



## Instituto de Estructura de la Materia

Ciclo de Seminarios 2008-2009

**Seminario del Departamento de Física Molecular**

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### Laboratory studies of astrophysical ices

Amorphous water ice, commonly referred to as amorphous solid water (ASW), is a metastable form of ice and the most abundant component of the molecular ices observed in the interstellar medium. In addition to water ice, there are other molecular ices: CO, CO<sub>2</sub>, CH<sub>3</sub>OH and CH<sub>4</sub> are also abundant species in the interstellar media and also in several solar system bodies. These species are often present in the ASW found in the Universe. Laboratory studies of astrophysical ice analogues are essential to interpret the properties of the different ices found in extraterrestrial objects, and thus to extract information about its formation history, as well as to allow modelling of these systems.

Since 2006, our group has performed laboratory experiments of astrophysical ice analogues. Until now, we have studied ice mixtures of H<sub>2</sub>O, CH<sub>3</sub>OH, CO<sub>2</sub> and CH<sub>4</sub>, generated under high vacuum conditions and at low temperatures (13 – 200 K). We have carried out temperature programmed desorption measurements and recorded infrared spectra. The ices have been prepared at different conditions of pressure and temperature, and following several generation schemes also. The main results of these analyses and their astrophysical implications will be discussed in the presentation.

**Lunes, 30 de Marzo de 2009,  
12:00 horas.**

*Sala de Conferencias. Centro de  
Física "Miguel A. Catalán".*

*Serrano, 121. 28006 Madrid.*

