

Abstract Submitted
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Beta-Delayed Neutron Spectroscopy of Deformed Rubidium Isotopes with VANDLE¹ THOMAS KING, University of Tennessee, ROBERT GRZYWACZ, KRZYSZTOF RYKACZEWSKI, DAN STRACENER, ORNL, ALEKSANDRA FIJAKOWSKA, Rutgers University, VANDLE COLLABORATION — Beta-delayed neutron emission becomes an important or even the dominant the decay mode for many neutron-rich isotopes. The neutron emission after beta decay is often followed by, or competes with, the gamma-ray transformation. Therefore, the detection system needs to be optimized for simultaneous measurements of neutrons and gammas. A measurement of the complete decay pattern provides information necessary to extract the beta-strength distribution, which is sensitive to the nuclear structure of the involved nuclei. A series of measurements was performed at the On-Line Test Facility at Oak Ridge National Laboratory with the Versatile Array of Neutron Detectors at Low Energy (VANDLE). These experiments revisited decays of nuclei produced in proton induced fission of ²³⁸U. Unique data sets with neutron and gamma ray coincidences were collected. Achieving high coincidence efficiency required the addition of high-efficiency gamma-ray detectors consisting of LaBr₃ (HARGiD) and NaI to VANDLE. Preliminary results on the decay of ⁹⁷Rb will be presented.

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