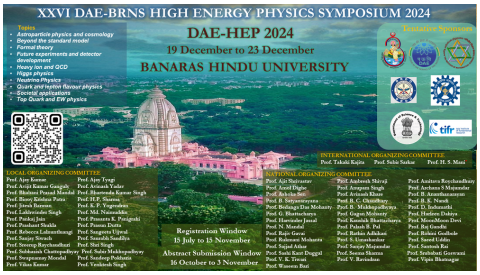

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Performance of the ECAL upgrade prototype in beam tests at the CERN SPS

The High-Luminosity phase of the Large Hadron Collider at CERN, will pose new challenges for the detectors. The Barrel Electromagnetic Calorimeter (ECAL) of the CMS experiment will be equipped with a completely new readout electronics to cope with increase in the number of proton-proton collisions per bunch crossing, as high as 200, and higher noise induced by large radiation doses.
Beams tests are required for the testing and validation of each of these design parameters for the planned upgrade. Thus, several on-beam integration tests were performed during the last few years at the CERN H4 test-beam facility using near-final components. It is a process carried out in steps to ensure precision. The timing resolution studies with the 2021 beam test data and the comparison with simulation with Geant4 are presented here.

Field of contribution

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