

POL2000 group status and activities

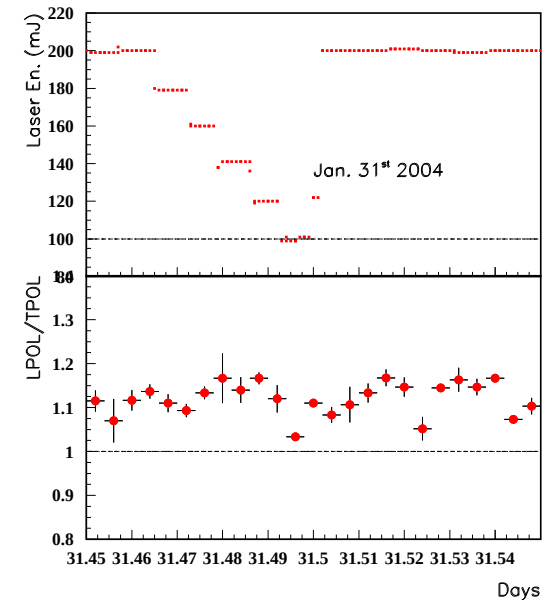
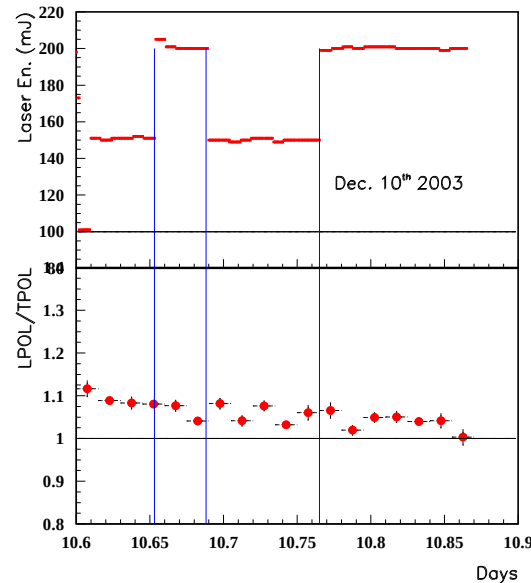
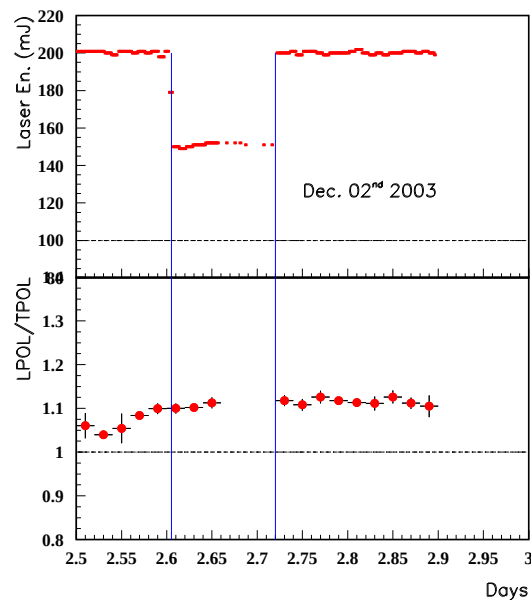
- Talk by Matthew Beckingham Thursday morning
- Polarimeter performance and data quality
- TPOL ongoing analysis
- LPOL Cavity commissioning
- Report by Joachim Mnich

Polarimeter performance and data quality

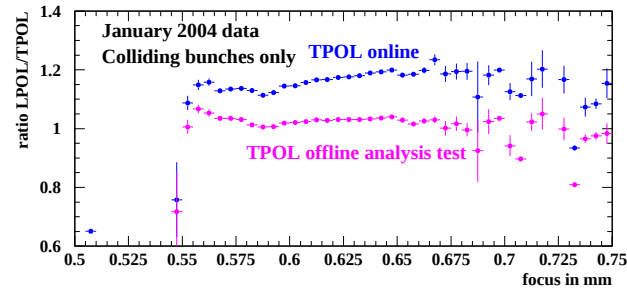
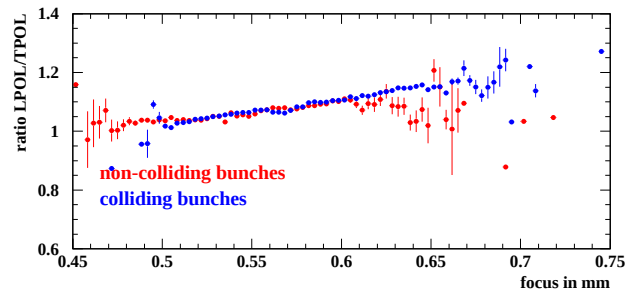
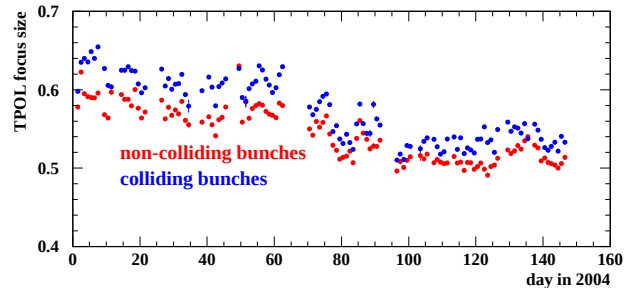
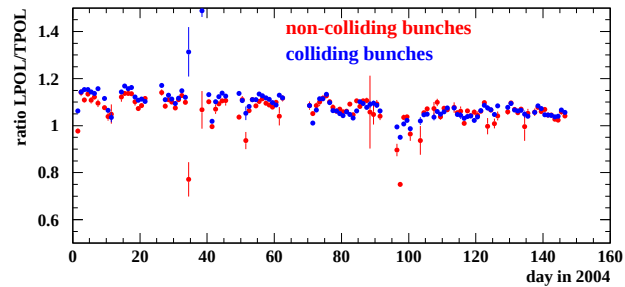
- Polarimeter performance (uptime) good, but discrepancy of order 5% to 15% between LPOL and TPOL online measurement
- For spring conferences: LPOL systematic studies not completed and strong hints for TPOL focus dependence

Systematic error of 5% (LPOL) and 10% (TPOL online) for DIS 2004

- LPOL systematic studies completed recently: systematic uncertainties are compatible to 2000 error ($\approx 2\%$).



TPOL ongoing analyses



- New post-doc (David South) coordinating TPOL offline analysis efforts
- Ongoing activities:
 - Monte Carlo studies (full GEANT simulation)
 - Analysis of calibration data taken with the new silicon and fiber detectors ($\eta - y$ transformation)
 - Stand-alone calorimeter analysis (plots)

LPOL Cavity commissioning

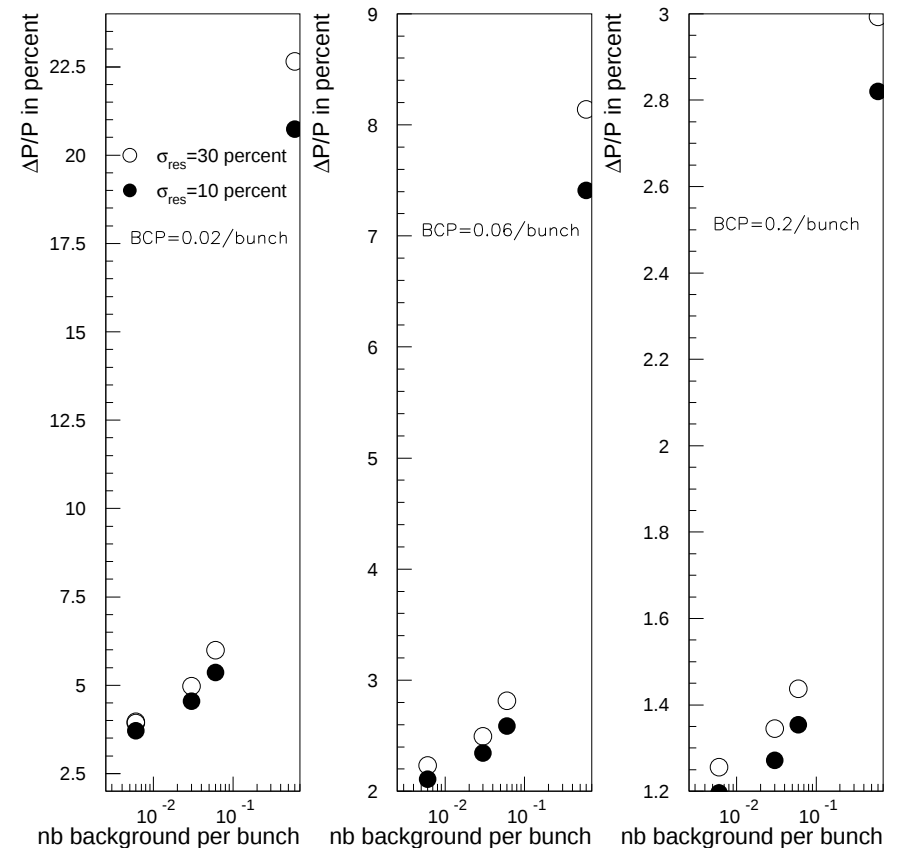
- New post-doc (Matthew Beckingham) permanently based at DESY
- All systems installed and functioning in late 2003
- Major delays due to radiation damage of cavity electronics
- Improved lead shielding, re-install electronics if radiation level is low enough. Try see some Compton photons and measure polarisation before summer shutdown. Requires one extended shutdown for installation (16 hours).
- Existing Sandwich calorimeter can not stand regular Cavity operation for more than a few month
- Construct new calorimeter: taken over by H1.

Propose to build a simplified version of the H1 lumi photon detector: sampling calorimeter with quartz fibers as active material.

Time-line: about 5 – 6 month, installation in late 2004 or early 2005

LPOL Cavity: new calorimeter

- Moderate energy resolution is sufficient
 - Radiation dose per year from Compton radiation in shower core: ≈ 200 MRad
 - Crystal: can not stand radiation level
 - Szintillators: slow components, pileup
 - Quartz fibers: radiation hard and fast
- Moderate energy resolution $\frac{30-40\%}{\sqrt{E}}$



Statistical error for a single bunch per minute