

f Week in Review: 04/14/03 –04/21/03

Keith Gollwitzer – FNAL

- Store and Operations Summary
- Standard Plots

f

Store Summary

Store	Initial Lum. (E30)	Deliv'd Lum. (nb ⁻¹)	Termination	Duration (hr)	Comments
2424	35.1	1486	Intentional	18.8	150mA Stack, Horizontal damper Started store last week
2426	37.1	222	Abort	1.8	150mA Stack, Horizontal damper Abort by power supply of small low β quad
2433	34.0	935	Abort	10.8	160mA Stack, Both dampers Abort by power supply control chassis
2436	32.8	1162	Intentional	16.5	130mA Stack, Both dampers
2438	31.9	1230	Intentional	18.1	150mA Stack, Both dampers, Record Protons
2441	34.5	1378	Intentional	20.4	150mA Stack, Both dampers, Record Protons
2443	21.5	974	Intentional	18.1	150mA Stack, Both dampers, Record Protons Separator spark while initiating collisions
2445	34.5	1326	Intentional	18.4	150mA Stack, Both dampers Part of store counted for this week
2447	38.25		On Going		150mA Stack, Both dampers Counts as next week

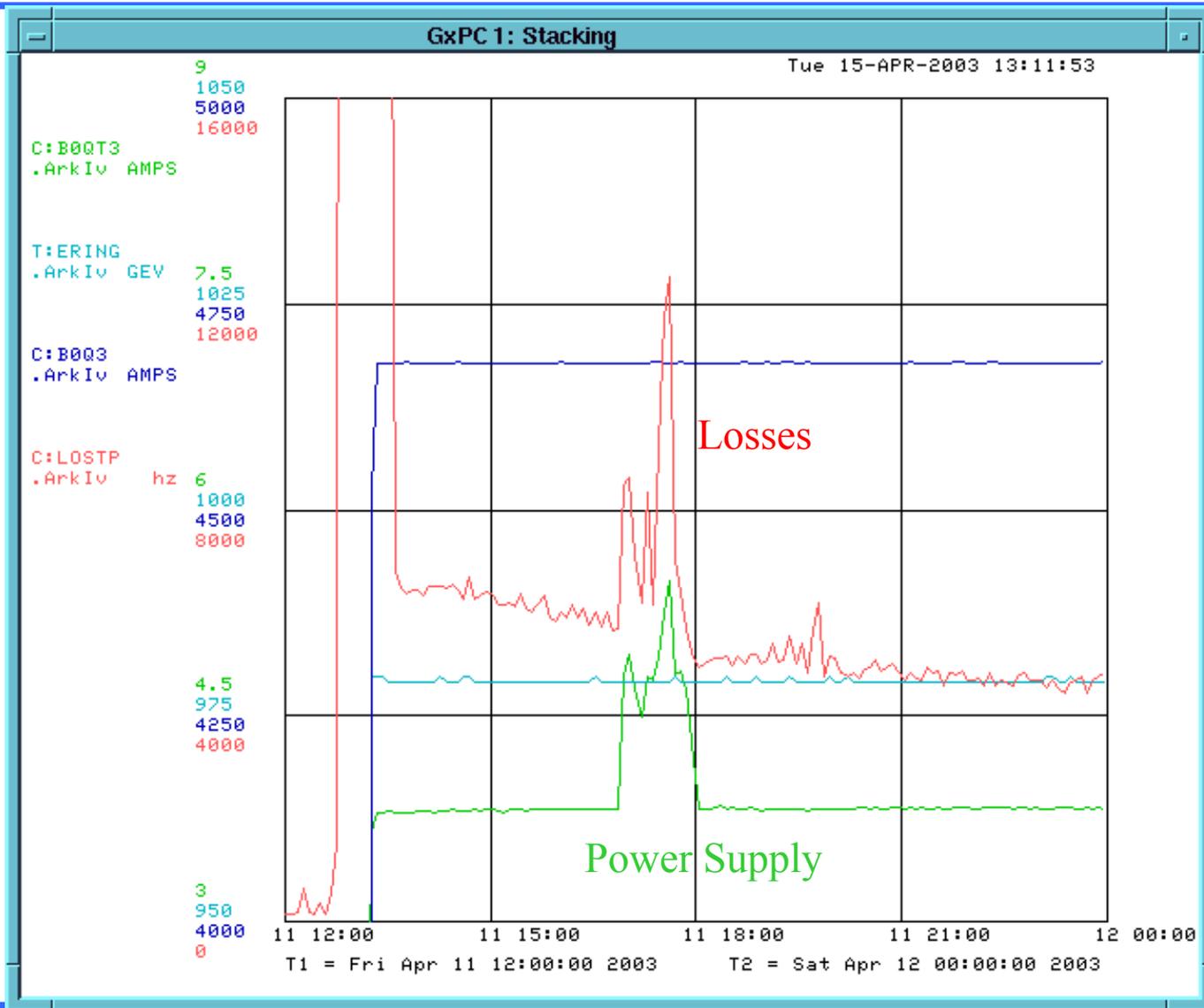
- TeV
 - Abort due to low β quad power supply
 - Abort due to power supply failure on control chassis
 - Separator spark
- Proton Source
 - B:ORBMP power supply maintenance/repair
 - Booster RF; Multiwire *flapping* in 400MeV line
- MI/RR/Pbar/Other
 - MI RF station
 - Recycler vacuum work competed and investigated
 - Pbar Debuncher extraction kicker cable *fried*
 - SDA failed to record for a store

f Unscheduled Maintenance & Studies

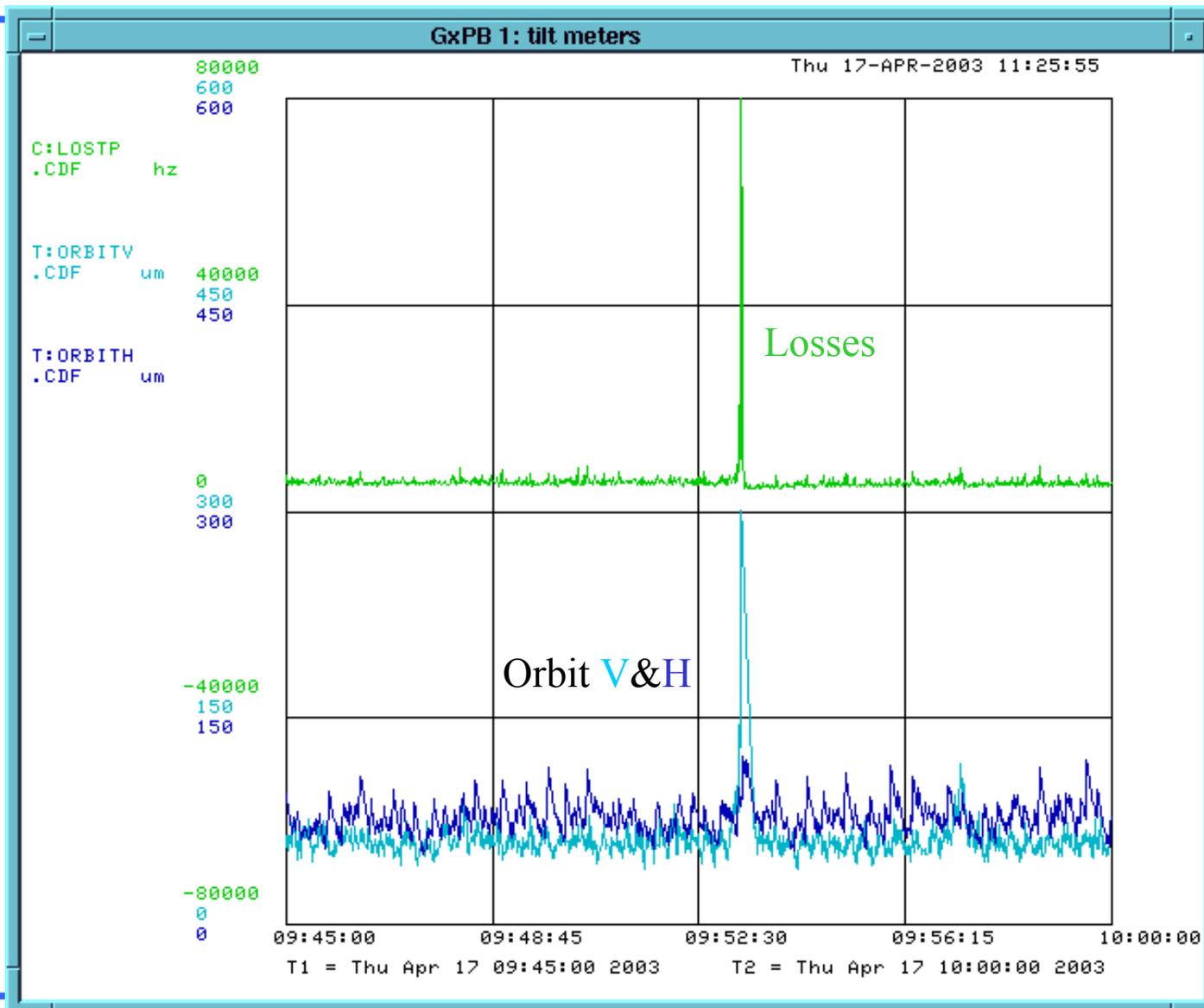
- TeV Transverse Dampers and Coupling
- TeV Octupoles and stability
- TeV Orbit Smoothing
- TeV FW diagnostic study
- New Helix aperture and lifetime studies
- TeV microwave Schottky were made functional

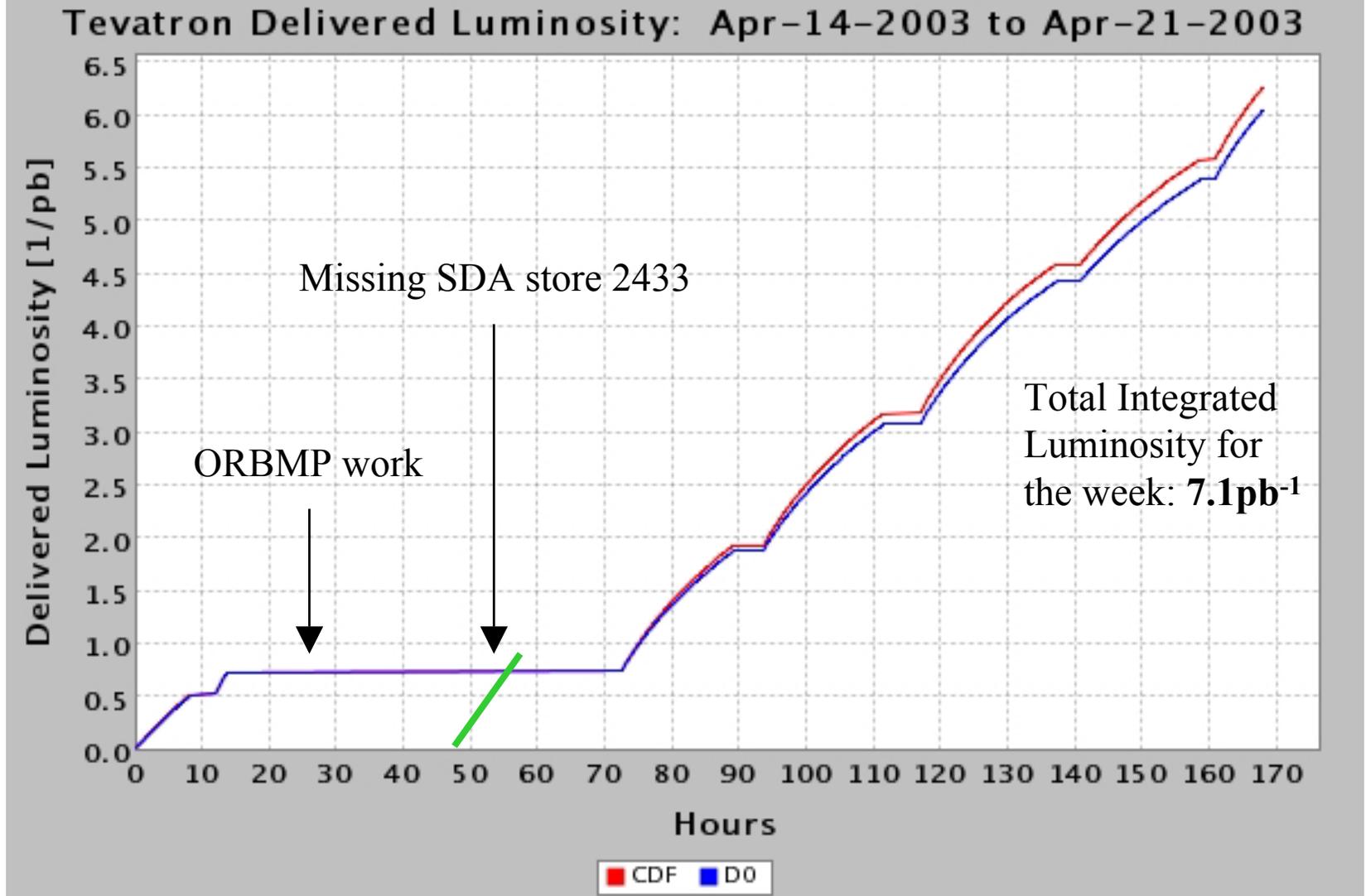


Correlation of Quad Trim Power supply and Losses

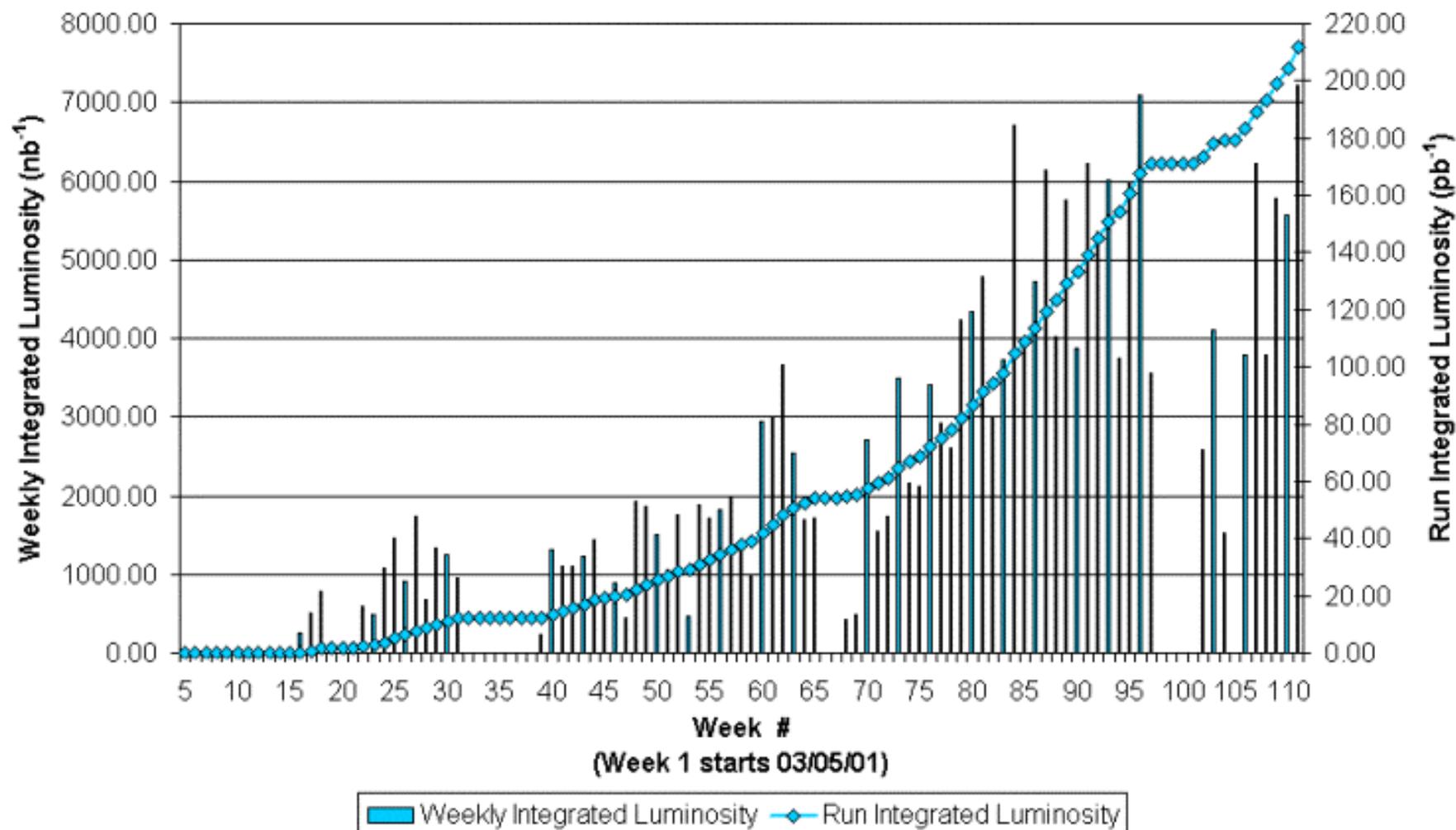


Correlation of Quick Orbit Excursions and Losses

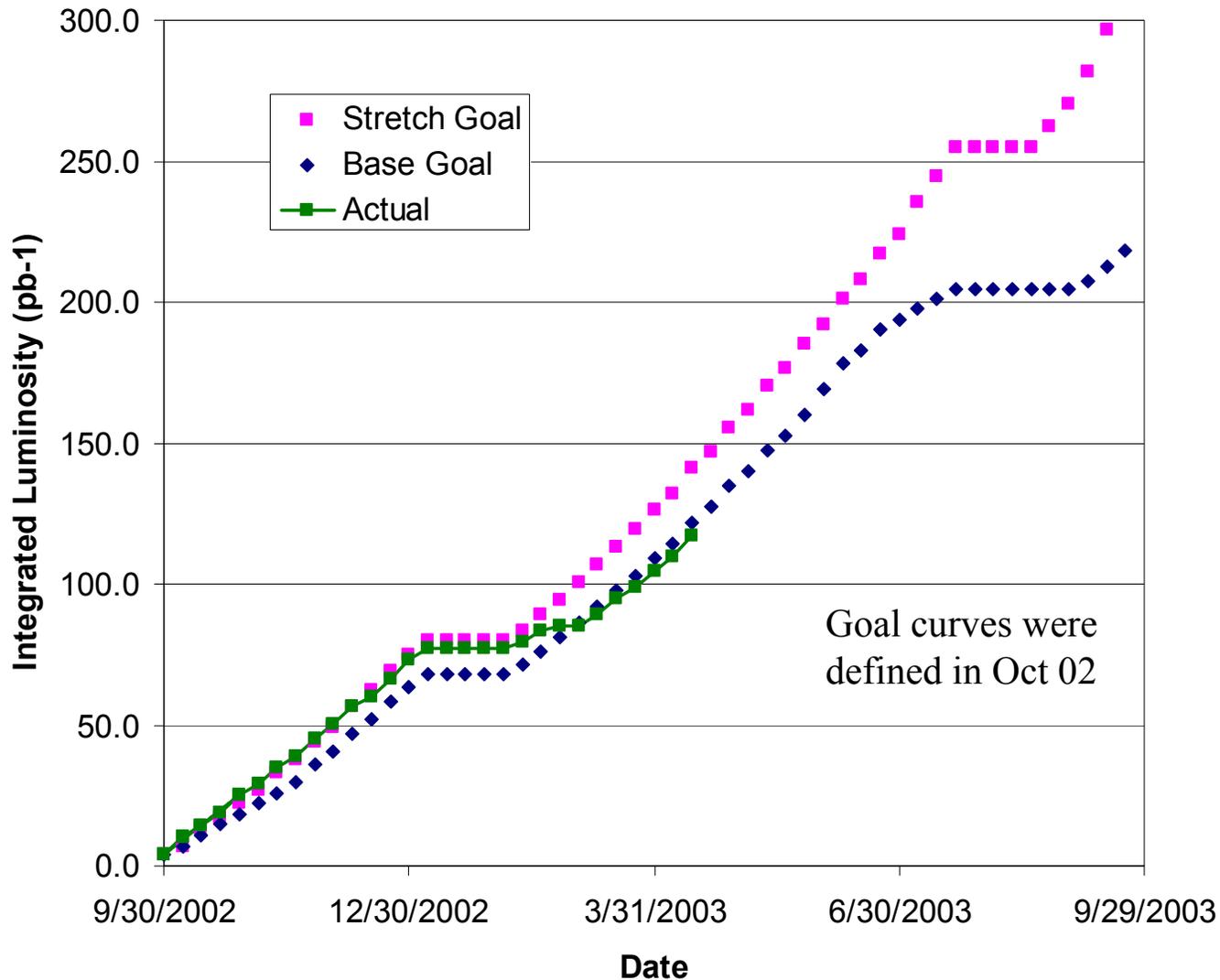




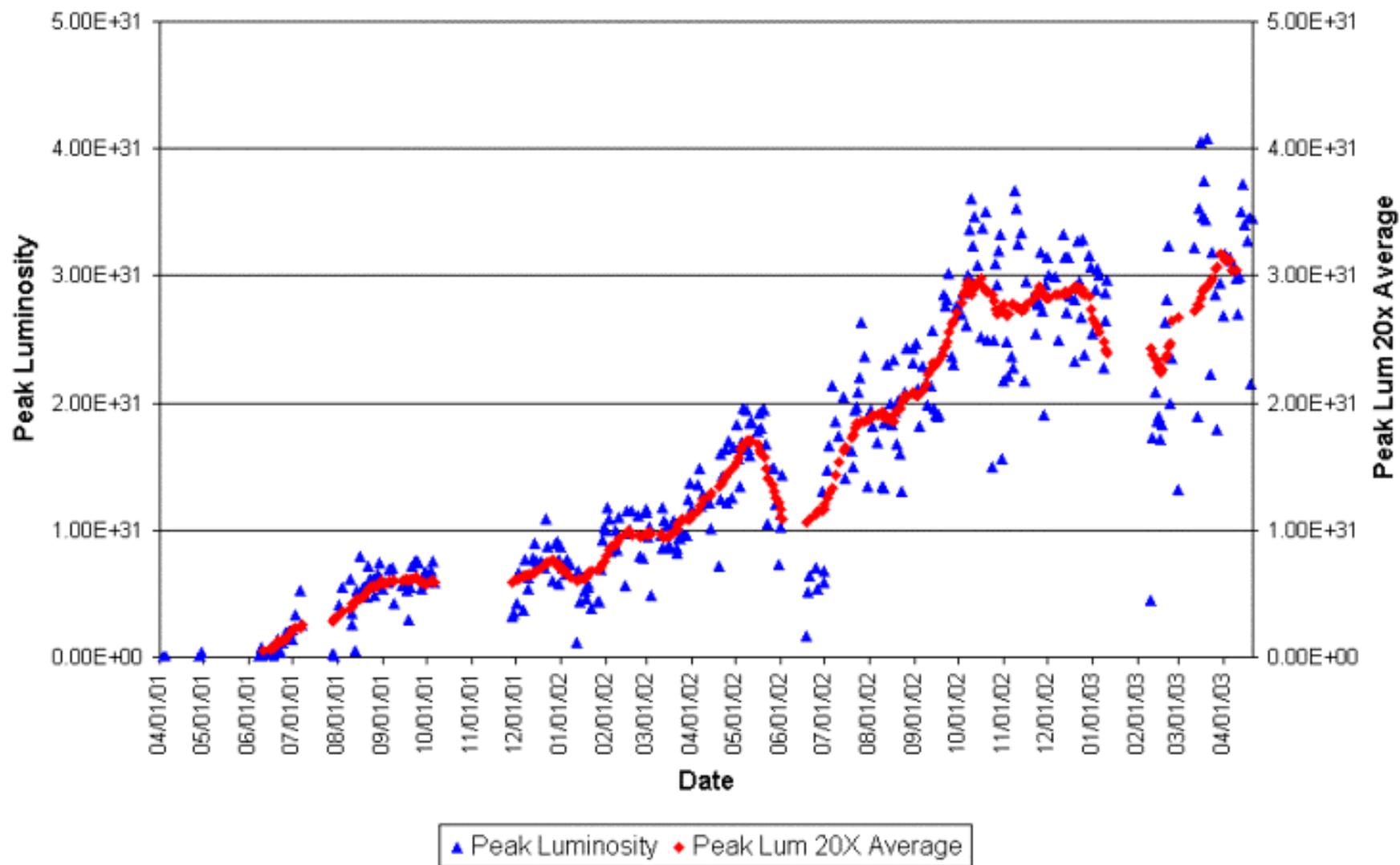
Collider Run IIA Integrated Luminosity



Integrated Luminosity & Goals



Collider Run IIA Peak Luminosity

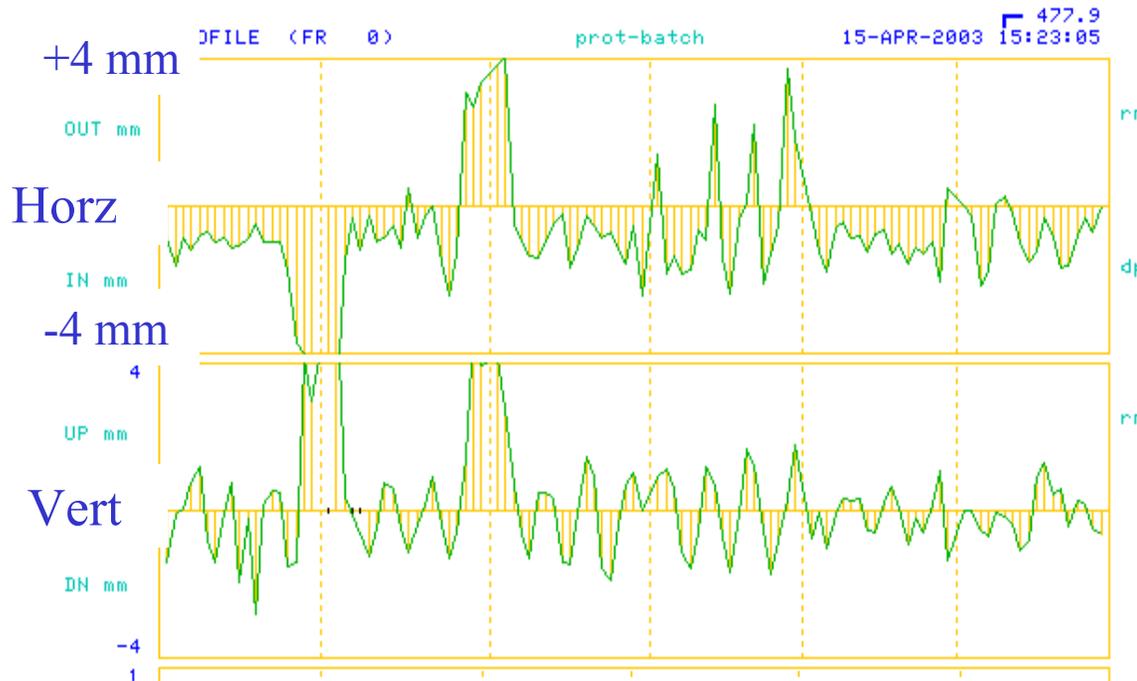


Many studies and some maintenance

- Update 4/21/03 11:55 AM (2)	MONDAY 4/21/03	TUESDAY 4/22/03	WEDNESDAY 4/23/03	THURSDAY 4/24/03	FRIDAY 4/25/03	SATURDAY 4/26/03	SUNDAY 4/27/03
Owls 0000 to 0800	Stack and Store	Tev Store Pbar Stacking End Store	Tev Ramp Tuning ● (Continued) Pbar Stacking	Stack > 150mA Shot Setup Shot Stack and Store	Stack and store Run MiniBooNe		
DAYS 0800 to 1600	NTF-PT Stack to 150mA Shot Setup Shot & Store Pbar Fly wires ● Verify Stacking	NTF - PT Tev Orbit Smoothing ● (~12 hours) Pbar Rev Proton AP2 ● MI Slip Stacking ● Kicker Studies ●	Tev Pbar Lifetime ●● 2 x 15mA Pbar Deb Signal to ●● Noise	NTF-PT 	Stack and store Run MiniBooNe		
EVES 1600 to 2400	Tev Store Pbar Access (~6 hrs) ● Stacking MI MI-8 Lattice Stud ● No MI Ramp (RR) ● Mi-52 Septa ●	Tev Ramp Tuning ● (~12 hours) Pbar Stacking Tune-up Reduced Stacking	Tev A1 Line BPM ● SYD120 test ● Pbar Stacking SYD120 ~2000 PS Test ●		Stack and Store Run MiniBooNe		

Schedule can be found at <http://www-bd.fnal.gov/operations/schedules.html>

Tevatron orbit smoothing



Present orbits in the Tevatron

From M. Martens and TeV group

- Goal is to keep orbits stable to within ~ 0.5 mm.
- Present day orbit is off by ~ 2 mm in some location.
- Several corrector dipoles are near the 50 Amp limit. (This has interfered with orbit smoothing lately.)
- Several correctors in close proximity have large but opposite currents.

Goal of (this weeks) orbit smoothing

- We used a “standard” smooth procedure since Nov ‘02. (This would take ~ 2 hours for a smooth.)
- Orbits have drifted too far from the nominal since March.
- Our aim is:
 - Adjust orbit positions to keep beam centered.
 - Reduce strengths in correctors.
 - Adjust tunes after smoothing.
 - Find a “Standard” orbit than can be maintained with ~ 2 hour smooth.

From M. Martens and TeV group

- The week
 - 101 store hours
 - Bad Luck: two aborts and separator spark
 - ORBMP still required attention
 - Th,F,Sa stores started with record protons at collisions
 - Overall a very good week.
- Goal for this week
 - 5 Shifts of studies
 - Hope to continue increases in luminosity
 - Continue with stable store running