

CMS developments for track-triggers

The High Luminosity LHC (HL-LHC) is expected to deliver luminosities of $5 \times 10^{34} \text{ cm}^{-2}/\text{s}$, with an average of about 140 overlapping proton-proton collisions per bunch crossing. These extreme pileup conditions place stringent requirements on the trigger system to be able to cope with the resulting event rates. A key component of the CMS upgrade for HL-LHC is a track trigger system which would identify tracks with transverse momentum above 2 GeV already at the first-level trigger. This talk presents the status of proposals for implementing the L1 tracking in conjunction with the planned upgrade for the silicon tracker of the CMS experiment. The expected performance and the use of L1 tracks for triggering is discussed.

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