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Usage of GPUs for online and offline reconstruction in ALICE in Run 3

Friday 19 July 2024 09:21 (17 minutes)

ALICE records Pb-Pb collisions in Run 3 at an unprecedented rate of 50 kHz, storing all data in continuous readout (triggerless) mode. The main purpose of the ALICE online computing farm is the calibration of the detectors and the compression of the recorded data. The detector with the largest data volume by far is the TPC, and the online farm is thus optimized for fast and efficient processing of TPC data during data taking. For this, ALICE leverages heavily the compute power of GPUs. When there is no beam in the LHC, the GPU-equipped farm performs the offline reconstruction of the recorded data, in addition to the GRID. Since the majority of the compute capacity of the farm is in the GPUs, and meanwhile also some GRID sites begin to offer GPU resources, ALICE has started to offload other parts of the offline reconstruction to GPUs as well.

The talk will present the experience and processing performance with GPUs in the Run 3 Pb-Pb and pp online and offline processing in ALICE.

Alternate track

I read the instructions above

Yes

Author: ROHR, David (CERN)

Co-author: ALICE, Collaboration

Presenter: ROHR, David (CERN)

Session Classification: Computing and Data handling

Track Classification: 14. Computing, AI and Data Handling