

Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Scintillation Light Background Discrimination in the SBND Experiment COLTON HILL, ANDRZEJ SZELC, DIEGO GARCIA-GAMEZ, The University of Manchester — SBND is a liquid argon detector being constructed along the Fermilab Booster Neutrino Beamline. As a part of the Short Baseline Neutrino Program, it will attempt to resolve the MiniBooNE low energy excess hinting at possible oscillations into sterile neutrinos. SBND will install a light detection system with a much higher expected light yield than previous argon neutrino experiments. This will enable scintillation light to play a key role in measuring the properties of neutrinos, and improve the sensitivity to interesting low energy physics such as supernova neutrinos or nucleon decay. A challenge for low energy measurements in large liquid argon detectors is the contribution from ^{39}Ar , which being present in atmospheric argon, provides a steady source of scintillation light. I will present studies to develop methods of reducing the impact of ^{39}Ar backgrounds while maintaining sensitivity to low energy physics signals.

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Date submitted: 27 Sep 2016

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