

Abstract Submitted
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Status of the measurement of the muon antineutrino charged-current neutral-pion production differential cross-section in the NOvA near detector FAN GAO, University of Pittsburgh, NOVA COLLABORATION — NOvA is a long-baseline neutrino oscillation experiment designed to measure the muon (anti)neutrino disappearance and electron (anti)neutrino appearance in the off-axis Fermilab NuMI beam. It uses two functionally identical detectors separated by 810km and a narrow band beam centered around 2GeV. Neutral pions are a significant background to the electron (anti)neutrino appearance measurement as the photons coming from neutral pion decay may be misidentified as an (anti)neutrino appearance signal. The high statistics antineutrino mode data in the Near Detector (ND) can be used to perform a measurement of the cross-section of the muon antineutrino charged-current (CC) neutral-pion production in the resonance regime. The analysis will use a convolutional visual network (CVN) trained on simulated particles to identify neutral pions in the final state. The status of the analysis and preliminary sensitivities will be presented.

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