

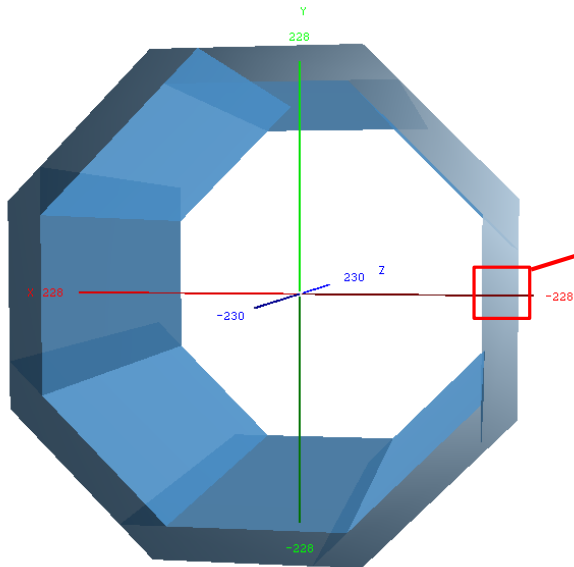
CRD Ecal update

FANGYI GUO

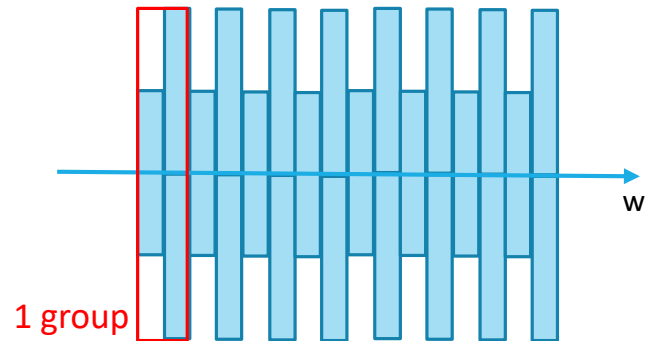
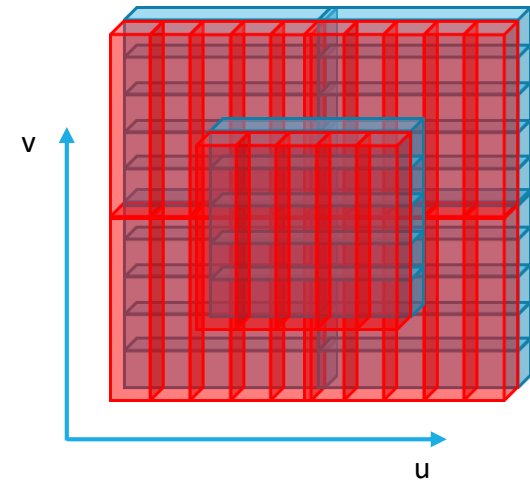
New module for test

Write a new geometry for test

- 5 super-cell as one group.
- 7 groups(14 super-layers) in total.
- Position: (1800, 0, 0)mm
- Crystal bar size 1*1*40 cm³



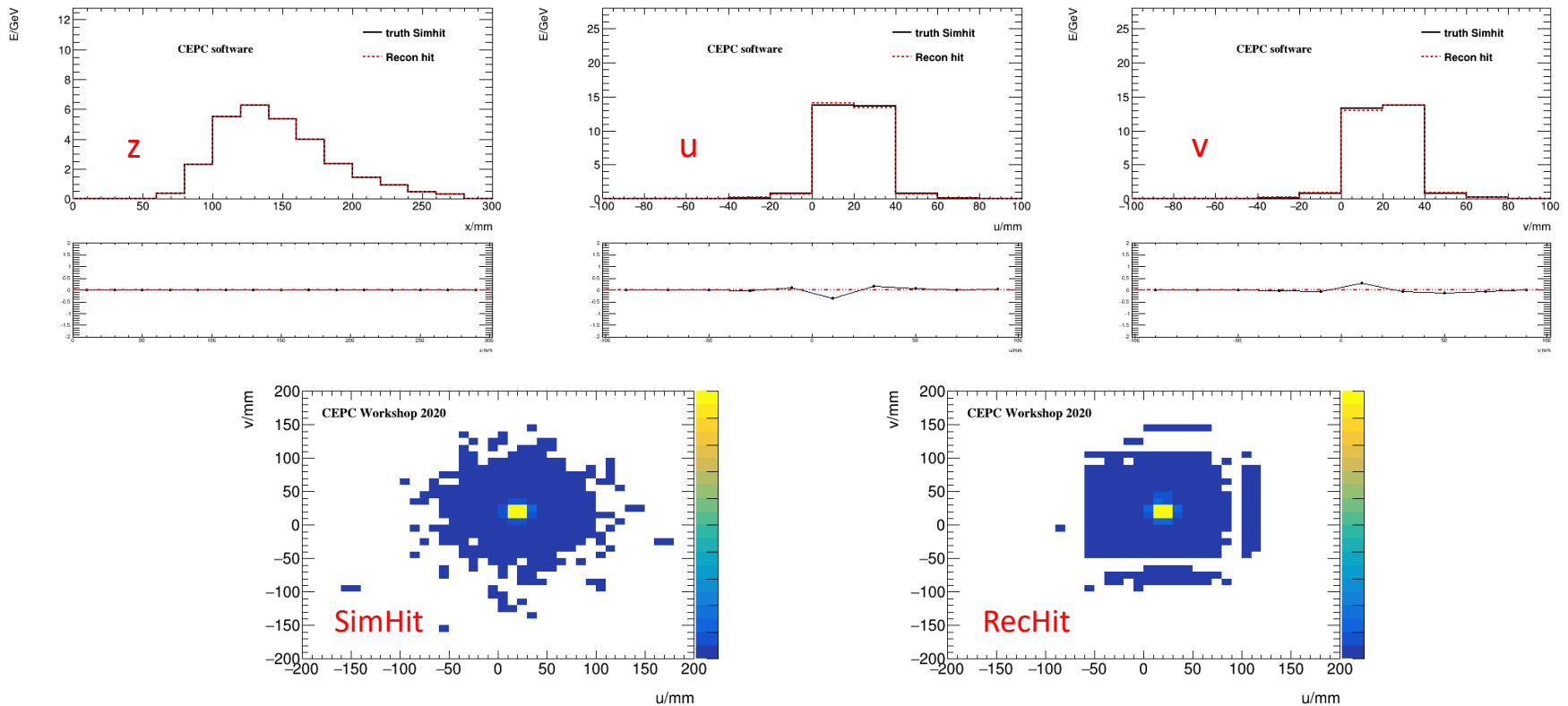
Mimic one part
of detector



New module for test

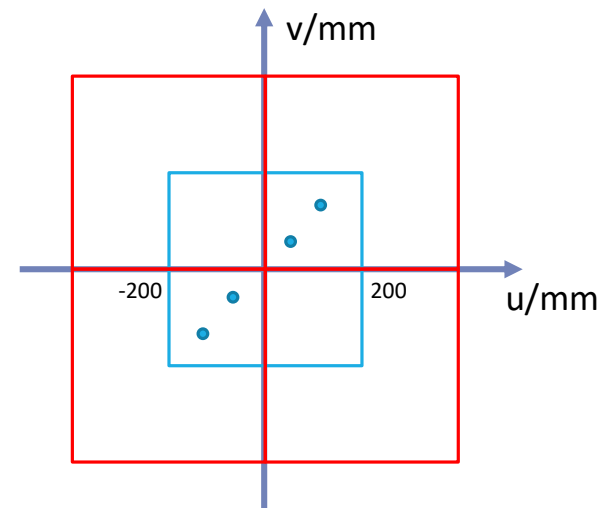
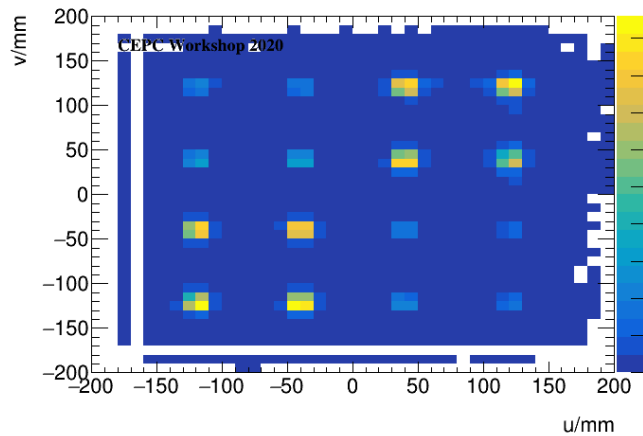
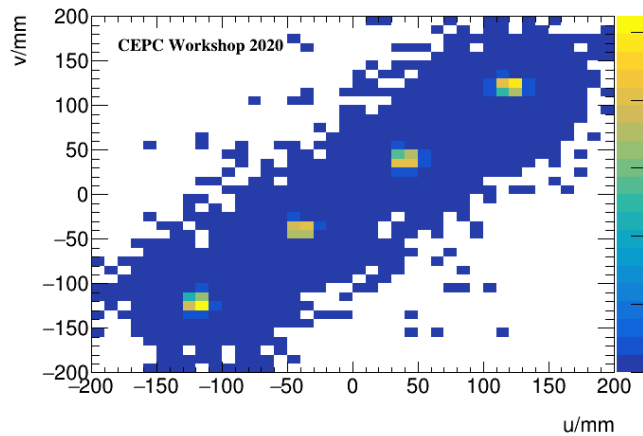
Apply old digitalization and reconstruction into this module.

- Single photon, 30GeV, hit at $(u, v)=(20, 20)$ mm



New module for test

- 4 10GeV photon, hit at $(u, v) = (-120, -120)$ $(-40, -40)$ $(40, 40)$ $(120, 120)$ mm



New reconstruction concept

Use a sandwich structure to reconstruct hit

Hit position in transvers bar depends on hits in previous and following longitude bars.

- Pros:

 - DigiHit size $1*1*1 \text{ cm}^3$

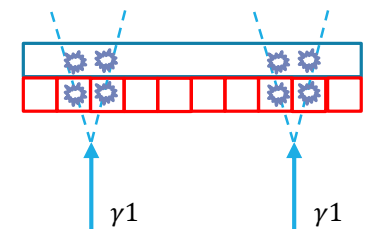
 - More flexible for crystals' placement.

 - Further remove ghost hits from wrong combination in one super-cell.

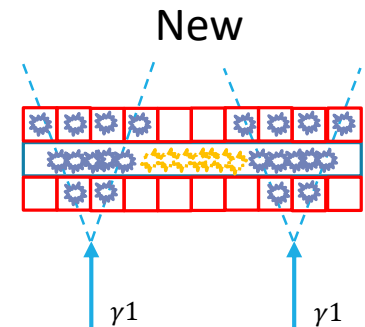
- Cons:

 - New ghost hits in transvers bars due to wrong combination in 2 longitude layers.

- Possible solution: do this reconstruction in Pandora. Use track projection as a seed to remove ghost hits. (position and direction)



Old



New