

EXTRACT FROM SECTION G

The following pages replace those in the printed almanac for 2005. This is necessary due to an unpredictable error in the transit times. Mostly the times are in error by 0^m1 or 0^m2; occasionally, the error reached 0^m4. The astrometric right ascension, declination and magnitude are also tabulated but are unchanged.

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Geocentric ephemeris, magnitude, time of ephemeris transit for:	
Ceres	G5
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Hebe	G9
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Flora	G11
Hygiea	G12
Eunomia	G13
Psyche	G14
Europa	G15
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Davida	G17
Interamnia	G18



This symbol indicates that these data or auxiliary material may also be found on *The Astronomical Almanac Online* at <http://asa.usno.navy.mil> and <http://asa.hmnao.com>

Note

A daily geocentric astrometric ephemeris is tabulated for those of the 15 larger minor planets (Ceres, Pallas, Juno, Vesta, Hebe, Iris, Flora, Metis, Hygiea, Eunomia, Psyche, Europa, Cybele, Davida and Interamnia) that have an opposition date occurring between 2005 January 1 and January 31 of the following year. The daily ephemeris of each object is centred about the opposition date, which is repeated at the bottom of the first column and at the top of the second column. The highlighted dates indicate when the object is stationary in right ascension. It is very occasionally possible for a stationary date to be outside the period tabulated.

Linear interpolation is sufficient for the magnitude and ephemeris transit, but for the right ascension and declination second differences are significant. The tabulations are similar to those for Pluto, and the use of the data is similar to that for major planets.

GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric				Vis. Mag.	Ephem- eris Transit	Date	Astrometric				Vis. Mag.	Ephem- eris Transit
	R.A.		Dec.					R.A.		Dec.			
	h	m s	°	' "				h	m s	°	' "		
2005 Mar. 10	15 38	30.3	- 9 25	18	8.1	4 27.0	2005 May 8	15 13	40.9	- 8 29	23	7.0	0 10.3
11	15 38	48.2	- 9 25	14	8.1	4 23.4	9	15 12	45.2	- 8 29	02	7.0	0 05.4
12	15 39	04.6	- 9 25	06	8.0	4 19.7	10	15 11	49.3	- 8 28	45	7.0	0 00.6
13	15 39	19.5	- 9 24	54	8.0	4 16.0	11	15 10	53.6	- 8 28	33	7.0	23 50.8
14	15 39	32.7	- 9 24	38	8.0	4 12.3	12	15 09	57.8	- 8 28	26	7.0	23 46.0
15	15 39	44.4	- 9 24	19	8.0	4 08.6	13	15 09	02.3	- 8 28	24	7.0	23 41.1
16	15 39	54.6	- 9 23	55	8.0	4 04.8	14	15 08	06.9	- 8 28	27	7.0	23 36.3
17	15 40	03.1	- 9 23	28	8.0	4 01.0	15	15 07	11.9	- 8 28	36	7.0	23 31.5
18	15 40	10.1	- 9 22	58	7.9	3 57.2	16	15 06	17.1	- 8 28	51	7.1	23 26.6
19	15 40	15.4	- 9 22	24	7.9	3 53.4	17	15 05	22.8	- 8 29	11	7.1	23 21.8
20	15 40	19.1	- 9 21	47	7.9	3 49.5	18	15 04	28.9	- 8 29	37	7.1	23 17.0
Mar. 21	15 40	21.3	- 9 21	06	7.9	3 45.6	19	15 03	35.5	- 8 30	09	7.1	23 12.2
22	15 40	21.8	- 9 20	23	7.9	3 41.7	20	15 02	42.7	- 8 30	47	7.1	23 07.4
23	15 40	20.6	- 9 19	36	7.8	3 37.7	21	15 01	50.6	- 8 31	31	7.2	23 02.6
24	15 40	17.9	- 9 18	47	7.8	3 33.7	22	15 00	59.1	- 8 32	21	7.2	22 57.8
25	15 40	13.5	- 9 17	55	7.8	3 29.7	23	15 00	08.3	- 8 33	17	7.2	22 53.1
26	15 40	07.4	- 9 17	00	7.8	3 25.7	24	14 59	18.3	- 8 34	19	7.2	22 48.3
27	15 39	59.8	- 9 16	02	7.8	3 21.6	25	14 58	29.1	- 8 35	28	7.3	22 43.6
28	15 39	50.5	- 9 15	02	7.8	3 17.5	26	14 57	40.8	- 8 36	43	7.3	22 38.9
29	15 39	39.5	- 9 14	00	7.7	3 13.4	27	14 56	53.4	- 8 38	04	7.3	22 34.2
30	15 39	26.9	- 9 12	56	7.7	3 09.3	28	14 56	06.9	- 8 39	31	7.3	22 29.5
31	15 39	12.7	- 9 11	49	7.7	3 05.1	29	14 55	21.4	- 8 41	05	7.3	22 24.8
Apr. 1	15 38	56.9	- 9 10	40	7.7	3 00.9	30	14 54	37.0	- 8 42	46	7.4	22 20.2
2	15 38	39.4	- 9 09	30	7.7	2 56.7	31	14 53	53.6	- 8 44	33	7.4	22 15.5
3	15 38	20.3	- 9 08	17	7.6	2 52.4	June 1	14 53	11.4	- 8 46	26	7.4	22 10.9
4	15 37	59.5	- 9 07	03	7.6	2 48.1	2	14 52	30.2	- 8 48	26	7.4	22 06.3
5	15 37	37.2	- 9 05	48	7.6	2 43.8	3	14 51	50.3	- 8 50	33	7.5	22 01.7
6	15 37	13.3	- 9 04	31	7.6	2 39.5	4	14 51	11.6	- 8 52	46	7.5	21 57.2
7	15 36	47.8	- 9 03	13	7.6	2 35.2	5	14 50	34.1	- 8 55	06	7.5	21 52.6
8	15 36	20.7	- 9 01	54	7.5	2 30.8	6	14 49	58.0	- 8 57	33	7.5	21 48.1
9	15 35	52.2	- 9 00	34	7.5	2 26.4	7	14 49	23.1	- 9 00	06	7.6	21 43.6
10	15 35	22.1	- 8 59	13	7.5	2 21.9	8	14 48	49.6	- 9 02	45	7.6	21 39.2
11	15 34	50.5	- 8 57	52	7.5	2 17.5	9	14 48	17.4	- 9 05	32	7.6	21 34.7
12	15 34	17.5	- 8 56	31	7.5	2 13.0	10	14 47	46.6	- 9 08	24	7.6	21 30.3
13	15 33	43.1	- 8 55	10	7.4	2 08.5	11	14 47	17.2	- 9 11	23	7.6	21 25.9
14	15 33	07.2	- 8 53	48	7.4	2 04.0	12	14 46	49.2	- 9 14	29	7.7	21 21.5
15	15 32	30.1	- 8 52	27	7.4	1 59.4	13	14 46	22.7	- 9 17	41	7.7	21 17.2
16	15 31	51.6	- 8 51	07	7.4	1 54.8	14	14 45	57.6	- 9 20	59	7.7	21 12.9
17	15 31	11.8	- 8 49	47	7.3	1 50.3	15	14 45	33.9	- 9 24	24	7.7	21 08.6
18	15 30	30.8	- 8 48	28	7.3	1 45.6	16	14 45	11.7	- 9 27	55	7.8	21 04.3
19	15 29	48.5	- 8 47	10	7.3	1 41.0	17	14 44	51.0	- 9 31	31	7.8	21 00.0
20	15 29	05.1	- 8 45	53	7.3	1 36.4	18	14 44	31.8	- 9 35	14	7.8	20 55.8
21	15 28	20.6	- 8 44	37	7.3	1 31.7	19	14 44	14.1	- 9 39	03	7.8	20 51.6
22	15 27	35.1	- 8 43	23	7.2	1 27.0	20	14 43	57.8	- 9 42	58	7.8	20 47.4
23	15 26	48.4	- 8 42	10	7.2	1 22.3	21	14 43	43.0	- 9 46	58	7.9	20 43.3
24	15 26	00.9	- 8 41	00	7.2	1 17.6	22	14 43	29.8	- 9 51	04	7.9	20 39.1
25	15 25	12.3	- 8 39	51	7.2	1 12.8	23	14 43	18.0	- 9 55	16	7.9	20 35.0
26	15 24	22.9	- 8 38	45	7.2	1 08.1	24	14 43	07.6	- 9 59	33	7.9	20 30.9
27	15 23	32.7	- 8 37	41	7.1	1 03.3	25	14 42	58.8	- 10 03	55	7.9	20 26.9
28	15 22	41.7	- 8 36	39	7.1	0 58.5	26	14 42	51.4	- 10 08	23	8.0	20 22.9
29	15 21	49.9	- 8 35	41	7.1	0 53.8	27	14 42	45.5	- 10 12	56	8.0	20 18.8
30	15 20	57.5	- 8 34	45	7.1	0 49.0	28	14 42	41.1	- 10 17	34	8.0	20 14.9
May 1	15 20	04.5	- 8 33	52	7.1	0 44.1	29	14 42	38.1	- 10 22	17	8.0	20 10.9
2	15 19	10.9	- 8 33	02	7.0	0 39.3	June 30	14 42	36.6	- 10 27	05	8.0	20 07.0
3	15 18	16.8	- 8 32	16	7.0	0 34.5	July 1	14 42	36.6	- 10 31	58	8.1	20 03.1
4	15 17	22.2	- 8 31	33	7.0	0 29.7	2	14 42	38.0	- 10 36	56	8.1	19 59.2
5	15 16	27.3	- 8 30	55	7.0	0 24.8	3	14 42	40.9	- 10 41	59	8.1	19 55.3
6	15 15	32.1	- 8 30	20	7.0	0 20.0	4	14 42	45.2	- 10 47	06	8.1	19 51.5
7	15 14	36.6	- 8 29	49	7.0	0 15.1	5	14 42	51.0	- 10 52	18	8.1	19 47.6
May 8	15 13	40.9	- 8 29	23	7.0	0 10.3	July 6	14 42	58.2	- 10 57	34	8.2	19 43.8

Second transit for Ceres 2005 May 10^d 23^h 55^m7

GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric					Vis. Mag.	Ephem- eris Transit	Date	Astrometric					Vis. Mag.	Ephem- eris Transit						
	R.A.			Dec.					R.A.			Dec.									
	h	m	s	°	'				"	h	m	s	°			'	"	h	m		
2005 Jan. 23	12	37	12.4	-	9	11	54	8.2	4	27-1	2005 Mar. 23	12	28	07.3	+	9	11	50	7.1	0	26-0
24	12	37	48.5	-	9	02	19	8.2	4	23-8	24	12	27	24.3	+	9	34	12	7.1	0	21-4
25	12	38	23.1	-	8	52	23	8.2	4	20-4	25	12	26	41.2	+	9	56	20	7.1	0	16-7
26	12	38	56.2	-	8	42	05	8.2	4	17-1	26	12	25	58.0	+	10	18	14	7.2	0	12-1
27	12	39	27.7	-	8	31	27	8.2	4	13-6	27	12	25	14.9	+	10	39	53	7.2	0	07-4
28	12	39	57.7	-	8	20	26	8.1	4	10-2	28	12	24	31.9	+	11	01	16	7.2	0	02-8
29	12	40	26.1	-	8	09	04	8.1	4	06-7	29	12	23	49.0	+	11	22	21	7.2	23	53-5
30	12	40	52.9	-	7	57	20	8.1	4	03-2	30	12	23	06.3	+	11	43	09	7.3	23	48-9
31	12	41	18.0	-	7	45	14	8.1	3	59-7	31	12	22	23.9	+	12	03	38	7.3	23	44-2
Feb. 1	12	41	41.6	-	7	32	46	8.1	3	56-2	Apr. 1	12	21	41.9	+	12	23	47	7.3	23	39-6
2	12	42	03.5	-	7	19	55	8.0	3	52-6	2	12	21	00.3	+	12	43	35	7.3	23	35-0
3	12	42	23.7	-	7	06	42	8.0	3	49-0	3	12	20	19.2	+	13	03	02	7.4	23	30-4
4	12	42	42.2	-	6	53	06	8.0	3	45-4	4	12	19	38.6	+	13	22	08	7.4	23	25-8
5	12	42	59.0	-	6	39	07	8.0	3	41-7	5	12	18	58.6	+	13	40	51	7.4	23	21-2
6	12	43	14.2	-	6	24	45	8.0	3	38-0	6	12	18	19.2	+	13	59	11	7.5	23	16-6
7	12	43	27.6	-	6	10	01	7.9	3	34-3	7	12	17	40.6	+	14	17	07	7.5	23	12-1
8	12	43	39.3	-	5	54	54	7.9	3	30-6	8	12	17	02.8	+	14	34	39	7.5	23	07-5
9	12	43	49.2	-	5	39	23	7.9	3	26-8	9	12	16	25.8	+	14	51	46	7.6	23	03-0
10	12	43	57.5	-	5	23	31	7.9	3	23-0	10	12	15	49.7	+	15	08	29	7.6	22	58-5
11	12	44	04.0	-	5	07	15	7.9	3	19-2	11	12	15	14.5	+	15	24	46	7.6	22	54-0
12	12	44	08.7	-	4	50	37	7.8	3	15-3	12	12	14	40.3	+	15	40	38	7.6	22	49-5
13	12	44	11.8	-	4	33	37	7.8	3	11-4	13	12	14	07.2	+	15	56	03	7.7	22	45-0
Feb. 14	12	44	13.1	-	4	16	15	7.8	3	07-5	14	12	13	35.2	+	16	11	03	7.7	22	40-6
15	12	44	12.7	-	3	58	31	7.8	3	03-6	15	12	13	04.3	+	16	25	37	7.7	22	36-2
16	12	44	10.6	-	3	40	26	7.7	2	59-6	16	12	12	34.5	+	16	39	44	7.8	22	31-8
17	12	44	06.7	-	3	22	00	7.7	2	55-6	17	12	12	06.0	+	16	53	26	7.8	22	27-4
18	12	44	01.2	-	3	03	12	7.7	2	51-6	18	12	11	38.6	+	17	06	41	7.8	22	23-0
19	12	43	54.0	-	2	44	05	7.7	2	47-5	19	12	11	12.6	+	17	19	30	7.9	22	18-7
20	12	43	45.2	-	2	24	37	7.7	2	43-5	20	12	10	47.8	+	17	31	53	7.9	22	14-3
21	12	43	34.7	-	2	04	51	7.6	2	39-3	21	12	10	24.3	+	17	43	51	7.9	22	10-0
22	12	43	22.5	-	1	44	45	7.6	2	35-2	22	12	10	02.2	+	17	55	22	7.9	22	05-8
23	12	43	08.8	-	1	24	21	7.6	2	31-0	23	12	09	41.4	+	18	06	28	8.0	22	01-5
24	12	42	53.4	-	1	03	39	7.6	2	26-9	24	12	09	22.0	+	18	17	09	8.0	21	57-3
25	12	42	36.5	-	0	42	40	7.5	2	22-6	25	12	09	03.9	+	18	27	24	8.0	21	53-1
26	12	42	18.0	-	0	21	25	7.5	2	18-4	26	12	08	47.3	+	18	37	14	8.0	21	48-9
27	12	41	58.0	+	0	00	06	7.5	2	14-1	27	12	08	32.0	+	18	46	40	8.1	21	44-7
28	12	41	36.4	+	0	21	52	7.5	2	09-8	28	12	08	18.2	+	18	55	42	8.1	21	40-6
Mar. 1	12	41	13.4	+	0	43	52	7.4	2	05-5	29	12	08	05.8	+	19	04	19	8.1	21	36-5
2	12	40	49.0	+	1	06	05	7.4	2	01-2	30	12	07	54.9	+	19	12	33	8.2	21	32-4
3	12	40	23.1	+	1	28	31	7.4	1	56-8	May 1	12	07	45.3	+	19	20	23	8.2	21	28-3
4	12	39	55.9	+	1	51	08	7.4	1	52-4	2	12	07	37.3	+	19	27	49	8.2	21	24-3
5	12	39	27.4	+	2	13	55	7.4	1	48-0	3	12	07	30.7	+	19	34	53	8.2	21	20-2
6	12	38	57.5	+	2	36	52	7.3	1	43-6	4	12	07	25.5	+	19	41	34	8.3	21	16-2
7	12	38	26.4	+	2	59	57	7.3	1	39-2	5	12	07	21.8	+	19	47	53	8.3	21	12-3
8	12	37	54.2	+	3	23	09	7.3	1	34-7	6	12	07	19.6	+	19	53	50	8.3	21	08-3
9	12	37	20.7	+	3	46	28	7.3	1	30-2	May 7	12	07	18.8	+	19	59	26	8.3	21	04-4
10	12	36	46.2	+	4	09	51	7.2	1	25-7	8	12	07	19.6	+	20	04	40	8.4	21	00-5
11	12	36	10.7	+	4	33	18	7.2	1	21-2	9	12	07	21.7	+	20	09	33	8.4	20	56-6
12	12	35	34.2	+	4	56	47	7.2	1	16-6	10	12	07	25.4	+	20	14	06	8.4	20	52-8
13	12	34	56.8	+	5	20	17	7.2	1	12-1	11	12	07	30.4	+	20	18	19	8.4	20	49-0
14	12	34	18.5	+	5	43	48	7.2	1	07-5	12	12	07	36.9	+	20	22	12	8.5	20	45-1
15	12	33	39.5	+	6	07	17	7.2	1	03-0	13	12	07	44.9	+	20	25	46	8.5	20	41-4
16	12	32	59.8	+	6	30	43	7.1	0	58-4	14	12	07	54.3	+	20	29	01	8.5	20	37-6
17	12	32	19.4	+	6	54	05	7.1	0	53-8	15	12	08	05.1	+	20	31	58	8.5	20	33-9
18	12	31	38.4	+	7	17	23	7.1	0	49-2	16	12	08	17.3	+	20	34	37	8.6	20	30-2
19	12	30	57.0	+	7	40	34	7.1	0	44-5	17	12	08	30.8	+	20	36	58	8.6	20	26-5
20	12	30	15.1	+	8	03	37	7.1	0	39-9	18	12	08	45.8	+	20	39	01	8.6	20	22-8
21	12	29	32.8	+	8	26	32	7.1	0	35-3	19	12	09	02.1	+	20	40	48	8.6	20	19-2
22	12	28	50.2	+	8	49	16	7.1	0	30-6	20	12	09	19.7	+	20	42	18	8.6	20	15-6
Mar. 23	12	28	07.3	+	9	11	50	7.1	0	26-0	May 21	12	09	38.6	+	20	43	33	8.7	20	12-0

Second transit for Pallas 2005 March 28^d 23^h 58^m 1

GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric				Vis. Mag.	Ephem- eris Transit	Date	Astrometric				Vis. Mag.	Ephem- eris Transit
	R.A.		Dec.					R.A.		Dec.			
	h	m s	°	' "				h	m s	°	' "		
2005 Oct.	11	5 24 01.4	+ 5 42 12	8.4	4 05-1	2005 Dec.	9	5 14 07.5	- 1 58 50	7.6	0 03-1		
	12	5 24 47.1	+ 5 32 23	8.4	4 01-9		10	5 13 17.2	- 1 59 33	7.6	23 53-6		
	13	5 25 31.0	+ 5 22 30	8.4	3 58-7		11	5 12 26.9	- 1 59 54	7.6	23 48-8		
	14	5 26 13.0	+ 5 12 33	8.4	3 55-4		12	5 11 36.7	- 1 59 53	7.6	23 44-0		
	15	5 26 53.1	+ 5 02 32	8.3	3 52-2		13	5 10 46.8	- 1 59 30	7.6	23 39-3		
	16	5 27 31.3	+ 4 52 28	8.3	3 48-9		14	5 09 57.2	- 1 58 45	7.6	23 34-5		
	17	5 28 07.6	+ 4 42 21	8.3	3 45-5		15	5 09 08.0	- 1 57 39	7.6	23 29-8		
	18	5 28 41.9	+ 4 32 11	8.3	3 42-2		16	5 08 19.3	- 1 56 11	7.6	23 25-1		
	19	5 29 14.3	+ 4 21 59	8.3	3 38-8		17	5 07 31.2	- 1 54 21	7.6	23 20-4		
	20	5 29 44.6	+ 4 11 44	8.2	3 35-3		18	5 06 43.8	- 1 52 10	7.6	23 15-6		
	21	5 30 12.9	+ 4 01 28	8.2	3 31-9		19	5 05 57.1	- 1 49 38	7.6	23 11-0		
	22	5 30 39.2	+ 3 51 11	8.2	3 28-4		20	5 05 11.2	- 1 46 46	7.6	23 06-3		
	23	5 31 03.4	+ 3 40 53	8.2	3 24-8		21	5 04 26.2	- 1 43 32	7.7	23 01-6		
	24	5 31 25.5	+ 3 30 34	8.2	3 21-3		22	5 03 42.2	- 1 39 59	7.7	22 57-0		
	25	5 31 45.5	+ 3 20 15	8.1	3 17-6		23	5 02 59.3	- 1 36 05	7.7	22 52-3		
	26	5 32 03.4	+ 3 09 56	8.1	3 14-0		24	5 02 17.4	- 1 31 52	7.7	22 47-7		
	27	5 32 19.2	+ 2 59 38	8.1	3 10-3		25	5 01 36.8	- 1 27 19	7.7	22 43-2		
	28	5 32 32.8	+ 2 49 22	8.1	3 06-6		26	5 00 57.4	- 1 22 27	7.7	22 38-6		
	29	5 32 44.3	+ 2 39 07	8.1	3 02-9		27	5 00 19.3	- 1 17 17	7.8	22 34-1		
	30	5 32 53.6	+ 2 28 55	8.0	2 59-1		28	4 59 42.7	- 1 11 49	7.8	22 29-5		
	31	5 33 00.8	+ 2 18 46	8.0	2 55-3		29	4 59 07.5	- 1 06 03	7.8	22 25-0		
Nov.	1	5 33 05.8	+ 2 08 40	8.0	2 51-4		30	4 58 33.8	- 1 00 00	7.8	22 20-6		
Nov.	2	5 33 08.7	+ 1 58 38	8.0	2 47-5		31	4 58 01.6	- 0 53 40	7.8	22 16-1		
	3	5 33 09.4	+ 1 48 40	8.0	2 43-6	2006 Jan.	1	4 57 31.1	- 0 47 04	7.9	22 11-7		
	4	5 33 07.9	+ 1 38 48	8.0	2 39-7		2	4 57 02.3	- 0 40 12	7.9	22 07-3		
	5	5 33 04.4	+ 1 29 02	7.9	2 35-7		3	4 56 35.1	- 0 33 05	7.9	22 03-0		
	6	5 32 58.7	+ 1 19 21	7.9	2 31-6		4	4 56 09.8	- 0 25 43	7.9	21 58-7		
	7	5 32 50.9	+ 1 09 48	7.9	2 27-6		5	4 55 46.2	- 0 18 07	7.9	21 54-4		
	8	5 32 41.0	+ 1 00 22	7.9	2 23-5		6	4 55 24.4	- 0 10 18	8.0	21 50-1		
	9	5 32 29.1	+ 0 51 04	7.9	2 19-3		7	4 55 04.5	- 0 02 16	8.0	21 45-9		
	10	5 32 15.1	+ 0 41 55	7.8	2 15-2		8	4 54 46.5	+ 0 05 59	8.0	21 41-7		
	11	5 31 59.1	+ 0 32 55	7.8	2 11-0		9	4 54 30.4	+ 0 14 25	8.0	21 37-5		
	12	5 31 41.2	+ 0 24 05	7.8	2 06-7		10	4 54 16.1	+ 0 23 03	8.1	21 33-4		
	13	5 31 21.3	+ 0 15 26	7.8	2 02-5		11	4 54 03.8	+ 0 31 51	8.1	21 29-3		
	14	5 30 59.5	+ 0 06 57	7.8	1 58-2		12	4 53 53.4	+ 0 40 49	8.1	21 25-2		
	15	5 30 35.8	- 0 01 20	7.8	1 53-8		13	4 53 45.0	+ 0 49 57	8.1	21 21-1		
	16	5 30 10.3	- 0 09 25	7.7	1 49-5		14	4 53 38.5	+ 0 59 14	8.1	21 17-1		
	17	5 29 42.9	- 0 17 18	7.7	1 45-1		15	4 53 34.0	+ 1 08 40	8.2	21 13-1		
	18	5 29 13.8	- 0 24 57	7.7	1 40-7	Jan.	16	4 53 31.4	+ 1 18 14	8.2	21 09-2		
	19	5 28 43.0	- 0 32 22	7.7	1 36-2		17	4 53 30.8	+ 1 27 55	8.2	21 05-3		
	20	5 28 10.6	- 0 39 33	7.7	1 31-8		18	4 53 32.1	+ 1 37 43	8.2	21 01-4		
	21	5 27 36.5	- 0 46 29	7.7	1 27-3		19	4 53 35.3	+ 1 47 38	8.3	20 57-6		
	22	5 27 00.8	- 0 53 09	7.7	1 22-8		20	4 53 40.6	+ 1 57 40	8.3	20 53-7		
	23	5 26 23.7	- 0 59 33	7.6	1 18-2		21	4 53 47.7	+ 2 07 47	8.3	20 50-0		
	24	5 25 45.1	- 1 05 40	7.6	1 13-6		22	4 53 56.8	+ 2 17 59	8.3	20 46-2		
	25	5 25 05.2	- 1 11 30	7.6	1 09-0		23	4 54 07.9	+ 2 28 16	8.4	20 42-5		
	26	5 24 23.9	- 1 17 03	7.6	1 04-4		24	4 54 20.8	+ 2 38 38	8.4	20 38-8		
	27	5 23 41.5	- 1 22 17	7.6	0 59-8		25	4 54 35.7	+ 2 49 03	8.4	20 35-1		
	28	5 22 57.8	- 1 27 12	7.6	0 55-1		26	4 54 52.5	+ 2 59 32	8.4	20 31-5		
	29	5 22 13.1	- 1 31 48	7.6	0 50-5		27	4 55 11.2	+ 3 10 05	8.4	20 27-9		
	30	5 21 27.5	- 1 36 04	7.6	0 45-8		28	4 55 31.7	+ 3 20 40	8.5	20 24-3		
Dec.	1	5 20 40.9	- 1 40 01	7.6	0 41-1		29	4 55 54.2	+ 3 31 18	8.5	20 20-8		
	2	5 19 53.6	- 1 43 36	7.6	0 36-3		30	4 56 18.5	+ 3 41 57	8.5	20 17-3		
	3	5 19 05.5	- 1 46 51	7.6	0 31-6		31	4 56 44.7	+ 3 52 39	8.5	20 13-8		
	4	5 18 16.8	- 1 49 45	7.6	0 26-9	Feb.	1	4 57 12.7	+ 4 03 21	8.6	20 10-4		
	5	5 17 27.6	- 1 52 17	7.5	0 22-1		2	4 57 42.5	+ 4 14 05	8.6	20 07-0		
	6	5 16 37.9	- 1 54 28	7.5	0 17-4		3	4 58 14.1	+ 4 24 49	8.6	20 03-6		
	7	5 15 48.0	- 1 56 17	7.5	0 12-6		4	4 58 47.5	+ 4 35 33	8.6	20 00-3		
	8	5 14 57.8	- 1 57 44	7.5	0 07-9		5	4 59 22.6	+ 4 46 17	8.7	19 56-9		
Dec.	9	5 14 07.5	- 1 58 50	7.6	0 03-1		Feb.	6	4 59 59.4	+ 4 57 00	8.7	19 53-6	

Second transit for Juno 2005 December 9^d 23^h 58^m3

GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric					Vis. Mag.	Ephem- eris Transit	Date	Astrometric					Vis. Mag.	Ephem- eris Transit
	R.A.			Dec.					R.A.			Dec.			
	h	m	s	°	'				"	h	m	s	°		
2005 Nov.	7	7 36	19.4	+19 37	26	7.6	4 30.8	2006 Jan.	5	7 07	59.7	+22 46	30	6.3	0 10.5
	8	7 36	40.2	+19 38	04	7.6	4 27.2		6	7 06	52.5	+22 51	11	6.2	0 05.5
	9	7 36	59.4	+19 38	47	7.6	4 23.6		7	7 05	45.2	+22 55	50	6.3	0 00.5
	10	7 37	16.9	+19 39	36	7.5	4 20.0		8	7 04	37.9	+23 00	26	6.3	23 50.4
	11	7 37	32.8	+19 40	29	7.5	4 16.3		9	7 03	30.7	+23 05	01	6.3	23 45.3
	12	7 37	47.0	+19 41	29	7.5	4 12.6		10	7 02	23.7	+23 09	32	6.4	23 40.3
	13	7 37	59.6	+19 42	33	7.5	4 08.9		11	7 01	16.8	+23 14	02	6.4	23 35.3
	14	7 38	10.4	+19 43	44	7.5	4 05.1		12	7 00	10.3	+23 18	28	6.4	23 30.2
	15	7 38	19.5	+19 45	00	7.4	4 01.3		13	6 59	04.2	+23 22	51	6.4	23 25.2
	16	7 38	26.9	+19 46	21	7.4	3 57.5		14	6 57	58.6	+23 27	11	6.5	23 20.2
	17	7 38	32.5	+19 47	49	7.4	3 53.7		15	6 56	53.6	+23 31	27	6.5	23 15.2
	18	7 38	36.4	+19 49	22	7.4	3 49.8		16	6 55	49.2	+23 35	40	6.5	23 10.2
	Nov. 19	7 38	38.4	+19 51	02	7.4	3 45.9		17	6 54	45.6	+23 39	49	6.5	23 05.2
	20	7 38	38.7	+19 52	48	7.4	3 42.0		18	6 53	42.7	+23 43	54	6.6	23 00.3
	21	7 38	37.1	+19 54	39	7.3	3 38.0		19	6 52	40.7	+23 47	55	6.6	22 55.3
	22	7 38	33.7	+19 56	37	7.3	3 34.0		20	6 51	39.7	+23 51	52	6.6	22 50.4
	23	7 38	28.5	+19 58	41	7.3	3 30.0		21	6 50	39.8	+23 55	46	6.6	22 45.5
	24	7 38	21.3	+20 00	51	7.3	3 25.9		22	6 49	40.9	+23 59	34	6.6	22 40.6
	25	7 38	12.4	+20 03	08	7.3	3 21.8		23	6 48	43.2	+24 03	19	6.7	22 35.8
	26	7 38	01.5	+20 05	31	7.2	3 17.7		24	6 47	46.7	+24 06	59	6.7	22 30.9
	27	7 37	48.7	+20 08	00	7.2	3 13.6		25	6 46	51.6	+24 10	35	6.7	22 26.1
	28	7 37	34.1	+20 10	35	7.2	3 09.4		26	6 45	57.8	+24 14	07	6.7	22 21.3
	29	7 37	17.5	+20 13	17	7.2	3 05.2		27	6 45	05.4	+24 17	34	6.8	22 16.5
	30	7 36	59.1	+20 16	05	7.1	3 00.9		28	6 44	14.6	+24 20	57	6.8	22 11.8
	Dec. 1	7 36	38.7	+20 18	59	7.1	2 56.7		29	6 43	25.3	+24 24	15	6.8	22 07.0
	2	7 36	16.5	+20 21	59	7.1	2 52.4		30	6 42	37.6	+24 27	29	6.8	22 02.3
	3	7 35	52.4	+20 25	06	7.1	2 48.0		31	6 41	51.5	+24 30	38	6.8	21 57.7
	4	7 35	26.4	+20 28	18	7.1	2 43.7		Feb. 1	6 41	07.2	+24 33	43	6.9	21 53.0
	5	7 34	58.5	+20 31	37	7.0	2 39.3		2	6 40	24.5	+24 36	43	6.9	21 48.4
	6	7 34	28.8	+20 35	01	7.0	2 34.9		3	6 39	43.7	+24 39	40	6.9	21 43.8
	7	7 33	57.2	+20 38	31	7.0	2 30.4		4	6 39	04.7	+24 42	31	6.9	21 39.3
	8	7 33	23.8	+20 42	06	7.0	2 25.9		5	6 38	27.6	+24 45	19	6.9	21 34.8
	9	7 32	48.7	+20 45	47	7.0	2 21.4		6	6 37	52.3	+24 48	02	7.0	21 30.3
	10	7 32	11.7	+20 49	33	6.9	2 16.8		7	6 37	18.9	+24 50	41	7.0	21 25.8
	11	7 31	33.1	+20 53	25	6.9	2 12.3		8	6 36	47.5	+24 53	16	7.0	21 21.4
	12	7 30	52.7	+20 57	21	6.9	2 07.7		9	6 36	18.0	+24 55	47	7.0	21 17.0
	13	7 30	10.6	+21 01	22	6.9	2 03.0		10	6 35	50.4	+24 58	14	7.0	21 12.6
	14	7 29	26.8	+21 05	27	6.8	1 58.4		11	6 35	24.8	+25 00	37	7.1	21 08.3
	15	7 28	41.4	+21 09	37	6.8	1 53.7		12	6 35	01.2	+25 02	56	7.1	21 04.0
	16	7 27	54.4	+21 13	51	6.8	1 49.0		13	6 34	39.6	+25 05	11	7.1	20 59.8
	17	7 27	05.9	+21 18	09	6.8	1 44.2		14	6 34	20.0	+25 07	22	7.1	20 55.5
	18	7 26	15.8	+21 22	30	6.8	1 39.5		15	6 34	02.3	+25 09	29	7.1	20 51.3
	19	7 25	24.3	+21 26	56	6.7	1 34.7		16	6 33	46.7	+25 11	33	7.2	20 47.2
	20	7 24	31.3	+21 31	24	6.7	1 29.9		17	6 33	33.1	+25 13	34	7.2	20 43.0
	21	7 23	37.0	+21 35	55	6.7	1 25.1		18	6 33	21.4	+25 15	30	7.2	20 38.9
	22	7 22	41.4	+21 40	29	6.7	1 20.2		19	6 33	11.8	+25 17	23	7.2	20 34.9
	23	7 21	44.4	+21 45	05	6.6	1 15.3		20	6 33	04.2	+25 19	13	7.2	20 30.9
	24	7 20	46.3	+21 49	44	6.6	1 10.4		21	6 32	58.5	+25 20	59	7.2	20 26.9
	25	7 19	47.0	+21 54	24	6.6	1 05.5		22	6 32	54.9	+25 22	42	7.3	20 22.9
	26	7 18	46.6	+21 59	06	6.6	1 00.6		Feb. 23	6 32	53.2	+25 24	22	7.3	20 19.0
	27	7 17	45.2	+22 03	49	6.5	0 55.6		24	6 32	53.5	+25 25	58	7.3	20 15.1
	28	7 16	42.9	+22 08	34	6.5	0 50.7		25	6 32	55.8	+25 27	31	7.3	20 11.2
	29	7 15	39.7	+22 13	19	6.5	0 45.7		26	6 33	00.1	+25 29	01	7.3	20 07.4
	30	7 14	35.7	+22 18	04	6.5	0 40.7		27	6 33	06.3	+25 30	27	7.4	20 03.6
	31	7 13	30.9	+22 22	50	6.4	0 35.7		28	6 33	14.4	+25 31	51	7.4	19 59.8
2006 Jan.	1	7 12	25.6	+22 27	36	6.4	0 30.7		Mar. 1	6 33	24.5	+25 33	11	7.4	19 56.1
	2	7 11	19.7	+22 32	21	6.4	0 25.7		2	6 33	36.5	+25 34	28	7.4	19 52.3
	3	7 10	13.4	+22 37	05	6.3	0 20.6		3	6 33	50.3	+25 35	42	7.4	19 48.7
	4	7 09	06.7	+22 41	48	6.3	0 15.6		4	6 34	06.1	+25 36	53	7.4	19 45.0
Jan. 5	5	7 07	59.7	+22 46	30	6.3	0 10.5		Mar. 5	6 34	23.7	+25 38	01	7.5	19 41.4

Second transit for Vesta 2006 January 7^d 23^h 55^m.4

GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric					Vis. Mag.	Ephem- eris Transit	Date	Astrometric					Vis. Mag.	Ephem- eris Transit						
	R.A.		Dec.						R.A.		Dec.										
	h	m	s	°	'				"	h	m	s	°			'	"	h	m		
2005 Feb. 13	14	17	16.1	+	1	50	07	10.8	4	44.3	2005 Apr. 13	13	57	07.4	+	9	39	09	9.9	0	32.2
14	14	17	34.7	+	1	55	38	10.8	4	40.7	14	13	56	15.9	+	9	46	17	9.9	0	27.4
15	14	17	52.0	+	2	01	18	10.7	4	37.0	15	13	55	24.0	+	9	53	14	9.9	0	22.6
16	14	18	08.0	+	2	07	07	10.7	4	33.4	16	13	54	31.9	+	10	00	01	9.9	0	17.8
17	14	18	22.7	+	2	13	04	10.7	4	29.7	17	13	53	39.7	+	10	06	37	9.9	0	13.0
18	14	18	36.0	+	2	19	10	10.7	4	26.0	18	13	52	47.3	+	10	13	02	9.9	0	08.2
19	14	18	47.9	+	2	25	25	10.7	4	22.2	19	13	51	54.9	+	10	19	16	10.0	0	03.4
20	14	18	58.5	+	2	31	48	10.7	4	18.5	20	13	51	02.5	+	10	25	17	10.0	23	53.8
21	14	19	07.7	+	2	38	19	10.6	4	14.7	21	13	50	10.2	+	10	31	07	10.0	23	49.0
22	14	19	15.5	+	2	44	58	10.6	4	10.9	22	13	49	18.0	+	10	36	44	10.0	23	44.2
23	14	19	21.9	+	2	51	46	10.6	4	07.0	23	13	48	25.9	+	10	42	08	10.0	23	39.4
24	14	19	26.8	+	2	58	41	10.6	4	03.2	24	13	47	34.0	+	10	47	20	10.0	23	34.6
25	14	19	30.4	+	3	05	45	10.6	3	59.3	25	13	46	42.4	+	10	52	18	10.0	23	29.9
26	14	19	32.5	+	3	12	56	10.6	3	55.4	26	13	45	51.1	+	10	57	03	10.0	23	25.1
Feb. 27	14	19	33.2	+	3	20	14	10.5	3	51.5	27	13	45	00.2	+	11	01	35	10.0	23	20.3
28	14	19	32.4	+	3	27	40	10.5	3	47.5	28	13	44	09.7	+	11	05	54	10.0	23	15.6
Mar. 1	14	19	30.2	+	3	35	13	10.5	3	43.6	29	13	43	19.6	+	11	09	58	10.1	23	10.8
2	14	19	26.6	+	3	42	53	10.5	3	39.6	30	13	42	30.0	+	11	13	49	10.1	23	06.1
3	14	19	21.4	+	3	50	40	10.5	3	35.5	May 1	13	41	41.0	+	11	17	26	10.1	23	01.3
4	14	19	14.8	+	3	58	34	10.5	3	31.5	2	13	40	52.6	+	11	20	49	10.1	22	56.6
5	14	19	06.8	+	4	06	34	10.4	3	27.4	3	13	40	04.9	+	11	23	57	10.1	22	51.9
6	14	18	57.2	+	4	14	40	10.4	3	23.3	4	13	39	17.8	+	11	26	52	10.1	22	47.2
7	14	18	46.2	+	4	22	52	10.4	3	19.2	5	13	38	31.5	+	11	29	32	10.1	22	42.5
8	14	18	33.7	+	4	31	09	10.4	3	15.1	6	13	37	46.0	+	11	31	57	10.2	22	37.8
9	14	18	19.7	+	4	39	32	10.4	3	10.9	7	13	37	01.3	+	11	34	09	10.2	22	33.2
10	14	18	04.3	+	4	48	00	10.4	3	06.7	8	13	36	17.4	+	11	36	06	10.2	22	28.5
11	14	17	47.4	+	4	56	33	10.3	3	02.5	9	13	35	34.5	+	11	37	48	10.2	22	23.9
12	14	17	29.0	+	5	05	10	10.3	2	58.3	10	13	34	52.5	+	11	39	16	10.2	22	19.3
13	14	17	09.3	+	5	13	51	10.3	2	54.0	11	13	34	11.5	+	11	40	30	10.2	22	14.7
14	14	16	48.0	+	5	22	35	10.3	2	49.7	12	13	33	31.5	+	11	41	30	10.2	22	10.1
15	14	16	25.4	+	5	31	23	10.3	2	45.4	13	13	32	52.5	+	11	42	15	10.3	22	05.5
16	14	16	01.4	+	5	40	14	10.3	2	41.1	14	13	32	14.7	+	11	42	47	10.3	22	01.0
17	14	15	36.0	+	5	49	07	10.2	2	36.7	15	13	31	37.9	+	11	43	04	10.3	21	56.5
18	14	15	09.3	+	5	58	03	10.2	2	32.3	16	13	31	02.3	+	11	43	08	10.3	21	52.0
19	14	14	41.2	+	6	07	00	10.2	2	27.9	17	13	30	27.8	+	11	42	58	10.3	21	47.5
20	14	14	11.8	+	6	15	58	10.2	2	23.5	18	13	29	54.5	+	11	42	34	10.3	21	43.0
21	14	13	41.1	+	6	24	58	10.2	2	19.1	19	13	29	22.4	+	11	41	57	10.4	21	38.6
22	14	13	09.1	+	6	33	57	10.2	2	14.6	20	13	28	51.4	+	11	41	07	10.4	21	34.2
23	14	12	35.9	+	6	42	57	10.1	2	10.1	21	13	28	21.8	+	11	40	04	10.4	21	29.7
24	14	12	01.4	+	6	51	57	10.1	2	05.6	22	13	27	53.3	+	11	38	48	10.4	21	25.4
25	14	11	25.7	+	7	00	56	10.1	2	01.1	23	13	27	26.2	+	11	37	20	10.4	21	21.0
26	14	10	48.9	+	7	09	53	10.1	1	56.6	24	13	27	00.3	+	11	35	39	10.4	21	16.7
27	14	10	10.9	+	7	18	50	10.1	1	52.0	25	13	26	35.6	+	11	33	46	10.4	21	12.3
28	14	09	31.9	+	7	27	43	10.1	1	47.4	26	13	26	12.3	+	11	31	40	10.5	21	08.0
29	14	08	51.7	+	7	36	35	10.1	1	42.8	27	13	25	50.2	+	11	29	23	10.5	21	03.8
30	14	08	10.5	+	7	45	23	10.0	1	38.2	28	13	25	29.5	+	11	26	54	10.5	20	59.5
31	14	07	28.3	+	7	54	09	10.0	1	33.6	29	13	25	10.1	+	11	24	14	10.5	20	55.3
Apr. 1	14	06	45.1	+	8	02	50	10.0	1	28.9	30	13	24	51.9	+	11	21	22	10.5	20	51.1
2	14	06	01.0	+	8	11	27	10.0	1	24.3	31	13	24	35.1	+	11	18	19	10.5	20	46.9
3	14	05	16.0	+	8	19	59	10.0	1	19.6	June 1	13	24	19.7	+	11	15	05	10.6	20	42.7
4	14	04	30.2	+	8	28	25	10.0	1	14.9	2	13	24	05.5	+	11	11	41	10.6	20	38.5
5	14	03	43.6	+	8	36	46	10.0	1	10.2	3	13	23	52.8	+	11	08	05	10.6	20	34.4
6	14	02	56.2	+	8	45	01	10.0	1	05.5	4	13	23	41.3	+	11	04	20	10.6	20	30.3
7	14	02	08.0	+	8	53	09	10.0	1	00.7	5	13	23	31.2	+	11	00	24	10.6	20	26.2
8	14	01	19.3	+	9	01	10	10.0	0	56.0	6	13	23	22.4	+	10	56	18	10.6	20	22.2
9	14	00	29.9	+	9	09	03	9.9	0	51.3	7	13	23	15.0	+	10	52	02	10.6	20	18.1
10	13	59	40.0	+	9	16	47	9.9	0	46.5	8	13	23	08.9	+	10	47	37	10.7	20	14.1
11	13	58	49.6	+	9	24	24	9.9	0	41.7	9	13	23	04.1	+	10	43	03	10.7	20	10.1
12	13	57	58.7	+	9	31	51	9.9	0	37.0	10	13	23	00.7	+	10	38	19	10.7	20	06.2
Apr. 13	13	57	07.4	+	9	39	09	9.9	0	32.2	June 11	13	22	58.6	+	10	33	26	10.7	20	02.2

Second transit for Hebe 2005 April 19^d 23^h 58^m6

IRIS, 2005
GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric			Vis. Mag.	Ephem- eris Transit	Date	Astrometric			Vis. Mag.	Ephem- eris Transit
	R.A.	Dec.					R.A.	Dec.			
	h m s	° ' "	° ' "				h m s	° ' "	° ' "		
2005 Apr. 5	17 19 26.3	-25 09 11	10.6	4 25.5	2005 June 3	16 47 25.8	-23 24 06	9.2	0 01.6		
6	17 19 37.5	-25 08 50	10.6	4 21.7	4	16 46 22.3	-23 20 38	9.2	23 51.6		
7	17 19 47.2	-25 08 26	10.6	4 18.0	5	16 45 18.9	-23 17 08	9.2	23 46.6		
8	17 19 55.4	-25 08 01	10.6	4 14.2	6	16 44 15.4	-23 13 35	9.2	23 41.6		
9	17 20 01.9	-25 07 33	10.5	4 10.3	7	16 43 12.1	-23 10 00	9.3	23 36.7		
10	17 20 06.9	-25 07 02	10.5	4 06.5	8	16 42 09.0	-23 06 24	9.3	23 31.7		
11	17 20 10.2	-25 06 29	10.5	4 02.6	9	16 41 06.1	-23 02 45	9.3	23 26.7		
Apr. 12	17 20 11.9	-25 05 54	10.5	3 58.7	10	16 40 03.5	-22 59 06	9.4	23 21.8		
13	17 20 12.0	-25 05 17	10.5	3 54.8	11	16 39 01.4	-22 55 25	9.4	23 16.8		
14	17 20 10.5	-25 04 37	10.4	3 50.8	12	16 37 59.6	-22 51 42	9.4	23 11.9		
15	17 20 07.4	-25 03 54	10.4	3 46.8	13	16 36 58.4	-22 47 59	9.4	23 06.9		
16	17 20 02.6	-25 03 10	10.4	3 42.8	14	16 35 57.8	-22 44 16	9.5	23 02.0		
17	17 19 56.1	-25 02 22	10.4	3 38.8	15	16 34 57.8	-22 40 32	9.5	22 57.1		
18	17 19 48.0	-25 01 32	10.4	3 34.7	16	16 33 58.5	-22 36 47	9.5	22 52.2		
19	17 19 38.3	-25 00 39	10.3	3 30.6	17	16 33 00.0	-22 33 03	9.5	22 47.3		
20	17 19 26.9	-24 59 44	10.3	3 26.5	18	16 32 02.2	-22 29 19	9.5	22 42.4		
21	17 19 13.8	-24 58 46	10.3	3 22.3	19	16 31 05.4	-22 25 35	9.6	22 37.6		
22	17 18 59.1	-24 57 45	10.3	3 18.1	20	16 30 09.5	-22 21 52	9.6	22 32.7		
23	17 18 42.7	-24 56 42	10.3	3 13.9	21	16 29 14.5	-22 18 10	9.6	22 27.9		
24	17 18 24.7	-24 55 35	10.2	3 09.7	22	16 28 20.5	-22 14 29	9.6	22 23.1		
25	17 18 05.0	-24 54 26	10.2	3 05.4	23	16 27 27.7	-22 10 49	9.7	22 18.3		
26	17 17 43.7	-24 53 14	10.2	3 01.1	24	16 26 35.9	-22 07 11	9.7	22 13.5		
27	17 17 20.7	-24 51 59	10.2	2 56.8	25	16 25 45.2	-22 03 34	9.7	22 08.8		
28	17 16 56.1	-24 50 40	10.2	2 52.5	26	16 24 55.8	-21 59 59	9.7	22 04.0		
29	17 16 29.8	-24 49 19	10.1	2 48.1	27	16 24 07.5	-21 56 27	9.7	21 59.3		
30	17 16 01.9	-24 47 54	10.1	2 43.7	28	16 23 20.5	-21 52 56	9.8	21 54.6		
May 1	17 15 32.4	-24 46 26	10.1	2 39.3	29	16 22 34.9	-21 49 28	9.8	21 50.0		
2	17 15 01.2	-24 44 55	10.1	2 34.8	30	16 21 50.5	-21 46 03	9.8	21 45.3		
3	17 14 28.5	-24 43 20	10.0	2 30.4	July 1	16 21 07.6	-21 42 41	9.8	21 40.7		
4	17 13 54.2	-24 41 42	10.0	2 25.9	2	16 20 26.0	-21 39 22	9.8	21 36.1		
5	17 13 18.3	-24 40 00	10.0	2 21.3	3	16 19 45.9	-21 36 06	9.9	21 31.5		
6	17 12 40.9	-24 38 15	10.0	2 16.8	4	16 19 07.2	-21 32 53	9.9	21 27.0		
7	17 12 02.0	-24 36 26	10.0	2 12.2	5	16 18 30.1	-21 29 44	9.9	21 22.4		
8	17 11 21.6	-24 34 34	9.9	2 07.6	6	16 17 54.4	-21 26 39	9.9	21 17.9		
9	17 10 39.7	-24 32 38	9.9	2 03.0	7	16 17 20.3	-21 23 38	9.9	21 13.5		
10	17 09 56.4	-24 30 38	9.9	1 58.3	8	16 16 47.8	-21 20 41	9.9	21 09.0		
11	17 09 11.7	-24 28 34	9.9	1 53.7	9	16 16 16.8	-21 17 48	10.0	21 04.6		
12	17 08 25.7	-24 26 27	9.8	1 49.0	10	16 15 47.4	-21 14 59	10.0	21 00.2		
13	17 07 38.4	-24 24 16	9.8	1 44.2	11	16 15 19.7	-21 12 15	10.0	20 55.8		
14	17 06 49.8	-24 22 01	9.8	1 39.5	12	16 14 53.6	-21 09 35	10.0	20 51.5		
15	17 05 59.9	-24 19 42	9.8	1 34.7	13	16 14 29.1	-21 07 00	10.0	20 47.2		
16	17 05 08.9	-24 17 19	9.7	1 30.0	14	16 14 06.2	-21 04 30	10.1	20 42.9		
17	17 04 16.7	-24 14 53	9.7	1 25.2	15	16 13 45.0	-21 02 04	10.1	20 38.6		
18	17 03 23.4	-24 12 23	9.7	1 20.4	16	16 13 25.4	-20 59 43	10.1	20 34.4		
19	17 02 29.1	-24 09 49	9.7	1 15.5	17	16 13 07.5	-20 57 28	10.1	20 30.2		
20	17 01 33.8	-24 07 11	9.6	1 10.7	18	16 12 51.2	-20 55 17	10.1	20 26.0		
21	17 00 37.5	-24 04 29	9.6	1 05.8	19	16 12 36.6	-20 53 11	10.1	20 21.9		
22	16 59 40.4	-24 01 44	9.6	1 00.9	20	16 12 23.7	-20 51 09	10.2	20 17.7		
23	16 58 42.4	-23 58 55	9.6	0 56.0	21	16 12 12.4	-20 49 13	10.2	20 13.6		
24	16 57 43.7	-23 56 02	9.5	0 51.1	22	16 12 02.7	-20 47 22	10.2	20 09.6		
25	16 56 44.2	-23 53 05	9.5	0 46.2	23	16 11 54.7	-20 45 37	10.2	20 05.5		
26	16 55 44.0	-23 50 05	9.5	0 41.3	24	16 11 48.2	-20 43 56	10.2	20 01.5		
27	16 54 43.2	-23 47 02	9.4	0 36.3	25	16 11 43.5	-20 42 20	10.2	19 57.5		
28	16 53 41.9	-23 43 55	9.4	0 31.4	26	16 11 40.3	-20 40 49	10.3	19 53.6		
29	16 52 40.1	-23 40 44	9.4	0 26.4	July 27	16 11 38.8	-20 39 23	10.3	19 49.6		
30	16 51 37.8	-23 37 31	9.3	0 21.5	28	16 11 38.8	-20 38 03	10.3	19 45.7		
31	16 50 35.2	-23 34 14	9.3	0 16.5	29	16 11 40.5	-20 36 47	10.3	19 41.8		
June 1	16 49 32.3	-23 30 54	9.3	0 11.5	30	16 11 43.7	-20 35 36	10.3	19 38.0		
2	16 48 29.1	-23 27 31	9.2	0 06.6	31	16 11 48.6	-20 34 31	10.3	19 34.1		
June 3	16 47 25.8	-23 24 06	9.2	0 01.6	Aug. 1	16 11 55.0	-20 33 30	10.4	19 30.3		

Second transit for Iris 2005 June 3^d 23^h 56^m6

FLORA, 2005
GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

G11

Date	Astrometric		Vis. Mag.	Ephem- eris Transit	Date	Astrometric		Vis. Mag.	Ephem- eris Transit
	R.A.	Dec.				R.A.	Dec.		
	h m s ° ' "	° ' "				h m s ° ' "	° ' "		
2004 Nov. 16	8 10 48.4	+17 26 35	9.7	4 28.9	2005 Jan. 14	7 46 34.4	+21 49 17	8.4	0 12.6
17	8 11 25.5	+17 26 44	9.7	4 25.5	15	7 45 25.0	+21 56 06	8.4	0 07.5
18	8 12 00.7	+17 27 00	9.7	4 22.2	16	7 44 15.8	+22 02 51	8.4	0 02.5
19	8 12 33.7	+17 27 25	9.7	4 18.8	17	7 43 06.9	+22 09 32	8.5	23 52.3
20	8 13 04.7	+17 27 59	9.6	4 15.4	18	7 41 58.4	+22 16 07	8.5	23 47.3
21	8 13 33.6	+17 28 42	9.6	4 11.9	19	7 40 50.4	+22 22 38	8.6	23 42.2
22	8 14 00.4	+17 29 34	9.6	4 08.4	20	7 39 43.0	+22 29 03	8.6	23 37.2
23	8 14 25.1	+17 30 35	9.6	4 04.9	21	7 38 36.3	+22 35 23	8.6	23 32.2
24	8 14 47.6	+17 31 46	9.6	4 01.3	22	7 37 30.5	+22 41 36	8.7	23 27.1
25	8 15 07.9	+17 33 06	9.5	3 57.7	23	7 36 25.6	+22 47 42	8.7	23 22.2
26	8 15 26.0	+17 34 36	9.5	3 54.1	24	7 35 21.8	+22 53 42	8.7	23 17.2
27	8 15 41.9	+17 36 16	9.5	3 50.4	25	7 34 19.0	+22 59 35	8.8	23 12.2
28	8 15 55.5	+17 38 06	9.5	3 46.7	26	7 33 17.5	+23 05 21	8.8	23 07.3
29	8 16 06.9	+17 40 06	9.5	3 42.9	27	7 32 17.3	+23 10 59	8.8	23 02.4
30	8 16 15.9	+17 42 17	9.4	3 39.2	28	7 31 18.5	+23 16 30	8.9	22 57.5
Dec. 1	8 16 22.7	+17 44 37	9.4	3 35.3	29	7 30 21.1	+23 21 52	8.9	22 52.7
2	8 16 27.1	+17 47 09	9.4	3 31.5	30	7 29 25.3	+23 27 07	8.9	22 47.8
Dec. 3	8 16 29.2	+17 49 50	9.4	3 27.6	31	7 28 31.1	+23 32 14	9.0	22 43.0
4	8 16 28.9	+17 52 43	9.4	3 23.6	Feb. 1	7 27 38.6	+23 37 13	9.0	22 38.3
5	8 16 26.3	+17 55 46	9.3	3 19.6	2	7 26 47.8	+23 42 04	9.0	22 33.5
6	8 16 21.3	+17 58 59	9.3	3 15.6	3	7 25 58.9	+23 46 47	9.1	22 28.8
7	8 16 13.8	+18 02 24	9.3	3 11.6	4	7 25 11.9	+23 51 21	9.1	22 24.1
8	8 16 04.0	+18 05 59	9.3	3 07.5	5	7 24 26.8	+23 55 47	9.1	22 19.5
9	8 15 51.8	+18 09 45	9.3	3 03.3	6	7 23 43.7	+24 00 05	9.2	22 14.9
10	8 15 37.2	+18 13 41	9.2	2 59.2	7	7 23 02.6	+24 04 14	9.2	22 10.3
11	8 15 20.2	+18 17 48	9.2	2 54.9	8	7 22 23.6	+24 08 15	9.2	22 05.7
12	8 15 00.7	+18 22 05	9.2	2 50.7	9	7 21 46.8	+24 12 08	9.2	22 01.2
13	8 14 39.0	+18 26 33	9.2	2 46.4	10	7 21 12.1	+24 15 53	9.3	21 56.7
14	8 14 14.8	+18 31 11	9.1	2 42.0	11	7 20 39.7	+24 19 29	9.3	21 52.3
15	8 13 48.3	+18 36 00	9.1	2 37.7	12	7 20 09.5	+24 22 57	9.3	21 47.9
16	8 13 19.6	+18 40 57	9.1	2 33.3	13	7 19 41.5	+24 26 17	9.4	21 43.6
17	8 12 48.5	+18 46 05	9.1	2 28.8	14	7 19 15.9	+24 29 29	9.4	21 39.2
18	8 12 15.2	+18 51 22	9.1	2 24.3	15	7 18 52.5	+24 32 33	9.4	21 34.9
19	8 11 39.7	+18 56 48	9.0	2 19.8	16	7 18 31.4	+24 35 30	9.5	21 30.7
20	8 11 02.0	+19 02 23	9.0	2 15.2	17	7 18 12.6	+24 38 18	9.5	21 26.5
21	8 10 22.1	+19 08 06	9.0	2 10.6	18	7 17 56.1	+24 40 59	9.5	21 22.3
22	8 09 40.2	+19 13 57	9.0	2 06.0	19	7 17 41.9	+24 43 32	9.5	21 18.2
23	8 08 56.3	+19 19 56	9.0	2 01.4	20	7 17 30.0	+24 45 57	9.6	21 14.1
24	8 08 10.3	+19 26 03	8.9	1 56.7	21	7 17 20.4	+24 48 16	9.6	21 10.0
25	8 07 22.4	+19 32 16	8.9	1 51.9	22	7 17 13.1	+24 50 26	9.6	21 06.0
26	8 06 32.7	+19 38 36	8.9	1 47.2	23	7 17 08.1	+24 52 30	9.6	21 02.0
27	8 05 41.1	+19 45 03	8.9	1 42.4	Feb. 24	7 17 05.2	+24 54 27	9.7	20 58.1
28	8 04 47.7	+19 51 35	8.8	1 37.6	25	7 17 04.7	+24 56 16	9.7	20 54.2
29	8 03 52.7	+19 58 12	8.8	1 32.7	26	7 17 06.3	+24 57 59	9.7	20 50.3
30	8 02 56.1	+20 04 54	8.8	1 27.9	27	7 17 10.1	+24 59 35	9.8	20 46.5
31	8 01 57.9	+20 11 40	8.8	1 23.0	28	7 17 16.1	+25 01 04	9.8	20 42.7
2005 Jan. 1	8 00 58.2	+20 18 31	8.7	1 18.0	Mar. 1	7 17 24.3	+25 02 26	9.8	20 38.9
2	7 59 57.2	+20 25 24	8.7	1 13.1	2	7 17 34.6	+25 03 42	9.8	20 35.2
3	7 58 54.9	+20 32 21	8.7	1 08.1	3	7 17 47.0	+25 04 51	9.9	20 31.5
4	7 57 51.5	+20 39 20	8.7	1 03.1	4	7 18 01.5	+25 05 54	9.9	20 27.8
5	7 56 46.9	+20 46 20	8.7	0 58.1	5	7 18 18.1	+25 06 51	9.9	20 24.2
6	7 55 41.3	+20 53 22	8.6	0 53.1	6	7 18 36.7	+25 07 41	9.9	20 20.6
7	7 54 34.9	+21 00 24	8.6	0 48.1	7	7 18 57.4	+25 08 25	10.0	20 17.0
8	7 53 27.6	+21 07 27	8.6	0 43.0	8	7 19 20.0	+25 09 03	10.0	20 13.5
9	7 52 19.7	+21 14 29	8.5	0 38.0	9	7 19 44.7	+25 09 35	10.0	20 10.0
10	7 51 11.3	+21 21 31	8.5	0 32.9	10	7 20 11.3	+25 10 01	10.0	20 06.5
11	7 50 02.4	+21 28 31	8.5	0 27.9	11	7 20 39.8	+25 10 20	10.1	20 03.1
12	7 48 53.2	+21 35 29	8.5	0 22.8	12	7 21 10.2	+25 10 34	10.1	19 59.7
13	7 47 43.9	+21 42 24	8.4	0 17.7	13	7 21 42.4	+25 10 42	10.1	19 56.3
Jan. 14	7 46 34.4	+21 49 17	8.4	0 12.6	Mar. 14	7 22 16.5	+25 10 44	10.1	19 53.0

Second transit for Flora 2005 January 16^d 23^h 57^m4

HYGIEA, 2005
GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric					Vis. Mag.	Ephem- eris Transit	Date	Astrometric					Vis. Mag.	Ephem- eris Transit								
	R.A.			Dec.					R.A.			Dec.											
	h	m	s	°	'				"	h	m	s	°			'	"	h	m				
2005 Jan. 27	12	36	53.4	-	8	50	14	10.6	4	11	0	2005 Mar. 27	12	14	09.2	-	7	53	02	9.3	23	51	7
28	12	37	05.1	-	8	53	25	10.6	4	07	3	28	12	13	23.5	-	7	48	22	9.3	23	47	0
29	12	37	15.6	-	8	56	28	10.5	4	03	5	29	12	12	37.8	-	7	43	39	9.3	23	42	3
30	12	37	24.9	-	8	59	24	10.5	3	59	7	30	12	11	52.2	-	7	38	53	9.4	23	37	6
31	12	37	32.8	-	9	02	12	10.5	3	55	9	31	12	11	06.8	-	7	34	04	9.4	23	32	9
Feb. 1	12	37	39.5	-	9	04	52	10.5	3	52	1	Apr. 1	12	10	21.7	-	7	29	13	9.4	23	28	3
2	12	37	44.8	-	9	07	24	10.5	3	48	3	2	12	09	36.9	-	7	24	20	9.4	23	23	6
3	12	37	48.8	-	9	09	47	10.4	3	44	4	3	12	08	52.5	-	7	19	26	9.4	23	18	9
4	12	37	51.5	-	9	12	02	10.4	3	40	5	4	12	08	08.4	-	7	14	30	9.4	23	14	3
Feb. 5	12	37	52.8	-	9	14	09	10.4	3	36	6	5	12	07	24.8	-	7	09	33	9.5	23	09	6
6	12	37	52.8	-	9	16	07	10.4	3	32	7	6	12	06	41.7	-	7	04	36	9.5	23	05	0
7	12	37	51.4	-	9	17	56	10.4	3	28	7	7	12	05	59.2	-	6	59	39	9.5	23	00	4
8	12	37	48.7	-	9	19	37	10.4	3	24	7	8	12	05	17.3	-	6	54	42	9.5	22	55	7
9	12	37	44.7	-	9	21	09	10.3	3	20	7	9	12	04	36.0	-	6	49	46	9.6	22	51	1
10	12	37	39.2	-	9	22	32	10.3	3	16	7	10	12	03	55.4	-	6	44	51	9.6	22	46	5
11	12	37	32.4	-	9	23	46	10.3	3	12	6	11	12	03	15.6	-	6	39	58	9.6	22	42	0
12	12	37	24.3	-	9	24	51	10.3	3	08	6	12	12	02	36.6	-	6	35	06	9.6	22	37	4
13	12	37	14.8	-	9	25	47	10.2	3	04	5	13	12	01	58.5	-	6	30	16	9.6	22	32	8
14	12	37	03.9	-	9	26	33	10.2	3	00	4	14	12	01	21.2	-	6	25	29	9.7	22	28	3
15	12	36	51.8	-	9	27	11	10.2	2	56	2	15	12	00	44.8	-	6	20	45	9.7	22	23	8
16	12	36	38.2	-	9	27	40	10.2	2	52	1	16	12	00	09.4	-	6	16	04	9.7	22	19	3
17	12	36	23.4	-	9	27	59	10.2	2	47	9	17	11	59	35.0	-	6	11	26	9.7	22	14	8
18	12	36	07.2	-	9	28	09	10.1	2	43	7	18	11	59	01.6	-	6	06	52	9.7	22	10	3
19	12	35	49.8	-	9	28	09	10.1	2	39	5	19	11	58	29.3	-	6	02	22	9.8	22	05	9
20	12	35	31.0	-	9	28	01	10.1	2	35	2	20	11	57	58.0	-	5	57	57	9.8	22	01	5
21	12	35	11.0	-	9	27	43	10.1	2	31	0	21	11	57	27.9	-	5	53	36	9.8	21	57	0
22	12	34	49.7	-	9	27	16	10.1	2	26	7	22	11	56	58.9	-	5	49	19	9.8	21	52	6
23	12	34	27.1	-	9	26	39	10.0	2	22	4	23	11	56	31.0	-	5	45	08	9.8	21	48	3
24	12	34	03.3	-	9	25	53	10.0	2	18	0	24	11	56	04.3	-	5	41	03	9.9	21	43	9
25	12	33	38.2	-	9	24	58	10.0	2	13	7	25	11	55	38.9	-	5	37	02	9.9	21	39	6
26	12	33	12.0	-	9	23	54	10.0	2	09	3	26	11	55	14.6	-	5	33	08	9.9	21	35	3
27	12	32	44.6	-	9	22	40	10.0	2	04	9	27	11	54	51.6	-	5	29	19	9.9	21	31	0
28	12	32	16.0	-	9	21	17	9.9	2	00	5	28	11	54	29.9	-	5	25	37	9.9	21	26	7
Mar. 1	12	31	46.2	-	9	19	45	9.9	1	56	1	29	11	54	09.4	-	5	22	01	9.9	21	22	4
2	12	31	15.4	-	9	18	04	9.9	1	51	7	30	11	53	50.2	-	5	18	31	10.0	21	18	2
3	12	30	43.4	-	9	16	14	9.9	1	47	2	May 1	11	53	32.3	-	5	15	08	10.0	21	14	0
4	12	30	10.4	-	9	14	14	9.8	1	42	7	2	11	53	15.7	-	5	11	52	10.0	21	09	8
5	12	29	36.4	-	9	12	06	9.8	1	38	2	3	11	53	00.5	-	5	08	43	10.0	21	05	6
6	12	29	01.3	-	9	09	48	9.8	1	33	7	4	11	52	46.5	-	5	05	41	10.0	21	01	5
7	12	28	25.3	-	9	07	22	9.8	1	29	2	5	11	52	34.0	-	5	02	46	10.1	20	57	4
8	12	27	48.3	-	9	04	47	9.7	1	24	6	6	11	52	22.7	-	4	59	59	10.1	20	53	3
9	12	27	10.5	-	9	02	04	9.7	1	20	1	7	11	52	12.9	-	4	57	20	10.1	20	49	2
10	12	26	31.8	-	8	59	13	9.7	1	15	5	8	11	52	04.4	-	4	54	48	10.1	20	45	2
11	12	25	52.3	-	8	56	13	9.7	1	10	9	9	11	51	57.3	-	4	52	24	10.1	20	41	1
12	12	25	12.0	-	8	53	05	9.7	1	06	3	10	11	51	51.5	-	4	50	08	10.1	20	37	1
13	12	24	31.0	-	8	49	50	9.6	1	01	7	11	11	51	47.2	-	4	48	00	10.2	20	33	1
14	12	23	49.3	-	8	46	27	9.6	0	57	1	12	11	51	44.2	-	4	46	00	10.2	20	29	2
15	12	23	07.0	-	8	42	57	9.6	0	52	4	May 13	11	51	42.6	-	4	44	08	10.2	20	25	2
16	12	22	24.2	-	8	39	19	9.6	0	47	8	14	11	51	42.3	-	4	42	25	10.2	20	21	3
17	12	21	40.8	-	8	35	35	9.5	0	43	2	15	11	51	43.5	-	4	40	50	10.2	20	17	4
18	12	20	56.9	-	8	31	45	9.5	0	38	5	16	11	51	46.0	-	4	39	23	10.2	20	13	5
19	12	20	12.6	-	8	27	48	9.5	0	33	8	17	11	51	49.8	-	4	38	05	10.3	20	09	7
20	12	19	28.0	-	8	23	45	9.5	0	29	2	18	11	51	55.0	-	4	36	54	10.3	20	05	9
21	12	18	43.0	-	8	19	37	9.4	0	24	5	19	11	52	01.5	-	4	35	53	10.3	20	02	1
22	12	17	57.7	-	8	15	23	9.4	0	19	8	20	11	52	09.4	-	4	34	59	10.3	19	58	3
23	12	17	12.3	-	8	11	04	9.4	0	15	1	21	11	52	18.6	-	4	34	14	10.3	19	54	5
24	12	16	26.6	-	8	06	40	9.4	0	10	4	22	11	52	29.0	-	4	33	37	10.3	19	50	8
25	12	15	40.9	-	8	02	11	9.4	0	05	7	23	11	52	40.8	-	4	33	09	10.4	19	47	1
26	12	14	55.1	-	7	57	39	9.3	0	01	0	24	11	52	53.9	-	4	32	48	10.4	19	43	4
Mar. 27	12	14	09.2	-	7	53	02	9.3	23	51	7	May 25	11	53	08.3	-	4	32	36	10.4	19	39	7

Second transit for Hygiea 2005 March 26^d 23^h 56^m4

GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric					Vis. Mag.	Ephem- eris Transit	Date	Astrometric					Vis. Mag.	Ephem- eris Transit				
	R.A.		Dec.						R.A.		Dec.								
	h	m	s	°	'				"	h	m	s	°			'	"		
2005 Mar. 2	14	41	39.4	-30	26	40	10.7	4	01.8	2005 Apr. 30	14	06	43.3	-30	23	37	9.8	23	30.1
3	14	41	41.7	-30	31	02	10.6	3	57.9	May 1	14	05	46.9	-30	18	18	9.8	23	25.3
Mar. 4	14	41	42.5	-30	35	17	10.6	3	54.0	2	14	04	50.7	-30	12	49	9.8	23	20.4
5	14	41	41.9	-30	39	26	10.6	3	50.0	3	14	03	55.0	-30	07	12	9.8	23	15.6
6	14	41	39.7	-30	43	28	10.6	3	46.0	4	14	02	59.6	-30	01	27	9.8	23	10.7
7	14	41	36.0	-30	47	24	10.6	3	42.0	5	14	02	04.8	-29	55	35	9.8	23	05.9
8	14	41	30.9	-30	51	12	10.6	3	38.0	6	14	01	10.4	-29	49	35	9.8	23	01.1
9	14	41	24.2	-30	54	54	10.6	3	34.0	7	14	00	16.7	-29	43	28	9.8	22	56.2
10	14	41	16.0	-30	58	28	10.5	3	29.9	8	13	59	23.6	-29	37	14	9.8	22	51.4
11	14	41	06.2	-31	01	55	10.5	3	25.8	9	13	58	31.2	-29	30	54	9.9	22	46.7
12	14	40	55.0	-31	05	14	10.5	3	21.7	10	13	57	39.6	-29	24	29	9.9	22	41.9
13	14	40	42.2	-31	08	25	10.5	3	17.5	11	13	56	48.8	-29	17	57	9.9	22	37.1
14	14	40	27.9	-31	11	29	10.5	3	13.4	12	13	55	58.8	-29	11	21	9.9	22	32.4
15	14	40	12.1	-31	14	24	10.5	3	09.2	13	13	55	09.7	-29	04	41	9.9	22	27.6
16	14	39	54.7	-31	17	11	10.4	3	05.0	14	13	54	21.6	-28	57	56	9.9	22	22.9
17	14	39	35.9	-31	19	50	10.4	3	00.7	15	13	53	34.4	-28	51	08	9.9	22	18.2
18	14	39	15.5	-31	22	20	10.4	2	56.4	16	13	52	48.3	-28	44	16	9.9	22	13.5
19	14	38	53.7	-31	24	41	10.4	2	52.1	17	13	52	03.2	-28	37	22	10.0	22	08.9
20	14	38	30.3	-31	26	53	10.4	2	47.8	18	13	51	19.2	-28	30	25	10.0	22	04.2
21	14	38	05.5	-31	28	56	10.4	2	43.5	19	13	50	36.4	-28	23	26	10.0	21	59.6
22	14	37	39.3	-31	30	50	10.3	2	39.1	20	13	49	54.7	-28	16	26	10.0	21	55.0
23	14	37	11.6	-31	32	35	10.3	2	34.7	21	13	49	14.2	-28	09	24	10.0	21	50.4
24	14	36	42.4	-31	34	10	10.3	2	30.3	22	13	48	34.9	-28	02	22	10.0	21	45.9
25	14	36	11.8	-31	35	35	10.3	2	25.9	23	13	47	56.8	-27	55	19	10.0	21	41.3
26	14	35	39.9	-31	36	50	10.3	2	21.4	24	13	47	20.0	-27	48	16	10.1	21	36.8
27	14	35	06.5	-31	37	55	10.3	2	16.9	25	13	46	44.5	-27	41	13	10.1	21	32.3
28	14	34	31.8	-31	38	49	10.2	2	12.4	26	13	46	10.3	-27	34	12	10.1	21	27.8
29	14	33	55.8	-31	39	34	10.2	2	07.9	27	13	45	37.4	-27	27	11	10.1	21	23.4
30	14	33	18.4	-31	40	07	10.2	2	03.3	28	13	45	05.8	-27	20	11	10.1	21	18.9
31	14	32	39.7	-31	40	30	10.2	1	58.7	29	13	44	35.6	-27	13	13	10.1	21	14.5
Apr. 1	14	31	59.8	-31	40	42	10.2	1	54.1	30	13	44	06.8	-27	06	18	10.1	21	10.1
2	14	31	18.6	-31	40	43	10.2	1	49.5	31	13	43	39.3	-26	59	24	10.2	21	05.8
3	14	30	36.2	-31	40	33	10.1	1	44.9	June 1	13	43	13.2	-26	52	34	10.2	21	01.4
4	14	29	52.7	-31	40	11	10.1	1	40.2	2	13	42	48.6	-26	45	47	10.2	20	57.1
5	14	29	08.0	-31	39	38	10.1	1	35.6	3	13	42	25.4	-26	39	02	10.2	20	52.8
6	14	28	22.2	-31	38	53	10.1	1	30.9	4	13	42	03.6	-26	32	22	10.2	20	48.5
7	14	27	35.3	-31	37	57	10.1	1	26.2	5	13	41	43.2	-26	25	46	10.2	20	44.3
8	14	26	47.4	-31	36	49	10.1	1	21.4	6	13	41	24.3	-26	19	14	10.3	20	40.0
9	14	25	58.6	-31	35	29	10.1	1	16.7	7	13	41	06.9	-26	12	46	10.3	20	35.8
10	14	25	08.8	-31	33	58	10.0	1	11.9	8	13	40	50.9	-26	06	24	10.3	20	31.7
11	14	24	18.2	-31	32	14	10.0	1	07.2	9	13	40	36.3	-26	00	06	10.3	20	27.5
12	14	23	26.8	-31	30	19	10.0	1	02.4	10	13	40	23.2	-25	53	54	10.3	20	23.4
13	14	22	34.5	-31	28	12	10.0	0	57.6	11	13	40	11.6	-25	47	48	10.3	20	19.3
14	14	21	41.6	-31	25	53	10.0	0	52.8	12	13	40	01.5	-25	41	47	10.3	20	15.2
15	14	20	48.0	-31	23	23	10.0	0	48.0	13	13	39	52.8	-25	35	52	10.4	20	11.1
16	14	19	53.8	-31	20	41	9.9	0	43.1	14	13	39	45.5	-25	30	04	10.4	20	07.1
17	14	18	59.1	-31	17	47	9.9	0	38.3	15	13	39	39.7	-25	24	21	10.4	20	03.1
18	14	18	03.8	-31	14	42	9.9	0	33.4	16	13	39	35.3	-25	18	45	10.4	19	59.1
19	14	17	08.2	-31	11	26	9.9	0	28.6	17	13	39	32.3	-25	13	16	10.4	19	55.2
20	14	16	12.1	-31	07	58	9.9	0	23.7	June 18	13	39	30.8	-25	07	54	10.4	19	51.2
21	14	15	15.7	-31	04	19	9.9	0	18.9	19	13	39	30.7	-25	02	39	10.4	19	47.3
22	14	14	19.1	-31	00	29	9.9	0	14.0	20	13	39	31.9	-24	57	30	10.5	19	43.4
23	14	13	22.2	-30	56	28	9.9	0	09.1	21	13	39	34.6	-24	52	29	10.5	19	39.5
24	14	12	25.2	-30	52	17	9.8	0	04.2	22	13	39	38.6	-24	47	34	10.5	19	35.7
25	14	11	28.1	-30	47	55	9.8	23	54.5	23	13	39	44.0	-24	42	47	10.5	19	31.9
26	14	10	31.0	-30	43	23	9.8	23	49.6	24	13	39	50.8	-24	38	08	10.5	19	28.1
27	14	09	33.9	-30	38	41	9.8	23	44.7	25	13	39	58.9	-24	33	35	10.5	19	24.3
28	14	08	36.9	-30	33	50	9.8	23	39.9	26	13	40	08.3	-24	29	11	10.5	19	20.5
29	14	07	40.0	-30	28	48	9.8	23	35.0	27	13	40	19.0	-24	24	53	10.6	19	16.8
Apr. 30	14	06	43.3	-30	23	37	9.8	23	30.1	June 28	13	40	31.1	-24	20	43	10.6	19	13.1

Second transit for Eunomia 2005 April 24^d 23^h 59^m4

PSYCHE, 2005
GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric				Vis. Mag.	Ephem- eris Transit	Date	Astrometric				Vis. Mag.	Ephem- eris Transit
	R.A.		Dec.					R.A.		Dec.			
	h	m	s	°				'	''	h	m		
2005 Oct. 9	5	26	15.4	+19	14	46	10.5	4	15	-1	9.4	23	53.6
10	5	26	36.0	+19	13	43	10.5	4	11	-5	9.4	23	48.7
11	5	26	55.0	+19	12	39	10.4	4	07	-9	9.4	23	43.9
12	5	27	12.4	+19	11	33	10.4	4	04	-3	9.4	23	39.0
13	5	27	28.1	+19	10	26	10.4	4	00	-6	9.4	23	34.2
14	5	27	42.1	+19	09	17	10.4	3	56	-9	9.4	23	29.3
15	5	27	54.5	+19	08	07	10.4	3	53	-1	9.5	23	24.5
16	5	28	05.2	+19	06	57	10.4	3	49	-4	9.5	23	19.7
17	5	28	14.2	+19	05	45	10.3	3	45	-6	9.5	23	14.8
18	5	28	21.5	+19	04	32	10.3	3	41	-8	9.5	23	10.0
19	5	28	27.1	+19	03	18	10.3	3	37	-9	9.6	23	05.2
20	5	28	31.0	+19	02	03	10.3	3	34	-1	9.6	23	00.5
Oct. 21	5	28	33.1	+19	00	47	10.3	3	30	-2	9.6	22	55.7
22	5	28	33.5	+18	59	30	10.3	3	26	-2	9.6	22	50.9
23	5	28	32.1	+18	58	13	10.2	3	22	-3	9.7	22	46.2
24	5	28	29.0	+18	56	55	10.2	3	18	-3	9.7	22	41.5
25	5	28	24.1	+18	55	36	10.2	3	14	-3	9.7	22	36.8
26	5	28	17.4	+18	54	16	10.2	3	10	-2	9.7	22	32.1
27	5	28	08.9	+18	52	56	10.2	3	06	-2	9.8	22	27.4
28	5	27	58.7	+18	51	35	10.1	3	02	-1	9.8	22	22.8
29	5	27	46.8	+18	50	14	10.1	2	57	-9	9.8	22	18.1
30	5	27	33.0	+18	48	52	10.1	2	53	-8	9.8	22	13.5
31	5	27	17.5	+18	47	30	10.1	2	49	-6	9.9	22	08.9
Nov. 1	5	27	00.3	+18	46	08	10.1	2	45	-3	9.9	22	04.4
2	5	26	41.3	+18	44	45	10.1	2	41	-1	9.9	21	59.8
3	5	26	20.6	+18	43	22	10.0	2	36	-8	9.9	21	55.3
4	5	25	58.2	+18	41	59	10.0	2	32	-5	10.0	21	50.8
5	5	25	34.2	+18	40	36	10.0	2	28	-2	10.0	21	46.3
6	5	25	08.4	+18	39	13	10.0	2	23	-8	10.0	21	41.9
7	5	24	41.0	+18	37	49	10.0	2	19	-4	10.0	21	37.5
8	5	24	12.0	+18	36	26	9.9	2	15	-0	10.1	21	33.1
9	5	23	41.5	+18	35	03	9.9	2	10	-6	10.1	21	28.7
10	5	23	09.3	+18	33	40	9.9	2	06	-1	10.1	21	24.4
11	5	22	35.7	+18	32	17	9.9	2	01	-6	10.1	21	20.0
12	5	22	00.6	+18	30	54	9.9	1	57	-1	10.2	21	15.8
13	5	21	24.0	+18	29	32	9.8	1	52	-6	10.2	21	11.5
14	5	20	46.0	+18	28	09	9.8	1	48	-0	10.2	21	07.3
15	5	20	06.6	+18	26	47	9.8	1	43	-4	10.2	21	03.1
16	5	19	25.9	+18	25	26	9.8	1	38	-8	10.2	20	58.9
17	5	18	43.8	+18	24	05	9.8	1	34	-2	10.3	20	54.7
18	5	18	00.5	+18	22	44	9.7	1	29	-5	10.3	20	50.6
19	5	17	16.0	+18	21	24	9.7	1	24	-9	10.3	20	46.5
20	5	16	30.4	+18	20	04	9.7	1	20	-2	10.3	20	42.4
21	5	15	43.6	+18	18	45	9.7	1	15	-5	10.4	20	38.4
22	5	14	55.7	+18	17	26	9.7	1	10	-7	10.4	20	34.4
23	5	14	06.9	+18	16	09	9.6	1	06	-0	10.4	20	30.4
24	5	13	17.1	+18	14	52	9.6	1	01	-2	10.4	20	26.4
25	5	12	26.4	+18	13	36	9.6	0	56	-5	10.4	20	22.5
26	5	11	34.8	+18	12	20	9.6	0	51	-7	10.5	20	18.6
27	5	10	42.5	+18	11	06	9.6	0	46	-9	10.5	20	14.7
28	5	09	49.5	+18	09	53	9.5	0	42	-1	10.5	20	10.8
29	5	08	55.8	+18	08	41	9.5	0	37	-3	10.5	20	07.0
30	5	08	01.6	+18	07	30	9.5	0	32	-4	10.5	20	03.2
Dec. 1	5	07	06.9	+18	06	21	9.5	0	27	-6	10.6	19	59.4
2	5	06	11.7	+18	05	13	9.4	0	22	-7	10.6	19	55.7
3	5	05	16.2	+18	04	06	9.4	0	17	-9	10.6	19	52.0
4	5	04	20.5	+18	03	01	9.4	0	13	-0	10.6	19	48.3
5	5	03	24.5	+18	01	58	9.4	0	08	-2	10.6	19	44.6
6	5	02	28.4	+18	00	56	9.4	0	03	-3	10.7	19	41.0
Dec. 7	5	01	32.3	+17	59	57	9.4	23	53	-6	10.7	19	37.4
2005 Dec. 7	5	01	32.3	+17	59	57	9.4	23	53	-6	9.4	23	53.6
8	5	00	36.1	+17	58	59	9.4	23	48	-7	9.4	23	48.7
9	4	59	40.1	+17	58	03	9.4	23	43	-9	9.4	23	43.9
10	4	58	44.2	+17	57	10	9.4	23	39	-0	9.4	23	39.0
11	4	57	48.6	+17	56	18	9.4	23	34	-2	9.4	23	34.2
12	4	56	53.3	+17	55	29	9.4	23	29	-3	9.4	23	29.3
13	4	55	58.4	+17	54	43	9.5	23	24	-5	9.5	23	24.5
14	4	55	03.9	+17	53	59	9.5	23	19	-7	9.5	23	19.7
15	4	54	09.9	+17	53	17	9.5	23	14	-8	9.5	23	14.8
16	4	53	16.4	+17	52	38	9.5	23	10	-0	9.5	23	10.0
17	4	52	23.7	+17	52	01	9.6	23	05	-2	9.6	23	05.2
18	4	51	31.5	+17	51	28	9.6	23	00	-5	9.6	23	00.5
19	4	50	40.2	+17	50	57	9.6	22	55	-7	9.6	22	55.7
20	4	49	49.6	+17	50	30	9.6	22	50	-9	9.6	22	50.9
21	4	49	00.0	+17	50	05	9.7	22	46	-2	9.7	22	46.2
22	4	48	11.2	+17	49	43	9.7	22	41	-5	9.7	22	41.5
23	4	47	23.4	+17	49	25	9.7	22	36	-8	9.7	22	36.8
24	4	46	36.7	+17	49	10	9.7	22	32	-1	9.7	22	32.1
25	4	45	51.0	+17	48	59	9.8	22	27	-4	9.8	22	27.4
26	4	45	06.5	+17	48	50	9.8	22	22	-8	9.8	22	22.8
27	4	44	23.2	+17	48	46	9.8	22	18	-1	9.8	22	18.1
28	4	43	41.1	+17	48	45	9.8	22	13	-5	9.8	22	13.5
29	4	43	00.2	+17	48	48	9.9	22	08	-9	9.9	22	08.9
30	4	42	20.7	+17	48	54	9.9	22	04	-4	9.9	22	04.4
31	4	41	42.5	+17	49	04	9.9	21	59	-8	9.9	21	59.8
2006 Jan. 1	4	41	05.7	+17	49	18	9.9	21	55	-3	9.9	21	55.3
2	4	40	30.4	+17	49	36	10.0	21	50	-8	10.0	21	50.8
3	4	39	56.5	+17	49	58	10.0	21	46	-3	10.0	21	46.3
4	4	39	24.1	+17	50	24	10.0	21	41	-9	10.0	21	41.9
5	4	38	53.3	+17	50	54	10.0	21	37	-5	10.0	21	37.5
6	4	38	24.0	+17	51	27	10.1	21	33	-1	10.1	21	33.1
7	4	37	56.2	+17	52	05	10.1	21	28	-7	10.1	21	28.7
8	4	37	30.1	+17	52	47	10.1	21	24	-4	10.1	21	24.4
9	4	37	05.5	+17	53	32	10.1	21	20	-0	10.1	21	20.0
10	4	36	42.6	+17	54	22	10.2	21	15	-8	10.2	21	15.8
11	4	36	21.2	+17	55	15	10.2	21	11	-5	10.2	21	11.5
12	4	36	01.5	+17	56	13	10.2	21	07	-3	10.2	21	07.3
13	4	35	43.5	+17	57	14	10.2	21	03	-1	10.2	21	03.1
14	4	35	27.1	+17	58	19	10.2	20	58	-9	10.2	20	58.9
15	4	35	12.3	+17	59	28	10.3	20	54	-7	10.3	20	54.7
16	4	34	59.2	+18	00	41	10.3	20	50	-6	10.3	20	50.6
17	4	34	47.8	+18	01	57	10.3	20	46	-5	10.3	20	46.5
18	4	34	38.0	+18	03	18	10.3	20	42	-4	10.3	20	42.4
19	4	34	29.8	+18	04	42	10.4	20	38	-4	10.4	20	38.4
20	4	34	23.4	+18	06	09	10.4	20	34	-4			

EUROPA, 2005

G15

GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric		Vis. Mag.	Ephem- eris Transit	Date	Astrometric		Vis. Mag.	Ephem- eris Transit
	R.A.	Dec.				R.A.	Dec.		
	h m s ° ' "	° ' "				h m s ° ' "	° ' "		
2004 Dec. 5	9 26 00.6	+13 40 04	11.2	4 29.1	2005 Feb. 2	9 06 01.9	+17 34 21	9.9	0 17.1
6	9 26 19.8	+13 40 19	11.2	4 25.5	3	9 05 13.4	+17 40 35	9.9	0 12.4
7	9 26 37.7	+13 40 41	11.2	4 21.8	4	9 04 24.9	+17 46 47	10.0	0 07.7
8	9 26 54.2	+13 41 12	11.2	4 18.2	5	9 03 36.4	+17 52 57	10.0	0 02.9
9	9 27 09.3	+13 41 50	11.2	4 14.5	6	9 02 48.0	+17 59 05	10.0	23 53.5
10	9 27 22.9	+13 42 38	11.1	4 10.8	7	9 01 59.8	+18 05 11	10.1	23 48.7
11	9 27 35.1	+13 43 33	11.1	4 07.0	8	9 01 11.8	+18 11 13	10.1	23 44.0
12	9 27 45.8	+13 44 37	11.1	4 03.3	9	9 00 24.1	+18 17 13	10.1	23 39.3
13	9 27 55.1	+13 45 50	11.1	3 59.5	10	8 59 36.7	+18 23 09	10.2	23 34.6
14	9 28 02.9	+13 47 11	11.1	3 55.7	11	8 58 49.7	+18 29 01	10.2	23 29.9
15	9 28 09.2	+13 48 41	11.0	3 51.9	12	8 58 03.3	+18 34 49	10.2	23 25.2
16	9 28 14.0	+13 50 20	11.0	3 48.0	13	8 57 17.3	+18 40 33	10.2	23 20.5
17	9 28 17.4	+13 52 07	11.0	3 44.1	14	8 56 32.0	+18 46 12	10.3	23 15.8
Dec. 18	9 28 19.2	+13 54 04	11.0	3 40.2	15	8 55 47.3	+18 51 46	10.3	23 11.2
19	9 28 19.6	+13 56 09	11.0	3 36.3	16	8 55 03.4	+18 57 15	10.3	23 06.5
20	9 28 18.5	+13 58 22	11.0	3 32.3	17	8 54 20.2	+19 02 38	10.3	23 01.9
21	9 28 15.9	+14 00 45	10.9	3 28.4	18	8 53 37.8	+19 07 55	10.4	22 57.3
22	9 28 11.8	+14 03 17	10.9	3 24.4	19	8 52 56.3	+19 13 07	10.4	22 52.7
23	9 28 06.2	+14 05 57	10.9	3 20.3	20	8 52 15.7	+19 18 13	10.4	22 48.1
24	9 27 59.1	+14 08 46	10.9	3 16.3	21	8 51 36.0	+19 23 12	10.4	22 43.5
25	9 27 50.5	+14 11 43	10.9	3 12.2	22	8 50 57.4	+19 28 05	10.5	22 39.0
26	9 27 40.4	+14 14 50	10.8	3 08.1	23	8 50 19.8	+19 32 52	10.5	22 34.4
27	9 27 28.9	+14 18 05	10.8	3 04.0	24	8 49 43.2	+19 37 31	10.5	22 29.9
28	9 27 15.8	+14 21 28	10.8	2 59.8	25	8 49 07.8	+19 42 04	10.5	22 25.4
29	9 27 01.3	+14 25 00	10.8	2 55.6	26	8 48 33.6	+19 46 30	10.6	22 20.9
30	9 26 45.3	+14 28 41	10.8	2 51.4	27	8 48 00.6	+19 50 49	10.6	22 16.5
31	9 26 27.9	+14 32 30	10.7	2 47.2	28	8 47 28.7	+19 55 01	10.6	22 12.0
2005 Jan. 1	9 26 09.0	+14 36 27	10.7	2 43.0	Mar. 1	8 46 58.2	+19 59 06	10.6	22 07.6
2	9 25 48.6	+14 40 32	10.7	2 38.7	2	8 46 28.9	+20 03 03	10.6	22 03.2
3	9 25 26.8	+14 44 46	10.7	2 34.4	3	8 46 00.9	+20 06 53	10.7	21 58.8
4	9 25 03.6	+14 49 07	10.7	2 30.1	4	8 45 34.3	+20 10 35	10.7	21 54.5
5	9 24 39.1	+14 53 36	10.6	2 25.8	5	8 45 09.0	+20 14 10	10.7	21 50.2
6	9 24 13.1	+14 58 12	10.6	2 21.4	6	8 44 45.2	+20 17 38	10.7	21 45.8
7	9 23 45.8	+15 02 56	10.6	2 17.0	7	8 44 22.7	+20 20 58	10.8	21 41.6
8	9 23 17.1	+15 07 47	10.6	2 12.6	8	8 44 01.7	+20 24 10	10.8	21 37.3
9	9 22 47.2	+15 12 46	10.6	2 08.2	9	8 43 42.2	+20 27 15	10.8	21 33.1
10	9 22 15.9	+15 17 51	10.5	2 03.7	10	8 43 24.1	+20 30 11	10.8	21 28.9
11	9 21 43.5	+15 23 02	10.5	1 59.2	11	8 43 07.6	+20 33 01	10.8	21 24.7
12	9 21 09.8	+15 28 20	10.5	1 54.8	12	8 42 52.5	+20 35 42	10.9	21 20.5
13	9 20 34.9	+15 33 43	10.5	1 50.2	13	8 42 39.0	+20 38 16	10.9	21 16.4
14	9 19 58.9	+15 39 13	10.4	1 45.7	14	8 42 26.9	+20 40 42	10.9	21 12.3
15	9 19 21.9	+15 44 48	10.4	1 41.2	15	8 42 16.5	+20 43 00	10.9	21 08.2
16	9 18 43.8	+15 50 28	10.4	1 36.6	16	8 42 07.5	+20 45 10	10.9	21 04.1
17	9 18 04.6	+15 56 12	10.4	1 32.0	17	8 42 00.1	+20 47 13	11.0	21 00.1
18	9 17 24.5	+16 02 01	10.4	1 27.4	18	8 41 54.2	+20 49 09	11.0	20 56.1
19	9 16 43.5	+16 07 55	10.3	1 22.8	19	8 41 49.9	+20 50 57	11.0	20 52.1
20	9 16 01.7	+16 13 52	10.3	1 18.2	20	8 41 47.1	+20 52 37	11.0	20 48.2
21	9 15 19.0	+16 19 52	10.3	1 13.5	Mar. 21	8 41 45.9	+20 54 10	11.0	20 44.2
22	9 14 35.5	+16 25 56	10.3	1 08.9	22	8 41 46.2	+20 55 35	11.1	20 40.3
23	9 13 51.4	+16 32 02	10.2	1 04.2	23	8 41 48.0	+20 56 53	11.1	20 36.4
24	9 13 06.5	+16 38 11	10.2	0 59.6	24	8 41 51.3	+20 58 04	11.1	20 32.6
25	9 12 21.1	+16 44 22	10.2	0 54.9	25	8 41 56.1	+20 59 07	11.1	20 28.8
26	9 11 35.0	+16 50 34	10.2	0 50.2	26	8 42 02.4	+21 00 03	11.1	20 25.0
27	9 10 48.5	+16 56 48	10.1	0 45.5	27	8 42 10.2	+21 00 52	11.1	20 21.2
28	9 10 01.5	+17 03 03	10.1	0 40.8	28	8 42 19.4	+21 01 34	11.2	20 17.4
29	9 09 14.2	+17 09 19	10.1	0 36.1	29	8 42 30.2	+21 02 09	11.2	20 13.7
30	9 08 26.4	+17 15 35	10.0	0 31.3	30	8 42 42.4	+21 02 37	11.2	20 10.0
31	9 07 38.4	+17 21 51	10.0	0 26.6	31	8 42 56.0	+21 02 58	11.2	20 06.3
Feb. 1	9 06 50.2	+17 28 06	10.0	0 21.9	Apr. 1	8 43 11.0	+21 03 13	11.2	20 02.6
Feb. 2	9 06 01.9	+17 34 21	9.9	0 17.1	Apr. 2	8 43 27.5	+21 03 20	11.3	19 59.0

Second transit for Europa 2005 February 5^d 23^h 58^m2

GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric					Vis. Mag.	Ephem- eris Transit	Date	Astrometric					Vis. Mag.	Ephem- eris Transit										
	R.A.		Dec.						R.A.		Dec.														
	h	m	s	°	'				"	h	m	s	°			'	"	h	m						
2005 Nov. 22	8	31	23.7	+15	58	30	13.0	4	26.7							2006 Jan. 20	8	06	05.6	+17	22	58	11.8	0	09.5
23	8	31	28.1	+15	57	54	13.0	4	22.8							21	8	05	19.7	+17	25	50	11.8	0	04.8
24	8	31	31.4	+15	57	23	12.9	4	19.0							22	8	04	33.9	+17	28	43	11.8	0	00.1
25	8	31	33.5	+15	56	55	12.9	4	15.1							23	8	03	48.1	+17	31	35	11.8	23	50.7
Nov. 26	8	31	34.5	+15	56	32	12.9	4	11.1							24	8	03	02.4	+17	34	28	11.9	23	46.0
27	8	31	34.3	+15	56	14	12.9	4	07.2							25	8	02	16.8	+17	37	21	11.9	23	41.4
28	8	31	33.0	+15	56	00	12.9	4	03.2							26	8	01	31.4	+17	40	14	11.9	23	36.7
29	8	31	30.5	+15	55	51	12.9	3	59.3							27	8	00	46.2	+17	43	06	11.9	23	32.0
30	8	31	26.8	+15	55	46	12.9	3	55.3							28	8	00	01.3	+17	45	58	12.0	23	27.3
Dec. 1	8	31	22.0	+15	55	46	12.8	3	51.3							29	7	59	16.6	+17	48	50	12.0	23	22.7
2	8	31	16.0	+15	55	50	12.8	3	47.2							30	7	58	32.3	+17	51	41	12.0	23	18.0
3	8	31	08.8	+15	55	59	12.8	3	43.2							31	7	57	48.4	+17	54	31	12.0	23	13.4
4	8	31	00.5	+15	56	13	12.8	3	39.1				Feb. 1	7	57	04.9	+17	57	20	12.1	23	08.7			
5	8	30	51.0	+15	56	32	12.8	3	35.0				2	7	56	21.9	+18	00	09	12.1	23	04.1			
6	8	30	40.4	+15	56	55	12.8	3	30.9				3	7	55	39.4	+18	02	56	12.1	22	59.5			
7	8	30	28.6	+15	57	23	12.7	3	26.8				4	7	54	57.4	+18	05	42	12.1	22	54.8			
8	8	30	15.6	+15	57	55	12.7	3	22.6				5	7	54	16.0	+18	08	26	12.1	22	50.2			
9	8	30	01.5	+15	58	33	12.7	3	18.5				6	7	53	35.3	+18	11	09	12.2	22	45.6			
10	8	29	46.2	+15	59	15	12.7	3	14.3				7	7	52	55.2	+18	13	50	12.2	22	41.0			
11	8	29	29.8	+16	00	01	12.7	3	10.1				8	7	52	15.8	+18	16	30	12.2	22	36.5			
12	8	29	12.3	+16	00	53	12.7	3	05.8				9	7	51	37.1	+18	19	08	12.2	22	31.9			
13	8	28	53.6	+16	01	48	12.6	3	01.6				10	7	50	59.2	+18	21	44	12.2	22	27.4			
14	8	28	33.9	+16	02	49	12.6	2	57.3				11	7	50	22.1	+18	24	18	12.3	22	22.8			
15	8	28	13.0	+16	03	54	12.6	2	53.1				12	7	49	45.8	+18	26	50	12.3	22	18.3			
16	8	27	51.0	+16	05	03	12.6	2	48.8				13	7	49	10.3	+18	29	20	12.3	22	13.8			
17	8	27	28.0	+16	06	17	12.6	2	44.4				14	7	48	35.7	+18	31	48	12.3	22	09.3			
18	8	27	03.8	+16	07	35	12.5	2	40.1				15	7	48	02.0	+18	34	14	12.3	22	04.8			
19	8	26	38.6	+16	08	58	12.5	2	35.8				16	7	47	29.2	+18	36	38	12.4	22	00.4			
20	8	26	12.4	+16	10	25	12.5	2	31.4				17	7	46	57.4	+18	38	59	12.4	21	55.9			
21	8	25	45.1	+16	11	57	12.5	2	27.0				18	7	46	26.5	+18	41	18	12.4	21	51.5			
22	8	25	16.7	+16	13	32	12.5	2	22.6				19	7	45	56.6	+18	43	34	12.4	21	47.1			
23	8	24	47.4	+16	15	12	12.4	2	18.2				20	7	45	27.8	+18	45	48	12.4	21	42.7			
24	8	24	17.1	+16	16	56	12.4	2	13.7				21	7	45	00.0	+18	47	59	12.5	21	38.3			
25	8	23	45.8	+16	18	44	12.4	2	09.3				22	7	44	33.2	+18	50	08	12.5	21	34.0			
26	8	23	13.6	+16	20	35	12.4	2	04.8				23	7	44	07.5	+18	52	14	12.5	21	29.6			
27	8	22	40.4	+16	22	31	12.4	2	00.3				24	7	43	42.9	+18	54	18	12.5	21	25.3			
28	8	22	06.3	+16	24	31	12.3	1	55.8				25	7	43	19.4	+18	56	18	12.5	21	21.0			
29	8	21	31.4	+16	26	34	12.3	1	51.3				26	7	42	57.0	+18	58	16	12.5	21	16.7			
30	8	20	55.5	+16	28	40	12.3	1	46.8				27	7	42	35.8	+19	00	12	12.6	21	12.4			
31	8	20	18.9	+16	30	51	12.3	1	42.3				28	7	42	15.7	+19	02	04	12.6	21	08.2			
2006 Jan. 1	8	19	41.5	+16	33	04	12.3	1	37.7				Mar. 1	7	41	56.8	+19	03	54	12.6	21	04.0			
2	8	19	03.3	+16	35	21	12.2	1	33.2				2	7	41	39.1	+19	05	41	12.6	20	59.8			
3	8	18	24.4	+16	37	41	12.2	1	28.6				3	7	41	22.6	+19	07	24	12.6	20	55.6			
4	8	17	44.7	+16	40	04	12.2	1	24.0				4	7	41	07.2	+19	09	05	12.6	20	51.4			
5	8	17	04.4	+16	42	29	12.2	1	19.4				5	7	40	53.1	+19	10	43	12.7	20	47.2			
6	8	16	23.5	+16	44	57	12.1	1	14.8				6	7	40	40.2	+19	12	18	12.7	20	43.1			
7	8	15	42.0	+16	47	28	12.1	1	10.2				7	7	40	28.5	+19	13	50	12.7	20	39.0			
8	8	15	00.0	+16	50	02	12.1	1	05.5				8	7	40	18.0	+19	15	19	12.7	20	34.9			
9	8	14	17.4	+16	52	37	12.1	1	00.9				9	7	40	08.7	+19	16	45	12.7	20	30.9			
10	8	13	34.3	+16	55	15	12.0	0	56.2				10	7	40	00.7	+19	18	08	12.7	20	26.8			
11	8	12	50.8	+16	57	55	12.0	0	51.6				11	7	39	53.8	+19	19	28	12.8	20	22.8			
12	8	12	06.9	+17	00	36	12.0	0	46.9				12	7	39	48.2	+19	20	45	12.8	20	18.8			
13	8	11	22.6	+17	03	19	12.0	0	42.3				13	7	39	43.8	+19	21	59	12.8	20	14.8			
14	8	10	38.0	+17	06	04	11.9	0	37.6				14	7	39	40.6	+19	23	09	12.8	20	10.8			
15	8	09	53.1	+17	08	51	11.9	0	32.9				15	7	39	38.6	+19	24	17	12.8	20	06.9			
16	8	09	07.9	+17	11	38	11.9	0	28.2				Mar. 16	7	39	37.8	+19	25	22	12.8	20	02.9			
17	8	08	22.5	+17	14	27	11.8	0	23.6				17	7	39	38.2	+19	26	23	12.8	19	59.0			
18	8	07	37.0	+17	17	17	11.8	0	18.9				18	7	39	39.8	+19	27	22	12.9	19	55.1			
19	8	06	51.3	+17	20	07	11.8	0	14.2				19	7	39	42.6	+19	28	17	12.9	19	51.3			
Jan. 20	8	06	05.6	+17	22	58	11.8	0	09.5				Mar. 20	7	39	46.6	+19	29	09	12.9	19	47.4			

Second transit for Cybele 2006 January 22^d 23^h 55^m4

GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric				Vis. Mag.	Ephem- eris Transit	Date	Astrometric				Vis. Mag.	Ephem- eris Transit
	R.A.			Dec.				R.A.			Dec.		
	h	m	s	° / ' / "				h	m	s	° / ' / "		
2005 Apr. 9	17	35	32.0	-11 36 49	12.4	4 25.8	2005 June 7	17	07	47.0	-11 25 18	11.6	0 06.1
Apr. 10	17	35	33.2	-11 35 44	12.4	4 21.8	8	17	06	59.5	-11 26 35	11.6	0 01.4
11	17	35	33.3	-11 34 40	12.4	4 17.9	9	17	06	12.0	-11 27 57	11.6	23 52.0
12	17	35	32.3	-11 33 36	12.3	4 14.0	10	17	05	24.6	-11 29 22	11.6	23 47.2
13	17	35	30.1	-11 32 33	12.3	4 10.0	11	17	04	37.2	-11 30 51	11.6	23 42.5
14	17	35	26.7	-11 31 31	12.3	4 06.0	12	17	03	49.9	-11 32 23	11.6	23 37.8
15	17	35	22.2	-11 30 30	12.3	4 02.0	13	17	03	02.7	-11 33 59	11.6	23 33.1
16	17	35	16.5	-11 29 29	12.3	3 58.0	14	17	02	15.7	-11 35 39	11.6	23 28.4
17	17	35	09.7	-11 28 29	12.3	3 53.9	15	17	01	29.0	-11 37 23	11.6	23 23.7
18	17	35	01.7	-11 27 30	12.3	3 49.8	16	17	00	42.5	-11 39 10	11.6	23 19.0
19	17	34	52.5	-11 26 33	12.2	3 45.8	17	16	59	56.3	-11 41 01	11.7	23 14.3
20	17	34	42.2	-11 25 36	12.2	3 41.7	18	16	59	10.5	-11 42 56	11.7	23 09.6
21	17	34	30.8	-11 24 41	12.2	3 37.5	19	16	58	25.0	-11 44 54	11.7	23 04.9
22	17	34	18.2	-11 23 47	12.2	3 33.4	20	16	57	39.9	-11 46 56	11.7	23 00.3
23	17	34	04.5	-11 22 54	12.2	3 29.2	21	16	56	55.2	-11 49 01	11.7	22 55.6
24	17	33	49.6	-11 22 03	12.2	3 25.0	22	16	56	11.0	-11 51 10	11.7	22 51.0
25	17	33	33.6	-11 21 14	12.2	3 20.8	23	16	55	27.3	-11 53 22	11.7	22 46.3
26	17	33	16.5	-11 20 26	12.1	3 16.6	24	16	54	44.1	-11 55 38	11.8	22 41.7
27	17	32	58.2	-11 19 39	12.1	3 12.4	25	16	54	01.5	-11 57 57	11.8	22 37.0
28	17	32	38.9	-11 18 54	12.1	3 08.1	26	16	53	19.4	-12 00 20	11.8	22 32.4
29	17	32	18.4	-11 18 12	12.1	3 03.9	27	16	52	38.0	-12 02 46	11.8	22 27.8
30	17	31	56.8	-11 17 31	12.1	2 59.6	28	16	51	57.2	-12 05 16	11.8	22 23.2
May 1	17	31	34.2	-11 16 51	12.1	2 55.3	29	16	51	17.1	-12 07 49	11.8	22 18.6
2	17	31	10.4	-11 16 14	12.1	2 50.9	30	16	50	37.7	-12 10 25	11.9	22 14.1
3	17	30	45.6	-11 15 39	12.0	2 46.6	July 1	16	49	59.0	-12 13 04	11.9	22 09.5
4	17	30	19.7	-11 15 07	12.0	2 42.2	2	16	49	21.1	-12 15 47	11.9	22 04.9
5	17	29	52.8	-11 14 36	12.0	2 37.8	3	16	48	44.0	-12 18 33	11.9	22 00.4
6	17	29	24.8	-11 14 08	12.0	2 33.5	4	16	48	07.6	-12 21 22	11.9	21 55.9
7	17	28	55.8	-11 13 42	12.0	2 29.0	5	16	47	32.1	-12 24 14	11.9	21 51.4
8	17	28	25.8	-11 13 19	12.0	2 24.6	6	16	46	57.5	-12 27 09	11.9	21 46.9
9	17	27	54.8	-11 12 58	12.0	2 20.2	7	16	46	23.8	-12 30 08	12.0	21 42.4
10	17	27	22.9	-11 12 40	11.9	2 15.7	8	16	45	50.9	-12 33 09	12.0	21 38.0
11	17	26	50.0	-11 12 24	11.9	2 11.2	9	16	45	19.0	-12 36 13	12.0	21 33.5
12	17	26	16.3	-11 12 11	11.9	2 06.7	10	16	44	48.0	-12 39 21	12.0	21 29.1
13	17	25	41.6	-11 12 01	11.9	2 02.2	11	16	44	18.0	-12 42 31	12.0	21 24.7
14	17	25	06.0	-11 11 54	11.9	1 57.7	12	16	43	48.9	-12 45 44	12.0	21 20.3
15	17	24	29.7	-11 11 50	11.9	1 53.2	13	16	43	20.9	-12 48 59	12.1	21 15.9
16	17	23	52.5	-11 11 49	11.9	1 48.6	14	16	42	53.8	-12 52 18	12.1	21 11.5
17	17	23	14.5	-11 11 51	11.8	1 44.1	15	16	42	27.8	-12 55 39	12.1	21 07.2
18	17	22	35.7	-11 11 56	11.8	1 39.5	16	16	42	02.8	-12 59 03	12.1	21 02.8
19	17	21	56.2	-11 12 04	11.8	1 34.9	17	16	41	38.8	-13 02 29	12.1	20 58.5
20	17	21	16.0	-11 12 15	11.8	1 30.3	18	16	41	16.0	-13 05 57	12.1	20 54.2
21	17	20	35.1	-11 12 29	11.8	1 25.7	19	16	40	54.1	-13 09 28	12.1	20 49.9
22	17	19	53.6	-11 12 47	11.8	1 21.1	20	16	40	33.3	-13 13 02	12.2	20 45.7
23	17	19	11.5	-11 13 08	11.7	1 16.4	21	16	40	13.7	-13 16 37	12.2	20 41.4
24	17	18	28.7	-11 13 32	11.7	1 11.8	22	16	39	55.0	-13 20 15	12.2	20 37.2
25	17	17	45.4	-11 14 00	11.7	1 07.1	23	16	39	37.5	-13 23 55	12.2	20 33.0
26	17	17	01.6	-11 14 31	11.7	1 02.5	24	16	39	21.1	-13 27 37	12.2	20 28.8
27	17	16	17.3	-11 15 06	11.7	0 57.8	25	16	39	05.7	-13 31 21	12.2	20 24.7
28	17	15	32.5	-11 15 43	11.7	0 53.1	26	16	38	51.5	-13 35 07	12.3	20 20.5
29	17	14	47.3	-11 16 25	11.7	0 48.5	27	16	38	38.3	-13 38 55	12.3	20 16.4
30	17	14	01.7	-11 17 10	11.6	0 43.8	28	16	38	26.3	-13 42 45	12.3	20 12.2
31	17	13	15.8	-11 17 58	11.6	0 39.1	29	16	38	15.4	-13 46 37	12.3	20 08.2
June 1	17	12	29.5	-11 18 50	11.6	0 34.4	30	16	38	05.6	-13 50 31	12.3	20 04.1
2	17	11	42.9	-11 19 45	11.6	0 29.7	31	16	37	56.9	-13 54 27	12.3	20 00.0
3	17	10	56.1	-11 20 44	11.6	0 25.0	Aug. 1	16	37	49.3	-13 58 24	12.3	19 56.0
4	17	10	09.0	-11 21 47	11.6	0 20.3	2	16	37	42.9	-14 02 23	12.4	19 51.9
5	17	09	21.8	-11 22 54	11.6	0 15.6	3	16	37	37.5	-14 06 23	12.4	19 47.9
6	17	08	34.5	-11 24 04	11.6	0 10.8	4	16	37	33.3	-14 10 25	12.4	19 44.0
June 7	17	07	47.0	-11 25 18	11.6	0 06.1	Aug. 5	16	37	30.3	-14 14 28	12.4	19 40.0

Second transit for Davida 2005 June 8^d 23^h 56^m7

INTERAMNIA, 2005
GEOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME

Date	Astrometric					Vis. Mag.	Ephem- eris Transit	Date	Astrometric					Vis. Mag.	Ephem- eris Transit				
	R.A.			Dec.					R.A.			Dec.							
	h	m	s	°	'				"	h	m	s	°			'	"	h	m
2005 Mar. 30	16	44	21.1	-36	24	52	11.9	4	14.1	2005 May 28	16	12	49.0	-35	12	06	10.8	23	45.8
31	16	44	27.9	-36	26	39	11.9	4	10.3	29	16	11	52.9	-35	06	47	10.8	23	41.0
Apr. 1	16	44	33.2	-36	28	22	11.9	4	06.4	30	16	10	57.0	-35	01	20	10.8	23	36.1
2	16	44	37.1	-36	30	02	11.9	4	02.6	31	16	10	01.2	-34	55	46	10.8	23	31.3
3	16	44	39.4	-36	31	37	11.8	3	58.7	June 1	16	09	05.7	-34	50	04	10.8	23	26.4
Apr. 4	16	44	40.3	-36	33	09	11.8	3	54.7	2	16	08	10.5	-34	44	15	10.8	23	21.6
5	16	44	39.6	-36	34	36	11.8	3	50.8	3	16	07	15.7	-34	38	19	10.8	23	16.7
6	16	44	37.5	-36	35	59	11.8	3	46.8	4	16	06	21.3	-34	32	17	10.8	23	11.9
7	16	44	33.8	-36	37	18	11.8	3	42.8	5	16	05	27.4	-34	26	08	10.9	23	07.1
8	16	44	28.5	-36	38	32	11.8	3	38.8	6	16	04	34.0	-34	19	52	10.9	23	02.3
9	16	44	21.8	-36	39	42	11.7	3	34.8	7	16	03	41.1	-34	13	31	10.9	22	57.5
10	16	44	13.5	-36	40	46	11.7	3	30.7	8	16	02	49.0	-34	07	04	10.9	22	52.7
11	16	44	03.7	-36	41	46	11.7	3	26.6	9	16	01	57.5	-34	00	32	10.9	22	47.9
12	16	43	52.3	-36	42	40	11.7	3	22.5	10	16	01	06.7	-33	53	55	10.9	22	43.2
13	16	43	39.5	-36	43	29	11.7	3	18.3	11	16	00	16.8	-33	47	13	10.9	22	38.4
14	16	43	25.1	-36	44	13	11.6	3	14.2	12	15	59	27.7	-33	40	27	11.0	22	33.7
15	16	43	09.1	-36	44	51	11.6	3	10.0	13	15	58	39.4	-33	33	37	11.0	22	29.0
16	16	42	51.7	-36	45	23	11.6	3	05.7	14	15	57	52.1	-33	26	43	11.0	22	24.3
17	16	42	32.8	-36	45	49	11.6	3	01.5	15	15	57	05.7	-33	19	46	11.0	22	19.6
18	16	42	12.4	-36	46	10	11.6	2	57.2	16	15	56	20.3	-33	12	46	11.0	22	14.9
19	16	41	50.5	-36	46	24	11.6	2	52.9	17	15	55	36.0	-33	05	43	11.0	22	10.3
20	16	41	27.1	-36	46	32	11.5	2	48.6	18	15	54	52.8	-32	58	38	11.1	22	05.6
21	16	41	02.3	-36	46	33	11.5	2	44.2	19	15	54	10.6	-32	51	30	11.1	22	01.0
22	16	40	36.0	-36	46	28	11.5	2	39.9	20	15	53	29.6	-32	44	21	11.1	21	56.4
23	16	40	08.3	-36	46	16	11.5	2	35.5	21	15	52	49.7	-32	37	11	11.1	21	51.8
24	16	39	39.2	-36	45	57	11.5	2	31.1	22	15	52	11.0	-32	29	59	11.1	21	47.3
25	16	39	08.7	-36	45	30	11.4	2	26.6	23	15	51	33.5	-32	22	47	11.1	21	42.8
26	16	38	36.8	-36	44	57	11.4	2	22.2	24	15	50	57.3	-32	15	34	11.2	21	38.2
27	16	38	03.5	-36	44	16	11.4	2	17.7	25	15	50	22.3	-32	08	21	11.2	21	33.8
28	16	37	29.0	-36	43	28	11.4	2	13.2	26	15	49	48.6	-32	01	08	11.2	21	29.3
29	16	36	53.0	-36	42	31	11.4	2	08.6	27	15	49	16.1	-31	53	56	11.2	21	24.8
30	16	36	15.8	-36	41	27	11.3	2	04.1	28	15	48	45.0	-31	46	44	11.2	21	20.4
May 1	16	35	37.4	-36	40	15	11.3	1	59.5	29	15	48	15.2	-31	39	33	11.3	21	16.0
2	16	34	57.7	-36	38	55	11.3	1	54.9	30	15	47	46.8	-31	32	23	11.3	21	11.6
3	16	34	16.7	-36	37	26	11.3	1	50.3	July 1	15	47	19.8	-31	25	15	11.3	21	07.3
4	16	33	34.6	-36	35	49	11.2	1	45.7	2	15	46	54.1	-31	18	09	11.3	21	02.9
5	16	32	51.4	-36	34	03	11.2	1	41.0	3	15	46	29.8	-31	11	05	11.3	20	58.6
6	16	32	07.1	-36	32	08	11.2	1	36.4	4	15	46	06.9	-31	04	03	11.3	20	54.3
7	16	31	21.7	-36	30	05	11.2	1	31.7	5	15	45	45.5	-30	57	04	11.4	20	50.0
8	16	30	35.2	-36	27	53	11.2	1	27.0	6	15	45	25.5	-30	50	07	11.4	20	45.8
9	16	29	47.8	-36	25	32	11.1	1	22.3	7	15	45	06.9	-30	43	14	11.4	20	41.6
10	16	28	59.5	-36	23	02	11.1	1	17.5	8	15	44	49.7	-30	36	24	11.4	20	37.4
11	16	28	10.3	-36	20	22	11.1	1	12.8	9	15	44	34.0	-30	29	37	11.4	20	33.2
12	16	27	20.3	-36	17	34	11.1	1	08.0	10	15	44	19.8	-30	22	54	11.4	20	29.1
13	16	26	29.4	-36	14	36	11.1	1	03.3	11	15	44	07.0	-30	16	15	11.5	20	24.9
14	16	25	37.9	-36	11	29	11.0	0	58.5	12	15	43	55.6	-30	09	40	11.5	20	20.8
15	16	24	45.6	-36	08	13	11.0	0	53.7	13	15	43	45.8	-30	03	09	11.5	20	16.8
16	16	23	52.7	-36	04	48	11.0	0	48.9	14	15	43	37.3	-29	56	42	11.5	20	12.7
17	16	22	59.3	-36	01	14	11.0	0	44.0	15	15	43	30.3	-29	50	20	11.5	20	08.7
18	16	22	05.3	-35	57	30	11.0	0	39.2	16	15	43	24.8	-29	44	03	11.5	20	04.7
19	16	21	10.9	-35	53	37	10.9	0	34.4	17	15	43	20.7	-29	37	50	11.6	20	00.7
20	16	20	16.0	-35	49	35	10.9	0	29.5	18	15	43	18.0	-29	31	43	11.6	19	56.7
21	16	19	20.8	-35	45	25	10.9	0	24.7	July 19	15	43	16.7	-29	25	40	11.6	19	52.8
22	16	18	25.3	-35	41	05	10.9	0	19.8	20	15	43	16.9	-29	19	43	11.6	19	48.9
23	16	17	29.6	-35	36	37	10.9	0	15.0	21	15	43	18.4	-29	13	50	11.6	19	45.0
24	16	16	33.6	-35	31	59	10.9	0	10.1	22	15	43	21.4	-29	08	03	11.6	19	41.1
25	16	15	37.5	-35	27	14	10.9	0	05.3	23	15	43	25.7	-29	02	21	11.7	19	37.3
26	16	14	41.4	-35	22	19	10.8	0	00.4	24	15	43	31.4	-28	56	44	11.7	19	33.5
27	16	13	45.2	-35	17	17	10.8	23	50.7	25	15	43	38.5	-28	51	13	11.7	19	29.7
May 28	16	12	49.0	-35	12	06	10.8	23	45.8	July 26	15	43	46.9	-28	45	48	11.7	19	25.9

Second transit for Interamnia 2005 May 26^d 23^h 55^m5