

Service de Physique Nucléaire  
SÉMINAIRE

\*\*\*\*\*

Vendredi 20/11/2015, 11h00-12h00

CEA Saclay, Orme des Merisiers Bat 703, p 135

Light exotic nuclei elastic scattering measurements

## Valdir Guimarães

Universidade de São Paulo - Brasil

Weakly-bound valence nucleon or nucleons can significantly distort the shell structure as well as the collective properties of some exotic nuclei. Also strong coupling to the continuum are expected to be present in reactions induced by these nuclei. Elastic scattering, at low energies, is the most important process in terms of cross section and it can provide information on the nuclear potential, as well as the total reaction cross section. The angular distributions of elastic scattering may contain dynamics effects due to the coupling with other reaction channels, providing indirect information about them. For exotic nuclei, this process introduces characteristic dynamic polarizations in the optical potential which are not present in the case of stable projectiles. Static Effect of cluster configuration of these light nuclei can also be present in the elastic data.

In this seminar I will present experimental data measured at University of Notre Dame, USA and Universidade de São Paulo, Brasil, related to elastic scattering of exotic projectiles, such as  $^6\text{He}$ ,  $^8\text{Li}$ ,  $^8\text{B}$ ,  $^7,9,10\text{Be}$ . I will also discuss about the critical interaction distance extracted from these data and from data on  $^6\text{Li}$ ,  $^7\text{Li}$ ,  $^9\text{Li}$ ,  $^{11}\text{Li}$  and  $^4\text{He}$ ,  $^{11}\text{B}$ ,  $^{12}\text{C}$ ,  $^{16}\text{O}$  from the literature.

---

Le cafe sera servi 10 minutes avant

Contact : [acorsi@cea.fr](mailto:acorsi@cea.fr) - Tel : +33 1 69 08 7554

[http://irfu.cea.fr/Sphn/Phocea/Vie\\_des\\_labos/Seminaires/index.php](http://irfu.cea.fr/Sphn/Phocea/Vie_des_labos/Seminaires/index.php)