

Neutrino Cross-Section Measurements in the NOvA Near Detector at Fermilab

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Current and future experiments aimed at making precision measurements of neutrino properties require better understanding of neutrino interactions with the nucleus to achieve their ultimate sensitivities. The NOvA (NuMI Off-axis ν_e Appearance) experiment is a long-baseline neutrino oscillation experiment designed to observe neutrinos in Fermilab's NuMI (Neutrinos at the Main Injector) beam. NOvA consists of two detectors, a near detector at Fermilab, and a far detector at Ash River, MN. With the most intense neutrino beam in the world, a rich spectrum of neutrino cross-section measurements are carried out with the NOvA near detector, including inclusive and exclusive measurements with $\bar{\nu}_{\mu}^{(-)}$ and $\bar{\nu}_{e}^{(-)}$. In this talk, I present progress and results of various neutrino cross-section measurements conducted by NOvA.

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