

30th International Symposium on Lepton Photon Interactions at High Energies



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First results from the MicroBooNE search for a low energy excess

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The MicroBooNE experiment is performing a series of measurements to address the nature of the excess of low energy electromagnetic interactions observed by the MiniBooNE collaboration. One analysis looks for neutrino-induced neutral current (NC) resonant $\Delta(1232)$ baryon production followed by Δ radiative decay from the Fermilab Booster neutrino beam, while three others look for electron neutrino interactions from the Fermilab Booster neutrino beam. In the talk, we will present the latest results on the searches for (1) neutral current resonant $\Delta \rightarrow N(\gamma)$ decay and (2) an anomalous excess of electron neutrino events in multiple single electron final states. The talk will include details on event selection, background estimation, systematic analysis and cross-checks to demonstrate the robustness of analysis.

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