

Abstract Submitted
for the DNP15 Meeting of
The American Physical Society

The GODDESS ionization chamber: developing robust windows

ROSE BLANCHARD, Ursinus Coll, TRAVIS BAUGHER, JOLIE CIZEWSKI, Rutgers University, STEVEN PAIN, Oak Ridge National Laboratory, ANDREW RATKIEWICZ, Rutgers University, GODDESS COLLABORATION — Reaction studies of nuclei far from stability require high-efficiency arrays of detectors and the ability to identify beam-like particles, especially when the beam is a cocktail beam. The Gammasphere ORRUBA Dual Detectors for Experimental Structure Studies (GODDESS) is made up of the Oak Ridge-Rutgers University Barrel Array (ORRUBA) of silicon detectors for charged particles inside of the gamma-ray detector array Gammasphere. A high-rate ionization chamber is being developed to identify beam-like particles. Consisting of twenty-one alternating anode and cathode grids, the ionization chamber sits downstream of the target chamber and is used to measure the energy loss of recoiling ions. A critical component of the system is a thin and robust mylar window which serves to separate the gas-filled ionization chamber from the vacuum of the target chamber with minimal energy loss. After construction, windows were tested to assure that they would not break below the required pressure, causing harm to the wire grids. This presentation will summarize the status of the ionization chamber and the results of the first tests with beams. This work is supported in part by the U.S. Department of Energy and National Science Foundation.

Rose Blanchard
Ursinus Coll

Date submitted: 29 Jul 2015

Electronic form version 1.4