Abstract Submitted
for the DNP15 Meeting of
The American Physical Society

Development of a high-rate ion counter for particle identification with GODDESS TRAVIS BAUGHER, J.A. CIZEWSKI, A. RATKIEWICZ, Rutgers University, M. FEBBRARO, S.D. PAIN, ORNL, K.L. JONES, K. SMITH, UTK — Transfer reactions in inverse kinematics can provide a wealth of data on the structure of exotic nuclei. Gammasphere-ORRUBA Dual Detectors for Experimental Structure Studies (GODDESS) consists of the Oak Ridge-Rutgers University Barrel Array (ORRUBA) of position-sensitive silicon detectors placed inside the Gammasphere target chamber. GODDESS enables particle-gamma coincidence measurements to be performed for inelastic, stripping and pickup reactions with high resolution and high efficiency. Experiments performed in inverse kinematics result in heavy-ion recoils at very forward angles. Detecting and identifying these recoils with high efficiency and low dead time is crucial for experiments, in particular experiments with contaminated beams. An ionization chamber has been incorporated into the GODDESS setup to count and identify recoiling heavy ions. The gas-filled, gridded ionization chamber was developed, built and tested at Oak Ridge National Laboratory and with first in-beam tests during the GODDESS commissioning experiment at Argonne National Laboratory. Preliminary results will be presented. This work was supported in part by the U.S. Department of Energy and National Science Foundation.

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Date submitted: 01 Jul 2015 Electronic form version 1.4