

Abstract Submitted
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Optical Properties Measurements of Linear Alkylbenzene

CHARLES TAYLOR, Idaho State University, SNO+ COLLABORATION¹ — Building on the success of the Sudbury Neutrino Observatory (SNO) experiment, the SNO+ collaboration is planning to replace the inner heavy-water volume with a liquid scintillator called linear alkylbenzene (LAB). Using the existing array of 9600 PMTs together with a lower energy threshold and higher light yield will allow SNO+ to probe new physics. Located in SNOLAB, currently the deepest underground lab in the world, SNO+ aims to have unique capabilities including detection of pep and CNO solar neutrinos. Complementing the solar neutrino programme, SNO+ will also offer competitive sensitivity on a relatively short time scale to neutrinoless double-beta decay with the addition of neodymium (Nd) to the target volume. The optical properties of LAB are currently under investigation. ISU has built a setup to measure the absorption over two meters, and also to measure the perpendicular scattering at intervals along the two-meter length. Geometry corrections will be made and the results will be compared to Monte Carlo simulations.

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