Meeting: Herschel GASPS Open Time Key Programme science team meeting
Location: Grenoble, France
Dates: April 4-7, 2011

Title: "A Debris Disk Case Study: 49 Ceti with Herschel"

Presenter: Aki Roberge, et al

Abstract:

Gas-poor debris disks represent a fundamentally different class of circumstellar disk than gas-rich protoplanetary disks. Their gas probably originates from the same source as the dust, i.e. planetesimal destruction, but the low gas densities make it difficult to detect. So far, Herschel has detected far-IR gas emission from one debris disk, Beta Pictoris. Here I discuss a well-known debris disk system in the GASPS survey, 49 Ceti. It serves as a case study for modeling low-density gas in optically thin disks. The dust disk appears to be spatially resolved at 70 um. Most interestingly, there appears to be a hint of CII 158 um emission at the roughly 2 sigma level. Preliminary modeling suggests that reconciling the sub-mm CO emission from this system with the weak or non-existent far-IR atomic lines may require an unusual chemical composition in the gas of this disk.