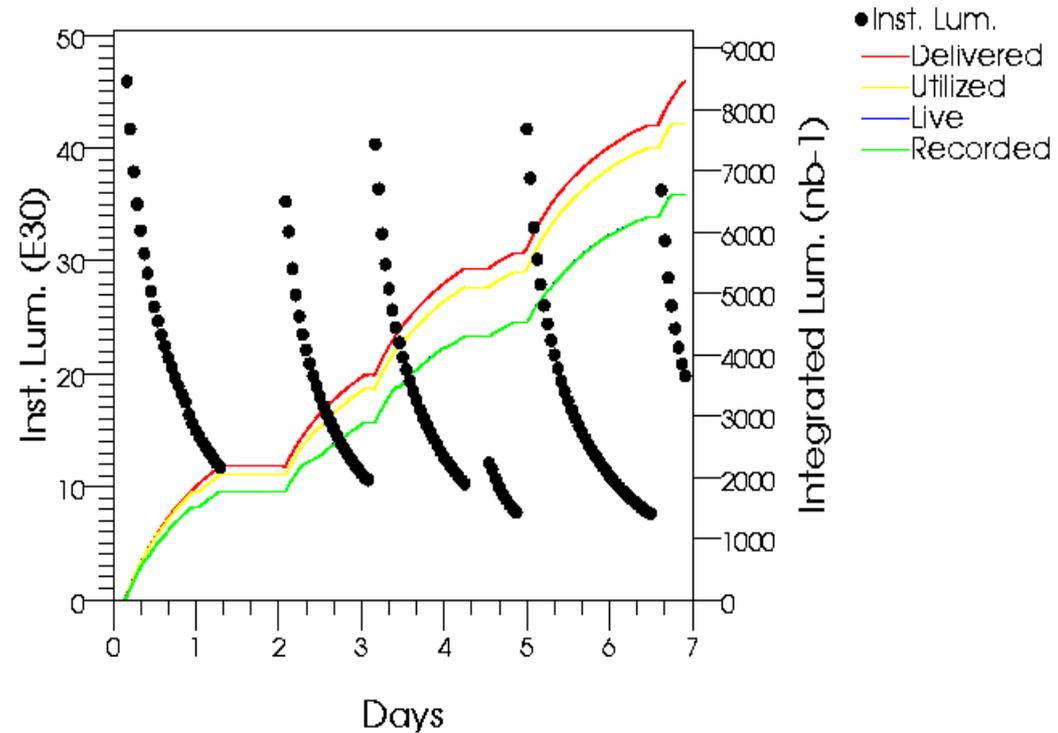
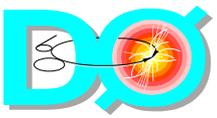


D0 Data Taking Summary: January 19 to January 25

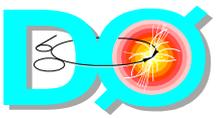
- *Luminosity*
 - ◆ *Delivered 8.4pb-1*
 - ◆ *Recorded 6.9pb-1*
- *Data taking efficiency*
 - ◆ *82% weekly*
 - ◆ *Below average*
 - ◆ *“Statistical fluctuation”*
- *Backgrounds*
 - ◆ *P and pbar halo are within specs*
- *Beam position*
 - ◆ *Within specs*
- *Number of events collected*
 - ◆ *15mln*



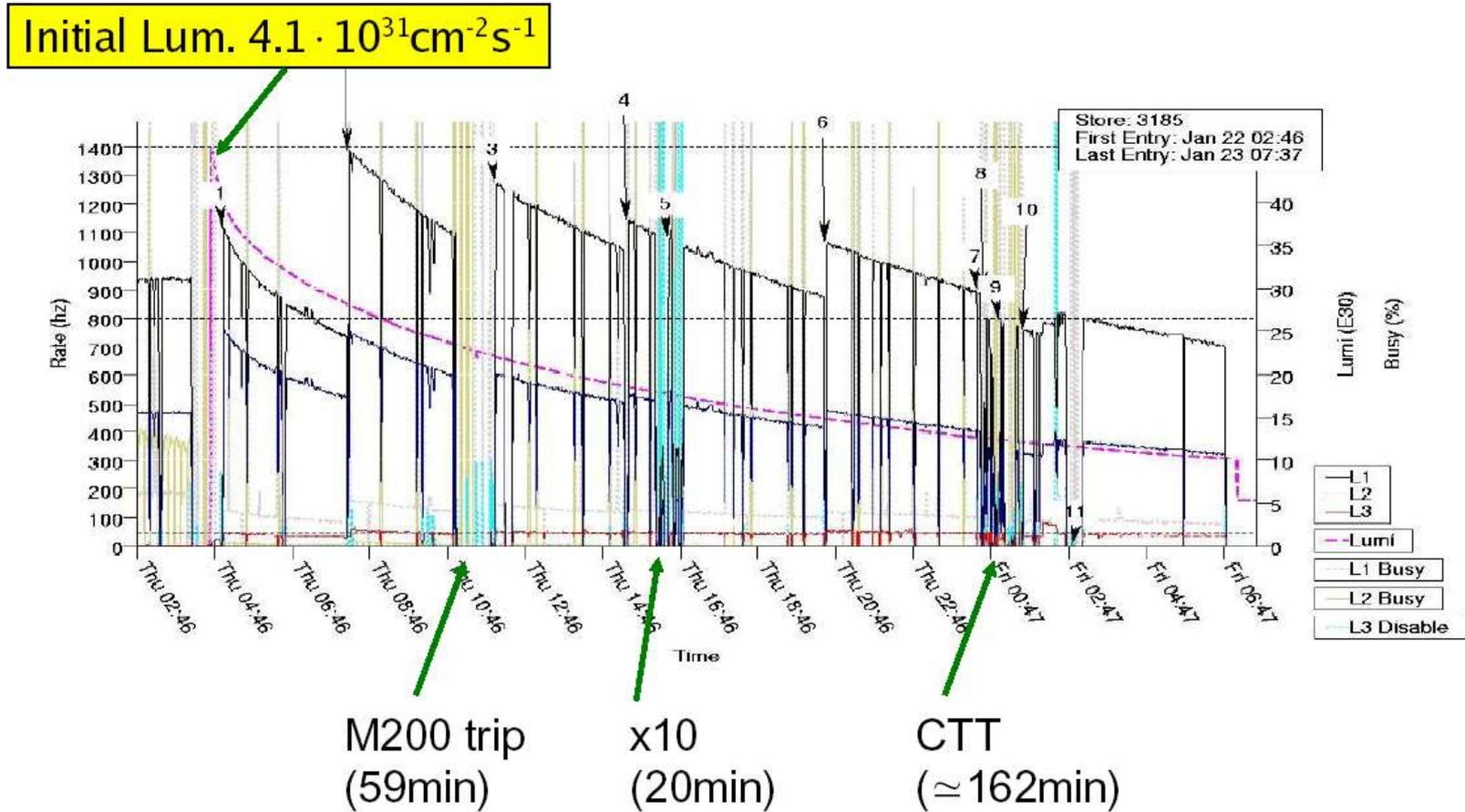


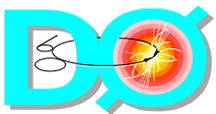
Detectors Status

- *Luminosity*
 - ◆ *Stable Data taking, new constant*
- *Silicon*
 - ◆ *Number of working HDIs is stable*
 - ▲ *~88%*
 - ◆ *Water drip alarm/power off on Wednesday*
 - ▲ *Lost ~1.5 hours*
 - ▲ *Not repeated since that time*
- *Fiber tracker and preshowers*
 - ◆ *Stable data taking*
 - ◆ *Problems with tracking trigger power supply trip*
 - ▲ *~1.5 hours of downtime*
- *Calorimeter*
 - ◆ *No problems with detector*
- *Muon system*
 - ◆ *Power supply failure, broken wire in tracking detector*
 - ▲ *Required two accesses*
- *Forward proton detector*
 - ◆ *All 18 pots are in operation!*
 - ◆ *Pots are inserted by experts at the beginning of every store and data are written to tapes using standard DAQ system*
 - ◆ *Working on results analysis, developing automatic insertion procedure and FPD triggering*



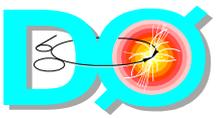
Thursday-Friday Store





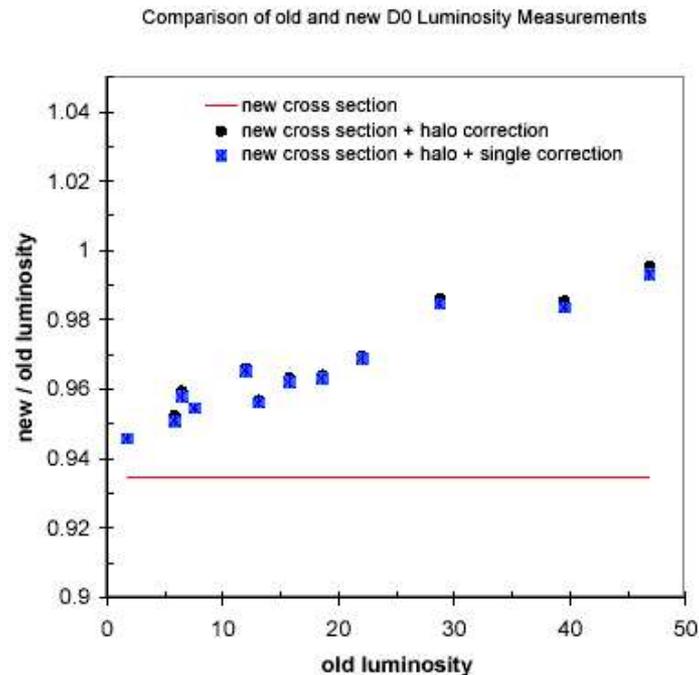
Triggering and Data Taking Efficiency

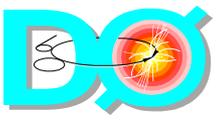
- *Collecting physics data stably with trigger list v12.32*
 - ◆ *Level 1 ~1.4kHz*
 - ◆ *Level 2 ~0.8kHz*
 - ◆ *Level 3 ~50Hz*
- *Actively progressing with Silicon Track Trigger (STT) commissioning*
 - ◆ *All hardware is installed*
 - ◆ *Running ~50% of crates in global runs (not triggering yet)*
 - ▲ *Concentrating on firmware debugging*
 - ▲ *Have to do with real trigger rates/inputs from silicon and fiber tracker*
 - ▲ *Cause some downtime during physics data taking*
 - *~3%-4%*
- *Developing new trigger list v13*
 - ◆ *Better efficiencies/rejections for high luminosity operation*
 - ◆ *New tools in fiber tracker and muon Level 1 triggers, better filtering on Level 3 farm*
- *Last week efficiency loss*
 - ◆ *~4% front-end busy*
 - ◆ *~4% silicon trigger commissioning (!)*
 - ◆ *~2% begin/end store, begin/end runs, etc.*
 - ◆ *~8% different failures (!)*
- *Back to ~88% over weekend*



New Luminosity “Constant”

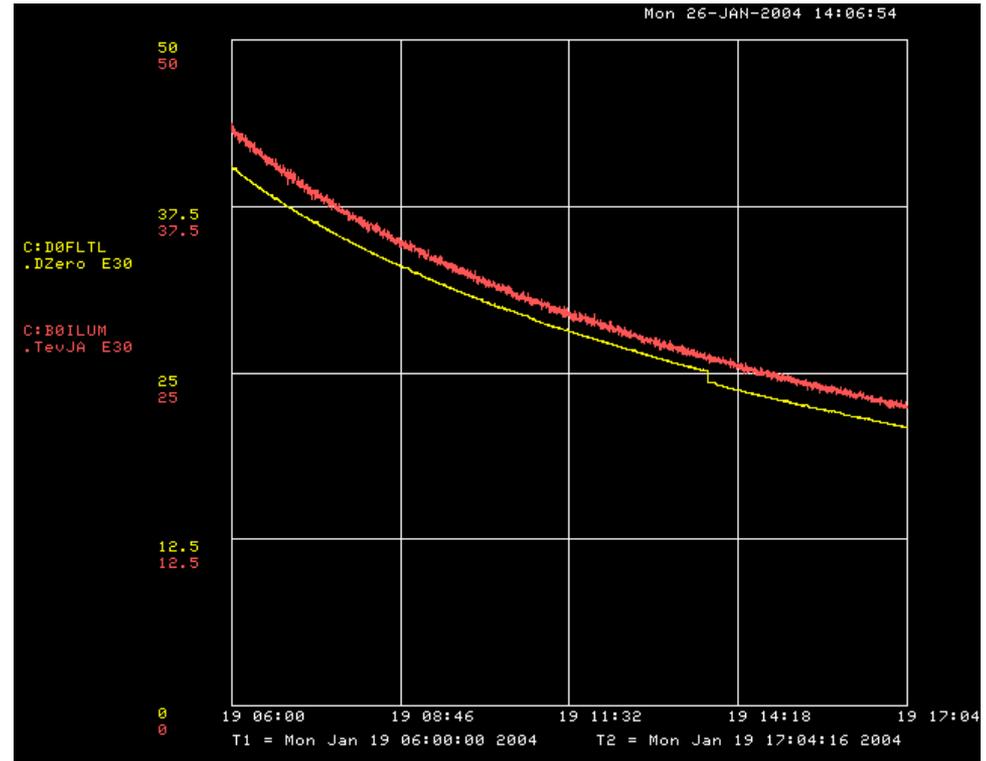
- On Monday, January 19 D0 adjusted parameters in the formula converting measured interactions rates to luminosity number
 - ◆ New world average value for inelastic cross sections is used
 - ▲ $60.7 \pm 2.4 \text{ mb}$
 - ◆ Better estimates of acceptance and efficiency
 - ▲ $75.8 \pm 3.8\%$
 - ◆ Corrections to dead-time due to proton and anti-proton halo
- As a major results error on luminosity measurement has been decreased from $\sim 10\%$ to $\sim 6.5\%$
- Measured value of luminosity is decreased between $\sim 1\%$ at $L=40E30$ to $\sim 4\%$ at $L=10E30$



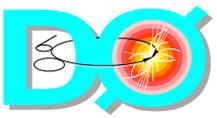


DO Luminosity

- *Change in measured luminosity is in good agreement with expectations*
- *Ratio between DO and CDF luminosity is “more stable”*
 - ◆ *~8% at $40E30$ luminosity*
 - ◆ *~4% at $10E30$ luminosity*
- *Error on ratio of two luminosities (without correlations)*
 - ◆ *~6%*
 - ◆ *The difference between luminosities in two detectors is ~1 sigma*
- *Does DO really getting less collisions?*
 - ◆ *Answer from AD/CDF/DO luminosity working group*

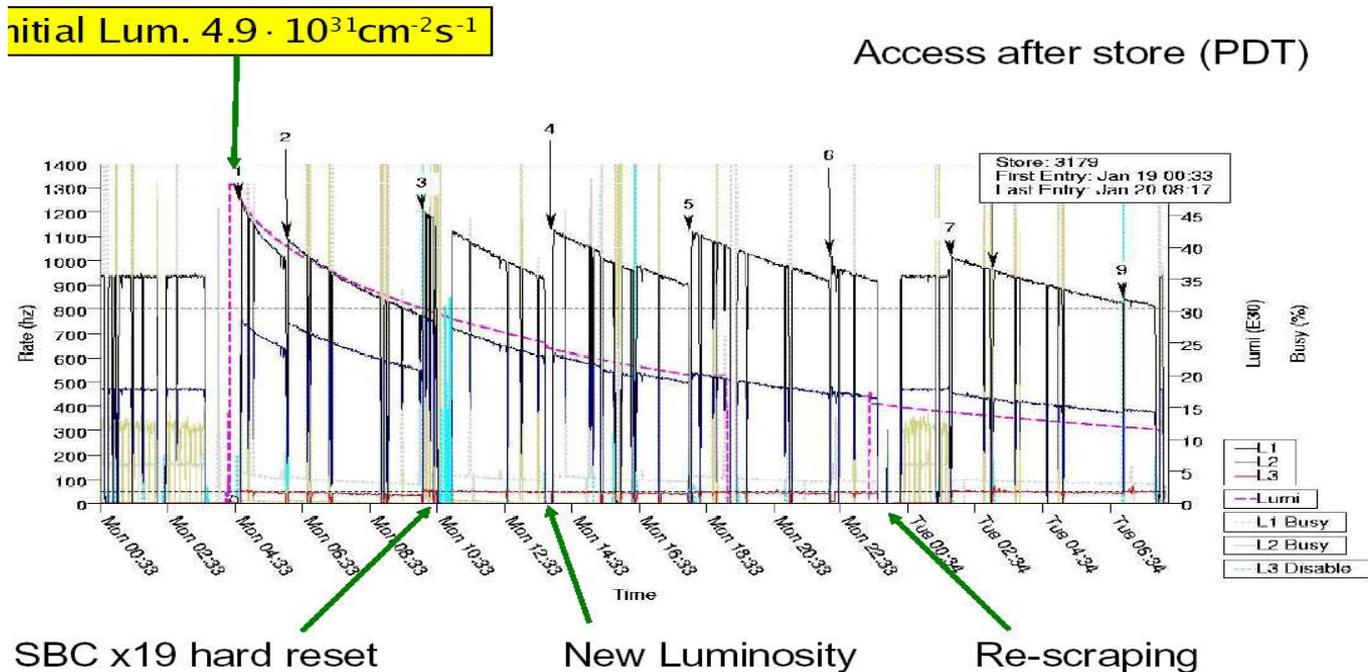


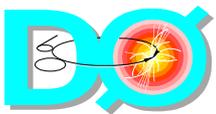
January 19 store luminosity change



Stores Re-scraping

- Over last couple of weeks re-scraping of already colliding stores has happened
 - ◆ *Loosing physics luminosity*
 - ▲ *End run, ramp HV's, end stores, etc.*
 - ◆ *Compromising data taking accounting*
 - ◆ *Aging detectors by ramping high voltages up and down*
- *Would like to see reduction in re-scraping downtime*
 - ◆ *Did not have similar issues before*





D0 Summary

- *Stably collecting physics data*
 - ◆ *Data taking efficiency on lower side last week ~82%*
 - ◆ *Problems are all understood and addressed*
- *Pleased to collect data in store with pbars from recycler*
 - ◆ *Smoothly collected physics data in that store*
 - ◆ *Might have Higgs event on tapes from pbars circulated in recycler...*
 - ◆ *Congratulations to AD from all of us at D0!*
- *In stable data taking mode*
 - ◆ *No access requests*
- *Actively working on data analysis for Winter Conferences*