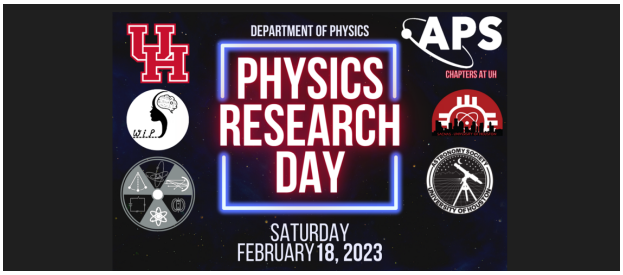

Contribution ID: **14** Type: **Poster**

Module Readiness Tests and Data Quality Management for DUNE Near Detector

Saturday 18 February 2023 15:10 (20 minutes)

The Deep Underground Neutrino Experiment (DUNE) is a next generation long-baseline neutrino oscillation experiment. DUNE is aiming to make groundbreaking discoveries, some of which are characterization of neutrino oscillations, search for nucleon decay, observation of supernovae neutrino bursts. DUNE will employ two detectors to measure neutrino oscillations over a long baseline, a near detector and a far detector. Detection using liquid argon time projection chamber technology (LArTPC) is crucial to the performance of the Near Detector and the Far Detector of DUNE. The Near Detector will operate with 35 LArTPC modules when it fully operates.

Meanwhile, a small-scale prototype is taking place at Fermilab with four modules arranged in two rows of two modules. Hence, it is named ArgonCube 2x2. This project has two components. First, QA/QC tests are performed on the LArTPC modules after they have arrived at Fermilab. Here, we ensure satisfactory performance of both the charge readout and light readout systems. Second, in preparation for commissioning runs, we are developing a display application where future shifters and analyzers can access live Data Quality Management plots.

Academic year

2nd year

Research Advisor

Lisa Koerner

Primary author: TRAN, Dat (University of Houston)

Presenter: TRAN, Dat (University of Houston)

Session Classification: Poster Session

Track Classification: High Energy Physics, Nuclear Theory and QFT