

Abstract Submitted
for the DNP12 Meeting of
The American Physical Society

GRETINA commissioning and engineering run resolution analysis THOMAS TARLOW, CON BEAUSANG, TIM ROSS, RICHARD HUGHES, KRISTEN GELL, ERIN GOOD, University of Richmond — GRETINA, the first stage in the full Gamma Ray Energy Tracking Array (GRETA), consists of seven modules covering approximately 1 solid angle. Each module is made up of four large, highly-segmented germanium detectors capable of measuring the interaction points of individual gamma-rays. GRETINA has recently been assembled and commissioned in LBNL via a series of engineering and commissioning runs. Here we report on an analysis of data from the first engineering run (ER01) which was intended to probe the response of the data acquisition system to high multiplicity gamma-ray cascades. For this experiment the $^{122}\text{Sn}(^{40}\text{Ar}, 4n)$ reaction at a beam energy of 210 MeV was utilized to populate high spin states in ^{158}Er . A variety of beam currents, targets and trigger conditions were utilized to test the acquisition. Here we report on the measured energy resolution, both with calibration and in-beam sources as well as a gamma-gamma coincidence analysis to confirm the known level scheme and the capability of the data acquisition system for high fold coincidence measurements. This work was partly supported by the US Department of Energy via grant numbers DE-FG52-09NA29454 and DE-FG02-05-ER41379.

Thomas Tarlow
University of Richmond

Date submitted: 03 Aug 2012

Electronic form version 1.4