

# Analogue Input Calibration of the ATLAS Level-1 Calorimeter Trigger

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The ATLAS Level-1 Calorimeter Trigger is a hardware-based pipelined system using custom electronics which identifies, within a fixed latency of 2.5  $\mu$ s, highly energetic objects resulting from LHC collisions. It is composed of three main sub-systems. The PreProcessor system first conditions and digitises approximately 7200 pre-summed analogue calorimeter signals at the bunch-crossing rate of 40 MHz, and identifies the specific bunch-crossing of the interaction using a digital filtering technique. Pedestal subtraction and noise suppression applied, and final calibrated digitised transverse energies are transmitted in parallel to the two subsequent processor systems. Several channel-dependent parameters require setting in the PreProcessor system to provide these digital signals, aligned in time and properly calibrated. The different techniques which are used to derive these parameters are described, along with the quality tests of the analogue input signals and the status of the energy calibration.

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