

Fermilab T1041: CMS Forward Calorimetry R&D

Fermilab T1041 collaboration focuses on developing new technologies for CMS Forward Calorimetry (FCAL) in Phase II Upgrade of the CMS detector. The main objective of the R&D program is to search for high sensitive materials such as scintillators/crystals, capillaries and wavelength shifting/quartz fibers, as well as new readout techniques such as precision timing detectors and radiation hard photodetectors. For this purpose, T1041 collaboration conducted beam tests at the Fermilab Test Beam Facility (FTBF) in 2013-14 to study performances of several prototype detectors such as Shashlik electromagnetic calorimeter, Hadronic Endcap (HE) Calorimeter, Resistive Plate Chambers (RPCs) and Secondary Emission (SE) Calorimetry. The preliminary test results of this small-large scale of design improvements along with the future test plans will be presented.

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