

ICHEP2012



Contribution ID: 667

Type: **Parallel Sessions**

Performance of the CMS electromagnetic calorimeter at the LHC and role in the hunt for the Higgs boson

Friday, July 6, 2012 9:45 AM (15 minutes)

The Electromagnetic Calorimeter (ECAL) of the Compact Muon Solenoid (CMS) experiment at the LHC is a hermetic, fine grained, homogeneous calorimeter, comprising 75,848 lead tungstate (PbWO₄) scintillating crystals, located inside the CMS superconducting solenoidal magnet. The scintillation light is detected by avalanche photodiodes (APDs) in the barrel section and by vacuum phototriodes (VPTs) in the two endcap sections. A silicon/lead pre-shower detector is installed in front of the endcaps in order to improve γ/π^0 discrimination. Precise calibration of the ECAL detector is required. This includes inter-calibration, to account for the differing response of channels, and calibration of the energy scale. The performance obtained during the first LHC physics runs in 2010 and 2011 is presented and the role of the ECAL in the hunt for the Higgs boson, through the 2-gamma decay mode, is discussed.

Primary author: Dr PARAMATTI, Riccardo (INFN - Rome I (IT))

Presenter: Dr PARAMATTI, Riccardo (INFN - Rome I (IT))

Session Classification: Room 218 - Detectors and Computing for HEP - TR13

Track Classification: Track 13. Detectors and Computing for HEP