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# The ALICE High Level Trigger

Content :

With the continuous operation of the Large Hadron Collider (LHC) at CERN, a significant data sample of proton-proton collisions has already been recorded by the ALICE detector. First runs of heavy ion collisions are expected in autumn 2010. The trigger system is a crucial component in efficiently exploiting the capabilities of ALICE. The experiment deploys a hierarchy of 3 hardware triggers and the High Level Trigger to select events based on physics criteria from the abundant sample of detector data.

The ALICE High Level Trigger farm processes all events which have been selected by the hardware triggers at a data throughput of up to 25 GByte/s, achieved by utilization of parallel computing. The final HLT decision is based on the reconstruction and analysis of the complete event. This information is the basis for trigger applications for the selection of rare probes like e.g. D mesons, photons through photon conversion, and photon-hadron correlations using the combined information of the calorimeters and the tracking system.

We present the concept of the ALICE High Level Trigger, the performance evaluation during the LHC pp campaign, and capabilities for AA collisions. The system is currently prepared for first heavy ion runs at LHC in Nov 2010. Because of the low initial event rate the focus of HLT operation will be on event reconstruction and monitoring, as well as trigger correlation studies, opening the possibility for including first results in this contribution.

Collaboration :

ALICE

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