

Abstract Submitted
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Characterization of Bismuth Germanate Detectors for Reaction Studies A. CARLS, R.L. KOZUB, Tennessee Technological University, K.A. CHIPPS, S.D. PAIN, ORNL, D. HERTZ-KINTISH, Rutgers University, P. THOMPSON, University of Tennessee-Knoxville, D. WADDELL, North Carolina A&T — Nuclear reactions utilizing radioactive ion beams emit particles and electromagnetic radiation that can provide useful information about reaction mechanisms, nuclear structure, and nuclear astrophysics. Owing to their high density and high Z, Bismuth Germanate (BGO) detectors are used in γ -ray decay studies where high efficiency is required. An array of such detectors will be used for future γ -ray studies with the new gas jet target JENSA¹ (Jet Experiments in Nuclear Structure and Astrophysics), and the properties of each detector must be well known to better understand the data collected with them. Using the γ -ray sources ¹³⁷Cs and ⁶⁰Co along with background radiation, several BGO detectors were characterized by measuring their resolutions and efficiencies as functions of distance between source and detector. A detailed description of the procedure and results will be presented. This work is supported in part by the U.S. Department of Energy and the National Science Foundation.

¹K. A. Chipps et al., Nucl. Instr. Meth. Phys. Res. A 763, 553 (2014).

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