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Performance and development plans for the Inner Detector trigger algorithms at ATLAS

Monday 14 October 2013 15:00 (45 minutes)

We present a description of the algorithms and the performance of the ATLAS Inner Detector trigger for LHC run I, as well as prospects for a redesign of the tracking algorithms in run 2. The Inner Detector trigger algorithms are vital for many trigger signatures at ATLAS. The performance of the algorithms for muons, electrons, taus and b-jets is presented.

The ATLAS trigger software after will be restructured from 2 software levels into a single stage which poses a big challenge on the trigger algorithms in terms of execution time and maintaining the physics performance. Expected future improvements in the timing and efficiencies of the Inner Detector triggers are discussed, utilising the planned merging of the current two-stage software of the ATLAS trigger.

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