

Abstract Submitted
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GODDESS: Gamma arrays and ORRUBA: Dual Detectors for Experimental Structure Studies at FRIB and ReA¹ S.D. PAIN, ORNL, JOLIE CIZEWSKI, A. LEPAILLEUR, D. WALTER, Rutgers Univ, A. RATKIEWICZ, LLNL, GODDESS COLLABORATION — With the Facility for Rare Isotope Beams (FRIB) there will be a plethora of opportunities to study transfer reactions on unstable nuclei including those away from shell closures. The Oak Ridge Rutgers University Barrel Array (ORRUBA) is a compact array of position-sensitive silicon-strip detectors that has been exploited to measure charged-particle reactions with beams of rare isotopes up to $A=134$. ORRUBA can be configured to cover the most important angles needed to measure angular distributions of light reaction particles and deduce spectroscopic factors. $(d,p\gamma)$ measurements with GODDESS can also be used to deduce cross sections for neutron capture with the surrogate method. The compact nature of ORRUBA facilitates coupling to arrays of gamma-ray detectors including Gammasphere and GRETINA and the Hybrid Array of Gamma-Ray Detectors (HAGRiD) currently being developed. ORRUBA has also been successfully coupled to heavy recoil magnetic spectrometers such as the S800. This talk will present preliminary results from the first GODDESS campaign [1] and highlight prospects for deploying GODDESS at FRIB and ReA.
1. S.D. Pain et al., Phys. Procedia 90, 455 (2017).

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