

SBND in 10 minutes

Monday, 26 June 2023 15:00 (15 minutes)

The Short-Baseline Near Detector (SBND) will be one of three Liquid Argon Time Projection Chamber (LArTPC) neutrino detectors positioned along the axis of the Booster Neutrino Beam (BNB) at Fermilab, as part of the Short-Baseline Neutrino (SBN) Program. The detector is anticipated to begin operation later this year. SBND is characterized by superb imaging capabilities and will record over a million neutrino interactions per year. Thanks to its unique combination of measurement resolution and large statistics, SBND will carry out a rich program of neutrino interaction measurements and novel searches for physics beyond the Standard Model (BSM). It will enable the potential of the overall SBN sterile neutrino program by performing a precise characterization of the unoscillated event rate, and constraining BNB flux and neutrino-argon cross-section systematic uncertainties. In this talk, the physics reach, current status, and future prospects of SBND are discussed.

Primary author: LAY, Henry (Lancaster University)

Presenter: LAY, Henry (Lancaster University)

Session Classification: Neutrinos: ANNIE, ICARUS, SBND (part 1)