

Service de Physique Nucléaire



Séminaire

le vendredi 9 Mars 2012 à 11h

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

Effective interactions for nuclear structure calculations

A. Signoracci

CEA - SPhN

Experimental interest in nuclei far from stability, especially due to proposed advancements in rare isotope facilities, has stimulated improvements in theoretical predictions of exotic isotopes. However, standard techniques developed for nuclear structure calculations lack either the generality or the accuracy necessary for reliable calculations away from stability. A new technique to produce nuclear Hamiltonians has been developed, implementing renormalization group methods, many-body perturbative techniques, and Energy Density Functional methods. Connection to the underlying physics is a primary focus, limiting the number of free parameters necessary in the procedure. The main benefit of this approach is the improvement in the quality of effective interactions outside of standard model spaces for use in Configuration Interaction calculations. Calculations for the island of inversion region and exotic silicon isotopes will display the viability of the method.

Le café sera servi 10 minutes avant

Contact : alexandre.obertelli@cea.fr Tel : 01 69 08 75 55
http://irfu-i.cea.fr/Phocea/Vie_des_labos/Seminaires/index.php