



Contribution ID: 435

Type: **Poster**

Recent MicroBooNE cross-section results: neutrino-induced baryon production

Friday, 8 July 2022 20:10 (20 minutes)

The MicroBooNE detector is a liquid argon time projection chamber (LArTPC) which recently finished recording neutrinos from both the Booster Neutrino Beam and the Neutrinos at the Main Injector beam at Fermilab. One of the primary physics goals of MicroBooNE is to make detailed measurements of neutrino-argon scattering cross sections, which are critical for the success of future neutrino oscillation experiments. At neutrino energies relevant for the Short-Baseline Neutrino program, the most plentiful event topology involves mesonless final states containing one or more protons. A low reconstruction threshold enabled by LArTPC technology has allowed MicroBooNE to pursue a number of analyses studying neutrino-induced proton production. In this talk, we present several recent cross-section measurements of this reaction mode for both muon and electron neutrinos. The results include MicroBooNE's first measurements of differential cross sections involving transverse kinematic imbalance and two-proton final states. A first look at lambda baryon production in neutrino-argon scattering is also presented.

In-person participation

Yes

Primary authors: GARDINER, Steven (Fermilab); DIURBA, Richard**Presenter:** DIURBA, Richard**Session Classification:** Poster Session**Track Classification:** Neutrino Physics