

# Study of spin-orbit interaction and nuclear forces at the drip line

*lundi 8 octobre 2012 16:50 (40 minutes)*

The present talk will present recent experimental studies aiming at studying the spin-orbit interaction and the evolution of the proton-neutron force when approaching the drip-line. For the former subject, we propose to use the bubble nucleus  $^{34}\text{Si}$  to probe the two-body spin orbit interaction. This study can be also used to test the validity of mean field approaches which predict a density and isospin dependence of the spin-orbit interaction. In the second subject, the study of the near drip-line nucleus  $^{26}\text{F}$  will be presented. It aims at studying how proton-neutron interactions are changing when a large proton to neutron binding energy asymmetry is found. Experimental results obtained at GANIL will be presented, together with tentative interpretations and consequences.

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**Classification de Session:** Shell evolution of neutron rich nuclei I

**Classification de thématique:** Shell evolution in the neutron rich nuclei I