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Performance of the CMS Electromagnetic Calorimeter at the LHC

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The CMS Electromagnetic Calorimeter (ECAL) is a high resolution, fine grained calorimeter devised to measure photons and electrons at the LHC. Built of lead tungstate crystals, it plays a crucial role in the search for new physics as well as in precision measurements of the Standard Model. A pre-shower detector composed of sandwiches of lead and silicon strips improves π^0/γ separation in the forward region. The operation and performance of the ECAL during the 2010 run at the LHC, with pp collisions at $\sqrt{s} = 7$ TeV will be reviewed, and to some extent for the 2011 running as well. Pure samples of electrons and photons from decays of known resonances have been exploited to improve and verify the trigger efficiency, the reconstruction algorithms, the detector calibration and stability, and the particle identification efficiency. A review of these aspects will be given.

Primary author: GRASSI, Marco (Universita di Roma I 'La Sapienza'-Universita e INFN, Roma I)

Presenter: GRASSI, Marco (Universita di Roma I 'La Sapienza'-Universita e INFN, Roma I)

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