Contribution ID: **15** Type: **Talk (invited speaker only)**

[B03] The upgrade of the CMS Tracker at HL-LHC

Tuesday 6 October 2020 21:40 (30 minutes)

In the high luminosity scenario of the LHC (HL-LHC), which will bring the instantaneous luminosity up to 7.5 x 10ˆ34 cmˆ−2 sˆ−1, ATLAS and CMS will need to operate at up to 200 interactions per 25 ns beam crossing time and with up to 4000 fbˆ-1 of integrated luminosity. To achieve their physics goals the experiments will need to improve the tracking resolution and the ability to selectively trigger on specific physics events at reasonable thresholds. The upgrade of the CMS Tracker requires designing new inner and outer tracking detectors to cope with the increased luminosity and to implement first trigger level functionality. This talk will describe the new layout and the technological choices together with some highlights of research and development activities

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Session Classification: Upgrade II