

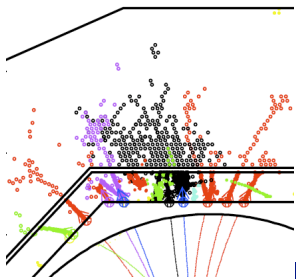
Introduction and Overview



Felix Sefkow



CALICE collaboration meeting
Heidelberg, September 14-16, 2011

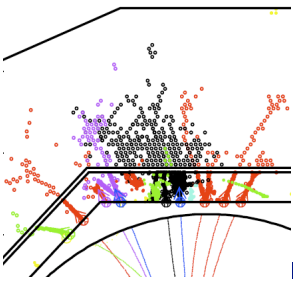


Thank you!



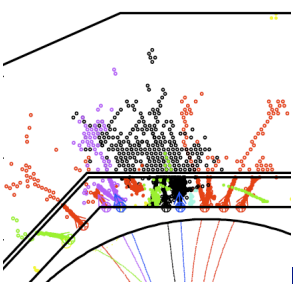
- We cordially thank the Heidelberg group and the Kirchhoff Institute for preparing and hosting a CALICE meeting
- Compliments to Hans-Christian, Patrick, Tobias, and especially to Frau Kleveta for perfect arrangements
- An applause for the warm welcome evening in the old town
- Thank you to session convenors for arranging a rich agenda so shortly after previous meetings and the holiday season
- Thank You for coming!

Outline

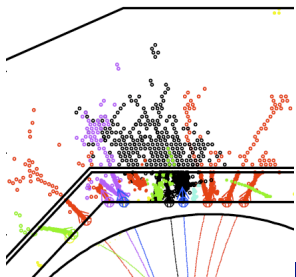


- What happened since CERN meeting
- Test beams
- Towards the DBD
- Publications

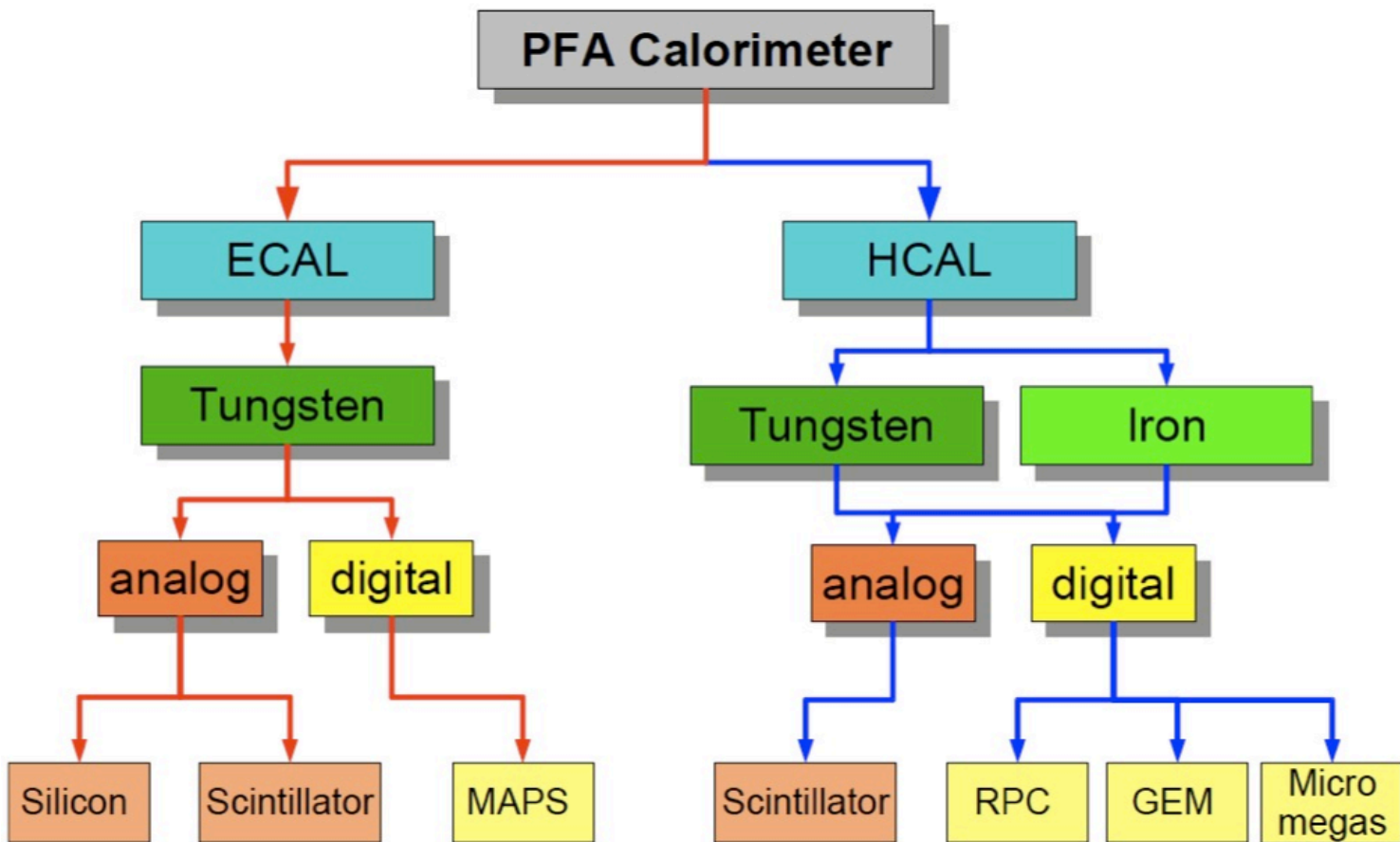
Since CERN

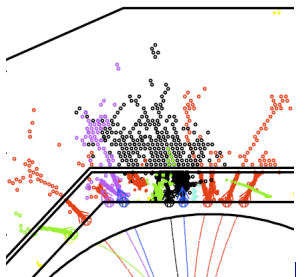


- W HCAL test-beam at SPS, with TCMT
- DHCAL test beam at FNAL
- SDHCAL commissioning and first full shower data
- ILD meeting at Orsay
- TIPP conference
- CLIC CDR release
- ILC Interim report
- JSPS kickoff meeting



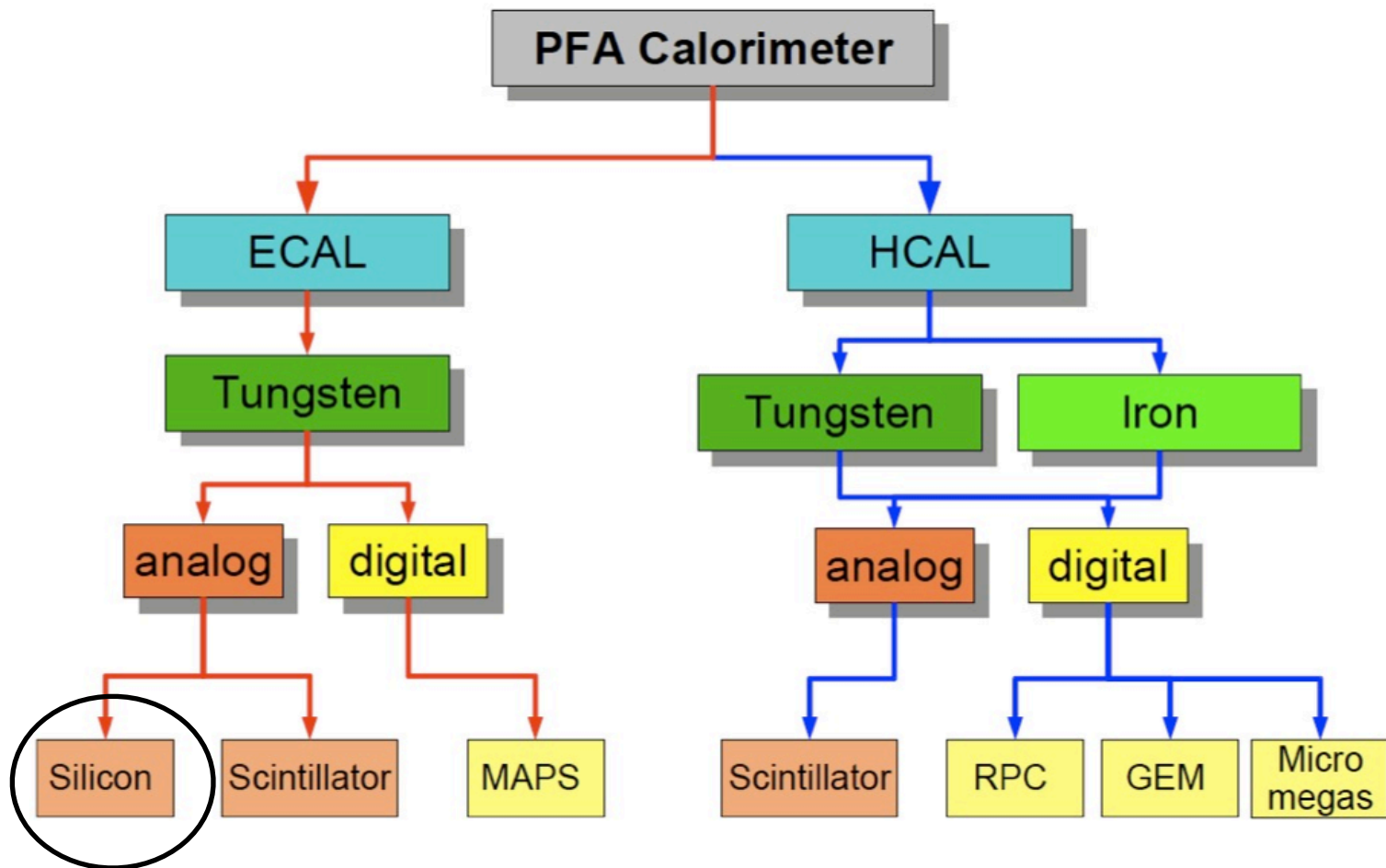
Test beam status

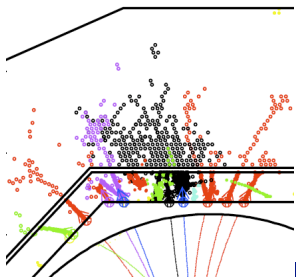




Test beam status

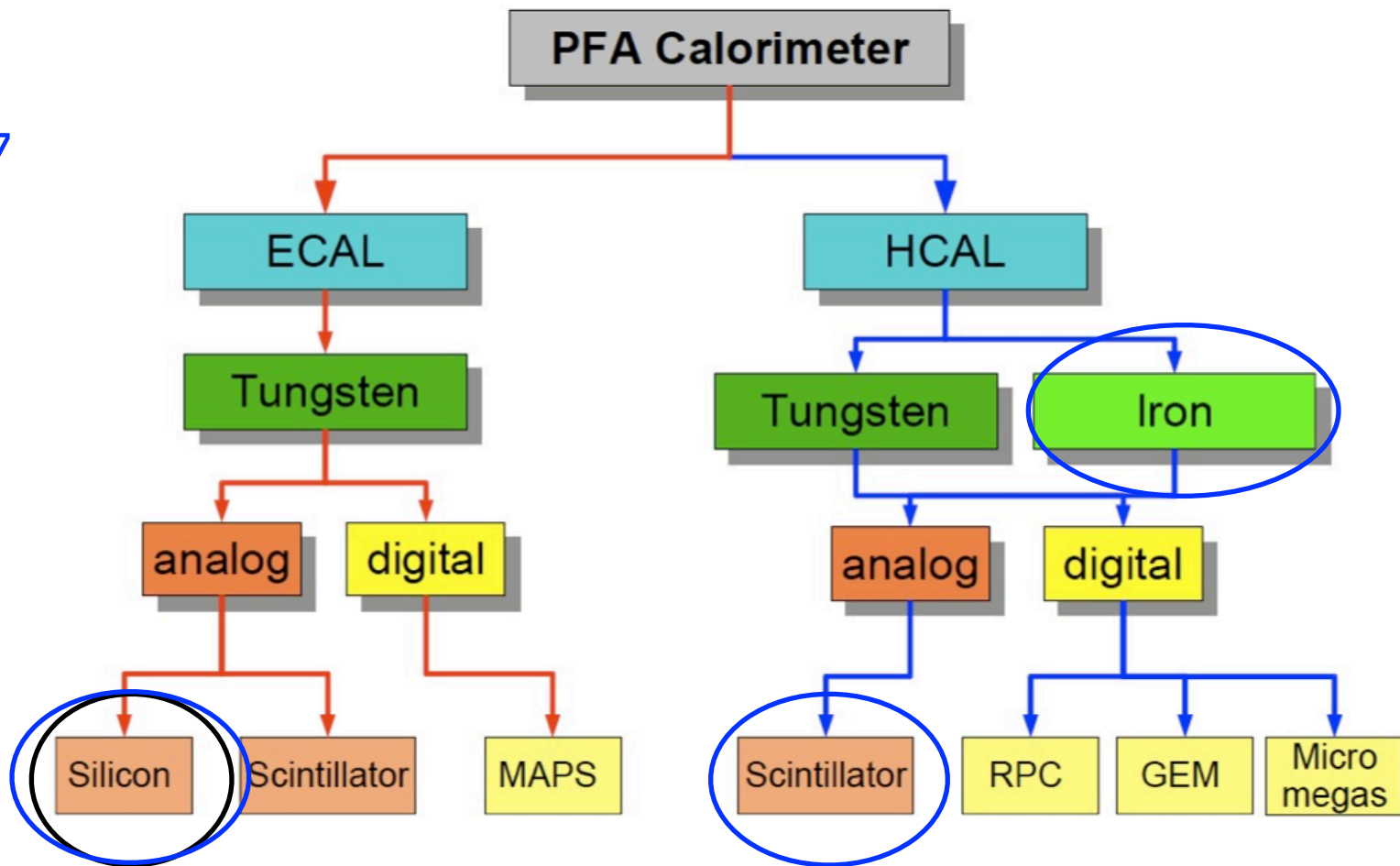
- 2005

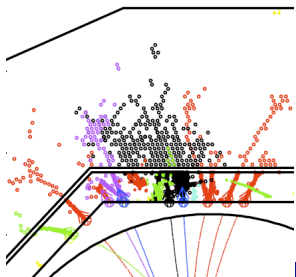




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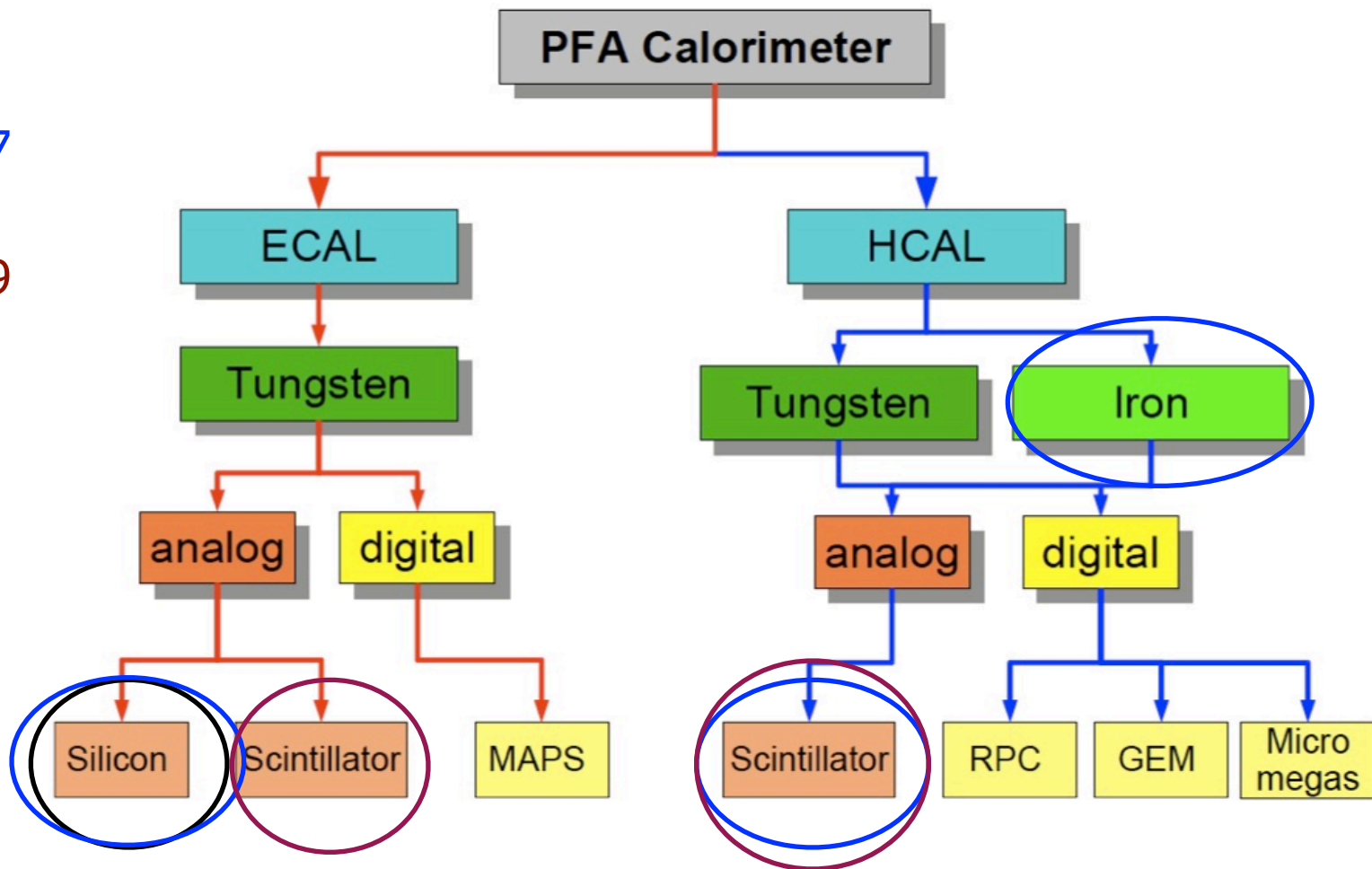
- 2005
- 2006-07

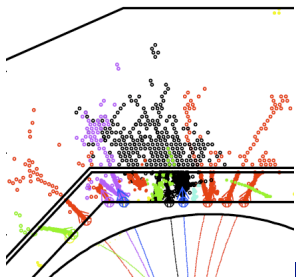




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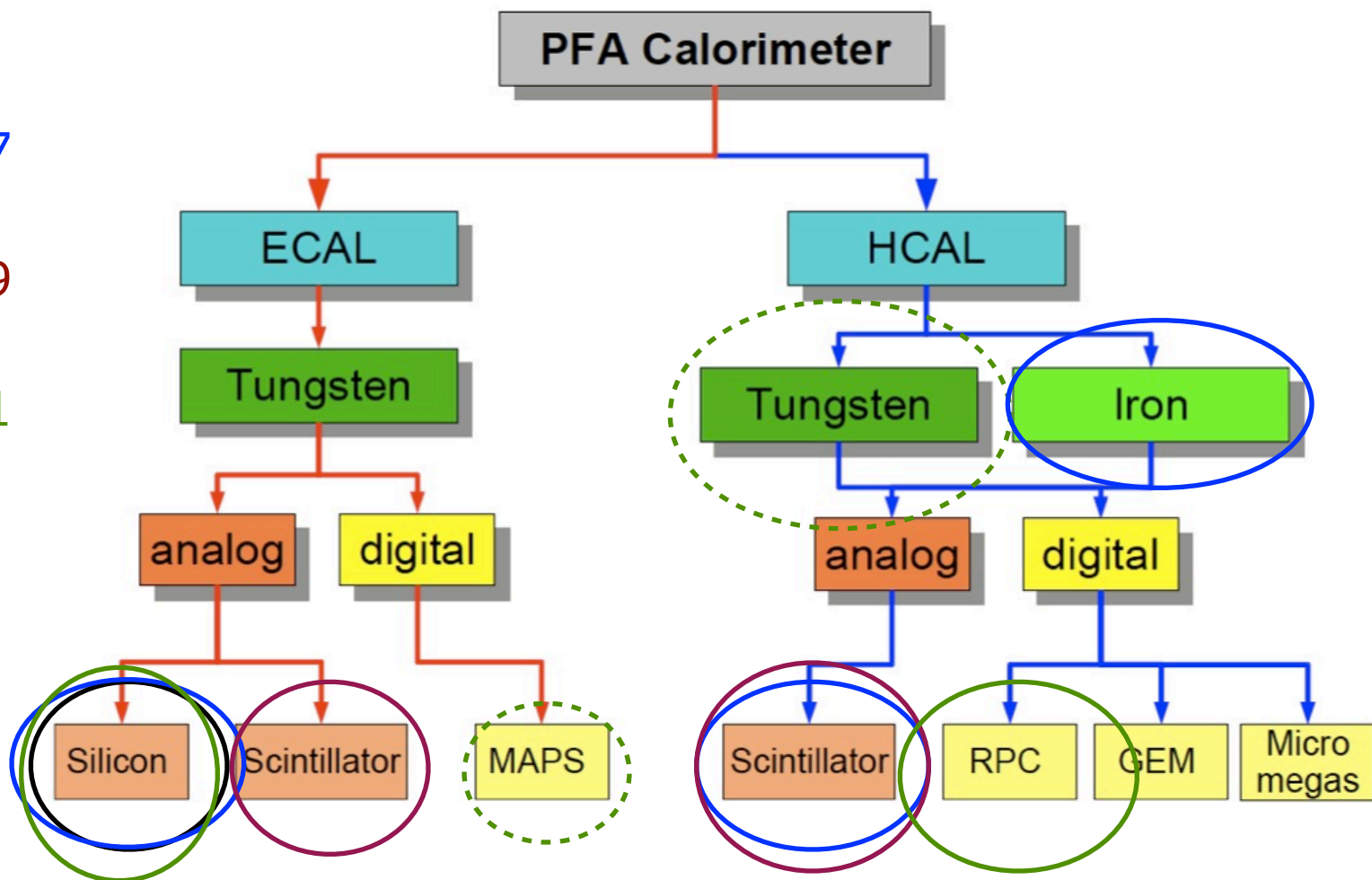
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- 2008-09

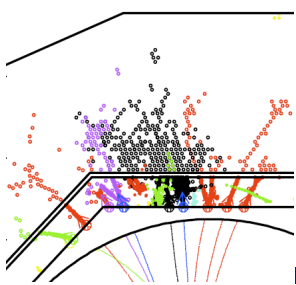




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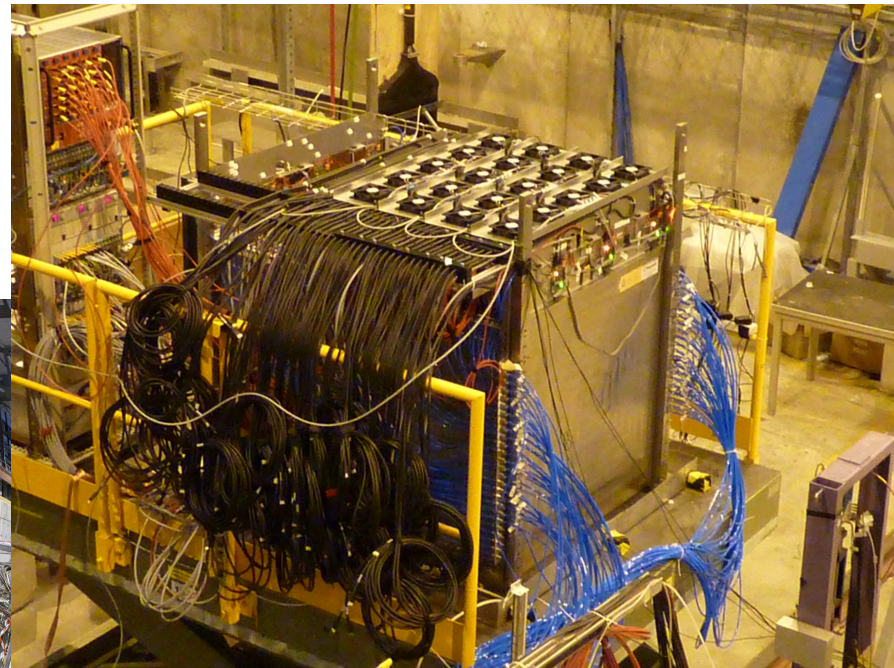
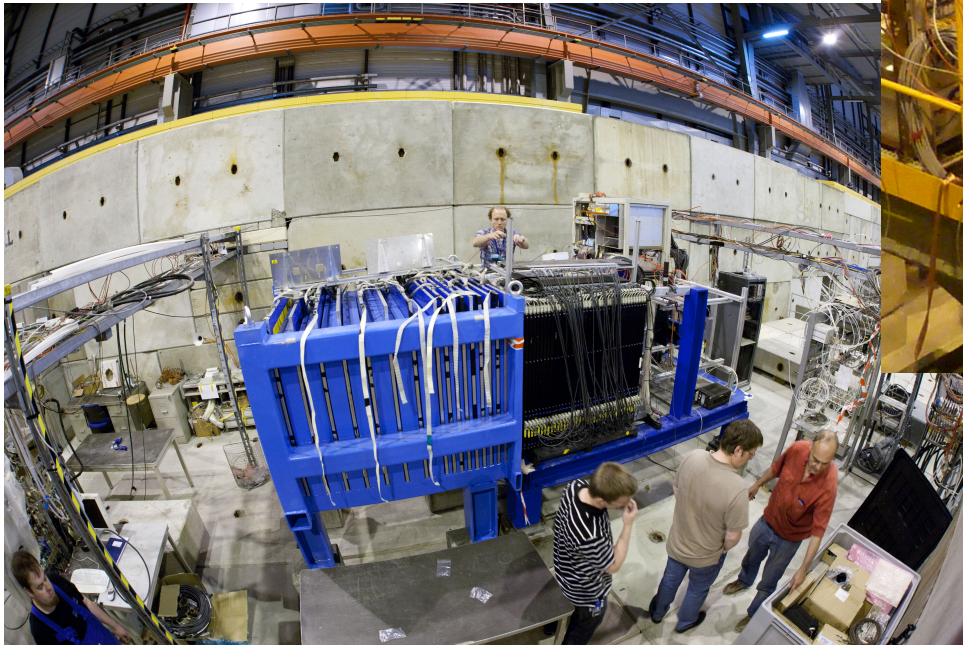
- 2005
- 2006-07
- 2008-09
- 2010-11

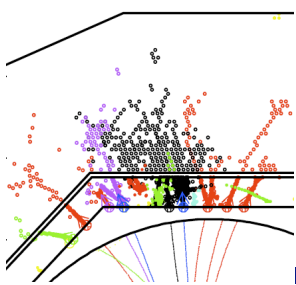




New test beam set-ups

- DHCAL at FNAL: completed
- SDHCAL, W AHCAL at CERN

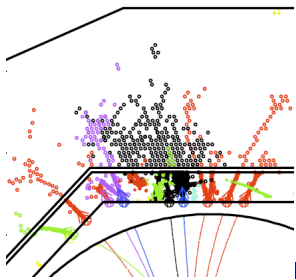




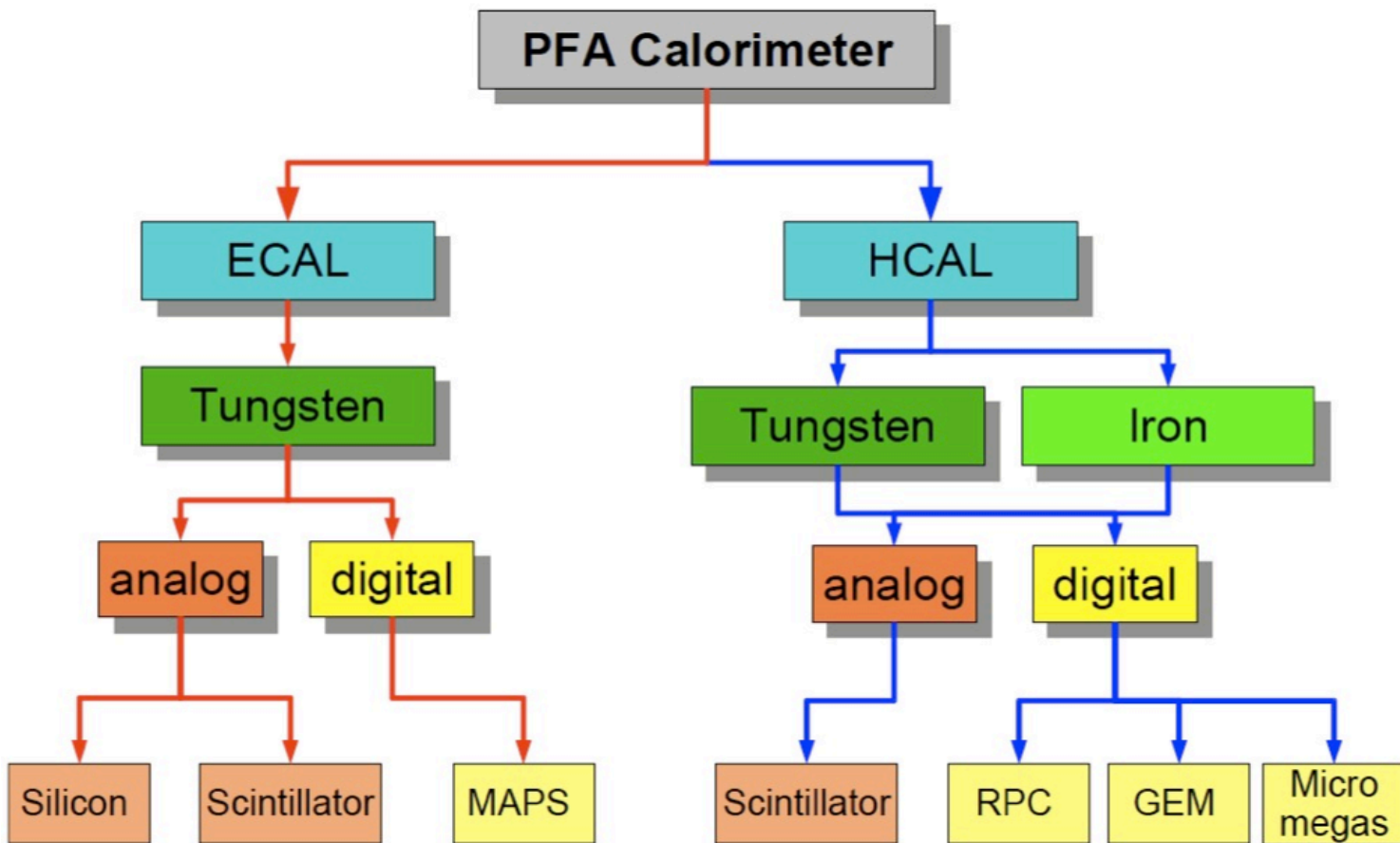
Test beams 2011-12

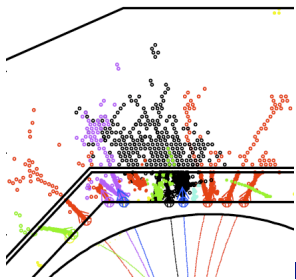
- Enough time, but exhaustive effort 2011 at FNAL
- FNAL beams shut down in spring 2013 for about a year
- Very limited beam time at CERN 2011
- Expect similar in 2012
- Shut-down 2013-14 likely
- Go and get your T-shirt!





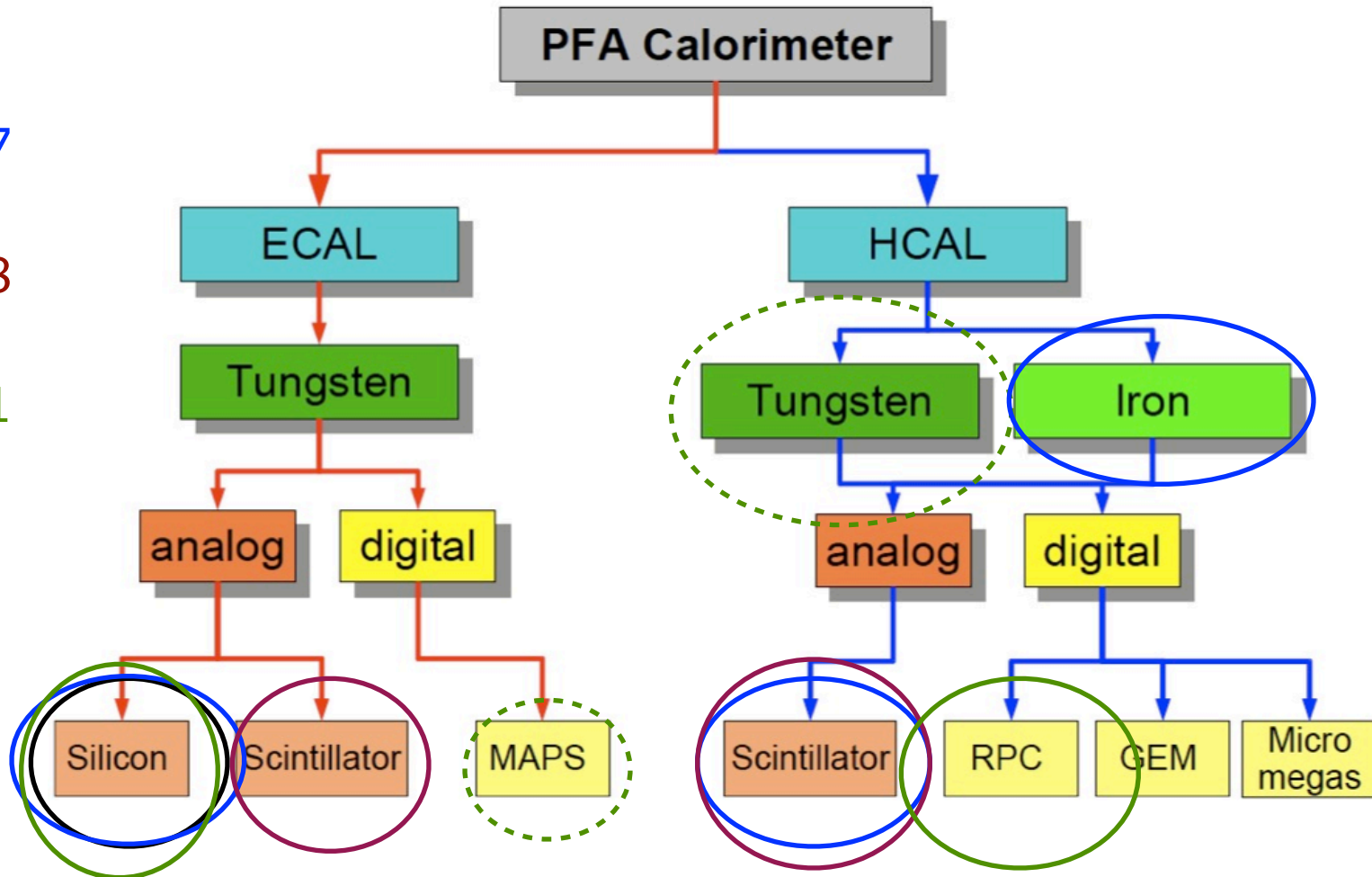
Goals 2012

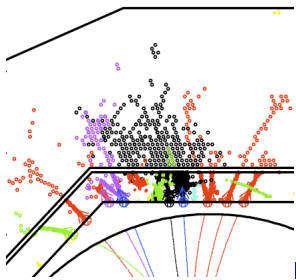




Goals 2012

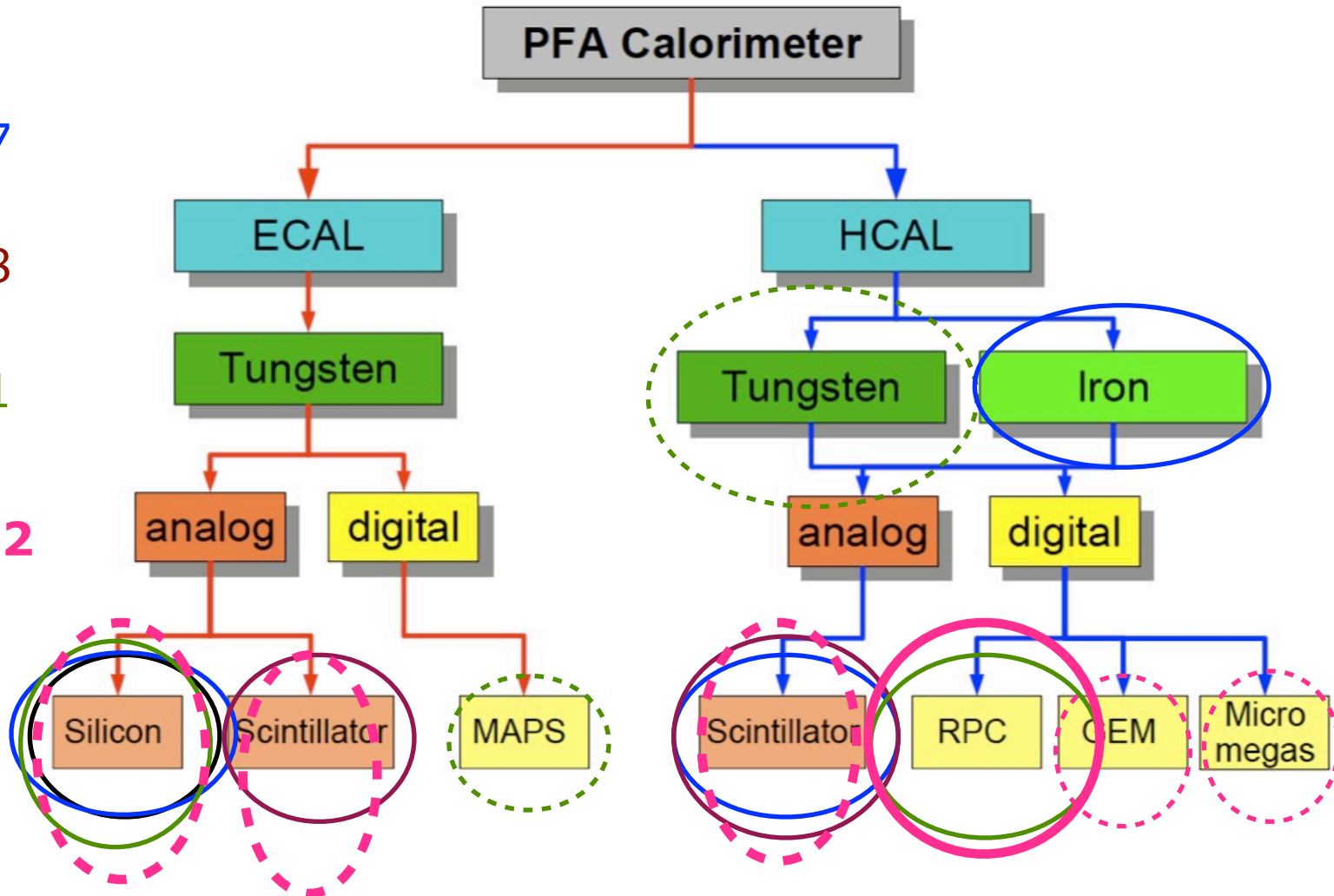
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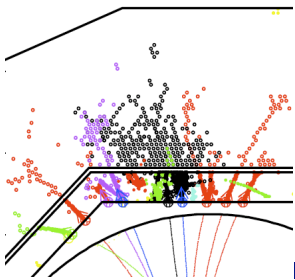




Goals 2012

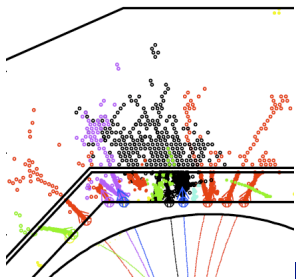
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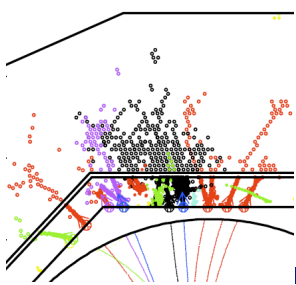
Towards detector baseline docs

- Spring 2012: CALICE assessment of technology readiness
- **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
- Expect an external review (PRC or ECFA) in ~ April
- Technology baselines: ILD before mid 2012, SiD similar
- Latest test beam results for DBD: fall



Emerging picture

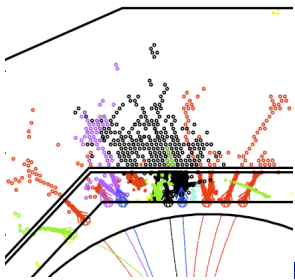
- We foresee to propose 2 ECAL and 2 HCAL baseline options
- The sDHCAL will be the only full size second generation prototype exposed to test beams
 - data taking and analysis schedules are ambitious
 - build validation on DHCAL results, too, combined runs
- The Si W ECAL, Scint W ECAL and Scint AHCAL have physics prototype test beam results and prepare technical prototype demonstrators
 - Si ECal and Sci E/HCal: common chip development
 - Sci E/HCal: common boards, Si/Sci ECAL common W mechanics
 - will rely on sDHCAL for proof of system aspects
- Combined data: SiW E + A/D HCAL, Si/Sci E + AHCAL only
- Alternatives: proof of principle for MAPS, GEMs, μ -megas



Emerging picture



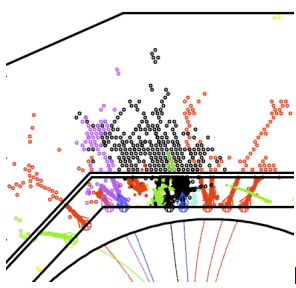
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Software baseline

- Following previous CALICE meeting, ILD took salomonic decision and avoids singling out a baseline
- All main options shall be evaluated in physics studies
- Anyway: basic particle and jet energy performance will be discussed for all options
- Significant progress w.r.t. LOI, esp
- What counts now is that we deliver!
- Realistic simulations reflecting
 - design solutions realized in technology prototypes
 - performance validated in test beams
- Contributions to the reconstruction

Publications



TWiki > CALICE Web > SpeakersBureau > CaliceNotesStatus (09-Sep-2011, DavidWard)

Calice Analysis Notes - Status

Status	coordinating author	Subject
CAN001	Ward	ECAL ar
CAN002	Meyer	AHCAL
CAN003	Garutti	AHCAL
CAN004	Lima	Combin
CAN005	Jeans	ScECAL
CAN006	Jeans	ScECAL
CAN007	Jeans	ScECAL
CAN008	Carloganu	ECAL el
CAN009	d'Ascenzo	AHCAL
CAN010	Meyer	AHCAL
CAN011	Garutti	AHCAL
CAN012	Jeans	ScECAL
CAN013	Simon	AHCAL
CAN014	Meyer -> Garutti	AHCAL
CAN015	Simon	AHCAL
CAN016	Coterra-> Uozumi	ScECAL
CAN017	Faucci Giannelli	SiW EC.
CAN018	Sefkow	Calibrati
CAN019	Francis	TCMT w
CAN020	Ward	Pions in

CAN021	being published with CAN015, CAN028	Seidel	AHCAL energy re
CAN022	Should be published	Weuste	Track segments i
CAN023	Should publish ?	Fehr	Tracking using H
CAN024	Published	Markin	Pandora PFA wit
CAN025	still under review	Doublet	Hadronic shower
CAN026	Should be published	Kaplan	Hadronic shower
CAN027	Published (CAN never appeared)		ECAL irradiation
CAN028	Being published with CAN015, CAN021	Chadeyeva	HCAL Software C
CAN030-32	Early days...	Repond, Xia, Bilki	DHCAL first anal
CAN033	Early days...	Simon	First T3B Results
CAN034	Early days...	Feege	Pion showers in A
CAN035	under review en route to paper	Chadeyeva,Seidel	Combined s/w co
CAN036	not yet under review	Lucaci-Timoce	WHCAL studies

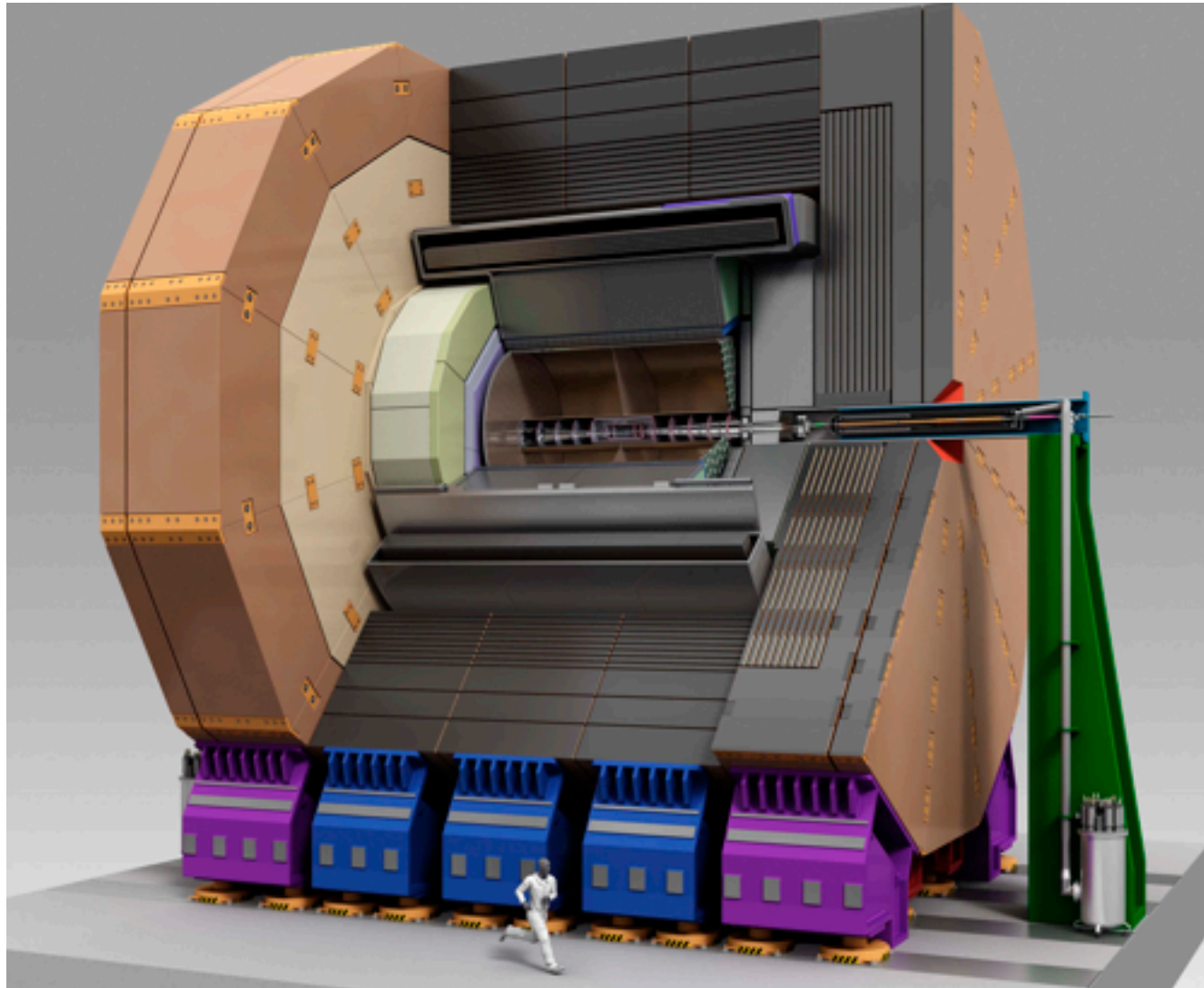
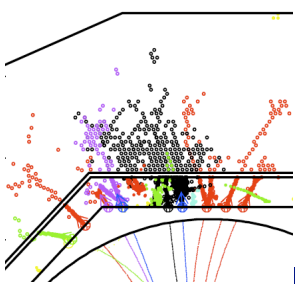
Comments

- From Tohru about [ScECAL](#) plans (CAN005, 006, 007, 012, 016):
"Satoru is right now preparing the paper which is DESY data concern. For the FNAL data, we need to be published by a Doctor student in a year."
- CAN009, 015, 021, 028 under control (MPI)?
- Should definitely plan to publish CAN022, CAN026
- Is CAN017 worth publishing? Needs more work?
- Is CAN023 worth publishing? Probably yes.
- CAN030-034 too early to decide

-- [DavidWard](#) - 24-May-2011

Topic revision: r4 - 09-Sep-2011 - 17:07:56 - [DavidWard](#)

Interim Report





Conclusion

- Interesting times - dynamic scientific and political environment
- Culminating test beam effort and technical readiness
- Increasing publication output
- Success of CALICE will be judged primarily on
 - contributions to detector reports
 - publications
 - demonstrated impact on shower simulation
- and depend on our collaborative spirit
- So: Enjoy the meeting