

ROTATION PERIOD DETERMINATION FOR 612 VERONIKA

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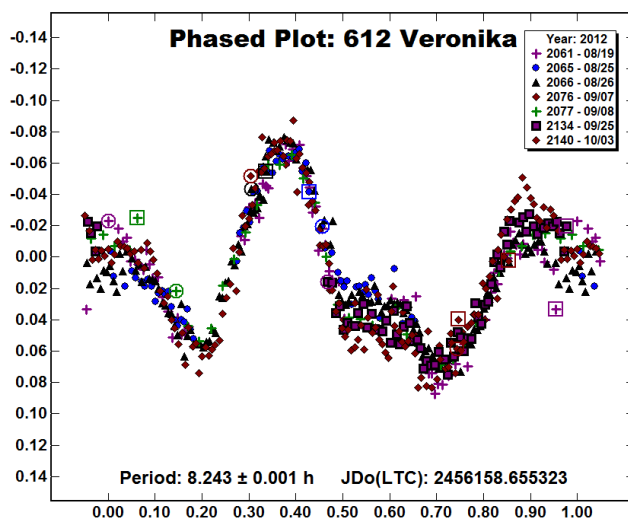
For 612 Veronika we find a synodic rotation period of 8.243 ± 0.001 hours and an amplitude of 0.14 ± 0.02 magnitudes.

Observations by F. Pilcher were obtained with a Meade 35 cm LX 200 GPS S-C, SBIG STL 1001-E CCD, clear filter, unguided exposures. Those by A. Ferrero were with a 30 cm f/8 Ritchey-Chretien and SBIG ST9 CCD. Image measurement, lightcurve analysis, and sharing of data were done with *MPO Canopus* software.

The Asteroid Lightcurve Data Base (Warner et. al. 2012) presents no previous photometric observations of 612 Veronika. This object was assigned high priority by the authors because it is brighter at its 2012 opposition than at any time for the next several years. From observations on seven nights 2012 Aug. 19 - Oct. 3 the authors find a synodic rotation period 8.243 ± 0.001 hours, amplitude 0.14 ± 0.02 magnitudes.

References

Warner, B. D., Harris, A. W., and Pravec, P. (2012). "Asteroid Lightcurve Data File: June 24, 2012"
<http://www.MinorPlanetObserver.com/astlc/default.htm>



ROTATIONAL PERIOD OF FIVE ASTEROIDS

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Observations from 2012 May to August lead to lightcurve period determinations for five asteroids: 130 Elektra, $P = 5.225 \pm 0.001$ h; 456 Abnoba, $P = 18.281 \pm 0.001$ h; 676 Melitta, $P = 16.767 \pm 0.003$ h; 979 Ilsewa $P = 42.97 \pm 0.01$ h; and 3443 Leetsungdao, $P = 3.440 \pm 0.001$ h.

During a period of four months in 2012, the Bigmuskie Observatory measured the rotation period of five asteroids. All the targets were worked with a Marcon 0.3-m f/8 Ritchey-Chretien with an SBIG ST-9 CCD camera, which has a pixel array of $512 \times 512 \times 20$ microns. The field of view (FOV) was about 15×15 arcminutes with a resolution of 1.7 arcseconds/pixel. All images were taken with an *Astrodon* Rc filter. Acquisition of the images was performed using *CCDSOFT V5* together with *TheSky6*. Image reduction and photometry were carried out with *MPO Canopus* v10. The Comparison Star Selector in *MPO Canopus* was used for all the sessions, which allowed using only solar-color comparison stars. This allowed a linkage between the sessions on the order of ± 0.05 mag in most cases.

130 Elektra. This was an easy target, having a large amplitude and signal-to-noise (SNR). Only two sessions were necessary to reach the result of a 5.225 ± 0.001 h and an amplitude of 0.30 mag.

456 Abnoba. After seven sessions, a secure result appeared with a period of 18.281 ± 0.001 h and an amplitude of 0.32 mag.

676 Melitta. Based on the period spectrum, the correct period seems to be 16.767 ± 0.003 h with an amplitude of 0.08 mag. Two other periods were also possible: 8.393 ± 0.002 h and 12.420 ± 0.003 h. Small misfits in the linkage between the sessions led to rejection of these solutions and to concentrate on the 16 hour period.

979 Ilsewa. Even with the Comparison Star Selector, some sessions required large shifts to fit the curve. In particular, sessions 205, 209, and 211 required a shift of 0.10 mag, a value usually out of the error range of the CSS. Despite this, the solution of 42.97 ± 0.01 h and an amplitude of 0.31 mag appears to be secure.

3443 Leetsungdao. After three sessions, the result was a period of 3.440 ± 0.001 h and an amplitude of 0.33 mag.

References

Warner, B. D. (2012). *MPO Software, Canopus* version 10.4.0.20. Bdw Publishing, Colorado Springs, CO.