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## Commissioning and Performance of the CMS Hadronic Calorimeters in pp Collisions at a Center of Mass Energy of 7 TeV at the Large Hadron Collider

We present results on the commissioning and performance of the CMS hadron calorimeters in pp collisions at a center of mass energy of 7 TeV at the Large Hadron Collider. The hadron calorimeters consist of sub systems covering a wide range of pseudo-rapidity utilizing different technologies and electronics. Anomalous background signals, which had been previously observed in data collected in test beam running, have been characterized and studied in collision data. Methods to identify and remove these anomalous signals have been developed and their performance is presented. The hadronic calorimeters are used to trigger the experiment on energy clusters and the trigger performance is discussed. Methods to calibrate the calorimeters using cosmic muons, beam splash events (where the LHC beam is targeted on upstream collimators), and collision data are presented.

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