We investigate the photometric accuracy of the sparse data from astrometric surveys available on AstDyS. We use data from seven surveys with the best accuracy in combination with relative lightcurves in the lightcurve inversion method to derive ∼300 new asteroid physical models (i.e., convex shapes and rotational states). We introduce several reliability tests that we use on all new asteroid models. We investigate rotational properties of our MBAs sample (∼450 models here or previously derived by the lightcurve inversion), especially the spin vector distribution. It is clear that smaller asteroids ($D \lesssim 30$ km) have strongly anisotropic spin vector distribution even when we remove the bias of the lightcurve inversion, the poles are clustered towards ecliptic poles. We explain this anisotropy as a result of non-gravitational torques (YORP effect) acting on these objects, because without accounting these torques, we were not able to create such anisotropic distribution by our model of the spin evolution. We also estimate sizes for 41 and 10 asteroids by scaling their models to fit the adaptive optics profiles and occultation observations, respectively.