**Chicago 3.4.6 Detector Systems Consolidation & Refurbishment**

Since the start of Run 3 at the LHC on July 5, the current CIS techs have taken a total of 16 shifts in the ATLAS control room at Calo-FWD desk to monitor Tile (as well as LAr and Forward detectors). They report on errors affecting data acquisition and hardware during ATLAS runs and perform calibration runs. While the ATLAS cavern is closed, they have prepared for the year-end technical stop by completing safety trainings and testing legacy electronics at the test beam facility.

**Chicago 3.4.7 Front End Maintenance**

Two Chicago engineers and one technician from the Electronics Development Group diagnosed and repaired another ~50 components of various types that were sent to Chicago by the CERN Tile maintenance group.

**Chicago 3.4.8 Calibration Systems and Testing Facility**

After being trained by the previous CIS techs, the current Chicago CIS techs have performed three CIS constant updates and are in the process of a fourth, which will contain CIS runs up to October 1. They verify the timing and ADC-amplitude-charge ratios for each run and produce plots to analyze the CIS constant stability over time for each channel. Where necessary, they update quality flags and recalibrate channels to be used in physics analysis. The CIS techs have presented these results to the Tile group during the Data Quality and Performance weekly meetings, as well as a quarterly summary of their work in Tile Week. Additionally, they are streamlining and debugging the calibration code framework (TileCal Unified Calibration Software, TUCS) which processes the update and produces plots for maintenance investigation.

Besides maintaining the CIS system, the Chicago techs have updated code that monitors low voltage power trips in Tile motherboards to set the correct thresholds. They have also started working on the L1Calo system. They have updated the output scripts to increase ease of analysis of PMT scans and updated the reconstruction tools to use the most current Athena and TUCS versions.