

FarDet Data Collection Session

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MINOS Meeting

Caltech

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Agenda

- Overview of plane check out plans (Nelson)
- Status and plans for the DAQ to accommodate PPP requirements (Belias)
- MUX box check out (Nelson for Rebel)
- Pedestals, Singles, & LI check out (Lee)
- Online monitoring update (Nelson for Petyt)
- Wrapping it up: PPP planning (Nelson/All)
- The future: Data Certification (Nelson/All)

What's PPP?

- Plane Procedure Posse...
 - > A lame name for an important group
 - > This group has been working since October to prepare standard procedures for commissioning new FD planes **using the DAQ**
 - > The group is made up of
 - Tass Belias, Roy Lee, David Petyt, Brian Rebel, Chris Smith, and Jeff Nelson (Dave Ayres and Geoff Pearce too)
- The results will be transfer of knowledge
 - > A set of tested and documented procedures
 - > Check sheets for future work to assure QA
 - > Feedback to the DAQ group on the functionality of the DAQ system

Overall Checkout Plan

- Configuration of DAQ/HV for data collection on new planes
- MUX/FEE installation and checkout
- Pedestal runs
- Charge injection run
- Dynode scan
- Singles runs
- Light injection runs
- Plane trigger data

In finer detail (I)

- Pedestal run - no HV
 - › Produces pedestal table (mean)
 - › Produces anode threshold table ($RMS*3+ped$)
 - Would results improve with a simple truncation algorithm?
- Pedestal run - with HV
 - › Compare with the previous pedestal tables
- Charge Injection
 - › Electronics diagnostics
 - › Flow chart for debugging/repairs
 - › Pictures and details on FEE fixes
- Dynode threshold scan
 - › Do we bother? Define a test program and execute it
 - › If so, how many runs and what levels?
 - › Automate threshold scans in the future?

In Finer Detail (II)

- Singles Run
 - › Optical continuity though correlations
- LI (Unsparcified)
 - › One low light level
 - › One pmt at a time?
 - › LI mapping correct?
 - › Initial gain calculations
 - › Rates are an issue until hardware trigger fully implemented
- LI (Sparcified)
 - › Step through different light levels
 - › 4 planes at a time
 - › Optical transmission test
 - › Initial non-linearity calibration
- Reconfigure for plane trigger run
 - › Run diagnostics are a near future issue

Completion of PPP work

- What's missing?
 - > Completion of development
 - LI and Dynode scans still need work
 - > Integration of code between offline and online jobs - well underway
 - > Completion of documentation
 - > A full test of all steps
 - > Feedback and training
 - Develop a check list for the process
- Goal: finish this up by the end of the month
 - > Integrate this into the "unified" data meeting for future developments

Certification of Collected Data

- What should we be checking on a run by run (or shift by shift) basis?
 - > Have the pedestals drifted?
 - > Have the hot channels changed?
 - > Have the dead channels changed?
 - > LI OK?
 - > Are the muon rates constant over the run?
 - > Are the hardware triggers constant over the run?
 - > Timing consistent with previous runs?
 - > Look at some displayed events
 - > Environmental data OK?
 - > Data being logged to FNAL?
 - > Upward muon filter (?) with an alarm?
- What's missing and what's not worth the effort to check routinely?

CCD Work

- Define histograms
 - > Are there quantities not appropriate for the online monitoring program?
 - > David pulls them together
- Handbook of what's good and what's what's bad
 - > Check list
- Training and iteration