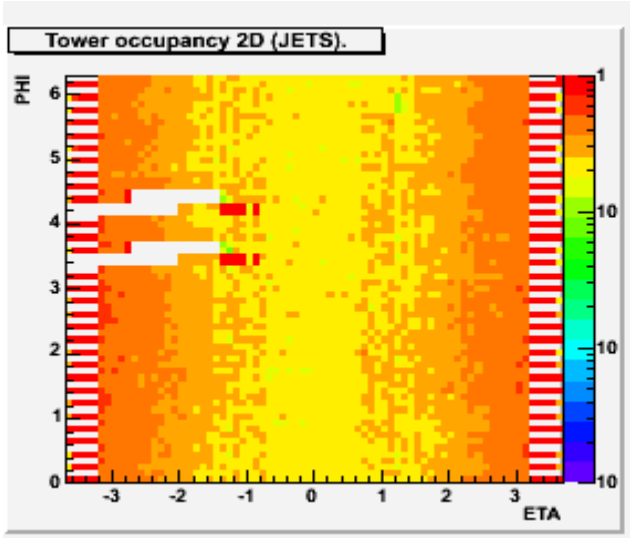
Data Taking

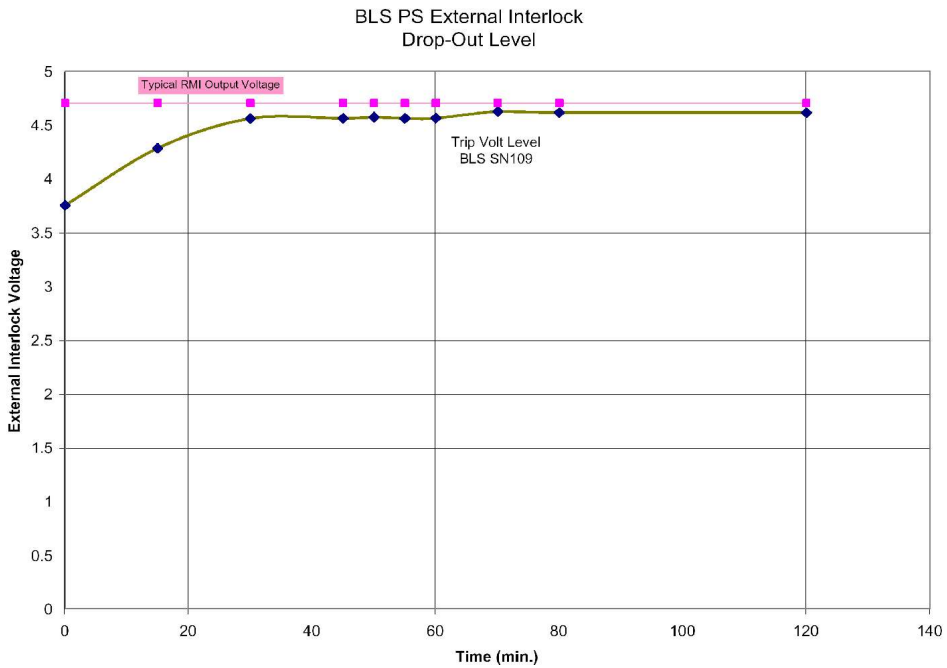
- Last week: Monday July 19th – Sunday July 25th:
  - **Delivered 13995nb^{-1} Recorded 11142nb^{-1} Efficiency 79.6%**
- This week: Monday July 26th – Sunday Aug 1st:
  - **Delivered 10663nb^{-1} Recorded 8873nb^{-1} Efficiency 83.2%**

Day		$\int L\,dt$ (del)	$\int L\,dt$ (rec)	Efficiency	
Mon	Jul 26	1715nb^{-1}	1434nb^{-1}	83.6%	BLS PS
Tue	Jul 27	1709nb^{-1}	1278nb^{-1}	74.8%	BLS PS
Wed	Jul 28	2997nb^{-1}	2423nb^{-1}	80.9%	Pixel + BLS PS, Cal AD
Thu	Jul 29	797nb^{-1}	609nb^{-1}	76.4%	Pixel PS
Fri	Jul 30	1511nb^{-1}	1342nb^{-1}	88.8%	
Sat	Jul 31	1935nb^{-1}	1788nb^{-1}	92.4%	
Sun	Aug 1	0nb^{-1}	0nb^{-1}		

Calorimeter

- For three stores, repeated problems with Calorimeter BLS power supplies
  - Frequent trips, ~30min to reset
    - Replaced power supply
  - Continued trips – opto-coupler reference voltage increases with time (temperature)
    - Boost RMI output voltage
  - Continued trips
    - Faulty spare power supply, replaced
- On Wednesday, an analog driver failed
  - Replaced
- Collected plenty of special runs during the time, and also an entire store with a special B-physics trigger menu

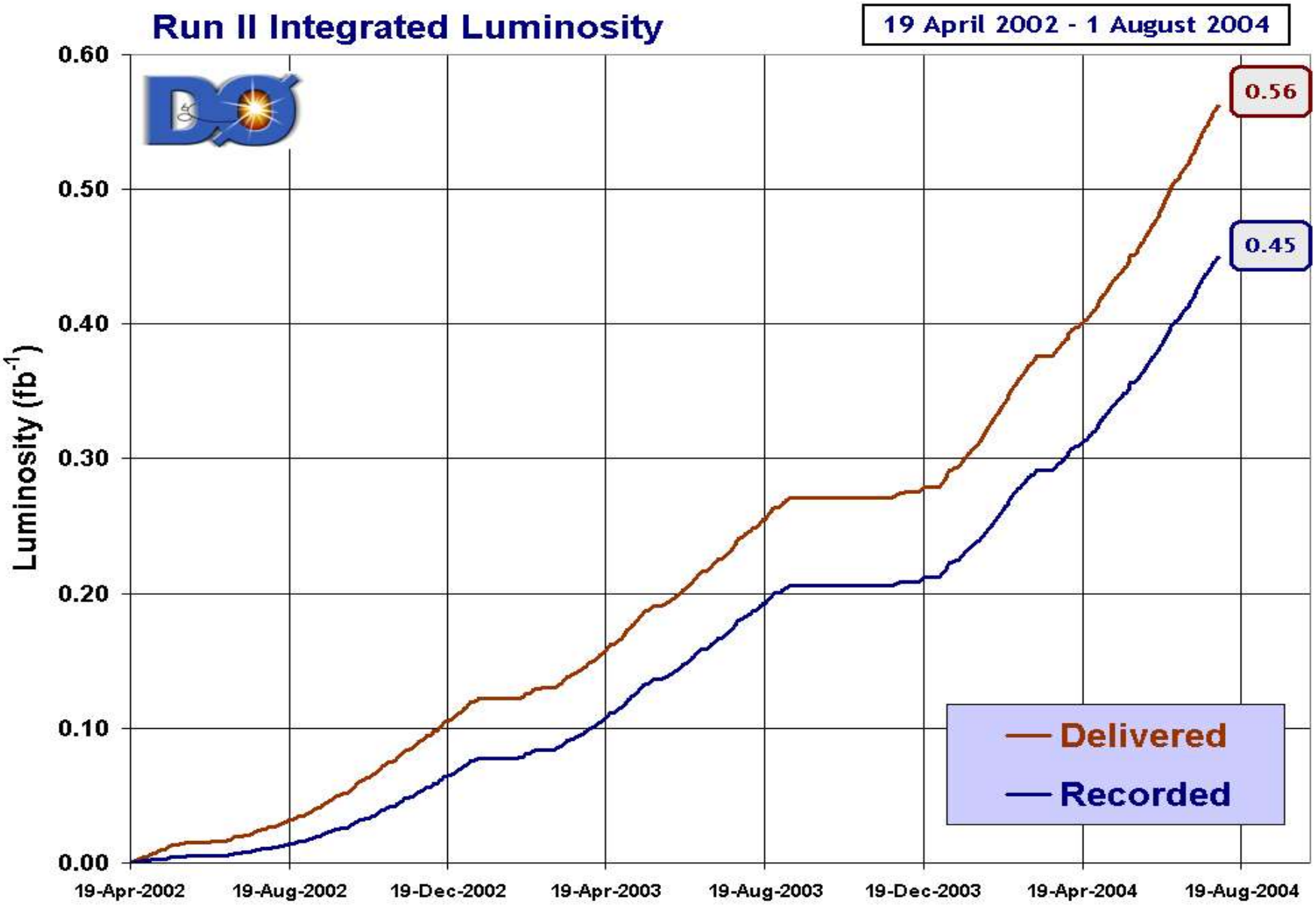




Losses during Shot Setup

- On Wednesday, lost another forward muon pixel power supply during shot setup
- Recently, for the last several weeks, D0 experienced considerably increased number of radiation damage issues during shot setups
  - Integrated dose alarm for Silicon detectors
    - Relatively close to Silicon abort due to instantaneous rate
  - Multiple HV trips of luminosity counters
  - HV Trips of some Calorimeter channels
  - Radiation damage to muon system electronics
    - PDT FE boards chips: about 2-3 PDTs per week
    - Failures of processors in forward muon VME crates: ~once a month
    - Failures of power supplies in scintillator FE crates: ~2-3 times a month
- Considering changes in procedures during shot setup
  - E.g. Lower HV for luminosity counters, power down muon electronics
- We are also working on improvements to the hardware to be less vulnerable
  - E.g. Installing radiation-harder version of transistors in Muon VME power supplies

Integrated Luminosity



Summary

- Recorded 8.9pb^{-1} and 12.4 x 10^{6} events for the week with 83% efficiency
- July luminosity summary:
  - **Delivered 54.7pb^{-1} Recorded 46.4pb^{-1} Efficiency 84.9%**
  - Most delivered and recorded in a month ever
- Some problems with data taking (Calorimeter BLS power supplies, Forward Muon Scintillators PS)
  - Running well after repairs/replacements
- High losses during shot setup are a concern
- Silicon abort on the last two lost stores (but integrated dose small)
- “Noon noise” in the calorimeter has not been observed again