

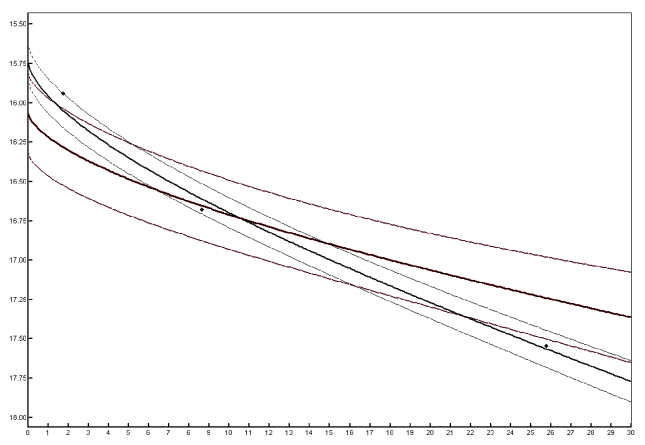


Figure 3. Plot of the reduced magnitude of 1998 OR2 versus the phase angle. The solid black line is corresponding to a curve with $G = -0.18 \pm 0.06$ and the red line to $G = 0.2(0.15) \pm 0.2$. The reduced magnitudes have ~ 0.01 mag of error.

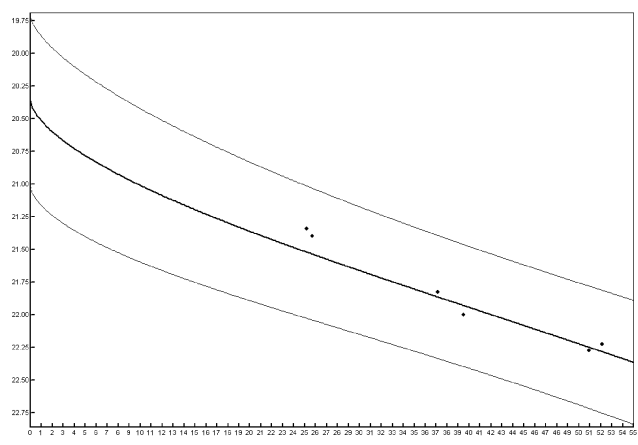


Figure 4. Plot of the reduced magnitude of 1999 AQ10 versus the phase angle. The solid black line corresponds to a curve with $G = 0.2(0.15) \pm 0.2$. The reduced magnitudes have ~ 0.01 mag of error.

ASTEROID LIGHTCURVE ANALYSIS AT RICKY OBSERVATORY

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Lightcurves for five asteroids were obtained at Ricky Observatory from 2007 October through 2008 December: 1160 Illyria, 4797 Ako, 5132 Maynard, 6000 United Nations, and (27851) 1994 VG2.

Observations of five asteroids were carried out at Bennefeld's Observatory (MPC H46), which is equipped with a 0.35-m Meade LX200 GPS telescope operating at f/6.3 coupled to a SBIG ST7-XME CCD camera, resulting in a resolution of ~ 1.7 arcsec/pixel (binned 2x2). Unfiltered exposure times varied between 30-60 s.

The asteroids under observation were selected from the list of asteroid lightcurve photometry opportunities which is posted on the Collaborative Asteroid Lightcurve Link website (CALL; Warner, 2007a). Lightcurve measurements were made using Brian Warner's *MPO Canopus*, which employs differential aperture

photometry to produce the raw data (Warner, 2007b). Period analysis of the raw data was also done using *Canopus*, which incorporates the Fourier analysis algorithm developed by Harris (Harris et al., 1989). As well as reporting the synodic rotational period, amplitude, and phase angle of the asteroids, every attempt was made to expand on the knowledge base of the asteroids by, where appropriate, reporting the minimum axial ratio a/b of an elliptical asteroid and the Phase Angle Bisector longitude and latitude, PAB_L and PAB_B , respectively.

1160 Illyria. The main-belt asteroid was sampled 258 times over 2 nights. Analysis of the data revealed a synodic rotation period of 4.104 ± 0.001 h. The absolute value of the peak-to-peak magnitude differential (Δm) of 0.58 mag for the lightcurve implies an axial ratio (a/b) of 1.70, assuming an equatorial viewing aspect. No other lightcurves for this asteroid are known to exist.

4797 Ako. The main-belt asteroid was sampled 156 times over 1 night. The derived synodic period was 4.085 ± 0.001 h. The absolute value of the peak-to-peak magnitude differential (Δm) of 0.70 mag implies an axial ratio (a/b) of 1.95. No other lightcurves for this asteroid are known to exist.

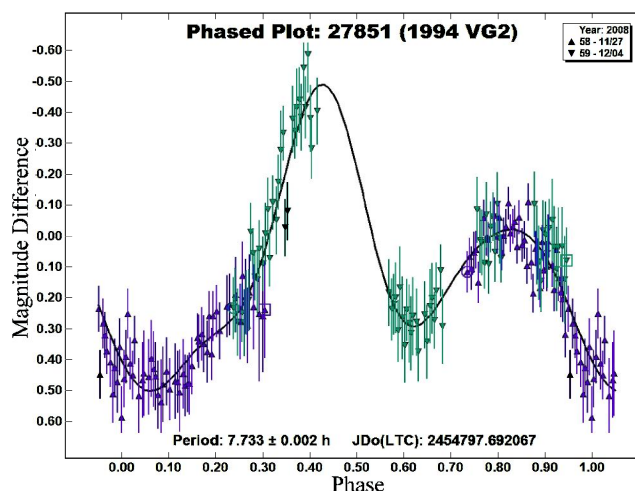
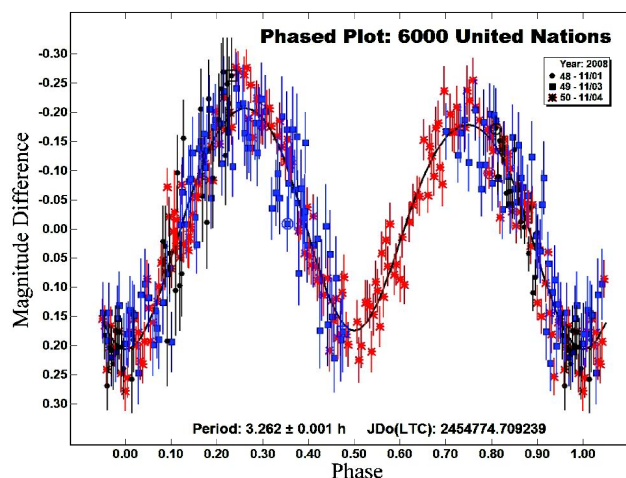
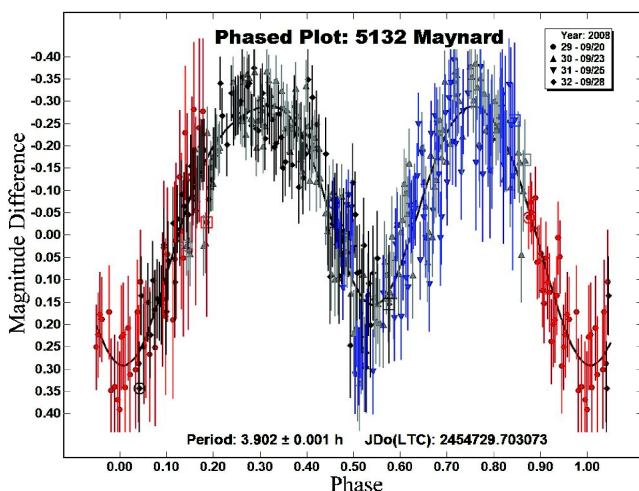
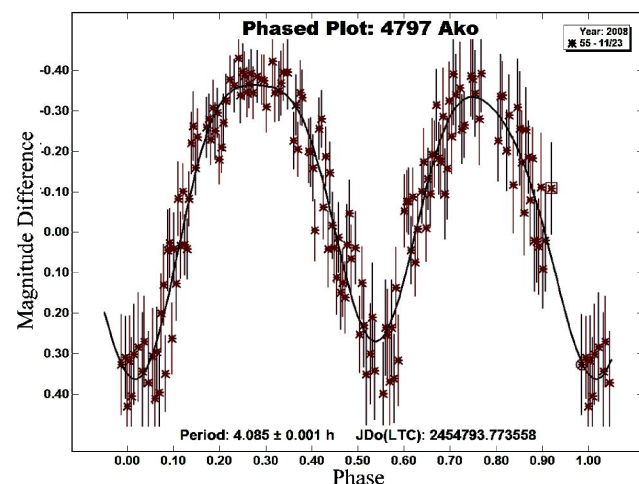
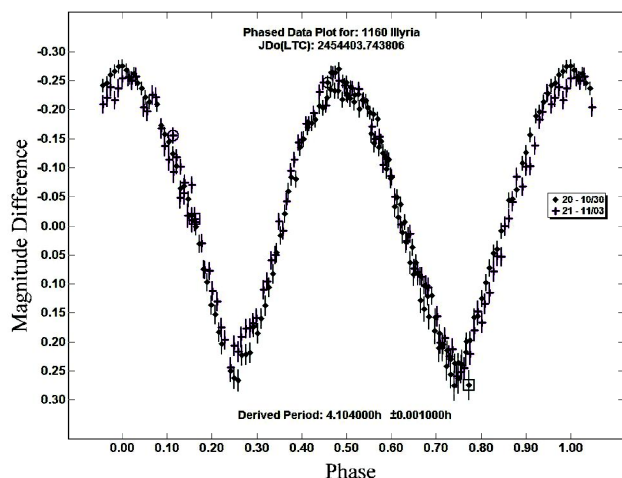
5132 Maynard. The main-belt asteroid was sampled 390 times over 4 nights, yielding a synodic rotation period of 3.902 ± 0.001 h. The absolute value of the peak-to-peak magnitude differential is 0.58 mag, implying an axial ratio (a/b) of 1.70. No other lightcurves for this asteroid are known to exist.

6000 United Nations. This main-belt asteroid was sampled 365 times over a 3 night period to yield a synodic rotation period of 3.262 ± 0.001 h. The absolute value of the peak-to-peak

# Name	Date Range (mm/dd)	Data Pts	Phase	PAB_L	PAB_B	Per (h)	PE	Amp	AE
1160 Illyria	10/30-11/03/2007	258	6.50	33.4	10.7	4.104	0.001	0.56	0.02
4797 Ako	11/23/2008	156	10.20	76.9	2.4	4.085	0.001	0.90	0.03
5132 Maynard	09/20-28/2008	390	11.43	339.0	-0.68	3.902	0.001	0.80	0.02
6000 United Nations	11/01-04/2008	365	3.70	36.9	-5.2	3.262	0.001	0.45	0.03
(27851) 1994 VG2	11/27-12/04/2008	183	19.63	37.3	-2.5	7.733	0.002	1.00	0.05

magnitude differential is 0.40 mag, implying an axial ratio (a/b) of 1.44. No other lightcurves for this asteroid are known to exist.

(27851) 1994 VG2. The main-belt asteroid was sampled 183 times over a 2 night period. We found a synodic rotation period of 7.733 ± 0.002 h. Due to an incomplete lightcurve the axial ratio was not computed. No other lightcurves for this asteroid are known to exist.



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