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Probing exotic nuclei with beams far from the dripline

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The GANIL facility provides a wide range of stable and short-lived unstable beams (ISOL and fragmentation) and more recently, intense beam of neutrons has been added to this repertoire. Coupling these with a variety of unique and state-of-the-art equipments allows study of the evolution of the properties of the quantum many body system, the nucleus, as a function of the three axes of nuclear physics, namely excitation energy, angular momentum and isospin.
The upgraded VAriable MOde Acceptance Spectrometer (VAMOS++), one such device, is a versatile large acceptance spectrometer capable of isotopic identification and dditionally measuring angular distributions of the reaction products ranging from low Z to fission fragments over a wide range of energies. VAMOS++ can be efficiently coupled with a large variety of g-ray and charged particle detector arrays. The program at VAMOS++ exploits stable and radioactive ion beams, using prompt and delayed g rays and charged particles produced in a few nucleon/multi nucleon transfer reactions and fission processes.
In this talk after an introduction to the facility, we will focus on some aspects of these investigations, using stable beams at VAMOS++, to explore the evolution of nuclear structure at high spin - isospin and the quest for the production and characterizing of nuclei around N=126 exploiting fission and
multi-nucleon transfer processes respectively.

Experimental study on nuclear physics

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