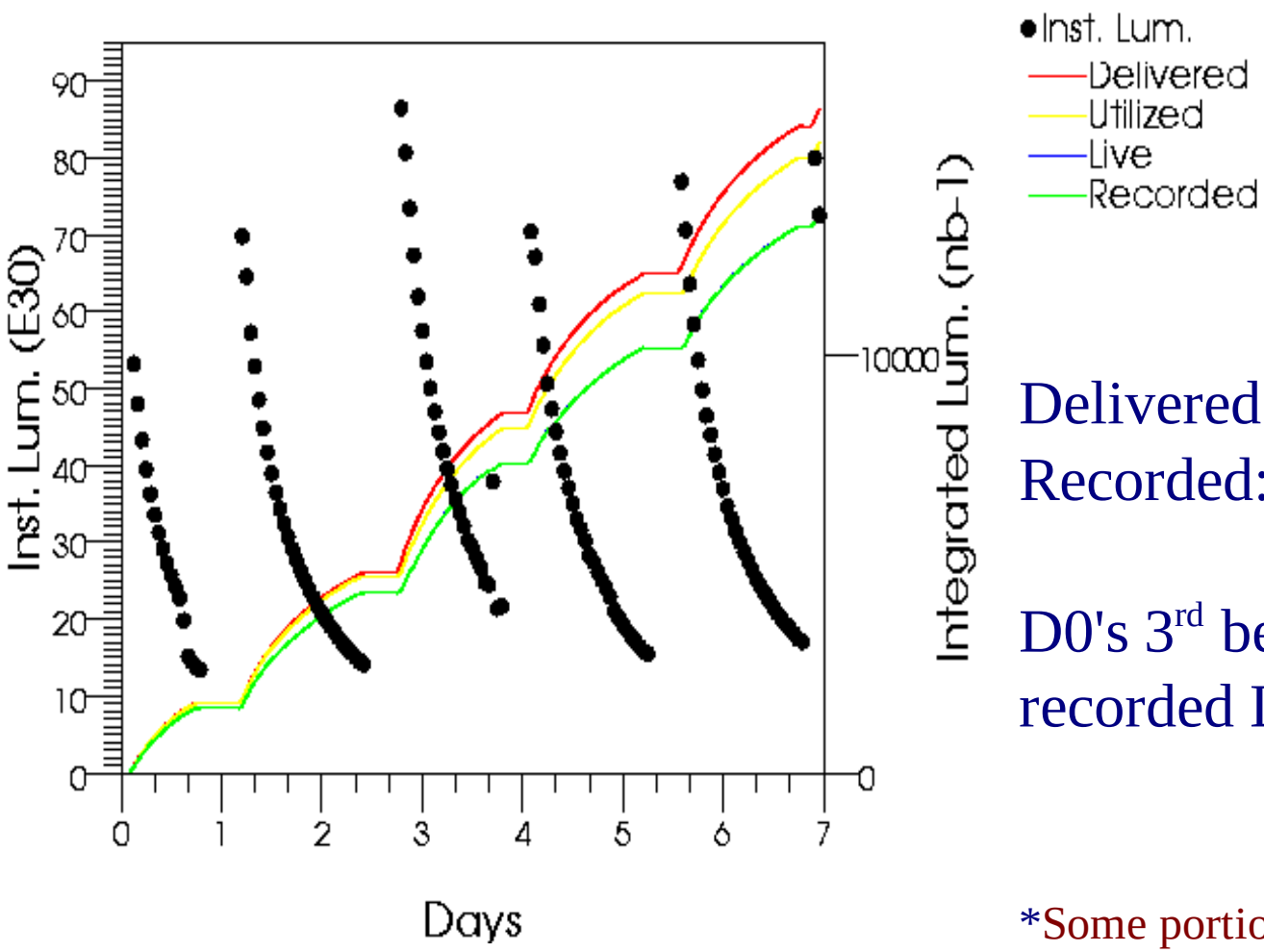
D0 Status Report

Bill Lee
FSU

All Experimenters' Meeting
28 February 2005

Data Taking 21-27 Feb.



Delivered: 15.9 pb^{-1}
Recorded: 13.4 pb^{-1} (84%)

D0's 3rd best week for recorded Luminosity*

*Some portions of D0 detector not read out for two stores in the week.

Data Taking Issues
Store 4002

- Store 4002 came in at D0 at a record Luminosity of 96.1E30.
  - Excessive losses during steps 24-25 of the squeeze caused the loss of a forward muon LVPS.
    - Took an hour to start taking data.
    - ¼ of forward muon system was down for entire store.
- After store 4002 a two hour access was taken to replace the dead power supply.

Data Taking Issues
Store 4004

- There were also data problems at D0 for store 4004.
  - D0 came up well, but after an hour saw that the Calorimeter pedestal run taken before the store was bad.
  - Five hours into the store, a CTT mixer board died.
    - Lost 10% in phi of L1 tracks for the rest of the store.
- After 4004 a three hour access was then taken to replace the CTT mixer board.

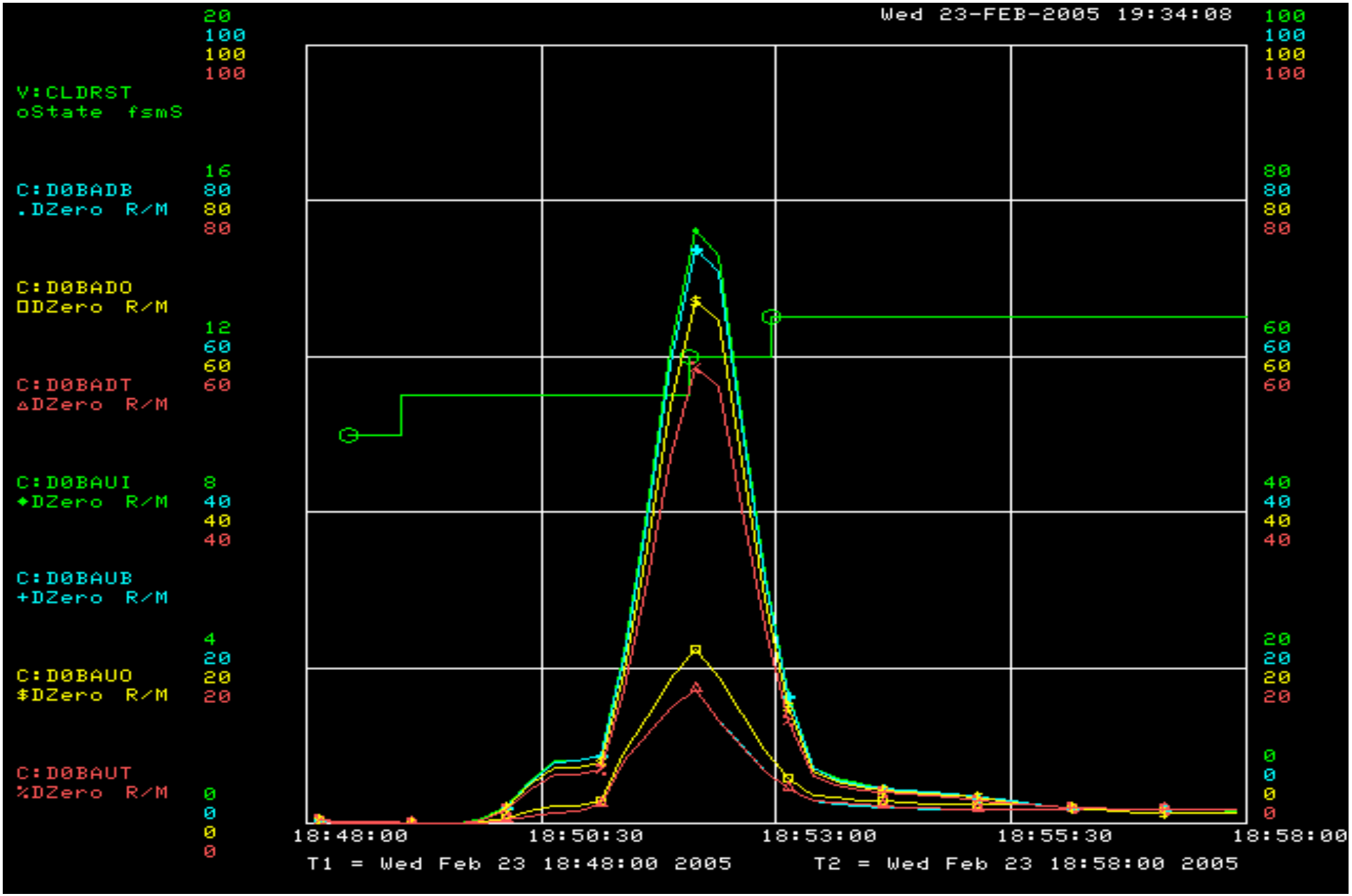
Data Taking Issues
Store 4006

- Store 4006 also did not start well.
  - After an hour of debugging during the store to determine why the DAQ would not run.
    - The new mixer board was found to still be in test pattern mode and sending bad data to the rest of the system.
- D0 ran well for the rest of 4006.

Data Taking Summary

Store	Initial Lum (E30)	Recorded Lum (pb^{-1})	Eff. %	Comment
3997	56.2	1.54	92	
4000	72.3	2.77	89	
4002	96.1	3.08	82	Record Initial Lum.
				100 % of store had forward muon problems
4004	78.2	2.78	83	74% of store had bad mixer board
4006	81.2	2.91	81	

D0 High Dose Rates



D0 High Dose Rates

- D0 has an alarm that goes off if the integrated per minute dose goes above 20 rad.
  - This has been just barely going off, but frequently.
  - Has been increasing in recent stores:
    - 4002 – 75 rad/min
    - 4004 – 17 rad/min
    - 4006 – 45 rad/min
    - 4007 – 35 rad/min
  - Occurs between steps 24-25 of the squeeze during a change of tunes.
  - Tev has been working on smoothing these steps.

Summary

- After 2 plus stores without the full D0 detector, D0 is now taking data normally.
- We will raise the per minute integrated dose alarm to 40 rads until the problem is solved.
  - To make sure the shifters do not become accustomed to the alarm.