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A Measurement of Neutrino Induced Charged Current Neutral Pion Production in the MicroBooNE Experiment

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MicroBooNE is a 85 tonne active mass liquid argon time projection chamber on the Booster Neutrino Beam at Fermi National Accelerator Laboratory. Studying neutral pion production in the MicroBooNE detector provides an opportunity to better understand neutrino-argon interactions, and is crucial for future accelerator-based neutrino oscillation experiments. This analysis presents the progress towards the first measurement of the differential cross section for π^0 production in neutrino-argon interactions. Using a dataset corresponding to about 7×10^{20} protons on target, we present an analysis which aims to measure
the single differential cross sections as a function of the pion and muon kinematic variables such as the momentum and the scattering angle.

Attendance type

In-person presentation

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