



Contribution ID: 108

Type: Poster

Evolution and performance of electron and photon triggers in ATLAS in the year 2011

Thursday, May 24, 2012 1:30 PM (4h 45m)

The electron and photon triggers are among the most widely used triggers in ATLAS physics analyses. In 2011, the increasing luminosity and pile-up conditions demanded higher and higher thresholds and the use of tighter and tighter selections for the electron triggers. Optimizations were performed at all three levels of the ATLAS trigger system. At the high-level trigger (HLT), many variables from the calorimeters and tracking detectors are used to achieve high efficiency and large rejection power. The use of isolation criteria at the HLT has also been investigated. At L1, the thresholds were raised and optimised to account for η -dependence and hadronic isolation was implemented. In addition to physics triggers, dedicated triggers for collecting a large number of control samples of $J/\psi \rightarrow e\bar{e}$, $W \rightarrow e\nu$ and jet background, for calibration, efficiency and fake rate measurements were developed. This contribution summarizes the algorithms and performance of ATLAS electron and photon triggers used in 2011 data taking.

Primary authors: TRICOLI, Alessandro (CERN); Dr KONO, Takanori (Deutsches Elektronen-Synchrotron (DE))

Co-author: DUGUID, Liam (University of London (GB))

Presenter: DUGUID, Liam (University of London (GB))

Session Classification: Poster Session

Track Classification: Online Computing (track 1)