



Contribution ID: 66

Type: Oral

## Design and test performance of the ATLAS Feature Extractor trigger boards for the Phase-1 Upgrade

*Thursday, 29 September 2016 14:50 (25 minutes)*

In Run 3, the ATLAS Level-1 Calorimeter Trigger will be augmented by an Electron Feature Extractor (eFEX), to identify isolated  $e/g$  and  $t$  particles, and a Jet Feature Extractor (jFEX), to identify energetic jets and calculate various local energy sums. Each module accommodates more than 420 differential signals that can operate at up to 12.8 Gb/s, some routed over 20 cm between FPGAs. Presented here are the module designs, the processes that have been adopted to meet the challenges associated with multi-Gb/s PCB design, and the results of tests that characterise the performance of these modules.

### Summary

**Presenter:** QIAN, Weiming (STFC - Rutherford Appleton Lab. (GB))

**Session Classification:** Trigger

**Track Classification:** Trigger