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FOUR COLOR OBSERVATIONS OF 2501 LOHJA

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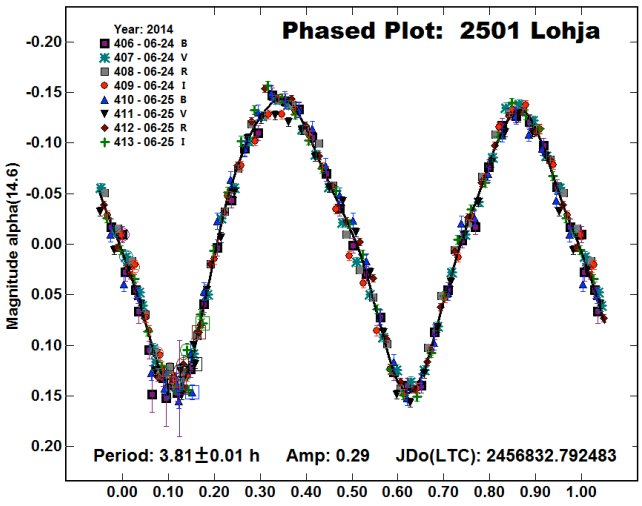
Photometric studies of asteroid 2501 Lohja were made between 2014 June 24 and 25 using the Southeastern Association for Research in Astronomy (SARA) Kitt Peak telescope with Bessell B, V, R and I filters. We obtained a synodic period of 3.81 ± 0.01h, which is consistent with previous values.

All observational data reported here were obtained with the Southeastern Association for Research in Astronomy (SARA) Kitt Peak telescope. This telescope has an aperture of 0.91 m and is located at the Kitt Peak National Observatory near Tucson, Arizona. It has an effective focal ratio of *f*/7.5. When coupled to an Astronomical Research Cameras, Inc, (ARC) CCD camera, the resulting resolution is 0.86 arcsec/pixel (binned 2×2) and the field-of-view (FOV) = 14.6'×14.6'. Bessell BVRI filters were used in turn when taking images. The camera temperature was cooled to –109°C. Image acquisition was done with *DS9*. All images were reduced with master bias, dark, and flat frames. All calibration frames were created using *IDL*. Period analysis was performed using *MPO Canopus,* which incorporates the Fourier analysis algorithm (FALC) developed by Harris (Harris *et al.,* 1989).

We selected 2501 Lohja to accumulate lightcurve data for shape modeling. We also carried out the photometric studies using B, V, R, I filters to detect possible color variations over the surface of the asteroid. Previously reported synodic periods include Higgins (2006, 3.804 h; 2011, 3.80865 h). Husarik (2014) used lightcurve inversion to find the shape, pole, and sidereal period ($P_{Sidereal}$ = 3.808348 h).



We observed the asteroid on 2014 June 24 and 25 and found color indexes of B-V = 0.94 ± 0.02, V-R = 0.54 ± 0.01, and R-I = 0.382 ± 0.004 mag. No significant differences can be seen among these four color lightcurves. We obtained a synodic period *P* = 3.81 ± 0.01 h, which agrees with the previously determined values.

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NEW PHOTOMETRIC OBSERVATIONS OF 128 NEMESIS, 249 ILSE, AND 279 THULE

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Synodic rotation periods and amplitudes are reported for 128 Nemesis 77.81 ± 0.01 hours, 0.08 ± 0.01 magnitudes; 249 Ilse 84.94 ± 0.01 hours, 0.34 ± 0.02 magnitudes; and 279 Thule, 15.931 ± 0.001 hours, 0.08 ± 0.02 magnitudes.

All observations reported here were made at the Organ Mesa Observatory with a 35 cm Meade LX200 GPS S-C and SBIG STL-1001E CCD, 60 second exposures, unguided. A clear filter was used for 249 Ilse and 279 Thule and R filter for brighter 128 Nemesis. To reduce the large number of data points they have been binned in sets of 3 with maximum time difference 5 minutes for 279 Thule, and in sets of 5 with maximum time difference 10 minutes for 128 Nemesis and 249 Ilse for each of which a total of more than 5000 data points was obtained.