

# *Beams Two Weeks in Review*

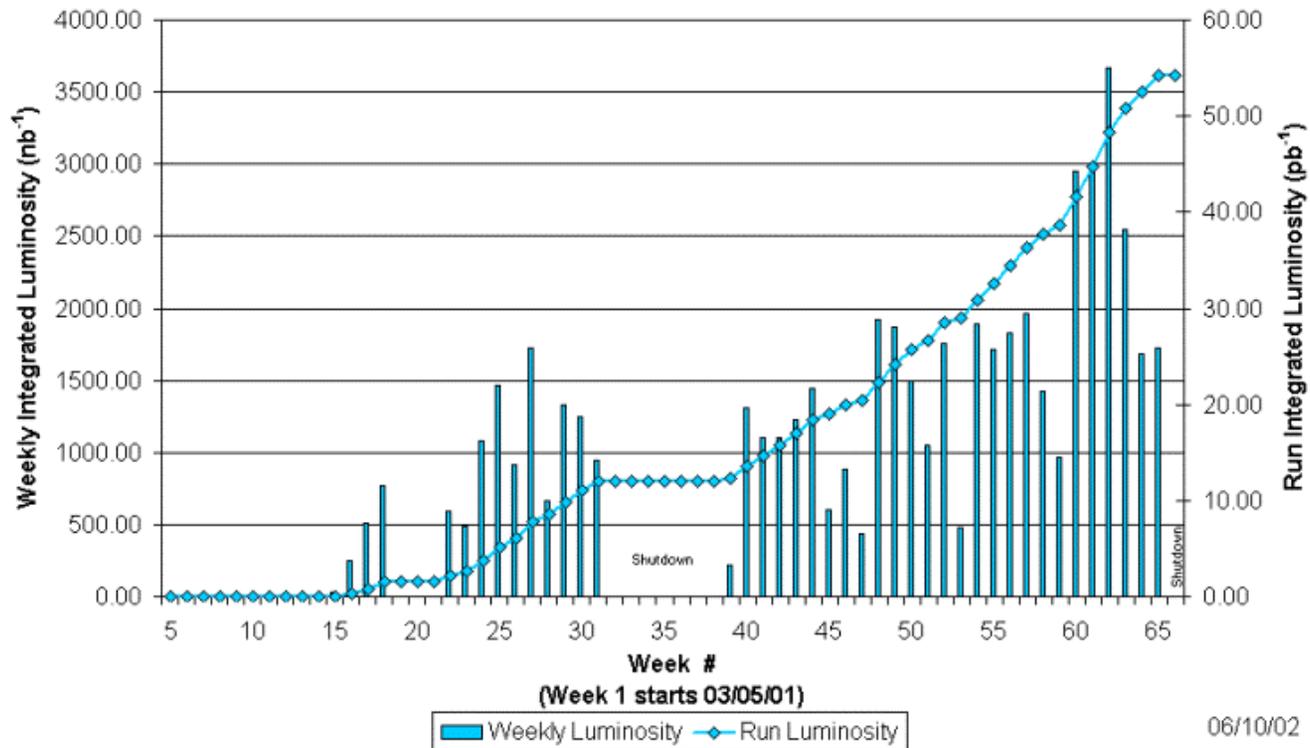


- Shutdown
- Startup on Friday
- Operation of Accelerator complex verified
- Accelerator Core Cooling commissioned
- Tevatron start-up continues

# Integrated Luminosity

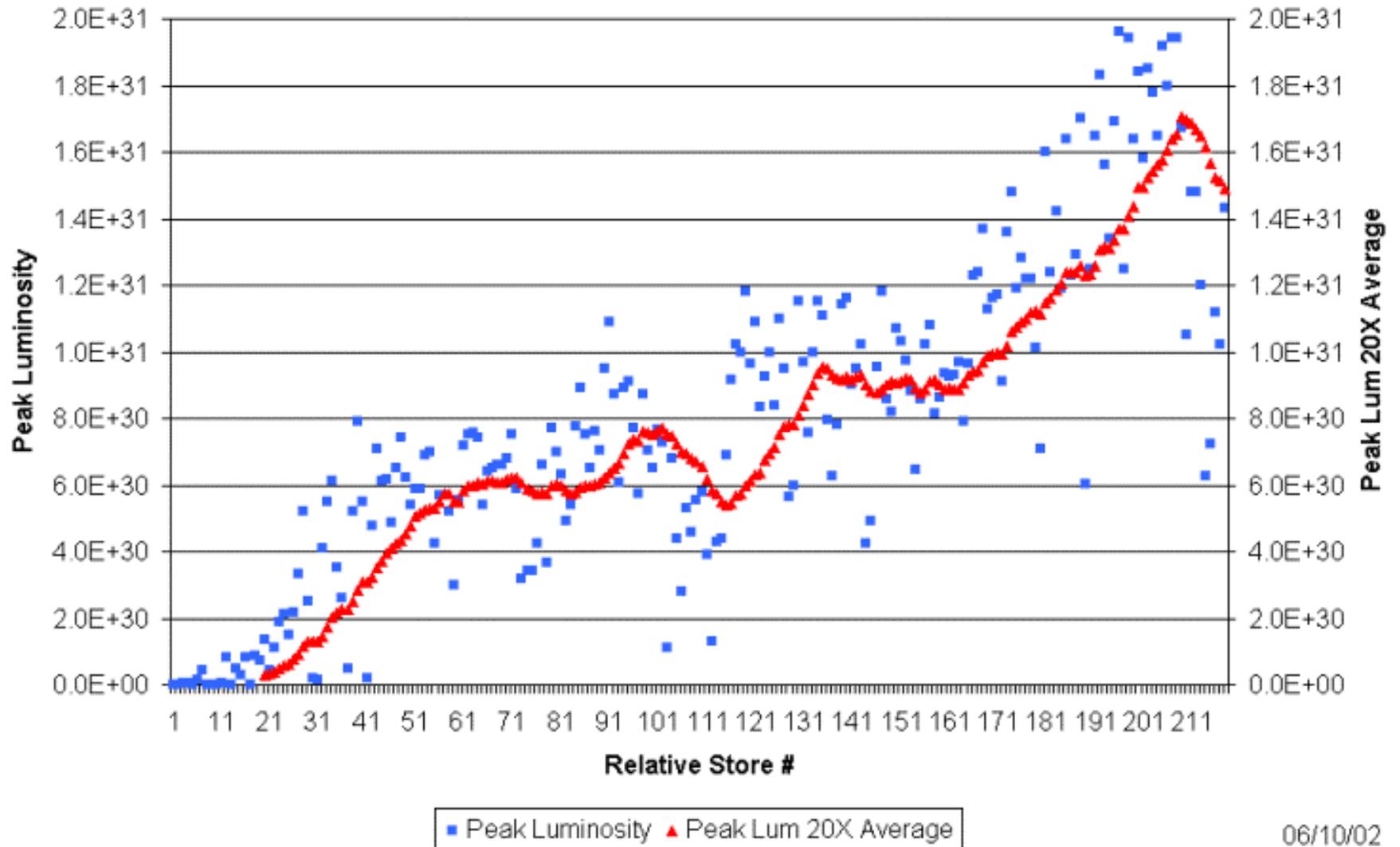


Collider Run IIA Integrated Luminosity



# Peak Luminosity

## Collider Run IIA Peak Luminosity



# *Tevatron Summary*



- F11 ferrite replaced and area baked
- A0 collimator moved to A11
- Warm up to nitrogen temp of A4, C4, D1 to improve vacuum
- Repair C4 FPD vacuum
- Repair problem torlon pieces on spool pieces around the Tevatron
- Prep work for shielding at CDF

# *Pbar Summary*

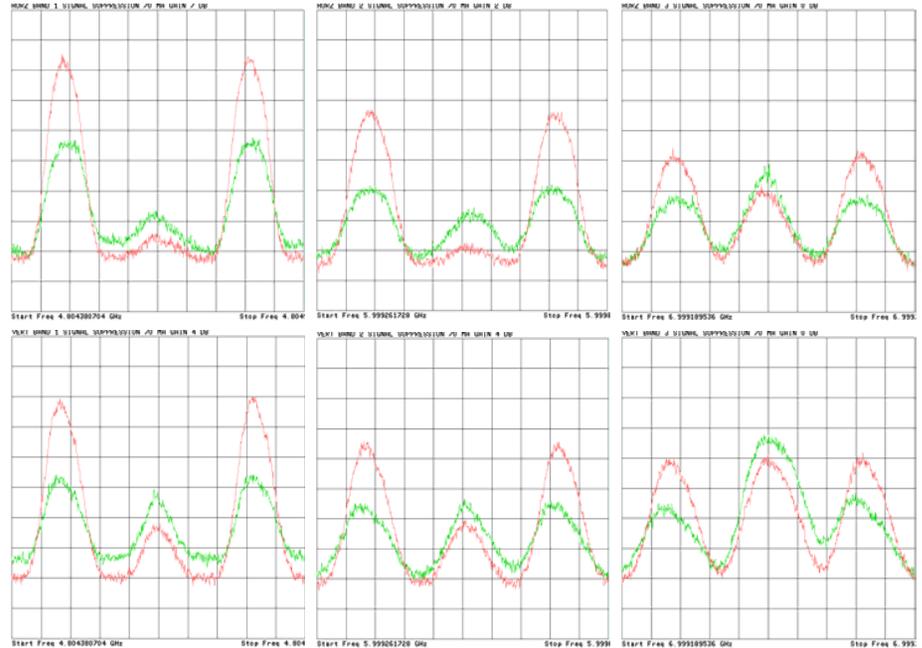


- Rapid Stacking start-up
- New Core cooling installed & commissioned

# *Pbar Core Cooling Commissioning*

f

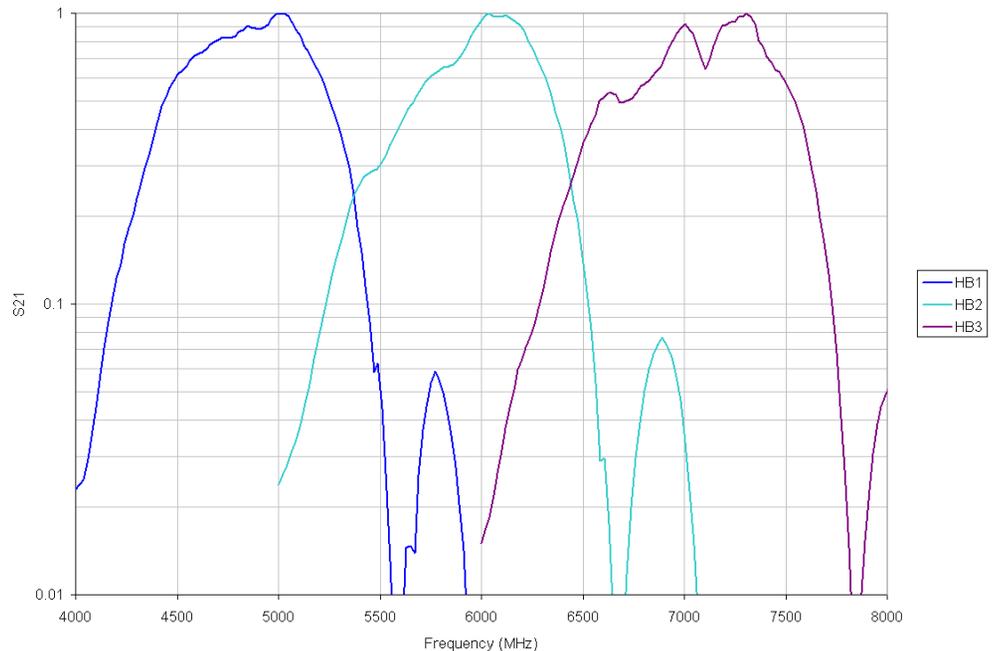
Signal  
Suppression: the  
systems work!



# *Pbar Core Cooling Commissioning*



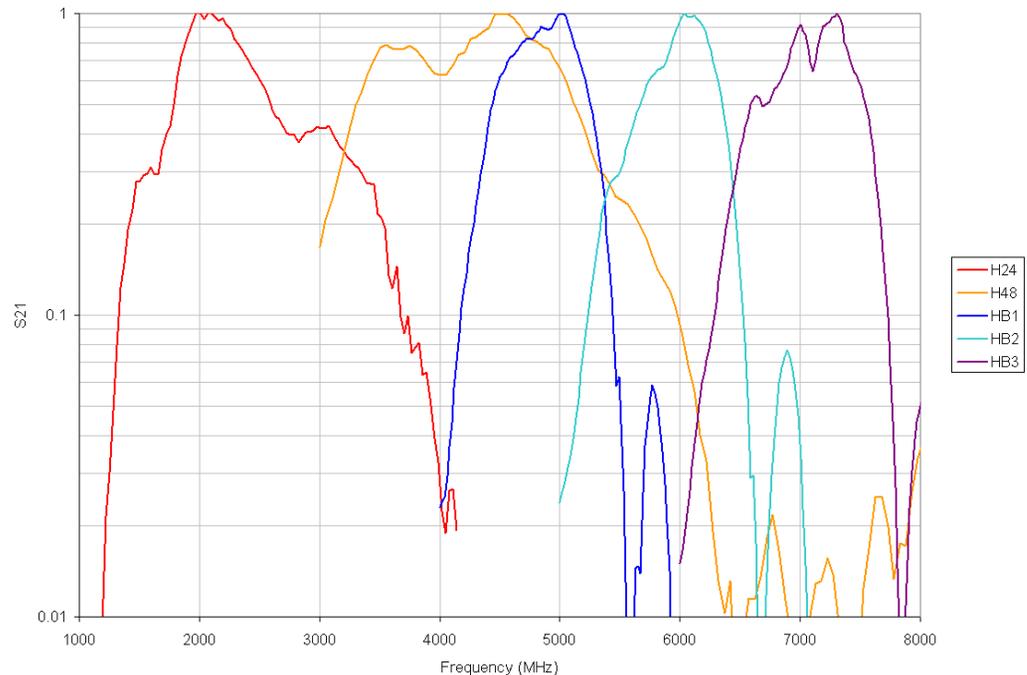
2-4 GHz and 4-8 GHz  
transverse systems replaced  
with a 3-band Debuncher  
style system



# *Pbar Core Cooling Commissioning*



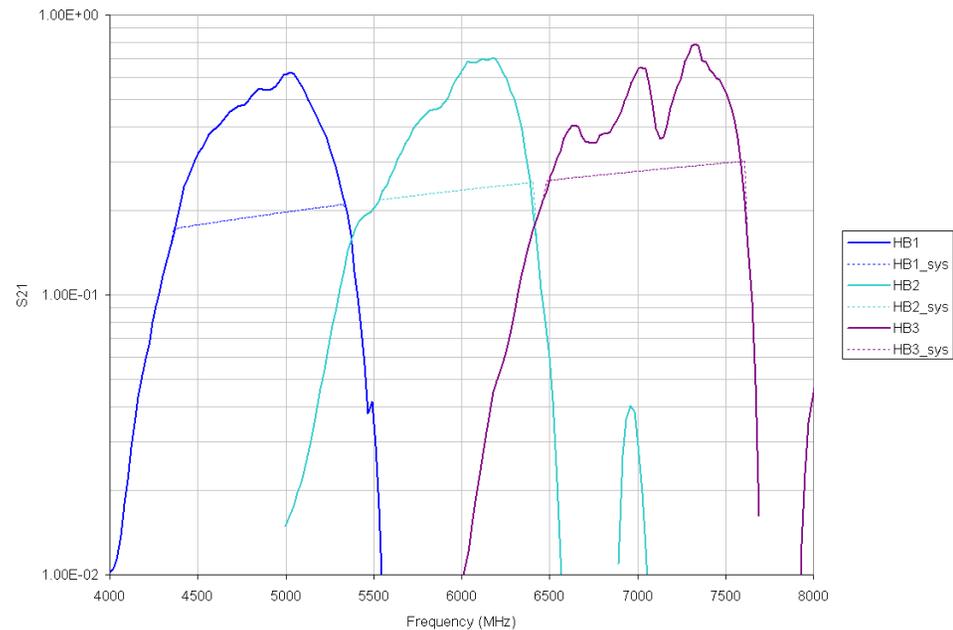
Comparison of old and new systems. 'Old' systems are already equalized.



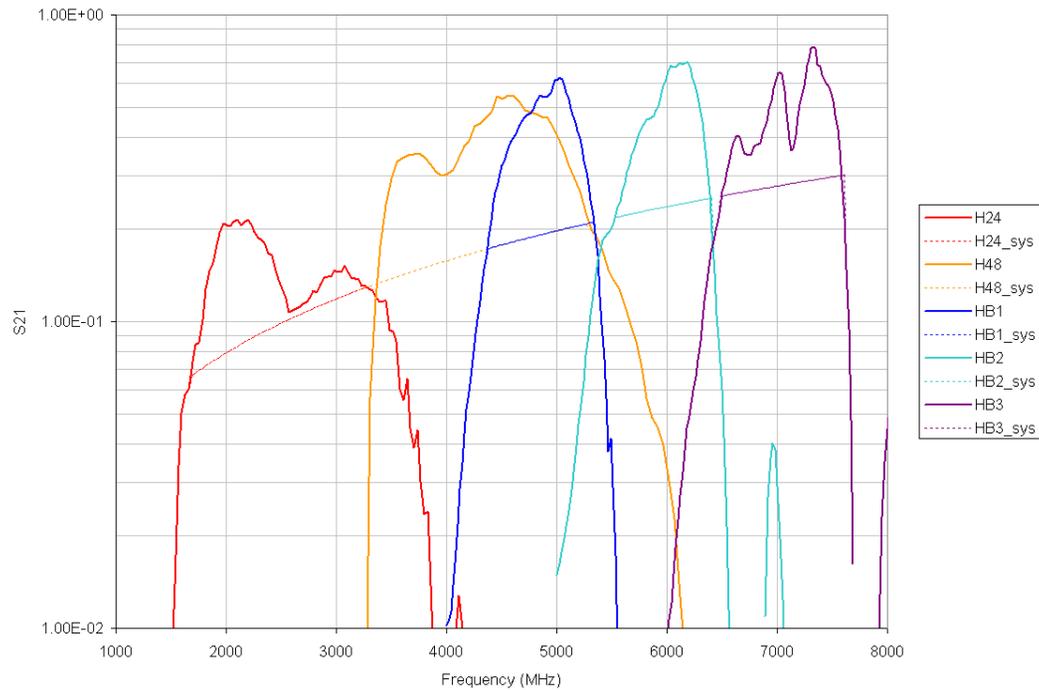
# *Pbar Core Cooling Commissioning*



‘New’ system  
response with  
equalizers added



# *Pbar Core Cooling Commissioning*



Comparison of old to new - equalized

# *Pbar Core Cooling Commissioning*



- 40% improvement in cooling rate now
- 125% improvement with equalizers

# *Pbar Core Cooling Commissioning*



## Overall Emittance Improvement

Emittance Reduction = (Improved Cooling) \* (Better Mixing Lattice) \* (lower IBS)

$$= (2.5)^{2/5} * (2)^{2/5} * (3.12)^{2/5}$$

$$= 1.44 * 1.57$$

$$= 2.27$$

$2\pi$  reduced to  $0.9\pi$  with upgraded cooling and unstacking lattice

# *Schedule for this Week*



- No dedicated Collider Studies until stable operation resumes
- Ad hoc Tevatron as needed
- Parasitic studies
  - Pbar cooling, stacking and reverse protons
  - MI miscellaneous including SY120
  - Recycler protons
  - MiniBooNe phase II?