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Neutrino cross-section measurement prospects with SBND

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SBND (Short-Baseline Near Detector) is a 112 ton liquid argon TPC neutrino detector under construction in the Fermilab Booster Neutrino Beam.

Together with MicroBooNE and ICARUS-T600 detectors, SBND will search for short baseline neutrino oscillations in the 1 eV^2 mass range. SBND will also perform detailed studies of the physics of neutrino-argon interactions, thanks to a data sample of millions of electron and muon neutrino interactions. Finally SBND plays an important role in the on-going R&D effort to develop the LArTPC technology, testing several technologies that can be used in a future kiloton-scale neutrino detectors for a long-baseline experiment.

We will discuss the detector design, its current status, and the physics program, with a particular focus on the neutrino cross-section measurement prospects.

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