



Contribution ID: 11

Type: **Contributed Talk**

## MicroBooNE's beyond the Standard Model physics program

*Tuesday, September 30, 2025 2:50 PM (20 minutes)*

MicroBooNE is an 85-tonne active mass liquid argon time projection chamber (LArTPC) at Fermilab. Between 2015-2021, the detector recorded neutrino interactions from the Booster Neutrino Beam (BNB) and Neutrinos at the Main Injector (NuMI) beams. MicroBooNE's capabilities for fine-grained tracking, particle identification, and calorimetry make it a powerful detector not just to explore neutrino physics, but also for Beyond the Standard Model (BSM) physics. This talk will discuss MicroBooNE's BSM program, including recently released searches for dark neutrino decay to an  $e^+e^-$  pair, dark trident processes, and heavy neutral leptons. The talk will also discuss the status of other ongoing analyses. Furthermore, we will present efforts to develop tools for BSM analyses that will also be useful for the upcoming Deep Underground Neutrino Experiment (DUNE).

### Neutrino Properties

Yes

### Neutrino Telescopes & Multi-messenger

No

### Neutrino Theory & Cosmology

No

### Data Science and Detector R&D

No

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**Session Classification:** Neutrino Physics

**Track Classification:** Neutrino Properties