Contribution ID: **112** Type: **Poster**

Measurement of double-differential cross sections for mesonless charged-current neutrino scattering on argon with MicroBooNE

Monday, 1 August 2022 19:00 (40 minutes)

The MicroBooNE liquid argon time projection chamber (LArTPC) experiment is pursuing a broad range of neutrino physics measurements, including some of the first high-statistics results for neutrino-argon scattering cross sections. At the neutrino energies relevant for MicroBooNE and its companion experiments in the Fermilab Short-Baseline Neutrino program, the dominant event topology involves mesonless final states containing one or more protons. A complete description of these events requires modeling the contributions of quasielastic and two-particle two-hole neutrino interactions as well as more inelastic reaction modes in which final-state mesons are reabsorbed by the residual nucleus. Refinements to the current understanding of these processes, informed by new neutrino cross-section data, will enable a precise and reliable interpretation of future measurements of neutrino oscillations and searches for exotic physics processes involving neutrinos. This poster presents the first double-differential cross-section results from MicroBooNE for mesonless charged-current scattering of muon neutrinos on argon.

Attendance type

In-person presentation

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