

Accelerator Performance (10/21-10/27)



- **Focused Required Maintenance (8 hr Tuesday)**
 - Minimize impact on luminosity
 - Put in Tevatron store to last till Tuesday
 - Pbar maintenance Monday then stack overnight till 0600 Tuesday and sit on stack during Tuesday access.
 - Booster, MI, Tev, Cryo maintenance start Tuesday 0600 – 1500
 - CDF/D0 access start 0400 Tuesday
- **Remainder of week Stack 'n Store**

Last Week

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Update 10/21/02 1:38 PM	MONDAY 10/21/02	TUESDAY 10/22/02	WEDNESDAY 10/23/02	THURSDAY 10/24/02	FRIDAY 10/25/02	SATURDAY 10/26/02	SUNDAY 10/27/02
Owls 0000 to 0800	Tev - Store	Tev - 0200 EOS Studies - 0400 End Store - 0430 CDF/DO Pbar - Stacking - 0600 Hold Stack MI/RR/Booster - 0600 Beam Off - 0700 C/A	Stack and Store	→			
DAYS 0800 to 1600	Tev - Store Pbar - Access - 1400 End Access - Stacking	NTF - PT Tev - 1400 CDF/DO - 1500 Keys Back - Startup Pbar - Hold/Stacking? MI/RR/Booster - 1500 Keys Back - Startup LINAC - Access after NTF	NTF - PT Stack and Store	→			
EVES 1600 to 2400	Tev - Store Pbar - Stacking MI/RR - Studies/Stacking Booster - 2000 Reduce loss beam power to 150.	Tev - Shot & Store Pbar - Shot & Stacking MI/RR - Shot & Stacking	Stack and Store	→			

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

Shutdown Work

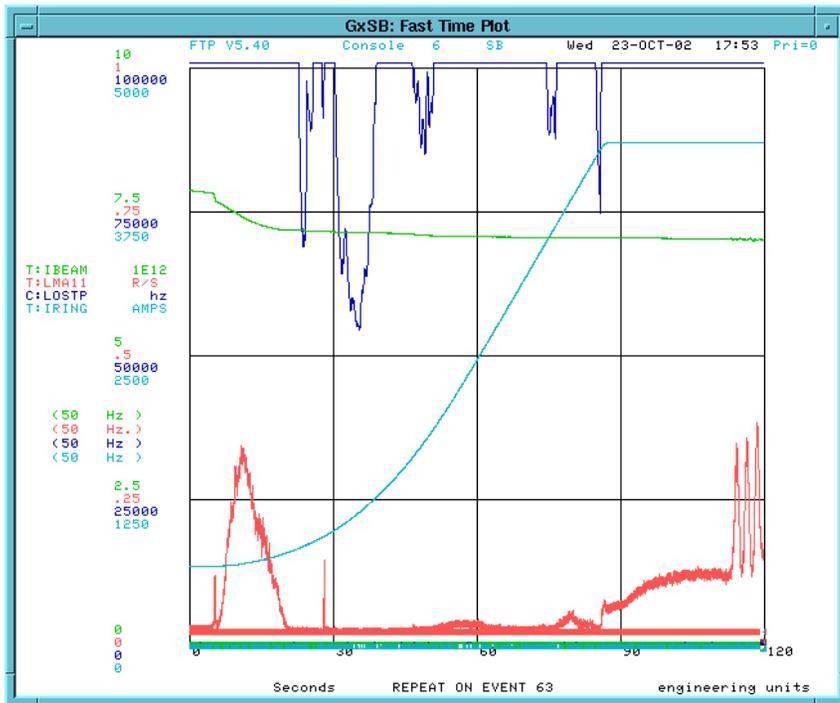


- Major work done during shutdown
 - Tevatron
 - Repaired water leak on C48 warm bus
 - Isolated ground fault on octupole circuit to pin 11 F36 Conig tower
 - F36 cold leak repair
 - Cryo Wet engine maintainance
 - Main Injector
 - Installed hardware and software in LLRF for 2.5 Mhz acceleration
 - Proton Source
 - Magnet moves -> Reduce radiation levels at RF stations
 - Booster RF station repair
 - LLRF module repair
 - Pbar Source
 - Repaired DRF1-6
 - Repaired ARF1 water leak
 - Started testing for
 - Other work...

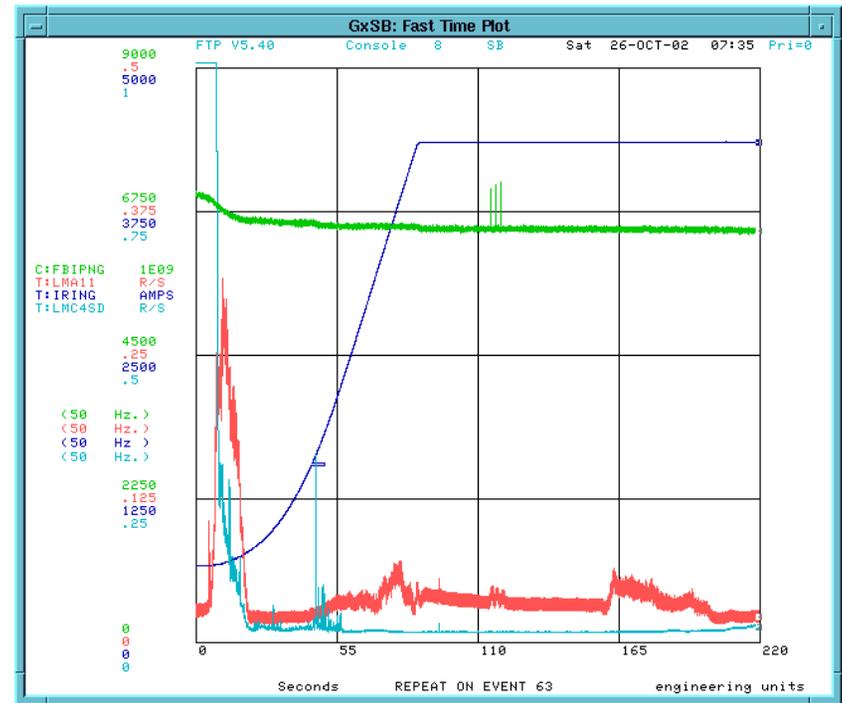
Tevatron loss at flattop



After adjusting tunes and feeddowns
at FT and thru squeeze



Store 1896



Store 1908

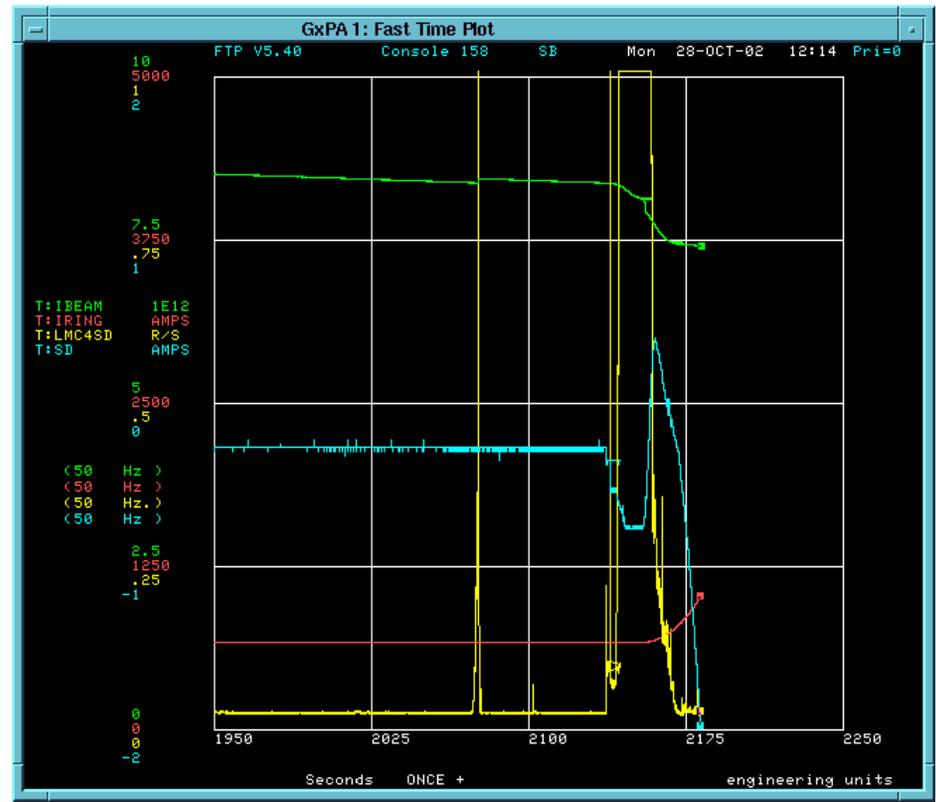
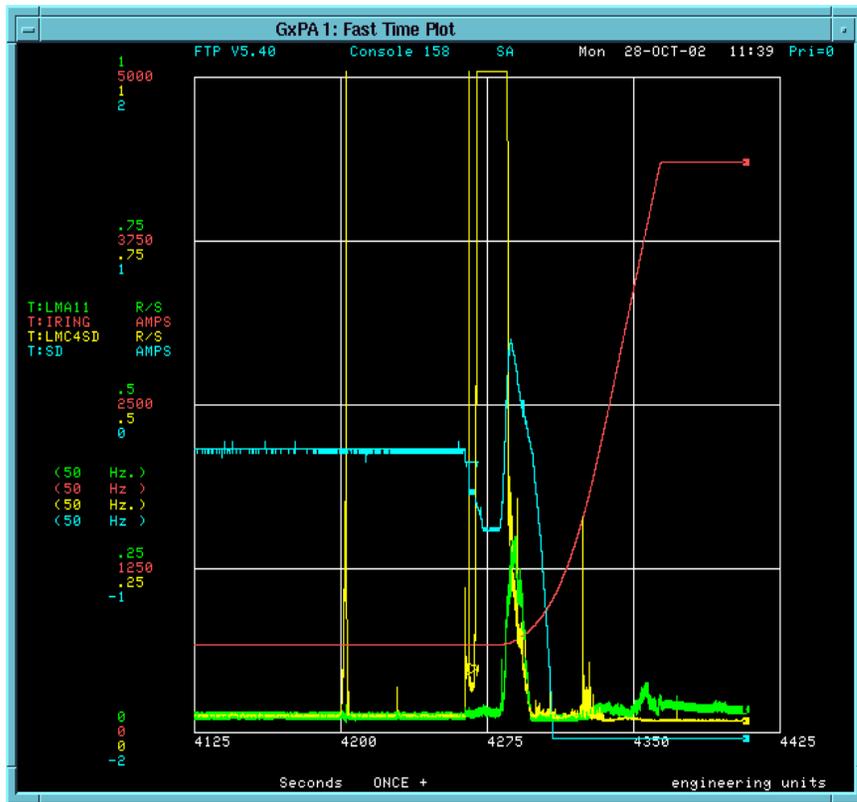
Tevatron F36



Repair of F36 Conig tower.



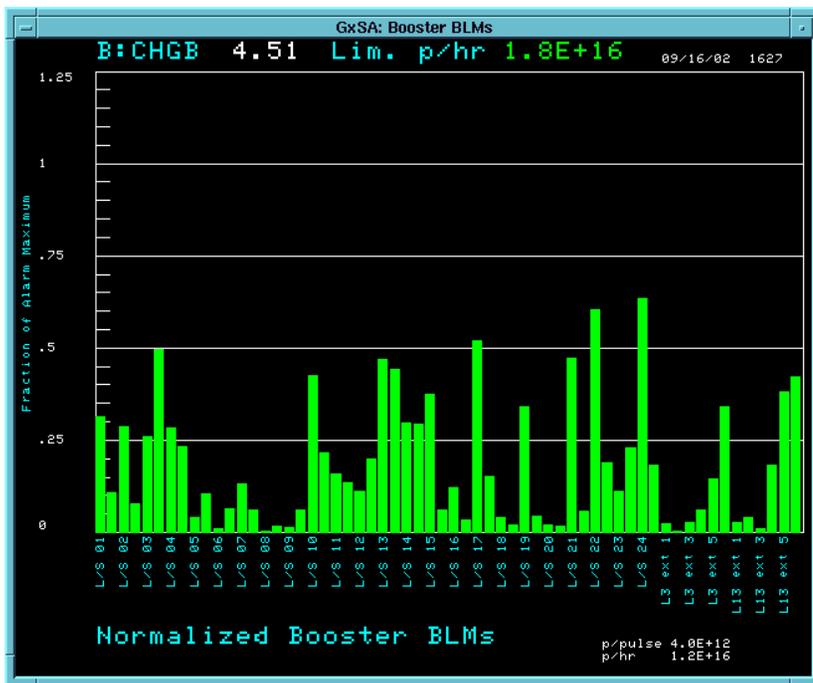
Tevatron chromaticity



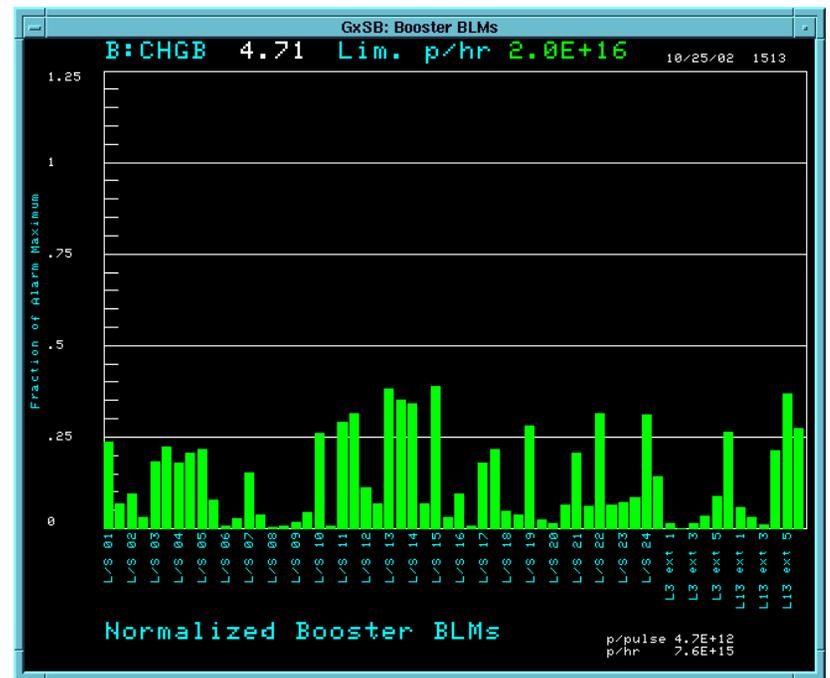
Booster Magnet Moves



Reduction in losses due in part to a smoother vertical orbit



Before magnet move

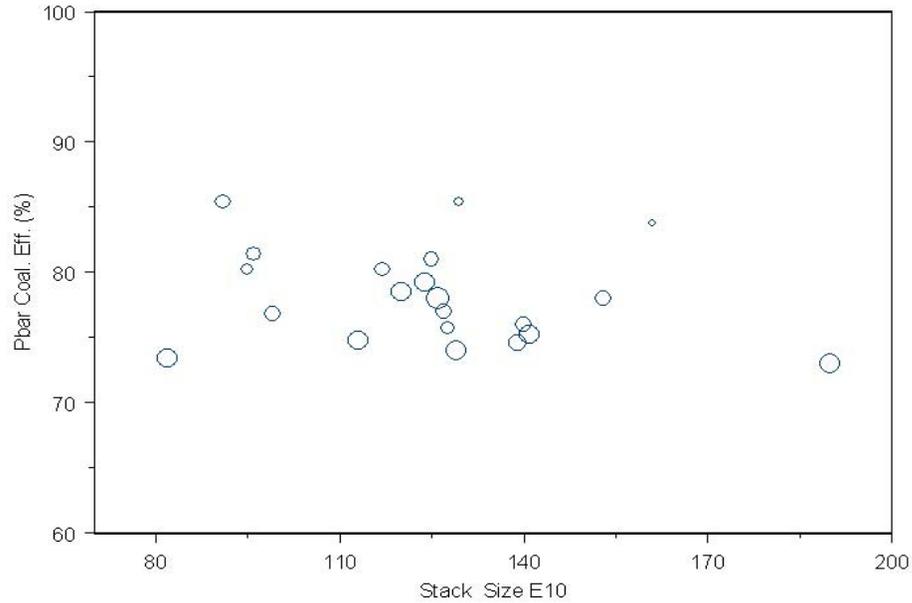


After 2nd magnet move

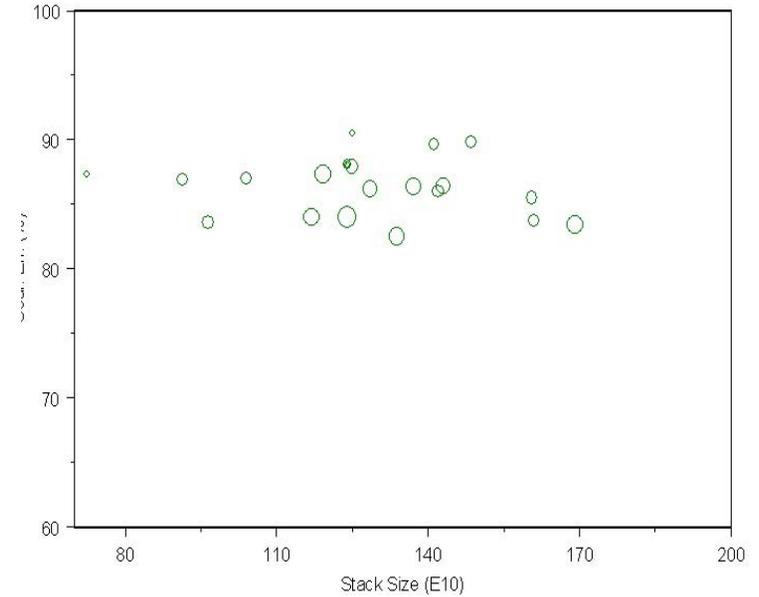
Main Injector Coalescing



PBAR Coalescing Efficiency vs Stack Size



No Beam loading



Beam loading

Beams Week in Review

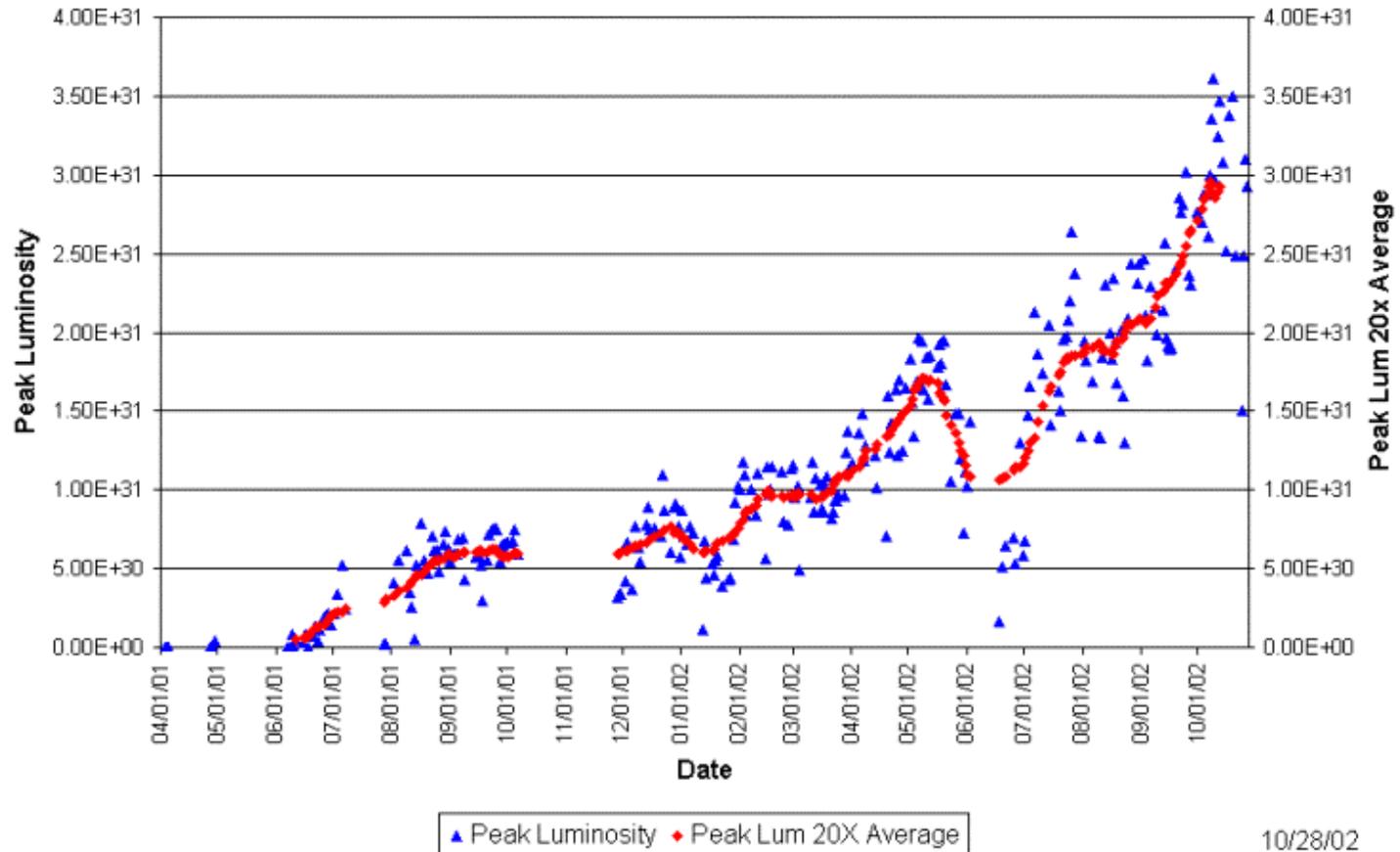


<u>Store</u>	<u>Initial Luminosity</u>	<u>Duration</u>	<u>Termination</u>	<u>Comments</u>
1845	3.09E31	9.3	intentional	143 mA, no known changes
1863	2.52E31	15.5	intentional	96 mA , kicker timing, MI rpos attn
1865	3.38E31	9.7	RF trip (lightning ?)	134 mA, dampers off
18xx	0.0	0.0	Quench A11	
18xx	0.0	0.0	Quench A11	
1886	3.50E31	22.0	intentional	141 mA,tev tunes,coupling,orbits

Peak Luminosity



Collider Run IIA Peak Luminosity

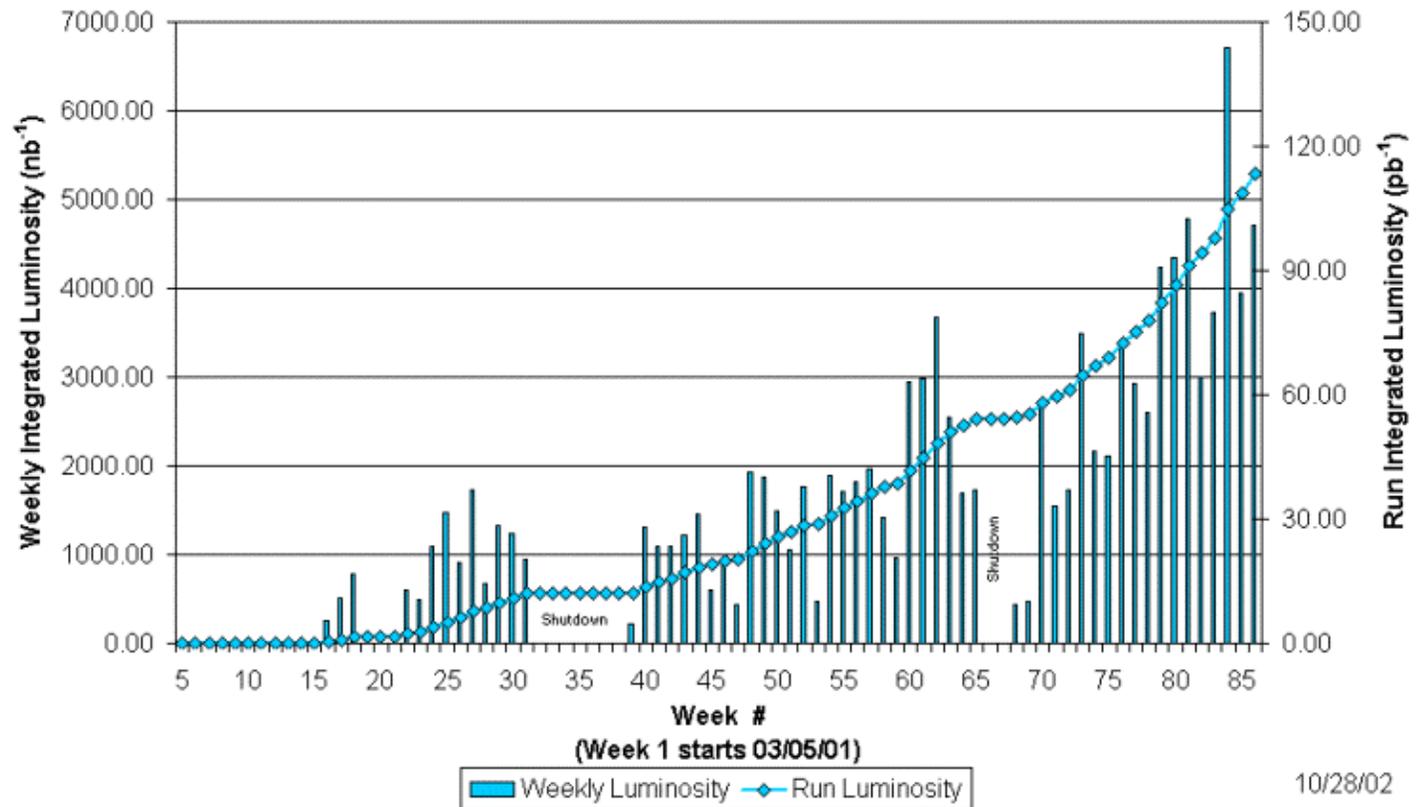


10/28/02

Integrated Luminosity



Collider Run IIA Integrated Luminosity



Beams Week in Review



- Current Near Term Issues
 - Proton and pbar emittance preservation
 - Proton and pbar lifetime at pbar injection
 - Proton and pbar lifetime on the ramp
 - Pbar coalescing with large stacks, 85% 140 mA stack

Schedule for this Week

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Update 10/28/02 2:19 PM	MONDAY 10/28/02	TUESDAY 10/29/02	WEDNESDAY 10/30/02	THURSDAY 11/1/02	FRIDAY 11/2/02	SATURDAY 11/3/02	SUNDAY 11/4/02
Owls 0000 to 0800	←		Stack and Store	→			
DAYS 0800 to 1600	←		Stack and Store	→			
EVES 1600 to 2400	←		Stack and Store	→			
		NIF - PT	NIF - PT		NIF - PT		

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

Longer-term schedule



- Week 10/28
 - Stack ‘n Store (No planned dedicated studies/access)
 - Potential short between stores studies and *End of Store* studies
 - Shots to Recycler - off the bottom and small stack dedicated, *depending on Collider operation*
- Week 11/4
 - Stack ‘n store
 - Accelerator studies (?)
- Week 11/11
 - Stack ‘n Store
 - Necessary Repairs (?)