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Neutrino-argon cross-section measurements from the MicroBooNE experiment

MicroBooNE is a liquid argon time projection chamber (LArTPC) neutrino detector located along the Fermilab Booster Neutrino Beam and 8 degrees off-axis to the Neutrinos at the Main Injector beam. MicroBooNE collected data from both beams accumulating a large neutrino-argon scattering dataset with a mean neutrino energy of approximately 0.8 GeV. Understanding neutrino-argon interactions is crucial for the next generation of neutrino oscillation experiments including DUNE. MicroBooNE has developed pioneering methodologies and novel reconstruction tools in order to benchmark models at very high sensitivity across the interaction phase space, including for ultra-rare channels. This talk will give an overview of the most recent MicroBooNE neutrino interaction results. These measurements provide invaluable datasets for constraining backgrounds and improving the modelling of neutrino scattering critical for the broader LArTPC neutrino physics program.

Secondary track

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Session Classification: T03

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