

ASTEROID LIGHTCURVE ANALYSIS AT THE OAKLEY SOUTHERN SKY OBSERVATORY: 2015 FEBRUARY – MARCH

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Photometric data were taken over four nights in 2015 February and one night in 2015 March for six asteroids: 507 Laodica, 583 Klotilde, 1911 Schubart, 2136 Jugta, 4958 Wellnitz, and (70171) 1999 OL2. In 2015 March, data were taken over five nights for 1027 Aesculapia, thirteen nights for 2522 Triglav, seven nights for 2581 Radegast and 4856 Seaborg, twelve nights for 10143 Kamogawa, and six nights for (16029) 1999 DQ6, 3733 Yoshitomo, 4963 Kanroku, and (7588) 1992 FJ1.

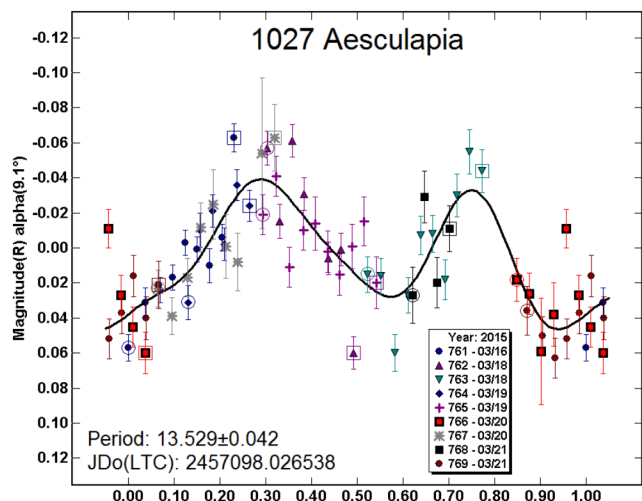
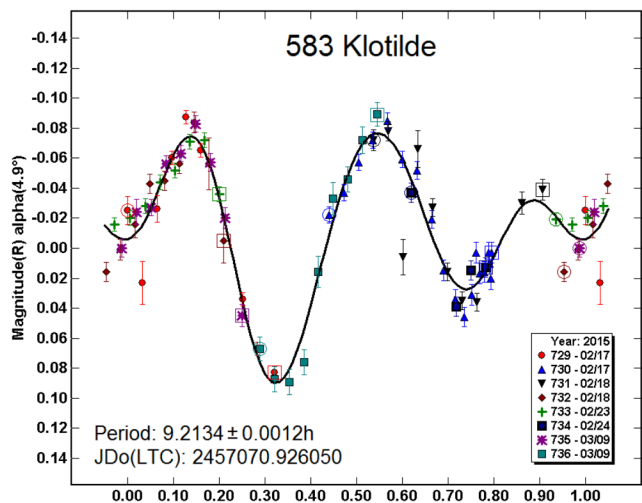
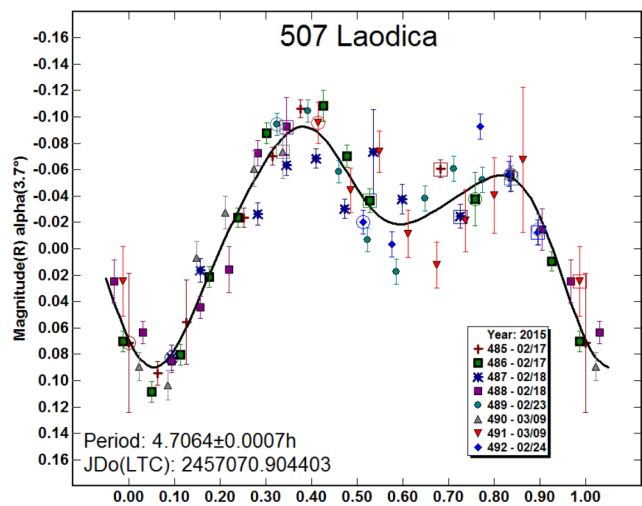
Photometric observations of a number of asteroids were made from the Oakley Southern Sky Observatory in New South Wales, Australia, using an $f/8.1$ 0.5-m Ritchey-Chretien telescope and STX-16803 camera, binned 3x3, with a luminance filter. The image scale was 1.344 arcsec/pix. The images were calibrated in *MaxIM DL* using bias, dark, and twilight flat frames. The images were measured and lightcurves were made using *MPO Canopus*.

Table I gives the observing circumstances, exposure (seconds), and derived period and amplitude – if found – for each asteroid. The period determined for 507 Laodica matched the period determined by Black *et al.* (2016) to within experimental error. For the seven objects where a period could not be found, only the amplitude is reported.

References

Black, S., Linville, D. Michalik, D., Wolf, M., Ditteon, R. (2016). "Lightcurve Analysis of Asteroids Observed at the Oakley Southern Sky Observatory: 2015 December – 2016 April." *Minor Planet Bulletin* **43**, 287-289.

EDITOR'S NOTE: It seems appropriate to add some commemoration to the lightcurve observations of 2136 Jugta presented here and recently by G. B. Casalnuovo (2015; *MPB* **43**, 112). Long-time readers will recall J. U. Gunter (1911-1994), who was a retired pathologist who self-published a bimonthly newsletter named *Tonight's Asteroids* in the 1970's and 80's. ("JUGTA" is a concatenation of Gunter's initials and those of his newsletter.) It was Gunter who sparked amateur and professional astronomers' interest in asteroids (including *MPB* Staff members Binzel, Werner, Nye and Section Recorder Pilcher). A more detailed description of Gunter's contributions may be found in *MPB* **22**, page 1 (1995).



Number	Name	2015 mm/dd	Pts	Exp	Phase	L _{PAB}	B _{PAB}	Period	P.E.	Amp	A.E.
507	Laodica	02/17-03/09	66	45	3.5, 9.8	139	-5	4.7064	0.0007	0.18	0.04
583	Klotilde	02/17-03/09	78	30	4.7, 11.0	144	-10	9.2134	0.0012	0.17	0.01
1027	Aesculapia	03/16-03/21	71	120	8.8, 10.7	154	1	13.529	0.042	0.09	0.03
1911	Schubart	02/17-03/09	66	150	4.5, 10.4	134	-1	-	-	0.10	0.05
2136	Jugta	02/17-03/09	67	180	3.2, 10.6	140	-1	6.4571	0.0007	0.45	0.05
2522	Triglav	03/11-03/27	248	180	4.5, 7.7	170	-11	6.774	0.002	0.29	0.05
2581	Radegast	03/11-03/21	102	180	4.0, 9.1	164	-3	8.753	0.002	0.82	0.06
3733	Yoshitomo	03/22-03/27	111	120	5.4, 6.4	180	-8	-	-	0.06	0.02
4856	Seaborg	03/11-03/21	111	150	3.8, 6.6	168	-7	15.853	0.007	0.41	0.06
4958	Wellnitz	02/17-03/09	79	180	5.0, 10.8	143	-11	-	-	0.14	0.04
4963	Kanroku	03/22-03/27	107	150	3.9, 5.7	175	-6	-	-	0.10	0.04
7588	1992 FJ1	03/22-03/27	129	180	9.1, 8.7	190	-20	-	-	0.21	0.04
10143	Kamogawa	03/16-03/27	240	180	9.2, 9.9	179	-18	-	-	0.09	0.05
16029	1999 DQ6	03/16-03/21	89	180	5.7, 7.8	163	-3	5.95	0.01	0.76	0.02
70171	1999 OL2	02/17-03/09	69	180	6.5, 17.9	141	-8	-	-	0.17	0.07

Table I. Observing circumstances. The phase angle (α) is given at the start and end of each date range, unless it reached a minimum, which is the second of three values. If a single value is given, the phase angle did not change significantly and the average value is given. L_{PAB} and B_{PAB} are each the average phase angle bisector longitude and latitude.

