LOOKING A GIFT HORSE IN THE MOUTH: EVALUATION OF WIDE-FIELD ASTEROID PHOTOMETRIC SURVEYS. Alan W. Harris[1] , Petr Pravec[2], and Brian D. Warner[3], [1]MoreData! Inc., 4603 Orange Knoll Ave., La Cañada, CA 91011, USA, harrisaw@att.net, [2]Astronomical Institute, Academy of Sciences of the Czech Republic, Fričova 1, CZ-25165 Ondřejov, Czech Republic, ppravec@astro.cz, [3]Palmer Divide Observatory, 17995 Bakers Farm Rd., Colorado Springs, CO 80908, USA, brian@MinorPlanetObserver.com.

With the advent of wide-field CCD imagers it has become possible to do a photometric survey of many asteroids at once, rather than observing single asteroids one (or occasionally a couple) at a time. We evaluate two such surveys. Dermawan et al. [1] observed one night on the Subaru 8.2 m telescope, and Masiero et al. [2] observed six nights over two weeks with the 3.6 m CFHT. Dermawan claimed 83 rotation periods from 127 detected asteroids; TALCS claimed 218 rotation periods from 828 detections. Both teams claim a number of super-fast rotators (P < 2.2 h) among mainbelt asteroids larger than 250 m diameter, some up to several km in diameter. This would imply that the spin rate distribution of mainbelt asteroids differs from like-sized NEAs, that there are larger super-fast rotators (monolithic asteroids) in the main belt than among NEAs. Here we evaluate these survey results, applying the same criteria for reliability of results that we apply to all results listed in our Lightcurve Database [3]. In doing so, we assigned reliability estimates judged sufficient for inclusion in statistical studies for only 27 out of 83 (33%) periods claimed by Dermawan, and only 87 out of 218 (40%) periods reported by TALCS. As can be seen in Figure 1, none of the super-fast rotators larger than about 250 m diameter claimed by either survey received a reliability rating judged sufficient for analysis. The one point in the "forbidden zone" deemed reliable is 2001 OE84 [4]. Thus, we find no reliable basis for the claim of different rotation properties between mainbelt and near-Earth asteroids. Our analysis presents several cautionary messages for future surveys, which we will elaborate.

References: [1] Dermawan B. et al. (2011) *Publ. Astron. Soc. Japan*, 63, S555-S576. [2] Masiero J. et al. (2009) *Icarus*, 204, 145-171. [3] Warner B. et al. (2009) *Icarus*, 202, 134-146. [4] Pravec P. et al. (2002) *Proc. ACM 2002*, ESA SP-500, 743-745.

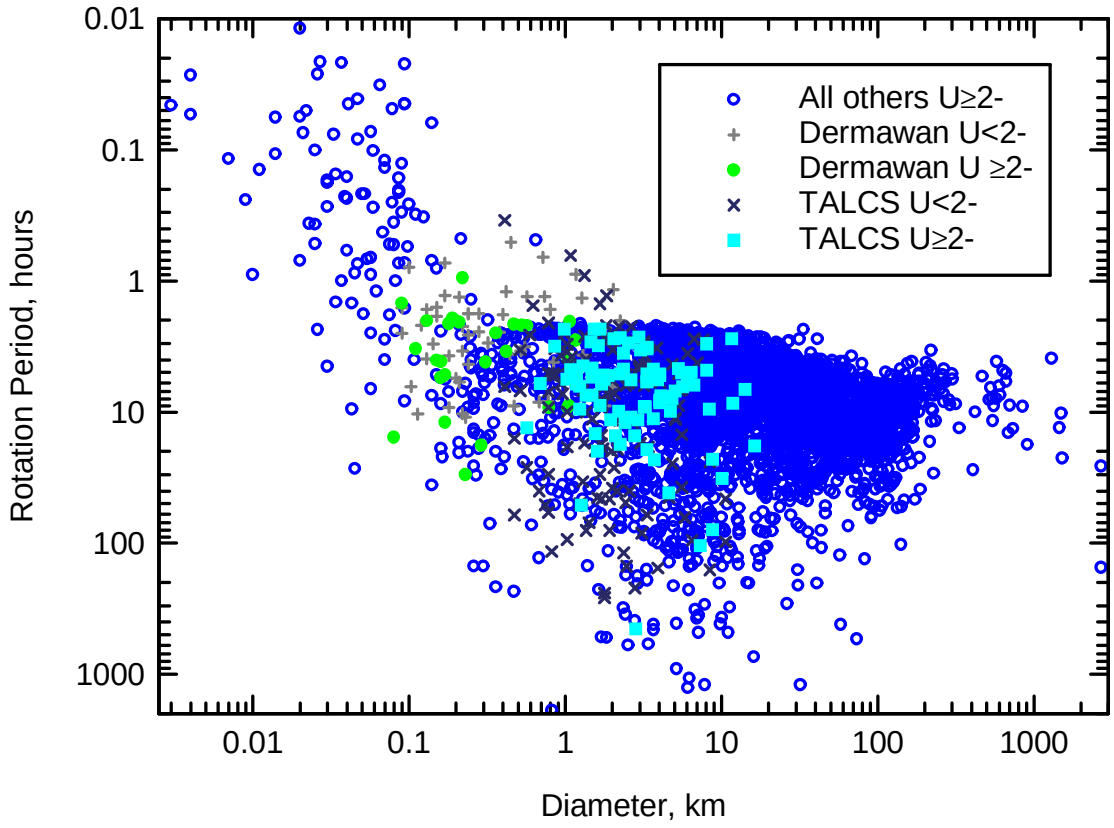

Figure 1. Rotation period versus diameter for asteroids in the LCDB