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Database development and deployment for HGCAL

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The CERN IT department hosts the HGCAL database (DB), which is based on a framework originally developed at Fermilab. It is now used by several CMS sub-detectors – tracker, calorimeters, and muon system. The DB can be used for detector construction and operation, where each stored component has a unique ID, barcode, serial number, or name. It is also used to track the flow of components from their time of reception to their final placement on the detector. The HGCAL DB uses parent-child relationships to “build” higher level detector objects: silicon modules, scintillator tile-boards, tile segments, half and full cassettes, layers, disks, and HGC+ (& HGC-). This helps in tracking detector fabrication processes with the HGCAL sub-detector at the top of the pyramid. The HGCAL DB will store various types of detector data – manufacturing, construction, characterization, and calibration, as well as quality control (QC) data for all traceable components. An effort is underway to develop an online monitoring system to visualize QC data of detector components. The talk will describe key aspects of the HGCAL DB.

Session

Future Experiments and Detector Development

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