

Beams Week in Review



- Continued to work on providing Luminosity
$$\mathbf{L} \sim \mathbf{N}_p \mathbf{N}_a / \epsilon$$
 - Stacking rate
 - Coalescing efficiency
 - Transfer efficiency
 - Emittance preservation

Beams Week in Review



- Looking Up (8/12 – 8/18)
 - Five stores with initial luminosity between 1.8-2.3 E31
 - Stacking rate improvements
 - Third best week for integrated luminosity
 - Store 1678 integrated luminosity 0.979 pb⁻¹
 - Accelerators took advantage of unscheduled study time

Beams Week in Review



Store Summary

<u>Store #</u>	<u>Initial Luminosity</u>	<u>Duration</u>	<u>Termination</u>	<u>comments</u>
1661	2.3 E31	19.3 hours	intentional	Scraper movement problems, good ϵ_λ from Acc
1663	1.63 E31	1.3 hours	B0 low beta quench	VFC chassis High humidity?
1665	1.99 E31	16 Hours	intentional	Collimator FE problems
1667	1.82 E31	18.2 hours	Intentional w/quench	A0 abort kicker module replaced

Beams Week in Review



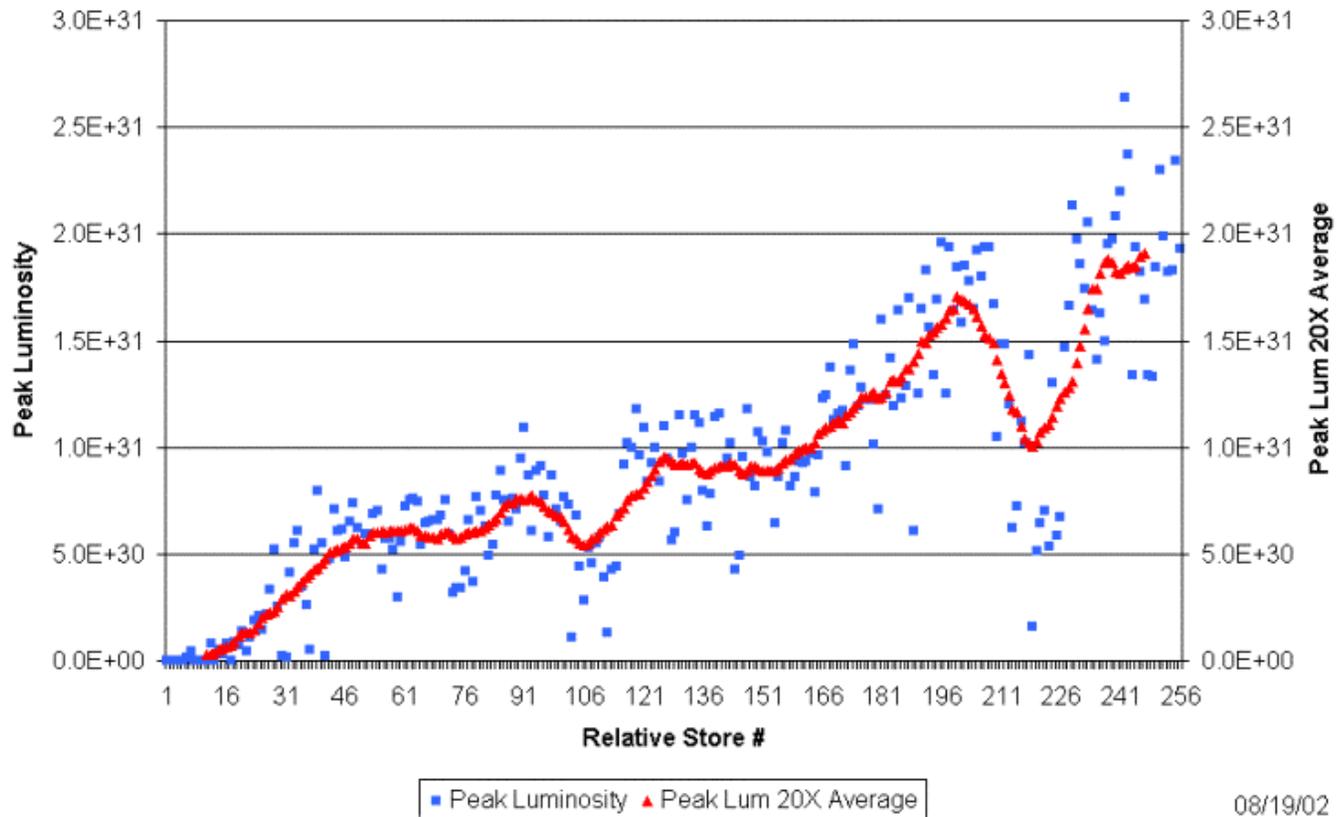
Store Summary, con't.

<u>Store #</u>	<u>Initial Luminosity</u>	<u>Duration</u>	<u>Termination</u>	<u>comments</u>
1668	2.34 E31	27.1 hours	intentional	8% increase in short arc V helix
1670	1.93 E31	15.3 hours	Intentional	Large pbar transverse emittance

Peak Luminosity



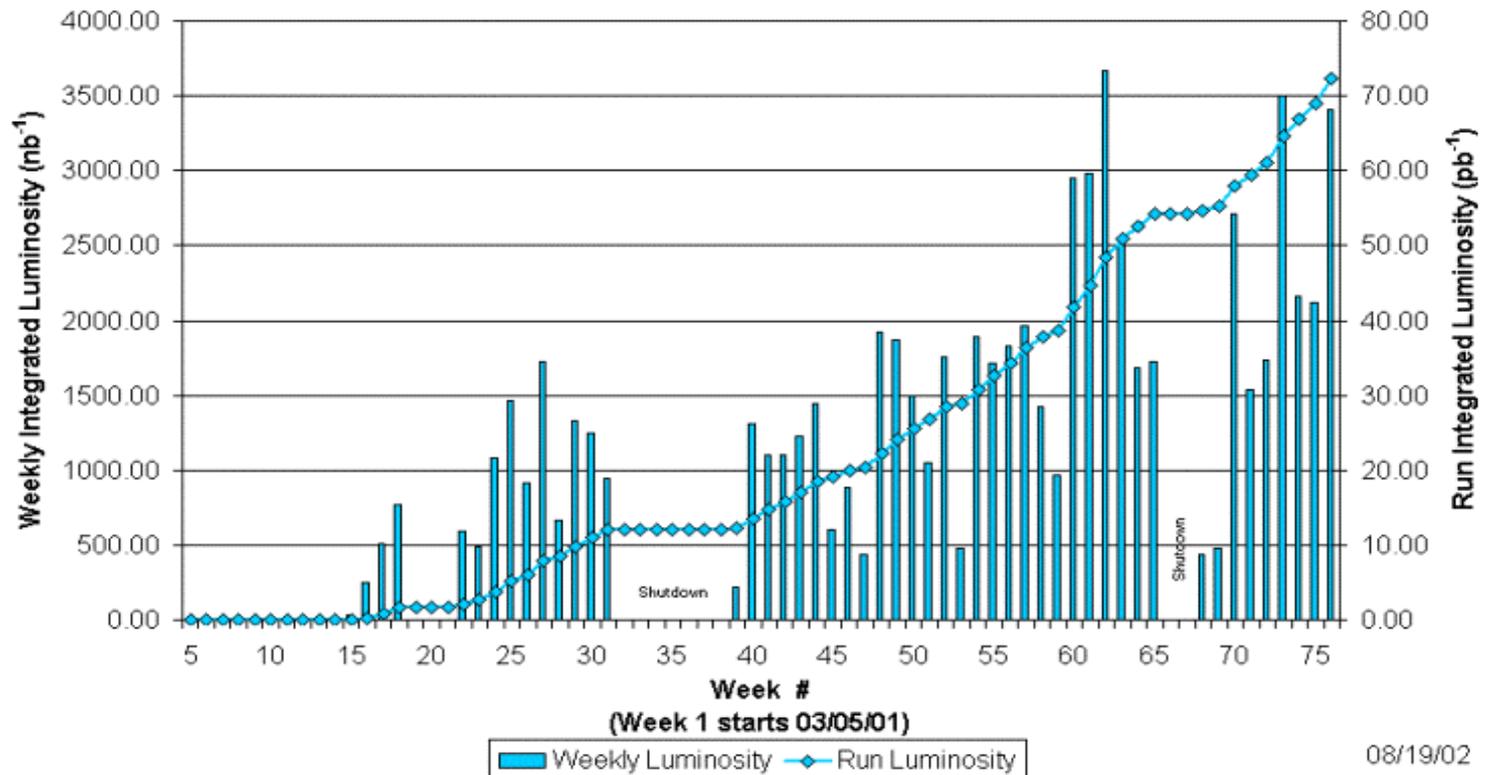
Collider Run IIA Peak Luminosity



Integrated Luminosity



Collider Run IIA Integrated Luminosity



08/19/02

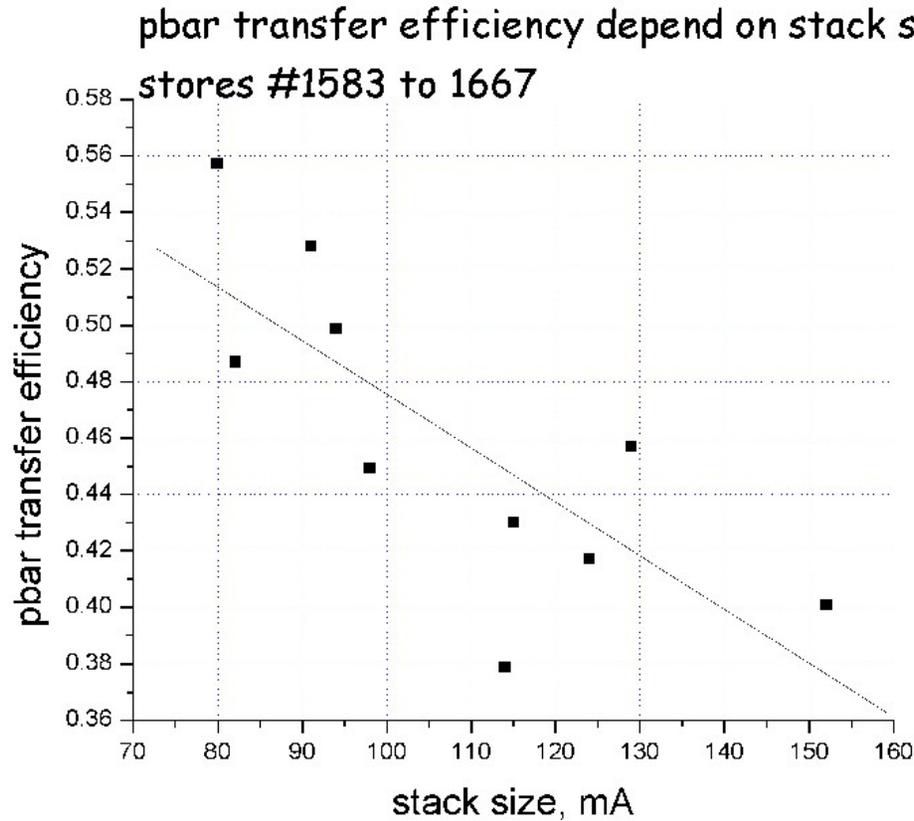
Tevatron Summary



- Studies included
 - Emittance growth vs Flying wire
 - Synch light calibration
 - Initial data for phasing in transverse horizontal damper
 - Investigate onset of transverse instability with lower chromaticity
 - Luminosity lifetime vs. vertical helix separation

Tevatron Summary

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Vladimir Shiltsev

Pbar Summary

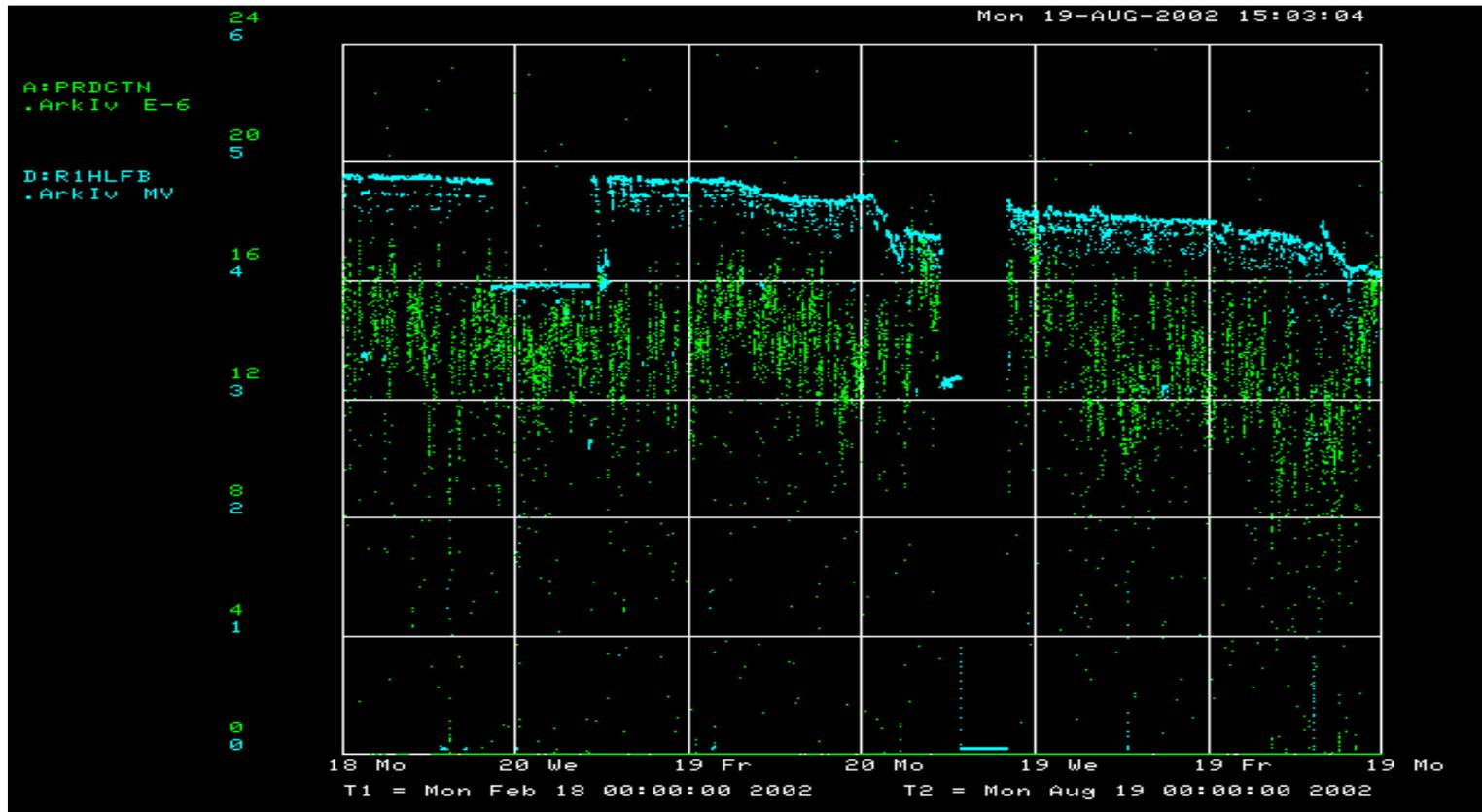


- Concentrated on antiproton production (up from $10\text{-}12\text{E-}6$ to $16\text{E-}6$ pbars/proton)
 - Debuncher RF (12% in production)
 - Accumulator ARF1-1 off for stacking
 - Phased in Debuncher H & V cooling fan-out and fan-in.
 - Production seems to follow DRF1 fan-back voltage (voltage currently 20% low)

Pbar Summary



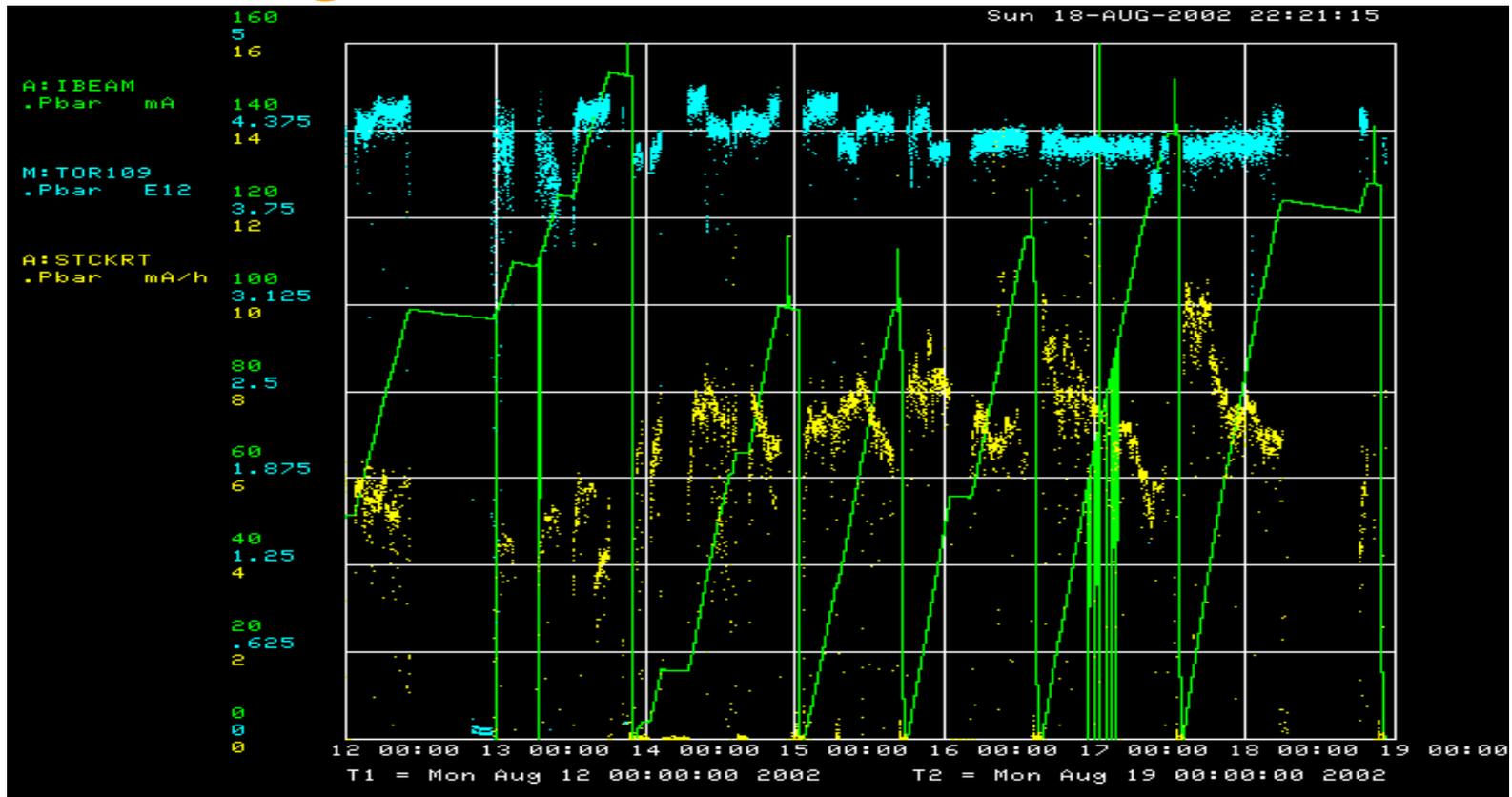
Production Rate



Pbar Summary



Stacking Rate



MI Summary

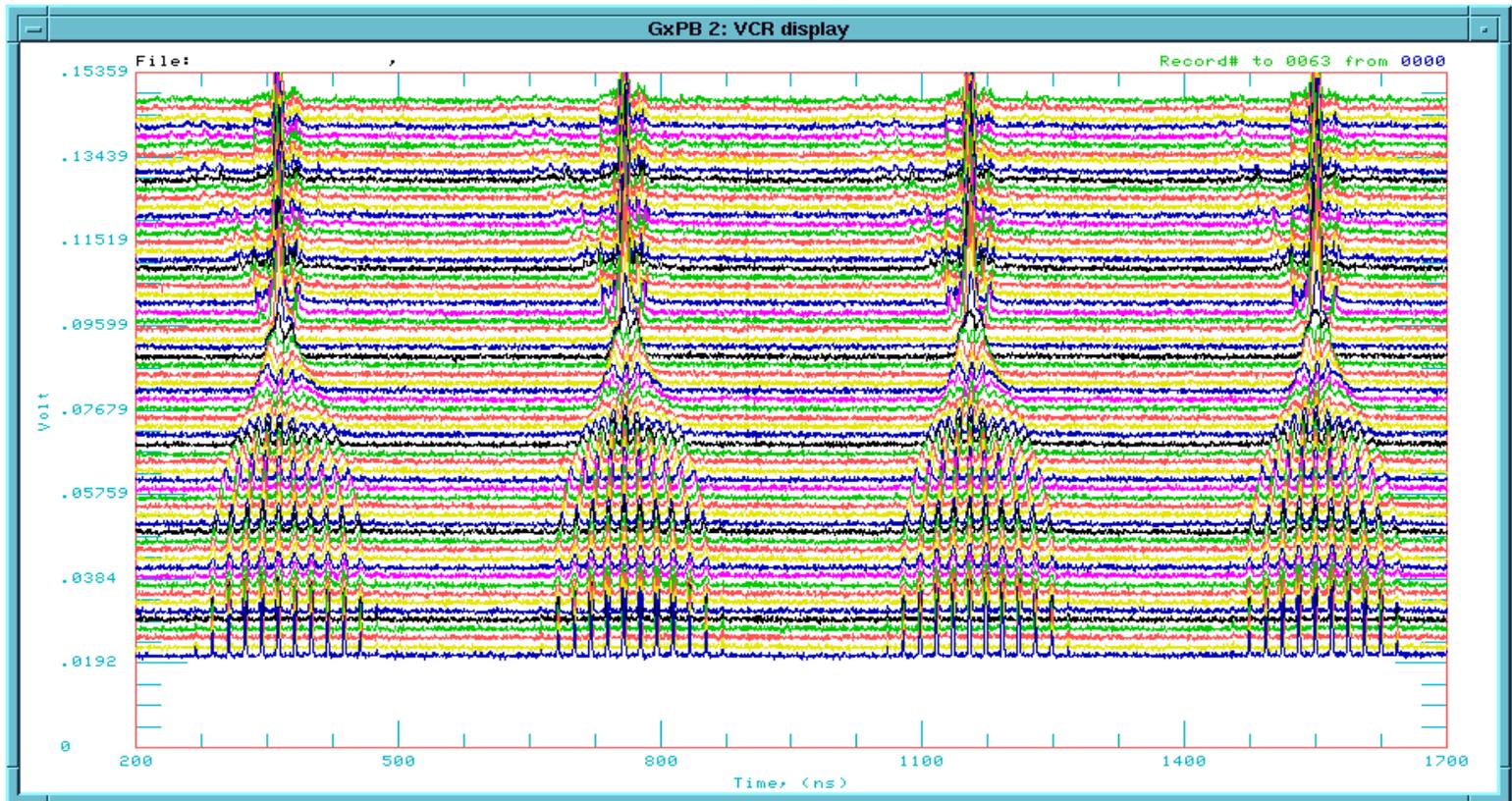


- Continued Low Emittance (8 GeV) proton coalescing studies
- Pbar beam loading compensation

MI Summary

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Four bunch pbar coalescing



Schedule for this Week



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- After the Shot today, Pbar Source will enter a 4 shift study period to be followed by stacking for the next HEP store.
- The next store will terminate 0600 Tuesday with and EOS study to be followed by 4 shifts of Tevatron studies.
- Shot set-up for HEP will resume on evening shift Wednesday.

Schedule for this Week

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Update 8/19/02 2:17 PM	MONDAY 8/19/02	TUESDAY 8/20/02	WEDNESDAY 8/21/02	THURSDAY 8/22/02	FRIDAY 8/23/02	SATURDAY 8/24/02	SUNDAY 8/25/02
Owls 0000 to 0800		TeV – Store Pbar – Rev. Proton Studies MLRR – Studies ~0600 TeV EOS Studies (2 hrs)	TeV – Orbit Smoothing & Instability Studies Pbar – Stacking/Studies MLRR – Stacking/Studies	Stack and Store	→		
DAYS 0800 to 1600	~1300 Shot Setup Store MI - Beam loading Compensation Pbar – ARF1/DRF1 Studies	NTF – PT TeV – Damper Studies 36x0 Pbar – Accesses ARF1/DRF1/Valt MLRR – Studies	NTF – PT TeV – BLT Studies @ 150 GeV Pbar – Stacking/Studies MLRR – Stacking/Studies	Stack and Store	→		
EVES 1600 to 2400	TeV – Store Pbar – Rev. Proton Studies MLRR – Studies	TeV – Beam-Beam Comp. Pbar – Stacking/Studies MLRR – Stacking/Studies	Shot Setup Stack and Store	Stack and Store	→		

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