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The NOvA Test Beam Program

Authorship annotation

for the NOvA Collaboration

Session and Location

Wednesday Session, Poster Wall #58 (Auditorium Gallery Right)

Abstract content

NOvA is a long-baseline off-axis beam neutrino experiment at Fermilab and Ash River, Minnesota. By measuring ν_μ disappearance and ν_e appearance at the 14 kiloton NOvA Far Detector, the experiment is addressing outstanding questions in neutrino physics, including the neutrino mass hierarchy and existence of leptonic CP violation. The NOvA Test Beam program, under deployment at the Fermilab Test Beam Facility, will use a scaled-down NOvA detector to sample beams of tagged electrons, muons, pions, and protons in the momentum range of 0.3 to 2 GeV/c. It will further the NOvA physics reach by precisely measuring the detector's muon energy scale and electromagnetic and hadronic response, and provide real data for detailed studies of particle identification techniques. Ongoing efforts on beamline instrumentation, data acquisition, simulation, momentum reconstruction and particle identification are presented. Implications for the neutrino oscillation measurements are discussed.

Poster included in proceedings:

yes

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