

Pions in the NOvA Test Beam

Friday, 21 June 2024 17:30 (2 hours)

The NOvA (NuMI Off-Axis electron neutrino Appearance) experiment is a long-baseline neutrino oscillation experiment composed of two functionally identical detectors, a 300 ton Near Detector, and a 14 kton Far Detector separated by 809 km and placed 14 mrad off the axis of the NuMI neutrino beam created at Fermilab. This configuration enables NOvA's rich neutrino physics program, which includes measuring neutrino mixing parameters, determining the neutrino mass hierarchy, and probing CP violation in the leptonic sector. The NOvA Test Beam experiment deployed at Fermilab uses a scaled-down 30 ton detector to analyze tagged beamline particles. The beamline can select and identify electrons, muons, pions, kaons, and protons with momenta ranging from 0.4 to 1.8 GeV/c. Pions are an important component of the hadronic system in neutrino interactions and understanding how the detector responds to these particles is crucial. This poster will show preliminary results from studies of pion response in the NOvA Test Beam detector.

Poster prize

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