

Observations of InterPlanetary Dust with AKARI

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Studies on the origin and the evolution of the solar system is getting into a new era, since we now have various samples of extra solar systems as well as hundreds of Vega like stars. The present picture of the solar system, as a template for the others, is getting important more and more. There are large and small bodies in our solar system, and are also other objects such as comets and dust particles, but we do NOT fully understand the linkage among themselves yet. To establish a concrete idea on the inter-planetary dust (IPD) cloud complex under the planetary system must be one of the most important issue, since the mechanism of continuous supply of interplanetary dust particle is still in the haze of the solar system.

Big problem on the zodiacal dust cloud is still its origin, since the lifetime of the interplanetary dust under the Poynting-Robertson drag is much shorter than the age of the Solar System. AKARI capabilities on good sensitivities for extended sources, better calibration accuracy, fine spatial resolutions and spectroscopic in middle infrared bands had opened new horizon for IPD studies. IRAS dramatically changed the smooth featureless picture of the zodiacal dust cloud by revealing numerous bands of asteroidal debris, several narrow trails of cometary dust, and a clumpy dust ring. COBE/DIRBE also mapped almost entire sky with a 0.7 arc-degree size beam and with better calibration, and confirmed the mean motion resonance dust ring, and an isolation of the leading and trailing blobs in the mean motion resonance feature. Current summary of AKARI observations on the IPD is presented in the talk.