



环形正负电子对撞机
Circular Electron Positron Collider

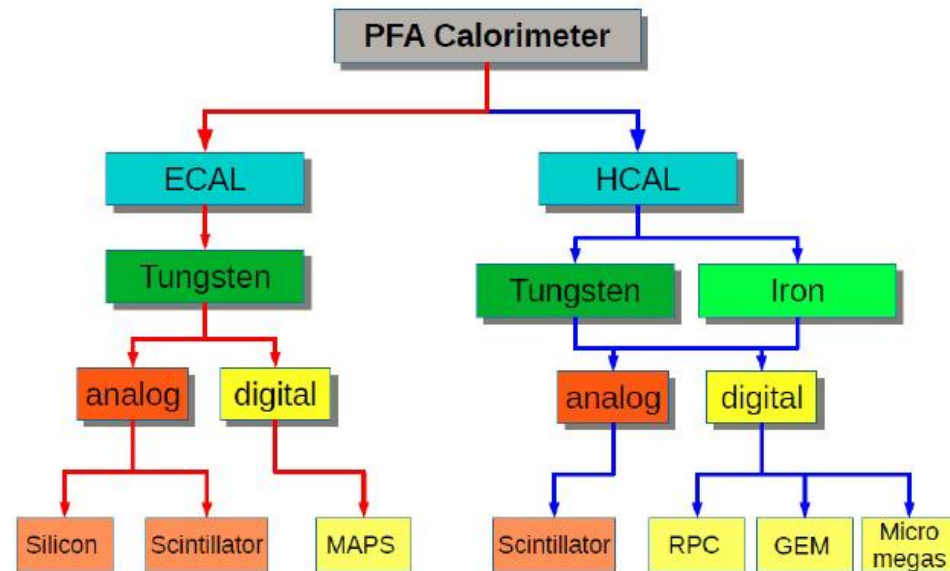
Status of CEPC Calorimeter

Tao Hu, Jianbei Liu, Haijun Yang
For the CEPC-Calo Group

CEPC Physics and Detector Group Meeting
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Calorimeter Options

- ECAL with Silicon and Tungsten (LLR, France)
- ECAL with Scintillator+SiPM and Tungsten (IHEP + USTC)
- SDHCAL with RPC and Stainless Steel (SJTU + IPNL, France)
- HCAL with ThGEM/GEM and Stainless Steel (IHEP + UCAS + USTC)
- HCAL with Scintillator+SiPM and Stainless Steel (IHEP+U.Mainz+BNU)
- Dual readout calorimeters (INFN, Italy)



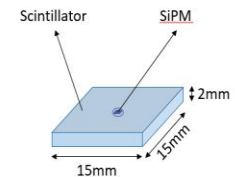
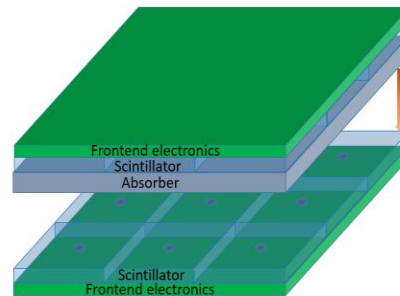
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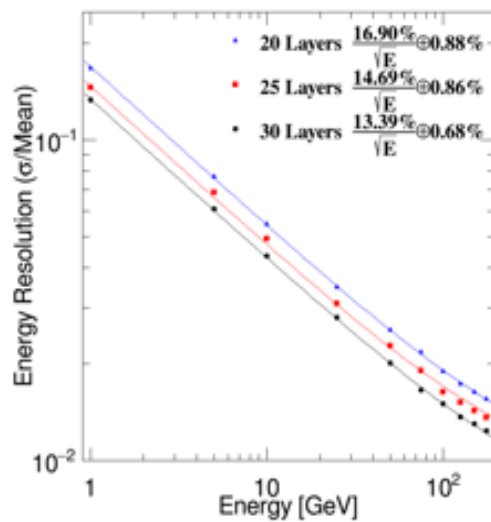
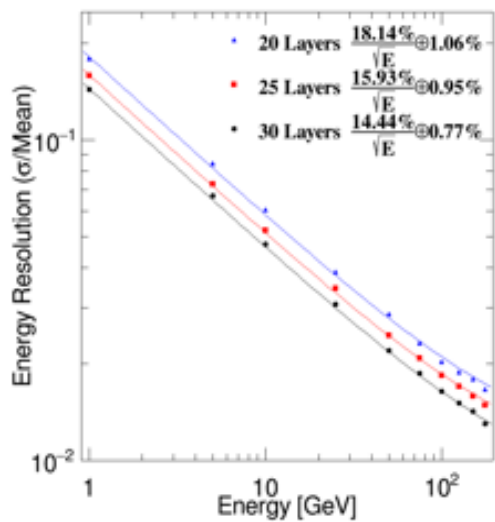
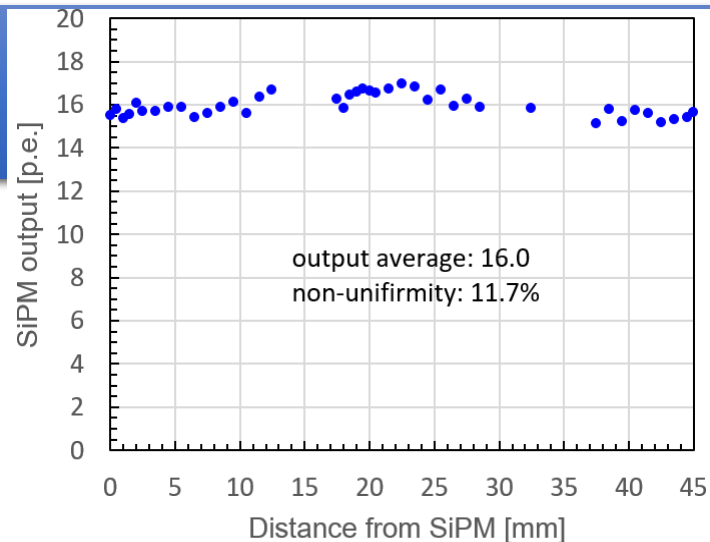
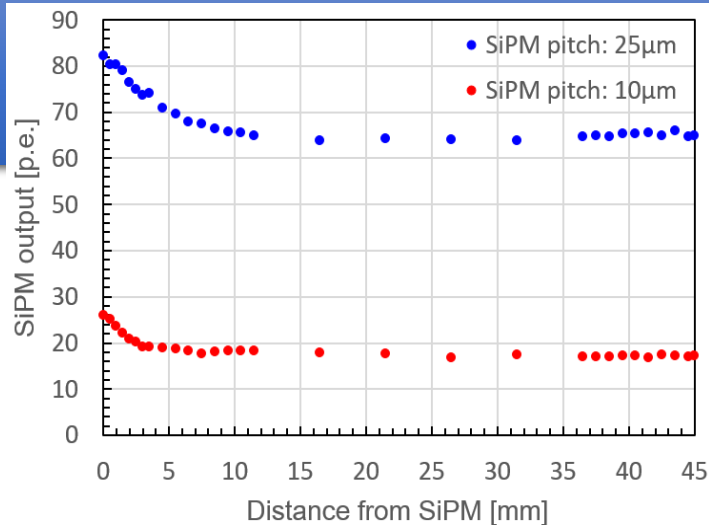
Outline of CEPC Calorimeters CDR

- ❖ **General introduction of Calorimetry system**
- ❖ **PFA calorimeters (Tao Hu, Jianbei Liu, Haijun Yang)**
 - ❖ **Technology options for ECAL**
 - ❖ Silicon + tungsten (Vincent Boudry)
 - ❖ Scintillator + tungsten
(Zhigang Wang, Yunlong Zhang, Mingyi Dong, Hang Zhao)
 - ❖ **Technology options for HCAL**
 - ❖ SDHCAL - RPC (Imad Laktineh, Haijun Yang)
 - ❖ GEM/THGEM (Jianbei Liu, Boxiang Yu)
 - ❖ AHCAL - Scintillator + tungsten + SiPM (Boxiang Yu)
- ❖ **Dual Readout calorimeter (Roberto Ferrari)**

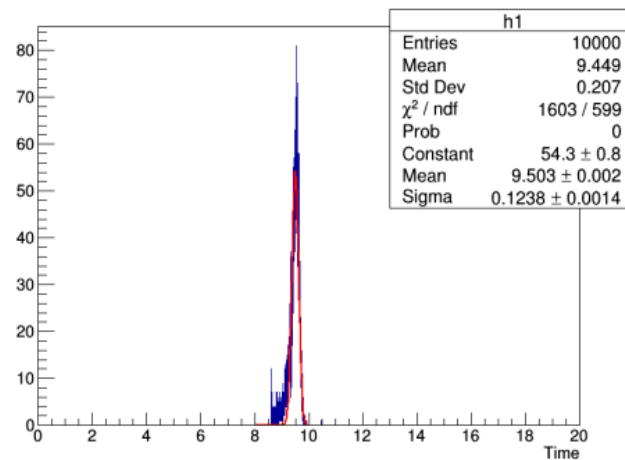
Much update on ScEcal

- **4x45x2 mm³ -> 15x15x3 mm³**
 - SiPMT couple from side to center with hole better uniformity
 - New MC result on Energy and time resolution
 - Dynamic range 1000 (same as Si option)
by larger area and/or smaller pixel size
-
- Simplified Electronics part





Energy resolution



Time resolution

AHCAL update

- NDL SiPMT added
- Discussion on cooling

Status

- The preliminary version have been upload to GIT
- more work needed
 - more test on light yield and uniformity
 - MC on time resolution
 - Consistent check with physics chapter

More careful check !

Outline of CEPC Calorimeters CDR

- 7 Calorimetry
 - 7.1 Introduction to calorimeters
 - 7.2 Electromagnetic Calorimeter for Particle Flow Approach
 - 7.2.1 Silicon-Tungsten Sandwich Electromagnetic Calorimeter
 - 7.2.2 Scintillator-Tungsten Sandwich Electromagnetic Calorimeter
 - 7.3 Hadronic Calorimeter for Particle Flow Approach
 - 7.3.1 Introduction
 - 7.3.2 Semi-Digital Hadronic Calorimeter (SDHCAL)
 - 7.3.3 Analog Hadronic Calorimeter based on Scintillator and SiPM
 - 7.4 Dual-readout Calorimetry
 - 7.4.1 Introduction
 - 7.4.2 Dual-Readout Calorimetry
 - 7.4.3 Layout and Mechanics
 - 7.4.4 DREAM/RD52 Prototype Studies
 - 7.4.5 Sensors and Readout Electronics
 - 7.4.6 Monte Carlo Simulations
 - 7.4.7 Final Remarks

- Introduction (2.5p)
- SiW-ECAL (7.5p)
- ScW-ECAL (?)
- SDHCAL (10p)
- AHCAL (10p)
- Dual-readout (19p)

Backup

Contact Information

- Vincent Boudry, Vincent.Boudry@in2p3.fr
- Roberto Ferrari, roberto.ferrari@cern.ch
- Tao Hu, hut@ihep.ac.cn
- Imad Laktineh, laktineh@ipnl.in2p3.fr
- Jianbei Liu, liujianb@ustc.edu.cn
- Zhigang Wang, wangzhg@ihep.ac.cn
- Haijun Yang, Haijun.yang@sjtu.edu.cn
- Boxiang Yu, yubx@ihep.ac.cn
- Yunlong Zhang, ylzhang@ustc.edu.cn