Contribution ID: **20** Type: **Talk**

Search for an Anomalous Excess of Electron Neutrino Interactions in MicroBooNE and New Constraints on eV-Scale Sterile Neutrinos

Tuesday, 2 August 2022 16:00 (30 minutes)

The MicroBooNE collaboration recently released a series of measurements aimed at investigating the nature of the excess of low energy electromagnetic interactions observed by the MiniBooNE collaboration. In the talk, we will present the results on the search for an anomalous excess of electron neutrino events. This search was performed leveraging three independent analyses which target different charged current electron neutrino final-state topologies. The talk will include details on event selection, background estimation, systematic analysis and cross-checks. We additionally will highlight new results that use these well understood charged-current electron neutrino and muon neutrino event selections to perform a search of an eV scale sterile neutrino in the full 3+1 oscillation framework. Constraints will be presented for regions of sterile neutrino parameter space relevant to the Gallium ν_e disappearance anomaly and LSND/MiniBooNE ν_e appearance anomalies.

Attendance type

In-person presentation

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