Abstract Submitted
for the DNP06 Meeting of
The American Physical Society

Cosmic Muon Flux Variations Using the Modular Neutron Array[1] EVAN MOSBY, SHEA MOSBY, JAMIE GILLETTE, MALINDA REESE, WARREN F. ROGERS, Westmont College, MONA COLLABORATION — We've developed an acquisition and analysis package for the Modular Neutron Array (MoNA), located at the National Superconducting Cyclotron Laboratory (NSCL), for offline monitoring of angular and temporal variations of cosmic muon flux in the sky. The Cosmic Muon Detector Array (CMDA), a device developed by undergraduate students at Westmont College, was modeled after MoNA for use in cosmic muon flux measurements. Much of the analysis routines for the CMDA were adapted for use in MoNA. Because of MoNA's larger and more numerous detectors, it is capable of gathering much better statistics in shorter time compared with the CMDA. The top and bottom layers of MoNA are used to optically image the muon distribution in the sky with the help Tcl scripts, which also apply optical corrections for angular efficiency of the array. Long term variations in cosmic flux anisotropies, as well as data binned into the 24 solar and sidereal hours are monitored, and compared with results from the CMDA. Results will be presented.

[1]Work supported by National Science Foundation grant PHY0502010

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Date submitted: 11 Aug 2006 Electronic form version 1.4