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# Calibration of electrons or photons reconstructed by the Level 1 Trigger of CMS for Run3

Tuesday 13 December 2022 14:00 (1 hour)

The Level-1(L1) trigger is the first of the two-level trigger system of the CMS detector and is hardware based. It gathers information from the Electromagnetic(ECAL) and Hadron(HCAL) Calorimeters and muon detectors to select interesting physics events. The L1 Electron/Photon ( $e/\gamma$ ) trigger identifies  $e/\gamma$  candidates based on energy deposition in the ECAL and HCAL. The present data taking period of LHC, the Run3 has just started. We are going to present here the studies that were performed to prepare the L1  $e/\gamma$  trigger for the Run3 data taking. This includes analyzing and optimizing the efficiency and resolutions of L1  $e/\gamma$  triggers at a feasible trigger rate. The optimisation focused on developing a new set of monte-carlo based calibrations and isolation schemes that puts a limit on the transverse energy around the candidate  $e/\gamma$  to maximise the physics reach of CMS. Resolutions of the L1  $e/\gamma$  trigger in the recent Run3 data will also be presented.

## Session

Future Experiments and Detector Development

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