

Abstract Submitted
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CMS Tracker Detector Performance Studies IOANA ANGHEL,
University of Illinois, Chicago, CMS COLLABORATION — The Compact Muon Solenoid (CMS) is scheduled to start taking data in 2008 at the CERN Large Hadron Collider (LHC), in Geneva, Switzerland. The inner tracker system of CMS is designed to provide a precise and efficient measurement of the trajectories of charged particles emerging from the LHC collisions, as well as a precise reconstruction of secondary vertices, which is crucial in the identification of a jet as arising from a b-quark. This ability makes many physics studies, from the search of the low-mass Higgs boson to studies of the top quark and physics beyond the standard model, to be very promising. The CMS Silicon Strip Tracker is by far the largest semiconductor silicon detector ever constructed. All of the systems were fully commissioned in 2007 during which five million cosmic ray tracks were recorded. We developed a tool to analyze the data taken during this time to identify noisy and dead channels based on the information provided by the Data Quality Monitoring system (DQM). The excellent performance of the tracker is seen from the small fractions of bad channels and the stability of the system when operating at different temperatures.

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