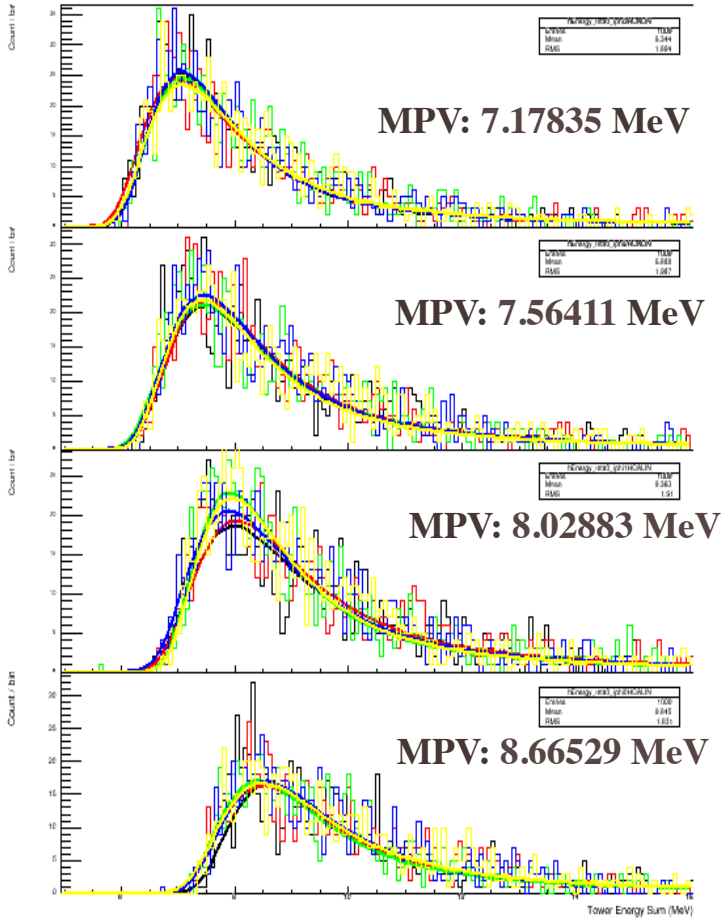
Full HCAL Calibration

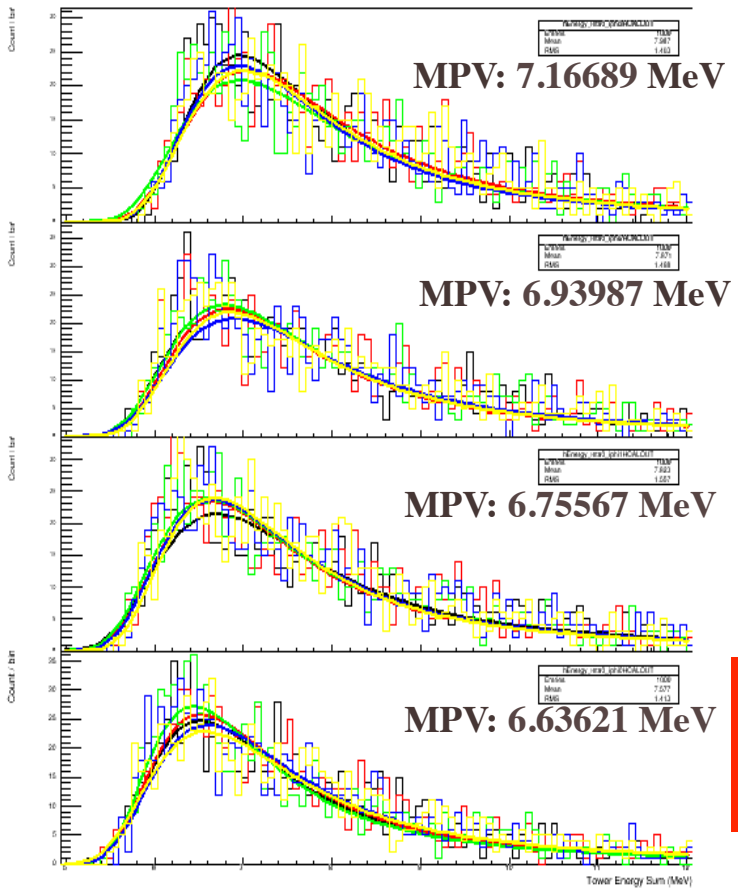
Abhisek Sen

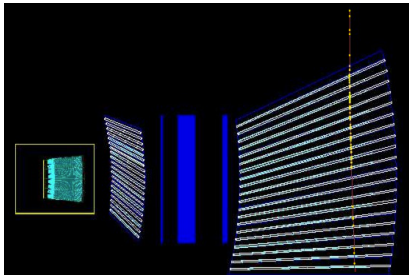
Vertical cosmics simulation

Inner HCAL



Outer HCAL



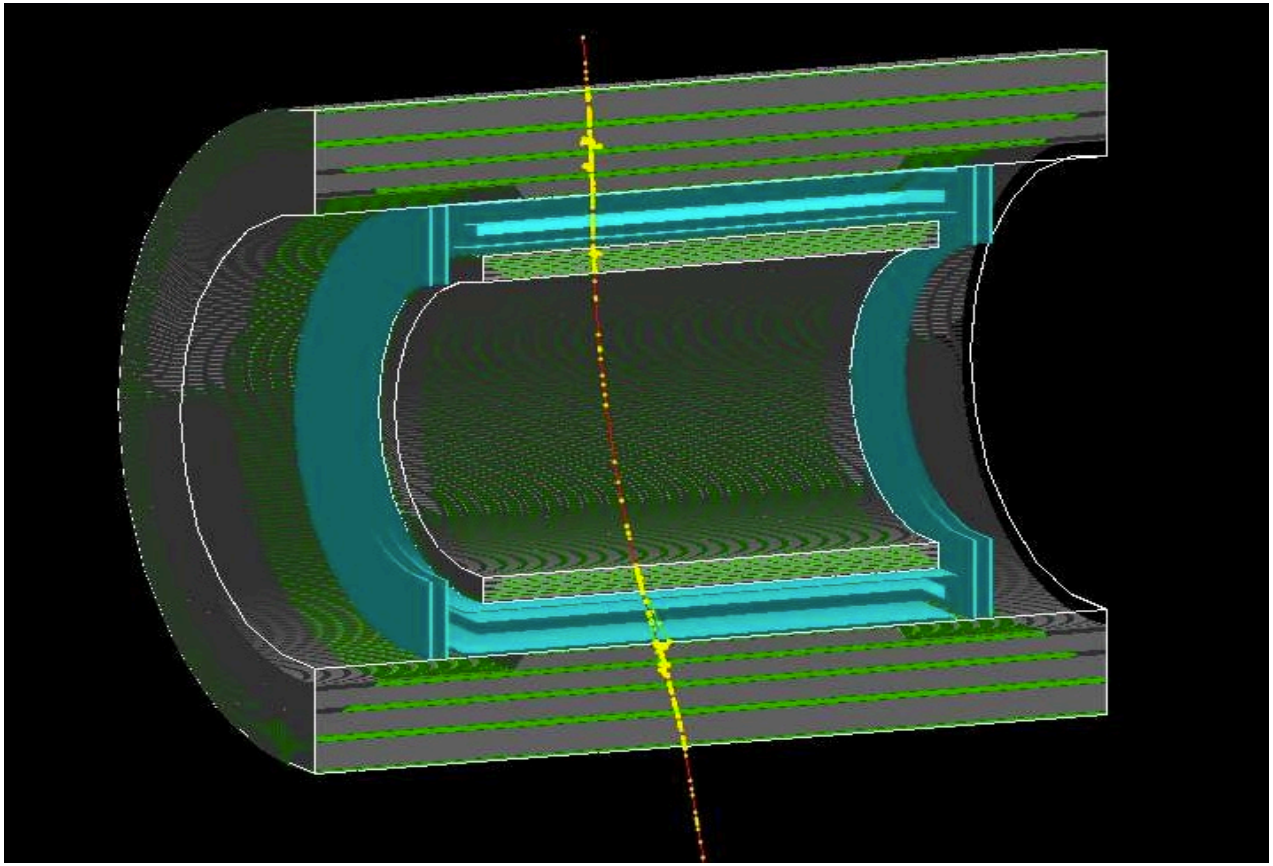


Worked great with prototypes

Energy deposition from 4 GeV vertical cosmics in 4 vertical towers.
Colors: 5 scans along the length of the tiles.

Full detector

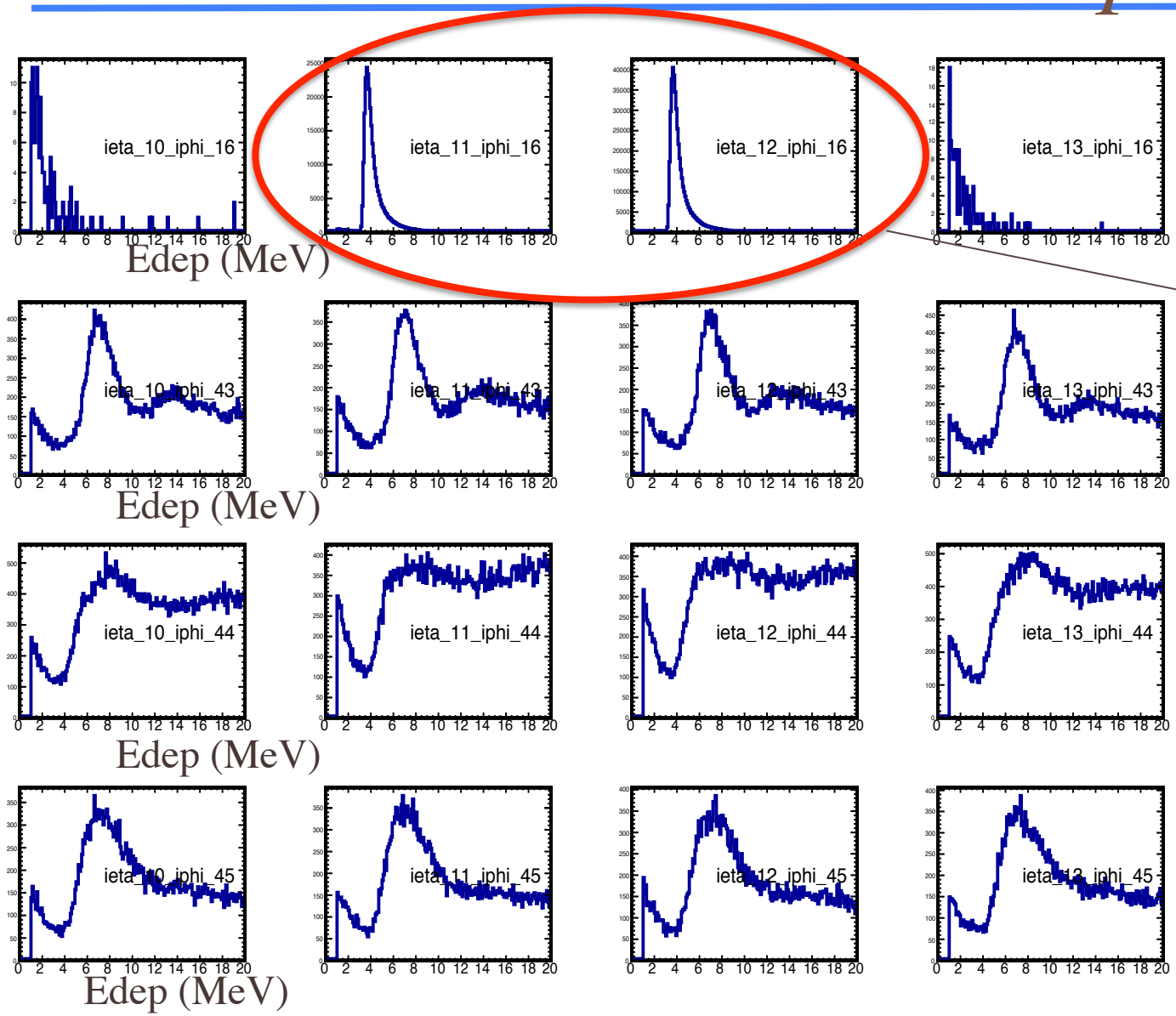
64 towers in phi



24 towers in eta

- 4GeV muons from top of the detector going downwards.
- Setup only with two HCAL sections with magnetic field.

Can we see the Landau peaks?

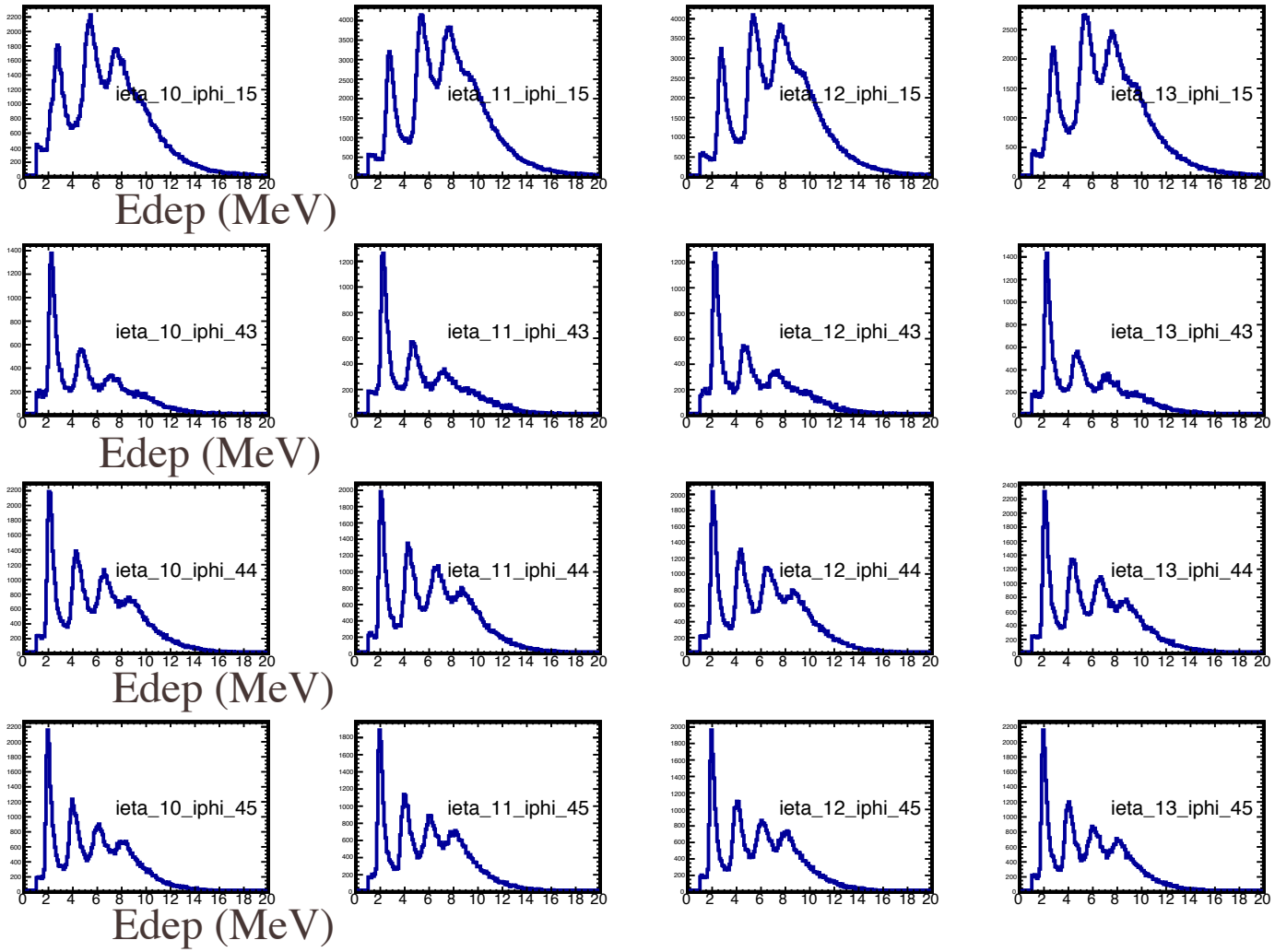


Outer HCal

Incoming muon

Lower three row is outgoing muon

Can we see the Landau peaks?



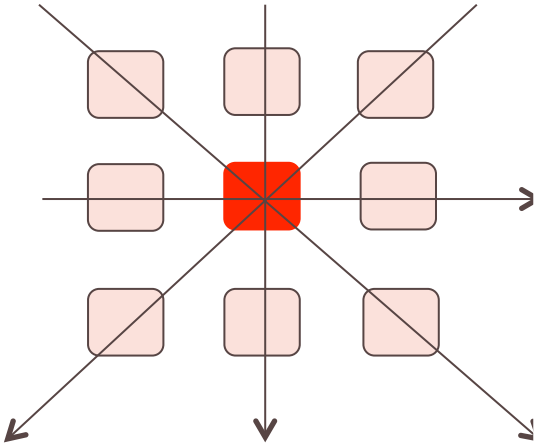
Inner HCal

What are those peaks?

Due to magnetic field?

Tracking the adjacent towers

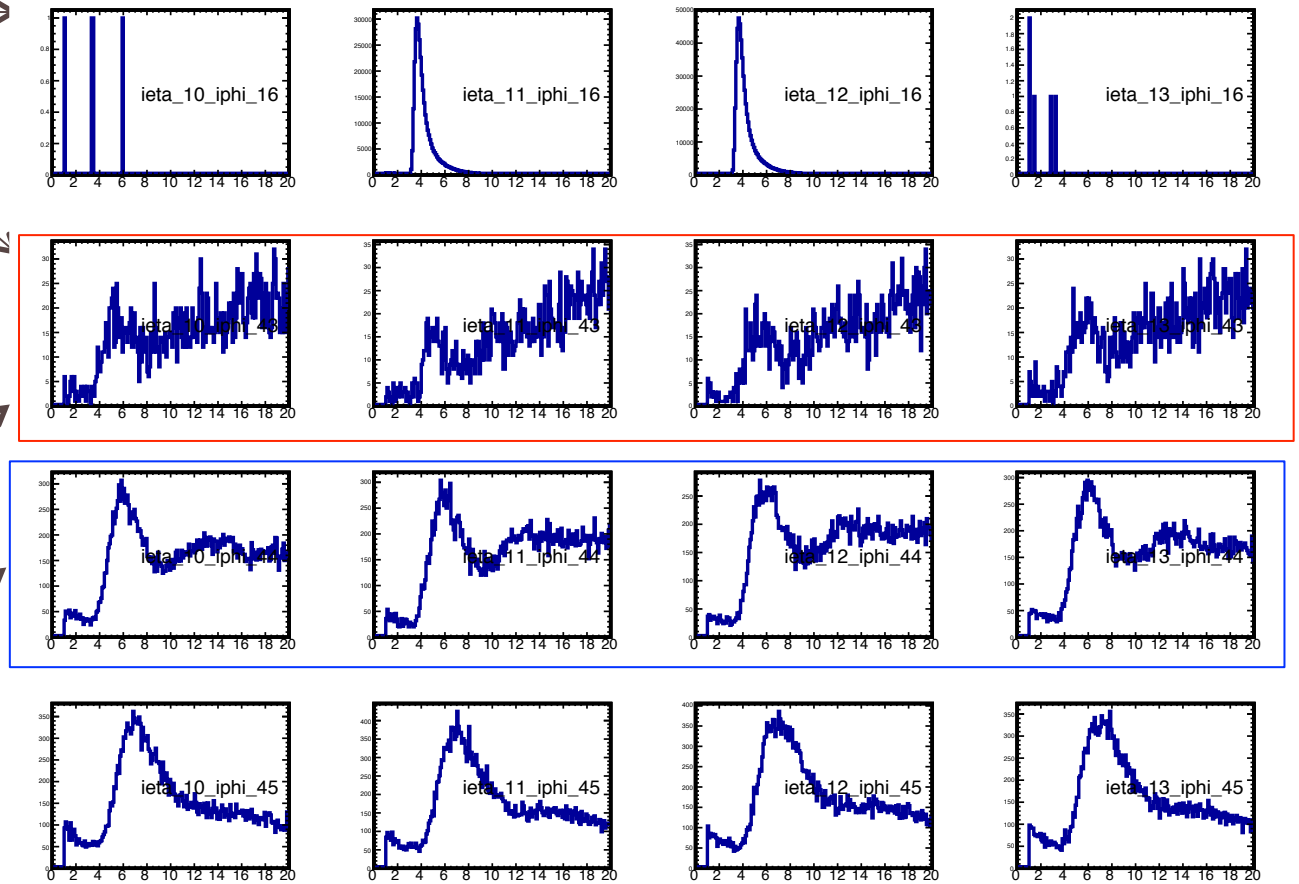
Apply geometric cuts to select towers with whose adjacent tower's energy more than a threshold.



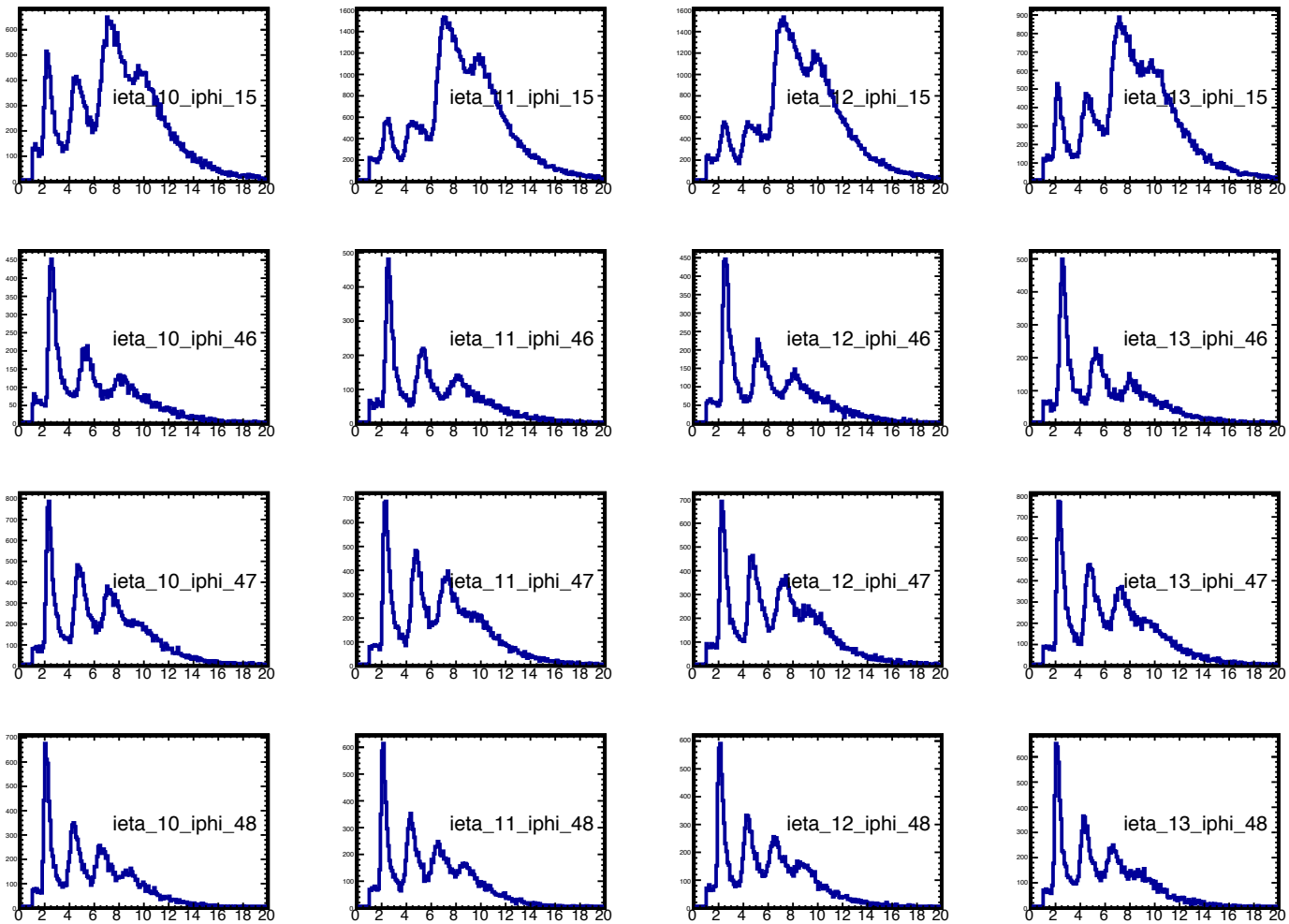
Outer HCal

Got worse

Got better



With no magnetic field



Inner HCal

Summary

- Well that's depressing!! I thought it will be easier.
- Need to find better mechanism for full calibration!