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Firmware Development for the Phase-2 Upgrade of the Calorimeter L1 Trigger for the CMS Detector

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The CMS Level-1 trigger, including the calorimeter trigger, will receive a massive upgrade to avail of the benefits and tackle the challenges posed by the High-Luminosity LHC (HL-LHC). Calorimeter trigger is planned to employ high-speed optical links (~28 Gbps) and Xilinx Large UltraScale+ FPGA to meet the high bandwidth and parallel computing demands of the HL-LHC. The system will handle 25 times more granularity and intends to process the newly commissioned high-granularity calorimeter (HGCAL) information. To process such high granular information from large calorimeter geometry, trigger algorithms are proposed, which provide better performance in terms of latency, area, and scalability.

Session

Future Experiments and Detector Development

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