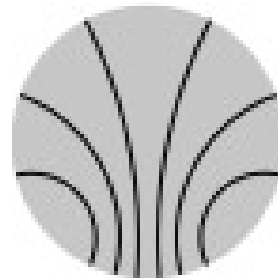




Testbeam plans 2012/13



Roman Pöschl
LAL Orsay



KIRCHHOFF-
INSTITUTE
FOR PHYSICS

CALICE Collaboration Meeting Heidelberg September 2011

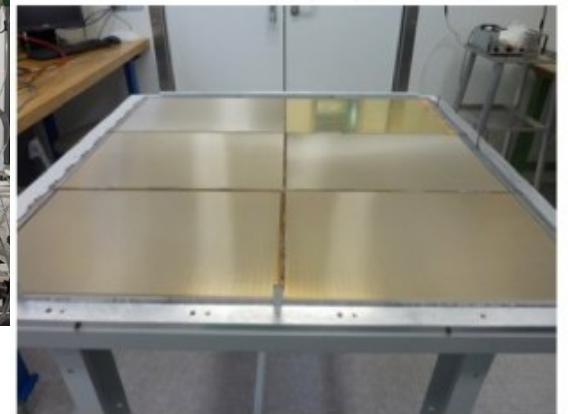
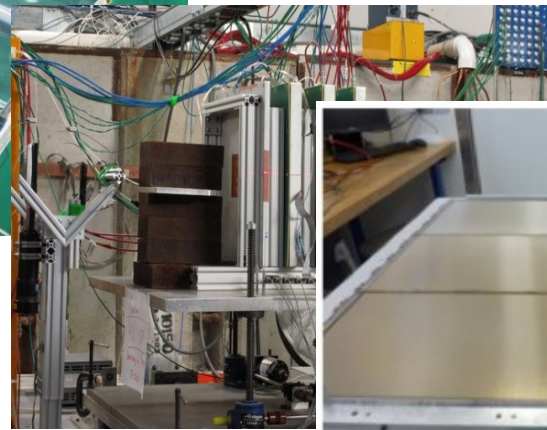
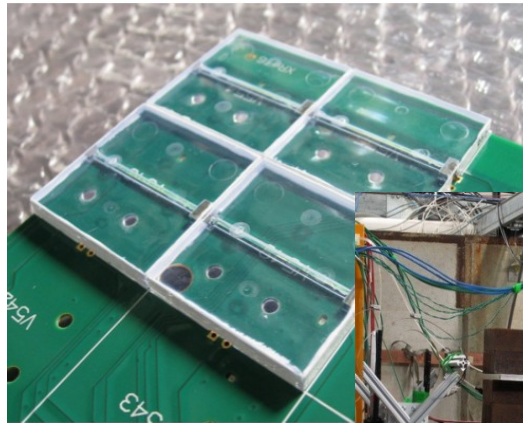
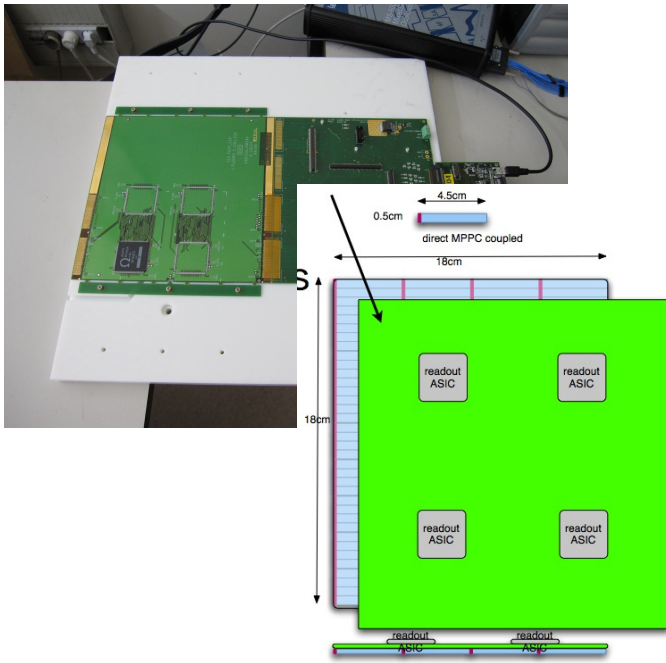
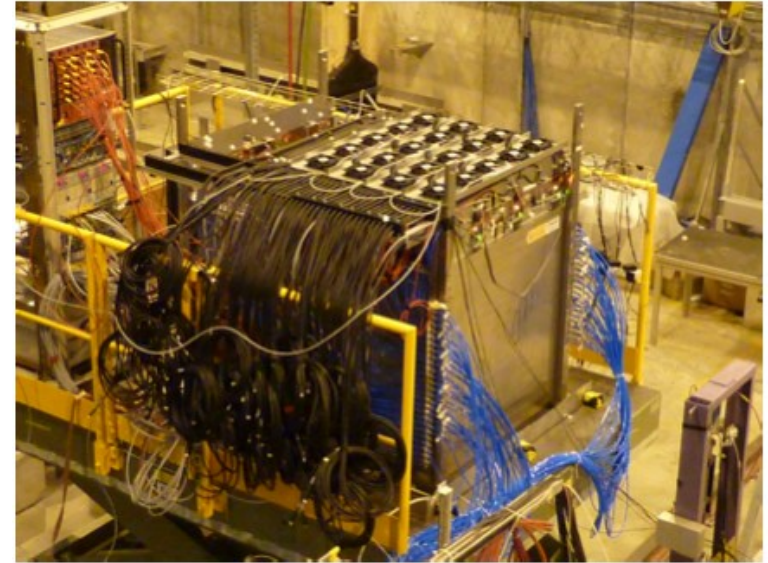
Some boundary conditions

To be taken into account :

- FNAL shutdown 3/12 – 2/13
- CERN shutdown 2013 - 2014 (?)
- DESY available all the time and flexible
(Ideal for tests with small setups)

Detailed planning i.e. of CERN and FNAL is naturally not in our hands

Prototypes. Prototypes ...



LICE Collaboration Meeting Sept. 2011

SiW Ecal

- Progresses in ASU development/construction will be accompanied by beam test efforts

Priority to achieve viable and lasting technical solution over rush to have a full size calorimeter.

Keywords : Wafer technology, challenging SKIROC circuits, flat ASUs
Long slabs

Short terms plans are driven also by French ANR funding

- Will make as much as possible use of (flexible) DESY beam test
Tests in magnetic field (General response, power pulsing) may require beam time at CERN (!?), magnets elsewhere ?
Irradiation tests are may be an option
- Expect to have up to 10 equipped ASUs at the end of 2012
most likely conservative technology
- Switch to aggressive technology in 2012/13
DESY test beam should be fine also in 2013

Scint Ecal

Timeline:

2011 Design phase

2011 – 2012 production phase

Beginning 2012: Test in Japan

2012 Installation in 'EUDET Module'
Structure (SiW Ecal)

2012 Beam test in multi layer
Structure with SiW Modules

GEM plans

Phase II (late 2011 – early 2013): 33cm x 100cm unit chamber development and characterization

Begin construction of 2 unit 100cmx33cm chambers, one with kPiX and one with DCAL

Bench test with sources and cosmic rays and beam tests

Construction of 100cmx100cm plane

→ Unlikely to have beam test before FNAL 2012 shutdown

CERN is an option?

Phase III (Early 2013 – mid 2014): 100cmx100cm plane construction

Construct 6 unit chambers with DCAL for two 100cmx100cm planes

Characterize 100cmx100cm planes with cosmic rays and beams

→ In time for reopening of FNAL beam lines

Technological prototype of AHCAL

First tests of second generation AHCAL layers

We expect about 2 layers

Would try to reproduce T3B data as proof of principle: run with tungsten

Few days towards the end of 2012 run can be done at PS or SPS

DESY Testbeam as default facility

Integration into tungsten stack (see later)

SDHCAL Micromegas

- Continuing program with a small number of layers

 - New layers will be examined

 - Tests of power pulsing, spark protection

 - 1 week standalone in 2012

- Integration into SDHCAL stack

 - Two or more layers into SDHCAL stack

GRPC SDHCAL

- Continuation of 1m3 program which have started in 2011
SDHCAL is essential part of e.g. ILD DBD !!!

- Request to apply for 2x4 weeks at SPS in 2012
It is however essential that one period is scheduled at the
very beginning of 2012

W-Hcal program

Importance to have data with scintillator and gas

→ Scintillator sample fairly complete, convince whether more data needed

- CALICE has one stack and two sets of RPCs

TB identified that in 2012 we should concentrate on running with the DHCAL RPC

A run plan could look like

- Spring setup at PS T7

- One week in PS T9

- Take 2x two weeks at SPS

- Runs in combination with a SiW Ecal would be desirable but is 2nd priority

Looks unlikely/impossible that this can be realised

Manpower limited and persons are working on technological prototype

Summary of plans/requests for 2012

CERN SPS:

2x4 weeks for SDHCAL running at SPS (one in very early 2012)

2x2 weeks of tungstene program with DHCAL RPC

Optional 1 week to complete the scintillator program with tungsten

1 week for Micromegas running

Comment : Should strive for parallel running in H6 and H8 line

Keyword wobbling => Could optimise beam energies by ourselves

1 week SiW Ecal tech. prototype in magnetic field

(Should happen in first half of 2012)

=> Total (up to) 14 weeks at SPS in 2012

CERN PS :

2 week at PS T9 for commissioning of W-stack with RPCs

+ setup time ain T7 beam line

CERN requests 2012 : Organisation of beam test workshop

Proposal by Ilias of CERN

No news since but TB is favorable of such workshop

→ Relaunched Ilias and will try to push for it

May avoid bad surprises as in 2011

DESY :

Alltogether about 4-6 weeks with Ecals and AHCAL techno. prototypes

Movable stage and TCMT



Stage at FNAL since spring 2008

- Will be brought back to Europe
During winter 2011/12
- Needs repair work and maintenance

Requests from W-Program and SDHCAL

TCMT :

CALICE disposes two TCMTs, one at FNAL and one at CERN

Need both TCMTs at CERN in 2012

→ Organisation of transport needed

Summary

- 2012 very rich program at all fronts

Need to find good balance between interests, duties and timescales

Major objectif 2012 : ILC Detector DBD

Needs emphasis on technological development and understanding of technologies

- CERN 2012

Organisation of beam test workshop to get overview on request from other

- 2013 looks still a bit unclear

Plans for Ecals, AHCAL tech. prototype and GEMs

No realistic scenario for major, i.e. combined, beam test

Could anyway only take place at FNAL