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Electromagnetic Calorimeter Intercalibration with Neural Networks for the CMS Experiment at CERN SERGEI GLEYZER, Florida State University, CMS COLLABORATION — The Electromagnetic Calorimeter (ECAL) of the Compact Muon Solenoid (CMS) detector is made of ∼76000 lead tungstate ($PbWO_4$) crystals. The calorimeter has excellent energy resolution and the small crystal size gives very good position resolution. During the summer of 2006 a production ECAL module was tested jointly with the Hadron Calorimeter in the CERN test beam in the energy range of a few GeV to 300GeV for pions and up to 150GeV for electrons. Given the large number of crystals intercalibration of ECAL is a very important and complicated task. I will discuss different approaches to intercalibration of ECAL including the method of using neural networks.

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