

Service d'Astrophysique
SÉMINAIRE

Jeudi 11 février 14h00

CEA Saclay, Orme des Merisiers Bât 709, salle 3 (Rdc)

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

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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.

Le cafe sera servi 10 minutes avant

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