

HERA

Status and Schedule



HERA-Experiments Coordination Meeting
August 30 2005

F. Willeke, MHE

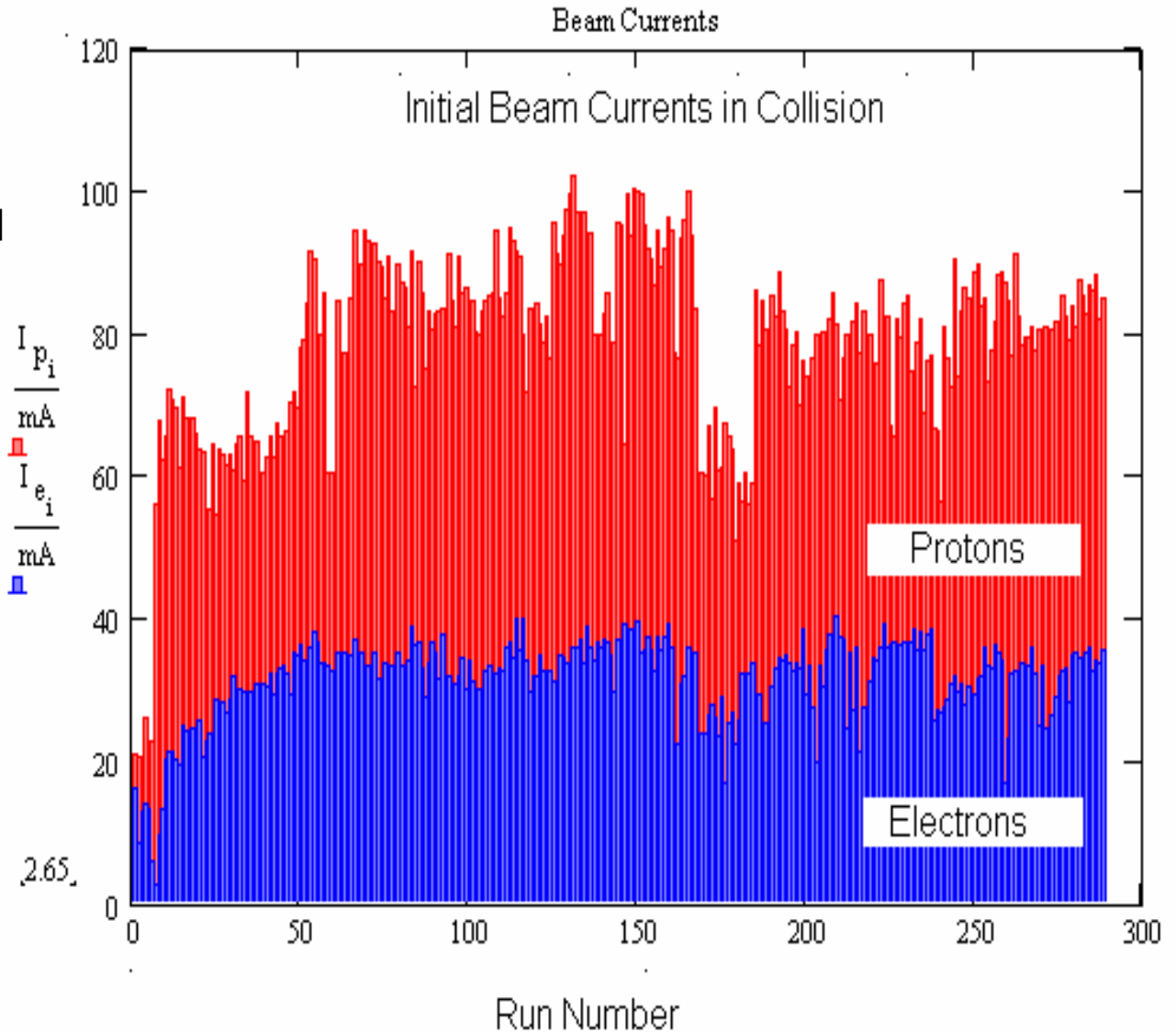
- Operations July-August
- Short term plans
- Shutdown preparations

Beam Intensities

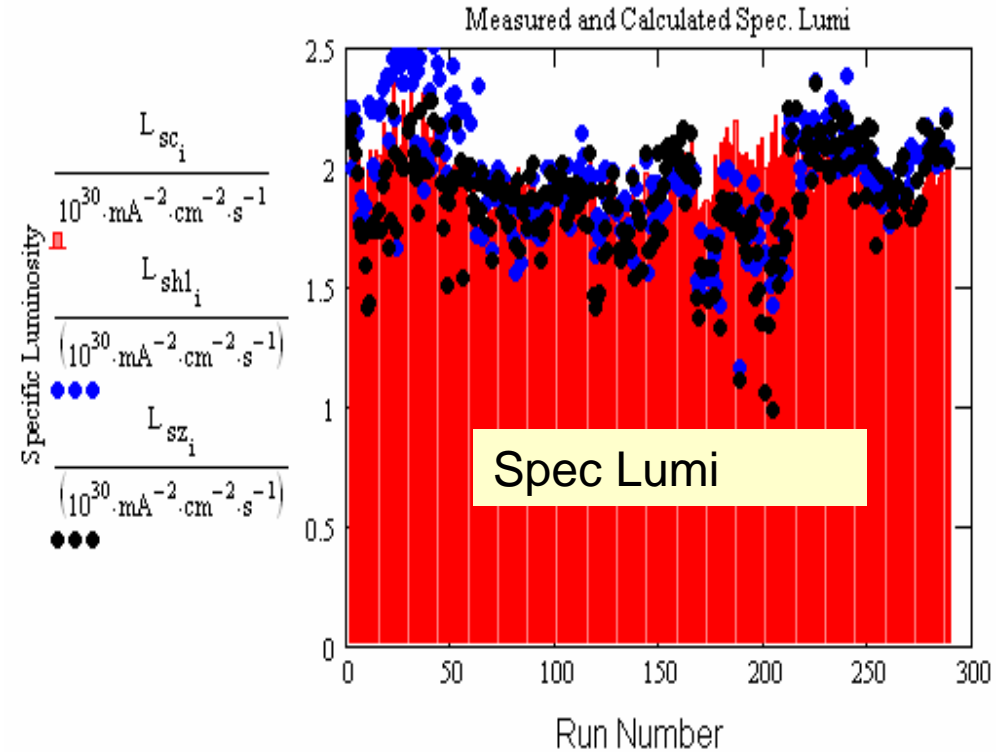
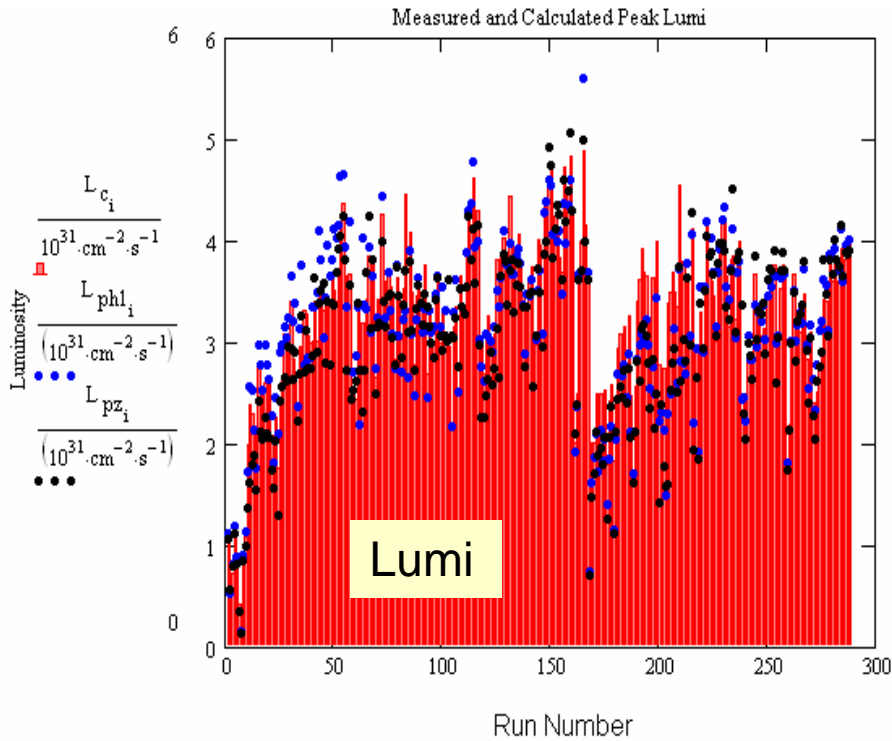
Stagnation of Electron Currents due to:

- Recovery from Technical problems
- Dust and other Lifetime Problems
- Background Problems
- Injection Tuning Problems

→ seems hard to get beyond 40mA



Peak Performance

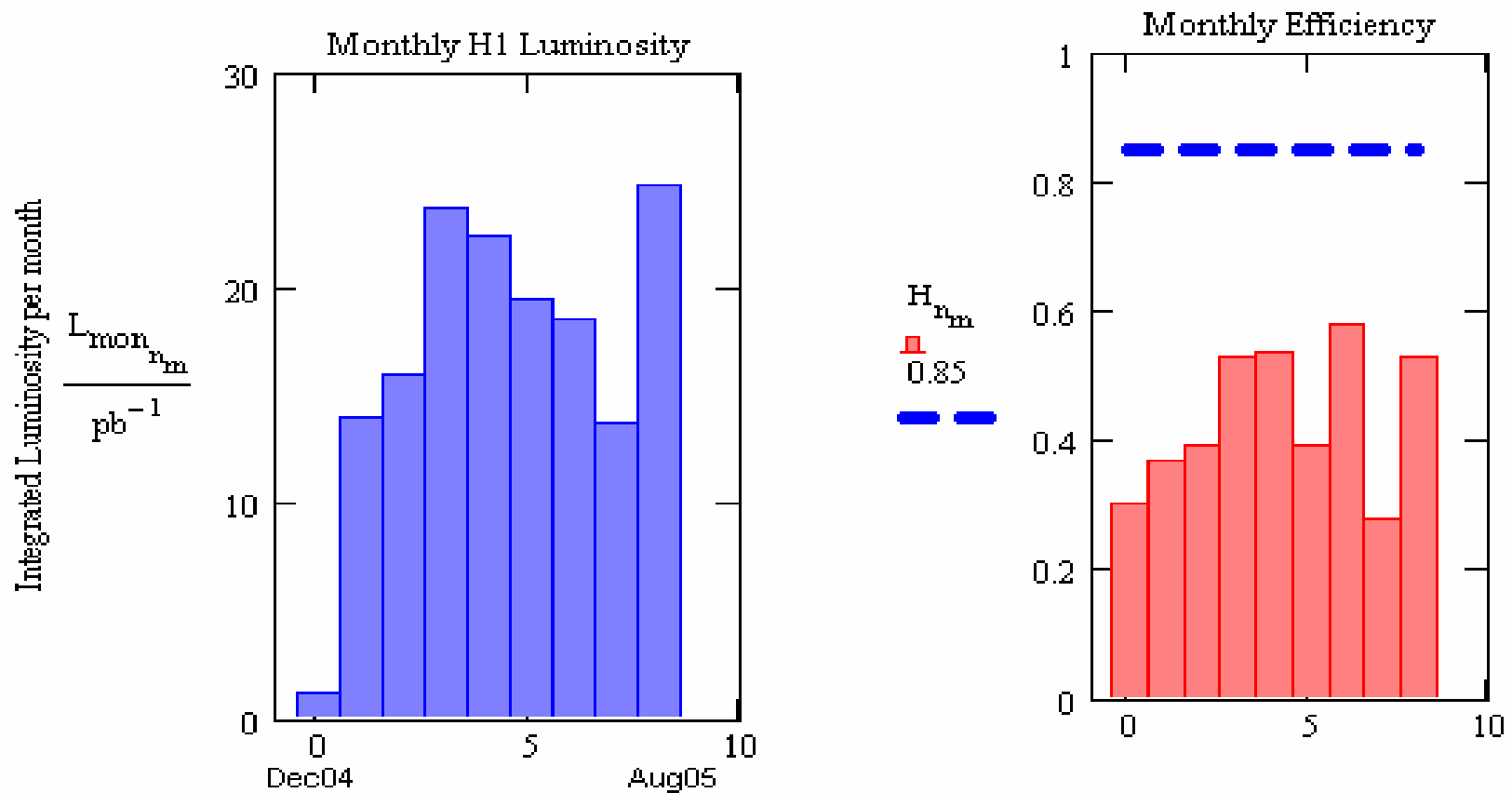


Did not reach peak values of May $5.1 \text{E}31/\text{cm}^2/\text{s}$

Due to reduced proton currents (PETRA)

Specific Luminosity continue to be large (if properly tuned)

Monthly Luminosity and Efficiency Statistics



Luminosity production in August ok, but data taking efficiency poor due to backgrounds

Luminosity Production

Technical Problems

In July

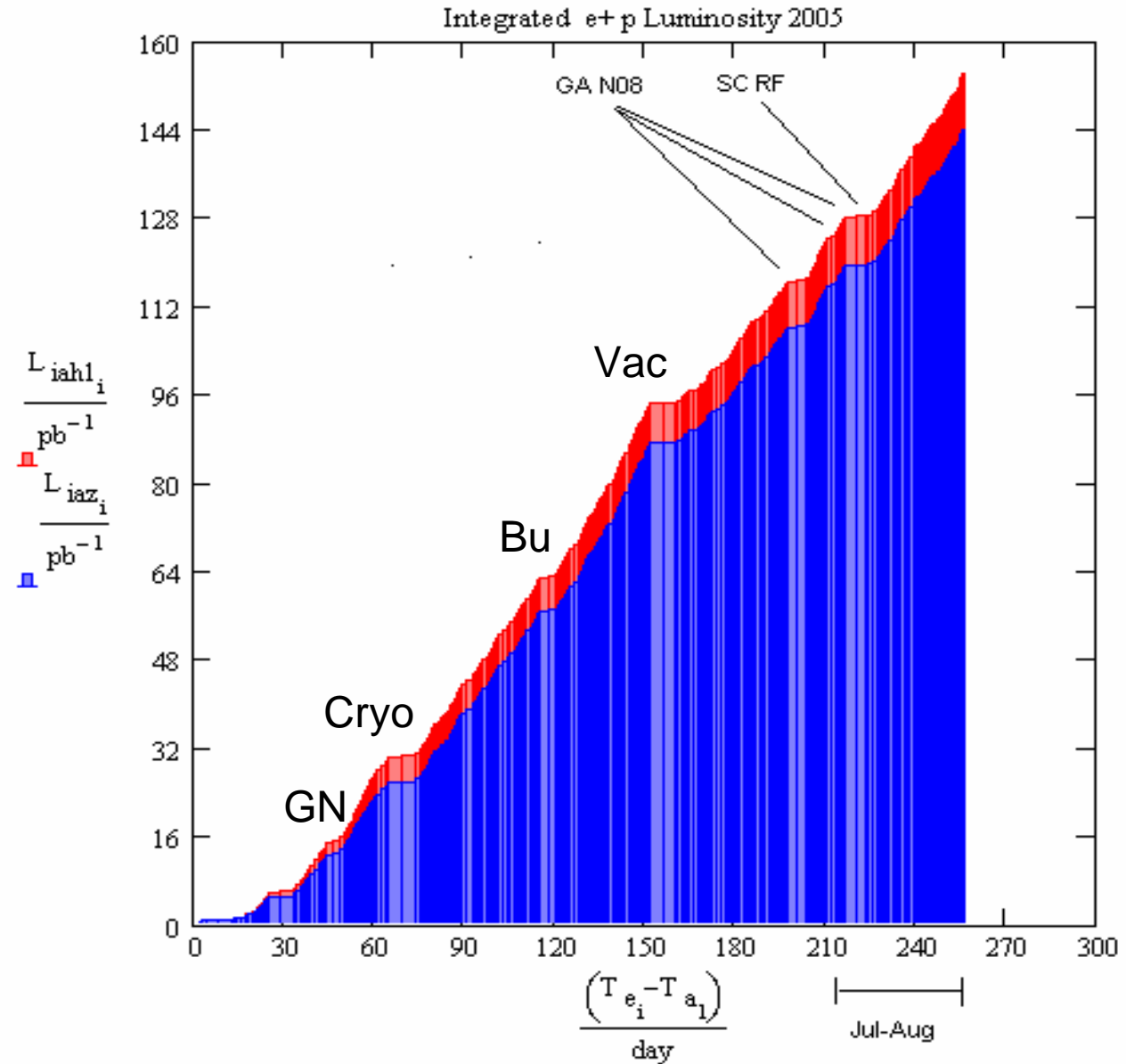
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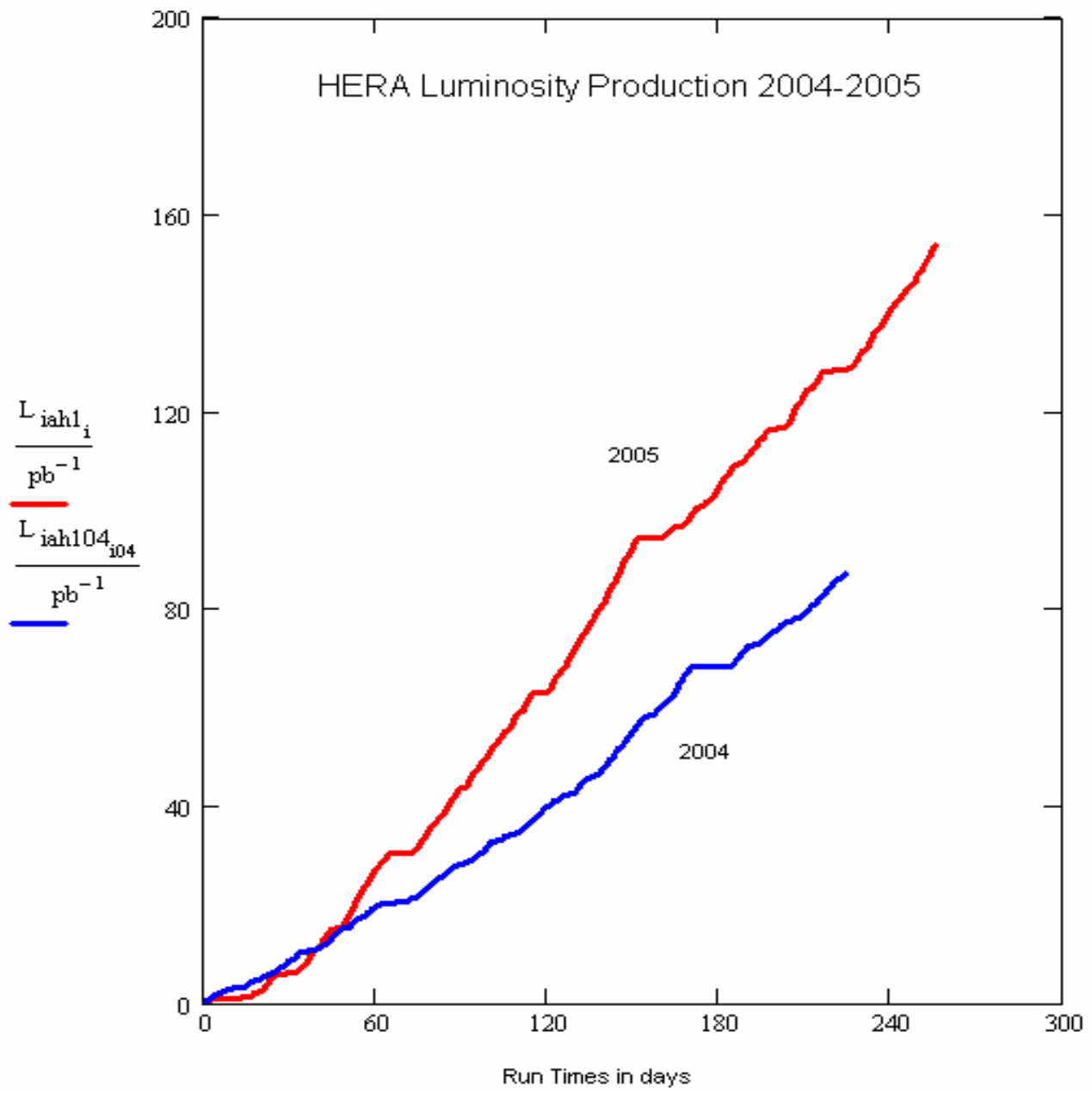
Backgrounds

Tuning Problems in August

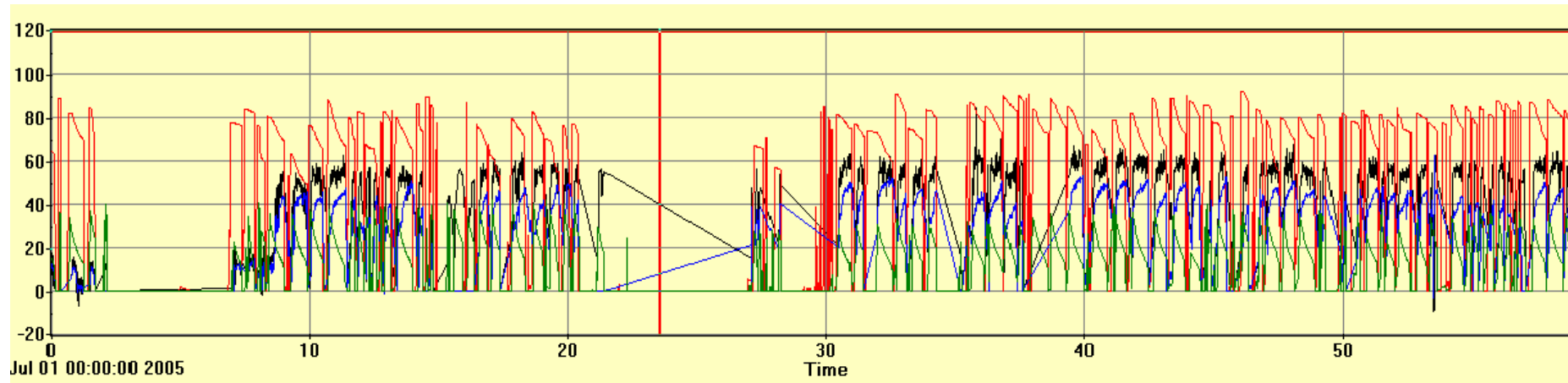
→

Backgrounds





Polarization



Procedure and set up unchanged since Beginning of July

Colliding Bunches: initial Polarization **30%** - **Final Polarization 45%**

Non-Colliding: **up to 60%**

Quite **reproducible** and **stable** over 2 months

Polarization versus Rotator Position

- Rotator Settings checked: ok
- Sensitivity to rotator errors larger than expected

Short Term Plans

Maintenance Day Sept 7

- ❖ Normal Procedure 6am-22pm
- ❖ Tunnel closed 2pm
- ❖ Plan to switch the rotators
- ❖ **Warm-up Cold IR- magnets North/South?**
- ❖ Machine request a day of study to explore beam stability

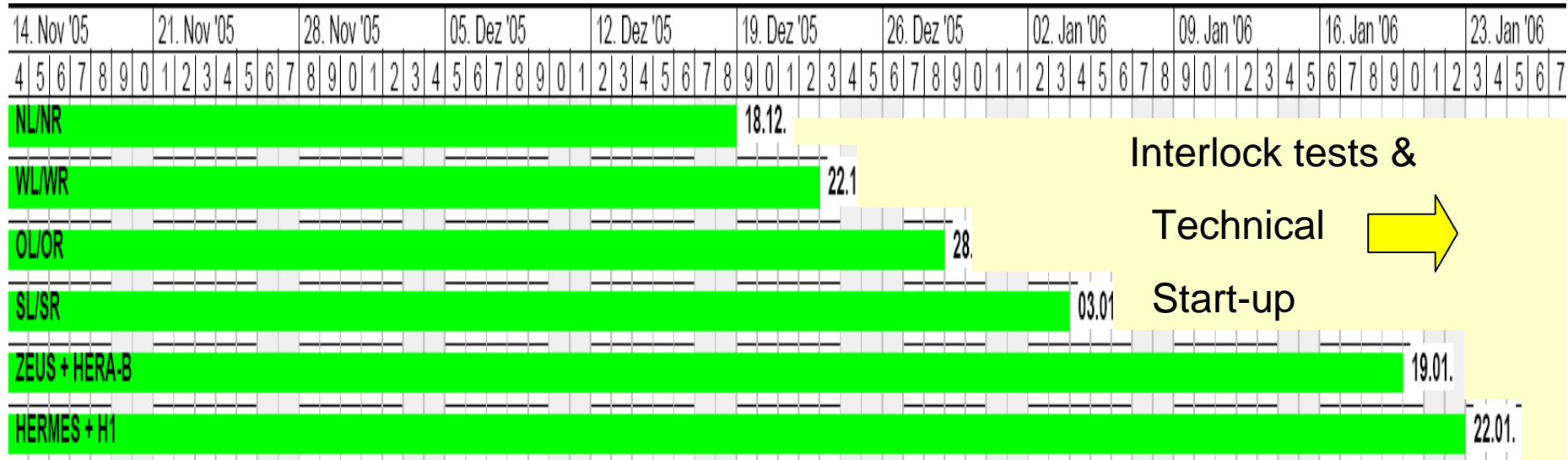
Return to Luminosity Run,

no changes planned,

Increase Beam Currents and Luminosity

HERA Tunnel Access Shut down

Nov 14 2005 – Febr 6 2006



For detailed plans please check Frau Grabe/Celc's schedule

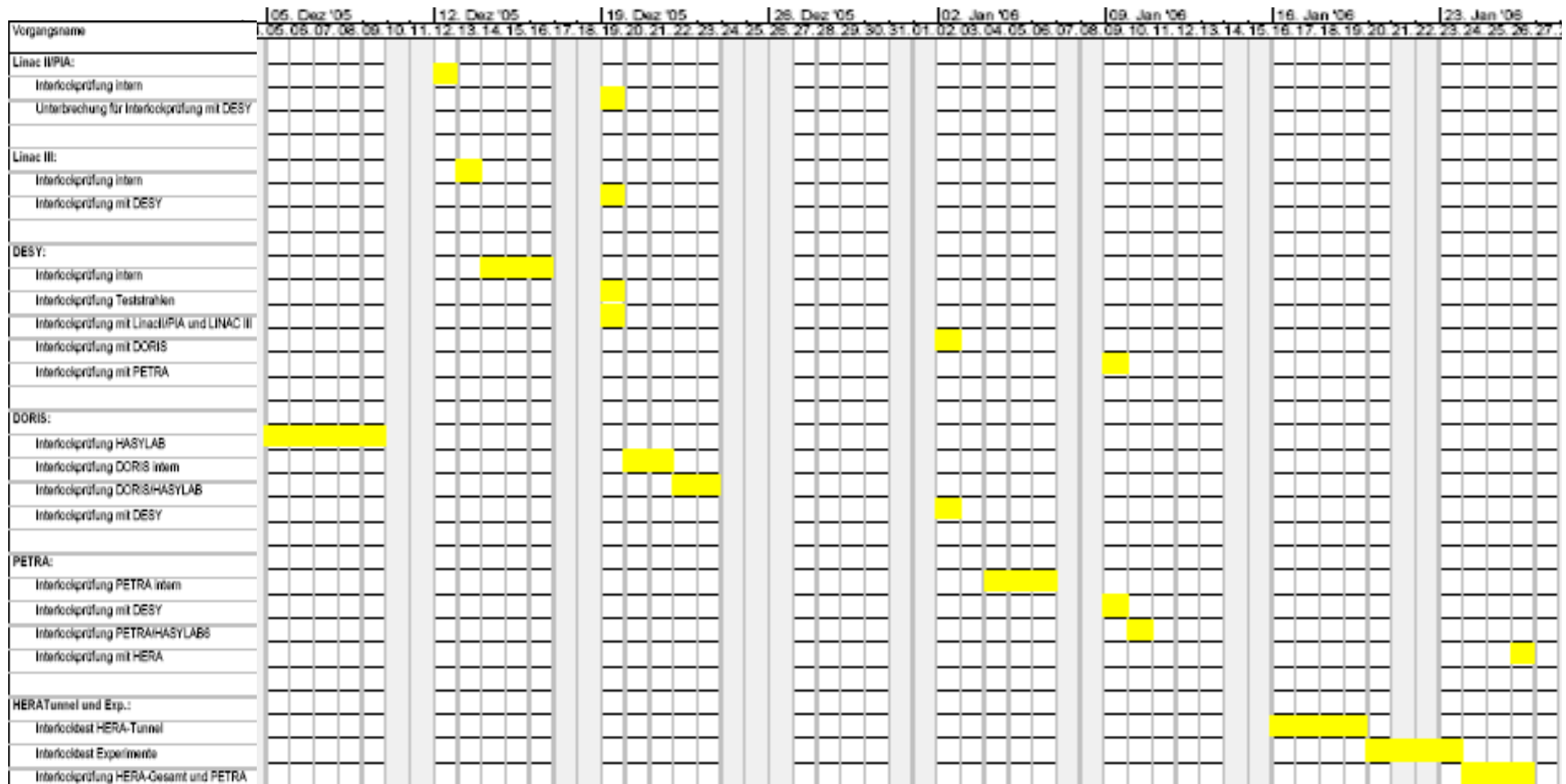
<http://www-gds.desy.de/> → MEA1 →, Zeitplaene

- ❖ Restart with beam: Feb 6, 2006
- ❖ Restart Luminosity 3rd Week of February

Accelerator Activities in Shut Down

- Maintenance Work around the Tunnel
- Install new BU coils (14 Magnets, 27 coils)
- Reinstall Cryostat #1 SC Cavities Nov 14-Dec 15
- Cryogenics North Shut Down Nov 14 - Dec 19
- South Shut Down Nov 14 - Dec 22

Interlock Tests



BU-Coil Replacements

At present: → 21 BU coils delivered (ahead of schedule)
 → last 4 coils delivered in October

BU coil replacement schedule

Octant	# Coils to be exchanged	Start	Finish
SR	4	Nov 14	Nov 23
NR	5	Nov 16	Nov 24
OR	6	Nov 21	Dec 5
OL	6	Nov 24	Dec 6
SL	6	Nov 29	Dec 15

Superconducting Cavities, Cryostat 1

Will be cold tested at PETRA Hall NE with RF
prior to installation in the tunnel to avoid loss of
Operation time

Ready for Installation: Dec 12 05