

Conference: The 5th Meeting on Cosmic Dust

Location: Kobe, Japan

Dates: August 6-10, 2012

Title: "Gas in Debris Disks: A New Way to Produce Dust Patterns?"

Presenter: Marc J. Kuchner

Abstract:

Debris disks like those around Fomalhaut and Beta Pictoris show striking dust patterns often attributed to planets. But adding a bit of gas to our models of these disks--too little to detect--could alter this interpretation. Small amounts of gas lead to new dynamical instabilities that may mimic the narrow eccentric rings and other structures planets would create in a gas-free disk. I'll discuss these phenomena and whether or not we can still use dust patterns as indicators of hidden exoplanets.