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A Charged-Current Muon-Neutrino Veto for the Inclusive Electron-Neutrino Analysis in MicroBooNE

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One of the main goals for the MicroBooNE detector at Fermilab is to investigate the “low energy excess” (LEE) of electromagnetic events observed by the MiniBooNE experiment. MicroBooNE uses the Fermilab Booster Neutrino Beamline as its neutrino source. Muon neutrinos dominate this beam, with only ~0.5% of the composition being electron neutrinos. To achieve the high purity electron neutrino selection needed to understand the nature of the MiniBooNE result, the muon neutrino background must be significantly reduced. This talk presents methods to identify and therefore veto charged-current muon neutrino events in MicroBooNE, as well as progress from ongoing LEE analyses using this veto.

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