

Shape models and sizes of large MB primaries from optical photometry and Keck/NIRC2 disk-resolved data

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We use optical lightcurves and disk-resolved images from NIRC2 mounted on the Keck telescope to derive scaled shape models of several large main belt primaries. The size of each asteroid is optimized together with its shape by the All-Data Asteroid Modelling inversion algorithm (ADAM, Viikinkoski et al., 2015, AA, 576, A8), while the spin state of the original convex shape model from the DAMIT database is only used as an initial guess for the modeling. Most recent sets of optical lightcurves are always employed. Thereafter, we combine obtained volume with mass estimates available in the literature (determined from the orbit of the satellite) and derive bulk densities for these asteroids with a typical uncertainty of 10-20%. Moreover, we also use two disk-resolved images from VLT/SPHERE of asteroid Elektra to derive its shape, size, and bulk density.