Contribution ID: **736** Type: **Poster**

The Phase-I Trigger Readout Electronics Upgrade of the ATLAS Liquid Argon Calorimeters

Monday, 15 July 2019 19:40 (20 minutes)

Electronics developments are pursued for the trigger readout of the ATLAS Liquid-Argon Calorimeter towards the Phase-I upgrade scheduled in the LHC shut-down period of 2019-2020. Trigger signals with higher spatial granularity and higher precision are needed in order to improve the identification efficiencies of electrons, photons, tau, jets and missing energy, at high background rejection rates, already at the Level-1 trigger. The LAr Trigger Digitizer system will digitize the 34,000 channels (SuperCells) at a 40 MHz sampling frequency with 12 bit precision after the bipolar shaping of the front-end system. The data will be transmitted to the LAr Digital Processing system in the back-end to extract the transverse energies and perform the bunch-crossing identification. A demonstrator has been installed during Run-2, and the results of the data-taking have helped to validate the chosen technology. Results of ASIC developments including QA/QC and radiation hardness evaluations, performances of the pre-production boards and results of the system integration tests, progress of QA/QC of final production boards will be presented along with the overall system design.

Primary author: ATLAS COLLABORATION

Presenter: IGUCHI, Ryunosuke (University of Tokyo (JP))

Session Classification: Wine & Cheese Poster Session

Track Classification: Detector R&D and Data Handling