

CENTRE D'ETUDES NUCLÉAIRES DE
BORDEAUX-GRADIGNAN

Vendredi 12 Février 2016

à

11H

Un café sera servi à partir de 10h45

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**Nuclear structure around N=50 :
Shape coexistence and neutron monopole drift**

The origin of spin-orbit shell closures is still an open question in nuclear physics. The N=50 is no exception and two-body forces seem not able to explain the experimental evidence gathered so far. A campaign for the study of the N=50 shell closure near ^{78}Ni has started at the radioactive beam facility ALTO. New results on beta-delayed gamma and electron spectroscopy on $^{80,83}\text{Ge}$ will be presented. In ^{80}Ge , the presence of a $0+$ as first excited state suggests shape coexistence in this region, and possibly in ^{78}Ni . In ^{83}Ge , the reconstructed level scheme provides indication on the evolution of effective single-particle energies beyond N=50. The need of identifying single-particle states implies the necessity of distinguishing them from core-coupled states. This can be accomplished by measuring their lifetime. To this purpose, an experiment was performed at GANIL using the AGATA-VAMOS setup to measure lifetimes in $^{82,83}\text{Ge}$ and nuclei around, produced via fission reactions. Preliminary results will be shown and discussed in relation to the N=50 shell gap and the correlated monopole behaviour in this exotic region.

Salle des Séminaires du CENBG

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