

Abstract Submitted
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Efficiency Measurement of VANDLE Modules¹ WILLIAM PETERS, C. MATEI, Oak Ridge Associated Universities, J.A. CIZEWSKI, P.D. O'MALLEY, I. SPASSOVA, Rutgers University, D. BARDAYAN, Oak Ridge National Laboratory, J.C. BLACKMON, Louisiana State University, C. BRUNE, T. MASSEY, Ohio University, R.K. GRZYWACZ, M. MADURGA, University of Tennessee, F. SARAZIN, F. RAIOLA, Colorado School of Mines — The Versatile Array of Neutron Detectors at Low Energy (VANDLE) is a new array of plastic scintillator bars being developed at the Holifield Radioactive Ion Beam Facility (HRIBF) at Oak Ridge National Laboratory (ORNL). The modular design enables optimization of different configurations for particular experiments, such as (d,n) and beta-delayed neutron-decay experiments, with rare ion beams. Two prototype modules were moved to the Edwards Accelerator Laboratory at Ohio University to measure their efficiency using a calibrated $^{27}\text{Al}(d,n)$ reaction as a neutron source. Results show that one bar with a cross section of $3\times 3\text{ cm}^2$ is over 25% efficient to neutrons around 1 MeV with sensitivity down to 100 keV neutrons. Other design features such as wrapping and coupling will be presented, as well as results from resolution tests.

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William Peters
Oak Ridge Associated Universities

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