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Type: **Oral**

Test Beam analysis for 5mm Straw Tubes for DUNE ND-SAND at CERN

DUNE (Deep Underground Neutrino Experiment) is a future long-baseline neutrino oscillation experiment hosted by Fermilab. Neutrinos will be produced by the PIP-II accelerator at Fermilab and detected in the Liquid-Argon Far Detector, 1300km away from Fermilab in the Sanford Underground Research Facility. DUNE will also host a Near Detector Complex 574m away from the neutrino source at Fermilab, which will contain three Near Detectors —ND-LAr, TMS, and SAND. The tracking detector for SAND is based on Straw Tubes (STT) with 5 mm diameter straws. A $1.2\text{m} \times 0.8\text{m}$ STT prototype has been built to be tested using the particle beam at CERN. In this analysis, we describe a method to understand the performance of the STTs. We show that the overall resolutions are at par with the requirements for precision measurements of neutrino interaction in DUNE.

Field of contribution

Experiment

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Track Classification: Future experiments and detector development