

# Neutrino Interaction Measurement Capabilities of the SBND Experiment

*Thursday 18 July 2024 20:40 (20 minutes)*

The Short-Baseline Near Detector (SBND) is a 100-ton scale Liquid Argon Time Projection Chamber (LArTPC) neutrino detector positioned in the Booster Neutrino Beam at Fermilab, as part of the Short-Baseline Neutrino (SBN) program. The detector is currently being commissioned and is expected to take neutrino data this year. Located only 110 m from the neutrino production target, it will be exposed to a very high flux of neutrinos and will collect millions of neutrino interactions each year. This huge number of neutrino interactions with the precise tracking and calorimetric capabilities of LArTPC will enable a wealth of cross section measurements with unprecedented precision. SBND is also remarkably close to the neutrino source and not perfectly aligned with the neutrino beamline that allows sampling of multiple neutrino fluxes, a feature known as SBND-PRISM. This talk will present the current status of the experiment along with expectations for a rich cross section program ahead.

## Alternate track

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Yes

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