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Integration of the ALTI module in the ATLAS Tile Calorimeter system

The Tile Calorimeter (TileCal) is currently preparing for the Run 3 data-taking period. As part of the ongoing Phase I upgrades, TileCal is replacing a part of the Timing, Trigger and Control (TTC) system. The legacy TTC system is being replaced with a new advanced electronic board, designed for the ATLAS experiment at CERN. The new ATLAS Local Trigger Interface (ALTI) module, is a 6U VME board which integrates the functionalities of four legacy modules, currently used in the experiment: Local Trigger Processor, Local Trigger Processor interface, TTC VME bus interface and the TTC emitter. ALTI module will provide the interface between the Level-1 Central Trigger Processor and the TTC optical broadcasting network, to the Front-End electronics for each of the ATLAS sub-detectors. The implementation and validation of the data acquisition software for the ALTI module in a TileCal test station is complete. The TileCal Back-End electronics consists of four legacy TTC partitions, and the integration of the ALTI module in the Tile Calorimeter requires the insertion of four new ALTI modules in the TTC crates. Calibrations and data quality validations, are performed before certifying the TileCal ALTI system ready for the Run 3 data-taking period in early 2022.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

PhD

Primary author: TLOU, Humphry (University of the Witwatersrand)

Co-author: MELLADO, Bruce (University of the Witwatersrand)

Presenter: TLOU, Humphry (University of the Witwatersrand)

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