

Planet	Max	Elon	D	Max E	RA	Dec	Br	Mag	D	Br	Mag	Min	Dist	D	Min	Dist	Planet	Max	Elon	D	Max E	RA	Dec	Br	Mag	D	Br	Mag	Min	Dist	D	Min	Dist
1683	2022/08/12	176.9°	21h29m	-18°			2022/08/12	14.0	2022/08/10		1.241	217628	2022/10/26	138.0°	4h53m	+10°	2022/11/14	14.4	2022/11/20		0.135												
4768	2022/08/13	179.6°	21h30m	-14°			2022/08/13	14.1	2022/08/16		1.452	1573	2022/10/27	166.6°	2h37m	+1°	2022/10/26	13.8	2022/10/23		0.859												
4080	2022/08/15	171.0°	21h27m	-5°			2022/08/15	14.2	2022/08/13		0.724	11650	2022/10/27	167.2°	1h45m	+24°	2022/10/25	14.4	2022/10/17		0.958												
704	2022/08/17	160.4°	21h25m	+5°			2022/08/18	9.9	2022/08/21		1.728	85713	2022/10/29	134.4°	5h20m	+27°	2022/11/16	14.0	2022/11/21		0.141												
956	2022/08/20	170.5°	21h43m	-3°			2022/08/20	13.9	2022/08/18		0.824	2757	2022/10/30	179.5°	2h16m	+14°	2022/10/30	14.4	2022/11/01		1.601												
987	2022/08/23	178.0°	22h 4m	-9°			2022/08/23	12.1	2022/08/23		1.388	2751	2022/11/10	178.9°	3h 2m	+18°	2022/11/11	14.5	2022/11/14		1.071												
2199	2022/08/25	178.4°	22h17m	-12°			2022/08/25	14.3	2022/08/17		0.854	27	2022/11/12	177.8°	3h12m	+15°	2022/11/12	8.7	2022/11/16		1.026												
1077	2022/08/27	177.5°	22h24m	-12°			2022/08/27	13.7	2022/08/30		0.942	1500	2022/11/13	171.5°	3h 6m	+26°	2022/11/13	14.4	2022/11/10		0.839												
1431	2022/08/28	163.5°	23h 0m	-24°			2022/08/28	14.0	2022/08/28		1.151	384	2022/11/15	178.9°	3h23m	+19°	2022/11/16	12.1	2022/11/18		1.314												
809	2022/09/01	178.8°	22h41m	-9°			2022/09/01	12.9	2022/09/02		0.841	115	2022/11/19	157.7°	3h 5m	+40°	2022/11/18	9.6	2022/11/16		0.974												
1689	2022/09/03	172.3°	23h 1m	-14°			2022/09/04	13.8	2022/09/09		1.047	264	2022/11/19	177.7°	3h35m	+21°	2022/11/19	11.3	2022/11/16		1.461												
539	2022/09/04	168.4°	22h36m	+3°			2022/09/05	12.3	2022/09/08		1.203	726	2022/11/19	177.2°	3h34m	+22°	2022/11/19	12.5	2022/11/08		1.068												
1718	2022/09/04	167.5°	22h28m	+3°			2022/09/03	14.5	2022/09/01		0.711	5352	2022/11/25	177.7°	4h 0m	+22°	2022/11/25	14.5	2022/11/24		1.017												
2100	2022/09/05	161.1°	21h58m	+5°			2022/09/03	13.7	2022/08/31		0.187	30	2022/11/29	176.5°	4h16m	+24°	2022/11/29	9.6	2022/11/25		1.114												
2583	2022/09/07	166.1°	23h23m	-19°			2022/09/08	14.3	2022/09/09		0.793	2034	2022/11/30	166.2°	4h15m	+35°	2022/11/30	14.5	2022/12/01		0.879												
2231	2022/09/08	179.1°	23h 4m	-4°			2022/09/08	14.2	2022/09/11		1.057	164	2022/12/01	171.9°	4h25m	+13°	2022/11/29	10.8	2022/11/17		1.023												
960	2022/09/09	173.5°	23h 1m	+0°			2022/09/09	14.3	2022/09/07		0.874	1052	2022/12/01	175.2°	4h32m	+17°	2022/12/01	13.6	2022/11/27		0.965												
161989	2022/09/10	121.2°	2h49m	-37°			2022/09/03	13.3	2022/09/01		0.058	4577	2022/12/02	176.0°	4h32m	+25°	2022/12/03	14.1	2022/12/11		1.052												
2343	2022/09/11	176.9°	23h14m	-1°			2022/09/12	14.3	2022/09/16		0.763	66875	2022/12/02	178.1°	4h32m	+23°	2022/12/02	14.0	2022/12/05		0.750												
10449	2022/09/14	179.2°	23h29m	-9°			2022/09/14	14.5	2022/09/11		1.042	2341	2022/12/03	178.6°	4h36m	+23°	2022/12/03	13.8	2022/12/30		0.907												
128	2022/09/17	169.5°	23h56m	-11°			2022/09/17	10.6	2022/09/18		1.429	1660	2022/12/06	148.6°	5h30m	-7°	2022/12/13	13.9	2022/12/19		0.901												
941	2022/09/17	170.0°	23h54m	-11°			2022/09/18	14.3	2022/09/21		1.298	1565	2022/12/07	173.8°	4h45m	+28°	2022/12/06	13.3	2022/12/23		0.755												
972	2022/09/17	166.1°	23h19m	+10°			2022/09/18	12.5	2022/09/20		1.374	6906	2022/12/08	177.1°	4h59m	+25°	2022/12/08	14.5	2022/12/03		1.041												
2237	2022/09/18	176.6°	23h46m	-5°			2022/09/18	14.4	2022/09/21		1.512	645	2022/12/15	169.1°	5h25m	+34°	2022/12/15	13.8	2022/12/15		1.795												
2870	2022/09/20	171.2°	0h 4m	-9°			2022/09/20	14.3	2022/09/21		0.893	3728	2022/12/17	140.0°	5h40m	-16°	2022/12/17	14.5	2022/12/17		1.246												
804	2022/09/21	174.9°	23h47m	+4°			2022/09/21	10.9	2022/09/18		1.467	1299	2022/12/20	166.6°	5h50m	+10°	2022/12/19	14.3	2022/12/17		1.340												
4135	2022/09/21	174.5°	23h44m	+4°			2022/09/21	14.4	2022/09/23		1.151	2212	2022/12/22	119.5°	10h42m	+39°	2023/01/11	13.5	2023/01/18		0.233												
986	2022/09/23	155.7°	0h39m	-22°			2022/09/22	13.0	2022/09/21		1.547	166	2022/12/24	167.1°	6h 3m	+10°	2022/12/22	12.8	2022/12/16		1.330												
479	2022/10/02	167.2°	0h56m	-7°			2022/10/03	12.2	2022/10/07		1.210	1239	2022/12/25	178.8°	6h16m	+24°	2022/12/25	13.7	2022/12/28		1.080												
1527	2022/10/04	179.0°	0h41m	+3°			2022/10/04	13.5	2022/09/25		0.888	1021	2022/12/28	170.0°	6h22m	+13°	2022/12/27	11.4	2022/12/19		1.164												
696	2022/10/06	159.1°	0h14m	+24°			2022/10/08	12.4	2022/10/10		1.483	1116	2022/12/28	152.1°	6h34m	+51°	2022/12/27	12.9	2022/12/25		1.371												
1240	2022/10/08	166.4°	0h34m	+18°			2022/10/07	12.8	2022/10/03		1.419	28017	2022/12/28	178.1°	6h26m	+21°	2022/12/27	14.3	2022/12/10		0.813												
397	2022/10/09	165.6°	0h26m	+18°			2022/10/08	11.3	2022/10/06		0.999	9117	2022/12/30	177.3°	6h38m	+25°	2022/12/30	14.4	2023/01/03		1.100												
1756	2022/10/09	169.7°	0h44m	+15°			2022/10/10	14.1	2022/10/11		0.979																						
990	2022/10/10	173.4°	0h51m	+12°			2022/10/09	13.6	2022/10/06		1.100																						
2820	2022/10/10	177.8°	0h59m	+8°			2022/10/10	14.1	2022/10/09		0.870																						
3382	2022/10/11	175.6°	0h58m	+10°			2022/10/10	14.5	2022/10/04		0.875																						
852	2022/10/14	174.0°	1h21m	+2°			2022/10/13	11.7	2022/10/02		0.983																						
1438	2022/10/14	177.8°	1h15m	+10°			2022/10/14	14.2	2022/10/11		1.423																						
455	2022/10/15	159.6°	1h41m	-11°			2022/10/11	10.9	2022/10/05		0.956																						
4451	2022/10/15	151.4°	23h49m	+27°			2022/10/08	13.7	2022/09/30		0.774	2212	2022/12/22	119.5°	10h42m	+39°	2023/01/11	13.5	2023/01/18		0.233												
3773	2022/10/16	178.1°	1h27m	+7°			2022/10/16	14.3	2022/10/10		0.810	7335	2022/05/20	152.0°	14h36m	+1°	2022/05/25	11.1	2022/05/27		0.027												
1792	2022/10/18	166.7°	1h48m	-2°			2022/10/19	14.1	2022/10/20		1.030	7482	2022/01/13	108.9°	6h26m	-47°	2022/01/18	10.4	2022/01/18		0.013												
3925	2022/10/18	162.9°	1h59m	-6°			2022/10/17	14.4	2022/10/15		1.589	23606	2022/07/19	179.6°	19h53m	-21°	2022/07/19	13.9	2022/07/18		0.102												
2337	2022/10/22	176.1°	1h51m	+7°			2022/10/22	14.4	2022/10/25		1.225	85713	2022/10/29	134.4°	5h20m	+27°	2022/11/16	14.0	2022/11/21		0.141												
365	2022/10/23	170.5°	2h 7m	+2°			2022/10/23	12.1	2022/10/23		1.382	138971	2022/02/11	134.9°	12h45m	+25°	2022/02/28	14.0	2022/03/04		0.033												
2243	2022/10/23	178.1°	1h50m	+13°			2022/10/23	14.4	2022/10/14		0.985	1535																					

Table 1. Data about observations		
28.2. 2020	17:45:47 – 17:52:18	30
9.3.	19:49:25 – 20:03:16	40
	20:04:23 – 20:38:08	30
13.3.	18:42:00 – 19:02:14	30
14.3.	20:08:13 – 22:17:21	30
16.3.	18:55:45 – 19:13:41	30
18.3.	19:39:00 – 19:56:44	20
	19:58:06 – 20:01:32	15
22.3.	19:20:20 – 01:03:14	15
24.3.	19:19:44 – 01:16:44	15
27.3.	19:24:58 – 01:38:36	15
29.3.	19:16:47 – 20:15:46	15
30.3.	19:13:04 – 02:01:32	15
1.4.	19:14:16 – 02:04:22	30
10.4.	21:01:07 – 21:04:24	30
16.4.	19:23:34 – 19:32:45	30
7.5.	20:08:23 – 20:13:52	30

All frames have been corrected for the bias, flat, and dark-field frames. We have observed during clear sky nights only and with air humidity of around 50 percent. The mean statistical error for all our magnitudes from the individual frames was 0.047 magnitudes. The dispersion of our data is clearly seen in Figure 1. The comparison stars were selected individually from the Tycho-2 catalogue in the processing of the “fits” frames treatment in the standard way enabled within *AstroImageJ*. From our observations, taken on 16 nights, we obtained approximately 1800 values for Julian date, magnitude and magnitude error. On the foundation of these data, it was possible to Fourier analyze them with the goal of finding the period of rotation of the nucleus of the comet. Using the tool provided at the website

<https://exoplanetarchive.ipac.caltech.edu/cgi-bin/Pgram/nph-pgram> and, by using the *MPO Canopus* software package (Warner, 2015), we have been able to construct a periodogram of our data and what may represent the cometary core lightcurve. In our computations we have preferred the Lomb-Scargle algorithm. The obtained comet's lightcurve is presented in Figure 1. Two maxima and two minima within the obtained lightcurve are clearly seen as is typically the case of asteroids and comets.

While we propose that we have successfully measured and plotted the lightcurve of the nucleus of the comet C/2017 T2 (PanSTARRS), there remains the unknown possibility of changes in the cometary nucleus rotation period and shape owing to forced precession due to mass loss. It is important to note that the comet we observed was active at the time of our observations. With this in mind, of course, we suggest that the solid line in Figure 1 represents the rotation of the nucleus, because it has the character of a lightcurve of a rotation of an asteroid. Although the scatter of the data is at the level of the amplitude of the lightcurve, we have been working with 1,800 frames, therefore, the power of statistical averaging is the basis for the confidence of our measurement.

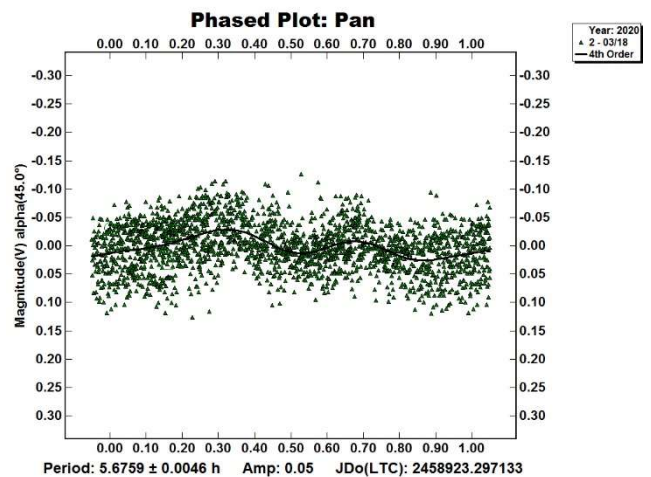


Figure 1. The lightcurve of the comet C/2017 T2 (PanSTARRS) composed from the individual frames of the observations. For better presentation, all data have been given in common so the date as shown on top right.

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Number	Name	yyyy mm/dd	Phase	LPAB	BPAB	Period(h)	P.E.	Amp	A.E.	r
C/2020 T2	(PanSTARRS)	2020 02/28-07/05	31.9, 35.7	91	53	5.6759	0.0046	0.05	0.047	1.69

Table II. Observing circumstances and results. The phase angle is given for the first and last date. If preceded by an asterisk, the phase angle reached an extrema during the period. LPAB and BPAB are the approximate phase angle bisector longitude/latitude at mid-date range (see Harris et al., 1984). Grp is the asteroid family/group (Warner et al., 2009).