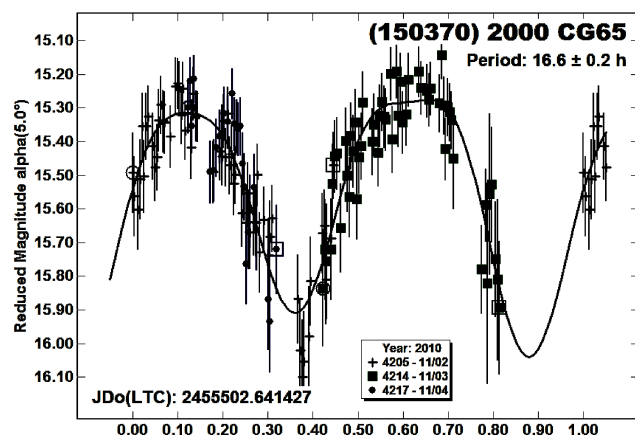
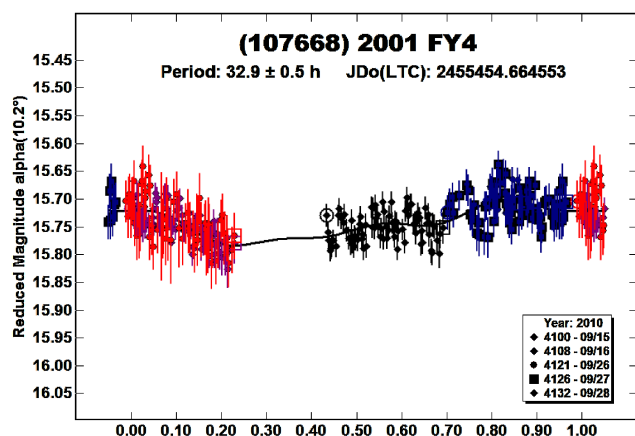
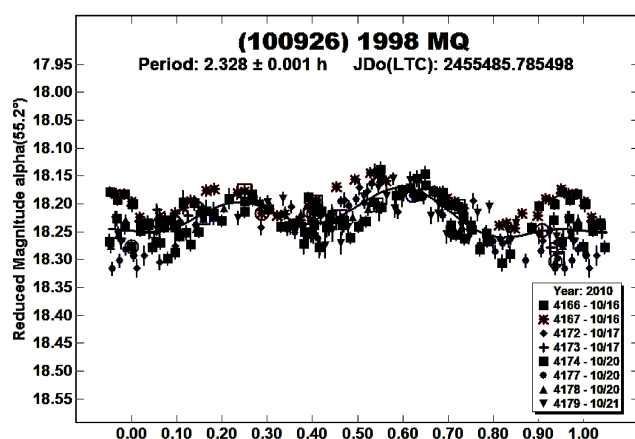




CALL FOR OBSERVATIONS

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Observers who have made visual, photographic, or CCD measurements of positions of minor planets in calendar year 2010 are encouraged to report them to the Minor Planets Section Recorder on or before April 1, 2011. This will be the deadline for receipt of reports that can be included in the "General Report of Position Observations for 2010," to appear in *MPB* Vol. 38, No. 3.

LIGHTCURVE ANALYSIS OF EIGHT MAIN-BELT ASTEROIDS AND A REVISED PERIOD FOR 185 EUNIKE

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Seven asteroids were the subject of the lightcurve program at Shadowbox Observatory from 2010 October through 2011 January: 1080 Orchis, 1663 Van den Bos, 2437 Amnestia, 2853 Harvill, 3252 Johnny, 3277 Aaronson and 3605 Davy. In addition, data for 1498 Lahti from 2009 October are included. Also revised a period of 14.56 ± 0.05 h is reported for 185 Eunike.

CCD photometry observations were made from 2010 October to 2011 January on main-belt asteroids 1080 Orchis, 1663 van den Bos, 2437 Amnestia, 2853 Harvill, 3252 Johnny, 3277 Aaronson, and 3605 Davy. Asteroid 3252 Johnny was observed using the 0.37-meter Rigel Telescope at the Iowa Robotic Telescope Facility (IRTF). All other observations were made using the 0.30-m f/6.1 Schmidt-Cassegrain at Shadowbox Observatory (see Ruthroff, 2010, for equipment and technique details). In addition, data for 1498 Lahti obtained in 2009 October were recovered from a failed hard drive and analyzed.

1080 Orchis, 1663 van den Bos, 2437 Amnestia, 2853 Harvill, 3277 Aaronson, and 3605 Davy were observed in support of a call for lightcurves of asteroids having either no or poorly constrained lightcurve parameters (Warner *et al.*, 2010). 3252 Johnny was in the field-of-view of another targeted object. With the exception of 1663 van den Bos and 3605 Davy, the author was unable to find previously reported lightcurve parameters for these objects. During analysis, the assumption that a lightcurve with an amplitude of $A \geq 0.2$ mag at low-to-moderate phase angles will be bimodal (two maximums/minimums) was applied to constrain the possible solutions.

185 Eunike. Previously reported results for 185 Eunike by the author (Ruthroff 2010) stated that the period was likely to be 11.2 h. Subsequent analysis (Warner, private communication) suggested that a period close to 14.5 h should be considered. Upon a more critical review of the observations, a revised rotation period of 14.56 ± 0.05 h is presented.

1080 Orchis. 359 data points were analyzed. The period found was 16.1 ± 0.1 h with estimated amplitude of 0.24 ± 0.05 mag. Another possible period is 24.2 hours, but the fit is significantly worse. After observations and analysis were complete, Justin Tieman (private communication) indicated that analysis of his unpublished observations, which predated those obtained at Shadowbox by a few weeks, resulted in a period within 0.1 h of the 16.1 h period.

1498 Lahti. The lightcurve data for 1498 Lahti, which were initially lost on a crashed hard drive, were recovered and analyzed. 173 data points were acquired over 3 nights from 2009 October 1-6. The data are broken into 5 sessions, each night having 2 sessions due to the need for the German equatorial mount to do a "meridian flip" as the asteroid went west of the meridian. Bad weather late meant getting data on only the first half of the night of October 6. The sparse data set prevents a reasonable conclusion for the period.

The plot shows 58.8 h, which is one of many possible solutions. It's likely that the period is > 20 h and amplitude is at least 0.4 mag.

1663 van den Bos. 243 data points were analyzed. The derived period was 152.49 ± 0.06 h with estimated amplitude of 0.50 ± 0.1 mag. Subsequent results posted by Stephens and Higgins on the CALL web site (<http://www.MinorPlanet.info/call.html>) show a period of 740 hours.

2437 Amnestia. 528 data points were analyzed. The period found was 84.8 ± 0.1 h with an estimated amplitude of 0.4 ± 0.05 mag. Other periods are possible.

2853 Harvill. 119 data points were obtained over two consecutive nights and analyzed. All extrema were observed in one observing session. The period found was 6.30 ± 0.05 h with estimated amplitude of 0.6 ± 0.2 mag.

3252 Johnny. 34 data points were gathered in one night using the 0.37-m f/14 classical Cassegrain Rigel telescope at the Iowa Robotic Telescope Facility (IRTF) near Sonoita, AZ. The imager was a Finger Lakes ProLine camera with a Kodak 09000 3056x3056x12-micron chip. The camera was operating in 2x2 binning mode, giving a resolution of 1 arc seconds/pixel. The period found was 3.54 ± 0.02 h with estimated amplitude of 0.50 ± 0.05 mag.

3277 Aaronson. 296 data points were analyzed. A period of 9.8 ± 0.05 h and amplitude of 0.16 ± 0.09 mag were found. This amplitude range falls slightly under the 0.2 mag amplitude threshold used to constrain the lightcurve to bimodal (Binzel 1987).

3605 Davy. 306 data points were collected over 2 nights. The period found was 2.72 ± 0.01 h with estimated amplitude of 0.26 ± 0.08 mag. These results are consistent with those of Behrend (2010).

Acknowledgements

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