

Abstract Submitted
for the HAW14 Meeting of
The American Physical Society

The Particle-Gamma Detector GODDESS A. RATKIEWICZ, J.A. CIZEWSKI, T. BAUGHER, S. BURCHER, S. HARDY, S. LONSDALE, C. SHAND, Rutgers, S.D. PAIN, I. MARSH, ORNL, K.L. JONES, W.A. PETERS, UTK, M.P. CARPENTER, D. SEWERYNIAK, S. ZHU, ANL, R.L. KOZUB, TTU, L. AFANASIEVA, J.C. BLACKMON, LSU — Transfer reactions in inverse kinematics provide a powerful probe of the single-particle structure of nuclei far from stability. The Californium Rare Isotope Breeder (CARIBU) at ATLAS produces exotic nuclei near possible r -process paths and makes them available for study. Gammasphere ORRUBA: Dual Detectors for Experimental Structure Studies (GODDESS) employs the large internal geometry of the high-resolution γ -ray detector Gammasphere to instrument the large-area position-sensitive particle detector ORRUBA. This coupling of Gammasphere and ORRUBA allows high-efficiency, high-resolution measurements of surrogate reactions for neutron capture, collective excitations via inelastic scattering, pickup reactions (such as (d,t)), and stripping reactions (e.g. (d,p)). Results from commissioning measurements and plans for future experiments will be presented. This work is supported in part by the U.S. Department of Energy and the National Science Foundation.

Andrew Ratkiewicz
Rutgers

Date submitted: 30 Jun 2014

Electronic form version 1.4