

ProtoDUNE Dual Phase: status and first results

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DUNE is a dual-site experiment for long-baseline neutrino oscillation studies, neutrino astrophysics and nucleon decay searches. The Far Detector will consist of four 10 kton fiducial mass LAr TPCs. The dual phase (DP) technology, in which the charge is extracted, amplified, and detected in gaseous argon above the liquid, is foreseen for one of these modules. It allows a fine readout pitch, a low energy threshold, and good pattern reconstruction of the events. The ProtoDUNE-DP detector is a 300 ton LAr TPC currently operating at the CERN Neutrino Platform. This prototype is crucial to demonstrate the capabilities of the DP technology on a massive scale and to gain experience in building and operating such a large-scale DP detector. In this talk, the status on the different subsystems of ProtoDUNE-DP will be described and commissioning results will be shown. In addition, some of the technological challenges faced during the construction and operation of the detector will be presented.

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Author: GALLEGOS, Ana (Centro de Investigaciones Energéticas Medioambientales y Tecnológicas)

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