

# Low Energy Excess and New Physics Searches with MicroBooNE

*Tuesday, June 18, 2024 5:30 PM (2 hours)*

The MicroBooNE detector is a liquid argon TPC located in the Booster Neutrino Beamline at Fermilab. Leveraging the unique capabilities of the LArTPC technology to distinguish photons from electron showers, one of MicroBooNE's primary goals is to investigate MiniBooNE low energy excess (LEE), an anomalously large observed rate of events containing a single electromagnetic shower. This electromagnetic shower could be caused by electrons, photons, or electron-positron ( $e+e-$ ) pairs, which would all look very similar in the MiniBooNE Cherenkov detector, but could have distinct signatures in the MicroBooNE LArTPC. In this poster, we present an updated and new search for these signals, including searches for electron neutrino, single-photons, and  $e+e-$  pairs.

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MicroBooNE

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Yes

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**Session Classification:** Poster session and reception 1

**Track Classification:** Beyond Standard Model searches in the neutrino sector