



Contribution ID: 32

Type: **poster presentation**

ATLAS Jet Trigger Performance in LHC Run I and Initial Run II Updates

The immense rate of proton-proton collisions at the Large Hadron Collider (LHC) must be reduced from the nominal bunch-crossing rate of 40 MHz to approximately 1 kHz before the data can be written on disk offline. The ATLAS Trigger System performs real-time selection of these events in order to achieve this reduction. Dedicated selection of events containing jets is uniquely challenging at a hadron collider where nearly every event contains significant hadronic energy.

Following the very successful first LHC run from 2010 to 2012, the ATLAS Trigger was much improved, including a new hardware topological module and a restructured High Level Trigger system, merging two previous software-based processing levels. This allowed the optimization of resources and a much greater re-use of the precise but costly offline software base. After summarising the overall performance of the jet trigger during the first LHC run, the software design choices and use of the topological module will be reviewed. The expected performance of jet trigger for the second LHC run, to start in 2015, will be described together with the available commissioning measurements from early data taking.

Primary author: SHIMIZU, Shima (Kobe University (JP))

Presenter: SHIMIZU, Shima (Kobe University (JP))

Track Classification: Track1: Online computing