

Service d'Astrophysique
SÉMINAIRE

Mardi 22/09/2015, 10h00-11h00

CEA Saclay, Orme des Merisiers Bat 713, salle de séminaires Galilée

**Investigating the early formation and evolution of
planetary systems with sub-mm interferometers**

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Planets are formed through a huge growth of solids, starting from the tiny sub-micron sized grains found in the Interstellar Medium. Sub-mm observations of young circumstellar disks, the astrophysical systems where planets form, can reveal key steps along this process. Pebbles as large as 1-10 millimeter have been found in nearly all young disks observed so far, orbiting either young stars or brown dwarfs. The spatial distribution of these particles can be investigated in great detail using sub-mm interferometers such as ALMA, CARMA and SMA.

I will discuss how these observations inform models of the early evolution of solids toward the formation of planets. I will also present recent results from new ALMA projects aimed at 1) investigating how the mass of disks around young stars and brown dwarfs evolves with time, which is critical for our understanding of planet formation and disk evolution, and 2) studying the distribution of solids in a debris disk around a young Solar-like star, which can give an insight onto the dynamical interaction between one or more planetesimal belts and a planetary system embedded in the disk.

Le cafe sera servi 10 minutes avant

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