Contribution ID: **469**   Type: **Talk**

Performance of the LHCb heterogeneous software trigger

Monday 21 October 2024 13:30 (18 minutes)

Since 2022, the LHCb detector is taking data with a full software trigger at the LHC proton-proton collision rate, implemented in GPUs in the first stage and CPUs in the second stage. This setup allows to perform the alignment & calibration online and to perform physics analyses directly on the output of the online reconstruction, following the real-time analysis paradigm. This talk will give a detailed overview of the LHCb trigger implementation and its underlying computing infrastructure, discuss challenges of using a heterogeneous architecture and report its performance in nominal data taking conditions during 2024 after two commissioning years.

Author: SCARABOTTO, Alessandro (Technische Universitaet Dortmund (DE))

Presenter: SCARABOTTO, Alessandro (Technische Universitaet Dortmund (DE))

Session Classification: Parallel (Track 2)

Track Classification: Track 2 - Online and real-time computing