Status of POL2000

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for the POL2000 group

- Status TPOL
- Status LPOL
- Status LPOL cavity
- Plans and outlook

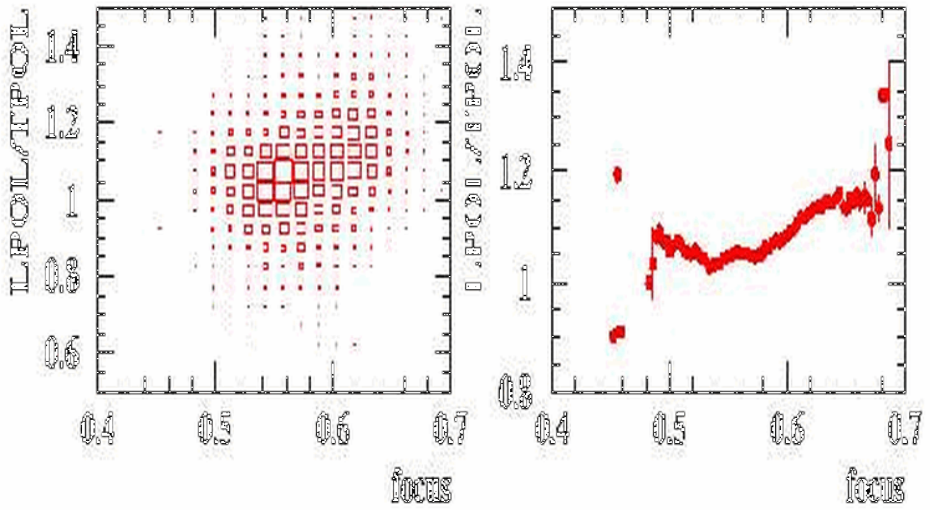
Status TPOL

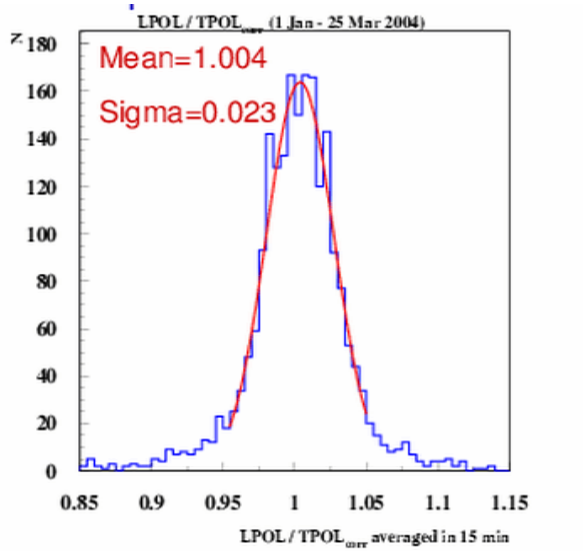
TPOL:

- stable and reliable running during 2003/2004 run so far
- no major work during shutdown activities
- ready and waiting for beam

Progress:

Problem:
found dependence between TPOL result and beam parameters ("focus")





corrections will be applied online in the future - should expect consistent results in on line data as well!

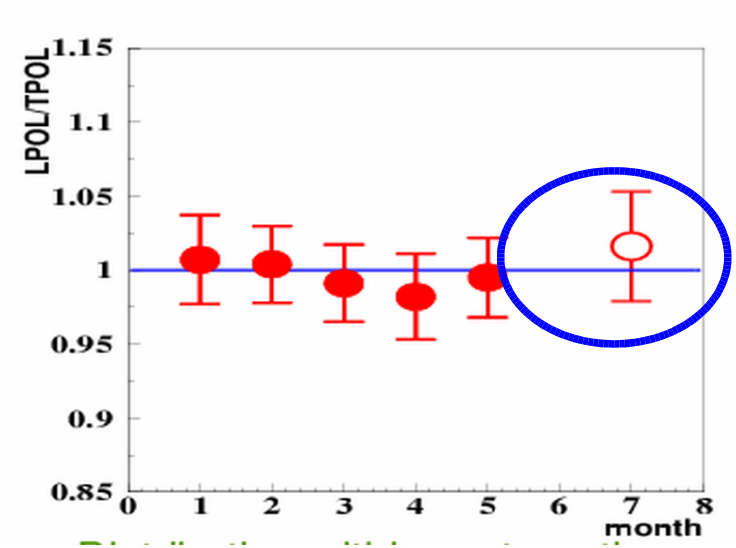
LPOL Status

LPOL:

- no major interventions during shutdown
- some minor repairs done to improve laser beam monitoring and control
- calorimeter removed to be safe from radiation damage
- 2nd calorimeter rebuild to recover from radiation damage

LPOL can be ready on short notice, but needs brief (<1h) access to reinstall the calorimeter

operation re-established with new calorimeter before shutdown:



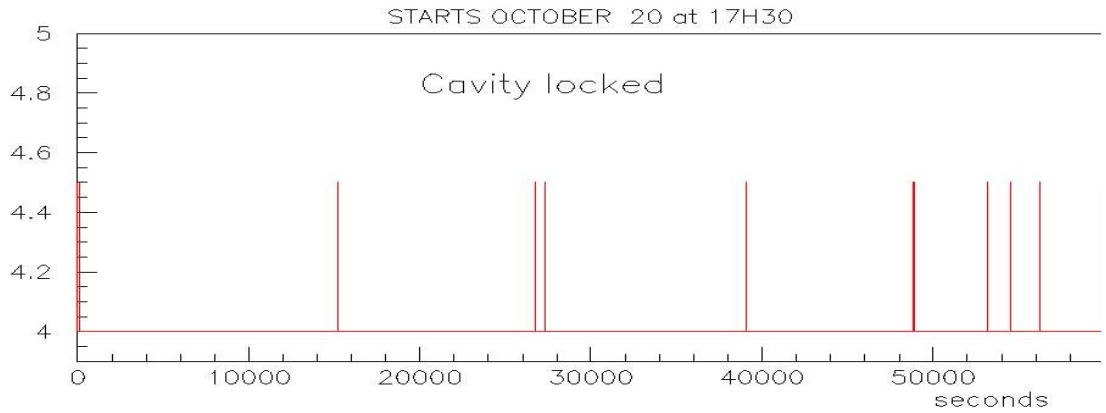
results with new LPOL calorimeter

LPOL cavity status

LPOL cavity:

- improved the shielding, moved electronics to safer place
- repaired all damage
- cavity locked successfully during recent shutdown:
  now waiting for beam

new calorimeter needed to survive the cavity: design ongoing, calorimeter expected to be finished early 2005



cavity basically ready for serious commissioning

Cavity operations

Image of mirror at Cavity input

Image of mirror at Cavity output

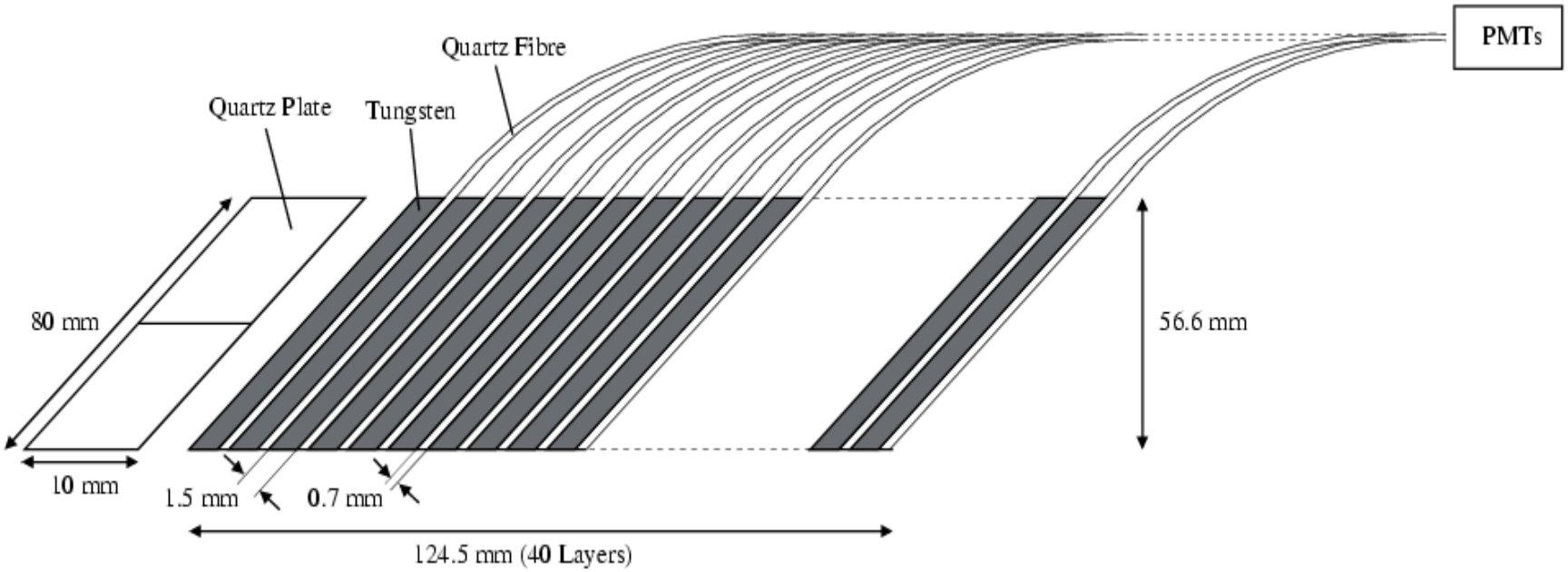
cavity locked

Cavity Commissioning Plans

- Commissioning with beams (parasitically) — 1-2 weeks
  - check synchrotron radiation levels
  - check sensitivity of lock to HERA beam
  - check sensitivity to temperature and stability
  - commission temperature control and feedback system
- DAQ and calorimeter — 1 week
  - optimize the DAQ timing
  - verify communication to HERA and optimise information sent to HERA
- Commission HERA – Laser collisions
  - optimize bremsstrahlung into the calorimeter, scan phase with relevant bump
  - do HERA beam scan to find Compton beam
  - establish procedure
  - take some data

needs close interaction with HERA

The new LPOL calorimeter



Sampling calorimeter: Tungsten absorber, quartz glass fibres (Cerenkov detector)

expected energy resolution: around 20%/√E (to be confirmed with simulation)

under discussion:

- optimal segmentation, detailed layout
- how to ensure ease of calibration

designed and built
by H1 collaborators

time scale: early 2005

Summary

TPOL and LPOL are ready

LPOL cavity is ready for serious commissioning

new LPOL calorimeter under design / construction

The POL2000 group is eagerly awaiting the beams and a chance to operate the polarimeters and to help achieving optimal polarisation in HERA