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Performance of the Level-1 Muon Trigger for the CMS Endcap Muon System with Cosmic Rays and First LHC Beams JOSEPH GARTNER, University of Florida, CMS COLLABORATION — We report on the performance of the level-1 muon trigger for the cathode strip chambers (CSCs) comprising the endcaps of the Compact Muon Solenoid (CMS) experiment. CMS is a general-purpose experiment designed to capitalize on the rich physics program of the Large Hadron Collider (LHC), which begins operation this autumn and which opens a window onto physics at the TeV energy scale. After many years of preparation, the CMS detectors and electronics have undergone a series of commissioning exercises involving the triggering and data acquisition of signals induced from cosmic ray muons, and most recently, first LHC beams. Here we report on the successful synchronization of signals from the 468 CSCs in the level-1 trigger path, and the successful triggering of the experiment based on those signals. The triggers that are provided by a specially built set of "Track-Finder" processors include triggers based on single CSC segments, tracks based on a coincidence of segments along a predefined road emanating from the beam collision point, and tracks parallel to the beam line that accept accelerator-induced halo muons. Evidence of the proper functioning of these triggers will be reported.

Darin Acosta
University of Florida

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