



SEMINAIRE du Service d'Astrophysique

**MOLECULAR GAS, AND STAR FORMATION IN GALAXIES:
EMERGENT EMPIRICAL RELATIONS, FEEDBACK, AND
THE EVOLUTION OF VERY GAS-RICH SYSTEMS**

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ATTENTION HEURE INHABITUELLE

Jeudi 11 février 2010

14h00

I will present the fruition of a 3-year program to create realistic galaxy-sized models of stars and gas that include all ISM phases from first principles, as well as a star-formation process and criteria that realistically couples them to the stellar component.

An H₂-regulated star formation process, along with the inclusion of its CO-bright phase (not the same thing), allows a new feedback factor to be monitored (far-UV light from newborn stars) and a dynamical examination of the Schmidt-Kennicutt empirical relations linking gas and star-formation in galaxies. We find robust examples of deviations, more likely to be encountered in gas-rich, Early-Universe galaxies. Such relations are thus a poor choice of subgrid physics of star formation in cosmological structure formation models.

Ce séminaire aura lieu au CEA Saclay – Orme des Merisiers –bâtiment 709, Salle 003.