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## Upgrade of ATLAS Tile Calorimeter TTC system for Phase-II test-beam campaigns

The Tile Calorimeter (TileCal) is the central hadronic calorimeter of the ATLAS experiment at the Large Hadron Collider (LHC). The LHC Phase-II upgrades will take place during the Long Shutdown 3 period (2026-2028), leading into the High Luminosity LHC (HL-LHC). The HL-LHC will have the capability to deliver up to five times the LHC nominal instantaneous luminosity in 2029. The TileCal Timing, Trigger and Control (TTC) system of the test-beam facility is being upgraded for the Phase-II test-beam campaigns. A new TTC interface module, the ATLAS Local Trigger Interface (ALTI) is being deployed during the Long Shutdown 2 period (2019-2022) of the LHC, as part of Phase-I upgrades. The ALTI is a 6U VME64x module which provides the interface between the Level-1 Central Trigger Processor and the TTC optical broadcasting network, to the Front-End electronics. The ALTI integrates the functionalities of the Local Trigger Processor, Local Trigger Processor interface, TTC VME bus interface and the TTC emitter modules, which are currently used in the experiment. The upgrade involves a new configuration with additional features due to increased amount of programmable logic resources. The status of the upgrade activities is presented.

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

No

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

PhD

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