

Colloquium

SFB 956

Conditions and Impact of Star Formation

6 Feb 2017

Monday 3:00 pm

Physikalische Institute Köln

Lecture Hall III

Zülpicher Straße 77 | 50937 Köln

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Interstellar Ice – a Hot Topic

Interstellar ices, composed of mixtures and layers of H_2O , CO_2 , CO , CH_3OH , and other molecules, frozen or formed on cold dust grains, are the main reservoir of heavy elements in dense interstellar clouds and protostellar envelopes and disks. Via the protostellar collapse phase they end up in comets in planetary systems, where they can enrich young planets with the volatiles needed to form oceans, atmospheres, and ultimately the building blocks of life. During this voyage, chemical modification by thermal and energetic (ultraviolet photons, cosmic rays, electrons) and non-energetic (atom-addition) processes takes place; complex organic molecules form and molecules desorb, physically or chemically, linking the solid state and gas phase in space.

The talk will show how these processes are studied in the laboratory, and how the results help us in understanding which solid state processes are at play in the dense and dark clouds from which new stars and planets form.

