Contribution ID: **198**   Type: **Parallel**

Performance of the real-time alignment and calibration of the LHCb detector in Run 3 of the Large Hadron Collider.

The LHCb detector has undergone a major upgrade for Run 3 of the Large Hadron Collider (LHC) to take data at a nominal instantaneous luminosity increased by approximately a factor of five. A key component of this upgrade concerns the realization of a fully software-based trigger system that performs the reconstruction of tracks and particle candidates in real time, which can directly be used for physics analysis. The new trigger system allows for a more refined and efficient event selection, made possible by the real-time alignment and calibration of the detector, ensuring a high quality of the data. This talk presents the status and performance of the real-time alignment and calibration of the LHCb detector during Run 3 of the LHC. The fully software-based trigger strategy is introduced, with a focus on the alignment and calibration procedures that have enabled its successful operation.

Secondary track

Author: COLLABORATION, LHCb

Session Classification: T12

Track Classification: T12 - Data Handling and Computing