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The ATLAS Level-1 Trigger System

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The ATLAS Level-1 Trigger is the first stage of event selection for the ATLAS experiment at the LHC. In order to identify the interesting collisions events to be passed on to the next selection stage within a latency of less than 2.5 μ s, it is based on custom-built electronics. Signals from the Calorimeter and Muon Trigger System are combined in the Central Trigger Processor which processes the overall L1 Accept (L1A) decision. The Level-1 Trigger identifies event features such as missing transverse energy, candidate electrons, photons, jets and muons. This talk will present how the Level-1 Trigger System has performed with increasing LHC luminosity and discuss problems encountered during operations. We will also give an overview of the challenges and plans with respect to the increasingly demanding LHC running conditions.

Author: ANDERS, Gabriel (Ruprecht-Karls-Universitaet Heidelberg (DE))

Co-author: BUTTINGER, Will (University of Cambridge (GB))

Presenter: BUTTINGER, Will (University of Cambridge (GB))

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