

Precision measurements of (anti)neutrinos interactions with the SAND detector at the DUNE near site

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DUNE is a next-generation, long-baseline neutrino oscillation experiment. The System for on-Axis Neutrino Detection (SAND) is one of the three Near Detector components, permanently located on-axis. Its primary goals are to monitor the beam and to measure the neutrino flux, along with a broader physics program including precision measurements of neutrino cross-sections. This will be possible thanks to an inner liquid Argon volume and a modular, low-density target/tracker system which allows precise control over the chemical composition and mass of the (anti)neutrino targets. In this talk, the tracker performance to detect neutrino events on solid Hydrogen, its design, and its reconstruction algorithm based on an Extended Kalman Filter will be presented.

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