

First measurement of η production in neutrino interactions on argon with the MicroBooNE experiment

Friday 25 August 2023 15:20 (20 minutes)

The modeling of resonant neutrino interactions on argon is a critical aspect of the neutrino oscillation and beyond the standard model physics programs being carried out by the DUNE and Short Baseline Neutrino experiments. Resonant interactions are typically studied in events with pions in the final state. The measurement of η production provides a powerful new probe of resonant interactions, complementary to pion channels. This talk will present the first measurement of the flux-integrated $\nu_\mu + \text{Ar} \rightarrow \eta + x$ cross-section with the MicroBooNE experiment. How this rare signature is identified, and the implications of measuring η production for accelerator neutrino experiments more broadly will be discussed.

Primary author: Prof. CARATELLI, David (UC Santa Barbara)

Presenter: Prof. CARATELLI, David (UC Santa Barbara)

Session Classification: parallel (room#301)

Track Classification: WG2: Neutrino Scattering Physics