Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

Identification of the Neutral Current Interaction of Neutrinos in Liquid Argon Detectors ALISON ROETH, University of Oklahoma — The neutral current interaction can occur between any flavor of neutrino and argon. In one possible interaction channel, the neutrino excites the argon nucleus, which then decays via a gamma ray of approximately 10 MeV. In order to identify this interaction in liquid argon detectors, these gamma rays must be differentiated from other particles of similar energies. Gamma rays and electrons of 10 MeV were simulated and reconstructed using the "LArSoft" software package models of liquid argon time projection chambers. The reconstructed products were analyzed spatially to study differentiation of gamma rays from electrons and ability to identify the neutral current interaction.

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Date submitted: 21 Jul 2016 Electronic form version 1.4