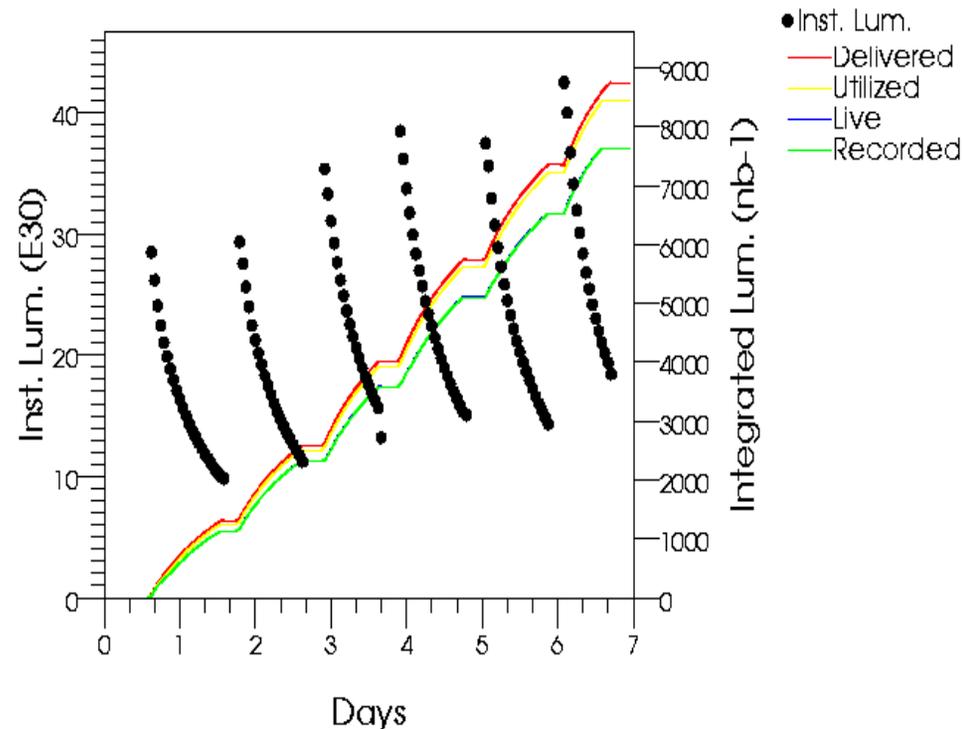
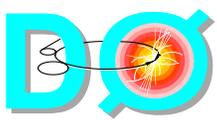


DO Weekly Summary: July 21 to July 27

- Delivered Luminosity and operating efficiency
 - ◆ Delivered 8.8pb^{-1}
 - ◆ Recorded 7.6pb^{-1} (87%)
- Most serious sources of downtime
 - ◆ Level 1 trigger calorimeter fan failure (~3 hours)
 - ◆ Muon trigger scintillation counters card failures (~2 hours)
- Total number of events collected
 - ◆ 15.5 mln
- Beam halo
 - ◆ Within specs
- Beam position
 - ◆ Within 0.5 mm from the detector center and stable

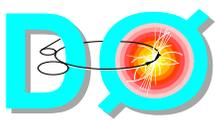


Day of the Week



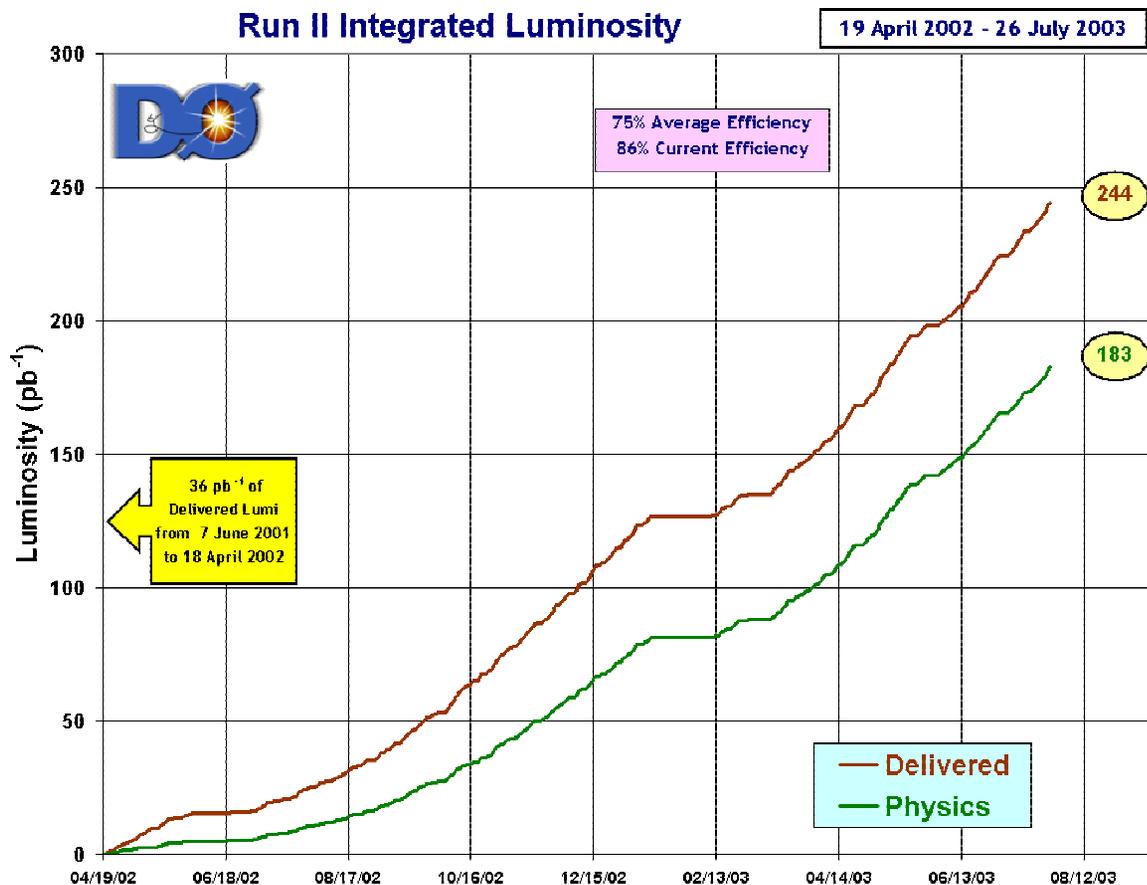
DO Data Taking

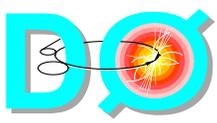
- Most serious issues with DO data taking last week
 - ◆ Slowly dying card in the muon scintillator crate
 - ▲ Readout failures came in batches, but on average ~5 times per hour
 - ▲ Many cards in the crate showed errors - difficult to find one which created real problem
 - ▲ After extensive studies and two 30 minute long accesses the problematic card has been found and replaced Friday evening
 - Running smoothly since that time
 - ◆ Level 1 calorimeter triggering
 - ▲ Had 4 trips of 10 racks with Level 1 trigger electronics during beam time starting at ~3pm Sunday
 - ▲ With no experts available at Fermilab had troubles understanding the reason for the trips, but got well trained recovering from the trips
 - First one took two hours to recover
 - The one earlier today took only ~30 minutes of beam time
 - ▲ Traced (most probably) to bad belt in the fan which was slipping causing reduction in air flow
 - Belt has been replaced and we are running stable over last ~6 hours
 - ◆ Silicon detector HDI trips
 - ▲ Happening a few times a week and in some cases requires experts intervention
- Where total of ~13% weekly inefficiency is coming from?
 - ◆ ~4% front-end busy - lack of Level 1 trigger buffers in the DO tracking electronics
 - ▲ At 1.4kHz Level 1 accept rate
 - ◆ ~2% begin/end store, run transitions
 - ◆ ~7% hardware/software failures and operators mistakes
 - ▲ Clearly that maximum long term efficiency we can sustain is ~90%



DO data taking

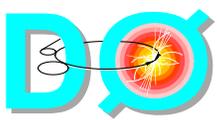
We expect to have $\sim 200\text{pb}^{-1}$ on tapes before Summer 2003 shutdown or almost double Run I data sample





September 2003 Shutdown

- In process of updating schedule based on new shutdown dates
 - ◆ If anything shutdown is too long for us
- There are two major goals for the shutdown at DO
 - ◆ Improve **reliability** of the detectors, electronics, software
 - ◆ Improve **quality** of the data we are collecting
- Each sub-group is developing detailed plans. Some examples:
 - ◆ **Silicon detector**
 - ▲ Fixes to known electronics problems and development of monitoring for long term reliable operation
 - ◆ **Fiber tracker**
 - ▲ Modifications to AFE cards to increase readout speed and reduce data load
 - ▲ Modifications to power supplies to reduce time needed for their replacement
 - ◆ **Calorimeter**
 - ▲ Replacement of all cooling fans for the higher reliability version
 - Required 2 detector openings over last 6 months
 - ◆ **Muon system**
 - ▲ Remote power cycle of electronics located in the collision hall
 - ▲ Reduction of gas losses in tracking detectors
- DO will need support from the survey crew (a few days total) during major detector opening/closing operations



Summary

- Mainly stable physics data taking with ~86-92% daily operating efficiency
 - ◆ No known major problems with detector
 - ◆ No access requests at this moment
- Plan to collect ~200pb⁻¹ for physics analysis before September 2003 shutdown

