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LIGHTCURVE ANALYSIS OF FOUR ASTEROIDS

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LIGHTCURVE AND ROTATIONAL PERIOD DETERMINATION FOR 5275 ZDISLAVA
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Observations of the minor planet 5275 Zdislava were made between 2012 August 17 and October 29. Analysis of the lightcurve determined that the asteroid has a synodic period of 5.200 ± 0.002 h and lightcurve amplitude of 0.54 ± 0.03 mag.

Named after Czech saint Zdislava Berka, 5275 Zdislava is a Mars-crossing asteroid. This minor planet was discovered on 1986 October 28 by Z. Vavrova at the Kelt Observatory (JPL, 2012). Observations of 5275 were made at Etscorn Campus Observatory on the campus of New Mexico Institute of Mining and Technology. The images were taken through a clear filter with a 0.35-m f/11 Schmidt Cassegrain mounted on a Paramount ME and SBIG STL-1001E CCD camera. Exposures were 180 seconds. The image size was 1024x1024 24-micron pixels, providing a scale of 1.25 arcsec per pixel. The CCD was cooled to either –20º C or –25º C, depending on the night-time temperature. Once the images were taken, they were flat-corrected, dark-subtracted, and aligned with CCDSoft 5 (Software Bisque, 2012). MPO Canopus (Warner, 2012) was used to generate the lightcurve and rotational period of the minor planet.

The period determined by MPO Canopus was 5.200 ± 0.002 h. Data from the nights of the Sep 20 and Oct 17 had to be split due to weather and focus issues.

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27.807 h), Owings (2012, 27.8182 h), Clark (2012, 27.8124 h), and Ferrero (2012, 27.80 h). We obtained our data from 5 different sessions from 2011 June 26 to Nov 17 and found the period to be $P = 27.82 \pm 0.01$ h and amplitude $A = 0.55 \pm 0.05$ mag. Our results agree with these previously reported periods and amplitudes.

11941 Archinal. Data were collected on the nights of 2012 Apr 27, May 16, 17, and 22. A synodic period of $2.717 \pm 0.006$ h and amplitude of $0.30 \pm 0.01$ mag were obtained.

(47035) 1998WS. Data were collected on the nights of 2012 Jan 30, Feb 13 and 21. A synodic period of $P = 7.996 \pm 0.001$ h and amplitude of $0.12 \pm 0.01$ mag were obtained.

Acknowledgements

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References


