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CMS Trigger in Phase-2

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The High-Luminosity LHC (HL-LHC) will open an unprecedented window on the weak-scale nature of the universe, providing high-precision measurements of the standard model as well as searches for new physics beyond the standard model. Such precision measurements and searches require information-rich datasets with a statistical power that matches the high luminosity provided by the Phase-2 upgrade of the LHC. Efficiently collecting those datasets will be a challenging task, given the harsh pileup environment of 200 proton-proton interactions per LHC bunch crossing. CMS uses a two level trigger system to select potentially interesting events. The detector readout electronics and DAQ will be upgraded to allow a maximum L1A rate of 750 kHz, and a latency of 12.5 μ s (or 500 LHC bunch crossings). In addition, the L1 trigger will, for the first time, include tracking information and high-granularity calorimeter information. This talk will present an overview of the changes planned for the CMS trigger in Phase-2.

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