

# A fast lens-based imaging device for the liquid Argon target of SAND in the DUNE Near Detector Complex

Thursday 18 July 2024 20:40 (20 minutes)

SAND, System for on-Axis Neutrino Detection, will be one of the three components of the DUNE Near Detector complex and it will be placed permanently on the axis of the neutrino beam. It consists of a solenoidal magnet, an electromagnetic calorimeter, an inner Straw Tube Tracker, and finally GRAIN (GRanular Argon for Interaction of Neutrinos) a 1-ton liquid argon target, placed in the upstream part of the inner magnetized volume.

In the current design, GRAIN will be instrumented with innovative lens-based optical detectors to focus fast LAr scintillation light into a high granularity 32x32 Silicon Photo-Multiplier (SiPM) matrix.

In this talk, the preliminary design of the lens-based optical detector will be discussed, and the first results achieved with a prototype tested with an artificial point-like light source in a large liquid Argon volume in the ARTIC facility at the University of Genova will be shown.

## Alternate track

### I read the instructions above

Yes

**Author:** DI NOTO, Lea (INFN e Universita Genova (IT))

**Presenter:** DI NOTO, Lea (INFN e Universita Genova (IT))

**Session Classification:** Poster Session 1

**Track Classification:** 02. Neutrino Physics