

LIGHTCURVE FOR 3800 KARAYUSUF

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Photometric observations of Mars-crosser 3800 Karayusuf were made in May 2018. Lightcurve analysis shows a synodic rotation period $P = 2.2318 \pm 0.0002$ hours with an amplitude 0.17 magnitudes.

Photometric observations were made over two nights in 2018 May at San Marcello Pistoiese Observatory (104) using a 0.60m Newtonian Telescope (f/4) equipped with a Apogee Alta CCD camera. Lightcurve analysis was done at the Balzaretto Observatory with *MPO Canopus* (BDW Publishing, 2016). All the images were calibrated with dark and flat frames and converted to R magnitudes using solar colored field stars from CMC15 catalogue. Table I shows the observing circumstances and results. 3800 Karayusuf is an S-type Mars-crosser asteroid discovered on 1984 January 4 by Helin E. F. at Palomar. We derive a synodic period of $P = 2.2318 \pm 0.0002$ h with an amplitude $A = 0.17 \pm 0.02$ mag. The period is close to the previously published results in the asteroid lightcurve database (LCDB; Warner et al., 2009). The lightcurve shows some attenuation events, probably due to the binary nature of this asteroid, as noted by Warner (2008, 2014).

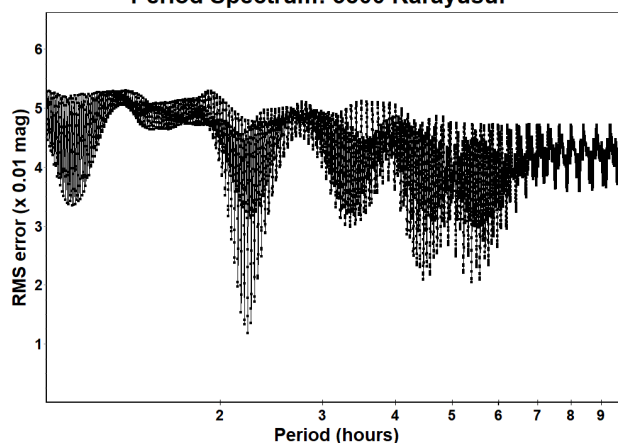
References

Harris, A.W., Young, J.W., Scaltriti, F., Zappala, V. (1984). "Lightcurves and phase relations of the asteroids 82 Alkmene and 444 Gytis." *Icarus* **57**, 251-258.

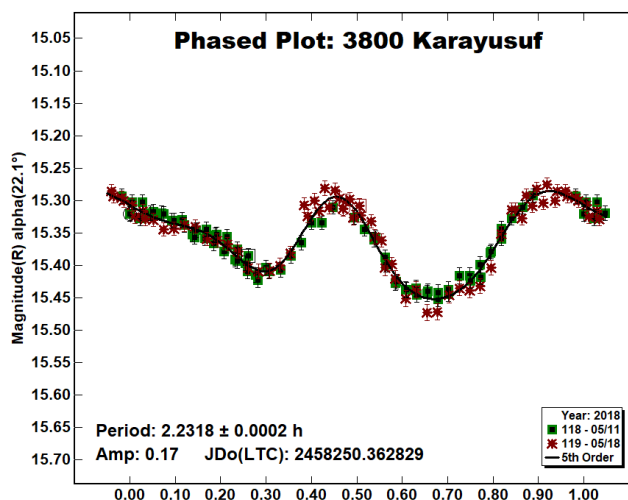
Warner, B.D. (2008). "Asteroid Lightcurve Analysis at the Palmer Divide Observatory: February – May 2008." *Minor Planet Bulletin* **35**, 163-167.

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Period Spectrum: 3800 Karayusuf



Phased Plot: 3800 Karayusuf



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Number	Name	2018 mm/dd	Pts	Phase	L _{PAB}	B _{PAB}	Period(h)	P.E	Amp	A.E.
3800	Karayusuf	05/11-05/18	132	22.0,22.0	228	21	2.2318	0.0002	0.17	0.02

Table I. Observing circumstances and results. Pts is the number of data points. The phase angle values are for the first and last date. L_{PAB} and B_{PAB} are the approximate phase angle bisector longitude and latitude at mid-date range (see Harris *et al.*, 1984).