

# HERA Status and Plans



HERA–Experiments Coordination Meeting  
July 12 2004

- ❖ Status of Luminosity Production
- ❖ Status of Polarization
- ❖ Recovery from Vacuum leak NR11m
- ❖ Plans for Start-up with Electron

# Luminosity Production

## Parameters Achieved until mid June 2004

$I_p = 100 \text{ mA}$

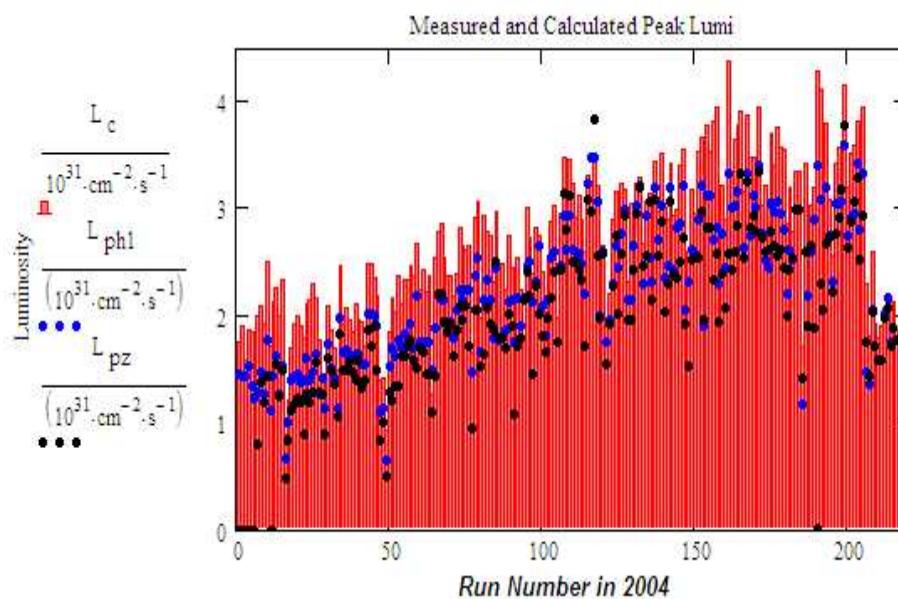
$I_e > 45 \text{ mA}$

$L_{\text{spec}} = 1.5 \cdot 10^{30} \text{ mA}^{-2} \text{ cm}^{-2} \text{ s}^{-1}$

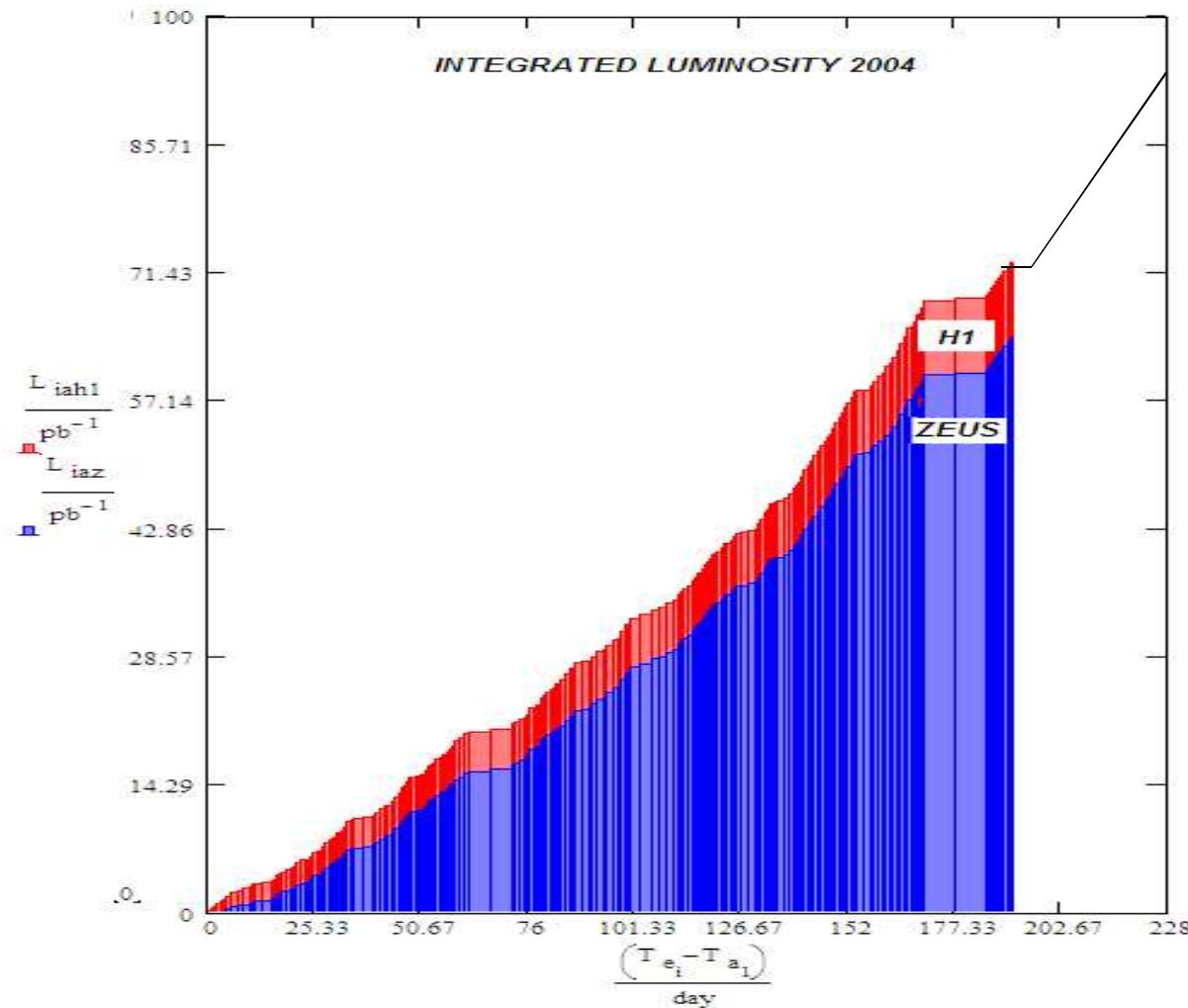
$L_{\text{peak}} = 3.8 \cdot 10^{31} \text{ mA}^{-2} \text{ cm}^{-2} \text{ s}^{-1}$

?dt L/T ?  $1 \text{ pb}^{-1} \text{ day}^{-1}$

Efficiency = 40%

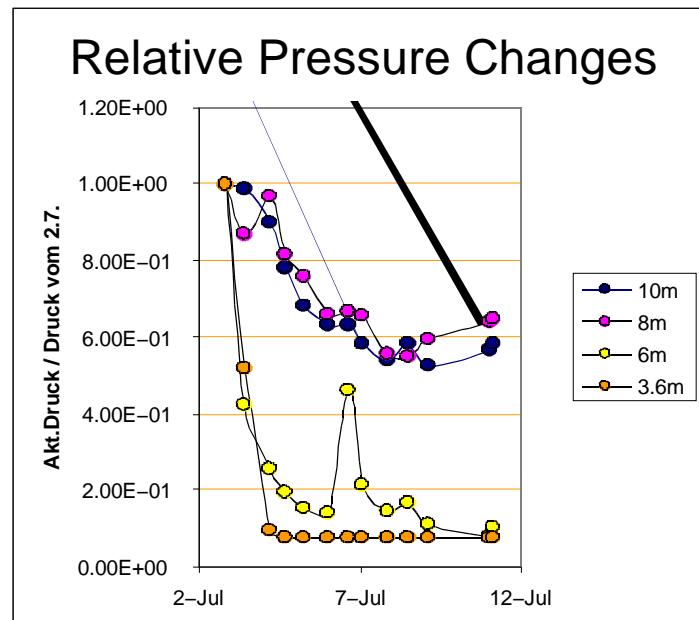
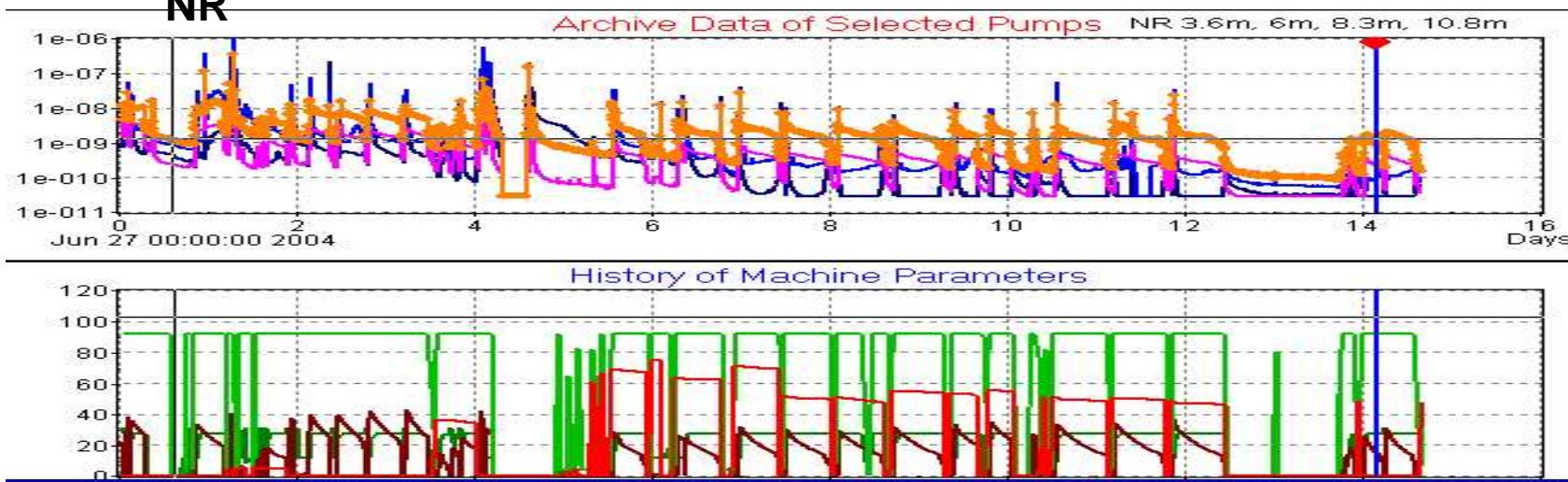


# $e^+$ -p Luminosity expected for 2004: $90 \text{ pb}^{-1}$



# Vacuum Recovery after Vacuum Incident

**NR**



Present Status

50mA p x 35mA e →

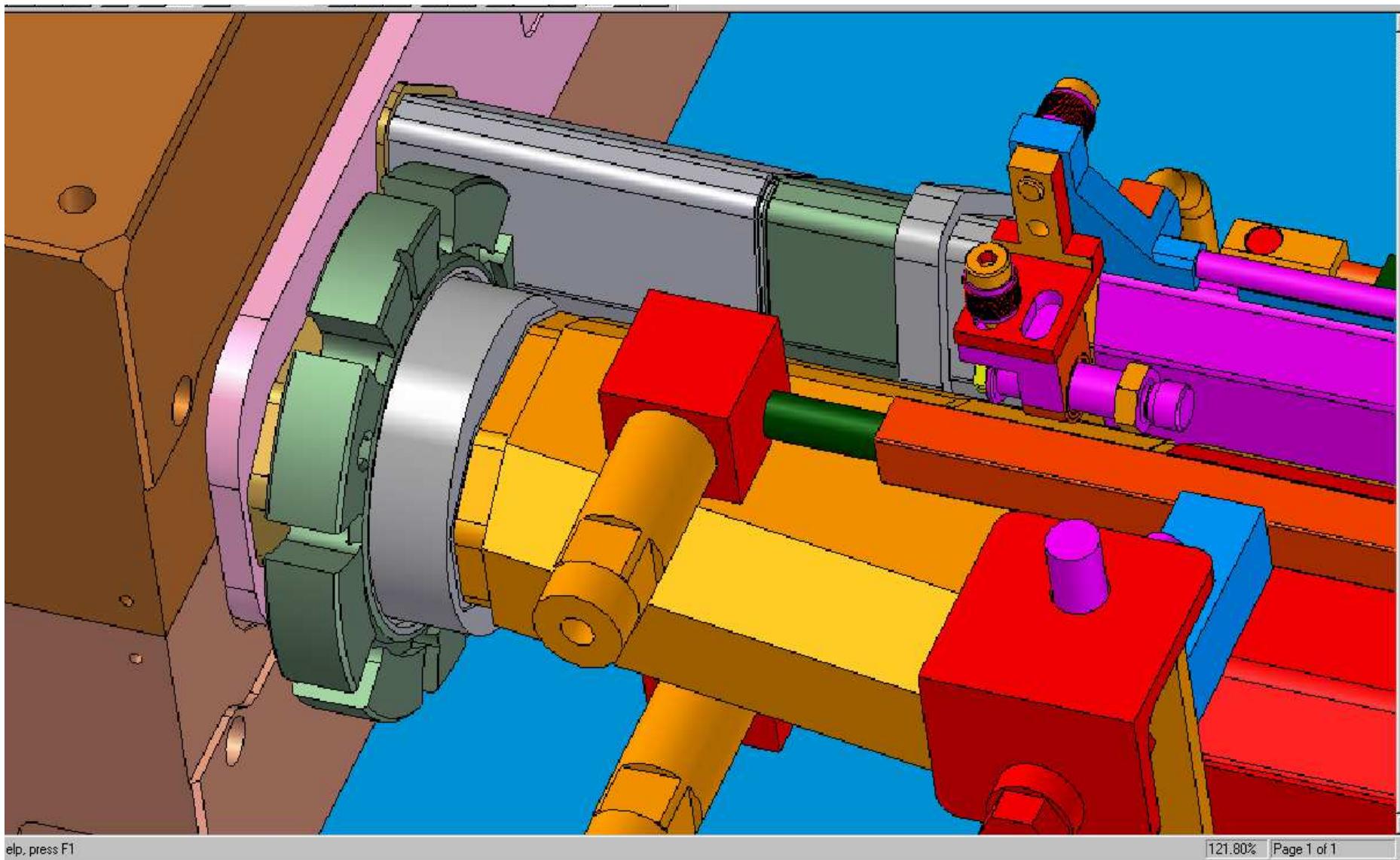
H1 Radiation-Monitor=150kHz

CJC2 turned on at 25 mA e+

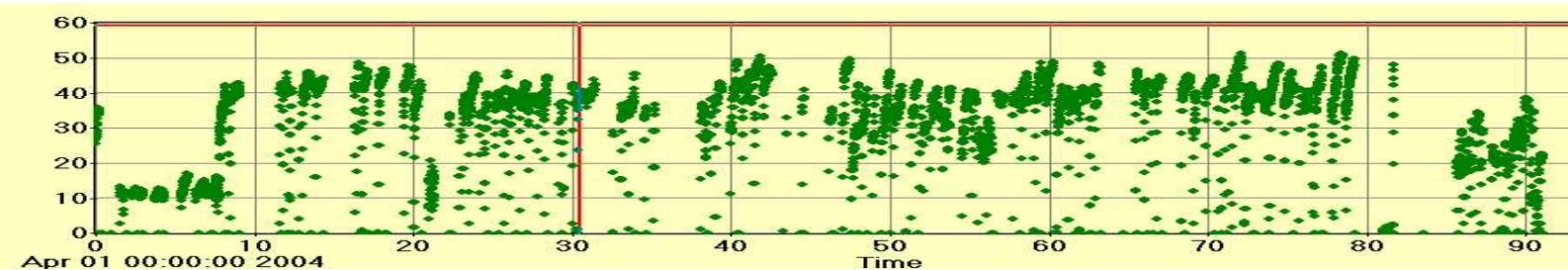
Recovery proceeds very slowly

# New Design for Vacuum @ Absorber at 11m

## NR/SR: solution with in situ welds



# Status of Polarization



3 months of polarization (TPOL results plotted April–June  
)

Backward Polarization 1 get larger Polarization, reason not yet understood

→ Highest priority

Forward Polarization  $P=30\%-40\%$

Backward Polarization  $P=40\%-50\%$

Beam–Beam Effects noticeable

improved polarization measurement still desirable

## MERA Schedule for turn-on Electron Proton Operation 2004

	Start	€	End
Start-up with Protons	2004-10-18 07:00	2	2004-10-20 07:00
Start-up with Positrons	2004-10-20 07:00	2	2004-10-22 07:00
Switch to Electrons and Store Beams	2004-10-22 07:00	2	2004-10-24 07:00
Reserve for unforeseen problems	2004-10-24 07:00	1	2004-10-25 07:00
Remove Shielding to access bridge <i>(needs more detailed planning)</i>	2004-10-25 07:00	1	2004-10-26 07:00
Change Magnet Positions (4 Survey teams)	2004-10-26 07:00	3	2004-10-29 07:00
Reinstall Shielding	2004-10-29 07:00	1	2004-10-30 07:00
Inject electrons into new configuration	2004-10-30 07:00	2	2004-11-01 07:00
Complete shielding	2004-11-01 07:00	2	2004-11-03 07:00
Set up electron orbits (bba, SR steering)	2004-11-03 07:00	10	2004-11-13 07:00
Reserve for unforeseen problems	2004-11-13 07:00	5	2004-11-18 07:00
prepare Electron proton collisions	2004-11-18 07:00	10	2004-11-28 07:00
Reserve for unforeseen problems	2004-11-28 07:00	5	2004-12-03 07:00
Lumirun	2004-12-03 07:00	4	2004-12-07 07:00
<i>Maintenance Day</i>	2004-12-07 07:00	1	2004-12-08 07:00
Machine Studies	2004-12-08 07:00	2	2004-12-10 07:00
Lumirun	2004-12-10 07:00	13	2004-12-23 07:00
Christmas Break	2004-12-23 07:00	4	2004-12-27 07:00