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## Tracking at High Level Trigger in CMS

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The trigger systems of the LHC detectors play a crucial role in determining the physics capabilities of the experiments. A reduction of several orders of magnitude of the event rate is needed to reach values compatible with detector readout, offline storage and analysis capability. The CMS experiment has been designed with a two-level trigger system: the Level-1 Trigger (L1T), implemented on custom-designed electronics, and the High Level Trigger (HLT), a streamlined version of the CMS offline reconstruction software running on a computer farm. A software trigger system requires a trade-off between the complexity of the algorithms, the sustainable output rate, and the selection efficiency. With the computing power available during the 2012 data taking the maximum reconstruction time at HLT was about 200 ms per event, at the nominal L1T rate of 100 kHz. Track reconstruction algorithms are widely used in the HLT, for the reconstruction of the physics objects as well as in the identification of b-jets and lepton isolation. Reconstructed tracks are also used to distinguish the primary vertex, which identifies the hard interaction process, from the pileup ones. This task is particularly important in the LHC environment given the large number of interactions per bunch crossing: on average 25 in 2012, and expected to be around 40 in Run II. We will present the performance of HLT tracking algorithms, discussing its impact on CMS physics programme, as well as new developments done towards the next data taking in 2015.

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