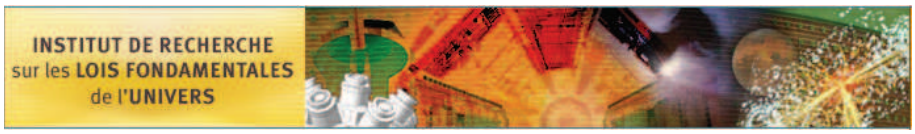
Service de Physique Nucléaire



Séminaire

le vendredi 22 février 2013 à 11h

CEA Saclay, Orme des Merisiers, Bât. 703, Salle 135

From nuclear droplets to compact stars : Thermodynamics of dilute clusterized matter

Panagiota Papakonstantinou

IPN Orsay

The extent to which we can describe reliably the nuclear equation of state in different thermodynamical domains determines whether we can make the most of new observational data on neutron-star properties, computationally demanding supernova simulations, and even the anticipated detection of gravitational waves - with important implications for diverse fields of physics. In this seminar I will focus on the description of baryonic matter at sub-saturation densities and low temperatures, where nuclei (or clusters) and a gas of nucleons are expected to coexist and interact with each other and with surrounding leptons. I will present a simple, but microscopically motivated model for heavy clusters, and a potentially unified description of light and heavy clusters. I will discuss the relevance of such studies in the evolution of core-collapse supernovae and give perspectives for future developments.

Le café sera servi 10 minutes avant

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http ://irfu-i.cea.fr/Phocea/Vie_des_labos/Seminaires/index.php