



Mercury and Venus Transits 3000 BC–AD 7000 and Further Planetary Constellations

Hans Jelitto

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Abstract

This document contains the transit data of Mercury and Venus as well as the data of fourfold conjunctions (syzygy) of the planets Mercury, Venus, Earth, and Mars. Additionally, the “planetary positions” on the Giza plateau in the year 3088, according to the planetary correlation of the pyramids and the chambers in the Great Pyramid, are determined by coordinate transformation. All astronomical calculations are based on the VSOP87 theory.

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1. Introduction

It seems likely that a Mercury transit in the year AD 3088 plays an important role with respect to the Giza pyramids. Furthermore, a conjunction of the planets Mercury, Venus, Earth, and Mars will take place in the same year. These planetary arrangements are also called syzygy or linear constellation, and are included in chapters 4 to 6.

The following astronomical tables serve as supplemental information for the publications *Pyramiden, Planeten und Geheimkammern – Die Planetenkorrelation von Gizeh* [1], *Planetary Correlation of the Pyramids at Giza and Teotihuacán – P5 Program Description (4th extended edition)* [2], and *Pyramiden, Planeten und Geheimkammern II* [3] (in preparation). The calculations were performed using the P5 program [4] on the basis of the VSOP87 theory [5] and books by A. Danjon [6] and J. Meeus [7], respectively. For the planets Mercury, Venus, the Earth-Moon system, and Mars, VSOP87 is more precise than one arc second for the period 2000 BC–AD 6000 [5, p. 311]. Although the accuracy decreases for times further in the future or past, it is entirely sufficient for the given purpose (see also [2, pp. 61 ff.]). For the transit computation, we use the precisely measured solar radius of 695508 ± 26 km [8]. A brief technical description is provided at the beginning of the program outputs. In chapters 5 and 6 of this edition, the program outputs are extended by including the outer planets Jupiter to Neptune. The outputs are listed without change, as calculated by the P5 program. For a better understanding, the basics of a transit are briefly explained below.

When observing the Sun, a transit refers to a celestial body passing in front of the solar disk. If observing from Earth, the celestial body can only be the planet Mercury or Venus. (With regard to the Moon, this is not called a transit but a lunar eclipse.) It should be mentioned that, similar to the planets, the passage of the International Space Station (ISS) in front of the solar disk is also called a transit. From other celestial bodies, such as Mars, Jupiter, Saturn, etc., the transits of other planets and moons are possible, for example a transit of Earth or its Moon.

The essential data of a transit are the transit phases and the position angles. The phases are points in time when the small circular shape of the planet touches the Sun's limb from the outside or inside, and the moment of minimum separation from the solar center. These are commonly indicated using the numbers 1 to 4 or the Roman numbers I to IV, and m for the minimum separation. This can be seen in Fig. 1 for the Venus transits in the years 2004 and 2012. In the tables, the position angles are measured counterclockwise from the north direction, i.e., from the direction to the north celestial pole (see Fig. 1). In this figure, the horizontal direction from east to west corresponds to the apparent motion of the Sun in the sky due to the Earth's rotation. The (geocentric) phases are calculated as if we are observing from the center of the Earth. The real angles can differ slightly depending on the observation site on the Earth's surface. The transit data in the tables of this 6th edition (P5) are identical to those of P4 and the previous edition of P5 – only the format in the tables has changed, some figures have been added, and the text has been revised. For further details of the calculations, see [2].

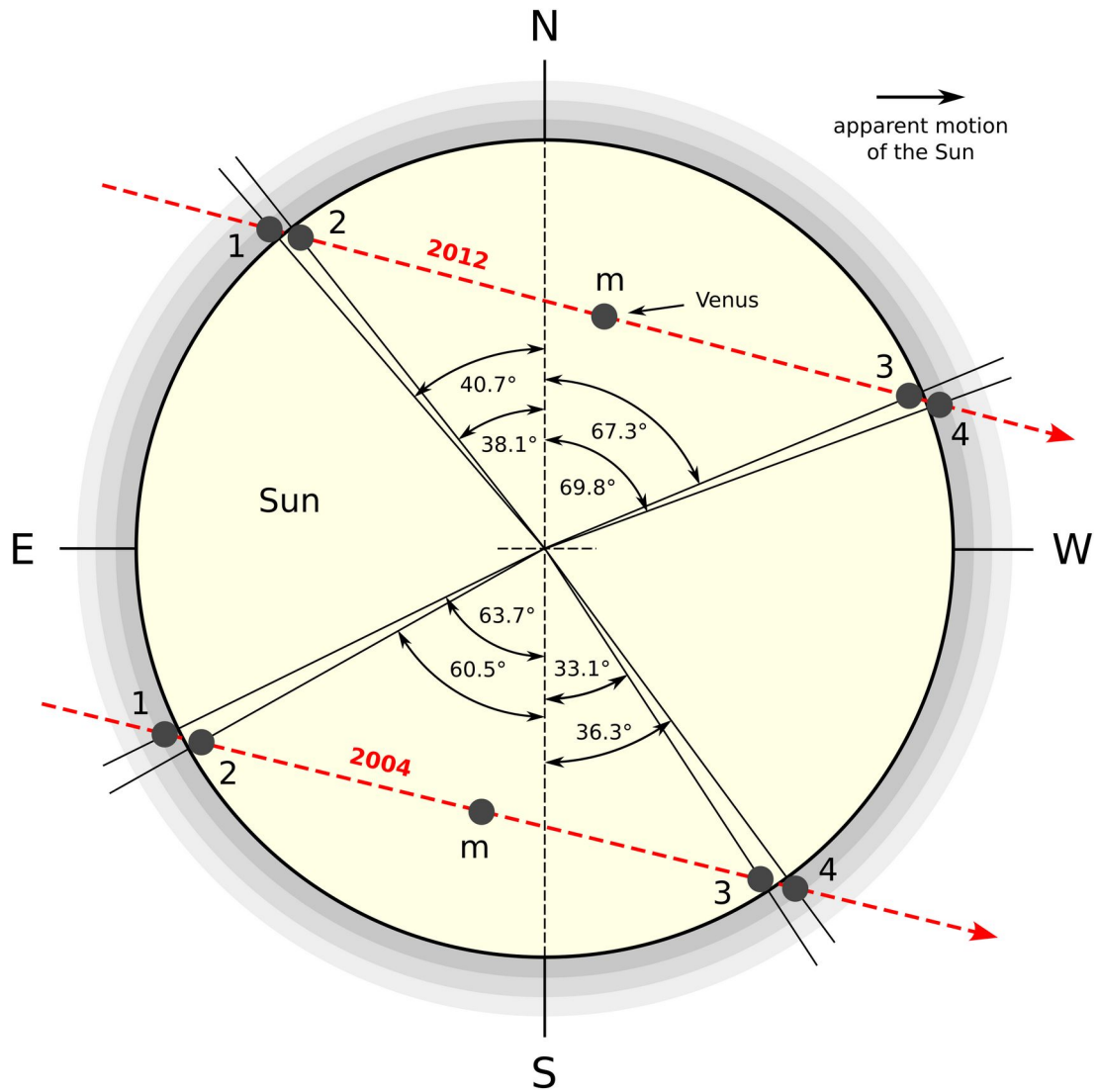


Figure 1: True-to-scale representation of the Venus transits on June 8, 2004 and June 5/6, 2012 (see data in the table, p. 46).

2. Mercury transits 3000 BC–AD 7000

Option 21: Table of the Mercury transits in the period 3000 BC–AD 7000. Brief explanation of the designations: I, II, nearest (separation), III, and IV indicate the transit phases and P1, P2, near., P3, and P4 are the corresponding position angles. Concerning the remote past and future, a decreasing accuracy needs to be taken into account. The column containing the numbers of significant constellations (see also the book *Pyramiden und Planeten* [9]) is indicated by co. The character p in the same header line represents a partial or central transit. In the data of the table, m is the partial transit, C the geocentric central transit, and c the non-geocentric central transit. Detailed information is provided in [2]. Note: The quick start option 21 for this program run exists in the current P5 version but not in the former version from June 2015 (P4, 2nd edition). Nevertheless, the following program output can be also reproduced with the P4 program (and the P5 program) by inserting the individual parameters one after the other. These are 0, 3, 1, 4, 2, 1, -3000, 7000, 1, and 2. The format of the table (P5) corresponds to the format used in [7, pp. 42 ff.]; the serial numbers S are calculated in accordance with the convention of the NASA Eclipse Web Site [10]. The transit phases in [7] are slightly different from our data because Meeus used a solar radius of 695,990 km [11] and we use 695,508 km [8].

P5 output:

TRANSITS OF MERCURY																	
(geocentric transit phases, terrestrial time TT)																	
< P5-option 21 > (monitor line width minimal 148 characters)																	
VSOP87C, comb. search, ecliptic of date, all Mercury transits																	
Period (years) from -3000.00 to 7000.00, Jul./Greg. calendar																	
co/p	date/	time:	I	II	nearest	III	IV	sep["]	a	P1	P2	near.	P3	P4	semidiameters ["]		S
=====																	
	9. Oct.-2992	15:56:31	15:58:46	17:56:6	19:53:26	19:55:40	660.8	/		79.63	79.09	32.02	344.95	344.41	975.29	4.98	-43
	4. Apr.-2988	6:20:42	6:23:52	10:24:7	14:24:18	14:27:28	115.0			49.00	48.91	325.94	242.97	242.88	943.78	6.09	-38
	3. Oct.-2985	16:34:29	16:36:51	18:28:48	20:20:46	20:23:7	-695.8	/		166.87	167.47	211.60	255.74	256.33	974.28	4.99	-37
m	7. Apr.-2975	18:26:59	--	18:59:59	--	19:32:58	-940.9			138.00	--	145.71	--	153.42	943.36	6.10	-40
	5. Oct.-2972	9:17:45	9:19:26	11:56:14	14:33:3	14:34:45	-208.6	/		134.09	134.22	211.81	289.39	289.52	974.67	4.98	-39
	8. Oct.-2959	2:43:12	2:44:55	5:18:40	7:52:26	7:54:10	275.7	/		105.61	105.44	31.96	318.47	318.30	975.01	4.98	-41
	10. Oct.-2946	20:57:50	21: 0:27	22:40:22	0:20:16	0:22:53	758.6	/		71.35	70.63	32.05	353.48	352.76	975.30	4.98	-43
	5. Apr.-2942	13: 7:51	13:11:1	17:12:10	21:13:16	21:16:26	-85.7			61.05	61.12	145.86	230.60	230.67	943.76	6.09	-38

3. Oct.,-2939	21: 7:31	21: 9:36	23:16:26	1:23:18	1:25:23	-595.6	/	159.14	159.59	211.69	263.79	264.25	974.37	4.99	-37
6. Oct.,-2926	14: 1:10	14: 2:50	16:42:18	19:21:49	19:23:28	-110.4	/	128.34	128.40	211.87	295.34	295.41	974.68	4.98	-39
9. Oct.,-2913	7:34:17	7:36: 4	10: 4: 1	12:31:58	12:33:45	374.0	/	99.57	99.32	32.00	324.68	324.44	974.99	4.98	-41
3. Apr.,-2909	13: 5:45	13:11: 4	15:31:40	17:52:14	17:57:33	762.8	/	2.69	1.67	326.06	290.46	289.44	944.19	6.09	-36
m 2. Oct.,-2906	--	--	10:35:17	--	--	-982.9	/	--	--	211.56	--	--	973.99	4.99	-35
11. Oct.,-2900	2: 8: 4	2:11:31	3:26:35	4:41:40	4:45: 7	857.2	/	61.11	60.03	32.08	4.14	3.06	975.33	4.98	-43
6. Apr.,-2896	20:15:29	20:18:47	0: 8:50	3:58:50	4: 2: 9	-294.0	/	73.82	74.07	145.78	217.50	217.74	943.72	6.10	-38
5. Oct.,-2893	1:44:19	1:46:14	4: 4:17	6:22:21	6:24:16	-496.4	/	152.22	152.57	211.77	270.98	271.32	974.41	4.99	-37
6. Oct.,-2880	18:46:22	18:48: 1	21:28:29	0: 9: 0	0:10:39	-11.1	/	122.57	122.58	211.94	301.29	301.29	974.77	4.98	-39
9. Oct.,-2867	12:27:50	12:29:43	14:49:44	17: 9:46	17:11:39	472.5	/	93.22	92.89	32.04	331.20	330.87	975.05	4.98	-41
3. Apr.,-2863	19: 7:48	19:11:41	22:26: 8	1:40:31	1:44:25	557.0	/	20.09	19.55	325.97	272.38	271.84	944.12	6.09	-36
2. Oct.,-2860	14:13:35	14:17:32	15:23:19	16:29: 7	16:33: 4	-884.4	/	186.25	187.52	211.65	235.78	237.05	974.03	4.99	-35
12. Oct.,-2854	7:35:46	7:43:55	8:12:20	8:40:45	8:48:54	954.9	/	45.16	42.32	32.10	21.89	19.05	975.31	4.98	-43
7. Apr.,-2850	3:27:51	3:31:33	6:57:11	10:22:48	10:26:30	-496.2	/	87.22	87.68	145.72	203.76	204.22	943.70	6.10	-38
5. Oct.,-2847	6:21:19	6:23: 8	8:49:41	11:16:16	11:18: 5	-397.4	/	145.77	146.04	211.84	277.65	277.91	974.43	4.99	-37
8. Oct.,-2834	23:32: 3	23:33:42	2:13:30	4:53:20	4:55: 0	87.7	/	116.84	116.79	31.99	307.18	307.13	974.76	4.98	-39
10. Oct.,-2821	17:24:44	17:26:46	19:36:17	21:45:49	21:47:51	571.6	/	86.40	85.98	32.08	338.18	337.76	975.10	4.98	-41
5. Apr.,-2817	1:36: 2	1:39:25	5:23:49	9: 8:10	9:11:33	349.0	/	34.34	34.05	325.88	257.71	257.42	944.09	6.09	-36
3. Oct.,-2814	18:33: 5	18:35:53	20:10: 0	21:44: 7	21:46:56	-786.0	/	175.13	175.93	211.73	247.53	248.33	974.02	4.99	-35
7. Apr.,-2804	11:11:33	11:16:18	13:55:38	16:34:58	16:39:43	-706.6	/	103.74	104.58	145.66	186.74	187.58	943.65	6.10	-38
6. Oct.,-2801	11: 1:53	11: 3:37	13:36:25	16: 9:15	16:10:59	-299.3	/	139.69	139.88	211.91	283.93	284.12	974.43	4.98	-37
8. Oct.,-2788	4:19:23	4:21: 4	6:58:30	9:35:58	9:37:39	186.5	/	111.05	110.94	32.03	313.12	313.01	974.79	4.98	-39
11. Oct.,-2775	22:22:49	22:25: 5	0:21: 5	2:17: 5	2:19:21	669.5	/	79.02	78.46	32.10	345.74	345.19	975.11	4.98	-41
5. Apr.,-2771	8: 8:51	8:12: 2	12:10:54	16: 9:42	16:12:53	147.3	/	46.90	46.78	325.80	244.82	244.71	944.03	6.09	-36
4. Oct.,-2768	23: 0:51	23: 3:11	0:56:41	2:50:12	2:52:32	-686.8	/	166.35	166.93	211.81	256.68	257.27	974.09	4.99	-35
8. Apr.,-2758	19:44:33	19:57:13	20:51:41	21:46: 9	21:58:49	-913.6	/	129.76	132.64	145.62	158.59	161.47	943.62	6.10	-38
6. Oct.,-2755	15:42:49	15:44:30	18:21:39	20:58:50	21: 0:31	-200.2	/	133.75	133.88	211.97	290.05	290.17	974.44	4.98	-37
9. Oct.,-2742	9: 9:13	9:10:57	11:44:19	14:17:43	14:19:27	284.1	/	105.21	105.03	32.07	319.10	318.92	974.77	4.98	-39
12. Oct.,-2729	3:27:56	3:30:37	5: 8:25	6:46:13	6:48:54	768.5	/	70.48	69.73	32.12	354.51	353.76	975.12	4.98	-41
6. Apr.,-2725	15: 1:17	15: 4:26	19: 5:56	23: 7:23	23:10:32	-58.9	/	59.30	59.35	145.73	232.13	232.17	943.99	6.09	-36
5. Oct.,-2722	3:32:53	3:34:58	5:42:50	7:50:43	7:52:48	-587.8	/	158.77	159.21	211.88	264.54	264.99	974.11	4.98	-35
7. Oct.,-2709	20:25:43	20:27:22	23: 7: 4	1:46:48	1:48:27	-101.7	/	127.97	128.03	212.01	295.99	296.06	974.49	4.98	-37
9. Oct.,-2696	14: 1:23	14: 3:11	16:30:30	18:57:50	18:59:37	383.5	/	99.05	98.80	32.10	325.39	325.14	974.82	4.98	-39
3. Apr.,-2692	15:10: 6	15:15:49	17:26: 1	19:36:12	19:41:55	790.0	/	359.71	358.58	325.92	293.25	292.12	944.39	6.09	-34
m 3. Oct.,-2689	16:54: 0	--	17: 2: 8	--	17:10:16	-977.5	/	208.91	--	211.77	--	214.64	973.75	4.99	-33

12. Oct.-2683	8:38:34	8:42:10	9:54:17	11: 6:25	11:10: 0	866.3 /	60.02	58.88	32.13	5.38	4.25	975.10	4.98	-41
7. Apr.-2679	21:59:36	22: 2:52	1:55:19	5:47:43	5:50:59	-262.0	71.70	71.91	145.67	219.45	219.66	943.93	6.09	-36
5. Oct.-2676	8: 6:52	8: 8:47	10:27:33	12:46:21	12:48:16	-489.6 /	151.93	152.27	211.94	271.61	271.95	974.14	4.98	-35
8. Oct.-2663	1: 9:36	1:11:15	3:51:48	6:32:23	6:34: 2	-2.9 /	122.22	122.22	212.10	301.89	301.89	974.49	4.98	-37
10. Oct.-2650	18:56:19	18:58:13	21:17:22	23:36:32	23:38:25	482.1 /	92.64	92.31	32.12	331.93	331.60	974.84	4.98	-39
5. Apr.-2646	21: 6:49	21:10:49	0:19:24	3:27:56	3:31:56	585.8	17.80	17.21	325.84	274.46	273.88	944.37	6.09	-34
3. Oct.-2643	20:36:42	20:40:31	21:48:54	22:57:17	23: 1: 6	-877.1 /	185.50	186.72	211.84	236.97	238.19	973.79	4.99	-33
13. Oct.-2637	14:10:54	14:22:26	14:39:37	14:56:48	15: 8:21	964.6 /	42.36	38.29	32.14	25.98	21.91	975.16	4.98	-41
8. Apr.-2633	5:20:41	5:24:19	8:53:34	12:22:48	12:26:26	-472.1	85.43	85.86	145.63	205.40	205.83	943.88	6.10	-36
6. Oct.-2630	12:45: 2	12:46:50	15:13:54	17:41: 0	17:42:48	-391.4 /	145.55	145.80	211.99	278.18	278.44	974.17	4.98	-35
9. Oct.-2617	5:56:47	5:58:26	8:38:11	11:17:57	11:19:36	95.6 /	116.49	116.43	32.09	307.75	307.69	974.53	4.98	-37
11. Oct.-2604	23:51:11	23:53:14	2: 1:45	4:10:18	4:12:21	579.9 /	85.85	85.42	32.14	338.85	338.42	974.85	4.98	-39
5. Apr.-2600	3:22:55	3:26:21	7: 6:49	10:47:13	10:50:39	383.3	32.00	31.67	325.77	259.87	259.54	944.31	6.09	-34
5. Oct.-2597	0:56:42	0:59:27	2:35:24	4:11:21	4:14: 6	-778.1 /	174.55	175.33	211.91	248.49	249.27	973.85	4.99	-33
8. Apr.-2587	12:52: 1	12:56:32	15:44:36	18:32:38	18:37: 9	-675.4	100.91	101.67	145.59	189.51	190.27	943.88	6.10	-36
6. Oct.-2584	17:24:48	17:26:32	19:59:52	22:33:13	22:34:57	-290.5 /	139.29	139.47	212.04	284.60	284.79	974.22	4.98	-35
9. Oct.-2571	10:45:36	10:47:17	13:24:32	16: 1:49	16: 3:30	193.7 /	110.71	110.59	32.12	313.64	313.52	974.55	4.98	-37
12. Oct.-2558	4:51: 9	4:53:26	6:48: 6	8:42:47	8:45: 5	677.8 /	78.38	77.81	32.14	346.48	345.91	974.88	4.98	-39
6. Apr.-2554	10: 1:29	10: 4:40	14: 1:57	17:59:10	18: 2:22	177.9	44.93	44.78	325.71	246.63	246.49	944.30	6.09	-34
5. Oct.-2551	5:23:51	5:26:10	7:21: 5	9:16: 1	9:18:19	-678.4 /	165.84	166.41	211.97	257.53	258.10	973.84	4.98	-33
9. Apr.-2541	21: 9:16	21:18:14	22:39:32	0: 0:50	0: 9:48	-883.4	123.99	125.96	145.56	165.16	167.14	943.81	6.10	-36
8. Oct.-2538	22: 7:12	22: 8:54	0:46:23	3:23:55	3:25:37	-191.9 /	133.38	133.49	212.08	290.66	290.78	974.26	4.98	-35
10. Oct.-2525	15:36:26	15:38:10	18:11: 5	20:44: 2	20:45:45	293.9 /	104.68	104.49	32.14	319.78	319.60	974.62	4.98	-37
12. Oct.-2512	9:54:37	9:57:20	11:33:23	13: 9:25	13:12: 9	776.6 /	69.73	68.95	32.15	355.34	354.56	974.92	4.98	-39
6. Apr.-2508	16:50: 9	16:53:18	20:54:57	0:56:33	0:59:42	-28.4	57.38	57.40	145.65	233.91	233.94	944.23	6.09	-34
6. Oct.-2505	9:55:35	9:57:38	12: 6:27	14:15:18	14:17:22	-580.6 /	158.39	158.83	212.02	265.21	265.64	973.88	4.98	-33
8. Oct.-2492	2:50:23	2:52: 3	5:31:57	8:11:54	8:13:33	-92.8 /	127.54	127.60	212.11	296.62	296.68	974.26	4.98	-35
10. Oct.-2479	20:29:12	20:31: 0	22:57:42	1:24:25	1:26:13	392.6 /	98.52	98.26	32.15	326.04	325.78	974.61	4.98	-37
4. Apr.-2475	17:16:37	17:22:52	19:21: 3	21:19:13	21:25:28	818.0	356.46	355.18	325.81	296.44	295.16	944.66	6.08	-32
3. Oct.-2472	23: 3:33	--	23:26:16	--	23:48:59	-968.9 /	203.92	--	211.94	--	219.96	973.48	4.99	-31
13. Oct.-2466	15: 5:50	15: 9:34	16:18:31	17:27:28	17:31:13	875.7 /	58.81	57.62	32.14	6.66	5.46	974.98	4.98	-39
8. Apr.-2462	23:56:49	0: 0: 3	3:54: 2	7:47:57	7:51:12	-237.9	70.12	70.31	145.61	220.92	221.12	944.17	6.09	-34
6. Oct.-2459	14:31: 1	14:32:55	16:52:29	19:12: 6	19:14: 0	-481.8 /	151.54	151.87	212.06	272.25	272.59	973.89	4.98	-33
9. Oct.-2446	7:37:24	7:39: 3	10:19:40	13: 0:19	13: 1:58	5.5 /	121.81	121.81	32.13	302.46	302.46	974.28	4.98	-35
12. Oct.-2433	1:22: 8	1:24: 2	3:42:22	6: 0:43	6: 2:37	491.0 /	92.07	91.73	32.15	332.58	332.24	974.64	4.98	-37

6. Apr.-2429	23: 4:41	23: 8:48	2:11: 1	5:13:12	5:17:19	614.8	15.46	14.83	325.75	276.67	276.03	944.58	6.09	-32
5. Oct.-2426	2:57:49	3: 1:31	4:12:19	5:23: 7	5:26:49	-870.1 /	184.76	185.93	212.00	238.06	239.23	973.53	4.98	-31
m 13. Oct.-2420	20:45:17	--	21: 3:11	--	21:21: 5	973.9 /	38.47	--	32.12	--	25.78	974.96	4.98	-39
8. Apr.-2416	7: 4:58	7: 8:32	10:42: 6	14:15:38	14:19:12	-441.0	83.24	83.63	145.58	207.54	207.93	944.14	6.09	-34
7. Oct.-2413	19: 9:15	19:11: 3	21:38:54	0: 6:46	0: 8:34	-381.4 /	145.02	145.27	212.10	278.92	279.17	973.94	4.98	-33
9. Oct.-2400	12:24:10	12:25:49	15: 5:28	17:45: 8	17:46:48	104.7 /	116.01	115.95	32.15	308.35	308.29	974.28	4.98	-35
12. Oct.-2387	6:18:22	6:20:26	8:27:55	10:35:24	10:37:29	588.5 /	85.23	84.79	32.15	339.51	339.07	974.65	4.98	-37
6. Apr.-2383	5:23:15	5:26:44	9: 3:42	12:40:36	12:44: 4	410.8	30.10	29.74	325.69	261.65	261.29	944.57	6.09	-32
5. Oct.-2380	7:17:37	7:20:20	8:57:52	10:35:24	10:38: 7	-770.9 /	174.02	174.78	212.04	249.31	250.07	973.54	4.98	-31
9. Apr.-2370	14:37:41	14:42: 1	17:37: 0	20:31:58	20:36:18	-648.2	98.58	99.28	145.56	191.85	192.55	944.06	6.10	-34
8. Oct.-2367	23:50:24	23:52: 7	2:25:55	4:59:45	5: 1:29	-282.7 /	138.91	139.09	212.13	285.17	285.35	973.96	4.98	-33
10. Oct.-2354	17:12:21	17:14: 2	19:51: 0	22:28: 0	22:29:41	203.7 /	110.15	110.03	32.16	314.29	314.16	974.35	4.98	-35
13. Oct.-2341	11:17:14	11:19:33	13:12:32	15: 5:32	15: 7:51	688.2 /	77.52	76.93	32.14	347.35	346.77	974.68	4.98	-37
7. Apr.-2337	11:55: 1	11:58:13	15:53:42	19:49: 6	19:52:19	207.1	43.08	42.91	325.65	248.39	248.23	944.49	6.09	-32
6. Oct.-2334	11:46:24	11:48:41	13:44:35	15:40:29	15:42:47	-672.6 /	165.50	166.06	212.08	258.11	258.67	973.63	4.98	-31
10. Apr.-2324	22:35:11	22:42:29	0:24: 9	2: 5:49	2:13: 7	-851.3	119.18	120.73	145.55	170.37	171.92	944.04	6.10	-34
9. Oct.-2321	4:31:39	4:33:20	7:11: 9	9:48:59	9:50:40	-184.6 /	133.01	133.13	212.15	291.17	291.28	974.00	4.98	-33
11. Oct.-2308	22: 1:27	22: 3:11	0:35:43	3: 8:17	3:10: 1	302.0 /	104.20	104.01	32.16	320.31	320.12	974.35	4.98	-35
13. Oct.-2295	16:20:56	16:23:43	17:57:36	19:31:28	19:34:15	786.2 /	68.76	67.96	32.12	356.29	355.49	974.70	4.98	-37
C 7. Apr.-2291	18:42:17	18:45:25	22:46:58	2:48:27	2:51:35	1.4	55.54	55.54	325.65	235.70	235.69	944.45	6.09	-32
6. Oct.-2288	16:19:13	16:21:16	18:31: 9	20:41: 4	20:43: 7	-572.3 /	157.90	158.33	212.12	265.90	266.33	973.65	4.98	-31
9. Oct.-2275	9:16:44	9:18:24	11:58:29	14:38:36	14:40:16	-85.7 /	127.18	127.23	212.16	297.09	297.14	974.06	4.98	-33
12. Oct.-2262	2:52:14	2:54: 3	5:20:15	7:46:29	7:48:18	399.9 /	98.06	97.79	32.16	326.52	326.25	974.41	4.98	-35
5. Apr.-2258	19:22:44	19:29:51	21:12:34	22:55:16	23: 2:23	849.1	352.52	351.00	325.75	300.49	298.98	944.91	6.08	-30
5. Oct.-2255	5:20: 8	5:30:59	5:50:24	6: 9:50	6:20:40	-961.2 /	201.36	205.15	212.07	218.98	222.77	973.25	4.98	-29
14. Oct.-2249	21:32:14	21:36: 9	22:42: 4	23:47:59	23:51:54	884.0 /	57.64	56.38	32.10	7.82	6.56	974.70	4.98	-37
9. Apr.-2245	1:34:21	1:37:34	5:33:34	9:29:31	9:32:44	-202.0	67.86	68.03	145.59	223.16	223.32	944.43	6.09	-32
7. Oct.-2242	20:56: 9	20:58: 3	23:18:34	1:39: 7	1:41: 0	-472.4 /	151.00	151.33	212.14	272.96	273.28	973.70	4.98	-31
10. Oct.-2229	14: 1:45	14: 3:24	16:44: 3	19:24:45	19:26:24	15.1 /	121.29	121.28	32.16	303.06	303.05	974.08	4.98	-33
12. Oct.-2216	7:46:33	7:48:28	10: 6: 4	12:23:41	12:25:36	498.8 /	91.53	91.18	32.14	333.10	332.76	974.43	4.98	-35
6. Apr.-2212	1: 4: 7	1: 8:24	4: 3:34	6:58:42	7: 2:58	644.5	13.04	12.35	325.70	279.05	278.36	944.89	6.08	-30
6. Oct.-2209	9:19:44	9:23:19	10:36:34	11:49:49	11:53:24	-862.6 /	183.96	185.08	212.10	239.12	240.25	973.27	4.98	-29
m 15. Oct.-2203	--	--	3:29:20	--	--	982.6 /	--	--	32.07	--	--	974.77	4.98	-37
9. Apr.-2199	8:50: 8	8:53:38	12:31: 4	16: 8:27	16:11:56	-410.4	81.16	81.52	145.58	209.64	210.00	944.38	6.09	-32
8. Oct.-2196	1:35:46	1:37:33	4: 6: 4	6:34:37	6:36:25	-372.8 /	144.55	144.79	212.16	279.53	279.77	973.70	4.98	-31

10. Oct.-2183	18:48:51	18:50:31	21:30:3	0: 9:38	0:11:18	113.8 /	115.49	115.42	32.17	308.91	308.84	974.12	4.98	-33
13. Oct.-2170	12:43:57	12:46:2	14:52:6	16:58:10	17: 0:15	599.8 /	84.36	83.91	32.12	340.34	339.88	974.46	4.98	-35
7. Apr.-2166	7:18:48	7:22:20	10:55:11	14:27:58	14:31:30	440.6	28.07	27.68	325.66	263.65	263.26	944.77	6.09	-30
6. Oct.-2163	13:42:15	13:44:55	15:24:8	17: 3:22	17: 6: 3	-763.2 /	173.40	174.14	212.13	250.13	250.87	973.33	4.98	-29
10. Apr.-2153	16:14:45	16:18:54	19:21:11	22:23:27	22:27:36	-616.7	96.03	96.67	145.57	194.48	195.12	944.33	6.10	-32
9. Oct.-2150	6:14:53	6:16:37	8:50:51	11:25:8	11:26:52	-275.1 /	138.49	138.67	212.17	285.67	285.84	973.74	4.98	-31
12. Oct.-2137	23:36:41	23:38:23	2:15:4	4:51:48	4:53:29	213.0 /	109.59	109.46	32.16	314.85	314.72	974.10	4.98	-33
13. Oct.-2124	17:45:19	17:47:40	19:39:1	21:30:22	21:32:44	698.0 /	76.65	76.05	32.09	348.14	347.54	974.47	4.98	-35
7. Apr.-2120	13:50:27	13:53:41	17:47:13	21:40:41	21:43:55	234.6	41.35	41.17	325.64	250.11	249.92	944.74	6.09	-30
7. Oct.-2117	18:10:37	18:12:53	20:10:15	22: 7:39	22: 9:55	-663.5 /	164.85	165.40	212.16	258.91	259.46	973.34	4.98	-29
11. Apr.-2107	0:14:36	0:21:3	2:16:32	4:12:0	4:18:27	-824.4	115.75	117.08	145.58	174.09	175.41	944.25	6.10	-32
9. Oct.-2104	10:56:51	10:58:32	13:36:42	16:14:54	16:16:35	-175.6 /	132.51	132.62	212.17	291.73	291.84	973.77	4.98	-31
12. Oct.-2091	4:26:25	4:28:9	7: 0:16	9:32:24	9:34:9	310.8 /	103.64	103.44	32.14	320.84	320.64	974.14	4.98	-33
15. Oct.-2078	22:49:28	22:52:19	0:23:53	1:55:27	1:58:18	796.0 /	67.70	66.87	32.06	357.25	356.42	974.48	4.98	-35
9. Apr.-2074	20:28:41	20:31:49	0:32:59	4:34:5	4:37:13	32.6	53.66	53.63	325.61	237.61	237.58	944.69	6.09	-30
8. Oct.-2071	22:43:40	22:45:42	0:56:35	3: 7:30	3: 9:32	-564.6 /	157.41	157.83	212.17	266.51	266.93	973.40	4.98	-29
10. Oct.-2058	15:39:40	15:41:19	18:21:37	21: 1:57	21: 3:37	-75.7 /	126.60	126.65	212.17	297.69	297.73	973.79	4.98	-31
13. Oct.-2045	9:18:21	9:20:10	11:45:39	14:11:10	14:12:59	410.0 /	97.37	97.10	32.12	327.14	326.87	974.14	4.98	-33
6. Apr.-2041	21:28:23	21:36:58	23: 0:36	0:24:14	0:32:48	880.5	347.97	346.08	325.72	305.37	303.48	945.16	6.08	-28
6. Oct.-2038	11:39:2	11:47:52	12:13:59	12:40:6	12:48:56	-955.3 /	199.77	202.83	212.15	221.46	224.52	973.02	4.98	-27
15. Oct.-2032	4: 4:20	4: 8:29	5:10:34	6:12:40	6:16:48	893.9 /	56.15	54.80	32.02	9.23	7.88	974.51	4.98	-35
9. Apr.-2028	3:26:28	3:29:39	7:26:55	11:24:7	11:27:18	-173.7	66.14	66.28	145.61	224.94	225.08	944.66	6.09	-30
9. Oct.-2025	3:19:45	3:21:38	5:42:54	8: 4:11	8: 6: 5	-465.0 /	150.55	150.87	212.18	273.48	273.80	973.44	4.98	-29
10. Oct.-2012	20:25:4	20:26:43	23: 7:26	1:48:11	1:49:50	22.7 /	120.83	120.82	32.16	303.50	303.48	973.82	4.98	-31
13. Oct.-1999	14:13:24	14:15:21	16:31:54	18:48:28	18:50:24	509.6 /	90.73	90.37	32.09	333.80	333.44	974.19	4.98	-33
7. Apr.-1995	3: 0:11	3: 4:39	5:51:15	8:37:47	8:42:16	677.6	10.27	9.51	325.69	281.88	281.12	945.09	6.08	-28
6. Oct.-1992	15:42:42	15:46:11	17: 2:3	18:17:56	18:21:24	-854.4 /	183.03	184.11	212.17	240.22	241.30	973.07	4.98	-27
10. Apr.-1982	10:30:22	10:33:47	14:14:56	17:56:1	17:59:26	-377.6	79.02	79.34	145.62	211.89	212.21	944.60	6.09	-30
9. Oct.-1979	7:57:10	7:58:58	10:28:1	12:57:6	12:58:53	-366.1 /	144.15	144.39	212.18	279.97	280.21	973.51	4.98	-29
12. Oct.-1966	1:11:59	1:13:39	3:53:5	6:32:34	6:34:14	122.1 /	114.98	114.90	32.14	309.37	309.30	973.86	4.98	-31
14. Oct.-1953	19:11:54	19:14:1	21:18:59	23:23:58	23:26:5	608.2 /	83.65	83.18	32.05	340.91	340.44	974.20	4.98	-33
8. Apr.-1949	9:12:32	9:16:8	12:44:33	16:12:54	16:16:30	470.3	26.05	25.62	325.67	265.72	265.30	945.09	6.08	-28
7. Oct.-1946	20: 5:7	20: 7:45	21:48:51	23:29:59	23:32:36	-754.2 /	172.63	173.35	212.18	251.00	251.72	973.07	4.98	-27
10. Apr.-1936	17:58:12	18: 2:13	21:10:56	0:19:38	0:23:38	-586.2	93.69	94.28	145.63	196.97	197.56	944.56	6.09	-30
10. Oct.-1933	12:37:52	12:39:35	15:14:23	17:49:13	17:50:56	-265.4 /	137.90	138.07	212.17	286.27	286.43	973.52	4.98	-29
12. Oct.-1920	6: 2:20	6: 4:1	8:40:27	11:16:54	11:18:36	221.7 /	109.02	108.89	32.11	315.34	315.20	973.92	4.98	-31

15. Oct., -1907	0:11:43	0:14:7	2: 3:58	3:53:50	3:56:14	706.6 /	75.82	75.21	32.00	348.80	348.18	974.26	4.98	-33
8. Apr., -1903	15:40:13	15:43:28	19:34:28	23:25:24	23:28:39	266.8	39.38	39.16	325.66	252.17	251.95	945.02	6.09	-28
8. Oct., -1900	0:34:18	0:36:33	2:35:19	4:34:7	4:36:22	-654.7 /	164.19	164.73	212.18	259.63	260.17	973.13	4.98	-27
12. Apr., -1890	1:47:59	1:53:46	4: 2:51	6:11:54	6:17:42	-793.6	112.24	113.38	145.65	177.92	179.06	944.56	6.10	-30
10. Oct., -1887	17:20:41	17:22:22	20: 0:55	22:39:30	22:41:11	-165.3 /	131.88	131.98	212.16	292.33	292.43	973.53	4.98	-29
13. Oct., -1874	10:53:30	10:55:15	13:26:47	15:58:20	16: 0:5	322.0 /	102.88	102.67	32.08	321.48	321.27	973.91	4.98	-31
16. Oct., -1861	5:17:57	5:20:53	6:50:5	8:19:18	8:22:14	805.7 /	66.59	65.73	31.95	358.17	357.31	974.29	4.98	-33
10. Apr., -1857	22:24:53	22:28:1	2:28:36	6:29:6	6:32:14	59.4	52.09	52.04	325.66	239.29	239.24	944.98	6.09	-28
9. Oct., -1854	5: 6:35	5: 8:36	7:20:35	9:32:35	9:34:36	-555.7 /	156.80	157.21	212.18	267.15	267.56	973.13	4.98	-27
12. Oct., -1841	22: 5:43	22: 7:22	0:47:52	3:28:25	3:30:4	-66.2 /	126.01	126.05	212.14	298.21	298.25	973.55	4.98	-29
13. Oct., -1828	15:46:48	15:48:38	18:13:19	20:38:2	20:39:52	420.7 /	96.59	96.31	32.03	327.76	327.48	973.95	4.98	-31
7. Apr., -1824	23:43:41	23:54:47	0:56:57	1:59:6	2:10:12	907.3	343.27	340.74	325.74	310.74	308.21	945.41	6.08	-26
7. Oct., -1821	17:57:33	18: 4:46	18:38:35	19:12:24	19:19:37	-946.3 /	197.62	200.09	212.18	224.27	226.75	972.74	4.98	-25
16. Oct., -1815	10:33:24	10:37:53	11:35:0	12:32:7	12:36:36	905.8 /	54.23	52.75	31.89	11.03	9.55	974.29	4.98	-33
10. Apr., -1811	5:15:36	5:18:46	9:17:7	13:15:25	13:18:34	-143.5	64.35	64.47	145.68	226.88	227.00	944.88	6.09	-28
9. Oct., -1808	9:41:45	9:43:37	12: 5:45	14:27:54	14:29:47	-456.2 /	149.97	150.28	212.17	274.06	274.37	973.20	4.98	-27
12. Oct., -1795	2:50:43	2:52:22	5:33:6	8:13:53	8:15:33	32.2 /	120.22	120.20	32.10	304.01	303.99	973.58	4.98	-29
14. Oct., -1782	20:41:46	20:43:43	22:59:15	1:14:48	1:16:45	519.8 /	89.92	89.55	31.99	334.42	334.05	973.94	4.98	-31
8. Apr., -1778	5: 3:42	5: 8:21	7:47:39	10:26:54	10:31:34	703.4	8.06	7.24	325.73	284.22	283.40	945.39	6.08	-26
7. Oct., -1775	22: 2:57	22: 6:20	23:24:35	0:42:50	0:46:13	-846.5 /	182.15	183.19	212.18	241.18	242.21	972.76	4.98	-25
11. Apr., -1765	12:25:21	12:28:43	16:12:20	19:55:54	19:59:16	-353.0	77.48	77.77	145.69	213.61	213.91	944.85	6.09	-28
10. Oct., -1762	14:20:33	14:22:19	16:52:6	19:21:54	19:23:41	-356.5 /	143.52	143.75	212.15	280.55	280.78	973.19	4.98	-27
13. Oct., -1749	7:39:24	7:41:5	10:20:22	12:59:41	13: 1:21	132.5 /	114.29	114.21	32.06	309.92	309.84	973.63	4.98	-29
15. Oct., -1736	1:37:25	1:39:33	3:43:16	5:47:0	5:49:8	617.7 /	82.81	82.33	31.93	341.52	341.04	973.99	4.98	-31
8. Apr., -1732	11: 9:53	11:13:34	14:37:4	18: 0:32	18: 4:12	500.5	23.99	23.53	325.72	267.92	267.46	945.30	6.08	-26
9. Oct., -1729	2:26:13	2:28:48	4:11:29	5:54:10	5:56:46	-746.7 /	171.96	172.66	212.18	251.69	252.39	972.85	4.98	-25
11. Apr., -1719	19:43:0	19:46:53	23: 1:8	2:15:20	2:19:13	-557.5	91.61	92.15	145.72	199.29	199.83	944.83	6.09	-28
10. Oct., -1716	19: 2:28	19: 4:11	21:30:28	0:14:49	0:16:32	-256.3 /	137.32	137.48	212.12	286.77	286.93	973.25	4.98	-27
13. Oct., -1703	12:28:22	12:30:4	15: 6:9	17:42:16	17:43:58	232.0 /	108.31	108.17	32.02	315.87	315.73	973.61	4.98	-29
16. Oct., -1690	6:37:57	6:40:23	8:28:21	10:16:19	10:18:45	717.2 /	74.77	74.13	31.87	349.60	348.96	974.00	4.98	-31
9. Apr., -1686	17:35:14	17:38:31	21:26:56	1:15:17	1:18:34	295.7	37.63	37.38	325.73	254.08	253.84	945.29	6.08	-26
9. Oct., -1683	6:55:29	6:57:43	8:57:49	10:57:57	11: 0:10	-646.2 /	163.52	164.05	212.16	260.28	260.80	972.88	4.98	-25
13. Apr., -1673	3:29:58	3:35:19	5:55:9	8:14:58	8:20:19	-765.4	109.36	110.38	145.76	181.13	182.16	944.76	6.09	-28
12. Oct., -1670	23:46:50	23:48:31	2:27:24	5: 6:20	5: 8:1	-156.2 /	131.28	131.37	212.09	292.81	292.90	973.31	4.98	-27
14. Oct., -1657	17:19:19	17:21:5	19:52:9	22:23:15	22:25:0	330.8 /	102.22	102.01	31.97	321.93	321.72	973.68	4.98	-29

16. Oct., -1644	11:43:42	11:46:44	13:13:16	14:39:48	14:42:49	816.2	/	65.32	64.42	31.79	359.17	358.27	974.03	4.98	-31
10. Apr., -1640	0:14:10	0:17:19	4:16:57	8:16:30	8:19:38	92.0		50.20	50.12	325.75	241.37	241.30	945.22	6.09	-26
10. Oct., -1637	11:30: 8	11:32: 8	13:45:22	15:58:38	16: 0:38	-545.4	/	156.04	156.44	212.14	267.85	268.24	972.92	4.98	-25
12. Oct., -1624	4:30:27	4:32: 6	7:12:47	9:53:30	9:55: 9	-56.8	/	125.38	125.42	212.05	298.68	298.72	973.35	4.98	-27
15. Oct., -1611	22:11:28	22:13:19	0:37:16	3: 1:15	3: 3: 5	430.5	/	95.82	95.53	31.91	328.29	328.00	973.72	4.98	-29
m 8. Apr., -1607	2: 8: 5	2:28:56	2:54:26	3:19:55	3:40:46	934.3		336.79	331.90	325.80	319.70	314.80	945.73	6.07	-24
8. Oct., -1604	0:15:41	0:21:53	1: 2:25	1:42:56	1:49: 8	-936.6	/	195.54	197.65	212.17	226.70	228.80	972.46	4.98	-23
17. Oct., -1598	17: 1:39	17: 6:27	17:59:29	18:52:32	18:57:20	914.7	/	52.62	51.02	31.72	12.41	10.81	974.09	4.98	-31
11. Apr., -1594	7:10:13	7:13:22	11:12:23	15:11:19	15:14:28	-118.5		62.93	63.02	145.77	228.53	228.62	945.20	6.09	-26
10. Oct., -1591	16: 7:31	16: 9:23	18:32:28	20:55:34	20:57:26	-446.2	/	149.26	149.56	212.11	274.66	274.96	972.91	4.98	-25
13. Oct., -1578	9:17:22	9:19: 1	11:59:46	14:40:34	14:42:13	43.6	/	119.45	119.43	32.00	304.58	304.55	973.36	4.98	-27
16. Oct., -1565	3: 5:17	3: 7:15	5:21:48	7:36:22	7:38:20	529.5	/	89.10	88.72	31.84	334.96	334.58	973.77	4.98	-29
9. Apr., -1561	7: 9:30	7:14:22	9:45:42	12:16:59	12:21:52	729.4		5.77	4.88	325.80	286.72	285.83	945.63	6.08	-24
9. Oct., -1558	4:25:21	4:28:38	5:49:34	7:10:30	7:13:47	-837.4	/	181.10	182.09	212.16	242.22	243.22	972.52	4.98	-23
11. Apr., -1548	14:10:25	14:13:44	18: 0:11	21:46:34	21:49:53	-322.1		75.60	75.86	145.81	215.76	216.03	945.13	6.09	-26
11. Oct., -1545	20:47:19	20:49: 5	23:19:38	1:50:13	1:52: 0	-345.7	/	142.78	143.00	212.08	281.15	281.37	972.97	4.98	-25
13. Oct., -1532	14: 4:36	14: 6:16	16:45:23	19:24:32	19:26:12	142.9	/	113.56	113.47	31.95	310.42	310.34	973.36	4.98	-27
16. Oct., -1519	8: 3:36	8: 5:45	10: 7:54	12:10: 3	12:12:13	629.2	/	81.77	81.27	31.77	342.26	341.76	973.76	4.98	-29
9. Apr., -1515	13: 9: 0	13:12:45	16:31:25	19:50: 1	19:53:45	528.2		22.11	21.61	325.82	270.03	269.53	945.60	6.08	-24
9. Oct., -1512	8:48:32	8:51: 5	10:35:46	12:20:28	12:23: 1	-736.7	/	171.04	171.72	212.13	252.54	253.23	972.55	4.98	-23
13. Apr., -1502	21:31: 6	21:34:53	0:53:52	4:12:50	4:16:36	-530.6		89.75	90.26	145.85	201.46	201.96	945.06	6.09	-26
12. Oct., -1499	1:28:45	1:30:27	4: 6:18	6:42:10	6:43:53	-246.0	/	136.61	136.76	212.03	287.30	287.46	973.00	4.98	-25
14. Oct., -1486	18:53:25	18:55: 8	21:30:51	0: 6:37	0: 8:20	242.2	/	107.56	107.41	31.89	316.36	316.21	973.42	4.98	-27
17. Oct., -1473	13: 6: 7	13: 8:36	14:54:27	16:40:18	16:42:48	728.7	/	73.58	72.92	31.68	350.45	349.79	973.79	4.98	-29
10. Apr., -1469	19:32:56	19:36:14	23:21:58	3: 7:37	3:10:55	322.9		36.00	35.74	325.84	255.95	255.68	945.51	6.08	-24
10. Oct., -1466	13:20:15	13:22:27	15:24: 1	17:25:37	17:27:49	-636.7	/	162.74	163.25	212.10	260.95	261.46	972.59	4.98	-23
13. Apr., -1456	5: 4:43	5: 9:42	7:40:15	10:10:47	10:15:45	-733.8		106.40	107.31	145.91	184.52	185.43	945.00	6.09	-26
13. Oct., -1453	6: 9:56	6:11:36	8:50:50	11:30: 7	11:31:48	-146.4	/	130.60	130.69	211.98	293.28	293.37	973.04	4.98	-25
15. Oct., -1440	23:43:36	23:45:22	2:15:50	4:46:20	4:48: 6	341.6	/	101.39	101.17	31.81	322.46	322.24	973.44	4.98	-27
17. Oct., -1427	18:14:56	18:18: 5	19:41:26	21: 4:48	21: 7:56	828.1	/	63.82	62.88	31.60	0.32	359.37	973.81	4.98	-29
11. Apr., -1423	2:12:14	2:15:22	6:14: 3	10:12:40	10:15:48	115.9		48.88	48.79	325.87	242.96	242.87	945.48	6.08	-24
10. Oct., -1420	17:54:35	17:56:35	20:10:51	22:25:10	22:27: 9	-536.7	/	155.36	155.75	212.06	268.37	268.76	972.62	4.98	-23
m 14. Apr., -1410	14: 6:37	--	14:35:39	--	15: 4:40	-944.3		139.16	--	145.97	--	152.79	944.95	6.09	-26
13. Oct., -1407	10:54:18	10:55:58	13:36:49	16:17:43	16:19:22	-47.2	/	124.70	124.73	211.92	299.12	299.15	973.05	4.98	-25
16. Oct., -1394	4:36:37	4:38:28	7: 1:34	9:24:41	9:26:33	441.5	/	94.93	94.63	31.74	328.85	328.55	973.47	4.98	-27

9. Oct.-1387	6:36:43	6:42:16	7:28:15	8:14:14	8:19:47	-927.3	/	193.73	195.60	212.12	228.64	230.51	972.24	4.98	-22
19. Oct.-1381	23:33:39	23:39:0	0:26:4	1:13:8	1:18:29	926.3	/	50.36	48.55	31.50	14.45	12.64	973.84	4.98	-29
12. Apr.-1377	8:54:44	8:57:52	12:57:31	16:57:7	17:00:14	-85.1	/	61.04	61.11	145.92	230.72	230.79	945.41	6.08	-24
12. Oct.-1374	22:31:42	22:33:33	0:57:34	3:21:37	3:23:29	-436.1	/	148.51	148.80	212.01	275.23	275.52	972.72	4.98	-23
14. Oct.-1361	15:40:26	15:42:5	18:22:50	21:33:38	21:51:18	53.3	/	118.75	118.71	31.86	305.01	304.97	973.12	4.98	-25
16. Oct.-1348	9:32:22	9:34:21	11:47:47	14:11:14	14:31:13	540.1	/	88.16	87.77	31.65	335.53	335.14	973.47	4.98	-27
9. Apr.-1344	9:7:36	9:12:50	11:33:6	13:53:21	13:58:35	762.2	/	2.73	1.73	325.92	290.11	289.11	945.94	6.07	-21
10. Oct.-1341	10:47:30	10:50:40	12:14:34	13:38:30	13:41:40	-826.8	/	179.87	180.81	212.09	243.36	244.31	972.27	4.98	-22
12. Apr.-1331	15:57:49	16:1:6	19:40:56	23:38:41	23:41:58	-292.5	/	73.86	74.10	145.97	217.84	218.08	945.40	6.09	-24
12. Oct.-1328	3:10:26	3:12:12	5:43:28	8:14:45	8:16:32	-335.7	/	142.05	142.26	211.96	281.66	281.87	972.73	4.98	-23
14. Oct.-1315	20:28:47	20:30:27	23:9:23	1:48:21	1:50:1	153.4	/	112.77	112.68	31.78	310.89	310.80	973.18	4.98	-25
17. Oct.-1302	14:32:9	14:34:20	16:34:55	18:35:30	18:37:41	640.4	/	80.70	80.18	31.56	342.94	342.42	973.55	4.98	-27
10. Apr.-1298	15:8:15	15:12:5	18:25:43	21:39:18	21:43:8	554.8	/	20.30	19.76	325.95	272.14	271.60	945.86	6.08	-21
10. Oct.-1295	15:13:28	15:15:58	17:2:31	18:49:5	18:51:36	-727.3	/	170.13	170.79	212.04	253.29	253.95	972.30	4.98	-22
14. Apr.-1285	23:10:53	23:14:34	2:38:58	6:3:20	6:7:1	-497.1	/	87.52	87.98	146.03	204.08	204.54	945.34	6.09	-24
13. Oct.-1282	7:50:59	7:52:41	10:29:4	13:5:29	13:7:12	-235.5	/	135.84	135.99	211.90	287.81	287.95	972.78	4.98	-23
16. Oct.-1269	1:18:26	1:20:9	3:55:27	6:30:47	6:32:30	253.6	/	106.69	106.53	31.70	316.88	316.72	973.19	4.98	-25
17. Oct.-1256	19:36:7	19:38:39	21:22:11	23:5:43	23:8:16	740.7	/	72.27	71.58	31.46	351.33	350.65	973.58	4.98	-27
11. Apr.-1252	21:32:27	21:35:48	1:18:43	5:1:34	5:4:54	348.8	/	34.49	34.20	325.99	257.78	257.49	945.82	6.08	-21
11. Oct.-1249	19:43:16	19:45:26	21:48:33	23:51:42	23:53:52	-626.3	/	161.85	162.34	211.99	261.65	262.14	972.32	4.98	-22
14. Apr.-1239	6:55:14	6:59:58	9:37:39	12:15:18	12:20:2	-710.4	/	104.41	105.25	146.10	186.96	187.80	945.29	6.09	-24
13. Oct.-1236	12:34:32	12:36:12	15:15:47	17:55:24	17:57:4	-136.3	/	129.85	129.93	211.83	293.73	293.81	972.77	4.98	-23
16. Oct.-1223	6:11:59	6:13:46	8:43:30	11:13:17	11:15:3	354.1	/	100.41	100.18	31.62	323.06	322.83	973.21	4.98	-25
19. Oct.-1210	0:43:48	0:47:4	2:7:7	3:27:11	3:30:27	839.8	/	62.25	61.25	31.35	1.45	0.46	973.60	4.98	-27
12. Apr.-1206	4:4:43	4:7:52	8:5:12	12:2:27	12:5:36	145.0	/	47.27	47.16	326.04	244.92	244.81	945.73	6.08	-21
12. Oct.-1203	0:17:23	0:19:22	2:34:52	4:50:25	4:52:24	-526.1	/	154.51	154.89	211.94	268.99	269.36	972.40	4.98	-22
15. Apr.-1193	15:21:40	15:34:24	16:27:45	17:21:5	17:33:49	-915.9	/	130.49	133.40	146.19	158.97	161.88	945.24	6.09	-24
14. Oct.-1190	17:19:48	17:21:28	20:2:30	22:43:34	22:45:13	-34.6	/	123.79	123.81	211.76	299.69	299.71	972.82	4.98	-23
17. Oct.-1177	11:6:1	11:7:53	13:30:2	15:52:13	15:54:5	453.1	/	93.94	93.63	31.52	329.41	329.10	973.19	4.98	-25
10. Oct.-1170	12:55:22	13:0:29	13:50:53	14:41:18	14:46:25	-918.9	/	192.17	193.88	212.02	230.17	231.88	971.94	4.98	-20
19. Oct.-1164	6:7:31	6:13:46	6:53:15	7:32:43	7:38:58	938.9	/	47.61	45.47	31.24	17.01	14.87	973.60	4.98	-27
12. Apr.-1160	10:53:0	10:56:7	14:56:0	18:55:48	18:58:55	-60.0	/	59.71	59.76	146.10	232.45	232.49	945.71	6.08	-21
13. Oct.-1157	4:53:34	4:55:25	7:20:24	9:45:26	9:47:17	-425.3	/	147.67	147.96	211.87	275.79	276.07	972.40	4.98	-22
15. Oct.-1144	22:7:15	22:8:55	0:40:38	3:30:24	3:32:4	65.1	/	117.86	117.82	31.67	305.52	305.48	972.86	4.98	-23
17. Oct.-1131	16:2:1	16:4:1	18:15:59	20:27:59	20:30:0	553.3	/	86.98	86.58	31.42	336.26	335.85	973.27	4.98	-25

10. Apr. -1127	11:16:40	11:22:13	13:33:54	15:45:34	15:51: 6	785.1	0.54	359.45	326.08	292.71	291.61	946.18	6.07	-19
10. Oct. -1124	17: 9: 2	17:12: 8	18:38:17	20: 4:28	20: 7:33	-818.4	/	178.87	179.79	211.97	244.15	972.01	4.98	-20
13. Apr. -1114	17:50:14	17:53:29	21:44:15	1:34:56	1:38:10	-264.9		72.32	72.53	146.17	219.81	945.63	6.08	-21
13. Oct. -1111	9:33:11	9:34:57	12: 6:53	14:38:51	14:40:37	-326.1	/	141.29	141.50	211.80	282.10	972.47	4.98	-22
16. Oct. -1098	2:54:45	2:56:26	5:35: 8	8:13:52	8:15:33	164.9	/	111.88	111.78	31.58	311.38	972.87	4.98	-23
18. Oct. -1085	21: 0:17	21: 2:31	23: 1:17	1: 0: 5	1: 2:19	652.6	/	79.47	78.94	31.31	343.67	973.27	4.98	-25
11. Apr. -1081	17: 9:14	17:13:10	20:21: 3	23:28:53	23:32:49	583.3		18.35	17.77	326.12	274.48	946.16	6.07	-19
11. Oct. -1078	21:33:43	21:36:11	23:24:50	1:13:32	1:16: 0	-716.2	/	169.05	169.69	211.91	254.13	972.06	4.98	-20
14. Apr. -1068	1: 6:39	1:10:16	4:38: 1	8: 5:43	8: 9:20	-474.2		86.12	86.55	146.25	205.95	945.58	6.09	-21
14. Oct. -1065	14:15:35	14:17:18	16:54:10	19:31: 6	19:32:48	-225.5	/	135.07	135.21	211.72	288.23	972.50	4.98	-22
16. Oct. -1052	7:46:18	7:48: 2	10:22:55	12:57:50	12:59:33	264.4	/	105.81	105.64	31.48	317.32	972.92	4.98	-23
19. Oct. -1039	2: 1:34	2: 4:10	3:45:32	5:26:54	5:29:30	751.6	/	71.00	70.29	31.19	352.09	973.30	4.98	-25
12. Apr. -1035	23:27: 2	23:30:25	3: 9:51	6:49:14	6:52:37	378.6		32.75	32.43	326.18	259.94	946.08	6.08	-19
12. Oct. -1032	2: 5:31	2: 7:40	4:12:19	6:17: 1	6:19:10	-615.7	/	160.90	161.38	211.84	262.30	972.11	4.98	-20
15. Apr. -1022	8:31:54	8:36:23	11:23:10	14: 9:56	14:14:24	-677.6		101.73	102.48	146.34	190.19	945.56	6.09	-21
14. Oct. -1019	19: 0:31	19: 2:12	21:42: 9	0:22:10	0:23:50	-123.2	/	128.88	128.96	211.63	294.31	972.57	4.98	-22
17. Oct. -1006	12:38:21	12:40: 8	15: 9:11	17:38:17	17:40: 4	365.4	/	99.45	99.21	31.37	323.54	972.96	4.98	-23
20. Oct. -993	7:11:19	7:14:43	8:31:36	9:48:29	9:51:53	850.4	/	60.71	59.65	31.06	2.48	973.33	4.98	-25
13. Apr. -989	6: 0:54	6: 4: 3	9:59:50	13:55:32	13:58:42	173.7		45.73	45.59	326.25	246.90	946.07	6.08	-19
13. Oct. -986	6:40:29	6:42:27	8:59:17	11:16:10	11:18: 8	-514.3	/	153.53	153.90	211.77	269.63	972.11	4.98	-20
15. Apr. -976	16:50:14	16:59:20	18:18: 2	19:36:44	19:45:50	-887.9		125.34	127.36	146.44	165.51	945.52	6.09	-21
16. Oct. -973	23:47:24	23:49: 3	2:30:14	5:11:28	5:13: 8	-22.6	/	122.88	122.89	211.54	300.19	972.58	4.98	-22
17. Oct. -960	17:32:21	17:34:14	19:55:18	22:16:24	22:18:17	465.9	/	92.83	92.51	31.26	330.01	973.02	4.98	-23
11. Oct. -953	19:14:43	19:19:24	20:15: 3	21:10:42	21:15:23	-907.8	/	190.25	191.79	211.88	231.97	971.67	4.98	-18
20. Oct. -947	12:39:51	12:47:44	13:17:39	13:47:33	13:55:26	951.5	/	44.40	41.67	30.93	20.20	973.39	4.98	-25
13. Apr. -943	12:48:42	12:51:49	16:51:43	20:51:33	20:54:39	-34.4		58.38	58.41	146.33	234.24	945.97	6.08	-19
13. Oct. -940	11:19:44	11:21:35	13:47:31	16:13:30	16:15:21	-414.5	/	146.79	147.07	211.68	276.30	972.16	4.98	-20
16. Oct. -927	4:33:25	4:35: 5	7:15:45	9:56:28	9:58: 8	77.2	/	116.92	116.87	31.43	306.00	972.60	4.98	-22
19. Oct. -914	22:28: 8	22:30:10	0:40:44	2:51:19	2:53:21	565.7	/	85.81	85.39	31.14	336.89	973.00	4.98	-23
11. Apr. -910	13:25:34	13:31:33	15:32:38	17:33:42	17:39:40	810.9		357.92	356.70	326.27	295.85	946.49	6.07	-17
12. Oct. -907	23:29:44	23:32:44	1: 2: 5	2:31:27	2:34:27	-806.1	/	177.44	178.31	211.81	245.31	971.72	4.98	-18
14. Apr. -897	19:49: 0	19:52:13	23:44:20	3:36:23	3:39:36	-242.1		71.13	71.32	146.41	221.50	945.92	6.08	-19
14. Oct. -894	15:59:38	16: 1:23	18:34: 9	21: 6:58	21: 8:43	-313.4	/	140.31	140.51	211.59	282.68	972.17	4.98	-20
17. Oct. -881	9:22:11	9:23:52	12: 2:18	14:40:47	14:42:28	176.4	/	110.95	110.84	31.33	311.82	972.62	4.98	-22
19. Oct. -868	3:26:42	3:28:58	5:25:54	7:22:51	7:25: 7	664.8	/	78.20	77.65	31.01	344.37	973.04	4.98	-23

11. Apr. -864	19:15:14	19:19:15	22:21:58	1:24:36	1:28:38	607.1	16.73	16.12	326.34	276.56	275.95	946.40	6.07	-17
13. Oct. -861	3:56:52	3:59:18	5:49:55	7:40:35	7:43:1	-705.6	167.99	168.61	211.73	254.86	255.48	971.75	4.98	-18
15. Apr. -851	2:51:53	2:55:25	6:27:6	9:58:43	10:2:15	-445.2	84.37	84.77	146.51	208.24	208.64	945.87	6.08	-19
14. Oct. -848	20:41:53	20:43:35	23:21:4	1:58:35	2:0:17	-212.7	134.07	134.21	211.50	288.79	288.92	972.24	4.98	-20
17. Oct. -835	14:11:25	14:13:9	16:47:28	19:21:49	19:23:33	277.8	104.71	104.54	31.21	317.88	317.71	972.65	4.98	-22
20. Oct. -822	8:30:5	8:32:45	10:11:38	11:50:33	11:53:13	763.4	69.57	68.83	30.88	352.92	352.18	973.04	4.98	-23
13. Apr. -818	1:26:46	1:30:11	5:6:16	8:42:17	8:45:42	404.9	31.25	30.90	326.41	261.92	261.58	946.38	6.07	-17
13. Oct. -815	8:28:41	8:30:49	10:30:56	12:43:6	12:45:14	-605.4	159.95	160.42	211.65	262.87	263.34	971.81	4.98	-18
16. Apr. -805	10:23:45	10:28:4	13:20:54	16:13:43	16:18:1	-653.5	99.95	100.66	146.61	192.57	193.27	945.82	6.09	-19
16. Oct. -802	1:25:39	1:27:20	4:7:37	6:47:57	6:49:38	-112.0	127.99	128.05	211.39	294.73	294.80	972.25	4.98	-20
18. Oct. -789	19:3:3	19:4:51	21:33:10	0:1:31	0:3:19	377.2	98.41	98.16	31.09	324.02	323.77	972.69	4.98	-22
20. Oct. -776	13:42:2	13:45:38	14:57:57	16:10:15	16:13:52	864.7	58.60	57.47	30.73	4.00	2.86	973.11	4.98	-23
13. Apr. -772	7:58:7	8:1:17	11:55:24	15:49:25	15:52:35	199.7	44.38	44.22	326.50	248.77	248.61	946.30	6.07	-17
14. Oct. -769	13:5:50	13:7:47	15:25:47	17:43:50	17:45:47	-503.9	152.61	152.97	211.55	270.14	270.49	971.88	4.98	-18
16. Apr. -759	18:21:33	18:28:59	20:6:51	21:44:43	21:52:9	-858.4	121.12	122.72	146.72	170.73	172.33	945.75	6.09	-19
16. Oct. -756	6:10:5	6:11:44	8:53:3	11:34:25	11:36:5	-12.7	122.04	122.04	211.29	300.52	300.52	972.32	4.98	-20
19. Oct. -743	23:56:40	23:58:34	2:18:38	4:38:44	4:40:39	477.2	91.75	91.42	30.96	330.49	330.16	972.71	4.98	-22
12. Oct. -736	1:35:26	1:39:45	2:40:41	3:41:36	3:45:55	-895.6	188.22	189.62	211.69	233.77	235.17	971.42	4.98	-16
21. Oct. -730	19:17:4	19:29:25	19:44:52	20:0:18	20:12:39	963.7	40.44	36.10	30.58	25.07	20.73	973.12	4.98	-23
c 14. Apr. -726	14:42:49	14:45:55	18:45:39	22:45:19	22:48:25	-6.8	56.99	56.99	146.58	236.19	236.19	946.27	6.08	-17
14. Oct. -723	17:43:46	17:45:36	20:12:38	22:39:42	22:41:32	-401.7	145.74	146.01	211.45	276.89	277.16	971.90	4.98	-18
17. Oct. -710	10:57:22	10:59:2	13:39:38	16:20:17	16:21:57	88.4	115.99	115.93	31.16	306.39	306.33	972.36	4.98	-20
20. Oct. -697	4:54:23	4:56:26	7:5:43	9:15:2	9:17:5	576.7	84.69	84.26	30.82	337.37	336.94	972.80	4.98	-22
12. Apr. -693	15:37:7	15:43:40	17:33:18	19:22:54	19:29:27	835.7	355.23	353.85	326.51	299.18	297.80	946.79	6.06	-15
13. Oct. -690	5:54:9	5:57:3	7:29:19	9:1:37	9:4:31	-794.4	176.05	176.89	211.60	246.32	247.15	971.44	4.98	-16
15. Apr. -680	21:33:41	21:36:52	1:30:40	5:24:23	5:27:34	-210.9	69.47	69.64	146.69	223.74	223.91	946.21	6.08	-17
16. Oct. -677	22:24:16	22:26:2	0:59:34	3:33:10	3:34:55	-301.2	139.31	139.50	211.34	283.18	283.37	971.95	4.98	-18
17. Oct. -664	15:46:6	15:47:47	18:25:52	21:4:0	21:5:41	190.3	109.82	109.70	31.03	312.36	312.24	972.39	4.98	-20
20. Oct. -651	9:54:49	9:57:8	11:52:6	13:47:5	13:49:23	677.3	76.85	76.28	30.67	345.07	344.50	972.81	4.98	-22
13. Apr. -647	21:16:27	21:20:36	0:17:20	3:14:0	3:18:8	633.0	14.96	14.30	326.59	278.89	278.23	946.73	6.07	-15
13. Oct. -644	10:20:20	10:22:43	12:15:17	14:7:53	14:10:16	-694.9	166.88	167.48	211.51	255.54	256.14	971.49	4.98	-16
16. Apr. -634	4:45:45	4:49:13	8:24:8	11:59:0	12:2:28	-418.8	82.88	83.24	146.80	210.37	210.73	946.17	6.08	-17
16. Oct. -631	3:5:43	3:7:25	5:45:26	8:23:30	8:25:12	-200.5	133.09	133.21	211.23	289.25	289.37	971.95	4.98	-18
18. Oct. -618	20:37:22	20:39:7	23:12:54	1:46:44	1:48:28	289.8	103.67	103.49	30.90	318.31	318.13	972.42	4.98	-20
21. Oct. -605	15:0:39	15:3:24	16:39:7	18:14:50	18:17:36	778.0	67.81	67.03	30.52	354.00	353.22	972.85	4.98	-22
14. Apr. -601	3:29:31	3:32:59	7:5:41	10:38:18	10:41:46	429.4	29.88	29.51	326.69	263.86	263.49	946.63	6.07	-15

14. Oct.	-598	14:52:26	14:54:32	17: 2:21	19:10:12	19:12:18	-593.2 /	158.82	159.27	211.41	263.54	263.99	971.54	4.98	-16
16. Apr.	-588	12: 8:21	12:12:30	15:11:56	18:11:20	18:15:28	-624.9	97.93	98.58	146.93	195.27	195.92	946.08	6.08	-17
17. Oct.	-585	7:48:28	7:50: 8	10:30:44	13:11:23	13:13: 3	-101.3 /	127.07	127.13	211.11	295.08	295.14	972.01	4.98	-18
19. Oct.	-572	1:29:24	1:31:12	3:58:42	6:26:15	6:28: 3	389.6 /	97.28	97.02	30.76	324.49	324.23	972.44	4.98	-20
21. Oct.	-559	20:14:21	20:18:11	21:26: 3	22:33:55	22:37:45	877.5 /	56.54	55.32	30.36	5.40	4.17	972.84	4.97	-22
14. Apr.	-555	9:57:45	10: 0:56	13:53:17	17:45:31	17:48:42	224.6	43.14	42.96	326.78	250.61	250.43	946.59	6.07	-15
14. Oct.	-552	19:27:14	19:29:10	21:48:27	0: 7:47	0: 9:43	-491.9 /	151.55	151.89	211.29	270.69	271.04	971.55	4.98	-16
17. Apr.	-542	20: 7:29	20:14: 5	22: 5: 2	23:55:58	0: 2:33	-833.8	118.18	119.56	147.06	174.56	175.94	946.02	6.09	-17
C 17. Oct.	-539	12:33:57	12:35:37	15:17: 3	17:58:31	18: 0:11	-0.1 /	120.98	120.98	30.70	300.97	300.97	972.03	4.98	-18
20. Oct.	-526	6:25:35	6:27:30	8:46:27	11: 5:26	11: 7:21	489.6 /	90.56	90.22	30.61	330.99	330.65	972.49	4.98	-20
13. Oct.	-519	7:56: 8	8: 0:12	9: 5: 2	10: 9:51	10:13:56	-885.6 /	186.60	187.91	211.46	235.01	236.32	971.13	4.98	-14
m 23. Oct.	-513	2: 1:57	--	2:10:39	--	2:19:21	976.5 /	33.26	--	30.19	--	27.12	972.88	4.97	-22
15. Apr.	-509	16:37:50	16:40:56	20:40:18	0:39:34	0:42:39	20.9	55.62	55.61	326.90	238.18	238.17	946.51	6.07	-15
16. Oct.	-506	0: 5:32	0: 7:22	2:35:16	5: 3:13	5: 5: 2	-391.4 /	144.81	145.07	211.18	277.28	277.54	971.62	4.98	-16
18. Oct.	-493	17:21:56	17:23:36	20: 4: 6	22:44:39	22:46:19	101.1 /	114.91	114.85	30.84	306.82	306.76	972.08	4.98	-18
20. Oct.	-480	11:22:47	11:24:52	13:32:24	15:39:58	15:42: 3	590.9 /	83.27	82.82	30.45	338.08	337.63	972.48	4.98	-20
12. Apr.	-476	17:43:42	17:51:14	19:25:17	20:59:18	21: 6:49	864.7	351.67	350.03	326.79	303.56	301.92	947.06	6.06	-13
14. Oct.	-473	12:13:29	12:16:20	13:50:57	15:25:36	15:28:26	-784.6 /	174.85	175.66	211.36	247.06	247.86	971.20	4.98	-14
16. Apr.	-463	23:29:56	23:33: 6	3:28: 1	7:22:52	7:26: 1	-184.4	68.16	68.30	147.01	225.72	225.87	946.49	6.08	-15
16. Oct.	-460	4:45:43	4:47:28	7:21:41	9:55:58	9:57:42	-290.5 /	138.36	138.55	211.05	283.55	283.73	971.68	4.98	-16
19. Oct.	-447	22:12:33	22:14:15	0:52: 2	3:29:53	3:31:35	201.5 /	108.81	108.68	30.69	312.70	312.58	972.12	4.98	-18
21. Oct.	-434	16:23:14	16:25:35	18:18:27	20:11:21	20:13:42	690.1 /	75.39	74.80	30.29	345.77	345.18	972.54	4.98	-20
14. Apr.	-430	23:20: 2	23:24:19	2:14: 9	5: 3:56	5: 8:13	660.7	12.99	12.28	326.89	281.50	280.79	946.99	6.06	-13
14. Oct.	-427	16:41: 3	16:43:24	18:38: 5	20:32:47	20:35: 8	-682.8 /	165.63	166.21	211.24	256.27	256.85	971.23	4.98	-14
17. Apr.	-417	6:32:13	6:35:37	10:13:59	13:52:16	13:55:40	-388.1	81.17	81.50	147.14	212.79	213.12	946.41	6.08	-15
17. Oct.	-414	9:28:30	9:30:12	12: 8:42	14:47:16	14:48:58	-189.4 /	132.11	132.23	210.92	289.60	289.72	971.75	4.98	-16
20. Oct.	-401	3: 2:58	3: 4:42	5:37:58	8:11:16	8:13: 1	301.4 /	102.59	102.40	30.54	318.68	318.49	972.18	4.98	-18
21. Oct.	-388	21:28:13	21:31: 4	23: 4: 0	0:36:58	0:39:48	790.1 /	66.21	65.39	30.12	354.84	354.02	972.57	4.97	-20
14. Apr.	-384	5:28:54	5:32:25	9: 1: 9	12:29:48	12:33:19	456.6	28.36	27.96	327.00	266.04	265.64	946.98	6.07	-13
15. Oct.	-381	21:13:34	21:15:39	23:25: 4	1:34:32	1:36:37	-581.2 /	157.67	158.11	211.12	264.13	264.57	971.25	4.98	-14
17. Apr.	-371	13:55:45	13:59:45	17: 5: 8	20:10:27	20:14:27	-596.9	96.07	96.67	147.28	197.89	198.49	946.38	6.08	-15
17. Oct.	-368	14:13:27	14:15: 7	16:56: 2	19:37: 0	19:38:41	-88.0 /	125.96	126.01	210.78	295.54	295.59	971.74	4.98	-16
20. Oct.	-355	7:57: 2	7:58:51	10:25:27	12:52: 6	12:53:55	402.7 /	96.06	95.79	30.38	324.97	324.70	972.21	4.98	-18
m 13. Oct.	-348	--	--	10:39:39	--	--	-976.2 /	--	--	211.30	--	--	970.77	4.98	-12
23. Oct.	-342	2:41:13	2:45:18	3:48:47	4:52:16	4:56:21	889.2 /	54.50	53.18	29.94	6.70	5.37	972.64	4.97	-20

15. Apr. -338	11:57:49	12: 1: 1	15:51:13	19:41:20	19:44:31	251.5	41.80	41.59	327.11	252.64	252.43	946.88	6.07	-13
16. Oct. -335	1:50: 0	1:51:55	4:12:25	6:32:57	6:34:53	-480.6	/	150.49	150.82	210.99	271.16	271.49	971.31	4.98
18. Apr. -325	21:40:16	21:46: 8	23:51: 3	1:55:57	2: 1:49	-802.9	/	114.88	116.06	147.43	178.80	179.98	946.35	6.08
18. Oct. -322	19: 0:58	19: 2:38	21:44: 9	0:25:44	0:27:24	13.2	/	119.87	119.86	30.63	301.40	301.39	971.79	4.98
21. Oct. -309	12:52: 1	12:53:57	15:11:33	17:29:10	17:31: 7	503.9	/	89.19	88.83	30.21	331.59	331.24	972.21	4.98
14. Oct. -302	14:12:47	14:16:39	15:25:29	16:34:20	16:38:12	-874.7	/	184.88	186.10	211.19	236.27	237.49	970.85	4.98
15. Apr. -292	18:34:25	18:37:30	22:30:17	2:34:57	2:38: 3	47.1	/	54.39	54.35	327.24	240.13	240.09	946.84	6.07
17. Oct. -289	6:28:27	6:30:16	8:59: 8	11:28: 3	11:29:51	-379.6	/	143.75	144.00	210.85	277.71	277.96	971.35	4.98
19. Oct. -276	23:49:38	23:51:19	2:31:40	5:12: 4	5:13:45	114.2	/	113.77	113.70	30.47	307.24	307.17	971.80	4.98
21. Oct. -263	17:49:42	17:51:48	19:57:45	22: 3:43	22: 5:50	603.5	/	81.92	81.45	30.04	338.63	338.16	972.26	4.98
13. Apr. -259	20: 1:52	20:10:31	21:30:57	22:51:22	23: 0: 1	885.9	/	348.80	346.86	327.11	307.36	305.42	947.35	6.06
14. Oct. -256	18:33: 1	18:35:48	20:12:55	21:50: 3	21:52:49	-773.8	/	173.53	174.31	211.06	247.82	248.59	970.87	4.98
17. Apr. -246	1:24: 7	1:27:15	5:23: 9	9:18:58	9:22: 6	-156.7	/	66.82	66.94	147.38	227.81	227.93	946.74	6.07
17. Oct. -243	11:10:34	11:12:19	13:47:19	16:22:22	16:24: 6	-277.6	/	137.24	137.41	210.71	284.01	284.18	971.40	4.98
20. Oct. -230	4:37:27	4:39: 9	7:16:35	9:54: 4	9:55:47	213.9	/	107.68	107.55	30.31	313.07	312.94	971.86	4.98
23. Oct. -217	22:49:51	22:52:15	0:42:48	2:33:23	2:35:47	703.6	/	73.82	73.20	29.86	346.51	345.90	972.26	4.97
15. Apr. -213	1:26:23	1:30:50	4:13:56	6:56:58	7: 1:25	685.9	/	11.21	10.44	327.23	284.02	283.25	947.32	6.06
16. Oct. -210	23: 2:16	23: 4:35	1: 1:13	2:57:52	3: 0:11	-671.3	/	164.40	164.96	210.93	256.90	257.46	970.94	4.98
17. Apr. -200	8:28:58	8:32:19	12:12:56	15:53:28	15:56:49	-365.4	/	80.05	80.36	147.52	214.69	214.99	946.71	6.08
18. Oct. -197	15:53:34	15:55:16	18:34:17	21:13:22	21:15: 4	-177.0	/	131.02	131.13	210.56	289.99	290.10	971.39	4.98
20. Oct. -184	9:28:21	9:30: 6	12: 2:41	14:35:18	14:37: 3	315.1	/	101.34	101.14	30.14	319.14	318.94	971.87	4.98
23. Oct. -171	3:55:16	3:58:13	5:28: 2	6:57:52	7: 0:49	803.0	/	64.44	63.58	29.67	355.76	354.90	972.32	4.97
15. Apr. -167	7:31:50	7:35:24	11: 0: 0	14:24:31	14:28: 5	482.8	/	26.91	26.47	327.35	268.23	267.79	947.22	6.06
16. Oct. -164	3:36:43	3:38:47	5:49:40	8: 0:35	8: 2:39	-570.2	/	156.55	156.97	210.79	264.61	265.03	971.02	4.98
18. Apr. -154	15:40:51	15:44:43	18:55:42	22: 6:37	22:10:30	-567.9	/	94.24	94.80	147.68	200.56	201.11	946.66	6.08
18. Oct. -151	20:38:45	20:40:26	23:21:38	2: 2:54	2: 4:34	-75.7	/	124.87	124.91	210.40	295.89	295.93	971.49	4.98
21. Oct. -138	14:20:48	14:22:38	16:48:21	19:14: 5	19:15:55	415.3	/	94.82	94.55	29.96	325.38	325.10	971.90	4.98
14. Oct. -131	16:37: 6	16:54:13	17: 1:41	17: 9:10	17:26:16	-964.5	/	202.39	208.37	211.00	213.64	219.61	970.54	4.98
24. Oct. -125	9:11:44	9:16:12	10:13:52	11:11:33	11:16: 1	903.2	/	51.94	50.47	29.47	8.48	7.01	972.30	4.97
16. Apr. -121	13:49:53	13:53: 6	17:40:41	21:28:10	21:31:23	282.0	/	40.26	40.03	327.48	254.94	254.71	947.20	6.07
17. Oct. -118	8:12:57	8:14:51	10:36:37	12:58:25	13: 0:20	-468.2	/	149.32	149.64	210.64	271.64	271.97	971.05	4.98
19. Apr. -108	23:24:44	23:30: 8	1:45:42	4: 1:13	4: 6:37	-775.7	/	112.34	113.39	147.84	182.29	183.34	946.62	6.08
20. Oct. -105	1:24:54	1:26:34	4: 8:10	6:49:48	6:51:28	25.6	/	118.75	118.74	30.23	301.73	301.71	971.53	4.98
21. Oct. -92	19:16:32	19:18:29	21:34:56	23:51:25	23:53:23	515.7	/	87.93	87.57	29.78	331.99	331.62	971.97	4.98
15. Oct. -85	20:33:39	20:37:19	21:50: 7	23: 2:55	23: 6:35	-863.2	/	183.11	184.25	210.87	237.48	238.62	970.54	4.98

17. Apr.	-75	20:28:22	20:31:27	0:29:23	4:27:12	4:30:17	76.4	53.01	52.95	327.62	242.30	242.24	947.13	6.07	-11
17. Oct.	-72	12:53:37	12:55:25	15:25:20	17:55:17	17:57: 5	-366.2 /	142.54	142.78	210.49	278.20	278.44	971.08	4.98	-12
20. Oct.	-59	6:11:46	6:13:27	8:53:39	11:33:55	11:35:35	126.7 /	112.63	112.55	30.06	307.57	307.49	971.58	4.98	-14
23. Oct.	-46	0:14:39	0:16:48	2:21: 2	4:25:18	4:27:27	616.5 /	80.48	80.00	29.58	339.17	338.69	972.00	4.97	-16
14. Apr.	-42	22:19:11	22:30:35	23:28:54	0:27:12	0:38:37	912.8	344.31	341.68	327.47	313.27	310.63	947.69	6.05	-9
16. Oct.	-39	0:56: 5	0:58:46	2:38:54	4:19: 4	4:21:45	-760.2 /	171.92	172.67	210.72	248.78	249.52	970.60	4.98	-10
18. Apr.	-29	3:21:37	3:24:43	7:21:13	11:17:37	11:20:44	-133.0	65.78	65.89	147.78	229.68	229.78	947.11	6.07	-11
18. Oct.	-26	17:34:52	17:36:36	20:12:20	22:48: 8	22:49:52	-264.8 /	136.08	136.25	210.33	284.40	284.57	971.08	4.98	-12
21. Oct.	-13	11: 1:53	11: 3:35	13:40:35	16:17:39	16:19:21	227.6 /	106.42	106.28	29.88	313.48	313.34	971.57	4.98	-14
23. Oct.	0	5:18:12	5:20:39	7: 8:43	8:56:49	8:59:16	717.6 /	72.14	71.50	29.39	347.28	346.63	972.04	4.97	-16
15. Apr.	4	3:34:53	3:39:29	6:16: 3	8:52:33	8:57:10	708.6	9.60	8.77	327.60	286.43	285.61	947.59	6.06	-9
17. Oct.	7	5:25:58	5:28:15	7:26:56	9:25:39	9:27:55	-658.8 /	163.06	163.60	210.57	257.54	258.09	970.65	4.98	-10
18. Apr.	17	10:20:48	10:24: 6	14: 7:16	17:50:21	17:53:39	-337.3	78.65	78.93	147.94	216.95	217.24	947.01	6.07	-11
19. Oct.	20	22:17:35	22:19:17	0:58:49	3:38:25	3:40: 7	-163.5 /	129.82	129.92	210.16	290.39	290.49	971.16	4.98	-12
21. Oct.	33	15:53:52	15:55:38	18:27:30	20:59:24	21: 1:10	328.9 /	100.03	99.82	29.69	319.56	319.35	971.60	4.98	-14
24. Oct.	46	10:26: 4	10:29: 8	11:55:15	13:21:23	13:24:27	817.4 /	62.40	61.49	29.18	356.86	355.95	972.03	4.97	-16
16. Apr.	50	9:32:34	9:36:12	12:56:18	16:16:19	16:19:57	509.6	25.43	24.96	327.74	270.53	270.06	947.55	6.06	-9
17. Oct.	53	9:58:19	10: 0:22	12:12:54	14:25:28	14:27:31	-557.1 /	155.25	155.66	210.42	265.17	265.58	970.69	4.98	-10
19. Apr.	63	17:35:48	17:39:34	20:54:48	0: 9:59	0:13:46	-543.7	92.88	93.40	148.11	202.83	203.35	946.96	6.08	-11
20. Oct.	66	3: 1:15	3: 2:55	5:44:24	8:25:56	8:27:37	-62.5 /	123.67	123.71	209.98	296.25	296.29	971.18	4.98	-12
22. Oct.	79	20:47:55	20:49:46	23:14:25	1:39: 6	1:40:58	429.4 /	93.44	93.15	29.50	325.85	325.56	971.65	4.98	-14
15. Oct.	86	22:51:17	23: 0:24	23:26: 0	23:51:36	0: 0:43	-953.2 /	198.47	201.60	210.66	219.71	222.84	970.20	4.98	-8
24. Oct.	92	15:45:34	15:50:34	16:41:40	17:32:46	17:37:47	917.2 /	49.14	47.46	28.97	10.47	8.80	972.09	4.97	-16
16. Apr.	96	15:55:41	15:58:55	19:44:22	23:29:42	23:32:56	303.5	39.32	39.07	327.89	256.72	256.47	947.47	6.06	-9
18. Oct.	99	14:35:35	14:37:29	17: 0:24	19:23:23	19:25:16	-456.6 /	148.16	148.48	210.25	272.02	272.34	970.74	4.98	-10
20. Apr.	109	1: 9:51	1:14:53	3:40:16	6: 5:37	6:10:39	-747.4	109.94	110.88	148.29	185.70	186.65	946.87	6.08	-11
20. Oct.	112	7:47: 4	7:48:44	10:30:22	13:12: 4	13:13:44	38.6 /	117.55	117.53	29.80	302.07	302.04	971.22	4.98	-12
23. Oct.	125	1:42:51	1:44:50	3:59:53	6:14:58	6:16:57	529.4 /	86.50	86.11	29.30	332.48	332.10	971.69	4.97	-14
16. Oct.	132	2:54: 7	2:57:37	4:14:34	5:31:32	5:35: 2	-850.4 /	181.19	182.26	210.50	238.74	239.81	970.31	4.98	-8
18. Apr.	142	22:30:23	22:33:28	2:30:28	6:27:21	6:30:26	100.1	52.01	51.93	328.05	244.18	244.10	947.44	6.06	-9
18. Oct.	145	19:14:38	19:16:25	21:47:17	0:18:11	0:19:59	-353.8 /	141.35	141.58	210.08	278.57	278.80	970.79	4.98	-10
m 21. Apr.	155	--	--	10:31:29	--	--	-958.2	--	--	148.48	--	--	946.83	6.08	-11
21. Oct.	158	12:35:57	12:37:38	15:17:40	17:57:45	17:59:26	138.7 /	111.46	111.37	29.61	307.84	307.76	971.24	4.98	-12
24. Oct.	171	6:42:54	6:45: 5	8:47:26	10:49:49	10:52: 0	630.2 /	78.92	78.42	29.09	339.75	339.25	971.72	4.97	-14
m 16. Apr.	175	0:44:50	1: 6:32	1:29:11	1:51:50	2:13:32	937.6	338.51	333.35	327.87	322.39	317.24	948.00	6.05	-7

17. Oct.	178	7:16:57	7:19:35	9: 2:26	10:45:18	10:47:56	-747.5 /	170.39	171.10	210.34	249.58	250.29	970.33	4.98	-8
18. Apr.	188	5:14:52	5:17:57	9:15: 2	13:12: 0	13:15: 5	-103.5	64.43	64.51	148.22	231.93	232.01	947.34	6.07	-9
20. Oct.	191	23:56:28	23:58:11	2:34:38	5:11: 8	5:12:52	-252.2 /	134.89	135.05	209.90	284.75	284.91	970.87	4.98	-10
21. Oct.	204	17:27:27	17:29:10	20: 5:42	22:42:16	22:44: 0	241.5 /	105.11	104.96	29.41	313.86	313.71	971.34	4.98	-12
24. Oct.	217	11:45:52	11:48:23	13:34: 5	15:19:48	15:22:19	730.3 /	70.49	69.83	28.87	347.91	347.24	971.75	4.97	-14
16. Apr.	221	5:39:21	5:44:13	8:12: 0	10:39:44	10:44:35	737.1	7.42	6.51	328.02	289.52	288.62	947.94	6.05	-7
17. Oct.	224	11:45:58	11:48:13	13:48:57	15:49:43	15:51:58	-646.0 /	161.66	162.19	210.17	258.16	258.68	970.38	4.98	-8
19. Apr.	234	12:11:56	12:15:12	16: 0:44	19:46:10	19:49:25	-308.3	77.24	77.50	148.40	219.31	219.56	947.33	6.07	-9
20. Oct.	237	4:40: 1	4:41:43	7:21:45	10: 1:52	10: 3:33	-149.7 /	128.55	128.65	209.71	290.78	290.87	970.87	4.98	-10
23. Oct.	250	22:20:41	22:22:28	0:53:34	3:24:43	3:26:30	342.6 /	98.68	98.46	29.20	319.95	319.72	971.38	4.98	-12
25. Oct.	263	16:55: 3	16:58:16	18:20:32	19:42:48	19:46: 1	831.6 /	60.30	59.33	28.65	357.96	356.99	971.83	4.97	-14
17. Apr.	267	11:42:56	11:46:37	15: 3: 8	18:19:34	18:23:15	529.2	24.46	23.97	328.18	272.39	271.89	947.85	6.06	-7
18. Oct.	270	16:20:21	16:22:22	18:36:26	20:50:33	20:52:35	-544.8 /	153.96	154.36	210.00	265.63	266.03	970.39	4.98	-8
19. Apr.	280	19:24:38	19:28:18	22:48:20	2: 8:18	2:11:58	-514.4	91.22	91.70	148.59	205.48	205.95	947.25	6.07	-9
21. Oct.	283	9:26:20	9:28: 0	12: 9:45	14:51:33	14:53:13	-48.6 /	122.39	122.42	209.52	296.61	296.64	970.92	4.98	-10
23. Oct.	296	3:14:14	3:16: 6	5:39:38	8: 3:12	8: 5: 5	443.6 /	91.99	91.69	28.99	326.29	325.99	971.41	4.97	-12
17. Oct.	303	5: 5:28	5:12:19	5:49: 6	6:25:54	6:32:45	-940.0 /	194.89	197.21	210.26	223.32	225.64	969.94	4.98	-6
25. Oct.	309	22:17:29	22:23:22	23: 6:11	23:48:59	23:54:52	932.2 /	45.81	43.82	28.41	13.01	11.01	971.84	4.97	-14
17. Apr.	313	18: 0:27	18: 3:42	21:46:33	1:29:19	1:32:34	328.3	38.19	37.92	328.34	258.77	258.50	947.79	6.06	-7
18. Oct.	316	20:57:14	20:59: 7	23:23:27	1:47:51	1:49:44	-441.7 /	146.76	147.06	209.81	272.57	272.87	970.44	4.98	-8
21. Apr.	326	3: 2:52	3: 7:39	5:40: 2	8:12:23	8:17:10	-725.1	108.29	109.17	148.79	188.41	189.28	947.20	6.07	-9
21. Oct.	329	14:13:28	14:15: 8	16:56:47	19:38:30	19:40:10	52.0 /	116.29	116.25	29.32	302.38	302.35	970.93	4.98	-10
24. Oct.	342	8:11:27	8:13:27	10:26:56	12:40:28	12:42:28	544.0 /	84.93	84.53	28.77	333.01	332.61	971.42	4.97	-12
17. Oct.	349	9:11:43	9:15: 3	10:35:58	11:56:54	12: 0:14	-837.3 /	179.28	180.29	210.09	239.90	240.90	969.95	4.98	-6
19. Apr.	359	0:31:39	0:34:44	4:30:36	8:26:21	8:29:26	124.7	50.98	50.89	328.52	246.16	246.06	947.69	6.06	-7
20. Oct.	362	1:37:30	1:39:17	4:11: 7	6:43: 0	6:44:47	-340.6 /	140.08	140.30	209.63	278.95	279.17	970.51	4.98	-8
21. Apr.	372	11:26:32	11:42:14	12:21:47	13: 1:20	13:17: 1	-928.1	135.80	139.47	148.99	158.51	162.18	947.13	6.08	-9
22. Oct.	375	19: 2:53	19: 4:35	21:44:19	0:24: 7	0:25:49	154.5 /	110.03	109.93	29.11	308.29	308.19	971.01	4.98	-10
24. Oct.	388	13:10:24	13:12:37	15:12:51	17:13: 6	17:15:19	645.1 /	77.21	76.69	28.54	340.40	339.88	971.43	4.97	-12
16. Apr.	392	--	--	3:32:48	--	--	961.1	--	--	328.31	--	--	948.26	6.04	-5
18. Oct.	395	13:35:30	13:38: 5	15:23: 9	17: 8:16	17:10:51	-736.7 /	169.00	169.69	209.91	250.14	250.82	970.03	4.98	-6
19. Apr.	405	7:13: 1	7:16: 5	11:13:25	15:10:39	15:13:44	-77.6	63.35	63.41	148.70	234.00	234.07	947.68	6.06	-7
20. Oct.	408	6:19:21	6:21: 4	8:58:14	11:35:28	11:37:12	-238.6 /	133.60	133.75	209.43	285.10	285.25	970.53	4.98	-8
23. Oct.	421	23:53:40	23:55:24	2:31:24	5: 7:27	5: 9:11	255.7 /	103.73	103.57	28.89	314.22	314.06	971.03	4.98	-10
25. Oct.	434	18:13:33	18:16: 9	19:58:46	21:41:24	21:44: 0	746.1 /	68.51	67.80	28.31	348.82	348.11	971.50	4.97	-12

17. Apr.	438	7:53:32	7:58:35	10:19:27	12:40:16	12:45:20	757.6	5.91	4.94	328.48	292.02	291.05	948.20	6.05	-5
18. Oct.	441	18: 6:37	18: 8:50	20:11:29	22:14:10	22:16:23	-633.7	160.27	160.78	209.73	258.68	259.18	970.08	4.98	-6
20. Apr.	451	14: 8:56	14:12: 9	17:59:24	21:46:34	21:49:47	-283.6	76.17	76.40	148.90	221.40	221.63	947.58	6.07	-7
21. Oct.	454	11: 5:18	11: 6:59	13:47:28	16:28: 1	16:29:42	-137.4	127.34	127.43	209.22	291.02	291.10	970.62	4.98	-8
24. Oct.	467	4:44:55	4:46:43	7:17: 1	9:47:23	9:49:10	356.5	97.27	97.04	28.67	320.30	320.07	971.07	4.98	-10
26. Oct.	480	23:23: 5	23:26:28	0:44:22	2: 2:16	2: 5:39	846.5	57.99	56.94	28.07	359.19	358.15	971.50	4.97	-12
17. Apr.	484	13:44: 6	13:47:52	16:58:55	20: 9:54	20:13:40	558.2	22.83	22.30	328.65	275.00	274.47	948.17	6.05	-5
20. Oct.	487	22:42:26	22:44:26	1: 0:16	3:16:10	3:18:10	-530.0	152.47	152.85	209.53	266.21	266.60	970.16	4.98	-6
21. Apr.	497	21:19:47	21:23:23	0:47: 1	4:10:35	4:14:10	-490.2	90.01	90.45	149.10	207.76	208.20	947.55	6.07	-7
21. Oct.	500	15:51: 9	15:52:49	18:34:47	21:16:48	21:18:29	-34.4	121.06	121.08	209.01	296.95	296.97	970.65	4.98	-8
24. Oct.	513	9:39:43	9:41:36	12: 4: 3	14:26:32	14:28:26	456.9	90.55	90.24	28.44	326.64	326.33	971.12	4.97	-10
17. Oct.	520	11:20:11	11:25:53	12:11:22	12:56:51	13: 2:33	-926.3	191.72	193.63	209.83	226.02	227.93	969.61	4.98	-4
27. Oct.	526	4:50:57	4:58:22	5:31: 1	6: 3:41	6:11: 5	946.6	42.06	39.51	27.82	16.13	13.58	971.56	4.97	-12
18. Apr.	530	20: 1:55	20: 5:12	23:45: 8	3:24:59	3:28:17	354.2	37.02	36.73	328.84	260.94	260.65	948.10	6.05	-5
20. Oct.	533	3:21:54	3:23:46	5:49:25	8:15: 7	8:16:59	-427.6	145.36	145.65	209.33	273.02	273.31	970.19	4.98	-6
22. Apr.	543	4:41:56	4:46:27	7:27:54	10: 9:18	10:13:49	-693.4	105.94	106.73	149.31	191.90	192.69	947.49	6.07	-7
22. Oct.	546	20:38:56	20:40:37	23:22:13	2: 3:53	2: 5:34	67.7	114.84	114.80	28.79	302.79	302.75	970.72	4.98	-8
25. Oct.	559	14:36:49	14:38:51	16:50:34	19: 2:18	19: 4:20	560.0	83.22	82.80	28.20	333.60	333.18	971.17	4.97	-10
18. Oct.	566	15:31:57	15:35: 9	16:59:34	18:24: 0	18:27:12	-825.1	177.49	178.44	209.64	240.84	241.79	969.69	4.98	-4
19. Apr.	576	2:30: 5	2:33:11	6:27:39	10:22: 1	10:25: 7	151.4	49.87	49.75	329.02	248.30	248.18	948.07	6.06	-5
21. Oct.	579	8: 1:47	8: 3:34	10:36:24	13: 9:18	13:11: 5	-326.2	138.69	138.90	209.13	279.35	279.56	970.22	4.98	-6
22. Apr.	589	13: 0:15	13:10:21	14:18:38	15:26:55	15:37: 1	-902.1	130.62	132.92	149.54	166.16	168.46	947.47	6.07	-7
23. Oct.	592	1:27:54	1:29:36	4: 9: 2	6:48:31	6:50:13	169.7	108.58	108.47	28.57	308.66	308.56	970.71	4.98	-8
25. Oct.	605	19:37:31	19:39:47	21:37:42	23:35:39	23:37:55	660.6	75.39	74.85	27.96	341.07	340.52	971.21	4.97	-10
18. Oct.	612	19:57:10	19:59:41	21:47:43	23:35:47	23:38:18	-721.8	167.23	167.89	209.44	250.99	251.65	969.72	4.98	-4
20. Apr.	622	9:15:16	9:18:20	13:15:40	17:12:54	17:15:58	-55.6	62.54	62.59	149.23	235.87	235.92	947.96	6.06	-5
21. Oct.	625	12:45: 2	12:46:45	15:24:38	18: 2:34	18: 4:17	-224.4	132.24	132.38	208.91	285.45	285.59	970.27	4.98	-6
24. Oct.	638	6:17:53	6:19:37	8:55: 3	11:30:32	11:32:16	270.2	102.28	102.11	28.33	314.56	314.39	970.76	4.98	-8
27. Oct.	651	0:42:27	0:45: 8	2:24:30	4: 3:53	4: 6:34	761.8	66.43	65.69	27.71	349.72	348.98	971.21	4.97	-10
18. Apr.	655	10: 2:32	10: 7:53	12:20: 1	14:32: 6	14:37:28	781.7	3.98	2.92	328.97	295.03	293.96	948.53	6.04	-3
20. Oct.	658	0:29:42	0:31:53	2:36:45	4:41:40	4:43:51	-618.8	158.66	159.15	209.24	259.33	259.82	969.79	4.98	-4
20. Apr.	668	16:10:39	16:13:51	20: 2:29	23:51: 1	23:54:13	-260.8	75.27	75.48	149.44	223.40	223.61	947.91	6.06	-5
22. Oct.	671	17:28:40	17:30:21	20:11:19	22:52:22	22:54: 3	-121.0	125.84	125.92	208.69	291.46	291.54	970.29	4.98	-6
24. Oct.	684	11:10:47	11:12:35	13:41:59	16:11:25	16:13:13	371.5	95.74	95.50	28.09	320.69	320.45	970.78	4.97	-8
27. Oct.	697	5:56:10	5:59:46	7:12:41	8:25:36	8:29:13	862.2	55.43	54.30	27.45	0.59	359.46	971.24	4.97	-10
18. Apr.	701	15:56: 6	15:59:56	19: 6:47	22:13:33	22:17:23	578.7	21.82	21.26	329.17	277.07	276.51	948.46	6.05	-3

20. Oct.	704	5: 5:57	5: 7:56	7:25:23	9:42:53	9:44:52	-516.1	/	151.01	151.38	209.03	266.68	267.04	969.82	4.98	-4
22. Apr.	714	23:15: 0	23:18:32	2:45:33	6:12:30	6:16: 1	-465.4		88.83	89.24	149.66	210.07	210.49	947.83	6.06	-5
23. Oct.	717	22:14:37	22:16:18	0:58:28	3:40:41	3:42:22	-19.7	/	119.64	119.65	208.47	297.27	297.28	970.35	4.98	-6
25. Oct.	730	16: 6:24	16: 8:19	18:29:14	20:50:11	20:52: 6	474.5	/	88.77	88.44	27.84	327.25	326.92	970.83	4.97	-8
18. Oct.	737	17:38:23	17:43:25	18:35:50	19:28:15	19:33:17	-913.3	/	188.96	190.61	209.35	228.08	229.74	969.38	4.98	-2
m 28. Oct.	743	11:32:13	11:45:36	11:59: 2	12:12:29	12:25:52	962.9	/	36.65	31.96	27.18	22.40	17.71	971.26	4.97	-10
20. Apr.	747	22: 5:22	22: 8:41	1:45:42	5:22:38	5:25:57	378.2		36.00	35.68	329.36	263.05	262.73	948.40	6.05	-3
21. Oct.	750	9:43:26	9:45:18	12:12: 6	14:38:58	14:40:49	-414.9	/	144.02	144.30	208.81	273.33	273.60	969.91	4.98	-4
22. Apr.	760	6:41:38	6:45:59	9:33: 7	12:20:11	12:24:32	-671.4		104.60	105.33	149.89	194.44	195.18	947.81	6.07	-5
24. Oct.	763	3: 1:56	3: 3:37	5:45: 9	8:26:46	8:28:27	82.4	/	113.41	113.36	28.23	303.09	303.04	970.38	4.98	-6
25. Oct.	776	21: 5: 0	21: 7: 4	23:17: 2	1:27: 3	1:29: 7	574.9	/	81.52	81.09	27.59	334.09	333.66	970.85	4.97	-8
19. Oct.	783	21:52:32	21:55:36	23:24: 9	0:52:43	0:55:47	-809.8	/	175.36	176.26	209.14	242.02	242.92	969.40	4.98	-2
20. Apr.	793	4:35:24	4:38:30	8:31:34	12:24:30	12:27:36	174.2		49.03	48.89	329.57	250.26	250.12	948.33	6.05	-3
21. Oct.	796	14:24:21	14:26: 7	16:59:57	19:33:50	19:35:37	-311.4	/	137.24	137.44	208.59	279.73	279.93	969.96	4.98	-4
23. Apr.	806	14:41: 2	14:49: 7	16:16:26	17:43:44	17:51:49	-876.3		126.85	128.63	150.13	171.62	173.40	947.72	6.07	-5
24. Oct.	809	7:51:36	7:53:18	10:32:26	13:11:37	13:13:19	183.2	/	107.18	107.07	27.98	308.89	308.78	970.47	4.98	-6
27. Oct.	822	2: 5:38	2: 7:57	4: 3:30	5:59: 4	6: 1:24	675.7	/	73.53	72.97	27.33	341.69	341.12	970.90	4.97	-8
20. Oct.	829	2:19:34	2:22: 1	4:12:57	6: 3:56	6: 6:23	-706.6	/	165.42	166.04	208.93	251.81	252.44	969.46	4.98	-2
21. Apr.	839	11:15:17	11:18:20	15:15:34	19:12:41	19:15:44	-29.7		61.54	61.57	149.79	238.01	238.04	948.32	6.06	-3
22. Oct.	842	19: 7: 0	19: 8:43	21:47:21	0:26: 3	0:27:46	-208.1	/	130.70	130.83	208.35	285.87	286.00	969.98	4.98	-4
25. Oct.	855	12:43:45	12:45:30	15:20:14	17:55: 1	17:56:46	286.2	/	100.70	100.52	27.73	314.95	314.76	970.48	4.98	-6
27. Oct.	868	7:12:35	7:15:21	8:51:30	10:27:41	10:30:27	776.5	/	64.37	63.59	27.06	350.54	349.75	970.97	4.97	-8
18. Apr.	872	12:20:43	12:26:22	14:30:38	16:34:51	16:40:31	801.7		2.41	1.26	329.51	297.77	296.61	948.88	6.04	-1
21. Oct.	875	6:51:33	6:53:42	9: 0:43	11: 7:46	11: 9:55	-603.9	/	157.02	157.49	208.70	259.92	260.39	969.47	4.98	-2
21. Apr.	885	18: 8:48	18:11:57	22: 1:59	1:51:54	1:55: 3	-235.2		74.25	74.44	150.02	225.59	225.78	948.23	6.06	-3
23. Oct.	888	23:52:29	23:54:10	2:35:34	5:17: 3	5:18:45	-106.1	/	124.38	124.45	208.11	291.78	291.84	970.03	4.98	-4
25. Oct.	901	17:38:53	17:40:42	20: 8:57	22:37:14	22:39: 3	388.9	/	94.00	93.74	27.47	321.20	320.94	970.53	4.97	-6
28. Oct.	914	12:26:55	12:30:50	13:37:51	14:44:52	14:48:47	879.0	/	52.55	51.30	26.78	2.27	1.02	970.98	4.97	-8
19. Apr.	918	18: 5:12	18: 9: 6	21:11:12	0:13:12	0:17: 7	600.8		20.70	20.11	329.72	279.33	278.74	948.78	6.04	-1
21. Oct.	921	11:26:16	11:28:14	13:47:14	16: 6:19	16: 8:17	-502.2	/	149.51	149.87	208.48	267.08	267.44	969.55	4.98	-2
23. Apr.	931	1:15:43	1:19:10	4:49: 6	8:18:58	8:22:25	-442.1		87.82	88.21	150.25	212.30	212.69	948.19	6.06	-3
C 24. Oct.	934	4:39: 5	4:40:46	7:23: 5	10: 5:29	10: 7:10	-4.0	/	118.13	118.13	207.86	297.60	297.60	970.05	4.98	-4
27. Oct.	947	22:35:48	22:37:44	0:57:12	3:16:42	3:18:38	490.4	/	87.05	86.71	27.21	327.71	327.36	970.54	4.97	-6
20. Oct.	954	23:54:35	23:59: 6	0:58:11	1:57:17	2: 1:48	-898.7	/	186.15	187.61	208.82	230.03	231.49	969.01	4.98	0
m 28. Oct.	960	--	--	18:24:24	--	--	979.3	/	--	--	26.50	--	--	971.04	4.97	-8

20. Apr.	964	0:19:25	0:22:45	3:57:16	7:31:40	7:35:0	397.1	35.33	34.99	329.93	264.88	264.54	948.71	6.05	-1
22. Oct.	967	16: 4:57	16: 6:47	18:34:59	21: 3:14	21: 5: 5	-398.7 /	142.41	142.68	208.24	273.81	274.07	969.58	4.98	-2
23. Apr.	977	8:35:53	8:40: 5	11:32:59	14:25:49	14:30: 1	-647.1	103.18	103.86	150.50	197.14	197.83	948.07	6.06	-3
24. Oct.	980	9:28:21	9:30: 2	12:11:27	14:52:57	14:54:38	98.0 /	111.88	111.82	27.61	303.41	303.35	970.11	4.98	-4
27. Oct.	993	3:32:28	3:34:34	5:42:37	7:50:43	7:52:49	590.5 /	79.71	79.26	26.94	334.61	334.16	970.59	4.97	-6
20. Oct.	1000	4:11:27	4:14:24	5:46:32	7:18:42	7:21:40	-795.8 /	173.40	174.24	208.60	242.95	243.80	969.10	4.98	0
21. Apr.	1010	6:43:16	6:46:22	10:37:58	14:29:28	14:32:34	195.1	48.33	48.18	330.16	252.14	251.98	948.67	6.05	-1
22. Oct.	1013	20:46:37	20:48:23	23:23:13	1:58: 7	1:59:53	-295.9 /	135.70	135.89	208.00	280.11	280.30	969.62	4.98	-2
24. Apr.	1023	16:32: 5	16:39:10	18:19:34	19:59:58	20: 7: 2	-854.1	124.27	125.79	150.75	175.71	177.24	948.03	6.07	-3
25. Oct.	1026	14:18:12	14:19:55	16:58:35	19:37:18	19:39: 1	200.5 /	105.51	105.39	27.35	309.31	309.19	970.12	4.98	-4
28. Oct.	1039	8:33:47	8:36: 9	10:29: 4	12:22: 0	12:24:22	691.7 /	71.53	70.93	26.66	342.38	341.79	970.64	4.97	-6
21. Oct.	1046	8:38:21	8:40:45	10:34:11	12:27:39	12:30: 4	-692.9 /	163.73	164.33	208.37	252.41	253.01	969.16	4.98	0
c 21. Apr.	1056	13:21:41	13:24:44	17:21:39	21:18:28	21:21:30	-7.3	60.80	60.80	150.39	239.98	239.99	948.57	6.05	-1
24. Oct.	1059	1:31: 7	1:32:49	4:12: 7	6:51:29	6:53:11	-193.7 /	129.24	129.36	207.75	286.14	286.26	969.69	4.98	-2
25. Oct.	1072	19:10:25	19:12:10	21:46:12	0:20:17	0:22: 3	301.6 /	99.10	98.90	27.09	315.27	315.07	970.19	4.97	-4
28. Oct.	1085	13:39:46	13:42:39	15:14:48	16:46:58	16:49:52	793.7 /	61.95	61.12	26.37	351.63	350.79	970.64	4.97	-6
19. Apr.	1089	14:33:56	14:40: 4	16:33:30	18:26:53	18:33: 1	826.7 /	0.14	358.85	330.09	301.33	300.03	949.16	6.03	1
21. Oct.	1092	13:10:59	13:13: 6	15:22: 9	17:31:14	17:33:21	-589.5 /	155.38	155.83	208.13	260.43	260.88	969.23	4.98	0
23. Apr.	1102	20: 5:49	20: 8:56	0: 0: 8	3:51:14	3:54:21	-209.3	73.27	73.43	150.63	227.83	228.00	948.54	6.05	-1
24. Oct.	1105	6:16:16	6:17:57	8:59:45	11:41:38	11:43:19	-91.4 /	122.90	122.96	207.49	292.03	292.08	969.75	4.98	-2
27. Oct.	1118	0: 4:18	0: 6: 9	2:33:23	5: 0:40	5: 2:30	403.7 /	92.39	92.12	26.81	321.50	321.23	970.24	4.97	-4
29. Oct.	1131	18:56: 3	19: 0:18	20: 1:39	21: 3: 1	21: 7:17	893.5 /	49.78	48.39	26.08	3.77	2.39	970.70	4.97	-6
20. Apr.	1135	20:17:26	20:21:27	23:18:35	2:15:39	2:19:39	622.7	19.60	18.97	330.31	281.65	281.02	949.11	6.04	1
22. Oct.	1138	17:48:27	17:50:24	20:11: 7	22:31:54	22:33:51	-486.4 /	147.85	148.19	207.88	267.57	267.91	969.24	4.98	0
23. Apr.	1148	3: 7:14	3:10:37	6:43:55	10:17: 8	10:20:31	-413.1	86.50	86.85	150.89	214.92	215.27	948.46	6.06	-1
25. Oct.	1151	11: 4:39	11: 6:19	13:48:47	16:31:18	16:32:59	12.1 /	116.55	116.54	27.22	297.92	297.91	969.80	4.98	-2
27. Oct.	1164	4:59: 0	5: 0:57	7:19: 4	9:37:15	9:39:12	504.6 /	85.40	85.04	26.53	328.02	327.66	970.32	4.97	-4
21. Oct.	1171	6:11:24	6:15:32	7:20:36	8:25:42	8:29:50	-884.1 /	183.49	184.80	208.25	231.71	233.02	968.74	4.98	2
21. Apr.	1181	2:24:12	2:27:35	5:58:46	9:29:50	9:33:13	421.6	34.32	33.96	330.54	267.12	266.76	949.07	6.04	1
23. Oct.	1184	22:29:22	22:31:12	1: 0:45	3:30:21	3:32:11	-382.4 /	140.76	141.02	207.63	274.24	274.50	969.29	4.98	0
24. Apr.	1194	10:28:38	10:32:41	13:31:14	16:29:43	16:33:45	-621.5	101.74	102.38	151.15	199.91	200.55	948.44	6.06	-1
25. Oct.	1197	15:53:11	15:54:53	18:30: 8	21:17:28	21:19: 9	114.4 /	110.25	110.18	26.96	303.74	303.67	969.81	4.98	-2
28. Oct.	1210	9:58:24	10: 0:33	12: 6:26	14:12:22	14:14:31	607.4 /	77.75	77.28	26.24	335.21	334.73	970.32	4.97	-4
21. Oct.	1217	10:29:54	10:32:45	12: 8:33	13:44:23	13:47:14	-780.7 /	171.33	172.13	208.01	243.90	244.70	968.78	4.98	2
22. Apr.	1227	8:51:46	8:54:52	12:44:49	16:34:37	16:37:44	217.2	47.60	47.43	330.78	254.13	253.96	948.97	6.04	1

24. Oct. 1230	3:11:46	3:13:31	5:49:19	8:25:11	8:26:56	-280.2	/	134.11	134.29	207.37	280.45	280.63	969.34	4.98	0
24. Apr. 1240	18:14: 0	18:20:14	20:14:23	22: 8:31	22:14:45	-826.5		121.39	122.70	151.42	180.14	181.44	948.36	6.06	-1
26. Oct. 1243	20:43:25	20:45: 8	23:23:21	2: 1:37	2: 3:20	216.2	/	103.90	103.77	26.68	309.60	309.46	969.88	4.98	-2
28. Oct. 1256	15: 1:26	15: 3:53	16:53:43	18:43:35	18:46: 2	709.3	/	69.31	68.68	25.94	343.21	342.58	970.34	4.97	-4
22. Oct. 1263	14:59: 0	15: 1:21	16:57:31	18:53:44	18:56: 5	-677.4	/	161.86	162.43	207.77	253.10	253.67	968.84	4.98	2
22. Apr. 1273	15:21:28	15:24:30	19:20:57	23:17:17	23:20:19	17.4		59.95	59.94	331.03	242.13	242.11	948.91	6.05	1
24. Oct. 1276	7:53:55	7:55:37	10:35:34	13:15:34	13:17:17	-178.3	/	127.68	127.79	207.11	286.42	286.53	969.41	4.98	0
27. Oct. 1289	1:34:40	1:36:26	4: 9:39	6:42:55	6:44:42	318.0	/	97.39	97.19	26.40	315.61	315.40	969.89	4.97	-2
29. Oct. 1302	20:10:14	20:13:15	21:41:17	23: 9:21	23:12:22	810.2	/	59.50	58.61	25.64	352.68	351.79	970.38	4.97	-4
20. Apr. 1306	16:54:14	17: 0:46	18:46:11	20:31:33	20:38: 6	843.4		358.73	357.32	330.70	304.09	302.68	949.48	6.03	3
22. Oct. 1309	19:32:59	19:35: 5	21:46: 2	23:57: 3	23:59: 8	-575.3	/	153.74	154.17	207.51	260.85	261.28	968.87	4.98	2
24. Apr. 1319	22: 9:55	22:13: 1	2: 5: 4	5:56:59	6: 0: 5	-186.4		72.51	72.65	151.29	229.92	230.07	948.82	6.05	1
25. Oct. 1322	12:39:25	12:41: 6	15:23:16	18: 5:31	18: 7:13	-75.6	/	121.31	121.36	206.83	292.31	292.35	969.44	4.98	0
28. Oct. 1335	6:27:46	6:29:37	8:55:43	11:21:51	11:23:42	419.5	/	90.65	90.37	26.11	321.85	321.56	969.96	4.97	-2
m 21. Oct. 1342	--	--	8:53:49	--	--	-973.7	/	--	--	207.90	--	--	968.41	4.98	4
30. Oct. 1348	1:29: 6	1:33:56	2:27:35	3:21:13	3:26: 4	910.9	/	46.31	44.71	25.34	5.96	4.36	970.42	4.97	-4
21. Apr. 1352	22:25:46	22:29:53	1:21: 8	4:12:18	4:16:25	647.3		18.27	17.59	330.94	284.29	283.61	949.43	6.03	3
24. Oct. 1355	0:11: 7	0:13: 3	2:35:22	4:57:44	4:59:40	-471.2	/	146.20	146.53	207.25	267.97	268.29	968.98	4.98	2
24. Apr. 1365	5:10:25	5:13:46	8:49:13	12:24:34	12:27:54	-392.1		85.76	86.10	151.56	217.02	217.35	948.79	6.05	1
25. Oct. 1368	17:26:25	17:28: 5	20:10:38	22:53:15	22:54:56	26.7	/	115.01	115.00	26.55	298.11	298.09	969.47	4.98	0
28. Oct. 1381	11:24:49	11:26:48	13:43:14	15:59:43	16: 1:42	521.6	/	83.50	83.12	25.81	328.50	328.12	969.96	4.97	-2
21. Oct. 1388	12:28:14	12:32: 4	13:42:49	14:53:34	14:57:24	-868.8	/	180.84	182.04	207.64	233.25	234.45	968.45	4.98	4
22. Apr. 1398	4:32:42	4:36: 6	8: 3:54	11:31:35	11:34:59	444.8		33.41	33.03	331.19	269.35	268.96	949.36	6.04	3
24. Oct. 1401	4:50:58	4:52:47	7:23:28	9:54:13	9:56: 3	-368.2	/	139.21	139.46	206.98	274.50	274.74	969.03	4.98	2
25. Apr. 1411	12:23: 4	12:26:59	15:30:58	18:34:52	18:38:47	-594.6		100.32	100.91	151.83	202.76	203.35	948.70	6.06	1
27. Oct. 1414	22:15:45	22:17:26	0:58:30	3:39:39	3:41:20	129.6	/	108.66	108.58	26.26	303.95	303.87	969.57	4.98	0
29. Oct. 1427	16:25:42	16:27:52	18:31:36	20:35:22	20:37:32	623.5	/	75.78	75.28	25.50	335.73	335.23	970.03	4.97	-2
22. Oct. 1434	16:50:52	16:53:38	18:32:55	20:12:14	20:15: 0	-765.7	/	169.26	170.02	207.39	244.75	245.51	968.51	4.98	4
22. Apr. 1444	10:50: 4	10:53:12	14:40:52	18:28:25	18:31:32	246.2		46.47	46.28	331.44	256.61	256.41	949.30	6.04	3
25. Oct. 1447	9:31:55	9:33:39	12:10:22	14:47: 8	14:48:54	-264.8	/	132.50	132.67	206.70	280.73	280.90	969.08	4.98	2
25. Apr. 1457	20: 3: 3	20: 8:44	22:14: 5	0:19:25	0:25: 6	-800.3		119.05	120.20	152.11	184.03	185.18	948.68	6.06	1
27. Oct. 1460	3: 6:22	3: 8: 6	5:45:47	8:23:33	8:25:16	232.4	/	102.21	102.06	25.97	309.88	309.73	969.59	4.98	0
29. Oct. 1473	21:30:37	21:33: 8	23:19:58	1: 6:50	1: 9:21	725.6	/	67.13	66.47	25.19	343.92	343.26	970.09	4.97	-2
22. Oct. 1480	21:19:56	21:22:15	23:20:57	1:19:41	1:22: 0	-662.4	/	160.02	160.57	207.12	253.67	254.22	968.53	4.98	4
23. Apr. 1490	17:28:45	17:31:47	21:27:38	1:23:21	1:26:23	39.8		59.28	59.25	331.70	244.16	244.13	949.24	6.04	3

25. Oct.	1493	14:16:13	14:17:56	16:58:30	19:39: 8	19:40:51	-162.4 /	126.05	126.15	206.42	286.69	286.79	969.10	4.98	2
28. Oct.	1506	7:59:48	8: 1:35	10:33:53	13: 6:15	13: 8: 2	335.1 /	95.59	95.38	25.67	315.96	315.75	969.64	4.97	0
31. Oct.	1519	2:39:27	2:42:38	4: 6:15	5:29:53	5:33: 5	826.6 /	56.93	55.97	24.87	353.78	352.82	970.13	4.97	-2
21. Apr.	1523	19:11:57	19:19:17	20:52:10	22:25: 2	22:32:22	866.7 /	356.28	354.66	331.35	308.05	306.43	949.81	6.02	5
24. Oct.	1526	1:53:54	1:55:58	4: 9: 2	6:22: 8	6:24:13	-559.1 /	151.92	152.34	206.85	261.36	261.78	968.62	4.98	4
24. Apr.	1536	0:15:34	0:18:38	4:11:17	8: 3:49	8: 6:53	-164.4 /	71.85	71.98	151.98	231.98	232.11	949.20	6.05	3
26. Oct.	1539	19: 2: 7	19: 3:48	21:46:20	0:28:55	0:30:36	-58.8 /	119.62	119.66	206.13	292.60	292.63	969.13	4.98	2
28. Oct.	1552	12:55:14	12:57: 6	15:21:54	17:46:44	17:48:37	436.4 /	88.79	88.49	25.36	322.23	321.93	969.64	4.97	0
22. Oct.	1559	14:46:37	14:59:16	15:15: 2	15:30:48	15:43:27	-958.6 /	197.38	201.74	207.26	212.78	217.14	968.08	4.98	6
31. Oct.	1565	8: 4:13	8:10: 0	8:54: 8	9:38:17	9:44: 3	928.6 /	42.32	40.38	24.55	8.72	6.78	970.14	4.97	-2
22. Apr.	1569	0:42:15	0:46:28	3:32:51	6:19:10	6:23:23	666.2 /	17.39	16.68	331.61	286.54	285.82	949.75	6.03	5
24. Oct.	1572	6:30:29	6:32:24	8:56:16	11:20:13	11:22: 7	-455.7 /	144.50	144.82	206.57	268.32	268.64	968.64	4.98	4
25. Apr.	1582	7:12:58	7:16:16	10:54: 0	14:31:37	14:34:54	-367.9 /	84.88	85.19	152.26	219.34	219.65	949.08	6.05	3
----- (Greg. cal.) -----															
6. Nov.	1585	23:50: 6	23:51:47	2:34:22	5:17: 2	5:18:43	43.5 /	113.31	113.28	25.84	298.38	298.35	969.20	4.98	2
8. Nov.	1598	17:53:40	17:55:41	20:10:15	22:24:52	22:26:53	539.2 /	81.49	81.09	25.05	329.00	328.61	969.70	4.97	0
1. Nov.	1605	18:45:54	18:49:32	20: 4:39	21:19:48	21:23:26	-855.9 /	178.59	179.71	206.99	234.28	235.40	968.15	4.98	6
3. May	1615	6:43: 3	6:46:31	10:10:39	13:34:42	13:38: 9	468.4 /	32.49	32.08	331.87	271.66	271.25	949.67	6.03	5
4. Nov.	1618	11:10: 1	11:11:50	13:43:42	16:15:39	16:17:27	-352.9 /	137.56	137.79	206.28	274.78	275.01	968.70	4.98	4
5. May	1628	14:21:15	14:25: 3	17:33:24	20:41:41	20:45:29	-571.0 /	99.24	99.79	152.55	205.32	205.87	949.05	6.05	3
7. Nov.	1631	4:39:27	4:41: 9	7:21:57	10: 2:49	10: 4:31	146.4 /	106.92	106.83	25.53	304.23	304.14	969.23	4.98	2
9. Nov.	1644	22:54:13	22:56:26	0:57:41	2:58:57	3: 1:11	641.1 /	73.63	73.11	24.73	336.34	335.82	969.73	4.97	0
3. Nov.	1651	23: 7:47	23:10:28	0:53: 3	2:35:39	2:38:20	-750.7 /	167.21	167.94	206.72	245.50	246.22	968.20	4.98	6
3. May	1661	13: 5:39	13: 8:47	16:54:49	20:40:44	20:43:52	263.2 /	46.12	45.91	332.14	258.38	258.17	949.61	6.03	5
4. Nov.	1664	15:53:14	15:54:59	18:32:31	21:10: 7	21:11:51	-250.4 /	130.92	131.08	205.99	280.90	281.06	968.75	4.98	4
7. May	1674	21:56:35	22: 1:51	0:16:37	2:31:21	2:36:37	-775.4 /	117.11	118.15	152.85	187.55	188.59	948.96	6.05	3
7. Nov.	1677	9:32:11	9:33:55	12:11: 3	14:48:14	14:49:58	248.7 /	100.46	100.31	25.22	310.13	309.97	969.28	4.98	2
10. Nov.	1690	3:56:54	3:59:30	5:43: 9	7:26:49	7:29:25	742.1 /	64.85	64.15	24.40	344.65	343.96	969.77	4.97	0
3. Nov.	1697	3:38:14	3:40:30	5:41:43	7:42:57	7:45:14	-647.1 /	158.13	158.66	206.44	254.21	254.74	968.29	4.98	6
5. May	1707	19:33:49	19:36:50	23:31:53	3:26:48	3:29:50	64.5 /	58.51	58.46	332.42	246.38	246.33	949.57	6.04	5
6. Nov.	1710	20:38:48	20:40:31	23:21:42	2: 2:58	2: 4:40	-145.2 /	124.30	124.38	205.69	287.00	287.08	968.83	4.98	4
9. Nov.	1723	14:25:32	14:27:19	16:58:45	19:30:15	19:32: 3	350.6 /	93.85	93.62	24.90	316.18	315.96	969.31	4.97	2
11. Nov.	1736	9: 7:48	9:11:10	10:30: 2	11:48:54	11:52:17	843.0 /	54.23	53.19	24.07	354.94	353.91	969.80	4.97	0
2. May	1740	21:34:19	21:42:47	23: 1:47	0:20:46	0:29:13	888.8 /	353.67	351.75	332.04	312.34	310.42	950.18	6.02	7
5. Nov.	1743	8:12:51	8:14:53	10:30: 2	12:45:14	12:47:17	-542.4 /	150.04	150.44	206.15	261.85	262.25	968.30	4.98	6
6. May	1753	2:16:42	2:19:45	6:13: 1	10: 6: 9	10: 9:12	-138.6 /	71.01	71.11	152.71	234.30	234.41	949.48	6.04	5

7. Nov. 1756	1:26:14	1:27:55	4:10:45	6:53:38	6:55:19	-42.6 /	117.92	117.95	205.39	292.82	292.84	968.88	4.98	4
9. Nov. 1769	19:21:17	19:23:11	21:46:33	0: 9:57	0:11:51	454.0 /	86.84	86.53	24.58	322.63	322.32	969.40	4.97	2
2. Nov. 1776	20:56:14	21: 3:57	21:36:22	22: 8:46	22:16:29	-943.8 /	192.58	195.20	206.58	217.97	220.59	967.77	4.98	8
12. Nov. 1782	14:35:56	14:43:20	15:16:25	15:49:31	15:56:55	944.6 /	38.05	35.52	23.73	11.94	9.40	969.86	4.97	0
4. May 1786	2:56:41	3: 1: 2	5:41:18	8:21:31	8:25:51	689.0	16.18	15.42	332.31	289.21	288.44	950.10	6.02	7
5. Nov. 1789	12:51:39	12:53:33	15:18:58	17:44:27	17:46:21	-439.9 /	142.75	143.05	205.85	268.65	268.95	968.36	4.98	6
7. May 1799	9: 7: 4	9:10:19	12:50:32	16:30:38	16:33:52	-339.5	83.78	84.06	153.00	221.95	222.23	949.46	6.04	5
9. Nov. 1802	6:14:20	6:16: 1	8:58:36	11:41:15	11:42:57	60.9 /	111.52	111.49	25.07	298.66	298.62	968.90	4.98	4
12. Nov. 1815	0:18:43	0:20:45	2:33:28	4:46:13	4:48:16	556.1 /	79.48	79.07	24.25	329.43	329.01	969.42	4.97	2
5. Nov. 1822	1: 0:52	1: 4:17	2:24:47	3:45:19	3:48:43	-838.8 /	175.88	176.91	206.30	235.69	236.71	967.82	4.98	8
5. May 1832	9: 0:31	9: 4: 0	12:25:23	15:46:40	15:50: 9	484.7	32.10	31.66	332.59	273.52	273.09	950.02	6.03	7
7. Nov. 1835	17:32:56	17:34:44	20: 7:49	22:40:58	22:42:46	-336.4 /	135.80	136.02	205.55	275.08	275.30	968.38	4.98	6
8. May 1845	16:20:41	16:24:23	19:36:49	22:49:10	22:52:52	-547.2	98.21	98.73	153.31	207.89	208.41	949.36	6.05	5
9. Nov. 1848	11: 5:28	11: 7:10	13:47:39	16:28:13	16:29:56	163.0 /	105.15	105.05	24.75	304.45	304.35	968.93	4.98	4
12. Nov. 1861	5:18:34	5:20:51	7:19:35	9:18:22	9:20:38	657.9 /	71.48	70.93	23.91	336.89	336.35	969.46	4.97	2
5. Nov. 1868	5:25:43	5:28:19	7:14:10	9: 0: 3	9: 2:39	-735.1 /	165.11	165.79	206.01	246.22	246.91	967.89	4.98	8
6. May 1878	15:12:57	15:16: 6	18:50:52	22:43:30	22:46:39	287.3	45.35	45.12	332.88	260.64	260.41	949.95	6.03	7
8. Nov. 1881	22:16:59	22:18:44	0:57:13	3:35:47	3:37:31	-231.8 /	129.05	129.19	205.24	281.28	281.43	968.46	4.98	6
10. May 1891	23:54:24	23:59:24	2:21:37	4:43:47	4:48:46	-753.6	115.67	116.62	153.63	190.63	191.59	949.31	6.05	5
10. Nov. 1894	15:56:31	15:58:16	18:34:42	21:11:12	21:12:57	266.2 /	98.60	98.43	24.43	310.42	310.25	968.96	4.97	4
14. Nov. 1907	10:23:56	10:26:38	12: 6:51	13:47: 7	13:49:48	758.6 /	62.47	61.73	23.57	345.41	344.67	969.47	4.97	2
7. Nov. 1914	9:57:23	9:59:37	12: 3:23	14: 7:11	14: 9:25	-630.7 /	156.14	156.65	205.71	254.76	255.27	967.92	4.98	8
8. May 1924	21:44: 9	21:47:10	1:41:22	5:35:25	5:38:26	84.6	58.05	57.99	333.17	248.36	248.29	949.86	6.03	7
10. Nov. 1927	3: 2:30	3: 4:12	5:45:57	8:27:46	8:29:28	-128.7 /	122.55	122.63	204.92	287.21	287.29	968.48	4.98	6
m 11. May 1937	--	--	8:59:41	--	--	-955.5	--	--	153.95	--	--	949.21	6.05	5
11. Nov. 1940	20:49:22	20:51:11	23:21:31	1:51:56	1:53:45	368.5 /	91.90	91.66	24.09	316.53	316.29	969.05	4.97	4
14. Nov. 1953	15:37:44	15:41:23	16:54:17	18: 7:11	18:10:50	861.8 /	51.07	49.93	23.22	356.51	355.37	969.52	4.97	2
6. May 1957	23:59:53	0: 9:54	1:14:46	2:19:36	2:29:37	907.3	351.20	348.87	332.77	316.67	314.34	950.46	6.01	9
7. Nov. 1960	14:34:31	14:36:32	16:53:27	19:10:25	19:12:27	-527.9 /	148.29	148.67	205.40	262.13	262.52	968.02	4.98	8
9. May 1970	4:20:11	4:23:13	8:16:50	12:10:20	12:13:22	-114.1	70.29	70.37	153.47	236.57	236.66	949.81	6.04	7
10. Nov. 1973	7:48:13	7:49:54	10:32:58	13:16: 7	13:17:49	-26.4 /	116.19	116.21	204.60	293.00	293.01	968.55	4.98	6
13. Nov. 1986	1:44: 5	1:46: 0	4: 7:57	6:29:57	6:31:52	470.5 /	84.90	84.58	23.76	322.94	322.61	969.05	4.97	4
6. Nov. 1993	3: 7:14	3:13:10	3:57:31	4:41:53	4:47:49	-926.7 /	188.23	190.20	205.86	221.52	223.50	967.49	4.99	10
m 15. Nov. 1999	21:16:48	21:32:36	21:41:57	21:51:19	22: 7: 7	963.0 /	31.70	26.17	22.87	19.56	14.03	969.57	4.97	2
7. May 2003	5:14:15	5:18:44	7:53:28	10:28: 9	10:32:37	708.3	15.25	14.44	333.06	291.67	290.86	950.40	6.02	9

8. Nov. 2006	19:13:17	19:15:10	21:42: 9	0: 9:13	0:11: 6	-422.9 /	140.88	141.17	205.09	269.01	269.30	968.05	4.98	8
9. May 2016	11:13:36	11:16:49	14:58:33	18:40:11	18:43:22	-318.5	83.21	83.47	153.78	224.10	224.36	949.72	6.04	7
11. Nov. 2019	12:36:43	12:38:24	15:20:57	18: 3:35	18: 5:16	75.9 /	109.84	109.79	24.27	298.76	298.71	968.62	4.98	6
13. Nov. 2032	6:42:26	6:44:30	8:55:22	11: 6:17	11: 8:22	572.1 /	77.48	77.05	23.41	329.77	329.34	969.13	4.97	4
7. Nov. 2039	7:19:30	7:22:44	8:48: 4	10:13:25	10:16:39	-822.3 /	173.30	174.25	205.56	236.87	237.82	967.54	4.98	10
7. May 2049	11: 5:22	11: 8:54	14:25:43	17:42:26	17:45:58	511.8	30.96	30.49	333.34	276.20	275.73	950.35	6.02	9
9. Nov. 2052	23:55:24	23:57:12	2:31:31	5: 5:55	5: 7:42	-318.7 /	133.92	134.12	204.77	275.42	275.62	968.13	4.98	8
10. May 2062	18:18:36	18:22:13	21:38:53	0:55:27	0:59: 4	-520.5	97.06	97.54	154.10	210.67	211.14	949.69	6.04	7
11. Nov. 2065	17:26:32	17:28:15	20: 8:20	22:48:30	22:50:13	180.7 /	103.28	103.16	23.94	304.71	304.60	968.66	4.98	6
14. Nov. 2078	11:45: 6	11:47:26	13:43:36	15:39:48	15:42: 8	674.3 /	69.29	68.72	23.06	337.40	336.83	969.17	4.97	4
7. Nov. 2085	11:45:39	11:48:12	13:37:22	15:26:34	15:29: 7	-718.5 /	162.90	163.56	205.25	246.95	247.60	967.57	4.98	10
8. May 2095	17:24: 2	17:27:12	21: 8:40	0:49:59	0:53: 9	309.8	44.71	44.46	333.65	262.84	262.59	950.30	6.02	9
10. Nov. 2098	4:38:48	4:40:32	7:19:52	9:59:17	10: 1: 1	-214.7 /	127.22	127.36	204.45	281.53	281.67	968.15	4.98	8
12. May 2108	1:43:45	1:48:26	4:19:33	6:50:38	6:55:18	-724.7	113.71	114.58	154.43	194.28	195.15	949.61	6.05	7
14. Nov. 2111	22:19:23	22:21: 8	0:56:51	3:32:38	3:34:24	283.3 /	96.72	96.54	23.60	310.65	310.47	968.72	4.98	6
15. Nov. 2124	16:54: 5	16:56:54	18:32:40	20: 8:28	20:11:17	778.9 /	59.64	58.85	22.70	346.55	345.76	969.23	4.97	4
9. Nov. 2131	16:18:41	16:20:53	18:27: 7	20:33:24	20:35:36	-614.4 /	154.14	154.62	204.94	255.26	255.74	967.64	4.98	10
10. May 2141	23:51:40	23:54:41	3:47:48	7:40:46	7:43:47	108.1	57.42	57.34	333.95	250.57	250.49	950.22	6.03	9
11. Nov. 2144	9:22:53	9:24:35	12: 6:50	14:49:10	14:50:52	-112.7 /	120.80	120.87	204.12	287.36	287.43	968.21	4.98	8
13. May 2154	10: 9: 4	10:24:30	11: 3:26	11:42:22	11:57:47	-930.6	141.62	145.27	154.77	164.26	167.92	949.60	6.05	7
14. Nov. 2157	3:14: 6	3:15:56	5:45: 5	8:14:17	8:16: 7	386.9 /	89.87	89.62	23.25	316.88	316.62	968.73	4.97	6
16. Nov. 2170	22:11:11	22:15:11	23:21:26	0:27:41	0:31:41	880.4 /	47.70	46.43	22.34	358.25	356.97	969.25	4.97	4
8. May 2174	2:30:42	2:43:27	3:31:41	4:19:56	4:32:40	924.4	348.49	345.47	333.53	321.60	318.58	950.80	6.01	11
9. Nov. 2177	20:54: 2	20:56: 2	23:15: 2	1:34: 7	1:36: 7	-509.8 /	146.25	146.62	204.62	262.62	262.98	967.67	4.98	10
11. May 2187	6:33:51	6:36:52	10:30:32	14:24: 4	14:27: 5	-96.0	69.99	70.07	154.28	238.49	238.56	950.11	6.03	9
c 12. Nov. 2190	14: 9:54	14:11:35	16:54:52	19:38:14	19:39:56	-9.1 /	114.35	114.36	203.79	293.20	293.21	968.25	4.98	8
16. Nov. 2203	8:11:41	8:13:38	10:33:56	12:54:18	12:56:15	488.6 /	82.81	82.47	22.89	323.32	322.98	968.78	4.97	6
9. Nov. 2210	9:22:18	9:27:23	10:20:18	11:13:13	11:18:17	-911.0 /	184.69	186.35	205.10	223.86	225.52	967.15	4.99	12
9. May 2220	7:31: 2	7:35:39	10: 4:17	12:32:51	12:37:29	728.5	14.21	13.35	333.83	294.31	293.45	950.72	6.01	11
12. Nov. 2223	1:33: 8	1:35: 0	4: 3:29	6:32: 2	6:33:54	-406.5 /	139.02	139.30	204.29	269.29	269.56	967.75	4.98	10
12. May 2233	13:21:34	13:24:43	17: 7:57	20:51: 4	20:54:14	-296.2	82.60	82.84	154.60	226.35	226.59	950.07	6.03	9
13. Nov. 2236	18:59: 7	19: 0:48	21:43:13	0:25:42	0:27:24	95.4 /	107.84	107.78	23.43	299.08	299.02	968.29	4.98	8
16. Nov. 2249	13:11: 0	13:13: 7	15:21:35	17:30: 5	17:32:13	591.6 /	75.16	74.70	22.53	330.36	329.91	968.81	4.97	6
9. Nov. 2256	13:36: 4	13:39:10	15: 8:33	16:37:58	16:41: 4	-807.5 /	170.96	171.85	204.79	237.72	238.62	967.24	4.99	12
10. May 2266	13:26:27	13:30: 3	16:43:33	19:56:57	20: 0:32	529.7	30.48	30.00	334.14	278.28	277.79	950.68	6.01	11

12. Nov.	2269	6:14:32	6:16:19	8:51:44	11:27:13	11:29: 1	-302.5 /	132.11	132.30	203.96	275.61	275.81	967.80	4.98	10
13. May	2279	20:25: 1	20:28:33	23:48:14	3: 7:49	3:11:21	-499.5	96.39	96.84	154.93	213.03	213.48	949.98	6.04	9
15. Nov.	2282	23:51: 4	23:52:47	2:32:27	5:12:12	5:13:55	197.9 /	101.39	101.27	23.08	304.90	304.78	968.35	4.98	8
17. Nov.	2295	18:14:47	18:17:11	20: 9:58	22: 2:47	22: 5:12	694.6 /	66.70	66.10	22.17	338.24	337.63	968.87	4.97	6
11. Nov.	2302	18: 3: 6	18: 5:34	19:57:55	21:50:18	21:52:47	-701.9 /	160.70	161.32	204.46	247.60	248.23	967.31	4.98	12
11. May	2312	19:36: 9	19:39:20	23:18:23	2:57:20	3: 0:30	331.4	44.14	43.87	334.45	265.03	264.76	950.58	6.02	11
14. Nov.	2315	10:58:11	10:59:55	13:39:59	16:20: 9	16:21:53	-199.3 /	125.47	125.60	203.62	281.64	281.76	967.89	4.98	10
15. May	2325	3:43:52	3:48:20	6:25:56	9: 3:29	9: 7:57	-701.5	112.44	113.24	155.27	197.31	198.10	949.96	6.04	9
16. Nov.	2328	4:44:27	4:46:13	7:21: 6	9:56: 4	9:57:50	301.3 /	94.73	94.54	22.73	310.91	310.72	968.40	4.98	8
19. Nov.	2341	23:23:14	23:26:11	0:57:47	2:29:25	2:32:22	796.4 /	56.96	56.11	21.80	347.48	346.63	968.89	4.97	6
12. Nov.	2348	22:36:10	22:38:20	0:47: 6	2:55:56	2:58: 6	-596.7 /	152.02	152.48	204.13	255.78	256.24	967.34	4.98	12
13. May	2358	2: 4:20	2: 7:21	5:59:19	9:51: 8	9:54: 8	129.5	56.95	56.85	334.77	252.70	252.60	950.52	6.02	11
14. Nov.	2361	15:45: 6	15:46:48	18:29:33	21:12:24	21:14: 6	-93.9 /	118.84	118.90	203.27	287.64	287.69	967.92	4.98	10
16. May	2371	11:50:21	12: 0:27	13: 6:24	14:12:20	14:22:26	-906.1	137.03	139.36	155.62	171.88	174.21	949.86	6.04	9
17. Nov.	2374	9:40:55	9:42:47	12:10:43	14:38:43	14:40:34	404.5 /	87.85	87.58	22.36	317.15	316.88	968.48	4.97	8
20. Nov.	2387	4:40:42	4:45:10	5:44:16	6:43:23	6:47:51	898.0 /	44.21	42.76	21.42	0.08	358.63	968.97	4.97	6
m 11. May	2391	5: 7: 6	5:34:22	5:46: 7	5:57:52	6:25: 7	943.9	343.86	337.22	334.33	331.44	324.81	951.15	6.00	13
13. Nov.	2394	3:13:45	3:15:43	5:36:41	7:57:43	7:59:41	-492.3 /	144.24	144.59	203.80	263.00	263.35	967.41	4.98	12
13. May	2404	8:38:54	8:41:54	12:35:38	16:29:14	16:32:14	-71.4	69.34	69.40	155.11	240.81	240.87	950.50	6.03	11
15. Nov.	2407	20:34:47	20:36:29	23:19:55	2: 3:27	2: 5: 8	10.9 /	112.31	112.30	22.91	293.53	293.52	967.97	4.98	10
17. Nov.	2420	14:38:20	14:40:19	16:58:40	19:17: 5	19:19: 4	508.8 /	80.52	80.15	21.99	323.83	323.47	968.49	4.97	8
11. Nov.	2427	15:34:18	15:38:49	16:39:13	17:39:39	17:44: 9	-894.8 /	181.34	182.79	204.31	225.82	227.27	966.88	4.99	14
11. May	2437	9:56:27	10: 1:13	12:24:41	14:48: 6	14:52:51	744.6	13.55	12.64	334.64	296.65	295.74	951.09	6.01	13
13. Nov.	2440	7:53:42	7:55:33	10:25:35	12:55:41	12:57:32	-388.3 /	137.02	137.28	203.45	269.63	269.88	967.43	4.98	12
14. May	2450	15:31:11	15:34:19	19:18:45	23: 3: 4	23: 6:11	-275.3	82.13	82.35	155.45	228.54	228.76	950.42	6.03	11
16. Nov.	2453	1:25:43	1:27:25	4: 9:39	6:51:57	6:53:39	114.4 /	105.84	105.77	22.56	299.34	299.27	968.00	4.98	10
18. Nov.	2466	19:38:53	19:41: 3	21:46:57	23:52:55	23:55: 5	611.2 /	72.77	72.29	21.62	330.95	330.48	968.54	4.97	8
11. Nov.	2473	19:51:35	19:54:33	21:28:30	23: 2:29	23: 5:26	-789.6 /	168.33	169.17	203.97	238.78	239.61	966.91	4.99	14
12. May	2483	15:44:56	15:48:34	18:58:31	22: 8:22	22:12: 0	548.1	29.99	29.48	334.97	280.46	279.95	950.97	6.01	13
14. Nov.	2486	12:36:32	12:38:18	15:14:53	17:51:32	17:53:18	-284.1 /	130.12	130.30	203.11	275.90	276.08	967.51	4.98	12
15. May	2496	22:29:21	22:32:49	1:55:27	5:17:58	5:21:26	-477.5	95.70	96.12	155.79	215.46	215.89	950.35	6.03	11
17. Nov.	2499	6:16:18	6:18: 2	8:57: 9	11:36:20	11:38: 4	216.8 /	99.36	99.22	22.19	305.16	305.02	968.05	4.98	10
20. Nov.	2512	0:42:24	0:44:53	2:34:13	4:23:35	4:26: 5	713.9 /	64.11	63.46	21.24	339.02	338.38	968.55	4.97	8
14. Nov.	2519	0:20:27	0:22:51	2:18:24	4:13:59	4:16:24	-684.4 /	158.42	159.01	203.63	248.26	248.85	966.95	4.98	14
14. May	2529	21:57: 8	22: 0:20	1:37:27	5:14:25	5:17:36	347.2	43.98	43.69	335.29	266.90	266.61	950.92	6.01	13

15. Nov.	2532	17:21:41	17:23:24	20: 4:19	22:45:19	22:47: 2	-179.6 /	123.43	123.54	202.75	281.96	282.07	967.52	4.98	12
17. May	2542	5:48:38	5:52:56	8:35:46	11:18:33	11:22:51	-680.9	111.51	112.26	156.15	200.03	200.78	950.24	6.04	11
18. Nov.	2545	11: 9:58	11:11:45	13:45:40	16:19:39	16:21:26	320.7 /	92.62	92.42	21.82	311.23	311.02	968.10	4.98	10
21. Nov.	2558	5:50:45	5:53:52	7:20:40	8:47:29	8:50:36	815.1 /	54.03	53.12	20.86	348.60	347.68	968.61	4.97	8
14. Nov.	2565	4:55:48	4:57:55	7: 9: 3	9:20:15	9:22:23	-579.8 /	149.93	150.37	203.29	256.20	256.64	967.05	4.98	14
15. May	2575	4:16:37	4:19:37	8:10:23	12: 0:59	12: 4: 0	149.2	56.61	56.50	335.63	254.76	254.64	950.87	6.02	13
17. Nov.	2578	22: 9:41	22:11:23	0:54:35	3:37:53	3:39:35	-75.2 /	116.86	116.91	202.39	287.86	287.91	967.61	4.98	12
17. May	2588	13:48:41	13:57: 2	15:18: 8	16:39:14	16:47:35	-886.3	134.43	136.32	156.51	176.69	178.58	950.21	6.04	11
19. Nov.	2591	16: 5: 6	16: 6:59	18:33:27	20:59:58	21: 1:51	424.4 /	85.63	85.34	21.44	317.55	317.26	968.11	4.97	10
22. Nov.	2604	11:13:20	11:18:36	12: 8: 7	12:57:38	13: 2:54	918.0 /	39.95	38.20	20.47	2.73	0.99	968.64	4.97	8
m 13. May	2608	--	--	8: 2:34	--	--	961.5	--	--	335.16	--	--	951.49	6.00	15
16. Nov.	2611	9:34:10	9:36: 7	11:58:59	14:21:55	14:23:52	-474.4 /	142.18	142.51	202.93	263.36	263.69	967.11	4.98	14
16. May	2621	10:53:55	10:56:54	14:50:28	18:43:53	18:46:52	-51.9	69.04	69.08	155.97	242.87	242.91	950.79	6.02	13
18. Nov.	2624	2:58:34	3: 0:16	5:43:49	8:27:26	8:29: 8	28.9 /	110.36	110.34	22.01	293.70	293.68	967.67	4.98	12
20. Nov.	2637	21: 3: 5	21: 5: 6	23:21:39	1:38:15	1:40:15	526.7 /	78.33	77.95	21.06	324.18	323.79	968.19	4.97	10
13. Nov.	2644	21:48:53	21:52:57	23: 0:41	0: 8:26	0:12:29	-876.6 /	177.94	179.21	203.46	227.72	228.99	966.55	4.99	16
14. May	2654	12:15:36	12:20:34	14:36:40	16:52:42	16:57:41	766.4	12.29	11.31	335.49	299.67	298.69	951.40	6.00	15
16. Nov.	2657	14:16:20	14:18:10	16:49:46	19:21:26	19:23:17	-368.8 /	134.91	135.15	202.58	270.00	270.24	967.17	4.98	14
17. May	2667	17:35:32	17:38:38	21:24:18	1: 9:50	1:12:56	-251.7	81.53	81.73	156.32	230.92	231.12	950.73	6.02	13
19. Nov.	2670	7:47:29	7:49:12	10:31:11	13:13:15	13:14:58	132.4 /	103.86	103.78	21.65	299.51	299.43	967.73	4.98	12
22. Nov.	2683	2: 3:39	2: 5:52	4: 9:10	6:12:31	6:14:44	630.1 /	70.36	69.86	20.68	331.49	330.99	968.24	4.97	10
15. Nov.	2690	2:10:27	2:13:17	3:51:56	5:30:37	5:33:26	-770.0 /	165.56	166.34	203.12	239.89	240.67	966.60	4.99	16
15. May	2700	18: 5:34	18: 9:15	21:15:51	0:22:21	0:26: 1	564.8	29.64	29.10	335.82	282.54	282.01	951.36	6.00	15
18. Nov.	2703	18:59:35	19: 1:21	21:39: 4	0:16:52	0:18:38	-264.7 /	128.05	128.22	202.21	276.20	276.37	967.18	4.98	14
19. May	2713	0:36: 0	0:39:25	4: 4:54	7:30:16	7:33:40	-454.3	94.99	95.38	156.68	217.98	218.38	950.66	6.03	13
20. Nov.	2716	12:39:44	12:41:28	15:19:54	17:58:25	18: 0:10	236.9 /	97.21	97.06	21.27	305.47	305.32	967.76	4.98	12
23. Nov.	2729	7: 8:39	7:11:13	8:57: 3	10:42:55	10:45:29	732.5 /	61.50	60.82	20.29	339.75	339.07	968.31	4.97	10
16. Nov.	2736	6:41:14	6:43:35	8:42:20	10:41: 8	10:43:29	-666.0 /	156.06	156.62	202.76	248.91	249.47	966.67	4.99	16
17. May	2746	0:12:28	0:15:41	3:50:21	7:24:52	7:28: 4	367.0	43.58	43.28	336.17	269.06	268.75	951.28	6.01	15
19. Nov.	2749	23:45: 7	23:46:50	2:28:31	5:10:17	5:12: 0	-159.9 /	121.35	121.45	201.84	282.24	282.33	967.25	4.98	14
20. May	2759	7:53:42	7:57:52	10:45:52	13:33:48	13:37:58	-659.3	110.57	111.27	157.05	202.83	203.53	950.64	6.03	13
21. Nov.	2762	17:33:43	17:35:31	20: 8:21	22:41:15	22:43: 3	340.6 /	90.43	90.21	20.88	311.56	311.34	967.78	4.98	12
24. Nov.	2775	12:21:26	12:24:45	13:45:45	15: 6:45	15:10: 5	835.8 /	50.73	49.72	19.89	350.05	349.04	968.32	4.97	10
17. Nov.	2782	11:15:35	11:17:40	13:31:20	15:45: 4	15:47:10	-560.6 /	147.67	148.09	202.40	256.72	257.14	966.73	4.98	16
17. May	2792	6:37:14	6:40:14	10:29:47	14:19:11	14:22:12	166.0	56.48	56.35	336.51	256.68	256.55	951.20	6.01	15

20. Nov. 2795	4:31:20	4:33:2	7:16:37	10:0:18	10:2:0	-56.1 /	114.82	114.85	201.47	288.08	288.12	967.28	4.98	14
20. May 2805	15:44:15	15:51:24	17:26:52	19:2:19	19:9:28	-862.9	131.83	133.41	157.42	181.44	183.01	950.52	6.03	13
22. Nov. 2808	22:30:6	22:32:0	0:56:57	3:21:58	3:23:52	443.6 /	83.41	83.10	20.49	317.89	317.58	967.85	4.97	12
m 16. Nov. 2815	0:12:42	--	0:31:36	--	0:50:30	-964.9 /	196.44	--	202.95	--	209.45	966.16	4.99	17
24. Nov. 2821	17:51:36	17:58:27	18:35:13	19:11:59	19:18:49	938.5 /	34.87	32.54	19.48	6.42	4.10	968.36	4.97	10
17. Nov. 2828	15:54:58	15:56:54	18:21:40	20:46:30	20:48:26	-455.9 /	140.05	140.36	202.04	263.71	264.03	966.77	4.98	16
18. May 2838	13:6:24	13:9:22	17:2:39	20:55:47	20:58:45	-31.1	68.68	68.71	156.87	245.04	245.06	951.11	6.01	15
20. Nov. 2841	9:18:47	9:20:29	12:4:5	14:47:45	14:49:27	47.9 /	108.31	108.28	21.09	293.90	293.87	967.35	4.98	14
23. Nov. 2854	3:28:33	3:30:35	5:44:59	7:59:26	8:1:28	546.6 /	75.95	75.55	20.10	324.65	324.24	967.89	4.97	12
16. Nov. 2861	4:5:11	4:8:54	5:23:25	6:37:57	6:41:40	-857.7 /	174.62	175.76	202.59	229.42	230.56	966.27	4.99	17
16. May 2871	14:43:55	14:49:1	17:0:40	19:12:16	19:17:22	778.6	11.96	10.93	336.37	301.81	300.78	951.74	5.99	18
18. Nov. 2874	20:35:54	20:37:43	23:10:42	1:43:46	1:45:36	-351.1 /	132.88	133.11	201.67	270.22	270.45	966.81	4.98	16
18. May 2884	19:53:40	19:56:45	23:43:6	3:29:19	3:32:23	-234.2	81.35	81.53	157.23	232.93	233.12	951.04	6.02	15
21. Nov. 2887	14:9:34	14:11:17	16:52:58	19:34:44	19:36:27	151.3 /	101.79	101.70	20.70	299.70	299.61	967.38	4.98	14
24. Nov. 2900	8:31:27	8:33:44	10:34:8	12:34:34	12:36:51	650.0 /	67.82	67.28	19.70	332.12	331.58	967.94	4.97	12
18. Nov. 2907	8:28:19	8:31:3	10:13:40	11:56:19	11:59:3	-752.5 /	163.03	163.76	202.23	240.69	241.42	966.33	4.99	17
17. May 2917	20:25:12	20:28:56	23:31:17	2:33:32	2:37:16	585.3	29.01	28.44	336.71	284.98	284.42	951.65	6.00	18
20. Nov. 2920	1:19:22	1:21:7	3:59:53	6:38:44	6:40:29	-246.1 /	125.99	126.15	201.29	276.42	276.58	966.92	4.98	16
21. May 2930	2:46:40	2:50:1	6:17:44	9:45:20	9:48:41	-434.3	94.54	94.91	157.60	220.29	220.67	951.00	6.02	15
22. Nov. 2933	19:2:49	19:4:35	21:42:20	0:20:10	0:21:55	255.7 /	95.11	94.95	20.31	305.67	305.51	967.46	4.98	14
25. Nov. 2946	13:38:8	13:40:49	15:22:37	17:4:26	17:7:7	752.4 /	58.67	57.94	19.29	340.65	339.92	967.95	4.97	12
18. Nov. 2953	12:58:21	13:0:39	15:2:35	17:4:34	17:6:52	-646.7 /	153.63	154.16	201.86	249.55	250.09	966.38	4.99	17
19. May 2963	2:31:0	2:34:14	6:6:17	9:38:13	9:41:27	386.9	43.20	42.87	337.07	271.26	270.94	951.61	6.00	18
21. Nov. 2966	6:4:14	6:5:57	8:48:19	11:30:45	11:32:28	-141.4 /	119.31	119.39	200.91	282.41	282.50	966.96	4.98	16
21. May 2976	9:57:19	10:1:20	12:54:45	15:48:6	15:52:6	-634.7	109.48	110.14	157.98	205.82	206.48	950.90	6.02	15
24. Nov. 2979	23:58:20	0:0:9	2:31:53	5:3:40	5:5:30	359.5 /	88.26	88.03	19.91	311.80	311.56	967.54	4.98	14
25. Nov. 2992	18:52:55	18:56:30	20:11:23	21:26:17	21:29:53	855.5 /	47.36	46.25	18.88	351.52	350.41	968.06	4.97	12
19. Nov. 2999	17:34:26	17:36:30	19:52:29	22:8:31	22:10:35	-542.5 /	145.46	145.86	201.49	257.10	257.50	966.41	4.98	17
20. May 3009	8:48:36	8:51:37	12:39:28	16:27:11	16:30:12	190.9	55.88	55.73	337.43	259.12	258.97	951.53	6.00	18
22. Nov. 3012	10:51:51	10:53:33	13:37:29	16:21:31	16:23:13	-36.8 /	112.73	112.75	200.52	288.28	288.30	967.02	4.98	16
23. May 3022	17:33:33	17:39:50	19:28:51	21:17:50	21:24:7	-836.4	129.26	130.61	158.36	186.12	187.46	950.88	6.03	15
25. Nov. 3025	4:55:32	4:57:27	7:20:44	9:44:4	9:46:0	463.5 /	81.09	80.76	19.51	318.26	317.93	967.57	4.97	14
18. Nov. 3032	6:15:14	6:23:43	6:53:7	7:22:32	7:31:1	-945.6 /	188.95	191.81	202.05	212.29	215.15	965.88	4.99	19
28. Nov. 3038	0:31:3	0:43:41	0:59:11	1:14:41	1:27:19	958.8 /	28.31	23.93	18.47	13.01	8.62	968.09	4.97	12
21. Nov. 3045	22:13:3	22:14:57	0:41:37	3:8:21	3:10:15	-436.5 /	137.84	138.14	201.11	264.07	264.37	966.45	4.98	17
21. May 3055	15:25:25	15:28:23	19:21:16	23:13:59	23:16:56	-14.3	68.60	68.61	157.80	246.98	246.99	951.47	6.01	18

23. Nov. 3058	15:42:5	15:43:47	18:27:22	21:11:1	21:12:43	66.7	/	106.23	106.19	20.12	294.06	294.02	967.03	4.98	16
26. Nov. 3071	9:56:42	9:58:47	12:10:45	14:22:47	14:24:52	567.6	/	73.44	73.01	19.10	325.20	324.77	967.61	4.97	14
19. Nov. 3078	10:18:37	10:22:5	11:42:28	13:2:52	13:6:20	-839.5	/	171.54	172.58	201.68	230.77	231.81	965.91	4.99	19
12 18. May 3088	17:10:47	17:16:8	19:20:59	21:25:48	21:31:8	796.5	/	11.01	9.91	337.28	304.64	303.54	952.04	5.99	20
22. Nov. 3091	2:54:52	2:56:41	5:31:3	8:5:30	8:7:19	-332.3	/	130.76	130.97	200.72	270.46	270.68	966.55	4.98	17
23. May 3101	22:4:47	22:7:50	1:54:59	5:41:59	5:45:1	-212.9	/	80.97	81.13	158.17	235.21	235.38	951.40	6.01	18
24. Nov. 3104	20:34:48	20:36:32	23:17:46	1:59:4	2:0:48	172.4	/	99.55	99.44	19.72	300.00	299.90	967.10	4.98	16
27. Nov. 3117	14:59:22	15:1:43	16:58:56	18:56:12	18:58:32	670.4	/	65.15	64.59	18.69	332.79	332.23	967.61	4.97	14
20. Nov. 3124	14:42:24	14:45:3	16:31:23	18:17:46	18:20:25	-735.1	/	160.54	161.23	201.30	241.38	242.07	965.99	4.99	19
21. May 3134	22:49:57	22:53:44	1:52:34	4:51:19	4:55:6	601.2	/	28.73	28.14	337.63	287.13	286.54	952.00	5.99	20
23. Nov. 3137	7:38:45	7:40:30	10:20:16	13:0:8	13:1:53	-226.8	/	123.87	124.01	200.33	276.65	276.79	966.57	4.98	17
24. May 3147	4:59:9	5:2:27	8:32:13	12:1:53	12:5:11	-414.1	/	94.13	94.49	158.55	222.62	222.97	951.30	6.02	18
26. Nov. 3150	1:28:23	1:30:9	4:7:4	6:44:4	6:45:50	276.0	/	92.87	92.69	19.32	305.95	305.77	967.15	4.98	16
28. Nov. 3163	20:6:36	20:9:25	21:46:36	23:23:49	23:26:37	773.6	/	55.62	54.83	18.27	341.72	340.93	967.70	4.97	14
21. Nov. 3170	19:14:30	19:16:46	21:21:19	23:25:55	23:28:11	-630.3	/	151.43	151.94	200.92	249.91	250.42	966.06	4.99	19
21. May 3180	4:52:1	4:55:16	8:24:42	11:54:1	11:57:15	405.9	/	42.88	42.54	338.00	273.46	273.12	951.90	5.99	20
24. Nov. 3183	12:26:11	12:27:54	15:10:53	17:53:57	17:55:40	-123.0	/	117.25	117.33	199.94	282.54	282.62	966.64	4.98	17
24. May 3193	12:2:16	12:6:10	15:4:4	18:1:52	18:5:45	-612.6	/	108.68	109.30	158.94	208.58	209.19	951.26	6.02	18
26. Nov. 3196	6:22:28	6:24:19	8:54:45	11:25:16	11:27:6	379.7	/	85.96	85.71	18.91	312.11	311.86	967.19	4.98	16
29. Nov. 3209	1:21:57	1:25:55	2:33:34	3:41:14	3:45:12	876.1	/	43.62	42.36	17.85	353.34	352.09	967.71	4.97	14
22. Nov. 3216	23:51:17	23:53:19	2:11:38	4:30:2	4:32:4	-523.2	/	143.16	143.54	200.53	257.52	257.90	966.14	4.99	19
22. May 3226	11:10:54	11:13:55	15:0:30	18:46:56	18:49:57	205.4	/	55.94	55.78	338.37	260.97	260.81	951.85	6.00	20
24. Nov. 3229	17:14:40	17:16:22	20:0:34	22:44:52	22:46:34	-18.3	/	110.66	110.67	199.53	288.40	288.41	966.69	4.98	17
25. May 3239	19:39:27	19:45:15	21:43:15	23:41:13	23:47:1	-815.9	/	127.78	128.99	159.33	189.67	190.89	951.17	6.02	18
27. Nov. 3242	11:20:7	11:22:4	13:43:40	16:5:19	16:7:16	482.5	/	78.79	78.45	18.50	318.55	318.21	967.25	4.98	16
20. Nov. 3249	12:21:4	12:27:14	13:10:33	13:53:52	14:0:2	-927.1	/	183.92	185.96	201.12	216.28	218.32	965.57	4.99	21
23. Nov. 3262	4:32:28	4:34:21	7:2:45	9:31:13	9:33:7	-418.1	/	135.68	135.96	200.14	264.32	264.61	966.20	4.98	19
c 22. May 3272	17:34:3	17:37:0	21:29:21	1:21:32	1:24:29	10.9	/	68.04	68.03	338.75	249.46	249.46	951.80	6.00	20
26. Nov. 3275	22:5:44	22:7:26	0:50:54	3:34:27	3:36:9	87.9	/	103.98	103.93	19.13	294.33	294.27	966.79	4.98	17
27. Nov. 3288	16:20:1	16:22:9	18:31:46	20:41:26	20:43:34	587.0	/	70.98	70.53	18.08	325.63	325.18	967.30	4.97	16
21. Nov. 3295	16:32:9	16:35:26	18:0:50	19:26:15	19:29:32	-822.7	/	168.71	169.67	200.74	231.80	232.76	965.64	4.99	21
21. May 3305	19:35:13	19:40:53	21:37:36	23:34:17	23:39:57	816.5	/	9.76	8.57	338.21	307.85	306.66	952.45	5.98	22
24. Nov. 3308	9:15:39	9:17:27	11:53:14	14:29:7	14:30:55	-311.9	/	128.51	128.71	199.74	270.77	270.97	966.23	4.98	19
25. May 3318	0:16:15	0:19:16	4:7:7	7:54:49	7:57:49	-190.6	/	80.56	80.71	159.13	237.56	237.71	951.74	6.01	20
27. Nov. 3321	2:57:35	2:59:19	5:40:4	8:20:54	8:22:38	192.3	/	97.35	97.23	18.72	300.20	300.08	966.81	4.98	17

29. Nov. 3334	21:24:11	21:26:35	23:20:25	1:14:16	1:16:41	690.9	/	62.41	61.81	17.66	333.50	332.90	967.37	4.97	16
22. Nov. 3341	20:58:52	21: 1:26	22:51:34	0:41:45	0:44:18	-716.4	/	157.94	158.59	200.35	242.10	242.76	965.68	4.99	21
23. May 3351	1:14:25	1:18:15	4:13:18	7: 8:15	7:12: 5	617.8		28.40	27.79	338.58	289.37	288.76	952.34	5.98	22
25. Nov. 3354	14: 1:49	14: 3:34	16:44:17	19:25: 5	19:26:50	-207.7	/	121.73	121.86	199.34	276.82	276.95	966.28	4.98	19
25. May 3364	7: 6: 1	7: 9:16	10:41:27	14:13:30	14:16:45	-389.5		93.47	93.80	159.52	225.25	225.58	951.68	6.01	20
28. Nov. 3367	7:50:13	7:52: 0	10:28: 0	13: 4: 6	13: 5:53	296.2	/	90.60	90.41	18.30	306.19	306.00	966.86	4.98	17
30. Nov. 3380	2:33:38	2:36:36	4: 8:51	5:41: 9	5:44: 6	794.4	/	52.48	51.63	17.23	342.83	341.98	967.38	4.97	16
24. Nov. 3387	1:33: 3	1:35:15	3:42:57	5:50:42	5:52:55	-609.5	/	148.88	149.36	199.95	250.54	251.02	965.75	4.99	21
23. May 3397	7:17:34	7:20:50	10:48: 8	14:15:18	14:18:33	420.0		42.92	42.56	338.96	275.36	275.01	952.27	5.99	22
26. Nov. 3400	18:47:40	18:49:23	21:32:58	0:16:38	0:18:21	-102.2	/	115.02	115.08	198.94	282.79	282.85	966.32	4.98	19
27. May 3410	14:18:43	14:22:32	17:23:32	20:24:27	20:28:15	-595.7		108.35	108.93	159.93	210.92	211.50	951.59	6.01	20
29. Nov. 3413	12:45:47	12:47:38	15:16:45	17:45:57	17:47:49	399.2	/	83.67	83.41	17.88	312.36	312.09	966.88	4.98	17
2. Dec. 3426	7:54:12	7:58:43	8:57:54	9:57: 5	10: 1:35	897.1	/	39.52	38.05	16.80	355.54	354.08	967.43	4.97	16
25. Nov. 3433	6:11:13	6:13:13	8:33:46	10:54:22	10:56:23	-504.1	/	140.87	141.23	199.55	257.87	258.23	965.79	4.99	21
25. May 3443	13:28:16	13:31:17	17:16:11	21: 0:55	21: 3:56	226.0		55.65	55.47	339.34	263.21	263.03	952.18	5.99	22
C 28. Nov. 3446	23:35:59	23:37:41	2:22: 6	5: 6:37	5: 8:19	2.5	/	108.42	108.42	18.45	288.63	288.62	966.40	4.98	19
27. May 3456	21:46:39	21:52: 3	23:58:14	2: 4:22	2: 9:47	-795.3		126.45	127.56	160.33	193.10	194.21	951.53	6.02	20
30. Nov. 3459	17:43:43	17:45:42	20: 5:12	22:24:45	22:26:44	504.4	/	76.23	75.87	17.46	319.04	318.68	966.93	4.98	17
23. Nov. 3466	18:32: 1	18:37:12	19:29:49	20:22:27	20:27:39	-910.6	/	179.97	181.66	200.16	218.66	220.34	965.29	4.99	23
26. Nov. 3479	10:51:25	10:53:18	13:23:22	15:53:31	15:55:24	-399.3	/	133.47	133.74	199.15	264.56	264.82	965.87	4.98	21
25. May 3489	19:57:27	20: 0:23	23:52: 8	3:43:44	3:46:40	27.0		68.06	68.04	339.73	251.42	251.40	952.13	6.00	22
28. Nov. 3492	4:25:33	4:27:16	7:10:34	9:53:58	9:55:41	107.2	/	101.82	101.75	18.11	294.46	294.39	966.41	4.98	19
2. Dec. 3505	22:45:14	22:47:24	0:54:23	3: 1:24	3: 3:35	607.4	/	68.39	67.91	17.03	326.15	325.67	966.99	4.97	17
25. Nov. 3512	22:47:10	22:50:16	0:21: 4	1:51:55	1:55: 1	-803.1	/	165.64	166.53	199.76	232.99	233.88	965.33	4.99	23
25. May 3522	22: 5:33	22:11:30	0: 1:52	1:52:12	1:58: 8	830.9		9.08	7.80	339.18	310.55	309.27	952.73	5.97	24
27. Nov. 3525	15:34:51	15:36:38	18:13:37	20:50:42	20:52:30	-293.9	/	126.40	126.59	198.74	270.89	271.08	965.95	4.98	21
28. May 3535	2:32:15	2:35:15	6:23:34	10:11:45	10:14:44	-169.4		80.25	80.38	160.12	239.86	239.99	952.05	6.00	22
30. Nov. 3538	9:17:19	9:19: 4	11:59:19	14:39:39	14:41:24	210.7	/	95.21	95.07	17.68	300.29	300.16	966.50	4.98	19
3. Dec. 3551	3:50:26	3:52:56	5:43:11	7:33:27	7:35:57	711.1	/	59.62	58.97	16.60	334.22	333.58	967.02	4.97	17
26. Nov. 3558	3:16:44	3:19:13	5:13:17	7: 7:24	7: 9:53	-695.9	/	155.20	155.81	199.36	242.90	243.51	965.41	4.99	23
25. May 3568	3:39:28	3:43:23	6:34: 3	9:24:36	9:28:31	636.4		27.92	27.28	339.56	291.84	291.19	952.69	5.98	24
28. Nov. 3571	20:19:35	20:21:19	23: 2:58	1:44:42	1:46:26	-187.0	/	119.47	119.59	198.32	277.06	277.17	965.98	4.98	21
28. May 3581	9:23:57	9:27: 9	13: 0:47	16:34:17	16:37:29	-371.8		93.31	93.62	160.53	227.44	227.74	951.97	6.00	22
30. Nov. 3584	14:12: 2	14:13:50	16:48:54	19:24: 4	19:25:51	315.5	/	88.35	88.15	17.26	306.37	306.16	966.55	4.98	19
3. Dec. 3597	9: 2:29	9: 5:37	10:32:56	12: 0:17	12: 3:25	813.6	/	49.37	48.45	16.16	343.87	342.96	967.11	4.97	17

26. Nov. 3604	7:51:10	7:53:20	10: 3:53	12:14:29	12:16:40	-589.7 /	146.41	146.86	198.95	251.04	251.49	965.44	4.99	23
26. May 3614	9:36:31	9:39:48	13: 3:58	16:28: 1	16:31:18	441.3	42.48	42.10	339.94	277.78	277.40	952.61	5.98	24
29. Nov. 3617	1: 7:12	1: 8:55	3:53: 0	6:37:12	6:38:55	-82.1 /	112.80	112.85	197.91	282.96	283.01	966.05	4.98	21
29. May 3627	16:21:34	16:25:15	19:31: 8	22:36:55	22:40:36	-568.4	107.28	107.82	160.93	214.04	214.58	951.94	6.01	22
1. Dec. 3630	19: 9:49	19:11:42	21:39:10	0: 6:42	0: 8:35	421.7 /	81.15	80.86	16.83	312.79	312.50	966.61	4.98	19
4. Dec. 3643	14:26:23	14:31:44	15:21: 2	16:10:21	16:15:41	917.4 /	35.05	33.29	15.72	358.16	356.39	967.13	4.97	17
27. Nov. 3650	12:28:10	12:30:10	14:52:48	17:15:30	17:17:29	-485.3 /	138.59	138.93	198.54	258.15	258.50	965.50	4.99	23
26. May 3660	15:53: 9	15:56:11	19:39:27	23:22:34	23:25:36	243.4	55.57	55.38	340.33	265.29	265.10	952.57	5.99	24
30. Nov. 3663	5:56:12	5:57:55	8:42:28	11:27: 7	11:28:50	23.3 /	106.15	106.14	17.48	288.82	288.81	966.06	4.98	21
30. May 3673	23:47:35	23:52:37	2: 7:37	4:22:33	4:27:35	-770.6	124.86	125.86	161.34	196.82	197.82	951.86	6.01	22
2. Dec. 3676	0: 9:43	0:11:44	2:29: 9	4:46:38	4:48:39	524.9 /	73.74	73.36	16.39	319.43	319.05	966.65	4.98	19
26. Nov. 3683	0:42:45	0:47:14	1:49:14	2:51:16	2:55:45	-890.4 /	175.81	177.23	199.16	221.09	222.51	964.93	4.99	25
27. Nov. 3696	17: 8:37	17:10:29	19:42:15	22:14: 6	22:15:58	-379.2 /	131.17	131.42	198.13	264.83	265.08	965.55	4.99	23
29. May 3706	22:17:19	22:20:15	2:11:16	6: 2: 8	6: 5: 3	46.0	67.92	67.89	340.73	253.57	253.54	952.45	5.99	24
1. Dec. 3709	10:47:23	10:49: 7	13:32:11	16:15:22	16:17: 5	126.8 /	99.60	99.52	17.06	294.59	294.51	966.14	4.98	21
4. Dec. 3722	5:11:23	5:13:37	7:17:42	9:21:50	9:24: 4	628.5 /	65.70	65.19	15.96	326.72	326.22	966.69	4.97	19
27. Nov. 3729	5: 1:44	5: 4:41	6:40:26	8:16:13	8:19:11	-783.8 /	162.68	163.51	198.75	234.00	234.83	965.02	4.99	25
27. May 3739	0:40: 5	0:46:21	2:29:59	4:13:36	4:19:51	845.2	8.34	6.97	340.16	313.36	311.99	953.08	5.97	26
30. Nov. 3742	21:52:13	21:54: 0	0:32:17	3:10:40	3:12:27	-272.9 /	124.08	124.25	197.70	271.16	271.33	965.58	4.98	23
29. May 3752	4:53:46	4:56:45	8:45:15	12:33:37	12:36:35	-152.8	80.26	80.38	161.14	241.90	242.02	952.37	5.99	24
2. Dec. 3755	15:40:12	15:41:57	18:21:31	21: 1:10	21: 2:56	232.1 /	92.85	92.70	16.63	300.55	300.41	966.17	4.98	21
4. Dec. 3768	10:18: 7	10:20:43	12: 7: 6	13:53:31	13:56: 6	731.5 /	56.72	56.04	15.52	335.00	334.31	966.74	4.97	19
28. Nov. 3775	9:30:47	9:33:12	11:30:35	13:28: 1	13:30:27	-677.7 /	152.69	153.27	198.34	243.41	244.00	965.07	4.99	25
27. May 3785	6: 8:36	6:12:35	8:59:22	11:46: 4	11:50: 2	652.0	27.68	27.01	340.56	294.10	293.43	952.99	5.97	26
30. Nov. 3788	2:38:53	2:40:37	5:23: 5	8: 5:38	8: 7:22	-167.9 /	117.29	117.39	197.28	277.17	277.28	965.66	4.98	23
30. May 3798	11:35:17	11:38:27	15:13:53	18:49:11	18:52:21	-349.1	92.85	93.14	161.54	229.95	230.23	952.32	6.00	24
3. Dec. 3801	20:36:22	20:38:11	23:12: 5	1:46: 5	1:47:54	337.2 /	85.92	85.70	16.19	306.68	306.46	966.23	4.98	21
6. Dec. 3814	15:30:40	15:34: 3	16:54:56	18:15:51	18:19:13	836.3 /	45.71	44.70	15.07	345.45	344.43	966.76	4.97	19
29. Nov. 3821	14: 5:11	14: 7:19	16:20:22	18:33:29	18:35:37	-571.6 /	144.06	144.50	197.93	251.35	251.79	965.16	4.99	25
29. May 3831	12: 3: 4	12: 6:23	15:27:51	18:49:10	18:52:29	458.4	42.35	41.95	340.95	279.94	279.55	952.95	5.98	26
2. Dec. 3834	7:27: 2	7:28:45	10:13:18	12:57:56	12:59:39	-62.4 /	110.59	110.62	196.85	283.08	283.12	965.73	4.98	23
31. May 3844	18:37:23	18:40:59	21:49:52	0:58:38	1: 2:14	-549.6	106.91	107.42	161.96	216.50	217.01	952.24	6.00	24
5. Dec. 3847	1:34: 4	1:35:59	4: 1:55	6:27:55	6:29:50	441.3 /	78.78	78.47	15.75	313.03	312.73	966.29	4.98	21
6. Dec. 3860	21: 0:45	21: 7:52	21:43:28	22:19: 5	22:26:11	938.8 /	29.60	27.20	14.62	2.05	359.65	966.83	4.97	19
30. Nov. 3867	18:44:31	18:46:29	21:11:18	23:36:13	23:38:10	-464.6 /	136.16	136.48	197.50	258.52	258.85	965.20	4.99	25

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29. May 3877	18:12:26	18:15:28	21:56:50	1:38: 3	1:41: 5	263.6	55.34	55.13	341.35	267.57	267.36	952.84	5.98	26
2. Dec. 3880	12:17:41	12:19:23	15: 4: 2	17:48:46	17:50:28	42.8 /	103.94	103.91	16.42	288.93	288.90	965.82	4.98	23
2. June 3890	1:52:25	1:57:11	4:19:40	6:42: 6	6:46:51	-747.2	123.58	124.49	162.37	200.26	201.17	952.18	6.00	24
5. Dec. 3893	6:32:48	6:34:51	8:50: 6	11: 5:25	11: 7:28	545.0 /	71.22	70.82	15.31	319.80	319.40	966.37	4.98	21
29. Nov. 3900	6:53:45	6:57:46	8: 7:44	9:17:43	9:21:44	-870.4 /	172.01	173.25	198.14	223.03	224.27	964.65	4.99	27
2. Dec. 3913	23:27:38	23:29:29	2: 2:57	4:36:31	4:38:22	-357.9 /	128.76	129.00	197.08	265.15	265.39	965.25	4.99	25
1. June 3923	0:36:20	0:39:15	4:29:26	8:19:27	8:22:22	66.4	67.73	67.68	341.75	255.84	255.79	952.80	5.98	26
4. Dec. 3926	17: 9:37	17:11:20	19:54: 4	22:36:53	22:38:36	148.8 /	97.21	97.12	15.98	294.84	294.75	965.84	4.98	23
3. June 3936	10:24:28	--	10:55:57	--	11:27:26	-949.5	155.11	--	162.80	--	170.50	952.10	6.01	24
7. Dec. 3939	11:35:57	11:38:14	13:39:12	15:40:13	15:42:31	649.7 /	62.93	62.39	14.87	327.34	326.80	966.42	4.98	21
30. Nov. 3946	11:14:45	11:17:34	12:57:59	14:38:26	14:41:16	-764.3 /	159.77	160.54	197.72	234.91	235.68	964.68	4.99	27
29. May 3956	3:14:39	3:21:21	4:57:17	6:33:12	6:39:53	860.4	7.41	5.91	341.18	316.44	314.94	953.42	5.96	28
3. Dec. 3959	4:12:57	4:14:44	6:54:12	9:33:46	9:35:33	-252.5 /	121.78	121.94	196.65	271.36	271.52	965.31	4.99	25
1. June 3969	7: 7:38	7:10:35	10:59:21	14:47:58	14:50:55	-131.0	79.96	80.06	162.16	244.27	244.37	952.75	5.99	26
5. Dec. 3972	22: 4:18	22: 6: 4	0:44:50	3:23:41	3:25:27	254.1 /	90.42	90.26	15.54	300.83	300.67	965.90	4.98	23
7. Dec. 3985	16:43:56	16:46:39	18:28:13	20: 9:50	20:12:33	754.9 /	53.45	52.71	14.41	336.12	335.38	966.44	4.97	21
30. Nov. 3992	15:45:20	15:47:42	17:48:32	19:49:26	19:51:48	-657.7 /	150.04	150.59	197.30	244.01	244.56	964.78	4.99	27
30. May 4002	8:37: 6	8:41: 9	11:24: 0	14: 6:46	14:10:48	667.2	27.47	26.77	341.57	296.38	295.68	953.35	5.96	28
3. Dec. 4005	8:59:22	9: 1: 6	11:44:20	14:27:40	14:29:25	-147.2 /	114.98	115.08	196.21	277.35	277.44	965.36	4.98	25
2. June 4015	13:57:47	14: 0:55	17:37:29	21:13:55	21:17: 3	-331.8	92.78	93.05	162.59	232.12	232.39	952.67	5.99	26
6. Dec. 4018	2:59:39	3: 1:29	5:34: 6	8: 6:48	8: 8:38	359.0 /	83.45	83.21	15.10	306.99	306.75	965.93	4.98	23
8. Dec. 4031	22: 0:13	22: 3:54	23:17:54	0:31:55	0:35:36	858.0 /	41.95	40.82	13.96	347.11	345.97	966.49	4.97	21
1. Dec. 4038	20:22:11	20:24:17	22:40: 0	0:55:47	0:57:53	-551.5 /	141.56	141.98	196.87	251.77	252.18	964.80	4.99	27
30. May 4048	14:31:15	14:34:35	17:53:28	21:12:13	21:15:33	473.7	42.34	41.93	341.98	282.03	281.62	953.23	5.97	28
4. Dec. 4051	13:48:21	13:50: 4	16:35: 1	19:20: 3	19:21:46	-40.8 /	108.24	108.26	195.78	283.29	283.32	965.43	4.98	25
3. June 4061	20:52:17	20:55:49	0: 7:41	3:19:27	3:22:58	-529.6	106.49	106.97	163.00	219.04	219.52	952.58	5.99	26
6. Dec. 4064	7:56: 1	7:57:57	10:22: 6	12:46:19	12:48:15	462.6 /	76.25	75.93	14.65	313.38	313.06	966.00	4.98	23
30. Nov. 4071	9: 8:44	9:28: 8	9:33:24	9:38:39	9:58: 3	-958.8 /	189.09	195.71	197.52	199.33	205.94	964.31	4.99	29
9. Dec. 4077	3:43:32	--	4: 6:49	--	4:30: 7	961.8 /	21.60	--	13.51	--	5.41	966.51	4.97	21
2. Dec. 4084	1: 3:43	1: 5:40	3:32:35	5:59:34	6: 1:31	-444.0 /	133.72	134.03	196.44	258.85	259.16	964.89	4.99	27
1. June 4094	20:42:33	20:45:35	0:25:28	4: 5:11	4: 8:13	277.0	55.55	55.33	342.39	269.45	269.23	953.20	5.97	28
4. Dec. 4097	18:38:29	18:40:12	21:24:49	0: 9:32	0:11:16	64.6 /	101.57	101.53	15.34	289.14	289.10	965.44	4.98	25
5. June 4107	4:11:30	4:16: 5	6:43:28	9:10:48	9:15:22	-730.4	123.03	123.90	163.43	202.97	203.83	952.50	6.00	26
8. Dec. 4110	12:56:32	12:58:38	15:11:15	17:23:56	17:26: 2	567.7 /	68.47	68.04	14.21	320.37	319.94	966.03	4.98	23
1. Dec. 4117	13: 4:25	13: 8: 6	14:24:54	15:41:44	15:45:25	-851.0 /	168.50	169.62	197.09	224.57	225.68	964.36	4.99	29

4. Dec. 4130	5:46:53	5:48:43	8:23:43	10:58:48	11: 0:38	-338.0	/	126.44	126.67	196.01	265.34	265.56	964.97	4.99	27
2. June 4140	3: 0:45	3: 3:40	6:52:58	10:42: 5	10:45: 0	83.2	/	67.77	67.71	342.80	257.90	257.84	953.12	5.98	28
7. Dec. 4143	23:30:52	23:32:36	2:14:54	4:57:18	4:59: 2	169.9	/	94.86	94.75	14.89	295.03	294.92	965.56	4.98	25
5. June 4153	12:19:29	12:33:19	13:16: 3	13:58:46	14:12:35	-930.3	/	149.91	153.24	163.86	174.49	177.81	952.47	6.00	26
8. Dec. 4156	18: 1:30	18: 3:52	20: 1:16	21:58:44	22: 1: 6	672.3	/	59.98	59.40	13.75	328.10	327.52	966.07	4.98	23
2. Dec. 4163	17:29:52	17:32:35	19:17:39	21: 2:46	21: 5:29	-743.5	/	156.78	157.49	196.66	235.83	236.55	964.44	4.99	29
31. May 4173	5:46:23	5:53:41	7:20:19	8:46:54	8:54:12	877.1	/	6.14	4.46	342.21	319.95	318.28	953.76	5.95	30
4. Dec. 4176	10:31:14	10:33: 1	13:13:37	15:54:20	15:56: 7	-231.4	/	119.41	119.56	195.57	271.58	271.72	965.04	4.99	27
3. June 4186	9:33:24	9:36:20	13:25: 6	17:13:43	17:16:39	-113.6	/	79.96	80.05	163.22	246.39	246.47	953.07	5.98	28
7. Dec. 4189	4:24:28	4:26:15	7: 4: 8	9:42: 7	9:43:54	275.4	/	88.01	87.83	14.44	301.05	300.88	965.60	4.98	25
11. Dec. 4202	23:11:59	23:14:50	0:51:40	2:28:33	2:31:24	776.2	/	50.27	49.47	13.30	337.13	336.33	966.15	4.97	23
4. Dec. 4209	22: 3: 0	22: 5:18	0: 9:34	2:13:53	2:16:12	-636.8	/	147.33	147.85	196.23	244.61	245.13	964.45	4.99	29
2. June 4219	11: 8:29	11:12:37	13:51: 1	16:29:21	16:33:28	683.9	/	27.13	26.39	342.61	298.84	298.10	953.68	5.96	30
6. Dec. 4222	15:18:52	15:20:36	18: 4:35	20:48:41	20:50:25	-124.9	/	112.57	112.64	195.12	277.60	277.68	965.08	4.99	27
4. June 4232	16:12:56	16:16: 1	19:54: 2	23:31:54	23:34:59	-309.5	/	92.41	92.66	163.64	234.62	234.87	952.98	5.98	28
9. Dec. 4235	9:20:45	9:22:36	11:53:50	14:25: 9	14:27: 1	380.7	/	80.95	80.69	13.99	307.29	307.04	965.67	4.98	25
11. Dec. 4248	4:31:22	4:35:30	5:41:15	6:47: 1	6:51: 9	880.7	/	37.78	36.47	12.84	349.20	347.89	966.20	4.97	23
5. Dec. 4255	2:41:14	2:43:18	5: 1:50	7:20:26	7:22:30	-528.9	/	138.89	139.28	195.79	252.31	252.70	964.53	4.99	29
2. June 4265	17: 4:20	17: 7:41	20:24:19	23:40:49	23:44: 9	486.3	/	42.53	42.11	343.03	283.95	283.53	953.65	5.96	30
6. Dec. 4268	20: 8: 9	20: 9:52	22:55: 7	1:40:29	1:42:12	-18.6	/	105.82	105.83	194.67	283.52	283.53	965.10	4.98	27
6. June 4278	23:12:22	23:15:50	2:30:18	5:44:40	5:48: 7	-510.7	/	106.20	106.66	164.07	221.48	221.94	952.94	5.99	28
9. Dec. 4281	14:20:44	14:22:42	16:44:43	19: 6:48	19: 8:46	486.1	/	73.53	73.19	13.54	313.89	313.54	965.68	4.98	25
2. Dec. 4288	15: 9:27	15:16:55	15:52: 8	16:27:21	16:34:49	-937.3	/	181.79	184.27	196.45	208.64	211.12	963.97	5.00	31
6. Dec. 4301	7:21:13	7:23: 8	9:52: 5	12:21: 7	12:23: 2	-422.7	/	131.24	131.53	195.35	259.18	259.46	964.58	4.99	29
5. June 4311	23:12:54	23:15:56	2:54: 7	6:32: 7	6:35: 9	292.4	/	55.65	55.42	343.44	271.47	271.24	953.53	5.97	30
9. Dec. 4314	0:59:18	1: 1: 2	3:45:33	6:30:10	6:31:53	87.1	/	99.13	99.08	14.23	289.38	289.33	965.18	4.98	27
7. June 4324	6:26:35	6:31: 0	9: 3:26	11:35:48	11:40:12	-711.9	/	122.40	123.21	164.50	205.80	206.61	952.89	5.99	28
11. Dec. 4327	19:24:27	19:26:36	21:36:15	23:45:57	23:48: 7	591.6	/	65.57	65.11	13.08	321.05	320.59	965.73	4.98	25
4. Dec. 4334	19:18:17	19:21:42	20:44:58	22: 8:16	22:11:41	-830.6	/	165.05	166.05	196.02	225.99	227.00	964.03	4.99	31
7. Dec. 4347	12: 3:18	12: 5: 7	14:41:41	17:18:21	17:20:11	-315.9	/	123.97	124.17	194.91	265.65	265.85	964.65	4.99	29
5. June 4357	5:31:39	5:34:33	9:22:59	13:11:14	13:14: 8	96.9	/	68.01	67.94	343.86	259.79	259.72	953.47	5.97	30
9. Dec. 4360	5:51:56	5:53:41	8:35:26	11:17:16	11:19: 1	192.7	/	92.37	92.25	13.78	295.31	295.18	965.21	4.98	27
8. June 4370	14:24:56	14:35: 0	15:37:43	16:40:26	16:50:30	-911.3	/	146.82	149.19	164.94	180.68	183.06	952.78	6.00	28
12. Dec. 4373	0:30:26	0:32:53	2:26:18	4:19:46	4:22:13	695.8	/	56.87	56.26	12.62	328.99	328.37	965.78	4.98	25
5. Dec. 4380	23:44:10	23:46:47	1:36:10	3:25:37	3:28:14	-723.0	/	153.86	154.53	195.58	236.63	237.31	964.09	4.99	31
3. June 4390	8:30:27	8:38:10	9:50:18	11:20:24	11:28: 7	886.0	/	5.88	4.09	343.26	322.43	320.64	954.07	5.95	32

7. Dec. 4393	16:49: 9	16:50:55	19:32:35	22:14:22	22:16: 8	-210.4 /	117.05	117.18	194.47	271.76	271.89	964.69	4.99	29
6. June 4403	11:59:36	12: 2:31	15:51:12	19:39:42	19:42:37	-97.0	80.03	80.11	164.29	248.47	248.54	953.37	5.97	30
10. Dec. 4406	10:47:42	10:49:30	13:26:20	16: 3:16	16: 5: 4	298.4 /	85.46	85.27	13.32	301.38	301.19	965.27	4.98	27
13. Dec. 4419	5:40:18	5:43:20	7:14:33	8:45:47	8:48:49	799.4 /	46.76	45.89	12.16	338.44	337.56	965.84	4.97	25
6. Dec. 4426	4:18: 0	4:20:15	6:27:53	8:35:35	8:37:50	-615.2 /	144.58	145.07	195.14	245.22	245.71	964.20	4.99	31
3. June 4436	13:46:22	13:50:33	16:25:59	19: 1:18	19: 5:29	694.3	27.32	26.56	343.67	300.80	300.04	954.02	5.95	32
9. Dec. 4439	21:37:30	21:39:14	0:23:53	3: 8:38	3:10:22	-102.8 /	110.15	110.21	194.02	277.82	277.88	964.76	4.99	29
6. June 4449	18:41:49	18:44:53	22:23:29	2: 1:55	2: 4:58	-296.2	92.64	92.88	164.72	236.55	236.79	953.32	5.98	30
10. Dec. 4452	15:45:32	15:47:25	18:17: 6	20:46:53	20:48:46	402.9 /	78.38	78.11	12.87	307.63	307.36	965.31	4.98	27
13. Dec. 4465	11: 3: 2	11: 7:51	12: 3:49	12:59:47	13: 4:36	903.5 /	33.20	31.63	11.70	351.77	350.21	965.87	4.97	25
6. Dec. 4472	8:55:39	8:57:41	11:18:45	13:39:54	13:41:57	-507.5 /	136.31	136.68	194.70	252.72	253.09	964.24	4.99	31
4. June 4482	19:35:45	19:39: 8	22:52:50	2: 6:24	2: 9:46	502.9	42.45	42.00	344.09	286.18	285.74	953.92	5.95	32
C 9. Dec. 4485	2:28:25	2:30: 8	5:15:38	8: 1:14	8: 2:57	3.4 /	103.41	103.41	13.53	283.72	283.71	964.85	4.98	29
8. June 4495	1:29:12	1:32:35	4:49:36	8: 6:30	8: 9:53	-491.0	105.88	106.32	165.15	223.98	224.41	953.25	5.98	30
11. Dec. 4498	20:46:26	20:48:27	23: 8:12	1:28: 0	1:30: 1	509.3 /	70.80	70.43	12.41	314.39	314.02	965.41	4.98	27
5. Dec. 4505	21:16:30	21:22:10	22:10:54	22:59:38	23: 5:18	-916.9 /	176.57	178.41	195.37	212.33	214.17	963.67	5.00	33
8. Dec. 4518	13:37:17	13:39:11	16:10: 9	18:41:12	18:43: 6	-400.5 /	128.70	128.97	194.25	259.53	259.80	964.30	4.99	31
6. June 4528	1:38:59	1:42: 2	5:18:15	8:54:18	8:57:20	309.8	55.63	55.38	344.51	273.64	273.40	953.90	5.96	32
11. Dec. 4531	7:21: 1	7:22:44	10: 7: 2	12:51:26	12:53:10	110.6 /	96.61	96.54	13.11	289.67	289.60	964.88	4.98	29
9. June 4541	8:39:37	8:43:50	11:22: 2	14: 0:10	14: 4:23	-689.2	121.47	122.23	165.58	208.94	209.69	953.17	5.99	30
13. Dec. 4544	1:48:54	1:51: 6	3:57:47	6: 4:31	6: 6:44	614.0 /	62.74	62.25	11.95	321.65	321.16	965.46	4.98	27
7. Dec. 4551	1:29:11	1:32:23	3: 2: 5	4:31:49	4:35: 1	-808.3 /	161.50	162.42	194.93	227.43	228.35	963.71	5.00	33
8. Dec. 4564	18:22:22	18:24:10	21: 2:12	23:40:20	23:42: 9	-294.1 /	121.51	121.70	193.80	265.90	266.09	964.31	4.99	31
7. June 4574	7:57:31	8: 0:26	11:47:46	15:34:56	15:37:50	115.5	67.97	67.88	344.93	262.00	261.91	953.80	5.96	32
11. Dec. 4577	12:16: 3	12:17:49	14:58:52	17:40: 2	17:41:47	216.2 /	89.82	89.69	12.65	295.62	295.48	964.94	4.98	29
10. June 4587	16:21:31	16:29:30	17:50:34	19:11:38	19:19:37	-886.8	143.60	145.43	166.02	186.60	188.44	953.13	5.99	30
14. Dec. 4590	6:54:42	6:57:15	8:46:29	10:35:45	10:38:19	718.8 /	53.74	53.08	11.49	329.89	329.23	965.51	4.98	27
7. Dec. 4597	5:57:33	6: 0: 5	7:53:47	9:47:32	9:50: 4	-701.1 /	150.88	151.51	194.48	237.46	238.09	963.81	4.99	33
6. June 4607	11:12:27	11:20:49	12:34:31	13:48:12	13:56:34	897.3	5.20	3.23	344.34	325.44	323.47	954.43	5.94	34
11. Dec. 4610	23: 9:47	23:11:32	1:54:18	4:37:11	4:38:56	-185.9 /	114.45	114.57	193.35	272.13	272.24	964.38	4.99	31
8. June 4620	14:29:53	14:32:47	18:21:11	22: 9:25	22:12:19	-84.4	80.36	80.42	165.37	250.32	250.38	953.74	5.97	32
13. Dec. 4623	17:11:15	17:13: 4	19:48:46	22:24:33	22:26:22	321.1 /	82.91	82.70	12.19	301.69	301.48	964.95	4.98	29
15. Dec. 4636	12: 8: 4	12:11:19	13:36:14	15: 1:11	15: 4:27	822.8 /	43.08	42.11	11.02	339.93	338.97	965.53	4.98	27
9. Dec. 4643	10:32: 8	10:34:20	12:45:16	14:56:16	14:58:28	-592.7 /	141.79	142.26	194.03	245.81	246.28	963.83	4.99	33
6. June 4653	16:23:36	16:27:50	18:50:39	21:31:22	21:35:36	706.7	27.33	26.54	344.75	302.96	302.18	954.32	5.94	34

11. Dec. 4656	3:58:45	4: 0:29	6:45:43	9:31: 3	9:32:47	-80.1 /	107.68	107.73	192.89	278.05	278.10	964.45	4.99	31
10. June 4666	21: 3:40	21: 6:41	0:46:14	4:25:37	4:28:38	-277.0	92.52	92.74	165.80	238.86	239.08	953.64	5.97	32
14. Dec. 4669	22: 8:49	22:10:44	0:38:37	3: 6:35	3: 8:30	427.0 /	75.66	75.37	11.73	308.09	307.80	965.05	4.98	29
16. Dec. 4682	17:36:59	17:43: 7	18:25:54	19: 8:40	19:14:49	927.6 /	27.69	25.64	10.56	355.47	353.42	965.57	4.97	27
9. Dec. 4689	15:12:23	15:14:24	17:37:50	20: 1:20	20: 3:21	-486.7 /	133.78	134.13	193.59	253.04	253.39	963.92	4.99	33
8. June 4699	22: 8: 1	22:11:25	1:22:29	4:33:25	4:36:49	517.1	42.54	42.08	345.17	288.26	287.80	954.28	5.95	34
13. Dec. 4702	8:48:41	8:50:25	11:36: 4	14:21:49	14:23:32	26.4 /	100.92	100.91	12.43	283.96	283.95	964.50	4.99	31
11. June 4712	3:55:36	3:58:56	7:17:48	10:36:33	10:39:53	-475.0	105.85	106.26	166.24	226.21	226.62	953.57	5.97	32
16. Dec. 4715	3: 8:19	3:10:22	5:27:45	7:45:11	7:47:14	532.0 /	68.06	67.67	11.27	314.87	314.48	965.07	4.98	29
9. Dec. 4722	3:21:50	3:26:32	4:26:25	5:26:18	5:31: 0	-894.8 /	171.80	173.29	194.27	215.24	216.73	963.39	5.00	35
11. Dec. 4735	19:55:10	19:57: 2	22:29:51	1: 2:46	1: 4:39	-378.9 /	126.20	126.45	193.13	259.81	260.07	963.98	4.99	33
9. June 4745	4:12:56	4:15:58	7:50:28	11:24:49	11:27:51	323.6	55.85	55.59	345.60	275.60	275.35	954.17	5.95	34
13. Dec. 4748	13:41:24	13:43: 8	16:27:11	19:11:20	19:13: 4	131.3 /	94.24	94.16	11.98	289.79	289.71	964.58	4.98	31
12. June 4758	10:59:12	11: 3:17	13:45:56	16:28:30	16:32:35	-670.1	120.93	121.64	166.67	211.71	212.42	953.50	5.98	32
16. Dec. 4761	8:11:22	8:13:39	10:17: 5	12:20:35	12:22:52	636.8 /	59.82	59.30	10.81	322.31	321.79	965.14	4.98	29
9. Dec. 4768	7:41:33	7:44:34	9:20: 0	10:55:29	10:58:30	-786.6 /	158.16	159.00	193.82	228.64	229.48	963.46	5.00	35
12. Dec. 4781	0:41:19	0:43: 7	3:22:37	6: 2:13	6: 4: 1	-270.4 /	118.92	119.09	192.67	266.25	266.42	964.07	4.99	33
10. June 4791	10:30: 2	10:32:56	14:19:17	18: 5:28	18: 8:22	128.7	68.27	68.17	346.03	263.89	263.79	954.12	5.96	34
14. Dec. 4794	18:35: 2	18:36:48	21:17: 7	23:57:31	23:59:18	238.5 /	87.33	87.17	11.51	295.86	295.71	964.63	4.98	31
12. June 4804	18:42: 4	18:49:14	20:19:42	21:50: 9	21:57:18	-871.3	142.34	143.96	167.11	190.27	191.89	953.43	5.98	32
17. Dec. 4807	13:19:59	13:22:39	15: 7:30	16:52:24	16:55: 4	741.0 /	50.58	49.87	10.34	330.81	330.10	965.20	4.98	29
10. Dec. 4814	12:12:26	12:14:53	14:12:51	16:10:53	16:13:20	-678.1 /	147.84	148.43	193.37	238.30	238.89	963.48	5.00	35
7. June 4824	13:53:56	14: 3:28	15: 6:34	16: 9:40	16:19:11	911.3	3.84	1.56	345.41	329.27	326.99	954.76	5.93	36
13. Dec. 4827	5:28:35	5:30:20	8:14: 1	10:57:49	10:59:35	-163.7 /	111.99	112.09	192.22	272.34	272.44	964.11	4.99	33
10. June 4837	16:52:29	16:55:22	20:43:36	0:31:39	0:34:31	-62.7	80.14	80.19	166.46	252.72	252.77	954.04	5.96	34
15. Dec. 4840	23:31:44	23:33:34	2: 7:56	4:42:24	4:44:14	344.7 /	80.28	80.05	11.05	302.05	301.83	964.72	4.98	31
17. Dec. 4853	18:37:23	18:40:57	19:58:21	21:15:46	21:19:20	847.8 /	39.00	37.91	9.87	341.83	340.74	965.26	4.98	29
10. Dec. 4860	16:49:36	16:51:45	19: 5:39	21:19:36	21:21:46	-571.7 /	139.13	139.56	192.91	246.26	246.70	963.56	4.99	35
8. June 4870	18:59: 7	19: 3:28	21:30:46	23:58: 0	0: 2:20	722.0	27.07	26.25	345.84	305.42	304.60	954.70	5.94	36
13. Dec. 4873	10:16:46	10:18:30	13: 4:13	15:50: 3	15:51:47	-57.6 /	105.21	105.25	191.76	278.27	278.30	964.16	4.99	33
12. June 4883	23:30:48	23:33:48	3:14: 2	6:54: 7	6:57: 6	-259.7	92.53	92.73	166.89	241.05	241.26	954.02	5.96	34
16. Dec. 4886	4:30:26	4:32:23	6:58:19	9:24:20	9:26:16	450.9 /	72.92	72.61	10.59	308.56	308.25	964.73	4.98	31
19. Dec. 4899	0:17: 4	0:27:33	0:49:17	1:11: 0	1:21:29	951.9 /	20.57	16.99	9.40	1.82	358.23	965.32	4.98	29
12. Dec. 4906	21:28:34	21:30:33	23:56:26	2:22:24	2:24:23	-463.7 /	131.10	131.43	192.46	253.49	253.81	963.60	4.99	35
10. June 4916	0:48:13	0:51:38	4: 0:41	7: 9:37	7:13: 1	526.8	42.96	42.49	346.27	290.04	289.57	954.59	5.94	36

15. Dec. 4919	15: 7:37	15: 9:20	17:55: 3	20:40:52	20:42:36	48.3 /	98.49	98.46	11.29	284.13	284.10	964.21	4.99	33
13. June 4929	6:19:11	6:22:28	9:43:31	13: 4:26	13: 7:43	-455.5	105.60	105.99	167.33	228.66	229.06	953.93	5.97	34
17. Dec. 4932	9:32:17	9:34:23	11:49: 6	14: 3:54	14: 6: 0	555.7 /	65.21	64.79	10.12	315.46	315.04	964.80	4.98	31
11. Dec. 4939	9:31:43	9:35:53	10:44:33	11:53:15	11:57:25	-873.7 /	167.67	168.95	193.15	217.35	218.63	963.06	5.00	37
13. Dec. 4952	2:11:56	2:13:48	4:48:27	7:23:12	7:25: 5	-356.1 /	123.61	123.85	192.00	260.15	260.39	963.68	4.99	35
11. June 4962	6:50:37	6:53:40	10:26:32	13:59:14	14: 2:16	335.9	56.17	55.90	346.69	277.49	277.22	954.53	5.94	36
15. Dec. 4965	20: 0: 5	20: 1:49	22:45:26	1:29: 8	1:30:53	156.2 /	91.61	91.52	10.83	290.15	290.05	964.26	4.99	33
14. June 4975	13:27: 5	13:31: 5	16:16:35	19: 2: 0	19: 5:59	-656.7	120.90	121.58	167.77	213.97	214.65	953.84	5.97	34
18. Dec. 4978	14:37:33	14:39:54	16:39:43	18:39:36	18:41:57	660.5 /	56.77	56.21	9.66	323.10	322.55	964.82	4.98	31
11. Dec. 4985	13:53:33	13:56:26	15:36:54	17:17:24	17:20:17	-766.1 /	155.03	155.81	192.70	229.58	230.36	963.14	5.00	37
14. Dec. 4998	6:56:52	6:58:40	9:39:26	12:20:18	12:22: 6	-248.7 /	116.47	116.63	191.55	266.46	266.61	963.72	4.99	35
12. June 5008	13: 2:58	13: 5:51	16:51: 5	20:36: 9	20:39: 2	144.1	68.43	68.33	347.12	265.92	265.81	954.44	5.95	36
18. Dec. 5011	0:55:40	0:57:28	3:36:53	6:16:25	6:18:13	261.8 /	84.75	84.58	10.37	296.16	295.99	964.33	4.98	33
15. June 5021	20:54: 1	21: 0:25	22:41:43	0:23: 0	0:29:24	-850.7	140.60	142.02	168.21	194.41	195.82	953.78	5.98	34
19. Dec. 5024	19:48:57	19:51:46	21:30:57	23:10:10	23:12:59	767.3 /	46.93	46.15	9.19	332.22	331.44	964.89	4.98	31
13. Dec. 5031	18:25:28	18:27:51	20:29:23	22:30:58	22:33:22	-657.9 /	145.08	145.63	192.24	238.85	239.40	963.23	5.00	37
10. June 5041	16:40:33	16:51:39	17:44: 2	18:36:25	18:47:30	923.3	2.59	359.89	346.51	333.12	330.42	955.07	5.92	38
15. Dec. 5044	11:43:51	11:45:36	14:30: 6	17:14:43	17:16:28	-142.7 /	109.60	109.69	191.08	272.47	272.56	963.82	4.99	35
13. June 5054	19:26:27	19:29:19	23:17:10	3: 4:50	3: 7:42	-49.0	80.42	80.46	167.56	254.65	254.69	954.40	5.95	36
18. Dec. 5057	5:53: 6	5:54:58	8:27:54	11: 0:56	11: 2:48	368.2 /	77.63	77.38	9.90	302.43	302.18	964.37	4.98	33
21. Dec. 5070	1: 8:12	1:12:10	2:21:27	3:30:45	3:34:43	871.2 /	34.82	33.57	8.72	343.87	342.62	964.92	4.98	31
14. Dec. 5077	23: 2: 7	23: 4:14	1:21: 9	3:38: 8	3:40:15	-549.0 /	136.36	136.77	191.78	246.79	247.20	963.26	5.00	37
12. June 5087	21:41:32	21:45:57	0:10: 2	2:34: 3	2:38:27	732.1	27.27	26.42	346.93	307.45	306.60	954.99	5.93	38
16. Dec. 5090	16:33:45	16:35:28	19:21:36	22: 7:51	22: 9:35	-35.0 /	102.74	102.76	190.62	278.48	278.50	963.88	4.99	35
15. June 5100	1:58:29	2: 1:27	5:42:17	9:22:57	9:25:55	-242.1	92.54	92.72	167.99	243.26	243.45	954.29	5.96	36
20. Dec. 5103	10:53:40	10:55:38	13:19:38	15:43:43	15:45:41	473.1 /	70.27	69.94	9.44	308.94	308.60	964.46	4.98	33
m 13. Dec. 5110	11:47:57	--	12: 8:17	--	12:28:38	-960.7 /	185.59	--	192.47	--	199.36	962.72	5.00	39
16. Dec. 5123	3:43:36	3:45:33	6:13:46	8:42: 4	8:44: 1	-440.8 /	128.44	128.75	191.32	253.89	254.20	963.34	4.99	37
13. June 5133	3:22:39	3:26: 6	6:31:54	9:37:33	9:41: 0	544.0	42.83	42.34	347.36	292.38	291.89	954.96	5.93	38
18. Dec. 5136	21:26:35	21:28:19	0:13:58	2:59:43	3: 1:27	73.3 /	95.86	95.82	10.15	284.48	284.44	963.93	4.99	35
16. June 5146	8:45:13	8:48:27	12:11: 8	15:33:41	15:36:55	-439.0	105.59	105.96	168.43	230.91	231.28	954.25	5.96	36
20. Dec. 5149	15:56:24	15:58:33	18:10:21	20:22:13	20:24:22	579.9 /	62.28	61.83	8.97	316.11	315.67	964.49	4.98	33
13. Dec. 5156	15:40: 1	15:43:47	17: 0: 4	18:16:23	18:20: 9	-852.9 /	163.84	164.97	192.02	219.07	220.20	962.78	5.00	39
16. Dec. 5169	8:27: 0	8:28:51	11: 5:15	13:41:45	13:43:36	-333.2 /	121.03	121.25	190.86	260.47	260.69	963.36	4.99	37
14. June 5179	9:24:12	9:27:15	12:58: 7	16:28:50	16:31:53	351.5	56.28	56.00	347.79	279.58	279.30	954.87	5.94	38

19. Dec. 5182	2:21:44	2:23:30	5: 6:36	7:49:48	7:51:33	179.6	/	89.06	88.94	9.69	290.43	290.32	963.98	4.99	35
16. June 5192	15:39:47	15:43:38	18:34:18	21:24:52	21:28:43	-632.0		119.98	120.61	168.86	217.12	217.75	954.20	5.97	36
21. Dec. 5195	21: 3:58	21: 6:24	23: 1:59	0:57:36	1: 0: 3	686.2	/	53.49	52.89	8.50	324.12	323.52	964.56	4.98	33
14. Dec. 5202	20: 3:41	20: 6:26	21:51:57	23:37:31	23:40:17	-743.9	/	151.82	152.55	191.56	230.58	231.30	962.84	5.00	39
17. Dec. 5215	13:13: 5	13:14:52	15:56:50	18:38:54	18:40:41	-226.6	/	113.98	114.12	190.40	266.67	266.81	963.45	4.99	37
14. June 5225	15:36:46	15:39:39	19:23:44	23: 7:38	23:10:31	158.9		68.65	68.53	348.23	267.92	267.80	954.83	5.94	38
19. Dec. 5228	7:17:49	7:19:37	9:58: 0	12:36:29	12:38:18	286.0	/	82.11	81.92	9.22	296.52	296.33	964.01	4.98	35
18. June 5238	23:12: 0	23:17:54	1: 7:50	2:57:44	3: 3:37	-832.0		139.34	140.62	169.31	198.01	199.29	954.14	5.97	36
22. Dec. 5241	2:15:33	2:18:32	3:52: 5	5:25:39	5:28:39	791.1	/	43.39	42.54	8.04	333.53	332.68	964.58	4.98	33
15. Dec. 5248	0:36:42	0:39: 1	2:44:21	4:49:44	4:52: 4	-635.0	/	142.14	142.66	191.10	239.54	240.06	962.87	5.00	39
12. June 5258	19:31:10	19:43:49	20:27:52	21:11:55	21:24:34	931.2		1.98	358.86	347.61	336.36	333.24	955.39	5.92	40
17. Dec. 5261	18: 1:39	18: 3:24	20:48:42	23:34: 6	23:35:51	-118.5	/	107.01	107.08	189.93	272.78	272.86	963.48	4.99	37
16. June 5271	21:58:53	22: 1:44	1:49: 8	5:36:21	5:39:12	-34.6		80.67	80.69	168.66	256.63	256.66	954.70	5.94	38
20. Dec. 5274	12:16: 7	12:18: 1	14:49:23	17:20:51	17:22:44	391.6	/	74.97	74.70	8.75	302.81	302.54	964.08	4.98	35
23. Dec. 5287	7:36:29	7:41: 5	8:40:44	9:40:25	9:45: 1	894.9	/	30.24	28.76	7.57	346.37	344.90	964.64	4.98	33
16. Dec. 5294	5:15:32	5:17:37	7:37:18	9:57: 4	9:59: 9	-527.0	/	133.67	134.06	190.64	247.22	247.61	962.97	5.00	39
14. June 5304	0:22:23	0:26:53	2:47: 7	5: 7:17	5:11:47	744.2		27.27	26.39	348.04	309.68	308.80	955.35	5.92	40
20. Dec. 5307	22:53:44	22:55:28	1:41:56	4:28:30	4:30:14	-10.6	/	100.15	100.15	189.48	278.78	278.79	963.54	4.99	37
17. June 5317	4:31:50	4:34:46	8:15:55	11:56:53	11:59:50	-228.1		92.78	92.95	169.10	245.24	245.42	954.64	5.95	38
21. Dec. 5320	17:15:38	17:17:39	19:39:15	22: 0:55	22: 2:56	498.5	/	67.38	67.02	8.29	309.55	309.20	964.11	4.98	35
15. Dec. 5327	17:40:30	17:48:40	18:20:53	18:53: 6	19: 1:17	-939.7	/	177.59	180.30	191.34	202.39	205.09	962.46	5.00	41
17. Dec. 5340	9:57:26	9:59:22	12:29:41	15: 0: 5	15: 2: 2	-419.0	/	125.87	126.16	190.18	254.20	254.49	963.03	5.00	39
15. June 5350	6: 3:56	6: 7:24	9:10:49	12:14: 7	12:17:35	555.2		43.14	42.63	348.47	294.30	293.80	955.25	5.92	40
20. Dec. 5353	3:46:43	3:48:27	6:33:58	9:19:37	9:21:21	95.9	/	93.37	93.31	9.00	284.69	284.63	963.61	4.99	37
18. June 5363	11:10:30	11:13:41	14:38:10	18: 2:30	18: 5:41	-420.2		105.42	105.77	169.53	233.29	233.64	954.57	5.95	38
23. Dec. 5366	22:18:57	22:21: 9	0:29:54	2:38:44	2:40:56	603.4	/	59.36	58.88	7.82	316.76	316.29	964.19	4.98	35
15. Dec. 5373	21:47: 3	21:50:31	23:14: 3	0:37:37	0:41: 6	-830.6	/	160.05	161.06	190.88	220.70	221.71	962.50	5.00	41
18. Dec. 5386	14:43: 1	14:44:51	17:22:52	20: 0:59	20: 2:50	-310.6	/	118.47	118.67	189.72	260.76	260.96	963.12	4.99	39
15. June 5396	11:58:23	12: 1:27	15:30:16	18:58:54	19: 1:58	366.9		56.40	56.11	348.89	281.68	281.39	955.20	5.93	40
21. Dec. 5399	8:40:23	8:42: 9	11:24:40	14: 7:17	14: 9: 3	202.3	/	86.54	86.41	8.54	290.67	290.54	963.69	4.99	37
19. June 5409	18: 9:34	18:13:19	21: 7: 2	0: 0:38	0: 4:23	-615.7		119.79	120.40	169.97	219.55	220.16	954.51	5.96	38
24. Dec. 5412	3:25:15	3:27:47	5:19:20	7:10:56	7:13:28	708.8	/	50.40	49.75	7.36	324.96	324.32	964.24	4.98	35
18. Dec. 5419	2:15: 8	2:17:46	4: 8:15	5:58:46	6: 1:25	-720.6	/	148.59	149.26	190.42	231.58	232.25	962.53	5.00	41
19. Dec. 5432	19:30:41	19:32:28	22:15:37	0:58:53	1: 0:39	-202.5	/	111.37	111.50	189.25	267.00	267.13	963.13	4.99	39
17. June 5442	18: 9: 4	18:11:57	21:54:43	1:37:17	1:40:10	175.7		68.74	68.60	349.33	270.05	269.92	955.10	5.93	40

22. Dec. 5445	13:36:51	13:38:40	16:15:55	18:53:16	18:55: 6	309.5 /	79.49	79.29	8.07	296.86	296.66	963.75	4.99	37
21. June 5455	1:26:39	1:32: 4	3:31:13	5:30:20	5:35:45	-809.4	137.81	138.96	170.41	201.86	203.01	954.42	5.96	38
25. Dec. 5458	8:38:11	8:41:23	10: 9: 7	11:36:52	11:40: 4	813.4 /	39.87	38.94	6.89	334.84	333.91	964.33	4.98	35
18. Dec. 5465	6:50:58	6:53:14	9: 2: 6	11:11: 3	11:13:19	-612.4 /	139.26	139.75	189.96	240.17	240.66	962.60	5.00	41
m 15. June 5475	22:20:23	22:38:30	23: 4:24	23:30:18	23:48:25	943.5	359.85	355.32	348.71	342.10	337.58	955.78	5.91	42
21. Dec. 5478	0:21:28	0:23:12	3: 9:12	5:55:19	5:57: 4	-93.9 /	104.40	104.46	188.78	273.11	273.17	963.20	4.99	39
18. June 5488	0:31: 4	0:33:55	4:20:50	8: 7:34	8:10:24	-16.9	80.71	80.72	169.76	258.80	258.82	955.07	5.94	40
23. Dec. 5491	18:35: 8	18:37: 3	21: 6:38	23:36:18	23:38:13	416.3 /	72.20	71.92	7.60	303.29	303.00	963.78	4.98	37
26. Dec. 5504	14: 7:30	14:13:13	15: 0:19	15:47:24	15:53: 7	919.7 /	24.86	22.98	6.42	349.86	347.98	964.36	4.98	35
20. Dec. 5511	11:30:17	11:32:21	13:54:48	16:17:21	16:19:24	-503.7 /	130.91	131.27	189.49	247.72	248.08	962.65	5.00	41
17. June 5521	3: 8:29	3:13: 3	5:29:49	7:46:30	7:51: 4	754.6	27.41	26.50	349.14	311.79	310.88	955.67	5.91	42
22. Dec. 5524	5:11:52	5:13:36	8: 0:17	10:47: 4	10:48:49	12.8 /	97.61	97.61	8.30	279.03	279.02	963.24	4.99	39
20. June 5534	7: 2:32	7: 5:27	10:46:59	14:28:21	14:31:16	-211.1	92.83	92.99	170.20	247.41	247.57	954.99	5.94	40
25. Dec. 5537	23:36:38	23:38:41	1:57:53	4:17:10	4:19:13	522.1 /	64.58	64.20	7.14	310.08	309.70	963.85	4.98	37
18. Dec. 5544	23:42:24	23:48:17	0:35:54	1:23:32	1:29:25	-918.0 /	171.87	173.78	190.20	206.62	208.52	962.10	5.00	43
20. Dec. 5557	16:13:27	16:15:22	18:47:51	21:20:26	21:22:21	-395.1 /	123.17	123.44	189.03	254.62	254.89	962.72	5.00	41
18. June 5567	8:43:34	8:47: 4	11:47:49	14:48:26	14:51:56	567.9	43.33	42.80	349.57	296.34	295.82	955.58	5.92	42
23. Dec. 5570	10: 2:59	10: 4:43	12:50: 1	15:35:25	15:37:10	119.1 /	90.84	90.77	7.85	284.94	284.87	963.32	4.99	39
20. June 5580	13:45:14	13:48:23	17:14: 4	20:39:38	20:42:46	-405.2	105.53	105.86	170.63	235.41	235.75	954.92	5.95	40
26. Dec. 5583	4:40:43	4:42:59	6:48:20	8:53:45	8:56: 2	627.9 /	56.32	55.81	6.67	317.54	317.03	963.87	4.98	37
19. Dec. 5590	3:57:18	4: 0:32	5:30:52	7: 1:14	7: 4:28	-807.3 /	156.34	157.26	189.74	222.21	223.13	962.18	5.00	43
21. Dec. 5603	20:58:26	21: 0:15	23:39:48	2:19:27	2:21:17	-287.7 /	115.91	116.09	188.57	261.04	261.23	962.75	5.00	41
18. June 5613	14:42: 6	14:45:10	18:12:18	21:39:16	21:42:20	378.1	56.80	56.49	350.00	283.52	283.21	955.49	5.92	42
23. Dec. 5616	14:57:16	14:59: 3	17:40:50	20:22:43	20:24:30	226.1 /	83.94	83.80	7.39	290.99	290.84	963.36	4.99	39
21. June 5626	20:36: 4	20:39:44	23:36:37	2:33:23	2:37: 3	-597.7	119.49	120.07	171.07	222.08	222.65	954.81	5.95	40
26. Dec. 5629	9:49:59	9:52:38	11:39:27	13:26:18	13:28:57	733.4 /	47.06	46.36	6.21	326.06	325.36	963.96	4.98	37
19. Dec. 5636	8:27:17	8:29:50	10:24:37	12:19:28	12:22: 1	-699.0 /	145.58	146.21	189.27	232.34	232.97	962.27	5.00	43
22. Dec. 5649	1:46:11	1:47:57	4:32: 9	7:16:28	7:18:14	-179.2 /	108.83	108.94	188.10	267.27	267.38	962.87	4.99	41
20. June 5659	20:50:35	20:53:27	0:35: 5	4:16:32	4:19:24	187.4	69.14	69.00	350.43	271.87	271.73	955.45	5.93	42
24. Dec. 5662	19:54:58	19:56:49	22:32:49	1: 8:55	1:10:45	333.1 /	76.86	76.64	6.93	297.21	296.99	963.41	4.99	39
22. June 5672	3:54:38	3:59:48	6: 4:38	8: 9:26	8:14:35	-793.9	137.21	138.28	171.51	204.75	205.82	954.76	5.95	40
27. Dec. 5675	15: 7: 7	15:10:37	16:30:45	17:50:54	17:54:24	839.4 /	35.75	34.70	5.74	336.79	335.74	963.97	4.98	37
20. Dec. 5682	13: 2:59	13: 5:12	15:17:33	17:29:59	17:32:12	-588.9 /	136.35	136.81	188.81	240.81	241.27	962.33	5.00	43
m 17. June 5692	1:20: 5	--	1:48:37	--	2:17:10	954.3	357.04	--	349.82	--	342.61	956.06	5.90	44
23. Dec. 5695	6:34:51	6:36:35	9:23: 9	12: 9:50	12:11:35	-71.9 /	101.95	101.99	187.64	273.28	273.33	962.92	4.99	41
c 21. June 5705	3: 8:29	3:11:19	6:57:39	10:43:48	10:46:38	-2.4	80.95	80.95	170.89	260.78	260.79	955.35	5.93	42

26. Dec. 5708	0:55:31	0:57:27	3:25:11	5:53:0	5:54:56	439.9	/	69.49	69.19	6.46	303.73	303.43	963.52	4.99	39
28. Dec. 5721	20:45:54	20:54:39	21:23:0	21:51:21	22:0:6	944.9	/	18.10	15.15	5.28	355.42	352.46	964.06	4.98	37
21. Dec. 5728	17:43:35	17:45:36	20:10:41	22:35:51	22:37:52	-480.7	/	128.18	128.53	188.35	248.17	248.51	962.38	5.00	43
19. June 5738	5:49:53	5:54:35	8:6:21	10:18:2	10:22:44	769.4		27.09	26.13	350.25	314.36	313.40	955.98	5.90	44
24. Dec. 5741	11:26:30	11:28:15	14:15:3	17:1:58	17:3:43	36.5	/	95.07	95.04	7.18	279.30	279.28	963.00	4.99	41
22. June 5751	9:34:2	9:36:56	13:18:47	17:0:28	17:3:21	-193.5		92.85	93.00	171.30	249.60	249.75	955.32	5.93	42
27. Dec. 5754	5:58:36	6:0:42	8:17:9	10:33:42	10:35:48	547.0	/	61.66	61.25	5.99	310.74	310.33	963.57	4.98	39
20. Dec. 5761	5:48:15	5:53:2	6:53:17	7:53:34	7:58:20	-893.5	/	166.62	168.11	189.05	209.99	211.48	961.82	5.01	45
23. Dec. 5774	22:26:38	22:28:31	1:2:59	3:37:33	3:39:27	-371.9	/	120.54	120.79	187.88	254.98	255.23	962.41	5.00	43
19. June 5784	11:29:55	11:33:26	14:31:44	17:29:56	17:33:27	578.9		43.63	43.09	350.68	298.26	297.73	955.93	5.91	44
25. Dec. 5787	16:21:10	16:22:55	19:7:51	21:52:53	21:54:39	143.7	/	88.23	88.14	6.71	285.28	285.19	963.02	4.99	41
22. June 5797	16:11:18	16:14:24	19:41:47	23:9:1	23:12:7	-385.1		105.29	105.61	171.73	237.86	238.17	955.23	5.94	42
28. Dec. 5800	11:6:4	11:8:25	13:9:51	15:11:21	15:13:43	653.9	/	53.11	52.56	5.53	318.50	317.95	963.63	4.98	39
22. Dec. 5807	10:6:18	10:9:20	11:45:38	13:21:58	13:25:1	-785.0	/	152.90	153.74	188.59	223.44	224.28	961.89	5.01	45
24. Dec. 5820	3:12:37	3:14:26	5:55:28	8:36:37	8:38:26	-263.6	/	113.28	113.45	187.42	261.39	261.56	962.50	5.00	43
21. June 5830	17:25:24	17:28:28	20:53:57	0:19:17	0:22:21	388.5	/	57.23	56.92	351.11	285.30	284.98	955.88	5.91	44
27. Dec. 5833	21:18:47	21:20:35	0:1:24	2:42:20	2:44:8	252.2	/	81.19	81.03	6.24	291.46	291.30	963.07	4.99	41
25. June 5843	23:7:39	23:11:15	2:10:41	5:10:1	5:13:36	-582.0		119.39	119.94	172.17	224.40	224.95	955.19	5.94	42
29. Dec. 5846	16:17:12	16:20:0	18:1:16	19:42:34	19:45:23	759.5	/	43.46	42.70	5.07	327.44	326.68	963.63	4.98	39
22. Dec. 5853	14:36:4	14:38:32	16:37:43	18:36:57	18:39:25	-675.5	/	142.48	143.07	188.13	233.19	233.78	961.95	5.00	45
25. Dec. 5866	8:0:21	8:2:7	10:47:17	13:32:35	13:34:22	-155.1	/	106.23	106.33	186.96	267.58	267.68	962.54	5.00	43
22. June 5876	23:32:32	23:35:24	3:15:48	6:56:1	6:58:53	200.1		69.47	69.32	351.54	273.75	273.60	955.75	5.92	44
28. Dec. 5879	2:17:19	2:19:11	4:53:40	7:28:14	7:30:7	358.8	/	74.08	73.84	5.78	297.72	297.49	963.15	4.99	41
25. June 5889	6:19:33	6:24:27	8:35:3	10:45:36	10:50:29	-777.0		136.51	137.51	172.60	207.69	208.69	955.12	5.95	42
29. Dec. 5892	21:37:44	21:41:40	22:52:54	0:4:9	0:8:5	865.8	/	31.28	30.06	4.61	339.15	337.94	963.71	4.98	39
23. Dec. 5899	19:13:22	19:15:32	21:30:54	23:46:21	23:48:31	-567.6	/	133.65	134.08	187.67	241.25	241.69	962.02	5.00	45
m 21. June 5909	--	--	4:35:11	--	--	963.6		--	--	350.93	--	--	956.37	5.89	46
26. Dec. 5912	12:51:41	12:53:26	15:40:30	18:27:42	18:29:27	-46.9	/	99.33	99.35	186.49	273.63	273.66	962.61	4.99	43
c 24. June 5922	5:45:37	5:48:26	9:34:9	13:19:42	13:22:30	10.9		81.26	81.25	351.97	262.68	262.68	955.70	5.92	44
29. Dec. 5925	7:17:42	7:19:41	9:45:9	12:10:43	12:12:42	466.0	/	66.59	66.27	5.32	304.37	304.05	963.19	4.99	41
m 1. Jan. 5939	--	--	3:42:34	--	--	971.1	/	--	--	4.15	--	--	963.74	4.98	39
25. Dec. 5945	23:54:44	23:56:44	2:24:21	4:52:4	4:54:3	-456.9	/	125.44	125.76	187.20	248.65	248.97	962.08	5.00	45
22. June 5955	8:42:23	8:47:8	10:56:52	13:6:31	13:11:15	774.7		27.70	26.72	351.36	315.99	315.02	956.30	5.90	46
27. Dec. 5958	17:45:12	17:46:57	20:33:47	23:20:43	23:22:28	60.3	/	92.51	92.47	6.03	279.59	279.55	962.67	4.99	43
24. June 5968	12:13:24	12:16:16	15:58:11	19:39:55	19:42:47	-180.0		93.13	93.27	172.40	251.53	251.67	955.60	5.93	44

30. Dec. 5971	12:21:42	12:23:51	14:37:18	16:50:49	16:52:59	572.4	/	58.66	58.22	4.86	311.50	311.06	963.24	4.99	41
23. Dec. 5978	11:51:3	11:55:14	13:4:57	14:14:42	14:18:53	-871.1	/	162.25	163.53	187.91	212.29	213.57	961.56	5.01	47
26. Dec. 5991	4:40:18	4:42:11	7:18:34	9:55:4	9:56:57	-348.0	/	117.87	118.10	186.74	255.37	255.60	962.18	5.00	45
22. June 6001	14:13:50	14:17:23	17:13:12	20:8:53	20:12:25	590.0		43.92	43.36	351.78	300.20	299.65	956.25	5.90	46
28. Dec. 6004	22:41:38	22:43:24	1:27:47	4:12:17	4:14:4	170.2	/	85.49	85.38	5.57	285.75	285.64	962.76	4.99	43
25. June 6014	18:52:28	18:55:32	22:23:29	1:51:16	1:54:21	-374.4		105.69	105.99	172.83	239.66	239.96	955.56	5.93	44
30. Dec. 6017	17:28:38	17:31:4	19:28:29	21:25:56	21:28:22	678.7	/	49.94	49.35	4.40	319.45	318.86	963.29	4.98	41
23. Dec. 6024	16:13:50	16:16:43	17:58:46	19:40:52	19:43:45	-761.6	/	149.46	150.23	187.44	224.65	225.43	961.62	5.01	47
26. Dec. 6037	9:28:14	9:30:3	12:12:32	14:55:8	14:56:57	-237.8	/	110.55	110.71	186.28	261.84	262.00	962.21	5.00	45
23. June 6047	20:7:16	20:10:21	23:33:44	2:56:59	3:0:3	402.7		57.41	57.08	352.21	287.33	287.00	956.16	5.91	46
29. Dec. 6050	3:38:39	3:40:28	6:20:16	9:0:10	9:1:59	277.2	/	78.51	78.33	5.11	291.88	291.70	962.82	4.99	43
26. June 6060	1:39:5	1:42:36	4:44:42	7:46:40	7:50:10	-564.9		119.19	119.71	173.26	226.80	227.32	955.48	5.93	44
1. Jan. 6064	22:41:53	22:44:52	0:19:59	1:55:8	1:58:8	785.9	/	39.72	38.88	3.94	329.00	328.16	963.40	4.98	41
24. Dec. 6070	20:47:19	20:49:43	22:53:1	0:56:23	0:58:47	-652.0	/	139.44	139.99	186.98	233.98	234.53	961.65	5.01	47
27. Dec. 6083	14:19:11	14:20:57	17:7:2	19:53:14	19:55:0	-129.8	/	103.58	103.66	185.81	267.97	268.05	962.28	5.00	45
24. June 6093	2:10:24	2:13:16	5:52:17	9:31:7	9:33:59	214.9		69.67	69.51	352.63	275.76	275.60	956.13	5.91	46
29. Dec. 6096	8:37:24	8:39:18	11:12:2	13:44:52	13:46:46	385.3	/	71.23	70.97	4.65	298.32	298.06	962.86	4.99	43
28. June 6106	8:47:59	8:52:39	11:9:7	13:25:31	13:30:10	-758.4		135.72	136.66	173.68	210.71	211.64	955.44	5.94	44
2. Jan. 6110	4:5:19	4:9:53	5:10:43	6:11:33	6:16:7	891.9	/	26.44	24.99	3.49	341.98	340.53	963.42	4.98	41
26. Dec. 6116	1:26:24	1:28:32	3:47:24	6:6:21	6:8:29	-541.0	/	130.59	131.00	186.52	242.04	242.45	961.72	5.00	47
m 23. June 6126	--	--	7:28:15	--	--	966.6		--	--	352.04	--	--	956.72	5.88	48
28. Dec. 6129	19:10:36	19:12:21	21:59:49	0:47:25	0:49:10	-21.4	/	96.68	96.69	185.35	274.02	274.03	962.30	5.00	45
26. June 6139	8:31:34	8:34:22	12:19:26	16:4:18	16:7:6	21.7		81.71	81.70	353.06	264.43	264.41	956.04	5.91	46
31. Dec. 6142	13:39:2	13:41:3	16:4:9	18:27:19	18:29:20	491.6	/	63.71	63.36	4.19	305.02	304.67	962.90	4.99	43
m 24. Dec. 6149	14:1:11	--	14:23:36	--	14:46:2	-957.8	/	179.69	--	187.23	--	194.76	961.17	5.01	49
m 28. June 6152	17:0:9	--	17:32:45	--	18:5:20	-951.6		165.95	--	174.11	--	182.27	955.36	5.94	44
27. Dec. 6162	6:9:51	6:11:49	8:41:56	11:12:10	11:14:8	-432.0	/	122.64	122.94	186.06	249.18	249.48	961.80	5.00	47
23. June 6172	11:31:48	11:36:38	13:42:51	15:49:0	15:53:50	784.4		27.85	26.84	352.46	318.08	317.07	956.63	5.89	48
30. Dec. 6175	0:4:27	0:6:12	2:52:53	5:39:42	5:41:27	87.8	/	89.74	89.68	4.89	280.10	280.05	962.39	4.99	45
26. June 6185	14:58:51	15:1:42	18:43:26	22:24:58	22:27:49	-170.8		93.66	93.79	173.49	253.19	253.32	955.97	5.92	46
31. Dec. 6188	18:43:22	18:45:35	20:55:34	23:5:37	23:7:50	599.3	/	55.52	55.05	3.73	312.42	311.94	962.93	4.99	43
25. Dec. 6195	17:57:2	18:0:48	19:18:43	20:36:38	20:40:24	-848.7	/	158.22	159.35	186.77	214.18	215.31	961.28	5.01	49
28. Dec. 6208	10:55:39	10:57:31	13:35:49	16:14:14	16:16:6	-322.1	/	115.11	115.32	185.60	255.88	256.09	961.84	5.00	47
25. June 6218	17:6:16	17:9:49	20:3:54	22:57:51	23:1:24	596.9		44.51	43.95	352.88	301.81	301.25	956.55	5.89	48
31. Dec. 6221	4:59:10	5:0:57	7:44:42	10:28:34	10:30:22	195.6	/	82.82	82.70	4.44	286.17	286.05	962.42	4.99	45

29. June 6231	21:31:11	21:34:13	1: 3: 9	4:31:55	4:34:57	-359.1	105.78	106.07	173.91	241.76	242.05	955.85	5.92	46
3. Jan. 6235	23:51:46	23:54:19	1:46:57	3:39:38	3:42:11	705.6 /	46.52	45.88	3.28	320.68	320.04	963.02	4.99	43
27. Dec. 6241	22:23:21	22:26:6	0:13:38	2: 1:13	2: 3:58	-737.5 /	146.08	146.79	186.30	225.82	226.53	961.34	5.01	49
29. Dec. 6254	15:44:18	15:46:6	18:29:49	21:13:40	21:15:29	-214.3 /	107.99	108.13	185.14	262.16	262.29	961.93	5.00	47
26. June 6264	22:55:58	22:59:3	2:20:49	5:42:25	5:45:29	412.4	57.88	57.54	353.30	289.07	288.73	956.49	5.90	48
1. Jan. 6268	9:55:56	9:57:46	12:36:21	15:15:2	15:16:53	303.0 /	75.78	75.59	3.98	292.38	292.18	962.50	4.99	45
29. June 6277	4:17:29	4:20:57	7:24:55	10:28:46	10:32:12	-551.4	119.27	119.77	174.34	228.90	229.40	955.81	5.93	46
3. Jan. 6281	5: 6:51	5:10:4	6:38:23	8: 6:43	8: 9:57	812.1 /	35.84	34.90	2.83	330.75	329.82	963.04	4.98	43
28. Dec. 6287	2:59:43	3: 2:3	5: 9:39	7:17:20	7:19:40	-625.8 /	136.24	136.75	185.84	234.93	235.44	961.41	5.01	49
30. Dec. 6300	20:33:52	20:35:37	23:22:30	2: 9:30	2:11:16	-104.0 /	100.91	100.97	184.68	268.40	268.46	961.97	5.00	47
28. June 6310	5: 1:57	5: 4:48	8:42:49	12:20:37	12:23:29	222.3	70.31	70.14	353.72	277.31	277.14	956.39	5.90	48
2. Jan. 6314	14:55:27	14:57:22	17:28:23	19:59:30	20: 1:26	409.5 /	68.54	68.26	3.53	298.80	298.52	962.57	4.99	45
1. July 6323	11:20:55	11:25:24	13:46:35	16: 7:42	16:12:11	-742.0	135.22	136.10	174.76	213.42	214.30	955.72	5.93	46
5. Jan. 6327	10:37:27	10:43:9	11:31:0	12:18:52	12:24:34	917.6 /	20.98	19.11	2.38	345.65	343.78	963.13	4.98	43
29. Dec. 6333	7:40:24	7:42:29	10: 4:29	12:26:35	12:28:41	-515.8 /	127.68	128.06	185.39	242.71	243.09	961.46	5.01	49
c 1. Jan. 6347	1:26:35	1:28:20	4:16:5	7: 3:57	7: 5:43	5.0 /	93.98	93.98	4.22	274.48	274.47	962.07	5.00	47
28. June 6356	11:14:5	11:16:52	15: 1:13	18:45:22	18:48:10	35.2	81.99	81.97	354.14	266.32	266.30	956.35	5.91	48
3. Jan. 6360	19:58:40	20: 0:44	22:21:3	0:41:28	0:43:32	518.8 /	60.70	60.31	3.07	305.83	305.45	962.63	4.99	45
27. Dec. 6366	19:56:0	20: 3:38	20:39:32	21:15:27	21:23:4	-934.2 /	171.37	173.86	186.09	198.31	200.80	960.92	5.01	50
1. July 6369	19:21:22	19:36:30	20:11:35	20:46:40	21: 1:47	-938.3	162.52	166.26	175.18	184.10	187.84	955.66	5.94	46
30. Dec. 6379	12:23:40	12:25:37	14:58:8	17:30:47	17:32:44	-406.4 /	119.84	120.11	184.92	249.74	250.02	961.50	5.00	49
26. June 6389	14:26:17	14:31:12	16:34:23	18:37:31	18:42:26	792.3	28.15	27.11	353.55	320.00	318.96	956.98	5.88	51
1. Jan. 6393	6:20:20	6:22:5	9: 8:32	11:55:6	11:56:52	113.9 /	87.06	86.99	3.77	280.55	280.48	962.09	5.00	47
29. June 6402	17:35:48	17:38:38	21:20:29	1: 2:8	1: 4:58	-153.0	93.65	93.77	174.56	255.36	255.47	956.26	5.91	48
4. Jan. 6406	1: 5:46	1: 8:4	3:14:25	5:20:51	5:23:9	625.4 /	52.40	51.90	2.63	313.35	312.85	962.70	4.99	45
28. Dec. 6412	0: 4:12	0: 7:39	1:33:48	2:59:59	3: 3:26	-822.9 /	154.07	155.06	185.63	216.19	217.18	960.96	5.01	50
30. Dec. 6425	17: 9:29	17:11:20	19:51:22	22:31:30	22:33:21	-297.4 /	112.44	112.63	184.47	256.31	256.51	961.56	5.00	49
27. June 6435	19:57:38	20: 1:13	22:52:53	1:44:26	1:48:0	607.0	44.84	44.26	353.97	303.68	303.10	956.89	5.89	51
2. Jan. 6439	11:16:19	11:18:6	14: 1:7	16:44:14	16:46:2	220.9 /	80.17	80.03	3.32	286.61	286.47	962.16	4.99	47
30. June 6448	0: 9:11	0:12:11	3:41:55	7:11:30	7:14:30	-344.6	105.91	106.19	174.98	243.78	244.05	956.24	5.92	48
5. Jan. 6452	6:17:26	6:20:7	8: 7:24	9:54:44	9:57:24	733.2 /	42.95	42.25	2.18	322.10	321.40	962.72	4.99	45
29. Dec. 6458	4:34:0	4:36:38	6:29:38	8:22:42	8:25:20	-711.4 /	142.63	143.28	185.17	227.05	227.71	961.03	5.01	50
1. Jan. 6472	21:57:6	21:58:53	0:43:53	3:29:0	3:30:47	-187.1 /	105.23	105.35	184.02	262.69	262.80	961.60	5.00	49
28. June 6481	1:50:3	1:53:8	5:13:45	8:34:11	8:37:16	417.7	58.63	58.28	354.39	290.50	290.15	956.78	5.89	51
2. Jan. 6485	16:14:40	16:16:31	18:53:45	21:31:5	21:32:56	328.8 /	73.05	72.83	2.87	292.91	292.70	962.20	4.99	47

1. July 6494	6:56:20	6:59:43	10: 5:36	13:11:21	13:14:45	-537.0	119.28	119.77	175.40	231.03	231.52	956.12	5.92	48
5. Jan. 6498	11:36:26	11:39:58	13: 0:23	14:20:50	14:24:23	838.9 /	31.67	30.61	1.73	332.85	331.80	962.78	4.99	45
30. Dec. 6504	9: 9:46	9:12: 2	11:23:25	13:34:53	13:37: 9	-601.5 /	133.26	133.73	184.71	235.69	236.17	961.08	5.01	50
2. Jan. 6518	2:48:12	2:49:58	5:37:31	8:25:11	8:26:57	-78.7 /	98.29	98.34	183.57	268.79	268.84	961.69	5.00	49
30. June 6527	7:49:19	7:52:10	11:28:55	15: 5:28	15: 8:19	233.6 /	70.70	70.53	354.80	279.08	278.90	956.73	5.89	51
4. Jan. 6531	21:16:48	21:18:45	23:47:30	2:16:21	2:18:19	438.1 /	65.54	65.23	2.42	299.61	299.31	962.26	4.99	47
2. July 6540	14: 0:13	14: 4:35	16:28:46	18:52:51	18:57:13	-730.8	135.21	136.06	175.82	215.58	216.42	956.06	5.92	48
7. Jan. 6544	17:15:31	17:24:51	17:51:16	18:17:42	18:27: 2	945.7 /	13.57	10.42	1.29	352.15	349.01	962.82	4.98	45
31. Dec. 6550	13:49:41	13:51:44	16:16:30	18:41:23	18:43:26	-492.4 /	124.94	125.30	184.26	243.22	243.58	961.18	5.01	50
3. Jan. 6564	7:40:56	7:42:41	10:30:36	13:18:39	13:20:25	30.2 /	91.38	91.36	3.11	274.87	274.85	961.73	5.00	49
30. June 6573	14: 1:17	14: 4: 4	17:47:41	21:31: 6	21:33:53	45.8	82.44	82.40	355.21	268.03	268.00	956.64	5.90	51
5. Jan. 6577	2:21:23	2:23:30	4:40:58	6:58:31	7: 0:38	544.9 /	57.73	57.33	1.98	306.63	306.22	962.32	4.99	47
30. Dec. 6583	1:54: 1	1:59:32	2:51:48	3:44: 3	3:40:35	-909.2 /	165.28	167.04	184.95	202.87	204.63	960.63	5.02	52
3. July 6586	21:40:29	21:50:53	22:47:14	23:43:35	23:53:59	-920.0	159.23	161.76	176.23	190.69	193.22	955.98	5.93	48
31. Dec. 6596	18:33:25	18:35:20	21:10: 2	23:44:51	23:46:47	-382.0 /	117.14	117.40	183.81	250.22	250.48	961.25	5.01	50
29. June 6606	17:20:17	17:25:18	19:25:11	21:25: 1	21:30: 1	800.8	28.35	27.28	354.63	321.99	320.91	957.23	5.87	53
4. Jan. 6610	12:36:43	12:38:29	15:24:37	18:10:52	18:12:39	138.0 /	84.51	84.43	2.67	280.91	280.82	961.84	5.00	49
3. July 6619	20:19:44	20:22:33	0: 4:14	3:45:44	3:48:32	-140.9	93.99	94.10	175.63	257.16	257.27	956.60	5.90	51
7. Jan. 6623	7:28:28	7:30:50	9:33: 9	11:35:31	11:37:53	652.3 /	49.17	48.63	1.53	314.44	313.89	962.40	4.99	47
31. Dec. 6629	6:10:56	6:14: 7	7:47:37	9:21:10	9:24:21	-797.3 /	150.17	151.06	184.50	217.94	218.83	960.71	5.01	52
3. Jan. 6643	23:21:11	23:23: 2	2: 4:43	4:46:32	4:48:23	-271.3 /	109.71	109.88	183.36	256.83	257.00	961.29	5.00	50
30. June 6652	22:49:26	22:53: 2	1:42:35	4:32: 1	4:35:36	615.5	45.28	44.69	355.05	305.41	304.82	957.18	5.88	53
5. Jan. 6656	17:34:38	17:36:27	20:18:29	23: 0:39	23: 2:28	247.9 /	77.42	77.26	2.22	287.18	287.03	961.88	5.00	49
3. July 6665	2:51:17	2:54:16	6:24:38	9:54:50	9:57:48	-331.1	106.11	106.37	176.04	245.71	245.97	956.49	5.91	51
7. Jan. 6669	12:40:47	12:43:36	14:25:27	16: 7:20	16:10:10	758.8 /	39.47	38.71	1.09	323.48	322.72	962.48	4.99	47
1. Jan. 6676	10:40:54	10:43:26	12:41: 9	14:38:55	14:41:27	-687.4 /	139.46	140.07	184.05	228.02	228.63	960.74	5.01	52
3. Jan. 6689	4:12:12	4:13:59	7: 0: 4	9:46:16	9:48: 3	-161.7 /	102.59	102.69	182.91	263.13	263.23	961.36	5.00	50
1. July 6698	4:34:51	4:37:56	7:56:19	11:14:33	11:17:38	432.0	58.75	58.40	355.45	292.51	292.16	957.14	5.88	53
7. Jan. 6702	22:36: 0	22:37:53	1:13:25	3:49: 3	3:50:56	357.2 /	70.14	69.91	1.77	293.64	293.40	961.95	4.99	49
5. July 6711	9:34:54	9:38:14	12:46: 5	15:53:48	15:57: 8	-521.6	119.22	119.68	176.45	233.22	233.68	956.46	5.91	51
9. Jan. 6715	18: 2:32	18: 6:32	19:17:15	20:27:58	20:31:59	867.3 /	26.98	25.74	0.65	335.57	334.33	962.50	4.99	47
2. Jan. 6722	15:17:43	15:19:56	17:34:49	19:49:47	19:52: 1	-577.5 /	130.36	130.81	183.60	236.39	236.84	960.83	5.01	52
5. Jan. 6735	9: 4:25	9: 6:11	11:54:18	14:42:33	14:44:19	-52.4 /	95.62	95.65	182.47	269.27	269.30	961.39	5.00	50
2. July 6744	10:39:47	10:42:38	14:18:11	17:53:33	17:56:24	243.3	71.18	70.99	355.87	280.74	280.56	957.07	5.89	53
8. Jan. 6748	3:37:59	3:39:58	6: 6:24	8:32:55	8:34:55	465.1 /	62.63	62.30	1.33	300.37	300.04	961.99	4.99	49

5. July 6757	16:33: 2	16:37:13	19: 6:14	21:35: 9	21:39:20	-712.1	134.54	135.34	176.85	218.37	219.16	956.39	5.92	51
3. Jan. 6768	19:59:35	20: 1:37	22:29:13	0:56:56	0:58:58	-466.8	/	122.10	122.43	183.15	243.88	244.21	960.87	5.01
5. Jan. 6781	13:58:38	14: 0:24	16:48:21	19:36:26	19:38:12	56.6	/	88.71	88.68	2.02	275.36	275.33	961.48	5.00
3. July 6790	16:49:20	16:52: 6	20:34:57	0:17:36	0:20:22	57.1		82.82	82.78	356.27	269.77	269.72	956.98	5.89
8. Jan. 6794	8:41:16	8:43:27	10:57:43	13:12: 3	13:14:14	571.8	/	54.69	54.25	0.90	307.54	307.10	962.05	4.99
1. Jan. 6801	7:53:53	7:58:30	9: 2:16	10: 6: 3	10:10:40	-885.6	/	160.40	161.82	183.84	205.85	207.28	960.38	5.02
7. July 6803	0:15:46	0:24:38	1:31:56	2:39:13	2:48: 5	-907.0		157.73	159.86	177.26	194.67	196.80	956.36	5.92
4. Jan. 6814	0:46:38	0:48:32	3:25:25	6: 2:24	6: 4:19	-355.8	/	114.36	114.60	182.70	250.81	251.05	960.92	5.01
1. July 6823	20:19:19	20:24:22	22:22:17	0:20: 8	0:25:10	805.6		28.94	27.85	355.71	323.56	322.47	957.57	5.86
6. Jan. 6827	18:53:59	18:55:46	21:41:21	0:27: 3	0:28:50	166.0	/	81.74	81.63	1.58	281.52	281.42	961.51	5.00
4. July 6836	23:10:44	23:13:32	2:54:53	6:36: 3	6:38:50	-132.2		94.52	94.62	176.68	258.74	258.84	956.87	5.89
9. Jan. 6840	13:49: 0	13:51:28	15:49:20	17:47:16	17:49:44	679.3	/	45.88	45.29	0.47	315.64	315.05	962.10	4.99
2. Jan. 6847	12:14:24	12:17:25	13:56:48	15:36:13	15:39:14	-774.8	/	146.79	147.60	183.39	219.18	219.99	960.44	5.02
5. Jan. 6860	5:35:31	5:37:21	8:20:32	11: 3:51	11: 5:41	-246.2	/	107.07	107.23	182.26	257.29	257.45	961.02	5.01
2. July 6869	1:43: 7	1:46:43	4:34:14	7:21:36	7:25:12	623.6		45.73	45.13	356.11	307.09	306.49	957.50	5.87
7. Jan. 6873	23:52:29	23:54:19	2:35:16	5:16:20	5:18:10	274.5	/	74.69	74.51	1.14	287.77	287.59	961.60	5.00
5. July 6882	5:40:18	5:43:14	9:14: 0	12:44:36	12:47:32	-319.9		106.44	106.69	177.08	247.48	247.73	956.84	5.90
9. Jan. 6886	19: 3:41	19: 6:43	20:41:48	22:16:54	22:19:56	787.4	/	35.56	34.71	0.03	325.35	324.51	962.12	4.99
2. Jan. 6893	16:48:24	16:50:52	18:53: 6	20:55:24	20:57:52	-662.8	/	136.33	136.89	182.94	228.99	229.56	960.52	5.01
6. Jan. 6906	10:25:46	10:27:33	13:14:35	16: 1:44	16: 3:32	-136.3	/	99.98	100.06	181.82	263.58	263.66	961.10	5.01
4. July 6915	7:32:19	7:35:24	10:52:23	14: 9:11	14:12:16	439.2		59.34	58.98	356.51	294.05	293.68	957.43	5.87
9. Jan. 6919	4:51:42	4:53:36	7:27:29	10: 1:27	10: 3:22	382.8	/	67.42	67.17	0.70	294.24	293.99	961.65	5.00
6. July 6928	12:18:57	12:22:14	15:31:36	18:40:49	18:44: 6	-508.4		119.31	119.75	177.48	235.21	235.65	956.75	5.90
12. Jan. 6932	0:30:18	0:35: 0	1:34:58	2:34:57	2:39:39	893.5	/	22.14	20.65	359.61	338.56	337.07	962.22	4.99
4. Jan. 6939	21:28:27	21:30:37	23:49: 2	2: 7:32	2: 9:43	-551.9	/	127.40	127.82	182.50	237.18	237.60	960.55	5.01
7. Jan. 6952	15:18:37	15:20:23	18: 8:57	20:57:39	20:59:25	-26.0	/	92.97	92.98	181.38	269.78	269.79	961.16	5.00
4. July 6961	13:28:40	13:31:31	17: 5:40	20:39:37	20:42:27	255.7		71.47	71.27	356.91	282.55	282.36	957.35	5.88
9. Jan. 6965	9:53:49	9:55:51	12:19:54	14:44: 1	14:46: 4	490.7	/	59.82	59.46	0.27	301.08	300.73	961.74	5.00
7. July 6974	19:13:32	19:17:36	21:50: 3	0:22:25	0:26:29	-697.5		134.28	135.03	177.88	220.72	221.48	956.71	5.91
5. Jan. 6985	2:13:32	2:15:31	4:45:57	7:16:30	7:18:30	-439.5	/	119.17	119.48	182.05	244.63	244.94	960.61	5.01
7. Jan. 6998	20:13: 1	20:14:47	23: 2:39	1:50:39	1:52:25	83.5	/	86.03	85.98	0.94	275.90	275.85	961.18	5.00

Computed constellations: 428356 ("/" means ascending node)

Tested planet. passages: 31520

Detected transits : 1340

Centr./grazing transits: 14 / 33

CPU time 0: 0:41.954

run time 0: 0:10.804 -- end of run.

3. Venus transits 3000 BC–AD 7000

Option 22: Table of the Venus transits in the period 3000 BC–AD 7000. The labeling is the same as in option 21. Only for the partial transit, we use *v* instead of *m*. Note: The quick start option 22 does not exist in the P4 version of June 2015. However, this option can be reproduced using the former version by successively inserting the following parameters: 0, 3, 2, 1, 4, 2, 1, -3000, 7000, 1, and 2. The format of the table (P5 program) corresponds to the format used in [7, pp. 46 ff.]; the serial numbers *S* are calculated in accordance with the convention of the NASA Eclipse Web Site [12]. The first transit in the table is a central transit that is very close to the dating of the pyramids (AMS) [13, 14].

P5 output:

TRANSITS OF VENUS																		
(geocentric transit phases, terrestrial time TT)																		
< P5-option 22 > (monitor line width minimal 148 characters)																		
VSOP87C, comb. search, ecliptic of date, all Venus transits																		
Period (years) from -3000.00 to 7000.00, Jul./Greg. calendar																		
co/p	date/	time:	I	II	nearest	III	IV	sep["]	a	P1	P2	near.	P3	P4	position angles [deg]		semidiameters ["]	
																	s-Sun	s-pl.
	C 18.	Nov.-2970	2:38:17	2:53:36	6:41:18	10:29:2	2 10:44:21	16.6	/	118.55	118.48	29.44	300.42	300.35			976.49	31.76
	20. May	-2864	16:39:54	16:55:21	20:32:35	0: 9:47	0:25:13	-295.9		79.10	80.28	151.40	222.52	223.69			942.15	29.14
	18. May	-2856	11:44:27	12:23:10	13:33:27	14:43:43	15:22:26	869.1		357.44	348.77	330.96	313.15	304.47			941.97	29.11
	18. Nov.-2727	1:52:40	2: 8: 3	5:55:37	9:43:11	9:58:35	-66.1	/		122.82	123.08	209.03	294.97	295.23			976.52	31.79
	21. May -2621	20: 1:30	20:17:30	23:46:50	3:16: 9	3:32: 9	-377.0			84.72	86.28	151.92	217.56	219.11			942.02	29.12
	19. May -2613	14:18:49	14:45:40	16:41:34	18:37:28	19: 4:19	788.2			7.17	1.73	331.45	301.18	295.74			941.92	29.09
	18. Nov.-2484	0:41: 7	0:56:43	4:40:54	8:25: 7	8:40:43	-171.5	/		128.41	129.07	208.58	288.08	288.74			976.60	31.82
	22. May -2378	23:24:38	23:41:22	3: 0:10	6:18:58	6:35:42	-456.2			90.48	92.45	152.50	212.55	214.52			942.03	29.10
	19. May -2370	17:14:37	17:36:42	20: 2:16	22:27:49	22:49:54	705.6			15.37	11.36	331.99	292.64	288.63			941.91	29.07
	19. Nov.-2241	23:51:34	0: 7:33	3:46:38	7:25:44	7:41:43	-264.3	/		133.33	134.38	208.10	281.81	282.86			976.62	31.84

22. May -2135	2:52: 8	3: 9:58	6:15:27	9:20:55	9:38:45	-538.1	96.71	99.18	153.09	207.00	209.47	941.96	29.08	1
19. May -2127	20:14:19	20:33:50	23:21:33	2: 9:14	2:28:45	623.6	22.58	19.45	332.56	285.68	282.55	941.89	29.06	3
19. Nov. -1998	22:35:36	22:52:16	2:21:54	5:51:33	6: 8:13	-374.0 /	139.41	140.96	207.61	274.25	275.80	976.60	31.86	2
22. May -1892	6:24:53	6:44:15	9:33:16	12:22:17	12:41:39	-617.4	103.17	106.25	153.72	201.19	204.27	941.98	29.06	1
20. May -1884	23:11: 0	23:28:54	2:32:47	5:36:39	5:54:33	545.4	28.96	26.45	333.17	279.89	277.38	941.93	29.04	3
v 21. Nov. -1763	10:48:59	--	11:58:19	--	13: 7:38	966.7 /	42.93	--	26.37	--	9.82	976.56	31.86	4
19. Nov. -1755	21:41:55	21:59:33	1:16:52	4:34:11	4:51:49	-474.8 /	145.21	147.29	207.08	266.87	268.95	976.63	31.89	2
23. May -1649	10: 2:54	10:24:37	12:52:46	15:20:55	15:42:39	-696.9	110.22	114.12	154.39	194.65	198.55	942.00	29.05	1
21. May -1641	2:31:10	2:47:53	6: 6: 4	9:24:13	9:40:56	459.9	35.48	33.51	333.80	274.08	272.11	941.96	29.03	3
21. Nov. -1520	8:50:10	9:24:47	10:52:43	12:20:39	12:55:16	871.9 /	56.00	48.47	25.82	3.16	355.63	976.48	31.87	4
18. Nov. -1512	20:37:14	20:56:32	23:55:54	2:55:16	3:14:33	-585.4 /	152.07	154.87	206.54	258.21	261.01	976.51	31.89	2
23. May -1406	13:50: 3	14:16:12	16:15:17	18:14:23	18:40:31	-780.3	118.52	123.78	155.07	186.36	191.62	942.00	29.03	1
21. May -1398	5:33:54	5:49:52	9:17:48	12:45:43	13: 1:41	384.6	41.08	39.51	334.46	269.42	267.84	942.00	29.02	3
22. Nov. -1277	6:52:37	7:17:14	9:32:41	11:48:10	12:12:47	760.3 /	66.32	61.65	25.22	348.78	344.12	976.50	31.89	4
19. Nov. -1269	19:48:47	20:10:26	22:47:46	1:25: 6	1:46:46	-684.5 /	158.75	162.44	205.96	249.49	253.18	976.51	31.92	2
23. May -1163	17:45: 2	18:20:51	19:39: 9	20:57:27	21:33:15	-858.1	127.85	135.80	155.80	175.80	183.74	942.11	29.03	1
21. May -1155	9: 3:17	9:18:37	12:55:25	16:32:12	16:47:33	295.9	47.37	46.20	335.15	264.10	262.94	942.10	29.01	3
22. Nov. -1034	5:27: 1	5:48: 9	8:30:18	11:12:28	11:33:35	665.6 /	73.33	69.83	24.60	339.37	335.87	976.37	31.90	4
19. Nov. -1026	19: 0:58	19:27:47	21:30:42	23:33:37	0: 0:26	-796.4 /	167.59	172.90	205.38	237.87	243.17	976.32	31.92	2
v 23. May -920	22: 7:55	--	23: 7: 1	--	0: 6: 7	-942.2	142.51	--	156.54	--	170.58	942.11	29.02	1
21. May -912	12:17:20	12:32:19	16:14:42	19:57: 5	20:12: 4	222.1	52.60	51.75	335.87	259.99	259.14	942.15	29.01	3
22. Nov. -791	3:41: 4	3:59:49	7: 5: 2	10:10:16	10:29: 1	553.1 /	80.75	78.16	23.97	329.77	327.19	976.32	31.92	4
19. Nov. -783	18:26:57	19: 7:28	20:17:16	21:27: 4	22: 7:36	-899.2 /	177.89	186.98	204.75	222.53	231.62	976.27	31.93	2
22. May -669	15:44:28	15:59:11	19:45:31	23:31:51	23:46:33	137.4	58.45	57.93	336.63	255.33	254.82	942.33	29.01	3
22. Nov. -548	2:20: 5	2:37:31	5:58:19	9:19: 6	9:36:32	451.2 /	86.77	84.80	23.30	321.80	319.84	976.16	31.92	4
v 19. Nov. -540	--	--	18:54:55	--	--	-1012.3 /	--	--	204.13	--	--	976.06	31.93	2
22. May -426	19: 7:21	19:21:56	23:10:37	2:59:17	3:13:52	61.5	63.71	63.48	337.39	251.30	251.07	942.39	29.00	3
23. Nov. -305	0:35:45	0:52:13	4:26: 2	7:59:51	8:16:20	335.5 /	93.25	91.87	22.63	313.40	312.02	976.03	31.92	4

C 23.	May	-183	22:26:21	22:40:53	2:29:43	6:18:33	6:33: 5	-11.0	68.80	68.84	158.20	247.57	247.61	942.61	29.01	3
23.	Nov.	-62	23:16:16	23:32:11	3:13:53	6:55:36	7:11:31	229.8 /	98.81	97.89	21.93	305.96	305.05	975.86	31.92	4
23.	May	60	1:51:24	2: 6: 0	5:53:59	9:41:56	9:56:32	-87.4	74.12	74.45	159.02	243.59	243.92	942.72	29.01	3
23.	Nov.	181	21:44: 5	21:59:41	1:46:56	5:34:12	5:49:48	114.3 /	104.77	104.32	21.22	298.11	297.67	975.64	31.91	4
24.	May	303	5:13:44	5:28:28	9:13:53	12:59:18	13:14: 3	-157.7	79.15	79.75	159.87	239.98	240.59	942.95	29.02	3
C 23.	Nov.	424	20:28:19	20:43:47	0:32:26	4:21: 4	4:36:32	9.6 /	109.99	109.95	20.47	291.00	290.95	975.45	31.91	4
24.	May	546	8:45:12	9: 0:12	12:41:30	16:22:48	16:37:47	-232.3	84.51	85.41	160.74	236.08	236.98	943.13	29.02	3
v 22.	May	554	4:52: 1	--	6: 0: 3	--	7: 8: 5	933.6	356.17	--	339.95	--	323.74	943.31	29.02	5
23.	Nov.	667	19:15:42	19:31:16	23:19: 2	3: 6:47	3:22:21	-99.2 /	115.45	115.83	199.73	283.63	284.01	975.18	31.90	4
24.	May	789	12:16:13	12:31:36	16: 7: 8	19:42:40	19:58: 3	-307.6	90.01	91.23	161.63	232.03	233.25	943.34	29.03	3
22.	May	797	7:23:51	8: 1:13	9:14:15	10:27:18	11: 4:40	866.6	7.79	359.43	340.83	322.22	313.86	943.55	29.04	5
23.	Nov.	910	18: 1:45	18:17:35	22: 0:47	1:43:58	1:59:49	-207.9 /	120.93	121.74	198.94	276.15	276.96	974.92	31.89	4
24.	May	1032	15:43:33	15:59:22	19:28: 4	22:56:47	23:12:35	-373.4	95.06	96.58	162.54	228.50	230.03	943.61	29.05	3
22.	May	1040	10:26:42	10:53:29	12:48: 1	14:42:32	15: 9:20	791.8	17.20	11.74	341.71	311.69	306.22	943.82	29.05	5
23.	Nov.	1153	17: 3:26	17:19:46	20:56:13	0:32:41	0:49: 0	-307.6 /	126.02	127.27	198.16	269.06	270.30	974.64	31.87	4
25.	May	1275	19:12:50	19:29:19	22:49:18	2: 9:16	2:25:46	-444.9	100.62	102.51	163.46	224.41	226.31	943.81	29.05	3
23.	May	1283	13:16:39	13:39:47	15:56:29	18:13:13	18:36:21	733.6	23.65	19.28	342.62	305.95	301.58	944.06	29.06	5
23.	Nov.	1396	15:50:33	16: 7:45	19:32:14	22:56:44	23:13:56	-424.3 /	132.36	134.17	197.36	260.54	262.35	974.30	31.85	4
26.	May	1518	22:32: 2	22:49:14	1:59:45	5:10:16	5:27:28	-505.3	105.63	107.87	164.40	220.93	223.18	944.14	29.08	3
23.	May	1526	16:17:38	16:38: 9	19:14:43	21:51:18	22:11:49	666.7	30.28	26.76	343.55	300.34	296.82	944.41	29.09	5
----- (Greg. cal.) -----																
v 7.	Dec.	1631	3:53:17	5: 2:16	5:20:49	5:39:22	6:48:20	939.3 /	36.55	20.19	15.53	10.87	354.51	974.28	31.84	6
4.	Dec.	1639	14:58: 4	15:16:26	18:26:47	21:37: 8	21:55:29	-523.6 /	137.96	140.34	196.53	252.72	255.11	974.02	31.83	4
6.	June	1761	2: 2:20	2:20:35	5:19:30	8:18:25	8:36:40	-570.4	111.17	113.85	165.35	216.85	219.54	944.38	29.09	3
3.	June	1769	19:15:49	19:34:52	22:25:36	1:16:20	1:35:23	609.3	35.68	32.69	344.47	296.24	293.26	944.64	29.10	5
9.	Dec.	1874	1:49:12	2:18:56	4: 7:22	5:55:49	6:25:33	829.9 /	49.13	42.97	14.70	346.42	340.27	973.91	31.82	6

6. Dec. 1882	13:56:41	14:17:10	17: 5:54	19:54:38	20:15: 7	-637.3 /	145.11	148.35	195.72	243.08	246.33	973.59	31.80	4
8. June 2004	5:14:47	5:34:13	8:20:49	11: 7:24	11:26:51	-626.9	116.33	119.47	166.31	213.15	216.29	944.71	29.11	3
6. June 2012	22:10:56	22:28:53	1:30:43	4:32:33	4:50:30	554.4	40.69	38.13	345.43	292.73	290.17	945.03	29.13	5
11. Dec. 2117	0: 2:31	0:25:39	2:52: 8	5:18:38	5:41:46	723.6 /	57.86	53.68	13.84	334.00	329.82	973.59	31.80	6
8. Dec. 2125	13:19:29	13:43:10	16: 5:49	18:28:28	18:52: 8	-736.4 /	152.01	156.35	194.85	233.36	237.70	973.31	31.78	4
11. June 2247	8:51:10	9:12:31	11:42:27	14:12:24	14:33:45	-691.3	122.44	126.24	167.28	208.32	212.12	945.01	29.13	3
9. June 2255	1:17:39	1:34:41	4:47:36	8: 0:31	8:17:33	491.9	46.00	43.85	346.38	288.90	286.75	945.29	29.15	5
13. Dec. 2360	22:47:17	23: 7:30	1:58:44	4:49:57	5:10:10	625.7 /	64.54	61.39	12.99	324.59	321.43	973.20	31.76	6
10. Dec. 2368	12:44:56	13:15:24	15: 0:28	16:45:33	17:16: 0	-836.4 /	160.42	166.77	194.02	221.26	227.61	972.83	31.74	4
12. June 2490	12: 1:48	12:25:17	14:39:42	16:54: 7	17:17:36	-741.1	127.72	132.21	168.25	204.30	208.79	945.33	29.15	3
10. June 2498	4:12: 4	4:28:32	7:48:35	11: 8:38	11:25: 6	442.7	50.28	48.40	347.34	286.28	284.41	945.70	29.18	5
16. Dec. 2603	21:14:54	21:33: 8	0:44:29	3:55:49	4:14: 3	517.1 /	71.19	68.84	12.11	315.38	313.03	972.83	31.74	6
v 13. Dec. 2611	12:36:50	13:40:18	14: 6: 9	14:31:59	15:35:27	-934.8 /	171.73	186.66	193.14	199.61	214.54	972.52	31.72	4
15. June 2733	15:45: 8	16:13:18	18: 0:59	19:48:39	20:16:49	-808.3	135.21	141.09	169.24	197.40	203.27	945.71	29.18	3
13. June 2741	7:17: 8	7:33: 5	11: 0:24	14:27:43	14:43:40	385.6	54.97	53.39	348.32	283.25	281.67	946.02	29.20	5
17. Dec. 2846	20:24:29	20:41:44	0: 5:13	3:28:41	3:45:55	432.1 /	75.81	73.95	11.23	308.52	306.66	972.43	31.71	6
v 14. Dec. 2854	--	--	13:14:26	--	--	-1026.7 /	--	--	192.26	--	--	972.03	31.68	4
16. June 2976	18:54: 5	19:27:43	20:53: 7	22:18:32	22:52: 9	-850.5	140.87	148.25	170.21	192.17	199.54	946.02	29.21	3
14. June 2984	10:10:33	10:26: 9	13:58:46	17:31:23	17:46:59	336.3	59.06	57.72	349.29	280.86	279.52	946.41	29.23	5
-> 18. Dec. 3089	19: 1:49	19:18:10	22:53:36	2:29: 2	2:45:23	320.6 /	81.80	80.49	10.36	300.24	298.92	972.00	31.67	6
v 20. June 3219	22:31:18	23:28: 6	0: 0: 6	0:32: 6	1:28:55	-908.1	149.74	163.14	171.21	179.27	192.68	946.44	29.24	3
17. June 3227	13: 3:37	13:18:56	16:55:19	20:31:43	20:47: 2	293.4	62.72	61.56	350.27	278.98	277.83	946.79	29.26	5
20. Dec. 3332	18:14:30	18:30:23	22:12: 4	1:53:44	2: 9:38	235.5 /	85.96	85.02	9.46	293.91	292.97	971.61	31.64	6
v 22. June 3462	1:48:43	--	2:46:31	--	3:44:19	-948.1	158.40	--	172.16	--	185.93	946.78	29.27	3
19. June 3470	15:51:28	16: 6:35	19:46:41	23:26:48	23:41:55	247.9	66.46	65.51	351.24	276.98	276.02	947.17	29.29	5
23. Dec. 3575	17: 7:58	17:23:32	21:10:32	0:57:31	1:13: 5	131.5 /	91.13	90.62	8.60	286.58	286.07	971.11	31.59	6
v 24. June 3705	--	--	5:35:19	--	--	-989.3	--	--	173.15	--	--	947.20	29.30	3
21. June 3713	18:30:27	18:45:25	22:27:21	2: 9:18	2:24:17	215.2	69.42	68.60	352.21	275.83	275.00	947.61	29.33	5

c 25. Dec.	3818	16:23: 6	16:38:31	20:27:15	0:15:58	0:31:22	41.1 /	95.42	95.26	7.70	280.13	279.97	970.72	31.56	6
24. June	3956	21:17:37	21:32:30	1:16:53	5: 1:17	5:16:10	175.2	72.78	72.12	353.18	274.24	273.57	947.99	29.36	5
c 26. Dec.	4061	15:44:40	16: 0: 5	19:49: 5	23:38: 4	23:53:28	-44.7 /	99.45	99.62	186.82	274.02	274.19	970.19	31.51	6
26. June	4199	23:51:40	0: 6:26	3:51:58	7:37:32	7:52:19	143.5	75.63	75.09	354.14	273.18	272.64	948.45	29.40	5
29. Dec.	4304	15:12:40	15:28:10	19:14:54	23: 1:37	23:17: 7	-131.3 /	103.54	104.04	185.93	267.82	268.32	969.77	31.47	6
28. June	4442	2:39:38	2:54:22	6:41:17	10:28:14	10:42:57	106.7	78.76	78.36	355.08	271.81	271.41	948.87	29.44	5
31. Dec.	4547	14:53:45	15: 9:28	18:52:57	22:36:25	22:52: 8	-207.8 /	107.10	107.91	185.05	262.18	262.99	969.24	31.42	6
30. June	4685	5: 3:37	5:18:19	9: 5:48	12:53:19	13: 8: 1	84.4	81.01	80.70	356.02	271.35	271.04	949.30	29.48	5
2. Jan.	4791	14:33:22	14:49:25	18:27:33	22: 5:41	22:21:44	-286.0 /	110.86	112.00	184.17	256.34	257.49	968.77	31.37	6
c 2. July	4928	7:41:58	7:56:39	11:44:39	15:32:40	15:47:21	51.5	83.87	83.68	356.95	270.22	270.03	949.79	29.52	5
4. Jan.	5034	14:20:15	14:36:47	18: 7:41	21:38:34	21:55: 6	-365.4 /	114.80	116.31	183.30	250.29	251.80	968.28	31.33	6
c 5. July	5171	9:51: 6	10: 5:48	13:54: 6	17:42:25	17:57: 7	43.2	85.25	85.09	357.85	270.60	270.44	950.20	29.56	5
v 8. Jan.	5269	3:16:36	--	3:59:39	--	4:42:42	984.0 /	11.67	--	1.51	--	351.36	968.28	31.32	7
5. Jan.	5277	14:12: 8	14:29:17	17:52: 7	21:14:57	21:32: 6	-435.8 /	118.37	120.24	182.44	244.65	246.52	967.74	31.27	6
c 7. July	5414	12:15:36	12:30:17	16:18:32	20: 6:49	20:21:30	18.6	87.60	87.53	358.74	269.97	269.90	950.73	29.61	5
12. Jan.	5512	2: 0:47	2:45:39	3:43:47	4:41:54	5:26:46	905.8 /	25.65	15.39	0.67	345.94	335.69	967.80	31.27	7
9. Jan.	5520	14: 6:33	14:24:34	17:36: 9	20:47:44	21: 5:44	-512.2 /	122.51	124.82	181.59	238.37	240.68	967.30	31.23	6
c 8. July	5657	14:15:18	14:30: 0	18:18:35	22: 7:10	22:21:53	16.3	88.58	88.53	359.60	270.67	270.62	951.14	29.65	5
13. Jan.	5755	1:24:20	1:55:16	3:36:49	5:18:23	5:49:18	839.1 /	32.72	26.20	359.86	333.52	327.00	967.28	31.22	7
10. Jan.	5763	14:15:38	14:34:41	17:35: 6	20:35:29	20:54:31	-577.0 /	126.13	128.88	180.76	232.63	235.38	966.70	31.17	6
c 11. July	5900	16:29:29	16:44:11	20:32:31	0:20:52	0:35:35	3.2	90.22	90.21	0.46	270.73	270.72	951.67	29.70	5
15. Jan.	5998	0:51:28	1:16:28	3:28:20	5:40:12	6: 5:11	764.8 /	39.07	34.26	359.05	323.85	319.04	966.77	31.17	7
12. Jan.	6006	14:27: 8	14:47:30	17:34:16	20:21: 1	20:41:23	-640.4 /	129.92	133.19	179.92	226.66	229.93	966.27	31.13	6
c 13. July	6143	18:31:10	18:45:54	22:34:29	2:23: 5	2:37:49	-3.7	91.44	91.46	181.28	271.12	271.13	952.12	29.74	5

17. Jan. 6241	0:55:39	1:18:11	3:46:56	6:15:41	6:38:13	711.0	/	42.84	38.81	358.26	317.71	313.68	966.27	31.12	7
14. Jan. 6249	14:54:43	15:16:46	17:49:16	20:21:45	20:43:48	-697.5	/	133.57	137.42	179.12	220.81	224.67	965.67	31.07	6
C 16. July 6386	20:32: 6	20:46:51	0:35:18	4:23:47	4:38:32	-5.1		92.34	92.36	182.13	271.84	271.86	952.62	29.79	5
19. Jan. 6484	0:39:40	1: 0: 8	3:45:53	6:31:39	6:52: 6	644.8	/	47.23	43.92	357.49	311.07	307.75	965.73	31.06	7
16. Jan. 6492	15:24: 6	15:48:25	18: 4: 6	20:19:47	20:44: 6	-752.3	/	137.39	141.98	178.31	214.64	219.23	965.23	31.02	6
C 18. July 6629	22:26:42	22:41:28	2:29:57	6:18:27	6:33:13	-5.5		93.15	93.17	182.89	272.60	272.63	953.12	29.84	5
22. Jan. 6727	1: 0:17	1:19:35	4:16: 5	7:12:34	7:31:52	594.6	/	50.14	47.25	356.73	306.21	303.32	965.26	31.02	7
19. Jan. 6735	16: 4:46	16:32: 5	18:29:59	20:27:53	20:55:11	-800.4	/	141.08	146.57	177.54	208.51	214.00	964.66	30.96	6
C 19. July 6872	0: 9:10	0:23:57	4:12:34	8: 1:13	8:16: 1	2.0		93.46	93.46	3.63	273.81	273.81	953.57	29.88	5
23. Jan. 6970	0:55:37	1:13:50	4:21:55	7:29:58	7:48:12	532.9	/	53.70	51.25	356.01	300.76	298.31	964.68	30.96	7
20. Jan. 6978	16:43:38	17:17: 9	18:47:24	20:17:40	20:51:10	-857.7	/	146.33	153.58	176.78	199.98	207.22	964.18	30.91	6

=====
Computed constellations: 44964 ("/" means ascending node)
Tested planet, passages: 6255
Detected transits : 126
Centr./grazing transits: 14 / 11
CPU time 0: 0: 3.003
run time 0: 0: 0.788 -- end of run.
=====

49

Option 14: P5 program output for all fourfold conjunctions in which the planets Mercury, Venus, Earth, and Mars simultaneously have similar ecliptic longitudes within an angular range of 5° . Some designations in the table headings are explained. The column containing the numbers of significant constellations is marked co. (Here, we have only No. 12.) Concerning these “identification numbers,” 14 special constellations are described in detail in the book *Pyramiden und Planeten* [9]. In the column tr, the characters M and V refer to an additional transit of Mercury and Venus, respectively, and k indicates the number of the aphelion passage of Mercury. The aphelion passages are continuously numbered, where the first aphelion passage of Mercury after the beginning of the year 2000 has the number $k=0$. The time period from the fourfold conjunction to the next aphelion passage of Mercury is given by dt . The angles L_m , L_v , L_e , and L_{ma} are the ecliptic longitudes of Mercury, Venus, Earth, and Mars. The minimum angular range of the four ecliptic longitudes during the conjunction is dL_{min} (see Fig. 2). Further details are provided in [2].

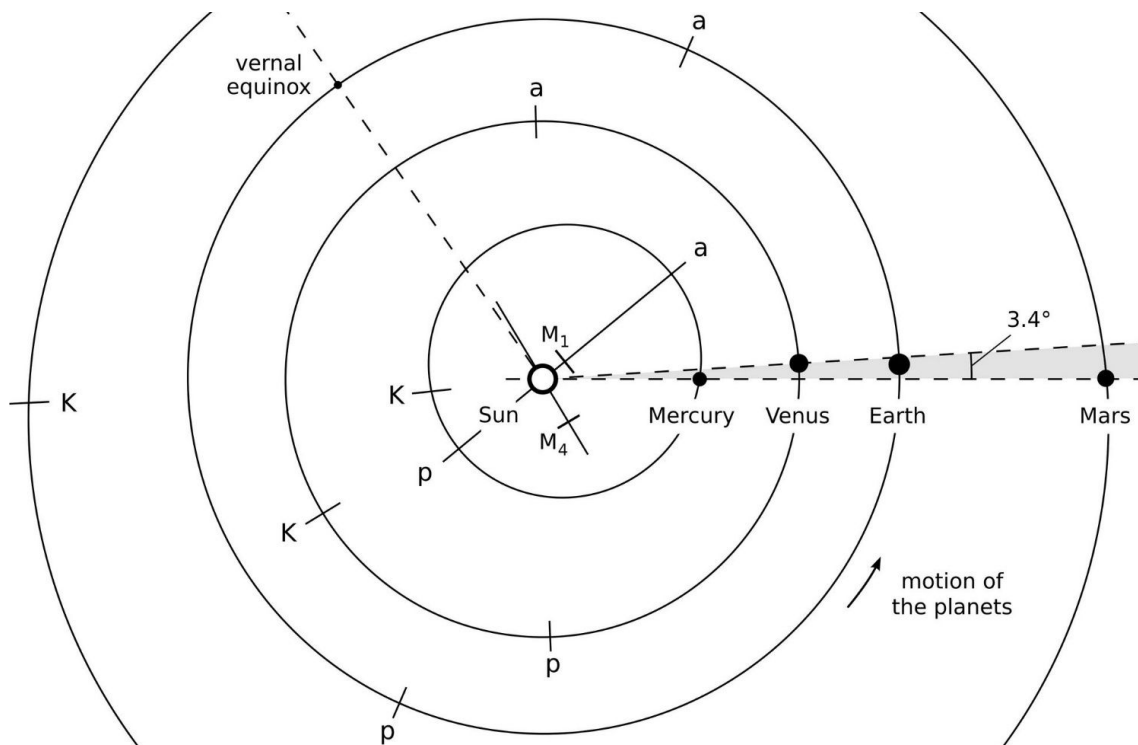


Figure 2: Approximate true-to-scale representation of the positions of Mercury, Venus, Earth, and Mars on May 17, 3088, at 12:19:07 (terrestrial time). The four planets and the Sun are positioned nearly in a straight line (syzygy), followed by a Mercury transit one day later. The positions p , a , and K represent perihelion, aphelion, and ascending node, and M_1 and M_4 are the orbital centers of Mercury and Mars. For improved visibility, the planets and the Sun are drawn larger than they would be if they were drawn to scale. The range of ecliptic longitudes dL_{\min} (or ΔL_{\min}) is only 3.4° .

P5 output:

PLANETS IN A LINE (SYZYGY)
(angular range of eclipt. longitudes dL minimized, JDE)
< P5-option 14 >

VSOP87C, comb. search,		ecliptic of date,		linear c. Mercury to Mars				
Period (years) -13000.00 to 17000.00 (c1),				angular r.: 6.00/ 5.00 deg				
co tr	k	JDE	year	dt[days]	Lm-Lv	Lm-Le	Lm-Lma	dLmin
=====								
	-62144	-3015259.12387	-12967.601	-38.133	1.757	0.0	0.105	1.757

	-61116	-2924752.04882	-12719.801	36.451	-2.558	-3.025	0.0	3.025
	-56018	-2476304.86414	-11491.995	15.891	-1.871	-3.100	0.0	3.100
	-55699	-2448270.17542	-11415.238	-11.643	2.577	3.490	0.0	3.490
	-54830	-2371781.88140	-11205.820	31.286	1.469	0.0	0.900	1.469
	-51975	-2120688.28715	-10518.350	-27.612	-1.048	-0.384	0.0	1.048
M	-50946	-2030182.60335	-10270.553	-42.389	-0.500	-0.988	0.0	0.988
	-48544	-1818813.77667	-9691.845	24.059	4.074	0.0	1.955	4.074
	-48225	-1790778.08803	-9615.086	-2.474	3.782	3.234	0.0	3.782
	-44501	-1463199.29860	-8718.206	-21.543	2.831	-0.189	2.831	3.019
V	-40777	-1135613.28929	-7821.306	-33.392	-2.288	-2.121	0.0	2.288
	-39749	-1045106.26361	-7573.506	41.143	-4.656	-3.657	0.0	4.656
	-33463	-492135.45751	-6059.523	36.617	-0.732	-0.497	0.0	0.732
	-29579	-150537.15060	-5124.259	-38.030	-3.780	-2.775	0.0	3.780
	-28046	-15654.33423	-4754.962	-12.227	4.108	3.948	0.0	4.108
	-27177	60834.13961	-4545.544	30.882	1.499	0.0	0.676	1.499
	-24322	311928.64773	-3858.071	-27.103	2.726	3.541	0.0	3.541
	-23293	402434.40305	-3610.274	-41.808	3.463	3.984	0.0	3.984
	-20891	613802.18908	-3031.569	23.600	4.661	0.0	3.870	4.661
	-20572	641837.19908	-2954.812	-3.613	4.509	2.495	0.0	4.509
	-19384	746366.77815	-2668.619	18.379	0.226	4.109	0.0	4.109
	-16848	969416.60704	-2057.930	-22.063	4.094	0.469	0.0	4.094
	-13124	1297003.80471	-1161.026	-32.723	2.174	3.048	0.0	3.048
M	-12096	1387510.46824	-913.228	41.449	-2.172	-0.337	0.0	2.172
	-5810	1940480.90518	600.754	36.554	0.079	0.707	0.0	0.707
	-5650	1954490.74930	639.112	-28.698	4.457	0.0	0.403	4.457
	-4621	2044997.03231	886.909	-42.875	4.093	0.0	1.425	4.093
	-2955	2191576.37670	1288.230	-20.467	-4.154	0.0	-0.771	4.154
	-1926	2282079.86037	1536.020	-37.445	0.453	2.400	0.0	2.400
	476	2493450.15754	2114.732	30.475	1.507	-0.232	1.507	1.739
	795	2521489.41998	2191.501	7.515	-3.907	0.0	-1.484	3.907
12 M	4519	2849066.01327	3088.376	-13.750	-3.397	-2.605	0.0	3.397
	5548	2939566.30702	3336.157	-33.917	3.882	0.0	0.569	3.882
	8243	3176650.26922	3985.271	-27.352	-3.312	0.0	-0.379	3.312
	8269	3178981.57686	3991.654	16.752	-0.800	1.467	-0.800	2.267
	9272	3267156.02956	4233.067	-42.053	-3.820	-0.574	0.0	3.820
	15557	3820126.65275	5747.049	41.208	-2.124	0.0	-1.952	2.124
	15717	3834138.13217	5785.411	-22.408	-2.064	-3.418	0.0	3.419
	15743	3836472.36564	5791.802	24.622	4.659	4.389	0.0	4.659
	16746	3924642.67733	6033.204	-38.324	2.520	0.0	2.339	2.520
	19441	4161725.56802	6682.315	-32.830	-3.781	0.0	-0.412	3.781
	20974	4296612.30826	7051.623	-3.103	-4.188	0.0	-3.368	4.188
M	21843	4373097.00488	7261.031	36.229	-0.135	0.380	-0.135	0.515
	24698	4624193.65495	7948.510	-19.615	-0.632	4.214	-0.632	4.846
	26915	4819212.51626	8482.453	-28.801	-1.437	-3.049	0.0	3.049
	28129	4926065.39990	8775.007	29.292	-0.821	-3.563	0.0	3.563
	28448	4954105.08050	8851.777	6.750	-2.902	0.0	-1.249	2.902
	32172	5281682.80510	9748.654	-13.384	-0.969	0.0	-0.897	0.969
	35922	5611596.79305	10651.928	15.543	-0.971	0.043	-0.971	1.013
	36925	5699772.17611	10893.344	-42.331	-3.639	0.0	-2.630	3.639
	38113	5804287.97146	11179.498	-34.123	-2.641	-3.546	0.0	3.546
	39646	5939173.53429	11548.803	-5.573	-1.199	-3.007	0.0	3.007
	43210	6252743.27610	12407.327	41.406	0.134	2.572	0.0	2.572
M	43370	6266755.55351	12445.692	-21.412	1.706	1.352	0.0	1.706
	43396	6269087.74498	12452.077	23.576	3.799	2.388	0.0	3.799
	44399	6357258.98958	12693.482	-38.437	3.641	1.774	0.0	3.641
	49496	6805712.91680	13921.307	35.715	-0.904	-0.924	0.0	0.924
	50844	6924245.65229	14245.838	-14.233	3.579	-0.162	3.579	3.742
	54568	7251829.78723	15142.733	-27.956	2.517	2.077	0.0	2.517
	56101	7386721.26013	15512.054	6.504	-1.307	1.289	-1.307	2.596

=====
 Computed constellations: 150720

Number of syzygies : 60

CPU time 0: 0: 6.773

run time 0: 0: 1.769 -- end of run.

5. Planetary constellations in the year AD 3088 and the chamber positions in the Great Pyramid of Giza

Options 330–332: Tables of transformed planetary positions in the Great Pyramid concerning the astronomical events in the year 3088. The moment of the minimum angular range, comprising the ecliptic longitudes of the four planets Mercury to Mars during the conjunction, is labeled “date of syzygy.” This point in time is not identical with the date of minimum separation during the Mercury transit. Both moments are separated by approximately one day. The GPS coordinates of Mercury to Mars to the right in the tables are correct but not relevant because the positions are separated by only a few meters and there is no GPS signal reception in the Great Pyramid. However, this is only true for Mercury to Mars in options 330–332 and not for the options 333–335. In the present 6th edition, the corresponding positions of the outer planets Jupiter to Neptune are additionally included. For more details see [2]. Note: In the former program version from June 2015 (P4), the quick start option 380 must be used instead of the option 331.

In the last three subsections of the tables, the positions of Mercury to Mars are accordingly transformed to locations within the Great Pyramid (only partly true for Mars), and the positions of the outer planets are transferred to the area around the pyramids. The underlying positions of the chambers, being the basis for the calculations, are as follows (Fig. 3):

1. Middle of east walls of the chambers in the Great Pyramid, P5 option 330,
2. Spatial middle of the chambers, P5 option 331 (P4 option 380),
3. Middle of west walls of the chambers, P5 option 332.

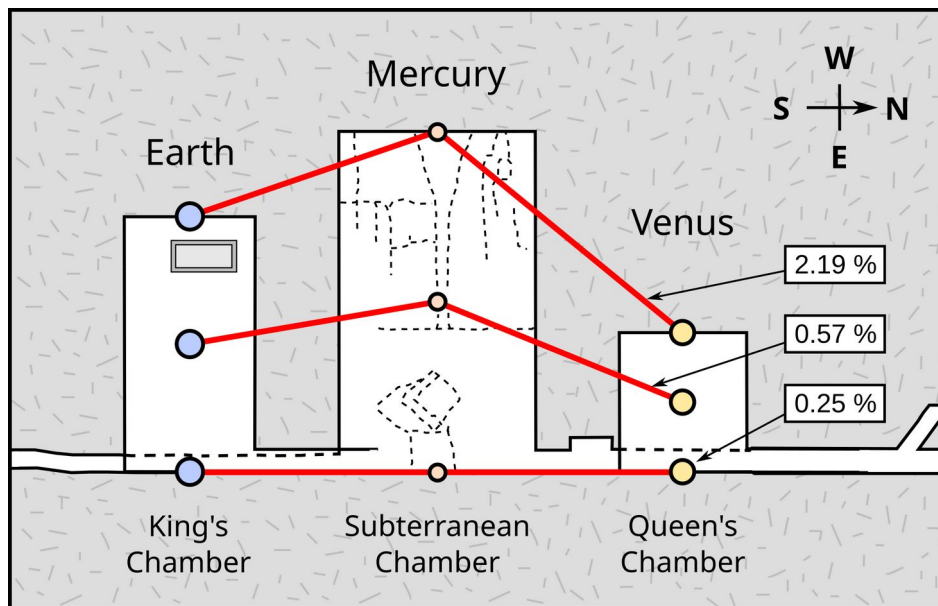


Figure 3: View of the three chambers in the Great Pyramid from above. The small circles indicate the chamber positions. The chambers are pushed slightly apart horizontally for visual reasons; otherwise, their base areas would overlap. The red lines connect related positions. The percentages correspond to the deviations between pyramid and planetary arrangements.

The corresponding setting of the parameters is reproduced in note form in the table headings. The parameter distinguishing the three position options (east, middle, and west) is the only parameter that changes when comparing the three tables. This parameter and the most important coordinates are highlighted in yellow and orange. Note: The coordinates of the Sun position are provided only for the date of chambers because they remain unchanged at the other three points in time.

Figure 4 shows the cross-sectional area of the Great Pyramid (Cheops Pyramid) as seen from the east. This is a combined representation of the known original chamber system in the pyramid, the arrangement of the pyramids themselves, and the planetary orbits. The planetary positions are shown for the chamber date, the syzygy data, and the pyramid date. The transit date is omitted because it is not much different to the constellation of the syzygy date. The time span between the constellations of chambers and pyramids is 44 days (red paths), which is half of Mercury's orbital period. On the right side of the "Sun," Mercury is placed at perihelion; on the left side at aphelion. The "planetary positions" are calculated with P5 using the option 330. Nevertheless, the option 331 (being less likely [2, pp. 96 and 97]) yields similar results except for the z-coordinate.

The xy-plane of the coordinate system is placed in the vertical plane of the east walls of corridors and chambers. The origin is located in the base area of the pyramid at the position of the vertical middle axis of the east wall of the Queen's Chamber. The z-axis points to the east, which is out of the drawing plane.

Remark: The Great Pyramid is attributed to the Pharaoh Cheops. However, the reign of Cheops is roughly dated to between 2575 BC and 2550 BC, whereas the determination of the pyramid's age (accelerator mass spectrometry, AMS) is 3030 BC to 2905 BC with a probability of 95 % [13, 14]. Thus, it seems very likely that it was not Cheops who built the pyramid.

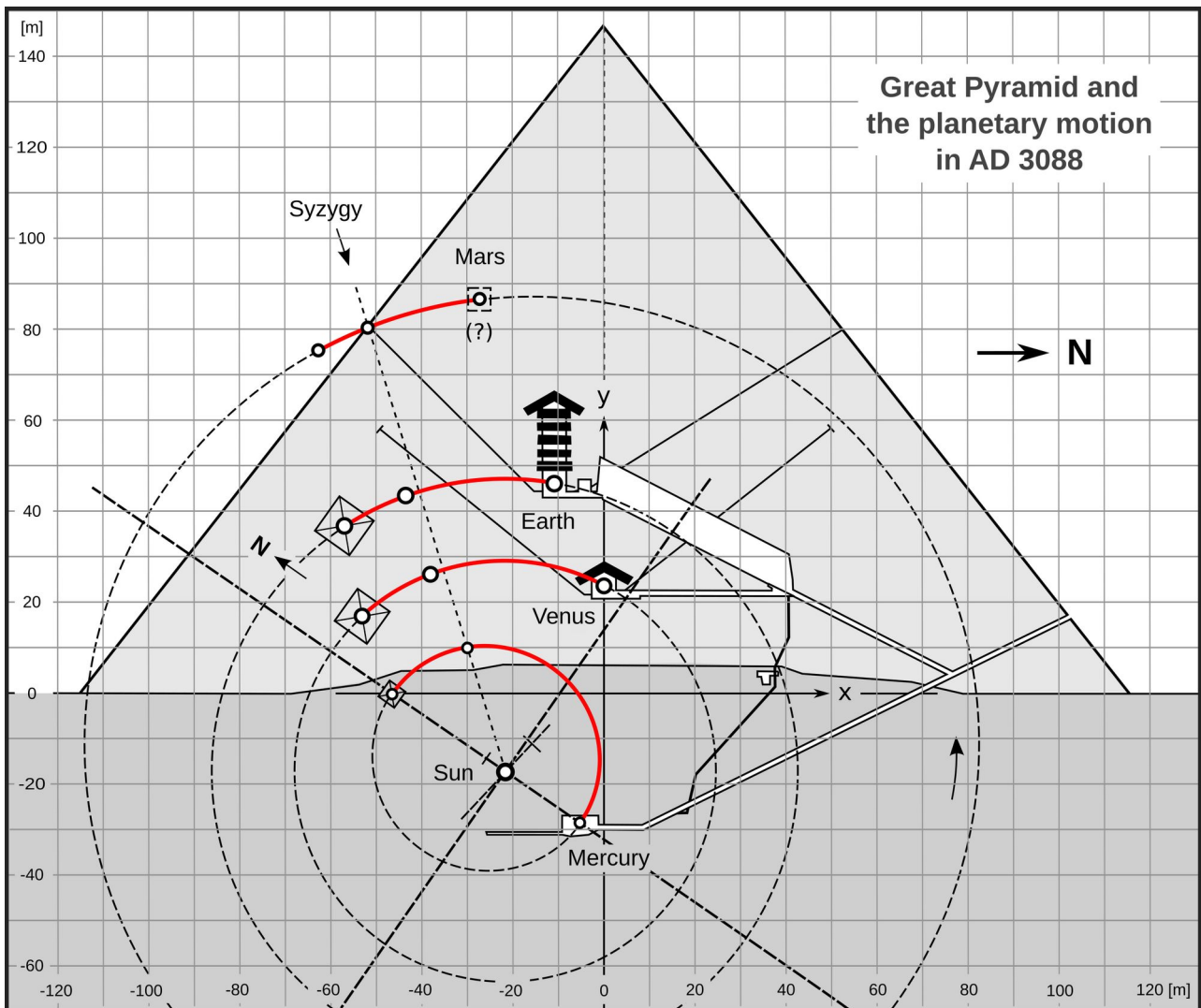


Figure 4: Superposition of the pyramid's cross section, the planetary orbits, and the pyramid positions. The motion of the planets is counterclockwise. The red lines represent the planetary motion from the chamber date to the pyramid date. The configurations are each roughly true to scale. For the exact positions, use the coordinates calculated.

5.1 East walls of the chambers

P5 output: PLANETS IN ALIGNMENT WITH THE CHAMBERS OF THE CHEOPS PYRAMID
 (more positions - coordinate system of chambers)
 < P5-option 330 >

VSOP87A (2005) full ver., standard J2000.0, E-V-M, "Sun" free 3D **east**, FITEX
 Ecl. N and S, constellation 12, JDE = 2849035.77863, year = 3088.29 (c2)
 date (Gregor.,TT) = 17. Apr. 3088, 6:41:13, Tuesday

con	k	year	X5	M/10 ⁹	h-Sun	x-Sun	y-Sun	z-Sun	dr	P	F[%]
12	4518	3088.293	-13.84	2.320	33.68	-21.76	-17.44	2.68	0.09		0.253

Celestial positions in Giza

body	x[m]	y[m]	z[m]	dr[m]	latitude N	longitude E
date of chambers: JDE = 2849035.77863						
Sun	-21.76	-17.44	2.68	0.09	29	58.74004
Mercury	-5.47	-28.41	0.00	0.11	29	58.74886
Venus	0.06	23.44	0.00	0.04	29	58.75185
Earth	-11.11	46.01	0.00	0.08	29	58.74581
Mars	-26.76	86.77	4.89	0.19	29	58.73733
Jupiter	-343.90	-39.51	80.20	0.89	29	58.56568
Saturn	-2.42	-620.15	-28.19	1.60	29	58.75051
Uranus	-1242.26	-220.89	291.00	3.27	29	58.07943
Neptune	1197.54	1475.84	-268.24	4.83	29	59.40000
date of syzygy: JDE = 2849066.01327						
Mercury	-29.83	9.71	5.06	0.06	29	58.73568
Venus	-37.37	26.20	7.88	0.09	29	58.73160
Earth	-43.11	43.64	7.96	0.12	29	58.72849
Mars	-51.10	80.32	10.09	0.21	29	58.72416
Jupiter	-342.00	-54.24	79.43	0.89	29	58.56671
Saturn	8.29	-619.05	-30.76	1.60	29	58.75631
Uranus	-1241.37	-228.30	290.72	3.27	29	58.07991
Neptune	1193.07	1479.77	-266.98	4.83	29	59.39758
date of transit: JDE = 2849067.30624						
Mercury	-31.77	9.35	5.29	0.07	29	58.73462
Venus	-38.91	25.60	8.17	0.09	29	58.73076
Earth	-44.41	43.16	8.28	0.13	29	58.72778
Mars	-52.10	79.90	10.30	0.21	29	58.72362
Jupiter	-341.90	-54.87	79.39	0.89	29	58.56676
Saturn	8.75	-619.00	-30.87	1.60	29	58.75655
Uranus	-1241.34	-228.62	290.71	3.27	29	58.07993
Neptune	1192.88	1479.94	-266.92	4.83	29	59.39748
date of pyramids: JDE = 2849079.76330						
Mercury	-46.49	-0.79	6.74	0.11	29	58.72665
Venus	-52.36	17.01	10.57	0.12	29	58.72348
Earth	-56.30	37.10	11.24	0.14	29	58.72135
Mars	-61.61	75.19	12.31	0.21	29	58.71847
Jupiter	-340.92	-60.91	79.03	0.89	29	58.56729
Saturn	13.16	-618.49	-31.93	1.60	29	58.75894
Uranus	-1240.96	-231.67	290.60	3.27	29	58.08014
Neptune	1191.04	1481.55	-266.40	4.83	29	59.39648

CPU time 0: 0: 0.137

run time 0: 0: 0.083 -- end of run.

5.2 Spatial middle of the chambers

P5 output: PLANETS IN ALIGNMENT WITH THE CHAMBERS OF THE CHEOPS PYRAMID
 (more positions - coordinate system of chambers)
 < P5-option 331 >

VSOP87A (2005) full ver., standard J2000.0, E-V-M, "Sun" free 3D mid., FITEX
 Ecl. N and S, constellation 12, JDE = 2849035.77863, year = 3088.29 (c2)
 date (Gregor.,TT) = 17. Apr. 3088, 6:41:13, Tuesday

con	k	year	X5	M/10 ⁹	h-Sun	x-Sun	y-Sun	z-Sun	dr	P	F[%]
12	4518	3088.293	-4.23	2.317	33.99	-21.78	-17.38	-8.76	0.20		0.570

Celestial positions in Giza

body	x[m]	y[m]	z[m]	dr[m]	latitude N	longitude E
date of chambers: JDE = 2849035.77863						
Sun	-21.78	-17.38	-8.76	0.20	29	58.74003
Mercury	-5.38	-28.43	-7.01	0.24	29	58.74891
Venus	-0.20	23.38	-2.95	0.09	29	58.75171
Earth	-10.93	46.09	-5.20	0.19	29	58.74590
Mars	-27.45	86.83	-3.25	0.44	29	58.73696
Jupiter	-352.87	-39.18	-30.97	2.01	29	58.56082
Saturn	7.15	-619.13	-60.71	3.62	29	58.75569
Uranus	-1274.34	-219.61	-103.67	7.37	29	58.06207
Neptune	1221.69	1474.36	162.73	10.91	29	59.41308

date of syzygy: JDE = 2849066.01327

Mercury	-30.26	9.76	-7.60	0.14	29	58.73544
Venus	-38.34	26.23	-6.36	0.20	29	58.73107
Earth	-43.90	43.73	-7.17	0.28	29	58.72806
Mars	-52.25	80.42	-5.78	0.46	29	58.72354
Jupiter	-350.79	-53.90	-31.83	2.01	29	58.56195
Saturn	18.16	-618.04	-59.95	3.61	29	58.76165
Uranus	-1273.39	-227.03	-104.02	7.37	29	58.06258
Neptune	1217.04	1478.29	162.80	10.91	29	59.41056

date of transit: JDE = 2849067.30624

Mercury	-32.19	9.41	-7.96	0.16	29	58.73440
Venus	-39.91	25.62	-6.57	0.21	29	58.73022
Earth	-45.24	43.26	-7.27	0.28	29	58.72733
Mars	-53.28	80.00	-5.89	0.47	29	58.72298
Jupiter	-350.69	-54.53	-31.87	2.01	29	58.56201
Saturn	18.63	-617.99	-59.91	3.61	29	58.76191
Uranus	-1273.35	-227.35	-104.03	7.37	29	58.06260
Neptune	1216.84	1478.45	162.80	10.91	29	59.41045

date of pyramids: JDE = 2849079.76330

Mercury	-46.68	-0.62	-11.41	0.25	29	58.72655
Venus	-53.47	17.08	-8.65	0.27	29	58.72288
Earth	-57.48	37.20	-8.24	0.33	29	58.72071
Mars	-62.95	75.32	-7.00	0.48	29	58.71775
Jupiter	-349.63	-60.58	-32.21	2.01	29	58.56258
Saturn	23.16	-617.48	-59.60	3.61	29	58.76436
Uranus	-1272.95	-230.40	-104.18	7.37	29	58.06282
Neptune	1214.92	1480.07	162.83	10.91	29	59.40941

CPU time 0: 0: 0.139

run time 0: 0: 0.086 -- end of run.

5.3 West walls of the chambers

P5 output: PLANETS IN ALIGNMENT WITH THE CHAMBERS OF THE CHEOPS PYRAMID
 (more positions - coordinate system of chambers)
 < P5-option 332 >

VSOP87A (2005) full ver., standard J2000.0, E-V-M, "Sun" free 3D **west**, FITEX
 Ecl. N and S, constellation 12, JDE = 2849035.77863, year = 3088.29 (c2)
 date (Gregor.,TT) = 17. Apr. 3088, 6:41:13, Tuesday

con	k	year	X5	M/10 ⁹	h-Sun	x-Sun	y-Sun	z-Sun	dr	P	F[%]
12	4518	3088.293	18.54	2.307	35.54	-20.60	-17.03	-19.19	0.78		2.194

Celestial positions in Giza

body	x[m]	y[m]	z[m]	dr[m]	latitude N	longitude E
date of chambers: JDE = 2849035.77863						
Sun	-20.60	-17.03	-19.19	0.78	29	58.74067
Mercury	-5.17	-28.47	-13.89	0.93	29	58.74902
Venus	-0.81	23.23	-6.29	0.37	29	58.75138
Earth	-10.53	46.29	-10.13	0.72	29	58.74612
Mars	-26.81	87.36	-10.51	1.68	29	58.73731
Jupiter	-337.07	-32.08	-124.64	7.76	29	58.56938
Saturn	16.60	-618.92	-89.83	14.00	29	58.76081
Uranus	-1215.90	-193.62	-434.15	28.50	29	58.09370
Neptune	1155.14	1449.90	526.62	42.19	29	59.37705
date of syzygy: JDE = 2849066.01327						
Mercury	-28.96	10.30	-18.95	0.56	29	58.73614
Venus	-37.02	26.90	-19.02	0.77	29	58.73178
Earth	-42.11	44.60	-20.40	1.08	29	58.72903
Mars	-50.33	81.49	-19.47	1.80	29	58.72458
Jupiter	-334.93	-46.85	-125.63	7.77	29	58.57054
Saturn	27.12	-618.06	-86.28	13.98	29	58.76650
Uranus	-1214.95	-201.06	-434.59	28.51	29	58.09422
Neptune	1150.62	1453.92	525.70	42.19	29	59.37461
date of transit: JDE = 2849067.30624						
Mercury	-30.75	10.00	-19.81	0.60	29	58.73518
Venus	-38.49	26.33	-19.64	0.80	29	58.73098
Earth	-43.39	44.15	-20.86	1.09	29	58.72834
Mars	-51.31	81.09	-19.86	1.80	29	58.72405
Jupiter	-334.82	-47.48	-125.67	7.77	29	58.57059
Saturn	27.57	-618.01	-86.13	13.98	29	58.76674
Uranus	-1214.90	-201.37	-434.60	28.51	29	58.09424
Neptune	1150.43	1454.09	525.66	42.19	29	59.37450
date of pyramids: JDE = 2849079.76330						
Mercury	-44.04	0.34	-27.24	0.97	29	58.72798
Venus	-51.21	18.10	-25.45	1.06	29	58.72410
Earth	-55.08	38.33	-25.14	1.26	29	58.72201
Mars	-60.46	76.61	-23.57	1.86	29	58.71909
Jupiter	-333.75	-53.54	-126.01	7.78	29	58.57118
Saturn	31.90	-617.60	-84.66	13.97	29	58.76909
Uranus	-1214.49	-204.44	-434.78	28.52	29	58.09446
Neptune	1148.56	1455.74	525.28	42.19	29	59.37349

CPU time 0: 0: 0.136

run time 0: 0: 0.084 -- end of run.

6. Planetary constellations in the year AD 3088 according to the pyramid positions at Giza

Options 333–335: Tables of the transformed planetary positions on the Giza plateau according to the astronomical constellations in the year 3088. The origin of the coordinate system is located in the center of the base area of the Mykerinos Pyramid. The x-axis points to the north, the y-axis points to the west, and the z-axis points upward. The program output is analogous to the options 330–332. In this case, the geographical coordinates are relevant. For further details see [2]. Note: In the previous program version from June 2015 (P4), the quick start option 381 must be used instead of option 334.

In the first three subsections of the tables, the planetary positions are accordingly transformed to locations on the pyramid plateau. The underlying height levels of the pyramids are as follows:

1. Center of mass of the pyramids (quarter of pyramid height), P5 option 334 (P4 option 381),
2. Center of the base area of the pyramids, P5 option 333,
3. Top of the pyramids, P5 option 335.

The only changed parameter in the table headings and the most important numbers are highlighted. A superposition of the positions at Giza and the planetary orbits are provided in Fig. 5.

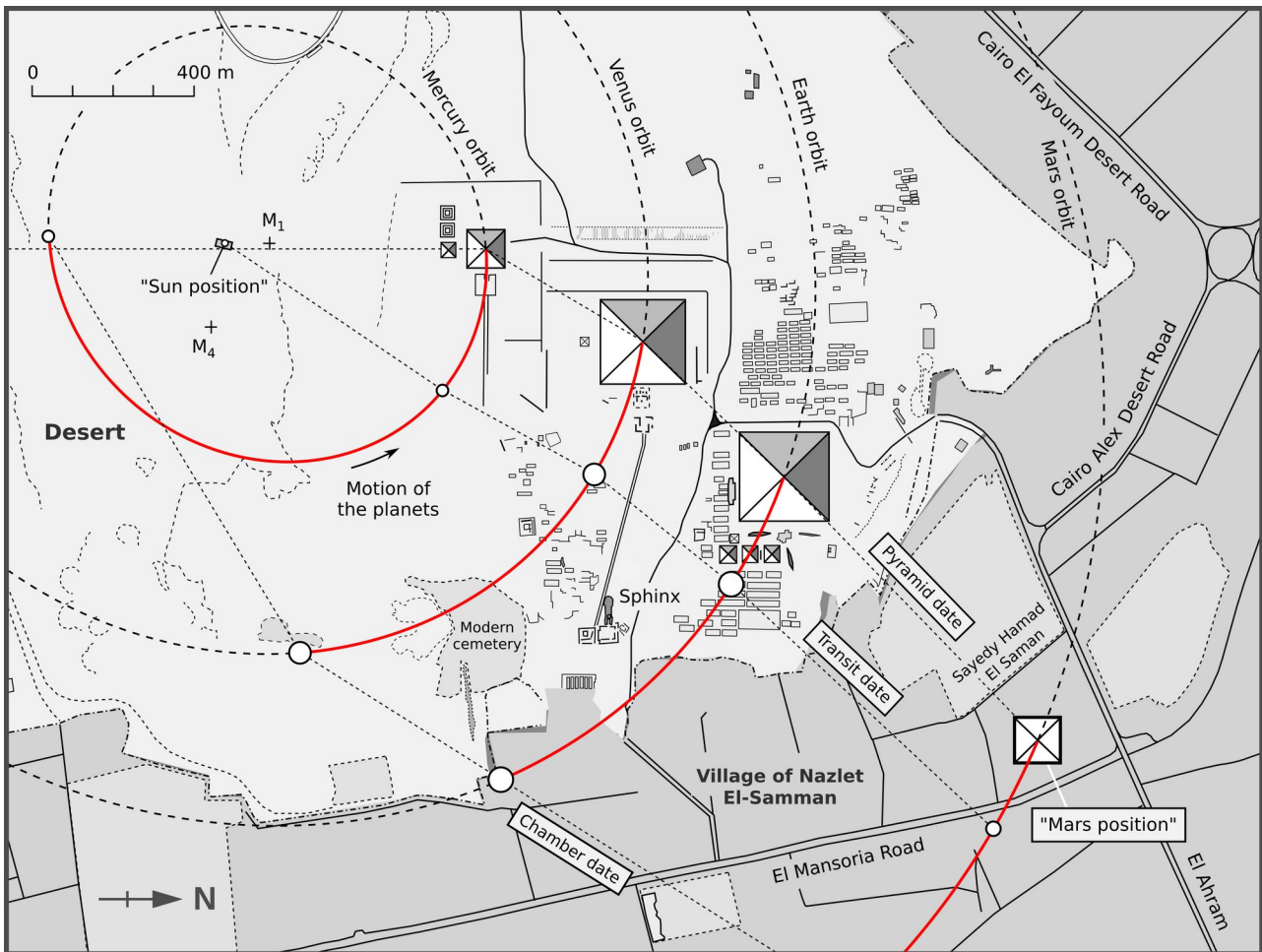


Figure 5: Correlation of pyramid arrangement and planetary positions on the Giza plateau. The sizes of the planets are magnified with respect to the orbits. The Mars position, which belongs to the pyramid date, is represented by a white pyramid ($29^{\circ} 59.095' N$, $31^{\circ} 8.461' E$). The points M_1 and M_4 are the orbital centers for Mercury and Mars. Other planetary positions belong to the date of the Mercury transit and to the chamber date (AD 3088, option 334, section 6.1). Background created based on Google Maps; © 2015 Google, ORION-ME.

6.1 Center of mass of the pyramids

P5 output: PLANETS IN ALIGNMENT WITH THE PYRAMIDS OF GIZA
(more positions - coordinate system of pyramids)
< P5-option 334 >

VSOP87A (2005) full ver., standard J2000.0, "Sun" free 3D, **C-M**, FITEX
Ecl. N and S, constellation 12, JDE = 2849079.76330, year = 3088.41 (c2)
date (Gregor.,TT) = 31. May 3088, 6:19: 9, Thursday

con	k	year	X5	M/10 ⁷	h-Sun	x-Sun	y-Sun	z-Sun	dr	P	F[%]
12	4519	3088.413	24.58	9.764	20.98	-667.5	21.3	272.4	0.8		0.069

Celestial positions in Giza

body	x[m]	y[m]	z[m]	dr[m]	latitude N	longitude E
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date of chambers: JDE = 2849035.77863

Sun	-667.49	21.30	272.36	0.77	29	57.99045	31	7.68134
Mercury	-1107.01	35.38	441.03	1.09	29	57.75256	31	7.67258
Venus	-459.18	-1006.75	613.80	0.87	29	58.10320	31	8.32044
Earth	35.24	-1320.33	490.56	0.83	29	58.37081	31	8.51540
Mars	910.94	-1885.15	425.24	1.21	29	58.84480	31	8.86658
Jupiter	4907.69	4525.51	-3028.25	5.05	30	1.00808	31	4.88054
Saturn	-9843.02	10967.26	-1089.26	10.57	29	53.02405	31	0.87950
Uranus	18699.19	19309.96	-12545.69	20.55	30	8.47278	30	55.67982
Neptune	-1557.45	-43587.10	15684.14	31.99	29	57.50875	31	34.78986

date of syzygy: JDE = 2849066.01327

Mercury	-130.71	-387.90	246.95	0.39	29	58.28099	31	7.93573
Venus	251.70	-595.71	218.68	0.28	29	58.48798	31	8.06493
Earth	589.42	-867.01	167.06	0.45	29	58.67077	31	8.23360
Mars	1257.17	-1460.49	155.25	1.03	29	59.03220	31	8.60259
Jupiter	4660.88	4778.10	-3040.90	5.06	30	0.87449	31	4.72351
Saturn	-10023.29	10810.67	-978.79	10.57	29	52.92648	31	0.97686
Uranus	18577.27	19438.94	-12551.05	20.56	30	8.40679	30	55.59964
Neptune	-1418.15	-43603.20	15649.31	31.99	29	57.58415	31	34.80003

date of transit: JDE = 2849067.30624

Mercury	-102.82	-358.64	222.36	0.36	29	58.29609	31	7.91754
Venus	270.45	-565.35	200.49	0.25	29	58.49812	31	8.04605
Earth	606.56	-841.32	153.23	0.44	29	58.68005	31	8.21763
Mars	1269.28	-1439.92	143.75	1.02	29	59.03875	31	8.58980
Jupiter	4650.09	4788.69	-3041.29	5.07	30	0.86865	31	4.71693
Saturn	-10030.93	10803.89	-974.05	10.57	29	52.92234	31	0.98107
Uranus	18572.04	19444.44	-12551.27	20.56	30	8.40396	30	55.59622
Neptune	-1412.19	-43603.88	15647.82	31.99	29	57.58737	31	34.80046

date of pyramids: JDE = 2849079.76330

Mercury	-0.12	-0.09	16.24	0.32	29	58.35168	31	7.69464
Venus	385.58	-239.89	33.43	0.11	29	58.56044	31	7.84372
Earth	739.06	-574.51	23.93	0.33	29	58.75177	31	8.05175
Mars	1373.30	-1232.84	34.00	0.96	29	59.09506	31	8.46106
Jupiter	4545.10	4889.86	-3044.47	5.07	30	0.81182	31	4.65403
Saturn	-10104.25	10738.27	-928.40	10.57	29	52.88265	31	1.02187
Uranus	18521.60	19497.37	-12553.34	20.57	30	8.37666	30	55.56331
Neptune	-1354.80	-43610.38	15633.42	31.99	29	57.61844	31	34.80457

CPU time 0: 0: 0.145

run time 0: 0: 0.089 -- end of run.

6.2 Base area of the pyramids

P5 output: PLANETS IN ALIGNMENT WITH THE PYRAMIDS OF GIZA
 (more positions - coordinate system of pyramids)
 < P5-option 333 >

VSOP87A (2005) full ver., standard J2000.0, "Sun" free 3D **base**, FITEX
 Ecl. N and S, constellation 12, JDE = 2849079.76330, year = 3088.41 (c2)
 date (Gregor.,TT) = 31. May 3088, 6:19: 9, Thursday

con	k	year	X5	M/10 ⁷	h-Sun	x-Sun	y-Sun	z-Sun	dr	P	F[%]
12	4519	3088.413	36.22	9.765	28.48	-625.5	64.3	341.2	3.8		0.339

Celestial positions in Giza

body	x[m]	y[m]	z[m]	dr[m]	latitude N	longitude E
date of chambers: JDE = 2849035.77863						
Sun	-625.54	64.27	341.21	3.76	29	58.01316
Mercury	-1037.20	106.97	565.97	5.32	29	57.79034
Venus	-360.30	-905.16	795.69	4.26	29	58.15672
Earth	115.32	-1238.08	651.22	4.05	29	58.41416
Mars	979.27	-1814.81	546.52	5.92	29	58.88178
Jupiter	4382.60	3986.55	-4326.81	24.63	30	0.72387
Saturn	-10019.18	10783.92	-1295.60	51.58	29	52.92870
Uranus	16542.31	17095.85	-17727.83	100.31	30	7.30537
Neptune	1126.53	-40828.43	21891.99	156.13	29	58.96149
date of syzygy: JDE = 2849066.01327						
Mercury	-93.24	-349.43	300.51	1.91	29	58.30127
Venus	283.65	-562.83	249.40	1.35	29	58.50527
Earth	613.72	-842.00	190.89	2.20	29	58.68392
Mars	1279.60	-1437.29	171.91	5.03	29	59.04434
Jupiter	4133.74	4236.98	-4341.28	24.72	30	0.58917
Saturn	-10180.47	10646.81	-1139.40	51.58	29	52.84140
Uranus	16419.46	17223.86	-17734.72	100.35	30	7.23888
Neptune	1259.74	-40850.77	21840.68	156.12	29	59.03359
date of transit: JDE = 2849067.30624						
Mercury	-69.39	-324.33	268.26	1.78	29	58.31418
Venus	299.34	-535.62	224.54	1.21	29	58.51376
Earth	628.47	-818.76	171.21	2.13	29	58.69191
Mars	1289.75	-1418.74	155.96	5.00	29	59.04983
Jupiter	4122.88	4247.51	-4341.69	24.72	30	0.58329
Saturn	-10187.30	10640.87	-1132.71	51.58	29	52.83770
Uranus	16414.19	17229.32	-17735.00	100.35	30	7.23603
Neptune	1265.44	-40851.72	21838.48	156.12	29	59.03667
date of pyramids: JDE = 2849079.76330						
Mercury	-0.49	-0.57	-0.06	1.57	29	58.35148
Venus	386.37	-239.04	-2.47	0.55	29	58.56087
Earth	738.64	-574.88	-12.73	1.60	29	58.75154
Mars	1375.11	-1230.83	3.82	4.69	29	59.09603
Jupiter	4017.39	4348.15	-4344.77	24.76	30	0.52620
Saturn	-10252.78	10583.30	-1068.20	51.58	29	52.80226
Uranus	16363.38	17281.87	-17737.63	100.37	30	7.20853
Neptune	1320.31	-40860.80	21817.28	156.11	29	59.06637

CPU time 0: 0: 0.143

run time 0: 0: 0.085 -- end of run.

6.3 Top of the pyramids

P5 output: PLANETS IN ALIGNMENT WITH THE PYRAMIDS OF GIZA
 (more positions - coordinate system of pyramids)
 < P5-option 335 >

VSOP87A (2005) full ver., standard J2000.0, "Sun" free 3D, **top**, FITEX
 Ecl. N and S, constellation 12, JDE = 2849079.76330, year = 3088.41 (c2)
 date (Gregor.,TT) = 31. May 3088, 6:19: 9, Thursday

con	k	year	X5	M/10 ⁷	h-Sun	x-Sun	y-Sun	z-Sun	dr	P	F[%]
12	4519	3088.413	2.27	9.729	1.82	-714.1	-34.4	87.9	24.8		2.224

Celestial positions in Giza

body	x[m]	y[m]	z[m]	dr[m]	latitude N	longitude E
date of chambers: JDE = 2849035.77863						
Sun	-714.11	-34.41	87.90	24.80	29	57.96522
Mercury	-1186.01	-58.87	100.68	35.04	29	57.70980
Venus	-552.52	-1128.38	141.99	28.09	29	58.05268
Earth	-21.77	-1405.27	94.60	26.72	29	58.33995
Mars	870.09	-1953.16	144.98	39.00	29	58.82269
Jupiter	5310.31	5100.22	341.70	162.35	30	1.22600
Saturn	-9762.47	11139.74	-710.55	340.02	29	53.06765
Uranus	20386.54	21696.77	889.71	661.25	30	9.38606
Neptune	-3385.15	-46387.46	52.071029.22	29	56.51948	31 36.52828
date of syzygy: JDE = 2849066.01327						
Mercury	-167.63	-434.82	112.30	12.60	29	58.26101
Venus	219.01	-637.21	146.61	8.87	29	58.47028
Earth	575.20	-891.01	125.68	14.49	29	58.66307
Mars	1254.69	-1475.75	147.52	33.18	29	59.03086
Jupiter	5062.24	5353.36	328.72	162.94	30	1.09173
Saturn	-9957.68	10962.10	-718.80	340.01	29	52.96198
Uranus	20263.42	21825.54	885.40	661.53	30	9.31942
Neptune	-3240.70	-46396.68	61.111029.17	29	56.59766	31 36.53420
date of transit: JDE = 2849067.30624						
Mercury	-135.38	-400.17	108.41	11.71	29	58.27847
Venus	240.46	-603.22	145.84	7.99	29	58.48189
Earth	594.06	-862.79	126.84	14.03	29	58.67328
Mars	1268.39	-1452.97	147.54	32.96	29	59.03827
Jupiter	5051.37	5363.95	328.15	162.97	30	1.08585
Saturn	-9965.96	10954.42	-719.14	340.01	29	52.95750
Uranus	20258.13	21831.03	885.21	661.54	30	9.31656
Neptune	-3234.53	-46397.07	61.501029.16	29	56.60101	31 36.53445
date of pyramids: JDE = 2849079.76330						
Mercury	2.44	2.74	68.50	10.34	29	58.35306
Venus	379.94	-244.63	134.70	3.68	29	58.55739
Earth	742.14	-572.60	136.98	10.58	29	58.75343
Mars	1387.45	-1224.80	147.36	30.95	29	59.10271
Jupiter	4945.58	5464.96	322.65	163.22	30	1.02859
Saturn	-10045.46	10880.11	-722.46	340.01	29	52.91447
Uranus	20207.17	21883.84	883.43	661.66	30	9.28897
Neptune	-3175.01	-46400.73	65.221029.14	29	56.63322	31 36.53680

CPU time 0: 0: 0.142

run time 0: 0: 0.088 -- end of run.

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