

Upgrade of CMS HCAL for SLHC

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The Compact Muon Solenoid (CMS) detector is in the planning phase of a major upgrade in preparation for the upgrade of the Large Hadron Collider (LHC) to the Super-LHC (SLHC). The SLHC will feature a significant increase in the instantaneous luminosity, leading to up to 200 collisions per interaction. In addition, the sustained radiation from the initial phase of LHC operations will necessitate replacement of some parts of the detector. This talk will focus on the proposed upgrades to the Hadronic Calorimeter (HCAL). Research and development of photo-detectors and the active layer of the calorimeter is underway, and will lead to significantly improved performance as well as enable the detector to operate successfully in SLHC conditions. These new detector components in combination with upgraded trigger electronics improve the current trigger system and allow sustained operation in the the SLHC era. Proposed upgrades, progress in research and development, and physics impact of these upgrades will be discussed.

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