



Contribution ID: 272

Type: Oral

CMS Tracker Upgrade for HL-LHC: R&D Plans, Present Status and Perspectives

Thursday, 28 May 2015 09:30 (15 minutes)

During the high luminosity phase of the LHC (HL-LHC), the machine is expected to deliver an instantaneous luminosity of $5 \times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$. A total of 3000 fb^{-1} of data is foreseen to be delivered, with the opening of new physics potential for the LHC experiments, but also new challenges from the point of view of both detector and electronics capabilities and radiation hardness. In order to maintain its physics reach, CMS will build a new Tracker, comprising completely new pixel detector and outer tracker. The ongoing R&D activities on both pixel and strip sensors will be presented. The present status of the Inner and Outer Tracker projects will be illustrated, and the possible perspectives will be discussed.

Collaboration

CMS

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Session Classification: Solid State Detectors

Track Classification: S6 - Solid State Detectors