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The phase-1 upgrade of the ATLAS level-1 calorimeter trigger

The ATLAS level-1 calorimeter trigger is a custom-built hardware system that identifies events containing calorimeter-based physics objects, including electrons, photons, taus, jets, and total and missing transverse energy.

In Run 3, L1Calo has been upgraded to process higher granularity input data. The new trigger comprises several FPGA-based feature extractor modules, which process the new digital information from the calorimeters and execute more sophisticated trigger algorithms. The design of the system will be presented along with an analysis of the improved performance of the upgrade in the increasingly challenging Run-3 LHC pile-up environment.

Secondary track

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