MINISTERIO DE DEFENSA

SERVICIO DE HIDROGRAFÍA NAVAL

REPÚBLICA ARGENTINA

PÚBLICO

ISSN 1667-8117

SUPLEMENTO AL

ALMANAQUE NÁUTICO Y AERONÁUTICO

PARA EL AÑO 2023

SOL, PLANETAS Y ESTRELLAS

2023

BUENOS AIRES

INTRODUCCIÓN

Esta efemérides astronómica fue calculada, redactada y compaginada en la División Astronomía del Observatorio Naval Buenos Aires.

Se incluyen en ella datos necesarios para determinar la posición geográfica mediante observaciones astronómicas, como así también tablas de transformaciones, correcciones y equivalencias aplicables a diversos cálculos. Contiene las posiciones aparentes de 324 estrellas fundamentales brillantes, sin incluir en ellas los términos de corto período de la nutación (inferiores a 35 días).

Las notaciones que aparecen en esta edición son las recomendadas en la XXI Asamblea General de la Unión Astronómica Internacional (1991).

La edición 2023 se entrega en formato PDF en la página web http://www.hidro.gov.ar

El formato PDF demanda la instalación del programa Acrobat Reader, que es de libre distribución. Esta versión se recorrerá haciendo uso tanto de los **marcadores**, como así también de las **miniaturas**. Ambos elementos permitirán posicionarse en el tema deseado.

Toda sugerencia con respecto a esta publicación será bien recibida y convenientemente atendida.

La programación, cálculo y edición de la presente publicación
fue realizada por:
Licenciado Alejandro Cifuentes Cárdenas
Lcienciada Romina Miculán

OBSERVATORIO NAVAL BUENOS AIRES
AV. ESPAÑA 2099
(C 1107 AMA)- Buenos Aires
Tel/Fax: (5411)4361-1162
E-mail: onba@hidro.gov.ar
Internet: http://www.hidro.gov.ar

SERVICIO DE HIDROGRAFÍA NAVAL
Av.Montes de Oca 2124
(C 1270 ABV) - Buenos Aires - Argentina
Tel.(5411)-4301-0061/67

ISSN 1667-8117

SUPLEMENTO AL ALMANAQUE NÁUTICO Y AERONÁUTICO
ÍNDICE

ESCALAS DE TIEMPO

Se enumeran las diversas escalas de tiempo cuya finalidad primordial ha sido la definición del segundo, algunas de ellas basadas en fenómenos astronómicos y otras en fenómenos físicos.

TIEMPO ATÓMICO INTERNACIONAL (TAI)

Es la coordenada de referencia temporal establecida por el Bureau International des Poids et Mesures (BIPM). Está basado en las lecturas de relojes atómicos que funcionan de conformidad con la definición del segundo del Sistema Internacional de Unidades (SI). Este segundo fue definido en 1967 como *"la duración de 9.192.631.770 períodos de la radiación correspondiente a la transición entre los dos niveles hiperfinos del estado fundamental del átomo de cesio 133".*

TIEMPO DE LAS EFEMÉRIDES (ET)

Actualmente en desuso, esta escala de tiempo fue utilizada entre 1960 y 1983 como argumento temporal de las efemérides de los cuerpos del Sistema Solar. El Tiempo de las Efemérides fue reemplazado por el Tiempo Terrestre (TT) y por el Tiempo Dinámico Baricéntrico (TDB), escalas definidas en el marco de la relatividad general y consideradas una continuación de ET.

TIEMPO DINÁMICO TERRESTRE (TDT) y TIEMPO TERRESTRE (TT)

Tiempo Dinámico Terrestre (TDT) es la escala de tiempo utilizada en las efemérides geocéntricas aparentes de los cuerpos del Sistema Solar y de estrellas desde 1984.

A partir de 1991 se lo denomina Tiempo Terrestre (TT). La relación con el TAI es: $TT=TAI+32^s.184$. La relación con el Tiempo Universal (UT) es ΔT

$$TT = UT + \Delta T$$

cuyos valores están dados en The Astronomical Almanac (extrapolados):

2021 $\Delta T = 69^s$ 2022 $\Delta T = 69^s$ 2023 $\Delta T = 70^s$

TIEMPO DINÁMICO BARICÉNTRICO (TDB)

Es la escala de tiempo utilizada en las efemérides referidas al baricentro del Sistema Solar. En la práctica se determina a partir de TT mediante una fórmula matemática, y difiere en menos de 0.002^s.

TIEMPO SIDÉREO (TS)

El Tiempo Sidéreo es la escala de tiempo definida por el movimiento diurno del equinoccio vernal. El Tiempo Sidéreo Aparente o verdadero se define como el ángulo horario del equinoccio verdadero, y se denomina Tiempo Sidéreo Medio cuando se considera el movimiento del equinoccio medio. La Ecuación de los Equinoccios representa la diferencia entre el Tiempo Sidéreo Aparente y el Tiempo Sidéreo Medio. Prescindiendo del movimiento del equinoccio debido a la precesión y a la nutación, esta escala de tiempo es una medida directa del movimiento de rotación de la Tierra con respecto a las estrellas.

TIEMPO UNIVERSAL (UT)

El Tiempo Universal es la escala de tiempo que se aproxima al movimiento diurno medio del Sol. Es tiempo solar medio en Greenwich, y se define formalmente a partir del Tiempo Sidéreo mediante una fórmula que los vincula, luego se lo determina a partir de observaciones del movimiento diurno de las estrellas. Se definen los siguientes tipos de Tiempo Universal:

UT0 : es el tiempo universal obtenido directamente de las observaciones antes mencionadas. Luego, está afectado del movimiento del polo y de las irregularidades de rotación de la Tierra.

UT1 : se obtiene al corregir UT0 de los efectos del movimiento del polo y se lo designa generalmente como UT.

TIEMPO UNIVERSAL COORDINADO (UTC)

Es la escala de tiempo uniforme que tiene como unidad el segundo del SI y no se aparta de la rotación terrestre, dada por UT1, en más de 0.9^s. Es la base del tiempo legal de los países. Se propaga mediante emisiones horarias con la aproximación necesaria para sus aplicaciones (navegación, astronomía, geodesia). La diferencia entre las escalas de UTC y de TAI es un número entero de segundos. La diferencia entre UTC y UT1 no puede exceder 0.9^s; para mantener este compromiso, el 1° de enero y/o el 1° de julio se efectúan saltos de 1^s en la escala de UTC. Las emisiones de señales horarias se adaptan al UTC con una precisión de $\pm 0.001^s$.

VOLVER AL INDICE

Los ejemplos que se dan a continuación siguen el ordenamiento de las Efemérides Astronómicas que se publican en este Suplemento al Almanaque Náutico y Aeronáutico.

Ejemplo 1. Calcular el TS local aparente correspondiente a las $15^h\ 54^m\ 35^s.659$ de Tiempo Universal UT, el día 1° de enero del corriente año en Buenos Aires, sabiendo que la longitud es L = $3^h\ 53^m\ 25^s.194$ Oeste.

$$TSL = UT + \underline{\textbf{c.a}} + \underline{\textbf{TSG a 0h UT}} - L$$

Ene. 1, $\underline{E_o}$ = $-\ 0^s.647$

Ene. 2, $\underline{E_o}$ = $-\ 0.^s645$

dE= Ene 2- Ene 1= 0 .002

UT =$15^h\ 55^m \equiv 0^d.663$

dE . UT = $-\ 0^s.001$

E = $\underline{E_o}$ + dE · UT

E= $-0^s.647 + (\ 0^s.001) = -0^s.646$

UT	$= 15^h\ 54^m\ 35^s.659$
c.a.	= 2 36.816 **(Tab.1)**
IS	$= 15^h\ 57^m\ 12^s.475$
TSG a 0^h UT	= 6 41 33 .921 (Medio)
TSG	$= 22^h\ 38^m\ 46^s.396$ (Medio)
- L	= 3 53 25 .194
TSL	$= 18^h\ 45^m\ 21^s.202$ (Medio)
+ E	= - 0 .646
TSL	$= 18^h\ 45^m\ 20^s.556$ (Aparente)

Ejemplo 2. Hallar el instante en Tiempo Universal UT correspondiente a las $18^h\ 46^m\ 17^s.045$ de tiempo sidéreo local aparente el 1° de enero del corriente año en Buenos Aires, L = $3^h\ 53^m\ 25^s.194$ Oeste.

$$UT = TSL + L - \underline{\textbf{TSG a 0h UT}} - \underline{\textbf{c.s.}}$$

UT apr. =TSL-TSG a 0^h UT+L

UT apr. =$15^h\ 55^m = 0^d.663$

$\underline{E_o}$ = $-\ 0^s.647$

dE = $0^s.002$

dE . UT = $0^s.001$

E = $\underline{E_o}$ + dE · UT

E= $-0^s.647 + (\ 0^s.001) = -0^s.646$

TSL	= $18^h\ 45^m\ 20^s.556$ (Aparente)
- E	= - -0.646
TSL	$= 18^h\ 45^m\ 21^s.202$ (Medio)
+ L	= 3 53 25.194
TSG	$= 22^h\ 38^m\ 46^s.396$
-TSG a 0^hUT	= 6 41 33 .921 (Medio)
IS	$= 15^h\ 57^m\ 12^s.475$
-c.s.	= 2 36 .814 **(Tab.2)**
UT	$= 15^h\ 54^m\ 35^s.661$

Ejemplo 3. ¿Cuál es el ángulo horario del Sol verdadero para las $19^h\ 29^m\ 05^s.44$ de UT el día 2 de enero del corriente año en Buenos Aires (L = $3^h\ 53^m\ 25^s.194$ Oeste)?

$$AHL = TSL - \underline{AR}$$

Como la ascensión recta aparente (AR) está tabulada a 0^h TT, debe interpolarse para obtenerla a 0^h UT, siendo $\Delta T = TT-UT = 70^s$ para este año y las notaciones Δ-1 la diferencia entre la AR del día dado y la del día anterior y Δ1 la diferencia entre la AR del día posterior al dado y la del día en cuestión, resulta:

AR a 0^h UT = AR a 0^h TT + $\Delta T/86400 \cdot dAR$	
$dAR = \Delta\text{-}1 = 264^s.8$; $UT = 0^d.812$	
$\Delta\ 1 = 264^s.46$; $UT^2 = 0^d.659$	
Ene.2 a 0^h TT, AR = $18^h\ 49^m\ 09^s.32$	
$\Delta T/86400 \cdot dAR$ = + 0 .21	
Ene.2 a 0^h UT, AR = $18^h\ 49^m\ 09^s.53$	
½ (Δ1 + Δ-1) = $264^s.636$	
½ (Δ1 - Δ-1) = $-0^s.17$	
$AR_\circ$ UT = $18^h\ 49^m\ 09^s.53$	
½(Δ1+Δ-1)UT = + 3 34 .53	
½(Δ1-Δ-1)UT^2 = - $0^s.11$	
AR = $18^h\ 52^m\ 43^s.95$	

UT = $19^h\ 29^m\ 05^s.44$	
c.a. 3 12 .05	**(Tab.1)**
IS = $19^h\ 32^m\ 17^s.49$	
TSG a 0^h UT = 6 45 29.83 (Aparente)	
TSG = $2^h\ 17^m\ 47^s.32$ (Medio)	
$+\underline{E_0}$ = - 0 .64	
TSG = $2^h\ 17^m\ 46^s.28$ (Aparente)	
-L = 3 53 25.19	
TSL = $22^h\ 24^m\ 21^s.09$ (Aparente)	
- AR = 18 52 43 .95	
AHL = $3^h\ 31^m\ 37^s.14$	
$52°\ 54'\ 17''.1$	**(Tab.4)**

UT y UT^2 son los coeficientes presentes en la fórmula de interpolación utilizada.

Ejemplo 4. Hallar el tiempo sidéreo local aparente para el instante en que el ángulo horario del Sol verdadero es $5^h\ 02^m\ 20^s.20$ en Buenos Aires, L = $3^h\ 53^m\ 25^s.194$ Oeste el día 2 de enero del corriente año.

$$TSL = \underline{\mathbf{AR}} + AHL$$

Como la ascensión recta aparente (AR) está dada con argumento 0^h de TT, deberá interpolarse por el TT que resulte para el ángulo horario local dado.

TT = AHL + L + ΔT + PE PE = Tránsito de efemérides del Sol

AHL = $5^h\ 02^m\ 20^s.20$	
L = 3 53 $25^s.194$	
ΔT = + 70	
PE = 12 03 54	
TT = $21^h\ 00^m\ 49^s$	
TT = $0^d.875$	
TT^2 = $0^d.766$	

AR = $18^h\ 52^m\ 43^s.95$	
½(Δ1 + Δ-1) TT = + 3 51.56	
½(Δ1 - Δ-1) TT^2 = - 0.13	
AR = $18^h\ 56^m\ 35^s.38$	
AHL = 5 02 20 .20	
TSL = $23^h\ 58^m\ 55^s.58$	

TT y TT^2 son los coeficientes presentes en la fórmula de interpolación utilizada.

VOLVER AL INDICE

DATOS ASTRONOMICOS

Paralaje solar	8″.794 148
Constante de nutación	9″.2025 (J2000.0)
Constante de aberración	20″.49552 (J2000.0)
Precesión anual general época J2007.5	$p = 0^\circ.0139693$
Oblicuidad media de la eclíptica época J2007.5	$\varepsilon = 23^\circ 26'17''.93$
Precesión anual en ascensión recta época J2007.5	$m = 0^\circ.0128121$
Precesión anual en declinación época J2007.5	$n = 0^\circ.0055670$
Velocidad de la luz	$c = 299\ 792\ 458$ m/s
Longitud de la unidad astronómica	$1UA = 1.49597870 \times 10^{11}$ m
Duración del día sidéreo medio	$23^h\ 56^m\ 04^s.09053$ de tiempo solar medio
Duración del día solar medio	$24^h\ 03^m\ 56^s.55537$ de tiempo sidéreo medio

FORMA Y DIMENSIONES DE LA TIERRA

Radio ecuatorial (UAI 1976, UIGG)	$a = 6\ 378\ 140$ m
Factor de aplanamiento	$f = 0.00335281 = 1 / 298.257$
Reducción de la latitud geográfica ϕ a la latitud geocéntrica ϕ'	$\phi' - \phi = -11'32''.74 \operatorname{sen} 2\phi + 1''.16 \operatorname{sen} 4\phi$
Radio geocéntrico	$R = a\ (0.9983271 + 0.0016764 \cos 2\phi - 0.0000035 \cos 4\phi)$
Aceleración de la gravedad (en cm/s^2)	$g = 978.0318\ (1 + 0.0053024 \operatorname{sen}^2 \phi - 0.0000059 \operatorname{sen}^2 2\phi)$
Corrección de g (en cm/s) por elevación H (en metros)	$c = -(0.00030855 + 0.00000022 \cos 2\phi) H + 0.000072\ (H/1000)^2$

VOLVER AL INDICE

ECUACIÓN DE TIEMPO 2023 (Aparente – Medio) Para 0h Tiempo Universal

Fecha		E de T	Δ (E de T)	Fecha		E de T	Δ (E de T)
		m s	s			m s	s
Enero	1	- 3 11.465	-28.252	**Marzo**	1	- 12 26.707	+11.595
	2	- 3 39.717	-27.905		2	- 12 15.111	+12.106
	3	- 4 07.623	-27.529		3	- 12 03.005	+12.597
	4	- 4 35.152	-27.128		4	- 11 50.408	+13.066
	5	- 5 02.280	-26.700		5	- 11 37.342	+13.515
	6	- 5 28.980	-26.248		6	- 11 23.827	+13.941
	7	- 5 55.228	-25.773		7	- 11 09.886	+14.345
	8	- 6 21.001	-25.274		8	- 10 55.541	+14.725
	9	- 6 46.275	-24.752		9	- 10 40.815	+15.08
	10	- 7 11.027	-24.211		10	- 10 25.731	+15.420
	11	- 7 35.238	-23.648		11	- 10 10.311	+15.733
	12	- 7 58.886	-23.065		12	- 9 54.578	+16.023
	13	- 8 21.950	-22.462		13	- 9 38.555	+16.290
	14	- 8 44.412	-21.841		14	- 9 22.265	+16.535
	15	- 9 06.253	-21.202		15	- 9 05.730	+16.760
	16	- 9 27.455	-20.545		16	- 8 48.970	+16.964
	17	- 9 48.000	-19.871		17	- 8 32.006	+17.150
	18	-10 07.871	-19.177		18	- 8 14.856	+17.317
	19	-10 27.048	-18.466		19	- 7 57.539	+17.466
	20	-10 45.515	-17.737		20	- 7 40.073	+17.600
	21	-11 03.252	-16.990		21	- 7 22.473	+17.718
	22	-11 20.241	-16.223		22	- 7 04.755	+17.819
	23	-11 36.464	-15.441		23	- 6 46.935	+17.906
	24	-11 51.905	-14.644		24	- 6 29.030	+17.974
	25	-12 06.549	-13.836		25	- 6 11.056	+18.025
	26	-12 20.385	-13.019		26	- 5 53.031	+18.058
	27	-12 33.404	-12.194		27	- 5 34.973	+18.073
	28	-12 45.598	-11.367		28	- 5 16.900	+18.067
	29	-12 56.965	-10.535		29	- 4 58.832	+18.042
	30	-13 07.500	-09.703		30	- 4 40.790	+17.998
	31	-13 17.203	-08.872		31	- 4 22.792	+17.932
Febrero	1	-13 26.075	-08.042	**Abril**	1	- 4 04.860	+17.845
	2	-13 34.117	-07.216		2	- 3 47.015	+17.739
	3	-13 41.333	-06.395		3	- 3 29.276	+17.611
	4	-13 47.728	-05.578		4	- 3 11.665	+17.462
	5	-13 53.305	-04.768		5	- 2 54.203	+17.291
	6	-13 58.073	-03.966		6	- 2 36.913	+17.098
	7	-14 02.039	-03.172		7	- 2 19.815	+16.884
	8	-14 05.211	-02.388		8	- 2 02.931	+16.649
	9	-14 07.599	-01.612		9	- 1 46.282	+16.393
	10	-14 09.211	-00.848		10	- 1 29.888	+16.116
	11	-14 10.060	-00.094		11	- 1 13.773	+15.820
	12	-14 10.154	+00.648		12	- 0 57.952	+15.505
	13	-14 09.506	+01.380		13	- 0 42.448	+15.174
	14	-14 08.126	+02.099		14	- 0 27.274	+14.824
	15	-14 06.026	+02.808		15	- 0 12.450	+14.463
	16	-14 03.218	+03.509		16	+ 0 02.013	+14.086
	17	-13 59.709	+04.197		17	+ 0 16.099	+13.697
	18	-13 55.513	+04.878		18	+ 0 29.795	+13.298
	19	-13 50.635	+05.550		19	+ 0 43.094	+12.888
	20	-13 45.085	+06.214		20	+ 0 55.982	+12.471
	21	-13 38.871	+06.867		21	+ 1 08.453	+12.042
	22	-13 32.004	+07.510		22	+ 1 20.495	+11.606
	23	-13 24.494	+08.141		23	+ 1 32.101	+11.160
	24	-13 16.352	+08.759		24	+ 1 43.261	+10.706
	25	-13 07.594	+09.361		25	+ 1 53.967	+10.243
	26	-12 58.233	+09.946		26	+ 2 04.210	+09.769
	27	-12 48.286	+10.515		27	+ 2 13.979	+09.287
	28	-12 37.771	+11.064		28	+ 2 23.267	+08.795
					29	+ 2 32.062	+08.296
					30	+ 2 40.357	+07.785

ECUACIÓN DE TIEMPO 2023 (Aparente – Medio) Para 0h Tiempo Universal

Fecha		E de T	Δ (E de T)	Fecha		E de T	Δ (E de T)
		m s	s			m s	s
Mayo	1	+ 2 48.143	+07.267	**Julio**	1	- 3 45.998	-11.516
	2	+ 2 55.410	+06.739		2	- 3 57.514	-11.238
	3	+ 3 02.148	+06.203		3	- 4 08.752	-10.945
	4	+ 3 08.352	+05.657		4	- 4 19.697	-10.636
	5	+ 3 14.009	+05.104		5	- 4 30.334	-10.314
	6	+ 3 19.113	+04.542		6	- 4 40.647	-09.975
	7	+ 3 23.655	+03.972		7	- 4 50.622	-09.623
	8	+ 3 27.627	+03.395		8	- 5 00.245	-09.254
	9	+ 3 31.022	+02.812		9	- 5 09.499	-08.870
	10	+ 3 33.834	+02.224		10	- 5 18.369	-08.469
	11	+ 3 36.058	+01.633		11	- 5 26.838	-08.050
	12	+ 3 37.690	+01.042		12	- 5 34.889	-07.613
	13	+ 3 38.732	+00.449		13	- 5 42.502	-07.160
	14	+ 3 39.181	-00.142		14	- 5 49.662	-06.688
	15	+ 3 39.040	-00.726		15	- 5 56.350	-06.199
	16	+ 3 38.313	-01.307		16	- 6 02.549	-05.693
	17	+ 3 37.007	-01.879		17	- 6 08.242	-05.172
	18	+ 3 35.128	-02.442		18	- 6 13.415	-04.637
	19	+ 3 32.686	-02.996		19	- 6 18.051	-04.085
	20	+ 3 29.690	-03.539		20	- 6 22.137	-03.523
	21	+ 3 26.151	-04.070		21	- 6 25.659	-02.947
	22	+ 3 22.082	-04.590		22	- 6 28.606	-02.361
	23	+ 3 17.492	-05.098		23	- 6 30.968	-01.767
	24	+ 3 12.394	-05.593		24	- 6 32.735	-01.163
	25	+ 3 06.802	-06.076		25	- 6 33.898	-00.553
	26	+ 3 00.726	-06.545		26	- 6 34.451	+00.061
	27	+ 2 54.180	-07.004		27	- 6 34.389	+00.681
	28	+ 2 47.177	-07.447		28	- 6 33.709	+01.301
	29	+ 2 39.729	-07.878		29	- 6 32.407	+01.923
	30	+ 2 31.851	-08.296		30	- 6 30.484	+02.544
	31	+ 2 23.555	-08.699		31	- 6 27.940	+03.159
Junio	1	+ 2 14.856	-09.090	**Agosto**	1	- 6 24.781	+03.772
	2	+ 2 05.765	-09.468		2	- 6 21.009	+04.378
	3	+ 1 56.298	-09.832		3	- 6 16.631	+04.978
	4	+ 1 46.466	-10.184		4	- 6 11.653	+05.570
	5	+ 1 36.283	-10.521		5	- 6 06.084	+06.155
	6	+ 1 25.761	-10.845		6	- 5 59.929	+06.734
	7	+ 1 14.916	-11.154		7	- 5 53.195	+07.309
	8	+ 1 03.762	-11.446		8	- 5 45.886	+07.879
	9	+ 0 52.316	-11.722		9	- 5 38.007	+08.442
	10	+ 0 40.593	-11.978		10	- 5 29.565	+09.003
	11	+ 0 28.616	-12.212		11	- 5 20.562	+09.557
	12	+ 0 16.404	-12.424		12	- 5 11.005	+10.108
	13	+ 0 03.980	-12.612		13	- 5 00.897	+10.654
	14	- 0 08.633	-12.774		14	- 4 50.243	+11.193
	15	- 0 21.407	-12.911		15	- 4 39.050	+11.726
	16	- 0 34.318	-13.020		16	- 4 27.324	+12.253
	17	- 0 47.338	-13.102		17	- 4 15.072	+12.773
	18	- 1 00.440	-13.155		18	- 4 02.298	+13.285
	19	- 1 13.594	-13.181		19	- 3 49.014	+13.787
	20	- 1 26.775	-13.180		20	- 3 35.227	+14.281
	21	- 1 39.955	-13.151		21	- 3 20.946	+14.766
	22	- 1 53.107	-13.096		22	- 3 06.180	+15.237
	23	- 2 06.202	-13.014		23	- 2 50.943	+15.698
	24	- 2 19.216	-12.908		24	- 2 35.245	+16.146
	25	- 2 32.125	-12.776		25	- 2 19.100	+16.580
	26	- 2 44.901	-12.621		26	- 2 02.520	+16.998
	27	- 2 57.522	-12.442		27	- 1 45.522	+17.399
	28	- 3 09.963	-12.241		28	- 1 28.122	+17.784
	29	- 3 22.204	-12.018		29	- 1 10.338	+18.149
	30	- 3 34.222	-11.776		30	- 0 52.189	+18.492
					31	- 0 33.697	+18.815

ECUACIÓN DE TIEMPO 2023 (Aparente – Medio) Para 0^h Tiempo Universal

Fecha	E de T	Δ (E de T)	Fecha	E de T	Δ (E de T)
	m s	s		m s	s
Septiembre 1	- 0 14.882	+19.116	**Noviembre** 1	+16 24.393	+01.776
2	+ 0 04.234	+19.395	2	+16 26.168	+00.959
3	+ 0 23.629	+19.655	3	+16 27.127	+00.132
4	+ 0 43.284	+19.892	4	+16 27.260	-00.702
5	+ 1 03.176	+20.113	5	+16 26.558	-01.544
6	+ 1 23.290	+20.314	6	+16 25.014	-02.393
7	+ 1 43.604	+20.497	7	+16 22.621	-03.247
8	+ 2 04.100	+20.664	8	+16 19.374	-04.104
9	+ 2 24.764	+20.812	9	+16 15.269	-04.963
10	+ 2 45.575	+20.944	10	+16 10.307	-05.823
11	+ 3 06.520	+21.058	11	+16 04.484	-06.682
12	+ 3 27.578	+21.156	12	+15 57.801	-07.538
13	+ 3 48.734	+21.238	13	+15 50.263	-08.392
14	+ 4 09.973	+21.301	14	+15 41.871	-09.238
15	+ 4 31.274	+21.349	15	+15 32.633	-10.079
16	+ 4 52.623	+21.380	16	+15 22.554	-10.911
17	+ 5 14.004	+21.393	17	+15 11.643	-11.734
18	+ 5 35.396	+21.390	18	+14 59.909	-12.550
19	+ 5 56.786	+21.367	19	+14 47.360	-13.354
20	+ 6 18.153	+21.329	20	+14 34.006	-14.150
21	+ 6 39.483	+21.270	21	+14 19.856	-14.938
22	+ 7 00.753	+21.193	22	+14 04.918	-15.715
23	+ 7 21.946	+21.098	23	+13 49.203	-16.485
24	+ 7 43.044	+20.979	24	+13 32.718	-17.245
25	+ 8 04.023	+20.841	25	+13 15.473	-17.995
26	+ 8 24.865	+20.679	26	+12 57.478	-18.736
27	+ 8 45.544	+20.494	27	+12 38.742	-19.465
28	+ 9 06.038	+20.283	28	+12 19.277	-20.182
29	+ 9 26.321	+20.047	29	+11 59.095	-20.884
30	+ 9 46.369	+19.787	30	+11 38.211	-21.571
Octubre 1	+10 06.156	+19.502	**Diciembre** 1	+11 16.640	-22.240
2	+10 25.657	+19.192	2	+10 54.400	-22.892
3	+10 44.850	+18.860	3	+10 31.508	-23.521
4	+11 03.710	+18.507	4	+10 07.987	-24.130
5	+11 22.216	+18.131	5	+ 9 43.857	-24.715
6	+11 40.348	+17.737	6	+ 9 19.142	-25.274
7	+11 58.085	+17.322	7	+ 8 53.868	-25.807
8	+12 15.407	+16.890	8	+ 8 28.061	-26.313
9	+12 32.297	+16.437	9	+ 8 01.748	-26.787
10	+12 48.735	+15.968	10	+ 7 34.960	-27.233
11	+13 04.703	+15.482	11	+ 7 07.728	-27.642
12	+13 20.185	+14.979	12	+ 6 40.085	-28.020
13	+13 35.164	+14.460	13	+ 6 12.065	-28.360
14	+13 49.624	+13.924	14	+ 5 43.705	-28.663
15	+14 03.548	+13.375	15	+ 5 15.042	-28.929
16	+14 16.923	+12.811	16	+ 4 46.113	-29.156
17	+14 29.734	+12.232	17	+ 4 16.957	-29.347
18	+14 41.966	+11.641	18	+ 3 47.610	-29.502
19	+14 53.606	+11.035	19	+ 3 18.108	-29.622
20	+15 04.641	+10.415	20	+ 2 48.486	-29.708
21	+15 15.056	+09.782	21	+ 2 18.778	-29.760
22	+15 24.837	+09.134	22	+ 1 49.018	-29.782
23	+15 33.972	+08.471	23	+ 1 19.235	-29.772
24	+15 42.443	+07.793	24	+ 0 49.463	-29.732
25	+15 50.236	+07.098	25	+ 0 19.732	-29.661
26	+15 57.333	+06.387	26	- 0 09.929	-29.561
27	+16 03.720	+05.658	27	- 0 39.490	-29.431
28	+16 09.378	+04.913	28	- 1 08.921	-29.272
29	+16 14.291	+04.149	29	- 1 38.193	-29.082
30	+16 18.440	+03.372	30	- 2 07.275	-28.863
31	+16 21.812	+02.581	31	- 2 36.138	-28.616

VOLVER AL INDICE

ECLIPSES DE SOL Y LUNA 2023

Los eclipses de Luna son visibles para cualquier observador que tenga la Luna sobre el horizonte durante el período en que se manifiesta el fenómeno. No ocurre lo mismo con los eclipses de Sol, que pueden observarse en las zonas de la superficie terrestre que se detallan a continuación.

Abril 20: eclipse Hibrido de Sol. El eclipse híbrido corresponde a una combinación de eclipse Total y Anular. Desde algunas regiones de la Tierra este tipo de eclipse adopta la apariencia de un eclipse anular, mientras que en otras aparecerá como uno Total. El eclipse comienza a las 01 horas 34 minutos UT y finaliza a las 06 horas 59 minutos UT. Hora del máximo del eclipse 04 horas 16 minutos UT. La duración máxima de la totalidad es de 01 minuto 16 segundos. La magnitud del eclipse es 1.01. Es visible desde el sudeste de Asia, Australia, Filipinas, Nueva Zelanda. Hibrido desde Indonesia, Australia, Papúa Nueva Guinea.

Mayo 05: eclipse Penumbral de Luna. Comienza a las 15 horas 14 minutos UT y finaliza a las 19 horas 31 minutos UT. La hora del eclipse máximo es a las 17 horas 24 UT y tiene una duración total de 04 horas 17 minutos Es visible en África, Asia, Australia

Octubre 14: eclipse Anular Sol. Comienza a las 15 horas 04 minutos UT y finaliza a las 20 horas 55 minutos UT. La fase anular comienza a las 16 horas 12 minutos y finaliza a las 19 horas 47 minutos UT. Hora del máximo del eclipse es a las 18 horas. La duración máxima de anularidad es de 05 minutos 12 segundos. La magnitud del eclipse es 0.9. Es visible en América del Norte, Central y parte de Sudamérica. La fase anular del eclipse es vista en Estados Unidos, la mayor parte de América Central, Colombia y Brasil

Octubre *28: eclipse Parcial de Luna.* Comienza a las 18 horas 01 minutos UT y finaliza a las 22 horas 26 minutos UT. El máximo del eclipse parcial es a las 20 horas 15 minutos UT. Es visible en el este de Sudamérica, Noreste de Canadá, Europa, África, Asia y Australia.

EQUINOCCIOS Y SOLSTICIOS 2023

EQUINOCCIOS EN UT	**SOLSTICIOS EN UT**
Marzo $20^{d}\ 21^{h}\ 24^{m}$	**Junio** $21^{d}\ 14^{h}\ 58^{m}$
Septiembre $23^{d}\ 06^{h}\ 50^{m}$	**Diciembre** $22^{d}\ 03^{h}\ 27^{m}$

FASES DE LA LUNA PARA EL AÑO 2023 EN UT

NUEVA

d h m	d h m	d h m	d h m
		Ene.06 23:08	**Ene.15** 02:10
Ene.21 20:53	**Ene.28** 15:19	**Feb.05** 18:28	**Feb.13** 16:01
Feb.20 07:06	**Feb.27** 08:06	**Mar.07** 12:40	**Mar.15** 02:08
Mar.21 17:**23**	**Mar.29** 02:32	**Abr.06** 04:34	**Abr.13** 09:11
Abr.20 04:**12**	**Abr.27** 21:**20**	**May.05** 17:34	**May.12** 14:28
May.19 15:53	**May.27** 15:22	**Jun.04** 03:42	**Jun.10** 19:31
Jun.18 04:37	**Jun.26** 07:50	**Jul.03** 11:39	**Jul.10** 01:48
Jul.17 18:32	**Jul.25** 22:07	**Ago.01** 18:32	**Ago.08** 10:28
Ago.16 09:38	**Ago.24** 09:57	**Ago.31** 01:36	**Sep.06** 22:21
Sep.15 01:40	**Sep.22** 19:32	**Sep.29** 09:57	**Oct.06** 13:48
Oct.14 17:55	**Oct.22** 03:29	**Oct.28** 20:24	**Nov.05** 08:37
Nov.13 09:27	**Nov.20** 10:50	**Nov.27** 09:16	**Dic.05** 05:49
Dic.12 23:32	**Dic.19** 18:39	**Dic.27** 00:33	

CRECIENTE

LLENA

MENGUANTE

VOLVER AL INDICE

LUNA 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha 0^h TT		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Tránsito Superior	Tránsito Inferior
		h m s	° ' "	' "	h	h
Enero	01	2 6 36.650	+12 2 57.63	15 19.9	20.0282	7.6492
	02	2 54 33.770	+17 4 20.92	15 09.9	20.8072	8.4138
	03	3 44 1.688	+21 17 9.59	15 01.6	21.6189	9.2089
	04	4 35 17.256	+24 30 30.21	14 54.8	22.4605	10.0365
	05	5 28 7.495	+26 34 55.55	14 49.6	23.3190	10.8888
	06	6 21 49.346	+27 23 58.99	14 45.6	-------	11.7485
	07	7 15 19.918	+26 55 48.00	14 43.0	0.1746	12.5949
	08	8 7 35.659	+25 13 40.30	14 41.7	1.0071	13.4100
	09	8 57 51.488	+22 25 16.06	14 41.9	1.8025	14.1844
	10	9 45 50.880	+18 40 52.54	14 43.7	2.5562	14.9185
	11	10 31 45.368	+14 11 35.91	14 47.3	3.2727	15.6204
	12	11 16 8.269	+ 9 8 11.46	14 53.0	3.9633	16.3036
	13	11 59 47.991	+ 3 40 44.13	15 00.9	4.6436	16.9857
	14	12 43 43.554	- 2 0 55.97	15 11.1	5.3325	17.6867
	15	13 29 2.279	- 7 46 12.36	15 23.5	6.0513	18.4293
	16	14 16 57.781	-13 22 13.16	15 37.8	6.8238	19.2375
	17	15 8 44.643	-18 32 8.11	15 53.3	7.6733	20.1329
	18	16 5 24.255	-22 53 50.21	16 09.0	8.6174	21.1261
	19	17 7 16.967	-26 0 29.44	16 23.6	9.6564	22.2038
	20	18 13 27.092	-27 25 3.22	16 35.3	10.7615	23.3218
	21	19 21 31.384	-26 49 9.10	16 42.8	11.8766	-------
	22	20 28 24.663	-24 11 49.91	16 44.9	12.9434	0.4189
	23	21 31 40.791	-19 51 0.53	16 41.4	13.9285	1.4470
	24	22 30 20.909	-14 16 21.69	16 32.7	14.8288	2.3885
	25	23 24 43.895	- 7 59 51.88	16 20.1	15.6605	3.2518
	26	0 15 51.347	- 1 29 35.86	16 05.1	16.4472	4.0580
	27	1 4 58.502	+ 4 52 13.80	15 49.3	17.2127	4.8312
	28	1 53 18.194	+10 48 38.08	15 34.1	17.9777	5.5941
	29	2 41 52.961	+16 6 16.15	15 20.2	18.7586	6.3654
	30	3 31 29.636	+20 33 56.16	15 08.3	19.5651	7.1583
	31	4 22 33.600	+24 1 45.84	14 58.7	20.3986	7.9787
Febrero	01	5 15 3.195	+26 21 17.63	14 51.4	21.2510	8.8233
	02	6 8 27.983	+27 26 24.34	14 46.2	22.1063	9.6795
	03	7 1 55.337	+27 14 36.20	14 43.1	22.9454	10.5290
	04	7 54 25.906	+25 47 52.08	14 41.7	23.7530	11.3538
	05	8 45 11.767	+23 12 28.76	14 41.9	-------	12.1421
	06	9 33 48.714	+19 37 51.41	14 43.5	0.5211	12.8904
	07	10 20 18.953	+15 15 2.45	14 46.4	1.2508	13.6035
	08	11 5 6.884	+10 15 27.30	14 50.7	1.9501	14.2921
	09	11 48 52.869	+ 4 50 16.03	14 56.4	2.6317	14.9709
	10	12 32 28.222	- 0 49 37.95	15 03.6	3.3120	15.6574
	11	13 16 52.230	- 6 33 8.11	15 12.4	4.0097	16.3714
	12	14 3 10.139	-12 7 59.86	15 22.8	4.7454	17.1342
	13	14 52 29.759	-17 19 38.32	15 34.8	5.5405	17.9666
	14	15 45 52.871	-21 49 58.08	15 47.9	6.4142	18.8841
	15	16 43 57.183	-25 17 2.20	16 01.7	7.3759	19.8877
	16	17 46 29.123	-27 16 54.36	16 15.0	8.4157	20.9546
	17	18 52 2.355	-27 28 56.89	16 26.7	9.4979	22.0389
	18	19 58 10.532	-25 43 23.90	16 35.4	10.5713	23.0902
	19	21 2 22.923	-22 6 31.48	16 39.9	11.5922	-------
	20	22 3 3.909	-16 59 19.93	16 39.2	12.5411	0.0759
	21	22 59 52.334	-10 51 6.02	16 33.4	13.4218	0.9891
	22	23 53 22.768	- 4 12 24.33	16 23.0	14.2516	1.8417
	23	0 44 36.970	+ 2 29 21.80	16 09.4	15.0519	2.6540
	24	1 34 42.765	+ 8 51 42.63	15 54.0	15.8435	3.4476
	25	2 24 41.798	+14 36 53.86	15 38.3	16.6432	4.2415
	26	3 15 21.917	+19 31 0.52	15 23.4	17.4622	5.0499
	27	4 7 10.883	+23 23 2.29	15 10.4	18.3037	5.8803
	28	5 0 11.027	+26 4 30.82	14 59.8	19.1619	6.7314

LUNA 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha 0^h TT		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Tránsito Superior	Tránsito Inferior
		h m s	° ' "	' "	h	h
Marzo	01	5 53 57.559	+27 29 47.78	14 51.7	20.0234	7.5933
	02	6 47 44.232	+27 36 46.18	14 46.3	20.8710	8.4500
	03	7 40 36.979	+26 27 19.41	14 43.5	21.6897	9.2847
	04	8 31 50.477	+24 7 8.44	14 42.9	22.4708	10.0851
	05	9 21 0.116	+20 44 46.86	14 44.4	23.2138	10.8468
	06	10 8 5.515	+16 30 30.54	14 47.5	23.9251	11.5728
	07	10 53 27.372	+11 35 20.80	14 52.0	-------	12.2722
	08	11 37 41.852	+ 6 10 35.04	14 57.7	0.6159	12.9582
	09	12 21 35.636	+ 0 27 44.30	15 04.2	1.3010	13.6465
	10	13 6 2.604	- 5 21 8.85	15 11.5	1.9970	14.3548
	11	13 52 1.461	-11 2 57.40	15 19.5	2.7223	15.1020
	12	14 40 32.452	-16 22 48.20	15 28.2	3.4961	15.9067
	13	15 32 30.368	-21 3 23.70	15 37.5	4.3354	16.7833
	14	16 28 30.814	-24 44 57.09	15 47.4	5.2505	17.7360
	15	17 28 29.826	-27 6 32.67	15 57.4	6.2374	18.7510
	16	18 31 26.289	-27 49 39.49	16 07.3	7.2720	19.7948
	17	19 35 26.648	-26 43 27.24	16 16.1	8.3142	20.8251
	18	20 38 22.321	-23 49 4.34	16 23.1	9.3239	21.8083
	19	21 38 38.592	-19 20 2.71	16 27.2	10.2773	22.7311
	20	22 35 40.297	-13 38 48.61	16 27.7	11.1710	23.5987
	21	23 29 45.457	- 7 11 56.13	16 24.2	12.0165	-------
	22	0 21 43.875	- 0 26 17.48	16 16.7	12.8323	0.4268
	23	1 12 37.144	+ 6 13 15.63	16 06.0	13.6382	1.2353
	24	2 3 24.877	+12 24 58.34	15 52.9	14.4514	2.0430
	25	2 54 55.201	+17 50 34.19	15 38.8	15.2838	2.8647
	26	3 47 36.819	+22 15 17.87	15 25.0	16.1396	3.7088
	27	4 41 32.370	+25 28 2.38	15 12.3	17.0137	4.5751
	28	5 36 15.919	+27 21 42.68	15 01.6	17.8925	5.4537
	29	6 30 58.633	+27 53 45.11	14 53.4	18.7578	6.3280
	30	7 24 43.348	+27 6 13.23	14 47.9	19.5933	7.1801
	31	8 16 42.374	+25 5 7.66	14 45.3	20.3893	7.9965
Abril	01	9 6 30.143	+21 59 8.65	14 45.3	21.1448	8.7719
	02	9 54 6.573	+17 58 14.91	14 47.9	21.8659	9.5091
	03	10 39 53.297	+13 12 49.62	14 52.5	22.5638	10.2169
	04	11 24 27.447	+ 7 53 23.91	14 58.8	23.2532	10.9086
	05	12 8 36.317	+ 2 10 51.44	15 06.3	23.9508	11.5999
	06	12 53 13.832	- 3 42 58.18	15 14.6	-------	12.3082
	07	13 39 18.040	- 9 34 38.30	15 23.0	0.6745	13.0521
	08	14 27 47.741	-15 8 26.41	15 31.4	1.4431	13.8496
	09	15 19 35.533	-20 6 1.99	15 39.4	2.2732	14.7150
	10	16 15 14.558	-24 6 47.29	15 46.9	3.1751	15.6527
	11	17 14 39.369	-26 49 31.99	15 53.7	4.1458	16.6508
	12	18 16 50.076	-27 56 10.67	15 59.9	5.1634	17.6783
	13	19 19 57.662	-27 16 27.47	16 05.2	6.1904	18.6949
	14	20 21 59.378	-24 51 18.90	16 09.6	7.1880	19.6673
	15	21 21 24.464	-20 52 36.48	16 12.6	8.1316	20.5810
	16	22 17 38.621	-15 39 38.34	16 13.8	9.0163	21.4393
	17	23 10 58.898	- 9 35 5.56	16 12.9	9.8522	22.2573
	18	0 2 14.239	- 3 2 16.43	16 09.5	10.6573	23.0546
	19	0 52 26.884	+ 3 36 12.17	16 03.4	11.4518	23.8512
	20	1 42 39.308	+ 9 58 56.23	15 55.0	12.2546	-------
	21	2 33 44.770	+15 46 5.48	15 44.7	13.0800	0.6638
	22	3 26 18.549	+20 39 54.42	15 33.3	13.9352	1.5038
	23	4 20 29.163	+24 25 34.27	15 21.7	14.8172	2.3734
	24	5 15 52.649	+26 52 25.91	15 10.7	15.7123	3.2643
	25	6 11 35.712	+27 55 13.30	15 01.2	16.5999	4.1584
	26	7 6 30.827	+27 34 35.77	14 53.7	17.4593	5.0342
	27	7 59 37.967	+25 56 25.27	14 48.7	18.2766	5.8737
	28	8 50 21.772	+23 9 58.64	14 46.5	19.0481	6.6679
	29	9 38 37.083	+19 25 56.03	14 47.1	19.7788	7.4180
	30	10 24 44.678	+14 54 55.45	14 50.5	20.4803	8.1323

LUNA 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha 0^h TT		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Tránsito Superior	Tránsito Inferior
		h m s	° ' "	' "	h	h
Mayo	01	11 9 23.432	+ 9 47 2.67	14 56.4	21.1677	8.8247
	02	11 53 23.575	+ 4 12 8.92	15 04.4	21.8586	9.5115
	03	12 37 42.505	- 1 39 19.84	15 14.0	22.5723	10.2114
	04	13 23 22.325	- 7 35 17.64	15 24.5	23.3290	10.9440
	05	14 11 27.023	-13 20 51.14	15 35.1	-------	11.7295
	06	15 2 56.155	-18 37 30.07	15 45.1	0.1477	12.5851
	07	15 58 31.430	-23 3 10.32	15 53.9	1.0424	13.5192
	08	16 58 15.130	-26 14 2.77	16 00.9	2.0139	14.5232
	09	18 1 9.000	-27 48 50.40	16 06.0	3.0425	15.5662
	10	19 5 15.022	-27 34 44.75	16 09.0	4.0883	16.6031
	11	20 8 13.223	-25 31 49.74	16 10.2	5.1059	17.5935
	12	21 8 16.408	-21 52 38.41	16 09.8	6.0641	18.5174
	13	22 4 41.527	-16 57 33.19	16 07.9	6.9544	19.3765
	14	22 57 44.616	-11 9 27.74	16 04.8	7.7861	20.1859
	15	23 48 17.998	- 4 50 32.62	16 00.6	8.5784	20.9666
	16	0 37 29.128	+ 1 38 43.48	15 55.1	9.3532	21.7407
	17	1 26 26.921	+ 7 59 17.91	15 48.5	10.1316	22.5280
	18	2 16 12.982	+13 53 2.37	15 40.8	10.9315	23.3434
	19	3 7 33.644	+19 2 32.80	15 32.2	11.7645	-------
	20	4 0 50.648	+23 11 42.27	15 23.1	12.6330	0.1946
	21	4 55 52.182	+26 7 4.71	15 13.8	13.5272	1.0779
	22	5 51 50.514	+27 39 51.99	15 05.1	14.4269	1.9779
	23	6 47 32.953	+27 47 31.90	14 57.4	15.3074	2.8710
	24	7 41 44.997	+26 34 2.07	14 51.4	16.1485	3.7337
	25	8 33 33.909	+24 8 18.22	14 47.4	16.9406	4.5508
	26	9 22 40.518	+20 41 44.46	14 45.9	17.6850	5.3183
	27	10 9 17.444	+16 26 0.67	14 47.1	18.3915	6.0422
	28	10 54 0.418	+11 31 51.28	14 51.1	19.0749	6.7350
	29	11 37 39.645	+ 6 8 58.43	14 57.8	19.7530	7.4134
	30	12 21 14.211	+ 0 26 42.48	15 07.1	20.4459	8.0963
	31	13 5 49.339	- 5 24 47.44	15 18.3	21.1750	8.8045
Junio	01	13 52 34.520	-11 13 5.52	15 31.0	21.9626	9.5601
	02	14 42 39.404	-16 41 59.47	15 44.0	22.8284	10.3847
	03	15 37 2.979	-21 30 31.08	15 56.5	23.7827	11.2945
	04	16 36 11.913	-25 13 31.36	16 07.3	-------	12.2910
	05	17 39 31.409	-27 25 16.52	16 15.6	0.8157	13.3511
	06	18 45 9.696	-27 46 26.40	16 20.6	1.8907	14.4274
	07	19 50 25.650	-26 11 25.55	16 22.2	2.9547	15.4673
	08	20 52 54.556	-22 50 43.31	16 20.5	3.9619	16.4368
	09	21 51 21.163	-18 6 18.97	16 16.1	4.8920	17.3288
	10	22 45 45.368	-12 24 17.82	16 09.8	5.7492	18.1560
	11	23 36 56.550	- 6 9 28.43	16 02.1	6.5520	18.9403
	12	0 26 5.823	+ 0 16 37.96	15 53.8	7.3238	19.7054
	13	1 14 28.208	+ 6 35 32.63	15 45.1	8.0879	20.4738
	14	2 3 12.860	+12 30 44.03	15 36.5	8.8652	21.2640
	15	2 53 16.007	+17 46 38.55	15 27.9	9.6714	22.0881
	16	3 45 12.826	+22 8 21.42	15 19.6	10.5143	22.9490
	17	4 39 7.937	+25 22 18.03	15 11.7	11.3907	23.8370
	18	5 34 28.947	+27 17 56.36	15 04.2	12.2850	-------
	19	6 30 10.787	+27 49 54.04	14 57.5	13.1734	0.7316
	20	7 24 54.582	+26 59 17.91	14 51.7	14.0316	1.6075
	21	8 17 33.510	+24 53 15.86	14 47.3	14.8436	2.4439
	22	9 7 31.434	+21 42 50.37	14 44.6	15.6049	3.2304
	23	9 54 46.870	+17 40 24.77	14 44.0	16.3213	3.9680
	24	10 39 46.230	+12 57 50.84	14 45.8	17.0052	4.6663
	25	11 23 14.314	+ 7 45 42.66	14 50.2	17.6734	5.3401
	26	12 6 7.160	+ 2 13 28.36	14 57.2	18.3448	6.0074
	27	12 49 28.298	- 3 29 38.16	15 06.9	19.0407	6.6883
	28	13 34 27.189	- 9 13 17.99	15 18.9	19.7839	7.4049
	29	14 22 17.292	-14 44 30.00	15 32.8	20.5977	8.1806
	30	15 14 9.803	-19 45 52.53	15 47.7	21.5008	9.0373

LUNA 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha 0^h TT		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Tránsito Superior	Tránsito Inferior
		h m s	° ' "	' "	h	h
Julio	01	16 10 57.712	-23 54 48.72	16 02.5	22.4987	9.9885
	02	17 12 47.071	-26 44 46.30	16 15.8	23.5710	11.0280
	03	18 18 26.095	-27 50 35.26	16 26.3	-------	12.1207
	04	19 25 24.322	-26 57 11.90	16 33.0	0.6693	13.2097
	05	20 30 46.235	-24 6 43.62	16 35.0	1.7358	14.2436
	06	21 32 26.290	-19 38 1.20	16 32.4	2.7308	15.1973
	07	22 29 44.234	-13 59 17.04	16 25.9	3.6443	16.0737
	08	23 23 9.570	- 7 39 55.97	16 16.4	4.4884	16.8913
	09	0 13 48.376	- 1 5 52.68	16 05.0	5.2857	17.6745
	10	1 2 57.733	+ 5 21 37.00	15 52.9	6.0607	18.4472
	11	1 51 51.560	+11 25 6.62	15 40.9	6.8363	19.2302
	12	2 41 32.542	+16 49 36.75	15 29.6	7.6308	20.0391
	13	3 32 44.917	+21 21 32.80	15 19.3	8.4560	20.8812
	14	4 25 46.061	+24 48 34.79	15 10.3	9.3140	21.7529
	15	5 20 19.167	+27 0 32.05	15 02.4	10.1955	22.6391
	16	6 15 33.347	+27 51 6.58	14 55.8	11.0806	23.5170
	17	7 10 16.674	+27 19 30.04	14 50.4	11.9457	-------
	18	8 3 19.230	+25 30 47.00	14 46.2	12.7714	0.3643
	19	8 53 54.321	+22 34 39.79	14 43.4	13.5484	1.1662
	20	9 41 47.664	+18 43 15.77	14 42.1	14.2779	1.9187
	21	10 27 14.429	+14 9 3.61	14 42.5	14.9688	2.6273
	22	11 10 50.817	+ 9 3 39.20	14 44.8	15.6354	3.3041
	23	11 53 26.253	+ 3 37 26.66	14 49.3	16.2947	3.9648
	24	12 35 58.607	- 1 59 57.60	14 56.3	16.9661	4.6276
	25	13 19 32.106	- 7 38 50.40	15 05.6	17.6706	5.3128
	26	14 5 16.173	-13 8 4.46	15 17.3	18.4310	6.0424
	27	14 54 22.330	-18 13 36.61	15 31.1	19.2688	6.8390
	28	15 47 54.809	-22 37 3.35	15 46.4	20.1992	7.7220
	29	16 46 30.054	-25 55 20.27	16 02.1	21.2200	8.6994
	30	17 49 46.144	-27 43 4.85	16 17.1	22.3020	9.7563
	31	18 56 0.961	-27 38 59.83	16 29.8	23.3931	10.8500
Agosto	01	20 2 32.099	-25 34 26.18	16 38.7	-------	11.9249
	02	21 6 42.765	-21 38 20.91	16 42.7	0.4409	12.9384
	03	22 7 3.548	-16 14 33.65	16 41.4	1.4164	13.8757
	04	23 3 25.265	- 9 53 59.94	16 34.9	2.3180	14.7457
	05	23 56 33.747	- 3 7 25.84	16 24.3	3.1618	15.5691
	06	0 47 39.094	+ 3 38 27.84	16 11.0	3.9707	16.3694
	07	1 37 54.849	+10 2 0.72	15 56.3	4.7679	17.1685
	08	2 28 26.145	+15 45 48.97	15 41.7	5.5733	17.9837
	09	3 20 1.471	+20 35 35.92	15 27.9	6.4008	18.8249
	10	4 13 4.778	+24 19 27.97	15 15.8	7.2557	19.6922
	11	5 7 28.667	+26 48 3.12	15 05.4	8.1327	20.5750
	12	6 2 33.333	+27 55 30.11	14 57.1	9.0163	21.4540
	13	6 57 16.342	+27 40 40.84	14 50.6	9.8853	22.3081
	14	7 50 32.199	+26 7 39.76	14 45.9	10.7205	23.1214
	15	8 41 32.589	+23 24 58.38	14 42.9	11.5102	23.8871
	16	9 29 57.450	+19 43 54.00	14 41.4	12.2527	-------
	17	10 15 54.717	+15 16 42.51	14 41.4	12.9543	0.6080
	18	10 59 53.603	+10 15 23.67	14 42.9	13.6267	1.2933
	19	11 42 37.144	+ 4 51 9.38	14 46.0	14.2850	1.9566
	20	12 24 56.997	- 0 45 31.64	14 50.7	14.9464	2.6142
	21	13 7 50.764	- 6 24 22.63	14 57.3	15.6295	3.2840
	22	13 52 20.674	-11 54 27.60	15 05.9	16.3545	3.9855
	23	14 39 31.529	-17 3 5.43	15 16.4	17.1417	4.7391
	24	15 30 24.882	-21 34 40.70	15 28.8	18.0080	5.5642
	25	16 25 45.626	-25 10 2.41	15 42.8	18.9601	6.4736
	26	17 25 39.486	-27 27 13.07	15 57.6	19.9855	7.4654
	27	18 29 9.822	-28 5 4.18	16 12.3	21.0485	8.5152
	28	19 34 16.577	-26 49 36.48	16 25.6	22.1018	9.5792
	29	20 38 35.060	-23 40 7.36	16 36.0	23.1071	10.6120
	30	21 40 14.236	-18 50 50.16	16 42.1	-------	11.5861
	31	22 38 30.455	-12 47 6.92	16 43.0	0.0492	12.4977

LUNA 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha 0^h TT		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Tránsito Superior	Tránsito Inferior
		h m s	° ' "	' "	h	h
Septiembre	01	23 33 41.643	- 5 59 19.41	16 38.4	0.9338	13.3600
	02	0 26 42.108	+ 1 2 22.95	16 29.0	1.7789	14.1933
	03	1 18 38.895	+ 7 51 5.35	16 16.0	2.6058	15.0190
	04	2 10 35.750	+14 4 15.55	16 00.8	3.4347	15.8548
	05	3 3 22.093	+19 23 42.40	15 45.0	4.2804	16.7121
	06	3 57 23.813	+23 35 13.97	15 29.8	5.1498	17.5927
	07	4 52 36.043	+26 28 34.55	15 16.2	6.0393	18.4876
	08	5 48 21.938	+27 57 53.56	15 04.7	6.9351	19.3790
	09	6 43 42.015	+28 2 23.06	14 55.6	7.8169	20.2465
	10	7 37 33.026	+26 46 20.34	14 48.9	8.6658	21.0737
	11	8 29 7.672	+24 18 10.72	14 44.6	9.4696	21.8533
	12	9 18 5.649	+20 48 49.58	14 42.4	10.2254	22.5867
	13	10 4 33.720	+16 30 7.18	14 42.1	10.9385	23.2823
	14	10 48 59.306	+11 33 47.01	14 43.5	11.6198	23.9529
	15	11 32 3.123	+ 6 11 3.39	14 46.3	12.2834	-------
	16	12 14 33.828	+ 0 32 48.41	14 50.4	12.9451	0.6134
	17	12 57 25.050	- 5 10 2.88	14 55.8	13.6221	1.2806
	18	13 41 33.771	-10 45 56.12	15 02.3	14.3327	1.9720
	19	14 27 58.317	-16 1 54.45	15 10.1	15.0948	2.7062
	20	15 17 33.589	-20 42 55.91	15 19.2	15.9240	3.5002
	21	16 11 0.784	-24 31 31.33	15 29.5	16.8284	4.3667
	22	17 8 30.494	-27 8 22.01	15 40.9	17.8017	5.3075
	23	18 9 24.527	-28 14 45.90	15 53.0	18.8191	6.3071
	24	19 12 11.725	-27 36 58.70	16 05.3	19.8427	7.3326
	25	20 14 52.477	-25 10 51.84	16 16.9	20.8366	8.3451
	26	21 15 43.458	-21 4 2.25	16 26.5	21.7810	9.3155
	27	22 13 51.929	-15 34 22.85	16 33.2	22.6750	10.2337
	28	23 9 20.573	- 9 6 23.63	16 35.7	23.5317	11.1069
	29	0 2 51.266	- 2 7 31.73	16 33.5	-------	11.9519
	30	0 55 24.555	+ 4 54 33.05	16 26.6	0.3703	12.7891
Octubre	01	1 48 3.034	+11 33 50.48	16 15.8	1.2107	13.6370
	02	2 41 38.393	+17 27 16.73	16 02.1	2.0693	14.5085
	03	3 36 39.815	+22 15 41.72	15 47.2	2.9548	15.4074
	04	4 33 4.040	+25 44 44.78	15 32.1	3.8649	16.3253
	05	5 30 11.883	+27 45 55.46	15 18.2	4.7857	17.2433
	06	6 26 57.299	+28 17 17.64	15 06.2	5.6950	18.1382
	07	7 22 8.704	+27 23 14.69	14 56.6	6.5705	18.9906
	08	8 14 52.192	+25 12 57.07	14 49.7	7.3975	19.7912
	09	9 4 44.528	+21 58 6.50	14 45.5	8.1719	20.5407
	10	9 51 52.848	+17 50 56.30	14 43.9	8.8988	21.2477
	11	10 36 46.711	+13 3 4.53	14 44.7	9.5894	21.9256
	12	11 20 9.319	+ 7 45 20.90	14 47.5	10.2583	22.5898
	13	12 2 51.316	+ 2 8 9.58	14 51.9	10.9220	23.2572
	14	12 45 47.441	- 3 37 50.26	14 57.7	11.5977	23.9457
	15	13 29 54.749	- 9 20 58.41	15 04.3	12.3034	-------
	16	14 16 10.535	-14 47 49.87	15 11.6	13.0566	0.6730
	17	15 5 27.608	-19 42 42.81	15 19.4	13.8725	1.4560
	18	15 58 24.436	-23 47 36.42	15 27.5	14.7591	2.3069
	19	16 55 9.444	-26 43 10.64	15 35.8	15.7112	3.2279
	20	17 55 4.770	-28 11 20.69	15 44.3	16.7064	4.2054
	21	18 56 43.419	-27 59 16.58	15 52.8	17.7094	5.2093
	22	19 58 12.430	-26 3 9.50	16 01.2	18.6858	6.2026
	23	20 57 54.010	-22 29 28.43	16 08.9	19.6149	7.1568
	24	21 54 57.361	-17 33 9.74	16 15.5	20.4944	8.0604
	25	22 49 24.150	-11 34 21.86	16 20.1	21.3356	8.9187
	26	23 41 54.655	- 4 55 45.03	16 22.1	22.1575	9.7477
	27	0 33 29.527	+ 1 58 56.24	16 20.8	22.9811	10.5678
	28	1 25 14.763	+ 8 45 36.61	16 16.0	23.8253	11.3996
	29	2 18 9.544	+15 0 30.50	16 07.9	-------	12.2597
	30	3 12 53.975	+20 21 17.17	15 57.1	0.7033	13.1563
	31	4 9 35.889	+24 28 43.56	15 44.5	1.6176	14.0852

LUNA 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha 0^h TT		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Tránsito Superior	Tránsito Inferior
		h m s	° ' "	' "	h	h
Noviembre	01	5 7 41.421	+27 8 59.52	15 31.3	2.5565	15.0281
	02	6 5 58.703	+28 15 45.69	15 18.5	3.4963	15.9575
	03	7 2 59.692	+27 51 1.42	15 07.1	4.4085	16.8470
	04	7 57 30.624	+26 3 41.99	14 57.7	5.2712	17.6806
	05	8 48 53.079	+23 6 38.53	14 50.9	6.0751	18.4554
	06	9 37 6.966	+19 13 34.41	14 46.9	6.8229	19.1791
	07	10 22 41.176	+14 37 10.51	14 45.8	7.5258	19.8652
	08	11 6 21.871	+ 9 28 31.87	14 47.4	8.1994	20.5307
	09	11 49 4.002	+ 3 57 32.43	14 51.4	8.8614	21.1938
	10	12 31 46.869	- 1 46 9.45	14 57.6	9.5303	21.8735
	11	13 15 32.178	- 7 32 3.01	15 05.4	10.2257	22.5894
	12	14 1 22.350	-13 7 36.41	15 14.2	10.9668	23.3602
	13	14 50 16.348	-18 17 20.46	15 23.4	11.7712	-------
	14	15 42 59.906	-22 42 28.49	15 32.4	12.6502	0.2011
	15	16 39 48.369	-26 1 53.34	15 40.8	13.6016	1.1177
	16	17 40 6.755	-27 55 5.75	15 48.3	14.6043	2.0987
	17	18 42 22.701	-28 7 6.86	15 54.6	15.6201	3.1132
	18	19 44 29.726	-26 33 11.77	15 59.7	16.6086	4.1198
	19	20 44 34.604	-23 20 18.73	16 03.7	17.5438	5.0837
	20	21 41 36.103	-18 44 26.94	16 06.7	18.4201	5.9889
	21	22 35 32.347	-13 6 4.53	16 08.5	19.2483	6.8391
	22	23 27 4.833	- 6 46 39.47	16 09.0	20.0480	7.6503
	23	0 17 17.916	- 0 7 13.07	16 08.0	20.8416	8.4441
	24	1 7 23.323	+ 6 31 39.53	16 05.3	21.6512	9.2432
	25	1 58 29.286	+12 49 20.96	16 00.6	22.4948	10.0679
	26	2 51 30.139	+18 25 4.10	15 53.9	23.3820	10.9328
	27	3 46 53.313	+22 58 41.19	15 45.5	-------	11.8416
	28	4 44 25.376	+26 12 49.16	15 35.7	0.3095	12.7828
	29	5 43 6.068	+27 55 52.07	15 25.2	1.2579	13.7306
	30	6 41 21.647	+28 4 39.89	15 14.7	2.1969	14.6530
Diciembre	01	7 37 36.873	+26 44 54.69	15 05.0	3.0962	15.5244
	02	8 30 47.117	+24 8 48.48	14 56.8	3.9368	16.3333
	03	9 20 31.930	+20 31 17.58	14 50.7	4.7146	17.0821
	04	10 7 9.224	+16 6 54.15	14 47.1	5.4374	17.7826
	05	10 51 21.640	+11 8 13.52	14 46.3	6.1199	18.4517
	06	11 34 4.821	+ 5 45 47.38	14 48.4	6.7802	19.1080
	07	12 16 20.680	+ 0 8 49.88	14 53.3	7.4376	19.7717
	08	12 59 14.652	- 5 33 29.64	15 00.8	8.1129	20.4638
	09	13 43 54.560	-11 10 41.32	15 10.4	8.8272	21.2057
	10	14 31 28.199	-16 29 27.44	15 21.5	9.6017	22.0172
	11	15 22 55.964	-21 12 32.73	15 33.3	10.4537	22.9117
	12	16 18 54.668	-24 58 36.55	15 44.9	11.3904	23.8875
	13	17 19 12.909	-27 24 17.55	15 55.4	12.3991	-------
	14	18 22 31.166	-28 9 21.15	16 03.9	13.4435	0.9198
	15	19 26 32.253	-27 3 27.32	16 10.0	14.4750	1.9638
	16	20 28 51.499	-24 10 27.26	16 13.3	15.4539	2.9726
	17	21 27 53.536	-19 46 49.27	16 14.0	16.3643	3.9177
	18	22 23 14.356	-14 15 50.42	16 12.4	17.2118	4.7949
	19	23 15 26.987	- 8 1 56.95	16 09.2	18.0151	5.6176
	20	0 5 35.725	- 1 27 44.19	16 04.6	18.7977	6.4075
	21	0 54 56.027	+ 5 6 34.67	15 59.1	19.5835	7.1888
	22	1 44 42.191	+11 22 22.61	15 52.9	20.3935	7.9843
	23	2 35 58.281	+17 1 40.15	15 46.2	21.2430	8.8127
	24	3 29 27.615	+21 46 41.85	15 38.9	22.1369	9.6846
	25	4 25 19.484	+25 20 44.45	15 31.2	23.0652	10.5979
	26	5 22 58.152	+27 30 21.08	15 23.1	-------	11.5350
	27	6 21 5.255	+28 8 21.98	15 14.9	0.0034	12.4663
	28	7 18 2.891	+27 15 58.97	15 06.9	0.9200	13.3615
	29	8 12 27.827	+25 2 16.26	14 59.4	1.7887	14.2004
	30	9 3 35.832	+21 41 15.47	14 53.1	2.5963	14.9771
	31	9 51 25.243	+17 28 22.10	14 48.3	3.3439	15.6983

VOLVER AL INDICE

VOLVER AL EJEMPLO 1 VOLVER A EJEMPLO 2 VOLVER AL EJEMPLO 3

TIEMPO SIDÉREO 2023

Fecha 0^h UT		Día Juliano	Tiempo Sidéreo Ángulo Horario de Aries		Ecuación de los Equinoccios
			Aparente	Medio	(E_0)
		245	h m s	s	s
Enero	01	9945.5	6 41 33.2752	33.9215	-.6463
	02	9946.5	6 45 29.8319	30.4768	-.6449
	03	9947.5	6 49 26.3914	27.0322	-.6408
	04	9948.5	6 53 22.9532	23.5876	-.6344
	05	9949.5	6 57 19.5165	20.1429	-.6264
	06	9950.5	7 1 16.0804	16.6983	-.6179
	07	9951.5	7 5 12.6440	13.2537	-.6097
	08	9952.5	7 9 9.2062	9.8090	-.6028
	09	9953.5	7 13 5.7664	6.3644	-.5980
	10	9954.5	7 17 2.3241	2.9198	-.5957
	11	9955.5	7 20 58.8792	59.4751	-.5959
	12	9956.5	7 24 55.4323	56.0305	-.5982
	13	9957.5	7 28 51.9839	52.5859	-.6020
	14	9958.5	7 32 48.5350	49.1413	-.6063
	15	9959.5	7 36 45.0868	45.6966	-.6098
	16	9960.5	7 40 41.6407	42.2520	-.6113
	17	9961.5	7 44 38.1979	38.8074	-.6095
	18	9962.5	7 48 34.7589	35.3627	-.6038
	19	9963.5	7 52 31.3239	31.9181	-.5942
	20	9964.5	7 56 27.8915	28.4735	-.5820
	21	9965.5	8 0 24.4593	25.0288	-.5695
	22	9966.5	8 4 21.0248	21.5842	-.5594
	23	9967.5	8 8 17.5859	18.1396	-.5537
	24	9968.5	8 12 14.1419	14.6949	-.5530
	25	9969.5	8 16 10.6941	11.2503	-.5562
	26	9970.5	8 20 7.2442	7.8057	-.5615
	27	9971.5	8 24 3.7942	4.3610	-.5668
	28	9972.5	8 28 .3459	.9164	-.5705
	29	9973.5	8 31 56.9002	57.4718	-.5716
	30	9974.5	8 35 53.4571	54.0272	-.5701
	31	9975.5	8 39 50.0163	50.5825	-.5662
Febrero	01	9976.5	8 43 46.5772	47.1379	-.5607
	02	9977.5	8 47 43.1389	43.6933	-.5544
	03	9978.5	8 51 39.7002	40.2486	-.5484
	04	9979.5	8 55 36.2605	36.8040	-.5435
	05	9980.5	8 59 32.8188	33.3594	-.5406
	06	9981.5	9 3 29.3746	29.9147	-.5401
	07	9982.5	9 7 25.9279	26.4701	-.5422
	08	9983.5	9 11 22.4789	23.0255	-.5466
	09	9984.5	9 15 19.0280	19.5808	-.5528
	10	9985.5	9 19 15.5766	16.1362	-.5596
	11	9986.5	9 23 12.1255	12.6916	-.5661
	12	9987.5	9 27 8.6761	9.2470	-.5709
	13	9988.5	9 31 5.2293	5.8023	-.5730
	14	9989.5	9 35 1.7862	2.3577	-.5715
	15	9990.5	9 38 58.3466	58.9131	-.5665
	16	9991.5	9 42 54.9099	55.4684	-.5585
	17	9992.5	9 46 51.4746	52.0238	-.5492
	18	9993.5	9 50 48.0382	48.5792	-.5410
	19	9994.5	9 54 44.5985	45.1345	-.5360
	20	9995.5	9 58 41.1542	41.6899	-.5357
	21	9996.5	10 2 37.7053	38.2453	-.5400
	22	9997.5	10 6 34.2533	34.8006	-.5473
	23	9998.5	10 10 30.8004	31.3560	-.5556
	24	9999.5	10 14 27.3487	27.9114	-.5627
	25	0000.5	10 18 23.8996	24.4668	-.5672
	26	0001.5	10 22 20.4533	21.0221	-.5688
	27	0002.5	10 26 17.0097	17.5775	-.5678
	28	0003.5	10 30 13.5681	14.1329	-.5648

TIEMPO SIDÉREO 2023

Fecha 0^h UT		Día Juliano	Tiempo Sidéreo Ángulo Horario de Aries		Ecuación de los Equinoccios
			Aparente	Medio	(E_0)
		245	h m s	s	s
Marzo	01	0004.5	10 34 10.1274	10.6882	-.5608
	02	0005.5	10 38 6.6867	7.2436	-.5569
	03	0006.5	10 42 3.2450	3.7990	-.5540
	04	0007.5	10 45 59.8015	60.3543	-.5528
	05	0008.5	10 49 56.3558	56.9097	-.5539
	06	0009.5	10 53 52.9076	53.4651	-.5575
	07	0010.5	10 57 49.4568	50.0204	-.5636
	08	0011.5	11 1 46.0043	46.5758	-.5715
	09	0012.5	11 5 42.5508	43.1312	-.5804
	10	0013.5	11 9 39.0973	39.6865	-.5892
	11	0014.5	11 13 35.6455	36.2419	-.5964
	12	0015.5	11 17 32.1962	32.7973	-.6011
	13	0016.5	11 21 28.7503	29.3527	-.6024
	14	0017.5	11 25 25.3078	25.9080	-.6002
	15	0018.5	11 29 21.8683	22.4634	-.5951
	16	0019.5	11 33 18.4304	19.0188	-.5884
	17	0020.5	11 37 14.9923	15.5741	-.5818
	18	0021.5	11 41 11.5519	12.1295	-.5776
	19	0022.5	11 45 8.1078	8.6849	-.5771
	20	0023.5	11 49 4.6592	5.2402	-.5810
	21	0024.5	11 53 1.2071	1.7956	-.5885
	22	0025.5	11 56 57.7532	58.3510	-.5978
	23	0026.5	12 0 54.2996	54.9063	-.6067
	24	0027.5	12 4 50.8483	51.4617	-.6134
	25	0028.5	12 8 47.4002	48.0171	-.6169
	26	0029.5	12 12 43.9552	44.5725	-.6173
	27	0030.5	12 16 40.5125	41.1278	-.6153
	28	0031.5	12 20 37.0714	37.6832	-.6118
	29	0032.5	12 24 33.6307	34.2386	-.6079
	30	0033.5	12 28 30.1891	30.7939	-.6048
	31	0034.5	12 32 26.7460	27.3493	-.6033
Abril	01	0035.5	12 36 23.3008	23.9047	-.6039
	02	0036.5	12 40 19.8531	20.4600	-.6069
	03	0037.5	12 44 16.4031	17.0154	-.6123
	04	0038.5	12 48 12.9510	13.5708	-.6198
	05	0039.5	12 52 9.4977	10.1261	-.6284
	06	0040.5	12 56 6.0443	6.6815	-.6372
	07	0041.5	13 0 2.5922	3.2369	-.6447
	08	0042.5	13 3 59.1425	59.7923	-.6498
	09	0043.5	13 7 55.6962	56.3476	-.6514
	10	0044.5	13 11 52.2536	52.9030	-.6494
	11	0045.5	13 15 48.8142	49.4584	-.6442
	12	0046.5	13 19 45.3766	46.0137	-.6371
	13	0047.5	13 23 41.9392	42.5691	-.6299
	14	0048.5	13 27 38.5000	39.1245	-.6245
	15	0049.5	13 31 35.0575	35.6798	-.6223
	16	0050.5	13 35 31.6110	32.2352	-.6242
	17	0051.5	13 39 28.1610	28.7906	-.6296
	18	0052.5	13 43 24.7086	25.3459	-.6373
	19	0053.5	13 47 21.2559	21.9013	-.6454
	20	0054.5	13 51 17.8048	18.4567	-.6519
	21	0055.5	13 55 14.3566	15.0121	-.6555
	22	0056.5	13 59 10.9118	11.5674	-.6556
	23	0057.5	14 3 7.4700	8.1228	-.6528
	24	0058.5	14 7 4.0303	4.6782	-.6479
	25	0059.5	14 11 .5913	1.2335	-.6422
	26	0060.5	14 14 57.1521	57.7889	-.6368
	27	0061.5	14 18 53.7115	54.3443	-.6328
	28	0062.5	14 22 50.2688	50.8996	-.6308
	29	0063.5	14 26 46.8239	47.4550	-.6311
	30	0064.5	14 30 43.3765	44.0104	-.6339

TIEMPO SIDÉREO 2023

Fecha 0^h UT		Día Juliano	Tiempo Sidéreo Ángulo Horario de Aries		Ecuación de los Equinoccios
			Aparente	Medio	(E_0)
		245	h m s	s	s
Mayo	01	0065.5	14 34 39.9269	40.5657	-.6388
	02	0066.5	14 38 36.4759	37.1211	-.6452
	03	0067.5	14 42 33.0245	33.6765	-.6520
	04	0068.5	14 46 29.5739	30.2319	-.6580
	05	0069.5	14 50 26.1253	26.7872	-.6619
	06	0070.5	14 54 22.6802	23.3426	-.6624
	07	0071.5	14 58 19.2389	19.8980	-.6591
	08	0072.5	15 2 15.8012	16.4533	-.6521
	09	0073.5	15 6 12.3660	13.0087	-.6427
	10	0074.5	15 10 8.9313	9.5641	-.6328
	11	0075.5	15 14 5.4950	6.1194	-.6244
	12	0076.5	15 18 2.0556	2.6748	-.6192
	13	0077.5	15 21 58.6123	59.2302	-.6179
	14	0078.5	15 25 55.1652	55.7855	-.6203
	15	0079.5	15 29 51.7156	52.3409	-.6253
	16	0080.5	15 33 48.2652	48.8963	-.6311
	17	0081.5	15 37 44.8157	45.4516	-.6359
	18	0082.5	15 41 41.3687	42.0070	-.6383
	19	0083.5	15 45 37.9250	38.5624	-.6374
	20	0084.5	15 49 34.4845	35.1178	-.6333
	21	0085.5	15 53 31.0463	31.6731	-.6268
	22	0086.5	15 57 27.6096	28.2285	-.6189
	23	0087.5	16 1 24.1730	24.7839	-.6109
	24	0088.5	16 5 20.7352	21.3392	-.6040
	25	0089.5	16 9 17.2957	17.8946	-.5989
	26	0090.5	16 13 13.8539	14.4500	-.5961
	27	0091.5	16 17 10.4094	11.0053	-.5959
	28	0092.5	16 21 6.9628	7.5607	-.5979
	29	0093.5	16 25 3.5144	4.1161	-.6017
	30	0094.5	16 29 .0651	.6714	-.6063
	31	0095.5	16 32 56.6162	57.2268	-.6106
Junio	01	0096.5	16 36 53.1689	53.7822	-.6133
	02	0097.5	16 40 49.7245	50.3376	-.6131
	03	0098.5	16 44 46.2838	46.8929	-.6091
	04	0099.5	16 48 42.8472	43.4483	-.6011
	05	0100.5	16 52 39.4137	40.0037	-.5900
	06	0101.5	16 56 35.9815	36.5590	-.5775
	07	0102.5	17 0 32.5484	33.1144	-.5660
	08	0103.5	17 4 29.1122	29.6698	-.5576
	09	0104.5	17 8 25.6718	26.2251	-.5533
	10	0105.5	17 12 22.2273	22.7805	-.5532
	11	0106.5	17 16 18.7798	19.3359	-.5561
	12	0107.5	17 20 15.3309	15.8912	-.5603
	13	0108.5	17 24 11.8827	12.4466	-.5639
	14	0109.5	17 28 8.4365	9.0020	-.5655
	15	0110.5	17 32 4.9932	5.5574	-.5642
	16	0111.5	17 36 1.5530	2.1127	-.5597
	17	0112.5	17 39 58.1154	58.6681	-.5527
	18	0113.5	17 43 54.6795	55.2235	-.5440
	19	0114.5	17 47 51.2439	51.7788	-.5349
	20	0115.5	17 51 47.8077	48.3342	-.5265
	21	0116.5	17 55 44.3699	44.8896	-.5197
	22	0117.5	17 59 40.9296	41.4449	-.5153
	23	0118.5	18 3 37.4869	38.0003	-.5134
	24	0119.5	18 7 34.0417	34.5557	-.5140
	25	0120.5	18 11 30.5944	31.1110	-.5166
	26	0121.5	18 15 27.1461	27.6664	-.5203
	27	0122.5	18 19 23.6975	24.2218	-.5243
	28	0123.5	18 23 20.2501	20.7772	-.5271
	29	0124.5	18 27 16.8048	17.3325	-.5277
	30	0125.5	18 31 13.3630	13.8879	-.5249

TIEMPO SIDÉREO 2023

Fecha 0^h UT		Día Juliano	Tiempo Sidéreo Ángulo Horario de Aries		Ecuación de los Equinoccios
			Aparente	Medio	(E_0)
		245	h m s	s	s
Julio	01	0126.5	18 35 9.9251	10.4433	-.5182
	02	0127.5	18 39 6.4907	6.9986	-.5079
	03	0128.5	18 43 3.0587	3.5540	-.4953
	04	0129.5	18 46 59.6268	60.1094	-.4826
	05	0130.5	18 50 56.1924	56.6647	-.4723
	06	0131.5	18 54 52.7539	53.2201	-.4662
	07	0132.5	18 58 49.3107	49.7755	-.4648
	08	0133.5	19 2 45.8637	46.3308	-.4671
	09	0134.5	19 6 42.4147	42.8862	-.4715
	10	0135.5	19 10 38.9659	39.4416	-.4757
	11	0136.5	19 14 35.5187	35.9969	-.4782
	12	0137.5	19 18 32.0743	32.5523	-.4780
	13	0138.5	19 22 28.6329	29.1077	-.4748
	14	0139.5	19 26 25.1941	25.6631	-.4690
	15	0140.5	19 30 21.7570	22.2184	-.4614
	16	0141.5	19 34 18.3206	18.7738	-.4532
	17	0142.5	19 38 14.8837	15.3292	-.4455
	18	0143.5	19 42 11.4452	11.8845	-.4393
	19	0144.5	19 46 8.0047	8.4399	-.4352
	20	0145.5	19 50 4.5615	4.9953	-.4338
	21	0146.5	19 54 1.1157	1.5506	-.4349
	22	0147.5	19 57 57.6678	58.1060	-.4382
	23	0148.5	20 1 54.2184	54.6614	-.4430
	24	0149.5	20 5 50.7684	51.2167	-.4483
	25	0150.5	20 9 47.3191	47.7721	-.4530
	26	0151.5	20 13 43.8716	44.3275	-.4559
	27	0152.5	20 17 40.4269	40.8829	-.4560
	28	0153.5	20 21 36.9856	37.4382	-.4526
	29	0154.5	20 25 33.5480	33.9936	-.4456
	30	0155.5	20 29 30.1134	30.5490	-.4356
	31	0156.5	20 33 26.6798	27.1043	-.4245
Agosto	01	0157.5	20 37 23.2452	23.6597	-.4145
	02	0158.5	20 41 19.8071	20.2151	-.4080
	03	0159.5	20 45 16.3640	16.7704	-.4064
	04	0160.5	20 49 12.9165	13.3258	-.4093
	05	0161.5	20 53 9.4661	9.8812	-.4151
	06	0162.5	20 57 6.0149	6.4365	-.4216
	07	0163.5	21 1 2.5653	2.9919	-.4266
	08	0164.5	21 4 59.1182	59.5473	-.4291
	09	0165.5	21 8 55.6743	56.1027	-.4284
	10	0166.5	21 12 52.2329	52.6580	-.4251
	11	0167.5	21 16 48.7936	49.2134	-.4198
	12	0168.5	21 20 45.3551	45.7688	-.4137
	13	0169.5	21 24 41.9161	42.3241	-.4080
	14	0170.5	21 28 38.4760	38.8795	-.4035
	15	0171.5	21 32 35.0337	35.4349	-.4012
	16	0172.5	21 36 31.5888	31.9902	-.4014
	17	0173.5	21 40 28.1415	28.5456	-.4041
	18	0174.5	21 44 24.6918	25.1010	-.4092
	19	0175.5	21 48 21.2403	21.6563	-.4160
	20	0176.5	21 52 17.7881	18.2117	-.4236
	21	0177.5	21 56 14.3362	14.7671	-.4309
	22	0178.5	22 0 10.8858	11.3225	-.4367
	23	0179.5	22 4 7.4378	7.8778	-.4400
	24	0180.5	22 8 3.9929	4.4332	-.4403
	25	0181.5	22 12 .5515	.9886	-.4371
	26	0182.5	22 15 57.1130	57.5439	-.4309
	27	0183.5	22 19 53.6764	54.0993	-.4229
	28	0184.5	22 23 50.2398	50.6547	-.4149
	29	0185.5	22 27 46.8008	47.2100	-.4092
	30	0186.5	22 31 43.3578	43.7654	-.4076
	31	0187.5	22 35 39.9100	40.3208	-.4108

TIEMPO SIDÉREO 2023

Fecha 0^h U T		Día Juliano	Tiempo Sidéreo Ángulo Horario de Aries		Ecuación de los Equinoccios
			Aparente	Medio	(E_0)
		245	h m s	s	s
Septiembre	01	0188.5	22 39 36.4584	36.8761	-.4177
	02	0189.5	22 43 33.0051	33.4315	-.4264
	03	0190.5	22 47 29.5525	29.9869	-.4344
	04	0191.5	22 51 26.1024	26.5423	-.4399
	05	0192.5	22 55 22.6556	23.0976	-.4420
	06	0193.5	22 59 19.2120	19.6530	-.4410
	07	0194.5	23 3 15.7707	16.2084	-.4377
	08	0195.5	23 7 12.3303	12.7637	-.4334
	09	0196.5	23 11 8.8900	9.3191	-.4291
	10	0197.5	23 15 5.4485	5.8745	-.4260
	11	0198.5	23 19 2.0050	2.4298	-.4248
	12	0199.5	23 22 58.5591	58.9852	-.4261
	13	0200.5	23 26 55.1107	55.5406	-.4299
	14	0201.5	23 30 51.6597	52.0959	-.4362
	15	0202.5	23 34 48.2070	48.6513	-.4443
	16	0203.5	23 38 44.7534	45.2067	-.4533
	17	0204.5	23 42 41.2998	41.7620	-.4622
	18	0205.5	23 46 37.8475	38.3174	-.4699
	19	0206.5	23 50 34.3975	34.8728	-.4753
	20	0207.5	23 54 30.9505	31.4282	-.4777
	21	0208.5	23 58 27.5067	27.9835	-.4768
	22	0209.5	0 2 24.0659	24.5389	-.4730
	23	0210.5	0 6 20.6273	21.0943	-.4670
	24	0211.5	0 10 17.1890	17.6496	-.4606
	25	0212.5	0 14 13.7495	14.2050	-.4555
	26	0213.5	0 18 10.3069	10.7604	-.4535
	27	0214.5	0 22 6.8600	7.3157	-.4557
	28	0215.5	0 26 3.4091	3.8711	-.4620
	29	0216.5	0 29 59.9556	60.4265	-.4709
	30	0217.5	0 33 56.5017	56.9818	-.4801
Octubre	01	0218.5	0 37 53.0498	53.5372	-.4874
	02	0219.5	0 41 49.6014	50.0926	-.4912
	03	0220.5	0 45 46.1567	46.6480	-.4913
	04	0221.5	0 49 42.7147	43.2033	-.4886
	05	0222.5	0 53 39.2746	39.7587	-.4841
	06	0223.5	0 57 35.8347	36.3141	-.4794
	07	0224.5	1 1 32.3939	32.8694	-.4755
	08	0225.5	1 5 28.9513	29.4248	-.4735
	09	0226.5	1 9 25.5064	25.9802	-.4738
	10	0227.5	1 13 22.0589	22.5355	-.4766
	11	0228.5	1 17 18.6090	19.0909	-.4819
	12	0229.5	1 21 15.1572	15.6463	-.4891
	13	0230.5	1 25 11.7041	12.2016	-.4975
	14	0231.5	1 29 8.2510	8.7570	-.5060
	15	0232.5	1 33 4.7990	5.3124	-.5134
	16	0233.5	1 37 1.3491	1.8678	-.5187
	17	0234.5	1 40 57.9021	58.4231	-.5210
	18	0235.5	1 44 54.4586	54.9785	-.5199
	19	0236.5	1 48 51.0182	51.5339	-.5157
	20	0237.5	1 52 47.5800	48.0892	-.5092
	21	0238.5	1 56 44.1427	44.6446	-.5019
	22	0239.5	2 0 40.7045	41.2000	-.4955
	23	0240.5	2 4 37.2636	37.7553	-.4917
	24	0241.5	2 8 33.8191	34.3107	-.4916
	25	0242.5	2 12 30.3708	30.8661	-.4953
	26	0243.5	2 16 26.9194	27.4214	-.5020
	27	0244.5	2 20 23.4671	23.9768	-.5097
	28	0245.5	2 24 20.0159	20.5322	-.5163
	29	0246.5	2 28 16.5676	17.0876	-.5200
	30	0247.5	2 32 13.1230	13.6429	-.5199
	31	0248.5	2 36 9.6821	10.1983	-.5162

TIEMPO SIDÉREO 2023

Fecha 0^h U T		Día Juliano	Tiempo Sidéreo Ángulo Horario de Aries		Ecuación de los Equinoccios
			Aparente	Medio	(E_0)
		245	h m s	s	s
Noviembre	01	0249.5	2 40 6.2437	6.7537	-.5100
	02	0250.5	2 44 2.8062	3.3090	-.5028
	03	0251.5	2 47 59.3683	59.8644	-.4961
	04	0252.5	2 51 55.9288	56.4198	-.4910
	05	0253.5	2 55 52.4870	52.9751	-.4881
	06	0254.5	2 59 49.0426	49.5305	-.4879
	07	0255.5	3 3 45.5958	46.0859	-.4901
	08	0256.5	3 7 42.1468	42.6412	-.4944
	09	0257.5	3 11 38.6964	39.1966	-.5002
	10	0258.5	3 15 35.2457	35.7520	-.5063
	11	0259.5	3 19 31.7956	32.3074	-.5118
	12	0260.5	3 23 28.3473	28.8627	-.5154
	13	0261.5	3 27 24.9021	25.4181	-.5160
	14	0262.5	3 31 21.4603	21.9735	-.5132
	15	0263.5	3 35 18.0219	18.5288	-.5069
	16	0264.5	3 39 14.5862	15.0842	-.4980
	17	0265.5	3 43 11.1517	11.6396	-.4879
	18	0266.5	3 47 7.7164	8.1949	-.4785
	19	0267.5	3 51 4.2789	4.7503	-.4714
	20	0268.5	3 55 .8378	1.3057	-.4679
	21	0269.5	3 58 57.3928	57.8610	-.4682
	22	0270.5	4 2 53.9448	54.4164	-.4716
	23	0271.5	4 6 50.4953	50.9718	-.4765
	24	0272.5	4 10 47.0461	47.5271	-.4810
	25	0273.5	4 14 43.5992	44.0825	-.4833
	26	0274.5	4 18 40.1558	40.6379	-.4821
	27	0275.5	4 22 36.7160	37.1933	-.4773
	28	0276.5	4 26 33.2792	33.7486	-.4694
	29	0277.5	4 30 29.8442	30.3040	-.4598
	30	0278.5	4 34 26.4093	26.8594	-.4501
Diciembre	01	0279.5	4 38 22.9732	23.4147	-.4415
	02	0280.5	4 42 19.5350	19.9701	-.4351
	03	0281.5	4 46 16.0942	16.5255	-.4313
	04	0282.5	4 50 12.6506	13.0808	-.4302
	05	0283.5	4 54 9.2047	9.6362	-.4315
	06	0284.5	4 58 5.7571	6.1916	-.4345
	07	0285.5	5 2 2.3087	2.7469	-.4382
	08	0286.5	5 5 58.8606	59.3023	-.4417
	09	0287.5	5 9 55.4139	55.8577	-.4438
	10	0288.5	5 13 51.9697	52.4131	-.4434
	11	0289.5	5 17 48.5287	48.9684	-.4397
	12	0290.5	5 21 45.0914	45.5238	-.4324
	13	0291.5	5 25 41.6574	42.0792	-.4218
	14	0292.5	5 29 38.2250	38.6345	-.4095
	15	0293.5	5 33 34.7927	35.1899	-.3972
	16	0294.5	5 37 31.3582	31.7453	-.3871
	17	0295.5	5 41 27.9199	28.3006	-.3807
	18	0296.5	5 45 24.4776	24.8560	-.3784
	19	0297.5	5 49 21.0318	21.4114	-.3796
	20	0298.5	5 53 17.5839	17.9667	-.3828
	21	0299.5	5 57 14.1360	14.5221	-.3861
	22	0300.5	6 1 10.6898	11.0775	-.3877
	23	0301.5	6 5 7.2465	7.6329	-.3864
	24	0302.5	6 9 3.8066	4.1882	-.3816
	25	0303.5	6 13 .3698	.7436	-.3738
	26	0304.5	6 16 56.9351	57.2990	-.3639
	27	0305.5	6 20 53.5010	53.8543	-.3533
	28	0306.5	6 24 50.0662	50.4097	-.3435
	29	0307.5	6 28 46.6295	46.9651	-.3356
	30	0308.5	6 32 43.1902	43.5204	-.3302
	31	0309.5	6 36 39.7481	40.0758	-.3277

VOLVER AL INDICE

VOLVER AL EJEMPLO 3 VOLVER AL EJEMPLO 4

SOL 2023

PARA 0^h DE TIEMPO TERRESTRE

Fecha	Día Juliano	Asc. Recta Aparente	Declinación Aparente	P.H.	Semi Diámetro	Distancia Geocent.	Tránsito Efemérides
	245	h m s	° ' "	"	' "	UA	h m s
Ene. 01	9945.5	18 44 44.509	-23 02 23.24	8.94	16 15.91	.9833368	12 03 25
02	9946.5	18 49 09.319	-22 57 26.26	8.94	16 15.93	.9833176	12 03 54
03	9947.5	18 53 33.784	-22 52 01.85	8.94	16 15.94	.9833043	12 04 21
04	9948.5	18 57 57.875	-22 46 10.19	8.94	16 15.95	.9832970	12 04 49
05	9949.5	19 02 21.567	-22 39 51.46	8.94	16 15.95	.9832959	12 05 16
06	9950.5	19 06 44.831	-22 33 05.85	8.94	16 15.94	.9833010	12 05 42
07	9951.5	19 11 07.643	-22 25 53.56	8.94	16 15.93	.9833125	12 06 8
08	9952.5	19 15 29.979	-22 18 14.80	8.94	16 15.91	.9833303	12 06 34
09	9953.5	19 19 51.813	-22 10 09.79	8.94	16 15.89	.9833543	12 06 59
10	9954.5	19 24 13.124	-22 01 38.75	8.94	16 15.86	.9833846	12 07 23
11	9955.5	19 28 33.890	-21 52 41.90	8.94	16 15.82	.9834209	12 07 47
12	9956.5	19 32 54.091	-21 43 19.49	8.94	16 15.78	.9834632	12 08 10
13	9957.5	19 37 13.708	-21 33 31.77	8.94	16 15.73	.9835113	12 08 33
14	9958.5	19 41 32.722	-21 23 19.00	8.94	16 15.68	.9835650	12 08 55
15	9959.5	19 45 51.116	-21 12 41.45	8.94	16 15.62	.9836239	12 09 17
16	9960.5	19 50 08.872	-21 01 39.40	8.94	16 15.56	.9836879	12 09 38
17	9961.5	19 54 25.975	-20 50 13.15	8.94	16 15.49	.9837567	12 09 58
18	9962.5	19 58 42.407	-20 38 23.02	8.94	16 15.42	.9838298	12 10 17
19	9963.5	20 02 58.150	-20 26 09.32	8.94	16 15.34	.9839070	12 10 36
20	9964.5	20 07 13.185	-20 13 32.40	8.94	16 15.26	.9839879	12 10 54
21	9965.5	20 11 27.490	-20 00 32.63	8.94	16 15.18	.9840723	12 11 12
22	9966.5	20 15 41.045	-19 47 10.37	8.94	16 15.09	.9841600	12 11 28
23	9967.5	20 19 53.830	-19 33 25.97	8.93	16 15.00	.9842509	12 11 44
24	9968.5	20 24 05.828	-19 19 19.83	8.93	16 14.91	.9843451	12 11 59
25	9969.5	20 28 17.025	-19 04 52.31	8.93	16 14.81	.9844427	12 12 13
26	9970.5	20 32 27.412	-18 50 03.78	8.93	16 14.71	.9845439	12 12 27
27	9971.5	20 36 36.981	-18 34 54.66	8.93	16 14.61	.9846490	12 12 39
28	9972.5	20 40 45.728	-18 19 25.33	8.93	16 14.50	.9847584	12 12 51
29	9973.5	20 44 53.649	-18 03 36.20	8.93	16 14.39	.9848722	12 13 2
30	9974.5	20 49 00.742	-17 47 27.68	8.93	16 14.27	.9849907	12 13 12
31	9975.5	20 53 07.005	-17 31 00.17	8.93	16 14.15	.9851141	12 13 22
Feb. 01	9976.5	20 57 12.439	-17 14 14.09	8.93	16 14.02	.9852426	12 13 30
02	9977.5	21 01 17.043	-16 57 09.85	8.92	16 13.89	.9853764	12 13 38
03	9978.5	21 05 20.821	-16 39 47.83	8.92	16 13.75	.9855155	12 13 44
04	9979.5	21 09 23.777	-16 22 08.46	8.92	16 13.61	.9856601	12 13 50
05	9980.5	21 13 25.914	-16 04 12.13	8.92	16 13.46	.9858102	12 13 56
06	9981.5	21 17 27.238	-15 45 59.23	8.92	16 13.30	.9859658	12 13 60
07	9982.5	21 21 27.758	-15 27 30.16	8.92	16 13.15	.9861268	12 14 3
08	9983.5	21 25 27.482	-15 08 45.31	8.92	16 12.98	.9862932	12 14 6
09	9984.5	21 29 26.419	-14 49 45.07	8.91	16 12.81	.9864649	12 14 8
10	9985.5	21 33 24.581	-14 30 29.82	8.91	16 12.64	.9866417	12 14 9
11	9986.5	21 37 21.978	-14 10 59.97	8.91	16 12.46	.9868234	12 14 10
12	9987.5	21 41 18.624	-13 51 15.89	8.91	16 12.27	.9870098	12 14 10
13	9988.5	21 45 14.530	-13 31 17.99	8.91	16 12.09	.9872006	12 14 9
14	9989.5	21 49 09.708	-13 11 06.66	8.91	16 11.90	.9873954	12 14 7
15	9990.5	21 53 04.169	-12 50 42.31	8.90	16 11.70	.9875940	12 14 4
16	9991.5	21 56 57.924	-12 30 05.36	8.90	16 11.50	.9877958	12 14 1
17	9992.5	22 00 50.982	-12 09 16.24	8.90	16 11.30	.9880006	12 13 57
18	9993.5	22 04 43.348	-11 48 15.38	8.90	16 11.10	.9882079	12 13 53
19	9994.5	22 08 35.031	-11 27 03.21	8.90	16 10.89	.9884174	12 13 48
20	9995.5	22 12 26.038	-11 05 40.18	8.90	16 10.68	.9886288	12 13 42
21	9996.5	22 16 16.376	-10 44 06.72	8.89	16 10.47	.9888421	12 13 35
22	9997.5	22 20 06.058	-10 22 23.27	8.89	16 10.26	.9890571	12 13 28
23	9998.5	22 23 55.095	-10 00 30.25	8.89	16 10.05	.9892740	12 13 20
24	9999.5	22 27 43.502	- 9 38 28.09	8.89	16 09.84	.9894929	12 13 12
25	0000.5	22 31 31.295	- 9 16 17.22	8.89	16 09.62	.9897140	12 13 3
26	0001.5	22 35 18.488	- 8 53 58.07	8.88	16 09.40	.9899375	12 12 53
27	0002.5	22 39 05.099	- 8 31 31.07	8.88	16 09.18	.9901637	12 12 43
28	0003.5	22 42 51.143	- 8 08 56.61	8.88	16 08.95	.9903927	12 12 32

SOL 2023
PARA O^h DE TIEMPO TERRESTRE

Fecha	Día Juliano	Asc. Recta Aparente	Declinación Aparente	P.H.	Semi Diámetro	Distancia Geocent.	Tránsito Efemérides
	245	h m s	° ' "	"	' "	UA	h m s
Mar. 01	0004.5	22 46 36.638	- 7 46 15.13	8.88	16 08.73	.9906247	12 12 21
02	0005.5	22 50 21.602	- 7 23 27.02	8.88	16 08.50	.9908599	12 12 9
03	0006.5	22 54 06.055	- 7 00 32.66	8.87	16 08.26	.9910984	12 11 56
04	0007.5	22 57 50.015	- 6 37 32.47	8.87	16 08.03	.9913403	12 11 44
05	0008.5	23 01 33.503	- 6 14 26.81	8.87	16 07.79	.9915857	12 11 30
06	0009.5	23 05 16.541	- 5 51 16.06	8.87	16 07.55	.9918347	12 11 17
07	0010.5	23 08 59.149	- 5 28 00.58	8.86	16 07.30	.9920872	12 11 2
08	0011.5	23 12 41.352	- 5 04 40.75	8.86	16 07.05	.9923433	12 10 48
09	0012.5	23 16 23.173	- 4 41 16.92	8.86	16 06.80	.9926029	12 10 33
10	0013.5	23 20 04.635	- 4 17 49.43	8.86	16 06.54	.9928659	12 10 18
11	0014.5	23 23 45.763	- 3 54 18.64	8.85	16 06.28	.9931322	12 10 2
12	0015.5	23 27 26.581	- 3 30 44.89	8.85	16 06.02	.9934015	12 09 46
13	0016.5	23 31 07.113	- 3 07 08.53	8.85	16 05.75	.9936735	12 09 30
14	0017.5	23 34 47.381	- 2 43 29.92	8.85	16 05.49	.9939480	12 09 14
15	0018.5	23 38 27.406	- 2 19 49.41	8.85	16 05.22	.9942246	12 08 57
16	0019.5	23 42 07.209	- 1 56 07.39	8.84	16 04.95	.9945029	12 08 40
17	0020.5	23 45 46.806	- 1 32 24.21	8.84	16 04.68	.9947825	12 08 23
18	0021.5	23 49 26.217	- 1 08 40.28	8.84	16 04.41	.9950629	12 08 6
19	0022.5	23 53 05.456	- 0 44 55.98	8.84	16 04.13	.9953437	12 07 49
20	0023.5	23 56 44.541	- 0 21 11.70	8.83	16 03.86	.9956247	12 07 31
21	0024.5	0 00 23.489	+ 0 02 32.17	8.83	16 03.59	.9959055	12 07 13
22	0025.5	0 04 02.317	+ 0 26 15.23	8.83	16 03.32	.9961858	12 06 56
23	0026.5	0 07 41.044	+ 0 49 57.10	8.83	16 03.05	.9964657	12 06 38
24	0027.5	0 11 19.688	+ 1 13 37.40	8.82	16 02.78	.9967452	12 06 20
25	0028.5	0 14 58.266	+ 1 37 15.74	8.82	16 02.51	.9970243	12 06 2
26	0029.5	0 18 36.795	+ 2 00 51.72	8.82	16 02.24	.9973032	12 05 44
27	0030.5	0 22 15.294	+ 2 24 24.99	8.82	16 01.97	.9975821	12 05 26
28	0031.5	0 25 53.781	+ 2 47 55.15	8.81	16 01.70	.9978610	12 05 8
29	0032.5	0 29 32.272	+ 3 11 21.85	8.81	16 01.43	.9981403	12 04 50
30	0033.5	0 33 10.788	+ 3 34 44.72	8.81	16 01.16	.9984200	12 04 32
31	0034.5	0 36 49.348	+ 3 58 03.41	8.81	16 00.89	.9987004	12 04 14
Abr. 01	0035.5	0 40 27.970	+ 4 21 17.56	8.80	16 00.62	.9989814	12 03 56
02	0036.5	0 44 06.677	+ 4 44 26.84	8.80	16 00.35	.9992634	12 03 38
03	0037.5	0 47 45.488	+ 5 07 30.91	8.80	16 00.08	.9995463	12 03 20
04	0038.5	0 51 24.425	+ 5 30 29.44	8.80	15 59.81	.9998303	12 03 3
05	0039.5	0 55 03.510	+ 5 53 22.10	8.79	15 59.53	1.0001154	12 02 45
06	0040.5	0 58 42.766	+ 6 16 08.58	8.79	15 59.26	1.0004017	12 02 28
07	0041.5	1 02 22.215	+ 6 38 48.57	8.79	15 58.98	1.0006891	12 02 11
08	0042.5	1 06 01.881	+ 7 01 21.77	8.79	15 58.71	1.0009775	12 01 54
09	0043.5	1 09 41.786	+ 7 23 47.85	8.78	15 58.43	1.0012669	12 01 38
10	0044.5	1 13 21.950	+ 7 46 06.53	8.78	15 58.15	1.0015570	12 01 22
11	0045.5	1 17 02.395	+ 8 08 17.47	8.78	15 57.88	1.0018476	12 01 6
12	0046.5	1 20 43.137	+ 8 30 20.36	8.78	15 57.60	1.0021383	12 00 50
13	0047.5	1 24 24.194	+ 8 52 14.86	8.77	15 57.32	1.0024288	12 00 35
14	0048.5	1 28 05.581	+ 9 14 00.63	8.77	15 57.04	1.0027186	12 00 20
15	0049.5	1 31 47.313	+ 9 35 37.32	8.77	15 56.77	1.0030074	12 00 5
16	0050.5	1 35 29.404	+ 9 57 04.58	8.77	15 56.49	1.0032946	11 59 51
17	0051.5	1 39 11.868	+10 18 22.04	8.76	15 56.22	1.0035799	11 59 37
18	0052.5	1 42 54.718	+10 39 29.35	8.76	15 55.95	1.0038630	11 59 23
19	0053.5	1 46 37.967	+11 00 26.16	8.76	15 55.68	1.0041435	11 59 10
20	0054.5	1 50 21.627	+11 21 12.11	8.76	15 55.42	1.0044213	11 58 58
21	0055.5	1 54 05.709	+11 41 46.83	8.75	15 55.16	1.0046963	11 58 45
22	0056.5	1 57 50.221	+12 02 09.99	8.75	15 54.90	1.0049684	11 58 34
23	0057.5	2 01 35.173	+12 22 21.21	8.75	15 54.64	1.0052377	11 58 22
24	0058.5	2 05 20.572	+12 42 20.16	8.75	15 54.39	1.0055044	11 58 11
25	0059.5	2 09 06.427	+13 02 06.48	8.74	15 54.14	1.0057684	11 58 1
26	0060.5	2 12 52.744	+13 21 39.82	8.74	15 53.89	1.0060300	11 57 51
27	0061.5	2 16 39.534	+13 40 59.85	8.74	15 53.65	1.0062894	11 57 41
28	0062.5	2 20 26.804	+14 00 06.24	8.74	15 53.40	1.0065467	11 57 32
29	0063.5	2 24 14.563	+14 18 58.66	8.73	15 53.16	1.0068020	11 57 24
30	0064.5	2 28 02.820	+14 37 36.78	8.73	15 52.92	1.0070555	11 57 16

SOL 2023
PARA O^h DE TIEMPO TERRESTRE

Fecha	Día Juliano	Asc. Recta Aparente	Declinación Aparente	P.H.	Semi Diámetro	Distancia Geocent.	Tránsito Efemérides
	245	h m s	° ' "	"	' "	UA	h m s
May. 01	0065.5	2 31 51.584	+14 56 00.31	8.73	15 52.68	1.0073074	11 57 8
02	0066.5	2 35 40.866	+15 14 08.92	8.73	15 52.45	1.0075578	11 57 1
03	0067.5	2 39 30.675	+15 32 02.32	8.73	15 52.21	1.0078068	11 56 55
04	0068.5	2 43 21.021	+15 49 40.22	8.72	15 51.98	1.0080547	11 56 49
05	0069.5	2 47 11.914	+16 07 02.34	8.72	15 51.74	1.0083014	11 56 43
06	0070.5	2 51 03.364	+16 24 08.40	8.72	15 51.51	1.0085470	11 56 38
07	0071.5	2 54 55.381	+16 40 58.12	8.72	15 51.28	1.0087915	11 56 34
08	0072.5	2 58 47.971	+16 57 31.24	8.72	15 51.05	1.0090348	11 56 30
09	0073.5	3 02 41.140	+17 13 47.48	8.71	15 50.82	1.0092767	11 56 27
10	0074.5	3 06 34.893	+17 29 46.55	8.71	15 50.60	1.0095170	11 56 25
11	0075.5	3 10 29.232	+17 45 28.16	8.71	15 50.37	1.0097554	11 56 23
12	0076.5	3 14 24.159	+18 00 52.02	8.71	15 50.15	1.0099914	11 56 22
13	0077.5	3 18 19.675	+18 15 57.81	8.71	15 49.93	1.0102247	11 56 21
14	0078.5	3 22 15.778	+18 30 45.24	8.70	15 49.72	1.0104548	11 56 21
15	0079.5	3 26 12.469	+18 45 14.00	8.70	15 49.50	1.0106814	11 56 21
16	0080.5	3 30 09.744	+18 59 23.80	8.70	15 49.29	1.0109041	11 56 22
17	0081.5	3 34 07.601	+19 13 14.35	8.70	15 49.09	1.0111225	11 56 24
18	0082.5	3 38 06.032	+19 26 45.36	8.70	15 48.89	1.0113365	11 56 26
19	0083.5	3 42 05.030	+19 39 56.55	8.69	15 48.69	1.0115458	11 56 29
20	0084.5	3 46 04.585	+19 52 47.65	8.69	15 48.50	1.0117503	11 56 32
21	0085.5	3 50 04.685	+20 05 18.38	8.69	15 48.31	1.0119501	11 56 36
22	0086.5	3 54 05.318	+20 17 28.47	8.69	15 48.13	1.0121451	11 56 40
23	0087.5	3 58 06.470	+20 29 17.67	8.69	15 47.95	1.0123354	11 56 45
24	0088.5	4 02 08.129	+20 40 45.71	8.69	15 47.78	1.0125212	11 56 50
25	0089.5	4 06 10.282	+20 51 52.35	8.68	15 47.61	1.0127025	11 56 56
26	0090.5	4 10 12.916	+21 02 37.35	8.68	15 47.44	1.0128795	11 57 2
27	0091.5	4 14 16.017	+21 13 00.48	8.68	15 47.28	1.0130523	11 57 9
28	0092.5	4 18 19.573	+21 23 01.53	8.68	15 47.12	1.0132212	11 57 16
29	0093.5	4 22 23.572	+21 32 40.28	8.68	15 46.97	1.0133864	11 57 24
30	0094.5	4 26 28.001	+21 41 56.55	8.68	15 46.82	1.0135480	11 57 32
31	0095.5	4 30 32.847	+21 50 50.14	8.68	15 46.67	1.0137063	11 57 41
Jun. 01	0096.5	4 34 38.099	+21 59 20.88	8.67	15 46.52	1.0138614	11 57 49
02	0097.5	4 38 43.744	+22 07 28.61	8.67	15 46.38	1.0140135	11 57 59
03	0098.5	4 42 49.771	+22 15 13.18	8.67	15 46.24	1.0141629	11 58 8
04	0099.5	4 46 56.166	+22 22 34.46	8.67	15 46.11	1.0143095	11 58 18
05	0100.5	4 51 02.915	+22 29 32.32	8.67	15 45.97	1.0144536	11 58 29
06	0101.5	4 55 10.004	+22 36 06.62	8.67	15 45.84	1.0145950	11 58 39
07	0102.5	4 59 17.416	+22 42 17.23	8.67	15 45.71	1.0147335	11 58 50
08	0103.5	5 03 25.134	+22 48 04.01	8.67	15 45.58	1.0148691	11 59 2
09	0104.5	5 07 33.140	+22 53 26.82	8.66	15 45.46	1.0150012	11 59 13
10	0105.5	5 11 41.417	+22 58 25.54	8.66	15 45.34	1.0151297	11 59 25
11	0106.5	5 15 49.947	+23 03 00.02	8.66	15 45.23	1.0152541	11 59 37
12	0107.5	5 19 58.710	+23 07 10.17	8.66	15 45.11	1.0153741	11 59 50
13	0108.5	5 24 07.685	+23 10 55.88	8.66	15 45.01	1.0154892	12 00 2
14	0109.5	5 28 16.851	+23 14 17.06	8.66	15 44.90	1.0155992	12 00 15
15	0110.5	5 32 26.182	+23 17 13.64	8.66	15 44.81	1.0157038	12 00 28
16	0111.5	5 36 35.653	+23 19 45.56	8.66	15 44.72	1.0158027	12 00 41
17	0112.5	5 40 45.235	+23 21 52.75	8.66	15 44.63	1.0158959	12 00 54
18	0113.5	5 44 54.900	+23 23 35.18	8.66	15 44.55	1.0159833	12 01 7
19	0114.5	5 49 04.620	+23 24 52.81	8.66	15 44.47	1.0160647	12 01 20
20	0115.5	5 53 14.365	+23 25 45.62	8.65	15 44.40	1.0161403	12 01 33
21	0116.5	5 57 24.107	+23 26 13.59	8.65	15 44.34	1.0162101	12 01 46
22	0117.5	6 01 33.818	+23 26 16.71	8.65	15 44.28	1.0162742	12 01 59
23	0118.5	6 05 43.471	+23 25 55.00	8.65	15 44.22	1.0163327	12 02 13
24	0119.5	6 09 53.040	+23 25 08.47	8.65	15 44.17	1.0163858	12 02 25
25	0120.5	6 14 02.501	+23 23 57.14	8.65	15 44.13	1.0164336	12 02 38
26	0121.5	6 18 11.829	+23 22 21.07	8.65	15 44.09	1.0164764	12 02 51
27	0122.5	6 22 21.001	+23 20 20.31	8.65	15 44.05	1.0165144	12 03 4
28	0123.5	6 26 29.996	+23 17 54.92	8.65	15 44.02	1.0165478	12 03 16
29	0124.5	6 30 38.791	+23 15 04.98	8.65	15 44.00	1.0165769	12 03 28
30	0125.5	6 34 47.368	+23 11 50.59	8.65	15 43.97	1.0166019	12 03 40

SOL 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha	Día Juliano	Asc. Recta Aparente	Declinación Aparente	P.H.	Semi Diámetro	Distancia Geocent.	Tránsito Efemérides
	245	h m s	° ' "	"	' "	UA	h m s
Jul. 01	0126.5	6 38 55.707	+23 08 11.86	8.65	15 43.95	1.0166232	12 03 52
02	0127.5	6 43 03.788	+23 04 08.89	8.65	15 43.94	1.0166410	12 04 3
03	0128.5	6 47 11.595	+22 59 41.81	8.65	15 43.92	1.0166554	12 04 14
04	0129.5	6 51 19.108	+22 54 50.74	8.65	15 43.91	1.0166666	12 04 25
05	0130.5	6 55 26.310	+22 49 35.81	8.65	15 43.91	1.0166746	12 04 35
06	0131.5	6 59 33.185	+22 43 57.11	8.65	15 43.90	1.0166793	12 04 45
07	0132.5	7 03 39.718	+22 37 54.77	8.65	15 43.90	1.0166805	12 04 55
08	0133.5	7 07 45.894	+22 31 28.90	8.65	15 43.90	1.0166780	12 05 5
09	0134.5	7 11 51.699	+22 24 39.63	8.65	15 43.91	1.0166714	12 05 14
10	0135.5	7 15 57.121	+22 17 27.11	8.65	15 43.92	1.0166603	12 05 22
11	0136.5	7 20 02.143	+22 09 51.49	8.65	15 43.93	1.0166445	12 05 31
12	0137.5	7 24 06.749	+22 01 52.95	8.65	15 43.95	1.0166236	12 05 39
13	0138.5	7 28 10.922	+21 53 31.68	8.65	15 43.98	1.0165974	12 05 46
14	0139.5	7 32 14.643	+21 44 47.86	8.65	15 44.01	1.0165656	12 05 53
15	0140.5	7 36 17.894	+21 35 41.72	8.65	15 44.04	1.0165281	12 05 59
16	0141.5	7 40 20.658	+21 26 13.45	8.65	15 44.08	1.0164847	12 06 5
17	0142.5	7 44 22.915	+21 16 23.29	8.65	15 44.13	1.0164355	12 06 11
18	0143.5	7 48 24.649	+21 06 11.46	8.65	15 44.18	1.0163802	12 06 16
19	0144.5	7 52 25.845	+20 55 38.18	8.65	15 44.24	1.0163190	12 06 20
20	0145.5	7 56 26.488	+20 44 43.69	8.65	15 44.30	1.0162519	12 06 24
21	0146.5	8 00 26.565	+20 33 28.25	8.65	15 44.37	1.0161790	12 06 27
22	0147.5	8 04 26.065	+20 21 52.09	8.65	15 44.44	1.0161005	12 06 30
23	0148.5	8 08 24.977	+20 09 55.48	8.66	15 44.52	1.0160165	12 06 32
24	0149.5	8 12 23.295	+19 57 38.67	8.66	15 44.60	1.0159272	12 06 33
25	0150.5	8 16 21.009	+19 45 01.93	8.66	15 44.69	1.0158328	12 06 34
26	0151.5	8 20 18.115	+19 32 05.54	8.66	15 44.78	1.0157336	12 06 34
27	0152.5	8 24 14.609	+19 18 49.77	8.66	15 44.88	1.0156298	12 06 34
28	0153.5	8 28 10.488	+19 05 14.91	8.66	15 44.98	1.0155219	12 06 33
29	0154.5	8 32 05.749	+18 51 21.25	8.66	15 45.08	1.0154101	12 06 31
30	0155.5	8 36 00.392	+18 37 09.08	8.66	15 45.19	1.0152947	12 06 29
31	0156.5	8 39 54.416	+18 22 38.68	8.66	15 45.30	1.0151761	12 06 26
Ago. 01	0157.5	8 43 47.822	+18 07 50.36	8.66	15 45.41	1.0150546	12 06 23
02	0158.5	8 47 40.612	+17 52 44.37	8.66	15 45.53	1.0149302	12 06 19
03	0159.5	8 51 32.792	+17 37 20.98	8.67	15 45.65	1.0148032	12 06 14
04	0160.5	8 55 24.368	+17 21 40.43	8.67	15 45.77	1.0146735	12 06 9
05	0161.5	8 59 15.349	+17 05 42.99	8.67	15 45.89	1.0145408	12 06 3
06	0162.5	9 03 05.743	+16 49 28.90	8.67	15 46.02	1.0144050	12 05 56
07	0163.5	9 06 55.559	+16 32 58.43	8.67	15 46.15	1.0142658	12 05 49
08	0164.5	9 10 44.803	+16 16 11.88	8.67	15 46.28	1.0141230	12 05 42
09	0165.5	9 14 33.482	+15 59 09.53	8.67	15 46.42	1.0139761	12 05 34
10	0166.5	9 18 21.598	+15 41 51.70	8.67	15 46.56	1.0138250	12 05 25
11	0167.5	9 22 09.157	+15 24 18.70	8.68	15 46.70	1.0136694	12 05 16
12	0168.5	9 25 56.161	+15 06 30.83	8.68	15 46.85	1.0135092	12 05 6
13	0169.5	9 29 42.615	+14 48 28.43	8.68	15 47.01	1.0133442	12 04 55
14	0170.5	9 33 28.522	+14 30 11.82	8.68	15 47.17	1.0131744	12 04 44
15	0171.5	9 37 13.887	+14 11 41.31	8.68	15 47.33	1.0129995	12 04 33
16	0172.5	9 40 58.717	+13 52 57.24	8.68	15 47.50	1.0128197	12 04 21
17	0173.5	9 44 43.017	+13 33 59.93	8.68	15 47.67	1.0126349	12 04 8
18	0174.5	9 48 26.795	+13 14 49.71	8.69	15 47.85	1.0124452	12 03 55
19	0175.5	9 52 10.059	+12 55 26.90	8.69	15 48.03	1.0122507	12 03 42
20	0176.5	9 55 52.820	+12 35 51.85	8.69	15 48.22	1.0120515	12 03 28
21	0177.5	9 59 35.087	+12 16 04.87	8.69	15 48.41	1.0118478	12 03 13
22	0178.5	10 03 16.873	+11 56 06.30	8.69	15 48.60	1.0116398	12 02 58
23	0179.5	10 06 58.188	+11 35 56.48	8.69	15 48.80	1.0114277	12 02 43
24	0180.5	10 10 39.045	+11 15 35.74	8.70	15 49.00	1.0112119	12 02 27
25	0181.5	10 14 19.458	+10 55 04.42	8.70	15 49.21	1.0109926	12 02 11
26	0182.5	10 17 59.441	+10 34 22.85	8.70	15 49.42	1.0107703	12 01 54
27	0183.5	10 21 39.006	+10 13 31.37	8.70	15 49.63	1.0105452	12 01 37
28	0184.5	10 25 18.170	+ 9 52 30.31	8.70	15 49.84	1.0103179	12 01 19
29	0185.5	10 28 56.948	+ 9 31 19.99	8.71	15 50.06	1.0100887	12 01 1
30	0186.5	10 32 35.356	+ 9 10 00.71	8.71	15 50.28	1.0098578	12 00 43
31	0187.5	10 36 13.416	+ 8 48 32.77	8.71	15 50.50	1.0096256	12 00 24

SOL 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha	Día Juliano	Asc. Recta Aparente	Declinación Aparente	P.H.	Semi Diámetro	Distancia Geocent.	Tránsito Efemérides
	245	h m s	° ' "	"	' "	UA	h m s
Sept. 01	0188.5	10 39 51.150	+ 8 26 56.43	8.71	15 50.72	1.0093921	12 00 5
02	0189.5	10 43 28.581	+ 8 05 11.96	8.71	15 50.94	1.0091575	11 59 46
03	0190.5	10 47 05.733	+ 7 43 19.64	8.72	15 51.16	1.0089215	11 59 26
04	0191.5	10 50 42.628	+ 7 21 19.76	8.72	15 51.38	1.0086840	11 59 7
05	0192.5	10 54 19.289	+ 6 59 12.60	8.72	15 51.61	1.0084447	11 58 47
06	0193.5	10 57 55.733	+ 6 36 58.48	8.72	15 51.84	1.0082035	11 58 26
07	0194.5	11 01 31.978	+ 6 14 37.72	8.72	15 52.07	1.0079601	11 58 6
08	0195.5	11 05 08.041	+ 5 52 10.65	8.73	15 52.30	1.0077143	11 57 45
09	0196.5	11 08 43.937	+ 5 29 37.61	8.73	15 52.53	1.0074659	11 57 25
10	0197.5	11 12 19.684	+ 5 06 58.93	8.73	15 52.77	1.0072147	11 57 4
11	0198.5	11 15 55.297	+ 4 44 14.94	8.73	15 53.01	1.0069606	11 56 43
12	0199.5	11 19 30.792	+ 4 21 26.00	8.74	15 53.25	1.0067035	11 56 22
13	0200.5	11 23 06.187	+ 3 58 32.45	8.74	15 53.50	1.0064434	11 56 1
14	0201.5	11 26 41.499	+ 3 35 34.62	8.74	15 53.75	1.0061802	11 55 39
15	0202.5	11 30 16.744	+ 3 12 32.87	8.74	15 54.00	1.0059139	11 55 18
16	0203.5	11 33 51.941	+ 2 49 27.55	8.74	15 54.26	1.0056446	11 54 57
17	0204.5	11 37 27.108	+ 2 26 19.01	8.75	15 54.52	1.0053723	11 54 35
18	0205.5	11 41 02.262	+ 2 03 07.59	8.75	15 54.78	1.0050972	11 54 14
19	0206.5	11 44 37.423	+ 1 39 53.65	8.75	15 55.04	1.0048194	11 53 52
20	0207.5	11 48 12.608	+ 1 16 37.55	8.75	15 55.31	1.0045392	11 53 31
21	0208.5	11 51 47.836	+ 0 53 19.64	8.76	15 55.58	1.0042568	11 53 10
22	0209.5	11 55 23.125	+ 0 30 00.28	8.76	15 55.85	1.0039726	11 52 49
23	0210.5	11 58 58.492	+ 0 06 39.83	8.76	15 56.12	1.0036868	11 52 27
24	0211.5	12 02 33.957	- 0 16 41.35	8.76	15 56.39	1.0033999	11 52 6
25	0212.5	12 06 09.537	- 0 40 02.92	8.77	15 56.67	1.0031124	11 51 45
26	0213.5	12 09 45.253	- 1 03 24.52	8.77	15 56.94	1.0028246	11 51 25
27	0214.5	12 13 21.127	- 1 26 45.82	8.77	15 57.22	1.0025369	11 51 4
28	0215.5	12 16 57.182	- 1 50 06.50	8.77	15 57.49	1.0022497	11 50 44
29	0216.5	12 20 33.445	- 2 13 26.27	8.78	15 57.76	1.0019632	11 50 24
30	0217.5	12 24 09.943	- 2 36 44.81	8.78	15 58.04	1.0016777	11 50 4
Oct. 01	0218.5	12 27 46.704	- 3 00 01.85	8.78	15 58.31	1.0013932	11 49 44
02	0219.5	12 31 23.754	- 3 23 17.07	8.78	15 58.58	1.0011096	11 49 25
03	0220.5	12 35 01.117	- 3 46 30.16	8.79	15 58.85	1.0008268	11 49 6
04	0221.5	12 38 38.814	- 4 09 40.77	8.79	15 59.12	1.0005447	11 48 47
05	0222.5	12 42 16.867	- 4 32 48.58	8.79	15 59.39	1.0002630	11 48 29
06	0223.5	12 45 55.295	- 4 55 53.20	8.79	15 59.66	.9999815	11 48 11
07	0224.5	12 49 34.117	- 5 18 54.29	8.80	15 59.93	.9997002	11 47 53
08	0225.5	12 53 13.352	- 5 41 51.47	8.80	16 00.20	.9994187	11 47 36
09	0226.5	12 56 53.017	- 6 04 44.36	8.80	16 00.47	.9991369	11 47 19
10	0227.5	13 00 33.131	- 6 27 32.59	8.80	16 00.75	.9988548	11 47 3
11	0228.5	13 04 13.712	- 6 50 15.77	8.81	16 01.02	.9985722	11 46 48
12	0229.5	13 07 54.778	- 7 12 53.52	8.81	16 01.29	.9982891	11 46 32
13	0230.5	13 11 36.346	- 7 35 25.45	8.81	16 01.56	.9980053	11 46 18
14	0231.5	13 15 18.432	- 7 57 51.15	8.81	16 01.84	.9977208	11 46 3
15	0232.5	13 19 01.055	- 8 20 10.25	8.82	16 02.11	.9974357	11 45 50
16	0233.5	13 22 44.230	- 8 42 22.34	8.82	16 02.39	.9971500	11 45 37
17	0234.5	13 26 27.972	- 9 04 27.02	8.82	16 02.66	.9968638	11 45 24
18	0235.5	13 30 12.296	- 9 26 23.88	8.82	16 02.94	.9965773	11 45 12
19	0236.5	13 33 57.215	- 9 48 12.52	8.83	16 03.22	.9962906	11 45 1
20	0237.5	13 37 42.742	-10 09 52.53	8.83	16 03.49	.9960040	11 44 50
21	0238.5	13 41 28.889	-10 31 23.50	8.83	16 03.77	.9957180	11 44 40
22	0239.5	13 45 15.668	-10 52 45.01	8.83	16 04.05	.9954327	11 44 30
23	0240.5	13 49 03.093	-11 13 56.66	8.84	16 04.32	.9951487	11 44 22
24	0241.5	13 52 51.176	-11 34 58.05	8.84	16 04.60	.9948664	11 44 14
25	0242.5	13 56 39.934	-11 55 48.77	8.84	16 04.87	.9945862	11 44 6
26	0243.5	14 00 29.384	-12 16 28.47	8.84	16 05.14	.9943084	11 43 59
27	0244.5	14 04 19.545	-12 36 56.76	8.85	16 05.40	.9940336	11 43 53
28	0245.5	14 08 10.435	-12 57 13.30	8.85	16 05.67	.9937618	11 43 48
29	0246.5	14 12 02.074	-13 17 17.73	8.85	16 05.93	.9934934	11 43 43
30	0247.5	14 15 54.479	-13 37 09.69	8.85	16 06.19	.9932283	11 43 40
31	0248.5	14 19 47.665	-13 56 48.81	8.86	16 06.44	.9929667	11 43 37

SOL 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha	Día Juliano	Asc. Recta Aparente	Declinación Aparente	P.H.	Semi Diámetro	Distancia Geocent.	Tránsito Efemérides
	245	h m s	° ' "	"	' "	UA	h m s
Nov. 01	0249.5	14 23 41.646	-14 16 14.72	8.86	16 06.69	.9927083	11 43 35
02	0250.5	14 27 36.432	-14 35 27.03	8.86	16 06.94	.9924531	11 43 33
03	0251.5	14 31 32.034	-14 54 25.33	8.86	16 07.19	.9922010	11 43 33
04	0252.5	14 35 28.461	-15 13 09.22	8.87	16 07.43	.9919517	11 43 33
05	0253.5	14 39 25.720	-15 31 38.28	8.87	16 07.67	.9917051	11 43 34
06	0254.5	14 43 23.820	-15 49 52.11	8.87	16 07.91	.9914610	11 43 36
07	0255.5	14 47 22.765	-16 07 50.29	8.87	16 08.15	.9912193	11 43 39
08	0256.5	14 51 22.562	-16 25 32.40	8.87	16 08.38	.9909797	11 43 42
09	0257.5	14 55 23.215	-16 42 58.03	8.88	16 08.61	.9907423	11 43 47
10	0258.5	14 59 24.727	-17 00 06.75	8.88	16 08.84	.9905068	11 43 52
11	0259.5	15 03 27.099	-17 16 58.15	8.88	16 09.07	.9902732	11 43 59
12	0260.5	15 07 30.332	-17 33 31.83	8.88	16 09.30	.9900413	11 44 6
13	0261.5	15 11 34.425	-17 49 47.35	8.88	16 09.52	.9898112	11 44 14
14	0262.5	15 15 39.374	-18 05 44.33	8.89	16 09.75	.9895827	11 44 22
15	0263.5	15 19 45.173	-18 21 22.34	8.89	16 09.97	.9893559	11 44 32
16	0264.5	15 23 51.815	-18 36 40.98	8.89	16 10.19	.9891310	11 44 43
17	0265.5	15 27 59.291	-18 51 39.84	8.89	16 10.41	.9889082	11 44 54
18	0266.5	15 32 07.589	-19 06 18.52	8.89	16 10.62	.9886876	11 45 6
19	0267.5	15 36 16.700	-19 20 36.63	8.90	16 10.84	.9884697	11 45 19
20	0268.5	15 40 26.612	-19 34 33.76	8.90	16 11.05	.9882547	11 45 33
21	0269.5	15 44 37.317	-19 48 09.54	8.90	16 11.26	.9880431	11 45 47
22	0270.5	15 48 48.806	-20 01 23.62	8.90	16 11.46	.9878353	11 46 3
23	0271.5	15 53 01.071	-20 14 15.63	8.90	16 11.66	.9876317	11 46 19
24	0272.5	15 57 14.106	-20 26 45.26	8.91	16 11.86	.9874326	11 46 36
25	0273.5	16 01 27.903	-20 38 52.18	8.91	16 12.05	.9872384	11 46 53
26	0274.5	16 05 42.454	-20 50 36.09	8.91	16 12.24	.9870493	11 47 12
27	0275.5	16 09 57.750	-21 01 56.69	8.91	16 12.42	.9868655	11 47 31
28	0276.5	16 14 13.777	-21 12 53.69	8.91	16 12.59	.9866871	11 47 50
29	0277.5	16 18 30.523	-21 23 26.78	8.91	16 12.76	.9865141	11 48 11
30	0278.5	16 22 47.972	-21 33 35.67	8.92	16 12.93	.9863464	11 48 32
Dic. 01	0279.5	16 27 06.106	-21 43 20.05	8.92	16 13.09	.9861839	11 48 54
02	0280.5	16 31 24.908	-21 52 39.64	8.92	16 13.24	.9860266	11 49 17
03	0281.5	16 35 44.358	-22 01 34.14	8.92	16 13.39	.9858743	11 49 40
04	0282.5	16 40 04.435	-22 10 03.27	8.92	16 13.54	.9857267	11 50 4
05	0283.5	16 44 25.119	-22 18 06.75	8.92	16 13.68	.9855838	11 50 28
06	0284.5	16 48 46.385	-22 25 44.33	8.92	16 13.82	.9854452	11 50 53
07	0285.5	16 53 08.211	-22 32 55.75	8.93	16 13.95	.9853110	11 51 19
08	0286.5	16 57 30.569	-22 39 40.77	8.93	16 14.08	.9851808	11 51 45
09	0287.5	17 01 53.435	-22 45 59.17	8.93	16 14.20	.9850544	11 52 11
10	0288.5	17 06 16.778	-22 51 50.72	8.93	16 14.33	.9849318	11 52 38
11	0289.5	17 10 40.569	-22 57 15.24	8.93	16 14.44	.9848126	11 53 6
12	0290.5	17 15 04.774	-23 02 12.54	8.93	16 14.56	.9846969	11 53 34
13	0291.5	17 19 29.360	-23 06 42.44	8.93	16 14.67	.9845844	11 54 2
14	0292.5	17 23 54.287	-23 10 44.80	8.93	16 14.78	.9844752	11 54 30
15	0293.5	17 28 19.518	-23 14 19.47	8.93	16 14.88	.9843693	11 54 59
16	0294.5	17 32 45.012	-23 17 26.31	8.93	16 14.98	.9842668	11 55 28
17	0295.5	17 37 10.730	-23 20 05.21	8.94	16 15.08	.9841679	11 55 57
18	0296.5	17 41 36.635	-23 22 16.06	8.94	16 15.18	.9840730	11 56 27
19	0297.5	17 46 02.691	-23 23 58.77	8.94	16 15.27	.9839824	11 56 56
20	0298.5	17 50 28.865	-23 25 13.30	8.94	16 15.35	.9838964	11 57 26
21	0299.5	17 54 55.124	-23 25 59.59	8.94	16 15.43	.9838153	11 57 56
22	0300.5	17 59 21.439	-23 26 17.63	8.94	16 15.51	.9837397	11 58 26
23	0301.5	18 03 47.777	-23 26 07.42	8.94	16 15.58	.9836696	11 58 55
24	0302.5	18 08 14.109	-23 25 28.98	8.94	16 15.64	.9836056	11 59 25
25	0303.5	18 12 40.404	-23 24 22.35	8.94	16 15.70	.9835476	11 59 55
26	0304.5	18 17 06.631	-23 22 47.55	8.94	16 15.75	.9834960	12 00 24
27	0305.5	18 21 32.758	-23 20 44.65	8.94	16 15.79	.9834507	12 00 54
28	0306.5	18 25 58.754	-23 18 13.68	8.94	16 15.83	.9834117	12 01 23
29	0307.5	18 30 24.589	-23 15 14.73	8.94	16 15.86	.9833792	12 01 53
30	0308.5	18 34 50.232	-23 11 47.86	8.94	16 15.89	.9833528	12 02 22
31	0309.5	18 39 15.653	-23 07 53.15	8.94	16 15.91	.9833326	12 02 50

VOLVER AL INDICE

VENUS 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Enero	01	19 58 56.894	-22 02 13.60	5.19	5.47	13 18 09
	02	20 04 15.257	-21 48 18.54	5.20	5.48	13 19 30
	03	20 09 32.495	-21 33 44.59	5.21	5.49	13 20 50
	04	20 14 48.574	-21 18 32.36	5.22	5.50	13 22 09
	05	20 20 03.465	-21 02 42.47	5.23	5.51	13 23 27
	06	20 25 17.141	-20 46 15.56	5.24	5.52	13 24 43
	07	20 30 29.580	-20 29 12.27	5.25	5.53	13 25 59
	08	20 35 40.759	-20 11 33.27	5.26	5.54	13 27 13
	09	20 40 50.661	-19 53 19.23	5.27	5.55	13 28 25
	10	20 45 59.272	-19 34 30.83	5.28	5.57	13 29 37
	11	20 51 06.579	-19 15 08.77	5.29	5.58	13 30 47
	12	20 56 12.575	-18 55 13.75	5.30	5.59	13 31 56
	13	21 01 17.253	-18 34 46.48	5.31	5.60	13 33 03
	14	21 06 20.610	-18 13 47.69	5.32	5.61	13 34 09
	15	21 11 22.648	-17 52 18.10	5.33	5.63	13 35 14
	16	21 16 23.367	-17 30 18.46	5.35	5.64	13 36 17
	17	21 21 22.773	-17 07 49.51	5.36	5.65	13 37 20
	18	21 26 20.871	-16 44 52.01	5.37	5.66	13 38 20
	19	21 31 17.667	-16 21 26.75	5.38	5.68	13 39 20
	20	21 36 13.170	-15 57 34.50	5.39	5.69	13 40 18
	21	21 41 07.385	-15 33 16.07	5.41	5.70	13 41 15
	22	21 46 00.320	-15 08 32.26	5.42	5.72	13 42 11
	23	21 50 51.985	-14 43 23.88	5.43	5.73	13 43 05
	24	21 55 42.393	-14 17 51.72	5.45	5.74	13 43 58
	25	22 00 31.560	-13 51 56.58	5.46	5.76	13 44 50
	26	22 05 19.506	-13 25 39.27	5.47	5.77	13 45 41
	27	22 10 06.253	-12 59 00.57	5.49	5.79	13 46 31
	28	22 14 51.824	-12 32 01.29	5.50	5.80	13 47 19
	29	22 19 36.246	-12 04 42.23	5.52	5.82	13 48 06
	30	22 24 19.545	-11 37 04.19	5.53	5.83	13 48 52
	31	22 29 01.748	-11 09 07.98	5.54	5.85	13 49 37
Febrero	01	22 33 42.884	-10 40 54.39	5.56	5.86	13 50 21
	02	22 38 22.983	-10 12 24.21	5.57	5.88	13 51 04
	03	22 43 02.078	- 9 43 38.22	5.59	5.89	13 51 46
	04	22 47 40.200	- 9 14 37.21	5.61	5.91	13 52 27
	05	22 52 17.383	- 8 45 21.95	5.62	5.93	13 53 08
	06	22 56 53.664	- 8 15 53.22	5.64	5.94	13 53 47
	07	23 01 29.077	- 7 46 11.77	5.65	5.96	13 54 25
	08	23 06 03.663	- 7 16 18.35	5.67	5.98	13 55 03
	09	23 10 37.460	- 6 46 13.72	5.69	6.00	13 55 40
	10	23 15 10.507	- 6 15 58.63	5.70	6.01	13 56 16
	11	23 19 42.847	- 5 45 33.80	5.72	6.03	13 56 51
	12	23 24 14.521	- 5 14 59.98	5.74	6.05	13 57 26
	13	23 28 45.571	- 4 44 17.90	5.76	6.07	13 58 00
	14	23 33 16.039	- 4 13 28.30	5.77	6.09	13 58 34
	15	23 37 45.966	- 3 42 31.90	5.79	6.11	13 59 07
	16	23 42 15.393	- 3 11 29.47	5.81	6.13	13 59 39
	17	23 46 44.359	- 2 40 21.74	5.83	6.15	14 00 12
	18	23 51 12.902	- 2 09 09.46	5.85	6.17	14 00 43
	19	23 55 41.060	- 1 37 53.41	5.87	6.19	14 01 15
	20	0 00 08.869	- 1 06 34.33	5.89	6.21	14 01 46
	21	0 04 36.369	- 0 35 12.99	5.91	6.23	14 02 17
	22	0 09 03.599	- 0 03 50.13	5.93	6.25	14 02 47
	23	0 13 30.598	+ 0 27 33.48	5.95	6.27	14 03 18
	24	0 17 57.408	+ 0 58 57.12	5.97	6.30	14 03 48
	25	0 22 24.066	+ 1 30 20.03	5.99	6.32	14 04 18
	26	0 26 50.612	+ 2 01 41.46	6.01	6.34	14 04 48
	27	0 31 17.085	+ 2 33 00.67	6.04	6.36	14 05 18
	28	0 35 43.523	+ 3 04 16.91	6.06	6.39	14 05 48

VENUS 2023
PARA O^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Marzo	01	0 40 09.963	+ 3 35 29.45	6.08	6.41	14 06 17
	02	0 44 36.444	+ 4 06 37.55	6.10	6.44	14 06 47
	03	0 49 03.004	+ 4 37 40.47	6.13	6.46	14 07 17
	04	0 53 29.680	+ 5 08 37.48	6.15	6.49	14 07 48
	05	0 57 56.512	+ 5 39 27.86	6.18	6.51	14 08 18
	06	1 02 23.537	+ 6 10 10.88	6.20	6.54	14 08 49
	07	1 06 50.793	+ 6 40 45.83	6.22	6.56	14 09 20
	08	1 11 18.320	+ 7 11 12.00	6.25	6.59	14 09 51
	09	1 15 46.155	+ 7 41 28.68	6.28	6.62	14 10 22
	10	1 20 14.337	+ 8 11 35.16	6.30	6.65	14 10 54
	11	1 24 42.905	+ 8 41 30.74	6.33	6.67	14 11 26
	12	1 29 11.895	+ 9 11 14.74	6.36	6.70	14 11 59
	13	1 33 41.343	+ 9 40 46.45	6.38	6.73	14 12 32
	14	1 38 11.285	+10 10 05.17	6.41	6.76	14 13 06
	15	1 42 41.752	+10 39 10.21	6.44	6.79	14 13 40
	16	1 47 12.777	+11 08 00.84	6.47	6.82	14 14 15
	17	1 51 44.387	+11 36 36.36	6.50	6.85	14 14 51
	18	1 56 16.610	+12 04 56.04	6.53	6.88	14 15 27
	19	2 00 49.472	+12 32 59.15	6.56	6.91	14 16 03
	20	2 05 22.996	+13 00 44.95	6.59	6.95	14 16 41
	21	2 09 57.207	+13 28 12.71	6.62	6.98	14 17 19
	22	2 14 32.126	+13 55 21.69	6.65	7.01	14 17 58
	23	2 19 07.775	+14 22 11.18	6.68	7.05	14 18 37
	24	2 23 44.170	+14 48 40.44	6.72	7.08	14 19 18
	25	2 28 21.328	+15 14 48.75	6.75	7.12	14 19 59
	26	2 32 59.260	+15 40 35.39	6.78	7.15	14 20 41
	27	2 37 37.978	+16 05 59.64	6.82	7.19	14 21 23
	28	2 42 17.490	+16 31 00.78	6.85	7.23	14 22 07
	29	2 46 57.803	+16 55 38.10	6.89	7.26	14 22 51
	30	2 51 38.922	+17 19 50.90	6.92	7.30	14 23 36
	31	2 56 20.852	+17 43 38.48	6.96	7.34	14 24 22
Abril	01	3 01 03.594	+18 07 00.15	7.00	7.38	14 25 09
	02	3 05 47.149	+18 29 55.23	7.04	7.42	14 25 56
	03	3 10 31.518	+18 52 23.06	7.08	7.46	14 26 44
	04	3 15 16.697	+19 14 22.97	7.12	7.50	14 27 34
	05	3 20 02.683	+19 35 54.33	7.16	7.55	14 28 23
	06	3 24 49.470	+19 56 56.51	7.20	7.59	14 29 14
	07	3 29 37.053	+20 17 28.89	7.24	7.63	14 30 06
	08	3 34 25.420	+20 37 30.88	7.28	7.68	14 30 58
	09	3 39 14.562	+20 57 01.89	7.32	7.72	14 31 51
	10	3 44 04.463	+21 16 01.37	7.37	7.77	14 32 45
	11	3 48 55.107	+21 34 28.75	7.41	7.82	14 33 40
	12	3 53 46.473	+21 52 23.49	7.46	7.86	14 34 35
	13	3 58 38.536	+22 09 45.05	7.50	7.91	14 35 31
	14	4 03 31.269	+22 26 32.89	7.55	7.96	14 36 27
	15	4 08 24.644	+22 42 46.51	7.60	8.01	14 37 25
	16	4 13 18.627	+22 58 25.39	7.65	8.06	14 38 22
	17	4 18 13.185	+23 13 29.03	7.70	8.12	14 39 21
	18	4 23 08.279	+23 27 56.97	7.75	8.17	14 40 20
	19	4 28 03.869	+23 41 48.76	7.80	8.22	14 41 19
	20	4 32 59.911	+23 55 03.97	7.85	8.28	14 42 19
	21	4 37 56.355	+24 07 42.20	7.90	8.33	14 43 19
	22	4 42 53.149	+24 19 43.08	7.96	8.39	14 44 19
	23	4 47 50.237	+24 31 06.26	8.01	8.45	14 45 20
	24	4 52 47.557	+24 41 51.42	8.07	8.51	14 46 21
	25	4 57 45.047	+24 51 58.25	8.13	8.57	14 47 22
	26	5 02 42.644	+25 01 26.47	8.19	8.63	14 48 23
	27	5 07 40.280	+25 10 15.85	8.25	8.70	14 49 24
	28	5 12 37.889	+25 18 26.17	8.31	8.76	14 50 25
	29	5 17 35.401	+25 25 57.25	8.37	8.83	14 51 26
	30	5 22 32.747	+25 32 48.92	8.43	8.89	14 52 27

VENUS 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Mayo	01	5 27 29.855	+25 39 01.08	8.50	8.96	14 53 27
	02	5 32 26.655	+25 44 33.63	8.56	9.03	14 54 27
	03	5 37 23.073	+25 49 26.53	8.63	9.10	14 55 27
	04	5 42 19.038	+25 53 39.76	8.70	9.17	14 56 26
	05	5 47 14.478	+25 57 13.33	8.77	9.25	14 57 25
	06	5 52 09.319	+26 00 07.32	8.84	9.32	14 58 23
	07	5 57 03.487	+26 02 21.81	8.91	9.40	14 59 20
	08	6 01 56.911	+26 03 56.93	8.99	9.47	15 00 16
	09	6 06 49.514	+26 04 52.83	9.06	9.55	15 01 12
	10	6 11 41.222	+26 05 09.69	9.14	9.64	15 02 06
	11	6 16 31.960	+26 04 47.72	9.22	9.72	15 02 60
	12	6 21 21.653	+26 03 47.14	9.30	9.80	15 03 52
	13	6 26 10.227	+26 02 08.19	9.38	9.89	15 04 44
	14	6 30 57.608	+25 59 51.15	9.46	9.98	15 05 34
	15	6 35 43.722	+25 56 56.31	9.55	10.07	15 06 22
	16	6 40 28.495	+25 53 24.02	9.63	10.16	15 07 10
	17	6 45 11.854	+25 49 14.65	9.72	10.25	15 07 56
	18	6 49 53.722	+25 44 28.58	9.81	10.35	15 08 40
	19	6 54 34.021	+25 39 06.28	9.90	10.44	15 09 23
	20	6 59 12.673	+25 33 08.19	10.00	10.54	15 10 04
	21	7 03 49.598	+25 26 34.83	10.10	10.65	15 10 43
	22	7 08 24.715	+25 19 26.70	10.19	10.75	15 11 20
	23	7 12 57.946	+25 11 44.37	10.29	10.86	15 11 56
	24	7 17 29.211	+25 03 28.40	10.40	10.96	15 12 29
	25	7 21 58.432	+24 54 39.39	10.50	11.07	15 13 01
	26	7 26 25.532	+24 45 17.95	10.61	11.19	15 13 30
	27	7 30 50.436	+24 35 24.74	10.72	11.30	15 13 57
	28	7 35 13.071	+24 25 00.41	10.83	11.42	15 14 21
	29	7 39 33.364	+24 14 05.65	10.95	11.54	15 14 43
	30	7 43 51.244	+24 02 41.17	11.06	11.67	15 15 03
	31	7 48 06.640	+23 50 47.71	11.18	11.79	15 15 20
Junio	01	7 52 19.484	+23 38 26.00	11.31	11.92	15 15 35
	02	7 56 29.709	+23 25 36.82	11.43	12.06	15 15 47
	03	8 00 37.250	+23 12 20.96	11.56	12.19	15 15 56
	04	8 04 42.040	+22 58 39.23	11.69	12.33	15 16 03
	05	8 08 44.016	+22 44 32.45	11.83	12.47	15 16 06
	06	8 12 43.115	+22 30 01.45	11.97	12.62	15 16 07
	07	8 16 39.272	+22 15 07.04	12.11	12.77	15 16 05
	08	8 20 32.425	+21 59 50.08	12.25	12.92	15 15 59
	09	8 24 22.514	+21 44 11.38	12.40	13.07	15 15 51
	10	8 28 09.478	+21 28 11.77	12.55	13.23	15 15 39
	11	8 31 53.256	+21 11 52.11	12.70	13.40	15 15 24
	12	8 35 33.783	+20 55 13.25	12.86	13.56	15 15 06
	13	8 39 10.997	+20 38 16.07	13.02	13.73	15 14 45
	14	8 42 44.827	+20 21 01.47	13.19	13.91	15 14 20
	15	8 46 15.201	+20 03 30.37	13.36	14.09	15 13 51
	16	8 49 42.044	+19 45 43.72	13.53	14.27	15 13 19
	17	8 53 05.272	+19 27 42.49	13.71	14.46	15 12 44
	18	8 56 24.801	+19 09 27.65	13.89	14.65	15 12 04
	19	8 59 40.542	+18 51 00.22	14.08	14.85	15 11 21
	20	9 02 52.402	+18 32 21.21	14.27	15.05	15 10 34
	21	9 06 00.283	+18 13 31.68	14.47	15.26	15 09 43
	22	9 09 04.086	+17 54 32.66	14.67	15.47	15 08 47
	23	9 12 03.707	+17 35 25.25	14.88	15.69	15 07 48
	24	9 14 59.038	+17 16 10.53	15.09	15.91	15 06 44
	25	9 17 49.967	+16 56 49.63	15.31	16.14	15 05 35
	26	9 20 36.379	+16 37 23.69	15.53	16.37	15 04 22
	27	9 23 18.155	+16 17 53.86	15.76	16.61	15 03 05
	28	9 25 55.170	+15 58 21.34	15.99	16.86	15 01 42
	29	9 28 27.295	+15 38 47.34	16.23	17.11	15 00 15
	30	9 30 54.397	+15 19 13.10	16.47	17.37	14 58 42

VENUS 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Julio	01	9 33 16.338	+14 59 39.89	16.72	17.63	14 57 04
	02	9 35 32.975	+14 40 09.02	16.98	17.90	14 55 21
	03	9 37 44.163	+14 20 41.79	17.24	18.18	14 53 32
	04	9 39 49.752	+14 01 19.54	17.51	18.46	14 51 38
	05	9 41 49.588	+13 42 03.61	17.79	18.75	14 49 38
	06	9 43 43.516	+13 22 55.36	18.07	19.05	14 47 31
	07	9 45 31.379	+13 03 56.15	18.35	19.35	14 45 19
	08	9 47 13.017	+12 45 07.37	18.65	19.66	14 43 01
	09	9 48 48.263	+12 26 30.44	18.95	19.98	14 40 35
	10	9 50 16.948	+12 08 06.83	19.25	20.30	14 38 04
	11	9 51 38.895	+11 49 58.05	19.56	20.63	14 35 25
	12	9 52 53.921	+11 32 05.69	19.88	20.96	14 32 40
	13	9 54 01.838	+11 14 31.38	20.21	21.31	14 29 47
	14	9 55 02.455	+10 57 16.83	20.53	21.65	14 26 47
	15	9 55 55.576	+10 40 23.77	20.87	22.00	14 23 39
	16	9 56 41.006	+10 23 54.02	21.21	22.36	14 20 24
	17	9 57 18.550	+10 07 49.43	21.55	22.73	14 17 00
	18	9 57 48.018	+ 9 52 11.91	21.90	23.09	14 13 29
	19	9 58 09.226	+ 9 37 03.40	22.25	23.46	14 09 49
	20	9 58 21.997	+ 9 22 25.89	22.61	23.84	14 06 01
	21	9 58 26.169	+ 9 08 21.40	22.96	24.21	14 02 04
	22	9 58 21.593	+ 8 54 51.96	23.32	24.59	13 57 58
	23	9 58 08.143	+ 8 41 59.62	23.68	24.97	13 53 44
	24	9 57 45.714	+ 8 29 46.44	24.04	25.35	13 49 21
	25	9 57 14.228	+ 8 18 14.46	24.40	25.73	13 44 48
	26	9 56 33.641	+ 8 07 25.69	24.76	26.11	13 40 07
	27	9 55 43.949	+ 7 57 22.08	25.11	26.48	13 35 16
	28	9 54 45.186	+ 7 48 05.52	25.46	26.84	13 30 17
	29	9 53 37.437	+ 7 39 37.80	25.80	27.20	13 25 09
	30	9 52 20.842	+ 7 32 00.57	26.13	27.55	13 19 52
	31	9 50 55.598	+ 7 25 15.31	26.45	27.89	13 14 27
Agosto	01	9 49 21.968	+ 7 19 23.30	26.76	28.22	13 08 53
	02	9 47 40.281	+ 7 14 25.55	27.05	28.53	13 03 12
	03	9 45 50.941	+ 7 10 22.80	27.33	28.82	12 57 24
	04	9 43 54.420	+ 7 07 15.49	27.59	29.10	12 51 29
	05	9 41 51.258	+ 7 05 03.73	27.84	29.35	12 45 27
	06	9 39 42.062	+ 7 03 47.31	28.06	29.58	12 39 20
	07	9 37 27.499	+ 7 03 25.74	28.25	29.79	12 33 08
	08	9 35 08.288	+ 7 03 58.16	28.43	29.97	12 26 52
	09	9 32 45.201	+ 7 05 23.44	28.57	30.13	12 20 33
	10	9 30 19.051	+ 7 07 40.09	28.69	30.26	12 14 11
	11	9 27 50.687	+ 7 10 46.30	28.78	30.35	12 07 47
	12	9 25 20.988	+ 7 14 39.96	28.85	30.42	12 01 22
	13	9 22 50.850	+ 7 19 18.66	28.88	30.45	11 54 57
	14	9 20 21.177	+ 7 24 39.71	28.88	30.46	11 48 33
	15	9 17 52.874	+ 7 30 40.19	28.86	30.43	11 42 11
	16	9 15 26.834	+ 7 37 16.95	28.80	30.37	11 35 52
	17	9 13 03.926	+ 7 44 26.69	28.72	30.28	11 29 36
	18	9 10 44.990	+ 7 52 05.96	28.61	30.17	11 23 24
	19	9 08 30.825	+ 8 00 11.24	28.47	30.02	11 17 18
	20	9 06 22.182	+ 8 08 38.96	28.31	29.85	11 11 17
	21	9 04 19.761	+ 8 17 25.51	28.12	29.65	11 05 23
	22	9 02 24.199	+ 8 26 27.34	27.91	29.43	10 59 35
	23	9 00 36.073	+ 8 35 40.94	27.68	29.19	10 53 56
	24	8 58 55.894	+ 8 45 02.88	27.43	28.92	10 48 24
	25	8 57 24.109	+ 8 54 29.86	27.16	28.64	10 43 01
	26	8 56 01.097	+ 9 03 58.68	26.88	28.34	10 37 46
	27	8 54 47.174	+ 9 13 26.28	26.58	28.03	10 32 41
	28	8 53 42.594	+ 9 22 49.74	26.27	27.70	10 27 45
	29	8 52 47.553	+ 9 32 06.30	25.95	27.37	10 22 59
	30	8 52 02.188	+ 9 41 13.31	25.62	27.02	10 18 22
	31	8 51 26.588	+ 9 50 08.27	25.29	26.67	10 13 55

VENUS 2023
PARA O^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Septiembre	01	8 51 00.789	+ 9 58 48.87	24.95	26.31	10 09 37
	02	8 50 44.780	+10 07 12.93	24.60	25.94	10 05 30
	03	8 50 38.505	+10 15 18.49	24.26	25.58	10 01 32
	04	8 50 41.866	+10 23 03.75	23.91	25.21	9 57 43
	05	8 50 54.729	+10 30 27.12	23.56	24.84	9 54 04
	06	8 51 16.928	+10 37 27.16	23.21	24.47	9 50 34
	07	8 51 48.272	+10 44 02.60	22.86	24.11	9 47 12
	08	8 52 28.548	+10 50 12.29	22.52	23.74	9 44 00
	09	8 53 17.528	+10 55 55.22	22.18	23.38	9 40 56
	10	8 54 14.972	+11 01 10.48	21.84	23.03	9 38 01
	11	8 55 20.632	+11 05 57.27	21.50	22.67	9 35 14
	12	8 56 34.252	+11 10 14.86	21.17	22.32	9 32 34
	13	8 57 55.574	+11 14 02.62	20.85	21.98	9 30 02
	14	8 59 24.339	+11 17 19.99	20.53	21.64	9 27 37
	15	9 01 00.287	+11 20 06.49	20.21	21.31	9 25 20
	16	9 02 43.162	+11 22 21.68	19.90	20.98	9 23 09
	17	9 04 32.708	+11 24 05.20	19.60	20.66	9 21 04
	18	9 06 28.677	+11 25 16.72	19.30	20.35	9 19 06
	19	9 08 30.824	+11 25 55.98	19.01	20.04	9 17 14
	20	9 10 38.909	+11 26 02.75	18.72	19.74	9 15 28
	21	9 12 52.699	+11 25 36.84	18.44	19.44	9 13 48
	22	9 15 11.969	+11 24 38.10	18.16	19.15	9 12 13
	23	9 17 36.498	+11 23 06.39	17.90	18.87	9 10 43
	24	9 20 06.074	+11 21 01.62	17.63	18.59	9 09 18
	25	9 22 40.490	+11 18 23.71	17.38	18.32	9 07 57
	26	9 25 19.551	+11 15 12.59	17.12	18.06	9 06 42
	27	9 28 03.065	+11 11 28.20	16.88	17.80	9 05 30
	28	9 30 50.850	+11 07 10.50	16.64	17.54	9 04 23
	29	9 33 42.732	+11 02 19.47	16.40	17.30	9 03 20
	30	9 36 38.540	+10 56 55.13	16.17	17.06	9 02 21
Octubre	01	9 39 38.108	+10 50 57.52	15.95	16.82	9 01 25
	02	9 42 41.273	+10 44 26.77	15.73	16.59	9 00 33
	03	9 45 47.873	+10 37 23.03	15.52	16.36	8 59 44
	04	9 48 57.751	+10 29 46.51	15.31	16.14	8 58 59
	05	9 52 10.753	+10 21 37.45	15.10	15.93	8 58 16
	06	9 55 26.729	+10 12 56.13	14.91	15.72	8 57 37
	07	9 58 45.537	+10 03 42.85	14.71	15.51	8 57 00
	08	10 02 07.038	+ 9 53 57.94	14.52	15.31	8 56 26
	09	10 05 31.102	+ 9 43 41.76	14.33	15.12	8 55 54
	10	10 08 57.602	+ 9 32 54.67	14.15	14.92	8 55 25
	11	10 12 26.420	+ 9 21 37.08	13.98	14.74	8 54 58
	12	10 15 57.442	+ 9 09 49.39	13.80	14.56	8 54 34
	13	10 19 30.560	+ 8 57 32.04	13.63	14.38	8 54 11
	14	10 23 05.673	+ 8 44 45.48	13.47	14.20	8 53 50
	15	10 26 42.684	+ 8 31 30.17	13.31	14.03	8 53 31
	16	10 30 21.502	+ 8 17 46.59	13.15	13.87	8 53 14
	17	10 34 02.042	+ 8 03 35.23	13.00	13.70	8 52 59
	18	10 37 44.221	+ 7 48 56.61	12.85	13.55	8 52 45
	19	10 41 27.965	+ 7 33 51.24	12.70	13.39	8 52 33
	20	10 45 13.201	+ 7 18 19.64	12.55	13.24	8 52 22
	21	10 48 59.862	+ 7 02 22.36	12.41	13.09	8 52 13
	22	10 52 47.888	+ 6 45 59.92	12.28	12.94	8 52 05
	23	10 56 37.220	+ 6 29 12.85	12.14	12.80	8 51 58
	24	11 00 27.808	+ 6 12 01.70	12.01	12.66	8 51 52
	25	11 04 19.604	+ 5 54 26.99	11.88	12.53	8 51 48
	26	11 08 12.568	+ 5 36 29.24	11.75	12.39	8 51 45
	27	11 12 06.662	+ 5 18 09.00	11.63	12.26	8 51 43
	28	11 16 01.853	+ 4 59 26.80	11.51	12.14	8 51 42
	29	11 19 58.109	+ 4 40 23.20	11.39	12.01	8 51 42
	30	11 23 55.398	+ 4 20 58.81	11.27	11.89	8 51 43
	31	11 27 53.690	+ 4 01 14.23	11.16	11.77	8 51 45

VENUS 2023
PARA Oh DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Noviembre	01	11 31 52.954	+ 3 41 10.11	11 05	11.65	8 51 48
	02	11 35 53.162	+ 3 20 47.11	10.94	11.54	8 51 52
	03	11 39 54.287	+ 3 00 05.91	10.83	11.42	8 51 57
	04	11 43 56.303	+ 2 39 07.21	10.73	11.31	8 52 03
	05	11 47 59.188	+ 2 17 51.70	10.63	11.21	8 52 09
	06	11 52 02.923	+ 1 56 20.10	10.53	11.10	8 52 17
	07	11 56 07.489	+ 1 34 33.13	10.43	11.00	8 52 25
	08	12 00 12.874	+ 1 12 31.50	10.33	10.89	8 52 34
	09	12 04 19.063	+ 0 50 15.95	10.24	10.80	8 52 44
	10	12 08 26.047	+ 0 27 47.22	10.15	10.70	8 52 55
	11	12 12 33.818	+ 0 05 06.05	10.05	10.60	8 53 06
	12	12 16 42.369	- 0 17 46.82	9.97	10.51	8 53 19
	13	12 20 51.695	- 0 40 50.62	9.88	10.42	8 53 32
	14	12 25 01.795	- 1 04 04.62	9.79	10.33	8 53 46
	15	12 29 12.666	- 1 27 28.03	9.71	10.24	8 54 00
	16	12 33 24.308	- 1 51 00.11	9.63	10.15	8 54 16
	17	12 37 36.721	- 2 14 40.08	9.55	10.07	8 54 32
	18	12 41 49.910	- 2 38 27.18	9.47	9.98	8 54 49
	19	12 46 03.879	- 3 02 20.66	9.39	9.90	8 55 06
	20	12 50 18.638	- 3 26 19.75	9.31	9.82	8 55 25
	21	12 54 34.197	- 3 50 23.73	9.24	9.74	8 55 44
	22	12 58 50.570	- 4 14 31.84	9.16	9.66	8 56 04
	23	13 03 07.774	- 4 38 43.37	9.09	9.59	8 56 25
	24	13 07 25.828	- 5 02 57.59	9.02	9.51	8 56 47
	25	13 11 44.750	- 5 27 13.76	8.95	9.44	8 57 10
	26	13 16 04.558	- 5 51 31.16	8.88	9.37	8 57 33
	27	13 20 25.272	- 6 15 49.02	8.82	9.30	8 57 58
	28	13 24 46.908	- 6 40 06.59	8.75	9.23	8 58 23
	29	13 29 09.482	- 7 04 23.08	8.68	9.16	8 58 50
	30	13 33 33.009	- 7 28 37.70	8.62	9.09	8 59 17
Diciembre	01	13 37 57.505	- 7 52 49.64	8.56	9.02	8 59 45
	02	13 42 22.985	- 8 16 58.09	8.50	8.96	9 00 15
	03	13 46 49.464	- 8 41 02.23	8.44	8.90	9 00 45
	04	13 51 16.959	- 9 05 01.24	8.38	8.83	9 01 16
	05	13 55 45.484	- 9 28 54.30	8.32	8.77	9 01 49
	06	14 00 15.055	- 9 52 40.57	8.26	8.71	9 02 22
	07	14 04 45.688	-10 16 19.23	8.20	8.65	9 02 57
	08	14 09 17.397	-10 39 49.45	8.15	8.59	9 03 32
	09	14 13 50.199	-11 03 10.40	8.09	8.53	9 04 09
	10	14 18 24.105	-11 26 21.24	8.04	8.48	9 04 47
	11	14 22 59.129	-11 49 21.14	7.99	8.42	9 05 26
	12	14 27 35.283	-12 12 09.28	7.94	8.37	9 06 06
	13	14 32 12.576	-12 34 44.80	7.88	8.31	9 06 47
	14	14 36 51.017	-12 57 06.89	7.83	8.26	9 07 29
	15	14 41 30.613	-13 19 14.69	7.79	8.21	9 08 13
	16	14 46 11.371	-13 41 07.38	7.74	8.16	9 08 57
	17	14 50 53.300	-14 02 44.14	7.69	8.11	9 09 43
	18	14 55 36.408	-14 24 04.14	7.64	8.06	9 10 30
	19	15 00 20.705	-14 45 06.58	7.60	8.01	9 11 18
	20	15 05 06.202	-15 05 50.67	7.55	7.96	9 12 08
	21	15 09 52.911	-15 26 15.63	7.51	7.91	9 12 59
	22	15 14 40.840	-15 46 20.70	7.46	7.87	9 13 50
	23	15 19 29.998	-16 06 05.10	7.42	7.82	9 14 43
	24	15 24 20.391	-16 25 28.08	7.38	7.78	9 15 38
	25	15 29 12.022	-16 44 28.87	7.33	7.73	9 16 33
	26	15 34 04.892	-17 03 06.70	7.29	7.69	9 17 30
	27	15 38 58.999	-17 21 20.81	7.25	7.65	9 18 28
	28	15 43 54.341	-17 39 10.42	7.21	7.60	9 19 28
	29	15 48 50.910	-17 56 34.77	7.17	7.56	9 20 28
	30	15 53 48.700	-18 13 33.10	7.13	7.52	9 21 30
	31	15 58 47.700	-18 30 04.64	7.09	7.48	9 22 33

VOLVER AL INDICE

MARTE 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Enero	01	4 27 34.314	+24 35 18.04	7.33	13.78	21 41 51
	02	4 26 54.245	+24 34 15.79	7.26	13.65	21 37 18
	03	4 26 17.805	+24 33 17.29	7.20	13.52	21 32 50
	04	4 25 44.993	+24 32 22.83	7.13	13.39	21 28 24
	05	4 25 15.797	+24 31 32.65	7.06	13.27	21 24 03
	06	4 24 50.202	+24 30 46.97	6.99	13.14	21 19 44
	07	4 24 28.188	+24 30 05.95	6.92	13.01	21 15 30
	08	4 24 09.728	+24 29 29.77	6.85	12.88	21 11 18
	09	4 23 54.795	+24 28 58.55	6.79	12.75	21 07 11
	10	4 23 43.359	+24 28 32.40	6.72	12.62	21 03 07
	11	4 23 35.385	+24 28 11.40	6.65	12.50	20 59 06
	12	4 23 30.839	+24 27 55.63	6.58	12.37	20 55 08
	13	4 23 29.685	+24 27 45.12	6.52	12.24	20 51 14
	14	4 23 31.883	+24 27 39.91	6.45	12.12	20 47 23
	15	4 23 37.396	+24 27 40.02	6.38	11.99	20 43 36
	16	4 23 46.184	+24 27 45.44	6.32	11.87	20 39 51
	17	4 23 58.205	+24 27 56.19	6.25	11.74	20 36 10
	18	4 24 13.418	+24 28 12.23	6.19	11.62	20 32 32
	19	4 24 31.781	+24 28 33.53	6.12	11.50	20 28 57
	20	4 24 53.248	+24 29 00.04	6.06	11.38	20 25 25
	21	4 25 17.772	+24 29 31.70	5.99	11.26	20 21 56
	22	4 25 45.304	+24 30 08.39	5.93	11.14	20 18 30
	23	4 26 15.794	+24 30 50.00	5.87	11.03	20 15 07
	24	4 26 49.190	+24 31 36.36	5.81	10.91	20 11 46
	25	4 27 25.439	+24 32 27.32	5.75	10.80	20 08 29
	26	4 28 04.488	+24 33 22.70	5.69	10.69	20 05 14
	27	4 28 46.280	+24 34 22.32	5.63	10.58	20 02 02
	28	4 29 30.758	+24 35 26.00	5.57	10.47	19 58 53
	29	4 30 17.864	+24 36 33.53	5.51	10.36	19 55 46
	30	4 31 07.537	+24 37 44.71	5.45	10.25	19 52 41
	31	4 31 59.719	+24 38 59.34	5.40	10.15	19 49 39
Febrero	01	4 32 54.351	+24 40 17.20	5.34	10.04	19 46 40
	02	4 33 51.375	+24 41 38.06	5.29	9.94	19 43 43
	03	4 34 50.734	+24 43 01.69	5.24	9.84	19 40 48
	04	4 35 52.373	+24 44 27.87	5.18	9.74	19 37 55
	05	4 36 56.238	+24 45 56.37	5.13	9.64	19 35 04
	06	4 38 02.277	+24 47 26.95	5.08	9.54	19 32 16
	07	4 39 10.440	+24 48 59.39	5.03	9.45	19 29 29
	08	4 40 20.679	+24 50 33.45	4.98	9.35	19 26 45
	09	4 41 32.948	+24 52 08.91	4.93	9.26	19 24 03
	10	4 42 47.204	+24 53 45.55	4.88	9.17	19 21 22
	11	4 44 03.405	+24 55 23.17	4.83	9.08	19 18 44
	12	4 45 21.510	+24 57 01.53	4.79	8.99	19 16 07
	13	4 46 41.481	+24 58 40.46	4.74	8.91	19 13 32
	14	4 48 03.281	+25 00 19.75	4.69	8.82	19 10 59
	15	4 49 26.872	+25 01 59.20	4.65	8.74	19 08 28
	16	4 50 52.220	+25 03 38.62	4.60	8.65	19 05 58
	17	4 52 19.287	+25 05 17.82	4.56	8.57	19 03 30
	18	4 53 48.037	+25 06 56.60	4.52	8.49	19 01 04
	19	4 55 18.435	+25 08 34.73	4.48	8.41	18 58 40
	20	4 56 50.445	+25 10 12.01	4.43	8.33	18 56 16
	21	4 58 24.034	+25 11 48.21	4.39	8.26	18 53 55
	22	4 59 59.167	+25 13 23.10	4.35	8.18	18 51 35
	23	5 01 35.810	+25 14 56.48	4.31	8.11	18 49 16
	24	5 03 13.928	+25 16 28.13	4.28	8.03	18 46 59
	25	5 04 53.485	+25 17 57.86	4.24	7.96	18 44 44
	26	5 06 34.443	+25 19 25.48	4.20	7.89	18 42 29
	27	5 08 16.766	+25 20 50.79	4.16	7.82	18 40 16
	28	5 10 00.416	+25 22 13.58	4.13	7.75	18 38 05

MARTE 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Marzo	01	5 11 45.356	+25 23 33.68	4.09	7.68	18 35 54
	02	5 13 31.552	+25 24 50.89	4.05	7.62	18 33 45
	03	5 15 18.968	+25 26 05.01	4.02	7.55	18 31 37
	04	5 17 07.571	+25 27 15.87	3.99	7.49	18 29 30
	05	5 18 57.330	+25 28 23.29	3.95	7.43	18 27 24
	06	5 20 48.215	+25 29 27.07	3.92	7.36	18 25 20
	07	5 22 40.195	+25 30 27.06	3.89	7.30	18 23 16
	08	5 24 33.244	+25 31 23.07	3.85	7.24	18 21 14
	09	5 26 27.336	+25 32 14.96	3.82	7.18	18 19 12
	10	5 28 22.447	+25 33 02.56	3.79	7.12	18 17 12
	11	5 30 18.554	+25 33 45.74	3.76	7.07	18 15 12
	12	5 32 15.636	+25 34 24.34	3.73	7.01	18 13 13
	13	5 34 13.670	+25 34 58.24	3.70	6.96	18 11 16
	14	5 36 12.636	+25 35 27.32	3.67	6.90	18 09 19
	15	5 38 12.514	+25 35 51.45	3.64	6.85	18 07 23
	16	5 40 13.282	+25 36 10.51	3.62	6.79	18 05 28
	17	5 42 14.921	+25 36 24.37	3.59	6.74	18 03 34
	18	5 44 17.409	+25 36 32.89	3.56	6.69	18 01 41
	19	5 46 20.727	+25 36 35.95	3.53	6.64	17 59 48
	20	5 48 24.855	+25 36 33.41	3.51	6.59	17 57 57
	21	5 50 29.775	+25 36 25.11	3.48	6.54	17 56 06
	22	5 52 35.469	+25 36 10.94	3.46	6.49	17 54 16
	23	5 54 41.917	+25 35 50.77	3.43	6.45	17 52 26
	24	5 56 49.101	+25 35 24.49	3.41	6.40	17 50 37
	25	5 58 56.998	+25 34 52.00	3.38	6.35	17 48 49
	26	6 01 05.585	+25 34 13.19	3.36	6.31	17 47 02
	27	6 03 14.839	+25 33 27.97	3.33	6.26	17 45 15
	28	6 05 24.736	+25 32 36.25	3.31	6.22	17 43 29
	29	6 07 35.254	+25 31 37.92	3.29	6.18	17 41 44
	30	6 09 46.368	+25 30 32.90	3.26	6.13	17 39 59
	31	6 11 58.058	+25 29 21.09	3.24	6.09	17 38 15
Abril	01	6 14 10.302	+25 28 02.40	3.22	6.05	17 36 31
	02	6 16 23.080	+25 26 36.74	3.20	6.01	17 34 48
	03	6 18 36.374	+25 25 04.04	3.18	5.97	17 33 05
	04	6 20 50.164	+25 23 24.21	3.16	5.93	17 31 23
	05	6 23 04.436	+25 21 37.17	3.13	5.89	17 29 41
	06	6 25 19.172	+25 19 42.85	3.11	5.85	17 27 59
	07	6 27 34.358	+25 17 41.20	3.09	5.81	17 26 18
	08	6 29 49.982	+25 15 32.15	3.07	5.78	17 24 38
	09	6 32 06.029	+25 13 15.65	3.06	5.74	17 22 58
	10	6 34 22.487	+25 10 51.66	3.04	5.70	17 21 18
	11	6 36 39.343	+25 08 20.14	3.02	5.67	17 19 39
	12	6 38 56.584	+25 05 41.04	3.00	5.63	17 17 60
	13	6 41 14.196	+25 02 54.32	2.98	5.60	17 16 21
	14	6 43 32.167	+24 59 59.94	2.96	5.57	17 14 43
	15	6 45 50.484	+24 56 57.83	2.94	5.53	17 13 05
	16	6 48 09.135	+24 53 47.93	2.93	5.50	17 11 28
	17	6 50 28.111	+24 50 30.20	2.91	5.47	17 09 50
	18	6 52 47.400	+24 47 04.57	2.89	5.43	17 08 13
	19	6 55 06.992	+24 43 30.99	2.88	5.40	17 06 37
	20	6 57 26.877	+24 39 49.43	2.86	5.37	17 05 00
	21	6 59 47.043	+24 35 59.87	2.84	5.34	17 03 24
	22	7 02 07.475	+24 32 02.28	2.83	5.31	17 01 49
	23	7 04 28.160	+24 27 56.65	2.81	5.28	17 00 13
	24	7 06 49.081	+24 23 42.97	2.80	5.25	16 58 38
	25	7 09 10.222	+24 19 21.22	2.78	5.22	16 57 02
	26	7 11 31.568	+24 14 51.40	2.76	5.19	16 55 27
	27	7 13 53.104	+24 10 13.48	2.75	5.17	16 53 53
	28	7 16 14.815	+24 05 27.47	2.73	5.14	16 52 18
	29	7 18 36.688	+24 00 33.34	2.72	5.11	16 50 44
	30	7 20 58.710	+23 55 31.09	2.71	5.08	16 49 09

MARTE 2023
PARA 0^{h} DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Mayo	01	7 23 20.870	+23 50 20.71	2.69	5.06	16 47 35
	02	7 25 43.156	+23 45 02.21	2.68	5.03	16 46 01
	03	7 28 05.558	+23 39 35.57	2.66	5.01	16 44 27
	04	7 30 28.067	+23 34 00.79	2.65	4.98	16 42 53
	05	7 32 50.676	+23 28 17.90	2.64	4.96	16 41 19
	06	7 35 13.376	+23 22 26.89	2.62	4.93	16 39 46
	07	7 37 36.160	+23 16 27.80	2.61	4.91	16 38 12
	08	7 39 59.022	+23 10 20.63	2.60	4.88	16 36 38
	09	7 42 21.952	+23 04 05.41	2.59	4.86	16 35 05
	10	7 44 44.944	+22 57 42.17	2.57	4.84	16 33 31
	11	7 47 07.989	+22 51 10.92	2.56	4.81	16 31 58
	12	7 49 31.082	+22 44 31.65	2.55	4.79	16 30 25
	13	7 51 54.216	+22 37 44.38	2.54	4.77	16 28 51
	14	7 54 17.386	+22 30 49.11	2.53	4.75	16 27 18
	15	7 56 40.589	+22 23 45.83	2.51	4.72	16 25 45
	16	7 59 03.820	+22 16 34.54	2.50	4.70	16 24 12
	17	8 01 27.076	+22 09 15.27	2.49	4.68	16 22 39
	18	8 03 50.353	+22 01 48.04	2.48	4.66	16 21 05
	19	8 06 13.643	+21 54 12.87	2.47	4.64	16 19 32
	20	8 08 36.939	+21 46 29.81	2.46	4.62	16 17 59
	21	8 11 00.234	+21 38 38.90	2.45	4.60	16 16 26
	22	8 13 23.519	+21 30 40.18	2.44	4.58	16 14 53
	23	8 15 46.784	+21 22 33.70	2.43	4.56	16 13 20
	24	8 18 10.020	+21 14 19.49	2.42	4.54	16 11 46
	25	8 20 33.220	+21 05 57.61	2.41	4.52	16 10 13
	26	8 22 56.375	+20 57 28.09	2.40	4.50	16 08 40
	27	8 25 19.480	+20 48 50.97	2.39	4.49	16 07 06
	28	8 27 42.526	+20 40 06.30	2.38	4.47	16 05 33
	29	8 30 05.510	+20 31 14.12	2.37	4.45	16 03 59
	30	8 32 28.426	+20 22 14.47	2.36	4.43	16 02 26
	31	8 34 51.270	+20 13 07.41	2.35	4.41	16 00 52
Junio	01	8 37 14.040	+20 03 52.97	2.34	4.40	15 59 18
	02	8 39 36.732	+19 54 31.21	2.33	4.38	15 57 45
	03	8 41 59.345	+19 45 02.19	2.32	4.36	15 56 11
	04	8 44 21.875	+19 35 25.96	2.31	4.35	15 54 37
	05	8 46 44.321	+19 25 42.60	2.30	4.33	15 53 03
	06	8 49 06.679	+19 15 52.15	2.30	4.32	15 51 28
	07	8 51 28.946	+19 05 54.68	2.29	4.30	15 49 54
	08	8 53 51.121	+18 55 50.23	2.28	4.28	15 48 20
	09	8 56 13.201	+18 45 38.84	2.27	4.27	15 46 45
	10	8 58 35.189	+18 35 20.54	2.26	4.25	15 45 11
	11	9 00 57.085	+18 24 55.37	2.26	4.24	15 43 36
	12	9 03 18.891	+18 14 23.34	2.25	4.22	15 42 02
	13	9 05 40.610	+18 03 44.51	2.24	4.21	15 40 27
	14	9 08 02.241	+17 52 58.93	2.23	4.19	15 38 52
	15	9 10 23.786	+17 42 06.64	2.22	4.18	15 37 17
	16	9 12 45.243	+17 31 07.70	2.22	4.17	15 35 42
	17	9 15 06.611	+17 20 02.20	2.21	4.15	15 34 07
	18	9 17 27.887	+17 08 50.19	2.20	4.14	15 32 31
	19	9 19 49.067	+16 57 31.76	2.20	4.13	15 30 56
	20	9 22 10.149	+16 46 06.97	2.19	4.11	15 29 21
	21	9 24 31.129	+16 34 35.88	2.18	4.10	15 27 45
	22	9 26 52.006	+16 22 58.59	2.17	4.09	15 26 09
	23	9 29 12.777	+16 11 15.14	2.17	4.07	15 24 34
	24	9 31 33.441	+15 59 25.62	2.16	4.06	15 22 58
	25	9 33 53.996	+15 47 30.08	2.15	4.05	15 21 22
	26	9 36 14.444	+15 35 28.60	2.15	4.04	15 19 46
	27	9 38 34.784	+15 23 21.24	2.14	4.03	15 18 10
	28	9 40 55.018	+15 11 08.08	2.14	4.01	15 16 33
	29	9 43 15.146	+14 58 49.18	2.13	4.00	15 14 57
	30	9 45 35.170	+14 46 24.62	2.12	3.99	15 13 21

MARTE 2023
PARA 0^{h} DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Julio	01	9 47 55.092	+14 33 54.47	2.12	3.98	15 11 44
	02	9 50 14.913	+14 21 18.82	2.11	3.97	15 10 07
	03	9 52 34.634	+14 08 37.74	2.11	3.96	15 08 30
	04	9 54 54.255	+13 55 51.32	2.10	3.95	15 06 54
	05	9 57 13.778	+13 42 59.62	2.09	3.94	15 05 17
	06	9 59 33.205	+13 30 02.72	2.09	3.92	15 03 39
	07	10 01 52.540	+13 17 00.65	2.08	3.91	15 02 02
	08	10 04 11.787	+13 03 53.47	2.08	3.90	15 00 25
	09	10 06 30.953	+12 50 41.21	2.07	3.89	14 58 48
	10	10 08 50.045	+12 37 23.92	2.07	3.88	14 57 10
	11	10 11 09.068	+12 24 01.66	2.06	3.87	14 55 33
	12	10 13 28.027	+12 10 34.49	2.06	3.86	14 53 55
	13	10 15 46.926	+11 57 02.48	2.05	3.86	14 52 18
	14	10 18 05.766	+11 43 25.70	2.05	3.85	14 50 40
	15	10 20 24.551	+11 29 44.23	2.04	3.84	14 49 02
	16	10 22 43.280	+11 15 58.16	2.04	3.83	14 47 25
	17	10 25 01.956	+11 02 07.58	2.03	3.82	14 45 47
	18	10 27 20.579	+10 48 12.55	2.03	3.81	14 44 09
	19	10 29 39.150	+10 34 13.18	2.02	3.80	14 42 31
	20	10 31 57.673	+10 20 09.53	2.02	3.79	14 40 53
	21	10 34 16.147	+10 06 01.69	2.01	3.78	14 39 15
	22	10 36 34.577	+ 9 51 49.75	2.01	3.78	14 37 37
	23	10 38 52.966	+ 9 37 33.77	2.01	3.77	14 35 59
	24	10 41 11.316	+ 9 23 13.85	2.00	3.76	14 34 21
	25	10 43 29.632	+ 9 08 50.05	2.00	3.75	14 32 43
	26	10 45 47.917	+ 8 54 22.47	1.99	3.74	14 31 05
	27	10 48 06.176	+ 8 39 51.18	1.99	3.74	14 29 26
	28	10 50 24.414	+ 8 25 16.26	1.98	3.73	14 27 48
	29	10 52 42.633	+ 8 10 37.81	1.98	3.72	14 26 10
	30	10 55 00.837	+ 7 55 55.92	1.98	3.71	14 24 32
	31	10 57 19.029	+ 7 41 10.67	1.97	3.71	14 22 53
Agosto	01	10 59 37.213	+ 7 26 22.16	1.97	3.70	14 21 15
	02	11 01 55.392	+ 7 11 30.47	1.97	3.69	14 19 37
	03	11 04 13.570	+ 6 56 35.67	1.96	3.69	14 17 59
	04	11 06 31.755	+ 6 41 37.82	1.96	3.68	14 16 20
	05	11 08 49.956	+ 6 26 36.97	1.95	3.67	14 14 42
	06	11 11 08.182	+ 6 11 33.17	1.95	3.67	14 13 04
	07	11 13 26.442	+ 5 56 26.48	1.95	3.66	14 11 26
	08	11 15 44.744	+ 5 41 16.95	1.94	3.65	14 09 48
	09	11 18 03.094	+ 5 26 04.66	1.94	3.65	14 08 10
	10	11 20 21.498	+ 5 10 49.69	1.94	3.64	14 06 32
	11	11 22 39.961	+ 4 55 32.12	1.94	3.64	14 04 54
	12	11 24 58.487	+ 4 40 12.05	1.93	3.63	14 03 16
	13	11 27 17.079	+ 4 24 49.55	1.93	3.62	14 01 38
	14	11 29 35.742	+ 4 09 24.74	1.93	3.62	14 00 00
	15	11 31 54.480	+ 3 53 57.69	1.92	3.61	13 58 23
	16	11 34 13.297	+ 3 38 28.50	1.92	3.61	13 56 45
	17	11 36 32.196	+ 3 22 57.27	1.92	3.60	13 55 07
	18	11 38 51.185	+ 3 07 24.08	1.91	3.60	13 53 30
	19	11 41 10.266	+ 2 51 49.03	1.91	3.59	13 51 53
	20	11 43 29.446	+ 2 36 12.20	1.91	3.59	13 50 16
	21	11 45 48.730	+ 2 20 33.69	1.91	3.58	13 48 38
	22	11 48 08.125	+ 2 04 53.59	1.90	3.58	13 47 02
	23	11 50 27.636	+ 1 49 11.99	1.90	3.57	13 45 25
	24	11 52 47.268	+ 1 33 28.99	1.90	3.57	13 43 48
	25	11 55 07.027	+ 1 17 44.69	1.90	3.56	13 42 11
	26	11 57 26.918	+ 1 01 59.18	1.89	3.56	13 40 35
	27	11 59 46.944	+ 0 46 12.56	1.89	3.56	13 38 58
	28	12 02 07.111	+ 0 30 24.95	1.89	3.55	13 37 22
	29	12 04 27.423	+ 0 14 36.44	1.89	3.55	13 35 46
	30	12 06 47.884	- 0 01 12.86	1.89	3.54	13 34 10
	31	12 09 08.503	- 0 17 02.87	1.88	3.54	13 32 35

MARTE 2023
PARA 0h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Septiembre	01	12 11 29.287	- 0 32 53.52	1.88	3.54	13 30 59
	02	12 13 50.248	- 0 48 44.74	1.88	3.53	13 29 24
	03	12 16 11.397	- 1 04 36.47	1.88	3.53	13 27 48
	04	12 18 32.744	- 1 20 28.64	1.88	3.52	13 26 13
	05	12 20 54.297	- 1 36 21.17	1.87	3.52	13 24 39
	06	12 23 16.064	- 1 52 13.99	1.87	3.52	13 23 04
	07	12 25 38.052	- 2 08 06.98	1.87	3.51	13 21 30
	08	12 28 00.266	- 2 24 00.06	1.87	3.51	13 19 56
	09	12 30 22.713	- 2 39 53.12	1.87	3.51	13 18 22
	10	12 32 45.397	- 2 55 46.05	1.87	3.50	13 16 48
	11	12 35 08.324	- 3 11 38.75	1.86	3.50	13 15 15
	12	12 37 31.500	- 3 27 31.11	1.86	3.50	13 13 42
	13	12 39 54.931	- 3 43 23.01	1.86	3.50	13 12 09
	14	12 42 18.623	- 3 59 14.35	1.86	3.49	13 10 36
	15	12 44 42.581	- 4 15 05.01	1.86	3.49	13 09 04
	16	12 47 06.814	- 4 30 54.90	1.86	3.49	13 07 32
	17	12 49 31.327	- 4 46 43.90	1.86	3.49	13 05 60
	18	12 51 56.126	- 5 02 31.89	1.85	3.48	13 04 28
	19	12 54 21.219	- 5 18 18.78	1.85	3.48	13 02 57
	20	12 56 46.612	- 5 34 04.43	1.85	3.48	13 01 26
	21	12 59 12.310	- 5 49 48.75	1.85	3.48	12 59 56
	22	13 01 38.319	- 6 05 31.61	1.85	3.47	12 58 25
	23	13 04 04.642	- 6 21 12.89	1.85	3.47	12 56 56
	24	13 06 31.286	- 6 36 52.46	1.85	3.47	12 55 26
	25	13 08 58.253	- 6 52 30.19	1.85	3.47	12 53 57
	26	13 11 25.549	- 7 08 05.97	1.85	3.47	12 52 28
	27	13 13 53.180	- 7 23 39.67	1.84	3.47	12 50 59
	28	13 16 21.154	- 7 39 11.17	1.84	3.46	12 49 31
	29	13 18 49.482	- 7 54 40.39	1.84	3.46	12 48 03
	30	13 21 18.172	- 8 10 07.22	1.84	3.46	12 46 35
Octubre	01	13 23 47.238	- 8 25 31.57	1.84	3.46	12 45 08
	02	13 26 16.688	- 8 40 53.37	1.84	3.46	12 43 41
	03	13 28 46.532	- 8 56 12.49	1.84	3.46	12 42 15
	04	13 31 16.776	- 9 11 28.85	1.84	3.46	12 40 49
	05	13 33 47.426	- 9 26 42.31	1.84	3.46	12 39 23
	06	13 36 18.489	- 9 41 52.75	1.84	3.45	12 37 58
	07	13 38 49.970	- 9 57 00.04	1.84	3.45	12 36 33
	08	13 41 21.875	-10 12 04.05	1.84	3.45	12 35 09
	09	13 43 54.209	-10 27 04.65	1.84	3.45	12 33 45
	10	13 46 26.979	-10 42 01.71	1.84	3.45	12 32 21
	11	13 49 00.191	-10 56 55.08	1.84	3.45	12 30 58
	12	13 51 33.851	-11 11 44.63	1.84	3.45	12 29 36
	13	13 54 07.964	-11 26 30.22	1.84	3.45	12 28 14
	14	13 56 42.537	-11 41 11.72	1.84	3.45	12 26 52
	15	13 59 17.577	-11 55 49.00	1.84	3.45	12 25 31
	16	14 01 53.088	-12 10 21.91	1.84	3.45	12 24 10
	17	14 04 29.077	-12 24 50.32	1.84	3.45	12 22 50
	18	14 07 05.547	-12 39 14.09	1.84	3.45	12 21 30
	19	14 09 42.502	-12 53 33.06	1.84	3.45	12 20 11
	20	14 12 19.945	-13 07 47.11	1.84	3.45	12 18 52
	21	14 14 57.880	-13 21 56.06	1.84	3.45	12 17 34
	22	14 17 36.307	-13 35 59.78	1.84	3.45	12 16 16
	23	14 20 15.231	-13 49 58.10	1.84	3.45	12 14 59
	24	14 22 54.654	-14 03 50.87	1.84	3.45	12 13 42
	25	14 25 34.582	-14 17 37.94	1.84	3.45	12 12 25
	26	14 28 15.021	-14 31 19.17	1.84	3.45	12 11 10
	27	14 30 55.980	-14 44 54.43	1.84	3.45	12 09 54
	28	14 33 37.467	-14 58 23.59	1.84	3.45	12 08 40
	29	14 36 19.489	-15 11 46.53	1.84	3.45	12 07 26
	30	14 39 02.054	-15 25 03.13	1.84	3.45	12 06 12
	31	14 41 45.167	-15 38 13.26	1.84	3.45	12 04 59

MARTE 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Noviembre	01	14 44 28.834	-15 51 16.78	1.84	3.46	12 03 46
	02	14 47 13.056	-16 04 13.55	1.84	3.46	12 02 34
	03	14 49 57.838	-16 17 03.42	1.84	3.46	12 01 23
	04	14 52 43.182	-16 29 46.22	1.84	3.46	12 00 12
	05	14 55 29.091	-16 42 21.81	1.84	3.46	11 59 02
	06	14 58 15.569	-16 54 50.01	1.84	3.46	11 57 52
	07	15 01 02.618	-17 07 10.68	1.84	3.46	11 56 43
	08	15 03 50.242	-17 19 23.65	1.84	3.46	11 55 34
	09	15 06 38.444	-17 31 28.76	1.84	3.47	11 54 26
	10	15 09 27.226	-17 43 25.86	1.84	3.47	11 53 19
	11	15 12 16.590	-17 55 14.77	1.85	3.47	11 52 12
	12	15 15 06.538	-18 06 55.36	1.85	3.47	11 51 06
	13	15 17 57.073	-18 18 27.46	1.85	3.47	11 49 60
	14	15 20 48.194	-18 29 50.92	1.85	3.47	11 48 55
	15	15 23 39.902	-18 41 05.58	1.85	3.48	11 47 50
	16	15 26 32.196	-18 52 11.31	1.85	3.48	11 46 46
	17	15 29 25.079	-19 03 08.05	1.85	3.48	11 45 43
	18	15 32 18.523	-19 13 56.96	1.85	3.48	11 44 40
	19	15 35 12.413	-19 24 32.96	1.85	3.48	11 43 38
	20	15 38 07.035	-19 35 00.81	1.85	3.49	11 42 36
	21	15 41 02.201	-19 45 19.08	1.86	3.49	11 41 35
	22	15 43 57.929	-19 55 27.41	1.86	3.49	11 40 35
	23	15 46 54.223	-20 05 25.61	1.86	3.49	11 39 35
	24	15 49 51.087	-20 15 13.55	1.86	3.49	11 38 35
	25	15 52 48.523	-20 24 51.08	1.86	3.50	11 37 37
	26	15 55 46.532	-20 34 18.06	1.86	3.50	11 36 38
	27	15 58 45.114	-20 43 34.38	1.86	3.50	11 35 41
	28	16 01 44.267	-20 52 39.88	1.87	3.50	11 34 44
	29	16 04 43.987	-21 01 34.42	1.87	3.51	11 33 47
	30	16 07 44.273	-21 10 17.87	1.87	3.51	11 32 51
Diciembre	01	16 10 45.119	-21 18 50.06	1.87	3.51	11 31 56
	02	16 13 46.523	-21 27 10.84	1.87	3.52	11 31 01
	03	16 16 48.479	-21 35 20.06	1.87	3.52	11 30 06
	04	16 19 50.984	-21 43 17.56	1.87	3.52	11 29 13
	05	16 22 54.034	-21 51 03.19	1.88	3.52	11 28 20
	06	16 25 57.625	-21 58 36.79	1.88	3.53	11 27 27
	07	16 29 01.751	-22 05 58.22	1.88	3.53	11 26 35
	08	16 32 06.406	-22 13 07.34	1.88	3.53	11 25 43
	09	16 35 11.587	-22 20 04.01	1.88	3.54	11 24 52
	10	16 38 17.285	-22 26 48.07	1.88	3.54	11 24 01
	11	16 41 23.494	-22 33 19.41	1.89	3.54	11 23 11
	12	16 44 30.205	-22 39 37.90	1.89	3.55	11 22 22
	13	16 47 37.408	-22 45 43.39	1.89	3.55	11 21 33
	14	16 50 45.090	-22 51 35.77	1.89	3.55	11 20 44
	15	16 53 53.239	-22 57 14.90	1.89	3.56	11 19 56
	16	16 57 01.841	-23 02 40.65	1.90	3.56	11 19 08
	17	17 00 10.884	-23 07 52.88	1.90	3.57	11 18 21
	18	17 03 20.357	-23 12 51.46	1.90	3.57	11 17 34
	19	17 06 30.249	-23 17 36.26	1.90	3.57	11 16 47
	20	17 09 40.553	-23 22 07.17	1.90	3.58	11 16 01
	21	17 12 51.260	-23 26 24.07	1.91	3.58	11 15 16
	22	17 16 02.362	-23 30 26.88	1.91	3.59	11 14 31
	23	17 19 13.851	-23 34 15.50	1.91	3.59	11 13 46
	24	17 22 25.718	-23 37 49.86	1.91	3.59	11 13 01
	25	17 25 37.952	-23 41 09.86	1.91	3.60	11 12 17
	26	17 28 50.543	-23 44 15.43	1.92	3.60	11 11 33
	27	17 32 03.479	-23 47 06.48	1.92	3.61	11 10 50
	28	17 35 16.748	-23 49 42.93	1.92	3.61	11 10 07
	29	17 38 30.338	-23 52 04.68	1.92	3.61	11 09 24
	30	17 41 44.237	-23 54 11.66	1.93	3.62	11 08 41
	31	17 44 58.432	-23 56 03.77	1.93	3.62	11 07 59

VOLVER AL INDICE

JÚPITER 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Enero	01	0 06 25.505	- 0 42 22.56	18.37	1.76	17 22 20
	02	0 06 51.962	- 0 39 14.51	18.32	1.75	17 18 51
	03	0 07 19.003	- 0 36 02.80	18.26	1.74	17 15 22
	04	0 07 46.622	- 0 32 47.48	18.20	1.74	17 11 54
	05	0 08 14.810	- 0 29 28.62	18.15	1.73	17 08 27
	06	0 08 43.559	- 0 26 06.26	18.09	1.73	17 04 60
	07	0 09 12.861	- 0 22 40.46	18.04	1.72	17 01 34
	08	0 09 42.708	- 0 19 11.28	17.98	1.72	16 58 08
	09	0 10 13.093	- 0 15 38.78	17.93	1.71	16 54 42
	10	0 10 44.009	- 0 12 02.99	17.88	1.71	16 51 18
	11	0 11 15.449	- 0 08 23.96	17.82	1.70	16 47 53
	12	0 11 47.407	- 0 04 41.75	17.77	1.70	16 44 30
	13	0 12 19.877	- 0 00 56.39	17.72	1.69	16 41 06
	14	0 12 52.855	+ 0 02 52.08	17.67	1.69	16 37 44
	15	0 13 26.334	+ 0 06 43.62	17.62	1.68	16 34 21
	16	0 14 00.310	+ 0 10 38.21	17.57	1.68	16 30 60
	17	0 14 34.778	+ 0 14 35.79	17.52	1.67	16 27 38
	18	0 15 09.733	+ 0 18 36.34	17.47	1.67	16 24 17
	19	0 15 45.167	+ 0 22 39.81	17.42	1.66	16 20 57
	20	0 16 21.074	+ 0 26 46.15	17.38	1.66	16 17 37
	21	0 16 57.444	+ 0 30 55.29	17.33	1.66	16 14 18
	22	0 17 34.267	+ 0 35 07.18	17.28	1.65	16 10 59
	23	0 18 11.535	+ 0 39 21.73	17.24	1.65	16 07 40
	24	0 18 49.239	+ 0 43 38.90	17.19	1.64	16 04 22
	25	0 19 27.372	+ 0 47 58.63	17.15	1.64	16 01 05
	26	0 20 05.929	+ 0 52 20.87	17.10	1.63	15 57 47
	27	0 20 44.903	+ 0 56 45.59	17.06	1.63	15 54 30
	28	0 21 24.290	+ 1 01 12.73	17.02	1.63	15 51 14
	29	0 22 04.082	+ 1 05 42.25	16.98	1.62	15 47 58
	30	0 22 44.273	+ 1 10 14.10	16.94	1.62	15 44 42
	31	0 23 24.854	+ 1 14 48.23	16.89	1.61	15 41 27
Febrero	01	0 24 05.819	+ 1 19 24.57	16.85	1.61	15 38 12
	02	0 24 47.160	+ 1 24 03.07	16.81	1.61	15 34 58
	03	0 25 28.870	+ 1 28 43.69	16.78	1.60	15 31 43
	04	0 26 10.941	+ 1 33 26.36	16.74	1.60	15 28 30
	05	0 26 53.366	+ 1 38 11.03	16.70	1.60	15 25 16
	06	0 27 36.139	+ 1 42 57.65	16.66	1.59	15 22 03
	07	0 28 19.253	+ 1 47 46.19	16.63	1.59	15 18 50
	08	0 29 02.704	+ 1 52 36.59	16.59	1.58	15 15 38
	09	0 29 46.486	+ 1 57 28.82	16.55	1.58	15 12 26
	10	0 30 30.595	+ 2 02 22.83	16.52	1.58	15 09 14
	11	0 31 15.027	+ 2 07 18.60	16.48	1.57	15 06 02
	12	0 31 59.776	+ 2 12 16.10	16.45	1.57	15 02 51
	13	0 32 44.841	+ 2 17 15.28	16.42	1.57	14 59 40
	14	0 33 30.215	+ 2 22 16.13	16.38	1.57	14 56 30
	15	0 34 15.893	+ 2 27 18.59	16.35	1.56	14 53 19
	16	0 35 01.870	+ 2 32 22.62	16.32	1.56	14 50 09
	17	0 35 48.138	+ 2 37 28.18	16.29	1.56	14 46 60
	18	0 36 34.690	+ 2 42 35.21	16.26	1.55	14 43 50
	19	0 37 21.517	+ 2 47 43.64	16.23	1.55	14 40 41
	20	0 38 08.612	+ 2 52 53.42	16.20	1.55	14 37 32
	21	0 38 55.968	+ 2 58 04.50	16.17	1.54	14 34 24
	22	0 39 43.582	+ 3 03 16.82	16.14	1.54	14 31 15
	23	0 40 31.447	+ 3 08 30.36	16.12	1.54	14 28 07
	24	0 41 19.561	+ 3 13 45.08	16.09	1.54	14 24 59
	25	0 42 07.919	+ 3 19 00.94	16.06	1.53	14 21 52
	26	0 42 56.513	+ 3 24 17.88	16.04	1.53	14 18 44
	27	0 43 45.339	+ 3 29 35.87	16.01	1.53	14 15 37
	28	0 44 34.390	+ 3 34 54.86	15.99	1.53	14 12 30

JÚPITER 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Marzo	01	0 45 23.659	+ 3 40 14.80	15.97	1.53	14 09 23
	02	0 46 13.140	+ 3 45 35.63	15.94	1.52	14 06 17
	03	0 47 02.826	+ 3 50 57.31	15.92	1.52	14 03 10
	04	0 47 52.712	+ 3 56 19.80	15.90	1.52	14 00 04
	05	0 48 42.793	+ 4 01 43.04	15.88	1.52	13 56 58
	06	0 49 33.062	+ 4 07 07.00	15.85	1.51	13 53 52
	07	0 50 23.517	+ 4 12 31.64	15.83	1.51	13 50 47
	08	0 51 14.152	+ 4 17 56.92	15.81	1.51	13 47 41
	09	0 52 04.965	+ 4 23 22.82	15.79	1.51	13 44 36
	10	0 52 55.952	+ 4 28 49.29	15.78	1.51	13 41 31
	11	0 53 47.110	+ 4 34 16.33	15.76	1.51	13 38 26
	12	0 54 38.436	+ 4 39 43.89	15.74	1.50	13 35 21
	13	0 55 29.927	+ 4 45 11.96	15.72	1.50	13 32 17
	14	0 56 21.579	+ 4 50 40.50	15.71	1.50	13 29 12
	15	0 57 13.387	+ 4 56 09.48	15.69	1.50	13 26 08
	16	0 58 05.344	+ 5 01 38.85	15.67	1.50	13 23 04
	17	0 58 57.446	+ 5 07 08.58	15.66	1.50	13 20 00
	18	0 59 49.685	+ 5 12 38.61	15.65	1.49	13 16 56
	19	1 00 42.054	+ 5 18 08.88	15.63	1.49	13 13 52
	20	1 01 34.549	+ 5 23 39.36	15.62	1.49	13 10 49
	21	1 02 27.165	+ 5 29 09.99	15.61	1.49	13 07 45
	22	1 03 19.899	+ 5 34 40.75	15.59	1.49	13 04 42
	23	1 04 12.746	+ 5 40 11.60	15.58	1.49	13 01 39
	24	1 05 05.704	+ 5 45 42.52	15.57	1.49	12 58 36
	25	1 05 58.769	+ 5 51 13.46	15.56	1.49	12 55 33
	26	1 06 51.934	+ 5 56 44.39	15.55	1.49	12 52 30
	27	1 07 45.194	+ 6 02 15.27	15.54	1.48	12 49 27
	28	1 08 38.544	+ 6 07 46.06	15.53	1.48	12 46 24
	29	1 09 31.977	+ 6 13 16.71	15.52	1.48	12 43 21
	30	1 10 25.488	+ 6 18 47.18	15.51	1.48	12 40 19
	31	1 11 19.071	+ 6 24 17.43	15.51	1.48	12 37 16
Abril	01	1 12 12.722	+ 6 29 47.41	15.50	1.48	12 34 14
	02	1 13 06.436	+ 6 35 17.10	15.49	1.48	12 31 11
	03	1 14 00.210	+ 6 40 46.46	15.49	1.48	12 28 09
	04	1 14 54.039	+ 6 46 15.46	15.48	1.48	12 25 07
	05	1 15 47.921	+ 6 51 44.06	15.48	1.48	12 22 04
	06	1 16 41.853	+ 6 57 12.26	15.47	1.48	12 19 02
	07	1 17 35.833	+ 7 02 40.01	15.47	1.48	12 15 60
	08	1 18 29.859	+ 7 08 07.31	15.47	1.48	12 12 58
	09	1 19 23.929	+ 7 13 34.13	15.46	1.48	12 09 56
	10	1 20 18.039	+ 7 19 00.43	15.46	1.48	12 06 54
	11	1 21 12.184	+ 7 24 26.14	15.46	1.48	12 03 52
	12	1 22 06.346	+ 7 29 51.24	15.46	1.48	12 00 50
	13	1 23 00.529	+ 7 35 15.99	15.46	1.48	11 57 48
	14	1 23 54.741	+ 7 40 40.15	15.46	1.48	11 54 46
	15	1 24 48.968	+ 7 46 03.58	15.46	1.48	11 51 44
	16	1 25 43.203	+ 7 51 26.27	15.46	1.48	11 48 42
	17	1 26 37.442	+ 7 56 48.19	15.46	1.48	11 45 40
	18	1 27 31.680	+ 8 02 09.32	15.46	1.48	11 42 38
	19	1 28 25.914	+ 8 07 29.63	15.47	1.48	11 39 36
	20	1 29 20.142	+ 8 12 49.10	15.47	1.48	11 36 34
	21	1 30 14.360	+ 8 18 07.70	15.47	1.48	11 33 32
	22	1 31 08.563	+ 8 23 25.41	15.48	1.48	11 30 30
	23	1 32 02.746	+ 8 28 42.20	15.48	1.48	11 27 28
	24	1 32 56.902	+ 8 33 58.02	15.49	1.48	11 24 26
	25	1 33 51.026	+ 8 39 12.85	15.49	1.48	11 21 24
	26	1 34 45.112	+ 8 44 26.64	15.50	1.48	11 18 22
	27	1 35 39.155	+ 8 49 39.35	15.51	1.48	11 15 20
	28	1 36 33.149	+ 8 54 50.97	15.51	1.48	11 12 18
	29	1 37 27.089	+ 9 00 01.44	15.52	1.48	11 09 15
	30	1 38 20.973	+ 9 05 10.74	15.53	1.48	11 06 13

JÚPITER 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Mayo	01	1 39 14.796	+ 9 10 18.85	15.54	1.48	11 03 11
	02	1 40 08.554	+ 9 15 25.74	15.55	1.49	11 00 08
	03	1 41 02.245	+ 9 20 31.39	15.56	1.49	10 57 06
	04	1 41 55.867	+ 9 25 35.78	15.57	1.49	10 54 03
	05	1 42 49.417	+ 9 30 38.90	15.58	1.49	10 51 01
	06	1 43 42.892	+ 9 35 40.75	15.59	1.49	10 47 58
	07	1 44 36.289	+ 9 40 41.30	15.60	1.49	10 44 55
	08	1 45 29.605	+ 9 45 40.54	15.61	1.49	10 41 52
	09	1 46 22.833	+ 9 50 38.44	15.63	1.49	10 38 49
	10	1 47 15.969	+ 9 55 34.98	15.64	1.49	10 35 46
	11	1 48 09.005	+10 00 30.12	15.65	1.50	10 32 43
	12	1 49 01.935	+10 05 23.82	15.67	1.50	10 29 40
	13	1 49 54.755	+10 10 16.05	15.68	1.50	10 26 36
	14	1 50 47.459	+10 15 06.76	15.70	1.50	10 23 33
	15	1 51 40.045	+10 19 55.94	15.71	1.50	10 20 29
	16	1 52 32.507	+10 24 43.56	15.73	1.50	10 17 25
	17	1 53 24.843	+10 29 29.60	15.75	1.50	10 14 21
	18	1 54 17.049	+10 34 14.04	15.77	1.51	10 11 17
	19	1 55 09.120	+10 38 56.86	15.78	1.51	10 08 13
	20	1 56 01.049	+10 43 38.04	15.80	1.51	10 05 09
	21	1 56 52.831	+10 48 17.54	15.82	1.51	10 02 04
	22	1 57 44.459	+10 52 55.34	15.84	1.51	9 58 60
	23	1 58 35.926	+10 57 31.40	15.86	1.52	9 55 55
	24	1 59 27.225	+11 02 05.69	15.88	1.52	9 52 50
	25	2 00 18.352	+11 06 38.19	15.90	1.52	9 49 45
	26	2 01 09.300	+11 11 08.85	15.93	1.52	9 46 40
	27	2 02 00.064	+11 15 37.66	15.95	1.52	9 43 34
	28	2 02 50.640	+11 20 04.60	15.97	1.53	9 40 29
	29	2 03 41.023	+11 24 29.63	15.99	1.53	9 37 23
	30	2 04 31.210	+11 28 52.74	16.02	1.53	9 34 17
	31	2 05 21.197	+11 33 13.93	16.04	1.53	9 31 10
Junio	01	2 06 10.981	+11 37 33.17	16.07	1.53	9 28 04
	02	2 07 00.558	+11 41 50.46	16.09	1.54	9 24 57
	03	2 07 49.926	+11 46 05.80	16.12	1.54	9 21 51
	04	2 08 39.078	+11 50 19.18	16.15	1.54	9 18 43
	05	2 09 28.011	+11 54 30.58	16.17	1.54	9 15 36
	06	2 10 16.717	+11 58 39.98	16.20	1.55	9 12 29
	07	2 11 05.188	+12 02 47.35	16.23	1.55	9 09 21
	08	2 11 53.418	+12 06 52.66	16.26	1.55	9 06 13
	09	2 12 41.400	+12 10 55.87	16.29	1.56	9 03 05
	10	2 13 29.127	+12 14 56.96	16.32	1.56	8 59 56
	11	2 14 16.597	+12 18 55.89	16.35	1.56	8 56 47
	12	2 15 03.803	+12 22 52.64	16.38	1.56	8 53 38
	13	2 15 50.741	+12 26 47.21	16.41	1.57	8 50 29
	14	2 16 37.407	+12 30 39.57	16.44	1.57	8 47 19
	15	2 17 23.794	+12 34 29.71	16.47	1.57	8 44 09
	16	2 18 09.895	+12 38 17.62	16.51	1.58	8 40 59
	17	2 18 55.703	+12 42 03.26	16.54	1.58	8 37 49
	18	2 19 41.211	+12 45 46.61	16.57	1.58	8 34 38
	19	2 20 26.410	+12 49 27.65	16.61	1.59	8 31 27
	20	2 21 11.292	+12 53 06.35	16.64	1.59	8 28 16
	21	2 21 55.850	+12 56 42.68	16.68	1.59	8 25 04
	22	2 22 40.078	+13 00 16.61	16.72	1.60	8 21 52
	23	2 23 23.967	+13 03 48.12	16.75	1.60	8 18 40
	24	2 24 07.513	+13 07 17.19	16.79	1.60	8 15 27
	25	2 24 50.710	+13 10 43.80	16.83	1.61	8 12 14
	26	2 25 33.552	+13 14 07.92	16.87	1.61	8 09 01
	27	2 26 16.035	+13 17 29.56	16.91	1.62	8 05 47
	28	2 26 58.153	+13 20 48.70	16.95	1.62	8 02 33
	29	2 27 39.903	+13 24 05.34	16.99	1.62	7 59 18
	30	2 28 21.279	+13 27 19.47	17.03	1.63	7 56 03

JÚPITER 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Julio	01	2 29 02.276	+13 30 31.09	17.07	1.63	7 52 48
	02	2 29 42.888	+13 33 40.19	17.11	1.63	7 49 32
	03	2 30 23.107	+13 36 46.76	17.15	1.64	7 46 16
	04	2 31 02.925	+13 39 50.78	17.19	1.64	7 42 60
	05	2 31 42.333	+13 42 52.22	17.24	1.65	7 39 43
	06	2 32 21.322	+13 45 51.05	17.28	1.65	7 36 26
	07	2 32 59.886	+13 48 47.23	17.33	1.66	7 33 08
	08	2 33 38.018	+13 51 40.75	17.37	1.66	7 29 50
	09	2 34 15.713	+13 54 31.57	17.42	1.66	7 26 31
	10	2 34 52.964	+13 57 19.69	17.46	1.67	7 23 13
	11	2 35 29.767	+14 00 05.10	17.51	1.67	7 19 53
	12	2 36 06.112	+14 02 47.77	17.56	1.68	7 16 33
	13	2 36 41.993	+14 05 27.71	17.60	1.68	7 13 13
	14	2 37 17.401	+14 08 04.89	17.65	1.69	7 09 52
	15	2 37 52.326	+14 10 39.29	17.70	1.69	7 06 31
	16	2 38 26.760	+14 13 10.88	17.75	1.70	7 03 09
	17	2 39 00.693	+14 15 39.64	17.80	1.70	6 59 47
	18	2 39 34.117	+14 18 05.55	17.85	1.71	6 56 24
	19	2 40 07.022	+14 20 28.57	17.90	1.71	6 53 00
	20	2 40 39.402	+14 22 48.69	17.95	1.71	6 49 37
	21	2 41 11.249	+14 25 05.89	18.00	1.72	6 46 12
	22	2 41 42.556	+14 27 20.15	18.05	1.72	6 42 47
	23	2 42 13.316	+14 29 31.44	18.11	1.73	6 39 22
	24	2 42 43.525	+14 31 39.78	18.16	1.73	6 35 56
	25	2 43 13.175	+14 33 45.13	18.21	1.74	6 32 29
	26	2 43 42.261	+14 35 47.51	18.27	1.75	6 29 02
	27	2 44 10.778	+14 37 46.90	18.32	1.75	6 25 34
	28	2 44 38.720	+14 39 43.32	18.38	1.76	6 22 06
	29	2 45 06.080	+14 41 36.74	18.43	1.76	6 18 37
	30	2 45 32.851	+14 43 27.18	18.49	1.77	6 15 08
	31	2 45 59.025	+14 45 14.61	18.55	1.77	6 11 38
Agosto	01	2 46 24.592	+14 46 59.02	18.60	1.78	6 08 07
	02	2 46 49.543	+14 48 40.38	18.66	1.78	6 04 36
	03	2 47 13.871	+14 50 18.65	18.72	1.79	6 01 04
	04	2 47 37.568	+14 51 53.82	18.78	1.79	5 57 32
	05	2 48 00.628	+14 53 25.84	18.83	1.80	5 53 59
	06	2 48 23.046	+14 54 54.73	18.89	1.80	5 50 25
	07	2 48 44.817	+14 56 20.46	18.95	1.81	5 46 50
	08	2 49 05.932	+14 57 43.02	19.01	1.82	5 43 15
	09	2 49 26.385	+14 59 02.42	19.07	1.82	5 39 40
	10	2 49 46.167	+15 00 18.64	19.13	1.83	5 36 03
	11	2 50 05.270	+15 01 31.65	19.19	1.83	5 32 26
	12	2 50 23.683	+15 02 41.44	19.25	1.84	5 28 48
	13	2 50 41.400	+15 03 47.98	19.31	1.85	5 25 10
	14	2 50 58.411	+15 04 51.27	19.38	1.85	5 21 31
	15	2 51 14.710	+15 05 51.26	19.44	1.86	5 17 51
	16	2 51 30.289	+15 06 47.95	19.50	1.86	5 14 10
	17	2 51 45.141	+15 07 41.32	19.56	1.87	5 10 29
	18	2 51 59.263	+15 08 31.35	19.63	1.87	5 06 47
	19	2 52 12.648	+15 09 18.04	19.69	1.88	5 03 04
	20	2 52 25.292	+15 10 01.38	19.75	1.89	4 59 21
	21	2 52 37.192	+15 10 41.36	19.81	1.89	4 55 37
	22	2 52 48.344	+15 11 17.99	19.88	1.90	4 51 52
	23	2 52 58.745	+15 11 51.27	19.94	1.90	4 48 06
	24	2 53 08.392	+15 12 21.20	20.01	1.91	4 44 19
	25	2 53 17.280	+15 12 47.80	20.07	1.92	4 40 32
	26	2 53 25.406	+15 13 11.07	20.13	1.92	4 36 44
	27	2 53 32.766	+15 13 31.00	20.20	1.93	4 32 56
	28	2 53 39.354	+15 13 47.59	20.26	1.94	4 29 06
	29	2 53 45.164	+15 14 00.82	20.33	1.94	4 25 16
	30	2 53 50.194	+15 14 10.68	20.39	1.95	4 21 25
	31	2 53 54.438	+15 14 17.15	20.45	1.95	4 17 33

JÚPITER 2023
PARA 0^{h} DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Septiembre	01	2 53 57.895	+15 14 20.21	20.52	1.96	4 13 40
	02	2 54 00.564	+15 14 19.85	20.58	1.97	4 09 47
	03	2 54 02.445	+15 14 16.09	20.65	1.97	4 05 53
	04	2 54 03.536	+15 14 08.92	20.71	1.98	4 01 58
	05	2 54 03.835	+15 13 58.35	20.77	1.98	3 58 02
	06	2 54 03.340	+15 13 44.39	20.84	1.99	3 54 05
	07	2 54 02.046	+15 13 27.03	20.90	2.00	3 50 08
	08	2 53 59.952	+15 13 06.27	20.96	2.00	3 46 10
	09	2 53 57.056	+15 12 42.11	21.03	2.01	3 42 11
	10	2 53 53.355	+15 12 14.54	21.09	2.01	3 38 11
	11	2 53 48.849	+15 11 43.57	21.15	2.02	3 34 11
	12	2 53 43.539	+15 11 09.18	21.21	2.03	3 30 10
	13	2 53 37.427	+15 10 31.39	21.27	2.03	3 26 07
	14	2 53 30.514	+15 09 50.21	21.34	2.04	3 22 05
	15	2 53 22.804	+15 09 05.65	21.40	2.04	3 18 01
	16	2 53 14.302	+15 08 17.72	21.46	2.05	3 13 56
	17	2 53 05.013	+15 07 26.46	21.52	2.06	3 09 51
	18	2 52 54.943	+15 06 31.89	21.58	2.06	3 05 45
	19	2 52 44.098	+15 05 34.04	21.63	2.07	3 01 38
	20	2 52 32.486	+15 04 32.94	21.69	2.07	2 57 31
	21	2 52 20.113	+15 03 28.65	21.75	2.08	2 53 23
	22	2 52 06.986	+15 02 21.19	21.81	2.08	2 49 13
	23	2 51 53.111	+15 01 10.60	21.86	2.09	2 45 04
	24	2 51 38.496	+14 59 56.92	21.92	2.09	2 40 53
	25	2 51 23.148	+14 58 40.16	21.97	2.10	2 36 42
	26	2 51 07.072	+14 57 20.35	22.03	2.10	2 32 30
	27	2 50 50.279	+14 55 57.52	22.08	2.11	2 28 17
	28	2 50 32.778	+14 54 31.68	22.13	2.11	2 24 04
	29	2 50 14.580	+14 53 02.88	22.18	2.12	2 19 50
	30	2 49 55.697	+14 51 31.15	22.23	2.12	2 15 35
Octubre	01	2 49 36.143	+14 49 56.55	22.28	2.13	2 11 20
	02	2 49 15.929	+14 48 19.13	22.33	2.13	2 07 04
	03	2 48 55.067	+14 46 38.95	22.37	2.14	2 02 47
	04	2 48 33.566	+14 44 56.05	22.42	2.14	1 58 30
	05	2 48 11.439	+14 43 10.49	22.46	2.15	1 54 12
	06	2 47 48.697	+14 41 22.30	22.51	2.15	1 49 53
	07	2 47 25.354	+14 39 31.55	22.55	2.15	1 45 34
	08	2 47 01.422	+14 37 38.28	22.59	2.16	1 41 14
	09	2 46 36.917	+14 35 42.56	22.63	2.16	1 36 54
	10	2 46 11.857	+14 33 44.44	22.67	2.17	1 32 33
	11	2 45 46.257	+14 31 44.00	22.71	2.17	1 28 12
	12	2 45 20.138	+14 29 41.30	22.74	2.17	1 23 50
	13	2 44 53.517	+14 27 36.43	22.77	2.18	1 19 27
	14	2 44 26.417	+14 25 29.47	22.81	2.18	1 15 04
	15	2 43 58.858	+14 23 20.53	22.84	2.18	1 10 41
	16	2 43 30.862	+14 21 09.68	22.87	2.18	1 06 17
	17	2 43 02.451	+14 18 57.04	22.90	2.19	1 01 53
	18	2 42 33.648	+14 16 42.72	22.92	2.19	0 57 29
	19	2 42 04.474	+14 14 26.81	22.95	2.19	0 53 04
	20	2 41 34.952	+14 12 09.42	22.97	2.19	0 48 38
	21	2 41 05.102	+14 09 50.65	22.99	2.20	0 44 13
	22	2 40 34.947	+14 07 30.59	23.01	2.20	0 39 47
	23	2 40 04.507	+14 05 09.33	23.03	2.20	0 35 21
	24	2 39 33.806	+14 02 46.97	23.05	2.20	0 30 54
	25	2 39 02.866	+14 00 23.60	23.06	2.20	0 26 28
	26	2 38 31.712	+13 57 59.31	23.07	2.20	0 22 01
	27	2 38 00.369	+13 55 34.22	23.09	2.21	0 17 34
	28	2 37 28.862	+13 53 08.43	23.10	2.21	0 13 06
	29	2 36 57.216	+13 50 42.06	23.10	2.21	0 08 39
	30	2 36 25.456	+13 48 15.23	23.11	2.21	0 00 00
	31	2 35 53.602	+13 45 48.05	23.11	2.21	23 55 16

JÚPITER 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Noviembre	01	2 35 21.679	+13 43 20.64	23.12	2.21	23 50 49
	02	2 34 49.707	+13 40 53.10	23.12	2.21	23 46 21
	03	2 34 17.710	+13 38 25.53	23.12	2.21	23 41 53
	04	2 33 45.710	+13 35 58.05	23.11	2.21	23 37 25
	05	2 33 13.732	+13 33 30.75	23.11	2.21	23 32 58
	06	2 32 41.799	+13 31 03.77	23.10	2.21	23 28 30
	07	2 32 09.938	+13 28 37.21	23.09	2.21	23 24 03
	08	2 31 38.174	+13 26 11.20	23.08	2.21	23 19 35
	09	2 31 06.532	+13 23 45.85	23.07	2.20	23 15 08
	10	2 30 35.039	+13 21 21.30	23.06	2.20	23 10 41
	11	2 30 03.722	+13 18 57.67	23.04	2.20	23 06 14
	12	2 29 32.605	+13 16 35.11	23.02	2.20	23 01 48
	13	2 29 01.716	+13 14 13.74	23.01	2.20	22 57 21
	14	2 28 31.080	+13 11 53.70	22.99	2.20	22 52 55
	15	2 28 00.720	+13 09 35.12	22.96	2.19	22 48 29
	16	2 27 30.661	+13 07 18.12	22.94	2.19	22 44 04
	17	2 27 00.924	+13 05 02.83	22.91	2.19	22 39 39
	18	2 26 31.530	+13 02 49.35	22.89	2.19	22 35 14
	19	2 26 02.500	+13 00 37.79	22.86	2.18	22 30 49
	20	2 25 33.856	+12 58 28.25	22.83	2.18	22 26 25
	21	2 25 05.617	+12 56 20.81	22.79	2.18	22 22 02
	22	2 24 37.804	+12 54 15.58	22.76	2.17	22 17 39
	23	2 24 10.440	+12 52 12.66	22.72	2.17	22 13 16
	24	2 23 43.544	+12 50 12.16	22.69	2.17	22 08 54
	25	2 23 17.137	+12 48 14.18	22.65	2.16	22 04 32
	26	2 22 51.237	+12 46 18.82	22.61	2.16	22 00 11
	27	2 22 25.860	+12 44 26.17	22.57	2.16	21 55 50
	28	2 22 01.023	+12 42 36.33	22.53	2.15	21 51 30
	29	2 21 36.739	+12 40 49.38	22.48	2.15	21 47 11
	30	2 21 13.023	+12 39 05.40	22.44	2.14	21 42 52
Diciembre	01	2 20 49.890	+12 37 24.44	22.39	2.14	21 38 33
	02	2 20 27.352	+12 35 46.60	22.35	2.13	21 34 15
	03	2 20 05.425	+12 34 11.94	22.30	2.13	21 29 58
	04	2 19 44.123	+12 32 40.53	22.25	2.13	21 25 42
	05	2 19 23.460	+12 31 12.45	22.20	2.12	21 21 26
	06	2 19 03.450	+12 29 47.77	22.14	2.12	21 17 11
	07	2 18 44.109	+12 28 26.56	22.09	2.11	21 12 56
	08	2 18 25.449	+12 27 08.90	22.04	2.11	21 08 42
	09	2 18 07.484	+12 25 54.86	21.98	2.10	21 04 29
	10	2 17 50.227	+12 24 44.51	21.93	2.09	21 00 17
	11	2 17 33.690	+12 23 37.92	21.87	2.09	20 56 05
	12	2 17 17.883	+12 22 35.17	21.81	2.08	20 51 54
	13	2 17 02.818	+12 21 36.29	21.75	2.08	20 47 44
	14	2 16 48.500	+12 20 41.36	21.70	2.07	20 43 34
	15	2 16 34.938	+12 19 50.39	21.64	2.07	20 39 26
	16	2 16 22.136	+12 19 03.43	21.57	2.06	20 35 18
	17	2 16 10.101	+12 18 20.49	21.51	2.06	20 31 10
	18	2 15 58.838	+12 17 41.59	21.45	2.05	20 27 04
	19	2 15 48.353	+12 17 06.75	21.39	2.04	20 22 58
	20	2 15 38.653	+12 16 35.99	21.33	2.04	20 18 53
	21	2 15 29.743	+12 16 09.34	21.26	2.03	20 14 49
	22	2 15 21.628	+12 15 46.81	21.20	2.03	20 10 46
	23	2 15 14.312	+12 15 28.44	21.14	2.02	20 06 43
	24	2 15 07.797	+12 15 14.23	21.07	2.01	20 02 42
	25	2 15 02.083	+12 15 04.19	21.01	2.01	19 58 41
	26	2 14 57.172	+12 14 58.32	20.94	2.00	19 54 41
	27	2 14 53.063	+12 14 56.63	20.87	1.99	19 50 41
	28	2 14 49.755	+12 14 59.09	20.81	1.99	19 46 43
	29	2 14 47.247	+12 15 05.71	20.74	1.98	19 42 45
	30	2 14 45.540	+12 15 16.47	20.68	1.98	19 38 48
	31	2 14 44.633	+12 15 31.35	20.61	1.97	19 34 52

VOLVER AL INDICE

SATURNO 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Enero	01	21 40 46.413	-15 12 53.44	7.00	0.83	14 57 00
	02	21 41 09.940	-15 10 54.64	6.99	0.83	14 53 28
	03	21 41 33.671	-15 08 54.74	6.99	0.83	14 49 56
	04	21 41 57.601	-15 06 53.75	6.98	0.83	14 46 24
	05	21 42 21.726	-15 04 51.71	6.97	0.83	14 42 52
	06	21 42 46.039	-15 02 48.65	6.97	0.83	14 39 20
	07	21 43 10.536	-15 00 44.58	6.96	0.83	14 35 49
	08	21 43 35.211	-14 58 39.52	6.95	0.83	14 32 18
	09	21 44 00.058	-14 56 33.51	6.95	0.83	14 28 47
	10	21 44 25.073	-14 54 26.56	6.94	0.83	14 25 16
	11	21 44 50.252	-14 52 18.67	6.94	0.83	14 21 45
	12	21 45 15.591	-14 50 09.88	6.93	0.83	14 18 14
	13	21 45 41.085	-14 48 00.17	6.92	0.82	14 14 44
	14	21 46 06.732	-14 45 49.58	6.92	0.82	14 11 14
	15	21 46 32.529	-14 43 38.11	6.91	0.82	14 07 43
	16	21 46 58.472	-14 41 25.77	6.91	0.82	14 04 13
	17	21 47 24.559	-14 39 12.58	6.90	0.82	14 00 44
	18	21 47 50.786	-14 36 58.56	6.90	0.82	13 57 14
	19	21 48 17.148	-14 34 43.75	6.89	0.82	13 53 44
	20	21 48 43.639	-14 32 28.17	6.89	0.82	13 50 15
	21	21 49 10.253	-14 30 11.87	6.89	0.82	13 46 45
	22	21 49 36.982	-14 27 54.88	6.88	0.82	13 43 16
	23	21 50 03.817	-14 25 37.24	6.88	0.82	13 39 47
	24	21 50 30.753	-14 23 18.95	6.87	0.82	13 36 18
	25	21 50 57.785	-14 21 00.04	6.87	0.82	13 32 49
	26	21 51 24.910	-14 18 40.51	6.87	0.82	13 29 20
	27	21 51 52.126	-14 16 20.38	6.86	0.82	13 25 51
	28	21 52 19.428	-14 13 59.66	6.86	0.82	13 22 23
	29	21 52 46.814	-14 11 38.38	6.86	0.82	13 18 54
	30	21 53 14.279	-14 09 16.58	6.85	0.82	13 15 25
	31	21 53 41.819	-14 06 54.27	6.85	0.82	13 11 57
Febrero	01	21 54 09.427	-14 04 31.49	6.85	0.82	13 08 28
	02	21 54 37.099	-14 02 08.27	6.85	0.82	13 05 00
	03	21 55 04.830	-13 59 44.63	6.84	0.82	13 01 32
	04	21 55 32.614	-13 57 20.62	6.84	0.81	12 58 04
	05	21 56 00.446	-13 54 56.23	6.84	0.81	12 54 35
	06	21 56 28.321	-13 52 31.51	6.84	0.81	12 51 07
	07	21 56 56.235	-13 50 06.47	6.84	0.81	12 47 39
	08	21 57 24.184	-13 47 41.13	6.83	0.81	12 44 11
	09	21 57 52.165	-13 45 15.49	6.83	0.81	12 40 43
	10	21 58 20.173	-13 42 49.58	6.83	0.81	12 37 15
	11	21 58 48.207	-13 40 23.41	6.83	0.81	12 33 47
	12	21 59 16.264	-13 37 57.00	6.83	0.81	12 30 19
	13	21 59 44.340	-13 35 30.37	6.83	0.81	12 26 51
	14	22 00 12.433	-13 33 03.55	6.83	0.81	12 23 23
	15	22 00 40.539	-13 30 36.58	6.83	0.81	12 19 55
	16	22 01 08.649	-13 28 09.57	6.83	0.81	12 16 27
	17	22 01 36.748	-13 25 42.43	6.83	0.81	12 12 59
	18	22 02 04.842	-13 23 15.02	6.83	0.81	12 09 31
	19	22 02 32.931	-13 20 47.58	6.83	0.81	12 06 03
	20	22 03 01.002	-13 18 20.19	6.83	0.81	12 02 35
	21	22 03 29.047	-13 15 52.84	6.83	0.81	11 59 07
	22	22 03 57.064	-13 13 25.54	6.83	0.81	11 55 39
	23	22 04 25.049	-13 10 58.29	6.83	0.81	11 52 11
	24	22 04 52.999	-13 08 31.10	6.83	0.81	11 48 43
	25	22 05 20.913	-13 06 04.01	6.83	0.81	11 45 15
	26	22 05 48.786	-13 03 37.04	6.84	0.81	11 41 47
	27	22 06 16.613	-13 01 10.22	6.84	0.81	11 38 18
	28	22 06 44.390	-12 58 43.58	6.84	0.81	11 34 50

SATURNO 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Marzo	01	22 07 12.112	-12 56 17.17	6.84	0.81	11 31 22
	02	22 07 39.773	-12 53 51.00	6.84	0.82	11 27 53
	03	22 08 07.369	-12 51 25.10	6.85	0.82	11 24 25
	04	22 08 34.895	-12 48 59.51	6.85	0.82	11 20 56
	05	22 09 02.346	-12 46 34.25	6.85	0.82	11 17 28
	06	22 09 29.718	-12 44 09.34	6.85	0.82	11 13 59
	07	22 09 57.007	-12 41 44.80	6.86	0.82	11 10 30
	08	22 10 24.210	-12 39 20.64	6.86	0.82	11 07 01
	09	22 10 51.324	-12 36 56.88	6.86	0.82	11 03 32
	10	22 11 18.347	-12 34 33.54	6.87	0.82	11 00 03
	11	22 11 45.276	-12 32 10.63	6.87	0.82	10 56 34
	12	22 12 12.108	-12 29 48.18	6.87	0.82	10 53 05
	13	22 12 38.841	-12 27 26.20	6.88	0.82	10 49 35
	14	22 13 05.470	-12 25 04.72	6.88	0.82	10 46 06
	15	22 13 31.992	-12 22 43.79	6.88	0.82	10 42 36
	16	22 13 58.400	-12 20 23.42	6.89	0.82	10 39 07
	17	22 14 24.690	-12 18 03.67	6.89	0.82	10 35 37
	18	22 14 50.853	-12 15 44.56	6.90	0.82	10 32 07
	19	22 15 16.885	-12 13 26.14	6.90	0.82	10 28 37
	20	22 15 42.779	-12 11 08.43	6.91	0.82	10 25 07
	21	22 16 08.532	-12 08 51.44	6.91	0.82	10 21 36
	22	22 16 34.142	-12 06 35.18	6.92	0.82	10 18 06
	23	22 16 59.604	-12 04 19.68	6.92	0.82	10 14 35
	24	22 17 24.919	-12 02 04.96	6.93	0.83	10 11 04
	25	22 17 50.082	-11 59 51.03	6.94	0.83	10 07 33
	26	22 18 15.089	-11 57 37.94	6.94	0.83	10 04 02
	27	22 18 39.937	-11 55 25.72	6.95	0.83	10 00 31
	28	22 19 04.620	-11 53 14.40	6.95	0.83	9 56 60
	29	22 19 29.133	-11 51 04.01	6.96	0.83	9 53 28
	30	22 19 53.472	-11 48 54.58	6.97	0.83	9 49 56
	31	22 20 17.632	-11 46 46.15	6.97	0.83	9 46 24
Abril	01	22 20 41.609	-11 44 38.73	6.98	0.83	9 42 52
	02	22 21 05.400	-11 42 32.36	6.99	0.83	9 39 20
	03	22 21 29.000	-11 40 27.03	6.99	0.83	9 35 47
	04	22 21 52.406	-11 38 22.79	7.00	0.83	9 32 15
	05	22 22 15.617	-11 36 19.63	7.01	0.83	9 28 42
	06	22 22 38.629	-11 34 17.57	7.02	0.84	9 25 09
	07	22 23 01.441	-11 32 16.64	7.02	0.84	9 21 35
	08	22 23 24.051	-11 30 16.84	7.03	0.84	9 18 02
	09	22 23 46.456	-11 28 18.20	7.04	0.84	9 14 28
	10	22 24 08.653	-11 26 20.73	7.05	0.84	9 10 54
	11	22 24 30.639	-11 24 24.48	7.05	0.84	9 07 20
	12	22 24 52.407	-11 22 29.48	7.06	0.84	9 03 46
	13	22 25 13.954	-11 20 35.76	7.07	0.84	9 00 11
	14	22 25 35.273	-11 18 43.36	7.08	0.84	8 56 36
	15	22 25 56.358	-11 16 52.31	7.09	0.84	8 53 01
	16	22 26 17.205	-11 15 02.63	7.10	0.85	8 49 26
	17	22 26 37.809	-11 13 14.35	7.11	0.85	8 45 51
	18	22 26 58.168	-11 11 27.48	7.12	0.85	8 42 15
	19	22 27 18.280	-11 09 42.04	7.13	0.85	8 38 39
	20	22 27 38.142	-11 07 58.03	7.13	0.85	8 35 03
	21	22 27 57.753	-11 06 15.48	7.14	0.85	8 31 26
	22	22 28 17.110	-11 04 34.42	7.15	0.85	8 27 50
	23	22 28 36.209	-11 02 54.88	7.16	0.85	8 24 13
	24	22 28 55.045	-11 01 16.88	7.17	0.85	8 20 35
	25	22 29 13.614	-10 59 40.47	7.18	0.86	8 16 58
	26	22 29 31.913	-10 58 05.66	7.19	0.86	8 13 20
	27	22 29 49.936	-10 56 32.49	7.20	0.86	8 09 42
	28	22 30 07.680	-10 55 00.97	7.21	0.86	8 06 03
	29	22 30 25.141	-10 53 31.13	7.22	0.86	8 02 25
	30	22 30 42.318	-10 52 02.98	7.24	0.86	7 58 46

SATURNO 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Mayo	01	22 30 59.206	-10 50 36.54	7.25	0.86	7 55 07
	02	22 31 15.805	-10 49 11.81	7.26	0.86	7 51 27
	03	22 31 32.112	-10 47 48.81	7.27	0.87	7 47 47
	04	22 31 48.126	-10 46 27.54	7.28	0.87	7 44 07
	05	22 32 03.845	-10 45 08.02	7.29	0.87	7 40 27
	06	22 32 19.269	-10 43 50.26	7.30	0.87	7 36 46
	07	22 32 34.395	-10 42 34.28	7.31	0.87	7 33 05
	08	22 32 49.220	-10 41 20.10	7.32	0.87	7 29 24
	09	22 33 03.741	-10 40 07.75	7.34	0.87	7 25 43
	10	22 33 17.952	-10 38 57.26	7.35	0.88	7 22 01
	11	22 33 31.849	-10 37 48.66	7.36	0.88	7 18 18
	12	22 33 45.426	-10 36 41.98	7.37	0.88	7 14 36
	13	22 33 58.680	-10 35 37.25	7.38	0.88	7 10 53
	14	22 34 11.607	-10 34 34.46	7.39	0.88	7 07 10
	15	22 34 24.205	-10 33 33.64	7.41	0.88	7 03 27
	16	22 34 36.472	-10 32 34.79	7.42	0.88	6 59 43
	17	22 34 48.409	-10 31 37.91	7.43	0.89	6 55 59
	18	22 35 00.012	-10 30 43.03	7.44	0.89	6 52 14
	19	22 35 11.282	-10 29 50.15	7.46	0.89	6 48 29
	20	22 35 22.214	-10 28 59.30	7.47	0.89	6 44 44
	21	22 35 32.807	-10 28 10.50	7.48	0.89	6 40 59
	22	22 35 43.057	-10 27 23.77	7.49	0.89	6 37 13
	23	22 35 52.961	-10 26 39.14	7.51	0.89	6 33 27
	24	22 36 02.516	-10 25 56.61	7.52	0.90	6 29 40
	25	22 36 11.718	-10 25 16.21	7.53	0.90	6 25 53
	26	22 36 20.566	-10 24 37.95	7.54	0.90	6 22 06
	27	22 36 29.059	-10 24 01.82	7.56	0.90	6 18 19
	28	22 36 37.193	-10 23 27.84	7.57	0.90	6 14 31
	29	22 36 44.970	-10 22 56.02	7.58	0.90	6 10 42
	30	22 36 52.388	-10 22 26.33	7.60	0.90	6 06 54
	31	22 36 59.447	-10 21 58.80	7.61	0.91	6 03 05
Junio	01	22 37 06.148	-10 21 33.40	7.62	0.91	5 59 16
	02	22 37 12.491	-10 21 10.15	7.63	0.91	5 55 26
	03	22 37 18.475	-10 20 49.05	7.65	0.91	5 51 36
	04	22 37 24.100	-10 20 30.09	7.66	0.91	5 47 45
	05	22 37 29.365	-10 20 13.31	7.67	0.91	5 43 55
	06	22 37 34.266	-10 19 58.70	7.69	0.92	5 40 03
	07	22 37 38.799	-10 19 46.31	7.70	0.92	5 36 12
	08	22 37 42.961	-10 19 36.14	7.71	0.92	5 32 20
	09	22 37 46.750	-10 19 28.19	7.73	0.92	5 28 28
	10	22 37 50.164	-10 19 22.48	7.74	0.92	5 24 35
	11	22 37 53.202	-10 19 18.99	7.75	0.92	5 20 42
	12	22 37 55.866	-10 19 17.72	7.77	0.93	5 16 49
	13	22 37 58.155	-10 19 18.65	7.78	0.93	5 12 55
	14	22 38 00.072	-10 19 21.79	7.79	0.93	5 09 01
	15	22 38 01.617	-10 19 27.14	7.81	0.93	5 05 07
	16	22 38 02.789	-10 19 34.69	7.82	0.93	5 01 12
	17	22 38 03.588	-10 19 44.45	7.83	0.93	4 57 17
	18	22 38 04.013	-10 19 56.43	7.85	0.93	4 53 21
	19	22 38 04.063	-10 20 10.62	7.86	0.94	4 49 25
	20	22 38 03.738	-10 20 27.04	7.87	0.94	4 45 29
	21	22 38 03.038	-10 20 45.67	7.89	0.94	4 41 32
	22	22 38 01.962	-10 21 06.50	7.90	0.94	4 37 35
	23	22 38 00.511	-10 21 29.54	7.91	0.94	4 33 38
	24	22 37 58.687	-10 21 54.75	7.92	0.94	4 29 40
	25	22 37 56.492	-10 22 22.13	7.94	0.95	4 25 42
	26	22 37 53.927	-10 22 51.66	7.95	0.95	4 21 43
	27	22 37 50.995	-10 23 23.31	7.96	0.95	4 17 44
	28	22 37 47.699	-10 23 57.05	7.97	0.95	4 13 45
	29	22 37 44.043	-10 24 32.87	7.99	0.95	4 09 46
	30	22 37 40.029	-10 25 10.75	8.00	0.95	4 05 46

SATURNO 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Julio	01	22 37 35.661	-10 25 50.66	8.01	0.95	4 01 45
	02	22 37 30.940	-10 26 32.60	8.02	0.96	3 57 45
	03	22 37 25.868	-10 27 16.56	8.04	0.96	3 53 44
	04	22 37 20.443	-10 28 02.54	8.05	0.96	3 49 42
	05	22 37 14.666	-10 28 50.53	8.06	0.96	3 45 40
	06	22 37 08.536	-10 29 40.52	8.07	0.96	3 41 38
	07	22 37 02.055	-10 30 32.50	8.08	0.96	3 37 36
	08	22 36 55.225	-10 31 26.44	8.10	0.96	3 33 33
	09	22 36 48.052	-10 32 22.29	8.11	0.97	3 29 30
	10	22 36 40.538	-10 33 20.04	8.12	0.97	3 25 27
	11	22 36 32.690	-10 34 19.64	8.13	0.97	3 21 23
	12	22 36 24.510	-10 35 21.07	8.14	0.97	3 17 19
	13	22 36 16.004	-10 36 24.32	8.15	0.97	3 13 14
	14	22 36 07.173	-10 37 29.35	8.16	0.97	3 09 10
	15	22 35 58.022	-10 38 36.15	8.17	0.97	3 05 05
	16	22 35 48.554	-10 39 44.70	8.18	0.97	3 00 59
	17	22 35 38.771	-10 40 54.97	8.19	0.98	2 56 54
	18	22 35 28.677	-10 42 06.93	8.20	0.98	2 52 48
	19	22 35 18.276	-10 43 20.55	8.21	0.98	2 48 41
	20	22 35 07.574	-10 44 35.80	8.22	0.98	2 44 35
	21	22 34 56.574	-10 45 52.63	8.23	0.98	2 40 28
	22	22 34 45.283	-10 47 11.00	8.24	0.98	2 36 21
	23	22 34 33.707	-10 48 30.86	8.25	0.98	2 32 13
	24	22 34 21.852	-10 49 52.17	8.26	0.98	2 28 06
	25	22 34 09.727	-10 51 14.88	8.27	0.99	2 23 58
	26	22 33 57.337	-10 52 38.94	8.28	0.99	2 19 49
	27	22 33 44.691	-10 54 04.30	8.29	0.99	2 15 41
	28	22 33 31.794	-10 55 30.92	8.30	0.99	2 11 32
	29	22 33 18.655	-10 56 58.76	8.30	0.99	2 07 23
	30	22 33 05.278	-10 58 27.78	8.31	0.99	2 03 14
	31	22 32 51.668	-10 59 57.96	8.32	0.99	1 59 04
Agosto	01	22 32 37.829	-11 01 29.27	8.33	0.99	1 54 55
	02	22 32 23.764	-11 03 01.68	8.33	0.99	1 50 45
	03	22 32 09.479	-11 04 35.14	8.34	0.99	1 46 35
	04	22 31 54.979	-11 06 09.61	8.35	0.99	1 42 24
	05	22 31 40.273	-11 07 45.03	8.35	1.00	1 38 14
	06	22 31 25.368	-11 09 21.34	8.36	1.00	1 34 03
	07	22 31 10.275	-11 10 58.50	8.36	1.00	1 29 52
	08	22 30 55.001	-11 12 36.43	8.37	1.00	1 25 41
	09	22 30 39.554	-11 14 15.12	8.38	1.00	1 21 30
	10	22 30 23.942	-11 15 54.50	8.38	1.00	1 17 18
	11	22 30 08.172	-11 17 34.55	8.39	1.00	1 13 07
	12	22 29 52.250	-11 19 15.21	8.39	1.00	1 08 55
	13	22 29 36.185	-11 20 56.45	8.39	1.00	1 04 43
	14	22 29 19.982	-11 22 38.21	8.40	1.00	1 00 31
	15	22 29 03.650	-11 24 20.44	8.40	1.00	0 56 19
	16	22 28 47.197	-11 26 03.10	8.41	1.00	0 52 06
	17	22 28 30.632	-11 27 46.11	8.41	1.00	0 47 54
	18	22 28 13.963	-11 29 29.44	8.41	1.00	0 43 42
	19	22 27 57.200	-11 31 13.00	8.41	1.00	0 39 29
	20	22 27 40.354	-11 32 56.74	8.42	1.00	0 35 16
	21	22 27 23.434	-11 34 40.60	8.42	1.00	0 31 04
	22	22 27 06.451	-11 36 24.51	8.42	1.00	0 26 51
	23	22 26 49.414	-11 38 08.41	8.42	1.00	0 22 38
	24	22 26 32.335	-11 39 52.25	8.42	1.00	0 18 25
	25	22 26 15.222	-11 41 35.98	8.42	1.00	0 14 12
	26	22 25 58.085	-11 43 19.54	8.42	1.00	0 09 59
	27	22 25 40.930	-11 45 02.90	8.42	1.00	0 05 46
	28	22 25 23.765	-11 46 46.02	8.42	1.00	0 00 00
	29	22 25 06.597	-11 48 28.85	8.42	1.00	23 53 07
	30	22 24 49.431	-11 50 11.36	8.42	1.00	23 48 54
	31	22 24 32.276	-11 51 53.50	8.42	1.00	23 44 41

SATURNO 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Septiembre	01	22 24 15.139	-11 53 35.19	8.42	1.00	23 40 28
	02	22 23 58.033	-11 55 16.39	8.42	1.00	23 36 16
	03	22 23 40.966	-11 56 57.03	8.42	1.00	23 32 03
	04	22 23 23.951	-11 58 37.05	8.42	1.00	23 27 50
	05	22 23 06.997	-12 00 16.41	8.41	1.00	23 23 37
	06	22 22 50.112	-12 01 55.07	8.41	1.00	23 19 25
	07	22 22 33.305	-12 03 32.98	8.41	1.00	23 15 12
	08	22 22 16.584	-12 05 10.10	8.41	1.00	23 10 60
	09	22 21 59.957	-12 06 46.40	8.40	1.00	23 06 47
	10	22 21 43.431	-12 08 21.82	8.40	1.00	23 02 35
	11	22 21 27.015	-12 09 56.32	8.39	1.00	22 58 23
	12	22 21 10.718	-12 11 29.86	8.39	1.00	22 54 11
	13	22 20 54.547	-12 13 02.38	8.39	1.00	22 49 59
	14	22 20 38.514	-12 14 33.82	8.38	1.00	22 45 47
	15	22 20 22.626	-12 16 04.14	8.38	1.00	22 41 36
	16	22 20 06.894	-12 17 33.27	8.37	1.00	22 37 24
	17	22 19 51.327	-12 19 01.18	8.36	1.00	22 33 13
	18	22 19 35.935	-12 20 27.79	8.36	1.00	22 29 02
	19	22 19 20.729	-12 21 53.08	8.35	1.00	22 24 51
	20	22 19 05.717	-12 23 16.98	8.35	0.99	22 20 41
	21	22 18 50.907	-12 24 39.46	8.34	0.99	22 16 30
	22	22 18 36.308	-12 26 00.49	8.33	0.99	22 12 20
	23	22 18 21.926	-12 27 20.04	8.33	0.99	22 08 10
	24	22 18 07.767	-12 28 38.08	8.32	0.99	22 04 00
	25	22 17 53.837	-12 29 54.58	8.31	0.99	21 59 51
	26	22 17 40.140	-12 31 09.53	8.30	0.99	21 55 41
	27	22 17 26.681	-12 32 22.89	8.29	0.99	21 51 32
	28	22 17 13.467	-12 33 34.62	8.29	0.99	21 47 24
	29	22 17 00.506	-12 34 44.68	8.28	0.99	21 43 15
	30	22 16 47.806	-12 35 53.02	8.27	0.99	21 39 07
Octubre	01	22 16 35.375	-12 36 59.61	8.26	0.98	21 34 59
	02	22 16 23.221	-12 38 04.41	8.25	0.98	21 30 51
	03	22 16 11.351	-12 39 07.40	8.24	0.98	21 26 43
	04	22 15 59.771	-12 40 08.57	8.23	0.98	21 22 36
	05	22 15 48.485	-12 41 07.89	8.22	0.98	21 18 29
	06	22 15 37.498	-12 42 05.35	8.21	0.98	21 14 23
	07	22 15 26.814	-12 43 00.93	8.20	0.98	21 10 17
	08	22 15 16.440	-12 43 54.60	8.19	0.98	21 06 11
	09	22 15 06.379	-12 44 46.34	8.18	0.97	21 02 05
	10	22 14 56.637	-12 45 36.13	8.17	0.97	20 57 60
	11	22 14 47.220	-12 46 23.92	8.16	0.97	20 53 55
	12	22 14 38.134	-12 47 09.70	8.15	0.97	20 49 50
	13	22 14 29.384	-12 47 53.42	8.14	0.97	20 45 46
	14	22 14 20.976	-12 48 35.08	8.13	0.97	20 41 42
	15	22 14 12.916	-12 49 14.63	8.12	0.97	20 37 38
	16	22 14 05.210	-12 49 52.05	8.10	0.97	20 33 35
	17	22 13 57.864	-12 50 27.32	8.09	0.96	20 29 32
	18	22 13 50.881	-12 51 00.43	8.08	0.96	20 25 29
	19	22 13 44.266	-12 51 31.37	8.07	0.96	20 21 27
	20	22 13 38.021	-12 52 00.13	8.06	0.96	20 17 25
	21	22 13 32.147	-12 52 26.71	8.05	0.96	20 13 24
	22	22 13 26.647	-12 52 51.12	8.03	0.96	20 09 23
	23	22 13 21.520	-12 53 13.35	8.02	0.96	20 05 22
	24	22 13 16.767	-12 53 33.39	8.01	0.95	20 01 22
	25	22 13 12.391	-12 53 51.24	8.00	0.95	19 57 22
	26	22 13 08.394	-12 54 06.88	7.98	0.95	19 53 22
	27	22 13 04.778	-12 54 20.29	7.97	0.95	19 49 23
	28	22 13 01.549	-12 54 31.45	7.96	0.95	19 45 24
	29	22 12 58.709	-12 54 40.36	7.95	0.95	19 41 26
	30	22 12 56.262	-12 54 47.02	7.93	0.95	19 37 28
	31	22 12 54.208	-12 54 51.42	7.92	0.94	19 33 30

SATURNO 2023
PARA 0^h DE TIEMPO TERRESTRE

Fecha		Asc. Recta Aparente	Declinación Aparente	Semi Diámetro	Paralaje Horiz.	Paso Mer. Efemérides
		h m s	° ' "	"	"	h m s
Noviembre	01	22 12 52.549	-12 54 53.59	7.91	0.94	19 29 33
	02	22 12 51.283	-12 54 53.51	7.89	0.94	19 25 36
	03	22 12 50.412	-12 54 51.21	7.88	0.94	19 21 40
	04	22 12 49.935	-12 54 46.68	7.87	0.94	19 17 44
	05	22 12 49.852	-12 54 39.92	7.85	0.94	19 13 48
	06	22 12 50.165	-12 54 30.92	7.84	0.93	19 09 53
	07	22 12 50.873	-12 54 19.69	7.83	0.93	19 05 58
	08	22 12 51.979	-12 54 06.21	7.81	0.93	19 02 03
	09	22 12 53.483	-12 53 50.48	7.80	0.93	18 58 09
	10	22 12 55.387	-12 53 32.49	7.79	0.93	18 54 16
	11	22 12 57.692	-12 53 12.24	7.78	0.93	18 50 22
	12	22 13 00.400	-12 52 49.72	7.76	0.92	18 46 29
	13	22 13 03.511	-12 52 24.92	7.75	0.92	18 42 37
	14	22 13 07.027	-12 51 57.86	7.74	0.92	18 38 45
	15	22 13 10.946	-12 51 28.55	7.72	0.92	18 34 53
	16	22 13 15.268	-12 50 57.00	7.71	0.92	18 31 02
	17	22 13 19.989	-12 50 23.22	7.70	0.92	18 27 11
	18	22 13 25.107	-12 49 47.25	7.68	0.92	18 23 20
	19	22 13 30.618	-12 49 09.10	7.67	0.91	18 19 30
	20	22 13 36.518	-12 48 28.77	7.66	0.91	18 15 40
	21	22 13 42.807	-12 47 46.29	7.64	0.91	18 11 51
	22	22 13 49.481	-12 47 01.65	7.63	0.91	18 08 02
	23	22 13 56.541	-12 46 14.85	7.62	0.91	18 04 14
	24	22 14 03.985	-12 45 25.90	7.60	0.91	18 00 25
	25	22 14 11.815	-12 44 34.80	7.59	0.90	17 56 37
	26	22 14 20.028	-12 43 41.56	7.58	0.90	17 52 50
	27	22 14 28.623	-12 42 46.20	7.57	0.90	17 49 03
	28	22 14 37.598	-12 41 48.75	7.55	0.90	17 45 16
	29	22 14 46.949	-12 40 49.22	7.54	0.90	17 41 30
	30	22 14 56.672	-12 39 47.65	7.53	0.90	17 37 44
Diciembre	01	22 15 06.764	-12 38 44.04	7.51	0.90	17 33 58
	02	22 15 17.221	-12 37 38.41	7.50	0.89	17 30 13
	03	22 15 28.040	-12 36 30.78	7.49	0.89	17 26 28
	04	22 15 39.220	-12 35 21.16	7.48	0.89	17 22 44
	05	22 15 50.757	-12 34 09.55	7.46	0.89	17 18 59
	06	22 16 02.651	-12 32 55.95	7.45	0.89	17 15 16
	07	22 16 14.899	-12 31 40.38	7.44	0.89	17 11 32
	08	22 16 27.499	-12 30 22.84	7.43	0.88	17 07 49
	09	22 16 40.451	-12 29 03.34	7.42	0.88	17 04 06
	10	22 16 53.752	-12 27 41.89	7.40	0.88	17 00 24
	11	22 17 07.400	-12 26 18.51	7.39	0.88	16 56 42
	12	22 17 21.393	-12 24 53.20	7.38	0.88	16 52 60
	13	22 17 35.727	-12 23 26.01	7.37	0.88	16 49 19
	14	22 17 50.398	-12 21 56.94	7.36	0.88	16 45 37
	15	22 18 05.398	-12 20 26.05	7.35	0.88	16 41 57
	16	22 18 20.723	-12 18 53.36	7.33	0.87	16 38 16
	17	22 18 36.367	-12 17 18.89	7.32	0.87	16 34 36
	18	22 18 52.325	-12 15 42.67	7.31	0.87	16 30 56
	19	22 19 08.592	-12 14 04.70	7.30	0.87	16 27 17
	20	22 19 25.166	-12 12 25.01	7.29	0.87	16 23 38
	21	22 19 42.045	-12 10 43.58	7.28	0.87	16 19 59
	22	22 19 59.227	-12 09 00.46	7.27	0.87	16 16 20
	23	22 20 16.708	-12 07 15.64	7.26	0.86	16 12 42
	24	22 20 34.485	-12 05 29.15	7.25	0.86	16 09 04
	25	22 20 52.553	-12 03 41.03	7.24	0.86	16 05 26
	26	22 21 10.909	-12 01 51.31	7.23	0.86	16 01 48
	27	22 21 29.546	-12 00 00.01	7.22	0.86	15 58 11
	28	22 21 48.460	-11 58 07.16	7.21	0.86	15 54 34
	29	22 22 07.644	-11 56 12.80	7.20	0.86	15 50 58
	30	22 22 27.095	-11 54 16.92	7.19	0.86	15 47 21
	31	22 22 46.808	-11 52 19.57	7.18	0.86	15 43 45

VOLVER AL INDICE

Las siguientes estrellas están contenidas en 81 páginas con cuatro estrellas cada página.
La estrella subrayada permite el acceso a la página correspondiente.

LISTA DE 324 ESTRELLAS

NÚMERO	ESTRELLA	ASCENSIÓN RECTA h	m
902	ω Piscium	00	00
903	ε Tucanae	00	01
904	ϑ Octantis	00	02
1	α Andromedae	00	09
3	ε Phoenicis	00	10
7	γ Pegasi	00	14
9	ι Ceti	00	20
11	β Hydri	00	26
12	α Phoenicis	00	27
20	δ Andromedae	00	40
22	β Ceti	00	44
33	μ Andromedae	00	57
40	η Ceti	01	09
42	β Andromedae	01	10
47	ϑ Ceti	01	25
49	γ Phoenicis	01	29
50	η Piscium	01	32
54	α Eridani (Achernar)	01	38
59	τ Ceti	01	45
62	ζ Ceti	01	52
64	α Trianguli	01	54
66	β Arietis	01	55
68	χ Eridani	01	56
72	α Hydri	01	59
73	γ Andromedae*p.*	02	05
74	α Arietis	02	08
75	β Trianguli	02	10
82	φ Eridani	02	17
79	γ Trianguli	02	18
1065	δ Hydri	02	21
86	χ Eridani	02	27
1075	ι Eridani	02	41
101	β Fornacis	02	49
100	41 Arietis	02	51
104	η Eridani	02	57
106	ϑ Eridani*p*	02	59
107	α Ceti	03	03
111	β Persei (Algol)	03	09
119	82 G.Eridani	03	20
120	α Persei	03	25
121	ο Tauri	03	25
123	ξ Tauri	03	28
127	ε Eridani	03	33
1099	τ^5 Eridani	03	34
135	δ Eridani	03	44
141	β Reticuli	03	44
136	17 Tauri	03	46
146	γ Hydri	03	46
139	η Tauri	03	48
142	27 Tauri	03	50
144	ζ Persei	03	55

149	γ Eridani	03 59
147	ε Persei*	03 59
148	ξ Persei	04 00
150	λ Tauri	04 01
151	ν Tauri	04 04
154	o^1 Eridani	04 12
156	α Reticuli	04 14
155	α Horologii	04 14
157	γ Doradus	04 16
159	γ Tauri	04 21
162	δ Tauri	04 24
1121	43 Eridani	04 24
164	ε Tauri	04 29
171	α Doradus	04 34
168	α Tauri (Aldebaran)	04 37
172	53 Eridani*	04 39
176	μ Eridani	04 46
179	π^4 Orionis	04 52
181	ι Aurigae	04 58
186	ε Leporis	05 06
185	η Aurigae	05 08
188	β Eridani	05 08
1144	μ Leporis	05 13
194	β Orionis (Rigel)	05 15
193	α Aurigae (Capella)	05 18
195	τ Orionis	05 18
201	γ Orionis (Bellatrix)	05 26
202	β Tauri	05 27
204	β Leporis*	05 29
206	δ Orionis	05 33
207	α Leporis	05 33
209	ι Orionis*	05 36
211	ζ Tauri	05 38
215	α Columbae	05 40
217	γ Leporis	05 45
220	χ Orionis	05 48
223	β Columbae	05 51
222	δ Leporis	05 52
224	α Orionis (Betelgeuse)	05 56
227	β Aurigae	06 01
225	δ Aurigae	06 01
240	ζ Canis Majoris	06 21
243	β Canis Majoris	06 23
241	μ Geminorum	06 23
245	α Carinae (Canopus)	06 24
252	ν Puppis	06 38
251	γ Geminorum	06 38
263	τ Puppis	06 50
261	ϑ Geminorum	06 54
268	ε Canis Majoris	06 59
270	o^2 Canis Majoris	07 03
273	δ Canis Majoris	07 09
278	π Puppis	07 17
279	δ Geminorum*	07 21
283	η Canis Majoris	07 24
297	ζ Volantis	07 41
295	β Geminorum (Pollux)	07 46

1204	ξ Puppis	07 50
303	χ Carinae	07 57
306	ζ Puppis	08 04
308	ρ Puppis	08 08
309	γ Velorum*	08 10
312	β Cancri	08 17
315	ε Carinae	08 22
319	β Volantis	08 25
1223	δ Hydrae	08 38
1227	ο Velorum	08 40
327	α Pyxidis	08 44
326	δ Cancri	08 45
332	γ Pyxidis	08 51
336	108 G. Carinae	08 55
334	ζ Hydrae	08 56
342	97 G. Velorum	09 04
345	λ Velorum	09 08
348	β Carinae	09 13
351	ι Carinae	09 17
352	α Lyncis	09 22
353	χ Velorum	09 22
354	α Hydrae	09 28
361	N.Velorum	09 31
1250	ι Hydrae	09 40
365	ο Leonis	09 42
371	μ Leonis	09 54
375	φ Velorum	09 57
380	α Leonis (Regulus)	10 09
381	λ Hydrae	10 11
385	ω Carinae	10 14
384	ζ Leonis	10 17
1264	187 G. Carinae	10 17
389	μ Hydrae	10 27
397	203 G. Carinae	10 32
396	ρ Leonis	10 33
401	γ Chamaeleontis	10 35
406	ϑ Carinae	10 43
410	ν Hydrae	10 50
1283	α Crateris	11 00
1289	260 G. Carinae	11 09
422	δ Leonis	11 15
426	δ Crateris	11 20
427	σ Leonis	11 22
431	γ Crateri*	11 25
434	ξ Hydrae	11 34
436	λ Centauri	11 36
437	υ Leonis	11 38
442	λ Muscae	11 46
444	β Leonis (Denebola)	11 50
445	β Virginis	11 51
450	ο Virginis	12 06
452	δ Centauri	12 09
453	ε Corvi	12 10
455	δ Crucis	12 15
457	γ Corvi	12 16

462	α Crucis A*	12 27
465	δ Corvi	12 30
468	γ Crucis	12 32
471	β Corvi	12 35
474	α Muscae	12 38
481	β Crucis	12 48
484	δ Virginis	12 56
485	α Canum Venat*f.	12 56
488	ε Virginis	13 02
487	δ Muscae	13 02
495	γ Hydrae	13 19
496	ι Centauri	13 20
498	α Virginis (Spica)	13 25
501	ζ Virginis	13 35
504	ε Centauri	13 40
509	η Ursae Majoris	13 48
508	μ Centauri	13 50
513	η Bootis	13 55
512	ζ Centauri	13 56
518	β Centauri*	14 04
519	π Hydrae	14 07
520	ϑ Centauri	14 07
535	γ Bootis	14 32
547	109 Virginis	14 46
542	α Apodis	14 49
548	α^2 Librae	14 51
552	β Lupi	14 59
553	χ Centauri	15 00
555	β Bootis	15 02
556	σ Librae	15 04
558	ζ Lupi	15 13
563	δ Bootis	15 16
564	β Librae	15 17
560	γ Trianguli Australis	15 20
1402	δ Lupi	15 22
566	φ1 Lupi	15 22
572	β Coronae Borealis	15 28
578	α Coronae Borealis	15 35
577	γ Librae	15 36
579	υ Librae	15 37
574	ε Trianguli Australis	15 38
582	α Serpentis	15 44
583	β Serpentis	15 46
589	β Trianguli Australis	15 56
591	γ Serpentis	15 57
592	π Scorpii	15 59
594	δ Scorpii	16 01
618	β Herculis	16 30
611	γ Apodis	16 35
620	τ Scorpii	16 36
622	ζ Ophiuchi	16 37
626	η Herculis	16 43
625	α Trianguli Australis	16 50
628	ε Scorpii	16 51
633	χ Ophiuchi	16 58
631	ζ Arae	16 59
634	ε Herculis	17 00

638	η Scorpii	17 13
643	π Herculis	17 15
641	δ Herculis*	17 15
644	ϑ Ophiuchi	17 22
645	β Arae	17 26
649	υ Scorpii	17 31
648	δ Arae	17 32
651	α Arae	17 32
652	λ Scorpii	17 34
656	α Ophiuchi	17 35
654	ϑ Scorpii	17 38
660	χ Scorpii	17 43
665	β Ophiuchi	17 44
667	μ Herculis	17 47
661	η Pavonis	17 47
666	ι^1 Scorpii	17 48
668	γ Ophiuchi	17 48
669	G Scorpii	17 50
673	ν Ophiuchi	17 59
679	γ Sagittarii	18 06
1471	ϑ Arae	18 07
680	72 Ophiuchi	18 08
683	η Sagittarii*	18 18
687	δ Sagittarii	18 21
688	η Serpentis	18 22
689	ε Sagittarii	18 25
691	α Telescopii	18 28
692	λ Sagittarii	18 28
699	α Lyrae (Vega)	18 37
1487	φ Sagittarii	18 46
705	β Lyrae	18 50
706	σ Sagittarii	18 56
1495	114 G.Sagittarii	18 56
710	ξ^2 Sagittarii	18 58
713	γ Lyrae	18 59
716	ζ Aquilae	19 06
717	λ Aquilae	19 07
1496	τ Sagittarii	19 07
720	π Sagittarii*	19 10
1502	β^1 Sagittarii*	19 23
728	α Sagittarii	19 24
730	δ Aquilae	19 26
732	β Cygni*p.	19 31
1513	β Sagittae	19 41
741	γ Aquilae	19 46
743	δ Sagittae	19 48
745	α Aquilae (Altair)	19 51
746	η Aquilae	19 53
749	β Aquilae	19 56
752	γ Sagittae	19 59
748	ε Pavonis	20 02
754	δ Pavonis	20 10
756	ϑ Aquilae	20 12
761	α^2 Capricorni	20 18
762	β Capricorni	20 21
765	γ Cygni	20 22
764	α Pavonis	20 26

768	ε Delphini	20 33
769	α Indi	20 38
774	α Delphini	20 40
777	α Cygni (Deneb)	20 41
775	β Pavonis	20 46
780	ε Cygni	20 46
781	ε Aquarii	20 48
785	β Indi	20 55
792	ξ Cygni	21 05
1552	ϑ Capricorni	21 06
797	ζ Cygni	21 13
800	α Equulei	21 16
804	1 Pegasi	21 22
1561	ι Capricorni	21 23
806	ζ Capricorni	21 27
808	β Aquarii	21 32
1568	ρ Cygni	21 34
812	γ Capricorni	21 40
810	ν Octantis	21 42
815	ε Pegasi	21 44
819	δ Capricorni	21 47
822	γ Gruis	21 54
827	α Aquarii	22 06
829	α Gruis	22 09
834	ϑ Pegasi	22 10
841	α Tucanae	22 19
842	γ Aquarii	22 22
846	δ^1 Gruis	22 30
850	η Aquarii	22 36
855	ζ Pegasi	22 42
856	β Gruis	22 43
857	η Pegasi	22 43
860	ε Gruis	22 49
862	μ Pegasi	22 50
864	λ Aquarii	22 53
866	δ Aquarii	22 55
867	α Piscis Austrini(Fomalhaut)	22 58
869	ο Andromedae	23 02
871	α Pegasi	23 05
1605	ι Gruis	23 11
878	γ Piscium	23 17
879	γ Sculptoris	23 19
1612	98 Aquarii	23 23
1614	ϑ Piscium	23 28
886	β Sculptoris	23 33
892	ι Piscium	23 40
1619	χ Andromedae	23 41
923	σ Octantis	21 13

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	902		903		904		1	
EST.	ω Piscium		ε Tucanae		ϑ Octantis		α Andromedae	
MAG.	4.01		4.50		4.78		2.06	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	0 0	+ 6 59	0 1	-65 26	0 2	-76 55	0 9	+29 12
mes d	s	"	s	"	s	"	s	"
1 -4.3	28.797	23.37	5.709	81.05	45.425	104.59	33.889	67.64
1 5.7	28.696	22.66	5.321	80.29	44.609	103.54	33.754	66.93
1 15.7	28.600	21.91	4.961	78.99	43.849	101.93	33.621	65.96
1 25.7	28.512	21.14	4.637	77.16	43.162	99.76	33.495	64.73
2 4.6	28.438	20.41	4.366	74.85	42.579	97.11	33.385	63.32
2 14.6	28.382	19.73	4.149	72.15	42.105	94.07	33.295	61.79
2 24.6	28.349	19.16	3.996	69.08	41.753	90.68	33.232	60.19
3 6.5	28.347	18.75	3.916	65.75	41.543	87.06	33.205	58.63
3 16.5	28.375	18.55	3.909	62.23	41.468	83.28	33.215	57.16
3 26.5	28.437	18.55	3.982	58.57	41.540	79.40	33.270	55.86
4 5.5	28.545	18.78	4.138	54.89	41.762	75.54	33.373	54.82
4 15.4	28.691	19.30	4.371	51.25	42.121	71.77	33.522	54.07
4 25.4	28.878	20.13	4.686	47.69	42.626	68.15	33.719	53.66
5 5.4	29.103	21.25	5.077	44.34	43.261	64.79	33.959	53.65
5 15.4	29.360	22.62	5.532	41.24	44.010	61.73	34.236	54.02
5 25.3	29.647	24.24	6.052	38.46	44.869	59.04	34.547	54.80
6 4.3	29.954	26.06	6.617	36.09	45.809	56.81	34.881	55.95
6 14.3	30.274	28.03	7.216	34.13	46.810	55.05	35.229	57.44
6 24.2	30.602	30.12	7.839	32.67	47.854	53.82	35.585	59.26
7 4.2	30.924	32.26	8.462	31.75	48.903	53.16	35.935	61.33
7 14.2	31.236	34.39	9.075	31.34	49.937	53.04	36.275	63.61
7 24.2	31.530	36.47	9.660	31.50	50.928	53.52	36.595	66.05
8 3.1	31.798	38.44	10.197	32.21	51.837	54.54	36.886	68.57
8 13.1	32.036	40.27	10.677	33.40	52.650	56.06	37.146	71.14
8 23.1	32.239	41.93	11.083	35.09	53.335	58.07	37.368	73.70
9 2.1	32.403	43.37	11.403	37.17	53.868	60.46	37.549	76.19
9 12.0	32.531	44.60	11.635	39.58	54.245	63.15	37.692	78.57
9 22.0	32.619	45.59	11.769	42.25	54.442	66.07	37.792	80.81
10 2.0	32.671	46.34	11.805	45.02	54.460	69.05	37.853	82.85
10 11.9	32.691	46.89	11.750	47.82	54.306	72.02	37.879	84.69
10 21.9	32.680	47.20	11.604	50.54	53.977	74.86	37.869	86.28
10 31.9	32.644	47.33	11.381	53.02	53.499	77.41	37.831	87.61
11 10.9	32.587	47.28	11.092	55.22	52.892	79.61	37.767	88.67
11 20.8	32.513	47.06	10.747	57.00	52.171	81.34	37.681	89.42
11 30.8	32.427	46.71	10.368	58.29	51.379	82.51	37.578	89.86
12 10.8	32.333	46.23	9.965	59.06	50.538	83.12	37.461	89.99
12 20.8	32.233	45.65	9.553	59.25	49.676	83.08	37.334	89.79
12 30.7	32.133	44.99	9.153	58.85	48.835	82.42	37.203	89.28
12 40.7	32.035	44.27	8.770	57.89	48.028	81.17	37.069	88.48
Pos. Med.	31.209	36.10	7.264	47.30	46.192	69.75	36.463	72.37
Secδ tanδ	1.007	.123	2.406	-2.189	4.424	-4.310	1.146	.559
Dob.Tran.	Sep 21		Sep 21		Sep 22		Sep 23	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	3		7		9		11	
EST.	ε Phoenicis		γ Pegasi		ι Ceti		β Hydri	
MAG.	3.88		2.83		3.56		2.80	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	0 10	-45 36	0 14	+15 18	0 20	- 8 41	0 26	-77 7
mes d	s	"	s	"	s	"	s	"
1 -4.3	33.960	94.11	24.539	41.27	35.344	55.63	57.085	54.30
1 5.7	33.772	93.96	24.429	40.58	35.241	56.19	56.237	53.54
1 15.7	33.595	93.36	24.320	39.76	35.140	56.62	55.429	52.20
1 25.7	33.434	92.32	24.217	38.82	35.044	56.90	54.677	50.28
2 4.6	33.297	90.83	24.127	37.84	34.960	57.01	54.018	47.84
2 14.6	33.188	88.98	24.053	36.85	34.892	56.93	53.458	44.97
2 24.6	33.112	86.77	24.002	35.89	34.844	56.65	53.013	41.72
3 6.6	33.076	84.25	23.982	35.05	34.824	56.15	52.706	38.18
3 16.5	33.083	81.50	23.993	34.35	34.834	55.44	52.531	34.44
3 26.5	33.137	78.53	24.044	33.86	34.877	54.49	52.504	30.56
4 5.5	33.243	75.44	24.136	33.61	34.961	53.26	52.631	26.65
4 15.4	33.399	72.27	24.271	33.63	35.085	51.81	52.900	22.79
4 25.4	33.608	69.07	24.450	33.97	35.251	50.15	53.322	19.03
5 5.4	33.866	65.95	24.669	34.65	35.457	48.30	53.885	15.50
5 15.4	34.169	62.94	24.922	35.62	35.697	46.30	54.572	12.23
5 25.3	34.513	60.10	25.208	36.91	35.970	44.17	55.384	9.30
6 4.3	34.888	57.54	25.517	38.47	36.268	41.99	56.291	6.81
6 14.3	35.287	55.27	25.841	40.25	36.582	39.79	57.273	4.75
6 24.3	35.701	53.38	26.173	42.23	36.908	37.63	58.317	3.22
7 4.2	36.117	51.91	26.503	44.35	37.234	35.57	59.382	2.25
7 14.2	36.525	50.87	26.824	46.54	37.553	33.66	60.448	1.83
7 24.2	36.916	50.32	27.128	48.77	37.859	31.93	61.488	2.01
8 3.1	37.277	50.25	27.407	50.97	38.141	30.46	62.461	2.75
8 13.1	37.602	50.64	27.657	53.10	38.397	29.24	63.352	4.02
8 23.1	37.882	51.51	27.873	55.11	38.619	28.31	64.127	5.82
9 2.1	38.109	52.79	28.052	56.97	38.804	27.68	64.759	8.04
9 12.0	38.283	54.41	28.194	58.65	38.953	27.33	65.241	10.60
9 22.0	38.400	56.35	28.297	60.14	39.063	27.28	65.547	13.45
10 2.0	38.459	58.48	28.363	61.39	39.135	27.47	65.672	16.43
10 12.0	38.467	60.74	28.397	62.44	39.173	27.87	65.622	19.45
10 21.9	38.423	63.02	28.399	63.25	39.179	28.46	65.390	22.39
10 31.9	38.336	65.21	28.374	63.84	39.157	29.18	64.997	25.10
11 10.9	38.213	67.24	28.326	64.22	39.112	29.98	64.462	27.51
11 20.8	38.059	69.02	28.258	64.37	39.046	30.83	63.796	29.48
11 30.8	37.885	70.44	28.176	64.32	38.967	31.67	63.041	30.93
12 10.8	37.698	71.49	28.082	64.09	38.876	32.48	62.218	31.83
12 20.8	37.503	72.10	27.978	63.65	38.777	33.21	61.355	32.10
12 30.7	37.311	72.24	27.872	63.07	38.676	33.84	60.492	31.73
12 40.7	37.125	71.93	27.763	62.33	38.574	34.35	59.648	30.76
Pos. Med.	35.801	64.51	26.942	50.65	37.497	37.80	57.127	19.92
Secδ tanδ	1.430	-1.022	1.037	.274	1.012	-.153	4.487	-4.374
Dob.Tran.	Sep 24		Sep 25		Sep 26		Sep 28	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	12		20		22		33	
EST.	α Phoenicis		δ Andromedae		β Ceti		μ Andromedae	
MAG.	2.39		3.27		2.04		3.87	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	0 27	-42 10	0 40	+30 59	0 44	-17 51	0 58	+38 37
mes d	s	"	s	"	s	"	s	"
1 -4.2	24.700	71.41	33.025	17.97	44.185	48.96	1.517	34.34
1 5.7	24.522	71.51	32.886	17.50	44.071	49.51	1.357	34.14
1 15.7	24.352	71.18	32.743	16.77	43.956	49.84	1.189	33.59
1 25.7	24.191	70.40	32.600	15.75	43.843	49.92	1.016	32.68
2 4.6	24.050	69.19	32.468	14.51	43.739	49.72	.851	31.48
2 14.6	23.931	67.60	32.351	13.12	43.648	49.26	.701	30.03
2 24.6	23.840	65.63	32.257	11.60	43.575	48.54	.574	28.38
3 6.6	23.787	63.34	32.197	10.07	43.529	47.55	.482	26.63
3 16.5	23.771	60.80	32.173	8.59	43.511	46.31	.429	24.87
3 26.5	23.801	58.00	32.193	7.22	43.529	44.80	.425	23.15
4 5.5	23.880	55.04	32.262	6.07	43.588	43.05	.474	21.59
4 15.5	24.007	51.97	32.379	5.15	43.688	41.10	.577	20.24
4 25.4	24.186	48.83	32.547	4.54	43.831	38.95	.737	19.17
5 5.4	24.414	45.71	32.764	4.30	44.018	36.66	.951	18.45
5 15.4	24.687	42.67	33.022	4.42	44.242	34.27	1.212	18.10
5 25.3	25.002	39.76	33.319	4.93	44.503	31.82	1.518	18.15
6 4.3	25.350	37.08	33.645	5.82	44.793	29.38	1.857	18.62
6 14.3	25.724	34.66	33.990	7.04	45.105	27.00	2.222	19.47
6 24.3	26.116	32.57	34.350	8.61	45.434	24.73	2.603	20.71
7 4.2	26.512	30.88	34.710	10.46	45.767	22.66	2.989	22.29
7 14.2	26.905	29.59	35.064	12.53	46.098	20.79	3.372	24.17
7 24.2	27.285	28.78	35.404	14.81	46.419	19.21	3.742	26.32
8 3.2	27.640	28.45	35.719	17.20	46.721	17.95	4.090	28.67
8 13.1	27.963	28.57	36.008	19.66	46.999	17.01	4.412	31.16
8 23.1	28.247	29.18	36.263	22.17	47.246	16.44	4.700	33.77
9 2.1	28.482	30.22	36.479	24.62	47.457	16.23	4.949	36.41
9 12.0	28.671	31.63	36.659	27.02	47.632	16.35	5.160	39.05
9 22.0	28.805	33.38	36.797	29.30	47.768	16.80	5.330	41.64
10 2.0	28.887	35.37	36.897	31.42	47.864	17.53	5.457	44.11
10 12.0	28.920	37.52	36.961	33.37	47.925	18.48	5.546	46.46
10 21.9	28.903	39.76	36.988	35.11	47.950	19.62	5.595	48.63
10 31.9	28.845	41.94	36.983	36.60	47.944	20.86	5.607	50.57
11 10.9	28.751	44.02	36.951	37.85	47.912	22.14	5.586	52.28
11 20.9	28.625	45.88	36.890	38.82	47.855	23.42	5.532	53.69
11 30.8	28.477	47.44	36.808	39.49	47.779	24.61	5.450	54.79
12 10.8	28.313	48.67	36.705	39.86	47.689	25.68	5.343	55.57
12 20.8	28.137	49.49	36.586	39.91	47.585	26.59	5.211	55.97
12 30.7	27.960	49.87	36.455	39.65	47.476	27.28	5.063	56.01
12 40.7	27.784	49.81	36.316	39.10	47.361	27.76	4.901	55.69
Pos. Med.	26.392	43.35	35.476	21.13	46.078	28.79	3.992	34.66
Secδ tanδ	1.349	-.906	1.167	.601	1.051	-.322	1.280	.799
Dob.Tran.	Sep 28		Oct 1		Oct 2		Oct 6	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	40		42		47		49	
EST.	η Ceti		β Andromedae		ϑ Ceti		γ Phoenicis	
MAG.	3.45		2.06		3.60		3.41	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	1 9	-10 3	1 10	+35 44	1 25	- 8 3	1 29	-43 11
mes d	s	"	s	"	s	"	s	"
1 -5.2	44.536	45.88	60.998	39.58	10.206	60.80	22.079	79.53
1 4.8	44.431	46.58	60.853	39.46	10.104	61.53	21.889	80.29
1 14.7	44.320	47.11	60.696	39.02	9.992	62.12	21.690	80.59
1 24.7	44.204	47.48	60.532	38.26	9.873	62.56	21.486	80.41
2 3.7	44.091	47.63	60.371	37.21	9.755	62.79	21.288	79.74
2 13.7	43.987	47.58	60.221	35.93	9.642	62.84	21.100	78.62
2 23.6	43.896	47.31	60.089	34.46	9.540	62.69	20.930	77.06
3 5.6	43.828	46.79	59.987	32.89	9.459	62.29	20.788	75.10
3 15.6	43.786	46.05	59.922	31.29	9.402	61.68	20.679	72.79
3 25.5	43.776	45.07	59.900	29.73	9.378	60.83	20.611	70.15
4 4.5	43.806	43.84	59.930	28.30	9.392	59.74	20.591	67.25
4 14.5	43.875	42.36	60.011	27.06	9.445	58.41	20.621	64.17
4 24.5	43.988	40.65	60.147	26.08	9.542	56.83	20.705	60.92
5 4.4	44.146	38.75	60.338	25.42	9.685	55.04	20.845	57.61
5 14.4	44.343	36.70	60.575	25.09	9.868	53.09	21.036	54.30
5 24.4	44.580	34.51	60.859	25.14	10.092	50.99	21.280	51.03
6 3.3	44.848	32.25	61.179	25.59	10.349	48.80	21.569	47.92
6 13.3	45.141	29.97	61.526	26.39	10.633	46.57	21.894	45.02
6 23.3	45.454	27.71	61.893	27.56	10.939	44.33	22.252	42.39
7 3.3	45.777	25.55	62.269	29.06	11.257	42.16	22.630	40.13
7 13.2	46.101	23.53	62.644	30.83	11.578	40.12	23.019	38.25
7 23.2	46.421	21.70	63.011	32.86	11.898	38.24	23.410	36.84
8 2.2	46.726	20.13	63.359	35.08	12.205	36.59	23.790	35.93
8 12.2	47.011	18.82	63.685	37.43	12.495	35.20	24.153	35.51
8 22.1	47.271	17.82	63.981	39.88	12.762	34.10	24.489	35.63
9 1.1	47.499	17.15	64.240	42.35	13.000	33.31	24.788	36.25
9 11.1	47.695	16.79	64.465	44.82	13.207	32.84	25.048	37.34
9 21.0	47.856	16.75	64.651	47.25	13.381	32.68	25.262	38.89
10 1.0	47.980	17.00	64.796	49.56	13.520	32.82	25.425	40.78
10 11.0	48.072	17.50	64.905	51.75	13.626	33.20	25.541	42.96
10 21.0	48.128	18.22	64.975	53.77	13.699	33.83	25.606	45.36
10 30.9	48.154	19.09	65.009	55.59	13.740	34.62	25.623	47.82
11 9.9	48.153	20.08	65.011	57.19	13.754	35.54	25.597	50.28
11 19.9	48.126	21.12	64.979	58.53	13.741	36.53	25.528	52.64
11 29.9	48.077	22.16	64.919	59.58	13.704	37.54	25.424	54.77
12 9.8	48.009	23.15	64.832	60.34	13.647	38.52	25.290	56.62
12 19.8	47.924	24.07	64.719	60.77	13.569	39.45	25.128	58.10
12 29.8	47.827	24.85	64.588	60.86	13.477	40.26	24.948	59.14
12 39.7	47.720	25.50	64.441	60.63	13.372	40.95	24.754	59.75
Pos. Med.	46.343	29.73	63.358	40.23	11.930	46.17	23.005	54.54
Secδ tanδ	1.016	-.177	1.232	.720	1.010	-.142	1.372	-.939
Dob.Tran.	Oct 9		Oct 9		Oct 13		Oct 14	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	50	54	59	62
EST.	η Piscium	α Eridani (Achernar)	τ Ceti	ζ Ceti
MAG.	3.62	0.46	3.50	3.73

UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	1 32	+15 27	1 38	-57 6	1 45	-15 48	1 52	-10 12
mes d	s	"	s	"	s	"	s	"
1 -5.2	42.718	51.83	35.058	91.88	8.199	68.69	35.774	85.16
1 4.8	42.617	51.43	34.759	92.59	8.088	69.52	35.676	86.00
1 14.7	42.503	50.92	34.448	92.76	7.965	70.12	35.564	86.67
1 24.7	42.378	50.31	34.131	92.38	7.832	70.48	35.439	87.15
2 3.7	42.252	49.63	33.822	91.42	7.697	70.55	35.310	87.41
2 13.7	42.129	48.91	33.531	89.96	7.566	70.36	35.183	87.45
2 23.6	42.017	48.19	33.262	88.00	7.443	69.90	35.062	87.26
3 5.6	41.926	47.51	33.033	85.60	7.339	69.14	34.958	86.81
3 15.6	41.861	46.91	32.848	82.84	7.259	68.12	34.877	86.13
3 25.6	41.830	46.44	32.715	79.73	7.210	66.82	34.825	85.20
4 4.5	41.840	46.17	32.645	76.38	7.199	65.26	34.810	84.01
4 14.5	41.891	46.13	32.638	72.86	7.228	63.47	34.835	82.60
4 24.5	41.986	46.23	32.701	69.21	7.302	61.44	34.904	80.93
5 4.4	42.135	46.64	32.836	65.54	7.422	59.23	35.018	79.06
5 14.4	42.324	47.32	33.038	61.92	7.585	56.89	35.176	77.02
5 24.4	42.556	48.28	33.307	58.40	7.790	54.42	35.376	74.83
6 3.4	42.822	49.50	33.637	55.11	8.033	51.92	35.614	72.56
6 13.3	43.115	50.94	34.018	52.10	8.305	49.43	35.881	70.25
6 23.3	43.431	52.58	34.444	49.42	8.603	47.00	36.175	67.94
7 3.3	43.758	54.37	34.901	47.19	8.916	44.70	36.485	65.72
7 13.3	44.090	56.26	35.377	45.41	9.236	42.59	36.804	63.62
7 23.2	44.419	58.22	35.862	44.16	9.559	40.71	37.125	61.70
8 2.2	44.735	60.18	36.339	43.49	9.872	39.14	37.438	60.04
8 12.2	45.035	62.10	36.798	43.36	10.170	37.88	37.739	58.63
8 22.1	45.312	63.95	37.228	43.82	10.448	36.99	38.021	57.55
9 1.1	45.560	65.66	37.612	44.83	10.698	36.47	38.277	56.80
9 11.1	45.779	67.23	37.947	46.34	10.920	36.31	38.506	56.38
9 21.1	45.966	68.63	38.223	48.33	11.108	36.53	38.704	56.31
10 1.0	46.118	69.83	38.432	50.69	11.261	37.07	38.868	56.56
10 11.0	46.240	70.84	38.575	53.33	11.381	37.90	39.001	57.08
10 21.0	46.329	71.66	38.648	56.17	11.465	38.98	39.101	57.85
10 31.0	46.387	72.27	38.651	59.05	11.517	40.22	39.169	58.81
11 9.9	46.418	72.72	38.592	61.88	11.539	41.58	39.208	59.90
11 19.9	46.420	72.98	38.470	64.56	11.530	42.99	39.218	61.08
11 29.9	46.397	73.08	38.296	66.94	11.496	44.35	39.201	62.26
12 9.8	46.351	73.03	38.077	68.97	11.438	45.65	39.159	63.41
12 19.8	46.281	72.83	37.818	70.55	11.356	46.81	39.094	64.49
12 29.8	46.193	72.51	37.532	71.61	11.257	47.77	39.009	65.42
12 39.8	46.089	72.06	37.226	72.14	11.143	48.53	38.906	66.21
Pos. Med.	44.710	58.14	35.178	64.54	9.624	51.97	37.298	71.30
Secδ tanδ	1.038	.277	1.842	-1.547	1.039	-.283	1.016	-.180
Dob.Tran.	Oct 14		Oct 16		Oct 18		Oct 19	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	64		66		68		72	
EST.	α Trianguli		β Arietis		χ Eridani		α Hydri	
MAG.	3.41		2.64		3.70		2.86	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	1 54	+29 41	1 55	+20 55	1 56	-51 29	1 59	-61 26
mes d	s	"	s	"	s	"	s	"
1 -5.2	23.630	31.59	54.645	15.33	51.966	58.57	31.174	108.31
1 4.8	23.518	31.61	54.547	15.12	51.727	59.56	30.822	109.24
1 14.8	23.386	31.40	54.431	14.76	51.471	60.03	30.449	109.62
1 24.7	23.237	30.93	54.299	14.25	51.204	59.98	30.063	109.42
2 3.7	23.082	30.25	54.161	13.61	50.937	59.36	29.681	108.62
2 13.7	22.928	29.37	54.023	12.88	50.679	58.25	29.312	107.30
2 23.7	22.781	28.34	53.891	12.08	50.436	56.65	28.965	105.45
3 5.6	22.656	27.20	53.778	11.26	50.223	54.58	28.658	103.13
3 15.6	22.559	26.03	53.691	10.46	50.045	52.13	28.397	100.41
3 25.6	22.498	24.87	53.636	9.74	49.911	49.32	28.192	97.33
4 4.5	22.483	23.81	53.623	9.16	49.831	46.21	28.057	93.97
4 14.5	22.515	22.89	53.654	8.75	49.806	42.90	27.990	90.42
4 24.5	22.598	22.17	53.730	8.57	49.843	39.40	28.002	86.71
5 4.5	22.735	21.70	53.858	8.58	49.945	35.84	28.095	82.96
5 14.4	22.921	21.49	54.033	8.87	50.108	32.27	28.265	79.24
5 24.4	23.155	21.59	54.253	9.45	50.333	28.74	28.513	75.60
6 3.4	23.430	22.03	54.512	10.31	50.614	25.39	28.833	72.18
6 13.4	23.737	22.75	54.801	11.41	50.943	22.25	29.215	69.01
6 23.3	24.071	23.78	55.116	12.75	51.315	19.41	29.654	66.18
7 3.3	24.421	25.09	55.447	14.30	51.718	16.96	30.135	63.78
7 13.3	24.778	26.61	55.784	15.99	52.141	14.92	30.645	61.84
7 23.2	25.136	28.34	56.124	17.80	52.576	13.37	31.174	60.43
8 2.2	25.485	30.22	56.454	19.67	53.008	12.37	31.702	59.61
8 12.2	25.818	32.19	56.770	21.56	53.427	11.91	32.218	59.34
8 22.2	26.130	34.23	57.067	23.44	53.824	12.02	32.710	59.69
9 1.1	26.415	36.28	57.337	25.24	54.185	12.70	33.158	60.62
9 11.1	26.671	38.30	57.581	26.95	54.506	13.88	33.557	62.07
9 21.1	26.895	40.27	57.794	28.53	54.779	15.58	33.894	64.04
10 1.1	27.084	42.14	57.973	29.95	54.996	17.67	34.158	66.42
10 11.0	27.240	43.89	58.123	31.22	55.159	20.09	34.350	69.11
10 21.0	27.362	45.50	58.240	32.32	55.261	22.77	34.462	72.04
10 31.0	27.449	46.95	58.325	33.23	55.305	25.54	34.494	75.05
11 9.9	27.506	48.22	58.381	33.99	55.294	28.34	34.451	78.05
11 19.9	27.528	49.30	58.405	34.56	55.228	31.04	34.332	80.92
11 29.9	27.519	50.17	58.402	34.95	55.114	33.51	34.147	83.51
12 9.9	27.480	50.84	58.371	35.19	54.958	35.68	33.905	85.77
12 19.8	27.411	51.25	58.313	35.24	54.763	37.46	33.609	87.58
12 29.8	27.317	51.43	58.231	35.13	54.539	38.76	33.276	88.86
12 39.8	27.199	51.36	58.128	34.87	54.292	39.58	32.914	89.61
Pos. Med.	25.699	32.45	56.598	18.85	52.236	33.61	30.592	82.04
Secδ tanδ	1.151	.570	1.071	.382	1.606	-1.257	2.093	-1.838
Dob.Tran.	Oct 20		Oct 20		Oct 21		Oct 21	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	73		74		75		82	
EST.	γ Andromedae*p		α Arietis		β Trianguli		φ Eridani	
MAG.	2.26		2.00		3.00		3.56	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	2 5	+42 26	2 8	+23 34	2 10	+35 5	2 17	-51 23
mes d	s	"	s	"	s	"	s	"
1 -5.2	18.965	31.68	28.297	18.60	54.965	51.38	20.942	98.17
1 4.8	18.823	32.17	28.202	18.51	54.849	51.67	20.709	99.41
1 14.8	18.655	32.32	28.086	18.26	54.710	51.69	20.453	100.16
1 24.7	18.465	32.10	27.951	17.83	54.549	51.41	20.179	100.37
2 3.7	18.265	31.52	27.807	17.25	54.377	50.85	19.900	100.03
2 13.7	18.065	30.63	27.660	16.54	54.203	50.06	19.625	99.17
2 23.7	17.873	29.44	27.518	15.72	54.034	49.03	19.360	97.80
3 5.6	17.705	28.02	27.394	14.86	53.886	47.84	19.120	95.95
3 15.6	17.570	26.46	27.294	14.00	53.765	46.55	18.912	93.70
3 25.6	17.477	24.79	27.225	13.17	53.680	45.21	18.744	91.04
4 4.6	17.437	23.14	27.199	12.45	53.643	43.91	18.628	88.07
4 14.5	17.453	21.56	27.218	11.89	53.656	42.71	18.566	84.86
4 24.5	17.529	20.12	27.284	11.52	53.723	41.67	18.566	81.43
5 4.5	17.668	18.92	27.400	11.37	53.848	40.85	18.630	77.89
5 14.4	17.864	17.97	27.565	11.45	54.024	40.28	18.757	74.31
5 24.4	18.116	17.34	27.778	11.83	54.253	40.01	18.947	70.75
6 3.4	18.417	17.08	28.031	12.49	54.528	40.07	19.197	67.32
6 13.4	18.756	17.16	28.317	13.40	54.838	40.44	19.497	64.07
6 23.3	19.129	17.62	28.632	14.57	55.180	41.14	19.844	61.08
7 3.3	19.522	18.43	28.964	15.96	55.542	42.15	20.227	58.46
7 13.3	19.925	19.56	29.305	17.52	55.914	43.41	20.635	56.24
7 23.3	20.332	21.01	29.650	19.22	56.291	44.93	21.060	54.49
8 2.2	20.730	22.73	29.988	21.02	56.660	46.65	21.487	53.28
8 12.2	21.113	24.65	30.313	22.86	57.016	48.53	21.908	52.60
8 22.2	21.476	26.78	30.621	24.72	57.354	50.53	22.312	52.52
9 1.1	21.809	29.02	30.904	26.53	57.666	52.59	22.685	53.01
9 11.1	22.112	31.36	31.162	28.27	57.950	54.68	23.024	54.03
9 21.1	22.380	33.75	31.390	29.92	58.203	56.78	23.318	55.58
10 1.1	22.609	36.13	31.586	31.43	58.421	58.82	23.560	57.58
10 11.0	22.802	38.48	31.752	32.81	58.606	60.79	23.750	59.94
10 21.0	22.954	40.76	31.886	34.03	58.755	62.67	23.882	62.60
10 31.0	23.065	42.91	31.987	35.09	58.868	64.40	23.955	65.42
11 10.0	23.139	44.92	32.058	35.99	58.947	66.00	23.973	68.29
11 19.9	23.170	46.75	32.097	36.71	58.988	67.41	23.934	71.12
11 29.9	23.163	48.34	32.105	37.26	58.994	68.61	23.843	73.75
12 9.9	23.117	49.68	32.085	37.65	58.967	69.60	23.707	76.12
12 19.8	23.032	50.71	32.033	37.85	58.904	70.33	23.526	78.13
12 29.8	22.913	51.42	31.956	37.87	58.810	70.80	23.312	79.69
12 39.8	22.764	51.79	31.855	37.73	58.688	71.00	23.069	80.77
Pos. Med.	21.151	28.83	30.227	20.77	57.030	50.25	20.937	75.28
Secδ tanδ	1.355	.914	1.091	.436	1.222	.703	1.603	-1.253
Dob.Tran.	Oct 23		Oct 23		Oct 24		Oct 26	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	79		1065		86		1075	
EST.	γ Trianguli		δ Hydri		χ Eridani		ι Eridani	
MAG.	4.01		4.09		4.25		4.11	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	2 18	+33 57	2 22	-68 32	2 27	-47 35	2 41	-39 44
mes d	s	"	s	"	s	"	s	"
1 -5.2	41.167	18.02	12.545	95.27	50.685	78.53	35.280	99.18
1 4.8	41.058	18.32	12.054	96.41	50.484	79.91	35.128	100.67
1 14.8	40.925	18.37	11.528	96.99	50.258	80.81	34.950	101.75
1 24.8	40.768	18.13	10.977	96.97	50.013	81.21	34.750	102.37
2 3.7	40.599	17.62	10.422	96.32	49.759	81.06	34.537	102.50
2 13.7	40.426	16.89	9.880	95.13	49.504	80.41	34.321	102.16
2 23.7	40.257	15.93	9.361	93.39	49.256	79.26	34.105	101.36
3 5.6	40.106	14.82	8.888	91.14	49.029	77.63	33.905	100.09
3 15.6	39.981	13.62	8.471	88.49	48.829	75.59	33.726	98.42
3 25.6	39.891	12.35	8.122	85.43	48.665	73.14	33.577	96.36
4 4.6	39.847	11.13	7.858	82.08	48.548	70.36	33.469	93.94
4 14.5	39.852	10.00	7.680	78.51	48.482	67.32	33.405	91.24
4 24.5	39.910	9.02	7.601	74.77	48.472	64.04	33.391	88.28
5 4.5	40.025	8.25	7.626	70.96	48.523	60.62	33.433	85.14
5 14.5	40.192	7.72	7.748	67.17	48.633	57.13	33.528	81.89
5 24.4	40.411	7.47	7.975	63.44	48.804	53.62	33.677	78.56
6 3.4	40.677	7.54	8.299	59.91	49.031	50.20	33.878	75.28
6 13.4	40.979	7.91	8.706	56.63	49.305	46.94	34.123	72.10
6 23.3	41.313	8.60	9.196	53.67	49.626	43.91	34.411	69.08
7 3.3	41.668	9.58	9.750	51.15	49.982	41.21	34.730	66.33
7 13.3	42.034	10.81	10.351	49.07	50.362	38.87	35.072	63.89
7 23.3	42.407	12.28	10.990	47.53	50.760	36.98	35.432	61.84
8 2.2	42.774	13.94	11.640	46.58	51.161	35.61	35.796	60.26
8 12.2	43.129	15.75	12.288	46.21	51.558	34.75	36.157	59.15
8 22.2	43.468	17.67	12.916	46.46	51.942	34.47	36.509	58.57
9 1.2	43.781	19.66	13.500	47.32	52.299	34.76	36.839	58.54
9 11.1	44.069	21.66	14.030	48.73	52.626	35.58	37.145	59.03
9 21.1	44.326	23.67	14.488	50.68	52.914	36.95	37.419	60.05
10 1.1	44.550	25.62	14.857	53.08	53.156	38.77	37.655	61.53
10 11.0	44.742	27.50	15.135	55.82	53.351	40.97	37.852	63.41
10 21.0	44.898	29.28	15.308	58.85	53.494	43.50	38.005	65.65
10 31.0	45.019	30.93	15.374	61.98	53.584	46.21	38.114	68.10
11 10.0	45.107	32.45	15.338	65.14	53.623	49.01	38.181	70.68
11 19.9	45.158	33.79	15.196	68.19	53.610	51.81	38.202	73.32
11 29.9	45.174	34.94	14.958	70.98	53.549	54.44	38.181	75.85
12 9.9	45.155	35.89	14.636	73.44	53.444	56.86	38.120	78.22
12 19.9	45.100	36.60	14.233	75.47	53.296	58.95	38.020	80.32
12 29.8	45.014	37.06	13.773	76.97	53.114	60.61	37.888	82.07
12 39.8	44.899	37.27	13.265	77.93	52.903	61.84	37.725	83.43
Pos. Med.	43.178	16.93	10.470	70.32	50.796	57.38	35.668	80.99
Secδ tanδ	1.206	.673	2.735	-2.546	1.483	-1.095	1.301	-.832
Dob.Tran.	Oct 26		Oct 27		Oct 28		Nov 1	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	101		100		104		106	
EST.	β Fornacis		41 Arietis		η Eridani		ϑ Eridani*p	
MAG.	4.46		3.63		3.89		3.25	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	2 50	-32 18	2 51	+27 21	2 57	- 8 48	2 59	-40 12
mes d	s	"	s	"	s	"	s	"
1 -5.1	3.836	45.71	20.621	21.92	33.441	30.12	8.954	58.15
1 4.8	3.715	47.20	20.546	22.13	33.370	31.18	8.807	59.82
1 14.8	3.570	48.33	20.441	22.17	33.274	32.06	8.633	61.08
1 24.8	3.400	49.07	20.308	22.02	33.154	32.77	8.431	61.89
2 3.7	3.217	49.37	20.157	21.69	33.017	33.26	8.214	62.20
2 13.7	3.026	49.25	19.995	21.20	32.871	33.52	7.988	62.04
2 23.7	2.834	48.71	19.829	20.55	32.720	33.56	7.760	61.40
3 5.7	2.653	47.73	19.674	19.80	32.577	33.34	7.544	60.28
3 15.6	2.491	46.38	19.537	18.97	32.448	32.89	7.346	58.75
3 25.6	2.355	44.65	19.428	18.11	32.342	32.18	7.176	56.80
4 4.6	2.255	42.57	19.359	17.28	32.268	31.22	7.046	54.48
4 14.6	2.196	40.21	19.333	16.54	32.230	30.03	6.958	51.87
4 24.5	2.184	37.58	19.356	15.92	32.235	28.59	6.920	48.97
5 4.5	2.223	34.74	19.431	15.49	32.285	26.92	6.937	45.86
5 14.5	2.312	31.76	19.555	15.24	32.381	25.08	7.007	42.63
5 24.4	2.451	28.68	19.733	15.20	32.522	23.05	7.134	39.29
6 3.4	2.639	25.59	19.957	15.44	32.706	20.90	7.313	35.98
6 13.4	2.868	22.55	20.220	15.93	32.926	18.69	7.539	32.74
6 23.4	3.137	19.61	20.517	16.66	33.180	16.44	7.809	29.64
7 3.3	3.435	16.90	20.839	17.63	33.459	14.23	8.114	26.79
7 13.3	3.754	14.45	21.178	18.79	33.756	12.11	8.446	24.24
7 23.3	4.090	12.32	21.528	20.13	34.065	10.14	8.798	22.07
8 2.3	4.431	10.61	21.878	21.59	34.377	8.38	9.159	20.35
8 12.2	4.770	9.33	22.223	23.14	34.687	6.86	9.521	19.10
8 22.2	5.100	8.53	22.557	24.76	34.988	5.65	9.877	18.39
9 1.2	5.412	8.24	22.873	26.38	35.274	4.77	10.215	18.24
9 11.1	5.703	8.44	23.168	27.99	35.541	4.22	10.532	18.61
9 21.1	5.966	9.15	23.440	29.55	35.787	4.04	10.821	19.53
10 1.1	6.196	10.31	23.683	31.03	36.005	4.20	11.073	20.94
10 11.1	6.392	11.86	23.900	32.42	36.198	4.66	11.289	22.77
10 21.0	6.551	13.77	24.085	33.71	36.361	5.43	11.463	24.99
10 31.0	6.671	15.92	24.239	34.88	36.494	6.42	11.593	27.45
11 10.0	6.753	18.23	24.362	35.93	36.599	7.58	11.680	30.09
11 20.0	6.795	20.62	24.450	36.84	36.671	8.87	11.721	32.80
11 29.9	6.799	22.96	24.504	37.62	36.712	10.21	11.717	35.44
12 9.9	6.767	25.18	24.523	38.26	36.723	11.54	11.673	37.94
12 19.9	6.698	27.19	24.506	38.74	36.701	12.81	11.585	40.20
12 29.8	6.597	28.90	24.454	39.06	36.650	13.96	11.461	42.11
12 39.8	6.468	30.29	24.370	39.20	36.571	14.98	11.305	43.66
Pos. Med.	4.450	29.92	22.401	21.35	34.631	21.19	9.176	41.60
Secδ tanδ	1.183	-.632	1.126	.517	1.012	-.155	1.309	-.845
Dob.Tran.	Nov 3		Nov 3		Nov 5		Nov 5	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	107		111		119		120	
EST.	α Ceti		β Persei (Algol)		82 G.Eridani		α Persei	
MAG.	2.53		2.1 a 3.4		4.27		1.79	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	3 3	+ 4 10	3 9	+41 2	3 20	-42 58	3 25	+49 56
mes d	s	"	s	"	s	"	s	"
1 -5.1	29.256	44.85	40.578	44.47	51.896	67.42	58.902	40.55
1 4.8	29.198	44.20	40.491	45.33	51.757	69.30	58.805	41.90
1 14.8	29.112	43.60	40.367	45.94	51.584	70.76	58.660	42.95
1 24.8	29.000	43.05	40.205	46.24	51.379	71.77	58.467	43.64
2 3.8	28.870	42.59	40.017	46.22	51.153	72.26	58.241	43.95
2 13.7	28.729	42.22	39.814	45.91	50.914	72.26	57.992	43.88
2 23.7	28.581	41.94	39.603	45.30	50.670	71.76	57.731	43.42
3 5.7	28.440	41.79	39.402	44.42	50.433	70.76	57.478	42.61
3 15.6	28.312	41.77	39.220	43.34	50.213	69.33	57.245	41.49
3 25.6	28.207	41.90	39.068	42.08	50.018	67.45	57.043	40.10
4 4.6	28.134	42.22	38.961	40.73	49.862	65.17	56.892	38.52
4 14.6	28.098	42.71	38.904	39.36	49.748	62.57	56.796	36.84
4 24.5	28.104	43.41	38.903	38.01	49.684	59.66	56.764	35.11
5 4.5	28.156	44.30	38.964	36.79	49.676	56.53	56.803	33.43
5 14.5	28.252	45.41	39.083	35.72	49.723	53.24	56.910	31.86
5 24.5	28.395	46.73	39.262	34.86	49.828	49.83	57.086	30.46
6 3.4	28.582	48.21	39.496	34.25	49.990	46.43	57.328	29.29
6 13.4	28.804	49.82	39.777	33.91	50.202	43.07	57.626	28.39
6 23.4	29.061	51.55	40.101	33.88	50.462	39.85	57.975	27.79
7 3.3	29.342	53.33	40.458	34.14	50.763	36.86	58.366	27.52
7 13.3	29.640	55.12	40.836	34.68	51.094	34.17	58.785	27.57
7 23.3	29.951	56.89	41.230	35.50	51.452	31.84	59.228	27.94
8 2.3	30.265	58.56	41.630	36.58	51.823	29.97	59.681	28.63
8 12.2	30.576	60.11	42.027	37.86	52.200	28.57	60.136	29.60
8 22.2	30.881	61.48	42.417	39.33	52.576	27.72	60.587	30.84
9 1.2	31.169	62.64	42.789	40.96	52.939	27.45	61.023	32.31
9 11.2	31.441	63.57	43.142	42.69	53.284	27.72	61.440	33.98
9 21.1	31.692	64.25	43.471	44.52	53.604	28.57	61.835	35.84
10 1.1	31.918	64.67	43.770	46.39	53.889	29.94	62.197	37.83
10 11.1	32.120	64.86	44.040	48.29	54.140	31.76	62.528	39.92
10 21.0	32.295	64.81	44.276	50.18	54.349	34.01	62.821	42.09
10 31.0	32.440	64.56	44.475	52.03	54.511	36.54	63.072	44.29
11 10.0	32.559	64.15	44.638	53.83	54.630	39.27	63.281	46.49
11 20.0	32.646	63.61	44.759	55.54	54.700	42.12	63.440	48.66
11 29.9	32.703	62.98	44.838	57.12	54.721	44.92	63.547	50.73
12 9.9	32.729	62.31	44.873	58.56	54.697	47.61	63.602	52.67
12 19.9	32.722	61.61	44.861	59.80	54.625	50.07	63.598	54.43
12 29.9	32.684	60.93	44.806	60.81	54.511	52.19	63.539	55.94
12 39.8	32.617	60.29	44.708	61.58	54.359	53.95	63.428	57.18
Pos. Med.	30.650	49.90	42.443	40.21	51.973	52.22	60.789	34.30
Secδ tanδ	1.003	.073	1.326	.871	1.367	-.932	1.554	1.189
Dob.Tran.	Nov 6		Nov 8		Nov 11		Nov 12	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	121		123		127		1099	
EST.	o Tauri		ξ Tauri		ε Eridani		τ^5 Eridani	
MAG.	3.60		3.74		3.73		4.27	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	3 26	+ 9 6	3 28	+ 9 48	3 34	- 9 22	3 34	-21 32
mes d	s	"	s	"	s	"	s	"
1 -5.1	3.500	33.67	25.396	44.93	1.400	54.74	48.926	88.37
1 4.9	3.456	33.19	25.355	44.48	1.345	55.94	48.858	89.98
1 14.8	3.382	32.73	25.282	44.04	1.261	56.97	48.758	91.33
1 24.8	3.277	32.28	25.178	43.61	1.147	57.81	48.628	92.38
2 3.8	3.150	31.87	25.051	43.21	1.010	58.40	48.475	93.08
2 13.7	3.006	31.50	24.908	42.85	.858	58.77	48.306	93.44
2 23.7	2.853	31.17	24.754	42.52	.695	58.89	48.126	93.45
3 5.7	2.702	30.93	24.602	42.27	.535	58.74	47.949	93.08
3 15.7	2.562	30.76	24.461	42.08	.384	58.36	47.781	92.38
3 25.6	2.441	30.70	24.338	42.00	.252	57.71	47.631	91.34
4 4.6	2.351	30.78	24.247	42.05	.148	56.80	47.511	89.96
4 14.6	2.296	31.00	24.190	42.23	.079	55.65	47.425	88.30
4 24.6	2.283	31.39	24.176	42.58	.049	54.26	47.380	86.34
5 4.5	2.318	31.96	24.209	43.10	.065	52.65	47.382	84.14
5 14.5	2.395	32.69	24.284	43.79	.125	50.84	47.430	81.74
5 24.5	2.520	33.67	24.407	44.72	.232	48.85	47.526	79.17
6 3.4	2.691	34.82	24.577	45.82	.384	46.74	47.668	76.51
6 13.4	2.900	36.11	24.785	47.07	.574	44.55	47.852	73.80
6 23.4	3.145	37.54	25.029	48.45	.801	42.31	48.075	71.10
7 3.4	3.418	39.05	25.301	49.93	1.058	40.11	48.331	68.51
7 13.3	3.710	40.62	25.593	51.46	1.335	37.99	48.610	66.07
7 23.3	4.018	42.20	25.902	53.02	1.631	36.00	48.910	63.85
8 2.3	4.333	43.74	26.217	54.54	1.935	34.23	49.221	61.94
8 12.3	4.648	45.20	26.532	55.99	2.241	32.69	49.536	60.36
8 22.2	4.959	46.54	26.844	57.32	2.544	31.46	49.851	59.17
9 1.2	5.258	47.71	27.145	58.50	2.837	30.56	50.155	58.44
9 11.2	5.543	48.71	27.432	59.50	3.117	30.01	50.447	58.13
9 21.1	5.811	49.50	27.703	60.30	3.380	29.84	50.722	58.29
10 1.1	6.056	50.06	27.950	60.89	3.620	30.03	50.972	58.90
10 11.1	6.280	50.43	28.177	61.28	3.838	30.54	51.199	59.90
10 21.1	6.479	50.59	28.379	61.47	4.029	31.38	51.397	61.29
10 31.0	6.650	50.56	28.553	61.49	4.192	32.46	51.563	62.96
11 10.0	6.794	50.40	28.701	61.35	4.327	33.74	51.699	64.85
11 20.0	6.907	50.10	28.817	61.09	4.430	35.16	51.799	66.90
11 30.0	6.989	49.71	28.902	60.75	4.500	36.64	51.863	68.99
12 9.9	7.038	49.27	28.954	60.34	4.538	38.13	51.893	71.05
12 19.9	7.052	48.78	28.971	59.89	4.539	39.57	51.884	73.01
12 29.9	7.032	48.29	28.953	59.43	4.508	40.87	51.840	74.78
12 39.8	6.979	47.80	28.902	58.97	4.444	42.04	51.761	76.32
Pos. Med.	4.877	36.12	26.779	47.10	2.387	48.20	49.628	79.36
Secδ tanδ	1.013	.160	1.015	.173	1.014	-.165	1.075	-.395
Dob.Tran.	Nov 12		Nov 13		Nov 14		Nov 14	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	135		141		136		146	
EST.	δ Eridani		β Reticuli		17 Tauri		γ Hydri	
MAG.	3.54		3.85		3.70		3.24	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	3 44	- 9 40	3 44	-64 43	3 46	+24 11	3 46	-74 9
mes d	s	"	s	"	s	"	s	"
1 -5.1	21.605	73.11	32.614	75.25	15.041	9.52	59.533	74.49
1 4.9	21.560	74.36	32.290	77.48	15.010	9.74	58.954	76.67
1 14.8	21.484	75.43	31.905	79.24	14.943	9.86	58.282	78.37
1 24.8	21.376	76.30	31.464	80.48	14.838	9.88	57.526	79.54
2 3.8	21.243	76.94	30.986	81.12	14.704	9.78	56.716	80.11
2 13.8	21.092	77.34	30.486	81.21	14.549	9.57	55.878	80.11
2 23.7	20.929	77.49	29.974	80.72	14.380	9.24	55.024	79.54
3 5.7	20.766	77.37	29.473	79.66	14.210	8.83	54.190	78.39
3 15.7	20.611	77.01	28.995	78.10	14.048	8.34	53.395	76.75
3 25.6	20.472	76.39	28.553	76.05	13.905	7.81	52.654	74.62
4 4.6	20.361	75.49	28.168	73.55	13.794	7.27	52.000	72.05
4 14.6	20.283	74.36	27.846	70.70	13.719	6.78	51.439	69.15
4 24.6	20.243	72.98	27.597	67.51	13.688	6.35	50.989	65.91
5 4.5	20.249	71.38	27.436	64.08	13.709	6.05	50.668	62.45
5 14.5	20.299	69.58	27.359	60.50	13.779	5.91	50.474	58.85
5 24.5	20.395	67.59	27.375	56.79	13.890	5.92	50.420	55.15
6 3.5	20.536	65.47	27.484	53.10	14.061	6.06	50.508	51.47
6 13.4	20.717	63.26	27.678	49.49	14.272	6.43	50.725	47.88
6 23.4	20.935	61.00	27.958	46.03	14.523	7.00	51.078	44.46
7 3.4	21.184	58.78	28.314	42.84	14.806	7.74	51.552	41.33
7 13.3	21.456	56.62	28.734	39.98	15.112	8.62	52.127	38.52
7 23.3	21.747	54.60	29.212	37.54	15.437	9.65	52.801	36.15
8 2.3	22.049	52.78	29.730	35.60	15.772	10.76	53.542	34.30
8 12.3	22.354	51.21	30.275	34.19	16.110	11.94	54.332	32.97
8 22.2	22.660	49.93	30.835	33.39	16.448	13.14	55.153	32.25
9 1.2	22.957	48.99	31.388	33.23	16.776	14.34	55.971	32.17
9 11.2	23.242	48.40	31.925	33.66	17.093	15.50	56.767	32.70
9 21.2	23.513	48.19	32.430	34.74	17.395	16.61	57.518	33.86
10 1.1	23.762	48.34	32.884	36.40	17.675	17.63	58.190	35.60
10 11.1	23.991	48.84	33.281	38.57	17.936	18.57	58.773	37.83
10 21.1	24.195	49.66	33.607	41.21	18.173	19.42	59.241	40.53
10 31.0	24.370	50.74	33.850	44.17	18.381	20.16	59.576	43.54
11 10.0	24.519	52.02	34.011	47.37	18.562	20.83	59.776	46.78
11 20.0	24.636	53.47	34.079	50.69	18.711	21.41	59.825	50.12
11 30.0	24.719	54.97	34.055	53.97	18.824	21.91	59.724	53.41
12 9.9	24.770	56.49	33.944	57.12	18.901	22.34	59.482	56.55
12 19.9	24.784	57.96	33.743	60.02	18.938	22.69	59.096	59.42
12 29.9	24.763	59.31	33.465	62.53	18.935	22.95	58.587	61.90
12 39.9	24.708	60.52	33.116	64.63	18.893	23.12	57.970	63.94
Pos. Med.	22.566	67.05	30.098	60.53	16.557	7.61	54.024	59.47
Secδ tanδ	1.014	-.171	2.343	-2.119	1.096	.449	3.665	-3.526
Dob.Tran.	Nov 17		Nov 17		Nov 17		Nov 17	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	139		142		144		149	
EST.	η Tauri		27 Tauri		ζ Persei		γ Eridani	
MAG.	2.87		3.63		2.85		2.95	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	3 48	+24 10	3 50	+24 7	3 55	+31 57	3 59	-13 26
mes d	s	"	s	"	s	"	s	"
1 -5.1	51.674	35.51	32.373	26.51	35.342	9.05	6.816	40.41
1 4.9	51.646	35.73	32.346	26.73	35.314	9.68	6.778	41.89
1 14.8	51.580	35.87	32.281	26.87	35.245	10.16	6.706	43.17
1 24.8	51.477	35.89	32.179	26.89	35.135	10.48	6.600	44.23
2 3.8	51.344	35.80	32.047	26.81	34.991	10.61	6.467	45.01
2 13.8	51.190	35.60	31.893	26.62	34.823	10.55	6.313	45.52
2 23.7	51.020	35.29	31.723	26.32	34.638	10.30	6.144	45.75
3 5.7	50.849	34.89	31.552	25.92	34.450	9.86	5.973	45.67
3 15.7	50.687	34.41	31.389	25.46	34.270	9.28	5.807	45.31
3 25.7	50.542	33.89	31.243	24.94	34.109	8.57	5.655	44.65
4 4.6	50.429	33.37	31.129	24.42	33.980	7.78	5.529	43.71
4 14.6	50.352	32.87	31.050	23.94	33.890	6.96	5.434	42.50
4 24.6	50.319	32.45	31.016	23.52	33.847	6.15	5.377	41.02
5 4.5	50.336	32.15	31.031	23.22	33.857	5.42	5.365	39.31
5 14.5	50.403	32.00	31.097	23.07	33.919	4.81	5.396	37.39
5 24.5	50.512	32.02	31.204	23.10	34.033	4.34	5.474	35.28
6 3.5	50.680	32.14	31.370	23.21	34.201	4.02	5.597	33.04
6 13.4	50.889	32.50	31.577	23.56	34.416	3.89	5.762	30.71
6 23.4	51.137	33.05	31.825	24.10	34.675	3.98	5.965	28.34
7 3.4	51.418	33.77	32.104	24.82	34.968	4.29	6.202	26.01
7 13.4	51.722	34.64	32.407	25.68	35.288	4.78	6.464	23.76
7 23.3	52.046	35.65	32.730	26.67	35.629	5.46	6.747	21.66
8 2.3	52.380	36.74	33.064	27.76	35.983	6.30	7.044	19.80
8 12.3	52.718	37.89	33.401	28.90	36.342	7.26	7.348	18.19
8 22.2	53.056	39.08	33.739	30.08	36.702	8.33	7.654	16.91
9 1.2	53.384	40.26	34.068	31.24	37.055	9.47	7.954	16.01
9 11.2	53.702	41.40	34.386	32.37	37.397	10.65	8.246	15.47
9 21.2	54.006	42.49	34.690	33.44	37.725	11.85	8.525	15.35
10 1.1	54.288	43.49	34.974	34.44	38.032	13.05	8.785	15.64
10 11.1	54.552	44.42	35.238	35.35	38.319	14.23	9.026	16.29
10 21.1	54.791	45.25	35.479	36.17	38.582	15.39	9.243	17.30
10 31.1	55.002	45.99	35.692	36.89	38.815	16.51	9.432	18.60
11 10.0	55.186	46.64	35.878	37.54	39.019	17.58	9.595	20.12
11 20.0	55.337	47.21	36.031	38.10	39.188	18.61	9.725	21.82
11 30.0	55.454	47.71	36.149	38.59	39.320	19.57	9.821	23.59
12 9.9	55.534	48.13	36.231	39.01	39.412	20.46	9.884	25.37
12 19.9	55.574	48.48	36.272	39.34	39.459	21.26	9.908	27.11
12 29.9	55.574	48.74	36.274	39.61	39.462	21.95	9.895	28.71
12 39.9	55.534	48.92	36.235	39.79	39.422	22.51	9.846	30.14
Pos. Med.	53.180	33.50	33.871	24.44	36.914	5.33	7.635	35.31
Secδ tanδ	1.096	.449	1.096	.448	1.179	.624	1.028	-.239
Dob.Tran.	Nov 18		Nov 18		Nov 20		Nov 21	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	147		148		150		151	
EST.	ε Persei*		ξ Persei		λ Tauri		ν Tauri	
MAG.	2.89		4.04		3.47 Var		3.91	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	3 59	+40 4	4 0	+35 51	4 1	+12 33	4 4	+ 6 3
mes d	s	"	s	"	s	"	s	"
1 -5.1	24.663	39.25	28.191	28.11	57.835	18.32	23.355	9.23
1 4.9	24.629	40.29	28.164	28.94	57.818	17.98	23.338	8.57
1 14.8	24.549	41.15	28.094	29.62	57.766	17.65	23.286	7.97
1 24.8	24.422	41.77	27.978	30.10	57.677	17.32	23.198	7.43
2 3.8	24.259	42.13	27.828	30.36	57.558	17.01	23.081	6.98
2 13.8	24.068	42.23	27.651	30.40	57.417	16.71	22.941	6.61
2 23.7	23.857	42.05	27.455	30.20	57.259	16.43	22.785	6.33
3 5.7	23.643	41.60	27.255	29.77	57.097	16.19	22.625	6.16
3 15.7	23.439	40.92	27.064	29.16	56.941	16.00	22.470	6.10
3 25.7	23.254	40.02	26.890	28.38	56.799	15.86	22.328	6.15
4 4.6	23.104	38.98	26.751	27.48	56.683	15.81	22.211	6.36
4 14.6	22.998	37.84	26.651	26.51	56.600	15.87	22.126	6.70
4 24.6	22.942	36.65	26.599	25.53	56.557	16.05	22.079	7.22
5 4.5	22.944	35.50	26.603	24.59	56.559	16.38	22.077	7.90
5 14.5	23.004	34.42	26.660	23.75	56.608	16.85	22.119	8.74
5 24.5	23.123	33.46	26.774	23.04	56.700	17.47	22.206	9.77
6 3.5	23.300	32.68	26.943	22.48	56.840	18.33	22.339	10.97
6 13.4	23.528	32.08	27.160	22.12	57.023	19.31	22.513	12.30
6 23.4	23.804	31.72	27.423	21.97	57.244	20.42	22.725	13.75
7 3.4	24.120	31.60	27.724	22.05	57.497	21.63	22.970	15.26
7 13.4	24.465	31.71	28.053	22.33	57.773	22.91	23.238	16.80
7 23.3	24.836	32.06	28.405	22.83	58.071	24.24	23.527	18.33
8 2.3	25.220	32.63	28.772	23.51	58.380	25.55	23.828	19.79
8 12.3	25.612	33.39	29.144	24.35	58.694	26.82	24.135	21.16
8 22.2	26.006	34.33	29.519	25.33	59.011	28.01	24.444	22.38
9 1.2	26.393	35.42	29.887	26.42	59.321	29.06	24.747	23.40
9 11.2	26.769	36.63	30.245	27.58	59.622	29.98	25.043	24.22
9 21.2	27.131	37.95	30.590	28.82	59.912	30.72	25.326	24.81
10 1.1	27.471	39.34	30.914	30.09	60.183	31.28	25.593	25.15
10 11.1	27.790	40.79	31.217	31.38	60.438	31.66	25.842	25.26
10 21.1	28.082	42.27	31.496	32.67	60.671	31.86	26.071	25.15
10 31.1	28.342	43.77	31.744	33.96	60.879	31.91	26.274	24.83
11 10.0	28.569	45.28	31.962	35.23	61.062	31.83	26.453	24.37
11 20.0	28.757	46.77	32.144	36.46	61.215	31.63	26.602	23.77
11 30.0	28.903	48.20	32.285	37.65	61.335	31.37	26.719	23.09
12 9.9	29.004	49.58	32.385	38.77	61.422	31.05	26.804	22.37
12 19.9	29.055	50.85	32.438	39.80	61.470	30.70	26.850	21.64
12 29.9	29.056	51.99	32.444	40.71	61.481	30.34	26.859	20.94
12 39.9	29.009	52.95	32.404	41.48	61.453	29.98	26.831	20.28
Pos. Med.	26.304	34.01	29.786	23.57	59.135	18.07	24.547	10.14
Secδ tanδ	1.307	.841	1.234	.723	1.024	.223	1.006	.106
Dob.Tran.	Nov 21		Nov 21		Nov 21		Nov 22	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	154		156		155		157	
EST.	o[1] Eridani		α Reticuli		αHorologii		γ Doradus	
MAG.	4.04		3.35		3.86		4.25	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	4 12	- 6 46	4 14	-62 24	4 14	-42 13	4 16	-51 25
mes d	s	"	s	"	s	"	s	"
1 -5.1	59.952	43.16	46.362	66.07	47.263	83.63	39.694	51.03
1 4.9	59.932	44.43	46.114	68.65	47.165	86.04	39.549	53.57
1 14.9	59.876	45.54	45.800	70.80	47.024	88.09	39.353	55.72
1 24.8	59.785	46.48	45.424	72.48	46.839	89.74	39.109	57.42
2 3.8	59.663	47.21	45.002	73.60	46.620	90.89	38.826	58.60
2 13.8	59.519	47.72	44.549	74.17	46.378	91.58	38.517	59.26
2 23.7	59.358	48.02	44.073	74.18	46.116	91.77	38.188	59.39
3 5.7	59.191	48.07	43.596	73.61	45.851	91.44	37.855	58.95
3 15.7	59.028	47.89	43.131	72.52	45.592	90.64	37.530	58.03
3 25.7	58.876	47.48	42.691	70.91	45.347	89.37	37.222	56.59
4 4.6	58.748	46.82	42.295	68.82	45.132	87.66	36.948	54.69
4 14.6	58.650	45.93	41.951	66.34	44.952	85.57	36.715	52.39
4 24.6	58.588	44.81	41.670	63.46	44.816	83.10	36.530	49.70
5 4.6	58.570	43.47	41.466	60.29	44.731	80.33	36.406	46.71
5 14.5	58.594	41.93	41.339	56.90	44.699	77.33	36.341	43.49
5 24.5	58.664	40.20	41.296	53.32	44.724	74.13	36.341	40.06
6 3.5	58.780	38.33	41.341	49.69	44.806	70.83	36.408	36.56
6 13.4	58.936	36.35	41.465	46.06	44.940	67.51	36.535	33.04
6 23.4	59.131	34.29	41.673	42.52	45.127	64.21	36.725	29.58
7 3.4	59.360	32.24	41.956	39.19	45.360	61.07	36.971	26.30
7 13.4	59.614	30.22	42.302	36.11	45.630	58.13	37.262	23.25
7 23.3	59.891	28.30	42.710	33.40	45.936	55.49	37.598	20.52
8 2.3	60.181	26.56	43.163	31.16	46.267	53.25	37.965	18.24
8 12.3	60.480	25.01	43.650	29.40	46.614	51.43	38.353	16.41
8 22.3	60.783	23.73	44.161	28.22	46.972	50.13	38.759	15.13
9 1.2	61.082	22.77	44.676	27.67	47.330	49.40	39.165	14.46
9 11.2	61.375	22.12	45.187	27.72	47.682	49.21	39.566	14.37
9 21.2	61.657	21.83	45.680	28.43	48.021	49.63	39.954	14.91
10 1.1	61.922	21.90	46.135	29.76	48.338	50.63	40.314	16.06
10 11.1	62.172	22.30	46.548	31.64	48.629	52.14	40.644	17.76
10 21.1	62.400	23.02	46.904	34.05	48.888	54.16	40.935	19.97
10 31.1	62.602	24.00	47.190	36.85	49.108	56.56	41.176	22.59
11 10.0	62.781	25.20	47.406	39.96	49.288	59.27	41.368	25.52
11 20.0	62.928	26.56	47.539	43.28	49.422	62.20	41.502	28.67
11 30.0	63.043	28.01	47.586	46.64	49.506	65.20	41.576	31.88
12 10.0	63.125	29.49	47.552	49.95	49.542	68.19	41.590	35.07
12 19.9	63.168	30.95	47.430	53.08	49.525	71.05	41.541	38.12
12 29.9	63.174	32.31	47.229	55.91	49.459	73.66	41.433	40.88
12 39.9	63.143	33.54	46.956	58.37	49.345	75.97	41.269	43.31
Pos. Med.	60.876	40.36	43.986	55.71	46.930	75.47	38.684	41.80
Secδ tanδ	1.007	-.119	2.160	-1.914	1.351	-.908	1.604	-1.254
Dob.Tran.	Nov 24		Nov 25		Nov 25		Nov 25	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	159		162		1121		164	
EST.	γ Tauri		δ Tauri		43 Eridani		ε Tauri	
MAG.	3.65		3.76		3.96		3.54	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	4 21	+15 40	4 24	+17 35	4 24	-33 57	4 29	+19 13
mes d	s	"	s	"	s	"	s	"
1 -5.1	6.750	58.81	16.301	46.85	55.198	54.90	58.222	52.93
1 4.9	6.750	58.62	16.304	46.76	55.138	57.20	58.231	52.92
1 14.9	6.712	58.42	16.267	46.65	55.037	59.19	58.198	52.89
1 24.8	6.633	58.22	16.190	46.52	54.894	60.83	58.124	52.84
2 3.8	6.521	58.01	16.078	46.38	54.718	62.04	58.013	52.76
2 13.8	6.383	57.80	15.939	46.21	54.516	62.82	57.875	52.64
2 23.8	6.224	57.58	15.780	46.01	54.295	63.16	57.715	52.47
3 5.7	6.058	57.36	15.612	45.80	54.066	63.03	57.545	52.27
3 15.7	5.894	57.15	15.446	45.57	53.841	62.47	57.376	52.03
3 25.7	5.742	56.96	15.290	45.34	53.627	61.47	57.217	51.79
4 4.6	5.614	56.83	15.160	45.15	53.439	60.05	57.082	51.56
4 14.6	5.516	56.76	15.060	45.01	53.281	58.27	56.977	51.36
4 24.6	5.457	56.79	14.998	44.94	53.162	56.12	56.910	51.22
5 4.6	5.444	56.93	14.982	44.98	53.090	53.67	56.890	51.18
5 14.5	5.476	57.20	15.012	45.14	53.066	50.99	56.915	51.24
5 24.5	5.556	57.58	15.092	45.41	53.093	48.08	56.991	51.41
6 3.5	5.678	58.17	15.210	45.86	53.172	45.05	57.103	51.71
6 13.5	5.847	58.91	15.379	46.49	53.299	41.96	57.270	52.24
6 23.4	6.056	59.78	15.589	47.23	53.473	38.86	57.477	52.86
7 3.4	6.299	60.75	15.832	48.09	53.689	35.88	57.719	53.61
7 13.4	6.569	61.80	16.103	49.04	53.939	33.05	57.988	54.45
7 23.3	6.861	62.91	16.396	50.06	54.220	30.47	58.281	55.37
8 2.3	7.167	64.04	16.705	51.10	54.524	28.23	58.590	56.33
8 12.3	7.482	65.15	17.022	52.15	54.843	26.37	58.909	57.30
8 22.3	7.802	66.20	17.345	53.16	55.173	24.97	59.234	58.25
9 1.2	8.118	67.16	17.664	54.10	55.503	24.09	59.556	59.14
9 11.2	8.429	68.01	17.979	54.94	55.829	23.72	59.875	59.96
9 21.2	8.731	68.72	18.285	55.67	56.146	23.92	60.186	60.68
10 1.2	9.017	69.28	18.576	56.25	56.445	24.66	60.482	61.27
10 11.1	9.289	69.69	18.852	56.72	56.724	25.89	60.765	61.76
10 21.1	9.541	69.95	19.110	57.04	56.976	27.62	61.030	62.13
10 31.1	9.770	70.07	19.344	57.25	57.196	29.73	61.271	62.38
11 10.0	9.975	70.09	19.554	57.37	57.383	32.15	61.489	62.56
11 20.0	10.151	70.02	19.735	57.39	57.531	34.80	61.678	62.66
11 30.0	10.294	69.88	19.883	57.37	57.636	37.55	61.833	62.72
12 10.0	10.402	69.71	19.997	57.30	57.699	40.32	61.954	62.74
12 19.9	10.471	69.50	20.069	57.21	57.715	43.00	62.034	62.73
12 29.9	10.500	69.29	20.101	57.10	57.685	45.47	62.072	62.71
12 39.9	10.488	69.08	20.092	56.98	57.611	47.69	62.068	62.68
Pos. Med.	8.040	57.00	17.608	44.57	55.251	48.90	59.534	50.13
Secδ tanδ	1.039	.281	1.049	.317	1.206	-.674	1.059	.349
Dob.Tran.	Nov 26		Nov 27		Nov 27		Nov 28	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	171		168		172		176	
EST.	α Doradus		α Tauri (Alde-baran)		53 Eridani*		μ Eridani	
MAG.	3.27		0.85		3.87		4.02	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	4 34	-54 59	4 37	+16 33	4 39	-14 15	4 46	- 3 12
mes d	s	"	s	"	s	"	s	"
1 -5.1	31.871	57.19	15.061	19.36	14.786	35.91	39.849	47.38
1 4.9	31.722	59.93	15.075	19.20	14.778	37.62	39.860	48.60
1 14.9	31.516	62.31	15.048	19.04	14.731	39.13	39.831	49.70
1 24.8	31.253	64.25	14.979	18.88	14.644	40.42	39.763	50.64
2 3.8	30.944	65.66	14.874	18.72	14.522	41.43	39.658	51.40
2 13.8	30.603	66.57	14.740	18.56	14.375	42.15	39.526	51.97
2 23.8	30.236	66.93	14.583	18.38	14.206	42.59	39.371	52.36
3 5.7	29.861	66.72	14.415	18.20	14.027	42.71	39.204	52.53
3 15.7	29.490	66.00	14.247	18.02	13.847	42.53	39.035	52.51
3 25.7	29.134	64.76	14.087	17.85	13.675	42.05	38.872	52.28
4 4.7	28.810	63.02	13.950	17.71	13.524	41.27	38.729	51.83
4 14.6	28.526	60.87	13.842	17.62	13.399	40.21	38.611	51.18
4 24.6	28.291	58.30	13.771	17.61	13.309	38.87	38.526	50.32
5 4.6	28.117	55.39	13.744	17.70	13.260	37.28	38.483	49.26
5 14.5	28.006	52.23	13.762	17.90	13.253	35.48	38.480	48.02
5 24.5	27.963	48.84	13.828	18.22	13.291	33.46	38.522	46.59
6 3.5	27.992	45.34	13.936	18.64	13.376	31.30	38.609	45.02
6 13.5	28.087	41.80	14.091	19.30	13.502	29.03	38.737	43.32
6 23.4	28.251	38.28	14.288	20.05	13.669	26.69	38.905	41.53
7 3.4	28.477	34.92	14.520	20.89	13.873	24.38	39.108	39.72
7 13.4	28.756	31.77	14.780	21.82	14.106	22.12	39.340	37.91
7 23.4	29.087	28.93	15.064	22.80	14.365	20.00	39.598	36.17
8 2.3	29.457	26.50	15.366	23.81	14.643	18.09	39.873	34.56
8 12.3	29.856	24.52	15.677	24.80	14.933	16.42	40.161	33.11
8 22.3	30.279	23.09	15.996	25.74	15.233	15.07	40.458	31.88
9 1.2	30.709	22.26	16.313	26.60	15.533	14.10	40.756	30.94
9 11.2	31.140	22.02	16.628	27.35	15.831	13.50	41.053	30.27
9 21.2	31.562	22.44	16.936	27.98	16.123	13.33	41.345	29.93
10 1.2	31.959	23.48	17.231	28.46	16.402	13.58	41.626	29.93
10 11.1	32.328	25.08	17.513	28.81	16.667	14.22	41.895	30.23
10 21.1	32.657	27.25	17.778	29.02	16.914	15.25	42.147	30.84
10 31.1	32.935	29.85	18.021	29.11	17.136	16.60	42.379	31.72
11 10.1	33.161	32.80	18.242	29.10	17.335	18.21	42.589	32.80
11 20.0	33.324	36.01	18.434	29.00	17.503	20.04	42.772	34.06
11 30.0	33.421	39.32	18.594	28.86	17.638	21.96	42.922	35.41
12 10.0	33.453	42.64	18.719	28.68	17.738	23.93	43.040	36.80
12 19.9	33.413	45.86	18.804	28.49	17.797	25.88	43.119	38.19
12 29.9	33.306	48.81	18.847	28.30	17.817	27.70	43.157	39.50
12 39.9	33.137	51.46	18.849	28.12	17.796	29.37	43.156	40.70
Pos. Med.	30.415	50.16	16.316	16.57	15.458	34.23	40.755	47.80
Secδ tanδ	1.743	-1.428	1.043	.297	1.032	-.254	1.002	-.056
Dob.Tran.	Nov 30		Nov 30		Dic 1		Dic 3	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	179		181		186		185	
EST.	π^4 Orionis		ι Aurigae		ε Leporis		η Aurigae	
MAG.	3.69		2.69		3.19		3.17	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "
	4 52	+ 5 38	4 58	+33 12	5 6	-22 20	5 8	+41 15
mes d								
1 -5.1	26.531	38.34	30.295	9.41	27.027	27.56	8.619	56.36
1 4.9	26.554	37.56	30.331	10.19	27.030	29.74	8.665	57.60
1 14.9	26.536	36.86	30.318	10.91	26.991	31.70	8.655	58.76
1 24.9	26.476	36.25	30.253	11.53	26.907	33.41	8.587	59.79
2 3.8	26.380	35.75	30.144	12.03	26.785	34.78	8.467	60.64
2 13.8	26.254	35.36	29.997	12.38	26.632	35.81	8.305	61.28
2 23.8	26.103	35.07	29.820	12.55	26.451	36.49	8.107	61.68
3 5.7	25.939	34.90	29.626	12.54	26.257	36.77	7.889	61.81
3 15.7	25.773	34.84	29.429	12.35	26.058	36.70	7.665	61.68
3 25.7	25.611	34.90	29.237	11.99	25.862	36.26	7.446	61.29
4 4.7	25.469	35.09	29.067	11.49	25.683	35.45	7.248	60.68
4 14.6	25.352	35.41	28.928	10.88	25.527	34.31	7.083	59.88
4 24.6	25.268	35.89	28.827	10.20	25.403	32.84	6.959	58.93
5 4.6	25.225	36.51	28.775	9.50	25.319	31.06	6.887	57.88
5 14.6	25.224	37.28	28.772	8.80	25.276	29.05	6.870	56.80
5 24.5	25.268	38.20	28.823	8.16	25.278	26.78	6.910	55.71
6 3.5	25.356	39.27	28.927	7.63	25.327	24.35	7.010	54.69
6 13.5	25.486	40.46	29.077	7.17	25.420	21.80	7.162	53.74
6 23.4	25.656	41.76	29.278	6.83	25.556	19.17	7.368	52.91
7 3.4	25.863	43.12	29.521	6.65	25.732	16.57	7.623	52.23
7 13.4	26.097	44.51	29.798	6.62	25.940	14.04	7.915	51.72
7 23.4	26.358	45.89	30.106	6.73	26.181	11.65	8.244	51.38
8 2.3	26.637	47.20	30.435	6.97	26.444	9.50	8.599	51.21
8 12.3	26.928	48.41	30.780	7.32	26.726	7.63	8.972	51.21
8 22.3	27.229	49.48	31.136	7.78	27.022	6.12	9.361	51.37
9 1.3	27.531	50.35	31.496	8.31	27.325	5.03	9.756	51.68
9 11.2	27.833	51.02	31.856	8.89	27.630	4.38	10.154	52.11
9 21.2	28.131	51.45	32.213	9.52	27.934	4.21	10.550	52.68
10 1.2	28.418	51.63	32.560	10.18	28.229	4.53	10.936	53.36
10 11.1	28.695	51.58	32.895	10.87	28.514	5.31	11.312	54.14
10 21.1	28.958	51.29	33.215	11.57	28.783	6.56	11.672	55.02
10 31.1	29.200	50.81	33.513	12.30	29.029	8.19	12.009	56.00
11 10.1	29.422	50.16	33.787	13.04	29.252	10.14	12.320	57.06
11 20.0	29.616	49.37	34.030	13.81	29.444	12.36	12.597	58.20
11 30.0	29.780	48.51	34.237	14.60	29.602	14.72	12.834	59.40
12 10.0	29.912	47.62	34.405	15.40	29.722	17.16	13.028	60.65
12 20.0	30.003	46.73	34.525	16.20	29.800	19.59	13.169	61.92
12 29.9	30.055	45.89	34.597	16.98	29.833	21.89	13.254	63.17
12 39.9	30.065	45.11	34.618	17.73	29.823	24.03	13.283	64.37
Pos. Med.	27.583	36.36	31.672	3.85	27.415	27.50	10.025	49.82
Secδ tanδ	1.005	.099	1.195	.654	1.081	-.411	1.330	.877
Dob.Tran.	Dic 4		Dic 6		Dic 8		Dic 8	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	188		1144		194		193	
EST.	β Eridani		μ Leporis		β Orionis (Rigel)		α Aurigae (Capella)	
MAG.	2.79		3.31 Var		0.12		0.08	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	5 8	- 5 3	5 13	-16 10	5 15	- 8 10	5 18	+46 1
mes d	s	"	s	"	s	"	s	"
1 -5.0	59.552	26.14	58.735	44.38	39.356	32.24	24.362	16.83
1 4.9	59.580	27.54	58.754	46.33	39.387	33.83	24.420	18.34
1 14.9	59.566	28.80	58.731	48.10	39.377	35.25	24.416	19.76
1 24.9	59.510	29.90	58.665	49.65	39.322	36.50	24.348	21.04
2 3.8	59.415	30.78	58.559	50.90	39.228	37.52	24.223	22.12
2 13.8	59.290	31.47	58.421	51.86	39.103	38.30	24.051	22.97
2 23.8	59.137	31.94	58.255	52.51	38.949	38.85	23.838	23.53
3 5.8	58.969	32.17	58.074	52.83	38.780	39.13	23.601	23.79
3 15.7	58.796	32.20	57.887	52.83	38.603	39.17	23.355	23.75
3 25.7	58.626	32.00	57.702	52.52	38.429	38.95	23.112	23.40
4 4.7	58.472	31.57	57.532	51.87	38.269	38.48	22.891	22.76
4 14.7	58.340	30.93	57.384	50.94	38.131	37.77	22.702	21.90
4 24.6	58.239	30.06	57.266	49.71	38.023	36.82	22.555	20.82
5 4.6	58.177	28.98	57.187	48.20	37.952	35.64	22.464	19.61
5 14.6	58.154	27.72	57.147	46.47	37.921	34.26	22.429	18.31
5 24.5	58.174	26.27	57.151	44.50	37.932	32.67	22.456	16.97
6 3.5	58.240	24.67	57.201	42.37	37.988	30.93	22.547	15.66
6 13.5	58.346	22.95	57.292	40.11	38.085	29.07	22.695	14.42
6 23.5	58.493	21.14	57.426	37.77	38.223	27.12	22.901	13.27
7 3.4	58.676	19.29	57.598	35.43	38.399	25.14	23.160	12.27
7 13.4	58.890	17.46	57.802	33.13	38.604	23.18	23.461	11.43
7 23.4	59.131	15.69	58.036	30.94	38.839	21.29	23.803	10.77
8 2.4	59.394	14.07	58.293	28.96	39.096	19.56	24.175	10.31
8 12.3	59.671	12.61	58.567	27.21	39.369	18.02	24.569	10.03
8 22.3	59.960	11.38	58.857	25.78	39.656	16.73	24.982	9.95
9 1.3	60.255	10.44	59.152	24.72	39.948	15.75	25.404	10.05
9 11.2	60.551	9.80	59.451	24.04	40.244	15.10	25.830	10.32
9 21.2	60.846	9.50	59.750	23.81	40.540	14.81	26.258	10.77
10 1.2	61.133	9.55	60.041	24.02	40.829	14.91	26.678	11.37
10 11.2	61.411	9.93	60.324	24.65	41.110	15.35	27.088	12.12
10 21.1	61.676	10.64	60.594	25.70	41.379	16.16	27.482	13.03
10 31.1	61.923	11.63	60.843	27.11	41.629	17.28	27.852	14.07
11 10.1	62.150	12.85	61.071	28.82	41.861	18.65	28.196	15.25
11 20.1	62.350	14.27	61.272	30.77	42.066	20.23	28.504	16.55
11 30.0	62.520	15.79	61.440	32.87	42.240	21.93	28.769	17.94
12 10.0	62.657	17.36	61.573	35.04	42.382	23.69	28.987	19.41
12 20.0	62.755	18.93	61.665	37.21	42.484	25.45	29.148	20.93
12 29.9	62.811	20.42	61.714	39.27	42.544	27.13	29.248	22.43
12 39.9	62.826	21.80	61.720	41.19	42.562	28.69	29.287	23.90
Pos. Med.	60.373	28.03	59.292	45.59	40.103	34.33	25.758	9.64
Secδ tanδ	1.004	-.089	1.041	-.290	1.010	-.144	1.440	1.036
Dob.Tran.	Dic 8		Dic 10		Dic 10		Dic 11	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	195		201		202		204	
EST.	τ Orionis		γ Orionis (Bellatrix)		β Tauri		β Leporis*	
MAG.	3.60		1.64		1.65		2.84	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m 5 18	° ′ - 6 48	h m 5 26	° ′ + 6 22	h m 5 27	° ′ +28 37	h m 5 29	° ′ -20 44
mes d	s	"	s	"	s	"	s	"
1 -5.0	44.160	72.12	22.569	12.59	45.505	35.98	14.784	29.79
1 4.9	44.195	73.65	22.622	11.76	45.573	36.48	14.812	32.03
1 14.9	44.188	75.03	22.633	11.02	45.591	36.97	14.795	34.06
1 24.9	44.138	76.23	22.598	10.39	45.557	37.44	14.731	35.86
2 3.8	44.047	77.21	22.521	9.87	45.475	37.86	14.626	37.34
2 13.8	43.924	77.98	22.410	9.47	45.353	38.20	14.486	38.51
2 23.8	43.773	78.51	22.269	9.18	45.197	38.43	14.316	39.33
3 5.8	43.605	78.79	22.109	9.02	45.019	38.54	14.128	39.78
3 15.7	43.430	78.85	21.941	8.95	44.831	38.53	13.932	39.88
3 25.7	43.257	78.66	21.772	9.00	44.643	38.39	13.734	39.62
4 4.7	43.097	78.22	21.617	9.16	44.470	38.14	13.550	39.00
4 14.7	42.959	77.57	21.483	9.44	44.322	37.81	13.387	38.06
4 24.6	42.850	76.67	21.378	9.85	44.206	37.40	13.251	36.78
5 4.6	42.778	75.56	21.310	10.40	44.133	36.97	13.152	35.20
5 14.6	42.746	74.25	21.282	11.06	44.105	36.54	13.093	33.37
5 24.5	42.756	72.74	21.296	11.87	44.126	36.13	13.076	31.28
6 3.5	42.811	71.08	21.356	12.79	44.198	35.80	13.106	29.01
6 13.5	42.906	69.31	21.455	13.82	44.314	35.59	13.177	26.62
6 23.5	43.042	67.43	21.596	14.97	44.475	35.35	13.292	24.11
7 3.4	43.216	65.52	21.774	16.17	44.682	35.26	13.448	21.61
7 13.4	43.420	63.63	21.983	17.40	44.923	35.27	13.636	19.16
7 23.4	43.653	61.81	22.221	18.62	45.196	35.38	13.858	16.81
8 2.4	43.908	60.13	22.481	19.77	45.493	35.57	14.105	14.69
8 12.3	44.180	58.62	22.757	20.84	45.808	35.83	14.372	12.81
8 22.3	44.465	57.36	23.047	21.77	46.139	36.13	14.657	11.26
9 1.3	44.757	56.40	23.344	22.52	46.478	36.45	14.952	10.11
9 11.2	45.053	55.75	23.645	23.07	46.821	36.79	15.253	9.38
9 21.2	45.349	55.46	23.948	23.39	47.167	37.12	15.556	9.12
10 1.2	45.638	55.53	24.245	23.47	47.507	37.44	15.855	9.35
10 11.2	45.921	55.95	24.537	23.32	47.841	37.75	16.147	10.03
10 21.1	46.191	56.72	24.819	22.93	48.165	38.04	16.427	11.17
10 31.1	46.444	57.79	25.085	22.35	48.472	38.33	16.689	12.71
11 10.1	46.679	59.11	25.334	21.61	48.760	38.63	16.930	14.58
11 20.1	46.887	60.63	25.559	20.74	49.022	38.95	17.144	16.75
11 30.0	47.065	62.26	25.755	19.80	49.252	39.30	17.324	19.07
12 10.0	47.211	63.96	25.920	18.84	49.446	39.69	17.469	21.50
12 20.0	47.317	65.66	26.045	17.87	49.595	40.12	17.571	23.94
12 29.9	47.381	67.28	26.128	16.98	49.697	40.58	17.629	26.28
12 39.9	47.403	68.78	26.169	16.15	49.750	41.05	17.642	28.48
Pos. Med.	44.931	74.58	23.570	8.51	46.771	30.07	15.193	32.15
Secδ tanδ	1.007	-.120	1.006	.112	1.139	.546	1.069	-.379
Dob.Tran.	Dic 11		Dic 13		Dic 13		Dic 13	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	206		207		209		211	
EST.	δ Orionis		α Leporis		ι Orionis*		ζ Tauri	
MAG.	2.23		2.58		2.77		3.00	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	5 33	- 0 16	5 33	-17 48	5 36	- 5 53	5 39	+21 9
mes d	s	"	s	"	s	"	s	"
1 -5.0	11.627	56.76	45.559	22.43	34.241	42.48	1.867	22.68
1 4.9	11.682	57.99	45.595	24.55	34.293	44.03	1.943	22.70
1 14.9	11.693	59.09	45.587	26.49	34.302	45.43	1.972	22.77
1 24.9	11.660	60.06	45.532	28.21	34.266	46.67	1.951	22.87
2 3.9	11.584	60.85	45.436	29.63	34.188	47.68	1.883	22.99
2 13.8	11.474	61.47	45.304	30.75	34.074	48.48	1.776	23.10
2 23.8	11.333	61.92	45.142	31.55	33.930	49.07	1.634	23.19
3 5.8	11.172	62.17	44.961	32.01	33.766	49.40	1.470	23.25
3 15.8	11.003	62.26	44.771	32.14	33.593	49.51	1.295	23.26
3 25.7	10.831	62.17	44.579	31.93	33.417	49.39	1.116	23.22
4 4.7	10.672	61.89	44.399	31.38	33.253	49.03	.951	23.16
4 14.7	10.533	61.45	44.239	30.53	33.108	48.46	.806	23.06
4 24.6	10.421	60.82	44.106	29.36	32.990	47.66	.690	22.95
5 4.6	10.345	60.01	44.010	27.90	32.907	46.64	.613	22.87
5 14.6	10.307	59.05	43.951	26.20	32.862	45.44	.578	22.81
5 24.6	10.311	57.92	43.935	24.26	32.858	44.04	.587	22.81
6 3.5	10.358	56.65	43.964	22.14	32.898	42.49	.645	22.87
6 13.5	10.446	55.27	44.035	19.88	32.978	40.82	.750	22.95
6 23.5	10.575	53.78	44.148	17.52	33.099	39.05	.882	23.23
7 3.5	10.741	52.25	44.300	15.15	33.258	37.24	1.069	23.55
7 13.4	10.938	50.71	44.486	12.81	33.448	35.43	1.286	23.92
7 23.4	11.164	49.20	44.704	10.57	33.668	33.68	1.534	24.35
8 2.4	11.414	47.80	44.947	8.53	33.912	32.07	1.807	24.80
8 12.3	11.680	46.52	45.210	6.72	34.174	30.61	2.098	25.26
8 22.3	11.962	45.44	45.491	5.21	34.453	29.39	2.405	25.70
9 1.3	12.252	44.59	45.782	4.09	34.740	28.45	2.721	26.09
9 11.3	12.548	44.00	46.079	3.36	35.033	27.81	3.043	26.42
9 21.2	12.846	43.70	46.380	3.08	35.329	27.52	3.368	26.67
10 1.2	13.140	43.71	46.677	3.25	35.622	27.59	3.691	26.83
10 11.2	13.429	44.01	46.968	3.87	35.911	28.00	4.010	26.91
10 21.1	13.709	44.61	47.249	4.93	36.190	28.76	4.321	26.90
10 31.1	13.974	45.46	47.512	6.37	36.455	29.82	4.617	26.82
11 10.1	14.223	46.52	47.756	8.13	36.703	31.12	4.897	26.70
11 20.1	14.448	47.75	47.974	10.17	36.927	32.63	5.154	26.56
11 30.0	14.645	49.09	48.160	12.37	37.122	34.27	5.381	26.41
12 10.0	14.810	50.46	48.312	14.67	37.285	35.97	5.576	26.29
12 20.0	14.936	51.84	48.422	16.99	37.409	37.68	5.729	26.21
12 30.0	15.020	53.15	48.488	19.21	37.491	39.31	5.837	26.18
12 39.9	15.062	54.36	48.510	21.30	37.530	40.84	5.899	26.20
Pos. Med.	12.508	60.77	46.049	25.36	35.012	46.37	3.041	17.00
Secδ tanδ	1.000	-.005	1.050	-.321	1.005	-.103	1.072	.387
Dob.Tran.	Dic 14		Dic 15		Dic 15		Dic 16	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	215		217		220		223	
EST.	α Columbae		γ Leporis		χ Orionis		β Columbae	
MAG.	2.64		3.60		2.06		3.12	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m 5 40 s	° ′ -34 3 ″	h m 5 45 s	° ′ -22 26 ″	h m 5 48 s	° ′ - 9 39 ″	h m 5 51 s	° ′ -35 45 ″
mes d								
1 -5.0	30.160	43.89	26.272	28.15	51.633	42.14	47.537	35.17
1 4.9	30.175	46.69	26.311	30.54	51.693	43.93	47.561	38.07
1 14.9	30.141	49.26	26.304	32.74	51.709	45.56	47.533	40.76
1 24.9	30.054	51.56	26.248	34.70	51.678	47.02	47.452	43.18
2 3.9	29.921	53.48	26.149	36.34	51.604	48.23	47.321	45.23
2 13.8	29.750	55.01	26.013	37.66	51.494	49.20	47.151	46.88
2 23.8	29.545	56.12	25.844	38.63	51.350	49.92	46.944	48.12
3 5.8	29.319	56.77	25.655	39.20	51.185	50.36	46.714	48.89
3 15.8	29.082	56.99	25.454	39.43	51.009	50.54	46.471	49.21
3 25.7	28.842	56.75	25.251	39.27	50.828	50.45	46.224	49.07
4 4.7	28.615	56.06	25.058	38.74	50.657	50.09	45.986	48.47
4 14.7	28.408	54.96	24.884	37.88	50.504	49.49	45.768	47.45
4 24.6	28.228	53.46	24.735	36.66	50.375	48.63	45.575	46.01
5 4.6	28.088	51.58	24.622	35.13	50.280	47.52	45.421	44.18
5 14.6	27.988	49.40	24.547	33.33	50.222	46.21	45.306	42.03
5 24.6	27.933	46.91	24.514	31.27	50.203	44.69	45.236	39.56
6 3.5	27.929	44.21	24.526	29.01	50.229	43.00	45.216	36.86
6 13.5	27.970	41.36	24.581	26.61	50.294	41.19	45.242	34.00
6 23.5	28.060	38.39	24.679	24.10	50.400	39.26	45.318	31.00
7 3.5	28.195	35.42	24.818	21.57	50.544	37.30	45.440	27.99
7 13.4	28.370	32.52	24.992	19.08	50.721	35.35	45.603	25.03
7 23.4	28.584	29.75	25.200	16.69	50.929	33.46	45.807	22.20
8 2.4	28.830	27.25	25.436	14.52	51.163	31.72	46.045	19.61
8 12.3	29.102	25.03	25.694	12.58	51.416	30.15	46.310	17.32
8 22.3	29.398	23.21	25.972	10.98	51.688	28.83	46.603	15.40
9 1.3	29.709	21.87	26.262	9.78	51.970	27.83	46.912	13.97
9 11.3	30.030	21.00	26.561	9.00	52.261	27.15	47.234	13.01
9 21.2	30.357	20.70	26.866	8.70	52.557	26.85	47.565	12.63
10 1.2	30.680	20.97	27.168	8.90	52.852	26.94	47.895	12.82
10 11.2	30.998	21.78	27.466	9.57	53.144	27.40	48.221	13.56
10 21.2	31.304	23.15	27.755	10.72	53.429	28.26	48.536	14.88
10 31.1	31.588	25.00	28.026	12.30	53.700	29.44	48.832	16.70
11 10.1	31.849	27.25	28.279	14.23	53.955	30.91	49.104	18.95
11 20.1	32.077	29.87	28.506	16.47	54.188	32.61	49.345	21.57
11 30.0	32.267	32.70	28.699	18.89	54.392	34.46	49.548	24.44
12 10.0	32.416	35.67	28.858	21.44	54.564	36.40	49.709	27.47
12 20.0	32.516	38.68	28.974	24.02	54.697	38.35	49.820	30.56
12 30.0	32.565	41.59	29.044	26.51	54.787	40.23	49.879	33.56
12 39.9	32.564	44.35	29.068	28.87	54.833	42.00	49.886	36.42
Pos. Med.	30.072	46.73	26.610	32.09	52.315	46.80	47.374	39.04
Secδ tanδ	1.207	-.676	1.082	-.413	1.014	-.170	1.232	-.720
Dob.Tran.	Dic 16		Dic 18		Dic 18		Dic 19	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	222		224		227		225	
EST.	δ Leporis		α Orionis (Betel geuse)		βAurigae		δ Aurigae	
MAG.	3.81		0.4 A 1.3		1.90		3.72	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	5 52	-20 52	5 56	+ 7 24	6 1	+44 56	6 1	+54 16
mes d	s	"	s	"	s	"	s	"
1 -5.0	19.560	38.46	25.712	39.95	13.937	56.99	26.549	68.27
1 5.0	19.610	40.83	25.795	39.10	14.054	58.42	26.676	70.22
1 14.9	19.614	43.01	25.833	38.35	14.108	59.86	26.727	72.15
1 24.9	19.570	44.97	25.824	37.70	14.094	61.25	26.697	74.00
2 3.9	19.480	46.62	25.769	37.20	14.017	62.52	26.591	75.68
2 13.8	19.354	47.96	25.675	36.81	13.886	63.63	26.421	77.13
2 23.8	19.193	48.97	25.547	36.53	13.705	64.52	26.192	78.29
3 5.8	19.011	49.60	25.394	36.37	13.490	65.15	25.923	79.10
3 15.8	18.816	49.88	25.229	36.31	13.256	65.51	25.631	79.54
3 25.7	18.616	49.80	25.058	36.35	13.013	65.57	25.328	79.61
4 4.7	18.426	49.36	24.896	36.50	12.781	65.33	25.038	79.28
4 14.7	18.254	48.59	24.750	36.74	12.572	64.84	24.775	78.62
4 24.7	18.105	47.48	24.629	37.10	12.395	64.10	24.551	77.63
5 4.6	17.991	46.05	24.542	37.57	12.265	63.16	24.382	76.38
5 14.6	17.914	44.37	24.491	38.14	12.186	62.08	24.273	74.92
5 24.6	17.878	42.42	24.481	38.83	12.162	60.89	24.230	73.29
6 3.5	17.886	40.27	24.515	39.62	12.199	59.65	24.259	71.58
6 13.5	17.936	37.97	24.589	40.50	12.291	58.40	24.355	69.85
6 23.5	18.029	35.55	24.702	41.48	12.439	57.17	24.520	68.11
7 3.5	18.162	33.11	24.855	42.51	12.642	56.01	24.750	66.46
7 13.4	18.330	30.70	25.039	43.57	12.889	54.94	25.035	64.91
7 23.4	18.532	28.37	25.255	44.63	13.181	53.99	25.374	63.50
8 2.4	18.762	26.24	25.495	45.63	13.508	53.17	25.757	62.28
8 12.4	19.015	24.34	25.754	46.54	13.863	52.49	26.175	61.23
8 22.3	19.288	22.75	26.031	47.33	14.244	51.96	26.626	60.40
9 1.3	19.575	21.56	26.320	47.94	14.642	51.58	27.099	59.79
9 11.3	19.871	20.77	26.616	48.37	15.053	51.34	27.587	59.40
9 21.2	20.175	20.44	26.919	48.58	15.473	51.26	28.089	59.25
10 1.2	20.477	20.60	27.222	48.56	15.894	51.33	28.591	59.34
10 11.2	20.777	21.22	27.523	48.32	16.314	51.55	29.092	59.66
10 21.2	21.069	22.32	27.819	47.85	16.728	51.93	29.584	60.23
10 31.1	21.345	23.84	28.104	47.19	17.126	52.47	30.056	61.04
11 10.1	21.604	25.71	28.376	46.38	17.506	53.18	30.506	62.09
11 20.1	21.839	27.89	28.627	45.45	17.858	54.05	30.919	63.37
11 30.1	22.041	30.26	28.851	44.45	18.172	55.08	31.286	64.86
12 10.0	22.210	32.75	29.045	43.43	18.444	56.25	31.602	66.53
12 20.0	22.336	35.29	29.201	42.43	18.662	57.55	31.851	68.35
12 30.0	22.417	37.75	29.315	41.50	18.822	58.92	32.029	70.24
12 39.9	22.453	40.09	29.384	40.65	18.919	60.34	32.132	72.17
Pos. Med.	19.963	43.35	26.696	34.17	15.201	49.99	27.787	60.98
Secδ tanδ	1.070	-.381	1.008	.130	1.413	.998	1.713	1.391
Dob.Tran.	Dic 19		Dic 20		Dic 22		Dic 22	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	240		243		241		245	
EST.	ζ Canis Majoris		β Canis Majoris		μ Geminorum		αCarinae (Canopus)	
MAG.	3.02		1.98		2.88		-0.72	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "
	6 21	-30 4	6 23	-17 57	6 24	+22 30	6 24	-52 42
mes d								
1 -5.0	12.865	23.38	43.607	61.49	21.786	4.74	29.706	25.54
1 5.0	12.932	26.23	43.692	63.84	21.910	4.73	29.730	29.01
1 14.9	12.948	28.91	43.730	66.02	21.984	4.82	29.684	32.32
1 24.9	12.911	31.38	43.718	68.02	22.005	4.98	29.566	35.38
2 3.9	12.824	33.52	43.658	69.74	21.974	5.20	29.382	38.07
2 13.9	12.694	35.32	43.558	71.17	21.898	5.45	29.143	40.36
2 23.8	12.525	36.74	43.419	72.30	21.780	5.71	28.853	42.21
3 5.8	12.327	37.74	43.253	73.07	21.632	5.95	28.527	43.54
3 15.8	12.112	38.33	43.070	73.53	21.464	6.14	28.179	44.38
3 25.8	11.888	38.50	42.878	73.65	21.285	6.29	27.817	44.68
4 4.7	11.668	38.23	42.689	73.42	21.110	6.37	27.461	44.45
4 14.7	11.461	37.57	42.513	72.88	20.949	6.40	27.119	43.73
4 24.7	11.274	36.50	42.356	72.02	20.809	6.38	26.802	42.50
5 4.6	11.120	35.06	42.229	70.86	20.703	6.32	26.525	40.81
5 14.6	11.000	33.30	42.135	69.44	20.633	6.25	26.291	38.72
5 24.6	10.919	31.22	42.079	67.75	20.605	6.18	26.107	36.23
6 3.6	10.884	28.89	42.064	65.86	20.621	6.13	25.983	33.43
6 13.5	10.891	26.37	42.088	63.81	20.680	6.10	25.916	30.40
6 23.5	10.942	23.68	42.153	61.61	20.788	6.08	25.910	27.17
7 3.5	11.038	20.95	42.259	59.37	20.916	6.15	25.968	23.88
7 13.5	11.171	18.22	42.398	57.13	21.097	6.24	26.082	20.58
7 23.4	11.344	15.56	42.572	54.93	21.309	6.34	26.255	17.37
8 2.4	11.551	13.09	42.776	52.90	21.550	6.46	26.482	14.38
8 12.4	11.785	10.86	43.004	51.05	21.813	6.56	26.754	11.67
8 22.3	12.048	8.95	43.257	49.48	22.098	6.64	27.072	9.33
9 1.3	12.330	7.46	43.526	48.25	22.398	6.67	27.424	7.49
9 11.3	12.629	6.41	43.809	47.40	22.711	6.65	27.804	6.15
9 21.3	12.941	5.88	44.104	46.98	23.034	6.54	28.206	5.43
10 1.2	13.257	5.89	44.404	47.02	23.362	6.37	28.616	5.35
10 11.2	13.576	6.43	44.706	47.51	23.694	6.12	29.029	5.89
10 21.2	13.892	7.52	45.007	48.46	24.024	5.80	29.435	7.08
10 31.2	14.194	9.10	45.298	49.82	24.347	5.44	29.818	8.88
11 10.1	14.482	11.12	45.576	51.55	24.660	5.06	30.174	11.20
11 20.1	14.744	13.53	45.835	53.59	24.956	4.69	30.489	14.01
11 30.1	14.975	16.21	46.066	55.85	25.226	4.35	30.752	17.16
12 10.0	15.170	19.08	46.266	58.25	25.467	4.08	30.960	20.56
12 20.0	15.319	22.04	46.426	60.72	25.668	3.89	31.101	24.12
12 30.0	15.420	24.97	46.542	63.14	25.825	3.79	31.172	27.66
12 40.0	15.471	27.80	46.612	65.46	25.933	3.79	31.172	31.11
Pos. Med.	12.971	30.81	44.098	68.99	22.920	-2.38	28.452	33.68
Secδ tanδ	1.156	-.579	1.051	-.324	1.082	.414	1.651	-1.313
Dob.Tran.	Dic 27		Dic 27		Dic 27		Dic 27	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	252		251		263		261	
EST.	ν Puppis		γ Geminorum		τ Puppis		ϑ Geminorum	
MAG.	3.17		1.93		2.93		3.60	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	6 38	-43 12	6 39	+16 22	6 50	-50 38	6 54	+33 55
mes d	s	"	s	"	s	"	s	"
1 -5.0	29.342	53.92	3.092	45.55	32.140	25.26	18.990	57.48
1 5.0	29.409	57.25	3.225	45.11	32.210	28.80	19.160	58.10
1 15.0	29.416	60.44	3.310	44.79	32.212	32.21	19.275	58.83
1 24.9	29.361	63.42	3.343	44.58	32.143	35.44	19.330	59.65
2 3.9	29.246	66.07	3.325	44.48	32.006	38.35	19.325	60.51
2 13.9	29.081	68.35	3.262	44.46	31.812	40.89	19.266	61.37
2 23.9	28.870	70.22	3.157	44.51	31.564	43.03	19.157	62.17
3 5.8	28.624	71.61	3.020	44.62	31.276	44.68	19.008	62.88
3 15.8	28.356	72.54	2.862	44.74	30.961	45.84	18.832	63.45
3 25.8	28.074	72.98	2.692	44.89	30.627	46.51	18.638	63.86
4 4.7	27.792	72.92	2.522	45.04	30.291	46.63	18.441	64.09
4 14.7	27.522	72.39	2.364	45.18	29.964	46.27	18.254	64.14
4 24.7	27.271	71.39	2.224	45.34	29.655	45.39	18.085	64.02
5 4.7	27.052	69.93	2.113	45.51	29.378	44.04	17.947	63.73
5 14.6	26.868	68.10	2.036	45.70	29.139	42.27	17.845	63.31
5 24.6	26.727	65.87	1.996	45.92	28.944	40.07	17.784	62.78
6 3.6	26.635	63.34	1.999	46.18	28.802	37.53	17.771	62.16
6 13.6	26.589	60.56	2.042	46.46	28.711	34.72	17.802	61.49
6 23.5	26.595	57.58	2.126	46.78	28.677	31.68	17.880	60.80
7 3.5	26.652	54.52	2.244	47.11	28.702	28.51	18.002	60.11
7 13.5	26.756	51.43	2.400	47.54	28.780	25.30	18.163	59.39
7 23.4	26.908	48.40	2.590	47.93	28.915	22.12	18.365	58.68
8 2.4	27.104	45.55	2.808	48.29	29.103	19.10	18.601	58.00
8 12.4	27.337	42.94	3.050	48.60	29.337	16.31	18.866	57.36
8 22.4	27.608	40.67	3.314	48.85	29.617	13.85	19.158	56.74
9 1.3	27.908	38.85	3.594	48.99	29.935	11.84	19.472	56.14
9 11.3	28.232	37.50	3.889	49.01	30.284	10.30	19.804	55.57
9 21.3	28.577	36.72	4.196	48.91	30.661	9.34	20.153	55.03
10 1.2	28.932	36.55	4.510	48.66	31.053	9.01	20.511	54.52
10 11.2	29.293	36.97	4.829	48.27	31.454	9.30	20.879	54.04
10 21.2	29.652	38.02	5.151	47.76	31.856	10.24	21.251	53.63
10 31.2	29.998	39.65	5.466	47.14	32.244	11.80	21.620	53.29
11 10.1	30.326	41.79	5.775	46.45	32.612	13.91	21.983	53.05
11 20.1	30.625	44.40	6.069	45.71	32.949	16.54	22.331	52.93
11 30.1	30.886	47.36	6.339	44.97	33.241	19.56	22.655	52.95
12 10.1	31.104	50.58	6.583	44.27	33.484	22.88	22.950	53.13
12 20.0	31.268	53.96	6.790	43.64	33.665	26.41	23.203	53.47
12 30.0	31.374	57.35	6.954	43.10	33.780	29.98	23.409	53.96
12 40.0	31.422	60.68	7.073	42.68	33.828	33.52	23.562	54.59
Pos. Med.	28.858	63.63	4.166	37.92	31.179	36.77	20.161	50.23
Secδ tanδ	1.372	-.940	1.042	.294	1.577	-1.219	1.205	.673
Dob.Tran.	Ene 0 Dic 31		Ene 0 Dic 31		Ene 3		Ene 4	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	268		270		273		278	
EST.	ε Canis Majoris		o^2 CanisMajoris		δ Canis Majoris		π Puppis	
MAG.	1.50		3.02		1.86		2.70	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	6 59	-28 59	7 3	-23 51	7 9	-26 25	7 17	-37 8
mes d	s	"	s	"	s	"	s	"
1 -5.0	32.771	68.21	59.967	57.38	20.504	42.81	58.405	13.58
1 5.0	32.883	71.16	60.088	60.12	20.628	45.67	58.530	16.86
1 15.0	32.942	73.98	60.160	62.75	20.702	48.43	58.599	20.04
1 24.9	32.948	76.63	60.179	65.21	20.722	51.02	58.609	23.08
2 3.9	32.899	78.99	60.145	67.40	20.689	53.35	58.560	25.85
2 13.9	32.804	81.05	60.065	69.30	20.609	55.38	58.459	28.31
2 23.9	32.665	82.77	59.942	70.88	20.484	57.09	58.310	30.42
3 5.8	32.492	84.07	59.785	72.08	20.324	58.40	58.121	32.09
3 15.8	32.295	85.00	59.605	72.94	20.140	59.36	57.905	33.36
3 25.8	32.082	85.51	59.408	73.41	19.938	59.92	57.669	34.18
4 4.8	31.867	85.60	59.208	73.49	19.732	60.07	57.426	34.52
4 14.7	31.659	85.30	59.014	73.23	19.531	59.85	57.187	34.43
4 24.7	31.464	84.59	58.833	72.59	19.343	59.24	56.958	33.88
5 4.7	31.295	83.50	58.676	71.60	19.177	58.26	56.753	32.90
5 14.6	31.155	82.08	58.548	70.30	19.040	56.96	56.575	31.53
5 24.6	31.049	80.31	58.452	68.69	18.935	55.33	56.431	29.77
6 3.6	30.984	78.27	58.395	66.83	18.868	53.43	56.328	27.68
6 13.6	30.957	76.01	58.375	64.76	18.839	51.31	56.264	25.33
6 23.5	30.973	73.55	58.394	62.51	18.849	48.99	56.243	22.73
7 3.5	31.030	70.99	58.454	60.16	18.901	46.57	56.267	20.00
7 13.5	31.125	68.39	58.550	57.78	18.988	44.10	56.333	17.18
7 23.5	31.258	65.81	58.682	55.41	19.114	41.63	56.441	14.36
8 2.4	31.428	63.37	58.848	53.16	19.274	39.29	56.591	11.66
8 12.4	31.628	61.12	59.043	51.09	19.464	37.12	56.776	9.12
8 22.4	31.859	59.13	59.268	49.27	19.685	35.21	56.999	6.85
9 1.3	32.115	57.53	59.516	47.80	19.932	33.65	57.252	4.96
9 11.3	32.393	56.32	59.785	46.70	20.200	32.47	57.533	3.48
9 21.3	32.690	55.60	60.073	46.06	20.490	31.75	57.840	2.51
10 1.3	33.000	55.41	60.373	45.91	20.792	31.54	58.163	2.10
10 11.2	33.318	55.73	60.683	46.25	21.106	31.83	58.501	2.24
10 21.2	33.641	56.61	60.998	47.10	21.425	32.66	58.846	2.99
10 31.2	33.959	58.00	61.310	48.43	21.742	33.99	59.188	4.31
11 10.2	34.268	59.85	61.615	50.18	22.052	35.76	59.523	6.15
11 20.1	34.560	62.13	61.904	52.33	22.348	37.95	59.841	8.48
11 30.1	34.824	64.71	62.170	54.77	22.618	40.45	60.130	11.19
12 10.1	35.057	67.53	62.406	57.42	22.860	43.18	60.387	14.20
12 20.0	35.249	70.51	62.604	60.21	23.063	46.07	60.599	17.42
12 30.0	35.394	73.49	62.756	63.01	23.219	48.98	60.760	20.71
12 40.0	35.489	76.43	62.862	65.75	23.328	51.85	60.867	23.99
Pos. Med.	33.000	79.52	60.369	68.75	20.845	54.86	58.386	27.34
Secδ tanδ	1.143	-.554	1.094	-.442	1.117	-.497	1.254	-.757
Dob.Tran.	Ene 5		Ene 6		Ene 8		Ene 10	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	279		283		297		295	
EST.	δ Geminorum*		η Canis Majoris		ζ Volantis		β Geminorum (Pollux)	
MAG.	3.53		2.45		3.95		1.14	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	7 21	+21 56	7 24	-29 20	7 41	-72 39	7 46	+27 58
mes d	s	"	s	"	s	"	s	"
1 -5.0	30.350	21.67	61.202	47.21	35.298	24.46	43.904	11.00
1 5.0	30.532	21.42	61.342	50.23	35.449	28.19	44.118	11.00
1 15.0	30.665	21.32	61.430	53.16	35.462	31.94	44.283	11.20
1 25.0	30.743	21.37	61.462	55.95	35.329	35.65	44.392	11.57
2 3.9	30.766	21.56	61.439	58.48	35.055	39.17	44.441	12.09
2 13.9	30.738	21.84	61.368	60.72	34.660	42.43	44.435	12.71
2 23.9	30.663	22.19	61.249	62.64	34.147	45.37	44.377	13.40
3 5.9	30.547	22.57	61.092	64.17	33.539	47.89	44.274	14.10
3 15.8	30.404	22.96	60.909	65.32	32.861	49.97	44.137	14.76
3 25.8	30.240	23.31	60.704	66.07	32.122	51.57	43.974	15.36
4 4.8	30.069	23.63	60.493	66.39	31.353	52.63	43.800	15.86
4 14.7	29.902	23.88	60.285	66.33	30.575	53.18	43.624	16.23
4 24.7	29.747	24.06	60.085	65.85	29.799	53.19	43.456	16.48
5 4.7	29.615	24.19	59.907	64.98	29.057	52.65	43.307	16.59
5 14.7	29.512	24.26	59.755	63.77	28.360	51.63	43.185	16.57
5 24.6	29.442	24.28	59.632	62.20	27.721	50.09	43.094	16.44
6 3.6	29.412	24.27	59.547	60.34	27.167	48.11	43.041	16.20
6 13.6	29.419	24.23	59.499	58.23	26.699	45.74	43.025	15.88
6 23.6	29.466	24.17	59.489	55.90	26.332	43.01	43.048	15.48
7 3.5	29.555	24.09	59.521	53.45	26.081	40.03	43.113	15.02
7 13.5	29.655	24.02	59.589	50.92	25.940	36.87	43.212	14.55
7 23.5	29.825	23.89	59.696	48.38	25.924	33.59	43.344	13.97
8 2.4	30.014	23.74	59.840	45.94	26.034	30.35	43.514	13.34
8 12.4	30.228	23.55	60.015	43.66	26.258	27.21	43.713	12.68
8 22.4	30.469	23.29	60.225	41.62	26.606	24.28	43.943	11.97
9 1.4	30.733	22.96	60.462	39.93	27.061	21.70	44.198	11.21
9 11.3	31.015	22.55	60.724	38.61	27.612	19.51	44.475	10.40
9 21.3	31.317	22.05	61.010	37.76	28.251	17.84	44.777	9.54
10 1.3	31.632	21.45	61.313	37.43	28.952	16.76	45.095	8.63
10 11.3	31.959	20.77	61.630	37.61	29.698	16.28	45.430	7.70
10 21.2	32.295	20.02	61.956	38.34	30.471	16.49	45.779	6.75
10 31.2	32.633	19.22	62.281	39.60	31.233	17.37	46.134	5.81
11 10.2	32.970	18.40	62.603	41.34	31.969	18.88	46.492	4.93
11 20.1	33.299	17.60	62.912	43.53	32.651	21.01	46.846	4.12
11 30.1	33.609	16.86	63.198	46.06	33.248	23.67	47.185	3.44
12 10.1	33.897	16.21	63.455	48.86	33.749	26.76	47.504	2.91
12 20.1	34.151	15.69	63.673	51.85	34.127	30.22	47.791	2.57
12 30.0	34.364	15.31	63.845	54.89	34.369	33.88	48.036	2.42
12 40.0	34.531	15.09	63.969	57.92	34.475	37.66	48.236	2.46
Pos. Med.	31.471	13.32	61.506	60.97	30.972	43.56	45.037	2.98
Secδ tanδ	1.078	.403	1.147	-.562	3.356	-3.203	1.132	.531
Dob.Tran.	Ene 11		Ene 12		Ene 16		Ene 17	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	1204		303		306		308	
EST.	ξ Puppis		χ Carinae		ζ Puppis		ρ Puppis	
MAG.	3.34		3.47		2.25		2.81	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	7 50	-24 54	7 57	-53 2	8 4	-40 3	8 8	-24 22
mes d	s	"	s	"	s	"	s	"
1 -4.9	16.452	57.06	23.226	26.72	24.534	55.27	32.097	7.32
1 5.0	16.622	59.95	23.400	30.38	24.716	58.67	32.285	10.21
1 15.0	16.742	62.77	23.504	34.06	24.842	62.06	32.425	13.04
1 25.0	16.809	65.47	23.532	37.69	24.906	65.39	32.513	15.78
2 4.0	16.821	67.94	23.483	41.12	24.907	68.52	32.544	18.31
2 13.9	16.783	70.16	23.366	44.30	24.851	71.40	32.526	20.58
2 23.9	16.698	72.08	23.184	47.17	24.740	73.98	32.458	22.59
3 5.9	16.572	73.64	22.946	49.62	24.583	76.16	32.349	24.24
3 15.8	16.416	74.86	22.668	51.65	24.390	77.96	32.208	25.56
3 25.8	16.237	75.72	22.354	53.21	24.168	79.32	32.040	26.53
4 4.8	16.047	76.18	22.022	54.26	23.930	80.22	31.858	27.11
4 14.8	15.855	76.28	21.685	54.82	23.687	80.67	31.673	27.34
4 24.7	15.669	76.01	21.348	54.86	23.446	80.66	31.489	27.21
5 4.7	15.498	75.37	21.029	54.37	23.219	80.18	31.319	26.71
5 14.7	15.350	74.42	20.734	53.43	23.012	79.29	31.167	25.89
5 24.7	15.227	73.12	20.469	51.99	22.830	77.96	31.038	24.74
6 3.6	15.137	71.55	20.247	50.13	22.683	76.26	30.940	23.30
6 13.6	15.079	69.74	20.068	47.90	22.570	74.23	30.871	21.62
6 23.6	15.057	67.70	19.938	45.32	22.496	71.90	30.835	19.71
7 3.5	15.072	65.53	19.863	42.50	22.464	69.35	30.836	17.65
7 13.5	15.121	63.27	19.840	39.51	22.472	66.66	30.869	15.49
7 23.5	15.207	60.97	19.875	36.41	22.524	63.88	30.937	13.28
8 2.5	15.327	58.75	19.967	33.34	22.618	61.13	31.040	11.12
8 12.4	15.478	56.65	20.112	30.36	22.752	58.48	31.173	9.06
8 22.4	15.663	54.75	20.314	27.58	22.928	56.02	31.341	7.18
9 1.4	15.876	53.16	20.566	25.13	23.142	53.87	31.538	5.58
9 11.4	16.115	51.90	20.864	23.06	23.392	52.08	31.763	4.30
9 21.3	16.381	51.06	21.208	21.49	23.676	50.75	32.017	3.42
10 1.3	16.667	50.70	21.585	20.49	23.987	49.96	32.293	3.01
10 11.3	16.971	50.81	21.990	20.08	24.322	49.70	32.590	3.05
10 21.2	17.288	51.45	22.415	20.32	24.676	50.06	32.905	3.62
10 31.2	17.611	52.59	22.845	21.22	25.038	51.02	33.228	4.68
11 10.2	17.935	54.18	23.272	22.73	25.401	52.53	33.555	6.19
11 20.2	18.252	56.22	23.683	24.85	25.756	54.60	33.879	8.16
11 30.1	18.551	58.59	24.061	27.47	26.090	57.12	34.189	10.47
12 10.1	18.828	61.23	24.401	30.52	26.397	60.02	34.478	13.06
12 20.1	19.070	64.07	24.685	33.92	26.663	63.22	34.736	15.87
12 30.1	19.270	66.97	24.905	37.51	26.881	66.58	34.954	18.76
12 40.0	19.425	69.87	25.058	41.21	27.045	70.01	35.128	21.66
Pos. Med.	16.988	72.45	22.532	46.21	24.649	73.93	32.726	23.96
Secδ tanδ	1.103	-.465	1.663	-1.329	1.307	-.841	1.098	-.453
Dob.Tran.	Ene 18		Ene 20		Ene 22		Ene 23	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	309		312		315		319	
EST.	γ Velorum*		β Cancri		ε Carinae		β Volantis	
MAG.	1.78		3.52		1.86		3.77	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	8 10	-47 23	8 17	+ 9 6	8 22	-59 34	8 25	-66 12
mes d	s	"	s	"	s	"	s	"
1 -4.9	15.643	64.47	46.177	52.72	60.652	46.07	60.997	32.70
1 5.1	15.834	68.03	46.397	51.45	60.880	49.75	61.253	36.39
1 15.0	15.963	71.62	46.572	50.35	61.027	53.53	61.408	40.20
1 25.0	16.024	75.17	46.698	49.44	61.086	57.33	61.456	44.07
2 4.0	16.015	78.55	46.771	48.74	61.056	61.00	61.393	47.83
2 13.9	15.943	81.68	46.794	48.23	60.945	64.48	61.233	51.40
2 23.9	15.810	84.52	46.767	47.91	60.755	67.70	60.976	54.74
3 5.9	15.626	86.97	46.698	47.76	60.497	70.54	60.636	57.72
3 15.9	15.401	89.01	46.596	47.76	60.187	72.98	60.231	60.30
3 25.8	15.143	90.62	46.467	47.87	59.830	74.99	59.768	62.46
4 4.8	14.867	91.72	46.322	48.09	59.444	76.48	59.267	64.10
4 14.8	14.582	92.36	46.172	48.37	59.043	77.49	58.746	65.25
4 24.8	14.297	92.51	46.024	48.73	58.635	77.97	58.213	65.87
5 4.7	14.026	92.14	45.888	49.13	58.239	77.90	57.690	65.94
5 14.7	13.774	91.34	45.770	49.57	57.861	77.35	57.188	65.50
5 24.7	13.549	90.05	45.675	50.05	57.510	76.27	56.716	64.53
6 3.6	13.359	88.35	45.609	50.55	57.201	74.72	56.293	63.06
6 13.6	13.206	86.30	45.572	51.07	56.935	72.76	55.922	61.17
6 23.6	13.095	83.89	45.567	51.61	56.720	70.39	55.614	58.84
7 3.6	13.031	81.24	45.595	52.13	56.567	67.72	55.382	56.19
7 13.5	13.012	78.42	45.653	52.62	56.471	64.82	55.222	53.29
7 23.5	13.042	75.47	45.741	53.07	56.443	61.73	55.148	50.18
8 2.5	13.122	72.54	45.858	53.46	56.483	58.61	55.162	47.02
8 12.4	13.248	69.68	46.004	53.78	56.588	55.52	55.259	43.86
8 22.4	13.424	67.00	46.178	53.96	56.764	52.56	55.448	40.82
9 1.4	13.645	64.63	46.378	53.97	57.005	49.88	55.722	38.04
9 11.4	13.908	62.61	46.602	53.80	57.307	47.52	56.074	35.58
9 21.3	14.212	61.06	46.851	53.42	57.669	45.62	56.505	33.55
10 1.3	14.548	60.06	47.120	52.83	58.079	44.27	56.996	32.07
10 11.3	14.913	59.62	47.409	52.02	58.529	43.48	57.539	31.15
10 21.3	15.299	59.82	47.717	51.00	59.012	43.36	58.121	30.90
10 31.2	15.694	60.65	48.035	49.79	59.507	43.90	58.719	31.32
11 10.2	16.091	62.07	48.361	48.43	60.006	45.07	59.320	32.38
11 20.2	16.479	64.10	48.689	46.94	60.492	46.90	59.903	34.11
11 30.1	16.842	66.62	49.008	45.41	60.945	49.29	60.444	36.43
12 10.1	17.174	69.56	49.313	43.87	61.357	52.16	60.930	39.24
12 20.1	17.461	72.85	49.593	42.38	61.710	55.46	61.341	42.51
12 30.1	17.692	76.34	49.839	41.00	61.989	59.03	61.661	46.07
12 40.0	17.864	79.95	50.045	39.76	62.192	62.78	61.885	49.85
Pos. Med.	15.444	84.64	47.302	41.42	59.641	68.94	59.131	56.58
Secδ tanδ	1.478	-1.088	1.013	.160	1.975	-1.703	2.480	-2.269
Dob.Tran.	Ene 23		Ene 25		Ene 26		Ene 27	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	1223		1227		327		326	
EST.	δ Hydrae		o Velorum		α Pyxidis		δ Cancri	
MAG.	4.16		3.62		3.68		3.94	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	8 38	+ 5 37	8 40	-52 59	8 44	-33 15	8 45	+18 3
mes d	s	"	s	"	s	"	s	"
1 -4.9	52.774	25.72	58.237	58.60	31.646	59.06	59.810	69.10
1 5.1	53.007	24.18	58.481	62.18	31.872	62.24	60.065	68.19
1 15.0	53.199	22.80	58.658	65.87	32.050	65.46	60.277	67.51
1 25.0	53.342	21.61	58.761	69.61	32.172	68.65	60.440	67.06
2 4.0	53.433	20.63	58.787	73.24	32.235	71.69	60.547	66.84
2 14.0	53.474	19.87	58.742	76.69	32.244	74.53	60.603	66.82
2 23.9	53.466	19.32	58.628	79.91	32.198	77.11	60.606	66.99
3 5.9	53.413	18.98	58.452	82.77	32.105	79.35	60.561	67.30
3 15.9	53.326	18.81	58.228	85.26	31.974	81.25	60.479	67.71
3 25.9	53.209	18.80	57.961	87.34	31.810	82.78	60.364	68.19
4 4.8	53.075	18.93	57.666	88.93	31.625	83.89	60.229	68.70
4 14.8	52.932	19.16	57.355	90.05	31.429	84.61	60.083	69.20
4 24.8	52.787	19.50	57.035	90.67	31.227	84.91	59.934	69.67
5 4.7	52.651	19.92	56.721	90.76	31.033	84.79	59.793	70.10
5 14.7	52.530	20.40	56.420	90.38	30.851	84.29	59.667	70.47
5 24.7	52.428	20.95	56.140	89.49	30.686	83.38	59.559	70.79
6 3.7	52.351	21.54	55.891	88.14	30.546	82.12	59.478	71.02
6 13.6	52.301	22.16	55.676	86.38	30.432	80.54	59.424	71.20
6 23.6	52.279	22.82	55.501	84.21	30.349	78.65	59.399	71.30
7 3.6	52.288	23.48	55.375	81.74	30.300	76.54	59.407	71.33
7 13.6	52.325	24.11	55.294	79.02	30.283	74.27	59.444	71.29
7 23.5	52.392	24.71	55.267	76.11	30.303	71.86	59.514	71.15
8 2.5	52.488	25.23	55.295	73.14	30.360	69.45	59.576	71.11
8 12.5	52.610	25.69	55.375	70.17	30.451	67.08	59.732	70.63
8 22.4	52.762	26.00	55.514	67.31	30.581	64.83	59.890	70.18
9 1.4	52.941	26.13	55.708	64.70	30.748	62.84	60.075	69.60
9 11.4	53.145	26.06	55.953	62.39	30.950	61.13	60.285	68.88
9 21.4	53.376	25.76	56.251	60.49	31.187	59.81	60.524	68.00
10 1.3	53.631	25.22	56.593	59.11	31.456	58.96	60.788	66.98
10 11.3	53.907	24.44	56.974	58.28	31.753	58.59	61.075	65.81
10 21.3	54.205	23.39	57.388	58.07	32.077	58.78	61.385	64.51
10 31.3	54.517	22.13	57.819	58.52	32.416	59.53	61.711	63.12
11 10.2	54.841	20.67	58.260	59.58	32.766	60.80	62.050	61.66
11 20.2	55.169	19.06	58.699	61.29	33.119	62.60	62.396	60.17
11 30.2	55.492	17.35	59.116	63.56	33.461	64.85	62.739	58.73
12 10.1	55.804	15.60	59.505	66.30	33.787	67.47	63.071	57.36
12 20.1	56.095	13.87	59.849	69.48	34.084	70.42	63.383	56.13
12 30.1	56.353	12.24	60.135	72.95	34.341	73.55	63.663	55.07
12 40.1	56.574	10.72	60.359	76.60	34.553	76.78	63.906	54.22
Pos. Med.	53.933	13.25	57.999	82.38	32.271	79.86	61.044	59.00
Secδ tanδ	1.005	.098	1.662	-1.327	1.196	-.656	1.052	.326
Dob.Tran.	Ene 30		Ene 31		Feb 1		Feb 1	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	332		336		334		342	
EST.	γ Pyxidis		108 G. Carinae		ζ Hydrae		97 G. Velorum	
MAG.	4.01		3.84		3.11		3.75	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	8 51	-27 47	8 55	-60 43	8 56	+ 5 51	9 4	-47 11
mes d	s	"	s	"	s	"	s	"
1 -4.9	31.044	33.17	35.344	39.92	36.856	29.80	57.670	7.08
1 5.1	31.275	36.19	35.638	43.50	37.104	28.21	57.936	10.51
1 15.1	31.461	39.21	35.852	47.25	37.312	26.79	58.145	14.08
1 25.0	31.594	42.20	35.979	51.10	37.472	25.55	58.289	17.71
2 4.0	31.670	45.03	36.013	54.90	37.581	24.55	58.364	21.27
2 14.0	31.695	47.65	35.963	58.57	37.639	23.76	58.375	24.67
2 23.9	31.666	50.02	35.829	62.04	37.648	23.19	58.321	27.87
3 5.9	31.592	52.07	35.619	65.20	37.612	22.84	58.210	30.75
3 15.9	31.480	53.80	35.350	68.01	37.539	22.67	58.052	33.29
3 25.9	31.336	55.18	35.025	70.42	37.434	22.66	57.852	35.45
4 4.8	31.171	56.17	34.663	72.36	37.309	22.80	57.622	37.16
4 14.8	30.994	56.81	34.276	73.82	37.173	23.04	57.375	38.43
4 24.8	30.812	57.06	33.871	74.77	37.032	23.39	57.115	39.22
5 4.8	30.636	56.92	33.468	75.19	36.898	23.81	56.856	39.52
5 14.7	30.471	56.45	33.074	75.10	36.775	24.28	56.606	39.37
5 24.7	30.322	55.61	32.698	74.48	36.668	24.82	56.368	38.73
6 3.7	30.197	54.44	32.354	73.35	36.585	25.39	56.155	37.64
6 13.6	30.095	53.00	32.046	71.78	36.525	25.99	55.968	36.16
6 23.6	30.022	51.28	31.783	69.76	36.491	26.61	55.812	34.26
7 3.6	29.981	49.36	31.575	67.38	36.487	27.22	55.695	32.06
7 13.6	29.969	47.29	31.422	64.71	36.509	27.81	55.615	29.60
7 23.5	29.991	45.11	31.332	61.79	36.560	28.36	55.578	26.93
8 2.5	30.047	42.93	31.312	58.76	36.640	28.81	55.588	24.17
8 12.5	30.135	40.79	31.357	55.69	36.744	29.19	55.642	21.39
8 22.5	30.259	38.77	31.477	52.67	36.879	29.45	55.747	18.67
9 1.4	30.417	37.00	31.668	49.86	37.043	29.52	55.900	16.17
9 11.4	30.607	35.49	31.926	47.30	37.232	29.40	56.099	13.91
9 21.4	30.832	34.35	32.253	45.13	37.450	29.04	56.348	12.04
10 1.3	31.087	33.66	32.639	43.47	37.693	28.44	56.640	10.64
10 11.3	31.370	33.41	33.076	42.32	37.960	27.60	56.971	9.74
10 21.3	31.678	33.69	33.557	41.81	38.252	26.51	57.337	9.44
10 31.3	32.004	34.49	34.063	41.96	38.560	25.20	57.726	9.76
11 10.2	32.342	35.77	34.585	42.74	38.883	23.69	58.131	10.67
11 20.2	32.685	37.55	35.105	44.20	39.214	22.02	58.542	12.21
11 30.2	33.020	39.74	35.603	46.26	39.542	20.26	58.942	14.30
12 10.2	33.342	42.27	36.068	48.85	39.863	18.46	59.323	16.87
12 20.1	33.638	45.08	36.480	51.93	40.164	16.67	59.671	19.88
12 30.1	33.897	48.05	36.823	55.35	40.436	14.98	59.972	23.18
12 40.1	34.115	51.11	37.094	59.02	40.672	13.42	60.222	26.70
Pos. Med.	31.840	53.29	34.683	66.00	38.073	17.02	58.006	31.90
Secδ tanδ	1.130	-.527	2.046	-1.785	1.005	.103	1.472	-1.080
Dob.Tran.	Feb 2		Feb 4		Feb 4		Feb 6	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	345		348		351		352	
EST.	λ Velorum		β Carinae		ι Carinae		α Lyncis	
MAG.	2.21		1.68		2.25		3.13	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	9 8	-43 31	9 13	-69 48	9 17	-59 22	9 22	+34 17
mes d	s	"	s	"	s	"	s	"
1 -4.9	51.218	17.72	28.409	22.69	43.319	.49	27.533	36.85
1 5.1	51.482	21.08	28.813	26.16	43.646	3.97	27.853	36.58
1 15.1	51.693	24.57	29.109	29.86	43.900	7.65	28.129	36.64
1 25.0	51.843	28.11	29.288	33.74	44.072	11.47	28.353	37.03
2 4.0	51.928	31.57	29.341	37.64	44.156	15.30	28.517	37.71
2 14.0	51.951	34.87	29.279	41.48	44.159	19.03	28.621	38.62
2 24.0	51.914	37.97	29.102	45.18	44.080	22.61	28.665	39.73
3 5.9	51.821	40.75	28.819	48.62	43.925	25.91	28.651	40.95
3 15.9	51.683	43.20	28.451	51.75	43.709	28.89	28.590	42.21
3 25.9	51.505	45.28	28.000	54.52	43.437	31.51	28.485	43.46
4 4.8	51.299	46.91	27.490	56.84	43.122	33.67	28.350	44.63
4 14.8	51.076	48.13	26.937	58.71	42.779	35.38	28.195	45.65
4 24.8	50.841	48.89	26.350	60.08	42.414	36.61	28.028	46.51
5 4.8	50.606	49.16	25.753	60.90	42.043	37.30	27.863	47.16
5 14.7	50.380	49.01	25.159	61.20	41.676	37.49	27.706	47.58
5 24.7	50.165	48.38	24.576	60.96	41.319	37.16	27.563	47.77
6 3.7	49.973	47.33	24.029	60.18	40.988	36.31	27.444	47.71
6 13.7	49.805	45.89	23.523	58.91	40.684	35.01	27.351	47.44
6 23.6	49.666	44.07	23.071	57.15	40.417	33.23	27.286	46.94
7 3.6	49.563	41.94	22.691	54.98	40.199	31.08	27.255	46.24
7 13.6	49.494	39.57	22.384	52.47	40.027	28.60	27.255	45.36
7 23.5	49.465	37.00	22.165	49.64	39.913	25.84	27.289	44.30
8 2.5	49.478	34.35	22.044	46.63	39.862	22.92	27.357	43.08
8 12.5	49.532	31.68	22.018	43.52	39.872	19.92	27.455	41.73
8 22.5	49.632	29.08	22.100	40.40	39.952	16.93	27.589	40.23
9 1.4	49.778	26.68	22.289	37.41	40.101	14.09	27.757	38.61
9 11.4	49.967	24.54	22.579	34.64	40.316	11.48	27.957	36.91
9 21.4	50.202	22.76	22.973	32.19	40.602	9.20	28.192	35.12
10 1.4	50.477	21.45	23.456	30.20	40.948	7.38	28.459	33.29
10 11.3	50.790	20.62	24.018	28.71	41.349	6.05	28.757	31.42
10 21.3	51.137	20.38	24.649	27.82	41.800	5.33	29.086	29.56
10 31.3	51.506	20.74	25.321	27.58	42.282	5.25	29.439	27.76
11 10.2	51.893	21.68	26.019	27.99	42.788	5.81	29.814	26.05
11 20.2	52.287	23.22	26.721	29.10	43.301	7.04	30.204	24.49
11 30.2	52.672	25.30	27.395	30.84	43.801	8.88	30.596	23.13
12 10.2	53.042	27.84	28.026	33.15	44.276	11.27	30.985	22.02
12 20.1	53.382	30.81	28.588	36.01	44.708	14.18	31.358	21.20
12 30.1	53.679	34.05	29.059	39.27	45.080	17.47	31.702	20.70
12 40.1	53.928	37.49	29.431	42.86	45.386	21.05	32.008	20.52
Pos. Med.	51.736	42.14	26.860	51.24	43.127	28.20	28.812	30.51
Secδ tanδ	1.379	-.950	2.898	-2.720	1.963	-1.689	1.210	.682
Dob.Tran.	Feb 7		Feb 8		Feb 9		Feb 10	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	353		354		361		1250	
EST.	χ Velorum		α Hydrae		N.Velorum		ι Hydrae	
MAG.	2.50		1.98		3.13		3.91	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	9 22	-55 6	9 28	- 8 45	9 31	-57 7	9 41	- 1 14
mes d	s	"	s	"	s	"	s	"
1 -4.9	50.387	15.01	43.264	24.53	56.050	51.02	1.958	46.81
1 5.1	50.702	18.44	43.528	26.86	56.388	54.41	2.234	48.86
1 15.1	50.952	22.07	43.754	29.12	56.660	58.02	2.474	50.79
1 25.0	51.130	25.84	43.935	31.27	56.856	61.81	2.671	52.56
2 4.0	51.228	29.60	44.066	33.22	56.970	65.61	2.819	54.12
2 14.0	51.252	33.26	44.148	34.96	57.007	69.33	2.918	55.45
2 24.0	51.202	36.77	44.180	36.46	56.967	72.93	2.968	56.54
3 5.9	51.083	40.00	44.166	37.70	56.854	76.27	2.970	57.37
3 15.9	50.908	42.92	44.114	38.69	56.681	79.31	2.934	57.97
3 25.9	50.682	45.48	44.029	39.42	56.452	82.00	2.863	58.36
4 4.9	50.417	47.59	43.919	39.89	56.182	84.26	2.766	58.53
4 14.8	50.126	49.26	43.794	40.14	55.881	86.08	2.653	58.54
4 24.8	49.814	50.45	43.659	40.15	55.557	87.43	2.528	58.37
5 4.8	49.498	51.12	43.525	39.95	55.225	88.26	2.402	58.06
5 14.7	49.185	51.32	43.397	39.56	54.893	88.60	2.281	57.64
5 24.7	48.880	50.99	43.278	38.97	54.566	88.42	2.167	57.09
6 3.7	48.597	50.16	43.177	38.22	54.260	87.73	2.069	56.46
6 13.7	48.340	48.90	43.095	37.33	53.977	86.59	1.988	55.75
6 23.6	48.114	47.17	43.033	36.30	53.725	84.97	1.927	54.97
7 3.6	47.929	45.07	42.996	35.19	53.514	82.96	1.889	54.16
7 13.6	47.786	42.67	42.982	34.01	53.345	80.62	1.872	53.33
7 23.6	47.692	39.98	42.994	32.80	53.227	77.98	1.881	52.52
8 2.5	47.652	37.15	43.034	31.62	53.165	75.16	1.916	51.78
8 12.5	47.666	34.24	43.100	30.50	53.159	72.25	1.975	51.11
8 22.5	47.741	31.33	43.195	29.50	53.217	69.31	2.062	50.57
9 1.4	47.876	28.58	43.320	28.68	53.341	66.51	2.178	50.19
9 11.4	48.070	26.05	43.474	28.08	53.526	63.89	2.324	50.01
9 21.4	48.326	23.85	43.660	27.75	53.779	61.59	2.501	50.09
10 1.4	48.637	22.10	43.876	27.76	54.091	59.73	2.708	50.45
10 11.3	48.998	20.83	44.121	28.09	54.458	58.33	2.945	51.09
10 21.3	49.405	20.16	44.395	28.80	54.875	57.52	3.212	52.06
10 31.3	49.843	20.12	44.691	29.86	55.328	57.34	3.503	53.31
11 10.3	50.304	20.70	45.006	31.27	55.807	57.78	3.815	54.83
11 20.2	50.775	21.94	45.335	33.00	56.300	58.89	4.142	56.60
11 30.2	51.237	23.79	45.666	34.97	56.785	60.61	4.475	58.54
12 10.2	51.680	26.17	45.992	37.15	57.252	62.89	4.807	60.61
12 20.1	52.086	29.06	46.304	39.46	57.683	65.70	5.126	62.74
12 30.1	52.441	32.31	46.590	41.81	58.062	68.89	5.422	64.85
12 40.1	52.738	35.85	46.843	44.15	58.382	72.40	5.689	66.89
Pos. Med.	50.556	42.44	44.533	41.73	56.231	79.39	3.332	62.23
Secδ tanδ	1.748	-1.434	1.012	-.154	1.843	-1.548	1.000	-.022
Dob.Tran.	Feb 10		Feb 12		Feb 13		Feb 15	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	365		371		375		380	
EST.	ο Leonis		μ Leonis		φ Velorum		α Leonis (Regulus)	
MAG.	3.52		3.88		3.54		1.35	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	9 42	+ 9 46	9 54	+25 53	9 57	-54 40	10 9	+11 50
mes d	s	"	s	"	s	"	s	"
1 -4.9	22.768	75.85	4.315	50.53	40.731	19.68	35.760	76.89
1 5.1	23.054	74.27	4.635	49.62	41.094	22.90	36.065	75.28
1 15.1	23.304	72.88	4.919	49.02	41.398	26.39	36.338	73.89
1 25.1	23.511	71.73	5.157	48.74	41.637	30.07	36.570	72.75
2 4.0	23.668	70.83	5.343	48.78	41.799	33.82	36.754	71.90
2 14.0	23.775	70.18	5.474	49.10	41.889	37.53	36.890	71.31
2 24.0	23.831	69.77	5.551	49.68	41.906	41.16	36.975	70.98
3 6.0	23.839	69.60	5.573	50.45	41.853	44.56	37.010	70.91
3 15.9	23.807	69.61	5.550	51.35	41.741	47.71	37.004	71.03
3 25.9	23.738	69.78	5.484	52.34	41.573	50.55	36.958	71.33
4 4.9	23.642	70.09	5.387	53.34	41.361	52.98	36.883	71.76
4 14.8	23.529	70.48	5.267	54.30	41.117	55.02	36.786	72.26
4 24.8	23.404	70.95	5.132	55.20	40.844	56.60	36.673	72.83
5 4.8	23.277	71.45	4.992	55.96	40.558	57.69	36.555	73.42
5 14.8	23.156	71.96	4.856	56.59	40.267	58.31	36.437	74.00
5 24.7	23.042	72.48	4.726	57.06	39.974	58.42	36.322	74.57
6 3.7	22.945	72.98	4.613	57.34	39.694	58.03	36.220	75.08
6 13.7	22.866	73.46	4.518	57.45	39.430	57.18	36.132	75.54
6 23.7	22.807	73.90	4.443	57.39	39.187	55.86	36.059	75.94
7 3.6	22.772	74.29	4.395	57.13	38.977	54.12	36.007	76.25
7 13.6	22.759	74.62	4.371	56.71	38.801	52.03	35.975	76.47
7 23.6	22.772	74.87	4.374	56.12	38.667	49.62	35.966	76.60
8 2.5	22.812	75.01	4.407	55.36	38.582	47.00	35.982	76.59
8 12.5	22.878	75.00	4.466	54.46	38.545	44.23	36.022	76.46
8 22.5	22.963	74.93	4.554	53.36	38.566	41.40	36.114	76.22
9 1.5	23.087	74.67	4.674	52.10	38.648	38.64	36.178	75.75
9 11.4	23.238	74.22	4.826	50.69	38.788	36.04	36.303	75.10
9 21.4	23.419	73.54	5.012	49.13	38.993	33.68	36.460	74.24
10 1.4	23.630	72.65	5.231	47.45	39.258	31.72	36.649	73.17
10 11.3	23.871	71.54	5.482	45.65	39.580	30.19	36.870	71.90
10 21.3	24.142	70.21	5.766	43.76	39.956	29.20	37.125	70.41
10 31.3	24.437	68.68	6.079	41.84	40.372	28.81	37.408	68.75
11 10.3	24.755	67.00	6.416	39.91	40.822	29.02	37.717	66.94
11 20.2	25.088	65.19	6.774	38.02	41.294	29.89	38.047	65.02
11 30.2	25.428	63.32	7.141	36.26	41.767	31.37	38.389	63.06
12 10.2	25.767	61.44	7.511	34.64	42.232	33.41	38.735	61.11
12 20.2	26.096	59.61	7.872	33.25	42.672	36.00	39.075	59.23
12 30.1	26.401	57.92	8.211	32.14	43.070	39.01	39.397	57.49
12 40.1	26.677	56.38	8.520	31.31	43.417	42.35	39.693	55.93
Pos. Med.	24.167	63.54	5.726	42.64	41.430	49.15	37.267	65.23
Secδ tanδ	1.015	.172	1.112	.485	1.730	-1.411	1.022	.210
Dob.Tran.	Feb 15		Feb 18		Feb 19		Feb 22	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	381		385		1264		384	
EST.	λ Hydrae		ω Carinae		187 G. Carinae		ζ Leonis	
MAG.	3.61		3.32		3.40		3.44	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	10 11	-12 27	10 14	-70 8	10 17	-61 26	10 17	+23 17
mes d	s	"	s	"	s	"	s	"
1 -4.8	42.575	56.46	17.574	45.31	51.518	29.36	58.063	65.79
1 5.1	42.868	58.93	18.134	48.32	51.959	32.42	58.392	64.61
1 15.1	43.129	61.39	18.602	51.70	52.336	35.81	58.689	63.73
1 25.1	43.348	63.77	18.967	55.38	52.638	39.47	58.945	63.18
2 4.1	43.520	66.00	19.214	59.24	52.853	43.27	59.151	62.96
2 14.0	43.644	68.03	19.347	63.16	52.985	47.11	59.306	63.05
2 24.0	43.719	69.85	19.365	67.09	53.032	50.92	59.407	63.42
3 6.0	43.746	71.41	19.269	70.88	52.995	54.57	59.455	64.03
3 15.9	43.733	72.71	19.075	74.48	52.887	58.01	59.457	64.81
3 25.9	43.683	73.75	18.787	77.84	52.710	61.19	59.417	65.72
4 4.9	43.604	74.51	18.419	80.83	52.476	64.00	59.343	66.69
4 14.9	43.505	75.03	17.988	83.44	52.198	66.42	59.244	67.65
4 24.8	43.390	75.30	17.500	85.61	51.880	68.42	59.126	68.59
5 4.8	43.268	75.32	16.975	87.29	51.538	69.91	59.000	69.44
5 14.8	43.145	75.14	16.428	88.47	51.181	70.94	58.873	70.17
5 24.8	43.025	74.73	15.864	89.12	50.814	71.44	58.748	70.77
6 3.7	42.915	74.13	15.307	89.21	50.454	71.42	58.635	71.20
6 13.7	42.817	73.37	14.765	88.80	50.104	70.90	58.535	71.47
6 23.7	42.732	72.44	14.250	87.83	49.774	69.87	58.452	71.56
7 3.6	42.667	71.38	13.782	86.38	49.477	68.38	58.390	71.48
7 13.6	42.620	70.24	13.366	84.50	49.215	66.49	58.349	71.22
7 23.6	42.594	69.02	13.019	82.19	48.999	64.21	58.331	70.79
8 2.6	42.593	67.81	12.755	79.58	48.840	61.65	58.340	70.17
8 12.5	42.616	66.62	12.577	76.74	48.738	58.89	58.374	69.40
8 22.5	42.667	65.51	12.502	73.73	48.706	55.99	58.435	68.44
9 1.5	42.749	64.56	12.534	70.71	48.748	53.10	58.526	67.28
9 11.5	42.860	63.79	12.673	67.75	48.864	50.30	58.649	65.95
9 21.4	43.007	63.27	12.928	64.98	49.060	47.69	58.806	64.43
10 1.4	43.188	63.07	13.291	62.53	49.333	45.42	58.998	62.77
10 11.4	43.403	63.20	13.753	60.46	49.678	43.54	59.223	60.97
10 21.3	43.653	63.71	14.312	58.89	50.093	42.17	59.485	59.03
10 31.3	43.932	64.60	14.943	57.92	50.562	41.39	59.778	57.03
11 10.3	44.237	65.85	15.630	57.56	51.077	41.20	60.099	54.97
11 20.3	44.563	67.46	16.356	57.87	51.623	41.68	60.445	52.93
11 30.2	44.899	69.38	17.087	58.84	52.177	42.80	60.804	50.97
12 10.2	45.238	71.54	17.806	60.44	52.726	44.53	61.170	49.14
12 20.2	45.570	73.91	18.487	62.67	53.251	46.85	61.532	47.50
12 30.2	45.881	76.36	19.100	65.40	53.731	49.65	61.877	46.12
12 40.1	46.166	78.86	19.635	68.57	54.155	52.85	62.197	45.02
Pos. Med.	44.065	75.67	17.596	77.92	52.260	60.91	59.580	57.57
Secδ tanδ	1.024	-.221	2.946	-2.771	2.092	-1.838	1.089	.431
Dob.Tran.	Feb 23		Feb 23		Feb 24		Feb 24	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	389		397		396		401	
EST.	μ Hydrae		203 G. Carinae		ρ Leonis		γ Chamaeleontis	
MAG.	3.81		3.32		3.85		4.11	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	10 27	-16 57	10 32	-61 47	10 34	+ 9 10	10 35	-78 43
mes d	s	"	s	"	s	"	s	"
1 -4.8	12.130	4.40	50.838	51.97	1.180	78.15	44.135	12.73
1 5.1	12.435	6.97	51.305	54.90	1.495	76.34	45.092	15.41
1 15.1	12.708	9.57	51.712	58.18	1.782	74.73	45.909	18.51
1 25.1	12.942	12.15	52.047	61.76	2.032	73.36	46.563	22.00
2 4.1	13.128	14.61	52.296	65.52	2.237	72.27	47.028	25.75
2 14.0	13.267	16.90	52.464	69.34	2.395	71.45	47.309	29.64
2 24.0	13.357	19.00	52.546	73.17	2.504	70.91	47.400	33.62
3 6.0	13.399	20.84	52.544	76.87	2.565	70.63	47.299	37.55
3 16.0	13.399	22.43	52.468	80.39	2.583	70.58	47.031	41.36
3 25.9	13.362	23.75	52.322	83.68	2.561	70.74	46.595	44.99
4 4.9	13.293	24.79	52.115	86.61	2.508	71.05	46.010	48.31
4 14.9	13.202	25.56	51.860	89.19	2.431	71.48	45.305	51.31
4 24.8	13.093	26.05	51.562	91.36	2.334	72.00	44.482	53.92
5 4.8	12.974	26.27	51.234	93.04	2.229	72.57	43.576	56.06
5 14.8	12.852	26.25	50.888	94.26	2.119	73.15	42.608	57.72
5 24.8	12.730	25.97	50.526	94.97	2.010	73.75	41.589	58.86
6 3.7	12.614	25.46	50.166	95.15	1.908	74.31	40.558	59.44
6 13.7	12.508	24.74	49.812	94.84	1.815	74.84	39.532	59.49
6 23.7	12.413	23.82	49.471	94.01	1.734	75.33	38.532	58.97
7 3.7	12.335	22.74	49.159	92.70	1.670	75.73	37.597	57.92
7 13.6	12.273	21.53	48.879	90.97	1.623	76.07	36.739	56.39
7 23.6	12.231	20.20	48.640	88.83	1.594	76.31	35.988	54.38
8 2.6	12.212	18.85	48.456	86.39	1.588	76.42	35.376	51.99
8 12.5	12.217	17.49	48.327	83.72	1.604	76.42	34.909	49.30
8 22.5	12.251	16.19	48.266	80.87	1.647	76.25	34.619	46.37
9 1.5	12.315	15.02	48.279	78.01	1.699	76.02	34.520	43.33
9 11.5	12.411	14.01	48.366	75.18	1.807	75.41	34.609	40.28
9 21.4	12.543	13.25	48.535	72.52	1.939	74.66	34.906	37.32
10 1.4	12.711	12.80	48.785	70.17	2.104	73.68	35.398	34.61
10 11.4	12.916	12.68	49.110	68.17	2.303	72.48	36.073	32.22
10 21.4	13.158	12.96	49.510	66.65	2.538	71.04	36.923	30.27
10 31.3	13.432	13.64	49.969	65.69	2.804	69.40	37.910	28.86
11 10.3	13.735	14.71	50.479	65.32	3.100	67.58	39.006	28.03
11 20.3	14.062	16.19	51.027	65.61	3.421	65.61	40.181	27.85
11 30.2	14.402	18.02	51.589	66.54	3.758	63.57	41.379	28.35
12 10.2	14.747	20.15	52.152	68.08	4.103	61.50	42.569	29.49
12 20.2	15.087	22.52	52.696	70.22	4.447	59.46	43.708	31.28
12 30.2	15.409	25.05	53.199	72.87	4.777	57.55	44.748	33.64
12 40.1	15.706	27.66	53.652	75.95	5.085	55.78	45.669	36.50
Pos. Med.	13.709	25.19	51.864	84.15	2.812	65.81	43.591	47.05
Secδ tanδ	1.045	-.305	2.117	-1.866	1.013	.162	5.117	-5.018
Dob.Tran.	Feb 27		Feb 28		Feb 28		Mar 1	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	406		410		1283		1289	
EST.	ϑ Carinae		ν Hydrae		α Crateris		260 G. Carinae	
MAG.	2.76		3.11		4.08		3.91	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ ″	h m s	° ′ ″	h m s	° ′ ″	h m s	° ′ ″
	10 43	-64 30	10 50	-16 18	11 0	-18 25	11 9	-59 5
mes d								
1 -4.8	46.840	31.83	45.414	41.28	53.485	6.40	34.281	37.20
1 5.2	47.358	34.63	45.732	43.79	53.809	8.92	34.767	39.79
1 15.1	47.812	37.81	46.022	46.34	54.106	11.50	35.207	42.78
1 25.1	48.192	41.33	46.277	48.87	54.368	14.10	35.589	46.11
2 4.1	48.481	45.06	46.486	51.29	54.587	16.61	35.899	49.67
2 14.0	48.682	48.89	46.650	53.55	54.760	18.98	36.137	53.35
2 24.0	48.792	52.76	46.767	55.63	54.886	21.18	36.300	57.09
3 6.0	48.809	56.54	46.835	57.47	54.964	23.15	36.385	60.78
3 16.0	48.747	60.17	46.862	59.06	55.000	24.88	36.401	64.33
3 25.9	48.607	63.59	46.849	60.39	54.996	26.35	36.350	67.71
4 4.9	48.397	66.68	46.804	61.45	54.958	27.54	36.237	70.80
4 14.9	48.134	69.43	46.734	62.25	54.895	28.48	36.076	73.58
4 24.9	47.819	71.78	46.644	62.79	54.809	29.15	35.868	76.00
5 4.8	47.468	73.66	46.540	63.06	54.709	29.54	35.625	77.98
5 14.8	47.091	75.09	46.430	63.11	54.601	29.70	35.355	79.55
5 24.8	46.694	76.00	46.316	62.92	54.486	29.60	35.063	80.63
6 3.7	46.292	76.38	46.204	62.50	54.373	29.26	34.760	81.20
6 13.7	45.893	76.26	46.098	61.90	54.263	28.71	34.453	81.31
6 23.7	45.505	75.60	45.999	61.09	54.158	27.94	34.147	80.90
7 3.7	45.143	74.45	45.913	60.12	54.065	27.01	33.856	80.01
7 13.6	44.813	72.87	45.840	59.03	53.983	25.92	33.583	78.69
7 23.6	44.525	70.84	45.784	57.83	53.917	24.70	33.337	76.93
8 2.6	44.295	68.48	45.748	56.59	53.870	23.42	33.132	74.82
8 12.6	44.124	65.85	45.734	55.33	53.844	22.11	32.970	72.44
8 22.5	44.026	63.02	45.746	54.11	53.844	20.82	32.863	69.82
9 1.5	44.010	60.13	45.788	53.02	53.874	19.63	32.820	67.11
9 11.5	44.074	57.26	45.861	52.06	53.935	18.58	32.842	64.38
9 21.4	44.231	54.50	45.970	51.33	54.032	17.73	32.941	61.73
10 1.4	44.477	52.02	46.116	50.88	54.169	17.16	33.115	59.31
10 11.4	44.808	49.87	46.301	50.74	54.344	16.89	33.364	57.18
10 21.4	45.224	48.18	46.525	50.98	54.561	17.00	33.690	55.45
10 31.3	45.708	47.04	46.785	51.61	54.815	17.51	34.082	54.23
11 10.3	46.250	46.47	47.077	52.61	55.103	18.40	34.531	53.54
11 20.3	46.838	46.55	47.397	54.02	55.421	19.71	35.028	53.47
11 30.3	47.444	47.28	47.734	55.76	55.758	21.37	35.553	54.03
12 10.2	48.056	48.63	48.082	57.81	56.106	23.36	36.092	55.19
12 20.2	48.651	50.60	48.428	60.10	56.456	25.63	36.629	56.96
12 30.2	49.205	53.11	48.761	62.56	56.794	28.08	37.141	59.25
12 40.1	49.708	56.07	49.073	65.10	57.112	30.64	37.617	62.01
Pos. Med.	47.994	64.76	47.169	61.87	55.295	27.71	36.090	69.66
Secδ tanδ	2.324	-2.098	1.042	-.293	1.054	-.333	1.947	-1.671
Dob.Tran.	Mar 3		Mar 5		Mar 7		Mar 9	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	422		426		427		431	
EST.	δ Leonis		δ Crateris		σ Leonis		γ Crateris*	
MAG.	2.56		3.56		4.05		4.08	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	11 15	+20 23	11 20	-14 54	11 22	+ 5 53	11 26	-17 48
mes d	s	"	s	"	s	"	s	"
1 -4.8	19.525	48.46	29.113	1.79	18.972	73.58	1.508	27.02
1 5.2	19.872	46.82	29.444	4.21	19.304	71.53	1.844	29.47
1 15.2	20.197	45.47	29.752	6.67	19.615	69.65	2.157	31.98
1 25.1	20.491	44.46	30.029	9.12	19.897	67.97	2.439	34.51
2 4.1	20.743	43.82	30.264	11.46	20.139	66.57	2.681	36.97
2 14.1	20.950	43.53	30.458	13.65	20.339	65.45	2.880	39.30
2 24.0	21.108	43.57	30.605	15.67	20.494	64.61	3.033	41.48
3 6.0	21.216	43.93	30.706	17.45	20.603	64.07	3.140	43.43
3 16.0	21.278	44.53	30.766	19.00	20.669	63.78	3.205	45.15
3 26.0	21.296	45.35	30.785	20.30	20.695	63.74	3.230	46.64
4 4.9	21.276	46.29	30.771	21.33	20.685	63.89	3.219	47.85
4 14.9	21.227	47.31	30.729	22.13	20.649	64.20	3.181	48.82
4 24.9	21.152	48.37	30.663	22.68	20.588	64.65	3.119	49.53
5 4.9	21.060	49.38	30.581	22.99	20.511	65.18	3.038	49.99
5 14.8	20.957	50.32	30.488	23.09	20.424	65.76	2.946	50.22
5 24.8	20.848	51.16	30.386	22.97	20.329	66.38	2.844	50.21
6 3.8	20.739	51.86	30.283	22.66	20.232	66.99	2.739	49.97
6 13.7	20.634	52.40	30.180	22.17	20.138	67.58	2.633	49.54
6 23.7	20.535	52.77	30.079	21.50	20.047	68.15	2.528	48.91
7 3.7	20.447	52.94	29.986	20.69	19.964	68.66	2.430	48.10
7 13.7	20.371	52.94	29.901	19.76	19.891	69.10	2.340	47.15
7 23.6	20.311	52.73	29.829	18.73	19.830	69.46	2.261	46.07
8 2.6	20.270	52.31	29.774	17.65	19.786	69.70	2.199	44.93
8 12.6	20.248	51.71	29.736	16.56	19.758	69.83	2.154	43.74
8 22.6	20.250	50.89	29.722	15.49	19.753	69.81	2.132	42.56
9 1.5	20.279	49.86	29.736	14.53	19.775	69.61	2.139	41.46
9 11.5	20.336	48.61	29.779	13.69	19.830	69.43	2.175	40.48
9 21.5	20.428	47.13	29.857	13.05	19.897	68.65	2.248	39.68
10 1.4	20.557	45.45	29.974	12.66	20.014	67.79	2.360	39.13
10 11.4	20.724	43.59	30.130	12.55	20.167	66.70	2.512	38.85
10 21.4	20.931	41.55	30.329	12.79	20.360	65.35	2.708	38.93
10 31.4	21.176	39.38	30.566	13.40	20.590	63.77	2.944	39.39
11 10.3	21.457	37.11	30.840	14.36	20.856	61.97	3.217	40.21
11 20.3	21.771	34.79	31.146	15.70	21.154	59.98	3.524	41.44
11 30.3	22.109	32.51	31.475	17.37	21.476	57.87	3.855	43.01
12 10.3	22.465	30.29	31.820	19.32	21.815	55.68	4.202	44.91
12 20.2	22.828	28.24	32.170	21.53	22.161	53.48	4.555	47.08
12 30.2	23.184	26.41	32.511	23.89	22.502	51.34	4.902	49.44
12 40.2	23.526	24.84	32.838	26.34	22.829	49.33	5.233	51.93
Pos. Med.	21.298	40.42	31.074	21.76	20.862	60.82	3.521	48.02
Secδ tanδ	1.067	.372	1.035	-.266	1.005	.103	1.050	-.321
Dob.Tran.	Mar 11		Mar 12		Mar 13		Mar 14	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	434		436		437		442	
EST.	ξ Hydrae		λ Centauri		υ Leonis		λ Muscae	
MAG.	3.54		3.13		4.30		3.64	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	11 34	-31 58	11 36	-63 8	11 38	- 0 56	11 46	-66 50
mes d	s	"	s	"	s	"	s	"
1 -4.8	7.632	50.74	50.234	26.69	7.141	58.54	41.185	59.03
1 5.2	7.993	53.23	50.800	28.94	7.475	60.75	41.828	61.10
1 15.2	8.331	55.93	51.323	31.64	7.790	62.85	42.425	63.65
1 25.1	8.636	58.79	51.790	34.74	8.078	64.82	42.964	66.64
2 4.1	8.897	61.71	52.184	38.14	8.329	66.57	43.423	69.97
2 14.1	9.113	64.60	52.503	41.74	8.540	68.08	43.799	73.52
2 24.1	9.280	67.44	52.741	45.47	8.707	69.34	44.087	77.26
3 6.0	9.397	70.12	52.894	49.21	8.829	70.31	44.279	81.05
3 16.0	9.469	72.62	52.971	52.89	8.911	71.03	44.385	84.80
3 26.0	9.497	74.90	52.970	56.46	8.952	71.50	44.402	88.48
4 4.9	9.486	76.91	52.898	59.80	8.958	71.74	44.337	91.96
4 14.9	9.444	78.64	52.766	62.88	8.937	71.79	44.201	95.20
4 24.9	9.374	80.09	52.575	65.65	8.890	71.67	43.994	98.15
5 4.9	9.281	81.20	52.336	68.01	8.825	71.40	43.729	100.72
5 14.8	9.173	82.01	52.059	69.97	8.748	71.04	43.416	102.89
5 24.8	9.051	82.48	51.746	71.48	8.661	70.57	43.057	104.61
6 3.8	8.922	82.62	51.412	72.48	8.570	70.05	42.668	105.83
6 13.8	8.790	82.45	51.062	73.01	8.477	69.48	42.257	106.58
6 23.7	8.655	81.95	50.703	73.02	8.385	68.87	41.831	106.78
7 3.7	8.526	81.15	50.350	72.51	8.299	68.26	41.407	106.46
7 13.7	8.404	80.10	50.009	71.54	8.219	67.67	40.993	105.66
7 23.6	8.293	78.78	49.690	70.09	8.148	67.09	40.602	104.34
8 2.6	8.200	77.28	49.410	68.24	8.092	66.58	40.251	102.60
8 12.6	8.126	75.64	49.172	66.05	8.050	66.14	39.948	100.48
8 22.6	8.078	73.89	48.992	63.55	8.029	65.82	39.709	98.03
9 1.5	8.064	72.16	48.881	60.89	8.033	65.65	39.549	95.37
9 11.5	8.083	70.46	48.842	58.13	8.065	65.67	39.471	92.57
9 21.5	8.146	68.91	48.890	55.37	8.119	65.87	39.493	89.73
10 1.5	8.253	67.58	49.026	52.76	8.223	66.26	39.617	87.01
10 11.4	8.406	66.52	49.249	50.37	8.361	66.96	39.841	84.46
10 21.4	8.609	65.83	49.564	48.32	8.540	67.95	40.173	82.23
10 31.4	8.858	65.57	49.960	46.73	8.758	69.21	40.599	80.44
11 10.3	9.149	65.73	50.428	45.63	9.013	70.73	41.110	79.11
11 20.3	9.478	66.39	50.960	45.12	9.303	72.51	41.696	78.37
11 30.3	9.833	67.51	51.532	45.23	9.618	74.49	42.333	78.24
12 10.3	10.207	69.07	52.131	45.95	9.953	76.61	43.002	78.73
12 20.2	10.588	71.05	52.738	47.30	10.297	78.84	43.684	79.86
12 30.2	10.962	73.36	53.326	49.22	10.638	81.07	44.350	81.59
12 40.2	11.319	75.95	53.885	51.64	10.969	83.27	44.986	83.84
Pos. Med.	9.764	76.30	52.592	59.91	9.161	73.38	43.828	92.73
Secδ tanδ	1.179	-.625	2.214	-1.975	1.000	-.017	2.545	-2.340
Dob.Tran.	Mar 16		Mar 16		Mar 17		Mar 19	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	444		445		450		452	
EST.	β Leonis (Dene-bola)		β Virginis		o Virginis		δ Centauri	
MAG.	2.14		3.61		4.12		2.60	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	11 50	+14 26	11 51	+ 1 37	12 6	+ 8 35	12 9	-50 50
mes d	s	"	s	"	s	"	s	"
1 -4.8	13.449	35.29	53.083	69.55	22.229	79.48	32.453	41.48
1 5.2	13.794	33.33	53.421	67.36	22.572	77.37	32.915	43.53
1 15.2	14.124	31.61	53.744	65.30	22.901	75.44	33.353	45.98
1 25.1	14.429	30.18	54.041	63.40	23.209	73.76	33.758	48.79
2 4.1	14.697	29.10	54.304	61.74	23.484	72.37	34.115	51.85
2 14.1	14.926	28.36	54.528	60.33	23.721	71.29	34.420	55.08
2 24.1	15.111	27.96	54.710	59.20	23.918	70.52	34.670	58.42
3 6.0	15.250	27.90	54.847	58.37	24.070	70.09	34.859	61.77
3 16.0	15.345	28.12	54.943	57.80	24.181	69.94	34.992	65.04
3 26.0	15.398	28.59	54.999	57.48	24.252	70.05	35.069	68.22
4 5.0	15.413	29.26	55.019	57.39	24.285	70.39	35.094	71.19
4 14.9	15.397	30.05	55.011	57.49	24.287	70.90	35.073	73.94
4 24.9	15.354	30.95	54.976	57.74	24.262	71.54	35.009	76.41
5 4.9	15.290	31.87	54.922	58.13	24.215	72.25	34.907	78.55
5 14.8	15.211	32.78	54.853	58.59	24.152	73.01	34.775	80.34
5 24.8	15.121	33.65	54.773	59.13	24.074	73.78	34.614	81.75
6 3.8	15.024	34.43	54.687	59.70	23.989	74.51	34.431	82.73
6 13.8	14.926	35.11	54.598	60.28	23.898	75.20	34.233	83.31
6 23.7	14.827	35.67	54.507	60.87	23.804	75.82	34.020	83.44
7 3.7	14.733	36.07	54.420	61.44	23.711	76.33	33.804	83.14
7 13.7	14.645	36.32	54.338	61.96	23.622	76.75	33.588	82.43
7 23.7	14.566	36.41	54.263	62.44	23.537	77.05	33.378	81.30
8 2.6	14.501	36.31	54.200	62.83	23.464	77.19	33.186	79.82
8 12.6	14.450	36.03	54.151	63.12	23.403	77.20	33.015	78.03
8 22.6	14.419	35.55	54.122	63.29	23.359	77.02	32.876	75.96
9 1.5	14.413	34.85	54.116	63.29	23.339	76.66	32.780	73.74
9 11.5	14.433	33.97	54.137	63.12	23.343	76.11	32.730	71.41
9 21.5	14.484	32.82	54.174	63.17	23.378	75.35	32.737	69.08
10 1.5	14.572	31.43	54.272	62.16	23.446	74.31	32.806	66.86
10 11.4	14.698	29.83	54.399	61.28	23.555	73.03	32.939	64.81
10 21.4	14.866	28.01	54.567	60.14	23.707	71.51	33.142	63.06
10 31.4	15.075	26.00	54.775	58.75	23.900	69.77	33.410	61.71
11 10.4	15.324	23.83	55.022	57.10	24.134	67.83	33.738	60.79
11 20.3	15.610	21.54	55.305	55.23	24.406	65.71	34.122	60.39
11 30.3	15.924	19.21	55.617	53.18	24.709	63.48	34.548	60.54
12 10.3	16.261	16.87	55.949	51.00	25.037	61.19	35.004	61.23
12 20.2	16.612	14.61	56.295	48.75	25.381	58.90	35.478	62.49
12 30.2	16.962	12.51	56.639	46.53	25.727	56.70	35.949	64.24
12 40.2	17.304	10.62	56.975	44.36	26.068	54.63	36.408	66.45
Pos. Med.	15.409	26.16	55.188	55.84	24.334	68.83	35.204	71.57
Secδ tanδ	1.033	.258	1.000	.028	1.011	.151	1.584	-1.228
Dob.Tran.	Mar 20		Mar 20		Mar 24		Mar 25	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	453		455		457		462	
EST.	ε Corvi		δ Crucis		γ Corvi		α Crucis A*	
MAG.	3.00		2.80		2.59		1.33	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	12 11	-22 44	12 16	-58 52	12 16	-17 40	12 27	-63 13
mes d	s	"	s	"	s	"	s	"
1 -4.8	17.839	39.58	21.332	14.53	58.680	.40	51.910	12.49
1 5.2	18.196	41.85	21.872	16.38	59.030	2.66	52.520	14.11
1 15.2	18.537	44.27	22.387	18.68	59.367	5.01	53.104	16.22
1 25.2	18.854	46.78	22.864	21.41	59.682	7.40	53.651	18.80
2 4.1	19.137	49.29	23.287	24.47	59.964	9.75	54.140	21.75
2 14.1	19.382	51.75	23.650	27.75	60.210	12.00	54.566	24.97
2 24.1	19.584	54.11	23.949	31.22	60.415	14.12	54.922	28.42
3 6.1	19.742	56.29	24.177	34.74	60.577	16.04	55.199	31.98
3 16.0	19.858	58.29	24.338	38.26	60.699	17.76	55.403	35.57
3 26.0	19.934	60.08	24.433	41.71	60.781	19.25	55.531	39.14
4 5.0	19.972	61.63	24.463	45.00	60.825	20.50	55.585	42.58
4 14.9	19.979	62.94	24.438	48.09	60.840	21.53	55.574	45.85
4 24.9	19.957	64.01	24.357	50.93	60.826	22.33	55.498	48.90
5 4.9	19.912	64.83	24.228	53.42	60.789	22.90	55.362	51.62
5 14.9	19.848	65.41	24.059	55.58	60.734	23.26	55.178	54.02
5 24.8	19.767	65.74	23.850	57.33	60.661	23.41	54.944	56.03
6 3.8	19.674	65.82	23.612	58.64	60.577	23.36	54.671	57.59
6 13.8	19.573	65.69	23.351	59.51	60.484	23.14	54.367	58.72
6 23.8	19.464	65.32	23.069	59.90	60.384	22.72	54.035	59.34
7 3.7	19.354	64.74	22.780	59.81	60.281	22.15	53.691	59.47
7 13.7	19.245	63.98	22.489	59.26	60.178	21.44	53.340	59.13
7 23.7	19.139	63.03	22.205	58.24	60.078	20.60	52.993	58.28
8 2.6	19.043	61.97	21.941	56.80	59.987	19.67	52.667	56.98
8 12.6	18.960	60.80	21.704	55.01	59.906	18.69	52.368	55.28
8 22.6	18.895	59.57	21.505	52.87	59.842	17.68	52.111	53.20
9 1.6	18.856	58.36	21.359	50.51	59.803	16.72	51.913	50.85
9 11.5	18.845	57.20	21.270	48.00	59.789	15.83	51.780	48.31
9 21.5	18.871	56.16	21.252	45.42	59.811	15.08	51.726	45.64
10 1.5	18.936	55.32	21.310	42.91	59.870	14.53	51.761	43.01
10 11.5	19.045	54.70	21.447	40.54	59.970	14.20	51.885	40.47
10 21.4	19.202	54.39	21.668	38.43	60.118	14.16	52.107	38.15
10 31.4	19.405	54.44	21.969	36.70	60.311	14.46	52.421	36.18
11 10.4	19.652	54.84	22.343	35.39	60.547	15.11	52.821	34.60
11 20.3	19.941	55.66	22.785	34.60	60.825	16.12	53.301	33.54
11 30.3	20.262	56.85	23.278	34.39	61.135	17.48	53.841	33.04
12 10.3	20.608	58.40	23.808	34.75	61.471	19.14	54.428	33.11
12 20.3	20.969	60.29	24.360	35.71	61.823	21.10	55.043	33.80
12 30.2	21.331	62.43	24.911	37.22	62.178	23.25	55.662	35.07
12 40.2	21.686	64.77	25.449	39.24	62.527	25.56	56.270	36.87
Pos. Med.	20.246	61.31	24.393	46.16	61.081	20.20	55.379	44.53
Secδ tanδ	1.084	-.419	1.935	-1.656	1.050	-.319	2.220	-1.982
Dob.Tran.	Mar 25		Mar 26		Mar 27		Mar 29	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	465		468		471		474	
EST.	δ Corvi		γ Crucis		β Corvi		α Muscae	
MAG.	2.95		1.63 Var		2.65		2.69	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	12 31	-16 38	12 32	-57 14	12 35	-23 31	12 38	-69 15
mes d	s	"	s	"	s	"	s	"
1 -4.7	2.524	26.63	25.706	9.28	34.963	13.92	32.461	20.30
1 5.2	2.875	28.83	26.236	10.97	35.326	16.06	33.211	21.65
1 15.2	3.215	31.13	26.746	13.12	35.677	18.36	33.935	23.53
1 25.2	3.536	33.46	27.226	15.69	36.010	20.77	34.619	25.91
2 4.1	3.827	35.75	27.657	18.60	36.312	23.21	35.235	28.73
2 14.1	4.083	37.93	28.034	21.74	36.578	25.62	35.777	31.86
2 24.1	4.301	39.98	28.353	25.09	36.806	27.95	36.237	35.28
3 6.1	4.476	41.83	28.605	28.50	36.990	30.12	36.601	38.87
3 16.0	4.613	43.48	28.796	31.93	37.134	32.13	36.875	42.53
3 26.0	4.710	44.91	28.923	35.32	37.239	33.96	37.055	46.23
4 5.0	4.770	46.11	28.988	38.56	37.305	35.55	37.140	49.84
4 15.0	4.800	47.08	29.000	41.63	37.339	36.93	37.142	53.32
4 24.9	4.800	47.84	28.957	44.47	37.343	38.08	37.057	56.61
5 4.9	4.775	48.37	28.866	46.99	37.320	38.98	36.894	59.60
5 14.9	4.732	48.72	28.735	49.20	37.277	39.67	36.662	62.28
5 24.8	4.670	48.86	28.562	51.04	37.212	40.11	36.362	64.59
6 3.8	4.594	48.82	28.358	52.45	37.133	40.32	36.006	66.45
6 13.8	4.507	48.62	28.128	53.45	37.041	40.32	35.606	67.87
6 23.8	4.411	48.25	27.874	53.99	36.937	40.09	35.164	68.78
7 3.7	4.310	47.73	27.609	54.05	36.828	39.65	34.701	69.17
7 13.7	4.207	47.09	27.337	53.68	36.714	39.02	34.226	69.06
7 23.7	4.103	46.32	27.065	52.84	36.600	38.21	33.750	68.41
8 2.7	4.007	45.48	26.808	51.58	36.492	37.25	33.298	67.28
8 12.6	3.919	44.59	26.572	49.95	36.393	36.19	32.879	65.70
8 22.6	3.846	43.67	26.369	47.98	36.309	35.03	32.511	63.69
9 1.6	3.795	42.80	26.211	45.77	36.249	33.88	32.217	61.36
9 11.5	3.770	42.00	26.106	43.39	36.214	32.74	32.004	58.78
9 21.5	3.777	41.33	26.065	40.90	36.215	31.70	31.892	56.03
10 1.5	3.823	40.85	26.097	38.47	36.256	30.82	31.892	53.25
10 11.5	3.908	40.58	26.204	36.14	36.339	30.14	32.005	50.52
10 21.4	4.041	40.57	26.393	34.03	36.472	29.73	32.243	47.96
10 31.4	4.221	40.90	26.660	32.27	36.654	29.65	32.598	45.71
11 10.4	4.445	41.56	27.001	30.91	36.882	29.92	33.063	43.83
11 20.4	4.712	42.57	27.411	30.04	37.156	30.57	33.631	42.44
11 30.3	5.013	43.91	27.875	29.72	37.466	31.61	34.277	41.61
12 10.3	5.343	45.55	28.380	29.94	37.805	32.99	34.985	41.35
12 20.3	5.691	47.46	28.912	30.75	38.164	34.72	35.735	41.72
12 30.2	6.045	49.57	29.449	32.11	38.530	36.71	36.493	42.70
12 40.2	6.396	51.82	29.978	33.97	38.892	38.92	37.243	44.24
Pos. Med.	5.018	45.65	29.001	40.12	37.582	35.08	36.619	52.82
Secδ tanδ	1.044	-.299	1.848	-1.554	1.091	-.435	2.824	-2.641
Dob.Tran.	Mar 30		Mar 31		Mar 31		Abr 1	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	481		484		485		488	
EST.	β Crucis		δ Virginis		αCanumVenat*f		ε Virginis	
MAG.	1.25		3.38		2.90		2.83	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ ″	h m s	° ′ ″	h m s	° ′ ″	h m s	° ′ ″
	12 49	-59 48	12 56	+ 3 15	12 57	+38 11	13 3	+10 49
mes d								
1 -4.7	2.941	29.86	44.867	83.38	5.387	30.18	18.409	67.72
1 5.2	3.509	31.28	45.209	81.16	5.785	28.15	18.753	65.48
1 15.2	4.061	33.18	45.545	79.05	6.182	26.56	19.094	63.44
1 25.2	4.586	35.54	45.869	77.12	6.567	25.49	19.424	61.65
2 4.2	5.065	38.28	46.169	75.44	6.926	24.96	19.730	60.19
2 14.1	5.491	41.29	46.438	74.03	7.250	24.95	20.008	59.06
2 24.1	5.859	44.53	46.674	72.91	7.534	25.47	20.252	58.29
3 6.1	6.159	47.90	46.870	72.12	7.767	26.46	20.457	57.89
3 16.1	6.394	51.32	47.029	71.62	7.952	27.84	20.623	57.81
3 26.0	6.563	54.74	47.150	71.40	8.086	29.55	20.751	58.04
4 5.0	6.665	58.06	47.234	71.43	8.170	31.50	20.841	58.54
4 15.0	6.709	61.23	47.287	71.67	8.210	33.58	20.899	59.23
4 24.9	6.692	64.22	47.310	72.08	8.208	35.72	20.925	60.08
5 4.9	6.621	66.92	47.307	72.62	8.168	37.81	20.924	61.03
5 14.9	6.504	69.32	47.283	73.24	8.099	39.77	20.902	62.01
5 24.9	6.337	71.38	47.239	73.93	8.002	41.56	20.857	63.01
6 3.8	6.132	73.02	47.179	74.62	7.885	43.07	20.796	63.96
6 13.8	5.894	74.26	47.106	75.31	7.753	44.30	20.721	64.84
6 23.8	5.625	75.04	47.022	75.97	7.606	45.19	20.633	65.63
7 3.8	5.338	75.34	46.930	76.57	7.454	45.71	20.538	66.27
7 13.7	5.039	75.19	46.832	77.11	7.298	45.88	20.437	66.78
7 23.7	4.734	74.56	46.732	77.56	7.142	45.65	20.332	67.13
8 2.7	4.441	73.48	46.635	77.90	6.994	45.04	20.229	67.30
8 12.6	4.166	72.01	46.542	78.13	6.856	44.07	20.131	67.29
8 22.6	3.921	70.15	46.460	78.21	6.733	42.72	20.043	67.08
9 1.6	3.723	68.02	46.396	78.13	6.634	41.02	19.972	66.65
9 11.6	3.578	65.66	46.352	77.87	6.561	39.01	19.922	66.01
9 21.5	3.500	63.16	46.338	77.41	6.523	36.68	19.899	65.13
10 1.5	3.500	60.66	46.358	76.74	6.526	34.09	19.911	64.01
10 11.5	3.580	58.21	46.412	75.83	6.572	31.27	19.959	62.63
10 21.5	3.749	55.94	46.512	74.61	6.669	28.25	20.051	61.00
10 31.4	4.004	53.98	46.658	73.17	6.819	25.11	20.189	59.14
11 10.4	4.340	52.38	46.847	71.49	7.021	21.91	20.372	57.08
11 20.4	4.755	51.24	47.082	69.59	7.276	18.71	20.600	54.83
11 30.3	5.231	50.64	47.353	67.52	7.577	15.62	20.868	52.48
12 10.3	5.756	50.57	47.657	65.32	7.918	12.70	21.168	50.06
12 20.3	6.316	51.09	47.984	63.05	8.292	10.04	21.495	47.64
12 30.3	6.888	52.17	48.324	60.79	8.683	7.75	21.836	45.32
12 40.2	7.457	53.76	48.666	58.60	9.083	5.86	22.181	43.14
Pos. Med.	6.646	60.30	47.300	72.58	7.414	30.82	20.798	59.91
Secδ tanδ	1.989	-1.719	1.002	.057	1.272	.787	1.018	.191
Dob.Tran.	Abr	4	Abr	6	Abr	6	Abr	7

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	487		495		496		498	
EST.	δ Muscae		γ Hydrae		ι Centauri		α Virginia (Spica)	
MAG.	3.62		3.00		2.75		0.98	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	°
	13 3	-71 39	13 20	-23 17	13 21	-36 49	13 26	-11 16
mes d	s	"	s	"	s	"	s	"
1 -4.7	50.215	58.15	9.279	22.72	52.300	45.06	23.249	45.25
1 5.3	51.061	59.09	9.643	24.59	52.702	46.64	23.595	47.29
1 15.2	51.892	60.58	10.004	26.64	53.100	48.53	23.939	49.38
1 25.2	52.691	62.61	10.355	28.81	53.487	50.68	24.276	51.47
2 4.2	53.429	65.11	10.683	31.03	53.849	53.03	24.592	53.48
2 14.1	54.095	67.98	10.983	33.23	54.180	55.49	24.882	55.35
2 24.1	54.678	71.18	11.250	35.38	54.475	58.04	25.142	57.06
3 6.1	55.162	74.61	11.479	37.41	54.728	60.57	25.366	58.55
3 16.1	55.549	78.17	11.672	39.30	54.941	63.06	25.556	59.82
3 26.0	55.835	81.84	11.827	41.03	55.113	65.47	25.710	60.88
4 5.0	56.015	85.48	11.945	42.56	55.242	67.73	25.829	61.69
4 15.0	56.100	89.03	12.030	43.91	55.335	69.83	25.916	62.31
4 25.0	56.084	92.46	12.084	45.06	55.390	71.75	25.974	62.73
5 4.9	55.973	95.64	12.107	45.99	55.411	73.44	26.003	62.97
5 14.9	55.779	98.56	12.107	46.74	55.403	74.92	26.009	63.07
5 24.9	55.499	101.14	12.080	47.29	55.364	76.14	25.991	63.02
6 3.8	55.145	103.31	12.032	47.63	55.299	77.08	25.952	62.85
6 13.8	54.730	105.07	11.965	47.80	55.210	77.76	25.897	62.59
6 23.8	54.256	106.34	11.879	47.75	55.098	78.14	25.823	62.23
7 3.8	53.745	107.09	11.780	47.53	54.970	78.22	25.736	61.80
7 13.7	53.208	107.35	11.669	47.13	54.827	78.02	25.637	61.31
7 23.7	52.657	107.06	11.548	46.56	54.673	77.51	25.530	60.76
8 2.7	52.121	106.26	11.427	45.84	54.518	76.74	25.421	60.19
8 12.7	51.609	104.98	11.307	45.01	54.365	75.72	25.311	59.60
8 22.6	51.145	103.23	11.195	44.06	54.222	74.48	25.208	59.03
9 1.6	50.755	101.10	11.100	43.09	54.101	73.08	25.120	58.51
9 11.6	50.448	98.66	11.027	42.10	54.004	71.57	25.051	58.07
9 21.5	50.249	95.98	10.984	41.15	53.944	70.01	25.008	57.74
10 1.5	50.172	93.20	10.980	40.32	53.930	68.50	25.001	57.59
10 11.5	50.222	90.40	11.017	39.65	53.963	67.08	25.034	57.64
10 21.5	50.412	87.70	11.103	39.19	54.053	65.84	25.098	57.88
10 31.4	50.740	85.24	11.239	38.99	54.201	64.86	25.227	58.38
11 10.4	51.195	83.09	11.427	39.08	54.406	64.19	25.398	59.18
11 20.4	51.776	81.37	11.665	39.53	54.669	63.89	25.617	60.27
11 30.4	52.456	80.17	11.946	40.33	54.979	64.01	25.878	61.63
12 10.3	53.216	79.51	12.263	41.45	55.329	64.54	26.174	63.24
12 20.3	54.037	79.46	12.609	42.91	55.711	65.50	26.498	65.07
12 30.3	54.883	80.03	12.970	44.63	56.110	66.84	26.839	67.04
12 40.2	55.734	81.16	13.336	46.56	56.514	68.53	27.187	69.11
Pos. Med.	55.435	89.62	12.256	41.60	55.570	68.02	26.067	59.73
Secδ tanδ	3.181	-3.019	1.089	-.431	1.249	-.749	1.020	-.200
Dob.Tran.	Abr 7		Abr 12		Abr 12		Abr 13	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	501		504		509		508	
EST.	ζ Virginis		ε Centauri		η Ursae Majoris		μ Centauri	
MAG.	3.37		2.30		1.86		3.04 Var.	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	13 35	- 0 42	13 41	-53 34	13 48	+49 11	13 50	-42 35
mes d	s	"	s	"	s	"	s	"
1 -4.7	50.837	44.96	19.319	39.95	25.752	43.17	58.785	1.05
1 5.3	51.174	47.14	19.822	40.87	26.179	40.78	59.209	2.18
1 15.2	51.512	49.25	20.327	42.24	26.621	38.88	59.638	3.67
1 25.2	51.844	51.24	20.824	44.04	27.066	37.55	60.061	5.50
2 4.2	52.159	53.03	21.295	46.20	27.497	36.85	60.465	7.59
2 14.2	52.450	54.59	21.732	48.64	27.902	36.75	60.841	9.86
2 24.1	52.713	55.89	22.129	51.33	28.272	37.27	61.186	12.30
3 6.1	52.941	56.88	22.476	54.17	28.594	38.36	61.490	14.81
3 16.1	53.135	57.60	22.775	57.10	28.866	39.93	61.755	17.34
3 26.1	53.294	58.04	23.022	60.09	29.083	41.93	61.978	19.86
4 5.0	53.418	58.21	23.214	63.04	29.241	44.25	62.157	22.30
4 15.0	53.512	58.17	23.358	65.90	29.344	46.77	62.298	24.64
4 25.0	53.575	57.94	23.450	68.66	29.393	49.42	62.397	26.85
5 4.9	53.609	57.55	23.492	71.22	29.390	52.05	62.457	28.86
5 14.9	53.620	57.07	23.490	73.57	29.342	54.58	62.483	30.69
5 24.9	53.607	56.49	23.442	75.66	29.251	56.94	62.471	32.29
6 3.9	53.573	55.88	23.351	77.44	29.124	59.01	62.425	33.63
6 13.8	53.521	55.25	23.223	78.90	28.967	60.77	62.350	34.70
6 23.8	53.451	54.61	23.056	79.99	28.781	62.16	62.242	35.47
7 3.8	53.367	54.01	22.861	80.67	28.576	63.10	62.110	35.91
7 13.8	53.272	53.45	22.642	80.97	28.357	63.63	61.957	36.05
7 23.7	53.166	52.93	22.403	80.84	28.127	63.69	61.785	35.85
8 2.7	53.058	52.51	22.157	80.31	27.896	63.27	61.605	35.33
8 12.7	52.948	52.16	21.912	79.39	27.668	62.42	61.421	34.52
8 22.6	52.843	51.93	21.677	78.09	27.450	61.11	61.243	33.41
9 1.6	52.751	51.83	21.469	76.49	27.253	59.36	61.082	32.08
9 11.6	52.676	51.88	21.294	74.63	27.080	57.23	60.945	30.56
9 21.6	52.626	52.11	21.167	72.56	26.942	54.71	60.844	28.90
10 1.5	52.610	52.54	21.100	70.41	26.848	51.86	60.789	27.21
10 11.5	52.629	53.17	21.096	68.24	26.802	48.74	60.785	25.53
10 21.5	52.689	54.06	21.169	66.15	26.815	45.36	60.842	23.96
10 31.5	52.797	55.23	21.319	64.25	26.889	41.84	60.962	22.60
11 10.4	52.952	56.64	21.544	62.61	27.027	38.22	61.145	21.47
11 20.4	53.155	58.28	21.847	61.33	27.232	34.58	61.393	20.69
11 30.4	53.401	60.13	22.215	60.48	27.498	31.06	61.698	20.30
12 10.3	53.682	62.14	22.639	60.08	27.820	27.70	62.050	20.31
12 20.3	53.995	64.27	23.108	60.19	28.194	24.63	62.443	20.76
12 30.3	54.325	66.45	23.604	60.79	28.602	21.95	62.860	21.63
12 40.3	54.664	68.61	24.113	61.87	29.036	19.72	63.291	22.88
Pos. Med.	53.551	55.26	23.495	65.68	27.861	48.04	62.548	23.46
Secδ tanδ	1.000	-.012	1.685	-1.356	1.530	1.158	1.358	-.919
Dob.Tran.	Abr 16		Abr 17		Abr 19		Abr 19	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	513		512		518		519	
EST.	η Bootis		ζ Centauri		β Centauri*		π Hydrae	
MAG.	2.68		2.55		0.61		3.27	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	13 55	+18 16	13 56	-47 23	14 5	-60 28	14 7	-26 47
mes d	s	"	s	"	s	"	s	"
1 -4.7	45.653	53.87	57.049	47.68	25.145	41.28	39.559	23.43
1 5.3	45.989	51.44	57.500	48.60	25.723	41.69	39.922	24.89
1 15.3	46.334	49.27	57.958	49.92	26.313	42.58	40.292	26.56
1 25.2	46.677	47.41	58.411	51.61	26.902	43.95	40.660	28.41
2 4.2	47.008	45.94	58.845	53.62	27.471	45.76	41.015	30.36
2 14.2	47.318	44.88	59.252	55.87	28.007	47.92	41.349	32.34
2 24.2	47.602	44.26	59.627	58.33	28.505	50.40	41.658	34.34
3 6.1	47.852	44.08	59.959	60.91	28.950	53.13	41.934	36.28
3 16.1	48.068	44.29	60.249	63.55	29.341	56.02	42.178	38.13
3 26.1	48.248	44.88	60.496	66.22	29.676	59.05	42.388	39.87
4 5.0	48.390	45.79	60.696	68.85	29.948	62.11	42.562	41.47
4 15.0	48.498	46.93	60.853	71.39	30.161	65.17	42.704	42.91
4 25.0	48.573	48.27	60.966	73.84	30.312	68.17	42.814	44.21
5 5.0	48.615	49.71	61.035	76.10	30.400	71.04	42.890	45.33
5 14.9	48.630	51.19	61.066	78.18	30.432	73.74	42.939	46.29
5 24.9	48.618	52.67	61.054	80.04	30.403	76.23	42.957	47.09
6 3.9	48.581	54.05	61.005	81.62	30.316	78.42	42.946	47.70
6 13.9	48.524	55.32	60.921	82.93	30.179	80.32	42.911	48.14
6 23.8	48.445	56.44	60.802	83.92	29.989	81.84	42.848	48.40
7 3.8	48.351	57.34	60.653	84.56	29.756	82.96	42.762	48.47
7 13.8	48.242	58.04	60.481	84.86	29.487	83.68	42.657	48.36
7 23.7	48.121	58.50	60.286	84.79	29.187	83.93	42.534	48.06
8 2.7	47.995	58.70	60.082	84.36	28.873	83.74	42.400	47.60
8 12.7	47.866	58.64	59.873	83.60	28.552	83.11	42.260	46.98
8 22.7	47.740	58.31	59.669	82.49	28.237	82.04	42.120	46.21
9 1.6	47.626	57.69	59.484	81.12	27.948	80.58	41.990	45.34
9 11.6	47.526	56.81	59.324	79.52	27.694	78.79	41.876	44.40
9 21.6	47.450	55.63	59.202	77.73	27.493	76.71	41.789	43.43
10 1.6	47.405	54.18	59.131	75.87	27.360	74.46	41.736	42.51
10 11.5	47.396	52.46	59.114	73.99	27.302	72.10	41.724	41.67
10 21.5	47.430	50.46	59.163	72.18	27.333	69.73	41.762	40.97
10 31.5	47.511	48.24	59.281	70.55	27.456	67.48	41.851	40.49
11 10.4	47.641	45.82	59.467	69.15	27.671	65.42	41.993	40.22
11 20.4	47.821	43.22	59.723	68.08	27.980	63.65	42.193	40.25
11 30.4	48.047	40.54	60.040	67.40	28.372	62.29	42.442	40.61
12 10.4	48.313	37.82	60.411	67.13	28.835	61.34	42.735	41.28
12 20.3	48.616	35.14	60.826	67.32	29.360	60.90	43.065	42.28
12 30.3	48.943	32.60	61.268	67.96	29.924	60.98	43.420	43.57
12 40.3	49.284	30.26	61.727	69.01	30.513	61.55	43.789	45.10
Pos. Med.	48.222	50.61	61.083	70.78	30.213	66.26	42.970	40.24
Secδ tanδ	1.053	.330	1.477	-1.088	2.030	-1.766	1.120	-.505
Dob.Tran.	Abr 21		Abr 21		Abr 23		Abr 24	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	520		535		547		542	
EST.	ϑ Centauri		γ Bootis		109 Virginis		α Apodis	
MAG.	2.06		3.03		3.72		3.83	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	14 8	-36 28	14 32	+38 11	14 47	+ 1 47	14 50	-79 8
mes d	s	"	s	"	s	"	s	"
1 -4.7	.760	44.64	58.936	79.10	23.294	47.36	41.669	7.31
1 5.3	1.153	45.81	59.286	76.34	23.603	45.22	42.944	6.50
1 15.3	1.552	47.28	59.657	73.97	23.927	43.15	44.294	6.23
1 25.2	1.950	49.02	60.039	72.07	24.258	41.20	45.695	6.52
2 4.2	2.334	50.98	60.417	70.73	24.585	39.46	47.097	7.37
2 14.2	2.695	53.07	60.782	69.93	24.900	37.98	48.468	8.71
2 24.2	3.029	55.27	61.127	69.73	25.199	36.77	49.788	10.53
3 6.1	3.328	57.50	61.439	70.11	25.473	35.90	51.015	12.79
3 16.1	3.591	59.72	61.716	71.01	25.721	35.33	52.137	15.38
3 26.1	3.819	61.91	61.954	72.39	25.943	35.08	53.139	18.29
4 5.1	4.007	64.00	62.148	74.17	26.133	35.12	53.992	21.42
4 15.0	4.160	65.98	62.301	76.24	26.295	35.39	54.698	24.71
4 25.0	4.276	67.84	62.411	78.54	26.428	35.89	55.241	28.13
5 5.0	4.355	69.52	62.478	80.95	26.530	36.55	55.608	31.54
5 14.9	4.403	71.05	62.507	83.37	26.606	37.31	55.809	34.92
5 24.9	4.416	72.37	62.497	85.75	26.653	38.17	55.829	38.20
6 3.9	4.396	73.48	62.451	87.96	26.672	39.04	55.671	41.28
6 13.9	4.348	74.37	62.375	89.95	26.666	39.91	55.351	44.11
6 23.8	4.269	75.01	62.267	91.69	26.633	40.75	54.863	46.63
7 3.8	4.164	75.40	62.134	93.07	26.576	41.52	54.231	48.74
7 13.8	4.037	75.53	61.980	94.12	26.497	42.21	53.475	50.44
7 23.8	3.889	75.38	61.806	94.77	26.396	42.81	52.607	51.65
8 2.7	3.730	74.98	61.620	95.00	26.281	43.29	51.670	52.32
8 12.7	3.565	74.33	61.427	94.84	26.154	43.64	50.688	52.47
8 22.7	3.400	73.43	61.232	94.25	26.021	43.86	49.694	52.06
9 1.6	3.248	72.36	61.045	93.24	25.891	43.92	48.741	51.11
9 11.6	3.114	71.13	60.872	91.84	25.767	43.82	47.853	49.67
9 21.6	3.009	69.79	60.721	90.03	25.661	43.52	47.076	47.74
10 1.6	2.945	68.43	60.603	87.87	25.581	43.03	46.454	45.45
10 11.5	2.926	67.10	60.522	85.38	25.532	42.33	46.005	42.85
10 21.5	2.962	65.87	60.489	82.56	25.523	41.39	45.767	40.03
10 31.5	3.057	64.83	60.509	79.52	25.559	40.23	45.759	37.15
11 10.5	3.209	64.00	60.583	76.28	25.641	38.82	45.979	34.28
11 20.4	3.423	63.48	60.718	72.90	25.775	37.18	46.442	31.55
11 30.4	3.692	63.31	60.909	69.50	25.958	35.35	47.128	29.11
12 10.4	4.009	63.50	61.153	66.14	26.184	33.37	48.015	26.99
12 20.3	4.366	64.08	61.447	62.93	26.451	31.27	49.088	25.32
12 30.3	4.749	65.02	61.778	59.98	26.747	29.14	50.298	24.17
12 40.3	5.148	66.29	62.137	57.35	27.064	27.02	51.614	23.53
Pos. Med.	4.435	64.33	61.423	82.89	26.351	41.94	53.570	29.63
Secδ tanδ	1.244	-.740	1.273	.787	1.000	.031	5.308	-5.213
Dob.Tran.	Abr 24		Abr 30		May 4		May 5	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	548		552		553		555	
EST.	α^2 Librae		β Lupi		χ Centauri		β Bootis	
MAG.	2.75		2.68		3.13		3.50	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	14 52	-16 8	15 0	-43 13	15 0	-42 11	15 2	+40 17
mes d	s	"	s	"	s	"	s	"
1 -4.6	7.543	6.91	.473	21.22	37.637	33.23	47.284	50.89
1 5.3	7.867	8.44	.875	21.61	38.033	33.65	47.617	47.93
1 15.3	8.206	10.07	1.296	22.33	38.449	34.40	47.976	45.35
1 25.3	8.552	11.76	1.729	23.38	38.876	35.47	48.354	43.22
2 4.2	8.894	13.45	2.159	24.72	39.300	36.81	48.737	41.65
2 14.2	9.223	15.08	2.576	26.27	39.711	38.36	49.113	40.63
2 24.2	9.536	16.62	2.976	28.03	40.106	40.11	49.475	40.23
3 6.2	9.825	18.00	3.348	29.93	40.473	41.98	49.811	40.44
3 16.1	10.089	19.23	3.690	31.91	40.812	43.94	50.117	41.20
3 26.1	10.325	20.29	4.001	33.96	41.118	45.95	50.388	42.49
4 5.1	10.531	21.16	4.273	36.03	41.388	47.97	50.616	44.23
4 15.1	10.709	21.86	4.510	38.07	41.623	49.96	50.804	46.30
4 25.0	10.858	22.41	4.710	40.08	41.820	51.92	50.949	48.67
5 5.0	10.976	22.80	4.868	42.01	41.978	53.79	51.050	51.19
5 15.0	11.067	23.08	4.990	43.84	42.099	55.56	51.110	53.76
5 24.9	11.128	23.24	5.069	45.55	42.179	57.22	51.128	56.33
6 3.9	11.159	23.30	5.107	47.10	42.218	58.71	51.106	58.77
6 13.9	11.164	23.28	5.106	48.47	42.219	60.03	51.048	61.02
6 23.9	11.138	23.17	5.063	49.63	42.179	61.14	50.953	63.02
7 3.8	11.086	23.00	4.981	50.54	42.101	62.02	50.827	64.69
7 13.8	11.009	22.77	4.866	51.21	41.989	62.66	50.674	66.01
7 23.8	10.909	22.46	4.716	51.59	41.844	63.01	50.495	66.95
8 2.8	10.791	22.11	4.543	51.67	41.675	63.08	50.298	67.46
8 12.7	10.660	21.71	4.351	51.46	41.488	62.86	50.088	67.56
8 22.7	10.521	21.26	4.149	50.95	41.289	62.35	49.870	67.21
9 1.7	10.385	20.82	3.949	50.16	41.094	61.58	49.656	66.41
9 11.6	10.256	20.37	3.760	49.13	40.908	60.57	49.451	65.21
9 21.6	10.144	19.95	3.594	47.87	40.745	59.34	49.264	63.57
10 1.6	10.061	19.62	3.465	46.47	40.619	57.98	49.107	61.54
10 11.6	10.010	19.38	3.380	44.97	40.535	56.53	48.985	59.15
10 21.5	10.002	19.29	3.350	43.45	40.506	55.05	48.908	56.40
10 31.5	10.045	19.39	3.384	41.99	40.539	53.65	48.885	53.39
11 10.5	10.118	19.59	3.482	40.65	40.635	52.37	48.917	50.15
11 20.5	10.271	20.19	3.648	39.51	40.800	51.28	49.010	46.72
11 30.4	10.466	20.97	3.881	38.64	41.028	50.47	49.164	43.25
12 10.4	10.706	21.98	4.171	38.07	41.315	49.94	49.374	39.77
12 20.4	10.987	23.22	4.516	37.85	41.655	49.78	49.639	36.41
12 30.3	11.298	24.64	4.900	38.00	42.034	49.96	49.947	33.28
12 40.3	11.630	26.20	5.313	38.49	42.441	50.49	50.290	30.45
Pos. Med.	10.970	17.11	4.894	37.37	42.009	49.08	49.886	55.90
Secδ tanδ	1.041	-.289	1.372	-.940	1.350	-.907	1.311	.848
Dob.Tran.	May 5		May 7		May 7		May 8	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	556		558		563		564	
EST.	σ Librae		ζ Lupi		δ Bootis		β Librae	
MAG.	3.29		3.41		3.47		2.61	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	15 5	-25 22	15 13	-52 10	15 16	+33 13	15 18	- 9 27
mes d	s	"	s	"	s	"	s	"
1 -4.6	23.337	10.70	54.119	56.18	24.300	37.73	13.081	59.08
1 5.3	23.673	11.78	54.570	56.06	24.606	34.80	13.382	60.74
1 15.3	24.026	13.05	55.047	56.31	24.939	32.17	13.702	62.44
1 25.3	24.388	14.48	55.543	56.96	25.290	29.94	14.034	64.14
2 4.3	24.749	16.00	56.040	57.98	25.647	28.21	14.366	65.76
2 14.2	25.099	17.56	56.527	59.30	26.000	26.99	14.691	67.25
2 24.2	25.435	19.14	56.998	60.91	26.342	26.34	15.005	68.59
3 6.2	25.747	20.67	57.441	62.76	26.663	26.27	15.299	69.71
3 16.1	26.035	22.13	57.853	64.78	26.958	26.72	15.572	70.61
3 26.1	26.297	23.50	58.230	66.96	27.223	27.70	15.822	71.30
4 5.1	26.528	24.75	58.564	69.23	27.452	29.12	16.045	71.75
4 15.1	26.731	25.90	58.858	71.56	27.647	30.90	16.241	72.02
4 25.0	26.903	26.93	59.107	73.91	27.804	32.98	16.411	72.10
5 5.0	27.044	27.83	59.307	76.23	27.923	35.25	16.550	72.02
5 15.0	27.155	28.63	59.462	78.49	28.005	37.60	16.664	71.84
5 25.0	27.233	29.32	59.565	80.66	28.049	39.99	16.747	71.56
6 3.9	27.279	29.88	59.617	82.68	28.056	42.29	16.800	71.21
6 13.9	27.294	30.34	59.620	84.52	28.030	44.46	16.825	70.83
6 23.9	27.276	30.67	59.570	86.15	27.968	46.42	16.818	70.41
7 3.8	27.227	30.88	59.473	87.50	27.876	48.10	16.783	69.99
7 13.8	27.150	30.96	59.331	88.57	27.755	49.49	16.721	69.57
7 23.8	27.046	30.90	59.147	89.30	27.608	50.54	16.632	69.15
8 2.8	26.920	30.71	58.932	89.68	27.441	51.20	16.522	68.76
8 12.7	26.779	30.40	58.692	89.71	27.258	51.50	16.396	68.39
8 22.7	26.626	29.95	58.437	89.35	27.065	51.40	16.257	68.05
9 1.7	26.474	29.39	58.183	88.64	26.872	50.88	16.116	67.77
9 11.7	26.328	28.75	57.939	87.60	26.685	49.98	15.978	67.55
9 21.6	26.199	28.06	57.720	86.25	26.512	48.67	15.853	67.41
10 1.6	26.099	27.35	57.543	84.66	26.365	46.98	15.752	67.38
10 11.6	26.033	26.67	57.416	82.90	26.248	44.94	15.679	67.48
10 21.5	26.011	26.07	57.353	81.02	26.173	42.54	15.646	67.75
10 31.5	26.040	25.62	57.363	79.13	26.147	39.86	15.658	68.19
11 10.5	26.121	25.35	57.447	77.31	26.171	36.92	15.717	68.81
11 20.5	26.256	25.24	57.614	75.64	26.254	33.78	15.826	69.69
11 30.4	26.450	25.38	57.857	74.21	26.392	30.54	15.989	70.80
12 10.4	26.692	25.79	58.169	73.07	26.584	27.25	16.197	72.08
12 20.4	26.980	26.48	58.548	72.28	26.827	24.01	16.450	73.55
12 30.4	27.300	27.40	58.975	71.89	27.111	20.95	16.735	75.13
12 40.3	27.645	28.54	59.440	71.88	27.428	18.12	17.045	76.80
Pos. Med.	27.082	22.18	59.241	72.51	27.051	41.64	16.493	65.43
Secδ tanδ	1.107	-.474	1.631	-1.289	1.195	.655	1.014	-.167
Dob.Tran.	May 8		May 10		May 11		May 12	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	560		1402		566		572	
EST.	γ Trianguli Australis		δ Lupi		φ[1] Lupi		β Coronae Borealis	
MAG.			3.22		3.56		3.68	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	15 21	-68 45	15 22	-40 43	15 23	-36 20	15 28	+29 1
mes d	s	"	s	"	s	"	s	"
1 -4.6	.648	32.13	50.953	38.19	14.057	29.46	45.075	29.60
1 5.3	1.331	31.26	51.328	38.46	14.414	29.92	45.366	26.72
1 15.3	2.065	30.86	51.727	39.03	14.794	30.65	45.682	24.09
1 25.3	2.836	30.94	52.142	39.89	15.188	31.63	46.019	21.82
2 4.3	3.618	31.52	52.559	41.01	15.585	32.83	46.362	20.01
2 14.2	4.393	32.53	52.969	42.32	15.974	34.18	46.704	18.67
2 24.2	5.151	33.97	53.366	43.82	16.351	35.67	47.037	17.87
3 6.2	5.868	35.80	53.741	45.45	16.707	37.24	47.352	17.62
3 16.2	6.539	37.93	54.091	47.15	17.039	38.84	47.644	17.89
3 26.1	7.155	40.36	54.414	48.93	17.345	40.48	47.910	18.67
4 5.1	7.702	43.00	54.704	50.71	17.620	42.09	48.143	19.90
4 15.1	8.179	45.80	54.961	52.49	17.865	43.68	48.346	21.49
4 25.0	8.580	48.73	55.184	54.26	18.077	45.22	48.514	23.39
5 5.0	8.894	51.70	55.369	55.96	18.254	46.68	48.645	25.50
5 15.0	9.127	54.66	55.518	57.59	18.397	48.08	48.743	27.72
5 25.0	9.267	57.58	55.627	59.14	18.503	49.37	48.805	30.00
6 3.9	9.315	60.34	55.695	60.56	18.570	50.55	48.830	32.22
6 13.9	9.276	62.94	55.723	61.85	18.602	51.61	48.823	34.33
6 23.9	9.143	65.29	55.709	62.97	18.592	52.52	48.780	36.28
7 3.9	8.926	67.32	55.655	63.88	18.546	53.25	48.706	37.98
7 13.8	8.634	69.01	55.564	64.60	18.465	53.80	48.603	39.41
7 23.8	8.269	70.29	55.437	65.06	18.349	54.14	48.472	40.54
8 2.8	7.852	71.11	55.281	65.27	18.207	54.25	48.319	41.31
8 12.7	7.395	71.47	55.103	65.22	18.043	54.15	48.149	41.75
8 22.7	6.913	71.34	54.909	64.90	17.864	53.81	47.966	41.81
9 1.7	6.434	70.72	54.713	64.32	17.682	53.26	47.781	41.47
9 11.7	5.973	69.64	54.522	63.50	17.505	52.52	47.599	40.79
9 21.6	5.554	68.11	54.348	62.46	17.344	51.59	47.428	39.70
10 1.6	5.205	66.22	54.206	61.28	17.212	50.56	47.281	38.25
10 11.6	4.936	64.03	54.102	59.98	17.116	49.44	47.162	36.45
10 21.6	4.772	61.60	54.050	58.64	17.068	48.30	47.082	34.30
10 31.5	4.727	59.07	54.057	57.33	17.077	47.23	47.049	31.86
11 10.5	4.803	56.52	54.125	56.10	17.142	46.26	47.064	29.16
11 20.5	5.011	54.05	54.259	55.04	17.271	45.46	47.135	26.22
11 30.4	5.345	51.80	54.458	54.20	17.461	44.87	47.261	23.16
12 10.4	5.794	49.81	54.717	53.61	17.707	44.53	47.438	20.03
12 20.4	6.351	48.20	55.030	53.34	18.006	44.50	47.665	16.90
12 30.4	6.993	47.02	55.386	53.39	18.345	44.76	47.933	13.91
12 40.3	7.701	46.30	55.773	53.75	18.713	45.30	48.235	11.11
Pos. Med.	8.276	49.82	55.409	51.36	18.305	41.72	47.917	33.15
Secδ tanδ	2.761	-2.573	1.320	-.861	1.242	-.736	1.144	.555
Dob.Tran.	May 12		May 13		May 13		May 14	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	578		577		579		574	
EST.	α Coronae Borealis		γ Librae		υ Librae		ε Trianguli Australis	
MAG.	2.23		3.91		3.58		4.11	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	15 35	+26 37	15 36	-14 51	15 38	-28 12	15 38	-66 23
mes d	s	"	s	"	s	"	s	"
1 -4.6	38.116	69.45	47.057	52.60	23.378	31.10	46.626	21.40
1 5.4	38.400	66.59	47.355	53.94	23.701	31.81	47.233	20.40
1 15.3	38.710	63.98	47.673	55.37	24.046	32.72	47.892	19.84
1 25.3	39.040	61.69	48.007	56.85	24.408	33.80	48.592	19.73
2 4.3	39.378	59.84	48.344	58.31	24.775	35.01	49.308	20.10
2 14.2	39.714	58.44	48.677	59.71	25.137	36.29	50.023	20.88
2 24.2	40.044	57.56	49.002	61.00	25.490	37.62	50.729	22.07
3 6.2	40.357	57.22	49.310	62.15	25.826	38.94	51.405	23.64
3 16.2	40.649	57.39	49.599	63.13	26.142	40.24	52.043	25.51
3 26.1	40.916	58.06	49.868	63.94	26.436	41.49	52.637	27.69
4 5.1	41.153	59.17	50.110	64.57	26.703	42.67	53.173	30.08
4 15.1	41.360	60.64	50.328	65.04	26.944	43.78	53.650	32.65
4 25.1	41.535	62.44	50.520	65.36	27.156	44.81	54.061	35.37
5 5.0	41.674	64.44	50.683	65.54	27.337	45.75	54.396	38.15
5 15.0	41.781	66.57	50.819	65.62	27.487	46.62	54.658	40.95
5 25.0	41.853	68.77	50.923	65.61	27.604	47.41	54.838	43.74
6 3.9	41.889	70.93	50.997	65.54	27.685	48.10	54.934	46.42
6 13.9	41.892	72.99	51.040	65.41	27.733	48.72	54.949	48.96
6 23.9	41.861	74.90	51.049	65.24	27.744	49.23	54.878	51.30
7 3.9	41.797	76.59	51.027	65.04	27.718	49.63	54.726	53.35
7 13.8	41.704	78.02	50.975	64.81	27.660	49.92	54.501	55.11
7 23.8	41.582	79.17	50.893	64.55	27.567	50.08	54.203	56.49
8 2.8	41.438	79.99	50.786	64.27	27.448	50.09	53.852	57.44
8 12.8	41.275	80.48	50.660	63.97	27.306	49.97	53.457	57.97
8 22.7	41.099	80.61	50.518	63.66	27.147	49.69	53.031	58.02
9 1.7	40.918	80.37	50.370	63.34	26.982	49.29	52.600	57.60
9 11.7	40.740	79.78	50.223	63.03	26.819	48.76	52.177	56.73
9 21.6	40.571	78.81	50.087	62.75	26.666	48.12	51.785	55.41
10 1.6	40.425	77.48	49.972	62.54	26.538	47.43	51.449	53.72
10 11.6	40.306	75.81	49.885	62.39	26.441	46.71	51.181	51.72
10 21.6	40.224	73.79	49.836	62.37	26.386	46.00	51.004	49.45
10 31.5	40.188	71.48	49.833	62.49	26.382	45.38	50.932	47.05
11 10.5	40.200	68.91	49.880	62.76	26.429	44.88	50.969	44.60
11 20.5	40.266	66.09	49.972	63.18	26.534	44.56	51.126	42.19
11 30.5	40.386	63.14	50.122	63.94	26.694	44.38	51.399	39.96
12 10.4	40.557	60.09	50.321	64.84	26.910	44.44	51.780	37.95
12 20.4	40.778	57.04	50.565	65.93	27.176	44.76	52.264	36.27
12 30.4	41.039	54.09	50.845	67.18	27.480	45.32	52.830	34.99
12 40.3	41.333	51.32	51.153	68.54	27.814	46.09	53.462	34.12
Pos. Med.	41.026	72.67	50.679	58.72	27.393	40.03	53.928	36.56
Secδ tanδ	1.119	.502	1.035	-.265	1.135	-.536	2.497	-2.288
Dob.Tran.	May 16		May 16		May 17		May 17	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	582		583		589		591	
EST.	α Serpentis		β Serpentis		βTrianguli Australis		γ Serpentis	
MAG.	2.65		3.67		2.85		3.85	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "
	15 45	+ 6 20	15 47	+15 20	15 57	-63 29	15 57	+15 34
mes d								
1 -4.6	22.413	72.10	13.317	57.42	7.182	49.37	29.276	69.63
1 5.4	22.687	69.89	13.587	54.88	7.715	48.29	29.539	67.05
1 15.3	22.983	67.77	13.881	52.50	8.299	47.61	29.827	64.62
1 25.3	23.296	65.79	14.195	50.33	8.925	47.34	30.137	62.40
2 4.3	23.616	64.05	14.517	48.50	9.572	47.52	30.456	60.52
2 14.3	23.934	62.59	14.838	47.02	10.224	48.08	30.777	58.99
2 24.2	24.246	61.46	15.154	45.96	10.873	49.04	31.094	57.87
3 6.2	24.544	60.71	15.456	45.36	11.500	50.35	31.399	57.21
3 16.2	24.823	60.30	15.740	45.18	12.098	51.96	31.687	56.99
3 26.1	25.083	60.26	16.003	45.44	12.661	53.87	31.957	57.21
4 5.1	25.318	60.56	16.240	46.10	13.177	56.00	32.201	57.83
4 15.1	25.529	61.14	16.452	47.08	13.643	58.31	32.421	58.79
4 25.1	25.713	61.99	16.636	48.36	14.054	60.78	32.614	60.05
5 5.0	25.868	63.02	16.790	49.86	14.399	63.34	32.777	61.53
5 15.0	25.997	64.18	16.914	51.48	14.681	65.94	32.911	63.16
5 25.0	26.094	65.43	17.007	53.21	14.891	68.56	33.013	64.89
6 4.0	26.161	66.71	17.067	54.93	15.024	71.11	33.082	66.62
6 13.9	26.198	67.96	17.096	56.60	15.085	73.56	33.120	68.31
6 23.9	26.202	69.17	17.092	58.18	15.066	75.85	33.123	69.92
7 3.9	26.175	70.26	17.056	59.61	14.971	77.90	33.094	71.37
7 13.8	26.120	71.24	16.990	60.86	14.807	79.69	33.035	72.64
7 23.8	26.035	72.08	16.895	61.90	14.572	81.15	32.944	73.71
8 2.8	25.927	72.74	16.777	62.69	14.282	82.22	32.828	74.52
8 12.8	25.799	73.24	16.638	63.25	13.947	82.90	32.691	75.10
8 22.7	25.655	73.55	16.483	63.53	13.576	83.13	32.536	75.40
9 1.7	25.505	73.64	16.323	63.53	13.193	82.92	32.374	75.40
9 11.7	25.354	73.54	16.161	63.25	12.810	82.27	32.209	75.14
9 21.7	25.211	73.21	16.008	62.67	12.448	81.18	32.051	74.57
10 1.6	25.088	72.64	15.873	61.80	12.130	79.72	31.910	73.69
10 11.6	24.989	71.85	15.764	60.64	11.868	77.93	31.793	72.54
10 21.6	24.925	70.81	15.689	59.18	11.683	75.87	31.710	71.07
10 31.5	24.904	69.53	15.656	57.44	11.590	73.65	31.669	69.33
11 10.5	24.927	68.02	15.669	55.46	11.594	71.35	31.673	67.34
11 20.5	25.001	66.28	15.733	53.22	11.706	69.05	31.727	65.09
11 30.5	25.125	64.35	15.849	50.82	11.924	66.88	31.833	62.67
12 10.4	25.296	62.27	16.012	48.29	12.240	64.91	31.987	60.11
12 20.4	25.514	60.08	16.223	45.68	12.654	63.21	32.189	57.47
12 30.4	25.767	57.87	16.473	43.11	13.146	61.87	32.430	54.87
12 40.4	26.051	55.69	16.753	40.63	13.703	60.90	32.704	52.34
Pos. Med.	25.647	71.49	16.417	58.80	14.074	61.97	32.416	70.96
Secδ tanδ	1.006	.111	1.037	.275	2.241	-2.006	1.038	.279
Dob.Tran.	May 18		May 19		May 21		May 22	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	592		594		618		611	
EST.	π Scorpii		δ Scorpii		β Herculis		γ Apodis	
MAG.	2.89		2.32		2.77		3.89	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	16 0	-26 10	16 1	-22 41	16 31	+21 26	16 36	-78 56
mes d	s	"	s	"	s	"	s	"
1 -4.6	12.657	41.30	39.696	6.72	10.724	18.88	53.560	33.80
1 5.4	12.959	41.96	39.989	7.54	10.956	16.13	54.523	31.68
1 15.3	13.287	42.78	40.308	8.51	11.220	13.52	55.637	29.94
1 25.3	13.634	43.75	40.647	9.59	11.512	11.15	56.887	28.63
2 4.3	13.990	44.82	40.994	10.73	11.820	9.13	58.230	27.80
2 14.3	14.346	45.94	41.341	11.89	12.136	7.49	59.626	27.43
2 24.2	14.698	47.09	41.684	13.04	12.456	6.31	61.060	27.55
3 6.2	15.036	48.22	42.014	14.13	12.770	5.64	62.485	28.15
3 16.2	15.358	49.31	42.328	15.14	13.074	5.44	63.878	29.16
3 26.2	15.662	50.34	42.625	16.06	13.363	5.74	65.223	30.61
4 5.1	15.942	51.29	42.898	16.87	13.632	6.51	66.480	32.43
4 15.1	16.198	52.17	43.149	17.59	13.879	7.67	67.639	34.58
4 25.1	16.429	52.98	43.375	18.21	14.101	9.19	68.681	37.03
5 5.0	16.630	53.70	43.572	18.74	14.294	10.98	69.575	39.72
5 15.0	16.802	54.37	43.741	19.20	14.457	12.96	70.323	42.58
5 25.0	16.941	54.98	43.878	19.59	14.588	15.07	70.900	45.58
6 4.0	17.045	55.52	43.981	19.92	14.683	17.21	71.292	48.62
6 13.9	17.115	56.01	44.051	20.20	14.745	19.32	71.506	51.65
6 23.9	17.147	56.42	44.084	20.43	14.768	21.35	71.523	54.61
7 3.9	17.141	56.76	44.080	20.60	14.755	23.21	71.348	57.39
7 13.9	17.100	57.02	44.043	20.71	14.707	24.89	70.999	59.95
7 23.8	17.023	57.18	43.969	20.75	14.623	26.34	70.469	62.20
8 2.8	16.916	57.24	43.867	20.72	14.509	27.49	69.790	64.05
8 12.8	16.784	57.19	43.739	20.61	14.368	28.37	68.986	65.49
8 22.7	16.630	57.02	43.590	20.41	14.204	28.94	68.075	66.42
9 1.7	16.466	56.73	43.432	20.14	14.027	29.16	67.109	66.82
9 11.7	16.300	56.34	43.270	19.80	13.843	29.06	66.117	66.70
9 21.7	16.140	55.86	43.115	19.39	13.659	28.61	65.138	66.02
10 1.6	16.001	55.33	42.979	18.97	13.489	27.81	64.232	64.81
10 11.6	15.889	54.75	42.869	18.54	13.338	26.68	63.423	63.12
10 21.6	15.815	54.20	42.797	18.15	13.218	25.20	62.760	61.00
10 31.6	15.789	53.70	42.770	17.84	13.136	23.41	62.283	58.54
11 10.5	15.814	53.30	42.793	17.63	13.097	21.33	62.005	55.83
11 20.5	15.896	53.07	42.874	17.62	13.109	18.97	61.958	52.96
11 30.5	16.026	52.96	42.994	17.71	13.172	16.42	62.148	50.08
12 10.4	16.218	53.03	43.182	18.00	13.285	13.70	62.565	47.26
12 20.4	16.459	53.33	43.416	18.51	13.449	10.90	63.214	44.62
12 30.4	16.741	53.85	43.689	19.21	13.657	8.12	64.065	42.27
12 40.4	17.055	54.55	43.994	20.07	13.902	5.42	65.091	40.25
Pos. Med.	16.701	47.62	43.633	12.22	13.881	23.35	67.773	41.60
Secδ tanδ	1.114	-.492	1.084	-.418	1.074	.393	5.215	-5.118
Dob.Tran.	May 22		May 23		May 30		Jun 1	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	620		622		626		625	
EST.	τ Scorpii		ζ Ophiuchi		η Herculis		α Trianguli Australis	
MAG.	2.82		2.56		3.53		1.92	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	16 37	-28 15	16 38	-10 36	16 43	+38 52	16 51	-69 3
mes d	s	"	s	"	s	"	s	"
1 -4.6	16.725	43.11	23.599	46.25	39.157	36.63	1.770	57.26
1 5.4	17.002	43.40	23.845	47.52	39.383	33.34	2.307	55.36
1 15.4	17.310	43.85	24.119	48.82	39.650	30.26	2.929	53.80
1 25.3	17.644	44.44	24.418	50.13	39.954	27.50	3.625	52.59
2 4.3	17.994	45.14	24.731	51.38	40.285	25.18	4.373	51.81
2 14.3	18.349	45.90	25.049	52.52	40.630	23.36	5.151	51.42
2 24.3	18.707	46.71	25.370	53.53	40.986	22.11	5.953	51.45
3 6.2	19.059	47.54	25.686	54.34	41.340	21.48	6.752	51.88
3 16.2	19.400	48.34	25.992	54.96	41.685	21.44	7.537	52.68
3 26.2	19.730	49.13	26.287	55.37	42.016	22.01	8.302	53.84
4 5.2	20.040	49.87	26.564	55.57	42.323	23.15	9.025	55.33
4 15.1	20.331	50.58	26.824	55.59	42.604	24.76	9.702	57.11
4 25.1	20.600	51.25	27.063	55.45	42.854	26.81	10.323	59.16
5 5.1	20.841	51.88	27.278	55.17	43.067	29.20	10.871	61.42
5 15.0	21.054	52.49	27.468	54.79	43.244	31.81	11.347	63.84
5 25.0	21.236	53.08	27.629	54.34	43.379	34.58	11.737	66.41
6 4.0	21.381	53.64	27.759	53.85	43.470	37.40	12.031	69.04
6 14.0	21.492	54.19	27.856	53.36	43.519	40.17	12.232	71.68
6 23.9	21.560	54.69	27.917	52.86	43.521	42.83	12.328	74.28
7 3.9	21.588	55.16	27.942	52.40	43.479	45.28	12.318	76.74
7 13.9	21.577	55.58	27.932	51.97	43.396	47.49	12.211	79.04
7 23.9	21.523	55.92	27.884	51.57	43.271	49.39	12.001	81.08
8 2.8	21.434	56.18	27.805	51.23	43.109	50.91	11.704	82.80
8 12.8	21.312	56.33	27.696	50.93	42.917	52.07	11.331	84.16
8 22.8	21.163	56.37	27.563	50.68	42.698	52.81	10.891	85.09
9 1.7	20.997	56.28	27.414	50.48	42.463	53.09	10.412	85.56
9 11.7	20.821	56.07	27.256	50.33	42.219	52.96	9.909	85.56
9 21.7	20.645	55.74	27.098	50.24	41.974	52.35	9.405	85.07
10 1.7	20.484	55.31	26.953	50.22	41.743	51.29	8.932	84.10
10 11.6	20.344	54.81	26.826	50.29	41.531	49.82	8.507	82.71
10 21.6	20.239	54.26	26.728	50.47	41.351	47.90	8.156	80.91
10 31.6	20.178	53.71	26.670	50.78	41.213	45.60	7.904	78.80
11 10.6	20.165	53.19	26.655	51.22	41.122	42.95	7.758	76.46
11 20.5	20.208	52.76	26.690	51.82	41.086	39.97	7.738	73.96
11 30.5	20.308	52.49	26.775	52.57	41.109	36.79	7.848	71.43
12 10.5	20.456	52.28	26.907	53.50	41.190	33.45	8.083	68.95
12 20.4	20.665	52.25	27.090	54.59	41.330	30.03	8.446	66.61
12 30.4	20.918	52.41	27.314	55.78	41.524	26.68	8.922	64.52
12 40.4	21.209	52.74	27.573	57.04	41.766	23.46	9.494	62.71
Pos. Med.	20.972	45.84	27.327	46.26	42.183	43.66	10.395	62.41
Secδ tanδ	1.135	-.538	1.017	-.187	1.285	.806	2.799	-2.614
Dob.Tran.	Jun 1		Jun 1		Jun 2		Jun 4	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	628		633		631		634	
EST.	ε Scorpii		χ Ophiuchi		ζ Arae		ε Herculis	
MAG.	2.29		3.20		3.13		3.92	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	16 51	-34 19	16 58	+ 9 20	17 0	-56 1	17 1	+30 53
mes d	s	"	s	"	s	"	s	"
1 -4.6	36.885	59.53	43.532	20.26	28.226	25.17	8.244	28.69
1 5.4	37.163	59.39	43.743	18.04	28.591	23.79	8.447	25.61
1 15.4	37.476	59.43	43.986	15.89	29.010	22.67	8.689	22.69
1 25.4	37.819	59.64	44.256	13.87	29.477	21.84	8.965	20.01
2 4.3	38.181	60.00	44.545	12.09	29.977	21.34	9.267	17.72
2 14.3	38.552	60.49	44.845	10.58	30.496	21.13	9.584	15.86
2 24.3	38.929	61.08	45.151	9.41	31.029	21.23	9.913	14.50
3 6.2	39.302	61.75	45.456	8.63	31.561	21.63	10.242	13.72
3 16.2	39.667	62.48	45.755	8.24	32.086	22.29	10.566	13.48
3 26.2	40.022	63.24	46.046	8.25	32.598	23.21	10.881	13.81
4 5.2	40.358	64.03	46.321	8.65	33.087	24.36	11.179	14.68
4 15.1	40.676	64.84	46.581	9.38	33.549	25.71	11.456	16.02
4 25.1	40.972	65.67	46.822	10.42	33.979	27.26	11.709	17.79
5 5.1	41.240	66.52	47.038	11.71	34.366	28.97	11.932	19.89
5 15.1	41.480	67.37	47.230	13.17	34.711	30.80	12.124	22.23
5 25.0	41.686	68.25	47.393	14.77	35.004	32.75	12.280	24.76
6 4.0	41.853	69.12	47.524	16.42	35.238	34.75	12.398	27.36
6 14.0	41.982	69.99	47.622	18.06	35.415	36.77	12.477	29.94
6 23.9	42.067	70.83	47.684	19.67	35.524	38.77	12.514	32.46
7 3.9	42.107	71.63	47.709	21.17	35.566	40.69	12.509	34.81
7 13.9	42.104	72.37	47.698	22.55	35.544	42.48	12.464	36.96
7 23.9	42.054	73.02	47.650	23.76	35.453	44.10	12.377	38.85
8 2.8	41.964	73.56	47.568	24.77	35.302	45.46	12.255	40.42
8 12.8	41.838	73.96	47.456	25.59	35.099	46.56	12.101	41.66
8 22.8	41.680	74.19	47.318	26.18	34.848	47.33	11.917	42.53
9 1.8	41.502	74.25	47.162	26.53	34.566	47.73	11.716	43.00
9 11.7	41.310	74.13	46.994	26.66	34.266	47.77	11.503	43.10
9 21.7	41.117	73.83	46.823	26.53	33.960	47.42	11.285	42.77
10 1.7	40.936	73.36	46.661	26.13	33.672	46.69	11.077	42.02
10 11.6	40.776	72.75	46.514	25.50	33.411	45.62	10.885	40.88
10 21.6	40.650	72.03	46.392	24.59	33.197	44.24	10.719	39.33
10 31.6	40.569	71.24	46.306	23.42	33.046	42.61	10.591	37.41
11 10.6	40.538	70.43	46.258	22.02	32.964	40.81	10.504	35.15
11 20.5	40.565	69.65	46.258	20.36	32.964	38.89	10.468	32.56
11 30.5	40.653	68.96	46.307	18.51	33.050	36.96	10.485	29.74
12 10.5	40.795	68.37	46.403	16.49	33.218	35.08	10.555	26.73
12 20.5	40.996	67.91	46.547	14.34	33.469	33.33	10.680	23.61
12 30.4	41.248	67.63	46.735	12.15	33.794	31.78	10.854	20.51
12 40.4	41.541	67.53	46.959	9.96	34.181	30.46	11.072	17.49
Pos. Med.	41.392	61.55	46.919	24.42	34.377	28.06	11.387	35.32
Secδ tanδ	1.211	-.683	1.013	.164	1.789	-1.484	1.165	.598
Dob.Tran.	Jun	4	Jun	6	Jun	7	Jun	7

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	638		643		641		644	
EST.	η Scorpii		π Herculis		δ Herculis*		ϑ Ophiuchi	
MAG.	3.33		3.16		3.14		3.27	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	17 13	-43 16	17 15	+36 46	17 15	+24 48	17 23	-25 1
mes d	s	"	s	"	s	"	s	"
1 -4.5	45.392	3.43	48.872	54.73	56.651	40.23	23.085	17.54
1 5.4	45.675	2.63	49.059	51.47	56.839	37.37	23.313	17.74
1 15.4	46.002	2.03	49.289	48.36	57.065	34.62	23.576	18.05
1 25.4	46.366	1.62	49.559	45.51	57.325	32.07	23.870	18.44
2 4.3	46.757	1.43	49.860	43.05	57.609	29.86	24.185	18.88
2 14.3	47.164	1.42	50.181	41.04	57.910	28.02	24.515	19.35
2 24.3	47.582	1.60	50.519	39.55	58.223	26.63	24.854	19.82
3 6.3	48.001	1.94	50.861	38.66	58.539	25.77	25.196	20.27
3 16.2	48.416	2.43	51.201	38.36	58.852	25.41	25.535	20.67
3 26.2	48.824	3.07	51.536	38.66	59.160	25.59	25.870	21.02
4 5.2	49.217	3.82	51.854	39.55	59.454	26.27	26.194	21.31
4 15.2	49.591	4.68	52.152	40.93	59.732	27.40	26.505	21.55
4 25.1	49.944	5.66	52.426	42.79	59.989	28.95	26.801	21.76
5 5.1	50.267	6.73	52.668	45.02	60.221	30.82	27.074	21.94
5 15.1	50.560	7.88	52.877	47.53	60.425	32.94	27.325	22.11
5 25.0	50.816	9.11	53.049	50.25	60.598	35.25	27.548	22.28
6 4.0	51.029	10.38	53.178	53.07	60.734	37.64	27.736	22.47
6 14.0	51.198	11.70	53.266	55.89	60.835	40.04	27.891	22.68
6 24.0	51.317	13.01	53.308	58.66	60.895	42.40	28.005	22.91
7 3.9	51.383	14.30	53.304	61.27	60.914	44.61	28.077	23.17
7 13.9	51.398	15.52	53.256	63.67	60.895	46.66	28.108	23.44
7 23.9	51.359	16.65	53.163	65.81	60.834	48.48	28.093	23.70
8 2.9	51.270	17.62	53.031	67.61	60.736	50.01	28.038	23.95
8 12.8	51.138	18.43	52.863	69.07	60.606	51.27	27.945	24.16
8 22.8	50.966	19.01	52.663	70.14	60.445	52.19	27.818	24.31
9 1.8	50.766	19.36	52.441	70.78	60.265	52.75	27.667	24.40
9 11.7	50.548	19.45	52.204	71.01	60.069	52.98	27.498	24.41
9 21.7	50.322	19.27	51.961	70.78	59.868	52.82	27.321	24.33
10 1.7	50.106	18.83	51.725	70.10	59.673	52.28	27.149	24.18
10 11.7	49.908	18.14	51.503	69.00	59.491	51.38	26.991	23.95
10 21.6	49.744	17.24	51.306	67.44	59.332	50.10	26.858	23.67
10 31.6	49.628	16.18	51.147	65.48	59.208	48.47	26.763	23.37
11 10.6	49.564	14.99	51.028	63.15	59.123	46.51	26.709	23.07
11 20.6	49.563	13.74	50.961	60.46	59.085	44.23	26.705	22.81
11 30.5	49.629	12.51	50.949	57.52	59.097	41.72	26.756	22.62
12 10.5	49.757	11.32	50.993	54.37	59.159	39.01	26.862	22.56
12 20.5	49.951	10.23	51.094	51.08	59.273	36.17	27.005	22.52
12 30.4	50.204	9.30	51.249	47.81	59.435	33.31	27.209	22.62
12 40.4	50.505	8.54	51.452	44.60	59.638	30.49	27.452	22.84
Pos. Med.	50.451	3.65	52.011	62.13	59.889	46.63	27.303	14.97
Secδ tanδ	1.373	-.941	1.249	.748	1.102	.462	1.104	-.467
Dob.Tran.	Jun 10		Jun 10		Jun 10		Jun 12	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	645		649		648		651	
EST.	β Arae		υ Scorpii		δ Arae		α Arae	
MAG.	2.85		2.69		3.62		2.95	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	17 27	-55 32	17 32	-37 18	17 33	-60 41	17 33	-49 53
mes d	s	"	s	"	s	"	s	"
1 -4.5	9.367	58.15	17.111	46.73	6.656	62.48	34.137	33.88
1 5.4	9.690	56.58	17.355	46.14	7.003	60.62	34.420	32.57
1 15.4	10.070	55.23	17.641	45.70	7.419	58.97	34.755	31.44
1 25.4	10.502	54.12	17.962	45.40	7.897	57.57	35.137	30.52
2 4.4	10.973	53.29	18.311	45.24	8.424	56.48	35.553	29.84
2 14.3	11.470	52.74	18.677	45.22	8.982	55.70	35.992	29.38
2 24.3	11.988	52.47	19.057	45.31	9.567	55.23	36.450	29.15
3 6.3	12.512	52.48	19.441	45.50	10.163	55.09	36.915	29.15
3 16.2	13.035	52.75	19.825	45.78	10.760	55.24	37.379	29.35
3 26.2	13.553	53.28	20.206	46.14	11.354	55.71	37.842	29.76
4 5.2	14.055	54.06	20.576	46.57	11.929	56.48	38.290	30.37
4 15.2	14.535	55.06	20.933	47.07	12.482	57.50	38.723	31.16
4 25.1	14.991	56.28	21.273	47.64	13.007	58.79	39.134	32.13
5 5.1	15.408	57.69	21.589	48.28	13.488	60.31	39.515	33.27
5 15.1	15.788	59.27	21.880	48.99	13.926	62.03	39.864	34.54
5 25.1	16.120	61.00	22.139	49.78	14.308	63.94	40.172	35.95
6 4.0	16.395	62.83	22.360	50.62	14.625	65.98	40.432	37.46
6 14.0	16.615	64.73	22.542	51.52	14.878	68.10	40.644	39.05
6 24.0	16.769	66.67	22.678	52.45	15.054	70.28	40.798	40.68
7 3.9	16.854	68.57	22.765	53.39	15.151	72.44	40.893	42.30
7 13.9	16.874	70.41	22.804	54.32	15.173	74.53	40.928	43.88
7 23.9	16.823	72.13	22.792	55.20	15.111	76.48	40.901	45.37
8 2.9	16.707	73.64	22.732	56.00	14.975	78.23	40.815	46.70
8 12.8	16.534	74.94	22.629	56.70	14.772	79.73	40.677	47.85
8 22.8	16.307	75.94	22.486	57.24	14.506	80.92	40.490	48.76
9 1.8	16.043	76.60	22.313	57.61	14.196	81.73	40.267	49.38
9 11.8	15.752	76.92	22.120	57.78	13.854	82.17	40.019	49.71
9 21.7	15.448	76.85	21.915	57.75	13.494	82.18	39.758	49.71
10 1.7	15.152	76.40	21.714	57.51	13.143	81.76	39.502	49.37
10 11.7	14.877	75.60	21.528	57.08	12.812	80.95	39.262	48.73
10 21.6	14.640	74.45	21.368	56.47	12.523	79.74	39.054	47.78
10 31.6	14.459	73.02	21.249	55.72	12.297	78.20	38.895	46.59
11 10.6	14.341	71.37	21.175	54.87	12.140	76.39	38.792	45.20
11 20.6	14.301	69.55	21.158	53.96	12.071	74.36	38.755	43.66
11 30.5	14.343	67.66	21.200	53.05	12.095	72.24	38.792	42.07
12 10.5	14.465	65.75	21.300	52.18	12.210	70.07	38.898	40.46
12 20.5	14.670	63.91	21.459	51.39	12.421	67.94	39.078	38.91
12 30.5	14.950	62.21	21.673	50.69	12.720	65.94	39.325	37.49
12 40.4	15.296	60.69	21.934	50.12	13.094	64.12	39.629	36.21
Pos. Med.	15.503	57.25	21.846	44.05	13.496	61.02	39.705	31.81
Secδ tanδ	1.768	-1.458	1.257	-.762	2.043	-1.782	1.552	-1.187
Dob.Tran.	Jun 13		Jun 15		Jun 15		Jun 15	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	652		656		654		660	
EST.	λ Scorpii		α Ophiuchi		ϑ Scorpii		χ Scorpii	
MAG.	1.63		2.08		1.87		2.41	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	17 35	-37 7	17 35	+12 32	17 38	-43 0	17 44	-39 2
mes d	s	"	s	"	s	"	s	"
1 -4.5	7.680	9.93	58.163	34.27	55.541	40.24	2.095	27.02
1 5.4	7.921	9.34	58.338	31.97	55.793	39.28	2.330	26.26
1 15.4	8.203	8.88	58.549	29.74	56.091	38.47	2.608	25.63
1 25.4	8.521	8.57	58.791	27.62	56.430	37.83	2.925	25.14
2 4.4	8.867	8.40	59.057	25.74	56.800	37.37	3.272	24.80
2 14.3	9.231	8.35	59.340	24.14	57.190	37.07	3.639	24.59
2 24.3	9.609	8.41	59.636	22.89	57.597	36.94	4.022	24.51
3 6.3	9.991	8.58	59.938	22.05	58.010	36.97	4.412	24.55
3 16.3	10.374	8.82	60.239	21.62	58.424	37.14	4.803	24.68
3 26.2	10.755	9.15	60.539	21.62	58.837	37.46	5.194	24.91
4 5.2	11.125	9.55	60.829	22.06	59.239	37.90	5.576	25.24
4 15.2	11.482	10.01	61.108	22.85	59.628	38.46	5.947	25.66
4 25.1	11.824	10.55	61.373	24.01	60.000	39.16	6.303	26.17
5 5.1	12.142	11.15	61.617	25.44	60.346	39.97	6.636	26.77
5 15.1	12.434	11.83	61.838	27.09	60.665	40.89	6.944	27.47
5 25.1	12.696	12.59	62.033	28.91	60.950	41.92	7.220	28.26
6 4.0	12.919	13.41	62.196	30.80	61.193	43.03	7.458	29.13
6 14.0	13.104	14.28	62.326	32.71	61.394	44.22	7.657	30.07
6 24.0	13.243	15.20	62.419	34.61	61.545	45.46	7.809	31.07
7 4.0	13.333	16.12	62.473	36.40	61.642	46.71	7.910	32.09
7 13.9	13.376	17.04	62.489	38.06	61.688	47.94	7.963	33.12
7 23.9	13.367	17.92	62.463	39.55	61.677	49.12	7.961	34.11
8 2.9	13.310	18.72	62.400	40.83	61.614	50.18	7.910	35.02
8 12.8	13.209	19.42	62.304	41.90	61.504	51.11	7.813	35.83
8 22.8	13.068	19.97	62.175	42.72	61.348	51.86	7.673	36.49
9 1.8	12.897	20.35	62.023	43.27	61.160	52.39	7.500	36.97
9 11.8	12.705	20.55	61.855	43.57	60.948	52.68	7.304	37.26
9 21.7	12.500	20.54	61.677	43.58	60.723	52.71	7.094	37.32
10 1.7	12.300	20.32	61.501	43.31	60.501	52.47	6.886	37.15
10 11.7	12.113	19.91	61.336	42.76	60.292	51.99	6.690	36.77
10 21.6	11.952	19.32	61.191	41.92	60.111	51.26	6.518	36.19
10 31.6	11.831	18.60	61.076	40.80	59.973	50.34	6.386	35.43
11 10.6	11.755	17.76	60.997	39.41	59.882	49.26	6.299	34.55
11 20.6	11.735	16.87	60.961	37.76	59.852	48.07	6.267	33.58
11 30.5	11.774	15.97	60.972	35.89	59.885	46.85	6.296	32.58
12 10.5	11.871	15.11	61.030	33.83	59.981	45.63	6.383	31.59
12 20.5	12.026	14.32	61.136	31.63	60.141	44.46	6.530	30.65
12 30.5	12.236	13.62	61.286	29.38	60.360	43.40	6.733	29.79
12 40.4	12.493	13.04	61.475	27.11	60.631	42.46	6.986	29.05
Pos. Med.	12.407	6.89	61.585	40.53	60.601	37.06	6.922	23.00
Secδ tanδ	1.254	-.757	1.024	.223	1.368	-.933	1.287	-.811
Dob.Tran.	Jun 15		Jun 16		Jun 16		Jun 18	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	665		667		661		668	
EST.	β Ophiuchi		μ Herculis		η Pavonis		γ Ophiuchi	
MAG.	2.77		3.42		3.62		3.75	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	17 44	+ 4 33	17 47	+27 42	17 47	-64 43	17 49	+ 2 41
mes d	s	"	s	"	s	"	s	"
1 -4.5	34.519	26.82	19.504	22.62	55.003	57.45	.739	54.30
1 5.4	34.692	24.97	19.659	19.67	55.357	55.29	.909	52.56
1 15.4	34.899	23.15	19.854	16.81	55.793	53.33	1.113	50.84
1 25.4	35.137	21.41	20.087	14.12	56.305	51.60	1.349	49.18
2 4.4	35.399	19.84	20.350	11.74	56.877	50.19	1.610	47.69
2 14.3	35.678	18.49	20.634	9.73	57.491	49.08	1.886	46.41
2 24.3	35.970	17.42	20.938	8.17	58.142	48.30	2.177	45.38
3 6.3	36.268	16.69	21.250	7.13	58.811	47.88	2.475	44.68
3 16.3	36.567	16.29	21.566	6.61	59.487	47.79	2.774	44.29
3 26.2	36.867	16.25	21.883	6.64	60.164	48.04	3.074	44.24
4 5.2	37.158	16.57	22.190	7.22	60.826	48.62	3.368	44.53
4 15.2	37.441	17.20	22.486	8.28	61.465	49.51	3.652	45.12
4 25.1	37.711	18.12	22.766	9.79	62.076	50.70	3.925	45.99
5 5.1	37.962	19.28	23.022	11.68	62.640	52.18	4.180	47.08
5 15.1	38.193	20.62	23.253	13.85	63.155	53.88	4.416	48.34
5 25.1	38.400	22.09	23.453	16.27	63.610	55.83	4.627	49.73
6 4.0	38.575	23.63	23.617	18.80	63.991	57.93	4.808	51.18
6 14.0	38.720	25.18	23.746	21.38	64.299	60.17	4.958	52.64
6 24.0	38.828	26.71	23.832	23.95	64.520	62.49	5.072	54.08
7 4.0	38.898	28.15	23.875	26.40	64.650	64.81	5.147	55.43
7 13.9	38.930	29.48	23.876	28.70	64.692	67.10	5.184	56.69
7 23.9	38.920	30.69	23.832	30.80	64.638	69.27	5.180	57.81
8 2.9	38.872	31.71	23.748	32.61	64.497	71.24	5.136	58.77
8 12.8	38.789	32.57	23.627	34.14	64.276	72.98	5.058	59.57
8 22.8	38.673	33.24	23.471	35.33	63.980	74.40	4.946	60.20
9 1.8	38.533	33.70	23.290	36.16	63.629	75.43	4.808	60.63
9 11.8	38.374	33.98	23.090	36.63	63.236	76.08	4.652	60.88
9 21.7	38.205	34.03	22.878	36.70	62.818	76.27	4.484	60.94
10 1.7	38.037	33.87	22.668	36.37	62.404	76.00	4.318	60.80
10 11.7	37.878	33.51	22.466	35.67	62.007	75.29	4.159	60.47
10 21.7	37.737	32.92	22.283	34.54	61.651	74.14	4.018	59.93
10 31.6	37.627	32.11	22.131	33.05	61.361	72.61	3.906	59.19
11 10.6	37.550	31.09	22.013	31.20	61.147	70.76	3.828	58.25
11 20.6	37.515	29.84	21.940	29.00	61.027	68.64	3.792	57.11
11 30.5	37.527	28.42	21.916	26.53	61.011	66.36	3.802	55.79
12 10.5	37.584	26.83	21.941	23.83	61.098	64.00	3.856	54.31
12 20.5	37.689	25.10	22.018	20.96	61.294	61.63	3.958	52.70
12 30.5	37.837	23.30	22.144	18.04	61.591	59.36	4.104	51.01
12 40.4	38.023	21.48	22.314	15.12	61.977	57.23	4.288	49.29
Pos. Med.	38.062	33.26	22.767	29.82	62.582	53.98	4.316	60.79
Secδ tanδ	1.003	.080	1.130	.525	2.343	-2.119	1.001	.047
Dob.Tran.	Jun 18		Jun 18		Jun 19		Jun 19	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	666		669		673		679	
EST.	ι^1 Scorpii		G Scorpii		ν Ophiuchi		γ Sagittarii	
MAG.	3.03		3.21		3.34		2.99	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	17 49	-40 8	17 51	-37 2	18 0	- 9 46	18 7	-30 25
mes d	s	"	s	"	s	"	s	"
1 -4.5	8.901	5.97	22.816	59.29	15.445	35.26	14.675	24.52
1 5.5	9.133	5.11	23.038	58.60	15.616	36.25	14.866	24.13
1 15.4	9.409	4.39	23.303	58.04	15.823	37.25	15.099	23.86
1 25.4	9.725	3.80	23.607	57.59	16.061	38.23	15.368	23.66
2 4.4	10.073	3.36	23.940	57.27	16.325	39.13	15.666	23.52
2 14.3	10.441	3.06	24.293	57.06	16.606	39.92	15.984	23.43
2 24.3	10.827	2.89	24.664	56.95	16.902	40.57	16.321	23.37
3 6.3	11.222	2.84	25.043	56.94	17.206	41.02	16.667	23.34
3 16.3	11.618	2.91	25.424	57.00	17.513	41.28	17.019	23.31
3 26.2	12.016	3.09	25.806	57.15	17.823	41.32	17.375	23.29
4 5.2	12.405	3.37	26.181	57.37	18.128	41.15	17.726	23.28
4 15.2	12.783	3.76	26.546	57.66	18.426	40.79	18.071	23.29
4 25.2	13.148	4.25	26.897	58.03	18.715	40.26	18.407	23.32
5 5.1	13.489	4.85	27.227	58.49	18.988	39.59	18.725	23.39
5 15.1	13.805	5.55	27.534	59.03	19.243	38.84	19.024	23.51
5 25.1	14.091	6.36	27.812	59.67	19.474	38.03	19.298	23.70
6 4.0	14.337	7.26	28.052	60.38	19.677	37.19	19.538	23.96
6 14.0	14.544	8.24	28.255	61.18	19.849	36.38	19.745	24.31
6 24.0	14.704	9.28	28.412	62.04	19.984	35.60	19.910	24.73
7 4.0	14.812	10.36	28.521	62.93	20.080	34.90	20.030	25.21
7 13.9	14.870	11.44	28.581	63.85	20.137	34.27	20.105	25.75
7 23.9	14.873	12.49	28.588	64.74	20.151	33.74	20.130	26.31
8 2.9	14.825	13.47	28.546	65.59	20.123	33.31	20.108	26.88
8 12.9	14.730	14.34	28.459	66.35	20.058	32.97	20.042	27.42
8 22.8	14.590	15.06	28.328	66.98	19.957	32.71	19.933	27.91
9 1.8	14.417	15.60	28.164	67.46	19.829	32.56	19.791	28.31
9 11.8	14.219	15.94	27.977	67.77	19.679	32.47	19.624	28.61
9 21.7	14.005	16.04	27.773	67.87	19.515	32.46	19.440	28.78
10 1.7	13.793	15.91	27.571	67.77	19.351	32.53	19.253	28.82
10 11.7	13.591	15.55	27.379	67.47	19.192	32.67	19.072	28.72
10 21.7	13.413	14.97	27.209	66.98	19.051	32.89	18.910	28.49
10 31.6	13.275	14.20	27.076	66.33	18.938	33.21	18.779	28.14
11 10.6	13.181	13.29	26.986	65.56	18.859	33.62	18.685	27.71
11 20.6	13.142	12.28	26.950	64.70	18.822	34.14	18.639	27.22
11 30.6	13.165	11.22	26.971	63.82	18.831	34.76	18.646	26.71
12 10.5	13.246	10.16	27.050	62.94	18.886	35.49	18.704	26.22
12 20.5	13.389	9.14	27.186	62.11	18.988	36.32	18.817	25.80
12 30.5	13.589	8.20	27.377	61.33	19.133	37.23	18.975	25.37
12 40.4	13.838	7.36	27.617	60.66	19.318	38.21	19.184	25.00
Pos. Med.	13.787	1.36	27.540	54.27	19.264	28.49	19.092	17.56
Secδ tanδ	1.308	-.843	1.253	-.755	1.015	-.172	1.160	-.587
Dob.Tran.	Jun 19		Jun 19		Jun 22		Jun 23	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	1471		680		683		687	
EST.	ϑ Arae		72 Ophiuchi		η Sagittarii*		δ Sagittarii	
MAG.	3.66		3.73		3.11		2.70	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	18 8	-50 5	18 8	+ 9 33	18 19	-36 45	18 22	-29 49
mes d	s	"	s	"	s	"	s	"
1 -4.5	22.072	21.15	24.382	60.16	8.364	16.45	25.525	6.05
1 5.5	22.307	19.62	24.528	58.11	8.551	15.65	25.697	5.63
1 15.4	22.597	18.22	24.709	56.10	8.785	14.93	25.912	5.30
1 25.4	22.939	16.95	24.925	54.16	9.059	14.29	26.166	5.02
2 4.4	23.322	15.88	25.167	52.43	9.366	13.74	26.449	4.80
2 14.4	23.734	15.00	25.430	50.93	9.697	13.28	26.755	4.60
2 24.3	24.173	14.31	25.710	49.74	10.050	12.90	27.082	4.43
3 6.3	24.626	13.84	26.001	48.93	10.417	12.60	27.420	4.26
3 16.3	25.088	13.57	26.296	48.49	10.790	12.37	27.767	4.10
3 26.2	25.555	13.51	26.596	48.45	11.171	12.21	28.119	3.93
4 5.2	26.017	13.66	26.892	48.82	11.548	12.13	28.471	3.76
4 15.2	26.469	14.00	27.182	49.55	11.921	12.12	28.818	3.61
4 25.2	26.908	14.55	27.463	50.62	12.286	12.21	29.159	3.49
5 5.1	27.322	15.31	27.727	51.98	12.633	12.40	29.484	3.40
5 15.1	27.710	16.24	27.973	53.55	12.961	12.69	29.792	3.37
5 25.1	28.061	17.36	28.196	55.29	13.263	13.11	30.077	3.42
6 4.1	28.368	18.64	28.389	57.13	13.531	13.63	30.330	3.56
6 14.0	28.629	20.05	28.551	59.00	13.763	14.27	30.551	3.78
6 24.0	28.834	21.58	28.676	60.86	13.951	15.01	30.731	4.10
7 4.0	28.978	23.16	28.762	62.63	14.090	15.82	30.866	4.50
7 13.9	29.062	24.76	28.809	64.30	14.180	16.70	30.956	4.97
7 23.9	29.080	26.34	28.813	65.82	14.217	17.61	30.996	5.50
8 2.9	29.035	27.82	28.777	67.14	14.202	18.50	30.988	6.05
8 12.9	28.932	29.18	28.704	68.27	14.138	19.36	30.935	6.59
8 22.8	28.774	30.34	28.595	69.17	14.027	20.12	30.837	7.11
9 1.8	28.572	31.26	28.458	69.82	13.880	20.76	30.705	7.56
9 11.8	28.337	31.91	28.300	70.25	13.703	21.25	30.545	7.92
9 21.8	28.078	32.24	28.128	70.42	13.505	21.56	30.365	8.16
10 1.7	27.817	32.24	27.953	70.32	13.302	21.66	30.180	8.28
10 11.7	27.562	31.92	27.783	69.98	13.103	21.57	29.998	8.27
10 21.7	27.330	31.26	27.628	69.37	12.921	21.27	29.831	8.12
10 31.6	27.139	30.32	27.500	68.50	12.771	20.79	29.693	7.86
11 10.6	26.997	29.12	27.402	67.38	12.658	20.16	29.589	7.50
11 20.6	26.916	27.71	27.343	66.01	12.594	19.40	29.531	7.07
11 30.6	26.904	26.17	27.329	64.44	12.586	18.57	29.523	6.60
12 10.5	26.960	24.55	27.359	62.68	12.631	17.70	29.566	6.13
12 20.5	27.088	22.90	27.436	60.76	12.735	16.83	29.663	5.69
12 30.5	27.285	21.30	27.556	58.77	12.891	15.99	29.804	5.28
12 40.5	27.541	19.78	27.716	56.75	13.097	15.19	29.994	4.86
Pos. Med.	27.625	14.40	27.870	67.99	13.035	8.26	29.903	-2.64
Secδ tanδ	1.559	-1.195	1.014	.169	1.248	-.747	1.153	-.573
Dob.Tran.	Jun 24		Jun 24		Jun 26		Jun 27	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	688		689		691		692	
EST.	η Serpentis		ε Sagittarii		α Telescopii		λ Sagittarii	
MAG.	3.26		1.85		3.51		2.81	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	18 22	- 2 53	18 25	-34 22	18 28	-45 57	18 29	-25 24
mes d	s	"	s	"	s	"	s	"
1 -4.5	27.929	35.42	39.322	25.44	37.699	19.99	21.036	33.02
1 5.5	28.071	36.74	39.497	24.76	37.893	18.61	21.184	32.81
1 15.4	28.249	38.06	39.718	24.13	38.140	17.30	21.386	32.71
1 25.4	28.460	39.34	39.978	23.58	38.436	16.08	21.624	32.66
2 4.4	28.699	40.50	40.271	23.10	38.772	15.00	21.891	32.61
2 14.4	28.957	41.51	40.589	22.68	39.138	14.06	22.180	32.57
2 24.3	29.234	42.31	40.928	22.32	39.532	13.26	22.489	32.50
3 6.3	29.523	42.85	41.281	22.01	39.943	12.62	22.812	32.40
3 16.3	29.818	43.13	41.643	21.74	40.365	12.14	23.143	32.25
3 26.3	30.119	43.12	42.012	21.52	40.797	11.82	23.481	32.05
4 5.2	30.419	42.83	42.381	21.35	41.229	11.68	23.819	31.80
4 15.2	30.716	42.29	42.745	21.24	41.656	11.69	24.154	31.53
4 25.2	31.006	41.51	43.103	21.20	42.075	11.90	24.485	31.24
5 5.1	31.282	40.54	43.445	21.24	42.475	12.28	24.801	30.95
5 15.1	31.543	39.43	43.770	21.38	42.855	12.85	25.102	30.69
5 25.1	31.783	38.22	44.070	21.62	43.205	13.60	25.381	30.49
6 4.1	31.996	36.96	44.338	21.97	43.516	14.51	25.631	30.35
6 14.0	32.179	35.71	44.572	22.44	43.787	15.58	25.850	30.29
6 24.0	32.327	34.48	44.763	23.01	44.007	16.79	26.031	30.32
7 4.0	32.436	33.33	44.907	23.67	44.172	18.09	26.168	30.45
7 14.0	32.506	32.28	45.004	24.40	44.281	19.46	26.262	30.66
7 23.9	32.532	31.35	45.048	25.18	44.328	20.85	26.307	30.93
8 2.9	32.517	30.57	45.041	25.96	44.315	22.21	26.306	31.27
8 12.9	32.463	29.92	44.987	26.73	44.246	23.49	26.261	31.63
8 22.8	32.372	29.42	44.886	27.43	44.121	24.64	26.172	31.99
9 1.8	32.251	29.07	44.747	28.03	43.953	25.60	26.049	32.33
9 11.8	32.106	28.86	44.580	28.51	43.750	26.35	25.899	32.63
9 21.8	31.944	28.80	44.390	28.84	43.520	26.83	25.728	32.86
10 1.7	31.778	28.89	44.194	28.99	43.282	27.02	25.550	33.01
10 11.7	31.614	29.11	44.001	28.96	43.046	26.92	25.375	33.07
10 21.7	31.464	29.49	43.823	28.75	42.826	26.53	25.213	33.04
10 31.7	31.338	30.00	43.674	28.37	42.640	25.85	25.077	32.94
11 10.6	31.242	30.67	43.561	27.86	42.494	24.94	24.974	32.77
11 20.6	31.185	31.49	43.495	27.23	42.402	23.81	24.913	32.56
11 30.6	31.170	32.43	43.481	26.53	42.372	22.53	24.900	32.33
12 10.5	31.199	33.51	43.520	25.80	42.402	21.15	24.935	32.11
12 20.5	31.274	34.70	43.614	25.07	42.499	19.71	25.023	31.92
12 30.5	31.391	35.96	43.759	24.36	42.657	18.29	25.145	31.87
12 40.5	31.547	37.27	43.952	23.66	42.872	16.90	25.326	31.62
Pos. Med.	31.591	27.24	43.876	16.47	42.882	10.61	25.239	23.69
Secδ tanδ	1.001	-.050	1.212	-.684	1.438	-1.034	1.107	-.475
Dob.Tran.	Jun 27		Jun 28		Jun 29		Jun 29	

VOLVER AL INDICE

VOLVER A LISTA D ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	699		1487		705		706	
EST.	α Lyrae (Vega)		φ Sagittarii		β Lyrae		σ Sagittarii	
MAG.	0.03		3.17		3.3 a 4.3		2.02	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "
	18 37	+38 47	18 47	-26 57	18 50	+33 23	18 56	-26 16
mes d								
1 -4.5	40.784	75.89	3.178	63.25	53.561	20.13	39.077	7.55
1 5.5	40.871	72.71	3.312	62.99	53.638	17.16	39.201	7.37
1 15.5	41.007	69.55	3.497	62.68	53.759	14.19	39.374	7.01
1 25.4	41.190	66.50	3.720	62.42	53.925	11.29	39.585	6.75
2 4.4	41.416	63.72	3.974	62.17	54.132	8.64	39.829	6.48
2 14.4	41.677	61.28	4.252	61.92	54.370	6.29	40.098	6.19
2 24.3	41.969	59.28	4.554	61.65	54.640	4.33	40.390	5.88
3 6.3	42.285	57.83	4.871	61.35	54.932	2.88	40.700	5.53
3 16.3	42.616	56.93	5.200	61.01	55.242	1.95	41.023	5.13
3 26.3	42.958	56.64	5.540	60.64	55.565	1.58	41.358	4.68
4 5.2	43.302	56.96	5.882	60.25	55.892	1.81	41.697	4.21
4 15.2	43.642	57.85	6.225	59.83	56.219	2.57	42.039	3.71
4 25.2	43.972	59.29	6.565	59.42	56.540	3.87	42.380	3.20
5 5.2	44.282	61.21	6.895	59.04	56.847	5.63	42.711	2.72
5 15.1	44.569	63.52	7.211	58.70	57.134	7.77	43.031	2.29
5 25.1	44.825	66.17	7.508	58.44	57.396	10.25	43.332	1.92
6 4.1	45.042	69.05	7.776	58.26	57.624	12.96	43.607	1.65
6 14.0	45.220	72.05	8.015	58.19	57.817	15.81	43.853	1.48
6 24.0	45.351	75.14	8.216	58.22	57.967	18.75	44.061	1.43
7 4.0	45.432	78.18	8.373	58.37	58.071	21.65	44.227	1.51
7 14.0	45.465	81.12	8.487	58.62	58.129	24.48	44.350	1.69
7 23.9	45.445	83.89	8.552	58.97	58.137	27.16	44.424	1.98
8 2.9	45.375	86.40	8.567	59.37	58.096	29.60	44.448	2.35
8 12.9	45.260	88.64	8.537	59.82	58.011	31.80	44.427	2.77
8 22.9	45.100	90.54	8.461	60.29	57.882	33.68	44.359	3.23
9 1.8	44.905	92.05	8.348	60.74	57.717	35.20	44.253	3.68
9 11.8	44.681	93.17	8.204	61.14	57.523	36.37	44.115	4.10
9 21.8	44.436	93.84	8.036	61.47	57.306	37.12	43.951	4.46
10 1.7	44.183	94.05	7.859	61.70	57.079	37.45	43.777	4.74
10 11.7	43.930	93.83	7.680	61.84	56.849	37.36	43.599	4.92
10 21.7	43.687	93.11	7.511	61.86	56.627	36.81	43.429	5.01
10 31.7	43.468	91.94	7.365	61.78	56.425	35.84	43.281	4.99
11 10.6	43.279	90.34	7.250	61.61	56.249	34.45	43.160	4.88
11 20.6	43.129	88.30	7.174	61.37	56.109	32.64	43.078	4.69
11 30.6	43.026	85.90	7.144	61.08	56.012	30.48	43.040	4.45
12 10.6	42.972	83.18	7.161	60.76	55.959	28.01	43.048	4.17
12 20.5	42.973	80.20	7.230	60.44	55.957	25.27	43.106	3.88
12 30.5	43.027	77.10	7.347	60.20	56.004	22.39	43.214	3.62
12 40.5	43.133	73.93	7.498	59.83	56.097	19.43	43.352	3.32
Pos. Med.	44.096	84.29	7.406	52.12	56.887	28.55	43.259	-4.43
Secδ tanδ	1.283	.804	1.122	-.509	1.198	.659	1.115	-.493
Dob.Tran.	Jul 1		Jul 4		Jul 5		Jul 6	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	1495		710		713		716	
EST.	114 G.Sagittarii		ξ^2 Sagittarii		γ Lyrae		ζ Aquilae	
MAG.	5.58		3.51		3.24		2.99	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	18 56	-16 20	18 59	-21 4	18 59	+32 42	19 6	+13 53
mes d	s	"	s	"	s	"	s	"
1 -4.5	48.267	57.35	3.810	37.37	46.061	74.62	25.987	49.91
1 5.5	48.386	57.66	3.920	37.25	46.128	71.71	26.071	47.84
1 15.5	48.544	58.08	4.090	37.48	46.240	68.78	26.193	45.76
1 25.4	48.740	58.44	4.291	37.53	46.397	65.92	26.351	43.73
2 4.4	48.966	58.73	4.523	37.54	46.593	63.28	26.543	41.86
2 14.4	49.216	58.95	4.779	37.50	46.823	60.93	26.761	40.22
2 24.4	49.488	59.06	5.058	37.39	47.084	58.95	27.004	38.87
3 6.3	49.777	59.04	5.354	37.19	47.370	57.48	27.268	37.90
3 16.3	50.077	58.89	5.663	36.90	47.673	56.50	27.546	37.32
3 26.3	50.390	58.58	5.985	36.51	47.992	56.09	27.838	37.17
4 5.3	50.707	58.13	6.311	36.03	48.318	56.27	28.137	37.46
4 15.2	51.026	57.57	6.639	35.47	48.644	56.98	28.438	38.15
4 25.2	51.344	56.89	6.968	34.85	48.967	58.22	28.739	39.25
5 5.2	51.654	56.15	7.288	34.21	49.276	59.93	29.032	40.68
5 15.1	51.952	55.37	7.596	33.58	49.568	62.03	29.312	42.39
5 25.1	52.234	54.58	7.888	32.97	49.836	64.47	29.576	44.34
6 4.1	52.490	53.82	8.154	32.43	50.072	67.15	29.813	46.44
6 14.1	52.719	53.13	8.393	31.97	50.274	69.98	30.023	48.61
6 24.0	52.914	52.51	8.595	31.61	50.434	72.91	30.199	50.83
7 4.0	53.068	52.01	8.757	31.37	50.548	75.81	30.334	53.00
7 14.0	53.182	51.61	8.878	31.24	50.616	78.65	30.430	55.08
7 24.0	53.250	51.32	8.951	31.22	50.635	81.35	30.481	57.03
8 2.9	53.272	51.16	8.977	31.30	50.604	83.82	30.487	58.78
8 12.9	53.251	51.08	8.958	31.46	50.529	86.06	30.453	60.34
8 22.9	53.186	51.10	8.894	31.69	50.409	88.00	30.376	61.66
9 1.8	53.086	51.18	8.794	31.95	50.252	89.58	30.265	62.71
9 11.8	52.956	51.31	8.662	32.22	50.066	90.81	30.126	63.51
9 21.8	52.803	51.48	8.506	32.48	49.854	91.64	29.963	64.02
10 1.8	52.639	51.66	8.339	32.72	49.632	92.04	29.789	64.23
10 11.7	52.473	51.84	8.168	32.91	49.406	92.04	29.611	64.16
10 21.7	52.314	52.04	8.005	33.06	49.185	91.58	29.438	63.79
10 31.7	52.175	52.23	7.862	33.15	48.983	90.70	29.282	63.12
11 10.7	52.063	52.43	7.746	33.21	48.806	89.41	29.149	62.18
11 20.6	51.985	52.64	7.665	33.24	48.662	87.69	29.047	60.94
11 30.6	51.950	52.88	7.628	33.24	48.560	85.62	28.983	59.47
12 10.6	51.957	53.14	7.633	33.25	48.501	83.23	28.957	57.77
12 20.5	52.010	53.43	7.687	33.25	48.491	80.57	28.975	55.88
12 30.5	52.107	53.72	7.788	33.24	48.530	77.75	29.035	53.89
12 40.5	52.238	54.06	7.916	33.28	48.614	74.84	29.133	51.82
Pos. Med.	52.181	45.99	7.837	25.46	49.394	83.15	29.429	59.84
Secδ tanδ	1.042	-.293	1.072	-.385	1.189	.643	1.030	.247
Dob.Tran.	Jul 6		Jul 7		Jul 7		Jul 8	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	717		1496		720		1502	
EST.	λ Aquilae		τ Sagittarii		π Sagittarii*		β^1 Sagittarii*	
MAG.	3.44		3.32		2.89		4.01	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	19 7	- 4 50	19 8	-27 38	19 11	-20 59	19 24	-44 24
mes d	s	"	s	"	s	"	s	"
1 -4.5	26.067	55.18	20.136	15.45	5.598	16.28	14.503	60.87
1 5.5	26.168	56.20	20.255	15.14	5.717	16.15	14.618	59.43
1 15.5	26.304	57.23	20.413	14.68	5.853	16.32	14.784	57.95
1 25.5	26.476	58.23	20.614	14.26	6.042	16.32	15.001	56.45
2 4.4	26.679	59.12	20.849	13.85	6.262	16.27	15.262	55.00
2 14.4	26.906	59.87	21.111	13.42	6.508	16.16	15.560	53.60
2 24.4	27.157	60.44	21.398	12.97	6.778	15.98	15.893	52.28
3 6.3	27.425	60.77	21.705	12.48	7.067	15.70	16.253	51.05
3 16.3	27.707	60.86	22.026	11.96	7.370	15.33	16.634	49.93
3 26.3	28.002	60.68	22.361	11.40	7.688	14.85	17.036	48.93
4 5.3	28.303	60.25	22.703	10.82	8.012	14.28	17.448	48.09
4 15.2	28.608	59.57	23.048	10.23	8.340	13.64	17.868	47.40
4 25.2	28.913	58.68	23.395	9.66	8.671	12.94	18.292	46.89
5 5.2	29.212	57.60	23.734	9.12	8.994	12.21	18.708	46.58
5 15.2	29.500	56.40	24.063	8.64	9.308	11.49	19.114	46.48
5 25.1	29.773	55.09	24.375	8.25	9.607	10.80	19.501	46.60
6 4.1	30.023	53.75	24.661	7.98	9.882	10.18	19.859	46.96
6 14.1	30.247	52.42	24.919	7.82	10.130	9.65	20.184	47.53
6 24.0	30.437	51.12	25.141	7.79	10.343	9.23	20.465	48.32
7 4.0	30.590	49.92	25.320	7.90	10.516	8.94	20.695	49.30
7 14.0	30.703	48.82	25.455	8.14	10.648	8.77	20.873	50.43
7 24.0	30.772	47.85	25.540	8.49	10.732	8.72	20.990	51.70
8 2.9	30.797	47.04	25.576	8.94	10.768	8.78	21.046	53.04
8 12.9	30.780	46.36	25.565	9.45	10.760	8.94	21.043	54.40
8 22.9	30.721	45.85	25.505	9.99	10.706	9.17	20.980	55.74
9 1.9	30.627	45.49	25.405	10.53	10.613	9.45	20.865	56.99
9 11.8	30.504	45.26	25.272	11.04	10.488	9.75	20.706	58.09
9 21.8	30.356	45.18	25.111	11.49	10.337	10.06	20.509	59.00
10 1.8	30.198	45.22	24.936	11.85	10.173	10.33	20.292	59.67
10 11.7	30.035	45.39	24.756	12.10	10.003	10.57	20.063	60.07
10 21.7	29.878	45.68	24.582	12.23	9.838	10.76	19.837	60.18
10 31.7	29.738	46.08	24.428	12.24	9.691	10.90	19.631	59.99
11 10.7	29.622	46.60	24.300	12.14	9.569	10.99	19.452	59.52
11 20.6	29.537	47.24	24.208	11.94	9.481	11.04	19.313	58.77
11 30.6	29.491	47.98	24.161	11.65	9.435	11.06	19.225	57.79
12 10.6	29.484	48.82	24.157	11.31	9.430	11.07	19.189	56.62
12 20.5	29.519	49.75	24.204	10.94	9.471	11.07	19.212	55.29
12 30.5	29.597	50.72	24.299	10.56	9.560	11.05	19.293	53.87
12 40.5	29.711	51.72	24.429	10.18	9.670	10.97	19.427	52.38
Pos. Med.	29.740	43.77	24.328	2.40	9.593	3.36	19.350	44.96
Secδ tanδ	1.004	-.085	1.129	-.524	1.071	-.384	1.400	-.980
Dob.Tran.	Jul 9		Jul 9		Jul 10		Jul 13	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	728		730		732		1513	
EST.	α Sagittarii		δ Aquilae		β Cygni*p.		β Sagittae	
MAG.	3.97		3.36		3.08		4.37	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	19 25	-40 34	19 26	+ 3 9	19 31	+28 0	19 42	+17 31
mes d	s	"	s	"	s	"	s	"
1 -4.5	25.949	26.07	37.430	36.11	36.842	28.15	2.896	44.48
1 5.5	26.059	24.86	37.507	34.69	36.883	25.56	2.941	42.38
1 15.5	26.217	23.60	37.619	33.26	36.964	22.91	3.023	40.24
1 25.5	26.423	22.33	37.766	31.87	37.087	20.28	3.143	38.11
2 4.4	26.671	21.07	37.946	30.60	37.250	17.81	3.298	36.12
2 14.4	26.952	19.86	38.152	29.51	37.445	15.57	3.483	34.34
2 24.4	27.266	18.69	38.383	28.64	37.674	13.66	3.698	32.82
3 6.4	27.606	17.58	38.636	28.06	37.930	12.18	3.939	31.69
3 16.3	27.965	16.55	38.904	27.78	38.207	11.16	4.200	30.94
3 26.3	28.344	15.61	39.189	27.84	38.505	10.65	4.481	30.63
4 5.3	28.734	14.77	39.483	28.25	38.816	10.69	4.775	30.80
4 15.2	29.131	14.06	39.784	28.96	39.133	11.24	5.078	31.39
4 25.2	29.533	13.49	40.088	29.98	39.454	12.29	5.386	32.42
5 5.2	29.928	13.08	40.388	31.25	39.768	13.82	5.692	33.83
5 15.2	30.313	12.85	40.679	32.73	40.071	15.72	5.990	35.57
5 25.1	30.682	12.82	40.958	34.37	40.358	17.97	6.276	37.59
6 4.1	31.023	13.00	41.214	36.10	40.617	20.48	6.539	39.81
6 14.1	31.333	13.37	41.446	37.87	40.848	23.16	6.777	42.16
6 24.1	31.603	13.96	41.646	39.64	41.041	25.95	6.983	44.59
7 4.0	31.825	14.72	41.808	41.34	41.192	28.76	7.149	47.00
7 14.0	31.997	15.64	41.933	42.95	41.300	31.52	7.276	49.35
7 24.0	32.112	16.70	42.012	44.42	41.359	34.19	7.358	51.61
8 2.9	32.168	17.84	42.048	45.72	41.370	36.66	7.394	53.68
8 12.9	32.170	19.02	42.042	46.85	41.337	38.93	7.386	55.56
8 22.9	32.114	20.19	41.992	47.79	41.256	40.94	7.334	57.21
9 1.9	32.009	21.30	41.907	48.51	41.137	42.63	7.244	58.58
9 11.8	31.863	22.30	41.790	49.05	40.985	44.01	7.120	59.69
9 21.8	31.681	23.14	41.648	49.37	40.805	45.02	6.969	60.49
10 1.8	31.479	23.76	41.492	49.49	40.609	45.64	6.801	60.97
10 11.8	31.267	24.17	41.329	49.41	40.404	45.90	6.624	61.16
10 21.7	31.057	24.32	41.168	49.13	40.199	45.73	6.445	61.01
10 31.7	30.865	24.20	41.021	48.66	40.007	45.17	6.278	60.53
11 10.7	30.700	23.84	40.894	48.01	39.834	44.22	6.127	59.76
11 20.6	30.572	23.24	40.795	47.17	39.688	42.86	6.002	58.65
11 30.6	30.492	22.43	40.732	46.17	39.578	41.16	5.909	57.28
12 10.6	30.461	21.46	40.704	45.01	39.505	39.14	5.851	55.64
12 20.6	30.486	20.34	40.717	43.73	39.475	36.84	5.832	53.78
12 30.5	30.564	19.15	40.771	42.37	39.489	34.36	5.853	51.78
12 40.5	30.692	17.89	40.861	40.97	39.545	31.75	5.913	49.68
Pos. Med.	30.586	10.35	40.972	47.90	40.190	37.30	6.280	54.98
Secδ tanδ	1.316	-.856	1.002	.055	1.133	.532	1.049	.316
Dob.Tran.	Jul 13		Jul 14		Jul 15		Jul 17	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	741		743		745		746	
EST.	γ Aquilae		δ Sagittae		α Aquilae (Altair)		η Aquilae	
MAG.	2.72		3.82		0.77		3.5 a 4.3	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "
	19 47	+10 39	19 48	+18 35	19 51	+ 8 55	19 53	+ 1 3
mes d								
1 -4.4	19.184	67.83	22.780	26.70	52.320	42.83	36.656	50.12
1 5.5	19.233	66.09	22.817	24.58	52.370	41.21	36.708	48.91
1 15.5	19.317	64.31	22.892	22.41	52.454	39.56	36.794	47.69
1 25.5	19.436	62.56	23.005	20.25	52.574	37.93	36.915	46.50
2 4.5	19.590	60.93	23.153	18.22	52.727	36.43	37.069	45.42
2 14.4	19.772	59.49	23.332	16.39	52.909	35.10	37.251	44.49
2 24.4	19.984	58.29	23.541	14.83	53.119	34.01	37.461	43.77
3 6.4	20.219	57.42	23.778	13.65	53.354	33.24	37.695	43.32
3 16.3	20.475	56.90	24.035	12.85	53.609	32.81	37.948	43.15
3 26.3	20.750	56.76	24.314	12.51	53.884	32.75	38.221	43.29
4 5.3	21.039	57.04	24.607	12.63	54.173	33.08	38.508	43.75
4 15.3	21.337	57.69	24.910	13.19	54.471	33.77	38.806	44.50
4 25.2	21.642	58.72	25.220	14.20	54.777	34.83	39.112	45.54
5 5.2	21.946	60.08	25.528	15.61	55.082	36.20	39.418	46.83
5 15.2	22.244	61.70	25.830	17.35	55.382	37.82	39.720	48.30
5 25.2	22.532	63.57	26.119	19.39	55.671	39.67	40.013	49.93
6 4.1	22.798	65.59	26.387	21.63	55.940	41.65	40.287	51.64
6 14.1	23.042	67.69	26.630	24.01	56.187	43.72	40.540	53.39
6 24.1	23.255	69.85	26.840	26.49	56.403	45.83	40.764	55.14
7 4.0	23.430	71.97	27.012	28.96	56.583	47.89	40.951	56.81
7 14.0	23.567	74.02	27.145	31.38	56.724	49.87	41.102	58.38
7 24.0	23.660	75.96	27.231	33.71	56.822	51.74	41.209	59.83
8 3.0	23.708	77.72	27.272	35.85	56.875	53.43	41.271	61.10
8 12.9	23.713	79.30	27.269	37.81	56.885	54.93	41.290	62.20
8 22.9	23.674	80.66	27.221	39.54	56.850	56.23	41.265	63.11
9 1.9	23.597	81.77	27.134	40.98	56.777	57.28	41.201	63.81
9 11.9	23.487	82.65	27.014	42.17	56.672	58.11	41.103	64.34
9 21.8	23.348	83.27	26.864	43.04	56.537	58.68	40.976	64.66
10 1.8	23.192	83.63	26.697	43.59	56.386	59.00	40.831	64.79
10 11.8	23.026	83.73	26.519	43.83	56.224	59.09	40.675	64.75
10 21.7	22.859	83.56	26.339	43.72	56.060	58.92	40.516	64.53
10 31.7	22.702	83.12	26.170	43.29	55.906	58.50	40.368	64.13
11 10.7	22.561	82.45	26.016	42.55	55.768	57.86	40.234	63.59
11 20.7	22.444	81.50	25.886	41.47	55.653	56.97	40.125	62.87
11 30.6	22.360	80.34	25.788	40.11	55.571	55.88	40.047	62.02
12 10.6	22.308	78.98	25.723	38.48	55.521	54.60	40.001	61.04
12 20.6	22.295	77.42	25.697	36.61	55.509	53.15	39.993	59.95
12 30.6	22.321	75.76	25.712	34.60	55.536	51.60	40.023	58.79
12 40.5	22.383	74.02	25.763	32.47	55.599	49.98	40.088	57.59
Pos. Med.	22.609	79.39	26.150	37.20	55.773	55.07	40.157	63.26
Secδ tanδ	1.018	.188	1.055	.336	1.012	.157	1.000	.019
Dob.Tran.	Jul 19		Jul 19		Jul 20		Jul 20	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	749		752		748		754	
EST.	β Aquilae		γ Sagittae		ε Pavonis		δ Pavonis	
MAG.	3.71		3.47		3.96		3.56	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	19 56	+ 6 27	19 59	+19 33	20 3	-72 50	20 10	-66 7
mes d	s	"	s	"	s	"	s	"
1 -4.4	24.599	48.88	44.790	16.01	7.525	63.95	53.753	31.06
1 5.5	24.644	47.38	44.816	13.90	7.548	61.08	53.788	28.50
1 15.5	24.724	45.85	44.879	11.73	7.700	58.09	53.915	25.81
1 25.5	24.839	44.35	44.979	9.55	7.982	55.04	54.135	23.03
2 4.5	24.987	42.96	45.115	7.50	8.389	52.03	54.444	20.27
2 14.4	25.164	41.74	45.283	5.63	8.903	49.14	54.828	17.59
2 24.4	25.369	40.74	45.483	4.03	9.520	46.41	55.288	15.01
3 6.4	25.599	40.05	45.711	2.79	10.226	43.93	55.811	12.64
3 16.3	25.849	39.67	45.962	1.94	11.000	41.71	56.384	10.49
3 26.3	26.120	39.65	46.236	1.54	11.840	39.81	57.008	8.60
4 5.3	26.406	40.00	46.527	1.61	12.723	38.29	57.665	7.03
4 15.3	26.702	40.68	46.829	2.13	13.635	37.14	58.346	5.79
4 25.2	27.007	41.70	47.140	3.10	14.568	36.41	59.047	4.92
5 5.2	27.312	43.02	47.451	4.48	15.493	36.11	59.746	4.44
5 15.2	27.613	44.58	47.758	6.20	16.401	36.22	60.436	4.34
5 25.2	27.905	46.34	48.053	8.24	17.275	36.78	61.105	4.65
6 4.1	28.178	48.22	48.329	10.50	18.087	37.76	61.733	5.36
6 14.1	28.429	50.18	48.580	12.91	18.830	39.11	62.313	6.43
6 24.1	28.651	52.16	48.800	15.43	19.481	40.85	62.829	7.88
7 4.0	28.836	54.09	48.982	17.96	20.021	42.89	63.264	9.63
7 14.0	28.984	55.94	49.125	20.45	20.447	45.18	63.616	11.64
7 24.0	29.089	57.67	49.222	22.85	20.737	47.67	63.869	13.87
8 3.0	29.148	59.23	49.273	25.08	20.888	50.25	64.018	16.22
8 12.9	29.165	60.61	49.280	27.13	20.903	52.86	64.068	18.62
8 22.9	29.137	61.78	49.241	28.95	20.775	55.41	64.010	21.01
9 1.9	29.071	62.72	49.162	30.50	20.517	57.77	63.855	23.26
9 11.9	28.970	63.46	49.048	31.78	20.144	59.90	63.614	25.31
9 21.8	28.841	63.95	48.904	32.74	19.666	61.69	63.294	27.08
10 1.8	28.693	64.21	48.740	33.38	19.115	63.05	62.919	28.48
10 11.8	28.534	64.26	48.565	33.72	18.512	63.95	62.504	29.47
10 21.7	28.372	64.07	48.385	33.70	17.882	64.32	62.070	29.98
10 31.7	28.220	63.66	48.213	33.34	17.267	64.15	61.645	29.99
11 10.7	28.082	63.04	48.055	32.67	16.684	63.44	61.243	29.51
11 20.7	27.967	62.20	47.920	31.65	16.166	62.20	60.888	28.53
11 30.6	27.884	61.19	47.814	30.34	15.742	60.48	60.602	27.09
12 10.6	27.832	60.00	47.741	28.75	15.421	58.34	60.390	25.27
12 20.6	27.817	58.65	47.705	26.92	15.225	55.83	60.268	23.08
12 30.6	27.840	57.22	47.707	24.92	15.163	53.07	60.243	20.63
12 40.5	27.899	55.72	47.747	22.80	15.230	50.12	60.309	17.99
Pos. Med.	28.043	61.11	48.144	26.56	16.001	41.99	60.462	9.14
Secδ tanδ	1.006	.113	1.061	.355	3.390	-3.239	2.470	-2.259
Dob.Tran.	Jul 21		Jul 22		Jul 23		Jul 25	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	756		761		762		765	
EST.	ϑ Aquilae		α^2 Capricorni		β Capricorni		γ Cygni	
MAG.	3.23		3.57		3.08		2.20	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	20 12	- 0 44	20 19	-12 28	20 22	-14 42	20 23	+40 19
mes d	s	"	s	"	s	"	s	"
1 -4.4	27.503	75.03	17.762	29.96	16.125	37.14	1.005	51.43
1 5.6	27.540	76.09	17.801	30.34	16.162	37.38	.963	48.74
1 15.5	27.610	77.13	17.875	30.66	16.234	37.56	.965	45.90
1 25.5	27.714	78.15	17.979	30.90	16.335	37.62	1.014	42.95
2 4.5	27.851	79.07	18.120	31.13	16.475	37.73	1.112	40.08
2 14.4	28.017	79.84	18.290	31.19	16.644	37.65	1.253	37.36
2 24.4	28.211	80.42	18.489	31.10	16.843	37.42	1.440	34.89
3 6.4	28.431	80.75	18.715	30.82	17.068	37.02	1.668	32.82
3 16.4	28.673	80.82	18.962	30.37	17.316	36.46	1.930	31.19
3 26.3	28.937	80.59	19.232	29.72	17.587	35.72	2.228	30.07
4 5.3	29.218	80.06	19.520	28.88	17.876	34.82	2.550	29.54
4 15.3	29.513	79.25	19.823	27.88	18.181	33.77	2.891	29.57
4 25.3	29.819	78.18	20.139	26.72	18.499	32.58	3.247	30.19
5 5.2	30.127	76.87	20.458	25.45	18.822	31.31	3.604	31.37
5 15.2	30.436	75.39	20.779	24.12	19.147	30.00	3.957	33.03
5 25.2	30.737	73.77	21.095	22.75	19.467	28.67	4.298	35.17
6 4.1	31.023	72.06	21.396	21.40	19.772	27.38	4.615	37.68
6 14.1	31.290	70.34	21.678	20.11	20.060	26.17	4.903	40.48
6 24.1	31.529	68.62	21.934	18.91	20.322	25.06	5.154	43.53
7 4.1	31.734	66.98	22.156	17.85	20.549	24.10	5.359	46.70
7 14.0	31.903	65.44	22.341	16.93	20.739	23.30	5.518	49.93
7 24.0	32.029	64.04	22.483	16.18	20.886	22.67	5.624	53.16
8 3.0	32.110	62.82	22.579	15.61	20.987	22.22	5.674	56.27
8 12.9	32.147	61.76	22.630	15.21	21.043	21.95	5.673	59.25
8 22.9	32.140	60.90	22.634	14.98	21.050	21.83	5.617	62.01
9 1.9	32.092	60.24	22.596	14.91	21.015	21.87	5.513	64.47
9 11.9	32.008	59.76	22.520	14.95	20.941	22.02	5.367	66.63
9 21.8	31.894	59.47	22.410	15.12	20.834	22.27	5.182	68.43
10 1.8	31.758	59.36	22.279	15.36	20.703	22.59	4.970	69.81
10 11.8	31.609	59.40	22.132	15.67	20.556	22.95	4.740	70.78
10 21.8	31.455	59.61	21.978	16.02	20.401	23.34	4.498	71.28
10 31.7	31.307	59.97	21.830	16.40	20.252	23.73	4.259	71.31
11 10.7	31.171	60.47	21.694	16.80	20.114	24.10	4.029	70.88
11 20.7	31.057	61.10	21.578	17.21	19.997	24.47	3.817	69.95
11 30.6	30.970	61.85	21.492	17.61	19.908	24.81	3.634	68.58
12 10.6	30.914	62.71	21.435	18.02	19.850	25.13	3.482	66.78
12 20.6	30.893	63.67	21.415	18.42	19.827	25.42	3.370	64.57
12 30.6	30.909	64.67	21.432	18.79	19.842	25.67	3.301	62.08
12 40.5	30.958	65.70	21.485	19.12	19.892	25.87	3.275	59.34
Pos. Med.	30.975	60.83	21.359	13.38	19.742	20.00	4.348	58.74
Secδ tanδ	1.000	-.013	1.024	-.221	1.034	-.262	1.312	.849
Dob.Tran.	Jul 25		Jul 27		Jul 28		Jul 28	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	764		768		769		774	
EST.	α Pavonis		ε Delphini		α Indi		α Delphini	
MAG.	1.94		4.03		3.11		3.77	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "
	20 27	-56 39	20 34	+11 22	20 39	-47 12	20 40	+15 59
mes d								
1 -4.4	24.314	50.94	16.816	51.61	8.176	51.28	40.509	34.60
1 5.6	24.328	48.84	16.821	50.02	8.188	49.70	40.504	32.84
1 15.5	24.407	46.59	16.860	48.39	8.249	47.94	40.531	31.01
1 25.5	24.551	44.20	16.932	46.75	8.362	46.03	40.592	29.15
2 4.5	24.760	41.76	17.039	45.20	8.526	44.03	40.689	27.37
2 14.5	25.023	39.32	17.176	43.80	8.733	41.98	40.817	25.73
2 24.4	25.342	36.92	17.344	42.60	8.984	39.91	40.978	24.30
3 6.4	25.709	34.63	17.542	41.71	9.275	37.87	41.170	23.19
3 16.4	26.116	32.47	17.766	41.15	9.600	35.89	41.390	22.41
3 26.3	26.564	30.48	18.016	40.95	9.960	33.99	41.637	22.03
4 5.3	27.042	28.73	18.287	41.16	10.347	32.23	41.907	22.09
4 15.3	27.543	27.22	18.574	41.74	10.756	30.63	42.195	22.55
4 25.3	28.066	25.99	18.877	42.70	11.186	29.22	42.500	23.43
5 5.2	28.594	25.08	19.186	44.02	11.624	28.05	42.811	24.71
5 15.2	29.123	24.49	19.496	45.62	12.067	27.13	43.125	26.31
5 25.2	29.643	24.27	19.803	47.48	12.506	26.50	43.435	28.22
6 4.2	30.138	24.41	20.095	49.53	12.928	26.18	43.732	30.36
6 14.1	30.603	24.89	20.370	51.70	13.328	26.17	44.011	32.65
6 24.1	31.025	25.73	20.619	53.95	13.695	26.48	44.264	35.06
7 4.1	31.390	26.90	20.834	56.19	14.018	27.10	44.483	37.49
7 14.0	31.696	28.34	21.013	58.38	14.292	28.00	44.666	39.89
7 24.0	31.929	30.03	21.150	60.48	14.509	29.16	44.807	42.23
8 3.0	32.084	31.91	21.242	62.42	14.662	30.53	44.901	44.42
8 13.0	32.165	33.89	21.290	64.20	14.753	32.05	44.953	46.45
8 22.9	32.163	35.94	21.293	65.76	14.777	33.68	44.957	48.27
9 1.9	32.087	37.93	21.254	67.08	14.739	35.32	44.919	49.84
9 11.9	31.944	39.81	21.178	68.18	14.644	36.93	44.844	51.18
9 21.9	31.738	41.50	21.069	69.01	14.497	38.44	44.734	52.22
10 1.8	31.487	42.92	20.936	69.57	14.312	39.75	44.600	52.98
10 11.8	31.203	44.01	20.788	69.89	14.099	40.83	44.449	53.46
10 21.8	30.900	44.72	20.630	69.93	13.868	41.62	44.287	53.62
10 31.7	30.599	45.01	20.474	69.71	13.638	42.07	44.127	53.49
11 10.7	30.313	44.88	20.327	69.24	13.418	42.19	43.973	53.07
11 20.7	30.056	44.30	20.196	68.51	13.220	41.94	43.834	52.34
11 30.7	29.847	43.31	20.090	67.55	13.059	41.34	43.719	51.35
12 10.6	29.689	41.96	20.010	66.39	12.937	40.43	43.629	50.11
12 20.6	29.593	40.26	19.962	65.02	12.864	39.21	43.570	48.63
12 30.6	29.565	38.29	19.947	63.54	12.843	37.74	43.544	46.98
12 40.6	29.602	36.11	19.966	61.95	12.873	36.06	43.551	45.21
Pos. Med.	29.487	27.38	20.134	64.13	12.605	27.66	43.795	46.27
Secδ tanδ	1.819	-1.520	1.020	.201	1.472	-1.080	1.040	.287
Dob.Tran.	Jul 29		Jul 31		Ago 1		Ago 1	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	777		775		780		781	
EST.	α Cygni (Deneb)		β Pavonis		ε Cygni		ε Aquarii	
MAG.	1.25		3.42		2.46		3.77	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "
	20 42	+45 21	20 46	-66 6	20 47	+34 3	20 48	- 9 24
mes d								
1 -4.4	10.653	48.81	56.805	85.40	6.497	25.52	53.330	47.26
1 5.6	10.572	46.16	56.745	82.92	6.451	23.17	53.341	47.76
1 15.5	10.536	43.30	56.771	80.23	6.443	20.66	53.384	48.21
1 25.5	10.551	40.29	56.888	77.36	6.476	18.03	53.459	48.57
2 4.5	10.618	37.30	57.094	74.42	6.552	15.44	53.563	48.85
2 14.5	10.735	34.42	57.379	71.47	6.666	12.98	53.700	49.02
2 24.4	10.903	31.75	57.744	68.55	6.823	10.73	53.868	49.01
3 6.4	11.118	29.44	58.180	65.78	7.018	8.82	54.064	48.79
3 16.4	11.376	27.56	58.675	63.17	7.248	7.31	54.285	48.36
3 26.4	11.675	26.17	59.231	60.77	7.513	6.26	54.532	47.72
4 5.3	12.005	25.38	59.833	58.66	7.806	5.75	54.802	46.85
4 15.3	12.360	25.14	60.470	56.85	8.120	5.76	55.090	45.78
4 25.3	12.734	25.52	61.141	55.39	8.453	6.31	55.395	44.53
5 5.2	13.115	26.48	61.824	54.33	8.794	7.40	55.710	43.13
5 15.2	13.494	27.96	62.513	53.65	9.136	8.94	56.030	41.63
5 25.2	13.863	29.96	63.194	53.40	9.473	10.94	56.350	40.06
6 4.2	14.209	32.38	63.847	53.59	9.792	13.29	56.660	38.49
6 14.1	14.527	35.14	64.465	54.18	10.090	15.93	56.955	36.95
6 24.1	14.806	38.19	65.030	55.20	10.357	18.81	57.227	35.49
7 4.1	15.039	41.42	65.524	56.59	10.584	21.81	57.468	34.15
7 14.1	15.223	44.76	65.942	58.30	10.771	24.88	57.676	32.95
7 24.0	15.351	48.14	66.268	60.32	10.909	27.96	57.842	31.93
8 3.0	15.420	51.45	66.494	62.54	10.997	30.94	57.963	31.10
8 13.0	15.433	54.65	66.620	64.91	11.035	33.79	58.040	30.46
8 22.9	15.388	57.68	66.637	67.34	11.022	36.46	58.071	30.01
9 1.9	15.290	60.43	66.553	69.72	10.962	38.86	58.057	29.74
9 11.9	15.145	62.90	66.375	71.99	10.861	40.99	58.005	29.64
9 21.9	14.957	65.02	66.108	74.05	10.721	42.78	57.917	29.68
10 1.8	14.737	66.72	65.773	75.78	10.552	44.19	57.803	29.85
10 11.8	14.493	68.02	65.386	77.16	10.363	45.25	57.670	30.11
10 21.8	14.233	68.83	64.961	78.09	10.161	45.87	57.526	30.47
10 31.8	13.971	69.16	64.530	78.53	9.957	46.06	57.382	30.87
11 10.7	13.713	69.00	64.105	78.47	9.757	45.83	57.245	31.32
11 20.7	13.468	68.31	63.710	77.88	9.571	45.14	57.123	31.81
11 30.7	13.250	67.14	63.368	76.80	9.408	44.04	57.025	32.31
12 10.6	13.060	65.51	63.086	75.26	9.270	42.55	56.951	32.82
12 20.6	12.908	63.43	62.883	73.29	9.164	40.67	56.909	33.34
12 30.6	12.799	61.00	62.766	70.98	9.096	38.52	56.900	33.83
12 40.6	12.734	58.29	62.734	68.40	9.064	36.12	56.923	34.29
Pos. Med.	14.028	54.99	62.777	59.08	9.794	33.78	56.761	29.92
Secδ tanδ	1.423	1.013	2.470	-2.258	1.207	.676	1.014	-.166
Dob.Tran.	Ago 2		Ago 3		Ago 3		Ago 3	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	785		792		1552		797	
EST.	β Indi		ξ Cygni		ϑ Capricorni		ζ Cygni	
MAG.	3.65		3.72		4.07		3.20	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	20 56	-58 21	21 5	+44 0	21 7	-17 8	21 13	+30 19
mes d	s	"	s	"	s	"	s	"
1 -4.4	32.734	75.30	43.901	75.17	12.471	36.96	53.060	19.22
1 5.6	32.692	73.21	43.801	72.74	12.468	37.04	53.000	17.16
1 15.6	32.715	70.90	43.743	70.07	12.497	37.02	52.973	14.92
1 25.5	32.804	68.38	43.731	67.21	12.560	36.88	52.982	12.55
2 4.5	32.961	65.76	43.769	64.32	12.633	36.87	53.030	10.19
2 14.5	33.177	63.09	43.855	61.51	12.773	36.26	53.115	7.91
2 24.4	33.454	60.41	43.991	58.85	12.930	35.71	53.240	5.80
3 6.4	33.785	57.80	44.176	56.51	13.116	34.99	53.404	3.99
3 16.4	34.164	55.29	44.404	54.56	13.330	34.12	53.604	2.52
3 26.4	34.591	52.94	44.677	53.06	13.572	33.07	53.840	1.48
4 5.3	35.056	50.80	44.985	52.12	13.839	31.87	54.107	.94
4 15.3	35.553	48.89	45.323	51.72	14.128	30.54	54.400	.87
4 25.3	36.080	47.27	45.685	51.91	14.438	29.10	54.716	1.33
5 5.3	36.621	45.98	46.059	52.69	14.760	27.59	55.045	2.28
5 15.2	37.170	45.03	46.437	53.99	15.091	26.06	55.381	3.68
5 25.2	37.718	44.46	46.812	55.81	15.424	24.52	55.718	5.51
6 4.2	38.249	44.29	47.169	58.07	15.751	23.06	56.044	7.71
6 14.1	38.754	44.50	47.503	60.68	16.065	21.70	56.354	10.18
6 24.1	39.222	45.11	47.804	63.62	16.359	20.47	56.638	12.90
7 4.1	39.637	46.08	48.061	66.76	16.623	19.42	56.888	15.75
7 14.1	39.994	47.39	48.274	70.03	16.854	18.55	57.100	18.68
7 24.0	40.280	49.01	48.434	73.39	17.045	17.90	57.269	21.64
8 3.0	40.488	50.87	48.537	76.71	17.190	17.47	57.389	24.52
8 13.0	40.618	52.90	48.586	79.95	17.290	17.24	57.462	27.30
8 23.0	40.663	55.04	48.577	83.04	17.341	17.22	57.485	29.90
9 1.9	40.627	57.19	48.514	85.89	17.347	17.37	57.462	32.27
9 11.9	40.517	59.28	48.405	88.50	17.311	17.66	57.396	34.40
9 21.9	40.336	61.22	48.249	90.77	17.236	18.08	57.291	36.22
10 1.8	40.101	62.92	48.060	92.66	17.132	18.57	57.155	37.69
10 11.8	39.823	64.32	47.843	94.17	17.005	19.10	56.996	38.83
10 21.8	39.515	65.35	47.606	95.21	16.863	19.65	56.819	39.58
10 31.8	39.200	65.95	47.362	95.79	16.719	20.18	56.637	39.93
11 10.7	38.889	66.11	47.118	95.89	16.578	20.66	56.455	39.89
11 20.7	38.600	65.80	46.882	95.47	16.449	21.10	56.281	39.43
11 30.7	38.349	65.04	46.666	94.58	16.342	21.46	56.124	38.58
12 10.7	38.144	63.86	46.473	93.21	16.258	21.75	55.987	37.35
12 20.6	37.996	62.27	46.312	91.38	16.203	21.95	55.876	35.76
12 30.6	37.913	60.34	46.188	89.19	16.181	22.06	55.797	33.89
12 40.6	37.893	58.15	46.104	86.68	16.190	22.08	55.749	31.77
Pos. Med.	37.670	48.85	47.233	81.04	15.902	17.13	56.273	27.73
Secδ tanδ	1.906	-1.623	1.391	.966	1.046	-.308	1.159	.585
Dob.Tran.	Ago 5		Ago 8		Ago 8		Ago 10	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	800		804		1561		806	
EST.	α Equulei		1 Pegasi		ι Capricorni		ζ Capricorni	
MAG.	3.92		4.08		4.28		3.74	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	21 16	+ 5 20	21 23	+19 53	21 23	-16 43	21 27	-22 18
mes d	s	"	s	"	s	"	s	"
1 -4.4	56.684	31.63	7.285	71.03	29.786	80.19	56.917	51.92
1 5.6	56.662	30.49	7.240	69.35	29.770	80.28	56.896	51.74
1 15.6	56.669	29.31	7.224	67.55	29.783	80.27	56.905	51.42
1 25.5	56.706	28.14	7.240	65.66	29.829	80.14	56.947	50.96
2 4.5	56.774	27.05	7.290	63.81	29.914	79.90	57.022	50.38
2 14.5	56.872	26.09	7.373	62.06	30.006	79.49	57.123	49.59
2 24.5	57.001	25.29	7.490	60.47	30.146	78.89	57.262	48.63
3 6.4	57.162	24.75	7.642	59.15	30.316	78.14	57.433	47.54
3 16.4	57.351	24.49	7.827	58.15	30.514	77.22	57.633	46.31
3 26.4	57.571	24.54	8.045	57.53	30.742	76.11	57.864	44.94
4 5.3	57.817	24.93	8.293	57.34	30.997	74.85	58.124	43.45
4 15.3	58.086	25.64	8.566	57.57	31.276	73.45	58.409	41.87
4 25.3	58.376	26.67	8.863	58.24	31.579	71.93	58.719	40.22
5 5.3	58.680	28.01	9.174	59.34	31.896	70.34	59.044	38.55
5 15.2	58.993	29.58	9.494	60.80	32.225	68.71	59.382	36.90
5 25.2	59.309	31.38	9.818	62.62	32.559	67.08	59.727	35.31
6 4.2	59.618	33.32	10.135	64.73	32.889	65.51	60.068	33.84
6 14.2	59.916	35.36	10.438	67.04	33.209	64.04	60.399	32.51
6 24.1	60.195	37.45	10.721	69.53	33.511	62.71	60.714	31.36
7 4.1	60.445	39.51	10.974	72.09	33.785	61.56	61.000	30.43
7 14.1	60.663	41.50	11.194	74.68	34.028	60.60	61.255	29.73
7 24.0	60.843	43.40	11.374	77.25	34.232	59.86	61.470	29.27
8 3.0	60.979	45.13	11.508	79.72	34.391	59.35	61.640	29.07
8 13.0	61.074	46.69	11.600	82.05	34.507	59.05	61.764	29.09
8 23.0	61.122	48.04	11.644	84.21	34.574	58.98	61.839	29.34
9 1.9	61.127	49.17	11.643	86.12	34.594	59.09	61.865	29.77
9 11.9	61.093	50.09	11.603	87.81	34.573	59.36	61.848	30.34
9 21.9	61.023	50.77	11.524	89.23	34.511	59.78	61.788	31.03
10 1.9	60.924	51.23	11.416	90.34	34.419	60.28	61.695	31.77
10 11.8	60.804	51.48	11.285	91.17	34.302	60.83	61.577	32.53
10 21.8	60.669	51.51	11.137	91.66	34.168	61.42	61.439	33.28
10 31.8	60.530	51.33	10.983	91.84	34.028	61.99	61.294	33.95
11 10.7	60.393	50.98	10.829	91.71	33.889	62.53	61.150	34.53
11 20.7	60.264	50.43	10.682	91.25	33.759	63.02	61.013	35.00
11 30.7	60.153	49.72	10.550	90.48	33.648	63.42	60.895	35.33
12 10.7	60.061	48.87	10.437	89.43	33.556	63.75	60.797	35.52
12 20.6	59.994	47.87	10.347	88.10	33.492	63.99	60.726	35.56
12 30.6	59.956	46.80	10.285	86.57	33.457	64.12	60.686	35.45
12 40.6	59.945	45.65	10.251	84.85	33.451	64.16	60.675	35.20
Pos. Med.	59.892	46.21	10.452	82.01	33.118	59.77	60.284	29.96
Secδ tanδ	1.004	.094	1.064	.362	1.044	-.301	1.081	-.410
Dob.Tran.	Ago 11		Ago 12		Ago 12		Ago 13	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	808		1568		812		810	
EST.	β Aquarii		ρ Cygni		γ Capricorni		ν Octantis	
MAG.	2.91		4.02		3.68		3.76	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	21 32	- 5 27	21 34	+45 41	21 41	-16 33	21 43	-77 16
mes d	s	"	s	"	s	"	s	"
1 -4.4	44.473	77.82	48.711	42.78	20.154	39.22	52.886	92.41
1 5.6	44.446	78.45	48.576	40.59	20.124	39.32	52.453	89.84
1 15.6	44.447	79.03	48.480	38.10	20.121	39.31	52.164	86.92
1 25.6	44.477	79.55	48.427	35.37	20.148	39.17	52.029	83.69
2 4.5	44.538	79.93	48.424	32.55	20.209	38.89	52.062	80.28
2 14.5	44.624	80.19	48.469	29.73	20.288	38.53	52.247	76.76
2 24.5	44.743	80.33	48.566	27.01	20.409	37.84	52.588	73.20
3 6.4	44.895	80.21	48.716	24.55	20.561	37.03	53.081	69.71
3 16.4	45.074	79.88	48.914	22.41	20.741	36.06	53.703	66.35
3 26.4	45.285	79.28	49.162	20.69	20.954	34.90	54.459	63.17
4 5.4	45.523	78.44	49.453	19.49	21.196	33.56	55.327	60.28
4 15.3	45.786	77.36	49.779	18.81	21.464	32.09	56.287	57.71
4 25.3	46.073	76.05	50.137	18.70	21.758	30.49	57.336	55.50
5 5.3	46.376	74.55	50.515	19.19	22.070	28.81	58.440	53.74
5 15.3	46.691	72.90	50.903	20.20	22.395	27.09	59.583	52.42
5 25.2	47.013	71.14	51.295	21.76	22.730	25.36	60.749	51.59
6 4.2	47.331	69.33	51.674	23.79	23.063	23.70	61.899	51.28
6 14.2	47.641	67.52	52.036	26.21	23.389	22.13	63.016	51.45
6 24.1	47.935	65.74	52.369	29.00	23.699	20.69	64.074	52.14
7 4.1	48.202	64.07	52.662	32.04	23.984	19.44	65.036	53.32
7 14.1	48.440	62.52	52.913	35.27	24.241	18.39	65.891	54.92
7 24.1	48.640	61.14	53.112	38.62	24.459	17.57	66.607	56.94
8 3.0	48.798	59.96	53.255	42.00	24.635	16.99	67.161	59.28
8 13.0	48.915	58.98	53.343	45.34	24.768	16.63	67.551	61.87
8 23.0	48.985	58.21	53.373	48.58	24.852	16.52	67.752	64.65
9 2.0	49.011	57.66	53.347	51.63	24.891	16.61	67.766	67.46
9 11.9	48.997	57.30	53.271	54.47	24.887	16.87	67.602	70.25
9 21.9	48.944	57.14	53.145	57.01	24.841	17.29	67.255	72.90
10 1.9	48.861	57.15	52.981	59.20	24.762	17.81	66.753	75.27
10 11.8	48.754	57.30	52.784	61.03	24.658	18.40	66.118	77.32
10 21.8	48.629	57.58	52.562	62.42	24.533	19.04	65.370	78.92
10 31.8	48.499	57.96	52.326	63.35	24.400	19.66	64.556	79.98
11 10.8	48.367	58.41	52.083	63.82	24.265	20.26	63.702	80.51
11 20.7	48.242	58.95	51.841	63.77	24.135	20.80	62.845	80.43
11 30.7	48.132	59.52	51.612	63.22	24.020	21.26	62.032	79.74
12 10.7	48.040	60.12	51.399	62.19	23.923	21.63	61.282	78.48
12 20.7	47.971	60.75	51.212	60.66	23.849	21.90	60.632	76.66
12 30.6	47.929	61.36	51.058	58.73	23.802	22.06	60.110	74.35
12 40.6	47.913	61.96	50.937	56.45	23.781	22.11	59.721	71.63
Pos. Med.	47.662	60.08	52.017	47.54	23.381	18.27	59.924	60.81
Secδ tanδ	1.005	-.096	1.432	1.025	1.043	-.297	4.543	-4.431
Dob.Tran.	Ago 15		Ago 15		Ago 17		Ago 17	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	815		819		822		827	
EST.	ε Pegasi		δ Capricorni		γ Gruis		α Aquarii	
MAG.	0.7 A 3.5		2.87		3.01		2.96	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	21 45	+ 9 58	21 48	-16 1	21 55	-37 15	22 6	- 0 12
mes d	s	"	s	"	s	"	s	"
1 -4.4	17.336	47.65	16.898	31.45	17.272	38.45	56.407	34.09
1 5.6	17.289	46.43	16.863	31.59	17.212	37.62	56.355	34.87
1 15.6	17.268	45.14	16.854	31.61	17.184	36.54	56.325	35.64
1 25.6	17.274	43.82	16.875	31.50	17.192	35.21	56.321	36.38
2 4.5	17.311	42.56	16.928	31.24	17.239	33.66	56.345	37.01
2 14.5	17.377	41.40	17.002	30.97	17.320	31.94	56.396	37.51
2 24.5	17.475	40.39	17.114	30.25	17.440	30.04	56.475	37.86
3 6.5	17.607	39.62	17.259	29.46	17.599	28.02	56.589	38.02
3 16.4	17.770	39.13	17.433	28.49	17.794	25.91	56.734	37.92
3 26.4	17.966	38.95	17.639	27.33	18.028	23.73	56.913	37.55
4 5.4	18.193	39.14	17.875	26.00	18.297	21.54	57.123	36.89
4 15.3	18.447	39.66	18.138	24.53	18.598	19.37	57.362	35.96
4 25.3	18.727	40.55	18.428	22.91	18.930	17.25	57.630	34.76
5 5.3	19.025	41.78	18.737	21.21	19.286	15.26	57.920	33.31
5 15.3	19.336	43.30	19.061	19.47	19.660	13.42	58.226	31.66
5 25.2	19.656	45.09	19.394	17.71	20.047	11.77	58.545	29.83
6 4.2	19.973	47.08	19.727	16.01	20.435	10.38	58.865	27.89
6 14.2	20.282	49.21	20.054	14.40	20.818	9.26	59.182	25.90
6 24.2	20.575	51.45	20.367	12.91	21.187	8.46	59.487	23.89
7 4.1	20.843	53.70	20.655	11.62	21.529	7.98	59.770	21.94
7 14.1	21.081	55.93	20.915	10.52	21.839	7.83	60.028	20.08
7 24.1	21.283	58.10	21.139	9.65	22.109	8.03	60.252	18.34
8 3.0	21.444	60.12	21.320	9.02	22.329	8.54	60.437	16.80
8 13.0	21.563	61.99	21.458	8.63	22.500	9.33	60.582	15.43
8 23.0	21.637	63.68	21.549	8.47	22.614	10.38	60.682	14.29
9 2.0	21.666	65.13	21.594	8.53	22.672	11.62	60.739	13.37
9 11.9	21.656	66.37	21.596	8.77	22.679	13.00	60.755	12.67
9 21.9	21.608	67.37	21.557	9.18	22.634	14.46	60.731	12.19
10 1.9	21.529	68.11	21.484	9.70	22.546	15.90	60.675	11.92
10 11.9	21.425	68.62	21.384	10.29	22.423	17.29	60.593	11.83
10 21.8	21.302	68.88	21.264	10.94	22.272	18.55	60.488	11.92
10 31.8	21.171	68.90	21.134	11.58	22.106	19.61	60.372	12.16
11 10.8	21.036	68.70	21.001	12.20	21.933	20.44	60.250	12.53
11 20.7	20.905	68.26	20.872	12.77	21.762	21.00	60.129	13.02
11 30.7	20.786	67.63	20.757	13.26	21.606	21.24	60.016	13.60
12 10.7	20.682	66.81	20.658	13.67	21.467	21.19	59.914	14.26
12 20.7	20.597	65.80	20.581	13.98	21.355	20.82	59.829	14.99
12 30.6	20.536	64.67	20.530	14.17	21.274	20.15	59.765	15.74
12 40.6	20.499	63.44	20.504	14.25	21.225	19.21	59.722	16.50
Pos. Med.	20.421	61.25	20.082	10.58	20.644	11.83	59.404	17.40
Secδ tanδ	1.015	.176	1.040	-.287	1.256	-.761	1.000	-.004
Dob.Tran.	Ago 18		Ago 19		Ago 20		Ago 23	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	829		834		841		842	
EST.	α Gruis		ϑ Pegasi		α Tucanae		γ Aquarii	
MAG.	1.74		3.53		2.86		3.84	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	21 45	+ 9 58	21 48	-16 1	21 55	-37 15	22 6	- 0 12
mes d	s	"	s	"	s	"	s	"
1 -4.4	17.336	47.65	16.898	31.45	17.272	38.45	56.407	34.09
1 5.6	17.289	46.43	16.863	31.59	17.212	37.62	56.355	34.87
1 15.6	17.268	45.14	16.854	31.61	17.184	36.54	56.325	35.64
1 25.6	17.274	43.82	16.875	31.50	17.192	35.21	56.321	36.38
2 4.5	17.311	42.56	16.928	31.24	17.239	33.66	56.345	37.01
2 14.5	17.377	41.40	17.002	30.97	17.320	31.94	56.396	37.51
2 24.5	17.475	40.39	17.114	30.25	17.440	30.04	56.475	37.86
3 6.5	17.607	39.62	17.259	29.46	17.599	28.02	56.589	38.02
3 16.4	17.770	39.13	17.433	28.49	17.794	25.91	56.734	37.92
3 26.4	17.966	38.95	17.639	27.33	18.028	23.73	56.913	37.55
4 5.4	18.193	39.14	17.875	26.00	18.297	21.54	57.123	36.89
4 15.3	18.447	39.66	18.138	24.53	18.598	19.37	57.362	35.96
4 25.3	18.727	40.55	18.428	22.91	18.930	17.25	57.630	34.76
5 5.3	19.025	41.78	18.737	21.21	19.286	15.26	57.920	33.31
5 15.3	19.336	43.30	19.061	19.47	19.660	13.42	58.226	31.66
5 25.2	19.656	45.09	19.394	17.71	20.047	11.77	58.545	29.83
6 4.2	19.973	47.08	19.727	16.01	20.435	10.38	58.865	27.89
6 14.2	20.282	49.21	20.054	14.40	20.818	9.26	59.182	25.90
6 24.2	20.575	51.45	20.367	12.91	21.187	8.46	59.487	23.89
7 4.1	20.843	53.70	20.655	11.62	21.529	7.98	59.770	21.94
7 14.1	21.081	55.93	20.915	10.52	21.839	7.83	60.028	20.08
7 24.1	21.283	58.10	21.139	9.65	22.109	8.03	60.252	18.34
8 3.0	21.444	60.12	21.320	9.02	22.329	8.54	60.437	16.80
8 13.0	21.563	61.99	21.458	8.63	22.500	9.33	60.582	15.43
8 23.0	21.637	63.68	21.549	8.47	22.614	10.38	60.682	14.29
9 2.0	21.666	65.13	21.594	8.53	22.672	11.62	60.739	13.37
9 11.9	21.656	66.37	21.596	8.77	22.679	13.00	60.755	12.67
9 21.9	21.608	67.37	21.557	9.18	22.634	14.46	60.731	12.19
10 1.9	21.529	68.11	21.484	9.70	22.546	15.90	60.675	11.92
10 11.9	21.425	68.62	21.384	10.29	22.423	17.29	60.593	11.83
10 21.8	21.302	68.88	21.264	10.94	22.272	18.55	60.488	11.92
10 31.8	21.171	68.90	21.134	11.58	22.106	19.61	60.372	12.16
11 10.8	21.036	68.70	21.001	12.20	21.933	20.44	60.250	12.53
11 20.7	20.905	68.26	20.872	12.77	21.762	21.00	60.129	13.02
11 30.7	20.786	67.63	20.757	13.26	21.606	21.24	60.016	13.60
12 10.7	20.682	66.81	20.658	13.67	21.467	21.19	59.914	14.26
12 20.7	20.597	65.80	20.581	13.98	21.355	20.82	59.829	14.99
12 30.6	20.536	64.67	20.530	14.17	21.274	20.15	59.765	15.74
12 40.6	20.499	63.44	20.504	14.25	21.225	19.21	59.722	16.50
Pos. Med.	20.421	61.25	20.082	10.58	20.644	11.83	59.404	17.40
Secδ tanδ	1.015	.176	1.040	-.287	1.256	-.761	1.000	-.004
Dob.Tran.	Ago 18		Ago 19		Ago 20		Ago 23	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	846		850		855		856	
EST.	δ^1 Gruis		η Aquarii		ζ Pegasi		β Gruis	
MAG.	3.97		4.02		3.40		2.11 Var.	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	22 30	-43 22	22 36	- 0 0	22 42	+10 56	22 44	-46 45
mes d	s	"	s	"	s	"	s	"
1 -4.3	36.807	58.36	30.960	1.29	35.273	63.55	.658	70.28
1 5.6	36.697	57.46	30.892	2.02	35.193	62.54	.523	69.34
1 15.6	36.619	56.22	30.842	2.74	35.131	61.44	.420	68.03
1 25.6	36.576	54.66	30.813	3.42	35.089	60.28	.351	66.36
2 4.6	36.572	52.81	30.810	4.01	35.072	59.15	.323	64.37
2 14.5	36.605	50.73	30.833	4.47	35.082	58.08	.335	62.13
2 24.5	36.679	48.44	30.884	4.75	35.122	57.14	.389	59.66
3 6.5	36.797	45.99	30.964	4.87	35.194	56.39	.489	57.02
3 16.5	36.956	43.44	31.081	4.77	35.301	55.85	.634	54.27
3 26.4	37.160	40.81	31.232	4.38	35.445	55.61	.826	51.43
4 5.4	37.406	38.17	31.418	3.71	35.626	55.69	1.065	48.60
4 15.4	37.691	35.57	31.636	2.78	35.841	56.10	1.347	45.81
4 25.3	38.016	33.04	31.886	1.56	36.090	56.86	1.673	43.11
5 5.3	38.373	30.68	32.163	.10	36.366	57.96	2.034	40.59
5 15.3	38.755	28.49	32.460	1.56	36.664	59.36	2.425	38.26
5 25.3	39.160	26.55	32.775	3.41	36.979	61.04	2.842	36.20
6 4.2	39.573	24.92	33.096	5.37	37.302	62.95	3.271	34.47
6 14.2	39.987	23.60	33.418	7.40	37.626	65.03	3.705	33.08
6 24.2	40.394	22.65	33.733	9.46	37.943	67.25	4.134	32.09
7 4.2	40.780	22.10	34.031	11.47	38.242	69.51	4.543	31.52
7 14.1	41.138	21.93	34.307	13.39	38.520	71.79	4.927	31.36
7 24.1	41.458	22.16	34.553	15.19	38.767	74.02	5.273	31.64
8 3.1	41.730	22.78	34.762	16.81	38.978	76.15	5.571	32.32
8 13.0	41.951	23.73	34.933	18.24	39.151	78.15	5.818	33.36
8 23.0	42.115	25.01	35.062	19.45	39.281	79.97	6.006	34.75
9 2.0	42.218	26.52	35.147	20.42	39.368	81.58	6.130	36.41
9 12.0	42.265	28.22	35.192	21.17	39.416	82.99	6.195	38.26
9 21.9	42.253	30.04	35.197	21.69	39.422	84.15	6.198	40.25
10 1.9	42.191	31.86	35.167	21.99	39.394	85.07	6.146	42.25
10 11.9	42.085	33.64	35.108	22.11	39.337	85.76	6.045	44.21
10 21.9	41.942	35.30	35.025	22.04	39.255	86.21	5.902	46.04
10 31.8	41.774	36.72	34.925	21.81	39.156	86.42	5.729	47.64
11 10.8	41.589	37.89	34.816	21.46	39.045	86.41	5.536	48.96
11 20.8	41.398	38.73	34.702	20.98	38.928	86.18	5.330	49.92
11 30.7	41.213	39.19	34.591	20.43	38.812	85.75	5.128	50.48
12 10.7	41.039	39.29	34.486	19.80	38.701	85.14	4.933	50.65
12 20.7	40.884	38.99	34.393	19.10	38.599	84.35	4.755	50.37
12 30.7	40.757	38.30	34.315	18.40	38.511	83.43	4.603	49.67
12 40.6	40.657	37.26	34.254	17.68	38.437	82.39	4.478	48.58
Pos. Med.	39.893	29.14	33.805	15.35	38.110	76.56	3.625	39.98
Secδ tanδ	1.376	-.945	1.000	.000	1.019	.194	1.460	-1.063
Dob.Tran.	Ago 29		Ago 31		Sep 1		Sep 2	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	857		860		862		864	
EST.	η Pegasi		ε Gruis		μ Pegasi		λ Aquarii	
MAG.	2.94		3.49		3.48		3.74	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m	° ′	h m	° ′	h m	° ′	h m	° ′
	22 44	+30 20	22 49	-51 11	22 51	+24 43	22 53	- 7 27
mes d	s	"	s	"	s	"	s	"
1 -4.3	3.494	34.08	54.781	64.99	5.545	25.84	47.605	33.69
1 5.7	3.376	32.71	54.619	63.93	5.439	24.59	47.529	34.18
1 15.6	3.278	31.08	54.491	62.47	5.350	23.15	47.470	34.58
1 25.6	3.203	29.24	54.400	60.62	5.282	21.51	47.430	34.89
2 4.6	3.158	27.28	54.354	58.43	5.242	19.81	47.414	35.04
2 14.5	3.145	25.28	54.351	55.99	5.230	18.08	47.423	35.04
2 24.5	3.168	23.31	54.395	53.29	5.251	16.40	47.463	34.85
3 6.5	3.232	21.50	54.491	50.44	5.311	14.89	47.519	34.54
3 16.5	3.337	19.91	54.634	47.48	5.408	13.59	47.625	33.89
3 26.4	3.486	18.60	54.830	44.45	5.547	12.57	47.762	33.04
4 5.4	3.678	17.69	55.077	41.44	5.727	11.92	47.934	31.95
4 15.4	3.908	17.17	55.370	38.50	5.946	11.64	48.139	30.64
4 25.4	4.178	17.11	55.712	35.68	6.201	11.79	48.379	29.11
5 5.3	4.478	17.52	56.093	33.06	6.488	12.37	48.648	27.40
5 15.3	4.801	18.36	56.507	30.67	6.798	13.34	48.940	25.55
5 25.3	5.143	19.65	56.950	28.58	7.128	14.72	49.253	23.58
6 4.2	5.491	21.34	57.407	26.85	7.466	16.44	49.576	21.57
6 14.2	5.838	23.35	57.871	25.49	7.804	18.46	49.903	19.55
6 24.2	6.177	25.69	58.331	24.57	8.136	20.75	50.226	17.58
7 4.2	6.494	28.24	58.771	24.09	8.449	23.22	50.535	15.73
7 14.1	6.786	30.95	59.186	24.04	8.739	25.80	50.824	14.01
7 24.1	7.044	33.78	59.561	24.46	8.998	28.47	51.086	12.48
8 3.1	7.261	36.63	59.885	25.30	9.219	31.12	51.313	11.18
8 13.1	7.438	39.46	60.156	26.52	9.400	33.73	51.504	10.11
8 23.0	7.567	42.22	60.362	28.10	9.537	36.24	51.652	9.29
9 2.0	7.650	44.83	60.501	29.95	9.629	38.58	51.757	8.73
9 12.0	7.689	47.27	60.575	32.00	9.680	40.75	51.822	8.41
9 21.9	7.684	49.49	60.580	34.18	9.688	42.70	51.845	8.31
10 1.9	7.641	51.43	60.525	36.37	9.659	44.38	51.831	8.42
10 11.9	7.566	53.11	60.416	38.50	9.599	45.80	51.787	8.69
10 21.9	7.462	54.46	60.258	40.48	9.511	46.92	51.716	9.11
10 31.8	7.338	55.47	60.067	42.19	9.403	47.73	51.627	9.63
11 10.8	7.200	56.13	59.850	43.59	9.281	48.24	51.524	10.21
11 20.8	7.051	56.41	59.618	44.61	9.149	48.40	51.414	10.84
11 30.8	6.902	56.32	59.387	45.19	9.016	48.25	51.305	11.46
12 10.7	6.755	55.87	59.163	45.33	8.884	47.78	51.200	12.08
12 20.7	6.615	55.03	58.955	44.99	8.759	46.98	51.102	12.67
12 30.7	6.490	53.88	58.774	44.19	8.646	45.92	51.019	13.19
12 40.6	6.380	52.42	58.622	42.97	8.547	44.61	50.949	13.64
Pos. Med.	6.433	40.95	57.725	33.68	8.419	34.26	50.337	14.59
Secδ tanδ	1.159	.585	1.596	-1.243	1.101	.461	1.009	-.131
Dob.Tran.	Sep 2		Sep 3		Sep 3		Sep 4	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	866		867		869		871	
EST.	δ Aquarii		α Piscis Austrini (Fomalhaut)		ο Andromedae		α Pegasi	
MAG.	3.27		1.16		3.62		2.49	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "
	22 55	-15 41	22 58	-29 29	23 2	+42 26	23 5	+15 19
mes d								
1 -4.3	50.976	65.00	53.938	75.94	57.448	66.60	53.255	44.40
1 5.7	50.896	65.24	53.843	75.72	57.277	65.32	53.160	43.39
1 15.6	50.835	65.32	53.768	75.23	57.124	63.67	53.079	42.26
1 25.6	50.793	65.22	53.716	74.45	56.995	61.69	53.015	41.02
2 4.6	50.776	64.93	53.693	73.41	56.900	59.48	52.975	39.77
2 14.6	50.785	64.45	53.698	72.13	56.841	57.14	52.959	38.55
2 24.5	50.822	63.80	53.734	70.61	56.826	54.73	52.973	37.40
3 6.5	50.888	62.90	53.805	68.87	56.860	52.40	53.021	36.44
3 16.5	50.989	61.77	53.912	66.94	56.944	50.24	53.103	35.67
3 26.4	51.127	60.43	54.059	64.85	57.081	48.33	53.224	35.16
4 5.4	51.301	58.90	54.244	62.64	57.271	46.78	53.385	34.98
4 15.4	51.509	57.20	54.466	60.34	57.509	45.64	53.583	35.13
4 25.4	51.753	55.34	54.727	57.99	57.795	44.96	53.819	35.64
5 5.3	52.026	53.37	55.019	55.65	58.118	44.80	54.085	36.52
5 15.3	52.324	51.34	55.339	53.37	58.472	45.12	54.377	37.73
5 25.3	52.643	49.27	55.681	51.18	58.849	45.96	54.691	39.26
6 4.3	52.973	47.24	56.037	49.17	59.236	47.29	55.016	41.06
6 14.2	53.308	45.28	56.399	47.36	59.625	49.04	55.345	43.08
6 24.2	53.640	43.45	56.758	45.81	60.006	51.20	55.671	45.28
7 4.2	53.958	41.81	57.104	44.57	60.365	53.70	55.982	47.58
7 14.1	54.257	40.38	57.430	43.64	60.698	56.45	56.274	49.94
7 24.1	54.528	39.19	57.727	43.05	60.996	59.43	56.538	52.31
8 3.1	54.764	38.29	57.986	42.83	61.249	62.54	56.768	54.61
8 13.1	54.962	37.66	58.205	42.93	61.458	65.71	56.962	56.81
8 23.0	55.118	37.31	58.377	43.37	61.616	68.90	57.114	58.88
9 2.0	55.228	37.24	58.499	44.10	61.722	72.01	57.224	60.75
9 12.0	55.297	37.41	58.575	45.07	61.779	75.01	57.294	62.43
9 22.0	55.322	37.81	58.602	46.26	61.786	77.84	57.323	63.88
10 1.9	55.309	38.38	58.585	47.56	61.750	80.42	57.316	65.08
10 11.9	55.264	39.08	58.532	48.93	61.674	82.75	57.279	66.05
10 21.9	55.190	39.88	58.445	50.31	61.562	84.74	57.213	66.75
10 31.8	55.097	40.70	58.336	51.60	61.422	86.37	57.128	67.21
11 10.8	54.990	41.53	58.209	52.78	61.261	87.61	57.027	67.43
11 20.8	54.874	42.32	58.073	53.78	61.082	88.41	56.916	67.38
11 30.8	54.760	43.02	57.937	54.54	60.897	88.77	56.803	67.12
12 10.7	54.649	43.62	57.804	55.05	60.706	88.68	56.688	66.62
12 20.7	54.546	44.09	57.682	55.29	60.518	88.10	56.578	65.91
12 30.7	54.459	44.41	57.576	55.23	60.341	87.11	56.478	65.03
12 40.7	54.386	44.58	57.487	54.90	60.177	85.70	56.389	63.98
Pos. Med.	53.688	43.22	56.658	49.95	60.462	69.58	56.002	55.56
Secδ tanδ	1.039	-.281	1.149	-.566	1.355	.915	1.037	.274
Dob.Tran.	Sep 5		Sep 5		Sep 6		Sep 7	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	1605		878		879		1612	
EST.	ι Gruis		γ Piscium		γ Sculptoris		98 Aquarii	
MAG.	3.90		3.69		4.41		3.97	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "
	23 11	-45 6	23 18	+ 3 24	23 20	-32 24	23 24	-19 58
mes d								
1 -4.3	38.224	98.94	20.423	24.52	2.758	40.07	9.615	42.18
1 5.7	38.074	98.28	20.337	23.78	2.644	39.87	9.519	42.37
1 15.6	37.948	97.22	20.262	23.03	2.546	39.37	9.436	42.34
1 25.6	37.850	95.77	20.201	22.29	2.469	38.54	9.369	42.10
2 4.6	37.787	93.97	20.162	21.61	2.419	37.40	9.325	41.61
2 14.6	37.760	91.88	20.145	21.04	2.395	36.00	9.304	40.90
2 24.5	37.771	89.51	20.155	20.60	2.403	34.33	9.310	39.96
3 6.5	37.828	86.92	20.196	20.38	2.447	32.42	9.348	38.79
3 16.5	37.926	84.18	20.266	20.33	2.526	30.31	9.418	37.39
3 26.5	38.073	81.31	20.377	20.51	2.647	28.02	9.526	35.76
4 5.4	38.268	78.40	20.527	21.00	2.809	25.60	9.673	33.95
4 15.4	38.507	75.48	20.711	21.77	3.011	23.10	9.857	31.98
4 25.4	38.793	72.61	20.933	22.83	3.255	20.55	10.081	29.87
5 5.3	39.119	69.88	21.187	24.16	3.534	18.01	10.338	27.68
5 15.3	39.480	67.31	21.468	25.72	3.845	15.54	10.624	25.44
5 25.3	39.870	64.97	21.772	27.51	4.183	13.19	10.936	23.20
6 4.3	40.280	62.94	22.090	29.45	4.539	11.02	11.265	21.03
6 14.2	40.699	61.24	22.415	31.51	4.906	9.08	11.604	18.97
6 24.2	41.121	59.91	22.740	33.63	5.274	7.41	11.945	17.08
7 4.2	41.529	59.02	23.054	35.75	5.633	6.08	12.276	15.40
7 14.2	41.919	58.53	23.351	37.83	5.976	5.08	12.593	13.97
7 24.1	42.277	58.50	23.624	39.81	6.293	4.46	12.887	12.84
8 3.1	42.593	58.90	23.864	41.64	6.574	4.24	13.148	12.02
8 13.1	42.864	59.69	24.071	43.31	6.818	4.37	13.374	11.50
8 23.0	43.079	60.88	24.239	44.76	7.015	4.87	13.559	11.32
9 2.0	43.236	62.38	24.365	45.99	7.163	5.70	13.700	11.44
9 12.0	43.336	64.13	24.452	46.99	7.263	6.79	13.798	11.83
9 22.0	43.376	66.08	24.498	47.75	7.314	8.12	13.852	12.47
10 1.9	43.360	68.11	24.509	48.27	7.319	9.60	13.866	13.30
10 11.9	43.296	70.15	24.489	48.60	7.284	11.16	13.845	14.27
10 21.9	43.186	72.11	24.440	48.71	7.212	12.74	13.791	15.34
10 31.9	43.043	73.89	24.371	48.64	7.112	14.24	13.714	16.42
11 10.8	42.874	75.43	24.285	48.42	6.992	15.61	13.618	17.48
11 20.8	42.688	76.66	24.189	48.05	6.856	16.79	13.509	18.47
11 30.8	42.497	77.51	24.088	47.57	6.716	17.71	13.395	19.32
12 10.7	42.307	77.97	23.986	46.99	6.575	18.36	13.279	20.03
12 20.7	42.125	77.99	23.886	46.33	6.439	18.70	13.167	20.56
12 30.7	41.962	77.58	23.795	45.63	6.316	18.70	13.065	20.87
12 40.7	41.819	76.76	23.713	44.89	6.207	18.38	12.973	20.98
Pos. Med.	40.826	68.68	23.070	39.60	5.259	13.18	12.104	19.19
Secδ tanδ	1.417	-1.004	1.002	.060	1.184	-.635	1.064	-.363
Dob.Tran.	Sep 9		Sep 10		Sep 11		Sep 12	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

NUM.	1614		886		892		1619	
EST.	ϑ Piscium		β Sculptoris		ι Piscium		χ Andromedae	
MAG.	4.28		4.37		4.13		4.14	
UT	AR.	DEC.	AR.	DEC.	AR.	DEC.	AR.	DEC.
	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "	h m s	° ′ "
	23 29	+ 6 30	23 34	-37 41	23 41	+ 5 44	23 41	+44 27
mes d								
1 -4.3	7.122	16.01	11.157	46.25	7.116	60.01	31.518	49.92
1 5.7	7.029	15.23	11.020	46.00	7.021	59.26	31.326	49.04
1 15.7	6.945	14.42	10.899	45.38	6.933	58.49	31.144	47.76
1 25.6	6.874	13.58	10.798	44.39	6.857	57.70	30.977	46.10
2 4.6	6.823	12.79	10.724	43.05	6.799	56.96	30.839	44.15
2 14.6	6.793	12.08	10.678	41.41	6.760	56.30	30.732	41.99
2 24.6	6.789	11.48	10.663	39.47	6.747	55.76	30.666	39.69
3 6.5	6.816	11.07	10.687	37.28	6.764	55.40	30.648	37.39
3 16.5	6.874	10.86	10.749	34.89	6.812	55.26	30.681	35.17
3 26.5	6.971	10.85	10.854	32.30	6.897	55.28	30.771	33.11
4 5.4	7.109	11.15	11.005	29.61	7.025	55.61	30.918	31.35
4 15.4	7.283	11.74	11.197	26.84	7.189	56.22	31.119	29.93
4 25.4	7.495	12.64	11.435	24.04	7.394	57.14	31.375	28.93
5 5.4	7.742	13.82	11.714	21.30	7.633	58.33	31.678	28.40
5 15.3	8.016	15.27	12.027	18.64	7.902	59.78	32.018	28.33
5 25.3	8.316	16.96	12.372	16.14	8.197	61.47	32.392	28.77
6 4.3	8.631	18.85	12.738	13.87	8.510	63.34	32.785	29.70
6 14.2	8.954	20.87	13.118	11.85	8.833	65.35	33.188	31.07
6 24.2	9.279	23.01	13.504	10.16	9.160	67.46	33.591	32.88
7 4.2	9.595	25.16	13.883	8.84	9.479	69.59	33.982	35.06
7 14.2	9.895	27.31	14.248	7.89	9.785	71.71	34.352	37.54
7 24.1	10.172	29.39	14.589	7.37	10.069	73.76	34.693	40.30
8 3.1	10.419	31.35	14.896	7.27	10.324	75.68	34.994	43.24
8 13.1	10.632	33.16	15.164	7.57	10.548	77.45	35.255	46.31
8 23.1	10.807	34.79	15.386	8.27	10.734	79.03	35.468	49.46
9 2.0	10.941	36.19	15.556	9.32	10.880	80.38	35.631	52.58
9 12.0	11.037	37.39	15.677	10.66	10.988	81.52	35.745	55.66
9 22.0	11.093	38.34	15.745	12.26	11.057	82.42	35.809	58.62
10 1.9	11.112	39.05	15.764	14.00	11.089	83.08	35.826	61.39
10 11.9	11.100	39.56	15.738	15.83	11.089	83.53	35.802	63.96
10 21.9	11.059	39.84	15.671	17.67	11.059	83.76	35.735	66.25
10 31.9	10.996	39.92	15.571	19.41	11.007	83.80	35.636	68.20
11 10.8	10.916	39.83	15.447	21.00	10.936	83.68	35.508	69.82
11 20.8	10.822	39.57	15.302	22.36	10.850	83.38	35.353	71.02
11 30.8	10.723	39.16	15.149	23.41	10.756	82.96	35.183	71.80
12 10.8	10.620	38.64	14.992	24.15	10.657	82.43	34.999	72.14
12 20.7	10.517	37.99	14.837	24.51	10.556	81.79	34.806	72.00
12 30.7	10.420	37.27	14.693	24.49	10.459	81.10	34.615	71.42
12 40.7	10.331	36.49	14.560	24.10	10.367	80.34	34.427	70.40
Pos. Med.	9.694	29.75	13.497	17.94	9.638	73.57	34.421	51.11
Secδ tanδ	1.006	.114	1.264	-.773	1.005	.101	1.401	.981
Dob.Tran.	Sep 13		Sep 14		Sep 16		Sep 16	

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS VOLVER AL INICIO DE LA LISTA DE ESTRELLAS

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

923 σ Octantis Mag. 5.47 Tipo esp. F0

Día	ENERO		FEBRERO		MARZO		ABRIL		MAYO		JUNIO	
	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
	h m	- ° ′	h m	- ° ′	h m	- ° ′	h m	- ° ′	h m	- ° ′	h m	- ° ′
	21 26	-88 51	21 26	-88 51	21 26	-88 51	21 27	-88 51	21 27	-88 51	21 28	-88 51
	s	″	s	″	s	″	s	″	s	″	s	″
1	41.11	53.51	33.92	42.56	43.00	32.14	7.62	22.30	40.34	16.28	16.55	14.69
2	40.47	53.17	34.07	42.16	43.67	31.76	8.67	22.07	41.45	16.19	17.53	14.70
3	39.91	52.82	34.28	41.77	44.38	31.41	9.69	21.85	42.50	16.10	18.55	14.69
4	39.42	52.46	34.52	41.40	45.11	31.07	10.65	21.64	43.52	15.99	19.65	14.67
5	39.01	52.11	34.78	41.04	45.83	30.75	11.56	21.43	44.52	15.87	20.84	14.66
6	38.67	51.76	35.02	40.70	46.53	30.45	12.43	21.21	45.56	15.72	22.12	14.66
7	38.38	51.43	35.24	40.37	47.18	30.15	13.28	20.96	46.66	15.57	23.44	14.70
8	38.11	51.11	35.42	40.05	47.79	29.85	14.14	20.70	47.84	15.41	24.77	14.77
9	37.84	50.81	35.55	39.71	48.35	29.55	15.05	20.43	49.12	15.26	26.05	14.87
10	37.56	50.51	35.65	39.37	48.89	29.23	16.03	20.14	50.48	15.13	27.24	14.99
11	37.25	50.22	35.73	39.01	49.42	28.89	17.11	19.86	51.87	15.04	28.33	15.11
12	36.90	49.93	35.81	38.62	49.98	28.53	18.29	19.59	53.26	14.97	29.33	15.23
13	36.50	49.63	35.94	38.22	50.60	28.16	19.54	19.34	54.59	14.94	30.26	15.34
14	36.07	49.31	36.15	37.79	51.31	27.78	20.83	19.12	55.84	14.92	31.16	15.43
15	35.63	48.97	36.47	37.36	52.12	27.39	22.10	18.93	57.00	14.90	32.08	15.50
16	35.21	48.60	36.90	36.93	53.04	27.03	23.31	18.77	58.08	14.87	33.04	15.56
17	34.85	48.20	37.44	36.52	54.04	26.69	24.43	18.62	59.11	14.83	34.05	15.62
18	34.59	47.79	38.04	36.14	55.05	26.38	25.47	18.46	60.14	14.77	35.12	15.70
19	34.45	47.37	38.64	35.79	56.04	26.10	26.45	18.29	61.20	14.69	36.24	15.78
20	34.44	46.96	39.19	35.46	56.95	25.84	27.40	18.10	62.31	14.61	37.38	15.89
21	34.50	46.57	39.65	35.14	57.78	25.58	28.36	17.89	63.49	14.53	38.53	16.02
22	34.60	46.22	40.03	34.82	58.53	25.31	29.38	17.67	64.74	14.46	39.65	16.18
23	34.67	45.89	40.35	34.48	59.23	25.02	30.47	17.45	66.03	14.41	40.73	16.35
24	34.67	45.57	40.65	34.11	59.94	24.71	31.64	17.24	67.34	14.39	41.75	16.54
25	34.58	45.25	40.98	33.73	60.69	24.38	32.86	17.04	68.65	14.39	42.70	16.74
26	34.43	44.92	41.37	33.33	61.50	24.05	34.13	16.86	69.94	14.42	43.58	16.93
27	34.24	44.57	41.84	32.92	62.40	23.72	35.42	16.71	71.18	14.46	44.40	17.12
28	34.05	44.19	42.38	32.52	63.37	23.39	36.70	16.58	72.37	14.51	45.17	17.29
29	33.91	43.79			64.39	23.09	37.96	16.46	73.50	14.56	45.92	17.45
30	33.84	43.38			65.45	22.80	39.18	16.37	74.56	14.62	46.68	17.58
31	33.84	42.97			66.54	22.54			75.57	14.66		

POSICIONES APARENTES AL PASO SUPERIOR POR GREENWICH

923 σ Octantis Mag. 5.47 Tipo esp. F0

Día	JULIO		AGOSTO		SEPTIEMBRE		OCTUBRE		NOVIEMBRE		DICIEMBRE	
	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
	h m s	- ° ′ ″	h m s	- ° ′ ″	h m s	- ° ′ ″	h m s	- ° ′ ″	h m s	- ° ′ ″	h m s	- ° ′ ″
	21 28	-88 51	21 29	-88 51	21 28	-88 51	21 28	-88 51	21 27	-88 52	21 27	-88 51
1	47.49	17.70	8.62	24.77	72.23	34.44	56.93	42.28	88.25	46.14	57.96	44.38
2	48.39	17.82	9.25	25.06	71.86	34.75	56.05	42.45	87.33	46.15	57.15	44.24
3	49.38	17.94	9.81	25.38	71.43	35.04	55.22	42.60	86.43	46.17	56.32	44.12
4	50.43	18.09	10.26	25.72	71.01	35.31	54.45	42.75	85.53	46.20	55.45	44.00
5	51.51	18.28	10.58	26.05	70.62	35.55	53.73	42.91	84.61	46.25	54.52	43.87
6	52.55	18.50	10.79	26.37	70.28	35.80	53.04	43.08	83.64	46.30	53.55	43.74
7	53.51	18.74	10.94	26.67	70.00	36.04	52.36	43.27	82.62	46.35	52.53	43.59
8	54.35	18.99	11.05	26.95	69.74	36.30	51.65	43.46	81.54	46.39	51.49	43.41
9	55.08	19.24	11.19	27.21	69.50	36.57	50.91	43.67	80.39	46.43	50.44	43.21
10	55.73	19.48	11.36	27.46	69.26	36.86	50.11	43.89	79.20	46.44	49.43	42.98
11	56.32	19.69	11.58	27.71	68.98	37.16	49.24	44.10	77.98	46.42	48.48	42.73
12	56.92	19.89	11.84	27.97	68.65	37.48	48.30	44.31	76.77	46.38	47.62	42.47
13	57.54	20.08	12.13	28.25	68.25	37.80	47.28	44.50	75.58	46.31	46.86	42.19
14	58.20	20.26	12.43	28.54	67.77	38.12	46.22	44.67	74.47	46.22	46.20	41.93
15	58.92	20.45	12.96	29.18	67.22	38.43	45.13	44.81	73.43	46.12	45.61	41.69
16	59.68	20.65	13.15	29.52	66.59	38.73	44.05	44.93	72.49	46.02	45.04	41.46
17	60.46	20.87	13.26	29.87	65.92	39.01	42.99	45.02	71.62	45.93	44.43	41.26
18	61.26	21.11	13.29	30.22	65.22	39.26	42.00	45.10	70.79	45.86	43.76	41.07
19	62.03	21.37	13.24	30.57	64.52	39.50	41.08	45.17	69.95	45.80	43.01	40.87
20	62.76	21.65	13.13	30.90	63.85	39.71	40.24	45.24	69.07	45.76	42.18	40.65
21	63.43	21.94	12.97	31.21	63.24	39.91	39.45	45.33	68.10	45.73	41.31	40.40
22	64.03	22.24	12.80	31.50	62.71	40.11	38.67	45.44	67.04	45.68	40.44	40.13
23	64.54	22.54	12.63	31.77	62.24	40.31	37.87	45.56	65.90	45.61	39.62	39.83
24	64.99	22.84	12.50	32.02	61.82	40.54	36.99	45.70	64.73	45.51	38.87	39.51
25	65.38	23.12	12.44	32.27	61.38	40.79	36.01	45.84	63.56	45.38	38.21	39.18
26	65.73	23.38	12.46	32.52	60.89	41.06	34.93	45.96	62.45	45.22	37.65	38.86
27	66.07	23.63	12.54	32.79	60.29	41.34	33.77	46.05	61.41	45.04	37.15	38.54
28	66.44	23.86	12.63	33.08	59.57	41.61	32.57	46.11	60.46	44.86	36.70	38.25
29	66.87	24.07	12.69	33.41	58.74	41.86	31.40	46.14	59.58	44.69	36.26	37.97
30	67.39	24.29	12.66	33.75	57.85	42.09	30.28	46.15	58.76	44.52	35.81	37.70
31	67.98	24.52	12.51	34.10			29.23	46.14			35.33	37.44

VOLVER AL INDICE

VOLVER A LISTA DE ESTRELLAS

VOLVER AL EJEMPLO 1 VOLVER AL EJEMPLO 3

Tabla 1. CONVERSIÓN DE TIEMPO SOLAR MEDIO A TIEMPO SIDÉREO MEDIO (corrección aditiva)

TM	Correc.	TM	Correc.	TM	Correc.	TM	Correc.	TM	Correc.
h	m s	m	s	m	s	s	s	s	s
1	0 09 856	1	0 164	31	5 093	1	0 003	31	0 085
2	0 19.713	2	0.329	32	5.257	2	0.005	32	0.088
3	0 29.569	3	0.493	33	5.421	3	0.008	33	0.090
4	0 39.426	4	0.657	34	5.585	4	0.011	34	0.093
5	0 49.282	5	0.821	35	5.750	5	0.014	35	0.096
6	0 59.139	6	0.986	36	5.914	6	0.016	36	0.099
7	1 08.995	7	1.150	37	6.078	7	0.019	37	0.101
8	1 18.852	8	1.314	38	6.242	8	0.022	38	0.104
9	1 28.708	9	1.478	39	6.407	9	0.025	39	0.107
10	1 38.565	10	1.643	40	6.571	10	0.027	40	0.110
11	1 48.421	11	1.807	41	6.735	11	0.030	41	0.112
12	1 58.278	12	1.971	42	6.900	12	0.033	42	0.115
13	2 08.134	13	2.136	43	7.064	13	0.036	43	0.118
14	2 17.991	14	2.300	44	7.228	14	0.038	44	0.120
15	2 27.847	15	2.464	45	7.392	15	0.041	45	0.123
16	2 37.704	16	2.628	46	7.557	16	0.044	46	0.126
17	2 47.560	17	2.793	47	7.721	17	0.047	47	0.129
18	2 57.417	18	2.957	48	7.885	18	0.049	48	0.131
19	3 07.273	19	3.121	49	8.049	19	0.052	49	0.134
20	3 17.129	20	3.285	50	8.214	20	0.055	50	0.137
21	3 26.986	21	3.450	51	8.378	21	0.057	51	0.140
22	3 36.842	22	3.614	52	8.542	22	0.060	52	0.142
23	3 46.699	23	3.778	53	8.707	23	0.063	53	0.145
24	3 56.555	24	3.943	54	8.871	24	0.066	54	0.148
		25	4.107	55	9.035	25	0.068	55	0.151
		26	4.271	56	9.199	26	0.071	56	0.153
		27	4.435	57	9.364	27	0.074	57	0.156
		28	4.600	58	9.528	28	0.077	58	0.159
		29	4.764	59	9.692	29	0.079	59	0.162
		30	4.928	60	9.856	30	0.082	60	0.164

VOLVER AL INDICE

VOLVER AL EJEMPLO 2

Tabla 2. CONVERSIÓN DE TIEMPO SIDÉREO MEDIO
A TIEMPO SOLAR MEDIO
(corrección sustractiva)

TS	Correc.	TS	Correc.	TS	Correc.	TS	Correc.	TS	Correc.
h	m s	m	s	m	s	s	s	s	s
1	0 09 830	1	0 164	31	5 079	1	0 003	31	0 085
2	0 19.659	2	0.328	32	5.242	2	0.005	32	0.087
3	0 29.489	3	0.491	33	5.406	3	0.008	33	0.090
4	0 39.318	4	0.655	34	5.570	4	0.011	34	0.093
5	0 49.148	5	0.819	35	5.734	5	0.014	35	0.096
6	0 58.977	6	0.983	36	5.898	6	0.016	36	0.098
7	1 08.807	7	1.147	37	6.062	7	0.019	37	0.101
8	1 18.636	8	1.311	38	6.225	8	0.022	38	0.104
9	1 28.466	9	1.474	39	6.389	9	0.025	39	0.106
10	1 38.296	10	1.638	40	6.553	10	0.027	40	0.109
11	1 48.125	11	1.802	41	6.717	11	0.030	41	0.112
12	1 57.955	12	1.966	42	6.881	12	0.033	42	0.115
13	2 07.784	13	2.130	43	7.045	13	0.035	43	0.117
14	2 17.614	14	2.294	44	7.208	14	0.038	44	0.120
15	2 27.443	15	2.457	45	7.372	15	0.041	45	0.123
16	2 37.273	16	2.621	46	7.536	16	0.044	46	0.126
17	2 47.103	17	2.785	47	7.700	17	0.046	47	0.128
18	2 56.932	18	2.949	48	7.864	18	0.049	48	0.131
19	3 06.762	19	3.113	49	8.027	19	0.052	49	0.134
20	3 16.591	20	3.277	50	8.191	20	0.055	50	0.137
21	3 26.421	21	3.440	51	8.355	21	0.057	51	0.139
22	3 36.250	22	3.604	52	8.519	22	0.060	52	0.142
23	3 46.080	23	3.768	53	8.683	23	0.063	53	0.145
24	3 55.909	24	3.932	54	8.847	24	0.066	54	0.147
		25	4.096	55	9.010	25	0.068	55	0.150
		26	4.259	56	9.174	26	0.071	56	0.153
		27	4.423	57	9.338	27	0.074	57	0.156
		28	4.587	58	9.502	28	0.076	58	0.158
		29	4.751	59	9.666	29	0.079	59	0.161
		30	4.915	60	9.830	30	0.082	60	0.164

VOLVER AL INDICE

Tabla3 CONVERSIÓN DE MAGNITUDES EN EL SISTEMA SEXAGESIMAL AL SISTEMA HORARIO

o	h	m	o	h	m	o	h	m	o	h	m	o	h	m	o	h	m	o	h	m
0	0	00	60	4	00	120	8	00	180	12	00	240	16	00	300	20	00	360	24	00
1	0	04	61	4	04	121	8	04	181	12	04	241	16	04	301	20	04			
2	0	08	62	4	08	122	8	08	182	12	08	242	16	08	302	20	08			
3	0	12	63	4	12	123	8	12	183	12	12	243	16	12	303	20	12			
4	0	16	64	4	16	124	8	16	184	12	16	244	16	16	304	20	16			
5	0	20	65	4	20	125	8	20	185	12	20	245	16	20	305	20	20			
6	0	24	66	4	24	126	8	24	186	12	24	246	16	24	306	20	24			
7	0	28	67	4	28	127	8	28	187	12	28	247	16	28	307	20	28			
8	0	32	68	4	32	128	8	32	188	12	32	248	16	32	308	20	32			
9	0	36	69	4	36	129	8	36	189	12	36	249	16	36	309	20	36			
10	0	40	70	4	40	130	8	40	190	12	40	250	16	40	310	20	40			
11	0	44	71	4	44	131	8	44	191	12	44	251	16	44	311	20	44			
12	0	48	72	4	48	132	8	48	192	12	48	252	16	48	312	20	48			
13	0	52	73	4	52	133	8	52	193	12	52	253	16	52	313	20	52			
14	0	56	74	4	56	134	8	56	194	12	56	254	16	56	314	20	56			
15	1	00	75	5	00	135	9	00	195	13	00	255	17	00	315	21	00			
16	1	04	76	5	04	136	9	04	196	13	04	256	17	04	316	21	04			
17	1	08	77	5	08	137	9	08	197	13	08	257	17	08	317	21	08			
18	1	12	78	5	12	138	9	12	198	13	12	258	17	12	318	21	12			
19	1	16	79	5	16	139	9	16	199	13	16	259	17	16	319	21	16			
20	1	20	80	5	20	140	9	20	200	13	20	260	17	20	320	21	20			
21	1	24	81	5	24	141	9	24	201	13	24	261	17	24	321	21	24			
22	1	28	82	5	28	142	9	28	202	13	28	262	17	28	322	21	28			
23	1	32	83	5	32	143	9	32	203	13	32	263	17	32	323	21	32			
24	1	36	84	5	36	144	9	36	204	13	36	264	17	36	324	21	36			
25	1	40	85	5	40	145	9	40	205	13	40	265	17	40	325	21	40			
26	1	44	86	5	44	146	9	44	206	13	44	266	17	44	326	21	44			
27	1	48	87	5	48	147	9	48	207	13	48	267	17	48	327	21	48			
28	1	52	88	5	52	148	9	52	208	13	52	268	17	52	328	21	52			
29	1	56	89	5	56	149	9	56	209	13	56	269	17	56	329	21	56			
30	2	00	90	6	00	150	10	00	210	14	00	270	18	00	330	22	00			
31	2	04	91	6	04	151	10	04	211	14	04	271	18	04	331	22	04			
32	2	08	92	6	08	152	10	08	212	14	08	272	18	08	332	22	08			
33	2	12	93	6	12	153	10	12	213	14	12	273	18	12	333	22	12			
34	2	16	94	6	16	154	10	16	214	14	16	274	18	16	334	22	16			
35	2	20	95	6	20	155	10	20	215	14	20	275	18	20	335	22	20			
36	2	24	96	6	24	156	10	24	216	14	24	276	18	24	336	22	24			
37	2	28	97	6	28	157	10	28	217	14	28	277	18	28	337	22	28			
38	2	32	98	6	32	158	10	32	218	14	32	278	18	32	338	22	32			
39	2	36	99	6	36	159	10	36	219	14	36	279	18	36	339	22	36			
40	2	40	100	6	40	160	10	40	220	14	40	280	18	40	340	22	40			
41	2	44	101	6	44	161	10	44	221	14	44	281	18	44	341	22	44			
42	2	48	102	6	48	162	10	48	222	14	48	282	18	48	342	22	48			
43	2	52	103	6	52	163	10	52	223	14	52	283	18	52	343	22	52			
44	2	56	104	6	56	164	10	56	224	14	56	284	18	56	344	22	56			
45	3	00	105	7	00	165	11	00	225	15	00	285	19	00	345	23	00			
46	3	04	106	7	04	166	11	04	226	15	04	286	19	04	346	23	04			
47	3	08	107	7	08	167	11	08	227	15	08	287	19	08	347	23	08			
48	3	12	108	7	12	168	11	12	228	15	12	288	19	12	348	23	12			
49	3	16	109	7	16	169	11	16	229	15	16	289	19	16	349	23	16			
50	3	20	110	7	20	170	11	20	230	15	20	290	19	20	350	23	20			
51	3	24	111	7	24	171	11	24	231	15	24	291	19	24	351	23	24			
52	3	28	112	7	28	172	11	28	232	15	28	292	19	28	352	23	28			
53	3	32	113	7	32	173	11	32	233	15	32	293	19	32	353	23	32			
54	3	36	114	7	36	174	11	36	234	15	36	294	19	36	354	23	36			
55	3	40	115	7	40	175	11	40	235	15	40	295	19	40	355	23	40			
56	3	44	116	7	44	176	11	44	236	15	44	296	19	44	356	23	44			
57	3	48	117	7	48	177	11	48	237	15	48	297	19	48	357	23	48			
58	3	52	118	7	52	178	11	52	238	15	52	298	19	52	358	23	52			
59	3	56	119	7	56	179	11	56	239	15	56	299	19	56	359	23	56			
60	4	00	120	8	00	180	12	00	240	16	00	300	20	00	360	24	00			

'	m	s
0	0	00
1	0	04
2	0	08
3	0	12
4	0	16
5	0	20
6	0	24
7	0	28
8	0	32
9	0	36
10	0	40
11	0	44
12	0	48
13	0	52
14	0	56
15	1	00
16	1	04
17	1	08
18	1	12
19	1	16
20	1	20
21	1	24
22	1	28
23	1	32
24	1	36
25	1	40
26	1	44
27	1	48
28	1	52
29	1	56
30	2	00
31	2	04
32	2	08
33	2	12
34	2	16
35	2	20
36	2	24
37	2	28
38	2	32
39	2	36
40	2	40
41	2	44
42	2	48
43	2	52
44	2	56
45	3	00
46	3	04
47	3	08
48	3	12
49	3	16
50	3	20
51	3	24
52	3	28
53	3	32
54	3	36
55	3	40
56	3	44
57	3	48
58	3	52
59	3	56
60	4	00

"	s
0	0.00
1	0.07
2	0.13
3	0.20
4	0.27
5	0.33
6	0.40
7	0.47
8	0.53
9	0.60
10	0.67
11	0.73
12	0.80
13	0.87
14	0.93
15	1.00
16	1.07
17	1.13
18	1.20
19	1.27
20	1.33
21	1.40
22	1.47
23	1.53
24	1.60
25	1.67
26	1.73
27	1.80
28	1.87
29	1.93
30	2.00
31	2.07
32	2.13
33	2.20
34	2.27
35	2.33
36	2.40
37	2.47
38	2.53
39	2.60
40	2.67
41	2.73
42	2.80
43	2.87
44	2.93
45	3.00
46	3.07
47	3.13
48	3.20
49	3.27
50	3.33
51	3.40
52	3.47
53	3.53
54	3.60
55	3.67
56	3.73
57	3.80
58	3.87
59	3.93
60	4.00

VOLVER AL INDICE

VOLVER AL EJEMPLO 3

Tabla 4

CONVERSIÓN DE MAGNITUDES EN EL SISTEMA HORARIO AL SISTEMA SEXAGESIMAL

Horas		Minutos		Segundos		Centésimos de segundo			
h	°	m	° '	s	' "	s	"	s	"
0	0	0	0 00	0	0 00	0.00	0.00	0.50	7.50
1	15	1	0 15	1	0 15	0.01	0.15	0.51	7.65
2	30	2	0 30	2	0 30	0.02	0.30	0.52	7.80
3	45	3	0 45	3	0 45	0.03	0.45	0.53	7.95
4	60	4	1 00	4	1 00	0.04	0.60	0.54	8.10
		5	1 15	5	1 15				
5	75	6	1 30	6	1 30	0.05	0.75	0.55	8.25
6	90	7	1 45	7	1 45	0.06	0.90	0.56	8.40
7	105	8	2 00	8	2 00	0.07	1.05	0.57	8.55
8	120	9	2 15	9	2 15	0.08	1.20	0.58	8.70
9	135					0.09	1.35	0.59	8.85
		10	2 30	10	2 30				
10	150	11	2 45	11	2 45	0.10	1.50	0.60	9.00
11	165	12	3 00	12	3 00	0.11	1.65	0.61	9.15
12	180	13	3 15	13	3 15	0.12	1.80	0.62	9.30
13	195	14	3 30	14	3 30	0.13	1.95	0.63	9.45
14	210	15	3 45	15	3 45	0.14	2.10	0.64	9.60
		16	4 00	16	4 00				
15	225	17	4 15	17	4 15	0.15	2.25	0.65	9.75
16	240	18	4 30	18	4 30	0.16	2.40	0.66	9.90
17	255	19	4 45	19	4 45	0.17	2.55	0.67	10.05
18	270					0.18	2.70	0.68	10.20
19	285	20	5 00	20	5 00	0.19	2.85	0.69	10.35
		21	5 15	21	5 15				
20	300	22	5 30	22	5 30	0.20	3.00	0.70	10.50
21	315	23	5 45	23	5 45	0.21	3.15	0.71	10.65
22	330	24	6 00	24	6 00	0.22	3.30	0.72	10.80
23	345	25	6 15	25	6 15	0.23	3.45	0.73	10.95
24	360	26	6 30	26	6 30	0.24	3.60	0.74	11.10
		27	6 45	27	6 45				
		28	7 00	28	7 00	0.25	3.75	0.75	11.25
		29	7 15	29	7 15	0.26	3.90	0.76	11.40
						0.27	4.05	0.77	11.55
		30	7 30	30	7 30	0.28	4.20	0.78	11.70
		31	7 45	31	7 45	0.29	4.35	0.79	11.85
		32	8 00	32	8 00				
		33	8 15	33	8 15	0.30	4.50	0.80	12.00
		34	8 30	34	8 30	0.31	4.65	0.81	12.15
		35	8 45	35	8 45	0.32	4.80	0.82	12.30
		36	9 00	36	9 00	0.33	4.95	0.83	12.45
		37	9 15	37	9 15	0.34	5.15	0.84	12.60
		38	9 30	38	9 30				
		39	9 45	39	9 45	0.35	5.25	0.85	12.75
						0.36	5.40	0.86	12.90
		40	10 00	40	10 00	0.37	5.55	0.87	13.05
		41	10 15	41	10 15	0.38	5.70	0.88	13.20
		42	10 30	42	10 30	0.39	5.85	0.89	13.35
		43	10 45	43	10 45				
		44	11 00	44	11 00	0.40	6.00	0.90	13.50
		45	11 15	45	11 15	0.41	6.15	0.91	13.65
		46	11 30	46	11 30	0.42	6.30	0.92	13.80
		47	11 45	47	11 45	0.43	6.45	0.93	13.95
		48	12 00	48	12 00	0.44	6.60	0.94	14.10
		49	12 15	49	12 15				
						0.45	6.75	0.95	14.25
		50	12 30	50	12 30	0.46	6.90	0.96	14.40
		51	12 45	51	12 45	0.47	7.05	0.97	14.55
		52	13 00	52	13 00	0.48	7.20	0.98	14.70
		53	13 15	53	13 15	0.49	7.35	0.99	14.85
		54	13 30	54	13 30				
		55	13 45	55	13 45	0.50	7.50	1.00	15.00
		56	14 00	56	14 00				
		57	14 15	57	14 15				
		58	14 30	58	14 30				
		59	14 45	59	14 45				
		60	15 00	60	15 00				

VOLVER AL INDICE

Tabla 5.TRANSFORMACIÓN DE HORAS, MINUTOS Y SEGUNDOS A FRACCIÓN DECIMAL DEL DÍA

	0^h	1^h	2^h	3^h	4^h	5^h	Segundos	
m	d	d	d	d	d	d	s	d
0	0.00000	0.04167	0.08333	0.12500	0.16667	0.20833	0	0.00000
1	.00069	.04236	.08403	.12569	.16736	.20903	1	.00001
2	.00139	.04306	.08472	.12639	.16806	.20972	2	.00002
3	.00208	.04375	.08542	.12708	.16875	.21042	3	.00003
4	.00278	.04444	.08611	.12778	.16944	.21111	4	.00005
5	0.00347	0.04514	0.08681	0.12847	0.17014	0.21181	5	0.00006
6	.00417	.04583	.08750	.12917	.17083	.21250	6	.00007
7	.00486	.04653	.08819	.12986	.17153	.21319	7	.00008
8	.00556	.04722	.08889	.13056	.17222	.21389	8	.00009
9	.00625	.04792	.08958	.13125	.17292	.21458	9	.00010
10	0.00694	0.04861	0.09028	0.13194	0.17361	0.21528	10	0.00012
11	.00764	.04931	.09097	.13264	.17431	.21597	11	.00013
12	.00833	.05000	.09167	.13333	.17500	.21667	12	.00014
13	.00903	.05069	.09236	.13403	.17569	.21736	13	.00015
14	.00972	.05139	.09306	.13472	.17639	.21806	14	.00016
15	0.01042	0.05208	0.09375	0.13542	0.17708	0.21875	15	0.00017
16	.01111	.05278	.09444	.13611	.17778	.21944	16	.00019
17	.01181	.05347	.09514	.13681	.17847	.22014	17	.00020
18	.01250	.05417	.09583	.13750	.17917	.22083	18	.00021
19	.01319	.05486	.09653	.13819	.17986	.22153	19	.00022
20	0.01389	0.05556	0.09722	0.13889	0.18056	0.22222	20	0.00023
21	.01458	.05625	.09792	.13958	.18125	.22292	21	.00024
22	.01528	.05694	.09861	.14028	.18194	.22361	22	.00025
23	.01597	.05764	.09931	.14097	.18264	.22431	23	.00027
24	.01667	.05833	.10000	.14167	.18333	.22500	24	.00028
25	0.01736	0.05903	0.10069	0.14236	0.18403	0.22569	25	0.00029
26	.01806	.05972	.10139	.14306	.18472	.22639	26	.00030
27	.01875	.06042	.10208	.14375	.18542	.22708	27	.00031
28	.01944	.06111	.10278	.14444	.18611	.22778	28	.00032
29	.02014	.06181	.10347	.14514	.18681	.22847	29	.00034
30	0.02083	0.06250	0.10417	0.14583	0.18750	0.22917	30	0.00035
31	.02153	.06319	.10486	.14653	.18819	.22986	31	.00036
32	.02222	.06389	.10556	.14722	.18889	.23056	32	.00037
33	.02292	.06458	.10625	.14792	.18958	.23125	33	.00038
34	.02361	.06528	.10694	.14861	.19028	.23194	34	.00039
35	0.02431	0.06597	0.10764	0.14931	0.19097	0.23264	35	0.00041
36	.02500	.06667	.10833	.15000	.19167	.23333	36	.00042
37	.02569	.06736	.10903	.15069	.19236	.23403	37	.00043
38	.02639	.06806	.10972	.15139	.19306	.23472	38	.00044
39	.02708	.06875	.11042	.15208	.19375	.23542	39	.00045
40	0.02778	0.06944	0.11111	0.15278	0.19444	0.23611	40	0.00046
41	.02847	.07014	.11181	.15347	.19514	.23681	41	.00047
42	.02917	.07083	.11250	.15417	.19583	.23750	42	.00049
43	.02986	.07153	.11319	.15486	.19653	.23819	43	.00050
44	.03056	.07222	.11389	.15556	.19722	.23889	44	.00051
45	0.03125	0.07292	0.11458	0.15625	0.19792	0.23958	45	0.00052
46	.03194	.07361	.11528	.15694	.19861	.24028	46	.00053
47	.03264	.07431	.11597	.15764	.19931	.24097	47	.00054
48	.03333	.07500	.11667	.15833	.20000	.24167	48	.00056
49	.03403	.07569	.11736	.15903	.20069	.24236	49	.00057
50	0.03472	0.07639	0.11806	0.15972	0.20139	0.24306	50	0.00058
51	.03542	.07708	.11875	.16042	.20208	.24375	51	.00059
52	.03611	.07778	.11944	.16111	.20278	.24444	52	.00060
53	.03681	.07847	.12014	.16181	.20347	.24514	53	.00061
54	.03750	.07917	.12083	.16250	.20417	.24583	54	.00062
55	0.03819	0.07986	0.12153	0.16319	0.20486	0.24653	55	0.00064
56	.03889	.08056	.12222	.16389	.20556	.24722	56	.00065
57	.03958	.08125	.12292	.16458	.20625	.24792	57	.00066
58	.04028	.08194	.12361	.16528	.20694	.24861	58	.00067
59	0.04097	0.08264	0.12431	0.16597	0.20764	0.24931	59	0.00068

Interv.	6^h	12^h	18^h	24^h
Frac.Día	0^d25	0^d50	0^d75	1^d00

VOLVER AL INDICE

Tabla 6. TRANSFORMACIÓN DE INTERVALOS DE TIEMPO EXPRESADOS EN FRACCIONES DECIMALES DE DÍA A UNIDADES HORARIAS

Intervalo	Unidades Horarias	Intervalo	Unidades Horarias	Intervalo	Unidades Horarias	Intervalo	Unidades Horarias	Intervalo	Un. Hor.
d	h m s	d	h m s	d	m s	d	m s	d	s
0 00	0 00 00	0 50	12 00 00	0 0000	0 00 00	0 0050	7 12 00	0 000 00	0 00
1	14 24	51	14 24	1	08.64	51	20.64		
2	28 48	52	28 48	2	17.28	52	29.28	. 1	0.86
3	43 12	53	43 12	3	25.92	53	37.92		
4	57 36	54	57 36	4	34.56	54	46.56	. 2	1.73
5	1 12 00	55	13 12 00	5	43.20	55	55.20		
6	26 24	56	26 24	6	51.84	56	8 03.84	. 3	2.59
7	40 48	57	40 48	7	1 00.48	57	12.48		
8	55 12	58	55 12	8	09.12	58	21.12	. 4	3.46
9	2 09 36	59	14 09 36	9	17.76	59	29.76		
								0.000 05	4.32
0.10	24 00	0.60	24 00	0.0010	26.40	0.0060	38.40		
11	38 24	61	38 24	11	35.04	61	47.04	. 6	5.18
12	52 48	62	52 48	12	43.68	62	55.68		
13	3 07 12	63	15 07 12	13	52.32	63	9 04.32	. 7	6.05
14	21 36	64	21 36	14	2 00.96	64	12.96		
15	36 00	65	36 00	15	09.60	65	21.60	. 8	6.91
16	50 24	66	50 24	16	18.24	66	30.24		
17	4 04 48	67	16 04 48	17	26.88	67	38.88	. 9	7.78
18	19 12	68	19 12	18	35.52	68	47.52		
19	33 36	69	33 36	19	44.16	69	56.16	0.000 10	8.64
0.20	48 00	0.70	16 48 00	0.0020	52.80	0.0070	10 04.80		
21	5 02 24	71	17 02 24	21	3 01.44	71	13.44		
22	16 48	72	16 48	22	10.08	72	22.08		
23	31 12	73	31 12	23	18.72	73	30.72		
24	45 36	74	45 36	24	27.36	74	39.36		
25	6 00 00	75	18 00 00	25	36.00	75	48.00		
26	14 24	76	14 24	26	44.64	76	56.64		
27	28 48	77	28 48	27	53.28	77	11 05.28		
28	43 12	78	43 12	28	4 01.92	78	13.92		
29	57 36	79	57 36	29	10.56	79	22.56		
0.30	7 12 00	0.80	19 12 00	0.0030	19.20	0.0080	31.20		
31	26 24	81	26 24	31	27.84	81	39.84		
32	40 48	82	40 48	32	36.48	82	48.48		
33	55 12	83	55 12	33	45.12	83	57.12		
34	8 09 36	84	20 09 36	34	53.76	84	12 05.76		
35	24 00	85	24 00	35	5 02.40	85	14.40		
36	38 24	86	38 24	36	11.04	86	23.04		
37	52 48	87	52 48	37	19.68	87	31.68		
38	9 07 12	88	21 07 12	38	28.32	88	40.32		
39	21 36	89	21 36	39	36.96	89	48.96		
0.40	36 00	0.90	36 00	0.0040	45.60	0.0090	57.60		
41	50 24	91	50 24	41	54.24	91	13 06.24		
42	10 04 48	92	22 04 48	42	6 02.88	92	14.88		
43	19 12	93	19 12	43	11.52	93	23.52		
44	33 36	94	33 36	44	20.16	94	31.16		
45	48 00	95	48 00	45	28.80	95	40.80		
46	11 02 24	96	23 02 24	46	37.44	96	49.44		
47	16 48	97	16 48	47	46.08	97	58.08		
48	31 12	98	31 12	48	54.72	98	14 06.72		
0.49	45 36	0.99	45 36	0.0049	7 03.36	099	15.36		

VOLVER AL INDICE

TABLAS DE REFRACCIÓN

Las tablas que se dan a continuación han sido tomadas del Almanaque Náutico de San Fernando (España), deducidas a su vez de las tablas de refracción de la Connaissance des Temps. La **Tabla 7** provee los valores de las correcciones M, N y P, a la lectura del barómetro H', para obtener la presión barométrica H, reducida a la temperatura del aire y corregida de la variación de la gravedad por la influencia de la latitud φ y de la altitud (dada en metros), conforme a la expresión:

$$H = H' [1 - 0.00264 \cos 2\varphi - 0.000\,000\,196\, a - 0.000\,163\, (t' - t)]$$

En la que t y t' son las temperaturas del aire y del termómetro adjunto al barómetro en grados centígrados, supuesta la escala barométrica del latón. La presión barométrica corregida será:

H = H' + M + N + P
Su valor será el argumento para entrar en la tabla que da el factor B.

La Refracción Normal Ro, que se obtiene de la **Tabla 8** en función de la distancia cenital aparente, corresponde a las siguientes condiciones: φ = 45°; altitud = 0 metros; temperatura del aire ambiente = 0°C; presión barométrica = 760 mm a 0°C; tensión del vapor de agua = 6 mm.

En la **tabla 9** se dan las correcciones que deben efectuarse a la Refracción Normal Ro para obtener la Refracción Verdadera R, en cualquier condición de observación, despreciando la influencia muy pequeña del mayor o menor grado de humedad del aire.

El factor corrección A se da en función de la temperatura t del aire. El factor B en función de la presión barométrica reducida H. el factor α en función de la distancia cenital para Z<81° y de Z y t para Z>81°. El factor β en función de la Refracción Normal corregida por temperatura R'.

La Refracción Verdadera será:

$$R = Ro\ (1 + A\alpha)\ (1 + B\beta) = R'\ (1 + B\beta)$$

Los factores α y β se consideran iguales a la unidad cuando Z<45° para α y cuando es Z<60° para β. Podrá prescindirse de dichos factores aún para mayores distancias cenitales, cuando no se requiera un valor extremadamente aproximado de la refracción.

Ejemplo 1:

Z = 23° 27'.6; φ = - 35°.5; H' = 757.6 mm; a = 50 m; t = 12°.6; t'= 18°.6

H'	= 757.6 mm		Ro	= 26″ 08	
M	= -1.29	A	= -0,0461	1 + A = 0.9539	
N	= -0.11	R'	= Ro (1 + A) = 24″ 88		
P	= -0.01	B	= -0,0053	1 + B = 0.9947	
			R	= R' (1 + B) = 24″ 75	
H	= 756 mm				

Ejemplo 2

Z = 85°15'.2; φ = -47°; H'= 750.8 mm; a = 400 m; t = 12°.5; t'= 20°.5

H'	= 750.8 mm		Ro	= 10'40″.2 = 640″.2
M	= -0.79	A	= -0.0458	
N	= -0.06	α	= 1. 121	
P	= -0.06	R'	= Ro (1 + Aα) = 640″.2 x 0,9487 = 607″.4	
		B	= -0.0132	
H	= 749.90 mm	β	= 1.012	
		R	= R'(1 + Bβ) = 607″.4 x 0,9866=599″.26 =9'59″.3	

VOLVER AL INDICE

Tabla 7. **VOLVER A TABLAS DE REFRACCION**

Corrección a las lecturas barométricas (H') para deducir la (H) que ha de servir de argumento de entrada en la Tabla de Refracción

H = H' + M + N + P

PRIMERA CORRECCIÓN (M)

φ	t' - t													Var.
	+16°	+14°	+12°	+10°	+8°	+6°	+4°	+2°	0°	-2°	-4°	-6°	-8°	-10°	Por 1°deφ
0	-3,67	-3,44	-3,22	-2,99	-2,76	-2.53	-2.30	-2,08	-1,85	-1,62	-1,39	-1,16	-0,94	-0,71	0,011
10	3,56	3,33	3,11	2.88	2,65	2,42	2,19	1,97	1,74	1,51	1,28	1,05	0,83	0,60	0,026
15	3,38	3,20	2.97	2,74	2,51	2,28	2,05	1,83	1,60	1,37	1,14	0,91	0,69	0,45	0,034
18	3,32	3,09	2,86	2,63	2,40	2,18	1,95	1,72	1,49	1,26	1,04	0,80	0,58	0,34	0,040
20	3,24	3,01	2,79	2,55	2,32	2,10	1,87	1,64	1,41	1,18	0,96	0,73	0,50	0,26	
22	-3,16	-2,93	-2,70	-2,47	-2,24	-2,02	-1,78	-1,56	-1,33	-1,10	-0,87	-0,64	-0,42	-0,17	0,043
24	3,06	2,83	2,60	2,37	2,14	1,92	1,69	1,46	1,23	1,00	0,78	0,55	0,32	-0,08	0,046
26	2,97	2,74	2,51	2,28	2,05	1,83	1,60	1,37	1,14	0,91	0,69	0,45	0,23	+0,01	0,049
28	2,86	2,62	2,40	2,17	1,94	1,71	1,48	1,26	1,03	0,80	0,57	0,34	0,12	0,11	0,052
30	2,75	2,52	2,30	2,06	1,83	1,61	1,38	1,15	0,92	0,69	0,47	0,24	-0,01	0,22	0,055
32	-2,64	-2,41	-2,18	-1,95	-1,72	-1,50	-1,27	-1,04	-0,81	-0,58	-0,36	-0,13	+0,10	+0,33	0,057
34	2,52	2,29	2,06	1,83	1,60	1,38	1,15	0,92	0,69	0,46	0,24	-0,01	0,22	0,45	0,059
36	2,39	2,16	1,93	1,71	1,48	1,25	1,02	0,80	0,57	0,34	-0,11	+0,12	0,34	0,57	0,060
38	2,27	2,04	1,82	1,59	1,36	1,13	0,90	0,68	0,45	0,22	+0,01	0,24	0,46	0,69	0,062
40	2,15	1,92	1,69	1,46	1,23	1,01	0,78	0,55	0,32	-0,09	0,13	0,36	0,59	0,82	0,063
42	-2,02	-1,79	-1,57	-1,34	-1,11	-0,88	-0,65	-0,43	-0,20	+0,03	+0,26	+0,49	+0,71	+0,94	0,064
44	1,89	1,66	1,43	1,20	0,97	0,75	0,52	0,29	-0,06	0,17	0,39	0,62	0,85	1,08	0,064
46	1,76	1,53	1,31	1,08	0,85	0,62	0,39	0,17	+0,06	0,29	0,52	0,75	0,97	1,20	0,065
48	1,63	1,40	1,18	0,94	0,71	0,49	0,26	-0,03	0,20	0,43	0,65	0,88	1,11	1,34	0,064
50	1,S0	1,27	1,05	0,82	0,59	0,36	0,13	+0,09	0,32	0,55	0,78	1,01	1,23	1,46	0,064
52	-1,38	-1,15	-0,92	-0,69	-0,46	-0,24	-0,01	+0,22	+0,45	+0,68	+0,90	+1,13	+1.36	+1,59	0,063
54	1,26	1,03	0,80	0,57	0,34	0,12	+0,11	0,34	0,57	0,80	1,02	1,25	1,48	1,71	0,062
56	1,13	0,90	0,68	0,45	0,22	+0,01	0,24	0,46	0,69	0,92	1,15	1,38	1,60	1,83	0,060
58	1,01	0,78	0,56	0,33	-0,10	0,13	0,36	0,58	0,81	1,04	1,27	1,50	1,72	1,95	0,059
60	0,90	0,67	0,45	0,22	+0,01	0,24	0,47	0,69	0,92	1,15	1,38	1,61	1,83	2,06	0,057

Variación por 1° en (t'- t) = 0,114

SEGUNDA CORRECCIÓN (N)

H'	560	580	600	620	640	660	680	700	720	740	760	780
M												
0,0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0	0,00	0,00	0,00	0,00
0,5	0,01	0,09	0,07	0,06	0,04	0,02	0,01	0	0,01	0,02	0,04	0,06
1,0	0,02	0,17	0,14	0,11	0,09	0,06	0,03	0	0,03	0,06	0,09	0,11
1,5	0,03	0,25	0,21	0,17	0,13	0,09	0,05	0	0,05	0,09	0,13	0,17
2,0	0,04	0,34	0,29	0,23	0,17	0,11	0,06	0	0,06	0,11	0,17	0,23
2,5	0,05	0,43	0,35	0,29	0,21	0,14	0,07	0	0,07	0,14	0,21	0,29
3,0	0,0ó	0,51	0,43	0,34	0,26	0,17	0,09	0	0,09	0,17	0,26	0,34
3,5	0,07	0,ó0	0,50	0,40	0,30	0,20	0,10	0	0,10	0,20	0,30	0,40
4,0	0,08	0,68	0,57	0,46	0,35	0,23	0,11	0	0,11	0,23	0,35	0,46

Para H' > 700 + si M es > 0 y - si M es < 0

Signo de corrección

Para H' < 700 + si M es < 0 y - si M es > 0

TERCERA CORRECCIÓN (P)

Altitud	P	Altitud	P	Altitud	P	Altitud	P	Altitud	P	Altitud	P
0		340		835		1430		2035		2755	
25	0,00	410	0,06	930	0,12	1530	0,18	2140	0,24	2925	0,30
80	0,01	485	0,07	1030	0,13	1630	0,19	2245	0,25	3115	0,31
140	0,02	570	0,08	1130	0,14	1730	0,20	2355	0,26		
205	0,03	655	0,09	1230	0,15	1830	0,21	2475	0,27		
270	0,04	745	0,10	1330	0,16	1930	0,22	2605	0,28		
340	0,05	835	0,11	1430	0,17	2035	0,23	2755	0,29		

Corrección negativa

VOLVER AL INDICE

Tabla 8. **VOLVER A TABLAS DE REFRACCION**

REFRACCIÓN ASTRONÓMICA NORMAL (R_0)

Para 760 m/m del Barómetro y 0° del Termómetro centígrado

Distancia Zenital Aparente	Refrac-ción	Variación por 10'	Distancia Zenital Aparente	Refracción	Variación por 10'	Distancia Zenital Aparente	Refracción	Variación por 10'	Distancia Zenital Aparente	Refracción	Variación por 1'
°	"	"	° '	' "	"	° '	' "	"	° '	' "	"
0	0,00		**45 00**	1 0,04		**68 00**	2 27,8		**83 00**	7 39,3	
		0,175			0,35			1,20			1,00
1	1,05	0,175	**45 30**	1 0,09	0,36	**68 20**	2 30,2	1,30	**83 10**	7 49,3	1,04
2	2,10	0,175	**46 00**	1 2,17	0,36	**68 40**	2 32,8	1,30	**83 20**	7 59,7	1,09
3	3,15	0,175	**46 30**	1 3,26	0,37	**69 00**	2 35,4	1,35	**83 30**	8 10,6	1,13
4	4,20		**47 00**	1 4,37		**69 20**	2 38,1		**83 40**	8 21,9	
		0,175			0,38			1,40			1,19
5	5,25		**47 30**	1 5,51		**69 40**	2 40,9		**83 50**	8 33,8	
		0,177			0,39			1,45			1,23
6	6,31	0,178	**48 00**	1 6,67	0,39	**70 00**	2 43,8	1,45	**84 00**	8 46,1	1,29
7	7,38	0,178	**48 30**	1 7,84	0,40	**70 20**	2 46,7	1,55	**84 10**	8 59,0	1,35
8	8,45	0,178	**49 00**	1 9,04	0,41	**70 40**	2 49,8	1,60	**84 20**	9 12,5	1,42
9	9,52		**49 30**	1 10,27		**71 00**	2 53,0		**84 30**	9 26,7	
		0,180			0,41			1,60			1,49
10	10,60		**50 00**	1 11,51		**71 20**	2 56,2		**84 40**	9 41,6	
		0,180			0,43			1,70			1,56
11	11,68	0,182	**50 30**	1 12,80	0,43	**71 40**	2 59,6	1,75	**84 50**	9 57,2	1,63
12	12,77	0,183	**51 00**	1 14,10	0,44	**72 00**	3 3,1	1,80	**85 00**	10 13,5	1,72
13	13,87	0,185	**51 30**	1 15,42	0,46	**72 20**	3 6,7	1,90	**85 10**	10 30,7	1,82
14	14,98		**52 00**	1 16,79		**72 40**	3 10,5		**85 20**	10 48,9	
		0,187			0,46			1,90			1,91
15	16,10		**52 30**	1 18,18		**73 00**	3 14,3		**85 30**	11 8,0	
		0,188			0,47			2,05			2,01
16	17,23	0,190	**53 00**	1 19,60	0,49	**73 20**	3 18,4	2,05	**85 40**	11 28,1	2,12
17	18,37	0,193	**53 30**	1 21,06	0,50	**73 40**	3 22,5	2,05	**85 50**	11 49,3	2,25
18	19,53	0,193	**54 00**	1 22,56	0,51	**74 00**	3 26,9	2,20	**86 00**	12 11,8	2,38
19	20,69		**54 30**	1 24,08		**74 20**	3 31,4	2,25	**86 10**	12 35,6	
		0,197			0,52			2,35			2,53
20	21,87		**55 00**	1 25,64		**74 40**	3 36,1		**86 20**	13 0,9	
		0,200			0,54			2,45			2,68
21	23,07	0,202	**55 30**	1 27,26	0,54	**75 00**	3 41,0	2,55	**86 30**	13 27,7	2,85
22	24,28	0,205	**56 00**	1 28,89	0,56	**75 20**	3 46,1	2,65	**86 40**	13 56,2	3,03
23	25,51	0,207	**56 30**	1 30,58	0,58	**75 40**	3 51,4	2,80	**86 50**	14 26,5	3,23
24	26,75		**57 00**	1 32,31		**76 00**	3 57,0		**87 00**	14 58,8	
		0,212			0,59			2,90			3,45
25	28,02		**57 30**	1 34,09		**76 20**	4 2,8		**87 10**	15 33,3	
		0,215			0,61			3,05			3,69
26	29,31	0,217	**58 00**	1 35,92	0,62	**76 40**	4 8,9	3,15	**87 20**	16 10,2	3,95
27	30,61	0,223	**58 30**	1 37,79	0,65	**77 00**	4 15,2	3,35	**87 30**	16 49,7	4,24
28	31,95	0,227	**59 00**	1 39,73	0,66	**77 20**	4 21,9	3,50	**87 40**	17 32,1	4,55
29	33,31		**59 30**	1 41,72		**77 40**	4 28,9		**87 50**	18,17,6	
		0,230			0,68			3,70			4,90
30	34,69		**60 00**	1 43,76		**78 00**	4 36,3		**88 00**	19 6,6	
		0,235			0,70			3,85			5,28
31	36,10	0,240	**60 30**	1 45,87	0,72	**78 20**	4 44,0	4,10	**88 10**	19 59,4	5,70
32	37,54	0,245	**61 00**	1 48,04	0,75	**78 40**	4 52,2	4,30	**88 20**	20 56,4	6,18
33	39,01	0,252	**61 30**	1 50,29	0,77	**79 00**	5 0,8	4,53	**88 30**	21 58,2	6,69
34	40,52		**62 00**	1 52,60		**79 20**	5 9,9		**88 40**	23 5,1	
		0,258			0,80			4,85			7,27
35	42,07		**62 30**	1 54,99		**79 40**	5 19,6		**88 50**	24 17,8	
		0,262			0,83			5,10			7,92
36	43,64	0,270	**63 00**	1 57,47	0,85	**80 00**	5 29,8	5,40	**89 00**	25 37,0	8,44
37	45,26	0,277	**63 30**	2 0,02	0,88	**80 20**	5 40,6	5,80	**89 05**	26 19,2	8,82
38	46,92	0,287	**64 00**	2 2,67	0,91	**80 40**	5 52,2	6,15	**89 10**	27 3,3	9,22
39	48,64		**64 30**	2 5,41		**81 00**	6 4,5		**89 15**	27 49,4	
		0,293			0,95			6,60			9,64
40	50,40		**65 00**	2 8,25		**81 20**	6 17,7		**89 20**	28 37,6	
		0,302			0,98			7,00			10,10
41	52,21	0,310	**65 30**	2 11,19	1,02	**81 40**	6 31,7	7,55	**89 25**	29 28,1	10,56
42	54,07	0,322	**66 00**	2 14,26	1,06	**82 00**	6 46,8	8,10	**89 30**	30 20,9	11,06
43	56,00	0,330	**66 30**	2 17,44	1,10	**82 20**	7 3,0	8,70	**89 35**	31 16,2	11,60
44	57,98		**67 00**	2 20,74		**82 40**	7 20,4		**89 40**	32 14,2	
		0,343			1,15			9,45			12,16
45	60,04		**67 30**	2 24,19		**83 00**	7 39,2		**89 45**	33 15,0	
		0,355			1,20			10,20			12,76
46	62,17	0,367	**68 00**	2 27,78	1,24	**83 20**	7 59,7	11,10	**89 50**	34 18,8	13,38
47	64,37		**68 30**	2 31,51		**83 40**	8 21,9		**89 55**	35 25,7	

VOLVER AL INDICE

Tabla 9. **VOLVER A TABLAS DE REFRACCION**

CORRECCIÓN DE LAS REFRACCIONES NORMALES

FACTOR A								FACTOR B			
t	A Variación Por 0°,1 - 0,00045	t	A variación Por 0°,1 - 0,00038	t	A variación por 0°,1 - 0,00033	T	A variación por 0°,1 - 0,00029	Barómetro	B Variación por m/m + 0,0013	Barómetro	B Variación Por m/m + 0,0013
°		°		°		°		m/m		m/m	
-30	+ 0,1291	-10	+ 0,0398	+10	- 0,0369	+30	- 0,1035	630	- 0,1711	710	- 0,0658
29	0,1243	9	0,0357	11	0,0405	31	0,1066	634	0,1658	714	0,0605
28	0,1195	8	0,0316	12	0,0440	32	0,1097	638	0,1605	718	0,0553
27	0,1148	7	0,0275	13	0,0475	33	0,1127	642	0,1533	722	0,0500
26	0,1101	6	0,0235	14	0,0510	34	0,1158	646	0,1500	726	0,0447
-25	+ 0,1054	- 5	+ 0,0195	+15	- 0,0545	+35	- 0,1188	650	- 0,1447	730	- 0,0395
24	0,1008	4	0,0155	16	0,0579	36	0,1218	654	0,1395	734	0,0342
23	0,0962	3	0,0116	17	0,0613	37	0,1248	658	0,1342	738	0,0289
22	0,0917	2	0,0077	18	0,0647	38	0,1277	662	0,1289	742	0,0237
21	0,0872	- 1	+ 0,0038	19	0,0680	39	0,1307	666	0,1237	746	0,0184
-20	+ 0,0827	0	0,0000	+20	- 0,0714	+40	- 0,1336	670	- 0,1184	750	- 0,0132
19	0,0782	+ 1	- 0,0038	21	0,0747	41	0,1365	674	0,1132	754	0,0079
18	0,0738	2	0,0076	22	0,0780	42	0,1394	678	0,1079	758	- 0,0026
17	0,0694	3	0,0114	23	0,0812	43	0,1422	682	0,1026	762	+ 0,0026
16	0,0651	4	0,0151	24	0,0845	44	0,1451	686	0,0974	766	0,0079
-15	+ 0,0668	+ 5	- 0,0188	+25	- 0,0877	+45	- 0,1479	690	- 0,0921	770	+ 0,0132
14	0,0565	6	0,0225	26	0,0909	46	0,1507	694	0,0868	774	0,0184
13	0,0523	7	0,0261	27	0,0941	47	0,1535	698	0,0816	778	0,0237
12	0,0481	8	0,0298	28	0,0972	48	0,1563	702	0,0763	782	0,0289
11	0,0439	9	0,0334	29	0,1004	49	0,1591	706	0,0711	786	0,0342
10	0,0398	10	0,0369	30	0,1035	50	0,1618	710	0,0658	790	0,0395

FACTOR α												FACTOR β		
Para zenitales > 45° < 81°												Refracción corregida de temperatura	β	
z	α	z	α	z	α	z	α	z	α	z	α			
°		°		°		°		°		°		6'	1,004	para zenitales > 60°
45	1,000	55	1,002	63	1,004	68	1,007	72	1,011	76	1,020	8	1,008	
46	1,001	56	1,003	64	1,005	69	1,008	73	1,013	77	1,023	10	1,012	
49	1,001	59	1,003	65	1,005	70	1,009	74	1,015	78	1,026	12	1,017	
50	1,002	60	1,004	66	1,006	71	1,010	75	1,017	79	],031	14	1,023	
55	1,002	63	1,004	67	1,007	72	1,011	76	1,020	80	1,037	16	1,029	
Para zenitales > 81°												18	1,035	
												20	1,041	
												22	1,048	
												24	1,055	
												26	1,062	
												28	1,069	
												30	1,076	
												32	1,083	
												34	1,091	
z	t -30°	-20°	-10°	0°	+10°	+20°	+30°	+40°	+50°					
°												36	1,098	
81	1,046	1,046	1,045	1,045	1,045	1,044	1,044	1,044	1,043			38	1,106	
82	1,057	1,056	1,056	1,055	1,054	1,054	1,053	1,053	1,052			40	1,114	
83	1,071	1,071	1,070	1,069	1,068	1,067	1,067	1,066	1,065			42	1,121	
84	1,091	1,090	1,088	1,087	1,086	1,085	1,084	1,083	1,082			44	1,129	
85	1,120	1,118	1,116	1,114	1,112	1,111	1,109	1,108	1,107					
86	1,162	1,158	1,155	1,152	1,149	1,147	1,144	1,142	1,140					
87	1,226	1,220	1,215	1,210	1,206	1,202	1,198	1,194	1,191					
88	1,327	1,317	1,307	1,299	1,291	1,284	1,278	1,271	1,266					
89	1,499	1,479	1,460	1,444	1,429	1,416	1,403	1,392	1,381					

$$(\text{Refracción})'' = R''_0 (1 + A\,\alpha)(1 + B\,\beta)$$

VOLVER AL INDICE

SEÑALES HORARIAS GENERADAS POR EL ONBA

a) TELEFONÍA: Anuncios parlantes precediendo los segundos 10, 20, 30, 40, 50 y 00 durante las 24 horas y emitidos por la red telefónica de todo el país (n° telefónico 113).

b) RADIOTELEFONÍA: Señal audible indicativa de hora y media hora, emitida por todas las estaciones del Servicio de Radiodifusión Sonora con modulación de amplitud, en ondas hectométricas de la Capital Federal (ver gráfico).

c) FRECUENCIAS PATRONES Y HORA: Modulación de pulsos de 5 ciclos de 1000Hz cada segundo, omitiendo el segundo 59, anuncios parlantes de horas y minutos cada cinco minutos seguidos de la modulación de 1000 y 440Hz alternativos, identificación de la estación (LOL, LOL, LOL) e información de DUT1 según código CCIR, pulso alargado (500 ms), emitidos directamente desde el Observatorio Naval (ver gráfico).

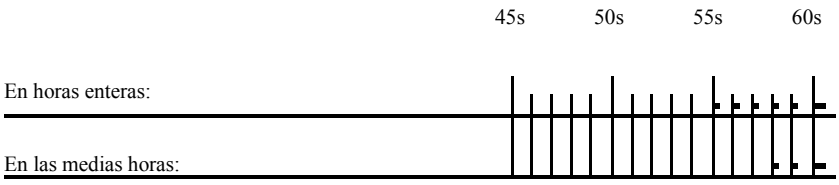
CUADRO DE SEÑALES HORARIAS

Estación Transmisora	Caracte-rísticas	Hora UTC de emisión Inicia	Termina	Frecuencia kHz	Tipo de onda	Sistema y origen De la señal
Observatorio Naval (Buenos Aires)	LOL	(1)	(1)	10000	A1, A2, A3,	Patrones de frecuencia y hora
Caracas (Venezuela)	YVTO	*		5000		
Fort Collins (EE.UU)	WWV	*		2500,5000 10000,15000 20000	6 A9	Patrón de frecuencia y hora Bureau of Standards
Playa Ancha Radio (Chile)	CBV	08 55 12 55 16 55 21 55	09 00 13 00 17 00 22 00	4228 8677	A2	Americano Inst. Hid. Armada

* Emisión continua

(1) Ver gráfico de una hora de transmisión en páginas siguientes.

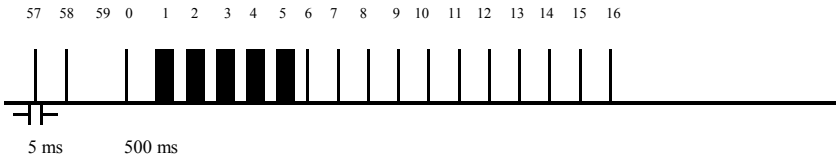
HORA OFICIAL ARGENTINA POR RADIOTELEFONÍA



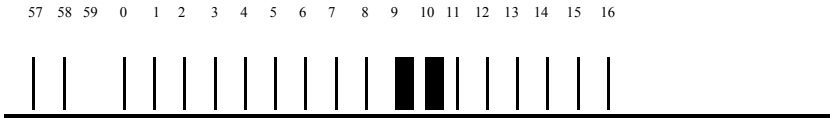
(Señales horarias)

EJEMPLOS DE CÓDIGO DUT 1

DUT 1 = +0,5s



DUT 1 = - 0,2s



VOLVER AL INDICE

SERVICIO DE FRECUENCIAS PATRONES Y HORA

ESTACIÓN EMISORA: (LOL) Observatorio Naval Buenos. Aires. Av. España 2099. Cap. Fed.

HORAS DE EMISIÓN: 14:00 a 15::00 Tiempo Universal Coordinado (UTC) los días hábiles.

RADIOFRECUENCIAS PATRONES: 10 MHz .

POTENCIA DE ANTENA: 2 Kw.

AUDIOFRECUENCIAS PATRONES: Las portadoras se modularán en 1000 y 440 Hz alternativamente.

RELOJ PATRÓN: Atómico de Cesio Symmetricom 5071 A.

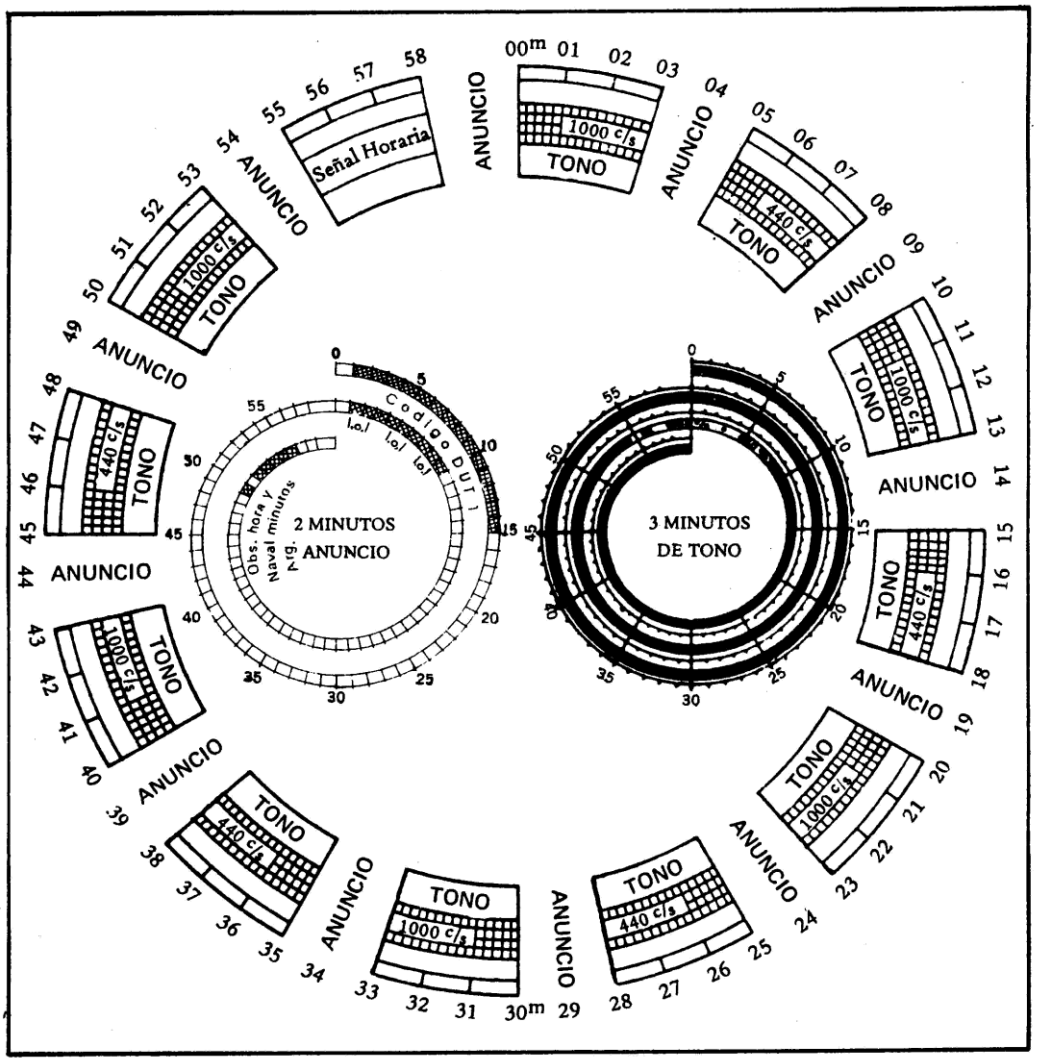


Gráfico de una hora de transmisión

INTERVALOS DE MODULACIÓN: 3 minutos sobre 5 minutos, iniciando en todos los minutos múltiplos de cinco, excepto en los 55 minutos, intervalo destinado a señal horaria especial de precisión.

EXACTITUD DE LAS FRECUENCIAS: $\pm 2 \times 10^{-10}$

SEÑAL HORARIA DE PRECISIÓN: Durante toda la señal se emite un top de cinco milisegundos de duración en cada segundo, excepto en los segundos 59 (que se suprime). El top consiste en la emisión de 5 ciclos de una modulación de 1000 Hz.

SEÑAL HORARIA: De tiempo uniforme coordinado (UTC).

PRECISIÓN EN LOS INTERVALOS DE TIEMPO PATRÓN: El intervalo entre la iniciación de dos tops consecutivos es de un segundo de tiempo atómico, con una precisión del microsegundo. La iniciación y fin de las modulaciones están sincronizadas con los pulsos horarios, quedando así definidos intervalos exactos de 1,3 y 5 minutos o mayores.

ANUNCIOS: Al término de los 3 minutos de tono se emite información del código DUT1, al comenzar el minuto siguiente en código morse, la característica de la estación, y antes de la iniciación del tono siguiente se anuncia el origen de la señal con la frase "Observatorio Naval Argentina", seguida por el anuncio de la hora y minuto exacto correspondiente al inicio de los próximos 3 minutos del tono siguiente.

PATRÓN MUSICAL: La modulación de 440 Hz. corresponde a la nota "la" de la quinta octava de la escala musical, pudiendo adoptarse como patrón musical.

El servicio de Frecuencias Patrones y Hora está operado por el Observatorio Naval de Buenos Aires, y controlado en colaboración con el laboratorio de Electrónica de la Dirección General del Material de Comunicaciones Navales.

Para todo lo relacionado con este servicio, dirigirse al Observatorio Naval Buenos Aires
Avenida España 2099, (C1107 AMA) Ciudad Autónoma de Buenos Aires.
onba@hidro.gov.ar

VOLVER AL INDICE

TABLA 10. HORA OFICIAL EN DIVERSOS LUGARES DEL MUNDO
(Actualizados a diciembre de 2020)

(La columna de la derecha indica el intervalo que debe sumarse algebraicamente a la hora oficial de un lugar para obtener la hora correspondiente en UTC)

Afganistán	-	04h	30m
Albania*	-	01	00
Alemania*	-	01	00
Almirantazgo, Is.	-	10	00
Amirante, Is.	-	04	00
Andamán, Is.	-	05	30
Angola	-	01	00
Antigua	+	04	00
Arabia Saudita	-	03	00
Argelia	-	01	00
Argentina, República	+	03	00
Malvinas Is.	+	03	00
Armenia	-	04	00
Aruba	+	04	00
Ascensión, I.		00	00
Australia:			
Occidental	-	08	00
Del Norte y del Sur*	-	09	30
Queensland, Nva. Gales del Sur*, Victoria*, Tasmania*, Capital*, Whitsunday Is.	-	10	00
Austria*	-	01	00
Azerbaiján*	-	04	00
Azores, Is.*	+	01	00
Bahamas*	+	05	00
Bahrein	-	03	00
Baleares, Is.*	-	01	00
Bangladesh	-	06	00
Barbados	+	04	00
Barbuda	+	04	00
Barlovento Is.			
Antigua, San Martín, San Cristóbal	+	04	00
Bélgica*	-	01	00
Bélice	+	06	00
Benin	-	01	00
Bermudas*	+	04	00
Bielorrusia	-	03	00
Birmania (Myanmar)	-	06	30
Bolivia	+	04	00
Bosnia y Herzegovina*	-	01	00
Botswana, República de	-	02	00
Brasil			
Fernando de Noronha I, Trinidad I., Is. Océanicas	+	02	00
Norte y Noreste de los Estados Costeros, Mina Gerais*, Goiás*, Brasilia*, Tocantins, Sur y Este de los Estados de la costa*	+	03	00
Matto Grosso do Sul*, Matto Grosso*, Este del Amazonas, Rondonia, Matto Grosso*,Roraima	+	04h	00m
Acre y Oeste del Amazonas	+	05	00

Brunei	-	08h	00m
Bulgaria*	-	02	00
Burkina Faso		00	00
Burundi	-	02	00
Bután	-	06	00
Cabo verde, Is.	+	01	00
Caimán Is.	+	05	00
Camboya	-	07	00
Camerún, República de	-	01	00
Canadá:			
Terranova, I.	+	03	30
Labrador*, Nueva Brunswich*, Nueva Escocia*, Isla Príncipe Eduardo*, y Québec al este del Meridiano 63° W	+	04	00
Nunavut* al este del meridiano 85° W, Ontario al este del meridiano 90° W* y Quebec al oeste del meridiano 63°W*	+	05	00
Manitoba*, Nunavut* entre los meridianos 85°W y 102° W, Ontario al oeste del meridiano 90°W* y Saskatchewan	+	06	00
Alberta*,Nunavut* oeste del meridiano 102° W y territorios del Noroeste*	+	07	00
Columbia Británica* y Yukón*	+	08	00
Centroafricana , República de	-	01	00
Chad	-	01	00
Chagos, Archipiélago y Diego García	-	06	00
Chatham, Is.*	-	12	45
Channel, I.*		00	00
Checa, República*	-	01	00
Chile*	+	04	00
China, República Popular de	-	08	00
Chipre: Ercan*, Larnaca*	-	02	00
Christmas, I. (Océano Índico)	-	07	00
Cocos, Is.	-	06	30
Colombia	+	05	00
Comores, Is.	-	03	00
Congo, República Democrática:			
Oeste: Kinsahasa, Equateur	-	01	00
Este: Orientale, Kasai, Kivu, Shaba	-	02	00
Congo, República	-	01	00
Cook, Is.	+	10	00
Córcega*	-	01	00
Corea del Norte	-	08	30
Corea, República de (sur)	-	09	00
Costa de Márfil		00	00
Costa Rica	+	06	00
Croacia*	-	01	00
Cuba*	+	05h	00 m
Curaçao, I.	+	04	00
Dinamarca*	-	01	00
Djibouti	-	03	00
Dominica Is.	+	04	00
Dominicana, República	+	04	00
Ecuador	+	05	00
El Salvador, República del	+	06	00
Egipto, República Árabe de*	-	02	00
Emiratos Árabes Unidos	-	04	00

Eritrea	-	03h	00m
Eslovaquia, República*	-	01	00
Eslovenia*	-	01	00
España*:	-	01	00
Canarias, Is.*		00	00
Estados Unidos de América*:			
Connecticut, Delaware, distrito de Columbia, Florida, Georgia, Indiana, Kentucky este, Maine, Maryland, Massachusetts, Michigan, Nueva Hasmpshire, Nueva Yersey, Nueva York, Carolina del Norte, Ohio, Pennsylvania, Rhode Island, Carolina del Sur, Tennessee este, Vermont, Virginia,Washington D.C, Oeste de Virginia	+	05	00
Alabama,Arkansas,Illinois,Iowa,Kansas,Kentucky Oeste,Luisiana, Minnesota,Mississippi,Missouri, Nebraska este, Dakota del Norte este, Oklahoma, Dakota del Sur este, Tennessee oeste, Texas y Wisconsin	+	06	00
Arizona, Colorado, Idaho sur, Montana,Nebraska oeste, Nueva México, Dakota del Norte oeste, Dakota del Sur oeste, Utah y Wyoming	+	07	00
California, Idaho norte,Nevada, Oregón y Washington.	+	08	00
Alaska, Islas Aleutianas al este del meridiano 169° 30'W.	+	09	00
Islas Aleutianas al oeste del meridiano 169° 30'W e Islas Hawaii.	+	10	00
Estonia*	-	02	00
Etiopía	-	03	00
Fanning, I.	+	10	00
Faeroes, I.*		00	00
Fidji, I*.	-	12	00
Filipinas, República de	-	08	00
Finlandia*	-	02	00
Francia*	-	01	00
Gabón	-	01	00
Galápagos, Is.	+	06	00
Gambia		00	00
Georgia	-	04	00
Georgias del Sur, Islas	+	02	00
Ghana		00	00
Granada, I.	+	04	00
Grecia*	-	02h	00m
Groenlandia:			
Danmarkshav, Mesters Vig		00	00
Scoresby Sound*	+	01	00
General*	+	03	00
Thule*, Pituffik*	+	04	00
Guadalupe, I.	+	04	00
Guam, I.	-	10	00
Guatemala	+	06	00
Guayana Francesa	+	03	00
Guyana, República de	+	04	00
Guinea Bissau		00	00
Guinea Ecuatorial, República de	-	01	00
Haití*	+	05	00
Holanda*	-	01	00
Honduras	+	06	00
Hong Kong	-	08	00

Hungría*	-	01h	00m
India	-	05	30
Indonesia, República de:			
Bangka, Billiton, Java, oeste y centro de Kalimantan, Madura y Sumatra	-	07	00
Bali, Flores, sur y este de Kalimantan, Lombok, Sulawesi, Sumba, Sumbawa y Timor	-	08	00
Aru, Irian Jaya, Kai, Molucas y Tanimbar	-	09	00
Irak	-	03	00
Irán*	-	03	30
Irlanda, República de*		00	00
Irlanda del Norte*		00	00
Islandia		00	00
Israel*	-	02	00
Italia*	-	01	00
Jamaica	+	05	00
Jan Mayen, I.*	-	01	00
Japón	-	09	00
Jordania	-	02	00
Juan Fernandez, I.*	+	04	00
Kazajstán			
Oeste: Aktau, Uralsk, Atyrau	-	05	00
Este y Centro: Kzyl-Orda, Astana	-	06	00
Kenia	-	03	00
Kergulen Is.	-	05	00
Kirguistán	-	06	00
Kiribati, República :			
Gilbert Is.	-	12	00
Phoenix, Is.	-	13	00
Line, Is.	-	14	00
Kuwait	-	03	00
Laos	-	07	00
Laquedivias, Is.	-	05h	30m
Lesotho	-	02	00
Letonia*	-	02	00
Líbano*	-	02	00
Liberia		00	00
Libia*	-	02	00
Liechtenstein*	-	01	00
Lituania*	-	02	00
Lord Hawe Is*.	-	10	30
Luxemburgo*	-	01	00
Macao	-	08	00
Macedonia*	-	01	00
Macias Nguema (Fernando Poo)	-	01	00
Madagascar, República Democrática de	-	03	00
Madeira, I.*		00	00
Malasia, Malaya,Sabah, Sarawak	-	08	00
Malawi	-	02	00
Maldivas, República de	-	05	00
Malí, República de		00	00
Malta, I.*	-	01	00
Malvinas, Is.	+	03	00
Marquesas, Is.	+	09	30
Marruecos*		00	00
Martinica, I.	+	04	00
Mauricio, Is.	-	04	00
Mauritania		00	00

Méjico*			
General*	+	06h	00m
Sonora, Sinaloa*, Nayarit*, Chihuahua*, Sur del distrito			
Baja California*	+	07	00
Norte del Distrito de Baja California*	+	08	00
Micronesia:			
Carolinas, Is., Marianas, Is.	-	10	00
Marshall, Is.	-	12	00
Midway, I.	+	11	00
Moldavia*	-	02	00
Mónaco*	-	01	00
Mongolia	-	08	00
Montenegro*	-	01	00
Mozambique	-	02	00
Namibia*	-	02	00
Naurú	-	12	00
Nepal	-	05	45
Nicaragua	+	06	00
Nicobar, I.	-	05	30
Niger	-	01	00
Nigeria, República de	-	01	00
Niue, I.	+	11	00
Norfolk, I.	-	11	30
Noruega*	-	01h	00 m
Novaya Zemlya	-	03	00
Nueva Caledonia	-	11	00
Nueva Zelanda*	-	12	00
Okinawa	-	09	00
Omán	-	04	00
Pagalu (Annobon, Is.)	-	01	00
Pakistán	-	05	00
Palau, Is.	-	09	00
Panamá, República de	+	05	00
Papua (Nueva Guinea)	-	10	00
Paraguay*	+	04	00
Pascua, I.*	+	06	00
Pescadores, Is.	-	08	00
Perú	+	05	00
Polonia*	-	01	00
Portugal*		00	00
Príncipe, I.		00	00
Puerto Rico	+	04	00
Qatar	-	03	00
Reino Unido*		00	00
Reunión, I.	-	04	00
Ruanda	-	02	00
Rumania*	-	02	00
Rusia*:			
Kaliningrado	-	02	00
Moscú, San Petesburgo, Volgogrado, Arkangel y Astrakhan	-	03	00
Samara	-	04	00
Ekaterinburg,Ufa, Perm, Novyy Port	-	05	00
Omsk,Novosibirsk,Tomsk	-	06	00
Norilsk,Krasnoyarsk, Dikson	-	07	00
Irkutsk, Bratsk, Ulan Ude y Chita	-	08	00
Yakutsk, Tiksi	-	09	00
Khabarovsk, Vladivostok , Oshotsk, , Magadan.	-	10	00
Sakhalin Is, Is. Kuriles	-	11	00
Petropavlovsk-K, Anadyr,	-	12	00

Ryukyu, Is.	-	09h	00m
Salomón , I.	-	11	00
Samoa	-	13	00
San Pedro y Miquelón*	+	03	00
San Cruz, I.	-	11	00
Santa Elena, I.		00	00
Santo Tomé		00	00
Schouten, Is.	-	09	00
Senegal		00	00
Serbia*	-	01	00
Seychelles	-	04	00
Sierra Leona		00	00
Singapur	-	08	00
Siria, República Árabe*	-	02	00
Sociedad, I.	+	10h	00m
Socotra	-	03	00
Somalía, República de	-	03	00
Spitzbergen*(Svalbard)*	-	01	00
Sri Lanka	-	05	30
Sudán, República de	-	02	00
Sudáfrica, República de	-	02	00
Suecia*	-	01	00
Suiza*	-	01	00
Surinam	+	03	00
Swazilandia	-	02	00
Taiwan	-	08	00
Tadgikistán	-	05	00
Tanzania	-	03	00
Thailandia	-	07	00
Timor-Leste	-	09	00
Togo, República de		00	00
Tonga, I.	-	13	00
Trinidad Tobago	+	04	00
Tristán de Cunha		00	00
Tuamotu, Is.	+	10	00
Tubuai Is	+	10	00
Túnez	-	01	00
Turks y Caicos, Is.*	+	05	00
Turkemenistán	-	05	00
Turquia*	-	03	00
Tuvalu	-	12	00
Ucrania*	-	02	00
Uganda	-	03	00
Uruguay*	+	03	00
Uzbekistán	-	05	00
Vanuatu, República de	-	11	00
Venezuela	+	04	00
Vietnam, República Socialista de	-	07	00
Vírgines, Is.	+	04	00
Yemen	-	03	00
Zambia, República de	-	02	00
Zimbawe	-	02	00

VOLVER AL INDICE