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7. Feb. 2001

H1 collaboration meeting

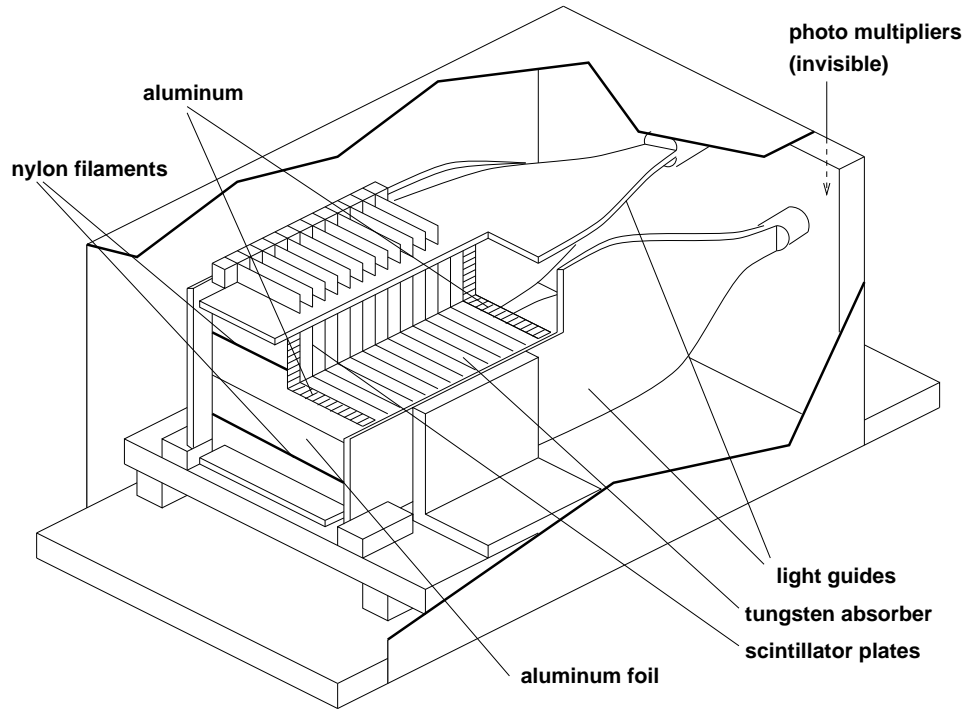
Upgrade session

# Transverse Polarimeter upgrade status report

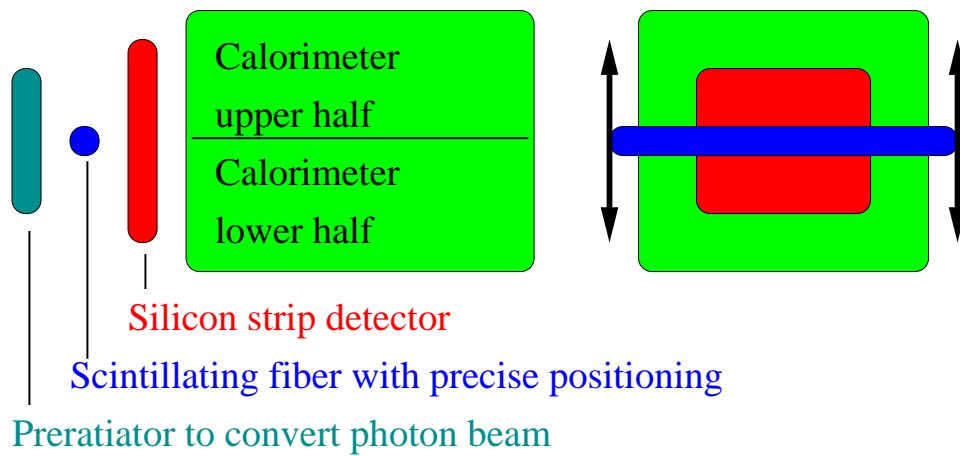
- Position sensitive detector
- Detector readout and data analysis

# Position sensitive detector

## The TPOL calorimeter



## Installation of a position sensitive detector



## Silicon detector

The silicon-detector will be used to calibrate online the transformation from the energy-asymmetry observed in the calorimeter to the vertical position.

## Scintillating Fiber detector

The scintillating fiber is intended to give an independent measurement of the position, mainly to monitor radiation damage on the silicon-detector (could affect the linearity of the silicon position measurement).

Both “sub”-detectors are being build by groups from ZEUS

(silicon: IC London, fiber detector: Tokyo)

## Current status

Prototypes of both detectors are installed in front of the spare TPOL calorimeter. DESY testbeam studies are going on.

First preliminary result: position of the scintillation fiber is found back on the silicon detector with a precision of  $10\ \mu\text{m}$ .

## Future plans

The final design of the silicon and the precision positioning of the scintillating fiber is almost complete.

CERN testbeam with the final detectors and readout is foreseen 24-27. Apr. 2001

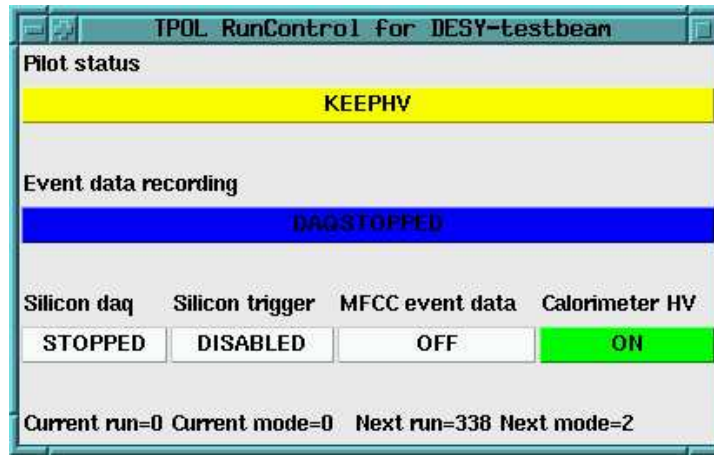
# Detector readout and analysis

## Hardware:

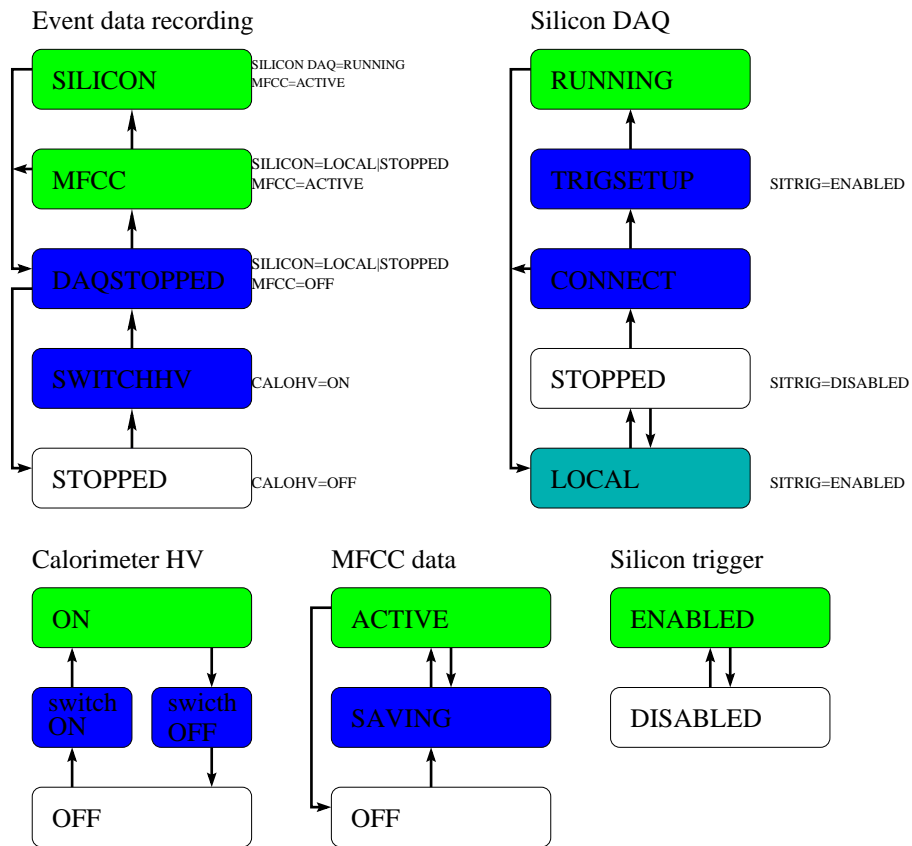
new electronics (driver, shaper, ADC) will arrive by beginning of March (same electronics as new H1 lumi system)

## Software:

- Readout of prototype system working well
- All slow-control components are integrated in the system (step-motors, collimators, laser, HV control, ...)
- Work on the AUTOPILOT and RUNCONTROL has started (first versions are running for the testbeam readout)
- Jenny Böhme has started to work on the future online/offline analysis of the TPOL data



## Concept of the AUTOPILOT



## Missing parts

- Tools for the shift-crews?
  - provide common tools to monitor the TPOL (for all experiments and HERA) and to steer the TPOL (for the experiment on duty). In addition some information should be accessible by NETMEX.
- How and where to store the data?
  - have a dedicated machine for detailed analyses of the polarimeter data (open to all experiments). Put the “best” polarisation measurement into a database (accessible by all experiments).
- for H1:
  - provide tools that are simple to use (as the lumi-calculation) to calculate the average polarisation for a given H1 run (on the basis of the per-minute data from the TPOL database).