Service de Physique Nucléaire

Séminaire

le jeudi 22 janvier 2009 à 11h

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

Behaviour of 2_1^+ excitation energies near the N = 82 magic number in Cd isotopes and shape transitions in N ~ 90 region (Nd-Sm-Gd):
applications of recent nuclear structure calculations

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Beyond mean field calculations with effective interactions have become very powerful techniques to study the structure of nuclei along the whole nuclear chart. These methods have been successfully applied to describe many phenomena such as the shell closures and shell quenching in exotic nuclei, shape coexistence or possible phase-shape transitions, among others.
In this talk some recent results obtained with the Gogny force will be presented. I will focus on discussing the anomalous behaviour of the first 2^+ excitation energies in Cd isotopes near the N = 82 magic number.
Furthermore, I will discuss the spherical to prolate shape transitions which occur in the N ~ 90 region (Nd-Sm-Gd) and the connection between the experimental results, microscopic calculations and geometrical models.

Le café sera servi 10 minutes avant, en salle 125
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