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# System of on-Axis Neutrino Detector

The Deep Underground Neutrino Experiment (DUNE) will be a long-baseline neutrino experiment with a Near and a Far detector. In the near detector complex, an on-axis spectrometer system called SAND (System of on-Axis Neutrino Detector) centered by a 3D projection scintillator tracker (3DST) is proposed. It will be located downstream of a liquid-argon TPC and a magnetized tracker with gaseous argon target. The system consists of 3DST, surrounded by a light density tracker, an ECAL and a superconducting magnet. The SAND will provide comprehensive measurements on a fully active scintillator target allowing beam monitoring on a timely basis and constraints on the A-dependence of neutrino interaction models. In addition, with the capability of neutron detection, we can fully reconstruct the neutrino energy, which provides new ways to analyze neutrino interactions. This poster will show different physics studies in SAND and preliminary results from 3DST prototypes.

## Mini-abstract

Studies for the DUNE near detector spectrometer: the System of on-Axis Neutrino Detector (SAND).

## Experiment/Collaboration

DUNE/SAND Collaboration

**Primary author:** SITRAKA, Andriaseta

**Presenter:** SITRAKA, Andriaseta

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