

# The 21st International Workshop on Neutrinos from Accelerators (NUFACT2019)

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## 3DST-S in the DUNE Near Detector

*Monday 26 August 2019 19:00 (2 hours)*

DUNE is a frontier experiment of long-baseline neutrino oscillation with a far detector at SURF and a near detector at FNAL. Three-Dimensional Projection Scintillator Tracker –Spectrometer (3DST-S) is a system to be included as a component detector in the near detector complex. It is placed downstream of a liquid-Ar time-projection chamber (TPC), and a high-pressure gas-Ar TPC. The 3DST-S detector consists of a 3D array of 1cm x 1cm x 1cm scintillator cubes, and is surrounded by a gas-Ar TPC, and an ECAL in a magnetic field. The combination provides comprehensive measurements on the active scintillator target to obtain the conditions on beam monitoring, as well as the constraints on Ar-neutrino interaction models. Full reconstruction of neutrino events is expected from its capability of neutron detection. In this presentation, we will introduce the 3DST physics performance and show the results of simulation studies.

### Working Group

WG1 : Neutrino Oscillation Physics

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