

# Report from the Technical Board



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## Role of Technical Board

- Important executive body of CALICE
- Keeping track of activities
- Forum of experts of different detector technologies
- Foster collaboration between different projects
- Identification of needs for co-ordination and resources
- Technical preparation of strategic decisions to be taken by CALICE steering board
- TB can (and maybe should?) be the main communication channel between CALICE and testbeam sites  
At least when preparing major beam test  
At least it has to ensure that this communication happens

# Since Cambridge ....

## Once again busy months ...

- Large scale beam tests (i.e. 1m<sup>3</sup> prototypes)
  - WDHCAL @ CERN with one layer of AHCAL
  - SDHCAL prototype (including Micromegas as main user)
- Smaller scale beam tests
  - SiW Ecal @ DESY
- Planning of 2013 (DESY, FNAL)
  - DESY: Ecal, AHCAL, Micromegas
- CALICE Document for DBD
- The DBD itself ...

# CALICE Document for DBD

## Calorimetry for Lepton Collider Experiments – CALICE results and activities\*

The CALICE Collaboration

### Abstract

The CALICE collaboration conducts calorimeter R&D for highly granular calorimeters, mainly for their application in detectors for a future lepton collider at the TeV scale. The activities ranges from generic R&D with small devices up to extensive beam tests with prototypes comprising up to several 100000 calorimeter cells. CALICE has validated the performance of particle flow algorithms with test beam data and delivers the proof of principle that highly granular calorimeters can be built, operated and understood. The successes achieved in the past years allows the step from prototypes to calorimeter systems for particle physics detectors to be addressed.

- [arXiv:1212.5127](#)

Submission of first version 20/12/13

Final version 12/3/13

Intermediate versions for IDAG and ECFA committee

- [Summarises 10 years of work within CALICE](#)

Source of references for our work!

70 references on CALICE results (hardware, analysis s/w)

- [First summary of our legacy](#)

## Brief review on program since 2009

Project	2010/1	2010/2	2011/1	2011/2	2012/1	2012/2	
Phys. Prot. Si-W ECAL/DCHAL/TCMT	xx	xx	xx	-	-	-	Accomp.
Phys. Prot. W-ECAL / W HCAL / TCMT		x	x	xx	xx	-	Accomp.
Tech. Prot. DHCAL	x	x	xx	xx	xx	xx	On going
Tech. Prot. AHCAL	x	x	x	x	xx	xx	On going
Tech. Prot. Si-W ECAL	-	x	x	xx	xx	xx	On hold
Phys. Prot. DECAL	x	x	x	x	x	x	On going
Tech. Prot. Sc-W ECAL	-	-	-	-	-	x	

### - Beam time beam since end of 2009

Several months at FNAL, CERN and DESY

### - Program with 1<sup>st</sup> generation of prototypes accomplished in 2012

Dense program lead also to controversial discussions within TB

### - T3B got integrated into R&D program

### - Planning in 2009 too optimistic what concerns 2<sup>nd</sup> generation prototypes

Although runs with 1m3 GRPC-SDHCAL and a DHCAL, which is not too far  
Reflects the severe cuts in funding in these years!!!

## Towards the future

- Test beam planning (nearly) finished for 2013 → DESY Plan
  - SiECAI and AHCAL beam tests already in Jan./Feb. 2013
  - DESY quite busy in 2013 and 2014
  - Long shutdown in autumn 2013
- Currently there are no plans for FNAL in 2013 (At least not to my knowledge)
  - If there are plans please speak up now
  - FNAL 2014?
- Big construction site 2013: Harmonisation of DAQ2
  - Discussion in TB and in DAQ session on how to proceed
- Revision of our software
  - ... and in need of new software coordinator in summer
- Need to prepare re-opening of CERN in 2014
  - Combined calorimeter beam tests, tests with other detectors
- Do we need another beam test workshop at the end of 2013 beginning of 2014?  
Arguments:  
CALICE proper: Some CALICE prototypes will grow  
Need the high energy tests (hadron and electrons)  
Political landscape: May need concrete ideas on road towards ILC detectors

18-Mar-13	12	CMS Pix-irrad	---	APIX PPS	---	---	DESY TPC	---
25-Mar-13	13	CMS Pix-KA	---	APIX PPS	---	---	LCTPC Time	---
1-Apr-13	14	CMS Pix-ro	---	APIX IBL	---	---	LCTPC Time	---
8-Apr-13	15	X0	---	APIX DBM	---	LorAngle	---	---
15-Apr-13	16	ITER	---	ILCPOL	---	---	---	---
22-Apr-13	17			ILCPOL	---	SBS GEM	---	---
29-Apr-13	18			---	RD50	SBS GEM	---	---
6-May-13	19	DEPFET	---	---	RD50	LorAngle	---	---
13-May-13	20	FE-I4	---			---	GridPix	---
20-May-13	21	CMS Pix-ro	---	---	CALICE AHCAL	---	---	Belle 2 PID
27-May-13	22	X0	---	---	CALICE AHCAL	---	---	---
3-Jun-13	23	CLICpix	---	---	CALICE AHCAL	---	---	GSI DIRC
10-Jun-13	24	CLICpix	---	MuPix 3	---	---	---	GSI DIRC
17-Jun-13	25	ALICE ITS	---	APIX 3D	---	---	---	AIDA
24-Jun-13	26	CMS Trk II	---	PIA-SiGe	---	---	---	AIDA
1-Jul-13	27	---	SIW ECAL	---	CAL MMG	---	LCTPC Time	---
8-Jul-13	28	---	SC ECAL	---	CAL MMG	---	LCTPC Time	---
15-Jul-13	29	APD	---	APIX 3D	---	---	DESY TPC	---
22-Jul-13	30	CMS TRK II	---	ALICE ITS	---	---	DESY TPC	---
29-Jul-13	31	ATLAS Lucid	---	ALICE ITS	---			
5-Aug-13	32	LHCb VELO	---	APIX IBL	---	LorAngle	---	---
12-Aug-13	33	LHCb VELO	---	APIX PPS	---	---	---	PLUME
19-Aug-13	34	CLICpix	---	APIX PPS	---	---	---	PICSEL
26-Aug-13	35	CLICpix	---	---	SC ECAL	---	---	PICSEL
SHUTDOWN 36-52								
6-Jan-14	2	FCAL	---	---	CALICE AHCAL	Belle II VXD	---	---
13-Jan-13	3	FCAL	---	---	CALICE AHCAL	Belle II VXD	---	---
20-Jan-13	4	SBS GEM	---	APIX 3D		Belle II VXD	---	---
27-Jan-13	5	SBS GEM	---	DIPIX		Belle II VXD	---	---
3-Feb-14	6	LHCb VELO	---			LorAngle	---	---
10-Feb-13	7	LHCb VELO	---			---	---	SiPM
	8							
	9							
	10							

## Towards the future = Towards a projects?

- We are entering the Post DBD phase
- Charge of New LC Board is to prepare a 'real' LC project
- R&D will/may become tailored towards needs of LC detectors
  - => Less generic
  - => Groups may join, which won't become member of CALICE
- CALICE and in particular CALICE TB cannot/should not interfere with technical decisions of concept groups but
  - ... can identify whether CALICE can help to enact the decisions
  - ... offer expertise to enact decisions
  - ... has to make sure that CALICE legacy is preserved
  - ... CALICE TB can be the 'voice' of experts in case technical advice is needed

A close communication with concept groups is needed to identify what We can do and what we cannot (should not) do



## Summary and outlook

- 2013 is maybe a transition year for CALICE and therefore for CALICE TB
  - No large scale test beams and 2013 planning more or less settled
  - .. and most important R&D on many fields
- TB will of course continue to monitor ongoing projects and try identify Synergies, shortcomings and organise collaboration where possible and wanted
- Opportunity to streamline items which may have suffered from hectic 2011 and 2012
  - DAQ → To make next step towards large calorimeter systems
    - To allow for common tests with other systems (if desired)
  - Software: → To allow for an easy start of data analysis
    - To preserve CALICE legacy
    - (Should we invest in data preservation project?)
- The tasks of the TB depends a lot on the plans formulated by the sub-projects (Friday) and also on the political landscape

Where can the TB as a group of experts can be helpful for projects?

## CALICE TB Members and functions as of today

Vincent Boudry	DAQ2
Maximilien Chefdeville	Mmegas
Paul Dauncey	DAQ1 and DECAL
Wolfgang Klempt	Tungsten program
Katsushige Kotera	ScEcal
Katja Krueger	AHCAL
Imad Laktineh	GRPC-SDHCAL
Shaojun Lu	Software Coordinator
Roman Poeschl	TB Chair and temporary SiECAL (7/2012 - 2/2013)
Jose Repond	DHCAL and CALICE Spokesperson
Felix Sefkow	CALICE Spokesperson until 12/2012 to be reviewed
Nathalie Seguin-Moreau	Front End Electronics
Frank Simon	T3B
David Ward	Analysis
Jaehoon Yu	GEMs
Vishnu Zutshi	TCMT

- Vacant SiECAL seat to be filled at this collaboration meeting
  - AHCAL representation to be reviewed
  - Mails are (still) received by Jean-Claude Brient, Christophe de la Taille and Nige Watson (Mailing list manager)
- CALICE Collaboration Meeting March 2013