EPSC Abstracts,
Vol. 2, EPSC2007-A-00211, 2007
European Planetary Science Congress 2007

Debris disks: a theorist's view

A.V. Krivov (1)

(1) Astrophysical Institute, Friedrich Schiller University Jena, Germany
(krivov@astro.uni-jena.de)

Debris disks are roughly solar system-sized, optically thin, gas-poor dust disks that encircle a notable fraction of main-sequence stars at ages ranging from about 10 Myr to several Gyr. They are thought to be continuously replenished by collisions between "exoasteroids" and activity of "exocomets", small bodies left over from the planet formation process. I will first outline main physical mechanisms operating in debris disks and compare them with other dusty systems: protoplanetary disks, dusty planetary rings, and classical Saturn's rings. I will then review basic methods and essential results of debris disks modeling, covering both steady-state and stochastic models of axisymmetric and structured disks.