

GRAIN: a novel liquid argon detector for imaging of neutrino interactions

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Charged particles in Liquid Argon (LAr) produce light in the Vacuum Ultraviolet range, challenging traditional optics. Current LAr particle detectors rely on drift electron signals for readout, but this method is not efficient in high event-rate scenarios. New readout methods are needed for scintillation light detection in LAr. The Near Detector complex (ND) of DUNE (Deep Underground Neutrino Experiment) will be installed at Fermilab, with the main goal of monitoring the neutrino beam and probing several neutrino properties. DUNE ND will instrument advanced detectors, including a LAr detector (GRAIN, GRanular Argon for Interactions of Neutrinos) that will perform optical readout of images to identify neutrino interaction vertices and reconstruct particle tracks. This will complement the event reconstruction made by other DUNE subdetectors while also enhancing our understanding of LAr-neutrino interactions. The GRAIN design, goals, and ongoing activities will be described in this talk.

Alternate track

1. Neutrino Physics

I read the instructions above

Yes

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