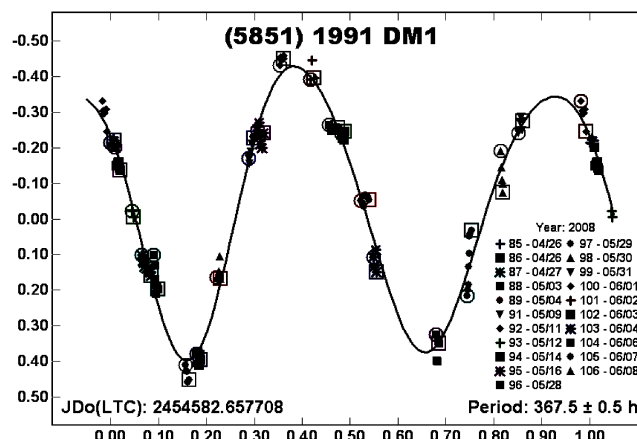
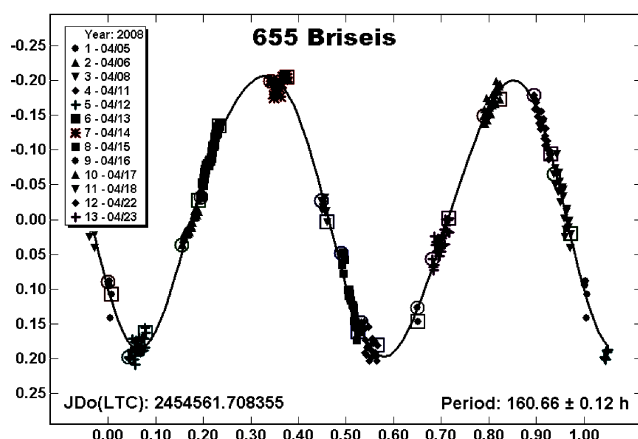




ASTEROID LIGHTCURVE ANALYSIS AT THE VIA CAPOTE OBSERVATORY: 2ND QUARTER 2008

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Lightcurves for ten asteroids were measured at the Via Capote Observatory from 2008 April through June: 411 Xanthe (7.56 h), 455 Bruchsalia (11.85 h), 742 Edisona (18.52 h), 1633 Chimay (6.58 h), 1793 Zoya (5.753 h), 4215 Kamo (11.67 h), 4399 Ashizuri (2.829 h), 4585 Ainonai (38.31 h), 6274 Taizaburo (3.13 h), and 8132 Vitginzburg (7.28 h).

The observations were made using a Meade LX200 14-inch (356 mm) SCT operating at f/10. The CCD imager was an Alta U6 featuring a 1024x1024 array of 24-micron pixels. All observations were made unfiltered at 1x binning yielding an image scale of 1.44 arc seconds per pixel. All images were dark and flat-field corrected. Images were measured using *MPO Canopus* (Bdw Publishing) and differential photometry. The data were light-time corrected. Period analysis was also done with *Canopus*, incorporating the Fourier analysis algorithm developed by Harris (1989).

The results are summarized in the table below and include average phase angle information across the observational period. Individual lightcurve plots along with additional comments, as required, are also presented.

411 Xanthe. My results are consistent with those of Riccioli

(1995) and Behrend (2008), who both reported a 7.48 h period.

455 Bruchsalia. My results are somewhat different from those reported earlier for this target by Blanco (2000), who measured 10.645 h, but are very similar to results by Koff (2006) and Behrend (2008), who measured 11.838 h and 11.8 h respectively.

742 Edisona. Behrend (2008) reports a similar period of 18.58 h.

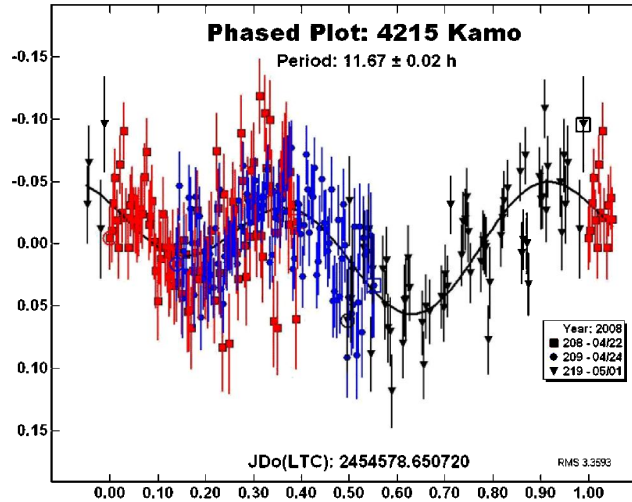
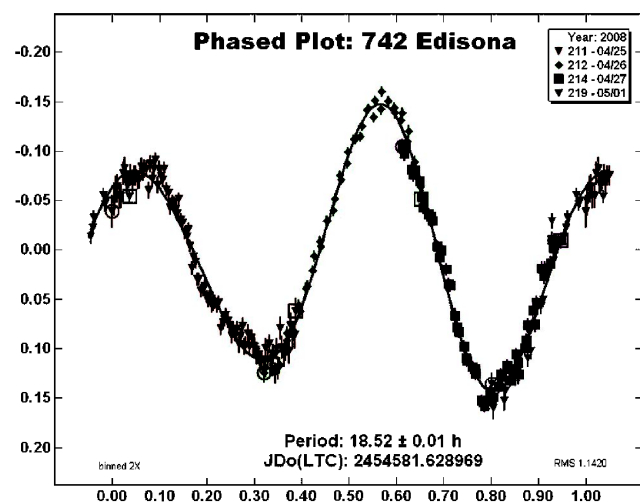
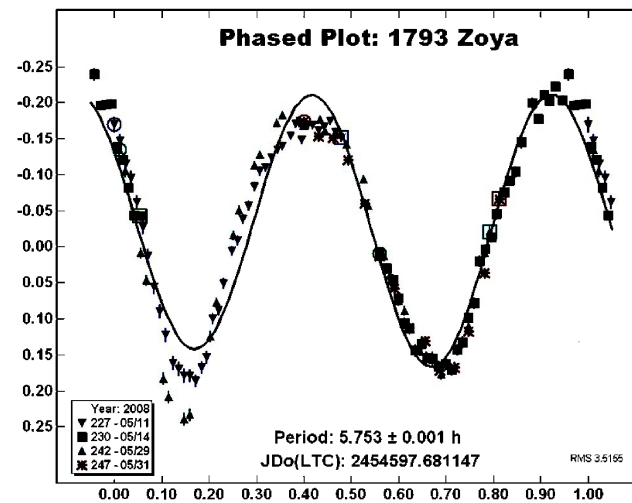
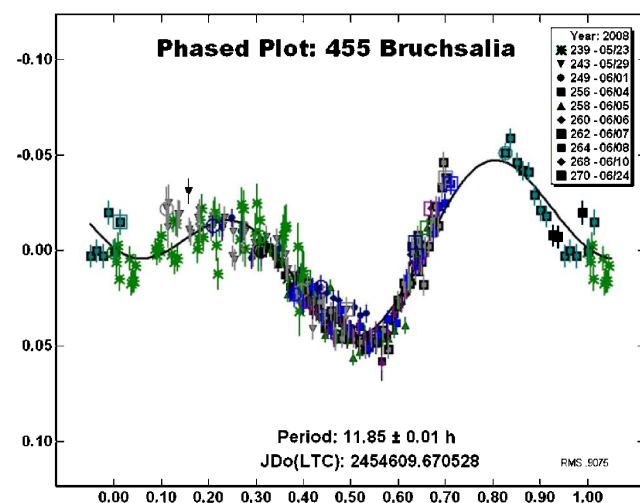
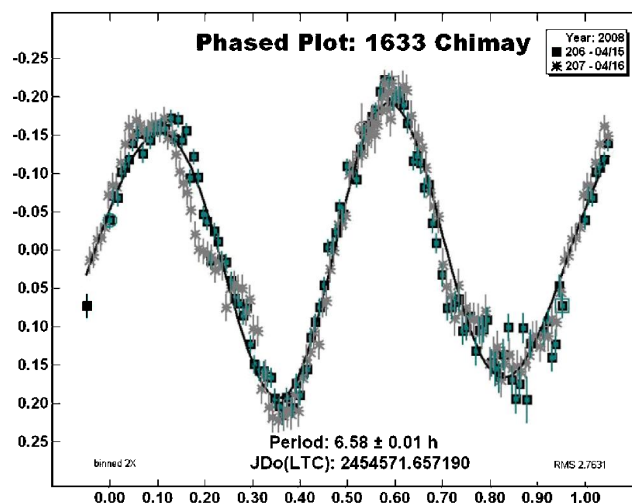
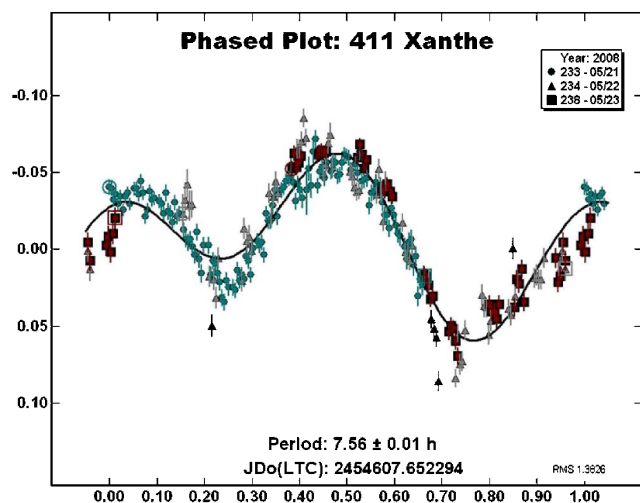
1633 Chimay. The accompanying lightcurve plot used binned data (2x, 5 min maximum separation) for a total of 240 points.

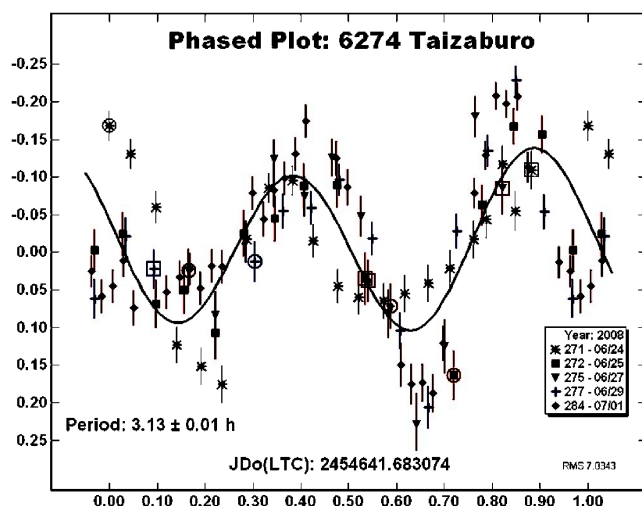
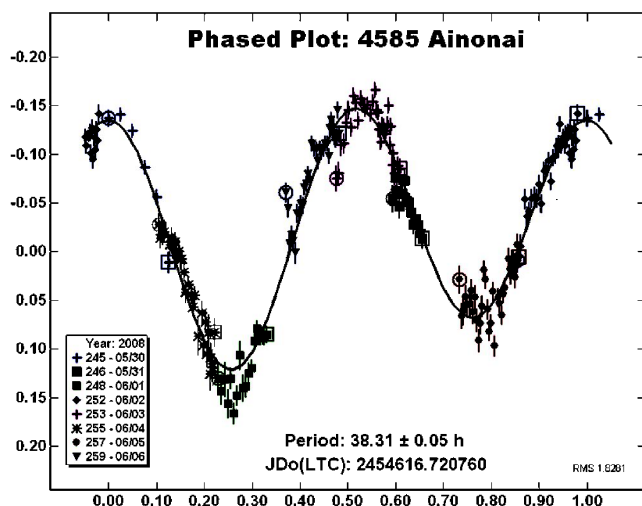
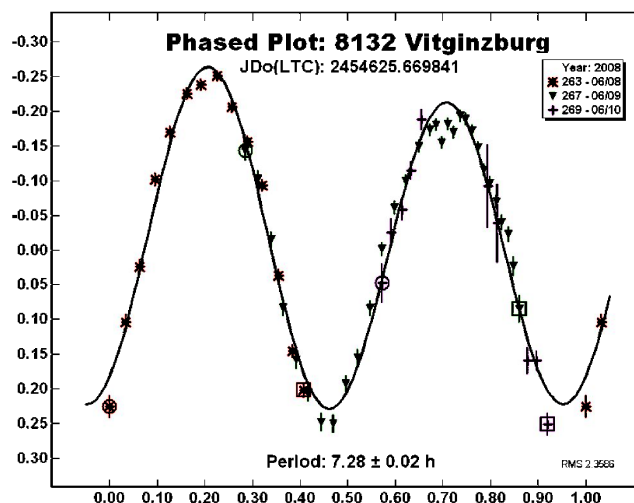
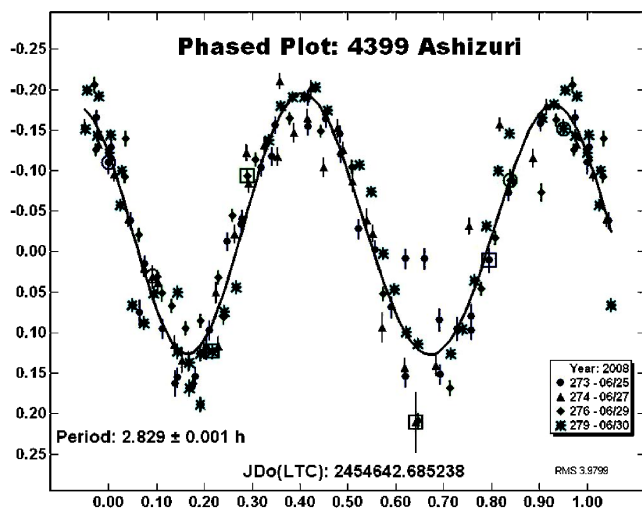
4215 Kamo. Data taken on 2008 April 21 were not used for lightcurve analysis due to poor S/N caused by inadequate integration time.

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#	Name	Date Range (mm/dd) 2008	Data Points	Phase	L _{PAB}	B _{PAB}	Per (h)	PE	Amp (mag)	AE
411	Xanthe	05/21 - 05/23	253	4.7	250.3	4.3	7.56	0.01	0.12	0.02
455	Bruchsalia	05/23 - 06/24	276	14.8	215.2	7.9	11.85	0.01	1.0	0.02
742	Edisona	04/25 - 05/01	421	8.6	194.2	9.6	18.52	0.01	0.3	0.01
1633	Chimay	04/15 - 04/16	479	9.0	184.8	3.2	6.58	0.01	0.41	0.02
1793	Zoya	05/11 - 05/31	130	10.1	224.0	0.1	5.753	0.001	0.40	0.03
4215	Kamo	04/21 - 05/01	274	12.3	193.6	-5.7	11.67	0.02	0.11	0.02
4399	Ashizuri	06/25 - 06/30	144	7.9	265.0	7.1	2.829	0.001	0.36	0.02
4585	Ainonai	05/30 - 06/06	207	8.45	239.7	5.0	38.31	0.05	0.31	0.01
6274	Taizaburo	06/24 - 07/01	94	23.0	240.6	2.2	3.13	0.01	0.34	0.05
8132	Vitginzburg	06/08 - 06/10	55	13.0	233.5	4.5	7.28	0.02	0.50	0.02





LIGHTCURVE OF BINARY MINOR PLANET 2005 NB7

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Lightcurve 2005 NB7 revealed binary characteristics with an orbital period of 15.267 ± 0.094 h with amplitude 0.26 ± 0.05 mag and a primary rotation period of 3.472 ± 0.003 h with amplitude 0.15 ± 0.05 mag. No secondary period was detected indicating tidal lock.

Photometric data were collected using a 36-cm Celestron C-14, an SBIG ST-10XME camera, and clear filter at Stonegate Observatory. The camera was binned 2x2 with a resulting image scale of 1.3 arc-seconds per pixel. Image exposures were 120 s at -15°C . All photometric data were obtained and analyzed using *MPO Canopus* (Warner 2007).

Data of the fast moving Potentially Hazardous Asteroid (PHA) 2005 NB7 were collected 2008 May 5, 6, and 7 during the very brief visibility zone resulting in 249 data points. The initial analysis did not include consideration as a binary system. Correspondence with Brian Warner indicated a binary discovery by P. Kusnirak et al. (CBET 1383). Subsequent analysis of the data using the *MPO Canopus* "Dual Period Search" indicated an orbital period of 15.267 ± 0.094 h with amplitude 0.26 ± 0.05 mag and a primary rotation period of 3.472 ± 0.003 h with amplitude 0.15 ± 0.05 mag. The periods agree closely with the P. Kusnirak et al. data for orbital period of 15.28 ± 0.01 h, amplitude of 0.09 mag and primary rotation period of 3.4883 ± 0.0001 h, amplitude 0.13 mag with a tidally locked secondary. Similarly, no secondary period was detected in the noisy data. The substantially larger amplitude of the orbital period can only be partially explained by the uncertainty of a very noisy data set.