

Upgrade of the ATLAS Tile Calorimeter for the High luminosity LHC

G. Usai

(U. of Texas at Arlington)

on behalf of the ATLAS Tile Calorimeter system

motivations

- a complete replacement of the Front-End and Back-End electronics of the ATLAS Tile (and LAr) calorimeter is foreseen for the Phase-II HL LHC:
 - components with improved radiation hardness are needed
 - better selectivity in the trigger selection is needed
 - digital data with full granularity and precision will replace the current “analog towers” signals. Pipelines are moved to the BE
 - improvement in the detector robustness:
 - design for reliability, add redundancy and minimise impact of SPF with smaller DAQ elements
 - improve access to the FE electronics for maintenance also reducing occupational radiation exposure

phase-II Tile demonstrator

- a demonstration slice to prove the new readout concepts will be built and operated within ATLAS during Run-2. Installation during the December 2016 shutdown
- the prototypes built in the current R&D efforts involving ~ten institutes and the current status of the integration will be illustrated
- one of the two Tile Upgrade project co-coordinators is Here to answer all your questions!

