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**UNIVERSITÉ
DE GENÈVE**

FACULTÉ DES SCIENCES
Département d'astronomie

ASTROPHYSICS SEMINAR



Friday, 14 December 2007 at 11:00

The initial conditions in the high-mass star formation process

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Abstract. Pre-stellar cores are dense and cold molecular condensations where the star formation process will probably take place. Protostars are born from gravitational collapse of these cores, so that understanding their internal structure allows one to constrain the initial conditions of the star formation process. So far, several examples of low-mass pre-stellar cores have been identified, but a sample of high-mass pre-stellar cores is lacking. Bearing in mind that high-mass stars form in clusters, we have searched for cold and dense spots close to some well-known high-mass protostellar objects, adopting the investigative techniques successful in the identification of low-mass pre-stellar cores (i.e. high values of the column density ratio $N(\text{N}_2\text{D}^+)/N(\text{N}_2\text{H}^+)$ and of the CO depletion factor). I will present both single-dish and interferometric millimeter and sub-millimeter observations that have allowed us to identify pre-stellar core candidates in the studied sources.

Additional Information

The seminars are given in the ISDC "Pavillon" building
Address: INTEGRAL Science Data Centre, ch. d'Écogia 16, CH-1290 Versoix
WWW: ISDC Seminars: <http://isdc.unige.ch/?Science+seminars>