

The NOvA Test Beam Program

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NOvA is a long-baseline neutrino oscillation experiment designed to study and measure a wide range of topics for neutrino physics, such as the neutrino mixing parameters, the neutrino mass hierarchy, and CP violation in the lepton sector. A key component of the success of the experiment is a robust understanding of the systematic uncertainties associated with detector response and calibration. To address this, NOvA has constructed a test beam experiment at the Fermilab Test Beam Facility, which has collected data from 2019 through July 2022.

The NOvA Test Beam experiment uses a scaled-down 30-ton detector to analyze tagged particles from a new tertiary beamline, which can select and identify electrons, muons, pions, kaons and protons with energies from 0.3 to 2 GeV. Using these data, the program will provide NOvA with a better understanding of the largest systematic uncertainties impacting NOvA's analyses, which include the detector response, calibration, and hadronic and electromagnetic energy resolution. In this talk, I will present the status and future plans for the NOvA Test Beam program, along with preliminary results.

Attendance type

In-person presentation

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