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The Scattering and Neutrino Detector at the LHC

Monday, 22 February 2021 10:00 (20 minutes)

SND@LHC is a proposed, compact and stand-alone experiment to perform measurements with neutrinos produced at the LHC in an hitherto unexplored pseudo-rapidity region of $7.2<\eta<9.6$, complementary to all the other experiments at the LHC. The experiment is to be located 480 m downstream of IP1 in the unused TI18 tunnel. The detector is composed of a hybrid system based on an 800 kg target mass of tungsten plates, interleaved with emulsion and electronic trackers, followed downstream by a muon system. The configuration allows efficiently distinguishing between all three neutrino flavours, opening a unique opportunity to probe physics of heavy flavour production at the LHC in the region that is not accessible to ATLAS, CMS and LHCb. The detector concept is also well suited to searching for Feebly Interacting Particles via signatures of scattering in the detector target. The first phase aims at operating the11detector throughout LHC Run 3 to collect a total of 150 fb^{-1}.

Collaboration name

SND@LHC

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