ZEUS last week

HERA weekly meeting

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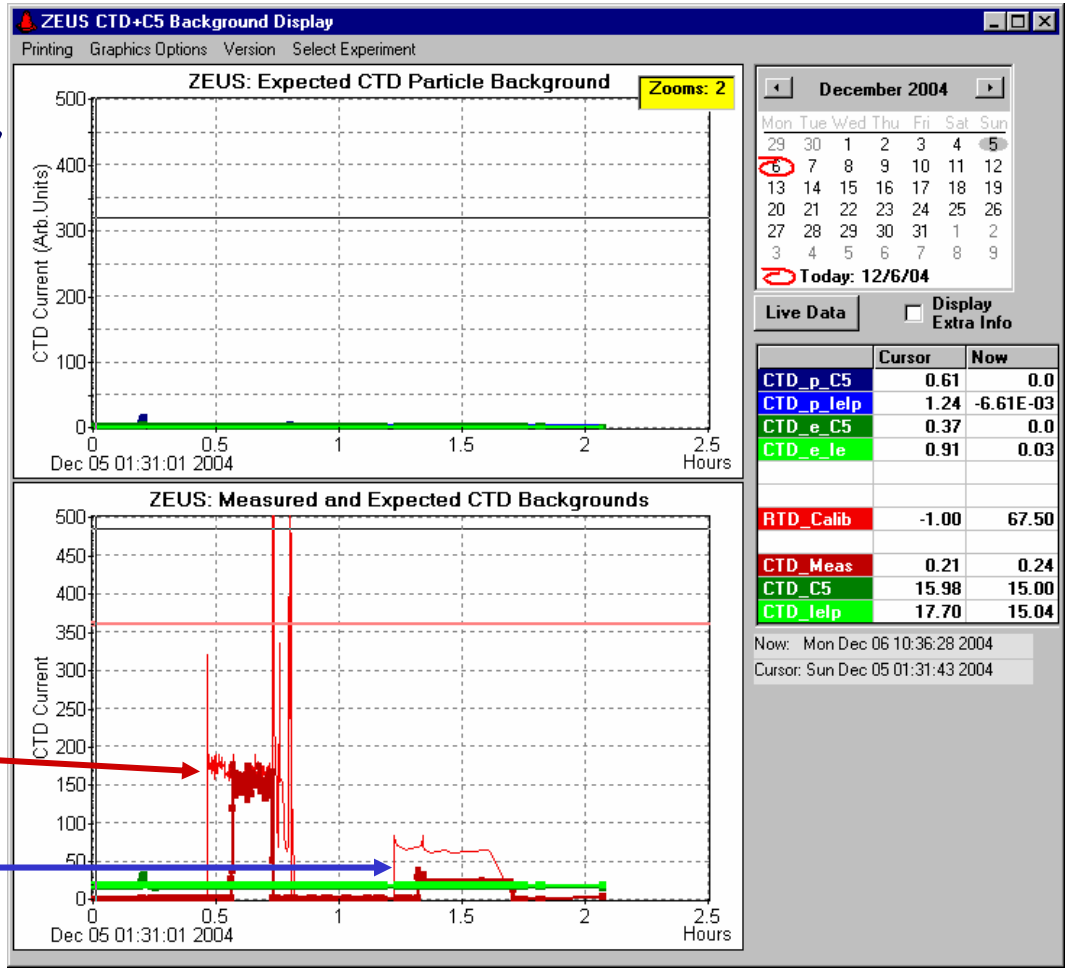
7.12. 2004

- Congratulations to HERA for providing great startup luminosity!
- ZEUS: successful data taking on very first fill(s)
- Radiation incident on saturday

ZEUS last week: first luminosity

Night sat/sunday
first fill with luminosity
-> first physics runs
(Ip=4 mA, Ie=1.7mA)

(during luminosity tuning)



synchrotron radiation ?

HERA improves successfully,
run with all components (-STT,HES)

ZEUS last week: first long fill

Luminosity fill of early monday morning

Ip=34 mA
Ie=12 mA

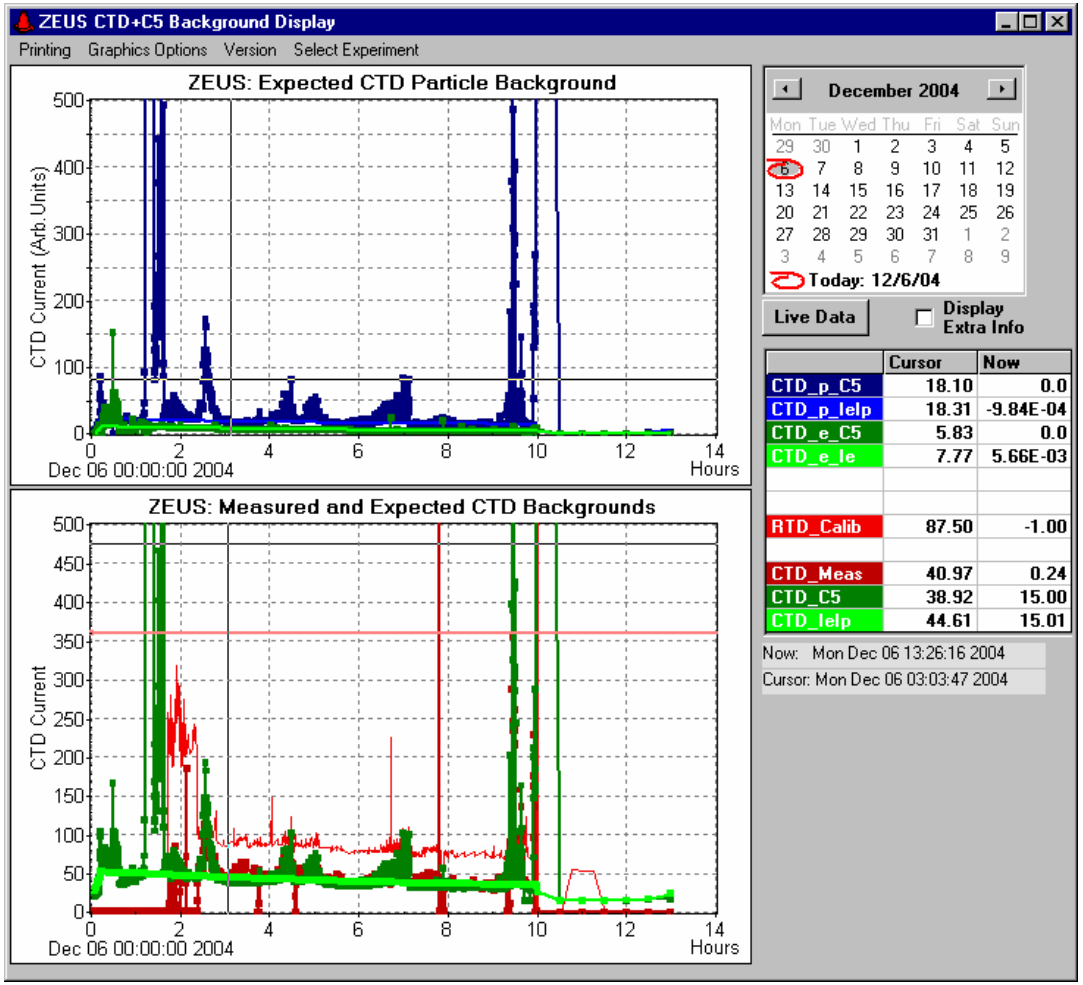
ZEUS on tape:
~150 nb-1

ZEUS last week: first long fill

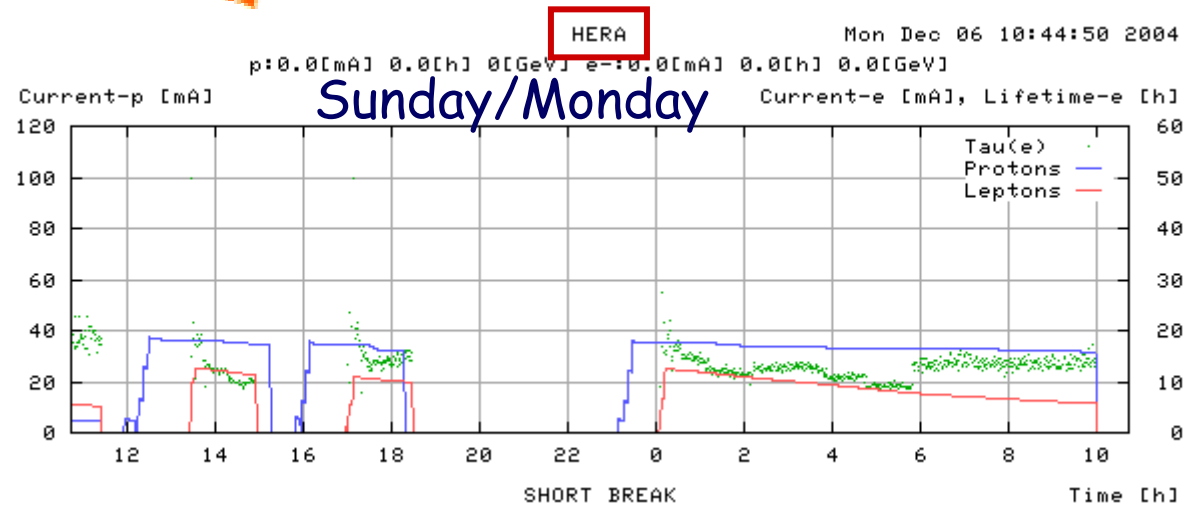
Early monday morning

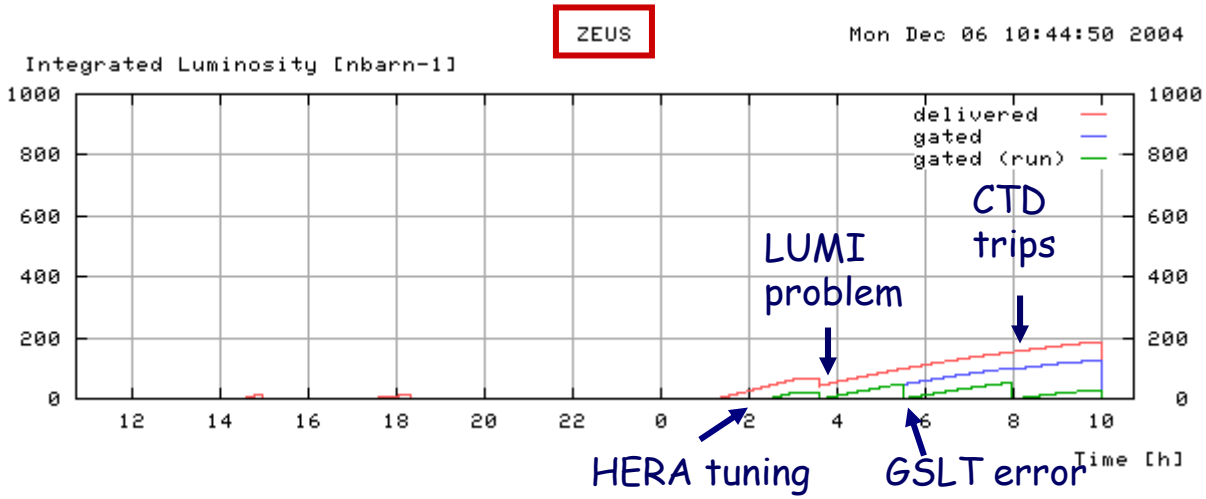
A few hickups, but amazingly good performance (both HERA and ZEUS) for luminosity startup!

successfully taking data with all components (-STT,HES)



ZEUS last week first long fill





HERA currents:

35 mA protons
12 mA electrons

specific luminosity

> 2 x 10^30 !

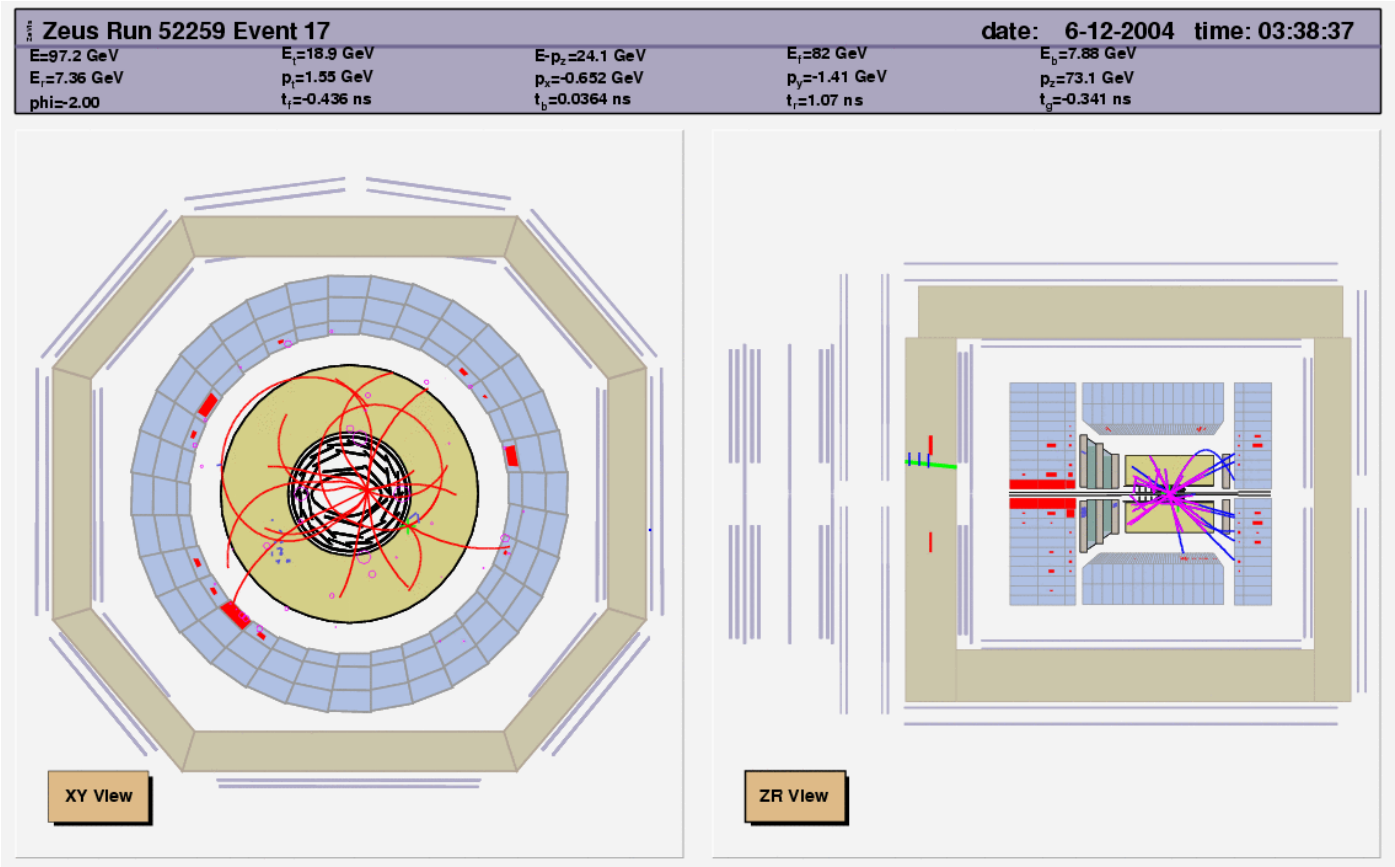
Data taking performance

Some „efficiency loss" due to HERA tuning at start of fill + initial synchrotron radiation
Then quite efficient data taking (>90% efficiency)

~150 nb^{-1} recorded on the very first real physics fill

One of the first e^- events since 1999

photoproduction candidate



ZEUS last week:

Big proton accident: RADFET -60 cm (MVD)

major MVD radiation incident saturday just before luminosity:

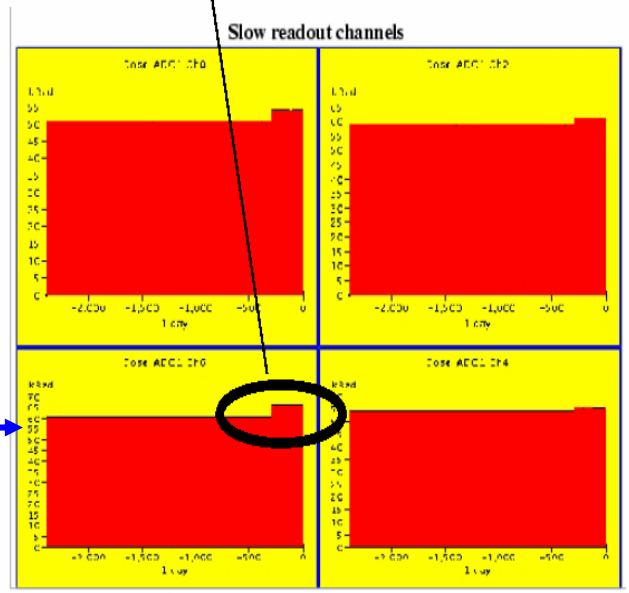
~ 5 krad near MVD

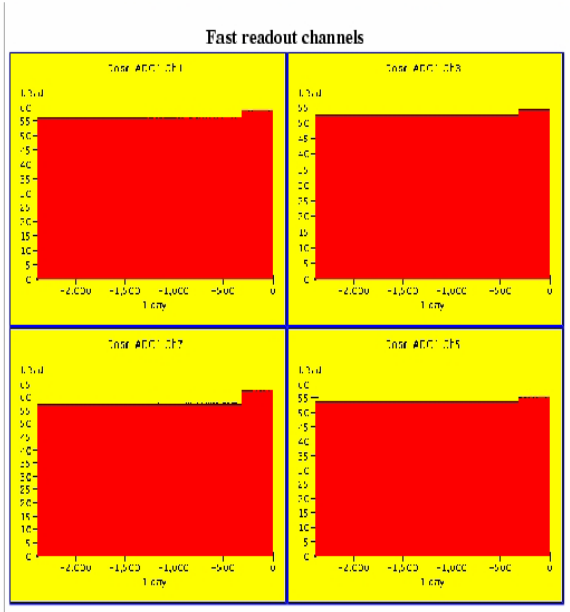
RADFET dose integrated since Oct 03: 60 krad

Huge step near the MVD

4 quadrants at -60 cm

-130 cm ~ 0.25 krad
-110 cm ~ 4 krad
- 60 cm ~ 5 krad
+170 cm ~ 0.5 krad



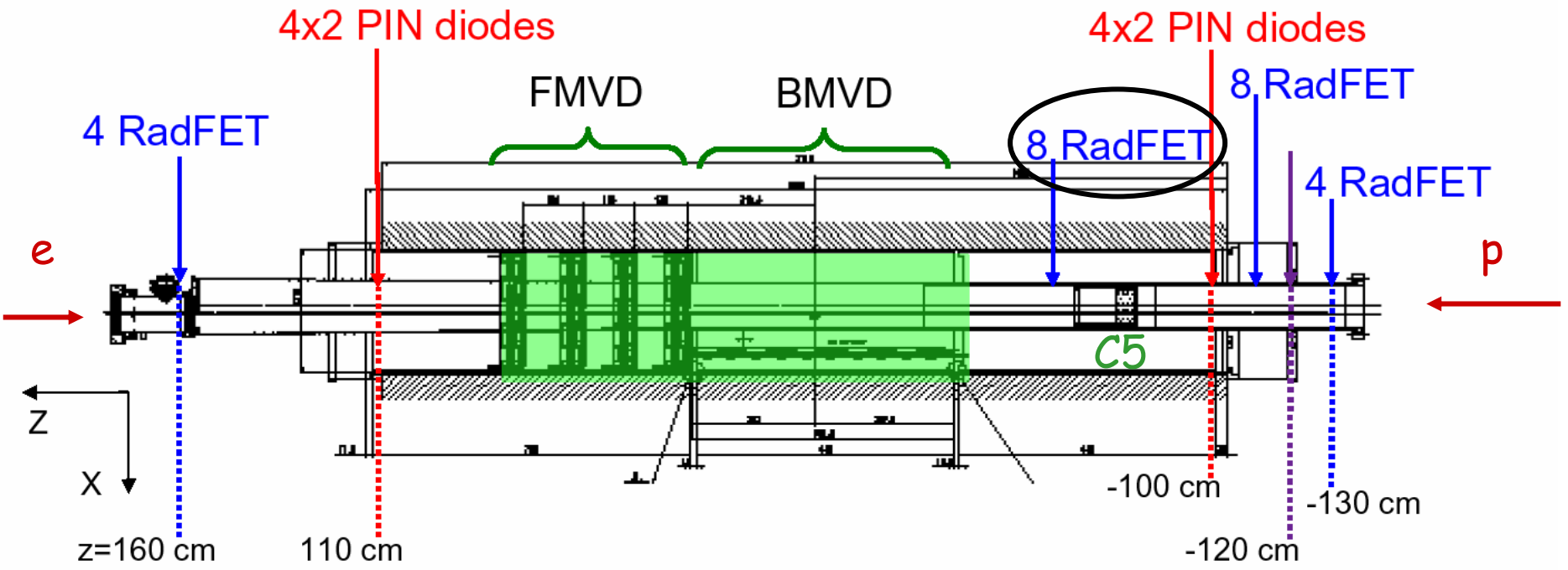


1 day

ZEUS radiation monitor system

Radiation monitor system:

- **16 silicon PIN diodes**
- **32 RadFETs**



Anatomy of radiation incident

Saturday
dec 4

~19:27 start of p loss
+ e dump

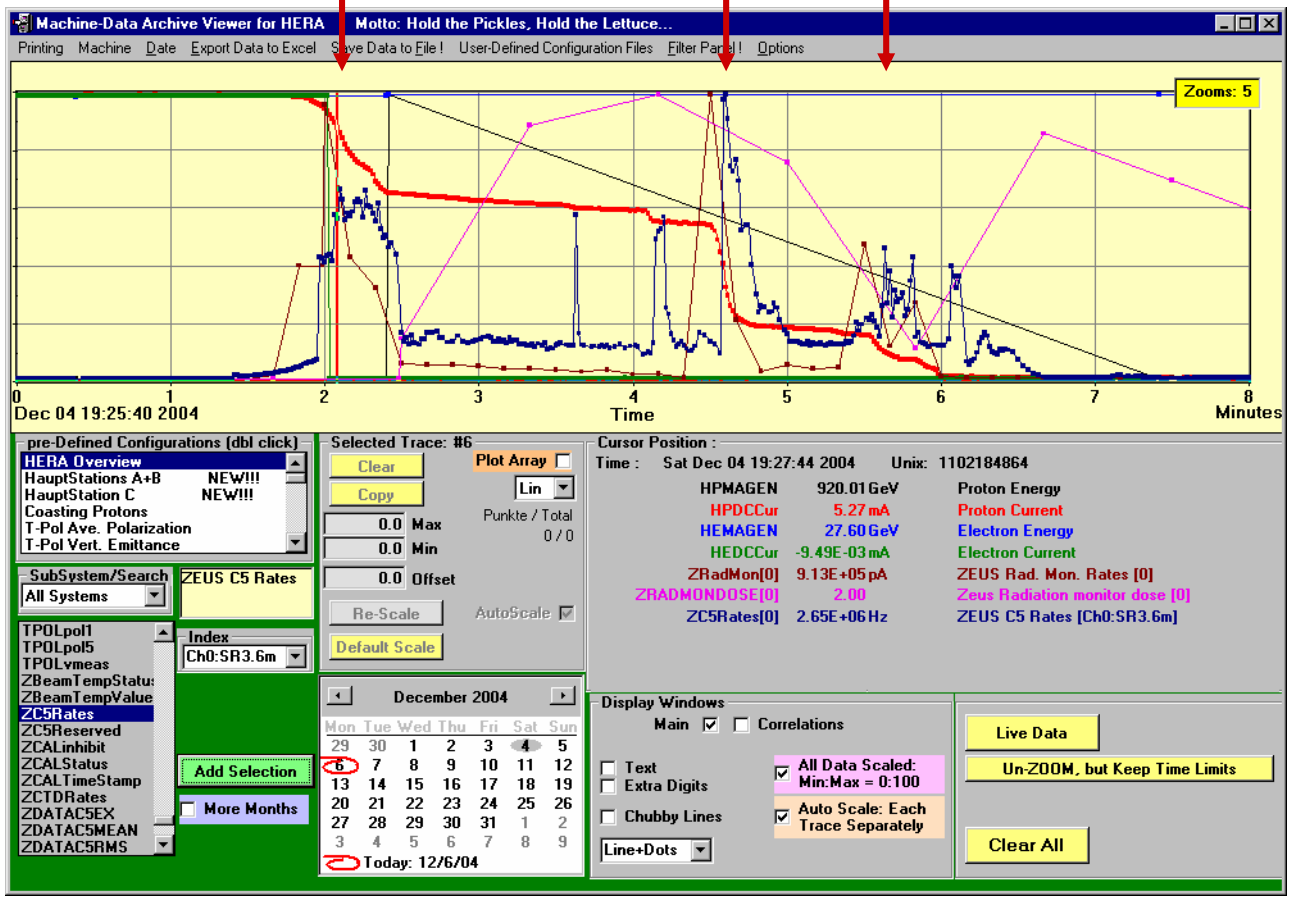
~ 19:30 another major
p loss

+ smaller losses

correlated with
RADMON, C5,
and RADFET

total dose at -60 cm
~ 5 krad

Radfet dose: 2.0 0.5 2.0 0.5 krad



Summary

- **fruitful two-month preparation by shift crews and component experts**
  -> ZEUS is well prepared to start data taking with good efficiency

- **first luminosity produced by HERA this weekend**
  first electron events since 1999 recorded with almost all components

- major radiation incident for MVD on saturday
  part of damage might have been avoided by immediate manual proton dump

- one RADiation MONitor diode (15) switched off
  (failure due to accumulated radiation dose?)
  -> automatic dump system temporarily less sensitive
  will try to recover on wednesday

- **good prospects for e- physics in next few months!**