

The WISE survey of the albedo distribution of Main Belt asteroids

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The *Wide-field Infrared Survey Explorer* (WISE, [1]), scheduled to launch December 2009, will survey the entire sky at four thermal-IR wavelengths from a low-Earth, polar orbit. Among the many data products it will generate, *WISE* will produce a thermal infrared inventory of the Solar system, from which the diameters and albedos of minor planets can be derived. The Main Belt asteroids (MBAs) will represent the bulk of the solar system objects found due to their proximity to Earth and large population size. Using the *WISE* thermal infrared data, in particular the 12 micron and 22 micron bands, we will measure precise diameters and albedos for all MBAs larger than ~ 5 km in diameter. This will allow us to construct albedo maps of the Main Belt, measure size frequency distributions across different regions, and determine the albedo distributions of asteroid families. In addition, *WISE* will discover tens or possibly even one hundred thousand new asteroids in the Main Belt alone. We present our initial findings for Main Belt asteroids from the *WISE* survey data and discuss the anticipated results from the remainder of the mission.

References: [1] A. K. Mainzer, et al. (2006) in *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series* vol. 6265 of *Presented at the Society of Photo-Optical Instrumentation Engineers (SPIE) Conference*
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