Contribution ID: **258** Type: **Poster**

Improved Neutrino Energy Estimation in Neutral Current Interactions with Liquid Argon Time Projection Chambers

Large liquid argon time projection chambers (LAr TPCs) at SBN and DUNE will provide an unprecedented amount of information about GeV-scale neutrino interactions. By taking advantage of the excellent tracking and calorimetric performance of LAr TPCs, we present a novel method for estimating the neutrino energy in neutral current interactions that significantly improves upon conventional methods in terms of energy resolution and bias. We present a toy study exploring the application of this new method to the sterile neutrino search at SBN under a 3+1 model.

Working group

Primary authors: FURMANSKI, Andrew (University of Minnesota); HILGENBERG, Christopher (University of Minnesota)

Presenters: FURMANSKI, Andrew (University of Minnesota); HILGENBERG, Christopher (University of Minnesota)

Session Classification: Poster session NB: do not use Safari; use Firefox, Chrome or Edge