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Progress of the Inclusive Muon Neutrino Charged-current Cross Section Measurement in the NOvA Near Detector

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NOvA is a long-baseline (810 km) neutrino oscillation experiment. It uses a NuMI neutrino beam from Fermilab and two mostly active, segmented, liquid scintillator off-axis detectors that offer a remarkable capability in event identification. The 293 ton Near Detector at Fermilab is to measure the unoscillated neutrino energy spectrum, which can be used to predict the neutrino energy spectrum at the 14 kton Far Detector at Ash River, MN. It provides an excellent opportunity to measure cross sections with high statistics. Improved understanding of neutrino-nucleus interactions will benefit current and future long-baseline neutrino oscillation experiments. In this talk we present an update to the progress of the measurement of the inclusive ν_μ CC cross section in the NOvA Near Detector.

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