

Outer Veto Online Data Monitoring:

A Road Map

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Inputs

- One binary data file every 5 seconds from each USB board
- Data cleared following event reconstruction (Matt)
- MySQL Server for operating parameters (number of boards, PMT parameters)

Outputs

- Real-time
 - Hit rate per channel
 - Mean ADC counts per channel (or deposited energy)
 - Hit Rate and Mean ADC, per board
 - Numerical values for each object, vs. nominals
 - With cuts vs. without
 - Whole-OV trigger rate
- Every 2/3 hours
 - Baseline Mean per channel
 - Baseline Sigma per channel
- Check MySQL server connection
- Check if data is being received

Implementation

- ROOT, with GUI
 - Data decoding ported from perl-based DAQ
1. Initialization
 1. Load GUI
 2. Load parameters from MySQL
 3. Build plots/histograms
 2. File Gathering
 1. Use (machine time – 10) sec to parse filenames, each second
 2. Constrained by expunge time of event builder (Matt)
 3. Data Processing
 1. Convert binary data stream to ntuples
 2. Add into histograms
 3. Rate constrained: must be faster than data input
 4. Other variables?
 4. Contingencies
 1. Establish nominal ranges for parameters
 2. Alarms and notifications (Visual, Audio)
 3. Level of user input (start and stop, save data?, secondary plots?)