295
15	W.Z.C. 1218	7.2	19 56	6 23	41	27				
16	267 B. Sagittarii	5.8	22 13	8 36	29	5	22 58	9 21	308	279
17	W.Z.C. 1365	7.1	22 8	8 26	88	72				
17	47 B. Capricorni	6.2	23 58	10 16	120	91	0 42	11 0	208	174
18	Piazzi XXI. 125	6.8	23 47	10 2	131	109				
19	W.Z.C. 1482	7.4	20 1	6 13	89	109				
20	81 Aquarii	6.4	21 23	7 30	349	6	21 35	7 42	331	346
20	URANUS	6.1	0 38	10 44	29	12	1 40	11 46	281	256
21	24 Piscium	6.1	23 52	9 55	101	100	0 56	10 59	207	195
24	39 B. Arietis	6.5	20 20	6 11	45	84	21 16	7 7	275	313
26	W.Z.C. 210	6.9					21 36	7 20	319	358
27	71 Tauri	4.6					21 8	6 48	229	265
27	♉ Tauri	4.2	21 27	7 6	52	89	22 18	7 57	282	321
27	♊ Tauri	3.6	21 24	7 3	75	112	22 21	8 0	259	299
27	264 B. Tauri	4.8	22 41	8 20	13	53	23 8	8 47	311	351
27	W.Z.C. 305	6.7					23 21	9 2	297	337
27	85 Tauri	6.0	23 1	8 40	124	164	23 43	9 22	208	248
27	275 B. Tauri	6.5	0 8	9 47	33	73	0 58	10 37	297	334
27	α Tauri (Aldeb.)	1.1	1 38	11 17	15	50	2 16	11 55	315	345
28	111 Tauri	5.1	0 32	10 7	117	157	1 25	11 0	220	259
29	Lalande 11713	6.6					23 31	9 2	305	344
29	124 H ¹ . Orionis	5.7	0 18	9 49	118	158	1 8	10 39	230	271
31	2 B. Cancri	6.0	0 43	10 6	86	122	1 38	11 1	278	317
31	5 Cancri	5.9	2 2	11 25	93	133	3 3	12 26	273	314
Nov. 2	R. Leonis (var.)	4.6					3 24	12 39	316	355
4	β Virginis	3.8	10 34	19 40	130	144	11 43	20 49	279	280
5	W.Z.C. 822	6.6					10 16	19 18	246	270
11	39 G. Sagittarii	6.3	20 53	5 34	129	104	21 42	6 23	225	195
12	190 B. Sagittarii	5.4	18 46	3 23	71	74	19 59	4 36	279	270
18	10 Ceti	6.4	1 52	10 4	26	9	2 53	11 5	284	258
20	W.Z.C. 119	7.2	4 43	12 47	24	354				
20	39 B. Arietis	6.5	6 19	14 23	117	80	7 8	15 12	210	171
20	Lalande 3866	6.4	7 34	15 38	1	322				

OCCULTATIONS VISIBLE AT GREENWICH.

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			Sidereal Time.	Mean Time.	Angle from		Sidereal Time.	Mean Time.	Angle from	
					N. Point.	Vertex.			N. Point.	Vertex.
			h m	h m	°	°	h m	h m	°	°
Nov. 21	W.Z.C. 158	6.7	0 7	8 8	30	59				
22	8 B. Tauri	6.2	21 25	5 22	165	204	21 26	5 23	166	205
22	W.Z.C. 210	6.9	6 42	14 38	107	73				
23	48 Tauri	6.3	22 52	6 45	98	138	23 50	7 43	230	269
23	γ Tauri	3.9	1 9	9 2	109	144	2 12	10 5	219	246
23	70 Tauri	6.4	5 10	13 2	126	114	6 7	13 59	213	188
23	264 B. Tauri	4.8	8 14	16 6	105	67	9 18	17 10	244	204
23	275 B. Tauri	6.5	9 54	17 45	89	49	10 55	18 46	263	244
23	α Tauri (Aldeb.)	1.1	11 6	18 57	52	14	11 52	19 43	301	265
25	Lalande 11713	6.6					8 47	16 30	209	175
25	W.B. (2) VI. 186	6.7					11 37	19 20	278	237
26	74 B. Geminorum	6.2	23 22	7 3	63	99	0 12	7 53	290	329
27	2 B. Cancri	6.0	10 44	18 19	183	149	10 56	18 31	251	216
27	5 Cancri	5.9	11 59	19 34	139	100	12 52	20 27	248	207
28	90 B. Cancri	6.3	1 51	9 24	110	148	2 47	10 20	261	301
30	W.Z.C. 688	7.0					3 57	11 21	206	244
30	44 Leonis	5.9	5 7	12 32	176	215	5 27	12 52	214	253
Dec. 4	W.Z.C. 904	7.3					11 21	18 29	221	247
13	W.Z.C. 1507	6.8	1 4	7 38	41	16				
14	317 B. Aquarii	6.3	0 1	6 31	355	347	0 28	6 58	315	302
14	B.D.—6° 6220	7.0	4 28	10 58	90	53				
15	5 Ceti	6.3	23 47	6 14	145	148	23 59	6 26	162	163
15	W.Z.C. 4	7.3	23 51	6 17	88	91				
17	ν Piscium	4.7	0 52	7 10	134	144	1 22	7 40	176	180
18	389 B. Ceti	6.3	2 28	8 42	49	49	3 47	10 1	266	248
19	B.D.+11° 445	6.8	22 29	4 40	107	146				
20	179 B. Tauri	5.9	4 26	10 32	113	107	5 32	11 38	219	198
20	48 Tauri	6.3	9 37	15 42	143	103	10 7	16 12	204	164
21	318 B. Tauri	5.7	4 21	10 23	83	92	5 44	11 46	257	244
23	74 B. Geminorum	6.2	8 53	14 47	135	105	9 51	15 45	236	199
24	f Geminorum	5.3	8 22	14 12	69	56	9 29	15 19	311	284
25	B.D.+16° 1704	7.0					3 52	10 39	274	314
25	90 B. Cancri	6.3	11 14	16 59	160	127	11 56	17 41	232	195
27	44 Leonis	5.9	14 19	19 56	167	130	14 55	20 32	235	197
30	k Virginis	5.7	13 14	18 39	153	150	14 12	19 37	258	244
31	W.Z.C. 885	7.0					12 20	17 41	286	301
31	598 B. Virginis	6.1	13 32	18 53	85	89	14 36	19 57	322	314

516 **SATELLITES OF JUPITER, 1923.**

MEAN SYNODIC PERIODS OF THE SATELLITES.

V. $0^d 11^h 57^m 27^s.6 = 0^d.498236$

	d	h	m	s	=	d		d	h	m	s	=	d
I.	1	18	28	35.94619	=	1.7698604883	III.	7	3	59	35.85660	=	7.1663872292
II.	3	13	17	53.73665	=	3.5540941742	IV.	16	18	5	6.91878	=	16.7535523007

MEAN TIME OF EVERY TWENTIETH GREATEST ELONGATION.

SATELLITE V.

	d	h				d	h				d	h			
Feb.	9	13.4	E.	May	10	5.3	E.	Feb.	9	19.4	W.	May	10	11.3	W.
	19	12.5	E.		20	4.4	E.		19	18.5	W.		20	10.4	W.
Mar.	1	11.6	E.		30	3.5	E.	Mar.	1	17.6	W.		30	9.4	W.
	11	10.8	E.	June	9	2.6	E.		11	16.7	W.	June	9	8.6	W.
	21	9.9	E.		19	1.7	E.		21	15.8	W.		19	7.7	W.
	31	8.9	E.		29	0.8	E.		31	14.9	W.		29	6.8	W.
Apr.	10	8.0	E.	July	9	0.0	E.	Apr.	10	14.0	W.	July	9	5.9	W.
	20	7.1	E.		18	23.1	E.		20	13.1	W.		19	5.1	W.
	30	6.2	E.		28	22.3	E.		30	12.2	W.		29	4.2	W.

MEAN TIME OF SUPERIOR GEOCENTRIC CONJUNCTION.

SATELLITE I. (Io).

	d	h	m		d	h	m		d	h	m		d	h	m
Jan.	0	7	7.8	Feb.	8	5	42.9	Mar.	19	3	48.0	Apr.	27	1	25.2
	2	1	37.3		10	0	11.2		20	22	14.8		28	19	51.1
	3	20	6.6		11	18	39.3		22	16	41.4		30	14	17.0
	5	14	35.9		13	13	7.4		24	11	8.1	May	2	8	42.8
	7	9	5.2		15	7	35.3		26	5	34.6		4	3	8.7
	9	3	34.4		17	2	3.3		28	0	1.1		5	21	34.6
	10	22	3.5		18	20	31.2		29	18	27.6		7	16	0.5
	12	16	32.7		20	14	59.0		31	12	54.0		9	10	26.4
	14	11	1.8		22	9	26.7	Apr.	2	7	20.3		11	4	52.3
	16	5	30.8		24	3	54.4		4	1	46.7		12	23	18.3
	17	23	59.8		25	22	22.0		5	20	12.9		14	17	44.3
	19	18	28.7		27	16	49.5		7	14	39.1		16	12	10.3
	21	12	57.5	Mar.	1	11	17.0		9	9	5.3		18	6	36.3
	23	7	26.4		3	5	44.4		11	3	31.4		20	1	2.4
	25	1	55.1		5	0	11.7		12	21	57.5		21	19	28.4
	26	20	23.8		6	18	39.0		14	16	23.5		23	13	54.6
	28	14	52.4		8	13	6.2		16	10	49.4		25	8	20.7
	30	9	21.0		10	7	33.3		18	5	15.5		27	2	46.9
Feb.	1	3	49.5		12	2	0.4		19	23	41.5		28	21	13.2
	2	22	18.0		13	20	27.4		21	18	7.5		30	15	39.5
	4	16	46.3		15	14	54.3		23	12	33.4	June	1	10	5.9
	6	11	14.7		17	9	21.2		25	6	59.3		3	4	32.3

SATELLITES OF JUPITER, 1923. 517

MEAN TIME OF SUPERIOR GEOCENTRIC CONJUNCTION.

SATELLITE I. (Io)—*continued.*

June	d	h	m	July	d	h	m	Sept.	d	h	m	Oct.	d	h	m
	4	22	58.8		19	4	21.7		1	10	24.8		15	16	54.4
	6	17	25.3		20	22	49.9		3	4	54.4		17	11	24.8
	8	11	51.8		22	17	18.2		4	23	24.0		19	5	55.0
	10	6	18.5		24	11	46.6		6	17	53.7		21	0	25.4
	12	0	45.2		26	6	14.9		8	12	23.4		22	18	55.7
	13	19	11.9		28	0	43.4		10	6	53.1		24	13	26.1
	15	13	38.8		29	19	11.9		12	1	22.9		26	7	56.5
	17	8	5.7		31	13	40.6		13	19	52.7		28	2	26.9
	19	2	32.7	Aug.	2	8	9.2		15	14	22.6		29	20	57.2
	20	20	59.8		4	2	37.9		17	8	52.4		31	15	27.7
												Nov.	2	9	58.1
	22	15	26.8		5	21	6.7		19	3	22.4				
	24	9	54.0		7	15	35.6		20	21	52.3				
	26	4	21.2		9	10	4.4		22	16	22.4	Dec.	14	22	8.0
	27	22	48.5		11	4	33.4		24	10	52.3		16	16	38.3
	29	17	15.9		12	23	2.4		26	5	22.4		18	11	8.5
July	1	11	43.3		14	17	31.5		27	23	52.4		20	5	38.8
	3	6	10.9		16	12	0.6		29	18	22.6		22	0	9.1
	5	0	38.4		18	6	29.7	Oct.	1	12	52.6		23	18	39.3
	6	19	6.1		20	0	58.9		3	7	22.8		25	13	9.5
	8	13	33.8		21	19	28.2		5	1	53.0		27	7	39.7
	10	8	1.7		23	13	57.5		6	20	23.2		29	2	9.8
	12	2	29.5		25	8	26.8		8	14	53.3		30	20	40.1
	13	20	57.5		27	2	56.3		10	9	23.6		32	15	10.1
	15	15	25.5		28	21	25.8		12	3	53.9				
	17	9	53.6		30	15	55.3		13	22	24.1				

SATELLITE II. (EUROPA).

Jan.	d	h	m	Feb.	d	h	m	Apr.	d	h	m	June	d	h	m
	3	8	7.3		25	15	42.2		19	21	29.1		12	2	40.5
	6	21	28.7	Mar.	1	4	56.5		23	10	37.7		15	15	51.3
	10	10	49.2		4	18	10.9		26	23	45.2		19	5	3.6
	14	0	9.7		8	7	24.1		30	12	53.6		22	18	15.4
	17	13	29.6		11	20	37.5	May	4	2	1.0		26	7	28.7
	21	2	49.4		15	9	49.6		7	15	9.4		29	20	41.7
	24	16	8.5		18	23	1.9		11	4	16.8	July	3	9	56.0
	28	5	27.5		22	12	12.9		14	17	25.4		6	23	10.1
	31	18	45.7		26	1	24.3		18	6	33.1		10	12	25.6
Feb.	4	8	4.0		29	14	34.4		21	19	42.1		14	1	40.8
	7	21	21.3	Apr.	2	3	44.8		25	8	50.4		17	14	57.2
	11	10	38.7		5	16	54.0		28	22	0.0		21	4	13.5
	14	23	55.1		9	6	3.7	June	1	11	9.0		24	17	31.0
	18	13	11.5		12	19	12.2		5	0	19.4		28	6	48.3
	22	2	26.8		16	8	21.2		8	13	29.2		31	20	6.7

518 SATELLITES OF JUPITER, 1923.

MEAN TIME OF SUPERIOR GEOCENTRIC CONJUNCTION.

SATELLITE II. (EUROPA)—*continued*.

Aug.	d	h	m	Sept.	d	h	m	Sept.	d	h	m	Oct.	d	h	m
	4	9	24.9		1	20	7.5		30	7	8.4		28	18	19.0
	7	22	44.2		5	9	29.4		3	20	31.9		1	7	43.2
	11	12	3.3		8	22	51.3		7	9	55.5				
	15	1	23.4		12	12	13.8		10	23	19.2		17	13	55.4
	18	14	43.3		16	1	36.2		14	12	43.0		21	3	18.9
	22	4	4.1		19	14	59.1		18	2	6.9		24	16	42.2
	25	17	24.7		23	4	22.0		21	15	30.9		28	6	5.4
	29	6	46.2		26	17	45.2		25	4	55.0		31	19	28.5

SATELLITE III. (GANYMEDE).

Jan.	d	h	m	Mar.	d	h	m	June	d	h	m	Sept.	d	h	m
	0	13	45.4		27	12	26.9		21	4	44.5		15	4	22.1
	7	17	59.5		3	15	52.7		28	8	20.2		22	8	41.3
	14	22	10.6		10	19	14.9		5	12	0.4		29	13	3.2
	22	2	19.1		17	22	34.8		12	15	44.8		6	17	26.3
	29	6	23.5		25	1	52.5		19	19	33.4		13	21	50.8
	5	10	24.0		2	5	9.6		26	23	26.8		21	2	16.4
	12	14	20.3		9	8	25.9		3	3	24.2		28	6	42.9
	19	18	12.2		16	11	42.7		10	7	26.2				
	26	22	0.2		23	15	0.8		17	11	31.4				
	Mar. 6	1	43.5		30	18	21.2		24	15	39.8		17	14	0.1
	13	5	22.8		June 6	21	45.1		31	19	51.0		24	18	27.3
	20	8	57.0		14	1	12.4		Sept. 8	0	5.0		31	22	53.1

SATELLITE IV. (CALLISTO).

Jan.	d	h	m	Apr.	d	h	m	June	d	h	m	Sept.	d	h	m
	10	21	0.1		4	10	32.8		26	12	0.0		18	6	34.4
	27	15	49.9		21	1	8.2		13	4	27.8		5	2	34.3
	Feb. 13	9	53.5		7	15	22.0		29	21	50.5		21	22	56.6
	Mar. 2	3	2.7		24	5	40.4		Aug. 15	16	3.8				
	18	19	14.6		June 9	20	27.2		Sept. 1	11	1.4		28	9	21.4

SATELLITES OF JUPITER, 1923. 519

JANUARY.

MEAN TIME.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
0	I. E. c.	5 1.3	8	I. Sh. f.	6 12	17	I. Sh. c.	0 25	24	II. E. f.	14 54.7
	I. Em.	8 13		I. Tr. f.	7 17		I. Tr. c.	1 34		II. Im.	*14 59
	III. E. c.	8 41.3		II. Sh. c.	13 15		I. Sh. f.	2 34		II. Em.	*17 18
	III. E. f.	10 30.4		II. Tr. c.	15 29		I. Tr. f.	3 42		I. E. c.	23 37.7
	III. Im.	12 53		II. Sh. f.	15 38		II. E. c.	9 57.2			
	III. Em.	14 38		II. Tr. f.	*17 48		II. Em.	14 39	25	I. Em.	3 0
							I. E. c.	21 44.5		III. Sh. c.	10 26
1	I. Sh. c.	2 10	9	I. E. c.	1 23.0	18	I. Em.	1 4		III. Sh. f.	12 12
	I. Tr. c.	3 11		I. Em.	4 39		III. Sh. c.	6 29		III. Tr. c.	*15 25
	I. Sh. f.	4 19		I. Sh. c.	22 32		III. Sh. f.	8 16		III. Tr. f.	*16 57
	I. Tr. f.	5 20		I. Tr. c.	23 38		III. Tr. c.	11 18		I. Sh. c.	20 40
	II. Sh. c.	10 40					III. Tr. f.	12 53		I. Tr. c.	21 58
	II. Tr. c.	12 46	10	I. Sh. f.	0 41		I. Sh. c.	*18 53		I. Sh. f.	22 55
	II. Sh. f.	13 3		I. Tr. f.	1 46		I. Tr. c.	20 3	26	I. Tr. f.	0 6
	II. Tr. f.	15 6		II. E. c.	7 23.2		I. Sh. f.	21 2		II. Sh. c.	7 41
	I. E. c.	23 29.6		II. Em.	11 59		I. Tr. f.	22 11		II. Sh. f.	10 3
				I. E. c.	19 51.3					II. Tr. c.	10 8
2	I. Em.	2 42		I. Em.	23 8	19	II. Sh. c.	5 7		II. Tr. f.	12 25
	I. Sh. c.	20 38					II. Sh. f.	7 29		I. E. c.	*18 5.9
	I. Tr. c.	21 41		III. Sh. c.	2 32		II. Tr. c.	7 30		I. Em.	21 28
	I. Sh. f.	22 47	11	III. Sh. f.	4 19		II. Tr. f.	9 48	27	I. Sh. c.	*15 14
	I. Tr. f.	23 49		III. Tr. c.	7 7		I. E. c.	*16 12.9		I. Tr. c.	*16 27
				III. Tr. f.	8 46		I. Em.	19 33		I. Sh. f.	*17 23
3	II. E. c.	4 49.4		I. Sh. c.	*17 0	20	I. Sh. c.	13 21		I. Tr. f.	*18 35
	II. Em.	9 18		I. Tr. c.	*18 7		I. Tr. c.	14 32	28	II. E. c.	14 8.6
	I. E. c.	*17 57.9		I. Sh. f.	*19 9		I. Sh. f.	*15 30		II. E. f.	4 11.9
	I. Em.	21 11		I. Tr. f.	20 15		I. Tr. f.	*16 40		II. Im.	4 18
	III. Sh. c.	22 35					II E. c.	23 14.4		II. Em.	6 37
4	III. Sh. f.	0 22	12	II. Sh. c.	2 32	21	II. E. f.	1 37.8	29	I. E. c.	12 34.3
	III. Tr. c.	2 53		II. Tr. c.	4 49		II. Im.	1 40		I. Em.	*15 57
	III. Tr. f.	4 35		II. Sh. f.	4 55		II. Em.	3 59		III. E. c.	0 32.3
	I. Sh. c.	15 7		II. Tr. f.	7 8		I. E. c.	10 41.1		III. E. f.	2 19.6
	I. Tr. c.	*16 10		I. E. c.	14 19.7		I. Em.	14 2		III. Im.	5 38
	I. Sh. f.	*17 16		I. Em.	*17 37		III. E. c.	20 34.7		III. Em.	7 9
	I. Tr. f.	*18 19					III. E. f.	22 22.5		I. Sh. c.	9 43
	II. Sh. c.	23 57	13	I. Sh. c.	11 28	22	III. Im.	1 32	30	I. Tr. c.	10 56
5	II. Tr. c.	2 7		I. Tr. c.	12 36		III. Em.	3 6		I. Sh. f.	11 52
	II. Sh. f.	2 20		I. Sh. f.	13 37		I. Sh. c.	7 50		I. Tr. f.	13 4
	II. Tr. f.	4 27		I. Tr. f.	14 44		I. Tr. c.	9 1		II. Sh. c.	20 58
	I. E. c.	12 26.4		II. E. c.	20 40.3		I. Sh. f.	9 59		II. Sh. f.	23 20
	I. Em.	15 41	14	II. E. c.			I. Tr. f.	11 9		II. Tr. c.	23 27
6	I. Sh. c.	9 35		II. Em.	1 20		II. Sh. c.	*18 24	31	II. Tr. f.	1 43
	I. Tr. c.	10 39		I. E. c.	8 47.9		II. Sh. f.	20 46		I. E. c.	7 2.6
	I. Sh. f.	11 44		I. Em.	12 6		II. Tr. c.	20 49		I. Em.	10 25
	I. Tr. f.	12 48		III. E. c.	*16 36.6		II Tr. f.	23 7			
	I. E. c.	*18 6.4		III. E. f.	*18 24.7	23	I. E. c.	5 9.5		I. Sh. c.	4 11
	II. Em.	22 39		III. Im.	21 22		I. Em.	8 31		I. Tr. c.	5 24
7	I. E. c.	6 54.6	15	III. Em.	23 0					I. Sh. f.	6 20
	I. Em.	10 10								I. Tr. f.	7 32
	III. E. c.	12 39.0		I. Sh. c.	5 57	24	I. Sh. c.	2 18		II. E. c.	*15 5.5
	III. E. f.	14 27.6		I. Tr. c.	7 5		I. Tr. c.	3 29		II. E. f.	*17 28.8
	III. Im.	*17 9		I. Sh. f.	8 5		I. Sh. f.	4 27		II. Im.	*17 37
	III. Em.	*18 50		I. Tr. f.	9 13		I. Tr. f.	5 38		II. Em.	19 55
				II. Sh. c.	*15 50		II. E. c.	12 31.3			
8	I. Sh. c.	4 3	16	II. Tr. c.	*18 10						
	I. Tr. c.	5 8		II. Sh. f.	*18 12						
				II. Tr. f.	20 28						
				I. E. c.	3 16.3						
				I. Em.	6 36						

Eclipse commences - - - E. c.
 „ finishes - - - E. f.

Transit commences - - - Tr. c.
 „ finishes - - - Tr. f.

Occultation, immersion - - Im.
 „ emersion - - Em.

Shadow commences - - Sh. c.
 „ finishes - - - Sh. f.

520 SATELLITES OF JUPITER, 1923.

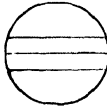
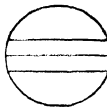
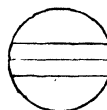
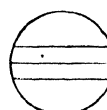
JANUARY.

MEAN TIME.

Configurations at 17^h 15^m for an inverting Telescope.

Day.	West.	East.
0		○ ·3 ·1 2· 4·
1		·1 2· ○ 4· ·3
2		·2 4· ○ 1· 3·
3	4·	·1 ○ 3· ²
4	4· 3·	○ 2· 1 ○ ·
5	4· 3· 2·	○ ·1 4·
6	·4 ·3 1·	·2 ○
7	· ● 3 ·4	○ ·1 ·2
8	2 · ○ ·4	·1 ○ ·3
9		·4 ·2 ○ 1· 3·
10		·1 ·4 ·2 3·
11		3· 1 ○ ·2 ·4
12	3· 2·	○ ·4 ● ·1
13	·3 ·2	·1 ○ ·4
14	· ● 3	○ ·1 ·2 ·4
15		1· 2 · ○ ·3 4·
16		·2 ○ 1· 3· 4·
17		·1 ○ ·2 3· 4·
18		3· ○ 1· 4· 2· ●
19	· ● 1 3·	·4 ·2 ○
20	·4 ·3	·2 1· ○
21	4·	·3 ○ ·1 ·2
22	4·	1· ○ 2· ·3
23	·4 2·	○ ·1 ·3
24	4 ·1	○ 3· ● ·2
25	·4 3·	○ 1· 2·
26	3· 4· 2·	·1 ○
27	·3 ·2	○ ·4 1 ○ ·
28		·3 ○ ·1 ·2 ·4
29		1· ○ 2· ·3 ·4
30	2·	○ ·1 ·3 ·4
31	· ● 2 ·1	○ 3· ·4

Phases of the Eclipses of the Satellites for an inverting Telescope.

I. c* 	II. c* 
III. c* f* 	IV. No Eclipse.  of this Satellite.

SATELLITES OF JUPITER, 1923. 521

FEBRUARY.

MEAN TIME.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
1	I. E. c.	1 30.8	8	I. E. c.	3 24.0	15	II. Em.	1 3	22	II. E. f.	1 12.0
	I. Em.	4 54		I. Em.	6 47		I. E. c.	5 17.0		II. Im.	1 19
	III. Sh. c.	14 24		III. Sh. c.	*18 22		I. Em.	8 40		II. Em.	3 35
	III. Sh. f.	*16 10		III. Sh. f.	20 7		III. Sh. c.	22 19		I. E. c.	7 10.1
	III. Tr. c.	19 30		III. Tr. c.	23 31					I. Em.	10 31
	III. Tr. f.	20 58									
	I. Sh. c.	22 40									
	I. Tr. c.	23 53									
2	I. Sh. f.	0 48	9	I. Sh. c.	0 33	16	III. Sh. f.	0 4	23	III. Sh. c.	2 17
	I. Tr. f.	2 1		III. Tr. f.	0 55		I. Sh. c.	2 26		III. Sh. f.	4 1
	II. Sh. c.	10 15		I. Tr. c.	1 46		III. Tr. c.	3 28		I. Sh. c.	4 19
	II. Sh. f.	12 37		I. Sh. f.	2 41		I. Tr. c.	3 39		I. Tr. c.	5 31
	II. Tr. c.	12 45		I. Tr. f.	3 54		I. Sh. f.	4 35		I. Sh. f.	6 28
	II. Tr. f.	*15 1		II. Sh. c.	12 49		III. Tr. f.	4 48		III. Tr. c.	7 20
	I. E. c.	19 59.2		II. Sh. f.	*15 11		I. Tr. f.	5 47		I. Tr. f.	7 38
	I. Em.	23 22		II. Tr. c.	*15 19		II. Sh. c.	*15 23		III. Tr. f.	8 37
				II. Tr. f.	*17 34		II. Sh. f.	*17 44		II. Sh. c.	*17 57
				I. E. c.	21 52.3		II. Tr. c.	*17 52		II. Sh. f.	20 18
							II. Tr. f.	20 6		II. Tr. c.	20 22
							I. E. c.	23 45.3		II. Tr. f.	22 35
3	I. Sh. c.	*17 8	10	I. Em.	1 15	17	I. Em.	3 8	24	I. E. c.	1 38.4
	I. Tr. c.	*18 21		I. Sh. c.	19 1		I. Sh. c.	20 54		I. Em.	4 59
	I. Sh. f.	19 17		I. Tr. c.	20 15		I. Tr. c.	22 7		I. Sh. c.	22 47
	I. Tr. f.	20 29		I. Sh. f.	21 10		I. Sh. f.	23 3		I. Tr. c.	23 58
				I. Tr. f.	22 22						
4	II. E. c.	4 22.9	11	II. E. c.	6 57.4	18	I. Tr. f.	0 15	25	I. Sh. f.	0 56
	II. E. f.	6 46.1		II. E. f.	9 20.4		II. E. c.	9 32.0		I. Tr. f.	2 6
	II. Im.	6 55		II. Im.	9 30		II. E. f.	11 54.9		II. E. c.	12 6.9
	II. Em.	9 13		II. Em.	11 47		II. Im.	12 3		II. E. f.	*14 29.6
	I. E. c.	*14 27.4		I. E. c.	*16 20.5		II. Em.	*14 20		II. Im.	*14 34
	I. Em.	*17 51		I. Em.	19 44		I. E. c.	*18 13.6		II. Em.	*16 50
							I. Em.	21 35		I. E. c.	20 6.6
										I. Em.	23 26
5	III. E. c.	4 29.7	12	III. E. c.	8 26.7	19	III. E. c.	12 23.8	26	III. E. c.	*16 21.1
	III. E. f.	6 16.8		III. E. f.	10 13.4		III. E. f.	*14 10.1		I. Sh. c.	*17 16
	III. Im.	9 40		I. Sh. c.	13 29		I. Sh. c.	*15 22		III. E. f.	*18 7.3
	III. Em.	11 8		III. Im.	13 38		I. Tr. c.	*16 35		I. Tr. c.	18 26
	I. Sh. c.	11 36		I. Tr. c.	*14 43		I. Sh. f.	*17 31		I. Sh. f.	19 25
	I. Tr. c.	12 50		III. Em.	*15 2		III. Im.	*17 32		I. Tr. f.	20 34
	I. Sh. f.	13 45		I. Sh. f.	*15 38		I. Tr. f.	18 43		III. Im.	21 22
	I. Tr. f.	*14 58		I. Tr. f.	*16 51		III. Em.	18 52		III. Em.	22 39
	II. Sh. c.	23 33									
6	II. Sh. f.	1 54	13	II. Sh. c.	2 6	20	II. Sh. c.	4 40	27	II. Sh. c.	7 14
	II. Tr. c.	2 2		II. Sh. f.	4 27		II. Sh. f.	7 1		II. Sh. f.	9 34
	II. Tr. f.	4 18		II. Tr. c.	4 36		II. Tr. c.	7 7		II. Tr. c.	9 36
	I. E. c.	8 55.7		II. Tr. f.	6 51		II. Tr. f.	9 21		II. Tr. f.	11 49
	I. Em.	12 19		I. E. c.	10 48.8		I. E. c.	12 41.8		I. E. c.	*14 34.9
				I. Em.	*14 12		I. Em.	*16 3		I. Em.	*17 54
7	I. Sh. c.	6 4	14	I. Sh. c.	7 58	21	I. Sh. c.	9 51	28	I. Sh. c.	11 44
	I. Tr. c.	7 18		I. Tr. c.	9 11		I. Tr. c.	11 3		I. Tr. c.	*12 54
	I. Sh. f.	8 13		I. Sh. f.	10 6		I. Sh. f.	12 0		I. Sh. f.	*13 53
	I. Tr. f.	9 26		I. Tr. f.	11 19		I. Tr. f.	13 10		I. Tr. f.	*15 1
	II. E. c.	*17 39.9		I. Tr. f.	11 19		II. E. c.	22 49.2			
	II. E. f.	20 3.0		II. E. c.	20 14.5						
	II. Im.	20 13		II. E. f.	22 37.4						
	II. Em.	22 30		II. Im.	22 47						

Eclipse commences - - - E. c.
 „ finishes - - - E. f.

Transit commences - - - Tr. c.
 „ finishes - - - Tr. f.

Occultation, immersion - - Im.
 „ emersion - - Em.

Shadow commences - - - Sh. c.
 „ finishes - - - Sh. f.

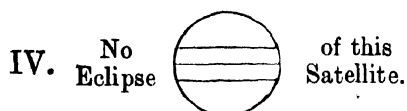
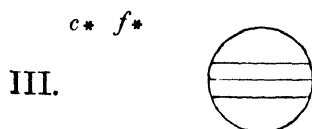
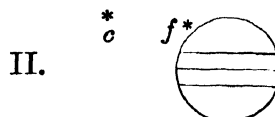
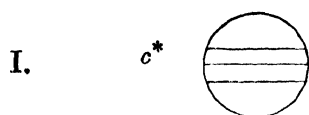
FEBRUARY.

MEAN TIME.

Configurations at 16^h 0^m for an inverting Telescope.

Day.	West.	East.
1		3 ○ · 1 · 2 4'
2		3 · · 1 2' ○ 4'
3		· 3 · 2 ○ 1' 4'
4	· ● 1	· 3 ○ 4 · 2 ,
5		4 · 1 · ○ · 3 2'
6		4 · 2' ○ · 1 · 3
7	4 ·	1 · 2' ○ 3 ·
8	4 ·	○ 3 · 1 2'
9	· 4	3 · · 1 ○ 2 ○ ·
10	· 4 3 ·	· 2 ○ 1 ·
11	· 4 · 3	· ○ 1 2'
12	1 · ○	· 4 ○ 3 2'
13		2' ○ · 4 · 3
14		· 2 1' ○ · 4 3 ·
15		○ · 1 3 · 2' 4
16		· 1 2' ○ 3 · 4
17	3 · 2'	○ 1 · 4 ·
18	· 3 · 1	○ 2 4 ·
19		1' ○ 3 2' 4 ·
20		2' ○ 4 · 3 ● · 1
21		· 2 1' 4' ○ 3 ·
22		4 · ○ · 1 3 · 2
23	4 ·	1 · 3 · ○ 2 ·
24	4 · 3 · 2'	○ 1 ·
25	4 · · 3 · 1	○ ● · 2
26	· 4	· 3 ○ 1' 2'
27	· ● 1 · 4	2' ○ · 3
28	· 4 · 2 1 ·	○ · 3

Phases of the Eclipses of the Satellites for an inverting Telescope.



SATELLITES OF JUPITER, 1923. 523

MARCH.

MEAN TIME.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
1	II. E. c.	1 24.1	9	I. Sh. c.	8 6	16	III. Sh. f.	*15 52	24	II. Sh. f.	6 31
	II. E. f.	3 46.7		I. Tr. c.	9 11		III. Tr. c.	18 27		II. Tr. f.	8 11
	II. Im.	3 49		III. Sh. c.	10 11		III. Tr. f.	19 35		I. E. c.	9 10.7
	II. Em.	6 4		I. Sh. f.	10 15					I. Em.	*12 12
	I. E. c.	9 3.1		I. Tr. f.	11 18	17	II. Sh. c.	1 37			
	I. Em.	12 21		III. Sh. f.	11 55		II. Tr. c.	3 38	25	I. Sh. c.	6 21
2	I. Sh. c.	6 12		III. Tr. c.	*14 49		II. Sh. f.	3 58		I. Tr. c.	7 13
	III. Sh. c.	6 14		III. Tr. f.	*16 0		II. Tr. f.	5 51		I. Sh. f.	8 30
	I. Tr. c.	7 21		II. Sh. c.	23 4		I. E. c.	7 17.5		I. Tr. f.	9 21
	III. Sh. f.	7 58	10	II. Tr. c.	1 15		I. Em.	10 25		II. E. c.	22 28.2
	I. Sh. f.	8 21		II. Sh. f.	1 24	18	I. Sh. c.	4 27	26	II. Em.	2 31
	I. Tr. f.	9 29		II. Tr. f.	3 28		I. Tr. c.	5 26		I. E. c.	3 38.9
	III. Tr. c.	11 7		I. E. c.	5 24.4		I. Sh. f.	6 36		I. Em.	6 38
	III. Tr. f.	12 20		I. Em.	8 37		I. Tr. f.	7 34			
	II. Sh. c.	20 31					II. E. c.	19 52.6			
	II. Tr. c.	22 49	11	I. Sh. c.	2 34	19	II. Em.	0 9	27	I. Sh. c.	0 49
	II. Sh. f.	22 51		I. Tr. c.	3 38		I. E. c.	1 45.8		I. Tr. c.	1 40
3	II. Tr. f.	1 3		I. Sh. f.	4 43		I. Em.	4 52		I. Sh. f.	2 59
	I. E. c.	3 31.4		I. Tr. f.	5 46		I. Sh. c.	22 56		I. Tr. f.	3 48
	I. Em.	6 48		II. E. c.	*17 17.1		I. Tr. c.	23 53		III. E. c.	8 11.5
				II. Em.	21 45					III. E. f.	9 56.8
				I. E. c.	23 52.7					III. Im.	*11 54
4	I. Sh. c.	0 41				20	I. Sh. f.	1 5		III. Em.	*13 0
	I. Tr. c.	1 49		I. Em.	3 4		I. Tr. f.	2 1		II. Sh. c.	17 27
	I. Sh. f.	2 50	12	I. Sh. c.	21 2		III. E. c.	4 13.9		I. Tr. c.	19 9
	I. Tr. f.	3 56		I. Tr. c.	22 5		III. E. f.	5 59.5		II. Sh. f.	19 47
	II. E. c.	*14 41.9		I. Sh. f.	23 11		III. Im.	8 23		II. Tr. f.	21 21
	II. Em.	19 18					III. Em.	9 31		I. E. c.	22 7.2
	I. E. c.	21 59.6					II. Sh. c.	*14 54			
5	I. Em.	1 16	13	I. Tr. f.	0 13		II. Tr. c.	*16 49	28	I. Em.	1 5
	I. Sh. c.	19 9		III. E. c.	0 16.5		II. Sh. f.	*17 14		I. Sh. c.	19 17
	I. Tr. c.	20 16		III. E. f.	2 2.2		II. Tr. f.	19 1		I. Tr. c.	20 7
	III. E. c.	20 18.5		III. Im.	4 48		I. E. c.	20 14.1		I. Sh. f.	21 27
	I. Sh. f.	21 18		III. Em.	5 58		I. Em.	23 19		I. Tr. f.	22 14
	III. E. f.	22 4.4		II. Sh. c.	*12 21	21	I. Sh. c.	*17 24	29	II. E. c.	*11 45.7
	I. Tr. f.	22 24		II. Tr. c.	*14 27		I. Tr. c.	18 20		II. Em.	*15 41
				II. Sh. f.	*14 41		I. Sh. f.	19 33		I. E. c.	*16 35.5
				II. Tr. f.	*16 39		I. Tr. f.	20 28		I. Em.	19 31
6	III. Im.	1 7		I. E. c.	18 21.0						
	III. Em.	2 20		I. Em.	21 31						
	II. Sh. c.	9 47				22	II. E. c.	9 10.0			
	II. Tr. c.	12 3	14	I. Sh. c.	*15 30		II. Em.	*13 20	30	I. Sh. c.	*13 46
	II. Sh. f.	12 8		I. Tr. c.	*16 32		I. E. c.	*14 42.3		I. Tr. c.	*14 33
	II. Tr. f.	*14 15		I. Sh. f.	*17 40		I. Em.	17 45		I. Sh. f.	*15 55
	I. E. c.	*16 27.9		I. Tr. f.	18 40					I. Tr. f.	*16 41
	I. Em.	19 43								III. Sh. c.	22 4
7	I. Sh. c.	*13 37	15	II. E. c.	6 34.5	23	I. Sh. c.	*11 52		III. Sh. f.	23 48
	I. Tr. c.	*14 43		II. Em.	10 57		I. Tr. c.	*12 47			
	I. Sh. f.	*15 46		I. E. c.	*12 49.2		I. Sh. f.	*14 2			
	I. Tr. f.	*16 51		I. Em.	*15 58		I. Tr. f.	*14 54			
							III. Sh. c.	18 6	31	III. Tr. c.	1 31
							III. Sh. f.	19 50		II. Sh. c.	2 34
							III. Tr. c.	22 2		II. Tr. c.	8 18
							III. Tr. f.	23 6		II. Sh. f.	9 4
8	II. E. c.	3 59.2	16	I. Sh. c.	9 59	24	II. Sh. c.	4 11		II. Tr. f.	10 30
	II. Em.	8 31		I. Tr. c.	10 59		II. Tr. c.	5 59		I. E. c.	*11 3.8
	I. E. c.	10 56.2		I. Sh. f.	*12 8					I. Em.	*13 58
	I. Em.	*14 10		I. Tr. f.	*13 7						
				III. Sh. c.	*14 8						

Eclipse commences - - - E. c.
 „ finishes - - - E. f.

Transit commences - - - Tr. c.
 „ finishes - - - Tr. f.

Occultation, immersion - - Im.
 „ emersion - - Em.

Shadow commences - - - Sh. c.
 „ finishes - - - Sh. f.

524 SATELLITES OF JUPITER, 1923.

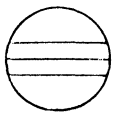
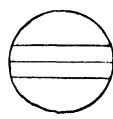
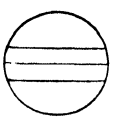
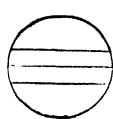
MARCH.

MEAN TIME.

Configurations at 14^h 45^m for an inverting Telescope.

Day.	West.	East.
1		·4 ○ ·1 ·2 3·
2		1· 3· ○ ·4
3	3· 2·	○ ·1 ·4
4	· ● 2 ·3 ·1	○ ·4
5		·3 ○ 1· ·2 ·4
6		·1 2· ○ ·3 4·
7	·2	○ ·3 4· 1 ○ ·
8		○ ·1 ·2 3· 4·
9		1· 3· ○ ·2 4·
10	3· 2· 4·	○ ·1
11	·3 4· 1· ·2	○
12	4· ·3	○ 1· ·2
13	4· ● ·1	○ ·3 2 ○ ·
14	·4 ·2	○ 1· ·3
15	· ● 1 ·4	○ ·2 3·
16	·4	1· ○ 3· 2·
17	·4 2·	○ ·1
18	·3 1· 2·	○ ·4
19	·3	○ 1· ·4 2·
20		·1 2· ○ ·3 ·4
21	2·	○ 1· ·3 ·4
22	· ● 1	○ ·2 3· ·4
23	1· ○	○ 3· 2· 4·
24	3· 2·	○ ·1 ·4
25	3· 2· 1·	○ 4·
26	·3	○ 4· ·1 2·
27	4· 1·	○ ·3 2·
28	4· 2·	○ 1· ·3
29	4·	·1 ○ 3· ● ·2
30	4·	○ 3· 2· 1 ○ ·
31	·4 3· 2·	○ ·1 ·

Phases of the Eclipses of the Satellites for an inverting Telescope.

I. c* 	II. c* 
III. c* f* 	IV. No Eclipse  of this Satellite.

APRIL.

MEAN TIME.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
1	I. Sh. c.	8 14	9	II. E. c.	3 40.0	17	I. Sh. c.	6 30	25	III. E. c.	0 1.6
	I. Tr. c.	9 0		II. Em.	7 11		I. Tr. c.	6 56		III. Em.	2 26
	I. Sh. f.	10 24		I. E. c.	7 25.4		I. Sh. f.	8 40		II. Sh. c.	3 41
	I. Tr. f.	*11 7		I. Em.	*10 9		I. Tr. f.	9 4		II. Tr. c.	4 12
2	II. E. c.	1 4.0	10	I. Sh. c.	4 36		III. E. c.	20 3.8		I. E. c.	5 40.7
	II. Em.	4 52		I. Tr. c.	5 12		III. E. f.	21 48.9		II. Sh. f.	6 1
	I. E. c.	5 32.1		I. Sh. f.	6 46		III. Im.	22 3		II. Tr. f.	6 25
	I. Em.	8 24		I. Tr. f.	7 19		III. Em.	23 7		I. Em.	8 3
3	I. Sh. c.	2 43		III. E. c.	*16 5.9	18	II. Sh. c.	1 7			
	I. Tr. c.	3 26		III. E. f.	17 51.1		II. Tr. c.	1 58	26	I. Sh. c.	2 53
	I. Sh. f.	4 52		III. Im.	18 43		II. Sh. f.	3 27		I. Tr. c.	3 6
	I. Tr. f.	5 34		III. Em.	19 47		I. E. c.	3 47.2		I. Sh. f.	5 3
	III. E. c.	*12 8.7		II. Sh. c.	22 34		II. Tr. f.	4 11		I. Tr. f.	5 15
	III. E. f.	*13 53.9		II. Tr. c.	23 43		I. Em.	6 19		II. E. c.	22 10.5
	III. Im.	*15 21				19	I. Sh. c.	0 59			
	III. Em.	*16 25	11	II. Sh. f.	0 54		I. Tr. c.	1 22			
	II. Sh. c.	20 1		I. E. c.	1 53.8		I. Sh. f.	3 9	27	I. E. c.	0 9.0
	II. Tr. c.	21 27		II. Tr. f.	1 56		I. Tr. f.	3 30		II. Em.	0 52
	II. Sh. f.	22 21		I. Em.	4 35		II. E. c.	19 34.0		I. Em.	2 29
	II. Tr. f.	23 39		I. Sh. c.	23 5		I. E. c.	22 15.5		I. Sh. c.	21 21
4	I. E. c.	0 0.4		I. Tr. c.	23 38		II. Em.	22 36		I. Tr. c.	21 32
	I. Em.	2 50	12	I. Sh. f.	1 15	20	I. Em.	0 45		I. Sh. f.	23 31
	I. Sh. c.	21 11		I. Tr. f.	1 46		I. Sh. c.	19 27		I. Tr. f.	23 41
	I. Tr. c.	21 53		II. E. c.	16 57.7		I. Tr. c.	19 48			
	I. Sh. f.	23 21		II. Em.	20 19		I. Sh. f.	21 37			
5	I. Tr. f.	0 0		I. E. c.	20 22.1		I. Tr. f.	21 57			
	II. E. c.	*14 21.6		I. Em.	23 1	21	III. Sh. c.	*9 57	28	III. Sh. c.	*13 55
	II. Em.	18 1					III. Tr. c.	*11 36		III. Tr. c.	*14 52
	I. E. c.	18 28.8	13	I. Sh. c.	17 33		III. Sh. f.	*11 42		III. Sh. f.	*15 39
	I. Em.	21 17		I. Tr. c.	18 4		III. Tr. f.	*12 39		III. Tr. f.	*15 58
				I. Sh. f.	19 43		II. Sh. c.	*14 24		II. Sh. c.	16 58
6	I. Sh. c.	*15 39		I. Tr. f.	20 12		II. Tr. c.	*15 5		II. Tr. c.	17 19
	I. Tr. c.	*16 19	14	III. Sh. c.	6 0		II. Tr. f.	*15 43.9		I. E. c.	18 37.4
	I. Sh. f.	17 49		III. Sh. f.	7 44		I. E. c.	16 44		II. Sh. f.	19 17
	I. Tr. f.	18 27		III. Tr. c.	8 18		II. Sh. f.	16 44		II. Tr. f.	19 32
7	III. Sh. c.	2 2		III. Tr. f.	9 20		II. Tr. f.	17 18		I. Em.	20 55
	III. Sh. f.	3 46		II. Sh. c.	*11 51	22	I. Em.	19 10			
	III. Tr. c.	4 57		II. Tr. c.	*12 51						
	III. Tr. f.	5 59		II. Sh. f.	*14 11		I. Sh. c.	*13 56			
	II. Sh. c.	9 17		I. E. c.	*14 50.5		I. Tr. c.	*14 14	29	I. Sh. c.	*15 50
	II. Tr. c.	*10 35		II. Tr. f.	*15 3		I. Sh. f.	*16 6		I. Tr. c.	*15 58
	II. Sh. f.	*11 37		I. Em.	17 27		I. Tr. f.	*16 23		I. Sh. f.	18 0
	II. Tr. f.	*12 47				23	II. E. c.	8 52.7		I. Tr. f.	18 7
	I. E. c.	*12 57.1	15	I. Sh. c.	*12 2		I. E. c.	*11 12.3			
	I. Em.	*15 43		I. Tr. c.	*12 30		II. Em.	*11 45			
				I. Sh. f.	*14 12		I. Em.	*13 37			
				I. Tr. f.	*14 38						
8	I. Sh. c.	*10 8	16	II. E. c.	6 16.3	24	I. Sh. c.	8 24	30	II. E. c.	*11 29.3
	I. Tr. c.	*10 45		I. E. c.	9 18.8		I. Tr. c.	8 40		I. E. c.	*13 5.9
	I. Sh. f.	*12 18		II. Em.	9 28		I. Sh. f.	*10 34		II. Em.	*14 1
	I. Tr. f.	*12 53		I. Em.	*11 53		I. Tr. f.	*10 49		I. Em.	*15 21

Eclipse commences - - - E. c.
 „ finishes - - - E. f.

Occultation, immersion - - Im.
 „ emersion - - Em.

Transit commences - - - Tr. c.
 „ finishes - - - Tr. f.

Shadow commences - - - Sh. c.
 „ finishes - - - Sh. f.

526 SATELLITES OF JUPITER, 1923.

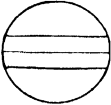
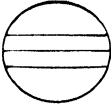
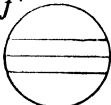
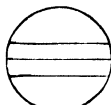
APRIL.

MEAN TIME.

Configurations at 13^h 15^m for an inverting Telescope.

Day.	West.	East.
1	4 3 2 1 ○	
2	4 3	○ 1 2
3	● 3	○ 2 1
4		○ 4 1 3
5		○ 1 2 4 3
6		○ 1 3 2 4
7	● 1	○ 3 2 4
8	3 2 1 ○	4
9	3	○ 1 2 4
10		○ 1 3 2 4
11		○ 1 3 4
12		○ 1 2 4 3
13		○ 1 2 3
14	4	○ 1 3 2 4
15	4 3 2	○ 1 3
16	4	○ 1 2 3
17	4	○ 1 2 3
18	4	○ 1 2 3
19		○ 1 2 3
20		○ 1 2 3
21		○ 1 2 3
22	3 2 1	○ 2 4
23	3	○ 2 4 ● 1
24		○ 2 4
25		○ 1 3 4
26		○ 1 3 4
27		○ 1 2 3 4
28		○ 1 2 3 4
29	3 2 4	○ 1
30	● 1 3 4	○ ● 2

Phases of the Eclipses of the Satellites for an inverting Telescope.

I.	c* 	II.	*c 
III.	c* f* 	IV.	No Eclipse  of this Satellite.

SATELLITES OF JUPITER, 1923. 527

MAY.

MEAN TIME.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
1	I. Sh. c.	*10 18	9	II. Sh. c.	*8 48	17	I. Tr. c.	*8 19	25	I. Im.	7 17
	I. Tr. c.	*10 24		I. Im.	*9 23		I. Sh. c.	*8 36		II. Im.	7 42
	I. Sh. f.	*12 28		III. E. f.	*9 43.3		I. Tr. f.	*10 28		I. E. f.	*9 53.6
	I. Tr. f.	*12 33		II. Tr. f.	*10 53		I. Sh. f.	*10 46		II. E. f.	*10 59.2
				II. Sh. f.	*11 8						
2	III. E. c.	4 0.1		I. E. f.	*11 37.3	18	II. Im.	5 25	26	I. Tr. c.	4 30
	III. E. f.	5 45.2					I. Im.	5 32		I. Sh. c.	4 59
	II. Sh. c.	6 14	10	I. Tr. c.	6 34		I. E. f.	*7 59.6		I. Tr. f.	6 30
	II. Tr. c.	6 25		I. Sh. c.	6 41		II. E. f.	*8 22.2		I. Sh. f.	7 9
	I. E. c.	7 34.3		I. Tr. f.	*8 43	19	I. Tr. c.	2 45	27	I. Im.	1 43
	II. Sh. f.	*8 34		I. Sh. f.	*8 51		I. Sh. c.	3 5		II. Tr. c.	2 14
	II. Tr. f.	*8 39					I. Tr. f.	4 54		II. Sh. c.	3 13
	I. Em.	*9 47					I. Sh. f.	5 15		III. Tr. c.	3 56
3	I. Sh. c.	4 47	11	II. Im.	3 9		I. Im.	23 58		I. E. f.	4 22.1
	I. Tr. c.	4 50		I. Im.	3 48		II. Tr. c.	23 59		II. Tr. f.	4 30
	I. Sh. f.	6 57		II. E. f.	5 45.1					III. Tr. f.	5 19
	I. Tr. f.	6 59		I. E. f.	6 5.7					II. Sh. f.	5 32
4	II. E. c.	0 47.3	12	I. Tr. c.	1 1	20	III. Tr. c.	0 38		III. Sh. c.	5 50
	I. E. c.	2 2.7		I. Sh. c.	1 10		II. Sh. c.	0 39		III. Sh. f.	7 34
	II. Em.	3 9		I. Tr. f.	3 9		III. Sh. c.	1 51		I. Tr. c.	22 56
	I. Em.	4 13		I. Sh. f.	3 20		II. Tr. f.	2 14		I. Sh. c.	23 28
	I. Sh. c.	23 16		III. Tr. c.	21 22		I. E. f.	2 28.1	28	I. Tr. f.	1 5
	I. Tr. c.	23 16		II. Tr. c.	21 45		II. Sh. f.	2 58		I. Sh. f.	1 38
				III. Sh. c.	21 52		III. Sh. f.	3 35		I. Im.	20 9
				II. Sh. c.	22 5		I. Tr. c.	21 11		II. Im.	20 51
5	I. Tr. f.	1 25		I. Im.	22 14		I. Sh. c.	21 33		I. E. f.	22 50.7
	I. Sh. f.	1 26		III. Tr. f.	22 35		I. Tr. f.	23 20	29	II. E. f.	0 18.2
	III. Sh. c.	17 53		III. Sh. f.	23 36		I. Sh. f.	23 43		I. Tr. c.	17 23
	III. Tr. c.	18 7	13	II. Tr. f.	0 0					I. Sh. c.	17 57
	III. Tr. f.	19 16		II. Sh. f.	0 25		I. Im.	18 24		I. Tr. f.	19 32
	II. Sh. c.	19 31		I. E. f.	0 34.2	21	II. Im.	18 34		I. Sh. f.	20 6
	II. Tr. c.	19 32		I. Tr. c.	19 27		I. E. f.	20 56.6	29		
	III. Sh. f.	19 38		I. Sh. c.	19 39		II. E. f.	21 41.2			
	I. Im.	20 31		I. Tr. f.	21 35						
	II. Tr. f.	21 46		I. Sh. f.	21 49	22	I. Tr. c.	15 37			
	II. Sh. f.	21 51					I. Sh. c.	16 2			
	I. E. f.	22 40.4					I. Tr. f.	17 46			
							I. Sh. f.	18 12			
6	I. Tr. c.	17 42	14	II. Im.	16 17				30	I. Im.	14 35
	I. Sh. c.	17 44		I. Im.	16 40					II. Tr. c.	15 22
	I. Tr. f.	19 51		I. E. f.	19 2.7					II. Sh. c.	16 30
	I. Sh. f.	19 54		II. E. f.	19 4.3					I. E. f.	17 19.2
7	II. Im.	*14 2	15	I. Tr. c.	*13 53	23	I. Im.	*12 50		II. Tr. f.	17 38
	I. Im.	*14 57		I. Sh. c.	*14 7		II. Sh. c.	*13 56		III. Im.	17 38
	II. E. f.	16 27.4		I. Tr. f.	16 1		III. Tr. f.	*14 20		II. Sh. f.	18 49
	I. E. f.	17 8.8		I. Sh. f.	16 17		II. Tr. f.	15 22		III. Em.	19 4
							I. E. f.	15 25.1		III. E. c.	19 52.3
8	I. Tr. c.	*12 8	16	II. Tr. c.	*10 52		III. Em.	15 42		III. E. f.	21 37.7
	I. Sh. c.	*12 13		III. Im.	*11 4		III. E. c.	15 54.2			
	I. Tr. f.	*14 17		I. Im.	*11 6		II. Sh. f.	16 15			
	I. Sh. f.	*14 23		II. Sh. c.	*11 22		III. E. f.	17 39.6			
				II. Tr. f.	*13 7	24	I. Tr. c.	*10 4	31	I. Tr. c.	*11 49
				I. E. f.	*13 31.1		I. Sh. c.	*10 31		I. Sh. c.	*12 25
9	III. Im.	*7 50		II. Sh. f.	*13 41		I. Tr. f.	*12 12		I. Tr. f.	*13 58
	II. Tr. c.	*8 38		III. E. f.	*13 41.5		I. Sh. f.	*12 40		I. Sh. f.	14 35

Eclipse commences - - - E. c.
 „ finishes - - - E. f.

Transit commences - - - Tr. c.
 „ finishes - - - Tr. f.

Occultation, immersion - - Im.
 „ emersion - - Em.

Shadow commences - - Sh. c.
 „ finishes - - - Sh. f.

528 SATELLITES OF JUPITER, 1923.

MAY.

MEAN TIME.

Configurations at 11^h 45^m for an inverting Telescope.

Day.	West.			East.		
1	1 [•] ○	4 [•]	3	○	2 [•]	
2		4 [•]		2 [•] ○	1 [•] 3	
3		4 [•]	2 1 [•]	○		3
4		4 [•]		○	2 [•] 3 [•]	
5		4 [•]	1 [•]	○	3 [•] 2 [•]	
6			4 [•] 2 [•] 3 [•]	○	1 [•]	
7		3 [•]		1 [•] 4 [•] 2 [•]		
8			3	1 [•] ○	4 [•] 2 [•]	
9				2 [•] 1 [•] 3 [•]		4 [•]
10			2 1 [•]	○	3 [•]	4 [•]
11				○	2 [•] 3 [•]	4 [•]
12			1 [•]	○	2 [•] 3 [•]	4 [•]
13			2 [•] 3 [•]	○	1 [•]	4 [•]
14		3 [•]	2 [•] 1 [•]	○		4 [•]
15			3	1 [•] 4 [•] ○	2 [•]	
16	• • 1		4 [•]	○		• • 3 2 ○
17		4 [•]	2 1 [•]	○	3 [•]	
18		4 [•]		○	2 [•] 3 [•]	
19		4 [•]	1 [•]	○	2 [•] 3 [•]	
20		4 [•]	2 [•] 3 [•]	○	1 [•]	
21		4 [•] 3 [•]	2 [•] 1 [•]	○		
22		4 [•] 3 [•]		○	1 [•] 2 [•]	
23			4 [•]	1 [•] 2 [•] 3 [•] ○		
24	1 [•] ○		2	○	4 [•] 3 [•]	
25				○	2 [•] 3 [•] 4 [•]	
26			1 [•]	○	2 [•] 3 [•]	4 [•]
27			2 [•] 1 [•]	○	1 [•]	4 [•]
28		3 [•]	2 [•] 1 [•]	○		4 [•]
29		3 [•]		○	1 [•] 2 [•]	4 [•]
30				3 [•] 1 [•] ○	2 [•]	4 [•]
31			2 [•]	1 [•] ○	3 [•] 4 [•]	

Phases of the Eclipses of the Satellites for an inverting Telescope.

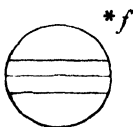
I.



II.



III.



IV.

No Eclipse



of this Satellite.

SATELLITES OF JUPITER, 1923. 529

JUNE.

MEAN TIME.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
1	I. Im.	* 9 2	8	I. E. f.	13 42.0	16	I. Tr. o.	* 9 50	23	I. Tr. f.	13 48
	II. Im.	*10 0		II. E. f.	16 13.5		I. Sh. c.	*10 44		I. Sh. f.	14 48
	I. E. f.	*11 47.7					I. Tr. f.	*11 59			
	II. E. f.	*13 36.4					I. Sh. f.	*12 53			
2	I. Tr. c.	6 16	9	I. Tr. c.	8 3	17	I. Im.	7 1	24	I. Im.	* 8 49
	I. Sh. c.	6 54		I. Sh. c.	* 8 49		II. Tr. o.	* 9 8		II. Tr. o.	*11 30
	I. Tr. f.	* 8 25		I. Tr. f.	*10 11		I. E. f.	*10 4.9		I. E. f.	*11 59.4
	I. Sh. f.	* 9 4		I. Sh. f.	*10 59		II. Sh. c.	*10 56		II. Sh. c.	13 31
3	I. Im.	3 28	10	I. Im.	5 14		II. Tr. f.	*11 26		II. Tr. f.	13 49
	II. Tr. c.	4 30		II. Tr. c.	6 48		II. Sh. f.	13 14		II. Sh. f.	15 49
	II. Sh. c.	5 47		I. E. f.	* 8 10.6		III. Tr. o.	14 7		III. Tr. c.	17 38
	I. E. f.	6 16.3		II. Sh. c.	* 8 21		III. Tr. f.	15 43		III. Tr. f.	19 19
	II. Tr. f.	6 47		II. Tr. f.	* 9 6		III. Sh. c.	17 46		III. Sh. c.	21 45
	III. Tr. c.	7 16		III. Tr. c.	*10 40		III. Sh. f.	19 30		III. Sh. f.	23 29
	II. Sh. f.	* 8 6		III. Sh. c.	*10 40						
	III. Tr. f.	* 8 43		III. Tr. f.	*12 12	18	I. Tr. o.	4 17	25	I. Tr. o.	6 6
	III. Sh. c.	* 9 49		III. Sh. c.	13 47		I. Sh. c.	5 13		I. Sh. c.	7 8
	III. Sh. f.	*11 33		III. Sh. f.	15 32		I. Tr. f.	6 26		I. Tr. f.	* 8 15
							I. Sh. f.	7 22		I. Sh. f.	* 9 17
4	I. Tr. c.	0 42	11	I. Tr. c.	2 29	19	I. Im.	1 28	26	I. Im.	3 17
	I. Sh. c.	1 23		I. Sh. c.	3 18		II. Im.	3 53		II. Im.	6 18
	I. Tr. f.	2 51		I. Tr. f.	4 38		I. E. f.	4 33.6		I. E. f.	6 28.1
	I. Sh. f.	3 32		I. Sh. f.	5 27		II. E. f.	8 9.8		II. E. f.	*10 47.0
	I. Im.	21 54		I. Im.	23 41		I. Tr. o.	22 44	27	I. Tr. o.	0 34
	II. Im.	23 10					I. Sh. c.	23 41		I. Sh. c.	1 37
5	I. E. f.	0 44.8	12	II. Im.	1 31	20	I. Tr. f.	0 53		I. Tr. f.	2 43
	II. E. f.	2 55.4		I. E. f.	2 39.1		I. Sh. f.	1 51		I. Sh. f.	3 46
	I. Tr. c.	19 9		II. E. f.	5 32.6		I. Im.	19 55		I. Im.	21 44
	I. Sh. c.	19 52		I. Tr. c.	20 56		II. Tr. o.	22 19	28	II. Tr. o.	0 42
	I. Tr. f.	21 18		I. Sh. c.	21 46		I. E. f.	23 2.2		I. E. f.	0 56.7
	I. Sh. f.	22 1		I. Tr. f.	23 5					II. Sh. c.	2 48
				I. Sh. f.	23 56					II. Tr. f.	3 1
6	I. Im.	16 21	13	I. Im.	18 8	21	II. Sh. c.	0 13		II. Sh. f.	5 6
	II. Tr. c.	17 39		II. Tr. c.	19 58		II. Tr. f.	0 37		III. Im.	7 28
	II. Sh. c.	19 4		I. E. f.	21 7.7		II. Sh. f.	2 32		III. Em.	* 9 12
	I. E. f.	19 13.4		II. Sh. c.	21 39		III. Im.	3 54		III. E. c.	*11 47.6
	II. Tr. f.	19 56		II. Tr. f.	22 16		III. Em.	5 34		III. E. f.	13 33.9
	III. Im.	21 0		II. Sh. f.	23 57		III. E. c.	7 48.8		I. Tr. c.	19 1
	II. Sh. f.	21 23					III. E. f.	* 9 34.8		I. Sh. c.	20 5
	III. Em.	22 31	14	III. Im.	0 25		I. Tr. o.	17 12		I. Tr. f.	21 10
	III. E. c.	23 51.0		III. Em.	2 0		I. Sh. c.	18 10		I. Sh. f.	22 14
				III. E. c.	3 49.6		I. Tr. f.	19 21	29	I. Im.	16 11
				III. E. f.	5 35.3		I. Sh. f.	20 19		I. E. f.	19 25.3
7	III. E. f.	1 36.5		I. Tr. c.	15 23	22	I. Im.	14 22		II. Im.	19 31
	I. Tr. c.	13 36		I. Sh. c.	16 15		II. Im.	17 5			
	I. Sh. c.	14 20		I. Tr. f.	17 32		I. E. f.	17 30.8	30	II. E. f.	0 5.2
	I. Tr. f.	15 45		I. Sh. f.	18 25		II. E. f.	21 28.0		I. Tr. c.	13 29
	I. Sh. f.	16 30								I. Sh. c.	14 34
8	I. Im.	*10 48	15	I. Im.	*12 34	23	I. Tr. c.	*11 39		I. Tr. f.	15 38
	II. Im.	*12 19		II. Im.	14 41		I. Sh. c.	12 39		I. Sh. f.	16 43
				I. E. f.	15 36.3						
				II. E. f.	18 50.7						

Eclipse commences - - - E. c.
 „ finishes - - - E. f.

Transit commences - - - Tr. c.
 „ finishes - - - Tr. f.

Occultation, immersion - - Im.
 „ emersion - - Em.

Shadow commences - - - Sh. c.
 „ finishes - - - Sh. f.

530 SATELLITES OF JUPITER, 1923.

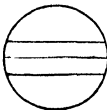
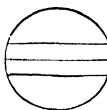
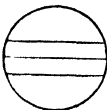
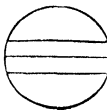
JUNE.

MEAN TIME.

Configurations at 10^h 30^m for an inverting Telescope.

Day.	West.	East.
1	• 2	4 ○ • 3 • 1
2		4 • 1 ○ • 2 3
3	4 •	2 3 ○ • 1
4	4 • 3 •	2 1 ○
5	4 • 3	○ 1 • 2
6	4 •	3 1 ○ 2 •
7	4 • 2 •	○ 1 • 3
8	4 •	○ 2 1 • 3
9		4 1 ○ • 2 3 •
10		2 3 ○ • 1 4
11	3 • 2 1 •	○ • 4
12	3 •	○ • 2 1 4
13	3 • 1	○ 2 • 4
14	2 •	○ 1 • 3 4 •
15	•	2 1 ○ • 3 4 •
16		○ • 2 3 4 • 1 ○ •
17	2 • ○	○ • 1 3 4 •
18		3 • 2 1 4 • ○
19	3 4 •	○ • 2 1 •
20	4 • 3 • 1	○ 2 •
21	4 • 2 •	○ • 3 1 •
22	4 •	2 1 ○ • 3
23	4 •	1 ○ • 2 3 •
24	4 •	2 ○ 3 • • 1
25		4 2 1 ○
26	3 •	○ 4 • 1 • 2
27	3 1 •	○ 2 • 4
28	2 •	○ 3 1 • 4
29	2 1 •	○ • 3 4
30		○ 1 • 2 3 • 4

Phases of the Eclipses of the Satellites for an inverting Telescope.

I.  *f	II.  *f
III.  c* f*	IV. No Eclipse  of this Satellite.

JULY.

MEAN TIME.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
1	I. Im.	*10 39	9	III. Tr. c.	0 56	16	I. Sh. c.	12 53	24	II. Im.	16 19
	I. E. f.	13 54 ⁰		III. Tr. f.	2 44		I. Tr. f.	13 49		II. Em.	18 43
	II. Tr. c.	13 54		III. Sh. c.	5 43		I. Sh. f.	15 2		II. E. c.	18 55 ⁴
	II. Sh. c.	16 5		III. Sh. f.	7 29					II. E. f.	21 15 ⁴
	II. Tr. f.	16 14		I. Tr. c.	* 9 47	17	I. Im.	* 8 49			
	II. Sh. f.	18 23		I. Sh. c.	*10 58		I. E. f.	12 12 ¹	25	I. Tr. c.	* 8 2
	III. Tr. c.	21 15		I. Tr. f.	11 57		II. Im.	13 45		I. Sh. c.	* 9 17
	III. Tr. f.	23 0		I. Sh. f.	13 7		II. Em.	16 9		I. Tr. f.	*10 11
							II. E. c.	16 18 ³		I. Sh. f.	11 26
							II. E. f.	18 38 ⁴			
2	III. Sh. c.	1 44	10	I. Im.	6 57	18	I. Tr. c.	6 8	26	I. Im.	5 10
	III. Sh. f.	3 29		I. E. f.	*10 17 ³		I. Sh. c.	7 22		I. E. f.	* 8 35 ⁵
	I. Tr. c.	7 56		II. Im.	*11 14		I. Tr. f.	* 8 17		II. Tr. c.	10 36
	I. Sh. c.	* 9 3		II. Em.	13 37		I. Sh. f.	* 9 31		II. Tr. f.	12 58
	I. Tr. f.	*10 5		II. E. c.	13 41 ¹					II. Sh. c.	13 8
	I. Sh. f.	*11 12		II. E. f.	16 1 ⁴					II. Sh. f.	15 26
										III. Im.	22 28
3	I. Im.	5 6	11	I. Tr. c.	4 15	19	I. Im.	3 17			
	I. E. f.	* 8 22 ⁶		I. Sh. c.	5 27		I. E. f.	6 40 ⁷			
	II. Im.	* 8 45		I. Tr. f.	6 25		II. Tr. c.	* 8 4	27	III. Em.	0 25
	II. E. f.	13 24 ²		I. Sh. f.	7 36		II. Tr. f.	*10 25		I. Tr. c.	2 30
							II. Sh. c.	*10 33		III. E. c.	3 42 ⁸
4	I. Tr. c.	2 24	12	I. Im.	1 25		II. Sh. f.	12 51		I. Sh. c.	3 46
	I. Sh. c.	3 32		I. E. f.	4 46 ⁰		III. Im.	18 36		I. Tr. f.	4 39
	I. Tr. f.	4 33		II. Tr. c.	5 34		III. Em.	20 30		III. E. f.	5 30 ³
	I. Sh. f.	5 41		II. Tr. f.	7 55		III. E. c.	23 43 ⁶		I. Sh. f.	5 55
	I. Im.	23 34		II. Sh. c.	7 58	20	I. Tr. c.	0 36		I. Im.	23 38
				II. Sh. f.	*10 16		III. E. f.	1 30 ⁸			
5	I. E. f.	2 51 ³		III. Im.	14 49		I. Sh. c.	1 51	28	I. E. f.	3 4 ³
	II. Tr. c.	3 7		III. Em.	16 40		I. Tr. f.	2 46		II. Im.	5 36
	II. Sh. c.	5 23		III. E. c.	19 45 ⁰		I. Sh. f.	4 0		II. Em.	* 8 0
	II. Tr. f.	5 27		III. E. f.	21 31 ⁸		I. Im.	21 45		II. E. c.	* 8 13 ⁶
	II. Sh. f.	7 41		I. Tr. c.	22 43					II. E. f.	10 33 ⁶
	III. Im.	*11 6		I. Sh. c.	23 56	21	I. E. f.	1 9 ⁵		I. Tr. c.	20 59
	III. Em.	12 54					II. Im.	3 2		I. Sh. c.	22 15
	III. E. c.	15 46 ⁴	13	I. Tr. f.	0 53		II. Em.	5 25		I. Tr. f.	23 8
	III. E. f.	17 33 ⁰		I. Sh. f.	2 4		II. E. c.	5 36 ⁵			
	I. Tr. c.	20 52		I. Im.	19 53		II. E. f.	7 56 ⁶	29	I. Sh. f.	0 24
	I. Sh. c.	22 0		I. E. f.	23 14 ⁷		I. Tr. c.	19 5		I. Im.	18 7
	I. Tr. f.	23 1					I. Sh. c.	20 20		I. E. f.	21 33 ⁰
			14	II. Im.	0 29		I. Tr. f.	21 14		II. Tr. c.	23 53
6	I. Sh. f.	0 9		II. Em.	2 52		I. Sh. f.	22 28			
	I. Im.	18 1		II. E. c.	2 59 ⁴	22	I. Im.	16 13	30	II. Tr. f.	2 15
	I. E. f.	21 20 ⁰		II. E. f.	5 19 ⁶		I. E. f.	19 38 ¹		II. Sh. c.	2 26
	II. Im.	21 59		I. Tr. c.	17 12		II. Tr. c.	21 20		II. Sh. f.	4 44
				I. Sh. c.	18 24		II. Tr. f.	23 41		III. Tr. c.	12 27
7	II. Em.	0 21		I. Tr. f.	19 21		II. Sh. c.	23 51		III. Tr. f.	14 23
	II. E. c.	0 22 ¹		I. Sh. f.	20 33					I. Tr. c.	15 27
	II. E. f.	2 42 ⁴	15	I. Im.	14 21	23	II. Sh. f.	2 8		I. Sh. c.	16 44
	I. Tr. c.	15 20		I. E. f.	17 43 ⁴		III. Tr. c.	* 8 33		I. Tr. f.	17 37
	I. Sh. c.	16 29		II. Tr. c.	18 49		III. Tr. f.	*10 26		III. Sh. c.	17 41
	I. Tr. f.	17 29		II. Tr. f.	21 10		I. Tr. c.	13 33		I. Sh. f.	18 52
	I. Sh. f.	18 38		II. Sh. c.	21 15		III. Sh. c.	13 42		III. Sh. f.	19 27
				II. Sh. f.	23 33		I. Sh. c.	14 48	31	I. Im.	12 35
8	I. Im.	12 29	16	III. Tr. c.	4 43		III. Sh. f.	15 28		I. E. f.	16 1 ⁷
	I. E. f.	15 48 ⁶		III. Tr. f.	6 34		I. Tr. f.	15 42		II. Im.	18 55
	II. Tr. c.	16 20		III. Sh. c.	* 9 43		I. Sh. f.	16 57		II. Em.	21 19
	II. Sh. c.	18 40		III. Sh. f.	11 28					II. E. c.	21 32 ³
	II. Tr. f.	18 41		I. Tr. c.	11 40	24	I. Im.	10 42		II. E. f.	23 52 ³
	II. Sh. f.	20 58					I. E. f.	14 6 ⁸			

Eclipse commences - - - E. c.
 „ finishes - - - E. f.

Transit commences - - - Tr. c.
 „ finishes - - - Tr. f.

Occlusion, immersion - - Im.
 „ emersion - - Em.

Shadow commences - - - Sh. c.
 „ finishes - - - Sh. f.

532 SATELLITES OF JUPITER, 1923.

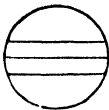
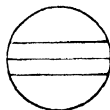
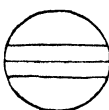
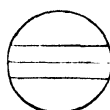
JULY.

MEAN TIME.

Configurations at 9^h 30^m for an inverting Telescope.

Day.	West.			East.		
1				1 2 3		4
2	1 • ○		2 3	○		4
3	• • 2		3	○	1	4
4			3 1	○	4 2	
5			4 2	○ ³	1	
6			4 2 1	○		3
7		4		○	1 2	3
8		4		1 ○	2 3	
9		4		2 3 1 ○		
10		4 3		1 ○ ²		• • 1
11		4 3		1 ○		2
12			4 3 2	○	1	
13			2 1	○	4 3	
14				○	2 1 4 3	
15				1 ○	2 3	4
16			2 3	1 ○		4
17	• • 1		3	2 ○		4
18			3	1 ○	2	4
19	2 • ○		3	○	1	4
20			2 1	○	3 4	
21				4 ○	2 1 3	
22			4 1	○	2 3	
23	3 • ○		4 2	○	1	
24		4	3 2	1 ○		
25	1 • ○	4	3	○	2	
26		4	3 2	○	1	
27		4	2 1	○	3	
28		4		○	1 3	• • 2
29			1 4	○	2 3	
30			2 3	1 4 ○		
31			3 2 1	○		4

Phases of the Eclipses of the Satellites for an inverting Telescope.

I.		f^*	II.		f^*
III.		$c^* f^*$	IV.	No Eclipse	 of this Satellite.

SATELLITES OF JUPITER, 1923. 533

AUGUST.

MEAN TIME.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
1	I. Tr. c.	9 56	9	I. Im.	* 8 59	16	II. Sh. c.	20 55	24	I. Tr. f.	12 24
	I. Sh. c.	11 12		I. E. f.	12 25.3		II. Sh. f.	23 13		I. Sh. f.	13 35
	I. Tr. f.	12 5		II. Tr. c.	15 46					III. Im.	14 38
	I. Sh. f.	13 21		II. Tr. f.	18 8	17	I. Tr. c.	* 8 17		III. Em.	16 42
2	I. Im.	7 4		II. Sh. c.	18 19		I. Sh. c.	9 31		III. E. c.	19 39.3
	I. E. f.	10 30.4		II. Sh. f.	20 37		I. Tr. f.	10 27		III. E. f.	21 28.7
	II. Tr. c.	13 10	10	I. Tr. c.	6 21		III. Im.	10 30	25	I. Im.	* 7 22
	II. Tr. f.	15 32		III. Im.	6 26		I. Sh. f.	11 40		I. E. f.	10 43.9
	II. Sh. c.	15 44		I. Sh. c.	* 7 36		III. Em.	12 33		II. Im.	16 12
	II. Sh. f.	18 1		III. Em.	* 8 27		III. E. c.	15 40.4		II. Em.	18 37
3	III. Im.	2 25		I. Tr. f.	* 8 30		III. E. f.	17 29.3		II. E. c.	18 40.3
	III. Em.	4 24		I. Sh. f.	9 45	18	I. Im.	5 24		II. E. f.	20 59.9
	I. Tr. c.	4 25		III. E. c.	11 41.4		I. E. f.	* 8 49.0	26	I. Tr. c.	4 44
	I. Sh. c.	5 41		III. E. f.	13 29.7		II. Im.	13 31		I. Sh. c.	5 55
	I. Tr. f.	6 34					II. Em.	15 56		I. Tr. f.	6 53
	III. E. c.	* 7 41.8	11	I. Im.	3 28		II. E. c.	16 3.9		I. Sh. f.	* 8 4
	I. Sh. f.	* 7 50		I. E. f.	6 54.0		II. E. f.	18 23.6	27	I. Im.	1 51
	III. E. f.	* 9 29.7		II. Im.	10 51	19	I. Tr. c.	2 40		I. E. f.	5 12.6
4	I. Im.	1 33		II. Em.	13 16		I. Sh. c.	4 0		II. Tr. c.	10 24
	I. E. f.	4 59.1		II. E. c.	13 27.3		I. Tr. f.	4 56		II. Tr. f.	12 47
	II. Im.	* 8 13	12	II. E. f.	15 47.0		I. Sh. f.	6 9		II. Sh. c.	12 49
	II. Em.	10 37		I. Tr. c.	0 50		I. Im.	23 54		II. Sh. f.	15 7
	II. E. c.	10 50.5		I. Sh. c.	2 5	20	I. E. f.	3 17.7	28	I. Tr. c.	23 13
	II. E. f.	13 10.4		I. Tr. f.	2 59		II. Tr. c.	* 7 44		I. Sh. c.	0 24
	I. Tr. c.	22 54		I. Sh. f.	4 14		II. Tr. f.	10 7		I. Tr. f.	1 23
5	I. Sh. c.	0 10		I. Im.	21 57		II. Sh. c.	10 13		I. Sh. f.	2 33
	I. Tr. f.	1 3	13	I. E. f.	1 22.7		II. Sh. f.	12 31		III. Tr. c.	4 43
	I. Sh. f.	2 19		II. Tr. c.	5 5		I. Tr. c.	21 15		III. Tr. f.	6 46
	I. Im.	20 2		II. Tr. f.	* 7 27		I. Sh. c.	22 29		III. Sh. c.	9 37
	I. E. f.	23 27.8		II. Sh. c.	* 7 37		I. Tr. f.	23 25		III. Sh. f.	11 25
6	II. Tr. c.	2 28		II. Sh. f.	9 55	21	III. Tr. c.	0 33		I. Im.	20 20
	II. Tr. f.	4 50		I. Tr. c.	19 19		I. Sh. f.	0 38		I. E. f.	23 41.4
	II. Sh. c.	5 1		III. Tr. c.	20 27		III. Tr. f.	2 35	29	II. Im.	5 34
	II. Sh. f.	7 19		I. Sh. c.	20 34		III. Sh. c.	5 38		II. Em.	* 7 58
	III. Tr. c.	16 25		I. Tr. f.	21 28		III. Sh. f.	* 7 25		II. E. c.	* 7 58.6
	I. Tr. c.	17 22		III. Tr. f.	22 27		I. Im.	18 23		II. E. f.	10 18.2
	III. Tr. f.	18 23		I. Sh. f.	22 42		I. E. f.	21 46.5		I. Tr. c.	17 43
	I. Sh. c.	18 39	14	III. Sh. c.	1 38		II. Im.	2 52		I. Sh. c.	18 53
	I. Tr. f.	19 32		III. Sh. f.	3 25		II. Em.	5 16		I. Tr. f.	19 52
	I. Sh. f.	20 47		I. Im.	16 26		II. E. c.	5 22.3		I. Sh. f.	21 1
	III. Sh. c.	21 39		I. E. f.	19 51.5	22	II. E. f.	* 7 41.9		I. Im.	14 50
	III. Sh. f.	23 26		II. Im.	0 11		I. Tr. c.	15 45	30	I. E. f.	18 10.1
7	I. Im.	14 30		II. Em.	2 36		I. Sh. c.	16 58		II. Tr. c.	23 45
	I. E. f.	17 56.6		II. E. c.	2 45.8		I. Tr. f.	17 55	31	II. Sh. c.	2 7
	II. Im.	21 32		II. E. f.	5 5.5		I. Sh. f.	19 6		II. Tr. f.	2 8
	II. Em.	23 56		I. Tr. c.	13 48	23	I. Im.	12 52		II. Sh. f.	4 25
8	II. E. c.	0 9.2		I. Sh. c.	15 3		I. E. f.	16 15.1		I. Tr. c.	12 12
	II. E. f.	2 29.0		I. Tr. f.	15 57		II. Tr. c.	21 4		I. Sh. c.	13 21
	I. Tr. c.	11 51		I. Sh. f.	17 11		II. Tr. f.	23 27		I. Tr. f.	14 22
	I. Sh. c.	13 8	16	I. Im.	10 55		II. Sh. c.	23 31		I. Sh. f.	15 30
	I. Tr. f.	14 1		I. E. f.	14 20.2	24	II. Sh. f.	1 49		III. Im.	18 49
	I. Sh. f.	15 16		II. Tr. c.	18 24		I. Tr. c.	10 14		III. Em.	20 54
				II. Tr. f.	20 47		I. Sh. c.	11 26		III. E. c.	23 38.0

Eclipse commences - - - E. c.
 „ finishes - - - E. f.

Transit commences - - - Tr. c.
 „ finishes - - - Tr. f.

Occultation, immersion - - Im.
 emersion - - - Em.

Shadow commences - - - Sh. c.
 „ finishes - - - Sh. f.

534 SATELLITES OF JUPITER, 1923.

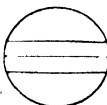
AUGUST.

MEAN TIME.

Configurations at 8^h 15^m for an inverting Telescope.

Day.	West.			East.		
1		3.	1 ○	2	4	
2		3	○	2.	4	● . 1
3		2.	1. ○		4.	● . 3
4	● . 2		○	1	3	4.
5		1.	○	2.	3.	4.
6		2.	○	3. 1.	4.	
7		3. 2	1. ○			
8		3.	4.	○	1.	2.
9		4.	3	○	1	2.
10	1. ○	4.	2.	○		● . 3
11		4.		○	2 . 1	3
12		4	1.	○	2	3.
13		4		2. ○	3.	1
14		4	2. 3. 1	○		
15		3.	4	○	1. 2	
16		3	1. ○		2. 4	
17		2.	1. ○	3	4	
18			2. ○	3	4	● . 1
19			1. ○	2	3.	4
20			○	1	3.	4.
21			2 1. 3.	○		4.
22		3.	○	2 1.	4.	
23		3	1. ○		4. 2	
24			2. 3 4.	○	1.	
25	● . 1	4.	2	○	3	
26		4.	1.	○	2	3
27		4.		○	2. 1	3.
28		4	2. 1.	3. ○		
29		4	3.	○	1.	● . 2
30		4	3	1. ○	2.	
31			4. 3 2.	○	1.	

Phases of the Eclipses of the Satellites for an inverting Telescope.

I.		f^*
II.		f^*
III.		$*c^* f$
IV.	No Eclipse	 of this Satellite.

SATELLITES OF JUPITER, 1923. 535

SEPTEMBER.

MEAN TIME.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
1	III. E. f.	1 27.9	9	II. E. f.	2 12.0	17	I. Im.	7 47	25	II. Sh. f.	1 32
	I. Im.	9 19		I. Tr. c.	8 40		I. E. f.	10 57.4		I. Tr. c.	7 9
	I. E. f.	12 38.9		I. Sh. c.	9 45		II. Tr. c.	18 35		I. Sh. c.	8 3
	II. Im.	18 55		I. Tr. f.	10 50		II. Sh. c.	20 37		I. Tr. f.	9 19
	II. E. f.	23 36.1		I. Sh. f.	11 54		II. Tr. f.	20 59		I. Sh. f.	10 12
							II. Sh. f.	22 56		III. Tr. c.	21 47
2	I. Tr. c.	6 42	10	I. Im.	5 48	18	I. Tr. c.	5 9		III. Tr. f.	23 54
	I. Sh. c.	* 7 50		I. E. f.	9 2.5		I. Sh. c.	6 9			
	I. Tr. f.	8 52		II. Tr. c.	15 50		I. Tr. f.	7 19			
	I. Sh. f.	9 59		II. Sh. c.	18 1		I. Sh. f.	8 17	26	III. Sh. c.	1 32
3	I. Im.	3 49		II. Tr. f.	18 14		III. Tr. c.	17 28		III. Sh. f.	3 23
	I. E. f.	* 7 7.5	11	II. Sh. f.	20 19		III. Tr. f.	19 34		I. Im.	4 17
	II. Tr. c.	13 7		I. Tr. c.	3 10		III. Sh. c.	21 33		I. E. f.	7 21.1
	II. Sh. c.	15 25		I. Sh. c.	4 14		III. Sh. f.	23 23		II. Im.	16 33
	II. Tr. f.	15 30		I. Tr. f.	5 20					II. E. f.	20 41.0
	II. Sh. f.	17 43		I. Sh. f.	6 23	19	I. Im.	2 17			
4	I. Tr. c.	1 11		III. Tr. c.	13 11		I. E. f.	5 20.2			
	I. Sh. c.	2 19		III. Tr. f.	15 16		II. Im.	13 47			
	I. Tr. f.	3 21		III. Sh. c.	17 35		II. E. f.	18 5.6			
	I. Sh. f.	4 28		III. Sh. f.	19 24		I. Tr. c.	23 39	27	I. Tr. c.	1 39
	III. Tr. c.	8 56	12	I. Im.	0 17					I. Sh. c.	2 32
	III. Tr. f.	11 0		I. E. f.	3 31.3		I. Sh. c.	0 37		I. Tr. f.	3 49
	III. Sh. c.	13 36		II. Im.	11 1	20	I. Tr. f.	1 49		I. Sh. f.	4 41
	III. Sh. f.	15 25		II. E. f.	15 30.0		I. Sh. f.	2 40		I. Im.	22 47
	I. Im.	22 19		I. Tr. c.	21 40		I. Im.	20 47			
				I. Sh. c.	22 42		I. E. f.	23 54.9			
				I. Tr. f.	23 50						
5	I. E. f.	1 36.3	13	I. Sh. f.	0 51	21	II. Tr. c.	7 58	28	I. E. f.	1 49.8
	II. Im.	8 17		I. Im.	18 47		II. Sh. c.	9 55		II. Tr. c.	10 46
	II. E. f.	12 54.2		I. E. f.	21 59.9		II. Tr. f.	10 22		II. Sh. c.	12 31
	I. Tr. c.	19 41					II. Sh. f.	12 14		II. Tr. f.	13 8
	I. Sh. c.	20 48					I. Tr. c.	18 9		II. Sh. f.	14 50
	I. Tr. f.	21 51	14	II. Tr. c.	5 12		I. Sh. c.	19 6		I. Tr. c.	20 9
	I. Sh. f.	22 56		II. Sh. c.	7 19		I. Tr. f.	20 19		I. Sh. c.	21 1
6	I. Im.	16 48		II. Tr. f.	7 36		I. Sh. f.	21 15		I. Tr. f.	22 19
	I. E. f.	20 5.0		II. Sh. f.	9 37	22	III. Im.	7 38		I. Sh. f.	23 10
				I. Tr. c.	16 10		III. Em.	9 45			
7	II. Tr. c.	2 28		I. Sh. c.	17 11		III. E. c.	11 34.7			
	II. Sh. c.	4 43		I. Tr. f.	18 26		III. E. f.	13 26.3			
	II. Tr. f.	4 51		I. Sh. f.	19 20		I. Im.	15 17	29	III. Im.	11 59
	II. Sh. f.	* 7 1					I. E. f.	18 23.6		III. Em.	14 7
	I. Tr. c.	14 11	15	III. Im.	3 19					III. E. c.	15 34.2
	I. Sh. c.	15 16		III. Em.	5 25	23	II. Im.	3 10		I. Im.	17 17
	I. Tr. f.	16 21		III. E. c.	7 35.8		II. E. f.	7 23.3		III. E. f.	17 26.3
	I. Sh. f.	17 25		III. E. f.	9 26.8		I. Tr. c.	12 39		I. E. f.	20 18.5
	III. Im.	23 2		I. Im.	13 17		I. Sh. c.	13 35			
				I. E. f.	16 28.7		I. Tr. f.	14 49			
							I. Sh. f.	15 44			
8	III. Em.	1 8	16	II. Im.	0 24	24	I. Im.	9 47	30	II. Im.	* 5 56
	III. E. c.	3 36.6		II. E. f.	4 47.8		I. E. f.	12 52.3		II. E. f.	9 58.6
	III. E. f.	5 27.1		I. Tr. c.	10 40		II. Tr. c.	21 22		I. Tr. c.	14 39
	I. Im.	11 18		I. Sh. c.	11 40		II. Sh. c.	23 13		I. Sh. c.	15 29
	I. E. f.	14 33.8		I. Tr. f.	12 50		II. Tr. f.	23 45		I. Tr. f.	16 49
	II. Im.	21 39		I. Sh. f.	13 49					I. Sh. f.	17 38

Eclipse commences - - - E. c.

„ finishes - - - E. f.

Occultation, immersion - - Im.

„ emersion - - Em.

Transit commences - - - Tr. c.

„ finishes - - - Tr. f.

Shadow commences - - - Sh. c.

„ finishes - - - Sh. f.

SEPTEMBER.

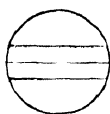
MEAN TIME.

Configurations at 6^h 45^m for an inverting Telescope.

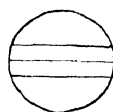
Day.	<i>West.</i>				<i>East.</i>			
1			2	1	4	3		
2					0	2	4	3
3					0	2	3	4
4			2	1	3	0		4
5			3		0	2	1	4
6			3	1	0		2	4
7			3	2	0	1		4
8			2	1	0	3		4
9					0	1	4	2
10	1	0			4	0	2	3
11			4	2	1	0	3	
12			4		3	2	0	1
13			4	3	1	0		2
14	2	0		4	3	0	1	
15			4		2	1	0	3
16			4			0	1	2
17				4		0	1	2
18	1	0		2		0	4	3
19				3	2	0	1	4
20			3		1	0		2
21			3		2	0	1	4
22			2	1		0	3	4
23					0	1	3	4
24					1	0	2	3
25				2	1	0	3	4
26				2	3	0	4	
27			3	4	1	0		2
28			4	3		0	2	1
29			4		2	1	3	0
30	1	0	2	4		0	1	3

Phases of the Eclipses of the Satellites for an inverting Telescope.

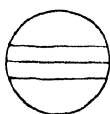
I.



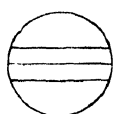
II.



III.



IV.

No
Eclipseof this
Satellite.

SATELLITES OF JUPITER, 1923. 537

OCTOBER.

MEAN TIME.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
1	I. Im.	11 47	9	II. Tr. c.	2 57	16	I. Tr. c.	13 10	24	I. Im.	12 20
	I. E. f.	14 47.2		II. Sh. c.	4 26		I. Sh. c.	13 47		I. E. f.	15 0.3
				II. Tr. f.	5 21		I. Tr. f.	15 21		III. Tr. c.	15 23
				II. Sh. f.	6 45		I. Sh. f.	15 56		III. Sh. c.	17 27
2	II. Tr. c.	0 9		I. Tr. c.	11 10	17	I. Im.	10 19		III. Tr. f.	17 31
	II. Sh. c.	1 50		I. Sh. c.	11 52		III. Tr. c.	10 57		III. Sh. f.	19 21
	II. Tr. f.	2 32		I. Tr. f.	13 20		III. Tr. f.	13 5			
	II. Sh. f.	4 9		I. Sh. f.	14 2		I. E. f.	13 5.6			
	I. Tr. c.	9 9					III. Sh. c.	13 28			
	I. Sh. c.	9 58					III. Sh. f.	15 21	25	II. Im.	3 43
	I. Tr. f.	11 19	10	III. Tr. c.	6 32					II. E. f.	7 0.6
	I. Sh. f.	12 7		I. Im.	8 18					I. Tr. c.	9 41
				III. Tr. f.	8 39					I. Sh. c.	10 10
				III. Sh. c.	9 29	18	II. Im.	0 55		I. Tr. f.	11 52
				I. E. f.	11 10.8		II. E. f.	4 26.0		I. Sh. f.	12 19
3	III. Tr. c.	2 9		III. Sh. f.	11 22		I. Tr. c.	7 40			
	III. Tr. f.	4 15		II. Im.	22 7		I. Sh. c.	8 15			
	III. Sh. c.	5 30					I. Tr. f.	9 51			
	I. Im.	6 17					I. Sh. f.	10 25			
	III. Sh. f.	7 22	11	II. E. f.	1 51.2						
	I. E. f.	9 16.0		I. Tr. c.	5 40						
	II. Im.	19 20		I. Sh. c.	6 21						
	II. E. f.	23 16.2		I. Tr. f.	7 50	19	I. Im.	4 49			
				I. Sh. f.	8 30		I. E. f.	7 34.2	20	I. Im.	6 51
							II. Tr. c.	19 11		I. E. f.	9 29.0
							II. Sh. c.	20 21		II. Tr. c.	22 1
4	I. Tr. c.	3 39	12	I. Im.	2 48		II. Tr. f.	21 35		II. Sh. c.	22 57
	I. Sh. c.	4 26		I. E. f.	5 39.5		II. Sh. f.	22 40			
	I. Tr. f.	* 5 49		II. Tr. c.	16 21						
	I. Sh. f.	6 36		II. Sh. c.	17 44						
				II. Tr. f.	18 45	20	I. Tr. c.	2 11			
				II. Sh. f.	20 3		I. Sh. c.	2 44			
5	I. Im.	0 47					I. Tr. f.	4 21			
	I. E. f.	3 44.7					I. Sh. f.	4 53	27	II. Tr. f.	0 25
	II. Tr. c.	13 33	13	I. Tr. c.	0 10		I. Im.	23 20		II. Sh. f.	1 17
	II. Sh. c.	15 8		I. Sh. c.	0 50					I. Tr. c.	4 12
	II. Tr. f.	15 56		I. Tr. f.	2 20					I. Sh. c.	4 38
	II. Sh. f.	17 27		I. Sh. f.	2 59	21	III. Im.	1 12		I. Tr. f.	6 22
	I. Tr. c.	22 9		III. Im.	20 47		I. E. f.	2 3.0		I. Sh. f.	6 48
	I. Sh. c.	22 55		I. Im.	21 19		III. Em.	3 21			
				III. Em.	22 55		III. E. c.	3 29.9			
				III. E. c.	23 31.5		III. E. f.	5 24.3			
6	I. Tr. f.	0 20					II. Im.	14 19			
	I. Sh. f.	1 4					II. E. f.	17 43.3			
	III. Im.	16 22	14	I. E. f.	0 8.2		I. Tr. c.	20 41	28	I. Im.	1 21
	III. Em.	18 30		III. E. f.	1 25.2		I. Sh. c.	21 12		I. E. f.	3 57.7
	I. Im.	19 18		II. Im.	11 31		I. Tr. f.	22 51		III. Im.	5 36
	III. E. c.	19 33.0		II. E. f.	15 8.7		I. Sh. f.	23 22		III. E. f.	9 23.3
	III. E. f.	21 25.8		I. Tr. c.	18 40					II. Im.	17 8
	I. E. f.	22 13.4		I. Sh. c.	19 18					II. E. f.	20 17.9
				I. Tr. f.	20 50	22	I. Im.	17 50		I. Tr. c.	22 42
				I. Sh. f.	21 27		I. E. f.	20 31.6		I. Sh. c.	23 7
7	II. Im.	8 44									
	II. E. f.	12 33.8									
	I. Tr. c.	16 39	15	I. Im.	15 49	23	II. Tr. c.	8 36			
	I. Sh. c.	17 24		I. E. f.	18 36.9		II. Sh. c.	9 39			
	I. Tr. f.	18 50					II. Tr. f.	11 0			
	I. Sh. f.	19 33					II. Sh. f.	11 59			
			16	II. Tr. c.	5 46		I. Tr. c.	15 11	29	I. Tr. f.	0 52
				II. Sh. c.	7 3		I. Sh. c.	15 41		I. Sh. f.	1 16
				II. Tr. f.	8 10		I. Tr. f.	17 21		I. Im.	19 52
8	I. Im.	13 48		II. Sh. f.	9 22		I. Sh. f.	17 50		I. E. f.	22 26.3
	I. E. f.	16 42.0									

Eclipse commences - - - E. c.
 „ finishes - - - E. f.

Transit commences - - - Tr. c.
 „ finishes - - - Tr. f.

Occultation, immersion - - Im.
 „ emersion - - Em.

Shadow commences - - - Sh. c.
 „ finishes - - - Sh. f.

538 SATELLITES OF JUPITER, 1923.

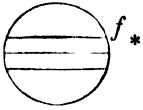
OCTOBER.
MEAN TIME.

Configurations at 5^h 30^m for an inverting Telescope.

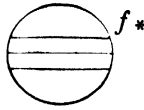
Day.	West.			East.		
1		4	1	2	3	
2		4	2	1	3	
3		4	2	3	1	
4	1	3	4		2	
5		3		4	2	
6			2	3		4
7			2	3		4
8			1		2	3
9			2	1	3	4
10		2	3			4
11		3	1	2		4
12		3		2	4	1
13			3	1	4	
14			4	2	3	
15		4	1		2	3
16		4		2	1	3
17		4	2	1	3	
18		4	3		1	2
19	1	4	3		2	
20		4	3	2	1	
21			4	3	1	
22			1	4	2	3
23				2	1	3
24			2	1	3	4
25			3	1		4
26		3		1	2	4
27	1	3	2			4
28			2	3		4
29			1		2	3

Phases of the Eclipses of the Satellites for an inverting Telescope.

I.



II.

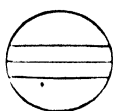


III.



IV.

No Eclipse of this Satellite.



SATELLITES OF JUPITER, 1923. 539

DECEMBER.

MEAN TIME.

JUPITER BEING NEAR THE SUN,
THE PHENOMENA OF THE SATELLITES OF JUPITER
ARE NOT GIVEN FROM OCTOBER 29 UNTIL DECEMBER 17.

Day.		h m	Day.		h m	Day.		h m	Day.		h m
17	III. E. c.	11 16.2	21	III. Tr. c.	3 1	24	III. E. f.	17 16.4	28	III. Tr. f.	9 37
	II. E. c.	11 55.3		III. Sh. f.	3 10		III. Im.	17 21			
	I. Sh. c.	12 23		I. Sh. f.	3 30		II. Em.	17 53			
	I. Tr. c.	12 48		I. Tr. f.	3 59		III. Em.	19 33	29	I. E. c.	0 27.6
	I. Sh. f.	14 33		II. Em.	4 30					I. Em.	3 10
	I. Tr. f.	14 58		III. Tr. f.	5 12	25	I. E. c.	11 30.6		I. Sh. c.	21 42
	III. Em.	15 6		I. E. c.	22 33.6		I. Em.	14 15		I. Tr. c.	22 18
	II. Em.	15 6								II. Sh. c.	22 26
18	I. E. c.	9 36.5	22	I. Em.	1 15	26	I. Sh. c.	8 45		II. Tr. c.	23 41
	I. Em.	12 14		I. Sh. c.	19 49		II. Sh. c.	9 8		I. Sh. f.	23 51
				II. Sh. c.	19 50		I. Tr. c.	9 18	30	I. Tr. f.	0 28
19	II. Sh. c.	6 32		I. Tr. c.	20 18		II. Tr. c.	10 17		II. Sh. f.	0 46
	I. Sh. c.	6 52		II. Tr. c.	20 51		I. Sh. f.	10 55		II. Tr. f.	2 3
	I. Tr. c.	7 18		I. Sh. f.	21 58		II. Sh. f.	11 28		I. E. c.	*18 56.2
	II. Tr. c.	7 26		II. Sh. f.	22 10		I. Tr. f.	11 29		I. Em.	21 46
	II. Sh. f.	8 52		I. Tr. f.	22 29		II. Tr. f.	12 39			
	I. Sh. f.	9 1		II. Tr. f.	23 13						
	I. Tr. f.	9 28				27	I. E. c.	5 59.2	31	I. Sh. c.	16 10
	II. Tr. f.	9 49					I. Em.	8 45		I. Tr. c.	16 48
20	I. E. c.	4 5.1	23	I. E. c.	17 2.2	28				II. E. c.	17 1.8
	I. Em.	6 45		I. Em.	19 45					I. Sh. f.	18 20
										I. Tr. f.	*18 58
			24	I. Sh. c.	14 17		I. Sh. c.	3 14		III. E. c.	*19 12.8
				II. E. c.	14 28.6		II. E. c.	3 45.2		II. Em.	20 39
21	III. Sh. c.	1 10		I. Tr. c.	14 48		I. Tr. c.	3 48		III. E. f.	21 15.3
	II. E. c.	1 12.0		III. E. c.	15 14.8		III. Sh. c.	5 9		III. Im.	21 47
	I. Sh. c.	1 20		I. Sh. f.	16 26		I. Sh. f.	5 23		III. Em.	23 59
	I. Tr. c.	1 48		I. Tr. f.	16 59		I. Tr. f.	5 58			
							III. Sh. f.	7 8			
							II. Em.	7 16	32	I. E. c.	13 24.6
							III. Tr. c.	7 26		I. Em.	16 16

Eclipse commences - - - E. c.
,, finishes - - - E. f.

Transit commences - - - Tr. c.
,, finishes - - - Tr. f.

Occultation, immersion - - Im.
,, emersion - - Em.

Shadow commences - - - Sh. c.
,, finishes - - - Sh. f.

540 SATELLITES OF JUPITER, 1923.

DECEMBER.

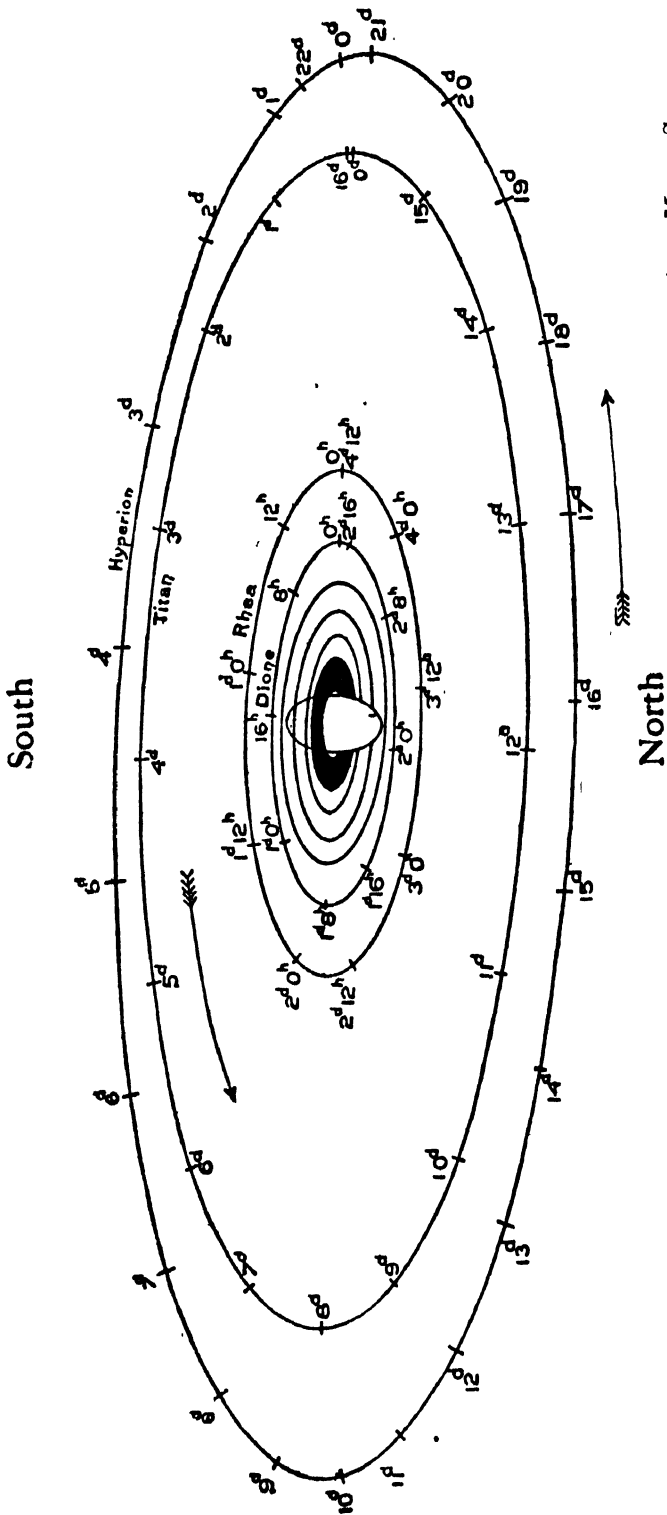
MEAN TIME.

Configurations at 19^h 0^m for an inverting Telescope.

Day.	West.	East.
17		1 [•] ○ 3 [•] 4 [•]
18		○ 1 [•] 2 [•] 4 [•] 3 [•]
19		1 [•] 2 [•] ○ 4 [•] 3 [•]
20		4 [•] 2 [•] ○ 1 [•] 3 [•]
21		4 [•] 3 [•] 1 [•] ○ 2 [•]
22		4 [•] 3 [•] 1 [•] ○ 2 [•]
23	4 [•]	3 [•] 1 [•] ○ 2 [•] ● 1
24	4 [•]	1 [•] ○ 2 [•] ● 3
25	4 [•]	○ 1 [•] 2 [•] 3 [•]
26	4 [•]	1 [•] 2 [•] ○ 3 [•]
27		2 [•] 4 [•] ○ 1 [•] 3 [•]
28		3 [•] 1 [•] ○ 4 [•] 2 [•]
29		3 [•] ○ 1 [•] 2 [•] 4 [•]
30	● 1	3 [•] 2 [•] ○ 4 [•]
31	● 2	1 [•] ○ 3 [•] 4 [•]
32		○ 1 [•] 2 [•] 3 [•] 4 [•]

Phases of the Eclipses of the Satellites for an inverting Telescope.

I.		II.	
III.		IV.	No Eclipse of this Satellite.



MEAN SYNODIC PERIODS.	
	h
I.	0 22.6
II.	1 8.9
III.	1 21.3
IV.	2 17.7
V.	4 12.5
VI.	15 23.3
VII.	21 7.6
VIII.	79 22.1
IX.	523 15.6

APPARENT ORBITS OF THE SEVEN INNER SATELLITES OF SATURN, AT DATE OF OPPOSITION, APRIL 7, 1923, AS SEEN IN AN INVERTING TELESCOPE, AND ELONGATED IN THE RATIO OF TWO TO ONE IN THE DIRECTION OF THEIR MINOR AXES.

- NAMES OF THE SATELLITES.
- I. Mimas.
 - II. Enceladus.
 - III. Tethys.
 - IV. Dione.
 - V. Rhea.
 - VI. Titan.
 - VII. Hyperion.
 - VIII. Iapetus.
 - IX. Phœbe.

542 SATELLITES OF SATURN, 1923.

MIMAS.

Greenwich Mean Time of Eastern Elongation.

Jan.	d	h	Feb.	d	h	Mar.	d	h	May	d	h	June	d	h	Aug.	d	h
	1	4.5		12	14.2		26	23.9		8	9.6		19	19.4		1	5.4
	2	3.1		13	12.8		27	22.5		9	8.2		20	18.0		2	4.0
	3	1.7		14	11.5		28	21.1		10	6.8		21	16.6		3	2.6
	4	0.4		15	10.1		29	19.8		11	5.4		22	15.3		4	1.2
	4	23.0		16	8.7		30	18.4		12	4.0		23	13.9		4	23.9
	5	21.6		17	7.3		31	17.0		13	2.6		24	12.5		5	22.5
	6	20.2		18	5.9	Apr.	1	15.6		14	1.2		25	11.1		6	21.1
	7	18.8		19	4.6		2	14.2		14	23.9		26	9.8		7	19.7
	8	17.4		20	3.2		3	12.8		15	22.5		27	8.4		8	18.3
	9	16.0		21	1.8		4	11.4		16	21.1		28	7.0		9	17.0
	10	14.6		22	0.4		5	10.0		17	19.7		29	5.6		10	15.6
	11	13.3		22	23.0		6	8.6		18	18.4		30	4.2		11	14.3
	12	11.9		23	21.6		7	7.2		19	17.0	July	1	2.8		12	12.9
	13	10.5		24	20.3		8	5.9		20	15.6		2	1.5			
	14	9.2		25	18.9		9	4.5		21	14.2		3	0.1			
	15	7.8		26	17.5		10	3.1		22	12.8		3	22.7	Dec.	5	13.1
	16	6.4		27	16.1		11	1.7		23	11.4		4	21.3		6	11.7
	17	5.0		28	14.7		12	0.4		24	10.1		5	19.9		7	10.3
	18	3.6	Mar.	1	13.3		12	23.0		25	8.7		6	18.6		8	9.0
	19	2.2		2	11.9		13	21.6		26	7.3		7	17.2		9	7.6
	20	0.9		3	10.5		14	20.2		27	5.9		8	15.8		10	6.2
	20	23.5		4	9.1		15	18.8		28	4.5		9	14.5		11	4.8
	21	22.1		5	7.8		16	17.4		29	3.1		10	13.1		12	3.5
	22	20.7		6	6.4		17	16.0		30	1.8		11	11.7		13	2.1
	23	19.3		7	5.0		18	14.6		31	0.4		12	10.3		14	0.7
	24	17.9		8	3.6		19	13.3		31	23.0		13	8.9		14	23.3
	25	16.5		9	2.2		20	11.9	June	1	21.6		14	7.6		15	22.0
	26	15.1		10	0.9		21	10.5		2	20.2		15	6.2		16	20.6
	27	13.8		10	23.5		22	9.1		3	18.9		16	4.8		17	19.2
	28	12.4		11	22.1		23	7.7		4	17.5		17	3.4		18	17.8
	29	11.0		12	20.7		24	6.3		5	16.1		18	2.1		19	16.4
	30	9.6		13	19.3		25	4.9		6	14.7		19	0.7		20	15.1
	31	8.3		14	17.9		26	3.5		7	13.3		19	23.3		21	13.7
Feb.	1	6.9		15	16.5		27	2.1		8	11.9		20	22.0		22	12.3
	2	5.5		16	15.2		28	0.8		9	10.5		21	20.6		23	10.9
	3	4.1		17	13.8		28	23.4		10	9.1		22	19.2		24	9.5
	4	2.7		18	12.5		29	22.0		11	7.8		23	17.8		25	8.2
	5	1.3		19	11.1		30	20.6		12	6.4		24	16.4		26	6.8
	6	0.0		20	9.7	May	1	19.3		13	5.0		25	15.0		27	5.4
	6	22.6		21	8.3		2	17.9		14	3.6		26	13.7		28	4.0
	7	21.2		22	6.9		3	16.5		15	2.3		27	12.3		29	2.7
	8	19.8		23	5.5		4	15.1		16	0.9		28	10.9		30	1.3
	9	18.4		24	4.1		5	13.7		16	23.5		29	9.6		30	23.9
	10	17.0		25	2.7		6	12.3		17	22.1		30	8.2		31	22.5
	11	15.6		26	1.3		7	11.0		18	20.7		31	6.8			

SATELLITES OF SATURN, 1923. 543

ENCELADUS.

Greenwich Mean Time of Eastern Elongation.

Jan.	d h	Feb.	d h	Mar.	d h	Apr.	d h	June	d h	July	d h
	1 5.7	9 23.4		21 16.8		30 10.3		9 3.8		18 21.7	
	2 14.6	11 8.3		23 1.7		May 1 19.1		10 12.7		20 6.6	
	3 23.5	12 17.1		24 10.6		3 4.0		11 21.6		21 15.5	
	5 8.4	14 2.0		25 19.4		4 12.9		13 6.5		23 0.3	
	6 17.3	15 10.9		27 4.3		5 21.8		14 15.4		24 9.2	
	8 2.2	16 19.8		28 13.2		7 6.6		16 0.3		25 18.1	
	9 11.1	18 4.7		29 22.1		8 15.5		17 9.2		27 3.0	
	10 20.0	19 13.5		31 7.0		10 0.4		18 18.1		28 11.9	
	12 4.8	20 22.4	Apr.	1 15.8		11 9.3		20 2.9		29 20.8	
	13 13.7	22 7.3		3 0.7		12 18.2		21 11.8		31 5.7	
	14 22.6	23 16.2		4 9.6		14 3.0		22 20.7		Aug. 1 14.6	
	16 7.5	25 1.0		5 18.5		15 11.9		24 5.6		2 23.5	
	17 16.4	26 9.9		7 3.3		16 20.8		25 14.5		4 8.4	
	19 1.3	27 18.8		8 12.2		18 5.7		26 23.4		5 17.3	
	20 10.1	Mar. 1 3.7		9 21.1		19 14.6		28 8.3		7 2.2	
	21 19.0	2 12.6		11 6.0		20 23.5		29 17.2		8 11.1	
	23 3.9	3 21.4		12 14.8		22 8.3		July 1 2.1		9 20.0	
	24 12.8	5 6.3		13 23.7		23 17.2		2 11.0			
	25 21.7	6 15.2		15 8.6		25 2.1		3 19.8			
	27 6.6	8 0.1		16 17.5		26 11.0		5 4.7		Dec. 19 10.2	
	28 15.4	9 8.9		18 2.4		27 19.9		6 13.6		20 19.1	
	30 0.3	10 17.8		19 11.2		29 4.8		7 22.5		22 4.0	
	31 9.2	12 2.7		20 20.1		30 13.6		9 7.4		23 12.9	
Feb.	1 18.1	13 11.6		22 5.0		31 22.5		10 16.3		24 21.8	
	3 3.0	14 20.4		23 13.9		June 2 7.4		12 1.2		26 6.7	
	4 11.8	16 5.3		24 22.7		3 16.3		13 10.1		27 15.6	
	5 20.7	17 14.2		26 7.6		5 1.2		14 19.0		29 0.4	
	7 5.6	18 23.1		27 16.5		6 10.1		16 3.9		30 9.3	
	8 14.5	20 7.9		29 1.4		7 19.0		17 12.8		31 18.2	

TETHYS.

Greenwich Mean Time of Eastern Elongation.

Jan.	d h	Jan.	d h	Feb.	d h	Feb.	d h	Mar.	d h	Apr.	d h
	2 7.6	21 4.7		9 1.7		27 22.7		18 19.6		6 16.5	
	4 4.9	23 2.0		10 23.0		Mar. 1 20.0		20 16.9		8 13.8	
	6 2.2	24 23.3		12 20.3		3 17.3		22 14.2		10 11.1	
	7 23.5	26 20.6		14 17.6		5 14.6		24 11.5		12 8.4	
	9 20.8	28 17.9		16 14.9		7 11.9		26 8.8		14 5.7	
	11 18.2	30 15.2		18 12.2		9 9.2		28 6.1		16 3.0	
	13 15.5	Feb. 1 12.5		20 9.5		11 6.5		30 3.4		18 0.3	
	15 12.8	3 9.8		22 6.8		13 3.8		Apr. 1 0.7		19 21.6	
	17 10.1	5 7.1		24 4.1		15 1.0		2 22.0		21 18.8	
	19 7.4	7 4.4		26 1.4		16 22.3		4 19.2		23 16.1	

544 SATELLITES OF SATURN, 1923.

TETHYS—continued.

Greenwich Mean Time of Eastern Elongation.

Apr. 25 13.4	May 16 7.7	June 6 2.0	June 26 20.5	July 17 15.0	Aug. 7 9.5
27 10.7	18 5.0	7 23.3	28 17.8	19 12.3	
29 8.0	20 2.3	9 20.6	30 15.1	21 9.6	
May 1 5.3	21 23.6	11 18.0	July 2 12.4	23 6.9	Dec. 17 14.7
3 2.6	23 20.9	13 15.3	4 9.7	25 4.2	19 12.1
4 23.9	25 18.2	15 12.6	6 7.0	27 1.6	21 9.4
6 21.2	27 15.5	17 9.9	8 4.4	28 22.9	23 6.7
8 18.5	29 12.8	19 7.2	10 1.7	30 20.2	25 4.0
10 15.8	31 10.1	21 4.5	11 23.0	Aug. 1 17.6	27 1.4
12 13.1	June 2 7.4	23 1.8	13 20.3	3 14.9	28 22.7
14 10.4	4 4.7	24 23.1	15 17.6	5 12.2	30 20.0

DIONE.

Greenwich Mean Time of Eastern Elongation.

Jan. 3 2.7	Feb. 13 4.0	Mar. 26 4.9	May 6 5.7	June 16 6.8	July 27 8.4
5 20.4	15 21.7	28 22.5	8 23.4	19 0.5	30 2.1
8 14.1	18 15.4	31 16.2	11 17.0	21 18.2	Aug. 1 19.8
11 7.8	21 9.0	Apr. 3 9.8	14 10.7	24 11.9	4 13.6
14 1.5	24 2.7	6 3.5	17 4.4	27 5.6	7 7.3
16 19.2	26 20.3	8 21.1	19 22.0	29 23.3	10 1.0
19 12.9	Mar. 1 14.0	11 14.8	22 15.7	July 2 17.0	
22 6.6	4 7.7	14 8.4	25 9.4	5 10.7	
25 0.3	7 1.3	17 2.1	28 3.0	8 4.4	Dec. 14 1.0
27 18.0	9 19.0	19 19.8	30 20.7	10 22.1	16 18.7
30 11.6	12 12.6	22 13.4	June 2 14.4	13 15.8	19 12.4
Feb. 2 5.3	15 6.3	25 7.1	5 8.1	16 9.5	22 6.1
4 23.0	17 23.9	28 0.7	8 1.8	19 3.3	24 23.9
7 16.7	20 17.6	30 18.4	10 19.5	21 21.0	27 17.6
10 10.4	23 11.2	May 3 12.0	13 13.1	24 14.7	30 11.3

RHEA.

Greenwich Mean Time of Eastern Elongation.

Jan. 4 22.6	Feb. 14 14.4	Mar. 27 5.5	May 6 20.5	June 16 12.0	July 27 4.2
9 11.1	19 2.8	31 17.9	11 8.9	21 0.4	31 16.7
13 23.5	23 15.2	Apr. 5 6.2	15 21.2	25 12.9	Aug. 5 5.2
18 12.0	28 3.5	9 18.5	20 9.6	30 1.3	9 17.8
23 0.4	Mar. 4 15.9	14 6.8	24 22.0	July 4 13.8	
27 12.8	9 4.2	18 19.2	29 10.4	9 2.2	
Feb. 1 1.2	13 16.5	23 7.5	June 2 22.8	13 14.7	Dec. 23 10.5
5 13.6	18 4.9	27 19.8	7 11.2	18 3.2	27 23.0
10 2.0	22 17.2	May 2 8.2	11 23.6	22 15.7	32 11.5

SATELLITES OF SATURN, 1923. 545

TITAN.

Greenwich Mean Time of Greatest Elongation.

d h	d h	d h	d h	d h	d h
Jan. 4 0.3 E	Feb. 20 20.5 E	Apr. 9 13.7 E	May 27 7.1 E	July 14 3.5 E	
11 23.3 W	28 18.8 W	17 11.4 W	June 4 4.8 W	22 1.9 W	
19 23.5 E	Mar. 8 18.4 E	25 11.3 E	12 5.5 E	30 3.0 E	Dec. 5 5.6 E
27 22.2 W	16 16.4 W	May 3 8.9 W	20 3.4 W	Aug. 7 1.7 W	13 6.0 W
Feb. 4 22.2 E	24 16.1 E	11 9.1 E	28 4.3 E	15 2.9 E	21 5.6 E
12 20.7 W	Apr. 1 13.9 W	19 6.7 W	July 6 2.4 W	23 1.8 W	29 6.1 W

HYPERION.

Greenwich Mean Time of Greatest Elongation.

d h	d h	d h	d h	d h	d h
Jan. 11 5.4 E	Feb. 22 23.1 E	Apr. 6 14.4 E	May 19 5.2 E	June 30 21.4 E	Aug. 12 14.9 E
20 13.2 W	Mar. 4 6.3 W	15 20.7 W	28 11.6 W	July 10 4.9 W	
Feb. 1 14.5 E	16 6.9 E	27 21.7 E	June 9 13.1 E	22 6.0 E	Dec. 18 14.0 E
10 22.1 W	25 13.7 W	May 7 3.9 W	18 19.9 W	31 14.5 W	28 7.3 W

IAPETUS.

Greenwich Mean Time of Conjunction and Greatest Elongation.

d h	d h	d h	d h	d h	d h
Jan. 17 13.5 W	Feb. 27 11.4 E	Apr. 6 4.6 W	May 16 15.8 E	June 23 17.8 W	Aug. 4 5.5 E
Feb. 7 8.5 S	Mar. 18 3.8 I	26 14.0 S	June 4 11.5 I	July 14 14.3 S	Dec. 24 2.6 S

ELEMENTS FOR DETERMINING THE GEOCENTRIC POSITION,
APPEARANCE, AND MAGNITUDE OF SATURN'S RINGS.

Greenwich Mean Midnight.	<i>a</i>	<i>b</i>	<i>P</i>	<i>B</i>	<i>U</i>	<i>ω</i>	<i>B'</i>	<i>U'</i>	Stellar Mag.
Jan. 2	38°66	+ 7°93	-2 12'1	+11 50'6	71 14'2	42 13'1	+ 9 22'3	23 40'2	+0.9
10	39:19	8:11	2 10:0	11 56:5	71 32:8	42 13:1	9 29:0	23 54:6	0.9
18	39:74	8:26	2 8:5	11 59:6	71 45:4	42 13:1	9 35:7	24 9:1	0.9
26	40:29	8:38	2 7:8	11 59:9	71 51:7	42 13:0	9 42:4	24 23:6	0.8
Feb. 3	40:84	8:46	2 7:8	11 57:4	71 51:5	42 13:0	9 49:0	24 38:1	0.8
11	41:37	+ 8:51	-2 8:6	+11 52:3	71 45:1	42 13:0	+ 9 55:7	24 52:6	+0.8
19	41:86	8 52	2 10:0	11 44:5	71 32:5	42 12:9	10 2:4	25 7:1	0.7
27	42:31	8:49	2 12:0	11 34:5	71 14:3	42 12:9	10 9:0	25 21:6	0.7
Mar. 7	42:69	8:42	2 14:6	11 22:4	70 51:1	42 12:8	10 15:6	25 36:1	0.6
15	43:00	8:31	2 17:6	11 8:8	70 23:6	42 12:8	10 22:2	25 50:6	0.6
23	43:22	+ 8:17	-2 21:0	+10 53:9	69 52:8	42 12:8	+10 28:8	26 5:1	+0.6
31	43:35	8:00	2 24:7	10 38:3	69 19:8	42 12:7	10 35:3	26 19:6	0.5
Apr. 8	43:38	7:81	2 28:4	10 22:5	68 45:8	42 12:7	10 41:9	26 34:1	0.5
16	43:32	7:61	2 32:1	10 7:1	68 11:9	42 12:6	10 48:4	26 48:7	0.6
24	43:16	7:40	2 35:7	9 52:5	67 39:2	42 12:6	10 55:0	27 3:2	0.6
May 2	42:91	+ 7:19	-2 39:0	+ 9 39:4	67 8:8	42 12:6	+11 1:5	27 17:7	+0.7
10	42:58	7:00	2 41:9	9 28:0	66 41:7	42 12:5	11 8:0	27 32:3	0.7
18	42:18	6:83	2 44:4	9 18:8	66 18:7	42 12:5	11 14:5	27 46:8	0.8
26	41:72	6:67	2 46:4	9 12:1	66 0:5	42 12:5	11 20:9	28 1:3	0.8
June 3	41:22	6:54	2 47:8	9 8:0	65 47:6	42 12:4	11 27:4	28 15:9	0.9
11	40:70	+ 6:44	-2 48:6	+ 9 6:7	65 40:2	42 12:4	+11 33:8	28 30:4	+0.9
19	40:15	6:37	2 48:8	9 8:2	65 38:7	42 12:4	11 40:2	28 44:9	1.0
27	39:60	6:34	2 48:3	9 12:5	65 42:9	42 12:3	11 46:6	28 59:5	1.0
July 5	39:06	6:33	2 47:2	9 19:5	65 53:0	42 12:3	11 53:0	29 14:0	1.0
13	38:53	6:35	2 45:5	9 29:1	66 8:6	42 12:2	11 59:4	29 28:6	1.0
21	38:02	+ 6:40	-2 43:3	+ 9 41:1	66 29:7	42 12:2	+12 5:8	29 43:2	+1.1
29	37:54	6:47	2 40:4	9 55:4	66 55:9	42 12:2	12 12:1	29 57:7	1.1
Aug. 6	37:09	6:56	2 37:1	10 11:6	67 26:9	42 12:1	12 18:5	30 12:3	1.1
14	36:68	6:68	2 33:2	10 29:6	68 2:3	42 12:1	12 24:8	30 26:9	1.1
22	36:31	6:82	2 28:9	10 49:2	68 41:6	42 12:0	12 31:1	30 41:5	1.1
30	35:98	+ 6:97	-2 24:2	+11 10:1	69 24:6	42 12:0	+12 37:4	30 56:1	+1.0
Sept. 7	35:71	7:14	2 19:1	11 32:1	70 10:8	42 12:0	12 43:6	31 10:7	1.0
15	35:48	7:32	2 13:7	11 54:8	70 59:6	42 11:9	12 49:9	31 25:3	1.0
23	35:30	7:52	2 8:0	12 18:0	71 50:7	42 11:9	12 56:1	31 39:9	1.0
Oct. 1	35:17	7:73	2 2:0	12 41:6	72 43:5	42 11:9	13 2:3	31 54:5	1.0
9	35:09	+ 7:95	-1 55:9	+13 5:2	73 37:7	42 11:8	+13 8:5	32 9:2	+0.9
17	35:07	8:17	1 49:7	13 28:6	74 32:6	42 11:8	13 14:7	32 23:8	0.9
25	35:10	8:41	1 43:4	13 51:6	75 27:7	42 11:8	13 20:9	32 38:4	0.9
Nov. 2	35:19	8:65	1 37:1	14 13:9	76 22:5	42 11:7	13 27:0	32 53:0	0.9
10	35:33	8:90	1 30:8	14 35:3	77 16:5	42 11:7	13 33:2	33 7:7	0.9
18	35:52	+ 9:15	-1 24:7	+14 55:6	78 9:0	42 11:6	+13 39:3	33 22:3	+0.9
26	35:76	9:40	1 18:9	15 14:6	78 59:5	42 11:6	13 45:4	33 37:0	0.9
Dec. 4	36:05	9:65	1 13:3	15 32:0	79 47:4	42 11:6	13 51:5	33 51:6	0.9
12	36:38	9:91	1 8:0	15 47:8	80 32:1	42 11:5	13 57:5	34 6:3	0.9
20	36:77	10:15	1 3:2	16 1:8	81 12:9	42 11:5	14 3:6	34 21:0	0.9
28	37:20	+10:40	-0 58:9	+16 13:7	81 49:3	42 11:4	+14 9:6	34 35:6	+0.9
36	37:66	+10:63	-0 55:2	+16 23:5	82 20:8	42 11:4	+14 15:6	34 50:3	+0.9

URANUS IS IN OPPOSITION, SEPT. 8, 1923, BUT AT THIS DATE THE EARTH IS VERY NEAR THE PLANE OF THE ORBITS OF THE SATELLITES, AND HENCE THE APPARENT ORBITS APPROXIMATE STRAIGHT LINES. FOR THIS REASON THE DIAGRAM OF THE APPARENT ORBITS IS NOT GIVEN.

APPARENT APSIDES.

Date.	Position Angle.	Apparent Distance.			
		Ariel.	Umbriel.	Titania.	Oberon.
June 10	345°0	13.2	18.4	30.1	40.3
Sept. 8	345.1	13.9	19.3	31.7	42.4
Dec. 7	345.4	13.2	18.4	30.1	40.3

548 SATELLITES OF URANUS, 1923.

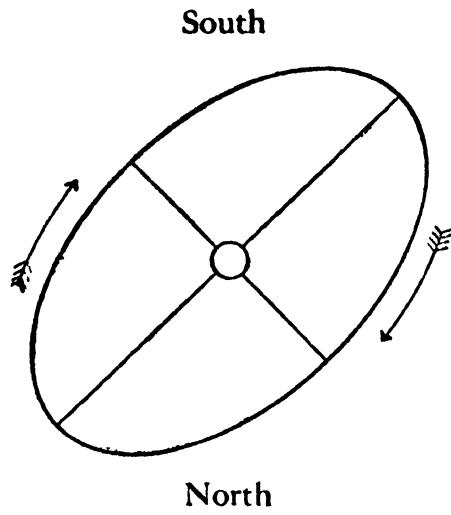
GREENWICH MEAN TIME OF GREATEST ELONGATION.

ARIEL.		UMBRIEL.		TITANIA.		OBERON.
North.	South.	North.	South.	North.	South.	North and South.
d h	d h	d h	d h	d h	d h	d h
June 4 17.8	June 8 12.6	May 30 3.6	June 1 5.3	May 19 22.9	May 24 7.4	June 14 19.7 N.
12 7.3	16 2.0	June 7 10.5	9 12.2	28 15.8	June 2 0.3	21 13.3 S.
19 20.7	23 15.4	15 17.4	17 19.1	June 6 8.7	10 17.2	28 6.8 N.
27 10.2	July 1 4.9	24 0.3	26 2.0	15 1.6	19 10.1	July 5 0.4 S.
July 4 23.6	8 18.4	July 2 7.2	July 4 8.9	23 18.6	28 3.0	11 17.9 N.
12 13.1	16 7.8	10 14.1	12 15.8	July 2 11.5	July 6 20.0	18 11.5 S.
20 2.5	23 21.3	18 21.0	20 22.7	11 4.4	15 12.9	25 5.1 N.
27 16.0	31 10.7	27 3.9	29 5.6	19 21.4	24 5.8	31 22.6 S.
Aug. 4 5.5	Aug. 8 0.2	Aug. 4 10.8	Aug 6 12.6	28 14.3	Aug. 1 22.8	Aug. 7 16.2 N.
11 18.9	15 13.7	12 17.8	14 19.5	Aug. 6 7.2	10 15.7	14 9.8 S.
19 8.4	23 3.1	21 0.7	23 2.4	15 0.2	19 8.7	21 3.4 N.
26 21.9	30 16.6	29 7.6	31 9.3	23 17.2	28 1.6	27 21.0 S.
Sept. 3 11.3	Sept. 7 6.1	Sept. 6 14.5	Sept. 8 16.3	Sept. 1 10.1	Sept. 5 18.6	Sept. 3 14.6 N.
11 0.8	14 19.5	14 21.5	16 23.2	10 3.1	14 11.6	10 8.2 S.
18 14.3	22 9.0	23 4.4	25 6.1	18 20.1	23 4.5	17 1.8 N.
26 3.8	29 22.5	Oct. 1 11.4	Oct. 3 13.1	27 13.0	Oct. 1 21.5	23 19.3 S.
Oct. 3 17.2	Oct. 7 12.0	9 18.3	11 20.0	Oct. 6 6.0	10 14.5	30 12.9 N.
11 6.7	15 1.5	18 1.2	20 3.0	14 23.0	19 7.5	Oct. 7 6.5 S.
18 20.2	22 15.0	26 8.2	28 9.9	23 15.9	28 0.4	14 0.1 N.
26 9.7	30 4.4	Nov. 3 15.1	Nov. 5 16.8	Nov. 1 8.9	Nov. 5 17.4	20 17.7 S.
Nov. 2 23.2	Nov. 6 17.9	11 22.1	13 23.8	10 1.9	14 10.4	27 11.3 N.
10 12.7	14 7.4	20 5.0	22 6.7	18 18.8	23 3.3	Nov. 3 4.9 S.
18 2.1	21 20.9	28 11.9	30 13.7	27 11.8	Dec. 1 20.3	9 22.5 N.
25 15.6	29 10.4	Dec. 6 18.9	Dec. 8 20.6	Dec. 6 4.8	10 13.2	16 16.0 S.
Dec. 3 5.1	Dec. 6 23.8	15 1.8	17 3.5	14 21.7	19 6.2	23 9.6 N.

For Ariel every third greatest elongation is given, and for Umbriel every alternate one; the intermediate ones may be found by adding multiples of the period of the satellite.

		d h
Sidereal period of Ariel		2 12.489
Sidereal period of Umbriel		4 3.460
Sidereal period of Titania		8 16.941
Sidereal period of Oberon		13 11.118

SATELLITE OF NEPTUNE, 1923. 549



APPARENT ORBIT OF THE SATELLITE OF NEPTUNE AT DATE OF OPPOSITION, FEB. 6, 1923, AS SEEN IN AN INVERTING TELESCOPE.

Date.		Position Angle of Apsis.	Apparent Distance at Apsis.
Feb.	6	133°5	16"8
Apr.	27	132°2	16.3
Oct.	19	136°4	16.0
Dec.	32	136°3	16.6

GREENWICH MEAN TIME OF GREATEST ELONGATION.

Jan.	d h	Mar.	d h	May	d h	July	d h	Nov.	d h
	2 19.7 E.		5 13.4 W.		6 6.7 E.		6 23.3 W.		4 9.0 E.
	5 18.2 W.		8 11.9 E.		9 5.2 W.		9 21.8 E.		7 7.5 W.
	8 16.8 E.		11 10.5 W.		12 3.8 E.		..		10 6.0 E.
	11 15.3 W.		14 9.0 E.		15 2.3 W.	Sept.	12 12.3 E.		13 4.6 W.
	14 13.9 E.		17 7.6 W.		18 0.8 E.		15 10.7 W.		16 3.1 E.
	17 12.4 W.		20 6.1 E.		20 23.3 W.		18 9.2 E.		19 1.6 W.
	20 11.0 E.		23 4.7 W.		23 21.8 E.		21 7.7 W.		22 0.1 E.
	23 9.5 W.		26 3.2 E.		26 20.3 W.		24 6.2 E.		24 22.6 W.
	26 8.1 E.		29 1.8 W.		29 18.8 E.		27 4.7 W.		27 21.1 E.
	29 6.7 W.	Apr.	1 0.3 E.	June	1 17.4 W.		30 3.1 E.		30 19.6 W.
Feb.	1 5.2 E.		3 22.9 W.		4 15.8 E.	Oct.	3 1.6 W.	Dec.	3 18.2 E.
	4 3.8 W.		6 21.4 E.		7 14.4 W.		6 0.1 E.		6 16.7 W.
	7 2.3 E.		9 19.9 W.		10 12.8 E.		8 22.6 W.		9 15.2 E.
	10 0.9 W.		12 18.5 E.		13 11.3 W.		11 21.1 E.		12 13.7 W.
	12 23.4 E.		15 17.0 W.		16 9.8 E.		14 19.6 W.		15 12.3 E.
	15 22.0 W.		18 15.6 E.		19 8.3 W.		17 18.1 E.		18 10.8 W.
	18 20.6 E.		21 14.1 W.		22 6.8 E.		20 16.6 W.		21 9.4 E.
	21 19.1 W.		24 12.6 E.		25 5.3 W.		23 15.0 E.		24 7.9 W.
	24 17.7 E.		27 11.2 W.		28 3.8 E.		26 13.5 W.		27 6.4 E.
	27 16.2 W.		30 9.7 E.	July	1 2.3 W.		29 12.0 E.		30 5.0 W.
Mar.	2 14.8 E.	May	3 8.2 W.		4 0.8 E.	Nov.	1 10.5 W.		33 3.5 E.

In the above diagram the central circle represents the planet.
The sidereal period of the satellite of Neptune is 5^d 21^h 0.44.

	d	h	m				d	h	m			
Jan.	2	11		Earth in Perihelion.			Apr.	1	11	32	$\text{h} \odot \text{C} - - \text{h} \odot 24' \text{N.}$	
	5	6	34	$\Psi \odot \text{C} - - \Psi 3 11 \text{N.}$				3	10	5	$\text{h} \odot \text{C} - - \text{h} 3 11 \text{S.}$	
	5	20		♀ in Perihelion.				7	3		$\text{h} \text{g} \odot$	
	9	14	43	$\text{h} \odot \text{C} - - \text{h} \odot 10 \text{N.}$				8	6		♀ Sup. $\odot \odot$	
	10	13		$\text{h} \square \odot$				12	7	27	$\text{g} \odot \text{C} - - \text{g} \odot 1 43 \text{S.}$	
	11	8	2	$\text{h} \odot \text{C} - - \text{h} 2 59 \text{S.}$				12	11	6	$\text{H} \odot \text{C} - - \text{H} 1 14 \text{S.}$	
	12	22		♀ at greatest elong. 18 56 E.				13	10		♀ in Ω	
	13	0	49	$\text{g} \odot \text{C} - - \text{g} \odot 31 \text{S.}$				13	22	25	$\text{g} \odot \text{H} - - \text{g} \odot 23 \text{S.}$	
	15	11		♀ in Ω				16	11	25	$\text{g} \odot \text{C} - - \text{g} 4 23 \text{N.}$	
	18	2	59	$\text{g} \odot \text{C} - - \text{g} 2 24 \text{S.}$				18	1		♀ in Perihelion.	
	19	7		♀ Stationary.				18	18	34	$\text{g} \odot \text{C} - - \text{g} 5 43 \text{N.}$	
	20	1		♀ in Perihelion.				24	17	10	$\Psi \odot \text{C} - - \Psi 3 11 \text{N.}$	
	20	6	18	$\text{H} \odot \text{C} - - \text{H} 1 45 \text{S.}$				26	12		Ψ Stationary.	
	21	19	33	$\text{g} \odot \text{C} - - \text{g} \odot 29 \text{N.}$				28	5		♀ in Aphelion.	
	27	19		♀ greatest Hel. Lat. N.				28	8		♀ greatest Hel. Lat. N.	
	28	16		♀ Inf. $\odot \odot$				28	19	27	$\text{h} \odot \text{C} - - \text{h} \odot 33 \text{N.}$	
	30	8		♀ greatest Hel. Lat. N.				30	16	13	$\text{h} \odot \text{C} - - \text{h} 2 58 \text{S.}$	
	30	8		h Stationary.			May	5	2		$\text{h} \text{g} \odot$	
Feb.	1	14	6	$\Psi \odot \text{C} - - \Psi 3 10 \text{N.}$				5	5		♀ at greatest elong. 21 7 E.	
	3	19		♀ at greatest elong. 46 55 W.				6	12		$\Psi \square \odot$	
	5	20	58	$\text{h} \odot \text{C} - - \text{h} \odot 3 \text{N.}$				9	19	17	$\text{H} \odot \text{C} - - \text{H} \odot 59 \text{S.}$	
	6	2		$\Psi \text{g} \odot$				12	12	36	$\text{g} \odot \text{C} - - \text{g} \odot 53 \text{N.}$	
	7	5		$\text{h} \square \odot$				16	18	10	$\text{g} \odot \text{C} - - \text{g} 6 19 \text{N.}$	
	7	18	34	$\text{h} \odot \text{C} - - \text{h} 3 17 \text{S.}$				17	10		♀ Stationary.	
	9	9		♀ Stationary.				17	16	4	$\text{g} \odot \text{C} - - \text{g} 5 57 \text{N.}$	
	11	8	7	$\text{g} \odot \text{C} - - \text{g} 1 59 \text{S.}$				20	17		♀ greatest Hel. Lat. S.	
	12	18		♂ in Ω				21	19		♀ in Ω	
	13	6	3	$\text{g} \odot \text{C} - - \text{g} 2 16 \text{S.}$				21	23	42	$\Psi \odot \text{C} - - \Psi 2 56 \text{N.}$	
	16	16	45	$\text{H} \odot \text{C} - - \text{H} 1 32 \text{S.}$				26	2	26	$\text{h} \odot \text{C} - - \text{h} \odot 27 \text{N.}$	
	19	20	2	$\text{g} \odot \text{C} - - \text{g} 2 57 \text{N.}$				27	21	20	$\text{h} \odot \text{C} - - \text{h} 2 54 \text{S.}$	
	22	17		♀ at greatest elong. 26 42 W.				28	15		♀ Inf. $\odot \odot$	
	22	19		♀ in Ω			June	1	0		♀ in Aphelion.	
	28	23	32	$\Psi \odot \text{C} - - \Psi 3 16 \text{N.}$				6	3	25	$\text{H} \odot \text{C} - - \text{H} \odot 42 \text{S.}$	
Mar.	2	15	32	☾ eclipsed, vis. at Green ^h .				8	20		$\text{H} \square \odot$	
	4	16		$\text{H} \odot \odot$				9	18		♀ Stationary.	
	5	1		♀ in Aphelion.				11	19	53	$\text{g} \odot \text{C} - - \text{g} 3 28 \text{N.}$	
	5	3	43	$\text{h} \odot \text{C} - - \text{h} \odot 10 \text{N.}$				12	9	49	$\text{g} \odot \text{C} - - \text{g} \odot 42 \text{N.}$	
	5	13		h Stationary.				15	11	56	$\text{g} \odot \text{C} - - \text{g} 5 33 \text{N.}$	
	7	2	55	$\text{h} \odot \text{C} - - \text{h} 3 20 \text{S.}$				17	11		h Stationary.	
	13	4	38	$\text{g} \odot \text{C} - - \text{g} 2 47 \text{S.}$				18	5	57	$\Psi \odot \text{C} - - \Psi 2 40 \text{N.}$	
	15	0		$\text{H} \odot \text{C} - - \text{H} 1 32 \text{S.}$				21	4	22	$\text{g} \odot \text{C} - - \text{g} 2 38 \text{S.}$	
	15	8	14	$\text{g} \odot \text{C} - - \text{g} 3 49 \text{S.}$				21	9		♀ greatest Hel. Lat. S.	
	16	2	24	$\text{H} \odot \text{C} - - \text{H} 1 23 \text{S.}$				21	23	3	☉ enters Sign $\alpha\omega$, Solstice.	
	17	0	24	☉ eclipsed, invis. at Green ^h .				22	8	36	$\text{h} \odot \text{C} - - \text{h} \odot 7 \text{N.}$	
	20	19	47	$\text{g} \odot \text{C} - - \text{g} 4 44 \text{N.}$				22	17		♀ at greatest elong. 22 33 W.	
	21	3	29	☉ enters Sign Υ , Equinox.				22	23		$\text{H} \odot \text{C} - - \text{H} 1 27 \text{S.}$	
	21	5	41	$\text{g} \odot \text{H} - - \text{g} 1 40 \text{S.}$				24	2	9	$\text{h} \odot \text{C} - - \text{h} 3 4 \text{S.}$	
	24	21		♀ in Ω			July	3	11	29	$\text{H} \odot \text{C} - - \text{H} \odot 27 \text{S.}$	
	25	10		♀ greatest Hel. Lat. S.				4	2	36	$\text{g} \odot \text{C} - - \text{g} \odot 47 \text{S.}$	
	28	9	4	$\Psi \odot \text{C} - - \Psi 3 18 \text{N.}$				5	12		Earth in Aphelion.	

	d	h	m				d	h	m		
July	6	7		$\text{h} \square \odot$			Sept. 28	16		♀ Inf. $\odot \odot$	
	7	8		♂ Stationary.			Oct. 5	22	5	$\text{♀} \odot \text{C} - - \text{♂} 2 \text{ II N.}$	
	10	9		♀ in Ω			6	9		♀ in Ω	
	12	4	30	$\text{♀} \odot \text{C} - - \text{♀} 4 \text{ 37 N.}$			7	0		♀ Stationary.	
	12	16	8	$\text{♀} \odot \text{C} - - \text{♀} 4 \text{ 59 N.}$			8	6	49	$\text{♂} \odot \text{C} - - \text{♂} 0 \text{ 3 S.}$	
	14	6	8	$\text{♂} \odot \text{C} - - \text{♂} 4 \text{ 40 N.}$			8	14	8	$\text{♀} \odot \text{C} - - \text{♀} 1 \text{ 0 S.}$	
	15	0		♀ in Perihelion.			8	17	47	$\text{♀} \odot \text{h} - - \text{♀} 1 \text{ 22 S.}$	
	15	13	31	$\text{♀} \odot \text{C} - - \text{♀} 2 \text{ 28 N.}$			10	3	24	$\text{h} \odot \text{C} - - \text{h} 1 \text{ 13 S.}$	
	16	0		♀ in Ω			10	6	2	$\text{♀} \odot \text{C} - - \text{♀} 2 \text{ 45 S.}$	
	19	15	15	$\text{h} \odot \text{C} - - \text{h} 0 \text{ 18 S.}$			10	23		♀ in Perihelion.	
Aug.	21	8	9	$\text{♂} \odot \text{C} - - \text{♂} 3 \text{ 24 S.}$			11	23	24	$\text{♂} \odot \text{C} - - \text{♂} 4 \text{ 11 S.}$	
	21	22		♀ Sup. $\odot \odot$			13	0		h greatest Hel. Lat. N.	
	25	7		♀ greatest Hel. Lat. N.			14	5		♀ at greatest elong. 18 6 W.	
	25	14	18	$\text{♀} \odot \text{♂} - - \text{♀} 0 \text{ 39 N.}$			16	23		$\text{h} \odot \odot$	
	30	19	2	$\text{H} \text{I} \odot \text{C} - - \text{H} \text{I} 0 \text{ 21 S.}$			20	10	31	$\text{H} \text{I} \odot \text{C} - - \text{H} \text{I} 0 \text{ 31 S.}$	
	30	23	28	$\text{♀} \odot \text{♀} - - \text{♀} 1 \text{ 36 N.}$			21	6		♀ greatest Hel. Lat. N.	
	3	1		$\text{♂} \square \odot$			29	12	0	$\text{♀} \odot \text{h} - - \text{♀} 0 \text{ 42 S.}$	
	8	8		$\text{♂} \odot \odot$			Nov. 2	7	47	$\text{♀} \odot \text{C} - - \text{♀} 1 \text{ 58 N.}$	
	11	3		$\text{♀} \odot \odot$			4	8	11	$\text{♀} \odot \text{♂} - - \text{♀} 0 \text{ 45 S.}$	
	11	10	4	$\text{♀} \odot \text{C} - - \text{♀} 3 \text{ 46 N.}$			4	14		♀ in U	
Sept.	11	23	1	$\text{♂} \odot \text{C} - - \text{♂} 3 \text{ 22 N.}$			5	22	17	$\text{♂} \odot \text{C} - - \text{♂} 1 \text{ 49 S.}$	
	11	23	12	$\text{♀} \odot \text{C} - - \text{♀} 2 \text{ 22 N.}$			6	19	48	$\text{h} \odot \text{C} - - \text{h} 1 \text{ 27 S.}$	
	12	3	12	$\text{♂} \odot \text{♀} - - \text{♂} 0 \text{ 59 N.}$			7	17	31	$\text{♀} \odot \text{C} - - \text{♀} 3 \text{ 53 S.}$	
	13	13	27	$\text{♀} \odot \text{C} - - \text{♀} 0 \text{ 39 N.}$			8	19	42	$\text{♂} \odot \text{C} - - \text{♂} 4 \text{ 18 S.}$	
	16	0	8	$\text{h} \odot \text{C} - - \text{h} 0 \text{ 41 S.}$			9	3	45	$\text{♀} \odot \text{C} - - \text{♀} 5 \text{ 17 S.}$	
	16	20		♂ greatest Hel. Lat. N.			13	7		$\text{♀} \square \odot$	
	17	16	24	$\text{♀} \odot \text{♀} - - \text{♀} 0 \text{ 58 N.}$			13	17		♀ in U	
	17	17	6	$\text{♂} \odot \text{C} - - \text{♂} 3 \text{ 45 S.}$			15	12		♀ Sup. $\odot \odot$	
	17	18		♀ in U			16	15	23	$\text{H} \text{I} \odot \text{C} - - \text{H} \text{I} 0 \text{ 21 S.}$	
	18	12		♀ in Perihelion.			19	17	53	$\text{♀} \odot \text{♂} - - \text{♀} 1 \text{ 24 S.}$	
Sept.	23	4	3	$\text{♀} \odot \text{♂} - - \text{♀} 0 \text{ 6 N.}$			22	10		$\text{♂} \odot \odot$	
	25	22	40	C eclipsed, invis. at Green ^h .			23	9		♀ Stationary.	
	27	1	24	$\text{H} \text{I} \odot \text{C} - - \text{H} \text{I} 0 \text{ 24 S.}$			23	20		$\text{H} \text{I}$ Stationary.	
	28	0		♀ in Aphelion.			23	23		♀ in Aphelion.	
	2	11		♀ at greatest elong. 27 9 E.			29	14	34	$\text{♀} \odot \text{C} - - \text{♀} 1 \text{ 41 N.}$	
	8	10	34	$\text{♀} \odot \text{C} - - \text{♀} 2 \text{ 18 N.}$			Dec. 1	19	42	$\text{♂} \odot \text{h} - - \text{♂} 1 \text{ 30 S.}$	
	8	19		$\text{H} \text{I} \odot \odot$			4	11	0	$\text{h} \odot \text{C} - - \text{h} 1 \text{ 43 S.}$	
	9	12		♀ greatest Hel. Lat. N.			4	13	22	$\text{♂} \odot \text{C} - - \text{♂} 3 \text{ 19 S.}$	
	9	15	6	$\text{♂} \odot \text{C} - - \text{♂} 1 \text{ 44 N.}$			6	8		$\text{H} \text{I} \square \odot$	
	9	22		♀ Sup. $\odot \odot$			6	16	59	$\text{♂} \odot \text{C} - - \text{♂} 4 \text{ 23 S.}$	
Sept.	10	8	30	$\odot$ eclipsed, invis. at Green ^h .			8	10	45	$\text{♀} \odot \text{C} - - \text{♀} 6 \text{ 47 S.}$	
	10	9	44	$\text{♀} \odot \text{C} - - \text{♀} 0 \text{ 55 N.}$			8	21		♀ in Aphelion.	
	11	23	1	$\text{♀} \odot \text{C} - - \text{♀} 6 \text{ 44 S.}$			9	5	15	$\text{♀} \odot \text{C} - - \text{♀} 5 \text{ 29 S.}$	
	12	12	17	$\text{h} \odot \text{C} - - \text{h} 0 \text{ 59 S.}$			13	22	38	$\text{H} \text{I} \odot \text{C} - - \text{H} \text{I} 0 \text{ 1 S.}$	
	14	6	9	$\text{♂} \odot \text{C} - - \text{♂} 4 \text{ 1 S.}$			14	8		♀ greatest Hel. Lat. S.	
	15	14		♀ Stationary.			22	8	54	$\odot$ enters Sign ♊ , Solstice.	
	17	8		♀ greatest Hel. Lat. S.			26	19	22	$\text{♀} \odot \text{C} - - \text{♀} 1 \text{ 29 N.}$	
	21	17		♂ in Aphelion.			27	4		♀ at greatest elong. 19 46 E.	
	23	6	22	$\text{H} \text{I} \odot \text{C} - - \text{H} \text{I} 0 \text{ 31 S.}$			31	10		♀ greatest Hel. Lat. S.	
	23	14	4	$\odot$ enters Sign ♈ , Equinox.			31	22	47	$\text{h} \odot \text{C} - - \text{h} 1 \text{ 59 S.}$	

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF THE SUN.

Noon.		<i>P</i>	<i>B</i> ₀	<i>L</i> ₀	Noon.		<i>P</i>	<i>B</i> ₀	<i>L</i> ₀
Jan.	1	+ 2 ⁰ .22	- 3 ⁰ .10	44 ⁰ .21	July	5	- 1 ⁰ .09	+ 3 ⁰ .37	122 ⁰ .44
	6	- 0.21	3.67	338.36		10	+ 1.18	3.89	56.27
	11	2.63	4.21	272.52		15	3.43	4.38	350.10
	16	5.01	4.72	206.68		20	5.64	4.85	283.95
	21	7.32	5.19	140.85		25	7.80	5.28	217.80
	26	- 9.55	- 5.62	75.01		30	+ 9.88	+ 5.68	151.66
Feb.	31	11.69	6.00	9.18	Aug.	4	11.88	6.03	85.53
	5	13.71	6.34	303.35		9	13.78	6.35	19.42
	10	15.61	6.62	237.51		14	15.58	6.62	313.32
	15	17.37	6.86	171.68		19	17.26	6.84	247.23
	20	- 19.00	- 7.04	105.83		24	+ 18.83	+ 7.02	181.16
Mar.	25	20.48	7.16	39.98		29	20.26	7.15	115.10
	2	21.80	7.23	334.12	Sept.	3	21.56	7.22	49.05
	7	22.97	7.25	268.24		8	22.72	7.25	343.02
	12	23.97	7.21	202.36		13	23.74	7.22	277.00
	17	- 24.81	- 7.11	136.46		18	+ 24.60	+ 7.14	210.99
	22	25.47	6.96	70.54		23	25.30	7.01	144.99
Apr.	27	25.96	6.76	4.60		28	25.83	6.83	79.00
	1	26.28	6.51	298.65	Oct.	3	26.20	6.59	13.02
	6	26.41	6.21	232.67		8	26.39	6.31	307.05
	11	- 26.37	- 5.87	166.68		13	+ 26.40	+ 5.98	241.10
	16	26.13	5.48	100.66		18	26.22	5.60	175.14
	21	25.72	5.06	34.63		23	25.85	5.18	109.20
May	26	25.12	4.60	328.57		28	25.28	4.72	43.26
	1	24.33	4.11	262.49	Nov.	2	24.52	4.22	337.33
	6	- 23.37	- 3.59	196.40		7	+ 23.56	+ 3.69	271.40
	11	22.23	3.05	130.29		12	22.40	3.13	205.48
	16	20.92	2.49	64.17		17	21.05	2.54	139.57
	21	19.44	1.91	358.03		22	19.52	1.94	73.66
	26	17.82	1.32	291.87		27	17.81	1.32	7.76
	31	- 16.05	- 0.72	225.71	Dec.	2	+ 15.94	+ 0.68	301.87
June	5	14.15	- 0.11	159.54		7	13.92	+ 0.04	235.98
	10	12.14	+ 0.49	93.36		12	11.77	- 0.60	170.10
	15	10.04	1.09	27.18		17	9.51	1.24	104.23
	20	7.86	1.68	320.99		22	7.17	1.86	38.36
	25	- 5.63	+ 2.26	254.81		27	+ 4.77	- 2.48	332.50
	30	- 3.37	+ 2.82	188.62		32	+ 2.34	- 3.07	266.64

MEAN EQUATOR, ORBIT, AND MEAN LONGITUDE.

Noon.	Mean Equator.			Orbit.		Mean Longitude. (	Mean Solar Days.	Motion in Mean Longitude.
	i	Δ	Ω'	Γ'	Ω			
Jan. 0	24 58.5	354 41.7	—0 21.4	190 7.4	174 22.2	72 10.2	0.1	1 19.06
10	24 58.4	354 11.8	0 23.4	191 14.2	173 50.5	203 56.0	0.2	2 38.12
20	24 58.3	353 41.8	0 25.4	192 21.1	173 18.7	335 41.8	0.3	3 57.18
30	24 58.2	353 11.9	0 27.4	193 27.9	172 46.9	107 27.7	0.4	5 16.23
Feb. 9	24 58.1	352 41.9	0 29.4	194 34.8	172 15.1	239 13.5	0.5	6 35.29
							0.6	7 54.35
19	24 58.0	352 12.0	—0 31.4	195 41.6	171 43.4	10 59.3	0.7	9 13.41
Mar. 1	24 57.9	351 42.0	0 33.4	196 48.5	171 11.6	142 45.2	0.8	10 32.47
11	24 57.8	351 12.1	0 35.4	197 55.3	170 39.8	274 31.0	0.9	11 51.53
21	24 57.6	350 42.1	0 37.4	199 2.1	170 8.0	46 16.9	1.0	13 10.58
31	24 57.5	350 12.1	0 39.4	200 9.0	169 36.3	178 2.7	2.0	26 21.17
							3.0	39 31.75
Apr. 10	24 57.3	349 42.2	—0 41.4	201 15.8	169 4.5	309 48.5	4.0	52 42.33
20	24 57.2	349 12.2	0 43.4	202 22.7	168 32.7	81 34.4	5.0	65 52.92
30	24 57.0	348 42.2	0 45.3	203 29.5	168 1.0	213 20.2	6.0	79 3.50
May 10	24 56.8	348 12.3	0 47.3	204 36.3	167 29.2	345 6.0	7.0	92 14.09
20	24 56.7	347 42.3	0 49.3	205 43.2	166 57.4	116 51.9	8.0	105 24.67
							9.0	118 35.25
30	24 56.5	347 12.3	—0 51.3	206 50.0	166 25.6	248 37.7	10.0	131 45.84
June 9	24 56.3	346 42.3	0 53.2	207 56.9	165 53.9	20 23.6		
19	24 56.1	346 12.4	0 55.2	209 3.7	165 22.1	152 9.4		
29	24 55.9	345 42.4	0 57.2	210 10.6	164 50.3	283 55.2	Hrs.	0
July 9	24 55.7	345 12.4	0 59.1	211 17.4	164 18.6	55 41.1	1	0 32.94
							2	1 5.88
19	24 55.4	344 42.4	—1 1.0	212 24.2	163 46.8	187 26.9	3	1 38.82
29	24 55.2	344 12.4	1 3.0	213 31.1	163 15.0	319 12.8	4	2 11.76
Aug. 8	24 55.0	343 42.4	1 4.9	214 37.9	162 43.2	90 58.6	5	2 44.70
18	24 54.8	343 12.4	1 6.9	215 44.8	162 11.5	222 44.4	6	3 17.65
28	24 54.5	342 42.4	1 8.8	216 51.6	161 39.7	354 30.2	7	3 50.59
							8	4 23.53
Sept. 7	24 54.2	342 12.4	—1 10.7	217 58.5	161 7.9	126 16.1	9	4 56.47
17	24 54.0	341 42.3	1 12.7	219 5.3	160 36.1	258 1.9	10	5 29.41
27	24 53.7	341 12.3	1 14.6	220 12.1	160 4.4	29 47.8	11	6 2.35
Oct. 7	24 53.4	340 42.3	1 16.5	221 19.0	159 32.6	161 33.6	12	6 35.29
17	24 53.1	340 12.2	1 18.4	222 25.8	159 0.8	293 19.5	13	7 8.23
							14	7 41.17
27	24 52.8	339 42.2	—1 20.3	223 32.7	158 29.1	65 5.3	15	8 14.11
Nov. 6	24 52.5	339 12.1	1 22.2	224 39.5	157 57.3	196 51.1	16	8 47.06
16	24 52.2	338 42.1	1 24.1	225 46.3	157 25.5	328 37.0	17	9 20.00
26	24 51.9	338 12.0	1 26.0	226 53.2	156 53.7	100 22.8	18	9 52.94
Dec. 6	24 51.6	337 42.0	1 27.8	228 0.0	156 22.0	232 8.6	19	10 25.88
							20	10 58.82
16	24 51.3	337 11.9	—1 29.7	229 6.9	155 50.2	3 54.5	21	11 31.76
26	24 50.9	336 41.8	1 31.6	230 13.7	155 18.4	135 40.3	22	12 4.76
36	24 50.6	336 11.8	—1 33.4	231 20.6	154 46.6	267 26.2	23	12 37.64

Daily motion of Γ' +6'.684
Daily motion of Ω —3'.177

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF THE MOON.

Mid- night.	The Earth's Selenographic—		Physical Libration.		The Sun's Selenographic—		o	Illuminated Limbs at Transit at Greenwich, with Corrections to Defective Limbs when Observable.			
	Long.	Lat.	Long.	Lat.	Colong.	Lat.		R.A.	s	Dec.	
Jan. 1	-5°06	+6°56	-0°01	+0°01	81°40	+1°50	358°74	I.			"
2	4°82	6°30	0°01	0°01	93°52	1°49	4°68	I.	0°03	S.	
3	4°31	5°68	0°01	0°01	105°64	1°47	10°46	II.		S.	
4	3°61	4°71	0°01	0°01	117°77	1°46	15°65	II.		S.	
5	2°79	3°45	0°01	0°01	129°90	1°44	19°90	II.		S.	
6	-1°90	+1°97	-0°01	+0°01	142°03	+1°42	22°95	II.		S.	
7	0°98	+0°37	0°00	0°01	154°17	1°40	24°63	II.		S.	
8	-0°07	-1°26	0°00	0°01	166°32	1°38	24°87	II.		S.	
9	+0°82	2°81	0°00	0°01	178°47	1°36	23°68	II.		S.	
10	1°70	4°18	0°00	0°01	190°63	1°35	21°11	II.		S.	
11	+2°54	-5°30	0°00	+0°01	202°80	+1°33	17°29	II.		S.	
12	3°32	6°09	0°00	0°01	214°97	1°32	12°42	II.		S.	
13	4°01	6°52	0°00	0°01	227°15	1°31	6°81				
14	4°55	6°57	0°00	0°01	239°33	1°30	0°80				
15	4°90	6°25	0°00	0°01	251°52	1°28	354°82				
16	+5°00	-5°60	0°00	+0°01	263°71	+1°27	349°25				
17	4°80	4°66	0°00	0°01	275°90	1°26	344°40				
18	4°31	3°51	0°00	0°01	288°09	1°25	340°48				
19	3°52	2°21	0°00	0°01	300°28	1°24	337°59				
20	2°48	-0°83	-0°01	0°01	312°46	1°23	335°78				
21	+1°24	+0°56	-0°01	+0°01	324°64	+1°22	335°04	I.		S.	
22	-0°12	1°92	0°01	0°01	336°81	1°21	335°32	I.		S.	
23	1°53	3°20	0°01	0°01	348°98	1°20	336°60	I.		S.	
24	2°89	4°34	0°01	0°01	1°14	1°19	338°85	I.		S.	
25	4°10	5°31	0°01	0°01	13°30	1°17	342°03	I.		S.	
26	-5°09	+6°05	-0°01	+0°01	25°45	+1°16	346°10	I.		S.	
27	5°78	6°54	0°02	0°02	37°60	1°14	350°96	I.		S.	
28	6°10	6°71	0°02	0°02	49°74	1°12	356°45	I.		S.	
29	6°03	6°53	0°02	0°02	61°88	1°10	2°32	I.		S.	
30	5°58	5°99	0°02	0°02	74°01	1°07	8°23	I.		S.	0°57
31	-4°79	+5°09	-0°02	+0°02	86°14	+1°05	13°76	I.		S.	0°82
Feb. 1	3°71	3°85	0°02	0°02	98°27	1°02	18°50	II.	0°14	S.	
2	2°45	2°35	0°02	0°02	110°40	0°99	22°09	II.		S.	
3	-1°10	+0°68	0°01	0°01	122°53	0°96	24°28	II.		S.	
4	+0°25	-1°03	0°01	0°01	134°67	0°92	24°95	II.		S.	
5	+1°52	-2°67	-0°01	+0°01	146°81	+0°89	24°09	II.		S.	
6	2°66	4°12	0°01	0°01	158°96	0°86	21°79	II.		S.	
7	3°64	5°30	0°01	0°01	171°11	0°83	18°20	II.		S.	
8	4°42	6°15	0°01	0°01	183°28	0°80	13°55	II.		S.	
9	5°01	6°63	0°01	0°01	195°45	0°78	8°13	II.		S.	
10	+5°37	-6°73	-0°01	+0°01	207°62	+0°75	2°28	II.		S.	
11	5°52	6°46	0°01	0°01	219°81	0°73	356°37				
12	5°43	5°86	0°01	0°01	232°00	0°71	350°76				
13	5°11	4°97	0°01	0°01	244°19	0°69	345°76				
14	4°56	3°85	0°01	0°01	256°38	0°67	341°59				
15	+3°78	-2°56	-0°01	+0°01	268°58	+0°65	338°39				
16	+2°79	-1°17	-0°01	+0°01	280°78	+0°63	336°24				

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF THE MOON.

Mid-night.	The Earth's Selenographic—		Physical Libration.		The Sun's Selenographic—		<i>o</i>	Illuminated Limbs at Transit at Greenwich, with Corrections to Defective Limbs when Observable.			
	Long.	Lat.	Long.	Lat.	Colong.	Lat.		R.A.	s	Dec.	"
Feb. 16	+2°79	—1°17	—0°01	+0°01	280°78	+0°63	336°24				
17	1°63	+0°26	0°01	0°01	292°98	0°61	335°16				
18	+0°33	1°66	0°01	0°02	305°17	0°59	335°13				
19	—1°05	2°98	0°02	0°02	317°36	0°57	336°11				
20	2°45	4°17	0°02	0°02	329°55	0°55	338°06	I.		S.	
21	—3°80	+5°19	—0°02	+0°02	341°73	+0°53	340°93	I.		S.	
22	5°02	6°00	0°02	0°02	353°91	0°51	344°67	I.		S.	
23	6°03	6°55	0°02	0°02	6°08	0°49	349°19	I.		S.	
24	6°77	6°82	0°02	0°02	18°25	0°47	354°36	I.		S.	
25	7°15	6°76	0°02	0°02	30°41	0°44	359°98	I.		S.	
26	—7°14	+6°35	—0°02	+0°02	42°56	+0°41	5°79	I.		N.	0°06
27	6°70	5°57	0°02	0°02	54°71	0°38	11°44	I.		N.	
28	5°84	4°45	0°02	0°02	66°86	0°35	16°54	I.		N.	
Mar. 1	4°60	3°02	0°02	0°02	79°00	0°32	20°68	I.		N.	0°94
2	3°07	+1°35	0°02	0°02	91°14	0°28	23°53	I.	0°05	S.	0°13
3	—1°35	—0°43	—0°02	+0°02	103°28	+0°24	24°86	II.		S.	
4	+0°43	2°18	0°02	0°02	115°43	0°20	24°57	II.		S.	
5	2°15	3°77	0°02	0°02	127°57	0°17	22°68	II.		S.	
6	3°69	5°10	0°02	0°02	139°73	0°13	19°35	II.		S.	
7	4°96	6°07	0°02	0°02	151°88	0°09	14°83	II.		S.	
8	+5°91	—6°64	—0°02	+0°02	164°05	+0°06	9°46	II.		S.	
9	6°51	6°82	0°01	0°02	176°22	+0°03	3°60	II.		S.	
10	6°76	6°61	0°01	0°02	188°40	0°00	357°66	II.		N.	
11	6°68	6°07	0°01	0°02	200°59	—0°03	351°98	II.		N.	
12	6°29	5°23	0°02	0°02	212°78	0°06	346°86				
13	+5°64	—4°15	—0°02	+0°02	224°98	—0°08	342°53				
14	4°77	2°90	0°02	0°02	237°19	0°11	339°12				
15	3°72	1°53	0°02	0°02	249°40	0°13	336°72				
16	2°52	—0°10	0°02	0°02	261°61	0°15	335°36				
17	+1°22	+1°31	0°02	0°02	273°82	0°18	335°04				
18	—0°14	+2°67	—0°02	+0°02	286°03	—0°20	335°75				
19	1°53	3°90	0°02	0°02	298°24	0°22	337°44				
20	2°90	4°97	0°02	0°02	310°45	0°24	340°06				
21	4°20	5°83	0°02	0°02	322°66	0°26	343°56	I.		S.	
22	5°39	6°44	0°02	0°02	334°86	0°28	347°83	I.		S.	
23	—6°40	+6°78	—0°02	+0°02	347°06	—0°30	352°74	I.		S.	
24	7°17	6°81	0°02	0°02	359°25	0°32	358°13	I.		S.	
25	7°64	6°52	0°02	0°02	11°43	0°34	3°76	I.		N.	0°51
26	7°75	5°89	0°02	0°02	23°61	0°37	9°35	I.		N.	
27	7°46	4°92	0°02	0°02	35°79	0°40	14°55	I.		N.	
28	—6°74	+3°64	—0°02	+0°02	47°95	—0°42	19°02	I.		N.	
29	5°60	2°09	0°02	0°02	60°12	0°45	22°42	I.		N.	
30	4°07	+0°37	0°02	0°02	72°28	0°49	24°44	I.		N.	
31	2°23	—1°41	0°02	0°02	84°43	0°52	24°90	I.		N.	
Apr. 1	—0°22	3°11	0°02	0°02	96°59	0°56	23°70	II.		S.	0°21
2	+1°81	—4°58	—0°02	+0°02	108°74	—0°59	20°88	II.		S.	
3	+3°70	—5°72	—0°02	+0°02	120°90	—0°62	16°66	II.		S.	

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF THE MOON.

Mid- night.	The Earth's Selenographic—		Physical Libration.		The Sun's Selenographic—		o	Illuminated Limbs at Transit at Greenwich, with Corrections to Defective Limbs when Observable.			
	Long.	Lat.	Long.	Lat.	Colong.	Lat.		R.A.	s	Dec.	"
Apr. 3	+3°70	—5°72	—0°02	+0°02	120°90	—0°62	16°66	II.		S.	
4	5°30	6°45	0°02	0°02	133°07	0°66	11°36	II.		S.	
5	6°52	6°75	0°02	0°02	145°24	0°69	5°41	II.		S.	0°60
6	7°28	6°64	0°02	0°02	157°42	0°72	359°27	II.		N.	0°93
7	7°59	6°16	0°02	0°02	169°61	0°75	353°36	II.		N.	
8	+7°46	—5°37	—0°02	+0°02	181°80	—0°78	348°00	II.		N.	
9	6°95	4°34	0°02	0°02	194°00	0°80	343°44	II.		N.	
10	6°12	3°12	0°02	0°02	206°21	0°82	339°81	II.		N.	
11	5°06	1°79	0°02	0°02	218°42	0°85	337°19				
12	3°83	—0°39	0°02	0°02	230°64	0°87	335°59				
13	+2°48	+1°01	—0°02	+0°02	242°86	—0°89	335°03				
14	+1°09	2°36	0°02	0°02	255°08	0°91	335°48				
15	—0°30	3°61	0°02	0°02	267°31	0°92	336°93				
16	1°67	4°70	0°02	0°02	279°54	0°94	339°34				
17	2°96	5°59	0°02	0°02	291°77	0°96	342°63				
18	—4°16	+6°25	—0°02	+0°02	303°99	—0°97	346°72				
19	5°24	6°63	0°02	0°02	316°22	0°98	351°49				
20	6°16	6°72	0°02	0°02	328°44	1°00	356°75	I.		S.	
21	6°88	6°50	0°03	0°02	340°65	1°01	2°27	I.		N.	
22	7°36	5°96	0°03	0°02	352°86	1°02	7°78	I.		N.	
23	—7°55	+5°11	—0°02	+0°02	5°07	—1°04	13°00	I.		N.	
24	7°40	3°96	0°02	0°02	17°27	1°06	17°60	I.		N.	
25	6°88	2°56	0°02	0°02	29°46	1°08	21°29	I.		N.	
26	5°96	+0°96	0°02	0°02	41°64	1°10	23°80	I.		N.	
27	4°63	—0°74	0°02	0°02	53°82	1°12	24°90	I.		N.	
28	—2°94	—2°42	—0°02	+0°02	66°00	—1°14	24°44	I.		N.	
29	—0°99	3°96	0°02	0°02	78°17	1°17	22°35	I.		N.	
30	+1°07	5°23	0°02	0°02	90°34	1°19	18°72	II.	0°08	N.	0°93
May 1	3°08	6°11	0°02	0°02	102°52	1°22	13°77	II.		S.	0°00
2	4°86	6°57	0°02	0°02	114°69	1°24	7°89	II.		S.	0°00
3	+6°26	—6°58	—0°02	+0°02	126°87	—1°26	1°57	II.		N.	0°72
4	7°18	6°18	0°02	0°02	139°06	1°28	355°33	II.		N.	
5	7°60	5°45	0°02	0°02	151°25	1°30	349°59	II.		N.	
6	7°53	4°45	0°02	0°02	163°44	1°32	344°64	II.		N.	
7	7°03	3°26	0°02	0°02	175°65	1°33	340°68	II.		N.	
8	+6°17	—1°94	—0°02	+0°02	187°86	—1°35	337°75	II.		N.	
9	5°04	—0°56	0°02	0°02	200°08	1°36	335°89	II.		N.	
10	3°74	+0°82	0°02	0°02	212°30	1°38	335°08	II.		N.	
11	2°34	2°16	0°02	0°03	224°53	1°39	335°29				
12	+0°93	3°40	0°02	0°03	236°77	1°40	336°50				
13	—0°44	+4°49	—0°02	+0°03	249°00	—1°41	338°67				
14	1°73	5°40	0°02	0°03	261°24	1°42	341°75				
15	2°90	6°07	0°02	0°03	273°49	1°43	345°67				
16	3°94	6°48	0°02	0°03	285°73	1°43	350°32				
17	4°82	6°60	0°02	0°03	297°97	1°44	355°51				
18	—5°55	+6°41	—0°02	+0°03	310°21	—1°44	1°01				
19	—6°10	+5°91	—0°02	+0°03	322°44	—1°44	6°55				

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF THE MOON.

Mid-night.	The Earth's Selenographic—		Physical Libration.		The Sun's Selenographic—		C	Illuminated Limbs at Transit at Greenwich, with Corrections to Defective Limbs when Observable.			
	Long.	Lat.	Long.	Lat.	Colong.	Lat.		R.A.	s	Dec.	"
May 19	-6.10	+5.91	-0.02	+0.03	322.44	-1.44	6.55	I.		N.	
20	6.46	5.11	0.02	0.03	334.67	1.45	11.83	I.		N.	
21	6.59	4.03	0.02	0.02	346.90	1.45	16.54	I.		N.	
22	6.48	2.71	0.02	0.02	359.12	1.45	20.41	I.		N.	
23	6.07	+1.21	0.02	0.02	11.33	1.46	23.19	I.		N.	
24	-5.33	-0.39	-0.02	+0.02	23.54	-1.46	24.70	I.		N.	
25	4.25	2.01	0.02	0.02	35.74	1.47	24.78	I.		N.	
26	2.84	3.52	0.01	0.02	47.93	1.48	23.36	I.		N.	
27	-1.16	4.82	0.01	0.02	60.12	1.48	20.41	I.		N.	
28	+0.67	5.80	0.01	0.02	72.31	1.49	16.05	I.		N.	
29	+2.51	-6.38	-0.01	+0.02	84.49	-1.50	10.54	I.	0.05	N.	
30	4.19	6.52	0.01	0.02	96.68	1.51	4.32	II.		N.	
31	5.56	6.23	0.01	0.02	108.86	1.52	357.88	II.		N.	
June 1	6.51	5.56	0.01	0.02	121.05	1.53	351.75	II.		N.	
2	6.97	4.60	0.01	0.02	133.24	1.53	346.33	II.		N.	
3	+6.94	-3.41	-0.01	+0.03	145.44	-1.54	341.89	II.		N.	
4	6.48	2.08	0.01	0.03	157.65	1.54	338.55	II.		N.	
5	5.65	-0.69	0.01	0.03	169.86	1.54	336.33	II.		N.	
6	4.54	+0.70	0.01	0.03	182.08	1.55	335.21	II.		N.	
7	3.25	2.04	0.01	0.03	194.31	1.55	335.14	II.		N.	
8	+1.88	+3.28	-0.01	+0.03	206.54	-1.55	336.08	II.		N.	
9	+0.50	4.38	0.01	0.03	218.77	1.55	338.00	II.		N.	
10	-0.82	5.30	0.01	0.03	231.01	1.55	340.84				
11	2.00	5.99	0.01	0.03	243.26	1.55	344.54				
12	3.03	6.42	0.01	0.03	255.51	1.55	349.02				
13	-3.86	+6.57	-0.02	+0.03	267.76	-1.54	354.12				
14	4.51	6.40	0.02	0.03	280.01	1.54	359.63				
15	4.96	5.92	0.02	0.03	292.26	1.53	5.25				
16	5.23	5.13	0.02	0.03	304.51	1.52	10.68				
17	5.33	4.06	0.01	0.03	316.75	1.51	15.58				
18	-5.25	+2.76	-0.01	+0.03	328.99	-1.50	19.66	I.		N.	
19	4.99	+1.29	0.01	0.03	341.23	1.49	22.68	I.		N.	
20	4.52	-0.28	0.01	0.03	353.46	1.48	24.47	I.		N.	
21	3.83	1.86	0.01	0.03	5.68	1.47	24.90	I.		N.	
22	2.90	3.35	0.01	0.03	17.90	1.46	23.91	I.		N.	
23	-1.74	-4.65	-0.01	+0.03	30.11	-1.46	21.49	I.		N.	
24	-0.39	5.66	0.00	0.03	42.31	1.45	17.69	I.		N.	
25	+1.07	6.31	0.00	0.03	54.51	1.44	12.70	I.		N.	
26	2.54	6.55	0.00	0.03	66.70	1.43	6.82	I.		N.	
27	3.88	6.36	0.00	0.03	78.89	1.42	0.48	I.		N.	
28	+4.98	-5.78	0.00	+0.03	91.08	-1.42	354.17	II.		N.	
29	5.73	4.86	0.00	0.03	103.27	1.41	348.38	II.		N.	
30	6.08	3.68	0.00	0.03	115.46	1.40	343.47	II.		N.	
July 1	6.00	2.34	0.00	0.03	127.66	1.39	339.64	II.		N.	
2	5.53	-0.92	0.00	0.03	139.86	1.38	336.97	II.		N.	
3	+4.72	+0.52	0.00	+0.03	152.07	-1.37	335.46	II.		N.	
4	+3.64	+1.90	0.00	+0.03	164.28	-1.36	335.06	II.		N.	

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF THE MOON.

Mid- night.	The Earth's Selenographic—		Physical Libration.		The Sun's Selenographic—		0	Illuminated Limbs at Transit at Greenwich, with Corrections to Defective Limbs when Observable.				
	Long.	Lat.	Long.	Lat.	Colong.	Lat.		R.A.	s	Dec.	"	
July	4	+3°64	+1°90	0°00	+0°03	164°28	—1°36	335°06	II.		N.	
	5	2°39	3°18	0°00	0°03	176°50	1°35	335°70	II.		N.	
	6	+1°05	4°32	0°00	0°03	188°73	1°34	337°33	II.		N.	
	7	—0°28	5°27	0°00	0°03	200°96	1°33	339°90	II.		N.	
	8	1°53	6°00	0°00	0°03	213°20	1°32	343°34	II.		N.	
	9	—2°63	+6°47	—0°01	+0°03	225°44	—1°31	347°58				
	10	3°52	6°65	0°01	0°03	237°68	1°30	352°50				
	11	4°18	6°53	0°01	0°03	249°93	1°29	357°92				
	12	4°59	6°09	0°01	0°03	262°18	1°27	3°59				
	13	4°75	5°32	0°01	0°03	274°44	1°26	9°18				
	14	—4°69	+4°26	—0°01	+0°03	286°69	—1°24	14°33				
	15	4°43	2°95	0°00	0°03	298°94	1°22	18°73				
	16	4°00	+1°45	0°00	0°03	311°19	1°20	22°08				
	17	3°42	—0°15	0°00	0°03	323°43	1°18	24°18	I.		N.	
	18	2°71	1°76	0°00	0°03	335°67	1°15	24°92	I.		N.	
	19	—1°87	—3°27	0°00	+0°03	347°90	—1°13	24°24	I.		N.	
	20	—0°92	4°60	0°00	0°03	0°13	1°11	22°16	I.		N.	
	21	+0°12	5°64	0°00	0°03	12°34	1°09	18°75	I.		N.	
	22	1°21	6°34	0°00	0°03	24°55	1°07	14°16	I.		N.	
	23	2°31	6°65	0°00	0°03	36°76	1°04	8°65	I.		N.	
	24	+3°34	—6°55	0°00	+0°03	48°96	—1°02	2°56	I.		N.	
	25	4°23	6°05	0°00	0°03	61°15	1°00	356°33	I.		N.	0°77
	26	4°90	5°20	—0°01	0°03	73°34	0°98	350°40	I.		N.	0°22
	27	5°29	4°07	0°01	0°03	85°53	0°95	345°17	II.	0°00	N.	0°78
	28	5°36	2°74	0°01	0°03	97°72	0°93	340°93	II.		N.	
	29	+5°10	—1°29	—0°01	+0°03	109°91	—0°91	337°81	II.		N.	
	30	4°52	+0°19	0°00	0°03	122°11	0°89	335°87	II.		N.	
	31	3°66	1°64	0°00	0°03	134°30	0°87	335°08	II.		N.	
Aug.	1	2°58	2°98	0°00	0°03	146°51	0°85	335°39	II.		N.	
	2	1°34	4°18	0°00	0°03	158°71	0°83	336°71	II.		N.	
	3	+0°03	+5°19	0°00	+0°03	170°92	—0°81	338°99	II.		N.	
	4	—1°27	5°98	0°00	0°03	183°14	0°80	342°13	II.		N.	
	5	2°48	6°52	0°00	0°03	195°37	0°78	346°11	II.		N.	
	6	3°54	6°77	0°00	0°03	207°60	0°76	350°78	II.		N.	
	7	4°37	6°73	0°00	0°03	219°83	0°74	356°01	II.		N.	
	8	—4°93	+6°36	0°00	+0°03	232°07	—0°72	1°59				
	9	5°19	5°67	0°00	0°03	244°31	0°70	7°24				
	10	5°13	4°67	0°00	0°03	256°56	0°68	12°62				
	11	4°78	3°38	0°00	0°03	268°81	0°66	17°36				
	12	4°15	1°87	0°00	0°03	281°05	0°63	21°15				
	13	—3°30	+0°22	0°00	+0°03	293°30	—0°61	23°70				
	14	2°29	—1°46	0°00	0°03	305°54	0°58	24°85				
	15	—1°17	3°06	0°00	0°03	317°78	0°55	24°53				
	16	0°00	4°47	+0°01	0°03	330°02	0°52	22°74	I.		N.	
	17	+1°15	5°59	0°01	0°03	342°24	0°49	19°59	I.		N.	
	18	+2°25	—6°36	+0°01	+0°03	354°46	—0°46	15°24	I.		N.	
	19	+3°24	—6°74	+0°01	+0°03	6°68	—0°43	9°95	I.		N.	

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF THE MOON.

Mid- night.	The Earth's Selenographic—		Physical Libration.		The Sun's Selenographic—		<i>o</i>	Illuminated Limbs at Transit at Greenwich, with Corrections to Defective Limbs when Observable.			
	Long.	Lat.	Long.	Lat.	Colong.	Lat.		R.A.	<i>s</i>	Dec.	
Aug. 19	+3°24	—6°74	+0°01	+0°03	6°68	—0°43	9°95	I.		N.	"
20	4°08	6°70	0°01	0°03	18°88	0°40	4°06	I.		N.	
21	4°74	6°28	0°01	0°03	31°08	0°37	357°94	I.		N.	0°47
22	5°19	5°51	0°01	0°03	43°27	0°34	352°02	I.		S.	0°51
23	5°41	4°45	0°01	0°03	55°46	0°30	346°66	I.		S.	
24	+5°37	—3°16	+0°01	+0°03	67°65	—0°27	342°16	I.		S.	
25	5°08	1°73	0°01	0°03	79°83	0°24	338°71	I.		S.	0°25
26	4°54	—0°24	0°01	0°03	92°01	0°21	336°39	II.		N.	0°51
27	3°77	+1°24	0°01	0°03	104°19	0°18	335°23	II.		N.	
28	2°79	2°64	0°01	0°03	116°38	0°15	335°18	II.		N.	
29	+1°66	+3°90	+0°01	+0°03	128°56	—0°13	336°19	II.		N.	
30	+0°41	4°98	0°01	0°04	140°75	0°10	338°18	II.		N.	
31	—0°90	5°84	0°01	0°04	152°95	0°08	341°06	II.		N.	
Sept. 1	2°20	6°46	0°01	0°04	165°15	0°06	344°76	II.		N.	
2	3°42	6°80	+0°01	0°04	177°35	0°04	349°18	II.		N.	
3	—4°49	+6°84	0°00	+0°04	189°56	—0°02	354°17	II.		N.	
4	5°34	6°58	0°00	0°04	201°77	0°00	359°56	II.		N.	
5	5°91	6°00	0°00	0°04	213°99	+0°02	5°13	II.		S.	
6	6°15	5°11	0°00	0°04	226°22	0°04	10°58	II.		S.	
7	6°01	3°92	+0°01	0°03	238°45	0°06	15°57				
8	—5°49	+2°48	+0°01	+0°03	250°68	+0°08	19°77				
9	4°61	+0°85	0°01	0°03	262°92	0°11	22°86				
10	3°40	—0°87	0°01	0°03	275°16	0°13	24°59				
11	1°96	2°56	0°01	0°03	287°39	0°16	24°80				
12	—0°38	4°08	0°01	0°03	299°62	0°19	23°45				
13	+1°23	—5°33	+0°01	+0°03	311°85	+0°22	20°61				
14	2°74	6°22	0°01	0°03	324°07	0°26	16°46	I.		N.	
15	4°06	6°70	0°01	0°03	336°29	0°29	11°27	I.		N.	
16	5°13	6°75	0°01	0°03	348°50	0°32	5°41	I.		N.	
17	5°89	6°40	0°02	0°03	0°70	0°35	359°28	I.		N.	0°32
18	+6°33	—5°70	+0°02	+0°03	12°89	+0°39	353°31	I.		S.	
19	6°46	4°70	0°02	0°03	25°08	0°42	347°85	I.		S.	
20	6°30	3°47	0°02	0°03	37°26	0°46	343°19	I.		S.	
21	5°88	2°09	0°02	0°03	49°44	0°49	339°52	I.		S.	
22	5°24	—0°62	0°02	0°04	61°61	0°52	336°93	I.		S.	
23	+4°41	+0°85	+0°02	+0°04	73°78	+0°55	335°46	I.		S.	
24	3°42	2°26	0°01	0°04	85°95	0°58	335°10	II.	0°00	S.	0°88
25	2°30	3°56	0°01	0°04	98°12	0°61	335°80	II.		N.	0°15
26	+1°08	4°68	0°01	0°04	110°29	0°64	337°51	II.		N.	
27	—0°20	5°60	0°01	0°04	122°46	0°66	340°14	II.		N.	
28	—1°51	+6°27	+0°01	+0°04	134°63	+0°68	343°61	II.		N.	
29	2°80	6°68	0°01	0°04	146°81	0°70	347°81	II.		N.	
30	4°03	6°80	0°01	0°04	158°99	0°72	352°60	II.		N.	
Oct. 1	5°14	6°63	0°01	0°04	171°17	0°73	357°81	II.		N.	0°02
2	6°05	6°15	0°01	0°04	183°36	0°75	3°25	II.		S.	
3	—6°70	+5°38	+0°01	+0°04	195°56	+0°76	8°64	II.		S.	
4	—7°03	+4°33	+0°01	+0°04	207°76	+0°78	13°72	II.		S.	

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF THE MOON.

Mid- night.	The Earth's Selenographic—		Physical Libration.		The Sun's Selenographic—		o	Illuminated Limbs at Transit at Greenwich, with Corrections to Defective Limbs when Observable.				
	Long.	Lat.	Long.	Lat.	Colong.	Lat.		R.A.	s	Dec.	"	
Oct.	4	-7°03	+4°33	+0°01	+0°04	207°76	+0°78	13°72	II.		S.	"
	5	6°98	3°01	0°01	0°04	219°97	0°79	18°17	II.		S.	
	6	6°49	+1°49	0°01	0°04	232°18	0°81	21°69				
	7	5°55	-0°17	0°01	0°03	244°39	0°83	24°00				
	8	4°19	1°87	0°01	0°03	256°61	0°85	24°89				
	9	-2°48	-3°47	+0°01	+0°03	268°83	+0°87	24°20				
	10	-0°54	4°85	0°01	0°03	281°05	0°89	21°91				
	11	+1°47	5°88	0°01	0°03	293°27	0°91	18°13				
	12	3°38	6°50	0°01	0°03	305°49	0°94	13°10				
	13	5°03	6°67	0°01	0°03	317°70	0°96	7°22				
	14	+6°31	-6°41	+0°01	+0°03	329°90	+0°99	0°94	I.		N.	
	15	7°15	5°77	0°01	0°03	342°10	1°02	354°75	I.		S.	
	16	7°56	4°81	0°02	0°03	354°29	1°05	349°05	I.		S.	
	17	7°55	3°62	0°02	0°04	6°47	1°08	344°16	I.		S.	
	18	7°18	2°28	0°02	0°04	18°64	1°11	340°26	I.		S.	
	19	+6°51	-0°85	+0°02	+0°04	30°81	+1°14	337°43	I.		S.	
	20	5°62	+0°59	0°02	0°04	42°97	1°16	335°72	I.		S.	
	21	4°56	1°98	0°02	0°04	55°13	1°19	335°10	I.		S.	
	22	3°39	3°27	0°01	0°04	67°29	1°22	335°54	I.		S.	
	23	2°15	4°41	0°01	0°04	79°44	1°24	336°99	I.		S.	
	24	+0°86	+5°35	+0°01	+0°04	91°59	+1°26	339°38	II.	0°13	S.	
	25	-0°44	6°05	0°01	0°04	103°74	1°28	342°64	II.		S.	0°13
	26	1°72	6°50	0°01	0°04	115°89	1°29	346°66	II.		N.	0°03
	27	2°98	6°66	0°01	0°04	128°05	1°30	351°31	II.		N.	0°02
	28	4°17	6°54	0°01	0°04	140°20	1°31	356°41	II.		S.	0°22
	29	-5°26	+6°12	+0°01	+0°04	152°36	+1°32	1°76	II.		S.	
	30	6°20	5°43	0°01	0°04	164°53	1°32	7°11	II.		S.	
	31	6°92	4°47	0°01	0°04	176°70	1°32	12°20	II.		S.	
Nov.	1	7°37	3°27	0°01	0°04	188°87	1°33	16°76	II.		S.	
	2	7°46	1°87	0°01	0°04	201°05	1°33	20°52	II.		S.	
	3	-7°13	+0°32	+0°01	+0°04	213°24	+1°34	23°23	II.		S.	
	4	6°34	-1°30	0°01	0°04	225°43	1°35	24°69	II.		S.	
	5	5°07	2°88	0°01	0°04	237°63	1°35	24°70				
	6	3°37	4°30	0°01	0°03	249°83	1°35	23°15				
	7	-1°35	5°45	0°01	0°03	262°04	1°36	20°03				
	8	+0°84	-6°22	+0°01	+0°03	274°24	+1°37	15°47				
	9	3°00	6°53	0°01	0°03	286°45	1°39	9°77				
	10	4°91	6°39	0°01	0°04	298°65	1°40	3°39				
	11	6°44	5°82	0°01	0°04	310°84	1°42	356°89				
	12	7°47	4°90	0°01	0°04	323°03	1°43	350°78	I.		S.	
	13	+7°98	-3°72	+0°01	+0°04	335°22	+1°45	345°46	I.		S.	
	14	8°01	2°38	0°01	0°04	347°40	1°47	341°17	I.		S.	
	15	7°60	-0°96	0°01	0°04	359°57	1°48	338°03	I.		S.	
	16	6°86	+0°48	0°01	0°04	11°73	1°50	336°03	I.		S.	
	17	5°85	1°86	0°01	0°04	23°89	1°52	335°16	I.		S.	
	18	+4°68	+3°14	+0°01	+0°04	36°04	+1°54	335°36	I.		S.	
	19	+3°40	+4°27	+0°01	+0°04	48°19	+1°55	336°56	I.		S.	

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF THE MOON.

Mid- night.	The Earth's Selenographic—		Physical Libration.		The Sun's Selenographic—		O	Illuminated Limbs at Transit at Greenwich, with Corrections to Defective Limbs when Observable.			
	Long.	Lat.	Long.	Lat.	Colong.	Lat.		R.A.	s	Dec.	
Nov. 19	+3°40	+4°27	+0°01	+0°04	48°19	+1°55	336°56	I.		S.	"
20	2°08	5°21	0°01	0°04	60°33	1°56	338°72	I.		S.	
21	+0°77	5°92	0°01	0°04	72°47	1°57	341°77	I.		S.	
22	-0°51	6°38	0°01	0°04	84°61	1°58	345°61	I.		S.	
23	1°73	6°56	0°01	0°04	96°74	1°58	350°13	II.		S.	
24	-2°89	+6°46	+0°01	+0°04	108°88	+1°58	355°16	II.		S.	
25	3°96	6°06	+0°01	0°04	121°02	1°57	0°49	II.		S.	
26	4°94	5°39	0°00	0°04	133°16	1°57	5°87	II.		S.	
27	5°78	4°47	0°00	0°04	145°30	1°56	11°02	II.		S.	
28	6°46	3°31	0°00	0°04	157°45	1°55	15°68	II.		S.	
29	-6°92	+1°97	0°00	+0°04	169°60	+1°54	19°60	II.		S.	
30	7°08	+0°50	0°00	0°04	181°76	1°52	22°55	II.		S.	
Dec. 1	6°90	-1°04	0°00	0°04	193°92	1°51	24°35	II.		S.	
2	6°32	2°56	0°00	0°04	206°09	1°50	24°86	II.		S.	
3	5°29	3°96	0°00	0°04	218°27	1°49	23°95	II.		S.	
4	-3°83	-5°14	0°00	+0°04	230°45	+1°49	21°55				
5	-2°02	6°00	0°00	0°04	242°64	1°48	17°69				
6	+0°02	6°45	0°00	0°04	254°83	1°47	12°53				
7	2°10	6°44	0°00	0°04	267°03	1°47	6°40				
8	4°03	5°98	0°00	0°04	279°22	1°47	359°80				
9	+5°64	-5°13	+0°01	+0°04	291°41	+1°47	353°30				
10	6°79	3°96	0°01	0°04	303°60	1°47	347°43				
11	7°44	2°60	0°01	0°04	315°78	1°47	342°58	I.		S.	
12	7°58	-1°13	+0°01	0°04	327°96	1°47	338°93	I.		S.	
13	7°26	+0°36	0°00	0°04	340°13	1°47	336°52	I.		S.	
14	+6°57	+1°78	0°00	+0°04	352°30	+1°48	335°30	I.		S.	
15	5°59	3°09	0°00	0°04	4°46	1°48	335°22	I.		S.	
16	4°41	4°24	0°00	0°04	16°61	1°48	336°17	I.		S.	
17	3°12	5°20	0°00	0°04	28°75	1°48	338°09	I.		S.	
18	1°79	5°93	0°00	0°04	40°89	1°48	340°91	I.		S.	
19	+0°49	+6°40	0°00	+0°04	53°03	+1°48	344°54	I.		S.	
20	-0°75	6°60	0°00	0°04	65°16	1°47	348°89	I.		S.	
21	1°88	6°52	0°00	0°04	77°29	1°46	353°82	I.		S.	
22	2°89	6°14	0°00	0°04	89°42	1°45	359°12	I.	0°12	S.	
23	3°78	5°47	0°00	0°04	101°55	1°43	4°56	II.		S.	
24	-4°54	+4°54	0°00	+0°04	113°68	+1°41	9°85	II.		S.	
25	5°16	3°38	0°00	0°04	125°81	1°39	14°69	II.		S.	
26	5°62	2°03	0°00	0°04	137°94	1°37	18°81	II.		S.	
27	5°89	+0°56	0°00	0°04	150°08	1°34	21°99	II.		S.	
28	5°94	-0°96	0°00	0°04	162°23	1°32	24°04	II.		S.	
29	-5°73	-2°46	0°00	+0°04	174°38	+1°29	24°85	II.		S.	
30	5°22	3°86	0°00	0°04	186°53	1°26	24°34	II.		S.	
31	4°38	5°05	0°00	0°04	198°69	1°24	22°45	II.		S.	
32	-3°22	-5°95	0°00	+0°04	210°86	+1°22	19°20	II.		S.	

ILLUMINATED DISC OF MERCURY.

Noon.	<i>k</i>	<i>i</i>	θ	<i>L</i>	Stellar Mag.	Noon.	<i>k</i>	<i>i</i>	θ	<i>L</i>	Stellar Mag.
Jan. 1	0.882	40	358	42.3	-0.7	July 5	0.688	68	174	56.8	-0.5
6	0.792	54	353	52.3	0.6	10	0.830	49	181	65.0	1.0
11	0.648	73	348	62.2	-0.5	15	0.942	28	192	68.0	1.4
16	0.439	97	343	62.5	0.0	20	0.994	9	223	63.4	1.7
21	0.200	127	337	39.9	+0.8	25	0.989	12	348	54.3	1.5
26	0.032	159	317	7.7	+2.2	30	0.950	26	6	45.4	-1.0
31	0.027	161	201	5.9	2.3	Aug. 4	0.897	37	13	38.7	0.6
Feb. 5	0.148	135	180	25.4	1.3	9	0.843	47	18	34.2	0.3
10	0.301	113	174	36.9	0.8	14	0.788	55	21	31.5	-0.1
15	0.435	97	171	38.5	0.5	19	0.734	62	23	30.3	+0.1
20	0.542	85	167	36.2	+0.3	24	0.676	69	25	30.2	+0.2
25	0.625	76	164	33.3	0.2	29	0.613	77	27	31.0	0.4
Mar. 2	0.691	67	161	31.0	0.2	Sept. 3	0.539	86	28	32.4	0.5
7	0.747	60	157	29.7	+0.1	8	0.450	96	30	33.7	0.6
12	0.796	54	154	29.4	0.0	13	0.340	109	32	33.4	0.8
17	0.842	47	152	30.3	-0.2	18	0.212	125	35	27.9	+1.2
22	0.885	40	149	32.5	0.4	23	0.082	147	41	14.3	1.9
27	0.928	31	147	36.5	0.7	28	0.006	171	86	1.2	2.9
Apr. 1	0.968	21	143	42.6	1.1	Oct. 3	0.056	153	196	11.9	2.0
6	0.995	8	131	51.2	1.5	8	0.240	121	205	43.2	+0.7
11	0.993	10	346	61.3	-1.7	13	0.481	92	208	64.1	-0.2
16	0.937	29	337	68.8	1.4	18	0.692	67	210	64.4	0.6
21	0.817	51	337	68.8	1.0	23	0.836	48	210	54.5	0.8
26	0.658	72	339	61.3	-0.5	28	0.920	33	210	44.0	0.9
May 1	0.496	90	341	50.5	+0.1	Nov. 2	0.966	21	209	36.0	0.9
6	0.350	107	343	39.4	+0.6	7	0.989	12	207	30.5	-0.9
11	0.226	123	345	28.6	1.1	12	0.998	5	202	27.1	0.9
16	0.124	139	347	17.7	1.7	17	1.000	2	37	25.1	0.8
21	0.047	155	351	7.6	2.4	22	0.995	8	25	24.4	0.7
26	0.006	171	8	1.1	3.1	27	0.985	14	20	24.8	0.6
31	0.007	170	134	1.2	+3.1	Dec. 2	0.969	20	16	26.2	-0.6
June 5	0.048	155	151	7.4	2.4	7	0.944	27	12	29.1	0.5
10	0.117	140	155	16.2	1.8	12	0.906	36	7	33.6	0.5
15	0.205	126	158	24.7	1.3	17	0.847	46	2	40.4	0.5
20	0.306	113	161	32.2	0.9	22	0.754	60	358	49.5	0.5
25	0.419	99	165	39.6	+0.5	27	0.609	77	354	58.6	-0.3
30	0.547	85	169	47.7	0.0	32	0.403	101	349	58.6	+0.1

ILLUMINATED DISC OF VENUS.

Noon.	<i>k</i>	<i>i</i>	<i>θ</i>	<i>L</i>	Stellar Mag.	Noon.	<i>k</i>	<i>i</i>	<i>θ</i>	<i>L</i>	Stellar Mag.
Jan. 1	0.274	116.8	197.0	211.9	-4.4	July 5	0.949	26.0	176.1	49.4	-3.3
6	0.315	111.7	195.7	207.4	4.4	10	0.956	24.1	179.3	48.9	3.3
11	0.352	107.2	194.2	199.3	4.3	15	0.963	22.1	182.6	48.4	3.3
16	0.387	103.0	192.5	189.5	4.3	20	0.969	20.2	186.1	47.9	3.4
21	0.420	99.2	190.5	179.0	4.2	25	0.975	18.2	189.6	47.5	3.4
26	0.450	95.7	188.4	168.4	-4.2	30	0.980	16.3	193.1	47.2	-3.4
31	0.478	92.5	186.1	158.2	4.1	Aug. 4	0.984	14.3	196.8	46.9	3.4
Feb. 5	0.505	89.4	183.8	148.6	4.1	9	0.988	12.4	200.6	46.6	3.4
10	0.530	86.5	181.3	139.6	4.0	14	0.992	10.5	204.7	46.4	3.4
15	0.554	83.8	178.7	131.2	4.0	19	0.994	8.6	209.3	46.2	3.4
20	0.577	81.2	176.2	123.6	-3.9	24	0.996	6.7	215.1	46.1	-3.4
25	0.598	78.6	173.6	116.6	3.9	29	0.998	4.9	223.4	46.0	3.5
Mar. 2	0.619	76.2	171.1	110.2	3.8	Sept. 3	0.999	3.3	238.3	45.9	3.5
7	0.639	73.9	168.7	104.3	3.8	8	1.000	2.1	272.1	45.9	3.5
12	0.658	71.6	166.4	99.0	3.7	13	1.000	2.3	323.5	45.9	3.5
17	0.676	69.4	164.2	94.1	-3.7	18	0.999	3.6	351.0	45.9	-3.5
22	0.693	67.2	162.2	89.6	3.6	23	0.998	5.2	2.8	46.0	3.5
27	0.710	65.1	160.4	85.5	3.6	28	0.996	6.9	8.8	46.1	3.4
Apr. 1	0.727	63.0	158.8	81.8	3.6	Oct. 3	0.994	8.7	12.3	46.2	3.4
6	0.742	61.0	157.4	78.4	3.5	8	0.992	10.4	14.3	46.4	3.4
11	0.758	59.0	156.3	75.3	-3.5	13	0.989	12.2	15.4	46.6	-3.4
16	0.772	57.0	155.4	72.4	3.5	18	0.985	13.9	15.8	46.9	3.4
21	0.787	55.0	154.8	69.8	3.5	23	0.981	15.6	15.7	47.2	3.4
26	0.800	53.1	154.4	67.4	3.4	28	0.977	17.3	15.2	47.6	3.4
May 1	0.814	51.1	154.3	65.2	3.4	Nov. 2	0.973	19.0	14.2	48.0	3.4
6	0.827	49.2	154.4	63.2	-3.4	7	0.968	20.7	12.9	48.4	-3.4
11	0.839	47.3	154.8	61.4	3.4	12	0.962	22.4	11.3	48.9	3.4
16	0.851	45.3	155.5	59.7	3.4	17	0.956	24.1	9.5	49.5	3.3
21	0.863	43.4	156.4	58.2	3.3	22	0.950	25.8	7.4	50.2	3.3
26	0.874	41.5	157.6	56.8	3.3	27	0.944	27.4	5.1	50.9	3.3
31	0.885	39.6	159.1	55.5	-3.3	Dec. 2	0.937	29.1	2.7	51.6	-3.3
June 5	0.896	37.7	160.8	54.4	3.3	7	0.930	30.8	0.2	52.4	3.3
10	0.906	35.7	162.8	53.3	3.3	12	0.922	32.4	357.7	53.3	3.3
15	0.916	33.8	165.0	52.4	3.3	17	0.914	34.1	355.2	54.3	3.4
20	0.925	31.9	167.5	51.5	3.3	22	0.906	35.8	352.8	55.4	3.4
25	0.933	29.9	170.2	50.7	-3.3	27	0.897	37.5	350.5	56.6	-3.4
30	0.941	28.0	173.1	50.0	-3.3	32	0.887	39.2	348.3	57.8	-3.4

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF MARS.

Midnight.		Light- Time.	Stellar Magni- tude.	P	$A_{\oplus} + 180^{\circ}$	$D_{\oplus}$	$A_{\odot} - A_{\oplus}$	$D_{\odot}$	$\odot \delta$
		m		$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	
Jan.	1	12.66	+1.0	341.71	76.69	-24.35	+42.11	-21.30	296.67
	3	12.78	1.0	340.90	78.29	24.49	41.76	21.06	297.86
	5	12.90	1.0	340.11	79.90	24.62	41.39	20.81	299.05
	7	13.02	1.0	339.32	81.52	24.73	41.02	20.56	300.23
	9	13.15	1.0	338.55	83.13	24.82	40.63	20.30	301.41
	11	13.27	+1.1	337.79	84.74	-24.90	+40.24	-20.03	302.59
	13	13.39	1.1	337.04	86.36	24.95	39.84	19.75	303.77
	15	13.52	1.1	336.31	87.98	24.99	39.43	19.46	304.94
	17	13.64	1.1	335.58	89.59	25.01	39.01	19.17	306.11
	19	13.77	1.1	334.88	91.21	25.01	38.58	18.87	307.27
	21	13.89	+1.2	334.18	92.82	-24.99	+38.15	-18.56	308.43
	23	14.01	1.2	333.51	94.43	24.95	37.72	18.25	309.59
	25	14.14	1.2	332.85	96.04	24.90	37.28	17.94	310.74
	27	14.26	1.2	332.20	97.64	24.83	36.83	17.61	311.89
	29	14.39	1.2	331.58	99.24	24.74	36.38	17.28	313.04
	31	14.51	+1.2	330.97	100.84	-24.64	+35.92	-16.95	314.18
Feb.	2	14.63	1.3	330.38	102.43	24.51	35.47	16.61	315.31
	4	14.76	1.3	329.81	104.01	24.37	35.01	16.26	316.45
	6	14.88	1.3	329.27	105.59	24.22	34.55	15.91	317.58
	8	15.01	1.3	328.74	107.17	24.04	34.08	15.56	318.70
	10	15.13	+1.3	328.23	108.73	-23.85	+33.62	-15.20	319.83
	12	15.25	1.3	327.74	110.29	23.65	33.16	14.84	320.94
	14	15.38	1.4	327.28	111.85	23.43	32.69	14.47	322.06
	16	15.50	1.4	326.84	113.39	23.19	32.23	14.10	323.17
	18	15.62	1.4	326.42	114.93	22.94	31.76	13.73	324.28
	20	15.74	+1.4	326.02	116.46	-22.67	+31.30	-13.35	325.38
	22	15.87	1.4	325.65	117.98	22.39	30.84	12.97	326.48
	24	15.99	1.4	325.30	119.49	22.10	30.38	12.59	327.58
	26	16.11	1.5	324.97	120.99	21.79	29.93	12.20	328.67
	28	16.23	1.5	324.67	122.48	21.47	29.48	11.81	329.76
Mar.	2	16.35	+1.5	324.39	123.97	-21.14	+29.02	-11.42	330.84
	4	16.47	1.5	324.14	125.44	20.79	28.58	11.03	331.92
	6	16.59	1.5	323.91	126.90	20.43	28.13	10.63	333.00
	8	16.71	+1.5	323.70	128.36	-20.06	+27.69	-10.24	334.07
	..	..	..	..	..	..	..	..	..
Dec.	10	18.30	+1.8	36.20	308.93	+18.67	-25.77	+23.42	102.05
	12	18.18	1.8	36.35	310.23	18.31	26.09	23.33	102.96
	14	18.05	1.8	36.48	311.52	17.95	26.40	23.24	103.87
	16	17.92	1.8	36.59	312.81	17.57	26.70	23.14	104.78
	18	17.79	1.8	36.67	314.09	17.18	27.00	23.03	105.69
	20	17.66	+1.8	36.74	315.37	+16.79	-27.29	+22.92	106.60
	22	17.53	1.8	36.79	316.64	16.39	27.58	22.80	107.52
	24	17.40	1.8	36.82	317.91	15.98	27.86	22.68	108.44
	26	17.27	1.8	36.83	319.17	15.56	28.14	22.55	109.36
	28	17.13	1.7	36.81	320.43	15.14	28.41	22.41	110.28
	30	16.99	+1.7	36.78	321.69	+14.71	-28.68	+22.27	111.20
	32	16.86	+1.7	36.73	322.94	+14.27	-28.94	+22.12	112.13

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF MARS.

Mid- night.	<i>k</i>	Diamete- ter.	<i>i</i>	<i>q</i>	<i>Q</i>	Central Meridian.		Mean Time of Transit of Zero Meridian.	
						Of Date.	Of Intermedi- ate Date.	Of Date.	Of Intermedi- ate Date.
								h m	h m
Jan. 1	0.890	6.15	38.79	0.68	67.50	59.93	50.00	7 53.5	8 34.3
3	0.891	6.09	38.51	0.66	67.37	40.08	30.15	9 15.2	9 56.0
5	0.893	6.03	38.23	0.65	67.25	20.22	10.29	10 36.8	11 17.7
7	0.894	5.97	37.95	0.63	67.14	0.36	350.43	11 58.5	12 39.4
9	0.896	5.92	37.66	0.62	67.05	340.50	330.57	13 20.2	14 1.0
11	0.897	5.86	37.37	0.60	66.97	320.64	310.71	14 41.9	15 22.7
13	0.899	5.81	37.08	0.59	66.90	300.78	290.85	16 3.6	16 44.4
15	0.900	5.75	36.79	0.57	66.85	280.92	270.99	17 25.3	18 6.1
17	0.902	5.70	36.49	0.56	66.81	261.06	251.13	18 47.0	19 27.8
19	0.904	5.65	36.19	0.54	66.78	241.20	231.27	20 8.7	20 49.5
21	0.905	5.60	35.89	0.53	66.76	221.34	211.41	21 30.4	22 11.2
23	0.907	5.55	35.59	0.52	66.75	201.48	191.55	22 52.1	23 32.9
25	0.908	5.50	35.28	0.51	66.76	181.63	171.70	..	0 13.7
27	0.910	5.45	34.97	0.49	66.79	161.78	151.85	0 54.6	1 35.4
29	0.911	5.41	34.66	0.48	66.82	141.93	132.01	2 16.2	2 57.0
31	0.913	5.36	34.35	0.47	66.87	122.09	112.17	3 37.8	4 18.6
Feb. 2	0.914	5.31	34.03	0.46	66.93	102.25	92.34	4 59.4	5 40.2
4	0.916	5.27	33.72	0.44	67.00	82.42	72.51	6 21.0	7 1.8
6	0.917	5.23	33.40	0.43	67.08	62.59	52.68	7 42.5	8 23.3
8	0.919	5.18	33.08	0.42	67.18	42.77	32.87	9 4.1	9 44.8
10	0.920	5.14	32.76	0.41	67.29	22.96	13.06	10 25.6	11 6.3
12	0.922	5.10	32.43	0.40	67.41	3.16	353.26	11 47.0	12 27.7
14	0.923	5.06	32.11	0.39	67.54	343.36	333.46	13 8.5	13 49.2
16	0.925	5.02	31.78	0.38	67.69	323.57	313.67	14 29.9	15 10.5
18	0.926	4.98	31.45	0.37	67.85	303.78	293.89	15 51.2	16 31.9
20	0.928	4.94	31.12	0.36	68.02	284.01	274.12	17 12.5	17 53.2
22	0.930	4.90	30.79	0.35	68.20	264.24	254.36	18 33.8	19 14.5
24	0.931	4.86	30.45	0.34	68.39	244.49	234.61	19 55.1	20 35.7
26	0.933	4.83	30.12	0.33	68.60	224.74	214.87	21 16.3	21 56.9
28	0.934	4.79	29.78	0.32	68.82	205.00	195.13	22 37.5	23 18.0
Mar. 2	0.935	4.76	29.44	0.31	69.05	185.27	175.41	23 58.6	..
4	0.937	4.72	29.10	0.30	69.29	165.55	155.70	0 39.1	1 19.7
6	0.938	4.69	28.76	0.29	69.54	145.84	135.99	2 0.2	2 40.7
8	0.940	4.66	28.42	0.28	69.80	126.14	116.30	3 21.2	4 1.7
..	..	..	..	..	..	..	..	..	..
Dec. 10	0.955	4.25	24.48	0.19	290.53	302.28	292.54	15 57.3	16 37.4
12	0.954	4.28	24.86	0.20	290.21	282.79	273.05	17 17.4	17 57.5
14	0.952	4.31	25.23	0.21	289.88	263.31	253.57	18 37.5	19 17.5
16	0.951	4.34	25.61	0.21	289.54	243.84	234.10	19 57.6	20 37.6
18	0.949	4.37	25.98	0.22	289.19	224.37	214.64	21 17.6	21 57.6
20	0.948	4.40	26.35	0.23	288.84	204.91	195.18	22 37.6	23 17.6
22	0.947	4.44	26.72	0.24	288.47	185.45	175.73	23 57.6	..
24	0.945	4.47	27.09	0.24	288.10	166.00	156.28	0 37.6	1 17.5
26	0.944	4.50	27.45	0.25	287.72	146.55	136.83	1 57.5	2 37.5
28	0.942	4.54	27.81	0.26	287.32	127.11	117.39	3 17.4	3 57.4
30	0.941	4.58	28.18	0.27	286.92	107.68	97.96	4 37.4	5 17.3
32	0.939	4.61	28.54	0.28	286.52	88.24	78.52	5 57.2	6 37.2

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF JUPITER.

Midnight.		Light- Time.	Stellar Magni- tude.	P	$A_{\oplus} + 180^{\circ}$	$D_{\oplus}$	$A_{\odot} + 180^{\circ}$	$D_{\odot}$
		m						
Jan.	1	49.08	—1.4	18.26	87.58	—3.07	78.83	—3.01
	8	48.25	1.4	17.92	88.67	3.10	79.36	3.01
	15	47.38	1.5	17.61	89.66	3.13	79.90	3.02
	22	46.48	1.5	17.32	90.55	3.16	80.43	3.03
	29	45.55	1.5	17.07	91.32	3.19	80.96	3.03
Feb.	5	44.61	—1.6	16.86	91.97	—3.21	81.50	—3.04
	12	43.67	1.6	16.69	92.48	3.24	82.03	3.04
	19	42.73	1.7	16.56	92.85	3.26	82.56	3.04
	26	41.82	1.7	16.48	93.08	3.28	83.10	3.05
Mar.	5	40.94	1.8	16.46	93.15	3.30	83.63	3.05
	12	40.11	—1.8	16.48	93.06	—3.32	84.17	—3.05
	19	39.34	1.9	16.56	92.83	3.34	84.70	3.06
	26	38.65	1.9	16.69	92.45	3.35	85.24	3.06
Apr.	2	38.04	2.0	16.86	91.93	3.35	85.77	3.06
	9	37.53	2.0	17.07	91.29	3.36	86.31	3.06
	16	37.13	—2.0	17.31	90.55	—3.35	86.84	—3.06
	23	36.85	2.0	17.57	89.73	3.34	87.38	3.07
	30	36.68	2.0	17.85	88.86	3.33	87.92	3.07
May	7	36.64	2.0	18.12	87.97	3.31	88.45	3.07
	14	36.71	2.0	18.39	87.08	3.28	88.99	3.07
	21	36.91	—2.0	18.65	86.24	—3.25	89.53	—3.07
	28	37.23	2.0	18.88	85.46	3.22	90.06	3.07
June	4	37.65	2.0	19.08	84.78	3.19	90.60	3.07
	11	38.17	2.0	19.25	84.20	3.15	91.14	3.07
	18	38.78	1.9	19.38	83.76	3.12	91.68	3.07
	25	39.46	—1.9	19.47	83.45	—3.08	92.22	—3.07
July	2	40.21	1.8	19.52	83.28	3.05	92.75	3.07
	9	41.02	1.8	19.52	83.26	3.02	93.29	3.06
	16	41.86	1.8	19.49	83.39	2.99	93.83	3.06
	23	42.73	1.7	19.41	83.67	2.96	94.37	3.06
	30	43.62	—1.7	19.30	84.08	—2.94	94.91	—3.06
Aug.	6	44.51	1.6	19.14	84.63	2.92	95.45	3.06
	13	45.40	1.6	18.95	85.30	2.90	95.99	3.05
	20	46.27	1.5	18.72	86.09	2.89	96.53	3.05
	27	47.12	1.5	18.46	86.99	2.88	97.07	3.05
Sept.	3	47.94	—1.5	18.15	87.98	—2.87	97.62	—3.04
	10	48.71	1.4	17.82	89.07	2.86	98.16	3.04
	17	49.44	1.4	17.45	90.24	2.86	98.70	3.03
	24	50.11	1.4	17.04	91.49	2.85	99.24	3.03
Oct.	1	50.72	1.3	16.61	92.80	2.85	99.78	3.02
	8	51.26	—1.3	16.15	94.17	—2.85	100.33	—3.02
	15	51.73	1.3	15.66	95.59	2.85	100.87	3.01
	22	52.12	1.3	15.14	97.05	2.85	101.41	3.01
	29	52.43	—1.3	14.60	98.54	—2.85	101.96	—3.00
	..	..	..	..	..	..	..	..
Dec.	25	51.75	—1.3	9.63	111.07	—2.84	106.40	—2.94
	32	51.28	—1.3	9.01	112.53	—2.84	106.95	—2.94

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF JUPITER.

Midnight.	Equatorial Diameter.	Excess of Equat. Diam. over Polar.	δ	η	ζ	Central Meridian.		Correction for Phase.
						System I.	System II.	
Jan. 1	33.34	2.21	8.74	0.20	288.10	250.32	249.14	+0.33
8	33.91	2.25	9.29	0.22	287.66	275.03	220.44	0.38
15	34.53	2.29	9.75	0.25	287.24	299.87	191.86	0.41
22	35.20	2.34	10.11	0.27	286.86	324.83	163.41	0.44
29	35.92	2.39	10.35	0.29	286.50	349.93	135.09	0.46
Feb. 5	36.68	2.44	10.46	0.30	286.18	15.16	106.90	+0.47
12	37.48	2.49	10.44	0.31	285.89	40.52	78.85	0.47
19	38.30	2.54	10.28	0.31	285.63	66.02	50.93	0.46
26	39.13	2.60	9.97	0.30	285.40	91.65	23.15	0.43
Mar. 5	39.97	2.65	9.50	0.28	285.20	117.41	355.50	0.39
12	40.80	2.71	8.89	0.25	285.01	143.30	327.97	+0.34
19	41.59	2.76	8.12	0.21	284.82	169.31	300.56	0.29
26	42.34	2.81	7.21	0.17	284.60	195.41	273.25	0.23
Apr. 2	43.02	2.85	6.16	0.12	284.30	221.60	246.03	0.17
9	43.60	2.89	4.98	0.08	283.84	247.85	218.86	0.11
16	44.07	2.92	3.71	0.04	282.96	274.13	191.74	+0.06
23	44.41	2.95	2.36	0.02	280.89	300.43	164.62	+0.02
30	44.61	2.96	0.98	0.00	272.31	326.70	137.48	0.00
May 7	44.67	2.97	0.54	0.00	134.51	352.92	110.29	0.00
14	44.57	2.96	1.92	0.01	114.80	19.06	83.02	-0.02
21	44.33	2.94	3.29	0.04	111.80	45.08	55.63	-0.05
28	43.96	2.92	4.60	0.07	110.67	70.96	28.11	0.09
June 4	43.47	2.89	5.82	0.11	110.09	96.69	0.43	0.15
11	42.87	2.85	6.93	0.15	109.75	122.25	332.58	0.21
18	42.20	2.80	7.91	0.20	109.52	147.63	304.55	0.27
25	41.47	2.75	8.76	0.24	109.33	172.82	276.33	-0.33
July 2	40.69	2.70	9.46	0.28	109.16	197.82	247.94	0.39
9	39.90	2.65	10.01	0.30	108.98	222.65	219.36	0.44
16	39.09	2.60	10.42	0.32	108.80	247.31	190.61	0.47
23	38.30	2.54	10.69	0.33	108.61	271.80	161.70	0.50
30	37.52	2.49	10.81	0.33	108.39	296.15	132.63	-0.51
Aug. 6	36.76	2.44	10.81	0.33	108.14	320.36	103.44	0.51
13	36.04	2.39	10.68	0.31	107.87	344.44	74.12	0.50
20	35.36	2.35	10.43	0.29	107.57	8.42	44.69	0.47
27	34.73	2.31	10.08	0.27	107.24	32.31	15.17	0.44
Sept. 3	34.14	2.27	9.62	0.24	106.88	56.11	345.58	-0.40
10	33.59	2.23	9.08	0.21	106.47	79.85	315.91	0.36
17	33.10	2.20	8.45	0.18	106.03	103.54	286.19	0.31
24	32.66	2.17	7.75	0.15	105.55	127.19	256.43	0.26
Oct. 1	32.27	2.14	6.98	0.12	105.02	150.81	226.64	0.21
8	31.93	2.12	6.16	0.09	104.42	174.41	196.84	-0.16
15	31.64	2.10	5.28	0.07	103.75	198.00	167.02	0.12
22	31.40	2.09	4.37	0.05	102.95	221.60	137.22	0.08
29	31.21	2.07	3.42	0.03	101.96	245.22	107.42	-0.05
	..	..	..	..	..	..	..	..
Dec. 25	31.62	2.10	4.66	0.05	281.01	233.40	20.69	+0.09
32	31.91	2.12	5.58	0.08	280.15	257.53	351.41	+0.14

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF JUPITER.
SYSTEM I.

Transit of Zero Meridian.			Interval between Successive Transits.	Transit of Zero Meridian.			Interval between Successive Transits.
d	h	m	h m	d	h	m	h m
Jan. 1	14	59.38	9 50.55	Mar. 22	14	5.30	9 50.42
3	16	12.16		24	15	17.44	
5	17	24.92		26	16	29.57	
7	18	37.67		28	17	41.68	
9	19	50.40		30	18	53.79	
11	21	3.11	9 50.54	Apr. 1	20	5.88	9 50.41
13	22	15.81		3	21	17.96	
15	23	28.49		5	22	30.04	
18	0	41.15		7	23	42.11	
20	1	53.80		10	0	54.17	
22	3	6.43	9 50.52	12	2	6.22	9 50.41
24	4	19.04		14	3	18.27	
26	5	31.64		16	4	30.32	
28	6	44.22		18	5	42.36	
30	7	56.78		20	6	54.40	
Feb. 1	9	9.32	9 50.50	22	8	6.43	9 50.41
3	10	21.85		24	9	18.47	
5	11	34.36		26	10	30.51	
7	12	46.85		28	11	42.55	
9	13	59.32		30	12	54.60	
11	15	11.78	9 50.48	May 2	14	6.65	9 50.42
13	16	24.22		4	15	18.71	
15	17	36.64		6	16	30.78	
17	18	49.05		8	17	42.86	
19	20	1.44		10	18	54.96	
21	21	13.81	9 50.47	12	20	7.07	9 50.44
23	22	26.16		14	21	19.20	
25	23	38.50		16	22	31.35	
28	0	50.82		18	23	43.52	
Mar. 2	2	3.12		21	0	55.70	
4	3	15.41	9 50.45	23	2	7.91	9 50.47
6	4	27.68		25	3	20.15	
8	5	39.94		27	4	32.40	
10	6	52.18		29	5	44.68	
12	8	4.40		31	6	56.98	
14	9	16.61	9 50.44	June 2	8	9.30	9 50.49
16	10	28.80		4	9	21.65	
18	11	40.98		6	10	34.02	
20	12	53.15		8	11	46.42	

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF JUPITER.

SYSTEM I.—*continued.*

Transit of Zero Meridian.				Interval between Successive Transits.		Transit of Zero Meridian.				Interval between Successive Transits.	
				h	m					h	m
June	d	h	m			Aug.	d	h	m		
	10	12	58.85	9	50.52	29	12	20.91	9	50.64	
	12	14	11.30			31	13	34.11			
	14	15	23.78			Sept.	2	14	47.31		
	16	16	36.28			4	16	0.53			
	18	17	48.81			6	17	13.75			
	20	19	1.36	9	50.54	8	18	26.98	9	50.65	
	22	20	13.94			10	19	40.22			
	24	21	26.54			12	20	53.47			
26	22	39.18			14	22	6.72				
28	23	51.83			16	23	19.98				
July	1	1	4.51	9	50.57	19	0	33.24	9	50.66	
	3	2	17.22			21	1	46.51			
	5	3	29.94			23	2	59.79			
	7	4	42.69			25	4	13.06			
	9	5	55.47			27	5	26.35			
	11	7	8.27	9	50.59	29	6	39.63	9	50.66	
	13	8	21.09			Oct.	1	7	52.92		
	15	9	33.93			3	9	6.21			
	17	10	46.79			5	10	19.50			
19	11	59.68			7	11	32.80				
	21	13	12.58	9	50.60	9	12	46.10	9	50.66	
	23	14	25.51			11	13	59.40			
	25	15	38.45			13	15	12.69			
	27	16	51.41			15	16	25.99			
	29	18	4.39			17	17	39.29			
	31	19	17.39	9	50.61	19	18	52.59	9	50.66	
	Aug. 2	20	30.41			21	20	5.89			
	4	21	43.44			23	21	19.19			
	6	22	56.49			25	22	32.48			
9	0	9.55			27	23	45.78				
	11	1	22.63	9	50.62			..			
	13	2	35.72					..			
	15	3	48.82			Dec.	20	7	29.53	9	50.62
	17	5	1.94			22	8	42.62			
	19	6	15.08			24	9	55.70			
	21	7	28.22	9	50.63	26	11	8.77	9	50.60	
	23	8	41.38			28	12	21.82			
	25	9	54.54			30	13	34.86			
	27	11	7.72			32	14	47.89			

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF JUPITER.
SYSTEM II.

Transit of Zero Meridian.				Interval between Successive Transits.		Transit of Zero Meridian.				Interval between Successive Transits.				
	d	h	m				d	h	m					
Jan.	1	15	2.91	9	55.73	Mar.	23	6	58.32	9	55.60			
	3	16	41.58				25	8	36.34					
	5	18	20.24				27	10	14.34					
	7	19	58.88				29	11	52.34					
	9	21	37.50				31	13	30.32					
	11	23	16.10				Apr.	2	15			8.29	9	55.59
	14	0	54.69					4	16			46.25		
	16	2	33.26					6	18			24.20		
	18	4	11.81					8	20			2.14		
	20	5	50.35					10	21			40.08		
22	7	28.87	12	23	18.01	9		55.58						
24	9	7.37	15	0	55.94									
26	10	45.85	17	2	33.86									
28	12	24.32	19	4	11.78									
30	14	2.77	21	5	49.69									
Feb.	1	15	41.20	9	55.68		23		7	27.61	9	55.59		
	3	17	19.61						25	9			5.53	
	5	18	58.01						27	10			43.45	
	7	20	36.39						29	12			21.37	
	9	22	14.75						May	1			13	59.29
	11	23	53.09			3		15		37.23				
	14	1	31.41			5		17		15.17				
	16	3	9.72			7		18		53.13				
	18	4	48.00			9		20		31.09				
	20	6	26.27			11		22		9.08				
22	8	4.53	13	23	47.08	9	55.62							
24	9	42.76	16	1	25.10									
26	11	20.98	18	3	3.13									
28	12	59.18	20	4	41.19									
Mar.	2	14	37.36	9	55.63			22	6	19.27	9	55.64		
	4	16	15.53						24	7			57.37	
	6	17	53.68						26	9			35.50	
	8	19	31.82						28	11			13.65	
	10	21	9.93						30	12			51.82	
	12	22	48.04						June	1			14	30.02
	15	0	26.12			3	16			8.24				
	17	2	4.19			5	17			46.49				
	19	3	42.25			7	19			24.76				
	21	5	20.29			9	21			3.06				

EPHEMERIS FOR PHYSICAL OBSERVATIONS OF JUPITER.

SYSTEM II.—*continued.*

Transit of Zero Meridian.			Interval between Successive Transits.	Transit of Zero Meridian.			Interval between Successive Transits.
d	h	m	h m	d	h	m	h m
June 11	22	41.39	9 55.70	Aug. 31	14	53.79	9 55.83
14	0	19.74		Sept. 2	16	32.90	
16	1	58.12		4	18	12.01	
18	3	36.52		6	19	51.13	
20	5	14.95		8	21	30.26	
22	6	53.41	9 55.72	10	23	9.40	9 55.83
24	8	31.90		13	0	48.54	
26	10	10.41		15	2	27.69	
28	11	48.94		17	4	6.85	
30	13	27.50		19	5	46.01	
July 2	15	6.09	9 55.75	21	7	25.17	9 55.84
4	16	44.70		23	9	4.35	
6	18	23.33		25	10	43.52	
8	20	1.99		27	12	22.70	
10	21	40.67		29	14	1.89	
12	23	19.38	9 55.77	Oct. 1	15	41.07	9 55.84
15	0	58.11		3	17	20.26	
17	2	36.86		5	18	59.46	
19	4	15.63		7	20	38.65	
21	5	54.42		9	22	17.85	
23	7	33.23	9 55.78	11	23	57.04	9 55.84
25	9	12.07		14	1	36.24	
27	10	50.92		16	3	15.44	
29	12	29.79		18	4	54.64	
31	14	8.68		20	6	33.84	
Aug. 2	15	47.58	9 55.79	22	8	13.03	9 55.84
4	17	26.50		24	9	52.23	
6	19	5.44		26	11	31.42	
8	20	44.40		28	13	10.61	
10	22	23.37		30	14	49.80	
13	0	2.35	9 55.81	..	..	..	
15	1	41.35		Dec. 20	2	20.25	9 55.80
17	3	20.37		22	3	59.24	
19	4	59.39		24	5	38.22	
21	6	38.43		26	7	17.18	9 55.78
23	8	17.48	9 55.82	28	8	56.13	
25	9	56.54		30	10	35.07	
27	11	35.62		32	12	13.99	
29	13	14.70					

For converting INTERVALS of MEAN SOLAR Time into Equivalent INTERVALS of
SIDEREAL Time.

FRACTIONS OF A SECOND.

Seconds of Mean Time.	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.
0.01	^s 0.01003	0.21	^s 0.21057	0.41	^s 0.41112	0.61	^s 0.61167	0.81	^s 0.81222
0.02	0.02006	0.22	0.22060	0.42	0.42115	0.62	0.62170	0.82	0.82225
0.03	0.03008	0.23	0.23063	0.43	0.43118	0.63	0.63173	0.83	0.83227
0.04	0.04011	0.24	0.24066	0.44	0.44120	0.64	0.64175	0.84	0.84230
0.05	0.05014	0.25	0.25068	0.45	0.45123	0.65	0.65178	0.85	0.85233
0.06	0.06016	0.26	0.26071	0.46	0.46126	0.66	0.66181	0.86	0.86235
0.07	0.07019	0.27	0.27074	0.47	0.47129	0.67	0.67183	0.87	0.87238
0.08	0.08022	0.28	0.28077	0.48	0.48131	0.68	0.68186	0.88	0.88241
0.09	0.09025	0.29	0.29079	0.49	0.49134	0.69	0.69189	0.89	0.89244
0.10	0.10027	0.30	0.30082	0.50	0.50137	0.70	0.70192	0.90	0.90246
0.11	0.11030	0.31	0.31085	0.51	0.51140	0.71	0.71194	0.91	0.91249
0.12	0.12033	0.32	0.32088	0.52	0.52142	0.72	0.72197	0.92	0.92252
0.13	0.13036	0.33	0.33090	0.53	0.53145	0.73	0.73200	0.93	0.93255
0.14	0.14038	0.34	0.34093	0.54	0.54148	0.74	0.74203	0.94	0.94257
0.15	0.15041	0.35	0.35096	0.55	0.55151	0.75	0.75205	0.95	0.95260
0.16	0.16044	0.36	0.36099	0.56	0.56153	0.76	0.76208	0.96	0.96263
0.17	0.17047	0.37	0.37101	0.57	0.57156	0.77	0.77211	0.97	0.97266
0.18	0.18049	0.38	0.38104	0.58	0.58159	0.78	0.78214	0.98	0.98268
0.19	0.19052	0.39	0.39107	0.59	0.59162	0.79	0.79216	0.99	0.99271
0.20	0.20055	0.40	0.40110	0.60	0.60164	0.80	0.80219	1.00	1.00274

Sidereal Time *required* = Sidereal Time at the *preceding* Mean Noon + the Equivalent to the *given* Mean Time.

EXAMPLE.—To convert 2^h 25^m 18^s.96 Mean Time at Greenwich, Jan. 20, 1923, into Sidereal Time.

Sidereal Time at the <i>preceding</i> Mean Noon, viz., January 20 . . .			h	m	s
			19	55	21.92
For Mean Intervals	{	2 ^h 0 ^m 0 ^s	{	the Table gives the Equivalent	
		25		Sidereal Intervals	
		18			
		0.96			
		2	0	19.713	
		25	4	107	
			18	049	
			0	963	
The Sum is the Sidereal Time required			22	21	47.5

For converting INTERVALS of SIDEREAL Time into Equivalent INTERVALS of
MEAN SOLAR Time.

FRACTIONS OF A SECOND.

Seconds of Sidereal Time.	Equivalents in Mean Time.	Seconds of Sidereal Time.	Equivalents in Mean Time.	Seconds of Sidereal Time.	Equivalents in Mean Time.	Seconds of Sidereal Time.	Equivalents in Mean Time.	Seconds of Sidereal Time.	Equivalents in Mean Time.
0.01	0.00997	0.21	0.20943	0.41	0.40888	0.61	0.60833	0.81	0.80779
0.02	0.01995	0.22	0.21940	0.42	0.41885	0.62	0.61831	0.82	0.81776
0.03	0.02992	0.23	0.22937	0.43	0.42883	0.63	0.62828	0.83	0.82773
0.04	0.03989	0.24	0.23934	0.44	0.43880	0.64	0.63825	0.84	0.83771
0.05	0.04986	0.25	0.24932	0.45	0.44877	0.65	0.64823	0.85	0.84768
0.06	0.05984	0.26	0.25929	0.46	0.45874	0.66	0.65820	0.86	0.85765
0.07	0.06981	0.27	0.26926	0.47	0.46872	0.67	0.66817	0.87	0.86762
0.08	0.07978	0.28	0.27924	0.48	0.47869	0.68	0.67814	0.88	0.87760
0.09	0.08975	0.29	0.28921	0.49	0.48866	0.69	0.68812	0.89	0.88757
0.10	0.09973	0.30	0.29918	0.50	0.49864	0.70	0.69809	0.90	0.89754
0.11	0.10970	0.31	0.30915	0.51	0.50861	0.71	0.70806	0.91	0.90752
0.12	0.11967	0.32	0.31913	0.52	0.51858	0.72	0.71803	0.92	0.91749
0.13	0.12965	0.33	0.32910	0.53	0.52855	0.73	0.72801	0.93	0.92746
0.14	0.13962	0.34	0.33907	0.54	0.53853	0.74	0.73798	0.94	0.93743
0.15	0.14959	0.35	0.34904	0.55	0.54850	0.75	0.74795	0.95	0.94741
0.16	0.15956	0.36	0.35902	0.56	0.55847	0.76	0.75793	0.96	0.95738
0.17	0.16954	0.37	0.36899	0.57	0.56844	0.77	0.76790	0.97	0.96735
0.18	0.17951	0.38	0.37896	0.58	0.57842	0.78	0.77787	0.98	0.97732
0.19	0.18948	0.39	0.38894	0.59	0.58839	0.79	0.78784	0.99	0.98730
0.20	0.19945	0.40	0.39891	0.60	0.59836	0.80	0.79782	1.00	0.99727

Mean Solar Time *required* = Mean Time at the *preceding* Sidereal Noon (Mean Time of Transit of the First Point of Aries, page III) + the Equivalent to the *given* Sidereal Time.

EXAMPLE.—To convert $22^{\text{h}} 21^{\text{m}} 4^{\text{s}}.75$ Sidereal Time at Greenwich, Jan. 20, 1923, into Mean Time.

Mean Time at the <i>preceding</i> Sidereal Noon, viz., January 19		h m s	
		4 7 53.91	
For Sidereal Intervals	$22^{\text{h}} 0^{\text{m}} 0^{\text{s}}$	the Table gives the Equivalent Mean Intervals	21 56 23.750
	21 0		20 56.560
	4 0		3.989
	0.75		0.748
The Sum is the Mean Time required, Jan. 20		2 25 18.96	

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DAY AND FRACTION OF THE YEAR FROM MEAN NOON OF JAN. 1.

Day of the Month.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	Day of the Year.	Fraction of the Year.*	Day of the Year.	Fraction of the Year.*	Day of the Year.	Fraction of the Year.*	Day of the Year.	Fraction of the Year.*	Day of the Year.	Fraction of the Year.*	Day of the Year.	Fraction of the Year.*
1	0	·0000	31	·0849	59	·1615	90	·2464	120	·3285	151	·4134
2	1	·0027	32	·0876	60	·1643	91	·2492	121	·3313	152	·4162
3	2	·0055	33	·0904	61	·1670	92	·2519	122	·3340	153	·4189
4	3	·0082	34	·0931	62	·1698	93	·2546	123	·3368	154	·4216
5	4	·0110	35	·0958	63	·1725	94	·2574	124	·3395	155	·4244
6	5	·0137	36	·0986	64	·1752	95	·2601	125	·3422	156	·4271
7	6	·0164	37	·1013	65	·1780	96	·2628	126	·3450	157	·4299
8	7	·0192	38	·1040	66	·1807	97	·2656	127	·3477	158	·4326
9	8	·0219	39	·1068	67	·1834	98	·2683	128	·3505	159	·4353
10	9	·0246	40	·1095	68	·1862	99	·2711	129	·3532	160	·4381
11	10	·0274	41	·1123	69	·1889	100	·2738	130	·3559	161	·4408
12	11	·0301	42	·1150	70	·1917	101	·2765	131	·3587	162	·4435
13	12	·0329	43	·1177	71	·1944	102	·2793	132	·3614	163	·4463
14	13	·0356	44	·1205	72	·1971	103	·2820	133	·3641	164	·4490
15	14	·0383	45	·1232	73	·1999	104	·2847	134	·3669	165	·4518
16	15	·0411	46	·1259	74	·2026	105	·2875	135	·3696	166	·4545
17	16	·0438	47	·1287	75	·2053	106	·2902	136	·3724	167	·4572
18	17	·0465	48	·1314	76	·2081	107	·2930	137	·3751	168	·4600
19	18	·0493	49	·1342	77	·2108	108	·2957	138	·3778	169	·4627
20	19	·0520	50	·1369	78	·2136	109	·2984	139	·3806	170	·4654
21	20	·0548	51	·1396	79	·2163	110	·3012	140	·3833	171	·4682
22	21	·0575	52	·1424	80	·2190	111	·3039	141	·3860	172	·4709
23	22	·0602	53	·1451	81	·2218	112	·3066	142	·3888	173	·4737
24	23	·0630	54	·1478	82	·2245	113	·3094	143	·3915	174	·4764
25	24	·0657	55	·1506	83	·2272	114	·3121	144	·3943	175	·4791
26	25	·0684	56	·1533	84	·2300	115	·3149	145	·3970	176	·4819
27	26	·0712	57	·1561	85	·2327	116	·3176	146	·3997	177	·4846
28	27	·0739	58	·1588	86	·2355	117	·3203	147	·4025	178	·4873
29	28	·0767			87	·2382	118	·3231	148	·4052	179	·4901
30	29	·0794			88	·2409	119	·3258	149	·4079	180	·4928
31	30	·0821			89	·2437			150	·4107		

* Add ·0003 if Fraction of the Year be required from the time when the Sun's Mean Longitude is 280°.

DAY OF THE YEAR, &c., 1923. 577

DAY AND FRACTION OF THE YEAR FROM MEAN NOON OF JAN. 1.

Day of the Month.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	Day of the Year.	Fraction of the Year.*	Day of the Year.	Fraction of the Year.*	Day of the Year.	Fraction of the Year.*	Day of the Year.	Fraction of the Year.*	Day of the Year.	Fraction of the Year.*	Day of the Year.	Fraction of the Year.*
1	181	·4956	212	·5804	243	·6653	273	·7474	304	·8323	334	·9145
2	182	·4983	213	·5832	244	·6681	274	·7502	305	·8351	335	·9172
3	183	·5010	214	·5859	245	·6708	275	·7529	306	·8378	336	·9199
4	184	·5038	215	·5887	246	·6735	276	·7557	307	·8405	337	·9227
5	185	·5065	216	·5914	247	·6763	277	·7584	308	·8433	338	·9254
6	186	·5093	217	·5941	248	·6790	278	·7611	309	·8460	339	·9282
7	187	·5120	218	·5969	249	·6817	279	·7639	310	·8488	340	·9309
8	188	·5147	219	·5996	250	·6845	280	·7666	311	·8515	341	·9336
9	189	·5175	220	·6023	251	·6872	281	·7694	312	·8542	342	·9364
10	190	·5202	221	·6051	252	·6900	282	·7721	313	·8570	343	·9391
11	191	·5229	222	·6078	253	·6927	283	·7748	314	·8597	344	·9418
12	192	·5257	223	·6106	254	·6954	284	·7776	315	·8624	345	·9446
13	193	·5284	224	·6133	255	·6982	285	·7803	316	·8652	346	·9473
14	194	·5312	225	·6160	256	·7009	286	·7830	317	·8679	347	·9501
15	195	·5339	226	·6188	257	·7036	287	·7858	318	·8707	348	·9528
16	196	·5366	227	·6215	258	·7064	288	·7885	319	·8734	349	·9555
17	197	·5394	228	·6242	259	·7091	289	·7913	320	·8761	350	·9583
18	198	·5421	229	·6270	260	·7119	290	·7940	321	·8789	351	·9610
19	199	·5448	230	·6297	261	·7146	291	·7967	322	·8816	352	·9637
20	200	·5476	231	·6325	262	·7173	292	·7995	323	·8843	353	·9665
21	201	·5503	232	·6352	263	·7201	293	·8022	324	·8871	354	·9692
22	202	·5531	233	·6379	264	·7228	294	·8049	325	·8898	355	·9720
23	203	·5558	234	·6407	265	·7255	295	·8077	326	·8926	356	·9747
24	204	·5585	235	·6434	266	·7283	296	·8104	327	·8953	357	·9774
25	205	·5613	236	·6461	267	·7310	297	·8132	328	·8980	358	·9802
26	206	·5640	237	·6489	268	·7338	298	·8159	329	·9008	359	·9829
27	207	·5667	238	·6516	269	·7365	299	·8186	330	·9035	360	·9856
28	208	·5695	239	·6544	270	·7392	300	·8214	331	·9062	361	·9884
29	209	·5722	240	·6571	271	·7420	301	·8241	332	·9090	362	·9911
30	210	·5750	241	·6598	272	·7447	302	·8268	333	·9117	363	·9939
31	211	·5777	242	·6626			303	·8296			364	·9966

Add ·0003 if Fraction of the Year be required from the time when the Sun's Mean Longitude is 280°.

Days elapsed at Mean Noon of Jan. 1 of each year of the Table.											Days elapsed at Mean Noon.	
A.D.	0	200	400	600	800	1000	1200	1400	1600	1800		
	I7	I7	I8	I9	20	20	21	22	23	23	Date.	1923.
0	21058	94108	67158	40208	13258	86308	59358	32408	05448	78497*		
4	22519	95569	68619	41669	14719	87769	60819	33869	06909	79957	Jan. 1	2423
8	23980	97030	70080	43130	16180	89230	62280	35330	08370	81418	11	421
12	25441	98491	71541	44591	17641	90691	63741	36791	09831	82879	21	431
16	26902	99952	73002	46052	19102	92152	65202	38252	11292	84340	31	441
20	28363	01413	74463	47513	20563	93613	66663	39713	12753	85801	10	451
24	29824	02874	75924	48974	22024	95074	68124	41174	14214	87262	20	461
28	31285	04335	77385	50435	23485	96535	69585	42635	15675	88723	30	471
32	32746	05796	78846	51896	24946	97996	71046	44096	17136	90184	10	481
36	34207	07257	80307	53357	26407	99457	72507	45557	18597	91645	20	491
40	35668	08718	81768	54818	27868	00918	73968	47018	20058	93106	30	501
44	37129	10179	83229	56279	29329	02379	75429	48479	21519	94567	10	511
48	38590	11640	84690	57740	30790	03840	76890	49940	22980	96028	20	521
52	40051	13101	86151	59201	32251	05301	78351	51401	24441	97489	30	531
56	41512	14562	87612	60662	33712	06762	79812	52862	25902	98950	10	541
60	42973	16023	89073	62123	35173	08223	81273	54323	27363	00411	20	551
64	44434	17484	90534	63584	36634	09684	82734	55784	28824	01872	30	561
68	45895	18945	91995	65045	38095	11145	84195	57245	30285	03333	10	571
72	47356	20406	93456	66506	39556	12606	85656	58706	31746	04794	20	581
76	48817	21867	94917	67967	41017	14067	87117	60167	33207	06255	30	591
80	50278	23328	96378	69428	42478	15528	88578	61628	34668	07716	10	601
84	51739	24789	97839	70889	43939	16989	90039	63089	36129	09177	20	611
88	53200	26250	99300	72350	45400	18450	91500	64550	37590	10638	30	621
92	54661	27711	00761	73811	46861	19911	92961	66011	39051	12099	10	631
96	56122	29172	02222	75272	48322	21372	94422	67472	40512	13560	20	641
100	57583	30633	03683	76733	49783	22833	95883	68933	41973*	15021*	30	651
104	59044	32094	05144	78194	51244	24294	97344	70394	43433	16481	10	661
108	60505	33555	06605	79655	52705	25755	98805	71855	44894	17942	20	671
112	61966	35016	08066	81116	54166	27216	00266	73316	46355	19403	30	681
116	63427	36477	09527	82577	55627	28677	01727	74777	47816	20864	10	691
120	64888	37938	10988	84038	57088	30138	03188	76238	49277	22325	20	701
124	66349	39399	12449	85499	58549	31599	04649	77699	50738	23786	30	711
128	67810	40860	13910	86960	60010	33060	06110	79160	52199	25247	10	721
132	69271	42321	15371	88421	61471	34521	07571	80621	53660	26708	20	731
136	70732	43782	16832	89882	62932	35982	09032	82082	55121	28169	30	741
140	72193	45243	18293	91343	64393	37443	10493	83543	56582	29630	10	751
144	73654	46704	19754	92804	65854	38904	11954	85004	58043	31091	20	761
148	75115	48165	21215	94265	67315	40365	13415	86465	59504	32552	30	771
152	76576	49626	22676	95726	68776	41826	14876	87926	60965	34013	10	781
156	78037	51087	24137	97187	70237	43287	16337	89387	62426	35474	20	791
160	79498	52548	25598	98648	71698	44748	17798	90848	63887	36935	30	801
164	80959	54009	27059	00109	73159	46209	19259	92309	65348	38396	10	811
168	82420	55470	28520	01570	74620	47670	20720	93770	66809	39857	20	821
172	83881	56931	29981	03031	76081	49131	22181	95231	68270	41318	30	831
176	85342	58392	31442	04492	77542	50592	23642	96692	69731	42779	10	841
180	86803	59853	32903	05953	79003	52053	25103	98153	71192	44240	20	851
See end of Table.											A.D.	Days.
184	88264	61314	34364	07414	80464	53514	26564	99604	72653	45701	1580	2298153
188	89725	62775	35825	08875	81925	54975	28025	01065	74114	47162	1581	8519
192	91186	64236	37286	10336	83386	56436	29486	02526	75575	48623	1582	8884
196	92647	65697	38747	11797	84847	57897	30947	03987	77036	50084	1583	9239
	I7	I8	I9	20	20	21	22	23	23	24	1584	9604

* denotes a common year.

TABLES.

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For COMPUTING the GEOCENTRIC CO-ORDINATES of a PLACE.

ϕ	log. X.	log. Y.	ϕ	log. X.	log. Y.
°	diff.	diff.	°	diff.	diff.
0	9.9970705	0.0000000	± 40	9.9976745	0.0006040
1	9.9970709 ⁴	0.0000004 ⁴	41	9.9976997 ²⁵²	0.0006292 ²⁵²
2	9.9970723 ¹⁴	0.0000018 ¹⁴	42	9.9977251 ²⁵⁴	0.0006546 ²⁵⁴
3	9.9970745 ²²	0.0000040 ²²	43	9.9977506 ²⁵⁵	0.0006801 ²⁵⁵
4	9.9970776 ³¹	0.0000071 ³¹	44	9.9977761 ²⁵⁵	0.0007056 ²⁵⁵
	40	40		255	255
5	9.9970816 ⁴⁹	0.0000111 ⁴⁹	45	9.9978016 ²⁵⁶	0.0007311 ²⁵⁶
6	9.9970865 ⁵⁷	0.0000160 ⁵⁷	46	9.9978272 ²⁵⁵	0.0007567 ²⁵⁵
7	9.9970922 ⁶⁶	0.0000217 ⁶⁶	47	9.9978527 ²⁵⁵	0.0007822 ²⁵⁵
8	9.9970988 ⁷⁴	0.0000283 ⁷⁴	48	9.9978782 ²⁵⁴	0.0008077 ²⁵⁴
9	9.9971062 ⁸³	0.0000357 ⁸³	49	9.9979036 ²⁵²	0.0008331 ²⁵²
	92	92		252	252
10	9.9971145 ⁹²	0.0000440 ⁹²	50	9.9979288 ²⁵²	0.0008583 ²⁵²
11	9.9971237 ⁹⁹	0.0000532 ⁹⁹	51	9.9979540 ²⁴⁹	0.0008835 ²⁴⁹
12	9.9971336 ¹⁰⁸	0.0000631 ¹⁰⁸	52	9.9979789 ²⁴⁷	0.0009084 ²⁴⁷
13	9.9971444 ¹¹⁶	0.0000739 ¹¹⁶	53	9.9980036 ²⁴⁵	0.0009331 ²⁴⁵
14	9.9971560 ¹²³	0.0000855 ¹²³	54	9.9980281 ²⁴²	0.0009576 ²⁴²
	131	131		239	239
15	9.9971683 ¹³⁹	0.0000978 ¹³⁹	55	9.9980523 ²³⁵	0.0009818 ²³⁵
16	9.9971814 ¹⁴⁶	0.0001109 ¹⁴⁶	56	9.9980762 ²³²	0.0010057 ²³²
17	9.9971953 ¹⁵⁴	0.0001248 ¹⁵⁴	57	9.9980997 ²²⁸	0.0010292 ²²⁸
18	9.9972099 ¹⁶⁰	0.0001394 ¹⁶⁰	58	9.9981229 ²²⁴	0.0010524 ²²⁴
19	9.9972253 ¹⁶⁸	0.0001548 ¹⁶⁸	59	9.9981457 ²²⁰	0.0010752 ²²⁰
	174	174		215	215
20	9.9972413 ¹⁸⁰	0.0001708 ¹⁸⁰	60	9.9981681 ²⁰⁹	0.0010976 ²⁰⁹
21	9.9972581 ¹⁸⁷	0.0001876 ¹⁸⁷	61	9.9981901 ²⁰⁵	0.0011196 ²⁰⁵
22	9.9972755 ¹⁹²	0.0002050 ¹⁹²	62	9.9982116 ¹⁹⁹	0.0011411 ¹⁹⁹
23	9.9972935 ¹⁹⁸	0.0002230 ¹⁹⁸	63	9.9982325 ¹⁹³	0.0011620 ¹⁹³
24	9.9973122 ²⁰⁴	0.0002417 ²⁰⁴	64	9.9982530 ¹⁸⁸	0.0011825 ¹⁸⁸
	209	209		181	181
25	9.9973314 ²¹⁴	0.0002609 ²¹⁴	65	9.9982729 ¹⁷⁵	0.0012024 ¹⁷⁵
26	9.9973512 ²¹⁹	0.0002807 ²¹⁹	66	9.9982922 ¹⁶⁸	0.0012217 ¹⁶⁸
27	9.9973716 ²²³	0.0003011 ²²³	67	9.9983110 ¹⁶¹	0.0012405 ¹⁶¹
28	9.9973925 ²²⁷	0.0003220 ²²⁷	68	9.9983291 ¹⁵⁴	0.0012586 ¹⁵⁴
29	9.9974139 ²³²	0.0003434 ²³²	69	9.9983466 ¹⁴⁰	0.0012761 ¹⁴⁰
	235	235		132	132
30	9.9974358 ²³⁸	0.0003653 ²³⁸	70	9.9983634 ¹²⁴	0.0012929 ¹²⁴
31	9.9974581 ²⁴¹	0.0003876 ²⁴¹	71	9.9983795 ¹¹⁷	0.0013090 ¹¹⁷
32	9.9974808 ²⁴⁵	0.0004103 ²⁴⁵	72	9.9983949 ¹⁰⁸	0.0013244 ¹⁰⁸
33	9.9975040 ²⁴⁹	0.0004335 ²⁴⁹	73	9.9984096 ¹⁰⁰	0.0013391 ¹⁰⁰
34	9.9975275 ²⁵¹	0.0004570 ²⁵¹	74	9.9984236 ⁹²	0.0013531 ⁹²
	251	251		92	92
35	9.9975513 ²⁵¹	0.0004808 ²⁵¹	75	9.9984368 ⁹²	0.0013663 ⁹²
36	9.9975754 ²⁵¹	0.0005049 ²⁵¹	76	9.9984492 ⁹²	0.0013787 ⁹²
37	9.9975999 ²⁵¹	0.0005294 ²⁵¹	77	9.9984609 ⁹²	0.0013904 ⁹²
38	9.9976245 ²⁵¹	0.0005540 ²⁵¹	78	9.9984717 ⁹²	0.0014012 ⁹²
39	9.9976494 ²⁵¹	0.0005789 ²⁵¹	79	9.9984817 ⁹²	0.0014112 ⁹²
± 40	9.9976745	0.0006040	± 80	9.9984909	0.0014204

Let ϕ' and ρ be the geocentric latitude and radius of the place, ϕ being the geographical latitude, then :—

$$\begin{aligned}\rho \sin \phi' &= X \sin \phi. \\ \rho \cos \phi' &= Y \cos \phi.\end{aligned}$$

** The Longitudes are reckoned from the Meridian of Greenwich.

No.	Place and Altitude.	Longitude.	Latitude.	Reduction to Geocentric Latitude.
		h m s		
1	ADELAIDE, 141 ft. - - - - -	9 14 20.30 E.	34 55 38.5 S.	+ 10 52.4
2	ALBANY, U.S.A., 220 ft. - - - - -	4 55 6.8 W.	42 39 12.7 N.	- 11 33.1
3	ALGIERS, 1123 ft. - - - - -	0 12 8.38 E.	36 47 50 N.	- 11 6.7
4	ALLEGHENY, 1145 ft. - - - - -	5 20 2.93 W.	40 27 41.6 N.	- 11 26.6
5	AMHERST, U.S.A., (New Obs.), 363 ft. -	4 50 5.93 W.	42 21 56.5 N.	- 11 32.5
6	ANN-ARBOR, Mich., 926 ft. . - - - -	5 34 55.27 W.	42 16 48.7 N.	- 11 32.3
7	AREQUIPA, 8041 ft. - - - - -	4 46 11.73 W.	16 22 28.0 S.	+ 6 15.2
8	ARMAGH, 200 ft. - - - - -	0 26 35.4 W.	54 21 12.7 N.	- 10 59.6
9	ATHENS, 351 ft. - - - - -	1 34 52.92 E.	37 58 19.7 N.	- 11 14.3
10	BAMBERG, 984 ft. - - - - -	0 43 33.57 E.	49 53 6.0 N.	- 11 26.0
11	BERLIN, 154 ft. - - - - -	0 53 34.80 E.	52 30 16.7 N.	- 11 12.5
12	BESANCON, 1024 ft. - - - - -	0 23 57.1 E.	47 14 59.0 N.	- 11 33.7
13	BIRR CASTLE (Earl of Rosse), 184 ft. -	0 31 40.9 W.	53 5 47 N.	- 11 8.7
14	BOLOGNA, 275 ft. - - - - -	0 45 24.48 E.	44 29 54 N.	- 11 35.5
15	BOMBAY (Colaba), 63 ft. . - - - -	4 51 15.15 E.	18 53 36.2 N.	- 7 5.1
16	BONN, 203 ft. - - - - -	0 28 23.17 E.	50 43 45.0 N.	- 11 22.3
17	BORDEAUX, 240 ft. - - - - -	0 2 5.51 W.	44 50 7.3 N.	- 11 35.6
18	BRESLAU, 482 ft. - - - - -	1 8 8.72 E.	51 6 55.8 N.	- 11 20.4
19	BRISBANE - - - - -	10 12 6.40 E.	27 28 0.0 S.	+ 9 28.3
20	BRUSSELS (UCCLE), 328 ft. - - - -	0 17 26.05 E.	50 47 55.5 N.	- 11 21.9
21	BUDA PESTH - - - - -	1 16 13.7 E.	47 28 49 N.	- 11 33.3
22	CAMBRIDGE, 92 ft. - - - - -	0 0 22.75 E.	52 12 51.6 N.	- 11 14.3
23	CAMBRIDGE, U.S.A., Harvard Coll. Obs.,	4 44 31.05 W.	42 22 47.6 N.	- 11 32.5
24	CAPE OF GOOD HOPE, 42 ft. - - [79 ft.	1 13 54.76 E.	33 56 3.5 S.	+ 10 43.6
25	CATANIA, 154 ft. - - - - -	1 0 20.6 E.	37 30 13.3 N.	- 11 11.4
26	CHARKOW, 451 ft. - - - - -	2 24 55.77 E.	50 0 9.6 N.	- 11 25.5
27	CHARLOTTESVILLE, Va., Leander McCor-	5 14 5.22 W.	38 2 1.2 N.	- 11 14.7
28	CHRISTIANIA, 82 ft. - [mick Obs., 820 ft.	0 42 53.50 E.	59 54 44.0 N.	- 10 4.5
29	CINCINNATI, 863 ft. - - - - -	5 37 41.29 W.	39 8 19.5 N.	- 11 20.7
30	CLEVELAND, OHIO, Case Obs., 696 ft. -	5 26 25.82 W.	41 30 14.5 N.	- 11 30.2
31	CLINTON, U.S.A., Hamilton Coll., 906 ft.	5 1 37.45 W.	43 3 17.0 N.	- 11 33.9
32	COIMBRA, 325 ft. - - - - -	0 33 43.1 W.	40 12 24.5 N.	- 11 25.6
33	COPENHAGEN, 46 ft. - - - - -	0 50 18.69 E.	55 41 12.6 N.	- 10 48.6
34	CORDOBA, 1440 ft. - - - - -	4 16 48.22 W.	31 25 15.5 S.	+ 10 18.0
35	CRACOW, 725 ft. - - - - -	1 19 50.27 E.	50 3 51.9 N.	- 11 25.2
36	DEHRA DUN, 2236 ft. - - - - -	5 12 13.47 E.	30 18 51.8 N.	- 10 5.2
37	DORPAT, 215 ft. - - - - -	1 46 53.22 E.	58 22 46.8 N.	- 10 22.1
38	DUBLIN (DUNSINK), 283 ft. - - - -	0 25 21.1 W.	53 23 13.1 N.	- 11 6.7
39	DURHAM, 351 ft. - - - - -	0 6 19.75 W.	54 46 6.2 N.	- 10 56.4
40	DUSSELDORF, 85 ft. - - - - -	0 27 5.0 E.	51 12 25.0 N.	- 11 19.9

* * The Longitudes are reckoned from the Meridian of Greenwich.

No.	Log. ρ .	Authority for Longitude.	Authority for Latitude.
1	9.999524	Tel. Determination by Ellery, Russell and Todd.	Adelaide Astronomical Obs.
2	9.999331	<i>Astronomical Journal</i> , No. 334	<i>Astronomical Journal</i> , No. 334.
3	9.999478	Albrecht's <i>Compensation</i> .	Triangulation by Trépied.
4	9.999387	U.S. Coast and Geodetic Survey.	Zenith Telescope Observations.
5	9.999339	Communicated by Prof. Todd.	Communicated by Prof. Todd.
6	9.999341	Publications of Obs., Vol. I., 1915.	Publications of Obs., Vol. I., 1915.
7	9.999885	<i>Harvard Annals</i> , 1903.	<i>Harvard Annals</i> , 1903.
8	9.999036	Armagh Catalogue of Stars, 1840.	Armagh Catalogue of Stars, 1840.
9	9.999449	Determination by Hartl.	<i>Annals</i> , Vol. VI., 1912.
10	9.999147	Albrecht's <i>Compensation</i> .	Communicated by Dr. Hartwig.
11	9.999082	Albrecht's <i>Compensation</i> .	<i>Beobachtungs-Ergebnisse</i> , Heft 3.
12	9.999214	Telegraphic connection with Paris.	Meridian Observations.
13	9.999067	Ordnance Survey.	Ordnance Survey.
14	9.999284	Albrecht's <i>Compensation</i> .	Determination by Respighi.
15	9.999848	Great Trigonometrical Survey of India.	Great Trigonometrical Survey of India.
16	9.999127	Albrecht's <i>Compensation</i> .	Communicated by Prof. Küstner.
17	9.999275	Telegraphic connection with Paris.	Zenith Distances of Fundamental Stars.
18	9.999116	Albrecht's <i>Compensation</i> .	Geodätisches Institut of Berlin.
19	9.999690	Telegraphic connection with Sydney.	Zenith Telescope Observations.
20	9.999124	<i>Annuaire Astronomique</i> , 1919.	<i>Annuaire Astronomique</i> , 1919.
21	9.999208	Berliner Jahrbuch.	Berliner Jahrbuch.
22	9.999089	Cambridge Observations.	Cambridge Observations.
23	9.999338	U.S. Coast and Geodetic Survey.	<i>Annals of the Observatory</i> , Vol. XVII.
24	9.999547	<i>Annals of Cape Observatory</i> , Vol. I., part 2.	Cape General Catalogue of Stars, 1885.
25	9.999461	Determination by Zona and Ricco.	Determination by Zona.
26	9.999144	Communicated by Prof. Lewitzky.	Communicated by Prof. Lewitzky.
27	9.999448	<i>Publications of Observatory</i> , Vol. I., part 1.	<i>Publications of Observatory</i> , Vol. I., part 1.
28	9.998906	Albrecht's <i>Compensation</i> .	<i>Astron. Nachrichten</i> , No. 3193.
29	9.999420	U.S. Coast and Geodetic Survey.	U.S. Coast and Geodetic Survey.
30	9.999361	Communicated by Prof. Howe.	Communicated by Prof. Howe.
31	9.999321	The American Ephemeris.	The American Ephemeris.
32	9.999394	Ephemerides Astron. de Coimbra, 1889.	Ephemerides Astron. de Coimbra, 1889.
33	9.999004	Albrecht's <i>Compensation</i> .	Communicated by Prof. Strömgren.
34	9.999605	Observatory and U.S. Naval Expeditions.	Meridian Observations of Circumpolar Stars.
35	9.999143	Albrecht's <i>Compensation</i> .	Austrian Gradmessungen-Commission.
36	9.999629	Great Trigonometrical Survey of India.	Great Trigonometrical Survey of India.
37	9.998941	Albrecht's <i>Compensation</i> .	Determination by Schwarz.
38	9.999060	<i>Transactions Royal Irish Academy</i> , 1838.	<i>Transactions Royal Dublin Society</i> , Vol. IV.
39	9.999026	Transport of Chronometers.	Meridian Observations of Circumpolar Stars.
40	9.999114	<i>Astron. Nachrichten</i> , No. 643.	<i>Astron. Nachrichten</i> , No. 643.

* * The Longitudes are reckoned from the Meridian of Greenwich.

No.	Place and Altitude.	Longitude.	Latitude.	Reduction to Geocentric Latitude.
		h m s		
41	EDINBURGH (Blackford Hill), 441 ft. - -	0 12 44.2 W.	55 55 30.0 N.	- 10 46.1
42	EVANSTON, Ill., Dearborn Obs., 574 ft. -	5 50 42.3 W.	42 3 33.4 N.	- 11 31.8
43	FLAGSTAFF, ARIZONA, (Mr. Lowell),	7 26 44.58 W.	35 12 30.5 N.	- 10 54.7
44	FLORENCE, Arcetri, 604 ft. - - [7250 ft.	0 45 1.30 E.	43 45 14.6 N.	- 11 34.9
45	GENEVA, 1335 ft. - - - - -	0 24 36.61 E.	46 11 59.3 N.	- 11 35.7
46	GEORGETOWN COLL., D.C., U.S.A., 151 ft.	5 8 18.24 W.	38 54 26.0 N.	- 11 19.5
47	GLASGOW, 180 ft. - - - - -	0 17 10.55 W.	55 52 42.1 N.	- 10 46.9
48	GLASGOW, U.S.A., Morrison Obs., 748 ft. -	6 11 18.08 W.	39 13 45.6 N.	- 11 21.1
49	GOtha, 1083 ft. - - - - -	0 42 50.44 E.	50 56 37.9 N.	- 11 21.1
50	GÖTTINGEN, 532 ft. - - - - -	0 39 46.22 E.	51 31 48.2 N.	- 11 18.2
51	GREENWICH, 154 ft. - - - - -	0 0 0	51 28 38.2 N.	- 11 18.5
52	HAMBURG (Bergedorf), 131 ft. - - - -	0 40 57.74 E.	53 28 46.7 N.	- 11 6.1
53	HAVERFORD COLLEGE, Pa. - - - - -	5 1 12.70 W.	40 0 40.1 N.	- 11 24.7
54	HEIDELBERG, 1870 ft. - - - - -	0 34 53.13 E.	49 23 54.9 N.	- 11 27.8
55	HELSINGFORS, 125 ft. - - - - -	1 39 49.10 E.	60 9 42.3 N.	- 10 1.5
56	HELWAN, 390 ft. - - - - -	2 5 22 E.	29 51 33 N.	- 9 59.7
57	HERÉNY (Herr von Gothard), 751 ft. - -	1 6 24.7 E.	47 15 47.4 N.	- 11 33.7
58	HONG KONG, 112 ft. - - - - -	7 36 41.86 E.	22 18 13.2 N.	- 8 7.4
59	HYDERABAD, Nizamiah Obs., 1818 ft.	5 13 48.98 E.	17 25 54.3 N.	- 6 36.6
60	JAMAICA, MONTEGO BAY (Mr. Hall) - -	5 11 29.48 W.	18 24 51 N.	- 6 55.9
61	JENA, 512 ft. - - - - -	0 46 21.25 E.	50 55 34.9 N.	- 11 21.3
62	JOHANNESBURG, Union Obs., 5924 ft. - -	1 52 18.0 E.	26 10 55.2 S.	+ 9 9.8
63	KASAN, Engelhardt Observatory, 322 ft.	3 15 16.5 E.	55 50 20.0 N.	- 10 47.3
64	KASAN, University Observatory, 259 ft. -	3 16 29.01 E.	55 47 24.3 N.	- 10 47.7
65	KEW, 33 ft. - - - - -	0 1 15.1 W.	51 28 6 N.	- 11 18.5
66	KIEL, 154 ft. - - - - -	0 40 35.57 E.	54 20 28.5 N.	- 10 59.7
67	KIEW, 587 ft. - - - - -	2 2 0.56 E.	50 27 11.8 N.	- 11 23.5
68	KODAIKANAL, 7688 ft. - - - - -	5 9 52.0 E.	10 13 50 N.	- 4 2.3
69	KÖNIGSBERG, 72 ft. - - - - -	1 21 58.97 E.	54 42 50.4 N.	- 10 56.8
70	KREMSMÜNSTER, 1260 ft. - - - - -	0 56 31.58 E.	48 3 23.1 N.	- 11 31.9
71	LA PLATA, 52 ft. - - - - -	3 51 44.8 W.	34 54 30.5 S.	+ 10 52.2
72	LEIPZIG, 390 ft. - - - - -	0 49 33.93 E.	51 20 5.9 N.	- 11 19.2
73	LEYDEN, 20 ft. - - - - -	0.17 56.15 E.	52 9 20.0 N.	- 11 14.6
74	LISBON, Tapada, 308 ft. - - - - -	0 36 44.68 W.	38 42 30.5 N.	- 11 18.5
75	LIVERPOOL (BIDSTON, BIRKENHEAD), 200 ft.	0 12 17.33 W.	53 24 4.8 N.	- 11 6.6
76	LORENZO MARQUES, Campos Roderigues	2 10 22.63 E.	25 58 5.5 S.	+ 9 6.6
77	LUND, 112 ft. - - - - [Obs., 195 ft.	0 52 44.97 E.	55 41 51.6 N.	- 10 48.5
78	LYONS, 981 ft. - - - - -	0 19 8.52 E.	45 41 40.9 N.	- 11 35.5
79	MADISON, Wis., Washburn Obs., 961 ft. -	5 57 37.90 W.	43 4 36.7 N.	- 11 33.9
80	MADRAS, 23 ft. - - - - -	5 20 59.62 E.	13 4 8.0 N.	- 5 5.5

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No.	Log. p.	Authority for Longitude.	Authority for Latitude.
41	9.998999	Communicated by Prof. Copeland.	<i>M.N.R.A.S.</i> , January 1907.
42	9.999347	Standard Time comparison by Telegraph.	Meridian Observations.
43	9.999517	Communicated by Mr. P. Lowell.	Communicated by Mr. P. Lowell.
44	9.999303	Albrecht's <i>Compensation</i> .	Commissione Italiana, Milan, 1886.
45	9.999241	Albrecht's <i>Compensation</i> .	Determination by Pidoux.
46	9.999426	<i>Annals of Observatory</i> , No. 1.	<i>The Photochronograph and its applications</i> , 1894.
47	9.998999	<i>M.N.R.A.S.</i> , December 1865.	<i>M.N.R.A.S.</i> , October 1917.
48	9.999418	The American Ephemeris.	The American Ephemeris.
49	9.999121	Albrecht's <i>Compensation</i> .	Communicated by Prof. Harzer.
50	9.999106	Albrecht's <i>Compensation</i> .	Communicated by Prof. Schur.
51	9.999107		Greenwich Observations.
52	9.999057	Albrecht's <i>Compensation</i> .	Observations by Talcott's Method, 1909.
53	9.999398	Communicated by Prof. Collins.	Determination by Sharpless.
54	9.999159	Determination by Becker and Valentiner.	Determination by Becker and Valentiner.
55	9.998901	Albrecht's <i>Compensation</i> .	Determination by Donner.
56	9.999640	Communicated by Mr. Keeling.	Communicated by Mr. Keeling.
57	9.999214	Determination by Von Konkoly and Tetens.	Determination by Von Sterneek.
58	9.999791	Determination by Green, U.S.N.	Determination by Doberek.
59	9.999870	Communicated by Director, 1916.	Communicated by Director, 1916.
60	9.999855	Report on Transit of Venus, 1882.	Report on Transit of Venus, 1882.
61	9.999122	Preussische Landesaufnahme, 1900.	Meridian Observations.
62	9.999717	Observatory Circular, 1916.	Observatory Circular, 1916.
63	9.999001	Communicated by Prof. Dubiago.	Communicated by Prof. Dubiago.
64	9.999001	Bakhuyzen's <i>Compensation</i> .	Observations by Talcott's Method.
65	9.999107	Determination by Balfour Stewart.	Determination by Balfour Stewart.
66	9.999037	Albrecht's <i>Compensation</i> .	Geodätisches Institut of Berlin.
67	9.999133	Albrecht's <i>Compensation</i> .	<i>Annales de l'Observatoire</i> , Tome III.
68	9.999954	Communicated by Director, 1912.	Communicated by Director, 1912.
69	9.999028	Albrecht's <i>Compensation</i> .	<i>Astron. Beobachtungen</i> , Band 38.
70	9.999194	Albrecht's <i>Compensation</i> .	Determination by Tinter.
71	9.999524	Publications of Obs., Vol. V., 1919.	Publications of Obs., Vol. V., 1919.
72	9.999111	Albrecht's <i>Compensation</i> .	Observations with Universal Instrument.
73	9.999090	Albrecht's <i>Compensation</i> .	<i>Annalen der Sternwarte</i> , Band II.
74	9.999431	Determination by Green, U.S.N.	Communicated by Director, July 1911.
75	9.999059	<i>M.N.R.A.S.</i> , November 1894.	<i>M.N.R.A.S.</i> , November 1894.
76	9.999721	Publications of Obs., Vol. II., 1911.	Publications of Obs., Vol. IV., 1912.
77	9.999004	Albrecht's <i>Compensation</i> .	Determination by Engstrom.
78	9.999254	Bakhuyzen's <i>Compensation</i> .	<i>Bulletin Astronomique</i> , Tome XI.
79	9.999320	Communicated by Prof. Comstock.	Publications of Observatory, Vol. VI.
80	9.999926	Great Trigonometrical Survey of India.	Great Trigonometrical Survey of India.

* * The Longitudes are reckoned from the Meridian of Greenwich.

No.	Place and Altitude.	Longitude.	Latitude.	Reduction to Geocentric Latitude.
		h m s	° ' "	
81	MADRID, 2149 ft. - - - - -	0 14 45.09 W.	40 24 30.0 N.	- 11 26.4
82	MARSEILLES, 246 ft. - - - - -	0 21 34.55 E.	43 18 17.5 N.	- 11 34.3
83	MAURITIUS, Royal Alfred Obs., 177 ft. -	3 50 12.6 E.	20 5 39 S.	+ 7 27.8
84	MELBOURNE, 92 ft. - - - - -	9 39 54.15 E.	37 49 53.2 S.	+ 11 13.4
85	MILAN, Brera, 394 ft. - - - - -	0 36 45.88 E.	45 27 59.2 N.	- 11 35.6
	[79 ft.			
86	MONTEVIDEO, Obs. Inst. Meteorológico,	3 44 51.4 W.	34 54 33 S.	+ 10 52.2
87	MONTREAL, McGill College, 187 ft. - -	4 54 18.88 W.	45 30 19.1 N.	- 11 35.6
88	MOSCOW, 466 ft. - - - - -	2 30 17.03 E.	55 45 19.5 N.	- 10 48.0
89	MOUNT HAMILTON, Lick Obs., 4209 ft. -	8 6 34.89 W.	37 20 25.6 N.	- 11 10.4
90	MOUNT WILSON OBS., 5900 ft. - - - -	7 52 14.33 W.	34 12 59.5 N.	- 10 46.2
91	MUNICH, Bogenhausen, 1736 ft. - - -	0 46 26.02 E.	48 8 45.5 N.	- 11 31.7
92	NAPLES, Capo di Monte, 538 ft. - - -	0 57 1.70 E.	40 51 46.3 N.	- 11 28.1
93	NEUCHÂTEL, 1601 ft. - - - - -	0 27 49.90 E.	46 59 50.6 N.	- 11 34.1
94	NEW HAVEN, Yale University, 131 ft. -	4 51 40.58 W.	41 19 22.3 N.	- 11 29.7
95	NEW YORK, Columbia University - - -	4 55 53.64 W.	40 45 23.1 N.	- 11 27.7
96	NICE, 1240 ft. - - - - -	0 29 12.15 E.	43 43 16.9 N.	- 11 34.9
97	NICOLAIEFF, 180 ft. - - - - -	2 7 53.78 E.	46 58 22.1 N.	- 11 34.2
98	NORTHFIELD, Carleton College, 938 ft. -	6 12 35.81 W.	44 27 41.6 N.	- 11 35.5
99	ODESSA, 180 ft. - - - - -	2 3 2.04 E.	46 28 36.7 N.	- 11 34.9
100	O'GYALLA (Dr. Von Konkoly), 371 ft. -	1 12 45.60 E.	47 52 27.3 N.	- 11 32.4
101	OTTAWA, 276 ft. - - - - -	5 2 51.98 W.	45 23 39.1 N.	- 11 35.6
102	OXFORD, Radcliffe Observatory, 213 ft. -	0 5 2.6 W.	51 45 35.6 N.	- 11 16.9
103	OXFORD, University Observatory, 210 ft. -	0 5 0.4 W.	51 45 34.2 N.	- 11 16.9
104	PADUA, 102 ft. - - - - -	0 47 29.15 E.	45 24 1.0 N.	- 11 35.6
105	PAISLEY, Coats Observatory, 107 ft. - -	0 17 43.3 W.	55 50 43.8 N.	- 10 47.2
106	PALERMO, 249 ft. - - - - -	0 53 25.87 E.	38 6 44.5 N.	- 11 15.1
107	PARIS, 194 ft. - - - - -	0 9 20.93 E.	48 50 11.2 N.	- 11 29.7
108	PEKIN, Central Observatory - - - -	7 45 52.87 E.	39 54 23.0 N.	- 11 24.3
109	PERTH, Western Australia, 197 ft. - -	7 43 21.74 E.	31 57 7.4 S.	+ 10 23.8
110	PETROGRAD, Academy of Sciences, 10 ft. -	2 1 13.40 E.	59 56 29.7 N.	- 10 4.2
111	POLA, 105 ft. - - - - -	0 55 23.07 E.	44 51 48.7 N.	- 11 35.7
112	POTSDAM, 318 ft. - - - - -	0 52 15.86 E.	52 22 56.0 N.	- 11 13.3
113	PRAGUE, 646 ft. - - - - -	0 57 40.28 E.	50 5 15.8 N.	- 11 25.1
114	PRINCETON, New Jersey, 213 ft. - - -	4 58 37.61 W.	40 20 57.8 N.	- 11 26.2
115	PULKOWA, 246 ft. - - - - -	2 1 18.57 E.	59 46 18.7 N.	- 10 6.2
116	QUEBEC (Time Ball on Cavalier Building)	4 44 49.38 W.	46 48 31.2 N.	- 11 34.4
117	RIO DE JANEIRO, 207 ft. - - - - -	2 52 41.4 W.	22 54 23.7 S.	+ 8 17.7
118	ROME, Capitol, 207 ft. - - - - -	0 49 56.34 E.	41 53 33.6 N.	- 11 31.3
119	ROME, Roman College, 194 ft. - - - -	0 49 55.36 E.	41 53 53.6 N.	- 11 31.3
120	ROME, Vatican - - - - -	0 49 49.28 E.	41 54 4.8 N.	- 11 31.3

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No.	Log. p.	Authority for Longitude.	Authority for Latitude.
81	9.999389	<i>Anuario, 1916.</i>	<i>Anuario, 1916.</i>
82	9.999315	Albrecht's <i>Compensation.</i>	Meridian Observations.
83	9.999829	Communicated by Mr. Meldrum.	Communicated by Mr. Meldrum.
84	9.999452	<i>Astronomical Results, Vol. VII.</i>	<i>Astronomical Results, Vol. VII.</i>
85	9.999260	Albrecht's <i>Compensation.</i>	<i>Publications, No. 51, 1914.</i>
86	9.999524	Communicated by Director, 1919.	Communicated by Director, 1919.
87	9.999259	U.S. Coast and Geodetic Survey.	U.S. Coast and Geodetic Survey.
88	9.999003	Albrecht's <i>Compensation.</i>	Determination by Sternberg.
89	9.999465	U.S. Coast and Geodetic Survey.	Determination by Tucker.
90	9.999540	<i>Contributions from Solar Observatory, No. 9.</i>	<i>Contributions from Solar Observatory, No. 9.</i>
91	9.999192	Albrecht's <i>Compensation.</i>	Communicated by Prof. Seeliger.
92	9.999377	Bakhuyzen's <i>Compensation.</i>	Determination by Fergola.
93	9.999220	Bakhuyzen's <i>Compensation.</i>	Berliner Jahrbuch.
94	9.999366	The American Ephemeris.	The American Ephemeris.
95	9.999380	Triangulation from Rutherford's Observatory.	Triangulation from Rutherford's Observatory.
96	9.999304	Albrecht's <i>Compensation.</i>	<i>Annales de l'Observatoire, Tome II.</i>
97	9.999221	Bakhuyzen's <i>Compensation.</i>	Communicated by Prof. Kortazzi.
98	9.999285	Telegraphic connection with Washington.	<i>Publications of Observatory, No. 1.</i>
99	9.999234	Albrecht's <i>Compensation.</i>	Observations in the Prime Vertical.
100	9.999197	Determination by Von Konkoly.	Determination by Lakits.
101	9.999261	Communicated by Director, 1919.	Communicated by Director, 1919.
102	9.999100	Radcliffe Observations, 1842.	Radcliffe Catalogue of Stars, 1900.
103	9.999100	Ordnance Survey.	Ordnance Survey.
104	9.999261	Albrecht's <i>Compensation.</i>	Determination by Ciscato.
105	9.998999	Communicated by Observatory Committee.	Communicated by Observatory Committee.
106	9.999446	Bakhuyzen's <i>Compensation.</i>	Determination by Zona.
107	9.999174	Albrecht's <i>Compensation.</i>	Determination by Laugier.
108	9.999401	Communicated by Director, 1920.	Communicated by Director, 1920.
109	9.999593	Government Lands and Survey Office, Perth.	Communicated by Mr. W. E. Cooke.
110	9.998906	Triangulation from Pulkowa.	Triangulation from Pulkowa.
111	9.999275	Austrian Gradmessungen-Commission.	Austrian Gradmessungen-Commission.
112	9.999084	Albrecht's <i>Compensation.</i>	<i>Publications of Observatory, Vol. VI.</i>
113	9.999142	Albrecht's <i>Compensation.</i>	<i>Astron. Beobachtungen, 1888-1891.</i>
114	9.999390	The American Ephemeris.	The American Ephemeris.
115	9.998909	Albrecht's <i>Compensation.</i>	<i>Description de l'Observatoire.</i>
116	9.999225	Communicated by Hydrographer, Ottawa, 1919.	Communicated by Hydrographer, Ottawa, 1919
117	9.999780	Determination by Green, U.S.N.	Determination by Green, U.S.N.
118	9.999350	Albrecht's <i>Compensation.</i>	Determination by Respighi.
119	9.999350	Albrecht's <i>Compensation.</i>	Determination by Millosevich.
120	9.999350	Albrecht's <i>Compensation.</i>	Communicated by Sig. Denza.

* * * The Longitudes are reckoned from the Meridian of Greenwich.

No.	Place and Altitude.	Longitude.	Latitude.	Reduction to Geocentric Latitude.
		^h ^m ^s		
121	ROUSDON, Devon, 516 ft. - - - -	0 11 58.94 W.	50° 42' 38" N.	- 11° 22.3
122	RUGBY, Temple Obs., 384 ft. - - - -	0 5 2.0 W.	52 22 7 N.	- 11 13.4
123	SAN FERNANDO, near CADIZ, 101 ft. - - - -	0 24 49.30 W.	36 27 42.0 N.	- 11 4.3
124	SANTIAGO DE CHILE, 1704 ft. - - - -	4 42 46.3 W.	33 26 42.0 S.	+ 10 39.0
125	SOUTH KENSINGTON, London, S.W. - - - -	0 0 41.54 W.	51 29 48.0 N.	- 11 18.4
126	STOCKHOLM, 144 ft. - - - - - - - -	1 12 13.97 E.	59 20 32.7 N.	- 10 11.3
127	STONYHURST, 381 ft. - - - - - - - -	0 9 52.68 W.	53 50 40 N.	- 11 3.5
128	STRASBURG, 472 ft. - - - - - - - -	0 31 4.52 E.	48 35 0.3 N.	- 11 30.5
129	SUTTON, SURREY (Mr. Dobereck), 167 ft. - - - -	0 0 44.53 W.	51 22 19.8 N.	- 11 19.0
130	SYDNEY, 144 ft. - - - - - - - -	10 4 49.54 E.	33 51 41.1 S.	+ 10 42.9
131	TACUBAYA, MEXICO, 7619 ft. - - - -	6 36 46.67 W.	19 24 17.9 N.	- 7 14.9
132	TASCHKENT, 1499 ft. - - - - - - - -	4 37 10.82 E.	41 19 31.4 N.	- 11 29.7
133	TOKYO - - - - - - - - - - - - - -	9 18 58.02 E.	35 39 17.5 N.	- 10 58.3
134	TORONTO, 350 ft. - - - - - - - - - -	5 17 34.65 W.	43 39 35.9 N.	- 11 34.8
135	TOULOUSE, 636 ft. - - - - - - - - - -	0 5 51.23 E.	43 36 44.0 N.	- 11 34.7
136	TRIESTE, 220 ft. - - - - - [197 ft.	0 55 5.4 E.	45 38 35.5 N.	- 11 35.5
137	TRIVANDRUM, Maharaja's Observatory,	5 7 59 E.	8 30 32 N.	- 3 22.9
138	TULSE HILL, London (Sir W. Huggins),	0 0 27.7 W.	51 26 47 N.	- 11 18.6
139	TURIN, Pino Torinese, 2028 ft. - [174 ft.	0 31 5.95 E.	45 2 16.3 N.	- 11 35.7
140	UPSALA, 69 ft. - - - - - - - - - -	1 10 30.12 E.	59 51 29.4 N.	- 10 5.2
141	URBANA, University of Illinois, 774 ft. -	5 52 53.93 W.	40 6 20.2 N.	- 11 25.2
142	UTRECHT, 39 ft. - - - - - [730 ft.	0 20 30.97 E.	52 5 9.5 N.	- 11 15.1
143	VICTORIA, B.C., Astrophysical Obs.,	8 13 40.17 W.	48 31 15.7 N.	- 11 30.7
144	VENICE, Istituto di Marina, 49 ft. - - -	0 49 22.12 E.	45 26 10.5 N.	- 11 35.6
145	VIENNA, Imperial Observatory, 787 ft. -	1 5 21.35 E.	48 13 55.4 N.	- 11 31.5
146	VIENNA, Ottakring (Herr Kuffner),	1 5 10.96 E.	48 12 46.7 N.	- 11 31.6
147	WARSAW, 361 ft. - - - - - [935 ft.	1 24 7.25 E.	52 13 4.6 N.	- 11 14.3
148	WASHINGTON, Georgetown Heights, 269 ft.	5 8 15.78 W.	38 55 14.0 N.	- 11 19.6
149	WELLINGTON, N.Z., Hector Obs., 416 ft.	11 39 4.27 E.	41 17 3.8 S.	+ 11 29.5
150	WILHELMSHAVEN, 30 ft. - - - - - - - -	0 32 35.06 E.	53 31 52.2 N.	- 11 4.7
	[1099 ft.			
151	WILLIAMS BAY, Wis., Yerkes Obs.,	5 54 13.24 W.	42 34 12.6 N.	- 11 33.0
152	WINDSOR, N.S.W. (Mr. Tebbutt), 52 ft.	10 3 20.51 E.	33 36 30.8 S.	+ 10 40.6
153	ZURICH, 1536 ft. - - - - - - - - - -	0 34 12.26 E.	47 22 38.3 N.	- 11 33.5

NOTES:—

Albrecht's Compensation. The reference is to Prof. Albrecht's paper in *Astron. Nachrichten*, No. 3993.

Bakhuyzen's Compensation. The reference is to Prof. Bakhuyzen's paper in *Astron. Nachrichten*, No. 3202, the adopted difference of longitude Paris—Greenwich being 9^m 20^s.93.

* * * The Longitudes are reckoned from the Meridian of Greenwich.

No.	Log. p.	Authority for Longitude.	Authority for Latitude.
121	9.999127	Ordnance Survey.	Ordnance Survey.
122	9.999084	Ordnance Survey.	Ordnance Survey.
123	9.999486	Telegraphic connection with Madrid.	Transit-Circle Observations.
124	9.999558	Anuario del Observatorio, 1919.	Anuario del Observatorio, 1919.
125	9.999107	Communicated by Sir J. Norman Lockyer.	Communicated by Sir J. Norman Lockyer.
126	9.998919	Communicated by Director, 1913.	Communicated by Director, 1917.
127	9.999049	Chronometrical connection with Liverpool.	Meridian Observations.
128	9.999180	Albrecht's <i>Compensation</i> .	Meridian Observations of Circumpolar Stars.
129	9.999110	Ordnance Survey.	Ordnance Survey.
130	9.999549	Tel. Determination by Ellery, Russell and Todd.	Sydney Astronomical Observations.
131	9.999840	Boletin del Observatorio, No. 4, 1914.	Boletin del Observatorio, No. 4, 1914.
132	9.999366	Communicated by Prof. Gedeonof.	Communicated by Prof. Gedeonof.
133	9.999506	University Calendar, 1892.	University Calendar, 1892.
134	9.999306	Determination by Carpmæl.	Determination by Blake.
135	9.999307	Communicated by M. Cosserat.	Determination by Petit.
136	9.999255	Communicated by Director, 1919.	Communicated by Director, 1919.
137	9.999968	Communicated by Director, 1915.	Communicated by Director, 1915.
138	9.999108	Ordnance Survey.	Ordnance Survey.
139	9.999270	<i>Anuario Astronomico</i> , 1917.	<i>Anuario Astronomico</i> , 1917.
140	9.998908	Albrecht's <i>Compensation</i> .	<i>Astron. Nachrichten</i> , No. 2565.
141	9.999396	Communicated by Prof. Joel Stebbins.	Communicated by Prof. Joel Stebbins.
142	9.999092	Triangulation from Leyden.	<i>Astron. Nachrichten</i> , No. 2411.
143	9.999182	Communicated by Director, 1920.	Communicated by Director, 1920.
144	9.999260	Determination by Millosevich.	Determination by Millosevich.
145	9.999189	Albrecht's <i>Compensation</i> .	K. K. Gradmessungs-Bureau.
146	9.999190	Albrecht's <i>Compensation</i> .	<i>Publicationen der Sternwarte</i> , I. und II.
147	9.999089	Albrecht's <i>Compensation</i> .	<i>Astron. Nachrichten</i> , No. 4666 (July 1913).
148	9.999426	U.S. Coast and Geodetic Survey.	American Ephemeris, 1922.
149	9.999366	Transactions of New Zealand Institute, 1914.	Transactions of New Zealand Institute, 1914.
150	9.999057	Albrecht's <i>Compensation</i> .	Zenith Distances of Zenithal Stars.
151	9.999333	Observatory Bulletin, No. 18.	Observatory Bulletin, No. 18.
152	9.999555	Report of Windsor Observatory, 1888.	Observations in the Prime Vertical.
153	9.999211	Bakhuyzen's <i>Compensation</i> .	Communicated by Prof. A. Wolfer.

Directors are requested to notify H.M. Nautical Almanac Office if they desire any change made in the information given above concerning their Observatories.

STANDARD TIMES.

The following Standard Times, referred to the Meridian of Greenwich, have been adopted for railway and other purposes :—

h	m	
11	30	E. New Zealand.
11	0	E. New Caledonia.
10	0	E. Tasmania, Victoria, New South Wales, Queensland, New Guinea.
9	30	E. South Australia.
9	0	E. Japan, Corea.
8	0	E. Western Australia, Portuguese Timor, British North Borneo, Philippine Islands, Macao, Hong Kong, China (Coast), Formosa.
7	0	E. Straits Settlements, Federated Malay States, French Indo-China,
6	30	E. Burma. [Siam.
5	30	E. India.
5	0	E. Chagos Archipelago, Portuguese India.
4	0	E. Mauritius, Seychelles.
3	0	E. Somaliland, Madagascar.
2	30	E. East African Protectorate.
2	0	E. (East Europe).—Roumania, Bulgaria, Turkey, Greece.
		Egypt, Portuguese East Africa, South Africa.
1	0	E. (Mid-Europe).—Germany, Luxembourg, Denmark, Sweden, Norway, Switzerland, Italy, Austria-Hungary, Bosnia, Servia, Malta, Portuguese West Africa, South-west Africa, Nigeria.
0	0	(Greenwich).—Great Britain, Ireland, France, Belgium, Spain, Portugal, Gibraltar, Algeria, Farøe Islands, Gold Coast Colony.*
1	0	W. Iceland, Madeira, Portuguese Guinea, Sierra Leone.
2	0	W. Azores and Cape Verde Islands.
3	0	W. Eastern Brazil. [Brazil, Chile.
4	0	W. (Atlantic).—Part of Canada, Leeward Islands, Uruguay, Central
5	0	W. (Eastern).—Parts of Canada and United States, Western Brazil, Peru, Panama, Jamaica, Bahamas.
6	0	W. (Central).—Parts of Canada and United States, Honduras.
7	0	W. (Mountain).—Parts of Canada and United States.
8	0	W. (Pacific).—British Columbia and Part of United States.
9	0	W. Yukon, Alaska.
10	30	W. Sandwich Islands.
11	30	W. Samoa.

* For Jan. 1—Sept. 1 only : 20^m E. for rest of year.

EXPLANATION OF THE ARTICLES

CONTAINED IN

THE NAUTICAL ALMANAC AND ASTRONOMICAL
EPHEMERIS FOR THE YEAR 1923.

THE necessarily concise headings in the body of the Almanac in many cases leave the precise meaning of the quantity tabulated in some uncertainty. Very little further explanation is likely to be required by a reader who consults (*a*) the tables of the Sun, Moon, and Planets, and the Star Catalogues quoted in the Preface ; (*b*) the explanation given in foreign almanacs of the matter supplied by them to this Almanac ; (*c*) a section at the end of the Almanac for 1918, which will be here quoted as "Derivation." This section will be reprinted at intervals with changes incorporated.

Ephemeris of Sun and Moon. (Pages 1 to 145.)

"Derivation," Nos. 1 to 25, may be consulted.

Planetary Ephemerides. (Pages 146 to 186.)

In the "Derivation," Nos. 26 to 31, Mars is taken for purposes of illustration. Further statements are necessary as follows :—

Heliocentric places for the planets from Venus to Neptune are to be found in Appendices to the Almanacs for 1915 to 1917.

In the case of Jupiter and Saturn the times of passage over the meridian and the polar semidiameters have been calculated on the assumption, only approximately true, that the extremities of the axes of rotation are the north and south points of the discs.

The transit ephemerides for Mars, Jupiter, and Saturn extend from transit at 20^h to transit at 4^h ; for Uranus and Neptune from transit at 15^h to transit to 4^h ; for Venus the transit is given for every day, the apparent solar day being intended.

Sun's Co-ordinates. (Pages 187 to 194.)

"Derivation," Nos. 32 and 33, may be consulted.

Precession, Nutation, etc. (Pages 195 to 198.)

"Derivation," Nos. 34 to 39, may be consulted.

Stars. (Pages 199 to 428.)

"Derivation," Nos. 40 to 51, may be consulted, and also the explanations of other Almanacs.

The magnitudes have been determined on the assumption that the average magnitude of α Ursæ Minoris, if observed in the Zenith, would be 2.15, and that the light given by a star of magnitude m is r times that given by one of magnitude $m+1$, where $\log r = 0.4$.

The magnitudes of the two stars α Argûs and Sirius are indicated by negative quantities, showing that they are brighter than a star whose magnitude is 0.0.

The Spectra have been taken from a manuscript list forwarded by Professor Pickering. The system of classification is that of *Revised Harvard Photometry* (*Annals of Harvard College Observatory*, vol. 50), from which the following explanation is taken :—

"The nomenclature adopted is that first used in the *Drapeer Catalogue*, *H.A.*, vol. 27, modified and extended to satisfy the facts, as the study of the spectrum of the stars developed. Stars of Types I., II., and III., according to the designations of Secchi, are here denoted by the letters A, K, and M. Two well-marked classes between A and K are called F and G. Stars of the Orion or helium type, which contain well-marked helium lines in addition to the Orion lines, are called B. Nearly all the stars can be arranged in a sequence, according to the classes B, A, F, G, K, and M. Peculiar spectra are indicated by Pec. A more detailed study of the spectra showed that many of them fell between these classes. They are indicated by a number following the first class. Thus, B2A, abridged to B2, denotes a spectrum nearly like that of class B, but estimated to be two-tenths of the way from B to A. K5 denotes a star midway between K and M. Stars of the fourth and fifth type are designated by the letters N and O respectively. Class M has been divided into the sub-classes Ma, Mb, Mc, and Md Class O has been divided into the sub-classes Oa, Ob, Oc, Od, and Oe O really precedes B in the sequence, so that Oe5 denotes Oe5B. This classification is fully described in Volume 28, p. 146 For stars having a slight peculiarity, the Class followed by the letter p is used instead of Pec."

Bo, Ao are, however, now usually employed for B, A.

At the foot of each page of Apparent Places of Stars are inserted the respective mean places, together with the natural secant and tangent of the mean declination of each star. Additional facility is thus afforded for the reduction of observations.

At the foot of the column on pages 274 to 428 are given quantities designated L_α , L_δ , ω_α , ω_δ to facilitate the calculation of the small parts of the star correction arising from the nutations, dL , $d\omega$, tabulated on pages 195 to 198.

The formulæ for these four quantities are

$$L_\alpha = \sin \alpha \sin \omega \tan \delta \div 15$$

$$L_\delta = \sin \omega \cos \alpha$$

$$\omega_\alpha = -\cos \alpha \tan \delta \div 15$$

$$\omega_\delta = \sin \alpha.$$

The formulæ to be used for further correction to the apparent places are

$$\begin{aligned}d\alpha &= dL \times L\alpha + d\omega \times \omega\alpha + f' \\ d\delta &= dL \times L\delta + d\omega \times \omega\delta.\end{aligned}$$

The numerical values of f' are given on pages 220 to 227.

Moon-culminating Stars. (Pages 429 to 457.)

“Derivation,” No. 52, may be consulted.

The Right Ascension of the Moon’s bright limb and Declination of the centre are given.

The Moon’s age in days is given in the same column with the magnitudes of the stars.

Eclipses. (Pages 458 to 466.)

The explanations of the American Ephemeris and the *Connaissance des Temps* may be consulted.

The Besselian Solar Eclipse Elements have the following geometrical signification:—

The fundamental plane is the plane passing through the centre of the Earth perpendicular to the axis of the Moon’s shadow, *i.e.* to the right line joining the centres of the Sun and Moon. The intersection of the fundamental plane with the Earth’s Equator is taken as the axis of x , and the axis of y is perpendicular to it and directed towards the North, the Earth’s centre being the origin of co-ordinates; so that x and y are the co-ordinates of the point in which the axis of the shadow intersects the fundamental plane. The angle d is the declination of the point in which the axis of the shadow (in the direction Earth, Moon, Sun) intersects the celestial sphere. The angle μ is the Greenwich hour-angle of this same point.

The quantities l_1 , l_2 are the radii of the shadow-cones upon the fundamental plane, l_1 corresponding to the penumbra and l_2 to the umbra or shadow. The latter is regarded as positive for an annular, and negative for a total Eclipse.

The values of the log tangents of the semi-angles of the shadow-cones of the penumbra and shadow respectively are also given.

The remaining quantities x' , y' , and μ' are, respectively, the changes of x , y , and μ in one minute of mean time.

Occultations. (Pages 467 to 515.)

The explanation of the American Ephemeris should be consulted, and also “Derivation,” No. 53.

Jupiter's Satellites. (Pages 516 to 540.)

The explanation of the *Connaissance des Temps* should be consulted.

In the Tables of Configurations the direction of the motion of the satellites is towards the numerals. White circles at the side of the tables denote transits in progress; black circles, occultations or eclipses.

Satellites of Saturn, Uranus, and Neptune. (Pages 541 to 545, and 547 to 549.)

The explanation of the American Ephemeris should be consulted.

Rings of Saturn. (Page 546.)

This page gives the apparent size and orientation of Saturn's Rings and the planetocentric position of the Earth and Sun relatively to the plane of the Rings.

a and b are the axes of the outer ellipse of the outer ring.

P is the angle which the minor axis of the Ring-ellipse makes with the Declination circle passing through the middle point of Saturn; $\vdash$ East, $-$ West.

B is the angular elevation of the Earth above the plane of the Rings, as seen from Saturn; $+$ North, $-$ South.

B' is the angular elevation of the Sun above the plane of the Rings, as seen from Saturn; $+$ North, $-$ South.

U is the Geocentric Longitude of Saturn reckoned on the plane of the Rings from the Ascending Node of the Ring on the Equator.

U' is the Heliocentric Longitude of Saturn, reckoned on the plane of the Rings, from the ascending Node of the Ring on the Ecliptic.

ω is the angular distance in the plane of the Rings from their ascending Node on the Earth's Equator to their Ascending Node on the Ecliptic.

The factor to be multiplied by a and b to obtain the axes of—

The inner ellipse of the outer ring = 0.8801	log factor = 9.9445.
The outer ellipse of the inner ring = 0.8599	log factor = 9.9344.
The inner ellipse of the inner ring = 0.6650	log factor = 9.8228.
The inner ellipse of the dusky ring = 0.5486	log factor = 9.7392.

Phenomena. (Pages 550 and 551.)

The conjunction of planet with planet is given only when the difference of declination does not exceed 3° ; that of planet with star when the difference does not exceed $10'$.

In computing the time of greatest brilliancy of Venus it is assumed that the brilliancy varies as $\frac{(r+\Delta+R)(r+\Delta-R)}{r^3\Delta^3}$, where r and R are the radii vectores of Venus and of the Earth respectively, and Δ is the distance of Venus from the Earth.

Physical Ephemeris of the Sun. (Page 552.)

P is the position-angle of the Sun's axis, B_0 the heliographical latitude of the Earth and L_0 the heliographical longitude of the centre of the disc.

Moon's Equator, Orbit, and Mean Longitude. (Page 553.)

The Moon's Equator descends upon the ecliptic at a constant angle at the point where the Moon's Orbit ascends upon the ecliptic.

Ω is the longitude of this point.

Ω' is the right ascension of the Ascending Node of the Moon's Equator upon the Earth's Equator.

i is the inclination of the two equators.

$\Delta + 180^{\circ}$ is the distance from the Ascending Node of the Moon's Equator upon the Earth's Equator to the Ascending Node of the Moon's Orbit upon the ecliptic.

The mean longitude of the Moon's Perigee $1'$ and the Moon's mean longitude are given in a slightly different manner upon page 1.

Physical Ephemeris of the Moon. (Pages 554 to 561.)

"Derivation," No. 54, may be consulted.

C is the position-angle of the northern extremity of the Moon's axis.

Physical Ephemerides of Mercury and Venus. (Pages 562 and 563.)

k the fraction of the whole disc illuminated.

i the angle between Earth and Sun as seen from the planet.

θ the position-angle of the line of cusps.

L the brilliancy of the disc.

Physical Ephemeris of Mars. (Pages 564 to 565.)

P is the position-angle of the axis of rotation, $A\oplus$, $A\odot$, the planetocentric Right Ascension of the Earth and Sun respectively, reckoned in the plane of the planet's Equator from the vernal Equinox of the planet's Northern Hemisphere,

$D\oplus$, $D\odot$ are the planetocentric declinations of the Earth and Sun,

$\odot \delta$ the planetocentric longitude of the Sun in the plane of the planet's orbit,

k the fraction of the whole disc illuminated,

i the angular distance of Earth and Sun as seen from the planet,

q , Q the amount and position-angle of the greatest defect of illumination.

Physical Ephemeris of Jupiter. (Pages 566 to 571.)

The correction for phase is applicable to the central meridian.

Days elapsed of the Julian Period at Mean Noon. (Page 578.)

The Julian Period is a period of 7980 years, the year A.D. 1 corresponding to the year 4714 of the period, or the year 0 (B.C. 1) to the year 4713 of the period. The year 1923, therefore, corresponds to the year 6636 of the Julian Period.

As the year 0 corresponds to the year 4713 of the period, *at the commencement* of the year 0, there have elapsed 4712 years, or 1,721,058 days of the period. It is on this basis that the Table has been calculated. The Table gives the number of days of the period elapsed at the commencement of each fourth year of our era, from the year 0 to the year 1996. In the construction of the Table it has been assumed that the Gregorian reformation of the Calendar was introduced in the year 1582.

Geocentric Co-ordinates. (Page 579.)

This page contains a Table for computing the geocentric latitude and log. radius of a place on the Earth's surface, the geographical latitude of which is known. The Table is adapted to a compression of $\frac{1}{297.0}$.

Observatories. (Pages 580 to 587.)

These pages contain a list of the *Longitudes and Latitudes of the principal Public and Private Observatories*, together with the Reduction of the Geographical to the Geocentric Latitude and the logarithm of the Earth's Radius for sea level for the position of each Observatory, computed with an assumed compression of one part in 297.0.

Standard Times. (Page 588.)

A list of Standard Times in use at various places is given.

THE DERIVATION OF QUANTITIES CONTAINED IN THE NAUTICAL ALMANAC.

(Continued from the Nautical Almanac for 1920.)

5*. MEAN LONGITUDE OF MOON.

$a = 217^{\circ}.1096$ on 1923 Jan. 11, noon - - (page 1)

Reference.—Brown's Tables, Sect. I. p. 28.

Formula.— $270^{\circ} 26' 11''.71 + 1336^{\circ} 307^{\circ} 53' 26''.06 T + 7''.14 T^2 + 0''.0068 T^3$.

Absolute term	-	-	-	-	270°.436586
Motion in 8411 days at $13^{\circ}.17639673025$ a day	-	-	-	-	306.672898
$7''.14 T^2 + 0''.0068 T^3$ for $T = .2303$	-	-	-	-	.000105

217°.109589

6*. MEAN LONGITUDE OF MOON'S ASCENDING NODE.

$a = 173^{\circ}.7879$ on 1923 Jan. 11, noon - - (page 1)

Formula.— $259^{\circ} 10' 59''.79 - 5^{\circ} 134^{\circ} 8' 31''.23 T + 7''.48 T^2 + 0''.008 T^3$.

Absolute term	-	-	-	-	259°.183275
Motion in 8411 days at $-0^{\circ}.05295392220$ a day	-	-	-	-	85.395440
$7''.48 T^2 + 0''.008 T^3$ for $T = .2303$	-	-	-	-	.000107

173°.787942

7*. MEAN LONGITUDE OF MOON'S PERIGEE.

$a = 191^{\circ}.3487$ on 1923 Jan. 11, noon - - (page 1)

Formula.— $334^{\circ} 19' 46''.40 + 11^{\circ} 109^{\circ} 2' 2''.52 T - 37''.17 T^2 - 0''.045 T^3$.

Absolute term	-	-	-	-	334°.329556
Motion in 8411 days at $0^{\circ}.11140408031$ a day	-	-	-	-	217.019719
$-37''.17 T^2 - 0''.045 T^3$ for $T = .2303$	-	-	-	-	.000548

191°.348727

19*. MOON'S SEMI-DIAMETER.

$a = 16' 3''.50$ on 1923 Jan. 11, noon - - (page 4)

Data.—Horizontal parallax $= p = 58' 56''.19$ - - - (page 4)

Formula.—
$$\frac{\sin a}{\sin 15' 32''.58} = \frac{\sin p}{\sin 57' 2''.70},$$

reducing to

$$a = 0''.088 + 0.272444p$$

within actual limits.

20*. MOON'S HORIZONTAL PARALLAX AND MOON'S LONGITUDE
AND LATITUDE.

These are taken from Prof. E. W. Brown's Tables of the Motion of the Moon.

52 (v)*. MOON'S SEMI-DIAMETER AT TRANSIT.

This is derived from the parallax at transit by the formula given in 19*.

Nos. 5*, 6*, 7*, etc., replace the corresponding Nos. 5, 6, 7, etc., of the Appendix to the *Nautical Almanac* for 1918.

60. NEWCOMB'S CORRECTIONS.

These disappear from the Almanac with Hansen's Tables.

ADMIRALTY CHARTS AND SAILING DIRECTIONS.

THE Official catalogue of charts published by the Admiralty, issued annually in March, can be obtained free of charge on application to the Admiralty agent for the sale of these Works, J. D. Potter, 145, Minories, London, E. 1.

Following the publication of the catalogue, a weekly list is printed of additional charts and sailing directions issued from the Hydrographic Department. These weekly lists can also be obtained free of charge from J. D. Potter.

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