Approaching new limits in exploiting reactions around the Coulomb barrier at GANIL

A. Navin
***G**rand **A**ccélérateur **N**ational d'**I**ons **L**ourds, CEA/DSM - CNRS/IN^{2}P^3, Caen, France*
email:navin@ganil.fr

The quest for signatures of simple patterns in nuclei will continue, aided by the next generation in-flight and reaccelerated radioactive ion beam facilities. The presentation will focus on recent advances in measuring and understanding signals in exotic-nuclei far from the valley of stability. The results presented will highlight new limits reached in exploiting heavy stable beams and reaccelerated, high intensity radioactive ion beams combined with a versatile range of detectors available at GANIL, to study various processes at energies around the Coulomb barrier. These will address a variety of physics issues including tunneling of composite objects, interactions involving borromean nuclei, presence of exotic deformed shapes near a shell closure. Avenues opened in the study of isotopically identified fission fragments spectroscopy will also be discussed. Status of planned upgrades for exploiting the present facility and the path towards SPIRAL2 will also be briefly presented.