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Software Performance of the ATLAS Track Reconstruction for LHC Run 3

Tuesday 31 May 2022 18:00 (3 minutes)

This poster summarizes the main changes to the ATLAS experiment's Inner Detector track reconstruction software chain in preparation for LHC Run 3 (2022-2024). The work was carried out to ensure that the expected high-activity collisions (with on average 50 simultaneous proton-proton interactions per bunch crossing, pile-up) can be reconstructed promptly using the available computing resources while maintaining good physics performance. Performance figures in terms of CPU consumption for the key components of the reconstruction algorithm chain and their dependence on the pile-up are shown, as well as physics performance figures of preliminary data from Run-3 commissioning. For the design pile-up value of 60 the updated track reconstruction is a factor of 2 faster than the previous version.

Consider for young scientist forum (Student or postdoc speaker)

Yes

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