

Neutrino Scattering Studies in MicroBooNE

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A good understanding of the cross sections for neutrino interactions with nucleons and nuclei is crucial for neutrino oscillation studies, in addition to providing a tool for the exploration of nucleon and nuclear structures. The MicroBooNE liquid-argon time-projection-chamber (LArTPC) experiment has been taking neutrino data with the Booster Neutrino Beam at Fermilab since 2015. The LArTPC capabilities in track reconstruction, energy measurement, and particle identification allow us to probe interesting regions of neutrino-argon scattering cross sections and to probe the quark composition of the nucleon and test models of nuclear structure and final-state interactions. We present the current status of several on-going MicroBooNE cross section analyses, as well as plans for future measurements.

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