

Beyond the Standard Model Searches with the Short Baseline Near Detector

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The Short-Baseline Near Detector (SBND) is a 112-ton liquid argon time projection chamber (LArTPC) detector located 110-meters downstream the Booster Neutrino Beam target at Fermilab. As the near detector of the Short-Baseline Neutrino Program, SBND is especially sensitive to any new particles produced in the beam. In addition to the excellent spatial and energy resolution of the LArTPC technology, SBND features photon detection and cosmic-ray tagger systems achieving ns-time resolution. In this talk, we will review SBND's capabilities and prospects for searches for Beyond Standard Model physics such as heavy neutral leptons, sub-GeV dark matter, and dark neutrinos.

Primary author: LUO, Xiao

Presenter: LUO, Xiao

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