

Commissioning the CMS pixel detector with Cosmic Rays

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The Compact Muon Solenoid (CMS) is one of two general purpose experiments at the Large Hadron Collider. The CMS experiment prides itself on an ambitious, all silicon based, tracking system. After almost 20 years of design and construction the CMS tracker detector has been installed and commissioned. The tracker detector consists of ten layers of silicon microstrip detectors while three layers of pixel detector modules are situated closest to the interaction point. The pixel detector consists of 66M pixels of 100um*150um size, and is designed to use the shape of the actual charge distribution of charged particles to gain hit resolutions down to 12 um. This presentation will focus on commissioning activities in the CMS pixel detector. Results from cosmic ray studies will be presented, in addition to results obtained from the integration of the pixel detector within the CMS detector and various calibration and alignment analyses.

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