

Introduction and Overview



Felix Sefkow



CALICE collaboration meeting
Shinshu University, Matsumoto, March 5-7, 2012

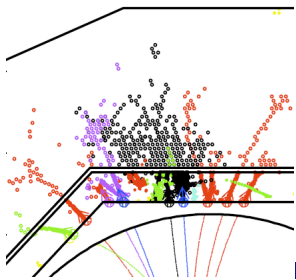


歓迎 Welcome to Matsumoto 松本市
CALICE Collaboration Meeting

CALICE国際共同研究会議
Shinshu University Matsumoto Campus March 5 th-7th, 2012

■期日 平成24年3月5日(月)~3月7日(水) ■会場 信州大学
松本市/松本商工会議所/松本観光コンベンション協会/JR松本駅



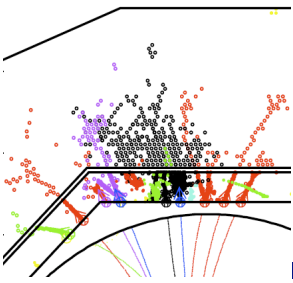


Thank you!

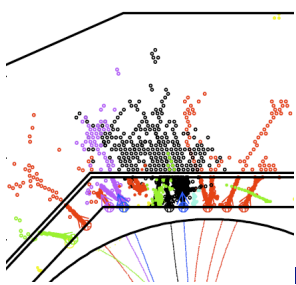


- A most cordial “Arigato kosei mas” to the Shinshu group for hosting us in Matsumoto
- Compliments to Tohru and Katsu for preparing it with so much efficiency - and hospitality!
- Chapeau for the opening dinner!
- Thank you to session convenors for arranging a rich agenda in a condensed schedule
- Thank You all for coming!

Outline



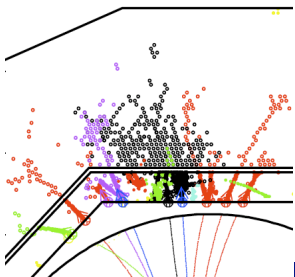
- Status of things
- Towards the DBD
- Future



Since Heidelberg



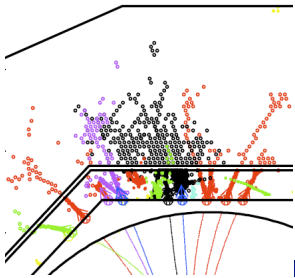
- W-AHCAL finished, AHCAL mothballed
- DHCAL preparing move from FNAL to CERN
- SDHCAL running with cosmics
- Not many conferences
 - Good show at IEEE
- Intense work on electronics and DAQ
- Nice analysis progress



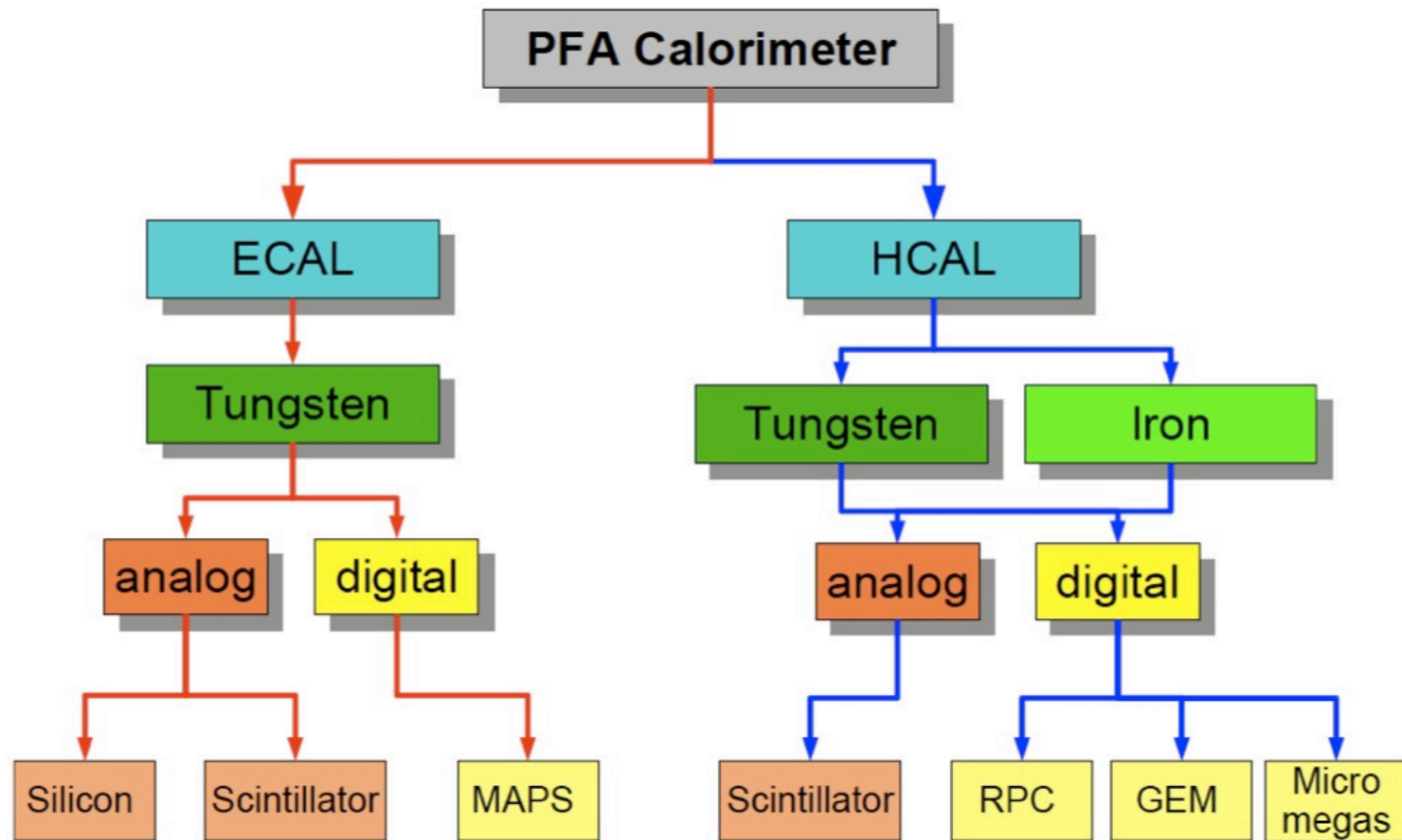
New member institute

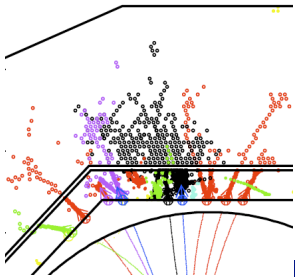
- LPNHE, Universities Paris 6 & 7, Jussieu
- team leader Didier Lacour
- contribute to Si W ECAL (sensors)
- Welcome!





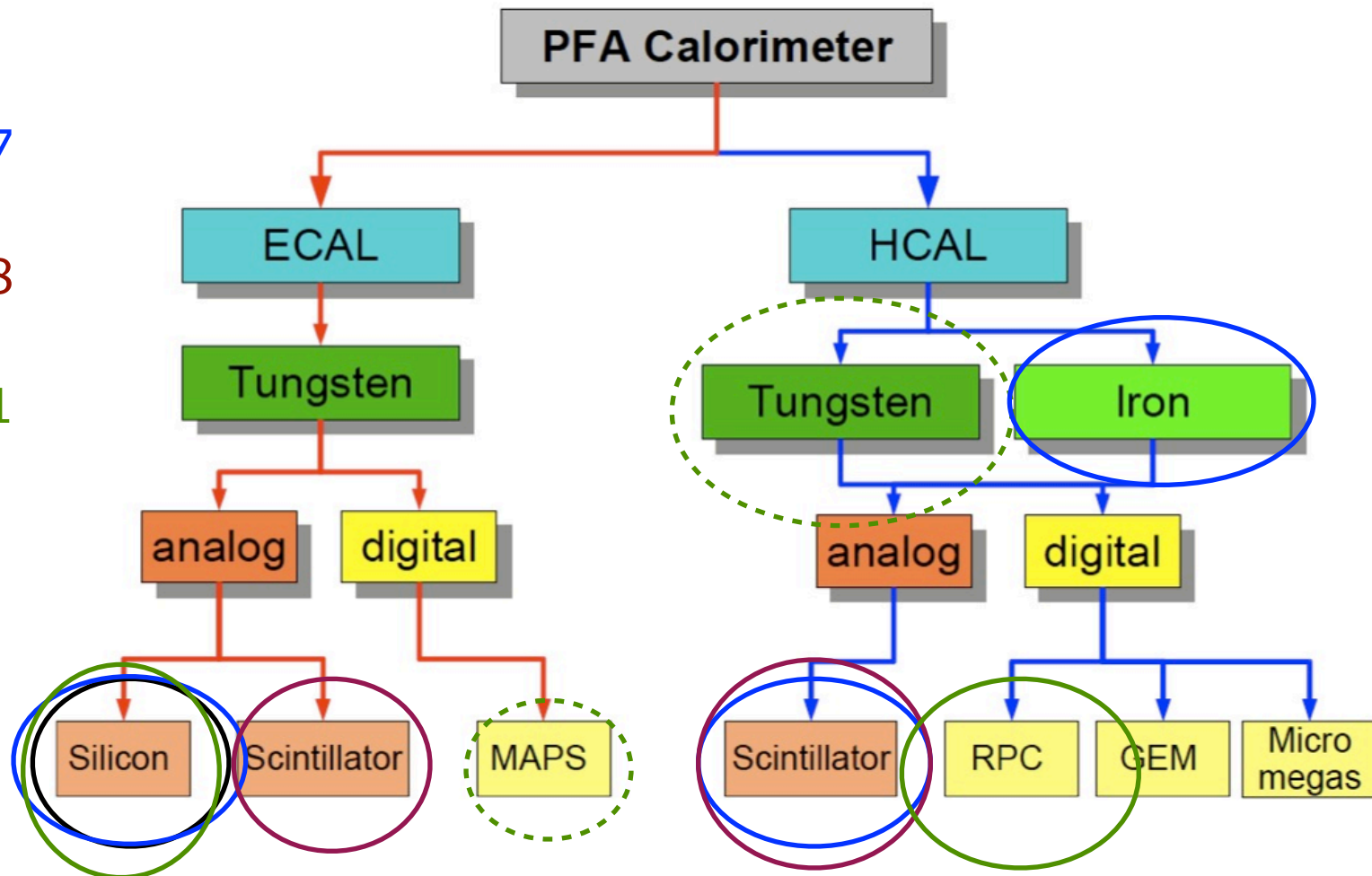
Test beams up to 2012

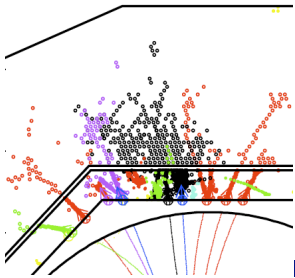




Test beams up to 2012

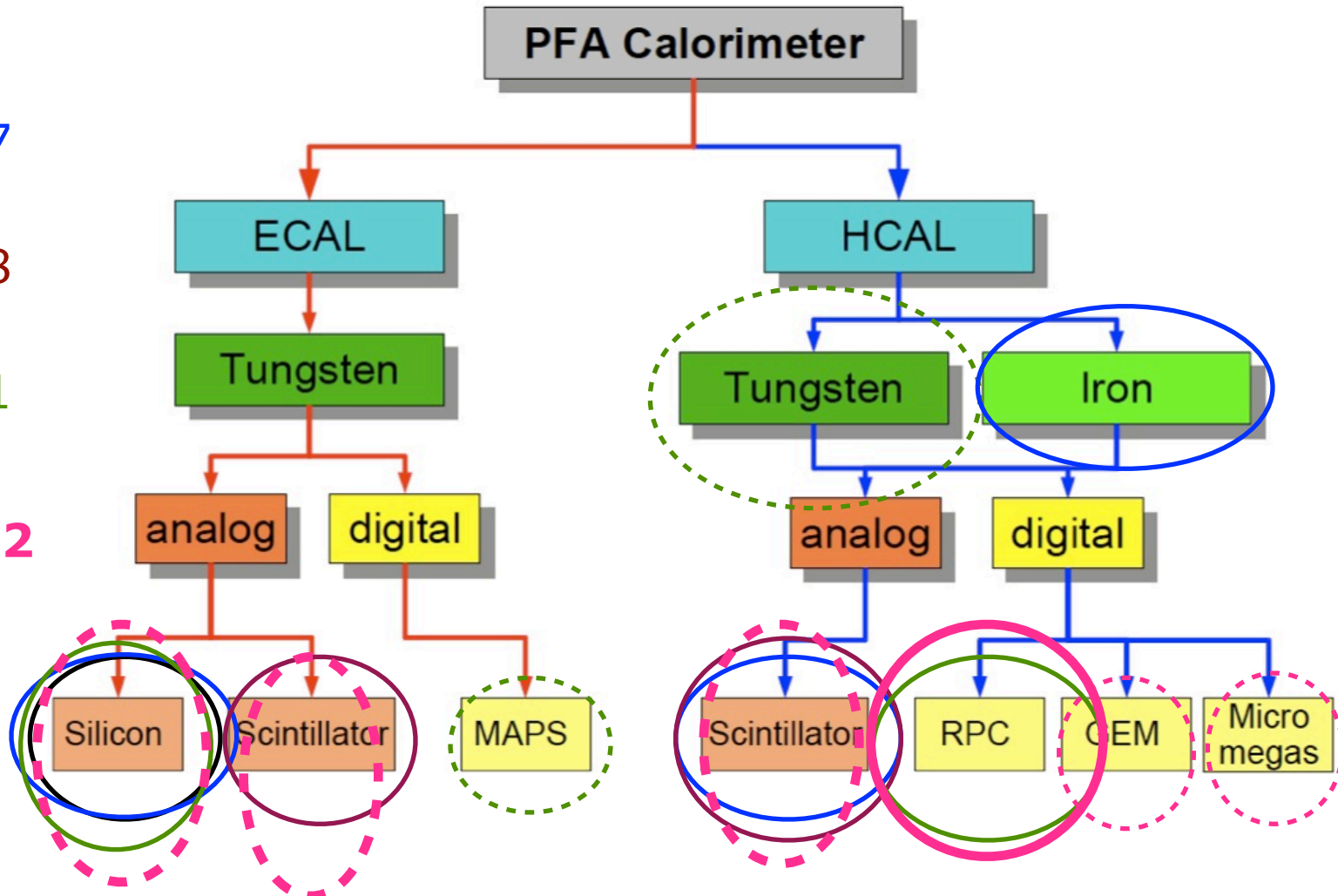
- 2005
- 2006-07
- 2007-08
- 2010-11

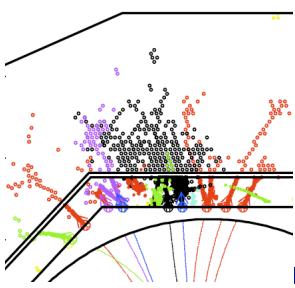




Test beams up to 2012

- 2005
- 2006-07
- 2007-08
- 2010-11
- **2011-12**





Test beams in the next years

- 2012 milestone year for CALICE test beams
- With Fe SDHCAL and W DHCAL the physics prototype phase will be completed
 - according to preliminary schedule each will run at PS and SPS
- First tests with technological demonstrators
 - DAQ remains a worry, see Roman's talk
- CERN long shutdown 2013, restart 2014 (before LHC)
- FNAL shutdown June 2012 - mid 2013
- DESY running in 2013, expect more intense demand
- 2013 a year for detector construction and analysis



Status of papers

- ❖ Since last Collaboration meeting:
 - ❖ **Construction and performance of a silicon photomultiplier/extruded scintillator tail-catcher and muon-tracker** Submitted to JINST e-Print: arXiv:1201.1653
 - ❖ G. Blazey et al; minor comments from referee received and responded to.
- ❖ EBs for papers set up:
 - ❖ Software compensation (Chadееva, Seidel, Simon); draft with referees
 - ❖ Track Segments in AHCAL (Weuste, Simon)
 - ❖ AHCAL shower shapes (Garutti, Feege, Marchesini) – probably two papers (CERN/FNAL)

Analysis notes

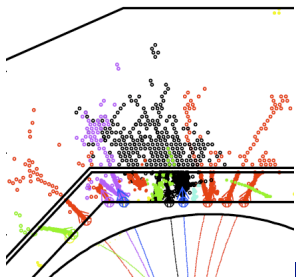
- ❖ *CAN016a* ScECAL FNAL update
 - ❖ Update for Granada
- ❖ *CAN025* Hadronic showers in the SiW ECAL
 - ❖ Finalised for Granada
- ❖ *CAN029* AHCAL Leakage studies.
 - ❖ Finalised for Granada
- ❖ *CAN035* Software compensation combined paper
 - ❖ CAN for Granada – now in review as paper
- ❖ *CAN036* WHcal results
 - ❖ Still pending

Conversion of CANs to papers?

- ❖ The following are still pending:
 - ❖ CAN012 (SCEcal small DESY test) – working on publication (S.Uozumi).
 - ❖ CAN016 (SCEcal FNAL test) working towards publication (Tohru, Katsu et al.).
 - ❖ CAN017 (ECAL position/angle resolution) – probably needs more work, but author no longer in CALICE.
 - ❖ CAN023 (Hough transform) worth publishing (Fehr).
 - ❖ CAN030-032 (DHCAL) analysis still ongoing (Repond et al)
 - ❖ CAN033 (T3B) likewise (Simon et al).

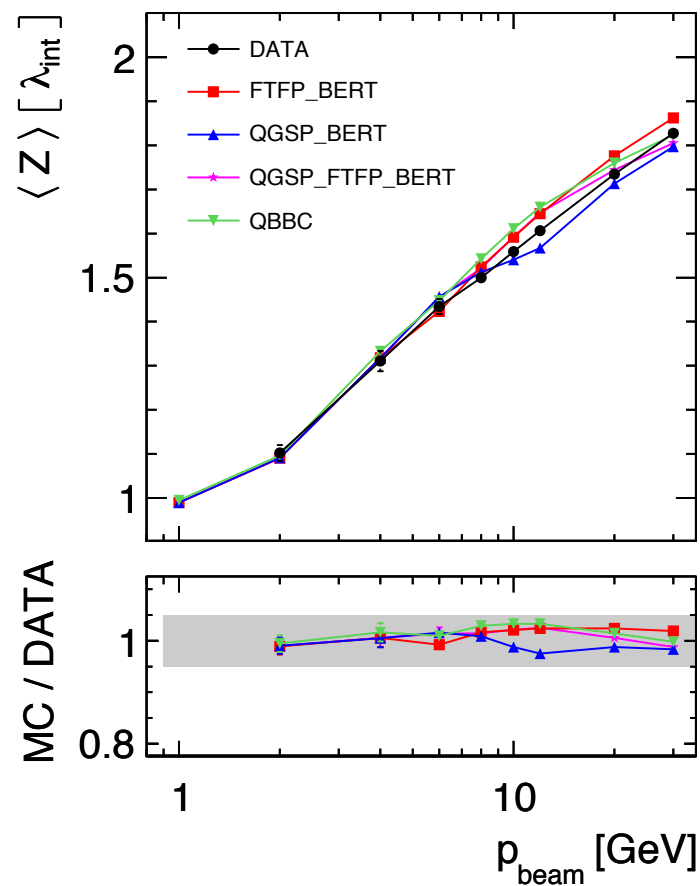
Conferences

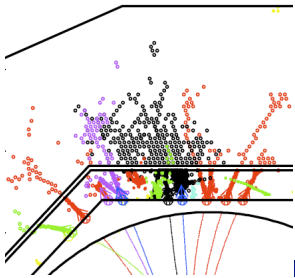
- ❖ Little new to report.
- ❖ Nothing since Granada (LCWS) and Valencia (IEEE)
- ❖ Next main round of conferences starts April-May 2012
 - ❖ KILC12 ACFA Physics / Detector Workshop (23-26 April 2012, Daegu, Korea)
 - ❖ SORMA West 2012 IEEE Symposium on Radiation Measurements and Applications (Oakland CA; May 14-17, 2012) *deadline for abstracts 31 January, 2012*
 - ❖ 12th Pisa Meeting on Advanced Detectors (May 20 - 26, 2012, Elba, Italy) *deadline for abstracts 29 February 2012*
 - ❖ CALOR 2012 15th International Conference on Calorimetry in High Energy Physics (Santa Fe, New Mexico, 4-8 June 2012)
 - ❖ ICHEP2012 36th International Conference on High Energy Physics (Melbourne, Australia 4-11 July 2012)
 - ❖ 2012 IEEE Nuclear Science Symposium (Disney Hotel, Anaheim, California, 29 October - 3 November 2012) *deadline for abstracts: 7 May 2012*



CALICE and Geant 4

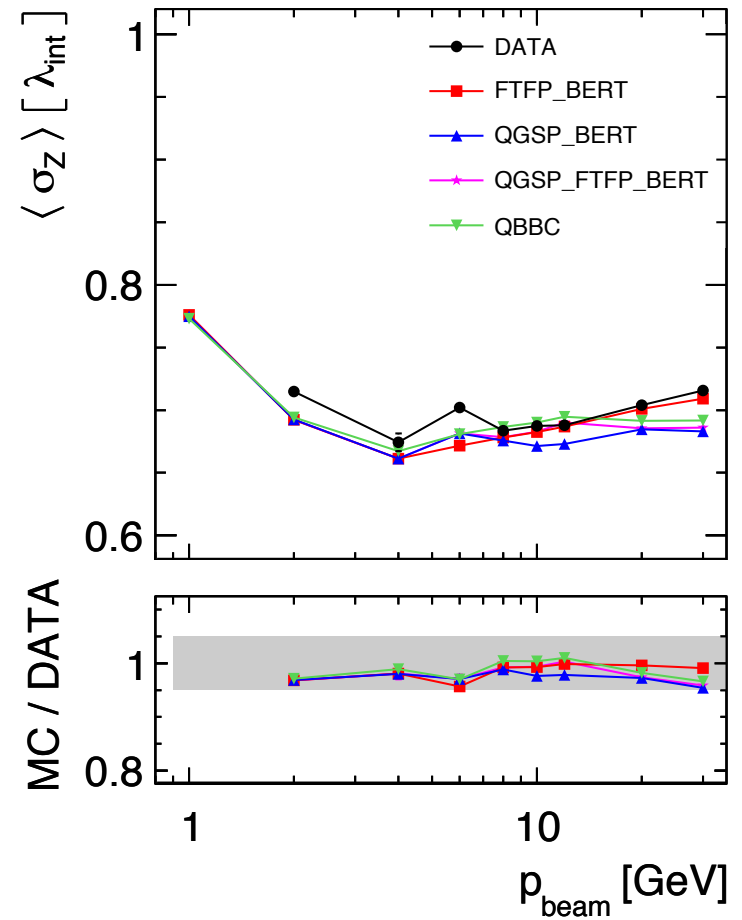
- closer collaboration as results get mature
- high energy data confirm LHC test beam findings
- low energy data provide long awaited validation
- tungsten mostly new territory
- correlate new observables with shower internal MC truth
 - charged multiplicity
 - neutrons, late component

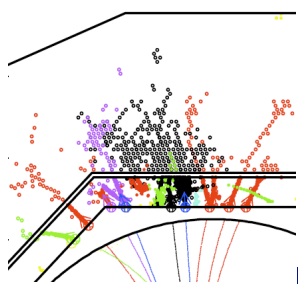




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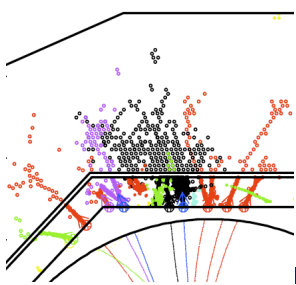
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Timeline to DBD

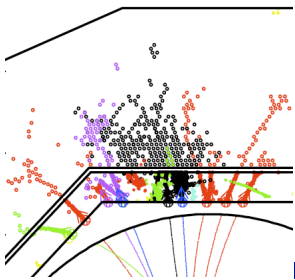
- This meeting: CALICE assessment of technology readiness as input to DBDs
- End of March: Research director requests outlines of DBDs
 - April: outlines presented to IDAG
- Summer: ILD and SiD workshops
 - ILD selects baseline options end May, SiD less formal
- mid September: update CALICE results at Cambridge
- End of September: DBD draft to RD
- **October: IDAG review of DBDs at LCWS12 in Arlington**
- December: final DBDs
- note: DBD will have common section on future R&D



Towards detector baseline docs

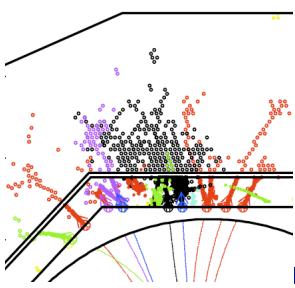
- CALICE criteria of technology readiness (from PRC report)
 - discussion session on Wednesday
- **Established performance:** energy resolution, linearity, uniformity, two particle separation
- **Validated simulation:** longitudinal and transverse shower profiles, response, linearity and resolution, for electrons and hadrons
- **Operational experience:** dead channels, noise, stability, monitoring and calibration
- **Scalable technology solutions:** power and heat reduction, low volume interfaces, data reduction, mechanical structures, dead spaces, services and supplies
- **Open R&D issues:** analysis and R&D to be completed before a first pre/production prototype can be built, cost reduction and industrialization issues
- largely concept independent, avoid interference with concept discussions on engineering integration and overall detector performance

but: ensure CALICE speaks with one voice on technology topics



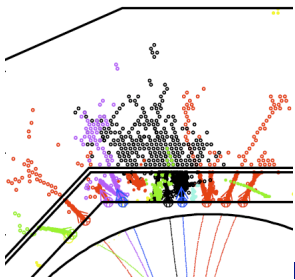
New R&D review scheme

- CALICE was formed in 2001 by proposing a common ECAL and HCAL R&D program to the DESY PRC
- Since then, regular PRC reviews continue to be essential for the coherence of our projects
- Review by independent body of high recognition and international composition the actual root of our high standing
- Many national funding requests benefitted from that, not only German, probably not only European
- Since several years initiatives to replace the mechanism, dated from TESLA times, by something else on a broader basis

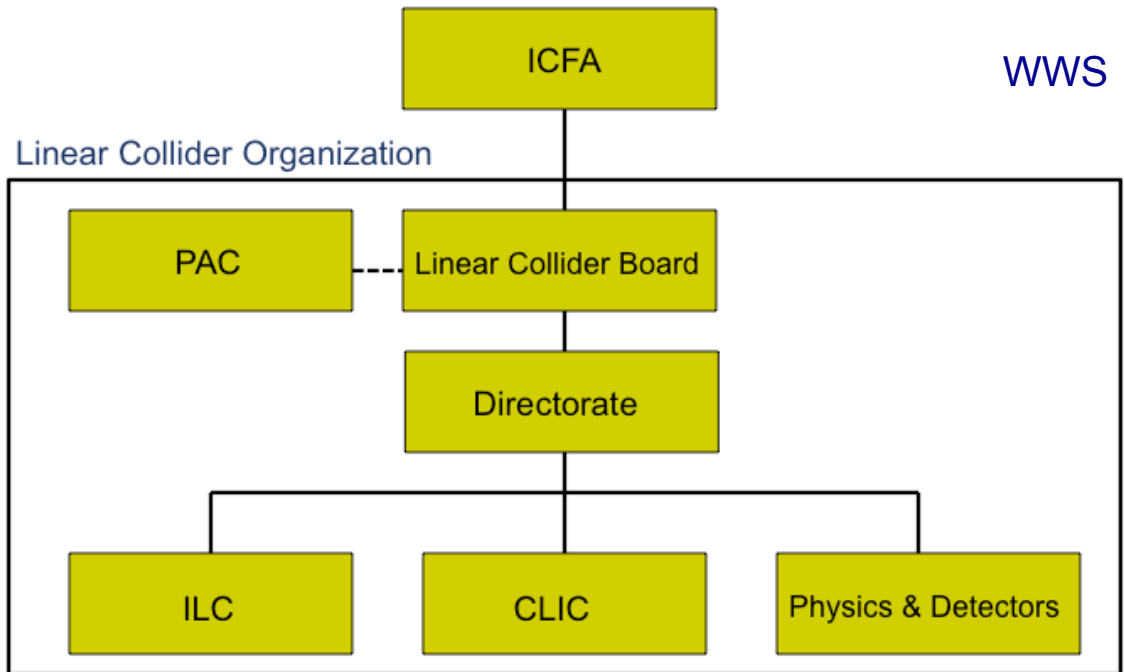


The new ECFA R&D panel

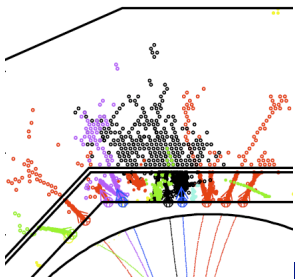
- After 2 years of discussion announced by RECFA, and approved by plenary ECFA, in November
 - see also current CERN courier issue
- Purpose: provide a review scheme for R&D projects not associated with a host lab (yet)
 - LC related R&D largest group of customers
- DESY PRC supports transition to this new panel
- Members: R. Brenner, M. Diemoz, D.Eckstein (scientific secretary), Y.Karyotakis (chair), E. Koffeman, G. Mikenberg, H.G. Moser, T. Sumiyoshi, C. Padilla, A. White
- First “kick-off” meeting May 2-3 at DESY
- CALICE has been invited, together with other LC R&D efforts, to present status, with or without review
 - PRC would be due this April



Future LC organization



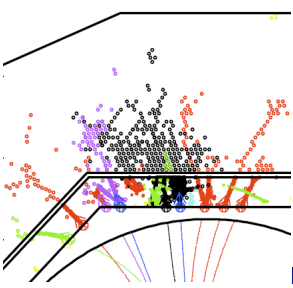
- CLIC and ILC physics and detector under one roof
- details under discussion
 - WWS, CLIC/ILC joint working group
 - future role of R&D collaborations



LC Calendar 2012

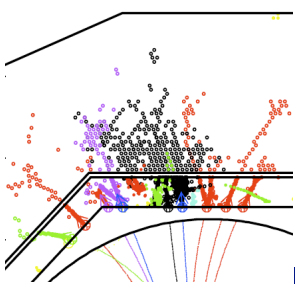
- AIDA, DESY, 28.-30.3.
- KILC12, Daegu, 23.-26.4.
- ECFA detector panel, DESY, 2.-3.5.
- ILD, Kyushu, 23.-25.5.
- SiD, tbd, summer
- European Strategy, Cracow, 10-13.9.
- CALICE, Cambridge, 3d 17.-20.9.
- LCWS12, Arlington, 22.-26.10,
- IEEE LC event, Anaheim, 29.-30.10.

Conclusion



- A milestone year for CALICE and the LC
- Completion of physics prototype tests
 - including all we have been aiming at
 - unprecedented shower physics opportunities
- Technology input to detector part of ILC TDR
- Define the next phase

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- Enjoy the meeting !

