



News from FEE

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Outline

- 1 FEE Coordination
- 2 FEE Workshop
 - Sub System Reports
 - Workshop Conclusion
- 3 Europractice
- 4 PANDA Lecture Week

FEE Coordination

- Angelo Rivetti climbed to the position of the director of INFN Torino
- ⇒ Additional Duties for Angelo
- ⇒ New Coordinator Deputy: Holger Flemming
 - GSI experiment electronics
 - Head of ASIC design group
 - Involved in EMC readout electronics development

FEE Workshop

- Workshop in Grünberg near Giessen on 10th and 11th of April
- Indico page: <https://indico.uni-giessen.de/indico/conferenceDisplay.py?confId=226>
- First day for front end electronics
- 28 registered participants
- 8 Status reports from different sub systems

FEE Workshop

MVD — Pixel Sensor



Conclusions – pixels



Sezione di Torino

- * ToPiX v4 has been extensively tested and is basically ok. ToPiX v5 (full size) design stopped after problems in the FAIR schedule
- * It is possible a phase out of the current 0.13 μm process in 2017 – it is suggestable to move to a different technology. A new reduced size prototype (ToPiX_v4b) will be required
- * 3 processes under evaluation w.r.t. radiation tolerance, RC delay and price
- * PANDA GBTx board produced – *in stand by*
- * study of cooling of the DC DC regulators bar in stand by – *first tests with 8 regulators ok.*

Gianni Mazza

PANDA DAQ/FEE Workshop, Grünberg, April 10th 2017

Talk by Gianni Mazza

FEE Workshop

MVD — Strip Sensor



Test results - 1



Sezione di Torino

- ♦ unfortunately, a number of issues have been discovered on the first prototype :
 - ➔ wrong supply pads assignment → *core voltage increased to 1.3 V and I/O voltage reduced to 1.9 V*
 - ➔ not all channels are fully operational – geometrical dependence
- ♦ Bias analogue parameteres under optimization (28 parameters)
- ♦ Significant improvements at lower clock frequencies
- ♦ So far, not possible to reproduce the behaviour in simulations – *work in progress*

Gianni Mazza

PANDA DAQ/FEE Workshop, Grünberg, April 10th 2017

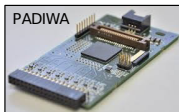
Talk by Gianni Mazza

FEE Workshop

Barrel DIRC



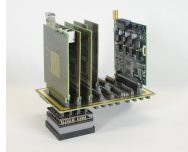
TOF Addon (NINO)



TRB 2



TRB 3



Next: DIRICH
Coll. of
PANDA
CBM
HADES

Talk by Carsten Schwarz

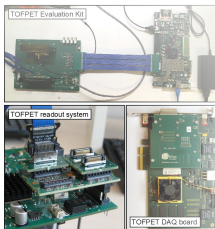
FEE Workshop

Disc DIRC

TOFPET

Endcap Disc DIRC (EDD)

- Fast digitization of MCP-PMT signals will be done with TOFPET ASICs by PETsys
 - Successful tests with an evaluation kit as well as a full system with several hundred channels have been done
 - Will also be used by the SciTil, new TOFPET2 ASIC with improved specs



TOFPET2 ASIC specifications:

- Signal amplification and discrimination for each of 64 independent channels
- Dynamic range: 1500 pC
- RDC time binning: 30 ps
- Max channel hit rate: 480 kHz
- Max output data rate: 2.6 Gb/s
- Clock frequency: 200 MHz

PANDA DAQ-FEE Event Filtering Workshop, April 10th-11th 2017, Grünberg

3/18

Mustafa Schmidt

Disc DIRC FEE

3/ 18

Talk by Mustafa Schmidt

FEE Workshop

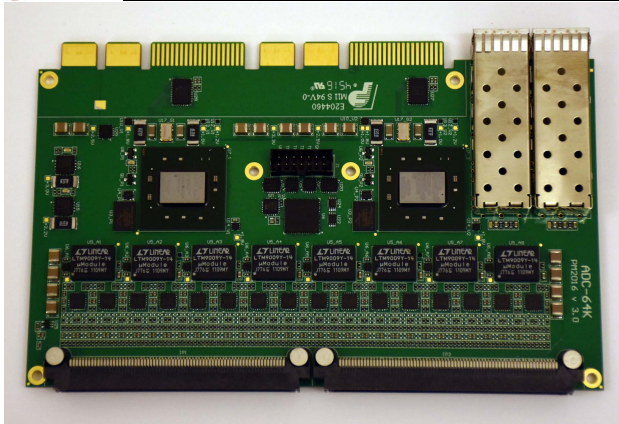
EMC ADCs



UPPSALA
UNIVERSITET

ADC for EMC-Endcap

- Final ADC Modifications



Pawel Marciniewski, EMC FEE/DAQ Meeting KM, 30.03.2016

Talk by Pawel Marciniewski

Holger Flemming

News from FEE

FEE Workshop

Other Subsystems

- O. Noll reported on latest developments for EMC backward endcap electronics
- Liubov Jokhovets presented the ADC based readout for STT read out
→ More details by Peter Wintz
- Luminosity Detector readout and DAQ overview by Stephan Maldaner
- Barrel ToF read out presentation by Ken Suzuki
- Status report on GSI developments for PANDA by Holger Flemming

FEE Workshop

Workshop Conclusion

- Lot of progress in several sub systems!
- Very critical: ASIC development for MVD
- Common problem of many sub systems:
lack of radiation tests

Europractice

- Europractice is an EC program for universities and research labs to get access to ASIC foundries and affordable ASIC design software

Very alarming news from Europractice

- Proposal to extend the Europractice service by a further two years was rejected by EC
- As ASICs are essential for current particle detector readout a stop of Europractice would be a disaster for our community!

In the meantime Europractice gave the all-clear

- A new call for application to Europractice by EC
- Due to lots of supporting letters and mails from Europractice members to EC

PANDA Lecture Week

- December CM slot will be used for a PANDA lecture week
- Interest in electronics lectures during this week
- Requires experienced electronics designers as lecturers
- Anyone interested? \Rightarrow Please contact me!