Contribution ID: **201** Type: **oral presentation**

ALICE High Level Trigger interfaces and data organisation

Tuesday, 14 February 2006 14:45 (20 minutes)

The HLT, integrating all major detectors of ALICE, is designed to analyse LHC events online. A cluster of 400 to 500 dual SMP PCs will constitute the heart of the HLT system. To synchronize the HLT with the other online systems of ALICE (Data Acquisition (DAQ), Detector Control System (DCS), Trigger (TRG)) the Experiment Control System (ECS) has to be interfaced. In order to do so, the implementation of finite state machines, with the usage of SMI++, offers an easy way to coordinate the running conditions of the HLT with the other online systems. The mapping of the HLT states has to offer the possibility to run the HLT in stand alone mode (for commissioning and calibration) as well as controlled by ECS during the operational stage.

After a full reconstruction of an event, the HLT provides Trigger decisions, regions-of-interest (ROI) and compressed data to the DAQ in order to reduce the data rate to permanent storage. In addition, the result of the online event reconstruction, organised as ESD (Event Summary Data), has to be classified and indexed for later reference to the offline analysis.

This talk will cover HLT interfaces as well as the structure of the processed data.

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Session Classification: Online Computing

Track Classification: Online Computing