Contribution ID: **51** Type: **Poster**

Poster: Measurement of Nuclear Dependence in Inclusive Antineutrino Scattering with MINERvA

Wednesday, October 26, 2022 3:35 PM (5 minutes)

The MINERνA experiment was designed to perform precision studies of neutrino-nucleus scattering in the GeV regime on various nuclear targets using the high-intensity NuMI beam at Fermilab. This poster outlines the current progress on MINERνA's first inclusive charged-current analysis of antineutrino interactions on iron, lead, and water using antineutrino energy and Bjorken x. The interactions on carbon and hydrocarbon are also reported. The results use the NuMI antineutrino beam data with peak energy of approximately 6 GeV taken from 2016 to 2019. The measurements utilize events of energies $2 < \mathrm{E} < 50$ GeV. The importance of the Bjorken x variable to investigate nuclear modifications and the potential to observe short-range correlations at high x are discussed. The analysis will provide high-statistics, self-contained studies of nuclear effects and nuclear dependence, and comparisons to the current neutrino interaction generators such as GENIE.

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Session Classification: Poster under break time