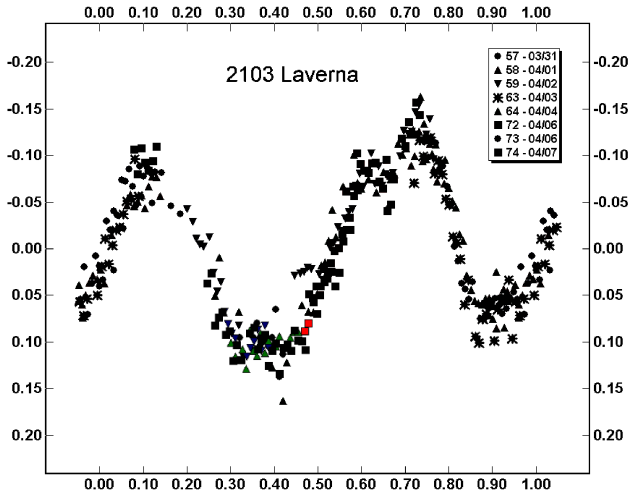
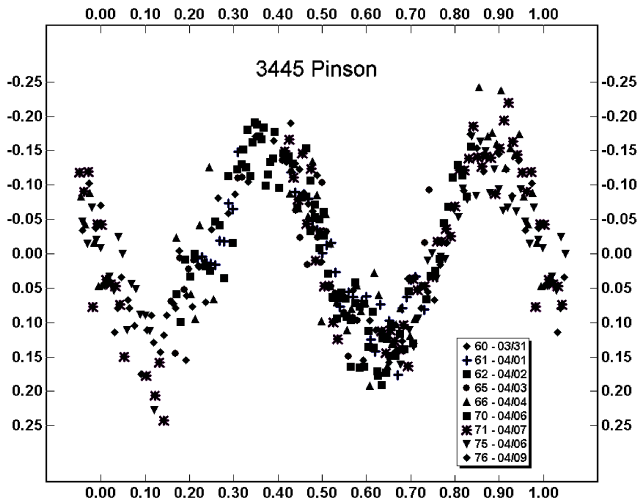
UT date	2103 Laverna	3445 Pinson	time interval
04/01/2005	19	19	3.9hrs
04/02/2005	42	41	4.0
04/02/2005	57	56	4.9
04/03/2005	52	53	4.7
04/04/2005	80	79	6.5
04/04/2005	78	79	6.3
04/07/2005	71	70	5.8
04/09/2005	0	49	7.1

2103 Laverna. Laverna was discovered March 21, 1960 at the La Plata Observatory. We determined a bimodal period of 9.249 ± 0.003 hours with an amplitude of ~0.27 magnitudes in the Bessel-R filter. There is a sight dip of approximately 0.04 magnitude at phase 0.65 This dip helps rule out any other aliased period. The Julian date of zero phase is 2453460.636065, light-time corrected.



3445 Pinson. Pinson was discovered in 1983. This lightcurve was more challenging since several aliased periods presented themselves. We have chosen the bimodal period of 7.801 ± 0.002 hours with an amplitude of 0.37 magnitudes as the most probable period. This is based mainly on the fact that large amplitudes would be improbable for monomodal, trimodal or quadramodal lightcurves (Pravec 2005). The Julian date of zero phase is 2453460.638898, light-time corrected.



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ROSE-HULMAN SPRING 2005 LIGHTCURVE RESULTS: 155 SCYLLA, 590 TOMYRIS, 1655 COMAS SOLÁ, 2058 ROKA, 6379 VRBA, AND (25934) 2001 DC74

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CCD images recorded in March and April 2005 using the Tenagra Observatory 32-inch telescope yielded lightcurve periods and amplitudes for five asteroids: 155 Scylla 7.958 ± 0.002 h, 0.20 mag; 590 Tomyris 5.55 ± 0.05 h, 0.93 mag; 1655 Comas Solá 20.4 ± 0.1 h, 0.20 mag; 2058 Roka 10.09 ± 0.01 h, 0.50 mag; 6379 Vrba 5.11 ± 0.01 h, 0.36 mag; (25934) 2001 DC74 19.1 ± 0.05 h, 0.90 mag. Additionally, 12 targets listed herein were found to have too low a lightcurve amplitude after one night to continue following.

Nine undergraduate students from Rose-Hulman Institute of Technology (Addleman, Covele, Duncan, Johnson, Kramb, LeCrone, Reichert, Starnes, and Twarek) and two professors (Ditteon and Kirkpatrick) obtained images of asteroids during the spring of 2005. They used the commercial 32" Ritchey-Chretien telescope with a V-filter at the Tenagra Observatory in Arizona by submitting requests via FTP and downloading the resulting images via FTP. The telescope operates at f/7 with a CCD camera using a 1024x1024x24 μm SITe chip and the images were binned 2 by 2 (Schwartz, 2004). All exposures were taken for 60 seconds. They also used three 14" Celestron telescopes on Paramount mounts at the Oakley Observatory in Terre Haute, Indiana. The telescopes operate at f/7 with two Apogee AP7 and one Apogee AP8 cameras. The AP7s have 512x511x24 μm SITe chips, one of which uses a V-filter, and the AP8 has a 1024x1024x24 μm SITe chip. These exposures were 240 seconds for each image.

Asteroids for observation were selected by using *TheSky* software by Software Bisque. Only asteroids that were located between 20° and 30° in elevation at one hour after local sunset and with brightness between 14 and 16 mag were considered. The elevation requirement ensured that the asteroid would be high enough in the sky to avoid excessive airmass throughout the night. The asteroids were limited to the 14th magnitude because we pay for a minimum 60 seconds for each exposure, and brighter asteroids would saturate the CCD camera. Dimmer asteroids would require a longer exposure at a greater expense. The asteroids were then checked on a list of asteroid lightcurve parameters by Alan Harris (Harris, 2003). We tried to observe

asteroids whose periods were previously unpublished or still had a relatively large certainties.

Observation requests for the asteroids and Landolt reference stars were submitted by Ditteon, Kirkpatrick and LeCrone using ASCII text files formatted for the TAO scheduling program (Schwartz, 2004). The resulting images were downloaded via FTP along with flat field, dark, and bias frames. Standard image processing was done using *MaxImDL*, published by Diffraction Limited. Photometric measurements and lightcurves were prepared using *MPO Canopus*, published by BDW Publishing.

A total of 18 asteroids were observed, but only six lightcurves were found. After looking at data from the first night, asteroids that showed either a very small variation in brightness or had too low a signal-to-noise ratio weren't observed further to save funding for more promising targets. The asteroids 153 Hilda, 241 Germania, 447 Valentine, 477 Italia, 619 Ueta, 630 Euphemia, 673 Edda, 931 Whittemora, 1343 Nicole, 2939 Coconins, 5237 Yoshikawa, 8882 Sakacamura produced data that either had little to no amplitude or were too noisy for a lightcurve to be distinguished. Our successful lightcurve results are detailed below.

155 Scylla. Asteroid 155 Scylla was discovered 8 November 1875 by J. Palisa at Pola. It was named for Scylla, the sea nymph who guarded the straight between Sicily and Italy with Charybdis. Scylla was the daughter of Phorcys and Ceto, and sister of the Gorgons, Sirens, and Graeae (Schmadel, 1999). A total of 78 images were obtained on 31 March and 1, 5, and 15 April 2005. The data reveal a lightcurve with a 7.958 ± 0.002 h period and 0.20 mag amplitude. All of the images of Scylla were taken at the Tenagra Observatory.

590 Tomyris. Asteroid 590 Tomyris was discovered 4 March 1906 by M. Wolf at Heidelberg. It was named for the queen of the Massagets in Scythia who sold and killed the Persian king Cyrus the Great in 529 B.C. (Schmadel, 1999). A total of 85 images were taken 15 and 16 April 2005. The data reveal a lightcurve with a 5.55 ± 0.05 h period and 0.93 mag amplitude. All of the images of Tomyris were taken at the Oakley Observatory. This result is in good agreement with 5.562 ± 0.002 hr found by Binzel (1987), where only 0.2 mag. amplitude was seen in Tomyris' 1983 apparition. The 2005 apparition may have been at a near-equatorial aspect.

1655 Comas Solá. Asteroid 1655 Comas Solá was discovered 28 November 1929 by J. Comas Solá at Barcelona. Fabra Observatory named the asteroid in memory of Jose Comas Solá (1868-1937). He was the first director of the Fabra Observatory and discovered the comet Comas Solá, a crater on Mars, and 11 other numbered minor planets (Schmadel, 1999). A total of 60 images were obtained on 31 March, 1 April, and 5 April 2005. The data reveal a lightcurve with a 20.4 ± 0.1 h period and 0.20 mag amplitude. Because the asteroid has such a long period (almost 24 hours), we did not collect data through its entire period and further observation is recommended. All of the images of Comas Solá were taken at the Tenagra Observatory.

2058 Roka. Asteroid 2058 Roka was discovered 22 January 1938 by G. Kulin at Budapest. It was named in memory of Gedeon Roka, a well-known popularizer of astronomy in Hungary for three decades (Schmadel, 1999). A total of 59 images were obtained on 31 March, and 1 April and 15 April 2005. The data reveal a lightcurve with a 10.09 ± 0.01 h period and a 0.50 mag amplitude. All of the images of Roka were taken at the Tenagra Observatory.

6379 Vrba. Asteroid 6379 Vrba was discovered 15 November 1987 by A. Mrkos at Klet (Schmadel, 1999). A total of 58 images were obtained on 31 March, and 1 and 5 April 2005. The data reveal a lightcurve with a 5.11 ± 0.01 h period and a 0.36 mag amplitude. All of the images of Vrba were taken at the Tenagra Observatory.

(25934) 2001 DC74. Asteroid (25934) 2001 DC74 was discovered 19 February 2001 by LINEAR at Socorro (MPC, 2005). A total of 58 images were obtained on 31 March, and 1 and 5 April 2005. The data reveal a lightcurve with a 19.1 ± 0.05 h period and a 0.90 mag amplitude. Because the asteroid has such a long period, we did not collect data through its entire period and further observation is recommended, particularly because its amplitude is so large. All of the images of 2001 DC74 were taken at the Tenagra Observatory.

All of our data are available upon request.

Acknowledgements

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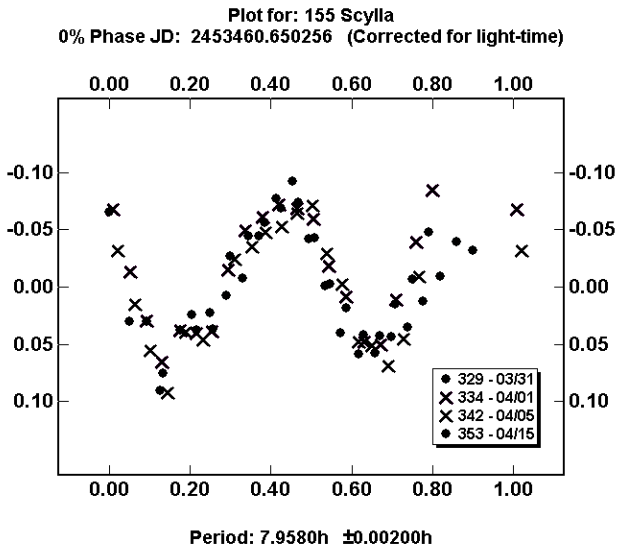
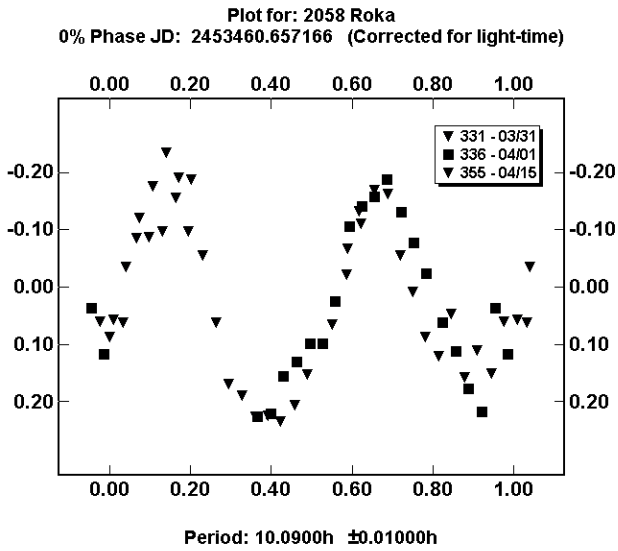
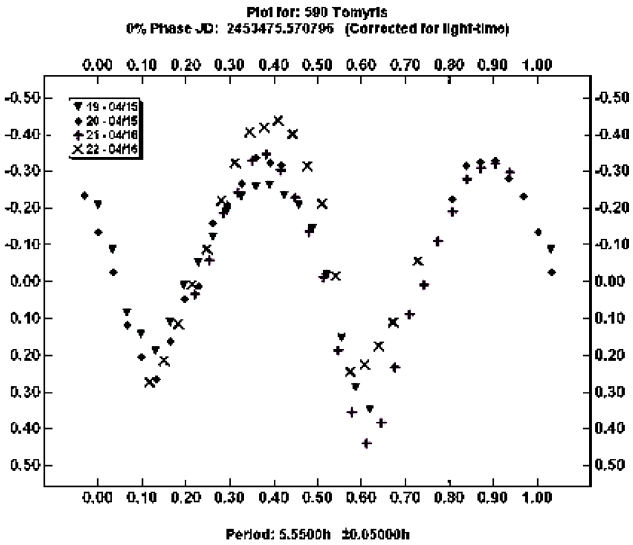


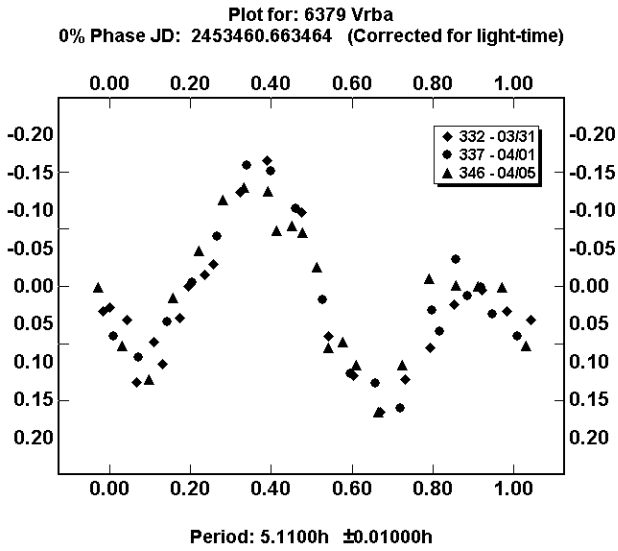
Period: 7.9580h ±0.00200h



Period: 10.0900h ±0.01000h



Period: 5.5500h ±0.05000h



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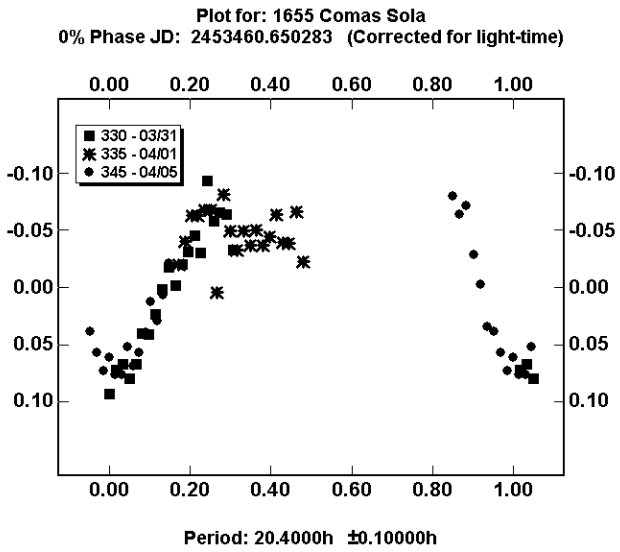

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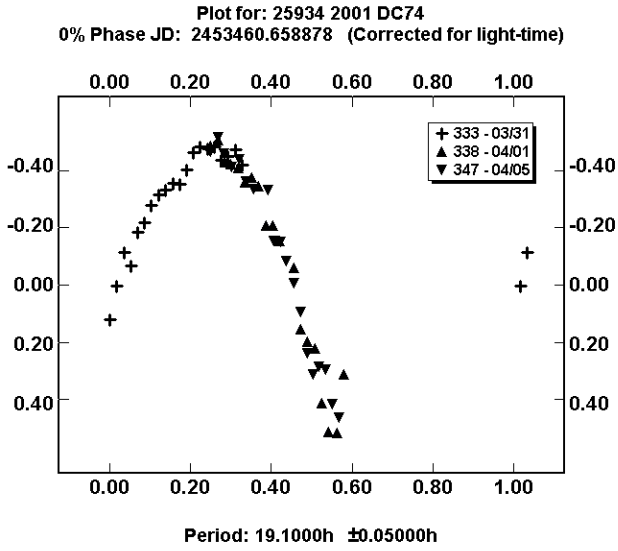

Period: 19.1000h ±0.05000h