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Searches for physics beyond the Standard Model 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 110 m away from the Booster Neutrino Beam (BNB) target at Fermilab (Illinois, USA). The close location to the BNB origin makes the experiment sensitive to physics beyond the Standard Model (BSM) produced in the beam. Thanks to its advanced scintillation light detection system, a timing resolution at the nanosecond level further boosts the experiment capabilities. In this talk, we present the status and expected sensitivity to new BSM particles produced in the decay of mesons and in proton-target interactions in the BNB.

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