HCAL studies

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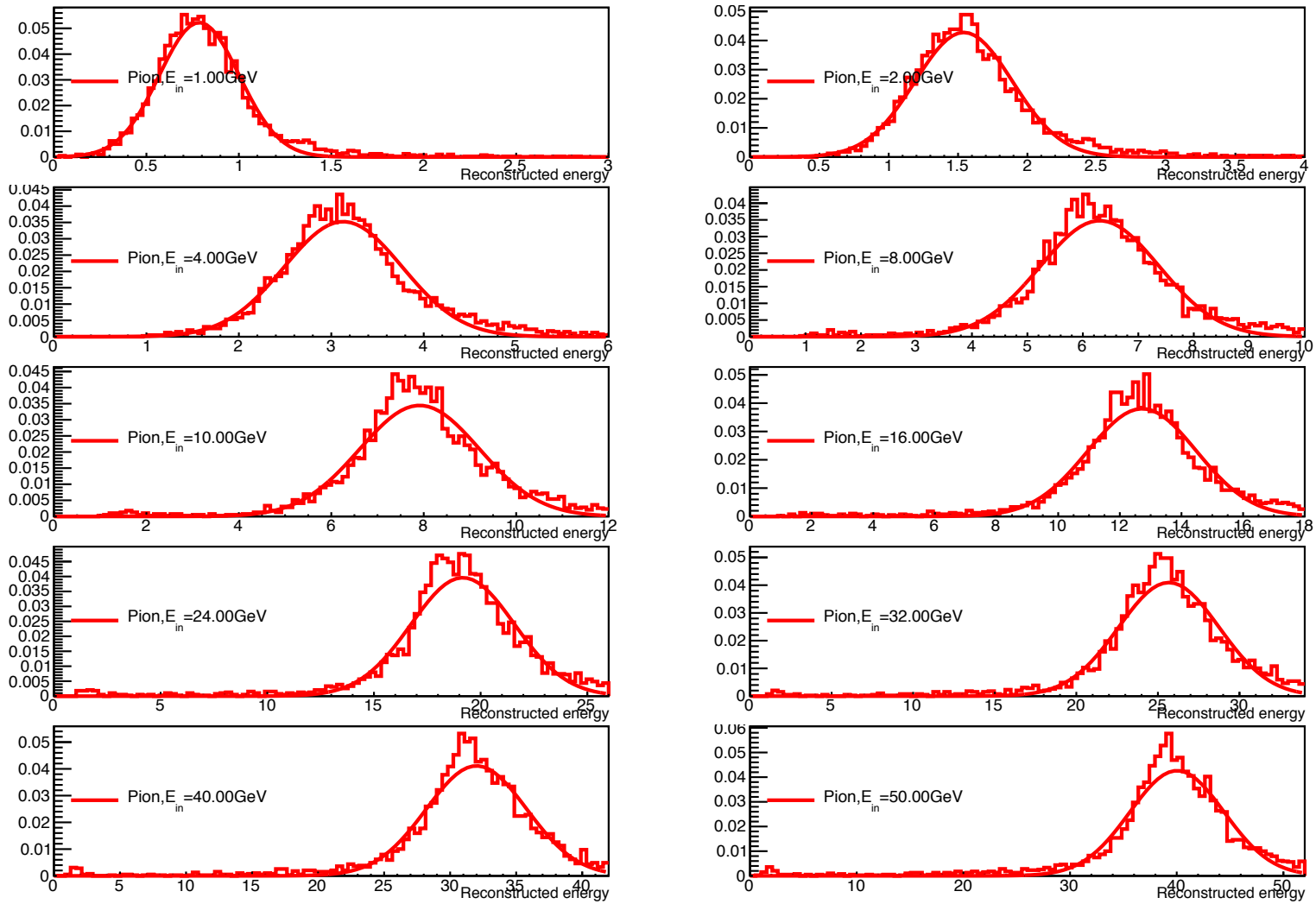
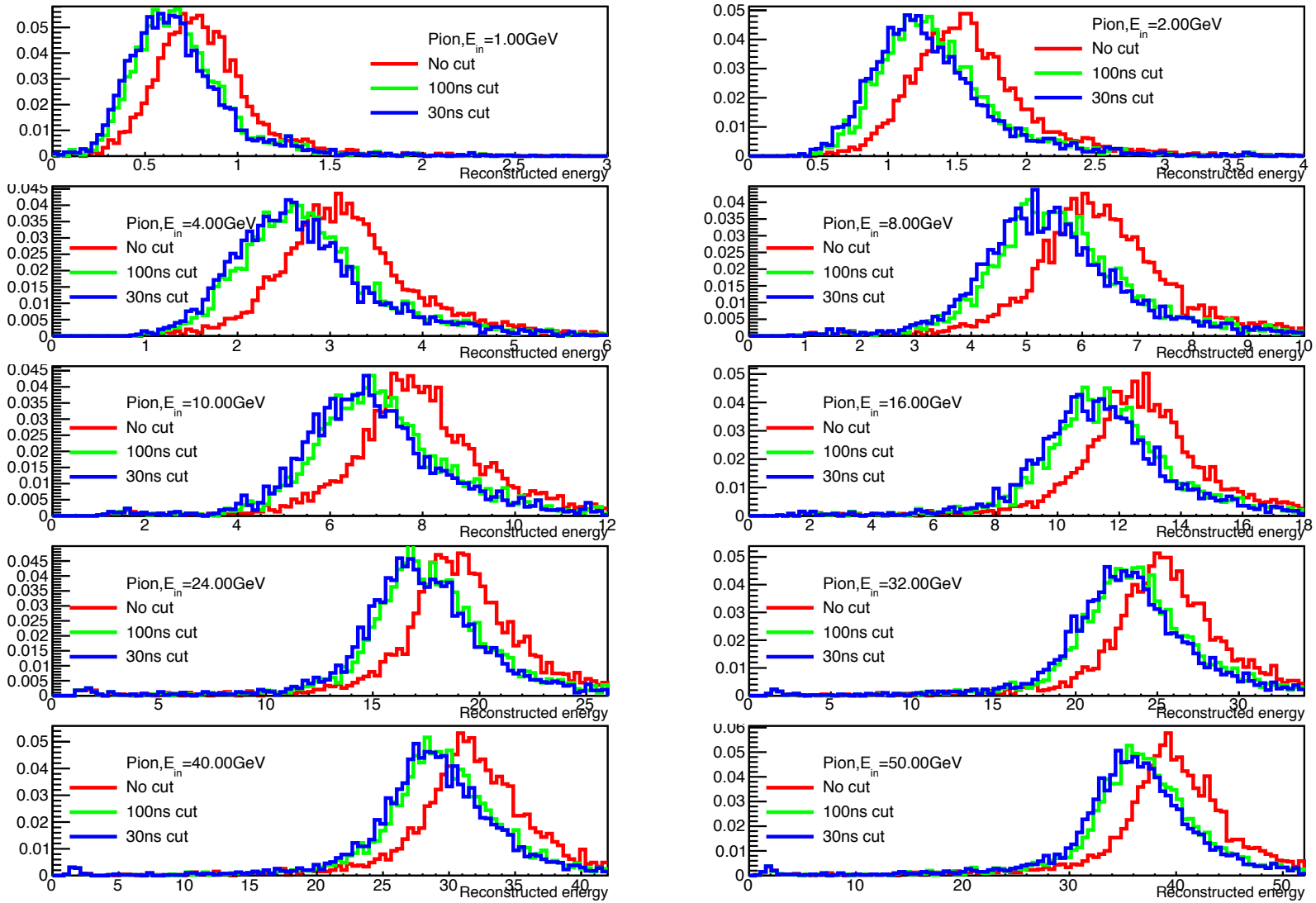
Reconstructed energy



Using all hits with the muon sampling factors. No timing cut.

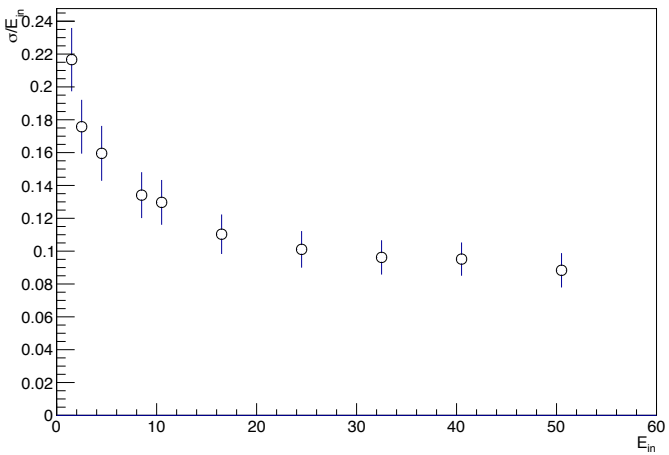
With timing cut



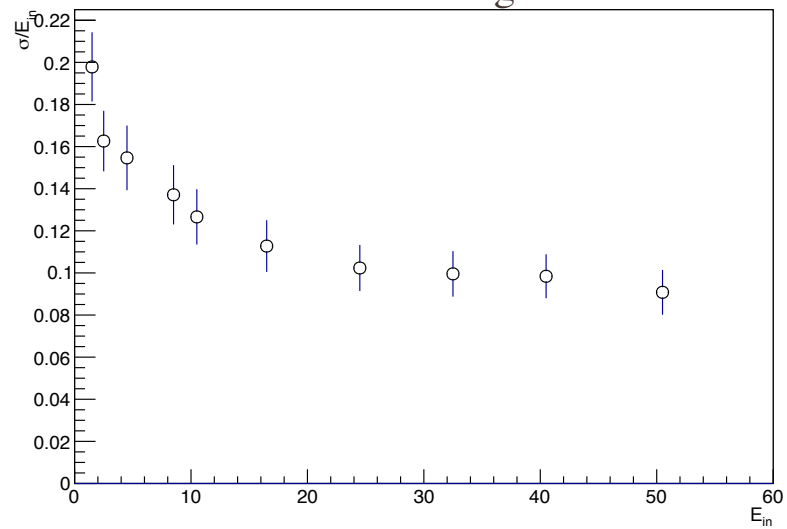
Timing cut adds to the missing energy but not to the resolution.

Resolution

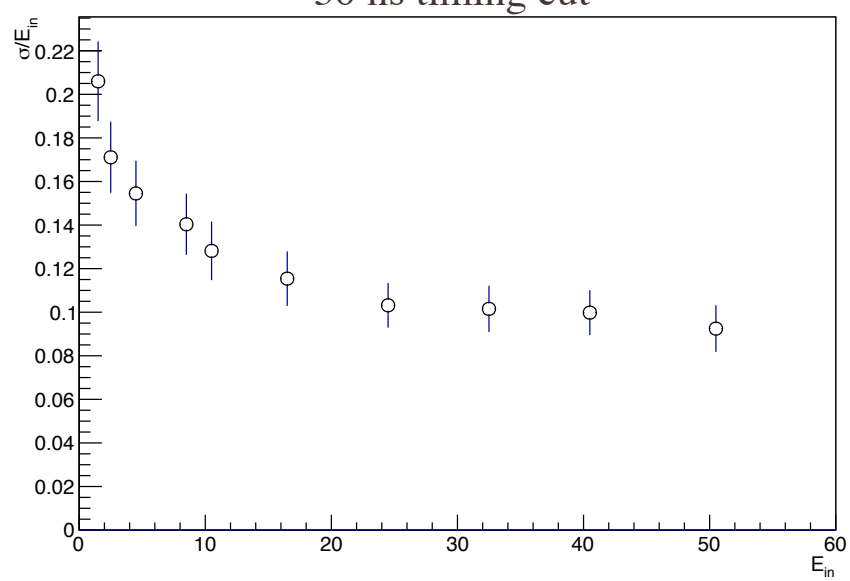
No timing cut



100 ns timing cut



30 ns timing cut

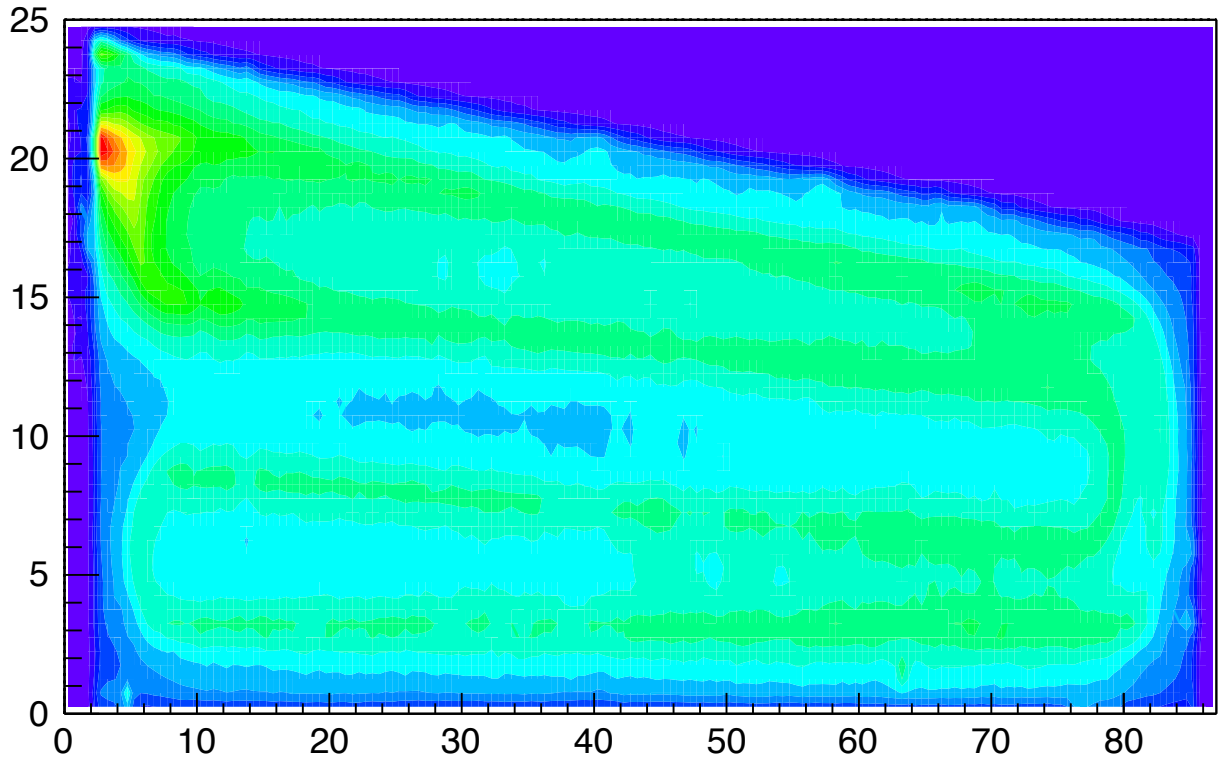


No significant impact on resolution.

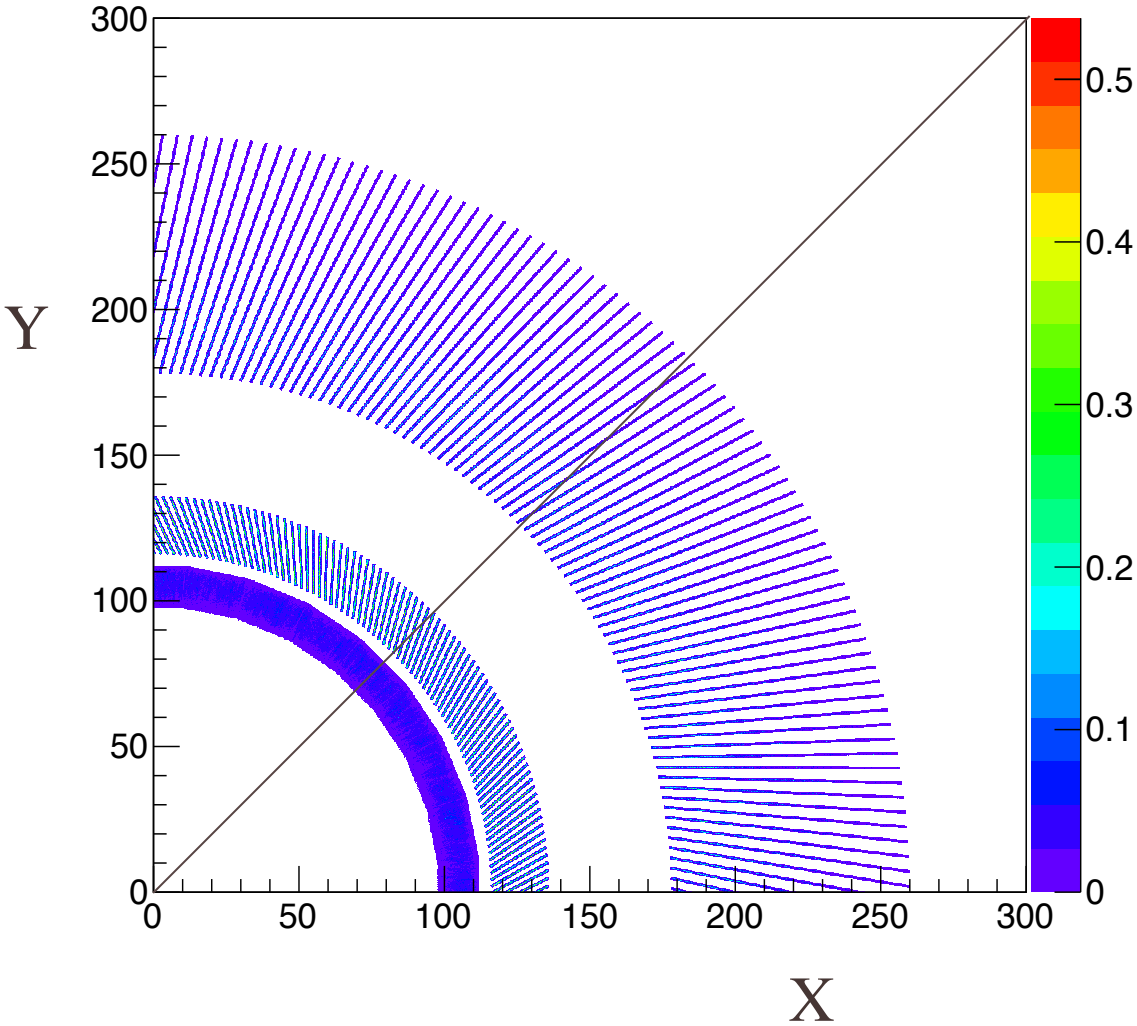
Simulate tile response

Tile response

- Colorado made a 2D map of the tile response with LED pulsers.

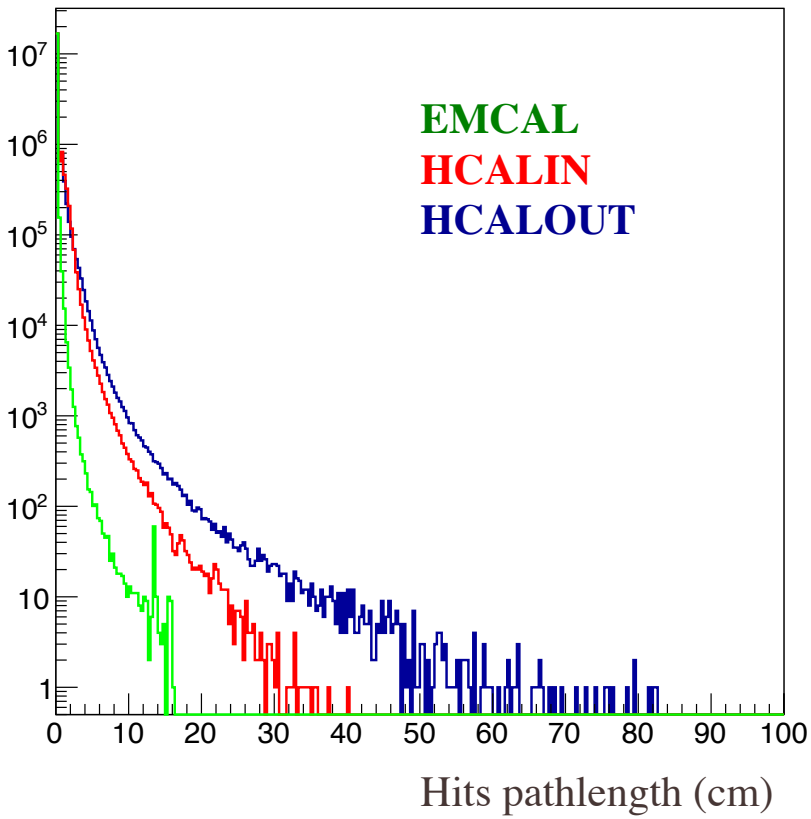


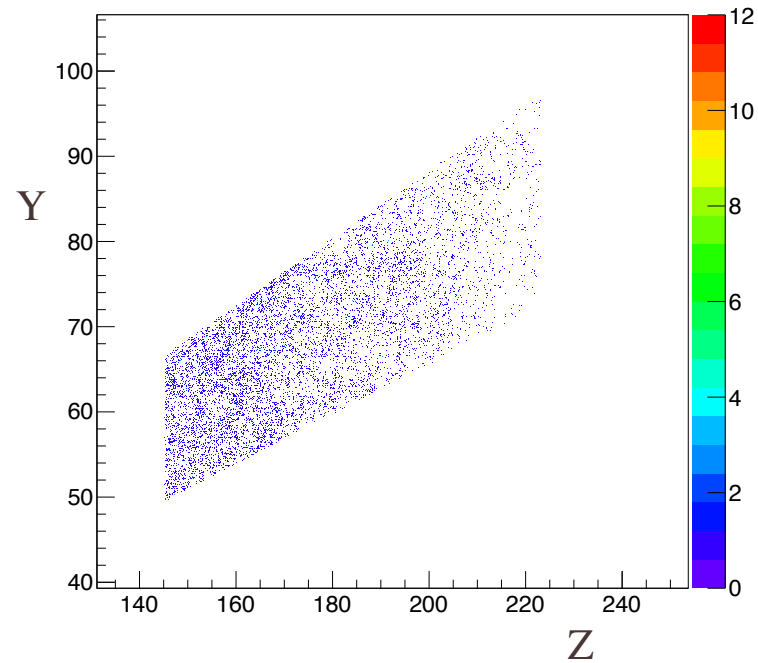
2D projection of hits



Geometry id (?)
1/ Layer id (phi)
2/ Scintillator id(z)

Path length from the hits

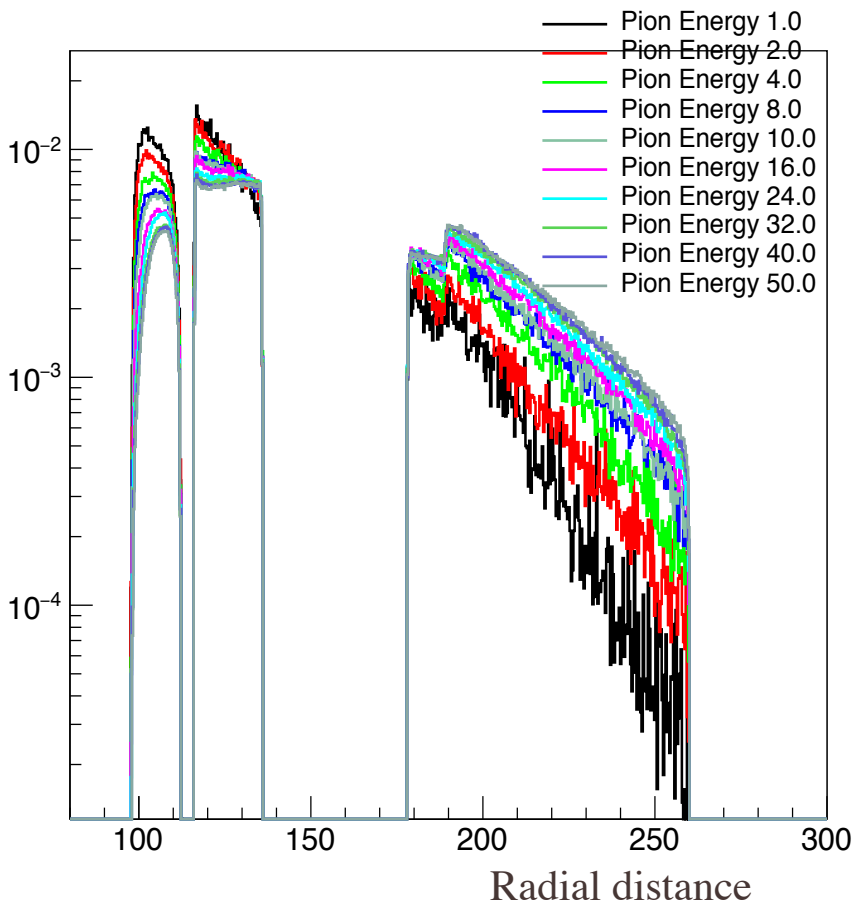


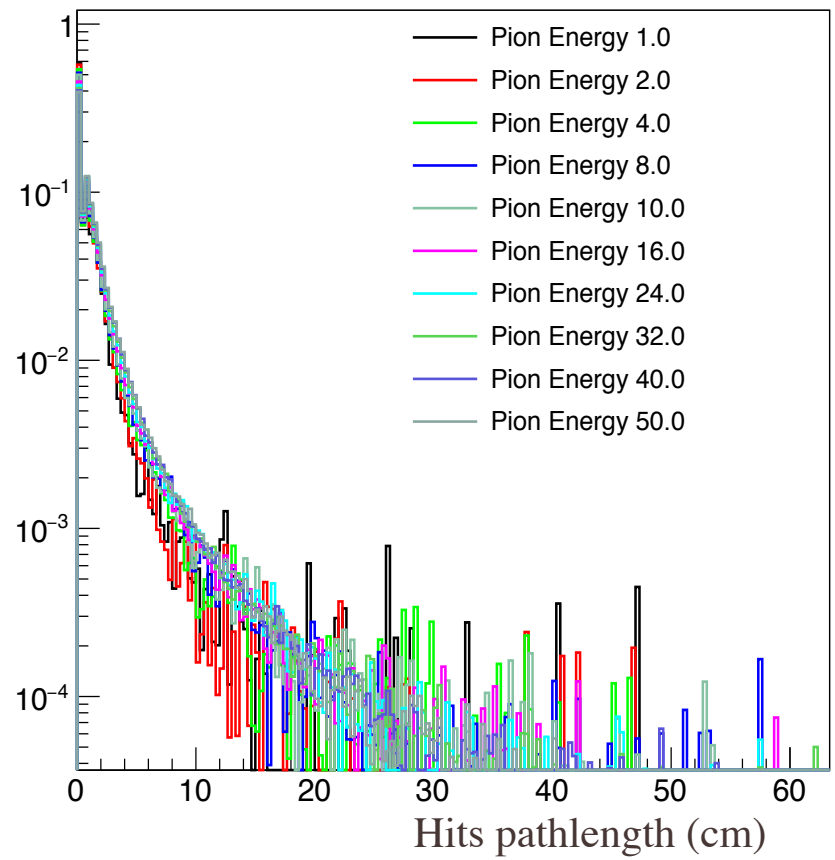


For one layer_id and scintillator_id (One tile)

.. But need a resolution of 1(2) cm to apply the map

Energy dependence





Summary

- No effect on energy resolution with timing cut.
- Need to simulate the tile light response in the simulation.