IEEE NPSS
IEEE
23rd Real Time Conference
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Contribution ID: **13**

Type: **Poster plus Minioral**

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

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.

Minioral

Yes

IEEE Member

No

Are you a student?

No

Authors: BOISVERT, Veronique (Royal Holloway, University of London); CAMPLANI, Alessandra; MAJEWSKI, Stephanie (University of Oregon (US))

Presenter: CAMPLANI, Alessandra

Session Classification: Mini Oral - II

Track Classification: Trigger Systems