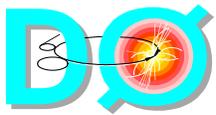


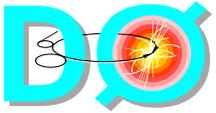
## Week of July 7 to July 15 Summary

- Delivered luminosity and operating efficiency
  - ◆ Delivered:  $1.4\text{pb}^{-1}$
  - ◆ Recorded:  $1.0\text{pb}^{-1}$  (70%)
- Major reasons for efficiency increase
  - ◆ Running in multi-buffer mode in all front-ends
    - ▲ Front-end busy fraction is down to ~3% from ~18%
    - ▲ No major studies/commissioning during last week
      - DO Oklahoma Workshop
    - ▲ Still there are items (stability of muon readout, fiber tracker AFE boards stability, etc.) which are holding us below 90% Run II operating efficiency goal
- Running at twice higher Level 1 and L2 accept rates recently
  - ◆ ~0.2kHz out of Level 1 trigger
  - ◆ ~140Hz out of Level 2 trigger
  - ◆ ~50Hz to tape
- Last week operational issues
  - ◆ Multiple power outages for the Collision Hall and platform
    - ▲ aged UPS - replaced
  - ◆ Lost VME power supply in muon crate
    - ▲ replaced during access today



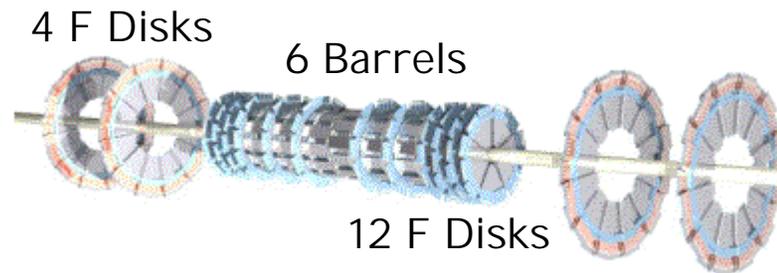
## Week of July 7 to July 14 Operations

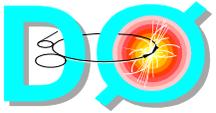
- Luminosity detector
  - ◆ Stable
- Silicon detector
  - ◆ Power supplies are running well
  - ◆ No “rains” from heat exchangers for now
  - ◆ Quite time used for calibrations
- Calorimeter
  - ◆ Noisy trigger towers masking
  - ◆ Zero suppression reduced from  $2.5\sigma$  to  $1.5\sigma$
- Muon
  - ◆ loss of serial link communication every ~20minutes
    - ▲ limiting Level 3 data transfer rate
- Annual D0 Workshop was held at University of Oklahoma last week
  - ◆ very productive
  - ◆ detailed list of issues to be resolved in detectors/trigger/DAQ has been developed
    - ▲ overview of the list



## "To do" for the D0 Detectors

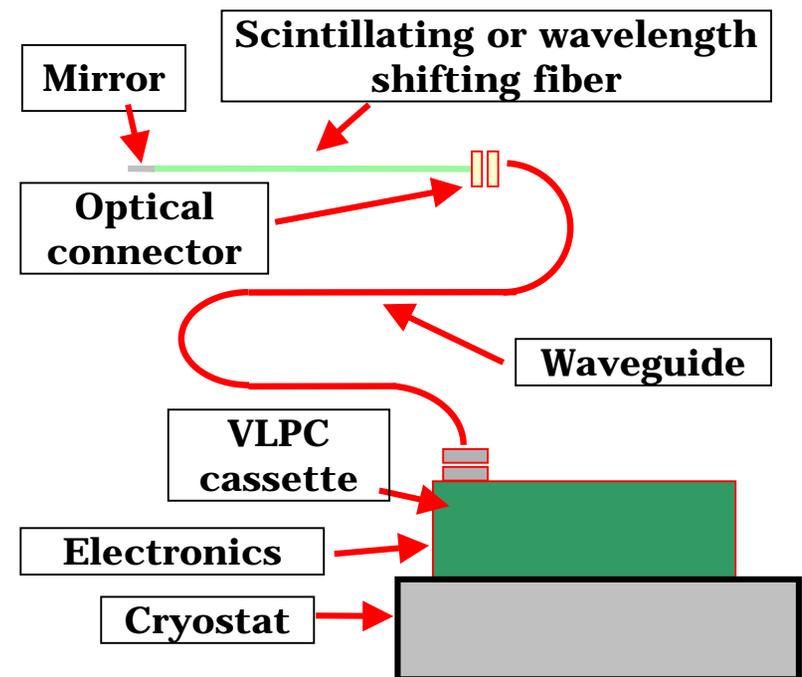
- All major detectors are in operation
  - ◆ Second order commissioning and improvements
- Luminosity detector
  - ◆ Operates stable over many months
  - ◆ Still with Run I electronics (multiple interactions)...
  - ◆ Improvements in calibration constant
  - ◆ On-line numbers for integrated luminosity
  - ◆ Is CDF luminosity really ~6% higher?
    - ▲ D0/CDF task force
- Silicon detector
  - ◆ Reliability of the cathedral power supplies and cooling
  - ◆ Understanding of "grassy noise" issue
  - ◆ High voltage leak currents
  - ◆ Monitoring of the radiation dose

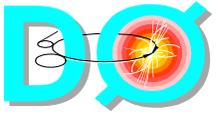




## "To do" for the Detectors

- Fiber tracker and preshower
  - ◆ Resolve AFE boards "memory loss" problem
  - ◆ Understand pedestal variations to reduce hits occupancy
  - ◆ Monitor light output, VLPS, and AFE responses
  - ◆ Provide calibrated thresholds/signals for CTT trigger
  - ◆ Integrate forward preshower (and FPD)
- Calorimeter
  - ◆ Fix noise on Level 1 trigger signals
    - ▲ Low  $E_t$  triggers are prescaled
  - ◆ Stable pulser calibration
  - ◆ Operation with  $1.5\sigma$  vs  $2.5\sigma$  zero suppression threshold
  - ◆ COMICS based reliable parameters download and verification
  - ◆ ~25 BLS low voltage power supplies have to be upgraded

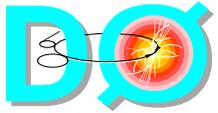




## "To do" for the Detectors

- Inter Cryostat Detector (ICD)
  - ◆ Replace bad PMTs (+few electronics channels)
  - ◆ Updated ICD addressing and test using LED pulser
  - ◆ MIP calibration with data for every individual tile
- Solenoid
  - ◆ Long term stability monitoring
  - ◆ Corrections to field map
    - ▲ Geometry, tracks fit based corrections
- Muon system
  - ◆ Improve stability of readout (synchronization and other errors)
  - ◆ Level 2 trigger signals issue
  - ◆ Individual thresholds for central A layer counters
  - ◆ TOs and time-to-distance for PDTs (momentum resolution)





## Summary

- Good progress in the DØ detector capabilities over last year
  - ◆ All detectors are working and down to second order improvements
    - ▲ No show stoppers!
  - ◆ All trigger levels are in operation with rapidly improving capabilities
  - ◆ New DAQ is performing well
  - ◆ Data collection monitoring is advancing
  - ◆ Data collection efficiency is reasonable
- We have to finish installation of a few critical systems and commission recently installed equipment
- Steady high efficiency operation with in depth data quality monitoring is becoming highest priority for most of the DØ sub-groups