

MicroBooNE's Search for Anomalous Single-Photon Production

Saturday 20 July 2024 11:45 (15 minutes)

The MicroBooNE experiment is an 85-ton active volume liquid argon time projection chamber (LArTPC) neutrino detector situated in the Fermilab Booster Neutrino Beam (BNB). In this talk, we will present a comprehensive overview of the experiment's investigations of the MiniBooNE Low Energy Excess in the single-photon and e^+e^- pair channels which target standard model background interpretation as well as Beyond the Standard Model (BSM) explanations alternative to 3+1 oscillation. The photon searches include a model-independent search for an inclusive photos, as well as a targeted search for neutral current coherent-like single-photon production. Moreover, we will introduce a suite of new searches aimed at exploring BSM scenarios, which investigate multiple exotic electron-positron pair production models that could be attributed to neutrinos acting as a portal to a potential "Dark Sector" of new physics.

Alternate track

I read the instructions above

Yes

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