

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

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(2nd ed., Hamburg, Oct 20, 2015, in German)

Abstract

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* [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 J. Meeus [6] and A. Danjon [7]. For the planets Mercury, Venus, the Earth-Moon system, and Mars, VSOP87 is more precise than one arc second for the time period 2000 BC–AD 6000 [5, S. 311]. The accuracy decreases for times further in the future or past but is entirely sufficient for the given purpose (see also [2, pp. 59 ff.]). For the transit computation, we use the precisely measured solar radius of 695508 ± 26 km [8]. At the beginning of the program outputs, a brief technical description is provided. The outputs are listed without change, as given by the P5 program. Compared to the second edition, sections 5.1, 5.3, 6.1, and 6.3 are new. Further details can be found in [2].

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1. Introduction

What is a transit? 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 planets Mercury or Venus. (With regard to the Moon, this is not called a transit but a lunar eclipse.) 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 the 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 transit in the year 2012. The position angles are measured from the north direction, i.e., from the direction to the northern (ecliptic) 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. These angles can differ slightly depending on the observation site on the Earth's surface. The transit data in the tables of this third edition (P5) are identical to those of the second edition (P4). Only the format has changed.

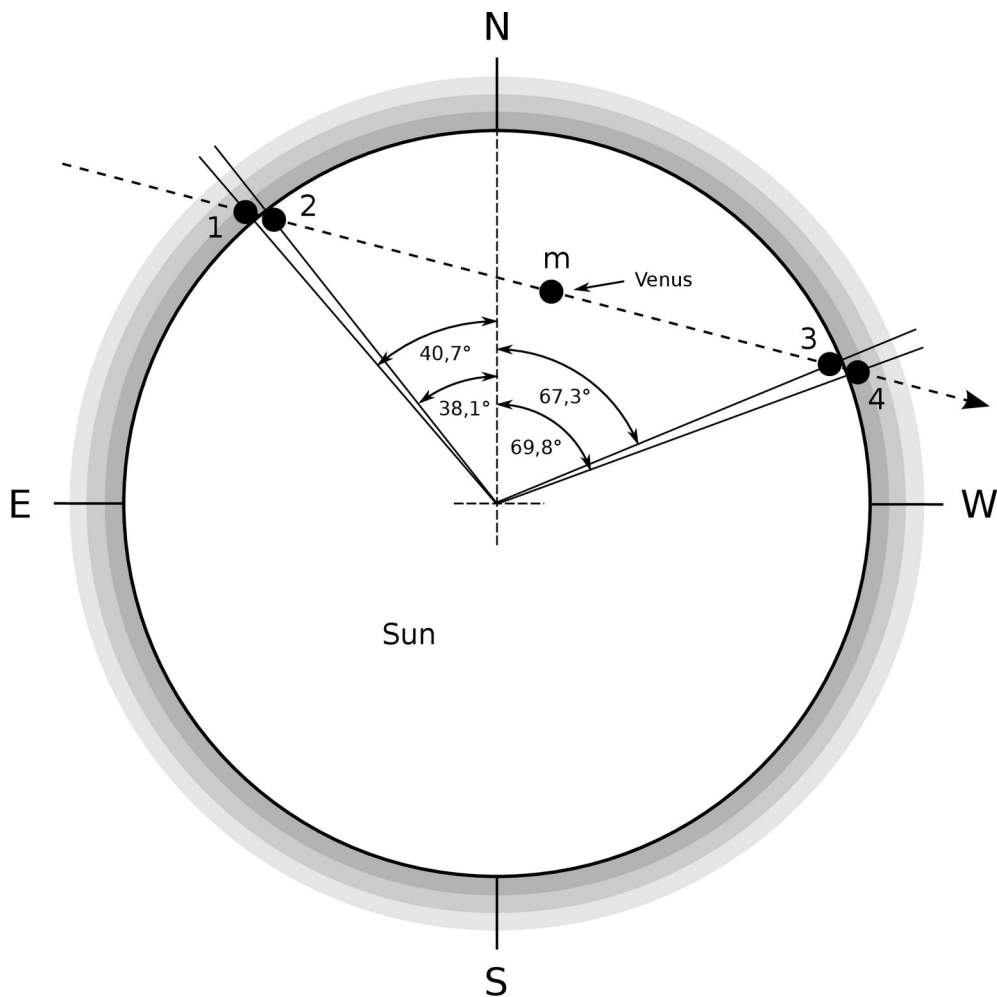


Figure 1: Venus transit on June 5/6, 2012.

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 are the transit phases and P1, P2, near., P3, and P4 are the corresponding position angles. Concerning the remote past and future, a decreasing accuracy has to be considered. 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 refers to partial transit, C geocentric central transit, and c non-geocentric central transit. Detailed information is provided in [2]. Note: The quick start option 21 for this program run exists in the P5 version (3rd edition) but not in the previous version from June 2015 (P4, 2nd edition). Nevertheless, the following program output can be reproduced with the P4 program by inserting the single parameters one after the other. These are 0, 3, 1, 1, 4, 2, 1, -3000., 7000., 1, 2. The format of the table (P5) corresponds to the format used in [6, pp. 42 ff.]; the serial numbers S are calculated in accordance with the convention of the NASA Eclipse Web Site [10].

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    P3    P4    semidiameters ["]
=====
      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	--	--	10:55:17	--	--	-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
m 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
c 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	21:39:28	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	6:56:43	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	17:0:14	-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	21:3:38	21:5:18	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	14:1:14	14:3:13	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	19:49:56	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	0:49:38	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	245.07	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	220.02	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	282.30	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	311.28	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	343.14	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	273.90	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	254.77	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	206.38	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	288.37	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	317.15	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	351.38	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	259.62	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	262.78	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	190.95	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	294.38	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	323.30	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	1.42	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	246.77	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	270.00	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	167.53	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	300.20	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	329.69	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	233.52	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	17.47	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	234.27	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	276.58	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	305.95	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	336.47	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	294.63	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	246.18	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	221.69	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	282.88	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	311.71	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	343.82	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	10:36:56	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	3:30:43	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

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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	18:36:8	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	21:30:22	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	18:59:52	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	12:56:32	12:58:18	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
m 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
m 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
m 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	9:59:18	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	18:59:39	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	3:49:35	-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	52
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	50
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	53
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	49
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	54
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	51
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	52
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	55
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	50
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	53
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	49
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	54
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	52
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	55
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	50
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	53
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	49
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	54
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	52
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	55
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	50
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	53
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	49
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	54
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	52
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	55
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	50
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	53
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	54
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	52

=====
 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 previous version by successively inserting the following parameters: 0, 3, 2, 1, 4, 2, 1, -3000., 7000., 1, 2. The format of the table (P5 program) corresponds to the format used in [6, pp. 46 ff.]; the serial numbers S are calculated in accordance with the convention of the NASA Eclipse Web Site [11].

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    P3    P4    P5    S
=====
C 18. Nov.-2970  2:38:17  2:53:36  6:41:18  10:29: 2  10:44:21  16.6 /  118.55  118.48  29.44  300.42  300.35  976.49  31.76  2
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  1
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  3
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  2
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  1
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  3
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  2
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  1
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  3
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  2

```

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	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	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	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	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	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	3
	v 22.	May	554	4:52:1	--	6:0:3	--	7:8:5	933.6		356.17	--	339.95	--	323.74	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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.

4. Fourfold conjunctions 13 000 BC–AD 17 000

Option 14: P5 program output for all fourfold conjunctions in which the planets Mercury, Venus, Earth, and Mars simultaneously have the same 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. Concerning these 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 a simultaneous 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 . 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} . Further details are provided in [2].

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: 6.870

run time 0: 0: 1.792 -- 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, Venus, Earth, and Mars during the conjunction is labeled “date of syzygy.” This point in time is not identical with the middle of the Mercury transit. Instead, both moments are separated by approximately one day. The geographical coordinates to the right in the table are correct but not of importance because the positions are separated by only a few meters and in the Great Pyramid there is no GPS signal reception. However, this is relevant only for the options 330–332. For more details see [2]. Note: In the previous 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 the planets are accordingly transformed to locations within the Great Pyramid. The underlying positions of the chambers are as follows:

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.

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

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	longitue 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
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
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
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

CPU time 0: 0: 0.069

run time 0: 0: 0.046 -- 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	longitue E
date of chambers: JDE = 2849035.77863						
Sun	-21.78	-17.38	-8.76	0.20	29 58.74003	31 8.05106
Mercury	-5.38	-28.43	-7.01	0.24	29 58.74891	31 8.05214
Venus	-0.20	23.38	-2.95	0.09	29 58.75171	31 8.05467
Earth	-10.93	46.09	-5.20	0.19	29 58.74590	31 8.05327
Mars	-27.45	86.83	-3.25	0.44	29 58.73696	31 8.05448
date of syzygy: JDE = 2849066.01327						
Mercury	-30.26	9.76	-7.60	0.14	29 58.73544	31 8.05178
Venus	-38.34	26.23	-6.36	0.20	29 58.73107	31 8.05255
Earth	-43.90	43.73	-7.17	0.28	29 58.72806	31 8.05204
Mars	-52.25	80.42	-5.78	0.46	29 58.72354	31 8.05291
date of transit: JDE = 2849067.30624						
Mercury	-32.19	9.41	-7.96	0.16	29 58.73440	31 8.05155
Venus	-39.91	25.62	-6.57	0.21	29 58.73022	31 8.05242
Earth	-45.24	43.26	-7.27	0.28	29 58.72733	31 8.05198
Mars	-53.28	80.00	-5.89	0.47	29 58.72298	31 8.05284
date of pyramids: JDE = 2849079.76330						
Mercury	-46.68	-0.62	-11.41	0.25	29 58.72655	31 8.04941
Venus	-53.47	17.08	-8.65	0.27	29 58.72288	31 8.05112
Earth	-57.48	37.20	-8.24	0.33	29 58.72071	31 8.05138
Mars	-62.95	75.32	-7.00	0.48	29 58.71775	31 8.05215

CPU time 0: 0: 0.071

run time 0: 0: 0.048 -- 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	31 8.04457
Mercury	-5.17	-28.47	-13.89	0.93	29 58.74902	31 8.04786
Venus	-0.81	23.23	-6.29	0.37	29 58.75138	31 8.05259
Earth	-10.53	46.29	-10.13	0.72	29 58.74612	31 8.05020
Mars	-26.81	87.36	-10.51	1.68	29 58.73731	31 8.04996
date of syzygy: JDE = 2849066.01327						
Mercury	-28.96	10.30	-18.95	0.56	29 58.73614	31 8.04472
Venus	-37.02	26.90	-19.02	0.77	29 58.73178	31 8.04467
Earth	-42.11	44.60	-20.40	1.08	29 58.72903	31 8.04381
Mars	-50.33	81.49	-19.47	1.80	29 58.72458	31 8.04440
date of transit: JDE = 2849067.30624						
Mercury	-30.75	10.00	-19.81	0.60	29 58.73518	31 8.04419
Venus	-38.49	26.33	-19.64	0.80	29 58.73098	31 8.04429
Earth	-43.39	44.15	-20.86	1.09	29 58.72834	31 8.04353
Mars	-51.31	81.09	-19.86	1.80	29 58.72405	31 8.04416
date of pyramids: JDE = 2849079.76330						
Mercury	-44.04	0.34	-27.24	0.97	29 58.72798	31 8.03957
Venus	-51.21	18.10	-25.45	1.06	29 58.72410	31 8.04068
Earth	-55.08	38.33	-25.14	1.26	29 58.72201	31 8.04087
Mars	-60.46	76.61	-23.57	1.86	29 58.71909	31 8.04185

CPU time 0: 0: 0.069

run time 0: 0: 0.048 -- end of run.

6. Planetary constellation 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 for the astronomical configurations in the year 3088. The program output is analogous to the options 330–332. In this case, the geographical coordinates are important. 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 the option 334.

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

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

In the table headings, the only changed parameter and the most important numbers are highlighted in yellow and orange.

6.1 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	longitue E
date of chambers: JDE = 2849035.77863						
Sun	-625.54	64.27	341.21	3.76	29 58.01316	31 7.65463
Mercury	-1037.20	106.97	565.97	5.32	29 57.79034	31 7.62808
Venus	-360.30	-905.16	795.69	4.26	29 58.15672	31 8.25729
Earth	115.32	-1238.08	651.22	4.05	29 58.41416	31 8.46427
Mars	979.27	-1814.81	546.52	5.92	29 58.88178	31 8.82286
date of syzygy: JDE = 2849066.01327						
Mercury	-93.24	-349.43	300.51	1.91	29 58.30127	31 7.91181
Venus	283.65	-562.83	249.40	1.35	29 58.50527	31 8.04449
Earth	613.72	-842.00	190.89	2.20	29 58.68392	31 8.21805
Mars	1279.60	-1437.29	171.91	5.03	29 59.04434	31 8.58817
date of transit: JDE = 2849067.30624						
Mercury	-69.39	-324.33	268.26	1.78	29 58.31418	31 7.89621
Venus	299.34	-535.62	224.54	1.21	29 58.51376	31 8.02757
Earth	628.47	-818.76	171.21	2.13	29 58.69191	31 8.20360
Mars	1289.75	-1418.74	155.96	5.00	29 59.04983	31 8.57663
date of pyramids: JDE = 2849079.76330						
Mercury	-0.49	-0.57	-0.06	1.57	29 58.35148	31 7.69493
Venus	386.37	-239.04	-2.47	0.55	29 58.56087	31 7.84319
Earth	738.64	-574.88	-12.73	1.60	29 58.75154	31 8.05198
Mars	1375.11	-1230.83	3.82	4.69	29 59.09603	31 8.45981

CPU time 0: 0: 0.069

run time 0: 0: 0.048 -- end of run.

6.2 Center of gravity 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	longitue E
date of chambers: JDE = 2849035.77863						
Sun	-667.49	21.30	272.36	0.77	29	57.99045
Mercury	-1107.01	35.38	441.03	1.09	29	57.75256
Venus	-459.18	-1006.75	613.80	0.87	29	58.10320
Earth	35.24	-1320.33	490.56	0.83	29	58.37081
Mars	910.94	-1885.15	425.24	1.21	29	58.84480
date of syzygy: JDE = 2849066.01327						
Mercury	-130.71	-387.90	246.95	0.39	29	58.28099
Venus	251.70	-595.71	218.68	0.28	29	58.48798
Earth	589.42	-867.01	167.06	0.45	29	58.67077
Mars	1257.17	-1460.49	155.25	1.03	29	59.03220
date of transit: JDE = 2849067.30624						
Mercury	-102.82	-358.64	222.36	0.36	29	58.29609
Venus	270.45	-565.35	200.49	0.25	29	58.49812
Earth	606.56	-841.32	153.23	0.44	29	58.68005
Mars	1269.28	-1439.92	143.75	1.02	29	59.03875
date of pyramids: JDE = 2849079.76330						
Mercury	-0.12	-0.09	16.24	0.32	29	58.35168
Venus	385.58	-239.89	33.43	0.11	29	58.56044
Earth	739.06	-574.51	23.93	0.33	29	58.75177
Mars	1373.30	-1232.84	34.00	0.96	29	59.09506

CPU time 0: 0: 0.067

run time 0: 0: 0.048 -- 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	longitue E
date of chambers: JDE = 2849035.77863						
Sun	-714.11	-34.41	87.90	24.80	29	7.71597
Mercury	-1186.01	-58.87	100.68	35.04	29	7.73118
Venus	-552.52	-1128.38	141.99	28.09	29	8.39605
Earth	-21.77	-1405.27	94.60	26.72	29	8.56820
Mars	870.09	-1953.16	144.98	39.00	29	8.90887
date of syzygy: JDE = 2849066.01327						
Mercury	-167.63	-434.82	112.30	12.60	29	7.96490
Venus	219.01	-637.21	146.61	8.87	29	8.09073
Earth	575.20	-891.01	125.68	14.49	29	8.24852
Mars	1254.69	-1475.75	147.52	33.18	29	8.61208
date of transit: JDE = 2849067.30624						
Mercury	-135.38	-400.17	108.41	11.71	29	7.94336
Venus	240.46	-603.22	145.84	7.99	29	8.06959
Earth	594.06	-862.79	126.84	14.03	29	8.23097
Mars	1268.39	-1452.97	147.54	32.96	29	8.59791
date of pyramids: JDE = 2849079.76330						
Mercury	2.44	2.74	68.50	10.34	29	7.69288
Venus	379.94	-244.63	134.70	3.68	29	7.84666
Earth	742.14	-572.60	136.98	10.58	29	8.05056
Mars	1387.45	-1224.80	147.36	30.95	29	8.45606

CPU time 0: 0: 0.072

run time 0: 0: 0.047 -- end of run.

References

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- [2] Jelitto, H.: Planetary Correlation of the Pyramids at Giza and Teotihuacán – P5 Program Description. Publ. on ResearchGate (2022), DOI: [10.13140/RG.2.2.22747.64806/3](https://doi.org/10.13140/RG.2.2.22747.64806/3)
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