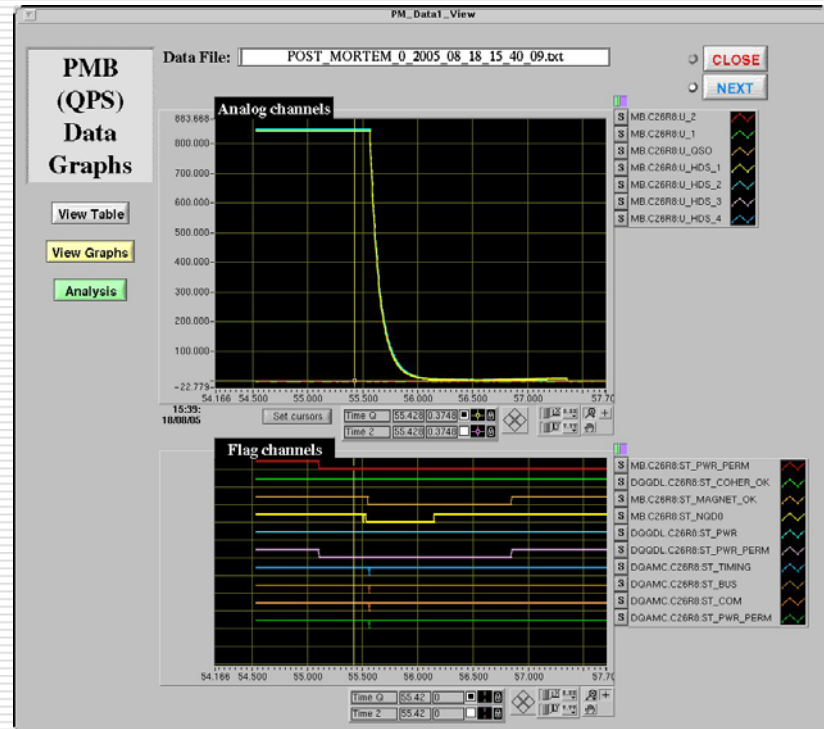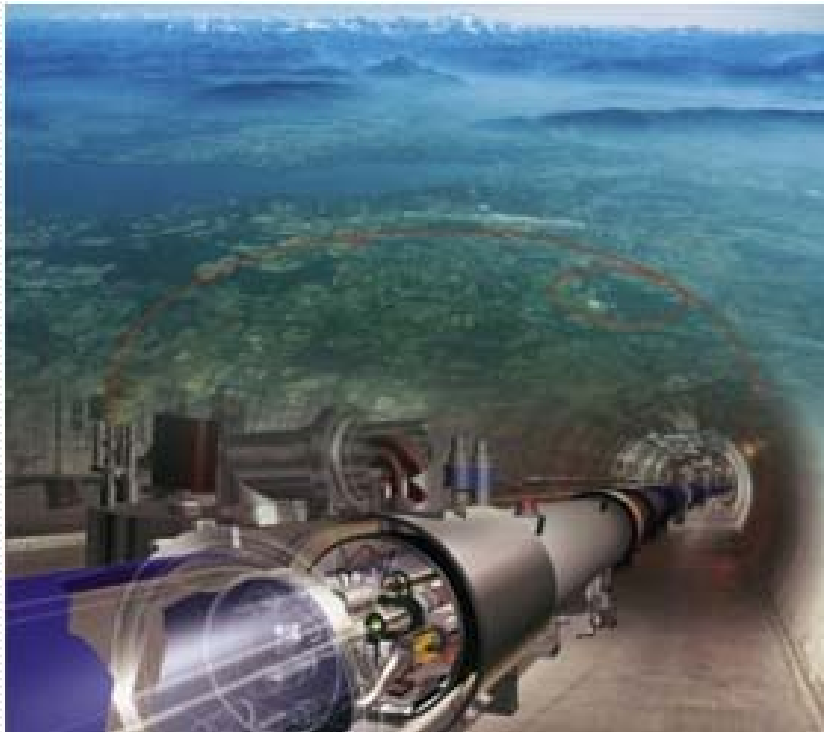# QPS Individual System Analysis
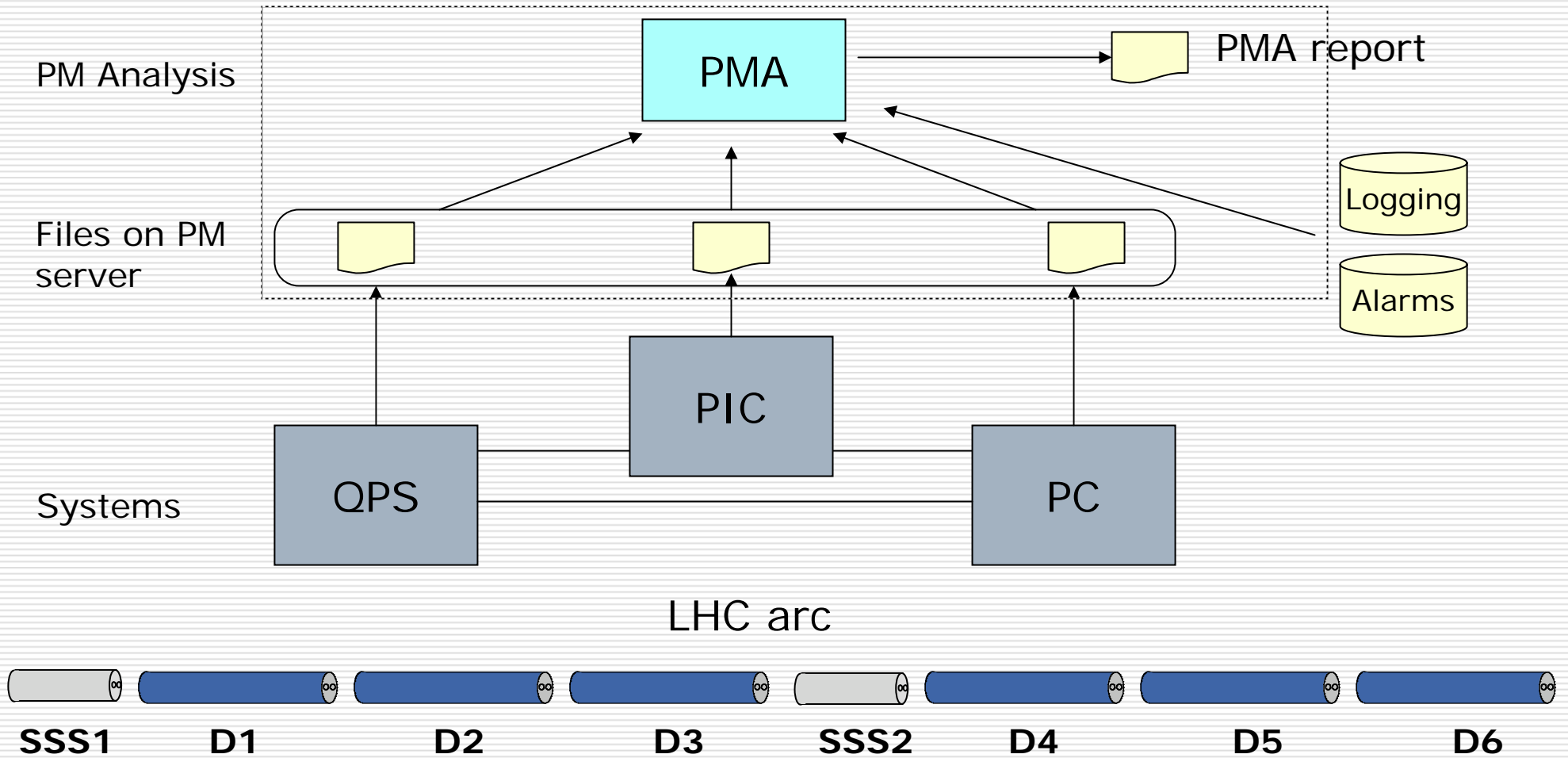
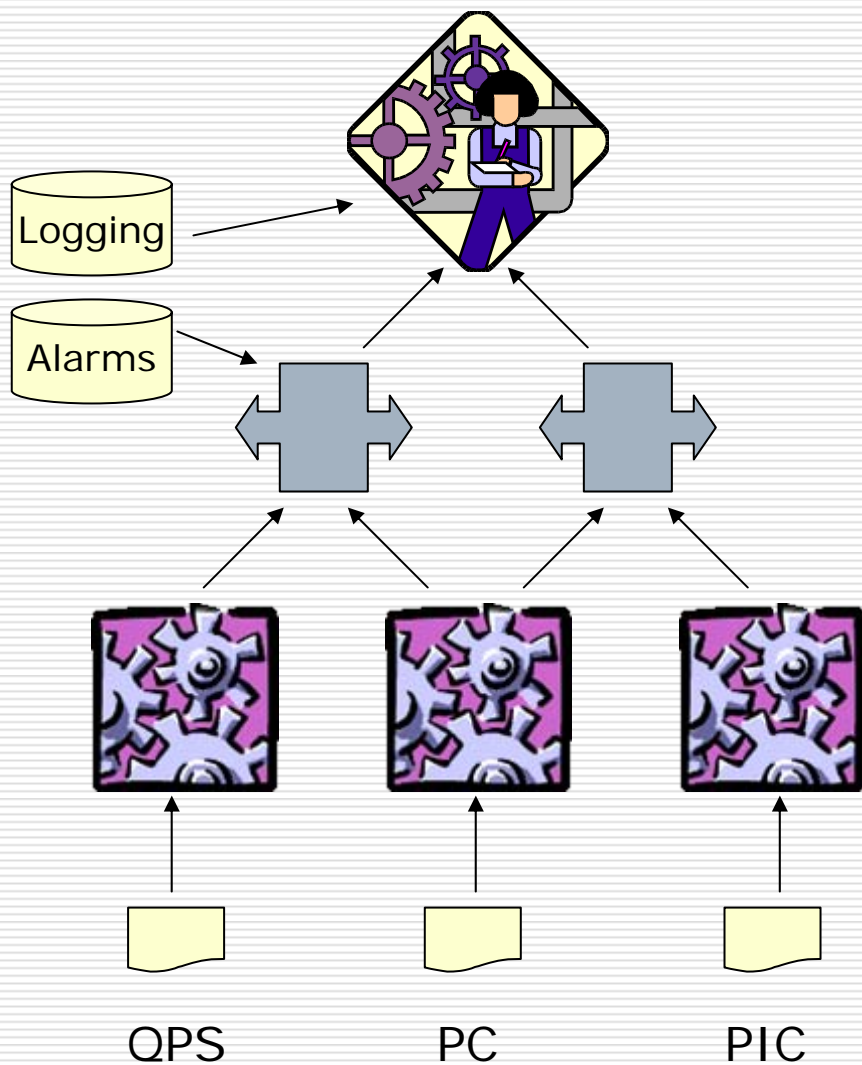## Outline

1. PM data flow
2. Data file verification and individual system analysis
3. Data viewer and analyser
4. Status

PMA: Data flow

PM Analysis

PMA

PMA report

Files on PM
server

Logging

Alarms

PIC

Systems

QPS

PC

LHC arc

SSS1　**D1**　**D2**　**D3**　**SSS2**　**D4**　**D5**　**D6**

PMA: Four levels of analysis

4. Event analysis
   - Transient+ logging+alarms
   - Generate event report

3. Interactions analysis
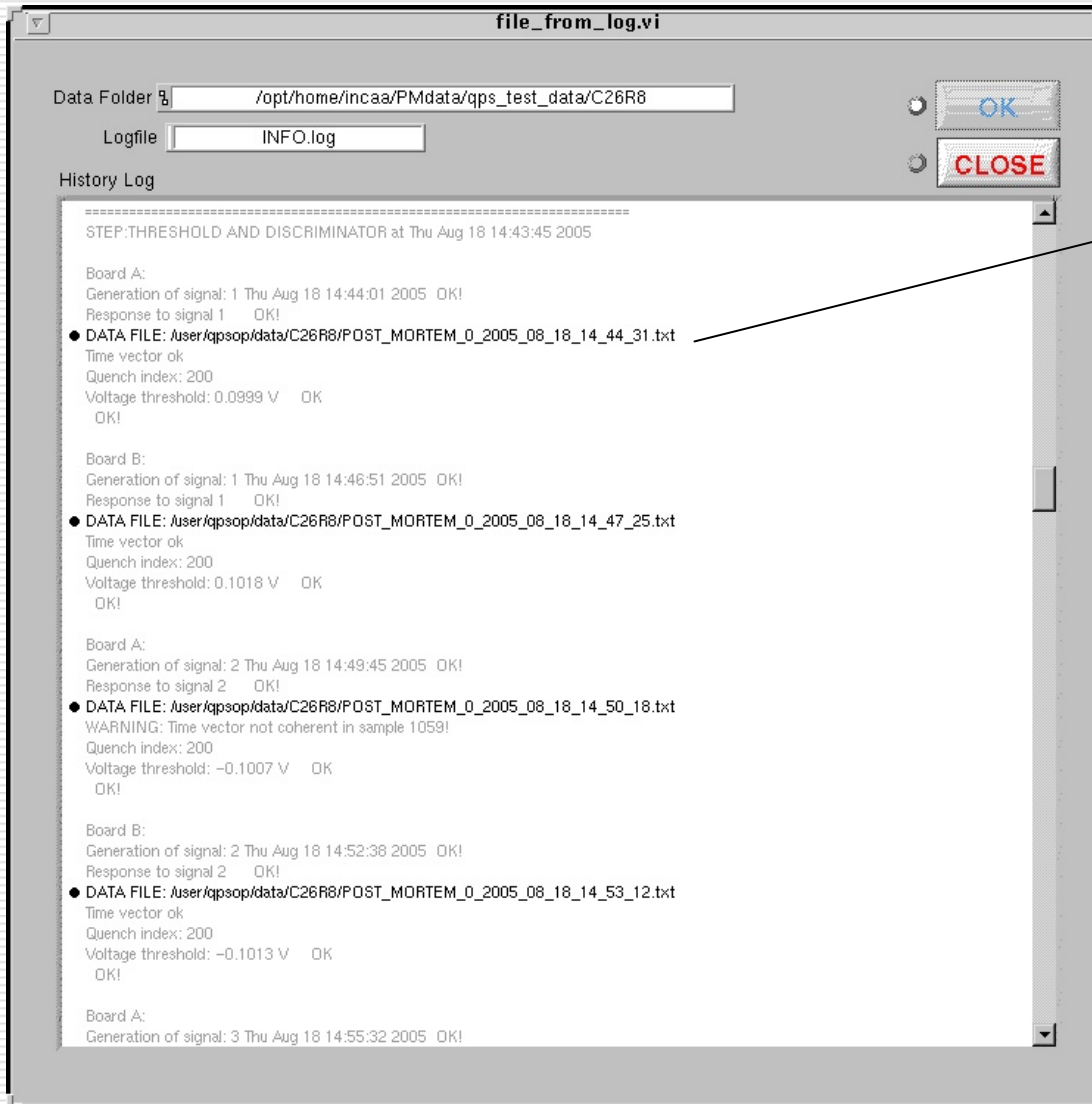   - Sequence of events
   - Delays

2. Individual system analysis
   - Status flags
   - Time stamps/sync
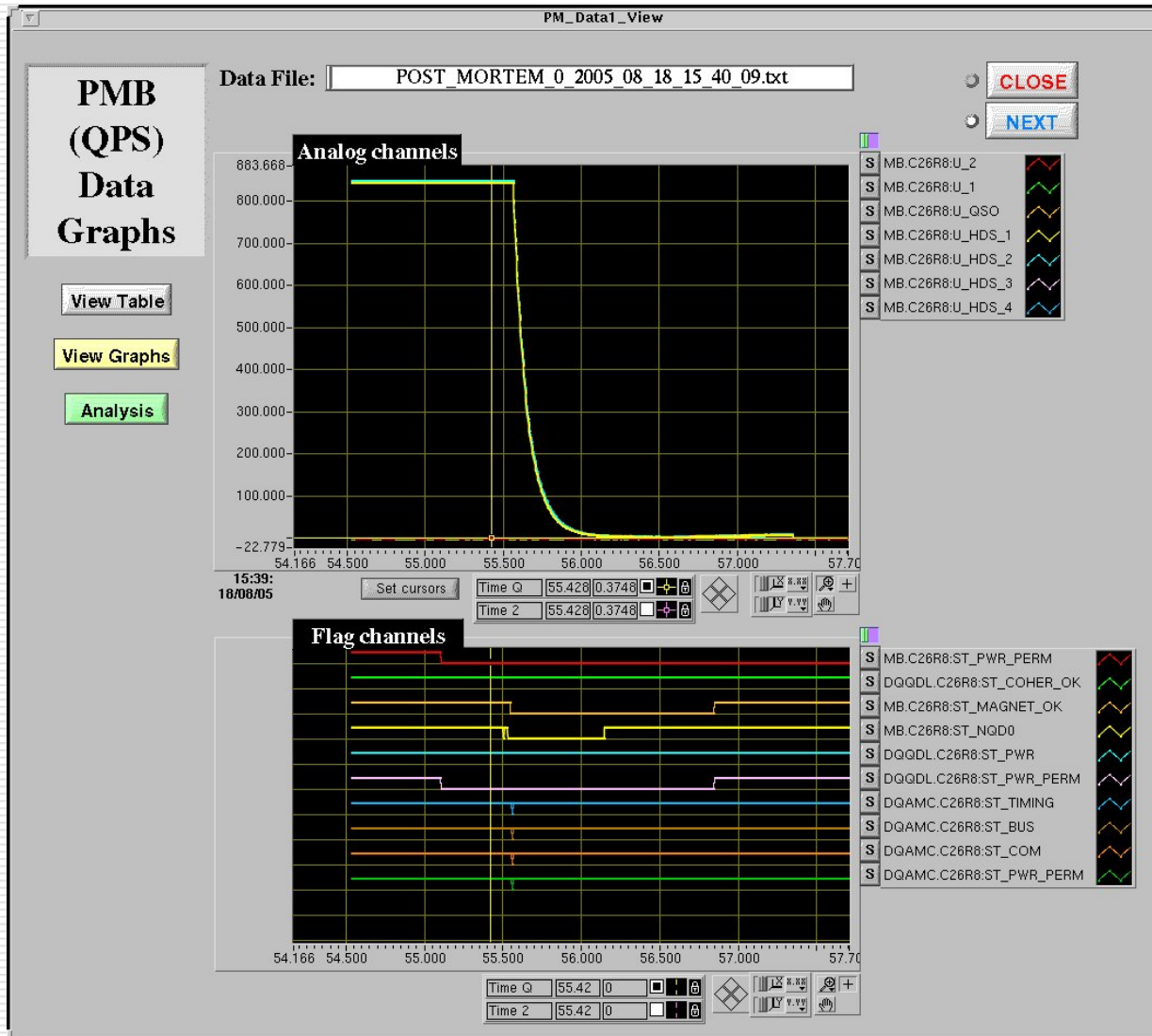   - Waveform analysis

1. Data format verification
   - Header
   - Data structure

PMA: QPS Info file

Info file viewer, with pointers to data files for direct access.
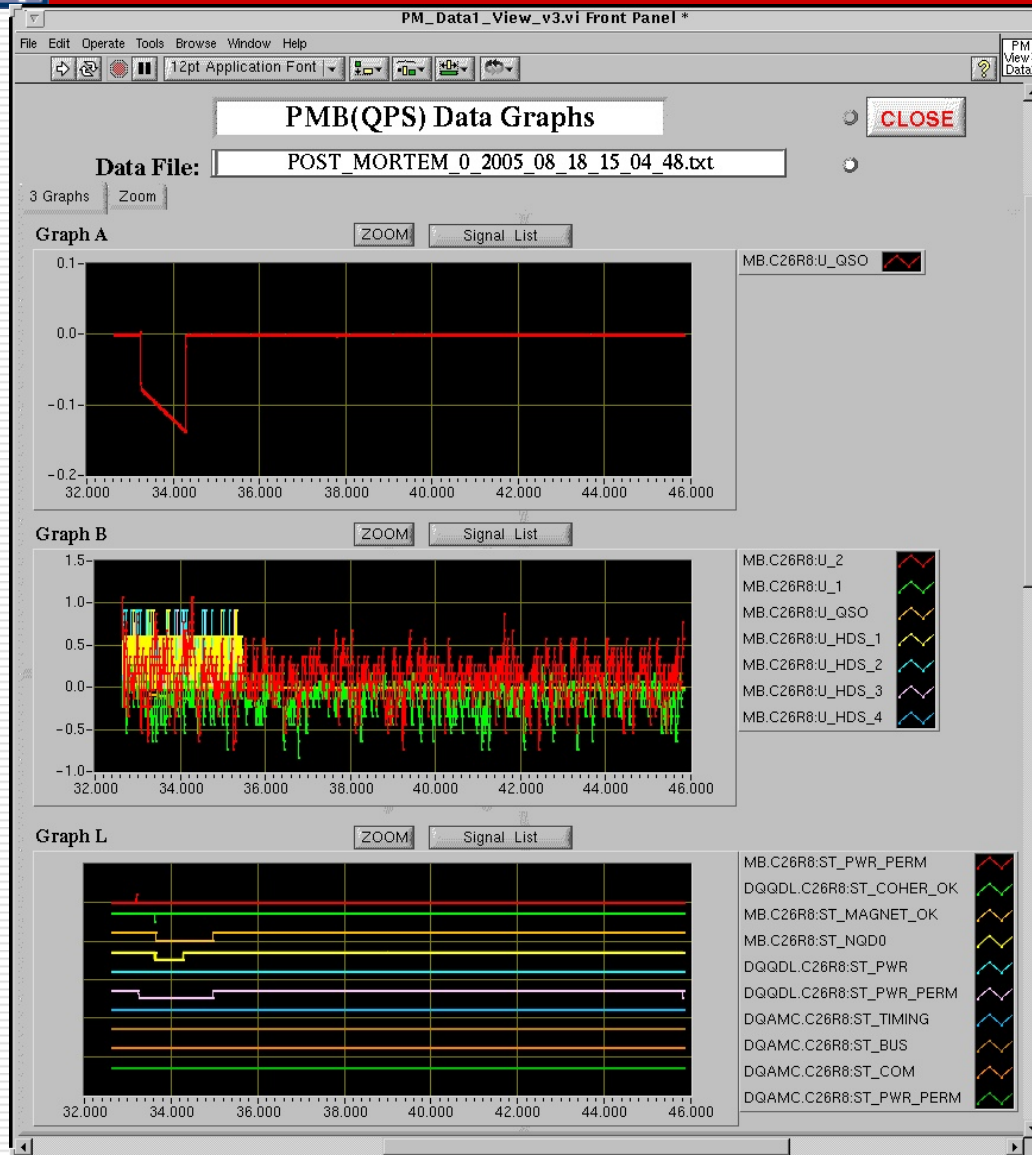
PMA: Analogue and digital graphs

Analogue graph with selection, hide and zoom functions. First cursor locked on trigger-time.

Digital graph that remain synchronised with the analogue plot during zooming.

PMA: Multi-graph

Two analogue graphs with different scales and one digital for faster visual inspection.
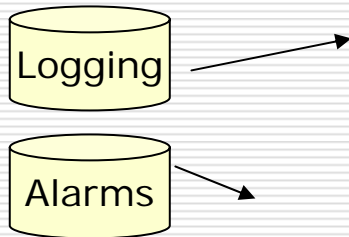
PMA: Data file details

Table view of data file with quick selection of columns of interest (Selected in graphs, external signals, …)

Logging

Alarms

•Logging data will be accessed from the PMA program by an Oracle interface in C within LabVIEW (Alessandro and Alastair).

•Alarm data will be accessed through a SDDS dump file produced by the LASER system (Niall).

4. Event analysis
  - Transient+ logging+alarms
  - Generate event report

3. Interactions analysis
  - Sequence of events
  - Delays

2. Individual system analysis
  - Status flags
  - Time stamps/sync
  - Waveform analysis

1. Data format verification
  - Header
  - Data structure

Logging

Alarms

Done

QPS   PC   PIC