

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

*Monday, 1 August 2022 18:20 (40 minutes)*

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  $\pi^0$  production in neutrino-argon interactions. Using a dataset corresponding to about  $7 \times 10^{20}$  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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**Session Classification:** Reception & Poster Session

**Track Classification:** WG2: Neutrino Scattering Physics