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Type: **Poster**

Constraining Systematic Uncertainties for the Electron Neutrino Search at MicroBooNE

MicroBooNE, a liquid argon projection chamber (LArTPC) experiment at Fermilab, is designed to investigate the anomalous excess in the electron neutrino event spectrum observed by the MiniBooNE experiment. MicroBooNE runs in the same booster neutrino beamline as MiniBooNE and is located at a baseline of 470 m. To achieve the level of sensitivity to probe this low energy excess, it is necessary to ensure a significant reduction of uncertainties related to the expected neutrino energy spectrum. This poster will outline the strategy to constrain the systematic uncertainties in electron neutrino modeling using a high-statistics muon neutrino sample. It will also discuss the different sources of systematic uncertainties, the constraint approach that accounts for known correlations between different electron final-states and muon neutrino fluxes and cross-sections, and the implementation of the constraint to improve the sensitivity.

Mini-abstract

Multiple neutrino selections constrain systematics for the Electron Neutrino Search at MicroBooNE

Experiment/Collaboration

MicroBooNE

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