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Type: **Talk**

Tracc: Track Reconstruction on GPU in ACTS

Thursday 16 May 2024 12:15 (20 minutes)

Reconstructing the tracks left by charged particles in modern HEP detectors is one of the most computationally challenging tasks in analyzing the data of modern experiments. During the High-Luminosity LHC era the LHC experiments, including ATLAS, will have to be able to process much more complex data at much higher rates than ever before.

To achieve this, GPU accelerated code has been developed as an R&D effort as part of the ACTS project (<https://acts.readthedocs.io>). With ATLAS preparing to use ACTS for all of its CPU based track reconstruction during LHC's Run-4, we plan to integrate the GPU accelerated algorithms/tools from ACTS into ATLAS's offline, and possibly trigger reconstruction.

In this talk we present the latest status of the ACTS Parallelization R&D effort, with updated (physics and computing) performance figures.

Requested talk length

20

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