DEPFET TB 2010

- One week 15.11-21.11 (maybe we can start 8.11?)

Confirmed Users 2010

Period	Date	H6A	H6B	Comment
1	10.05.-17.05		**SILCRD**	
	17.05.-25.05	**MEDIPIX**		
	25.05.-31.05	**ATLAS BCM**		
	31.05-07.06	**Diamond RD42**		Prepare EUDET
2	07.06.-14.06		**SPIDER**	
	14.06.-21.06	CMOSILC	**ATLAS -3DSi**	
	21.06.-05.07	CMOSILC	**NA62**	new user!!
3	05.07.-19.07	**CERF** (in H6Z)		No access to H6A or H6B (?) to be checked with Edda
	19.07.-26.07	**CMOSILC**	ATLAS-Pix	
	26.07-09.08	**MMGAS**	**ATLAS-Pix**	
4	09.08-23.08		**Diamond/RD42**	EUDET?
	23.08.-06.09	CMOSILC	**ALFA**	ALFA need 2nd green table
	06.09.-13.09	**PEBS**	ALFA	
5	13.09.-20.09	**SUPB**	ALFA	
	20.09.-27.09		**SPIDER**	
	27.09.-11.10		**SILC/EUDET**	Ljubljana ->Andrej ?
6	11.10.-25.10	CMOSILC	**ATLAS Pix**	
	25.10-08.11	MMGAS	**ATLAS IBL**	
	08.11-15.11		**SILCRD**	EUDET?
	15.11-21.11		**DEPFET**	

Ingrid-Maria Gregor, Status of the EUDET Telescope

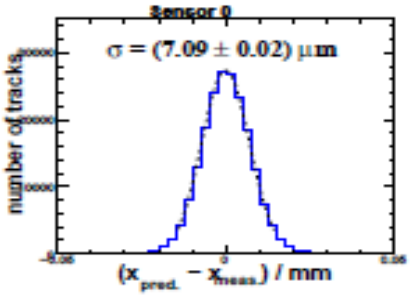
New Mechanics ready to Go

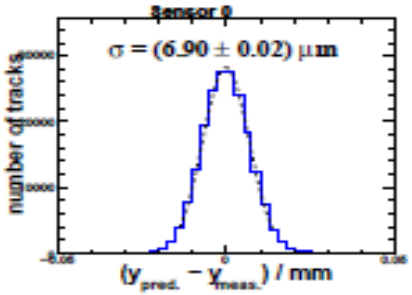
Requirements

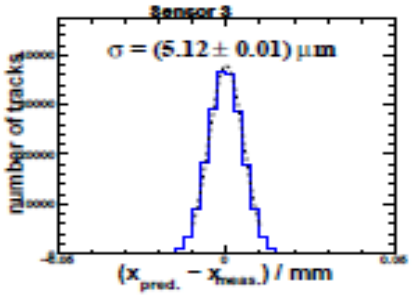
- non-magnetic (also all screws)
- material: aluminum and VA2
- Maser-like boxes are temperature stabilised
- quick connection of cooling hoses
- minimum distance between sensors <2 cm, maximum distance 15 cm
- sensor opening 2.5 x 2.5 cm2 (ready for ULTIMATE chip...)
- better positioning of DUT (indication of centre of active area, laser system)
- mechanics for PMTs also on rail system possibility to move planes close to DUT
- all sensors oriented in same direction, best solution: we can put them in both ways

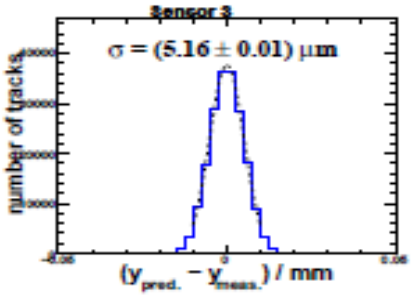
EUDET Mi26 Residuals

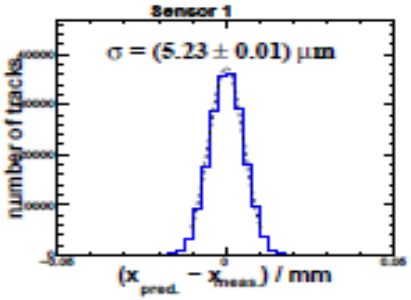
residuals (sensor by sensor) by Joerg Behr

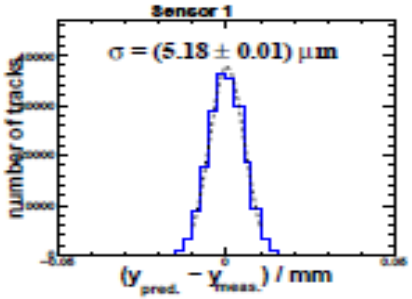


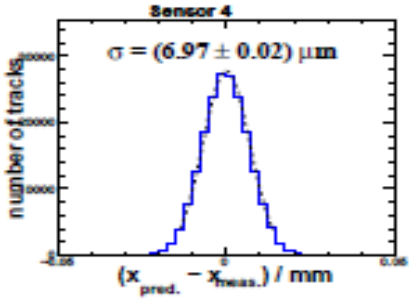


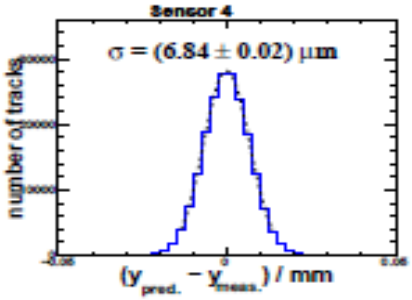


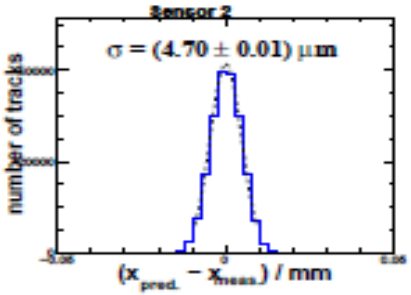


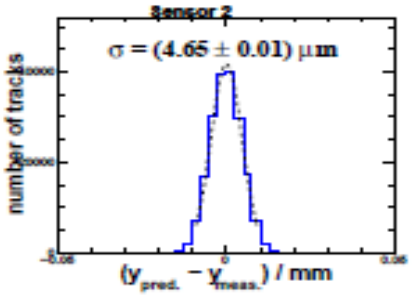




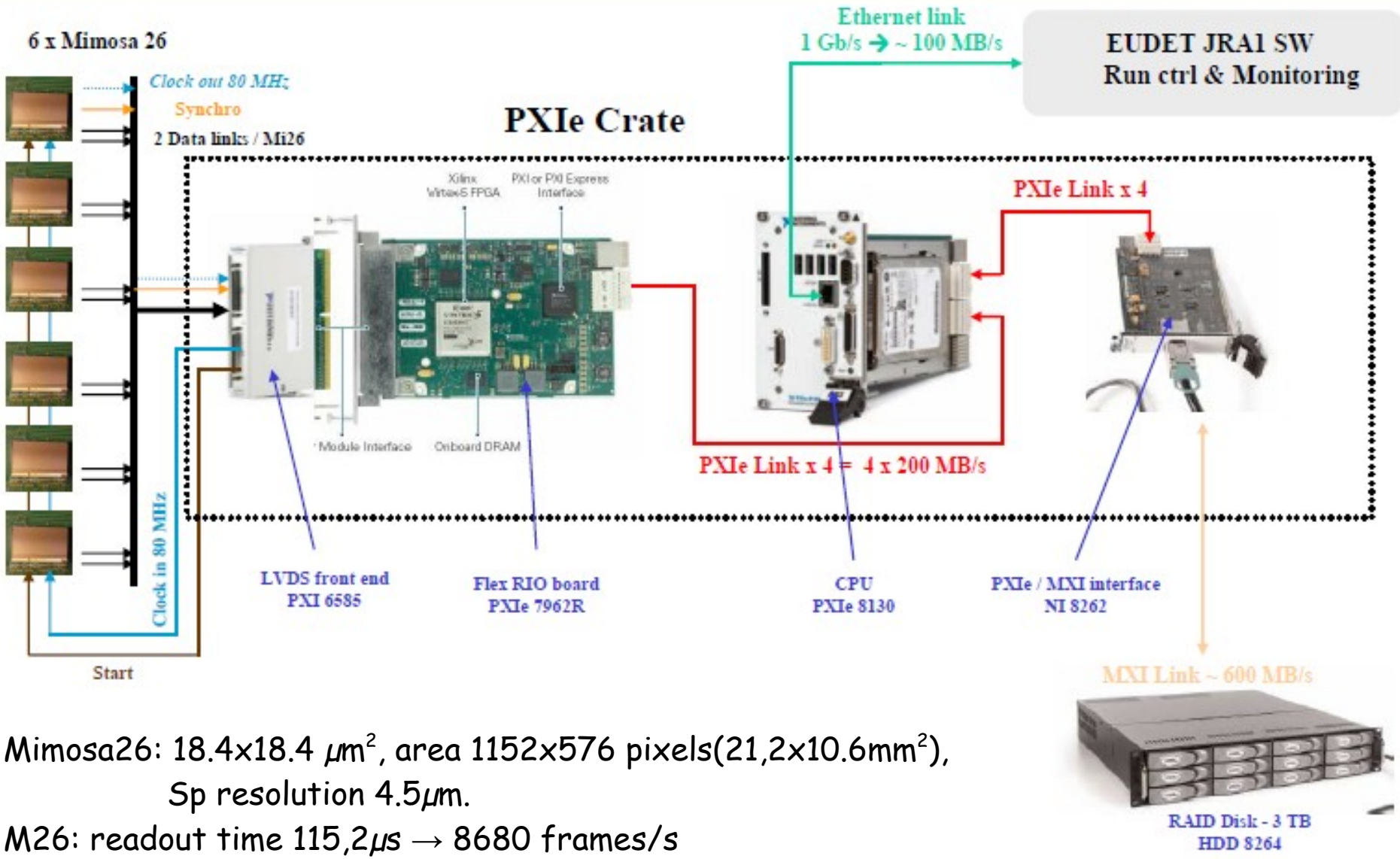








DAQ : Proposal of DAQ based on Flex RIO



Mimosa26: 18.4x18.4 μm^2, area 1152x576 pixels(21,2x10.6mm^2),
Sp resolution 4.5μm.

M26: readout time 115,2μs → 8680 frames/s

Max event size/M26=2304 bytes

Telescope=120 MB/s

National Instruments

DAQ : System cost ?

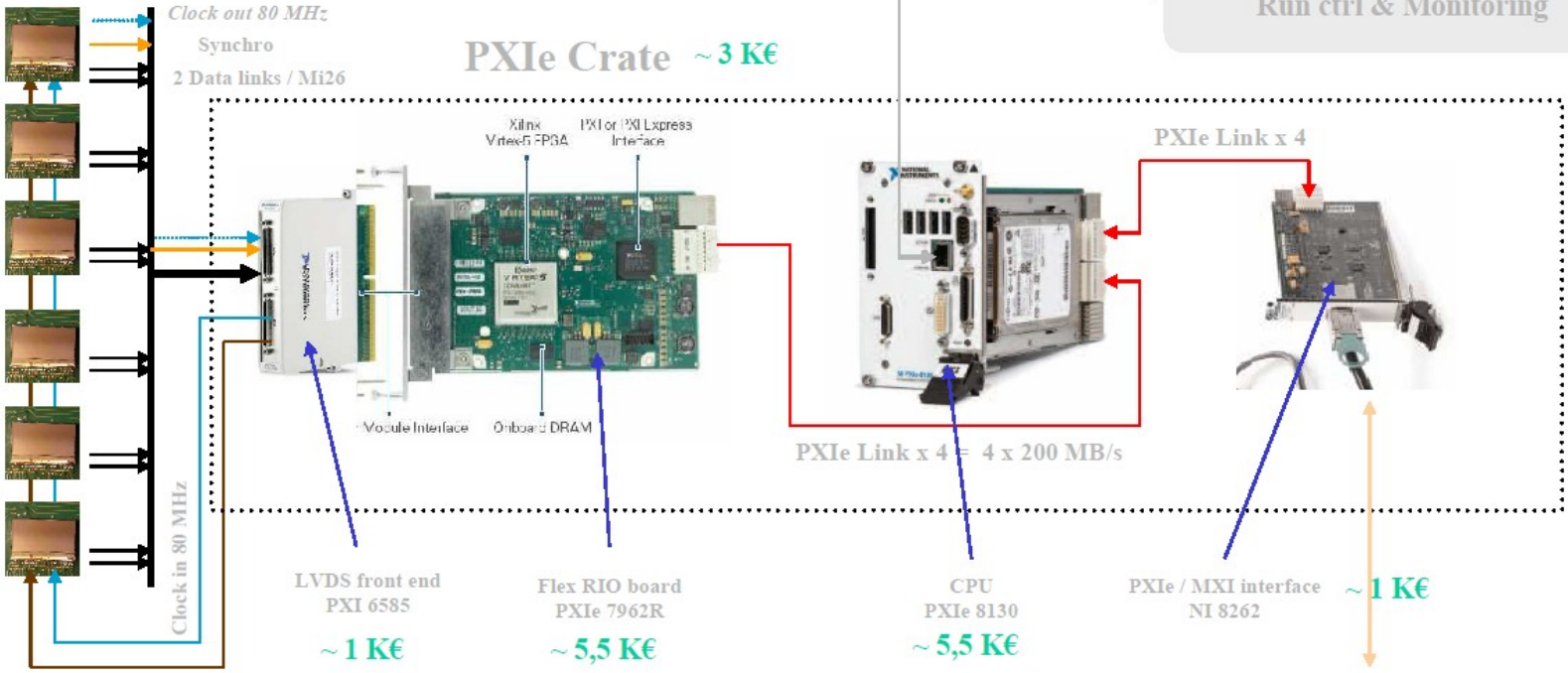
6 x Mimosa 26

Clock out 80 MHz
Synchro
2 Data links / Mi26

Ethernet link
1 Gb/s → ~ 100 MB/s

EUDET JRA1 SW
Run ctrl & Monitoring

PXIe Crate ~ 3 K€



LVDS front end
PXI 6585
~ 1 K€

Flex RIO board
PXIe 7962R
~ 5,5 K€

CPU
PXIe 8130
~ 5,5 K€

PXIe / MXI interface
NI 8262
~ 1 K€

MXI Link ~ 600 MB/s

RAID Disk - 3 TB
HDD 8264
~ 5,7 K€

Software

- LabView → 2,6 K€
- LabView FPGA → 2,6 K€

Total cost

- DAQ + SW + Installation → ~ 21,5 K€
- RAID HDD → ~ 6,8 K€
- Total → 28 K€

Software workshop at DESY

- ILC/EUTelescope workshop at DESY
  - 26 May 2010 09:00 – 28 May 2010 18:00
  - Antonio (the author of EUTelescope)
  - Review of the analysis framework
  - Register before 1 May at

    http://indigo.cern.ch/conferenceDisplay.py?confid=89979

Software

- Framework: continue with ILC/ Marlin or switch to BelleII ?
  (better to switch at the beginning)
- Online DQM: simple, but use the same library as for offline
- Data storage for TB data: Bonn server or GRID
- SVN: Bonn(now), BelleII or dedicated SVN for DEPFET collaboration

Software corrections

- Running Pedestals update → To be checked with real data.
- Common Mode calculation (Mean, Median, other)
- Eta correction
- Gain correction (5% → 0.1 um)
- Edge effect correction
- Alignment (how stable?)

To do for test beam...

1. S3B with PXD6
2. Manuel Board (MB)
3. DCD

- TLU implementation (MB, DCD) !
- Power supply (MB, DCD) → Lab ps
- DAQ integration (MB, DCD)
- Online DQM integration (MB,DCD) → data format, hists?
- Software integration (MB, DCD)

- + EUDET telescope integration (DAQ, online, offline)

Backup

DEPFET Telescope standalone