



SiW Ecal – Mid-2009 status and perspectives



Roman Pöschl
LAL Orsay

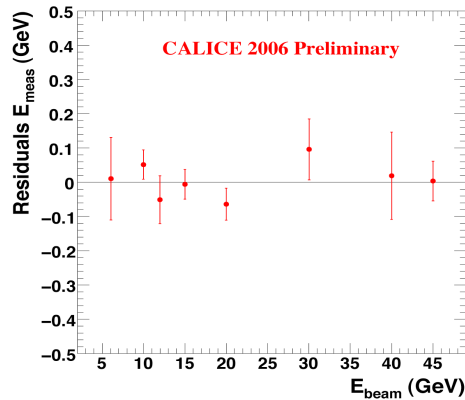
- Publications
- EUDET Prototype
- Perspectives for 2009 and beyond

CALICE SiW Ecal Meeting UCL London/UK June 2009

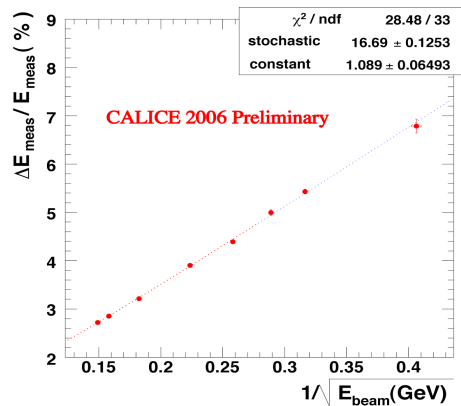
Analysis and Publications

Response of the CALICE Si-W Electromagnetic Calorimeter
Physics Prototype to Electrons

Editor in Chief: C. Carloganu, LPC



- Linearity $O(1\%)$



$$\frac{\Delta E_{meas.}}{E_{meas.}} = \left[\frac{16.7 \pm 0.1}{\sqrt{E [\text{GeV}]}} + (1.1 \pm 0.1) \right] \%$$

Compromised
by acceptance
effects

- “Response” paper submitted to NIM
Referee comments not trivial
- Fate of Shower Profile Paper?
-> Talk by David
- Irradiation Paper
Finalize “Conference” Paper after
FNAL Review Meeting
MC?
- Position/Angular Resolution Paper
Analysis resumed by
Michele/Kaloyan/Manqi
Hopefully fast progress
- 2007 Data
Intensive analysis efforts started
Digitisation taken over by
Kaloyan
- 2008 Data
Philippe Doublet's talk

EUDET Module – Next Calice Prototype

Oct. 2008

Spring 2009

~Today

1/7/09

Summer/Autmun 2009

2010

← Studies on mechanical Integration and DAQ →

Tests avec ASU1

Tests avec ASU2

Design
of Prototype
concluded

Assembly and studies
with
Demonstrateur

'ASU 1':
SPIROC2/SKIROC
with
FEV7

EUDET:
Deadline,
Alveolar
Structures
and ASU 1

ASU2:
SPIROC
with
FEV8

EUDET-Memo-2008-07



ECAL Si/W – Design and Fabrication of moulds
for the EUDET Module

M.Anduze, R. Poeschl
July 01, 2008

Covering aspects of the alveolar
structures

TDR of SiW EUDET Module



EUDET Memo 2008-11

JRA3 Electromagnetic Calorimeter
Technical Design Report

M. Anduze¹, D. Bailey², R. Cornat¹, P. Cornebise³, A. Falou³, J. Fleury³,
J. Giraud⁵, M. Goodrick⁴, D. Grondin⁵, B. Hommels⁴, R. Poeschl³, R. Thompson²

Detailed Technical Design of EUDET Module
Now also EUDET-Report-2009-01

1st half of 2009 – Construction of Mechanics Demonstrator

The crew (mainly) working on the Ecal EUDET Module



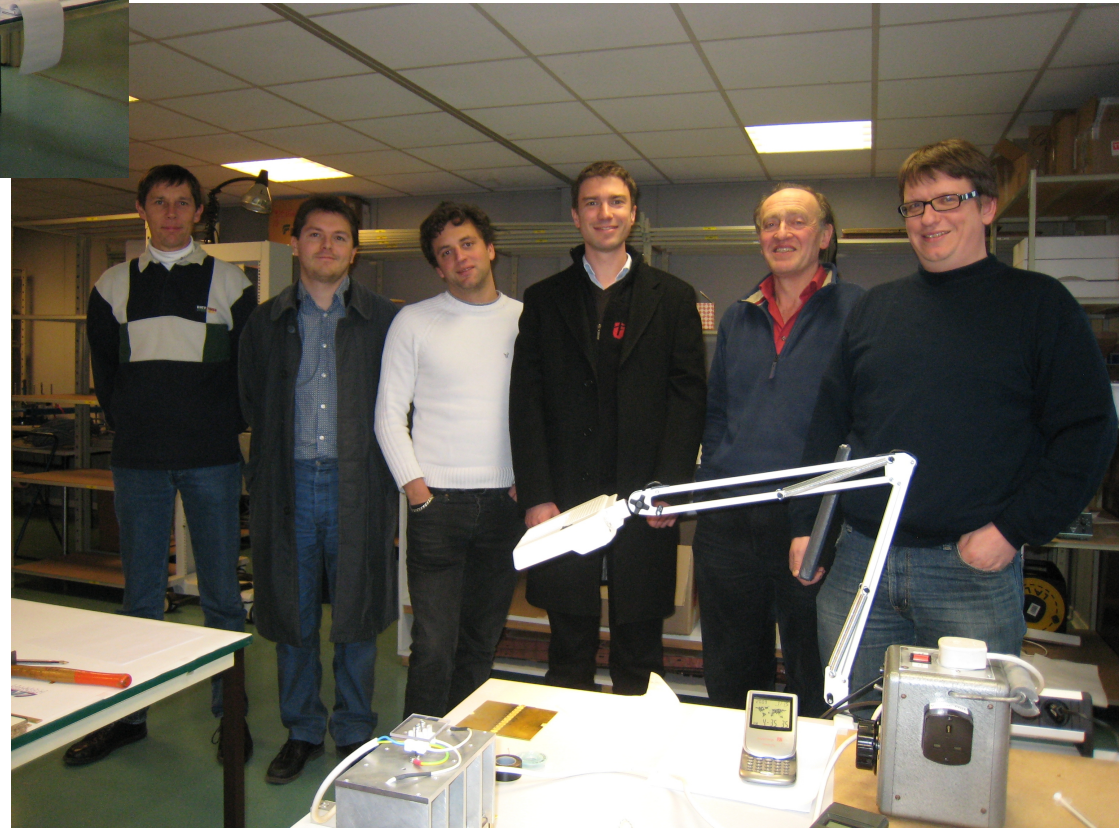
Missing: D. Bailey, R. Thompson
J. Bonis

Photo shot during interconnection
tests/studies at LAL Orsay
12/1/09 - 16/1/09

Since ~April 2009
(Better) Synchronisation
of mechanics and electronics

More details this afternoon

CALICE SiW Ecal Meeting June 2009

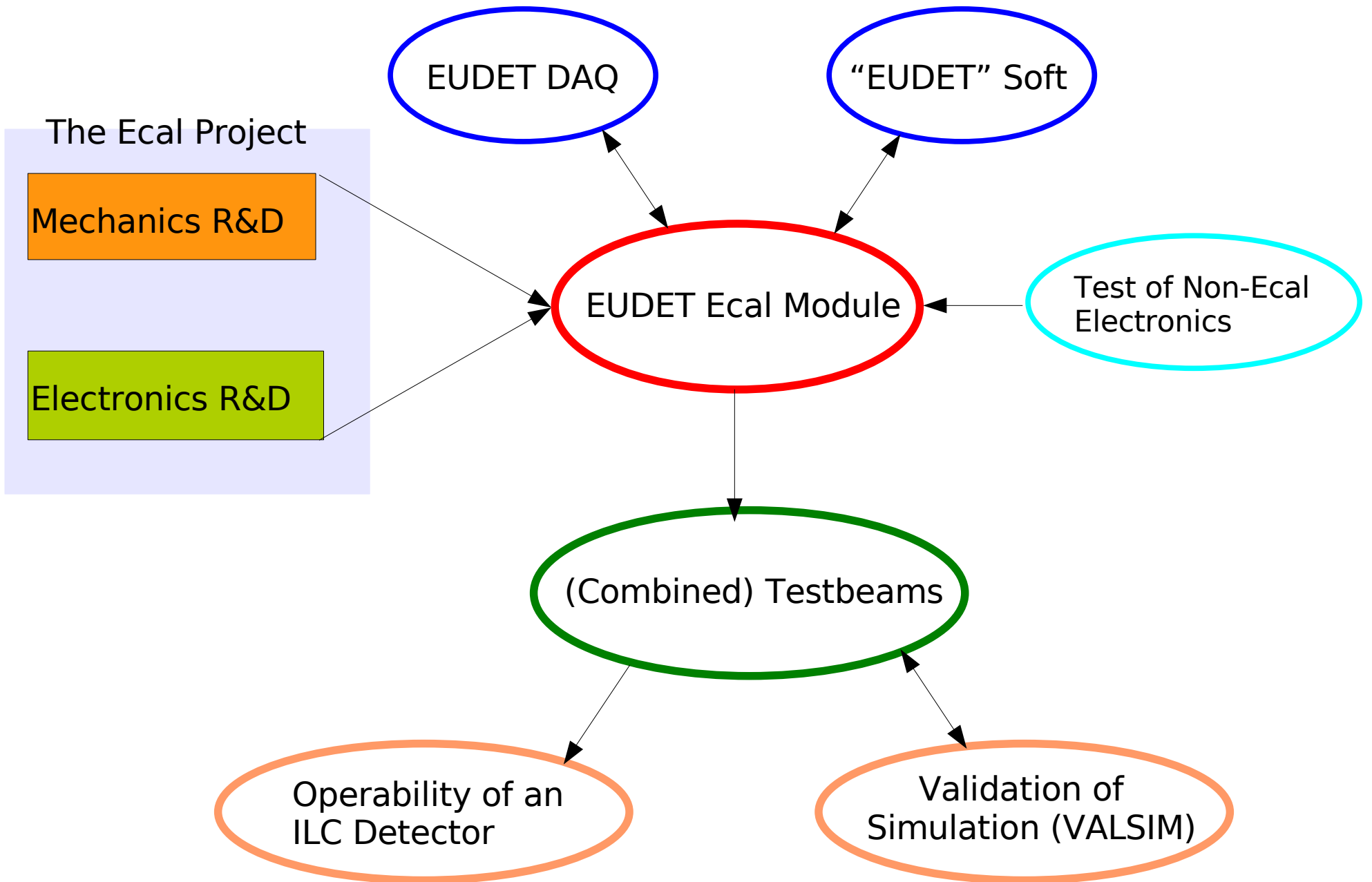


EUDET Transnational Access

- Missions between colleagues from different countries should be organised as “Transnational Access”
 - Funding by EUDET, Necessary in view of EUDET contract
 - Even more important for institutes which are not member of EUDET consortium
- Need to be preceded by a short proposal on mission
Very likely to be approved by EUDET SC

Please plan international SiW Ecal missions through
Christophe de la Taille and R.P.

EUDET Module and Transnational Access - > June 2009



The EUDET Deadline and beyond

- **Deadline for EUDET deliverables 30/6/09**

Ecal Calorimeter is deliverable – We clearly fail (for good reasons) to meet this goal

- **Mechanical aspects will be covered by demonstrator**

With insertion of thermal layer into alveolar structure we will have proven that we can build large structures

First alveolar layer for EUDET Module under construction

- **Working on a setup with somewhat simplified electronics**

(Packaged) SPIROC Chip in SKIROC mode on a FEV7 variant

Results until end of July

FEV7 for Chips on board for September

Once validated work towards SKIROC2 and FEV8

Progress on electronics determines rhythm of EUDET Module construction

See also talk by S. Callier (R. Cornat)

Priorities for 2009

Top Priorities:

- 2009 should remain the analysis year!!!
 - Finalising of shower shape analysis
 - Analyses of 2007 – Scope/Aim of analyses?
 - Hadrons in the Ecal – Exploration of high granularity
 - Tighten the interplay with full detector studies
- Towards Construction of EUDET Module
 - Development of Front End Electronics and interface to Calo DAQ2
 - Highest Priority due to considerable delay (Manpower strengthened)**
 - Needs to be accompanied by software/analysis effort by late summer '09
 - Mechanics development to be pursued – We are in a good shape there
 - Construction until end of 2010 – Progress might be compromised by tight budgets

Very important:

- Prepare Testbeam at FNAL with US-DHCAL towards middle of 2010 !?
 - Completion of first round of CALICE Program
 - Please reserve some resources in your travel budget!
 - Repair of Physics Prototype ongoing, not time critical
 - Efforts depend on speed of US-DHCAL
- Preparation of next round of test beams
 - Definition of Programs
 - Preparing the requests of beam times
 - (I)LC Testbeam meeting – First week of november 09

Priorities for 2009

To be put more in the Focus:

- “Off” mainline activities: Alternatives in VFE
- Work on SiW Ecal detector endcaps

Latest by SiW Ecal December Meeting

- Conclusions from LOI (after IDAG validation)
- For the time being pursue EUDET Module construction as planned

SiW Ecal Coordination will be shared between R.P. And Daniel Jeans with more and more tasks delegated to Daniel