

Gamma-ray spectroscopy at GANIL

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The EXOGAM array is a high efficiency germanium-array installed at GANIL since 2001. It is heavily used to study the structure of exotic nuclei produced in heavy-ion induced reactions. Most of the time, the array is coupled to other ancillary detectors, and in particular to the VAMOS large acceptance spectrometer. Another key setup is the combination of EXOGAM, the Neutron Wall –a large array of liquid scintillator to measure neutrons- and DIAMANT, a light-charged particle CsI multidetector.

In this talk some examples of studies of neutron-rich nuclei around ^{68}Ni performed with VAMOS will be shown. This includes some lifetime measurements as well as the combined prompt and delayed gamma-ray spectroscopy of nuclei produced in deep-inelastic reactions. The coupling of EXOGAM with the Neutron wall and DIAMANT is designed to study neutron deficient nuclei. This has been done in the region below ^{100}Sn , for N~Z nuclei located close to the proton line. The results obtained for the self-conjugate N=Z=46, ^{92}Pd seem to underline the role of the isoscalar T=0 neutron-proton pairing in the profound modification of the low-lying level scheme. As a by-product, a full characterization of EXOGAM as a Compton polarimeter has been performed and the structure of ^{91}Ru has been studied in great details.

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