

FELIX: commissioning the new detector interface for the ATLAS trigger and DAQ system

Thursday, May 27, 2021 5:12 AM (18 minutes)

After the current LHC shutdown (2019-2022) the ATLAS experiment will operate in an increasingly harsh collision environment, motivating a series of upgrades. In order to improve the capacity and flexibility of the detector readout system, the Front-End Link eXchange (FELIX) system has been developed. FELIX acts as the interface between the data acquisition; detector control and TTC (Timing, Trigger and Control) systems; and new or updated trigger and detector front-end electronics. The system functions as a router between custom serial links from front end ASICs and FPGAs to data collection and processing components via a commodity switched network. FELIX also forwards TTC signals to front-end electronics. FELIX uses commodity server technology running a software routing platform in combination with FPGA-based PCIe I/O cards. Installation of FELIX took place in 2020. We will present the results of commissioning activities for the full system taking place throughout spring 2021.

TIPP2020 abstract resubmission?

Yes, this would have been presented at TIPP2020.

Funding information

Primary authors: KAZAROV, Andrei (NRC Kurchatov Institute PNPI (RU)); XU, Hao (Brookhaven National Laboratory (US))

Presenter: XU, Hao (Brookhaven National Laboratory (US))

Session Classification: Posters: Trigger and DAQ

Track Classification: Readout and Data Processing: Readout: Trigger and DAQ