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Test Beam results of Hadronic Calorimeter of the SND@LHC experiment

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The SND@LHC experiment, situated 480 m downstream of the ATLAS interaction point, is a compact standalone experiment at the Large Hadron Collider (LHC). It is designed to perform measurements with neutrinos produced at the LHC, focusing on the hadronic calorimeter and muon system. The hadronic calorimeter, integral to this experiment, serves to measure the energy of hadronic jets, crucial for identifying neutrino interactions. Comprising eight layers of scintillating planes and iron slabs, it provides comprehensive coverage for hadronic showers. The 2023 Test beam played a pivotal role in evaluating the hadronic calorimeter's performance. Data from this campaign were essential for calibrating the energy measurement capabilities and assessing the system's overall functionality. These recent measurements are significant as they contribute to fine-tuning the experiment's performance, enhancing the precision of neutrino interaction studies and probing physics in the forward region of the LHC. The successful commissioning and testing of the hadronic calorimeter thus mark a critical step in advancing the SND@LHC experiment's objectives and its potential to uncover new insights in particle physics

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