Abstract Submitted for the DNP07 Meeting of The American Physical Society

Search for Upward Cosmic Rays EDWARD WHITE, University of Notre Dame, NSCL, ARTEMIS SPYROU, MICHAEL THOENNESSEN, NSCL, TOVA YOAST-HULL, Kenyon College, NSCL, MONA COLLABORATION — The Modular Neutron Array, or MoNA, is a detector located at the NSCL that consists of 144 individual scintillator modules. MoNA is designed to detect fast neutrons, and because plastic scintillators were chosen for the detector, MoNA is also capable of detecting cosmic ray muons. Data taken from the muon detection is typically used for calibration purposes, however, at the same time the angular distribution of cosmic ray muons can be measured. The angular distribution of cosmic rays muons is known to be proportional to  $\cos^2(\theta)$ , measured from the zenith. However, this only applies to angles less than 90  $^{\circ}$ . Events at larger angles have been observed at large underground detectors with intensities reduced by several orders of magnitudes. These events are attributed to cosmic ray neutrinos and show an almost flat angular distribution. MoNA is not sensitive to these events. However, we did observe events at angles larger than 90 $^{\circ}$ . The intensity decreases with increasing angles. The origin of these events is not understood, however, before any conclusions can be drawn, all possible sources of background or random coincidences have to be excluded. Work supported by NSF grants (PHY-0606007. PHY-0243709).

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Date submitted: 03 Aug 2007

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