AHCAL Electronics.

The New Generation

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DAQ meeting
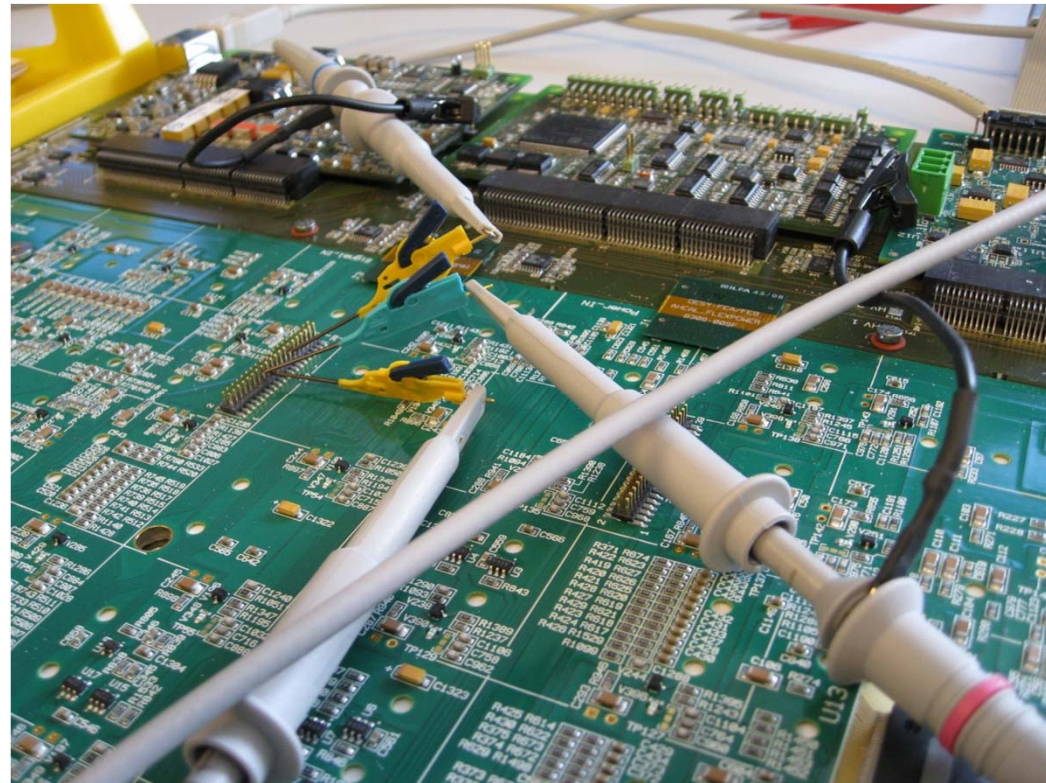LLR, Palaiseau
Nov. 9th, 2011
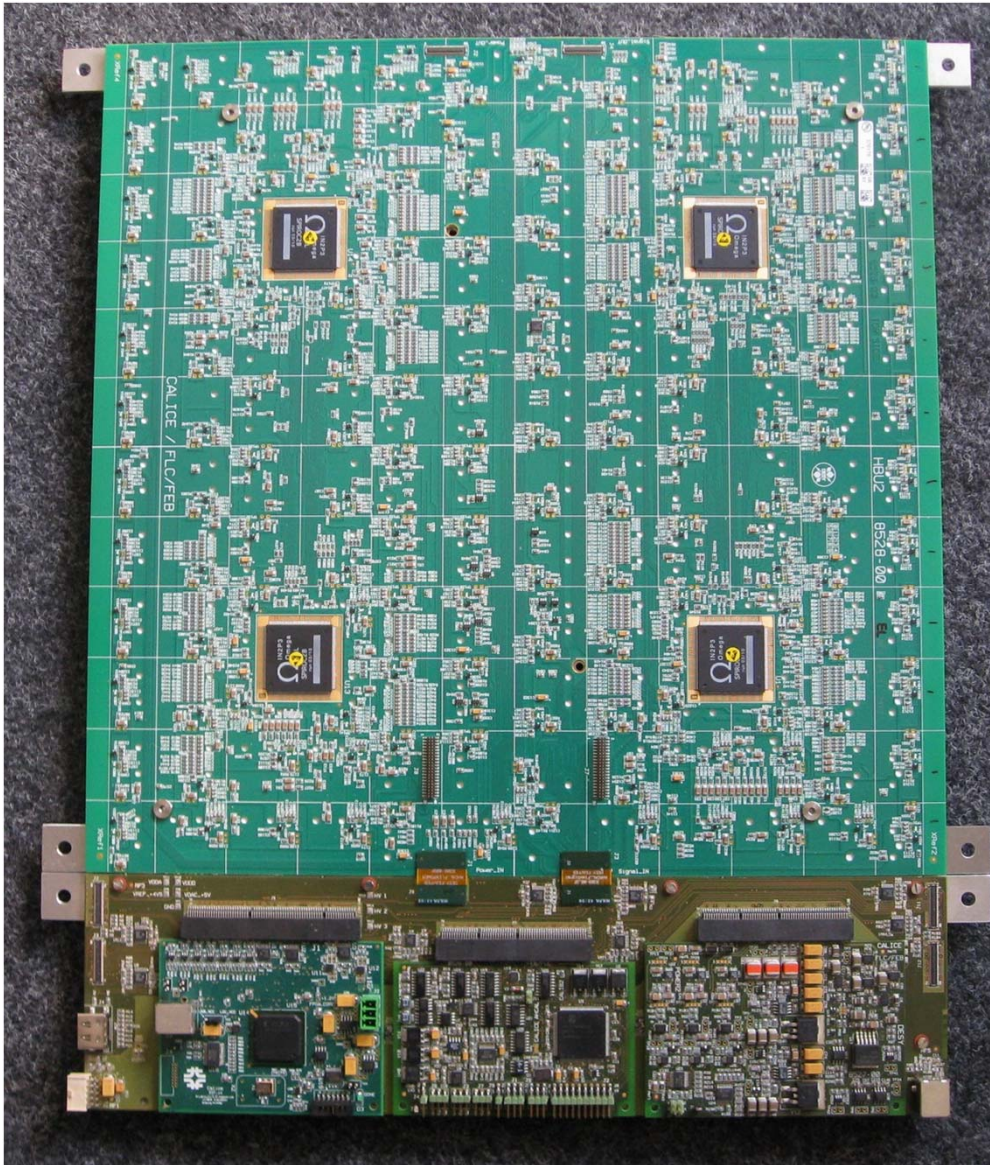
HELMHOLTZ
GEMEINSCHAFT

CALICE
Calorimeter for ILC

DESY

Outline

> Status of the AHCAL New Generation's Electronics

> CALICE DAQ

> Conclusions

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AHCAL HBU2

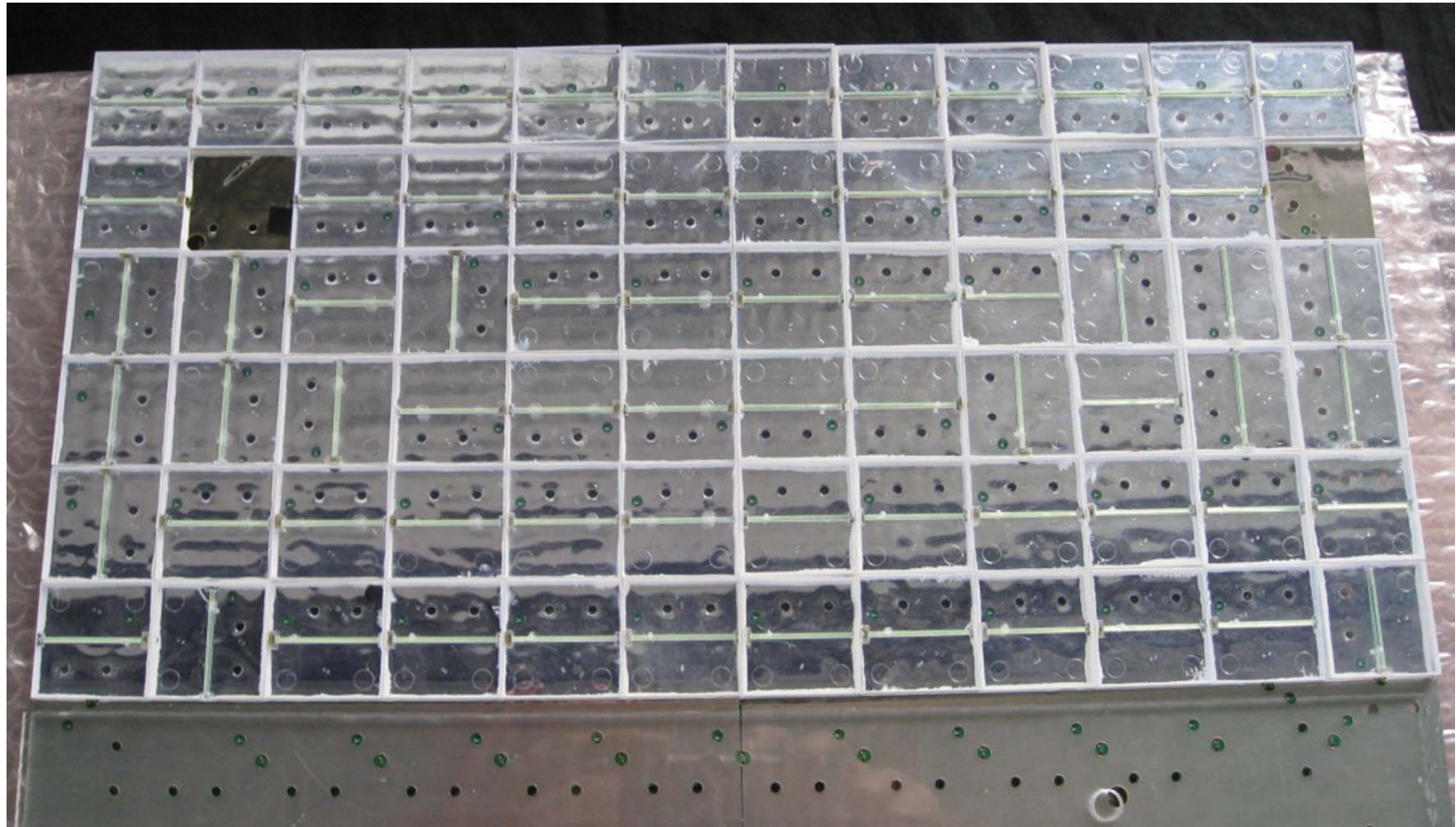> Inner Detector Module

> 144 channels

> ~36 x 36 cm²

> 4 x SPIROC2b
  (can carry SPIROC2a)

> 2 x LED system:
  integrated solution,
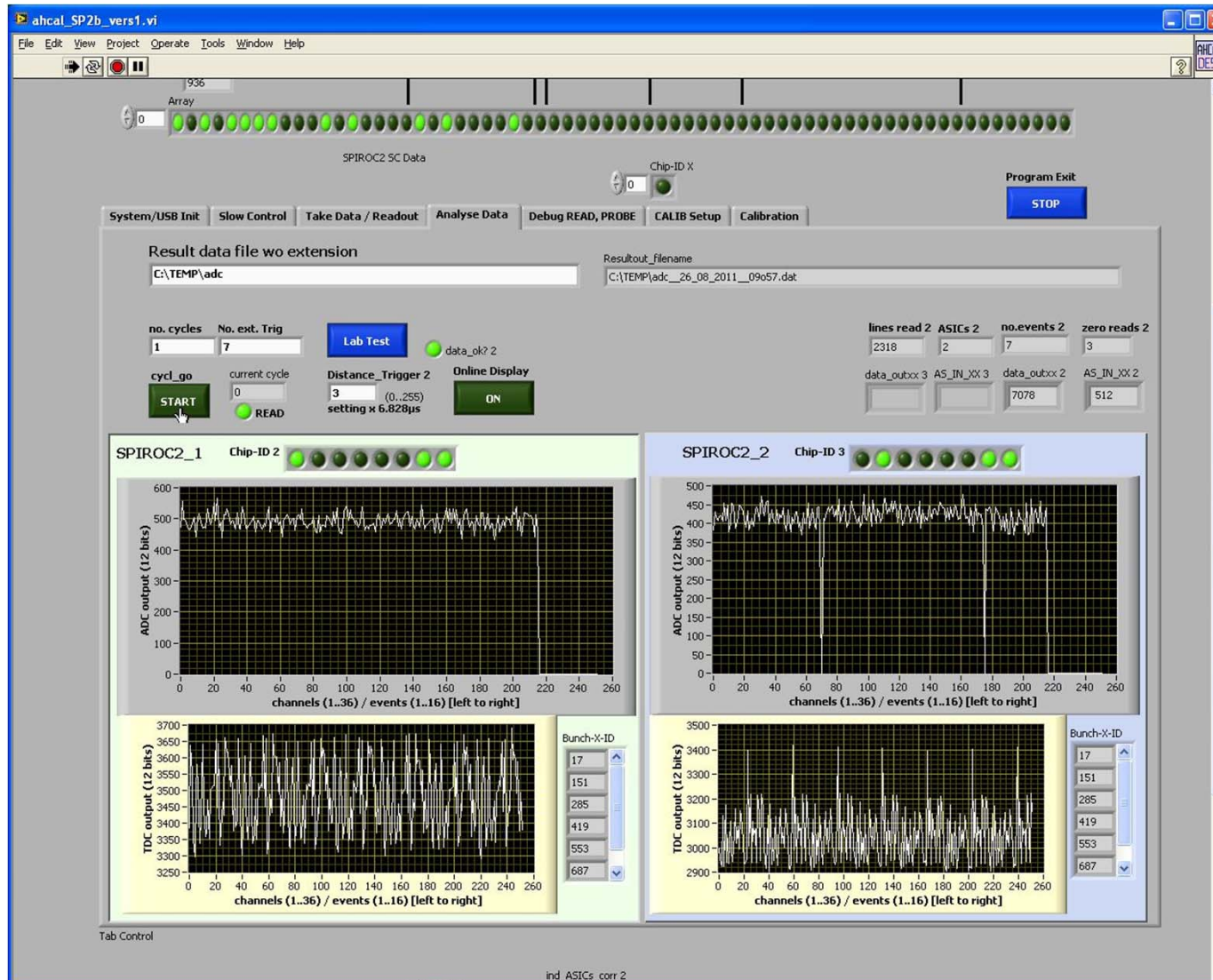 fiber-based solution

> 3 setups as shown
  here in operation!!

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Tiles

> First HBU2 assembled with tiles for two SPIROC2b ASICs (72 channels), very promising results from first tests with LED system.

> 450 tiles in Hamburg, 91 tested

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Screenshot !!

> Operation still with Labview DAQ and via USB.

> Only 2 / 4 SPIROCs are used, due to old Labview setup.

AHCAL - CALICE DAQ

Status at DESY

> Setup from LLR has been copied, including Linux PC with Python, C&C, LDA, AHCAL DIF.

> Access to repository from LLR established (DIF firmware, Python)

> Communication with LDA works (thanks to Mark!!)

> Done: Load final firmware to AHCAL DIF.

> XDAQ establishment at DESY unclear (not started, to be discussed).
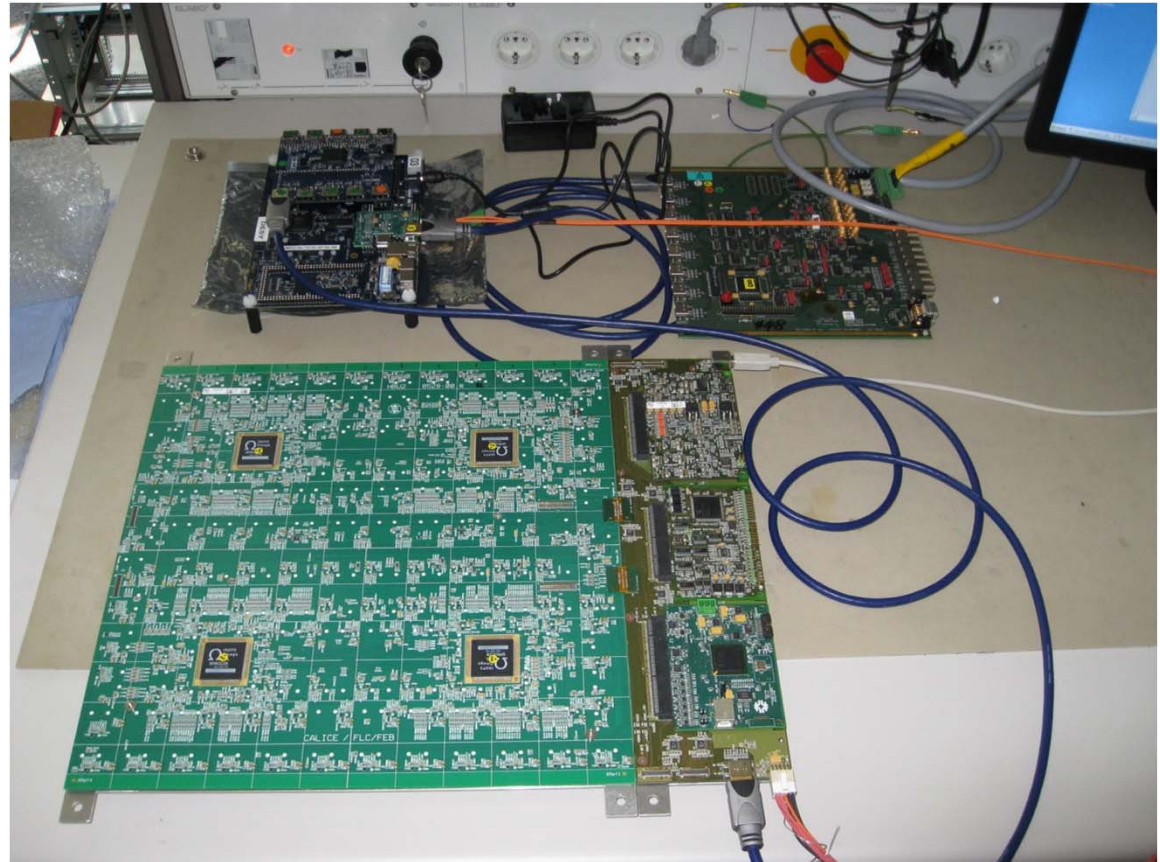
(CALICE) DAQ Status and Outlook for AHCAL

> 3 setups of the new generation of AHCAL electronics are in operation!!

> Already running: old Labview/USB DAQ. For basic tests.

> In progress: Labview with final DIF firmware / USB access. Operation of more HBU2s (slab?). Will be used e.g. for DESY electron testbeam.

> Can go in parallel, not started yet: XDAQ with CALICE DAQ hardware.

> Would be nice: Versatile XDAQ framework (Lyon?) which can be adapted easily for first basic operations as a basis for a general XDAQ operating software. Step-wise extension. Specifications (Timing, event states)?

> We are willing and ready to use and evaluate a provided first XDAQ framework for a stepwise AHCAL integration into CALICE DAQ (It is clear to us that deep hardware knowledge is needed for the XDAQ development => AHCAL contributions).