

Abstract Submitted
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Quality Control of ProtoDUNE Field Cage Fabrication BRADLEY

HALE, Univ of Texas, Arlington — The ProtoDUNE project at CERN has a dual-phase detector. Compared to a single-phase detector, the dual-phase is intended to increase the number of signals through a large electron multiplier. The first phase is liquid argon that contains a field cage maintaining an electric field to attract electrons to gaseous argon. The skeleton of the field cage consists of 3" I-Beams and 3 different submodules that have unique 6" I-Beams. Each I-Beam needed to pass a visual inspection, and have a tolerance less than or equal to 0.5 mm for each slot placement to be acceptable to use in the assembly of the field cage. Failures can contaminate the liquid argon, lower the effective volume of the field cage, or not be able to be connected to the field cage. This study analyzes the I-Beams and the findings were sent out to be simulated for their severity.

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