CENTRE D'ETUDES NUCLÉAIRES DE
BORDEAUX-GRADIGNAN

Vendredi 16 Juin 2017

à **11H**

Un café sera servi à partir de 10h45

Gwenaelle GILARDY

University of Bordeaux
and ISNAP & JINA, University of Notre Dame

Studying (α,γ) reactions at Notre Dame

At the end of its life, during their violent death through a supernovae explosion, massive stars collapse into neutron stars. The neutrino flux released during this collapse is so significant that the probability of a neutrino interacting with a nucleus is enhanced enough to have an influence on element nucleosynthesis. This phenomenon is known as the ν-process.

The ν-process is believed to be responsible for a significant part of the observed abundance of certain element in nature, in particular ^{11}B.

Neutrino triggered reactions lead to the creation of ^{11}B through a reaction chain terminating with ^{7}Li(α,γ)^{11}B. Understanding the rate of this reaction will help to constrain the ν-process. This reaction was recently studied at Notre Dame through direct measurement and the preliminary results will be presented.

Another method to study (α,γ) reactions is through inverse kinematics using a recoil mass separator. At Notre Dame, the recoil mass separator, St. George, is being commissioned to measure (α,γ) with heavy beams and low background. I will discuss the current progress of St. George commissioning.

Salle des Séminaires du CENBG

Le Haut Vigneau - BP 120 - F-33175 Gradignan Cedex