Initial report on the photometric study of Vestoids from Modra

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Our new survey with a 0.6-m f/5.5 telescope starting in August 2012 is intended to enlarge the sample of V-type asteroids studied photometrically. It is focused on objects with unknown rotation periods. Due to some limitations of the facility, exposure times are usually only 60 s and only a clear filter is used. About 12 vestoids with previously unknown rotation periods can be studied in detail during one season (from August to May) in Modra (though in some cases the period is still not determined). The list of studied targets during the first two seasons is available at http://www.fmph.uniba.sk/index.php?id=3161.

Lightcurves are roughly linked using the Carlsberg Meridian Catalogue 14 (CMC14) stars in the field of view to about 0.05 mag accuracy. The slope parameter G is assumed to be as high as 0.3–0.4. When the observations cover a wide range of phase angles and the rotation period can be determined (however, not in the case of tumblers), the G value is roughly determined. In some cases, even higher values provide a better match to the lightcurve data. In one case, the best nominal value is formally lower, but the uncertainty is large.

Up to date we have detected two binary candidates having attenuation(s) in lightcurves. Lightcurves of a few targets indicate tumbling.

Study of rotational properties of Vestoids is a long-term process. To speed it up, we would appreciate collaboration with other research groups and/or volunteers.

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