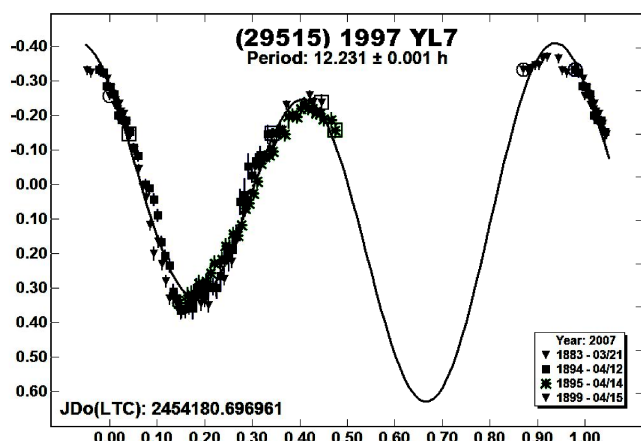




LIGHTCURVES OF MINOR PLANETS 559 NANON AND 1602 INDIANA

Gary A. Vander Haagen
Stonegate Observatory, 825 Stonegate Road
Ann Arbor, MI 48103
garyvh2@att.net

(Received: 24 April)

Lightcurves of 559 Nanon reveal a rotation period of 10.059 ± 0.001 hr and amplitude of 0.26 ± 0.03 mag. Lightcurves of 1602 Indiana reveal a rotation period of 2.601 ± 0.001 hr and an amplitude of 0.17 ± 0.03 mag.

Photometric data were collected using a 36 cm Celestron C-14, a SBIG ST-10XME camera, and clear filter at Stonegate Observatory. The camera was binned 2X2 with a resultant image scale of 1.3 arc-seconds per pixel. The camera temperature was held at -15°C for all measurements. All image exposures were 60 seconds and unguided.

559 Nanon. This asteroid was chosen as an opportunity for low phase angle opposition study (Warner et al, 2007). However, extensive periods of clouds prevented getting useful data during the low phase portion. Data for 559 Nanon were collected on every available clear night from January 17 through March 12, 2007, resulting in seven data sets. During this time, 559 Nanon started at magnitude 13 and phase angle 0.7° and ended at magnitude 14.2 and phase angle 18.6° . In all, 1127 data points were collected. The photometric data were obtained using MPO Canopus (Warner 2006). A period of 10.059 ± 0.001 hours was determined. This matches closely the previous result by Behrend (2007) of 10.061 ± 0.001 hours.

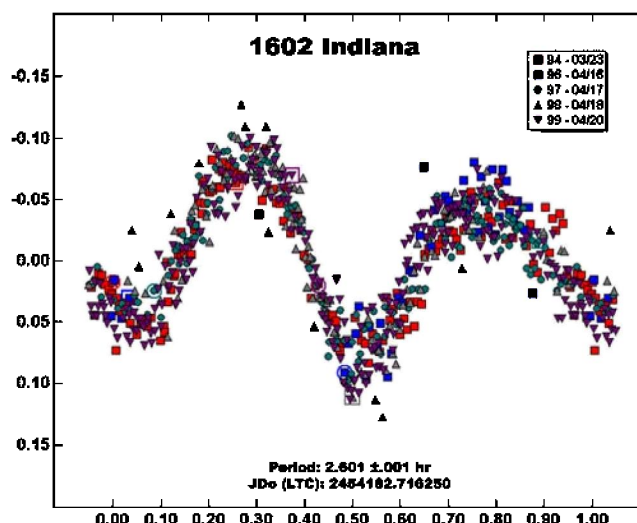
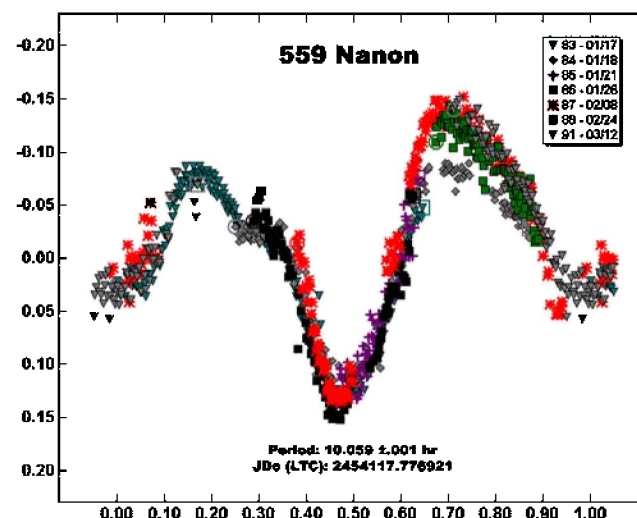
1602 Indiana. Data were collected from March 23 through April 20, 2007, resulting in five data sets and 715 data points. 1602 Indiana started at magnitude 14.8 and dropped to magnitude 15.6 on the final night. The photometric data were also obtained using MPO Canopus. A period of 2.601 ± 0.001 hours was determined. In checking references (*Minor Planet Bulletin*) there are no previously reported data on period or lightcurve characteristics.

Acknowledgments

The author appreciates the help from Brian Warner on Canopus period analysis and his continued encouragement on asteroid photometric studies.

References

- Behrend, R. (2007). Observatoire de Geneve web site: http://obswww.unige.ch/~behrend/page_cou.html
- Harris, A.W., Young, J.W., Bowell, E., Martin, L.J., Millis, R.L., Poutanen, M., Scaltriti, F., Zappala, V., Schober, H.J., Debehogne, H., and Zeigler, K.W., (1989). "Photoelectric Observations of Asteroids 3, 24, 60, 261, and 863." *Icarus* **77**, 171-186.
- Warner, B.D. (2006). MPO Software, Canopus version 9.2.0.0, Bdw Publishing, <http://minorplanetobserver.com/>
- Warner, B.D. (2006). Potential Lightcurve Targets 2006 October-December, CALL web site. <http://www.minorplanetobserver.com/astlc/targets>
- Warner, B.D. et al. (2007). Lightcurve Photometry Opportunities January-March 2007, <http://minorplanetobserver.com/>



LIGHTCURVE OF MINOR PLANET 7304 NAMIKI

N. Montigiani, M. Mannucci, W. Benedetti, S. Riccetti
Osservatorio Astronomico Megherita Hack, Firenze
50018 Scandicci (Florence) – ITALY
montigiani@tin.it

(Received: 27 May)

Lightcurve measurements of 7304 Namiki were performed April – May 2007. Data analysis produced a lightcurve with a synodic period of 8.8586 ± 0.0006 hrs and amplitude about 0.73 mag.

Our lightcurve of 7304 Namiki is the second attempt of photometry observations from Osservatorio Astronomico Margherita Hack, Firenze (MPC code A57). The target was selected from the list of asteroid photometry opportunities published by Warner et al. (2007). This list doesn't show any available information about Namiki. In addition, no information was found on the Minor Planet Center "Minor Planet Lightcurve Parameters" web page.

The observations were obtained with a SC Meade 0.25m LX200 Classic + Focal reducer f/6.3 and Optec TCF-S electronic focuser. The CCD camera was SBIG ST7 XME. Exposure times varied between 120 – 240 s. All the observations were performed on 5 nights between 25 April and 08 May 2007.

Analysis of the combined data sets was made using the MPO Canopus software. The derived synodic rotation period was 8.8586 ± 0.0006 hrs, which agrees with the one published by Brinsfield (2007) and Wagner (2007). The 19th session was performed under less than perfect weather conditions and a nearly full moon (phase = 94%) only 35° away. This resulted in more scatter within the data set due to lower S/N ratios. Regardless, the derived synodic rotation period was unchanged when using the data from the 19th session.

References

Brinsfield, J.W. (2007). "The Rotation Periods of 872 Holda, 3028 Zhangguoxi, 3497 Innanen, 5484 Inoda, 5654 Terni, and 7304 Namiki." *Minor Planet Bulletin* **34**, this issue.

Harris, A.W., Warner, B.D. (2006). "Minor Planet Lightcurve Parameters." Updated March 14, 2006.
<http://cfa-www.harvard.edu/iau/lists/LightcurveDat.html>

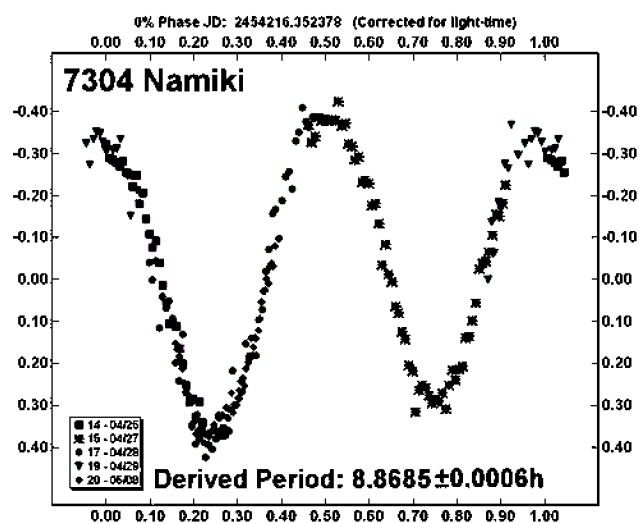
Pravec, P., Harris, A. W., and Michalowski, T. (2002). "Asteroid Rotations." In *Asteroids III* (W. F. Bottke, A. Cellino, P. Paolicchi, R. P. Binzel, eds.) pp 113-122. Univ. Arizona Press, Tucson.

Wagner, R. (2007). "Lightcurve of 7304 Namiki." *Minor Planet Bulletin* **34**, this issue.

Warner, B.D. (2003). *A Practical Guide to Lightcurve Photometry and Analysis*. Bdw Publishing, Colorado Springs, CO.

Warner, B.D. (2004). MPO Software, Canopus version 7.6.4.6, Bdw Publishing, <http://minorplanetobserver.com/>

Warner, B. D., Kaasalainen, M., Harris, A. W., and Pravec, P., Benner, L. A. M. (2007). *Minor Planet Bulletin* **34**, 50-51.
<http://www.minorplanetobserver.com/mpb/default.htm>



THE ROTATION PERIODS OF 872 HOLDA, 3028 ZHANGGUOXI, 3497 INNANEN, 5484 INODA, 5654 TERNI, AND 7304 NAMIKI

James W. Brinsfield
Via Capote Observatory
5180 Via Capote, Thousand Oaks CA 91320
jbrinsfi@gmail.com

(Received: 28 May)

Lightcurves for 872 Holda, 3028 Zhangguoxi, 3497 Innanen, 5484 Inoda, 5654 Terni, and 7304 Namiki were obtained at the Via Capote Observatory in April and May 2007. The derived synodic periods were: 872 Holda, 5.943 ± 0.002 hr; 3028 Zhangguoxi, 4.827 ± 0.001 hr; 3497 Innanen, 7.181 ± 0.001 hr; 5484 Inoda, 14.144 ± 0.009 hr; 5654 Terni, 9.99 ± 0.01 hr; 7304 Namiki, 8.90 ± 0.02 hr.

Observations reported here were made using a Takahashi Cassegrain at prime focus with a focal length of 136 inches and focal ratio of 11.5. The CCD imager was an Alta U6 featuring a 1024x1024 array of 24 μ -meter pixels. The CCD was operating at a temperature of -30°C . All observations were made at 1x binning yielding an image scale of 1.43" per pixel. All images were guided, 120 second exposures except where noted. Images were dark and flat field corrected. Images were measured using MPO Canopus (Bdw Publishing). All observations were made using unfiltered differential photometry and all data were light-time corrected. Period analysis was done with Canopus, incorporating the Fourier analysis algorithm by Harris (1989).

872 Holda. The observations were conducted on six nights from May 5 thru May 18, 2007. A total of 138 observations were made spanning approximately 318 hours or 54 rotational cycles. The