TESTBEAM 2009

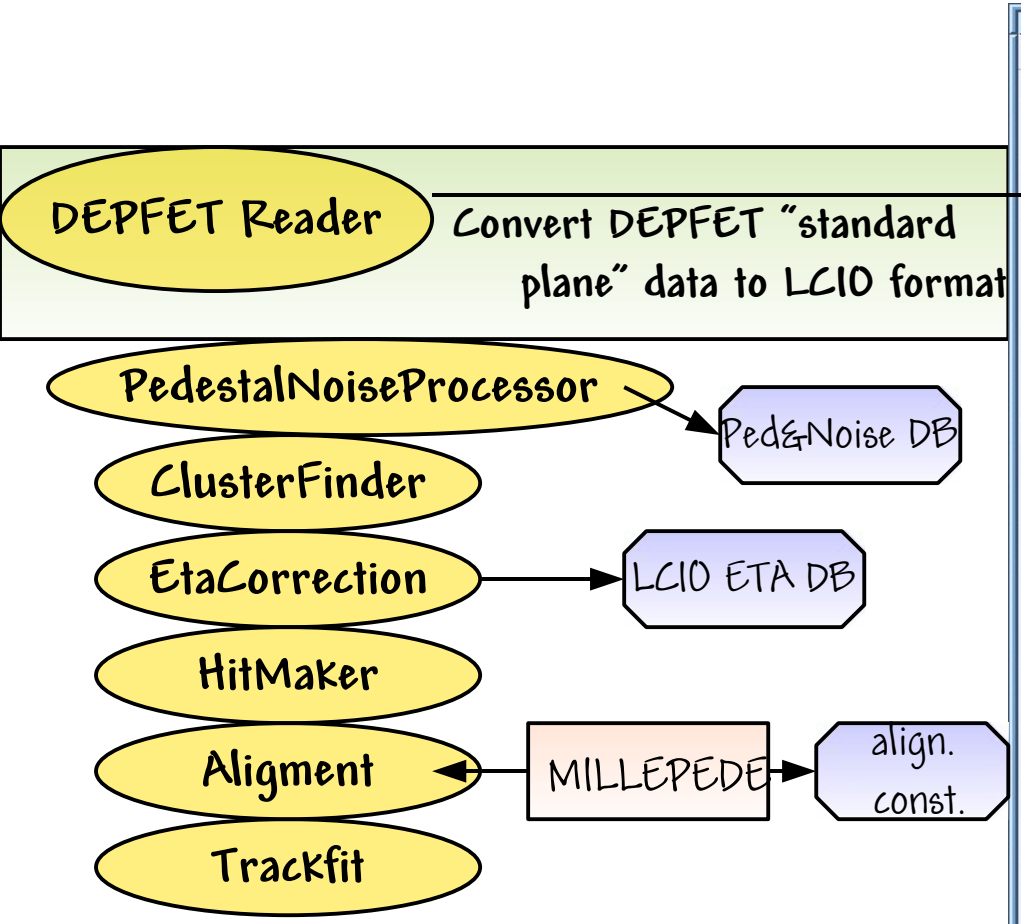
Julia Furletova

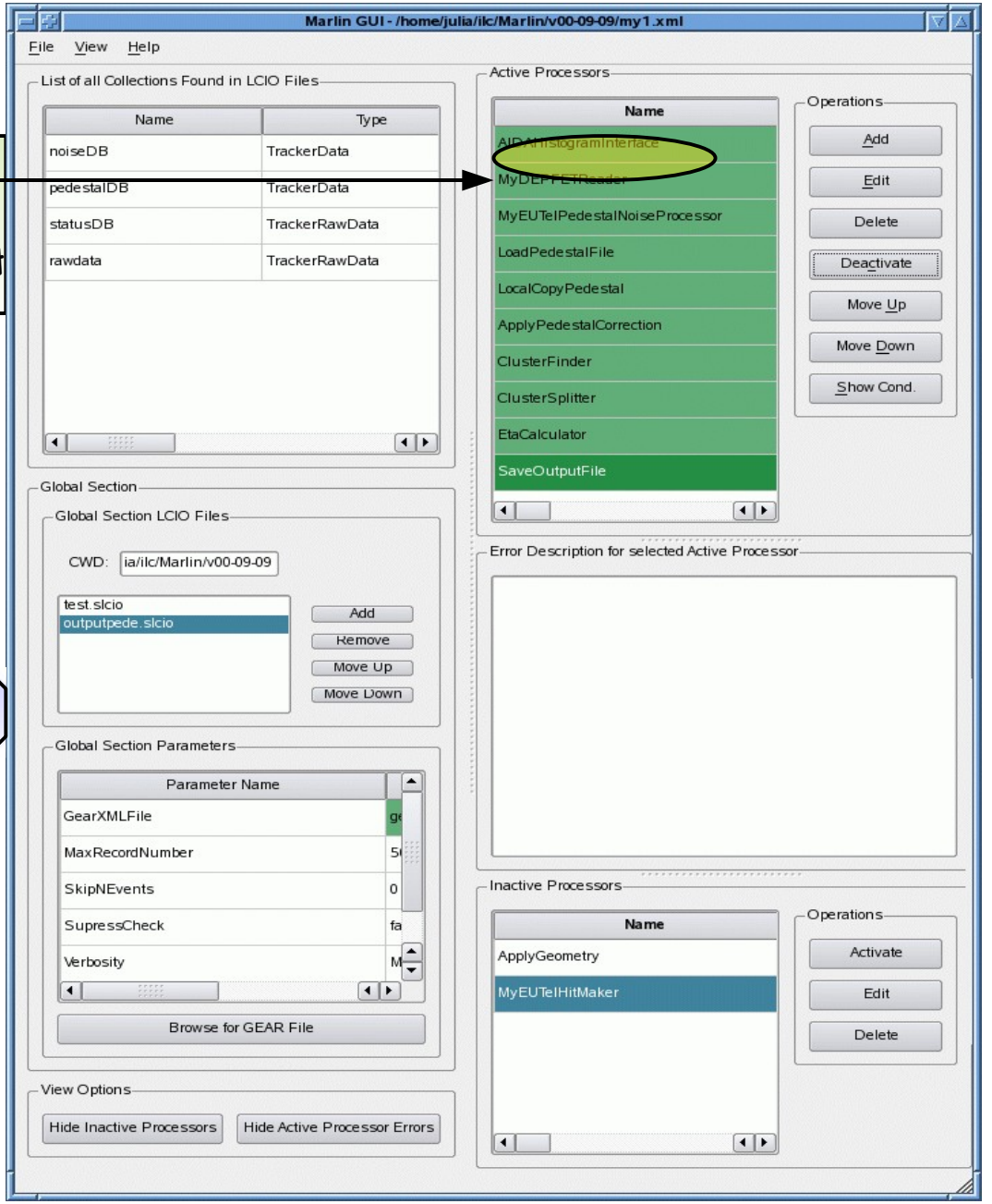
Bonn University

Outline

- Software development
- DEPFET with EUDET
- First Results

ILC software for DEPFET analysis

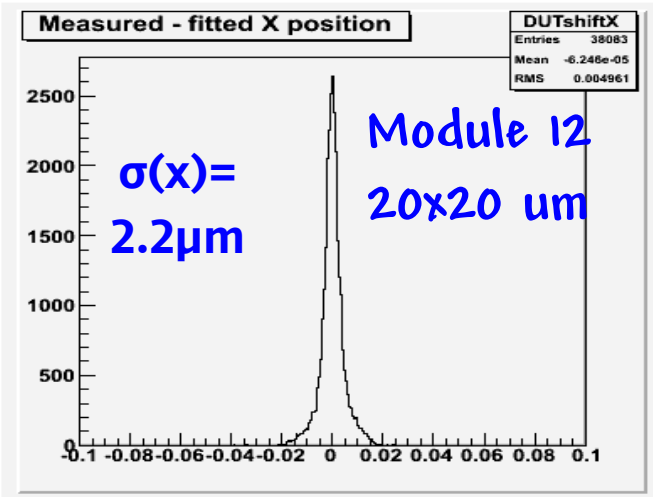


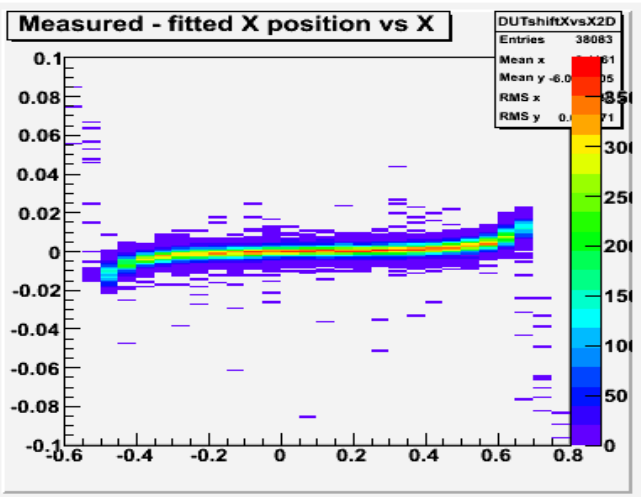


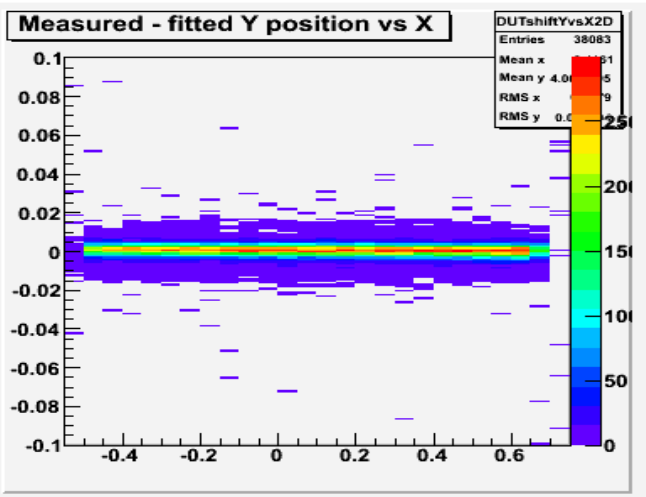
Software development (Eutelescope)

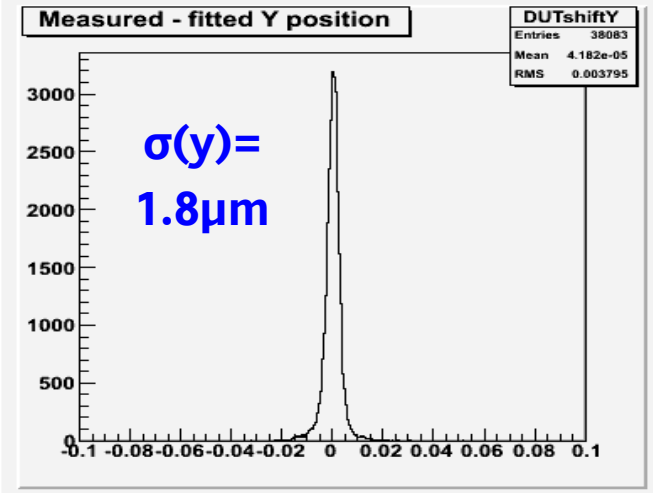
1) For DEPFET Telescope:

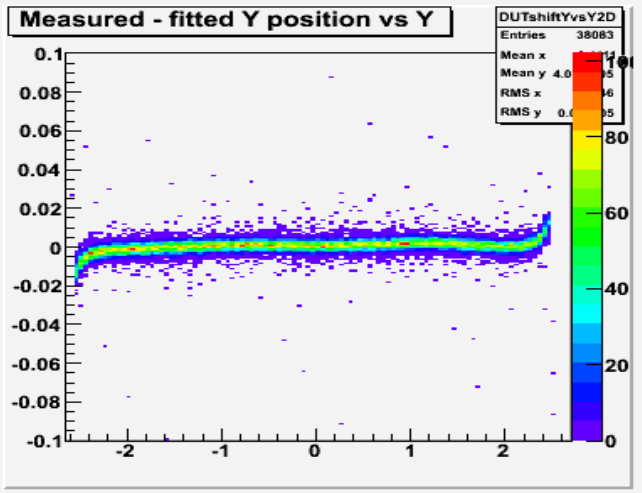
-DEPFETReader processor has been upgraded for the use of S3B system with larger sensor.

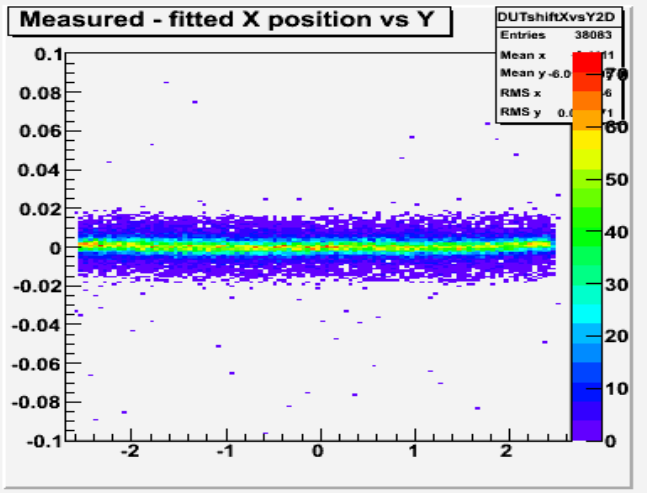




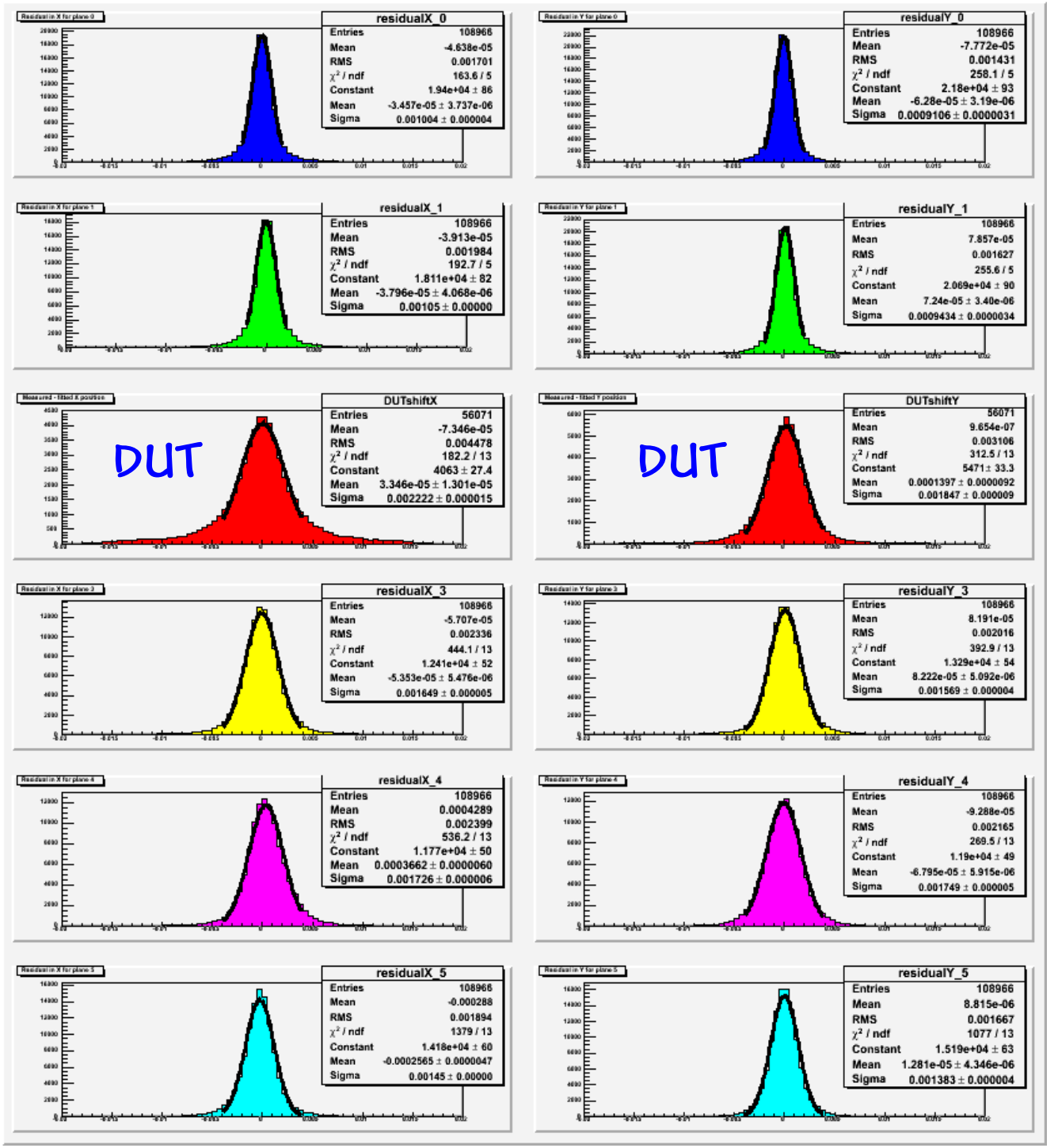






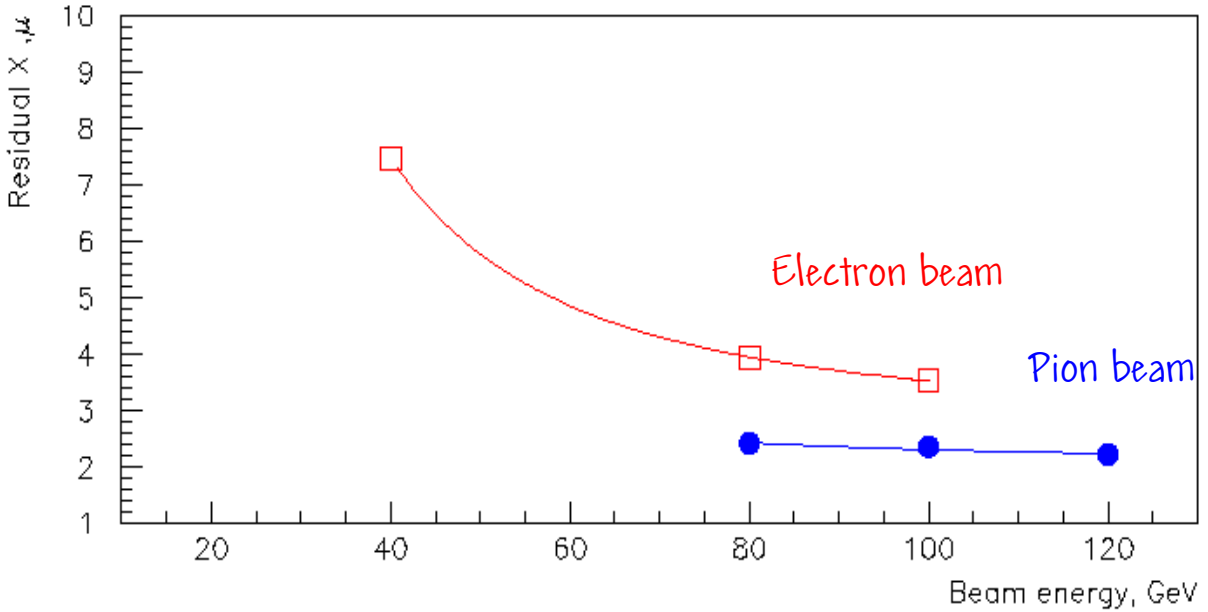


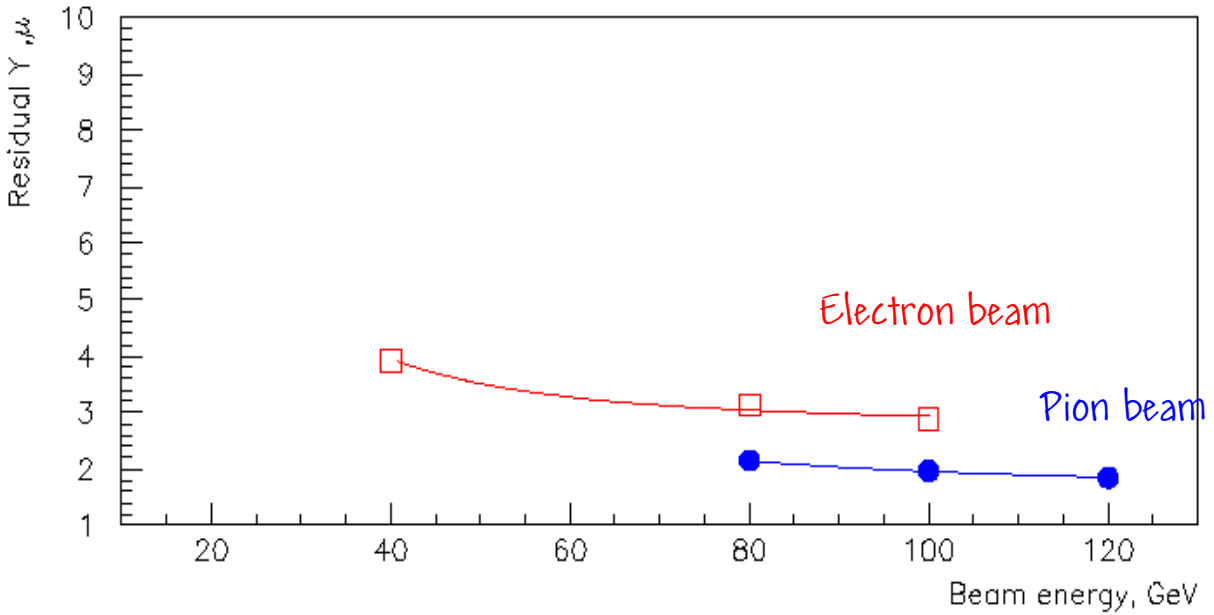
DEPFET Telescope Run 2308 120 GeV pions



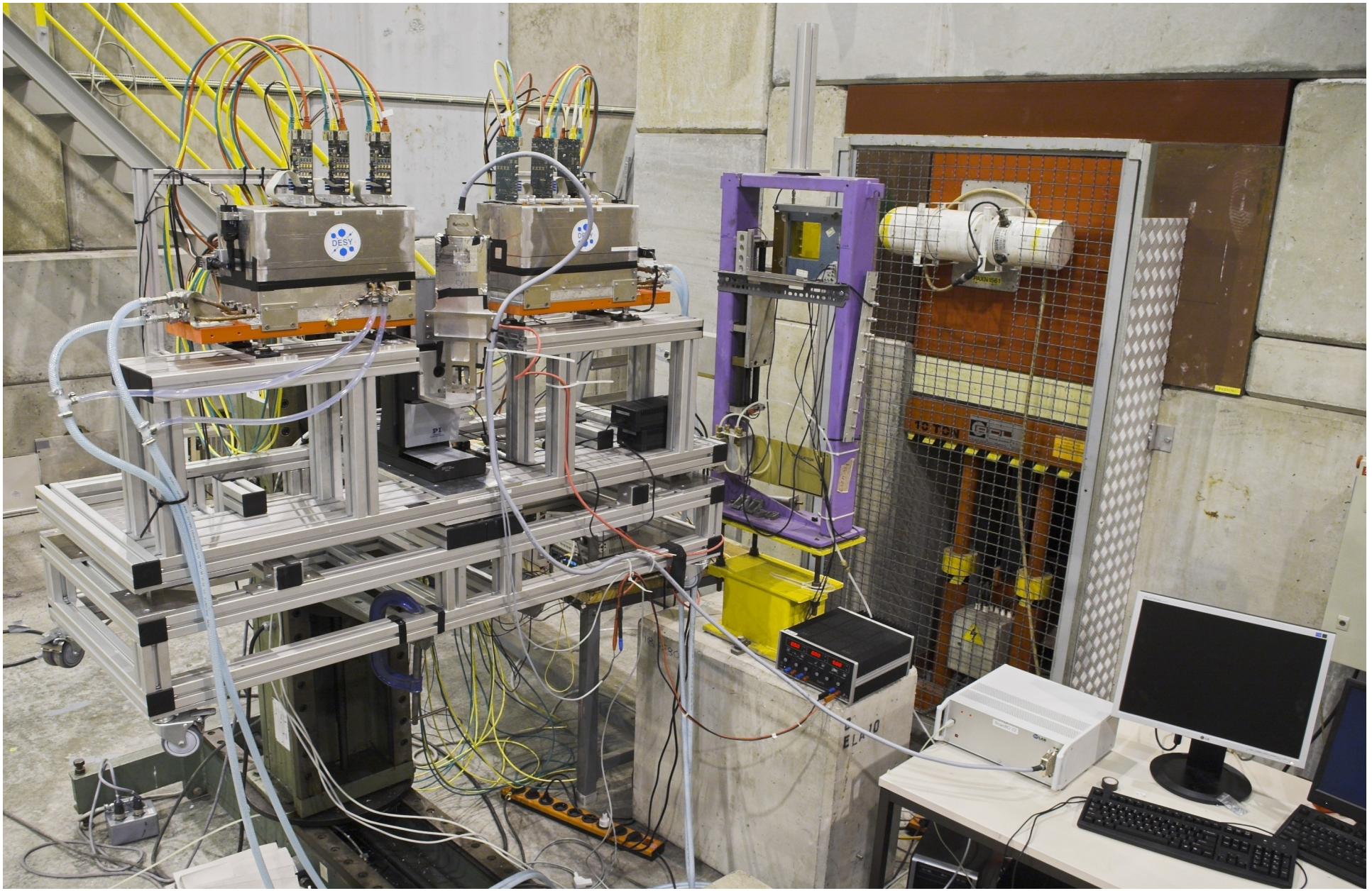
07 Oct 2009, Julia Furletova

DEPFET Telescope: Energy Scan

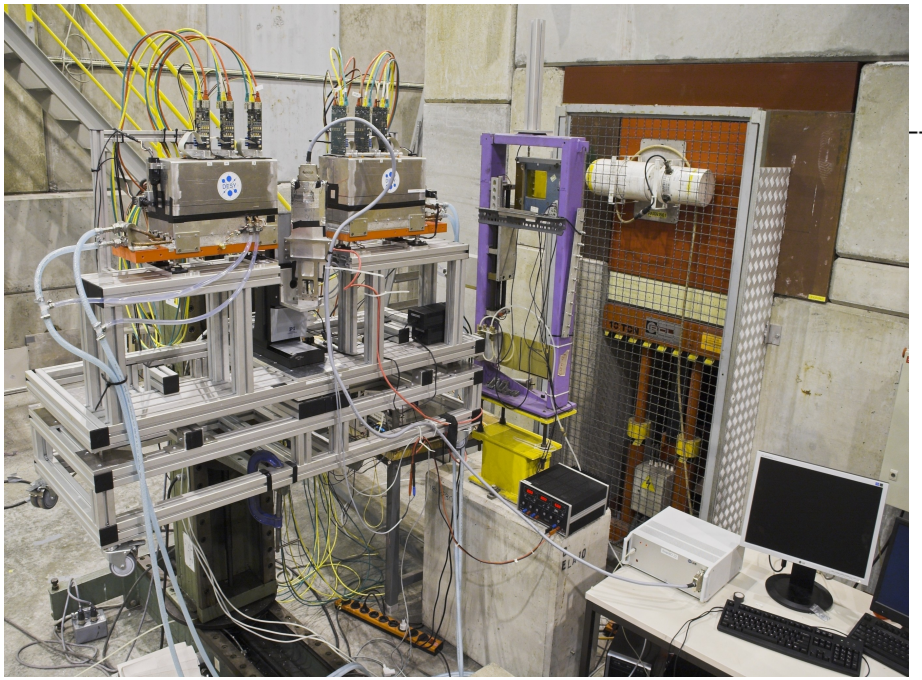


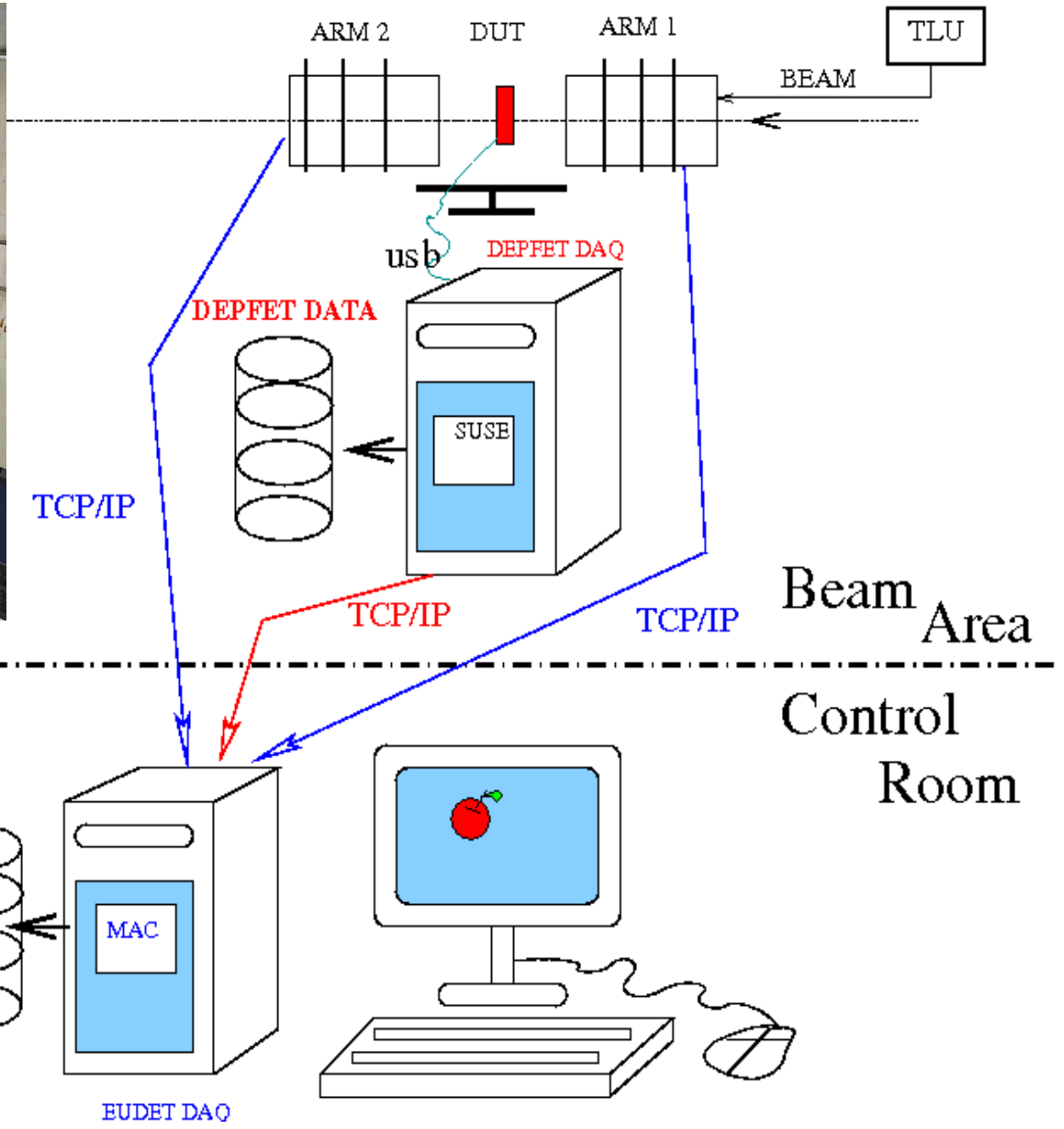


DEPFET & EUDET: Test beam Setup



DEPFET & EUDET: Test beam Setup





EUDET Telescope:

MAPS 256x256 (30x30 um^2):
7.7x7.7 mm^2

Readout: EUDRB in VME using MVME6100 PowerPC

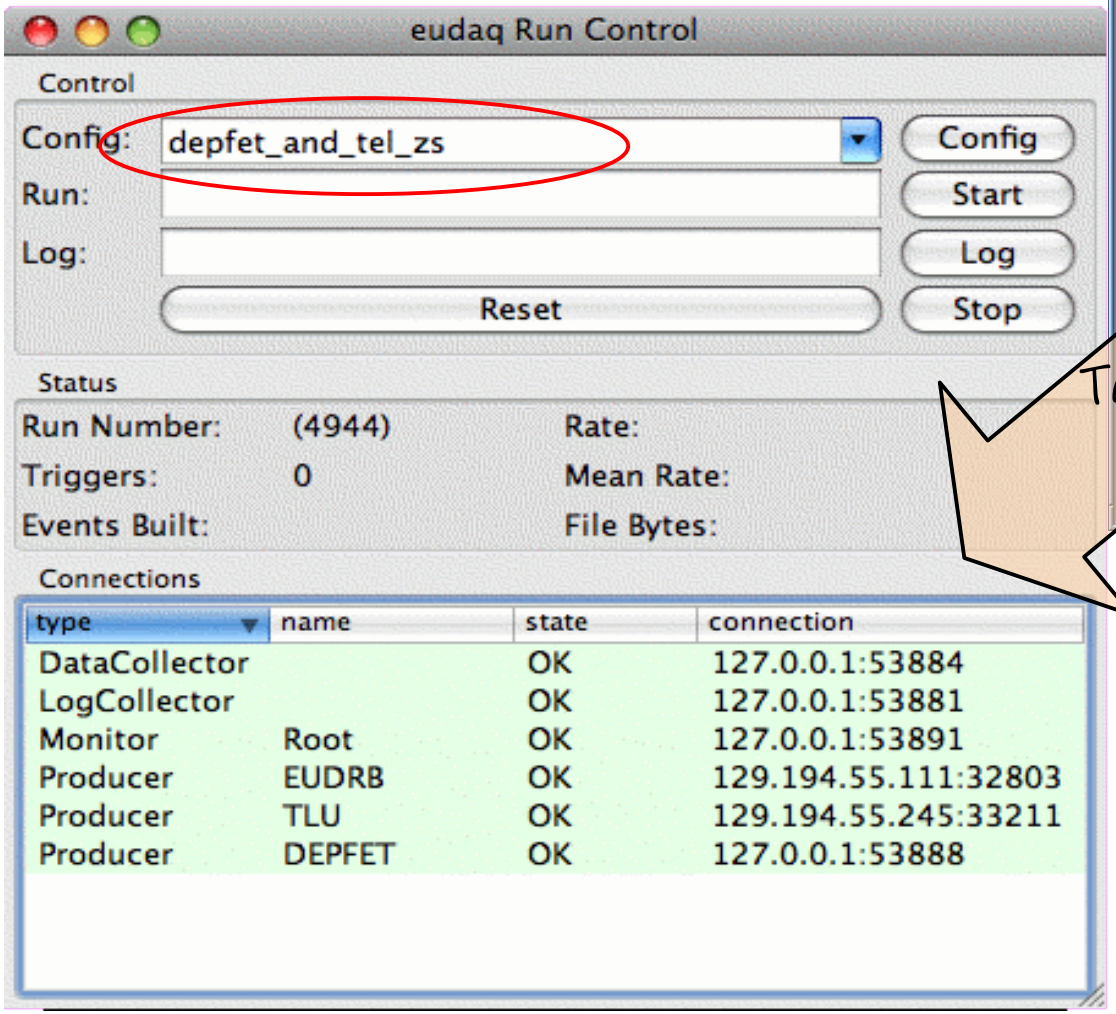
DAQ: MAC PC

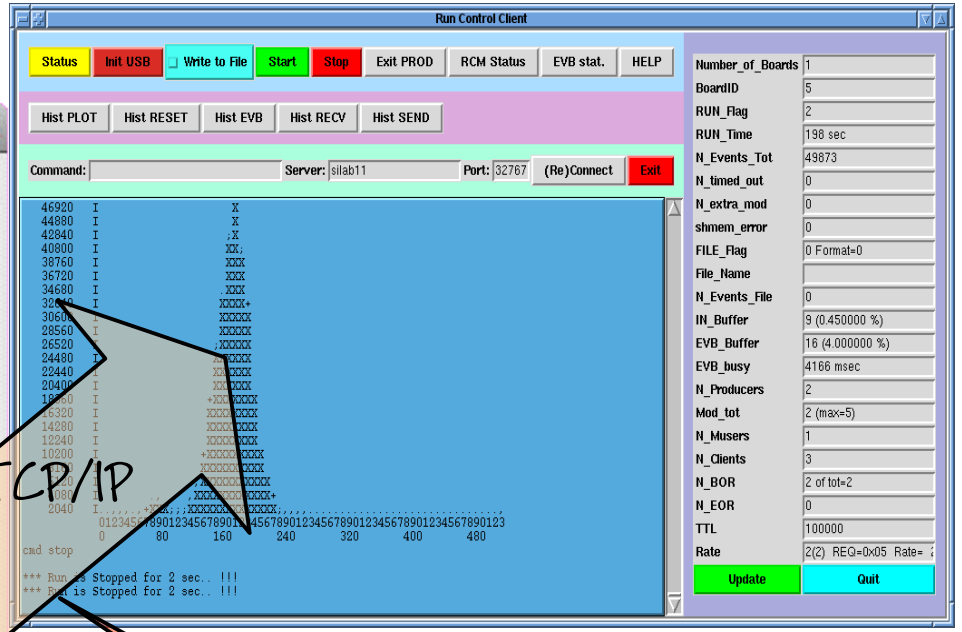
DEPFET & EUDET: Run Control

EUDET Run Control

DEPFET Run Control

Many Thanks to Emlyn for help!





TCP/IP

cmd init
cmd start
cmd stop

Problems:

*Due to luck of the mechanics we had a possibility to move only in X direction on the X-Y table

*No rotation stage.

*Problem with running TLU-2:

Trigger number always 0. Back to "our" TLU-1 fpga version.

*TOO MANY changes in the EUDET online DAQ software at the beginning of testbeam (standard planes and plugins): we haven't been informed about changes in EUDET DAQ before the test beam!!!

*We didn't had a offline software adapted for the new system with standard planes and plugins.

fortunately we had a 2 weeks before DEPFET/EUDET beam time!

Preparation:

*change of the data format (TCP/IP) due to larger DEPFET sensor

*DEPFETConverterPlugin.cc :

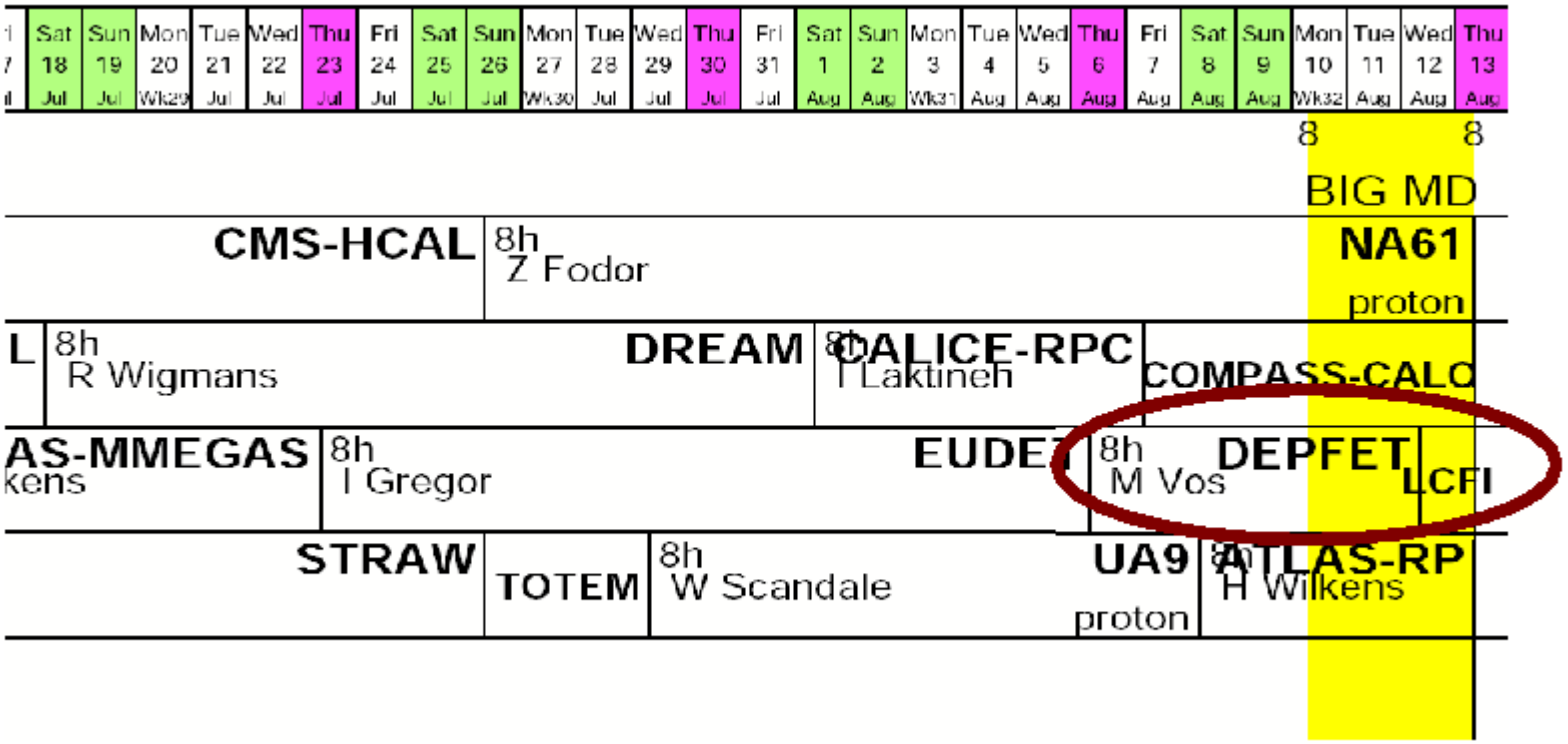
- >decode RAW DEPFET data
- >convert DEPFET into the "standard plane"
- >convert RAW DEPFET data to LCIO format

*EUDET online Monitor has been addapted for the use of larger DEPFET sensor

*problem of the alignment of an external DUT is solved.

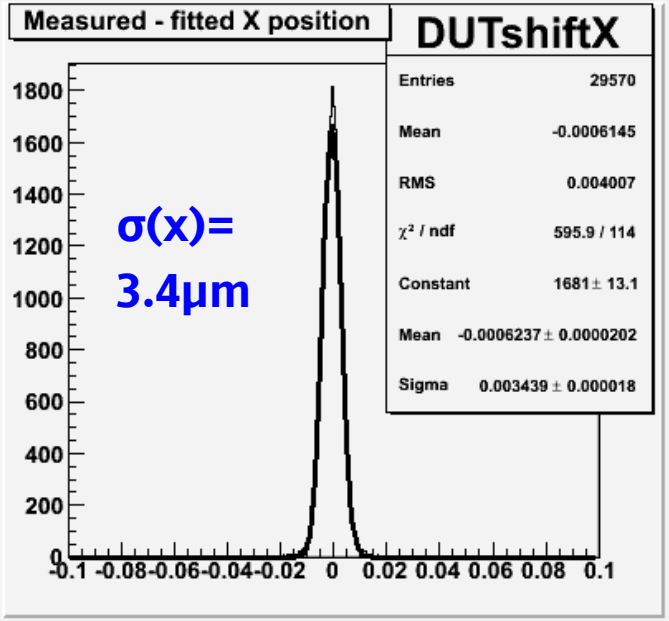
Test beam 2009

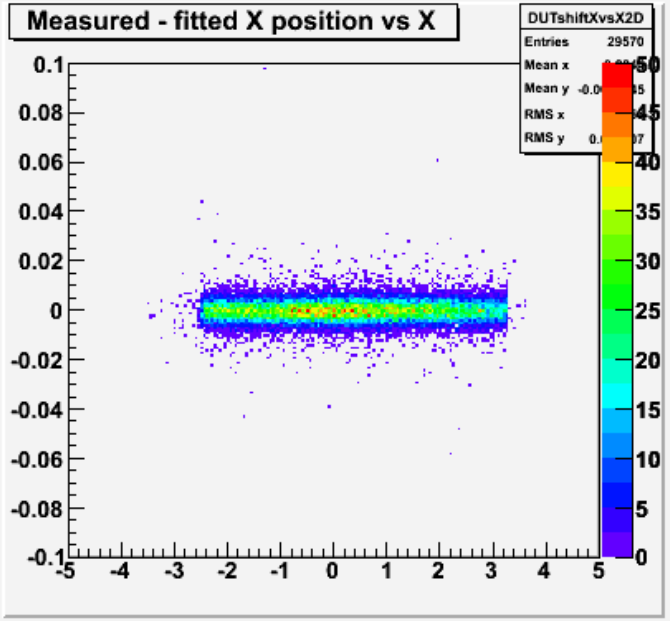
6 Aug. – 10 Aug. SPS – H6 B EUDET/DEPFET (extended : 3-10 Aug)

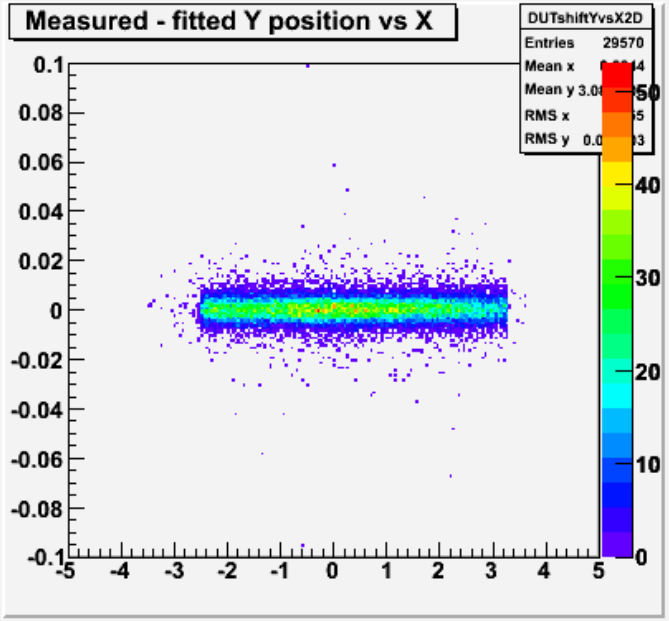


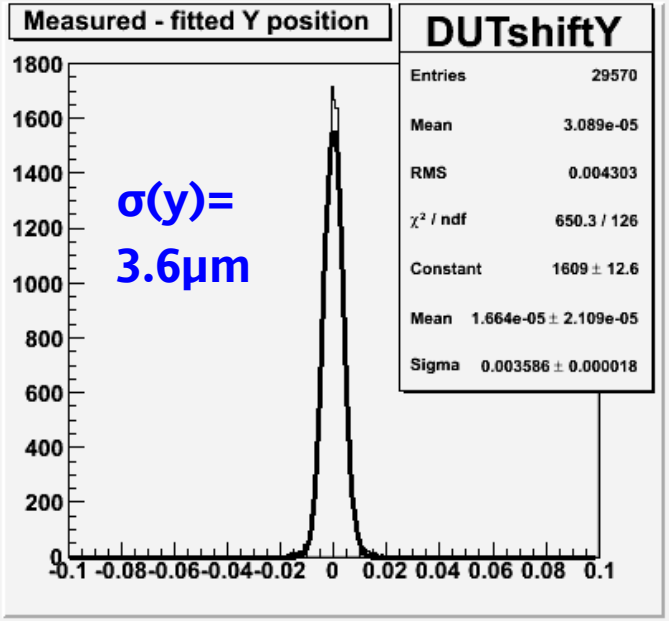
* Test of the complete new system
* Angular scan (0, 26, 36, 41)
* Energy scan (100,80,60,40 GeV electron and 120,100,80 GeV pion beams)

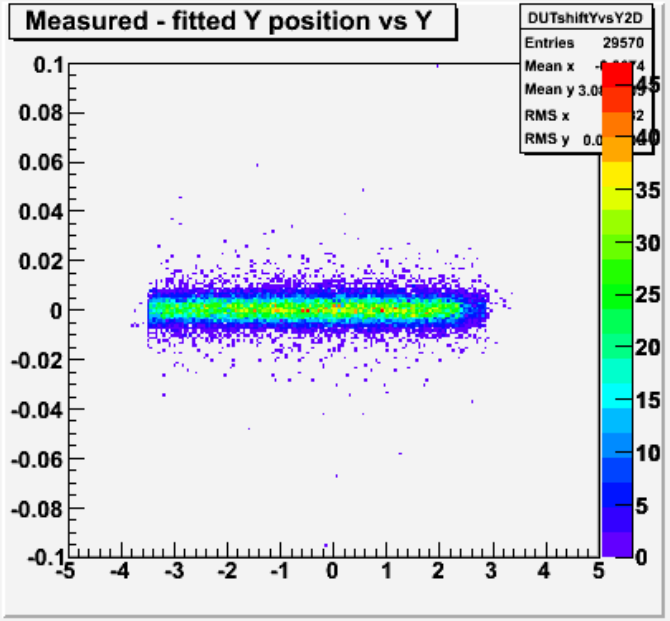
EUDET plane #3 as a DUT (Residual) in EUDET Telescope

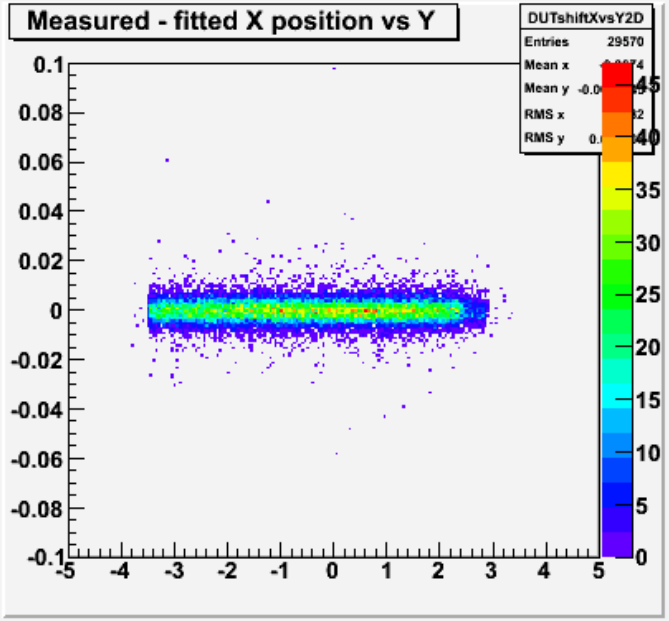




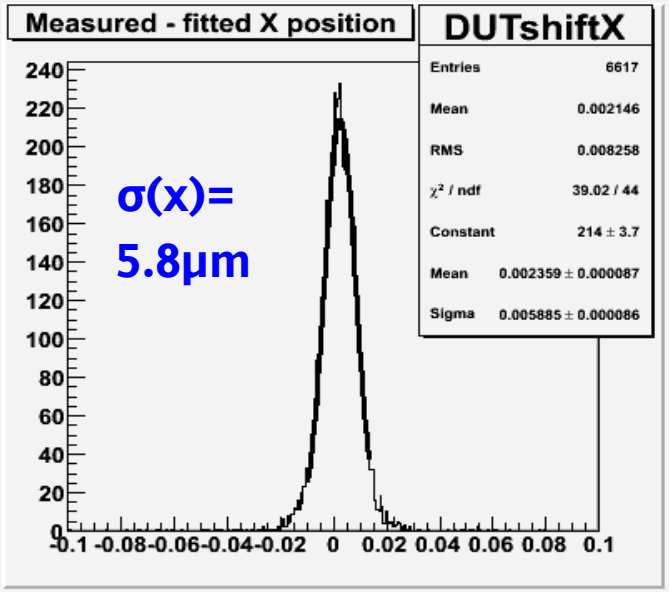


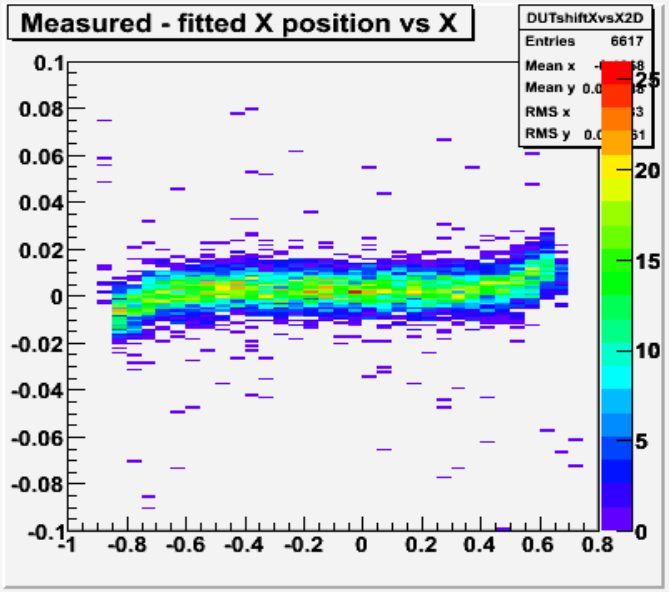


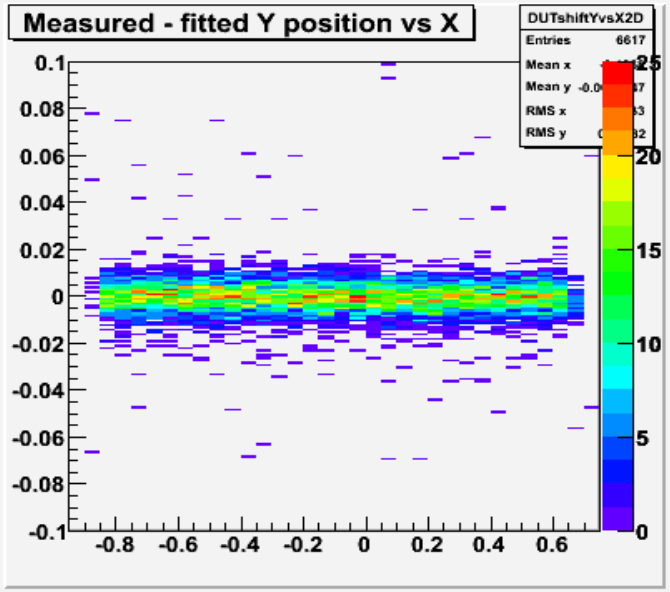


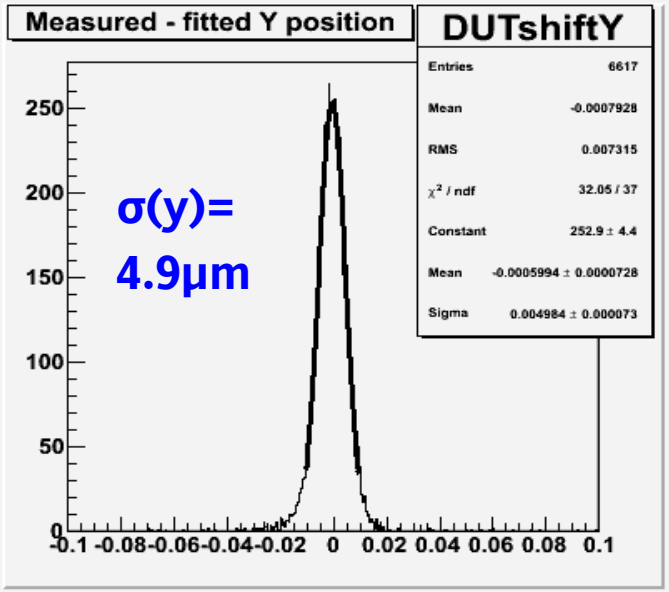


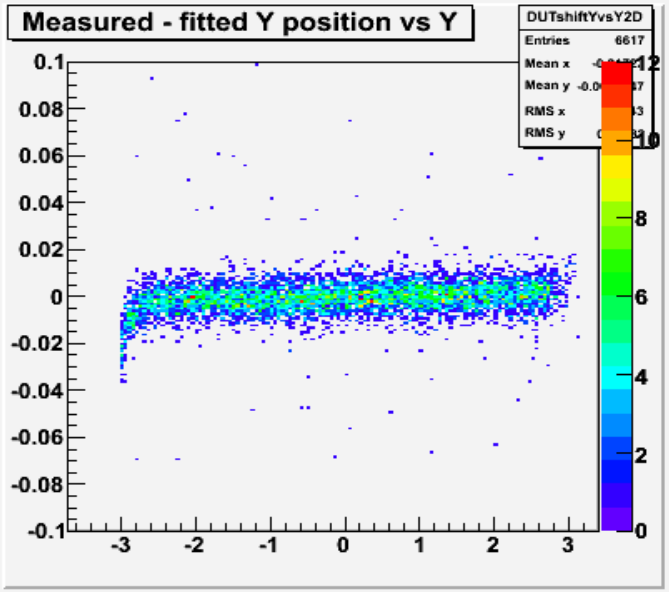
DEPFET DUT Residual(24x24 um) using EUDET telescope (problem with η- correction)

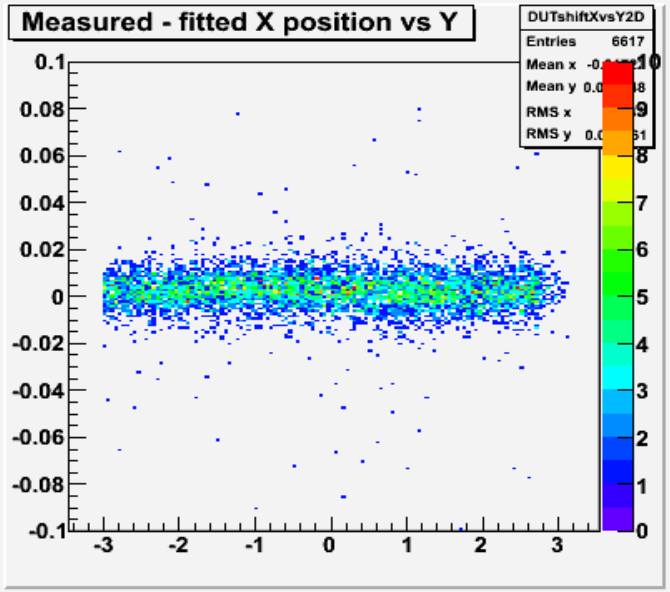












Conclusions

- Eutelescope software has been upgraded for the use of S3B system

- DAQ integration to EUDET Telescope system (via RunControl, DQM, DATA merging on a DAQ and offline level) for the S3B system are done.