

Abstract Submitted
for the DNP08 Meeting of
The American Physical Society

Measuring Atmospheric Neutrinos at the Sudbury Neutrino Observatory THOMAS WALKER, Massachusetts Institute of Technology, SUDBURY NEUTRINO OBSERVATORY COLLABORATION — While the Sudbury Neutrino Observatory was designed to detect low energy solar neutrinos, it can also track high energy muons from cosmic ray showers and atmospheric neutrino interactions. Because of SNO's great depth and flat overburden, the cosmic ray muon flux is negligible unless the muons are traveling at a relatively steep angle (zenith angle less than 66 degrees). This means that neutrino-induced muons can be observed both above and below the horizon. The neutrinos from below the horizon will have undergone oscillations, while the neutrinos from above will not. This unique sample of unoscillated neutrinos will allow SNO to constrain the flux of high energy atmospheric neutrinos in addition to extracting oscillation parameters. This talk will describe SNO's measurements of the atmospheric muon neutrino flux, oscillation parameters, and the flux of cosmic ray muons at a depth of 6000 meters water equivalent using the entire SNO dataset.

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Date submitted: 29 Jun 2008

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