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The High Level Filter of the H1 Experiment at HERA

Wednesday 29 September 2004 15:20 (20 minutes)

We present the scheme in use for online high level
filtering, event reconstruction and classification
in the H1 experiment at HERA since 2001.

The Data Flow framework (presented at CHEP2001) will
be reviewed. This is based on CORBA for all data transfer,
multi-threaded C++ code to handle the data flow and
synchronisation and fortran code for reconstruction and
event selection. A controller written in python provides
setup,initialisation and process management. Specialised
java programs provide run control and online access to and display of
histograms. A C++ logger program provides central logging of
standard printout from all processes.

We show how the system handles online preparation and update
of detector calibration and beam parameter data.
Newer features are the selection of rare events for the online
event display and the extension to multiple input sources
and output channels.

We dicuss how the system design provides automatic recovery from
various failures and show the overall and long term performance.

In addition we present the framework of event
selection and classification and the features it provides.

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