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Gamma Ray Spectroscopy and SASSYER BENJAMIN PAUERSTEIN, CAIN BONNIWELL, J.M. ALLMOND, C.W. BEAUSANG, University of Richmond, UNIVERSITY OF RICHMOND COLLABORATION, LAWRENCE BERKELEY NATIONAL LAB COLLABORATION, LAWRENCE LIVERMORE NATIONAL LAB COLLABORATION — An experiment was performed to study the Gd and Tb nuclei resulting from a 27 MeV proton beam on a ^{156}Gd target. This was conducted at Lawrence Berkeley National Laboratory using the STARS/LIBERACE array. The main focus of the experiment was on charged particle channels (p,d) into ^{155}Gd and (p,t) into ^{154}Gd . However, the trigger was either gamma-gamma or particle-gamma so new data was also obtained on ^{155}Tb nuclei following fusion evaporation reactions. Preliminary analysis was conducted at Wright Nuclear Structure Lab where RADWARE programs were used to analyze the data and search for unknown gamma rays. A second, separate, experiment was conducted using the SASSYER (a gas-filled separator at Yale). In this experiment, fission fragments from a ^{252}Cf source were focused to a DSSD and a Ge detector was used to search for either gamma-decay from long lived isomers in the fission fragments or to find gammas from recoil-beta-decay tagging on the fission fragments. The data collection seems to have gone smoothly, and the data is currently being sorted for analysis. This work was supported by the US Department of Energy under grant numbers DE-FG02-52NA26206 and DE-FG02-05ER41379.

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