

Colloquium

SFB 956

Conditions and Impact of Star Formation

08.04.2013

Monday 4:00 pm

Physikalische Institute Köln

Lecture Hall III

Zülpicher Straße 77 | 50937 Köln

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The Horsehead's Mane: a Striking Molecular Reservoir

The Horsehead's mane is a nice template of a Photo Dissociation Region (PDR):

The density and temperature profiles across the PDR are well constrained by a bunch of observations from the infrared to microwave spectral windows.

The combination of close distance to Earth (about 400pc), moderate illumination and steep density profile allows to probe physical and chemical processes over relatively small spatial scales.

I will present and discuss some recent, sensitive, high spectral resolution observations performed at different positions in the Horsehead nebula.

Particular emphasis will be put on the tentative identification of a new hydrocarbon cation C_3H^+ , on the second detection of CF^+ and the spatial abundance variation of complex molecules such as formaldehyde, methanol, methyl cyanide in relation with the physical and chemical environment.

