Abstract Submitted
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Study of the deformed beta delayed neutron precursor ^{106}Nb with the new neutron tracking detector.[1] S. NEUPANE, R. GRZYWACZ, J. HEIDEMAN, K. SIEGL, M. COOPER, University of Tennessee, M. RAJABALI, Tennessee Technological University, K. RYKACZEWSKI, B. RASOCO, N. BREWER, D. STRACENER, P. SHUAI, Oak Ridge National Laboratory, J. BLACKMON, T. RULAND, Louisiana State University, M. KARNY, A. FIJALKOWSKA, M. WOLISKA-CICHOCKA, M. STEPANIUK, University of Warsaw, J. CLARK, D. SANTIAGO-GONZALEZ, G. SAVARD, Argonne National Laboratory — The neutron energy spectrum measurement of the deformed beta-delayed neutron precursor ^{106}Nb has been performed for the first time at Argonne National Laboratory using beams from the CARIBU facility. Neutron emission from the beta decay of implanted ^{106}Nb ions was measured with the recently developed neutron detector array called NEXT (Neutron Detector with Xn Tracking). The neutron tracking capability of NEXT provides a significant improvement in energy resolution in neutron time-of-flight measurements. The high intrinsic detection efficiency of NEXT is essential to study decays of neutron-rich nuclei, which are beta-delayed neutron precursors. The results of this measurement and future plans to measure nuclei in this region at CARIBU will be presented.

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