

Abstract Submitted
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Neutrino cross-section measurement capabilities and prospects for the DUNE gaseous argon near detector (ND-GAr) ANDREW CUDD, University of Colorado, Boulder, DUNE COLLABORATION — The DUNE near detector complex design consists of multiple detector systems to produce complementary constraints on the neutrino flux and interaction systematic uncertainties for the oscillation analysis. One of these detectors is the gaseous argon near detector (ND-GAr), which is a magnetized high-pressure gaseous argon TPC with surrounded ECAL and muon ID systems. In addition to measurements for the oscillation analysis, ND-GAr is a highly capable detector for dedicated neutrino cross-section measurements. The one ton of argon fiducial mass and high intensity neutrino beam will produce numerous neutrino interactions for high statistics measurements. The gaseous argon provides a very low energy threshold for tracking protons which will enable detailed study of the nuclear system in neutrino interactions, and the magnetic field and ECAL will provide precise reconstruction of event kinematics. This talk will present an overview of the measurement capabilities of ND-GAr and the prospects for valuable neutrino cross-section measurements.

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