

Particle Spectroscopy with radioactive beams

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ABSTRACT

Future facilities at GANIL, ISOLDE and GSI will give the opportunity to study nuclei well away from stability. Part of the physics program will be briefly discussed. To utilize the radioactive beam we are developing instrumentation for particle spectroscopy measurements in inverse kinematics. The tools are planned to cover large solid angles with angular, mass, charge and energy resolutions for light ion target ($1\text{-}^3\text{H}$, $3\text{-}^4\text{He}$) ejectiles. Two class of instruments will be discussed based on (i) Double Sided Si telescopes coupled to gamma arrays as well as (ii) novel active targets where H or He gas is both the target and detector. Such instrumentation require large number of channels (10-20K channels) placed in a compact topology making it necessary to introduce new and generic instrumentation solutions for nuclear physics.