



Contribution ID: 105

Type: **Poster**

Status of the CMS Silicon Strip Tracker and commissioning results

Wednesday 3 September 2008 15:10 (20 minutes)

With a total area of more than 200 square meters, about 15000 silicon modules, and nearly 10 million readout channels, the CMS Silicon Strip Tracker is by far the largest silicon strip detector ever built. Together with the pixel detector, it measures the momentum of charged particles, and plays a major role in lepton identification and heavy quark tagging. The detector has been integrated and commissioned in a dedicated assembly hall on the surface, prior to the installation in CMS; up to 15% of the silicon modules have been operated simultaneously, at different temperatures, including the nominal temperature of -10C. Several million cosmic muon tracks have been recorded using a dedicated trigger system. The achievements of this commissioning phase are discussed in detail, including: development of operation procedures, data acquisition and detector control software; evaluation of the intrinsic detector performance, refinement of the tracker reconstruction and alignment software. The Tracker has been subsequently installed in the pit, and will be taking data with CMS at the time of the conference.

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Session Classification: Poster Session 2 - PPE & Nuclear

Track Classification: Applications in Particle Physics