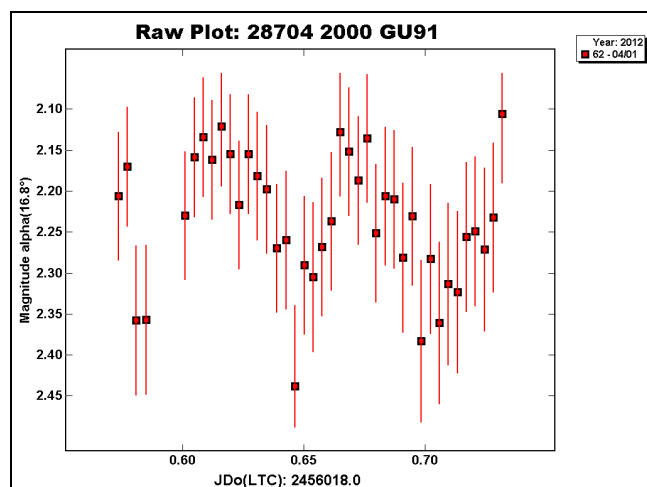
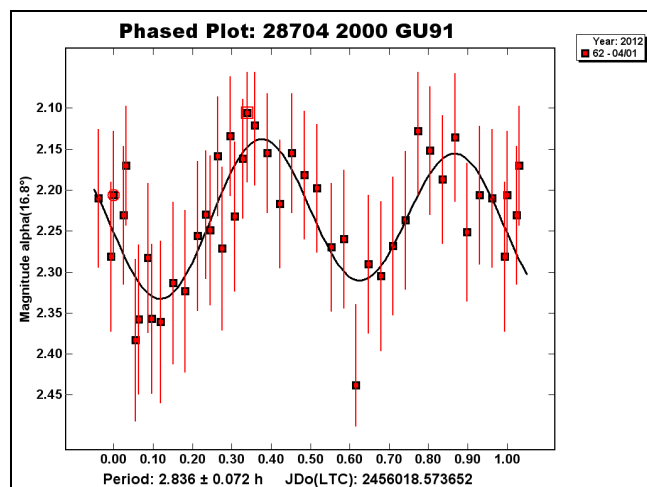




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LIGHTCURVE FOR NEA 2012 KP24

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CCD photometric observations were made of the near-Earth asteroid, 2012 KP24 during a close flyby in 2012 May. Analysis of more than 700 data points found a period of 0.041667 ± 0.000002 h, or 150.00 ± 0.01 seconds. The maximum amplitude of the asymmetric lightcurve was 0.86 ± 0.03 mag.

The near-Earth asteroid 2012 KP24 was discovered by the Catalina Sky Survey on 2012 May 24 (UT). Four days later, it made a close flyby of the Earth, coming to a distance of about 51,000 km (about 32,000 miles; less than 10 Earth radii). We observed the asteroid on the night of closest approach to support spectroscopic observations by finding the rotation period. The observations at PDO were made using a 0.35-m Schmidt-Cassegrain (SCT) using a Finger Lakes FLI-1001E CCD camera. The observations at CS3 used a 0.40-m SCT and SBIG STL-1001E. Initial exposure times at both observatories were 30 seconds but this produced significant trailing. The exposures were reduced to 10-15 seconds. All images were unfiltered. The data were put onto an internal standard system using V magnitudes derived from the 2MASS catalog (Skrutskie *et al.*, 2006; see Warner, 2007; Stephens, 2008).

The data were analyzed as they came in. It became quickly apparent that the period was very short, on the order of a few minutes, which was another, and actually, main reason for reducing the exposure times. When the exposure becomes a significant portion of the rotation period ($> 0.185P$), not only can lightcurve details be lost (shape information) but the true amplitude of the curve can be seriously under-estimated (Pravec *et al.*, 2000). Analysis of the combined data set found a period of 0.041667 ± 0.000002 h, or 150.00 seconds. The maximum amplitude was 0.86 ± 0.03 mag based on a 10th-order Fourier solution. These results are consistent with those found by Polishook *et al.* (2012).

Acknowledgements

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ASTEROID LIGHTCURVE ANALYSIS AT RIVERLAND DINGO OBSERVATORY: 1394 ALGOA, 1660 WOOD, 8882 SAKAETAMURA, AND (15269) 1990 XF

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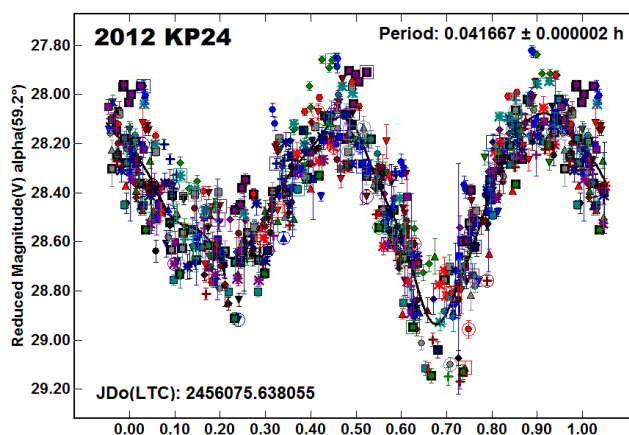
Lightcurves for four asteroids were obtained at Riverland Dingo Observatory (RDO) from 2012 January-June: 1394 Alga, 1660 Wood, 8882 Sakaetamura, and (15269) 1990 XF.

The observations reported here were all obtained using a 0.41-m *f*/9 Ritchey-Chretien, SBIG STL-1001E CCD camera, and Johnson-Cousins V filter. All images were bias, dark and flat-field corrected. The image scale was 1.35 arc seconds per pixel. Differential photometry measurements were made in *MPO Canopus* (Warner, 2008) using V magnitudes for comparison stars extracted from the AAVSO Photometric All-Sky Survey Catalog (APASS; <http://www.aavso.org/download-apass-data>)

The four asteroids reported here were selected from the Collaborative Asteroid Lightcurve Link (CALL; Warner, 2011). A search of the Asteroid Lightcurve Database (LCDB; Warner *et al.*, 2009) did not reveal any previously reported results for asteroids 1660 Wood or (15269) 1990 XF. Previously or newly-reported results for 1394 Alga and 8882 Sakaetamura are referenced below.

1394 Alga is a main-belt asteroid discovered by Jackson in Johannesburg in 1936. A total of 442 data points were obtained over four nights during the period 2012 May 9-30, with average magnitude of 14.7 and average SNR of 121. The lightcurve shows a period of 2.768 ± 0.001 h and amplitude of 0.20 ± 0.01 mag. A submission by Klinglesmith (2012) on the CALL website reports a period of 2.768 ± 0.001 h and amplitude of 0.20 ± 0.05 mag.

1660 Wood is a main-belt asteroid discovered by Bruwer in Johannesburg in 1953. A total of 592 data points were obtained over seven nights during the period 2012 February 10-25, with average magnitude of 13.6 and average SNR of 225. The



lightcurve shows a period of 6.8088 ± 0.0004 h and amplitude of 0.16 ± 0.01 mag.

8882 Sakaetamura is a main-belt asteroid discovered by Endate and Watanabe in Kitame in 1994. A total of 502 data points were obtained over four nights during the period 2012 January 1-19 with average magnitude of 15.6 and average SNR of 57. The lightcurve shows a period of 4.8742 ± 0.0002 h and amplitude of 0.37 ± 0.02 mag. The result is in agreement with one found by Warren (2012).

(15269) 1990 XF is a main-belt asteroid discovered by Kushida and Muramatsu in Yatsugatake in 1990. A total of 1304 data points were obtained over 12 nights during the period 2012 April 4 to June 10, with average magnitude of 15.4 and average SNR of 69. The lightcurve shows a period of 26.708 ± 0.001 h and amplitude of 0.62 ± 0.02 mag.

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