

ASTEROID LIGHTCURVE ANALYSIS AT THE OAKLEY SOUTHERN SKY OBSERVATORY: 2008 MARCH

Robert Lemke Oliver, Heath Shipley, Richard Dittéon
Rose-Hulman Institute of Technology CM 171
5500 Wabash Ave.
Terra Haute, IN 47803
dittéon@rose-hulman.edu

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Photometric data for 17 asteroids were collected over ten nights of observing during 2008 February and March at the Oakley Southern Sky Observatory. The asteroids were: 170 Maria, 266 Aline, 426 Hippo, 441 Bathilde, 619 Triberga, 701 Oriola, 840 Zenobia, 1175 Margo, 1232 Cortusa, 1297 Quadea, 1309 Hyperborea, 1355 Magoeba, 1505 Koranna, 2120 Tyumenia, 2606 Odessa, 3428 Roberts, and 4254 Kamel.

Seventeen asteroids were observed from the Oakley Southern Sky Observatory on the nights of 2008 February 29 and March 1–6, 9, 10, and 12. From the data, we were able to find lightcurves for eight asteroids. Out of those eight, three were previously unrecorded results, three were reasonably close to previously published periods, and two disagreed with previously published periods.

For the ten nights of observing, a 20-inch Ritchey-Chretien optical tube assembly mounted on a Paramount ME was used with a Santa Barbara Instrument Group STL-1001E CCD camera and clear filter. The image scale was 1.2 arcseconds per pixel. Exposure times varied between two and four minutes. Calibration of the images was done using master twilight flats, darks, and bias frames. All calibration frames were created using *CCDSOFT*. *MPO Canopus* was used to measure the processed images. Selection of asteroids was based on their sky position about one hour after sunset. Asteroids without previously published lightcurves were given higher priority than asteroids with known periods, but asteroids with uncertain periods were also selected with the hopes that we would be able to improve previous results.

As far as we are aware, these are the first reported observations for the period of the following asteroids: 1505 Koranna, 2606 Odessa, and 3428 Roberts. No repeatable pattern was found for the following asteroids: 170 Maria, 266 Aline, 426 Hippo, 441 Bathilde, 701 Oriola, 840 Zenobia, 1232 Cortusa, 1355 Magoeba, and 4254 Kamel. Our data for these asteroids was so noisy we do not feel comfortable even reporting amplitudes. Results from the asteroids with good lightcurves are listed in the table below.

Number	Name	Dates mm/dd 2008	Data Points	Period (h)	Period Error (h)	Amp (mag)	Amp Error (mag)
619	Triberga	03/06, 10, 12	87	29.37	0.06	0.35	0.04
1175	Margo	02/29, 03/01–04	176	11.99	0.03	0.3	0.06
1297	Quadea	03/05, 06, 09	74	6.259	0.005	0.35	0.05
1309	Hyperborea	03/05, 06, 10, 12	108	13.88	0.02	0.45	0.05
1505	Koranna	02/29, 03/01–04	179	4.451	0.001	0.6	0.04
2120	Tyumenia	03/05, 06, 09	76	17.47	0.07	0.45	0.08
2606	Odessa	02/29, 03/01–04	170	8.244	0.002	0.8	0.1
3428	Roberts	02/29, 03/01–04	162	3.278	0.001	0.6	0.06

Comments have been included if they are necessary.

619 Triberga. Our data are consistent with the period of 29.412 ± 0.003 h found by and Pray (1987).

1175 Margo. Our data disagree with the period 6.0138 ± 0.0002 h deemed most likely by Behrend (2008) but support the period of 12.028 that was listed as another possibility.

1297 Quadea. Our data agree with the period of 6.267 ± 0.001 h found by Behrend (2008).

1309 Hyperborea. Our data give a period that is close to that of 13.95 ± 0.02 h found by Apostolovska et al. (2004).

2120 Tyumenia. Our data are not consistent with the period of 2.769 ± 0.0005 h found by Warner (2005).

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