Service de Physique Nucléaire

Irfu cea saclay

Séminaire

le jeudi 17 novembre 2011 à 11h15

CEA-Saclay SPhN, Orme des Merisiers Bât. 703 Salle 125

A DYNAMICAL MODEL FOR HALO NUCLEI AND TWO-NUCLEON TRANSFER REACTIONS

Enrico VIGEZZI

INFN, Sezione di Milano - Departimento di Fisica, Universita di Milano

The peculiar properties of the halo nuclei ^{11}Li and ^{12}Be can be successfully interpreted in the framework of a dynamical model based on the interweaving of single-particle levels with the collective vibrations of the system, leading to a substantial admixture of phonons in the ground state. This interweaving induces an attractive interaction between the two-halo neutrons that in the model is crucial to reproduce quantitatively the position of the single-particle levels and the two-neutron separation energy.

A recent two-neutron transfer experiment, performed with a beam of ^{11}Li and populating both the ground and the first excited state of ^{9}Li showed evidence for the quadrupole mixing in the ground state wave function. A second-order DWBA calculation based on our microscopic wave function for ^{11}Li is able to reproduce both the angular distribution and the absolute value of the cross section.

Le café sera servi 10 minutes avant, en salle 125

Contact : vlapoux@cea.fr tél : 01 69 08 40 83

http://irfu.cea.fr/Sphn/Phocea/Vie_des_labos/Seminaires/