

A NEWLY IDENTIFIED SOLAR SYSTEM DUST BAND

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The relative proportions of asteroidal and cometary material in the zodiacal cloud is still an ongoing debate. The zodiacal cloud consists of a broad, low-frequency background, with a superimposed high frequency, fine-structure component known as the dust bands. The dust bands have been confidently linked to specific, young, asteroid family disruptions in the main belt. These disruptions represent recent injections of dust into the zodiacal cloud and thus hold the key to determining at least a minimum value of the asteroidal contribution to the cloud. There are currently known to be 3 dust band pairs, one at approximately 10 degrees corresponding to the Veritas family and 2 central band pairs near the ecliptic, one of which corresponds to the Karin cluster of the Koronis family. Through careful co-adding of almost all the pole-to-pole intensity scans in the mid infrared wavebands of the IRAS data set, a new solar system dust band has been found at approximately 17 degrees inclination. We present preliminary modeling of the new band, including its cross-sectional area, as well as potential candidates for the source of these catastrophic collisional debris.