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Event Filter Tracking for the Upgrade of the ATLAS Trigger and Data Acquisition System

Wednesday 1 June 2022 14:00 (25 minutes)

This submission describes revised plans for Event Filter Tracking in the upgrade of the ATLAS Trigger and Data Acquisition System for the high pileup environment of the High-Luminosity Large Hadron Collider (HL-LHC). The new Event Filter Tracking system is a flexible, heterogeneous commercial system consisting of CPU cores and possibly accelerators (e.g., FPGAs or GPUs) to perform the compute-intensive Inner Tracker charged-particle reconstruction. Demonstrators based on commodity components have been developed to support the proposed architecture: a software-based fast-tracking demonstrator, an FPGA-based demonstrator, and a GPU-based demonstrator. Areas of study are highlighted in view of a final system for HL-LHC running.

Consider for young scientist forum (Student or postdoc speaker)

No

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