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**ASTEROID SHAPES AND ROTATIONAL PROPERTIES BASED ON
LIGHTCURVE ANALYSIS**

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ABSTRACT

We present analysis of the shapes, rotation, and pole solutions of the selected asteroids. For modelling the asteroid photometric properties, we use parameters describing the shape, surface light scattering properties and spin state of the asteroid. Scattering properties of the asteroid surface are modeled using a two parameter H-G12 magnitude system. Determination of the initial best-fit parameters is carried out by first using a triaxial ellipsoid shape model, and scanning over the period values and spin axis orientations, while fitting the other parameters, after which all parameters were fitted, taking the initial values for spin properties from the spin scanning. In addition to the best-fit parameters, we also obtain the distribution of the possible solutions, which covers the inaccuracies caused by the observing errors and model. The distribution of solutions is generated by Markov-Chain Monte Carlo sampling, the spin and shape model parameters, using both an ellipsoid shape model and a convex model, Gaussian curvature of which is defined as a spherical harmonics series.