

Abstract Submitted
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Physics Capabilities of the NOvA Experiment MICAH GROH, Indiana Univ - Bloomington, NOVA COLLABORATION — NOvA is a two detector, long baseline neutrino oscillation experiment measuring the disappearance of muon neutrinos and anti-neutrinos and the appearance of electron neutrinos and antineutrinos in the NuMI beam from Fermi National Lab. The two detectors are liquid scintillator sampling calorimeters positioned 14.6 mrad off-axis. The near detector is located 100 m underground at Fermilab. The far detector is 14 kton and located 810 km away near Ash River, Minnesota. NOvA's main physics goals are to make measurements of the neutrino mass hierarchy, the octant of the atmospheric mixing angle, and CP violation in neutrino oscillations. Besides neutrino oscillations, NOvA has also made measurements of neutrino cross sections, cosmic rays, and other exotic phenomena. This talk will give an overview of the design of the NOvA experiment and its detectors and how they contribute to the experiment's physics goals.

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