

Neutrino Scattering Measurements in the NOvA Experiment

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The NuMI Off-Axis ν_e Appearance (nova) experiment is a long-baseline neutrino oscillation experiment optimized for the measurement of $\nu_\mu \rightarrow \nu_e$ appearance. A prototype 220 ton liquid-scintillator tracking calorimeter near detector, built and operated on the surface, was exposed to the NuMI beam at Fermi National Laboratory. This detector was placed at a far off-axis angle of 106 mrad, where neutrinos above 1.5 GeV are predominantly born from kaons produced in the neutrino target. A 300 ton underground near detector, which will provide an opportunity for precise measurements of neutrino scattering off carbon nuclei, is currently under construction at Fermilab at a 14 mrad off-axis from the NuMI beam. This talk will provide an overview of the detectors and neutrino scattering analyses performed and expected in the future.

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