

38th INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS

AUGUST 3 - 10, 2016 CHICAGO

Contribution ID: 854

Type: Poster

Electron Detection in the Reference Near Detector for DUNE and Constraints on the Anti-electron-neutrino Normalization

Monday 8 August 2016 18:30 (2 hours)

The fine-grained tracker (FGT), the reference near detector for DUNE, is designed to provide a precise determination of the electron/positron identification, momentum, and energy. The particle identification involves measurements of the transition-radiation in the high-resolution straw tube tracker (STT) and the profile of the energy deposition in the ECAL; the momentum is determined from the track reconstruction in the STT within a dipole B-field. The talk summarizes the detector strategy for these measurements. The ability to reconstruct the electron/positrons and the hadrons from the anti-electron neutrino interactions permits an accurate determination of the anti-electron neutrino content of the beam.

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Session Classification: Poster Session

Track Classification: Detector: R&D and Performance