

f

Week in Review: 06/16/03 –06/23/03

Keith Gollwitzer – FNAL

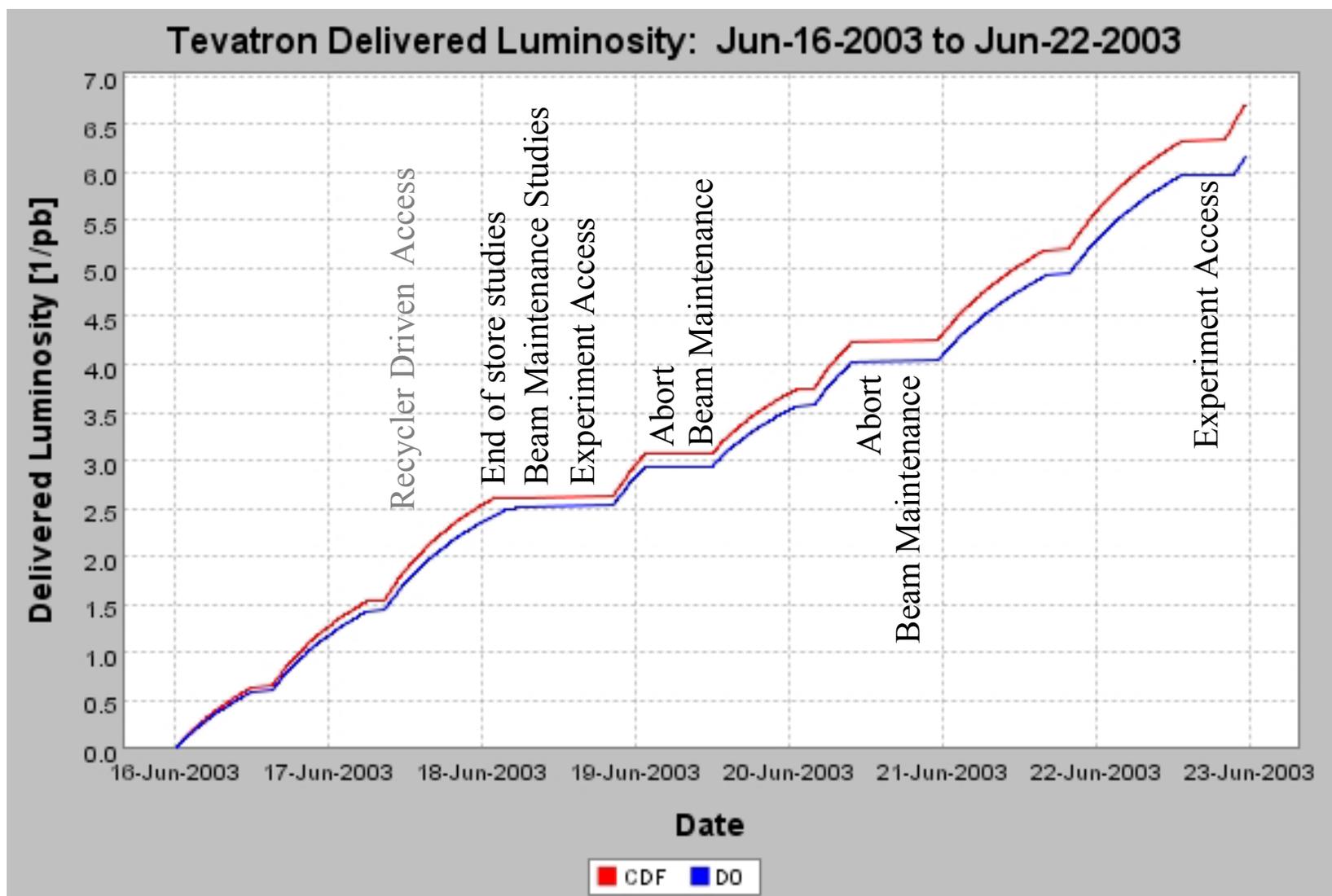
- Stores and Operations Summary
- Standard Plots



Stores Summary

Store	Initial Lum. (E30)	Deliv'd Lum. (nb ⁻¹)	Termination	Duration (hr)	Comments
2689	28.0	784	Intentional	15.3	Stack of 133mA ; lost 5 th pbar transfer
2692	26.5	861	Intentional	15.0	Stack of 122mA
2694	30.0	1038	Intentional	17.3	Stack of 118mA ; End of Store studies
2702	28.6	439	Abort	5.2	Stack of 141mA Quench
2705	22.0	650	Intentional	13.2	Stack of 107mA Lost 1/3 pbars at start of squeeze
2707	27.8	485	Abort	6.2	Stack of 123mA ; Two 5 th pbar transfer Quench
2710	23.6	924	Intentional	17.0	Stack of 132mA ; 2 nd pbar transfer lost in P1
2712	29.3	1080	Intentional	17.6	Stack of 107mA
2715	37.2	-	On Going	-	Stack of 158mA

Integrated Luminosity for the Week



- Lost Stores
 - Modified quench protection cards were installed recently to reduce noise in circuit
 - 2 stores aborted due to these cards
 - Unmodified cards re-inserted into system; others have been operating for awhile with no problems.
- Problems with pbars
 - Lost beam at MI flattop; no beam when kicker fired
 - Abort/extraction sequence out of order?
 - Unstacked on two consecutive supercycles
 - Pbar sequencer did not see unstacking event
 - Lost beam in P1 line during transfer from ACC to MI
 - Ramp table corruption lost 30% of pbars during squeeze
 - TeV ramp state incorrect and lost beam while at 150GeV on helix orbits

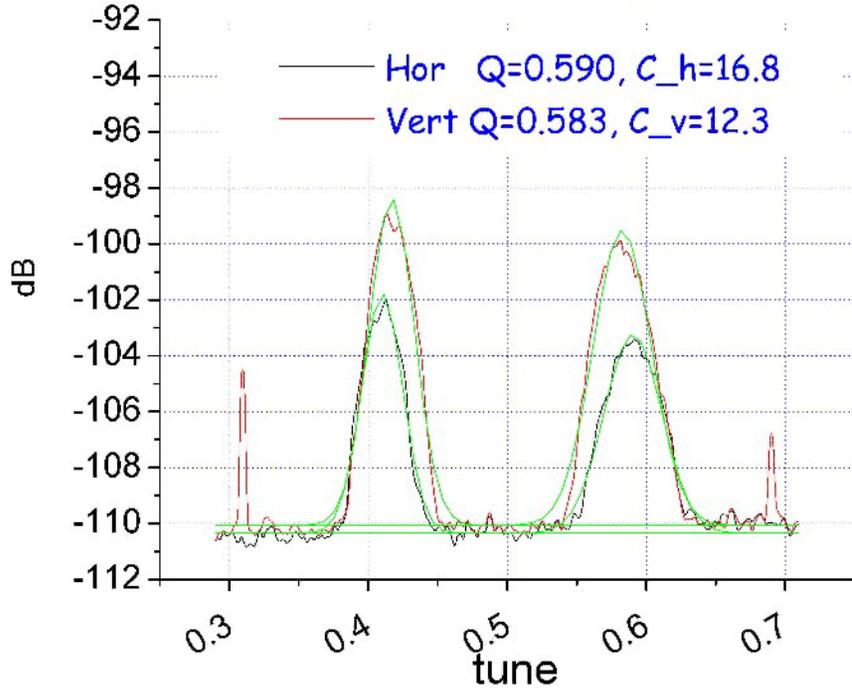
- MI Tunnel/Booster/Linac access
 - 1 house of the new RR BPM system installed; currently calibrating/commissioning system
 - Examined Booster MH2 magnets to determine fit to power supply
 - Minor RR vacuum work
 - Upgraded antiproton source debuncher cavity tuning system controls
- Other problems
 - Water temp problems with proton source debuncher cavity
 - Air system leak for MI and MiniBooNE valves
 - Various RF station problems in Booster and MI
 - NUMI studies in MI affecting uptime of MI RF system
 - Various cable and power supplies of the antiproton source
 - Much tuning of Linac and Booster

- TeV Studies
 - End of Store
 - Commission different aspect of the E17 Schottkey
 - Calibration of emittance (SL & FW) by scraping beam away
 - Beam Maintenance
 - Tunes up ramp and through squeeze
 - Implemented 4 bumps
 - Reduction of chromaticities on helix orbits (150GeV on up)
 - Work on coupling
 - 150GeV Lifetime studies intent in determining gas pressure
- Some good
 - Burle tube arrived
 - SY120 successfully sent beam while TeV at 980GeV

f

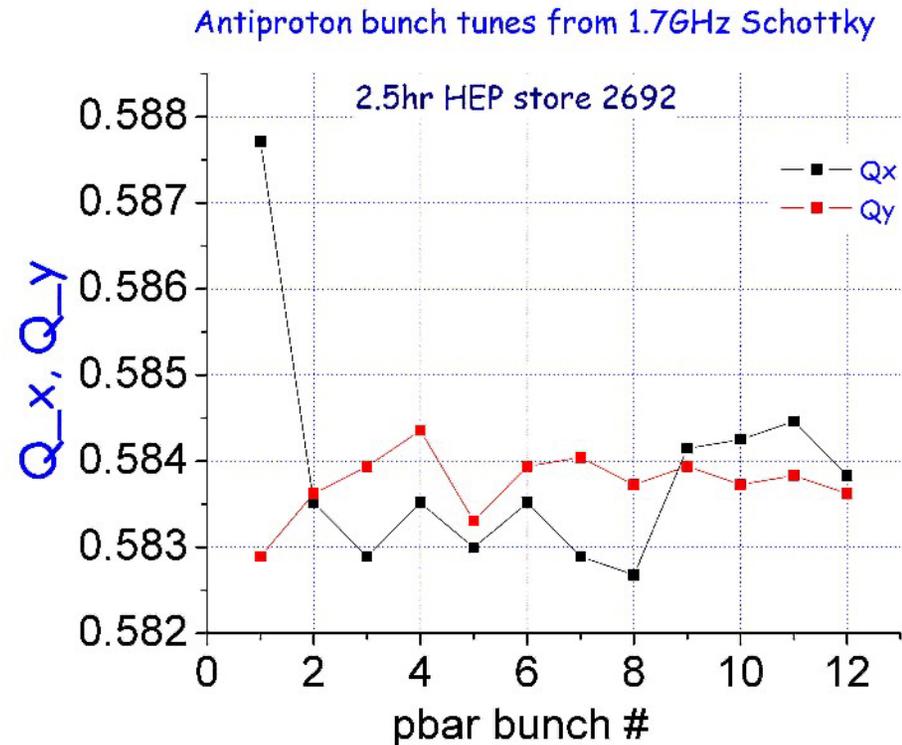
TeV E17 Schottky

2.5 hrs #2692: 1.7GHz Schottky for All Protons



New electronics cleaned up signal and now allow chromoticiencies to be measured. Calibrated successfully against known changes to chromoticity

Can gate on certain bunches

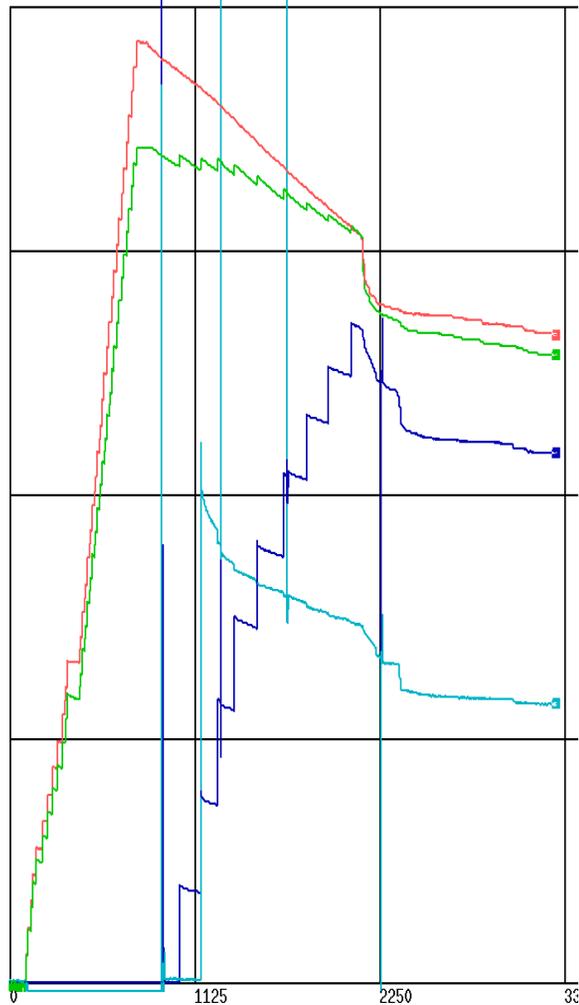


From TeV group



Better Lifetimes & Less Losses

FTP V5.43 Console 106 SA Thu 12-



T:IBEAM 1E12
C:FBIPNG 1E09
C:FBIANG 1E09
C:FBIANG>13 1E09

6
5000
650
30

(1 HZ)
(1 HZ.)
(1 HZ.)
(1 HZ.)

3
2500
325
15

0
0
0
0

Seconds ONCE +

June 12 to June 22

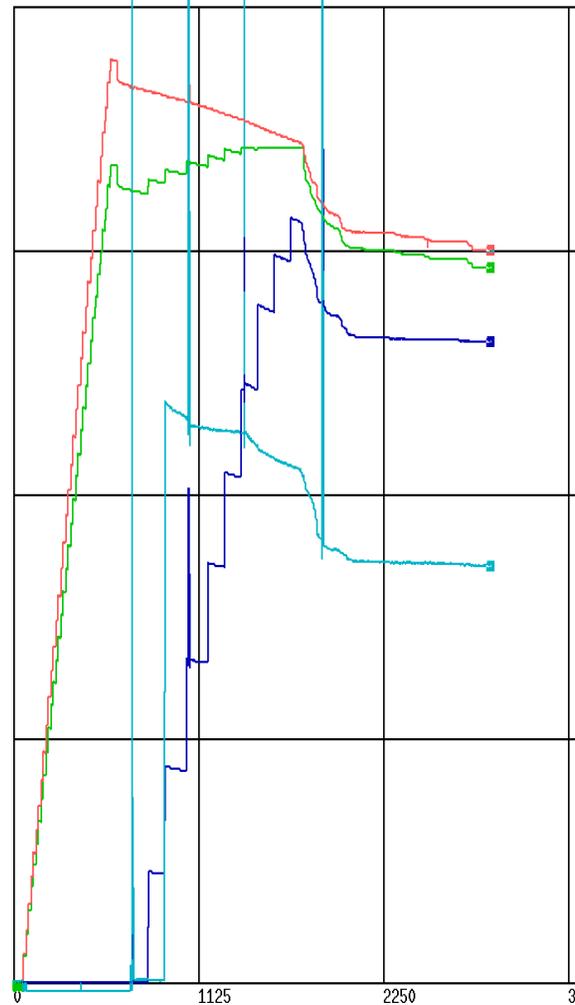
Total Protons

TeV Beam Current

Total Pbars

Pbar Bunch 13
(2nd transfer)

FTP V5.43 Console 106 SA Sun 22-



T:IBEAM 1E12
C:FBIPNG 1E09
C:FBIANG 1E09
C:FBIANG>13 1E09

6
5000
650
30

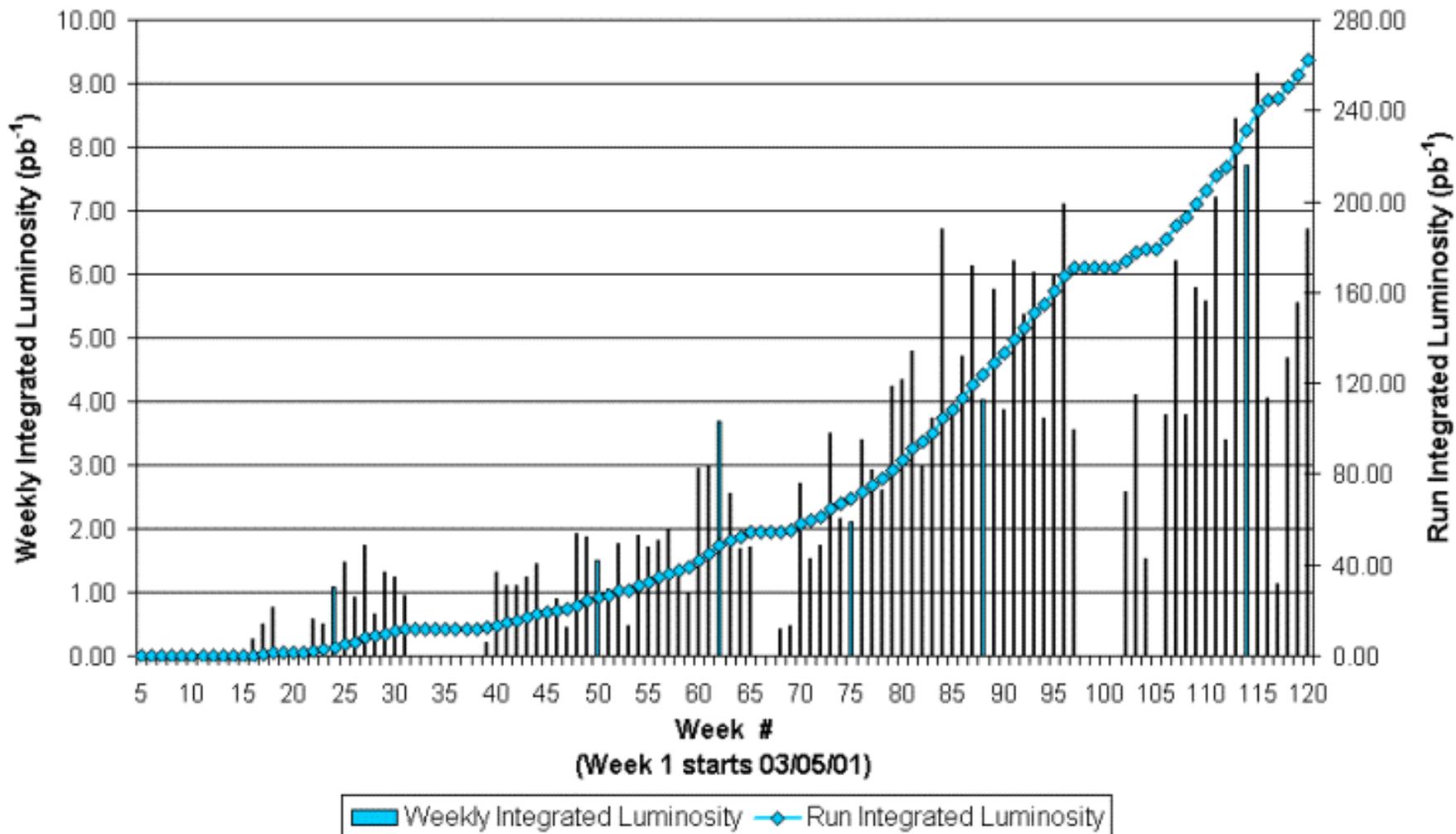
(1 HZ)
(1 HZ.)
(1 HZ.)
(1 HZ.)

3
2500
325
15

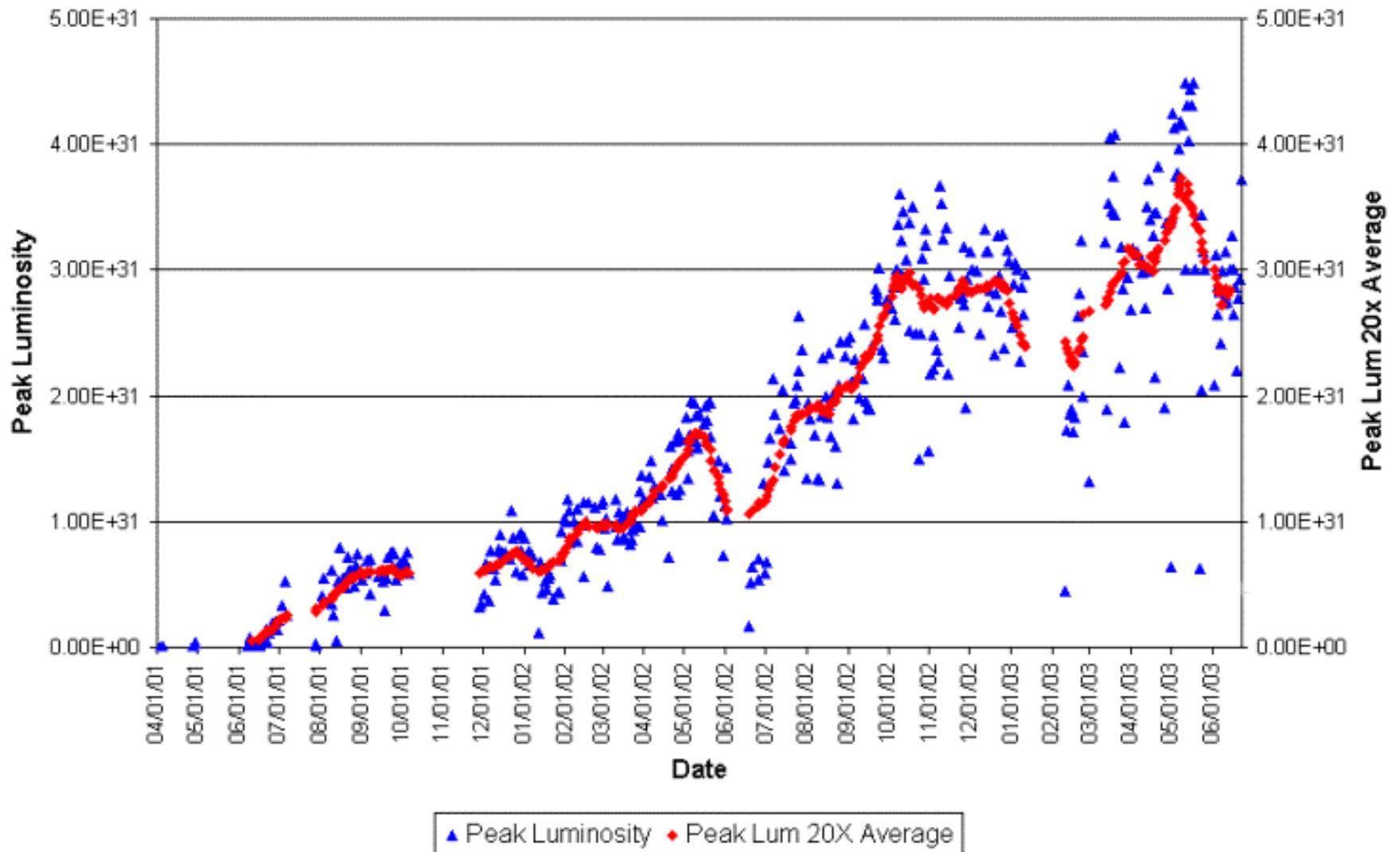
0
0
0
0

Seconds ONCE +

Collider Run IIA Integrated Luminosity



Collider Run IIA Peak Luminosity



- The week
 - 3 periods of TeV beam maintenance studies
 - 108hrs of stores
 - Two aborted stores
 - Several problems of getting pbars to collisions
- FY03 total is 168pb^{-1} ; 9 weeks to shutdown
- Goal for this week
 - Stack and Store