

Light detection results in protoDUNE Dual-Phase at the CERN Neutrino Platform

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Abstract

ProtoDUNE Dual-Phase is a 300 ton dual phase LAr-TPC of 6x6x6 m³ fiducial volume installed at the CERN Neutrino Platform. This detector is a prototype of the future dual-phase module of the Far Detector of DUNE (Deep Underground Neutrino Experiment), to be installed in SURF (US) containing 40 ktons of liquid argon with a fiducial volume of 12x12x60m³.

The light detection system (LDS) of protoDUNE DP consists of 36 TPB-coated PMTs, and a LED-based calibration system. The operation of the detector started in July 2019, and it will validate and provide valuable information for the baseline design of the LDS of DUNE Dual-Phase. The proposed talk will cover the performance of the protoDUNE DP LDS and the first analysis results from the light data taken up-to-date.

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