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The Short-Baseline Near Detector at Fermilab

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The Short-Baseline Near Detector (SBND) is a Liquid Argon Time Projection Chamber (LArTPC) neutrino detector located 110 meters downstream of the target in the Booster Neutrino Beam (BNB) at Fermilab. SBND is characterized by superb imaging capabilities thanks to its low-noise cold electronics and an advanced photon detection system. Because of its proximity to the target, SBND will record around 2 million neutrino interactions per year which enable a rich program of neutrino interaction measurements and novel searches for physics beyond the Standard Model (BSM). In addition, SBND is the near detector of the SBN sterile neutrino program, and will precisely constrain the flux and neutrino-argon cross-section systematic uncertainties as part of a world-leading search for eV-scale sterile neutrino oscillations. This talk will discuss the first data, current status, and physics reach of SBND.

Collaboration you are representing

SBND

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