ZEUS Status
HERA Coordination Meeting
Nov. 30, 2004

W. Zeuner

- Status
- Worries
- Plans
  - Christmas and New Year
  - Shutdown 2005

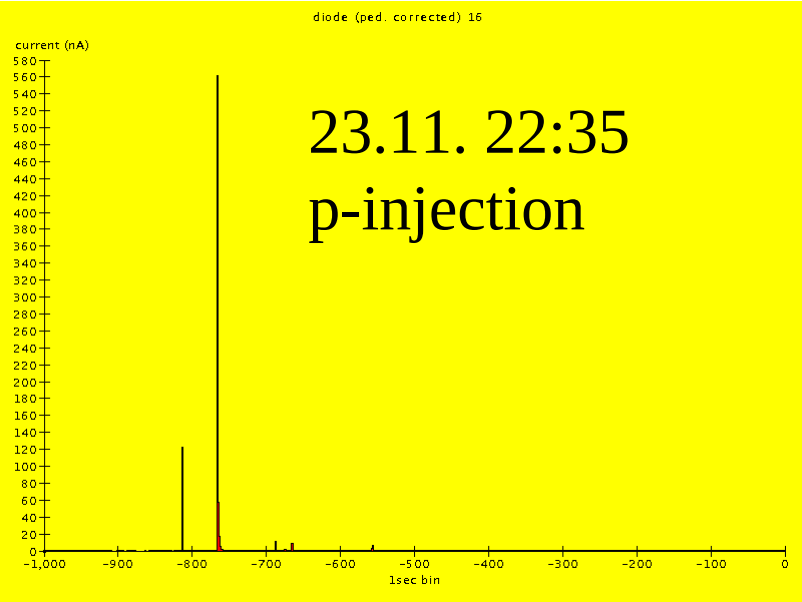
Status

- **ZEUS is ready for data taking**

- Except the forward straw tube tracker,
  all components are operational

- Reminder – We need once a week 2 hours without beam
  for calibration

Worries



Repeatedly observed very large spikes in radiation monitor

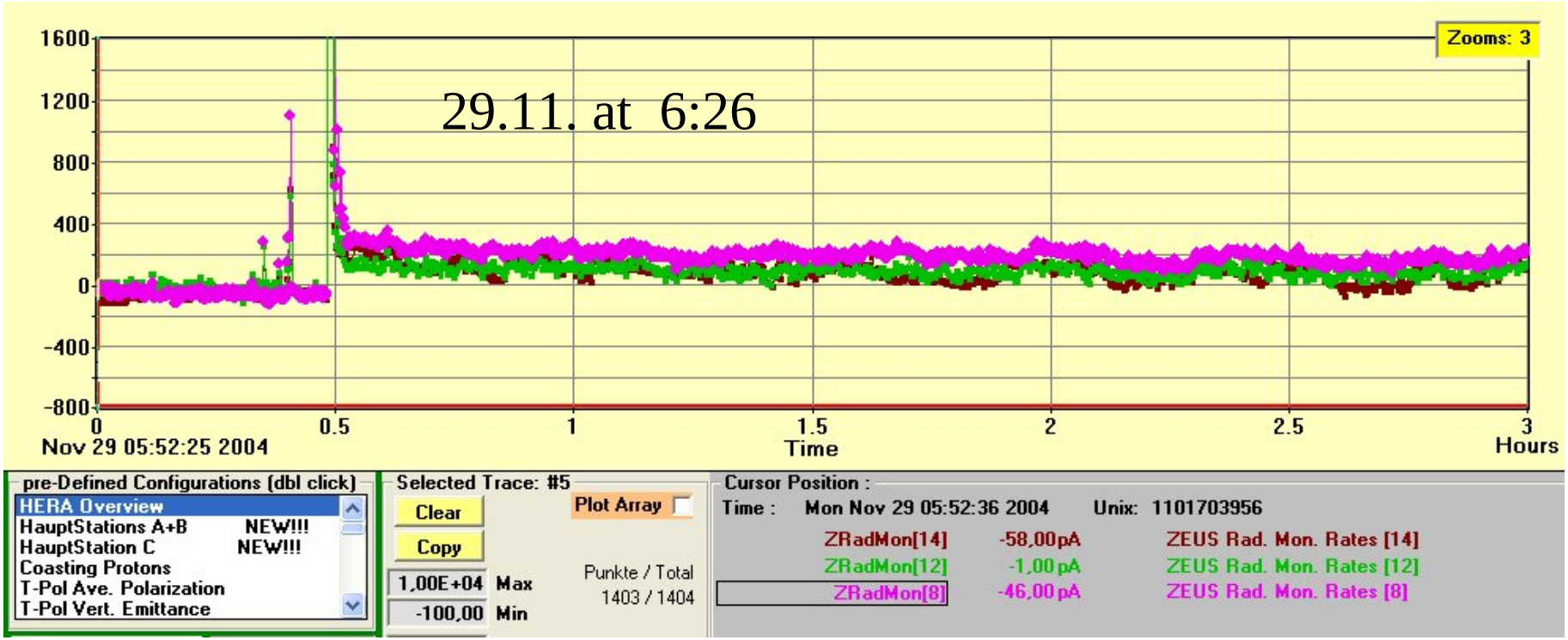
Recent problems: protons
23.11 – 12:20, 22:35
28.11 – 14:30-14:40
29.11 – 4:04, 6:26

Recent problems: electrons
27.11 – 0:51, 3:42

Please, do not continue injection, if the efficiency is very bad !!!

Worries

The p-irradiation is very unhealthy for SI-detectors…



Dark current in the hit RadMon diodes increased

The same can happen to the MVD….

Plans
Running over New Year

ZEUS is prepared to take data over New Year

- Shifts stop on Dec. 23 in the morning
  Detector stays on – except flammable gases

- Dec. 23 – 27 covered by on-call service, extra tours of TIS
  tours by ZEUS members

- Dec 27, 7:00 Resume normal operation with regular shifts

Plans
Shutdown 2005

Problem: Cooling of the STT is insufficient
- Approx. 1400 W go into the STT
- Approx. 1000 W are cooled away
- Problem is the thermal contact of electronics and cooling

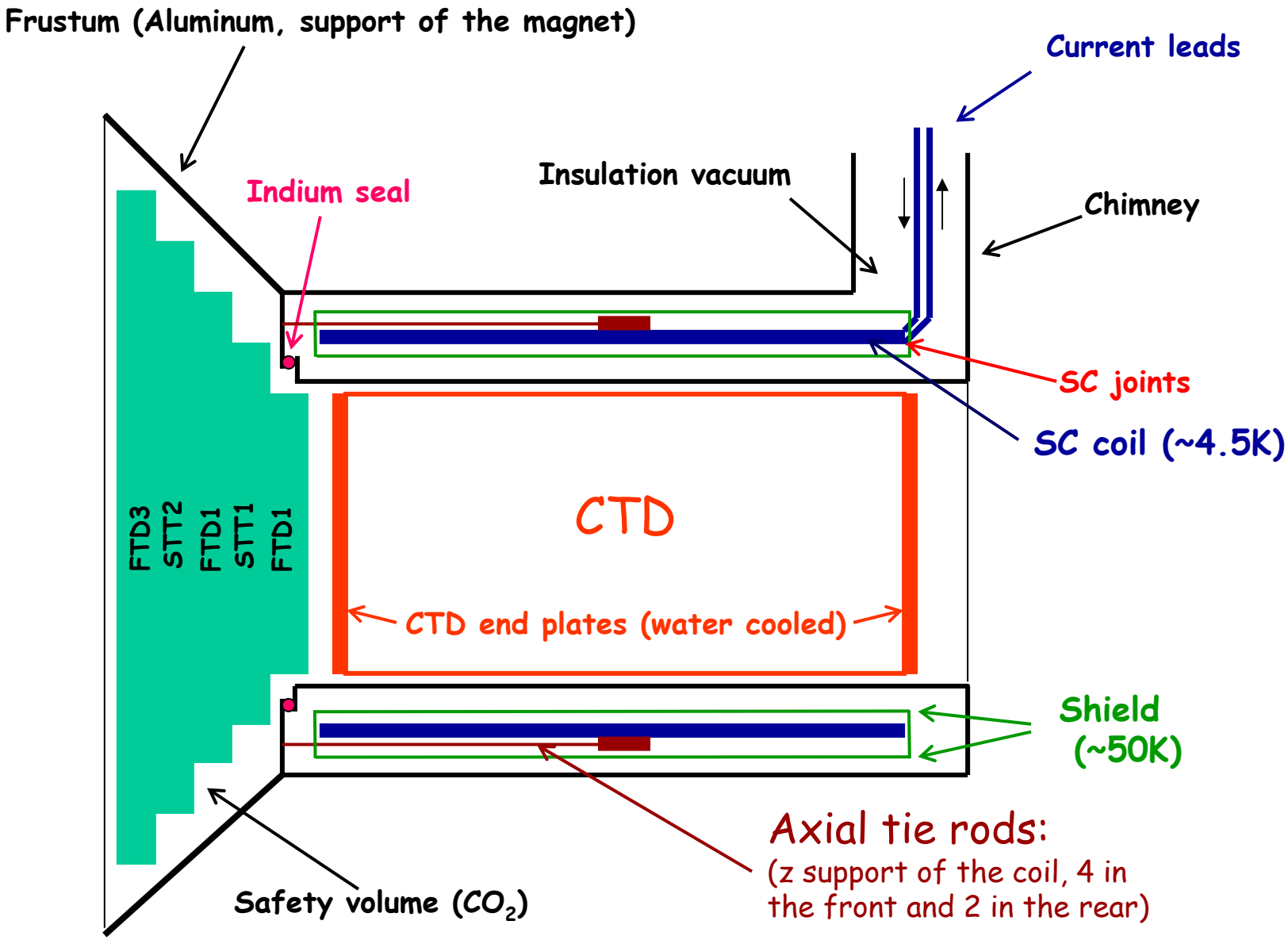
- The detector is located in a closed volume
  → heat up
  → temperature gradients inside the volume

Observe: Temporary leak in the insulation vacuum of the
solenoid during switching on and off the STT
Leak is inaccessible from outside

- Parallel operation of STT and solenoid leads to instabilities of solenoid

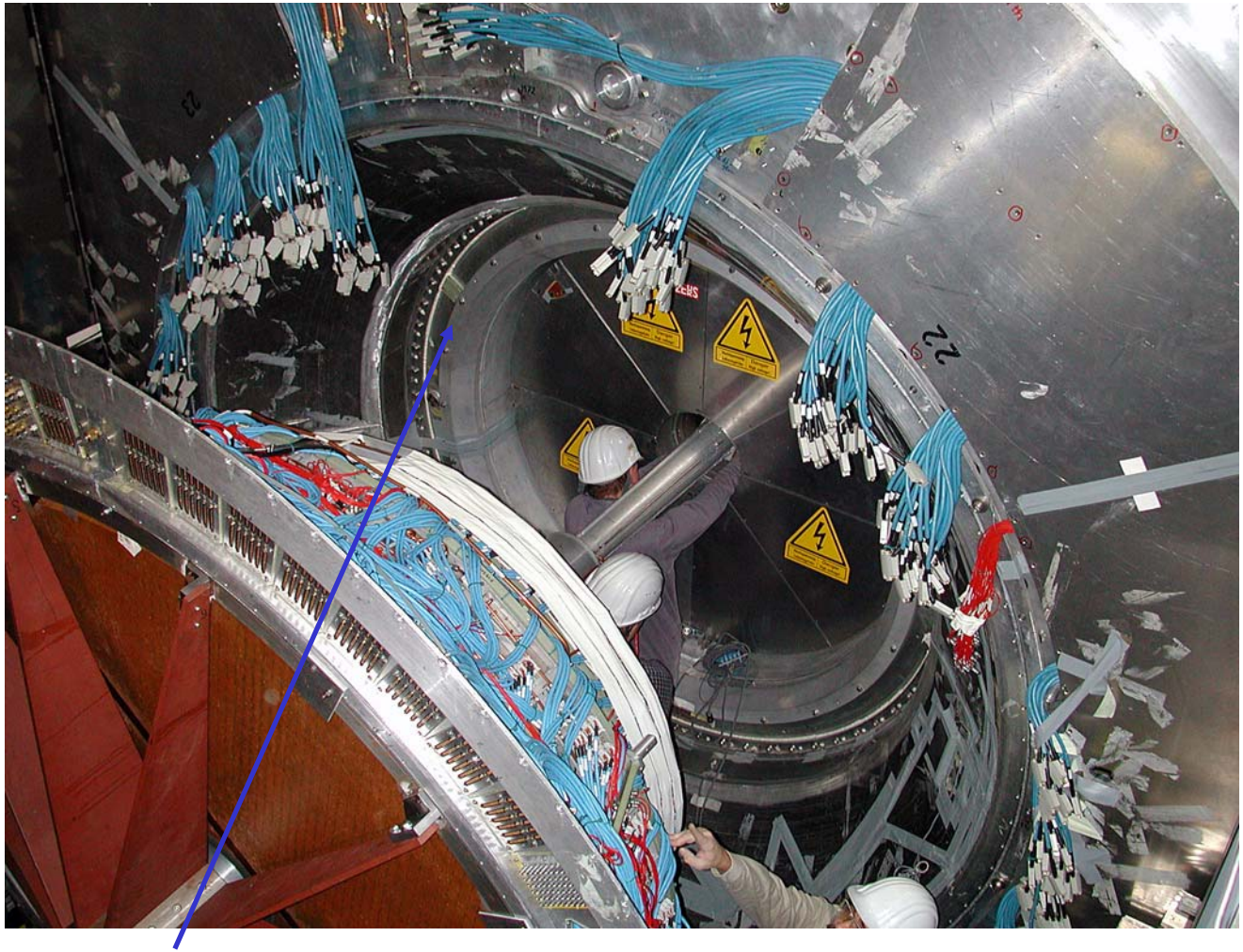
- Danger of a permanent leak → STT stays off for the moment

Longitudinal cross section of the ZEUS solenoid



Transp. from R. Carlin

ZEUS – FDET-Region
HERA I



Location of Indium seal – exchange impossible
but tightening with screws seems promising

Plans
Shutdown 2005

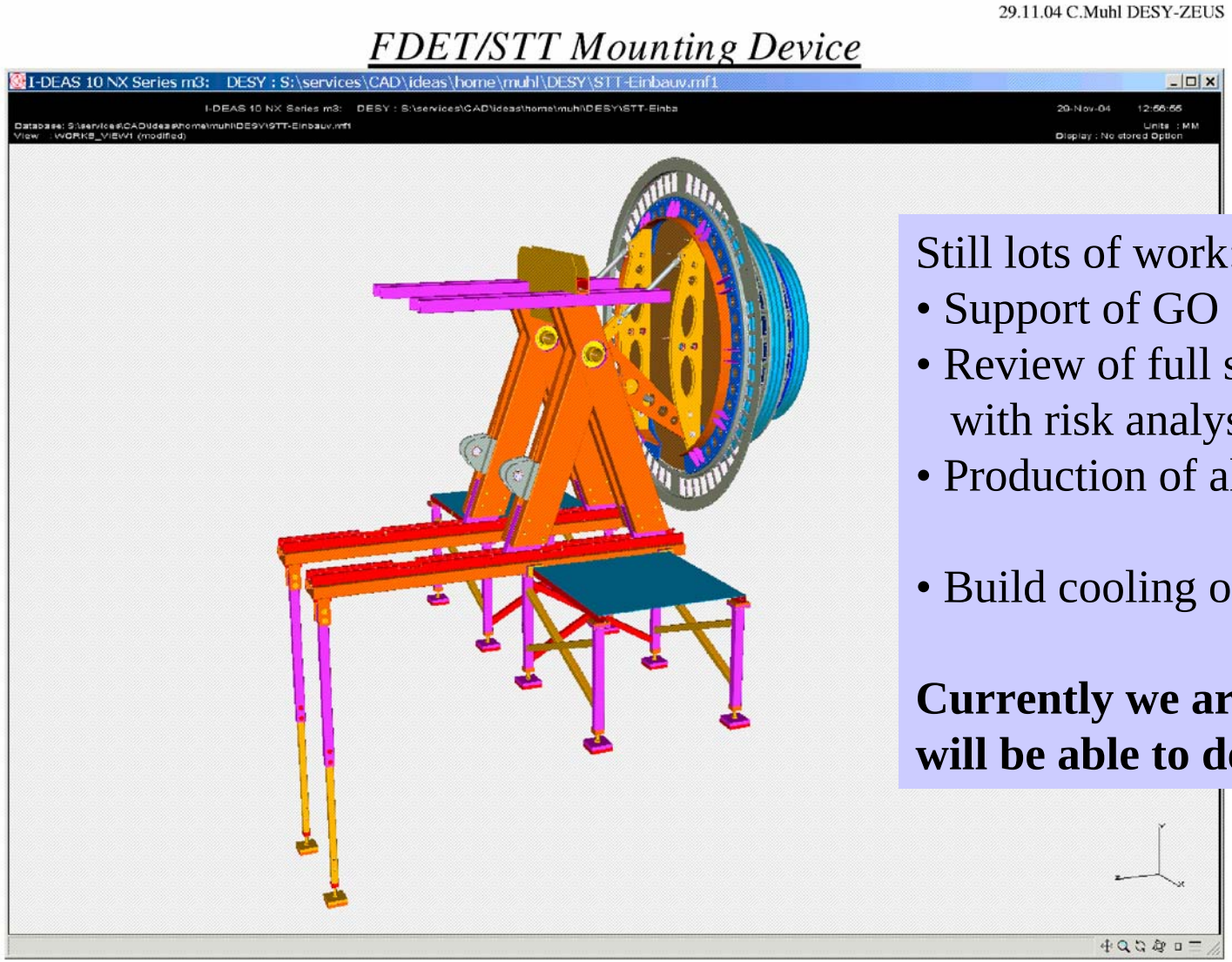
Problem: any repair/improvement requires removal of the FDET
Classical removal of FDET requires shutdown of > 4 months:
FCAL&RCAL on extension rails, complete decabling of MVD,
breaking of the vacuum, removal of GO&GG….

Work underway to remove FDET without breaking the vacuum
Idea: Fix FDET on a jig, that allows to slide it over the GO-magnet
Do any repair in situ:
Try to tighten the leak
Improve cooling of STT, add cooling to frustum
Difficulty: to guarantee not to break the central beam pipe

Repair in 7 weeks absolutely feasible: 1 week dismantling forward region,
3 weeks work on FDET and solenoid, 1 week re-assembly, 2 weeks tests
and checkouts

Plan to be ready in May 2005 to be most flexible in case of disasters…

Plans
Shutdown 2005



Still lots of work:

- Support of GO during movement
- Review of full system
  with risk analysis
- Production of all parts and pieces

- Build cooling of frustum

Currently we are optimistic that we will be able to do the repair