



Contribution ID: 17

Type: ORAL

The Upgrade of the CMS Inner Tracker for HL-LHC

Monday 10 December 2018 14:35 (25 minutes)

The entire CMS silicon Tracker will be replaced at HL-LHC with a new detector featuring increased radiation hardness, and capability to handle higher data rate and longer trigger latency. The Inner Tracker will be exposed to the most extreme conditions, requiring advanced technologies and novel solutions notably for the readout and powering electronics. The new detector will also feature extended rapidity coverage. The high-luminosity upgrade of the CMS silicon pixel detector will be presented, discussing on the novel features of the detector layout and electronics system, and the expected performance in high pileup conditions.

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Session Classification: Pixel system upgrade

Track Classification: Applications in nuclear and high energy physics