

Commissioning of the ATLAS Level-1 Central Trigger

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The ATLAS Level-1 Central Trigger consists of the Central Trigger Processor (CTP) and the Muon to Central Trigger Processor Interface (MuCTPI). The CTP receives trigger information from the Level-1 Calorimeter Trigger system directly, and from the Level-1 Muon Trigger systems through the MuCTPI. It also receives timing signals from the LHC machine, and fans out the Level-1 Accept signal, together with additional timing and control signals, to all sub-detector systems. From them, it collects BUSY signals in order to throttle the Level-1 Accept generation. Upon Level-1 Accept, the trigger systems send Region-of-Interest information to the Level-2 Trigger system.

The systems are in part already installed in the ATLAS underground counting rooms. We present their current status, both in hardware and software, and the different commissioning steps that have led to it. Particular emphasis is put on the integration of the Central Trigger with the Muon and Calorimeter Trigger systems, the Level-2 trigger, and the read-out part of the different sub-detectors. We describe what has already been achieved, what we have learnt, and the future steps we will take in order to arrive at a fully functioning system.

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