

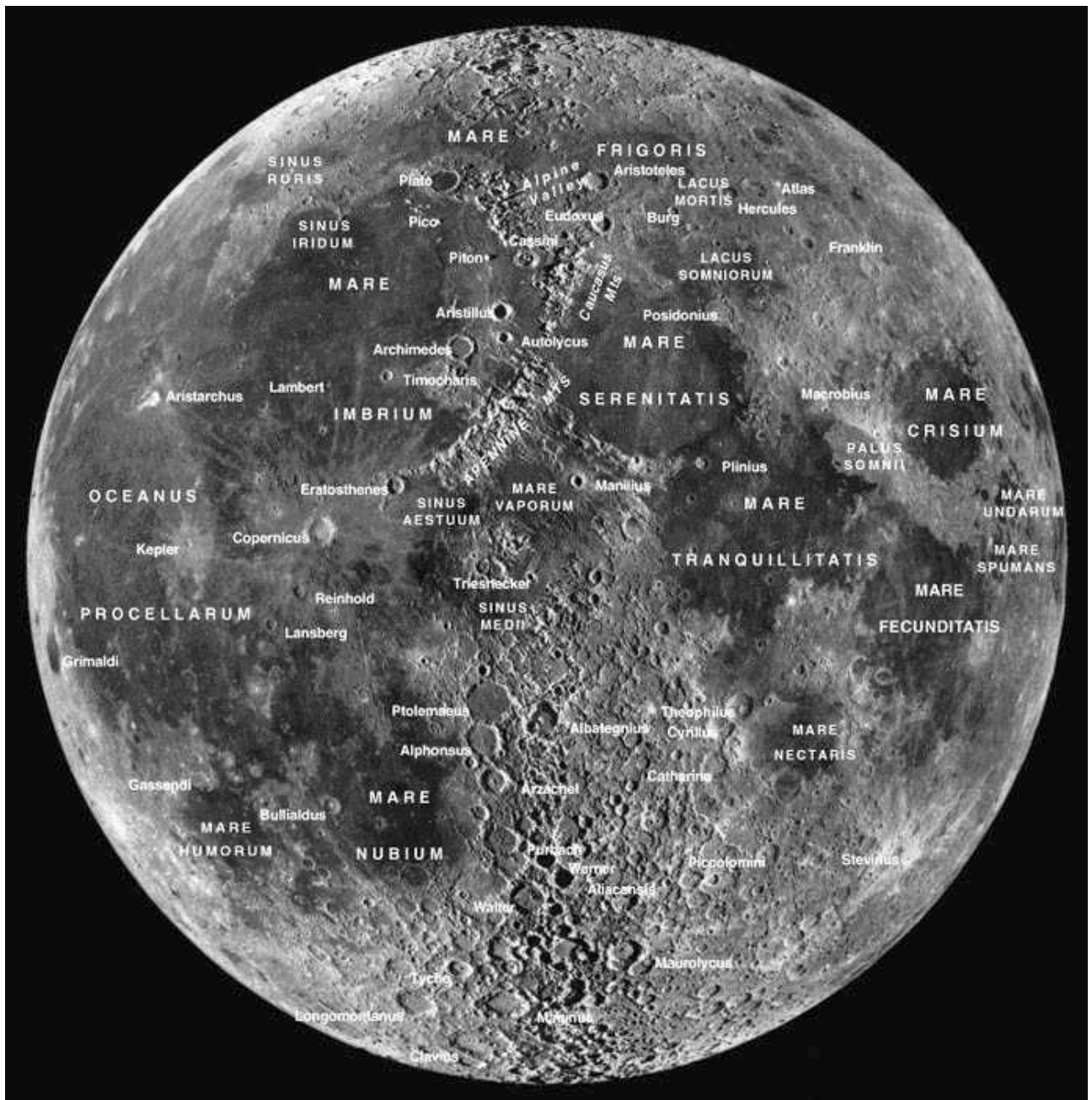
Almanacco Astronomico

per l'anno

2002

Sergio Alessandrelli

C.C.C.D.S. - Hipparcos



La Luna – Principali formazioni geologiche

Almanacco Astronomico per l'anno 2002

A tutti gli amici astrofili...

Introduzione all'Almanacco Astronomico 2002

Il presente Almanacco Astronomico è stato realizzato utilizzando comuni programmi di calcolo astronomico facilmente reperibili sul mercato del software, ovvero scaricabili gratuitamente tramite Internet. La precisione nei calcoli è quindi quella tipica per questo tipo di software, ossia sufficiente per gli usi dell'astrofilo medio. Tutti gli eventi sono stati calcolati per le coordinate di Roma (Lat. $41^{\circ} 52' 48''$ N, Long. $12^{\circ} 30' 00''$ E) e gli orari espressi (tranne laddove altrimenti specificato) in tempo universale.

Calendario del 2002

January

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

March

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

April

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

May

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

June

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

July

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

August

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

September

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

October

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

November

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

December

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Principali eventi del 2002

Diamo nel seguito una rassegna dei principali eventi astronomici che si verificheranno mese per mese nel corso del 2002.

Gennaio 2002

Giorno : Evento

- 1 : Giove in opposizione (15:00 T.L.)
- 2 : Luna 4° a N di Regulus
- 2 : Terra al perielio (15:25 T.L. – 147.098.221 Km)
- 3 : Massimo dello sciame delle Quadratids (ZHR=120)
- 11 : Mercurio alla massima elongazione (23:35 T.L. - E 19°)
- 14 : Venere in congiunzione superiore (11:31 T.L.)
- 24 : Luna a 3.7° a N di Aldebaran (19:35 T.L.)
- 26 : Luna a 0.5° S ds Giove (18:02 T.L.)
- 27 : Luna a 4.7° S di Pollux (22:51 T.L.)
- 27 : Mercurio in congiunzione inferiore (18:54 T.L.)
- 28 : Luna 1.4° N rispetto Presepe (18:16 T.L.)

Febbraio 2002

Giorno : Evento

- 21 : Mercurio alla massima elongazione (15:58 T.L. – O 27°)
- 23 : Saturno a 4.1° N rispetto alle Iadi (17:24 T.L.)

Marzo 2002

Giorno : Evento

- 20 : Equinozio di Primavera (19:15 T.L.)
- 23 : Luna 4.3° S rispetto a Pollux (18:49 T.L.)
- 31 : Saturno 4.1° N rispetto Aldebaran (18:50 T.L.)

Aprile 2002

Giorno : Evento

- 7 : Mercurio in congiunzione superiore (09:54 T.L.)
- 16 : Luna 4.4° N rispetto Aldebaran (19:23 T.L.)
- 16 : Saturno 0.3° S rispetto alla Luna (22:25 T.L.)
- 21 : Luna 1.5° N rispetto Presepe (02:09 T.L.)
- 22 : Massimo dello sciame delle Liridi (ZHR=15)

Maggio 2002

Giorno : Evento

- 4 : Mercurio alla massima elongazione (04:32 T.L. – 21° E)
- 5 : Massimo sciame eta-Aquarids (ZHR=60)
- 7 : Venere 2.4° S rispetto a Saturno(19:20 T.L.)
- 14 : Marte 1.2° N rispetto alla Luna (20:56 T.L.)
- 19 : Luna 4.2° N rispetto Regulus (20:34 T.L.)
- 26 : Eclisse di penombra di Luna (13:03 T.L.)
- 27 : Mercurio in congiunzione inferiore (08:09 T.L.)

Giugno 2002

Giorno : Evento

- 9 : Venere 4.8° S rispetto a Pollux (20:54 T.L.)
- 11 : Eclisse anulare di Sole (00:44 T.L.)
- 21 : Mercurio alla massima elongazione (15:21 T.L. – 23° O)
- 21 : Solstizio d'Estate (14:24 T.L.)
- 24 : Eclisse di penombra di Luna (22:27 T.L.)

Luglio 2002

Giorno : Evento

- 6 : Terra all'afelio (04:02 T.L. – 152.094.525 Km)
- 21 : Mercurio in congiunzione superiore (02:46 T.L.)
- 28 : Massimo sciame delta-Aquarids (ZHR=20)

Agosto 2002

Giorno : Evento

- 5 : Saturno 1.4° S rispetto alla Luna (03:17 T.L.)
- 12 : Massimo dello sciame delle Perseidi (ZHR=110)
- 22 : Venere alla massima elongazione (14:13 T.L. – 43° E)
- 31 : Luna 4.8° N rispetto alle Iadi (04:54 T.L.)

Settembre 2002

Giorno : Evento

- 1 : Mercurio alla massima elongazione (11:15 T.L. – 27° E)
- 6 : Giove 1.2° S rispetto Presepe (05:42 T.L.)
- 25 : Equinozio d'Autunno (05:55 T.L.)
- 27 : Mercurio in congiunzione inferiore (19:30 T.L.)
- 29 : Saturno 2.5° S rispetto alla Luna (03:18 T.L.)

Ottobre 2002

Giorno : Evento

- 13 : Mercurio alla massima elongazione (08:24 T.L. – 18° O)
- 21 : Massimo dello sciame delle Orionidi (ZHR=20)
- 24 : Luna a 5.0° N rispetto Aldebaran (21:01 T.L.)
- 31 : Venere in congiunzione inferiore (12:05 T.L.)

Novembre 2002

Giorno : Evento

- 5 : Massimo dello sciame delle Taurini (ZHR=5)
- 6 : Luna 3.7° N rispetto Antares (16:59 T.L.)
- 14 : Mercurio in congiunzione superiore (04:38 T.L.)
- 17 : Massimo dello sciame delle Leonidi (ZHR variabile. Possibilità di tempesta)
- 20 : Eclisse di penombra di Luna
- 20 : Marte a 3.2° N rispetto a Spica (04:39 T.L.)
- 27 : Luna 4.8° N rispetto a Regulus (02:32 T.L.)

Dicembre 2002

Giorno : Evento

- 4 : Eclisse totale di Sole (07:31 T.L. – Non visibile in Europa)
- 14 : Massimo dello sciame delle Geminidi (ZHR=120)
- 17 : Saturno in opposizione (17:28 T.L.)
- 21 : Luna 3.6° S rispetto a Pollux (18:16 T.L.)
- 22 : Massimo dello sciame delle Ursidi (ZHR=10)
- 22 : Solstizio d'Inverno (01:14 T.L.)
- 26 : Mercurio alla massima elongazione (05:29 T.L. – 20° E)

Gennaio 2003

Giorno : Evento

- 3 : Massimo dello sciame delle Quadrantids (ZHR=120)
- 4 : Terra al perielio (04:09 T.L. – 147.102.688 Km)
- 11 : Mercurio in congiunzione inferiore (20:02 T.L.)
- 11 : Venere alla massima elongazione (02:22 T.L. – 47° O)
- 15 : Saturno a 2.3° S dalla Luna (19:04 T.L.)
- 18 : Luna 3.7° S da Pollux (04:34 T.L.)
- 19 : Luna 2.4° N rispetto Presepe (02:47 T.L.)

Effemeridi del Sole

Nella seguente sezione vengono riportate le effemeridi mensili per il Sole. Riportiamo la descrizione dei campi delle tabelle.

Data : giorno a cui fa riferimento l'effemeride (calcolate per le 12:00 T.U.)

Giorno Giuliano : il Giorno Giuliano corrispondente

T. sid. loc : il tempo siderale locale

Sorge, Transita, Tramonta : istanti del sorgere, transito e tramonto del sole

Asc. retta, Dec. : coordinate dell'astro

Distanza : distanza dalla Terra in unità astronomiche (u.a.)

Diam " : diametro dell'astro in secondi d'arco

Altezza : altezza

Crep. Ast., Crep. Civ : termine del creposcolo astronomico e civile

Effemeridi di gennaio 2002

Data	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep. civ.
01 gen 2002	2452276.0000	19:33:52	06:37:43	11:13:31	15:49:27	18h 47m 15.75s	-22° 59' 47.6"	0.9832935	1951.87	+24° 16' 39"	17:29:51	16:20:58
02 gen 2002	2452277.0000	19:37:48	06:37:48	11:13:59	15:50:19	18h 51m 40.34s	-22° 54' 35.1"	0.9832898	1951.88	+24° 22' 51"	17:30:38	16:21:48
03 gen 2002	2452278.0000	19:41:45	06:37:51	11:14:26	15:51:12	18h 56m 04.59s	-22° 48' 55.2"	0.9832923	1951.87	+24° 29' 28"	17:31:25	16:22:39
04 gen 2002	2452279.0000	19:45:41	06:37:51	11:14:54	15:52:07	19h 00m 28.48s	-22° 42' 48.1"	0.9833009	1951.85	+24° 36' 31"	17:32:14	16:23:32
05 gen 2002	2452280.0000	19:49:38	06:37:49	11:15:21	15:53:04	19h 04m 51.97s	-22° 36' 14.1"	0.9833151	1951.83	+24° 44' 00"	17:33:04	16:24:25
06 gen 2002	2452281.0000	19:53:34	06:37:45	11:15:47	15:54:02	19h 09m 15.05s	-22° 29' 13.2"	0.9833346	1951.79	+24° 51' 53"	17:33:55	16:25:21
07 gen 2002	2452282.0000	19:57:31	06:37:38	11:16:13	15:55:02	19h 13m 37.69s	-22° 21' 45.6"	0.9833592	1951.74	+25° 00' 12"	17:34:48	16:26:17
08 gen 2002	2452283.0000	20:01:27	06:37:30	11:16:39	15:56:02	19h 17m 59.86s	-22° 13' 51.6"	0.9833884	1951.68	+25° 08' 55"	17:35:41	16:27:15
09 gen 2002	2452284.0000	20:05:24	06:37:18	11:17:04	15:57:05	19h 22m 21.54s	-22° 05' 31.4"	0.9834220	1951.61	+25° 18' 03"	17:36:35	16:28:14
10 gen 2002	2452285.0000	20:09:21	06:37:05	11:17:29	15:58:08	19h 26m 42.68s	-21° 56' 45.2"	0.9834597	1951.54	+25° 27' 35"	17:37:31	16:29:14
11 gen 2002	2452286.0000	20:13:17	06:36:49	11:17:53	15:59:13	19h 31m 03.28s	-21° 47' 33.4"	0.9835014	1951.46	+25° 37' 31"	17:38:27	16:30:15
12 gen 2002	2452287.0000	20:17:14	06:36:31	11:18:16	16:00:19	19h 35m 23.29s	-21° 37' 56.1"	0.9835469	1951.37	+25° 47' 51"	17:39:24	16:31:18
13 gen 2002	2452288.0000	20:21:10	06:36:10	11:18:39	16:01:26	19h 39m 42.69s	-21° 27' 53.6"	0.9835961	1951.27	+25° 58' 34"	17:40:21	16:32:21
14 gen 2002	2452289.0000	20:25:07	06:35:47	11:19:01	16:02:33	19h 44m 01.46s	-21° 17' 26.3"	0.9836491	1951.16	+26° 09' 40"	17:41:20	16:33:25
15 gen 2002	2452290.0000	20:29:03	06:35:22	11:19:23	16:03:42	19h 48m 19.56s	-21° 06' 34.4"	0.9837059	1951.05	+26° 21' 08"	17:42:19	16:34:30
16 gen 2002	2452291.0000	20:33:00	06:34:55	11:19:44	16:04:52	19h 52m 36.98s	-20° 55' 18.3"	0.9837665	1950.93	+26° 32' 59"	17:43:19	16:35:35
17 gen 2002	2452292.0000	20:36:56	06:34:26	11:20:04	16:06:03	19h 56m 53.70s	-20° 43' 38.2"	0.9838310	1950.80	+26° 45' 13"	17:44:20	16:36:42
18 gen 2002	2452293.0000	20:40:53	06:33:54	11:20:23	16:07:14	20h 01m 09.70s	-20° 31' 34.5"	0.9838996	1950.67	+26° 57' 48"	17:45:21	16:37:49
19 gen 2002	2452294.0000	20:44:50	06:33:20	11:20:42	16:08:26	20h 05m 24.96s	-20° 19' 07.5"	0.9839724	1950.52	+27° 10' 44"	17:46:23	16:38:57
20 gen 2002	2452295.0000	20:48:46	06:32:44	11:21:00	16:09:39	20h 09m 39.46s	-20° 06' 17.6"	0.9840496	1950.37	+27° 24' 02"	17:47:25	16:40:05
21 gen 2002	2452296.0000	20:52:43	06:32:05	11:21:17	16:10:52	20h 13m 53.20s	-19° 53' 05.0"	0.9841314	1950.21	+27° 37' 40"	17:48:28	16:41:14
22 gen 2002	2452297.0000	20:56:39	06:31:25	11:21:34	16:12:06	20h 18m 06.16s	-19° 39' 30.3"	0.9842179	1950.04	+27° 51' 39"	17:49:31	16:42:24
23 gen 2002	2452298.0000	21:00:36	06:30:43	11:21:49	16:13:20	20h 22m 18.34s	-19° 25' 33.7"	0.9843094	1949.85	+28° 05' 58"	17:50:35	16:43:34
24 gen 2002	2452299.0000	21:04:32	06:29:58	11:22:04	16:14:35	20h 26m 29.72s	-19° 11' 15.6"	0.9844062	1949.66	+28° 20' 36"	17:51:39	16:44:44
25 gen 2002	2452300.0000	21:08:29	06:29:11	11:22:18	16:15:50	20h 30m 40.29s	-18° 56' 36.4"	0.9845084	1949.46	+28° 35' 34"	17:52:44	16:45:55
26 gen 2002	2452301.0000	21:12:25	06:28:23	11:22:31	16:17:06	20h 34m 50.06s	-18° 41' 36.6"	0.9846164	1949.25	+28° 50' 51"	17:53:49	16:47:06
27 gen 2002	2452302.0000	21:16:22	06:27:32	11:22:44	16:18:22	20h 38m 59.01s	-18° 26' 16.4"	0.9847302	1949.02	+29° 06' 26"	17:54:54	16:48:17
28 gen 2002	2452303.0000	21:20:19	06:26:40	11:22:55	16:19:38	20h 43m 07.14s	-18° 10' 36.2"	0.9848502	1948.78	+29° 22' 19"	17:55:59	16:49:29
29 gen 2002	2452304.0000	21:24:15	06:25:46	11:23:06	16:20:54	20h 47m 14.46s	-17° 54' 36.6"	0.9849763	1948.53	+29° 38' 30"	17:57:05	16:50:41
30 gen 2002	2452305.0000	21:28:12	06:24:49	11:23:16	16:22:11	20h 51m 20.97s	-17° 38' 17.7"	0.9851085	1948.27	+29° 54' 59"	17:58:11	16:51:53
31 gen 2002	2452306.0000	21:32:08	06:23:52	11:23:25	16:23:27	20h 55m 26.66s	-17° 21' 40.1"	0.9852467	1948.00	+30° 11' 44"	17:59:18	16:53:05

Effemeridi di febbraio 2002

Date	Giorno Giuliano	T. sid.	loc. Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 feb 2002	2452307.0000	21:36:05	06:22:52	11:23:34	16:24:44	20h 59m 31.55s	-17° 04' 44.0"	0.9853907	1947.71	+30° 28' 46"	18:00:24	16:54:18
02 feb 2002	2452308.0000	21:40:01	06:21:50	11:23:41	16:26:01	21h 03m 35.64s	-16° 47' 29.8"	0.9855401	1947.42	+30° 46' 05"	18:01:31	16:55:30
03 feb 2002	2452309.0000	21:43:58	06:20:47	11:23:48	16:27:18	21h 07m 38.93s	-16° 29' 58.0"	0.9856946	1947.11	+31° 03' 40"	18:02:38	16:56:43
04 feb 2002	2452310.0000	21:47:54	06:19:43	11:23:54	16:28:36	21h 11m 41.43s	-16° 12' 08.8"	0.9858538	1946.80	+31° 21' 30"	18:03:46	16:57:56
05 feb 2002	2452311.0000	21:51:51	06:18:36	11:23:59	16:29:53	21h 15m 43.15s	-15° 54' 02.8"	0.9860172	1946.48	+31° 39' 35"	18:04:53	16:59:09
06 feb 2002	2452312.0000	21:55:48	06:17:28	11:24:03	16:31:10	21h 19m 44.08s	-15° 35' 40.4"	0.9861846	1946.15	+31° 57' 55"	18:06:01	17:00:22
07 feb 2002	2452313.0000	21:59:44	06:16:19	11:24:07	16:32:27	21h 23m 44.23s	-15° 17' 01.9"	0.9863556	1945.81	+32° 16' 30"	18:07:09	17:01:35
08 feb 2002	2452314.0000	22:03:41	06:15:08	11:24:10	16:33:44	21h 27m 43.59s	-14° 58' 07.7"	0.9865299	1945.47	+32° 35' 18"	18:08:17	17:02:48
09 feb 2002	2452315.0000	22:07:37	06:13:55	11:24:12	16:35:01	21h 31m 42.18s	-14° 38' 58.4"	0.9867073	1945.12	+32° 54' 20"	18:09:25	17:04:01
10 feb 2002	2452316.0000	22:11:34	06:12:41	11:24:13	16:36:18	21h 35m 40.00s	-14° 19' 34.3"	0.9868877	1944.76	+33° 13' 34"	18:10:33	17:05:14
11 feb 2002	2452317.0000	22:15:30	06:11:26	11:24:14	16:37:35	21h 39m 37.04s	-13° 59' 55.8"	0.9870708	1944.40	+33° 33' 02"	18:11:42	17:06:26
12 feb 2002	2452318.0000	22:19:27	06:10:09	11:24:13	16:38:51	21h 43m 33.32s	-13° 40' 03.5"	0.9872566	1944.03	+33° 52' 41"	18:12:50	17:07:39
13 feb 2002	2452319.0000	22:23:23	06:08:51	11:24:12	16:40:07	21h 47m 28.83s	-13° 19' 57.6"	0.9874450	1943.66	+34° 12' 33"	18:13:59	17:08:52
14 feb 2002	2452320.0000	22:27:20	06:07:32	11:24:11	16:41:23	21h 51m 23.60s	-12° 59' 38.7"	0.9876359	1943.29	+34° 32' 35"	18:15:08	17:10:04
15 feb 2002	2452321.0000	22:31:17	06:06:11	11:24:08	16:42:39	21h 55m 17.62s	-12° 39' 07.1"	0.9878295	1942.91	+34° 52' 48"	18:16:16	17:11:17
16 feb 2002	2452322.0000	22:35:13	06:04:50	11:24:05	16:43:55	21h 59m 10.90s	-12° 18' 23.3"	0.9880257	1942.52	+35° 13' 12"	18:17:25	17:12:29
17 feb 2002	2452323.0000	22:39:10	06:03:27	11:24:01	16:45:10	22h 03m 03.47s	-11° 57' 27.8"	0.9882247	1942.13	+35° 33' 46"	18:18:34	17:13:41
18 feb 2002	2452324.0000	22:43:06	06:02:03	11:23:56	16:46:26	22h 06m 55.32s	-11° 36' 20.9"	0.9884264	1941.73	+35° 54' 29"	18:19:43	17:14:53
19 feb 2002	2452325.0000	22:47:03	06:00:37	11:23:51	16:47:40	22h 10m 46.47s	-11° 15' 03.0"	0.9886312	1941.33	+36° 15' 21"	18:20:52	17:16:05
20 feb 2002	2452326.0000	22:50:59	05:59:11	11:23:45	16:48:55	22h 14m 36.94s	-10° 53' 34.7"	0.9888391	1940.92	+36° 36' 22"	18:22:02	17:17:16
21 feb 2002	2452327.0000	22:54:56	05:57:44	11:23:38	16:50:09	22h 18m 26.73s	-10° 31' 56.3"	0.9890503	1940.51	+36° 57' 31"	18:23:11	17:18:28
22 feb 2002	2452328.0000	22:58:52	05:56:15	11:23:31	16:51:23	22h 22m 15.87s	-10° 10' 08.2"	0.9892650	1940.09	+37° 18' 48"	18:24:20	17:19:39
23 feb 2002	2452329.0000	23:02:49	05:54:46	11:23:22	16:52:37	22h 26m 04.37s	-09° 48' 10.9"	0.9894835	1939.66	+37° 40' 12"	18:25:30	17:20:50
24 feb 2002	2452330.0000	23:06:46	05:53:15	11:23:14	16:53:50	22h 29m 52.24s	-09° 26' 04.8"	0.9897059	1939.22	+38° 01' 43"	18:26:39	17:22:00
25 feb 2002	2452331.0000	23:10:42	05:51:44	11:23:05	16:55:03	22h 33m 39.51s	-09° 03' 50.3"	0.9899326	1938.78	+38° 23' 21"	18:27:49	17:23:11
26 feb 2002	2452332.0000	23:14:39	05:50:12	11:22:55	16:56:15	22h 37m 26.18s	-08° 41' 27.7"	0.9901637	1938.33	+38° 45' 04"	18:28:59	17:24:21
27 feb 2002	2452333.0000	23:18:35	05:48:39	11:22:44	16:57:28	22h 41m 12.29s	-08° 18' 57.6"	0.9903992	1937.87	+39° 06' 54"	18:30:09	17:25:31
28 feb 2002	2452334.0000	23:22:32	05:47:05	11:22:33	16:58:40	22h 44m 57.86s	-07° 56' 20.1"	0.9906391	1937.40	+39° 28' 48"	18:31:19	17:26:41

Effemeridi di marzo 2002

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 mar 2002	2452335.0000	23:26:28	05:45:31	11:22:22	16:59:52	22h 48m 42.91s	-07° 33' 35.8"	0.9908834	1936.92	+39° 50' 48"	18:32:29	17:27:51
02 mar 2002	2452336.0000	23:30:25	05:43:56	11:22:10	17:01:03	22h 52m 27.46s	-07° 10' 44.9"	0.9911318	1936.43	+40° 12' 52"	18:33:39	17:29:01
03 mar 2002	2452337.0000	23:34:21	05:42:20	11:21:57	17:02:14	22h 56m 11.54s	-06° 47' 47.7"	0.9913838	1935.94	+40° 35' 01"	18:34:50	17:30:11
04 mar 2002	2452338.0000	23:38:18	05:40:43	11:21:44	17:03:25	22h 59m 55.18s	-06° 24' 44.8"	0.9916392	1935.44	+40° 57' 13"	18:36:00	17:31:20
05 mar 2002	2452339.0000	23:42:15	05:39:06	11:21:31	17:04:36	23h 03m 38.38s	-06° 01' 36.4"	0.9918975	1934.94	+41° 19' 29"	18:37:11	17:32:29
06 mar 2002	2452340.0000	23:46:11	05:37:28	11:21:17	17:05:46	23h 07m 21.18s	-05° 38' 22.9"	0.9921583	1934.43	+41° 41' 48"	18:38:23	17:33:39
07 mar 2002	2452341.0000	23:50:08	05:35:50	11:21:03	17:06:57	23h 11m 03.58s	-05° 15' 04.7"	0.9924212	1933.92	+42° 04' 10"	18:39:34	17:34:48
08 mar 2002	2452342.0000	23:54:04	05:34:11	11:20:49	17:08:07	23h 14m 45.61s	-04° 51' 42.2"	0.9926860	1933.40	+42° 26' 34"	18:40:46	17:35:57
09 mar 2002	2452343.0000	23:58:01	05:32:32	11:20:34	17:09:16	23h 18m 27.28s	-04° 28' 15.9"	0.9929523	1932.88	+42° 49' 00"	18:41:58	17:37:06
10 mar 2002	2452344.0000	00:01:57	05:30:52	11:20:19	17:10:26	23h 22m 08.60s	-04° 04' 46.1"	0.9932197	1932.36	+43° 11' 28"	18:43:10	17:38:14
11 mar 2002	2452345.0000	00:05:54	05:29:12	11:20:03	17:11:35	23h 25m 49.60s	-03° 41' 13.1"	0.9934882	1931.84	+43° 33' 57"	18:44:22	17:39:23
12 mar 2002	2452346.0000	00:09:50	05:27:32	11:19:47	17:12:44	23h 29m 30.29s	-03° 17' 37.5"	0.9937575	1931.32	+43° 56' 26"	18:45:35	17:40:32
13 mar 2002	2452347.0000	00:13:47	05:25:51	11:19:31	17:13:53	23h 33m 10.68s	-02° 53' 59.5"	0.9940274	1930.79	+44° 18' 56"	18:46:48	17:41:40
14 mar 2002	2452348.0000	00:17:43	05:24:10	11:19:15	17:15:01	23h 36m 50.81s	-02° 30' 19.6"	0.9942978	1930.27	+44° 41' 26"	18:48:02	17:42:49
15 mar 2002	2452349.0000	00:21:40	05:22:28	11:18:58	17:16:10	23h 40m 30.68s	-02° 06' 38.1"	0.9945686	1929.74	+45° 03' 55"	18:49:16	17:43:57
16 mar 2002	2452350.0000	00:25:37	05:20:46	11:18:41	17:17:18	23h 44m 10.31s	-01° 42' 55.5"	0.9948397	1929.22	+45° 26' 23"	18:50:30	17:45:05
17 mar 2002	2452351.0000	00:29:33	05:19:04	11:18:24	17:18:26	23h 47m 49.73s	-01° 19' 12.1"	0.9951113	1928.69	+45° 48' 50"	18:51:44	17:46:14
18 mar 2002	2452352.0000	00:33:30	05:17:22	11:18:07	17:19:34	23h 51m 28.94s	-00° 55' 28.3"	0.9953832	1928.16	+46° 11' 16"	18:52:59	17:47:22
19 mar 2002	2452353.0000	00:37:26	05:15:40	11:17:49	17:20:41	23h 55m 07.98s	-00° 31' 44.5"	0.9956555	1927.63	+46° 33' 40"	18:54:14	17:48:30
20 mar 2002	2452354.0000	00:41:23	05:13:57	11:17:31	17:21:49	23h 58m 46.85s	-00° 08' 01.1"	0.9959285	1927.11	+46° 56' 01"	18:55:30	17:49:38
21 mar 2002	2452355.0000	00:45:19	05:12:14	11:17:14	17:22:56	00h 02m 25.58s	+00° 15' 41.5"	0.9962021	1926.58	+47° 18' 19"	18:56:46	17:50:47
22 mar 2002	2452356.0000	00:49:16	05:10:32	11:16:56	17:24:03	00h 06m 04.18s	+00° 39' 23.0"	0.9964765	1926.05	+47° 40' 34"	18:58:02	17:51:55
23 mar 2002	2452357.0000	00:53:12	05:08:49	11:16:38	17:25:10	00h 09m 42.68s	+01° 03' 02.9"	0.9967520	1925.51	+48° 02' 46"	18:59:19	17:53:03
24 mar 2002	2452358.0000	00:57:09	05:07:06	11:16:20	17:26:17	00h 13m 21.09s	+01° 26' 41.0"	0.9970289	1924.98	+48° 24' 54"	19:00:36	17:54:11
25 mar 2002	2452359.0000	01:01:06	05:05:23	11:16:01	17:27:24	00h 16m 59.43s	+01° 50' 16.8"	0.9973072	1924.44	+48° 46' 58"	19:01:54	17:55:19
26 mar 2002	2452360.0000	01:05:02	05:03:40	11:15:43	17:28:30	00h 20m 37.73s	+02° 13' 50.0"	0.9975874	1923.90	+49° 08' 58"	19:03:12	17:56:27
27 mar 2002	2452361.0000	01:08:59	05:01:57	11:15:25	17:29:37	00h 24m 16.00s	+02° 37' 20.2"	0.9978695	1923.36	+49° 30' 53"	19:04:30	17:57:35
28 mar 2002	2452362.0000	01:12:55	05:00:14	11:15:07	17:30:43	00h 27m 54.28s	+03° 00' 47.2"	0.9981537	1922.81	+49° 52' 42"	19:05:49	17:58:44
29 mar 2002	2452363.0000	01:16:52	04:58:32	11:14:48	17:31:49	00h 31m 32.59s	+03° 24' 10.6"	0.9984400	1922.26	+50° 14' 27"	19:07:09	17:59:52
30 mar 2002	2452364.0000	01:20:48	04:56:49	11:14:30	17:32:55	00h 35m 10.95s	+03° 47' 30.1"	0.9987282	1921.70	+50° 36' 06"	19:08:29	18:01:00
31 mar 2002	2452365.0000	01:24:45	04:55:07	11:14:12	17:34:02	00h 38m 49.40s	+04° 10' 45.4"	0.9990182	1921.15	+50° 57' 39"	19:09:50	18:02:09

Effemeridi di aprile 2002

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 apr 2002	2452366.0000	01:28:41	04:53:25	11:13:54	17:35:08	00h 42m 27.96s	+04° 33' 56.2"	0.9993095	1920.59	+51° 19' 06"	19:11:11	18:03:18
02 apr 2002	2452367.0000	01:32:38	04:51:43	11:13:36	17:36:14	00h 46m 06.65s	+04° 57' 02.2"	0.9996019	1920.02	+51° 40' 27"	19:12:33	18:04:26
03 apr 2002	2452368.0000	01:36:35	04:50:02	11:13:19	17:37:20	00h 49m 45.48s	+05° 20' 03.0"	0.9998949	1919.46	+52° 01' 41"	19:13:55	18:05:35
04 apr 2002	2452369.0000	01:40:31	04:48:21	11:13:01	17:38:26	00h 53m 24.48s	+05° 42' 58.3"	1.0001882	1918.90	+52° 22' 49"	19:15:19	18:06:44
05 apr 2002	2452370.0000	01:44:28	04:46:40	11:12:44	17:39:32	00h 57m 03.66s	+06° 05' 47.8"	1.0004813	1918.34	+52° 43' 49"	19:16:42	18:07:54
06 apr 2002	2452371.0000	01:48:24	04:44:59	11:12:27	17:40:38	01h 00m 43.03s	+06° 28' 31.0"	1.0007740	1917.78	+53° 04' 42"	19:18:07	18:09:03
07 apr 2002	2452372.0000	01:52:21	04:43:19	11:12:10	17:41:45	01h 04m 22.63s	+06° 51' 07.7"	1.0010659	1917.22	+53° 25' 28"	19:19:31	18:10:12
08 apr 2002	2452373.0000	01:56:17	04:41:40	11:11:53	17:42:51	01h 08m 02.45s	+07° 13' 37.4"	1.0013568	1916.66	+53° 46' 05"	19:20:57	18:11:22
09 apr 2002	2452374.0000	02:00:14	04:40:01	11:11:36	17:43:57	01h 11m 42.53s	+07° 35' 59.9"	1.0016463	1916.11	+54° 06' 35"	19:22:23	18:12:32
10 apr 2002	2452375.0000	02:04:10	04:38:22	11:11:20	17:45:03	01h 15m 22.86s	+07° 58' 14.8"	1.0019342	1915.55	+54° 26' 56"	19:23:50	18:13:42
11 apr 2002	2452376.0000	02:08:07	04:36:44	11:11:04	17:46:09	01h 19m 03.48s	+08° 20' 21.6"	1.0022204	1915.01	+54° 47' 08"	19:25:18	18:14:52
12 apr 2002	2452377.0000	02:12:04	04:35:07	11:10:49	17:47:16	01h 22m 44.39s	+08° 42' 20.2"	1.0025047	1914.46	+55° 07' 11"	19:26:46	18:16:02
13 apr 2002	2452378.0000	02:16:00	04:33:30	11:10:33	17:48:22	01h 26m 25.61s	+09° 04' 10.0"	1.0027869	1913.93	+55° 27' 04"	19:28:15	18:17:13
14 apr 2002	2452379.0000	02:19:57	04:31:53	11:10:18	17:49:28	01h 30m 07.15s	+09° 25' 50.8"	1.0030670	1913.39	+55° 46' 48"	19:29:44	18:18:23
15 apr 2002	2452380.0000	02:23:53	04:30:18	11:10:04	17:50:34	01h 33m 49.02s	+09° 47' 22.2"	1.0033449	1912.86	+56° 06' 23"	19:31:14	18:19:34
16 apr 2002	2452381.0000	02:27:50	04:28:43	11:09:49	17:51:41	01h 37m 31.25s	+10° 08' 43.9"	1.0036206	1912.34	+56° 25' 47"	19:32:45	18:20:45
17 apr 2002	2452382.0000	02:31:46	04:27:09	11:09:35	17:52:47	01h 41m 13.83s	+10° 29' 55.4"	1.0038941	1911.82	+56° 45' 01"	19:34:16	18:21:56
18 apr 2002	2452383.0000	02:35:43	04:25:35	11:09:22	17:53:53	01h 44m 56.78s	+10° 50' 56.5"	1.0041656	1911.30	+57° 04' 04"	19:35:48	18:23:07
19 apr 2002	2452384.0000	02:39:39	04:24:02	11:09:09	17:55:00	01h 48m 40.12s	+11° 11' 46.7"	1.0044353	1910.79	+57° 22' 57"	19:37:20	18:24:18
20 apr 2002	2452385.0000	02:43:36	04:22:30	11:08:56	17:56:06	01h 52m 23.85s	+11° 32' 25.8"	1.0047032	1910.28	+57° 41' 38"	19:38:53	18:25:29
21 apr 2002	2452386.0000	02:47:33	04:20:59	11:08:43	17:57:12	01h 56m 07.98s	+11° 52' 53.4"	1.0049696	1909.77	+58° 00' 08"	19:40:26	18:26:40
22 apr 2002	2452387.0000	02:51:29	04:19:29	11:08:31	17:58:18	01h 59m 52.53s	+12° 13' 09.1"	1.0052348	1909.27	+58° 18' 26"	19:42:00	18:27:52
23 apr 2002	2452388.0000	02:55:26	04:18:00	11:08:20	17:59:24	02h 03m 37.51s	+12° 33' 12.5"	1.0054990	1908.76	+58° 36' 33"	19:43:35	18:29:03
24 apr 2002	2452389.0000	02:59:22	04:16:31	11:08:09	18:00:30	02h 07m 22.93s	+12° 53' 03.5"	1.0057626	1908.26	+58° 54' 28"	19:45:10	18:30:15
25 apr 2002	2452390.0000	03:03:19	04:15:04	11:07:58	18:01:36	02h 11m 08.81s	+13° 12' 41.6"	1.0060256	1907.76	+59° 12' 11"	19:46:46	18:31:26
26 apr 2002	2452391.0000	03:07:15	04:13:37	11:07:48	18:02:42	02h 14m 55.16s	+13° 32' 06.7"	1.0062883	1907.27	+59° 29' 41"	19:48:22	18:32:38
27 apr 2002	2452392.0000	03:11:12	04:12:12	11:07:38	18:03:48	02h 18m 42.02s	+13° 51' 18.3"	1.0065506	1906.77	+59° 46' 59"	19:49:58	18:33:49
28 apr 2002	2452393.0000	03:15:08	04:10:48	11:07:29	18:04:54	02h 22m 29.38s	+14° 10' 16.3"	1.0068125	1906.27	+60° 04' 05"	19:51:35	18:35:01
29 apr 2002	2452394.0000	03:19:05	04:09:24	11:07:20	18:05:59	02h 26m 17.27s	+14° 29' 00.3"	1.0070738	1905.78	+60° 20' 58"	19:53:13	18:36:12
30 apr 2002	2452395.0000	03:23:02	04:08:02	11:07:12	18:07:05	02h 30m 05.69s	+14° 47' 30.0"	1.0073343	1905.29	+60° 37' 39"	19:54:51	18:37:24

Effemeridi di maggio 2002

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 mag 2002	2452396.0000	03:26:58	04:06:41	11:07:05	18:08:10	02h 33m 54.65s	+15° 05' 45.2"	1.0075935	1904.80	+60° 54' 06"	19:56:29	18:38:35
02 mag 2002	2452397.0000	03:30:55	04:05:22	11:06:58	18:09:16	02h 37m 44.17s	+15° 23' 45.6"	1.0078512	1904.31	+61° 10' 21"	19:58:08	18:39:47
03 mag 2002	2452398.0000	03:34:51	04:04:03	11:06:51	18:10:21	02h 41m 34.25s	+15° 41' 30.7"	1.0081070	1903.83	+61° 26' 22"	19:59:47	18:40:58
04 mag 2002	2452399.0000	03:38:48	04:02:46	11:06:45	18:11:26	02h 45m 24.89s	+15° 59' 00.4"	1.0083606	1903.35	+61° 42' 10"	20:01:26	18:42:09
05 mag 2002	2452400.0000	03:42:44	04:01:30	11:06:40	18:12:31	02h 49m 16.10s	+16° 16' 14.2"	1.0086117	1902.87	+61° 57' 45"	20:03:05	18:43:21
06 mag 2002	2452401.0000	03:46:41	04:00:16	11:06:35	18:13:35	02h 53m 07.88s	+16° 33' 11.9"	1.0088598	1902.41	+62° 13' 06"	20:04:45	18:44:32
07 mag 2002	2452402.0000	03:50:37	03:59:03	11:06:31	18:14:40	02h 57m 00.25s	+16° 49' 53.2"	1.0091049	1901.94	+62° 28' 13"	20:06:25	18:45:42
08 mag 2002	2452403.0000	03:54:34	03:57:51	11:06:27	18:15:44	03h 00m 53.19s	+17° 06' 17.7"	1.0093465	1901.49	+62° 43' 06"	20:08:05	18:46:53
09 mag 2002	2452404.0000	03:58:31	03:56:41	11:06:24	18:16:48	03h 04m 46.72s	+17° 22' 25.1"	1.0095844	1901.04	+62° 57' 44"	20:09:45	18:48:03
10 mag 2002	2452405.0000	04:02:27	03:55:32	11:06:22	18:17:51	03h 08m 40.82s	+17° 38' 15.1"	1.0098185	1900.60	+63° 12' 09"	20:11:24	18:49:13
11 mag 2002	2452406.0000	04:06:24	03:54:25	11:06:20	18:18:54	03h 12m 35.51s	+17° 53' 47.5"	1.0100485	1900.17	+63° 26' 18"	20:13:04	18:50:23
12 mag 2002	2452407.0000	04:10:20	03:53:19	11:06:19	18:19:57	03h 16m 30.79s	+18° 09' 01.8"	1.0102743	1899.74	+63° 40' 13"	20:14:44	18:51:32
13 mag 2002	2452408.0000	04:14:17	03:52:15	11:06:18	18:20:59	03h 20m 26.63s	+18° 23' 57.9"	1.0104957	1899.33	+63° 53' 53"	20:16:23	18:52:41
14 mag 2002	2452409.0000	04:18:13	03:51:12	11:06:18	18:22:01	03h 24m 23.05s	+18° 38' 35.3"	1.0107128	1898.92	+64° 07' 18"	20:18:02	18:53:49
15 mag 2002	2452410.0000	04:22:10	03:50:11	11:06:18	18:23:02	03h 28m 20.03s	+18° 52' 53.9"	1.0109255	1898.52	+64° 20' 28"	20:19:41	18:54:57
16 mag 2002	2452411.0000	04:26:06	03:49:12	11:06:19	18:24:03	03h 32m 17.57s	+19° 06' 53.3"	1.0111339	1898.13	+64° 33' 22"	20:21:19	18:56:04
17 mag 2002	2452412.0000	04:30:03	03:48:14	11:06:21	18:25:03	03h 36m 15.66s	+19° 20' 33.2"	1.0113380	1897.74	+64° 46' 00"	20:22:57	18:57:10
18 mag 2002	2452413.0000	04:34:00	03:47:18	11:06:23	18:26:03	03h 40m 14.29s	+19° 33' 53.3"	1.0115381	1897.37	+64° 58' 22"	20:24:34	18:58:16
19 mag 2002	2452414.0000	04:37:56	03:46:24	11:06:26	18:27:01	03h 44m 13.44s	+19° 46' 53.4"	1.0117344	1897.00	+65° 10' 28"	20:26:10	18:59:21
20 mag 2002	2452415.0000	04:41:53	03:45:32	11:06:29	18:27:59	03h 48m 13.12s	+19° 59' 33.1"	1.0119271	1896.64	+65° 22' 18"	20:27:45	19:00:26
21 mag 2002	2452416.0000	04:45:49	03:44:41	11:06:32	18:28:57	03h 52m 13.32s	+20° 11' 52.2"	1.0121166	1896.28	+65° 33' 51"	20:29:19	19:01:29
22 mag 2002	2452417.0000	04:49:46	03:43:52	11:06:37	18:29:53	03h 56m 14.03s	+20° 23' 50.5"	1.0123031	1895.93	+65° 45' 08"	20:30:53	19:02:32
23 mag 2002	2452418.0000	04:53:42	03:43:05	11:06:41	18:30:49	04h 00m 15.24s	+20° 35' 27.8"	1.0124870	1895.59	+65° 56' 08"	20:32:25	19:03:34
24 mag 2002	2452419.0000	04:57:39	03:42:20	11:06:46	18:31:44	04h 04m 16.96s	+20° 46' 43.7"	1.0126683	1895.25	+66° 06' 50"	20:33:56	19:04:34
25 mag 2002	2452420.0000	05:01:35	03:41:36	11:06:52	18:32:38	04h 08m 19.18s	+20° 57' 38.2"	1.0128474	1894.92	+66° 17' 16"	20:35:26	19:05:34
26 mag 2002	2452421.0000	05:05:32	03:40:55	11:06:58	18:33:31	04h 12m 21.89s	+21° 08' 11.0"	1.0130242	1894.58	+66° 27' 25"	20:36:54	19:06:33
27 mag 2002	2452422.0000	05:09:29	03:40:15	11:07:05	18:34:23	04h 16m 25.09s	+21° 18' 22.0"	1.0131988	1894.26	+66° 37' 16"	20:38:21	19:07:30
28 mag 2002	2452423.0000	05:13:25	03:39:38	11:07:12	18:35:13	04h 20m 28.76s	+21° 28' 10.9"	1.0133710	1893.94	+66° 46' 49"	20:39:46	19:08:27
29 mag 2002	2452424.0000	05:17:22	03:39:02	11:07:20	18:36:03	04h 24m 32.90s	+21° 37' 37.5"	1.0135405	1893.62	+66° 56' 05"	20:41:09	19:09:22
30 mag 2002	2452425.0000	05:21:18	03:38:28	11:07:28	18:36:52	04h 28m 37.49s	+21° 46' 41.7"	1.0137073	1893.31	+67° 05' 03"	20:42:31	19:10:16
31 mag 2002	2452426.0000	05:25:15	03:37:57	11:07:36	18:37:40	04h 32m 42.52s	+21° 55' 23.3"	1.0138709	1893.00	+67° 13' 44"	20:43:50	19:11:08

Effemeridi di giugno 2002

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 giu 2002	2452427.0000	05:29:11	03:37:27	11:07:45	18:38:26	04h 36m 47.98s	+22° 03' 42.1"	1.0140311	1892.70	+67° 22' 06"	20:45:08	19:12:00
02 giu 2002	2452428.0000	05:33:08	03:37:00	11:07:54	18:39:11	04h 40m 53.85s	+22° 11' 37.8"	1.0141876	1892.41	+67° 30' 09"	20:46:23	19:12:49
03 giu 2002	2452429.0000	05:37:04	03:36:34	11:08:04	18:39:55	04h 45m 00.11s	+22° 19' 10.4"	1.0143401	1892.13	+67° 37' 54"	20:47:36	19:13:38
04 giu 2002	2452430.0000	05:41:01	03:36:11	11:08:14	18:40:38	04h 49m 06.76s	+22° 26' 19.6"	1.0144884	1891.85	+67° 45' 21"	20:48:46	19:14:25
05 giu 2002	2452431.0000	05:44:58	03:35:50	11:08:25	18:41:19	04h 53m 13.76s	+22° 33' 05.3"	1.0146321	1891.58	+67° 52' 28"	20:49:54	19:15:10
06 giu 2002	2452432.0000	05:48:54	03:35:30	11:08:36	18:41:59	04h 57m 21.11s	+22° 39' 27.3"	1.0147710	1891.32	+67° 59' 16"	20:51:00	19:15:54
07 giu 2002	2452433.0000	05:52:51	03:35:13	11:08:47	18:42:37	05h 01m 28.78s	+22° 45' 25.4"	1.0149049	1891.07	+68° 05' 45"	20:52:02	19:16:36
08 giu 2002	2452434.0000	05:56:47	03:34:58	11:08:58	18:43:14	05h 05m 36.76s	+22° 50' 59.7"	1.0150335	1890.83	+68° 11' 53"	20:53:02	19:17:16
09 giu 2002	2452435.0000	06:00:44	03:34:45	11:09:10	18:43:49	05h 09m 45.01s	+22° 56' 09.8"	1.0151567	1890.60	+68° 17' 42"	20:53:59	19:17:54
10 giu 2002	2452436.0000	06:04:40	03:34:34	11:09:22	18:44:23	05h 13m 53.52s	+23° 00' 55.8"	1.0152743	1890.39	+68° 23' 11"	20:54:52	19:18:31
11 giu 2002	2452437.0000	06:08:37	03:34:25	11:09:34	18:44:55	05h 18m 02.26s	+23° 05' 17.4"	1.0153861	1890.18	+68° 28' 19"	20:55:42	19:19:06
12 giu 2002	2452438.0000	06:12:33	03:34:19	11:09:46	18:45:25	05h 22m 11.20s	+23° 09' 14.6"	1.0154921	1889.98	+68° 33' 07"	20:56:29	19:19:38
13 giu 2002	2452439.0000	06:16:30	03:34:14	11:09:59	18:45:54	05h 26m 20.31s	+23° 12' 47.4"	1.0155923	1889.79	+68° 37' 33"	20:57:13	19:20:09
14 giu 2002	2452440.0000	06:20:27	03:34:11	11:10:12	18:46:21	05h 30m 29.57s	+23° 15' 55.5"	1.0156867	1889.62	+68° 41' 39"	20:57:53	19:20:38
15 giu 2002	2452441.0000	06:24:23	03:34:11	11:10:24	18:46:46	05h 34m 38.95s	+23° 18' 39.0"	1.0157756	1889.45	+68° 45' 23"	20:58:29	19:21:05
16 giu 2002	2452442.0000	06:28:20	03:34:12	11:10:37	18:47:09	05h 38m 48.41s	+23° 20' 57.8"	1.0158592	1889.30	+68° 48' 45"	20:59:02	19:21:29
17 giu 2002	2452443.0000	06:32:16	03:34:16	11:10:50	18:47:30	05h 42m 57.94s	+23° 22' 51.8"	1.0159377	1889.15	+68° 51' 45"	20:59:31	19:21:52
18 giu 2002	2452444.0000	06:36:13	03:34:21	11:11:03	18:47:50	05h 47m 07.51s	+23° 24' 20.9"	1.0160114	1889.01	+68° 54' 23"	20:59:57	19:22:12
19 giu 2002	2452445.0000	06:40:09	03:34:28	11:11:16	18:48:07	05h 51m 17.10s	+23° 25' 25.2"	1.0160807	1888.89	+68° 56' 39"	21:00:18	19:22:30
20 giu 2002	2452446.0000	06:44:06	03:34:38	11:11:29	18:48:23	05h 55m 26.69s	+23° 26' 04.6"	1.0161460	1888.76	+68° 58' 32"	21:00:36	19:22:46
21 giu 2002	2452447.0000	06:48:02	03:34:49	11:11:42	18:48:36	05h 59m 36.26s	+23° 26' 19.2"	1.0162074	1888.65	+69° 00' 02"	21:00:49	19:23:00
22 giu 2002	2452448.0000	06:51:59	03:35:02	11:11:55	18:48:48	06h 03m 45.79s	+23° 26' 09.0"	1.0162652	1888.54	+69° 01' 09"	21:00:59	19:23:11
23 giu 2002	2452449.0000	06:55:56	03:35:17	11:12:08	18:48:57	06h 07m 55.25s	+23° 25' 34.0"	1.0163197	1888.44	+69° 01' 54"	21:01:05	19:23:20
24 giu 2002	2452450.0000	06:59:52	03:35:34	11:12:21	18:49:05	06h 12m 04.64s	+23° 24' 34.3"	1.0163709	1888.35	+69° 02' 15"	21:01:07	19:23:27
25 giu 2002	2452451.0000	07:03:49	03:35:53	11:12:34	18:49:10	06h 16m 13.92s	+23° 23' 09.9"	1.0164189	1888.26	+69° 02' 13"	21:01:05	19:23:31
26 giu 2002	2452452.0000	07:07:45	03:36:14	11:12:47	18:49:13	06h 20m 23.08s	+23° 21' 20.8"	1.0164635	1888.17	+69° 01' 47"	21:00:59	19:23:33
27 giu 2002	2452453.0000	07:11:42	03:36:36	11:12:59	18:49:15	06h 24m 32.10s	+23° 19' 07.2"	1.0165048	1888.10	+69° 00' 58"	21:00:49	19:23:33
28 giu 2002	2452454.0000	07:15:38	03:37:00	11:13:11	18:49:14	06h 28m 40.96s	+23° 16' 29.0"	1.0165424	1888.03	+68° 59' 46"	21:00:36	19:23:30
29 giu 2002	2452455.0000	07:19:35	03:37:26	11:13:23	18:49:11	06h 32m 49.63s	+23° 13' 26.3"	1.0165762	1887.96	+68° 58' 09"	21:00:18	19:23:25
30 giu 2002	2452456.0000	07:23:32	03:37:54	11:13:35	18:49:06	06h 36m 58.11s	+23° 09' 59.3"	1.0166061	1887.91	+68° 56' 09"	20:59:57	19:23:18

Effemeridi di luglio 2002

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 lug 2002	2452457.0000	07:27:28	03:38:23	11:13:47	18:48:59	06h 41m 06.36s	+23° 06' 07.9"	1.0166317	1887.86	+68° 53' 45"	20:59:32	19:23:08
02 lug 2002	2452458.0000	07:31:25	03:38:54	11:13:59	18:48:50	06h 45m 14.37s	+23° 01' 52.2"	1.0166528	1887.82	+68° 50' 57"	20:59:04	19:22:56
03 lug 2002	2452459.0000	07:35:21	03:39:26	11:14:10	18:48:39	06h 49m 22.12s	+22° 57' 12.5"	1.0166692	1887.79	+68° 47' 44"	20:58:32	19:22:42
04 lug 2002	2452460.0000	07:39:18	03:40:00	11:14:21	18:48:26	06h 53m 29.59s	+22° 52' 08.6"	1.0166807	1887.77	+68° 44' 07"	20:57:56	19:22:25
05 lug 2002	2452461.0000	07:43:14	03:40:36	11:14:31	18:48:10	06h 57m 36.76s	+22° 46' 40.9"	1.0166870	1887.76	+68° 40' 06"	20:57:17	19:22:06
06 lug 2002	2452462.0000	07:47:11	03:41:13	11:14:42	18:47:53	07h 01m 43.61s	+22° 40' 49.5"	1.0166879	1887.76	+68° 35' 41"	20:56:34	19:21:45
07 lug 2002	2452463.0000	07:51:07	03:41:51	11:14:52	18:47:33	07h 05m 50.12s	+22° 34' 34.3"	1.0166831	1887.77	+68° 30' 51"	20:55:48	19:21:21
08 lug 2002	2452464.0000	07:55:04	03:42:31	11:15:01	18:47:12	07h 09m 56.26s	+22° 27' 55.7"	1.0166724	1887.79	+68° 25' 37"	20:54:59	19:20:55
09 lug 2002	2452465.0000	07:59:01	03:43:12	11:15:10	18:46:48	07h 14m 02.02s	+22° 20' 53.8"	1.0166558	1887.82	+68° 19' 59"	20:54:06	19:20:27
10 lug 2002	2452466.0000	08:02:57	03:43:55	11:15:19	18:46:22	07h 18m 07.37s	+22° 13' 28.7"	1.0166329	1887.86	+68° 13' 56"	20:53:10	19:19:56
11 lug 2002	2452467.0000	08:06:54	03:44:38	11:15:28	18:45:54	07h 22m 12.28s	+22° 05' 40.7"	1.0166039	1887.91	+68° 07' 28"	20:52:12	19:19:24
12 lug 2002	2452468.0000	08:10:50	03:45:23	11:15:35	18:45:24	07h 26m 16.74s	+21° 57' 29.9"	1.0165686	1887.98	+68° 00' 37"	20:51:10	19:18:49
13 lug 2002	2452469.0000	08:14:47	03:46:09	11:15:43	18:44:52	07h 30m 20.73s	+21° 48' 56.5"	1.0165273	1888.06	+67° 53' 21"	20:50:06	19:18:12
14 lug 2002	2452470.0000	08:18:43	03:46:56	11:15:50	18:44:18	07h 34m 24.21s	+21° 40' 00.7"	1.0164801	1888.14	+67° 45' 41"	20:48:58	19:17:32
15 lug 2002	2452471.0000	08:22:40	03:47:44	11:15:56	18:43:42	07h 38m 27.19s	+21° 30' 42.7"	1.0164272	1888.24	+67° 37' 36"	20:47:48	19:16:51
16 lug 2002	2452472.0000	08:26:36	03:48:33	11:16:02	18:43:03	07h 42m 29.64s	+21° 21' 02.7"	1.0163691	1888.35	+67° 29' 08"	20:46:36	19:16:07
17 lug 2002	2452473.0000	08:30:33	03:49:23	11:16:08	18:42:23	07h 46m 31.55s	+21° 11' 00.9"	1.0163060	1888.47	+67° 20' 16"	20:45:20	19:15:21
18 lug 2002	2452474.0000	08:34:30	03:50:14	11:16:12	18:41:41	07h 50m 32.91s	+21° 00' 37.6"	1.0162384	1888.59	+67° 11' 00"	20:44:03	19:14:33
19 lug 2002	2452475.0000	08:38:26	03:51:06	11:16:17	18:40:57	07h 54m 33.72s	+20° 49' 53.1"	1.0161666	1888.73	+67° 01' 20"	20:42:43	19:13:43
20 lug 2002	2452476.0000	08:42:23	03:51:59	11:16:20	18:40:11	07h 58m 33.96s	+20° 38' 47.5"	1.0160909	1888.87	+66° 51' 17"	20:41:20	19:12:51
21 lug 2002	2452477.0000	08:46:19	03:52:52	11:16:23	18:39:23	08h 02m 33.63s	+20° 27' 21.2"	1.0160115	1889.01	+66° 40' 51"	20:39:56	19:11:57
22 lug 2002	2452478.0000	08:50:16	03:53:46	11:16:26	18:38:33	08h 06m 32.72s	+20° 15' 34.3"	1.0159288	1889.17	+66° 30' 02"	20:38:29	19:11:01
23 lug 2002	2452479.0000	08:54:12	03:54:41	11:16:28	18:37:42	08h 10m 31.23s	+20° 03' 27.1"	1.0158427	1889.33	+66° 18' 50"	20:37:01	19:10:03
24 lug 2002	2452480.0000	08:58:09	03:55:37	11:16:29	18:36:48	08h 14m 29.16s	+19° 50' 60.0"	1.0157535	1889.49	+66° 07' 16"	20:35:30	19:09:03
25 lug 2002	2452481.0000	09:02:05	03:56:33	11:16:30	18:35:53	08h 18m 26.49s	+19° 38' 13.0"	1.0156611	1889.67	+65° 55' 20"	20:33:58	19:08:02
26 lug 2002	2452482.0000	09:06:02	03:57:30	11:16:30	18:34:56	08h 22m 23.24s	+19° 25' 06.5"	1.0155654	1889.84	+65° 43' 01"	20:32:24	19:06:59
27 lug 2002	2452483.0000	09:09:59	03:58:27	11:16:30	18:33:57	08h 26m 19.39s	+19° 11' 40.8"	1.0154665	1890.03	+65° 30' 21"	20:30:48	19:05:53
28 lug 2002	2452484.0000	09:13:55	03:59:25	11:16:29	18:32:57	08h 30m 14.95s	+18° 57' 56.0"	1.0153641	1890.22	+65° 17' 20"	20:29:10	19:04:47
29 lug 2002	2452485.0000	09:17:52	04:00:23	11:16:27	18:31:55	08h 34m 09.92s	+18° 43' 52.5"	1.0152581	1890.42	+65° 03' 57"	20:27:31	19:03:38
30 lug 2002	2452486.0000	09:21:48	04:01:22	11:16:25	18:30:51	08h 38m 04.29s	+18° 29' 30.5"	1.0151485	1890.62	+64° 50' 13"	20:25:51	19:02:28
31 lug 2002	2452487.0000	09:25:45	04:02:21	11:16:22	18:29:46	08h 41m 58.08s	+18° 14' 50.2"	1.0150349	1890.83	+64° 36' 09"	20:24:09	19:01:16

Effemeridi di agosto 2002

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 ago 2002	2452488.0000	09:29:41	04:03:21	11:16:19	18:28:39	08h 45m 51.28s	+17° 59' 51.9"	1.0149172	1891.05	+64° 21' 44"	20:22:25	19:00:03
02 ago 2002	2452489.0000	09:33:38	04:04:21	11:16:15	18:27:31	08h 49m 43.90s	+17° 44' 36.0"	1.0147952	1891.28	+64° 06' 59"	20:20:41	18:58:48
03 ago 2002	2452490.0000	09:37:34	04:05:21	11:16:10	18:26:21	08h 53m 35.92s	+17° 29' 02.7"	1.0146687	1891.51	+63° 51' 54"	20:18:55	18:57:32
04 ago 2002	2452491.0000	09:41:31	04:06:22	11:16:05	18:25:10	08h 57m 27.37s	+17° 13' 12.3"	1.0145375	1891.76	+63° 36' 30"	20:17:08	18:56:14
05 ago 2002	2452492.0000	09:45:28	04:07:22	11:16:00	18:23:57	09h 01m 18.23s	+16° 57' 05.0"	1.0144012	1892.01	+63° 20' 46"	20:15:20	18:54:55
06 ago 2002	2452493.0000	09:49:24	04:08:24	11:15:53	18:22:43	09h 05m 08.50s	+16° 40' 41.3"	1.0142598	1892.28	+63° 04' 44"	20:13:31	18:53:35
07 ago 2002	2452494.0000	09:53:21	04:09:25	11:15:47	18:21:27	09h 08m 58.19s	+16° 24' 01.4"	1.0141131	1892.55	+62° 48' 23"	20:11:41	18:52:13
08 ago 2002	2452495.0000	09:57:17	04:10:27	11:15:39	18:20:10	09h 12m 47.29s	+16° 07' 05.6"	1.0139608	1892.83	+62° 31' 44"	20:09:50	18:50:50
09 ago 2002	2452496.0000	10:01:14	04:11:28	11:15:31	18:18:52	09h 16m 35.80s	+15° 49' 54.2"	1.0138030	1893.13	+62° 14' 47"	20:07:58	18:49:25
10 ago 2002	2452497.0000	10:05:10	04:12:30	11:15:22	18:17:33	09h 20m 23.72s	+15° 32' 27.6"	1.0136396	1893.43	+61° 57' 33"	20:06:05	18:48:00
11 ago 2002	2452498.0000	10:09:07	04:13:32	11:15:13	18:16:12	09h 24m 11.05s	+15° 14' 46.1"	1.0134708	1893.75	+61° 40' 01"	20:04:12	18:46:33
12 ago 2002	2452499.0000	10:13:03	04:14:35	11:15:03	18:14:50	09h 27m 57.81s	+14° 56' 50.0"	1.0132969	1894.07	+61° 22' 12"	20:02:18	18:45:05
13 ago 2002	2452500.0000	10:17:00	04:15:37	11:14:53	18:13:27	09h 31m 43.98s	+14° 38' 39.6"	1.0131182	1894.41	+61° 04' 07"	20:00:23	18:43:36
14 ago 2002	2452501.0000	10:20:57	04:16:39	11:14:42	18:12:02	09h 35m 29.59s	+14° 20' 15.2"	1.0129350	1894.75	+60° 45' 46"	19:58:27	18:42:06
15 ago 2002	2452502.0000	10:24:53	04:17:41	11:14:31	18:10:37	09h 39m 14.65s	+14° 01' 37.2"	1.0127477	1895.10	+60° 27' 09"	19:56:31	18:40:35
16 ago 2002	2452503.0000	10:28:50	04:18:44	11:14:19	18:09:10	09h 42m 59.15s	+13° 42' 46.0"	1.0125568	1895.46	+60° 08' 16"	19:54:34	18:39:02
17 ago 2002	2452504.0000	10:32:46	04:19:46	11:14:06	18:07:43	09h 46m 43.12s	+13° 23' 41.7"	1.0123626	1895.82	+59° 49' 09"	19:52:36	18:37:29
18 ago 2002	2452505.0000	10:36:43	04:20:48	11:13:53	18:06:14	09h 50m 26.56s	+13° 04' 24.9"	1.0121654	1896.19	+59° 29' 47"	19:50:38	18:35:55
19 ago 2002	2452506.0000	10:40:39	04:21:51	11:13:39	18:04:44	09h 54m 09.48s	+12° 44' 55.7"	1.0119655	1896.57	+59° 10' 10"	19:48:40	18:34:20
20 ago 2002	2452507.0000	10:44:36	04:22:53	11:13:25	18:03:14	09h 57m 51.91s	+12° 25' 14.5"	1.0117632	1896.95	+58° 50' 20"	19:46:41	18:32:44
21 ago 2002	2452508.0000	10:48:32	04:23:55	11:13:10	18:01:42	10h 01m 33.85s	+12° 05' 21.6"	1.0115586	1897.33	+58° 30' 16"	19:44:42	18:31:07
22 ago 2002	2452509.0000	10:52:29	04:24:57	11:12:55	18:00:09	10h 05m 15.32s	+11° 45' 17.3"	1.0113518	1897.72	+58° 09' 59"	19:42:43	18:29:30
23 ago 2002	2452510.0000	10:56:26	04:26:00	11:12:40	17:58:36	10h 08m 56.34s	+11° 25' 01.9"	1.0111431	1898.11	+57° 49' 29"	19:40:43	18:27:51
24 ago 2002	2452511.0000	11:00:22	04:27:02	11:12:24	17:57:02	10h 12m 36.92s	+11° 04' 35.7"	1.0109323	1898.51	+57° 28' 47"	19:38:44	18:26:12
25 ago 2002	2452512.0000	11:04:19	04:28:04	11:12:08	17:55:27	10h 16m 17.08s	+10° 43' 59.0"	1.0107194	1898.90	+57° 07' 53"	19:36:44	18:24:33
26 ago 2002	2452513.0000	11:08:15	04:29:06	11:11:51	17:53:51	10h 19m 56.85s	+10° 23' 12.1"	1.0105046	1899.31	+56° 46' 47"	19:34:43	18:22:52
27 ago 2002	2452514.0000	11:12:12	04:30:08	11:11:34	17:52:15	10h 23m 36.23s	+10° 02' 15.2"	1.0102875	1899.72	+56° 25' 30"	19:32:43	18:21:12
28 ago 2002	2452515.0000	11:16:08	04:31:10	11:11:16	17:50:38	10h 27m 15.25s	+09° 41' 08.7"	1.0100683	1900.13	+56° 04' 02"	19:30:42	18:19:30
29 ago 2002	2452516.0000	11:20:05	04:32:12	11:10:58	17:49:00	10h 30m 53.92s	+09° 19' 52.9"	1.0098467	1900.55	+55° 42' 24"	19:28:42	18:17:48
30 ago 2002	2452517.0000	11:24:01	04:33:14	11:10:40	17:47:22	10h 34m 32.26s	+08° 58' 28.1"	1.0096225	1900.97	+55° 20' 35"	19:26:41	18:16:06
31 ago 2002	2452518.0000	11:27:58	04:34:16	11:10:21	17:45:43	10h 38m 10.30s	+08° 36' 54.6"	1.0093957	1901.40	+54° 58' 36"	19:24:41	18:14:23

Effemeridi di settembre 2002

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 set 2002	2452519.0000	11:31:55	04:35:18	11:10:03	17:44:03	10h 41m 48.04s	+08° 15' 12.7"	1.0091660	1901.83	+54° 36' 28"	19:22:40	18:12:39
02 set 2002	2452520.0000	11:35:51	04:36:20	11:09:44	17:42:23	10h 45m 25.50s	+07° 53' 22.8"	1.0089332	1902.27	+54° 14' 12"	19:20:40	18:10:55
03 set 2002	2452521.0000	11:39:48	04:37:22	11:09:24	17:40:42	10h 49m 02.69s	+07° 31' 25.1"	1.0086971	1902.71	+53° 51' 46"	19:18:39	18:09:11
04 set 2002	2452522.0000	11:43:44	04:38:24	11:09:05	17:39:01	10h 52m 39.64s	+07° 09' 20.0"	1.0084575	1903.16	+53° 29' 12"	19:16:39	18:07:26
05 set 2002	2452523.0000	11:47:41	04:39:26	11:08:45	17:37:20	10h 56m 16.35s	+06° 47' 07.8"	1.0082142	1903.62	+53° 06' 30"	19:14:39	18:05:42
06 set 2002	2452524.0000	11:51:37	04:40:28	11:08:25	17:35:38	10h 59m 52.83s	+06° 24' 49.0"	1.0079670	1904.09	+52° 43' 41"	19:12:39	18:03:56
07 set 2002	2452525.0000	11:55:34	04:41:30	11:08:04	17:33:55	11h 03m 29.11s	+06° 02' 23.7"	1.0077158	1904.56	+52° 20' 45"	19:10:39	18:02:11
08 set 2002	2452526.0000	11:59:30	04:42:32	11:07:44	17:32:12	11h 07m 05.18s	+05° 39' 52.5"	1.0074608	1905.05	+51° 57' 42"	19:08:40	18:00:25
09 set 2002	2452527.0000	12:03:27	04:43:33	11:07:23	17:30:29	11h 10m 41.08s	+05° 17' 15.5"	1.0072019	1905.54	+51° 34' 33"	19:06:41	17:58:39
10 set 2002	2452528.0000	12:07:23	04:44:35	11:07:03	17:28:46	11h 14m 16.82s	+04° 54' 33.3"	1.0069396	1906.03	+51° 11' 18"	19:04:42	17:56:53
11 set 2002	2452529.0000	12:11:20	04:45:37	11:06:42	17:27:02	11h 17m 52.41s	+04° 31' 46.0"	1.0066742	1906.54	+50° 47' 58"	19:02:43	17:55:07
12 set 2002	2452530.0000	12:15:17	04:46:39	11:06:20	17:25:18	11h 21m 27.86s	+04° 08' 54.1"	1.0064059	1907.04	+50° 24' 32"	19:00:44	17:53:21
13 set 2002	2452531.0000	12:19:13	04:47:41	11:05:59	17:23:34	11h 25m 03.21s	+03° 45' 58.0"	1.0061354	1907.56	+50° 01' 02"	18:58:46	17:51:34
14 set 2002	2452532.0000	12:23:10	04:48:43	11:05:38	17:21:50	11h 28m 38.47s	+03° 22' 57.9"	1.0058629	1908.07	+49° 37' 27"	18:56:49	17:49:48
15 set 2002	2452533.0000	12:27:06	04:49:45	11:05:17	17:20:05	11h 32m 13.65s	+02° 59' 54.3"	1.0055889	1908.59	+49° 13' 49"	18:54:51	17:48:01
16 set 2002	2452534.0000	12:31:03	04:50:47	11:04:55	17:18:20	11h 35m 48.77s	+02° 36' 47.4"	1.0053137	1909.12	+48° 50' 08"	18:52:55	17:46:15
17 set 2002	2452535.0000	12:34:59	04:51:49	11:04:34	17:16:36	11h 39m 23.87s	+02° 13' 37.6"	1.0050375	1909.64	+48° 26' 23"	18:50:58	17:44:28
18 set 2002	2452536.0000	12:38:56	04:52:51	11:04:12	17:14:51	11h 42m 58.95s	+01° 50' 25.2"	1.0047607	1910.17	+48° 02' 36"	18:49:03	17:42:42
19 set 2002	2452537.0000	12:42:52	04:53:53	11:03:51	17:13:06	11h 46m 34.05s	+01° 27' 10.5"	1.0044835	1910.69	+47° 38' 47"	18:47:07	17:40:56
20 set 2002	2452538.0000	12:46:49	04:54:55	11:03:29	17:11:21	11h 50m 09.18s	+01° 03' 53.8"	1.0042061	1911.22	+47° 14' 56"	18:45:12	17:39:10
21 set 2002	2452539.0000	12:50:46	04:55:58	11:03:08	17:09:36	11h 53m 44.37s	+00° 40' 35.5"	1.0039285	1911.75	+46° 51' 04"	18:43:18	17:37:24
22 set 2002	2452540.0000	12:54:42	04:57:00	11:02:47	17:07:51	11h 57m 19.64s	+00° 17' 15.8"	1.0036510	1912.28	+46° 27' 11"	18:41:25	17:35:38
23 set 2002	2452541.0000	12:58:39	04:58:03	11:02:26	17:06:06	12h 00m 55.03s	-00° 06' 04.9"	1.0033735	1912.81	+46° 03' 17"	18:39:32	17:33:52
24 set 2002	2452542.0000	13:02:35	04:59:05	11:02:05	17:04:22	12h 04m 30.54s	-00° 29' 26.3"	1.0030961	1913.34	+45° 39' 23"	18:37:39	17:32:07
25 set 2002	2452543.0000	13:06:32	05:00:08	11:01:44	17:02:37	12h 08m 06.22s	-00° 52' 48.1"	1.0028187	1913.87	+45° 15' 29"	18:35:48	17:30:22
26 set 2002	2452544.0000	13:10:28	05:01:11	11:01:23	17:00:53	12h 11m 42.07s	-01° 16' 10.0"	1.0025413	1914.39	+44° 51' 36"	18:33:57	17:28:37
27 set 2002	2452545.0000	13:14:25	05:02:15	11:01:03	16:59:09	12h 15m 18.12s	-01° 39' 31.6"	1.0022639	1914.92	+44° 27' 44"	18:32:07	17:26:53
28 set 2002	2452546.0000	13:18:21	05:03:18	11:00:42	16:57:25	12h 18m 54.40s	-02° 02' 52.7"	1.0019862	1915.46	+44° 03' 53"	18:30:17	17:25:09
29 set 2002	2452547.0000	13:22:18	05:04:22	11:00:22	16:55:41	12h 22m 30.93s	-02° 26' 12.9"	1.0017082	1915.99	+43° 40' 05"	18:28:28	17:23:25
30 set 2002	2452548.0000	13:26:15	05:05:26	11:00:03	16:53:58	12h 26m 07.72s	-02° 49' 31.8"	1.0014297	1916.52	+43° 16' 18"	18:26:41	17:21:42

Effemeridi di ottobre 2002

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 ott 2002	2452549.0000	13:30:11	05:06:30	10:59:43	16:52:15	12h 29m 44.79s	-03° 12' 49.1"	1.0011505	1917.05	+42° 52' 34"	18:24:54	17:20:00
02 ott 2002	2452550.0000	13:34:08	05:07:34	10:59:24	16:50:33	12h 33m 22.17s	-03° 36' 04.5"	1.0008703	1917.59	+42° 28' 54"	18:23:08	17:18:17
03 ott 2002	2452551.0000	13:38:04	05:08:39	10:59:05	16:48:50	12h 36m 59.88s	-03° 59' 17.5"	1.0005889	1918.13	+42° 05' 17"	18:21:22	17:16:36
04 ott 2002	2452552.0000	13:42:01	05:09:44	10:58:47	16:47:09	12h 40m 37.92s	-04° 22' 27.8"	1.0003061	1918.67	+41° 41' 44"	18:19:38	17:14:55
05 ott 2002	2452553.0000	13:45:57	05:10:49	10:58:28	16:45:27	12h 44m 16.31s	-04° 45' 35.1"	1.0000218	1919.22	+41° 18' 15"	18:17:55	17:13:14
06 ott 2002	2452554.0000	13:49:54	05:11:55	10:58:11	16:43:46	12h 47m 55.08s	-05° 08' 38.9"	0.9997358	1919.77	+40° 54' 51"	18:16:12	17:11:34
07 ott 2002	2452555.0000	13:53:50	05:13:01	10:57:53	16:42:06	12h 51m 34.24s	-05° 31' 38.8"	0.9994481	1920.32	+40° 31' 32"	18:14:31	17:09:55
08 ott 2002	2452556.0000	13:57:47	05:14:07	10:57:36	16:40:26	12h 55m 13.80s	-05° 54' 34.5"	0.9991590	1920.88	+40° 08' 20"	18:12:50	17:08:17
09 ott 2002	2452557.0000	14:01:44	05:15:13	10:57:20	16:38:47	12h 58m 53.79s	-06° 17' 25.6"	0.9988686	1921.43	+39° 45' 13"	18:11:11	17:06:39
10 ott 2002	2452558.0000	14:05:40	05:16:20	10:57:04	16:37:08	13h 02m 34.22s	-06° 40' 11.6"	0.9985774	1921.99	+39° 22' 13"	18:09:33	17:05:02
11 ott 2002	2452559.0000	14:09:37	05:17:27	10:56:48	16:35:30	13h 06m 15.10s	-07° 02' 52.2"	0.9982856	1922.56	+38° 59' 20"	18:07:56	17:03:25
12 ott 2002	2452560.0000	14:13:33	05:18:34	10:56:33	16:33:53	13h 09m 56.45s	-07° 25' 27.0"	0.9979937	1923.12	+38° 36' 34"	18:06:19	17:01:50
13 ott 2002	2452561.0000	14:17:30	05:19:41	10:56:18	16:32:16	13h 13m 38.28s	-07° 47' 55.6"	0.9977022	1923.68	+38° 13' 56"	18:04:44	17:00:15
14 ott 2002	2452562.0000	14:21:26	05:20:49	10:56:04	16:30:40	13h 17m 20.62s	-08° 10' 17.5"	0.9974113	1924.24	+37° 51' 27"	18:03:11	16:58:41
15 ott 2002	2452563.0000	14:25:23	05:21:57	10:55:50	16:29:05	13h 21m 03.48s	-08° 32' 32.5"	0.9971215	1924.80	+37° 29' 06"	18:01:38	16:57:08
16 ott 2002	2452564.0000	14:29:19	05:23:06	10:55:37	16:27:31	13h 24m 46.88s	-08° 54' 40.1"	0.9968329	1925.36	+37° 06' 55"	18:00:07	16:55:36
17 ott 2002	2452565.0000	14:33:16	05:24:14	10:55:24	16:25:57	13h 28m 30.84s	-09° 16' 40.0"	0.9965460	1925.91	+36° 44' 53"	17:58:36	16:54:05
18 ott 2002	2452566.0000	14:37:13	05:25:23	10:55:12	16:24:24	13h 32m 15.39s	-09° 38' 31.9"	0.9962610	1926.46	+36° 23' 01"	17:57:08	16:52:34
19 ott 2002	2452567.0000	14:41:09	05:26:33	10:55:01	16:22:53	13h 36m 00.54s	-10° 00' 15.2"	0.9959780	1927.01	+36° 01' 20"	17:55:40	16:51:05
20 ott 2002	2452568.0000	14:45:06	05:27:42	10:54:50	16:21:22	13h 39m 46.31s	-10° 21' 49.8"	0.9956973	1927.55	+35° 39' 50"	17:54:14	16:49:37
21 ott 2002	2452569.0000	14:49:02	05:28:52	10:54:40	16:19:52	13h 43m 32.72s	-10° 43' 15.2"	0.9954190	1928.09	+35° 18' 31"	17:52:49	16:48:10
22 ott 2002	2452570.0000	14:52:59	05:30:02	10:54:31	16:18:23	13h 47m 19.80s	-11° 04' 31.0"	0.9951432	1928.63	+34° 57' 23"	17:51:25	16:46:44
23 ott 2002	2452571.0000	14:56:55	05:31:13	10:54:22	16:16:55	13h 51m 07.56s	-11° 25' 36.9"	0.9948700	1929.16	+34° 36' 28"	17:50:03	16:45:19
24 ott 2002	2452572.0000	15:00:52	05:32:24	10:54:14	16:15:29	13h 54m 56.01s	-11° 46' 32.5"	0.9945993	1929.68	+34° 15' 45"	17:48:42	16:43:56
25 ott 2002	2452573.0000	15:04:48	05:33:35	10:54:06	16:14:03	13h 58m 45.19s	-12° 07' 17.5"	0.9943312	1930.20	+33° 55' 15"	17:47:23	16:42:34
26 ott 2002	2452574.0000	15:08:45	05:34:46	10:54:00	16:12:39	14h 02m 35.09s	-12° 27' 51.5"	0.9940656	1930.72	+33° 34' 59"	17:46:05	16:41:13
27 ott 2002	2452575.0000	15:12:42	05:35:58	10:53:54	16:11:15	14h 06m 25.74s	-12° 48' 14.0"	0.9938024	1931.23	+33° 14' 56"	17:44:49	16:39:53
28 ott 2002	2452576.0000	15:16:38	05:37:10	10:53:49	16:09:53	14h 10m 17.16s	-13° 08' 24.8"	0.9935415	1931.74	+32° 55' 07"	17:43:35	16:38:34
29 ott 2002	2452577.0000	15:20:35	05:38:22	10:53:44	16:08:33	14h 14m 09.34s	-13° 28' 23.3"	0.9932826	1932.24	+32° 35' 33"	17:42:22	16:37:17
30 ott 2002	2452578.0000	15:24:31	05:39:35	10:53:41	16:07:13	14h 18m 02.31s	-13° 48' 09.2"	0.9930256	1932.74	+32° 16' 14"	17:41:10	16:36:02
31 ott 2002	2452579.0000	15:28:28	05:40:48	10:53:38	16:05:55	14h 21m 56.07s	-14° 07' 42.1"	0.9927702	1933.24	+31° 57' 10"	17:40:00	16:34:47

Effemeridi di novembre 2002

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 nov 2002	2452580.0000	15:32:24	05:42:01	10:53:36	16:04:39	14h 25m 50.64s	-14° 27' 01.5"	0.9925162	1933.73	+31° 38' 22"	17:38:52	16:33:35
02 nov 2002	2452581.0000	15:36:21	05:43:14	10:53:35	16:03:23	14h 29m 46.02s	-14° 46' 07.0"	0.9922632	1934.22	+31° 19' 51"	17:37:46	16:32:23
03 nov 2002	2452582.0000	15:40:17	05:44:28	10:53:34	16:02:10	14h 33m 42.22s	-15° 04' 58.3"	0.9920112	1934.72	+31° 01' 35"	17:36:41	16:31:14
04 nov 2002	2452583.0000	15:44:14	05:45:41	10:53:35	16:00:57	14h 37m 39.24s	-15° 23' 34.9"	0.9917600	1935.21	+30° 43' 37"	17:35:38	16:30:05
05 nov 2002	2452584.0000	15:48:10	05:46:55	10:53:36	15:59:47	14h 41m 37.10s	-15° 41' 56.3"	0.9915096	1935.69	+30° 25' 57"	17:34:36	16:28:59
06 nov 2002	2452585.0000	15:52:07	05:48:09	10:53:38	15:58:37	14h 45m 35.78s	-16° 00' 02.2"	0.9912601	1936.18	+30° 08' 34"	17:33:37	16:27:54
07 nov 2002	2452586.0000	15:56:04	05:49:23	10:53:41	15:57:30	14h 49m 35.30s	-16° 17' 52.1"	0.9910118	1936.67	+29° 51' 29"	17:32:39	16:26:50
08 nov 2002	2452587.0000	16:00:00	05:50:37	10:53:45	15:56:24	14h 53m 35.64s	-16° 35' 25.5"	0.9907648	1937.15	+29° 34' 42"	17:31:43	16:25:49
09 nov 2002	2452588.0000	16:03:57	05:51:51	10:53:50	15:55:19	14h 57m 36.81s	-16° 52' 42.1"	0.9905196	1937.63	+29° 18' 15"	17:30:49	16:24:49
10 nov 2002	2452589.0000	16:07:53	05:53:05	10:53:55	15:54:17	15h 01m 38.81s	-17° 09' 41.4"	0.9902766	1938.11	+29° 02' 07"	17:29:56	16:23:51
11 nov 2002	2452590.0000	16:11:50	05:54:19	10:54:01	15:53:16	15h 05m 41.64s	-17° 26' 23.0"	0.9900360	1938.58	+28° 46' 19"	17:29:06	16:22:54
12 nov 2002	2452591.0000	16:15:46	05:55:33	10:54:08	15:52:17	15h 09m 45.29s	-17° 42' 46.5"	0.9897983	1939.04	+28° 30' 51"	17:28:17	16:21:59
13 nov 2002	2452592.0000	16:19:43	05:56:46	10:54:16	15:51:19	15h 13m 49.77s	-17° 58' 51.5"	0.9895638	1939.50	+28° 15' 43"	17:27:30	16:21:07
14 nov 2002	2452593.0000	16:23:40	05:58:00	10:54:25	15:50:24	15h 17m 55.08s	-18° 14' 37.6"	0.9893328	1939.95	+28° 00' 56"	17:26:45	16:20:16
15 nov 2002	2452594.0000	16:27:36	05:59:13	10:54:35	15:49:30	15h 22m 01.23s	-18° 30' 04.4"	0.9891055	1940.40	+27° 46' 30"	17:26:03	16:19:27
16 nov 2002	2452595.0000	16:31:33	06:00:26	10:54:45	15:48:39	15h 26m 08.20s	-18° 45' 11.7"	0.9888823	1940.84	+27° 32' 26"	17:25:22	16:18:39
17 nov 2002	2452596.0000	16:35:29	06:01:39	10:54:56	15:47:49	15h 30m 16.00s	-18° 59' 58.9"	0.9886633	1941.27	+27° 18' 43"	17:24:43	16:17:54
18 nov 2002	2452597.0000	16:39:26	06:02:51	10:55:08	15:47:01	15h 34m 24.63s	-19° 14' 25.8"	0.9884487	1941.69	+27° 05' 22"	17:24:06	16:17:11
19 nov 2002	2452598.0000	16:43:22	06:04:03	10:55:21	15:46:16	15h 38m 34.09s	-19° 28' 31.9"	0.9882388	1942.10	+26° 52' 24"	17:23:31	16:16:30
20 nov 2002	2452599.0000	16:47:19	06:05:15	10:55:35	15:45:32	15h 42m 44.37s	-19° 42' 17.0"	0.9880336	1942.50	+26° 39' 48"	17:22:57	16:15:50
21 nov 2002	2452600.0000	16:51:15	06:06:26	10:55:50	15:44:51	15h 46m 55.47s	-19° 55' 40.7"	0.9878333	1942.90	+26° 27' 35"	17:22:26	16:15:13
22 nov 2002	2452601.0000	16:55:12	06:07:37	10:56:05	15:44:11	15h 51m 07.37s	-20° 08' 42.6"	0.9876378	1943.28	+26° 15' 46"	17:21:58	16:14:38
23 nov 2002	2452602.0000	16:59:09	06:08:47	10:56:21	15:43:34	15h 55m 20.08s	-20° 21' 22.5"	0.9874472	1943.66	+26° 04' 19"	17:21:31	16:14:05
24 nov 2002	2452603.0000	17:03:05	06:09:57	10:56:38	15:42:59	15h 59m 33.58s	-20° 33' 39.9"	0.9872614	1944.02	+25° 53' 17"	17:21:06	16:13:34
25 nov 2002	2452604.0000	17:07:02	06:11:06	10:56:56	15:42:26	16h 03m 47.86s	-20° 45' 34.5"	0.9870803	1944.38	+25° 42' 39"	17:20:43	16:13:05
26 nov 2002	2452605.0000	17:10:58	06:12:14	10:57:14	15:41:55	16h 08m 02.91s	-20° 57' 06.1"	0.9869037	1944.73	+25° 32' 25"	17:20:22	16:12:39
27 nov 2002	2452606.0000	17:14:55	06:13:22	10:57:33	15:41:27	16h 12m 18.71s	-21° 08' 14.2"	0.9867314	1945.07	+25° 22' 35"	17:20:04	16:12:14
28 nov 2002	2452607.0000	17:18:51	06:14:28	10:57:53	15:41:01	16h 16m 35.25s	-21° 18' 58.6"	0.9865631	1945.40	+25° 13' 10"	17:19:47	16:11:52
29 nov 2002	2452608.0000	17:22:48	06:15:34	10:58:14	15:40:37	16h 20m 52.52s	-21° 29' 18.8"	0.9863986	1945.72	+25° 04' 11"	17:19:33	16:11:32
30 nov 2002	2452609.0000	17:26:44	06:16:39	10:58:36	15:40:15	16h 25m 10.49s	-21° 39' 14.7"	0.9862376	1946.04	+24° 55' 36"	17:19:20	16:11:15

Effemeridi di dicembre 2002

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 dic 2002	2452610.0000	17:30:41	06:17:43	10:58:58	15:39:56	16h 29m 29.16s	-21° 48' 45.8"	0.9860799	1946.35	+24° 47' 27"	17:19:10	16:10:59
02 dic 2002	2452611.0000	17:34:38	06:18:46	10:59:21	15:39:40	16h 33m 48.48s	-21° 57' 51.9"	0.9859251	1946.66	+24° 39' 44"	17:19:02	16:10:46
03 dic 2002	2452612.0000	17:38:34	06:19:48	10:59:44	15:39:25	16h 38m 08.45s	-22° 06' 32.8"	0.9857731	1946.96	+24° 32' 26"	17:18:56	16:10:35
04 dic 2002	2452613.0000	17:42:31	06:20:49	11:00:08	15:39:13	16h 42m 29.02s	-22° 14' 48.0"	0.9856239	1947.25	+24° 25' 34"	17:18:52	16:10:26
05 dic 2002	2452614.0000	17:46:27	06:21:48	11:00:33	15:39:04	16h 46m 50.17s	-22° 22' 37.4"	0.9854776	1947.54	+24° 19' 09"	17:18:50	16:10:20
06 dic 2002	2452615.0000	17:50:24	06:22:47	11:00:58	15:38:56	16h 51m 11.87s	-22° 30' 00.7"	0.9853342	1947.83	+24° 13' 10"	17:18:50	16:10:15
07 dic 2002	2452616.0000	17:54:20	06:23:44	11:01:23	15:38:52	16h 55m 34.09s	-22° 36' 57.6"	0.9851939	1948.10	+24° 07' 37"	17:18:52	16:10:13
08 dic 2002	2452617.0000	17:58:17	06:24:39	11:01:50	15:38:49	16h 59m 56.78s	-22° 43' 28.0"	0.9850571	1948.37	+24° 02' 31"	17:18:56	16:10:14
09 dic 2002	2452618.0000	18:02:13	06:25:33	11:02:16	15:38:49	17h 04m 19.93s	-22° 49' 31.5"	0.9849241	1948.64	+23° 57' 52"	17:19:02	16:10:16
10 dic 2002	2452619.0000	18:06:10	06:26:26	11:02:43	15:38:51	17h 08m 43.50s	-22° 55' 08.0"	0.9847951	1948.89	+23° 53' 39"	17:19:10	16:10:21
11 dic 2002	2452620.0000	18:10:07	06:27:17	11:03:11	15:38:56	17h 13m 07.45s	-23° 00' 17.3"	0.9846705	1949.14	+23° 49' 54"	17:19:20	16:10:27
12 dic 2002	2452621.0000	18:14:03	06:28:06	11:03:38	15:39:03	17h 17m 31.78s	-23° 04' 59.2"	0.9845505	1949.38	+23° 46' 35"	17:19:32	16:10:37
13 dic 2002	2452622.0000	18:18:00	06:28:53	11:04:06	15:39:13	17h 21m 56.43s	-23° 09' 13.6"	0.9844353	1949.60	+23° 43' 44"	17:19:46	16:10:48
14 dic 2002	2452623.0000	18:21:56	06:29:39	11:04:35	15:39:24	17h 26m 21.39s	-23° 13' 00.4"	0.9843254	1949.82	+23° 41' 19"	17:20:02	16:11:01
15 dic 2002	2452624.0000	18:25:53	06:30:23	11:05:04	15:39:39	17h 30m 46.63s	-23° 16' 19.3"	0.9842209	1950.03	+23° 39' 22"	17:20:19	16:11:17
16 dic 2002	2452625.0000	18:29:49	06:31:05	11:05:33	15:39:55	17h 35m 12.11s	-23° 19' 10.4"	0.9841219	1950.23	+23° 37' 52"	17:20:39	16:11:34
17 dic 2002	2452626.0000	18:33:46	06:31:46	11:06:02	15:40:14	17h 39m 37.81s	-23° 21' 33.6"	0.9840289	1950.41	+23° 36' 49"	17:21:00	16:11:54
18 dic 2002	2452627.0000	18:37:42	06:32:24	11:06:31	15:40:35	17h 44m 03.69s	-23° 23' 28.7"	0.9839418	1950.58	+23° 36' 13"	17:21:23	16:12:16
19 dic 2002	2452628.0000	18:41:39	06:33:01	11:07:01	15:40:58	17h 48m 29.72s	-23° 24' 55.7"	0.9838608	1950.74	+23° 36' 05"	17:21:48	16:12:40
20 dic 2002	2452629.0000	18:45:36	06:33:35	11:07:30	15:41:24	17h 52m 55.88s	-23° 25' 54.6"	0.9837861	1950.89	+23° 36' 24"	17:22:15	16:13:06
21 dic 2002	2452630.0000	18:49:32	06:34:08	11:08:00	15:41:52	17h 57m 22.14s	-23° 26' 25.4"	0.9837177	1951.03	+23° 37' 09"	17:22:43	16:13:34
22 dic 2002	2452631.0000	18:53:29	06:34:38	11:08:30	15:42:22	18h 01m 48.45s	-23° 26' 27.9"	0.9836556	1951.15	+23° 38' 22"	17:23:13	16:14:04
23 dic 2002	2452632.0000	18:57:25	06:35:06	11:08:59	15:42:54	18h 06m 14.80s	-23° 26' 02.3"	0.9835996	1951.26	+23° 40' 02"	17:23:45	16:14:36
24 dic 2002	2452633.0000	19:01:22	06:35:32	11:09:29	15:43:28	18h 10m 41.14s	-23° 25' 08.4"	0.9835496	1951.36	+23° 42' 09"	17:24:18	16:15:10
25 dic 2002	2452634.0000	19:05:18	06:35:56	11:09:59	15:44:05	18h 15m 07.45s	-23° 23' 46.4"	0.9835054	1951.45	+23° 44' 44"	17:24:53	16:15:46
26 dic 2002	2452635.0000	19:09:15	06:36:18	11:10:29	15:44:43	18h 19m 33.69s	-23° 21' 56.2"	0.9834668	1951.52	+23° 47' 45"	17:25:30	16:16:24
27 dic 2002	2452636.0000	19:13:12	06:36:38	11:10:58	15:45:23	18h 23m 59.85s	-23° 19' 37.8"	0.9834334	1951.59	+23° 51' 12"	17:26:08	16:17:03
28 dic 2002	2452637.0000	19:17:08	06:36:55	11:11:28	15:46:06	18h 28m 25.88s	-23° 16' 51.3"	0.9834049	1951.65	+23° 55' 07"	17:26:48	16:17:44
29 dic 2002	2452638.0000	19:21:05	06:37:10	11:11:57	15:46:50	18h 32m 51.75s	-23° 13' 36.8"	0.9833810	1951.70	+23° 59' 28"	17:27:29	16:18:27
30 dic 2002	2452639.0000	19:25:01	06:37:23	11:12:26	15:47:37	18h 37m 17.43s	-23° 09' 54.3"	0.9833614	1951.73	+24° 04' 16"	17:28:11	16:19:12
31 dic 2002	2452640.0000	19:28:58	06:37:33	11:12:55	15:48:25	18h 41m 42.88s	-23° 05' 44.0"	0.9833458	1951.77	+24° 09' 30"	17:28:55	16:19:58

Effemeridi di gennaio 2003

Date	Giorno Giuliano	T. sid. loc.	Sorge	Transita	Tramonta	Asc. retta	Dec	Distanza	Diam "	Altezza	Crep. ast.	Crep civ.
01 gen 2003	2452641.0000	19:32:54	06:37:41	11:13:24	15:49:15	18h 46m 08.07s	-23° 01' 06.0"	0.9833339	1951.79	+24° 15' 10"	17:29:40	16:20:46
02 gen 2003	2452642.0000	19:36:51	06:37:47	11:13:52	15:50:06	18h 50m 32.96s	-22° 56' 00.4"	0.9833258	1951.80	+24° 21' 16"	17:30:26	16:21:36
03 gen 2003	2452643.0000	19:40:47	06:37:51	11:14:20	15:50:59	18h 54m 57.50s	-22° 50' 27.3"	0.9833213	1951.81	+24° 27' 48"	17:31:14	16:22:27
04 gen 2003	2452644.0000	19:44:44	06:37:52	11:14:48	15:51:54	18h 59m 21.66s	-22° 44' 27.0"	0.9833205	1951.82	+24° 34' 45"	17:32:03	16:23:19
05 gen 2003	2452645.0000	19:48:41	06:37:51	11:15:15	15:52:51	19h 03m 45.41s	-22° 37' 59.7"	0.9833236	1951.81	+24° 42' 08"	17:32:53	16:24:13
06 gen 2003	2452646.0000	19:52:37	06:37:47	11:15:42	15:53:48	19h 08m 08.71s	-22° 31' 05.4"	0.9833306	1951.80	+24° 49' 56"	17:33:44	16:25:08
07 gen 2003	2452647.0000	19:56:34	06:37:41	11:16:08	15:54:48	19h 12m 31.54s	-22° 23' 44.4"	0.9833418	1951.77	+24° 58' 09"	17:34:36	16:26:04
08 gen 2003	2452648.0000	20:00:30	06:37:33	11:16:34	15:55:48	19h 16m 53.86s	-22° 15' 56.9"	0.9833574	1951.74	+25° 06' 47"	17:35:29	16:27:02
09 gen 2003	2452649.0000	20:04:27	06:37:22	11:16:59	15:56:50	19h 21m 15.64s	-22° 07' 43.2"	0.9833776	1951.70	+25° 15' 49"	17:36:23	16:28:01
10 gen 2003	2452650.0000	20:08:23	06:37:09	11:17:24	15:57:53	19h 25m 36.87s	-21° 59' 03.5"	0.9834027	1951.65	+25° 25' 15"	17:37:18	16:29:00
11 gen 2003	2452651.0000	20:12:20	06:36:54	11:17:48	15:58:58	19h 29m 57.53s	-21° 49' 58.0"	0.9834329	1951.59	+25° 35' 05"	17:38:14	16:30:01
12 gen 2003	2452652.0000	20:16:16	06:36:36	11:18:11	16:00:03	19h 34m 17.58s	-21° 40' 27.1"	0.9834684	1951.52	+25° 45' 19"	17:39:10	16:31:03
13 gen 2003	2452653.0000	20:20:13	06:36:16	11:18:34	16:01:10	19h 38m 37.00s	-21° 30' 30.9"	0.9835093	1951.44	+25° 55' 56"	17:40:08	16:32:06
14 gen 2003	2452654.0000	20:24:10	06:35:54	11:18:56	16:02:17	19h 42m 55.79s	-21° 20' 09.9"	0.9835560	1951.35	+26° 06' 56"	17:41:06	16:33:10
15 gen 2003	2452655.0000	20:28:06	06:35:29	11:19:18	16:03:26	19h 47m 13.91s	-21° 09' 24.3"	0.9836086	1951.24	+26° 18' 19"	17:42:05	16:34:14
16 gen 2003	2452656.0000	20:32:03	06:35:02	11:19:39	16:04:35	19h 51m 31.36s	-20° 58' 14.5"	0.9836672	1951.13	+26° 30' 05"	17:43:05	16:35:20
17 gen 2003	2452657.0000	20:35:59	06:34:33	11:19:59	16:05:45	19h 55m 48.12s	-20° 46' 40.6"	0.9837321	1951.00	+26° 42' 12"	17:44:05	16:36:26
18 gen 2003	2452658.0000	20:39:56	06:34:02	11:20:19	16:06:56	20h 00m 04.17s	-20° 34' 43.2"	0.9838033	1950.86	+26° 54' 41"	17:45:06	16:37:32
19 gen 2003	2452659.0000	20:43:52	06:33:28	11:20:37	16:08:08	20h 04m 19.50s	-20° 22' 22.4"	0.9838809	1950.70	+27° 07' 32"	17:46:07	16:38:40
20 gen 2003	2452660.0000	20:47:49	06:32:52	11:20:55	16:09:20	20h 08m 34.10s	-20° 09' 38.6"	0.9839648	1950.54	+27° 20' 44"	17:47:10	16:39:48
21 gen 2003	2452661.0000	20:51:45	06:32:15	11:21:13	16:10:34	20h 12m 47.97s	-19° 56' 32.2"	0.9840548	1950.36	+27° 34' 17"	17:48:12	16:40:57
22 gen 2003	2452662.0000	20:55:42	06:31:35	11:21:29	16:11:47	20h 17m 01.08s	-19° 43' 03.4"	0.9841510	1950.17	+27° 48' 11"	17:49:15	16:42:06
23 gen 2003	2452663.0000	20:59:39	06:30:53	11:21:45	16:13:01	20h 21m 13.45s	-19° 29' 12.6"	0.9842528	1949.97	+28° 02' 24"	17:50:19	16:43:16
24 gen 2003	2452664.0000	21:03:35	06:30:09	11:22:00	16:14:16	20h 25m 25.06s	-19° 15' 00.2"	0.9843601	1949.75	+28° 16' 58"	17:51:23	16:44:26
25 gen 2003	2452665.0000	21:07:32	06:29:23	11:22:14	16:15:31	20h 29m 35.90s	-19° 00' 26.4"	0.9844725	1949.53	+28° 31' 51"	17:52:28	16:45:37
26 gen 2003	2452666.0000	21:11:28	06:28:35	11:22:28	16:16:47	20h 33m 45.98s	-18° 45' 31.6"	0.9845895	1949.30	+28° 47' 04"	17:53:33	16:46:48
27 gen 2003	2452667.0000	21:15:25	06:27:45	11:22:41	16:18:03	20h 37m 55.28s	-18° 30' 16.3"	0.9847109	1949.06	+29° 02' 35"	17:54:38	16:48:00
28 gen 2003	2452668.0000	21:19:21	06:26:53	11:22:53	16:19:19	20h 42m 03.80s	-18° 14' 40.8"	0.9848362	1948.81	+29° 18' 25"	17:55:44	16:49:11
29 gen 2003	2452669.0000	21:23:18	06:25:59	11:23:04	16:20:36	20h 46m 11.52s	-17° 58' 45.5"	0.9849652	1948.56	+29° 34' 32"	17:56:49	16:50:23
30 gen 2003	2452670.0000	21:27:14	06:25:04	11:23:14	16:21:52	20h 50m 18.44s	-17° 42' 30.8"	0.9850976	1948.29	+29° 50' 58"	17:57:56	16:51:36
31 gen 2003	2452671.0000	21:31:11	06:24:06	11:23:24	16:23:09	20h 54m 24.55s	-17° 25' 57.1"	0.9852333	1948.03	+30° 07' 40"	17:59:02	16:52:48

Effemeridi della Luna

Nella seguente sezione vengono riportate le effemeridi mensili per la Luna. Riportiamo la descrizione dei campi delle tabelle.

Data : giorno a cui fa riferimento l'effemeride (calcolate per le 00:00 T.U.)
Sorge, Transita, Tramonta : istanti del sorgere, transito e tramonto della Luna
Asc. retta, Dec. : coordinate dell'astro
El° : elongazione dal Sole
Magn : magnitudine della Luna
Fase : fase lunare
A.F. : angolo di fase (in gradi)



Van Gogh Notte stellata (1889).

Effemeridi di gennaio 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
		1	2	3	4	5
6 Last, 03:56	7	8	9	10	11	12
13 New, 13:30	14	15	16	17	18	19
20	21 First, 17:48	22	23	24	25	26
27	28 Full, 22:51	29	30	31		
































Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 gen 2002	18:09:23	00:46:08	08:28:25	+68° 25' 23"	08h 16m 40.61s	+22° 27' 22.3"	159.1	-12.2	0.967	20.9
02 gen 2002	19:24:53	01:45:47	09:11:43	+58° 45' 51"	09h 18m 46.14s	+19° 30' 45.6"	145.5	-11.8	0.913	34.4
03 gen 2002	20:40:13	02:42:27	09:48:03	+46° 50' 33"	10h 18m 05.67s	+15° 17' 30.0"	132.0	-11.5	0.835	47.9
04 gen 2002	21:53:56	03:35:53	10:19:25	+34° 13' 15"	11h 14m 20.21s	+10° 10' 04.9"	118.5	-11.1	0.740	61.3
05 gen 2002	23:05:53	04:26:39	10:47:47	+21° 27' 39"	12h 07m 56.12s	+04° 31' 51.9"	105.2	-10.7	0.632	74.6
06 gen 2002	--:--:--	05:15:46	11:14:56	+08° 50' 02"	12h 59m 44.94s	-01° 15' 46.3"	92.1	-10.2	0.520	87.7
07 gen 2002	00:16:34	06:04:21	11:42:26	-03° 44' 41"	13h 50m 46.39s	-06° 54' 11.2"	79.2	-9.7	0.408	100.6
08 gen 2002	01:26:35	06:53:26	12:11:49	-15° 56' 30"	14h 41m 56.58s	-12° 07' 03.1"	66.6	-9.1	0.302	113.3
09 gen 2002	02:35:57	07:43:46	12:44:38	-27° 47' 58"	15h 33m 59.28s	-16° 39' 44.0"	54.1	-8.4	0.208	125.8
10 gen 2002	03:43:54	08:35:41	13:22:23	-39° 13' 49"	16h 27m 17.75s	-20° 19' 07.9"	41.9	-7.7	0.128	138.0
11 gen 2002	04:48:44	09:28:55	14:06:13	-50° 03' 37"	17h 21m 48.09s	-22° 54' 18.0"	29.8	-6.8	0.067	150.1
12 gen 2002	05:48:18	10:22:39	14:56:29	-59° 53' 13"	18h 16m 57.35s	-24° 17' 45.6"	18.0	-5.8	0.025	161.9
13 gen 2002	06:40:48	11:15:40	15:52:22	-67° 41' 04"	19h 11m 50.99s	-24° 26' 54.3"	6.7	-4.6	0.003	173.3
14 gen 2002	07:25:34	12:06:51	16:52:00	-71° 09' 57"	20h 05m 29.14s	-23° 24' 35.4"	5.7	-4.5	0.002	174.3
15 gen 2002	08:03:09	12:55:27	17:53:12	-68° 27' 53"	20h 57m 04.84s	-21° 18' 22.1"	16.6	-5.6	0.021	163.3
16 gen 2002	08:34:52	13:41:16	18:54:20	-61° 28' 53"	21h 46m 15.47s	-18° 18' 42.6"	27.6	-6.6	0.057	152.3
17 gen 2002	09:02:13	14:24:37	19:54:36	-52° 39' 51"	22h 33m 04.29s	-14° 37' 01.1"	38.5	-7.5	0.109	141.4
18 gen 2002	09:26:36	15:06:08	20:53:59	-43° 05' 47"	23h 17m 55.36s	-10° 24' 11.8"	49.4	-8.2	0.175	130.5
19 gen 2002	09:49:19	15:46:40	21:52:59	-33° 09' 53"	00h 01m 26.88s	-05° 50' 00.4"	60.1	-8.8	0.252	119.7
20 gen 2002	10:11:32	16:27:11	22:52:25	-22° 59' 49"	00h 44m 25.90s	-01° 03' 08.5"	70.9	-9.3	0.338	108.9
21 gen 2002	10:34:23	17:08:44	23:53:12	-12° 37' 00"	01h 27m 45.29s	+03° 48' 12.7"	81.8	-9.8	0.430	98.0
22 gen 2002	10:59:09	17:52:23	--:--:--	-02° 00' 16"	02h 12m 21.95s	+08° 35' 27.3"	92.9	-10.2	0.527	87.0
23 gen 2002	11:27:20	18:39:14	00:56:03	+08° 58' 15"	02h 59m 14.86s	+13° 08' 27.4"	104.2	-10.6	0.624	75.6
24 gen 2002	12:00:48	19:30:08	02:01:21	+20° 04' 07"	03h 49m 20.48s	+17° 14' 23.0"	115.9	-11.0	0.720	63.9
25 gen 2002	12:41:46	20:25:29	03:08:24	+31° 26' 44"	04h 43m 22.81s	+20° 36' 54.9"	128.0	-11.4	0.809	51.9
26 gen 2002	13:32:21	21:24:49	04:15:09	+42° 54' 53"	05h 41m 36.41s	+22° 56' 41.3"	140.5	-11.7	0.887	39.4
27 gen 2002	14:33:38	22:26:34	05:18:24	+54° 00' 42"	06h 43m 27.17s	+23° 54' 01.8"	153.5	-12.0	0.948	26.5
28 gen 2002	15:44:22	23:28:28	06:14:56	+63° 27' 21"	07h 47m 25.65s	+23° 14' 16.5"	166.7	-12.4	0.987	13.3
29 gen 2002	17:01:03	--:--:--	07:03:15	+68° 02' 26"	08h 51m 29.33s	+20° 53' 41.2"	176.4	-12.6	0.999	3.6
30 gen 2002	18:19:35	00:28:25	07:43:48	+64° 27' 23"	09h 53m 47.62s	+17° 02' 10.1"	164.7	-12.3	0.982	15.2
31 gen 2002	19:37:09	01:25:19	08:18:19	+55° 03' 10"	10h 53m 18.76s	+12° 00' 47.4"	150.9	-12.0	0.937	29.0

Effemeridi di febbraio 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
					1	2
3	4 Last, 13:34	5	6	7	8	9
10	11	12 New, 07:42	13	14	15	16
17	18	19	20 First, 12:03	21	22	23
24	25	26	27 Full, 09:17	28		

Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 feb 2002	20:52:38	02:19:10	08:48:50	+43° 21' 57"	11h 49m 56.76s	+06° 16' 03.4"	137.1	-11.6	0.867	42.8
02 feb 2002	22:06:05	03:10:39	09:17:14	+30° 59' 19"	12h 44m 15.52s	+00° 14' 30.3"	123.5	-11.2	0.777	56.4
03 feb 2002	23:17:56	04:00:48	09:45:13	+18° 33' 50"	13h 37m 07.96s	-05° 40' 26.6"	110.1	-10.8	0.673	69.7
04 feb 2002	--:--:--	04:50:38	10:14:23	+06° 25' 25"	14h 29m 29.56s	-11° 09' 23.0"	97.2	-10.4	0.564	82.7
05 feb 2002	00:28:19	05:41:01	10:46:15	-05° 35' 04"	15h 22m 07.00s	-15° 56' 34.6"	84.5	-9.9	0.454	95.3
06 feb 2002	01:36:53	06:32:26	11:22:20	-17° 02' 04"	16h 15m 29.70s	-19° 49' 20.2"	72.3	-9.4	0.349	107.6
07 feb 2002	02:42:22	07:24:55	12:03:55	-28° 00' 07"	17h 09m 43.38s	-22° 37' 48.9"	60.3	-8.8	0.253	119.6
08 feb 2002	03:42:57	08:17:55	12:51:40	-38° 23' 30"	18h 04m 27.68s	-24° 15' 26.0"	48.6	-8.1	0.170	131.3
09 feb 2002	04:36:57	09:10:33	13:45:16	-48° 00' 16"	18h 59m 00.70s	-24° 39' 39.2"	37.1	-7.4	0.102	142.8
10 feb 2002	05:23:31	10:01:48	14:43:18	-56° 24' 39"	19h 52m 31.44s	-23° 52' 28.7"	25.9	-6.5	0.050	154.0
11 feb 2002	06:02:53	10:50:52	15:43:47	-62° 43' 20"	20h 44m 15.38s	-22° 00' 08.6"	15.0	-5.5	0.017	165.0
12 feb 2002	06:36:09	11:37:23	16:44:56	-65° 29' 41"	21h 33m 46.28s	-19° 11' 56.5"	5.4	-4.5	0.002	174.6
13 feb 2002	07:04:40	12:21:27	17:45:35	-63° 45' 15"	22h 21m 00.28s	-15° 38' 42.2"	8.8	-4.8	0.006	171.2
14 feb 2002	07:29:50	13:03:32	18:45:21	-58° 20' 24"	23h 06m 13.26s	-11° 31' 28.1"	19.0	-5.9	0.027	161.0
15 feb 2002	07:52:53	13:44:17	19:44:27	-50° 48' 08"	23h 49m 55.56s	-07° 00' 40.1"	29.6	-6.8	0.066	150.3
16 feb 2002	08:14:59	14:24:32	20:43:28	-42° 09' 11"	00h 32m 46.94s	-02° 15' 52.3"	40.3	-7.6	0.119	139.6
17 feb 2002	08:37:11	15:05:13	21:43:07	-32° 52' 56"	01h 15m 33.24s	+02° 34' 01.9"	51.1	-8.3	0.187	128.8
18 feb 2002	09:00:38	15:47:17	22:44:09	-23° 12' 24"	01h 59m 04.47s	+07° 20' 18.3"	61.9	-8.9	0.266	117.9
19 feb 2002	09:26:38	16:31:44	23:47:02	-13° 12' 55"	02h 44m 13.29s	+11° 53' 36.4"	73.0	-9.4	0.355	106.9
20 feb 2002	09:56:46	17:19:29	--:--:--	-02° 56' 25"	03h 31m 52.41s	+16° 03' 05.5"	84.2	-9.9	0.451	95.6
21 feb 2002	10:33:00	18:11:11	00:51:34	+07° 43' 04"	04h 22m 48.79s	+19° 35' 34.8"	95.8	-10.3	0.552	84.0
22 feb 2002	11:17:28	19:06:58	01:56:42	+18° 25' 26"	05h 17m 32.87s	+22° 15' 13.5"	107.8	-10.7	0.654	72.1
23 feb 2002	12:12:00	20:06:07	03:00:02	+29° 17' 28"	06h 16m 03.23s	+23° 44' 27.6"	120.2	-11.1	0.752	59.7
24 feb 2002	13:16:57	21:07:04	03:58:38	+39° 59' 55"	07h 17m 33.68s	+23° 46' 56.1"	133.0	-11.5	0.842	46.8
25 feb 2002	14:30:26	22:07:50	04:50:16	+49° 52' 37"	08h 20m 36.05s	+22° 12' 16.9"	146.3	-11.9	0.917	33.6
26 feb 2002	15:48:52	23:06:51	05:34:23	+57° 28' 28"	09h 23m 26.29s	+19° 00' 42.9"	159.9	-12.2	0.970	20.0
27 feb 2002	17:08:44	--:--:--	06:12:01	+60° 20' 01"	10h 24m 41.59s	+14° 24' 45.6"	172.8	-12.5	0.996	7.2
28 feb 2002	18:27:47	00:03:22	06:44:55	+56° 53' 40"	11h 23m 44.00s	+08° 46' 59.5"	169.9	-12.5	0.992	10.1

Effemeridi di marzo 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
					1 	2 
3 	4 	5 	6 	7 	8 	9 
10 	11 	12 	13  Last, 01:26	14 	15 	16 
17 	18 	19 	20 	21 	22  New, 02:04	23 
24 	25 	26 	27 	28  First, 02:29	29 	30 
31 						

Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 mar 2002	19:45:13	00:57:36	07:14:58	+48° 44' 05"	12h 20m 40.08s	+02° 35' 19.5"	156.4	-12.1	0.958	23.5
02 mar 2002	21:00:57	01:50:15	07:43:58	+38° 16' 40"	13h 16m 05.39s	-03° 41' 49.4"	142.6	-11.8	0.898	37.3
03 mar 2002	22:15:00	02:42:14	08:13:34	+26° 59' 28"	14h 10m 46.28s	-09° 38' 55.5"	129.0	-11.4	0.815	50.9
04 mar 2002	23:26:52	03:34:20	08:45:20	+15° 36' 14"	15h 05m 25.14s	-14° 54' 59.3"	115.8	-11.0	0.719	64.1
05 mar 2002	--:--:--	04:27:04	09:20:50	+04° 32' 47"	16h 00m 29.35s	-19° 13' 57.7"	103.0	-10.6	0.614	76.8
06 mar 2002	00:35:15	05:20:28	10:01:23	-06° 23' 42"	16h 56m 03.90s	-22° 24' 37.4"	90.7	-10.2	0.507	89.1
07 mar 2002	01:38:30	06:14:08	10:47:49	-16° 38' 34"	17h 51m 49.18s	-24° 20' 30.0"	78.8	-9.7	0.404	101.1
08 mar 2002	02:34:52	07:07:14	11:40:03	-26° 17' 13"	18h 47m 06.01s	-24° 59' 53.9"	67.2	-9.2	0.307	112.7
09 mar 2002	03:23:27	07:58:53	12:36:56	-35° 12' 02"	19h 41m 07.77s	-24° 25' 41.2"	55.9	-8.6	0.220	124.0
10 mar 2002	04:04:29	08:48:21	13:36:41	-43° 09' 37"	20h 33m 14.79s	-22° 44' 32.3"	44.8	-7.9	0.146	135.1
11 mar 2002	04:39:00	09:35:18	14:37:32	-49° 46' 26"	21h 23m 04.72s	-20° 05' 41.6"	33.8	-7.1	0.085	146.1
12 mar 2002	05:08:26	10:19:48	15:38:15	-54° 25' 52"	22h 10m 35.75s	-16° 39' 38.6"	23.1	-6.2	0.040	156.8
13 mar 2002	05:34:12	11:02:16	16:38:17	-56° 25' 02"	22h 56m 03.84s	-12° 37' 04.9"	12.7	-5.3	0.012	167.2
14 mar 2002	05:57:35	11:43:18	17:37:41	-55° 20' 18"	23h 39m 57.76s	-08° 08' 20.5"	5.1	-4.4	0.002	174.9
15 mar 2002	06:19:41	12:23:38	18:36:52	-51° 29' 16"	00h 22m 54.35s	-03° 23' 13.3"	11.1	-5.1	0.009	168.9
16 mar 2002	06:41:34	13:04:06	19:36:27	-45° 35' 37"	01h 05m 35.33s	+01° 28' 53.1"	21.3	-6.1	0.034	158.6
17 mar 2002	07:04:17	13:45:33	20:37:00	-38° 20' 55"	01h 48m 45.35s	+06° 18' 39.3"	32.0	-7.0	0.076	147.9
18 mar 2002	07:29:00	14:28:51	21:38:58	-30° 13' 33"	02h 33m 10.55s	+10° 56' 23.4"	42.9	-7.8	0.134	137.0
19 mar 2002	07:57:05	15:14:49	22:42:17	-21° 30' 43"	03h 19m 36.40s	+15° 11' 28.2"	54.0	-8.4	0.207	125.9
20 mar 2002	08:30:11	16:04:04	23:46:08	-12° 22' 34"	04h 08m 43.67s	+18° 51' 52.0"	65.3	-9.1	0.292	114.6
21 mar 2002	09:10:13	16:56:52	--:--:--	-02° 55' 41"	05h 01m 01.03s	+21° 43' 55.2"	76.9	-9.6	0.388	103.0
22 mar 2002	09:59:01	17:52:53	00:48:37	+06° 51' 48"	05h 56m 34.78s	+23° 32' 50.7"	88.8	-10.1	0.490	91.1
23 mar 2002	10:57:33	18:51:06	01:47:22	+16° 32' 33"	06h 54m 59.16s	+24° 04' 21.7"	101.0	-10.5	0.597	78.8
24 mar 2002	12:05:11	19:50:02	02:40:08	+26° 08' 09"	07h 55m 15.30s	+23° 07' 36.5"	113.8	-10.9	0.702	66.1
25 mar 2002	13:19:29	20:48:16	03:25:55	+35° 11' 25"	08h 56m 05.29s	+20° 38' 28.5"	126.9	-11.3	0.801	53.0
26 mar 2002	14:37:24	21:44:56	04:05:12	+42° 57' 11"	09h 56m 17.72s	+16° 41' 57.3"	140.4	-11.7	0.886	39.5
27 mar 2002	15:56:27	22:39:54	04:39:25	+48° 14' 13"	10h 55m 10.13s	+11° 32' 24.8"	154.3	-12.1	0.951	25.7
28 mar 2002	17:15:18	23:33:38	05:10:21	+49° 42' 11"	11h 52m 36.63s	+05° 31' 50.7"	167.9	-12.4	0.989	12.0
29 mar 2002	18:33:32	--:--:--	05:39:43	+46° 50' 42"	12h 49m 00.86s	-00° 53' 01.4"	174.2	-12.6	0.997	5.7
30 mar 2002	19:50:57	00:26:56	06:09:14	+40° 31' 39"	13h 45m 01.85s	-07° 14' 00.7"	162.0	-12.3	0.976	17.9
31 mar 2002	21:06:57	01:20:32	06:40:33	+32° 09' 10"	14h 41m 18.79s	-13° 04' 31.7"	148.4	-11.9	0.926	31.5

Effemeridi di aprile 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
	1	2	3	4 Last, 15:30	5	6
7	8	9	10	11	12 New, 19:22	13
14	15	16	17	18	19	20 First, 12:49
21	22	23	24	25	26	27 Full, 03:02
28	29	30				

Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 apr 2002	22:20:08	02:14:58	07:15:17	+22° 50' 20"	15h 38m 17.34s	-18° 01' 59.2"	135.1	-11.5	0.855	44.8
02 apr 2002	23:28:21	03:10:16	07:54:56	+13° 17' 28"	16h 35m 59.02s	-21° 49' 30.2"	122.1	-11.2	0.767	57.8
03 apr 2002	--:--:--	04:05:54	08:40:31	+03° 59' 19"	17h 33m 56.91s	-24° 16' 54.1"	109.6	-10.8	0.669	70.3
04 apr 2002	00:29:16	05:00:56	09:32:12	-05° 15' 49"	18h 31m 21.31s	-25° 21' 00.9"	97.6	-10.4	0.567	82.3
05 apr 2002	01:21:41	05:54:18	10:28:53	-13° 48' 07"	19h 27m 15.10s	-25° 05' 03.2"	85.9	-10.0	0.466	93.9
06 apr 2002	02:05:35	06:45:10	11:28:43	-21° 42' 28"	20h 20m 51.87s	-23° 37' 01.7"	74.6	-9.5	0.368	105.3
07 apr 2002	02:42:05	07:33:09	12:29:48	-28° 50' 51"	21h 11m 47.85s	-21° 07' 38.8"	63.5	-9.0	0.278	116.4
08 apr 2002	03:12:46	08:18:23	13:30:46	-35° 02' 12"	22h 00m 03.90s	-17° 48' 25.3"	52.6	-8.4	0.197	127.3
09 apr 2002	03:39:16	09:01:17	14:31:03	-40° 01' 03"	22h 46m 00.62s	-13° 50' 28.9"	41.8	-7.7	0.128	138.1
10 apr 2002	04:02:59	09:42:34	15:30:39	-43° 28' 10"	23h 30m 11.35s	-09° 24' 08.0"	31.0	-6.9	0.072	148.9
11 apr 2002	04:25:08	10:22:58	16:30:00	-45° 04' 37"	00h 13m 16.43s	-04° 38' 57.4"	20.4	-6.0	0.031	159.6
12 apr 2002	04:46:48	11:03:22	17:29:42	-44° 39' 28"	00h 55m 59.54s	+00° 15' 48.4"	10.0	-5.0	0.008	170.0
13 apr 2002	05:09:01	11:44:35	18:30:23	-42° 15' 51"	01h 39m 05.68s	+05° 10' 46.7"	4.6	-4.4	0.002	175.3
14 apr 2002	05:32:54	12:27:27	19:32:26	-38° 09' 43"	02h 23m 19.59s	+09° 55' 57.3"	13.6	-5.3	0.014	166.3
15 apr 2002	05:59:43	13:12:44	20:35:52	-32° 42' 38"	03h 09m 23.72s	+14° 20' 18.2"	24.5	-6.4	0.045	155.4
16 apr 2002	06:30:58	14:01:00	21:39:53	-26° 15' 18"	03h 57m 54.30s	+18° 11' 31.8"	35.8	-7.3	0.095	144.1
17 apr 2002	07:08:23	14:52:28	22:42:49	-19° 04' 39"	04h 49m 14.91s	+21° 16' 10.9"	47.3	-8.0	0.161	132.6
18 apr 2002	07:53:39	15:46:50	23:42:16	-11° 24' 00"	05h 43m 28.05s	+23° 20' 22.1"	59.0	-8.7	0.243	120.9
19 apr 2002	08:47:51	16:43:13	--:--:--	-03° 24' 22"	06h 40m 08.31s	+24° 11' 17.7"	71.0	-9.3	0.338	108.9
20 apr 2002	09:50:45	17:40:19	00:35:52	+04° 53' 44"	07h 38m 23.17s	+23° 39' 29.5"	83.3	-9.9	0.443	96.6
21 apr 2002	11:00:32	18:36:51	01:22:34	+12° 51' 47"	08h 37m 05.77s	+21° 41' 03.6"	95.9	-10.3	0.553	83.9
22 apr 2002	12:14:35	19:32:02	02:02:34	+20° 32' 51"	09h 35m 15.97s	+18° 19' 01.3"	108.9	-10.8	0.663	70.9
23 apr 2002	13:30:38	20:25:44	02:37:08	+27° 29' 03"	10h 32m 18.86s	+13° 43' 20.5"	122.3	-11.2	0.768	57.6
24 apr 2002	14:47:23	21:18:23	03:07:59	+33° 05' 50"	11h 28m 11.70s	+08° 09' 58.9"	135.9	-11.6	0.860	44.0
25 apr 2002	16:04:28	22:10:46	03:36:49	+36° 42' 39"	12h 23m 19.47s	+01° 59' 39.5"	149.8	-11.9	0.932	30.1
26 apr 2002	17:21:53	23:03:48	04:05:19	+37° 45' 19"	13h 18m 24.01s	-04° 23' 28.7"	163.7	-12.3	0.980	16.3
27 apr 2002	18:39:23	23:58:11	04:35:09	+36° 04' 44"	14h 14m 10.90s	-10° 33' 25.5"	176.0	-12.6	0.999	4.0
28 apr 2002	19:55:50	--:--:--	05:08:01	+32° 03' 47"	15h 11m 15.54s	-16° 04' 25.6"	167.7	-12.4	0.989	12.3
29 apr 2002	21:08:59	00:54:10	05:45:36	+26° 24' 08"	16h 09m 48.90s	-20° 33' 36.3"	154.4	-12.1	0.951	25.5
30 apr 2002	22:15:53	01:51:21	06:29:20	+19° 47' 40"	17h 09m 26.96s	-23° 43' 48.6"	141.4	-11.7	0.891	38.5

Effemeridi di maggio 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
			1	2	3	4 Last, 07:17
5	6	7	8	9	10	11
12 New, 10:46	13	14	15	16	17	18
19 First, 19:43	20	21	22	23	24	25
26 Full, 11:52	27	28	29	30	31	

Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 mag 2002	23:14:04	02:48:39	07:19:49	+12° 47' 22"	18h 09m 10.95s	-25° 25' 58.2"	128.8	-11.4	0.814	51.1
02 mag 2002	--:--:--	03:44:38	08:16:18	+05° 47' 39"	19h 07m 43.54s	-25° 39' 55.4"	116.6	-11.0	0.725	63.3
03 mag 2002	00:02:40	04:38:03	09:16:46	-01° 13' 22"	20h 03m 54.70s	-24° 33' 07.7"	104.8	-10.7	0.629	75.0
04 mag 2002	00:42:38	05:28:12	10:18:53	-07° 44' 03"	20h 57m 02.56s	-22° 17' 42.6"	93.4	-10.3	0.531	86.4
05 mag 2002	01:15:39	06:15:02	11:20:52	-13° 46' 20"	21h 46m 59.46s	-19° 07' 17.8"	82.2	-9.8	0.434	97.6
06 mag 2002	01:43:33	06:58:58	12:21:52	-19° 13' 58"	22h 34m 05.57s	-15° 14' 49.7"	71.3	-9.3	0.341	108.6
07 mag 2002	02:08:01	07:40:47	13:21:51	-24° 00' 11"	23h 18m 58.49s	-10° 51' 40.0"	60.4	-8.8	0.254	119.4
08 mag 2002	02:30:26	08:21:21	14:21:16	-27° 56' 59"	00h 02m 24.46s	-06° 07' 40.9"	49.6	-8.2	0.177	130.3
09 mag 2002	02:51:59	09:01:36	15:20:52	-30° 55' 08"	00h 45m 13.07s	-01° 11' 51.8"	38.7	-7.5	0.110	141.2
10 mag 2002	03:13:45	09:42:28	16:21:23	-32° 45' 12"	01h 28m 14.49s	+03° 46' 53.6"	27.8	-6.6	0.058	152.1
11 mag 2002	03:36:52	10:24:52	17:23:26	-33° 19' 25"	02h 12m 17.87s	+08° 39' 00.7"	16.8	-5.6	0.021	163.2
12 mag 2002	04:02:35	11:09:38	18:27:11	-32° 34' 04"	02h 58m 09.19s	+13° 13' 35.4"	5.8	-4.5	0.003	174.2
13 mag 2002	04:32:21	11:57:25	19:32:05	-30° 30' 52"	03h 46m 27.27s	+17° 18' 02.4"	6.6	-4.6	0.003	173.4
14 mag 2002	05:07:53	12:48:31	20:36:32	-27° 16' 48"	04h 37m 36.90s	+20° 38' 15.2"	18.0	-5.8	0.024	162.0
15 mag 2002	05:50:54	13:42:38	21:38:01	-23° 02' 35"	05h 31m 39.62s	+22° 59' 32.4"	29.8	-6.8	0.066	150.2
16 mag 2002	06:42:38	14:38:51	22:33:53	-18° 00' 36"	06h 28m 06.46s	+24° 08' 32.0"	41.8	-7.7	0.128	138.1
17 mag 2002	07:43:00	15:35:44	23:22:30	-12° 23' 31"	07h 25m 59.10s	+23° 55' 44.6"	54.1	-8.4	0.208	125.8
18 mag 2002	08:50:19	16:31:51	--:--:--	-06° 23' 42"	08h 24m 04.52s	+22° 17' 48.0"	66.6	-9.1	0.303	113.2
19 mag 2002	10:01:55	17:26:18	00:03:45	+00° 17' 39"	09h 21m 18.29s	+19° 18' 19.5"	79.4	-9.7	0.409	100.5
20 mag 2002	11:15:25	18:18:50	00:38:57	+06° 02' 47"	10h 17m 04.04s	+15° 07' 06.9"	92.3	-10.2	0.522	87.5
21 mag 2002	12:29:28	19:09:55	01:09:46	+11° 49' 34"	11h 11m 20.07s	+09° 58' 27.9"	105.5	-10.7	0.635	74.3
22 mag 2002	13:43:45	20:00:24	01:37:58	+17° 04' 52"	12h 04m 34.29s	+04° 09' 42.3"	118.9	-11.1	0.743	60.9
23 mag 2002	14:58:33	20:51:20	02:05:14	+21° 28' 03"	12h 57m 33.65s	-01° 59' 34.6"	132.5	-11.5	0.838	47.4
24 mag 2002	16:14:09	21:43:41	02:33:12	+24° 39' 37"	13h 51m 12.65s	-08° 07' 50.3"	146.1	-11.8	0.916	33.8
25 mag 2002	17:30:12	22:38:07	03:03:32	+26° 24' 07"	14h 46m 21.29s	-13° 52' 02.8"	159.8	-12.2	0.969	20.2
26 mag 2002	18:45:08	23:34:41	03:38:03	+26° 34' 53"	15h 43m 31.25s	-18° 48' 54.7"	173.2	-12.6	0.996	6.8
27 mag 2002	19:56:06	--:--:--	04:18:27	+25° 16' 38"	16h 42m 40.86s	-22° 37' 17.6"	173.3	-12.6	0.997	6.7
28 mag 2002	20:59:51	00:32:37	05:06:00	+22° 43' 49"	17h 43m 05.34s	-25° 01' 33.1"	160.4	-12.2	0.971	19.5
29 mag 2002	21:54:11	01:30:24	06:00:42	+19° 15' 44"	18h 43m 22.88s	-25° 54' 40.1"	147.8	-11.9	0.924	32.1
30 mag 2002	22:38:55	02:26:21	07:00:56	+15° 11' 39"	19h 42m 00.19s	-25° 19' 21.3"	135.6	-11.6	0.858	44.3
31 mag 2002	23:15:25	03:19:12	08:04:00	+10° 47' 52"	20h 37m 44.60s	-23° 26' 12.2"	123.8	-11.2	0.779	56.1

Effemeridi di giugno 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
						1
2	3 Last, 00:06	4	5	6	7	8
9	10 New, 23:48	11	12	13	14	15
16	17	18 First, 00:30	19	20	21	22
23	24 Full, 21:42	25	26	27	28	29
30						
































Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 giu 2002	23:45:39	04:08:23	09:07:28	+06° 17' 33"	21h 30m 02.99s	-20° 29' 54.0"	112.3	-10.9	0.691	67.6
02 giu 2002	--:--:--	04:54:08	10:09:50	+01° 54' 50"	22h 19m 01.26s	-16° 45' 37.4"	101.1	-10.5	0.597	78.8
03 giu 2002	00:11:30	05:37:06	11:10:44	-02° 50' 31"	23h 05m 12.54s	-12° 26' 54.0"	90.0	-10.1	0.502	89.8
04 giu 2002	00:34:37	06:18:11	12:10:30	-07° 06' 07"	23h 49m 24.65s	-07° 45' 02.9"	79.1	-9.7	0.407	100.7
05 giu 2002	00:56:19	06:58:25	13:09:54	-11° 06' 27"	00h 32m 31.54s	-02° 49' 36.3"	68.2	-9.2	0.316	111.6
06 giu 2002	01:17:46	07:38:49	14:09:51	-14° 47' 08"	01h 15m 28.83s	+02° 10' 46.1"	57.3	-8.6	0.231	122.6
07 giu 2002	01:40:07	08:20:25	15:11:12	-18° 02' 58"	01h 59m 11.70s	+07° 07' 14.7"	46.3	-8.0	0.155	133.6
08 giu 2002	02:04:36	09:04:12	16:14:28	-20° 47' 38"	02h 44m 33.00s	+11° 49' 51.1"	35.0	-7.2	0.091	144.9
09 giu 2002	02:32:41	09:51:02	17:19:34	-22° 53' 52"	03h 32m 19.71s	+16° 06' 41.1"	23.6	-6.3	0.042	156.4
10 giu 2002	03:06:05	10:41:25	18:25:18	-24° 14' 02"	04h 23m 06.07s	+19° 43' 39.4"	11.9	-5.2	0.011	168.1
11 giu 2002	03:46:43	11:35:22	19:29:17	-24° 41' 18"	05h 17m 03.00s	+22° 25' 07.8"	0.2	-3.9	0.000	179.8
12 giu 2002	04:36:10	12:32:04	20:28:31	-24° 11' 06"	06h 13m 47.28s	+23° 55' 52.5"	12.4	-5.2	0.012	167.6
13 giu 2002	05:34:50	13:29:59	21:20:33	-22° 42' 22"	07h 12m 18.63s	+24° 04' 11.2"	24.9	-6.4	0.047	155.1
14 giu 2002	06:41:18	14:27:23	22:04:41	-20° 17' 59"	08h 11m 12.88s	+22° 45' 04.8"	37.6	-7.4	0.104	142.4
15 giu 2002	07:52:39	15:22:53	22:41:48	-17° 04' 25"	09h 09m 09.18s	+20° 01' 51.4"	50.4	-8.2	0.182	129.5
16 giu 2002	09:05:57	16:15:57	23:13:37	-13° 10' 39"	10h 05m 15.90s	+16° 05' 09.9"	63.4	-9.0	0.277	116.4
17 giu 2002	10:19:20	17:06:51	23:42:00	-08° 47' 02"	10h 59m 21.49s	+11° 10' 27.3"	76.5	-9.6	0.385	103.3
18 giu 2002	11:32:13	17:56:23	--:--:--	-04° 04' 33"	11h 51m 49.71s	+05° 35' 26.0"	89.7	-10.1	0.499	90.1
19 giu 2002	12:44:54	18:45:41	00:08:43	+01° 08' 49"	12h 43m 27.66s	-00° 21' 24.4"	103.0	-10.6	0.613	76.9
20 giu 2002	13:58:00	19:35:51	00:35:26	+05° 40' 34"	13h 35m 13.57s	-06° 21' 09.6"	116.2	-11.0	0.722	63.6
21 giu 2002	15:11:44	20:27:51	01:03:46	+10° 07' 12"	14h 28m 05.94s	-12° 04' 18.7"	129.5	-11.4	0.819	50.4
22 giu 2002	16:25:27	21:22:10	01:35:25	+14° 08' 03"	15h 22m 52.16s	-17° 10' 42.8"	142.7	-11.8	0.898	37.2
23 giu 2002	17:37:10	22:18:38	02:12:13	+17° 30' 18"	16h 19m 54.72s	-21° 20' 24.7"	155.7	-12.1	0.956	24.2
24 giu 2002	18:43:50	23:16:12	02:55:49	+20° 03' 49"	17h 18m 57.32s	-24° 15' 50.1"	168.6	-12.4	0.990	11.4
25 giu 2002	19:42:31	--:--:--	03:47:01	+21° 41' 45"	18h 18m 59.52s	-25° 45' 01.6"	178.1	-12.7	1.000	1.9
26 giu 2002	20:31:49	00:13:11	04:45:05	+22° 21' 27"	19h 18m 29.96s	-25° 44' 33.4"	166.2	-12.4	0.986	13.7
27 giu 2002	21:12:12	01:07:55	05:47:42	+22° 04' 33"	20h 15m 56.99s	-24° 20' 09.2"	154.2	-12.1	0.950	25.7
28 giu 2002	21:45:21	01:59:19	06:52:00	+20° 56' 09"	21h 10m 18.70s	-21° 44' 24.6"	142.5	-11.7	0.897	37.4
29 giu 2002	22:13:11	02:47:06	07:55:46	+19° 03' 19"	22h 01m 15.39s	-18° 12' 57.7"	131.0	-11.4	0.829	48.9
30 giu 2002	22:37:28	03:31:39	08:57:57	+16° 33' 34"	22h 49m 03.80s	-14° 01' 10.8"	119.8	-11.1	0.749	60.1

Effemeridi di luglio 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
	1	2 Last, 17:20	3	4	5	6
7	8	9	10 New, 10:27	11	12	13
14	15	16	17 First, 04:48	18	19	20
21	22	23	24 Full, 09:08	25	26	27
28	29	30	31			

Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 lug 2002	22:59:39	04:13:42	09:58:30	+13° 33' 54"	23h 34m 23.96s	-09° 22' 26.3"	108.8	-10.8	0.662	71.1
02 lug 2002	23:21:00	04:54:16	10:58:03	+10° 10' 21"	00h 18m 07.69s	-04° 27' 49.0"	97.9	-10.4	0.570	82.0
03 lug 2002	23:42:41	05:34:23	11:57:29	+06° 28' 29"	01h 01m 11.54s	+00° 33' 19.1"	87.0	-10.0	0.475	92.9
04 lug 2002	--:--:--	06:15:07	12:57:45	+02° 35' 56"	01h 44m 33.38s	+05° 32' 19.0"	76.0	-9.6	0.381	103.8
05 lug 2002	00:05:57	06:57:33	13:59:42	-01° 51' 50"	02h 29m 10.56s	+10° 20' 07.0"	65.0	-9.0	0.289	114.9
06 lug 2002	00:32:08	07:42:41	15:03:41	-06° 11' 13"	03h 15m 57.26s	+14° 46' 10.8"	53.7	-8.4	0.205	126.2
07 lug 2002	01:02:56	08:31:22	16:09:13	-10° 32' 08"	04h 05m 39.06s	+18° 37' 41.7"	42.1	-7.7	0.130	137.8
08 lug 2002	01:40:19	09:24:00	17:14:33	-14° 46' 34"	04h 58m 43.06s	+21° 39' 29.3"	30.3	-6.8	0.068	149.7
09 lug 2002	02:26:18	10:20:13	18:16:47	-18° 43' 43"	05h 55m 04.52s	+23° 35' 13.6"	18.1	-5.8	0.025	161.8
10 lug 2002	03:22:08	11:18:50	19:12:54	-22° 09' 48"	06h 53m 56.92s	+24° 10' 18.1"	6.0	-4.5	0.003	174.0
11 lug 2002	04:27:13	12:17:57	20:01:08	-24° 48' 53"	07h 53m 56.69s	+23° 15' 49.7"	8.0	-4.8	0.005	172.0
12 lug 2002	05:38:57	13:15:43	20:41:37	-26° 24' 59"	08h 53m 27.99s	+20° 51' 51.6"	20.8	-6.0	0.033	159.1
13 lug 2002	06:53:45	14:10:59	21:15:49	-26° 45' 29"	09h 51m 15.68s	+17° 07' 50.5"	34.1	-7.1	0.086	145.9
14 lug 2002	08:08:51	15:03:34	21:45:39	-25° 44' 27"	10h 46m 46.37s	+12° 20' 11.2"	47.4	-8.1	0.162	132.5
15 lug 2002	09:22:59	15:54:03	22:12:59	-23° 24' 14"	11h 40m 09.17s	+06° 48' 43.8"	60.8	-8.8	0.257	119.1
16 lug 2002	10:36:04	16:43:26	22:39:32	-19° 54' 20"	12h 32m 03.66s	+00° 53' 54.7"	74.1	-9.5	0.364	105.7
17 lug 2002	11:48:38	17:32:53	23:06:55	-15° 28' 28"	13h 23m 25.54s	-05° 04' 34.7"	87.4	-10.0	0.478	92.5
18 lug 2002	13:01:11	18:23:27	23:36:49	-10° 21' 44"	14h 15m 14.57s	-10° 47' 59.5"	100.5	-10.5	0.592	79.4
19 lug 2002	14:13:35	19:15:54	--:--:--	-04° 48' 51"	15h 08m 24.01s	-15° 58' 13.7"	113.5	-10.9	0.700	66.4
20 lug 2002	15:24:36	20:10:25	00:11:02	+01° 18' 35"	16h 03m 29.27s	-20° 17' 47.3"	126.3	-11.3	0.797	53.6
21 lug 2002	16:31:55	21:06:31	00:51:13	+06° 48' 48"	17h 00m 35.38s	-23° 30' 37.3"	138.9	-11.7	0.877	41.0
22 lug 2002	17:32:41	22:02:56	01:38:41	+12° 17' 01"	17h 59m 07.98s	-25° 24' 08.2"	151.3	-12.0	0.939	28.7
23 lug 2002	18:24:58	22:58:06	02:33:28	+17° 21' 24"	18h 57m 56.60s	-25° 51' 49.1"	163.3	-12.3	0.979	16.6
24 lug 2002	19:08:26	23:50:40	03:34:04	+21° 48' 16"	19h 55m 35.00s	-24° 55' 00.1"	174.4	-12.6	0.998	5.5
25 lug 2002	19:44:12	--:--:--	04:37:48	+25° 25' 24"	20h 50m 49.91s	-22° 42' 25.9"	171.7	-12.5	0.995	8.3
26 lug 2002	20:14:00	00:39:54	05:42:04	+28° 02' 15"	21h 43m 01.63s	-19° 27' 43.6"	160.6	-12.2	0.972	19.4
27 lug 2002	20:39:36	01:25:49	06:45:15	+29° 31' 02"	22h 32m 07.46s	-15° 26' 11.1"	149.4	-11.9	0.931	30.5
28 lug 2002	21:02:31	02:08:58	07:46:44	+29° 47' 45"	23h 18m 33.24s	-10° 52' 21.5"	138.3	-11.6	0.874	41.6
29 lug 2002	21:24:02	02:50:09	08:46:48	+28° 52' 38"	00h 03m 01.90s	-05° 58' 55.9"	127.4	-11.3	0.804	52.5
30 lug 2002	21:45:20	03:30:18	09:46:09	+26° 49' 35"	00h 46m 24.94s	-00° 56' 39.3"	116.5	-11.0	0.724	63.4
31 lug 2002	22:07:33	04:10:28	10:45:39	+23° 44' 53"	01h 29m 37.52s	+04° 05' 03.8"	105.6	-10.7	0.636	74.2

Effemeridi di agosto 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
				1  Last, 10:23	2 	3 
4 	5 	6 	7 	8  New, 19:16	9 	10 
11 	12 	13 	14 	15  First, 10:13	16 	17 
18 	19 	20 	21 	22  Full, 22:31	23 	24 
25 	26 	27 	28 	29 	30 	31  Last, 02:32

Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 ago 2002	22:31:58	04:51:41	11:46:14	+19° 45' 41"	02h 13m 35.98s	+08° 57' 14.2"	94.7	-10.3	0.543	85.1
02 ago 2002	23:00:06	05:35:00	12:48:29	+14° 59' 11"	02h 59m 15.87s	+13° 30' 15.2"	83.7	-9.9	0.447	96.1
03 ago 2002	23:33:48	06:21:22	13:52:28	+09° 32' 38"	03h 47m 28.24s	+17° 32' 53.8"	72.5	-9.4	0.350	107.4
04 ago 2002	--:--:--	07:11:30	14:57:15	+03° 36' 30"	04h 38m 52.30s	+20° 51' 42.8"	60.9	-8.8	0.258	119.0
05 ago 2002	00:15:17	08:05:37	16:00:38	-03° 06' 24"	05h 33m 43.57s	+23° 11' 16.0"	49.0	-8.2	0.173	130.9
06 ago 2002	01:06:19	09:03:06	16:59:39	-09° 53' 56"	06h 31m 40.68s	+24° 15' 52.4"	36.7	-7.3	0.100	143.2
07 ago 2002	02:07:37	10:02:30	17:51:49	-16° 45' 07"	07h 31m 40.22s	+23° 53' 03.2"	24.1	-6.3	0.044	155.8
08 ago 2002	03:17:40	11:01:52	18:36:14	-23° 20' 32"	08h 32m 10.10s	+21° 57' 37.4"	11.4	-5.1	0.010	168.5
09 ago 2002	04:33:11	11:59:34	19:13:42	-29° 13' 39"	09h 31m 40.25s	+18° 34' 17.7"	5.3	-4.5	0.002	174.7
10 ago 2002	05:50:37	12:54:47	19:45:56	-33° 51' 20"	10h 29m 12.54s	+13° 57' 11.1"	17.2	-5.7	0.022	162.8
11 ago 2002	07:07:38	13:47:36	20:14:50	-36° 38' 44"	11h 24m 32.88s	+08° 26' 44.3"	30.7	-6.9	0.070	149.2
12 ago 2002	08:23:26	14:38:46	20:42:12	-37° 10' 08"	12h 18m 04.75s	+02° 26' 00.8"	44.4	-7.9	0.143	135.5
13 ago 2002	09:38:06	15:29:19	21:09:43	-35° 20' 25"	13h 10m 34.65s	-03° 42' 07.6"	58.0	-8.7	0.236	121.9
14 ago 2002	10:52:02	16:20:16	21:39:04	-31° 26' 47"	14h 02m 57.86s	-09° 36' 28.7"	71.4	-9.3	0.341	108.5
15 ago 2002	12:05:15	17:12:28	22:11:55	-25° 58' 42"	14h 56m 06.55s	-14° 57' 52.5"	84.5	-9.9	0.453	95.4
16 ago 2002	13:16:51	18:06:17	22:50:02	-19° 26' 08"	15h 50m 38.88s	-19° 29' 12.0"	97.4	-10.4	0.565	82.5
17 ago 2002	14:24:58	19:01:29	23:34:48	-12° 13' 40"	16h 46m 48.17s	-22° 55' 40.1"	109.9	-10.8	0.672	69.9
18 ago 2002	15:27:06	19:57:11	--:--:--	-04° 40' 00"	17h 44m 14.58s	-25° 05' 49.7"	122.2	-11.2	0.768	57.7
19 ago 2002	16:21:14	20:52:04	00:26:48	+03° 14' 13"	18h 42m 05.53s	-25° 53' 11.9"	134.3	-11.5	0.850	45.6
20 ago 2002	17:06:45	21:44:51	01:25:01	+10° 41' 05"	19h 39m 09.37s	-25° 17' 38.5"	146.0	-11.8	0.915	33.9
21 ago 2002	17:44:22	22:34:43	02:27:17	+17° 57' 45"	20h 34m 18.34s	-23° 25' 27.6"	157.5	-12.1	0.962	22.4
22 ago 2002	18:15:41	23:21:27	03:31:05	+24° 46' 30"	21h 26m 48.56s	-20° 27' 53.2"	168.5	-12.4	0.990	11.5
23 ago 2002	18:42:21	--:--:--	04:34:30	+30° 52' 00"	22h 16m 27.68s	-16° 38' 41.9"	175.1	-12.6	0.998	4.9
24 ago 2002	19:05:54	00:05:21	05:36:34	+35° 56' 36"	23h 03m 30.88s	-12° 12' 03.1"	167.1	-12.4	0.987	12.9
25 ago 2002	19:27:40	00:47:05	06:37:11	+39° 40' 28"	23h 48m 31.94s	-07° 21' 09.0"	156.5	-12.1	0.959	23.4
26 ago 2002	19:48:46	01:27:30	07:36:48	+41° 44' 20"	00h 32m 15.12s	-02° 17' 45.4"	145.8	-11.8	0.914	34.1
27 ago 2002	20:10:18	02:07:28	08:36:07	+41° 54' 52"	01h 15m 29.76s	+02° 47' 39.2"	135.0	-11.5	0.854	44.9
28 ago 2002	20:33:25	02:47:58	09:35:57	+40° 09' 42"	01h 59m 07.36s	+07° 45' 21.9"	124.2	-11.2	0.782	55.7
29 ago 2002	20:59:26	03:29:57	10:36:56	+36° 37' 51"	02h 43m 59.57s	+12° 25' 40.7"	113.4	-10.9	0.699	66.5
30 ago 2002	21:29:59	04:14:20	11:39:20	+31° 34' 49"	03h 30m 55.63s	+16° 38' 06.2"	102.4	-10.6	0.608	77.5
31 ago 2002	22:07:00	05:01:54	12:42:40	+25° 16' 59"	04h 20m 37.24s	+20° 10' 40.8"	91.2	-10.2	0.512	88.7

Effemeridi di settembre 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
1	2	3	4	5	6	7 New, 03:11
8	9	10	11	12	13 First, 18:09	14
15	16	17	18	19	20	21 Full, 14:01
22	23	24	25	26	27	28
29 Last, 17:04	30					

Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 set 2002	22:52:30	05:53:09	13:45:30	+17° 58' 29"	05h 13m 29.84s	+22° 49' 46.5"	79.7	-9.7	0.412	100.1
02 set 2002	23:47:58	06:47:57	14:45:24	+09° 51' 38"	06h 09m 31.35s	+24° 20' 50.3"	67.9	-9.2	0.313	112.0
03 set 2002	---:--	07:45:29	15:39:50	+01° 19' 00"	07h 08m 03.51s	+24° 30' 34.4"	55.6	-8.5	0.219	124.3
04 set 2002	00:53:20	08:44:16	16:27:13	-08° 21' 25"	08h 07m 55.38s	+23° 10' 15.6"	42.9	-7.8	0.135	137.0
05 set 2002	02:06:18	09:42:39	17:07:37	-17° 54' 22"	09h 07m 43.42s	+20° 19' 00.7"	29.9	-6.8	0.067	150.1
06 set 2002	03:23:39	10:39:29	17:42:16	-27° 20' 33"	10h 06m 19.74s	+16° 05' 15.6"	16.6	-5.6	0.021	163.4
07 set 2002	04:42:25	11:34:20	18:12:56	-36° 07' 08"	11h 03m 11.81s	+10° 45' 47.1"	5.3	-4.5	0.002	174.6
08 set 2002	06:00:58	12:27:34	18:41:26	-43° 25' 01"	11h 58m 25.15s	+04° 43' 02.2"	13.2	-5.3	0.013	166.7
09 set 2002	07:18:46	13:20:00	19:09:30	-48° 09' 09"	12h 52m 33.26s	-01° 37' 57.7"	26.8	-6.5	0.054	153.1
10 set 2002	08:35:53	14:12:32	19:38:50	-49° 19' 42"	13h 46m 23.47s	-07° 52' 14.5"	40.7	-7.6	0.121	139.3
11 set 2002	09:52:11	15:06:00	20:11:09	-46° 45' 05"	14h 40m 43.51s	-13° 36' 40.9"	54.3	-8.5	0.209	125.6
12 set 2002	11:06:47	16:00:46	20:48:12	-41° 12' 26"	15h 36m 09.22s	-18° 31' 07.8"	67.6	-9.2	0.310	112.3
13 set 2002	12:17:51	16:56:41	21:31:30	-33° 46' 58"	16h 32m 53.30s	-22° 19' 12.4"	80.5	-9.8	0.419	99.4
14 set 2002	13:22:49	17:52:57	22:21:47	-25° 19' 07"	17h 30m 37.61s	-24° 49' 11.4"	93.0	-10.2	0.528	86.8
15 set 2002	14:19:33	18:48:19	23:18:29	-16° 20' 04"	18h 28m 33.90s	-25° 55' 03.2"	105.2	-10.7	0.632	74.7
16 set 2002	15:07:14	19:41:35	--:--:--	-07° 07' 57"	19h 25m 36.80s	-25° 37' 05.7"	117.0	-11.0	0.728	62.8
17 set 2002	15:46:34	20:31:57	00:19:43	+02° 22' 54"	20h 20m 44.52s	-24° 01' 32.0"	128.6	-11.4	0.813	51.3
18 set 2002	16:19:06	21:19:10	01:22:56	+11° 19' 58"	21h 13m 16.96s	-21° 18' 54.8"	139.9	-11.7	0.883	40.0
19 set 2002	16:46:35	22:03:31	02:26:12	+20° 14' 00"	22h 03m 02.65s	-17° 42' 00.9"	151.0	-12.0	0.938	28.9
20 set 2002	17:10:37	22:45:36	03:28:25	+28° 48' 05"	22h 50m 15.50s	-13° 24' 05.2"	161.9	-12.3	0.975	18.1
21 set 2002	17:32:33	23:26:11	04:29:19	+36° 48' 53"	23h 35m 26.74s	-08° 37' 47.9"	171.9	-12.5	0.995	8.1
22 set 2002	17:53:32	--:--:--	05:29:11	+43° 56' 43"	00h 19m 17.47s	-03° 34' 52.6"	173.5	-12.6	0.997	6.5
23 set 2002	18:14:36	00:06:07	06:28:38	+49° 41' 22"	01h 02m 33.46s	+01° 33' 47.5"	164.0	-12.3	0.981	16.0
24 set 2002	18:36:50	00:46:18	07:28:21	+53° 21' 17"	01h 46m 02.23s	+06° 37' 49.5"	153.5	-12.0	0.948	26.5
25 set 2002	19:01:24	01:27:35	08:28:55	+54° 14' 56"	02h 30m 31.06s	+11° 26' 52.9"	142.8	-11.8	0.898	37.2
26 set 2002	19:29:44	02:10:49	09:30:36	+52° 06' 32"	03h 16m 44.73s	+15° 50' 09.6"	131.9	-11.5	0.835	48.0
27 set 2002	20:03:30	02:56:42	10:33:06	+47° 17' 57"	04h 05m 21.47s	+19° 35' 58.9"	120.9	-11.1	0.758	58.9
28 set 2002	20:44:33	03:45:44	11:35:17	+40° 28' 46"	04h 56m 46.37s	+22° 31' 40.5"	109.7	-10.8	0.670	70.1
29 set 2002	21:34:30	04:37:59	12:35:09	+32° 13' 31"	05h 51m 02.65s	+24° 24' 04.3"	98.3	-10.4	0.574	81.5
30 set 2002	22:33:55	05:32:56	13:30:22	+22° 55' 22"	06h 47m 44.54s	+25° 00' 54.9"	86.6	-10.0	0.471	93.3

Effemeridi di ottobre 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
		1	2	3	4	5
6 New, 11:18	7	8	9	10	11	12
13 First, 05:34	14	15	16	17	18	19
20	21 Full, 07:20	22	23	24	25	26
27	28	29 Last, 05:29	30	31		
































Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 ott 2002	23:41:46	06:29:33	14:19:13	+12° 49' 27"	07h 45m 58.21s	+24° 13' 07.0"	74.4	-9.5	0.367	105.5
02 ott 2002	--:--:--	07:26:30	15:01:17	+02° 15' 18"	08h 44m 35.09s	+21° 57' 13.0"	61.8	-8.9	0.265	118.1
03 ott 2002	00:55:39	08:22:41	15:37:26	-09° 18' 30"	09h 42m 33.94s	+18° 17' 00.4"	48.8	-8.1	0.171	131.1
04 ott 2002	02:12:42	09:17:33	16:09:10	-20° 52' 50"	10h 39m 19.72s	+13° 23' 42.5"	35.3	-7.2	0.092	144.6
05 ott 2002	03:31:04	10:11:16	16:38:15	-32° 25' 51"	11h 34m 50.46s	+07° 34' 58.1"	21.6	-6.1	0.035	158.4
06 ott 2002	04:49:55	11:04:25	17:06:24	-43° 25' 21"	12h 29m 32.23s	+01° 13' 13.6"	8.1	-4.8	0.005	171.8
07 ott 2002	06:09:02	11:57:53	17:35:19	-52° 53' 28"	13h 24m 07.87s	-05° 16' 10.6"	8.5	-4.8	0.006	171.5
08 ott 2002	07:28:20	12:52:30	18:06:48	-59° 08' 37"	14h 19m 23.90s	-11° 27' 01.8"	22.0	-6.1	0.036	158.0
09 ott 2002	08:46:57	13:48:44	18:42:40	-60° 09' 36"	15h 15m 56.81s	-16° 54' 25.1"	35.8	-7.3	0.095	144.2
10 ott 2002	10:02:53	14:46:26	19:24:41	-55° 45' 49"	16h 13m 59.51s	-21° 16' 56.1"	49.3	-8.2	0.175	130.6
11 ott 2002	11:13:08	15:44:43	20:13:53	-47° 56' 58"	17h 13m 10.94s	-24° 18' 50.2"	62.4	-8.9	0.269	117.5
12 ott 2002	12:14:49	16:42:09	21:10:00	-38° 32' 56"	18h 12m 35.88s	-25° 51' 49.2"	75.0	-9.5	0.372	104.8
13 ott 2002	13:06:31	17:37:17	22:11:10	-28° 31' 04"	19h 10m 59.62s	-25° 55' 42.6"	87.2	-10.0	0.477	92.6
14 ott 2002	13:48:42	18:29:10	23:14:44	-18° 17' 09"	20h 07m 12.70s	-24° 37' 28.6"	99.1	-10.5	0.580	80.8
15 ott 2002	14:23:06	19:17:28	--:--:--	-08° 02' 22"	21h 00m 31.63s	-22° 08' 47.5"	110.5	-10.8	0.677	69.3
16 ott 2002	14:51:42	20:02:31	00:18:28	+02° 24' 55"	21h 50m 45.98s	-18° 43' 14.6"	121.8	-11.2	0.764	58.1
17 ott 2002	15:16:20	20:44:59	01:21:02	+12° 17' 32"	22h 38m 13.11s	-14° 34' 16.6"	132.8	-11.5	0.841	47.1
18 ott 2002	15:38:28	21:25:43	02:22:10	+22° 11' 31"	23h 23m 28.19s	-09° 54' 14.4"	143.7	-11.8	0.904	36.2
19 ott 2002	15:59:22	22:05:37	03:22:10	+31° 54' 19"	00h 07m 15.62s	-04° 54' 19.2"	154.5	-12.1	0.952	25.4
20 ott 2002	16:20:05	22:45:35	04:21:41	+41° 17' 17"	00h 50m 23.39s	+00° 15' 04.8"	165.2	-12.3	0.983	14.8
21 ott 2002	16:41:40	23:26:29	05:21:24	+50° 04' 01"	01h 33m 40.10s	+05° 23' 46.2"	175.1	-12.6	0.998	4.9
22 ott 2002	17:05:14	--:--:--	06:21:58	+57° 40' 40"	02h 17m 53.07s	+10° 21' 14.5"	171.9	-12.5	0.995	8.0
23 ott 2002	17:32:07	00:09:08	07:23:42	+63° 00' 25"	03h 03m 46.12s	+14° 56' 13.6"	161.4	-12.2	0.974	18.5
24 ott 2002	18:03:47	00:54:14	08:26:20	+64° 26' 34"	03h 51m 55.68s	+18° 56' 28.9"	150.5	-12.0	0.936	29.4
25 ott 2002	18:41:59	01:42:13	09:28:51	+61° 14' 45"	04h 42m 44.54s	+22° 08' 56.2"	139.4	-11.7	0.880	40.5
26 ott 2002	19:28:11	02:33:08	10:29:20	+54° 30' 05"	05h 36m 13.96s	+24° 20' 25.0"	128.2	-11.4	0.810	51.7
27 ott 2002	20:23:11	03:26:31	11:25:28	+45° 39' 03"	06h 31m 57.74s	+25° 19' 05.7"	116.7	-11.0	0.725	63.2
28 ott 2002	21:26:21	04:21:24	12:15:24	+35° 33' 26"	07h 29m 03.87s	+24° 56' 27.9"	104.9	-10.7	0.630	75.0
29 ott 2002	22:35:45	05:16:37	12:58:28	+24° 38' 22"	08h 26m 27.66s	+23° 09' 10.7"	92.8	-10.2	0.526	87.1
30 ott 2002	23:48:58	06:11:09	13:35:18	+13° 06' 53"	09h 23m 12.04s	+19° 59' 57.8"	80.3	-9.8	0.417	99.5
31 ott 2002	--:--:--	07:04:28	14:07:19	+01° 20' 36"	10h 18m 44.94s	+15° 37' 22.9"	67.5	-9.2	0.310	112.4

Effemeridi di novembre 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
					1	2
3	4 New, 20:36	5	6	7	8	9
10	11 First, 20:53	12	13	14	15	16
17	18	19	20 Full, 01:34	21	22	23
24	25	26	27 Last, 15:47	28	29	30

Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 nov 2002	01:04:14	07:56:42	14:36:12	-11° 29' 19"	11h 13m 05.85s	+10° 14' 56.1"	54.2	-8.5	0.208	125.7
02 nov 2002	02:20:38	08:48:28	15:03:38	-24° 12' 21"	12h 06m 42.01s	+04° 10' 12.8"	40.5	-7.6	0.121	139.4
03 nov 2002	03:38:11	09:40:42	15:31:17	-36° 55' 56"	13h 00m 19.00s	-02° 15' 39.9"	26.6	-6.5	0.053	153.3
04 nov 2002	04:57:05	10:34:24	16:00:56	-49° 13' 57"	13h 54m 49.48s	-08° 38' 38.5"	12.6	-5.2	0.012	167.4
05 nov 2002	06:17:03	11:30:21	16:34:29	-60° 12' 01"	14h 51m 00.22s	-14° 32' 52.3"	3.0	-4.2	0.001	177.0
06 nov 2002	07:36:37	12:28:42	17:13:56	-67° 40' 33"	15h 49m 16.82s	-19° 32' 52.1"	16.0	-5.6	0.019	164.0
07 nov 2002	08:52:37	13:28:46	18:00:56	-68° 05' 37"	16h 49m 27.91s	-23° 16' 41.5"	29.6	-6.8	0.066	150.3
08 nov 2002	10:01:11	14:28:58	18:55:56	-61° 36' 05"	17h 50m 37.28s	-25° 29' 36.6"	42.9	-7.8	0.134	137.0
09 nov 2002	10:59:23	15:27:19	19:57:22	-51° 58' 47"	18h 51m 14.96s	-26° 06' 49.4"	55.7	-8.6	0.219	124.2
10 nov 2002	11:46:43	16:22:14	21:02:15	-41° 22' 32"	19h 49m 47.33s	-25° 13' 35.6"	68.0	-9.2	0.314	111.8
11 nov 2002	12:24:40	17:13:01	22:07:36	-30° 32' 49"	20h 45m 08.77s	-23° 02' 26.0"	80.0	-9.7	0.414	99.9
12 nov 2002	12:55:31	17:59:50	23:11:34	-19° 44' 54"	21h 36m 56.18s	-19° 48' 59.9"	91.5	-10.2	0.514	88.4
13 nov 2002	13:21:26	18:43:24	---:--	-09° 03' 08"	22h 25m 23.95s	-15° 48' 43.0"	102.7	-10.6	0.611	77.1
14 nov 2002	13:44:12	19:24:39	00:13:40	+01° 51' 17"	23h 11m 10.50s	-11° 15' 07.6"	113.7	-10.9	0.702	66.1
15 nov 2002	14:05:14	20:04:39	01:14:06	+12° 07' 11"	23h 55m 05.91s	-06° 19' 40.6"	124.6	-11.3	0.785	55.2
16 nov 2002	14:25:44	20:44:23	02:13:39	+22° 31' 18"	00h 38m 04.29s	-01° 12' 19.8"	135.4	-11.6	0.857	44.4
17 nov 2002	14:46:46	21:24:51	03:13:12	+32° 52' 19"	01h 20m 59.95s	+03° 57' 32.0"	146.3	-11.8	0.916	33.7
18 nov 2002	15:09:29	22:06:56	04:13:32	+43° 05' 50"	02h 04m 45.52s	+09° 00' 12.4"	157.1	-12.1	0.961	22.8
19 nov 2002	15:35:09	22:51:27	05:15:13	+53° 01' 00"	02h 50m 09.91s	+13° 44' 54.1"	168.1	-12.4	0.989	11.9
20 nov 2002	16:05:14	23:38:54	06:18:13	+62° 08' 57"	03h 37m 54.58s	+17° 59' 17.3"	178.7	-12.7	1.000	1.3
21 nov 2002	16:41:25	---:--	07:21:40	+69° 10' 03"	04h 28m 26.80s	+21° 29' 34.3"	169.6	-12.5	0.992	10.4
22 nov 2002	17:25:17	00:29:26	08:23:45	+71° 10' 31"	05h 21m 50.48s	+24° 01' 20.6"	158.2	-12.2	0.964	21.7
23 nov 2002	18:17:45	01:22:34	09:21:57	+66° 33' 59"	06h 17m 38.34s	+25° 21' 24.3"	146.7	-11.9	0.918	33.3
24 nov 2002	19:18:21	02:17:15	10:13:58	+57° 53' 12"	07h 14m 52.44s	+25° 20' 15.5"	134.9	-11.5	0.854	45.0
25 nov 2002	20:25:10	03:12:10	10:58:45	+47° 24' 04"	08h 12m 18.45s	+23° 54' 19.0"	123.0	-11.2	0.773	56.9
26 nov 2002	21:35:42	04:06:06	11:36:41	+36° 00' 54"	09h 08m 49.39s	+21° 06' 44.1"	110.8	-10.8	0.679	69.1
27 nov 2002	22:47:59	04:58:26	12:09:08	+24° 04' 23"	10h 03m 46.22s	+17° 06' 30.4"	98.3	-10.4	0.574	81.5
28 nov 2002	---:--	05:49:10	12:37:48	+11° 44' 38"	10h 57m 05.51s	+12° 06' 41.5"	85.6	-10.0	0.463	94.3
29 nov 2002	00:01:07	06:38:57	13:04:23	-01° 01' 52"	11h 49m 15.00s	+06° 22' 56.0"	72.6	-9.4	0.351	107.3
30 nov 2002	01:15:05	07:28:44	13:30:31	-13° 58' 19"	12h 41m 03.64s	+00° 12' 50.3"	59.2	-8.7	0.245	120.7

Effemeridi di dicembre 2002

Sun	Mon	Tues	Wed	Thur	Fri	Sat
1 	2 	3 	4  New, 07:36	5 	6 	7 
8 	9 	10 	11  First, 15:50	12 	13 	14 
15 	16 	17 	18 	19  Full, 19:12	20 	21 
22 	23 	24 	25 	26 	27  Last, 00:32	28 
29 	30 	31 				

Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 dic 2002	02:30:29	08:19:43	13:57:53	-27° 02' 35"	13h 33m 30.93s	-06° 03' 53.6"	45.6	-7.9	0.151	134.3
02 dic 2002	03:47:45	09:12:57	14:28:19	-40° 03' 40"	14h 27m 36.11s	-12° 05' 14.2"	31.9	-7.0	0.076	148.1
03 dic 2002	05:06:29	10:09:13	15:03:53	-52° 41' 36"	15h 24m 04.86s	-17° 27' 16.4"	18.0	-5.8	0.025	161.9
04 dic 2002	06:24:37	11:08:27	15:46:42	-64° 11' 21"	16h 23m 11.94s	-21° 46' 03.5"	4.3	-4.3	0.001	175.7
05 dic 2002	07:38:21	12:09:31	16:38:11	-72° 19' 21"	17h 24m 24.57s	-24° 41' 12.9"	9.3	-4.9	0.007	170.7
06 dic 2002	08:43:28	13:10:22	17:38:00	-72° 17' 51"	18h 26m 19.36s	-26° 00' 27.2"	22.5	-6.2	0.038	157.4
07 dic 2002	09:37:32	14:08:43	18:43:27	-64° 39' 08"	19h 27m 05.03s	-25° 42' 40.7"	35.4	-7.2	0.093	144.5
08 dic 2002	10:20:53	15:03:02	19:50:52	-54° 22' 03"	20h 25m 02.79s	-23° 57' 25.3"	47.8	-8.1	0.165	132.1
09 dic 2002	10:55:31	15:52:52	20:57:19	-43° 27' 45"	21h 19m 17.60s	-21° 00' 47.8"	59.8	-8.8	0.250	120.1
10 dic 2002	11:23:52	16:38:38	22:01:28	-32° 29' 52"	22h 09m 43.79s	-17° 10' 36.7"	71.4	-9.3	0.342	108.4
11 dic 2002	11:48:04	17:21:17	23:03:16	-21° 37' 38"	22h 56m 51.94s	-12° 43' 02.7"	82.7	-9.8	0.438	97.1
12 dic 2002	12:09:48	18:01:56	--:--:--	-10° 52' 15"	23h 41m 32.26s	-07° 51' 26.2"	93.7	-10.3	0.534	86.1
13 dic 2002	12:30:24	18:41:42	00:03:26	+00° 18' 57"	00h 24m 42.72s	-02° 46' 33.4"	104.6	-10.6	0.628	75.2
14 dic 2002	12:51:04	19:21:43	01:02:56	+10° 31' 20"	01h 07m 22.95s	+02° 22' 25.1"	115.4	-11.0	0.716	64.4
15 dic 2002	13:12:56	20:03:00	02:02:47	+21° 07' 00"	01h 50m 31.65s	+07° 26' 44.6"	126.3	-11.3	0.797	53.6
16 dic 2002	13:37:17	20:46:31	03:03:50	+31° 45' 52"	02h 35m 04.97s	+12° 16' 57.6"	137.1	-11.6	0.867	42.7
17 dic 2002	14:05:36	21:33:01	04:06:27	+42° 25' 14"	03h 21m 53.68s	+16° 41' 58.6"	148.2	-11.9	0.925	31.7
18 dic 2002	14:39:37	22:22:54	05:10:15	+52° 57' 00"	04h 11m 37.09s	+20° 28' 34.3"	159.4	-12.2	0.968	20.6
19 dic 2002	15:21:06	23:15:57	06:13:48	+62° 56' 06"	05h 04m 32.91s	+23° 21' 43.9"	170.7	-12.5	0.993	9.3
20 dic 2002	16:11:24	--:--:--	07:14:35	+71° 01' 14"	06h 00m 25.61s	+25° 06' 14.4"	177.0	-12.7	0.999	3.0
21 dic 2002	17:10:31	00:11:14	08:09:51	+73° 27' 33"	06h 58m 20.71s	+25° 29' 36.9"	165.5	-12.4	0.984	14.5
22 dic 2002	18:16:40	01:07:12	08:57:47	+67° 52' 39"	07h 56m 54.71s	+24° 25' 26.0"	153.4	-12.0	0.947	26.5
23 dic 2002	19:27:01	02:02:19	09:38:13	+58° 01' 46"	08h 54m 41.42s	+21° 55' 23.5"	141.2	-11.7	0.890	38.7
24 dic 2002	20:38:57	02:55:31	10:12:18	+46° 36' 09"	09h 50m 40.60s	+18° 08' 51.0"	128.7	-11.4	0.813	51.2
25 dic 2002	21:51:03	03:46:33	10:41:44	+34° 29' 11"	10h 44m 32.82s	+13° 20' 24.3"	116.0	-11.0	0.721	63.8
26 dic 2002	23:03:05	04:35:50	11:08:18	+22° 00' 30"	11h 36m 37.05s	+07° 47' 11.2"	103.2	-10.6	0.616	76.6
27 dic 2002	--:--:--	05:24:17	11:33:41	+09° 20' 49"	12h 27m 39.18s	+01° 47' 08.6"	90.3	-10.1	0.504	89.6
28 dic 2002	00:15:38	06:13:04	11:59:29	-03° 35' 48"	13h 18m 39.76s	-04° 21' 24.8"	77.2	-9.6	0.390	102.7
29 dic 2002	01:29:26	07:03:25	12:27:24	-16° 29' 29"	14h 10m 43.36s	-10° 19' 26.8"	64.0	-9.0	0.281	115.9
30 dic 2002	02:44:51	07:56:24	12:59:22	-29° 19' 52"	15h 04m 47.73s	-15° 46' 43.7"	50.7	-8.3	0.184	129.2
31 dic 2002	04:01:02	08:52:34	13:37:31	-41° 57' 18"	16h 01m 29.79s	-20° 22' 05.2"	37.3	-7.4	0.103	142.6

Effemeridi di gennaio 2003

Sun	Mon	Tues	Wed	Thur	Fri	Sat
			1	2 New, 20:24	3	4
5	6	7	8	9	10 First, 13:16	11
12	13	14	15	16	17	18 Full, 10:50
19	20	21	22	23	24	25 Last, 08:34
26	27	28	29	30	31	

Data	Sorge	Transita	Tramonta	Altezza	Asc. Retta	Dec.	El °	Mag	Fase	A.F.
01 gen 2003	05:15:28	09:51:36	14:23:51	-54° 03' 49"	17h 00m 48.31s	-23° 45' 10.4"	24.1	-6.3	0.044	155.8
02 gen 2003	06:24:11	10:52:07	15:19:16	-64° 56' 48"	18h 01m 51.06s	-25° 39' 59.2"	11.2	-5.1	0.009	168.8
03 gen 2003	07:23:36	11:51:55	16:22:30	-72° 29' 29"	19h 03m 00.92s	-25° 59' 02.3"	3.6	-4.3	0.001	176.4
04 gen 2003	08:12:21	12:48:51	17:30:10	-72° 23' 04"	20h 02m 27.05s	-24° 45' 36.9"	15.1	-5.5	0.017	164.9
05 gen 2003	08:51:26	13:41:40	18:38:31	-65° 10' 37"	20h 58m 44.58s	-22° 12' 17.4"	27.3	-6.6	0.056	152.6
06 gen 2003	09:23:00	14:30:09	19:45:07	-55° 21' 50"	21h 51m 16.86s	-18° 36' 36.3"	39.2	-7.5	0.113	140.7
07 gen 2003	09:49:21	15:14:54	20:49:06	-44° 51' 28"	22h 40m 12.68s	-14° 16' 36.3"	50.8	-8.3	0.185	129.1
08 gen 2003	10:12:20	15:56:55	21:50:44	-34° 12' 52"	23h 26m 10.82s	-09° 28' 08.3"	62.1	-8.9	0.267	117.8
09 gen 2003	10:33:30	16:37:19	22:50:52	-23° 35' 35"	00h 10m 04.89s	-04° 24' 04.9"	73.1	-9.4	0.356	106.7
10 gen 2003	10:54:06	17:17:15	23:50:35	-13° 01' 13"	00h 52m 53.97s	+00° 45' 12.1"	84.0	-9.9	0.449	95.8
11 gen 2003	11:15:19	17:57:48	--:--:--	-02° 28' 12"	01h 35m 38.15s	+05° 50' 50.2"	94.8	-10.3	0.544	85.0
12 gen 2003	11:38:23	18:40:04	00:50:52	+08° 12' 38"	02h 19m 16.60s	+10° 44' 14.0"	105.6	-10.7	0.636	74.2
13 gen 2003	12:04:43	19:24:57	01:52:26	+18° 47' 04"	03h 04m 45.78s	+15° 15' 54.7"	116.5	-11.0	0.724	63.3
14 gen 2003	12:36:00	20:13:12	02:55:27	+29° 28' 50"	03h 52m 55.35s	+19° 14' 32.0"	127.6	-11.3	0.806	52.3
15 gen 2003	13:14:10	21:05:01	03:59:07	+40° 13' 53"	04h 44m 20.02s	+22° 26' 27.2"	138.8	-11.7	0.877	41.1
16 gen 2003	14:01:02	21:59:55	05:01:28	+50° 51' 58"	05h 39m 07.16s	+24° 36' 19.4"	150.3	-12.0	0.935	29.6
17 gen 2003	14:57:27	22:56:39	05:59:45	+60° 52' 50"	06h 36m 44.90s	+25° 29' 14.5"	162.0	-12.3	0.976	17.9
18 gen 2003	16:02:29	23:53:28	06:51:29	+68° 45' 37"	07h 36m 00.98s	+24° 54' 21.5"	173.4	-12.6	0.997	6.6
19 gen 2003	17:13:25	--:--:--	07:35:36	+70° 52' 40"	08h 35m 21.26s	+22° 48' 32.0"	171.8	-12.5	0.995	8.1
20 gen 2003	18:27:00	00:48:50	08:12:39	+65° 15' 02"	09h 33m 21.96s	+19° 17' 58.9"	159.7	-12.2	0.969	20.2
21 gen 2003	19:40:54	01:41:56	08:44:11	+55° 16' 16"	10h 29m 16.27s	+14° 36' 56.7"	147.0	-11.9	0.920	33.0
22 gen 2003	20:54:11	02:32:47	09:12:01	+43° 36' 27"	11h 23m 01.54s	+09° 04' 31.7"	134.0	-11.5	0.848	45.9
23 gen 2003	22:07:01	03:22:04	09:37:52	+31° 16' 38"	12h 15m 10.47s	+03° 01' 35.8"	120.9	-11.1	0.758	59.0
24 gen 2003	23:20:04	04:10:50	10:03:23	+18° 42' 05"	13h 06m 36.95s	-03° 11' 07.0"	107.8	-10.7	0.654	72.1
25 gen 2003	--:--:--	05:00:14	10:30:12	+06° 08' 39"	13h 58m 23.24s	-09° 13' 37.5"	94.7	-10.3	0.542	85.2
26 gen 2003	00:33:51	05:51:25	11:00:05	-06° 34' 05"	14h 51m 28.80s	-14° 46' 32.2"	81.6	-9.8	0.428	98.3
27 gen 2003	01:48:10	06:45:10	11:35:02	-18° 57' 42"	15h 46m 38.40s	-19° 30' 52.2"	68.6	-9.2	0.319	111.3
28 gen 2003	03:01:26	07:41:39	12:17:05	-31° 03' 35"	16h 44m 07.76s	-23° 08' 38.6"	55.7	-8.6	0.219	124.2
29 gen 2003	04:10:37	08:40:08	13:07:43	-42° 40' 48"	17h 43m 30.48s	-25° 24' 47.8"	43.0	-7.8	0.135	136.9
30 gen 2003	05:12:19	09:39:02	14:06:50	-53° 28' 00"	18h 43m 36.10s	-26° 10' 11.3"	30.4	-6.8	0.069	149.5
31 gen 2003	06:04:20	10:36:21	15:12:09	-62° 37' 00"	19h 42m 48.57s	-25° 24' 12.8"	18.1	-5.8	0.025	161.8

Effemeridi dei pianeti

Nella seguente sezione vengono riportate le effemeridi planetarie per l'intero anno. Riportiamo la descrizione dei campi delle tabelle.

Data : giorno a cui fa riferimento l'effemeride (calcolate per le 00:00 T.U.)

Sorge, Transita, Tramonta : istanti del sorgere, transito e tramonto della Luna

Asc. retta, Dec. : coordinate dell'astro

El° : elongazione dal Sole

Magn : magnitudine della Luna

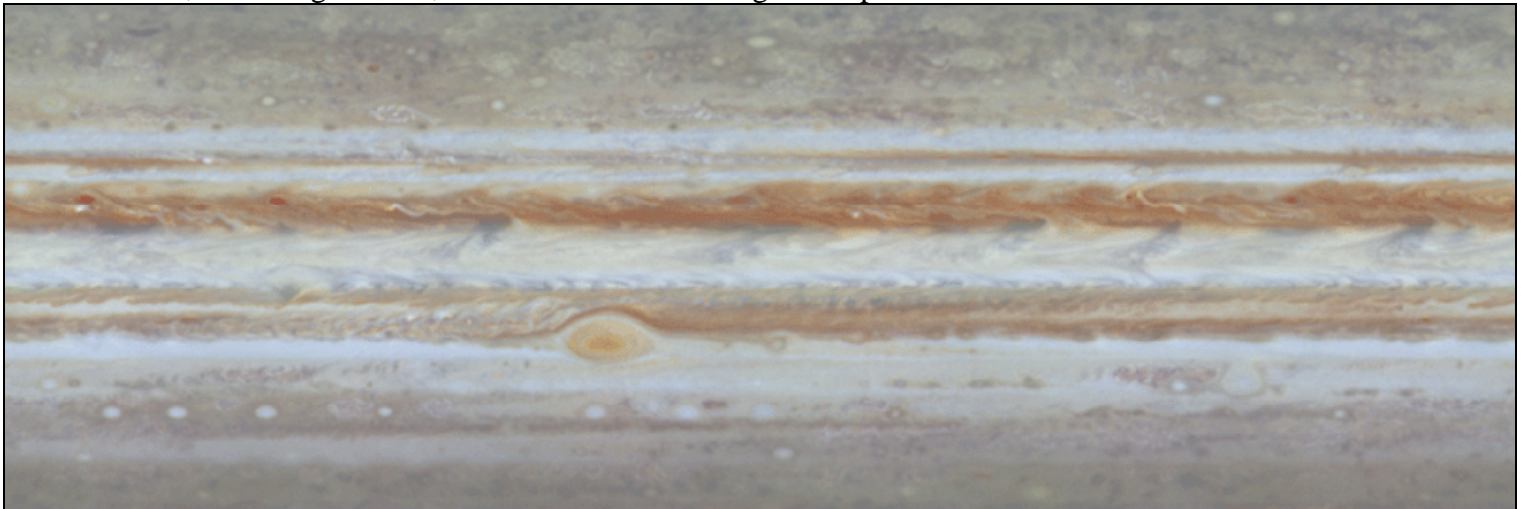
Diam'' : diametro apparente del pianeta (in secondi d'arco)

Fase : fase del pianeta

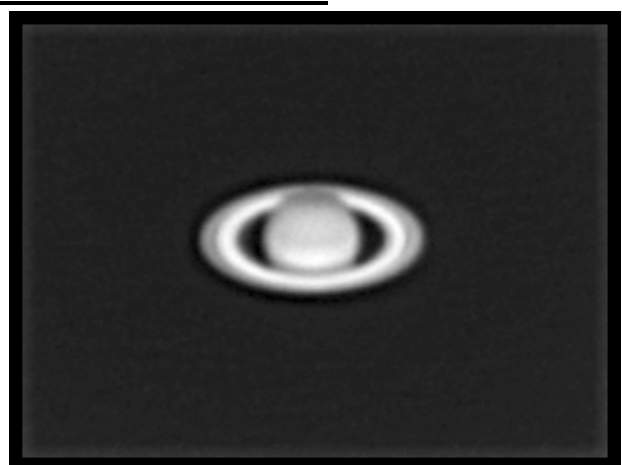
Dist : distanza dalla Terra

Long Elioc : longitudine eliocentrica

Ogni tabella di effemeridi è seguita da una serie di grafici che riassumono la variazione delle coordinate del pianeta, della visibilità, della magnitudine, del diametro e dell'elongazione per l'intero anno.



L'atmosfera di Giove ripresa della sonda Cassini

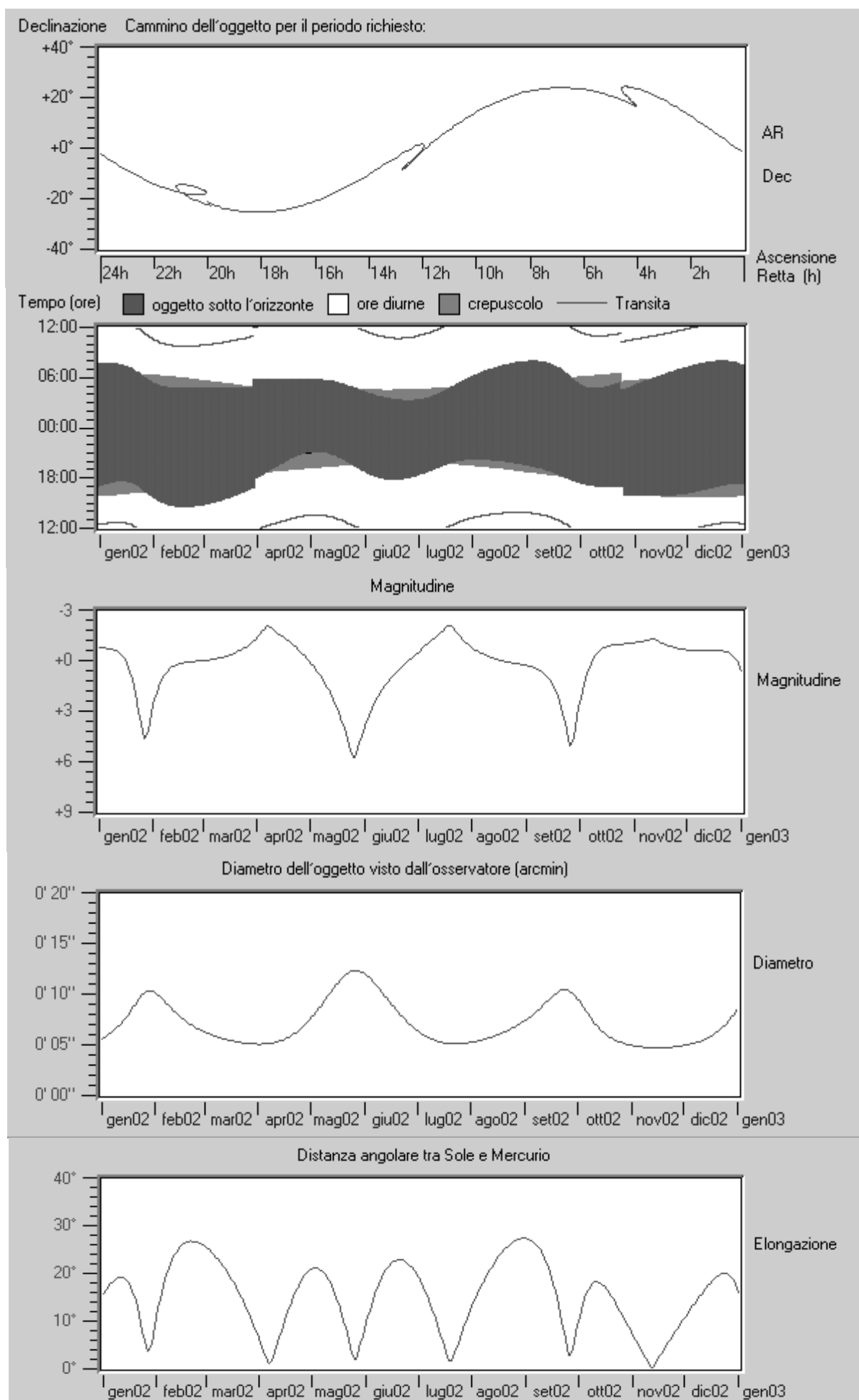


Giove e Saturno, ripresi dall'autore mediante web cam su riflettore Cassegrain da 20 cm f/18.

Effemeridi di Mercurio

Max elongazione: 12 gen (12° E) – 22 feb (27° O) – 4 mag (21° E) – 22 giu (23° O) – 1 sett (27° E)
 13 ott (18° O) – 26 dic (20° E)
 Max avvicinamento: 27 maggio (0.5492 u.a.)

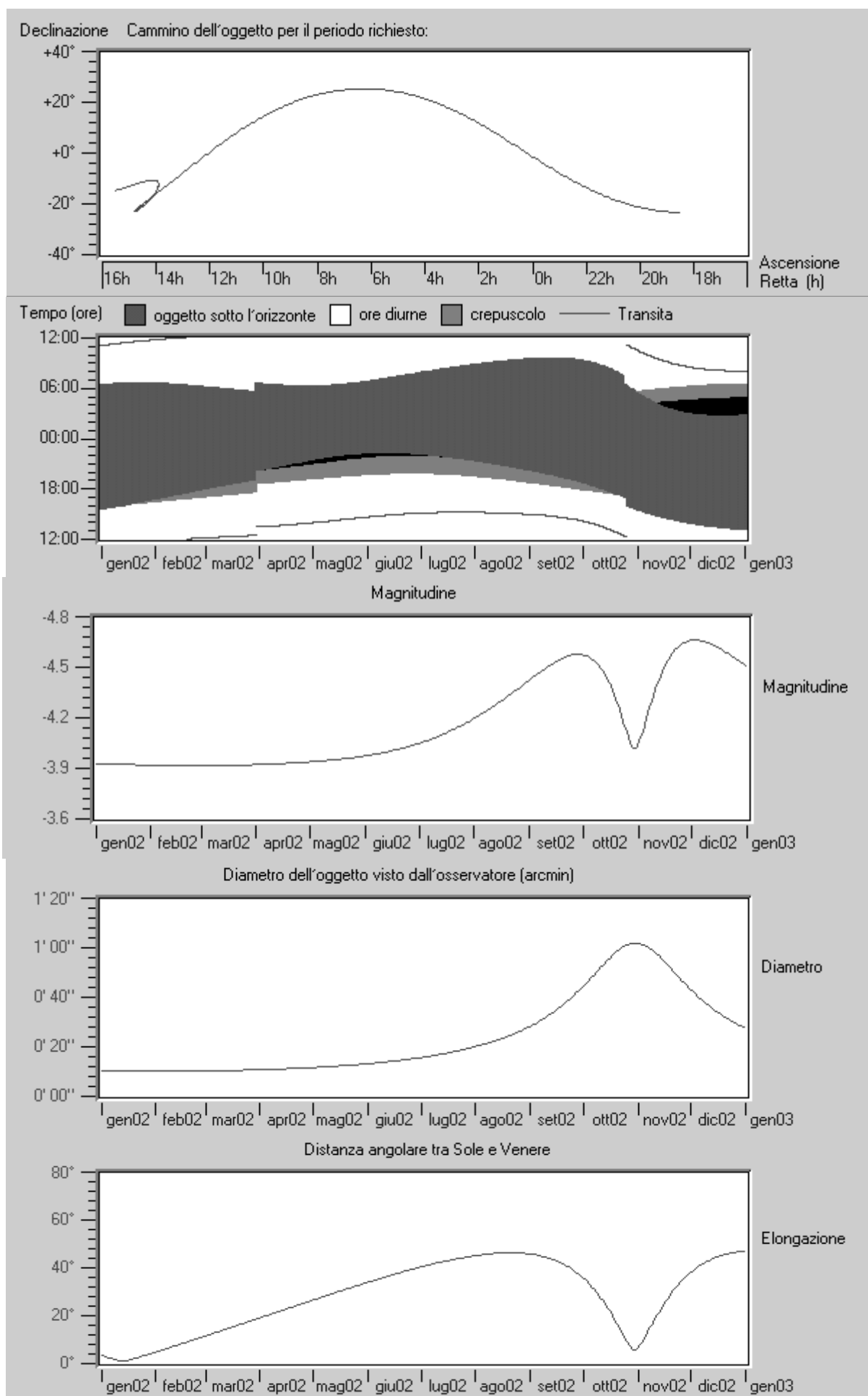
Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El°	Mag	Diam"	Fase	Dist	Long Elioc
01 gen 2002	07:46:26	12:21:19	16:56:49	19h 51m 45.28s	-23° 02' 50.1"	15.3	-0.8	5.46	0.867	1.2302610	338° 11' 18.3"
11 gen 2002	07:44:18	12:37:39	17:31:48	20h 48m 42.27s	-18° 43' 06.5"	19.0	-0.6	6.67	0.617	1.0069012	026° 02' 41.1"
21 gen 2002	07:03:10	12:10:04	17:17:09	21h 03m 47.67s	-14° 54' 35.0"	13.4	1.3	8.96	0.163	0.7498959	086° 42' 39.7"
31 gen 2002	05:44:16	10:46:44	15:48:46	20h 20m 33.45s	-15° 48' 44.2"	8.0	3.3	10.17	0.042	0.6607992	144° 58' 00.1"
10 feb 2002	04:56:24	09:50:35	14:44:32	20h 01m 19.20s	-18° 09' 51.7"	22.5	0.6	8.65	0.332	0.7770693	188° 45' 51.8"
20 feb 2002	04:46:00	09:38:35	14:31:16	20h 27m 26.94s	-18° 45' 05.5"	26.5	0.1	7.14	0.564	0.9416129	221° 59' 59.5"
02 mar 2002	04:47:29	09:47:05	14:47:09	21h 14m 50.47s	-17° 09' 04.7"	25.3	-0.0	6.17	0.708	1.0893039	250° 27' 19.4"
12 mar 2002	04:49:33	10:04:22	15:20:01	22h 11m 17.26s	-13° 22' 33.2"	21.3	-0.2	5.56	0.809	1.2093476	278° 11' 24.1"
22 mar 2002	04:49:38	10:26:40	16:04:53	23h 12m 46.86s	-07° 31' 15.9"	15.1	-0.6	5.17	0.896	1.2988114	308° 47' 40.0"
01 apr 2002	04:48:48	10:54:10	17:01:06	00h 19m 22.70s	+00° 14' 27.1"	6.7	-1.3	4.99	0.975	1.3453657	346° 46' 32.2"
11 apr 2002	04:49:40	11:28:28	18:09:12	01h 32m 42.92s	+09° 20' 07.5"	4.0	-1.9	5.12	0.988	1.3121130	037° 33' 46.2"
21 apr 2002	04:53:23	12:05:15	19:18:51	02h 49m 01.36s	+17° 47' 22.7"	14.6	-1.1	5.82	0.792	1.1545383	099° 25' 51.1"
01 mag 2002	04:55:07	12:28:09	20:01:58	03h 52m 26.13s	+22° 51' 04.4"	20.6	-0.0	7.31	0.467	0.9195344	155° 02' 20.4"
11 mag 2002	04:45:34	12:22:19	19:58:47	04h 27m 43.99s	+23° 56' 35.2"	19.0	1.4	9.48	0.200	0.7085351	196° 09' 24.9"
21 mag 2002	04:16:47	11:42:33	19:07:21	04h 28m 53.33s	+21° 49' 09.6"	9.2	3.8	11.64	0.033	0.5773516	228° 01' 07.2"
31 mag 2002	03:33:26	10:43:29	17:52:45	04h 09m 13.49s	+18° 11' 59.2"	6.2	4.6	12.12	0.014	0.5542753	256° 02' 11.8"
10 giu 2002	02:53:05	09:56:35	17:00:06	04h 00m 34.45s	+16° 23' 36.2"	18.0	2.0	10.55	0.139	0.6372323	284° 03' 08.5"
20 giu 2002	02:27:23	09:37:22	16:48:03	04h 19m 34.81s	+17° 44' 13.4"	22.6	0.7	8.43	0.331	0.7973491	315° 44' 24.9"
30 giu 2002	02:22:02	09:46:21	17:11:35	05h 06m 50.60s	+20° 52' 25.2"	20.5	-0.3	6.69	0.573	1.0048601	355° 54' 24.7"
10 lug 2002	02:46:01	10:22:27	17:59:12	06h 21m 14.50s	+23° 23' 12.1"	12.7	-1.2	5.54	0.852	1.2125277	049° 37' 19.4"
20 lug 2002	03:42:44	11:14:37	18:45:32	07h 52m 26.80s	+22° 26' 38.0"	2.0	-2.1	5.05	0.997	1.3306597	111° 50' 00.5"
30 lug 2002	04:49:37	11:59:35	19:08:00	09h 17m 24.81s	+17° 35' 45.0"	9.9	-1.1	5.08	0.940	1.3227271	164° 27' 58.6"
09 ago 2002	05:45:52	12:28:31	19:09:39	10h 26m 29.60s	+10° 51' 02.8"	18.2	-0.4	5.42	0.830	1.2407859	203° 10' 23.8"
19 ago 2002	06:27:40	12:43:55	18:58:53	11h 21m 56.66s	+03° 47' 56.9"	23.9	-0.0	5.97	0.719	1.1247075	233° 53' 03.4"
29 ago 2002	06:54:44	12:47:42	18:39:40	12h 05m 47.32s	-02° 36' 34.6"	27.0	0.2	6.80	0.594	0.9882614	261° 37' 05.1"
08 set 2002	07:01:34	12:36:59	18:11:49	12h 35m 26.30s	-07° 24' 26.4"	26.1	0.5	8.02	0.426	0.8382802	290° 03' 43.7"
18 set 2002	06:30:20	12:00:41	17:31:18	12h 40m 10.37s	-08° 43' 25.4"	18.2	1.5	9.62	0.184	0.6983062	323° 01' 51.0"
28 set 2002	05:04:17	10:51:41	16:40:20	12h 11m 19.40s	-03° 59' 28.6"	2.6	5.1	10.25	0.004	0.6553590	005° 37' 31.4"
08 ott 2002	03:51:38	09:58:23	16:05:23	11h 55m 09.32s	+01° 12' 26.9"	16.1	0.5	8.17	0.278	0.8229459	062° 06' 36.8"
18 ott 2002	03:57:19	09:56:14	15:54:12	12h 30m 47.03s	-01° 08' 39.2"	17.0	-0.8	6.13	0.721	1.0964072	123° 45' 19.5"
28 ott 2002	04:39:37	10:15:27	15:50:07	13h 29m 01.63s	-07° 31' 48.4"	11.1	-1.0	5.16	0.931	1.3015735	173° 17' 21.7"
07 nov 2002	05:27:22	10:38:13	15:48:01	14h 31m 06.96s	-14° 09' 28.2"	4.4	-1.1	4.76	0.992	1.4114578	209° 51' 56.7"
17 nov 2002	06:13:48	11:02:16	15:49:57	15h 34m 28.71s	-19° 41' 31.5"	1.7	-1.2	4.64	0.999	1.4483968	239° 37' 48.6"
27 nov 2002	06:57:01	11:28:25	15:59:18	16h 39m 52.55s	-23° 36' 42.1"	7.3	-0.8	4.71	0.981	1.4262233	267° 13' 37.6"
07 dic 2002	07:33:51	11:56:31	16:19:05	17h 47m 17.89s	-25° 32' 00.3"	12.7	-0.6	4.99	0.936	1.3462051	296° 15' 08.0"
17 dic 2002	07:58:22	12:23:20	16:48:36	18h 53m 43.25s	-25° 07' 14.1"	17.5	-0.6	5.60	0.831	1.1996426	330° 42' 47.8"
27 dic 2002	07:59:44	12:36:49	17:14:27	19h 47m 54.43s	-22° 27' 01.1"	19.8	-0.5	6.87	0.578	0.9776692	015° 57' 29.3"
06 gen 2003	07:14:09	12:02:46	16:51:40	19h 56m 46.35s	-19° 23' 47.0"	12.3	1.6	9.14	0.133	0.7351882	074° 51' 58.9"
16 gen 2003	05:44:42	10:34:03	15:23:15	19h 07m 34.40s	-19° 05' 28.2"	10.0	2.6	9.85	0.071	0.6818881	135° 05' 11.1"
26 gen 2003	04:59:37	09:44:26	14:29:02	18h 54m 40.37s	-20° 26' 24.7"	22.9	0.3	8.07	0.404	0.8326076	181° 33' 57.3"
05 feb 2003	04:57:22	09:39:20	14:21:18	19h 27m 49.12s	-21° 15' 37.6"	25.3	-0.1	6.65	0.637	1.0108687	216° 17' 10.2"



Effemeridi di Venere

Max elongazione: 23 agosto (46° E). Max avvicinamento: 1 novembre (0.2709 u.a.)

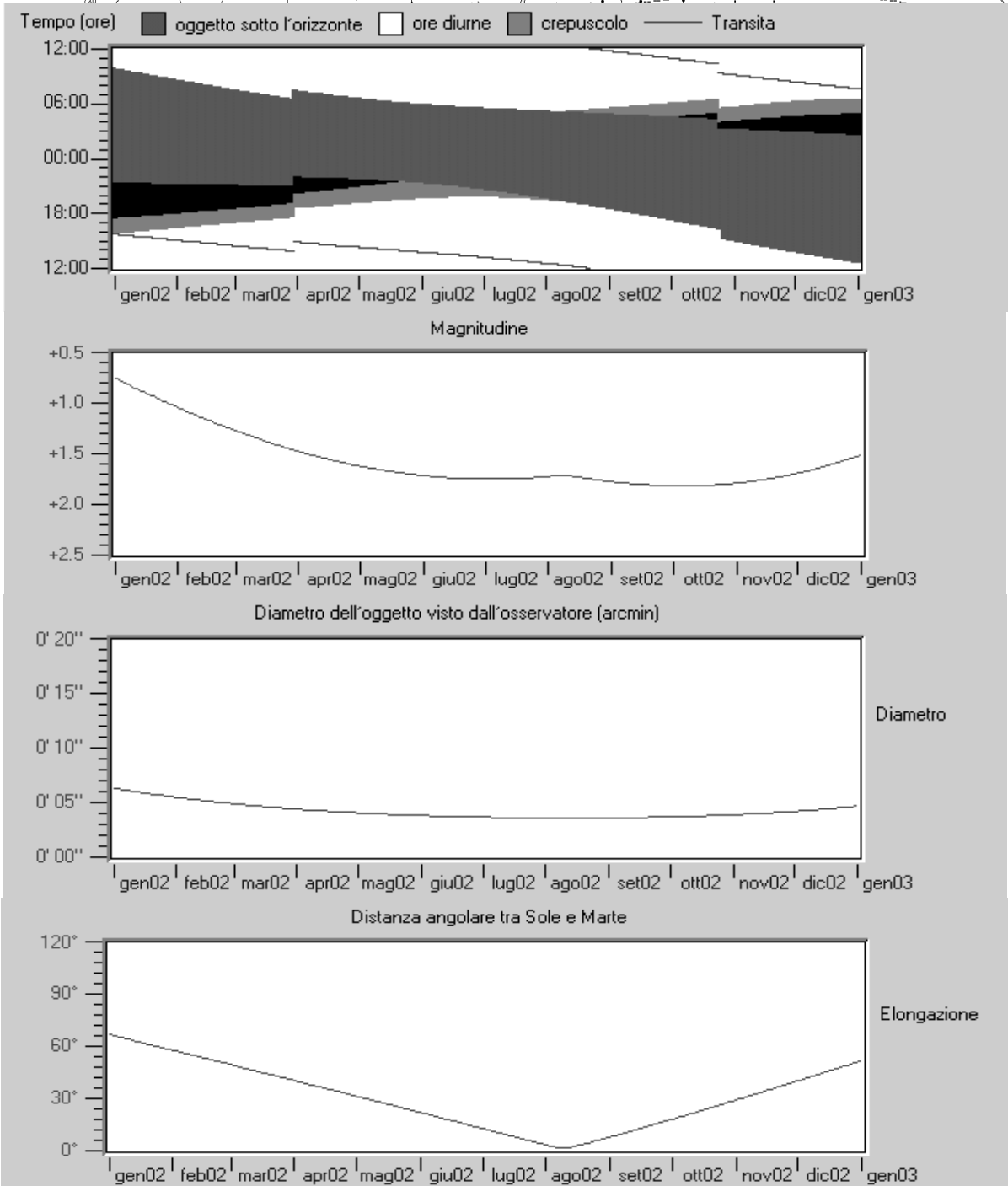
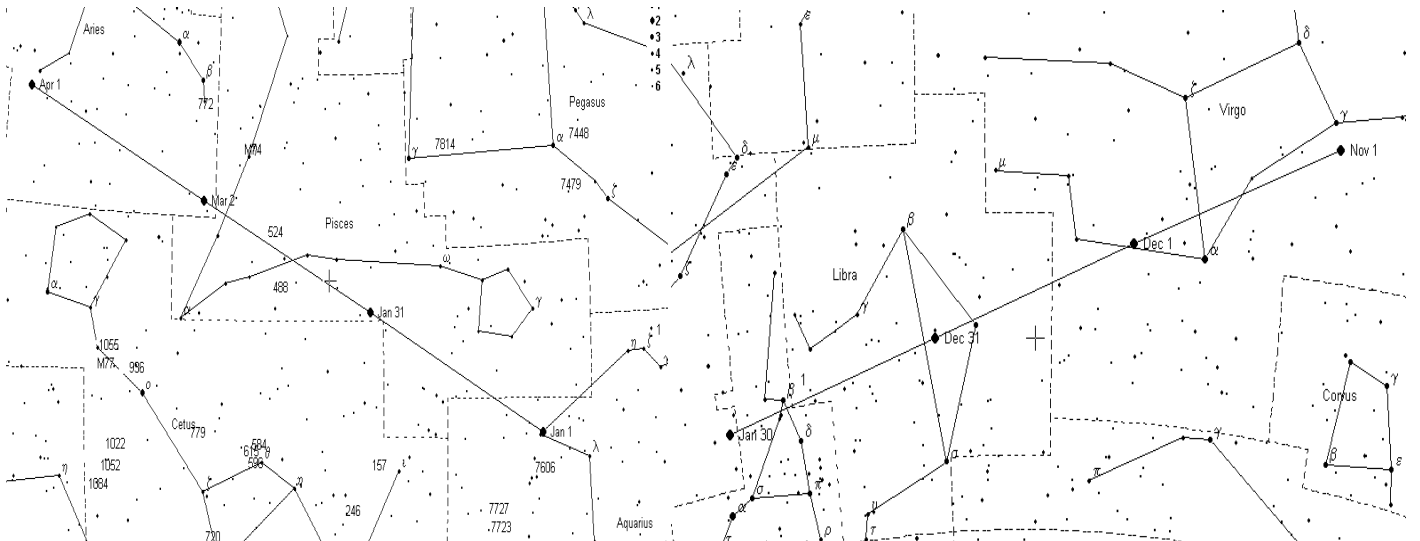
Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El°	Mag	Diam°	Fase	Dist	Long Elioc
01 gen 2002	06:28:38	11:00:07	15:31:38	18h 31m 09.93s	-23° 38' 54.8"	3.3	-3.9	9.77	0.999	1.7067550	272° 49' 38.6"
11 gen 2002	06:39:36	11:15:19	15:51:18	19h 25m 49.23s	-22° 44' 50.9"	1.1	-3.9	9.75	1.000	1.7108935	288° 38' 45.0"
21 gen 2002	06:44:24	11:29:17	16:14:36	20h 19m 16.23s	-20° 41' 28.6"	1.9	-3.9	9.75	1.000	1.7110365	304° 27' 16.6"
31 gen 2002	06:43:32	11:41:21	16:39:46	21h 10m 51.56s	-17° 37' 08.3"	4.2	-3.9	9.77	0.998	1.7072317	320° 16' 15.4"
10 feb 2002	06:38:02	11:51:22	17:05:25	22h 00m 23.62s	-13° 43' 05.5"	6.5	-3.9	9.81	0.994	1.6995071	336° 06' 29.4"
20 feb 2002	06:29:07	11:59:31	17:30:44	22h 48m 03.19s	-09° 11' 55.9"	8.9	-3.9	9.88	0.989	1.6875854	351° 58' 31.9"
02 mar 2002	06:17:55	12:06:16	17:55:30	23h 34m 16.90s	-04° 16' 37.5"	11.3	-3.9	9.98	0.982	1.6713640	007° 52' 43.7"
12 mar 2002	06:05:33	12:12:16	18:19:55	00h 19m 43.31s	+00° 50' 17.0"	13.7	-3.9	10.10	0.973	1.6507530	023° 49' 18.4"
22 mar 2002	05:53:03	12:18:12	18:44:21	01h 05m 04.31s	+05° 56' 29.1"	16.1	-3.9	10.26	0.962	1.6253884	039° 48' 26.7"
01 apr 2002	05:41:27	12:24:46	19:09:05	01h 51m 00.16s	+10° 49' 35.3"	18.6	-3.9	10.46	0.949	1.5951218	055° 50' 20.0"
11 apr 2002	05:31:52	12:32:34	19:34:14	02h 38m 08.08s	+15° 17' 19.6"	21.0	-3.9	10.69	0.933	1.5598921	071° 55' 08.7"
21 apr 2002	05:25:28	12:42:00	19:59:25	03h 26m 53.68s	+19° 07' 17.5"	23.5	-3.9	10.98	0.915	1.5194313	088° 02' 58.1"
01 mag 2002	05:23:28	12:53:10	20:23:35	04h 17m 23.38s	+22° 07' 21.0"	26.0	-3.9	11.32	0.895	1.4737509	104° 13' 41.2"
11 mag 2002	05:26:54	13:05:49	20:45:09	05h 09m 22.47s	+24° 07' 03.7"	28.4	-3.9	11.72	0.872	1.4230200	120° 26' 52.4"
21 mag 2002	05:36:16	13:19:13	21:02:14	06h 02m 10.56s	+24° 58' 53.0"	30.8	-4.0	12.20	0.846	1.3672486	136° 41' 42.6"
31 mag 2002	05:51:09	13:32:23	21:13:17	06h 54m 47.06s	+24° 39' 40.7"	33.1	-4.0	12.76	0.818	1.3067510	152° 57' 01.7"
10 giu 2002	06:10:13	13:44:16	21:17:42	07h 46m 11.02s	+23° 11' 32.1"	35.4	-4.0	13.43	0.788	1.2420066	169° 11' 25.5"
20 giu 2002	06:31:34	13:54:04	21:15:45	08h 35m 33.02s	+20° 41' 05.4"	37.6	-4.0	14.22	0.755	1.1733154	185° 23' 28.9"
30 giu 2002	06:53:24	14:01:19	21:08:18	09h 22m 22.55s	+17° 18' 19.2"	39.6	-4.0	15.15	0.720	1.1012443	201° 32' 00.0"
10 lug 2002	07:14:27	14:05:56	20:56:27	10h 06m 34.25s	+13° 14' 41.2"	41.4	-4.1	16.25	0.683	1.0264692	217° 36' 12.8"
20 lug 2002	07:34:00	14:08:05	20:41:12	10h 48m 17.40s	+08° 41' 54.7"	43.1	-4.1	17.57	0.643	0.9494302	233° 35' 54.1"
30 lug 2002	07:51:44	14:08:01	20:23:22	11h 27m 46.09s	+03° 51' 38.6"	44.4	-4.2	19.15	0.601	0.8707937	249° 31' 23.9"
09 ago 2002	08:07:35	14:06:00	20:03:33	12h 05m 17.65s	-01° 05' 22.1"	45.4	-4.2	21.08	0.555	0.7912992	265° 23' 30.2"
19 ago 2002	08:21:26	14:02:11	19:42:06	12h 40m 59.89s	-05° 58' 50.3"	46.0	-4.3	23.44	0.505	0.7114617	281° 13' 18.1"
29 ago 2002	08:32:44	13:56:18	19:19:06	13h 14m 40.23s	-10° 38' 13.7"	45.8	-4.4	26.39	0.451	0.6321131	297° 01' 58.9"
08 set 2002	08:40:30	13:47:44	18:54:19	13h 45m 42.23s	-14° 53' 22.5"	44.8	-4.5	30.09	0.390	0.5543160	312° 50' 39.4"
18 set 2002	08:42:34	13:35:01	18:26:55	14h 12m 41.53s	-18° 33' 12.3"	42.6	-4.5	34.80	0.321	0.4792578	328° 40' 14.6"
28 set 2002	08:35:08	13:15:30	17:55:29	14h 33m 02.80s	-21° 23' 22.0"	38.4	-4.6	40.77	0.242	0.4091313	344° 31' 24.4"
08 ott 2002	08:12:35	12:45:31	17:18:19	14h 43m 05.89s	-23° 03' 35.1"	31.6	-4.5	48.00	0.153	0.3474692	000° 24' 34.8"
18 ott 2002	07:28:19	12:01:26	16:34:44	14h 39m 04.55s	-23° 01' 35.8"	21.3	-4.4	55.66	0.067	0.2996934	016° 20' 01.8"
28 ott 2002	06:21:19	11:04:23	15:48:02	14h 21m 42.29s	-20° 46' 17.6"	8.4	-4.1	60.96	0.010	0.2736273	032° 17' 56.7"
07 nov 2002	05:05:38	10:04:59	15:05:01	14h 01m 17.71s	-16° 52' 02.6"	11.1	-4.2	60.54	0.018	0.2755365	048° 18' 30.2"
17 nov 2002	04:01:55	09:15:41	14:29:55	13h 50m 41.40s	-13° 13' 32.9"	24.1	-4.5	54.75	0.085	0.3046725	064° 21' 53.0"
27 nov 2002	03:19:40	08:40:59	14:02:29	13h 54m 48.51s	-11° 16' 48.0"	33.9	-4.6	47.08	0.177	0.3542532	080° 28' 13.5"
07 dic 2002	02:56:48	08:18:50	13:40:45	14h 11m 39.39s	-11° 08' 14.2"	40.2	-4.7	40.05	0.267	0.4165089	096° 37' 31.8"
17 dic 2002	02:47:53	08:05:43	13:23:16	14h 37m 41.05s	-12° 16' 56.8"	44.0	-4.6	34.32	0.346	0.4860565	112° 49' 31.9"
27 dic 2002	02:48:29	07:59:10	13:09:29	15h 10m 21.43s	-14° 10' 02.6"	46.0	-4.5	29.80	0.414	0.5596800	129° 03' 36.6"
06 gen 2003	02:55:20	07:57:35	12:59:30	15h 48m 03.76s	-16° 19' 22.3"	46.9	-4.5	26.26	0.474	0.6351633	145° 18' 45.7"
16 gen 2003	03:05:53	07:59:57	12:53:42	16h 29m 43.17s	-18° 21' 40.2"	46.9	-4.4	23.45	0.527	0.7112609	161° 33' 40.6"
26 gen 2003	03:18:07	08:05:30	12:52:41	17h 14m 36.02s	-19° 58' 28.7"	46.3	-4.3	21.19	0.574	0.7872035	177° 46' 55.5"
05 feb 2003	03:30:03	08:13:30	12:56:52	18h 01m 56.65s	-20° 54' 58.5"	45.3	-4.3	19.35	0.617	0.8622225	193° 57' 10.7"



Effemeridi di Marte

Massimo avvicinamento: 1 gennaio 2002 (1.5030 u.a.)

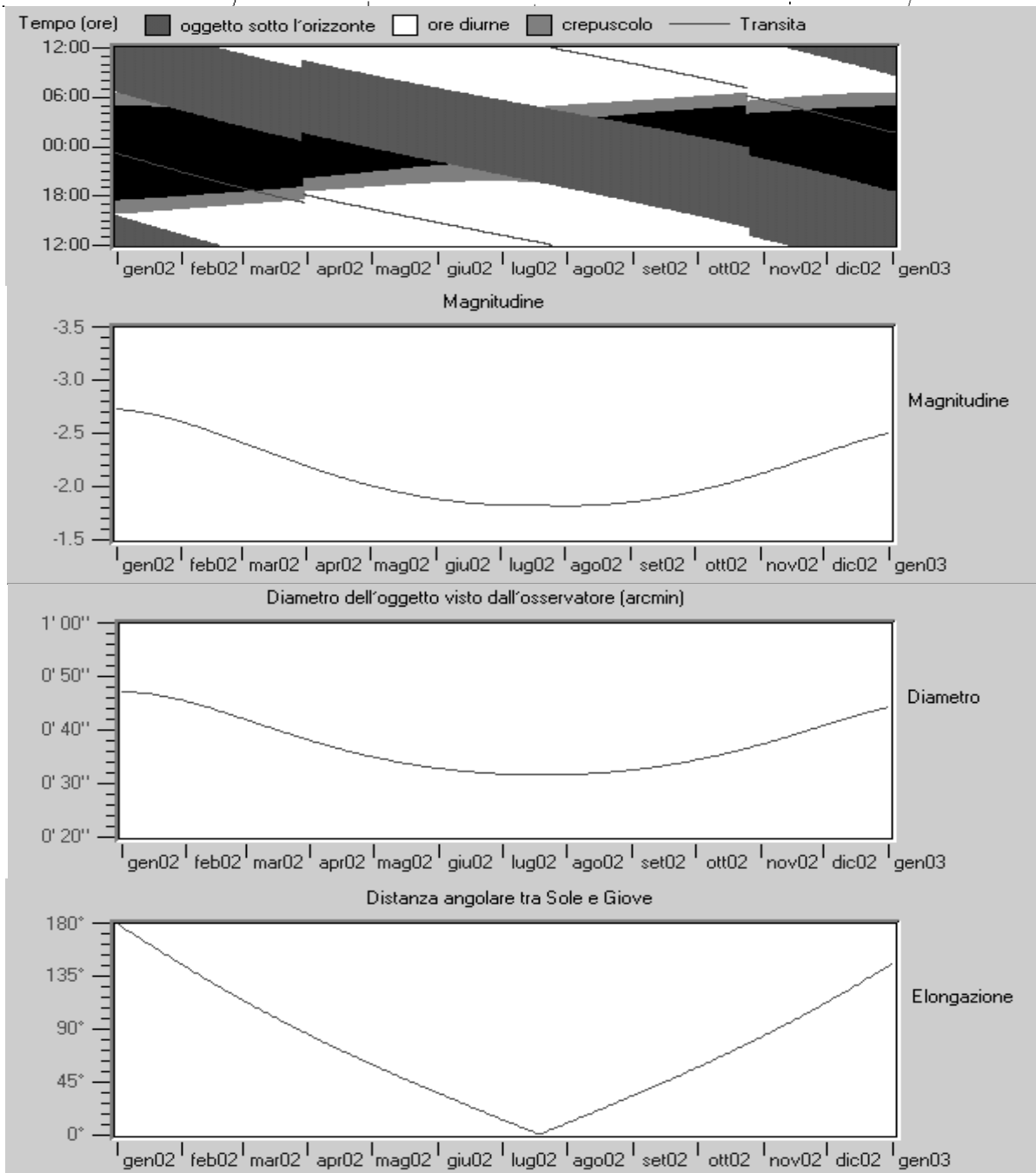
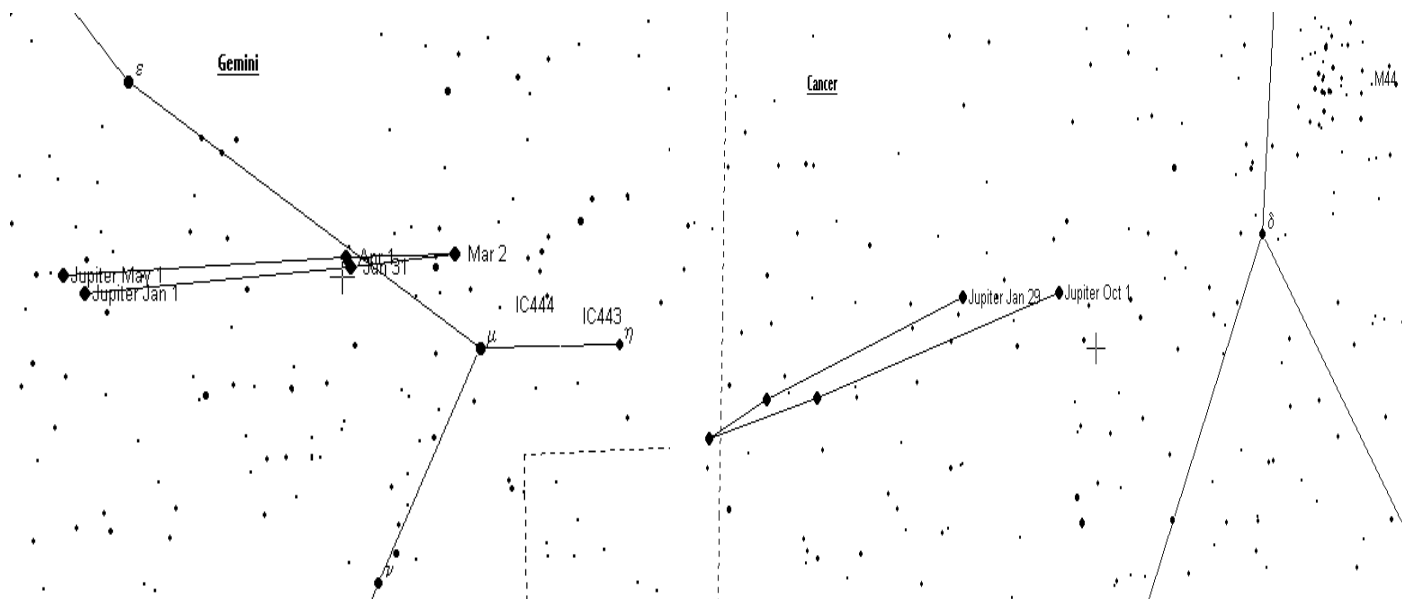
Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El°	Mag	Diam“	Fase	Dist	Long Elioc
01 gen 2002	09:57:52	15:40:06	21:22:52	23h 12m 42.75s	-05° 50' 14.9"	66.5	0.8	6.26	0.887	1.4956073	026° 08' 58.7"
11 gen 2002	09:34:08	15:27:21	21:21:06	23h 39m 22.93s	-02° 47' 08.2"	63.6	0.8	5.96	0.895	1.5703124	032° 04' 08.9"
21 gen 2002	09:10:15	15:14:26	21:19:10	00h 05m 53.22s	+00° 16' 41.5"	60.7	0.9	5.69	0.902	1.6456511	037° 53' 58.9"
31 gen 2002	08:46:24	15:01:26	21:17:03	00h 32m 18.67s	+03° 18' 32.1"	57.8	1.0	5.44	0.910	1.7211644	043° 38' 16.7"
10 feb 2002	08:22:44	14:48:29	21:14:48	00h 58m 45.56s	+06° 15' 52.7"	54.9	1.1	5.21	0.918	1.7966369	049° 16' 55.1"
20 feb 2002	07:59:27	14:35:40	21:12:27	01h 25m 20.90s	+09° 06' 29.3"	52.0	1.2	5.00	0.926	1.8715592	054° 49' 51.2"
02 mar 2002	07:36:43	14:23:05	21:10:00	01h 52m 09.14s	+11° 48' 01.6"	49.0	1.3	4.81	0.933	1.9454335	060° 17' 05.7"
12 mar 2002	07:14:42	14:10:47	21:07:25	02h 19m 15.02s	+14° 18' 22.9"	46.1	1.4	4.64	0.940	2.0179963	065° 38' 43.1"
22 mar 2002	06:53:37	13:58:51	21:04:37	02h 46m 42.44s	+16° 35' 39.6"	43.1	1.4	4.48	0.947	2.0886835	070° 54' 50.6"
01 apr 2002	06:33:37	13:47:17	21:01:27	03h 14m 32.04s	+18° 37' 56.9"	40.2	1.5	4.34	0.954	2.1570316	076° 05' 38.0"
11 apr 2002	06:14:53	13:36:06	20:57:45	03h 42m 44.17s	+20° 23' 38.6"	37.2	1.5	4.21	0.960	2.2227793	081° 11' 17.2"
21 apr 2002	05:57:34	13:25:15	20:53:18	04h 11m 17.21s	+21° 51' 23.1"	34.2	1.6	4.10	0.966	2.2853673	086° 12' 01.7"
01 mag 2002	05:41:48	13:14:40	20:47:49	04h 40m 06.01s	+22° 59' 58.2"	31.3	1.6	3.99	0.972	2.3444143	091° 08' 06.5"
11 mag 2002	05:27:38	13:04:15	20:41:03	05h 09m 05.49s	+23° 48' 38.6"	28.3	1.7	3.90	0.977	2.3996816	095° 59' 47.8"
21 mag 2002	05:15:04	12:53:53	20:32:47	05h 38m 08.77s	+24° 16' 57.7"	25.3	1.7	3.82	0.981	2.4506484	100° 47' 22.3"
31 mag 2002	05:04:02	12:43:26	20:22:48	06h 07m 06.83s	+24° 24' 49.5"	22.3	1.7	3.75	0.985	2.4970364	105° 31' 07.6"
10 giu 2002	04:54:23	12:32:45	20:11:01	06h 35m 52.45s	+24° 12' 35.2"	19.3	1.7	3.69	0.989	2.5386293	110° 11' 21.7"
20 giu 2002	04:45:56	12:21:45	19:57:22	07h 04m 18.14s	+23° 40' 54.5"	16.3	1.7	3.64	0.992	2.5749622	114° 48' 22.9"
30 giu 2002	04:38:24	12:10:17	19:41:52	07h 32m 16.65s	+22° 50' 46.7"	13.2	1.8	3.59	0.995	2.6058636	119° 22' 29.7"
10 lug 2002	04:31:34	11:58:17	19:24:40	07h 59m 44.07s	+21° 43' 26.1"	10.1	1.8	3.56	0.997	2.6311356	123° 54' 00.7"
20 lug 2002	04:25:11	11:45:44	19:05:52	08h 26m 37.09s	+20° 20' 17.9"	7.1	1.7	3.53	0.999	2.6503845	128° 23' 14.6"
30 lug 2002	04:19:01	11:32:34	18:45:40	08h 52m 53.92s	+18° 42' 56.9"	4.0	1.7	3.51	1.000	2.6635449	132° 50' 30.2"
09 ago 2002	04:12:57	11:18:49	18:24:14	09h 18m 35.97s	+16° 52' 57.4"	1.3	1.7	3.51	1.000	2.6704428	137° 16' 06.2"
19 ago 2002	04:06:49	11:04:32	18:01:46	09h 43m 44.65s	+14° 51' 58.5"	2.9	1.7	3.50	1.000	2.6707804	141° 40' 21.2"
29 ago 2002	04:00:33	10:49:44	17:38:25	10h 08m 22.90s	+12° 41' 41.1"	6.0	1.8	3.51	0.999	2.6646025	146° 03' 33.9"
08 set 2002	03:54:08	10:34:31	17:14:25	10h 32m 35.78s	+10° 23' 36.9"	9.3	1.8	3.53	0.998	2.6517813	150° 26' 02.9"
18 set 2002	03:47:34	10:18:58	16:49:52	10h 56m 27.46s	+07° 59' 23.5"	12.6	1.8	3.56	0.996	2.6321530	154° 48' 06.9"
28 set 2002	03:40:50	10:03:08	16:24:58	11h 20m 03.23s	+05° 30' 36.1"	16.0	1.8	3.59	0.993	2.6058874	159° 10' 04.5"
08 ott 2002	03:34:02	09:47:10	15:59:50	11h 43m 29.60s	+02° 58' 40.7"	19.5	1.8	3.64	0.990	2.5729411	163° 32' 14.4"
18 ott 2002	03:27:10	09:31:08	15:34:37	12h 06m 51.62s	+00° 25' 13.6"	23.0	1.8	3.69	0.986	2.5333314	167° 54' 55.2"
28 ott 2002	03:20:19	09:15:07	15:09:28	12h 30m 15.31s	-02° 08' 13.6"	26.6	1.8	3.76	0.982	2.4873754	172° 18' 25.6"
07 nov 2002	03:13:33	08:59:15	14:44:31	12h 53m 47.07s	-04° 40' 13.2"	30.2	1.8	3.84	0.977	2.4351568	176° 43' 04.4"
17 nov 2002	03:06:53	08:43:36	14:19:54	13h 17m 31.51s	-07° 09' 05.1"	33.8	1.8	3.94	0.971	2.3769146	181° 09' 10.4"
27 nov 2002	03:00:21	08:28:15	13:55:44	13h 41m 34.19s	-09° 33' 15.2"	37.5	1.7	4.05	0.965	2.3131286	185° 37' 02.4"
07 dic 2002	02:53:59	08:13:17	13:32:12	14h 06m 00.05s	-11° 51' 09.2"	41.2	1.7	4.17	0.959	2.2440355	190° 06' 59.6"
17 dic 2002	02:47:44	07:58:45	13:09:26	14h 30m 51.78s	-14° 01' 01.0"	45.0	1.6	4.31	0.952	2.1701055	194° 39' 20.7"
27 dic 2002	02:41:32	07:44:43	12:47:34	14h 56m 12.82s	-16° 01' 15.5"	48.7	1.6	4.47	0.945	2.0919616	199° 14' 24.9"
06 gen 2003	02:35:19	07:31:11	12:26:46	15h 22m 04.79s	-17° 50' 16.3"	52.4	1.5	4.66	0.938	2.0099782	203° 52' 30.9"
16 gen 2003	02:28:54	07:18:09	12:07:09	15h 48m 26.39s	-19° 26' 23.8"	56.2	1.4	4.86	0.930	1.9248110	208° 33' 57.6"
26 gen 2003	02:22:08	07:05:36	11:48:50	16h 15m 16.77s	-20° 48' 17.9"	59.9	1.3	5.09	0.922	1.8371586	213° 19' 03.4"
05 feb 2003	02:14:48	06:53:27	11:31:56	16h 42m 32.19s	-21° 54' 43.6"	63.6	1.2	5.36	0.915	1.7474705	218° 08' 06.7"



Effemeridi di Giove

Opposizione: 1 gennaio 2002. Max: avvicinamento 31 dicembre 2001 (4.1875 u.a.)

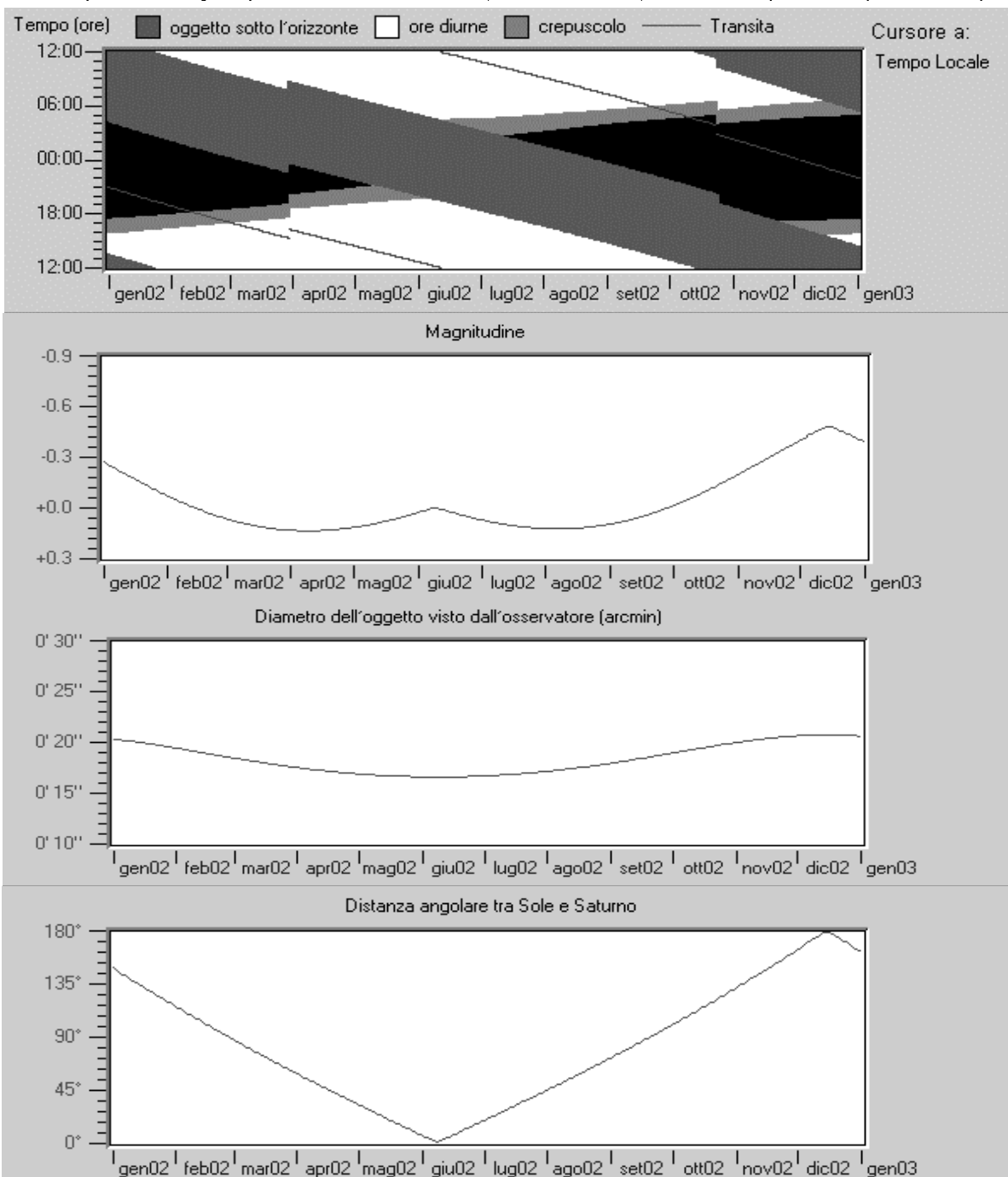
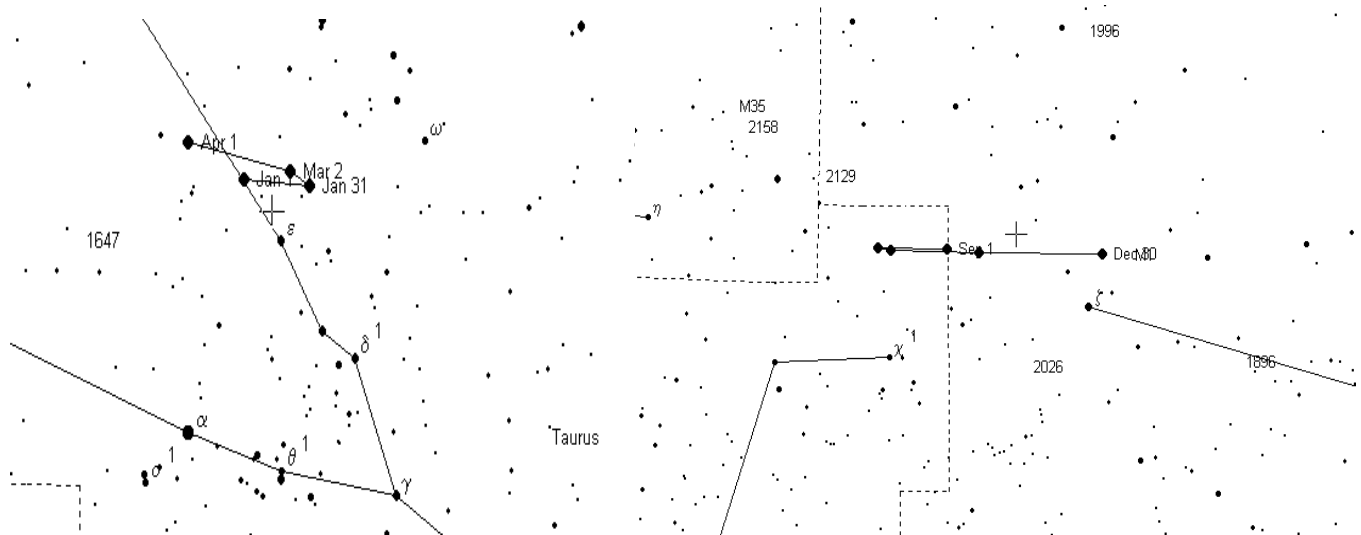
Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El°	Mag	Diam"	Fase	Dist	Long Elioc
01 gen 2002	15:38:24	23:10:09	06:46:23	06h 46m 17.02s	+23° 00' 53.9"	179.4	-2.7	47.01	1.000	4.1876160	100° 36' 57.3"
11 gen 2002	14:52:46	22:25:05	06:01:53	06h 40m 29.19s	+23° 08' 19.1"	168.8	-2.7	46.80	1.000	4.2064645	101° 27' 20.6"
21 gen 2002	14:07:40	21:40:30	05:17:43	06h 35m 06.94s	+23° 14' 32.8"	157.3	-2.7	46.26	0.999	4.2563646	102° 17' 39.5"
31 gen 2002	13:23:31	20:56:45	04:34:17	06h 30m 34.36s	+23° 19' 25.9"	146.1	-2.6	45.42	0.997	4.3349531	103° 07' 54.1"
10 feb 2002	12:40:36	20:14:08	03:51:52	06h 27m 09.04s	+23° 23' 01.5"	135.2	-2.6	44.35	0.995	4.4387652	103° 58' 04.5"
20 feb 2002	11:59:05	19:32:51	03:10:41	06h 25m 03.44s	+23° 25' 28.9"	124.6	-2.5	43.14	0.994	4.5636585	104° 48' 10.5"
02 mar 2002	11:19:04	18:52:59	02:30:50	06h 24m 23.61s	+23° 26' 56.4"	114.4	-2.4	41.85	0.992	4.7047028	105° 38' 12.3"
12 mar 2002	10:40:33	18:14:33	01:52:20	06h 25m 09.62s	+23° 27' 27.5"	104.6	-2.3	40.53	0.991	4.8571399	106° 28' 09.8"
22 mar 2002	10:03:28	17:37:28	01:15:08	06h 27m 18.72s	+23° 27' 00.8"	95.1	-2.3	39.25	0.991	5.0162969	107° 18' 03.1"
01 apr 2002	09:27:44	17:01:39	00:39:07	06h 30m 44.83s	+23° 25' 28.6"	86.0	-2.2	38.03	0.991	5.1775978	108° 07' 52.1"
11 apr 2002	08:53:15	16:26:59	00:04:09	06h 35m 20.34s	+23° 22' 38.9"	77.2	-2.1	36.89	0.991	5.3372205	108° 57' 36.9"
21 apr 2002	08:19:55	15:53:20	23:26:43	06h 40m 57.63s	+23° 18' 17.2"	68.7	-2.1	35.85	0.992	5.4915566	109° 47' 17.4"
01 mag 2002	07:47:35	15:20:32	22:53:28	06h 47m 28.02s	+23° 12' 09.3"	60.5	-2.0	34.92	0.993	5.6374101	110° 36' 53.7"
11 mag 2002	07:16:08	14:48:29	22:20:47	06h 54m 43.58s	+23° 04' 01.8"	52.5	-2.0	34.11	0.994	5.7723093	111° 26' 25.9"
21 mag 2002	06:45:29	14:17:03	21:48:34	07h 02m 37.05s	+22° 53' 42.8"	44.6	-1.9	33.40	0.995	5.8938611	112° 15' 53.9"
31 mag 2002	06:15:31	13:46:07	21:16:39	07h 11m 00.75s	+22° 41' 04.1"	37.0	-1.9	32.81	0.997	6.0001753	113° 05' 17.7"
10 giu 2002	05:46:06	13:15:34	20:44:57	07h 19m 48.31s	+22° 26' 01.3"	29.5	-1.9	32.33	0.998	6.0898544	113° 54' 37.3"
20 giu 2002	05:17:10	12:45:19	20:13:22	07h 28m 53.73s	+22° 08' 32.6"	22.0	-1.8	31.95	0.999	6.1614863	114° 43' 52.8"
30 giu 2002	04:48:35	12:15:14	19:41:47	07h 38m 10.81s	+21° 48' 41.4"	14.7	-1.8	31.68	0.999	6.2142077	115° 33' 04.3"
10 lug 2002	04:20:17	11:45:16	19:10:10	07h 47m 34.53s	+21° 26' 34.2"	7.3	-1.8	31.51	1.000	6.2474042	116° 22' 11.6"
20 lug 2002	03:52:08	11:15:20	18:38:25	07h 56m 59.67s	+21° 02' 23.5"	0.4	-1.8	31.45	1.000	6.2604749	117° 11' 14.8"
30 lug 2002	03:24:02	10:45:19	18:06:29	08h 06m 21.00s	+20° 36' 21.3"	7.3	-1.8	31.48	1.000	6.2533983	118° 00' 14.0"
09 ago 2002	02:55:53	10:15:10	17:34:19	08h 15m 34.18s	+20° 08' 49.2"	14.6	-1.8	31.62	0.999	6.2262252	118° 49' 09.2"
19 ago 2002	02:27:35	09:44:48	17:01:52	08h 24m 34.00s	+19° 40' 10.1"	22.1	-1.8	31.86	0.999	6.1791611	119° 38' 00.4"
29 ago 2002	01:59:00	09:14:07	16:29:06	08h 33m 15.57s	+19° 10' 52.3"	29.6	-1.8	32.21	0.998	6.1130000	120° 26' 47.6"
08 set 2002	01:30:02	08:43:03	15:55:56	08h 41m 34.24s	+18° 41' 25.6"	37.3	-1.9	32.66	0.997	6.0285385	121° 15' 30.8"
18 set 2002	01:00:32	08:11:30	15:22:21	08h 49m 24.21s	+18° 12' 27.0"	45.1	-1.9	33.22	0.995	5.9269526	122° 04' 10.1"
28 set 2002	00:30:23	07:39:24	14:48:18	08h 56m 40.04s	+17° 44' 36.4"	53.1	-1.9	33.89	0.994	5.8099870	122° 52' 45.5"
08 ott 2002	23:56:16	07:06:38	14:13:44	09h 03m 16.03s	+17° 18' 35.7"	61.3	-2.0	34.67	0.993	5.6794420	123° 41' 17.1"
18 ott 2002	23:24:15	06:33:05	13:38:34	09h 09m 05.41s	+16° 55' 12.3"	69.7	-2.0	35.55	0.992	5.5377515	124° 29' 44.8"
28 ott 2002	22:51:05	05:58:39	13:02:46	09h 14m 01.88s	+16° 35' 12.9"	78.5	-2.1	36.54	0.991	5.3878587	125° 18' 08.7"
07 nov 2002	22:16:38	05:23:14	12:26:16	09h 17m 58.73s	+16° 19' 24.7"	87.5	-2.1	37.62	0.991	5.2328971	126° 06' 28.8"
17 nov 2002	21:40:45	04:46:43	11:49:01	09h 20m 49.14s	+16° 08' 33.6"	96.9	-2.2	38.78	0.991	5.0768028	126° 54' 45.1"
27 nov 2002	21:03:17	04:09:01	11:10:56	09h 22m 27.84s	+16° 03' 14.3"	106.5	-2.3	39.99	0.992	4.9238374	127° 42' 57.7"
07 dic 2002	20:24:08	03:30:03	10:31:59	09h 22m 50.22s	+16° 03' 52.7"	116.6	-2.3	41.20	0.993	4.7784958	128° 31' 06.6"
17 dic 2002	19:43:18	02:49:48	09:52:10	09h 21m 54.40s	+16° 10' 36.7"	127.0	-2.4	42.38	0.994	4.6458666	129° 19' 11.8"
27 dic 2002	19:00:50	02:08:17	09:11:28	09h 19m 42.75s	+16° 23' 06.3"	137.8	-2.5	43.45	0.996	4.5307950	130° 07' 13.4"
06 gen 2003	18:16:53	01:25:37	08:29:58	09h 16m 21.20s	+16° 40' 38.5"	148.8	-2.5	44.36	0.998	4.4379230	130° 55' 11.3"
16 gen 2003	17:31:45	00:42:00	07:47:47	09h 12m 01.89s	+17° 02' 00.0"	160.1	-2.6	45.04	0.999	4.3715178	131° 43' 05.7"
26 gen 2003	16:45:49	23:53:16	07:05:06	09h 07m 02.33s	+17° 25' 33.9"	171.5	-2.6	45.42	1.000	4.3345144	132° 30' 56.5"
05 feb 2003	15:59:33	23:08:39	06:22:09	09h 01m 43.45s	+17° 49' 34.5"	176.9	-2.6	45.48	1.000	4.3287807	133° 18' 43.8"



Effemeridi di Saturno

Opposizione: 18 dicembre 2002. Massimo avvicinamento 17 dicembre 2002 (8.0519 u.a.)

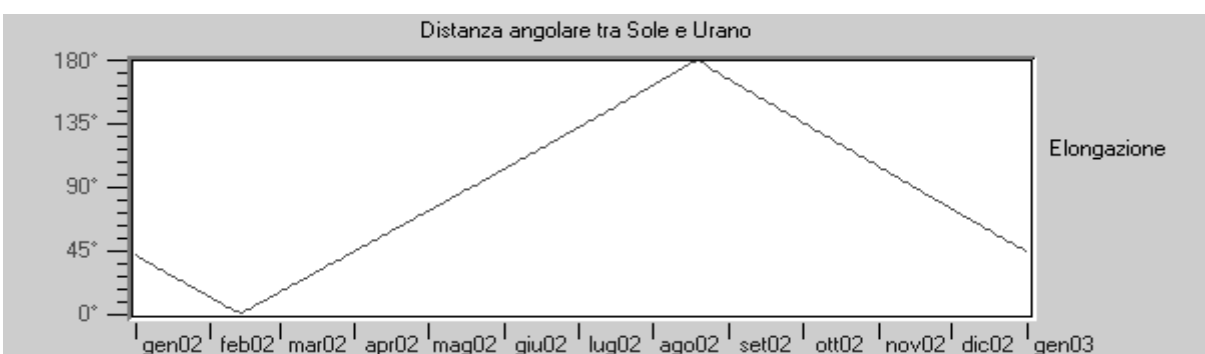
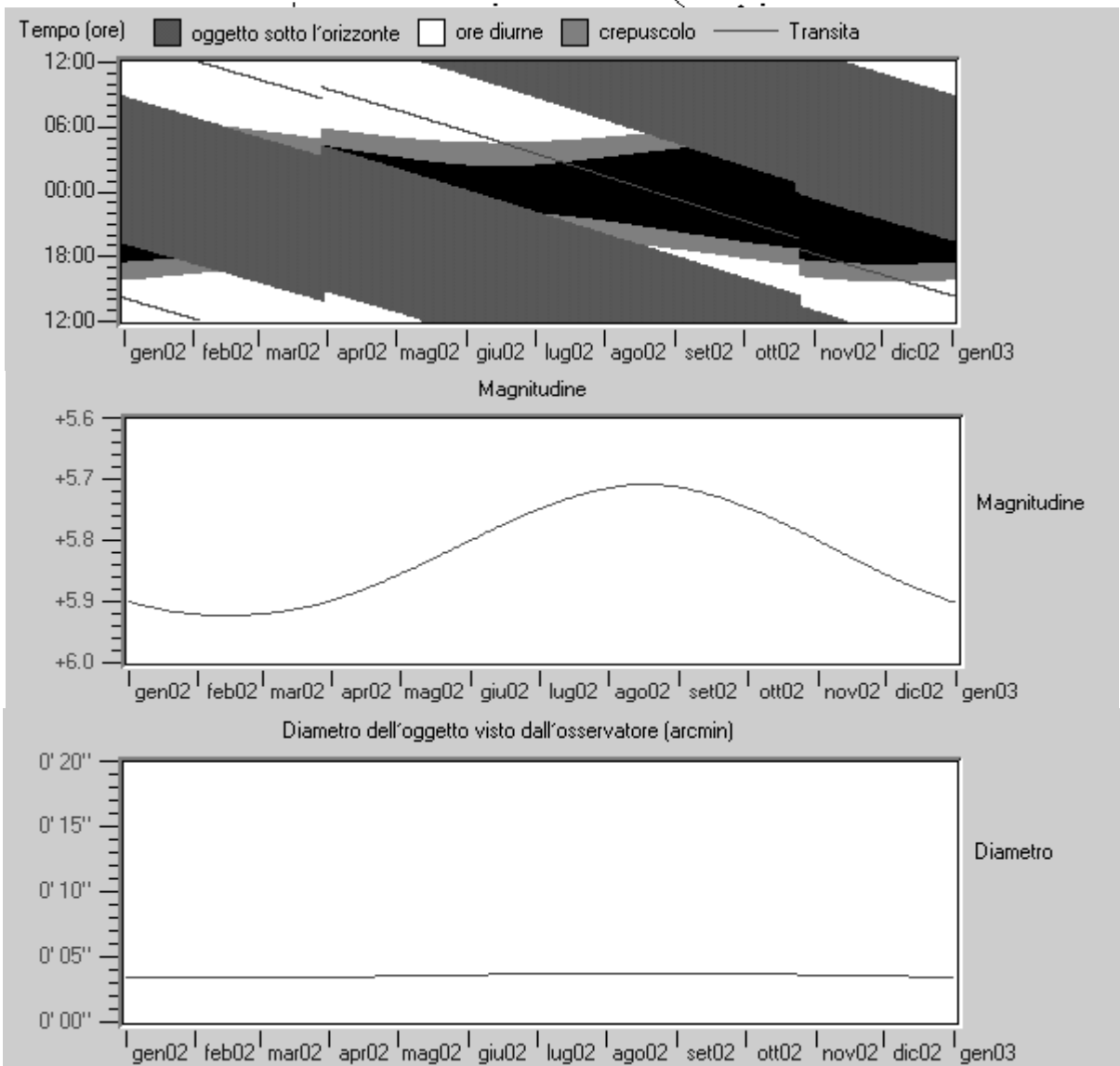
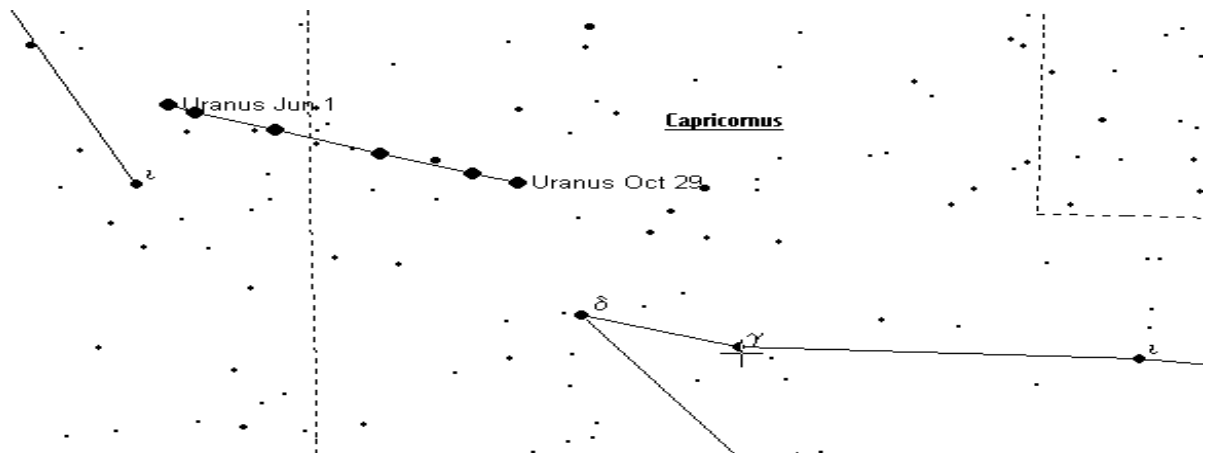
Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El°	Mag	Diam"	Fase	Dist	Long Elioc
01 gen 2002	13:37:34	20:56:10	04:18:59	04h 31m 36.55s	+20° 03' 32.6"	148.9	-0.3	20.16	0.999	8.2065454	072° 32' 11.9"
11 gen 2002	12:56:05	20:14:29	03:37:02	04h 29m 11.08s	+20° 00' 25.4"	138.1	-0.2	19.92	0.999	8.3052832	072° 54' 28.8"
21 gen 2002	12:15:08	19:33:27	02:55:51	04h 27m 24.14s	+19° 58' 51.0"	127.5	-0.1	19.63	0.998	8.4271193	073° 16' 46.0"
31 gen 2002	11:34:48	18:53:09	02:15:30	04h 26m 21.15s	+19° 59' 01.4"	117.1	-0.1	19.31	0.998	8.5673910	073° 39' 03.4"
10 feb 2002	10:55:06	18:13:38	01:36:04	04h 26m 04.70s	+20° 01' 00.5"	107.0	0.0	18.97	0.997	8.7212651	074° 01' 21.2"
20 feb 2002	10:16:03	17:34:53	00:57:33	04h 26m 35.91s	+20° 04' 47.9"	97.0	0.1	18.63	0.997	8.8837301	074° 23' 39.2"
02 mar 2002	09:37:40	16:56:55	00:19:55	04h 27m 53.88s	+20° 10' 16.0"	87.3	0.1	18.28	0.997	9.0495785	074° 45' 57.6"
12 mar 2002	08:59:54	16:19:41	23:39:30	04h 29m 56.16s	+20° 17' 11.5"	77.7	0.1	17.96	0.997	9.2141758	075° 08' 16.2"
22 mar 2002	08:22:43	15:43:07	23:03:33	04h 32m 39.69s	+20° 25' 19.9"	68.4	0.1	17.65	0.997	9.3730393	075° 30' 35.0"
01 apr 2002	07:46:06	15:07:10	22:28:17	04h 36m 00.40s	+20° 34' 23.2"	59.3	0.1	17.38	0.998	9.5220556	075° 52' 54.2"
11 apr 2002	07:09:58	14:31:45	21:53:36	04h 39m 53.93s	+20° 44' 02.8"	50.4	0.2	17.13	0.998	9.6579118	076° 15' 13.6"
21 apr 2002	06:34:16	13:56:48	21:19:23	04h 44m 15.87s	+20° 54' 01.0"	41.7	0.1	16.92	0.999	9.7774860	076° 37' 33.2"
01 mag 2002	05:58:58	13:22:14	20:45:34	04h 49m 01.25s	+21° 03' 59.9"	33.1	0.1	16.75	0.999	9.8782854	076° 59' 53.1"
11 mag 2002	05:23:59	12:47:59	20:12:02	04h 54m 05.53s	+21° 13' 44.6"	24.6	0.1	16.61	0.999	9.9584979	077° 22' 13.2"
21 mag 2002	04:49:16	12:13:58	19:38:42	04h 59m 24.14s	+21° 23' 01.5"	16.2	0.1	16.52	1.000	10.0164666	077° 44' 33.5"
31 mag 2002	04:14:45	11:40:05	19:05:28	05h 04m 52.17s	+21° 31' 38.3"	8.0	0.0	16.46	1.000	10.0512641	078° 06' 54.1"
10 giu 2002	03:40:23	11:06:18	18:32:15	05h 10m 25.22s	+21° 39' 26.7"	1.3	0.0	16.44	1.000	10.0624020	078° 29' 14.9"
20 giu 2002	03:06:05	10:32:31	17:58:58	05h 15m 58.77s	+21° 46' 21.0"	8.8	0.0	16.46	1.000	10.0495813	078° 51' 35.9"
30 giu 2002	02:31:47	09:58:39	17:25:32	05h 21m 28.08s	+21° 52' 15.7"	17.0	0.1	16.52	1.000	10.0132578	079° 13' 57.2"
10 lug 2002	01:57:25	09:24:39	16:51:53	05h 26m 48.80s	+21° 57' 10.1"	25.3	0.1	16.62	0.999	9.9541126	079° 36' 18.6"
20 lug 2002	01:22:54	08:50:25	16:17:56	05h 31m 56.16s	+22° 01' 04.6"	33.6	0.1	16.76	0.999	9.8731548	079° 58' 40.2"
30 lug 2002	00:48:10	08:15:53	15:43:37	05h 36m 45.55s	+22° 04' 02.2"	42.0	0.1	16.93	0.999	9.7721218	080° 21' 02.0"
09 ago 2002	00:13:07	07:40:59	15:08:51	05h 41m 12.48s	+22° 06' 07.6"	50.6	0.1	17.14	0.998	9.6528666	080° 43' 24.1"
19 ago 2002	23:34:06	07:05:37	14:33:34	05h 45m 11.99s	+22° 07' 26.9"	59.3	0.1	17.38	0.998	9.5177746	081° 05' 46.3"
29 ago 2002	22:58:08	06:29:44	13:57:43	05h 48m 39.63s	+22° 08' 08.2"	68.1	0.1	17.66	0.997	9.3698648	081° 28' 08.6"
08 set 2002	22:21:35	05:53:14	13:21:13	05h 51m 31.14s	+22° 08' 19.7"	77.1	0.1	17.96	0.997	9.2122668	081° 50' 31.2"
18 set 2002	21:44:23	05:16:05	12:44:01	05h 53m 42.11s	+22° 08' 09.1"	86.3	0.1	18.29	0.997	9.0488035	082° 12' 53.9"
28 set 2002	21:06:29	04:38:12	12:06:04	05h 55m 09.30s	+22° 07' 45.1"	95.8	0.0	18.63	0.997	8.8837058	082° 35' 16.8"
08 ott 2002	20:27:49	03:59:32	11:27:21	05h 55m 50.11s	+22° 07' 14.3"	105.5	0.0	18.97	0.997	8.7213035	082° 57' 39.9"
18 ott 2002	19:48:21	03:20:05	10:47:51	05h 55m 42.99s	+22° 06' 41.1"	115.4	-0.1	19.31	0.998	8.5665263	083° 20' 03.1"
28 ott 2002	19:08:07	02:39:52	10:07:33	05h 54m 48.50s	+22° 06' 08.5"	125.5	-0.1	19.64	0.998	8.4242238	083° 42' 26.4"
07 nov 2002	18:27:08	01:58:53	09:26:31	05h 53m 08.73s	+22° 05' 36.8"	135.9	-0.2	19.94	0.999	8.2990991	084° 04' 49.9"
17 nov 2002	17:45:29	01:17:14	08:44:48	05h 50m 48.34s	+22° 05' 05.2"	146.5	-0.3	20.19	0.999	8.1958665	084° 27' 13.6"
27 nov 2002	17:03:17	00:35:02	08:02:33	05h 47m 54.62s	+22° 04' 31.4"	157.3	-0.3	20.38	1.000	8.1183458	084° 49' 37.3"
07 dic 2002	16:20:43	23:48:10	07:19:54	05h 44m 36.51s	+22° 03' 53.9"	168.2	-0.4	20.50	1.000	8.0696565	085° 12' 01.2"
17 dic 2002	15:37:56	23:05:20	06:37:02	05h 41m 05.34s	+22° 03' 13.9"	178.4	-0.5	20.55	1.000	8.0519986	085° 34' 25.2"
27 dic 2002	14:55:10	22:22:31	05:54:09	05h 37m 33.38s	+22° 02' 34.6"	169.7	-0.4	20.51	1.000	8.0659921	085° 56' 49.3"
06 gen 2003	14:12:34	21:39:54	05:11:28	05h 34m 12.60s	+22° 02' 01.5"	158.8	-0.4	20.40	1.000	8.1112301	086° 19' 13.5"
16 gen 2003	13:30:21	20:57:41	04:29:12	05h 31m 14.70s	+22° 01' 43.9"	147.9	-0.3	20.21	0.999	8.1859418	086° 41' 37.9"
26 gen 2003	12:48:39	20:16:00	03:47:30	05h 28m 49.38s	+22° 01' 51.0"	137.2	-0.2	19.97	0.999	8.2870119	087° 04' 02.2"
05 feb 2003	12:07:34	19:35:00	03:06:30	05h 27m 04.12s	+22° 02' 30.5"	126.6	-0.1	19.67	0.998	8.4107431	087° 26' 26.7"



Effemeridi di Urano

Opposizione: 20 agosto. Max avvicinamento: 19 agosto (18.9934)

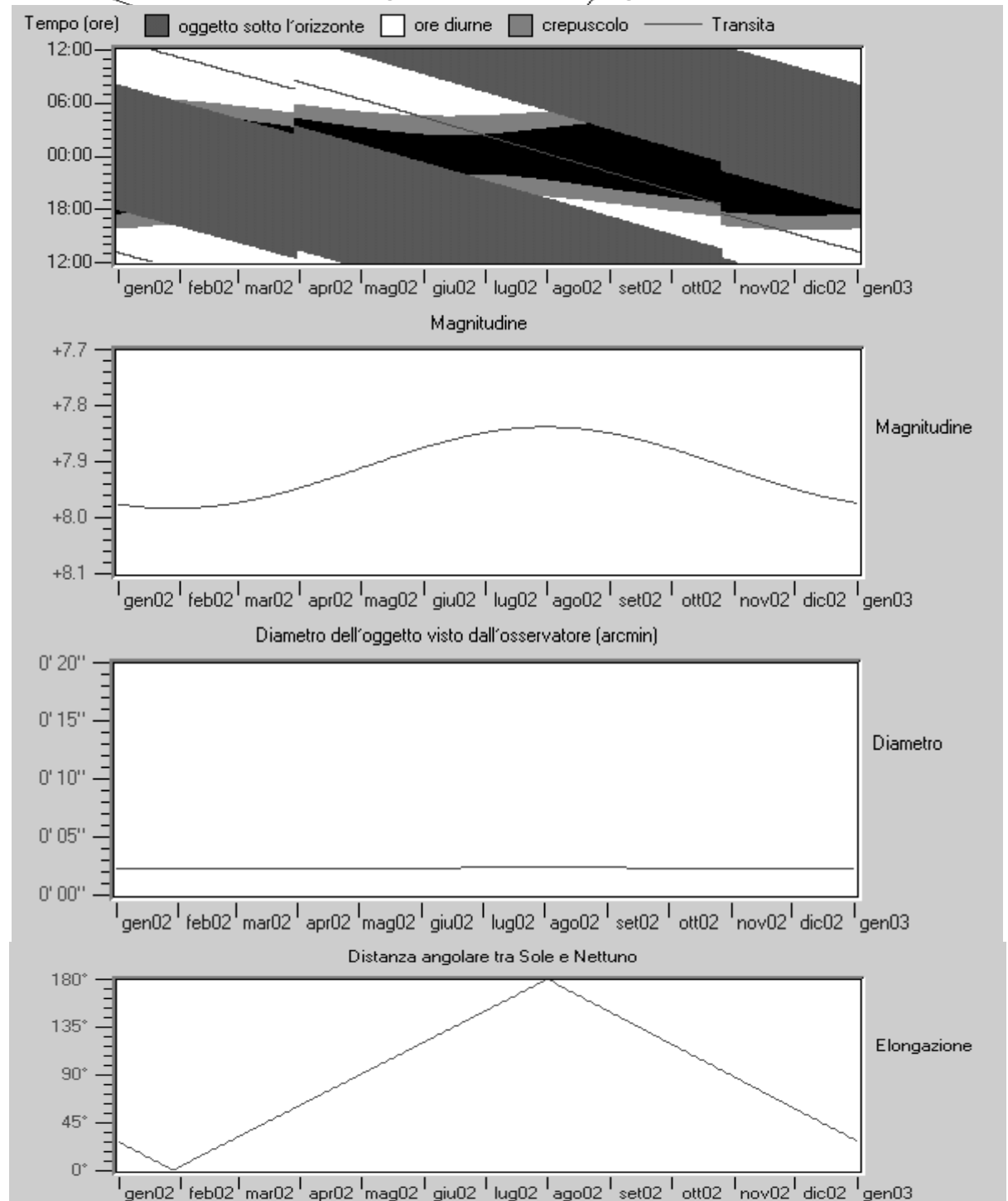
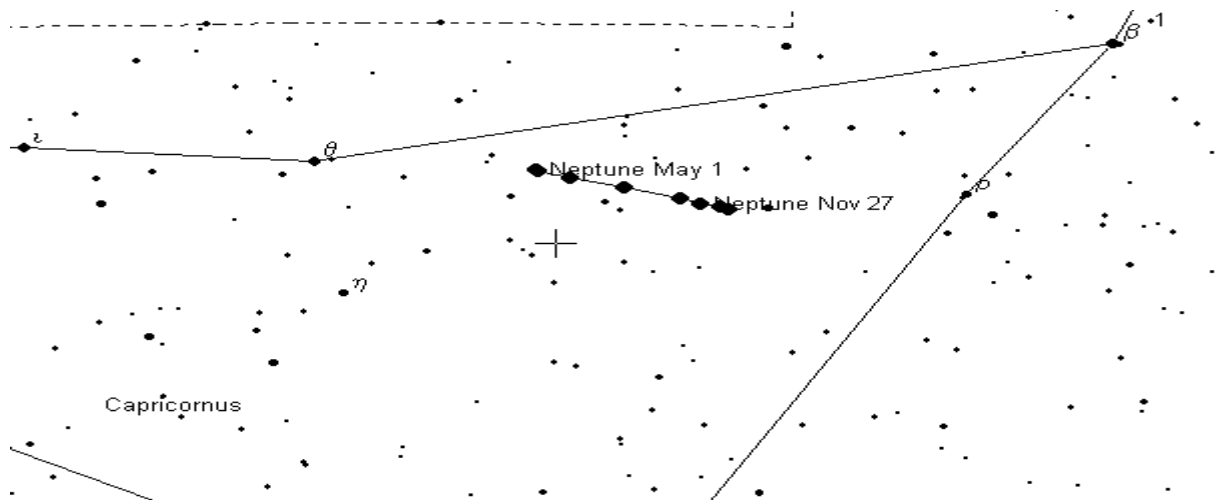
Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El°	Mag	Diam"	Fase	Dist	Long Elioc
01 gen 2002	08:58:02	14:06:06	19:14:12	21h 40m 05.31s	-14° 42' 00.7"	42.1	5.9	3.38	1.000	20.706904	324° 21' 27.7"
11 gen 2002	08:19:59	13:28:41	18:37:25	21h 41m 59.21s	-14° 32' 17.3"	32.4	5.9	3.37	1.000	20.812370	324° 27' 57.4"
21 gen 2002	07:42:02	12:51:25	18:00:50	21h 44m 02.56s	-14° 21' 45.1"	22.7	5.9	3.35	1.000	20.893591	324° 34' 27.0"
31 gen 2002	07:04:09	12:14:15	17:24:24	21h 46m 12.52s	-14° 10' 37.7"	13.1	5.9	3.34	1.000	20.948459	324° 40' 56.5"
10 feb 2002	06:26:18	11:37:10	16:48:03	21h 48m 26.24s	-13° 59' 09.2"	3.6	5.9	3.34	1.000	20.975781	324° 47' 26.1"
20 feb 2002	05:48:29	11:00:04	16:11:42	21h 50m 40.86s	-13° 47' 34.1"	6.0	5.9	3.34	1.000	20.974813	324° 53' 55.6"
02 mar 2002	05:10:37	10:22:57	15:35:19	21h 52m 53.57s	-13° 36' 07.1"	15.5	5.9	3.34	1.000	20.945861	325° 00' 25.0"
12 mar 2002	04:32:43	09:45:45	14:58:50	21h 55m 01.66s	-13° 25' 02.7"	24.9	5.9	3.35	1.000	20.889944	325° 06' 54.4"
22 mar 2002	03:54:44	09:08:26	14:22:10	21h 57m 02.42s	-13° 14' 35.5"	34.4	5.9	3.37	1.000	20.808561	325° 13' 23.8"
01 apr 2002	03:16:39	08:30:57	13:45:17	21h 58m 53.41s	-13° 04' 59.5"	43.8	5.9	3.38	1.000	20.704202	325° 19' 53.1"
11 apr 2002	02:38:25	07:53:16	13:08:09	22h 00m 32.51s	-12° 56' 26.7"	53.2	5.9	3.40	1.000	20.579723	325° 26' 22.4"
21 apr 2002	02:00:03	07:15:22	12:30:41	22h 01m 57.58s	-12° 49' 09.1"	62.6	5.9	3.43	1.000	20.438461	325° 32' 51.7"
01 mag 2002	01:21:31	06:37:11	11:52:52	22h 03m 06.92s	-12° 43' 16.8"	72.1	5.9	3.45	0.999	20.284468	325° 39' 20.9"
11 mag 2002	00:42:47	05:58:44	11:14:41	22h 03m 59.23s	-12° 38' 57.4"	81.5	5.8	3.48	0.999	20.121818	325° 45' 50.1"
21 mag 2002	00:03:52	05:19:58	10:36:05	22h 04m 33.43s	-12° 36' 16.6"	91.0	5.8	3.51	0.999	19.955001	325° 52' 19.3"
31 mag 2002	23:20:49	04:40:54	09:57:04	22h 04m 48.98s	-12° 35' 17.6"	100.6	5.8	3.54	0.999	19.788793	325° 58' 48.4"
10 giu 2002	22:41:28	04:01:32	09:17:38	22h 04m 45.75s	-12° 36' 00.4"	110.1	5.8	3.57	0.999	19.627693	326° 05' 17.5"
20 giu 2002	22:01:56	03:21:51	08:37:48	22h 04m 24.16s	-12° 38' 22.1"	119.8	5.8	3.60	1.000	19.476435	326° 11' 46.5"
30 giu 2002	21:22:12	02:41:53	07:57:34	22h 03m 45.30s	-12° 42' 15.7"	129.5	5.7	3.62	1.000	19.339488	326° 18' 15.5"
10 lug 2002	20:42:18	02:01:39	07:17:00	22h 02m 50.60s	-12° 47' 32.0"	139.3	5.7	3.64	1.000	19.220795	326° 24' 44.5"
20 lug 2002	20:02:14	01:21:12	06:36:08	22h 01m 42.19s	-12° 53' 58.5"	149.1	5.7	3.66	1.000	19.124186	326° 31' 13.5"
30 lug 2002	19:22:04	00:40:34	05:55:02	22h 00m 22.89s	-13° 01' 18.4"	159.0	5.7	3.68	1.000	19.052647	326° 37' 42.4"
09 ago 2002	18:41:48	23:55:44	05:13:46	21h 58m 55.69s	-13° 09' 14.2"	169.0	5.7	3.68	1.000	19.008466	326° 44' 11.3"
19 ago 2002	18:01:29	23:14:53	04:32:25	21h 57m 24.11s	-13° 17' 26.8"	178.7	5.7	3.69	1.000	18.993374	326° 50' 40.1"
29 ago 2002	17:21:10	22:34:03	03:51:03	21h 55m 51.96s	-13° 25' 35.3"	171.0	5.7	3.68	1.000	19.007871	326° 57' 09.0"
08 set 2002	16:40:52	21:53:16	03:09:46	21h 54m 22.99s	-13° 33' 19.9"	160.9	5.7	3.68	1.000	19.051739	327° 03' 37.8"
18 set 2002	16:00:39	21:12:36	02:28:38	21h 53m 00.98s	-13° 40' 21.3"	150.8	5.7	3.66	1.000	19.123886	327° 10' 06.5"
28 set 2002	15:20:33	20:32:07	01:47:45	21h 51m 49.33s	-13° 46' 22.6"	140.7	5.7	3.64	1.000	19.222017	327° 16' 35.2"
08 ott 2002	14:40:35	19:51:52	01:07:10	21h 50m 51.14s	-13° 51' 09.1"	130.7	5.7	3.62	1.000	19.343329	327° 23' 03.9"
18 ott 2002	14:00:47	19:11:52	00:26:56	21h 50m 09.05s	-13° 54' 28.4"	120.6	5.8	3.59	1.000	19.484134	327° 29' 32.6"
28 ott 2002	13:21:12	18:32:10	23:43:09	21h 49m 44.85s	-13° 56' 12.3"	110.5	5.8	3.57	0.999	19.640015	327° 36' 01.2"
07 nov 2002	12:41:49	17:52:48	23:03:48	21h 49m 39.83s	-13° 56' 15.6"	100.5	5.8	3.54	0.999	19.806422	327° 42' 29.8"
17 nov 2002	12:02:39	17:13:45	22:24:52	21h 49m 54.69s	-13° 54' 35.7"	90.5	5.8	3.51	0.999	19.978218	327° 48' 58.3"
27 nov 2002	11:23:41	16:35:02	21:46:23	21h 50m 29.25s	-13° 51' 13.5"	80.6	5.8	3.48	0.999	20.150236	327° 55' 26.9"
07 dic 2002	10:44:57	15:56:37	21:08:19	21h 51m 22.85s	-13° 46' 13.0"	70.7	5.9	3.45	0.999	20.317553	328° 01' 55.3"
17 dic 2002	10:06:24	15:18:31	20:30:38	21h 52m 34.28s	-13° 39' 40.0"	60.8	5.9	3.42	1.000	20.475118	328° 08' 23.8"
27 dic 2002	09:28:02	14:40:39	19:53:18	21h 54m 01.81s	-13° 31' 43.1"	51.0	5.9	3.40	1.000	20.618495	328° 14' 52.2"
06 gen 2003	08:49:49	14:03:02	19:16:17	21h 55m 43.44s	-13° 22' 32.0"	41.3	5.9	3.38	1.000	20.743740	328° 21' 20.6"
16 gen 2003	08:11:44	13:25:36	18:39:31	21h 57m 36.68s	-13° 12' 19.1"	31.6	5.9	3.36	1.000	20.847238	328° 27' 48.9"
26 gen 2003	07:33:44	12:48:19	18:02:56	21h 59m 38.95s	-13° 01' 17.4"	21.9	5.9	3.35	1.000	20.926385	328° 34' 17.3"
05 feb 2003	06:55:49	12:11:09	17:26:30	22h 01m 47.64s	-12° 49' 40.4"	12.3	5.9	3.34	1.000	20.979126	328° 40' 45.6"



Effemeridi di Nettuno

Opposizione: 2 agosto. Max avvicinamento: 1 agosto (29.0744)

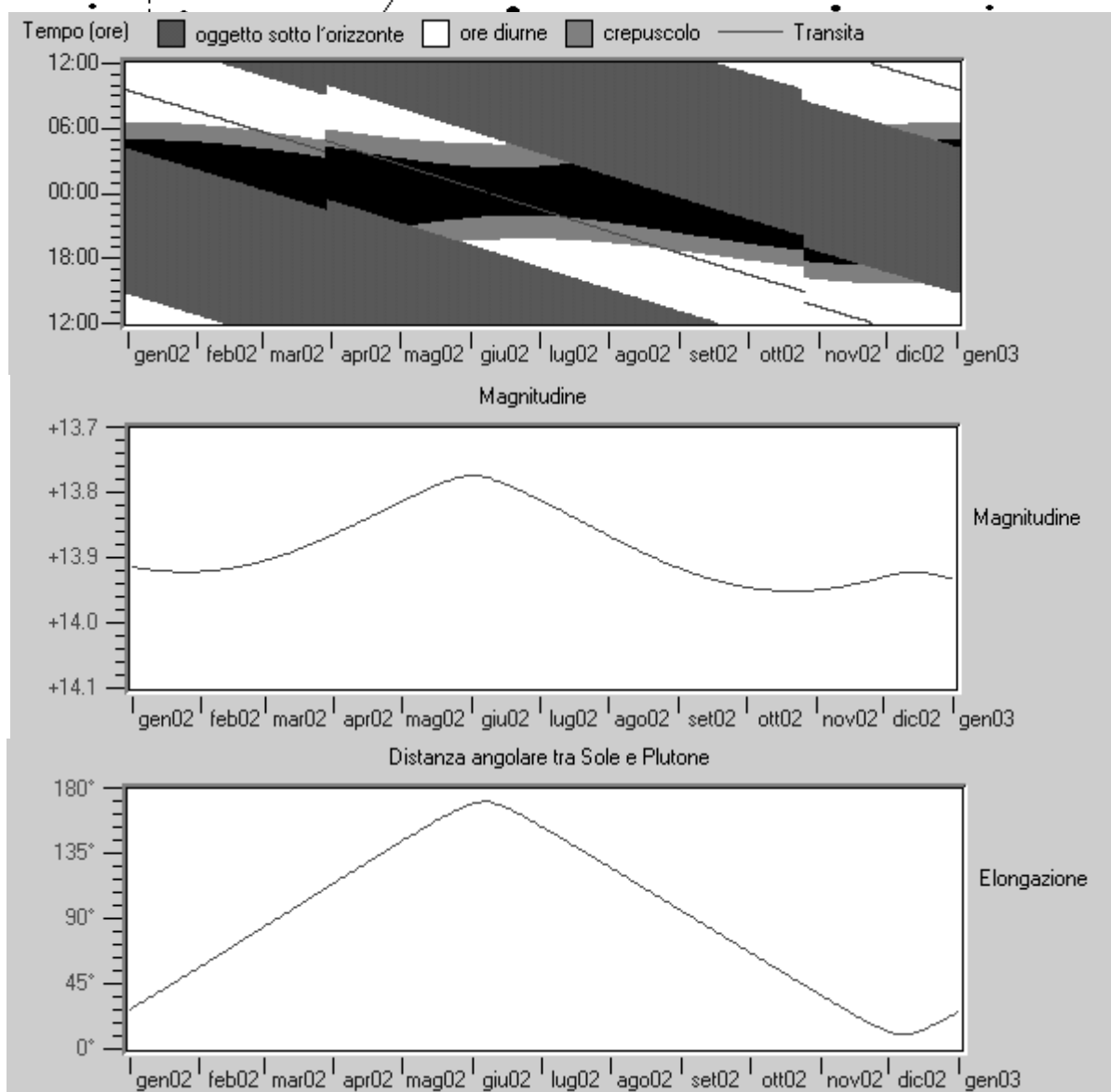
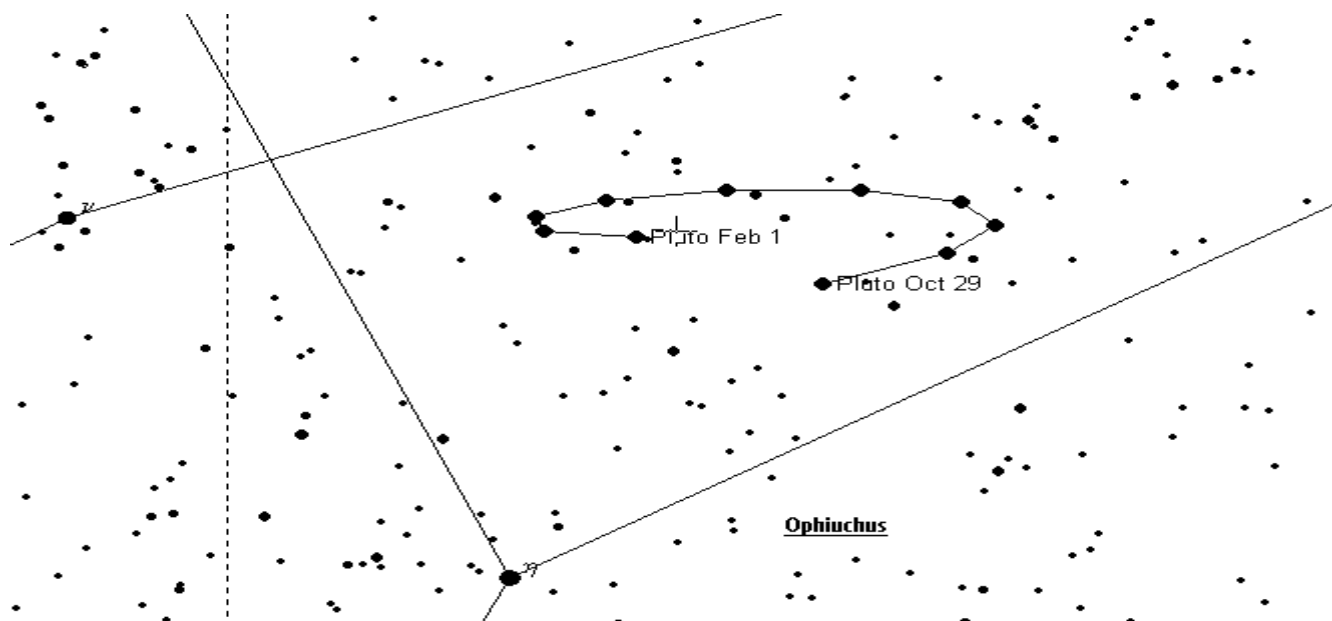
Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El°	Mag	Diam“	Fase	Dist	Long Elioc
01 gen 2002	08:11:46	13:05:20	17:58:54	20h 39m 10.52s	-18° 18' 54.4"	27.1	8.0	2.16	1.000	30.968161	308° 18' 25.2"
11 gen 2002	07:33:32	12:27:28	17:21:24	20h 40m 37.74s	-18° 13' 33.7"	17.2	8.0	2.16	1.000	31.033473	308° 22' 00.9"
21 gen 2002	06:55:21	11:49:39	16:43:59	20h 42m 08.72s	-18° 07' 55.6"	7.4	8.0	2.16	1.000	31.070803	308° 25' 36.6"
31 gen 2002	06:17:10	11:11:52	16:06:36	20h 43m 41.22s	-18° 02' 08.0"	2.4	8.0	2.16	1.000	31.079197	308° 29' 12.3"
10 feb 2002	05:38:58	10:34:05	15:29:12	20h 45m 13.15s	-17° 56' 19.2"	12.1	8.0	2.16	1.000	31.058622	308° 32' 48.1"
20 feb 2002	05:00:45	09:56:14	14:51:45	20h 46m 42.31s	-17° 50' 37.8"	21.9	8.0	2.16	1.000	31.009590	308° 36' 23.8"
02 mar 2002	04:22:27	09:18:19	14:14:11	20h 48m 06.71s	-17° 45' 12.1"	31.6	8.0	2.17	1.000	30.933744	308° 39' 59.5"
12 mar 2002	03:44:05	08:40:17	13:36:30	20h 49m 24.47s	-17° 40' 09.8"	41.3	8.0	2.17	1.000	30.833351	308° 43' 35.2"
22 mar 2002	03:05:37	08:02:07	12:58:37	20h 50m 33.77s	-17° 35' 38.7"	50.9	8.0	2.18	1.000	30.711212	308° 47' 10.9"
01 apr 2002	02:27:01	07:23:46	12:20:32	20h 51m 33.14s	-17° 31' 45.9"	60.6	7.9	2.19	1.000	30.571044	308° 50' 46.6"
11 apr 2002	01:48:17	06:45:15	11:42:13	20h 52m 21.38s	-17° 28' 36.6"	70.2	7.9	2.20	1.000	30.416761	308° 54' 22.4"
21 apr 2002	01:09:24	06:06:31	11:03:39	20h 52m 57.38s	-17° 26' 15.8"	79.9	7.9	2.21	1.000	30.252718	308° 57' 58.1"
01 mag 2002	00:30:22	05:27:35	10:24:48	20h 53m 20.51s	-17° 24' 46.9"	89.5	7.9	2.23	1.000	30.083745	309° 01' 33.8"
11 mag 2002	23:47:15	04:48:26	09:45:41	20h 53m 30.44s	-17° 24' 11.7"	99.2	7.9	2.24	1.000	29.914463	309° 05' 09.6"
21 mag 2002	23:07:53	04:09:03	09:06:17	20h 53m 27.17s	-17° 24' 30.1"	108.8	7.9	2.25	1.000	29.749752	309° 08' 45.3"
31 mag 2002	22:28:22	03:29:28	08:26:36	20h 53m 11.08s	-17° 25' 40.7"	118.5	7.9	2.26	1.000	29.594410	309° 12' 21.0"
10 giu 2002	21:48:42	02:49:41	07:46:41	20h 52m 42.90s	-17° 27' 40.5"	128.2	7.9	2.27	1.000	29.452716	309° 15' 56.7"
20 giu 2002	21:08:54	02:09:43	07:06:31	20h 52m 03.77s	-17° 30' 24.5"	137.9	7.9	2.28	1.000	29.328931	309° 19' 32.5"
30 giu 2002	20:29:00	01:29:35	06:26:10	20h 51m 15.25s	-17° 33' 45.9"	147.6	7.9	2.29	1.000	29.226660	309° 23' 08.2"
10 lug 2002	19:49:01	00:49:20	05:45:39	20h 50m 19.02s	-17° 37' 37.4"	157.4	7.8	2.30	1.000	29.148818	309° 26' 44.0"
20 lug 2002	19:08:57	00:09:00	05:05:02	20h 49m 17.20s	-17° 41' 50.5"	167.2	7.8	2.30	1.000	29.097945	309° 30' 19.7"
30 lug 2002	18:28:51	23:24:34	04:24:20	20h 48m 12.18s	-17° 46' 15.2"	177.0	7.8	2.30	1.000	29.075500	309° 33' 55.5"
09 ago 2002	17:48:45	22:44:09	03:43:37	20h 47m 06.27s	-17° 50' 41.9"	173.1	7.8	2.30	1.000	29.082228	309° 37' 31.2"
19 ago 2002	17:08:39	22:03:47	03:02:57	20h 46m 01.99s	-17° 55' 01.0"	163.3	7.8	2.30	1.000	29.118179	309° 41' 07.0"
29 ago 2002	16:28:37	21:23:28	02:22:22	20h 45m 01.82s	-17° 59' 02.9"	153.4	7.8	2.30	1.000	29.182196	309° 44' 42.7"
08 set 2002	15:48:40	20:43:17	01:41:55	20h 44m 08.06s	-18° 02' 38.9"	143.5	7.9	2.29	1.000	29.272552	309° 48' 18.5"
18 set 2002	15:08:49	20:03:13	01:01:39	20h 43m 22.86s	-18° 05' 40.8"	133.6	7.9	2.28	1.000	29.386679	309° 51' 54.3"
28 set 2002	14:29:05	19:23:21	00:21:35	20h 42m 47.97s	-18° 08' 02.7"	123.6	7.9	2.27	1.000	29.521054	309° 55' 30.0"
08 ott 2002	13:49:31	18:43:40	23:37:49	20h 42m 24.92s	-18° 09' 39.0"	113.7	7.9	2.26	1.000	29.671870	309° 59' 05.8"
18 ott 2002	13:10:05	18:04:12	22:58:18	20h 42m 14.84s	-18° 10' 25.6"	103.8	7.9	2.25	1.000	29.834579	310° 02' 41.6"
28 ott 2002	12:30:50	17:24:57	22:19:05	20h 42m 18.26s	-18° 10' 20.3"	93.8	7.9	2.23	1.000	30.004246	310° 06' 17.3"
07 nov 2002	11:51:45	16:45:56	21:40:08	20h 42m 35.46s	-18° 09' 22.5"	83.9	7.9	2.22	1.000	30.175988	310° 09' 53.1"
17 nov 2002	11:12:49	16:07:09	21:01:29	20h 43m 06.28s	-18° 07' 32.4"	73.9	7.9	2.21	1.000	30.344531	310° 13' 28.9"
27 nov 2002	10:34:03	15:28:34	20:23:06	20h 43m 50.03s	-18° 04' 51.8"	64.0	7.9	2.20	1.000	30.504883	310° 17' 04.6"
07 dic 2002	09:55:26	14:50:11	19:44:58	20h 44m 45.75s	-18° 01' 24.1"	54.1	8.0	2.19	1.000	30.652419	310° 20' 40.4"
17 dic 2002	09:16:56	14:11:59	19:07:03	20h 45m 52.11s	-17° 57' 13.8"	44.2	8.0	2.18	1.000	30.782599	310° 24' 16.2"
27 dic 2002	08:38:32	13:33:55	18:29:19	20h 47m 07.52s	-17° 52' 26.3"	34.4	8.0	2.17	1.000	30.891737	310° 27' 52.0"
06 gen 2003	08:00:14	12:55:59	17:51:44	20h 48m 30.20s	-17° 47' 07.8"	24.5	8.0	2.16	1.000	30.976706	310° 31' 27.8"
16 gen 2003	07:21:59	12:18:07	17:14:16	20h 49m 58.06s	-17° 41' 26.0"	14.7	8.0	2.16	1.000	31.034932	310° 35' 03.6"
26 gen 2003	06:43:46	11:40:19	16:36:52	20h 51m 29.06s	-17° 35' 28.8"	4.9	8.0	2.16	1.000	31.064983	310° 38' 39.3"
05 feb 2003	06:05:34	11:02:31	15:59:30	20h 53m 01.11s	-17° 29' 24.3"	4.9	8.0	2.16	1.000	31.066008	310° 42' 15.1"



Effemeridi di Plutone

Opposizione: 7 giugno. Max avvicinamento: 6 giugno (29.5181).

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El°	Mag	Diam"	Fase	Dist	Long Elioc
01 gen 2002	04:15:31	09:30:06	14:44:41	17h 03m 23.05s	-12° 59' 32.4"	26.1	13.9	0.13	1.000	31.340242	255° 16' 24.9"
11 gen 2002	03:37:40	08:52:10	14:06:40	17h 04m 46.76s	-13° 00' 52.7"	35.4	13.9	0.13	1.000	31.260336	255° 20' 15.1"
21 gen 2002	02:59:40	08:14:07	13:28:35	17h 06m 03.47s	-13° 01' 32.8"	44.9	13.9	0.13	1.000	31.156435	255° 24' 05.3"
31 gen 2002	02:21:28	07:35:55	12:50:23	17h 07m 11.33s	-13° 01' 33.9"	54.6	13.9	0.13	1.000	31.031807	255° 27' 55.4"
10 feb 2002	01:43:04	06:57:33	12:12:03	17h 08m 08.75s	-13° 00' 58.6"	64.3	13.9	0.13	1.000	30.890138	255° 31' 45.5"
20 feb 2002	01:04:26	06:18:59	11:33:33	17h 08m 54.33s	-12° 59' 50.3"	74.0	13.9	0.13	1.000	30.735609	255° 35' 35.5"
02 mar 2002	00:25:33	05:40:13	10:54:52	17h 09m 27.13s	-12° 58' 13.9"	83.8	13.8	0.14	1.000	30.573077	255° 39' 25.4"
12 mar 2002	23:42:30	05:01:13	10:15:59	17h 09m 46.55s	-12° 56' 14.1"	93.6	13.8	0.14	1.000	30.407326	255° 43' 15.2"
22 mar 2002	23:03:07	04:21:59	09:36:54	17h 09m 52.20s	-12° 53' 56.9"	103.4	13.8	0.14	1.000	30.243409	255° 47' 05.0"
01 apr 2002	22:23:30	03:42:32	08:57:36	17h 09m 44.39s	-12° 51' 29.4"	113.1	13.8	0.14	1.000	30.086442	255° 50' 54.7"
11 apr 2002	21:43:39	03:02:52	08:18:06	17h 09m 23.71s	-12° 48' 57.8"	122.9	13.8	0.14	1.000	29.941007	255° 54' 44.3"
21 apr 2002	21:03:37	02:23:01	07:38:24	17h 08m 51.11s	-12° 46' 28.6"	132.5	13.8	0.14	1.000	29.811637	255° 58' 33.8"
01 mag 2002	20:23:26	01:42:59	06:58:30	17h 08m 08.06s	-12° 44' 09.1"	142.1	13.8	0.14	1.000	29.702287	256° 02' 23.3"
11 mag 2002	19:43:07	01:02:48	06:18:28	17h 07m 16.27s	-12° 42' 05.5"	151.5	13.8	0.14	1.000	29.616102	256° 06' 12.7"
21 mag 2002	19:02:43	00:22:31	05:38:17	17h 06m 17.81s	-12° 40' 23.8"	160.3	13.8	0.14	1.000	29.555853	256° 10' 02.0"
31 mag 2002	18:22:17	23:38:07	04:58:00	17h 05m 14.97s	-12° 39' 09.0"	167.6	13.8	0.14	1.000	29.523268	256° 13' 51.3"
10 giu 2002	17:41:51	22:57:44	04:17:39	17h 04m 10.05s	-12° 38' 25.6"	169.5	13.8	0.14	1.000	29.519251	256° 17' 40.5"
20 giu 2002	17:01:27	22:17:21	03:37:16	17h 03m 05.58s	-12° 38' 17.5"	163.9	13.8	0.14	1.000	29.544096	256° 21' 29.6"
30 giu 2002	16:21:10	21:37:01	02:56:54	17h 02m 04.03s	-12° 38' 46.7"	155.6	13.8	0.14	1.000	29.596912	256° 25' 18.7"
10 lug 2002	15:40:59	20:56:46	02:16:35	17h 01m 07.53s	-12° 39' 54.2"	146.5	13.8	0.14	1.000	29.676213	256° 29' 07.6"
20 lug 2002	15:00:59	20:16:39	01:36:20	17h 00m 18.31s	-12° 41' 41.0"	137.2	13.8	0.14	1.000	29.779813	256° 32' 56.5"
30 lug 2002	14:21:10	19:36:41	00:56:12	16h 59m 38.21s	-12° 44' 05.5"	127.7	13.8	0.14	1.000	29.904560	256° 36' 45.4"
09 ago 2002	13:41:34	18:56:53	00:16:12	16h 59m 08.71s	-12° 47' 05.4"	118.3	13.8	0.14	1.000	30.047053	256° 40' 34.1"
19 ago 2002	13:02:11	18:17:18	23:32:24	16h 58m 51.07s	-12° 50' 37.8"	108.8	13.8	0.14	1.000	30.203265	256° 44' 22.8"
29 ago 2002	12:23:03	17:37:55	22:52:45	16h 58m 46.04s	-12° 54' 38.4"	99.3	13.8	0.14	1.000	30.368679	256° 48' 11.5"
08 set 2002	11:44:10	16:58:45	22:13:19	16h 58m 54.16s	-12° 59' 02.5"	89.8	13.8	0.14	1.000	30.538857	256° 51' 60.0"
18 set 2002	11:05:31	16:19:48	21:34:04	16h 59m 15.52s	-13° 03' 44.1"	80.3	13.9	0.13	1.000	30.708946	256° 55' 48.5"
28 set 2002	10:27:05	15:41:04	20:55:02	16h 59m 49.71s	-13° 08' 37.0"	70.8	13.9	0.13	1.000	30.874185	256° 59' 36.9"
08 ott 2002	09:48:52	15:02:32	20:16:11	17h 00m 36.24s	-13° 13' 35.5"	61.3	13.9	0.13	1.000	31.030130	257° 03' 25.2"
18 ott 2002	09:10:50	14:24:11	19:37:32	17h 01m 34.19s	-13° 18' 32.5"	51.8	13.9	0.13	1.000	31.172251	257° 07' 13.4"
28 ott 2002	08:32:57	13:46:00	18:59:03	17h 02m 42.18s	-13° 23' 21.3"	42.4	13.9	0.13	1.000	31.296646	257° 11' 01.6"
07 nov 2002	07:55:13	13:07:58	18:20:43	17h 03m 58.83s	-13° 27' 56.4"	33.0	13.9	0.13	1.000	31.399886	257° 14' 49.7"
17 nov 2002	07:17:33	12:30:03	17:42:31	17h 05m 22.41s	-13° 32' 11.6"	23.9	13.9	0.13	1.000	31.478866	257° 18' 37.7"
27 nov 2002	06:39:57	11:52:12	17:04:26	17h 06m 50.99s	-13° 36' 01.6"	15.4	13.9	0.13	1.000	31.531484	257° 22' 25.7"
07 dic 2002	06:02:22	11:14:24	16:26:26	17h 08m 22.57s	-13° 39' 22.3"	9.6	13.9	0.13	1.000	31.556195	257° 26' 13.6"
17 dic 2002	05:24:45	10:36:37	15:48:28	17h 09m 54.95s	-13° 42' 10.0"	11.6	13.9	0.13	1.000	31.552164	257° 30' 01.4"
27 dic 2002	04:47:05	09:58:48	15:10:31	17h 11m 26.03s	-13° 44' 22.3"	19.2	13.9	0.13	1.000	31.519688	257° 33' 49.1"
06 gen 2003	04:09:19	09:20:56	14:32:33	17h 12m 53.69s	-13° 45' 57.6"	28.2	13.9	0.13	1.000	31.459596	257° 37' 36.8"
16 gen 2003	03:31:26	08:42:59	13:54:31	17h 14m 15.69s	-13° 46' 55.3"	37.6	13.9	0.13	1.000	31.373659	257° 41' 24.4"
26 gen 2003	02:53:22	08:04:53	13:16:25	17h 15m 30.18s	-13° 47' 16.9"	47.2	13.9	0.13	1.000	31.264588	257° 45' 12.0"
05 feb 2003	02:15:07	07:26:39	12:38:11	17h 16m 35.43s	-13° 47' 03.7"	56.9	13.9	0.13	1.000	31.135474	257° 48' 59.4"



Meridiano centrale di Marte

Meridiano centrale di Marte alle h.0

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	o	o	o	o	o	o	o	o	o	o	o	o
1	56.1	108.2	191.2	246.9	314.4	13.2	81.8	140.1	197.2	263.2	319.3	26.1
2	46.2	98.2	181.4	237.1	304.6	3.5	72.1	130.3	187.4	253.4	309.5	16.4
3	36.2	88.3	171.5	227.4	294.9	353.8	62.4	120.6	177.6	243.6	299.7	6.6
4	26.3	78.4	161.7	217.6	285.2	344.0	52.7	110.8	167.8	233.8	289.9	356.9
5	16.4	68.5	151.8	207.8	275.5	334.3	42.9	101.1	158.0	224.0	280.2	347.1
6	6.4	58.6	142.0	198.0	265.7	324.6	33.2	91.3	148.3	214.2	270.4	337.4
7	356.5	48.7	132.1	188.3	256.0	314.9	23.5	81.6	138.5	204.4	260.6	327.6
8	346.5	38.8	122.3	178.5	246.3	305.2	13.8	71.8	128.7	194.5	250.8	317.9
9	336.6	28.9	112.5	168.7	236.6	295.5	4.1	62.0	118.9	184.7	241.0	308.1
10	326.7	19.0	102.6	159.0	226.9	285.8	354.3	52.3	109.1	174.9	231.2	298.4
11	316.7	9.1	92.8	149.2	217.1	276.1	344.6	42.5	99.3	165.1	221.4	288.7
12	306.8	359.2	83.0	139.5	207.4	266.4	334.9	32.8	89.5	155.3	211.7	278.9
13	296.9	349.3	73.1	129.7	197.7	256.7	325.1	23.0	79.7	145.5	201.9	269.2
14	286.9	339.4	63.3	119.9	188.0	247.0	315.4	13.2	69.9	135.7	192.1	259.5
15	277.0	329.5	53.5	110.2	178.3	237.2	305.7	3.5	60.1	125.9	182.3	249.7
16	267.0	319.6	43.7	100.5	168.5	227.5	296.0	353.7	50.3	116.1	172.6	240.0
17	257.1	309.7	33.9	90.7	158.8	217.8	286.2	343.9	40.5	106.3	162.8	230.3
18	247.2	299.8	24.1	80.9	149.1	208.1	276.5	334.1	30.7	96.5	153.0	220.6
19	237.2	289.9	14.2	71.2	139.4	198.4	266.8	324.4	20.9	86.7	143.3	210.8
20	227.3	280.1	4.4	61.5	129.7	188.7	257.0	314.6	11.1	76.9	133.5	201.1
21	217.4	270.2	354.6	51.7	120.0	179.0	247.3	304.8	1.3	67.1	123.7	191.4
22	207.4	260.3	344.8	42.0	110.3	169.3	237.5	295.0	351.5	57.3	113.9	181.7
23	197.5	250.4	335.0	32.2	100.6	159.6	227.8	285.3	341.7	47.5	104.2	171.9
24	187.6	240.6	325.2	22.5	90.8	149.8	218.1	275.5	331.8	37.7	94.4	162.2
25	177.6	230.7	315.4	12.7	81.1	140.1	208.3	265.7	322.0	27.9	84.7	152.5
26	167.7	220.8	305.6	3.0	71.4	130.4	198.6	255.9	312.2	18.1	74.9	142.8
27	157.8	211.0	295.8	353.3	61.7	120.7	188.8	246.1	302.4	8.3	65.1	133.1
28	147.9	201.1	286.0	343.6	52.0	111.0	179.1	236.4	292.6	358.5	55.4	123.4
29	137.9		276.3	333.8	42.3	101.3	169.3	226.6	282.8	348.7	45.6	113.7
30	128.0		266.5	324.1	32.6	91.5	159.6	216.8	273.0	338.9	35.9	103.9
31	118.1		256.7		22.9		149.8	207.0		329.1		94.2

Moto del meridiano centrale

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h
m	o	o	o	o	o	o	o	o	o	o	o	o
0	0.0	14.6	29.2	43.9	58.5	73.1	87.7	102.3	117.0	131.6	146.2	160.8
10	2.4	17.1	31.7	46.3	60.9	75.5	90.2	104.8	119.4	134.0	148.6	163.3
20	4.9	19.5	34.1	48.7	63.4	78.0	92.6	107.2	121.8	136.5	151.1	165.7
30	7.3	21.9	36.6	51.2	65.8	80.4	95.0	109.7	124.3	138.9	153.5	168.1
40	9.7	24.4	39.0	53.6	68.2	82.8	97.5	112.1	126.7	141.3	156.0	170.6
50	12.2	26.8	41.4	56.0	70.7	85.3	99.9	114.5	129.1	143.8	158.4	173.0
60	14.6	29.2	43.9	58.5	73.1	87.7	102.3	117.0	131.6	146.2	160.8	175.4

Meridiano centrale di Giove I

(relativo alla regione equatoriale, periodo di rotazione siderale 9h 50m 30s)

Meridiano centrale di Giove, Sistema I, alle h. 0

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	°	°	°	°	°	°	°	°	°	°	°	°
1	269.2	127.0	227.8	78.8	129.6	337.0	26.5	234.4	83.4	136.4	349.4	47.0
2	67.2	285.0	25.6	236.5	287.3	134.6	184.2	32.1	241.2	294.2	147.3	205.0
3	225.3	82.9	183.4	34.2	84.9	292.3	341.8	189.8	38.9	92.0	305.1	2.9
4	23.3	240.8	341.3	191.9	242.6	89.9	139.5	347.5	196.7	249.8	103.0	160.9
5	181.3	38.8	139.1	349.7	40.3	247.6	297.2	145.2	354.4	47.6	260.9	318.9
6	339.4	196.7	296.9	147.4	197.9	45.2	94.8	302.8	152.2	205.5	58.8	116.8
7	137.4	354.6	94.7	305.1	355.6	202.8	252.5	100.5	309.9	3.3	216.7	274.8
8	295.4	152.5	252.5	102.8	153.2	0.5	50.2	258.2	107.6	161.1	14.6	72.8
9	93.4	310.4	50.3	260.5	310.9	158.2	207.8	55.9	265.4	318.9	172.5	230.8
10	251.4	108.4	208.1	58.2	108.6	315.8	5.5	213.6	63.1	116.7	330.4	28.8
11	49.5	266.2	5.9	215.9	266.2	113.5	163.2	11.3	220.9	274.5	128.3	186.8
12	207.5	64.2	163.7	13.6	63.9	271.1	320.8	169.0	18.7	72.4	286.2	344.8
13	5.5	222.0	321.5	171.3	221.5	68.8	118.5	326.7	176.4	230.2	84.1	142.7
14	163.5	19.9	119.3	329.0	19.2	226.4	276.2	124.5	334.2	28.0	242.0	300.7
15	321.5	177.8	277.0	126.7	176.9	24.1	73.8	282.2	131.9	185.8	39.9	98.7
16	119.5	335.7	74.8	284.4	334.5	181.7	231.5	79.9	289.7	343.7	197.9	256.7
17	277.5	133.6	232.6	82.1	132.2	339.4	29.2	237.6	87.5	141.5	355.8	54.8
18	75.5	291.5	30.3	239.8	289.8	137.0	186.8	35.3	245.2	299.4	153.7	212.7
19	233.5	89.3	188.1	37.5	87.5	294.7	344.5	193.0	43.0	97.2	311.6	10.8
20	31.5	247.2	345.9	195.1	245.1	92.3	142.2	350.7	200.8	255.0	109.6	168.8
21	189.4	45.1	143.6	352.8	42.8	250.0	299.9	148.4	358.6	52.9	267.5	326.8
22	347.4	202.9	301.4	150.5	200.5	47.6	97.6	306.2	156.3	210.7	65.4	124.8
23	145.4	0.8	99.1	308.2	358.1	205.3	255.2	103.9	314.1	8.6	223.4	282.8
24	303.4	158.6	256.9	105.9	155.7	2.9	52.9	261.6	111.9	166.4	21.3	80.8
25	101.3	316.5	54.6	263.6	313.4	160.6	210.6	59.3	269.7	324.3	179.3	238.8
26	259.3	114.3	212.4	61.2	111.1	318.3	8.3	217.0	67.5	122.2	337.2	36.9
27	57.3	272.1	10.1	218.9	268.7	115.9	166.0	14.8	225.3	280.0	135.2	194.9
28	215.2	70.0	167.9	16.6	66.3	273.6	323.6	172.5	23.1	77.9	293.1	352.9
29	13.2		325.6	174.2	224.0	71.2	121.3	330.2	180.8	235.8	91.1	151.0
30	171.1		123.3	331.9	21.7	228.9	279.0	128.0	338.6	33.6	249.0	309.0
31	329.1		281.0		179.3		76.7	285.7		191.5		107.0

Moto del meridiano centrale

m	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h
	°	°	°	°	°	°	°	°	°	°	°	°
0	0.0	36.6	73.2	109.7	146.3	182.9	219.5	256.1	292.6	329.2	5.8	42.4
10	6.1	42.7	79.3	115.8	152.4	189.0	225.6	262.2	298.7	335.3	11.9	48.5
20	12.2	48.8	85.4	121.9	158.5	195.1	231.7	268.2	304.8	341.4	18.0	54.6
30	18.3	54.9	91.4	128.0	164.6	201.2	237.8	274.3	310.9	347.5	24.1	60.7
40	24.4	61.0	97.5	134.1	170.7	207.3	243.9	280.4	317.0	353.6	30.2	66.8
50	30.5	67.1	103.6	140.2	176.8	213.4	250.0	286.5	323.1	359.7	36.3	72.9
60	36.6	73.2	109.7	146.3	182.9	219.5	256.1	292.6	329.2	5.8	42.4	79.0

Meridiano centrale di Giove II

(relativo alle regioni temperate, periodo di rotazione siderale 9h 55m 41s)

Meridiano centrale di Giove, Sistema II, alle h. 0

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	o	o	o	o	o	o	o	o	o	o	o	o
1	71.8	53.1	300.2	274.7	96.7	67.5	248.2	219.5	192.0	16.1	352.5	181.2
2	222.2	203.4	90.4	64.8	246.7	217.5	38.2	9.6	342.1	166.3	142.8	331.5
3	12.6	353.7	240.6	214.9	36.7	7.5	188.2	159.6	132.2	316.4	293.0	121.9
4	163.0	144.0	30.8	5.0	186.7	157.5	338.3	309.7	282.4	106.6	83.3	272.2
5	313.4	294.3	181.0	155.1	336.8	307.6	128.3	99.8	72.5	256.8	233.5	62.5
6	103.8	84.6	331.2	305.2	126.8	97.6	278.3	249.8	222.6	47.0	23.8	212.9
7	254.2	234.9	121.4	95.2	276.9	247.6	68.4	39.9	12.7	197.2	174.0	3.2
8	44.6	25.2	271.5	245.3	66.9	37.6	218.4	189.9	162.8	347.3	324.3	153.6
9	195.0	175.5	61.7	35.4	216.9	187.7	8.4	340.0	312.9	137.5	114.6	303.9
10	345.4	325.8	211.9	185.5	7.0	337.7	158.5	130.1	103.1	287.7	264.8	94.3
11	135.7	116.0	2.0	335.6	157.0	127.7	308.5	280.2	253.2	77.9	55.1	244.7
12	286.1	266.3	152.2	125.6	307.0	277.7	98.5	70.2	43.3	228.1	205.4	35.0
13	76.5	56.6	302.3	275.7	97.0	67.7	248.6	220.3	193.4	18.3	355.7	185.4
14	226.9	206.8	92.5	65.8	247.1	217.8	38.6	10.4	343.6	168.5	146.0	335.7
15	17.2	357.1	242.7	215.8	37.1	7.8	188.7	160.5	133.7	318.7	296.2	126.1
16	167.6	147.3	32.8	5.9	187.1	157.8	338.7	310.5	283.8	108.9	86.5	276.5
17	318.0	297.6	183.0	155.9	337.2	307.8	128.8	100.6	74.0	259.1	236.8	66.9
18	108.4	87.8	333.1	306.0	127.2	97.8	278.8	250.7	224.1	49.3	27.1	217.2
19	258.7	238.1	123.2	96.1	277.2	247.9	68.8	40.8	14.2	199.5	177.4	7.6
20	49.1	28.3	273.3	246.1	67.2	37.9	218.9	190.9	164.4	349.7	327.7	158.0
21	199.4	178.5	63.5	36.2	217.2	187.9	8.9	341.0	314.5	139.9	118.0	308.4
22	349.8	328.8	213.6	186.2	7.3	338.0	159.0	131.0	104.7	290.2	268.3	98.8
23	140.1	119.0	3.7	336.3	157.3	128.0	309.0	281.1	254.8	80.4	58.6	249.1
24	290.5	269.2	153.9	126.3	307.3	278.0	99.1	71.2	45.0	230.6	208.9	39.5
25	80.8	59.4	304.0	276.4	97.4	68.0	249.1	221.3	195.1	20.8	359.2	189.9
26	231.2	209.6	94.1	66.4	247.4	218.0	39.2	11.4	345.3	171.1	149.6	340.3
27	21.5	359.9	244.2	216.5	37.4	8.1	189.2	161.5	135.5	321.3	299.9	130.7
28	171.8	150.1	34.3	6.5	187.4	158.1	339.3	311.6	285.6	111.5	90.2	281.1
29	322.1		184.4	156.6	337.4	308.1	129.3	101.7	75.8	261.8	240.5	71.5
30	112.5		334.5	306.6	127.5	98.2	279.4	251.8	225.9	52.0	30.9	221.9
31	262.8		124.6		277.5		69.4	41.9		202.3		12.3

Moto del meridiano centrale

m	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h
	o	o	o	o	o	o	o	o	o	o	o	o
0	0.0	36.3	72.5	108.8	145.0	181.3	217.6	253.8	290.1	326.4	2.6	38.9
10	6.0	42.3	78.6	114.8	151.1	187.3	223.6	259.9	296.1	332.4	8.7	44.9
20	12.1	48.3	84.6	120.9	157.1	193.4	229.7	265.9	302.2	338.4	14.7	51.0
30	18.1	54.4	90.7	126.9	163.2	199.4	235.7	272.0	308.2	344.5	20.7	57.0
40	24.2	60.4	96.7	133.0	169.2	205.5	241.7	278.0	314.3	350.5	26.8	63.0
50	30.2	66.5	102.7	139.0	175.3	211.5	247.8	284.0	320.3	356.6	32.8	69.1
60	36.3	72.5	108.8	145.0	181.3	217.6	253.8	290.1	326.4	2.6	38.9	75.1

Meridiano centrale di Saturno

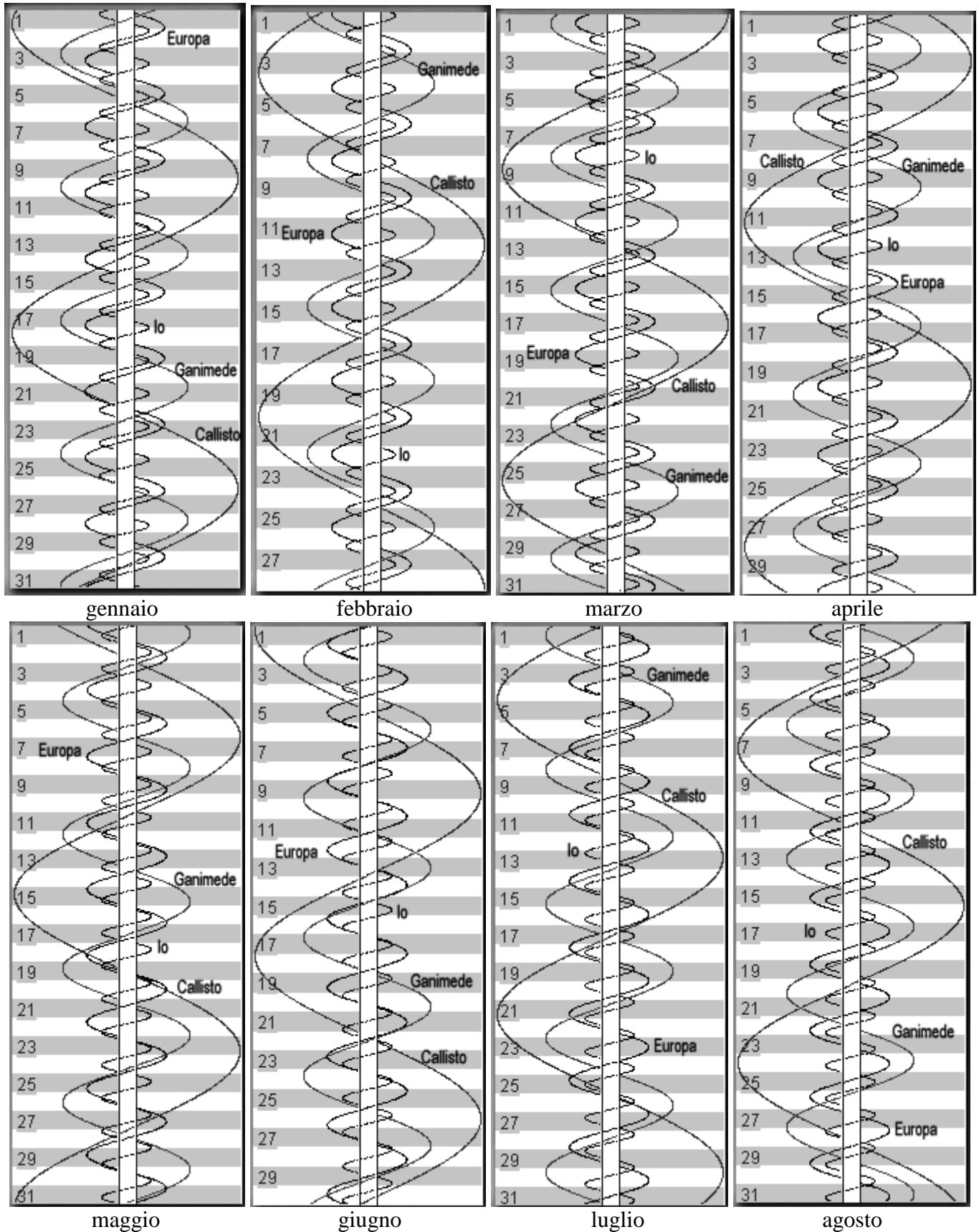
Meridiano centrale di Saturno, sistema I, alle h. 0

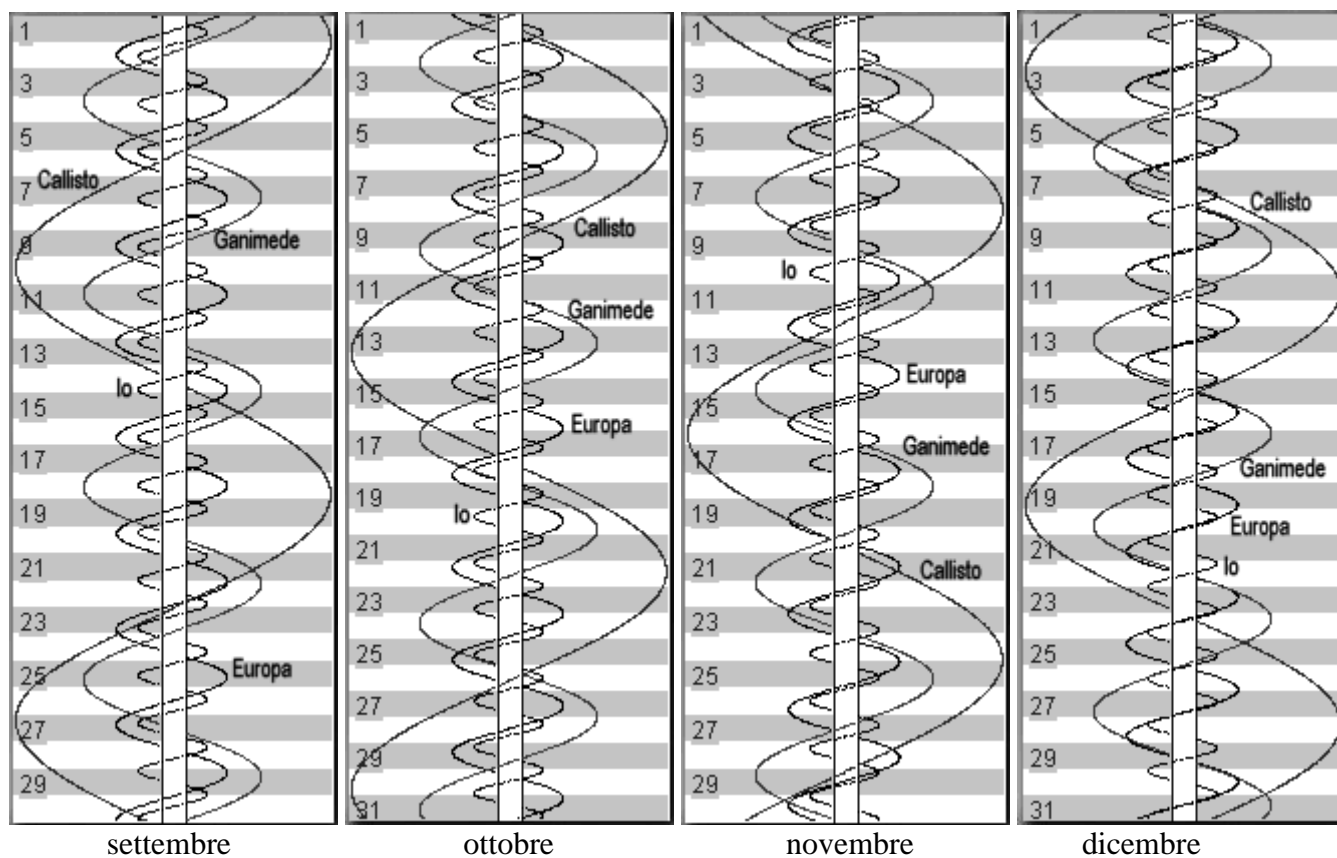
Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	o	o	o	o	o	o	o	o	o	o	o	o
1	149.8	42.7	280.5	169.2	293.1	181.2	306.1	196.6	88.9	218.8	114.6	246.9
2	274.2	166.9	44.7	293.4	57.2	305.3	70.3	320.8	213.2	343.1	239.0	11.3
3	38.5	291.2	168.8	57.5	181.3	69.5	194.5	85.1	337.5	107.5	3.4	135.8
4	162.8	55.4	293.0	181.6	305.4	193.7	318.7	209.3	101.8	231.8	127.8	260.2
5	287.1	179.6	57.2	305.7	69.6	317.8	82.8	333.5	226.1	356.2	252.2	24.6
6	51.4	303.9	181.3	69.9	193.7	81.9	207.0	97.8	350.4	120.6	16.6	149.0
7	175.8	68.1	305.5	194.0	317.8	206.1	331.2	222.0	114.7	244.9	141.1	273.4
8	300.1	192.3	69.7	318.1	81.9	330.2	95.4	346.3	239.0	9.3	265.5	37.8
9	64.4	316.5	193.8	82.3	206.1	94.4	219.6	110.5	3.3	133.7	29.9	162.2
10	188.7	80.7	318.0	206.4	330.2	218.5	343.8	234.8	127.7	258.1	154.3	286.6
11	313.0	205.0	82.2	330.5	94.3	342.7	108.0	359.0	252.0	22.4	278.7	51.0
12	77.3	329.2	206.3	94.7	218.5	106.8	232.2	123.3	16.3	146.8	43.1	175.4
13	201.6	93.4	330.5	218.8	342.6	231.0	356.4	247.6	140.6	271.2	167.5	299.8
14	325.9	217.6	94.6	342.9	106.7	355.2	120.6	11.8	264.9	35.6	291.9	64.2
15	90.2	341.8	218.8	107.0	230.9	119.3	244.8	136.1	29.3	159.9	56.3	188.6
16	214.4	106.0	342.9	231.2	355.0	243.5	9.0	260.4	153.6	284.3	180.7	313.0
17	338.7	230.2	107.1	355.3	119.1	7.6	133.2	24.6	277.9	48.7	305.2	77.4
18	103.0	354.4	231.2	119.4	243.2	131.8	257.4	148.9	42.3	173.1	69.6	201.8
19	227.3	118.6	355.4	243.5	7.4	256.0	21.7	273.2	166.6	297.5	194.0	326.2
20	351.6	242.8	119.5	7.7	131.5	20.2	145.9	37.4	290.9	61.9	318.4	90.5
21	115.8	7.0	243.7	131.8	255.7	144.3	270.1	161.7	55.3	186.3	82.8	214.9
22	240.1	131.2	7.8	255.9	19.8	268.5	34.3	286.0	179.6	310.6	207.2	339.3
23	4.4	255.4	132.0	20.1	143.9	32.7	158.5	50.3	303.9	75.0	331.6	103.7
24	128.7	19.6	256.1	144.2	268.1	156.9	282.7	174.6	68.3	199.4	96.1	228.1
25	252.9	143.8	20.3	268.3	32.2	281.0	47.0	298.8	192.6	323.8	220.5	352.5
26	17.2	268.0	144.4	32.4	156.3	45.2	171.2	63.1	317.0	88.2	344.9	116.8
27	141.4	32.1	268.5	156.6	280.5	169.4	295.4	187.4	81.3	212.6	109.3	241.2
28	265.7	156.3	32.7	280.7	44.6	293.5	59.6	311.7	205.7	337.0	233.7	5.6
29	29.9		156.8	44.8	168.8	57.7	183.9	76.0	330.0	101.4	358.1	130.0
30	154.2		280.9	168.9	292.9	181.9	308.1	200.3	94.4	225.8	122.5	254.3
31	278.4		45.1		57.0		72.3	324.6		350.2		18.7

Moto del meridiano centrale

m	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h
	o	o	o	o	o	o	o	o	o	o	o	o
0	0.0	35.2	70.4	105.5	140.7	175.9	211.1	246.3	281.4	316.6	351.8	27.0
10	5.9	41.0	76.2	111.4	146.6	181.8	216.9	252.1	287.3	322.5	357.7	32.8
20	11.7	46.9	82.1	117.3	152.4	187.6	222.8	258.0	293.2	328.3	3.5	38.7
30	17.6	52.8	87.9	123.1	158.3	193.5	228.7	263.8	299.0	334.2	9.4	44.6
40	23.5	58.6	93.8	129.0	164.2	199.3	234.5	269.7	304.9	340.1	15.2	50.4
50	29.3	64.5	99.7	134.9	170.0	205.2	240.4	275.6	310.7	345.9	21.1	56.3
60	35.2	70.4	105.5	140.7	175.9	211.1	246.3	281.4	316.6	351.8	27.0	62.1

Posizione dei satelliti di Giove

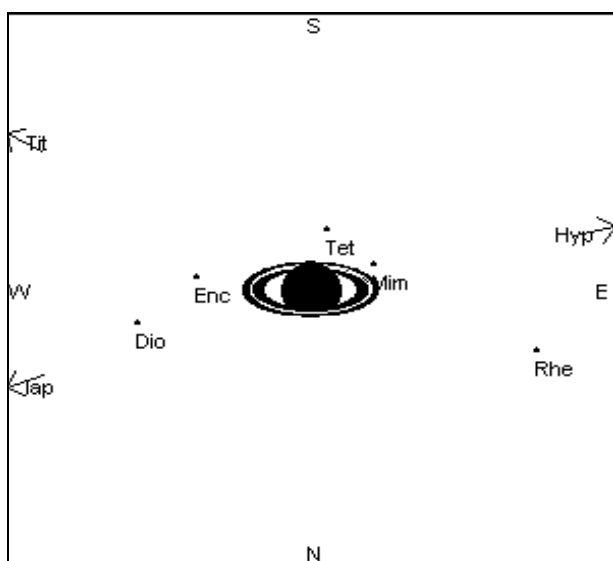




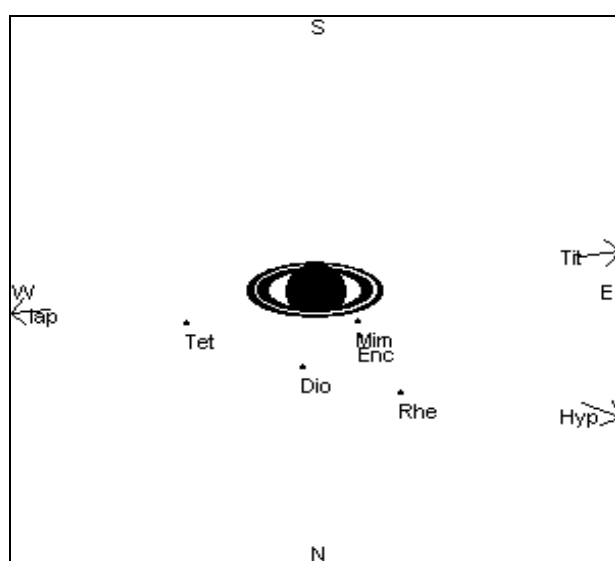
Nei grafici l'est si trova a destra ed il sud in alto. Ossia si considera l'uso di uno strumento che inverte le immagini. L'ora per la quale si calcola la posizione è O.U.T., la doppia riga centrale rappresenta il diametro di Giove.

Satelliti di Saturno

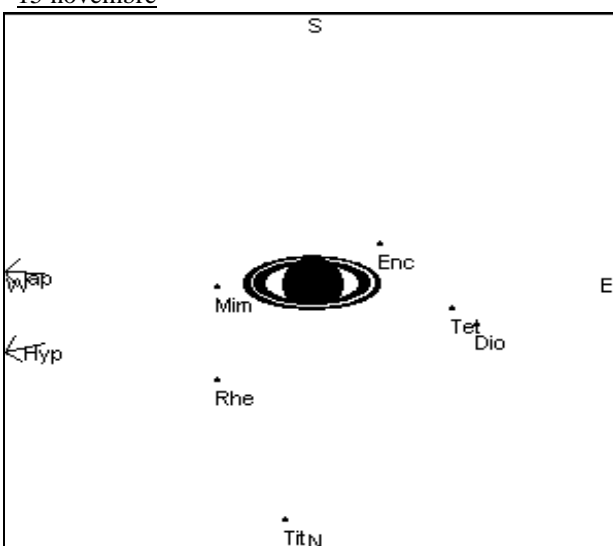
Posizioni calcolate per Roma alle ore 00:00 T.U.



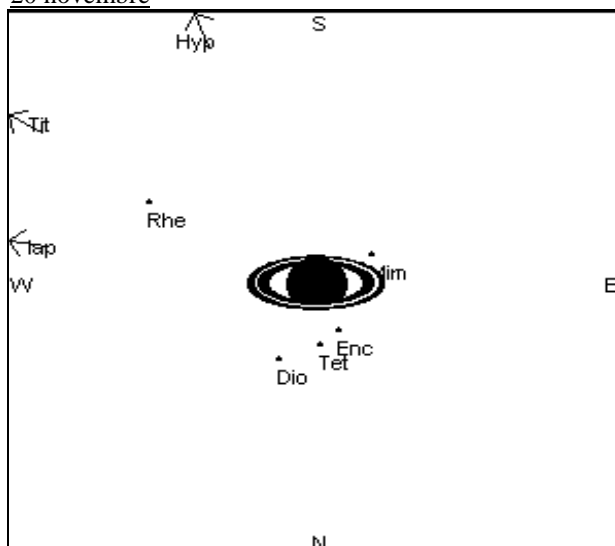
15 novembre



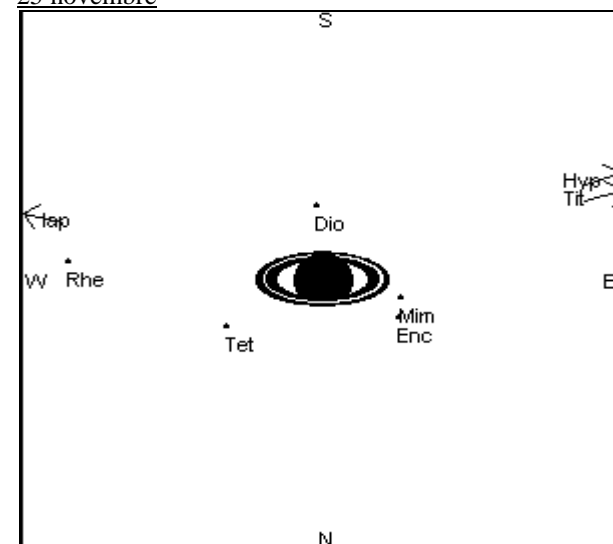
20 novembre



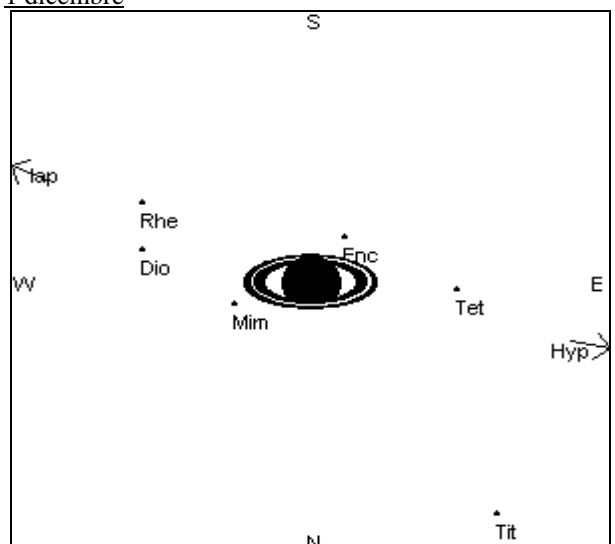
25 novembre



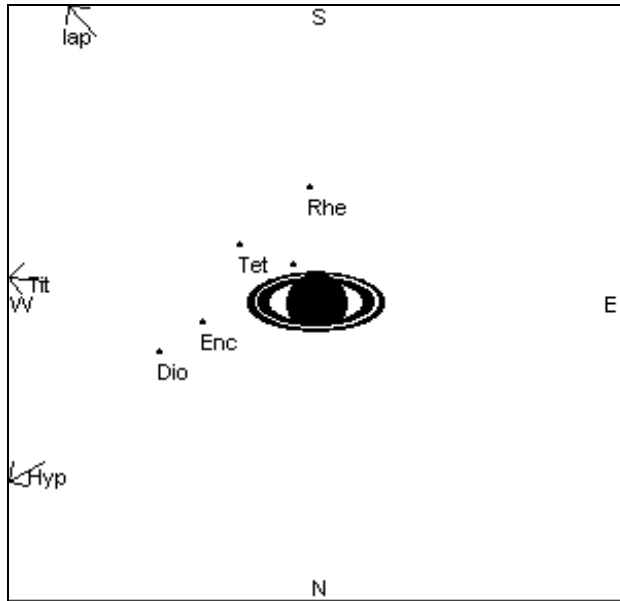
1 dicembre



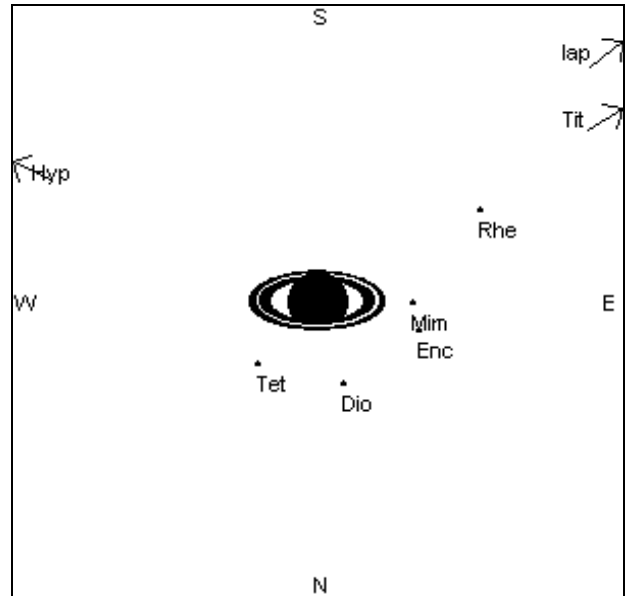
5 dicembre



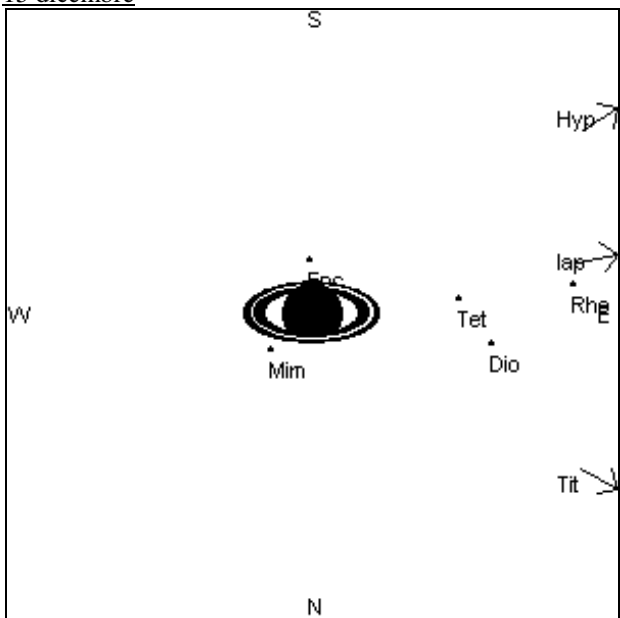
10 dicembre



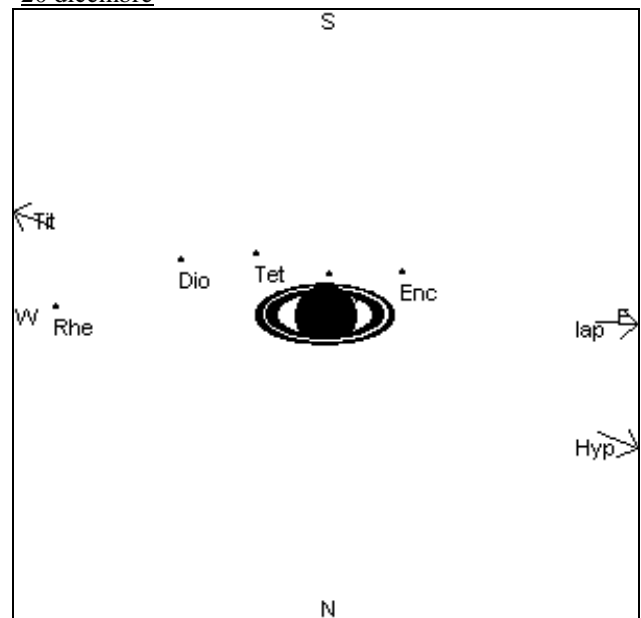
15 dicembre



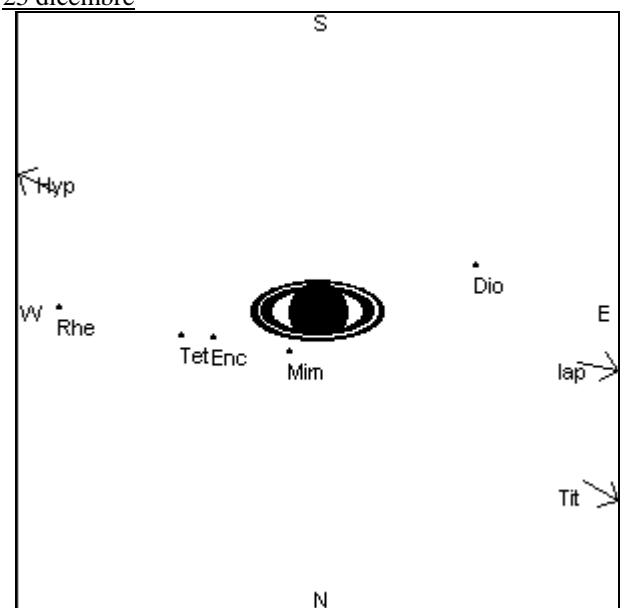
20 dicembre



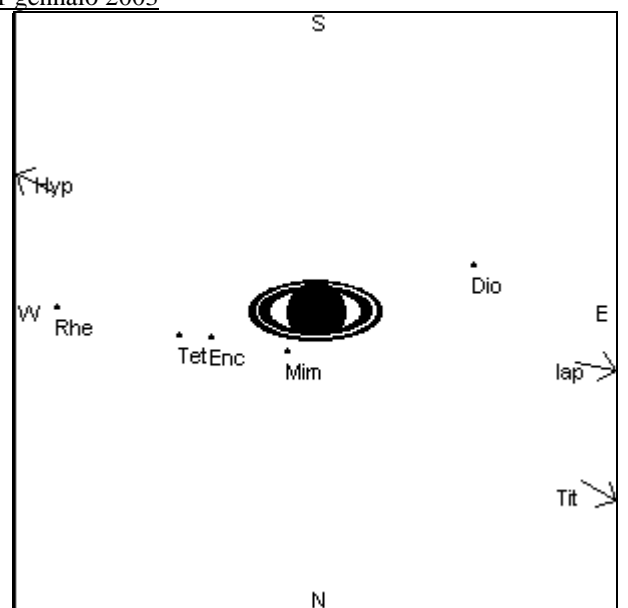
25 dicembre



1 gennaio 2003



5 gennaio 2003



10 gennaio 2003

Fenomeni dei satelliti di Giove

Vengono riportati i principali fenomeni ai quali andranno incontro i satelliti di Giove nel corso del 2002.

Ec.D. : eclipse disappearance	I : Io
Ec.R. : eclipse reappearance	II : Europa
Oc.D. : occultation disappearance	III: Ganymede
Oc.R. : occultation reappearance	IV : Callisto
Tr.I. : transit ingress	D : date
Tr.E. : transit egress	H M : time
Sh.I. : shadow ingress	Sat : satellite Code
Sh.E. : shadow egress	Phe. : phenomenon

January 2002

D	H	M	Sat.	Phe.	GRS (hh: mm)
01	00:15		II	Oc.R.	00: 04 09: 59 19: 55
01	00:15		II	Ec.R.	
01	10:17		III	Tr.I.	
01	10:18		III	Sh.I.	
01	12:54		I	Oc.D.	
01	13:18		III	Tr.E.	
01	13:20		III	Sh.E.	
01	15:10		I	Ec.R.	
02	10:02		I	Tr.I.	05: 50 15: 46
02	10:04		I	Sh.I.	
02	12:17		I	Tr.E.	
02	12:19		I	Sh.E.	
02	16:25		II	Tr.I.	
02	16:30		II	Sh.I.	
02	19:13		II	Tr.E.	
02	19:18		II	Sh.E.	
03	07:20		I	Oc.D.	01: 42 11: 37 21: 33
03	09:39		I	Ec.R.	
04	04:28		I	Tr.I.	07: 28 17: 24
04	04:32		I	Sh.I.	
04	06:42		I	Tr.E.	
04	06:47		I	Sh.E.	
04	10:35		II	Oc.D.	
04	13:32		II	Ec.R.	
04	23:56		III	Oc.D.	
05	01:46		I	Oc.D.	03: 19 13: 15 23: 11
05	03:24		III	Ec.R.	
05	04:07		I	Ec.R.	
05	17:07		IV	Oc.D.	
05	20:57		IV	Ec.R.	
05	22:54		I	Tr.I.	
05	23:01		I	Sh.I.	
06	01:08		I	Tr.E.	09: 06 19: 02
06	01:16		I	Sh.E.	
06	05:33		II	Tr.I.	
06	05:49		II	Sh.I.	
06	08:21		II	Tr.E.	
06	08:37		II	Sh.E.	
06	20:12		I	Oc.D.	
06	22:36		I	Ec.R.	
07	17:19		I	Tr.I.	04: 57 14: 53
07	17:29		I	Sh.I.	
07	19:34		I	Tr.E.	
07	19:44		I	Sh.E.	
07	23:42		II	Oc.D.	
08	02:50		II	Ec.R.	00: 49 10: 44 20: 40
08	13:33		III	Tr.I.	
08	14:18		III	Sh.I.	
08	14:38		I	Oc.D.	
08	16:34		III	Tr.E.	
08	17:05		I	Ec.R.	
08	17:21		III	Sh.E.	
09	11:45		I	Tr.I.	06: 35 16: 31
09	11:58		I	Sh.I.	
09	14:00		I	Tr.E.	
09	14:13		I	Sh.E.	
09	18:40		II	Tr.I.	
09	19:07		II	Sh.I.	
09	21:28		II	Tr.E.	
09	21:55		II	Sh.E.	
10	09:04		I	Oc.D.	02: 27 12: 22 22: 18
10	11:34		I	Ec.R.	
11	06:11		I	Tr.I.	08: 13 18: 09
11	06:27		I	Sh.I.	
11	08:26		I	Tr.E.	
11	08:42		I	Sh.E.	

12	03:12	III	Oc.D.	04: 05	14: 00	23: 56
12	03:30	I	Oc.D.			
12	06:02	I	Ec.R.			
12	07:24	III	Ec.R.			
13	00:37	I	Tr.I.	09: 51	19: 47	
13	00:55	I	Sh.I.			
13	02:52	I	Tr.E.			
13	03:10	I	Sh.E.			
13	21:56	I	Oc.D.			
14	00:31	I	Ec.R.	05: 43	15: 38	
14	01:58	IV	Tr.I.			
14	04:37	IV	Tr.E.			
14	04:59	IV	Sh.I.			
14	07:49	IV	Sh.E.			
14	19:03	I	Tr.I.			
14	19:24	I	Sh.I.			
14	21:18	I	Tr.E.			
14	21:39	I	Sh.E.			
15	01:56	II	Oc.D.	01: 34	11: 29	21: 25
15	05:25	II	Ec.R.			
15	18:17	III	Sh.I.			
15	19:00	I	Ec.R.			
15	19:51	III	Tr.E.			
15	21:22	III	Sh.E.			
16	20:56	II	Tr.I.			
16	21:44	II	Sh.I.			
16	23:43	II	Tr.E.			
17	00:32	II	Sh.E.	03: 12	13: 08	23: 03
18	18:43	II	Ec.R.			
19	05:14	I	Oc.D.	04: 50	14: 46	
19	06:29	III	Oc.D.			
19	07:57	I	Ec.R.			
20	02:22	I	Tr.I.	00: 41	10: 37	20: 32
20	02:50	I	Sh.I.			
20	04:36	I	Tr.E.			
20	05:05	I	Sh.E.			
20	23:40	I	Oc.D.			
21	02:26	I	Ec.R.	06: 28	16: 24	
21	20:48	I	Tr.I.			
21	21:18	I	Sh.I.			
21	23:02	I	Tr.E.			
21	23:34	I	Sh.E.			
22	04:11	II	Oc.D.	02: 19	12: 15	22: 11
22	07:19	IV	Oc.D.			
22	18:07	I	Oc.D.			
22	20:08	III	Tr.I.			
22	20:55	I	Ec.R.			
22	22:17	III	Sh.I.			
22	23:09	III	Tr.E.			
23	01:22	III	Sh.E.	08: 06	18: 02	
23	17:29	I	Tr.E.			
23	18:02	I	Sh.E.			
23	23:12	II	Tr.I.			
24	00:20	II	Sh.I.	03: 57	13: 53	23: 49
24	02:00	II	Tr.E.			
24	03:09	II	Sh.E.			
25	17:19	II	Oc.D.			
25	21:19	II	Ec.R.			
26	06:59	I	Oc.D.	05: 36	15: 31	
27	04:07	I	Tr.I.	01: 27	11: 22	21: 18
27	04:44	I	Sh.I.			
27	06:21	I	Tr.E.			
27	07:00	I	Sh.E.			
28	01:26	I	Oc.D.	07: 14	17: 09	
28	04:21	I	Ec.R.			
28	22:33	I	Tr.I.			
28	23:13	I	Sh.I.			
29	00:48	I	Tr.E.	03: 05	13: 01	22: 56
29	01:28	I	Sh.E.			
29	06:28	II	Oc.D.			
29	19:52	I	Oc.D.			
29	22:50	I	Ec.R.			
29	23:29	III	Tr.I.			
30	02:16	III	Sh.I.	08: 52	18: 48	
30	02:31	III	Tr.E.			
30	05:22	III	Sh.E.			
30	16:59	I	Tr.I.			
30	17:42	I	Sh.I.			
30	19:07	IV	Tr.E.			
30	19:14	I	Tr.E.			
30	19:57	I	Sh.E.			
30	23:00	IV	Sh.I.			
31	01:30	II	Tr.I.	04: 43	14: 39	
31	02:01	IV	Sh.E.			
31	02:57	II	Sh.I.			
31	04:18	II	Tr.E.			
31	05:46	II	Sh.E.			

February 2002

D	H M	Sat.	Phe.	GRS (hh: mm)
01	11:26	I	Tr.I.	00: 35 10: 30 20: 26
01	12:11	I	Sh.I.	
01	13:41	I	Tr.E.	
01	14:26	I	Sh.E.	
01	19:37	II	Oc.D.	

Almanacco Astronomico 2002 – Fenomeni dei satelliti di Giove

01	23:55	II	Ec.R.				
02	19:27	III	Ec.R.				
03	05:53	I	Tr.I.	02: 13	12: 08	22: 04	
03	06:39	I	Sh.I.				
03	08:07	I	Tr.E.				
03	08:55	I	Sh.E.				
03	17:28	II	Tr.E.				
03	19:04	II	Sh.E.				
04	03:12	I	Oc.D.	08: 00	17: 55		
04	06:16	I	Ec.R.				
05	00:19	I	Tr.I.	03: 51	13: 47	23: 42	
05	01:08	I	Sh.I.				
05	02:34	I	Tr.E.				
05	03:23	I	Sh.E.				
05	21:39	I	Oc.D.				
06	00:45	I	Ec.R.	09: 38	19: 34		
06	02:54	III	Tr.I.				
06	05:56	III	Tr.E.				
06	06:15	III	Sh.I.				
06	18:46	I	Tr.I.				
06	19:37	I	Sh.I.				
06	21:01	I	Tr.E.				
06	21:52	I	Sh.E.				
07	03:50	II	Tr.I.	05: 29	15: 25		
07	05:34	II	Sh.I.				
07	06:38	II	Tr.E.				
07	19:13	I	Ec.R.				
07	22:08	IV	Oc.D.				
08	00:52	IV	Oc.R.	01: 21	11: 16	21: 12	
08	06:14	IV	Ec.D.				
08	21:56	II	Oc.D.				
09	02:32	II	Ec.R.	07: 08	17: 03		
09	19:45	III	Oc.R.				
09	20:19	III	Ec.D.				
09	23:28	III	Ec.R.				
10	07:40	I	Tr.I.	02: 59	12: 55	22: 50	
10	18:52	II	Sh.I.				
10	19:49	II	Tr.E.				
10	21:41	II	Sh.E.				
11	05:00	I	Oc.D.	08: 46	18: 42		
12	02:07	I	Tr.I.	04: 37	14: 33		
12	03:03	I	Sh.I.				
12	04:22	I	Tr.E.				
12	05:19	I	Sh.E.				
12	23:27	I	Oc.D.				
13	02:40	I	Ec.R.	00: 29	10: 25	20: 20	
13	06:24	III	Tr.I.				
13	20:34	I	Tr.I.				
13	21:32	I	Sh.I.				
13	22:49	I	Tr.E.				
13	23:47	I	Sh.E.				
14	06:12	II	Tr.I.	06: 16	16: 12		
14	17:54	I	Oc.D.				
14	21:09	I	Ec.R.				
15	17:16	I	Tr.E.				
15	18:16	I	Sh.E.				
16	00:19	II	Oc.D.	07: 54	17: 50		
16	05:09	II	Ec.R.				
16	07:43	IV	Tr.I.				
16	20:13	III	Oc.D.				
16	20:13	IV	Sh.E.				
16	23:17	III	Oc.R.				
17	00:19	III	Ec.D.	03: 46	13: 41	23: 37	
17	03:29	III	Ec.R.				
17	19:25	II	Tr.I.				
17	21:29	II	Sh.I.				
17	22:12	II	Tr.E.				
18	00:17	II	Sh.E.	09: 33	19: 28		
18	06:48	I	Oc.D.				
19	03:55	I	Tr.I.	05: 24	15: 20		
19	04:58	I	Sh.I.				
19	06:10	I	Tr.E.				
19	07:14	I	Sh.E.				
19	18:27	II	Ec.R.				
20	01:15	I	Oc.D.	01: 16	11: 11	21: 07	
20	04:35	I	Ec.R.				
20	09:59	III	Tr.I.				
20	22:23	I	Tr.I.				
20	23:27	I	Sh.I.				
21	00:38	I	Tr.E.	07: 03	16: 58		
21	01:43	I	Sh.E.				
21	19:43	I	Oc.D.				
21	23:04	I	Ec.R.				
22	17:56	I	Sh.I.				
22	19:05	I	Tr.E.				
22	20:11	I	Sh.E.				
23	02:43	II	Oc.D.	08: 41	18: 37		
23	07:45	II	Ec.R.				
23	23:49	III	Oc.D.				
24	02:54	III	Oc.R.	04: 33	14: 28		
24	04:18	III	Ec.D.				
24	07:29	III	Ec.R.				
24	21:50	II	Tr.I.				
25	00:05	II	Sh.I.	00: 24	10: 20	20: 16	
25	00:17	IV	Ec.D.				

25	00:38	II	Tr.E.			
25	02:54	II	Sh.E.			
25	03:36	IV	Ec.R.			
26	05:45	I	Tr.I.	06: 11	16: 07	
26	06:53	I	Sh.I.			
26	21:04	II	Ec.R.			
27	03:05	I	Oc.D.	02: 03	11: 58	21: 54
27	06:30	I	Ec.R.			
27	18:16	III	Sh.I.			
27	21:26	III	Sh.E.			
28	00:13	I	Tr.I.	07: 50	17: 46	
28	01:22	I	Sh.I.			
28	02:28	I	Tr.E.			
28	03:38	I	Sh.E.			
28	21:33	I	Oc.D.			

March 2002

D	H M	Sat.	Phe.	GRS (hh: mm)		
01	00:59	I	Ec.R.	03: 41	13: 37	23: 33
01	18:40	I	Tr.I.			
01	19:51	I	Sh.I.			
01	20:56	I	Tr.E.			
01	22:07	I	Sh.E.			
02	05:10	II	Oc.D.	09: 28	19: 24	
02	19:28	I	Ec.R.			
03	03:31	III	Oc.D.	05: 20	15: 16	
03	06:36	III	Oc.R.			
04	00:18	II	Tr.I.	01: 11	11: 07	21: 03
04	02:42	II	Sh.I.			
04	03:06	II	Tr.E.			
04	05:30	II	Sh.E.			
04	23:56	IV	Tr.I.			
05	02:45	IV	Tr.E.	06: 59	16: 54	
05	07:36	I	Tr.I.			
05	18:25	II	Oc.D.			
05	23:41	II	Ec.R.			
06	04:57	I	Oc.D.	02: 50	12: 46	22: 42
06	20:27	III	Tr.E.			
06	22:16	III	Sh.I.			
07	01:27	III	Sh.E.	08: 37	18: 33	
07	02:04	I	Tr.I.			
07	03:17	I	Sh.I.			
07	04:19	I	Tr.E.			
07	05:33	I	Sh.E.			
07	18:48	II	Sh.E.			
07	23:25	I	Oc.D.			
08	02:54	I	Ec.R.	04: 29	14: 25	
08	20:32	I	Tr.I.			
08	21:46	I	Sh.I.			
08	22:47	I	Tr.E.			
09	00:02	I	Sh.E.	00: 20	10: 16	20: 12
09	07:40	II	Oc.D.			
09	21:23	I	Ec.R.			
10	07:18	III	Oc.D.	06: 08	16: 03	
10	18:31	I	Sh.E.			
11	02:48	II	Tr.I.	01: 59	11: 55	21: 51
11	05:18	II	Sh.I.			
11	05:36	II	Tr.E.			
12	20:56	II	Oc.D.			
13	02:18	II	Ec.R.	03: 38	13: 34	23: 29
13	06:34	IV	Oc.D.			
13	06:49	I	Oc.D.			
13	21:12	III	Tr.I.			
13	21:48	IV	Ec.R.			
14	00:16	III	Tr.E.	09: 25	19: 21	
14	02:16	III	Sh.I.			
14	03:57	I	Tr.I.			
14	05:13	I	Sh.I.			
14	05:27	III	Sh.E.			
14	06:12	I	Tr.E.			
14	18:36	II	Sh.I.			
14	18:52	II	Tr.E.			
14	21:24	II	Sh.E.			
15	01:17	I	Oc.D.	05: 17	15: 12	
15	04:49	I	Ec.R.			
15	22:25	I	Tr.I.			
15	23:42	I	Sh.I.			
16	00:40	I	Tr.E.	01: 08	11: 04	21: 00
16	01:58	I	Sh.E.			
16	19:46	I	Oc.D.			
16	23:18	I	Ec.R.			
17	18:10	I	Sh.I.			
17	19:09	I	Tr.E.			
17	19:32	III	Ec.R.			
17	20:27	I	Sh.E.			
18	05:20	II	Tr.I.	02: 47	12: 43	22: 39
18	17:47	I	Ec.R.			
19	23:29	II	Oc.D.			
20	04:56	II	Ec.R.	04: 26	14: 22	
21	01:05	III	Tr.I.	00: 17	10: 13	20: 09
21	04:10	III	Tr.E.			
21	05:51	I	Tr.I.			
21	06:15	III	Sh.I.			
21	07:08	I	Sh.I.			
21	08:06	I	Tr.E.			

Almanacco Astronomico 2002 – Fenomeni dei satelliti di Giove

21	18:37	II	Tr.I.			
21	20:05	IV	Tr.E.			
21	21:12	II	Sh.I.			
21	21:25	II	Tr.E.			
22	00:01	II	Sh.E.	06: 05	16: 00	
22	03:11	I	Oc.D.			
22	05:06	IV	Sh.I.			
22	06:45	I	Ec.R.			
23	00:19	I	Tr.I.	01: 56	11: 52	21: 48
23	01:37	I	Sh.I.			
23	02:35	I	Tr.E.			
23	03:53	I	Sh.E.			
23	18:15	II	Ec.R.			
23	21:40	I	Oc.D.			
24	01:13	I	Ec.R.	07: 44	17: 39	
24	18:13	III	Oc.R.			
24	18:48	I	Tr.I.			
24	20:06	I	Sh.I.			
24	20:20	III	Ec.D.			
24	21:03	I	Tr.E.			
24	22:22	I	Sh.E.			
24	23:34	III	Ec.R.			
25	07:55	II	Tr.I.	03: 35	13: 31	23: 27
25	19:42	I	Ec.R.			
27	02:05	II	Oc.D.	05: 14	15: 10	
27	07:34	II	Ec.R.			
27	10:37	I	Oc.D.			
27	14:11	I	Ec.R.			
28	05:02	III	Tr.I.	01: 06	11: 01	20: 57
28	07:45	I	Tr.I.			
28	21:13	II	Tr.I.			
28	23:48	II	Sh.I.			
29	00:00	II	Tr.E.	06: 53	16: 49	
29	02:37	II	Sh.E.			
29	05:06	I	Oc.D.			
29	08:40	I	Ec.R.			
30	00:16	IV	Oc.D.	02: 45	12: 40	22: 36
30	02:14	I	Tr.I.			
30	03:18	IV	Oc.R.			
30	03:32	I	Sh.I.			
30	04:30	I	Tr.E.			
30	05:49	I	Sh.E.			
30	20:53	II	Ec.R.			
30	23:35	I	Oc.D.			
31	03:09	I	Ec.R.	08: 32	18: 28	
31	19:06	III	Oc.D.			
31	20:43	I	Tr.I.			
31	22:01	I	Sh.I.			
31	22:13	III	Oc.R.			
31	22:59	I	Tr.E.			

April 2002

D	H M	Sat.	Phe.	GRS (hh: mm)		
01	00:18	I	Sh.E.	04: 24	14: 19	
01	00:19	III	Ec.D.			
01	03:35	III	Ec.R.			
01	18:04	I	Oc.D.			
01	21:37	I	Ec.R.			
02	15:12	I	Tr.I.	00: 15	10: 11	20: 07
02	18:47	I	Sh.E.			
03	04:43	II	Oc.D.	06: 03	15: 58	
04	23:50	II	Tr.I.			
05	02:24	II	Sh.I.	07: 42	17: 37	
05	02:38	II	Tr.E.			
05	05:12	II	Sh.E.			
05	07:02	I	Oc.D.			
06	04:10	I	Tr.I.	03: 33	13: 29	23: 25
06	05:28	I	Sh.I.			
06	06:26	I	Tr.E.			
06	07:44	I	Sh.E.			
06	18:03	II	Oc.D.			
06	23:31	II	Ec.R.			
07	01:31	I	Oc.D.	09: 21	19: 16	
07	05:04	I	Ec.R.			
07	22:40	I	Tr.I.			
07	23:08	IV	Sh.I.			
07	23:09	III	Oc.D.			
07	23:57	I	Sh.I.			
08	00:55	I	Tr.E.	05: 12	15: 08	
08	02:13	I	Sh.E.			
08	02:18	III	Oc.R.			
08	02:47	IV	Sh.E.			
08	04:19	III	Ec.D.			
08	18:30	II	Sh.E.			
08	20:00	I	Oc.D.			
08	23:32	I	Ec.R.			
09	18:26	I	Sh.I.			
09	19:25	I	Tr.E.			
09	20:42	I	Sh.E.			
10	18:01	I	Ec.R.			
11	11:38	I	Tr.I.	02: 43	12: 39	22: 35
11	12:55	I	Sh.I.			
11	18:16	III	Sh.I.			
11	21:31	III	Sh.E.			
12	02:29	II	Tr.I.	08: 30	18: 26	

12	04:59	II	Sh.I.			
12	05:16	II	Tr.E.			
12	07:48	II	Sh.E.			
13	06:07	I	Tr.I.	04: 22	14: 18	
13	07:23	I	Sh.I.			
13	20:44	II	Oc.D.			
14	02:09	II	Ec.R.	00: 14	10: 09	20: 05
14	03:28	I	Oc.D.			
14	06:59	I	Ec.R.			
15	00:37	I	Tr.I.	06: 01	15: 57	
15	01:52	I	Sh.I.			
15	02:53	I	Tr.E.			
15	03:16	III	Oc.D.			
15	04:09	I	Sh.E.			
15	06:26	III	Oc.R.			

October 2002

D	H M	Sat.	Phe.	GRS (hh: mm)
16	00:26	II	Oc.R.	08: 58 18: 54
16	03:31	I	Sh.I.	
16	04:42	I	Tr.I.	
16	05:48	I	Sh.E.	
17	00:39	I	Ec.D.	04: 49 14: 45
17	04:09	I	Oc.R.	
17	18:39	II	Tr.E.	
17	21:59	I	Sh.I.	
17	23:11	I	Tr.I.	
18	00:11	IV	Oc.D.	00: 41 10: 37 20: 32
18	00:16	I	Sh.E.	
18	01:29	I	Tr.E.	
18	05:03	IV	Oc.R.	
18	19:07	I	Ec.D.	
18	19:25	III	Ec.R.	
18	20:44	III	Oc.D.	
18	22:38	I	Oc.R.	
19	00:22	III	Oc.R.	06: 28 16: 24
19	17:40	I	Tr.I.	
19	18:45	I	Sh.E.	
19	19:58	I	Tr.E.	
21	02:37	II	Sh.I.	08: 07 18: 02
21	05:06	II	Tr.I.	
21	05:31	II	Sh.E.	
22	05:51	III	Sh.I.	03: 58 13: 54 23: 49
22	08:04	I	Ec.D.	
22	21:45	II	Ec.D.	
23	03:04	II	Oc.R.	09: 45 19: 41
23	05:24	I	Sh.I.	
23	06:38	I	Tr.I.	
24	02:32	I	Ec.D.	05: 37 15: 32
24	06:05	I	Oc.R.	
24	18:25	II	Tr.I.	
24	18:48	II	Sh.E.	
24	21:20	II	Tr.E.	
24	23:52	I	Sh.I.	
25	01:06	I	Tr.I.	01: 28 11: 24 21: 19
25	02:10	I	Sh.E.	
25	03:24	I	Tr.E.	
25	19:49	III	Ec.D.	
25	21:00	I	Ec.D.	
25	23:12	IV	Sh.I.	
25	23:23	III	Ec.R.	
26	00:34	I	Oc.R.	07: 15 17: 11
26	00:51	III	Oc.D.	
26	03:51	IV	Sh.E.	
26	04:29	III	Oc.R.	
26	18:21	I	Sh.I.	
26	19:35	I	Tr.I.	
26	20:38	I	Sh.E.	
26	21:53	I	Tr.E.	
27	19:02	I	Oc.R.	
28	05:13	II	Sh.I.	08: 54 18: 49
29	18:29	III	Tr.E.	
30	00:18	II	Ec.D.	00: 36 10: 32 20: 28
30	05:41	II	Oc.R.	
30	07:17	I	Sh.I.	
31	04:26	I	Ec.D.	06: 23 16: 19
31	18:30	II	Sh.I.	
31	21:04	II	Tr.I.	
31	21:24	II	Sh.E.	
31	23:58	II	Tr.E.	

November 2002

D	H M	Sat.	Phe.	GRS (hh: mm)
01	01:46	I	Sh.I.	02: 15 12: 11 22: 06
01	03:01	I	Tr.I.	
01	04:03	I	Sh.E.	
01	05:19	I	Tr.E.	
01	22:54	I	Ec.D.	
01	23:47	III	Ec.D.	
02	02:29	I	Oc.R.	08: 02 17: 58
02	03:21	III	Ec.R.	
02	04:54	III	Oc.D.	
02	18:59	II	Oc.R.	
02	20:14	I	Sh.I.	

Almanacco Astronomico 2002 – Fenomeni dei satelliti di Giove

02	21:30	I	Tr.I.			
02	22:31	I	Sh.E.			
02	23:47	I	Tr.E.			
03	06:45	IV	Ec.D.	03: 53	13: 49	23: 45
03	18:50	IV	Oc.D.			
03	20:57	I	Oc.R.			
04	17:00	I	Sh.E.			
04	18:15	I	Tr.E.			
05	17:21	III	Sh.E.			
05	18:54	III	Tr.I.			
05	22:31	III	Tr.E.			
06	02:52	II	Ec.D.	01: 23	11: 19	21: 14
07	06:19	I	Ec.D.	07: 10	17: 06	
07	21:05	II	Sh.I.			
07	23:41	II	Tr.I.			
07	23:59	II	Sh.E.			
08	02:35	II	Tr.E.	03: 01	12: 57	22: 53
08	03:39	I	Sh.I.			
08	04:55	I	Tr.I.			
08	05:56	I	Sh.E.			
09	00:47	I	Ec.D.	08: 49	18: 44	
09	03:45	III	Ec.D.			
09	04:23	I	Oc.R.			
09	07:20	III	Ec.R.			
09	08:54	III	Oc.D.			
09	21:33	II	Oc.R.			
09	22:07	I	Sh.I.			
09	23:23	I	Tr.I.			
10	00:24	I	Sh.E.	04: 40	14: 36	
10	01:40	I	Tr.E.			
10	19:16	I	Ec.D.			
10	22:51	I	Oc.R.			
11	17:51	I	Tr.I.			
11	18:53	I	Sh.E.			
11	20:09	I	Tr.E.			
11	21:51	IV	Sh.E.			
12	05:01	IV	Tr.I.	06: 18	16: 14	
12	21:19	III	Sh.E.			
12	22:50	III	Tr.I.			
13	02:28	III	Tr.E.	02: 10	12: 05	22: 01
13	05:26	II	Ec.D.			
14	23:41	II	Sh.I.			
15	02:15	II	Tr.I.	03: 48	13: 44	23: 39
15	02:35	II	Sh.E.			
15	05:10	II	Tr.E.			
15	05:32	I	Sh.I.			
15	06:47	I	Tr.I.			
16	02:41	I	Ec.D.	09: 35	19: 31	
16	06:16	I	Oc.R.			
16	18:43	II	Ec.D.			
17	00:00	I	Sh.I.	05: 26	15: 22	
17	00:05	II	Oc.R.			
17	01:15	I	Tr.I.			
17	02:17	I	Sh.E.			
17	03:33	I	Tr.E.			
17	21:09	I	Ec.D.			
18	00:44	I	Oc.R.	01: 18	11: 13	21: 09
18	18:27	II	Tr.E.			
18	18:28	I	Sh.I.			
18	19:43	I	Tr.I.			
18	20:46	I	Sh.E.			
18	22:01	I	Tr.E.			
19	19:12	I	Oc.R.			
19	21:42	III	Sh.I.			
20	00:44	IV	Ec.D.	02: 56	12: 51	22: 47
20	01:16	III	Sh.E.			
20	02:43	III	Tr.I.			
20	05:31	IV	Ec.R.			
20	06:20	III	Tr.E.			
20	17:31	IV	Oc.R.			
21	10:06	I	Ec.D.	08: 43	18: 38	
21	13:40	I	Oc.R.			
22	02:16	II	Sh.I.	04: 34	14: 30	
22	04:48	II	Tr.I.			
22	05:11	II	Sh.E.			
22	07:25	I	Sh.I.			
23	04:35	I	Ec.D.	00: 25	10: 21	20: 17
23	08:08	I	Oc.R.			
23	11:42	III	Ec.D.			
23	15:17	III	Ec.R.			
23	20:20	III	Oc.R.			
23	21:16	II	Ec.D.			
24	01:53	I	Sh.I.	06: 12	16: 08	
24	02:34	II	Oc.R.			
24	03:07	I	Tr.I.			
24	04:11	I	Sh.E.			
24	05:24	I	Tr.E.			
24	23:03	I	Ec.D.			
25	02:35	I	Oc.R.	02: 04	11: 59	21: 55
25	18:04	II	Tr.I.			
25	18:29	II	Sh.E.			
25	20:22	I	Sh.I.			
25	20:59	II	Tr.E.			
25	21:34	I	Tr.I.			

25	22:39	I	Sh.E.				
25	23:52	I	Tr.E.				
26	21:03	I	Oc.R.				
27	01:40	III	Sh.I.	03: 42	13: 38	23: 33	
27	05:14	III	Sh.E.				
27	06:31	III	Tr.I.				
27	18:19	I	Tr.E.				
28	11:08	IV	Sh.I.	09: 29	19: 24		
28	12:00	I	Ec.D.				
28	15:31	I	Oc.R.				
28	15:52	IV	Sh.E.				
28	22:20	IV	Tr.I.				
29	03:08	IV	Tr.E.	05: 20	15: 16		
29	04:52	II	Sh.I.				
30	06:28	I	Ec.D.	01: 11	11: 07	21: 03	
30	09:59	I	Oc.R.				
30	15:40	III	Ec.D.				
30	19:16	III	Ec.R.				
30	20:28	III	Oc.D.				
30	23:49	II	Ec.D.				

December 2002

D	H M	Sat.	Phe.	GRS (hh: mm)			
01	00:07	III	Oc.R.	06: 58	16: 54		
01	03:46	I	Sh.I.				
01	04:57	I	Tr.I.				
01	05:02	II	Oc.R.				
01	06:04	I	Sh.E.				
02	00:57	I	Ec.D.	02: 50	12: 45	22: 41	
02	04:26	I	Oc.R.				
02	18:10	II	Sh.I.				
02	20:33	II	Tr.I.				
02	21:05	II	Sh.E.				
02	22:15	I	Sh.I.				
02	23:24	I	Tr.I.				
02	23:28	II	Tr.E.				
03	00:32	I	Sh.E.	08: 36	18: 32		
03	01:42	I	Tr.E.				
03	19:25	I	Ec.D.				
03	22:54	I	Oc.R.				
04	05:37	III	Sh.I.	04: 28	14: 23		
04	09:12	III	Sh.E.				
04	17:51	I	Tr.I.				
04	18:15	II	Oc.R.				
04	19:00	I	Sh.E.				
04	20:09	I	Tr.E.				
05	17:21	I	Oc.R.				
06	18:44	IV	Ec.D.				
06	23:32	IV	Ec.R.				
07	05:28	IV	Oc.D.	01: 57	11: 53	21: 48	
07	19:38	III	Ec.D.				
07	23:15	III	Ec.R.				
08	00:09	III	Oc.D.	07: 44	17: 40		
08	02:23	II	Ec.D.				
08	03:49	III	Oc.R.				
08	05:40	I	Sh.I.				
08	06:46	I	Tr.I.				
08	07:27	II	Oc.R.				
08	07:57	I	Sh.E.				
09	02:50	I	Ec.D.	03: 35	13: 31	23: 26	
09	06:16	I	Oc.R.				
09	20:46	II	Sh.I.				
09	23:01	II	Tr.I.				
09	23:41	II	Sh.E.				
10	00:08	I	Sh.I.	09: 22	19: 18		
10	01:13	I	Tr.I.				
10	01:55	II	Tr.E.				
10	02:25	I	Sh.E.				
10	03:30	I	Tr.E.				
10	21:19	I	Ec.D.				
11	00:43	I	Oc.R.	05: 13	15: 09		
11	17:32	III	Tr.E.				
11	18:36	I	Sh.I.				
11	19:40	I	Tr.I.				
11	20:39	II	Oc.R.				
11	20:53	I	Sh.E.				
11	21:57	I	Tr.E.				
12	19:10	I	Oc.R.				
14	23:36	III	Ec.D.				
15	03:13	III	Ec.R.	08: 29	18: 25		
15	03:46	III	Oc.D.				
15	04:56	II	Ec.D.				
15	05:06	IV	Sh.I.				
15	07:25	III	Oc.R.				
15	07:33	I	Sh.I.				
15	19:27	IV	Tr.E.				
16	04:44	I	Ec.D.	04: 21	14: 16		
16	23:22	II	Sh.I.				
17	01:26	II	Tr.I.	00: 12	10: 07	20: 03	
17	02:01	I	Sh.I.				
17	02:17	II	Sh.E.				
17	03:01	I	Tr.I.				
17	04:18	I	Sh.E.				
17	04:20	II	Tr.E.				
17	05:18	I	Tr.E.				

Almanacco Astronomico 2002 – Fenomeni dei satelliti di Giove

17	23:13	I	Ec.D.				
18	02:31	I	Oc.R.	05: 59	15: 54		
18	17:29	III	Tr.I.				
18	18:12	II	Ec.D.				
18	20:29	I	Sh.I.				
18	21:07	III	Tr.E.				
18	21:27	I	Tr.I.				
18	22:47	I	Sh.E.				
18	23:00	II	Oc.R.				
18	23:45	I	Tr.E.				
19	17:41	I	Ec.D.	01: 50	11: 45	21: 41	
19	20:58	I	Oc.R.				
20	17:31	II	Tr.E.				
20	18:11	I	Tr.E.				
22	03:34	III	Ec.D.	09: 15	19: 10		
22	07:11	III	Ec.R.				
22	07:18	III	Oc.D.				
22	07:29	II	Ec.D.				
23	06:38	I	Ec.D.	05: 06	15: 01		
23	09:51	I	Oc.R.				
23	17:34	IV	Ec.R.				
23	21:18	IV	Oc.D.				
24	01:59	II	Sh.I.	00: 57	10: 53	20: 48	
24	02:10	IV	Oc.R.				
24	03:48	II	Tr.I.				
24	03:54	I	Sh.I.				
24	04:47	I	Tr.I.				
24	04:53	II	Sh.E.				
24	06:11	I	Sh.E.				
24	06:43	II	Tr.E.				
24	07:05	I	Tr.E.				
25	01:06	I	Ec.D.	06: 44	16: 39		
25	04:18	I	Oc.R.				
25	17:32	III	Sh.I.				
25	20:46	II	Ec.D.				
25	21:00	III	Tr.I.				
25	21:08	III	Sh.E.				
25	22:23	I	Sh.I.				
25	23:14	I	Tr.I.				
26	00:37	III	Tr.E.	02: 35	12: 31	22: 26	
26	00:40	I	Sh.E.				
26	01:20	II	Oc.R.				
26	01:31	I	Tr.E.				
26	19:35	I	Ec.D.				
26	22:45	I	Oc.R.				
27	17:40	I	Tr.I.				
27	18:11	II	Sh.E.				
27	19:08	I	Sh.E.				
27	19:53	II	Tr.E.				
27	19:57	I	Tr.E.				
28	14:03	I	Ec.D.	04: 13	14: 09		
28	17:11	I	Oc.R.				
29	07:32	III	Ec.D.	00: 04	10: 00	19: 55	
31	04:35	II	Sh.I.	01: 42	11: 38	21: 33	
31	05:48	I	Sh.I.				
31	06:09	II	Tr.I.				
31	06:33	I	Tr.I.				
31	07:30	II	Sh.E.				
31	08:05	I	Sh.E.				
31	23:04	IV	Sh.I.				

Effemeridi degli asteroidi

In questa sezione riportiamo le effemeridi di alcuni asteroidi la cui luminosità scenderà nel corso del 2002 sotto la magnitudine 12, risultando quindi facilmente rintracciabili e fotografabili anche con mezzi amatoriali. Sugeriamo di provare l'osservazione in più giorni consecutivi e di riportare la posizione su di una carta del cielo, in modo da poter evidenziare lo spostamento degli oggetti rispetto alle stelle.

Data : giorno a cui fa riferimento l'effemeride (calcolate per le 00:00 T.U.)

Sorge, Transita, Tramonta : istanti del sorgere, transito e tramonto del pianetino

Asc. retta, Dec. : coordinate dell'asteroide

El° : elongazione dal Sole

Magn : magnitudine del pianetino

Dist u.a. : distanza dalla Terra (in unità astronomiche)

A.F.° : angolo di fase (in gradi)

1 Ceres: opposizione 5 ottobre 2002, max avvicinamento 5 ottobre 2002 (1,9554 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 ago 2002	22:08:10	03:56:52	09:42:03	01h 25m 03.0s	-04° 44' 02"	110.2	8.6	2.4521	18.8
11 ago 2002	21:32:38	03:20:05	09:03:49	01h 27m 37.3s	-05° 06' 42"	119.0	8.5	2.3295	17.5
21 ago 2002	20:55:41	02:41:09	08:22:44	01h 28m 02.3s	-05° 41' 18"	128.2	8.3	2.2180	15.6
31 ago 2002	20:17:04	01:59:58	07:38:48	01h 26m 11.3s	-06° 26' 01"	137.9	8.1	2.1214	13.3
10 set 2002	19:36:38	01:16:33	06:52:11	01h 22m 04.2s	-07° 17' 50"	147.7	7.9	2.0438	10.5
20 set 2002	18:54:21	00:31:07	06:03:26	01h 15m 55.5s	-08° 11' 55"	157.1	7.7	1.9891	7.6
30 set 2002	18:10:22	23:39:25	05:13:23	01h 08m 15.4s	-09° 02' 22"	164.0	7.6	1.9601	5.4
10 ott 2002	17:25:03	22:51:40	04:23:10	00h 59m 47.3s	-09° 43' 07"	163.8	7.6	1.9587	5.5
20 ott 2002	16:38:58	22:04:05	03:33:59	00h 51m 25.4s	-10° 08' 46"	156.6	7.7	1.9852	7.8
30 ott 2002	15:52:46	21:17:32	02:46:53	00h 44m 01.1s	-10° 16' 11"	146.9	7.9	2.0378	10.7
09 nov 2002	15:07:02	20:32:40	02:02:36	00h 38m 15.8s	-10° 04' 22"	136.7	8.1	2.1138	13.5
19 nov 2002	14:22:19	19:49:55	01:21:33	00h 34m 37.1s	-09° 34' 12"	126.7	8.3	2.2093	15.8
29 nov 2002	13:38:53	19:09:26	00:43:44	00h 33m 15.5s	-08° 47' 54"	117.0	8.4	2.3200	17.6
09 dic 2002	12:56:54	18:31:11	00:08:59	00h 34m 10.2s	-07° 47' 58"	107.7	8.6	2.4419	18.9

2 Pallas: opposizione 14 agosto 2002, max avvicinamento 15 agosto 2002 (2,4819 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
10 giu 2002	20:17:13	03:21:11	10:21:06	21h 24m 19.9s	+15° 30' 48"	107.3	10.1	2.9667	16.5
20 giu 2002	19:34:33	02:40:44	09:42:42	21h 23m 12.1s	+16° 02' 58"	115.3	10.0	2.8471	15.6
30 giu 2002	18:51:08	01:58:25	09:01:22	21h 20m 12.8s	+16° 18' 58"	123.5	9.8	2.7376	14.4
10 lug 2002	18:07:19	01:14:22	08:16:58	21h 15m 27.7s	+16° 15' 18"	131.6	9.7	2.6422	12.9
20 lug 2002	17:23:36	00:28:50	07:29:34	21h 09m 12.6s	+15° 48' 48"	139.3	9.6	2.5648	11.2
30 lug 2002	16:40:28	23:37:34	06:39:32	21h 01m 54.5s	+14° 57' 54"	145.8	9.5	2.5090	9.7
09 ago 2002	15:58:25	22:50:30	05:47:33	20h 54m 08.0s	+13° 42' 58"	149.9	9.4	2.4778	8.6
19 ago 2002	15:17:53	22:03:44	04:54:31	20h 46m 34.2s	+12° 06' 45"	150.1	9.4	2.4732	8.6
29 ago 2002	14:39:07	21:17:53	04:01:30	20h 39m 53.1s	+10° 14' 35"	146.4	9.4	2.4955	9.5
08 set 2002	14:02:12	20:33:28	03:09:26	20h 34m 37.0s	+08° 12' 59"	139.9	9.5	2.5440	11.1
18 set 2002	13:27:08	19:50:53	02:19:09	20h 31m 10.1s	+06° 08' 51"	131.9	9.7	2.6164	12.8
28 set 2002	12:53:45	19:10:19	01:31:10	20h 29m 43.9s	+04° 08' 27"	123.2	9.8	2.7094	14.4
08 ott 2002	12:21:49	18:31:46	00:45:47	20h 30m 21.0s	+02° 16' 24"	114.3	9.9	2.8191	15.7

Almanacco Astronomico 2002 – Effemeridi degli asteroidi

18 ott 2002 11:51:08 17:55:12 00:03:06 20h 32m 57.6s +00° 36' 00" 105.5 10.0 2.9414 16.7

3 Juno: opposizione 5 febbraio 2002, max avvicinamento 1 febbraio 2002 (1,4273 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 gen 2002	20:11:45	02:17:32	08:19:08	09h 49m 42.5s	-00° 06' 45"	129.5	8.9	1.5491	19.2
11 gen 2002	19:27:11	01:34:54	07:38:05	09h 46m 24.3s	+00° 20' 11"	140.2	8.7	1.4883	15.7
21 gen 2002	18:38:31	00:49:43	06:56:04	09h 40m 30.4s	+01° 13' 47"	151.3	8.6	1.4466	11.6
31 gen 2002	17:46:41	00:02:42	06:13:41	09h 32m 45.6s	+02° 31' 31"	162.2	8.4	1.4283	7.3
10 feb 2002	16:53:04	23:10:05	05:31:35	09h 24m 11.8s	+04° 07' 05"	169.4	8.3	1.4364	4.3
20 feb 2002	15:59:25	22:22:45	04:50:28	09h 16m 01.4s	+05° 51' 25"	165.1	8.5	1.4725	6.0
02 mar 2002	15:07:22	21:37:00	04:10:49	09h 09m 22.0s	+07° 34' 30"	154.9	8.7	1.5357	9.8
12 mar 2002	14:18:07	20:53:32	03:32:56	09h 04m 58.4s	+09° 08' 18"	144.1	9.0	1.6235	13.5
22 mar 2002	13:32:22	20:12:44	02:56:52	09h 03m 14.6s	+10° 27' 33"	133.7	9.2	1.7323	16.6
01 apr 2002	12:50:18	19:34:36	02:22:27	09h 04m 13.3s	+11° 29' 44"	123.9	9.5	1.8580	19.0
11 apr 2002	12:11:47	18:58:56	01:49:27	09h 07m 42.0s	+12° 14' 29"	114.7	9.7	1.9965	20.6
21 apr 2002	11:36:30	18:25:27	01:17:36	09h 13m 23.7s	+12° 42' 29"	106.2	9.9	2.1444	21.7
01 mag 2002	11:04:01	17:53:47	00:46:37	09h 20m 57.4s	+12° 55' 02"	98.2	10.1	2.2981	22.2
11 mag 2002	10:33:56	17:23:36	00:16:15	09h 30m 02.5s	+12° 53' 39"	90.6	10.3	2.4550	22.3

4 Vesta: opposizione 28 novembre 2001, max avvicinamento 26 novembre 2001 (1,5893 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 gen 2002	13:18:09	20:14:13	03:14:37	03h 49m 42.3s	+14° 35' 28"	137.8	7.1	1.7595	14.9
11 gen 2002	12:33:54	19:31:57	02:34:00	03h 46m 29.2s	+15° 03' 38"	127.1	7.3	1.8585	17.7
21 gen 2002	11:52:05	18:52:39	01:56:55	03h 46m 16.0s	+15° 39' 56"	117.1	7.5	1.9721	19.9
31 gen 2002	11:12:36	18:16:10	01:23:07	03h 48m 53.9s	+16° 22' 49"	107.7	7.7	2.0957	21.4
10 feb 2002	10:35:20	17:42:12	00:52:14	03h 54m 06.1s	+17° 10' 24"	99.0	7.9	2.2254	22.3
20 feb 2002	10:00:04	17:10:30	00:23:51	04h 01m 35.6s	+18° 00' 54"	90.8	8.0	2.3579	22.6
02 mar 2002	09:26:39	16:40:44	23:55:03	04h 11m 04.2s	+18° 52' 26"	83.1	8.1	2.4900	22.5
12 mar 2002	08:54:55	16:12:40	23:30:38	04h 22m 15.2s	+19° 43' 17"	75.9	8.2	2.6197	22.1
22 mar 2002	08:24:45	15:46:03	23:07:33	04h 34m 55.1s	+20° 31' 58"	69.0	8.3	2.7448	21.3
01 apr 2002	07:56:02	15:20:40	22:45:30	04h 48m 50.8s	+21° 17' 04"	62.4	8.3	2.8635	20.2
11 apr 2002	07:28:43	14:56:22	22:24:11	05h 03m 51.3s	+21° 57' 21"	56.1	8.4	2.9749	19.0
21 apr 2002	07:02:42	14:32:58	22:03:23	05h 19m 47.7s	+22° 31' 49"	50.0	8.4	3.0775	17.6
01 mag 2002	06:37:57	14:10:20	21:42:51	05h 36m 30.5s	+22° 59' 32"	44.2	8.4	3.1706	16.0
11 mag 2002	06:14:23	13:48:21	21:22:23	05h 53m 52.3s	+23° 19' 47"	38.5	8.4	3.2535	14.3

6 Hebe: opposizione 3 luglio 2002, max avvicinamento 11 luglio 2002 (1,3967 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 mag 2002	21:55:12	03:36:35	09:14:16	19h 01m 59.6s	-06° 49' 50"	113.5	10.1	1.9639	21.3
11 mag 2002	21:15:59	02:59:37	08:39:19	19h 04m 23.3s	-06° 15' 11"	121.9	9.9	1.8336	19.9
21 mag 2002	20:34:41	02:20:02	08:01:14	19h 04m 09.8s	-05° 49' 00"	130.9	9.7	1.7144	17.9
31 mag 2002	19:51:27	01:37:46	07:19:42	19h 01m 12.8s	-05° 35' 11"	140.2	9.5	1.6099	15.2
10 giu 2002	19:06:34	00:52:51	06:34:33	18h 55m 35.7s	-05° 37' 29"	149.6	9.2	1.5233	12.1
20 giu 2002	18:20:38	00:05:40	05:46:00	18h 47m 41.1s	-05° 59' 04"	158.2	9.0	1.4580	8.9
30 giu 2002	17:34:30	23:12:04	04:54:43	18h 38m 14.9s	-06° 41' 11"	163.5	8.8	1.4165	6.9
10 lug 2002	16:49:07	22:22:53	04:01:47	18h 28m 18.6s	-07° 42' 42"	161.4	8.8	1.4002	7.8
20 lug 2002	16:05:32	21:34:32	03:08:36	18h 19m 06.0s	-09° 00' 12"	153.7	8.9	1.4089	11.0

30 lug 2002	15:24:31	20:48:06	02:16:33	18h 11m 43.9s	-10° 28' 22"	144.2	9.1	1.4406	14.7
09 ago 2002	14:46:31	20:04:20	01:26:43	18h 06m 59.9s	-12° 01' 45"	134.4	9.2	1.4923	18.2
19 ago 2002	14:11:45	19:23:41	00:39:51	18h 05m 23.0s	-13° 35' 31"	124.9	9.4	1.5604	21.2
29 ago 2002	13:40:03	18:46:13	23:52:09	18h 07m 00.0s	-15° 05' 46"	115.9	9.6	1.6409	23.6
08 set 2002	13:11:08	18:11:52	23:12:22	18h 11m 44.6s	-16° 29' 45"	107.6	9.7	1.7302	25.3

7 Iris: opposizione 28 agosto 2002, max avvicinamento 6 settembre 2002 (1,0861 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
20 giu 2002	21:51:09	03:45:20	09:35:56	22h 27m 51.8s	-03° 18' 06"	110.9	9.6	1.7077	24.6
30 giu 2002	21:12:14	03:10:43	09:05:25	22h 32m 37.0s	-02° 08' 05"	118.8	9.4	1.5775	23.3
10 lug 2002	20:31:34	02:33:41	08:31:49	22h 34m 57.0s	-01° 08' 56"	127.3	9.1	1.4567	21.3
20 lug 2002	19:49:02	01:53:58	07:54:40	22h 34m 33.9s	-00° 24' 01"	136.4	8.8	1.3481	18.6
30 lug 2002	19:04:44	01:11:25	07:13:39	22h 31m 20.2s	+00° 03' 35"	146.1	8.5	1.2547	15.1
09 ago 2002	18:18:55	00:26:09	06:28:44	22h 25m 21.3s	+00° 11' 09"	156.2	8.2	1.1795	11.0
19 ago 2002	17:32:13	23:33:51	05:40:23	22h 17m 09.4s	-00° 02' 23"	165.7	7.9	1.1256	6.8
29 ago 2002	16:45:32	22:45:10	04:49:47	22h 07m 46.3s	-00° 34' 47"	169.6	7.7	1.0947	5.0
08 set 2002	15:59:53	21:56:45	03:58:33	21h 58m 32.2s	-01° 20' 56"	162.7	7.9	1.0876	8.3
18 set 2002	15:16:14	21:10:03	03:08:35	21h 50m 54.3s	-02° 13' 01"	152.4	8.1	1.1032	13.1
28 set 2002	14:35:11	20:26:09	02:21:30	21h 46m 01.1s	-03° 02' 38"	141.9	8.3	1.1388	17.8
08 ott 2002	13:56:58	19:45:39	01:38:19	21h 44m 31.2s	-03° 43' 07"	131.9	8.4	1.1913	21.8
18 ott 2002	13:21:29	19:08:43	00:59:33	21h 46m 38.1s	-04° 09' 34"	122.6	8.7	1.2568	25.1
28 ott 2002	12:48:24	18:35:11	00:25:10	21h 52m 10.8s	-04° 19' 28"	114.1	8.8	1.3320	27.6

8 Flora: opposizione 24 febbraio 2002, max avvicinamento 18 febbraio 2002 (1,3368 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 gen 2002	20:48:54	03:32:07	10:11:39	11h 04m 26.3s	+10° 16' 01"	117.0	10.2	1.6072	23.1
11 gen 2002	20:08:55	02:54:27	09:35:56	11h 06m 08.4s	+10° 47' 32"	127.0	10.0	1.5177	20.4
21 gen 2002	19:24:22	02:13:35	08:58:22	11h 04m 36.5s	+11° 40' 23"	137.7	9.8	1.4413	17.0
31 gen 2002	18:35:27	01:29:31	08:18:49	10h 59m 51.9s	+12° 51' 48"	149.2	9.6	1.3829	12.8
10 feb 2002	17:42:55	00:42:39	07:37:20	10h 52m 16.7s	+14° 15' 41"	161.0	9.4	1.3466	8.0
20 feb 2002	16:48:15	23:48:52	06:54:12	10h 42m 41.5s	+15° 42' 41"	171.4	9.2	1.3361	3.7
02 mar 2002	15:53:26	22:59:20	06:09:59	10h 32m 24.5s	+17° 01' 55"	169.4	9.3	1.3532	4.5
12 mar 2002	15:00:27	22:10:37	05:25:26	10h 22m 48.8s	+18° 04' 34"	158.4	9.6	1.3973	8.9
22 mar 2002	14:10:54	21:23:54	04:41:22	10h 15m 08.4s	+18° 45' 30"	147.0	9.8	1.4661	13.3
01 apr 2002	13:25:38	20:39:55	03:58:26	10h 10m 11.2s	+19° 03' 36"	136.2	10.1	1.5558	16.9
11 apr 2002	12:44:49	19:58:54	03:16:59	10h 08m 13.6s	+19° 00' 42"	126.1	10.3	1.6622	19.8
21 apr 2002	12:08:11	19:20:48	02:37:10	10h 09m 12.7s	+18° 39' 31"	116.8	10.6	1.7812	21.9
01 mag 2002	11:35:12	18:45:18	01:58:57	10h 12m 51.4s	+18° 03' 03"	108.1	10.8	1.9090	23.3
11 mag 2002	11:05:17	18:12:01	01:22:08	10h 18m 46.3s	+17° 13' 54"	100.1	10.9	2.0424	24.1

9 Metis: opposizione 12 gennaio 2002, max avvicinamento 9 gennaio 2002 (1,1647 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 nov 2001	20:41:26	04:18:19	11:52:16	07h 50m 06.8s	+23° 23' 05"	103.5	10.2	1.6370	27.3
11 nov 2001	20:10:00	03:48:02	11:22:51	07h 59m 14.8s	+23° 34' 45"	111.5	10.0	1.5318	25.9
21 nov 2001	19:34:41	03:14:47	10:51:18	08h 05m 23.3s	+23° 57' 14"	120.2	9.8	1.4331	23.9
01 dic 2001	18:54:55	02:38:08	10:17:22	08h 08m 06.5s	+24° 32' 32"	129.8	9.6	1.3444	21.0
11 dic 2001	18:10:19	01:57:46	09:40:49	08h 07m 05.4s	+25° 20' 48"	140.2	9.3	1.2691	17.3
21 dic 2001	17:21:01	01:13:36	09:01:25	08h 02m 14.5s	+26° 19' 24"	151.4	9.1	1.2114	12.8
31 dic 2001	16:27:59	00:26:08	08:19:11	07h 54m 02.2s	+27° 22' 11"	162.9	8.8	1.1754	7.8

Almanacco Astronomico 2002 – Effemeridi degli asteroidi

10 gen 2002	15:33:04	23:31:21	07:34:32	07h 43m 33.5s	+28° 20' 52"	172.3	8.6	1.1640	3.5
20 gen 2002	14:38:36	22:41:02	06:48:22	07h 32m 26.7s	+29° 07' 27"	168.0	8.7	1.1788	5.4
30 gen 2002	13:46:57	21:52:07	06:02:00	07h 22m 34.8s	+29° 37' 17"	156.9	9.0	1.2191	10.3
09 feb 2002	12:59:36	21:05:59	05:16:49	07h 15m 25.8s	+29° 50' 04"	145.7	9.3	1.2824	14.9
19 feb 2002	12:17:10	20:23:28	04:33:51	07h 11m 52.2s	+29° 48' 15"	135.1	9.6	1.3653	18.7
01 mar 2002	11:39:35	19:44:44	03:53:38	07h 12m 08.9s	+29° 35' 07"	125.2	9.8	1.4639	21.7
11 mar 2002	11:06:19	19:09:31	03:16:10	07h 16m 00.1s	+29° 13' 15"	116.2	10.1	1.5742	23.9

10 Hygiea: opposizione 8 novembre 2002, max avvicinamento 6 novembre 2002 (2,5113 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 set 2002	20:10:47	03:42:36	11:10:38	03h 12m 57.1s	+22° 08' 00"	106.5	11.4	3.0526	16.2
11 set 2002	19:31:37	03:04:33	10:33:33	03h 14m 15.7s	+22° 21' 51"	115.8	11.3	2.9226	15.1
21 set 2002	18:51:01	02:24:29	09:53:50	03h 13m 31.8s	+22° 27' 32"	125.7	11.2	2.8031	13.5
01 ott 2002	18:09:04	01:42:22	09:11:22	03h 10m 43.4s	+22° 24' 15"	136.1	11.0	2.6984	11.5
11 ott 2002	17:25:53	00:58:16	08:26:13	03h 05m 56.1s	+22° 11' 16"	147.0	10.8	2.6132	9.0
21 ott 2002	16:41:49	00:12:33	07:38:43	02h 59m 29.8s	+21° 48' 30"	158.2	10.7	2.5520	6.1
31 ott 2002	15:57:19	23:21:00	06:49:29	02h 51m 55.7s	+21° 16' 51"	169.5	10.5	2.5182	3.0
10 nov 2002	15:12:53	22:33:43	05:59:23	02h 43m 55.0s	+20° 38' 21"	174.8	10.4	2.5142	1.5
20 nov 2002	14:29:00	21:46:50	05:09:25	02h 36m 14.3s	+19° 56' 26"	164.8	10.6	2.5408	4.2
30 nov 2002	13:46:06	21:01:01	04:20:34	02h 29m 35.5s	+19° 15' 04"	153.3	10.8	2.5967	7.2
10 dic 2002	13:04:25	20:16:49	03:33:38	02h 24m 31.0s	+18° 38' 02"	142.0	10.9	2.6792	10.0
20 dic 2002	12:24:06	19:34:32	02:49:10	02h 21m 22.0s	+18° 08' 31"	131.0	11.1	2.7844	12.2
30 dic 2002	11:45:09	18:54:17	02:07:23	02h 20m 15.8s	+17° 48' 22"	120.5	11.3	2.9076	14.0
09 gen 2003	11:07:31	18:16:03	01:28:19	02h 21m 12.1s	+17° 38' 20"	110.5	11.4	3.0442	15.2

13 Egeria: opposizione 14 luglio 2002, max avvicinamento 17 luglio 2002 (1,8341 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 mag 2002	01:24:14	04:46:29	08:08:34	20h 11m 58.0s	-35° 56' 49"	102.7	11.9	2.3694	20.8
11 mag 2002	00:58:48	04:13:42	07:28:23	20h 18m 34.4s	-36° 58' 07"	110.8	11.7	2.2509	19.9
21 mag 2002	00:32:37	03:38:21	06:43:49	20h 22m 36.4s	-38° 10' 02"	119.2	11.6	2.1407	18.5
31 mag 2002	00:05:35	03:00:08	05:54:22	20h 23m 44.6s	-39° 31' 25"	127.8	11.4	2.0423	16.7
10 giu 2002	23:34:36	02:18:44	04:59:41	20h 21m 41.6s	-40° 59' 11"	136.5	11.2	1.9591	14.5
20 giu 2002	23:04:47	01:34:04	03:59:59	20h 16m 20.3s	-42° 27' 38"	144.9	11.1	1.8947	12.1
30 giu 2002	22:32:39	00:46:23	02:56:30	20h 07m 55.7s	-43° 48' 57"	151.9	11.0	1.8520	9.9
10 lug 2002	21:56:57	23:51:14	01:51:44	19h 57m 07.2s	-44° 54' 38"	155.9	10.9	1.8334	8.6
20 lug 2002	21:16:07	22:59:56	00:49:33	19h 45m 05.6s	-45° 37' 23"	155.0	10.9	1.8399	8.8
30 lug 2002	20:29:09	22:09:02	23:48:56	19h 33m 20.6s	-45° 53' 42"	149.8	11.0	1.8712	10.5
09 ago 2002	19:36:51	21:19:56	23:03:05	19h 23m 16.2s	-45° 44' 24"	142.2	11.2	1.9256	12.8
19 ago 2002	18:42:03	20:33:38	22:25:22	19h 15m 58.2s	-45° 13' 37"	133.7	11.3	2.0005	15.2
29 ago 2002	17:47:47	19:50:39	21:53:43	19h 11m 59.7s	-44° 27' 11"	125.1	11.5	2.0925	17.2
08 set 2002	16:55:58	19:11:03	21:26:20	19h 11m 26.1s	-43° 30' 19"	116.6	11.7	2.1983	18.8

14 Irene: opposizione 17 settembre 2002, max avvicinamento 15 settembre 2002 (1,0258 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 lug 2002	23:18:35	04:52:55	10:23:53	00h 18m 58.1s	-08° 39' 48"	98.0	11.8	2.6581	19.8
11 lug 2002	22:44:31	04:18:27	09:48:54	00h 23m 52.8s	-08° 47' 11"	106.3	11.7	2.5321	19.1
21 lug 2002	22:09:25	03:42:07	09:11:11	00h 26m 55.3s	-09° 08' 25"	115.0	11.5	2.4119	17.9
31 lug 2002	21:33:06	03:03:45	08:30:35	00h 27m 54.0s	-09° 43' 28"	124.3	11.4	2.3011	16.3
10 ago 2002	20:55:23	02:23:10	07:46:58	00h 26m 39.3s	-10° 31' 26"	134.0	11.2	2.2035	14.1

20 ago 2002	20:16:05	01:40:21	07:00:26	00h 23m 09.1s	-11° 29' 52"	144.0	11.0	2.1236	11.4
30 ago 2002	19:35:08	00:55:27	06:11:26	00h 17m 33.2s	-12° 34' 32"	154.1	10.9	2.0653	8.5
09 set 2002	18:52:34	00:08:52	05:20:39	00h 10m 14.1s	-13° 39' 48"	162.8	10.7	2.0321	5.7
19 set 2002	18:08:39	23:16:26	04:29:12	00h 01m 51.1s	-14° 38' 58"	166.3	10.6	2.0264	4.5
29 set 2002	17:23:46	22:28:34	03:38:17	23h 53m 14.0s	-15° 25' 52"	161.1	10.7	2.0490	6.2
09 ott 2002	16:38:28	21:41:24	02:49:04	23h 45m 14.3s	-15° 56' 05"	151.7	10.9	2.0990	9.0
19 ott 2002	15:53:22	20:55:41	02:02:29	23h 38m 38.8s	-16° 07' 16"	141.4	11.1	2.1739	11.9
29 ott 2002	15:08:58	20:11:55	01:19:04	23h 33m 59.0s	-15° 59' 34"	131.1	11.3	2.2700	14.4
08 nov 2002	14:25:38	19:30:20	00:38:58	23h 31m 31.2s	-15° 34' 33"	121.2	11.5	2.3834	16.3

15 Eunomia: opposizione 13 settembre 2002, max avvicinamento 17 settembre 2002 (1,2478 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
10 lug 2002	20:54:27	03:26:10	09:54:02	23h 27m 31.3s	+07° 02' 09"	111.9	9.3	1.7468	23.9
20 lug 2002	20:11:31	02:49:42	09:23:51	23h 30m 25.6s	+08° 45' 37"	119.8	9.1	1.6292	22.5
30 lug 2002	19:26:37	02:10:43	08:50:33	23h 30m 47.7s	+10° 18' 42"	128.1	8.9	1.5221	20.4
09 ago 2002	18:39:50	01:29:01	08:13:41	23h 28m 24.6s	+11° 37' 22"	136.9	8.7	1.4284	17.7
19 ago 2002	17:51:32	00:44:35	07:32:56	23h 23m 17.1s	+12° 36' 55"	145.9	8.4	1.3513	14.5
29 ago 2002	17:02:25	23:53:04	06:48:26	23h 15m 48.6s	+13° 13' 18"	154.5	8.2	1.2938	11.2
08 set 2002	16:13:28	23:04:39	06:00:43	23h 06m 45.5s	+13° 23' 52"	160.7	8.1	1.2583	8.6
18 set 2002	15:25:51	22:16:01	05:11:05	22h 57m 20.3s	+13° 09' 28"	161.3	8.0	1.2464	8.3
28 set 2002	14:40:30	21:28:28	04:21:12	22h 48m 54.0s	+12° 35' 22"	155.7	8.1	1.2581	10.8
08 ott 2002	13:58:01	20:43:07	03:32:45	22h 42m 36.1s	+11° 49' 32"	147.1	8.3	1.2921	14.3
18 ott 2002	13:18:36	20:00:45	02:47:06	22h 39m 15.6s	+11° 01' 20"	137.9	8.5	1.3459	17.8
28 ott 2002	12:42:02	19:21:38	02:05:06	22h 39m 11.6s	+10° 18' 53"	128.8	8.7	1.4162	20.8
07 nov 2002	12:07:56	18:45:43	01:27:01	22h 42m 21.7s	+09° 47' 42"	120.1	8.8	1.4997	23.2
17 nov 2002	11:35:52	18:12:45	00:52:50	22h 48m 31.6s	+09° 31' 17"	111.9	9.0	1.5934	25.0

16 Psyche: opposizione 3 marzo 2002, max avvicinamento 28 febbraio 2002 (2,2244 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 gen 2002	21:24:35	03:46:37	10:04:53	11h 18m 59.4s	+04° 31' 05"	111.6	11.4	2.6620	16.8
11 gen 2002	20:45:39	03:08:03	09:26:28	11h 19m 47.1s	+04° 33' 39"	121.6	11.2	2.5410	15.3
21 gen 2002	20:03:45	02:27:23	08:46:47	11h 18m 27.1s	+04° 50' 24"	132.2	11.1	2.4332	13.3
31 gen 2002	19:18:57	01:44:39	08:05:51	11h 15m 01.4s	+05° 20' 54"	143.3	10.9	2.3434	10.6
10 feb 2002	18:31:35	01:00:02	07:23:47	11h 09m 42.1s	+06° 03' 29"	155.0	10.7	2.2763	7.5
20 feb 2002	17:42:17	00:13:57	06:40:48	11h 02m 54.1s	+06° 54' 56"	166.9	10.5	2.2358	4.0
02 mar 2002	16:51:57	23:22:21	05:57:18	10h 55m 16.5s	+07° 50' 32"	178.7	10.3	2.2246	0.4
12 mar 2002	16:01:40	22:35:25	05:13:41	10h 47m 34.5s	+08° 45' 04"	168.7	10.5	2.2436	3.5
22 mar 2002	15:12:30	21:49:14	04:30:25	10h 40m 34.5s	+09° 33' 37"	156.9	10.7	2.2919	6.9
01 apr 2002	14:25:18	21:04:27	03:47:55	10h 34m 56.0s	+10° 12' 21"	145.5	10.9	2.3668	10.1
11 apr 2002	13:40:38	20:21:28	03:06:27	10h 31m 04.3s	+10° 39' 06"	134.6	11.1	2.4644	12.7
21 apr 2002	12:58:45	19:40:29	02:26:11	10h 29m 13.2s	+10° 53' 02"	124.3	11.3	2.5806	14.8
01 mag 2002	12:19:41	19:01:30	01:47:09	10h 29m 24.2s	+10° 54' 19"	114.6	11.5	2.7106	16.3
11 mag 2002	11:43:15	18:24:25	01:09:16	10h 31m 30.4s	+10° 43' 49"	105.5	11.6	2.8501	17.3

20 Massalia: opposizione 10 dicembre 2002, max avvicinamento 11 dicembre 2002 (1,1045 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
08 ott 2002	19:56:08	03:30:08	11:00:57	05h 26m 14.3s	+22° 43' 28"	112.3	10.2	1.5574	25.5

Almanacco Astronomico 2002 – Effemeridi degli asteroidi

18 ott 2002	19:22:48	02:56:56	10:27:36	05h 32m 26.1s	+22° 42' 51"	120.8	9.9	1.4460	23.6
28 ott 2002	18:46:27	02:20:31	09:50:47	05h 35m 23.6s	+22° 39' 06"	130.0	9.7	1.3444	21.0
07 nov 2002	18:06:41	01:40:31	09:10:10	05h 34m 43.6s	+22° 32' 47"	140.2	9.4	1.2560	17.5
17 nov 2002	17:23:27	00:56:50	08:25:43	05h 30m 21.6s	+22° 24' 00"	151.3	9.2	1.1847	13.0
27 nov 2002	16:37:13	00:09:55	07:37:49	05h 22m 42.9s	+22° 12' 27"	163.1	8.9	1.1340	7.9
07 dic 2002	15:49:01	23:15:44	06:47:29	05h 12m 46.7s	+21° 57' 57"	175.5	8.5	1.1071	2.1
17 dic 2002	15:00:23	22:25:54	05:56:25	05h 02m 09.5s	+21° 41' 40"	171.7	8.6	1.1058	3.9
27 dic 2002	14:12:51	21:37:18	05:06:32	04h 52m 38.2s	+21° 26' 11"	159.3	8.9	1.1297	9.6
06 gen 2003	13:27:37	20:51:21	04:19:32	04h 45m 41.0s	+21° 14' 44"	147.5	9.2	1.1767	14.8
16 gen 2003	12:45:25	20:08:57	03:36:32	04h 42m 15.2s	+21° 10' 06"	136.5	9.4	1.2434	19.1
26 gen 2003	12:06:25	19:30:19	02:57:53	04h 42m 38.3s	+21° 13' 13"	126.4	9.6	1.3258	22.5
05 feb 2003	11:30:33	18:55:20	02:23:25	04h 46m 42.7s	+21° 23' 24"	117.3	9.9	1.4202	25.1
15 feb 2003	10:57:37	18:23:39	01:52:41	04h 54m 08.6s	+21° 38' 47"	108.9	10.1	1.5231	26.9

25 Phocaea: opposizione 15 giugno 2002, max avvicinamento 26 giugno 2002 (0,9334 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
21 apr 2002	21:38:35	03:23:57	09:05:33	18h 09m 50.4s	-05° 52' 09"	116.7	11.1	1.3057	27.1
01 mag 2002	20:53:33	02:51:10	08:44:43	18h 16m 27.2s	-02° 32' 33"	123.3	10.9	1.2042	25.6
11 mag 2002	20:04:38	02:15:22	08:21:42	18h 20m 01.4s	+01° 03' 03"	129.8	10.6	1.1166	23.8
21 mag 2002	19:12:02	01:36:18	07:55:52	18h 20m 18.6s	+04° 45' 37"	135.5	10.4	1.0449	21.9
31 mag 2002	18:16:28	00:54:03	07:26:41	18h 17m 22.9s	+08° 21' 58"	140.0	10.2	0.9907	20.2
10 giu 2002	17:19:17	00:09:01	06:53:38	18h 11m 37.9s	+11° 36' 04"	142.5	10.1	0.9546	19.4
20 giu 2002	16:22:30	23:17:20	06:16:34	18h 03m 58.4s	+14° 11' 03"	142.3	10.0	0.9365	19.6
30 giu 2002	15:28:26	22:29:54	05:35:53	17h 55m 46.6s	+15° 54' 48"	139.7	10.0	0.9353	21.0
10 lug 2002	14:39:01	21:43:30	04:52:30	17h 48m 30.1s	+16° 42' 26"	135.5	10.1	0.9492	23.1
20 lug 2002	13:55:31	20:59:29	04:07:48	17h 43m 30.4s	+16° 36' 29"	130.4	10.2	0.9761	25.3
30 lug 2002	13:18:08	20:18:40	03:23:18	17h 41m 41.9s	+15° 45' 58"	125.0	10.4	1.0136	27.5
09 ago 2002	12:46:26	19:41:24	02:40:11	17h 43m 27.5s	+14° 21' 45"	119.6	10.5	1.0600	29.4
19 ago 2002	12:19:40	19:07:44	01:59:20	17h 48m 51.3s	+12° 34' 54"	114.5	10.7	1.1137	31.0
29 ago 2002	11:56:51	18:37:25	01:21:14	17h 57m 38.8s	+10° 35' 39"	109.6	10.8	1.1737	32.2

27 Euterpe: opposizione 11 marzo 2002, max avvicinamento 4 marzo 2002 (1,2059 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 gen 2002	21:53:43	04:11:36	10:26:25	11h 43m 56.2s	+03° 32' 31"	105.4	10.8	1.5895	27.1
11 gen 2002	21:22:19	03:38:43	09:51:45	11h 50m 27.5s	+03° 03' 00"	113.9	10.7	1.4950	25.4
21 gen 2002	20:46:46	03:02:55	09:15:20	11h 54m 02.3s	+02° 53' 07"	123.2	10.5	1.4075	22.9
31 gen 2002	20:06:46	02:23:56	08:36:58	11h 54m 24.4s	+03° 04' 14"	133.4	10.3	1.3310	19.6
10 feb 2002	19:22:15	01:41:40	07:56:34	11h 51m 27.8s	+03° 36' 06"	144.4	10.0	1.2692	15.5
20 feb 2002	18:33:40	00:56:21	07:14:12	11h 45m 26.3s	+04° 26' 01"	156.1	9.8	1.2267	10.6
02 mar 2002	17:42:11	00:08:44	06:30:15	11h 37m 05.3s	+05° 27' 35"	168.3	9.5	1.2071	5.3
12 mar 2002	16:49:29	23:15:04	05:45:21	11h 27m 34.3s	+06° 32' 07"	177.0	9.3	1.2130	1.4
22 mar 2002	15:57:33	22:26:38	05:00:22	11h 18m 18.1s	+07° 30' 06"	166.0	9.7	1.2452	6.2
01 apr 2002	15:08:07	21:39:52	04:16:06	11h 10m 36.5s	+08° 13' 43"	154.3	10.0	1.3023	11.1
11 apr 2002	14:22:17	20:55:35	03:33:08	11h 05m 21.9s	+08° 38' 51"	143.1	10.3	1.3813	15.4
21 apr 2002	13:40:32	20:14:11	02:51:50	11h 03m 00.8s	+08° 44' 16"	132.8	10.6	1.4789	18.8
01 mag 2002	13:02:49	19:35:39	02:12:16	11h 03m 34.2s	+08° 31' 00"	123.3	10.9	1.5909	21.5
11 mag 2002	12:28:42	18:59:43	01:34:20	11h 06m 46.9s	+08° 01' 15"	114.5	11.1	1.7140	23.3

29 Amphitrite: opposizione 22 luglio 2002, max avvicinamento 24 luglio 2002 (1,6282 u.a.)

Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 giu 2002	22:52:02	03:13:28	07:31:07	20h 41m 03.6s	-26° 20' 35"	124.2	10.3	1.9651	18.3
11 giu 2002	22:13:42	02:33:36	06:49:31	20h 40m 32.8s	-26° 41' 12"	133.8	10.1	1.8587	16.0
21 giu 2002	21:33:03	01:50:53	06:04:27	20h 37m 08.5s	-27° 08' 44"	143.9	9.9	1.7685	13.0
01 lug 2002	20:50:00	01:05:25	05:16:19	20h 30m 58.5s	-27° 39' 56"	154.4	9.7	1.6980	9.5
11 lug 2002	20:04:37	00:17:38	04:25:56	20h 22m 27.7s	-28° 10' 16"	164.7	9.5	1.6506	5.8
21 lug 2002	19:17:18	23:23:23	03:34:34	20h 12m 26.2s	-28° 34' 26"	171.5	9.3	1.6289	3.2
31 lug 2002	18:28:47	22:33:47	02:43:45	20h 02m 03.1s	-28° 48' 04"	166.4	9.4	1.6337	5.2
10 ago 2002	17:40:06	21:45:07	01:54:54	19h 52m 31.0s	-28° 48' 58"	156.2	9.6	1.6646	9.0
20 ago 2002	16:52:20	20:58:29	01:09:05	19h 44m 55.9s	-28° 37' 15"	145.6	9.8	1.7193	12.6
30 ago 2002	16:06:20	20:14:32	00:26:50	19h 40m 01.2s	-28° 14' 51"	135.2	10.0	1.7946	15.8
09 set 2002	15:22:39	19:33:33	23:44:34	19h 38m 05.9s	-27° 44' 06"	125.3	10.2	1.8868	18.4
19 set 2002	14:41:29	18:55:34	23:09:47	19h 39m 12.3s	-27° 07' 03"	116.0	10.4	1.9920	20.4
29 set 2002	14:02:44	18:20:21	22:38:06	19h 43m 06.9s	-26° 24' 59"	107.3	10.5	2.1063	21.7
09 ott 2002	13:26:09	17:47:35	22:09:10	19h 49m 31.5s	-25° 38' 28"	99.0	10.7	2.2266	22.5

40 Harmonia: opposizione 19 dicembre 2001, max avvicinamento 16 dicembre 2001 (1,2675 u.a.)

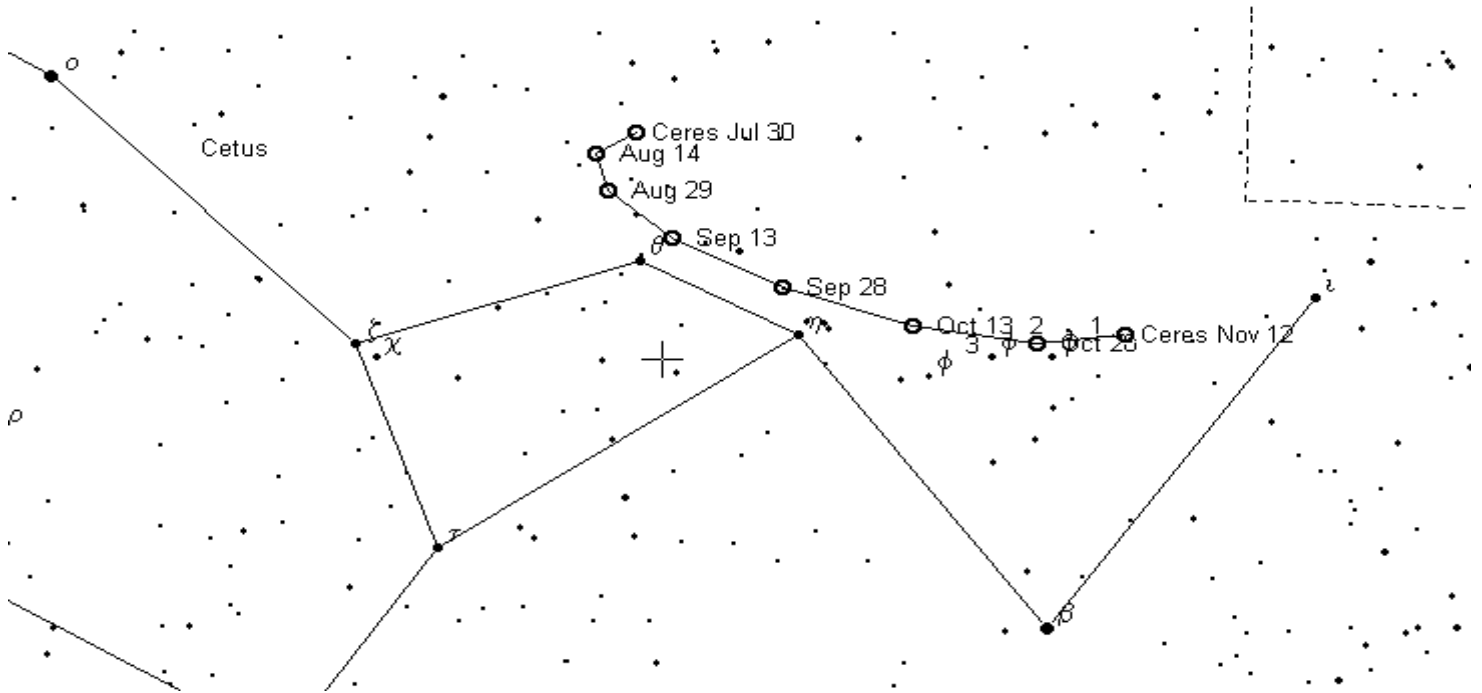
Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
01 nov 2001	19:20:53	02:47:55	10:11:05	06h 19m 38.4s	+21° 04' 18"	124.0	10.7	1.5146	21.7
11 nov 2001	18:39:45	02:07:53	09:31:46	06h 18m 57.2s	+21° 15' 20"	134.2	10.5	1.4261	18.5
21 nov 2001	17:54:39	01:24:11	08:49:08	06h 14m 35.1s	+21° 30' 54"	145.3	10.2	1.3533	14.6
01 dic 2001	17:05:56	00:37:08	08:03:25	06h 06m 48.3s	+21° 50' 05"	157.2	10.0	1.3005	9.8
11 dic 2001	16:14:35	23:42:25	07:15:15	05h 56m 24.2s	+22° 10' 50"	169.7	9.7	1.2717	4.5
21 dic 2001	15:22:07	22:51:27	06:25:49	05h 44m 42.9s	+22° 30' 46"	177.2	9.5	1.2696	1.2
31 dic 2001	14:30:21	22:01:04	05:36:42	05h 33m 27.2s	+22° 48' 35"	164.5	9.8	1.2950	6.7
10 gen 2002	13:40:44	21:12:45	04:49:25	05h 24m 09.6s	+23° 04' 25"	152.2	10.1	1.3462	11.7
20 gen 2002	12:54:15	20:27:32	04:05:08	05h 17m 56.1s	+23° 19' 32"	140.6	10.4	1.4202	16.0
30 gen 2002	12:11:18	19:45:56	03:24:30	05h 15m 19.1s	+23° 35' 15"	129.9	10.7	1.5128	19.4
09 feb 2002	11:31:49	19:07:53	02:47:32	05h 16m 18.5s	+23° 52' 04"	120.0	10.9	1.6195	22.0
19 feb 2002	10:55:35	18:33:08	02:13:58	05h 20m 39.5s	+24° 09' 41"	110.9	11.1	1.7366	23.8
01 mar 2002	10:22:18	18:01:18	01:43:20	05h 27m 58.5s	+24° 27' 07"	102.5	11.3	1.8602	25.0
11 mar 2002	09:51:36	17:31:56	01:15:04	05h 37m 48.1s	+24° 42' 56"	94.8	11.5	1.9875	25.6

63 Ausonia: opposizione 13 marzo 2002, max avvicinamento 24 marzo 2002 (1,3859 u.a.)

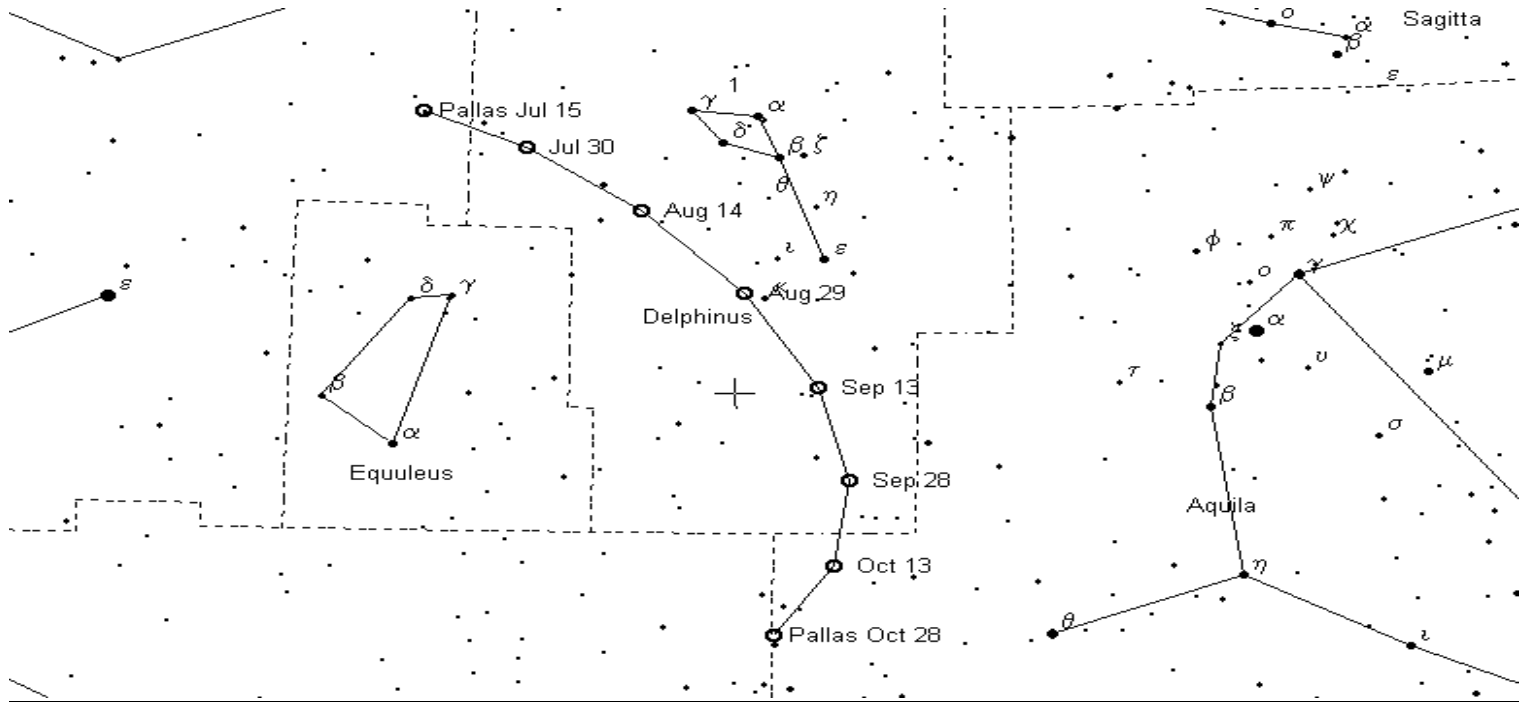
Data	Sorge	Transita	Tramonta	Asc. Retta	Dec.	El °	Mag	Dist u.a.	A.F.°
10 gen 2002	22:03:26	04:03:11	09:59:39	12h 11m 01.6s	-01° 32' 51"	106.4	12.0	2.0114	22.4
20 gen 2002	21:30:43	03:27:48	09:21:20	12h 15m 01.3s	-02° 21' 39"	115.3	11.8	1.8754	21.2
30 gen 2002	20:54:43	02:49:57	08:41:19	12h 16m 31.6s	-02° 57' 22"	124.9	11.6	1.7486	19.3
09 feb 2002	20:15:05	02:09:21	07:59:26	12h 15m 16.3s	-03° 18' 21"	135.2	11.3	1.6347	16.6
19 feb 2002	19:31:38	01:25:54	07:15:39	12h 11m 07.7s	-03° 23' 18"	146.2	11.1	1.5379	13.1
01 mar 2002	18:44:37	00:39:47	06:30:09	12h 04m 18.3s	-03° 12' 21"	157.8	10.8	1.4622	8.9
11 mar 2002	17:54:46	23:46:41	05:43:25	11h 55m 22.4s	-02° 47' 28"	169.7	10.5	1.4109	4.3
21 mar 2002	17:03:21	22:57:21	04:56:10	11h 45m 19.4s	-02° 12' 51"	175.6	10.3	1.3866	1.8
31 mar 2002	16:12:01	22:08:18	04:09:18	11h 35m 26.8s	-01° 35' 00"	164.4	10.6	1.3896	6.5
10 apr 2002	15:22:23	21:20:43	03:23:37	11h 26m 57.2s	-01° 00' 38"	152.6	10.8	1.4181	11.3
20 apr 2002	14:35:41	20:35:31	02:39:42	11h 20m 48.3s	-00° 35' 38"	141.3	11.0	1.4692	15.6
30 apr 2002	13:52:39	19:53:12	01:57:50	11h 17m 32.3s	-00° 24' 02"	130.8	11.2	1.5386	19.1
10 mag 2002	13:13:30	19:13:52	01:18:04	11h 17m 16.1s	-00° 27' 30"	121.1	11.4	1.6219	22.0

Almanacco Astronomico 2002 – Effemeridi degli asteroidi

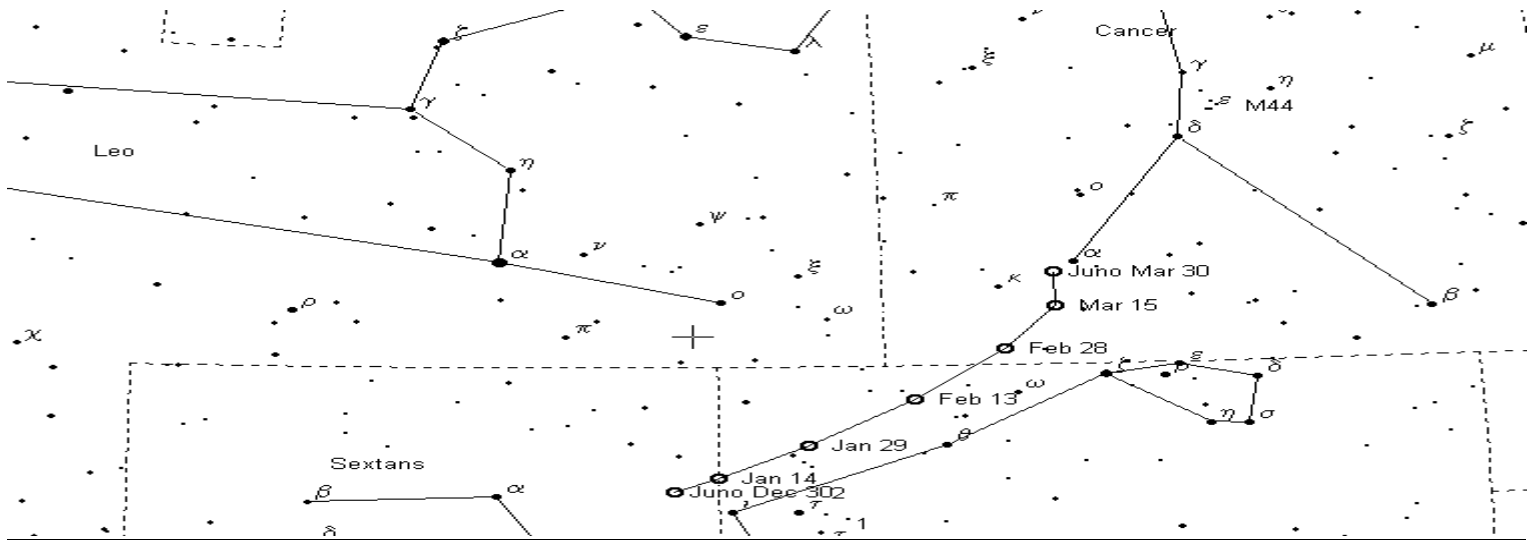
20 mag 2002 12:38:06 18:37:22 00:40:14 11h 19m 52.9s -00° 46' 24" 112.2 11.5 1.7154 24.1



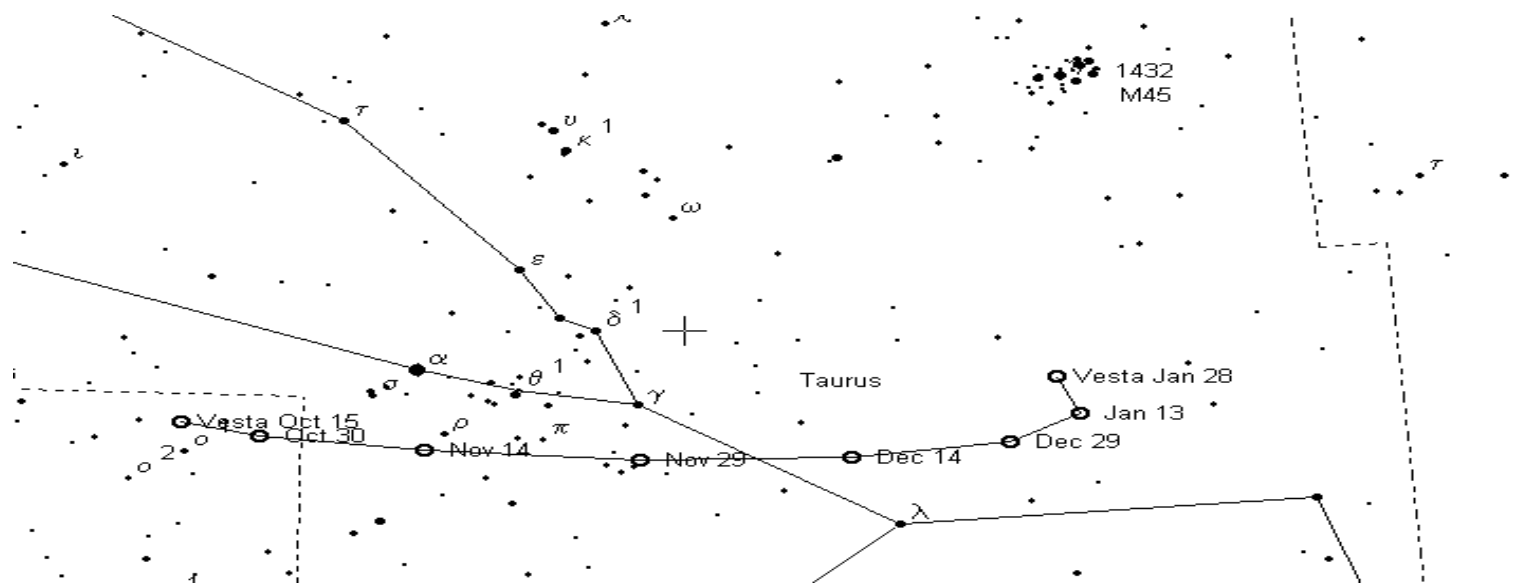
1 Ceres



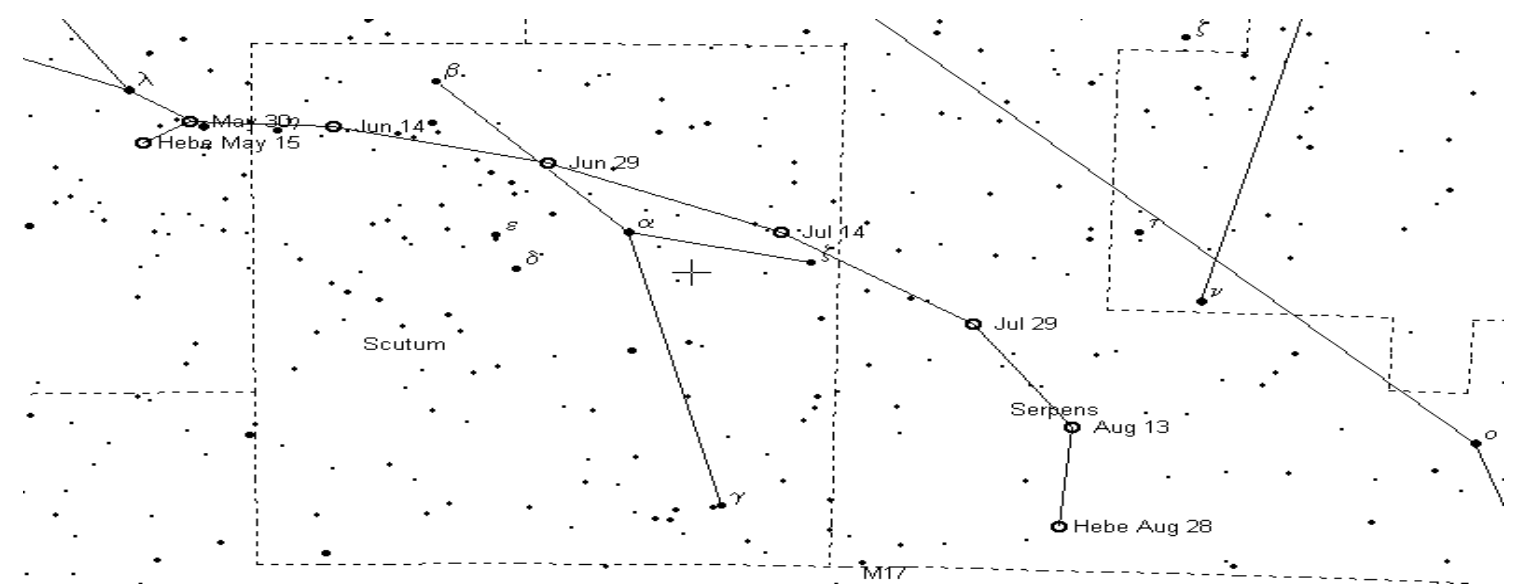
2 Pallas



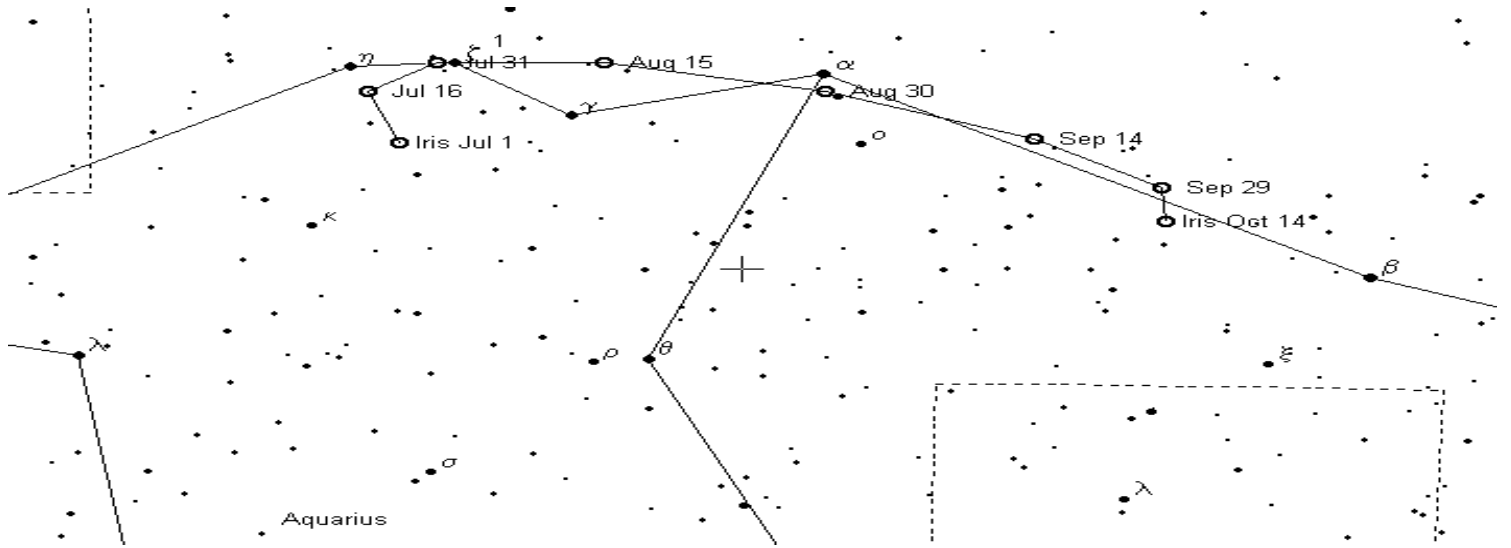
3 Juno



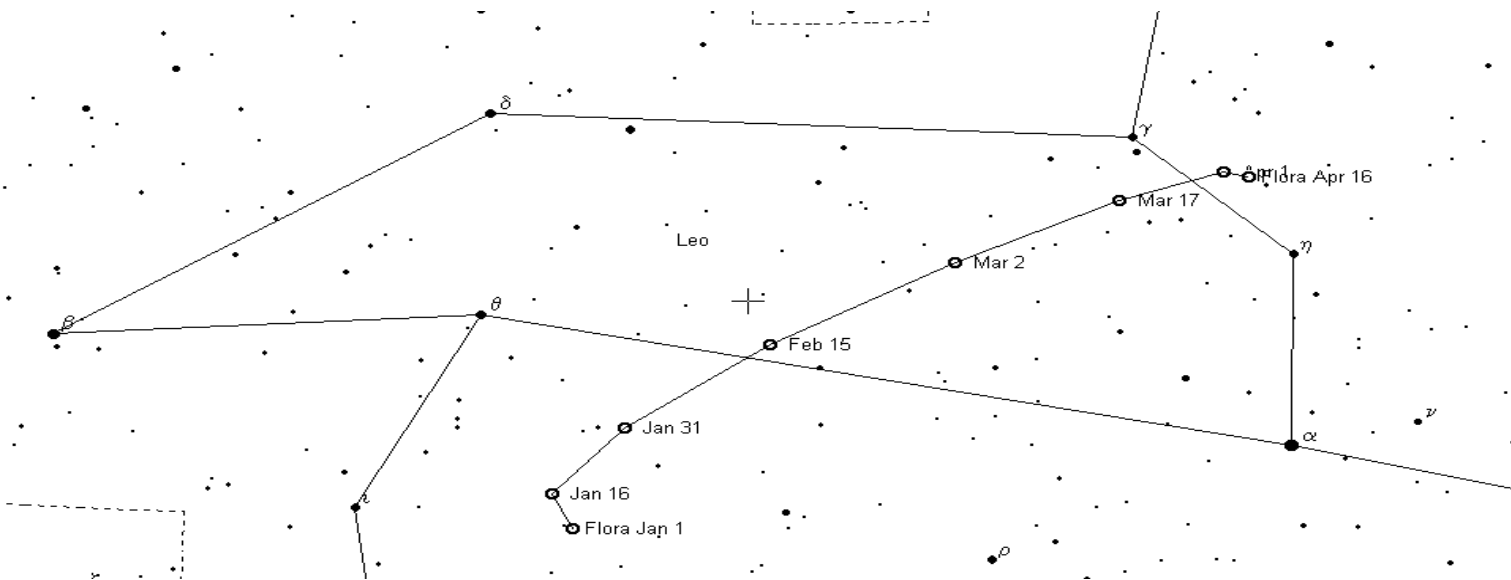
4 Vesta



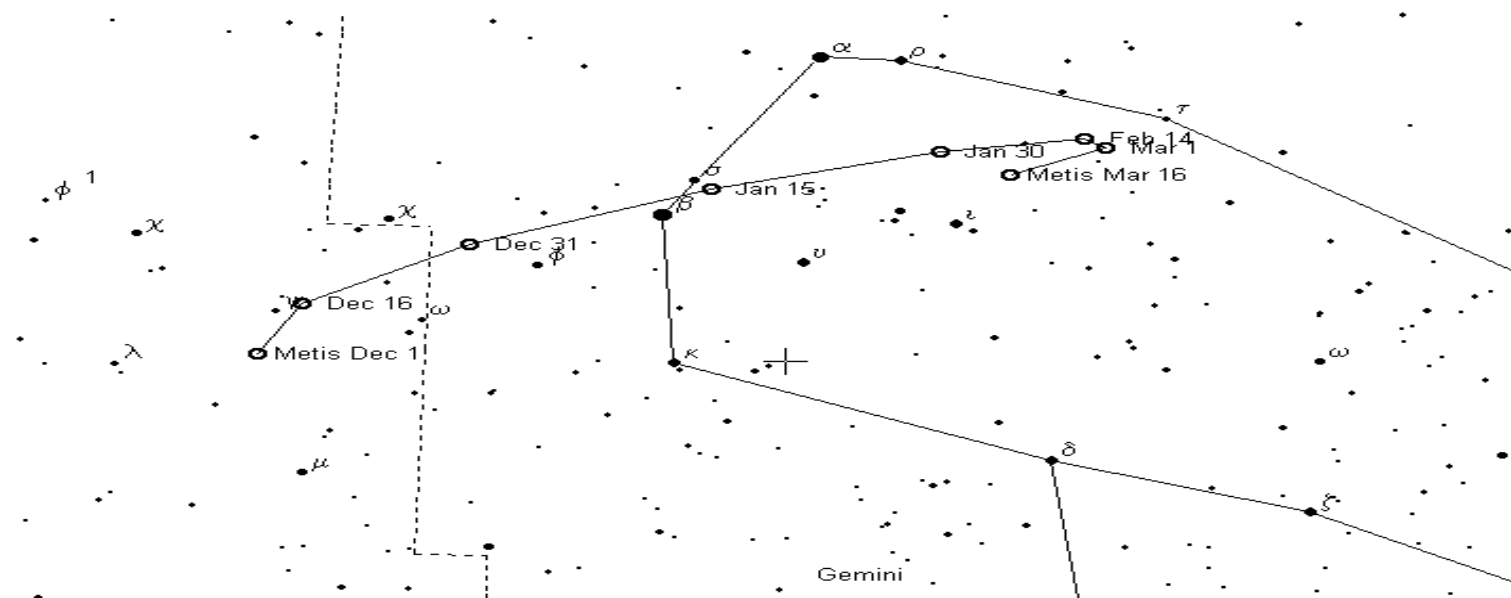
6 Hebe



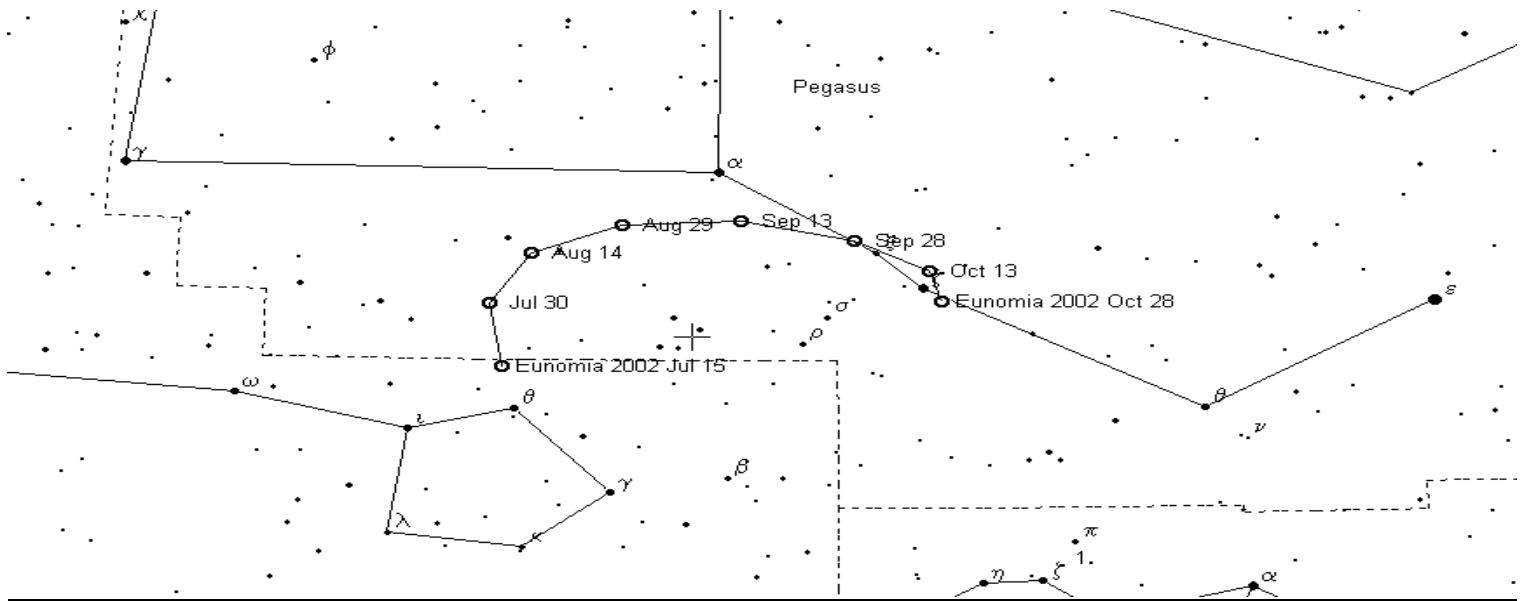
7 Iris



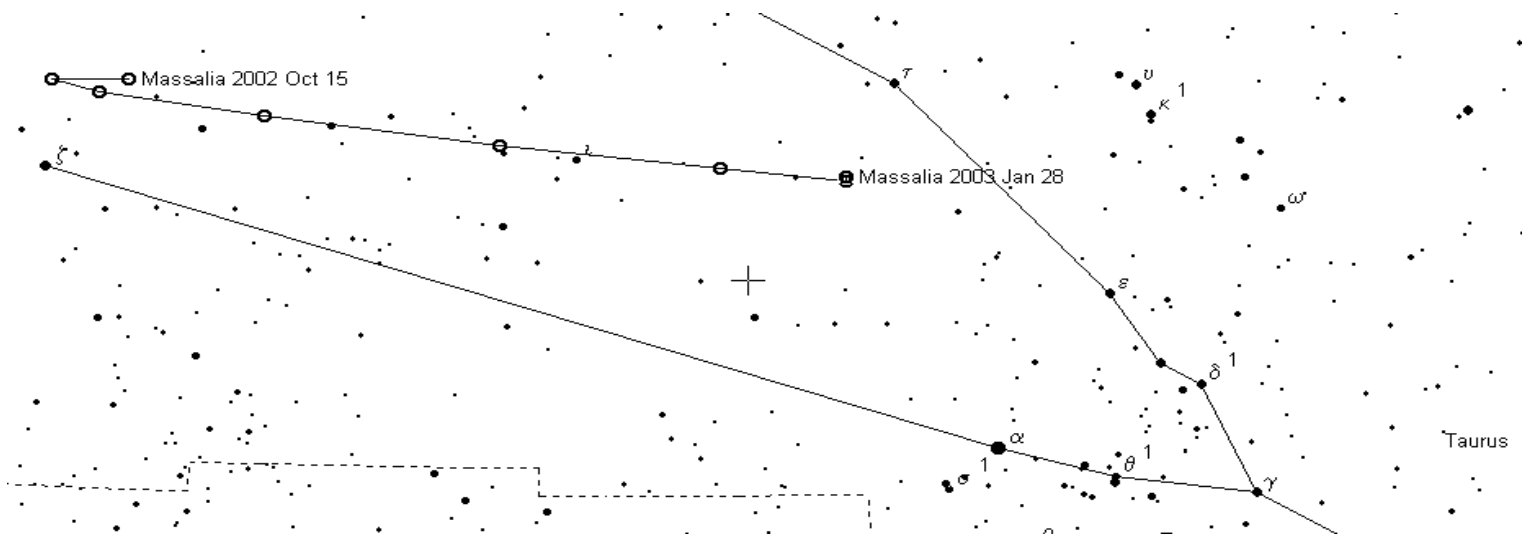
8 Flora



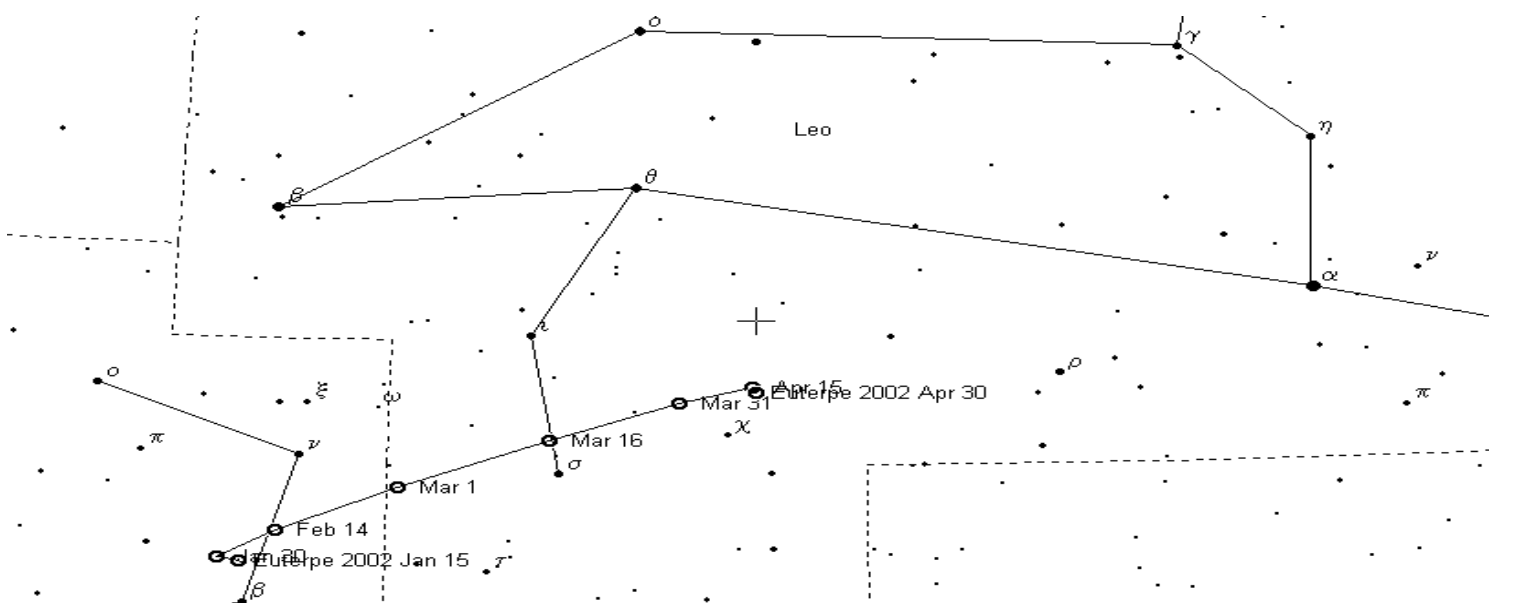
9 Metis



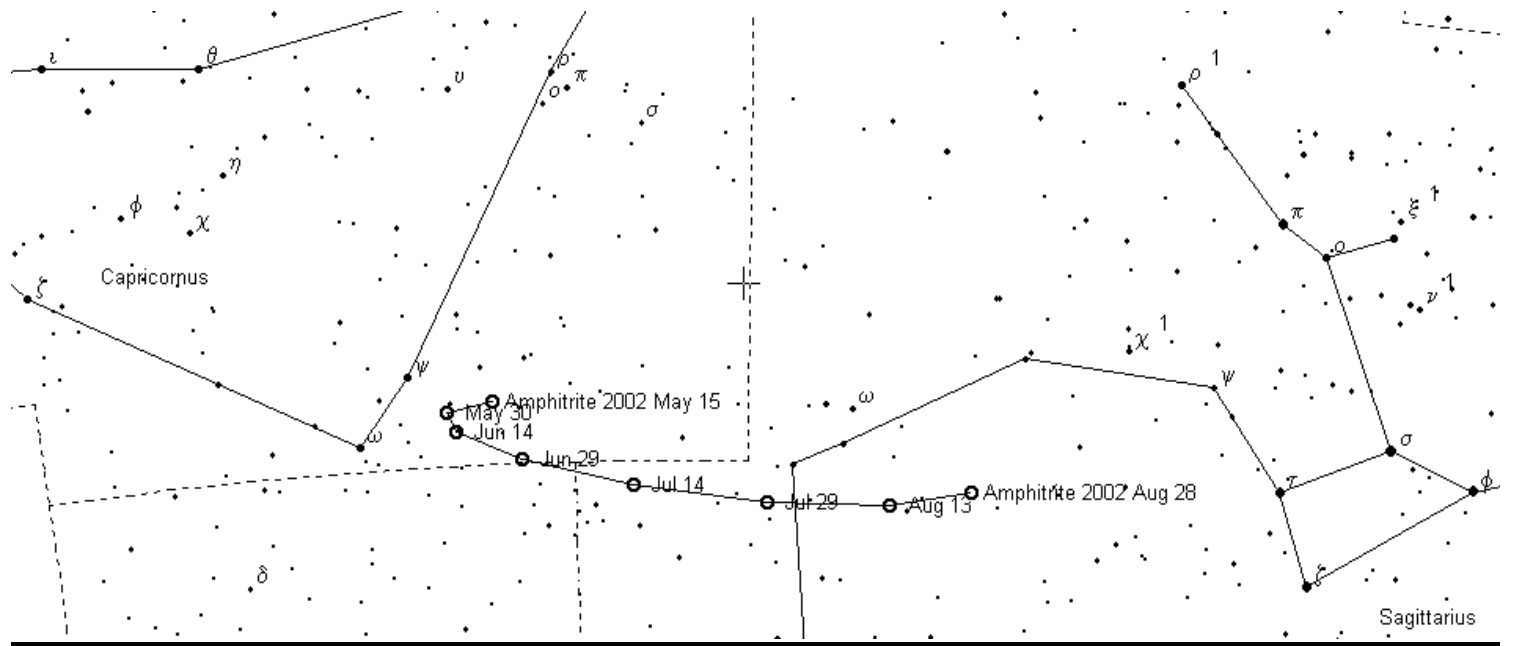
15 Eunoimia



20 Massalia



27 Euterpe



29 Amphitrite

Effemeridi di comete

In questa sezione sono riportate le effemeridi delle comete che si stima raggiungeranno una maggiore luminosità nel corso del 2002. Data la difficoltà di predire con grande anticipo il comportamento effettivo delle comete e la possibilità di avere la scoperta di nuovi oggetti nel corso dell'anno suggeriamo di controllare periodicamente siti Internet dedicati all'osservazione delle comete, ed in particolare il sito del CBAT all'indirizzo:

<http://cfa-www.harvard.edu/iau/Ephemerides/Comets/index.html>

Per ogni cometa vengono indicati i parametri orbitali calcolati in base alle osservazioni attualmente disponibili.

Date : data a cui fa riferimento l'effemeride

R. A. (2000), Dec : ascensione retta e declinazione al 2000

Delta : distanza dalla Terra in unità astronomiche

r : distanza dal Sole in unità astronomiche

Elong. : elongazione dal Sole

Phase : Fase

m1, m2 : stime di magnitudine visuale

C/2000 WM1 (LINEAR) C/2000 WM1 (LINEAR)

Gli elementi orbitali sono stati ricavati da MPC 43018:

Epoch 2002 Jan. 6.0 TT = JDT 2452280.5

T 2002 Jan. 22.6834 TT

Nakano

q	0.555404	(2000.0)	P	Q
z	-0.000498	Peri. 276.7690	-0.3149060	-0.4977944
	+/-0.000010	Node 237.8971	+0.4304229	-0.8337387
e	1.000277	Incl. 72.5488	-0.8459139	-0.2389153

From 163 observations 2000 Nov. 16-2001 July 1, mean residual 0".7.

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2001 11 02		04 28.76	+49 00.1	0.817	1.689	137.8	23.2	8.3	12.8
2001 11 07		04 12.20	+47 13.0	0.699	1.612	144.5	20.9	7.8	12.3
2001 11 12		03 50.01	+44 13.8	0.588	1.534	152.0	17.6	7.2	11.7
2001 11 17		03 21.47	+39 13.8	0.487	1.455	159.6	13.7	6.6	11.0
2001 11 22		02 46.63	+30 59.2	0.402	1.375	162.0	12.8	5.9	10.5
2001 11 27		02 06.93	+18 13.7	0.341	1.295	150.6	22.0	5.3	10.3
2001 12 02		01 25.20	+01 25.1	0.317	1.214	130.0	38.5	4.8	10.5
2001 12 07		00 44.63	-15 40.2	0.332	1.132	107.9	55.9	4.6	10.9
2001 12 12		00 07.51	-29 13.0	0.381	1.051	89.2	69.5	4.6	11.5
2001 12 17		23 34.48	-38 37.4	0.449	0.970	74.9	78.5	4.6	11.9
2001 12 22		23 04.86	-44 58.0	0.527	0.890	64.0	83.8	4.6	12.3
2001 12 27		22 37.32	-49 16.8	0.610	0.812	55.5	86.3	4.5	12.5
2002 01 01		22 10.48	-52 10.8	0.693	0.739	48.6	86.7	4.4	12.6
2002 01 06		21 43.31	-53 56.4	0.775	0.672	42.9	85.3	4.2	12.6
2002 01 11		21 15.64	-54 37.0	0.854	0.616	38.4	82.2	4.1	12.5
2002 01 16		20 48.42	-54 09.3	0.929	0.576	34.9	77.7	3.9	12.4
2002 01 21		20 23.65	-52 31.9	0.998	0.557	32.6	72.3	4.0	12.3
2002 01 26		20 03.33	-49 52.0	1.058	0.561	31.6	67.0	4.1	12.2
2002 01 31		19 48.37	-46 25.8	1.108	0.587	31.9	62.5	4.4	12.3
2002 02 05		19 38.32	-42 32.1	1.148	0.633	33.4	59.1	4.8	12.4

Almanacco Astronomico 2002 – Effemeridi di comete

2002 02 10	19 32.02	-38 25.9	1.178	0.693	36.0	56.8	5.3	12.6
2002 02 15	19 28.27	-34 16.1	1.201	0.762	39.2	55.1	5.7	12.8
2002 02 20	19 26.09	-30 07.1	1.217	0.837	43.1	53.8	6.2	13.0
2002 02 25	19 24.79	-26 00.4	1.227	0.915	47.3	52.6	6.6	13.2
2002 03 02	19 23.90	-21 56.0	1.233	0.996	51.8	51.5	6.9	13.3
2002 03 07	19 23.05	-17 53.4	1.236	1.077	56.5	50.2	7.3	13.5
2002 03 12	19 21.99	-13 51.9	1.237	1.159	61.4	48.9	7.6	13.6
2002 03 17	19 20.50	-09 50.8	1.237	1.240	66.5	47.4	7.9	13.7
2002 03 22	19 18.44	-05 50.1	1.237	1.321	71.6	45.7	8.2	13.8
2002 03 27	19 15.65	-01 50.0	1.238	1.401	76.8	43.9	8.4	13.9
2002 04 01	19 12.04	+02 08.9	1.240	1.481	82.0	41.9	8.7	14.0
2002 04 06	19 07.50	+06 05.2	1.246	1.559	87.2	39.9	8.9	14.0
2002 04 11	19 01.95	+09 57.2	1.255	1.637	92.3	37.7	9.1	14.1
2002 04 16	18 55.32	+13 42.3	1.268	1.714	97.3	35.5	9.4	14.1
2002 04 21	18 47.59	+17 17.6	1.287	1.790	102.0	33.3	9.6	14.2
2002 04 26	18 38.77	+20 40.1	1.312	1.865	106.4	31.2	9.8	14.3
2002 05 01	18 28.94	+23 46.7	1.343	1.939	110.4	29.1	10.0	14.4
2002 05 06	18 18.20	+26 34.8	1.381	2.013	113.9	27.3	10.2	14.4
2002 05 11	18 06.72	+29 02.1	1.425	2.085	116.8	25.6	10.5	14.5
2002 05 16	17 54.74	+31 07.1	1.477	2.157	119.1	24.2	10.7	14.6
2002 05 21	17 42.52	+32 49.3	1.535	2.228	120.7	23.0	10.9	14.8
2002 05 26	17 30.35	+34 08.9	1.599	2.298	121.6	22.0	11.1	14.9
2002 05 31	17 18.51	+35 07.3	1.670	2.368	121.9	21.3	11.4	15.0
2002 06 05	17 07.25	+35 46.0	1.747	2.437	121.6	20.8	11.6	15.2
2002 06 10	16 56.75	+36 07.2	1.828	2.505	120.8	20.4	11.8	15.3
2002 06 15	16 47.19	+36 13.2	1.915	2.572	119.5	20.1	12.0	15.5
2002 06 20	16 38.66	+36 06.4	2.006	2.639	117.9	19.9	12.2	15.6
2002 06 25	16 31.19	+35 49.1	2.101	2.705	116.0	19.7	12.4	15.8
2002 06 30	16 24.78	+35 23.4	2.200	2.771	113.8	19.6	12.6	15.9
2002 07 05	16 19.41	+34 51.2	2.302	2.836	111.5	19.5	12.8	16.1
2002 07 10	16 15.02	+34 13.8	2.406	2.901	109.0	19.4	13.0	16.2
2002 07 15	16 11.55	+33 32.8	2.513	2.965	106.4	19.2	13.2	16.3
2002 07 20	16 08.95	+32 49.2	2.622	3.028	103.7	19.0	13.4	16.5
2002 07 25	16 07.12	+32 04.0	2.732	3.091	101.0	18.8	13.6	16.6
2002 07 30	16 06.01	+31 17.9	2.843	3.153	98.3	18.6	13.8	16.7

C/1999 J2 (Skiff) C/1999 J2 (Skiff)

Gli elementi orbitali sono stati ricavati da MPC 41897:

Epoch 2000 Apr. 6.0 TT = JDT 2451640.5

T 2000 Apr. 5.9835 TT

q	7.109792	(2000.0)	P	Nakano	Q
z	-0.000147	Peri.	127.1385	-0.4259686	-0.4830051
	+/-0.000001	Node	50.0427	-0.7116835	-0.3432057
e	1.001046	Incl.	86.4127	+0.5586209	-0.8055532

From 741 observations 1999 May 12-2000 Dec. 26, mean residual 0".6.

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2002 01 01		15 37.77	-09 30.0	8.825	8.183	46.7	5.0	15.9	
2002 01 06		15 39.10	-09 46.2	8.777	8.198	51.3	5.4	15.9	
2002 01 11		15 40.30	-10 01.7	8.725	8.214	55.9	5.7	15.8	
2002 01 16		15 41.35	-10 16.5	8.668	8.229	60.6	6.0	15.8	
2002 01 21		15 42.26	-10 30.7	8.607	8.245	65.3	6.2	15.8	
2002 01 26		15 42.99	-10 44.3	8.544	8.261	70.1	6.4	15.8	
2002 01 31		15 43.55	-10 57.2	8.478	8.277	74.9	6.6	15.8	
2002 02 05		15 43.92	-11 09.6	8.411	8.293	79.8	6.7	15.8	
2002 02 10		15 44.10	-11 21.4	8.341	8.309	84.7	6.8	15.8	
2002 02 15		15 44.07	-11 32.6	8.272	8.325	89.7	6.8	15.8	

2002 02 20	15 43.83	-11 43.4	8.202	8.341	94.7	6.8	15.8
2002 02 25	15 43.38	-11 53.6	8.132	8.357	99.8	6.7	15.8
2002 03 02	15 42.70	-12 03.3	8.064	8.374	104.9	6.6	15.8
2002 03 07	15 41.81	-12 12.7	7.998	8.390	110.0	6.4	15.8
2002 03 12	15 40.69	-12 21.5	7.935	8.406	115.2	6.1	15.7
2002 03 17	15 39.36	-12 30.0	7.875	8.423	120.4	5.8	15.7
2002 03 22	15 37.81	-12 38.2	7.819	8.440	125.7	5.5	15.7
2002 03 27	15 36.07	-12 46.0	7.768	8.456	131.0	5.1	15.7
2002 04 01	15 34.13	-12 53.5	7.722	8.473	136.4	4.7	15.7
2002 04 06	15 32.01	-13 00.8	7.682	8.490	141.7	4.2	15.7
2002 04 11	15 29.72	-13 07.8	7.648	8.507	147.1	3.7	15.7
2002 04 16	15 27.30	-13 14.6	7.621	8.524	152.5	3.1	15.7
2002 04 21	15 24.75	-13 21.3	7.602	8.541	157.9	2.5	15.7
2002 04 26	15 22.11	-13 27.8	7.590	8.558	163.2	1.9	15.7
2002 05 01	15 19.39	-13 34.4	7.586	8.575	168.4	1.3	15.7
2002 05 06	15 16.62	-13 40.8	7.590	8.592	173.3	0.8	15.7
2002 05 11	15 13.84	-13 47.4	7.602	8.610	175.9	0.5	15.8
2002 05 16	15 11.06	-13 54.0	7.622	8.627	173.1	0.8	15.8
2002 05 21	15 08.31	-14 00.7	7.651	8.644	168.3	1.4	15.8
2002 05 26	15 05.62	-14 07.6	7.688	8.662	163.1	1.9	15.8
2002 05 31	15 03.02	-14 14.8	7.732	8.680	157.8	2.5	15.8
2002 06 05	15 00.52	-14 22.2	7.784	8.697	152.6	3.1	15.8
2002 06 10	14 58.14	-14 29.9	7.843	8.715	147.3	3.6	15.9
2002 06 15	14 55.91	-14 38.1	7.909	8.733	142.1	4.1	15.9
2002 06 20	14 53.84	-14 46.6	7.981	8.750	136.9	4.6	15.9
2002 06 25	14 51.94	-14 55.6	8.059	8.768	131.7	5.0	16.0
2002 06 30	14 50.22	-15 05.1	8.142	8.786	126.6	5.3	16.0
2002 07 05	14 48.69	-15 15.0	8.229	8.804	121.6	5.6	16.0
2002 07 10	14 47.36	-15 25.5	8.321	8.822	116.5	5.9	16.1
2002 07 15	14 46.23	-15 36.5	8.416	8.840	111.6	6.1	16.1
2002 07 20	14 45.30	-15 48.1	8.514	8.858	106.6	6.3	16.1
2002 07 25	14 44.57	-16 00.2	8.614	8.877	101.7	6.4	16.2
2002 07 30	14 44.04	-16 12.8	8.716	8.895	96.9	6.5	16.2
2002 08 04	14 43.70	-16 25.9	8.818	8.913	92.1	6.5	16.2

C/1999 U4 (Catalina-Skiff) C/1999 U4 (Catalina-Skiff)

Gli elementi orbitali sono stati ricavati da MPC 41525:

Epoch 2001 Oct. 18.0 TT = JDT 2452200.5

T 2001 Oct. 28.4551 TT

q	(2000.0)	P	Q	Nakano
4.915282				
z -0.001570	Peri. 77.5128	-0.1388410	-0.8965977	
+/-0.000005	Node 32.2887	+0.2672306	-0.4427989	
e 1.007716	Incl. 51.9260	+0.9535780	-0.0064547	

From 204 observations 1999 Sept. 18–2000 Nov. 5, mean residual 0".6.

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2001 11 17		10 46.9	+70 45.4	4.621	4.918	101.7	11.4	14.7	
2001 11 22		10 55.6	+71 11.1	4.588	4.919	103.9	11.2	14.7	
2001 11 27		11 03.7	+71 37.9	4.557	4.921	106.0	11.1	14.7	
2001 12 02		11 11.2	+72 05.5	4.529	4.923	107.9	11.0	14.7	
2001 12 07		11 18.0	+72 34.0	4.504	4.925	109.8	10.9	14.7	
2001 12 12		11 24.0	+73 03.2	4.481	4.927	111.5	10.7	14.7	
2001 12 17		11 29.2	+73 32.9	4.462	4.930	113.0	10.6	14.7	
2001 12 22		11 33.5	+74 02.9	4.446	4.934	114.4	10.5	14.7	
2001 12 27		11 36.7	+74 32.9	4.433	4.937	115.5	10.4	14.7	
2002 01 01		11 38.7	+75 02.5	4.423	4.941	116.5	10.3	14.7	
2002 01 06		11 39.6	+75 31.2	4.417	4.945	117.2	10.2	14.7	
2002 01 11		11 39.0	+75 58.6	4.415	4.949	117.7	10.1	14.7	

Almanacco Astronomico 2002 – Effemeridi di comete

2002 01 16	11 37.1	+76 24.1	4.416	4.954	118.0	10.1	14.7
2002 01 21	11 33.7	+76 47.0	4.420	4.959	118.0	10.1	14.7
2002 01 26	11 28.9	+77 06.5	4.428	4.964	117.8	10.1	14.7
2002 01 31	11 22.7	+77 22.1	4.440	4.970	117.3	10.1	14.7
2002 02 05	11 15.3	+77 33.0	4.455	4.976	116.7	10.2	14.7
2002 02 10	11 06.8	+77 38.7	4.473	4.982	115.8	10.3	14.7
2002 02 15	10 57.7	+77 38.5	4.495	4.988	114.7	10.4	14.7
2002 02 20	10 48.3	+77 32.2	4.520	4.995	113.4	10.5	14.8
2002 02 25	10 39.0	+77 19.6	4.548	5.002	111.9	10.6	14.8
2002 03 02	10 30.2	+77 00.8	4.579	5.010	110.3	10.7	14.8
2002 03 07	10 22.0	+76 36.1	4.613	5.017	108.5	10.8	14.8
2002 03 12	10 14.8	+76 05.8	4.649	5.025	106.7	10.9	14.8
2002 03 17	10 08.7	+75 30.3	4.688	5.033	104.7	11.0	14.9
2002 03 22	10 03.7	+74 50.2	4.730	5.042	102.6	11.1	14.9
2002 03 27	10 00.0	+74 06.1	4.773	5.051	100.5	11.2	14.9
2002 04 01	09 57.3	+73 18.5	4.819	5.060	98.3	11.3	15.0
2002 04 06	09 55.6	+72 27.8	4.866	5.069	96.0	11.3	15.0
2002 04 11	09 55.0	+71 34.5	4.915	5.078	93.7	11.4	15.0
2002 04 16	09 55.1	+70 39.1	4.965	5.088	91.3	11.4	15.0
2002 04 21	09 56.04	+69 41.8	5.017	5.098	88.9	11.4	15.1
2002 04 26	09 57.63	+68 43.0	5.069	5.109	86.6	11.3	15.1
2002 05 01	09 59.81	+67 43.0	5.123	5.119	84.2	11.3	15.1
2002 05 06	10 02.48	+66 42.1	5.177	5.130	81.7	11.2	15.2
2002 05 11	10 05.59	+65 40.4	5.232	5.142	79.3	11.1	15.2
2002 05 16	10 09.07	+64 38.1	5.287	5.153	76.9	11.0	15.2
2002 05 21	10 12.89	+63 35.5	5.341	5.165	74.5	10.9	15.3
2002 05 26	10 16.97	+62 32.7	5.396	5.177	72.2	10.7	15.3
2002 05 31	10 21.29	+61 29.9	5.451	5.189	69.8	10.6	15.3

C/2000 SV74 (LINEAR) C/2000 SV74 (LINEAR)

Gli elementi orbitali sono stati ricavati da MPC 43018:

Epoch 2002 May 6.0 TT = JDT 2452400.5

T 2002 Apr. 30.4802 TT

q	3.541184	(2000.0)	P	Nakano	Q
z	-0.001409	Peri. 76.2365	+0.1156294		-0.9108689
	+/-0.000005	Node 24.1854	-0.0770212		-0.4058627
e	1.004990	Incl. 75.2368	+0.9903018		+0.0747885

From 172 observations 2000 Sept. 5-2001 June 27, mean residual 0".6.

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2001 11 02		00 12.00	+58 50.0	3.196	3.899	129.1	11.4	13.9	
2001 11 07		00 00.42	+58 43.8	3.196	3.880	127.5	11.7	13.9	
2001 11 12		23 49.61	+58 30.2	3.203	3.862	125.4	12.1	13.9	
2001 11 17		23 39.77	+58 10.6	3.215	3.844	123.0	12.5	13.9	
2001 11 22		23 31.01	+57 46.7	3.233	3.827	120.3	12.9	13.9	
2001 11 27		23 23.39	+57 19.9	3.255	3.810	117.3	13.3	13.9	
2001 12 02		23 16.91	+56 51.6	3.282	3.794	114.2	13.7	13.9	
2001 12 07		23 11.54	+56 23.2	3.312	3.778	111.0	14.1	13.9	
2001 12 12		23 07.25	+55 55.8	3.345	3.763	107.7	14.4	13.9	
2001 12 17		23 03.96	+55 30.4	3.380	3.748	104.4	14.7	13.9	
2001 12 22		23 01.61	+55 07.8	3.417	3.733	101.1	15.0	13.9	
2001 12 27		23 00.12	+54 48.8	3.455	3.719	97.8	15.2	13.9	
2002 01 01		22 59.40	+54 33.8	3.493	3.705	94.7	15.3	13.9	
2002 01 06		22 59.39	+54 23.2	3.532	3.692	91.6	15.4	13.9	
2002 01 11		23 00.04	+54 17.3	3.571	3.680	88.6	15.5	13.9	
2002 01 16		23 01.27	+54 16.3	3.609	3.668	85.6	15.5	13.9	
2002 01 21		23 03.04	+54 20.3	3.645	3.656	82.9	15.5	13.9	
2002 01 26		23 05.29	+54 29.5	3.681	3.645	80.2	15.4	13.9	

2002 01 31	23 07.99	+54 43.8	3.715	3.634	77.7	15.4	14.0
2002 02 05	23 11.09	+55 03.2	3.747	3.625	75.3	15.3	14.0
2002 02 10	23 14.58	+55 27.6	3.776	3.615	73.1	15.1	14.0
2002 02 15	23 18.43	+55 57.1	3.804	3.606	71.0	15.0	14.0
2002 02 20	23 22.62	+56 31.6	3.829	3.598	69.1	14.9	14.0
2002 02 25	23 27.13	+57 11.0	3.852	3.590	67.4	14.7	14.0
2002 03 02	23 31.95	+57 55.0	3.873	3.583	65.8	14.6	14.0
2002 03 07	23 37.08	+58 43.8	3.891	3.576	64.4	14.5	14.0
2002 03 12	23 42.53	+59 37.0	3.907	3.570	63.2	14.4	14.0

C/2001 B2 (NEAT) C/2001 B2 (NEAT)

Gli elementi orbitali sono stati ricavati da MPC 42665:

Epoch 2000 Sept. 13.0 TT = JDT 2451800.5

T 2000 Sept. 1.9017 TT

			Marsden
q	5.306432	(2000.0)	P
z	-0.000509	Peri. 304.7570	Q
	+/-0.000052	Node 145.0868	
e	1.002699	Incl. 150.6074	

From 196 observations 2001 Jan. 24-Apr. 29, mean residual 0".7.

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2002 01 01		10 34.38	+05 13.1	5.820	6.396	122.0	7.5	15.9	
2002 01 06		10 31.28	+05 42.4	5.764	6.416	128.0	6.9	15.9	
2002 01 11		10 27.89	+06 13.6	5.713	6.436	134.1	6.3	15.9	
2002 01 16		10 24.24	+06 46.7	5.670	6.456	140.2	5.6	15.9	
2002 01 21		10 20.34	+07 21.3	5.634	6.477	146.4	4.8	15.9	
2002 01 26		10 16.23	+07 57.4	5.607	6.497	152.7	4.0	15.9	
2002 01 31		10 11.95	+08 34.4	5.589	6.518	158.9	3.1	15.9	
2002 02 05		10 07.53	+09 12.3	5.580	6.538	165.2	2.2	15.9	
2002 02 10		10 03.02	+09 50.6	5.581	6.559	171.5	1.3	15.9	
2002 02 15		09 58.47	+10 28.9	5.593	6.580	177.4	0.4	15.9	
2002 02 20		09 53.91	+11 07.0	5.615	6.601	175.4	0.7	15.9	
2002 02 25		09 49.40	+11 44.4	5.647	6.622	169.3	1.6	16.0	
2002 03 02		09 44.99	+12 20.9	5.688	6.643	163.1	2.5	16.0	
2002 03 07		09 40.72	+12 56.2	5.740	6.664	156.9	3.3	16.0	
2002 03 12		09 36.62	+13 30.1	5.800	6.685	150.8	4.2	16.1	
2002 03 17		09 32.74	+14 02.4	5.870	6.707	144.8	4.9	16.1	
2002 03 22		09 29.10	+14 32.8	5.947	6.728	138.8	5.6	16.2	
2002 03 27		09 25.72	+15 01.5	6.031	6.750	132.9	6.2	16.2	
2002 04 01		09 22.62	+15 28.1	6.122	6.772	127.1	6.8	16.2	
2002 04 06		09 19.82	+15 52.9	6.218	6.793	121.4	7.2	16.3	
2002 04 11		09 17.32	+16 15.7	6.319	6.815	115.8	7.6	16.3	
2002 04 16		09 15.13	+16 36.5	6.424	6.837	110.3	7.9	16.4	
2002 04 21		09 13.24	+16 55.6	6.532	6.859	104.9	8.1	16.4	
2002 04 26		09 11.65	+17 12.8	6.642	6.881	99.6	8.3	16.5	
2002 05 01		09 10.35	+17 28.4	6.754	6.904	94.4	8.4	16.5	
2002 05 06		09 09.34	+17 42.4	6.866	6.926	89.2	8.4	16.6	
2002 05 11		09 08.59	+17 54.8	6.979	6.948	84.1	8.3	16.6	
2002 05 16		09 08.10	+18 05.9	7.090	6.971	79.1	8.2	16.7	
2002 05 21		09 07.85	+18 15.6	7.200	6.993	74.2	8.0	16.7	

Almanacco Astronomico 2002 – Effemeridi di comete**C/2001 HT50 (LINEAR-NEAT) C/2001 HT50 (LINEAR-NEAT)**

Gli elementi orbitali sono stati ricavati da MPC 42856:

C/2001 HT50 (LINEAR-NEAT)

T 2003 July 8.7975 TT

q	2.804298	(2000.0)	P	Marsden
		Peri.	323.8007	+0.2064998
		Node	42.8812	+0.9517478
e	1.0	Incl.	163.2401	+0.2270108
				Q
				+0.9585686
				-0.2433135
				+0.1481375

From 38 observations 2001 Mar. 3-May 17.

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2002 01 06		11 46.49	-13 31.1	5.561	5.856	102.7	9.4	15.9	
2002 01 11		11 43.97	-13 34.1	5.438	5.820	108.1	9.2	15.8	
2002 01 16		11 41.06	-13 34.9	5.318	5.783	113.7	9.0	15.8	
2002 01 21		11 37.75	-13 33.2	5.202	5.747	119.3	8.6	15.7	
2002 01 26		11 34.03	-13 28.8	5.090	5.711	124.9	8.1	15.6	
2002 01 31		11 29.91	-13 21.6	4.984	5.674	130.6	7.6	15.5	
2002 02 05		11 25.41	-13 11.3	4.884	5.638	136.3	6.9	15.5	
2002 02 10		11 20.53	-12 57.8	4.792	5.602	141.9	6.2	15.4	
2002 02 15		11 15.32	-12 41.1	4.708	5.565	147.4	5.5	15.3	
2002 02 20		11 09.81	-12 21.0	4.632	5.529	152.6	4.7	15.3	
2002 02 25		11 04.06	-11 57.6	4.566	5.493	157.3	4.0	15.2	
2002 03 02		10 58.11	-11 31.1	4.510	5.457	161.0	3.4	15.1	
2002 03 07		10 52.03	-11 01.6	4.464	5.420	163.0	3.1	15.1	
2002 03 12		10 45.89	-10 29.5	4.428	5.384	162.6	3.2	15.0	
2002 03 17		10 39.76	-09 55.1	4.402	5.348	159.9	3.7	15.0	
2002 03 22		10 33.70	-09 18.9	4.387	5.311	155.8	4.4	15.0	
2002 03 27		10 27.79	-08 41.3	4.382	5.275	150.8	5.3	14.9	
2002 04 01		10 22.09	-08 02.8	4.386	5.239	145.4	6.2	14.9	
2002 04 06		10 16.64	-07 24.0	4.399	5.203	139.7	7.1	14.9	
2002 04 11		10 11.50	-06 45.3	4.420	5.166	134.0	8.0	14.9	
2002 04 16		10 06.70	-06 07.2	4.449	5.130	128.2	8.8	14.8	
2002 04 21		10 02.28	-05 30.1	4.485	5.094	122.4	9.6	14.8	
2002 04 26		09 58.25	-04 54.4	4.526	5.058	116.7	10.2	14.8	
2002 05 01		09 54.61	-04 20.3	4.571	5.022	111.0	10.8	14.8	
2002 05 06		09 51.38	-03 48.1	4.621	4.986	105.5	11.2	14.8	
2002 05 11		09 48.55	-03 18.0	4.673	4.950	100.0	11.6	14.8	
2002 05 16		09 46.12	-02 50.0	4.728	4.914	94.6	11.8	14.8	

C/2001 K5 (LINEAR) C/2001 K5 (LINEAR)

Gli elementi orbitali sono stati ricavati da MPC 43333:

Epoch 2002 Oct. 13.0 TT = JDT 2452560.5

T 2002 Oct. 11.8540 TT

q	5.183040	(2000.0)	P	Marsden
z	+0.000097	Peri.	47.0757	-0.1815430
	+/-0.000019	Node	237.4627	-0.9128262
e	0.999499	Incl.	72.5859	+0.3657739
				Q
				+0.5656678
				+0.2073211
				+0.7981465

From 213 observations 2001 Apr. 30-Aug. 23, mean residual 0".5.

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2002 02 05		16 54.51	-05 37.6	5.866	5.510	64.3	9.3	15.3	
2002 02 10		16 57.08	-05 00.6	5.781	5.498	68.6	9.6	15.2	
2002 02 15		16 59.45	-04 21.3	5.693	5.485	72.9	9.9	15.2	
2002 02 20		17 01.60	-03 39.9	5.605	5.473	77.3	10.2	15.1	
2002 02 25		17 03.52	-02 56.3	5.516	5.461	81.7	10.3	15.1	
2002 03 02		17 05.19	-02 10.5	5.427	5.450	86.1	10.5	15.0	

2002 03 07	17 06.59	-01 22.6	5.338	5.438	90.5	10.5	15.0
2002 03 12	17 07.72	-00 32.6	5.250	5.427	95.0	10.5	14.9
2002 03 17	17 08.56	+00 19.4	5.164	5.416	99.4	10.4	14.9
2002 03 22	17 09.09	+01 13.3	5.081	5.406	103.8	10.3	14.9
2002 03 27	17 09.31	+02 08.8	5.000	5.395	108.2	10.1	14.8
2002 04 01	17 09.21	+03 05.9	4.923	5.385	112.5	9.9	14.8
2002 04 06	17 08.79	+04 04.2	4.849	5.375	116.8	9.6	14.7
2002 04 11	17 08.04	+05 03.5	4.780	5.365	121.0	9.2	14.7
2002 04 16	17 06.97	+06 03.5	4.716	5.355	125.0	8.8	14.7
2002 04 21	17 05.59	+07 03.8	4.658	5.346	128.9	8.4	14.6
2002 04 26	17 03.90	+08 03.9	4.606	5.337	132.5	8.0	14.6
2002 05 01	17 01.92	+09 03.6	4.560	5.328	135.8	7.6	14.6
2002 05 06	16 59.68	+10 02.2	4.520	5.320	138.7	7.2	14.5
2002 05 11	16 57.19	+10 59.4	4.488	5.311	141.0	6.9	14.5
2002 05 16	16 54.49	+11 54.7	4.463	5.303	142.8	6.6	14.5
2002 05 21	16 51.62	+12 47.6	4.445	5.295	143.8	6.5	14.5
2002 05 26	16 48.62	+13 37.8	4.434	5.288	144.1	6.5	14.5
2002 05 31	16 45.53	+14 24.9	4.431	5.281	143.6	6.5	14.5
2002 06 05	16 42.39	+15 08.5	4.434	5.273	142.3	6.8	14.5
2002 06 10	16 39.26	+15 48.5	4.444	5.267	140.4	7.1	14.5
2002 06 15	16 36.17	+16 24.6	4.461	5.260	138.0	7.4	14.5
2002 06 20	16 33.19	+16 56.8	4.485	5.254	135.1	7.8	14.5
2002 06 25	16 30.34	+17 25.1	4.514	5.248	131.9	8.3	14.5
2002 06 30	16 27.66	+17 49.4	4.548	5.242	128.5	8.7	14.5
2002 07 05	16 25.20	+18 10.0	4.587	5.237	125.0	9.2	14.5
2002 07 10	16 22.98	+18 27.0	4.631	5.231	121.3	9.6	14.5
2002 07 15	16 21.04	+18 40.5	4.679	5.226	117.5	9.9	14.5
2002 07 20	16 19.38	+18 50.9	4.730	5.222	113.7	10.3	14.6
2002 07 25	16 18.03	+18 58.4	4.783	5.217	109.9	10.5	14.6
2002 07 30	16 17.00	+19 03.4	4.839	5.213	106.1	10.8	14.6
2002 08 04	16 16.30	+19 06.0	4.897	5.209	102.3	11.0	14.6
2002 08 09	16 15.92	+19 06.6	4.956	5.205	98.6	11.1	14.6
2002 08 14	16 15.87	+19 05.5	5.016	5.202	94.9	11.2	14.7
2002 08 19	16 16.15	+19 03.0	5.077	5.199	91.3	11.2	14.7
2002 08 24	16 16.75	+18 59.5	5.137	5.196	87.7	11.2	14.7

C/2001 N2 (LINEAR) C/2001 N2 (LINEAR)

Gli elementi orbitali sono stati ricavati da MPC 43333:

T 2002 Aug. 19.8741 TT				Marsden
q 2.667803	(2000.0)	P	Q	
	Peri. 151.9323	-0.2526782	-0.8112286	
	Node 52.7959	-0.9643543	+0.2554157	
e 1.0	Incl. 138.5435	-0.0785777	-0.5259951	

From 143 observations 2001 July 11-Aug. 27.

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2002 04 01		20 34.14	+16 16.8	3.390	3.044	61.6	16.8	15.0	
2002 04 06		20 32.90	+16 44.2	3.290	3.020	65.7	17.6	14.9	
2002 04 11		20 31.07	+17 13.3	3.187	2.996	70.0	18.3	14.8	
2002 04 16		20 28.60	+17 44.0	3.080	2.973	74.5	19.0	14.7	
2002 04 21		20 25.37	+18 16.0	2.972	2.951	79.1	19.5	14.6	
2002 04 26		20 21.30	+18 48.8	2.862	2.930	83.8	20.0	14.5	
2002 05 01		20 16.28	+19 22.0	2.752	2.909	88.7	20.3	14.3	
2002 05 06		20 10.19	+19 54.9	2.642	2.889	93.7	20.4	14.2	
2002 05 11		20 02.89	+20 26.6	2.535	2.869	98.8	20.4	14.1	
2002 05 16		19 54.26	+20 55.9	2.431	2.851	104.1	20.1	14.0	
2002 05 21		19 44.19	+21 21.3	2.331	2.833	109.4	19.7	13.9	
2002 05 26		19 32.59	+21 40.8	2.237	2.816	114.7	19.1	13.7	

Almanacco Astronomico 2002 – Effemeridi di comete

2002 05 31	19 19.41	+21 52.3	2.152	2.799	120.0	18.3	13.6
2002 06 05	19 04.67	+21 53.3	2.075	2.784	125.0	17.4	13.5
2002 06 10	18 48.48	+21 41.3	2.011	2.770	129.5	16.4	13.4
2002 06 15	18 31.07	+21 14.0	1.959	2.756	133.3	15.6	13.4
2002 06 20	18 12.81	+20 29.8	1.922	2.743	135.8	15.0	13.3
2002 06 25	17 54.14	+19 28.2	1.900	2.732	136.9	14.7	13.3
2002 06 30	17 35.54	+18 10.3	1.895	2.721	136.2	15.0	13.2
2002 07 05	17 17.49	+16 38.2	1.906	2.711	133.8	15.7	13.2
2002 07 10	17 00.41	+14 55.0	1.933	2.702	130.1	16.7	13.2
2002 07 15	16 44.61	+13 04.4	1.975	2.694	125.4	17.9	13.3
2002 07 20	16 30.30	+11 09.9	2.030	2.688	120.1	19.1	13.3
2002 07 25	16 17.55	+09 14.9	2.097	2.682	114.4	20.2	13.4
2002 07 30	16 06.35	+07 21.7	2.174	2.677	108.6	21.1	13.5
2002 08 04	15 56.65	+05 31.9	2.258	2.673	102.8	21.7	13.5
2002 08 09	15 48.34	+03 46.7	2.350	2.670	97.0	22.1	13.6
2002 08 14	15 41.30	+02 06.6	2.445	2.669	91.3	22.3	13.7

P/2001 MD7 (LINEAR) P/2001 MD7 (LINEAR)

Gli elementi orbitali sono stati ricavati da MPC 43333:

T 2001 Nov. 30.1250 TT					Marsden
q 1.254302		(2000.0)	P	Q	
n 0.1245244	Peri.	244.8422	+0.9507904	-0.2512475	
a 3.971609	Node	129.1688	+0.2917848	+0.9229006	
e 0.684183	Incl.	13.5243	-0.1042080	+0.2917691	
P 7.91					

From 151 observations 2001 June 21-Aug. 23.

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2002 01 01		00 04.85	-16 05.5	1.172	1.317	74.8	46.1	13.5	
2002 01 06		00 23.16	-13 50.7	1.201	1.338	74.8	45.2	13.7	
2002 01 11		00 41.03	-11 33.3	1.234	1.360	74.7	44.2	13.8	
2002 01 16		00 58.43	-09 15.4	1.270	1.385	74.6	43.2	13.9	
2002 01 21		01 15.39	-06 58.6	1.311	1.412	74.4	42.2	14.1	
2002 01 26		01 31.89	-04 44.3	1.356	1.441	74.1	41.1	14.2	
2002 01 31		01 47.97	-02 33.8	1.405	1.471	73.6	40.0	14.4	
2002 02 05		02 03.63	-00 28.1	1.458	1.503	73.0	38.9	14.6	
2002 02 10		02 18.90	+01 32.0	1.515	1.537	72.3	37.7	14.8	
2002 02 15		02 33.82	+03 26.0	1.575	1.571	71.5	36.6	14.9	
2002 02 20		02 48.40	+05 13.4	1.639	1.606	70.5	35.5	15.1	
2002 02 25		03 02.66	+06 54.1	1.705	1.643	69.4	34.3	15.3	
2002 03 02		03 16.62	+08 27.9	1.775	1.680	68.1	33.2	15.5	
2002 03 07		03 30.29	+09 54.8	1.847	1.718	66.8	32.1	15.7	

P/2001 Q2 (Petriew) P/2001 Q2 (Petriew)

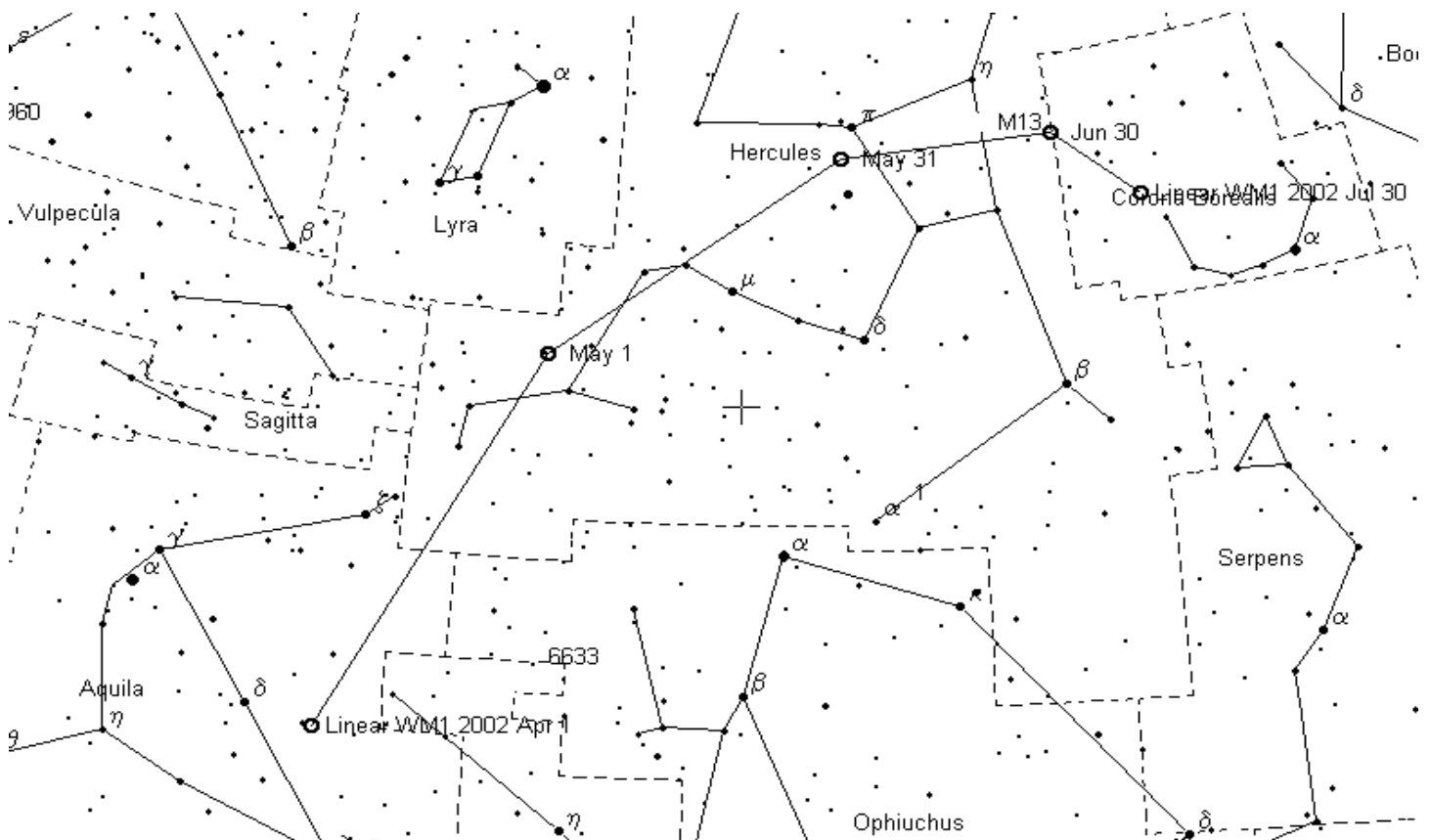
Gli elementi orbitali sono stati ricavati da MPC 43333:

T 2001 Sept. 1.9453 TT					Marsden
q 0.945233		(2000.0)	P	Q	
n 0.1815538	Peri.	181.9328	+0.8097678	-0.5710556	
a 3.088866	Node	214.0482	+0.5415116	+0.8158046	
e 0.693987	Incl.	13.9317	+0.2259235	+0.0914237	
P 5.43					

From 217 observations 2001 Aug. 19-27.

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2001 12 02		10 35.28	-09 31.6	1.275	1.555	85.9	39.2	13.4	

2001 12 07	10 38.79	-10 31.5	1.271	1.602	89.5	38.0	13.6
2001 12 12	10 41.36	-11 25.7	1.265	1.649	93.4	36.6	13.7
2001 12 17	10 42.95	-12 13.5	1.258	1.696	97.6	35.1	13.8
2001 12 22	10 43.53	-12 54.6	1.250	1.743	101.9	33.5	13.9
2001 12 27	10 43.09	-13 28.3	1.241	1.790	106.5	31.8	14.0
2002 01 01	10 41.63	-13 53.9	1.233	1.836	111.4	29.9	14.1
2002 01 06	10 39.18	-14 10.9	1.226	1.883	116.4	27.9	14.2
2002 01 11	10 35.75	-14 18.6	1.221	1.928	121.6	25.7	14.3
2002 01 16	10 31.42	-14 16.4	1.219	1.974	127.0	23.4	14.4
2002 01 21	10 26.31	-14 03.9	1.219	2.019	132.5	21.0	14.5
2002 01 26	10 20.56	-13 41.1	1.224	2.064	138.0	18.6	14.6
2002 01 31	10 14.35	-13 08.4	1.234	2.108	143.4	16.2	14.7
2002 02 05	10 07.88	-12 26.5	1.249	2.153	148.5	13.8	14.8
2002 02 10	10 01.33	-11 36.4	1.271	2.196	153.0	11.8	14.9
2002 02 15	09 54.93	-10 39.6	1.299	2.239	156.5	10.1	15.1
2002 02 20	09 48.86	-09 37.9	1.333	2.282	158.5	9.1	15.2
2002 02 25	09 43.29	-08 33.2	1.375	2.325	158.5	9.0	15.4
2002 03 02	09 38.34	-07 27.3	1.424	2.366	156.7	9.5	15.5
2002 03 07	09 34.09	-06 21.8	1.479	2.408	153.5	10.6	15.7
2002 03 12	09 30.60	-05 18.1	1.541	2.449	149.5	11.9	15.8
2002 03 17	09 27.88	-04 17.4	1.608	2.490	145.0	13.3	16.0
2002 03 22	09 25.95	-03 20.4	1.682	2.530	140.3	14.6	16.2
2002 03 27	09 24.76	-02 27.9	1.760	2.570	135.6	15.8	16.3
2002 04 01	09 24.29	-01 40.2	1.843	2.609	130.9	16.8	16.5
2002 04 06	09 24.49	-00 57.4	1.930	2.648	126.3	17.7	16.7
2002 04 11	09 25.29	-00 19.5	2.021	2.687	121.7	18.5	16.8



Percorso della cometa C/2000 WM1 (LINEAR)

Sciami meteorici 2002

Fonte dati IMO (Interantional Meteor Organization)
<http://www.imo.net>

lambda : longitudine solare

Radiant alpha, delta : ascensione retta e declinazione del radiante

V : velocità delle meteore in Km/s

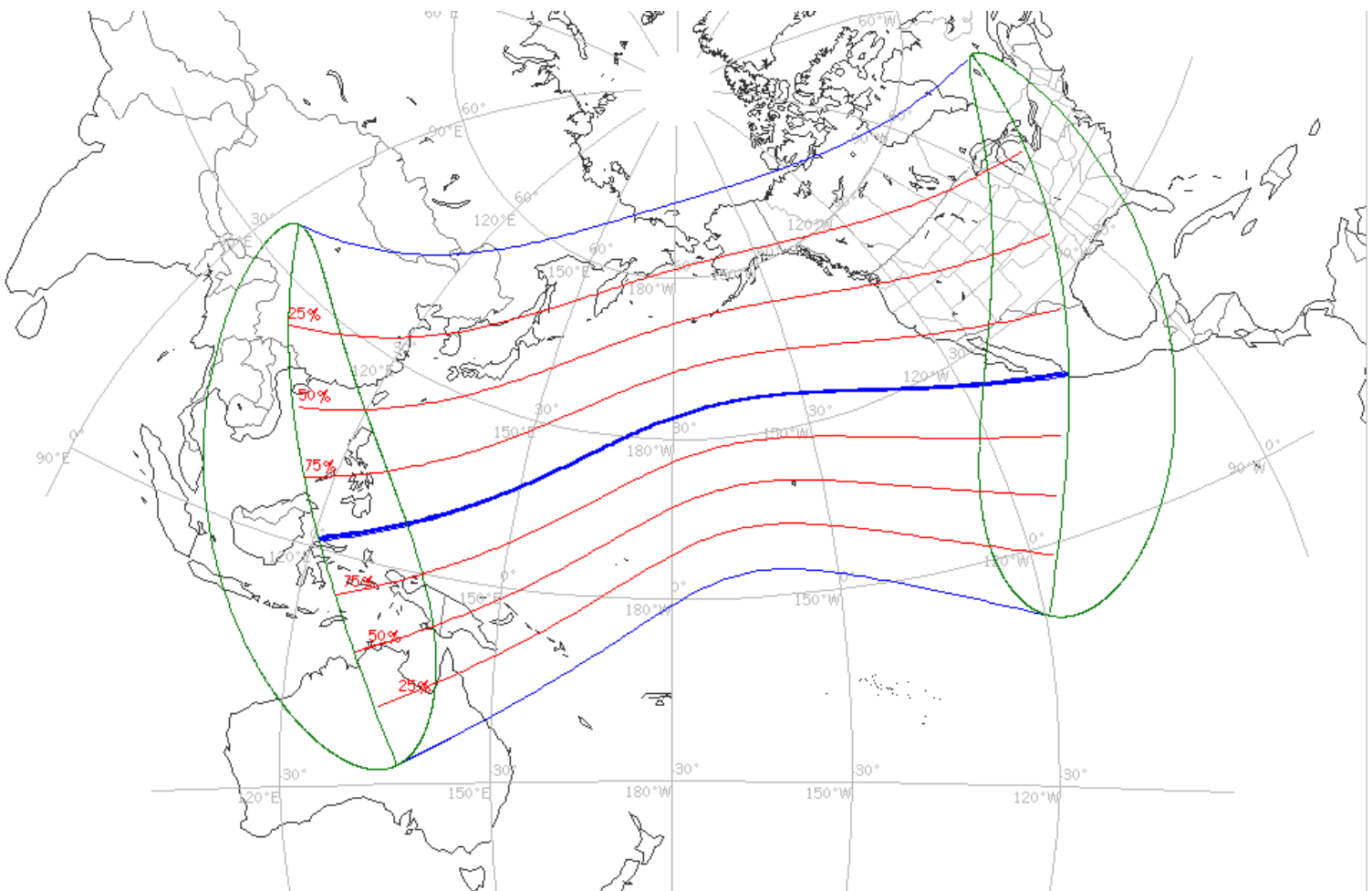
ZHR : tasso orario zenitale

Shower	Activity Period	Maximum Date	Radiant			V km/s	r	ZHR	IMO Code
			lambda °	alpha °	delta °				
Quadrantids	Jan 01-Jan 05	Jan 03	283.16	230	+49	41	2.1	120	QUA
delta-Cancrids	Jan 01-Jan 24	Jan 17	297	130	+20	28	3.0	4	DCA
alpha-Centaurids	Jan 28-Feb 21	Feb 08	319.2	210	-59	56	2.0	6	ACE
delta-Leonids	Feb 15-Mar 10	Feb 24	336	168	+16	23	3.0	2	DLE
gamma-Normids	Feb 25-Mar 22	Mar 13	353	249	-51	56	2.4	8	GNO
Virginids	Jan 25-Apr 15	(Mar 24)	(004)	195	-04	30	3.0	5	VIR
Lyrids	Apr 16-Apr 25	Apr 22	032.1	271	+34	49	2.9	15	LYR
pi-Puppids	Apr 15-Apr 28	Apr 23	033.5	110	-45	18	2.0	var.	PPU
eta-Aquarids	Apr 19-May 28	May 06	045.5*	338	-01	66	2.7	60	ETA}
Sagittarids	Apr 15-Jul 15	(May 20)	(059)	247	-22	30	2.5	5	SAG
June Bootids	Jun 26-Jul 02	Jun 27	095.7	224	+48	18	2.2	var.	JBO
Pegasids	Jul 07-Jul 13	Jul 09	107.5	340	+15	70	3.0	3	JPE
July Phoenicids	Jul 10-Jul 16	Jul 13	111	032	-48	47	3.0	var.	PHE
Pisces Austrinids	Jul 15-Aug 10	Jul 27	125	341	-30	35	3.2	5	PAU
Southern delta-Aquarids	Jul 12-Aug 19	Jul 28	125	339	-16	41	3.2	20	SDA
alpha-Capricornids	Jul 03-Aug 15	Jul 29	127	307	-10	25	2.5	4	CAP
Southern iota-Aquarids	Jul 25-Aug 15	Aug 04	132	334	-15	34	2.9	2	SIA
Northern delta-Aquarids	Jul 15-Aug 25	Aug 08	136	335	-05	42	3.4	4	NDA
Perseids	Jul 17-Aug 24	Aug 12	140.0	046	+58	59	2.6	110	PER
kappa-Cygnids	Aug 03-Aug 25	Aug 17	145	286	+59	25	3.0	3	KCG
Northern iota-Aquarids	Aug 11-Aug 31	Aug 20	147	327	-06	31	3.2	3	NIA
alpha-Aurigids	Aug 25-Sep 05	Aug 31	158.6	084	+42	66	2.5	10	AUR
delta-Aurigids	Sep 05-Oct 10	Sep 08	166	060	+47	64	3.0	6	DAU
Piscids	Sep 01-Sep 30	Sep 20	177	005	-01	26	3.0	3	SPI
Draconids	Oct 06-Oct 10	Oct 08	195.4	262	+54	20	2.6	var.	GIA
epsilon-Geminids	Oct 14-Oct 27	Oct 18	205	102	+27	70	3.0	2	EGE
Orionids	Oct 02-Nov 07	Oct 21	208	095	+16	66	2.9	20	ORI
Southern Taurids	Oct 01-Nov 25	Nov 05	223	052	+13	27	2.3	5	STA
Northern Taurids	Oct 01-Nov 25	Nov 12	230	058	+22	29	2.3	5	NTA
Leonids	Nov 14-Nov 21	Nov 17	235.27	153	+22	71	2.5	storm?	LEO
alpha-Monocerotids	Nov 15-Nov 25	Nov 21	239.32	117	+01	65	2.4	var.	AMO
chi-Orionids	Nov 26-Dec 15	Dec 01	250	082	+23	28	3.0	3	XOR
Phoenicids	Nov 28-Dec 09	Dec 06	254.25	018	-53	18	2.8	var.	PHO
Puppids-Velids	Dec 01-Dec 15	(Dec 06)	(255)	123	-45	40	2.9	10	PUP
Monocerotids	Nov 27-Dec 17	Dec 08	257	100	+08	42	3.0	3	MON
sigma-Hydrids	Dec 03-Dec 15	Dec 12	260	127	+02	58	3.0	2	HYD
Geminids	Dec 07-Dec 17	Dec 13	262.0	112	+33	35	2.6	120	GEM
Coma Berenicids	Dec 12-Jan 23	Dec 20	268	175	+25	65	3.0	5	COM
Ursids	Dec 17-Dec 26	Dec 22	270.7	217	+76	33	3.0	10	URS

Eclissi di Sole del 2002

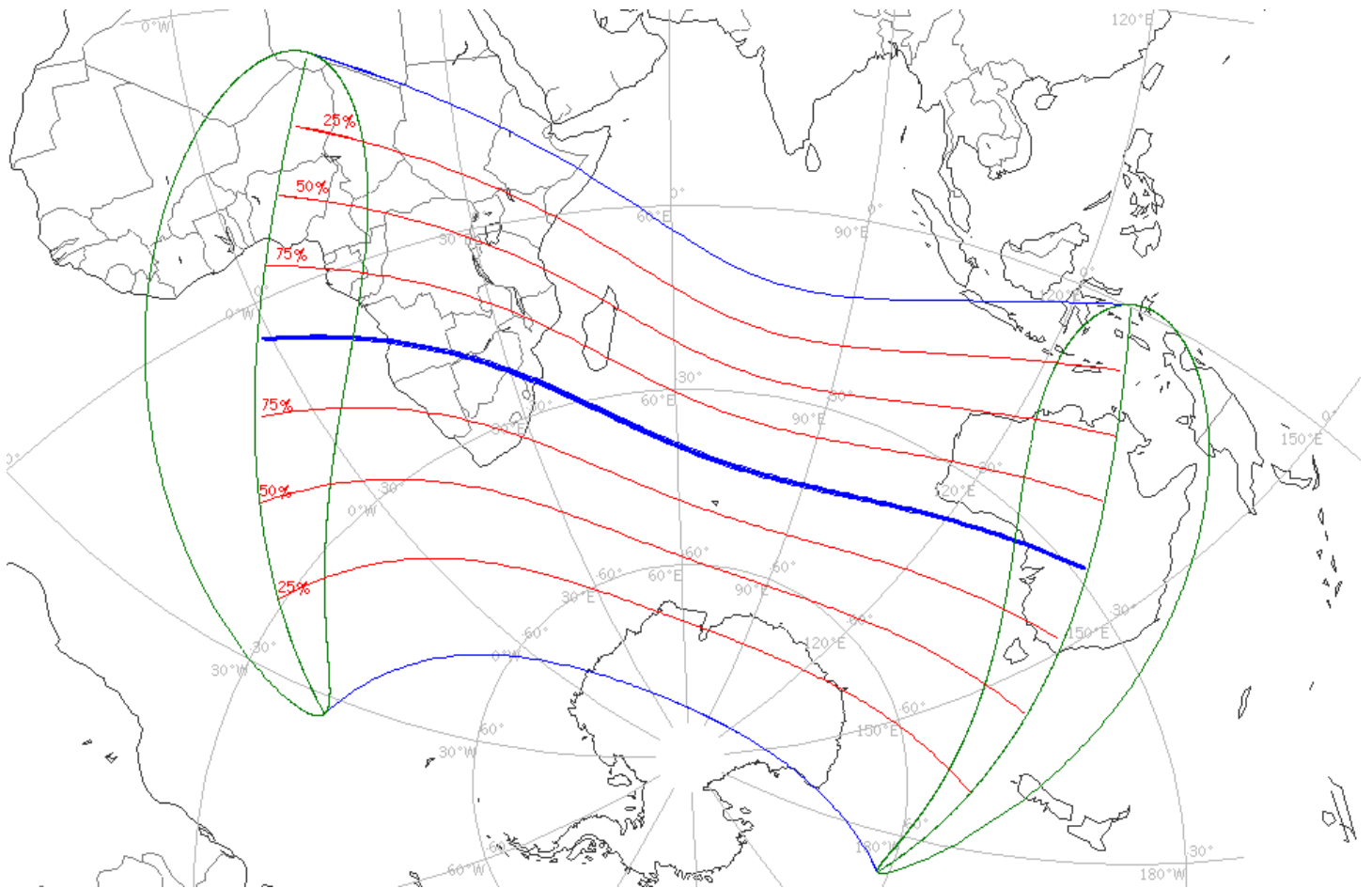
Nel 2002 si verificheranno due eclissi di Sole, entrambe non visibili dall'Europa e quindi in particolare dall'Italia. La prima delle due eclissi sarà di tipo anulare e si verificherà il 10 giugno. La fascia di visibilità si estende per tutto l'Oceano Pacifico, dalle coste dell'isola di Sulawesi (dove sarà visibile all'alba) a quelle del Messico (visibile al tramonto). La seconda eclisse è di tipo totale, si verifica il 14 dicembre ed estenderà la sua fascia di visibilità dalla punta meridionale del continente africano (al mattino) alla parte meridionale e centrale dell'Australia (alla sera) passando per l'Oceano Indiano.

Riportiamo nel seguito le mappe con i percorsi della zona d'ombra.

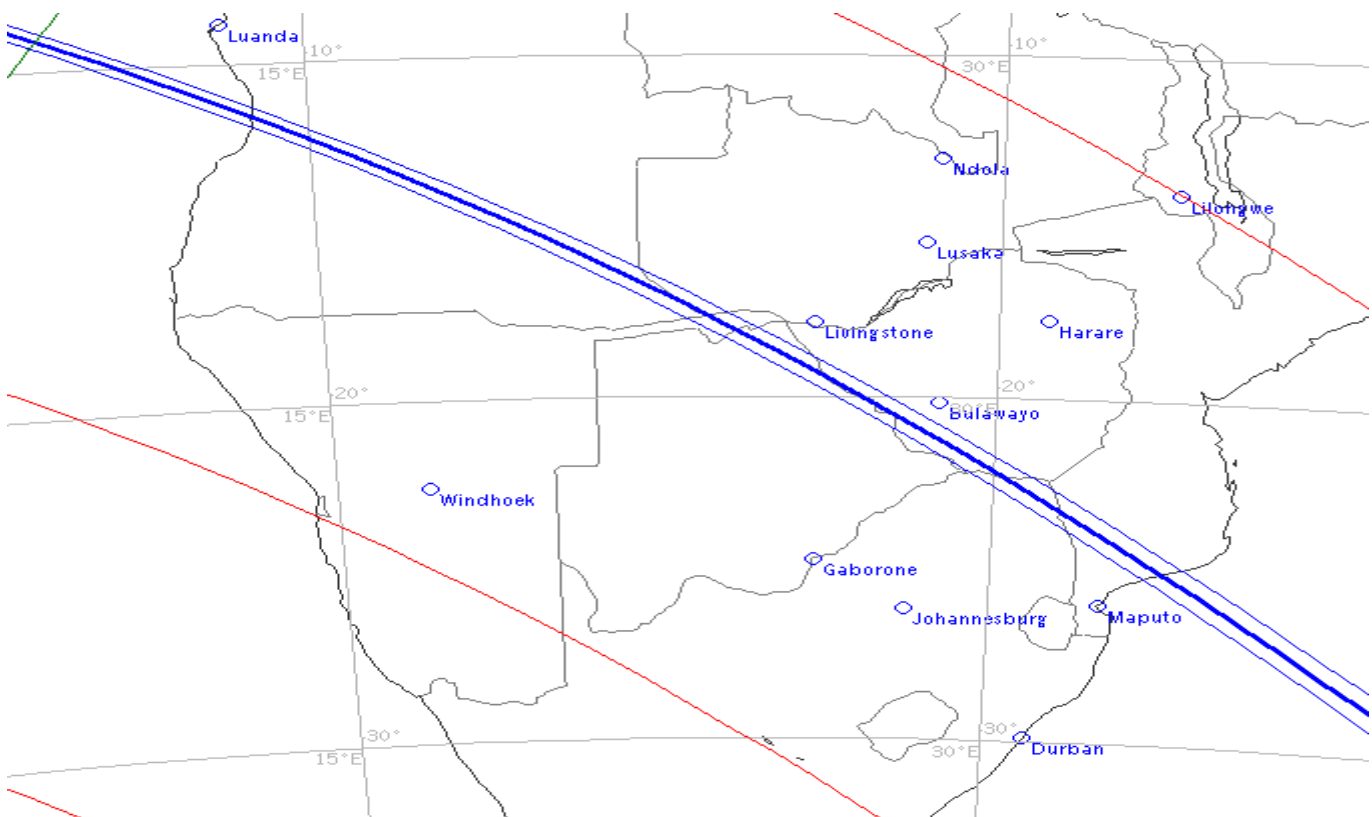


Eclisse anulare del 10 giugno 2002

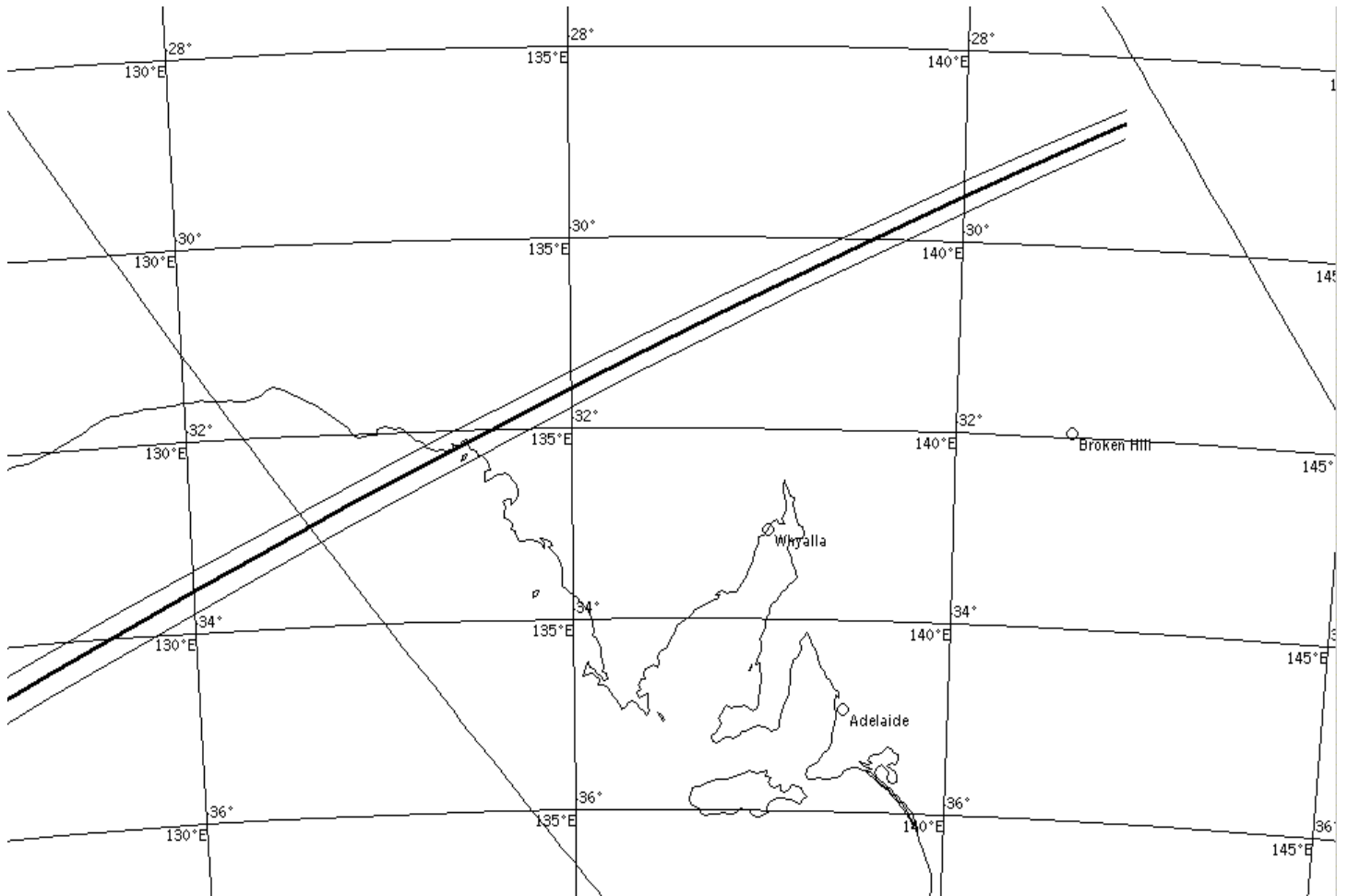
Almanacco Astronomico 2002 – Eclissi di sole



Eclisse totale del 14 dicembre 2002



Eclisse totale del 14 dicembre 2002. Passaggio dell'ombra sul continente africano.



Eclisse totale del 14 dicembre 2002. Passaggio dell'ombra sul continente australiano.

Eclissi di Luna

Nel 2002 si verificano tre eclissi di Luna di penombra. Di queste la prima non sarà visibile dall'Italia mentre le altre due si presenteranno (specie l'ultima) con migliori condizioni. Riportiamo i dati relativi ai tre fenomeni.

Eclisse di penombra del 26 maggio 2002

Luna entra nella penombra: 10:12:40

Massimo eclisse: 12:03:17

Luna esce dalla penombra: 13:53:46

Magnitudine: 0.714

Durata della fase di penombra: 3h 41m 7s

Eclisse di penombra del 24 giugno 2002

Luna entra nella penombra: 20:18:25

Massimo eclisse: 21:27:03

Luna esce dalla penombra: 22:35:25

Magnitudine: 0.235

Durata della fase di penombra: 2h 17m 0s

Altezza della Luna

Entrata nella penombra: 11.7°

Massimo eclisse: 18.2°

Uscita dalla penombra: 21.8°

Angolo di posizione, misurato dal punto a nord del disco lunare

Primo contatto della penombra: 27.4°

Ultimo contatto della penombra: 340.8°

Eclisse di penombra del 19 novembre 2002

Luna entra nella penombra: 23:32:01

Massimo eclisse: 01:46:31

Luna esce dalla penombra: 04:01:06

Magnitudine: 0.886

Durata della fase di penombra: 4h 29m 5s

Altezza della Luna

Entrata nella penombra: 64.6°

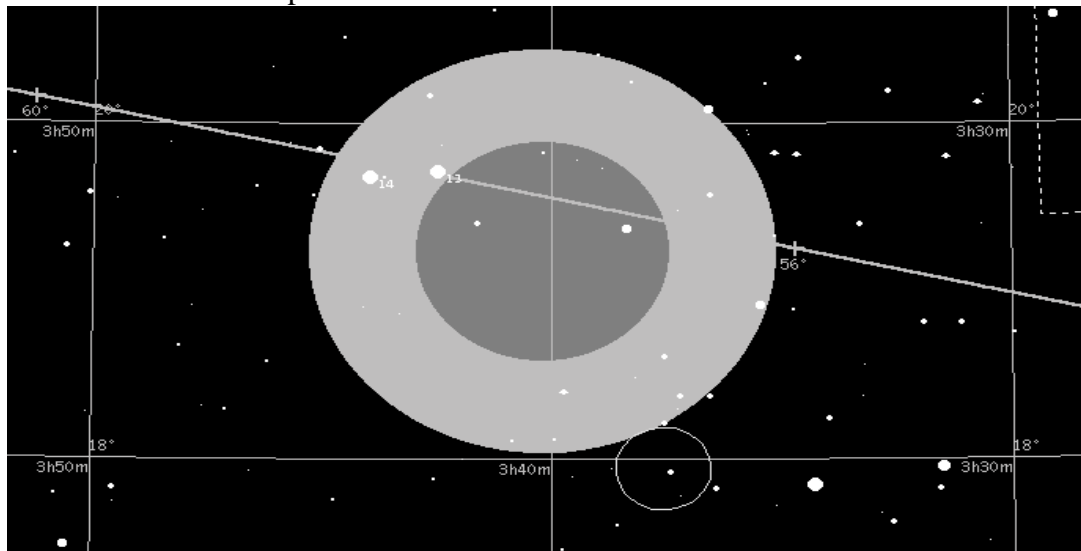
Massimo eclisse: 46.6°

Uscita dalla penombra: 22.7°

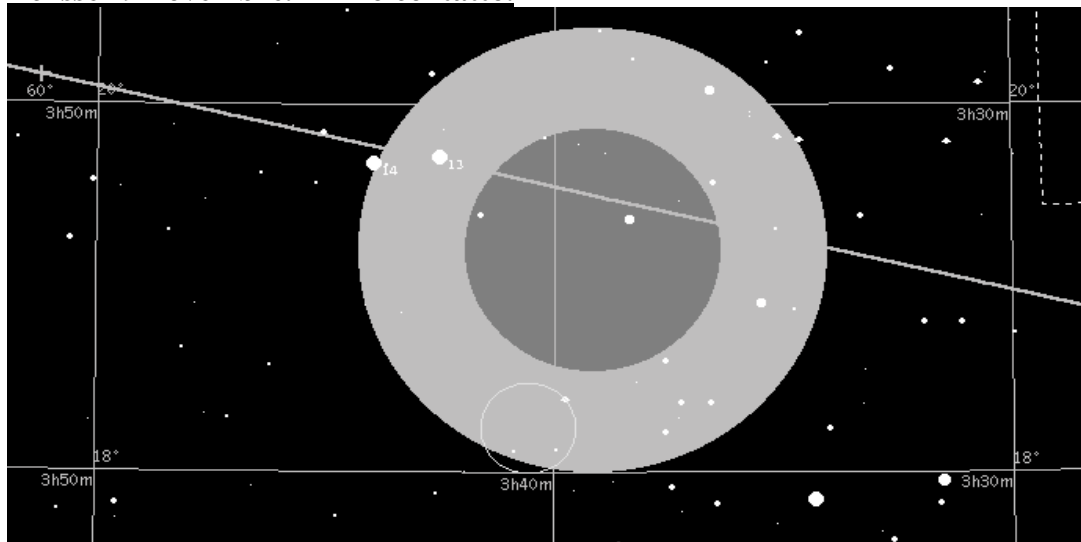
Angolo di posizione, misurato dal punto a nord del disco lunare

Primo contatto della penombra: 27.0°

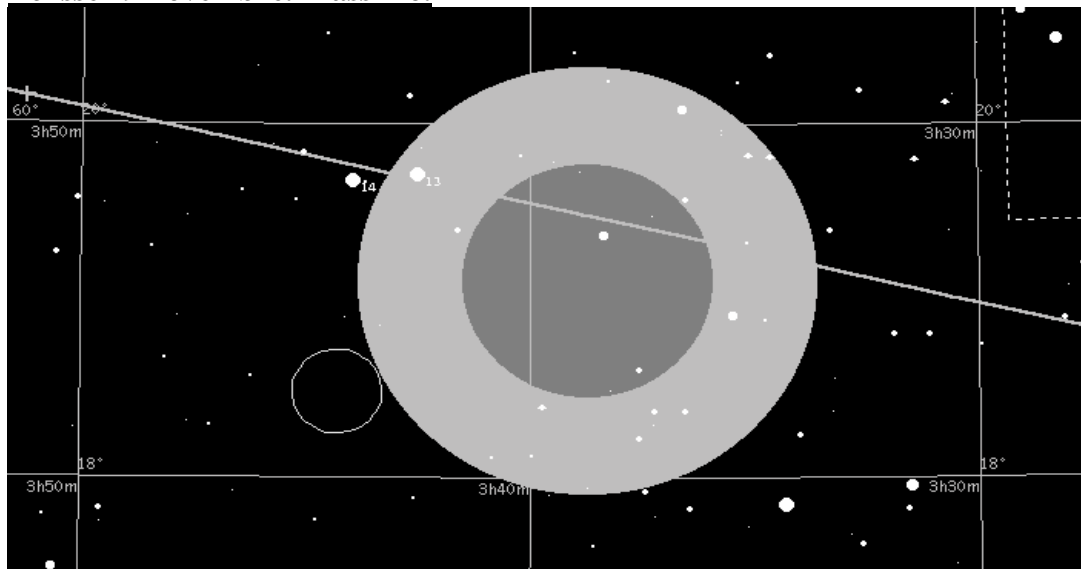
Ultimo contatto della penombra: 295.5°



Eclisse 19 novembre. Primo contatto.



Eclisse 19 novembre. Massimo.



Eclissi del 19 novembre. Ultimo contatto.

Occultazioni lunari di stelle e pianeti

In questa sezione vengono descritti i principali fenomeni di occultazione di stelle e pianeti da parte della Luna.

Date, Time : data ed ora dell'evento

A : precisione del calcolo (in secondi)

P : tipo del fenomeno

D - Disappearance

R - Reappearance

B - Blink

F - Flash

M - Miss

O - Other

Sao : num catalogo stella occultata

ZC : numero ZC

Al° : altezza

CA° : angolo di cuspid

K% : fase lunare

PA° : angolo di posizione

CFA, CFB : coefficienti correttivi del T.U. per la differenza di latitudine e longitudine

Name : nome comune della stella occultata

Date	Time	A	P	SAO	ZC	Mag	RA	Dec	Al	CA	K	PA	CFA	CFB	Name
d m y	h m s						h m s	° ' "	°	°	%	°	m/°	m/°	
01-01-2002	03:03:39	3	R	80125	1253	7.3	08h21m35.362s	+21°54'09.40"	56	31°S	96%-	219			
02-01-2002	01:29:17	4	R	98510		7.2	09h20m44.674s	+19°04'54.63"	67	24°S	91%-	218			
02-01-2002	04:29:17	3	R	98567		7.5	09h26m41.200s	+19°03'03.47"	49	13°N	90%-	360			
03-01-2002	02:46:11	1	R	99080	1514	6.2	10h21m56.563s	+14°57'56.11"	63	64°N	82%-	313	-1.4	-1.6	42 Leo
03-01-2002	23:45:10	1	R	99505		7.5	11h13m23.888s	+10°26'11.82"	32	53°N	73%-	327	-0.8	-1.0	
04-01-2002	03:11:16	2	R	99553	1638	8.1	11h19m12.692s	+09°44'25.47"	57	39°N	72%-	341	-0.8	-2.5	
04-01-2002	05:19:16	1	R	118813	1647	6.7	11h21m55.955s	+09°09'27.83"	50	69°N	72%-	311	-1.1	-1.8	
04-01-2002	22:40:23	1	R	119200		7.1	12h04m24.297s	+04°55'16.83"	8	89°N	63%-	293	-0.2	+0.6	
05-01-2002	00:21:28	1	R	119227		7.5	12h07m38.264s	+04°30'09.94"	25	81°S	62%-	284	-0.8	+0.8	
05-01-2002	02:46:26	1	R	119262	1755	6.9	12h11m45.659s	+04°02'44.02"	46	74°N	62%-	308	-1.3	-0.6	39 B. Vir
05-01-2002	05:15:45	2	R	119297		8.0	12h16m12.568s	+03°32'58.74"	50	20°N	61%-	2			
06-01-2002	00:32:19	1	R	139090	1867	7.5	13h00m12.839s	-01°11'43.91"	15	61°N	51%-	321	-0.3	-0.4	
06-01-2002	06:15:01	1	R			8.5	13h08m33.484s	-02°41'52.09"	44	89°S	49%-	292	-1.7	-1.1	
06-01-2002	06:15:19	1	R	139174		7.8	13h08m35.069s	-02°41'18.02"	43	88°N	49%-	294	-1.7	-1.1	
07-01-2002	06:02:23	1	R	139669	2008	6.6	14h00m09.670s	-08°10'10.97"	40	58°N	38%-	323	-1.2	-1.4	614 B. Vir
08-01-2002	03:25:12	1	R	158804		8.5	14h47m43.823s	-12°56'28.70"	18	74°S	28%-	273	-1.1	+1.2	
08-01-2002	03:29:57	1	R	158808	2110	6.3	14h47m59.884s	-12°50'47.91"	19	79°N	28%-	299	-0.8	+0.3	22 B. Lib
08-01-2002	03:45:05	1	R	158816		8.5	14h48m57.574s	-12°47'14.27"	21	40°N	28%-	338	-0.2	-1.1	
08-01-2002	04:08:10	1	R	158815		7.7	14h48m53.876s	-13°07'33.65"	24	70°S	28%-	269	-1.5	+1.2	
08-01-2002	05:29:57	1	R	158841		8.9	14h51m00.037s	-13°21'15.95"	32	87°S	28%-	286	-1.7	+0.2	
08-01-2002	05:34:51	4	R	158845		7.7	14h51m19.339s	-13°36'48.47"	32	32°S	28%-	231			
08-01-2002	06:22:19	1	R	158865		7.8	14h52m17.341s	-13°30'41.77"	34	85°N	27%-	293	-1.7	-0.4	
15-01-2002	17:34:42	3	D	164449		7.2	21h31m30.048s	-19°13'54.52"	3	3°N	4%+	356			
17-01-2002	18:12:15	4	D	165504	3396	7.7	23h07m28.908s	-11°47'57.26"	16	29°S	15%+	133			
17-01-2002	18:13:58		C	165503		8.9	23h07m18.550s	-11°50'25.96"	16	12°S	15%+	150			
18-01-2002	19:14:00	1	D	146956	3516	8.4	23h53m11.728s	-06°38'31.04"	17	55°N	23%+	35	-0.4	+0.6	
19-01-2002	17:00:05	1	D	128828	71	8.6	00h34m20.366s	-02°23'24.38"	43	86°N	31%+	66	-1.8	+0.3	
19-01-2002	17:37:27		D	128834		9.3	00h34m47.445s	-02°33'15.87"	39	18°S	31%+	140			
20-01-2002	17:08:29	1	D	109795		7.6	01h18m20.578s	+02°33'31.86"	50	89°N	40%+	69	-2.0	+0.5	
20-01-2002	21:59:27	1	D	109873		7.4	01h24m59.791s	+03°21'27.52"	9	52°S	41%+	107	-0.3	-2.3	
21-01-2002	18:37:35	1	D	110325	303	6.4	02h04m56.562s	+07°44'36.98"	51	87°N	50%+	68	-1.8	+0.2	39 B. (Ari)/Psc
21-01-2002	18:44:33	1	D	110324		8.7	02h04m50.811s	+07°51'08.64"	50	63°N	50%+	44	-1.4	+1.1	
21-01-2002	20:14:35		C	110339		8.9	02h06m34.796s	+07°43'20.41"	37	7°S	51%+	153			
21-01-2002	23:02:13	1	D	110390	322	5.6	02h11m26.668s	+08°34'39.42"	9	75°N	52%+	56	-0.2	-0.3	64 Cet
23-01-2002	17:17:46	2	D	93536	527	6.2	03h39m32.243s	+16°32'33.54"	59	44°N	69%+	30			33 B. Tau
23-01-2002	17:19:44	1	D	93542		8.4	03h40m06.789s	+16°21'58.08"	59	84°S	69%+	81	-1.9	+1.0	
23-01-2002	22:49:35	2	D	93608		8.0	03h48m06.884s	+16°58'05.49"	33	40°S	71%+	126	-0.7	-3.4	
24-01-2002	00:12:29	1	D	93630		7.5	03h50m29.584s	+17°28'54.74"	18	47°N	71%+	34	-0.7	+0.7	
24-01-2002	01:17:33	1	D	93650	577	6.0	03h53m16.681s	+17°19'57.34"	7	66°S	72%+	100	+0.2	-1.5	148 B. Tau
24-01-2002	18:48:56	2	D	94021		7.2	04h35m47.024s	+19°58'21.95"	66	46°S	79%+	124			
25-01-2002	17:00:00	1	D	77214		7.8	05h30m22.853s	+22°32'30.66"	44	66°N	87%+	63	-0.7	+1.9	
25-01-2002	17:10:31	1	D	77220	828	6.3	05h30m50.811s	+22°27'49.72"	46	89°N	87%+	86	-1.1	+1.3	
25-01-2002	23:30:26	1	D	77405		7.9	05h41m54.308s	+22°52'16.78"	48	72°S	88%+	105	-1.1	-1.6	
26-01-2002	00:39:12	3	D	77450	865	6.2	05h43m27.057s	+23°12'19.27"	36	20°N	88%+	19			394 B. Tau;V731 Tau

26-01-2002	00:41:16	C	77443	8.3	05h43m09.533s	+22°40'35.91"	35	-1°S	88%+	180		
26-01-2002	22:04:35	7 D	78610	1024	7.4	06h40m13.125s	+23°40'18.78"	70	15°S	94%+	170	
27-01-2002	00:37:47	2 D			7.2	06h45m31.070s	+23°38'38.73"	48	40°S	95%+	146	
27-01-2002	00:59:40	C	78712		8.2	06h45m44.862s	+24°07'28.42"	44	0°N	95%+	7	
27-01-2002	03:19:13	1 D	78816	1050	5.7	06h52m07.762s	+23°35'57.25"	19	77°S	95%+	109	+0.1 -1.5 87 B. Gem
27-01-2002	21:46:19	1 D	79657		7.4	07h44m39.847s	+23°20'24.32"	70	81°N	98%+	100	-1.8 -0.1
27-01-2002	23:59:57	1 D	79704	1178	6.2	07h48m41.412s	+23°08'08.46"	64	88°S	99%+	111	-1.5 -1.4 82 Gem
30-01-2002	02:50:34	1 R	98862	1462	7.3	09h57m40.824s	+16°26'55.31"	51	83°S	98%+	270	-1.5 -0.9
30-01-2002	20:47:07	1 R	99280	1569	6.9	10h46m26.095s	+12°44'11.05"	25	81°N	94%+	292	-0.6 +0.5 210 B. Leo
31-01-2002	21:45:20	1 R	119030		7.1	11h45m30.559s	+07°01'05.37"	22	45°N	87%+	333	-0.5 -1.0
31-01-2002	22:12:34	2 R	119035	1702	4.0	11h45m57.947s	+06°31'02.81"	26	38°S	87%+	237	
01-02-2002	03:19:39	C	119106		8.8	11h54m32.547s	+05°12'14.28"	51	14°S	86%+	214	3 Vir;nu Vir
01-02-2002	04:43:27	1 R	119125	1725	7.6	11h56m54.656s	+05°19'58.86"	42	43°N	85%+	336	-0.6 -2.3
02-02-2002	23:34:25	1 R	139428	1950	5.7	13h35m37.240s	-05°24'22.97"	15	71°N	67%+	309	-0.4 +0.1 80 Vir
04-02-2002	05:22:28	1 R	158677	2088	6.2	14h37m05.508s	-12°18'48.18"	35	85°N	54%+	293	-1.8 -0.8 6 B. Lib
05-02-2002	03:22:32	1 R	159272		8.3	15h27m43.165s	-16°29'44.44"	24	51°N	43%+	323	-0.7 -0.6
05-02-2002	04:00:06	1 R	159280	2209	5.6	15h28m21.225s	-16°43'22.15"	27	79°N	43%+	295	-1.4 +0.1 32 Lib;zeta Lib
05-02-2002	04:54:18	1 R	159294		8.6	15h29m49.524s	-16°50'50.92"	30	66°N	43%+	308	-1.4 -0.6
05-02-2002	04:59:05	C	159299		8.7	15h30m16.895s	-17°15'39.52"	30	14°S	43%+	208	
06-02-2002	02:13:30	1 R	184309	2343	6.3	16h19m13.496s	-20°13'20.42"	5	88°N	33%+	281	-0.6 +1.0 58 G. Sco
06-02-2002	02:22:34	1 R	159860		7.4	16h20m11.253s	-20°03'38.36"	6	31°N	33%+	338	+0.2 -1.0
06-02-2002	02:38:48	1 R	159864		7.6	16h20m36.024s	-20°07'19.11"	9	36°N	33%+	333	+0.0 -0.7
07-02-2002	04:43:22	C	185262		9.1	17h19m19.753s	-23°36'04.37"	15	15°S	23%+	199	
15-02-2002	17:40:11	2 D	128713		8.6	00h21m33.029s	-03°38'15.39"	21	59°S	10%+	104	
15-02-2002	17:53:29	1 D	128710	44	7.4	00h21m17.710s	-03°18'13.73"	19	39°N	10%+	23	
15-02-2002	19:16:46	1 D	128734		7.8	00h23m44.458s	-03°03'00.91"	5	57°N	10%+	41	-0.1 +0.3
16-02-2002	17:03:38	1 D	109643	150	6.1	01h03m53.810s	+01°22'29.31"	37	64°N	16%+	46	-1.1 +0.6 26 Cet
16-02-2002	17:27:03	2 D	109651		8.9	01h04m40.107s	+01°17'34.80"	33	74°S	16%+	88	-1.5 -1.2
16-02-2002	17:57:33	1 D	109655		9.0	01h04m53.052s	+01°35'44.60"	28	49°N	16%+	32	-0.7 +1.0
16-02-2002	18:42:15	2 D	109674		8.8	01h06m22.057s	+01°27'22.72"	21	53°S	17%+	109	-1.0 -2.6
16-02-2002	20:00:59	1 D	109694	165	6.4	01h08m04.474s	+02°00'02.78"	7	51°N	17%+	34	-0.2 +0.6 29 Cet
17-02-2002	19:09:52	1 D	110164		8.5	01h50m57.170s	+06°32'10.30"	27	82°S	24%+	79	-0.9 -1.0
17-02-2002	19:17:53	1 D	110165		8.7	01h50m57.455s	+06°40'02.70"	25	69°N	24%+	52	-0.8 +0.0
18-02-2002	18:58:45	1 D			8.6	02h35m43.326s	+11°19'24.31"	39	58°N	33%+	42	-1.1 +0.8
18-02-2002	18:58:50	2 D	93013		8.8	02h35m29.392s	+11°21'45.54"	39	42°N	33%+	26	-1.0 +1.7
18-02-2002	20:05:53	C	93027		8.9	02h37m07.850s	+11°03'58.88"	27	4°S	33%+	159	
19-02-2002	20:20:40	1 D	93425		7.9	03h25m29.332s	+15°49'57.07"	36	51°N	43%+	37	
20-02-2002	18:34:36	2 D	93822		8.7	04h13m51.288s	+19°18'36.53"	63	54°N	53%+	44	-1.7 +1.6
20-02-2002	21:03:04	1 D	93844		7.6	04h17m44.670s	+19°33'55.87"	39	52°N	53%+	43	
20-02-2002	22:43:03	C	93873		7.5	04h20m19.471s	+19°14'16.60"	21	-1°S	54%+	171	
21-02-2002	18:24:31	2 D	76975		8.5	05h08m20.898s	+21°48'57.47"	70	44°S	63%+	130	-2.7 -3.0
21-02-2002	19:19:32	2 D	76997		8.2	05h09m59.698s	+21°59'25.35"	66	68°S	63%+	106	-2.0 -1.3
21-02-2002	19:31:34	1 D	77003		7.5	05h10m19.914s	+22°08'21.41"	65	82°N	63%+	77	-1.9 -0.0
21-02-2002	19:37:19	2 D	77004		8.5	05h10m25.538s	+21°59'01.09"	64	61°S	63%+	113	-2.0 -1.9
21-02-2002	19:41:08	D	76994		8.6	05h09m47.730s	+21°50'14.68"	63	10°S	63%+	164	
21-02-2002	19:52:28	C			9.0	05h09m59.732s	+21°49'33.96"	61	4°S	63%+	170	
21-02-2002	20:10:28	1 D	77022		8.1	05h11m24.858s	+22°07'010.00"	59	84°S	63%+	91	-1.7 -0.9
21-02-2002	20:30:56	2 D	77024		8.1	05h11m27.079s	+22°21'55.04"	56	37°N	64%+	32	-1.8 +2.2
21-02-2002	22:30:06	1 D	77057	784	6.3	05h15m34.674s	+22°17'14.07"	35	80°N	64%+	76	-0.9 -0.8 108 Tau
22-02-2002	00:21:33	1 D	77097	792	5.0	05h19m23.641s	+22°05'55.10"	15	46°S	65%+	129	109 Tau
22-02-2002	18:22:50	1 D	77971	923	6.7	06h06m56.062s	+23°38'19.19"	70	72°S	73%+	108	-2.1 -0.5 2 Gem
22-02-2002	19:06:22	1 D	78005		8.1	06h08m12.253s	+23°44'16.96"	72	86°S	73%+	94	-2.0 -0.2
22-02-2002	19:13:00	1 D	78010		8.1	06h08m18.449s	+23°51'40.51"	72	67°N	73%+	68	-1.9 +0.9
22-02-2002	22:39:59	2 D	78122		8.0	06h14m16.648s	+23°57'16.32"	44	49°N	74%+	51	-1.6 +0.4
22-02-2002	22:44:09	2 D	78121		7.5	06h14m16.387s	+23°59'10.20"	43	38°N	74%+	41	
22-02-2002	23:49:12	2 D	78168	954	6.1	06h16m26.510s	+23°58'10.72"	32	32°N	75%+	34	8 Gem
22-02-2002	23:53:09	1 D	78176	956	6.2	06h17m06.162s	+23°44'25.71"	31	89°N	75%+	91	-0.5 -1.3 9 Gem
23-02-2002	00:46:05	1 D	78210	960	6.6	06h19m01.884s	+23°36'09.87"	21	68°S	75%+	113	+0.0 -1.8 10 Gem
23-02-2002	01:07:06	1 D	78222	962	6.9	06h19m26.748s	+23°28'07.80"	18	34°S	75%+	147	11 Gem;LU Gem
23-02-2002	17:54:39	1 D	79065	1080	6.7	07h07m24.613s	+24°09'55.89"	58	50°N	82%+	59	
23-02-2002	19:36:34	1 D	79133		7.9	07h10m37.260s	+24°06'18.05"	71	66°N	83%+	75	-1.9 +0.9
23-02-2002	20:45:41	1 D	79162	1092	5.9	07h12m34.073s	+24°07'31.49"	71	55°N	83%+	64	-2.1 +1.0 48 Gem
23-02-2002	22:23:16	1 D	79214		7.9	07h15m37.338s	+23°51'11.82"	57	85°S	83%+	103	-1.4 -1.3
25-02-2002	00:13:41	2 D	80125	1253	7.3	08h21m35.836s	+21°54'09.85"	47	36°S	92%+	160	
25-02-2002	22:07:55	2 D	98510		7.2	09h20m45.435s	+19°04'53.35"	67	52°S	97%+	155	
26-02-2002	21:38:01	1 D	99080	1514	6.2	10h21m57.589s	+14°57'52.50"	57	22°N	100%+	77	-2.0 +1.3 42 Leo
27-02-2002	23:17:26	1 R	118813	1647	6.7	11h21m57.197s	+09°09'21.62"	56	38°N	99%+	318	-1.2 -1.3
28-02-2002	04:03:38	2 R	118892	1669	6.7	11h29m46.962s	+07°35'13.02"	28	63°S	99%+	246	398 B. Leo
01-03-2002	22:58:45	1 R	139229		7.3	13h13m27.966s	-03°30'23.04"	31	59°S	90%+	256	-1.7 +1.9
02-03-2002	05:16:41	1 R	139308	1921	5.9	13h23m25.578s	-04°56'09.75"	25	84°N	88%+	293	-1.0 -1.6 65 Vir
02-03-2002	21:55:03	1 R	139732	2020	6.5	14h06m24.424s	-08°54'07.53"	9	56°N	82%+	321	-0.2 -0.3 94 Vir
02-03-2002	22:17:10	2 R	139736	2022	5.5	14h06m49.463s	-09°19'26.24"	12	48°S	82%+	246	95 Vir
03-03-2002	01:41:00	1 R	139785	2032	7.2	14h12m40.133s	-09°54'37.22"	36	68°N	81%+	308	-1.3 -0.6 97 Vir
03-03-2002	01:58:50	2 R	158427	2033	4.2	14h13m00.417s	-10°17'01.82"	37	44°S	81%+	242	98 Vir;kappa Vir
04-03-2002	01:50:23	2 R	159034		7.8	15h07m32.724s	-15°25'29.84"	28	59°S	71%+	254	-2.3 +1.5
04-03-2002	04:49:43	1 R	159096		7.6	15h12m33.093s	-15°43'22.82"	30	46°N	70%+	328	
05-03-2002	02:11:41	1 D	159682	2302	2.6	16h05m32.924s	-19°48'39.95"	21	-72°S	60%+	119	-1.1 +0.2 8 Sco;beta 1 Sco;
Acrab												
05-03-2002	02:36:59	1 R	159662		7.8	16h04m06.933s	-19°46'23.44"	24	76°S	60%+	268	-1.9 +0.9
05-03-2002	03:25:19	1 R	159684		8							

Almanacco Astronomico 2002 – Occultazioni lunari

06-03-2002	04:41:38	1	R	184962	2450	7.5	17h03m28.227s	-23°09'16.44"	24	76°S	49%	-262	-2.2	+0.5	
06-03-2002	04:53:54		C	184992		7.1	17h04m34.473s	-23°23'36.18"	24	11°S	48%	-197			
07-03-2002	04:19:38		C	186067	2590	8.1	18h00m06.450s	-25°05'12.87"	18	12°S	38%	-192			
17-03-2002	19:25:55	1	D	92922	352	7.1	02h24m15.401s	+10°16'46.45"	12	88°N	12%+	74	-0.3	-0.9	
18-03-2002	17:55:31	2	D	93291		8.6	03h08m13.505s	+14°17'07.64"	39	47°S	18%+	120			
18-03-2002	17:57:46	2	D	93286		8.8	03h07m50.572s	+14°38'26.42"	39	39°N	18%+	27			
18-03-2002	18:45:16		C	93300		9.0	03h08m57.964s	+14°16'56.45"	30	5°S	18%+	162			
19-03-2002	18:26:31	1	D			9.0	03h58m20.954s	+18°18'28.52"	44	64°S	27%+	104	-1.3	-2.0	
20-03-2002	21:11:05		C	76828		8.7	04h54m43.322s	+21°21'41.32"	25	-1°S	37%+	175			
20-03-2002	21:14:53	2	D	76837		8.6	04h55m22.011s	+21°51'01.09"	25	39°N	37%+	34	-1.1	+0.9	
20-03-2002	21:30:12	1	D	76850		7.4	04h56m20.556s	+21°34'31.57"	22	67°S	37%+	106	-0.1	-1.8	
21-03-2002	18:20:55	2	D	77526		7.9	05h46m05.437s	+23°44'54.88"	65	48°N	46%+	47			
21-03-2002	19:55:52	2	D	77586		8.3	05h48m45.380s	+23°47'11.48"	50	46°N	47%+	46			
21-03-2002	20:20:55		C	77583		9.1	05h48m41.894s	+23°52'46.28"	45	1°N	47%+	40			
21-03-2002	21:39:53	2	D	77647	887	7.0	05h51m57.467s	+23°23'01.13"	31	34°S	47%+	144			408 B. Tau
22-03-2002	18:49:15		C	78690		8.9	06h44m41.318s	+24°05'31.77"	69	1°S	57%+	183			
22-03-2002	20:22:37	1	D	78761	1041	8.0	06h48m36.489s	+24°21'34.36"	56	77°N	58%+	83	-1.6	-0.7	
22-03-2002	21:22:41	1	D	78786		8.3	06h50m23.196s	+24°09'18.56"	45	69°S	58%+	116	-0.8	-2.0	
22-03-2002	23:27:27	1	D	78855	1052	6.8	06h54m50.024s	+24°14'36.73"	23	55°N	59%+	61			93 B. Gem
22-03-2002	23:48:02	1	D	78870		7.8	06h55m44.393s	+24°00'21.60"	19	77°S	59%+	108	+0.1	-1.6	
23-03-2002	18:44:12	1	D	79679		7.7	07h46m17.695s	+23°32'39.31"	72	67°S	68%+	123	-1.8	-1.4	
23-03-2002	19:11:43	1	D	79688		7.5	07h47m16.384s	+23°39'33.28"	71	79°N	68%+	91	-2.0	-0.2	
23-03-2002	20:37:00	2	D	79717		8.0	07h49m25.522s	+23°43'47.41"	62	35°N	69%+	47			T Gem
24-03-2002	18:29:12	1	D	80425		8.1	08h47m22.007s	+21°32'08.04"	64	59°N	78%+	77	-1.9	+1.2	
26-03-2002	00:12:52	1	D	98862	1462	7.3	09h57m41.020s	+16°26'56.23"	41	71°S	88%+	133	-0.5	-2.0	
26-03-2002	18:08:34	1	D	99280	1569	6.9	10h46m26.533s	+12°44'10.49"	36	82°N	94%+	113	-1.0	+0.4	210 B. Leo
27-03-2002	19:20:26	1	D	119035	1702	4.0	11h45m58.664s	+06°30'59.85"	34	89°N	99%+	133	-0.9	-0.4	3 Vir;nu Vir
30-03-2002	21:50:37	1	R	158677	2088	6.2	14h37m06.922s	-12°18'55.05"	18	49°N	93%	-324			6 B. Lib
01-04-2002	22:34:54	1	R	184450	2376	4.5	16h32m15.713s	-21°28'16.66"	2	78°N	77%	-289	-0.4	+0.7	9 Oph;omega Oph
04-04-2002	03:48:10	1	R	187054	2703	7.4	18h37m20.086s	-25°40'11.83"	21	78°S	55%	-255	-2.1	+0.9	
04-04-2002	04:14:10	2	R	187073		8.1	18h38m22.445s	-25°25'11.87"	22	37°N	55%	-319	-1.7	-0.8	
14-04-2002	19:12:07	1	D	93216	437	7.3	02h58m50.732s	+13°36'38.83"	3	75°S	4%	96	+0.3	-1.4	
16-04-2002	20:36:24	1	D	76708		8.1	04h41m24.666s	+20°54'17.37"	10	40°S	15%+	133			
17-04-2002	19:26:58	2	D	77246		7.9	05h33m11.592s	+23°08'37.98"	32	37°S	22%+	140			
17-04-2002	19:28:52	1	D	77253		8.6	05h33m39.838s	+23°20'37.29"	32	87°S	22%+	90	-0.6	-1.3	
17-04-2002	21:02:45	1	D	77318		8.7	05h36m58.000s	+23°26'010.00"	16	71°N	23%+	69	-0.2	-0.7	
17-04-2002	22:00:10	1	D	77355		7.5	05h39m21.108s	+23°19'28.97"	6	84°S	23%+	93	+0.3	-1.2	
18-04-2002	18:23:58	2	D	78407		8.5	06h28m23.768s	+24°40'51.05"	54	42°N	31%+	45			
18-04-2002	18:58:59	1	D	78435		9.0	06h29m47.578s	+24°29'27.11"	48	84°N	31%+	87	-1.3	-1.0	
18-04-2002	19:36:51	1	D	78457		8.6	06h30m57.547s	+24°23'00.61"	41	77°S	32%+	105	-0.8	-1.7	
18-04-2002	23:03:34	2	D	78572	1019	6.8	06h38m25.553s	+24°26'57.57"	6	34°N	33%+	38			
19-04-2002	19:00:44	2	D	79406		8.7	07h28m06.827s	+23°58'55.52"	57	34°S	42%+	154	-0.5	-3.9	
19-04-2002	19:04:08	1	D	79419		8.7	07h28m50.205s	+24°16'37.52"	57	68°N	42%+	77	-1.7	-0.4	
19-04-2002	20:37:24	1	D	79470		7.6	07h31m46.058s	+23°59'47.17"	40	83°S	42%+	105	-0.7	-1.6	
19-04-2002	20:37:26	1	D	79463		8.6	07h31m27.247s	+23°52'24.91"	40	52°S	42%+	136	-0.3	-2.5	
19-04-2002	20:49:22	1	D	79477		7.9	07h32m08.940s	+23°57'30.72"	38	80°S	42%+	108	-0.6	-1.7	
19-04-2002	22:10:54	1	D	79524		8.0	07h35m08.359s	+23°55'40.72"	24	71°N	43%+	80	-0.4	-1.1	
21-04-2002	19:05:10	2	D	98567		7.5	09h26m41.479s	+19°03'05.59"	66	39°S	64%+	160			
21-04-2002	20:19:09	3	D	98596	1400	8.1	09h29m07.712s	+19°16'48.26"	59	25°N	65%+	45			
21-04-2002	22:46:17	2	D	98640		8.0	09h33m45.623s	+18°43'40.65"	34	37°N	65%+	58	-1.6	-0.2	
22-04-2002	17:59:05		C	99091		7.3	10h22m50.793s	+15°20'02.38"	57	2°N	75%+	26			
22-04-2002	20:07:49		C	99117		8.5	10h26m18.510s	+14°53'22.84"	62	6°N	75%+	30			
22-04-2002	21:25:39	1	D	99150	1535	6.9	10h28m55.531s	+14°19'59.22"	54	68°N	76%+	92	-1.7	-0.9	167 B. Leo
23-04-2002	19:26:10	1	D	118813	1647	6.7	11h21m57.212s	+09°09'23.13"	55	82°S	85%+	125	-1.5	-0.8	
23-04-2002	22:01:07		C	118843		8.5	11h25m36.713s	+08°54'40.72"	51	6°N	85%+	34			
23-04-2002	22:12:51	1	D	118859	1659	6.7	11h26m25.061s	+08°38'51.13"	50	58°N	85%+	86	-1.9	-0.7	376 B. Leo
25-04-2002	20:04:51	1	D	139229		7.3	13h13m28.545s	-03°30'25.28"	37	86°N	98%+	121	-1.2	-0.1	
26-04-2002	02:12:32	1	D	139308	1921	5.9	13h23m26.207s	-04°56'12.38"	19	50°N	98%+	85	-0.9	-1.2	65 Vir
26-04-2002	02:51:27	1	D	139324	1924	5.8	13h24m40.576s	-05°10'34.87"	13	66°N	98%+	101	-0.6	-1.5	66 Vir
26-04-2002	18:50:44	1	D	139736	2022	5.5	14h06m50.315s	-09°19'29.83"	14	50°N	100%+	111	-0.6	+0.6	95 Vir
26-04-2002	22:28:08	1	D	158427	2033	4.2	14h13m01.302s	-10°17'05.59"	37	37°N	100%+	109	-1.7	-0.3	98 Vir;kappa Vir
28-04-2002	01:00:11	1	R	159085	2170	6.7	15h11m57.859s	-16°10'07.49"	30	73°N	99%	-295	-1.6	-0.9	88 B. Lib
28-04-2002	21:33:01	2	R	159682	2302	2.6	16h05m34.342s	-19°48'43.71"	13	12°N	95%	-356			8 Sco;beta 1 Sco;
Acraab															
29-04-2002	03:27:00	1	R	184253	2330	6.4	16h14m37.066s	-21°06'49.78"	18	69°S	95%	-259	-1.5	-0.8	84 B. Sco
01-05-2002	00:28:43	1	R	186350	2622	6.8	18h09m02.277s	-25°28'22.38"	16	89°S	81%	-270	-1.5	+0.9	V3792 Sgr
01-05-2002	01:27:23	3	R	186420	2627	6.7	18h11m13.464s	-25°45'43.12"	20	34°S	81%	-215			
02-05-2002	03:40:35	2	R	187835	2804	5.8	19h13m21.584s	-25°54'11.40"	22	47°S	71%	-222			201 B. Sgr
05-05-2002	02:59:00	4	R	164697	3202	6.2	21h51m48.108s	-18°36'49.39"	15	13°N	42%	-325			154 B. Cap
06-05-2002	03:40:01	6	R	165221		7.8	22h40m01.228s	-14°32'33.12"	18	10°N	33%	-325			
15-05-2002	18:54:06	2	D	78139		8.2	06h15m10.667s	+24°33'18.88"	27	32°N	11%+	33			
15-05-2002	19:24:10	3	D	78151		8.8	06h15m56.830s	+24°03'43.42"	21	13°S	11%+	167			
15-05-2002	20:12:01		C	78184		9.1	06h17m40.962s	+24°32'25.87"	13	4°N	11%+	5			
16-05-2002	19:45:57	1	D	79223		8.7	07h16m05.853s	+24°23'04.83"	27	79°N	19%+	85	-0.5	-1.2	
16-05-2002	20:24:55	4	D	79238		7.3	07h16m54.998s	+24°32'01.03"	21	18°N	19%+	25			
16-05-2002	20:47:26	1	D	79257		8.4	07h18m10.425s	+24°04'28.90"	17	52°S	19%+	133	+0.4	-2.0	
17-05-2002	18:40:33		C	80005		9.0	08h12m05.539s	+23°23'21.01"	49	7°N	28%+	18			
17-05-2002	19:10:40	1	D	80024	1239	6.6	08h13m48.285s	+23°07'57.64"	43	63°N	28%+	75	-1.3	-0.7	35 B. Cnc
17-05-2002	19:58:16	1	D	80036		8.7	08h14m53.323s	+22°43'01.75"	34	42°S	28%+	148	+0.1	-2.7	
17-05-2002	20:32:10	1	D	80058		8.9	08h16m35.093s	+22°46'22.64"	28	83°S	28%+	108	-0.3	-1.6	
17-05-2002	20:45:05	1	D	80065		8.8	08h17m04.865s	+22°45'26.38"	26	87°S	28%+	104	-0.2	-1.5	
18-05-2002	19:04:28	2	D	80684		8.7	09h11m51.875s	+20°25'12.30"	52	48°N	38%+	65	-2.1	+0.0	

19-05-2002	19:52:05	1	D	98974	8.6	10h09m50.088s	+15°55'25.02"	50	71°S	50%+	130	-0.9	-2.0		
19-05-2002	20:16:16	1	D	98983	8.4	10h10m46.371s	+16°01'40.49"	46	64°N	50%+	85	-1.5	-1.0		
19-05-2002	20:36:41	1	D	98984	8.0	10h10m49.586s	+15°41'41.51"	43	51°S	50%+	149				
21-05-2002	18:39:47	1	D	119125	1725	7.6	11h56m55.195s	+05°19'58.23"	53	69°S	72%+	137	-1.3	-1.3	
23-05-2002	23:15:27	3	D	139584	1985	6.9	13h50m58.314s	-07°47'45.67"	31	25°N	91%+	51			
25-05-2002	01:04:50	1	D	158821	2114	5.3	14h49m27.011s	-14°09'33.17"	18	82°N	97%+	105	-1.1	-1.4	7 Lib;mu Lib
02-06-2002	00:55:33	1	R	164998	3276	7.3	22h19m41.354s	-16°41'35.69"	11	83°N	59%-	256	-1.0	+1.7	
06-06-2002	01:57:04	1	R	109795		7.6	01h18m21.105s	+02°33'39.10"	7	76°N	22%-	258	-0.1	+1.6	
7-06-2002	03:18:14	1	R	110325	303	6.4	02h04m56.658s	+07°44'41.00"	17	83°S	14%-	239	-0.3	+1.9	39 B. (Ari)/Psc
12-06-2002	20:24:43	1	D	78999	1070	5.2	07h02m31.143s	+24°12'47.76"	0	71°S	4%+	111	+0.6	-1.2	42 Gem;omega Gem
13-06-2002	19:39:14	1	D	79847	1200	6.9	07h59m49.004s	+23°10'42.28"	16	56°S	9%+	131	+0.4	-1.8	
13-06-2002	19:50:29	1	D	79848		8.2	07h59m53.166s	+23°04'56.70"	14	31°S	9%+	156			
14-06-2002	20:20:16	1	D	80571		8.6	09h00m34.829s	+20°44'28.60"	17	76°N	17%+	90	-0.1	-1.2	
16-06-2002	19:23:08	1	D	99317		8.1	10h50m52.022s	+12°15'26.33"	41	87°N	36%+	108	-1.0	-1.6	
16-06-2002	19:37:48	1	D	99315		8.8	10h50m40.196s	+12°01'57.09"	38	44°S	36%+	157	-0.2	-2.5	
17-06-2002	20:24:45	1	D	119035	1702	4.0	11h45m58.126s	+06°31'04.62"	35	66°N	48%+	89	-1.3	-1.2	3 Vir;nu Vir
19-06-2002	21:41:19	1	D	139388		7.9	13h31m59.426s	-06°01'35.33"	28	68°S	71%+	135	-1.0	-1.9	
20-06-2002	19:33:27	2	D	158507		7.8	14h21m23.826s	-11°24'33.79"	37	35°S	80%+	165	-0.6	-1.9	
20-06-2002	20:58:52	2	D	158528	2060	6.2	14h23m33.328s	-11°43'29.66"	33	39°S	81%+	161			2 Lib
20-06-2002	21:23:35	1	D	158550	2064	6.5	17h18m09.970s	-11°40'49.80"	31	83°S	81%+	117	-1.5	-1.3	4 G. Lib
22-06-2002	20:27:59	2	D	184253	2330	6.4	16h14m37.711s	-21°06'51.16"	26	29°S	95%+	161			84 B. Sco
22-06-2002	21:52:49	2	D	184285	2337	6.6	16h17m07.621s	-21°18'38.07"	26	42°S	95%+	148			51 G. Sco
23-06-2002	22:48:19	1	D	185237		6.6	17h18m09.895s	-24°17'13.61"	24	65°S	99%+	114	-1.9	-0.6	39 Oph;omicron Oph
23-06-2002	22:48:32	1	D	185238	2490	5.1	17h18m09.970s	-24°17'23.66"	24	64°S	99%+	114	-1.9	-0.6	39 Oph;omicron Oph
23-06-2002	22:52:34	2	D	185239	2491	6.6	17h18m16.440s	-24°04'33.81"	24	66°N	99%+	66	-2.2	+0.3	157 B. Oph
24-06-2002	23:12:20	2	D	186629	2652	6.5	18h18m51.242s	-25°36'14.58"	23	8°N	100%-	61	-2.1	+0.6	67 B. Sgr
25-06-2002	00:23:24	2	R	186629	2652	6.5	18h18m51.242s	-25°36'14.58"	21	62°S	100%-	305	-2.0	-1.2	67 B. Sgr
25-06-2002	21:24:15	2	R	187835	2804	5.8	19h13m23.090s	-25°54'09.54"	12	41°S	99%-	229	-1.9	+2.1	201 B. Sgr
27-06-2002	02:09:08		C	189132		7.8	20h19m03.634s	-23°53'10.35"	23	13°N	95%-	343			
29-06-2002	01:17:11	3	R	164827	3227	6.3	22h02m19.869s	-17°53'29.62"	27	40°N	82%-	304			161 B. (Cap)/Aqr
29-06-2002	23:46:37	1	R	165298	3343	5.7	22h47m50.300s	-14°02'36.77"	15	71°N	75%-	269	-1.1	+1.4	62 Aqr;tau 1 Aqr
30-06-2002	01:13:20	2	R	165327		7.8	22h50m31.666s	-14°02'47.07"	26	40°S	74%-	202	-1.2	+2.4	
06-07-2002	01:37:07	1	R	93377	478	7.4	03h18m33.607s	+15°11'05.03"	11	60°N	20%-	282	-0.1	+1.1	
07-07-2002	03:18:18		C	93814		7.8	04h12m55.614s	+19°32'38.38"	23	10°N	12%-	337			
14-07-2002	19:53:45	1	D	118905		7.8	11h31m46.187s	+07°51'10.19"	20	75°N	24%+	96	-0.5	-1.4	
14-07-2002	20:50:52	1	D	118916	1673	8.2	11h33m13.684s	+07°24'00.77"	9	53°S	24%+	147	+0.1	-2.0	
16-07-2002	19:59:58		C	139252		8.9	13h16m09.823s	-03°55'03.04"	27	8°N	46%+	30			
17-07-2002	20:18:34		D	139755		8.7	14h08m57.864s	-09°50'35.85"	27	12°N	57%+	33			
17-07-2002	20:28:11	1	D	158385	2028	6.5	14h09m07.917s	-10°20'43.31"	25	47°S	57%+	153			96 Vir
20-07-2002	20:32:10	3	D	184786	2430	6.8	16h54m59.997s	-23°31'00.95"	24	18°S	87%+	167			22 Oph
20-07-2002	21:24:17	3	D	184822	2434	5.6	16h56m57.205s	-23°09'17.08"	23	38°N	87%+	44			24 Oph
25-07-2002	23:16:24	2	R	190556		7.0	21h41m54.795s	-19°47'40.03"	25	17°S	97%-	195	-1.2	+2.5	
26-07-2002	00:28:50	2	R	164601	3178	6.2	21h43m22.419s	-19°36'32.26"	28	28°S	97%-	205			143 B. Cap
28-07-2002	02:36:19	1	R	165638	3433	7.7	23h21m00.794s	-10°31'05.52"	37	67°S	87%-	230	-1.5	+0.9	
28-07-2002	23:56:03	1	R	147042	3536	4.4	00h02m05.335s	-05°59'58.87"	28	75°N	80%-	266	-1.6	+1.4	30 Psc;YY Psc
29-07-2002	02:24:02	2	R	128572	5	4.6	00h05m27.827s	-05°41'35.34"	42	52°S	80%-	213	-1.2	+1.8	33 Psc
30-07-2002	22:31:22	1	R	109895	210	6.6	01h27m00.904s	+03°32'55.17"	8	43°S	64%-	204	+0.0	+2.4	117 G. Psc
30-07-2002	23:04:41	1	R	109899		7.6	01h27m23.984s	+03°49'06.02"	14	88°N	64%-	252	-0.4	+1.8	
31-07-2002	03:03:29		C	109959		9.2	01h33m02.024s	+04°58'06.24"	50	16°N	62%-	323			
31-07-2002	03:30:30		C	109968		8.8	01h33m31.985s	+05°03'51.51"	52	16°N	62%-	323			
31-07-2002	23:04:58	1	R	110390	322	5.6	02h11m28.351s	+08°34'52.62"	10	63°S	54%-	224	+0.1	+2.0	64 Cet
01-08-2002	00:08:09	1	R	110408	327	4.4	02h13m07.289s	+08°51'29.50"	21	75°S	54%-	236	-0.3	+2.0	65 Cet;xi 1 Cet
02-08-2002	00:16:08	1	R	93216	437	7.3	02h58m52.943s	+13°36'50.28"	18	64°N	44%-	279	-0.4	+1.3	
03-08-2002	01:28:08	1	R	93619		8.4	03h49m28.728s	+17°49'15.60"	25	86°N	34%-	261	-0.4	+1.6	
04-08-2002	00:02:50	1	R	76680	700	5.9	04h38m23.199s	+20°41'22.17"	4	52°S	25%-	223			129 Hl. Tau;HU Tau
04-08-2002	01:20:15	1	R	76708		8.1	04h41m26.187s	+20°54'21.39"	17	44°S	25%-	217			
05-08-2002	02:21:02		R			8.5	05h39m16.186s	+23°17'26.95"	20	29°S	16%-	208			
05-08-2002	02:27:15		R	77355		7.5	05h39m22.172s	+23°19'30.05"	21	37°S	16%-	216			
05-08-2002	02:55:25	1	R	77366		9.0	05h40m01.826s	+23°41'50.74"	26	66°N	16%-	292	-0.7	+0.8	
05-08-2002	02:56:06	1	R	77374		8.9	05h40m23.375s	+23°24'06.74"	26	41°S	16%-	220	+0.2	+2.3	
06-08-2002	02:24:03	1	R	78557	1015	6.4	06h37m34.517s	+24°35'22.67"	12	65°N	9%-	300	-0.2	+0.6	52 B. Gem
06-08-2002	02:47:32	1	R	78572	1019	6.8	06h38m26.121s	+24°26'56.90"	15	74°S	9%-	261	+0.1	+1.3	
06-08-2002	03:03:55	1	R	78582		8.8	06h39m06.177s	+24°32'05.52"	18	88°S	9%-	274	-0.1	+1.1	
06-08-2002	03:16:30	1	R	78596	1023	6.4	06h39m38.709s	+24°35'56.07"	20	81°N	9%-	284	-0.3	+0.9	
11-08-2002	18:43:04	5	D	119207	1741	7.1	12h04m49.167s	+03°33'43.77"	16	1°S	12%+	198			41 B. Vir
12-08-2002	19:17:18	1	D	139097		8.3	13h00m45.243s	-02°34'26.43"	15	73°N	21%+	94	-0.6	-1.4	
13-08-2002	19:35:02	3	D	139607		7.7	13h54m02.036s	-08°29'42.36"	16	25°N	32%+	45			
15-08-2002	21:01:20	1	D	159480		7.5	15h45m31.938s	-19°06'54.32"	11	66°N	55%+	79	-0.9	-1.1	
20-08-2002	19:38:32	2	D	189330	2985	6.8	20h28m53.849s	-23°58'32.14"	18	37°S	96%+	119	-1.6	+0.3	30 B. Cap
21-08-2002	21:17:21	2	D	190295	3130	5.4	21h24m18.932s	-20°50'26.66"	25	48°S	99%+	90	-2.1	+0.6	33 Cap
25-08-2002	22:20:36	1	R	128787	60	6.9	00h29m47.290s	-02°49'30.96"	29	51°S	92%-	216	-0.9	+2.3	64 B. Cet
26-08-2002	22:26:18	2	R	109727	178	6.6	01h12m38.723s	+02°29'09.63"	28	69°N	86%-	273	-1.2	+1.4	35 Cet
27-08-2002	00:52:55	3	R	109775	188	7.6	01h16m44.096s	+02°44'57.38"	48	13°S	85%-	176			
27-08-2002	03:31:20	2	R	109805		7.5	01h19m32.425s	+03°18'14.49"	47	20°S	85%-	183			
29-08-2002	01:04:53	1	R	93083	404	5.2	02h45m05.736s	+12°27'25.31"	47	48°S	69%-	212			38 Ari;UV Ari
29-08-2002	22:36:30	R	93454	505	7.1	03h29m50.785s	+16°46'17.24"	27	19°N	61%-	327				
30-08-2002	22:30:41	1	R	93840		7.1	04h17m09.468s	+19°40'56.05"	9	41°S	51%-	212	+0.6	+2.1	
30-08-2002	23:47:02	1	R	93863		7.9	04h19m38.413s	+19°57'15.43"	23	51°S	51%-	222			
02-09-2002	00:12:42	1	R	78031		8.2	06h09m04.653s	+24°21'36.48"	12	86°S	31%-	268	+0.2	+1.2	
02-09-2002	00:20:13	1	R			8.4	06h09m23.675								

Almanacco Astronomico 2002 – Occultazioni lunari

02-09-2002	02:56:03	1 R	78139	8.2	06h15m12.500s	+24°33'19.09"	41	64°S	30%	-246	-0.6	+1.9		
03-09-2002	01:37:14	1 R	79140	8.0	07h11m23.191s	+24°39'38.69"	17	82°N	21%	-286	-0.2	+0.9		
03-09-2002	02:26:18	1 R	79181	8.4	07h13m18.605s	+24°39'12.48"	25	87°S	20%	-276	-0.4	+1.1		
03-09-2002	02:49:09	3 R	79199	1099	5.8	07h14m49.792s	+24°52'54.21"	29	34°N	20%	-334		52 Gem	
03-09-2002	02:59:14	1 R	79191	1097	6.9	07h14m34.343s	+24°42'28.68"	31	86°N	20%	-283	-0.7	+0.9	
03-09-2002	03:45:33	2 R	79234		8.8	07h16m38.424s	+24°53'17.12"	39	47°N	20%	-322			
03-09-2002	03:46:29	1 R	79227		8.9	07h16m13.825s	+24°39'58.40"	40	77°S	20%	-267	-0.8	+1.3	
03-09-2002	04:00:51	1 R	79238		7.3	07h16m56.283s	+24°31'58.91"	42	45°S	20%	-235			
04-09-2002	02:29:12	1 R	80024	1239	6.6	08h13m49.041s	+23°07'54.87"	15	78°S	12%	-275	-0.0	+1.1	35 B. Cnc
09-09-2002	17:55:18	2 D	139390	1941	4.7	13h32m04.253s	-06°15'59.46"	13	31°N	10%	+49			74 Vir;l2 Vir
12-09-2002	17:50:47	1 D	184331	2348	6.8	16h20m51.380s	-21°50'48.72"	22	81°N	39%	+91	-1.8	-0.8	
13-09-2002	18:12:58	C	185256		8.7	17h19m03.052s	-24°26'23.40"	22	4°N	50%	+9			
13-09-2002	19:23:07	1 D	185313	2499	6.4	17h21m50.300s	-24°54'33.81"	16	61°S	50%	+122	-1.7	-1.6	125 G. Oph
13-09-2002	19:45:16	2 D	185320	2500	3.3	17h22m09.330s	-25°00'10.13"	13	37°S	50%	+147			42 Oph;theta Oph
14-09-2002	18:23:43	2 D	186628		7.9	18h18m51.159s	-25°56'07.03"	22	51°N	61%	+49	-2.0	+0.7	
14-09-2002	19:44:54	1 D	186687	2657	6.9	18h21m21.622s	-26°05'06.00"	18	87°N	61%	+85	-1.7	-0.7	55 G. Sgr
18-09-2002	22:37:52	1 D	164827	3227	6.3	22h02m20.998s	-17°53'27.32"	28	74°S	93%	+76	-1.8	-0.2	161 B. (Cap)/Aqr
19-09-2002	21:06:47	2 D	165298	3343	5.7	22h47m51.688s	-14°02'31.89"	33	29°S	97%	+112			69 Aqr;tau 1 Aqr
19-09-2002	22:40:01	1 D	165321	3349	4.1	22h49m44.397s	-13°34'42.07"	34	69°S	97%	+71	-1.9	+0.2	71 Aqr;tau Aqr
24-09-2002	03:53:20	1 R	110154		7.4	01h50m04.648s	+07°14'15.87"	37	55°S	94%	-222	-1.0	+0.7	
24-09-2002	20:34:30	1 R	92932	354	5.5	02h24m57.813s	+10°37'24.91"	21	81°S	90%	-248	-0.3	+1.8	24 Ari;xi Ari
24-09-2002	21:12:09	1 R	92948		7.5	02h26m19.854s	+10°39'01.94"	27	47°S	90%	-214	-0.2	+2.4	
25-09-2002	03:48:43	2 R	93004		7.5	02h34m12.478s	+12°11'36.42"	48	71°N	89%	-274	-1.9	-1.4	
25-09-2002	22:52:22	1 R	93350	469	7.2	03h14m17.330s	+15°36'04.16"	41	80°N	84%	-266	-1.3	+1.4	
27-09-2002	02:17:49	2 R	93778		7.7	04h08m29.727s	+19°44'43.36"	66	24°S	75%	-195			
27-09-2002	23:07:40	2 R	76830		8.0	04h54m58.518s	+22°09'04.98"	31	26°S	67%	-200	+0.5	+3.0	
28-09-2002	00:14:30	1 R	76846	739	7.2	04h56m15.805s	+22°34'52.76"	43	81°N	67%	-273	-1.2	+1.2	
28-09-2002	23:37:48	1 R	77597		7.7	05h49m29.530s	+24°13'26.85"	28	60°S	57%	-239	-0.1	+2.0	
29-09-2002	00:27:04	C	77640		9.0	05h51m48.308s	+24°42'22.64"	37	14°N	57%	-345			
29-09-2002	04:16:52	2 R	77769		7.4	05h57m45.951s	+24°36'50.52"	72	44°S	56%	-224			
29-09-2002	04:30:40	2 R	77776		7.9	05h58m09.359s	+24°37'05.03"	73	41°S	55%	-222			
29-09-2002	04:30:56	1 R	77770		8.3	05h57m47.918s	+24°45'53.68"	73	79°S	55%	-260	-2.1	+0.5	
30-09-2002	01:54:55	1 R	78791		8.7	06h50m54.640s	+25°15'49.64"	44	66°N	46%	-298	-1.5	+0.2	
30-09-2002	03:12:45	1 R	78827		7.4	06h53m14.961s	+25°18'32.69"	57	70°N	45%	-295	-1.9	-0.1	
30-09-2002	04:28:25	2 R	78866	1055	5.7	06h55m27.459s	+25°22'23.53"	69	62°N	45%	-303	-2.2	-1.2	37 Gem
30-09-2002	04:51:53	3 R	78885		7.6	06h56m27.490s	+25°00'23.11"	71	25°S	45%	-212			
30-09-2002	23:39:05	1 R	79649	1168	7.1	07h44m06.427s	+24°14'20.17"	10	86°S	36%	-277	+0.1	+1.0	
30-09-2002	23:42:40	1 R	79653	1170	3.6	07h44m35.240s	+24°23'34.21"	10	56°N	36%	-315	-0.3	+0.0	77 Gem;kappa Gem
01-10-2002	01:20:52	C	79716		9.5	07h49m18.946s	+24°29'48.91"	27	12°N	35%	-359			
01-10-2002	01:31:41	4 R	79718	1180	7.1	07h49m27.185s	+24°29'00.01"	29	25°N	35%	-346			
01-10-2002	02:03:48	1 R	79724		7.8	07h49m44.429s	+24°15'49.87"	35	85°S	35%	-278	-0.8	+1.1	
01-10-2002	02:33:49	1 R	79739		7.1	07h50m48.089s	+24°09'20.20"	40	62°S	35%	-254	-0.7	+1.8	
02-10-2002	02:17:06	1 R	80443		8.7	08h49m16.272s	+21°53'04.74"	25	87°S	25%	-286	-0.5	+0.8	
02-10-2002	04:36:00	1 R	80490		8.9	08h54m04.032s	+21°46'24.41"	50	79°N	24%	-299	-1.4	-0.1	
02-10-2002	04:49:21	1 R	80499		8.3	08h54m39.926s	+21°48'43.50"	52	63°N	24%	-315	-1.5	-1.0	
03-10-2002	02:55:35	1 R	98783	1444	7.8	09h49m12.591s	+18°02'52.96"	20	81°N	15%	-303	-0.5	+0.3	
03-10-2002	03:43:58	1 R	98802		8.8	09h50m49.425s	+17°43'24.53"	28	50°S	15%	-255			
03-10-2002	04:22:20	1 R	98820		9.0	09h52m32.574s	+17°55'28.05"	35	61°N	15%	-323	-1.0	-0.8	
04-10-2002	03:02:11	1 R	99280	1569	6.9	10h46m25.946s	+12°44'12.81"	8	45°S	8%	-255			210 B. Leo
04-10-2002	03:07:33	1 R	99287		8.4	10h47m06.779s	+13°01'07.71"	9	63°N	8%	-327	-0.3	-0.5	
04-10-2002	03:49:55	C	99310		9.3	10h49m43.740s	+12°55'05.46"	16	10°N	8%	-20			
04-10-2002	04:26:04	1 R	99313		8.7	10h50m15.634s	+12°47'54.57"	23	49°N	8%	-340			
05-10-2002	04:37:10	1 R	119035	1702	4.0	11h45m57.849s	+06°31'04.24"	11	64°S	2%	-282	-0.2	+0.9	3 Vir;nu Vir
09-10-2002	17:54:43	2 D	183983		7.6	15h58m37.884s	-20°54'00.87"	7	38°S	15%	+153			
10-10-2002	17:44:47	1 D	184864		8.2	16h58m55.189s	-23°59'27.53"	13	59°N	24%	+66	-1.1	-0.6	
11-10-2002	17:57:51	3 D	186047		8.0	17h59m24.749s	-25°49'12.16"	16	28°N	34%	+29			
12-10-2002	16:30:14	2 R	187448	2750	2.1	18h55m24.833s	-26°17'41.39"	22	-39°N	44%	+315			34 Sgr;sigma Sgr;
Nunki														
15-10-2002	17:00:45	1 D	190556		7.0	21h41m54.873s	-19°47'43.04"	21	84°N	74%	+62	-1.7	+1.5	
15-10-2002	18:08:50	2 D	164601	3178	6.2	21h43m22.506s	-19°36'35.21"	27	73°N	74%	+51	-1.8	+1.3	143 B. Cap
17-10-2002	21:03:01	2 D	165638	3433	7.7	23h21m01.529s	-10°31'04.05"	37	61°S	89%	+88	-2.5	-0.1	
18-10-2002	18:33:25	1 D	147042	3536	4.4	00h02m06.335s	-05°59'55.18"	28	65°S	94%	+80	-1.5	+1.5	30 Psc;YY Psc
19-10-2002	23:00:21	1 D	128974	106	6.6	00h50m03.734s	+00°14'22.96"	47	81°N	98%	+41	-1.3	+1.3	123 B. Cet
24-10-2002	20:42:42	1 R	76668		7.6	04h36m23.855s	+21°32'34.56"	27	81°S	89%	-254	-0.3	+1.7	
25-10-2002	23:36:08	3 R	77285	839	5.4	05h35m37.112s	+24°02'31.32"	50	9°S	81%	-187			121 Tau
25-10-2002	23:57:00	1 R	77276		6.8	05h35m13.571s	+24°17'35.61"	54	83°S	81%	-260	-1.4	+1.4	
26-10-2002	00:49:18	1 R	77312		8.2	05h36m38.074s	+24°22'14.67"	63	79°S	81%	-257	-1.7	+1.3	
26-10-2002	03:13:25	7 R	77390		7.6	05h41m15.441s	+24°21'08.42"	71	7°S	80%	-185			
26-10-2002	03:21:29	1 R	77375		7.1	05h40m28.247s	+24°32'22.78"	70	75°S	80%	-253	-2.1	+0.4	
26-10-2002	21:04:38	1 R	78331	977	6.4	06h24m53.609s	+25°02'52.27"	15	86°S	73%	-268	+0.1	+1.3	34 B. Gem
27-10-2002	21:51:03	1 R	79352	1117	5.0	07h23m37.997s	+25°02'45.34"	13	52°N	63%	-315			57 Gem;A Gem
28-10-2002	03:25:45	1 R	79502		8.6	07h34m13.120s	+24°52'27.60"	70	68°S	61%	-257	-2.0	+1.0	
28-10-2002	03:55:35	1 R	79521		7.4	07h34m59.848s	+24°56'56.18"	72	89°S	61%	-278	-2.1	-0.2	
28-10-2002	04:36:28	1 R	79535		8.4	07h36m04.222s	+24°54'05.39"	73	86°S	61%	-275	-2.0	-0.4	
28-10-2002	05:05:25	2 R	79544		8.5	07h37m05.343s	+25°00'40.31"	71	59°N	61%	-309	-1.6	-2.1	
29-10-2002	00:59:17	1 R	80195	1267	8.1	08h27m34.526s	+23°08'38.75"	35	84°S	52%	-278	-0.8	+1.0	
30-10-2002	01:09:27	1 R	80809	1393	6.5	09h24m53.483s	+19°46'34.48"	25	48°S	41%	-248			9 B. Leo
31-10-2002	02:13:58	1 R	99091		7.3	10h22m51.253s	+15°19'57.08"	25	82°S	29%	-286	-0.6	+0.8	
31-10-2002	04:05:48	1 R	99117		8.5	10h26m18.946s	+14°53'17.82"	44	54°S	29%	-259	-1.4	+1.7	
31-10-2002	05:27:27	1 R	99144	1532	7.6	10h28m32.773s	+14°44'29.46"	56	77°S	28%	-282	-1.7	+0.2	
01-11-2002	03:00:29	1 R	99553	1638	8.1	11h19m13.870s	+09°44'18.96"	20	86°N	19%	-301	-0.5	+0.3	
01-11-2002	04:28:40	2 R	118813	1647	6.7	11h21m57.127s	+09°09'21.25"	35	37°S	19%	-244			

02-11-2002	02:45:32	1	R	119272	7.6	12h12m36.538s	+03°23'30.36"	4	47°S	11%-	257	-0.0	+1.8		
02-11-2002	05:14:01	2	R	119317	8.0	12h18m25.725s	+03°05'19.62"	29	39°N	10%-	350				
03-11-2002	05:22:06	2	D	139229	7.3	13h13m27.785s	-03°30'22.18"	17	30°N	4%-	1				
08-11-2002	16:36:37	2	D	186983	8.3	18h34m07.767s	-26°47'40.74"	16	47°S	19%+	132				
08-11-2002	16:40:02	6	D	186965	8.4	18h33m40.366s	-26°52'11.50"	15	15°S	19%+	164				
09-11-2002	17:28:46	1	D		2862	8.0	19h36m12.361s	-25°53'49.37"	17	59°N	28%+	52	-1.1	-0.0	
09-11-2002	17:44:11	C		188321	8.5	19h36m01.914s	-26°17'53.07"	15	6°S	28%+	166				
11-11-2002	17:07:02	1	D	190337	7.2	21h26m30.621s	-20°59'21.35"	27	77°N	48%+	59	-1.8	+0.7		
11-11-2002	17:53:54	5	D	190349	3141	5.8	21h27m23.427s	-21°11'10.96"	26	25°S	49%+	137			35 Cap
12-11-2002	19:39:48	1	D	164998	3276	7.3	22h19m42.945s	-16°41'32.12"	27	80°S	59%+	78	-1.8	-0.4	
13-11-2002	18:44:38	2	D	165477	3387	8.2	23h04m38.702s	-12°09'55.93"	36	50°N	68%+	25	-1.0	+1.7	
13-11-2002	20:52:14	1	D	165504	3396	7.7	23h07m32.828s	-11°47'34.19"	29	76°N	69%+	52	-1.1	+0.3	
15-11-2002	16:08:19	1	D	128787	60	6.9	00h29m47.732s	-02°49'30.87"	21	74°S	84%+	77	-0.9	+1.7	64 B. Cet
16-11-2002	16:19:49	1	D	109727	178	6.6	01h12m39.469s	+02°29'11.85"	20	77°N	90%+	49	-0.5	+2.1	35 Cet
16-11-2002	21:10:39	2	D	109793	192	5.1	01h17m56.846s	+03°37'46.38"	51	35°N	91%+	8			89 Psc;f Psc
20-11-2002	17:37:10	2	R	76532	628	4.9	04h17m26.019s	+20°35'11.09"	15	46°N	100%-	311	+1.9	+7.3	50 Tau;omega Tau
20-11-2002	19:40:12	C		76564	642	6.8	04h21m42.079s	+21°02'50.80"	37	19°N	99%-	335			219 B. Tau
20-11-2002	20:27:24	1	R	76571	646	5.9	04h22m33.126s	+20°49'44.26"	46	63°S	99%-	238	-0.8	+2.0	224 B. Tau
20-11-2002	21:14:20	1	R	76585	651	6.0	04h23m42.781s	+20°59'22.15"	54	70°S	99%-	245	-1.2	+1.8	227 B. Tau
20-11-2002	23:11:49	2	R	76609		7.4	04h26m28.974s	+21°28'39.67"	69	64°N	99%-	289	-2.6	-0.9	
21-11-2002	00:25:48	2	R	76618	665	5.7	04h28m11.271s	+21°37'37.36"	68	64°N	99%-	288	-2.4	-1.5	247 B. Tau
21-11-2002	03:03:02	1	R	76645		7.1	04h32m18.385s	+21°38'21.34"	44	61°S	99%-	234	-1.4	+0.3	
22-11-2002	23:19:17	1	R	78146	949	7.3	06h15m35.502s	+25°19'59.93"	60	84°N	92%-	274	-1.8	+0.7	
23-11-2002	01:23:54	1	R	78207		7.9	06h18m54.550s	+25°20'51.07"	73	76°S	91%-	255	-2.1	+0.7	
23-11-2002	02:10:50	3	R	78251	966	7.1	06h20m47.077s	+25°11'17.75"	71	24°S	91%-	203			
23-11-2002	02:24:13	2	R	78250		7.6	06h20m46.092s	+25°36'26.41"	70	44°N	91%-	314	-1.8	-3.1	
24-11-2002	05:51:40	1	R	79352	1117	5.0	07h23m38.915s	+25°02'43.49"	44	82°S	84%-	268	-1.1	-1.2	57 Gem;A Gem
25-11-2002	04:37:51	7	R	80105		7.9	08h20m10.642s	+23°48'02.73"	65	3°N	76%-	7			
25-11-2002	04:38:35	C		80098		9.0	08h19m41.283s	+23°17'18.57"	64	7°S	76%-	199			
26-11-2002	02:48:12	2	R	80693		8.4	09h12m51.768s	+20°39'44.16"	63	40°S	66%-	236	-2.4	+3.0	
27-11-2002	01:22:54	1	D	98955	1484	3.5	10h07m28.519s	+16°44'59.05"	38	-76°S	56%-	124	-1.1	-0.0	30 Leo;eta Leo
27-11-2002	02:35:15	1	R	98955	1484	3.5	10h07m28.520s	+16°44'59.05"	51	77°S	56%-	278	-1.6	+0.6	30 Leo;eta Leo
27-11-2002	04:22:00	1	R	98979		8.3	10h10m16.055s	+16°30'12.92"	64	87°N	55%-	293	-1.8	-0.7	
28-11-2002	01:52:20	1	R	99392	1598	6.5	10h59m49.006s	+11°41'31.41"	32	56°S	45%-	260	-1.0	+1.8	
28-11-2002	02:04:41	2	R	99398		8.2	11h00m55.983s	+11°57'23.59"	34	40°N	45%-	342			
29-11-2002	01:02:31	1	R	119078		8.1	11h50m56.251s	+06°19'52.18"	10	65°N	34%-	319	-0.3	-0.3	
29-11-2002	04:39:58	1	R	119125	1725	7.6	11h56m55.785s	+05°19'51.17"	45	79°S	33%-	285	-1.6	+0.3	
29-11-2002	04:42:16	1	R	119129		8.7	11h57m17.642s	+05°27'01.43"	46	68°N	33%-	317	-1.1	-0.9	
29-11-2002	06:00:15	2	R	119146		8.4	11h58m54.991s	+04°49'03.16"	52	41°S	32%-	247	-3.2	+1.9	
01-12-2002	05:07:53	1	R	139508		8.1	13h43m42.345s	-07°26'20.85"	25	83°S	13%-	288	-1.0	+0.6	
01-12-2002	05:08:55	1	R	139512		9.0	13h43m49.432s	-07°23'33.22"	25	85°N	13%-	299	-0.9	+0.2	
01-12-2002	05:56:09	1	R	139527	1969	7.1	13h45m03.986s	-07°38'46.66"	31	86°S	13%-	291	-1.2	+0.3	571 B. Vir
06-12-2002	16:39:09	1	D	187722		8.2	19h08m40.058s	-26°28'10.72"	8	89°S	7%-	91	-1.1	-1.2	
07-12-2002	17:37:10	1	D	188985		8.2	20h10m35.678s	-24°55'06.04"	9	83°N	14%-	76	-0.9	-0.8	
09-12-2002	16:25:31	2	D	164764		8.7	21h57m26.278s	-18°53'06.73"	29	50°S	31%+	112	-3.0	-1.2	
09-12-2002	19:56:20	1	D	164827	3227	6.3	22h02m20.082s	-17°53'32.85"	9	60°N	32%+	43	-0.3	+0.1	161 B. (Cap)/Aqr
10-12-2002	17:44:34	1	D	165298	3343	5.7	22h47m50.955s	-14°02'37.60"	32	88°S	41%+	70	-1.8	+0.1	69 Aqr;tau 1 Aqr
10-12-2002	19:24:39	1	D	165321	3349	4.1	22h49m43.675s	-13°34'47.71"	23	62°N	41%+	41	-0.7	+0.4	71 Aqr;tau Aqr
11-12-2002	17:20:03	2	D	146769		8.5	23h33m13.039s	-09°21'13.60"	39	65°S	50%+	91	-2.6	-0.0	
11-12-2002	17:27:51	1	D	146764		8.0	23h33m04.237s	-09°08'44.38"	39	68°N	51%+	45	-1.5	+1.2	
11-12-2002	19:50:07	1	D	146799	3480	7.2	23h36m08.475s	-08°45'08.12"	30	78°S	51%+	78	-1.6	-0.7	352 B. Aqr
12-12-2002	21:05:32	1	D	128710	44	7.4	00h21m21.517s	-03°17'49.59"	29	87°N	61%+	63	-1.1	-0.2	
13-12-2002	16:42:29	2	D	109577		7.7	00h59m31.917s	+00°47'36.33"	41	55°S	69%+	99	-2.4	+0.8	
13-12-2002	16:58:56	C				7.7	00h59m29.100s	+00°41'21.57"	43	12°S	69%+	143			
14-12-2002	22:54:29	2	D	110154		7.4	01h50m05.021s	+07°14'15.86"	33	62°S	79%+	94	-1.3	-1.7	
15-12-2002	16:24:26	4	D	92948		7.5	02h26m20.500s	+10°39'02.99"	34	26°S	85%+	132			
15-12-2002	22:38:38	1	D	93004		7.5	02h34m13.187s	+12°11'38.11"	46	81°N	86%+	60	-1.5	+0.2	
16-12-2002	00:23:47	1	D	93022	384	5.6	02h36m47.512s	+12°27'38.03"	28	87°N	86%+	66	-0.8	-0.5	31 Ari
16-12-2002	17:25:04	1	D	93350	469	7.2	03h14m18.352s	+15°36'06.68"	40	81°S	91%+	79	-1.1	+1.6	
18-12-2002	02:45:35	1	D	76532	628	4.9	04h17m26.300s	+20°35'11.55"	24	45°S	97%+	123			50 Tau;omega Tau
18-12-2002	17:58:27	1	D	76846	739	7.2	04h56m17.621s	+22°34'55.01"	33	75°S	99%+	98	-0.8	+1.2	
19-12-2002	18:05:10	1	R	77592	882	4.9	05h49m12.248s	+24°34'08.89"	27	9°N	100%-	267	-0.3	+1.4	132 Tau
20-12-2002	17:15:26	1	R	78682	1030	3.1	06h44m07.233s	+25°07'42.98"	9	87°S	99%-	261	+0.3	+1.3	27 Gem;epsilon Gem;
Mebsuta															
20-12-2002	19:42:16	1	R	78778		6.8	06h49m54.580s	+25°28'53.02"	35	53°N	99%-	301	-1.1	+0.3	
20-12-2002	20:24:43	C		78813	1049	6.8	06h52m09.532s	+25°39'35.59"	42	2°N	99%-	352			86 B. Gem
20-12-2002	21:27:15	1	R	78827		7.4	06h53m17.457s	+25°18'29.75"	53	63°S	99%-	238	-1.0	+2.3	
20-12-2002	22:46:26	1	R	78866	1055	5.7	06h55m29.964s	+25°22'20.50"	66	69°S	98%-	244	-1.7	+1.8	37 Gem
21-12-2002	02:56:05	1	R	78990	1068	7.1	07h02m18.493s	+25°25'18.29"	53	74°N	98%-	282	-1.2	-1.5	
21-12-2002	03:04:14	1	R	78995		7.4	07h02m31.731s	+25°21'37.88"	52	85°N	98%-	271	-1.3	-1.1	
21-12-2002	03:12:29	C		79014		7.9	07h03m43.622s	+25°05'23.17"	50	13°S	98%-	190			
21-12-2002	18:21:25	1	R	79653	1170	3.6	07h44m37.882s	+24°23'27.94"	10	69°S	96%-	253	+0.3	+1.5	77 Gem;kappa Gem
21-12-2002	20:28:59	1	R	79718	1180	7.1	07h49m29.838s	+24°28'53.46"	32	84°S	95%-	268	-0.6	+1.3	
21-12-2002	23:47:19	2	R	79803	1194	7.7	07h56m12.492s	+24°39'29.05"	66	32°N	95%-	332	-1.9	-3.3	
22-12-2002	03:01:24	C		79868		7.3	08h01m41.185s	+23°54'17.03"	61	12°S	94%-	197			
23-12-2002	02:02:32	1	R	80529	1334	7.0	08h57m15.513s	+21°50'56.92"	70	60°N	88%-	311	-1.6	-1.7	
23-12-2002	21:41:18	2	R	98750	1436	6.8	09h46m01.724s	+18°40'12.20"	22	39°N	82%-	336			
23-12-2002	23:37:44	2	R	98783	1444	7.8	09h49m15.177s	+18°02'39.40"	43	42°S	81%-	238	-1.2	+3.1	
25-12-2002	04:48:19	2	R	99317		8.1	10h50m54.578s	+12°15'08.14"	58	52°S	70%-	253	-2.7	+0.3	

Almanacco Astronomico 2002 – Occultazioni lunari









26-12-2002	06:21:55	1	R	119035	1702	4.0	11h46m00.014s	+06°30'48.90"	48	39°N	59%-	343				3 Vir;nu Vir
27-12-2002	02:30:17	1	R	119447	1796	7.6	12h31m22.761s	+01°18'42.17"	34	73°N	49%-	310	-1.0	-0.3		
27-12-2002	03:42:43	1	R	119462		8.1	12h33m16.531s	+01°01'43.52"	43	65°N	48%-	317	-1.1	-0.9		
28-12-2002	02:01:38	1	R	139299		7.8	13h22m19.419s	-04°40'36.37"	18	49°N	37%-	334				
28-12-2002	02:49:57	1	R	139308	1921	5.9	13h23m26.857s	-04°56'18.47"	25	65°N	37%-	317	-0.6	-0.4	65	Vir
28-12-2002	03:03:12	3	R	139325		7.6	13h24m47.073s	-04°55'51.26"	27	10°N	37%-	12				
28-12-2002	03:21:56	1	R	139314		8.3	13h24m04.358s	-05°09'45.39"	30	86°N	37%-	296	-1.1	+0.2		
28-12-2002	03:39:17	1	R	139324	1924	5.8	13h24m41.227s	-05°10'40.87"	32	71°N	37%-	311	-0.9	-0.3	66	Vir
28-12-2002	03:52:16	1	R	139326		8.7	13h24m55.119s	-05°16'11.90"	33	80°N	37%-	302	-1.1	-0.1		
28-12-2002	05:18:43	3	R	139342		7.9	13h27m01.482s	-05°56'40.41"	41	34°S	36%-	237				
30-12-2002	03:22:34	1	R	159093		7.4	15h12m29.012s	-16°25'14.79"	6	36°N	17%-	340				
31-12-2002	05:17:58	1	R	184240	2327	6.7	16h13m48.595s	-21°24'23.56"	11	59°N	8%-	310	-0.5	+0.1	83	B. Sco
04-01-2003	16:11:54	2	D	189549	3018	6.4	20h40m20.158s	-23°45'57.53"	10	50°S	4%+	127			56	B. Cap
05-01-2003	16:10:07	1	D	190461	3158	5.7	21h34m59.132s	-20°04'27.75"	20	50°N	9%+	39	-0.7	+0.4	37	Cap
05-01-2003	18:26:26	1	D	164544		7.3	21h38m58.631s	-19°36'55.38"	2	56°N	9%+	45	-0.0	+0.0		
07-01-2003	17:14:23	1	D	165583		8.9	23h15m17.420s	-10°55'08.00"	31	80°N	24%+	61	-1.4	+0.0		
07-01-2003	17:39:12	2	D	165594		8.8	23h15m53.688s	-11°01'48.84"	28	50°S	24%+	109	-2.6	-2.4		
07-01-2003	17:46:37	4	D	165578	3413	6.1	23h14m48.092s	-10°40'32.34"	27	3°N	24%+	344			290	B. Aqr
07-01-2003	19:07:42	2	D	165603		8.1	23h17m12.093s	-10°21'27.98"	16	31°N	24%+	11				
08-01-2003	16:48:29	1	D	147017	3529	6.6	23h59m48.666s	-05°52'45.06"	41	76°N	33%+	55	-1.6	+0.7	70	B. Psc
08-01-2003	17:49:36	2	D	147032		7.8	00h01m10.776s	-05°49'15.91"	36	62°S	33%+	95	-2.3	-1.3		
08-01-2003	17:51:01		C			9.6	00h00m50.254s	-06°00'03.86"	36	14°S	33%+	144				
08-01-2003	17:56:21	3	D	147033		7.7	00h01m15.343s	-05°51'37.55"	35	47°S	33%+	111				
08-01-2003	19:21:22	2	D	147044		8.5	00h02m08.130s	-05°11'59.69"	25	22°N	33%+	0	+0.2	+2.9		
08-01-2003	19:32:16	2	D	128548		8.5	00h02m42.973s	-05°10'21.58"	23	41°N	33%+	20	-0.3	+1.4		
09-01-2003	20:45:08	1	D	128962		8.5	00h48m08.732s	+00°15'24.23"	22	64°N	43%+	42	-0.6	+0.4		
09-01-2003	21:14:42	1	D	109473		8.2	00h48m41.497s	+00°23'46.94"	17	51°N	43%+	29	-0.4	+0.9		
09-01-2003	21:48:42	2	D	128974	106	6.6	00h50m03.229s	+00°14'18.38"	11	52°S	43%+	105			123	B. Cet
10-01-2003	20:28:25	1	D	109931		8.5	01h30m42.556s	+05°23'06.55"	35	54°N	52%+	33	-0.9	+1.1		
12-01-2003	21:02:39	2	D	93235	445	7.3	03h01m03.109s	+15°02'34.81"	50	59°N	71%+	42	-1.4	+1.1		
12-01-2003	21:10:26	1	D	93238		7.8	03h01m26.974s	+14°59'38.66"	49	79°N	71%+	62	-1.6	+0.1		
15-01-2003	20:05:48	2	D	77252	835	7.0	05h33m42.179s	+24°37'54.27"	69	32°N	93%+	31				
15-01-2003	20:59:13	3	D	77276		6.8	05h35m14.969s	+24°17'36.93"	72	42°S	93%+	137				
16-01-2003	00:03:03	1	D	77375		7.1	05h40m29.685s	+24°32'24.03"	51	74°S	93%+	105	-1.2	-1.7		
16-01-2003	01:04:40		C	77390		7.6	05h41m16.883s	+24°21'09.56"	39	0°S	93%+	181				
16-01-2003	14:08:53	1	D	77592	882	4.9	05h49m12.449s	+24°34'09.57"	8	88°N	94%+	90	+0.3	-1.1	132	Tau
16-01-2003	16:42:23	1	D	78331	977	6.4	06h24m55.372s	+25°02'52.07"	25	66°S	97%+	121	-0.8	+0.5	34	B. Gem
17-01-2003	02:20:22	1	D	78653		7.4	06h42m23.639s	+25°27'58.58"	36	55°N	98%+	67	-1.1	-0.6		
17-01-2003	03:13:46	1	D	78682	1030	3.1	06h44m07.581s	+25°07'43.42"	27	61°S	98%+	130			27	Gem;epsilon Gem;
Mebsuta																
17-01-2003	16:49:04	1	D	79352	1117	5.0	07h23m40.131s	+25°02'42.45"	17	42°N	99%+	69	+0.2	+1.6	57	Gem;A Gem
17-01-2003	22:35:21	1	D	79521		7.4	07h35m02.044s	+24°56'52.62"	72	61°N	100%+	98	-2.0	-0.2		
18-01-2003	03:52:05	1	D	79653	1170	3.6	07h44m38.386s	+24°23'27.67"	30	60°N	100%+	107	-0.3	-1.6	77	Gem;kappa Gem
18-01-2003	03:53:09	1	D	79649	1168	7.1	07h44m09.566s	+24°14'13.61"	29	77°S	100%+	149	+0.4	-2.6		
19-01-2003	19:50:12	1	R	80809	1393	6.5	09h24m56.048s	+19°46'23.83"	26	75°S	97%-	261	-0.4	+1.6	9	B. Leo
20-01-2003	20:47:33	1	R	99091		7.3	10h22m53.866s	+15°19'43.09"	24	66°N	92%-	307	-0.6	+0.1		
21-01-2003	00:03:13	1	R	99144	1532	7.6	10h28m35.389s	+14°44'15.21"	56	71°N	92%-	303	-1.5	-0.6		
21-01-2003	02:39:28	1	R	99172	1544	5.4	10h32m21.772s	+14°07'16.78"	60	86°N	91%-	289	-1.7	-1.1	46	Leo
21-01-2003	23:54:44	1	R	118813	1647	6.7	11h21m59.710s	+09°09'05.00"	43	86°S	84%-	286	-1.4	+0.4		
22-01-2003	02:40:54	1	R	118859	1659	6.7	11h26m27.522s	+08°38'33.18"	57	56°N	84%-	323	-1.1	-1.7	376	B. Leo
22-01-2003	05:57:02	1	R	118905		7.8	11h31m49.345s	+07°50'47.47"	35	31°N	83%-	348	-0.1	-2.7		
22-01-2003	22:59:45	1	R	119272		7.6	12h12m39.049s	+03°23'13.60"	21	82°N	76%-	298	-0.6	+0.3		
26-01-2003	03:44:53		C	158930		9.2	14h58m01.987s	-15°59'05.07"	26	15°S	41%-	212				
27-01-2003	03:31:50	1	R	183895	2267	5.0	15h53m29.147s	-20°10'32.06"	14	61°N	30%-	310	-0.6	+0.0	45	Lib;lambda Lib
27-01-2003	05:09:37	2	R	183955		8.5	15h56m46.340s	-20°26'19.56"	24	32°N	29%-	339	-0.5	-1.2		
27-01-2003	05:27:35	1	R	183952		8.3	15h56m31.222s	-20°46'58.43"	25	71°S	29%-	263	-2.1	+0.8		
27-01-2003	06:13:42	2	R	183972	2282	5.8	15h57m49.590s	-20°59'28.74"	27	56°S	29%-	248	-2.6	+0.9	10	G. Sco

Occultazioni di stelle da parte di asteroidi


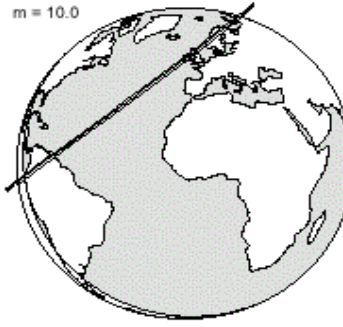
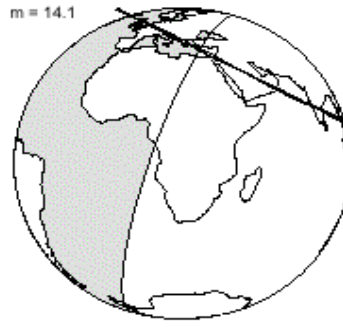
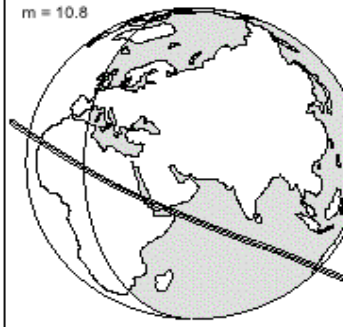

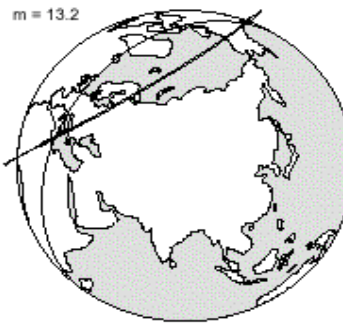
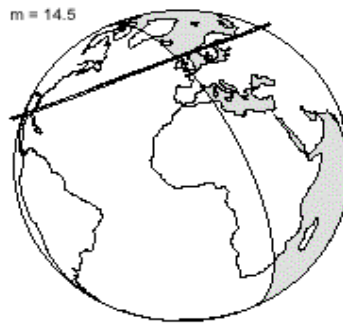
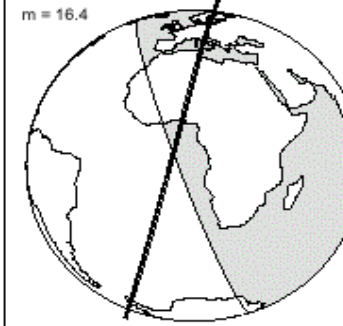
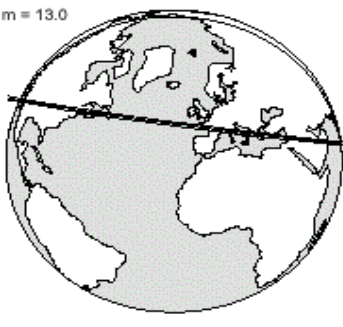

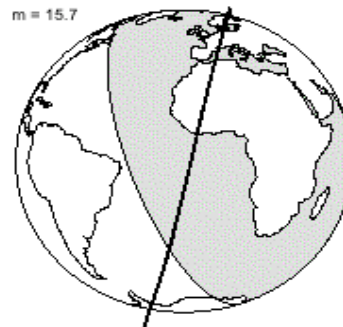





La sezione riporta i principali eventi di occultazione di stelle da parte di asteroidi o pianeti, visibili dalla zona del Mediterraneo. I dati sono stati scaricati dal sito ftp

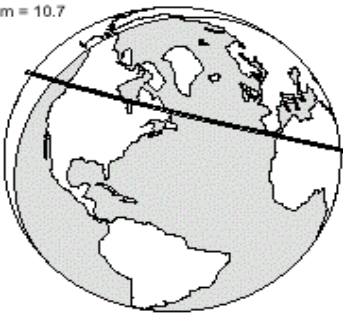

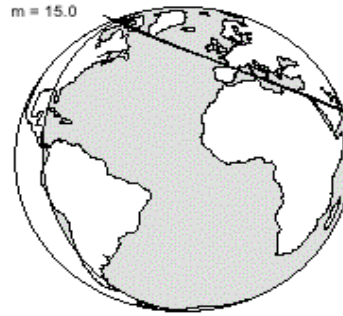













<ftp://ftp.ster.kuleuven.ac.be/dist/vvs/asteroids/>

dove è possibile scaricare in vari formati, i file relativi alle occultazioni osservabili da altre zone del mondo e dettagliate descrizioni dei singoli eventi. In questo caso il file da scaricare è indicato nella parte in alto a destra dell'immagine relativa all'evento di interesse.





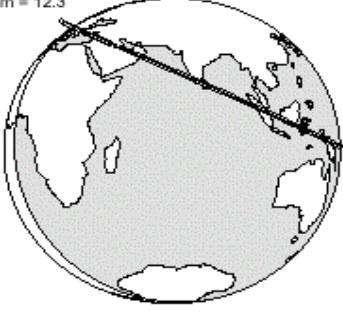











<p>2002 jan 5 18h49.6m A02_0129.PS 416 Vaticana TYC 2450-00492-1 diam = 89.5 m = 10.1 m = 12.6</p>  <p>Dur = 5.6s Dm = 2.6 Sun : 166 Moon : 84</p>	<p>2002 jan 12 3h 3.4m A02_0144.PS 680 Genova TYC 2934-01553-1 diam = 86.7 m = 11.4 m = 15.3</p>  <p>Dur = 5.3s Dm = 4.0 Sun : 152 Moon : 161</p>	<p>2002 jan 14 0h13.1m A02_0134.PS 516 Amherstia HIP 36335 diam = 75.7 m = 7.6 m = 12.3</p>  <p>Dur = 5.3s Dm = 4.7 Sun : 166 Moon : 166</p>	<p>2002 jan 14 6h21.6m A02_0113.PS 81 Terpsichore TYC 6156-00764-1 diam = 124.0 m = 11.3 m = 14.7</p>  <p>Dur = 5.6s Dm = 3.4 Sun : 73 Moon : 82</p>
<p>2002 jan 17 3h35.4m A02_0104.PS 21 Lutetia TYC 1407-00130-1 diam = 99.5 m = 10.2 m = 11.4</p>  <p>Dur = 7.7s Dm = 1.5 Sun : 163 Moon : 156</p>	<p>2002 jan 17 19h54.6m A02_0153.PS 1031 Arctica TYC 0131-00050-1 diam = 78.0 m = 11.0 m = 14.1</p>  <p>Dur = 7.3s Dm = 3.2 Sun : 147 Moon : 105</p>	<p>2002 jan 17 20h15.9m A02_0115.PS 93 Minerva TYC 2457-02281-1 diam = 170.8 m = 10.9 m = 12.2</p>  <p>Dur = 11.8s Dm = 1.6 Sun : 166 Moon : 126</p>	<p>2002 jan 18 0h17.9m A02_0123.PS 242 Kriemhild TYC 0182-00175-1 diam = 41.5 m = 10.0 m = 13.2</p>  <p>Dur = 4.0s Dm = 3.2 Sun : 161 Moon : 124</p>

Almanacco Astronomico 2002 – Occultazioni asteroidali

<p>2002 jan 21 1h31.9m A02_0160.PS 1794 Finsen TYC 0154-02070-1 diam = 43.1 m = 9.9 m = 15.8</p>  <p>Dur = 3.7s Dm = 5.8 Sun : 151 Moon : 75</p>	<p>2002 jan 21 23h41.2m A02_0140.PS 654 Zelinda TYC 0766-01777-1 diam = 132.0 m = 11.9 m = 10.0</p>  <p>Dur = 14.5s Dm = 0.2 Sun : 161 Moon : 72</p>	<p>2002 jan 22 5h16.6m A02_0150.PS 912 Maritima TYC 5573-00706-1 diam = 86.6 m = 14.1</p>  <p>Dur = 4.1s Dm = 2.7 Sun : 78 Moon : 174</p>	<p>2002 jan 24 16h48.4m A02_0105.PS 22 Kalliope TYC 2387-00322-1 diam = 187.0 m = 10.0 m = 10.8</p>  <p>Dur = 72.4s Dm = 1.2 Sun : 130 Moon : 12</p>
<p>2002 jan 26 0h14.0m A02_0159.PS 1735 ITA TAC -03*09790 diam = 66.0 m = 11.4 m = 15.0</p>  <p>Dur = 9.9s Dm = 3.7 Sun : 108 Moon : 110</p>	<p>2002 jan 27 16h18.2m A02_0135.PS 546 Herodias TYC 3380-01162-1 diam = 69.7 m = 11.4 m = 13.2</p>  <p>Dur = 9.9s Dm = 2.0 Sun : 140 Moon : 26</p>	<p>2002 jan 27 16h44.8m A02_0128.PS 366 Vincentina HIP 3712 diam = 98.1 m = 14.5</p>  <p>Dur = 3.6s Dm = 5.5 Sun : 68 Moon : 94</p>	<p>2002 jan 28 18h16.7m A02_0162.PS 3317 Paris TYC 5298-00469-1 diam = 127.0 m = 12.0 m = 16.4</p>  <p>Dur = 7.6s Dm = 4.4 Sun : 95 Moon : 84</p>
<p>2002 jan 31 1h32.1m A02_0127.PS 361 Bononia TYC 2495-00265-1 diam = 149.0 m = 11.5 m = 13.0</p>  <p>Dur = 11.9s Dm = 1.7 Sun : 162 Moon : 35</p>	<p>2002 feb 1 1h30.4m A02_0234.PS 680 Genoveva TYC 2920-00901-1 diam = 86.7 m = 15.6 m = 12.1</p>  <p>Dur = 7.9s Dm = 3.5 Sun : 134 Moon : 85</p>	<p>2002 feb 2 20h29.4m A02_0244.PS 1051 Merope TYC 4742-00609-1 diam = 68.6 m = 15.7 m = 11.0</p>  <p>Dur = 6.5s Dm = 4.7 Sun : 108 Moon : 133</p>	<p>2002 feb 2 22h15.3m A02_0218.PS 127 Johanna TYC 1965-00646-1 diam = 72.4 m = 10.9 m = 11.8</p>  <p>Dur = 6.5s Dm = 1.3 Sun : 166 Moon : 66</p>
<p>2002 feb 8 15h40.2m A02_0220.PS 304 Olga TYC 0109-01292-1 diam = 68.5 m = 11.5 m = 14.4</p>  <p>Dur = 7.7s Dm = 3.0 Sun : 119 Moon : 154</p>	<p>2002 feb 10 16h49.5m A02_0213.PS 78 Diana TYC 0618-00035-1 diam = 116.0 m = 10.6 m = 13.4</p>  <p>Dur = 3.6s Dm = 2.9 Sun : 58 Moon : 77</p>	<p>2002 feb 10 22h 0.5m A02_0235.PS 712 Boliviana HIP 26555 diam = 132.0 m = 12.3 m = 8.6</p>  <p>Dur = 31.2s Dm = 3.7 Sun : 121 Moon : 135</p>	<p>2002 feb 12 21h51.8m A02_0246.PS 1113 Katja TYC 1400-00518-1 diam = 44.7 m = 10.5 m = 13.3</p>  <p>Dur = 3.7s Dm = 2.9 Sun : 167 Moon : 161</p>

<p>2002 feb 14 2h31.0m A02_0225.PS 471 Papagena TYC 2489-01514-1 diam = 127.0 m = 11.8 m = 10.7</p>  <p>Dur = 13.4s Dm = 0.3 Sun : 150 Moon : 135</p>	<p>2002 feb 15 18h 4.9m A02_0206.PS 36 Atalante TYC 2847-00852-1 diam = 109.0 m = 11.5 m = 12.5</p>  <p>Dur = 4.8s Dm = 1.4 Sun : 88 Moon : 57</p>	<p>2002 feb 20 23h32.5m A02_0240.PS 838 Seraphina TYC 0206-01072-1 diam = 63.1 m = 10.9 m = 15.0</p>  <p>Dur = 6.2s Dm = 4.1 Sun : 146 Moon : 54</p>	<p>2002 feb 23 22h 5.4m A02_0201.PS 8 Flora TYC 1421-00886-1 diam = 141.0 m = 11.6 m = 9.2</p>  <p>Dur = 12.3s Dm = 0.1 Sun : 172 Moon : 48</p>
<p>2002 feb 24 1h49.6m A02_0209.PS 56 Melete TYC 0797-00215-1 diam = 117.0 m = 10.8 m = 13.1</p>  <p>Dur = 9.0s Dm = 2.5 Sun : 152 Moon : 23</p>	<p>2002 feb 25 8h19.9m A02_0214.PS 78 Diana TYC 1198-01072-1 diam = 116.0 m = 8.6 m = 13.4</p>  <p>Dur = 3.2s Dm = 4.8 Sun : 50 Moon : 101</p>	<p>2002 feb 26 21h36.8m A02_0230.PS 588 Achilles CMC 910520 diam = 147.0 m = 13.0 m = 15.8</p>  <p>Dur = 10.9s Dm = 2.9 Sun : 148 Moon : 40</p>	<p>2002 feb 28 1h45.4m A02_0224.PS 468 Lina TYC 0274-00688-1 diam = 71.7 m = 11.4 m = 15.3</p>  <p>Dur = 4.7s Dm = 3.9 Sun : 166 Moon : 6</p>
<p>2002 mar 4 3h 9.9m A02_0333.PS 609 Fulvia TYC 5593-00267-1 diam = 56.3 m = 11.2 m = 15.3</p>  <p>Dur = 10.5s Dm = 4.2 Sun : 113 Moon : 1</p>	<p>2002 mar 7 20h16.4m A02_0329.PS 524 Fidelio TYC 1903-00310-1 diam = 74.1 m = 10.7 m = 14.3</p>  <p>Dur = 13.0s Dm = 3.6 Sun : 117 Moon : 173</p>	<p>2002 mar 9 19h 3.0m A02_0343.PS 1107 Lictoria TYC 1898-00944-1 diam = 81.0 m = 11.5 m = 14.1</p>  <p>Dur = 13.3s Dm = 2.7 Sun : 112 Moon : 160</p>	<p>2002 mar 14 20h21.1m A02_0313.PS 79 Eurynome TYC 1334-00068-1 diam = 68.8 m = 9.7 m = 12.0</p>  <p>Dur = 6.2s Dm = 2.4 Sun : 106 Moon : 98</p>
<p>2002 mar 17 17h19.8m A02_0308.PS 63 Ausonia TYC 4931-00738-1 diam = 108.0 m = 11.7 m = 10.3</p>  <p>Dur = 9.8s Dm = 0.3 Sun : 176 Moon : 141</p>	<p>2002 mar 24 20h39.6m A02_0312.PS 76 Freia TYC 1367-02101-1 diam = 190.0 m = 11.9 m = 13.1</p>  <p>Dur = 34.1s Dm = 1.5 Sun : 114 Moon : 13</p>	<p>2002 mar 25 0h 9.6m A02_0346.PS 1819 Laputa FK6 2705 diam = 44.6 m = 5.2 m = 16.2</p>  <p>Dur = 8.1s Dm = 10.9 Sun : 123 Moon : 7</p>	<p>2002 mar 25 16h21.7m A02_0318.PS 117 Lomia TYC 2365-00039-1 diam = 154.0 m = 11.4 m = 13.8</p>  <p>Dur = 4.8s Dm = 2.5 Sun : 60 Moon : 76</p>

Almanacco Astronomico 2002 – Occultazioni asteroidali

<p>2002 apr 3 21h49.1m A02_0407.PS 36 Atalante TYC 2895-00440-1 diam = 109.0 m = 11.8 m = 13.1</p>  <p>Dur = 3.1s Dm = 1.7 Sun : 65 Moon : 157</p>	<p>2002 apr 8 19h26.7m A02_0449.PS 1297 Quadea TYC 1342-00814-1 diam = 66.0 m = 11.2 m = 16.4</p>  <p>Dur = 3.1s Dm = 5.2 Sun : 81 Moon : 125</p>	<p>2002 apr 9 23h 1.3m P02_0401.PS Jupiter TYC 1880-00482-1 diam = 133542.0 m = 9.6 m = -2.1</p>  <p>Dur = 7692.6s Dm = 0.0 Sun : 78 Moon : 109</p>	<p>2002 apr 14 19h18.8m A02_0442.PS 667 Denise TYC 0753-01954-1 diam = 83.5 m = 10.9 m = 14.1</p>  <p>Dur = 3.3s Dm = 3.2 Sun : 81 Moon : 59</p>
<p>2002 apr 15 18h 1.6m A02_0427.PS 165 Loreley TYC 6098-01056-1 diam = 160.0 m = 10.6 m = 12.3</p>  <p>Dur = 13.0s Dm = 2.0 Sun : 158 Moon : 129</p>	<p>2002 apr 15 21h11.2m A02_0415.PS 79 Eurynome TYC 1351-00397-1 diam = 68.8 m = 9.7 m = 12.6</p>  <p>Dur = 3.1s Dm = 2.9 Sun : 83 Moon : 49</p>	<p>2002 apr 28 20h55.1m A02_0444.PS 895 Hello TYC 5456-01750-1 diam = 147.0 m = 10.5 m = 13.8</p>  <p>Dur = 11.1s Dm = 3.4 Sun : 101 Moon : 99</p>	<p>2002 apr 30 1h24.8m A02_0452.PS 1579 Herrick TYC 4981-00600-1 diam = 48.5 m = 11.2 m = 15.7</p>  <p>Dur = 3.5s Dm = 4.5 Sun : 170 Moon : 47</p>
<p>2002 may 2 1h33.6m A02_0509.PS 91 Aegina TYC 6197-00761-1 diam = 114.0 m = 12.2 m = 12.9</p>  <p>Dur = 9.9s Dm = 1.1 Sun : 163 Moon : 48</p>	<p>2002 may 2 21h54.9m A02_0549.PS 1165 Imprinetta HIP 70302 diam = 54.6 m = 9.9 m = 14.3</p>  <p>Dur = 4.2s Dm = 4.4 Sun : 172 Moon : 80</p>	<p>2002 may 8 0h 0.6m A02_0544.PS 912 Maritima TYC 6156-00006-1 diam = 86.6 m = 10.6 m = 12.8</p>  <p>Dur = 6.0s Dm = 2.4 Sun : 172 Moon : 137</p>	<p>2002 may 8 17h48.8m A02_0528.PS 416 Vaticana TYC 2456-00290-1 diam = 89.5 m = 11.3 m = 13.9</p>  <p>Dur = 3.1s Dm = 2.7 Sun : 60 Moon : 102</p>
<p>2002 may 12 22h35.8m A02_0523.PS 280 Phylla TYC 6747-01271-1 diam = 48.0 m = 10.1 m = 15.6</p>  <p>Dur = 3.6s Dm = 5.5 Sun : 171 Moon : 167</p>	<p>2002 may 20 4h25.2m A02_0514.PS 110 Lydia TYC 6882-01589-1 diam = 89.1 m = 10.9 m = 12.1</p>  <p>Dur = 25.2s Dm = 1.4 Sun : 133 Moon : 132</p>	<p>2002 may 26 1h32.1m A02_0516.PS 131 Vala TYC 6812-00622-1 diam = 43.3 m = 11.9 m = 12.9</p>  <p>Dur = 5.1s Dm = 1.4 Sun : 165 Moon : 21</p>	<p>2002 jun 5 1h16.7m A02_0641.PS 1030 Vitja TYC 5177-00662-1 diam = 65.5 m = 11.9 m = 15.7</p>  <p>Dur = 13.6s Dm = 3.8 Sun : 120 Moon : 58</p>

2002 jun 5 2h54.0m A02_0603.PS
6 Hebe TYC 5123-02308-1
diam = 186.0 m = 12.1



Dur = 28.4s Dm = 0.1
Sun : 144 Moon : 84

2002 jun 6 6h44.7m A02_0624.PS
326 Tamara TYC 7520-01215-1
diam = 100.0 m = 11.0



Dur = 6.1s Dm = 2.2
Sun : 96 Moon : 48

2002 jun 12 22h 8.0m A02_0632.PS
500 Selinur TYC 6854-04079-1
diam = 45.1 m = 11.1



Dur = 4.1s Dm = 1.9
Sun : 169 Moon : 164

2002 jun 18 19h32.0m A02_0623.PS
324 Bamberga TYC 0256-00656-1
diam = 227.6 m = 12.0



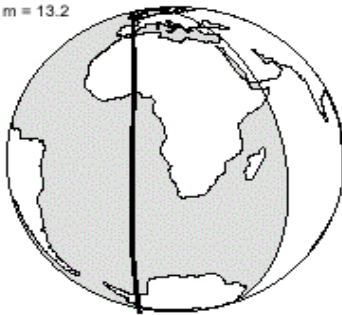
Dur = 10.6s Dm = 1.6
Sun : 72 Moon : 30

2002 jun 19 0h57.4m A02_0627.PS
383 Janina TYC 6310-00303-1
diam = 49.7 m = 10.4



Dur = 4.4s Dm = 4.6
Sun : 156 Moon : 100

2002 jun 20 2h30.8m A02_0637.PS
618 Elfriede TYC 6369-00957-1
diam = 124.0 m = 11.3



Dur = 17.8s Dm = 2.1
Sun : 129 Moon : 113

2002 jun 25 20h10.7m A02_0633.PS
500 Selinur TYC 6840-00799-1
diam = 45.1 m = 11.8



Dur = 3.9s Dm = 1.3
Sun : 171 Moon : 19

2002 jun 25 20h56.4m A02_0617.PS
185 Eunike TYC 0503-00797-1
diam = 165.0 m = 11.4



Dur = 21.5s Dm = 1.0
Sun : 141 Moon : 32

2002 jun 29 1h44.4m A02_0616.PS
145 Adeona TYC 7409-02074-1
diam = 155.0 m = 10.7



Dur = 11.1s Dm = 1.9
Sun : 170 Moon : 44

2002 jul 1 23h 0.9m P02_0701.PS
Pluto TYC 5651-04663-1
diam = 2445.0 m = 11.7



Dur = 115.1s Dm = 2.2
Sun : 153 Moon : 107

2002 jul 6 0h44.0m A02_0722.PS
256 Walpurga TYC 0581-00210-1
diam = 66.1 m = 11.4



Dur = 12.6s Dm = 3.8
Sun : 109 Moon : 58

2002 jul 12 23h 4.3m A02_0708.PS
114 Cassandra TYC 6298-02630-1
diam = 103.0 m = 11.3



Dur = 8.1s Dm = 1.3
Sun : 173 Moon : 146

2002 jul 15 1h46.1m A02_0701.PS
7 Iris CMC 920169
diam = 203.0 m = 13.3



Dur = 63.9s Dm = 0.0
Sun : 131 Moon : 161

2002 jul 21 20h 4.9m A02_0734.PS
423 Diotima TYC 7413-01223-1
diam = 217.0 m = 11.9



Dur = 20.4s Dm = 0.6
Sun : 159 Moon : 16

2002 jul 25 2h10.7m A02_0713.PS
185 Eunike TYC 0480-01550-1
diam = 165.0 m = 11.6



Dur = 12.5s Dm = 0.6
Sun : 158 Moon : 28

2002 jul 26 22h52.1m A02_0752.PS
790 Pretoria TYC 0464-00205-1
diam = 176.0 m = 11.2



Dur = 15.9s Dm = 1.5
Sun : 155 Moon : 49

Almanacco Astronomico 2002 – Occultazioni asteroidali

2002 aug 1 18h12.5m A02_0828.PS
329 Svea TYC 0496-02046-1
diam = 80.5 m = 11.9
m = 13.1



Dur = 7.2s Dm = 1.5
Sun : 159 Moon : 96

2002 aug 4 19h37.4m A02_0842.PS
747 Winchester TYC 0315-00619-1
diam = 178.0 m = 9.4
m = 14.6



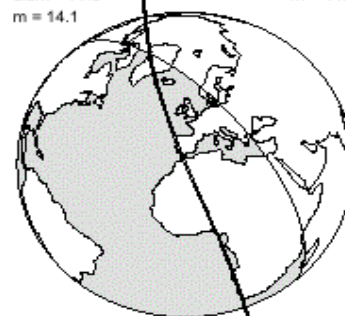
Dur = 8.1s Dm = 5.2
Sun : 73 Moon : 122

2002 aug 10 23h28.6m A02_0824.PS
248 Lamela TYC 5763-01745-1
diam = 52.0 m = 11.9
m = 13.2



Dur = 5.6s Dm = 1.6
Sun : 168 Moon : 139

2002 aug 11 3h32.3m A02_0850.PS
1264 Letaba TYC 2266-01555-1
diam = 77.5 m = 11.9
m = 14.1



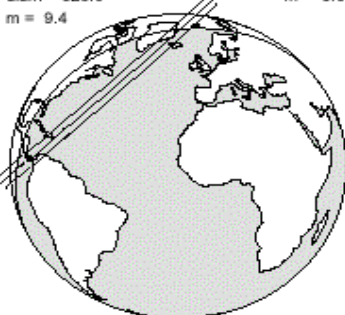
Dur = 17.0s Dm = 2.3
Sun : 114 Moon : 137

2002 aug 11 23h42.2m A02_0843.PS
759 Vinifera TYC 5233-01441-1
diam = 52.7 m = 11.1
m = 13.0



Dur = 4.9s Dm = 2.1
Sun : 158 Moon : 153

2002 aug 18 0h10.2m A02_0801.PS
2 Pallas TYC 1097-00868-1
diam = 523.0 m = 9.6
m = 9.4



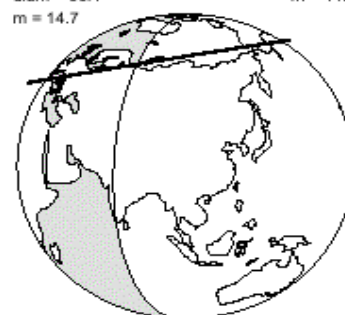
Dur = 28.2s Dm = 0.7
Sun : 150 Moon : 57

2002 aug 19 0h51.0m A02_0823.PS
241 Germania TYC 1849-01114-1
diam = 169.0 m = 11.8
m = 13.4



Dur = 6.4s Dm = 1.8
Sun : 69 Moon : 156

2002 aug 24 0h47.6m A02_0830.PS
366 Vincentina TYC 2409-00396-1
diam = 98.1 m = 11.5
m = 14.7



Dur = 3.5s Dm = 3.2
Sun : 64 Moon : 104

2002 sep 3 23h10.7m A02_0927.PS
241 Germania TYC 1851-00054-1
diam = 169.0 m = 11.7
m = 13.3



Dur = 8.2s Dm = 1.8
Sun : 80 Moon : 37

2002 sep 4 22h37.1m A02_0904.PS
7 Iris TAC -01*09973
diam = 203.0 m = 11.3
m = 7.8



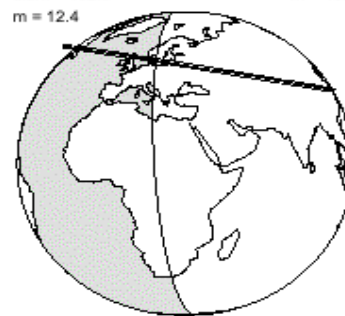
Dur = 25.6s Dm = 0.0
Sun : 165 Moon : 155

2002 sep 5 5h 4.8m A02_0907.PS
20 Massalia TYC 1279-00884-1
diam = 151.0 m = 8.6
m = 10.7



Dur = 7.7s Dm = 2.2
Sun : 89 Moon : 63

2002 sep 8 4h32.4m A02_0914.PS
51 Nemausa TYC 0726-00522-1
diam = 152.3 m = 10.7
m = 12.4



Dur = 6.5s Dm = 1.9
Sun : 79 Moon : 95

2002 sep 13 2h25.9m A02_0934.PS
335 Roberta TYC 1349-01491-1
diam = 93.6 m = 9.4
m = 14.7



Dur = 3.4s Dm = 5.3
Sun : 63 Moon : 145

2002 sep 14 0h21.6m A02_0923.PS
143 Adria HIP 31913
diam = 92.8 m = 14.8
m = 10.4



Dur = 3.8s Dm = 4.5
Sun : 72 Moon : 163

2002 sep 14 18h52.6m A02_0912.PS
25 Phocaea TYC 0444-02306-1
diam = 78.2 m = 11.2
m = 11.0



Dur = 4.8s Dm = 0.7
Sun : 102 Moon : 33

2002 sep 17 0h52.6m A02_0936.PS
345 Tercidina FK6 1115
diam = 100.0 m = 5.5
m = 12.8



Dur = 11.2s Dm = 7.3
Sun : 109 Moon : 121

2002 sep 17 22h 3.8m A02_0942.PS
493 Griseidis TYC 2895-02760-1
diam = 52.0 m = 8.6
m = 15.3



Dur = 3.1s Dm = 6.7
Sun : 95 Moon : 125

2002 sep 19 1h28.1m A02_0926.PS
240 Vanadis TYC 1275-00004-1
diam = 108.0 m = 11.9
m = 12.9



Dur = 8.5s Dm = 1.4
Sun : 103 Moon : 104

2002 sep 20 17h53.3m A02_0919.PS
102 Miriam TYC 6238-03005-1
diam = 86.0 m = 10.1
m = 13.9



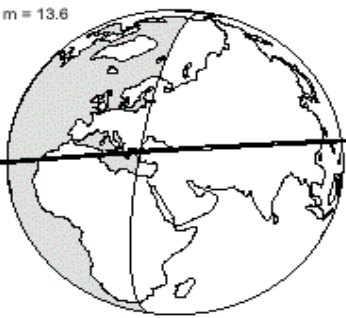
Dur = 4.3s Dm = 3.8
Sun : 84 Moon : 87

2002 sep 20 20h37.5m A02_0947.PS
571 Dulcinea TYC 6898-01094-1
diam = 44.5 m = 10.4
m = 15.3



Dur = 7.5s Dm = 4.9
Sun : 114 Moon : 57

2002 sep 22 4h 1.0m A02_0949.PS
602 Marianna TYC 2449-01105-1
diam = 130.0 m = 11.2
m = 13.6



Dur = 5.7s Dm = 2.5
Sun : 77 Moon : 98

2002 sep 25 18h59.3m A02_0935.PS
342 Endymion TYC 6266-00766-1
diam = 65.0 m = 11.9
m = 15.6



Dur = 4.8s Dm = 3.8
Sun : 94 Moon : 131

2002 sep 25 21h33.2m A02_0924.PS
170 Maria TYC 2867-00337-1
diam = 46.2 m = 11.8
m = 13.7



Dur = 7.5s Dm = 2.0
Sun : 118 Moon : 25

2002 sep 26 3h25.1m A02_0916.PS
70 Panopaea TYC 1856-01686-1
diam = 127.0 m = 12.0
m = 13.3



Dur = 12.7s Dm = 1.6
Sun : 100 Moon : 31

2002 sep 28 2h42.0m A02_0951.PS
713 Luscinia TYC 1316-01900-1
diam = 109.0 m = 10.9
m = 14.8



Dur = 8.7s Dm = 3.9
Sun : 96 Moon : 14

2002 sep 28 4h45.1m A02_0932.PS
302 Clarissa TYC 0025-00350-1
diam = 40.5 m = 9.4
m = 13.5



Dur = 4.8s Dm = 4.2
Sun : 167 Moon : 60

2002 sep 30 16h29.4m A02_0946.PS
521 Brixia TYC 6872-00880-1
diam = 103.0 m = 11.6
m = 13.7



Dur = 8.6s Dm = 2.3
Sun : 95 Moon : 173

2002 oct 2 0h24.1m A02_1030.PS
241 Germania TYC 1865-01967-1
diam = 169.0 m = 11.4
m = 13.0



Dur = 19.2s Dm = 1.8
Sun : 102 Moon : 41

2002 oct 3 19h42.6m A02_1004.PS
25 Phocaea TYC 0457-00098-1
diam = 78.2 m = 9.7
m = 11.3



Dur = 3.7s Dm = 1.8
Sun : 94 Moon : 124

2002 oct 13 23h 6.5m A02_1047.PS
663 Gerlinde TYC 0765-00320-1
diam = 104.0 m = 11.9
m = 14.8



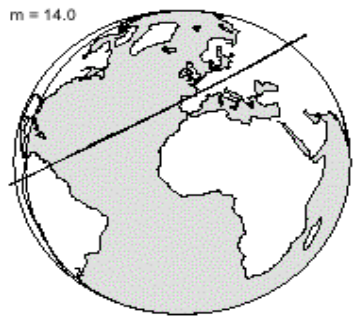
Dur = 4.9s Dm = 3.0
Sun : 85 Moon : 163

2002 oct 15 15h48.2m A02_1024.PS
190 Ismene TYC 6299-01412-1
diam = 100.5 m = 11.6
m = 14.8



Dur = 7.9s Dm = 3.3
Sun : 90 Moon : 29

2002 oct 23 22h51.6m A02_1054.PS
1112 Polonia TYC 1183-00030-1
diam = 40.3 m = 10.7
m = 14.0



Dur = 4.1s Dm = 3.4
Sun : 158 Moon : 48

Almanacco Astronomico 2002 – Occultazioni asteroidali

2002 oct 25 3h35.6m A02_1037.PS
407 Arachne TYC 1926-00284-1
diam = 97.6 m = 10.8
m = 13.8



Dur = 7.0s Dm = 3.1
Sun : 94 Moon : 43

2002 oct 25 21h55.6m A02_1005.PS
26 Proserpina TYC 1262-00915-1
diam = 98.7 m = 11.5
m = 12.0



Dur = 10.5s Dm = 1.0
Sun : 148 Moon : 19

2002 oct 26 3h31.8m A02_1038.PS
407 Arachne TYC 1926-01282-1
diam = 97.6 m = 12.1
m = 13.8



Dur = 7.2s Dm = 1.9
Sun : 95 Moon : 31

2002 oct 26 4h51.7m A02_1049.PS
886 Washingtonia TYC 2471-00409-1
diam = 93.3 m = 12.4
m = 14.3



Dur = 7.5s Dm = 2.1
Sun : 98 Moon : 28

2002 oct 26 23h47.0m A02_1003.PS
17 Thetis TYC 1393-00086-1
diam = 93.2 m = 10.6
m = 13.1



Dur = 5.0s Dm = 2.7
Sun : 84 Moon : 33

2002 oct 27 9h16.2m A02_1041.PS
466 Tisiphone TYC 6291-01095-1
diam = 121.0 m = 11.6
m = 14.7



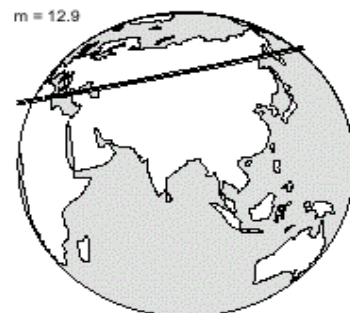
Dur = 5.1s Dm = 3.1
Sun : 72 Moon : 172

2002 oct 28 0h 8.0m A02_1056.PS
1200 Imperatrix TYC 1349-00324-1
diam = 42.0 m = 11.0
m = 16.4



Dur = 7.3s Dm = 5.4
Sun : 108 Moon : 9

2002 oct 28 18h 3.3m A02_1026.PS
209 Dido TYC 1220-01179-1
diam = 149.0 m = 12.0
m = 12.9



Dur = 10.5s Dm = 1.3
Sun : 172 Moon : 80

2002 oct 29 4h42.0m A02_1029.PS
233 Asterope TYC 1319-00673-1
diam = 108.0 m = 12.0
m = 12.8



Dur = 26.3s Dm = 1.2
Sun : 120 Moon : 32

2002 oct 31 0h33.9m A02_1011.PS
82 Alkmene TYC 1899-00260-1
diam = 63.6 m = 12.8
m = 12.4



Dur = 7.6s Dm = 0.6
Sun : 113 Moon : 46

2002 oct 31 19h19.0m A02_1034.PS
345 Tercidina HIP 19499
diam = 100.0 m = 9.2
m = 11.7



Dur = 12.0s Dm = 2.6
Sun : 153 Moon : 98

2002 nov 3 1h43.2m A02_1125.PS
431 Nephela FK6 2288
diam = 97.7 m = 5.9
m = 13.2



Dur = 8.7s Dm = 7.3
Sun : 158 Moon : 133

2002 nov 3 4h30.7m A02_1133.PS
680 Genova HIP 49947
diam = 86.7 m = 9.1
m = 16.1



Dur = 4.1s Dm = 7.0
Sun : 76 Moon : 53

2002 nov 4 20h53.1m A02_1118.PS
309 Fraternitas HIP 35494
diam = 54.7 m = 15.5
m = 15.5



Dur = 17.7s Dm = 8.4
Sun : 114 Moon : 114

2002 nov 7 4h28.2m P02_1101.PS
Jupiter TYC 1402-01697-1
diam = 133542.0 m = -2.1
m = -2.1



Dur = 10727.6s Dm = 0.0
Sun : 87 Moon : 120

2002 nov 8 19h 6.5m A02_1148.PS
1567 Ailkoski TYC 2428-00192-1
diam = 71.0 m = 11.5
m = 14.7



Dur = 7.7s Dm = 3.2
Sun : 132 Moon : 169

2002 nov 12 2h44.7m A02_1129.PS
612 Veronika TYC 4814-03182-1
diam = 40.5 m = 12.1



Dur = 3.8s Dm = 5.1
Sun : 118 Moon : 136

2002 nov 13 2h25.3m A02_1107.PS
78 Diana CMC 604753
diam = 116.0 m = 12.0



Dur = 4.1s Dm = 1.1
Sun : 73 Moon : 177

2002 nov 13 16h51.1m A02_1141.PS
1049 Gotho TYC 3359-00341-1
diam = 58.2 m = 11.2



Dur = 6.5s Dm = 5.3
Sun : 141 Moon : 103

2002 nov 14 3h31.1m A02_1109.PS
170 Maria TYC 2852-00588-1
diam = 46.2 m = 11.2



Dur = 4.3s Dm = 1.8
Sun : 157 Moon : 73

2002 nov 16 5h55.9m P02_1102.PS
Jupiter TYC 1402-01027-1
diam = 133542.0 m = 9.1
m = -2.2



Dur = 16005.8s Dm = 0.0
Sun : 96 Moon : 126

2002 nov 18 3h 3.6m A02_1136.PS
844 Leontina TYC 2361-01655-1
diam = 66.1 m = 11.6
m = 14.0



Dur = 5.0s Dm = 2.5
Sun : 164 Moon : 34

2002 nov 18 20h 2.6m A02_1142.PS
1049 Gotho TYC 3358-00173-1
diam = 58.2 m = 9.6
m = 16.4



Dur = 5.9s Dm = 6.8
Sun : 145 Moon : 46

2002 nov 21 1h27.8m A02_1131.PS
612 Veronika TYC 4818-01219-1
diam = 40.5 m = 8.8
m = 17.0



Dur = 3.5s Dm = 8.2
Sun : 126 Moon : 44

2002 nov 22 22h 8.4m A02_1145.PS
1208 Trollus TYC 3358-02307-1
diam = 111.0 m = 12.9
m = 16.3



Dur = 5.7s Dm = 3.4
Sun : 148 Moon : 22

2002 nov 25 3h35.6m A02_1120.PS
345 Teroidina TYC 0661-00405-1
diam = 100.0 m = 11.9
m = 11.2



Dur = 10.0s Dm = 0.5
Sun : 170 Moon : 65

2002 nov 26 2h27.6m A02_1151.PS
2357 Phereclos TYC 1273-00006-1
diam = 103.0 m = 10.6
m = 16.0



Dur = 5.9s Dm = 5.3
Sun : 174 Moon : 66

2002 nov 26 4h23.3m A02_1132.PS
656 Beagle TYC 1294-02155-1
diam = 57.5 m = 11.8
m = 14.4



Dur = 4.8s Dm = 2.7
Sun : 165 Moon : 57

2002 nov 30 21h28.5m A02_1117.PS
301 Bavaria TYC 4669-00528-1
diam = 55.5 m = 11.4
m = 15.1



Dur = 7.9s Dm = 3.7
Sun : 109 Moon : 157

2002 dec 1 21h29.2m A02_1264.PS
845 Naema TYC 2413-00783-1
diam = 57.5 m = 11.3
m = 14.1



Dur = 4.4s Dm = 2.9
Sun : 159 Moon : 128

2002 dec 2 3h54.6m A02_1260.PS
740 Cantabria TYC 0727-01571-1
diam = 94.5 m = 10.9
m = 13.4



Dur = 8.1s Dm = 2.6
Sun : 159 Moon : 132

2002 dec 2 23h52.4m A02_1240.PS
392 Wilhelmina TYC 0097-00489-1
diam = 64.6 m = 11.7
m = 13.3



Dur = 5.5s Dm = 1.9
Sun : 164 Moon : 155

Almanacco Astronomico 2002 – Occultazioni asteroidali

2002 dec 3 0h 2.1m A02_1207.PS
51 Nemausa TYC 0144-02162-1
diam = 152.3 m = 12.5
m = 10.8



Dur = 17.1s Dm = 0.2
Sun : 151 Moon : 136

2002 dec 6 6h 1.0m A02_1261.PS
772 Tanete TYC 2526-00740-1
diam = 123.0 m = 11.8
m = 13.7



Dur = 5.9s Dm = 2.1
Sun : 92 Moon : 116

2002 dec 10 3h43.6m A02_1250.PS
511 Davida TYC 1349-00414-1
diam = 337.0 m = 11.2
m = 10.1



Dur = 37.2s Dm = 0.3
Sun : 151 Moon : 134

2002 dec 11 0h45.2m A02_1253.PS
582 Olympia TAC -14°03311
diam = 47.0 m = 11.4
m = 12.6



Dur = 10.9s Dm = 1.5
Sun : 111 Moon : 141

2002 dec 12 21h37.6m A02_1265.PS
845 Naema TYC 2411-00909-1
diam = 57.5 m = 10.7
m = 14.0



Dur = 4.2s Dm = 3.4
Sun : 167 Moon : 81

2002 dec 15 3h26.3m A02_1215.PS
135 Hertha TAC -04°08690
diam = 82.0 m = 11.6
m = 13.9



Dur = 3.2s Dm = 2.3
Sun : 71 Moon : 160

2002 dec 15 19h43.9m A02_1206.PS
42 Isis TYC 1861-01129-1
diam = 107.0 m = 9.3
m = 10.9



Dur = 7.9s Dm = 1.9
Sun : 177 Moon : 47

2002 dec 16 0h25.4m A02_1245.PS
509 Iolanda TYC 0111-01109-1
diam = 59.0 m = 8.4
m = 12.7



Dur = 4.5s Dm = 4.3
Sun : 163 Moon : 39

2002 dec 16 5h52.6m A02_1229.PS
270 Anahita TYC 0259-01420-1
diam = 52.2 m = 11.5
m = 13.4



Dur = 7.1s Dm = 2.1
Sun : 105 Moon : 114

2002 dec 16 19h 7.6m A02_1222.PS
200 Dynamene TYC 1771-01085-1
diam = 132.0 m = 10.2
m = 12.0



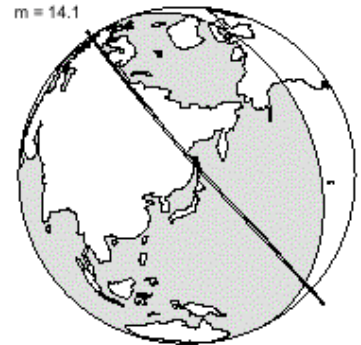
Dur = 31.6s Dm = 1.9
Sun : 138 Moon : 14

2002 dec 18 0h52.9m A02_1242.PS
424 Graha TYC 1291-01293-1
diam = 90.5 m = 11.5
m = 12.9



Dur = 8.4s Dm = 1.7
Sun : 172 Moon : 15

2002 dec 18 17h27.4m A02_1262.PS
795 Fini HIP 41137
diam = 78.7 m = 9.1
m = 14.1



Dur = 7.6s Dm = 5.0
Sun : 140 Moon : 49

2002 dec 23 21h51.9m A02_1226.PS
240 Vanadis TYC 1272-00658-1
diam = 108.0 m = 12.6
m = 11.8



Dur = 19.7s Dm = 0.4
Sun : 155 Moon : 75

2002 dec 24 16h31.9m A02_1213.PS
120 Lachesis TYC 2425-00155-1
diam = 178.0 m = 11.6
m = 12.3



Dur = 12.8s Dm = 1.2
Sun : 170 Moon : 56

2002 dec 28 22h51.4m A02_1246.PS
509 Iolanda TYC 0110-00178-1
diam = 59.0 m = 12.3
m = 12.9



Dur = 5.4s Dm = 1.1
Sun : 153 Moon : 136

2002 dec 29 23h20.6m A02_1244.PS
445 Edna TYC 2414-00419-1
diam = 89.8 m = 10.9
m = 13.6



Dur = 6.0s Dm = 2.8
Sun : 165 Moon : 136

2002 dec 30 2h36.7m A02_1274.PS
 986 Amella TYC 0880-00439-1
 diam = 53.0 m = 11.1
 m = 15.8



Dur = 4.3s Dm = 4.7
 Sun : 96 Moon : 49

2002 dec 31 15h58.3m A02_1219.PS
 171 Ophelia TYC 5821-00227-1
 diam = 121.0 m = 9.9
 m = 14.7



Dur = 4.5s Dm = 4.9
 Sun : 65 Moon : 94

Congiunzioni della Luna con i principali pianeti

Congiunzioni Luna-Venere

Data (giorno mese anno)	Ora (hh mm)	Separazione (°)
13 gen 2002	13:20	2.175
12 feb 2002	23:28	4.037
15 mar 2002	11:22	4.388
14 apr 2002	19:20	3.653
14 mag 2002	22:50	1.715
13 giu 2002	21:03	0.589
13 lug 2002	14:37	2.714
12 ago 2002	02:22	4.735
10 set 2002	07:51	6.345
08 ott 2002	10:10	8.725
04 nov 2002	13:01	7.021
01 dic 2002	12:54	1.319
30 dic 2002	07:48	2.966
28 gen 2003	17:18	5.066

Congiunzioni Luna-Marte

Data (giorno mese anno)	Ora (hh mm)	Separazione (°)
19 gen 2002	03:33	5.700
17 feb 2002	04:51	5.456
18 mar 2002	03:36	4.499
15 apr 2002	23:56	3.118
14 mag 2002	18:39	1.546
12 giu 2002	12:11	0.058
11 lug 2002	04:06	1.493
08 ago 2002	19:36	2.403
05 ott 2002	03:44	2.932
02 nov 2002	18:59	2.576
30 dic 2002	01:02	0.157

Congiunzioni Luna-Giove

Data (giorno mese anno)	Ora (hh mm)	Separazione (°)
26 gen 2002	19:16	0.032
23 feb 2002	01:18	0.076
22 mar 2002	11:41	0.351
18 apr 2002	22:31	0.663
13 giu 2002	04:07	1.698
10 lug 2002	22:08	2.029
29 ott 2002	23:34	3.435
26 nov 2002	06:21	3.670

Congiunzioni Luna-Saturno

Data (giorno mese anno)	Ora (hh mm)	Separazione (°)
21 feb 2002	00:36	0.752
16 apr 2002	19:58	0.137
10 giu 2002	21:10	0.482
05 ago 2002	03:48	1.266
29 set 2002	03:36	2.064
15 gen 2003	19:59	1.809

Congiunzioni Luna-Urano

Data (giorno mese anno)	Ora (hh mm)	Separazione (°)
15 gen 2002	23:05	4.195
08 apr 2002	05:50	4.025
02 giu 2002	03:53	4.970
29 giu 2002	05:49	4.234
18 set 2002	22:00	3.993
16 ott 2002	00:34	4.371
09 dic 2002	17:56	4.396
06 gen 2003	04:01	5.039

Congiunzioni Luna-Nettuno

Data (giorno mese anno)	Ora (hh mm)	Separazione (°)
14 gen 2002	17:34	3.623
11 feb 2002	03:48	4.121
04 mag 2002	03:31	4.312
25 lug 2002	01:53	4.123
21 ago 2002	05:24	4.417
10 nov 2002	22:53	4.762
04 gen 2003	20:12	4.865

Catalogo Messier

Num: Numero del catalogo Messier
 NGC: Numero nel catalogo NGC
 Costellazione: Nome della costellazione ospitante
 Cos: Sigla della costellazione ospitante
 T: tipo oggetto
 1=Ammasso aperto
 2=Ammasso globulare
 3=Nebulosa planetaria
 4=Nebulosa diffusa
 5=Galassia spirale
 6=Galassia ellittica
 7=Galassia irregolare (es. M82)
 8=Galassia lenticolare (S0)
 9=Resto di supernova (es. M1)
 A=Asterismi (es. M73)
 B=Sacche nella Via Lattea (es. M24)
 C=Stelle binarie (es. M40)
 Sub: Sottotipo
 A.R.: Ascensione retta dell'oggetto
 Dec.: Declinazione dell'oggetto
 Magn: Magnitudine visuale
 Dia: Diametro apparente in primi
 Dist: Distanza in migliaia di anni luce
 Nome comune: Nome comune dell'oggetto o commenti

Num	NGC	Costellazione	Cos	T Sub	A.R.	Dec.	Magn	Dia (')	Dist (Ka.l.)	Nome comune
001	1952	"Taurus"	Tau	9 -	05 34.5	+22 01	8.4	6x4	6.3	Crab Nebula
002	7089	"Aquarius"	Aqr	2 II	21 33.5	-00 49	6.5	12.9	36.2	
003	5272	"Canes Venaciti"	CVn	2 VI	13 42.2	+28 23	6.2	16.2	30.6	
004	6121	"Scorpius"	Sco	2 IX	16 23.6	-26 32	5.6	26.3	6.8	
005	5904	"Serpens"	SerCap	2 V	15 18.6	+02 05	5.6	17.4	22.8	
006	6405	"Scorpius"	Sco	1 'e'	17 40.1	-32 13	5.3	25.0	2	Butterfly Cluster
007	6475	"Scorpius"	Sco	1 'e'	17 53.9	-34 49	4.1	80.0	0.8	The Scorpion's Tail, Ptolemy's Cluster
008	6523	"Sagittarius"	Sgr	4 E	18 03.8	-24 23	6.0	90x40	5.2	Lagoon Nebula
009	6333	"Ophiuchus"	Oph	2 VIII	17 19.2	-18 31	7.7	9.3	26.4	
010	6254	"Ophiuchus"	Oph	2 VII	16 57.1	-04 06	6.6	15.1	13.4	
011	6705	"Scutum"	Sct	1 'g'	18 51.1	-06 16	6.3	14.0	6	Wild Duck Cluster
012	6218	"Ophiuchus"	Oph	2 IX	16 47.2	-01 57	6.7	14.5	17.6	
013	6205	"Hercules"	Her	2 V	16 41.7	+36 28	5.8	16.6	22.8	Hercules Globular Cluster
014	6402	"Ophiuchus"	Oph	2 VIII	17 37.6	-03 15	7.6	11.7	27.4	
015	7078	"Pegasus"	Peg	2 IV	21 30.0	+12 10	6.2	12.3	32.6	
016	6611	"Serpens"	SerCau	1 'e'	18 18.8	-13 47	6.4	7.0	7	associato alla Eagle Nebula
017	6618	"Sagittarius"	Sgr	4 E	18 20.8	-16 11	7.0	11.0	5	Omega, Swan, Horseshoe, o Lobster Nebula
018	6613	"Sagittarius"	Sgr	1 'd'	18 19.9	-17 08	7.5	9.0	4.9	
019	6273	"Ophiuchus"	Oph	2 VIII	17 02.6	-26 16	6.8	13.5	27.1	
020	6514	"Sagittarius"	Sgr	4 E+R	18 02.6	-23 02	9.0	28.0	5.2	Trifid Nebula
021	6531	"Sagittarius"	Sgr	1 'd'	18 04.6	-22 30	6.5	13.0	4.25	
022	6656	"Sagittarius"	Sgr	2 VII	18 36.4	-23 54	5.1	24.0	10.1	
023	6494	"Sagittarius"	Sgr	1 'e'	17 56.8	-19 01	6.9	27.0	2.15	
024	6603	"Sagittarius"	Sgr	B -	18 16.9	-18 29	4.6	90	10	Sagittarius Star Cloud, Delle
025	0000	"Sagittarius"	Sgr	1 'd'	18 31.6	-19 15	6.5	40.0	2	
026	6694	"Scutum"	Sct	1 'f'	18 45.2	-09 24	8.0	15.0	5	
027	6853	"Vulpecula"	Vul	3 3a+2	19 59.6	+22 43	7.4	8.0x5.7	1.25	Dumbbell Nebula
028	6626	"Sagittarius"	Sgr	2 IV	18 24.5	-24 52	6.8	11.2	17.9	
029	6913	"Cygnus"	Cyg	1 'd'	20 23.9	+38 32	7.1	7.0	4.0	
030	7099	"Capricornus"	Cap	2 V	21 40.4	-23 11	7.2	11.0	24.8	
031	224	"Andromeda"	And	5 Sb	00 42.7	+41 16	3.4	178x63	2900	Andromeda Galaxy
032	221	"Andromeda"	And	6 E2	00 42.7	+40 52	8.1	8x6	2900	Satellite di M31
033	598	"Triangulum"	Tri	5 Sc	01 33.9	+30 39	5.7	73x45	3000	Triangulum Galaxy

034	1039	"Perseus"	Per	1 'd'	02 42.0 +42 47	5.5	35.0	1.4	
035	2168	"Gemini"	Gem	1 'e'	06 08.9 +24 20	5.3	28.0	2.8	
036	1960	"Auriga"	Aur	1 'f'	05 36.1 +34 08	6.3	12.0	4.1	
037	2099	"Auriga"	Aur	1 'f'	05 52.4 +32 33	6.2	24.0	4.4	
038	1912	"Auriga"	Aur	1 'e'	05 28.4 +35 50	7.4	21.0	4.2	
039	7092	"Cygnus"	Cyg	1 'e'	21 32.2 +48 26	5.2	32.0	0.825	
040	0000	"Ursa Major"	UMa	C -	12 22.4 +58 05	8.4	0.8	0.51	Winnecke 4
041	2287	"Canis Major"	CMa	1 'e'	06 46.0 -20 44	4.6	38.0	2.3	
042	1976	"Orion"	Ori	4 E+R	05 35.4 -05 27	4.0	85x60	1.6	Orion Nebula
043	1982	"Orion"	Ori	4 E+R	05 35.6 -05 16	9.0	20x15	1.6	De Mairan's Nebula, parte di M42
044	2632	"Cancer"	Cnc	1 'd'	08 40.1 +19 59	3.7	95.0	0.577	Beehive Cluster, Praesepe
045	0000	"Taurus"	Tau	1 'c'	03 47.0 +24 07	1.6	110.0	0.38	Pleiades
046	2437	"Puppis"	Pup	1 'f'	07 41.8 -14 49	6.0	27.0	5.4	
047	2422	"Puppis"	Pup	1 'd'	07 36.6 -14 30	5.2	30.0	1.6	
048	2548	"Hydra"	Hya	1 'f'	08 13.8 -05 48	5.5	54.0	1.5	
049	4472	"Virgo"	Vir	6 E4	12 29.8 +08 00	8.4	9x7.5	60000	
050	2323	"Monoceros"	Mon	1 'e'	07 03.2 -08 20	6.3	16.0	3	
051	5194	"Canes Venaciti"	CVn	5 Sc	13 29.9 +47 12	8.4	11x7	37000	Whirlpool Galaxy
052	7654	"Cassiopeia"	Cas	1 'e'	23 24.2 +61 35	7.3	13.0	5.0	
053	5024	"Coma Berenices"	Com	2 V	13 12.9 +18 10	7.6	12.6	56.4	
054	6715	"Sagittarius"	Sgr	2 IIII	18 55.1 -30 29	7.6	9.1	82.8	
055	6809	"Sagittarius"	Sgr	2 XI	19 40.0 -30 58	6.3	19.0	16.6	
056	6779	"Lyra"	Lyr	2 X	19 16.6 +30 11	8.3	7.1	31.6	
057	6720	"Lyra"	Lyr	3 4+3	18 53.6 +33 02	8.8	1.4x1.0	4.1	Ring Nebula
058	4579	"Virgo"	Vir	5 SBc	12 37.7 +11 49	9.7	5.5x4.5	60000	
059	4621	"Virgo"	Vir	6 E5	12 42.0 +11 39	9.6	5x3.5	60000	
060	4649	"Virgo"	Vir	6 E2	12 43.7 +11 33	8.8	7x6	60000	
061	4303	"Virgo"	Vir	5 SABbc	12 21.9 +04 28	9.7	6x5.5	60000	
062	6266	"Ophiuchus"	Oph	2 IV	17 01.2 -30 07	6.5	14.1	21.5	
063	5055	"Canes Venaciti"	CVn	5 Sb	13 15.8 +42 02	8.6	10x6	37000	Sunflower Galaxy
064	4826	"Coma Berenices"	Com	5 Sb	12 56.7 +21 41	8.5	9.3x5.4	19000	Blackeye Galaxy
065	3623	"Leo"	Leo	5 Sa	11 18.9 +13 05	9.3	8x1.5	35000	
066	3627	"Leo"	Leo	5 Sb	11 20.2 +12 59	8.9	8x2.5	35000	
067	2682	"Cancer"	Cnc	1 'f'	08 50.4 +11 49	6.1	30.0	2.7	
068	4590	"Hydra"	Hya	2 X	12 39.5 -26 45	7.8	12.0	33.3	
069	6637	"Sagittarius"	Sgr	2 V	18 31.4 -32 21	7.6	7.1	26.7	
070	6681	"Sagittarius"	Sgr	2 V	18 43.2 -32 18	7.9	7.8	28.0	
071	6838	"Sagitta"	Sge	2 X-XI	19 53.8 +18 47	8.2	7.2	11.7	
072	6981	"Aquarius"	Aqr	2 IX	20 53.5 -12 32	9.3	5.9	52.8	
073	6994	"Aquarius"	Aqr	A -	20 58.9 -12 38	9.0	2.8	0	
074	628	"Pisces"	Psc	5 Sc	01 36.7 +15 47	9.4	10.2x9.5	35000	
075	6864	"Sagittarius"	Sgr	2 I	20 06.1 -21 55	8.5	6.0	57.7	
076	650	"Perseus"	Per	3 3+6	01 42.4 +51 34	10.1	2.7x1.8	3.4	Little Dumbbell Nebula
077	1068	"Cetus"	Cet	5 Sb	02 42.7 -00 01	8.9	7x6	60000	Cetus A
078	2068	"Orion"	Ori	4 R	05 46.7 +00 03	8.3	8x6	1.6	
079	1904	"Lepus"	Lep	2 V	05 24.5 -24 33	7.7	8.7	41.1	
080	6093	"Scorpius"	Sco	2 II	16 17.0 -22 59	7.3	8.9	27.4	
081	3031	"Ursa Major"	UMa	5 Sb	09 55.6 +69 04	6.9	21x10	12000	Bode's Galaxy
082	3034	"Ursa Major"	UMa	7 Ir-II	09 55.8 +69 41	8.4	9x4	12000	Cigar Galaxy
083	5236	"Hydra"	Hya	5 SABc	13 37.0 -29 52	7.6	11x10	15000	Southern Pinwheel
084	4374	"Virgo"	Vir	8 S0	12 25.1 -12 53	9.1	5.0	60000	
085	4382	"Coma Berenices"	Com	8 S0	12 25.4 +18 11	9.1	7.1x5.2	60000	
086	4406	"Virgo"	Vir	8 S0	12 26.2 +12 57	8.9	7.5x5.5	60000	
087	4486	"Virgo"	Vir	6 E1	12 30.8 +12 24	8.6	7.0	60000	Virgo A
088	4501	"Coma Berenices"	Com	5 Sc	12 32.0 +14 25	9.6	7x4	60000	
089	4552	"Virgo"	Vir	6 E0	12 35.7 +12 33	9.8	4.0	60000	
090	4569	"Virgo"	Vir	5 SB	12 36.8 +13 10	9.5	9.5x4.5	60000	
091	4548	"Coma Berenices"	Com	5 SBb	12 35.4 +14 30	10.2	5.4x4.4	60000	
092	6341	"Hercules"	Her	2 IV	17 17.1 +43 08	6.4	11.2	26.4	
093	2447	"Puppis"	Pup	1 'g'	07 44.6 -23 52	6.0	22.0	3.6	
094	4736	"Canes Venaciti"	CVn	5 SB	12 50.9 +41 07	8.2	7x3	14500	
095	3351	"Leo"	Leo	5 SBb	10 44.0 +11 42	9.7	4.4x3.3	38000	
096	3368	"Leo"	Leo	5 Sa	10 46.8 +11 49	9.2	6x4	38000	
097	3587	"Ursa Major"	UMa	3 3a	11 14.8 +55 01	9.9	3.4x3.3	2.6	Owl Nebula
098	4192	"Coma Berenices"	Com	5 Sb	12 13.8 +14 54	10.1	9.5x3.2	60000	
099	4254	"Coma Berenices"	Com	5 Sc	12 18.8 +14 25	9.9	5.4x4.8	60000	
100	4321	"Coma Berenices"	Com	5 Sc	12 22.9 +15 49	9.3	7x6	60000	
101	5457	"Ursa Major"	UMa	5 Sc	14 03.2 +54 21	7.9	22.0	27000	Pinwheel Galaxy
102	5457	"Ursa Major"	UMa	5 Sc	14 03.2 +54 21	7.9	22.0	27000	
102	5866	"Draco"	Dra	8 S0_3	15 06.5 +55 46	9.9	5.2x2.3	40000	Spindle Galaxy
103	581	"Cassiopeia"	Cas	1 'd'	01 33.2 +60 42	7.4	6.0	8	
104	4594	"Virgo"	Vir	5 Sa	12 40.0 -11 37	8.0	9x4	50000	Sombrero Galaxy
105	3379	"Leo"	Leo	6 E1	10 47.8 +12 35	9.3	2.0	38000	
106	4258	"Canes Venaciti"	CVn	5 Sbp	12 19.0 +47 18	8.4	19x8	25000	
107	6171	"Ophiuchus"	Oph	2 X	16 32.5 -13 03	7.9	10.0	19.6	
108	3556	"Ursa Major"	UMa	5 Sc	11 11.5 +55 40	10.0	8x1	45000	
109	3992	"Ursa Major"	UMa	5 SBc	11 57.6 +53 23	9.8	7x4	55000	
110	205	"Andromeda"	And	6 E6p	00 40.4 +41 41	8.5	17x10	2900	Satellite di M31

Stelle variabili dell'emisfero Nord

Nome	Tipo var	Max Magn	Min Magn
----	-----	-----	-----
alpha Andromedae	ACV	2.02	2.06
zeta Andromedae	EB/GS/RS	3.92	4.14
lambda Andromedae	RS	3.69	3.97
omicron Andromedae	GCAS	3.58	3.78
28 Andromedae	DSCTC	5.18	5.22
U Antliae	LB	8.10	9.70
kappal Apodis	GCAS	5.43	5.61
R Apodis	CST:	5.35	0.00
3 Aquarii	LB	4.41	4.45
eta Aquilae	DCEP	3.48	4.39
sigma Aquilae	EB/DM	5.14	5.34
18 Aquilae	E/KE	5.02	5.06
21 Aquilae	ACV	5.06	5.16
FF Aquilae	DCEPS	5.18	5.68
38 Arietis	DSCTC	5.18	5.22
gamma Arietis	ACV	4.62	4.66
beta Aurigae	EA/DM	1.89	1.98
epsilon Aurigae	EA/GS	2.92	3.83
zeta Aurigae	EA/GS	3.70	3.97
theta Aurigae	ACV	2.62	2.70
pi Aurigae	LC	4.24	4.34
psil Aurigae	LC	4.75	5.70
14 Aurigae	DSCTC+ELL	4.95	5.08
IQ Aurigae	ACV	5.35	5.43
UU Aurigae	SRB	7.83	10.00
gamma Bootis	DSCTC:	3.02	3.07
xi Bootis	BY:	4.52	4.67
13 Bootis	LB	5.20	5.30
34 Bootis	SRB:	4.73	5.40
BP Bootis	ACV	5.34	5.36
BY Bootis	LB:	4.98	5.33
i Bootis	EW/KW	5.80	6.40
kappa 2 Bootis	DSCTC	4.50	4.58
31 Camelopardalis	EB/DM	5.12	5.29
BD Camelopardalis	LB	5.04	5.17
BE Camelopardalis	LC	4.35	4.48
BK Camelopardalis	GCAS	4.78	4.89
BN Camelopardalis	ACV	5.30	5.35
VZ Camelopardalis	SR	4.80	4.96
kappa Cancri	ACV:	5.22	5.27
alpha2 Canum Venaticorum	ACV	2.84	2.98
20 Canum Venaticorum	DSCTC	4.70	4.75
AW Canum Venaticorum	SR:	4.72	4.81
BH Canum Venaticorum	RS	4.94	5.01
Y Canum Venaticorum	SRB	7.40	10.00
beta Canis Majoris	BCEP	1.93	2.00
iota Canis Majoris	BCEP	4.36	4.40
kappa Canis Majoris	GCAS	3.78	3.97
xil Canis Majoris	BCEP	4.33	4.36
omicron1 Canis Majoris	LC	3.78	3.99
sigma Canis Majoris	LC	3.43	3.51
omega Canis Majoris	GCAS	3.60	4.18
10 Canis Majoris	GCAS	5.13	5.44
15 Canis Majoris	BCEP	4.79	4.84
27 Canis Majoris	GCAS	4.42	4.82
29 Canis Majoris	EB/KE:	4.84	5.33
FN Canis Majoris	BCEP	5.38	5.42
FW Canis Majoris	GCAS	5.00	5.50
beta Canis Minoris	GCAS	2.84	2.92
chi Carinae	BCEP	3.46	3.48
PP Carinae	GCAS	3.27	3.37
V337 Carinae	LC	3.36	3.44
V343 Carinae	BCEP:	4.20	4.24
V344 Carinae	GCAS	4.40	4.51
V345 Carinae	GCAS	4.67	4.78
V357 Carinae	E:	3.41	3.44
V370 Carinae	ACYG	5.45	5.52
V371 Carinae	ACYG	5.12	5.19
V376 Carinae	BCEPS	4.91	4.96
V382 Carinae	DCEP:	3.84	4.02
l Carinae	DCEP	3.28	4.18
alpha Cassiopeiae	CST:	2.20	2.27
beta Cassiopeiae	DSCTC	2.25	2.31
gamma Cassiopeiae	GCAS	1.60	3.00
delta Cassiopeiae	EA:	2.68	2.76
kappa Cassiopeiae	ACYG	4.22	4.30
omicron Cassiopeiae	GCAS	4.50	4.62
rho Cassiopeiae	SRD	4.10	6.20
AR Cassiopeiae	EA/DM	4.82	4.96
V509 Cassiopeiae	SRD	4.75	5.50
V566 Cassiopeiae	ACYG	5.34	5.45

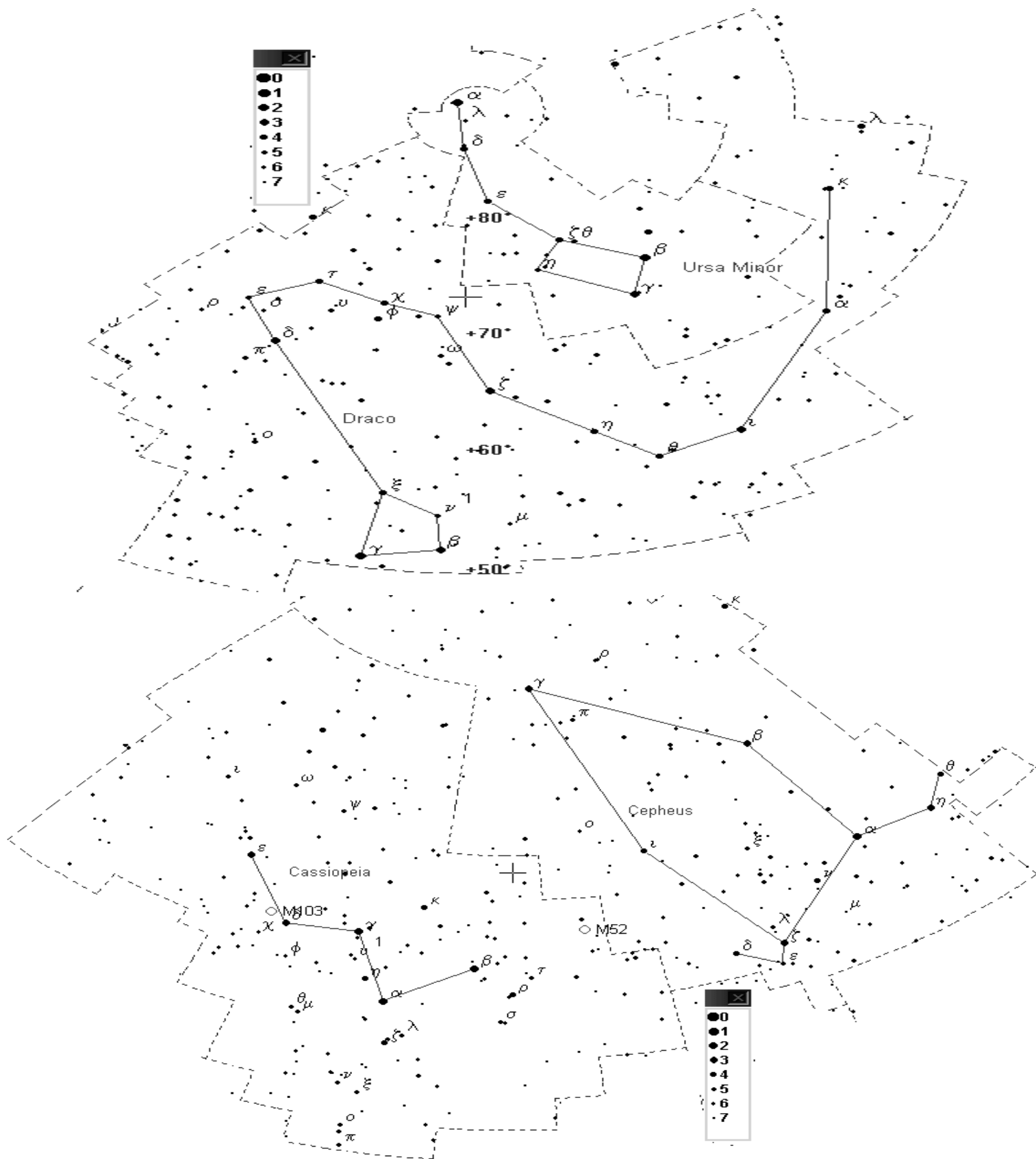
beta Centauri	BCEP	0.61	0.66
delta Centauri	GCAS	2.51	2.65
epsilon Centauri	BCEP	2.29	2.31
eta Centauri	GCAS	2.30	2.41
mu Centauri	GCAS	2.92	3.47
omicron1 Centauri	SRD	5.80	6.60
omicron2 Centauri	SRD	5.80	6.60
chi Centauri	BCEPS	4.15	4.17
2 Centauri	SRB	4.16	4.26
V761 Centauri	SXARI	4.38	4.43
V790 Centauri	BCEP:	6.16	6.27
V795 Centauri	GCAS	4.97	5.10
V810 Centauri	SRD	4.95	5.12
V815 Centauri	ACV	5.14	5.17
V815 Centauri	ACV	5.14	5.17
beta Cephei	BCEP	3.16	3.27
delta Cephei	DCEP	3.48	4.37
epsilon Cephei	DSCTC	4.15	4.21
mu Cephei	SRC	3.43	5.10
9 Cephei	ACYG	4.69	4.78
18 Cephei	LB:	5.13	5.33
OV Cephei	SR	5.00	5.07
VV Cephei	EA/GS+SRC	4.80	5.36
theta Circini	GCAS	5.02	5.44
lambda Columbae	ELL:	4.85	4.92
13 Comae Berenices	ACV:	5.15	5.18
17 Comae Berenices	ACV+DSCT:	5.23	5.40
21 Comae Berenices	ACV+DSCTC	5.41	5.46
epsilon Coronae Australis	EW	4.74	5.00
V686 Coronae Australis	ACV	5.25	5.41
V692 Coronae Australis	SXARI	5.46	5.51
alpha Coronae Borealis	EA/DM	2.21	2.32
beta Coronae Borealis	ACV	3.65	3.72
gamma Coronae Borealis	DSCTC	3.80	3.86
beta Crucis	BCEP	1.23	1.31
delta Crucis	BCEP	2.78	2.84
theta2 Crucis	BCEP:	4.70	4.74
lambda Crucis	BCEP:	4.62	4.64
mu2 Crucis	GCAS	4.99	5.18
BG Crucis	DCEPS	5.34	5.58
BL Crucis	SR:	5.43	5.78
alpha Cygni	ACYG	1.21	1.29
omicron1 Cygni	EA/GS/D	3.73	3.89
omicron2 Cygni	EA/GS/D	3.90	4.14
tau Cygni	DSCT	3.65	3.75
upsilon Cygni	GCAS	4.28	4.50
4 Cygni	ACV	4.60	4.62
19 Cygni	LB	5.08	5.40
25 Cygni	GCAS+BCEP	5.19	5.26
28 Cygni	SXARI	4.91	4.97
29 Cygni	DSCTC	4.94	4.97
34 Cygni	SDOR	3.00	6.00
55 Cygni	ACYG	4.81	4.87
59 Cygni	GCAS	4.49	4.88
T Cygni	LB:	4.91	4.96
delta Delphini	DSCT	4.38	4.49
kappa Draconis	GCAS	3.82	4.01
phi Draconis	ACV	4.22	4.26
4 Draconis	LB:	4.95	5.04
10 Draconis	LB:	4.52	4.67
73 Draconis	ACV	5.15	5.22
AT Draconis	LB	6.80	7.50
CL Draconis	DSCTC	4.95	4.97
gamma Equulei	ACVO	4.58	4.77
lambda Eridani	BCEP	4.22	4.34
nu Eridani	BCEP	3.92	4.06
omicron1 Eridani	DSCTC	4.00	4.05
47 Eridani	LB:	5.10	5.13
64 Eridani	RRC:	4.77	4.80
zeta Geminorum	DCEP	3.62	4.18
mu Geminorum	LB	2.75	3.02
sigma Geminorum	RS	4.13	4.29
omega Geminorum	CEP:	5.14	5.23
51 Geminorum	SRB	6.63	7.02
eta Geminorum	SRA+EA	3.15	3.90
alpha Herculis	SRC	2.74	4.00
nu Herculis	SRD:	4.38	4.48
omicron Herculis	GCAS	3.80	3.87
omega Herculis	ACV	4.57	4.65
30 Herculis	SRB	4.30	6.30
52 Herculis	ACV	4.78	4.85
68 Herculis	EA/SD	4.69	5.37
89 Herculis	SRD	5.34	5.54
104 Herculis		6.62	6.76
V656 Herculis	LB:	4.90	5.10
alpha Hydrae	SRC	2.74	4.00
beta Hydrae	ACV	4.27	4.31
eta Hydrae	BCEP	4.27	4.33
14 Hydrae	ACV	5.31	5.33
II Hydrae	SRB	4.85	5.12
U Hydrae	SRB	7.00	9.40
12 Lacertae	BCEP	5.16	5.28
EW Lacertae	GCAS	5.22	5.48
rho Leonis	ACYG	3.83	3.90
mu Leporis	ACV	2.97	3.41
17 Leporis	ZAND	4.82	5.06

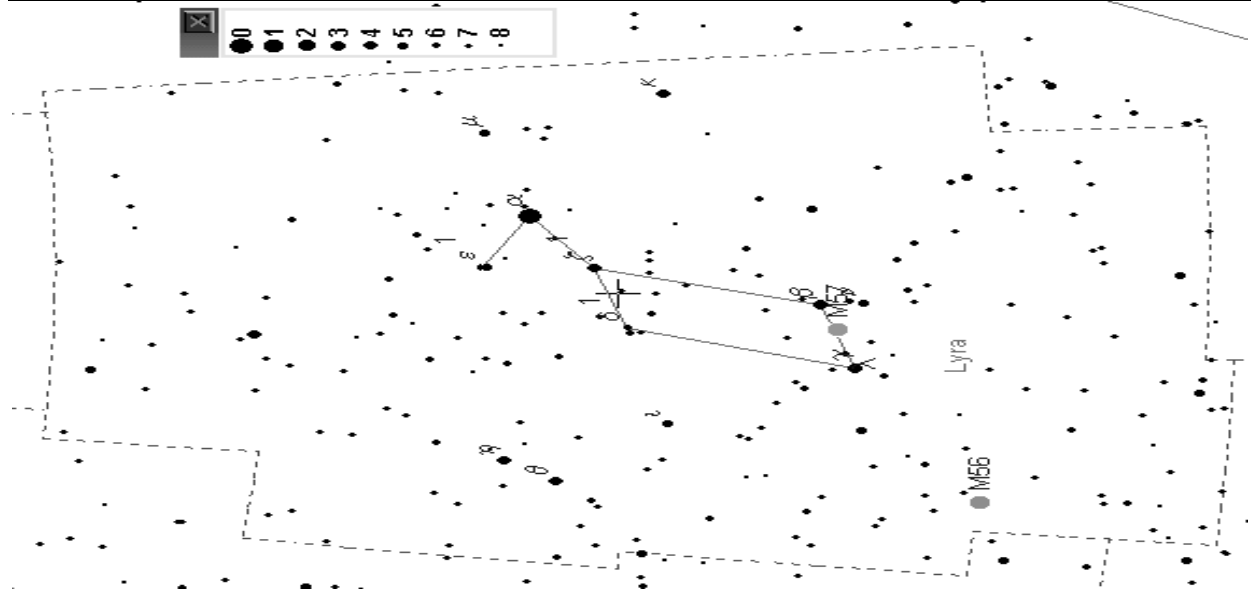
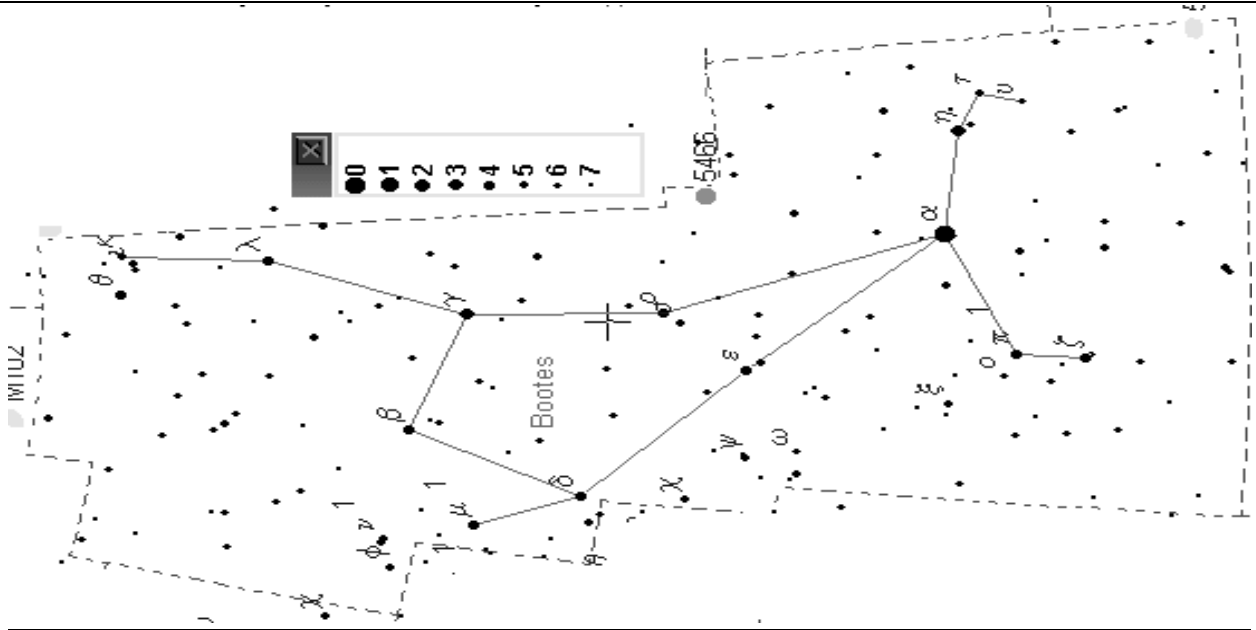
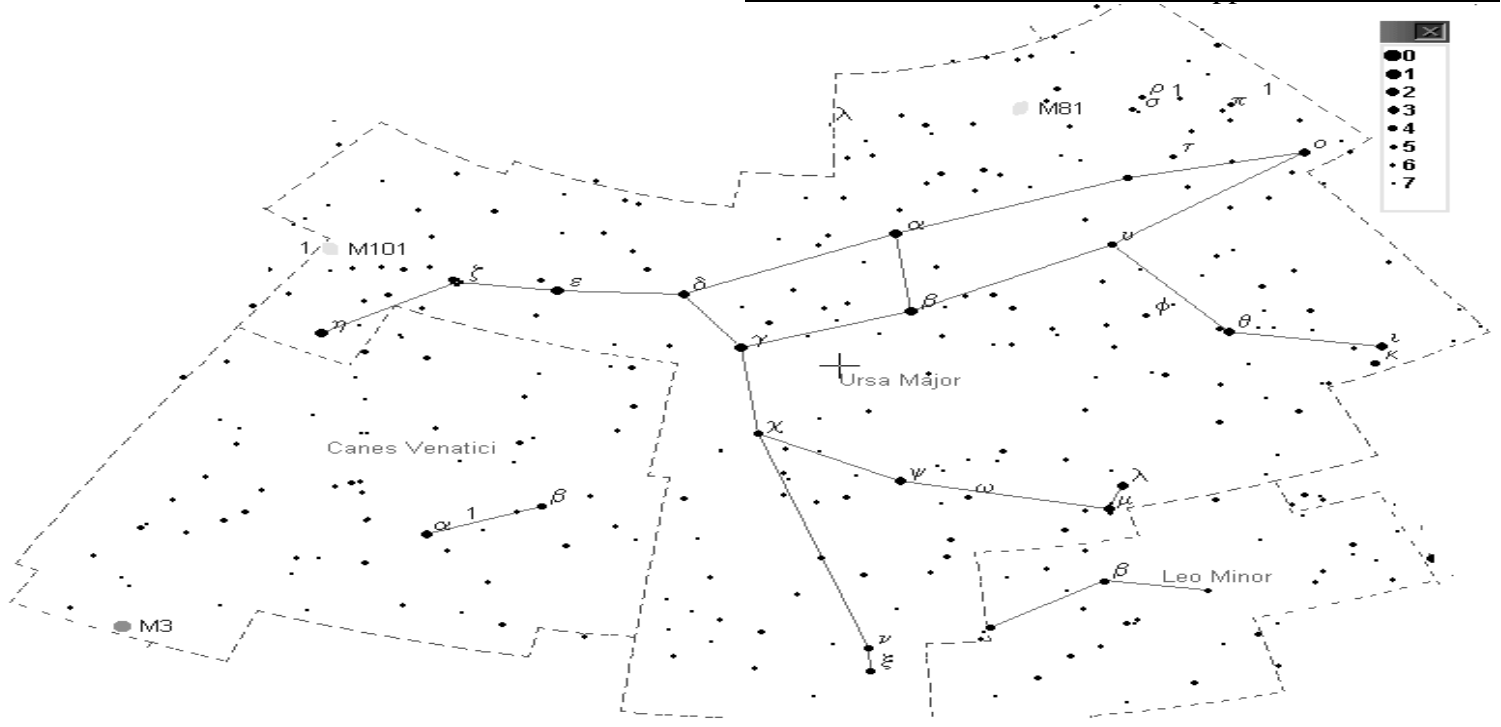
Almanacco Astronomico 2002 – Stelle Variabili

delta Librae	EA/SD	4.91	5.90
sigma Librae	SRB	3.20	3.46
48 Librae	GCAS	4.74	4.96
alpha Lupi	BCEP	2.29	2.34
delta Lupi	BCEP	3.20	3.24
taul Lupi	BCEP	4.54	4.58
1 Lyncis	LB:	4.95	5.06
2 Lyncis	E:+DSCTC:	4.43	4.73
UY Lyncis	LB:	5.47	5.55
alpha Lyrae	DSCTC	-0.02	0.07
beta Lyrae	EB	3.25	4.36
delta2 Lyrae	SRC:	4.22	4.33
13 Lyrae	SRB	3.88	5.00
15 Monocerotis	IA:	4.62	4.68
19 Monocerotis	BCEP	4.96	5.01
21 Monocerotis	DSCTC	5.43	5.50
28 Monocerotis	FKCOM	4.68	4.70
S Monocerotis	IA:	4.62	4.68
alpha Muscae	BCEP	2.68	2.73
epsilon Muscae	SRB:	3.99	4.31
eta Muscae	E	4.76	4.81
mu Muscae	LB	4.60	4.80
mu Normae	ACYG:	4.87	4.98
QU Normae	GCAS	5.29	5.41
zeta Ophiuchi	GCAS	2.56	2.58
theta Ophiuchi	BCEP	3.25	3.31
kappa Ophiuchi	LB:	4.10	5.00
chi Ophiuchi	GCAS	4.18	5.00
omega Ophiuchi	ACV	4.44	4.51
66 Ophiuchi	GCAS+UV:	4.55	4.85
V2105 Ophiuchi	SRB:	5.00	5.38
alpha Orionis	SRC	0.00	1.30
delta Orionis	EA/DM	2.14	2.26
epsilon Orionis	ACYG	1.64	1.74
eta Orionis	EA+BCEP:	3.31	3.60
omicron1 Orionis	SRB	4.65	4.88
pi5 Orionis	ELL	3.66	3.73
psi Orionis	E/D	4.55	4.61
omega Orionis	GCAS	4.40	4.59
11 Orionis	ACV	4.65	4.69
31 Orionis	CST:	4.67	4.71
V1016 Orionis	EA	6.72	7.65
VV Orionis	EA/KE:	5.31	5.66
psi Orionis	E/D	4.55	4.61
beta Pegasi	LB	2.31	2.74
gamma Pegasi	BCEP	2.78	2.89
epsilon Pegasi	LC	0.70	3.50
tau Pegasi	DSCTC	4.60	4.62
71 Pegasi	LB:	5.32	5.62
beta Persei	EA/SD	2.12	3.39
delta Persei	GCAS:	2.99	3.04
xi Persei	*	4.00	4.06
omicron Persei	ELL	3.79	3.88
rho Persei	SRB	3.30	4.00
phi Persei	GCAS	3.96	4.11
psi Persei	GCAS	4.17	4.28
21 Persei	ACV	5.03	5.14
42 Persei	E/D	5.05	5.18
48 Persei	GCAS	4.00	4.09
53 Persei	BCEP	4.81	4.86
V396 Persei	SXARI	5.45	5.53
b Persei	ELL	4.52	4.68
47 Piscium	SR	4.65	5.42
rho Puppis	DSCT	2.68	2.87
KQ Puppis	LC	4.82	5.17
L Puppis	SRB	2.60	6.20
MX Puppis	GCAS	4.60	4.92
MZ Puppis	LC:	5.20	5.44
NS Puppis	LC	4.40	4.50
NV Puppis	GCAS	4.58	4.78
NW Puppis	BCEP+ELL:	5.11	5.18
OS Puppis	GCAS:	5.07	5.20
OU Puppis	ACV	4.86	4.93
OW Puppis	GCAS	5.37	5.56
PU Puppis	EB	4.69	4.75
V Puppis	EB/SD	4.35	4.92
delta Sagittae	LB:	3.75	3.83
13 Sagittae	LB	5.27	5.57
eta Sagittarii	LB:	3.05	3.12
mu Sagittarii	EA+ACYG	3.80	3.88
rho1 Sagittarii	DSCTC	3.90	3.94
upsilon Sagittarii	EB/GS	4.53	4.61
3 Sagittarii	DCEP	4.20	4.90
62 Sagittarii	LB	4.45	4.64
V4050 Sagittarii	ACV	5.31	5.32
W Sagittarii	DCEP	4.29	5.14
alpha Scorpii	LC	0.88	1.16
kappa Scorpii	BCEP	2.41	2.42
lambda Scorpii	BCEP+E:	1.62	1.68
mul Scorpii	EB/SD	2.94	3.22
sigma Scorpii	BCEP	2.86	2.94
V913 Scorpii	SXARI	5.40	5.47
V918 Scorpii	ELL	5.42	5.50
zeta 1 Scorpii	SDOR:	4.66	4.86
delta Scuti	DSCT	4.60	4.79
R Scuti	RVA	4.20	8.60

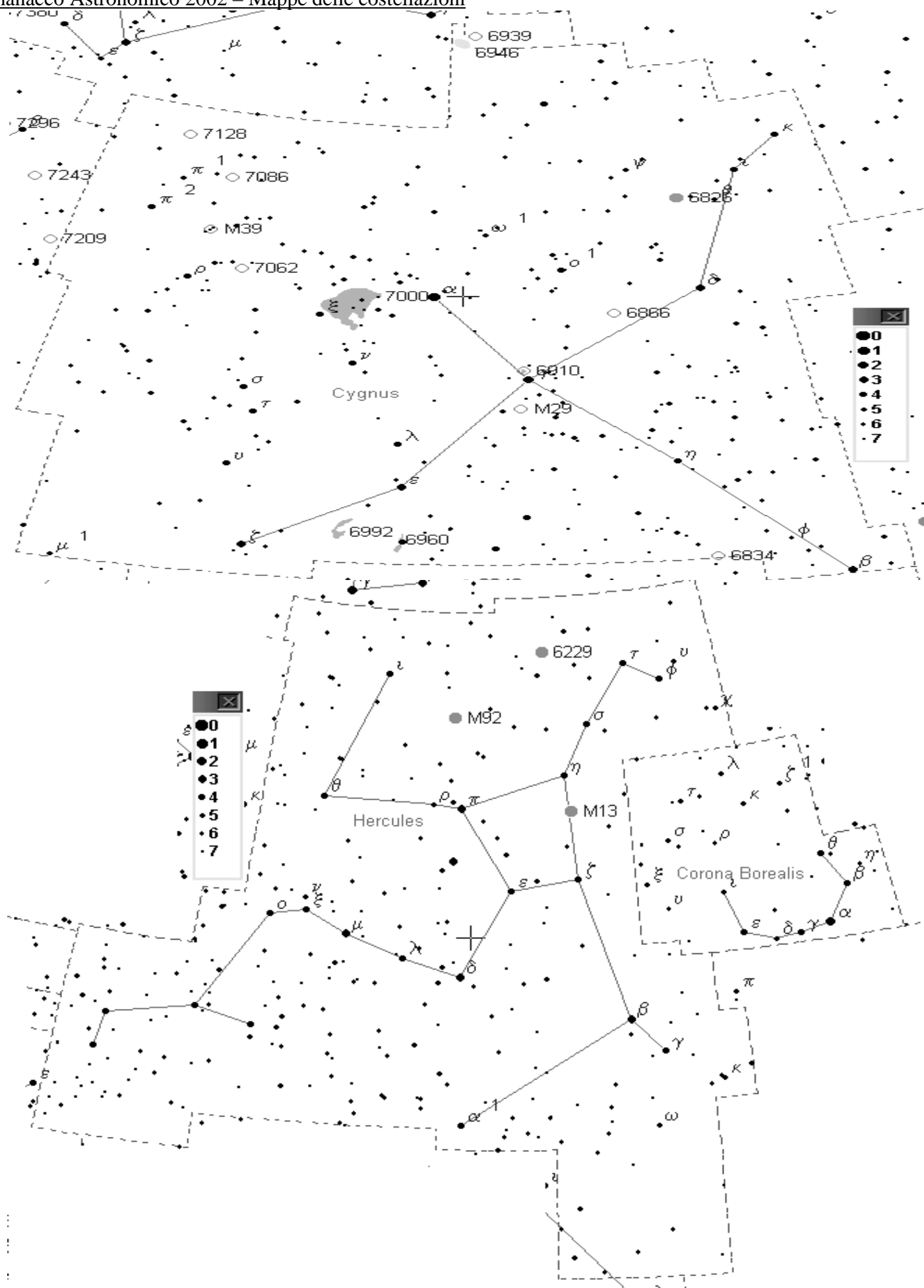
delta Serpentis	DSCTC	4.23	4.27
omicron Serpentis	DSCTC:	4.26	4.27
chi Serpentis	ACV	5.33	5.36
59 Serpentis	I:	5.17	5.29
alpha Tauri	LB:	0.75	0.95
delta3 Tauri	ACV:	4.29	4.32
zeta Tauri	E/GS+GCAS	2.88	3.17
theta2 Tauri	DSCTC+E:	3.35	3.42
lambda Tauri	EA/DM	3.37	3.91
rho Tauri	DSCTC	4.90	4.91
upsilon Tauri	DSCTC	4.28	4.31
28 Tauri	GCAS	4.77	5.50
41 Tauri	ACV	5.15	5.22
44 Tauri	DSCT	5.37	5.58
56 Tauri	ACV	5.36	5.40
58 Tauri	DSCTC	5.22	5.28
71 Tauri	DSCTC	4.73	4.75
97 Tauri	DSCTC	5.09	5.13
119 Tauri	SRC	4.23	4.54
6 Trianguli	ELL/RS	5.19	5.28
LP Trianguli Australis	ACV	5.12	5.15
epsilon Ursae Majoris	ACV	1.76	1.78
upsilon Ursae Majoris	DSCT	3.68	3.86
18 Ursae Majoris	DSCTC	5.02	5.05
24 Ursae Majoris	RS:	4.56	4.62
31 Ursae Majoris	CST	5.27	0.00
67 Ursae Majoris	DSCTC	5.21	5.24
CS Ursae Majoris	LB:	6.78	6.94
alpha Ursae Minoris	DCEPS	1.86	2.13
gamma Ursae Minoris	DSCTC	3.04	3.09
epsilon Ursae Minoris	EA/D/RS	4.19	4.23
RR Ursae Minoris	SRB	4.53	4.73
gamma Velorum	WR	1.81	1.87
lambda Velorum	LC	2.14	2.30
omicron Velorum	*	3.55	3.67
FZ Velorum	DSCTC	5.14	5.17
GU Velorum	DSCTC	5.08	5.11
GX Velorum	ACYG:	4.97	5.04
GZ Velorum	LC	3.43	3.81
HL Velorum	LB	9.62	9.99
HW Velorum	BCEP	5.46	5.52
HY Velorum	ELL:	4.83	4.90
IS Velorum	BCEP	5.23	0.00
N Velorum	CST:	3.12	3.15
alpha Virginis	ELL+BCEP	0.95	1.05
psi Virginis	LB	4.73	4.96
omega Virginis	LB	5.23	5.50
32 Virginis	DSCTC	5.20	5.28
78 Virginis	ACV	4.91	4.99
CU Virginis	ACV	4.92	5.07
ET Virginis	SRB	4.80	5.00
2 Vulpeculae	BCEP:	5.42	5.48
15 Vulpeculae	ACV	4.62	4.67
21 Vulpeculae	DSCTC	5.36	5.41

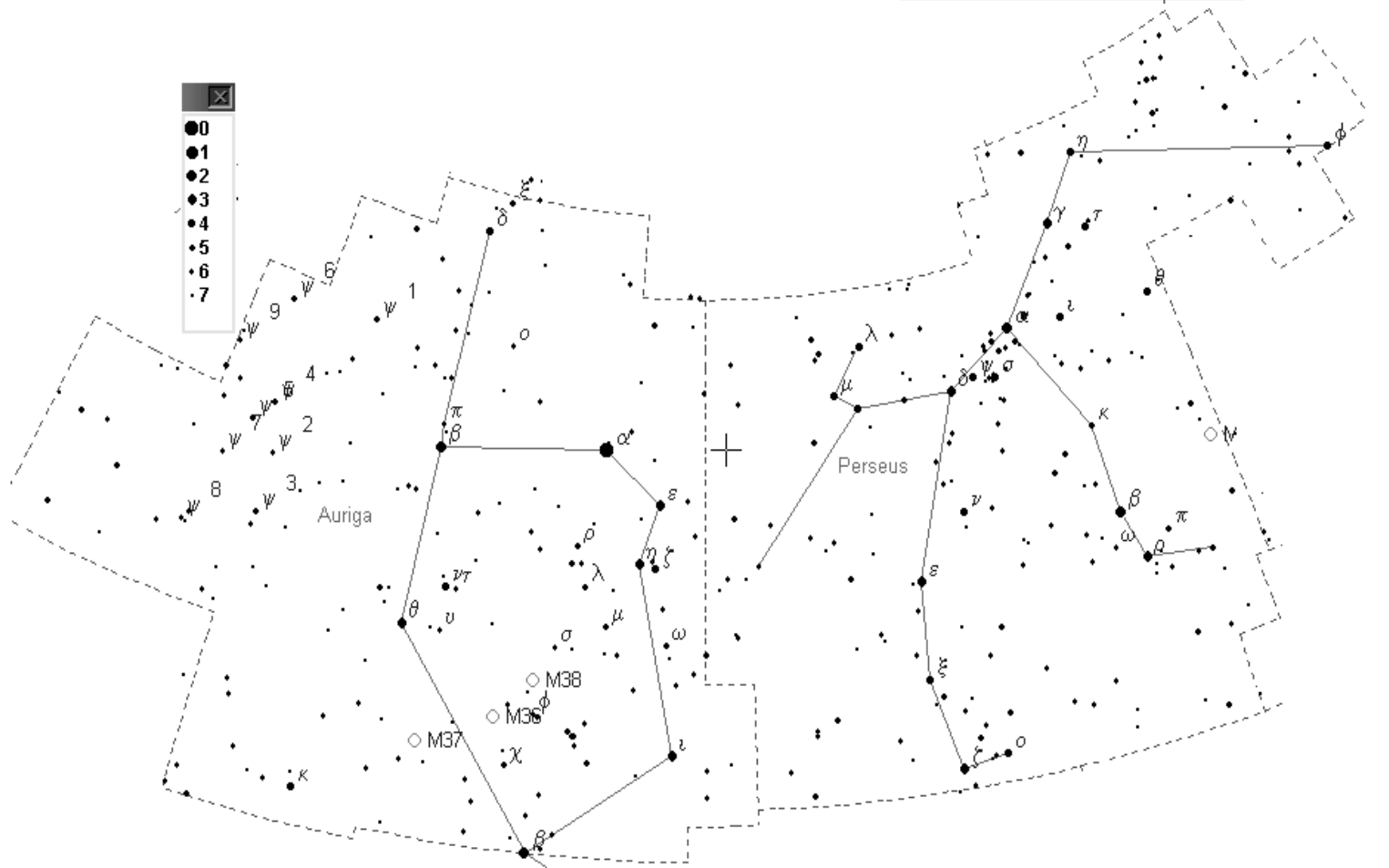
Mappe delle costellazioni

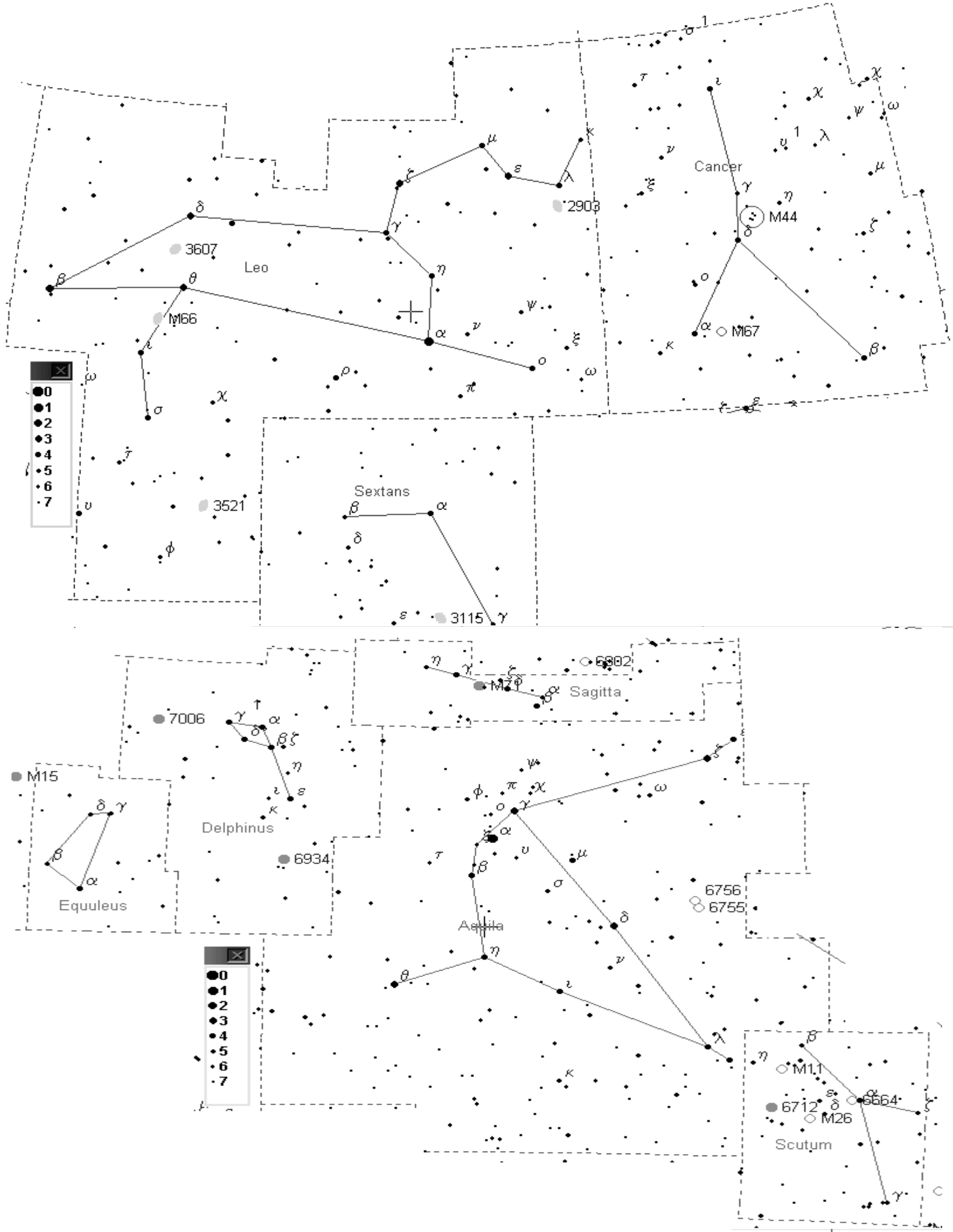


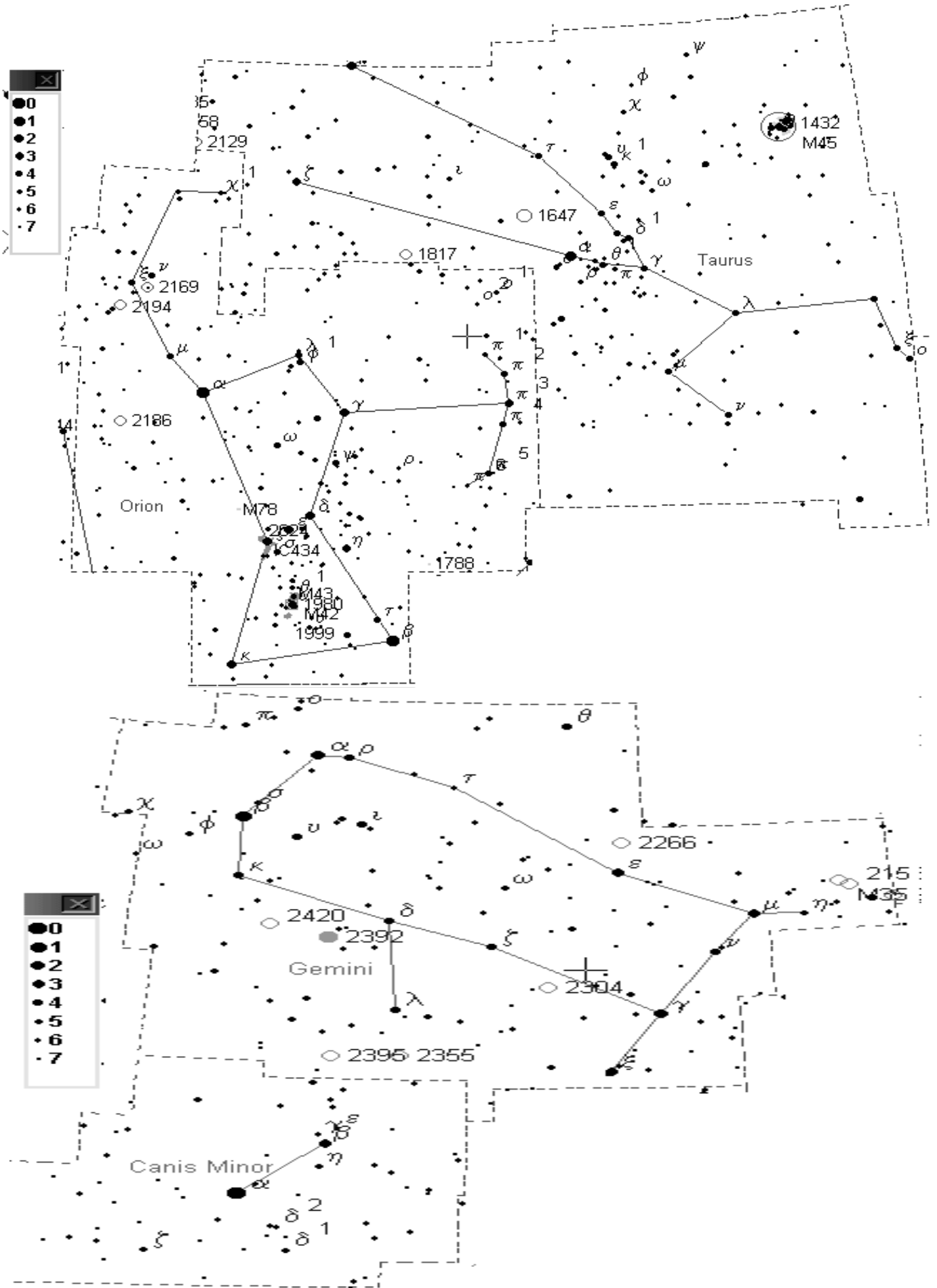


Almanacco Astronomico 2002 – Mappe delle costellazioni

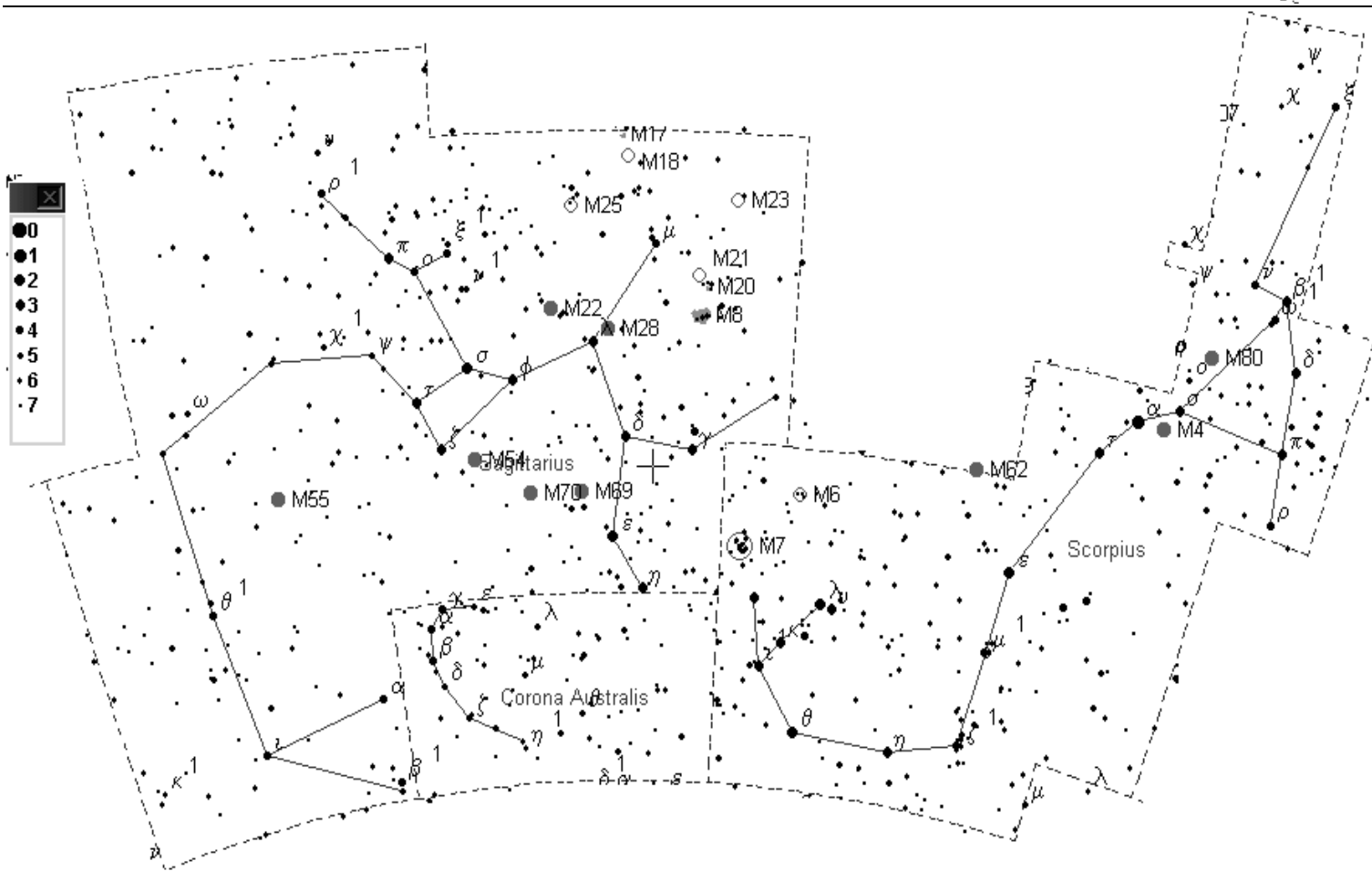
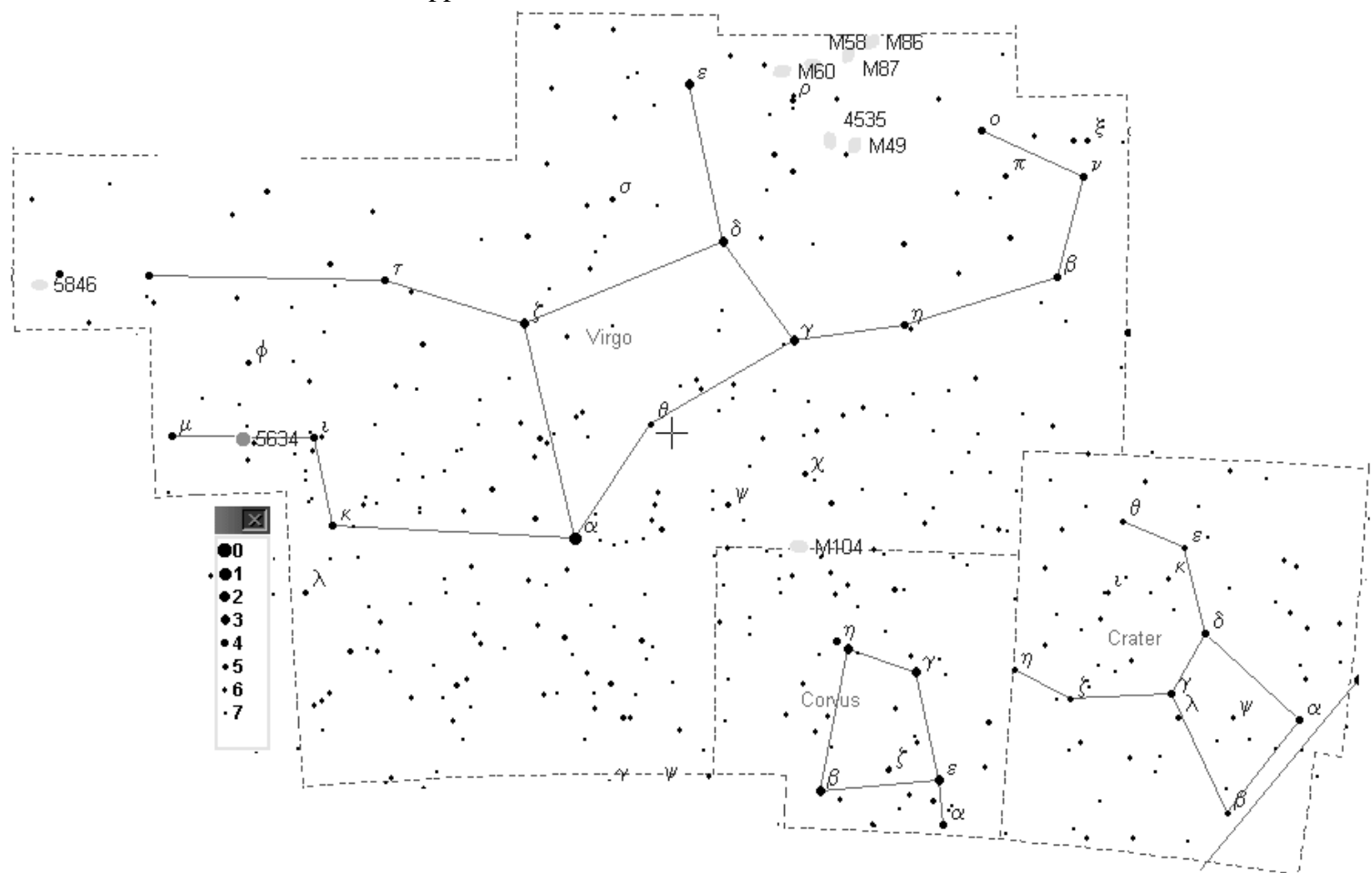


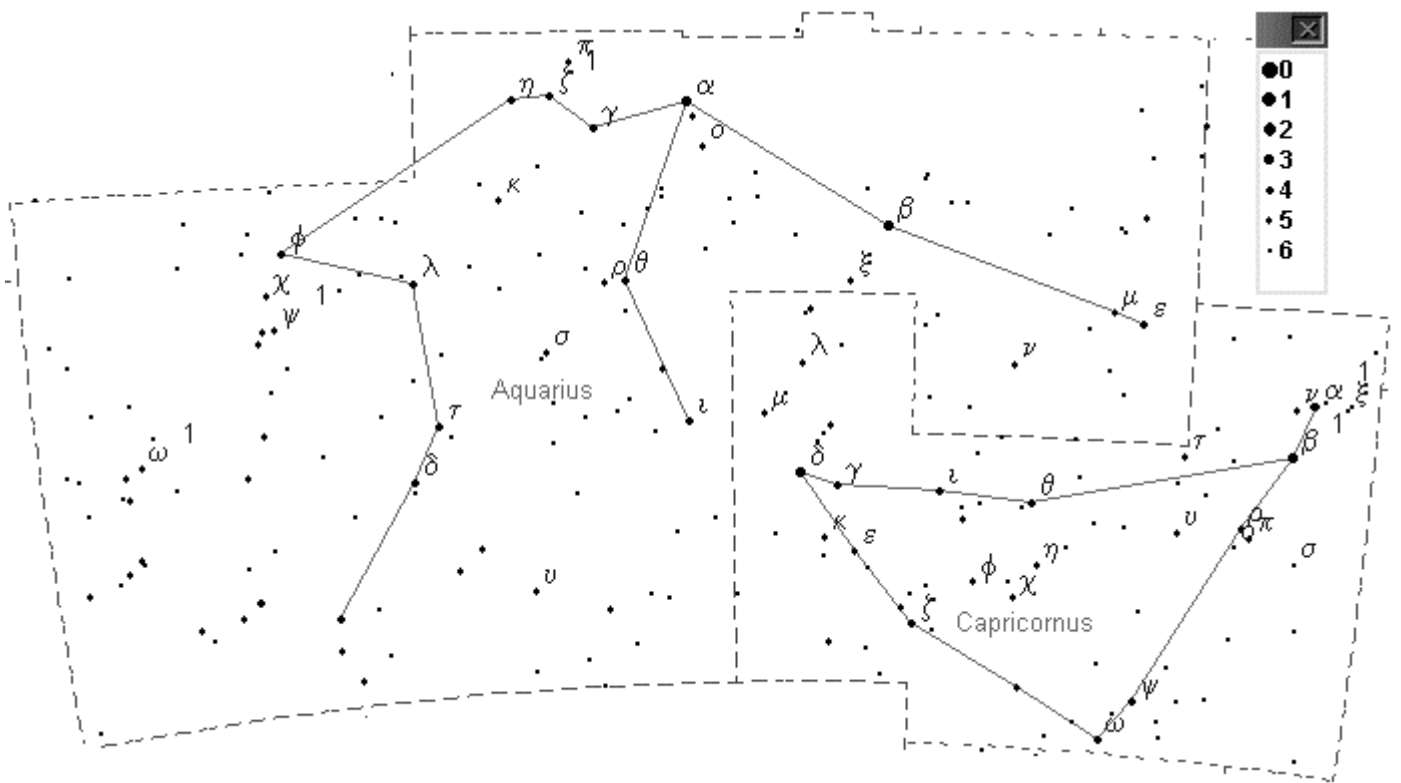
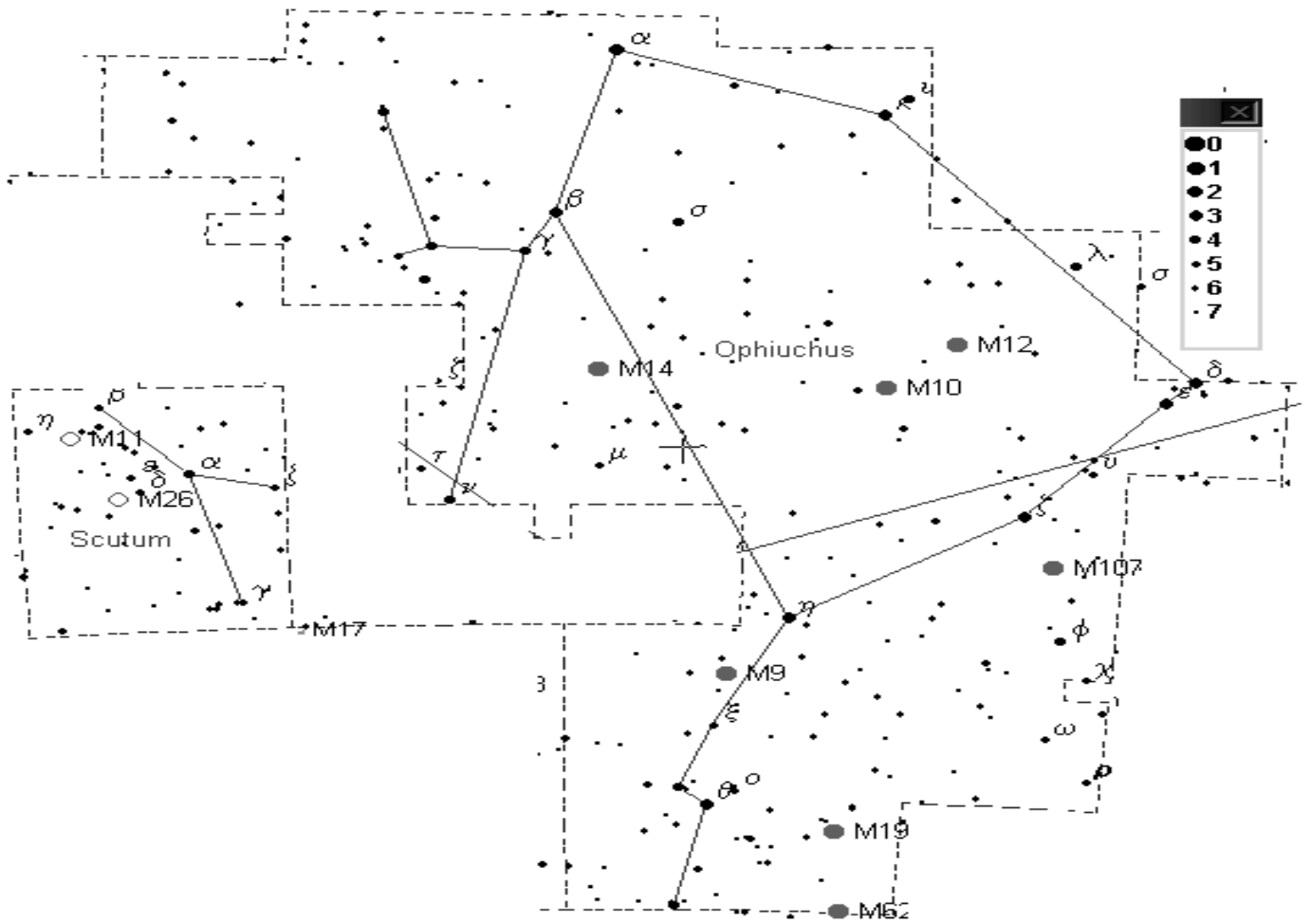


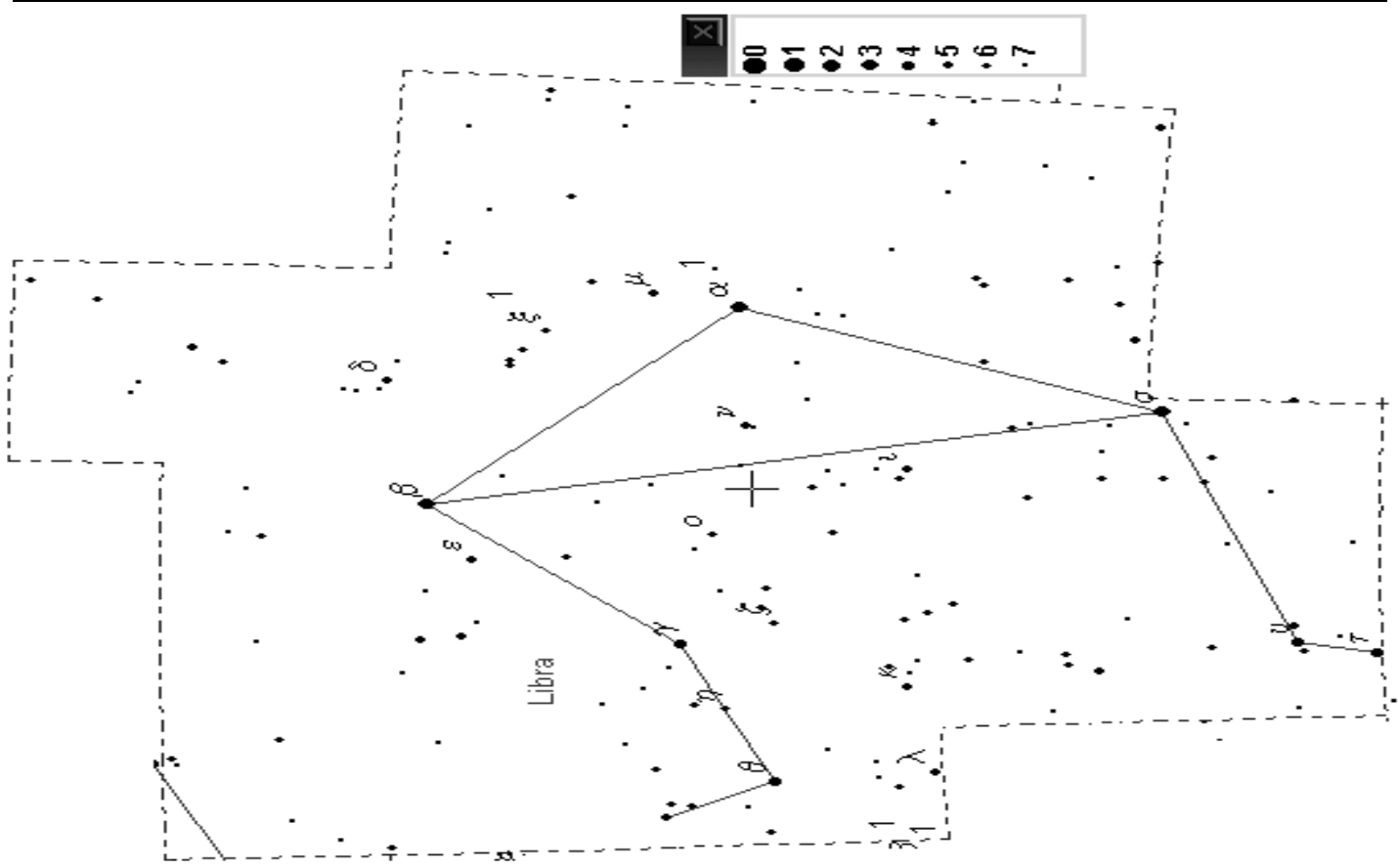
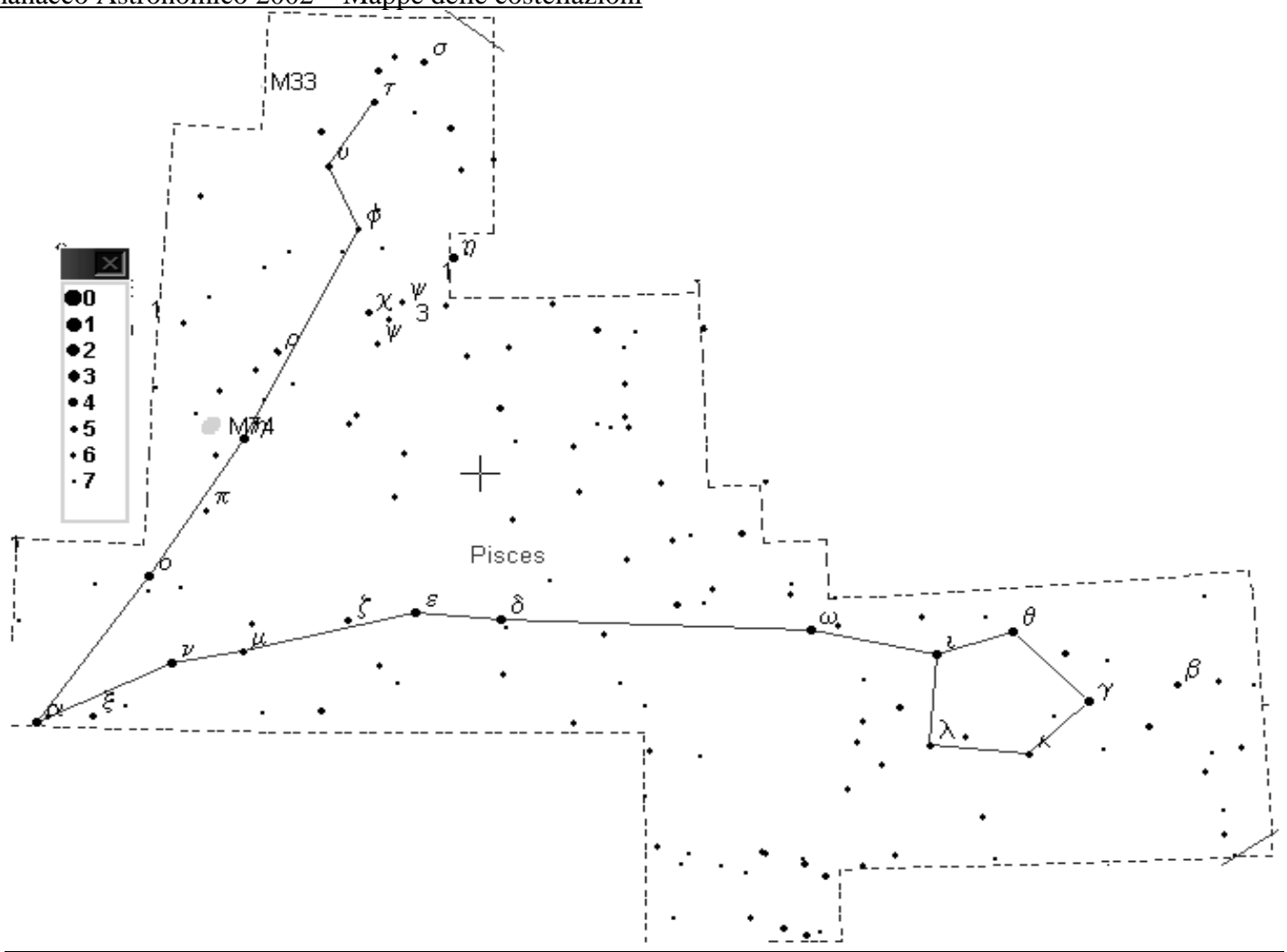


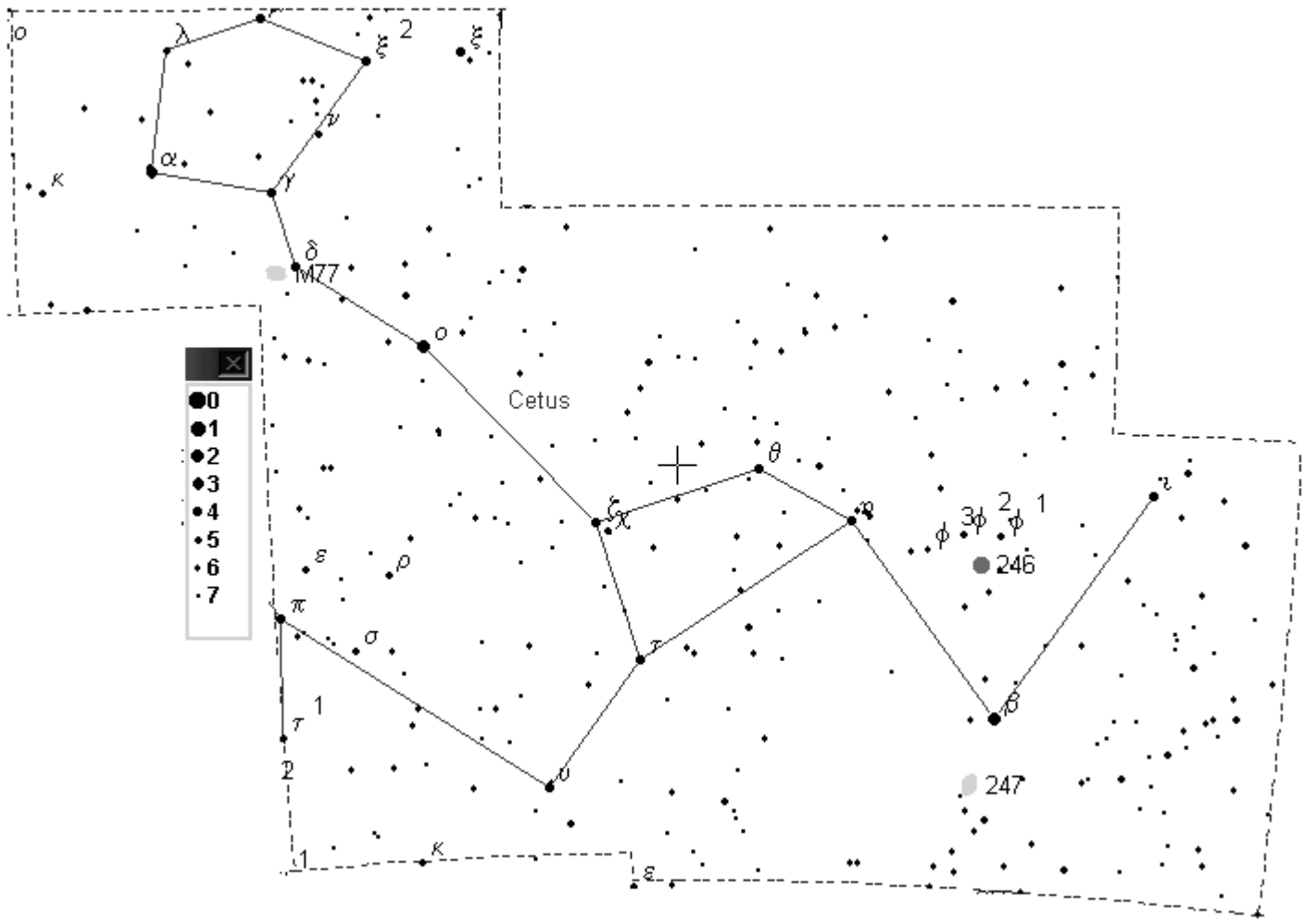


Almanacco Astronomico 2002 – Mappe delle costellazioni









Alfabeto greco

A	α	alfa	Π	π	pi
B	β	beta	P	ρ	rho
Γ	γ	gamma	Σ	σ	sigma
Δ	δ	delta	T	τ	tau
E	ε	epsilon	Υ	υ	upsilon
Z	ζ	zeta	Φ	φ	phi
H	η	eta	X	χ	chi
Θ	θ	theta	Ψ	ψ	psi
I	ι	iota	Ω	ω	omega
K	κ	kappa			
Λ	λ	lambda			
M	μ	mu			
N	ν	nu			
Ξ	ξ	xi			
O	ο	omicron			

Indice

I.	<u>Introduzione:</u>	pag. 1
II.	<u>Calendario del 2002</u>	“ 2
III.	<u>Eventi astronomici:</u> principali eventi del 2002	“ 3
IV.	<u>Effemeridi del Sole:</u> gennaio – febbraio – marzo – aprile – maggio – giugno – luglio – agosto – settembre – ottobre – novembre – dicembre – gennaio 2003	“ 5
V.	<u>Effemeridi della Luna:</u> gennaio – febbraio – marzo – aprile – maggio – giugno – luglio – agosto – settembre – ottobre – novembre – dicembre – gennaio 2003	“ 18
VI.	<u>Effemeridi dei pianeti:</u> Mercurio – Venere – Marte – Giove – Saturno – Urano – Nettuno – Plutone	“ 32
VII.	<u>Meridiano centrale:</u> Marte – Giove I – Giove II – Saturno	“ 49
VIII.	<u>Posizione dei satelliti di Giove:</u>	“ 53
IX.	<u>Satelliti di Saturno:</u>	“ 55
X.	<u>Fenomeni dei satelliti di Giove</u>	“ 57
XI.	<u>Effemeridi degli asteroidi:</u> 1 Ceres – 2 Pallas – 3 Juno – 4 Vesta – 6 Hebe – 7 Iris – 8 Flora – 9 Metis – 10 Hygiea – 13 Egeria – 14 Irene – 15 Eunomia – 16 Psyche – 20 Massalia – 25 Phocaea – 27 Euterpe – 29 Amphitrite – 40 Harmonia – 63 Ausonia	“ 66
XII.	<u>Effemeridi di comete:</u> C/2000 WM1 (LINEAR) – C/1999 J2 (Skiff) – C/1999 U4 (Catalina-Skiff) – C/2000 SV74 (LINEAR) – C/2001 B2 (NEAT) – C/2001 HT50 (LINEAR-NEAT) – C/2001 K5 (LINEAR) – C/2001 N2 (LINEAR) – P/2001 MD7 (LINEAR) – P/2001 Q2 (Petriew)	“ 78
XIII.	<u>Sciami meteorici:</u>	“ 87
XIV.	<u>Eclissi di Sole:</u>	“ 88
XV.	<u>Eclissi di Luna:</u>	“ 91
XVI.	<u>Occultazioni lunari di stelle e pianeti</u>	“ 93
XVII.	<u>Occultazione di stelle da parte di asteroidi:</u>	“ 100
XVIII.	<u>Congiunzioni della Luna con i principali pianeti:</u>	“ 111
XIX.	<u>Catalogo Messier:</u>	“ 113
XX.	<u>Stelle variabili dell'emisfero Nord:</u>	“ 115
XXI.	<u>Mappe delle costellazioni:</u>	“ 119
	<u>Appendici:</u>	“ 130

Appendice A: dati sui pianeti e sui satelliti del Sistema Solare

Dati orbitali e storici:

Name	#	Orbits	Distance (000 km)	O_Period (days)	Incl	Eccen	Discoverer	Date	A.K.A.
Sun	-	-	-	-	-	-	-	-	Sol (0)
Mercury	I	Sun	57910	87.97	7.00	0.21	-	-	(0)
Venus	II	Sun	108200	224.70	3.39	0.01	-	-	(0)
Earth	III	Sun	149600	365.26	0.00	0.02	-	-	(0)
Mars	IV	Sun	227940	686.98	1.85	0.09	-	-	(0)
Jupiter	V	Sun	778330	4332.71	1.31	0.05	-	-	(0)
Saturn	VI	Sun	1429400	10759.50	2.49	0.06	-	-	(0)
Uranus	VII	Sun	2870990	30685.00	0.77	0.05	Herschel	1781	(0)
Neptune	VIII	Sun	4504300	60190.00	1.77	0.01	Adams(9)	1846	(0)
Pluto	IX	Sun	5913520	90800	17.15	0.25	Tombaugh	1930	(0)
Moon	I	Earth	384	27.32	5.14	0.05	-	-	Luna (a, 0)
Phobos	I	Mars	9	0.32	1.00	0.02	Hall	1877	
Deimos	II	Mars	23	1.26	1.80	0.00	Hall	1877	(b)
Metis	XVI	Jupiter	128	0.29	0.00	0.00	Synnott	1979	1979 J 3
Adrastea	XV	Jupiter	129	0.30	0.00	0.00	Jewitt(1)	1979	1979 J 1
Amalthea	V	Jupiter	181	0.50	0.40	0.00	Barnard	1892	
Thebe	XIV	Jupiter	222	0.67	0.80	0.02	Synnott	1979	1979 J 2
Io	I	Jupiter	422	1.77	0.04	0.00	Galileo(2)	1610	
Europa	II	Jupiter	671	3.55	0.47	0.01	Galileo(2)	1610	
Ganymede	III	Jupiter	1070	7.15	0.19	0.00	Galileo(2)	1610	
Callisto	IV	Jupiter	1883	16.69	0.28	0.01	Galileo(2)	1610	
Leda	XIII	Jupiter	11094	238.72	27.00	0.15	Kowal	1974	
Himalia	VI	Jupiter	11480	250.57	28.00	0.16	Perrine	1904	
Lysithea	X	Jupiter	11720	259.22	29.00	0.11	Nicholson	1938	
Elara	VII	Jupiter	11737	259.65	28.00	0.21	Perrine	1905	
Ananke	XII	Jupiter	21200	-631	147.00	0.17	Nicholson	1951	
Carme	XI	Jupiter	22600	-692	163.00	0.21	Nicholson	1938	
Pasiphae	VIII	Jupiter	23500	-735	147.00	0.38	Melotte	1908	
Sinope	IX	Jupiter	23700	-758	153.00	0.28	Nicholson	1914	
Pan	XVIII	Saturn	134	0.58	0.00	0.00	Showalter	1990	1981 S 13
Atlas	XV	Saturn	138	0.60	0.00	0.00	Terrile	1980	1980 S 28
Prometheus	XVI	Saturn	139	0.61	0.00	0.00	Collins(3)	1980	1980 S 27
Pandora	XVII	Saturn	142	0.63	0.00	0.00	Collins(3)	1980	1980 S 26
Epimetheus	XI	Saturn	151	0.69	0.34	0.01	Walker(8)	1980	1980 S 3
Janus	X	Saturn	151	0.69	0.14	0.01	Dollfus	1966	1980 S 1
Mimas	I	Saturn	186	0.94	1.53	0.02	Herschel	1789	
Enceladus	II	Saturn	238	1.37	0.02	0.00	Herschel	1789	
Tethys	III	Saturn	295	1.89	1.09	0.00	Cassini	1684	
Telesto	XIII	Saturn	295	1.89	0.00	0.00	Smith(6)	1980	1980 S 13
Calypso	XIV	Saturn	295	1.89	0.00	0.00	Pascu(7)	1980	1980 S 25
Dione	IV	Saturn	377	2.74	0.02	0.00	Cassini	1684	
Helene	XII	Saturn	377	2.74	0.20	0.01	Laques(4)	1980	1980 S 6, Dione B
Rhea	V	Saturn	527	4.52	0.35	0.00	Cassini	1672	
Titan	VI	Saturn	1222	15.95	0.33	0.03	Huygens	1655	
Hyperion	VII	Saturn	1481	21.28	0.43	0.10	Bond(5)	1848	
Iapetus	VIII	Saturn	3561	79.33	14.72	0.03	Cassini	1671	
Phoebe	IX	Saturn	12952	-550.48	175.30	0.16	Pickering	1898	
Cordelia	VI	Uranus	50	0.34	0.14	0.00	Voyager 2	1986	1986 U 7
Ophelia	VII	Uranus	54	0.38	0.09	0.00	Voyager 2	1986	1986 U 8
Bianca	VIII	Uranus	59	0.43	0.16	0.00	Voyager 2	1986	1986 U 9
Cressida	IX	Uranus	62	0.46	0.04	0.00	Voyager 2	1986	1986 U 3
Desdemona	X	Uranus	63	0.47	0.16	0.00	Voyager 2	1986	1986 U 6
Juliet	XI	Uranus	64	0.49	0.06	0.00	Voyager 2	1986	1986 U 2
Portia	XII	Uranus	66	0.51	0.09	0.00	Voyager 2	1986	1986 U 1
Rosalind	XIII	Uranus	70	0.56	0.28	0.00	Voyager 2	1986	1986 U 4
Belinda	XIV	Uranus	75	0.62	0.03	0.00	Voyager 2	1986	1986 U 5
1986U10		Uranus	76	0.64			Karkoschka	1999	
Puck	XV	Uranus	86	0.76	0.31	0.00	Voyager 2	1985	1985 U 1
Miranda	V	Uranus	130	1.41	4.22	0.00	Kuiper	1948	
Ariel	I	Uranus	191	2.52	0.00	0.00	Lassell	1851	
Umbriel	II	Uranus	266	4.14	0.00	0.00	Lassell	1851	
Titania	III	Uranus	436	8.71	0.00	0.00	Herschel	1787	
Oberon	IV	Uranus	583	13.46	0.00	0.00	Herschel	1787	
Caliban	XVI	Uranus	7169	-580	140.	0.08	Gladman (c)	1997	1997 U 1
Stephano	XX	Uranus	7948	-674	143.	0.24	Gladman (f)	1999	1999 U 2
Sycorax	XVII	Uranus	12213	-1289	153.	0.51	Nicholson(e)	1997	1997 U 2
Prospero	XVIII	Uranus	16568	-2019	152.	0.44	Holman (g)	1999	1999 U 3
Setebos	XIX	Uranus	17681	-2239	158.	0.57	Kavelaars(d)	1999	1999 U 1

Naiad	III	Neptune	48	0.29	0.00	0.00	Voyager 2	1989	1989	N 6
Thalassa	IV	Neptune	50	0.31	4.50	0.00	Voyager 2	1989	1989	N 5
Despina	V	Neptune	53	0.33	0.00	0.00	Voyager 2	1989	1989	N 3
Galatea	VI	Neptune	62	0.43	0.00	0.00	Voyager 2	1989	1989	N 4
Larissa	VII	Neptune	74	0.55	0.00	0.00	Reitsema (h)	1989	1989	N 2
Proteus	VIII	Neptune	118	1.12	0.00	0.00	Voyager 2	1989	1989	N 1
Triton	I	Neptune	355	-5.88	157.00	0.00	Lassell	1846		
Nereid	II	Neptune	5513	360.13	29.00	0.75	Kuiper	1949		
Charon	I	Pluto	20	6.39	98.80	0.00	Christy	1978	1978	P 1

Key:

Orbits Sun or planet about which it orbits.
 Distance Mean distance (semimajor axis) between centers x1000 km.
 Date Year discovered.
 O_Period Sidereal period of orbit in days (negative=retrograde).
 Incl Orbital inclination.
 Eccen Orbital eccentricity.
 A.K.A Object's provisional name.

Notes:

(0) many other names in use
 (1) & Danielson
 (2) & Marius
 (3) & others
 (4) & Lecacheux
 (5) & Lassell
 (6) & Reitsema, Larson & Fountain
 (7) & Seidelmann, Baum & Currie
 (8) & Larson & Fountain
 (9) & Le Verrier & Galle & d'Arrest
 (a) Luna's inclination varies from 18.2 to 28.6
 (b) Deimos' inclination varies from 0.9 to 2.7
 (c) & Nicholson, Burns, & Kavelaars
 (d) & Gladman, Holman, Petit, & Scholl
 (e) & Gladman, Burns, & Kavelaars
 (f) & Holman, Kavelaars, Petit, & Scholl
 (g) & Kavelaars, Gladman, Petit, & Scholl
 (h) & Hubbard, Tholen, & Lebofsky

Dati fisici:

Name	Radius (km)	Mass (kg)	Dens	Abo	Vo	Rotate (days)	Dimensions (km)
Sun	695000	1.99e30	1.41	?	-26.	24.6	
Mercury	2440	3.30e23	5.43	.11	-1.9	58.6	
Venus	6052	4.87e24	5.24	.65	-4.4	-243	
Earth	6378	5.97e24	5.52	.30	-	0.99	
Mars	3397	6.42e23	3.93	.15	-2.0	1.03	
Jupiter	71492	1.90e27	1.33	.52	-2.7	0.41	
Saturn	60268	5.68e26	0.69	.47	0.7	0.45	
Uranus	25559	8.68e25	1.32	.51	5.5	-0.72	
Neptune	24766	1.02e26	1.64	.41	7.8	0.67	
Pluto	1137	1.27e22	2.06	.55	13.6	-6.39	(z)
Moon	1738	7.35e22	3.34	.12	-12.7	S	
Phobos	11	1.08e16	1.9	.06	11.3	S	13.5 x 10.8 x 9.4
Deimos	6	1.80e15	1.8	.07	12.3	S	7.5 x 6.1 x 5.5
Metis	20	9.56e16	2.8	.05	17.5	?	
Adrastea	10	1.91e16	4.5	.05	18.7	?	12.5 x 10 x 7.5
Amalthea	94	7.17e18	1.8	.05	14.1	S	135 x 83 x 75
Thebe	50	7.77e17	1.5	.05	16.0	S	55 x 45
Io	1821	8.93e22	3.53	.61	5.0	S	
Europa	1565	4.80e22	2.99	.64	5.3	S	
Ganymede	2634	1.48e23	1.94	.42	4.6	S	
Callisto	2403	1.08e23	1.85	.20	5.6	S	
Leda	8	5.68e15	2.7	?	20.2	?	
Himalia	93	9.56e18	2.8	?	15.0	0.4	
Lysithea	18	7.77e16	3.1	?	18.2	?	
Elara	38	7.77e17	3.3	?	16.6	0.5	
Ananke	15	3.82e16	2.7	?	18.9	?	
Carme	20	9.56e16	2.8	?	17.9	?	
Pasiphae	25	1.91e17	2.9	?	16.9	?	
Sinope	18	7.77e16	3.1	?	18.0	?	
Pan	10	?	?	.5	?	?	
Atlas	15	?	?	.9	18.0	?	20 x 10
Prometheus	46	2.70e17	0.7	.6	15.8	?	72 x 43 x 32

Pandora	42	2.20e17	0.7	.9	16.5	?	57 x 42 x 31
Epimetheus	57	5.59e17	0.6	.8	15.7	S	69 x 55 x 55
Janus	89	1.98e18	0.65	.8	14.5	S	99 x 96 x 76
Mimas	199	3.75e19	1.14	.5	12.9	S	
Enceladus	249	7.30e19	1.12	.99	11.7	S	
Tethys	530	6.22e20	1.00	.9	10.2	S	
Telesto	15	?	?	.5	18.7	?	17 x 14 x 13
Calypso	13	?	?	.6	19.0	?	17 x 11 x 11
Dione	560	1.05e21	1.44	.7	10.4	S	
Helene	16	?	?	.7	18.4	?	18 x 16 x 15
Rhea	764	2.31e21	1.24	.7	9.7	S	
Titan	2575	1.35e23	1.88	.21	8.3	S	
Hyperion	143	1.77e19	1.4	.3	14.2	chaotic	185 x 140 x 113
Iapetus	718	1.59e21	1.02	.2	11.1	S (y)	
Phoebe	110	4.00e18	0.7	.06	16.5	0.4	115 x 110 x 105
Cordelia	13	?	?	.07	24.0	?	
Ophelia	16	?	?	.07	24.0	?	
Bianca	22	?	?	.07	23.0	?	
Cressida	33	?	?	.07	22.0	?	
Desdemona	29	?	?	.07	22.0	?	
Juliet	42	?	?	.07	22.0	?	
Portia	55	?	?	.07	21.0	?	
Rosalind	27	?	?	.07	22.0	?	
Belinda	34	?	?	.07	22.0	?	
1986U10	20						
Puck	77	?	?	.07	20.0	?	
Miranda	236	6.59e19	1.20	.27	16.5	S	240 x 234 x 233
Ariel	581	1.35e21	1.67	.34	14.4	S	581 x 578 x 578
Umbriel	585	1.17e21	1.40	.18	15.3	S	
Titania	789	3.53e21	1.71	.27	14.0	S	
Oberon	761	3.01e21	1.63	.24	14.2	S	
Caliban	40			.07	21.9		
Stephano	15			.07	24.3		
Sycorax	80			.07	20.4		
Prospero	20			.07	23.2		
Setebos	20			.07	23.3		
Naiad	29	?	?	.06	25.0	?	
Thalassa	40	?	?	.06	24.0	?	
Despina	74	?	?	.06	23.0	?	
Galatea	79	?	?	.06	23.0	?	
Larissa	96	?	?	.06	21.0	?	104 x 89
Proteus	209	?	?	.06	20.0	?	218 x 208 x 201
Triton	1353	2.15e22	2.05	.7	13.6	S	
Nereid	170	?	?	.2	18.7	?	
Charon	586	1.90e21	2.24	.32	15.5	S (z)	

Key:

Radius Equatorial radius in km (highly uncertain for the small outer solar system moons)
Mass in kilograms including atmospheres but not satellites.
Dens Density in g/cm³.
Abo Object's geometric albedo.
Vo Object's magnitude in visible light at opposition.
Rotate Sidereal period of equatorial rotation in days (negative=retrograde; S=synchronous).
Dimensions Radii for non-spherical bodies.

Notes:

(y) Iapetus' magnitude varies from 10.2 to 11.9
(z) the masses, radii and densities of Pluto and Charon are still somewhat uncertain
() Some of the data above is given to more decimal places than it should be.

Caratteristiche ambientali:

Name	Gravity (g)	Esc vel (km/s)	M.O.V (km/s)	Axial incl	Oblate	Ascend node	Peri-helion	Equilib (K)	Surface (K)	Press (atm)	Atmospheric Composition
Mercury	0.378	4.44	47.87	0		48.35	77.44	449	440	0	--
Venus	0.907	10.36	35.02	177.36		76.72	131.56	328	730	93	CO ₂ , N ₂
Earth	1.000	11.19	29.79	23.45	.00335	354.90	102.83	279	287	1	N ₂ , O ₂ , Ar
Mars	0.377	5.03	24.13	25.19	.00519	49.60	335.99	226	218	0.007	CO ₂ , N ₂ , Ar
Jupiter	2.364	59.5	13.06	3.13	.06481	100.47	15.63	122	120	(x)	H ₂ , He
Saturn	0.916	35.5	9.66	26.73	.1076	113.71	92.80	90	88		H ₂ , He
Uranus	0.889	21.3	6.80	97.86	.030	74.06	176.29	64	59		H ₂ , He, CH ₄
Neptune	1.125	23.5	5.44	29.60	.026	131.81	1.95	51	48		H ₂ , He, CH ₄
Pluto	0.067	1.3	4.74	122.52		110.42	224.59	44	37	1e-5	N ₂ , CH ₄ , CO

Key:

Gravity Equatorial surface gravity in g's (see also "Your Weight On Other Worlds")
Esc vel Escape velocity in kilometers per second

M.O.V. Mean Orbital Velocity in kilometers per second
 Axial incl Inclination of the rotation axis in degrees (obliquity)
 Oblate Oblateness
 Ascend Longitude of the ascending node
 Perihelion Longitude of perihelion
 Equilib Equilibrium temperature in Kelvins
 Surface Surface temperature in Kelvins
 Press Surface pressure in atmospheres

Notes:

(x) for the jovian planets "surface" refers to the cloud tops or 1 bar level
 Much more accurate and detailed data is available from JPL's Horizons telnet interface

→ Fonte dati: <http://seds.lpl.arizona.edu/nineplanets/>

Gli anelli di Giove:

Anello	Distanza (km)	Larghezza (km)	Massa (kg)
Halo	92000	30500	?
Main	122500	6440	1e13
Gossamer	128940	100000	?

(la distanza è calcolata dal centro di Giove alla parte più interna dell'anello)

Anelli di Saturno:

Nome	Tipo di Nome	Raggio interno	Raggio esterno	ampiezza	posizione approssim.	massa(Kg) approssim.
Anello D	U	60.000	72.600	12.600	(anello)	
Divisione di Guerin	U	72.600	73.800	1.200	(divisione)	
Anello C	U	73.800	91.800	18.000	(anello)	1,1e18
Divisione di Maxwell	U	91.800	92.300	500	(divisione)	
Anello B	U	92.300	115.800	23.500	(anello)	2,8e19
Divisione di Cassini	U	115.800	120.600	4.800	(divisione)	
Separazione di Huygens	P	117.200	(n/a)	250-400	(suddivisione)	
Anello A	U	120.600	136.200	15.600	(anello)	6,2e18
Divisione di Keeler	U	(n/a)	(n/a)	230	25%	
Minimo di Encke	C	(n/a)	(n/a)	5.460	29%-53%	
Divisione di Encke	U	132.600	(n/a)	325	78%	
Anello F	U	141.000	(avg)	(n/a)	(anello)	
Anello G	U	150.000	(avg)	(n/a)	(anello)	1e7?
Anello E	U	240.000	480.000	240.000	(anello)	

Note:

- * distanza in chilometri dal centro di Saturno
- * Legenda: U: ufficiale
 P: provvisorio
 C: comune

Gli anelli di Urano

Anelllo	Distanza (km)	Dimensione (km)
1986U2R	38000	2.500
6	41840	1-3
5	42230	2-3
4	42580	2-3
Alpha	44720	7-12
Beta	45670	7-12
Eta	47190	0-2
Gamma	47630	1-4
Delta	48290	3-9
1986U1R	50020	1-2
Epsilon	51140	20-100

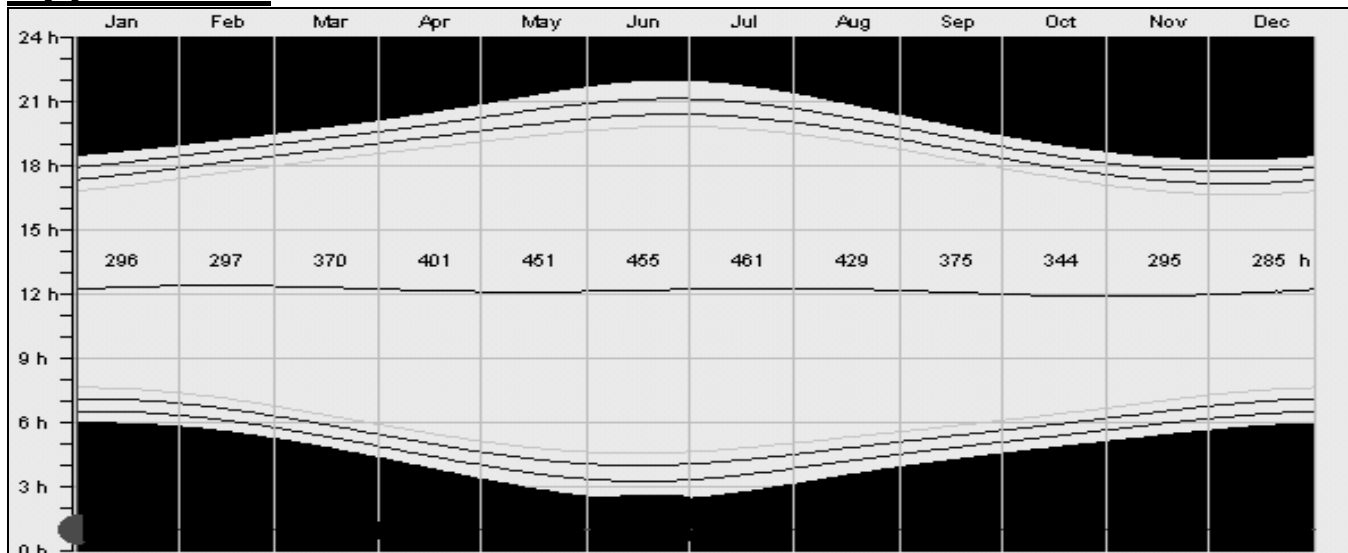
(la distanza è misurata dal centro di Urano al lato interno dell'anello)

Gli anelli di Nettuno

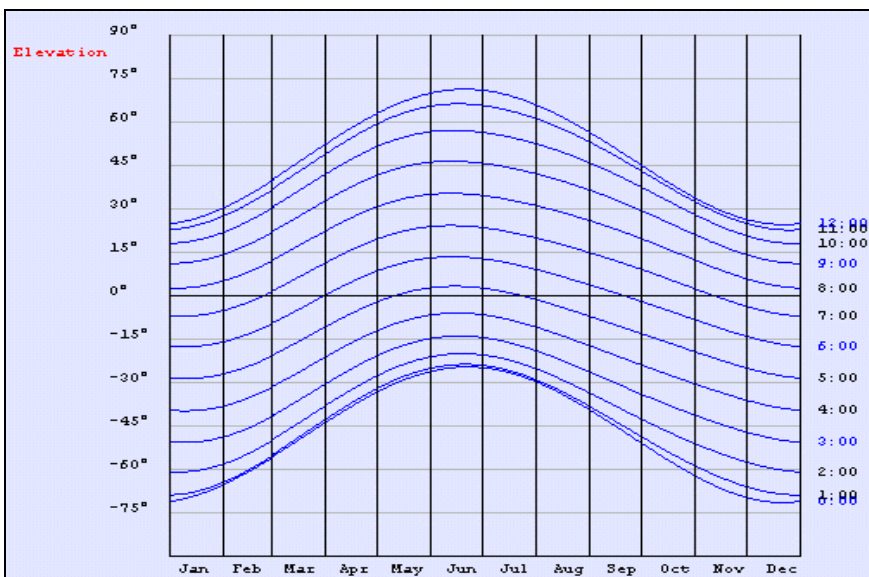
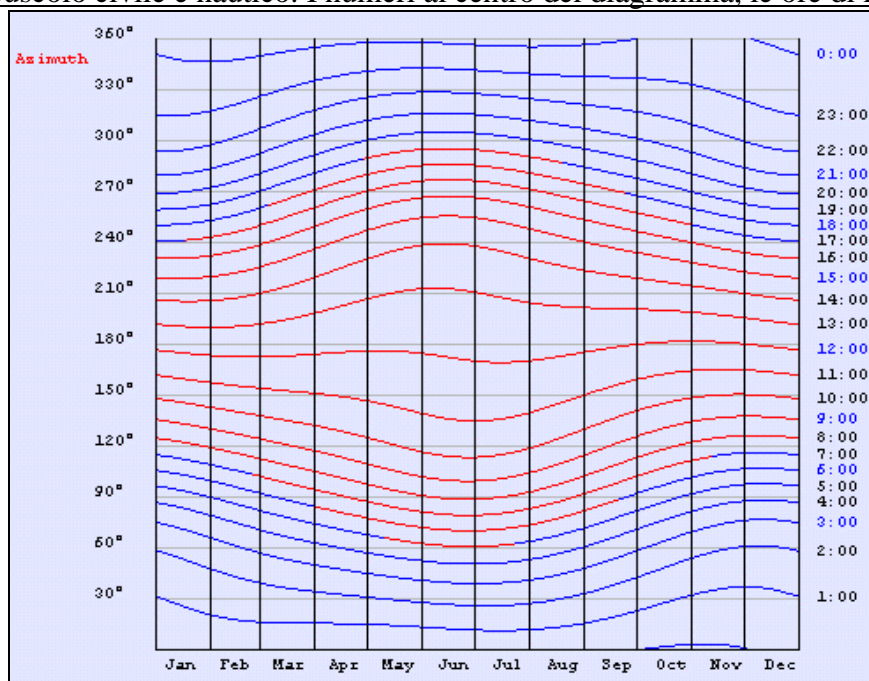
Anello	Distanza (km)	Larghezza (km)	aka
Diffuso	41900	15	1989N3R, Galle
Interno	53200	15	1989N2R, LeVerrier
Plateau	53200	5800	1989N4R, Lassell, Arago
Principale	62930	< 50	1989N1R, Adams

(la distanza è espressa dal centro di Nettuno alla parte più interna dell'anello)

Appendice B: moto del Sole

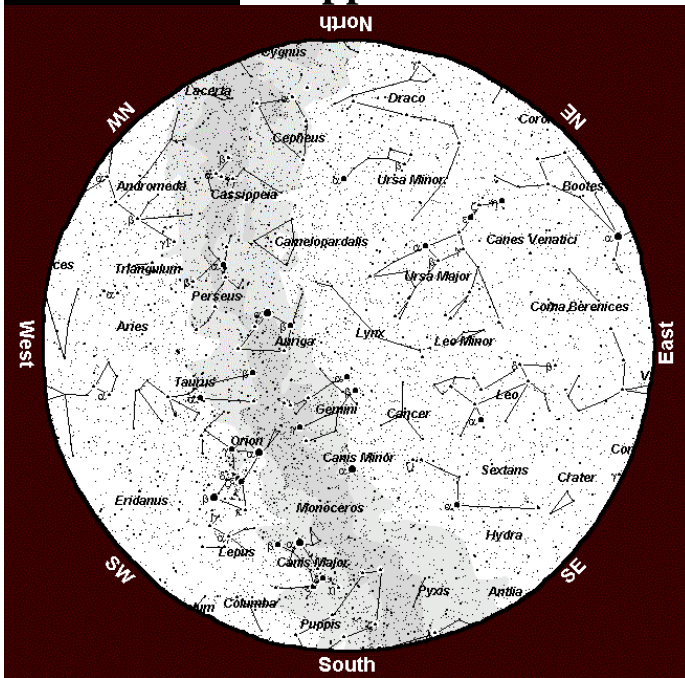


Durata del giorno nel corso del 2002. Le linee rappresentano il momento del sorgere-tramontare del Sole, il crepuscolo civile e nautico. I numeri al centro del diagramma, le ore di luce per mese

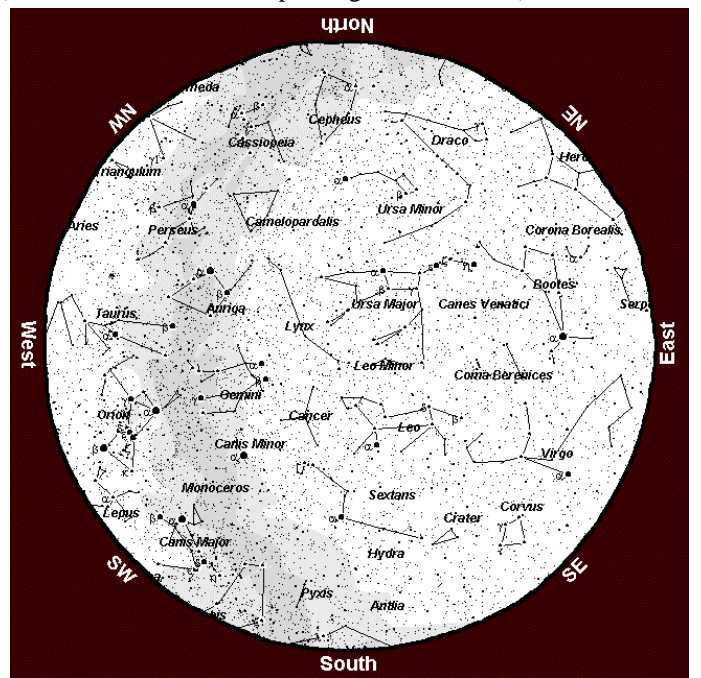


Azimuth ed elevazione del Sole durante il 2002

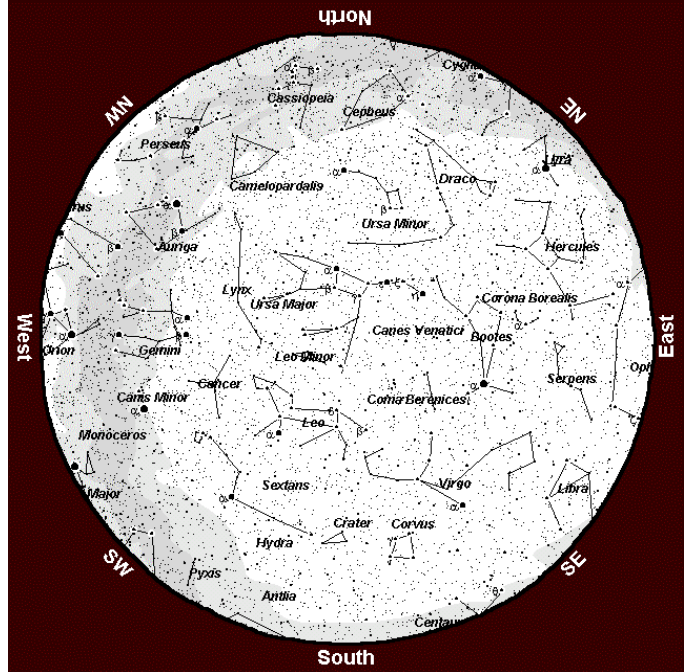
Appendice C: mappe mensili del cielo (riferite alle ore 00:00 del primo giorno del mese)



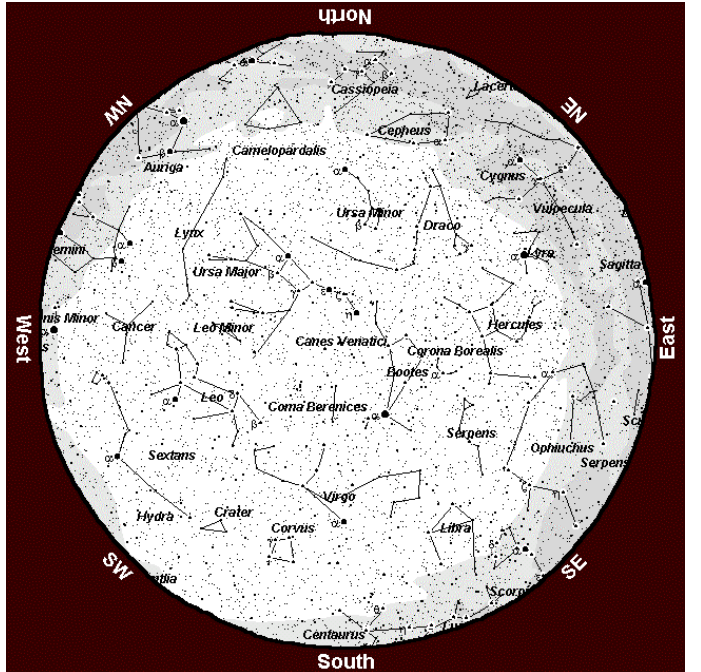
Gennaio



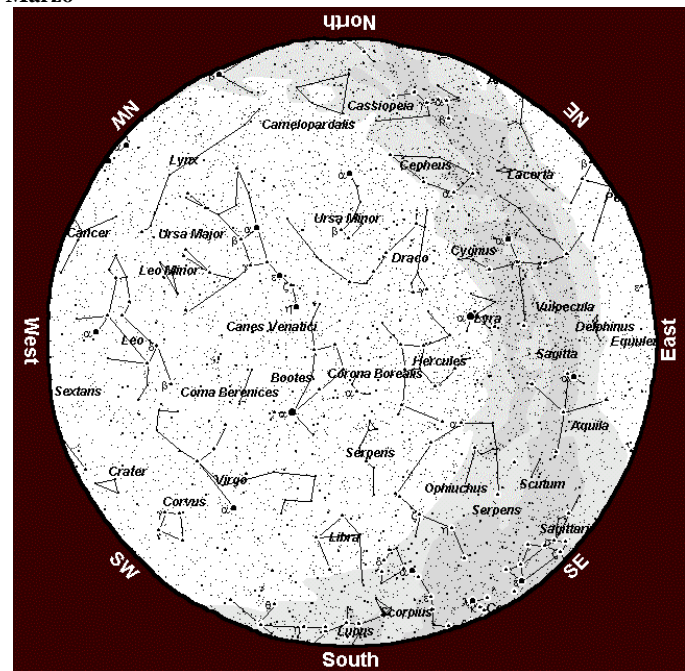
Febbraio



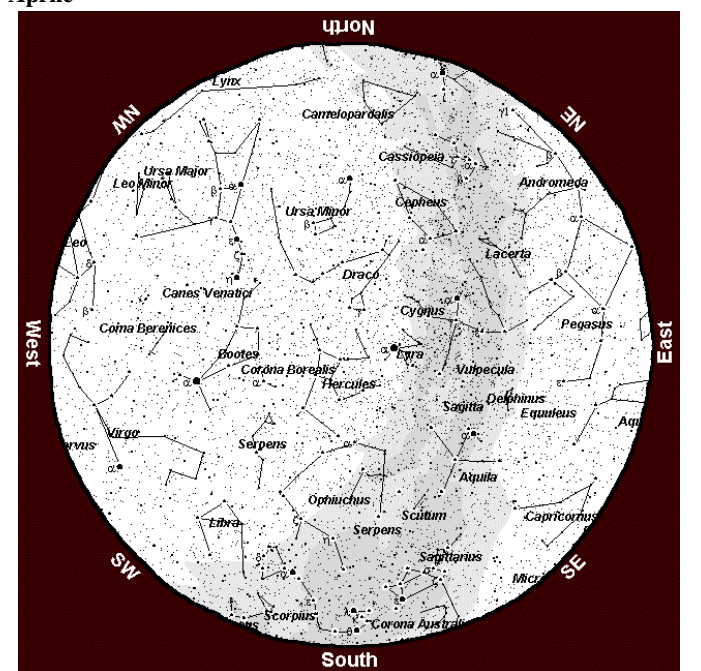
Marzo



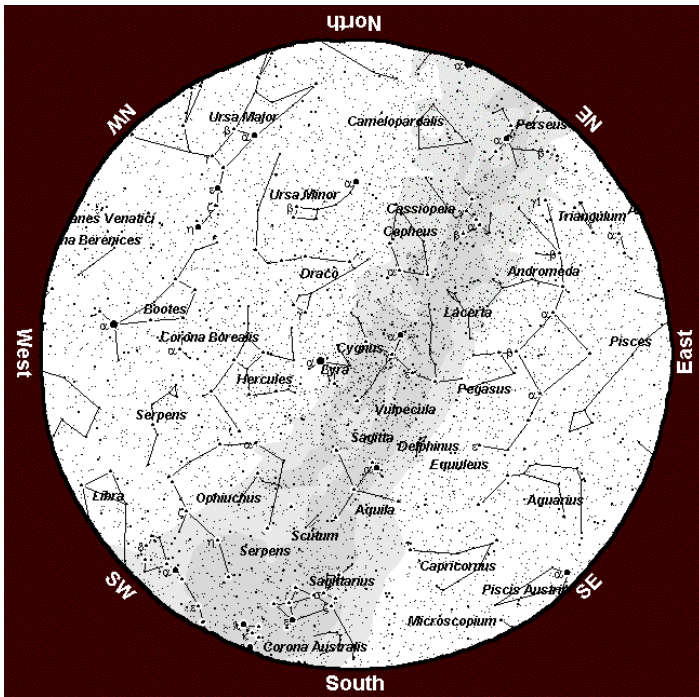
Aprile



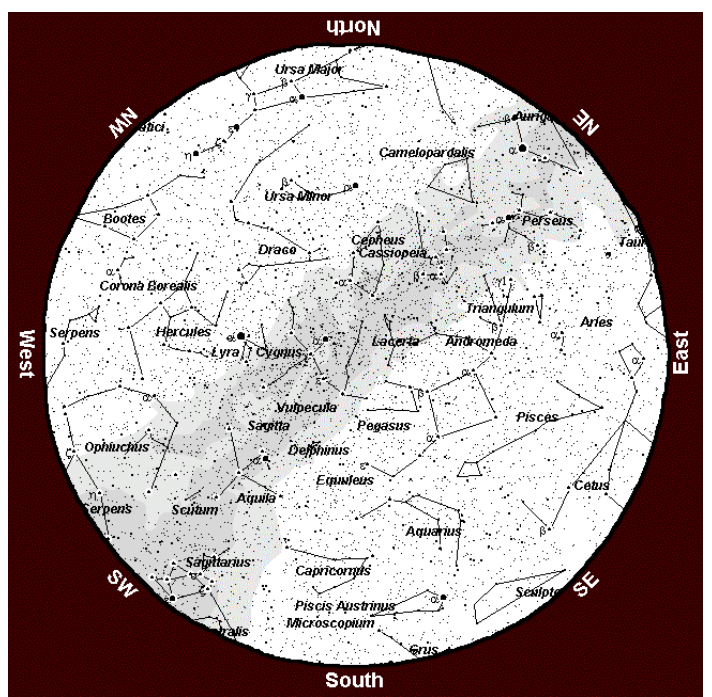
Maggio



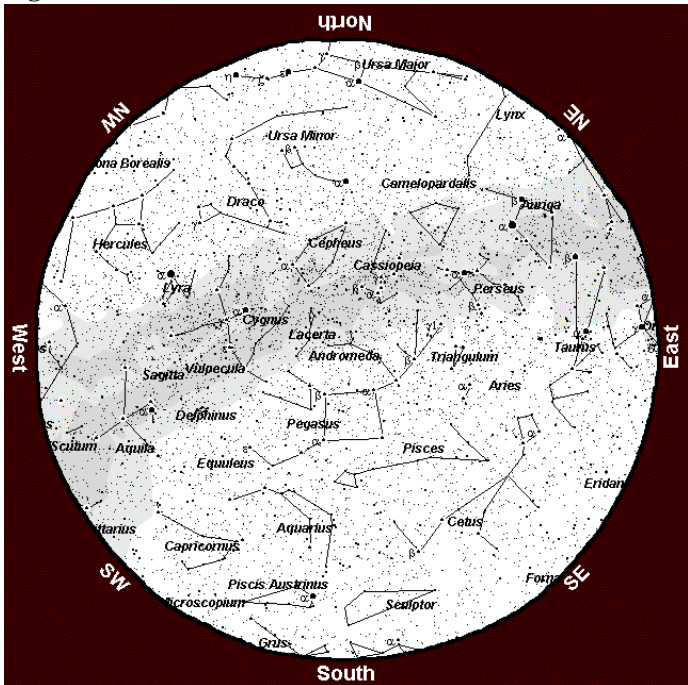
Giugno



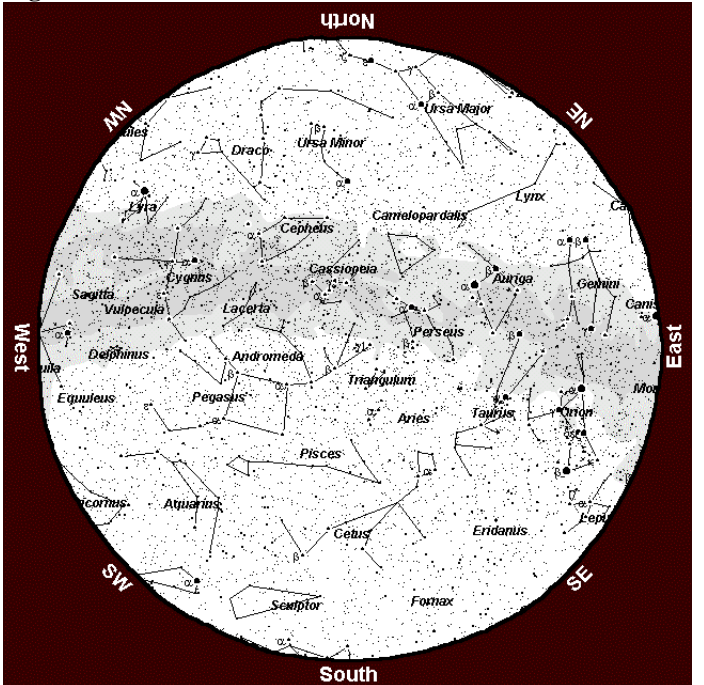
Luglio



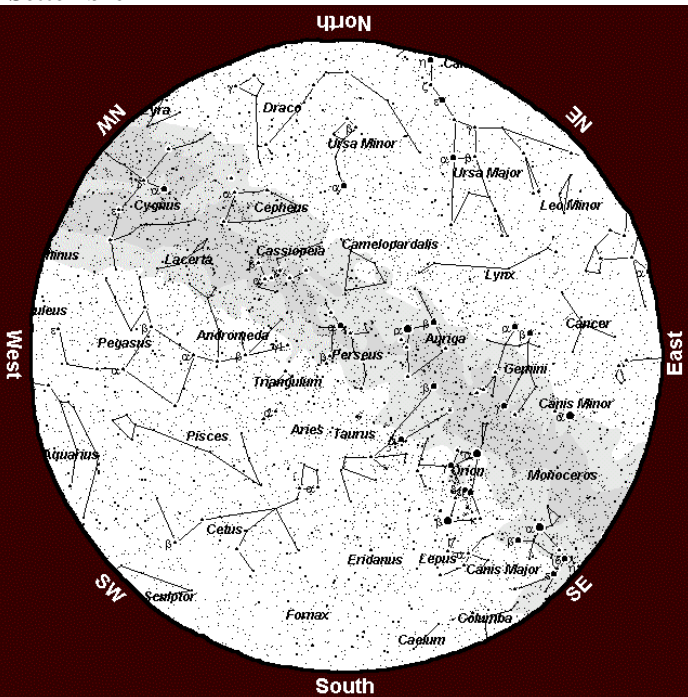
Agosto



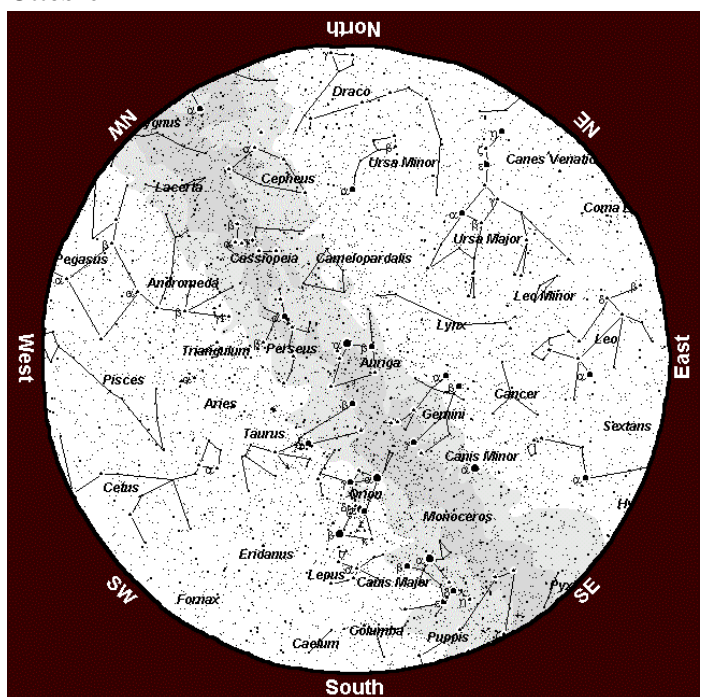
Settembre



Ottobre



Novembre



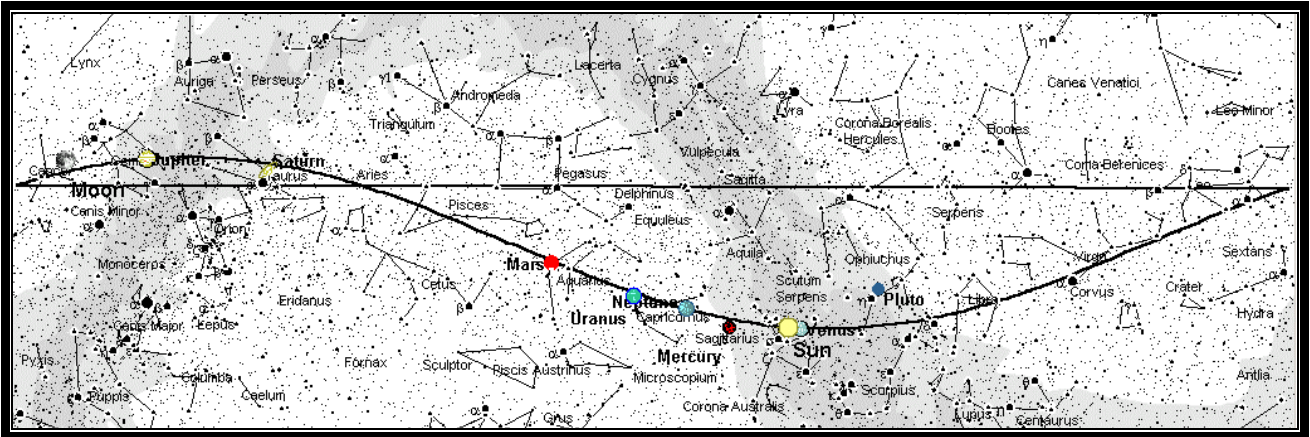
Dicembre

Appendice D: coordinate geografiche delle principali città d'Italia

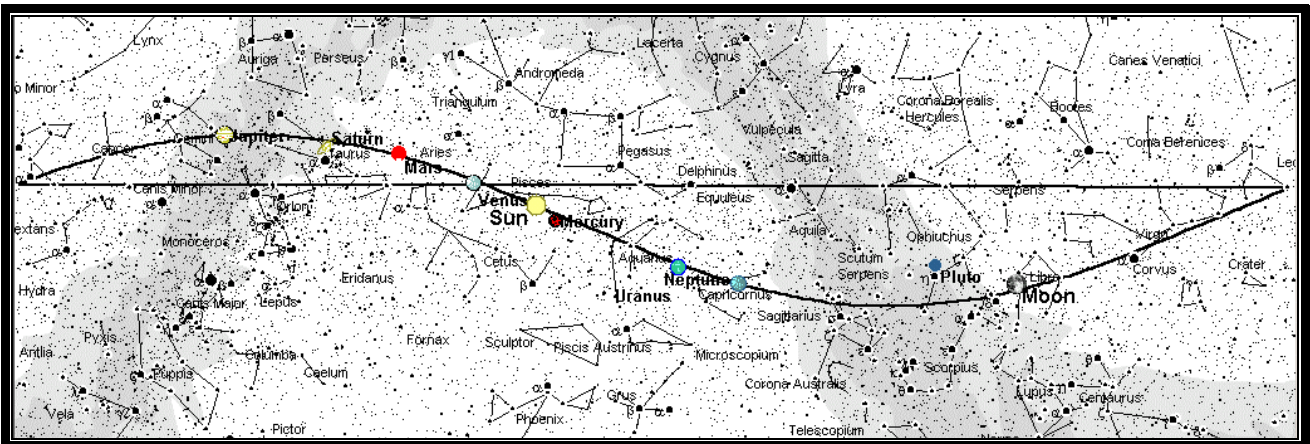
Nome della città	Longitudine (Est)			Latitudine (Nord)		
	°	'	''	°	'	''
Agrigento	13	35	12	37	18	34
Alessandria	08	36	53	44	54	46
Ancona	13	30	27	43	36	11
Aosta	07	18	47	45	44	13
Arezzo	11	52	46	43	27	46
Ascoli Piceno	13	34	41	42	51	12
Asti	08	12	20	44	53	57
Avellino	14	47	27	40	54	51
Bari	16	50	48	41	06	23
Belluno	12	13	19	46	08	45
Benevento	14	46	37	41	07	45
Bergamo	09	40	13	45	41	38
Bologna	11	20	23	44	29	52
Bolzano	11	21	16	46	29	49
Brescia	10	12	52	45	32	38
Brindisi	17	56	44	40	38	12
Cagliari	09	07	15	39	13	24
Caltanissetta	14	03	25	37	29	25
Campobasso	14	40	02	41	33	24
Caserta	14	20	00	41	04	16
Catania	15	05	15	37	30	06
Catanzaro	16	35	09	38	54	51
Chieti	14	10	07	42	21	05
Civitavecchia	11	47	56	42	05	25
Como	09	05	03	45	48	34
Cosenza	16	15	06	39	18	11
Cremona	10	01	26	45	08	09
Cuneo	07	32	18	44	22	51
Enna	14	16	32	37	33	55
Ferrara	11	37	06	44	50	08
Firenze	11	14	56	43	46	38
Foggia	15	33	09	41	27	37
Forlì	12	02	57	44	13	00
Frosinone	13	20	26	41	38	08
Genova	08	53	51	44	25	09
Gorizia	13	37	11	45	56	34
Grosseto	11	06	53	42	45	36
Imperia	08	01	37	43	53	06
Isernia	14	13	51	41	35	37
L'Aquila	13	23	45	42	21	21
La Spezia	09	49	08	44	06	18
Latina	12	54	12	41	27	59
Lecce	18	10	08	40	21	04
Livorno	10	19	15	43	33	00
Lucca	10	30	19	43	50	35
Macerata	13	27	09	43	17	58
Mantova	10	46	30	45	09	07
Massa	10	07	21	44	01	28
Matera	16	36	24	40	39	53

Nome della città	Longitudine (Est)			Latitudine (Nord)		
	°	'	''	°	'	''
Messina	15	32	58	38	11	14
Milano	09	11	22	45	27	52
Modena	10	55	31	44	38	49
Napoli	14	15	38	40	51	19
Novara	08	37	23	45	26	44
Nuoro	09	19	40	40	19	11
Oristano	08	35	41	39	54	11
Padova	11	52	33	45	24	24
Palermo	13	21	11	38	07	15
Parma	10	19	43	44	48	03
Pavia	09	09	36	45	11	21
Perugia	12	23	11	43	06	22
Pesaro	12	54	18	43	54	16
Pescara	14	12	51	42	27	50
Piacenza	09	41	34	45	03	08
Pisa	10	24	03	43	42	57
Pistoia	10	54	47	43	55	55
Pordenone	12	39	38	45	57	49
Potenza	15	48	19	40	38	17
Ragusa	14	43	44	36	55	31
Ravenna	12	11	54	44	25	02
Reggio di Calabria	15	38	50	38	06	29
Reggio Emilia	10	37	52	44	41	51
Rieti	12	52	01	42	24	15
Roma	12	28	57	41	53	43
Rovigo	11	47	23	45	04	13
Salerno	14	45	56	40	40	44
Sassari	08	33	49	40	43	26
Savona	08	28	49	44	18	26
Senigallia	13	13	24	43	42	50
Siena	11	19	39	43	19	16
Siracusa	15	17	07	57	04	56
Sondrio	09	52	19	46	10	16
Taranto	17	14	47	40	27	31
Teramo	13	42	15	42	39	31
Terni	12	38	52	42	33	39
Torino	07	40	27	45	04	14
Trapani	12	32	13	38	01	03
Trento	11	07	28	46	03	51
Treviso	12	14	38	45	40	09
Trieste	13	47	03	45	39	23
Udine	13	14	09	46	03	48
Varese	08	49	30	45	49	05
Vercelli	08	25	07	45	19	20
Verona	10	59	38	45	26	16
Venezia	12	20	07	45	26	15
Vicenza	11	32	57	45	32	57
Viterbo	12	06	35	42	25	14

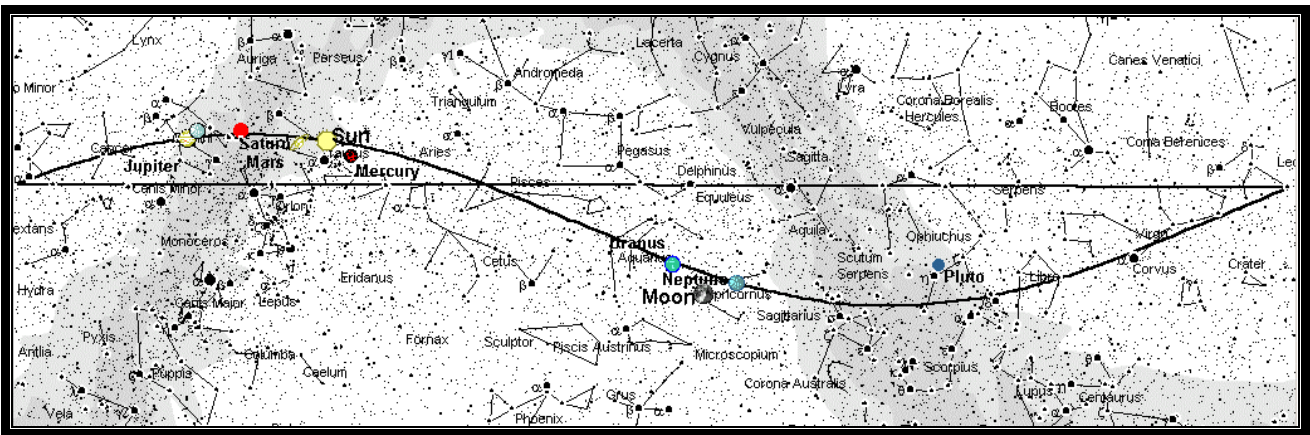
Appendice E: posizione dei pianeti durante l'anno (primo giorno del mese indicato)



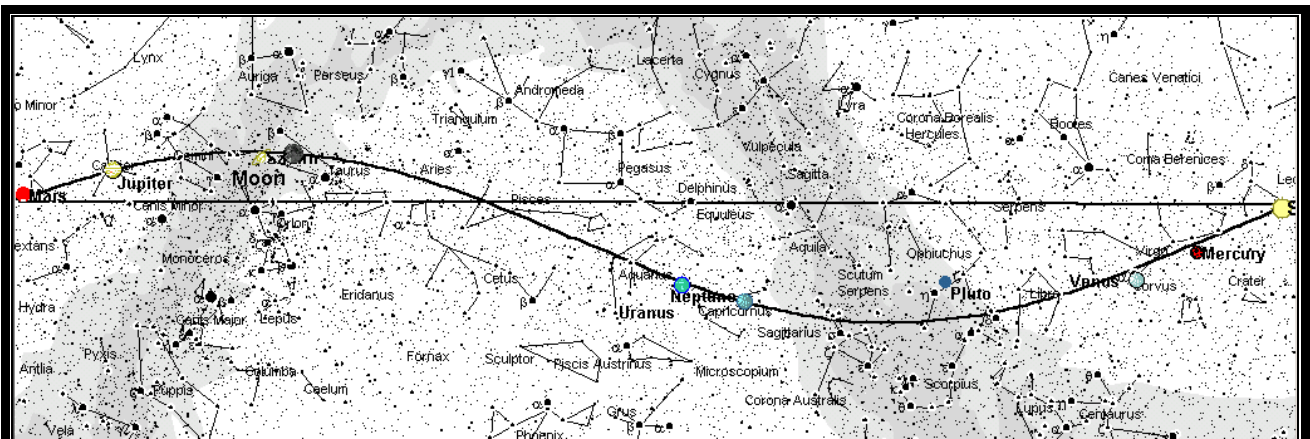
Eclittica nel mese di Gennaio



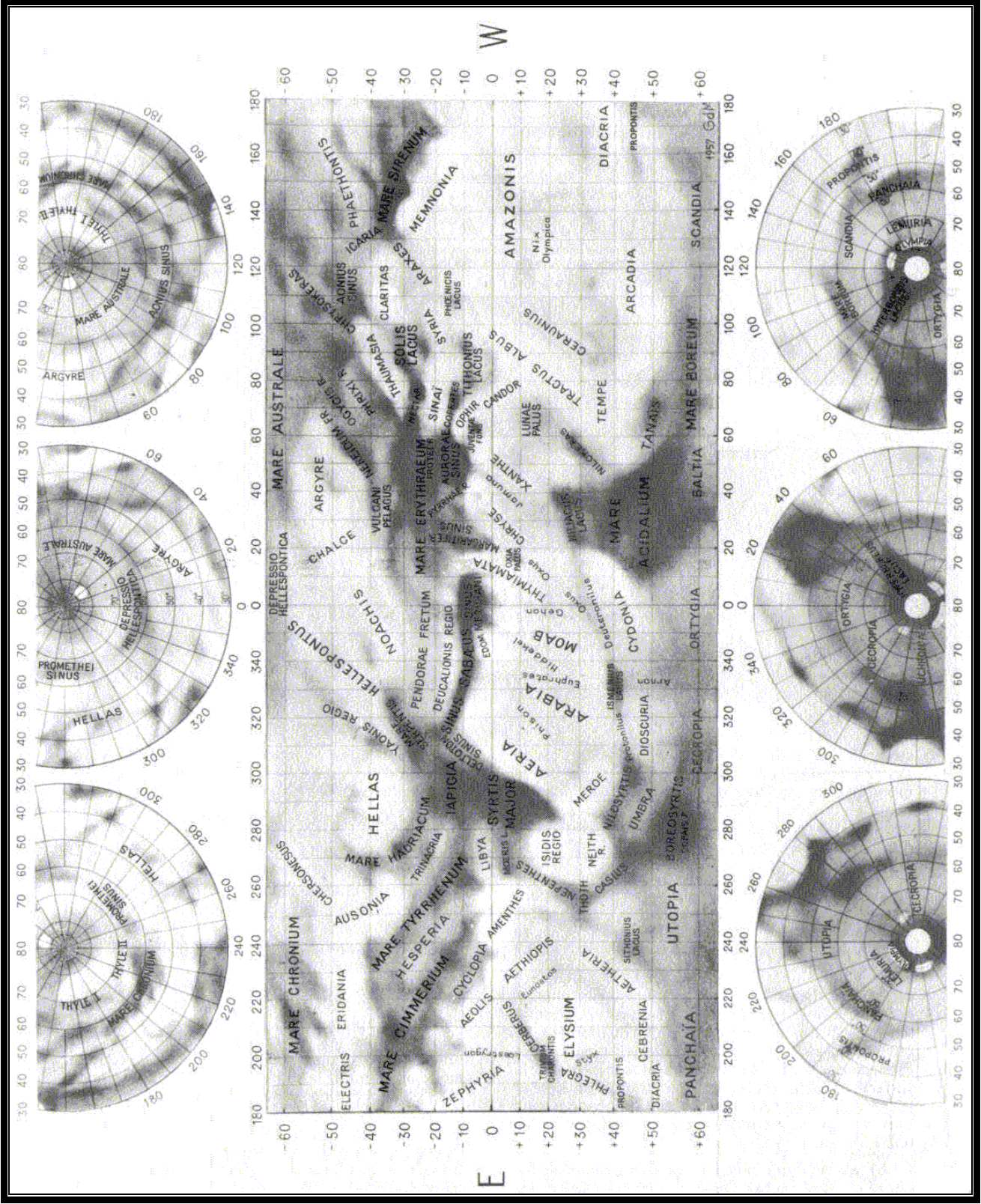
Eclittica nel mese di Aprile



Eclittica nel mese di Giugno



Eclittica nel mese di Settembre



Mapa del pianeta Marte

