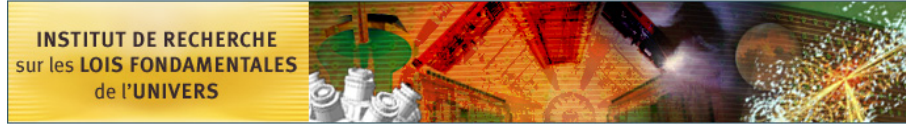


Service de Physique Nucléaire



Séminaire

le vendredi 30 Octobre 2009 à 11h

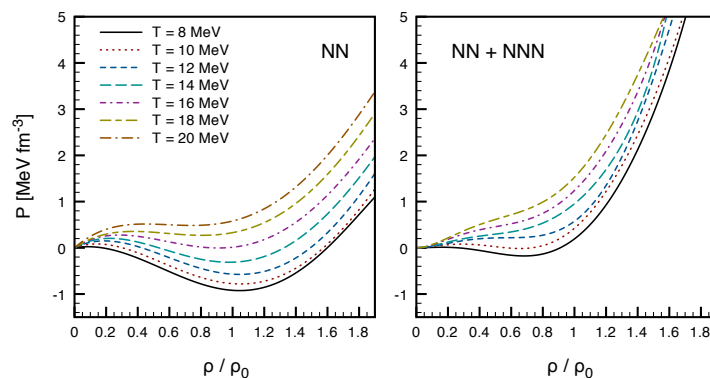
CEA Saclay, Orme des Merisiers, Bât. 703, Salle 135

Nuclear matter equation of state and in-medium nucleon properties.

Vittorio Somà

CEA Saclay - DSM/IRFU/SPhN

The equation of state of nuclear matter is of great importance in the interpretation of heavy-ion reactions and a crucial ingredient in many astrophysical models and simulations. One of the challenges of nuclear theory is a microscopic derivation of the equation of state starting from the bare nucleon-nucleon interaction in the vacuum. In order to achieve that, one has to properly take into account the modifications of the single-particle properties in the medium and the correlations induced by the nucleon-nucleon interaction. After introducing the general aspects of the problem and the state of the art of microscopic calculations of the equation of state, I will show results obtained with the self-consistent Green's function method implemented with two- and three-nucleon forces. The effect of three-body forces on thermodynamic observables and single-particle properties will be analyzed. Finally, the connection with approaches using a low-momentum potential and energy density functionals will be addressed.





Le café sera servi 10 minutes avant

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