Contribution ID: **829** Type: **Parallel session talk**

MicroBooNE Detector Physics Measurements and Calibrations

Friday 19 July 2024 17:00 (15 minutes)

The MicroBooNE Liquid Argon Time Projection Chamber (LArTPC) experiment was exposed to Fermilab's neutrino beamlines from 2015 to 2021. The experiment has established a rich physics program. MicroBooNE records and utilizes both the ionization charge and scintillation light produced inside the TPC to select and reconstruct its events. Crucial to the experiment's physics program is a detailed understanding of the detector's performance over time. This talk will summarize the experiment's state-of-the-art measurements of detector physics quantities such as electron lifetime, diffusion, and scintillation light yield; and describe what MicroBooNE has learned, developed and measured throughout its running. In addition, MicroBooNE has developed and demonstrated novel capabilities in sub-MeV reconstruction of wire signals and light-based nanosecond interaction timing resolution, both of which are foundational to expanding the physics reach of future LArTPC detectors.

Alternate track

I read the instructions above

Yes

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Session Classification: Neutrino Physics

Track Classification: 02. Neutrino Physics