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## The UV Laser Calibration System for measuring the electric field in the SBND detector

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The Short-Baseline Near Detector (SBND) is a LArTPC approximately 110 meters from the Fermilab's Booster Neutrino Beam (BNB) intended to measure neutrino cross sections and aid in excess electron-like neutrino searches.

The electric field inside the SBND-TPC may have distortions due to a number of reasons, such as the space charge effect. The space charge effect comes from the abundance of cosmic rays that ionize the argon, producing copious positive argon ions. In this case, we need an alternative solution to determine the electric field distortion inside the TPC volume and compensate for the possible distortion in the spatial information. The UV calibration system is one such attempt to determine the electric field distortion inside the TPC using the UV laser beam.

In my talk, I will give a brief overview of the UV laser calibration system for SBND, how we can use lasers to determine the Electric field distortion, the hardware, the methodology for deriving spatial distortion and the first laser run tracks.

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