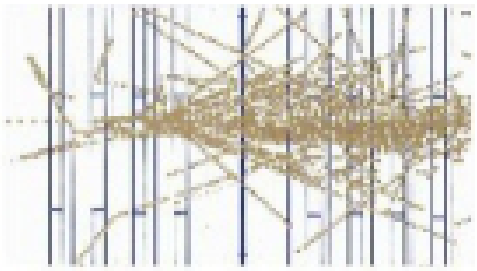

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Calorimetry triggering in ATLAS

Thursday, May 29, 2008 12:10 PM (20 minutes)

Summary

The ATLAS experiment is preparing for data taking at 14 TeV collision energy. A very rich discovery physics programme is being prepared in addition to the detailed study of Standard Model processes which will be produced in abundance. The ATLAS multi-level trigger system is designed to accept one event in 2*10*5 to enable the selection of rare and unusual physics events. The ATLAS calorimeter system is a precise instrument, which includes liquid Argon electro-magnetic and hadronic components as well as a scintillator-tile hadronic calorimeter. All these components are used in the various levels of the trigger system. A wide physics coverage is ensured by inclusively selecting events with candidate electrons, photons, taus, jets or those with large missing transverse energy.

In this paper, we will present the ATLAS calorimetry triggers in detail, focusing on the overall design, the selection algorithms and their performance as well as the preparation of the associated trigger menus. ATLAS is now preparing for initial data taking expected to start in summer 2008. The commissioning of the trigger system using cosmic ray events and by replaying simulated Monte Carlo events through the trigger and data acquisition system will also be presented.

Primary author: IGONKINA, Olga (Nikhef)

Presenter: IGONKINA, Olga (Nikhef)

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