

Performance of the DUNE Cryogenic Charge Readout Electronics in ProtoDUNE-II

Friday 19 July 2024 20:40 (20 minutes)

The Deep Underground Neutrino Experiment (DUNE) far detectors require readout of several hundred thousand charge-sensing channels immersed in the largest liquid argon time projection chambers ever built, calling for cryogenic front-end electronics in order to be able to adequately instrument the full detectors. The ProtoDUNE-II program at the CERN neutrino platform consists of 2 liquid argon time projection chambers that will serve as demonstrators of the horizontal drift (HD) and vertical drift (VD) technologies that will be used in the first 2 DUNE far detectors, including the final design of the cryogenic ASICs used for charge readout and digitization. This talk will present the design of these electronics along with evaluations of their performance from both the ProtoDUNE-II assembly experience and early commissioning data from ProtoDUNE-HD.

Alternate track

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Yes

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