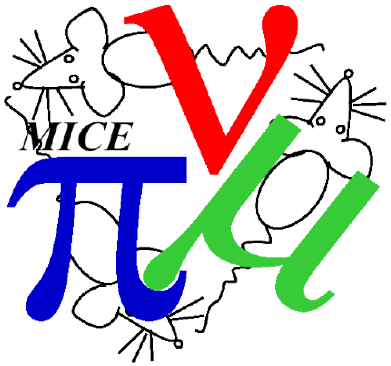
Data Quality Flags



Chris Rogers,
ASTeC,
Rutherford Appleton Laboratory

Concept

- We need to relay to analysis group what happened in the control room
  - Did any alarms sound?
  - Did anything happen?
  - MICE log can have detail, but if people want to automatically find the right data (we will have 1000s of runs) then it is not sufficient
  - “data quality”
- Also what happens outside of the control room
  - Did the data move?
  - Did the data reconstruct okay?
- Set of flags
  - True means “okay for analysis”
  - Written to DAQ stream on a per-spill basis
  - Written to CDB as a logical AND of every spill
- Propose following list of flags
  - Please help where I have asked, or think of flags that are missing

Concept

- We need to relay to analysis group what happened in the control room
  - Did any alarms sound?
  - Did anything happen?
  - MICE log can have detail, but if people want to automatically find the right data (we will have 1000s of runs) then it is not sufficient
  - “data quality”
- Also what happens outside of the control room
  - Did the data move?
  - Did the data reconstruct okay?
- Set of flags
  - True means “okay for analysis”
  - Written to DAQ stream on a per-spill basis
  - Written to CDB as a logical AND of every spill
- Propose following list of flags
  - Please help where I have asked, or think of flags that are missing

Beamline

- Beamline
  - ISIS has current
  - Target frame lowered
  - Target frame actuating
  - 12 Beamline magnets have correct currents
  - D1 has correct polarity
  - D2 has correct polarity
  - proton absorber has correct setting
  - diffuser has correct setting
  - beam stop has correct setting

Plan

- Detector hardware
  - Luminosity Monitor
  - TOF0
  - TOF1
  - TOF2
  - CkovA
  - CkovB
  - KL
  - EMR
  - Tracker1
  - Tracker2

Plan

- DAQ
  - DAQ crate voltages okay
  - GDC okay
  - 6 LDCs okay
  - Online Monitoring okay
  - Online Reconstruction okay
  - Trigger gate okay

GRID/Recon

- Data compacted okay
- Data moved okay
- Data reconstructed okay
- For each reconstructed MAUS version number we get 1 bit per detector indicating "that detector reconstructed okay"
  - "reconstructed okay" should be defined by detector software experts
  - Typically look at things like reconstruction efficiency versus number of triggers (triggering detector) and digits (other detectors)

Comments

- Comments?
- Criticisms?
- Suggestions?