

# Rare Searches and Pion Measurements with MicroBooNE

Friday, 21 June 2024 17:30 (2 hours)

MicroBooNE is a Liquid Argon Time Projection Chamber, able to image neutrino interactions with excellent spatial and timing resolution, enabling the identification of complex final states resulting from neutrino-nucleus interactions. This poster will provide an overview of measurements for rare final states, such as  $\Lambda$  and  $\eta$  production. These processes both provide unique sensitivities to the interplay between nucleon-level cross-section physics and nuclear-level physics, as well as account for sources of background in proton decay experiments. Furthermore, this poster showcases MicroBooNE's measurements of total and first-order differential cross-sections on argon for muon neutrino interactions producing neutral pions in the final-state. These interactions will dominate the event rates observed at forthcoming high-precision neutrino experiments.

## Poster prize

Yes

## Second affiliation

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**Presenter:** THORPE, Christopher (University of Manchester)

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