



Contribution ID: 45

Type: **Presentazione orale**

Role of GPU in ALICE Online-offline reconstruction at LHC Run 3

Monday, 23 May 2022 17:30 (20 minutes)

In Run 3 the paradigm of the ALICE experiment will shift towards precision measurements of rare probes. This will be achieved by collecting large data samples at high interaction rates, continuously recording collisions with a triggerless approach called continuous readout.

In this scenario, Pb-Pb collisions will be recorded at a rate up to 50 kHz, reaching a raw data flow rate of up to 3.4 TB/s.

This requires full online processing of all recorded data, implying a major change compared to traditional online systems, which see only the data selected by a hardware trigger. To cope with the increased data rate and computing requirement, ALICE employs graphics cards (GPUs) as the backbone of the online processing. In order to make full use of the online farm also for asynchronous reconstruction, also for asynchronous reconstruction, a large fraction of the asynchronous phase is being designed to run on GPUs.

The impact in Run 3 of the GPUs provided by the ALICE O2 farm at CERN will be described in the talk, providing benchmarks with the technologies explored so far. A first look to the perspectives for next years in employing GPU in Grid Tier sites will be discussed as well.

Primary author: NOFERINI, Francesco (Istituto Nazionale di Fisica Nucleare)

Presenter: NOFERINI, Francesco (Istituto Nazionale di Fisica Nucleare)

Session Classification: Esperimenti e calcolo teorico

Track Classification: Calcolo negli esperimenti