Contribution ID: **28** Type: **not specified**

MiniBooNE in 10 Minutes

Friday, June 17, 2022 1:30 PM (15 minutes)

In this talk, I will give an overview of the MiniBooNE experiment. MiniBooNE's 818-tonne mineral oil Cherenkov detector took data at Fermilab's Booster Neutrino Beam from 2002 to 2019 in both neutrino and antineutrino mode. The most notable result from this 17-year run is an as-yet unexplained 4.8σ excess of electron-like events. This excess has historically been interpreted under the hypothesis of short-baseline $\nu_\mu(\bar{\nu}_\mu) \to \nu_e(\bar{\nu}_e)$ oscillations involving a fourth sterile neutrino state; however, tension in the global sterile neutrino picture has led the community to consider alternative explanations, typically involving photon or e^+e^- final states. I will discuss the present status of the MiniBooNE anomaly. I will also cover other important results from the MiniBooNE experiment, including neutrino cross section measurements and sub-GeV dark matter constraints.

Primary author: KAMP, Nick (MIT)

Presenter: KAMP, Nick (MIT)

Session Classification: Neutrinos