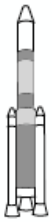

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An overview of the reconstruction strategy for the CMS HGCAL and detector performance studies

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The High Granularity Calorimeter (HGCAL) being prepared by the CMS Collaboration for the Phase 2 of the LHC features previously unrealized transverse and longitudinal fine-grained readout of both the electromagnetic and hadronic compartments. The high granularity of the calorimeter, associated with measurements of energy and time of arrival, provides unique inputs for advanced reconstruction techniques beyond those that have been used so far in present experiments.
Recently, significant progress has been made in developing reconstruction algorithms capable of identifying and reconstructing electromagnetic and hadronic showers in the harsh conditions expected in Phase 2 where up to 200 proton-proton collisions may occur in each bunch crossing.

The progress reported in this presentation emphasizes algorithms which can run efficiently at trigger level and provide a performance for physics as close as possible to that expected after an offline reconstruction. We report on the status of the reconstruction and clustering algorithms and on their performance for particle identification and energy/position resolution. Other aspects of simulation of the calorimeter, calibration strategies and leveraging timing information in HGCAL for reconstruction are also covered.

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