

**Efficient Photometry of Small Main Belt Asteroids using a Wide-Field CCD.** D. Polishook<sup>1,2</sup> and N. Brosch<sup>2, 1</sup> *Department of Geophysics and Planetary Sciences, Tel-Aviv University, Tel-aviv 69978, Israel,* <sup>2</sup> *The Wise Observatory and the Raymond and Beverly Sackler School of Physics and Astronomy, Tel-Aviv University, Tel-aviv 69978, Israel.*

We report results of an observing campaign of asteroid photometry using a wide-field CCD. Attached to the prime focus of a 0.46-m telescope, this CCD covers a field of 40.5'x27.3' using 2184x1472 pixels. The wide field enables the observations of 7.6 asteroids on average per field when targeting the ecliptic. We use the automatic operation of the telescope and repeatedly switch between two fields thus doubling the number of lightcurves obtained per night. We can detect asteroids up to a magnitude of 19.5 in the clear band using an exposure time of 210 seconds. 61% of the asteroids have sufficient S/N to derive a clear lightcurve.

By now, 75 asteroids have been observed yielding 46 derived lightcurves. 65 of the observed asteroids are one to three km wide; this population has hardly been measured photometrically. Enlarging the statistics of small MBAs spins, enables one to compare their spin distribution with that of bigger asteroids; with that of Hirayama families objects that have been subjected to the effects of disruptive collisions; and with that of equal-sized NEAs that are more prone to be affected by planetary tidal forces and by the YORP effect. These spin distributions can shed light on the influence of asteroid size and location on spin evolution mechanisms.