Abstract Submitted
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Digital Data Acquisition for the Low Energy Neutron Array (LENDA) at NSCL[1] MATTHEW SOLT, Oakland University, REMCO ZEGERS, SHUMPEI NOJI, CHRIS SULLIVAN, MICHAEL SCOTT, SEAN LIDDICK, MASAKI SASANO, NSCL, Michigan State University — The Low Energy Neutron Detector Array (LENDA) is a neutron time-of-flight spectrometer developed at the National Superconducting Cyclotron Laboratory (NSCL) for use in inverse kinematics experiments with rare isotope beams at intermediate energies (>100MeV/u) [1]. Consisting of 24 plastic scintillators, LENDA is capable of measuring the energy and angle of recoiled neutrons with high detection efficiency. It was first used in an inverse-kinematics 56Ni(p,n) experiment at 110 MeV/u [2]. In this project, we implemented a digital data acquisition system (DDAS) in LENDA, which was originally developed for germanium detectors [3]. The digital acquisition system will provide easier setup which in turn will allow for easier addition of bars in the future. We studied the detection threshold and linearity of the DDAS using gamma-ray sources of 22Na and 241Am. We also performed TOF measurement of neutrons from a 252Cf fission source. In this presentation, we will report the results from the source tests.

[1] G. Perdikakis, et al., NIMA 686 (2012) 117.
[2] M. Sasano, et al., PRL 107, 202501 (2011).
[3] K. Starosta, et al., NIMA 610 (2009) 700.

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