Abstract Submitted
for the APR11 Meeting of
The American Physical Society

Construction and testing of the Large multi-Institutional Scintillator Array (LISA) - a model of collaborative undergraduate research[1]
WARREN ROGERS, Westmont College, MONA COLLABORATION — The Large-area multi-Institutional Scintillator Array (LISA) will detect high-energy neutrons in experiments with fast rare isotopes at the National Superconducting Cyclotron Laboratory at Michigan State University, allowing for the study of unbound nuclei as well and many unknown higher-lying unbound states in light neutron-rich nuclei (Z <9). Nine primarily undergraduate institutions designed and proposed the array, and several undergraduate students constructed the 144 plastic scintillator detectors that make up the highly efficient large-area array. LISA is designed to be used in conjunction with the Modular Neutron Array (MoNA) (also constructed by undergraduate students), and the two are planned for use in the future Facility for Rare Isotope Beams (FRIB) at MSU. The construction process and characteristics of the detectors will be presented, as well as results from several measurements made by the undergraduate students before shipping the detectors to NSCL for assembly into the array, including cosmic muon measurements, light attenuation measurements, and 2-dimensional gamma ray angular distribution mapping, among others.

[1]Work Supported by the National Science Foundation

Warren Rogers
Westmont College

Date submitted: 14 Jan 2011 Electronic form version 1.4