Abstract Submitted
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A Radioactive Source Calibration System For The SBND JONATHAN ECHEVERS, Illinois Inst of Tech — The Short Baseline Neutrino (SBN) physics program consists of three LArTPC detectors located along the Booster Neutrino Beam (BNB) at Fermilab. The SBN program seeks to resolve a class of experimental anomalies in neutrino physics and to perform the most sensitive search to date for sterile neutrinos. While studies of detector response to high energy events have begun, there has been little to no direct demonstration of LArTPCs capabilities in producing ground breaking physics with solar and supernovae low-energy neutrinos. We aim to facilitate the development of low-energy LArTPC capabilities by developing the first 1-10 MeV deleted calibration subsystems for large LArTPCs. In this talk, I will introduce the properties of supernova neutrinos, discuss how they can be detected in LArTPCs, and overview the low-energy LArTPC calibration source conceptual designs we are developing at IIT.

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