

References

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**PHOTOMETRIC LIGHTCURVE OBSERVATIONS OF
125 LIBERATRIX, 218 BIANCA, 423 DIOTIMA,
702 ALAUDA, 1963 BEZOVEC, AND (5849) 1990 HF1**

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Photometric lightcurve measurements from the Evelyn L. Egan Observatory for six main-belt asteroids are reported. The following synodic periods and amplitudes were determined: 125 Liberatrix 3.9683 ± 0.0002 h, 0.20 mag; 218 Bianca 6.337 ± 0.001 h, 0.09 mag; 423 Diotima 4.775 ± 0.001 h, 0.11 mag; 702 Alauda 8.348 ± 0.001 h, 0.05 mag; 1963 Bezovec 18.1600 ± 0.0001 h, 0.30 mag; (5849) 1990 HF1 8.733 ± 0.001 h, 0.40 mag.

The Evelyn L. Egan Observatory is located on the campus of Florida Gulf Coast University (FGCU) in Fort Myers, Florida. Details on the equipment and methods have been previously reported (Fauerbach 2005). Targets were selected from the "Potential Lightcurve Targets" list on the CALL website (Warner, 2002), with attention to those listed as potential shape-modeling targets. We also utilized the list of known lightcurve parameters maintained by Harris and Warner (Harris, 2003) to select targets that have a high uncertainty in their previously published periods.

125 Liberatrix. Minor planet 125 Liberatrix is an M-type asteroid with a size of approximately 43 km. It was discovered by Prosper Henry on September 11, 1872. The asteroid was chosen for study, as it was a shape modeling target (Kaasalainen). Observations were obtained during 3 nights over December 12-27, 2004. Our derived rotational period is 3.9683 ± 0.0002 h with an amplitude of 0.20 mag., in good agreement with previous publications (see Harris 2003).

218 Bianca. Minor planet 218 Bianca is an S-type asteroid with a size of approximately 61 km. It was discovered by Johann Palisa

on September 4, 1880 in Pola, Italy and was named after opera singer Bianca Bianchi. The asteroid was chosen for study, as it was a shape modeling target (Kaasalainen). Observations were obtained during 3 nights between December 12 and 27, 2004. Observations were also obtained during 4 nights between February 8 and April 6, 2005. Our derived rotational period is 6.337 ± 0.001 h with an amplitude of 0.09 mag, in good agreement with previous publications (see Harris, 2003).

423 Diotima. Diotima is a large (~209 km) C-type binary asteroid. It was discovered by Auguste Charlois on December 7, 1896 in Nice. The asteroid was chosen for study, as it was a shape modeling target (Kaasalainen). Observations were obtained on December 7 and 13, 2004. Our derived rotational period is 4.775 ± 0.001 h with an amplitude of 0.11 mag, in good agreement with previous publications (see Harris, 2003).

702 Alauda. Alauda was discovered on July 16, 1910 by J. Helffrich in Heidelberg. The asteroid was chosen for study, as there was some ambiguity about the period. Observations were obtained during 6 nights between January 4, 2005 and February 12, 2005. We derived a synodic period of 8.348 ± 0.001 h with a small amplitude of 0.05 mag, in good agreement with the literature.

1963 Bezovec. This C-class asteroid was discovered on February 9, 1975 by L. Kohoutek. Lightcurve observations were obtained during 6 nights between January 6, 2005 and February 5, 2005. We derived a synodic period of 18.160 ± 0.001 h with an amplitude of 0.30 mag. No prior lightcurve data were available.

(5849) 1990 HF1. This asteroid was discovered on April 27, 1990 by E. F. Helin at Palomar. We observed it during 9 nights between January 4, 2005 and February 11, 2005. The derived synodic period that fits all the data best is 8.733 ± 0.001 h with an amplitude of 0.40 mag. No prior lightcurve data were available.

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