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**Preamp Testing for GODDESS** A. ENGELHARDT, R.L. KOZUB, Tennessee Technological University, S.D. PAIN, ORNL, A. RATKIEWICZ, Rutgers University — In nucleon transfer reactions, measurement of charged ejectiles alone is often inadequate for resolving closely spaced energy levels. However, by detecting  $\gamma$  rays in coincidence with identified light ejectiles and heavy recoils, energies and angular distributions can be measured for individual final states. The Gammasphere ORRUBA Dual Detectors for Experimental Structure Studies (GODDESS)<sup>1</sup> is designed for this purpose. The ORRUBA silicon strip detector array is used for the charged-particle measurements and requires 720 working channels and preamp chips to process the signals. The preamps were tested by placing one of the silicon detectors in a vacuum chamber with a <sup>244</sup>Cm source. A preamp box containing 72 channels and chips, located outside the chamber and connected to the detector via vacuum feedthroughs, was used to test both the box's functionality and the quality of the chips. Cooling fans were placed at various positions on the preamp box and testing was performed to determine the configuration of fans that contributed minimal noise and optimal cooling. Details of the testing procedures and results will be presented. Research supported by the U.S. Department of Energy.

<sup>1</sup>A. Ratkiewicz et al., AIP Conf. Proc. 1525, 487-491 (2013) and references therein.

Raymond Kozub  
Tennessee Technological University

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