EFEMÉRIDES

DE

ESTRELLAS CIRCUMPOLARES

PARA EL AÑO 1895

PUBLICADAS POR EL OBSERVATORIO NACIONAL ARGENTINO

Dr JUAN M. THOME

DIRECTOR

BUENOS AIRES

IMPRENTA DE P. CONI É HIJOS

680 — CALLE PERÚ — 680

1895

ADVERTENCIA

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Este librito aparece por vía de ensayo, accediendo á muchos pedidos, y se continuará su publicación todos los años, ó se interrumpirá, segun los resultados de su utilidad práctica. Su objeto principal es proporcionar efemérides exactas de estrellas circumpolares á los que se ocupen en trabajos de Agrimensura y Geodesia durante el año 1895.

Estas efemérides son las mismas que empleamos en el Observatorio para determinar la desviacion entre los planos de colimacion de nuestros telescopios y el meridiano verdadero. Son basadas sobre la lista de 54 estrellas circumpolares, publicadas en el tomo V de los «Resultados del Observatorio Nacional Argentino», cuyas posiciones medias son las más exactas, en cualquier concepto, de cuantas se publican para el hemisferio austral.

Las reducciones á posiciones aparentes se hacen por las fórmulas conocidas.

En ascension recta:

$$\alpha = \alpha_0 + Aa + Bb + Cc + Dd + \mu$$

En declinacion:

$$\delta = \delta_0 + Aa' + Bb' + Cc' + Dd' + \mu'$$

Las constantes a, b, c, d, (ascens. recta) y a' b' c' d' (declinac.), á más la pequeña variacion que experimentan los logaritmos durante el curso del año, se calculan aquí para cada año. Estas variaciones están colocadas debajo del logaritmo correspondiente, y se debe sumar ó restarlas, segun el signo, para la parte proporcional transcurrida. Los logaritmos A, B, C, D son comunes para ambas coordenadas.

La computacion se ha hecho solamente para los momentos de tránsito por el meridiano de Córdoba, en ambas culminaciones, pero los logaritmos A, B, C, D están dados para las demás fechas, de modo que será fácil obtener las correspondientes posiciones aparentes.

En la tabla que sigue se da la nómina, magnitudes y posiciones medias, para 1895.0, de las estrellas empleadas en las efemérides.

LISTA DE ESTRELLAS CIRCUMPOLARES

EQUINOCCIO MEDIO 1895.0

Letra	Estrella	Mag.	Ascens. Recta	Declinación
γ_1	Octantis.....	5.6	0^h $5^m16^s.387$	−82°48′28″.34
β	Hydri.....	2.7	0 20 13.705	−77 50 43.94
λ	Hydri.....	5.6	0 44 56.461	−75 29 42.29
	N° 5	6.3	1 32 57.255	−79 2 17.40
	N° 6.....	6.1	1 42 47.250	−85 18 0.18
μ	Hydri.....	5.6	2 33 53.801	−79 34 2.87
θ	Hydri.....	5.8	3 2 2.244	−72 18 45.45
	N° 9.....	6.1	3 33 48.199	−78 42 12.14
γ	Hydri.....	3.2	3 48 51.895	−74 33 38.70
	N° 11.....	6.9	4 35 4.436	−83 7 33.00
η	Mensae.....	6.0	4 58 12.266	−75 5 55.24
ξ	Mensae.....	5.8	5 10 49.149	−82 36 36.19
π	Mensae.....	5.8	5 45 31.577	−80 32 51.09
ζ	Mensae	5.8	6 48 46.867	−80 42 9.28
γ_2	Volantis.....	4.5	7 9 38.517	−70 19 40.86
	N° 17.....	6.7	7 23 41.160	−86 51 37.30
θ_2	Chamaeleontis.....	4.7	8 23 47.266	−77 8 43.66
β	Carinae	2.0	9 12 2.987	−69 17 4.80
ζ	Octantis.....	5.7	9 11 53.949	−85 14 32.87
ζ	Chamaeleontis.....	5.5	9 36 58.348	−80 28 10.08
μ	Chamaeleontis.....	6.0	10 3 31.354	−81 42 23.20
ω	Carinae.....	3.6	10 11 14.490	−69 30 59.33
I	Carinae.....	4.4	10 22 18.751	−73 29 49.66
δ_2	Chamaeleontis.....	4.9	10 44 47.459	−79 59 10.95
η	Octantis.....	6.3	11 0 2.302	−84 1 44.94
	N° 27.....	6.6	11 57 5.235	−85 2 49.68
β	Chamaeleontis.....	4.6	12 12 11.270	−78 43 44.99
ι	Octantis.....	6.0	12 43 58.196	−84 33 10.83
δ	Muscae.....	3.7	12 55 3.138	−70 58 55.87
	N° 31.....	7.0	13 18 59.806	−85 16 51.69
$\varkappa$	Octantis.....	5.7	13 23 58.454	−85 14 51.16
θ	Apodis.....	6.0	13 55 6.383	−76 17 22.17
η	Apodis.....	5.3	14 5 3.745	−80 30 54.60
δ	Octantis.....	4.7	14 10 6.113	−83 11 10.26
α	Apodis.....	4.0	14 34 49.437	−78 35 53.97

Letra	Estrella	Mag.	Ascens. Recta	Declinacion
π_2	Octantis.....	5.9	14 46 30.781	—82 36 58.83
ρ	Octantis.....	5.9	15 19 6.291	—84 6 50.71
δ_1	Apodis.....	5.2	16 4 39.865	—78 25 48.09
γ	Apodis.....	3.9	16 17 21.027	—78 39 36.89
α	Triang. Austr.	2.2	16 37 32.880	—68 50 2.29
	N° 42.....	6.4	17 11 49.666	—80 45 37.73
χ	Octantis.....	5.8	17 53 6.347	—87 39 48.17
ζ	Pavonis.....	4.2	18 30 46.035	—71 31 2.25
	N° 46.....	7.0	19 14 21.336	—81 57 51.61
	N° 47.....	6.4	20 2 26.290	—83 37 59.67
α	Octantis.....	5.6	20 51 59.255	—77 25 25.30
λ_1	Octantis.....	5.7	21 34 46.940	—83 12 5.56
υ	Octantis.....	6.4	22 11 30.537	—86 30 3.25
β	Octantis.....	4.4	22 35 38.610	—81 55 54.63
γ_1	Octantis.....	5.5	23 45 56.076	—82 36 8.54

A fin de ampliar la utilidad de esta publicacion, he añadido efemérides de varias estrellas de tiempo que están convenientemente situadas para observaciones en la República, y efemérides del sol para medio dia de Washington. Estas últimas han sido tomadas directamente del American Ephemeris, ahorrando así tiempo y dinero, cosas ambas de que carecemos. Por otra parte, no resultaria ventaja alguna de una interpolacion hecha solamente para el meridiano de Córdoba, pues se necesitaría hacer otra para cada estacion. A más, el empleo de la tabla que sigue, que da las diferencias de longitud con Washington, basadas en determinaciones provisorias de este Observatorio, facilita la interpolacion para un meridiano cualquiera.

LUGAR	LONGITUD DESDE				LATITUD	HORA que corresponde á las 12 de Córdoba
	Córdoba		Washington			
Buenos Aires	22m19s	Este	1h14m43s	Este	—34°36′31″.4	12h23m19s
Corrientes	21 29	»	1 12 53	»	27 27 55	12 21 29
Goya	19 44	»	1 11 8	»	29 9 6	12 19 44
La Paz	18 15	»	1 9 39	»	30 44 27	12 18 15
Paraná	14 40	»	1 6 4	»	31 43 45	12 14 40
Rosario de Santa Fé	14 14	»	1 5 38	»	32 56 41	12 14 14
Santa Fé	13 55	»	1 5 19	»	31 30 13	12 13 55
Villa-María	3 50	»	0 55 14	»	32 25 5	12 3 50
Córdoba	0 0		0 51 23.8	»	31 25 15.5	12 0 0
Santiago	0 15	Oeste	0 51 9	»	27 47 12	11 59 45
Rio Cuarto	0 30	»	0 50 54	»	33 7 19	11 59 30
General Acha	1 37	»	0 49 47	»	37 22 33	11 58 23
Rosario de la Frontera	3 3	»	0 48 21	»	25 48 2	11 56 57
Tucuman	4 0	»	0 47 24	»	26 50 32	11 56 0
Jujuy	4 41	»	0 46 43	»	24 10 54	11 55 19
Salta	4 50	»	0 46 34	»	24 46 30	11 55 10
San Luis	8 35	»	0 42 49	»	33 18 31	11 51 25
San Juan	17 17	»	0 34 7	»	31 32 10	11 42 43
Mendoza	18 30	»	0 33 54	»	—32 53 0	11 41 30

Disponiendo así de efemérides del sol, de una exactitud suficiente para toda determinacion de hora ó de latitud, me pareció útil agregar algunas tablas que facilitasen la reduccion de observaciones hechas fuera del meridiano; otras para computar las refracciones verdaderas y, finalmente, unas que sirviesen para la conversion de tiempo sidéreo en tiempo medio y vice-versa.

Habiéndose adoptado para todo el país una hora comun, basada en las determinaciones exactas hechas por este Observatorio y trasmitida diariamente por las líneas telegráficas á todas sus capitales, se podrá obtener con mayor facilidad la determinacion de la longitud

y latitud de todos los puntos que tengan oficinas telegráficas, y esas determinaciones servirían para verificar ó corregir las posiciones adoptadas en los mapas actuales de las provincias. De una de las oficinas telegráficas que están en el circuito con el Observatorio al momento de hacer las señales, y que reciben directamente la hora de nosotros — que son Buenos Aires, Rosario, Córdoba y Tucuman — el observador puede recibirla por trasmision y compararla con su propio cronómetro despues de las observaciones.

Es el método seguido por nosotros para la determinacion de las diferencias de longitud entre el Observatorio y las distintas capitales de Provincia. Para esto, empleábamos un cronómetro eléctrico de tiempo medio y un círculo de repeticion. La comparacion de la hora local con la del Observatorio se hacía por medio de las líneas telegráficas, intercalando el cronómetro y el péndulo normal en el circuito, y dejando registrarse sus indicaciones, automáticamente, por algunos minutos en el cronógrafo del Observatorio ó en la cinta de papel del aparato en la oficina del telégrafo.

Con el objeto de ilustrar el uso de algunas de las tablas de este libro, como tambien nuestro metodo de observar alturas del sol, daré aquí una série de observaciones hechas para la determinacion de la hora, y otra de alturas circummeridianas para la de la latitud. Sin embargo, nuestras determinaciones de tiempo eran siempre el resultado de dos séries de observaciones, por lo menos, practicadas antes y despues del cambio de señales por los cronómetros, lo que daba á conocer su marcha en el intervalo, pudiendo aplicar así la verdadera correccion.

Tomo para ejemplo una série de observaciones que hice en Santiago en el año 1879, pues esto me ofrece la oportunidad de corregir la latitud publicada, que por un error de copia salió mal. La verdadera es: 27°47′12″.

El instrumento empleado era un círculo de repeticion de Pistor y Martin, provisto de un trípode. El círculo se ajustaba en el brazo del trípode que lleva el contrapeso, al extremo opuesto de éste, de tal modo que el sistema quedaba en equilibrio mientras podía moverse el círculo libremente, tanto en azimut como en altura. Los pies del trípode se fijaban sobre una tablilla lisa que permitía el movimiento de todo el instrumento sobre una mesa, en que era colocado para estar á una altura conveniente.

Bajo estas condiciones, es ventajoso fijar préviamente el cero del nonius en un minuto exacto del círculo, para no tener que hacer

con segundos, y esperar el contacto ó separacion de los discos. A más, teníamos por costumbre observar el borde inferior y superior alternativamente (habiendo calculado de antemano las lecturas del círculo correspondiente), de tal modo que el término medio de la série (diez observaciones) daba directamente la altura del centro del sol, eliminándose así todo error en la apreciacion del semidiámetro. El horizonte artificial consistía en un plato de cobre lleno con mercurio, tapado por un techo de metal provisto de dos vidrios en sus lados, que eran inclinados bajo un ángulo de 60°. Los vidrios opacos del círculo se distinguían, segun su colocacion, por *lado A* y *lado B*, siendo nuestra costumbre cambiar de lado despues de las cinco primeras observaciones, cambiando, al mismo tiempo, la colocacion del techo del horizonte, y hacer las cinco restantes en las nuevas posiciones. La superficie del mercurio se limpiaba pasando por encima un lápiz Faber, á cuyos lados se pegaba la espuma.

Tenemos, entonces, los datos siguientes:

Lugar: Plaza Principal de Santiago del Estero.
Fecha: Setiembre 10 de 1879.
Coordenadas aproximadas: Long. Washington 51^m9^s. Latit. 27°47′12″
Instrumentos: Círculo de repeticion y cronómetro eléctrico.
Observado: Doble altura del sol. Borde super. é infer. alternativamente.
Correccion del índice: + 1°32′. Barómetro 752^m1′. Temperatura del mercurio 16°1′. Temperatura del aire 12.9

EFEMÉRIDES DEL SOL PARA WASHINGTON

	Medio dia medio	Medio dia aparente	Movimiento horario
Declinacion δ	+ 4°54′28″.9	+ 4°54′31″.9	— 56″.95
Ecuacion de tiempo.....		— $3^m5^s.72$	— 0s.86
Semidiámetro.....		15′55″.86	— 0″.01

La fórmula más conveniente para determinar la hora es la siguiente:

$$\text{sen}^2 \tfrac{1}{2} t = \text{sen} \tfrac{1}{2} t \left[\zeta + (\varphi - \delta)\right] \text{sen} \tfrac{1}{2} \left[\zeta - (\varphi - \delta)\right] \sec \varphi \sec \delta$$

en la cual ζ es la distancia zenital correjida por paralaje y refraccion, φ la latitud y δ la declinacion del sol para el momento de las observaciones.

El promedio de las observaciones T es cambiado en T_o, tiempo del cronómetro que corresponde al término medio de las alturas, teniendo en cuenta las segundas diferencias, por la fórmula siguiente, en el que α, δ y ζ tienen la misma significacion que antes y t es el ángulo horario:

$$T_o = T + \frac{1}{15} m_o \cot. t - \tfrac{1}{15} m_o \text{sen}\, t \cos \varphi \cos \delta \operatorname{cosec} \zeta \cot. \zeta$$

Cronómetro		Círculo doble alturas	Intervalos	m (tabla)
8h 46m 16s.1	A	66° 36′ 0″	4m 18s.5	36″.44
49 19.3		68 4 0	3 15.3	20.80
50 9.2		67 20 0	2 25.4	11 53
51 11.7		68 48 0	1 22.9	3.75
52 1.8		68 4 0	0 33.8	0.58
53 6.3	B	69 32 0	0 31.7	0.55
53 56.2		68 48 0	1 21.6	3.63
55 0.0		70 16 0	2 25.4	11.53
55 51.2		69 32 0	3 16.6	21.08
8 56 54.0		71 0 0	4 19.4	36.70
Promedio T	8 52 34.58	Promedio....	68 48 0	14″.66 = m_o
Correcion del Cronómetro (aprox.)	— 2 8	Correccion...	+ 1 32	
Santiago, Tiempo medio.....	8 50 26	Doble alturas	68 49 32	Log. m_o 1.16613
Diferencia de Longitud.....	0 51 9	Alt. del centro	34 24 46	Cot. t n 9.97540
Washington. Tiempo medio.....	7 59 17	Dist. Zenital.	55 35 14	—13″.85 = n 1.14153
Angulo horario.....	—4 0 43	Refraccion. r	+ 1 22.9	
Declinacion del centro del Sol....	+4°58′17″.4	Paralaje . . p	— 7.3	Log. m_o 1.16613
		ζ	55 36 29.6	sin t n 9.86148
				cos φ 9.94679
				cos δ 9.99837
		φ —27° 47′ 12″		cosec ζ 0.08355
		δ + 4 58 17.4		cot. ζ 9.83571
Para la Refraccion:		$\varphi-\delta$ 32 45 29.4		—7″.80 = n 0.89203
		ζ 55 36 29.6		—6″.05
Dist. Zen. 55°35′14″				= —0s.40

		$\zeta+(\varphi-\delta)$	88 21 59.0
Tang. DZ	0.16429	$\zeta-(\varphi-\delta)$	22 51 0.2
Log. A	1.76045 Tabla		
Baróm. log. B	+0.00034 »	$\frac{1}{2}\zeta+(\varphi-\delta)$	44 10 59.5
16°.4 log. T	—0.00112 »	$\frac{1}{2}\zeta-(\varphi-\delta)$	11 25 30.1
12°.9 log. γ	—0.00547 »	sen ½ suma	9.84321
		sen ½ diferenc.	9.29686
Log. refrac.	1.91849	sec φ	0.05321
r =	82″.9	sec δ	0.00163
		sen² ½ t	19.19491
Para Paralaje:		sen ½ t	9.59745.5
		½ t	23°18′52″.8
sen DZ	9.91645	t	46 37 45.6
log. π (8″.8)	0.94448	En tiempo	3h 6m 31s.04
		Tiempo apar.	8 53 28.96
Log. p	0.86093	Ecuac. de tiempo	—3 2.30
p =	7″.26	Tiempo medio	8 50 26.66
		Cronómetro T	8 52 34.58
		Correccion	—0.40
		Cromómetro To	8 52 34.18
		Cor. al Cronóm.	—2m 7s.52

Para la latitud, se emplea la fórmula siguiente:

$$\varphi = \delta_1 + \zeta_0 - Am + Bn$$

siendo

$$A = \cos\varphi \cos\delta \operatorname{cosec}\zeta;\ B = A^2 \cot.\zeta;\ m = \frac{2 \operatorname{sen}^2 {}^1/_2\, t}{\operatorname{sen} 1''};\ n = \frac{2 \operatorname{sen}^4 {}^1/_2\, t}{\operatorname{sen} 1''}$$

ζ es negativa cuando el zénit es al Sud del objeto observado.

Ecuacion de Tiempo		— 3m4s.9
Tiempo medio á medio dia aparente		11 56 55
Correccion al cronómetro		— 2 7
Tiempo del cronómetro á medio dia aparente		11 59 2
Corrección para altura máxima	θ	+ 9
Tiempo del cronómetro á altura máxima		11 59 11
Correccion al cronómetro		— 2 7
Verdadero tiempo medio á altura máxima		11 57 4
Diferencia de longitud		— 51 9
Tiempo medio en Washington á altura máxima		11 5 55
Angulo horario á medio dia medio		54 5
Angulo horario á medio dia aparente		51 0
Declinacion del centro del Sol á altura máxima	δ	+ 4°55′20″.3
Semidiámetro		15 55.9
Declinacion del borde inferior del Sol	δ_1	+ 5 11 16.2

ζ (φ 27°47′12″ + δ_1 5°11′16″.4)	32°58′28″
Cosecante ζ	n 0.26419
Cosenus φ	9.94679
Cosenus δ	9.99822
Log. A	n 0.20920
Log. $\Delta\delta$ (mov. hor.) — 56″.94	n 1.75542
Compl. aritmét. log. A	n 9.79080
Constante	9.40594
θ = 8″.96	= 0.95216

OBSERVADO : BORDE INFERIOR DEL SOL

Cronómetro	Doble alturas corregidas	Interv. à altur. máx.	Log. m	Log. Am	Am	ζ	r-p	$\zeta - Am + (r\text{-}p)$
11h 56m 33s	114° 3′ 20″	2m 38s	1.13404	n 1.34324	—22″.04	32° 58′ 19″	+30″.0	32° 58′ 27″.0
56 59	3 25	2 12	0.97788	1.18708	15.38	58 16.5		31.1
57 36	3 50	1 35	0.69318	0.90138	7.97	58 4		26.1
58 7	3 55	1 4	0.34909	0.55829	3.62	58 1.5		27.9
53 30	4 0	0 41	9.96230	0.17150	1.48	57 59		27.5
58 55	4 0	0 16	9.14497	9.35417	0.23	57 59		28.8
59 21	4 5	0 10	8.73673	8.94590	0.09	57 56.5		26.4
12 0 1	3 55	0 50	0.13467	0.34387	2.16	58 1.5		29.3
0 34	3 50	1 23	0.57489	0.78409	6.09	58 4		27.9
1 5	3 35	1 54	0.85054	1.05974	11.47	58 11.5		30.0
1 34	3 30	2 23	1.04740	1.25660	18.05	58 14		26.0
2 1	3 15	2 50	1.19762	1.40682	25.51	58 22		26.5
2 36	2 50	3 25	1.36022	1.56942	37.10	58 34		26.9
2 58	2 30	3 47	1.44877	1.65797	45.49	58 44		28.5
3 29	2 5	4 18	1.55996	1.76916	58.77	58 56.5		27.7
12 4 4	114 1 30	4 53	1.67045	n 1.87965	—75.79	32 59 15	+30.0	32 58 29.2

ζ_0	—	32 58 27.9
δ_1	+	5 11 16.4
φ =	—	27 47 11.5

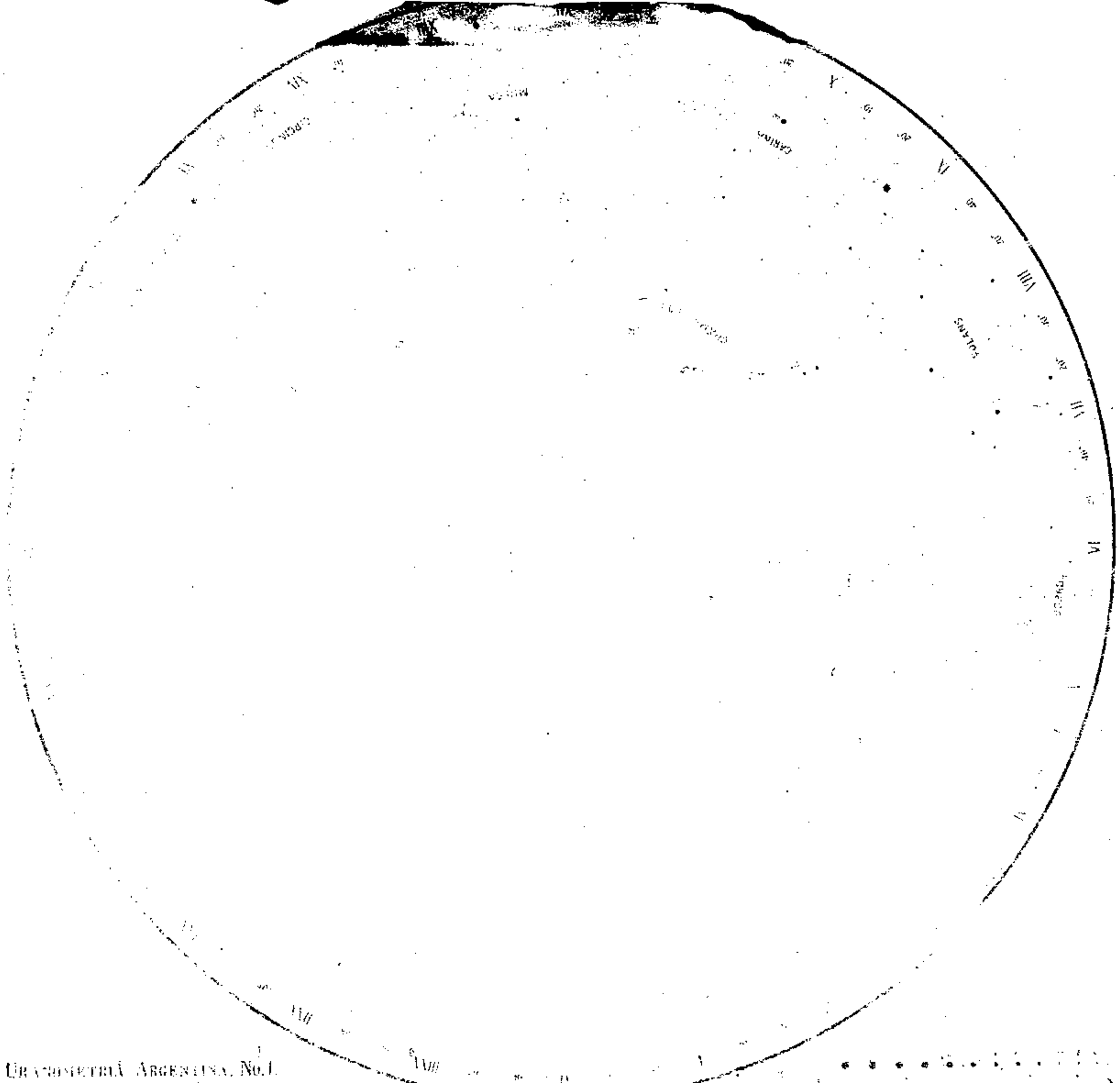
Considerándolo de utilidad práctica conocer las constelaciones al rededor del Polo, he hecho una copia de nuestro mapa de esa region. En éste, las estrellas de la lista de circumpolares están indicadas por letras ó números, y las constelaciones están limitadas por líneas quebradas. A más, para indicar la posicion del Polo, he unido por una línea la estrella β *Hydri* (cerca de la nubécula menor) con la estrella β *Chamaeleontis*, y como se ve en el mapa, el Polo viene á quedar situado casi á igual distancia de esas dos estrellas y muy cerca de la línea que las une. Las constelaciones *Musca* y *Chamaeleon* están en línea con la *Cruz*.

Grato me sería el recibir de los interesados indicaciones sobre el modo de mejorarla, si esta publicacion se continúa, tomando en cuenta siempre el costo de su produccion.

Córdoba, Enero de 1895.

FÉ DE ERRATAS

Página	Columna	En vez de:	Léase:
16	δ	0ˢ67	0″67
30	*d*	n 5.9373	n 9.5373



EFEMÉRIDES DE ESTRELLAS CIRCUMPOLARES

EFEMÉRIDES DE ESTRELLAS CIRCUMPOLARES

N° 1 — γ_3 *Octantis*

1895.0	a 0.4516 −3	b n 9.7228 −4	c 9.7262 −4	d 8.0882 +30	μ	μ'	α	δ
	a' 1.3021 0	b' n 8.3619 +30	c' 8.8873 +14	d' n 9.9964 −1	$-0^s.009$	$-0''.008$	0^h5^m $16^s.387$	$-82°48'$ $28''.34$
	A	B	C	D				
Ene. 1.2	8.5858	n 0.9382	n 0.5644	1.3021	$0^s.000$	$0''.00$		
11.2	8.8995	n 0.9370	n 0.8362	1.2793	0.000	0.00		
21.2	9.0461	n 0.9432	n 0.9925	1.2409	0.000	0.00		
31.2	9.1514	n 0.9581	n 1.0963	1.1835	−0.001	0.00		
Feb. 10.1	9.2542	n 0.9667	n 1.1687	1.1015	−0.001	0.00		
20.1	9.3137	n 0.9685	n 1.2187	0.9836	−0.001	0.00		
Mar. 2.1	9.3479	n 0.9763	n 1.2511	0.8020	−0.001	0.00		
12.0							$12^s.350$	48′27″.36
22.0							12.253	23.39
Abr. 1.0							12.379	19.56
10.9							12.872	15.74
20.9							13.624	11.99
30.9							14.508	8.46
May. 10.9							15.630	5.39
20.8							17.024	2.68
30.8							18.554	48 0.18
Jun. 9.8							20.130	47 58.30
19.8							21.833	57.11
29.7							23.708	47 56.24
Jul. 9.7	9.7942	n 0.9271	0.7587	n 1.2892	−0.005	−0.01		
19.7	9.8157	n 0.9266	0.9349	n 1.2592	−0.005	−0.01		
29.7	9.8358	n 0.9377	1.0512	n 1.2138	−0.005	−0.01		
Ago. 8.6	9.8562	n 0.9503	1.1328	n 1.1490	−0.005	−0.01		
18.6	9.8752	n 0.9530	1.1917	n 1.0581	−0.006	−0.01		
28.6	9.8880	n 0.9558	1.2326	n 0.9272	−0.006	−0.01		
Set. 7.5							33.085	48 5.73
17.5							33.540	8.49
27.5							33.567	11.47
Oct. 7.5							33.308	14.66
17.5							32.835	17.51
27.4							32.002	20.07
Nov. 6.4							30.824	22.43
16.4							29.518	24.37
26.3							28.084	25.68
Dic. 6.3							26.446	26.32
16.3							24.723	26.50
26.2							23.088	26.08
31.2							22.235	48 25.47

N° 3 — β *Hydri*

1895.0	a 0.4024 −3	b n 9.4890 −3	c 9.4988 −4	d 8.4457 +8	μ	μ'	α 0h20m	δ −77°50'
	a' 1.3005 0	b' n 8.9151 +10	c' 9.2492 +9	d' n 9.9885 +2	+0s.703	+0".317	13s.705	43".94
	A	B	C	D				
Ene. 1.2							15s.878	51' 2".59
11.2							14.959	51 1.33
21.2							14.116	50 59.24
31.2							13.408	57.37
Feb. 10.1	9.2542	n 0.9667	n 1.1687	1.1013	+0s.078	+0".03		
20.1	9.3138	n 0.9685	n 1.2187	0.9835	+0.097	+0.04		
Mar. 2.1	9.3480	n 0.9763	n 1.2511	0.8018	+0.116	+0.05		
12.0							11.677	44.13
22.0							11.589	40.20
Abr. 1.0							11.627	36.40
11.0							11.887	32.55
20.9							12.312	28.71
30.9							12.824	25.06
May. 10.9							13.476	21.82
20.8							14.314	18.86
30.8							15.251	16.10
Jun. 9.8							16.214	13.94
19.8							17.260	12.46
29.7							18.410	12.25
Jul. 9.7	9.7942	n 0.9271	0.7590	n 1.2893	+0.366	+0.16		
19.7	9.8157	n 0.9266	0.9351	n 1.2591	+0.385	+0.17		
29.7	9.8358	n 0.9377	1.0513	n 1.2137	+0.405	+0.18		
Ago. 8.6	9.8562	n 0.9503	1.1329	n 1.1490	+0.424	+0.19		
18.6	9.8752	n 0.9530	1.1917	n 1.0581	+0.443	+0.20		
28.6	9.8880	n 0.9558	1.2326	n 0.9271	+0.462	+0.21		
Set. 7.6							24.737	18.83
17.5							24.991	21.47
27.5							25.119	24.38
Oct. 7.5							25.066	27.60
17.4							24.899	30.47
27.4							24.513	33.13
Nov. 6.4							23.915	35.69
16.4							23.234	37.83
26.3							22.474	39.39
Dic. 6.3							21.583	40.34
16.3							20.625	40.75
26.2							19.705	40.74
31.2							19.228	50 40.62

N° 4 — λ *Hydri*

1895.0	*a* 0.3151 −1	*b* n 9.4027 −2	*c* 9.4168 −2	*d* 8.7148 +2	μ	μ'	α	δ
	a' 1.2938 0	*b'* n 9.2897 +3	*c'* 9.4732 +3	*d'* n 9.9775 0	+0".021	−0".020	0h41m 56s.464	−75°29' 42".29
	A	B	C	D				
Ene. 1.2	8.5864	n 0.9382	n 0.5655	1.3020	0".000	0".00		
11.2	8.9003	n 0.9371	n 0.8367	1.2792	0.000	0.00		
21.2	9.0467	n 0.9432	n 0.9929	1.2407	+0.001	0.00		
31.2	9.1516	n 0.9581	n 1.0966	1.1833	+0.001	0.00		
Feb. 10.1	9.2513	n 0.9667	n 1.1688	1.1012	+0.002	0.00		
20.1	9.3139	n 0.9686	n 1.2188	0.9832	+0.002	0.00		
Mar. 2.1	9.3481	n 0.9762	n 1.2512	0.8014	+0.003	0.00		
12.0	9.3985	n 0.9850	n 1.2687	0.4583	+0.003	0.00		
22.0							54s.539	29°39".95
Abr. 1.0							54.453	36.22
11.0							54.558	32.36
20.9							54.805	28.46
30.9							55.135	24.69
May. 10.9							55.586	21.28
20.9							56.210	18.10
30.8							56.931	15.07
Jun. 9.8							57.685	12.61
19.8							58.526	10.54
29.8							59.467	9.22
Jul. 9.7							60.388	7.93
19.7	9.8158	n 0.9267	0.9353	n 1.3591	+0.012	−0.01		
29.7	9.8358	n 0.9376	1.0514	n 1.2137	+0.012	−0.01		
Ago. 8.6	9.8563	n 0.9503	1.1330	n 1.1489	+0.013	−0.01		
18.6	9.8752	n 0.9530	1.1918	n 1.0579	+0.014	−0.01		
28.6	9.8880	n 0.9558	1.2327	n 0.9267	+0.014	−0.01		
Set. 7.6	9.8982	n 0.9658	1.2588	n 0.7146	+0.015	−0.01		
17.5							65.315	17.12
27.5							65.507	19.98
Oct. 7.5							65.545	23.17
17.5							65.484	26.15
27.4							65.240	28.97
Nov. 6.4							64.808	31.76
16.4							64.294	34.11
26.4							63.701	36.05
Dic. 6.3							62.985	37.40
16.3							62.195	38.29
26.3							61.399	38.61
31.2							61.006	29 38.39

N° 5

1895.0	a 9.5433 +21 / a' 1.2654 0	b n 9.5000 −3 / b' n 9.5961 +1	c 9.5080 −3 / c' 9.6720 +1	d 9.1409 −1 / d' n 9.9553 0	μ −0ˢ.014	μ' −0″.186	α 1ʰ32ᵐ 57ˢ.255	δ −79° 2′ 17″.40
	A	B	C	D				
Ene. 1.3							61ˢ.597	2′33″.08
11.2							60.434	32.92
21.2							59.304	32.23
31.2	9.1517	n 0.9581	n 1.0968	1.1831	−0ˢ.001	−0″.02		
Feb. 10.2	9.2545	n 0.9667	n 1.1690	1.1008	−0.002	−0.02		
20.1	9.3142	n 0.9686	n 1.2189	0.9827	−0.002	−0.03		
Mar. 2.1	9.3483	n 0.9762	n 1.2513	0.8006	−0.002	−0.03		
12.1	9.3985	n 0.9850	n 1.2688	0.4565	−0.003	−0.04		
22.1	9.4413	n 0.9836	n 1.2729	n 9.8237	−0.003	−0.04		
Abr. 1.0							53.854	13.17
11.0							53.685	9.27
21.0							53.695	5.42
May. 1.0							53.827	2 1.55
10.9							54.151	1 57.96
20.9							54.706	54.50
30.9							55.393	51.13
Jun. 9.8							56.172	48.30
19.8							57.118	46.01
29.8							58.199	43.93
Jul. 9.8							59.301	42.42
19.7							60.414	41.68
29.7							61.593	41.41
Ago. 8.7	9.8563	n 0.9504	1.1332	n 1.1486	−0.008	−0.11		
18.6	9.8753	n 0.9531	1.1920	n 1.0575	−0.009	−0.11		
28.6	9.8881	n 0.9558	1.2328	n 0.9262	−0.009	−0.12		
Set. 7.6	9.8983	n 0.9657	1.2588	n 0.7137	−0.010	−0.13		
17.6	9.9139	n 0.9696	1.2715	n 0.2418	−0.010	−0.13		
27.5	9.9263	n 0.9633	1.2716	0.2360	−0.010	−0.13		
Oct. 7.5							66.966	54.29
17.5							67.081	1 57.34
27.5							66.936	2 0.38
Nov. 6.4							66.544	3.51
16.4							66.019	6.33
26.4							65.341	8.66
Dic. 6.3							64.458	10.58
16.3							63.457	12.09
26.3							62.411	13.01
31.3							61.832	2 13.14

N° 6

1895.0	a n0.6047 − 13	b n 9.8631 − 4	c 9.8646 − 4	d 9.5501 − 7	μ	μ'	α	δ
	a' 1.2563 + 1	b' n 9.6397 − 3	c' 9.6723 − 2	d' n 9.9527 + 1	−0ˢ.007	+0″.106	1ʰ42ᵐ 47ˢ.250	−85°18′ 0″.18
	A	B	C	D				
Ene. 1.3							57ˢ.836	18′15″.42
11.3							55.987	15.26
21.2							52.168	18 14.93
31.2	9.1517	n 0.9581	n 1.0969	1.1830	0ˢ.000	+0″.01		
Feb. 10.2	9.2545	n 0.9668	n 1.1691	1.1008	−0.001	+0.01		
20.2	9.3143	n 0.9686	n 1.2189	0.9827	−0.001	+0.02		
Mar. 2.1	9.3484	n 0.9762	n 1.2513	0.8004	−0.001	+0.02		
12.1	9.3985	n 0.9850	n 1.2688	0.4562	−0.001	+0.02		
22.1	9.4413	n 0.9826	n 1.2739	n 9.8252	−0.001	+0.02		
Abr. 1.0							38.044	17 55.63
11.0							37.431	51.84
21.0							37.195	47.91
May. 1.0							37.226	41.10
10.9							37.735	40.52
20.9							38.780	37.06
30.9							40.079	33.71
Jun. 9.8							41.629	30.92
19.8							43.618	28.63
29.8							45.893	26.55
Jul. 9.8							48.223	25.04
19.7							50.653	24.29
29.7							53.258	24.01
Ago. 8.7	9.8563	n 0.9504	1.1332	n 1.1486	−0.004	+0.06		
18.7	9.8753	n 0.9531	1.1920	n 1.0574	−0.004	+0.06		
28.6	9.8881	n 0.9558	1.2328	n 0.9261	−0.005	+0.07		
Set. 7.6	9.8983	n 0.9657	1.2588	n 0.7134	−0.005	+0.07		
17.6	9.9139	n 0.9696	1.2715	n 0.3445	−0.005	+0.07		
27.6	9.9262	n 0.9622	1.2716	0.2368	−0.005	+0.08		
Oct. 7.5							65.517	36.78
17.5							65.784	39.81
27.5							65.425	42.81
Nov. 6.4							64.526	45.97
16.4							63.281	48.77
26.4							61.640	51.14
Dic. 6.4							59.477	53.05
16.3							57.029	54.58
26.3							54.518	55.52
31.3							53.069	17 55.64

N° 7 — μ *Hydri*

1895.0	*a* n0.1598 −7	*b* n 9.4525 −2	*c* 9.4597 −2	*d* 9.3599 −4	μ	μ′	α	δ
	a′ 1.1959 +1	*b′* n 9.7939 0	*c′* 9.8391 −1	*d′* n 9.8865 +1	+0″.036	−0″.035	2ʰ33ᵐ 53ˢ.801	−79°34′ 2″.87
	A	B	C	D				
Ene. 1.3							59ˢ.727	34′14″.85
11.3							58.569	15.70
21.3							57.272	15.86
31.2							56.056	34 15.36
Feb. 10.2	9.2547	n 0.9669	n 1.1693	1.1004	+0ˢ.001	0.00		
20.2	9.3145	n 0.9687	n 1.2191	0.9822	+0.005	−0.01		
Mar. 2.2	9.3486	n 0.9761	n 1.2514	0.7995	+0.006	−0.01		
12.1	9.3986	n 0.9850	n 1.2688	0.4542	+0.007	−0.01		
22.1	9.4414	n 0.9827	n 1.2729	n 9.8333	+0.008	−0.01		
Abr. 1.1	9.4681	n 0.9753	n 1.2638	n 0.6196	+0.009	−0.01		
11.0	9.4982	n 0.9742	n 1.2416	n 0.8755	+0.010	−0.01		
21.0							48.919	33 54.57
May. 1.0							48.689	51.13
11.0							48.680	47.17
20.9							48.925	43.47
30.9							49.317	39.81
Jun. 9.9							49.855	36.60
19.9							50.609	33.76
29.8							51.532	31.06
Jul. 9.8							52.526	28.89
19.8							53.564	27.41
29.8							54.796	26.38
Ago. 8.7	9.8563	n 0.9504	1.1335	n 1.1482	+0.022	−0.02		
18.7	9.8753	n 0.9532	1.1922	n 1.0570	+0.023	−0.02		
28.7	9.8882	n 0.9559	1.2330	n 0.9255	+0.024	−0.02		
Set. 7.6	9.8983	n 0.9656	1.2589	n 0.7124	+0.025	−0.03		
17.6	9.9139	n 0.9696	1.2715	n 0.2413	+0.026	−0.03		
27.6	9.9264	n 0.9623	1.2716	0.2398	+0.027	−0.03		
Oct. 7.6	9.9334	n 0.9573	1.2587	0.7151	+0.028	−0.03		
17.5							61.976	38.17
27.5							62.116	41.28
Nov. 6.5							62.010	44.65
16.4							61.735	47.81
26.4							61.257	50.68
Dic. 6.4							60.524	53.25
16.4							59.628	55.54
26.3							58.640	57.28
31.3							58.052	33 57.87

N° 8 — θ *Hydri*

1895.0	a 8.9146 + 39	b n 9.1658 − 1	c 9.1869 − 1	d 9.1946 − 1	μ	μ'	α	δ
	a' 1.1478 0	b' n 9.8533 0	c' 9.9093 0	d' n 9.8246 0	+0ˢ.001	+0ˢ.001	3ʰ 1ᵐ 62ˢ.244	−72°18′ 45″.45
	A	B	C	D				
Ene. 1.3							66ˢ.085	18′55″.11
11.3							65.434	56.45
21.3							64.743	57.23
31.3							64.046	57.31
Feb. 10.2							63.317	56.71
20.2	9.3147	n 0.9688	n 1.2192	0.9819	0ˢ.000	0.00		
Mar. 2.2	9.3187	n 0.9761	n 1.2514	0.7991	0.000	0.00		
12.2	9.3986	n 0.9850	n 1.2688	0.4532	0.000	0.00		
22.1	9.4114	n 0.9827	n 1.2729	n 9.8378	0.000	0.00		
Abr. 1.1	9.4683	n 0.9753	n 1.2638	n 0.6204	0.000	0.00		
11.1	9.4983	n 0.9741	n 1.2415	n 0.8759	0.000	0.00		
21.0	9.5316	n 0.9705	n 1.2045	n 1.0264	0.000	0.00		
May. 1.0							59.325	36.27
11.0							59.290	32.65
21.0							59.348	28.92
30.9							59.546	25.13
Jun. 9.9							59.834	21.71
19.9							60.250	18.59
29.8							60.785	15.53
Jul. 9.8							61.379	13.00
19.8							62.026	11.10
29.8							62.748	9.57
Ago. 8.7							63.500	8.56
18.7	9.8751	n 0.9533	n 1.1923	n 1.0568	+0.001	0.00		
28.7	9.8882	n 0.9559	1.2330	n 0.9252	+0.001	0.00		
Set. 7.7	9.8983	n 0.9656	1.2589	n 0.7118	+0.001	0.00		
17.6	9.9139	n 0.9696	1.2716	n 0.2395	+0.001	0.00		
27.6	9.9264	n 0.9623	1.2716	0.2418	+0.001	0.00		
Oct. 7.6	9.9335	n 0.9571	1.2586	0.7157	+0.001	0.00		
17.5	9.9463	n 0.9564	1.2317	0.9300	+0.001	0.00		
27.5							67.804	21.49
Nov. 6.5							67.865	24.88
16.5							67.821	28.18
26.4							67.660	31.26
Dic. 6.4							67.348	34.18
16.4							66.922	36.89
26.4							66.423	39.06
31.4							66.123	18 39.94

Nº 9

1895.0	a n0.3624 −5	b n 9.2982 −1	c 9.3067 −1	d 9.4368 −1	μ	μ'	α	δ
	a' 1.0770 0	b' n 9.9049 0	c' 9.9409 −1	d' n 9.7663 0	−0ˢ.022	−0″.044	3ʰ33ᵐ 48ˢ.199	−78°42′ 12″.14
	A	B	C	D				
Ene. 1.4							54ˢ.560	42′19″.65
11.3							53.531	21.36
21.3							52.436	22.51
31.3							51.239	22.97
Feb. 10.3							50.073	22.79
20.2							48.832	23.25
Mar. 2.2	9.3488	n 0.9761	n 1.2515	0.7987	−0ˢ.004	−0″.01		
12.2	9.3986	n 0.9850	n 1.2688	0.4519	−0.004	−0.01		
22.2	9.4415	n 0.9827	n 1.2729	n 9.8426	−0.005	−0.01		
Abr. 1.1	9.4684	n 0.9753	n 1.2637	n 0.6312	−0.005	−0.01		
11.1	9.4983	n 0.9741	n 1.2415	n 0.8763	−0.006	−0.01		
21.1	9.5316	n 0.9705	n 1.2044	n 1.0267	−0.006	−0.01		
May. 1.0							42.594	4.93
11.0							42.283	42 1.46
21.0							42.200	41 57.77
31.0							42.258	54.05
Jun. 9.9							42.486	50.64
19.9							42.940	47.42
29.9							43.557	44.23
Jul. 9.8							44.290	41.52
19.8							45.151	39.41
29.8							46.149	37.64
Ago. 8.8							47.220	36.34
18.7							48.282	35.35
28.7	9.8883	n 0.9559	1.2331	n 0.9248	−0.014	−0.03		
Set. 7.7	9.8983	n 0.9656	1.2590	n 0.7111	−0.015	−0.03		
17.7	9.9139	n 0.9696	1.2716	n 0.2378	−0.016	−0.03		
27.6	9.9264	n 0.9633	1.2715	0.2435	−0.016	−0.03		
Oct. 7.6	9.9335	n 0.9571	1.2586	0.7163	−0.017	−0.03		
17.6	9.9463	n 0.9563	1.2317	0.9304	−0.017	−0.03		
27.6	9.9615	n 0.9464	1.1887	1.0644	−0.018	−0.04		
Nov. 6.5							54.328	50.83
16.5							54.356	54.17
26.5							54.176	41 57.34
Dic. 6.4							53.747	42 0.47
16.4							53.136	3.40
26.4							52.399	5.84
31.4							51.925	42 6.89

N° 10 — γ *Hydri*

1895.0	*a* n9.9986 −6	*b* n 9.1163 −1	*c* 9.1322 −1	*d* 9.3233 −1	μ	μ′	α 3h48m	δ −74°33′
	a′ 1.0357 −1	*b′* n 9.9246 −1	*c′* 9.9665 −1	′ n 9.7176 +1	+0s.008	+0″.108	51s.895	38″.70
	A	B	C	D				
Ene. 1.4							56s.705	33′44″.88
11.4							56.012	46.86
21 3							55.252	48.30
31.3							54.446	49.05
Feb. 10.3							53.575	49.22
20.2							52.678	48.97
Mar. 2.2	9.3489	n 0.9761	n 1.2515	0.7984	+0s.001	+0″.02		
12.2	9.3986	n 0.9850	n 1.2688	0.4515	+0.001	+0.02		
22.2	9.4415	n 0.9827	n 1.2739	n 9.8448	+0.002	+0.02		
Abr. 1.1	9.4684	n 0.9753	n 1.2637	n 0.6216	+0.002	+0.03		
11.1	9.4984	n 0.9741	n 1.2415	n 0.8765	+0.002	+0.03		
21.1	9.5346	n 0.9705	n 1.2043	n 1.0268	+0.002	+0.03		
May. 1.1	9.5725	n 0.9564	n 1.1504	n 1.1280	+0.003	+0.03		
11.0							47.713	29.66
21.0							47.614	26.00
31.0							47.637	22.27
Jun. 9.9							47.788	18.80
19.9							48.098	15.47
29.9							48.541	12.15
Jul. 9.9							49.075	9.28
19.8							49.705	6.96
29.8							50.443	4.95
Ago. 8.8							51.238	3.41
18.8							52.041	2.58
28.7							52.862	2.43
Set. 7.7	9.8984	n 0.9656	1.2590	n 0.7108	+0.005	+0.07		
17.7	9.9139	n 0.9697	1.2716	n 0.2368	+0.006	+0.07		
27.6	9.9264	n 0.9624	1.2715	0.2443	+0.006	+0.08		
Oct. 7.6	9.9336	n 0.9571	1.2586	0.7165	+0.006	+0.08		
17.6	9.9463	n 0.9563	1.2316	0.9306	+0.006	+0.08		
27.6	9.9615	n 0.9464	1.1887	1.0645	+0.006	+0.09		
Nov. 6.5							56.905	16.36
16.5							57.003	19.74
26.5							56.953	22.98
Dic. 6.5							56.723	26.23
16.4							56.353	29.37
26.4							55.879	32.01
31.4							55.568	33 33.18

N° 11

1895.0	a n0.8611 −5 / a' 0.8610 +5	b n 9.3016 +4 / b' n 9.9695 0	c 9.3047 0 / c' 9.9900 −1	d 9.7153 −3 / d' n 9.5557 +5	μ / μ'	α 4^h34^m / $64^s.430$	δ −83° 7′ / 33″.00
	A	B	C	D			
Ene. 1.4						75″.541	7′35″.48
11.4						74.056	37.91
21.4						72.405	39.92
31.3						70.590	41.22
Feb. 10.3						68.531	42.02
20.3						66.421	42.46
Mar. 2.2						64.361	42.26
12.2	9.3987	n 0.9850	n 1.2689	0.4496	−0″.008	−0″.01	
22.2	9 4116	n 0.9828	n 1.2729	n 9.8520	−0.009	−0.01	
Abr. 1.2	9.4687	n 0.9753	n 1.2637	n 0.6228	−0.010	−0.01	
11.1	9.4985	n 0.9740	n 1.2414	n 0.8771	−0.011	−0.01	
21.1	9.5346	n 0.9705	n 1.2042	n 1.0272	−0.012	−0.01	
May. 1.1	9.5727	n 0.9564	n 1.1501	n 1.1283	−0.013	−0.01	
11.0	9.6026	n 0 9438	n 1.0746	n 1.1994	−0.014	−0.01	
21.0						51.962	24.44
31.0						51.453	21.02
Jun. 10.0						51.507	17.64
20.0						51.487	14.33
29.9						51.952	10.95
Jul. 9.9						52.667	7.95
19.9						53.690	5.40
29.8						54.979	3.06
Ago. 8.8						56.444	7 1.13
18.8						58.001	6 59.87
28.8						59.702	59.25
Set. 7.7						61.518	6 59.08
17.7	9.9139	n 0.9697	1.2716	n 0.2340	−0.027	−0.02	
27.7	9.9265	n 0.9624	1.2715	0.2472	−0.028	−0.02	
Oct. 7.6	9.9336	n 0.9570	1.2585	0.7124	−0.029	−0.02	
17.6	9.9464	n 0.9562	1.2315	0.9311	−0.030	−0.02	
27.6	9.9615	n 0.9464	1.1885	1.0649	−0.031	−0.02	
Nov. 6.6	9.9737	n 0.9290	1.1256	1.1569	−0.032	−0.03	
16.5						69.869	7 13.63
26.5						69.959	16.87
Dic. 6.5						69.630	20.26
16.4						68.992	23.59
26.4						68.091	26.53
31.4						67.433	7 27.93

N° 12 — η *Mensae*

1895.0	a n0,2478 − 3	b n 8.8243 + 1	c 8.8392 + 1	d 9.3977 0	μ	μ'	α 4h58m	δ −75° 5'
	a' 0.7277 +3	b' n 9.9840 − 1	c' 0.0182 − 2	d' n 9.4106 + 2	+0s.001	+0°.024	12s.266	55".24
	A	B	C	D				
Ene. 1.4							17s.524	5'55".73
11.4							16.971	5 58.57
21.4							16.309	6 0.97
31.3							15.555	2.71
Feb. 10.3							14.687	4.00
20.3							13.766	4.92
Mar. 2.3							12.836	5.15
12.2							11.887	6 4.68
22.2	9.4416	n 0.9828	n 1.2729	n 9.8555	0s.000	0".00		
Abr. 1.2	9.4688	n 0.9753	n 1.2637	n 0.6233	0.000	+0.01		
11.2	9.4985	n 0.9739	n 1.2413	n 0.8774	0.000	+0.01		
21.1	9.5346	n 0.9704	n 1.2041	n 1.0274	0.000	+0.01		
May. 1.1	9.5728	n 0.9564	n 1.1501	n 1.1284	0.000	+0.01		
11.1	9.6027	n 0.9438	n 1.0744	n 1.1994	0.000	+0.01		
21.0							7.009	5 49.63
31.0							6.764	46.19
Jun. 10.0							6.664	42.85
20.0							6.735	39.43
29.9							6.941	35.90
Jul. 9.9							7.373	32.71
19.9							7.740	29.89
29.8							8.335	27.24
Ago. 8.8							9.024	24.97
18.8							9.773	23.37
28.8							10.587	22.38
Set. 7.7							11.457	21.84
17.7	9.9140	n 0.9697	1.2716	n 0.2325	+0.001	+0.02		
27.7	9.9265	n 0.9624	1.2715	0.2485	+0.001	+0.02		
Oct. 7.7	9.9337	n 0.9570	1.2584	0.7179	+0.001	+0.02		
17.6	9.9464	n 0.9562	1.2315	0.9314	+0.001	+0.02		
27.6	9.9615	n 0.9464	1.1884	1.0651	+0.001	+0.02		
Nov. 6.6	9.9738	n 0.9290	1.1255	1.1570	+0.001	+0.02		
16.6	9.9868	n 0.9199	1.0354	1.2221	+0.001	+0.02		
26.5							16.212	38.35
Dic. 6.5							16.218	41.87
16.5							16.071	45.43
26.4							15.788	48.65
31.4							15.562	5 50.23

N° 13 — ξ *Mensae*

1895.0	*a* n0.8450 −1	*b* n 9.0393 +9	*c* 9.0429 +9	*d* 9.7045 −2	*μ*	*μ'*	*α*	*δ*
	a' 0.6305 +11	*b'* n 9.9899 −2	*c'* 0.0106 −1	*d'* n 9.3247 +11	−0ˢ.026	+0″.017	5ʰ10ᵐ 49ˢ.149	−82°36′ 36″.19
	A	B	C	D				
Ene. 1.4							59ˢ.559	36′35″.60
11.4							58.389	38.50
21.4							57.026	40.94
31.4							55.465	42.76
Feb. 10.3							53.633	44.17
20.3							51.731	45.31
Mar. 2.3							49.800	45.61
12.2							47.820	45.30
22.2	9.4417	n 0.9829	n 1.2729	n 9.8572	−0ˢ.005	0″.00		
Abr. 1.2	9.4088	n 0.9753	n 1.2637	n 0.6236	−0.006	0.00		
11.2	9.4986	n 0.9739	n 1.2413	n 0.8776	−0.007	0.00		
21.1	9.5316	n 0.9704	n 1.2041	n 1.0275	−0.007	0.00		
May. 1.1	9.5728	n 0.9565	n 1.1500	n 1.1285	−0.008	+0.01		
11.1	9.6027	n 0.9438	n 1.0741	n 1.1995	−0.009	+0.01		
21.0	9.6325	n 0.9405	n 0.9671	n 1.2497	−0.009	+0.01		
31.0							36.347	28.30
Jun. 10.0							35.931	25.09
20.0							35.861	21.77
29.9							36.063	18.33
Jul. 9.9							36.503	15.20
19.9							37.254	12.41
29.9							38.250	9.76
Ago. 8.8							39.481	7.48
18.8							40.830	5.81
28.8							42.353	4.74
Set. 7.8							44.022	4.09
17.7							45.609	4.05
27.7	9.9265	n 0.9624	1.2715	0.2492	−0.019	+0.01		
Oct. 7.7	9.9337	n 0.9570	1.2584	0.7181	−0.020	+0.01		
17.6	9.9464	n 0.9561	1.2314	0.9315	−0.021	+0.01		
27.6	9.9615	n 0.9464	1.1884	1.0652	−0.021	+0.02		
Nov. 6.6	9.9738	n 0.9290	1.1254	1.1571	−0.022	+0.02		
16.6	9.9868	n 0.9198	1.0354	1.2221	−0.023	+0.02		
26.5							53.235	19.53
Dic. 6.5							53.199	23.02
16.5							53.879	26.54
26.4							52.285	29.73
31.4							51.787	36 31.33

N° 14 — π *Mensae*

1895.0	*a* n0.6938 0	*b* n 8.4023 + 22	*c* 8.4082 + 22	*d* 9.6075 − 2	μ	μ′	α	δ
	a′ 0.1020 + 22	*b′* n 9.9991 0	*c′* 0.0235 − 1	*d′* n 8.7939 + 24	+0ˢ.077	+1″.084	5ʰ45ᵐ 31ˢ.577	−80°32′ 51″.09
	A	B	C	D				
Ene. 1.5							39ˢ.621	32′47″.59
11.4							38.915	50.82
21.4							38.029	53.67
31.4							36.961	55.95
Feb. 10.4							35.639	57.89
20.3							34.246	32 59.48
Mar. 2.3							32.802	33 0.43
12.3							31.254	0.70
22.2							29.702	33 0.64
Abr. 1.2	9.4689	n 0.9753	n 1.2636	n 0.6245	+0ˢ.019	+0″.27		
11.2	9.4986	n 0.9738	n 1.2412	n 0.8780	+0.021	+0.30		
21.2	9.5346	n 0.9704	n 1.2039	n 1.0278	+0.023	+0.33		
May. 1.1	9.5729	n 0.9565	n 1.1498	n 1.1287	+0.025	+0.36		
11.1	9.6028	n 0.9438	n 1.0742	n 1.1996	+0.027	+0.39		
21.1	9.6326	n 0.9404	n 0.9668	n 1.2498	+0.029	+0.42		
31.0	9.6737	n 0.9343	n 0.8077	n 1.2834	+0.031	+0.45		
Jun. 10.0							21.075	32 43.97
20.0							20.869	40.67
30.0							20.841	37.19
Jul. 9.9							21.031	33.94
19.9							21.479	30.72
29.9							22.105	28.00
Ago. 8.9							22.966	25.36
18.8							23.940	23.31
28.8							25.080	21.79
Set. 7.8							26.347	20.65
17.8							27.607	20.13
27.7							28.895	20.45
Oct. 7.7	9.9337	n 0.9570	1.2584	0.7188	+0.058	+0.84		
17.7	9.9464	n 0.9561	1.2313	0.9319	+0.060	+0.87		
27.6	9.9616	n 0.9464	1.1883	1.0654	+0.062	+0.90		
Nov. 6.6	9.9739	n 0.9290	1.1252	1.1573	+0.064	+0.93		
16.6	9.9869	n 0.9198	1.0351	1.2223	+0.066	+0.96		
26.6	0.0026	n 0.9156	0.9028	1.2671	+0.068	+0.99		
Dic. 6.5							34.793	36.83
16.5							34.648	40.43
26.5							34.526	44.27
31.5							34.258	32 45.38

N° 15 — ζ *Mensae*

1895.0	*a* n0.6910 0	*b* 8.9346 − 8	*c* n 8.9404 − 7	*d* 9.6057 + 1	μ	μ′	α 6h48m	δ −80°42′
	a′ n0.6270 − 7	*b′* n 9.9901 0	*c′* 0.0148 + 1	*d′* 9.3191 − 7	−0.s007	+0.″018	46.s867	9.″28
	A	B	C	D				
Ene. 1.5							54.s334	42′ 0.s67
11.5							53.991	4.38
21.4							53.425	7.82
31.4							52.609	10.83
Feb. 10.4							51.537	13.65
20.4							50.344	16.22
Mar. 2.3							49.029	18.15
12.3							47.547	19.53
22.3							46.013	20.60
Abr. 1.2							44.500	21.15
11.2							42.975	21.02
21.2	9.5347	n 0.9704	n 1.2038	n 1.0283	−0.002	+0.02		
May. 1.2	9.5731	n 0.9565	n 1.1495	n 1.1291	−0.002	+0.02		
11.1	9.6031	n 0.9437	n 1.0738	n 1.1999	−0.003	+0.02		
21.1	9.6327	n 0.9403	n 0.9662	n 1.2500	−0.003	+0.02		
31.1	9.6738	n 0.9343	n 0.8069	n 1.2835	−0.003	+0.02		
Jun. 10.1	9.7077	n 0.9221	n 0.5314	n 1.3033	−0.003	+0.02		
20.0	9.7325	n 0.9191	n 9.4859	n 1.3106	−0.003	+0.02		
30.0							34.887	4.80
Jul. 10.0							34.728	42 1.65
20.0							34.852	41 58.56
29.9							35.187	55.38
Ago. 8.9							35.723	52.39
18.9							36.466	49.87
28.8							37.421	47.74
Set. 7.8							38.546	45.83
17.8							39.727	44.60
27.8							41.027	44.12
Oct. 7.7							42.408	41 44.16
17.7	9.9461	n 0.9560	1.2312	0.9326	−0.006	+0.04		
27.7	9.9616	n 0.9464	1.1880	1.0659	−0.006	+0.04		
Nov. 6.6	9.9740	n 0.9290	1.1249	1.1576	−0.006	+0.04		
16.6	9.9870	n 0.9196	1.0346	1.2225	−0.006	+0.04		
26.6	0.0026	n 0.9155	0.9021	1.2672	−0.006	+0.04		
Dic. 6.6	0.0206	n 0.9035	0.6880	1.2954	−0.007	+0.05		
16.5	0.0356	n 0.8925	0.2071	1.3090	−0.007	+0.05		
26.5							48.774	42 3.79
31.5							48.410	42 6.31

N° 16 — ρ_2 *Volantis*

1895.0	*a* n9.6950 +1	*b* 8.7466 −1	*c* n 8.7727 −1	*d* 9.2764 +1	μ	μ'	α	δ
	a' n0.7781 −2	*b'* n 9.9796 0	*c'* 0.0189 0	*d'* 9.4499 −2	+0".009	+0".137	7h 9m 38s.517	−70°19' 40".86
	A	B	C	D				
Ene. 1.5							42s.021	19'31".10
11.5							41.994	34.99
21.5							41.840	38.62
31.4							41.555	41.87
Feb. 10.4							41.159	45.00
20.4							40.680	47.81
Mar. 2.4							40.117	50.04
12.3							39.482	51.73
22.3							38.814	53.10
Abr. 1.3							38.130	53.94
11.2							37.440	54.16
21.2	9.5347	n 0.9704	n 1.2037	n 1.0285	+0".003	+0".04		
May. 1.2	9.5731	n 0.9565	n 1.1495	n 1.1292	+0.003	+0.04		
11.2	9.6031	n 0.9437	n 1.0737	n 1.2000	+0.003	+0.05		
21.1	9.6327	n 0.9403	n 0.9660	n 1.2501	+0.004	+0.05		
31.1	9.6738	n 0.9343	n 0.8065	n 1.2836	+0.004	+0.05		
Jun. 10.1	9.7077	n 0.9221	n 0.5309	n 1.3033	+0.004	+0.06		
20.0	9.7326	n 0.9191	n 9.4787	n 1.3106	+0.004	+0.06		
30.0							33.776	39.01
Jul. 10.0							33.723	35.84
20.0							33.786	32.67
29.9							33.947	29.41
Ago. 8.9							34.210	26.28
18.9							34.580	23.61
28.9							35.040	21.27
Set. 7.8							35.579	19.17
17.8							36.172	17.73
27.8							36.827	17.05
Oct. 7.8							37.512	16.86
17.7	9.9464	n 0.9559	1.2311	0.9328	+0.007	+0.11		
27.7	9.9616	n 0.9464	1.1880	1.0660	+0.007	+0.11		
Nov. 6.7	9.9740	n 0.9290	1.1248	1.1577	+0.008	+0.11		
16.6	9.9870	n 0.9196	1.0344	1.2226	+0.008	+0.12		
26.6	0.0027	n 0.9154	0.9018	1.2673	+0.008	+0.12		
Dic. 6.6	0.0206	n 0.9036	0.6877	1.2954	+0.008	+0.13		
16.6	0.0357	n 0.8925	0.2057	1.3090	+0.008	+0.13		
26.5							41.484	35.98
31.5							41.525	19 37.99

N° 17

1895.0	a n1.2914 + 7	b 9.6376 −16	c n 9.6383 − 18	d 0.0559 + 6	μ	μ'	α	δ
	a' n8.8549 − 16	b' n 9.9704 + 3	c' 9.9806 + 2	d' 9.5521 −17	+0ˢ.042	−0″.051	7ʰ23ᵐ 41ˢ.160	−86°51′ 37″.30
	A	B	C	D				
Ene. 1.5							61ˢ.036	51′25″.66
11.5							60.422	29.10
21.5							59.184	32.41
31.4							57.156	35.43
Feb. 10.4							54.294	38.35
20.4							51.103	41.09
Mar. 2.4							47.510	43.35
12.3							43.271	45.08
22.3							38.833	46.54
Abr. 1.3							34.414	47.56
11.2							29.813	47.91
21.2							25.161	47.70
May. 1.2	9.5732	n 0.9565	n 1.1494	n 1.1293	+0ˢ.014	−0″.02		
11.2	9.6032	n 0.9436	n 1.0735	n 1.2000	+0.015	−0.02		
21.1	9.6327	n 0.9402	n 0.9660	n 1.2501	+0.016	−0.02		
31.1	9.6738	n 0.9343	n 0.8063	n 1.2836	+0.018	−0.02		
Jun. 10.1	9.7077	n 0.9221	n 0.5306	n 1.3033	+0.019	−0.02		
20.1	9.7326	n 0.9191	n 9.4742	n 1.3106	+0.020	−0.03		
30.0	9.7643	n 0.9260	0.4479	n 1.3057	+0.021	−0.02		
Jul. 10.0							60.580	30.82
20.0							60.204	27.61
29.9							60.444	24.26
Ago. 8.9							61.281	20.98
18.9							62.803	18.09
28.8							65.077	15.54
Set. 7.8							67.913	13.19
17.8							70.966	11.38
27.8							74.527	10.32
Oct. 7.8							78.472	9.73
17.7							83.226	51 9.59
27.7	9.9616	n 0.9464	1.1879	1.0661	+0.035	−0.04		
Nov. 6.7	9.9740	n 0.9290	1.1247	1.1578	+0.036	−0.04		
16.6	9.9870	n 0.9196	1.0343	1.2226	+0.037	−0.04		
26.6	0.0027	n 0.9154	0.9016	1.2673	+0.038	−0.04		
Dic. 6.6	0.0206	n 0 9036	0.6874	1.2954	+0.039	−0.04		
16.6	0.0357	n 0.8925	0.3045	1.3090	+0.040	−0.05		
26.5	0.0487	n 0.8959	n 0.2350	1.3088	+0.041	−0.05		
31.5	0.0587	n 0.8923	n 0.5272	1.3035	+0.042	−0.05		

N° 18 — θ_2 *Chamaeleontis*

1895.0	*a* n0.2227 +4	*b* 9.2343 +1	*c* n 9.2453 +1	*d* 9.3849 +2	μ	μ'	α	δ
	a' n1.0708 −1	*b'* n 9.9083 +1	*c'* 9.9473 +1	*d'* 9.7576 0	−0".044	+0".043	8^h23^m 47".266	−77° 8' 43".66
	A	B	C	D				
Ene. 1.6							51".235	8'28".98
11.5							51.475	32.91
21.5							51.525	36.75
31.5							51.359	40.44
Feb. 10.5							51.016	44.22
20.4							50.547	47.81
Mar. 2.4							49.915	50.89
12.4							49.130	53.66
22.4							48.255	56.16
Abr. 1.3							47.339	58.14
11.3							46.335	8 59.50
21.3							45.294	9 0.39
May. 1.2							44.284	9 0.84
11.2	9.6034	n 0.9435	n 1.0732	n 1.2003	−0".016	+0".01		
21.2	9.6328	n 0.9401	n 0.9654	n 1.2503	−0.017	+0.02		
31.2	9.6739	n 0.9343	n 0.8955	n 1.2837	−0.018	+0.02		
Jun. 10.1	9.7079	n 0.9222	n 0.5288	n 1.3034	−0.020	+0.02		
20.1	9.7328	n 0.9190	n 9.4550	n 1.3106	−0.021	+0.02		
30.1	9.7644	n 0.9260	0.4490	n 1.3056	−0.022	+0.02		
Jul. 10.0	9.7948	n 0.9278	0.7663	n 1.2884	−0.023	+0.02		
20.0							38.771	8 47.16
30.0							38.661	43.99
Ago. 9.0							38.708	40.79
18.9							38.943	37.85
28.9							39.356	35.02
Set. 7.9							39.902	32.27
17.9							40.571	30.12
27.8							41.402	28.55
Oct. 7.8							42.334	27.34
17.8							43.292	26.72
27.8							44.301	26.89
Nov. 6.7							45.347	8 27.80
16.7	9.9871	n 0.9195	1.0339	1.2228	−0.039	+0.04		
26.7	0.0027	n 0.9154	0.9010	1.2675	−0.040	+0.04		
Dic. 6.6	0.0206	n 0.9036	0.6862	1.2955	−0.041	+0.04		
16.6	0.0358	n 0.8925	0.2008	1.3090	−0.042	+0.04		
26.6	0.0488	n 0.8958	n 0.2383	1.3088	−0.043	+0.04		
31.6	0.0588	n 0.8924	n 0.5288	1.3034	−0.044	+0.04		

N° 19 — β *Carinae*

1895.0	*a* 9.8499 −1 / *a'* n1.1733 0	*b* 9.1174 +2 / *b'* n 9.8254 −1	*c* n 9.1464 +1 / *c'* 9.8916 −1	*d* 9.1007 0 / *d'* 9.8421 +1	μ −0".029	μ' +0".107	α 9h11m 62s.987	δ −69°17' 4'.80
	A	B	C	D				
Ene. 1.6							64s.934	16'48'.62
11.6							65.279	52.46
21.5							65.494	16 56.29
31.5							65.571	17 0.10
Feb. 10.5							65.551	4.11
20.5							65.435	7.97
Mar. 2.4							65.189	11.39
12.4							64.841	14.64
22.4							64.444	17.60
Abr. 1.4							63.982	20.09
11.3							63.450	22.13
21.3							62.914	23.49
May. 1.3							62.329	24.65
11.2							61.766	25.12
21.2	9.6329	n 0.9401	n 0.9650	n 1.2504	−0s.011	+0".05		
31.2	9.6740	n 0.9343	n 0.8049	n 1.2838	−0.012	+0.05		
Jun. 10.2	9.7081	n 0.9222	n 0.5274	n 1.3034	−0.013	+0.05		
20.1	9.7329	n 0.9189	n 9.4385	n 1.3106	−0.014	+0.06		
30.1	9.7645	n 0.9259	0.4513	n 1.3056	−0.014	+0.06		
Jul. 10.1	9.7948	n 0.9379	0.7671	n 1.2883	−0.015	+0.06		
20.0	9.8171	n 0.9272	0.9401	n 1.2577	−0.016	+0.06		
30.0							58.679	11.65
Ago. 9.0							58.624	8.56
19.0							58.705	5.62
28.9							58.880	17 2.67
Set. 7.9							59.133	16 59.73
17.9							59.497	57.29
27.9							59.973	55.35
Oct. 7.8							60.512	53.68
17.8							61.105	52.63
27.8							61.766	52.34
Nov. 6.8							62.467	52.69
16.7							63.150	16 53.60
26.7	0.0027	n 0.9153	0.9004	1.2676	−0.026	+0.10		
Dic. 6.7	0.0207	n 0.9037	0.6851	1.2956	−0.027	+0.10		
16.6	0.0359	n 0.8925	0.1973	1.3091	−0.027	+0.10		
26.6	0.0488	n 0.8957	n 0.2413	1.3087	−0.028	+0.10		
31.6	0.0588	n 0.8924	n 0.5302	1.3034	−0.029	+0.11		

N° 20 — ζ *Octantis*

1895.0	*a* n0.8854 +9	*b* 9.7745 +1	*c* n 9.7760 0	*d* 9.7309 +7	μ	μ'	α	δ
	a' n1.1731 −3	*b'* n 9.8257 +2	*c'* 9.8470 +3	*d'* 9.8694 −3	−0ˢ.091	+0″.026	9ʰ11ᵐ 53ˢ.949	−85°14′ 32″.87
	A	B	C	D				
Ene. 1.6							61ˢ.524	14′15″.50
11.6							63.641	19.14
21.5							63.099	22.83
31.5							63.123	26.52
Feb. 10.5							62.631	30.50
20.5							61.841	34.36
Mar. 2.4							60.597	37.83
12.4							58.834	41.16
22.4							56.849	44.30
Abr. 1.4							54.694	46.98
11.3							52.205	49.12
21.3							49.636	50.86
May. 1.3							46.807	52.27
11.2							44.459	53.02
21.3	9.6329	n 0.9401	n 0.9650	n 1.2504	−0ˢ.035	+0ˢ.01		
31.2	9.6740	n 0.9343	n 0.8049	n 1.2838	−0.037	+0.01		
Jun. 10.2	9.7081	n 0.9222	n 0.5274	n 1.3034	−0.040	+0.01		
20.1	9.7329	n 0.9189	n 9.4385	n 1.3106	−0.042	+0.01		
30.1	9.7645	n 0.9259	0.4513	n 1.3056	−0.045	+0.01		
Jul. 10.1	9.7948	n 0.9279	0.7671	n 1.2883	−0.047	+0.01		
20.0	9.8171	n 0.9272	0.9401	n 1.2577	−0.050	+0.01		
30.0							27.924	41.36
Ago. 9.0							27.364	38.33
19.0							27.340	35.42
28.9							27.842	32.44
Set. 7.9							28.728	29.43
17.9							29.976	26.90
27.9							31.759	24.79
Oct. 7.8							33.913	22.93
17.8							36.174	21.66
27.8							38.666	21.10
Nov. 6.8							41.381	21.18
16.7							44.013	14 21.78
26.7	0.0027	n 0.9153	0.9004	1.2676	−0.082	+0.02		
Dic. 6.7	0.0207	n 0.9037	0.6851	1.2956	−0.085	+0.02		
16.6	0.0359	n 0.8925	0.1973	1.3091	−0.087	+0.02		
26.6	0.0488	n 0.8957	n 0.2413	1.3087	−0.089	+0.02		
31.6	0.0588	n 0.8924	n 0 5302	1.3034	−0.091	+0.03		

N° 21 — ζ *Chamaeleontis*

1895.0	a n0.1988 + 7	b 9.5082 + 1	c n 9.5142 + 1	d 9.3716 + 2	μ	μ'	α	δ
	a' n1.2115 − 1	b' n 9.7667 0	c' 9.8117 + 1	d' 9.9033 0	−0ˢ.003	+0″.001	9ʰ36ᵐ 58ˢ.348	−80°28′ 10″.08
	A	B	C	D				
Ene. 1.6	8.5948	n 0.9386	n 0.5798	1.3015	0ˢ.000	0″.00		
11.6	8.9103	n 0.9379	n 0.8440	1.2781	0 000	0.00		
21.6	9.0537	n 0.9430	n 0.9974	1.2390	0.000	0.00		
31.5							62ˢ.877	28′ 3″.11
Feb. 10.5							62.862	7.19
20.5							62.681	11.17
Mar. 2.4							62.244	14.81
12.4							61.556	18.36
22.4							60.748	21.74
Abr. 1.4							59.827	24.74
11.3							58.715	27.09
21.3							57.493	29.11
May. 1.3							56.267	30.80
11.3							55.011	31.84
21.2							53.684	32.21
31.2	9.6740	n 0.9343	n 0.8045	n 1.2839	−0.001	0.00		
Jun. 10.2	9.7081	n 0 9222	n 0.5268	n 1.3031	−0.001	0.00		
20.1	9.7330	n 0.9189	n 9.4301	n 1.3106	−0.001	0.00		
30.1	9.7645	n 0.9259	0.4522	n 1.3056	−0.001	0.00		
Jul. 10.1	9.7948	n 0.9279	0.7674	n 1.2883	−0.001	0.00		
20.1	9.8172	n 0.9272	0.9404	n 1.2577	−0.001	0.00		
30.0	9.8367	n 0.9372	1.0549	n 1.2117	−0.001	0.00		
Ago. 9.0							46.575	18.89
19.0							46.492	15.98
29.0							46.649	12.96
Set. 7.9							46.989	9.85
17.9							47.547	7.17
27.9							48.379	4.89
Oct. 7.8							49.394	2.79
17.8							50.500	1.25
27.8							51.763	0.49
Nov. 6.8							53.084	0.30
16.7							54.538	0.65
26.7							55.864	28 1.68
Dic. 6.7	0.0207	n 0.9037	0.6847	1.2956	−0.003	0.00		
16.7	0.0359	n 0.8925	0.1956	1.3091	−0.003	0.00		
26.6	0.0489	n 0.8957	n 0.2425	1.2087	−0.003	0.00		
31.6	0.0589	n 0.8925	n 0.5308	1.3034	−0.003	0.00		

N° 22 — μ *Chamaeleontis*

1895.0	a n0.1431 + 10	b 9.6016 + 3	c n 9.6061 + 3	d 9.3520 + 4	μ	μ'	α	δ
	a' n1.2435 − 1	b' n 9.6872 0	c' 9.7357 + 1	d' 9.9368 0	−0ˢ.015	+0″.029	10ʰ 3ᵐ 31ˢ.354	−81°42′ 23″.20
	A	B	C	D				
Ene. 1.6	8.5951	n 0.9336	n 0.5804	1.3014	0ˢ.000	0″.00		
11.6	8.9108	n 0.9380	n 0.8444	1.2781	0.000	0.00		
21.6	9.0540	n 0.9430	n 0.9977	1.2489	−0.001	0.00		
31.6	9.1536	n 0.9579	n 1.0909	1.1807	−0.001	0.00		
Feb. 10.5							36ˢ.194	42′19″.09
20.5							36.185	23.14
Mar. 2.5							35.870	26.89
12.4							35.261	30.62
22.4							34.511	34.24
Abr. 1.4							33.606	37.44
11.4							32.469	40.17
21.3							31.176	42.60
May. 1.3							29.862	44.67
11.3							28.484	46.10
21.2							26.981	46.88
31.2							25.501	47.37
Jun. 10.2	9.7032	n 0.9222	n 0.5262	n 1.3035	−0.007	+0.01		
20.2	9.7331	n 0.9189	n 9.4210	n 1.3106	−0.007	+0.01		
30.1	9.7646	n 0.9259	0.4532	n 1.3055	−0.008	+0.01		
Jul. 10.1	9.7949	n 0.9280	0.7679	n 1.2883	−0.003	+0.02		
20.1	9.8172	n 0.9272	0.9406	n 1.2576	−0.008	+0.02		
30.1	9.8368	n 0.9372	1.0551	n 1.2116	−0.009	+0.02		
Ago. 9.0							18.110	35.99
19.0							17.846	33.24
29.0							17.859	30.22
Set. 7.9							18.073	27.04
17.9							18.554	24.27
27.9							19.366	21.75
Oct. 7.9							20.403	19.40
17.8							21.566	17.58
27.8							22.914	16.45
Nov. 6.8							24.501	15.86
16.8							26.072	15.55
26.7							27.612	42 16.47
Dic. 6.7	0.0207	n 0.9037	0.6841	1.2957	−0.014	+0.03		
16.7	0.0359	n 0.8925	0.1940	1.3091	−0.014	+0.03		
26.6	0.0189	n 0.8957	n 0.2440	1.3087	−0.015	+0.03		
31.6	0.0589	n 0.8925	n 0.5316	1.3033	−0.015	+0.03		

N° 23 — ω *Carinae*

1895.0	a 0.1575 −1	b 9.2007 +2	c n 9.2291 +2	d 8.9398 +1	μ	μ'	α	δ
	a' n1.2513 +1	b' n 9.6599 0	c' 9.7633 0	d' 9.9208 +1	−0ˢ.009	+0″.021	10ʰ11ᵐ 14ˢ.490	−69°30′ 59″.33
	A	B	C	D				
Ene. 1.6	8.5952	n 0.9386	n 0.5807	1.3014	0ˢ.000	0″.00		
11.6	8.9109	n 0.9380	n 0.8445	1.2780	0.000	0.00		
21.6	9.0541	n 0.9430	n 0.9977	1.2389	0.000	0.00		
31.6	9.1537	n 0.9579	n 1.0999	1.1806	−0.001	0.00		
Feb. 10.5							16ˢ.878	30′56″.48
20.5							16.950	31 0.49
Mar. 2.5							16.879	4.20
12.4							16.703	7.88
22.4							16.466	11.40
Abr. 1.4							16.148	14.44
11.4							15.738	17.08
21.3							15.269	19.35
May. 1.3							14.800	21.27
11.3							14.291	22.55
21.3							13.733	23.18
31.2							13.205	23.52
Jun. 10.2	9.7082	n 0.9222	n 0.5260	n 1.3035	−0.004	+0.01		
20.2	9.7331	n 0.9189	n 9.4178	n 1.3106	−0.004	+0.01		
30.2	9.7646	n 0.9259	0.4535	n 1.3055	−0.004	+0.01		
Jul. 10.1	9.7949	n 0.9280	0.7680	n 1.2883	−0.005	+0.01		
20.1	9.8172	n 0.9272	0.9407	n 1.2576	−0.005	+0.01		
30.1	9.8368	n 0.9372	1 0551	n 1.2115	−0.005	+0.01		
Ago. 9.0							10.567	11.80
19.0							10.502	8.99
29.0							10.532	6.01
Set. 8.0							10.636	2.90
17.9							10.906	31 0.21
27.9							11.234	30 57.81
Oct. 7.9							11.671	55.59
17.8							12.185	53.93
27.8							12.802	52.94
Nov. 6.8							13.488	52.55
16.8							14.185	52.66
26.7							14.889	30 53.46
Dic. 6.7	0.0205	n 0.9037	0.6839	1.2957	−0.008	+0.02		
16.7	0.0359	n 0.8925	0.1934	1.3091	−0.009	+0.02		
26.7	0.0489	n 0.8956	n 0.2445	1.3087	−0.009	+0.02		
31.6	0.0589	n 0.8925	n 0.5318	1.3033	−0.009	+0.02		

N° 24 — I *Carinae*

1895.0	a	b	c	d	μ	μ'	α	δ
	0.0817 0	9.3115 +1	n 9.3298 +2	8.9869 +1			10h22m	−73°29'
	a'	b'	c'	d'				
	n1.2615 +1	n 9.6164 −1	9.7157 −1	9.9410 +1	−0s.005	+0s.003	18s.751	49'.06

	A	B	C	D				
Ene. 1.6	8.5954	n 0.9386	n 0.5809	1.3014	0s.000	0s.00		
11.6	8.9110	n 0.9380	n 0.8446	1.2780	0.000	0.00		
21.6	9.0542	n 0.9430	n 0.9978	1.2388	0.000	0.00		
31.6	9.1537	n 0.9579	n 1.1000	1.1806	0.000	0.00		
Feb. 10.5							21.450	29 45.90
20.5							21.568	49.94
Mar. 2.5							21.503	53.72
12.5							21.309	29 57.53
22.4							21.041	30 1.17
Abr. 1.4							20.675	4.42
11.4							20.186	7.21
21.4							19.622	9.72
May. 1.3							19.047	11.84
11.3							18.421	13.37
21.3							17.724	14.13
31.2							17.052	14.82
Jun. 10.2	9.7083	n 0.9222	n 0.5257	n 1.3035	−0.002	0.00		
20.2	9.7331	n 0.9189	n 9.4141	n 1.3106	−0.002	0.00		
30.2	9.7646	n 0.9259	0.4538	n 1.3055	−0.002	0.00		
Jul. 10.1	9.7949	n 0.9280	0.7682	n 1.2882	−0.003	0.00		
20.1	9.8174	n 0.9272	0.9408	n 1.2575	−0.003	0.00		
30.1	9.8368	n 0.9371	1.0352	n 1.2115	−0.003	0.00		
Ago. 9.0	9.8565	n 0.9505	1.1357	n 1.1458	−0.003	0.00		
19.0							13.373	30 1.41
29.0							13.360	29 58.41
Set. 8.0							13.438	55.25
17.9							13.672	52.48
27.9							14.073	49.96
Oct. 7.9							14.570	47.57
17.9							15.163	45.72
27.8							15.873	44.52
Nov. 6.8							16.700	43.87
16.8							17.531	43.76
26.8							18.376	44.34
Dic. 6.7							19.255	29 45.75
16.7	0.0359	n 0.8925	0.1926	1.3091	−0.005	0.00		
26.7	0.0489	n 0.8956	n 0.2453	1.3087	−0.005	0.00		
31.6	0.0589	n 0.8925	n 0.5321	1.3033	−0.005	0.00		

N° 25 — δ_2 *Chamaeleontis*

1895.0	a 9.8010 − 5	b 9.5532 + 3	c n 9.5598 + 3	d 9.0919 + 1	μ	μ'	α	δ
	a' n1.2783 0	b' n 9.5083 0	c' 9.5942 − 1	d' 9.9695 0	−0ˢ.033	+0″.007	10ʰ44ᵐ 47ˢ.459	−79°59′ 10″.95
	A	B	C	D				
Ene. 1.7	8.5957	n 0.9387	n 0.5815	1.3014	0ˢ.000	0″.00		
11.6	8.9114	n 0.9381	n 0.8449	1.2780	0.000	0.00		
21.6	9.0545	n 0.9430	n 0.9980	1.2387	−0.001	0.00		
31.6	9.1539	n 0.9579	n 1.1001	1.1805	−0.002	0.00		
Feb. 10.6	9.2564	n 0.9676	n 1.1713	1.0971	−0.003	0.00		
20.5							51ˢ.459	59′ 9″.57
Mar. 2.5							51.468	13.41
12.5							51.240	17.36
22.4							50.891	21.21
Abr. 1.4							50.387	24.70
11.4							49.664	27.85
21.4							48.795	30.70
May. 1.3							47.893	33.26
11.3							46.890	35.18
21.3							45.748	36.51
31.2							44.604	37 57
Jun. 10.2							43.509	38.02
20.2	9.7332	n 0.9188	n 9.4057	n 1.3106	−0.015	0.00		
30.2	9.7646	n 0.9259	0.4545	n 1 3055	−0.016	0.00		
Jul. 10.1	9.7949	n 0.9380	0.7685	n 1.2882	−0.017	0.00		
20.1	9.8175	n 0.9273	0.9410	n 1.2575	−0.018	0.00		
30.1	9.8368	n 0.9371	1.0553	n 1.2114	−0.019	0.00		
Ago. 9.1	9.8565	n 0.9505	1.1358	n 1.1456	−0.030	0.00		
19.0							37.625	26.71
29.0							37.444	23.76
Set. 8.0							37.414	20.57
17.9							37.627	17.68
27.9							38.132	14.96
Oct. 7.9							38.817	12.29
17.9							39.653	10.11
27.8							40.704	8.55
Nov. 6.8							41.943	7.43
16.8							43.224	6.86
26.8							44.533	7.01
Dic. 6.7							45.916	59 7.96
16.7	0.0360	n 0.8925	0.1909	1.3091	−0.032	+0.01		
26.7	0.0489	n 0.8956	n 0.2465	1.3087	−0.033	+0.01		
31.7	0.0590	n 0.8926	n 0.5328	1.3033	−0.033	+0.01		

Nº 26 — η *Octantis*

1895.0	a n9.3692 + 60	b 9.7894 + 4	c n 9.7917 + 4	d 9.2195 + 4	μ	μ'	α	δ
	a' n1.2871 0	b' n 9.4127 0	c' n 9.4806 0	d' 9.9326 0	—0ˢ.060	—0″.029	10ʰ59ᵐ 62ˢ.302	—81° 1′ 44″.94
	A	B	C	D				
Ene. 1.7	8.5959	n 0.9387	n 0.5818	1.3014	0ˢ.000	0″.00		
11.6	8.9116	n 0.9381	n 0.8451	1.2779	—0.002	0.00		
21.6	9.0547	n 0.9430	n 0.9981	1.2387	—0.004	0.00		
31.6	9.1539	n 0.9579	n 1.1002	1.1801	—0.005	0.00		
Feb. 10.6	9.2564	n 0.9677	n 1.1714	1.0970	—0.007	0.00		
20.5	9.3174	n 0.9693	n 1.2205	0.9771	—0.008	0.00		
Mar. 2.5							68ˢ.507	1′46″.29
12.5							68.339	50.29
22.5							67.766	54.26
Abr. 1.4							67.042	1 57.89
11.4							65.929	2 1.22
21.4							64.551	4.30
May. 1.4							63.095	7.10
11.3							61.458	9.29
21.3							59.560	10.91
31.3							57.617	12.28
Jun. 10.2							55.741	13.03
20.2	9.7333	n 0.9188	n 9.3998	n 1.3106	—0.029	—0.01		
30.2	9.7646	n 0.9259	0.4550	n 1.3055	—0.031	—0.01		
Jul. 10.2	9.7949	n 0.9281	0.7687	n 1.2882	—0.032	—0.02		
20.1	9.8173	n 0.9273	0.9411	n 1.2575	—0.034	—0.02		
30.1	9.8368	n 0.9371	1.0555	n 1.2114	—0.035	—0.02		
Ago. 9.1	9.8565	n 0.9505	1.1359	n 1.1455	—0.036	—0.02		
19.0	9.8759	n 0.9512	1.1939	n 1.0532	—0.038	—0.02		
29.0							44.516	2 0.43
Set. 8.0							44.294	1 57.25
18.0							44.466	54.34
27.9							45.138	51.51
Oct. 7.9							46.139	48.69
17.9							47.378	46.31
27.9							48.996	44.52
Nov. 6.8							50.952	43.16
16.8							52.999	42.30
26.8							55.102	42.13
Dic. 6.8							57.351	42.78
16.7							59.591	1 43.94
26.7	0.0489	n 0.8956	n 0.2472	1.3087	—0.060	—0.03		
31.7	0.0590	n 0.8926	n 0.5333	1.3033	—0.060	—0.03		

N° 27

1895.0	a 0.4589 +6	b 9.8861 +5	c n 9.8877 +5	d 7.9919 −61	μ	μ'	α	δ
	a' n1 3021 0	b' n 8.1042 −72	c' 8.6992 −24	d' 9.9983 0	−0".034	−0".005	11h56m 65s.235	−85° 2' 49".68
	A	B	C	D				
Ene. 1.7	8.5967	n 0.9387	n 0.5833	1.3013	0s.000	0".00		
11.7	8.9124	n 0.9382	n 0.8458	1.2778	−0.001	0.00		
21.7	9.0555	n 0.9430	n 0.9986	1.2385	−0.002	0.00		
31.6	9.1542	n 0.9578	n 1.1005	1.1801	−0.003	0.00		
Feb. 10.6	9.2565	n 0.9677	n 1.1716	1.0966	−0.004	0.00		
20.6	9.3177	n 0.9694	n 1.2207	0.9766	−0.005	0.00		
Mar. 2.6	9.3510	n 0.9757	n 1.2523	0.7905	−0.006	0.00		
12.5							72s.898	2'52".81
22.5							73.086	2 56.87
Abr. 1.5							72.925	3 0.70
11.4							72.262	4.36
21.4							71.239	7.93
May. 1.4							70.071	11.25
11.4							68.585	14.05
21.3							66.689	16.40
31.3							64.677	18.52
Jun. 10.3							62.631	20.03
20.2							60.379	20.81
30.2							57.995	21.21
Jul. 10.2	9.7950	n 0.9382	0.7696	n 1.2881	−0.018	0.00		
20.2	9.8175	n 0.9273	0.9416	n 1.2573	−0.019	0.00		
30.1	9.8370	n 0.9371	1.0558	n 1.2111	−0.020	0.00		
Ago. 9.1	9.8565	n 0.9505	1.1361	n 1.1453	−0.020	0.00		
19.1	9.8760	n 0.9543	1.1941	n 1.0528	−0.021	0.00		
29.1	9.8891	n 0.9560	1.2341	n 0.9191	−0.022	0.00		
Set. 8.0							46.295	9.53
18.0							45.924	6.68
28.0							46.158	3.70
Oct. 7.9							46.773	3 0.60
17.9							47.753	2 57.85
27.9							49.266	55.51
Nov. 6.9							51.256	53.44
16.8							53.451	51.85
26.8							55.833	50.91
Dic. 6.8							58.531	50.69
16.8							61.327	50.99
26.7							63.945	51.84
31.7							65.328	2 52.70

N° 28 — β *Chamaeleontis*

1895.0	a 0.5352 +3	b 9.5235 +2	c n 9.5323 +3	d 8.2584 +20	μ	μ'	α	δ
	a' n1.3016 0	b' 8.7256 +20	c' 8.5140 −36	d' 9.9909 0	−0ˢ.023	+0″.009	12ʰ12ᵐ 11ˢ.270	−78°43′ 44″.99
	A	B	C	D				
Ene. 1.7	8.5969	n 0.9387	n 0.5836	1.3013	0ˢ.000	00″.0		
11.7	8.9127	n 0.9383	n 0.8461	1.2778	0.000	0.00		
21.7	9.0557	n 0.9430	n 0.9987	1.2384	−0.001	0.00		
31.6	9.1543	n 0.9578	n 1.1006	1.1800	−0.001	0 00		
Feb. 10.6	9.2566	n 0.9677	n 1.1717	1.0965	−0.002	0.00		
20.6	9.3178	n 0.9694	n 1.2207	0.9764	−0.003	0.00		
Mar. 2.6	9.3511	n 0.9757	n 1.2524	0.7902	−0.003	0.00		
12.5							15ˢ.188	43′49″.48
22.5							15.402	52.46
Abr. 1.5							15.447	56.23
11.4							15.272	43 59.87
21.4							14.947	44 3.39
May. 1.4							14.562	6.68
11.4							14.017	9.55
21.3							13.284	11.81
31.3								13.96
							12.533	
Jun. 10.3							11.720	15.49
20.3							10.797	16.30
30.2							9.827	16.95
Jul. 10.2	9.7950	n 0.9282	0.7698	n 1.2881	−0.013	+0.01		
20.2	9.8175	n 0.9274	0.9419	n 1.2572	−0.013	+0.01		
30.2	9.8370	n 0.9371	1.0559	n 1.2111	−0.014	+0.01		
Ago. 9.1	9.8565	n 0.9505	1.1362	n 1.1451	−0.014	+0.01		
19.1	9.8760	n 0.9543	1.1941	n 1.0526	−0.015	+0.01		
29.1	9.8891	n 0.9560	1.2342	n 0.9189	−0.015	+0.01		
Set. 8.0							4.784	5.66
18.0							4.60[illegible]	44 2.87
28.0							4.678	43 59.94
Oct. 8.0							4.911	56.86
17.9							5.320	54.17
27.9							5.984	51.82
Nov. 6.9							6.857	49.75
16.8							7.834	48.10
26.8							8.920	47.17
Dic. 6.8							10.174	46.90
16.8							11.473	47.15
26.7							12.699	47.95
31.7							13.372	43 48.78

N° 29 — ι *Octantis*

1895.0	*a* 0.7594 +7	*b* 9.8365 +4	*c* n 9.8385 +4	*d* n 9.1268 +13	μ	μ'	α	δ
	a' n1.2941 −1	*b'* 9.2803 +9	*c'* n 9.1721 +12	*d'* 9.9900 −1	+0ˢ.050	+0″.005	12ʰ43ᵐ 58ˢ.196	−84°33′ 10″.83
	A	B	C	D				
Ene. 1.8	8.5974	n 0.9387	n 0.5844	1.3013	0ˢ.000	0″.00		
11.7	8.9122	n 0.9333	n 0.8166	1.2777	+0.001	0.00		
21.7	9.0561	n 0.9430	n 0.9990	1.2383	+0.002	0.00		
31.7	9.1545	n 0.9578	n 1.1008	1.1799	+0.003	0.00		
Feb. 10.6	9.2566	n 0.9678	n 1.1718	1.0963	+0.004	0.00		
20.6	9.3179	n 0.9695	n 1.2208	0.9761	+0.005	0.00		
Mar. 2.6	9.3513	n 0.9757	n 1.2524	0.7897	+0.006	0.00		
12.6	9.3990	n 0.9849	n 1.2692	0.4309	+0.007	0.00		
22.5							66ˢ.224	33′16″14
Abr. 1.5							66.639	19.96
11.5							66.589	23.72
21.4							66.203	27.48
May. 1.4							65.659	31.07
11.4							64.763	34.20
21.4							63.433	37.00
31.3							61.977	39.63
Jun. 10.3							60.403	41.66
20.3							58.535	43.02
30.2							56.502	44.06
Jul. 10.2							54.526	44.57
20.2	9.8176	n 0.9274	0.9421	n 1.2572	+0.024	0.00		
30.2	9.8370	n 0.9370	1.0563	n 1.2110	+0.026	0.00		
						0.00		
Ago. 9.1	9.8565	n 0.9505	1.1363	n 1.1450	+0.027			
19.1	9.8760	n 0.9544	1.1943	n 1.0534	+0.029	0.00		
29.1	9.8891	n 0.9560	1.2343	n 0.9185	+0.031	0.00		
Set. 8.1	9.8987	n 0.9650	1.2596	n 0.7001	+0.033	0.00		
18.0							43.859	33.09
28.0							43.652	30.15
Oct. 8.0							43.759	26.97
18.0							44.241	24.04
27.9							45.259	21.49
Nov. 6.9							46.736	18.88
16.8							48.456	16.77
26.8							50.441	15.28
Dic. 6.8							52.812	14.41
16.8							55.343	14.03
26.8							57.795	14.22
31.8							59.147	33 14.72

N° 30 — δ *Muscae*

1895.0	a 0.6016 0	b 9.2738 + 1	c n 9.2982 0	d n 8.6873 + 6	μ	μ'	α	δ
	a' n1.2895 − 1	b' 9.3764 + 6	c' n 8.9219 +16	d' 9.9630 0	+0ˢ.057	−0″.006	12ʰ55ᵐ 3ˢ.138	−70°58′ 55″.87
	A	B	C	D				
Ene. 1.8							1ˢ.455	58′40″.02
11.7							2.310	41.53
21.7							3.090	43.45
31.7							3.778	58 45.87
Feb. 10.6	9.2567	n 0.9678	n 1.1718	1.0962	+0ˢ.007	0″.00		
20.6	9.3180	n 0.9695	n 1.2308	0.9660	+0.008	0.00		
Mar. 2.6	9.3513	n 0.9757	n 1.2524	0.7896	+0.010	0.00		
12.6	9.3990	n 0.9849	n 1.2692	0.4304	+0.012	0.00		
22.5							6.215	59 2.75
Abr. 1.5							6.411	6.32
11.5							6.478	9.83
21.4							6.461	13.30
May. 1.4							6.407	16.57
11.4							6.214	19.40
21.4							5.936	21.91
31.3							5.630	24.26
Jun. 10.3							5.274	26.02
20.3							4.811	27.15
30.3							4.318	28.00
Jul. 10.2							3.842	28.35
20.2	9.8176	n 0.9274	0.9432	n 1.2572	+0.031	0.00		
30.2	9.8370	n 0.9370	1.0562	n 1.2109	+0.033	0.00		
Ago. 9.2	9.8565	n 0.9505	1.1364	n 1.1449	+0.034	0.00		
19.1	9.8761	n 0.9544	1.1943	n 1.0523	+0.036	0.00		
29.1	9.8892	n 0.9560	1.2343	n 0.9183	+0.038	0.00		
Set. 8.1	9.8987	n 0.9649	1.2597	n 0.6997	+0.040	0.00		
18.0							1.067	17.10
28.0							1.020	14.36
Oct. 8.0							1.059	11.40
18.0							1.223	8.73
27.9							1.558	6.36
Nov. 6.9							2.018	4.11
16.9							2.558	2.30
26.8							3.194	1.07
Dic. 6.8							3.964	0.47
16.8							4.740	0.31
26.8							5.522	1.01
31.8							5.976	59 1.88

N° 31

1895.0	a 0.9317 + 8 / a' n1.2758 − 1	b 9.8809 + 4 / b' 9.5288 + 8	c n 9.8824 + 4 / c' n 9.4786 + 8	d n 9.4375 +13 / d' 9.9722 − 1	μ −0".020	μ' +0".009	α 13h18m 59s.806	δ −85°16′ 51".69
	A	B	C	D				
Ene. 1.8							51s.001	16′35".44
11.7							54.082	36.28
21.7							56.888	37.56
31.7	9.1546	n 0.9578	n 1.1010	1.1797	−0s.002	0".00		
Feb. 10.7	9.2567	n 0.9678	n 1.1719	1.0960	−0.002	0.00		
20.6	9.3181	n 0.9695	n 1.2209	1.9757	−0.003	0.00		
Mar. 2.6	9.3514	n 0.9756	n 1.2535	0.7891	−0.003	0.00		
12.6	9.3991	n 0.9849	n 1.2692	0.4294	−0.004	0.00		
22.6	9.4424	n 0.9834	n 1.2728	n 9.9243	−0.004	0.00		
Abr. 1.5							70.317	16 59.00
11.5							70.720	17 2.77
21.5							70.740	6.61
May. 1.4							70.557	10.29
11.4							69.931	13.62
21.4							68.749	16.69
31.4							67.407	19.66
Jun. 10.3							65.859	22.04
20.3							63.896	23.82
30.3							61.704	25.34
Jul. 10.2							59.505	26.31
20.2							57.257	26.51
30.2	9.8371	n 0.9370	1.0564	n 1.2108	−0.011	+0.01		
Ago. 9.2	9.8565	n 0.9506	1.1365	n 1.1448	−0.012	+0.01		
19.1	9.8761	n 0.9544	1.1943	n 1.0521	−0.012	+0.01		
29.1	9.8892	n 0.9560	1.2344	n 0.9180	−0.013	+0.01		
Set. 8.1	9.8988	n 0.9649	1.2597	n 0.6994	−0.013	+0.01		
18.1	9.9141	n 0.9698	1.2718	n 0.2011	−0.014	+0.01		
28.0							45.234	14.59
Oct. 8.0							44.979	11.41
18.0							45.153	8.43
27.9							45.954	5.58
Nov. 6.9							47.308	2.80
16.9							48.984	17 0.36
26.9							51.026	16 58.44
Dic. 6.8							53.586	57.09
16.8							56.390	56.18
26.8							59.175	55.84
31.8							60.763	16 56.05

N° 32 — κ *Octantis*

1895.0	a 0.9461 + 7	b 9.8743 + 3	c n 9.8758 + 3	d n 9.4598 +12	μ	μ′	α	δ
	a′ n1.2723 − 2	b′ 9.5542 + 8	c′ n 9.5066 + 7	d′ 9.9687 − 1	−0ˢ.065	−0″.024	13ʰ23ᵐ 58ˢ.454	−85°14″ 51″.16
	A	B	C	D				
Ene. 1.8							49ˢ.427	14′35″.15
11.8							52.498	35.92
21.7							55.399	37.12
31.7	9.1547	n 0.9578	n 1.1010	1.1797	−0″.005	0″.00		
Feb. 10.7	9.2567	n 0.9678	n 1.1720	1.0960	−0.007	0.00		
20.6	9.3181	n 0.9695	n 1.2209	0.9757	−0.009	0.00		
Mar. 2.6	9.3514	n 0.9756	n 1.2525	0.7890	−0.011	0.00		
12.6	9.3991	n 0.9848	n 1.2692	0.4293	−0.013	0.00		
22.6	9.4424	n 0.9834	n 1.2728	n 9.9248	−0.015	0.00		
Abr. 1.5							68.998	14 58.23
11.5							69.466	15 1.98
21.5							69.552	5.82
May. 1.4							69.432	9.51
11.4							68.862	12.86
21.4							67.756	15.97
31.4							66.476	18.96
Jun. 10.3							64.981	21.39
20.3							63.068	23.23
30.3							60.917	24.80
Jul. 10.2							58.754	25.85
20.2							56.526	26.14
30.2	9.8371	n 0.9370	1.0564	n 1.2108	−0.038	−0.01		
Ago. 9.2	9.8565	n 0.9506	1.1365	n 1.1448	−0.040	−0.01		
19.1	9.8761	n 0.9544	1.1914	n 1.0521	−0.042	−0.01		
29.1	9.8892	n 0.9560	1.2344	n 0.9180	−0.044	−0.02		
Set. 8.1	9.8988	n 0.9649	1.2597	n 0.6993	−0.046	−0.02		
18.1	9.9141	n 0.9698	1.2718	n 0.2008	−0.048	−0.02		
28.0							41.416	14.53
Oct. 8.0							44.078	11.36
18.0							44.197	8.39
28.0							44.911	5.52
Nov. 6.9							46.227	2.69
16.9							47.851	15 0.22
26.9							49.842	14 58.25
Dic. 6.8							52.357	56.84
16.8							55.123	55.85
26.8							57.878	55.44
31.8							59.456	14 55.62

N° 33 — θ *Apodis*

1895.0	a 0.7567 + 3	b 9.3793 0	c n 9.3919 0	d n 9.1316 + 4	μ	μ'	α	δ
	a' n1.2449 − 1	b' 9.6825 + 4	c' n 9.5621 + 4	d' 9.9302 − 1	−0ˢ.015	−0″.009	13ʰ55ᵐ 6ˢ.383	−76°17′ 22″.17
	A	B	C	D				
Ene. 1.8							2ˢ.772	16′58″.60
11.8							3.884	59.08
21.7							5.052	16 59.61
31.7	9.1549	n 0.9577	n 1.1012	1.1795	−0ˢ.001	0″.00		
Feb. 10.7	9.2568	n 0.9679	n 1.1721	1.0958	−0.001	0.00		
20.7	9.3182	n 0.9696	n 1.2210	0.9753	−0.002	0.00		
Mar. 2.6	9.3516	n 0.9756	n 1.2525	0.7885	−0.002	0.00		
12.6	9.3991	n 0.9848	n 1.2693	0.4281	−0.003	0.00		
22.6	9.4424	n 0.9835	n 1.2728	n 9.9298	−0.003	0.00		
Abr. 1.6	9.4711	n 0.9752	n 1.2631	n 0.6367	−0.004	0.00		
11.5							11.258	17 22.43
21.5							11.487	26.03
May. 1.5							11.649	29.53
11.4							11.633	32.71
21.4							11.426	35.75
31.4							11.184	38.80
Jun. 10.4							10.837	41.12
20.3							10.314	43.01
30.3							9.706	44.71
Jul. 10.3							9.082	45.89
20.2							8.390	47.38
30.2							7.620	46.41
Ago. 9.2	9.8565	n 0.9506	1.1367	n 1.1446	−0.009	−0.01		
19.2	9.8761	n 0.9545	1.1945	n 1.0518	−0.010	−0.01		
29.1	9.8893	n 0.9569	1.2344	n 0.9177	−0.010	−0.01		
Set. 8.1	9.8988	n 0.9649	1.2597	n 0.6987	−0.010	−0.01		
18.1	9.9141	n 0.9698	1.2718	n 0.1987	−0.011	−0.01		
28.1	9.9270	n 0.9630	1.2713	0.2790	−0.011	−0.01		
Oct. 8.0							3.930	33.71
18.0							3.903	30.90
28.0							4.109	28.16
Nov. 6.9							4.499	25.38
16.9							5.017	22.93
26.9							5.667	20 91
Dic. 6.9							6.590	19.40
16.8							7.577	18.24
26.8							8.573	17.65
31.8							9.174	17 17.71

N° 34 — η *Apodis*

1895.0	*a* 0.8589 +2	*b* 9.5328 0	*c* n 9.5388 0	*d* n 9.3221 +5	μ	μ′	α	δ
	a′ n1.2340 −2	*b′* 9.7152 +3	*c′* n 9.6439 +4	*d′* 9.9259 −1	−0ˢ.001	−0″.112	14ʰ4ᵐ 68ˢ.745	−80°30′ 54″.60
	A	B	C	D				
Ene. 1.8							58ˢ.205	30′41″.22
11.8							59.836	41.44
21.8							61.430	42.13
31.7							62.875	30 43.46
Feb. 10.7	9.2568	n 0.9679	n 1.1721	1.0957	0ˢ.000	−0″.01		
20.7	9.3182	n 0.9696	n 1.2210	0.9753	0.000	−0.02		
Mar. 2.6	9.3517	n 0.9756	n 1.2526	0.7883	0.000	−0.02		
12.6	9.3991	n 0.9848	n 1.2693	0.4276	0.000	−0.02		
22.6	9.4425	n 0.9835	n 1.2728	n 9.9303	0.000	−0.03		
Abr. 1.6	9.4711	n 0.9752	n 1.2631	n 0.6370	0.000	−0.03		
11.5							70.446	31 2.40
21.5							70.809	7.40
May. 1.5							71.072	11.00
11.4							71.083	14.30
21.4							70.801	17.52
31.4							70.456	20.65
Jun. 10.4							69.961	23.27
20.3							69.201	25.38
30.3							68.320	27.31
Jul. 10.3							67.396	28.71
20.3							66.374	29.40
30.2							65.234	29.38
Ago. 9.2	9.8565	n 0.9506	1.1367	n 1.1446	−0.001	−0.07		
19.2	9.8761	n 0.9545	1.1945	n 1.0518	−0.001	−0.07		
29.2	9.8893	n 0.9560	1.2345	n 0.9175	−0.001	−0.07		
Set. 8.1	9.8988	n 0.9649	1.2597	n 0.6985	−0.001	−0.08		
18.1	9.9141	n 0.9698	1.2718	n 0.1978	−0.001	−0.08		
28.1	9.9270	n 0.9630	1.2713	0.2797	−0.001	−0.08		
Oct. 8.0							59.492	17.58
18.0							59.368	14.37
28.0							59.573	11.86
Nov. 7.0							60.043	8.93
16.9							60.705	6.28
26.9							61.590	4.05
Dic. 6.9							63.792	2.39
16.8							64.134	1.08
26.8							65.509	0.21
31.8							66.336	31 0.13

N° 35 — δ *Octantis*

1895.0	a 0.9586 + 6	b 9.6727 + 3	c n 9.6756 + 2	d n 9.4803 + 9	μ	μ'	α	δ
							14h9m	—88°11'
	a' n1.2281 − 1	b' 9.7305 + 5	c' n 9.6834 6	d' 9.9228 − 1	—0s.067	+0s.009	66s.113	10'.26
	A	B	C	D				
Ene. 1.8							58s.170	10'56".99
11.8							60.384	57.06
21.8							62.524	57.61
31.7							64.551	10 58.82
Feb. 10.7	9.2568	n 0.9679	n 1.1721	1.0957	—0s.007	0.00		
20.7	9.3183	n 0.9696	n 1.2210	0.9752	—0.009	0.00		
Mar. 2.6	9.3517	n 0.9756	n 1.2526	0.7883	—0.011	0.00		
12.6	9.3991	n 0.9848	n 1.2693	0.4275	—0.013	0.00		
22.6	9.4425	n 0.9835	n 1.2728	n 9.9304	—0.015	0.00		
Abr. 1.6	9.4711	n 0.9752	n 1.2631	n 0.6370	—0.017	0.00		
11.5							75.104	11 18.14
21.5							75.621	22.39
May. 1.5							75.995	26.03
11.4							76.011	29.42
21.4							75.642	32.71
31.4							75.154	35.93
Jun. 10.4							74.455	38.66
20.3							73.391	40.90
30.3							72.147	42.93
Jul. 10.3							70.833	44.46
20.3							69.385	45.28
30.2							67.771	45.62
Ago. 9.2	9.8565	n 0.9506	1.1368	n 1.1445	—0.040	+0.01		
19.2	9.8761	n 0.9545	1.1945	n 1.0518	—0.042	+0.01		
29.2	9.8893	n 0.9560	1.2345	n 0.9175	—0.044	+0.01		
Set. 8.1	9.8988	n 0.9649	1.2597	n 0.6984	—0.046	+0.01		
18.1	9.9141	n 0.9698	1.2718	n 0.1976	—0.048	+0.01		
28.1	9.9270	n 0.9630	1.2713	0.2799	—0.050	+0.01		
Oct. 8.0							59.428	33.91
18.0							59.187	31.02
28.0							59.397	28.10
Nov. 7.0							59.979	25.06
16.9							60.826	22.31
26.9							61.986	19.97
Dic. 6.9							63.580	18.06
16.8							65.380	16.50
26.8							67.236	15.51
31.8							68.351	11 15.34

N° 36 — α *Apodis*

1895.0	a 0.8584 + 2	b 9.4116 0	c n 9.4202 − 1	d n 9.3240 + 3	μ	μ'	α	δ
	a' n1.1945 − 1	b' 9.7961 + 2	c' n 9.7220 + 4	d' 9.8836 − 1	−0ˢ.005	−0″.014	14ʰ34ᵐ 49ˢ.437	−78°35′ 53″.97
	A	B	C	D				
Ene. 1.8							44ˢ.283	35′42″.68
11.8							45.650	42.49
21.8							46.982	42.74
31.7							48.265	35 43.66
Feb. 10.7	9.2569	n 0.9679	n 1.1722	1.0955	−0ˢ.001	0″.00		
20.7	9.3184	n 0.9696	n 1.2211	0.9750	−0.001	0.00		
Mar. 2.7	9.3518	n 0.9756	n 1.2526	0.7878	−0.001	0.00		
12.6	9.3992	n 0.9848	n 1.2693	0.4261	−0.001	0.00		
22.6	9.4425	n 0.9835	n 1.2728	n 9.9332	−0.001	0.00		
Abr. 1.6	9.4713	n 0.9752	n 1.2630	n 0.6376	−0.001	0.00		
11.6	9.4999	n 0.9730	n 1.2402	n 0.8848	−0.001	0.00		
21.5							55.964	36 5.01
May. 1.5							56.332	8.45
11.5							56.533	11.72
21.4							56.470	14.95
31.4							56.351	18.15
Jun. 10.4							56.081	20.87
20.4							55.574	23.17
30.3							54.961	25.34
Jul. 10.3							54.288	27.00
20.3							53.502	28.01
30.2							52.591	28.57
Ago. 9.2							51.656	28.69
19.2	9.8762	n 0.9546	1.1946	n 1.0515	−0.003	−0.01		
29.2	9.8893	n 0.9560	1.2345	n 0.9172	−0.003	−0.01		
Set. 8.1	9.8988	n 0.9648	1.2598	n 0.6978	−0.003	−0.01		
18.1	9.9141	n 0.9698	1.2718	n 0.1959	−0.004	−0.01		
28.1	9.9270	n 0.9630	1.2713	0.2813	−0.004	−0.01		
Oct. 8.1	9.9314	n 0.9564	1.2577	0.7289	−0.004	−0.01		
18.0							47.196	15.80
28.0							47.249	12.97
Nov. 7.0							47.516	9.98
16.9							47.950	7.24
26.9							48.593	4.84
Dic. 6.9							49.515	2.82
16.9							50.573	36 1.09
26.8							51.676	35 59.90
31.8							52.365	35 59.61

N° 37 — π_2 *Octantis*

1895.0	*a* 0.9968 +4	*b* 9.5849 −1	*c* n 9.5885 −1	*d* n 5.9373 +5	μ	μ'	α	δ
	a' n1.1757 −3	*b'* 9.8221 +5	*c'* n 9.7803 +4	*d'* 9.8700 −2	−0ˢ.024	−0″.008	14ʰ46ᵐ 30ˢ.781	−82°36′ 58″.83
	A	B	C	D				
Ene. 1.8							22ˢ.443	36′48″.04
11.8							24.465	47.54
21.8							26.431	47.52
31.8							28.401	48.18
Feb. 10.7							30.473	36 49.51
20.7	9.3185	n 0.9697	n 1.2212	0.9748	−0ˢ.004	0″.00		
Mar. 2.7	9.3519	n 0.9756	n 1.2526	0.7877	−0.004	0.00		
12.6	9.3992	n 0.9848	n 1.2693	0.4260	−0.005	0.00		
22.6	9.4425	n 0.9835	n 1.2728	n 9.9357	−0.006	0.00		
Abr. 1.6	9.4713	n 0.9752	n 1.2630	n 0.6379	−0.006	0.00		
11.6	9.4999	n 0.9729	n 1.2401	n 0.8849	−0.007	0.00		
21.5							40.477	37 8.53
May. 1.5							41.133	12.04
11.5							41.447	15.38
21.4							41.401	18.74
31.4							41.242	22.09
Jun. 10.4							40.853	24.98
20.4							40.090	27.49
30.3							39.150	29.87
Jul. 10.3							38.101	31.77
20.3							36.872	32.99
30.3							35.448	33.81
Ago. 9.2							33.965	34.12
19.2	9.8762	n 0.9546	1.1947	n 1.0515	−0.016	−0.01		
29.2	9.8894	n 0.9561	1.2345	n 0.9171	−0.016	−0.01		
Set. 8.2	9.8988	n 0.9648	1.2598	n 0.6976	−0.017	−0.01		
18.1	9.9141	n 0.9698	1.2719	n 0.1918	−0.018	−0.01		
28.1	9.9270	n 0.9630	1.2713	0.2819	−0.018	−0.01		
Oct. 8.1	9.9345	n 0.9564	1.2576	0.7291	−0.019	−0.01		
18.0							26.508	21.92
28.0							26.456	19.01
Nov. 7.0							26.741	15.91
17.0							27.284	12.97
26.9							28.145	10.39
Dic. 6.9							29.434	8.12
16.9							30.947	6.13
26.8							32.552	4.66
31.8							33.553	37 4.23

N° 38 — ρ *Octantis*

1895.0	*a* 1.1130 +3	*b* 9.6208 −2	*c* n 9.6231 −2	*d* n 9.6958 +7	μ	μ′	α	δ
	a′ n1.1123 −4	*b′* 9.8828 +3	*c′* n 9.8543 +4	*d′* 9.8078 −4	+0ˢ.095	+0″.082	15ʰ18ᵐ 66ˢ.291	−84°6′ 50″.71
	A	B		D				
Ene. 1.8							54ˢ.878	6′42.24
11.8							57.293	41.20
21.8							59.734	40.62
31.8							62.173	40.74
Feb. 10.7							64.830	6 41.50
20.7	9.3186	n 0.9697	n 1.2212	0.9745	+0ˢ.013	+0″.01		
Mar. 2.7	9.3520	n 0.9756	n 1.2527	0.7871	+0 016	+0.01		
12.7	9.3992	n 0.9848	n 1.2693	0.4245	+0.018	+0.01		
22.6	9.4425	n 0.9835	n 1.2728	n 9.9393	+0.020	+0.02		
Abr. 1.6	9.4714	n 0.9752	n 1.2630	n 0.6386	+0.023	+0.02		
11.6	9.5000	n 0.9729	n 1.2401	n 0.8853	+0.026	+0.03		
21.6	9.5349	n 0.9703	n 1.2021	n 1.0325	+0.029	+0.02		
May. 1.5							80.036	7 1.11
11.5							80.732	4.41
21.5							80.977	7.80
31.4							81.081	11.22
Jun. 10.4							80.856	14.24
20.4							80.142	17.01
30.4							79.183	19.70
Jul. 10.3							78.048	21.93
20.3							76.631	23.53
30.3							74.932	24.75
Ago. 9.2							73.119	25.54
19.2							71.361	25.69
29.2	9.8894	n 0.9561	1.2346	n 0.9167	+0.062	+0.05		
Set. 8.2	9.8988	n 0.9648	1.2598	n 0.6970	+0.065	+0.05		
18.1	9.9141	n 0.9698	1.2719	n 0.1931	+0.068	+0.06		
28.1	9.9271	n 0.9631	1.2713	0.2835	+0.070	+0.06		
Oct. 8.1	9.9345	n 0.9564	1.2576	0.7297	+0.073	+0.06		
18.1	9.9467	n 0.9551	1.2300	0.9382	+0.076	+0.06		
28.0							62.136	12.73
Nov. 7.0							62.322	9.54
17.0							62.694	6.47
26.9							63.484	3.68
Dic. 6.9							64.827	7 1.05
16.9							66.480	6 58.66
26.9							68.295	56.75
31.9							69.472	6 56.06

N° 39 — δ_1 *Apodis*

1895.0	a 0.9441 +1	b 9.1960 −4	c n 9.2050 −3	d n 9.4642 +3	μ	μ'	α	δ
	a' n0.9858 −5	b' 9.9425 0	c' n 9.8872 +2	d' 9.6744 −5	+0ˢ.001	−0″.017	16ʰ4ᵐ 39ˢ.865	−78°25′ 48″.09
	A	B	C	D				
Ene. 1.9							33ˢ.649	25′43″.56
11.9							34.845	42.10
21.8							36.067	40.99
31.8							37.330	40.53
Feb. 10.8							38.758	40.62
20.8							40.158	40.98
Mar. 2.7							41.447	41.85
12.7	9.3993	n 0.9847	n 1.2693	0.4228	0ˢ.000	0″.00		
22.7	9.4426	n 0.9836	n 1.2728	n 9.9450	0.000	0.00		
Abr. 1.6	9.4716	n 0.9753	n 1.2639	n 0.6397	0.000	−0.01		
11.6	9.5001	n 0.9728	n 1.2400	n 0.8859	0.000	−0.01		
21.6	9.5349	n 0.9701	n 1.2020	n 1.0329	0.000	−0.01		
May. 1.6	9.5747	n 0.9568	n 1.1471	n 1.1323	0.000	−0.01		
11.5							48.555	25 58.12
21.5							48.948	26 1.25
31.5							49.290	4.44
Jun. 10.4							49.443	7.36
20.4							49.317	10.12
30.4							49.080	12.90
Jul. 10.4							48.725	15.30
20.3							48.170	17.18
30.3							47.459	18.80
Ago. 9.3							46.647	20.03
19.3							45.833	20.65
29.2							44.918	20.64
Set. 8.2	9.8939	n 0.9647	1.2599	n 0.6960	+0.001	−0.01		
18.2	9.9141	n 0.9699	1.2719	n 0.1900	+0.001	−0.01		
28.2	9.9271	n 0.9631	1.2712	0.2862	+0.001	−0.01		
Oct. 8.1	9.9346	n 0.9563	1.2575	0.7306	+0.001	−0.01		
18.1	9.9467	n 0.9551	1.2299	0.9387	+0.001	−0.01		
28.1	9.9618	n 0.9465	1.1860	1.0700	+0.001	−0.01		
Nov. 7.0							40.492	8.06
17.0							40.512	5.13
27.0							40.761	26 2.34
Dic. 7.0							41.315	25 59.59
16.9							42.028	56.98
26.9							42.851	54.79
31.9							43.426	25 53.87

N° 40 — γ *Apodis*

1895.0	a 0.9581 + 1	b 9.1583 − 4	c n 9.1668 − 5	d n 9.4852 + 2	μ	μ'	α	δ
	a' n0.9387 − 6	b' 9.9549 + 2	c' n9.9023 + 2	d' 9.6280 − 5	−0ˢ.041	−0″.061	16ʰ17ᵐ 31ˢ.027	−78°39′ 36″.89
	A	B	C	D				
Ene. 1.9							14ˢ.597	39′33″.48
11.9							15.777	31.76
21.8							16.991	30.45
31.8							18.261	29.80
Feb. 10.8							19.710	29.68
20.8							21.138	29.82
Mar. 2.7							22.464	40.49
12.7	9.3993	n 0.9847	n 1.2693	0.4223	−0ˢ.008	−0″.01		
22.7	9.4126	n 0.9836	n 1.2728	n 9.9465	−0.009	−0.01		
Abr. 1.6	9.4717	n 0.9753	n 1.2629	n 0.6399	−0.010	−0.02		
11.6	9.5003	n 0.9728	n 1.2400	n 0.8861	−0.011	−0.02		
21.6	9.5350	n 0.9701	n 1.2019	n 1.0330	−0.012	−0.02		
May. 1.6	9.5747	n 0.9568	n 1.1470	n 1.1324	−0.013	−0.02		
11.5							30.003	45.69
21.5							30.464	48.75
31.5							30.876	51.91
Jun. 10.5							31.089	54.82
20.4							31.016	39 57.63
30.4							30.827	40 0.47
Jul. 10.4							30.512	2.96
20.4							29.991	4.94
30.3							29.389	6.69
Ago. 9.3							28.491	8.09
19.3							27.672	8.86
29.2							26.739	40 9.03
Set. 8.2	9.8989	n 0.9647	1.2599	n 0.6958	−0.028	−0.04		
18.2	9.9141	n 0.9699	1.2719	n 0.1889	−0.029	−0.04		
28.2	9.9275	n 0.9631	1.2712	0.2869	−0.030	−0.04		
Oct. 8.1	9.9346	n 0.9563	1.2575	0.7309	−0.031	−0.05		
18.1	9.9468	n 0.9550	1.2298	0.9389	−0.033	−0.05		
28.1	9.9618	n 0.9465	1.1859	1.0701	−0.033	−0.05		
Nov. 7.0	9.9748	n 0.9291	1.1219	1.1606	−0.034	−0.05		
17.0							21.928	39 54.30
27.0							22.123	51.49
Dic. 7.0							22.626	48.68
16.9							23.294	45.95
26.9							23.539	43.64
31.9							23.622	39 42.64

N° 41 — α *Triáng. Austr.*

1895.0	a 0.7996 − 1	b 8.7826 − 4	c n 8.8129 − 5	d n 9.2376 + 2	μ	μ'	α	δ
	a' n0.8488 − 6	b' 9.9713 0	c' n 9.8550 + 1	d' 9.5163 − 6	+0ˢ.003	−0″.025	16ʰ37ᵐ 32ˢ.880	−68°50′ 2″.29
	A	B	C	D				
Ene. 1.9							29ˢ.402	50′ 1″.34
11.9							30.062	49 59.71
21.9							30.736	58.46
31.8							31.446	57.78
Feb. 10.8							32.275	57.53
20.8							33.085	57.48
Mar. 2.8							33.835	57.91
12.7							34.629	49 58.91
22.7	9.4426	n 0.9836	n 1.2728	n 9.9489	+0ˢ.001	−0″.01		
Abr. 1.7	9.4718	n 0.9753	n 1.2639	n 0.6405	+0.001	−0.01		
11.6	9.5002	n 0.9728	n 1.2399	n 0.8863	+0.001	−0.01		
21.6	9.5350	n 0.9701	n 1.2019	n 1.0331	+0.001	−0.01		
May. 1.6	9.5748	n 0.9568	n 1.1469	n 1.1325	+0.001	−0.01		
11.6	9.6052	n 0.9430	n 1.0701	n 1.2023	+0.001	−0.01		
21.5							38.746	50 12.79
31.5							39.079	15.50
Jun. 10.5							39.294	17.99
20.4							39.343	20.47
30.4							39.541	23.01
Jul. 10.4							39.269	25.36
20.4							39.065	27.08
30.3							38.754	28.74
Ago. 9.3							38.387	30.13
19.3							38.000	30.96
29.2							37.529	31.21
Set. 8.2							36.992	31.19
18.2	9.9141	n 0.9669	1.2719	n 0.1878	+0.002	−0.02		
28.2	9.9272	n 0.9632	1.2712	0.2880	+0.002	−0.02		
Oct. 8.1	9.9346	n 0.9563	1.2575	0.7312	+0.002	−0.02		
18.1	9.9468	n 0.9550	1.2298	0.9391	+0.002	−0.02		
28.1	9.9618	n 0.9465	1.1859	1.0702	+0.002	−0.02		
Nov. 7.1	9.9749	n 0.9291	1.1318	1.1607	+0.003	−0.02		
17.0							34.913	19.11
27.0							35.011	16.64
Dic. 7.0							35.284	14.13
16.9							35.645	11.67
26.9							36.069	9.57
31.9							36.559	50 8.63

N° 42

1895.0	a 1.0457 + 1	b 8.9320 − 16	c n 8.9377 − 16	d n 9.6086 + 1	μ	μ'	α	δ
	a' n0.6216 − 16	b' 9.9903 + 1	c' n 9.9521 + 1	d' 9.3138 − 16	+0ˢ.005	−0″.061	17ʰ11ᵐ 49ˢ.666	−80°45′ 37″.73
	A	B	C	D				
Ene. 1.9							41ˢ.584	45′38″.78
11.9							42.768	36.33
21.9							44.045	34.25
31.8							45.453	32.76
Feb. 10.8							47.208	31.69
20.8							48.810	30.88
Mar. 2.8							50.436	30.64
12.7							52.171	31.04
22.7	9.4426	n 0.9836	n 1.2727	n 9.9530	+0ˢ.001	−0″.01		
Abr. 1.7	9.4719	n 0.9753	n 1.2628	n 0.6412	+0.001	−0.02		
11.7	9.5003	n 0.9727	n 1.2398	n 0.8867	+0.001	−0.02		
21.6	9.5350	n 0.9701	n 1.2017	n 1.0334	+0.001	−0.02		
May. 1.6	9.5748	n 0.9569	n 1.1467	n 1.1327	+0.001	−0.02		
11.6	9.6053	n 0.9430	n 1.0699	n 1.2024	+0.001	−0.02		
21.6	9.6337	n 0.9392	n 0.9608	n 1.2518	+0.002	−0.02		
31.5							62.554	46.47
Jun. 10.5							63.100	49.29
20.5							63.304	52.18
30.4							63.366	55.20
Jul. 10.4							63.245	45 57.99
20.4							62.831	46 0.39
30.4							62.174	2.66
Ago. 9.3							61.360	4.66
19.3							60.463	6.08
29.3							59.374	6.92
Set. 8.2							58.125	7.42
18.2							56.997	46 7.38
28.2	9.9272	n 0.9632	1.2712	0.2898	+0.004	−0.05		
Oct. 8.2	9.9347	n 0.9563	1.2574	0.7319	+0.004	−0.05		
18.1	9.9468	n 0.9550	1.2297	0.9395	+0.004	−0.05		
28.1	9.9618	n 0.9465	1.1857	1.0704	+0.004	−0.05		
Nov. 7.1	9.9749	n 0.9291	1.1216	1.1677	+0.004	−0.05		
17.1	9.9878	n 0.9184	1.0299	1.2248	+0.004	−0.05		
27.0							51.940	45 53.25
Dic. 7.0							52.212	50.19
17.0							52.689	47.10
26.9							53.026	44.30
31.9							53.289	45 42.97

N° 43 — χ *Octantis*

1895.0	*a* 1.5541 0	*b* 8.7091 − 230	*c* n 8.7095 − 230	*d* n 0.2133 0	μ	μ′	α	δ
	a′ n9.7981 − 228	*b′* 9.9998 0	*c′* n 9.9917 − 1	*d′* 8.4956 − 224	−0ˢ.106	−0″.113	17ʰ52ᵐ 66ˢ.347	−87°39′ 48″.17

	A	B	C	D				
Ene. 2.0							34ˢ.861	39′52″.41
11.9							38.303	49.72
21.9							42.286	46.63
31.9							47.009	44.44
Feb. 10.8							52.803	42.57
20.8							58.829	41.02
Mar. 2.8							64.883	40.03
12.8							71.483	39.68
22.7							78.193	39.73
Abr. 1.7	9.4721	n 0.9753	n 1.2628	n 0.6422	−0ˢ.025	−0″.03		
11.7	9 5005	n 0.9726	n 1.2397	n 0.8872	−0.028	−0.03		
21.7	9.5350	n 0.9700	n 1.2016	n 1.0338	−0.031	−0.03		
May. 1.6	9.5747	n 0.9569	n 1.1465	n 1.1329	−0.034	−0.03		
11.6	9.6055	n 0.9429	n 1.0696	n 1.2036	−0.037	−0.04		
21.6	9.6339	n 0.9391	n 0.9604	n 1.2519	−0.040	−0.04		
31.6	9.6748	n 0.9345	n 0.7977	n 1.2847	−0.043	−0.04		
Jun. 10.5							117.299	54.31
20.5							118.739	39 57.29
30.5							119.588	40 0.50
Jul. 10.4							119.615	3.52
20.4							118.495	6.28
30.4							116.419	9.00
Ago. 9.4							113.640	11.49
19.3							110.341	13.43
29.3							106.200	14.84
Set. 8.3							101.376	15.91
18.2							96.767	16.47
28.2							91.988	16.19
Oct. 8.2	9.9347	n 0.9562	1.2574	0.7328	−0.079	−0.09		
18.2	9.9468	n 0.9549	1.2296	0.9399	−0.083	−0.09		
28.1	9.9618	n 0.9465	1.1856	1.0708	−0.087	−0.09		
Nov. 7.1	9.9750	n 0.9291	1.1214	1.1611	−0.090	−0.09		
17.1	9.9879	n 0.9183	1.0296	1.2249	−0.094	−0.10		
27.1	0.0030	n 0.9146	0.8945	1.2688	−0.097	−0.10		
Dic. 7.0							70.502	40 0.97
17.0							71.458	39 57.55
27.0							72.823	54.35
32.0							74.292	39 53.74

N° 45 — ζ *Pavonis*

1895.0	a 0.8173 0	b n 8.4265 + 16	c 8.4495 + 16	d n 9.3189 − 1	μ	μ'	α 18h30m	δ −71°31'
	a' 0.4288 + 16	b' 9.9961 − 1	c' n 9.9044 − 1	d' n 9.1036 + 16	−0s.005	−0".178	46s.035	2".25
	A	B	C	D				
Ene. 2.0							42s.272	31'10".15
12.0							42.707	7.35
21.9							43.197	4.76
31.9							43.808	2.61
Feb. 10.9							44.548	31 0.61
20.8							45.335	30 58.88
Mar. 2.8							46.103	57.44
12.8							46.988	56.58
22.8							47.900	55.85
Abr. 1.7							48.773	30 55.60
11.7	9.5006	n 0.9726	n 1.2396	n 0.8877	−0s.001	−0".05		
21.7	9.5350	n 0.9700	n 1.2015	n 1.0340	−0.002	−0.05		
May. 1.7	9.5750	n 0.9569	n 1.1464	n 1.1331	−0.002	−0.06		
11.6	9.6056	n 0.9429	n 1.0694	n 1.2028	−0.002	−0.06		
21.6	9.6339	n 0.9390	n 0.9600	n 1.2520	−0.002	−0.07		
31.6	9.6749	n 0.9345	n 0.7972	n 1.2848	−0.002	−0.07		
Jun. 10.6	9.7096	n 0.9226	n 0.5123	n 1.3039	−0.002	−0.08		
20.5							54.331	31 6.36
30.5							54.643	8.91
Jul. 10.5							54.859	11.39
20.4							54.899	13.75
30.4							54.803	16.19
Ago. 9.4							54.613	18.52
19.4							54.345	20.42
29.3							53.928	21.98
Set. 8.3							53.397	23.34
18.3							52.897	24.22
28.2							52.344	24.44
Oct. 8.2							51.711	24.23
18.2	9.9468	n 0.9548	1.2295	0.9404	−0.004	−0.14		
28.2	9.9618	n 0.9465	1.1854	1.0711	−0.004	−0.15		
Nov. 7.1	9.9750	n 0.9291	1.1212	1.1613	−0.004	−0.15		
17.1	9.9880	n 0.9182	1.0393	1.2251	−0.004	−0.16		
27.1	0.0030	n 0.9146	0.8941	1.2689	−0.004	−0.16		
Dic. 7.1	0.0212	n 0.9042	0.6737	1.2964	−0.004	−0.17		
17.0							49.693	11.06
27.0							49.834	8.27
37.0							50.027	31 6.83

N° 46

1895.0	a 1.0810 0	b n 9.1776 + 9	c 9.1819 + 9	d n 9.6552 − 3	μ	μ'	α	δ
	a' 0.8056 + 12	b' 9.9767 − 2	c' n 9.9434 − 2	d' n 9.4992 + 12	−0ˢ.015	+0″.046	19ʰ14ᵐ 21ˢ.336	−81°57′ 51″.61
	A	B	C	D				
Ene. 1.0							13ˢ.483	58′ 2″.76
11.0							13.936	57 59.34
21.0							14.625	56.22
30.9							15.596	53.24
Feb. 9.9							16.915	50.31
19.9							18.313	47.67
Mar. 1.9							19.834	45.55
11.8							21.645	43.80
21.8							23.511	42.30
31.8							25.321	41.27
Abr. 10.8							27.231	40.85
20.7							29.180	40.84
30.7	9.5711	n 0.9561	n 1.1527	n 1.1250	−0ˢ.005	+0″.02		
May. 10.7	9.6006	n 0.9445	n 1.0780	n 1.1971	−0.005	+0.02		
20.6	9.6315	n 0.9416	n 0.9723	n 1.2480	−0.006	+0.02		
30.6	9.6727	n 0.9340	n 0.8161	n 1.2823	−0.006	+0.02		
Jun. 9.6	9.7057	n 0.9216	n 0.5502	n 1.3027	−0.006	+0.02		
19.6	9.7305	n 0.9199	n 9.6586	n 1.3105	−0.007	+0.02		
29.5							39.138	51.81
Jul. 9.5							39.766	54.43
19.5							39.993	57 57.16
29.4							39.996	58 0.05
Ago. 8.4							39.774	2.84
18.4							39.263	5.25
28.4							38.434	7.48
Set. 7.3							37.383	9.53
17.3							36.290	10.97
27.3							34.973	11.78
Oct. 7.3							33.486	12.24
17.2							32.138	58 12.15
27.2	9.9612	n 0.9461	1.1905	1.0606	−0.013	+0.04		
Nov. 6.2	9.9729	n 0.9292	1.1284	1.1538	−0.013	+0.04		
16.1	9.9861	n 0.9211	1.0397	1.2199	−0.013	+0.04		
26.1	0.0023	n 0.9161	0.9097	1.2655	−0.014	+0.04		
Dic. 6.1	0.0197	n 0.9028	0.7014	1.2943	−0.014	+0.04		
16.1	0.0346	n 0.8928	0.2485	1.3086	−0.014	+0.04		
26.0	0.0481	n 0.8970	n 0.1900	1.3091	−0.015	+0.04		
31.0	0.0576	n 0.8917	n 0.5045	1.3042	−0.015	+0.05		

N° 47

1895.0	a 1.1266 − 4	b n 9.4832 + 6	c 9.4859 + 6	d n 9.7138 − 6	μ	μ′	α	δ
							20h2m	−83°37′
	a′ 1.0090 + 7	b′ 9.9348 − 3	c′ n 9.9070 − 2	d′ n 9.7042 + 8	−0s.014	−0″.017	26s.290	59″.67
	A	B	C	D				
Ene. 1.0							17s.955	38′13″.97
11.0							18.022	10.46
21.0							18.409	7.02
31.0							19.124	3.72
Feb. 9.9							20.439	38 0.34
19.9							21.796	37 57.13
Mar. 1.9							23 383	54.41
11.9							25.372	51.93
21.8							27.463	49.68
31.8							29.557	47.92
Abr. 10.8							31.849	46.72
20.8							34.244	45.91
30.7							36.472	45.41
May. 10.7	9.6007	n 0.9144	n 1.0778	n 1.1973	−0s.005	−0″.01		
20.7	9.6315	n 0.9415	n 0.9719	n 1.2481	−0.006	−0.01		
30.6	9.6727	n 0.9341	n 0.8155	n 1.2824	−0.006	−0.01		
Jun. 9.6	9.7058	n 0.9216	n 0.5490	n 1.3027	−0.006	−0.01		
19.6	9.7306	n 0.9198	n 9.6487	n 1.3105	−0.007	−0.01		
29.6	9.7634	n 0.9265	0.4247	n 1.3062	−0.007	−0.01		
Jul. 9.5							48.993	55.31
19.5							49.619	37 57.95
29.5							49.988	38 0.88
Ago. 8.4							50.059	3.78
18.4							49.728	6.43
28.4							48.983	9.02
Set. 7.4							47.942	11.52
17.3							46.758	13.47
27.3							45.227	14.85
Oct. 7.3							43.439	15.96
17.3							41.741	16.50
27.2							10.006	38 16.27
Nov. 6.2	9.9730	n 0.9292	1.1282	1.1541	−0.012	−0.01		
16.2	9.9862	n 0.9210	1.0394	1.2200	−0.012	−0.01		
26.2	0.0023	n 0.9160	0.9092	1.2656	−0.013	−0.01		
Dic. 6.1	0.0198	n 0.9029	0.7005	1.2943	−0.013	−0.01		
16.1	0.0346	n 0.8928	0.2458	1.3086	−0.013	−0.02		
26.1	0.0481	n 0.8969	n 0.1931	1.3091	−0.014	−0.02		
31.1	0.0576	n 0.8918	n 0.5059	1.3041	−0.014	−0.02		

N° 48 — α *Octantis*

1895.0	a 0.8725 −2	b n 9.3092 +2	c 9.3197 +2	d n 9.3501 −4	μ	μ′	α	δ
	a′ 1.1359 +3	b′ 9.8641 −3	c′ n 9.7920 −2	d′ n 9.8232 +3	−0ˢ.006	−0″.394	20ʰ51ᵐ 59ˢ.255	−77°25′ 25″.30
	A	B	C	D				
Ene. 1.1							56ˢ.059	25′42″.23
11.1							55.916	39.00
21.0							55.919	35.78
31.0							56.137	32.51
Feb. 10.0							56.568	28.97
19.9							57.065	25.52
Mar. 1.9							57.693	22.45
11.9							58.558	19.46
21.9							59.489	16.61
31.8							60.442	14.20
Abr. 10.8							61.535	12.23
20.8							62.720	10.60
30.8							63.899	9.26
May. 10.7							65.053	8.52
20.7	9.6316	n 0.9414	n 0.9715	n 1.2483	−0ˢ.002	−0″.15		
30.7	9.6728	n 0.9341	n 0.8149	n 1.2825	−0.002	−0.16		
Jun. 9.6	9.7060	n 0.9216	n 0.5476	n 1.3027	−0.003	−0.17		
19.6	9.7308	n 0.9198	n 9.6379	n 1.3105	−0.003	−0.18		
29.6	9.7635	n 0.9264	0.4263	n 1.3061	−0.003	−0.19		
Jul. 9.6	9.7940	n 0.9268	0.7557	n 1.2895	−0.003	−0.20		
19.5	9.8152	n 0.9264	0.9331	n 1.2597	−0.003	−0.21		
29.5							72.134	18.53
Ago. 8.5							72.413	21.22
18.5							72.477	23.81
28.4							72.314	26.51
Set. 7.4							71.989	29.25
17.4							71.573	31.54
27.4							70.939	33.43
Oct. 7.3							70.137	35.16
17.3							69.363	36.34
27.3							68.526	36.83
Nov. 6.2							67.599	25 36.80
16.2	9.9863	n 0.9209	1.0390	1.2202	−0.005	−0.35		
26.2	0.0024	n 0.9160	0.9086	1.2658	−0.005	−0.36		
Dic. 6.2	0.0199	n 0.9029	0.6995	1.2944	−0.006	−0.37		
16.1	0.0347	n 0.8928	0.2428	1.3086	−0.006	−0.38		
26.1	0.0481	n 0.8968	n 0.1964	1.3091	−0.006	−0.39		
31.1	0.0577	n 0.8918	n 0.5075	1.3041	−1.006	−0.39		

Nº 50 — λ_1 *Octantis*

1895.0	*a* 0.9873 ′ − 5	*b* n 9.6538 − 2	*c* 9.6569 − 2	*d* n 9.5230 − 7	μ	μ'	α	δ
	a′ 1.2084 + 2	*b′* 9.7724 − 6	*c′* n 9.7296 − 5	*d′* n 9.9032 + 3	$+0^s.008$	$-0''.077$	21^h34^m 46ˢ.940	$-83°12'$ 5″.56
	A	B	C	D				
Ene. 1.1	8.5833	n 0.9381	n 0.5603	1.3022	0ˢ.000	0″.00		
11.1	8.8965	n 0.9368	n 0.8340	1.2796	0.000	0.00		
21.1	9.0442	n 0.9432	n 0.9912	1.2413	0.000	0.00		
31.0							41ˢ.661	12′14″.21
Feb. 10.0							41.951	10.38
20.0							42.404	6.61
Mar. 1.9							43.149	12 3.14
11.9							44.327	11 59.63
21.9							45.044	56.25
31.9							47.072	53.30
Abr. 10.8							48.800	50.75
20.8							50.711	48.52
30.8							52.647	46.61
May. 10.8							54.614	45.32
20.7							56.696	44.80
30.7	9.6729	n 0.9341	n 0.8142	n 1.2826	+0.003	−0.03		
Jun. 9.7	9.7061	n 0.9217	n 0.5464	n 1.3028	+0.003	−0.03		
19.6	9.7309	n 0.9197	n 9.6288	n 1.3105	+0.004	−0.04		
29.6	9.7636	n 0.9264	0.4280	n 1.3061	+0.004	−0.04		
Jul. 9.6	9.7940	n 0.9263	0.7563	n 1.2895	+0.004	−0.04		
19.6	9.8153	n 0.9265	0.9335	n 1.2596	+0.004	−0.04		
29.5	9.8355	n 0.9378	1.0502	n 1.2141	+0.005	−0.04		
Ago. 8.5							68.786	55.25
18.5							69.128	11 57.94
28.5							69.081	12 0.82
Set. 7.4							68.758	3.84
17.4							68.182	6.43
27.4							67.182	8.76
Oct. 7.4							65.883	10.94
17.3							64.434	12.61
27.3							62.990	13.59
Nov. 6.3							61.227	14.07
16.2							59.530	12 14.06
26.2	0.0021	n 0.9160	0.9081	1.2659	+0.007	−0.07		
Dic. 6.2	0.0199	n 0.9030	0.6987	1.2945	+0.007	−0.07		
16.2	0.0346	n 0.8928	0.2403	1.3087	+0.008	−0.07		
26.1	0.0483	n 0.8968	n 0.1902	1.3090	+0.008	−0.08		
31.1	0.0578	n 0.8918	n 0.5088	1.3040	+0.008	−0.08		

Nº 51 — υ *Octantis*

1895.0	*a* 1.1153 −10	*b* n 9.9869 −4	*c* 9.9877 −4	*d* n 9.6972 −14	μ	μ'	α 22h11m	δ −86°30′
	a' 1.2516 +2	*b'* 9.6589 −8	*c'* n 9.6316 −10	*d'* n 9.9486 +2	−0s.038	+0″.077	30s.537	3″.25
	A	B	C	D				
Ene. 1.1							25s.926	30′22″.78
11.1							23.832	19.76
21.1							22.285	16.55
31.1							21.468	13.08
Feb. 10.0							21.235	9.19
20.0							21.362	5.31
Mar. 2.0							22.135	30 1.62
11.9							23.681	29 57.81
21.9							25.531	54.11
31.9							27.703	50.80
Abr. 10.9							30.511	47.83
20.8							33.716	45.22
30.8							37.015	42.73
May. 10.8							40.500	40.98
20.8							44.305	39.80
30.7							48.196	38.90
Jun. 9.7	9.7062	n 0.9217	n 0.5455	n 1.3028	−0s.016	+0″.03		
19.7	9.7310	n 0.9197	n 9.6212	n 1.3105	−0.017	+0.04		
29.6	9.7636	n 0.9264	0.4293	n 1.3061	−0.018	+0.04		
Jul. 9.6	9.7941	n 0.9269	0.7570	n 1.2894	−0.020	+0.04		
19.6	9.8154	n 0.9265	0.9339	n 1.2595	−0.021	+0.04		
29.6	9.8356	n 0.9378	1.0504	n 1.2142	−0.022	+0.04		
Ago. 8.5							68.703	47.70
18.5							69.757	50.35
28.5							70.124	53.28
Set. 7.5							69.986	56.40
17.4							69.267	29 59.17
27.4							67.703	30 1.78
Oct. 7.4							65.546	4.33
17.4							63.172	6.34
27.3							60.290	7.75
Nov. 6.3							56.913	8.68
16.3							53.554	9.11
26.2							50.272	30 8.82
Dic. 6.2	0.0200	n 0.9030	0.6983	1.2945	−0.035	+0.07		
16.2	0.0348	n 0.8929	0.2383	1.3087	−0.036	+0.07		
26.2	0.0482	n 0.8967	n 0.2014	1.3090	−0.037	+0.08		
31.2	0.0578	n 0.8919	n 0.5099	1.3040	−0.038	+0.08		

N° 52 — β *Octantis*

1895.0	*a* 0.8115 −5	*b* n 9.6420 −2	*c* 9.6463 −2	*d* n 9.2344 −8	μ	μ′	α	δ
	a′ 1.2718 0	*b′* 9.5577 −6	*c′* n 9.4723 −7	*d′* n 9.9653 0	−0ˢ.039	−0″.011	22ʰ35ᵐ 38ˢ.610	−81°55′ 54″.63
	A	B	C	D				
Eue. 1.2	8.5842	n 0.9381	n 0.5619	1.3022	0ˢ.000	0″.00		
11.1	8.8978	n 0.9369	n 0.8350	1.2795	−0.001	0.00		
21.1	9.0449	n 0.9432	n 0.9917	1.2411	−0.002	0.00		
31.1	9.1511	n 0.9581	n 1.0959	1.1839	−0.003	0.00		
Feb. 10.0	9.2539	n 0.9665	n 1.1683	1.1020	−0.004	0.00		
20.0							35ˢ.037	55′58″.13
Mar. 2.0							35.213	54.47
12.0							35.749	50.61
21.9							36.406	46.80
31.9							37.215	43.33
Abr. 10.9							38.320	40.09
20.9							39.622	37.03
30.8							40.988	34.36
May. 10.8							42.458	32.23
20.8							44.100	30.64
30.8							45.816	29.29
Jun. 9.7							47.437	28.55
19.7	9.7310	n 0.9197	n 9.6152	n 1.3105	−0.018	0.00		
29.7	9.7636	n 0.9264	0.4301	n 1.3061	−0.019	−0.01		
Jul. 9.6	9.7941	n 0.9269	0.7573	n 1.2894	−0.020	−0.01		
19.6	9.8155	n 0.9265	0.9341	n 1.2594	−0.021	−0.01		
29.6	9.8356	n 0.9377	1.0506	n 1.2141	−0.022	−0.01		
Ago. 8.6	9.8562	n 0.9503	1.1323	n 1.1495	−0.023	−0.01		
18.5							56.217	37.89
28.5							56.558	40.70
Set. 7.5							56.683	43.76
17.4							56.558	46.55
27.4							56.046	49.26
Oct. 7.4							55.263	52.00
17.4							54.375	54.25
27.3							53.249	55.97
Nov. 6.3							51.875	57.28
16.3							50.489	58.11
26.3							49.114	58.23
Dic. 6.2							47.687	55 57.62
16.2	0.0349	n 0.8927	0.2367	1.3037	−0.037	−0.01		
26.2	0.0482	n 0.8967	n 0.2028	1.3090	−0.038	−0.01		
31.2	0.0579	n 0.8919	n 0.5108	1.3040	−0.039	−0.01		

N° 54 — γ_1 *Octantis*

1895.0	*a* 0.5687 −3	*b* n 9.7097 −3	*c* 9.7134 −3	*d* n 8.5023 −9	μ	μ'	α	δ
	a' 1.3013 0	*b'* 8.7877 −19	*c'* n 7.6955 −272	*d'* n 9.9955 −1	−0ˢ.031	−0″.001	23ʰ45ᵐ 56ˢ.076	−82°36′ 8″.54
	A	B	C	D				
Ene. 1.2	8.5854	n 0.9382	n 0.5638	1.3031	0ˢ.000	0″.00		
11.2	8.8991	n 0.9369	n 0.8359	1.2794	−0.001	0.00		
21.2	9.0458	n 0.9432	n 0.9923	1.2409	−0.002	0.00		
31.1	9.1513	n 0.9581	n 1.0962	1.1836	−0.003	0.00		
Feb. 10.1	9.2541	n 0.9666	n 1.1686	1.1016	−0.004	0.00		
20.1	9.3136	n 0.9686	n 1.2186	0.9838	−0.004	0.00		
							52ˢ.333	36′10″.85
Mar. 2.0								
12.0							52.262	6.89
22.0							52.347	36 2.88
32.0							52.636	35 59.08
Abr. 10.9							53.281	55.34
20.9							54.173	51.70
30.9							55.181	48.30
May. 10.8							56.390	45.40
20.8							57.866	42.90
30.8							59.465	40.63
Jun. 9.8							61.061	38.97
19.7							62.759	38.04
29.7							64.575	37.44
Jul. 9.7	9.7942	n 0.9270	0.7584	n 1.2893	−0.016	0.00		
19.7	9.8157	n 0.9266	0.9348	n 1.2592	−0.016	0.00		
29.6	9.8357	n 0.9377	1.0510	n 1.2139	−0.017	0.00		
Ago. 8.6	9.8562	n 0.9503	1.1327	n 1.1492	−0.018	0.00		
18.6	9.8752	n 0.9529	1.1916	n 1.0583	−0.019	0.00		
28.6	9.8879	n 0.9558	1.2326	n 0.9274	−0.020	0.00		
Set. 7.5							73.258	48.23
17.5							73.577	51.03
27.5							73.474	53.99
Oct. 7.4							73.087	57.11
17.4							72.509	35 59.87
27.4							71.592	36 2.27
Nov. 6.4							70.349	4.45
16.3							69.008	6.16
26.3							67.572	7.22
Dic. 6.3							65.964	7.59
16.2							64.296	7.48
26.2							62.740	6.80
31.2							61.947	36 6.05

EFEMÉRIDES DE ESTRELLAS DE TIEMPO

EFEMÉRIDES DE ESTRELLAS DE TIEMPO

FECHA	γ PEGASI				12 CETI				β CETI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	0^h7^m		$+14°35'$		0^h24^m		$-4°31'$		0^h38^m		$-18°33'$	
(Dic. 30.2)	49ˢ.49	− .11	63″.9	− 0.7	40ˢ.88	− .10	76″.2	− 0.6	19ˢ.47	− .11	52″.8	− 0.6
Ene. 9.2	49.38	.10	63.1	0.8	40.77	− .10	76.8	0.5	19.35	.11	53.3	− 0.3
19.2	49.28	.09	62.2	0.9	40.67	.09	77.2	0.4	19.24	.11	53.5	0.0
29.2	49.19	.08	61.3	1.0	40.58	.08	77.6	0.3	19.13	.10	53.4	+ 0.2
Feb. 8.1	49.12	.06	60.3	1.0	40.51	.07	77.8	− 0.1	19.04	.09	53.0	0.5
18.1	49.06	.04	59.4	0.9	40.44	.05	77.8	+ 0.1	18.96	.07	52.4	0.8
28.1	49.04	− .01	58.5	0.8	40.41	− .02	77.6	0.3	18.90	.04	51.5	1.0
Mar. 10.0	49.04	+ .02	57.7	0.7	40.40	+ .01	77.3	0.5	18.88	− .01	50.3	1.3
20.0	49.08	.06	57.1	0.5	40.42	.04	76.7	0.7	18.88	+ .02	48.9	1.5
30.0	49.16	.10	56.8	− 0.2	40.48	.08	75.9	0.9	18.93	.06	47.3	1.8
Abr. 9.0	49.28	.14	56.8	+ 0.1	40.58	.12	74.8	1.2	19.01	.10	45.4	2.0
18.9	49.44	.18	57.0	0.4	40.72	.16	73.5	1.4	19.13	.15	43.3	2.2
28.9	49.64	.22	57.5	0.7	40.90	.20	72.0	1.6	19.30	.19	41.1	2.3
May. 8.9	49.88	.26	58.4	1.0	41.11	.24	70.2	1.8	19.51	.23	38.8	2.4
18.8	50.15	.29	59.6	1.3	41.37	.27	68.3	2.0	19.76	.26	36.3	2.4
28.8	50.45	.31	61.0	1.6	41.65	.29	66.3	2.1	20.03	.29	33.9	2.4
Jun. 7.8	50.77	.32	62.7	1.8	41.95	.31	64.2	2.1	20.33	.31	31.5	2.4
17.8	51.10	.33	64.6	2.0	42.27	.32	62.1	2.1	20.66	.32	29.2	2.3
27.7	51.43	.33	66.7	2.1	42.59	.32	59.9	2.1	20.99	.33	27.0	2.1
Jul. 7.7	51.76	.32	68.9	2.2	42.91	.32	57.9	2.0	21.32	.33	25.0	1.8
17.7	52.07	.30	71.1	2.2	43.22	.31	56.0	1.8	21.65	.32	23.3	1.5
27.7	52.36	.28	73.3	2.2	43.52	.29	54.2	1.6	21.96	.30	21.9	1.2
Ago. 6.6	52.63	.25	75.5	2.1	43.79	.26	52.7	1.4	22.25	.27	20.9	0.9
16.6	52.86	.22	77.6	2.0	44.03	.22	51.4	1.2	22.51	.24	20.1	0.6
26.6	53.06	.18	79.5	1.9	44.24	.19	50.4	0.9	22.74	.21	19.8	+ 0.2
Set. 5.5	53.22	.14	81.2	1.7	44.42	.16	49.6	0.6	22.93	.17	19.8	− 0.2
15.5	53.34	.10	82.8	1.5	44.55	.12	49.2	0.3	23.08	.13	20.1	0.5
25.5	53.42	.06	84.2	1.2	44.65	.08	49.0	+ 0.1	23.20	.09	20.7	0.7
Oct. 5.5	53.47	+ .03	85.3	1.0	44.72	.05	49.0	− 0.1	23.27	.06	21.5	0.9
15.4	53.48	.00	86.2	0.8	44.75	+ .02	49.2	0.3	23.31	+ .02	22.6	1.1
25.4	53.47	− .03	86.9	0.6	44.74	− .01	49.7	0.5	23.31	− .01	23.8	1.2
Nov. 4.4	53.43	.05	87.3	0.3	44.72	.04	50.2	0.6	23.29	.01	25.1	1.3
14.4	53.37	.07	87.6	+ 0.1	44.67	.06	50.9	0.7	23.24	.06	26.4	1.3
24.3	53.29	.08	87.6	− 0.1	44.60	.08	51.6	0.7	23.17	.08	27.6	1.2
Dic. 4.3	53.20	.09	87.4	0.3	44.52	.09	52.3	0.7	23.08	.09	28.8	1.1
14.3	53.10	.10	87.1	0.5	44.43	.09	53.0	0.7	22.98	.10	29.8	0.9
24.3	52.99	.11	86.5	0.6	44.33	.10	53.7	0.7	22.87	.11	30.6	0.7
34.2	52.89	− .11	85.8	− 0.7	44.23	− .10	54.4	− 0.6	22.75	− .11	31.3	− 0.5

FECHA	ε PISCIUM				θ_1 CETI				η PISCIUM			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	0^h57^m		+ 7°19′		1^h18^m		— 8°43′		1^h25^m		+ 14°48′	
(Dic. 30.3)	29ˢ.75	− .10	33″.1	− 0.6	46ˢ.91	− .10	31″.7	− 0.7	52ˢ.11	− .10	23″.6	− 0.4
Ene. 9.2	29.64	.11	32.5	0.6	46.81	.11	32.4	0.6	52.00	.11	23.1	0.5
19.2	29.53	.11	31.9	0.6	46.69	.12	32.9	0.4	51.89	.12	22.5	0.6
29.2	29.43	.10	31.3	0.6	46.58	.11	33.2	− 0.2	51.77	.12	21.8	0.7
Feb. 8.1	29.33	.09	30.6	0.6	46.46	.10	33.3	0.0	51.65	.11	21.1	0.7
18.1	29.24	.08	30.1	0.5	46.36	.09	33.2	+ 0.2	51.54	.10	20.3	0.7
28.1	29.17	.06	29.7	0.4	46.28	.07	32.9	0.4	51.44	.08	19.6	0.7
Mar. 10.1	29.13	− .03	29.4	− 0.2	46.21	.05	32.4	0.6	51.38	.05	19.0	0.6
20.1	29.12	+ .01	29.3	0.0	46.18	− .02	31.6	0.9	51.34	− .02	18.5	0.4
30.1	29.15	.05	29.4	+ 0.2	46.18	+ .02	30.6	1.2	51.34	+ .02	18.2	− 0.2
Abr. 9.0	29.22	.09	29.7	0.4	46.23	.06	29.3	1.4	51.38	.06	18.0	0.0
19.0	29.33	.13	30.3	0.7	46.31	.10	27.8	1.6	51.47	.11	18.1	+ 0.2
29.0	29.48	.17	31.1	1.0	46.44	.15	26.1	1.8	51.60	.16	18.4	0.5
May. 8.9	29.67	.21	32.2	1.2	46.61	.19	24.2	2.0	51.77	.20	19.0	0.7
18.9	29.91	.25	33.5	1.4	46.82	.23	22.2	2.1	51.99	.24	19.9	1.0
28.9	30.17	.28	35.1	1.6	47.06	.26	20.0	2.2	52.25	.27	21.0	1.3
Jun. 7.8	30.47	.30	36.8	1.8	47.34	.29	17.8	2.2	52.53	.30	22.4	1.5
17.8	30.78	.32	38.7	1.9	47.64	.31	15.6	2.2	52.84	.32	24.0	1.7
27.8	31.10	.32	40.7	2.0	47.95	.32	13.4	2.1	53.16	.33	25.7	1.8
Jul. 7.8	31.43	.32	42.8	2.0	48.27	.32	11.3	2.0	53.50	.33	27.6	1.9
17.7	31.75	.31	44.8	2.0	48.59	.32	9.4	1.8	53.83	.32	29.5	2.0
27.7	32.05	.30	46.8	1.9	48.91	.31	7.6	1.6	54.15	.31	31.5	2.0
Ago. 6.7	32.34	.28	48.6	1.8	49.20	.29	6.2	1.3	54.46	.29	33.4	1.9
16.6	32.61	.25	50.4	1.6	49.48	.26	5.0	1.0	54.74	.27	35.3	1.8
26.6	32.84	.22	51.9	1.4	49.73	.23	4.1	0.7	55.00	.24	37.1	1.7
Set. 5.6	33.04	.18	53.3	1.2	49.95	.20	3.5	0.4	55.23	.21	38.7	1.5
15.6	33.21	.15	54.4	1.0	50.13	.17	3.2	+ 0.1	55.43	.18	40.1	1.3
25.5	33.34	.12	55.3	0.8	50.28	.13	3.3	− 0.2	55.59	.15	41.4	1.2
Oct. 5.5	33.44	.08	55.9	0.6	50.40	.10	3.6	0.4	55.73	.11	42.5	1.0
15.5	33.51	.05	56.4	0.3	50.48	.07	4.2	0.6	55.82	.08	43.3	0.8
25.5	33.54	+ .02	56.6	+ 0.1	50.53	.04	4.9	0.8	55.89	.05	44.0	0.6
Nov. 4.4	33.55	− .01	56.7	− 0.1	50.55	+ .01	5.8	0.9	55.93	+ .02	44.5	0.4
14.4	33.53	.03	56.6	0.2	50.54	− .02	6.8	1.0	55.94	.00	44.8	+ 0.2
24.4	33.49	.05	56.3	0.3	50.51	.04	7.9	1.0	55.92	− .03	44.9	0.0
Dic. 4.3	33.43	.07	55.9	0.4	50.46	.06	8.9	1.0	55.88	.05	44.8	− 0.1
14.3	33.36	.08	55.5	0.5	50.39	.08	9.9	0.9	55.82	.07	44.6	0.2
24.3	33.27	.09	54.9	0.6	50.30	.10	10.7	0.8	55.74	.09	44.3	0.4
34.3	33.17	− .10	54.3	− 0.6	50.19	− .11	11.5	− 0.7	55.64	− .11	43.8	− 0.5

FECHA	o PISCIUM				β ARIETIS				α ARIETIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	1h39m		+ 8°37′		1h48m		+ 20°17′		2h1m		+ 22°58′	
(Dic.30.3)	51s.31	− .10	50″.1	− 0.6	50s.68	− .10	50″.6	− 0.2	15s.65	− .10	7″.9	− 0.2
Ene. 9.3	51.21	.11	49.6	0.6	50.58	.12	50.3	0.4	15.54	.12	7.6	0.3
19.2	51.10	.12	49.0	0.6	50.45	.13	49.8	0.6	15.41	.13	7.2	0.5
29.2	50.98	.12	48.4	0.6	50.32	.13	49.2	0.7	15.28	.14	6.7	0.6
Feb. 8.2	50.86	.12	47.9	0,5	50.19	.13	48.4	0.8	15.14	.14	6.0	0.7
18.1	50.75	.11	47.3	0.5	50.06	.12	47.6	0.8	15.00	.13	5.1	0.8
28.1	50.65	.09	46.9	0.4	49.95	.10	46.8	0.8	14.88	.11	4.3	0.9
Mar. 10.1	50.57	.06	46.6	0.2	49.86	.07	46.0	0.8	14.78	.09	3.4	0.9
20.1	50.52	− .03	46.4	− 0.1	49.80	− .04	45.2	0.7	14.70	.05	2.5	0.8
30.0	50.51	+ .01	46.4	+ 0.1	49.78	.00	44.6	0.6	14.67	− .01	1.8	0.7
Abr. 9.0	50.54	.05	46.6	0.3	49.79	+ .04	44.1	0.4	14.67	+ .03	1.1	0.6
19.0	50.61	.09	47.1	0.5	49.86	.09	43.8	− 0.2	14.73	.08	0.7	0.4
29.0	50.72	.14	47.7	0.8	49.97	.14	43.7	+ 0.1	14.83	.13	0.4	− 0.1
May. 8.9	50.88	.18	48.7	1.0	50.13	.18	44.0	0.4	14.98	.18	0.4	+ 0.2
18.9	51.08	.22	49.8	1.3	50.34	.22	44.5	0.6	15.18	.22	0.7	0.4
28.9	51.32	.25	51.2	1.5	50.58	.26	45.2	0.9	15.42	.26	1.3	0.7
Jun. 7.8	51.59	.28	52.8	1.7	50.86	.29	46.2	1.2	15.70	.29	2.1	1.0
17.8	51.89	.30	54.5	1.8	51.17	.32	47.5	1.4	16.00	.32	3.2	1.2
27.8	52.20	.32	56.3	1.9	51.50	.33	49.0	1.6	16.33	.33	4.5	1.4
Jul. 7.8	52.52	.32	58.2	1.9	51.83	.34	50.6	1.7	16.67	.34	6.1	1.6
17.7	52.85	.32	60.2	1.9	52.17	.31	52.4	1.8	17.01	.34	7.7	1.7
27.7	53.17	.31	62.1	1.8	52.51	.33	54.3	1.9	17.35	.34	9.5	1.8
Ago. 6.7	53.47	.30	63.9	1.7	52.83	.31	56.2	1.9	17.69	.32	11.3	1.8
16.6	53.76	.28	65.5	1.6	53.14	.29	58.0	1.9	18.00	.30	13.2	1.8
26.6	54.02	.25	67.1	1.4	53.42	.27	59.9	1.8	18.29	.28	15.0	1.8
Set. 5.6	54.26	.22	68.4	1.2	53.67	.24	61.6	1.7	18.56	.25	16.8	1.7
15.6	54.47	.19	69.5	1.0	53.89	.21	63.2	1.6	18.80	.22	18.4	1.6
25.5	54.64	.16	70.4	0.8	54.09	.18	64.7	1.4	19.01	.19	20.0	1.5
Oct. 5.5	54.78	.13	71.1	0.6	54.25	.14	66.0	1.2	19.18	.16	21.4	1.3
15.5	54.89	.10	71.6	0.4	54.37	.11	67.2	1.0	19.32	.13	22.7	1.2
25.4	54.97	.07	71.8	+ 0.2	54.47	.08	68.1	0.9	19.44	.10	23.8	1.0
Nov. 4.4	55.02	.01	71.9	0.0	54.53	.05	68.9	0.7	19.52	.06	24.7	0.8
14.4	55.04	+ .01	71.8	− 0.1	54.57	+ .02	69.5	0.5	19.56	+ .03	25.5	0.7
24.4	55.04	− .02	71.6	0.3	54.57	− .01	69.9	0.3	19.58	.00	26.0	0.5
Dic. 4.3	55.01	.01	71.3	0.4	54.55	.04	70.2	+ 0.2	19.57	− .03	26.4	0.3
14.3	54.96	.06	70.9	0.5	54.50	.06	70.2	0.0	19.53	.05	26.6	+ 0.1
24.3	54.88	.08	70.4	0.5	54.42	.08	70.1	− 0.2	19.46	.08	26.7	− 0.1
34.3	54.79	− .10	69.8	− 0.6	54.33	− .11	69.8	− 0.3	19.37	− .10	26.5	− 0.2

FECHA	ξ_1 CETI				ξ_2 CETI				γ CETI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	2^h7^m		$+8°21'$		2^h22^m		$+7°59'$		2^h37^m		$+2°47'$	
(Dic. 30.3)	26ˢ.63	− .08	20″.8	− 0.5	35ˢ.21	− .07	27″.9	− 0.6	52ˢ.32	− .07	40″.7	− 0.7
Ene. 9.3	26.53	.10	20.3	0.5	35.12	.10	27.3	0.5	52.23	.09	40.0	0.6
19.2	26.42	.12	19.8	0.5	35.02	.12	26.8	0.5	52.12	.11	39.4	0.6
29.2	26.30	.12	19.2	0.5	34.89	.13	26.3	0.5	52.00	.13	38.8	0.5
Feb. 8.2	26.17	.13	18.7	0.5	34.76	.13	25.8	0.5	51.87	.14	38.4	0.4
18.2	26.04	.12	18.2	0.4	34.63	.13	25.3	0.4	51.73	.13	38.1	0.3
28.2	25.93	.11	17.8	0.3	34.51	.12	25.0	0.3	51.60	.12	37.8	− 0.1
Mar. 10.1	25.83	.09	17.5	0.2	34.40	.10	24.7	− 0.2	51.48	.10	37.8	0.0
20.1	25.76	.06	17.4	− 0.1	34.31	.07	24.6	0.0	51.39	.08	37.9	+ 0.2
30.1	25.72	− .02	17.4	+ 0.1	34.26	− .03	24.6	+ 0.1	51.32	.05	38.2	0.4
Abr. 9.1	25.72	+ .02	17.6	0.3	34.24	+ .01	24.8	0.3	51.29	− .01	38.7	0.6
19.0	25.76	.06	18.0	0.5	34.28	.05	25.3	0.5	51.30	+ .03	39.4	0.8
29.0	25.85	.11	18.7	0.7	34.35	.10	25.9	0.7	51.36	.08	40.3	1.0
May. 9.0	25.98	.16	19.5	1.0	34.47	.14	26.7	0.9	51.46	.12	41.4	1.2
18.9	26.16	.20	20.6	1.2	34.63	.18	27.8	1.2	51.60	.17	42.7	1.4
28.9	26.38	.23	21.9	1.4	34.84	.22	29.1	1.4	51.79	.21	44.2	1.6
Jun. 7.9	26.63	.26	23.4	1.6	35.08	.25	30.5	1.5	52.01	.24	45.8	1.7
17.9	26.91	.29	25.1	1.7	35.35	.28	32.1	1.6	52.27	.2[illegible]	47.6	1.8
27.8	27.21	.31	26.8	1.8	35.64	.30	33.9	1.7	52.55	.29	49.4	1.8
Jul. 7.8	27.53	.32	28.6	1.8	35.96	.32	35.6	1.8	52.86	.31	51.3	1.8
17.8	27.85	.32	30.5	1.8	36.28	.32	37.4	1.8	53.17	.31	53.1	1.8
27.7	28.17	.32	32.3	1.8	36.60	.32	39.2	1.7	53.49	.31	54.9	1.7
Ago. 6.7	28.49	.31	34.0	1.7	36.91	.31	40.9	1.6	53.80	.31	56.5	1.5
16.7	28.78	.29	35.6	1.5	37.22	.29	42.4	1.5	54.10	.30	58.0	1.3
26.7	29.06	.27	37.1	1.3	37.50	.27	43.8	1.3	54.39	.28	59.2	1.1
Set. 5.6	29.32	.24	38.3	1.1	37.76	.25	45.0	1.1	54.66	.26	60.2	0.9
15.6	29.55	.21	39.4	0.9	38.00	.23	46.0	0.9	54.91	.23	61.0	0.6
25.5	29.74	.18	40.2	0.7	38.22	.20	46.8	0.7	55.13	.20	61.5	0.4
Oct. 5.5	29.91	.15	40.8	0.5	38.40	.17	47.4	0.4	55.32	.18	61.7	+ 0.1
15.5	30.05	.12	41.2	0.3	38.55	.14	47.7	+ 0.2	55.48	.15	61.7	− 0.1
25.5	30.16	.09	41.4	+ 0.1	38.67	.11	47.8	0.0	55.62	.12	61.5	0.3
Nov. 4.5	30.24	.06	41.4	− 0.1	38.77	.08	47.8	− 0.1	55.72	.09	61.1	0.5
14.4	30.29	.03	41.3	0.2	38.83	.05	47.6	0.2	55.80	.06	60.6	0.6
24.4	30.31	+ .01	41.0	0.3	38.86	+ .02	47.3	0.3	55.84	+ .03	59.9	0.7
Dic. 4.4	30.30	− .02	40.6	0.4	38.87	− .01	46.9	0.4	55.86	.00	59.2	0.7
14.4	30.26	.05	40.2	0.5	38.85	.01	46.4	0.5	55.84	− .03	58.4	0.7
24.3	30.20	.07	39.7	0.5	38.80	.06	45.9	0.5	55.80	.06	57.7	0.7
34.3	30.12	− .09	39.1	− 0.5	38.72	− .08	45.3	− 0.6	55.73	− .08	57.0	− 0.7

FECHA	α CETI				ζ ARIETIS				ε ERIDANI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	2^h56^m		+ 3°40′		3^h8^m		+ 20°39′		3^h27^m		— 9°48′	
(Dic. 30.3)	48ˢ.25	— .06	45″.5	— 0.7	52ˢ.78	— .06	29″.4	— 0.1	60ˢ.08	— .06	45″.8	— 1.2
Ene. 9.3	48.18	.09	44.8	0.6	52.71	.09	29.3	0.2	60.00	.09	46.9	1.0
19.2	48.08	.11	44.2	0.6	52.61	.11	29.1	0.3	59.90	.11	47.9	0.8
29.2	47.96	.13	43.7	0.5	52.48	.13	28.8	0.4	59.78	.13	48.7	0.6
Feb. 8.2	47.82	.14	43.2	0.4	52.34	.15	28.4	0.4	59.63	.15	49.2	0.4
18.2	47.68	.14	42.9	0.3	52.18	.15	27.9	0.5	59.48	.16	49.5	— 0.1
28.2	47.54	.13	42.6	— 0.2	52.03	.15	27.4	0.5	59.32	.16	49.5	+ 0.2
Mar. 10.1	47.41	.12	42.5	0.0	51.89	.13	26.8	0.5	59.17	.15	49.2	0.4
20.1	47.31	.09	42.6	+ 0.2	51.77	.11	26.2	0.5	59.03	.13	48.7	0.6
30.1	47.22	.06	42.8	0.3	51.67	.08	25.7	0.5	58.91	.10	48.0	0.9
Abr. 9.1	47.18	— .02	43.2	0.5	51.61	— .04	25.3	0.4	58.83	.06	47.0	1.1
19.0	47.17	+ .02	43.8	0.7	51.60	+ .01	24.9	0.3	58.78	— .02	45.7	1.4
29.0	47.21	.06	44.7	0.9	51.63	.06	24.7	— 0.1	58.78	+ .02	44.2	1.6
May. 9.0	47.29	.10	45.7	1.1	51.71	.11	24.7	+ 0.1	58.83	.06	42.5	1.8
19.0	47.42	.15	46.9	1.3	51.84	.16	24.9	0.3	58.91	.11	40.6	2.0
28.9	47.59	.19	48.3	1.5	52.02	.20	25.3	0.5	59.01	.15	38.6	2.1
Jun. 7.9	47.80	.23	49.9	1.6	52.24	.24	25.9	0.7	59.22	.19	36.4	2.2
17.9	48.05	.26	51.5	1.7	52.50	.27	26.7	0.9	59.43	.23	34.2	2.2
27.8	48.32	.28	53.3	1.8	52.79	.30	27.7	1.1	59.67	.26	32.0	2.2
Jul. 7.8	48.62	.30	55.1	1.8	53.10	.32	28.9	1.2	59.94	.28	29.9	2.1
17.8	48.92	.31	56.9	1.7	53.43	.33	30.1	1.3	60.23	.29	27.9	1.9
27.7	49.24	.31	58.5	1.6	53.76	.33	31.5	1.4	60.53	.30	26.0	1.7
Ago. 6.7	49.55	.31	60.1	1.5	54.10	.33	32.9	1.4	60.84	.31	24.4	1.5
16.7	49.86	.30	61.6	1.3	54.43	.32	34.3	1.4	61.14	.30	23.0	1.2
26.7	50.16	.29	62.8	1.1	54.74	.31	35.7	1.4	61.44	.29	22.0	0.9
Set. 5.6	50.43	.27	63.8	0.9	55.05	.29	37.1	1.3	61.73	.28	21.3	0.5
15.6	50.69	.25	64.6	0.6	55.33	.27	38.3	1.2	62.00	.26	21.0	+ 0.1
25.6	50.93	.22	65.1	0.4	55.59	.25	39.4	1.1	62.25	.24	21.1	— 0.2
Oct. 5.6	51.14	.20	65.3	+ 0.1	55.83	.22	40.4	1.0	62.48	.21	21.5	0.5
15.5	51.32	.17	65.3	— 0.1	56.04	.20	41.3	0.8	62.68	.19	22.2	0.9
25.5	51.47	.14	65.1	0.3	56.22	.17	42.1	0.7	62.85	.16	23.2	1.1
Nov. 4.5	51.60	.11	64.7	0.5	56.37	.14	42.7	0.6	63.00	.13	24.4	1.3
14.4	51.69	.08	64.2	0.6	56.49	.10	43.1	0.4	63.11	.10	25.8	1.4
24.4	51.76	.05	63.5	0.7	56.58	.07	43.5	0.3	63.20	.07	27.3	1.5
Dic 4.4	51.79	+ .03	62.8	0.7	56.63	+ .04	43.8	0.2	63.24	+ .03	28.9	1.5
14.4	51.79	— .01	62.1	0.7	56.65	.00	43.9	+ 0.1	63.26	.00	30.4	1.4
24.3	51.76	.04	61.3	0.7	56.64	— .03	44.0	0.0	63.24	— .03	31.8	1.3
34.3	51.71	— .07	60.6	— 0.7	56.59	— .07	43.9	— 0.1	63.19	— .07	33.1	— 1.2

FECHA	η TAURI				γ ERIDANI				γ TAURI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	3h41m		+23°46′		3h53m		−13°47′		4h13m		+15°22′	
(Dic.30.4)	15s.54	−.04	60″.3	+0.2	9s.09	−.01	83″.6	−1.5	50s.24	.00	35″.6	−0.2
Ene. 9.3	15.49	.07	60.4	+0.1	9.03	.08	85.0	1.3	50.22	−.04	35.3	0.3
19.2	15.40	.10	60.4	−0.1	8.94	.11	86.2	1.1	50.15	.08	35.1	0.3
29.2	15.29	.13	60.3	0.2	8.82	.13	87.1	0.8	50.06	.11	34.8	0.3
Feb. 8.2	15.14	.15	60.1	0.3	8.67	.15	87.8	0.5	49.93	.14	34.5	0.3
18.3	14.98	.16	59.7	0.4	8.51	.16	88.2	−0.2	49.78	.15	34.2	0.3
28.3	14.82	.16	59.3	0.5	8.34	.17	88.3	+0.1	49.62	.16	33.9	0.3
Mar. 10.2	14.66	.15	58.8	0.5	8.18	.16	88.0	0.4	49.46	.15	33.6	0.3
20.1	14.51	.13	58.2	0.6	8.02	.14	87.5	0.7	49.31	.14	33.4	0.2
30.1	14.39	.10	57.6	0.6	7.89	.12	86.7	0.9	49.18	.12	33.2	0.2
Abr. 9.1	14.31	.06	57.1	0.5	7.78	.09	85.6	1.2	49.07	.09	33.0	−0.1
19.1	14.26	−.02	56.6	0.4	7.71	.05	84.3	1.5	49.00	.05	33.0	0.0
29.0	14.27	+.03	56.2	0.3	7.68	−.01	82.7	1.7	48.98	−.01	33.0	+0.1
May. 9.0	14.32	.08	56.0	−0.2	7.70	+.04	80.9	1.9	48.99	+.04	33.2	0.3
19.0	14.43	.13	55.9	0.0	7.76	.09	78.9	2.1	49.06	.09	33.6	0.4
28.9	14.57	.17	56.0	+0.2	7.87	.13	76.7	2.2	49.17	.13	34.1	0.6
Jun. 7.9	14.77	.21	56.3	0.4	8.02	.17	74.4	2.3	49.33	.18	34.7	0.7
17.9	15.00	.25	56.7	0.6	8.21	.21	72.1	2.3	49.52	.22	35.5	0.9
27.9	15.27	.28	57.4	0.8	8.41	.24	69.8	2.3	49.76	.25	36.4	1.0
Jul. 7.8	15.57	.31	58.2	0.9	8.69	.27	67.5	2.2	50.02	.27	37.4	1.1
17.8	15.89	.33	59.2	1.0	8.96	.29	65.4	2.0	50.30	.29	38.5	1.1
27.8	16.22	.34	60.2	1.1	9.26	.30	63.5	1.8	50.61	.31	39.6	1.1
Ago. 6.8	16.56	.34	61.4	1.2	9.56	.30	61.8	1.5	50.92	.32	40.7	1.1
16.7	16.90	.34	62.5	1.2	9.87	.30	60.4	1.2	51.24	.32	41.8	1.0
26.7	17.24	.33	63.7	1.2	10.17	.30	59.4	0.8	51.56	.32	42.8	0.9
Set. 5.7	17.56	.32	64.9	1.1	10.47	.29	58.7	+0.4	51.88	.31	43.7	0.8
15.6	17.87	.30	66.0	1.1	10.75	.28	58.5	0.0	52.18	.30	44.4	0.7
25.6	18.16	.28	67.1	1.0	11.02	.26	58.6	−0.4	52.47	.29	45.1	0.5
Oct. 5.6	18.43	.26	68.0	0.9	11.27	.24	59.2	0.7	52.75	.27	45.5	0.4
15.6	18.67	.23	68.9	0.8	11.49	.21	60.1	1.0	53.01	.25	45.8	0.2
25.5	18.89	.20	69.6	0.7	11.69	.18	61.3	1.3	53.24	.22	46.0	+0.1
Nov. 4.5	19.08	.17	70.3	0.6	11.86	.15	62.8	1.6	53.45	.20	46.0	0.0
14.5	19.24	.14	70.8	0.5	12.00	.12	64.5	1.7	53.64	.17	45.9	−0.1
24.5	19.36	.11	71.3	0.5	12.11	.09	66.3	1.8	53.79	.13	45.8	0.2
Dic. 4.4	19.45	.07	71.7	0.4	12.18	.05	68.1	1.8	53.90	.10	45.6	0.2
14.4	19.50	+.03	72.0	0.3	12.21	+.02	69.9	1.8	53.98	.06	45.3	0.3
24.4	19.52	−.01	72.3	0.2	12.21	−.02	71.6	1.7	54.02	+.02	45.0	0.3
34.4	19.49	−0.5	72.4	+0.1	12.17	−.06	73.2	−1.5	54.02	−.02	44.8	−0.2

FECHA	ε TAURI				α TAURI (*Aldebaran*)				11 ORIONIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	4ʰ22ᵐ		**+ 18°56′**		**4ʰ29ᵐ**		**+ 16°18′**		**4ʰ58ᵐ**		**+ 15°15′**	
(Dic. 30.4)	30ˢ.31	.00	60″.4	− 0.1	54ˢ.95	+ .01	2″.4	− 0.2	35ˢ.45	+ .03	36″.4	− 0.3
Ene. 9.3	30.29	− .04	60.3	0.1	54.94	− .03	2.2	0.2	35.47	− .01	36.1	0.3
19.3	30.23	.08	60.2	0.1	54.89	.07	1.9	0.2	35.44	.05	35.9	0.2
29.3	30.11	.11	60.1	0.2	54.80	.10	1.7	0.2	35.36	.09	35.6	0.2
Feb. 8.3	30.02	.14	59.9	0.2	54.68	.13	1.5	0.2	35.25	.12	35.4	0.2
18.2	29.87	.16	59.7	0.2	54.53	.15	1.2	0.2	35.12	.14	35.2	0.2
28.2	29.70	.16	59.4	0.3	54.37	.16	1.0	0.3	34.96	.16	35.0	0.2
Mar. 10.2	29.54	.16	59.1	0.3	54.21	.16	0.7	0.3	34.80	.17	34.8	0.2
20.2	29.38	.15	58.8	0.3	54.05	.15	0.5	0.2	34.63	.16	34.7	0.1
30.1	29.24	.13	58.5	0.3	53.91	.13	0.2	0.2	34.48	.14	34.6	0.1
Abr. 9.1	29.13	.10	58.3	0.2	53.79	.10	0.1	− 0.1	34.35	.12	34.5	− 0.1
19.1	29.05	.06	58.1	0.2	53.71	.06	0.0	0.0	34.25	.08	34.4	0.0
29.0	29.02	− .01	57.9	− 0.1	53.67	− .02	0.0	+ 0.1	34.18	− .01	34.5	+ 0.1
May. 9.0	29.03	+ .04	57.9	+ 0.1	53.67	+ .03	0.1	0.2	34.16	.00	34.7	0.2
19.0	29.09	.08	58.0	0.2	53.72	.07	0.4	0.3	34.18	+ .05	34.9	0.3
29.0	29.19	.13	58.3	0.3	53.82	.12	0.8	0.5	34.25	.09	35.3	0.4
Jun. 7.9	29.34	.17	58.7	0.5	53.96	.16	1.3	0.6	34.37	.13	35.8	0.6
17.9	29.54	.21	59.2	0.6	54.15	.20	2.0	0.7	34.52	.17	36.4	0.7
27.9	29.77	.25	59.9	0.7	54.37	.24	2.7	0.8	34.72	.21	37.2	0.8
Jul. 7.8	30.03	.28	60.7	0.8	54.62	.27	3.6	0.9	34.95	.24	38.0	0.8
17.8	30.32	.30	61.6	0.9	54.90	.29	4.6	1.0	35.20	.27	38.8	0.9
27.8	30.62	.31	62.5	0.9	55.20	.30	5.5	1.0	35.48	.29	39.7	0.9
Ago. 3.8	30.94	.32	63.5	1.0	55.51	.31	6.5	1.0	35.78	.30	40.6	0.9
16.7	31.27	.32	64.4	0.9	55.83	.32	7.5	0.9	36.09	.31	41.4	0.9
26.7	31.59	.32	65.4	0.9	56.14	.32	8.4	0.8	36.40	.32	42.1	0.8
Set. 5.7	31.91	.32	66.2	0.8	56.46	.31	9.2	0.7	36.71	.32	42.8	0.7
15.7	32.23	.31	67.0	0.7	56.77	.30	9.8	0.6	37.03	.31	43.3	0.6
25.6	32.53	.30	67.6	0.6	57.07	.29	10.4	0.5	37.34	.30	43.6	0.4
Oct. 5.6	32.83	.28	68.1	0.5	57.36	.27	10.7	0.3	37.63	.29	43.8	0.3
15.6	33.09	.26	68.5	0.4	57.63	.26	11.0	0.2	37.92	.28	43.9	+ 0.1
25.6	33.33	.24	68.8	0.2	57.88	.24	11.1	+ 0.1	38.19	.26	43.8	0.0
Nov. 4.5	33.56	.21	69.0	0.1	58.11	.21	11.1	0.0	38.44	.24	43.6	− 0.2
14.5	33.75	.18	69.1	+ 0.1	58.31	.18	11.1	− 0.1	38.66	.21	43.4	0.3
24.5	33.92	.15	69.1	0.0	58.47	.15	10.9	0.2	38.86	.18	43.0	0.4
Dic. 4.4	34.05	.11	69.1	0.0	58.61	.12	10.7	0.2	39.03	.14	42.6	0.4
14.4	34.14	.07	69.1	0.0	58.71	.08	10.4	0.3	39.14	.10	42.3	0.4
24.4	34.19	+ .03	69.0	− 0.1	58.76	+ .03	10.2	0.3	39.23	.06	41.9	0.4
34.4	34.19	− .01	68.9	− 0.1	58.77	− .02	10.0	− 0.3	39.27	+ .02	41.5	− 0.3

FECHA	β ORIONIS (*Rigel*)				δ ORIONIS				α LEPORIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	5^h9^m		$-8°19'$		5^h26^m		$-0°22'$		5^h28^m		$-17°53'$	
(Dic.30.4)	30ˢ.87	+ .02	17″.5	− 1.6	39ˢ.93	+ .05	30″.6	− 1.3	7ˢ.42	+ .03	46″.2	− 2.2
Ene. 9.4	30.88	− .02	19.0	1.5	39.95	.00	31.8	1.2	7.43	− .02	48.3	2.0
19.4	30.84	.06	20.4	1.3	39.93	− .04	32.9	1.0	7.39	.06	50.1	1.7
29.4	30.76	.10	21.6	1.1	39.87	.08	33.8	0.8	7.31	.10	51.7	1.4
Feb. 8.3	30.65	.13	22.5	0.8	39.78	.11	34.5	0.6	7.19	.13	53.0	1.1
18.3	30.51	.15	23.2	0.6	39.65	.14	35.1	0.5	7.04	.16	54.0	0.8
28.3	30.35	.17	23.6	0.3	39.50	.16	35.5	0.3	6.87	.18	54.6	0.3
Mar. 10.2	30.17	.17	23.8	− 0.1	39.34	.17	35.7	− 0.1	6.69	.19	54.9	− 0.1
20.2	30.00	.17	23.8	+ 0.2	39.17	.16	35.7	+ 0.1	6.50	.18	54.9	+ 0.2
30.2	29.84	.15	23.4	0.5	39.01	.15	35.6	0.3	6.31	.17	54.5	0.5
Abr. 9.2	29.69	.13	22.8	0.7	38.86	.13	35.3	0.4	6.15	.15	53.8	0.8
19.1	29.58	.10	22.0	0.9	38.74	.10	34.8	0.6	6.01	.12	52.8	1.1
29.1	29.49	.06	21.0	1.2	38.65	.07	34.1	0.8	5.90	.09	51.5	1.4
May. 9.1	29.45	− .02	19.7	1.4	38.60	− .03	33.2	1.0	5.82	.05	49.9	1.7
19.1	29.44	+ .02	18.3	1.6	38.59	+ .01	32.2	1.1	5.79	− .01	48.1	1.9
29.0	29.49	.06	16.6	1.7	38.63	.05	31.0	1.2	5.81	+ .03	46.1	2.1
Jun. 8.0	29.57	.10	14.8	1.8	38.70	.09	29.7	1.3	5.86	.08	44.0	2.2
18.0	29.69	.14	13.0	1.9	38.82	.13	28.3	1.4	5.96	.12	41.7	2.3
27.9	29.86	.18	11.0	1.9	38.97	.17	26.8	1.5	6.10	.16	39.4	2.3
Jul. 7.9	30.05	.21	9.1	1.9	39.16	.20	25.3	1.5	6.28	.19	37.0	2.3
17.9	30.28	.24	7.2	1.8	39.38	.23	23.8	1.4	6.48	.22	34.8	2.2
27.9	30.53	.26	5.5	1.7	39.63	.25	22.4	1.3	6.72	.25	32.7	2.0
Ago. 6.8	30.80	.28	3.9	1.5	39.88	.27	21.1	1.2	6.98	.27	30.9	1.7
16.8	31.08	.29	2.5	1.2	40.16	.28	20.0	1.0	7.25	.28	29.3	1.4
26.8	31.38	.29	1.4	0.9	40.45	.29	19.1	0.8	7.54	.29	28.0	1.0
Set. 5.8	31.67	.30	0.7	0.6	40.75	.30	18.4	0.5	7.84	.30	27.2	0.6
15.7	31.97	.30	0.3	+ 0.2	41.05	.30	18.0	+ 0.2	8.14	.30	26.8	+ 0.2
25.7	32.26	.29	0.3	− 0.2	41.34	.29	18.0	− 0.1	8.44	.30	26.8	− 0.2
Oct. 5.7	32.55	.28	0.6	0.5	41.63	.29	18.2	0.3	8.73	.29	27.3	0.7
15.6	32.83	.27	1.3	0.8	41.92	.28	18.7	0.6	9.03	.28	28.2	1.1
25.6	33.08	.25	2.3	1.1	42.19	.26	19.4	0.9	9.29	.26	29.6	1.5
Nov. 4.6	33.31	.23	3.6	1.4	42.44	.24	20.5	1.1	9.54	.24	31.2	1.8
14.6	33.53	.20	5.2	1.6	42.67	.22	21.7	1.3	9.76	.21	33.2	2.1
24.5	33.71	.17	6.9	1.7	42.88	.19	23.0	1.4	9.96	.18	35.4	2.2
Dic. 4.5	33.86	.13	8.7	1.8	43.05	.16	24.4	1.4	10.12	.14	37.7	2.3
14.5	33.97	.09	10.5	1.8	43.19	.12	25.8	1.4	10.24	.10	40.1	2.3
24.5	34.05	.05	12.3	1.7	43.28	.08	27.2	1.3	10.33	.06	42.4	2.2
34.4	34.08	+ .01	13.9	− 1.6	43.34	+ .03	28.5	− 1.2	10.36	− .02	44.5	− 2.0

FECHA	ε ORIONIS				α COLUMBAE				α ORIONIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	5^h30^m		$-1°15'$		5^h35^m		$-34°7'$		5^h49^m		$+7°23'$	
(Dic.30.4)	54ˢ.51	+ .05	62″.1	− 1.3	52ˢ.57	+ .01	44″.7	− 2.9	30ˢ.66	+ .08	21″.6	− 0.9
Ene. 9.4	54.54	+ .01	63.4	1.2	52.56	− .04	47.5	2.6	30.72	+ .03	20.8	0.8
19.4	54.52	− .03	64.5	1.1	52.49	.09	49.9	2.3	30.72	− .02	20.0	0.7
29.4	54.47	.07	65.5	0.9	52.38	.13	52.1	1.9	30.69	.06	19.4	0.6
Feb. 8.3	54.37	.11	66.3	0.7	52.22	.17	53.8	1.5	30.61	.10	18.9	0.4
18.3	54.25	.14	66.9	0.5	52.03	.20	55.1	1.1	30.49	.13	18.5	0.3
28.3	54.10	.16	67.3	0.3	51.81	.22	56.0	0.7	30.35	.15	18.2	0.2
Mar. 10 3	53.93	.17	67.6	− 0.1	51.58	.23	56.4	− 0.2	30.20	.16	18.1	− 0.1
20.2	53.76	.17	67.6	+ 0.1	51.34	.23	56.4	+ 0.3	30.03	.16	18.0	0.0
30.2	53.60	.16	67.4	0.3	51.11	.22	55.9	0.7	29.86	.16	18.0	+ 0.1
Abr. 9.2	53.45	.14	67.1	0.4	50.90	.20	55.0	1.1	29.71	.14	18.2	0.2
19.1	53.33	.11	66.6	0.6	50.71	.17	53.7	1.5	29.59	.11	18.4	0.3
29.1	53.24	.07	65.9	0.8	50.55	.14	52.1	1.9	29.49	.08	18.8	0.4
May. 9.1	53.19	− .03	65.0	1.0	50.44	.10	50.0	2.2	29.43	− .04	19.3	0.5
19.1	53.17	+ .01	63.9	1.1	50.37	− .05	47.7	2.5	29.40	.00	19.9	0.6
29.0	53.20	.05	62.7	1.3	50.34	.00	45.1	2.7	29.42	+ .04	20.6	0.7
Jun. 8.0	53.27	.09	61.4	1.4	50.37	+ .05	42.4	2.8	29.48	.08	21.4	0.8
18.0	53.38	.13	60.0	1.5	50.44	.10	39.5	2.9	29.59	.12	22.3	0.9
28.0	53.53	.17	58.5	1.5	50.56	.14	36.6	2.9	29.73	.16	23.3	1.0
Jul. 7.9	53.72	.20	56.9	1.5	50.72	.18	33.7	2.8	29.90	.19	24.3	1.0
17.9	53.93	.23	55.4	1.5	50.92	.22	31.0	2.6	30.11	.22	25.3	1.0
27.9	54.17	.25	54.0	1.4	51.15	.25	28 4	2.4	30.35	.24	26.3	1.0
Ago. 6.8	54.43	.27	52.6	1.2	51.42	.28	26.1	2.1	30.60	.26	27.2	0.9
16.8	54.71	.28	51.5	1.0	51.71	.30	24.2	1.7	30.87	.28	28.0	0.8
26.8	54.99	.29	50.6	0.8	52.01	.31	22.7	1.3	31.16	.29	28.6	0.6
Set. 5.8	55.29	.30	49.9	0.5	52.33	.32	21.7	0.8	31.46	.30	29.1	0.4
15.7	55.58	.30	49.5	+ 0.2	52.66	.33	21.2	+ 0.2	31.76	.30	29.4	+ 0.2
25.7	55.88	.30	49.4	− 0.1	52.98	.32	21.3	− 0.4	32.06	.30	29.5	− 0.1
Oct. 5.7	56.17	.29	49.7	0.4	53.30	.31	21.9	0.9	32.37	.30	29.3	0.3
15.7	56.46	.28	50.2	0.7	53.61	.30	23.1	1.4	32.66	.29	28.9	0.5
25.6	56.73	.26	51.0	0.9	53.91	.28	24.8	1.9	32.95	.28	28.3	0.7
Nov. 4.6	56.99	.24	52.1	1.1	54.18	.25	27.0	2.3	33.23	.26	27.5	0.8
14.6	57.22	.22	53.3	1.3	54.42	.22	29.5	2.7	33.48	.24	26 6	0.9
24.5	57.43	.19	54.7	1.4	54.62	.18	32.3	2.9	33.71	.22	25.6	1.0
Dic. 4.5	57.60	.16	56.2	1.5	54.78	.14	35.3	3.0	33.91	.19	24.6	1.0
14.5	57.74	.12	57.7	1.5	54.90	.09	38.3	3.0	34.08	.15	23.5	1.0
24.5	57.84	.08	59.1	1.4	54.96	+ .04	41.3	2.9	34.21	.11	22 5	1.0
34.4	57.90	+ .04	60.5	− 1.3	54.98	− .01	44.2	− 2.8	34.29	+ .06	21.6	− 0.9

FECHA	ν ORIONIS				μ GEMINORUM				γ GEMINORUM			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	6^h1^m		+14°46′		6^h16^m		+22°34′		6^h31^m		+16°29′	
(Dic.30.5)	36ˢ.18	+ .09	58″.4	− 0.5	38ˢ.13	+ .11	9″.4	0.0	40ˢ.33	+ .13	26″.1	− 0.5
Ene. 9.5	36.25	+ .05	58.0	0.4	38.22	.06	9.4	+ 0.1	40.43	.08	25.7	0.4
19.4	36.27	.00	57.6	0.3	38.26	+ .01	9.5	0.1	40.48	+ .03	25.4	0.3
29.4	36.25	− .05	57.3	0.2	38.25	− .04	9.6	0.1	40.48	− .02	25.2	0.2
Feb. 8.4	36.18	.09	57.1	0.2	38.19	.08	9.8	0.2	40.44	.07	25.1	− 0.1
18.4	36.07	.12	57.0	0.1	38.09	.12	9.9	0.2	40.35	.11	25.0	0.0
28.3	35.94	.15	56.9	− 0.1	37.95	.15	10.1	0.1	40.22	.14	25.0	0.0
Mar. 10.3	35.78	.16	56.9	0.0	37.79	.17	10.2	0.1	40.08	.16	25.1	0.0
20.3	35.61	.17	56.8	0.0	37.62	.17	10.3	+ 0.1	39.91	.17	25.1	+ 0.1
30.3	35.44	.16	56.8	0.0	37.45	.17	10.3	0.0	39.74	.16	25.2	0.1
Abr. 9.2	35.29	.14	56.9	0.0	37.28	.15	10.3	0.0	39.58	.15	25.3	0.1
19.2	35.15	.12	56.9	+ 0.1	37.14	.13	10.2	− 0.1	39.44	.13	25.4	0.1
29.2	35.05	.09	57.0	0.1	37.02	.10	10.1	0.1	39.32	.10	25.5	0.1
May. 9.2	34.98	.05	57.2	0.2	36.94	.06	10.0	0.1	39.23	.07	25.6	0.1
19.1	34.95	− .01	57.4	0.2	36.89	− .02	9.8	0.1	39.18	− .03	25.7	0.1
29.1	34.96	+ .03	57.7	0.3	36.90	+ .02	9.7	0.1	39.16	+ .01	25.9	0.2
Jun. 8.1	35.02	.08	58.1	0.4	36.94	.07	9.6	− 0.1	39.19	.05	26.1	0.2
18.0	35.12	.12	58.5	0.5	37.03	.11	9.6	0.0	39.27	.09	26.4	0.3
28.0	35.25	.16	59.0	0.5	37.16	.15	9.5	0.0	39.38	.13	26.7	0.3
Jul. 8.0	35.42	.19	59.6	0.6	37.33	.19	9.6	+ 0.1	39.52	.17	27.0	0.3
18.0	35.63	.22	60.1	0.6	37.54	.22	9.6	0.1	39.70	.20	27.4	0.3
27.9	35.86	.25	60.7	0.6	37.77	.25	9.7	0.1	39.92	.23	27.7	0.3
Ago. 6.9	36.12	.27	61.2	0.5	38.03	.27	9.8	0.1	40.15	.25	28.0	0.3
16.9	36.40	.28	61.7	0.4	38.31	.29	9.9	+ 0.1	40.41	.27	28.2	0.2
26.8	36.69	.30	62.1	0.3	38.61	.31	9.9	0.0	40.69	.29	28.4	+ 0.1
Set. 5.8	36.99	.31	62.4	0.2	38.92	.32	9.9	0.0	40.98	.30	28.5	0.0
15.8	37.30	.31	62.6	+ 0.1	39.24	.33	9.8	− 0.1	41.29	.31	28.4	− 0.1
25.8	37.61	.31	62.5	− 0.1	39.57	.33	9.7	0.2	41.60	.32	28.2	0.2
Oct. 5.7	37.93	.31	62.4	0.2	39.90	.33	9.5	0.2	41.92	.32	27.9	0.4
15.7	38.24	.31	62.1	0.4	40.23	.33	9.2	0.3	42.24	.32	27.4	0.5
25.7	38.54	.30	61.6	0.5	40.56	.32	8.9	0.3	42.56	.31	26.8	0.6
Nov. 4.7	38.84	.28	61.1	0.6	40.87	.31	8.5	0.4	42.87	.30	26.2	0.7
14.6	39.11	.26	60.4	0.6	41.17	.29	8.1	0.4	43.16	.29	25.4	0.7
24.6	39.36	.24	59.8	0.7	41.45	.26	7.7	0.3	43.44	.26	24.7	0.7
Dic. 4.6	39.58	.21	59.1	0.7	41.70	.23	7.4	0.3	43.69	.23	23.9	0.7
14.5	39.77	.17	58.4	0.6	41.91	.19	7.2	0.2	43.91	.20	23.2	0.6
24.5	39.91	.12	57.8	0.6	42.08	.15	7.0	− 0.1	44.08	.15	22.6	0.5
34.5	40.02	+ .08	57.3	− 0.5	42.20	+ .10	6.9	0.0	44.22	+ .11	22.1	− 0.4

FECHA	ε CANIS MAJORIS		δ CANIS MAJORIS		δ GEMINORUM	
	Ascens. Recta	Declinacion	Ascens. Recta	Declinacion	Ascens. Recta	Declinacion
	6^h54^m	— 28°49′	7^h4^m	— 26°13′	7^h13^m	+ 22°10′
(Dic. 30.5)	31ˢ.52 + .11	38″.4 − 3.0	8ˢ.81 + .12	27″.7 − 2.9	52ˢ.79 + .17	36″.6 − 0.2
Ene. 9.5	31.60 + .05	41.3 2.8	8.91 .07	30.5 2.8	52.94 .12	36.5 − 0.1
19.4	31.63 .00	44.1 2.6	8.95 + .02	33.3 2.6	53.04 .07	36.4 0.0
29.4	31.61 − .05	46.6 2.3	8.94 − .03	35.8 2.3	53.09 + .02	36.5 + 0.1
Feb. 8.4	31.53 .10	48.8 2.0	8.88 .08	38.0 2.0	53.07 − .03	36.7 0.2
18.4	31.41 .14	50.7 1.7	8.77 .12	39.8 1.7	53.02 .08	36.9 0.3
28.3	31.25 .17	52.2 1.3	8.62 .16	41.3 1.3	52.92 .12	37.2 0.3
Mar. 10.3	31.07 .19	53.4 0.9	8.45 .18	42.5 1.0	52.79 .15	37.5 0.3
20.3	30.86 .21	54.1 0.5	8.26 .20	43.2 0.6	52.63 .16	37.8 0.3
30.3	30.65 .21	54.4 − 0.1	8.06 .20	43.6 − 0.2	52.46 .17	38.1 0.2
Abr. 9.2	30.44 .20	54.3 + 0.3	7.85 .20	43.6 + 0.2	52.29 .16	38.3 0.2
19.2	30.24 .19	53.8 0.7	7.66 .19	43.1 0.6	52.13 .15	38.4 + 0.1
29.2	30.06 .16	52.9 1.1	7.49 .16	42.4 1.0	52.00 .13	38.5 0.0
May. 9.2	29.91 .13	51.6 1.4	7.34 .13	41.2 1.3	51.88 .10	38.5 0.0
19.1	29.80 .10	50.1 1.7	7.23 .10	39.8 1.6	51.80 .06	38.5 − 0.1
29.1	29.72 .06	48.2 2.0	7.15 .06	38.0 1.9	51.76 − .02	38.4 0.1
Jun. 8.1	29.68 − .02	46.1 2.2	7.10 − .02	36.0 2.1	51.75 + .02	38.3 0.1
18.0	29.68 + .02	43.7 2.4	7.10 + .02	33.8 2.3	51.78 .06	38.2 0.1
28.0	29.72 .06	41.3 2.5	7.14 .06	31.5 2.4	51.86 .09	38.0 0.1
Jul. 8.0	29.80 .10	38.7 2.5	7.22 .10	29.1 2.4	51.97 .13	37.9 0.1
18.0	29.92 .14	36.2 2.5	7.33 .13	26.7 2.4	52.12 .16	37.8 0.2
27.9	30.08 .18	33.8 2.4	7.48 .17	24.4 2.3	52.30 .19	37.6 0.2
Ago. 6.9	30.28 .21	31.5 2.2	7.66 .20	22.2 2.1	52.50 .22	37.4 0.2
16.9	30.50 .24	29.4 1.9	7.87 .23	20.2 1.8	52.74 .25	37.1 0.3
26.8	30.75 .26	27.7 1.5	8.11 .25	18.6 1.5	53.00 .27	36.8 0.3
Set. 5.8	31.02 .28	26.4 1.1	8.38 .27	17.3 1.1	53.28 .29	36.4 0.4
15.8	31.31 .30	25.5 0.6	8.66 .29	16.4 0.6	53.57 .31	35.9 0.5
25.8	31.62 .31	25.2 + 0.1	8.96 .30	16.1 + 0.1	53.89 .32	35.4 0.6
Oct. 5.7	31.93 .32	25.4 − 0.4	9.27 .31	16.2 − 0.4	54.21 .33	34.7 0.7
15.7	32.25 .32	26.1 0.9	9.59 .32	16.9 0.9	54.55 .34	34.0 0.7
25.7	32.58 .31	27.3 1.4	9.91 .32	18.0 1.4	54.88 .34	33.2 0.8
Nov. 4.7	32.89 .30	29.0 1.9	10.22 .31	19.7 1.8	55.22 .33	32.4 0.8
14.6	33.19 .28	31.2 2.3	10.52 .29	21.8 2.2	55.55 .32	31.6 0.8
24.6	33.46 .26	33.7 2.6	10.80 .26	24.2 2.5	55.87 .30	30.8 0.7
Dic. 4.6	33.70 .22	36.5 2.9	11.05 .23	26.9 2.8	56.16 .28	30.2 0.6
14.5	33.91 .18	39.4 3.0	11.27 .19	29.7 2.9	56.42 .24	29.6 0.5
24.5	34.07 .14	42.4 3.0	11.44 .15	32.7 2.9	56.65 .20	29.1 0.4
34.5	34.18 + .09	45.5 − 3.0	11.57 + .10	35.6 − 2.9	56.83 + .16	28.8 − 0.2

FECHA	α CANIS MAJORIS (*Procyon*)				ρ PUPPIS				ε HYDRAE			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	7ʰ33ᵐ		**+5°29′**		**8ʰ3ᵐ**		**−23°59′**		**8ʰ41ᵐ**		**+6°48′**	
(Dic. 30.5)	49ˢ.85	+ .17	43″.6	− 1.4	5ˢ.67	+ .18	57″.4	− 2.9	14ˢ.29	+ .21	17″.3	− 1.5
Ene. 9.5	50.00	.13	42.3	1.3	5.83	.13	60.3	2.8	14.51	.19	15.9	1.4
19.5	50.11	.08	41.1	1.1	5.94	.08	63.2	2.7	14.68	.14	14.6	1.2
29.5	50.16	+ .03	40.1	0.9	6.00	+ .03	65.8	2.5	14.80	.09	13.5	0.9
Feb. 8.4	50.16	− .02	39.3	0.7	6.00	− .02	68.2	2.3	14.87	+ .01	12.7	0.7
18.4	50.12	.06	38.6	0.5	5.95	.07	70.4	2.0	14.89	− .01	12.0	0.5
28.4	50.03	.10	38.2	0.4	5.86	.11	72.2	1.6	14.86	.05	11.6	0.3
Mar. 10.3	49.92	.13	37.9	0.2	5.73	.14	73.7	1.3	14.79	.08	11.3	− 0.2
20.3	49.78	.15	37.7	− 0.1	5.58	.16	74.8	1.0	14.69	.11	11.2	0.0
30.3	49.62	.16	37.7	0.0	5.41	.18	75.6	0.6	14.57	.13	11.3	+ 0.1
Abr. 9.2	49.46	.15	37.8	+ 0.1	5.22	.18	76.0	− 0.2	14.43	.14	11.5	0.2
19.2	49.31	.14	38.0	0.2	5.04	.18	76.1	+ 0.2	14.29	.14	11.7	0.3
29.2	49.17	.13	38.4	0.3	4.87	.17	75.8	0.5	14.15	.13	12.0	0.4
May. 9.2	49.05	.10	38.8	0.4	4.71	.15	75.1	0.8	14.02	.12	12.4	0.4
19.2	48.96	.07	39.2	0.5	4.57	.12	74.2	1.1	13.91	.10	12.9	0.5
29.1	48.91	.04	39.8	0.6	4.46	.09	72.9	1.4	13.82	.08	13.4	0.5
Jun. 8.1	48.88	− .01	40.4	0.6	4.39	.06	71.4	1.7	13.76	.05	13.9	0.5
18.1	48.89	+ .03	41.1	0.7	4.34	− .03	69.6	1.9	13.72	− .02	14.4	0.5
28.0	48.93	.06	41.8	0.7	4.33	+ .01	67.6	2.0	13.72	+ .01	15.0	0.5
Jul. 8.0	49.01	.10	42.6	0.7	4.35	.04	65.6	2.1	13.74	.04	15.5	0.5
18.0	49.12	.13	43.3	0.7	4.41	.08	63.4	2.1	13.79	.07	16.0	0.5
28.0	49.27	.16	44.0	0.6	4.51	.11	61.3	2.1	13.87	.10	16.5	0.4
Ago. 6.9	49.44	.18	44.6	0.5	4.63	.14	59.2	2.0	13.98	.12	16.8	0.3
16.9	49.63	.21	45.1	0.4	4.79	.17	57.3	1.8	14.12	.15	17.1	+ 0.2
26.9	49.85	.23	45.4	+ 0.2	4.98	.20	55.7	1.5	14.28	.18	17.2	0.0
Set. 5.8	50.09	.25	45.5	0.0	5.19	.23	54.3	1.2	14.47	.21	17.1	− 0.2
15.8	50.35	.27	45.4	− 0.2	5.44	.26	53.3	0.8	14.69	.23	16.8	0.4
25.8	50.63	.29	45.1	0.4	5.71	.28	52.8	+ 0.3	14.93	.25	16.2	0.6
Oct. 5.8	50.93	.30	44.5	0.7	6.00	.30	52.7	− 0.2	15.20	.28	15.5	0.9
15.7	51.23	.31	43.7	0.9	6.31	.31	53.1	0.7	15.49	.30	14.5	1.2
25.7	51.54	.31	42.7	1.1	6.63	.32	54.0	1.2	15.79	.31	13.2	1.3
Nov. 4.7	51.86	.31	41.4	1.3	6.96	.33	55.4	1.6	16.11	.32	11.8	1.5
14.7	52.17	.30	40.0	1.5	7.28	.32	57.2	2.0	16.44	.33	10.2	1.6
24.6	52.47	.29	38.5	1.6	7.60	.30	59.4	2.3	16.77	.32	8.5	1.7
Dic. 4.6	52.75	.27	36.9	1.6	7.90	.28	61.9	2.6	17.09	.31	6.8	1.7
14.6	53.01	.24	35.3	1.6	8.16	.25	64.7	2.8	17.39	.29	5.0	1.7
24.5	53.23	.20	33.8	1.5	8.40	.21	67.6	2.9	17.66	.26	3.3	1.6
34.5	53.40	+ .16	32.4	− 1.4	8.59	+ .17	70.5	− 2.9	17.90	+ .22	1.8	− 1.5

FECHA	κ CANCRI				α HYDRAE				ε LEONIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	9^h2^m		+11°5′		9^h22^m		−8°12′		9^h39^m		+24°15′	
(Dic.30.6)	4ˢ.96	+ .26	28″.3	− 1.4	26ˢ.73	+ .26	7″.6	− 2.4	54ˢ.86	+ .31	24″.2	− 0.9
Ene. 9.6	5.20	.22	27.0	1.2	26.97	.22	9.9	2.3	55.15	.27	23.5	0.6
19.6	5.40	.17	25.9	1.0	27.16	.17	12.1	2.1	55.39	.22	23.0	− 0.3
29.5	5.54	.12	25.0	0.7	27.33	.13	14.1	1.9	55.59	.17	22.8	0.0
Feb. 8.5	5.63	.07	24.4	0.5	27.42	.08	16.0	1.7	55.73	.12	22.9	+ 0.2
18.5	5.68	+ .02	23.9	0.3	27.47	+ .03	17.6	1.5	55.82	.06	23.2	0.4
28.4	5.67	− .03	23.7	− 0.1	27.47	− .02	19.0	1.2	55.85	+ .01	23.7	0.6
Mar. 10.4	5.62	.07	23.7	+ 0.1	27.41	.06	20.1	1.0	55.84	− .03	24.4	0.8
20.4	5.54	.10	23.8	0.2	27.36	.09	20.9	0.7	55.78	.07	25.2	0.8
30.4	5.43	.12	24.0	0.3	27.26	.11	21.5	0.5	55.69	.10	26.1	0.8
Abr. 9.3	5.30	.13	24.3	0.3	27.14	.13	21.9	− 0.2	55.57	.12	26.9	0.8
19.3	5.17	.14	24.7	0.4	27.01	.13	22.0	0.0	55.44	.13	27.7	0.7
29.3	5.03	.13	25.1	0.4	26.88	.13	21.9	+ 0.2	55.30	.14	28.4	0.6
May. 9.3	4.90	.12	25.5	0.4	26.75	.13	21.6	0.4	55.16	.13	29.0	0.5
19.2	4.78	.10	25.9	0.4	26.63	.12	21.2	0.6	55.03	.12	29.4	0.4
29.2	4.69	.08	26.3	0.4	26.52	.10	20.5	0.7	54.91	.11	29.7	0.2
Jun. 8.2	4.62	.06	26.7	0.4	26.43	.08	19.7	0.9	54.82	.09	29.8	+ 0.1
18.1	4.57	.04	27.1	0.4	26.37	.06	18.8	1.0	54.74	.07	29.8	− 0.1
28.1	4.55	− .01	27.4	0.3	26.32	.03	17.8	1.1	54.69	.04	29.6	0.2
Jul. 8.1	4.55	+ .02	27.7	0.3	26.30	− .01	16.7	1.1	54.66	− .01	29.3	0.4
18.1	4.59	.05	27.9	0.2	26.31	+ .02	15.5	1.1	54.67	+ .01	28.8	0.5
28.0	4.65	.08	28.1	+ 0.1	26.34	.05	14.4	1.1	54.70	.04	28.2	0.7
Ago. 7.0	4.74	.11	28.2	0.0	26.40	.07	13.3	1.0	54.76	.07	27.4	0.8
17.0	4.86	.13	28.1	− 0.1	26.49	.10	12.3	0.9	54.85	.10	26.5	1.0
27.0	5.01	.16	27.9	0.3	26.61	.13	11.4	0.7	54.97	.13	25.4	1.2
Set. 5.9	5.19	.19	27.5	0.5	26.76	.16	10.8	0.5	55.12	.16	24.2	1.3
15.9	5.39	.22	26.9	0.7	26.94	.19	10.4	+ 0.2	55.30	.20	22.8	1.4
25.9	5.63	.24	26.2	0.9	27.14	.22	10.3	− 0.1	55.51	.23	21.3	1.6
Oct. 5.8	5.88	.27	25.2	1.1	27.38	.25	10.6	0.4	55.76	.26	19.6	1.7
15.8	6.16	.29	24.0	1.3	27.65	.28	11.2	0.8	56.04	.29	17.9	1.8
25.8	6.47	.31	22.6	1.4	27.93	.30	12.1	1.1	56.34	.32	16.1	1.8
Nov. 4.8	6.79	.33	21.1	1.6	28.24	.32	13.4	1.5	56.67	.34	14.2	1.8
14.7	7.12	.33	19 5	1.7	28.57	.33	15.1	1.8	57.02	.35	12.4	1.8
24.7	7.46	.33	17.8	1.7	28.90	.33	17.0	2.0	57.38	.36	10.6	1.7
Dic. 4.7	7.79	.32	16.0	1.7	29.23	.32	19.1	2.2	57.74	.36	8.9	1.6
14.7	8.11	.31	14.4	1.6	29.54	.30	21.4	2.3	58.10	.35	7.5	1.4
24.6	8.40	.28	12.8	1.5	29.84	.28	23.7	2.3	58.43	.32	6.2	1.1
34.6	8.66	+ .25	11.4	− 1.3	30.10	+ .25	26.1	− 2.3	58.74	+ .29	5.3	− 0.8

FECHA	α LEONIS (*Regulus*)				γ_1 LEONIS				o LEONIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	10^h2^m		$+12°28'$		10^h14^m		$+20°21°$		10^h27^m		$+9°50'$	
(Dic.30.6)	47ˢ.90	+ .30	47″.8	− 1.6	12ˢ.18	+ .32	77″.5	− 1.3	17ˢ.93	+ .32	46″.9	− 1.8
Ene. 9.6	48.19	.27	46.3	1.3	12.48	.29	76.3	1.0	18.23	.28	45.2	1.6
19.6	48.44	.23	45.1	1.1	12.75	.24	75.4	0.7	18.49	.24	43.7	1.3
29.6	48.64	.18	44.1	0.8	12.97	.20	74.9	0.4	18.71	.20	42.5	1.1
Feb. 8.5	48.80	.13	43.4	0.6	13 15	.15	74.6	− 0.1	18.89	.15	41.6	0.8
18.5	48.90	.08	43.0	0.3	13.27	.10	74.6	+ 0.1	19.02	.10	40.9	0.5
28.5	48.95	+ .03	42.8	− 0.1	13.34	+ .05	74.9	0.2	19.10	.05	40.5	− 0.3
Mar. 10.5	48.96	− .01	42.8	+ 0.1	13.36	.00	75.4	0.5	19.13	+ .01	40.4	0.0
20.4	48.93	.05	43.0	0.3	13.34	− .04	76.0	0.7	19.12	− .03	40.4	+ 0.2
30.4	48.86	.08	43.4	0.4	13.28	.07	76.8	0.8	19.08	.06	40.7	0.3
Abr. 9.4	48.77	.10	43.8	0.5	13.19	.10	77.6	0.8	19.01	.08	41.0	0.4
19.3	48.66	.11	44.3	0.5	13.09	.11	78.4	0.8	18.92	.10	41.5	0.5
29.3	48.55	.12	44.9	0.5	12.97	.12	79.1	0.7	18.81	.11	42.0	0.5
May. 9.3	48.43	.12	45.4	0.5	12.84	.12	79.8	0.6	18.70	.11	42.6	0.5
19.3	48.31	.11	45.9	0.5	12.72	.12	80.4	0.5	18.59	.11	43.2	0.5
29.2	48.20	.10	46.4	0.5	12.61	.11	80.9	0.4	18.49	.10	43.7	0.5
Jun. 8.2	48.11	.09	46.9	0.4	12.50	.10	81.3	0.3	18.39	.09	44.2	0.5
18.2	48.03	.07	47.2	0.3	12.42	.08	81.4	+ 0.1	18.30	.08	44.6	0.4
28.2	47.97	.05	47.5	0.3	12.35	.06	81.5	0.0	18.23	.06	45.0	0.4
Jul. 8.1	47.93	− .03	47.7	0.2	12.30	.04	81.4	− 0.2	18.18	.04	45.4	0.3
18.1	47.92	.00	47.8	+ 0.1	12.28	− .01	81.1	0.3	18.15	− .02	45.6	0.2
28.1	47.92	+ .02	47.8	− 0.1	12.28	+ .01	80.7	0.5	18.14	.00	45.7	+ 0.1
Ago. 7.0	47.96	.05	47.7	0.2	12.30	.04	80.2	0.7	18.15	+ .02	45.7	− 0.1
17.0	48.02	.07	47.4	0.3	12.35	.07	79.4	0.8	18.18	.05	45.6	0.2
27.0	48.11	.10	47.0	0.5	12.43	.10	78.5	1.0	18.25	.08	45.3	0.4
Set. 6.0	48.22	.13	46.4	0.7	12.54	.13	77.4	1.2	18.34	.11	44.8	0.6
15.9	48.37	.16	45.6	0.9	12.69	.16	76.1	1.4	18.46	.14	44.1	0.8
25.9	48.55	.19	44.6	1.1	12.86	.19	74.6	1.5	18.62	.17	43.1	1.0
Oct. 5.9	48.76	.23	43.4	1.3	13.07	.23	73.0	1.7	18.80	.21	42.0	1.3
15.9	49.01	.26	41.9	1.5	13.32	.26	71.2	1.8	19.03	.24	40.6	1.5
25.8	49.28	.29	40.3	1.7	13.59	.29	69.3	1.9	19.28	.27	39.0	1.7
Nov. 4.8	49.58	.31	38.6	1.8	13.90	.32	67.3	2.0	19.57	.30	37.3	1.8
14.8	49.91	.33	36.7	1.9	14.23	.34	65.3	2.0	19.88	.32	35.3	2.0
24.7	50.24	.34	34.7	1.9	14.57	.35	63.3	2.0	20.22	.34	33.3	2.0
Dic. 4.7	50.59	.34	32.8	1.9	14.93	.36	61.4	1.9	20.56	.34	31.3	2.0
14.7	50.93	.33	30.9	1.8	15.29	.35	59.6	1.7	20.90	.34	29.2	2.0
24.7	51.26	.32	29.1	1.7	15.63	.33	58.0	1.5	21.23	.32	27.3	1.9
34.6	51.56	+ .29	27.5	− 1.5	15.96	+ .31	56.6	− 1.2	21.55	+ .30	25.5	− 1.7

FECHA	l LEONIS				δ LEONIS				δ CRATERIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	10^h43^m		+11°5′		11^h8^m		+21°5′		11^h14^m		−14°12′	
(Dic.30.6)	45ˢ.19	+ .33	59″.9	− 1.8	32ˢ.35	+ .35	49″.2	− 1.6	5ˢ.92	+ .33	33″.5	− 2.5
Ene. 9.6	45.50	.29	58.2	1.6	32.68	.32	47.7	1.3	6.24	.30	36.0	2.5
19.6	45.78	.26	56.8	1.3	32.99	.29	46 6	1.0	6.53	.27	38.4	2.4
29.6	46.02	.22	55.6	1.0	33.26	.25	45.8	0.6	6.78	.23	40.8	2.3
Feb. 8.5	46.21	.17	54.7	0.7	33.48	.20	45.4	− 0.2	6.99	.19	43.1	2.2
18.5	46.35	.12	54.1	0.5	33.66	.15	45.3	+ 0.1	7.16	.14	45.2	2.0
28.5	46.45	.07	53.7	− 0.2	33.78	.10	45.5	0.4	7.28	.10	47.1	1.8
Mar. 10.5	46.50	+ .03	53.7	0.0	33.86	− .05	46.0	0.6	7.35	.06	48.7	1.5
20.4	46.51	− .01	53.8	+ 0.2	33.90	+ .01	46.9	0.8	7.39	+ .02	50.1	1.3
30.4	46.48	.04	54.1	0.4	33.89	− .02	47.6	0.9	7.39	− .02	51.2	1.0
Abr. 9.4	46.42	.07	54.5	0.5	33.85	.05	48.6	1.0	7.35	.05	52.1	0.8
19.4	46.34	.09	55.1	0.6	33.78	.08	49.7	1.0	7.29	.07	52.8	0.5
29.4	46.25	.10	55.7	0.6	33.69	.10	50.7	1.0	7.22	.08	53.2	0.3
May. 9.0	46.14	.11	56.3	0.6	33.59	.11	51.6	0.9	7.13	.09	53.4	− 0.1
19.0	46.03	.10	56.9	0.6	33.48	.11	52.5	0.8	7.03	.10	53.3	+ 0.1
29.3	45.93	.10	57.5	0.6	33.37	.11	53.2	0.7	6.93	.10	53.1	0.3
Jun. 8.2	45.83	.09	58.0	0.5	33.26	.10	53.7	0.5	6.83	.10	52.7	0.5
18.2	45.74	.08	58.5	0.4	33.15	.10	54.1	0.3	6.73	.10	52.1	0.7
28.2	45.66	.07	58.9	0.3	33.06	.09	54.4	+ 0.1	6.64	.09	51.3	0.8
Jul. 8.1	45.60	.05	59.1	0.2	32.98	.07	54.4	− 0.1	6.55	.08	50.5	0.9
18.1	45.56	.03	59.3	+ 0.1	32.91	.06	54.2	0.3	6.48	.07	49.5	1.0
28.1	45.53	− .01	59.4	0.0	32.87	.04	53.9	0.5	6.42	.05	48.4	1.1
Ago. 7.1	45.53	+ .01	59.3	− 0.1	32.84	− .02	53.3	0.7	6.38	.03	47.4	1.1
17.0	45.55	.03	59.1	0.3	32.84	+ .01	52.5	0.9	6.36	− .01	46.3	1.0
27.9	45.59	.06	58.7	0.5	32.86	.04	51.5	1.1	6.37	+ .02	45.3	0.9
Set. 6.0	45.67	.09	58.1	0.7	32.91	.07	50.3	1.3	6.41	.05	44.5	0.8
16.0	45.78	.12	57.3	0.9	32.99	.10	48.8	1.5	6.48	.09	43.8	0.6
25.9	45.91	.15	56.3	1.1	33.11	.14	47.2	1.7	6.59	.13	43.3	+ 0.3
Oct. 5.9	46.09	.19	55.0	1.4	33.27	.18	45.4	1.9	6.73	.17	43.2	0.0
15.9	46.30	.23	53.6	1.6	33.46	.21	43.4	2.1	6.92	.21	43.3	− 0.3
25.8	46.54	.26	51.9	1.8	33.69	.25	41.3	2.2	7.14	.24	43.8	0.7
Nov. 4.8	46.82	.29	50.1	1.9	33.96	.29	39.1	2.3	7.40	.28	44.7	1.0
14.8	47.13	.32	48.1	2.0	34.26	.32	36.8	2.3	7.70	.31	45.9	1.4
24.8	47.46	.34	46.0	2.1	34.59	.34	34.5	2.3	8.02	.33	47.4	1.7
Dic. 4.7	47.80	.34	43.9	2.1	34.94	.35	32.2	2.2	8.36	.34	49.3	2.0
14.7	48.15	.34	41.8	2.0	35.30	.36	30.1	2.0	8.70	.35	51.4	2.2
24.7	48.48	.33	39.8	1.9	35.66	.35	28.2	1.8	9.05	.34	53.8	2.4
34.6	48.81	+ .31	38.0	− 1.7	36.01	+ .34	26.6	− 1.5	9.38	+ .32	56.2	− 2.5

FECHA	τ LEONIS				υ LEONIS				β LEONIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	11h22m		+3°25′		11h31m		−0°14′		11h43m		+15°9′	
(Dic.30.7)	32s.81	+ .33	62″.2	− 2.1	34s.83	+ .34	39″.8	− 2.2	42s.82	+ .35	25″.7	− 1.9
Ene. 9.7	33.13	.31	60.1	2.0	35.16	.31	41.9	2.1	43.16	.33	23.9	1.7
19.6	33.42	.28	58.2	1.8	35.45	.28	44.0	1.9	43.47	.30	22.4	1.4
29.6	33.68	.24	56.6	1.5	35.72	.24	45.8	1.7	43.76	.26	21.1	1.0
Feb. 8.6	33.90	.20	55.2	1.3	35.95	.20	47.4	1.5	44.00	.22	20.3	0.7
18.5	34.08	.15	54.0	1.0	36.13	.16	48.8	1.2	44.20	.18	19.8	− 0.3
28.5	34.21	.11	53.2	0.7	36.27	.12	49.9	0.9	44.36	.11	19.6	0.0
Mar. 10.5	34.30	.07	52.6	0.5	36.37	.08	50.7	0.7	44.47	.09	19.7	+ 0.2
20.5	34.35	+ .03	52.3	− 0.2	36.43	+ .04	51.2	0.5	44.54	.05	20.1	0.5
30.4	34.36	.00	52.1	0.0	36.44	.00	51.6	− 0.2	44.57	+ .01	20.6	0.7
Abr. 9.4	34 33	− .03	52.2	+ 0.2	36.43	− .03	51.7	0.0	44.56	− .02	21.4	0.8
19.4	34.29	.06	52.5	0.3	36.39	.05	51.6	+ 0.1	44.53	.05	22.2	0.9
29.3	34.22	.07	52.8	0.4	36.33	.07	51.4	0.3	44.47	.07	23.1	0.9
May. 9.3	34.14	.08	53.3	0.5	36.26	.08	51.1	0.4	44.39	.08	24.1	0.9
19.3	34.05	.09	53.8	0.5	36.17	.09	50.7	0.5	44.31	.09	24.9	0.8
29.3	33.96	.09	54.4	0.6	36.08	.09	50.2	0.5	44.21	.10	25.7	0.7
Jun. 8.2	33.86	.09	54.9	0.6	35.99	.09	49.6	0.6	44.11	.10	26.4	0.6
18.2	33.77	.09	55.5	0.5	35.90	.09	49.1	0.6	44.01	.10	27.0	0.5
28.2	33.68	.08	56.0	0.5	35.81	.08	48.5	0.6	43.91	.09	27.5	0.4
Jul. 8.2	33.61	.07	56.6	0.5	35.73	.07	47.9	0.6	43.82	.08	27.7	+ 0.2
18.1	33.54	.06	57.0	0.4	35.66	.06	47.3	0.5	43.74	.07	27.9	0.0
28.1	33.49	.01	57.4	0.3	35.60	.05	46.8	0.5	43.67	.06	27.8	− 0.1
Ago. 7.1	33.45	− .02	57.7	0.2	35.55	.03	46.4	0.4	43.62	.05	27.6	0.3
17.0	33.44	.00	57.9	+ 0.1	35.53	− .01	46.0	0.3	43.58	− .03	27.2	0.5
27.0	33.44	+ .02	57.9	− 0.1	35.53	+ .01	45.8	+ 0.1	43.57	.00	26.5	0.7
Set. 6.0	33.48	.05	57.7	0.3	35.55	.04	45.8	− 0.1	43.58	+ .03	25.7	1.0
15.9	33.54	.08	57.4	0.4	35.61	.07	45.9	0.3	43.62	.06	24.6	1.2
25.9	33.64	.12	56.7	0.7	35.70	.11	46.3	0.5	43.70	.09	23.3	1.4
Oct. 5.9	33.78	.15	55.9	1.0	35.82	.15	47.0	0.8	43.81	.13	21.7	1.6
15.9	33.95	.19	54.8	1.2	35.99	.19	47.9	1.0	43.97	.17	20.0	1.8
25.9	34.16	.23	53.4	1.5	36.19	.22	49.0	1.3	44.16	.21	18.0	2.0
Nov. 4.8	34.41	.27	51.8	1.7	36.44	.26	50.5	1.6	44.40	.25	15.9	2.2
14.8	34.70	.30	50.0	1.9	36.71	.29	52.2	1.8	44.67	.29	13.7	2.3
24.8	35.01	.32	48.0	2.2	37.02	.32	54.1	2.0	44.97	.32	11.3	2.3
Dic. 4.7	35.34	.34	45.8	2.2	37.35	.33	56.2	2.1	45.30	.34	9.0	2.3
14.7	35.68	.34	43.6	2.2	37.69	.34	58.4	2.2	45.65	.35	6.7	2.2
24.7	36.02	.34	41.4	2.2	38.03	.34	60.6	2.2	46.00	.35	4.6	2.1
34.7	36.35	+ .33	39.3	− 2.1	38.36	+ .33	62.8	− 2.2	46.34	+ .34	2.6	− 1.9

FECHA	o VIRGINIS				η VIRGINIS				β CORVI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	11^h59^m		+9°18′		12^h14^m		−0°5′		12^h28^m		−22°48′	
(Dic.30.7)	52ˢ.04	+ .34	52″.8	− 2.1	32ˢ.27	+ .34	2″.7	− 2.2	52ˢ.17	+ .36	53″.2	− 2.2
Ene. 9.7	52.37	.33	50.8	1.9	32.60	.33	4.8	2.1	52.52	.35	55.4	2.3
19.7	52.69	.30	49.0	1.6	32.92	.31	6.9	2.0	52.87	.33	57.8	2.4
29.6	52.98	.27	47.5	1.3	33.22	.28	8.8	1.8	53.18	.30	60.3	2.4
Feb. 8.6	53.23	.23	46.3	1.0	33.48	.24	10.4	1.5	53.46	.26	62.7	2.4
18.6	53.44	.19	45.5	0.7	33.70	.20	11.8	1.2	53.70	.22	65.1	2.3
28.6	53.61	.15	44.9	0.4	33.88	.16	12.9	0.9	53.90	.18	67.3	2.2
Mar. 10.5	53.74	.11	44.7	− 0.1	34.02	.12	13.7	0.7	54.06	.14	69.4	2.0
20.5	53.82	.07	44.7	+ 0.1	34.12	.08	14.2	0.4	54.18	.10	71.3	1.8
30.5	53.87	+ .03	44.9	0.3	34.18	.04	14.6	− 0.2	54.26	.03	73.0	1.6
Abr. 9.5	53.88	.00	45.4	0.5	34.21	+ .01	14.7	0.0	54.31	+ .03	74.4	1.3
19.4	53.86	− .03	46.0	0.6	34.21	− .01	14.6	+ 0.2	54.33	.00	75.6	1.1
29.4	53.82	.05	46.7	0.7	34.18	.03	14.3	0.3	54.31	− .03	76.6	0.9
May. 9.4	53.76	.07	47.4	0.7	34.14	.05	14.0	0.4	54.27	.05	77.3	0.6
19.3	53.69	.08	48.2	0.8	34.08	.07	13.5	0.5	54.22	.07	77.9	0.4
29.3	53.60	.09	48.9	0.7	34.01	.08	13.0	0.5	54.15	.08	78.1	− 0.2
Jun. 8.3	53.51	.09	49.6	0.7	33.93	.08	12.4	0.6	54.06	.09	78.2	+ 0.1
18.3	53.42	.09	50.2	0.6	33.84	.09	11.8	0.6	53.96	.10	78.0	0.3
28.2	53.33	.09	50.8	0.5	33.75	.09	11.2	0.6	53.86	.11	77.6	0.5
Jul. 8.2	53.24	.09	51.2	0.4	33.66	.09	10.7	0.6	53.75	.11	77.1	0.7
18.2	53.15	.08	51.5	0.3	33.57	.08	10.1	0.5	53.64	.11	76.3	0.9
28.1	53.08	.07	51.7	+ 0.1	33.49	.07	9.7	0.4	53.53	.10	75.4	1.0
Ago. 7.1	53.01	.06	51.8	0.0	33.41	.06	9.3	0.3	53.44	.09	74.3	1.1
17.1	52.97	.04	51.7	− 0.2	33.36	.05	9.0	0.2	53.35	.07	73.2	1.2
27.1	52.94	− .02	51.3	0.4	33.32	− .03	8.8	+ 0.1	53.29	.05	72.0	1.1
Set. 6.0	52.94	+ .01	50.8	0.6	33.30	.00	8.8	− 0.1	53.25	− .02	70.9	1.1
16.0	52.96	.04	50.1	0.8	33.31	+ .03	8.9	0.3	53.25	+ .01	69.8	1.0
26.0	53.02	.08	49.1	1.1	33.36	.06	9.3	0.5	53.28	.05	68.9	0.8
Oct. 6.0	53.12	.12	47.9	1.3	33.44	.10	10.0	0.8	53.35	.10	68.2	0.6
15.9	53.26	.16	46.5	1.6	33.57	.14	10.9	1.0	53.47	.14	67.7	+ 0.3
25.9	53.44	.20	44.8	1.8	33.73	.19	12.0	1.3	53.64	.19	67.5	0.0
Nov. 4.8	53.65	.24	42.9	2.0	33.94	.23	13.4	1.5	53.85	.24	67.6	− 0.3
14.8	53.91	.28	40.9	2.1	34.19	.27	15.1	1.8	54.11	.28	68.2	0.7
24.8	54.20	.31	38.7	2.2	34.48	.30	17.0	2.0	54.40	.31	69 1	1.1
Dic. 4.8	54.52	.33	36.4	2.3	34.79	.32	19.1	2.1	54.73	.34	70.4	1.5
14.8	54.86	.34	34.1	2.2	35.12	.34	21.2	2.2	55.08	.36	72.0	1.8
24.7	55.21	.34	31.9	2.2	35.46	.34	23.4	2.2	55.45	.36	73.9	2.0
34.7	55.55	+ .34	29.8	− 2.0	35.80	+ .34	25.7	− 2.2	55.81	+.36	76.0	− 2.2

FECHA	θ VIRGINIS				α VIRGINIS (*Spica*)				ζ VIRGINIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	13^h4^m		$-4°58'$		13^h19^m		$-10°36^h$		13^h29^m		$-0°3'$	
(Dic. 30.7)	30ˢ.64	+ .34	45″.1	− 2.2	39ˢ.38	+ .34	49″.0	− 2.0	20ˢ.33	+ .34	37″.7	− 2.2
Ene. 9.7	30.98	.34	47.2	2.1	39.73	.34	51.1	2.1	20.67	.34	39.8	2.1
19.7	31.32	.33	49.3	2.0	40.07	.33	53.2	2.1	21.01	.33	41.9	2.0
29.7	31.63	.30	51.3	1.9	40.39	.31	55.3	2.0	21.33	.31	43.8	1.8
Feb. 8.6	31.92	.27	53.1	1.7	40.69	.28	57.2	1.9	21.63	.29	45.4	1.5
18.6	32.18	.24	54.7	1.5	40.97	.25	59.0	1.7	21.90	.26	46.8	1.3
28.6	32.41	.21	56.1	1.2	41.20	.22	60.5	1.5	22.15	.23	47.9	1.0
Mar. 10.6	32.60	.17	57.1	0.9	41.41	.19	61.9	1.2	22.35	.19	48.7	0.7
20.5	32.75	.13	58.0	0.7	41.57	.15	63.0	1.0	22.53	.15	49.2	0.4
30.5	32.86	.10	58.6	0.5	41.71	.11	63.9	0.8	22.66	.12	49.5	− 0.1
Abr. 9.5	32.94	.06	58.9	− 0.2	41.80	.08	64.7	0.6	22.77	.09	49.5	+ 0.1
19.4	32.99	.03	59.1	0.0	41.87	.05	65.1	0.4	22.84	.06	49.3	0.3
29.4	33.01	+ .01	59.0	+ 0.1	41.91	+ .02	65.4	− 0.2	22.88	.03	49.0	0.4
May. 9.4	33.01	− .01	58.9	0.2	41.92	.00	65.5	0.0	22.90	+ .01	48.5	0.5
19.4	32.99	.03	58.6	0.3	41.91	− .02	65.4	+ 0.1	22.89	− .02	47.9	0.6
29.3	32.94	.05	58.2	0.4	41.88	.04	65.3	0.2	22.87	.04	47.3	0.6
Jun. 8.3	32.88	.07	57.7	0.5	41.83	.06	65.0	0.3	22.82	.06	46.6	0.7
18.3	32.81	.08	57.2	0.5	41.76	.07	64.7	0.4	22.76	.07	46.0	0.7
28.3	32.73	.09	56.6	0.6	41.68	.09	64.2	0.5	22.68	.08	45.3	0.6
Jul. 8.2	32.63	.10	56.1	0.6	41.59	.10	63.7	0.5	22.59	.09	44.7	0.6
18.2	32.54	.10	55.5	0.6	41.49	.10	63.2	0.6	22.49	.10	44.2	0.5
28.2	32.43	.10	55.0	0.5	41.38	.11	62.6	0.6	22.38	.11	43.7	0.4
Ago. 7.1	32.34	.09	54.5	0.5	41.28	.10	62.0	0.6	22.27	.11	43.3	0.3
17.1	32.25	.08	54.0	0.4	41.18	.09	61.4	0.6	22.17	.10	43.0	0.2
27.1	32.17	.07	53.7	0.3	41.09	.08	60.8	0.5	22.08	.09	42.9	+ 0.1
Set. .61	32.11	.05	53.4	+ 0.2	41.01	.06	60.3	0.4	22.00	.07	42.9	− 0.1
1.60	32.07	− .02	53.3	0.0	40.96	− .03	60.0	0.3	21.94	.04	43.0	0.3
2.60	32.07	+ .02	53.4	− 0.2	40.95	.00	59.7	+ 0.1	21.91	− .01	43.4	0.5
Oct. 6.0	32.11	.06	53.7	0.4	40.97	+ .04	59.7	− 0.1	21.92	+ .03	44.0	0.7
16.0	32.18	.10	54.3	0.7	41.03	.09	59.9	0.3	21.97	.07	44.8	0.9
15.9	32.30	.14	55.1	0.9	41.14	.13	60.3	0.6	22.06	.12	45.8	1.2
Nov. 4.9	32.47	.19	56.2	1.2	41.29	.18	61.0	0.8	22.20	.16	47.1	1.4
14.9	32.68	.23	57.5	1.5	41.49	.22	62.0	1.1	22.39	.21	48.7	1.7
24.8	32.93	.27	59.1	1.7	41.74	.26	63.3	1.4	22.62	.25	50.4	1.9
Dic. 4.8	33.22	.30	60.9	1.9	42.02	.30	64.8	1.7	22.89	.28	52.4	2.0
14.3	33.54	.33	62.9	2.0	42.34	.32	66.6	1.9	23.19	.31	54.5	2.1
24.8	33.87	.34	65.0	2.1	42.67	.34	68.5	2.0	23.51	.33	56.6	2.1
34.7	34.21	+ .34	67.1	− 2.2	43.02	+ .35	70.5	− 2.1	23.85	+ .34	58.8	− 2.2

FECHA	η BOOTIS				α BOOTIS (*Arcturus*)				α_2 LIBRAE			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	13ʰ49ᵐ		**+18°54′**		**14ʰ10ᵐ**		**+19°43′**		**14ʰ45ᵐ**		**−15°36′**	
(Dic. 30.8)	40ˢ.93	+ .34	74″.7	− 2.4	52ˢ.01	+ .33	31″.9	− 2.5	3ˢ.35	+ .33	22″.2	− 1.5
Ene. 9.8	41.28	.34	72.4	2.1	52.35	.34	29.5	2.2	3.68	.34	23.8	1.6
19.8	41.62	.34	70.5	1.8	52.69	.34	27.4	1.9	4.03	.35	25.5	1.7
29.7	41.96	.33	68.9	1.4	53.03	.33	25.7	1.5	4.38	.34	27.2	1.7
Feb. 8.7	42.28	.31	67.6	1.0	53.35	.31	24.4	1.1	4.71	.33	28.8	1.6
18.7	42.57	.28	66.9	0.6	53.66	.29	23.5	0.7	5.03	.31	30.4	1.5
28.7	42.84	.25	66.5	− 0.1	53.93	.26	23.1	− 0.2	5.33	.29	31.8	1.3
Mar. 10.6	43.07	.21	66.6	+ 0.3	54.18	.23	23.1	+ 0.2	5.61	.26	33.1	1.2
20.6	43.26	.18	67.1	0.6	54.39	.19	23.5	0.6	5.85	.23	34.3	1.0
30.6	43.42	.14	67.9	0.9	54.56	.16	24.3	0.9	6.07	.20	35.2	0.8
Abr. 9.5	43.54	.10	68.9	1.2	54.70	.12	25.3	1.1	6.26	.17	36.0	0.7
19.5	43.62	.07	70.2	1.4	54.80	.09	26.7	1.4	6.41	.14	36.6	0.5
20.5	43.68	.04	71.6	1.5	54.87	.06	28.2	1.5	6.54	.11	37.0	0.4
May. 9.5	43.70	+ .01	73.1	1.5	54.91	+ .03	29.7	1.6	6.64	.08	37.3	0.2
19.4	43.69	− .02	74.6	1.5	54.93	.00	31.3	1.5	6.71	.06	37.4	− 0.1
29.4	43.66	.04	76.1	1.4	54.91	− .03	32.8	1.5	6.75	+ .03	37.5	0.0
Jun. 8.4	43.61	.06	77.4	1.3	54.87	.05	34.2	1.4	6.77	.00	37.4	+ 0.1
18.4	43.54	.08	78.6	1.1	54.80	.07	35.5	1.2	6.75	− .03	37.3	0.2
28.3	43.45	.10	79.6	0.9	54.72	.09	36.6	1.0	6.71	.05	37.1	0.2
Jul. 8.3	43.35	.11	80.5	0.7	54.62	.11	37.5	0.8	6.65	.08	36.9	0.3
18.3	43.23	.12	81.0	0.4	54.50	.12	38.1	0.5	6.56	.10	36.5	0.4
28.2	43.11	.13	81.3	+ 0.2	54.37	.13	38.5	+ 0.3	6.45	.12	36.1	0.4
Ago. 7.2	42.98	.13	81.4	− 0.1	54.23	.14	38.6	0.0	6.32	.13	35.7	0.5
17.2	42.85	.12	81.2	0.3	54.09	.14	38.5	− 0.3	6.19	.13	35.2	0.5
27.2	42.73	.11	80.7	0.6	53.96	.13	38.0	0.6	6.06	.13	34.7	0.5
Set. 6.1	42.63	.09	79.9	0.9	53.83	.11	37.2	0.9	5.93	.12	34.2	0.5
16.1	42.54	.07	78.9	1.2	53.73	.09	36.2	1.2	5.81	.10	33.7	0.4
26.1	42.49	− .04	77.5	1.5	53.65	.06	34.8	1.5	5.72	.07	33.3	0.3
Oct. 6.1	42.47	.00	75.9	1.8	53.60	− .03	33.2	1.8	5.66	− .04	33.0	0.2
16.0	42.48	+ .04	74.0	2.0	53.59	+ .01	31.4	2.0	5.64	.00	32.9	+ 0.1
26.0	42.55	.09	71.9	2.2	53.63	.06	29.1	2.3	5.67	+ .05	32.9	− 0.1
Nov. 5.0	42.66	.14	69.5	2.4	53.72	.11	26.7	2.5	5.74	.10	33.1	0.3
14.9	42.82	.18	67.0	2.6	53.86	.16	24.1	2.6	5.87	.15	33.5	0.6
24.9	43.03	.23	64.4	2.7	54.04	.21	21.4	2.7	6.04	.20	34.2	0.9
Dic. 4.9	43.28	.27	61.7	2.7	54.27	.25	18.6	2.8	6.27	.24	35.1	1.1
14.9	43.56	.30	59.0	2.6	54.54	.28	15.9	2.7	6.53	.29	36.2	1.2
24.8	43.88	.33	56.4	2.5	54.84	.31	13.2	2.6	6.83	.31	37.6	1.4
34.8	44.22	+ .34	54.0	− 2.3	55.17	+ .33	10.6	− 2.4	7.16	+ .34	39.1	− 1.6

FECHA	β LIBRAE				α SERPENTIS				ε SERPENTIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	15h11m		— 8°59′		15h39m		+ 6°44′		15h45m		+ 4°47′	
(Dic. 30.9)	20s.55	+ .30	49″.2	— 1.6	4s.90	+ .28	71″.0	— 2.1	34s.03	+ .27	28″.2	— 2.1
Ene. 9.8	20.86	.32	50.9	1.7	5.19	.30	68.9	2.0	34.31	.30	26.1	2.0
19.8	21.19	.33	52.6	1.7	5.50	.31	66.9	1.9	34.62	.31	24.2	1.9
29.8	21.53	.34	54.2	1.6	5.82	.32	65.1	1.7	34.94	.32	22.4	1.7
Feb. 8.8	21.86	.33	55.8	1.5	6.14	.32	63.5	1.4	35.26	.32	20.9	1.4
18.7	22.18	.31	57.2	1.3	6.46	.31	62.3	1.1	35.58	.31	19.6	1.1
28.7	22.48	.29	58.4	1.1	6.76	.30	61.4	0.7	35.88	.30	18.7	0.7
Mar. 10.7	22.77	.27	59.4	0.9	7.05	.28	60.9	— 0.4	36.17	.28	18.2	0.4
20.7	23.02	.25	60.1	0.7	7.32	.26	60.7	0.0	36.41	.26	17.9	— 0.1
30.6	23.26	.22	60.7	0.4	7.57	.23	60.9	+ 0.3	36.69	.24	18.0	+ 0.2
Abr. 9.6	23.46	.19	61.0	— 0.2	7.78	.21	61.4	0.6	36.92	.21	18.5	0.5
19.6	23.64	.16	61.1	0.0	7.98	.18	62.1	0.9	37.12	.19	19.2	0.8
29.5	23.79	.13	61.1	+ 0.1	8.14	.15	63.1	1.1	37.29	.16	20.0	1.0
May. 9.5	23.91	.10	60.9	0.2	8.28	.12	64.3	1.2	37.43	.13	21.1	1.1
19.5	24.00	.08	60.6	0.3	8.39	.09	65.5	1.3	37.55	.10	22.3	1.2
29.5	24.06	.05	60.2	0.4	8.46	.06	66.8	1.3	37.63	.07	23.5	1.2
Jun. 8.4	24.09	+ .02	59.8	0.4	8.51	+ .03	68.2	1.3	37.68	.04	24.7	1.2
18.4	24.10	— .01	59.3	0.5	8.52	.00	69.4	1.2	37.71	+ .01	25.9	1.2
28.4	24.07	.04	58.9	0.5	8.51	— .03	70.6	1.1	37.70	— .02	27.1	1.1
Jul. 8.4	24.02	.06	58.4	0.5	8.46	.06	71.7	1.0	37.66	.05	28.1	1.0
18.3	23.94	.09	57.9	0.5	8.39	.09	72.6	0.9	37.59	.08	29.0	0.8
28.3	23.85	.11	57.5	0.5	8.29	.11	73.4	0.7	37.50	.11	29.8	0.7
Ago. 7.3	23.73	.12	57.0	0.4	8.17	.13	74.1	0.5	37.38	.13	30.4	0.5
17.2	23.60	.13	56.6	0.4	8.03	.14	74.5	0.3	37.24	.14	30.8	0.3
27.2	23.46	.14	56.3	0.3	7.89	.15	74.7	+ 0.1	37.10	.15	31.1	+ 0.2
Set. 6.2	23.32	.13	56.0	0.2	7.74	.15	74.7	— 0.1	36.95	.15	31.2	0.0
16.2	23.19	.12	55.8	+ 0.1	7.59	.14	74.5	0.3	36.80	.14	31.1	— 0.2
26.1	23.09	.09	55.6	0.0	7.47	.12	74.1	0.6	36.67	.12	30.7	0.5
Oct. 6.1	23.01	.06	55.7	— 0.1	7.36	.09	73.4	0.8	36.56	.09	30.1	0.7
16.1	22.96	— .02	55.8	0.3	7.28	.06	72.5	1.0	36.48	.06	29.3	0.9
26.1	22.96	+ .02	56.2	0.5	7.25	— .02	71.4	1.3	36.44	— .02	28.3	1.2
Nov. 5.0	23.00	.07	56.8	0.7	7.25	+ .03	70.0	1.5	36.44	+ .03	27.0	1.4
15.0	23.10	.12	57.5	0.9	7.31	.08	68.3	1.7	36.49	.08	25.5	1.6
25.0	23.24	.17	58.5	1.1	7.41	.13	66.5	1.9	36.59	.12	23.8	1.8
Dic. 4.9	23.43	.21	59.7	1.3	7.57	.18	64.5	2.1	36.74	.17	22.0	1.9
14.9	23.67	.25	61.1	1.5	7.77	.22	62.4	2.2	36.94	.21	20.0	2.0
24.9	23.94	.28	62.5	1.6	8.01	.25	60.2	2.2	37.17	.25	17.9	2.1
34.9	24.25	+ .31	64.3	— 1.7	8.28	+ .27	58.0	— 2.1	37.44	+ .29	15.8	— 2.1

FECHA	δ SCORPII				β₁ SCORPII				δ OPHIUCHI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	15ʰ54ᵐ		**— 22°19′**		**15ʰ59ᵐ**		**— 19°31′**		**16ʰ8ᵐ**		**— 3°25′**	
(Dic.30.9)	6ˢ.34	+ .30	25″.5	− 0.8	18ˢ.77	+ .29	9″.3	− 0.9	49ˢ.56	+ .26	34″.2	− 1.7
Ene. 9.9	6.65	.32	26.5	1.0	19.08	.31	10.3	1.0	49.84	.29	35.9	1.7
19.8	6.99	.34	27.5	1.1	19.40	.33	11.4	1.1	50.14	.31	37.6	1.6
29.8	7.33	.35	28.6	1.2	19.74	.34	12.6	1.2	50.45	.32	39.1	1.5
Feb. 8.8	7.68	.35	29.8	1.2	20.09	.34	13.8	1.2	50.77	.32	40.5	1.3
18.7	8.03	.34	31.0	1.1	20.43	.34	14.9	1.1	51.09	.32	41.7	1.1
28.7	8.37	.33	32.1	1.0	20.76	.33	16.0	1.0	51.40	.31	42.7	0.8
Mar. 10 7	8.69	.31	33.2	1.0	21.08	.31	17.0	0.9	51.70	.29	43.4	0.5
20.7	8.99	.29	34.1	0.9	21.38	.29	17.8	0.8	51.99	.27	43.8	− 0.3
30.6	9.27	.27	35.0	0.8	21.65	.27	18.6	0.7	52.25	.26	44.0	0.0
Abr. 9.6	9.53	.24	35.7	0.7	21.92	.25	19.1	0.5	52.50	.23	43.9	+ 0.2
19.6	9.76	.22	36.4	0.6	22.15	.22	19.6	0.4	52.72	.21	43.5	0.4
29.6	9.97	.19	36.9	0.5	22.36	.19	20.0	0.3	52.91	.18	43.0	0.6
May. 9.5	10.15	.16	37.4	0.4	22.53	.16	20.3	0.2	53.08	.16	42.4	0.7
19.5	10.29	.13	37.8	0.3	22.68	.13	20.5	0.2	53.23	.13	41.6	0.8
29.5	10.41	.10	38.1	0.3	22.80	.10	20.6	− 0.1	53.34	.10	40.8	0.9
Jun. 8.4	10.49	.06	38.3	0.2	22.88	.07	20.7	0.0	53.42	.06	39.9	0.9
18.4	10.53	+ .03	38.5	0.2	22.93	+ .03	20.7	0.0	53.47	+ .03	39.0	0.8
28.4	10.54	− .01	38.7	− 0.1	22.94	.00	20.7	0.0	53.48	.00	38.2	0.8
Jul. 8.4	10.51	.04	38.7	0.0	22.92	− .04	20.7	+ 0.1	53.46	− .03	37.4	0.7
18.3	10.46	.07	38.7	+ 0.1	22.87	.07	20.6	0.1	53.41	.06	36.7	0.7
28.3	10.37	.10	38.6	0.1	22.78	.10	20.4	0.2	53.33	.09	36.1	0.6
Ago. 7.3	10.25	.13	38.5	0.2	22.67	.12	20.2	0.2	53.23	.12	35.5	0.5
17.3	10.11	.15	38.2	0.3	22.54	.14	19.9	0.3	53.10	.14	35.1	0.4
27.2	9.96	.16	37.9	0.3	22.39	.15	19.6	0.3	52.96	.15	34.8	0.3
Set. 6.2	9.80	.16	37.5	0.4	22.23	.15	19.3	0.4	52.80	.15	34.6	+ 0.1
16.2	9.65	.15	37.1	0.5	22.08	.15	18.9	0.4	52.66	.14	34.5	0.0
26.1	9.51	.13	36.6	0.5	21.94	.13	18.5	0.4	52.52	.13	34.6	− 0.1
Oct. 6.1	9.39	.10	36.1	0.5	21.82	.10	18.2	0.4	52.40	.11	34.8	0.3
16.1	9.31	.06	35.6	0.4	21.74	.06	17.8	0.3	52.30	.07	35.2	0.5
26.1	9.27	− .02	35.2	0.3	21.69	− .02	17.6	0.2	52.24	− .03	35.8	0.7
Nov. 5.0	9.28	+ .03	34.9	0.2	21.69	+ .03	17.4	+ 0.1	52.23	+ .01	36.5	0.9
15.0	9.34	.09	34.8	+ 0.1	21.75	.08	17.5	− 0.1	52.27	.06	37.5	1.1
25.0	9.45	.14	34.8	− 0.1	21.85	.13	17.7	0.2	52.35	.11	38.7	1.2
Dic. 5.0	9.62	.19	35.1	0.3	22.01	.18	18.0	0.4	52.49	.16	40.0	1.4
14.9	9.83	.21	35.5	0.5	22.22	.23	18.6	0.6	52.67	.20	41.5	1.5
24.9	10.09	.28	36.1	0.7	22.47	.27	19.4	0.8	52.89	.24	43.1	1.6
34.9	10.39	+ .31	36.9	− 0.9	22.76	+ .30	20.3	− 1.0	53.15	+ .27	44.7	− 1.7

FECHA	α SCORPII (*Antares*)				ζ OPHIUCHI				ϰ OPHIUCHI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	16ʰ22ᵐ		**— 26°12′**		**16ʰ31ᵐ**		**— 10°21′**		**16ʰ52ᵐ**		**+ 9°31′**	
(Dic. 30.9)	56ˢ.86	+ .28	0″.1	− 0.5	21ˢ.49	+ .26	23″.0	− 1.2	40ˢ.78	+ .21	67″.2	− 2.1
Ene. 9.9	57.16	.31	0.6	0.6	21.76	.28	24.2	1.3	41.01	.25	65.0	2.0
19.9	57.49	.33	1.3	0.7	22.05	.30	25.5	1.3	41.27	.27	63.0	1.9
29.8	57.84	.35	2.1	0.8	22.36	.31	26.8	1.2	41.56	.29	61.1	1.7
Feb. 8.8	58.19	.36	2.9	0.9	22.68	.32	28.0	1.1	41.86	.30	59.5	1.4
18.8	58.55	.35	3.8	0.9	23.00	.32	29.0	1.0	42.16	.31	58.3	1.1
28.7	58.90	.34	4.7	0.9	23.32	.32	29.9	0.8	42.47	.30	57.4	0.7
Mar. 10.7	59.24	.33	5.6	0.9	23.64	.31	30.6	0.6	42.77	.30	56.8	− 0.3
20.7	59.57	.32	6.4	0.8	23.94	.29	31.1	0.4	43.07	.29	56.7	+ 0.1
30.7	59.87	.30	7.2	0.7	24.23	.27	31.4	− 0.2	43.35	.27	57.0	0.4
Abr. 9.6	60.16	.28	7.9	0.7	24.48	.25	31.4	0.0	43.62	.26	57.6	0.8
19.6	60.43	.25	8.6	0.6	24.73	.23	31.4	+ 0.2	43.87	.24	58.6	1.1
29.6	60.67	.22	9.2	0.6	24.95	.21	31.1	0.3	44.09	.21	59.8	1.3
May. 9.6	60.88	.20	9.7	0.5	25.15	.18	30.7	0.4	44.29	.18	61.2	1.5
19.5	61.06	.17	10.2	0.5	25.32	.15	30.3	0.5	44.46	.16	62.8	1.6
29.5	61.20	.13	10.6	0.4	25.46	.12	29.8	0.5	44.60	.13	64.5	1.7
Jun. 8.5	61.32	.09	11.0	0.4	25.57	.09	29.2	0.5	44.71	.09	66.2	1.7
18.4	61.39	.06	11.4	0.4	25.64	.06	28.7	0.5	44.79	.06	67.8	1.6
28.4	61.43	+ .02	11.8	0.3	25.68	+ .02	28.1	0.5	44.83	+ .02	69.4	1.5
Jul. 8.4	61.43	− .02	12.0	0.2	25.68	− .02	27.6	0.5	44.83	− .02	70.9	1.4
18.4	61.38	.06	12.2	0.2	25.64	.05	27.1	0.4	44.79	.05	72.2	1.3
28.3	61.31	.09	12.4	− 0.1	25.58	.08	26.7	0.4	44.72	.08	73.4	1.1
Ago. 7.3	61.20	.12	12.4	0.0	25.48	.11	26.3	0.4	44.62	.11	74.4	0.9
17.3	61.06	.15	12.3	+ 0.1	25.36	.13	26.0	0.3	44.50	.14	75.1	0.6
27.3	60.90	.16	12.1	0.2	25.22	.15	25.7	0.3	44.35	.16	75.6	0.4
Set. 6.2	60.74	.17	11.9	0.3	25.07	.15	25.5	0.2	44.18	.17	75.9	+ 0.1
16.2	60.57	.16	11.5	0.4	24.91	.15	25.3	0.1	44.02	.17	75.9	− 0.1
26.2	60.41	.15	11.0	0.5	24.76	.14	25.2	+ 0.1	43.85	.16	75.7	0.4
Oct. 6.1	60.27	.12	10.5	0.5	24.63	.12	25.1	0.0	43.70	.14	75.2	0.6
16.1	60.17	.09	9.9	0.5	24.52	.09	25.2	− 0.1	43.57	.11	74.4	0.9
26.1	60.10	− .05	9.4	0.5	24.45	.05	25.4	0.3	43.47	.08	73.4	1.1
Nov. 5.1	60.08	.00	8.9	0.4	24.42	− .01	25.8	0.4	43.41	− .04	72.1	1.4
15.0	60.11	+ .06	8.5	0.3	24.44	+ .04	26.2	0.6	43.39	+ .01	70.6	1.6
25.0	60.19	.11	8.2	+ 0.2	24.51	.09	27.0	0.8	43.42	.05	68.9	1.8
Dic. 5.0	60.34	.17	8.1	0.0	24.62	.14	27.8	0.9	43.50	.10	66.9	2.0
15.0	60.53	.22	8.2	− 0.1	24.79	.19	28.8	1.1	43.62	.15	64.9	2.1
24.9	60.77	.26	8.4	0.3	25.00	.23	29.9	1.2	43.80	.19	62.7	2.2
34.9	61.05	+ .30	8.8	− 0.5	25.25	+ .26	31.1	− 1.2	44.01	+ .23	60.6	− 2.1

FECHA	α_1 HERCULIS				b OPHIUCHI				α OPHIUCHI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	17h9m		**+ 14°30′**		**17h19m**		**— 24°4′**		**17h30m**		**+ 12°37′**	
(Dic.30.9)	50s.39	+ .20	24″.7	— 2.4	56s.11	+ .23	49″.6	— 0.2	2s.39	+ .18	60″.4	— 2.2
Ene. 9.9	50.61	.23	22.3	2.3	56.35	.27	49.8	0.3	2.59	.22	58.2	2.2
19.9	50.86	.26	20.2	2.1	56.64	.30	50.2	0.4	2.82	.25	56.0	2.0
29.9	51.13	.28	18.1	1.9	56.94	.32	50.6	0.4	3.08	.27	54.1	1.8
Feb. 8.8	51.42	.30	16.4	1.6	57.27	.33	51.1	0.5	3.36	.29	52.4	1.5
18.8	51.72	.31	15.1	1.2	57.61	.34	51.5	0.5	3.65	.30	51.1	1.2
28.8	52.03	.31	14.1	0.8	57.95	.34	52.0	0.4	3.96	.30	50.1	0.8
Mar. 10.7	52.34	.30	13.6	— 0.3	58.29	.34	52.4	0.4	4.26	.30	49.5	— 0.3
20.7	52.64	.29	13.5	+ 0.1	58.63	.33	52.8	0.3	4.56	.30	49.4	+ 0.1
30.7	52.93	.28	13.8	0.5	58.95	.32	53.0	0.3	4.86	.29	49.6	0.5
Abr. 9.6	53.21	.27	14.6	0.9	59.27	.31	53.3	0.2	5.14	.28	50.3	0.9
19.6	53.46	.25	15.7	1.3	59.57	.29	53.4	0.1	5.41	.26	51.4	1.2
29.6	53.70	.23	17.1	1.6	59.85	.27	53.6	0.1	5.66	.24	52.7	1.5
May. 9.6	53.91	.20	18.8	1.8	60.11	.25	53.6	0.1	5.89	.22	54.3	1.7
19.5	54.10	.17	20.6	1.9	60.34	.22	53.7	0.1	6.10	.19	56.1	1.8
29.5	54.25	.14	22.6	2.0	60.54	.18	53.8	0.1	6.27	.16	58.0	1.9
Jun. 8.5	54.37	.10	24.6	2.0	60.71	.15	53.9	0.1	6.41	.12	60.0	2.0
18.5	54.46	.07	26.6	1.9	60.84	.11	54.1	0.1	6.52	.09	61.9	1.9
28.4	54.51	+ .03	28.4	1.8	60.93	.07	54.2	0.1	6.59	.05	63.8	1.8
Jul. 8.4	54.52	— .01	30.2	1.7	60.98	+ .03	54.3	0.2	6.62	+ .01	65.6	1.7
18.4	54.49	.05	31.8	1.5	60.99	— .02	54.5	0.2	6.61	— .03	67.2	1.5
28.3	54.43	.08	33.2	1.3	60.95	.06	54.7	0.1	6.56	.07	68.6	1.3
Ago. 7.3	54.33	.11	34.4	1.0	60.87	.09	54.8	0.1	6.48	.10	69.8	1.1
17.3	54.20	.14	35.3	0.8	60.76	.12	54.9	— 0.1	6.36	.13	70.8	0.8
27.3	54.05	.16	36.0	0.5	60.62	.15	54.9	0.0	6.22	.15	71.5	0.6
Set. 6.2	53.88	.17	36.3	+ 0.2	60.47	.16	54.9	+ 0.1	6.06	.17	72.0	+ 0.3
16.2	53.71	.18	36.4	— 0.1	60.29	.17	54.8	0.1	5.88	.18	72.2	0.0
26.2	53.53	.17	36.2	0.4	60.12	.16	54.6	0.2	5.71	.17	72.0	— 0.2
Oct. 6.2	53.37	.15	35.7	0.7	59.96	.15	54.3	0.3	5.54	.16	71.7	0.5
16.1	53.22	.13	34.9	1.0	59.82	.13	54.0	0.3	5.39	.14	71.0	0.8
26.1	53.10	.10	33.7	1.3	59.71	.09	53.7	0.3	5.26	.11	70.1	1.1
Nov. 5.1	53.02	.06	32.3	1.5	59.64	— .05	53.4	0.3	5.17	.07	68.8	1.4
15.0	52.98	— .02	30.7	1.8	59.62	.00	53.1	0.3	5.11	— .03	67.3	1.6
25.0	52.99	+ .03	28.7	2.0	59.64	+ .05	52.8	0.2	5.11	+ .02	65.6	1.8
Dic 5.0	53.05	.08	26.6	2.2	59.72	.11	52.7	+ 0.1	5.15	.06	63.6	2.0
15.0	53.15	.13	24.4	2.3	59.85	.16	52.7	0.0	5.23	.10	61.5	2.1
24.9	53.31	.17	22.0	2.4	60.04	.20	52.8	— 0.1	5.37	.15	59.3	2.2
34.9	53.50	+ .21	19.7	— 2.4	60.26	+ .24	52.9	— 0.2	5.54	+ .20	57.1	— 2.2

FECHA	γ_2 SAGITTARII				μ SAGITTARII				η SERPENTIS			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	17^h59^m		$-30°25'$		18^h7^m		$-21°5'$		18^h15^m		$-2°55'$	
Ene. 0.0	2.32	+ .20	38.8	+ 0.3	27.71	+ .17	18.7	− 0.2	51 34	+ .15	42.0	− 1.3
9.9	2.54	.24	38.5	0.3	27.91	.21	18.9	0.2	51.51	.19	43.3	1.3
19.9	2.80	.28	38.2	0.2	28.14	.25	19.1	0.2	51.71	.22	44.5	1.2
29.9	3.09	.31	38.0	0.1	28.41	.28	19.4	0.2	51.94	.24	45.7	1.1
Feb. 8.9	3.41	.33	37.9	+ 0.1	28.70	.30	19.6	0.2	52.20	.26	46.7	0.9
18.8	3.74	.34	37.9	0.0	29.00	.31	19.8	0.2	52.47	.28	47.6	0.7
28.8	4.09	.35	37.8	0.0	29.32	.32	20.0	− 0.1	52.76	.29	48.2	0.5
Mar. 10.8	4.45	.36	37.8	0.0	29.65	.33	20.1	0.0	53.06	.30	48.6	− 0.2
20.8	4.80	.35	37.8	0.0	29.98	.33	20.0	+ 0.1	53.36	.30	48.7	+ 0.1
30.7	5.16	.35	37.9	0.0	30.31	.33	19.9	0.2	53.66	.30	48.5	0.3
Abr. 9.7	5.51	.34	37.9	0.0	30.63	.32	19.7	0.2	53.96	.30	48.0	0.6
19.7	5.85	.33	37.9	− 0.1	30.95	.31	19.4	0.3	54.25	.29	47.3	0.8
29.6	6.17	.31	38.0	0.1	31.25	.30	19.1	0.3	54.53	.27	46.4	1.0
May. 9.6	6.47	.29	38.1	0.1	31.54	.28	18.8	0.3	54.80	.26	45.3	1.1
19.6	6.75	.26	38.2	0.2	31.81	.25	18.4	0.3	55.04	.24	44.1	1.2
29.6	7.00	.23	38.5	0.2	32.04	.22	18.1	0.3	55.27	.21	42.8	1.3
Jun. 8.5	7.22	.20	38.8	0.3	32.25	.19	17.8	0.3	55.46	.18	41.5	1.3
18.5	7.40	.16	39.1	0.4	32.43	.15	17.6	0.2	55.62	.14	40.3	1.2
28.5	7.53	.11	39.5	0.4	32.56	.11	17.4	0.1	55.74	.10	39.0	1.2
Jul. 8.4	7.62	.07	40.0	0.5	32.65	.07	17.3	+ 0.1	55.83	.06	37.9	1.1
18.4	7.66	+ .02	40.5	0.5	32.70	+ .02	17.3	0.0	55.87	+ .02	36.9	1.0
28.4	7.66	− .03	41.0	0.5	32.70	− .02	17.3	0.0	55.87	− .02	36.0	0.8
Ago. 7.4	7.61	.07	41.5	0.4	32.66	.06	17.4	− 0.1	55.83	.06	35.2	0.7
17.3	7.51	.11	41.9	0.4	32.58	.10	17.4	0.1	55.76	.09	34.6	0.5
27.3	7.38	.14	42.2	0.3	32.47	.13	17.5	0.1	55.65	.12	34.1	0.4
Set. 6.3	7.22	.17	42.5	0.2	32.32	.15	17.6	− 0.1	55.51	.15	33.8	0.3
16.3	7.05	.18	42.6	− 0.1	32.16	.16	17.6	0.0	55.36	.16	33.6	+ 0.1
26.2	6.86	.18	42.6	+ 0.1	31.99	.17	17.6	0.0	55.19	.17	33.5	0.0
Oct. 6.2	6.68	.17	42.5	0.2	31.82	.16	17.6	0.0	55.03	.16	33.6	− 0.2
16.2	6.51	.16	42.2	0.3	31.67	.15	17.5	+ 0.1	54.87	.14	33.9	0.3
26.2	6.37	.12	41.8	0.4	31.53	.12	17.4	0.1	54.74	.12	34.2	0.5
Nov. 5.1	6.26	.08	41.3	0.5	31.43	.08	17.3	0.1	54.63	.09	34.8	0.6
15.1	6.20	− .04	40.8	0.6	31.37	− .04	17.2	0.1	54.56	.05	35.5	0.8
25.1	6.19	+ .01	40.2	0.6	31.35	+ .01	17.1	+ 0 1	54.53	− .01	36.3	0.9
Dic. 5.0	6.23	.07	39.6	0.5	31.38	.06	17.1	0.0	54,54	+ .04	37.3	1.0
15.0	6.33	.12	39.1	0.5	31.46	.10	17.1	− 0.1	54.60	.08	38.4	1.1
25.0	6.47	.17	38.6	0.4	31.59	.15	17.2	0.1	54.70	.12	39.6	1.2
35.0	6.67	+ .22	38.2	+ 0.3	31.76	+ .19	17.4	− 0.2	54.84	+ .16	40.9	− 1.3

FECHA	1 AQUILAE				σ SAGITTARII				ζ AQUILAE			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	18h29m		— 8°19′		18h48m		— 26°25′		19h0m		+ 13°42′	
Ene. 0.0	28s.34	+ .14	12″.4	− 0.9	43s.94	+ .15	47″.0	+ 0.3	33s.71	+ .09	18″.0	− 2.0
10.0	28.50	.18	13.3	0.9	44.11	.18	46.6	0.3	33.82	.13	15.9	2.0
19.9	28.70	.21	14.2	0.9	44.31	.22	46.3	0.3	33.97	.17	13.9	1.9
29.9	28.92	.24	15.0	0.8	44.55	.25	46.0	0.3	34.16	.20	12.0	1.8
Feb. 8.9	29.18	.26	15.8	0.7	44.81	.28	45.7	0.3	34.37	.23	10.3	1.5
18.8	29.45	.28	16.4	0.5	45.10	.30	45.4	0.3	34.61	.25	8.9	1.2
28.8	29.74	.29	16.7	0.3	45.41	.32	45.1	0.3	34.87	.27	7.9	0.9
Mar. 10.8	30.03	.30	16.9	− 0.1	45.73	.33	44.7	0.4	35.14	.28	7.2	0.5
20.8	30.34	.31	16.9	+ 0.1	46.07	.34	44.3	0.4	35.43	.29	6.9	− 1.0
30.7	30.65	.31	16.7	0.4	46.41	.34	43.9	0.5	35.73	.30	7.0	+ 0.4
Abr. 9.7	30.95	.30	16.2	0.6	46.75	.34	43.4	0.5	36.03	.30	7.6	0.8
19.7	31.26	.30	15.6	0.7	47.09	.34	42.9	0.5	36.33	.30	8.6	1.1
29.6	31.55	.29	14.8	0.9	47.43	.33	42.4	0.5	36.63	.29	9.9	1.5
May. 9.6	31.83	.27	13.8	1.0	47.75	.31	42.0	0.4	36.91	.28	11.5	1.8
19.6	32.09	.25	12.8	1.1	48.06	.29	41.6	0.4	37.18	.26	13.4	2.0
29.6	32.33	.22	11.7	1.1	48.34	.27	41.3	0.3	37.43	.23	15.5	2.1
Jun. 8.5	32.54	.19	10.6	1.1	48.60	.24	41.0	0.2	37.65	.20	17.7	2.2
18.5	32.72	.16	9.6	1.0	48.82	.20	40.9	+ 0.1	37.84	.17	19.9	2.2
28.5	32.86	.12	8.6	0.9	49.00	.16	40.9	0.0	37.99	.13	22.1	2.2
Jul. 9.4	32.97	.08	7.7	0.8	49.13	.11	41.0	− 0.1	38.10	.09	24.3	2.1
18.4	33.02	+ .04	6.9	0.7	49.22	.06	41.2	0.2	38.17	+ .05	26.3	2.0
28.4	33.04	.00	6.2	0.6	49.26	+ .02	41.5	0.3	38.19	.00	28.2	1.8
Ago. 7.4	33.02	− .04	5.7	0.5	49.26	− .03	41.9	0.4	38.18	− .04	29.9	1.6
17.3	32.95	.08	5.3	0.4	49.20	.07	42.2	0.4	38.12	.08	31.4	1.3
27.3	32.85	.11	4.9	0.3	49.11	.11	42.6	0.4	38.02	.11	32.6	1.1
Set. 6.3	32.73	.14	4.7	0.2	48.98	.14	43.0	0.3	37.89	.14	33.6	0.8
16.3	32.58	.16	4.6	+ 0.1	48.83	.16	43.3	0.3	37.74	.16	34.2	0.5
26.2	32.41	.16	4.6	0.0	48.66	.17	43.5	0.2	37.57	.17	34.6	+ 0.2
Oct. 6.2	32.25	.16	4.7	− 0.1	48.48	.18	43.6	− 0.1	37.39	.17	34.7	0.0
16.2	32.09	.15	4.8	0.2	48.31	.17	43.7	0.0	37.22	.17	34.5	− 0.3
26.2	31.96	.12	5.1	0.3	48.15	.14	43.6	+ 0.1	37.06	.15	34.0	0.6
Nov. 5.1	31.85	.09	5.4	0.4	48.02	.11	43.4	0.2	36.91	.13	33.2	0.9
15.1	31.77	.06	5.9	0.5	47.92	.07	43.2	0.3	36.80	.10	32.2	1.2
25.1	31.73	− .02	6.4	0.6	47.87	− .03	42.9	0.3	36.72	.06	30.8	1.4
Dic. 5.1	31.74	+ .03	7.1	0.7	47.86	+ .02	42.6	0.3	36.68	− .02	29.2	1.7
15.0	31.79	.07	7.8	0.8	47.90	.06	42.2	0.3	36.68	+ .02	27.5	1.2
25.0	31.88	.12	8.6	0.8	47.99	.11	41.9	0.3	36.73	.06	25.6	1.9
35.0	32.02	+ .16	9.5	− 0.9	48.12	+ .16	41.5	+ 0.3	36.81	+ .10	23.6	− 2.0

FECHA	δ SAGITTARII				δ AQUILAE				κ AQUILAE			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	19^h11^m		— 19°8′		19^h20^m		+ 2°54′		19^h31^m		— 7°15′	
Ene. 0.0	28ˢ.24	+ .11	32″.6	— 0.1	11ˢ.01	+ .08	10″.9	— 1.4	13ˢ.35	+ .08	48″.1	— 0.7
10.0	28.37	.15	32.7	— 0.1	11.11	.12	9.6	1.4	13.45	.12	48.9	0.7
20.0	28.54	.18	32.8	0.0	11.25	.16	8.2	1.3	13.59	.15	49.6	0.7
29.9	28.74	.22	32.8	0.0	11.42	.19	7.0	1.2	13.76	.18	50.2	0.6
Feb. 8.9	28.97	.25	32.7	+ 0.1	11.62	.21	5.8	1.0	13.95	.21	50.7	0.5
18.9	29.23	.27	32.6	0.2	11.85	.24	4.9	0.8	14.18	.23	51.1	0.3
28.9	29.51	.29	32.4	0.3	12.09	.26	4.3	0.5	14.43	.25	51.3	— 0.1
Mar. 10.8	29.80	.30	32.1	0.4	12.36	.27	3.9	— 0.2	14.69	.27	51.3	+ 0.1
20.8	30.11	.31	31.6	0.5	12.64	.29	3.9	+ 0.1	14.98	.29	51.1	0.4
30.8	30.43	.32	31.0	0.6	12.94	.30	4.1	0.4	15.27	.30	50.6	0.6
Abr. 9.8	30.75	.33	30.4	0.7	13.24	.30	4.7	0.8	15.58	.31	49.9	0.8
19.7	31.08	.33	29.6	0.8	13.54	.30	5.7	1.1	15.89	.30	49.0	1.0
29.7	31.40	.32	28.8	0.8	13.84	.30	6.8	1.3	16.20	.31	47.9	1.2
May. 9.7	31.72	.31	28.0	0.8	14.14	.29	8.2	1.5	16.50	.30	46.6	1.3
19.6	32.02	.29	27.2	0.8	14.42	.27	9.9	1.7	16.80	.29	45.3	1.3
29.6	32.31	.27	26.4	0.8	14.68	.25	11.6	1.8	17.08	.27	43.9	1.4
Jun. 8.6	32.56	.24	25.6	0.7	14.92	.22	13.4	1.8	17.33	.24	42.5	1.4
18.6	32.79	.21	25.0	0.6	15.14	.19	15.2	1.8	17.56	.21	41.2	1.3
28.5	32.99	.17	24.5	0.5	15.31	.16	16.9	1.7	17.76	.18	39.9	1.2
Jul. 8.5	33.14	.13	24.1	0.4	15.45	.12	18.6	1.6	17.91	.14	38.8	1.1
18.5	33.24	.08	23.8	0.2	15.55	.07	20.2	1.5	18.03	.09	37.7	0.9
28.5	33.30	+ .04	23.6	+ 0.1	15.60	+ .03	21.6	1.3	18.10	+ .05	36.9	0.8
Ago. 7.4	33.32	— 0.1	23.6	0.0	15.61	— .01	22.8	1.2	18.12	.00	36.1	0.7
17.4	33.28	.05	23.6	— 0.1	15.58	.05	23.9	1.0	18.11	— .04	35.5	0.5
27.4	33.21	.09	23.7	0.1	15.51	.09	24.8	0.8	18.05	.08	35.1	0.4
Set. 6.3	33.10	.12	23.9	0.2	15.40	.12	25.4	0.6	17.95	.11	34.8	0.2
16.3	32.97	.15	24.1	0.2	15.27	.14	25.9	0.4	17.83	.13	34.7	+ 0.1
26.3	32.81	.16	24.3	0.2	15.12	.16	26.2	+ 0.2	17.69	.15	34.6	0.0
Oct. 6.3	32.64	.17	24.5	0.2	14.96	.16	26.2	0.0	17.53	.16	34.7	— 0.1
16.2	32.48	.16	24.6	0.1	14.80	.15	26.1	— 0.2	17.37	.15	34.9	0.2
26.2	32.32	.14	24.7	0.1	14.65	.14	25.8	0.4	17.22	.14	35.1	0.3
Nov. 5.2	32.19	.12	24.8	0.1	14.51	.12	25.2	0.6	17.09	.12	35.5	0.4
15.2	32.09	.09	24.9	0.1	14.40	.09	24.5	0.8	16.98	.09	35.9	0.5
25.1	32.02	.05	25.0	0.1	14.32	.06	23.6	1.0	16.90	.06	36.4	0.6
Dic. 5.1	31.99	— .01	25.0	0.1	14.28	— .02	22.6	1.1	16.86	— .02	37.0	0.6
15.1	32.01	+ .04	25.1	0.1	14.28	+ .02	21.4	1.2	16.85	+ .02	37.7	0.7
25.0	32.07	.08	25.1	0.1	14.32	.06	20.1	1.3	16.89	.06	38.4	0.7
35.0	32.18	+ .12	25.2	— 0.1	14.40	+ .10	18.8	— 1.4	16.96	+ .10	39.1	— 0.7

FECHA	γ AQUILAE				ALTAIR				β AQUILAE			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	19h41m		+10°21′		19h45m		+8°35′		19h50m		+6°8′	
Ene. 0.0	14.79	+ .06	19.0	− 1.7	38.37	+ .05	19.9	− 1.6	8.11	+ .05	32.3	− 1.5
10.0	14.87	.09	17.3	1.7	38.44	.09	18.3	1.6	8.18	.09	30.8	1.5
20.0	14.98	.13	15.6	1.6	38.55	.13	16.7	1.5	8.28	.12	29.3	1.4
30.0	15.13	.16	14.0	1.5	38.70	.16	15.2	1.4	8.42	.16	28.0	1.3
Feb. 8.9	15.30	.19	12.5	1.3	38.87	.19	13.9	1.2	8.60	.19	26.7	1.1
18.9	15.51	.22	11.3	1.1	39.07	.22	12.7	1.0	8.79	.21	25.7	0.9
28.9	15.74	.24	10.3	0.8	39.30	.24	11.9	0.7	9.02	.24	24.9	0.6
Mar. 10.9	15.99	.26	9.7	0.4	39.55	.26	11.3	− 0.4	9.27	.26	24.4	− 0.3
20.8	16.26	.28	9.5	− 0.1	39.82	.28	11.1	0.0	9.53	.27	24.3	+ 0.1
30.8	16.55	.29	9.6	+ 0.3	40.11	.29	11.3	+ 0.4	9.81	.29	24.5	0.4
Abr. 9.8	16.84	.30	10.1	0.7	40.40	.30	11.9	0.7	10.11	.30	25.1	0.7
19.7	17.15	.30	11.1	1.1	40.71	.30	12.8	1.1	10.41	.30	26.0	1.1
29.7	17.45	.30	12.3	1.4	41.01	.30	14.1	1.4	10.72	.30	27.2	1.4
May. 9.7	17.75	.29	13.9	1.7	41.32	.30	15.6	1.7	11.02	.30	28.7	1.6
19.7	18.04	.28	15.7	1.9	41.61	.29	17.4	1.9	11.32	.29	30.4	1.8
29.6	18.32	.26	17.6	2.0	41.89	.27	19.4	2.0	11.60	.27	32.3	1.9
Jun. 8.6	18.57	.24	19.7	2.1	42.15	.24	21.4	2.1	11.85	.25	34.3	2.0
18.6	18.79	.21	21.9	2.2	42.37	.21	23.5	2.1	12.09	.22	36.2	2.0
28.6	18.98	.17	24.1	2.1	42.57	.18	25.6	2.1	12.29	.18	38.2	2.0
Jul. 8.5	19.14	.13	26.2	2.0	42.73	.14	27.7	2.0	12.45	.14	40.2	1.9
18.5	19.25	.09	28.2	1.9	42.84	.09	29.6	1.9	12.57	.10	42.0	1.7
28.5	19.31	+ .04	30.1	1.8	42.92	.05	31.4	1.7	12.65	.06	43.6	1.6
Ago. 7.4	19.33	.00	31.8	1.6	42.94	+ .01	33.1	1.5	12.68	+ .01	45.1	1.4
17.4	19.31	− .04	33.3	1.4	42.93	− .04	34.5	1.3	12.67	− .03	46.4	1.2
27.4	19.25	.08	34.5	1.1	42.87	.08	35.7	1.1	12.62	.07	47.5	1.0
Set. 6.4	19.15	.11	35.6	0.9	42.78	.11	36.7	0.9	12.53	.11	48.4	0.8
16.3	19.02	.14	36.3	0.6	42.66	.13	37.4	0.6	12.42	.13	49.0	0.5
26.3	18.87	.16	36.8	0.4	42.51	.15	37.9	0.4	12.28	.15	49.4	0.3
Oct. 6.3	18.71	.16	37.1	+ 0.1	42.36	.16	38.2	+ 0.1	12.12	.16	49.6	+ 0.1
16.3	18.54	.16	37.1	− 0.1	42.19	.16	38.1	− 0.1	11.96	.16	49.6	− 0.1
26.2	18.38	.15	36.8	0.4	42.04	.15	37.9	0.4	11.80	.15	49.3	0.4
Nov. 5.2	18 24	.14	36.3	0.7	41.89	.13	37.4	0.6	11.66	.13	48.8	0.6
15.2	18.11	.11	35.5	0.9	41.77	.11	36.7	0.8	11.53	.11	48.1	0.8
25.2	18.01	.08	34.5	1.1	41.67	.08	35.7	1.1	11.44	.08	47.2	1.0
Dic. 5.1	17.95	.04	33.2	1.3	41.61	.04	34.6	1.2	11.37	.05	46.2	1.2
15.1	17.92	− .01	31.8	1.5	41.58	− .01	33.2	1.4	11.35	.01	44.9	1.3
25.1	17.93	+ .03	30.2	1.6	41.59	+ .03	31.8	1.5	11.35	− .03	43.6	1.4
35 0	17.99	+ .07	28.5	− 1.7	41.64	+ .07	30.2	− 1.6	11.40	+ .07	42.1	− 1.5

FECHA	τ AQUILAE				α_2 CAPRICORNI				π CAPRICORNI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	19^h58^m		+ 6°58′		20^h12^m		— 12°52′		20^h21^m		— 18°33′	
Ene. 0.1	59.47	+ .01	46.3	− 1.5	12.65	− .05	22.5	− 0.3	17.64	+ .04	31.7	0.0
10.0	59.54	.08	44.8	1.5	12.71	.08	22.8	0.3	17.70	.08	31.6	+ 0.1
20.0	59.63	.11	43.4	1.4	12.81	.12	23.0	0.2	17.80	.11	31.5	0.2
30.0	59.76	.15	42.0	1.3	12.95	.15	23.2	− 0.1	17.93	.14	31.3	0.3
Feb. 9.0	59.93	.18	40.7	1.1	13.11	.18	23.3	0.0	18.09	.18	31.0	0.4
18.9	60.12	.20	39.7	0.9	13.30	.21	23.2	+ 0.2	18.28	.21	30.5	0.5
28.9	60.33	.23	38.9	0.6	13.52	.23	23.0	0.3	18.50	.23	29.9	0.6
Mar. 10.9	60.57	.25	38.4	− 0.3	13.77	.26	22.6	0.5	18.74	.26	29.2	0.8
20.8	60.84	.27	38.3	0.0	14.03	.28	22.0	0.7	19.01	.28	28.4	0.9
30.8	61.12	.29	38.5	+ 0.4	14.32	.29	21.2	0.9	19.30	.30	27.4	1.0
Abr. 9.8	61.41	.30	39.1	0.7	14.62	.31	20.2	1.0	19.60	.31	26.3	1.1
19.8	61.71	.30	40.0	1.1	14.93	.32	19.1	1.2	19.93	.32	25.1	1.2
29.7	62.02	.31	41.2	1.4	15.25	.32	17.9	1.3	20.25	.33	23.9	1.3
May. 9.7	62.32	.30	42.8	1.6	15.57	.32	16.6	1.3	20.58	.33	22.6	1.3
19.7	62.62	.29	44.5	1.8	15.89	.31	15.2	1.4	20.91	.32	21.3	1.3
29.7	62.90	.27	46.4	2.0	16.20	.30	13.9	1.3	21.23	.31	20.0	1.2
Jun. 8.6	63.17	.25	48.4	2.0	16.49	.28	12.5	1.3	21.53	.29	18.9	1.1
18.6	63.41	.22	50.5	2.1	16.75	.25	11.3	1.2	21.81	.26	17.8	1.0
28.6	63.62	.19	52.5	2.0	16.98	.22	10.2	1.1	22.06	.23	16.9	0.8
Jul. 8.5	63.78	.15	54.5	1.9	17.18	.18	9.2	0.9	22.27	.19	16.2	0.6
18.5	63.91	.11	56.4	1.8	17.34	.14	8.3	0.8	22.44	.15	15.7	0.4
28.5	64.00	.06	58.2	1.7	17.45	.09	7.6	0.6	22.57	.10	15.3	0.3
Ago. 7.5	64.04	+ .02	59.7	1.5	17.52	+ .01	7.1	0.4	22.65	.05	15.1	+ 0.1
17.4	64.04	− .02	61.1	1.3	17.54	.00	6.8	0.3	22.68	+ .01	15.1	0.0
27.4	63.99	.06	62.3	1.1	17.52	− .04	6.6	+ 0.1	22.67	− .04	15.2	− 0.2
Set. 6.4	63.91	.10	63.3	0.8	17.45	.08	6.6	0.0	22.61	.08	15.5	0.3
16.4	63.80	.13	64.0	0.6	17.36	.11	6.6	− 0.1	22.52	.11	15.8	0.3
26.3	63.66	.15	64.4	0.4	17.23	.13	6.8	0.2	22.39	.13	16.1	0.4
Oct. 6.3	63.51	.16	64.7	+ 0.1	17.09	.15	7.0	0.2	22.25	.15	16 5	0.4
16.3	63.35	.16	64.7	− 0.1	16.93	.15	7.3	0.3	22.10	.15	16.9	0.4
26.2	63.19	.16	64.5	0.3	16.78	.15	7.6	0.3	21.94	.15	17.3	0.3
Nov. 5.2	63.05	.14	64.0	0.6	16.64	.13	7.9	0.3	21.79	.14	17.6	0.3
15.2	62.92	.12	63.3	0.8	16.52	.11	8.2	0.3	21.66	.12	17.8	0.2
25.2	62.82	.09	62.5	0.9	16.42	.08	8.6	0.3	21.56	.09	18.0	0.2
Dic 5.1	62.75	.05	61.4	1.1	16.35	.05	8.9	0.3	24.48	.06	18.2	0.1
15.1	62.71	− .02	60.2	1.3	16.31	− .02	9 3	0.3	21.44	.02	18.3	− 0.1
25.1	62.71	+ .02	58.9	1.4	16.32	+ .02	9.6	0.3	21.43	.01	18.3	0.0
35.1	62.75	+ .06	57.4	− 1.5	16.36	+ .06	9.9	− 0.3	21.47	− .05	18.3	0.0

FECHA	ε DELPHINI				μ AQUARII				1 PEGASI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	20h28m		+10°56′		20h46m		−9°22′		21h17m		+19°21′	
Ene. 0.1	10.63	+.01	41.6	−1.6	58.46	+.01	47.3	−0.5	12.63	−.04	16.8	−1.6
10.0	10.66	.05	40.1	1.6	58.49	.05	47.7	0.4	12.61	−.01	15.1	1.7
20.0	10.73	.08	38.5	1.5	58.55	.08	48.1	0.3	12.62	+.03	13.3	1.8
30.0	10.82	.11	36.9	1.4	58.65	.11	48.4	0.2	12.66	.06	11.5	1.8
Feb. 9.0	10.96	.15	35.5	1.3	58.77	.14	48.6	−0.1	12.74	.09	9.7	1.7
18.9	11.12	.18	34.3	1.1	58.93	.17	48.6	+0.1	12.85	.13	8.1	1.5
28.9	11.31	.20	33.3	0.8	59.12	.20	48.4	0.3	12.99	.16	6.8	1.2
Mar. 10.9	11.53	.23	32.7	0.5	59.33	.22	48.0	0.5	13.17	.19	5.7	0.9
20.9	11.77	.25	32.4	−0.1	59.57	.25	47.4	0.7	13.38	.22	5.0	0.5
30.8	12.04	.27	32.5	+0.3	59.83	.27	46.6	0.9	13.62	.25	4.7	−0.1
Abr. 9.8	12.32	.29	33.0	0.7	60.11	.29	45.6	1.1	13.88	.28	4.8	+0.3
19.8	12.62	.30	33.8	1.0	60.41	.31	44.4	1.3	14.17	.30	5.3	0.8
29.7	12.93	.31	35.0	1.4	60.72	.32	43.1	1.4	14.48	.31	6.3	1.2
May. 9.7	13.24	.31	36.6	1.7	61.04	.32	41.6	1.5	14.80	.32	7.7	1.5
19.7	13.55	.30	38.4	1.9	61.36	.32	40.0	1.6	15.12	.32	9.4	1.9
29.7	13.84	.29	40.4	2.1	61.67	.31	38.4	1.6	15.44	.31	11.4	2.1
Jun. 8.6	14.13	.27	42.5	2.2	61.97	.29	36.8	1.5	15.75	.30	13.6	2.3
18.6	14.39	.24	44.8	2.3	62.26	.27	35.2	1.4	16.04	.28	16.1	2.5
28.6	14.61	.21	47.0	2.3	62.51	.24	33.8	1.4	16.31	.25	18.7	2.6
Jul. 8.6	14.81	.17	49.3	2.2	62.74	.20	32.5	1.2	16.54	.22	21.3	2.6
18.5	14.96	.13	51.4	2.1	62.92	.16	31.3	1.0	16.74	.17	23.9	2.6
28.5	15.07	.09	53.5	2.0	63.06	.12	30.3	0.9	16.89	.13	26.4	2.5
Ago. 7.5	15.13	+.01	55.3	1.8	63.16	.07	29.6	0.7	17.00	.09	28.8	2.3
17.4	15.15	.00	57.0	1.6	63.21	+.03	29.0	0.5	17.06	+.04	31.1	2.1
27.4	15.13	−.04	58.5	1.3	63.22	−.01	28.6	0.3	17.08	.00	33.1	1.9
Set. 6.4	15.07	.08	59.7	1.1	63.18	.05	28.3	+0.1	17.05	−.04	34.9	1.7
16.4	14.98	.11	60.7	0.8	63.11	.03	28.2	0.0	16.99	.08	36.4	1.4
26.3	14.85	.13	61.4	0.6	63.01	.11	28.3	−0.1	16.89	.11	37.7	1.1
Oct. 6.3	14.71	.15	61.8	0.3	62.88	.13	28.5	0.2	16.77	.13	38.7	0.8
16.3	14.55	.16	62.0	+0.1	62.74	.14	28.7	0.3	16.63	.15	39.3	0.5
26.2	14.39	.15	62.0	−0.1	62.60	.14	29.0	0.4	16.48	.15	39.7	+0.2
Nov. 5.2	14.24	.14	61.6	0.4	62.46	.13	29.4	0.4	16.33	.15	39.7	−0.1
15.2	14.11	.13	61.0	0.7	62.33	.12	29.9	0.4	16.17	.14	39.4	0.5
25.2	13.99	.10	60.2	0.9	62.22	.10	30.3	0.5	16.03	.13	38.7	0.8
Dic. 5.1	13.90	.07	59.2	1.1	62.13	.07	30.8	0.5	15.92	.11	37.8	1.1
15.1	13.84	.04	57.9	1.3	62.07	.04	31.3	0.5	15.82	.09	36.6	1.3
25.1	13.82	.01	56.5	1.5	62.05	−.01	31.7	0.5	15.75	.06	35.2	1.5
35.1	13.82	−.02	55.0	−1.6	62.05	+.02	33.2	−0.4	15.70	−.03	33.6	−1.7

FECHA	β AQUARII				ξ AQUARII				ε PEGASI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	21h26m		— 6°1′		21h32m		— 8°19′		21h39m		+ 9°23′	
Ene. 0.1	1.05	— .02	66.8	— 0.6	8.96	— .02	38.3	— 0.5	0.81	— .04	33.6	— 1.2
10.1	1.04	+ .01	67.3	0.5	8.95	00	38.7	0.4	0.79	— .01	32.4	1.2
20.1	1.06	.04	67.8	0.4	8.97	+ .03	39.0	0.3	0.79	+ .02	31.2	1.2
30.0	1.12	.07	68.2	0.3	9.02	.06	39.3	— 0.2	0.82	.05	29.9	1.2
Feb. 9.0	1.20	.10	68.4	— 0.2	9.10	.09	39.4	0.0	0.88	.08	28.8	1.1
19.0	1.32	.13	68.5	0.0	9.21	.12	39.3	+ 0.1	0.97	.11	27.7	0.9
28.9	1.46	.16	68.5	+ 0.2	9.35	.15	39.1	0.3	1.10	.14	26.9	0.7
Mar. 10.9	1.64	.19	68.2	0.4	9.52	.18	38.7	0.6	1.26	.17	26.4	0.4
20.9	1.84	.22	67.6	0.7	9.72	.21	38.0	0.8	1.44	.20	26.1	— 0.1
30.9	2.07	.24	66.8	0.9	9.95	.24	37.1	1.0	1.66	.23	26.2	+ 0.3
Abr. 9.8	2.33	.27	65.8	1.1	10.20	.27	36.0	1.2	1.91	.26	26.7	0.6
19.8	2.61	.29	64.6	1.3	10.48	.29	34.7	1.4	2.18	.28	27.5	1.0
29.8	2.91	.31	63.2	1.5	10.78	.30	33.2	1.6	2.47	.30	28.6	1.3
May. 9.8	3.22	.32	61.6	1.7	11.09	.32	31.6	1.7	2.78	.31	30.0	1.6
19.7	3.54	.32	59.8	1.8	11.41	.32	29.8	1.8	3.10	.32	31.7	1.8
29.7	3.86	.32	58.0	1.8	11.73	.32	28.0	1.8	3.42	.31	33.7	2.0
Jun. 8.7	4.17	.31	56.2	1.8	12.05	.31	26.2	1.8	3.73	.30	35.8	2.2
18.6	4.47	.29	54.4	1.8	12.36	.29	24.5	1.7	4.03	.29	38.0	2.2
28.6	4.75	.26	52.7	1.7	12.64	.27	22.8	1.6	4.30	.26	40.3	2.3
Jul. 8.6	5.00	.23	51.1	1.5	12.90	.24	21.3	1.4	4.56	.23	42.5	2.2
18.6	5.21	.19	49.6	1.4	13.12	.20	19.9	1.3	4.77	.20	44.7	2.1
28.5	5.38	.15	48.3	1.2	13.30	.16	18.8	1.1	4.95	.16	46.8	2.0
Ago. 7.5	5.52	.11	47.3	1.0	13.44	.12	17.8	0.8	5.08	.11	48.8	1.9
17.5	5.60	.06	46.4	0.8	13.53	.07	17.1	0.6	5.17	.07	50.5	1.7
27.5	5.65	+ .02	45.8	0.5	13.58	+ .03	16.5	0.4	5.22	+ .03	52.1	1.4
Set. 6.5	5.64	— .02	45.3	0.4	13.59	— .01	16.2	0.2	5.22	— .01	53.4	1.2
16.4	5.61	.06	45.0	+ 0.2	13.55	.05	16.1	+ 0.1	5.19	.05	54.5	1.0
26.4	5.53	.09	44.9	0.0	13.48	.08	16.1	— 0.1	5.12	.08	55.4	0.7
Oct. 6.3	5.43	.11	45.0	— 0.1	13.39	.11	16.2	0.2	5.03	.11	56.0	0.5
16.3	5.31	.13	45.2	0.2	13.27	.12	16.5	0.3	4.91	.12	56.4	+ 0.3
26.3	5.18	.13	45.5	0.3	13.14	.13	16.9	0.4	4.78	.13	56.5	0.0
Nov. 5.3	5.05	.13	45.9	0.4	13.01	.13	17.3	0.5	4.65	.13	56.5	— 0.2
15.2	4.92	.12	46.3	0.5	12.88	.13	17.8	0.5	4.52	.12	56.1	0.4
25.2	4.80	.11	46.9	0.5	12.76	.11	18.3	0.5	4.39	.12	55.6	0.6
Dic. 5.2	4.70	.09	47.4	0.6	12.66	.09	18.8	0.5	4.28	.10	54.9	0.8
15.2	4.62	.07	48.0	0.6	12.58	.07	19.3	0.5	4.19	.08	54.0	1.0
25.1	4.57	.04	48.6	0.6	12.52	.04	19.8	0.5	4.12	.06	52.9	1.1
35.1	4.54	— .01	49.1	— 0.6	12.49	— .01	20.2	— 0.4	4.07	— .03	51.8	— 1.2

FECHA	μ CAPRICORNI				α AQUARII				θ AQUARII			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	21h47m		— 14°2′		22h0m		— 0°49′		22h11m		— 8°18′	
Ene. 0.1	33.59	− .03	54.8	− 0.2	22.71	− .05	53.1	− 0.7	16.96	− .05	29.0	− 0.5
10.1	33.57	− .01	54.9	− 0.1	22.68	− .02	53.8	0.7	16.92	− .03	29.4	0.4
20.1	33.57	+ .02	55.0	+ 0.1	22.67	.00	54.5	0.7	16.90	.00	29.7	0.2
30.0	33.61	.05	54.8	0.2	22.68	+ .03	55.2	0.6	16.91	+ .03	29.9	− 0.1
Feb. 9.0	33.68	.08	54.6	0.3	22.73	.06	55.7	0.4	16.95	.05	30.0	0.0
19.0	33.77	.11	54.1	0.5	22.81	.09	56.0	0.3	17.02	.08	29.8	+ 0.2
Mar. 1.0	33.90	.14	53.5	0.7	22.92	.12	56.2	− 0.1	17.12	.11	29.5	0.4
10.9	34.06	.17	52.7	0.9	23.05	.15	56.1	+ 0.2	17.25	.15	29.0	0.6
20.9	34.25	.21	51.7	1.1	23.23	.19	55.8	0.5	17.42	.18	28.3	0.9
30.9	34.48	.24	50.5	1.3	23.43	.22	55.2	0.7	17.61	.21	27.3	1.1
Abr. 9.9	34.72	.26	49.1	1.5	23.66	.25	54.4	1.0	17.84	.24	26.1	1.3
19.8	35.00	.29	47.6	1.6	23.92	.27	53.2	1.2	18.10	.27	24.7	1.5
29.8	35.30	.31	45.9	1.7	24.20	.29	51.9	1.5	18.38	.29	23.1	1.7
May. 9.8	35.61	.32	44.2	1.8	24.50	.31	50.2	1.7	18.68	.31	21.3	1.8
19.7	35.94	.33	42.4	1.8	24.82	.32	48.5	1.8	19.00	.32	19.5	1.9
29.7	36.27	.33	40.6	1.7	25.14	.32	46.6	1.9	19.32	.32	17.6	1.9
Jun. 8.7	36.60	.32	38.8	1.7	25.46	.31	44.6	2.0	19.64	.32	15.6	1.9
18.7	36.91	.30	37.2	1.6	25.77	.30	42.6	2.0	19.96	.31	13.8	1.8
28.6	37.21	.28	35.7	1.4	26.06	.28	40.6	1.9	20.27	.29	12.0	1.7
Jul. 8.6	37.48	.26	34.4	1.2	26.33	.25	38.7	1.8	20.54	.26	10.3	1.6
18.6	37.72	.22	33.3	1.0	26.57	.22	36.9	1.7	20.79	.23	8.8	1.4
28.6	37.92	.18	32.3	0.8	26.77	.18	35.3	1.5	21.01	.19	7.6	1.2
Ago. 7.5	38.08	.13	31.7	0.6	26.93	.14	33.8	1.3	21.18	.15	6.5	0.9
17.5	38.19	.09	31.2	0.3	27.04	.09	32.6	1.1	21.31	.11	5.7	0.7
27.5	38.26	+ 0.4	31.0	+ 0.1	27.11	.05	31.6	0.9	21.40	.06	5.1	0.5
Set. 6.4	38.28	.00	31.0	− 0.1	27.14	+ .01	30.8	0.7	21.44	+ .02	4.7	0.3
16.4	38.26	− .04	31.2	0.2	27.14	− .03	30.2	0.5	21.44	− .02	4.6	+ 0.1
26.4	38.20	.07	31.5	0.4	27.09	.06	29.8	0.3	21.41	.05	4.6	− 0.1
Oct. 6.4	38.12	.10	31.9	0.5	27.01	.09	29.6	+ 0.1	21.34	.08	4.8	0.2
16.3	38.01	.12	32.4	0.5	26.92	.11	29.7	− 0.1	21.25	.10	5.1	0.4
26.3	37.88	.13	33.0	0.5	26.80	.12	29.8	0.2	21.14	.11	5.5	0.5
Nov. 5.3	37.75	.13	33.5	0.5	26.68	.12	30.1	0.4	21.02	.12	6.0	0.5
15.3	37.62	.13	34.1	0.5	26.56	.12	30.5	0.5	20.90	.12	6.5	0.5
25.2	37.50	.12	34.6	0.5	26.44	.11	31.0	0.6	20.78	.11	7.1	0.5
Dic. 5.2	37.39	.10	35.0	0.4	26.33	.10	31.6	0.6	20.67	.10	7.6	0.5
15.2	37.30	.08	35.4	0.3	26.24	.08	32.3	0.7	20.58	.09	8.2	0.5
25.1	37.24	.05	35.7	0.2	26.16	.06	33.0	0.7	20.50	.07	8.7	0.4
35.1	37.20	− .02	35.8	− 0.1	26.12	− .03	33.8	− 0.7	20.45	− .04	9.1	− 0.4

FECHA	π AQUARII				η AQUARII				ζ PEGASI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	22^h19^m		+0°50′		22^h29^m		−0°39′		22^h36^m		+10°16′	
Ene. 0.1	54.23	− .06	36.4	− 0.7	57.04	− .07	35.5	− 0.7	12.83	− .08	59.0	− 1.0
10.1	54.18	.04	35.6	0.7	56.98	.04	36.2	0.7	12.76	.05	58.0	1.1
20.1	54.15	− .01	34.9	0.7	56.95	− .02	36.8	0.6	12.72	.03	56.9	1.1
30.1	54.15	+ .01	34.2	0.6	56.94	.00	37.4	0.5	12.69	− .01	55.8	1.1
Feb. 9.0	54.18	.04	33.6	0.5	56.96	+ .03	37.9	0.4	12.70	+ .02	54.7	1.0
19.0	54.24	.07	33.2	0.3	57.01	.06	38.2	− 0.2	12.74	.05	53.8	0.9
Mar. 1.0	54.32	.10	33.0	− 0.1	57.09	.09	38.3	0.0	12.80	.08	53.0	0.7
11.0	54.44	.14	32.9	+ 0.1	57.20	.13	38.3	+ 0.2	12.90	.12	52.4	0.4
20.9	54.59	.17	33.2	0.4	57.34	.16	37.9	0.5	13.04	.15	52.1	− 0.1
30.9	54.78	.20	33.7	0.7	57.52	.19	37.3	0.7	13.21	.19	52.1	+ 0.2
Abr. 9.9	54.99	.23	33.5	0.9	57.73	.22	36.4	1.0	13.42	.22	52.5	0.5
19.8	55.24	.26	35.6	1.2	57.97	.25	35.3	1.3	13.65	.25	53.1	0.8
29.8	55.52	.28	36.9	1.4	58.24	.28	33.9	1.5	13.92	.28	54.1	1.2
May. 9.8	55.81	.30	38.5	1.7	58.53	.30	32.3	1.7	14.21	.30	55.4	1.5
19.8	56.12	.31	40.3	1.9	58.84	.31	30.5	1.9	14.52	.31	57.0	1.7
29.7	56.44	.32	42.2	2.0	59.15	.32	28.6	2.0	14.84	.32	58.9	1.9
Jun. 8.7	56.76	.32	44.2	2.0	59.48	.32	26.6	2.0	15.17	.32	60.9	2.1
18.7	57.08	.31	46.3	2.1	59.80	.31	24.5	2.0	15.49	.31	63.1	2.2
28.7	57.38	.29	48.3	2.0	60.10	.29	22.5	2.0	15.80	.30	65.4	2.3
Jul. 8.6	57.66	.28	50.3	1.9	60.38	.27	20.5	1.9	16.08	.27	67.7	2.3
18.6	57.91	.23	52.2	1.8	60.64	.24	18.7	1.8	16.34	.24	69.9	2.2
28.6	58.12	.20	54.0	1.7	60.87	.21	17.0	1.6	16.57	.21	72.1	2.1
Ago. 7.5	58.30	.16	55.5	1.5	61.05	.17	15.5	1.4	16.75	.17	74.2	2.0
17.5	58.43	.11	56.9	1.3	61.20	.12	14.2	1.2	16.90	.13	76.1	1.8
27.5	58.52	.07	58.1	1.0	61.30	.08	13.1	1.0	17.01	.08	77.8	1.6
Set. 6.5	58.57	+ .03	59.0	0.8	61.35	+ .04	12.2	0.7	17.07	+ .04	79.3	1.4
16.4	58.58	− .01	59.7	0.6	61.37	.00	11.6	0.5	17.09	.00	80.5	1.1
26.4	58.55	.05	60.1	0.4	61.36	− .03	11.2	0.3	17.07	− .03	81.6	0.9
Oct. 6.4	58.49	.07	60.4	+ 0.2	61.30	.06	11.0	+ 0.1	17.03	.06	82.3	0.6
16.4	58.41	.09	60.5	0.0	61.23	.08	11.0	− 0.1	16.95	.08	82.9	0.4
26.3	58.31	.11	60.4	− 0.2	61.13	.10	11.2	0.2	16.86	.10	83.2	+ 0.2
Nov. 5.3	58.19	.12	60.2	0.3	61.03	.11	11.5	0.4	16.75	.11	83.3	0.0
15.3	58.07	.12	59.8	0.4	60.91	.11	11.9	0.5	16.63	.12	83.1	− 0.2
25.2	57.96	.11	59.3	0.5	60.80	.11	12.4	0.5	16.52	.12	82.8	0.4
Dic. 5.2	57.85	.10	58.7	0.6	60.69	.10	13.0	0.6	16.40	.11	82.2	0.6
15.2	57.75	.09	58.0	0.7	60.59	.09	13.6	0.7	16.30	.10	81.5	0.8
25.2	57.67	.07	57.3	0.7	60.50	.08	14.3	0.7	16.20	.09	80.7	0.9
35.1	57.61	− .05	56.5	− 0.7	60.44	− .06	15.0	− 0.7	16.13	− .07	79.7	− 1.0

FECHA	λ AQUARII				α PISCIS AUSTR. (*Fomalhaut*)				α PEGASI			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	22h47m		— 8°7′		22h51m		— 30°10′		22h59m		+14°38′	
Ene. 0.2	7.78	— .07	83.7	— 0.4	50.63	— .09	55.6	+ 0.3	31.19	— .09	26.7	— 1.0
10.2	7.72	.05	84.1	0.3	50.55	.07	55.2	0.6	31.11	.07	25.6	1.1
20.1	7.67	.03	84.4	0.2	50.49	.05	54.5	0.9	31.04	.05	24.4	1.2
30.1	7.65	— .01	84.6	— 0.1	50.46	— .02	53.5	1.1	31.00	.03	23.2	1.2
Feb. 9.1	7.66	+ .02	84.6	+ 0.1	50.45	+ .01	52.2	1.3	30.98	— .01	22.0	1.2
19.0	7.69	.05	84.5	0.3	50.48	.05	50.8	1.6	30.99	+ .02	20.9	1.1
Mar. 1.0	7.75	.08	84.1	0.5	50.54	.08	49.1	1.8	31.03	.06	19.9	0.9
11.0	7.84	.11	83.5	0.7	50.64	.12	47.2	2.0	31.11	.09	19.0	0.7
20.9	7.97	.15	82.7	0.9	50.78	.15	45.1	2.1	31.22	.13	18.5	0.4
30.9	8.14	.18	81.7	1.1	50.95	.19	42.9	2.2	31.37	.17	18.2	— 0.1
Abr. 9.9	8.33	.21	80.4	1.4	51.16	.23	40.7	2.3	31.56	.21	18.3	+ 0.2
19.9	8.56	.24	79.0	1.6	51.41	.26	38.3	2.3	31.79	.24	18.7	0.6
29.9	8.82	.27	77.3	1.7	51.69	.29	36.0	2.3	32.04	.27	19.5	0.9
May. 9.8	9.11	.30	75.5	1.9	52.01	.32	33.7	2.3	32.33	.30	20.6	1.3
19.8	9.41	.31	73.6	2.0	52.34	.34	31.5	2.2	32.63	.31	22.0	1.6
29.8	9.73	.32	71.6	2.0	52.69	.36	29.4	2.0	32.95	.32	23.8	1.8
Jun. 8.7	10.06	.33	69.5	2.0	53.05	.36	27.5	1.8	33.28	.33	25.7	2.0
18.7	10.38	.32	67.5	1.9	53.41	.36	25.8	1.5	33.61	.32	27.9	2.2
28.7	10.70	.30	65.6	— 1.8	53.77	.34	24.5	1.2	33.93	.31	30.1	2.3
Jul. 8.6	11.00	.28	63.9	1.7	54.10	.32	23.4	0.9	34.23	.29	32.5	2.4
18.6	11.27	.26	62.3	1.5	54.41	.29	22.7	0.5	34.51	.26	34.9	2.4
28.6	11.51	.22	60.9	1.3	54.68	.25	22.4	+ 0.2	34.75	.23	37.2	2.3
Ago. 7.6	11.71	.18	59.7	1.0	54.92	.21	22.3	— 0.1	34.96	.19	39.5	2.2
17.5	11.88	.14	58.8	0.8	55.10	.16	22.7	0.5	35.13	.15	41.6	2.0
27.5	12.00	.10	58.2	0.5	55.24	.12	23.3	0.8	35.25	.11	43.6	1.8
Set. 6.5	12.07	.06	57.7	0.3	55.34	.07	24.2	1.0	35.34	.06	45.3	1.6
16.5	12.11	+ .02	57.6	+ 0.1	55.38	+ .02	25.2	1.2	35.38	+ .02	46.8	1.4
26.4	12.11	— .02	57.6	— 0.1	55.37	— .02	26.5	1.3	35.30	— .01	48.1	1.2
Oct. 6.4	12.07	.05	57.8	0.3	55.33	.06	27.8	1.3	35.36	.04	49.2	0.9
16.4	12.01	.07	58.1	0.4	55.25	.09	29.2	1.3	35.30	.07	50.0	0.7
26.3	11.92	.09	58.6	0.5	55.15	.12	30.5	1.2	35.22	.09	50.5	0.4
Nov. 5.3	11.82	.11	59.1	0.6	55.02	.13	31.7	1.1	35.13	.10	50.8	+ 0.2
15.3	11.71	.11	59.7	0.6	54.88	.14	32.7	0.9	35.03	.11	50.9	— 0.1
25.3	11.60	.11	60.4	0.6	54.74	.14	33.5	0.7	34.91	.11	50.7	0.3
Dic. 5.2	11.49	.11	61.0	0.6	54.60	.13	34.1	0.4	34.79	.11	50.3	0.5
15.2	11.39	.10	61.5	0.5	54.47	.12	34.4	— 0.1	34.68	.11	49.7	0.7
25.2	11.30	.08	62.1	0.5	54.35	.11	34.4	+ 0.1	34.58	.10	48.9	0.9
35.2	11.22	— .06	62.5	— 0.4	54.26	— .09	34.2	+ 0.3	34.48	— .09	47.9	— 1.1

FECHA	θ PISCIUM				ι PISCIUM				ω PISCIUM			
	Ascens. Recta		Declinacion		Ascens. Recta		Declinacion		Ascens. Recta		Declinacion	
	23h22m		+5°48′		23h34m		+5°3′		23h53m		+6°16′	
Ene. 0.2	38.09	−.09	7.3	−0.8	32.66	−.09	25.8	−0.8	54.94	−.09	56.3	−0.7
10.2	38.01	.08	6.5	0.8	32.57	.08	25.1	0.8	54.85	.09	55.5	0.7
20.2	37.94	.06	5.7	0.8	32.49	.07	24.3	0.7	54.76	.08	54.8	0.7
30.1	37.88	.04	4.9	0.7	32.43	.05	23.6	0.7	54.69	.07	54.1	0.7
Feb. 9.1	37.85	−.02	4.2	0.6	32.39	−.03	22.9	0.6	54.63	.05	53.4	0.6
19.1	37.84	+.01	3.6	0.5	32.37	.00	22.3	0.5	54.59	−.02	52.8	0.5
Mar. 1.1	37.86	.04	3.1	0.4	32.38	+.03	21.9	0.3	54.59	+.01	52.4	0.4
11.0	37.92	.07	2.9	−0.2	32.43	.06	21.7	−0.1	54.61	.04	52.1	−0.2
21.0	38.01	.11	2.8	+0.1	32.51	.10	21.7	+0.1	54.67	.08	52.0	+0.1
31.0	38.14	.15	3.1	0.4	32.62	.13	22.0	0.4	54.76	.11	52.2	0.3
Abr. 9.9	38.30	.18	3.6	0.7	32.78	.17	22.5	0.7	54.90	.16	52.7	0.6
19.9	38.50	.22	4.4	1.0	32.97	.21	23.4	1.0	55.07	.20	53.5	0.9
29.9	38.73	.25	5.5	1.2	33.19	.24	24.5	1.2	55.28	.23	54.5	1.2
May. 9.9	39.00	.28	6.9	1.5	33.45	.27	25.9	1.5	55.53	.26	55.8	1.4
19.8	39.29	.30	8.5	1.7	33.74	.30	27.5	1.7	55.81	.29	57.3	1.7
29.8	39.60	.32	10.3	1.9	34.05	.31	29.3	1.9	56.11	.31	59.1	1.9
Jun. 8.8	39.92	.32	12.3	2.0	34.37	.32	31.3	2.0	56.43	.32	61.0	2.0
18.7	40.25	.32	14.4	2.1	34.69	.32	33.3	2.1	56.75	.32	63.1	2.1
28.7	40.57	.31	16.6	2.2	35.02	.32	35.5	2.1	57.08	.32	65.2	2.1
Jul. 8.7	40.87	.30	18.8	2.1	35.33	.30	37.6	2.1	57.39	.31	67.4	2.1
18.7	41.16	.27	20.9	2.0	35.62	.28	39.7	2.0	57.70	.29	69.5	2.0
28.6	41.42	.24	22.9	1.9	35.89	.25	41.7	1.9	57.97	.26	71.5	1.9
Ago. 7.6	41.65	.21	24.7	1.8	36.13	.22	43.5	1.7	58.22	.23	73.3	1.8
17.6	41.84	.17	26.5	1.6	36.33	.18	45.1	1.5	58.44	.20	75.1	1.6
27.6	41.99	.13	27.9	1.4	36.49	.14	46.6	1.3	58.62	.16	76.6	1.4
Set. 6.5	42.10	.09	29.2	1.1	36.61	.10	47.8	1.1	58.76	.12	77.9	1.2
16.5	42.16	.05	30.2	0.9	36.69	.06	48.8	0.9	58.86	.08	79.0	1.0
26.5	42.20	+.02	31.0	0.7	36.74	+.03	49.6	0.6	58.92	.05	79.8	0.7
Oct. 6.4	42.19	−.01	31.6	0.5	36.75	.00	50.1	0.4	58.95	+.01	80.4	0.5
16.4	42.16	.04	32.0	0.3	36.73	−.03	50.4	+0.2	58.95	−.02	80.8	0.3
26.4	42.11	.07	32.1	+0.1	36.68	.06	50.5	0.0	58.92	.04	81.0	+0.1
Nov. 5.4	42.03	.08	32.1	−0.1	36.61	.07	50.4	−0.2	58.87	.06	81.0	−0.1
15.3	41.94	.09	31.9	0.3	36.53	.09	50.2	0.3	58.80	.08	80.8	0.2
25.3	41.84	.10	31.5	0.4	36.44	.10	49.8	0.4	58.72	.09	80.5	0.4
Dic. 5.3	41.74	.10	31.0	0.5	36.34	.10	49.3	0.6	58.63	.10	80.1	0.5
15.3	41.63	.10	30.4	0.6	36.24	.10	48.7	0.6	58.53	.10	79.5	0.6
25.2	41.53	.10	29.8	0.7	36.14	.10	48.0	0.7	58.43	.10	78.9	0.7
35.2	41.41	−.09	29.0	−0.8	36.05	−.09	47.3	−0.8	58.33	−.09	78.2	−0.7

EFEMÉRIDES DEL SOL

PARA EL MERIDIANO DE WASHINGTON

EFEMÉRIDES DEL SOL PARA EL MERIDIANO DE WASHINGTON

ENERO

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIÁMET. à medio dia aparente	TIEMPO SIDÉREO á medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	18h 48m 15.50s	16.23s	−22° 59′ 29.6″	28.8″	11.038s	+ 12.73″	+ 3m 52.57s	16′ 18.35″	18h 44m 23.02s
2	52 40.21	41.01	54 10.5	9.5	11.024	13.86	4 20.71	18.36	48 19.58
3	18 57 4.51	5.40	48 24.0	22.8	11.007	15.00	4 48.48	18.36	52 16.14
4	19 1 28.41	29.38	42 10.4	8.9	10.989	16.13	5 15.81	18.35	18 56 12.70
5	5 51.87	52.91	35 29.7	28.1	10.971	17.25	5 42.72	18.34	19 0 9.26
6	10 14.85	15.97	28 22.4	20.5	10.951	18.36	6 9.14	18.32	4 5.81
7	14 37.34	38.53	20 48.6	46.4	10.929	19.46	6 35.08	18.30	8 2.37
8	18 59.30	60.58	12 48.4	46.0	10.907	20.55	7 0.49	18.27	11 58.93
9	23 20.72	22.08	22 4 22.2	19.5	10.884	21.63	7 25.37	18.23	15 55.49
10	27 41.59	43.01	21 55 30.2	27.1	10.860	22.70	7 49.67	18.19	19 52.05
11	32 1.88	3.37	46 12.5	9.3	10.836	23.76	8 13.41	18.15	23 48.61
12	36 21.57	23.12	36 29.6	26.1	10.810	24.81	8 36.54	18.09	27 45.17
13	40 40.64	42.26	26 21.7	17.7	10.784	25.85	8 59.06	18.03	31 41.73
14	44 59.08	60.76	15 48.9	44.7	10.757	26.88	9 20.94	17.97	35 38.28
15	49 16.87	18.61	21 4 51.7	47.2	10.730	27.89	9 42.17	17.89	39 34.84
16	53 34.00	35.79	20 53 30.1	25.3	10.702	28.89	10 2.75	17.81	43 31.40
17	19 57 50.45	52.30	41 44.9	39.6	10.673	29.88	22.64	17.73	47 27.96
18	20 2 6.20	8.10	29 35.8	30.2	10.644	30.86	10 41.83	17.64	51 24.51
19	6 21.25	23.20	16 63.5	57.6	10.614	31.82	11 0.32	17.55	55 21.07
20	10 35.57	37.56	20 4 8.4	2.1	10.583	32.77	18.07	17.45	19 59 17.63
21	14 49.15	51.18	19 50 50.5	43.9	10.552	33.71	35.10	17.34	20 3 14.19
22	19 1.98	4.06	37 10.4	3.5	10.520	34.62	11 51.37	17.24	7 10.75
23	23 14.04	16.16	23 8.5	1.2	10.488	35.53	12 6.87	17.13	11 7.30
24	27 25.32	27.48	19 8 45.0	37.5	10.455	36.42	21.58	17.01	15 3.86
25	31 35.82	38.00	18 53 60.5	52.5	10.422	37.28	35.52	16.89	19 0.42
26	35 45.51	47.73	38 55.2	46.9	10.388	38.14	12 48.65	16.77	22 56.97
27	39 54.39	56.64	23 29.5	20.9	10.354	38.98	13 0.96	16.65	26 53.53
28	44 2.44	4.72	18 7 44.0	35.1	10.320	39.80	12.45	16.53	30 50.09
29	48 9.66	11.96	17 51 39.0	29.8	10.285	40.60	23.12	16.40	34 46.65
30	52 16.05	18.37	35 15.0	5.5	10.250	41.38	32.94	16.27	38 43.20
31	20 56 21.61	23.95	−17 18 32.2	22.5	10.215	+ 42.15	+13 41.93	16 16.13	20 42 39.76

FEBRERO

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIÁMET. á medio dia aparente	TIEMPO SIDÉREO á medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	21h 0m 26.s32	28.s67	—17° 1′ 31.″2	21.″2	10.s180	+ 42.″91	+13m 50.s08	16′ 15.″99	20h 46m 36.s32
2	4 30.19	32.55	16 44 12.4	2.2	10.145	43.64	13 57.38	15.85	50 32.87
3	8 33.22	35.59	26 36.3	25.9	10.110	44.36	14 3.85	15.70	54 29.43
4	12 35.42	37.79	16 8 43.2	32.5	10.075	45.06	9.48	15.55	20 58 25.99
5	16 36.78	39.16	15 50 33.4	22.6	10.040	45.74	14.29	15.39	21 2 22.54
6	20 37.32	39.70	31 67.6	56.5	10.006	46.41	18.26	15.22	6 19.10
7	24 37.04	39.43	15 13 26.0	14.6	9.972	47.05	21.42	15.05	10 15.65
8	28 35.97	38.35	14 54 29.0	17.4	9.938	47.68	23.78	14.88	14 12.21
9	32 34.09	36.47	35 17.1	5.4	9.905	48.30	25.34	14.70	18 8.77
10	36 31.43	33.81	14 15 50.6	38.7	9.873	48.90	26.11	14.52	22 5.32
11	40 28.00	30.37	13 55 69.9	57.8	9.841	49.48	26.12	14.33	26 1.88
12	44 23.81	26.17	36 15.3	3.2	9.809	50.05	25.37	14.14	29 58.43
13	48 18.87	21.22	13 15 67.3	55.1	9.779	50.61	23.87	13.94	33 54.99
14	52 13.20	15.54	12 55 46.4	34.1	9.749	51.14	21.65	13.74	37 51.54
15	56 6.82	9.14	35 13.0	0.5	9.719	51.65	18.69	13.53	41 48.10
16	21 59 59.73	62.03	12 14 27.1	14.7	9.690	52.15	15.04	13.32	45 44.65
17	22 3 51.94	54.23	11 53 29.5	17.0	9.661	52.64	10.69	13.10	49 41.21
18	7 43.48	45.75	32 20.4	7.8	9.633	53.11	14 5.67	12.88	53 37.76
19	11 34.35	36.59	11 10 60.4	47.8	9.605	53.55	13 59.98	12.66	21 57 34.32
20	15 24.56	26.78	10 49 29.9	17.3	9.578	53.98	53.63	12.44	22 1 30.87
21	19 14.13	16.33	27 49.1	36.5	9.551	54.40	46.63	12.21	5 27.43
22	23 3.07	5.24	10 5 58.6	46.1	9.525	54.79	39.02	11.99	9 23.98
23	26 51.40	53.53	9 43 58.8	46.3	9.500	55.18	30.78	11.76	13 20.54
24	30 39.11	41.21	9 21 50.1	37.7	9.475	55.54	21.93	11.53	17 17.09
25	34 26.22	28.30	8 59 33.1	20.7	9.450	55.88	12.49	11.30	21 13.65
26	38 12.76	14.81	36 68.0	55.7	9.426	56.20	13 2.47	11.07	25 10.20
27	41 58.74	60.76	8 14 35.3	23.1	9.403	56.50	12 51.89	10.83	29 6.75
28	22 45 44.16	46.14	— 7 51 55.6	43.5	9.380	+ 56.79	+12 40.74	16 10.60	22 33 3.31

MARZO

Dia	Ascension recta aparente: Medio dia medio	Ascension recta aparente: Medio dia aparente	Declinacion aparente: Medio dia medio	Declinacion aparente: M. dia apar.	Movimiento horario: Asc. Rect.	Movimiento horario: Declinacion	Ecuacion de tiempo para medio dia aparente	Semidiamet. á medio dia aparente	Tiempo sidéreo á medio dia medio
1	22h 49m 29.04s	30.99s	— 7° 28′ 69.1″	57.1″	9.358s	+ 57.07″	+12m 29.08s	16′ 10.36″	22h 36m 59.86s
2	53 13.40	15.31	7 6 16.3	4.5	9.337	57.32	16.88	10.13	40 56.42
3	22 56 57.26	59.14	6 43 17.7	6.0	9.316	57.56	12 4.18	9.89	44 52.97
4	23 0 40.64	42.48	6 20 13.6	2.1	9.296	57.77	11 51.00	9.64	48 49.53
5	4 23.54	25.34	5 56 64.3	53.0	9.277	57.98	37.35	9.40	52 46.08
6	8 6.01	7.77	33 50.3	39.3	9.259	58.17	23.26	9.15	22 56 42.63
7	11 48.05	49.77	5 10 32.0	21.0	9.242	58.34	11 8.75	8.90	23 0 39.19
8	15 29.68	31.37	4 46 69.7	59.0	9.226	58.50	10 53.83	8.65	4 35.74
9	19 10.95	12.58	23 43.7	33.3	9.210	58.65	38.54	8.39	8 32.29
10	22 51.84	53.44	4 0 14.6	4.3	9.196	58.78	22.89	8.13	12 28.85
11	26 32.43	33.97	3 36 42.5	32.4	9.182	58.89	10 6.91	7.87	16 25.30
12	30 12.68	14.19	3 12 67.7	57.9	9.170	58.99	9 50.61	7.60	20 21.96
13	33 52.66	54.12	2 49 30.8	21.2	9.159	59.08	34.04	7.33	24 18.51
14	37 32.38	33.79	25 52.0	42.8	9.148	59.15	17.20	7.06	28 15.06
15	41 11.85	13.23	2 2 11.6	2.7	9.139	59.21	9 0.12	6.79	32 11.62
16	44 51.11	52.44	1 38 30.0	21.4	9.130	59.25	8 42.84	6.52	36 8.17
17	48 30.18	31.48	1 14 47.7	39.2	9.123	59.27	25.36	6.24	40 4.73
18	52 9.08	10.32	0 50 64.8	56.6	9.116	59.29	8 7.70	5.97	44 1.28
19	55 47.83	49.02	27 21.7	13.9	9.110	59.29	7 49.90	5.69	47 57.83
20	23 59 26.44	27.59	— 0 3 39.0	31.4	9.105	59.26	31.96	5.41	51 54.39
21	0 3 4.95	6.04	+ 0 20 3.2	10.4	9.100	59.23	7 13.92	5.13	55 50.94
22	6 43.36	44.41	0 43 44.3	51.2	9.097	59.19	6 55.78	4.85	23 59 47.49
23	10 21.70	22.71	1 7 24.2	30.7	9.095	59.12	37.57	4.57	0 3 44.05
24	13 59.97	60.94	31 2.2	8.4	9.093	59.04	19.30	4.29	7 40.60
25	17 38.22	39.13	1 54 38.0	44.0	9.091	58.94	6 0.98	4.02	11 37.15
26	21 16.43	17.29	2 18 11.3	17.0	9.090	58.82	5 42.66	3.74	15 33.71
27	24 54.64	55.45	2 41 41.8	47.1	9.090	58.70	24.31	3.47	19 30.26
28	28 32.86	33.63	3 5 8.9	13.9	9.091	58.56	5 5.98	3.19	23 26.81
29	32 11.11	11.82	28 32.2	36.9	9.092	58.39	4 47.67	2.92	27 23.37
30	35 49.37	50.06	3 51 51.6	56.0	9.095	58.21	29.40	2.65	31 19.92
31	0 39 27.72	28.35	+ 4 15 6.4	10.6	9.098	+ 58.02	+ 4 11.19	16 2.37	0 35 16.48

ABRIL

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIÁMET. á medio dia aparente	TIEMPO SIDÉREO á medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	0h 43m 6s.13	6s.72	+ 4° 38′ 16″.6	20″.4	9s.101	+ 57″.81	+ 3m 53s.06	16′ 2″.10	0h 39m 13s.03
2	46 44.66	45.20	5 1 21.6	25.1	9.105	57.59	35.03	1.83	43 9.58
3	50 23.29	23.79	24 21.1	24.3	9.110	57.36	3 17.11	1.56	47 6.14
4	54 2.06	2.51	5 47 14.8	17.7	9.116	57.10	2 59.33	1.29	51 2.69
5	0 57 40.98	41.39	6 10 2.3	5.0	9.124	56.84	41.71	1.02	54 59.25
6	1 1 20.07	20.44	32 43.4	45.8	9.132	56.57	24.24	0.75	0 58 55.80
7	4 59.36	59.68	6 55 17.7	19.8	9.140	56.28	2 6.98	0.48	1 2 52.35
8	8 38.87	39.15	7 17 45.0	46.8	9.149	55.97	1 49.94	16 0.21	6 48.91
9	12 18.61	18.84	7 40 4.8	6.3	9.159	55.66	33.13	15 59.94	10 45.46
10	15 58.62	58.81	8 2 16.8	18.1	9.171	55.34	16.58	59.67	14 42.02
11	19 38.90	39.05	24 20.9	21.9	9.183	55.00	1 0.35	59.39	18 38.57
12	23 19.48	19.59	8 46 16.6	17.3	9.196	54.64	0 44.35	59.12	22 35.13
13	27 0.37	0.45	9 8 3.6	4.0	9.210	54.27	28.70	58.85	26 31.68
14	30 41.62	41.66	29 41.7	41.7	9.224	53.89	+ 0 13.38	58.57	30 28.23
15	34 23.21	23.20	9 51 10.5	10.5	9.239	53.49	— 0 1.56	58.30	34 24.79
16	38 5.18	5.14	10 12 29.7	29.4	9.255	53.09	16.17	58.03	38 21.34
17	41 47.54	47.46	33 38.8	38.4	9.272	52.67	30.36	57.76	42 17.90
18	45 30.29	30.17	10 54 37.7	37.1	9.289	52.23	44.16	57.49	46 14.45
19	49 13.47	13.33	11 15 25.9	25.1	9.307	51.78	0 57.53	57.22	50 11.01
20	52 57.07	56.90	36 3.2	2.1	9.325	51.32	1 10.47	56.96	54 7.56
21	1 56 41.12	40.90	11 56 29.0	27.9	9.343	50.84	22.98	56.70	1 58 4.12
22	2 0 25.62	25.37	12 16 43.2	41.9	9.362	50.34	35.04	56.44	2 2 0.67
23	4 10.58	10.30	36 45.3	43.8	9.382	49.83	46.64	56.19	5 57.23
24	7 56.01	55.70	12 56 34.9	33.3	9.401	49.30	1 57.76	55.94	9 53.78
25	11 41.91	41.57	13 16 11.9	10.2	9.421	48.76	2 8.41	55.69	13 50.34
26	15 28.31	27.94	35 35.6	33.8	9.441	48.21	18.58	55.44	17 46.89
27	19 15.18	14.79	13 54 45.9	44.0	9.462	47.64	28.25	55.20	21 43.45
28	23 2.56	2.14	14 13 42.4	40.4	9.483	47.05	37.44	54.96	25 40.01
29	26 50.43	49.99	32 24.8	22.7	9.504	46.46	46.12	54.72	29 36.56
30	2 30 38.81	38.35	+14 50 52.7	50.4	9.526	+ 45.86	— 2 54.29	15 54.48	2 33 33.12

MAYO

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIÁMET. á medio dia aparente	TIEMPO SIDÉREO á medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	2h 34m 27.71s	27.23s	+15° 9′ 5.8″	3.4″	9.548s	+ 45.24″	— 3m 1.95s	15′ 54.25″	2h 37m 29.67s
2	38 17.14	16.63	27 3.8	1.4	9.570	44.60	9.07	54.02	41 26.23
3	42 7.09	6.57	15 44 46.4	44.0	9.592	43.95	15.68	53.80	45 22.78
4	45 57.56	57.03	16 2 13.3	10.9	9.614	43.29	21.76	53.58	49 19.34
5	49 48.60	48.05	19 24.3	21.8	9.637	42.61	27.29	53.35	53 15.90
6	53 40.17	39.61	36 18.9	16.4	9.660	41.93	32.27	53.13	2 57 12.45
7	2 57 32.31	31.73	16 52 57.0	54.5	9.683	41.24	36.69	52.91	3 1 9.01
8	3 1 25.00	24.41	17 9 18.2	15.7	9.707	40.53	40.55	52.70	5 5.57
9	5 18.27	17.67	25 22.3	19.9	9.731	39.80	43.83	52.48	9 2.12
10	9 12.12	11.50	41 9.0	6.5	9.755	39.07	46.56	52.27	12 58.68
11	13 6.55	5.92	17 56 38.2	35.7	9.779	38.34	48.70	52.06	16 55.24
12	17 1.55	0.91	18 11 49.3	46.9	9.803	37.59	50.24	51.84	20 51.79
13	20 57.13	56.50	26 42.1	39.8	9.828	36.81	51.21	51.64	24 48.35
14	24 53.32	52.68	41 16.5	14.2	9.853	36.03	51.59	51.43	28 44.91
15	28 50.08	49.45	18 55 32.1	29.8	9.877	35.25	51.37	51.23	32 41.46
16	32 47.45	46.81	19 9 28.6	26.5	9.902	34.45	50.58	51.03	36 38.02
17	36 45.39	44.76	23 5.7	3.6	9.926	33.63	49.19	50.83	40 34.58
18	40 43.91	43.28	36 23.3	21.2	9.950	32.81	47.23	50.63	44 31.13
19	44 43.01	42.39	19 49 20.9	18.9	9.974	31.98	44.69	50.44	48 27.69
20	48 42.67	42.05	20 1 58.3	56.1	9.998	31.14	41.59	50.25	52 24.25
21	52 42.89	42.28	14 15.2	13.3	10.021	30.27	37.93	50.07	3 56 20.81
22	3 56 43.65	43.06	26 11.4	9.6	10.044	29.40	33.72	49.89	4 0 17.37
23	4 0 44.95	44.35	37 46.6	45.0	10.065	28.52	28.99	49.72	4 13.92
24	4 46.75	46.19	48 60.6	59.1	10.086	27.63	23.73	49.56	8 10.48
25	8 49.08	48.53	20 59 53.0	51.5	10.107	26.74	17.98	49.40	12 7.04
26	12 51.88	51.35	21 10 23.7	22.3	10.127	25.82	11.72	49.24	16 3.60
27	16 55.17	54.65	20 32.5	31.1	10.147	24.90	3 5.00	49.09	20 0.15
28	20 58.91	58.41	30 19.0	17.8	10.166	23.97	2 57.81	48.94	23 56.71
29	25 3.10	2.61	39 43.3	42.1	10.184	23.04	50.29	48.79	27 53.27
30	29 7.71	7.25	48 44.8	43.8	10.202	22.09	42.13	48.65	31 49.83
31	4 33 12.73	12.29	+21 57 23.6	22.7	10.218	+ 21.14	— 2 33.68	15 48.51	4 35 46.39

JUNIO

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIÁMET. á medio dia aparente	TIEMPO SIDÉREO á medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	4h 37m 18.s15	17.s73	+22° 5′ 39.″5	38.″7	10.s234	+20.″19	— 2m 24.s81	15′ 48.″38	4h 39m 42.s95
2	41 23.94	23.56	13 32.3	31.6	10.250	19.21	15.58	48.25	43 39.50
3	45 30.09	29.73	21 1.8	1.2	10.265	18.24	2 5.98	48.13	47 36.06
4	49 36.60	36.27	28 7.9	7.3	10.279	17.26	1 56.04	48.01	51 32.62
5	53 43.45	43.14	34 50.5	50.0	10.293	16.28	45.75	47.89	55 29.18
6	4 57 50.60	50.33	41 9.3	9.0	10.306	15.29	35.15	47.78	4 59 25.74
7	5 1 58.06	57.83	47 4.5	4.2	10.319	14.30	24.24	47.67	5 3 22.30
8	6 5.81	5.61	52 35.6	35.3	10.330	13.30	13.05	47.56	7 18.85
9	10 13.83	13.66	22 57 42.8	42.5	10.341	12.29	1 1.58	47.45	11 15.41
10	14 22.11	21.96	23 2 25.7	25.5	10.351	11.28	0 49.87	47.35	15 11.97
11	18 30.63	30.52	6 44.5	44.3	10.361	10.27	37.91	47.25	19 8.53
12	22 39.35	39.28	10 38.7	38.6	10.370	9.25	25.75	47.15	23 5.09
13	26 48.28	48.24	14 8.6	8.6	10.377	8.23	13.36	47.05	27 1.65
14	30 57.39	57.39	17 14.0	14.0	10.384	7.21	— 0 0.82	46.96	30 58.21
15	35 6.66	6.69	19 54.8	54.8	10.390	6.18	+ 0 11.89	46.87	34 54.77
16	39 16.04	16.12	22 10.8	10.8	10.395	5.15	24.73	46.79	38 51.33
17	43 25.55	25.66	24 2.1	2.1	10.399	4.12	37.68	46.72	42 47.88
18	47 35.15	35.29	25 28.7	28.7	10.402	3.09	0 50.72	46.65	46 44.44
19	51 44.81	44.99	26 30.4	30.4	10.404	2.06	1 3.81	46.58	50 41.00
20	5 55 54.49	54.71	27 7.3	7.3	10.405	+ 1.02	16.94	46.52	54 37.56
21	6 0 4.18	4.44	27 19.3	19.3	10.405	— 0.02	30.07	46.46	5 58 34.12
22	4 13.84	14.13	27 6.5	6.4	10.403	1.05	43.18	46.41	6 2 30.68
23	8 23.45	23.79	26 28.7	28.6	10.400	2.09	1 56.23	46.37	6 27.24
24	12 32.98	33.34	25 26.2	26.1	10.396	3.12	2 9.19	46.33	10 23.80
25	16 42.40	42.81	23 58.9	58.7	10.391	4.15	22.06	46.29	14 20.35
26	20 51.68	52.12	22 7.0	6.8	10.385	5.18	34.79	46.27	18 16.91
27	25 0.81	1.29	19 50.2	50.0	10.377	6.21	47.36	46.25	22 13.47
28	29 9.75	10.27	17 8.9	8.6	10.369	7.23	2 59.74	46.23	26 10.03
29	33 18.48	19.03	14 3.2	2.8	10.360	8.25	3 11.92	46.22	30 6.59
30	6 37 26.97	27.56	+23 10 32.9	32.4	10.350	+ 9.27	+ 3 23.86	15 46.21	6 34 3.15

JULIO

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIÁMET. á medio dia aparente	TIEMPO SIDÉREO á medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	6h 41m 35s.22	35s.83	+23° 6′ 38″.5	38″.0	10s.338	—10″.28	+ 3m 35s.54	15′ 46″.20	6h 37m 59s.71
2	45 43.18	43.83	23 2 19.8	19.2	10.326	11.28	46.94	46.20	41 56.27
3	49 50.85	51.53	22 57 37.0	36.2	10.314	12.28	3 58.05	46.21	45 52.83
4	53 58.21	58.91	52 30.4	29.4	10.301	13.27	4 8.85	46.21	49 49.38
5	6 58 5.25	5.99	46 59.9	58.8	10.287	14.26	19.31	46.22	53 45.94
6	7 2 11.91	12.68	41 5.6	4.5	10.272	15.25	29.43	46.23	6 57 42.50
7	6 18.23	19.02	34 47.8	46.5	10.257	16.23	39.19	46.25	7 1 39.06
8	10 24.17	24.99	28 6.6	5.3	10.241	17.20	48.58	46.27	5 35.62
9	14 29.73	30.58	21 2.0	0.6	10.224	18.17	4 57.58	46.30	9 32.18
10	18 34.89	35.76	13 34.5	32.9	10.207	19.13	5 6.18	46.33	13 28.73
11	22 39.62	40.52	22 5 43.8	42.2	10.189	20.08	14.37	46.36	17 25.29
12	26 43.94	44.85	21 57 30.4	28.6	10.171	21.03	22.11	46.39	21 21.85
13	30 47.81	48.73	48 54.5	52.5	10.153	21.97	29.43	46.43	25 18.41
14	34 51.22	52.16	39 56.0	53.8	10.133	22.90	36.28	46.47	29 14.97
15	38 54.17	55.12	30 35.2	33.0	10.113	23.82	42.67	46.51	33 11.53
16	42 56.61	57.58	20 52.4	50.1	10.093	24.73	48.56	46.56	37 8.08
17	46 58.59	59.58	10 47.9	45.4	10.071	25.64	53.96	46.62	41 4.64
18	51 0.03	1.03	21 0 21.5	19.0	10.049	26.54	5 58.85	46.68	45 1.20
19	55 0.96	1.97	20 49 34.0	31.3	10.027	27.43	6 3.22	46.74	48 57.76
20	7 59 1.34	2.37	38 25.2	22.4	10.005	28.30	7.05	46.82	52 54.32
21	8 3 1.17	2.21	26 55.6	52.6	9.982	29.16	10.31	46.90	7 56 50.87
22	7 0.45	1.48	15 5.3	2.3	9.958	30.01	13.03	46.98	8 0 47.43
23	10 59.14	60.18	20 2 54.6	51.4	9.934	30.86	15.16	47.07	4 43.99
24	14 57.25	58.28	19 50 23.8	20.5	9.909	31.70	16.70	47.16	8 40.55
25	18 54.75	55.79	37 33.2	29.9	9.881	32.51	17.65	47.26	12 37.10
26	22 51.66	52.69	24 23.1	19.7	9.858	33.32	18.00	47.36	16 33.66
27	26 47.95	48.98	19 10 53.8	50.3	9.832	34.12	17.73	47.47	20 30.22
28	30 43.63	44.66	18 57 5.4	1.8	9.806	34.90	16.85	47.59	24 26.77
29	34 38.69	39.71	42 58.5	54.9	9.780	35.67	15.35	47.71	28 23.33
30	38 33.11	34.13	28 33.1	29.4	9.754	36.43	13.21	47.83	32 19.89
31	8 42 26.93	27.93	+18 13 49.6	45.9	9.728	—37.18	+ 6 10.47	15 47.95	8 36 16.45

AGOSTO

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIÁMET. á medio dia aparente	TIEMPO SIDÉREO á medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	8h 46m 20s.12	21s.10	+17° 58′ 48″.4	44″.6	9s.702	—37″.90	+ 6m 7s.09	15′ 48″.08	8h 40m 13s.00
2	50 12.68	13.66	43 29.6	25.9	9.676	38.64	6 3.10	48.21	44 9.56
3	54 4.63	5.60	27 53.7	49.8	9.651	39.35	5 58.50	48.35	48 6.12
4	8 57 55.98	56.93	17 11 60.7	56.9	9.626	40.05	53.28	48.48	52 2.67
5	9 1 46.72	47.65	16 55 50.9	47.0	9.601	40.75	47.46	48.62	55 59.23
6	5 36.85	37.76	39 24.9	21.0	9.576	41.42	41.04	48.76	8 59 55.79
7	9 26.41	27.30	22 42.7	38.9	9.552	42.09	34.04	48.91	9 3 52.34
8	13 15.39	16.25	16 5 44.6	40.8	9.528	42.75	26.46	49.06	7 48.90
9	17 3.79	4.63	15 48 31.0	27.2	9.504	43.39	18.30	49.21	11 45.46
10	20 51.62	52.44	30 62.0	58.2	9.480	44.02	9.58	49.36	15 42.01
11	24 38.91	39.69	15 13 18.0	14.4	9.457	44.64	5 0.31	49.52	19 38.57
12	28 25.65	26.41	14 55 19.3	15.8	9.434	45.25	4 50.48	49.68	23 35.12
13	32 11.84	12.57	37 6.3	2.8	9.412	45.84	40.13	49.84	27 31.68
14	35 57.51	58.21	14 18 39.1	35.7	9.391	46.42	29.24	50.01	31 28.23
15	39 42.65	43.32	13 59 58.1	54.8	9.369	46.99	17.82	50.18	35 24.79
16	43 27.28	27.92	41 3.6	0.4	9.348	47.55	4 5.90	50.36	39 21.35
17	47 11.41	12.01	21 56.0	52.9	9.327	48.08	3 53.47	50.54	43 17.90
18	50 55.03	55.60	13 2 35.6	32.6	9.306	48.61	40.54	50.72	47 14.46
19	54 38.17	38.70	12 42 62.5	59.8	9.286	49.13	27.13	50.91	51 11.01
20	9 58 20.83	21.33	23 17.5	14.9	9.266	49.62	3 13.22	51.10	55 7.57
21	10 2 3.00	3.46	12 3 20.6	18.2	9.246	50.11	2 58.86	51.30	9 59 4.12
22	5 44.73	45.15	11 43 12.2	10.0	9.227	50.58	44.02	51.50	10 3 0.68
23	9 25.99	26.37	22 52.8	50.7	9.208	51.03	28.73	51.70	6 57.23
24	13 6.81	7.14	11 2 22.5	20.8	9.190	51.47	2 12.99	51.91	10 53.79
25	16 47.19	47.49	10 41 42.0	40.4	9.172	51.90	1 56.82	52.13	14 50.34
26	20 27.15	27.42	10 20 51.2	49.9	9.155	52.32	40.23	52.35	18 46.90
27	24 6.72	6.93	9 59 50.8	49.6	9.139	52.71	23.25	52.57	22 43.45
28	27 45.89	46.06	38 40.8	40.0	9.123	53.10	1 5.87	52.80	26 40.01
29	31 24.68	24.80	9 17 21.9	21.2	9.107	53.48	0 48.11	53.02	30 36.56
30	35 3.11	3.19	8 55 54.1	53.8	9.092	53.83	30.00	53.25	34 33.12
31	10 38 41.20	41.23	+ 8 34 17.9	17.8	9.078	—54.18	+ 0 11.53	15 53.48	10 38 29.67

SETIEMBRE

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIÁMET. á medio dia aparente	TIEMPO SIDÉREO á medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	10h 42m 18.s96	18.s96	+ 8° 12′ 33.″6	33.″9	9.s065	−54.″51	− 0m 7.s25	15′ 53.″71	10h 42m 26.s22
2	45 56.44	56.37	7 50 41.5	41.9	9.053	54.83	26.33	53.95	46 22.78
3	49 33.63	33.50	28 41.6	42.4	9.042	55.14	0 45.71	54.18	50 19.33
4	53 10.54	10.38	7 6 34.6	35.7	9.032	55.44	1 5.33	54.42	54 15.89
5	10 56 47.23	47.01	6 44 20.5	22.0	9.022	55.72	25.19	54.65	10 58 12.44
6	11 0 23.69	23.42	6 21 59.9	61.6	9.013	56.00	1 45.28	54.89	11 2 9.00
7	3 59.95	59.64	5 59 32.8	34.8	9.006	56.25	2 5.57	55.13	6 5.55
8	7 36.05	35.67	36 59.7	62.1	8.999	56.50	26.02	55.37	10 2.10
9	11 11.98	11.56	5 14 20.8	23.5	8.993	56.74	2 46.63	55.61	13 58.66
10	14 47.78	47.32	4 51 36.4	39.4	8.988	56.95	3 7.38	55.86	17 55.21
11	18 23.48	22.95	28 46.9	50.1	8.983	57.16	28.24	56.10	21 51.77
12	21 59.06	58.49	4 5 52.6	56.2	8.979	57.36	3 49.19	56.35	25 48.32
13	25 34.58	33.96	3 42 53.7	57.8	8.977	57.54	4 10.22	56.60	29 44.87
14	29 10.05	9.38	3 19 50.8	55.2	8.975	57.70	31.31	56.85	33 41.43
15	32 45.47	44.74	2 56 44.0	48.8	8.974	57.85	4 52.43	57.11	37 37.98
16	36 20.88	20.10	33 33.8	39.0	8.973	57.99	5 13.58	57.37	41 34.53
17	39 56.28	55.45	2 10 20.6	26.1	8.973	58.11	34.73	57.63	45 31.09
18	43 31.68	30.80	1 47 4.6	10.4	8.974	58.22	5 55.86	57.89	49 27.64
19	47 7.13	6.19	23 46.2	52.4	8.975	58.31	6 16.98	58.16	53 24.19
20	50 42.62	41.62	1 0 25.9	32.4	8.978	58.38	38.03	58.43	11 57 20.75
21	54 18.16	17.12	0 37 4.0	10.8	8.981	58.44	6 59.03	58.69	12 1 17.30
22	11 57 53.79	52.70	+ 0 13 40.8	48.0	8.985	58.49	7 19.95	58.96	5 13.86
23	12 1 29.53	28.38	− 0 9 43.2	35.6	8.989	58.51	7 40.76	59.24	9 10.41
24	5 5.38	4.18	32 67.9	59.9	8.994	58.53	8 1.46	59.51	13 6.96
25	8 41.36	40.11	0 56 32.6	24.3	9.000	58.53	22.03	15 59.79	17 3.52
26	12 17.51	16.20	1 19 57.2	48.6	9.007	58.51	8 42.44	16 0.07	21 0.07
27	15 53.82	52.45	1 43 21.2	12.4	9.015	58.48	9 2.68	0.35	24 56.62
28	19 30.32	28.91	2 6 44.4	35.1	9.024	58.44	22.73	0.63	28 53.18
29	23 7.04	5.58	29 66.3	56.8	9.033	58.39	9 42.55	0.91	32 49.73
30	12 26 44.01	42.50	− 2 53 26.8	17.0	9.043	−58.31	−10 2.14	16 1.19	12 36 46.29

OCTUBRE

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIAMET. á medio dia aparente	TIEMPO SIDÉREO á medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	12h 30m 21.s24	19.s66	— 3° 16′ 45.″4	35.″3	9.s055	—58.″23	—10m 21.s47	16′ 1.″47	12h 40m 42.s84
2	33 58.75	57.13	3 39 61.7	51.4	9.068	58.13	40.51	1.75	44 39.39
3	37 36.57	34.90	4 3 15.6	4.9	9.081	58.01	10 59.24	2.03	48 35.95
4	41 14.72	13.02	26 26.7	15.7	9.096	57.89	11 17.63	2.30	52 32.50
5	44 53.23	51.48	4 49 34.4	23.2	9.112	57.75	35.68	2.58	12 56 29.05
6	48 32.12	30.32	5 12 38.8	27.4	9.127	57.60	11 53.34	2.85	13 0 25.61
7	52 11.41	9.55	35 39.3	27.6	9.144	57.43	12 10.61	3.13	4 22.16
8	55 51.13	49.23	5 58 35.6	23.7	9.162	57.25	27.43	3.40	8 18.71
9	12 59 31.30	29.35	6 21 27.4	15.3	9.181	57.06	43.83	3.67	12 15.27
10	13 3 11.93	9.93	6 44 14.2	1.9	9.201	56.84	12 59.74	3.94	16 11.82
11	6 53.06	51.02	7 6 55.7	43.2	9.222	56.61	13 15.18	4.21	20 8.38
12	10 34.69	32.61	29 31.6	19.0	9.244	56.37	30.11	4.48	24 4.93
13	14 16.85	14.72	7 51 61.5	48.6	9.266	56.11	44.51	4.75	28 1.49
14	17 59.55	57.38	8 14 24.9	11.8	9.289	55.84	13 58.36	5.02	31 58.04
15	21 42.82	40.61	36 41.5	28.2	9.313	55.55	14 11.64	5.29	35 54.59
16	25 26.66	24.41	8 58 50.8	37.5	9.337	55.23	24.37	5.56	39 51.15
17	29 11.08	8.81	9 20 52.4	39.0	9.362	54.90	36.49	5.83	43 47.70
18	32 56.12	53.80	9 42 45.9	32.4	9.388	54.55	48.02	6.10	47 44.26
19	36 41.77	39.41	10 4 31.0	17.5	9.414	54.19	14 58.93	6.38	51 40.81
20	40 28.05	25.66	25 67.0	53.5	9.441	53.81	15 9.22	6.65	55 37.37
21	44 14.97	12.56	10 47 33.9	20.3	9.468	53.41	18.85	6.92	13 59 33.92
22	48 2.54	0.10	11 8 51.0	37.3	9.495	53.00	27.83	7.19	14 3 30.48
23	51 50.79	48.31	29 57.8	44.1	9.523	52.57	36.15	7.46	7 27.03
24	55 39.72	37.21	11 50 54.2	40.6	9.552	52.12	43.80	7.73	11 23.59
25	13 59 29.32	26.80	12 11 39.6	26.0	9.581	51.66	50.75	8.00	15 20.14
26	14 3 19.64	17.09	32 13.7	0.1	9.610	51.17	15 56.99	8.27	19 16.70
27	7 10.68	8.09	12 52 35.9	22.4	9.641	50.67	16 2.52	8.54	23 13.25
28	10 62.44	59.84	13 12 46.0	32.6	9.672	50.16	7.32	8.80	27 9.81
29	14 54.95	52.32	32 43.6	30.2	9.703	49.63	11.38	9.06	31 6.36
30	18 48.21	45.58	13 52 28.4	15.1	9.735	49.09	14.67	9.32	35 2.92
31	14 22 42.24	39.59	—14 11 59.8	46.6	9.767	— 48.53	—16 17.21	16 9.57	14 38 59.47

NOVIEMBRE

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIÁMET. à medio dia aparente	TIEMPO SIDÉREO á medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	14h 26m 37.07s	34.40s	—14° 31′ 17.6″	4.6″	9.800s	—47.94″	—16m 18.95s	16′ 9.82″	14h 42m 56.03s
2	30 32.68	30.01	14 50 21.3	8.4	9.834	47.35	19.89	10.07	46 52.58
3	34 29.11	26.42	15 8 70.5	57.8	9.868	46.75	20.04	10.32	50 49.14
4	38 26.36	23.66	27 45.1	32.5	9.902	46.12	19.35	10.56	54 45.70
5	42 24.43	21.73	15 45 64.3	51.9	9.937	45.48	17.84	10.80	14 58 42.25
6	46 23.36	20.66	16 3 67.9	55.8	9.973	44.82	15.48	11.03	15 2 38.81
7	50 23.13	20.42	21 55.5	43.7	10.009	44.14	12.28	11.26	6 35.36
8	54 23.77	21.06	39 26.8	15.2	10.045	43.45	8.20	11.49	10 31.92
9	14 58 25.26	22.56	16 56 41.3	29.8	10.081	42.75	16 3.28	11.72	14 28.48
10	15 2 27.62	24.93	17 13 38.5	27.3	10.117	42.02	15 57.49	11.94	18 25.03
11	6 30.85	28.17	30 18.0	7.2	10.153	41.27	50.82	12.15	22 21.59
12	10 34.95	32.28	17 46 39.6	29.0	10.190	40.51	43.29	12.37	26 18.15
13	14 39.91	37.27	18 2 42.6	32.4	10.226	39.73	34.88	12.58	30 14.70
14	18 45.75	43.11	18 26.8	16.8	10.262	38.94	25.63	12.79	34 11.26
15	22 52.44	49.82	33 51.7	42.0	10.297	38.12	15.49	13.00	38 7.82
16	26 59.97	57.38	18 48 56.9	47.5	10.332	37.30	15 4.52	13.21	42 4.38
17	31 8.35	5.79	19 3 41.9	33.0	10.367	36.45	14 52.70	13.42	46 0.93
18	35 17.57	15.03	17 66.5	57.9	10.402	35.58	40.05	13.62	49 57.49
19	39 27.61	25.09	32 10.1	1.9	10.436	34.71	26.59	13.82	53 54.05
20	43 38.45	35.96	45 52.5	44.4	10.470	33.82	14 12.30	14.02	15 57 50.60
21	47 50.09	47.65	19 59 13.2	5.6	10.503	32.90	13 57.23	14.22	16 1 47.16
22	52 2.51	0.11	20 12 11.9	4.5	10.536	31.98	41.36	14.42	5 43.72
23	15 56 15.70	13.34	24 48.2	41.3	10.568	31.04	24.73	14.61	9 40.28
24	16 0 29.65	27.34	36 61.8	55.3	10.599	30.08	13 7.34	14.80	13 36.83
25	4 44.35	42.08	20 48 52.3	46.1	10.629	29.12	12 49.21	14.98	17 33.39
26	8 59.78	57.56	21 0 19.4	13.6	10.659	28.14	30.35	15.16	21 29.95
27	13 15.91	13.74	11 23.0	17.4	10.689	27.15	12 10.77	15.34	25 26.51
28	17 32.75	30.63	21 62.4	57.3	10.718	26.14	11 50.48	15.51	29 23.07
29	21 50.27	48.21	32 17.7	12.9	10.746	25.12	29.53	15.67	33 19.62
30	16 26 8.46	6.46	—21 42 8.3	3.9	10.774	—24.09	—11 7.90	16 15.83	16 37 16.18

DICIEMBRE

DIA	ASCENSION RECTA APARENTE		DECLINACION APARENTE		MOVIMIENTO HORARIO		ECUACION de tiempo para medio dia aparente	SEMIDIÁMET. à medio dia aparente	TIEMPO SIDÉREO à medio dia medio
	Medio dia medio	Medio dia aparente	Medio dia medio	M. dia apar.	Asc. Rect.	Declinacion			
1	16h 30m 27.s31	25.s37	—21° 51′ 34.″2	30.″1	10.s801	—23.″06	—10m 45.s61	16′ 15.″98	16h 41m 12.s74
2	34 46.79	44.91	22 0 34.9	31.1	10.827	22.00	10 22.68	16.13	45 9.30
3	39 6.88	5.07	9 10.3	6.8	10.852	20.94	9 59.14	16.27	49 5.86
4	43 27.58	25.84	17 19.9	16.7	10.877	19.87	34.99	16.41	53 2.42
5	47 48.86	47.20	25 3.7	0.8	10.901	18.78	9 10.27	16.55	16 56 58.97
6	52 10.69	9.11	32 21.3	18.7	10.924	17.68	8 44.98	16.67	17 0 55.53
7	16 56 33.07	31.55	39 12.6	10.2	10.945	16.58	8 19.17	16.79	4 52.09
8	17 0 55.95	54.51	45 37.3	35.2	10.966	15.47	7 52.84	16.90	8 48.65
9	5 19.33	17.96	51 35.0	33.3	10.986	14.35	7 26.02	17.01	12 45.21
10	9 43.14	41.86	22 57 5.8	4.4	11.005	13.22	6 58.76	17.12	16 41.77
11	14 7.39	6.19	23 2 9.5	8.1	11.021	12.08	31.07	17.23	20 38.33
12	18 32.02	30.91	6 45.6	44.6	11.037	10.93	6 2.98	17.33	24 34.89
13	22 57.01	55.99	10 54.2	53.4	11.052	9.78	5 34.54	17.42	28 31.44
14	27 22.34	21.40	14 35.1	34.4	11.065	8.62	5 5.77	17.51	32 28.00
15	31 47.95	47.10	17 48.1	47.6	11.076	7.46	4 36.70	17.60	36 24.56
16	36 13.81	13.05	20 33.2	32.8	11.086	6.29	4 7.39	17.69	40 21.12
17	40 39.88	39.21	22 50.1	49.8	11.093	5.12	3 37.87	17.77	44 17.68
18	45 6.13	5.56	24 38.9	38.7	11.100	3.95	3 8.17	17.84	48 14.24
19	49 32.51	32.03	25 59.4	59.3	11.105	2.77	2 38.34	17.91	52 10.80
20	53 59.00	58.60	26 51.8	51.8	11.108	1.59	2 8.41	17.98	17 56 7.36
21	11 58 25.54	25.24	27 15.8	15.8	11.110	— 0.41	1 38.41	18.05	18 0 3.91
22	18 2 52.11	51.90	27 11.6	11.6	11.111	+ 0.76	1 8.38	18.11	4 0.47
23	7 18.67	18.55	26 39.1	39.1	11.109	1.94	0 38.38	18.17	7 57.03
24	11 45.17	45.15	25 38.2	38.2	11.106	3.12	— 0 8.41	18.22	11 53.59
25	16 11.59	11.67	24 9.1	9.0	11.102	4.30	+ 0 21.45	18.27	15 50.15
26	20 37.89	38.06	22 11.9	11.8	11.097	5.47	0 51.21	18.31	19 46.71
27	25 4.06	4.32	19 46.5	46.3	11.090	6.64	1 20.83	18.34	23 43.27
28	29 30.04	30.39	16 53.2	53.0	11.082	7.81	1 50.26	18.37	27 39.83
29	33 55.83	56.26	13 31.7	31.4	11.073	8.97	2 19.50	18.39	31 36.39
30	38 21.37	21.89	9 42.5	42.1	11.062	10.13	2 48.48	18.40	35 32.95
31	18 42 46.65	47.25	—23 5 25.5	24.9	11.050	+11.29	+ 3 17.20	16 18.41	18 39 29.50

VALORES LOGARÍTMICOS DE

$$m = \frac{2 \sin {}^{21}/_{2}\, t}{\sin 1''} \qquad\qquad n = \frac{2 \sin {}^{41}/_{2}\, t}{\sin 1''}$$

PARA REDUCCIONES AL MERIDIANO

t	0^m	1^m	2^m	3^m	4^m	5^m	6^m	7^m
0^s	—	0.29303	0.89509	1.24727	1.49714	1.69096	1.84931	1.98320
1	6.73673	.30739	.90230	.25208	.50076	.69385	.85172	.98526
2	7.33879	.32151	.90945	.25687	.50435	.69673	.85412	.98732
3	7.69097	.33541	.91654	.26163	.50793	.69960	.85651	.98937
4	7.94085	.34909	.92357	.26636	.51150	.70246	.85890	.99142
5	8.13467	.36255	.93055	.27107	.51505	.70531	.86129	.99347
6	8.29303	.37581	.93747	.27575	.51859	.70815	.86366	.99551
7	8.42692	.38888	.94434	.28041	.52211	.71099	.86603	.99755
8	8.54291	.40174	.95115	.28504	.52562	.71382	.86840	1.99958
9	8.64521	.41442	.95791	.28965	.52912	.71663	.87075	2.00161
10	8.73673	.42692	.96462	.29423	.53260	.71944	.87310	.00363
11	8.81951	.43925	.97127	.29879	.53606	.72223	.87545	.00565
12	8.89509	.45140	.97788	.30332	.53952	.72502	.87779	.00766
13	8.96461	.46338	.98443	.30783	.54296	.72780	.88012	.00967
14	9.02898	.47519	.99094	.31232	.54639	.73057	.88244	.01167
15	9.08891	.48685	0.99740	.31679	.54980	.73333	.88476	.01367
16	9.14497	.49836	1.00381	.32123	.55320	.73608	.88708	.01566
17	9.19763	.50971	.01017	.32566	.55659	.73883	.88938	.01765
18	9.24727	.52092	.01649	.33006	.55996	.74157	.89168	.01964
19	9.29423	.53198	.02276	.33443	.56332	.74429	.89398	.02162
20	9.33879	.54291	.02898	.33878	.56667	.74701	.89627	.02360
21	9.38117	.55370	.03517	.34311	.57000	.74972	.89855	.02557
22	9.42157	.56436	.04131	.34743	.57332	.75242	.90083	.02753
23	9.46018	.57489	.04740	.35172	.57663	.75511	.90310	.02954
24	9.49715	.58529	.05345	.35598	.57993	.75780	.90536	.03148
25	9.53261	.59557	.05946	.36022	.58321	.76048	.90762	.03341
26	9.56667	.60573	.06543	.36445	.58648	.76314	.90987	.03536
27	9.59945	.61577	.07136	.36866	.58974	.76580	.91212	.03730
28	9.63104	.62570	.07725	.37285	.59299	.76846	.91436	.03924
29	9.66152	.63551	.08310	.37702	.59622	.77110	.91660	.04118
30	9.69097	.64521	.08891	.38116	.59945	.77373	.91883	.04311
31	9.71945	.65481	.09468	.38529	.60266	.77636	.92105	.04504
32	9.74703	.66431	.10042	.38940	.60586	.77898	.92327	.04697
33	9.77376	.67370	.10611	.39348	.60904	.78160	.92548	.04888
34	9.79968	.68299	.11177	.39755	.61222	.78420	.92769	.05080
35	9.82486	.69218	.11739	.40160	.61538	.78680	.92990	.05271
36	9.84933	.70127	.12298	.40563	.61854	.78938	.93209	.05462
37	9.87313	.71027	.12853	.40964	.62168	.79197	.93428	.05652
38	9.89629	.71918	.13404	.41364	.62481	.79454	.93646	.05842
39	9.91886	.72800	.13952	.41761	.62793	.79710	.93864	.06031
40	9.94085	.73673	.14497	.42157	.63103	.79967	.94082	.06220
41	9.96229	.74537	.15038	.42551	.63413	.80221	.94299	.06409
42	9.98323	.75393	.15576	.42943	.63722	.80476	.94515	.06597
43	0.00366	.76240	.16110	.43333	.64029	.80729	.94731	.06785
44	0.02363	.77080	.16641	.43722	.64335	.80982	.94946	.06972
45	0.04315	.77911	.17169	.44109	.64641	.81234	.95161	.07159
46	0.06224	.78734	.17694	.44494	.64945	.81486	.95375	.07346
47	0.08092	.79550	.18216	.44877	.65248	.81736	.95589	.07532
48	0.09921	.80358	.18735	.45259	.65550	.81986	.95802	.07718
49	0.11712	.81158	.19250	.45639	.65851	.82236	.96014	.07903
50	0.13467	.81952	.19762	.46018	.66151	.82484	.96226	.08088
51	0.15187	.82738	.20271	.46395	.66450	.82732	.96438	.08273
52	0.16875	.83517	.20778	.46770	.66748	.82979	.96649	.08457
53	0.18528	.84288	.21281	.47143	.67045	.83225	.96860	.08641
54	0.20151	.85053	.21782	.47515	.67341	.83471	.97070	.08824
55	0.21745	.85813	.22280	.47886	.67636	.83716	.97279	.09007
56	0.23310	.86564	.22775	.48255	.67930	.83960	.97488	.09190
57	0.24848	.87310	.23267	.48622	.68223	.84204	.97697	.09372
58	0.26358	.88049	.23756	.48988	.68515	.84447	.97905	.09554
59	0.27843	.88782	.24243	.49352	.68806	.84690	.98112	.09735
60	0.29303	0.89509	1.24727	1.49714	1.69096	1.84931	1.98320	2.09917

t	8^m	9^m	10^m	11^m	12^m	13^m	14^m	15^m
0^s	2.09917	2.20146	2.29296	2.37574	2.45130	2.52081	2.58516	2.64506
1	.10098	.20307	.29441	.37705	.45250	.52192	.58619	.64603
2	.10278	.20467	.29586	.37836	.45371	.52303	.58722	.64699
3	.10458	.20627	.29730	.37967	.45491	.52414	.58825	.64795
4	.10637	.20787	.29874	.38098	.45611	.52525	.58928	.64891
5	.10817	.20946	.30017	.38229	.45731	.52635	.59031	.64987
6	.10995	.21106	.30161	.38360	.45850	.52746	.59134	.65083
7	.11174	.21264	.30304	.38490	.45970	.52856	.59236	.65179
8	.11352	.21423	.30447	.38619	.46089	.52967	.59339	.65274
9	.11530	.21581	.30590	.38749	.46209	.53077	.59441	.65370
10	.11707	.21739	.30732	.38879	.46328	.53187	.59543	.65466
11	.11884	.21897	.30874	.39009	.46446	.53297	.59645	.65561
12	.12061	.22055	.31016	.39138	.46565	.53406	.59747	.65656
13	.12237	.22212	.31158	.39267	.46684	.53516	.59849	.65751
14	.12413	.22369	.31300	.39396	.46802	.53625	.59951	.65846
15	.12589	.22525	.31441	.39525	.46920	.53735	.60052	.65941
16	.12764	.22682	.31582	.39654	.47038	.53844	.60154	.66036
17	.12939	.22838	.31723	.39782	.47156	.53953	.60255	.66131
18	.13114	.22994	.31864	.39910	.47274	.54062	.60357	.66225
19	.13288	.23150	.32004	.40038	.47392	.54170	.60458	.66320
20	.13462	.23304	.32144	.40166	.47509	.54279	.60559	.66414
21	.13635	.23459	.32284	.40294	.47626	.54387	.60660	.66509
22	.13809	.23614	.32424	.40421	.47743	.54496	.60760	.66603
23	.13982	.23768	.32563	.40548	.47860	.54604	.60861	.66697
24	.14154	.23922	.32703	.40675	.47977	.54712	.60961	.66791
25	.14326	.24076	.32842	.40802	.48094	.54820	.61062	.66885
26	.14498	.24230	.32930	.40929	.48210	.54928	.61162	.66979
27	.14670	.24383	.33019	.41055	.48327	.55035	.61263	.67073
28	.14841	.24536	.33258	.41181	.48443	.55143	.61363	.67166
29	.15011	.24689	.33396	.41307	.48559	.55250	.61463	.67260
30	.15182	.24842	.33534	.41434	.48675	.55358	.61563	.67353
31	.15352	.24994	.33671	.41560	.48790	.55465	.61662	.67446
32	.15522	.25146	.33809	.41685	.48906	.55572	.61762	.67539
33	.15691	.25297	.33946	.41811	.49021	.55679	.61861	.67633
34	.15860	.25449	.34083	.41936	.49136	.55785	.61961	.67726
35	.16029	.25600	.34220	.42061	.49251	.55892	.62060	.67818
36	.16198	.25751	.34357	.42186	.49366	.55999	.62159	.67911
37	.16366	.25902	.34493	.42310	.49481	.56105	.62258	.68004
38	.16534	.26052	.34630	.42435	.49596	.56211	.62357	.68097
39	.16701	.26203	.34766	.42559	.49711	.56317	.62456	.68189
40	.16868	.26352	.34901	.42683	.49825	.56423	.62555	.68281
41	.17035	.26501	.35037	.42807	.49939	.56529	.62654	.68374
42	.17202	.26651	.35172	.42931	.50053	.56635	.62752	.68466
43	.17368	.26800	.35307	.43055	.50167	.56740	.62850	.68558
44	.17534	.26949	.35442	.43178	.50281	.56846	.62949	.68650
45	.17700	.27097	.35577	.43303	.50394	.56951	.63047	.68742
46	.17865	.27246	.35712	.43425	.50508	.57056	.63145	.68834
47	.18030	.27394	.35846	.43548	.50621	.57161	.63243	.68926
48	.18194	.27542	.35980	.43670	.50734	.57266	.63341	.69017
49	.18359	.27689	.36114	.43793	.50847	.57371	.63438	.69109
50	.18523	.27836	.36248	.43915	.50960	.57476	.63536	.69201
51	.18687	.27984	.36381	.44037	.51073	.57580	.63634	.69292
52	.18850	.28130	.36515	.44159	.51185	.57685	.63731	.69383
53	.19013	.28277	.36648	.44281	.51298	.57789	.63828	.69474
54	.19176	.28423	.36781	.44403	.51410	.57893	.63925	.69565
55	.19338	.28569	.36913	.44525	.51522	.57997	.64022	.69656
56	.19500	.28715	.37046	.44646	.51634	.58101	.64119	.69747
57	.19662	.28861	.37178	.44767	.51746	.58205	.64216	.69838
58	.19824	.29006	.37310	.44888	.51858	.58309	.64313	.69929
59	.19985	.29151	.37442	.45009	.51969	.58412	.64410	.70019
60	2.20146	2.29296	2.37574	2.45130	2.52081	2.58516	2.64506	2.70109

t	16m	17m	18m	19m	20m	21m	22m	23m
0s	2.70109	2.75373	2.80336	2.85029	2.89481	2.93717	2.97755	3.01613
1	.70200	.75458	.80416	.85105	.89554	.93786	.97820	.01675
2	.70291	.75543	.80496	.85181	.89626	.93855	.97886	.01738
3	.70381	.75628	.80576	.85257	.89698	.93923	.97952	.01801
4	.70471	.75713	.80656	.85333	.89770	.93992	.98017	.01864
5	.70561	.75798	.80736	.85409	.89842	.94061	.98083	.01926
6	.70651	.75883	.80816	.85485	.89914	.94129	.98148	.01989
7	.70741	.75967	.80896	.85561	.89986	.94198	.98214	.02052
8	.70830	.76052	.80976	.85636	.90058	.94266	.98279	.02114
9	.70920	.76136	.81056	.85712	.90130	.94335	.98344	.02177
10	.71010	.76220	.81135	.85787	.90202	.94403	.98410	.02239
11	.71099	.76304	.81215	.85863	.90274	.94471	.98475	.02302
12	.71188	.76388	.81295	.85938	.90346	.94540	.98540	.02364
13	.71278	.76472	.81375	.86014	.90417	.94608	.98605	.02426
14	.71367	.76556	.81454	.86089	.90489	.94676	.98670	.02489
15	.71456	.76640	.81533	.86164	.90560	.91744	.98735	.02551
16	.71545	.76724	.81612	.86239	.90632	.94812	.98800	.02613
17	.71634	.76808	.81691	.86314	.90703	.94880	.98865	.02675
18	.71723	.76892	.81770	.86389	.90774	.94948	.98930	.02737
19	.71811	.76976	.81849	.86464	.90845	.95016	.98995	.02799
20	.71900	.77059	.81928	.86539	.90917	.95084	.99060	.02861
21	.71989	.77143	.82007	.86614	.90988	.95152	.99125	.02923
22	.72077	.77226	.82086	.86689	.91058	.95219	.99189	.02985
23	.72165	.77309	.82165	.86763	.91129	.95287	.99254	.03047
24	.72254	.77392	.82244	.86838	.91200	.95355	.99319	.03109
25	.72342	.77476	.82322	.86912	.91271	.95422	.99383	.03171
26	.72430	.77559	.82401	.86987	.91342	.95490	.99448	.03232
27	.72518	.77642	.82479	.87061	.91413	.95557	.99512	.03294
28	.72606	.77724	.82558	.87136	.91484	.95625	.99576	.03356
29	.72694	.77807	.82636	.87210	.91555	.95692	.99641	.03417
30	.72781	.77890	.82714	.87284	.91625	.95759	.99705	.03479
31	.72869	.77973	.82792	.87358	.91696	.95827	.99769	.03540
32	.72957	.78056	.82870	.87432	.91766	.95894	.99834	.03602
33	.73044	.78138	.82948	.87506	.91837	.95961	.99898	.03663
34	.73132	.78220	.83026	.87580	.91907	.96028	2.99962	.03725
35	.73219	.78302	.83104	.87654	.91977	.96095	3.00026	.03787
36	.73306	.78385	.83182	.87728	.92048	.96162	.00090	.03848
37	.73393	.78467	.83260	.87802	.92118	.96229	.00154	.03909
38	.73480	.78549	.83337	.87876	.92188	.96296	.00218	.03970
39	.73567	.78631	.83414	.87949	.92258	.96363	.00282	.04031
40	.73654	.78713	.83492	.88023	.92328	.96429	.00346	.04092
41	.73741	.78795	.83570	.88096	.92398	.96496	.00409	.04153
42	.73827	.78877	.83648	.88170	.92468	.96563	.00473	.04214
43	.73914	.78958	.83725	.88243	.92538	.96630	.00537	.04275
44	.74001	.79040	.83802	.88317	.92608	.96696	.00600	.04336
45	.74087	.79121	.83879	.88390	.92677	.96763	.00664	.04397
46	.74173	.79203	.83957	.88463	.92747	.96829	.00728	.04458
47	.74259	.79284	.84034	.88536	.92817	.96896	.00791	.04519
48	.74346	.79366	.84111	.88610	.92886	.96962	.00855	.04580
49	.74432	.79447	.84188	.88683	.92956	.97028	.00918	.04641
50	.74518	.79528	.84264	.88756	.93026	.97095	.00981	.04701
51	.74604	.79609	.84341	.88828	.93096	.97161	.01045	.04762
52	.74690	.79690	.84418	.88901	.93164	.97227	.01108	.04823
53	.74775	.79771	.84495	.88974	.93233	.97293	.01171	.04883
54	.74861	.79852	.84571	.89047	.93303	.97359	.01234	.04944
55	.74947	.79933	.84648	.89119	.93372	.97425	.01298	.05004
56	.75032	.80014	.84724	.89192	.93441	.97491	.01361	.05065
57	.75118	.80094	.84801	.89265	.93510	.97557	.01424	.05125
58	.75203	.80175	.84877	.89337	.93579	.97623	.01487	.05185
59	.75288	.80255	.84953	.89410	.93648	97689	.01550	.05246
60	2.75373	2.80336	2.85029	2.89481	2.93717	2.97755	3.01613	3.05306

t	24^m	25^m	26^m	27^m	28^m	29^m
0^s	3.05306	3.08848	3.12252	3.15526	3.18681	3.21725
1	.05366	.08906	.12307	.15580	.18733	.21775
2	.05426	.08964	.12363	.15633	.18784	.21825
3	.05487	.09022	.12418	.15686	.18836	.21875
4	.05547	.09079	.12474	.15740	.18887	.21924
5	.05607	.09137	.12529	.15793	.18939	.21974
6	.05667	.09195	.12585	.15847	.18990	.22024
7	.05727	.09252	.12640	.15900	.19042	.22073
8	.05787	.09310	.12695	.15953	.19093	.22123
9	.05847	.09367	.12751	.16007	.19145	.22172
10	.05907	.09425	.12806	.16060	.19196	.22222
11	.05966	.09482	.12861	.16113	.19247	.22272
12	.06026	.09540	.12916	.16166	.19299	.22321
13	.06086	.09597	.12971	.16220	.19350	.22371
14	.06146	.09655	.13026	.16273	.19401	.22420
15	.06205	.09712	.13081	.16326	.19452	.22470
16	.06265	.09769	.13136	.16379	.19503	.22519
17	.06324	.09826	.13191	.16432	.19554	.22568
18	.06384	.09883	.13246	.16485	.19606	.22618
19	.06444	.09941	.13301	.16538	.19657	.22667
20	.06503	.09998	.13356	.16591	.19708	.22716
21	.06562	.10055	.13411	.16643	.19759	.22766
22	.06622	.10112	.13466	.16696	.19810	.22815
23	.06681	.10169	.13521	.16749	.19861	.22864
24	.06740	.10226	.13576	.16802	.19912	.22913
25	.06800	.10283	.13631	.16855	.19962	.22963
26	.06859	.10340	.13686	.16907	.20013	.23012
27	.06918	.10396	.13740	.16960	.20064	.23061
28	.06977	.10453	.13795	.17013	.20115	.23110
29	.07036	.10510	.13850	.17066	.20166	.23159
30	.07095	.10567	.13904	.17118	.20216	.23208
31	.07154	.10623	.13959	.17170	.20267	.23257
32	.07213	.10680	.14013	.17223	.20318	.23306
33	.07272	.10737	.14068	.17275	.20369	.23355
34	.07331	.10793	.14122	.17327	.20419	.23404
35	.07389	.10850	.14177	.17380	.20470	.23453
36	.07448	.10906	.14231	.17433	.20520	.23501
37	.07507	.10963	.14285	.17485	.20571	.23550
38	.07566	.11019	.14340	.17538	.20621	.23599
39	.07625	.11076	.14394	.17590	.20672	.23648
40	.07683	.11132	.14448	.17643	.20722	.23697
41	.07742	.11188	.14502	.17694	.20772	.23745
42	.07801	.11245	.14557	.17746	.20822	.23794
43	.07859	.11301	.14611	.17799	.20873	.23843
44	.07918	.11357	.14665	.17851	.20924	.23891
45	.07976	.11413	.14719	.17903	.20974	.23940
46	.08035	.11469	.14773	.17955	.21024	.23988
47	.08093	.11525	.14827	.18007	.21075	.24037
48	.08151	.11582	.14881	.18059	.21125	.24086
49	.08210	.11638	.14935	.18111	.21175	.24134
50	.08268	.11694	.14989	.18163	.21225	.24183
51	.08326	.11750	.15043	.18215	.21275	.24231
52	.08384	.11805	.15096	.18267	.21325	.24279
53	.08442	.11861	.15150	.18319	.21375	.24328
54	.08501	.11917	.15204	.18371	.21425	.24376
55	.08559	.11973	.15258	.18423	.21475	.24424
56	.08617	.12029	.15312	.18474	.21525	.24473
57	.08675	.12085	.15365	.18526	.21575	.24521
58	.08733	.12140	.15419	.18578	.21625	.24569
59	.08791	.12196	.15472	.18629	.21675	.24617
60	3.08848	3.12252	3.15526	3.18681	3.21725	3.24665

t	Logaritmo n	t	Logaritmo n	t	Logaritmo n
0m 0s	—	16m40s	9.8576	23m20s	0.4418
1 0	4.9706	50	9.8749	30	0.4541
2 0	6.1747	17 0	9.8920	40	0.4664
3 0	6.8791	10	9.9089	50	0.4786
4 0	7.3788	20	9.9257	24 0	0.4907
5 0	7.7665	30	9.9423	10	0.5027
6 0	8.0832	40	9.9588	20	0.5146
7 0	8.3509	50	9.9751	30	0.5264
8 0	8.5829	18 0	9.9913	40	0.5382
9 0	8.7875	10	0.0072	50	0.5499
10 0	8.9705	20	0.0231	25 0	0.5615
11 0	9.1360	30	0.0388	10	0.5730
12 0	9.2871	40	0.0544	20	0.5845
10	9.3111	50	0.0698	30	0.5959
20	9.3347	19 0	0.0851	40	0.6072
30	9.3580	10	0.1003	50	0.6184
40	9.3810	20	0.1153	26 0	0.6296
50	9.4037	30	0.1302	10	0.6407
13 0	9.4262	40	0.1450	20	0.6517
10	9.4483	50	0.1597	30	0.6626
20	9.4701	20 0	0.1742	40	0.6735
30	9.4917	10	0.1886	50	0.6843
40	9.5130	20	0.2029	27 0	0.6951
50	9.5341	30	0.2170	10	0.7057
14 0	9.5549	40	0.2311	20	0.7164
10	9.5754	50	0.2450	30	0.7269
20	9.5957	21 0	0.2589	40	0.7374
30	9.6158	10	0.2726	50	0.7478
40	9.6356	20	0.2862	28 0	0.7582
50	9.6553	30	0.2997	10	0.7685
15 0	9.6747	40	0.3131	20	0.7787
10	9.6939	50	0.3264	30	0.7889
20	9.7128	22 0	0.3396	40	0.7990
30	9.7316	10	0.3527	50	0.8090
40	9.7502	20	0.3657	29 0	0.8190
50	9.7686	30	0.3786	10	0.8290
16 0	9.7867	40	0.3915	20	0.8389
10	9.8047	50	0.4042	30	0.8487
20	9.8225	23 0	0.4168	40	0.8585
30	9.8402	10	0.4293	50	0.8682
40	9.8576	20	0.4418	30 0	0.8779

TABLAS PARA CALCULAR LA REFRACCION VERDADERA

DISTANCIAS ZENITALES APARENTES

Dist. Zenital	Log. α		A	λ	Dist. Zenital	Log. α		A	λ
0° 0′	1.76156	2			77° 20′	1.75180	25	1.0027	1.0264
10 0	1.76154	5			30	1.75155	25	1.0027	1.0272
20 0	1.76149	10			40	1.75129	26	1.0028	1.0281
30 0	1.76139	9			50	1.75101	28	1.0029	1.0290
35 0	1.76130				78 0	1.75072	29	1.0030	1.0299
40 0	1.76119	11			10	1.75043	29	1.0030	1.0308
45 0	1.76104	15		1.0018	20	1.75013	30	1.0031	1.0318
46 0	1.76100	4		1.0019	30	1.74981	32	1.0032	1.0328
47 0	1.76096	4		1.0019	40	1.74947	34	1.0033	1.0338
48 0	1.76092	4		1.0020	50	1.74912	35	1.0034	1.0347
49 0	1.76087	5		1.0021	79 0	1.74876	36	1.0035	1.0357
50 0	1.76082	5		1.0023	10	1.74839	37	1.0036	1.0367
51 0	1.76077	5		1.0025	20	1.74799	40	1.0037	1.0377
52 0	1.76071	6		1.0026	30	1.74757	42	1.0038	1.0387
53 0	1.76065	6		1.0027	40	1.74714	43	1.0039	1.0398
54 0	1.76058	7		1.0029	50	1.74670	44	1.0040	1.0409
55 0	1.76050	8		1.0031	80 0	1.74623	47	1.0041	1.0420
56 0	1.76042	8		1.0034	10	1.74573	50	1.0042	1.0431
57 0	1.76033	9		1.0037	20	1.74521	52	1.0043	1.0442
58 0	1.76023	10		1.0040	30	1.74468	53	1.0045	1.0454
59 0	1.76012	11		1.0043	40	1.74412	56	1.0046	1.0466
60 0	1.76001	11		1.0046	50	1.74352	60	1.0047	1.0479
61 0	1.75988	13		1.0049	81 0	1.74288	64	1.0049	1.0493
62 0	1.75973	15		1.0054	10	1.74223	65	1.0050	1.0508
63 0	1.75957	16		1.0058	20	1.74155	68	1.0052	1.0523
64 0	1.75939	18		1.0063	30	1.74083	72	1.0054	1.0540
65 0	1.75919	20		1.0068	40	1.74007	76	1.0056	1.0559
66 0	1.75897	22		1.0075	50	1.73928	79	1.0058	1.0579
67 0	1.75871	26		1.0083	82 0	1.73845	83	1.0060	1.0600
68 0	1.75842	29		1.0092	10	1.73757	88	1.0062	1.0622
69 0	1.75809	33		1.0101	20	1.73663	94	1.0065	1.0646
70 0	1.75771	38		1.0111	30	1.73564	99	1.0067	1.0671
71 0	1.75726	45		1.0121	40	1.73459	105	1.0070	1.0697
72 0	1.75675	51		1.0139	50	1.73347	112	1.0073	1.0725
73 0	1.75615	60		1.0156	83 0	1.73229	118	1.0075	1.0754
74 0	1.75543	72		1.0175	10	1.73105	124	1.0078	1.0784
75 0	1.75457	86		1.0197	20	1.72974	131	1.0081	1.0815
10	1.75441	16		1.0200	30	1.72832	142	1.0084	1.0846
20	1.75425	16		1.0204	40	1.72681	151	1.0088	1.0879
30	1.75408	17		1.0208	50	1.72519	162	1.0092	1.0914
40	1.75391	17		1.0212	84 0	1.72346	173	1.0096	1.0951
50	1.75373	18		1.0216	10	1.72160	186	1.0100	1.0992
76 0	1.75355	18		1.0220	20	1.71961	199	1.0105	1.1036
10	1.75336	19		1.0225	30	1.71749	212	1.0110	1.1082
20	1.75316	20		1.0230	40	1.71522	227	1.0115	1.1130
30	1.75295	21		1.0235	50	1.71279	243	1.0121	1.1178
40	1.75274	21		1.0241	85 0	1.71020	259	1.0127	1.1229
50	1.75252	22		1.0246					
77 0	1.75229	23	1.0026	1.0252					
10	1.75205	24	1.0026	1.0258					

FACTOR DEPENDIENTE DEL BARÓMETRO

Metros	Log. B	Metros	Log. B	Metros	Log. B
0.705	—0.02774	0.735	—0.00965	0.765	+0.00773
0.706	0.02713	0.736	0.00906	0.766	0.00830
0.707	0.02651	0.737	0.00847	0.767	0.00886
0.708	0.02590	0.738	0.00788	0.768	0.00943
0.709	0.02529	0.739	0.00729	0.769	0.00999
0.710	0.02468	0.740	0.00670	0.770	0.01056
0.711	0.02406	0.741	0.00612	0.771	0.01112
0.712	0.02345	0.742	0.00553	0.772	0.01168
0.713	0.02284	0.743	0.00494	0.773	0.01225
0.714	0.02224	0.744	0.00436	0.774	0.01281
0.715	0.02163	0.745	0.00378	0.775	0.01337
0.716	0.02102	0.746	0.00319	0.776	0.01393
0.717	0.02041	0.747	0.00261	0.777	0.01449
0.718	0.01981	0.748	0.00203	0.778	0.01505
0.719	0.01920	0.749	0.00145	0.779	0.01560
0.720	0.01860	0.750	0.00087	0.780	0.01616
0.721	0.01800	0.751	—0.00029	0.781	0.01672
0.722	0.01739	0.752	+0.00028	0.782	0.01727
0.723	0.01679	0.753	0.00086	0.783	0.01783
0.724	0.01619	0.754	0.00144	0.784	0.01838
0.725	0.01560	0.755	0.00201	0.785	0.01894
0.726	0.01500	0.756	0.00259	0.786	0.01949
0.727	0.01440	0.757	0.00316	0.787	0.02004
0.728	0.01380	0.758	0.00374	0.788	0.02059
0.729	0.01321	0.759	0.00431	0.789	0.02114
0.730	0.01261	0.760	0.00488	0.790	0.02169
0.731	0.01202	0.761	0.00545	0.791	0.02224
0.732	0.01142	0.762	0.00602	0.792	0.02279
0.733	0.01083	0.763	0.00659	0.793	0.02334
0.734	0.01024	0.764	0.00716	0.794	0.02389
0.735	—0.00965	0.765	+0.00773	0.795	+0.02443

FACTOR DEPENDIENTE DE LA TEMPERATURA DEL MERCURIO

C	Log. T	C	Log. T
— 35°	+ 0.00346	0°	0.00000
— 30	0.00211	+ 5	— 0.00035
— 25	0.00176	+ 10	0.00070
— 20	0.00140	+ 15	0.00105
— 15	0.00105	+ 20	0.00140
— 10	0.00070	+ 25	0.00175
— 5	+ 0.00035	+ 30	0.00210
0	0.00000	+ 35	— 0.00244

FACTOR DEPENDIENTE DE LA TEMPERATURA DEL AIRE

C	Log. 7	C	Log. 7	C	Log. 7
— 15°	+ 0.03889	— 1°	+ 0.01607	+ 13°	— 0.00562
— 14	0.03722	0	0.01448	+ 14	0.00713
— 13	0.03556	+ 1	0.01290	+ 15	0.00863
— 12	0.03390	+ 2	0.01133	+ 16	0.01013
— 11	0.03225	+ 3	0.00976	+ 17	0.01162
— 10	0.03060	+ 4	0.00820	+ 18	0.01311
— 9	0.02896	+ 5	0.00664	+ 19	0.01459
— 8	0.02733	+ 6	0.00509	+ 20	0.01607
— 7	0.02570	+ 7	0.00354	+ 21	0.01754
— 6	0.02408	+ 8	0.00200	+ 23	0.01901
— 5	0.02247	+ 9	+ 0.00047	+ 23	0.02047
— 4	0.02086	+ 10	— 0.00106	+ 24	0.02194
— 3	0.01926	+ 11	0.00259	+ 25	0.02338
— 2	0.01766	+ 12	0.00410	+ 30	0.03057
— 1	+ 0.01607	+ 13	— 0.00562	+ 35	— 0.03765

TABLA A

PARA CONVERTIR INTERVALOS DE TIEMPO SIDÉREO

EN INTERVALOS DE TIEMPO MEDIO

CORRECCION SUBSTRACTIVA

Interv.	0h	1h	2h	3h	4h	5h	Por segundos	
0m	0m0s.000	0m 9s.830	0m19s.659	0m29s.489	0m39s.318	0m49s.148	0s	0s.000
1	0.164	9.993	19.823	29.653	39.482	49.312	1	0.003
2	0.328	10.157	19.987	29.816	39.646	49 475	2	0.005
3	0.491	10.321	20.151	29.980	39.810	49.639	3	0.003
4	0.655	10.485	20.314	30.144	39.974	49.803	4	0.011
5	0.819	10.649	20.478	30.308	40.137	49.967	5	0.014
6	0.983	10.813	20.642	30.472	40.301	50.131	6	0.016
7	1.147	10.976	20.806	30.635	40.465	50.295	7	0.019
8	1.311	11.140	20.970	30.799	40.629	50.458	8	0.022
9	1.474	11.304	21.134	30.963	40.793	50.622	9	0.025
10	1.638	11.468	21.297	31.127	40.956	50.786	10	0.027
11	1.802	11.632	21.461	31.291	41.120	50.950	11	0.030
12	1.966	11.795	21.625	31.455	41.284	51.114	12	0.033
13	2.130	11.959	21.789	31.618	41.448	51.278	13	0.035
14	2.294	12.123	21.953	31.782	41.612	51.441	14	0.038
15	2.457	12.287	22.117	31.946	41.776	51.605	15	0.041
16	2.621	12.451	22.280	32.110	41.939	51.769	16	0.044
17	2.785	12.615	22.444	32.274	42.103	51.933	17	0.046
18	2.949	12.778	22.608	32.438	42.267	52.097	18	0.049
19	3.113	12.942	22.772	32.601	42.431	52.260	19	0.052
20	3.277	13.106	22.936	32.765	42.595	52.424	20	0.055
21	3.440	13.270	23.099	32.929	42.759	52.588	21	0.057
22	3.604	13.434	23.263	33.093	42.922	52.752	22	0.060
23	3.768	13.598	23.427	33.257	43.086	52.916	23	0.063
24	3.932	13.761	23.591	33.420	43.250	53.080	24	0.066
25	4.096	13.925	23.755	33.584	43.414	53.243	25	0.068
26	4.259	14.089	23.919	33.748	43.578	53.407	26	0.071
27	4.423	14.253	24.082	33.912	43.742	53.571	27	0.074
28	4.587	14.417	24.246	34.076	43.905	53.735	28	0.076
29	4.751	14.581	24.410	34.240	44.069	53.899	29	0.079
30	4.915	14.744	24.574	34.403	44.233	54.063	30	0.082
31	5.079	14.908	24.738	34.567	44.397	54.226	31	0.085
32	5.242	15.072	24.902	34.731	44.561	54.390	32	0.087
33	5.406	15.236	25.065	34.895	44.724	54.554	33	0.090
34	5.570	15.400	25.229	35.059	44.888	54.718	34	0.093
35	5.734	15.563	25.393	35.223	45.052	54.882	35	0.096
36	5.898	15.727	25.557	35.386	45.216	55.046	36	0.098
37	6.062	15.891	25.721	35.550	45.380	55.209	37	0.101
38	6.225	16.055	25.885	35.714	45.544	55.373	38	0.104
39	6.389	16.219	26.048	35.858	45.707	55.537	39	0.106
40	6.553	16.383	26.212	36.042	45.871	55.701	40	0.109
41	6.717	16.546	26.376	36.206	46.035	55.865	41	0.112
42	6.881	16.710	26.540	36.369	46.199	56.028	42	0.115
43	7.045	16.874	26.704	36.533	46.363	56.192	43	0.117
44	7.208	17.038	26.867	36.697	46.527	56.356	44	0.120
45	7.372	17.202	27.031	36.861	46.690	56.520	45	0.123
46	7.536	17.366	27.195	37.025	46.854	56.684	46	0.126
47	7.700	17.529	27.359	37.188	47.018	56.848	47	0.128
48	7.864	17.693	27.523	37.352	47.182	57.011	48	0.131
49	8.027	17.857	27.687	37.516	47.346	57.175	49	0.134
50	8.191	18.021	27.850	37.680	47.510	57.339	50	0.137
51	8.355	18.185	28.014	37.844	47.673	57.503	51	0.139
52	8.519	18.349	28.178	38.008	47.837	57.667	52	0.142
53	8.683	18.512	28.342	38.171	48.001	57.831	53	0.145
54	8.847	18.676	28.506	38.335	48.165	57.994	54	0.147
55	9.010	18.840	28.670	38.499	48.329	58.158	55	0.150
56	9.174	19.004	28.833	38.663	48.492	58.322	56	0.153
57	9.338	19.168	28.997	38.827	48.656	58.486	57	0.156
58	9.502	19.331	29.161	38.991	48.820	58.650	58	0.158
59	0 9.666	0 19.495	0 29.325	0 39.154	0 48.984	0 58.814	59	0.161

Interv.	6h	7h	8h	9h	10h	11h	Por segundos	
0m	0m58s977	1m 8s807	1m18s636	1m28s466	1m38s296	1m48s125	0s	0s000
1	59.141	8.971	18.800	28.630	38.459	48.289	1	0.003
2	59.305	9.135	18.964	28.794	38.623	48.453	2	0.005
3	59.469	9.298	19.128	28.958	38.787	48.617	3	0.008
4	59.633	9.462	19.292	29.121	38.951	48.780	4	0.011
5	59.796	9.626	19.456	29.285	39.115	48.944	5	0.014
6	0 59.960	9.790	19.619	29.449	39.279	49.108	6	0.016
7	1 0.124	9.954	19.783	29.613	39.442	49.272	7	0.019
8	0.288	10.118	19.947	29.777	39.606	49.436	8	0.022
9	0.452	10.281	20.111	29.940	39.770	49.600	9	0.025
10	0.616	10.445	20.275	30.104	39.934	49.763	10	0.027
11	0.779	10.609	20.439	30.268	40.098	49.927	11	0.030
12	0.943	10.773	20.602	30.432	40.261	50.091	12	0.033
13	1.107	10.937	20.766	30.596	40.425	50.255	13	0.035
14	1.271	11.100	20.930	30.760	40.589	50.419	14	0.038
15	1.435	11.264	21.094	30.923	40.753	50.583	15	0.041
16	1.599	11.428	21.258	31.087	40.917	50.746	16	0.044
17	1.762	11.592	21.422	31.251	41.081	50.910	17	0.046
18	1.926	11.756	21.585	31.415	41.244	51.074	18	0.049
19	2.090	11.920	21.749	31.579	41.408	51.238	19	0.052
20	2.254	12.083	21.913	31.743	41.572	51.402	20	0.055
21	2.418	12.247	22.077	31.906	41.736	51.565	21	0.057
22	2.582	12.411	22.241	32.070	41.900	51.729	22	0.060
23	2.745	12.575	22.404	32.234	42.064	51.893	23	0.063
24	2.909	12.739	22.568	32.398	42.227	52.057	24	0.066
25	3.073	12.903	22.732	32.562	42.391	52.221	25	0.068
26	3.237	13.066	22.896	32.726	42.555	52.385	26	0.071
27	3.401	13.230	23.060	32.889	42.719	52.548	27	0.074
28	3.564	13.394	23.224	33.053	42.883	52.712	28	0.076
29	3.728	13.558	23.387	33.217	43.047	52.876	29	0.079
30	3.892	13.722	23.551	33.381	43.210	53.040	30	0.082
31	4.056	13.886	23.715	33.545	43.374	53.204	31	0.085
32	4.220	14.049	23.879	33.708	43.538	53.368	32	0.087
33	4.384	14.213	24.043	33.872	43.702	53.531	33	0.090
34	4.547	14.377	24.207	34.036	43.866	53.695	34	0.093
35	4.711	14.541	24.370	34.200	44.029	53.859	35	0.096
36	4.875	14.705	24.534	34.364	44.193	54.023	36	0.098
37	5.039	14.868	24.698	34.528	44.357	54.187	37	0.101
38	5.203	15.032	24.862	34.691	44.521	54.351	38	0.104
39	5.367	15.196	25.026	34.855	44.685	54.514	39	0.106
40	5.530	15.360	25.190	35.019	44.849	54.678	40	0.109
41	5.694	15.524	25.353	35.183	45.012	54.842	41	0.112
42	5.858	15.688	25.517	35.347	45.176	55.006	42	0.115
43	6.022	15.851	25.681	35.511	45.340	55.170	43	0.117
44	6.186	16.015	25.845	35.674	45.504	55.333	44	0.120
45	6.350	16.179	26.009	35.838	45.668	55.497	45	0.123
46	6.513	16.343	26.172	36.002	45.832	55.661	46	0.126
47	6.677	16.507	26.336	36.166	45.995	55.825	47	0.128
48	6.841	16.671	26.500	36.330	46.159	55.989	48	0.131
49	7.005	16.834	26.664	36.493	46.323	56.153	49	0.134
50	7.169	16.998	26.828	36.657	46.487	56.316	50	0.137
51	7.332	17.162	26.992	36.821	46.651	56.480	51	0.139
52	7.496	17.326	27.155	36.985	46.815	56.644	52	0.142
53	7.660	17.490	27.319	37.149	46.978	56.808	53	0.145
54	7.824	17.654	27.483	37.313	47.142	56.972	54	0.147
55	7.988	17.817	27.647	37.476	47.306	57.136	55	0.150
56	8.152	17.981	27.811	37.640	47.470	57.299	56	0.153
57	8.315	18.145	27.975	37.804	47.634	57.463	57	0.156
58	8.479	18.309	28.138	37.968	47.797	57.627	58	0.158
59	1 8.643	1 18.473	1 28.302	1 38.132	1 47.961	1 57.791	59	0.161

Interv.	12h	13h	14h	15h	16h	17h	Por segundos	
0m	1m57s.955	2m 7s.784	2m17s.614	2m27s.443	2m37s.273	2m47s.102	0s	0s.000
1	58.119	7.948	17.778	27.607	37.437	47.266	1	0.003
2	58.282	8.112	17.941	27.771	37.601	47.430	2	0.005
3	58.446	8.276	18.105	27.935	37.764	47.594	3	0.008
4	58.610	8.440	18.269	28.099	37.928	47.758	4	0.011
5	58.774	8.603	18.433	28.263	38.092	47.922	5	0.014
6	58.938	8.767	18.597	28.426	38.256	48.085	6	0.016
7	59.101	8.931	18.761	28.590	38.420	48.249	7	0.019
8	59.265	9.095	18.924	28.754	38.584	48.413	8	0.022
9	59.429	9.259	19.088	28.918	38.747	48.577	9	0.025
10	59.593	9.423	19.252	29.082	38.911	48.741	10	0.027
11	59.757	9.586	19.416	29.245	39.075	48.905	11	0.030
12	1 59.921	9.750	19.580	29.409	39.239	49.068	12	0.033
13	2 0.084	9.914	19.744	29.573	39.403	49.232	13	0.035
14	0.248	10.078	19.907	29.737	39.566	49.396	14	0.038
15	0.412	10.242	20.071	29.901	39.730	49.560	15	0.041
16	0.576	10.405	20.235	30.065	39.894	49.724	16	0.044
17	0.740	10.569	20.399	30.228	40.058	49.888	17	0.046
18	0.904	10.733	20.563	30.392	40.222	50.051	18	0.049
19	1.067	10.897	20.727	30.556	40.386	50.215	19	0.052
20	1.231	11.061	20.890	30.720	40.549	50.379	20	0.055
21	1.395	11.225	21.054	30.884	40.713	50.543	21	0.057
22	1.559	11.388	21.218	31.048	40.877	50.707	22	0.060
23	1.723	11.552	21.382	31.211	41.041	50.870	23	0.063
24	1.887	11.716	21.546	31.375	41.205	51.034	24	0.066
25	2.050	11.880	21.709	31.539	41.369	51.198	25	0.068
26	2.214	12.044	21.873	31.703	41.532	51.362	26	0.071
27	2.378	12.208	22.037	31.867	41.696	51.526	27	0.074
28	2.542	12.371	22.201	32.031	41.860	51.690	28	0.076
29	2.706	12.535	22.365	32.194	42.024	51.853	29	0.079
30	2.869	12.699	22.529	32.358	42.188	52.017	30	0.082
31	3.033	12.863	22.692	32.522	42.352	52.181	31	0.085
32	3.197	13.027	22.856	32.686	42.515	52.345	32	0.087
33	3.361	13.191	23.020	32.850	42.679	52.509	33	0.090
34	3.525	13.354	23.184	33.013	42.843	52.673	34	0.093
35	3.689	13.518	23.348	33.177	43.007	52.836	35	0.096
36	3.852	13.682	23.512	33.341	43.171	53.000	36	0.098
37	4.016	13.846	23.675	33.505	43.334	53.164	37	0.101
38	4.180	14.010	23.839	33.669	43.498	53.328	38	0.104
39	4.344	14.173	24.003	33.833	43.662	53.492	39	0.106
40	4.508	14.337	24.167	33.996	43.826	53.656	40	0.109
41	4.672	14.501	24.331	34.160	43.990	53.819	41	0.112
42	4.835	14.665	24.495	34.324	44.154	53.983	42	0.115
43	4.999	14.829	24.658	34.488	44.317	54.147	43	0.117
44	5.163	14.993	24.822	34.652	44.481	54.311	44	0.120
45	5.327	15.156	24.986	34.816	44.645	54.475	45	0.123
46	5.491	15.320	25.150	34.979	44.809	54.638	46	0.126
47	5.655	15.484	25.314	35.143	44.973	54.802	47	0.128
48	5.818	15.648	25.477	35.307	45.137	54.966	48	0.131
49	5.982	15.812	25.641	35.471	45.300	55.130	49	0.134
50	6.146	15.976	25.805	35.635	45.464	55.294	50	0.137
51	6.310	16.139	25.969	35.798	45.628	55.458	51	0.139
52	6.474	16.303	26.133	35.962	45.792	55.621	52	0.142
53	6.637	16.467	26.297	36.126	45.956	55.785	53	0.145
54	6.801	16.631	26.460	36.290	46.120	55.949	54	0.147
55	6.965	16.795	26.624	36.454	46.283	56.113	55	0.150
56	7.129	16.959	26.788	36.618	46.447	56.277	56	0.153
57	7.293	17.122	26.952	36.781	46.611	56.441	57	0.156
58	7.457	17.286	27.116	36.945	46.775	56.604	58	0.158
59	2 7.620	2 17.450	2 27.280	2 37.109	2 46.939	2 56.768	59	0.161

Interv.	18h	19h	20h	21h	22h	23h	Por segundos	
0m	2m56s.932	3m 6.762	3m16s.591	3m26s.421	3m36s.250	3m46s.080	0s	0s.000
1	57.096	6.925	16.755	26.585	36.414	46.244	1	0.003
2	57.260	7.089	16.919	26.748	36.578	46.407	2	0.005
3	57.424	7.253	17.083	26.912	36.742	46.571	3	0.008
4	57.587	7.417	17.246	27.076	36.906	46.735	4	0.011
5	57.751	7.581	17.410	27.240	37.069	46.899	5	0.014
6	57.915	7.745	17.574	27.404	37.233	47.063	6	0.016
7	58.079	7.908	17.738	27.568	37.397	47.227	7	0.019
8	58.243	8.072	17.902	27.731	37.561	47.390	8	0.022
9	58.406	8.236	18.066	27.895	37.725	47.554	9	0.025
10	58.570	8.400	18.229	28.059	37.889	47.718	10	0.027
11	58.734	8.564	18.393	28.223	38.052	47.882	11	0.030
12	58.898	8.728	18.557	28.387	38.216	48.046	12	0.033
13	59.062	8.891	18.721	28.550	38.380	48.210	13	0.035
14	59.226	9.055	18.885	28.714	38.544	48.373	14	0.038
15	59.389	9.219	19.049	28.878	38.708	48.537	15	0.041
16	59.553	9.383	19.212	29.042	38.871	48.701	16	0.044
17	59.717	9.547	19.376	29.206	39.035	48.865	17	0.046
18	2 59.881	9.710	19.540	29.370	39.199	49.029	18	0.049
19	3 0.045	9.874	19.704	29.533	39.363	49.193	19	0.052
20	0.209	10.038	19.868	29.697	39.527	49.356	20	0.055
21	0.372	10.202	20.032	29.861	39.691	49.520	21	0.057
22	0.536	10.366	20.195	30.025	39.854	49.684	22	0.060
23	0.700	10.530	20.359	30.189	40.018	49.848	23	0.063
24	0.864	10.693	20.523	30.353	40.182	50.012	24	0.066
25	1.028	10.857	20.687	30.516	40.346	50.175	25	0.068
26	1.192	11.021	20.851	30.680	40.510	50.339	26	0.071
27	1.355	11.185	21.014	30.844	40.674	50.503	27	0.074
28	1.519	11.349	21.178	31.008	40.837	50.667	28	0.076
29	1.683	11.513	21.342	31.172	41.001	50.831	29	0.079
30	1.847	11.676	21.506	31.336	41.165	50.995	30	0.082
31	2.011	11.840	21.670	31.499	41.329	51.158	31	0.085
32	2.174	12.004	21.834	31.663	41.493	51.322	32	0.087
33	2.338	12.168	21.997	31.827	41.657	51.486	33	0.090
34	2.502	12.332	22.161	31.991	41.820	51.650	34	0.093
35	2.666	12.496	22.325	32.155	41.984	51.814	35	0.096
36	2.830	12.659	22.489	32.318	42.148	51.978	36	0.098
37	2.994	12.823	22.653	32.482	42.312	52.141	37	0.101
38	3.157	12.987	22.817	32.646	42.476	52.305	38	0.104
39	3.321	13.151	22.980	32.810	42.639	52.469	39	0.106
40	3.485	13.315	23.144	32.974	42.803	52.633	40	0.109
41	3.649	13.478	23.308	33.138	42.967	52.797	41	0.112
42	3.813	13.642	23.472	33.301	43.131	52.961	42	0.115
43	3.977	13.806	23.636	33.465	43.295	53.124	43	0.117
44	4.140	13.970	23.800	33.629	43.459	53.288	44	0.120
45	4.304	14.134	23.962	33.793	43.622	53.452	45	0.123
46	4.468	14.298	24.127	33.957	43.786	53.616	46	0.126
47	4.632	14.461	24.291	34.121	43.950	53.780	47	0.128
48	4.796	14.625	24.455	34.284	44.114	53.943	48	0.131
49	4.960	14.789	24.619	34.448	44.278	54.107	49	0.134
50	5.123	14.953	24.782	34.612	44.442	54.271	50	0.137
51	5.287	15.117	24.946	34.776	44.605	54.435	51	0.139
52	5.451	15.281	25.110	34.940	44.769	54.599	52	0.142
53	5.615	15.444	25.274	35.104	44.933	54.763	53	0.145
54	5.779	15.608	25.438	35.267	45.097	54.926	54	0.147
55	5.942	15.772	25.602	35.431	45.261	55.090	55	0.150
56	6.106	15.936	25.765	35.595	45.425	55.254	56	0.153
57	6.270	16.100	25.929	35.759	45.588	55.418	57	0.156
58	6.434	16.264	26.093	35.923	45.752	55.582	58	0.158
59	3 6.598	3 16.427	3 26.257	3 36.086	3 45.916	3 55.746	59	0.161

TABLA B

PARA CONVERTIR INTERVALOS DE TIEMPO MEDIO

EN INTERVALOS DE TIEMPO SIDÉREO

CORRECCIÓN ADITIVA

Interv.	0h	1h	2h	3h	4h	5h	Por segundos	
0m	0m0s.000	0m 9s.856	0m19s.713	0m29s.569	0m39s.426	0m49s.282	0s	0s.000
1	0.164	10.021	19.877	29.734	39.590	49.447	1	0.003
2	0.329	10.185	20.041	29.898	39.754	49.611	2	0.005
3	0.493	10.349	20.206	30.062	39.919	49.775	3	0.008
4	0.657	10.514	20.370	30.227	40.083	49.939	4	0.011
5	0.821	10.678	20.534	30.391	40.247	50.104	5	0.014
6	0.986	10.842	20.699	30.555	40.412	50.268	6	0.016
7	1.150	11.006	20.863	30.719	40.576	50.432	7	0.019
8	1.314	11.171	21.027	30.884	40.740	50.597	8	0.022
9	1.478	11.335	21.191	31.048	40.904	50.761	9	0.025
10	1.643	11.499	21.356	31.212	41.069	50.925	10	0.027
11	1.807	11.663	21.520	31.376	41.233	51.089	11	0.030
12	1.971	11.828	21.684	31.541	41.397	51.254	12	0.033
13	2.136	11.992	21.849	31.705	41.561	51.418	13	0.036
14	2.300	12.156	22.013	31.869	41.726	51.582	14	0.038
15	2.464	12.321	22.177	32.034	41.890	51.746	15	0.041
16	2.628	12.485	22.341	32.198	42.054	51.911	16	0.044
17	2.793	12.649	22.506	32.362	42.219	52.075	17	0.047
18	2.957	12.813	22.670	32.526	42.383	52.239	18	0.049
19	3.121	12.978	22.834	32.691	42.547	52.404	19	0.052
20	3.285	13.142	22.998	32.855	42.711	52.568	20	0.055
21	3.450	13.306	23.163	33.019	42.876	52.732	21	0.057
22	3.614	13.471	23.327	33.183	43.040	52.896	22	0.060
23	3.778	13.635	23.491	33.348	43.204	53.061	23	0.063
24	3.943	13.799	23.656	33.512	43.368	53.225	24	0.066
25	4.107	13.963	23.820	33.676	43.533	53.389	25	0.068
26	4.271	14.128	23.984	33.841	43.697	53.554	26	0.071
27	4.435	14.292	24.148	34.005	43.861	53.718	27	0.074
28	4.600	14.456	24.313	34.169	44.026	53.882	28	0.077
29	4.764	14.620	24.477	34.333	44.190	54.046	29	0.079
30	4.928	14.785	24.641	34.498	44.354	54.211	30	0.082
31	5.093	14.949	24.805	34.662	44.518	54.375	31	0.085
32	5.257	15.113	24.970	34.826	44.683	54.539	32	0.088
33	5.421	15.278	25.134	34.990	44.847	54.703	33	0.090
34	5.585	15.442	25.298	35.155	45.011	54.868	34	0.093
35	5.750	15.606	25.463	35.319	45.176	55.032	35	0.096
36	5.914	15.770	25.627	35.483	45.340	55.196	36	0.099
37	6.078	15.935	25.791	35.648	45.504	55.361	37	0.101
38	6.242	16.099	25.955	35.812	45.668	55.525	38	0.104
39	6.407	16.263	26.120	35.976	45.833	55.689	39	0.107
40	6.571	16.427	26.284	36.140	45.997	55.853	40	0.110
41	6.735	16.592	26.448	36.305	46.161	56.018	41	0.112
42	6.900	16.756	26.612	36.469	46.325	56.182	42	0.115
43	7.064	16.920	26.777	36.633	46.490	56.346	43	0.118
44	7.228	17.085	26.941	36.798	46.654	56.510	44	0.120
45	7.392	17.249	27.105	36.962	46.818	56.675	45	0.123
46	7.557	17.413	27.270	37.126	46.983	56.839	46	0.126
47	7.721	17.577	27.434	37.290	47.147	57.003	47	0.129
48	7.885	17.742	27.598	37.455	47.311	57.168	48	0.131
49	8.049	17.906	27.762	37.619	47.475	57.332	49	0.134
50	8.214	18.070	27.927	37.783	47.640	57.496	50	0.137
51	8.378	18.234	28.091	37.947	47.804	57.660	51	0.140
52	8.542	18.399	28.255	38.112	47.968	57.825	52	0.142
53	8.707	18.563	28.420	38.276	48.132	57.989	53	0.145
54	8.871	18.727	28.584	38.440	48.297	58.153	54	0.148
55	9.035	18.892	28.748	38.605	48.461	58.317	55	0.151
56	9.199	19.056	28.912	38.769	48.625	58.482	56	0.153
57	9.364	19.220	29.077	38.933	48.790	58.646	57	0.156
58	9.528	19.384	29.241	39.097	48.954	58.810	58	0.159
59	0 9.692	0 19.549	0 29.405	0 39.262	0 49.118	0 58.975	59	0.162

Interv.	6h	7h	8h	9h	10h	11h	Por segundos	
0m	0m59s.139	1m 8s.995	1m18s.852	1m28s.708	1m38s.565	1m48s.421	0s	0s.000
1	59.303	9.160	19.016	28.873	38.729	48.585	1	0.003
2	59.467	9.324	19.180	29.037	38.893	48.750	2	0.005
3	59.632	9.488	19.345	29.201	39.058	48.914	3	0.008
4	59.796	9.652	19.509	29.365	39.222	49.078	4	0.011
5	0 59.960	9.817	19.673	29.530	39.386	49.243	5	0.014
6	1 0.124	9.981	19.837	29.694	39.550	49.407	6	0.016
7	0.289	10.145	20.002	29.858	39.715	49.571	7	0.019
8	0.453	10.310	20.166	30.022	39.879	49.735	8	0.022
9	0.617	10.474	20.330	30.187	40.043	49.900	9	0.025
10	0.782	10.638	20.495	30.351	40.207	50.064	10	0.027
11	0.946	10.802	20.659	30.515	40.372	50.228	11	0.030
12	1.110	10.967	20.823	30.680	40.536	50.393	12	0.033
13	1.274	11.131	20.987	30.844	40.700	50.557	13	0.036
14	1.439	11.295	21.152	31.008	40.865	50.721	14	0.038
15	1.603	11.459	21.316	31.172	41.029	50.885	15	0.041
16	1.767	11.624	21.480	31.337	41.193	51.050	16	0.044
17	1.932	11.788	21.644	31.501	41.357	51.214	17	0.047
18	2.096	11.952	21.809	31.665	41.522	51.378	18	0.049
19	2.260	12.117	21.973	31.829	41.686	51.542	19	0.052
20	2.424	12.281	22.137	31.994	41.850	51.707	20	0.055
21	2.589	12.445	22.302	32.158	42.015	51.871	21	0.057
22	2.753	12.609	22.466	32.322	42.179	52.035	22	0.060
23	2.917	12.774	22.630	32.487	42.343	52.200	23	0.063
24	3.081	12.938	22.794	32.651	42.507	52.364	24	0.066
25	3.246	13.102	22.959	32.815	42.672	52.528	25	0.068
26	3.410	13.266	23.123	32.979	42.836	52.692	26	0.071
27	3.574	13.431	23.287	33.144	43.000	52.857	27	0.074
28	3.739	13.595	23.451	33.308	43.164	53.021	28	0.077
29	3.903	13.759	23.616	33.472	43.329	53.185	29	0.079
30	4.067	13.924	23.780	33.637	43.493	53.349	30	0.082
31	4.231	14.088	23.944	33.801	43.657	53.514	31	0.085
32	4.396	14.252	24.109	33.965	43.822	53.678	32	0.088
33	4.560	14.416	24.273	34.129	43.986	53.842	33	0.090
34	4.724	14.581	24.437	34.294	44.150	54.007	34	0.093
35	4.888	14.745	24.601	34.458	44.314	54.171	35	0.096
36	5.053	14.909	24.766	34.622	44.479	54.335	36	0.099
37	5.217	15.073	24.930	34.786	44.643	54.499	37	0.101
38	5.381	15.238	25.094	34.951	44.807	54.664	38	0.104
39	5.546	15.402	25.259	35.115	44.971	54.828	39	0.107
40	5.710	15.566	25.423	35.279	45.136	54.992	40	0.110
41	5.874	15.731	25.587	35.444	45.300	55.156	41	0.112
42	6.038	15.895	25.751	35.608	45.464	55.321	42	0.115
43	6.203	16.059	25.916	35.772	45.629	55.485	43	0.118
44	6.367	16.223	26.080	35.936	45.793	55.649	44	0.120
45	6.531	16.388	26.244	36.101	45.957	55.814	45	0.123
46	6.695	16.552	26.408	36.265	46.121	55.978	46	0.126
47	6.860	16.716	26.573	36.429	46.286	56.142	47	0.129
48	7.024	16.881	26.737	36.593	46.450	56.306	48	0.131
49	7.188	17.045	26.901	36.758	46.614	56.471	49	0.134
50	7.353	17.209	27.066	36.922	46.778	56.635	50	0.137
51	7.517	17.373	27.230	37.086	46.943	56.799	51	0.140
52	7.681	17.538	27.394	37.251	47.107	56.964	52	0.142
53	7.845	17.702	27.558	37.415	47.271	57.128	53	0.145
54	8.010	17.866	27.723	37.579	47.436	57.292	54	0.148
55	8.174	18.030	27.887	37.743	47.600	57.456	55	0.151
56	8.338	18.195	28.051	37.908	47.764	57.621	56	0.153
57	8.502	18.359	28.215	38.072	47.928	57.785	57	0.156
58	8.667	18.523	28.380	38.236	48.093	57.949	58	0.159
59	1 8.831	1 18.688	1 28.544	1 38.400	1 48.257	1 58.113	59	0.162

Interv.	12h	13h	14h	15h	16h	17h	Por segundos	
0m	1m58s.278	2m 8s.134	2m17s.991	2m27s.847	2m37s.704	2m47s.560	0s	0s.000
1	58.442	8.298	18.155	28.011	37.868	47.724	1	0.003
2	58.606	8.463	18.319	28.176	38.032	47.889	2	0.005
3	58.771	8.627	18.483	28.340	38.196	48.053	3	0.008
4	58.935	8.791	18.648	28.504	38.361	48.217	4	0.011
5	59.099	8.956	18.812	28.668	38.525	48.381	5	0.014
6	59.263	9.120	18.976	28.833	38.689	48.546	6	0.016
7	59.428	9.284	19.141	28.997	38.854	48.710	7	0.019
8	59.592	9.448	19.305	29.161	39.018	48.874	8	0.022
9	59.756	9.613	19.469	29.326	39.182	49.039	9	0.025
10	1 59.920	9.777	19.633	29.490	39.346	49.203	10	0.027
11	2 0.085	9.941	19.798	29.654	39.511	49.367	11	0.030
12	0.249	10.105	19.962	29.818	39.675	49.531	12	0.033
13	0.413	10.270	20.126	29.983	39.839	49.696	13	0.036
14	0.578	10.434	20.290	30.147	40.003	49.860	14	0.038
15	0.742	10.598	20.455	30.311	40.168	50.024	15	0.041
16	0.906	10.763	20.619	30.476	40.332	50.188	16	0.044
17	1.070	10.927	20.783	30.640	40.496	50.353	17	0.047
18	1.235	11.091	20.948	30.804	40 661	50.517	18	0.049
19	1.399	11.255	21.112	30.968	40.825	50.681	19	0.052
20	1.563	11.420	21.276	31.133	40.989	50.846	20	0.055
21	1.727	11.584	21.440	31.297	41.153	51.010	21	0.057
22	1.892	11.748	21.605	31.461	41.318	51.174	22	0.060
23	2.056	11.912	21.769	31.625	41.482	51.338	23	0.063
24	2.220	12.077	21.933	31.790	41.646	51.503	24	0.066
25	2.385	12.241	22.098	31.954	41.810	51.667	25	0.068
26	2.549	12.405	22.262	32.118	41.975	51.831	26	0.071
27	2.713	12.570	22.426	32.283	42.139	51.995	27	0.074
28	2.877	12.734	22.590	32.447	42.303	52.160	28	0.077
29	3.042	12.898	22.755	32.611	42.468	52.324	29	0.079
30	3.206	13.062	22.919	32.775	42.632	52.448	30	0.082
31	3.370	13.227	23.083	32.940	42.796	52.653	31	0.085
32	3.534	13.391	23.247	33.104	42.960	52.817	32	0.088
33	3.699	13.555	23.412	33.268	43.125	52.981	33	0.090
34	3.863	13.720	23.576	33.432	43.289	53.145	34	0.093
35	4.027	13.884	23.740	33.597	43.453	53.310	35	0.096
36	4.192	14.048	23.905	33.761	43.617	53.474	36	0.099
37	4.356	14.212	24.069	33.925	43.782	53.638	37	0.101
38	4.520	14.377	24.233	34.090	43.946	53.803	38	0.104
39	4.684	14.541	24.397	34.254	44.110	53.967	39	0.107
40	4.849	14.705	24.562	34.418	44.275	54.131	40	0.110
41	5.013	14.869	24.726	34.582	44.439	54.295	41	0.112
42	5.177	15.034	24.890	34.747	44.603	54.460	42	0.115
43	5.342	15.198	25.054	34.911	44.767	54.624	43	0.118
44	5.506	15.362	25.219	35.075	44.632	54.788	44	0.120
45	5.670	15.527	25.383	35.239	45.096	54.952	45	0.123
46	5.834	15.691	25.547	35.404	45.260	55.117	46	0.126
47	5.999	15.855	25.712	35.568	45.425	55.281	47	0.129
48	6.163	16.019	25.876	35.732	45.589	55.445	48	0.131
49	6.327	16.184	26.040	35.897	45.753	55.610	49	0.134
50	6.491	16.348	26.204	36.061	45.917	55.774	50	0.137
51	6.656	16.512	26.369	36.225	46.082	55.938	51	0.140
52	6.820	16.676	26.533	36.389	46.246	56.102	52	0.142
53	6.984	16.841	26.697	36.554	46.410	56.267	53	0.145
54	7.149	17.005	26.861	36.718	46.574	56.431	54	0.148
55	7.313	17.169	27.026	36.882	46.739	56.595	55	0.151
56	7 477	17.334	27.190	37.047	46.903	56.759	56	0.153
57	7.641	17.498	27.354	37.211	47.067	56.924	57	0.156
58	7.806	17.662	27.519	37.375	47.232	57.088	58	0.159
59	2 7.970	2 17.826	2 27.683	2 37.539	2 47.396	2 57.252	59	0.162

Interv.	18h	19h	20h	21h	22h	23h	Por segundos	
0m	2m57s.417	3m 7s.273	3m17s.129	3m26s.986	3m36s.842	3m46s.699	0s	0s.000
1	57.581	7.437	17.294	27.150	37.007	46.863	1	0.003
2	57.745	7.602	17.458	27.315	37.171	47.027	2	0.005
3	57.909	7.766	17.622	27.479	37.335	47.192	3	0.008
4	58.074	7.930	17.787	27.643	37.500	47.356	4	0.011
5	58.238	8.094	17.951	27.807	37.664	47.520	5	0.014
6	58.402	8.259	18.115	27.972	37.828	47.685	6	0.016
7	58.566	8.423	18.279	28.136	37.992	47.849	7	0.019
8	58.731	8.587	18.444	28.300	38.157	48.013	8	0.022
9	58.895	8.751	18.608	28.464	38.321	48.177	9	0.025
10	59.059	8.916	18.772	28.629	38.485	48.342	10	0.027
11	59.224	9.080	18.937	28.793	38.649	48.506	11	0.030
12	59.388	9.244	19.101	28.957	38.814	48.670	12	0.033
13	59.552	9.409	19.265	29.122	38.978	48.834	13	0.036
14	59.716	9.573	19.429	29.286	39.142	48.999	14	0.038
15	2 59.881	9.737	19.594	29.450	39.307	49.163	15	0.041
16	3 0.045	9.901	19.758	29.614	39.471	49.327	16	0.044
17	0.209	10.066	19.922	29.779	39.635	49.492	17	0.047
18	0.373	10.230	20.086	29.943	39.799	49.656	18	0.049
19	0.538	10.394	20.251	30.107	39.964	49.820	19	0.052
20	0.702	10.559	20.415	30.271	40.128	49.984	20	0.055
21	0.866	10.723	20.579	30.436	40.292	50.149	21	0.057
22	1.031	10.887	20.744	30.600	40.456	50.313	22	0.060
23	1.195	11.051	20.908	30.764	40.621	50.477	23	0.063
24	1.359	11.216	21.072	30.929	40.785	50.642	24	0.066
25	1.523	11.380	21.236	31.093	40.949	50.806	25	0.068
26	1.688	11.544	21.401	31.257	41.114	50.970	26	0.071
27	1.852	11.708	21.565	31.421	41.278	51.134	27	0.074
28	2.016	11.873	21.729	31.586	41.442	51.299	28	0.077
29	2.181	12.037	21.893	31.750	41.606	51.463	29	0.079
30	2.345	12.201	22.058	31.914	41.771	51.627	30	0.082
31	2.509	12.366	22.222	32.078	41.935	51.791	31	0.085
32	2.673	12.530	22.386	32.243	42.099	51.956	32	0.088
33	2.838	12.694	22.551	32.407	42.264	52.120	33	0.090
34	3.002	12.858	22.715	32.571	42.428	52.284	34	0.093
35	3.166	13.023	22.879	32.736	42.592	52.449	35	0.096
36	3.330	13.187	23.043	32.900	42.756	52.613	36	0.099
37	3.495	13.351	23.208	33.064	42.921	52.777	37	0.101
38	3.659	13.515	23.372	33.228	43.085	53.941	38	0.104
39	3.823	13.680	23.536	33.393	43.249	53.106	39	0.107
40	3.988	13.844	23.700	33.557	43.413	53 270	40	0.110
41	4.152	14.008	23.865	33.721	43.578	53.434	41	0.112
42	4.316	14.173	24.029	33.886	43.742	53.598	42	0.115
43	4.430	14.337	24.193	34.050	43.906	53.763	43	0.118
44	4.645	14.501	24.358	34.214	44.071	53.927	44	0.120
45	4.809	14.665	24.522	34.378	44.235	54.091	45	0.123
46	4.973	14.830	24.686	34.543	44.399	54.256	46	0.126
47	5.137	14.994	24.850	34.707	44.563	54.420	47	0.129
48	5.302	15.158	25.015	34.871	44.728	54.584	48	0.131
49	5.466	15.322	25.179	35.035	44.892	54.748	49	0.134
50	5.630	15.487	25.343	35.200	45.056	54.913	50	0.137
51	5.795	15.651	25.508	35.364	45.220	55.077	51	0.140
52	5.959	15.815	25.672	35.528	45.385	55.241	52	0.142
53	6.123	15.980	25.836	35.693	45.549	55.405	53	0.145
54	6.287	16.144	26.000	35.857	45.713	55.570	54	0.148
55	6.452	16.308	26.165	36.021	45.878	55.734	55	0.151
56	6.616	16.472	26.329	36.185	46.042	55.898	56	0.153
57	6.780	16.637	26.493	36.350	46.206	56.063	57	0.156
58	6.944	16.801	26.657	36.514	46.370	56.227	58	0.159
59	3 7.109	3 16.965	3 26.822	3 36.678	3 46.535	3 56.391	59	0.162