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The High-Level Trigger for the CMS Phase-2 Upgrade

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The High-Luminosity LHC (HL-LHC) will usher a new era in high-energy physics. The HL-LHC experimental conditions entail an instantaneous luminosity of up to 75 Hz/nb and up to 200 simultaneous collisions per bunch crossing (pileup). To cope with those conditions, the CMS detector will undergo a series of improvements, in what is known as the Phase-2 upgrade. In particular, the upgrade of the Data Acquisition and of the High-Level Trigger (DAQ-HLT) will have to address a much higher event rate and more complex events. In this talk, we will discuss the aspects of the HLT upgrade, detailing the development of the online reconstruction, the construction, characterisation and timing/rate measurement of a simplified HLT menu, the role of heterogeneous architectures in the HLT and the plan of work and milestones until the beginning of Phase-2.

In-person participation

Yes

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