

The commissioning status and results of ATLAS Level1 Endcap Muon Trigger System

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The ATLAS Level1 endcap muon trigger selects interesting events containing muons with P_t greater than 6 GeV/c from 40MHz proton-proton collisions. This system consists of 3,600 Thin Gap Chambers (TGCs) and the total number of readout channels is 320,000. This trigger logic is based on the coincidence between 7 layers of TGCs. All processes are performed on fast electronics within 2.5 micro seconds. To be ready for the first beam scheduled in 2008, we have succeeded in sending trigger signal of cosmic-ray muons with the synchronous operation at 40MHz and a fine signal timing adjustment. We will report on status of the commissioning and results from combined runs with other ATLAS detectors.

Summary

The ATLAS Level1 trigger system selects interesting events from the large amount of events produced with proton-proton collision. This system works as a pipeline trigger system with the 40MHz operation clock which is synchronous to the LHC proton-proton collision. The processing latency is required to be less than 2.5micro seconds. The reduction power is 100kHz from 40MHz.

The Level1 endcap muon system selects the interesting events which contains muons with P_t greater than 6 GeV/C,

By the end of April 2008, the TGCs and almost all infrastructures have been installed in ATLAS cavern, including

For the first beam commissioning runs scheduled in 2008, various hardware bugs have been found, and fixed. In c

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