Contribution ID: **1224**   Type: **Parallel session talk**

Overview and Status of the 2x2 NDLAr Demonstrator: A Pixel-Based LArTPC Prototype for the DUNE Near Detector

Saturday 20 July 2024 17:00 (15 minutes)

The Deep Underground Neutrino Experiment (DUNE) is a future long-baseline neutrino oscillation experiment featuring a 70kT liquid argon (LAr) far detector. The near detector complex, situated at Fermilab, includes NDLAr - a LAr detector that is critical for constraining systematic uncertainties via in situ measurements to enable precision studies of neutrino oscillations. Challenging event pile-up from the world's most intense 1.2MW neutrino beam will be mitigated by combination of modularised detector approach and state-of-the-art readout technologies. True 3D pixel-based charge readout capabilities combined with high-timing resolution of the light readout will eliminate ambiguities that would otherwise arise in conventional LAr detectors. This talk will describe the novel design of the detector and its subsystems, highlighting key performance results from single-module commissioning of the NDLAr 2x2 Demonstrator, an NDLAr prototype that will record first DUNE neutrino data

Alternate track

1. Neutrino Physics

I read the instructions above

Yes

Authors: WRESILO, Karolina (University of Cambridge);   WOOD, Kevin (LBNL)

Presenter: WRESILO, Karolina (University of Cambridge)

Session Classification: Neutrino Physics

Track Classification: 02. Neutrino Physics