

Reconfirmation of present status of
analyses for beam tests in 2011,
2012, and 2013

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and Calibration Team in Japan

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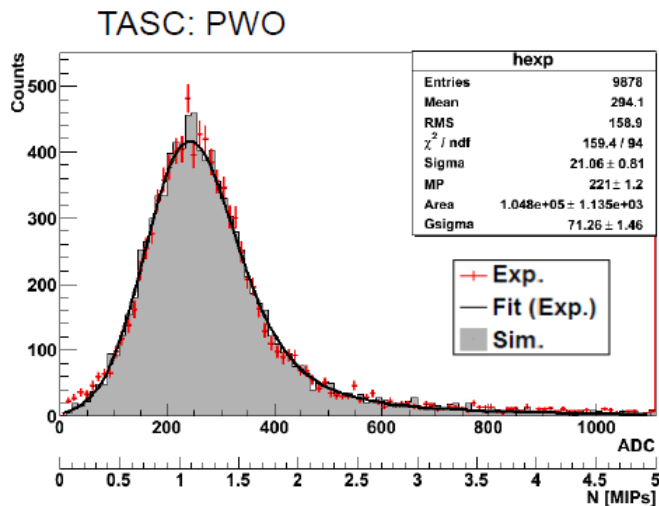
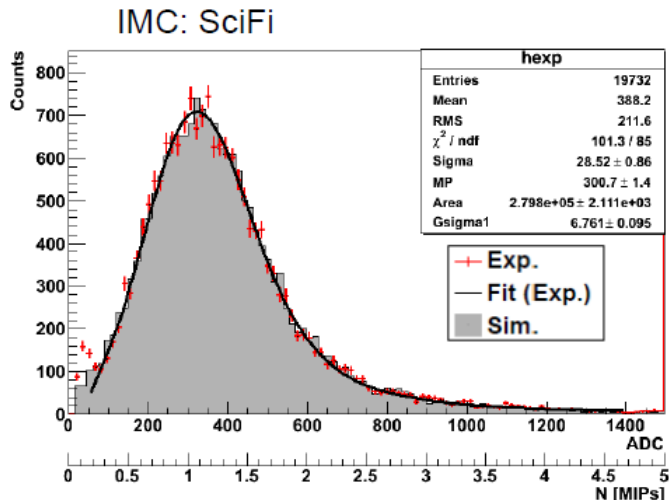
Current status of the analyses for the p/e beam tests in 2011 and 2012

- MIP (muon)
- Angular resolution
- Cherenkov Tag
- Energy Deposit
 - IMC
 - TASC
- Lateral Spread
 - IMC
 - TASC
- Energy resolution
- e/p separation

MIP (muon)

2011

2012



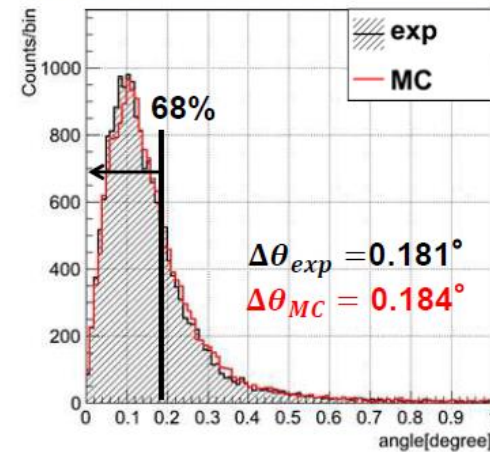
Simulation is consistent with Experiment

Angular Resolution

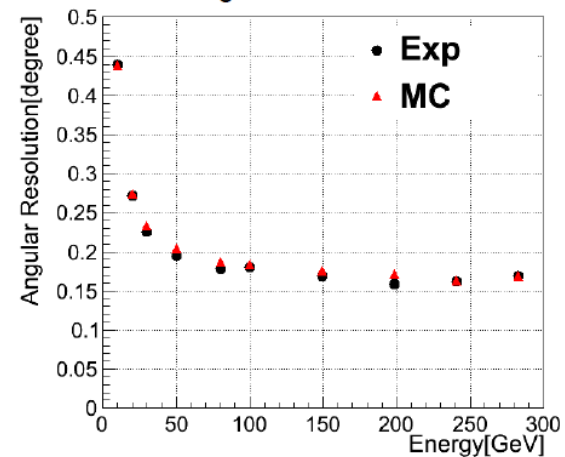
2011

2012

Angular error (electron 100GeV)



Angular resolution



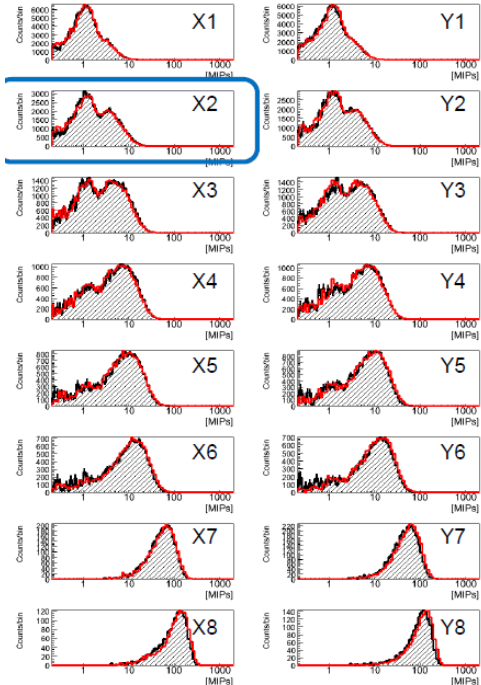
Simulation is consistent with Experiment

Energy Deposit (IMC)

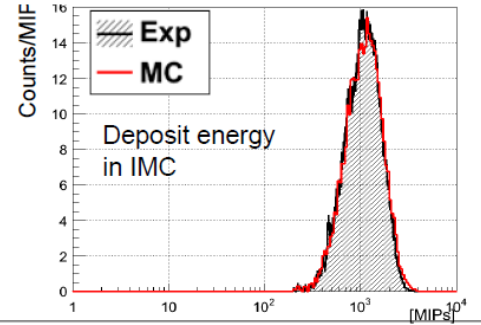
2011

2012

Electron 100GeV



Deposit energy in each IMC layer
(Sum of ± 3 mm around shower axis)



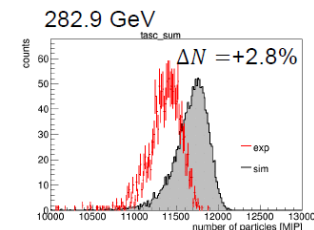
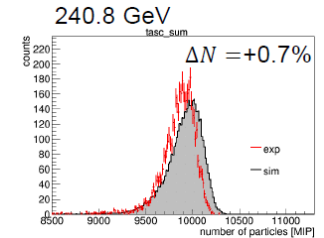
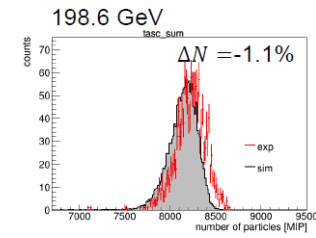
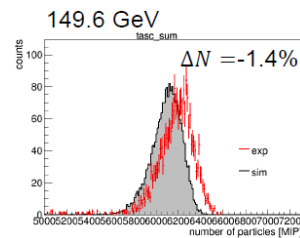
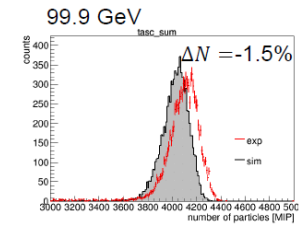
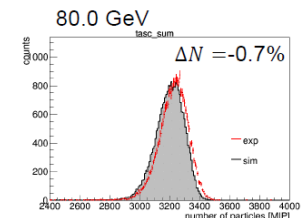
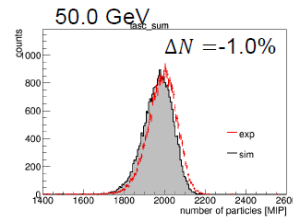
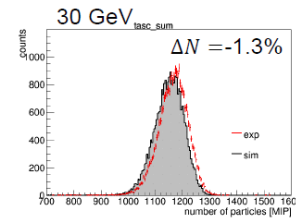
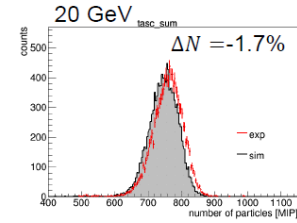
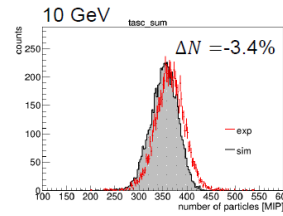
Note: we add a material of 0.05 r.l. in front of a calorimeter as Al

Simulation is consistent with Experiment

Energy Deposit (TASC)

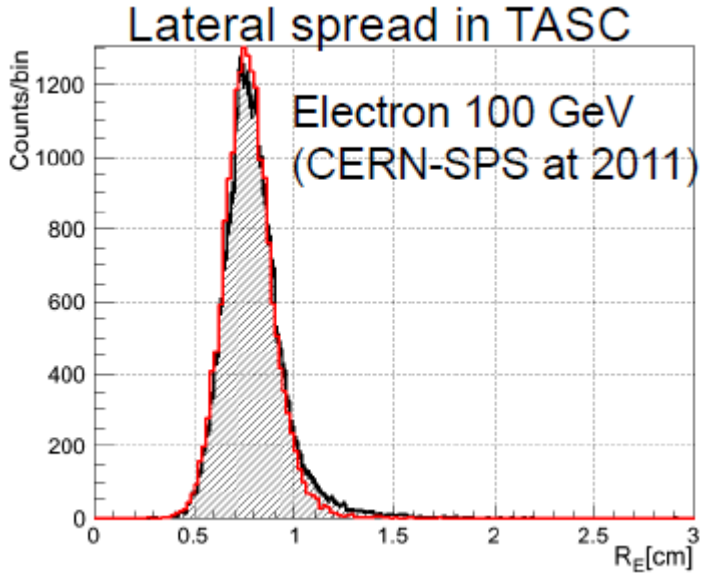
2011

2012

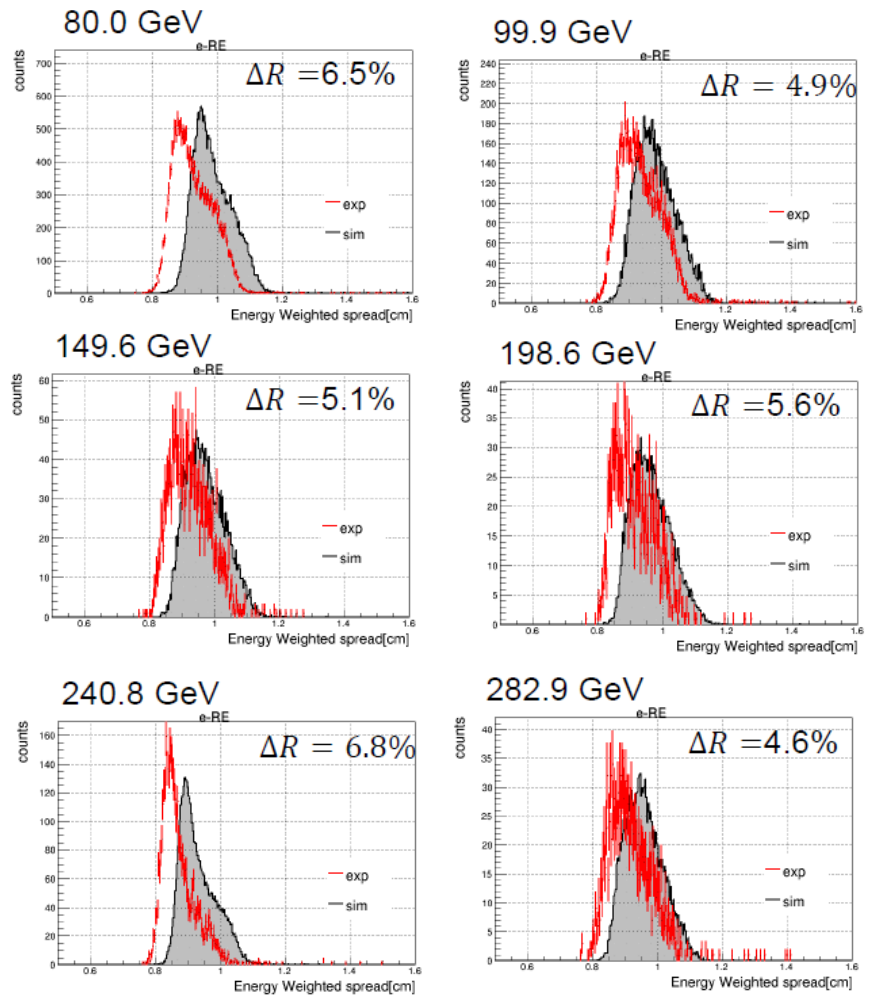


Lateral Spread (TASC)

2011



2012

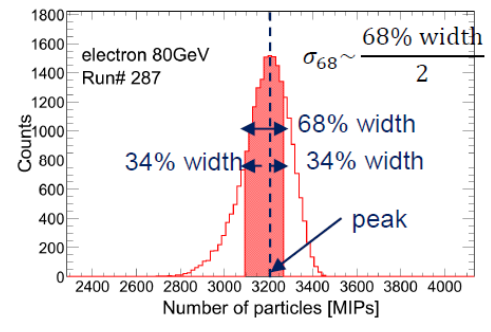


Energy Resolution

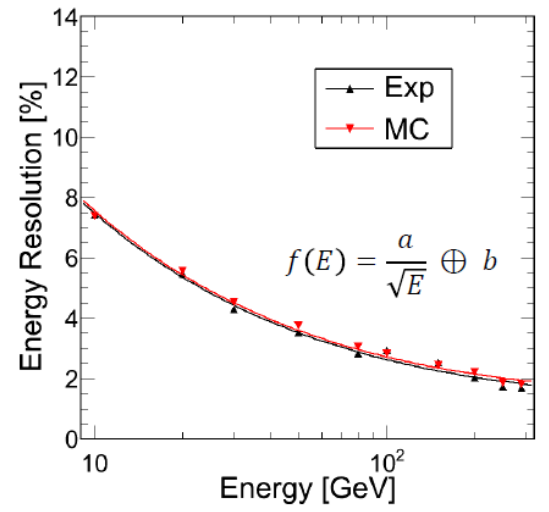
2011

2012

Electron 80GeV



$$\text{Energy Resolution}(E) = \frac{\sigma_{68}}{\text{Peak}} \times 100 \text{ [%]}$$



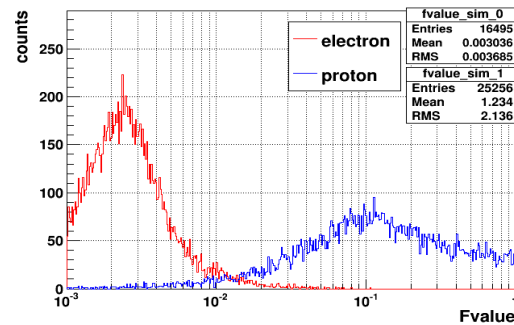
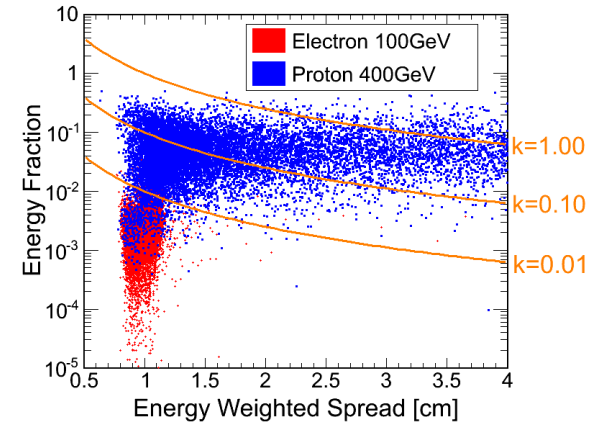
	a	b
Exp	23.4 ± 0.5	1.2 ± 0.2
MC	23.5 ± 0.4	1.3 ± 0.1

Simulation is consistent with Experiment

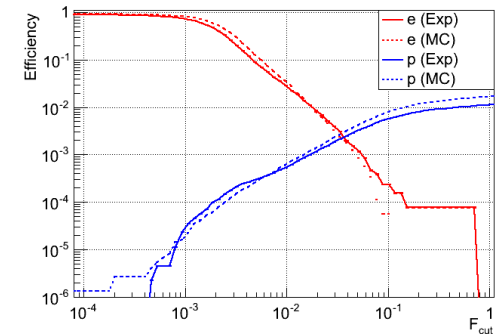
e/P Separation

2011

2012



$$R_E^2 \times F_E$$



Threshold of $R_E^2 \times F_E$

Publication on CERN tests

- Performance of the IMC
 - Pedestal and 1MIP calibration, Dynamic range, Tracking, Angular resolution, Starting point, Charge measurement
- Performance of the TASC
 - Pedestal and 1MIP calibration, Dynamic range, Energy resolution, Shower spread
- Particle identification with IMC and TASC
 - Electron/Proton separation
 - Electron/Gamma-ray separation
- Charge measurement with CHD
 - Pedestal and 1MIP calibration, Dynamic range, Charge resolution, Charge dynamic range (Quenching effect), Back scatter effect