Abstract Submitted
for the TSF17 Meeting of
The American Physical Society

Design and Fabrication of the protoDUNE Dual Phase LArTPC
ANIMESH CHATTERJEE, Univ of Texas, Arlington — The WA105 protoDUNE Dual Phase Liquid-argon Time Projection Chamber (LArTPC) is a large demonstrator based on the GLACIER design, with a 6x6x6 m3 (appr. 300t) active volume. Dual-phase LArTPCs are one of the far detector technology options foreseen for the Deep Underground Neutrino Experiment (DUNE) at Fermilab. Dual Phase (DP) refers to the extraction of ionization electrons at the interface between liquid and gaseous argon and their amplification and collection in the gas phase. ProtoDUNE will be operating at the CERN neutrino platform test beam facility. It not only serves as the engineering prototype of the FD, but will also demonstrate the concept of a very large dual-phase LAr TPC and calibrate it with charged particle test beam. We will briefly discuss the actual dimension of the design, fabrication, testing, installation and commissioning of the detector components at CERN.

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Date submitted: 28 Sep 2017 Electronic form version 1.4