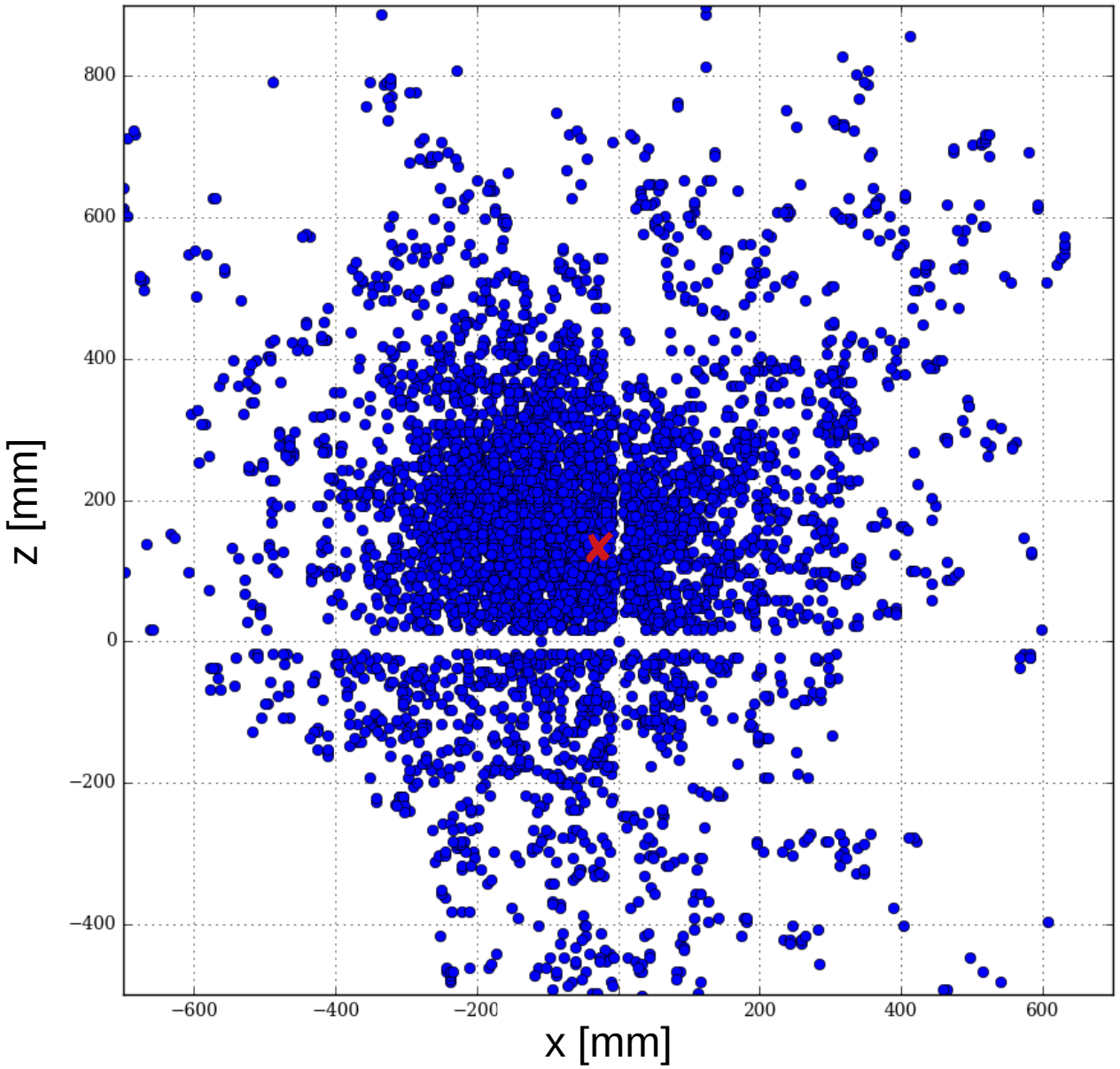
Pion Data

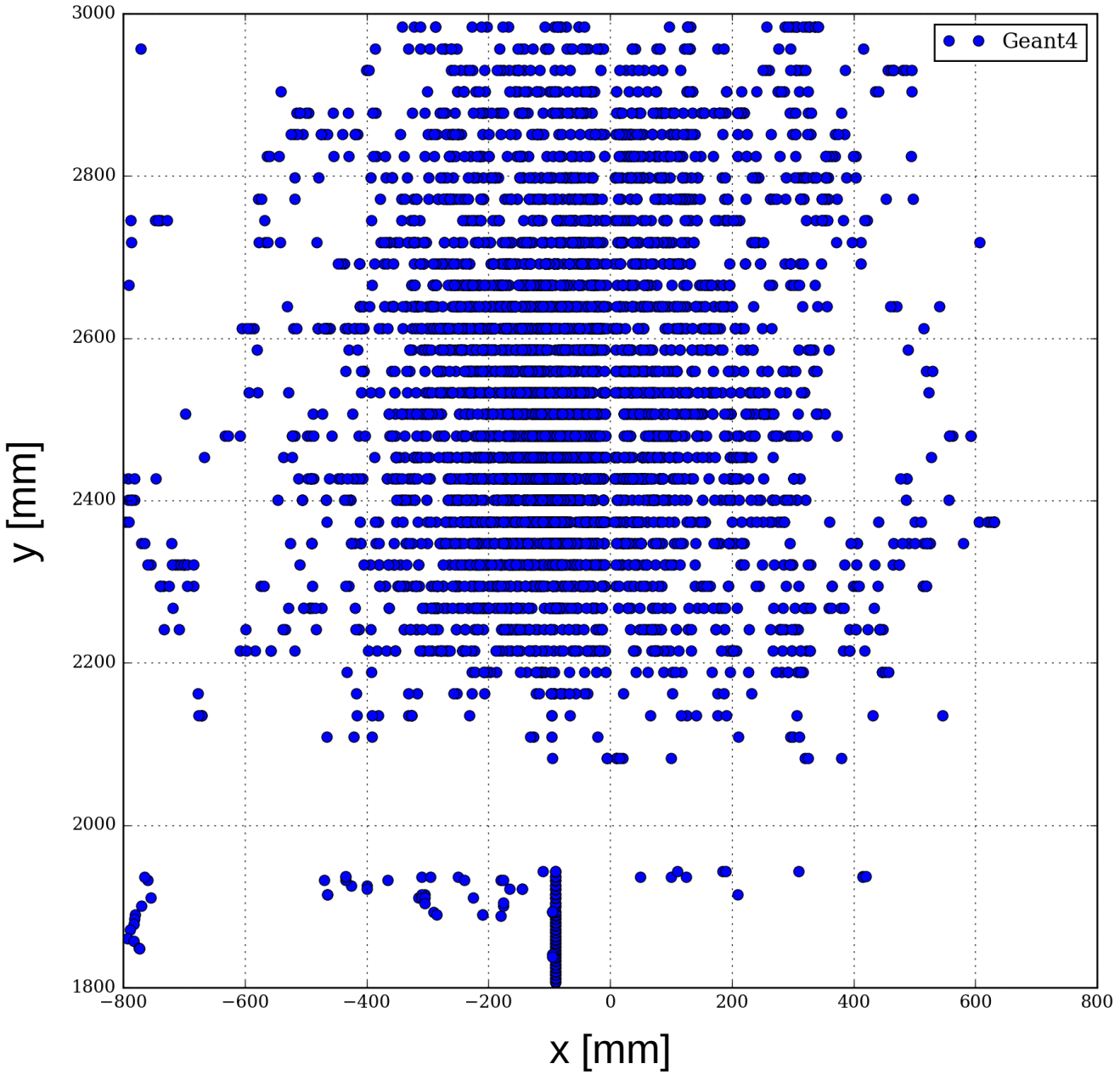
Particle: *Charged pion (50 GeV)*
Magnetic field*: 3.5 Tesla*
iLCSoft: *Built with spack recently*
iLCConfig : *v02-02*
Docker image: *ilcsoft/ilcsoft-spack:latest*
Gun position*: x=-30 mm, y=0 mm, z=150 mm*
Gun direction: (x=-0.05, y=0.95, y=0.0)
*ECAL : **5mm x 5mm**, regular calorimeter*
*HCAL: **5mm x 5mm**, ultra resolution HCAL*

1 event



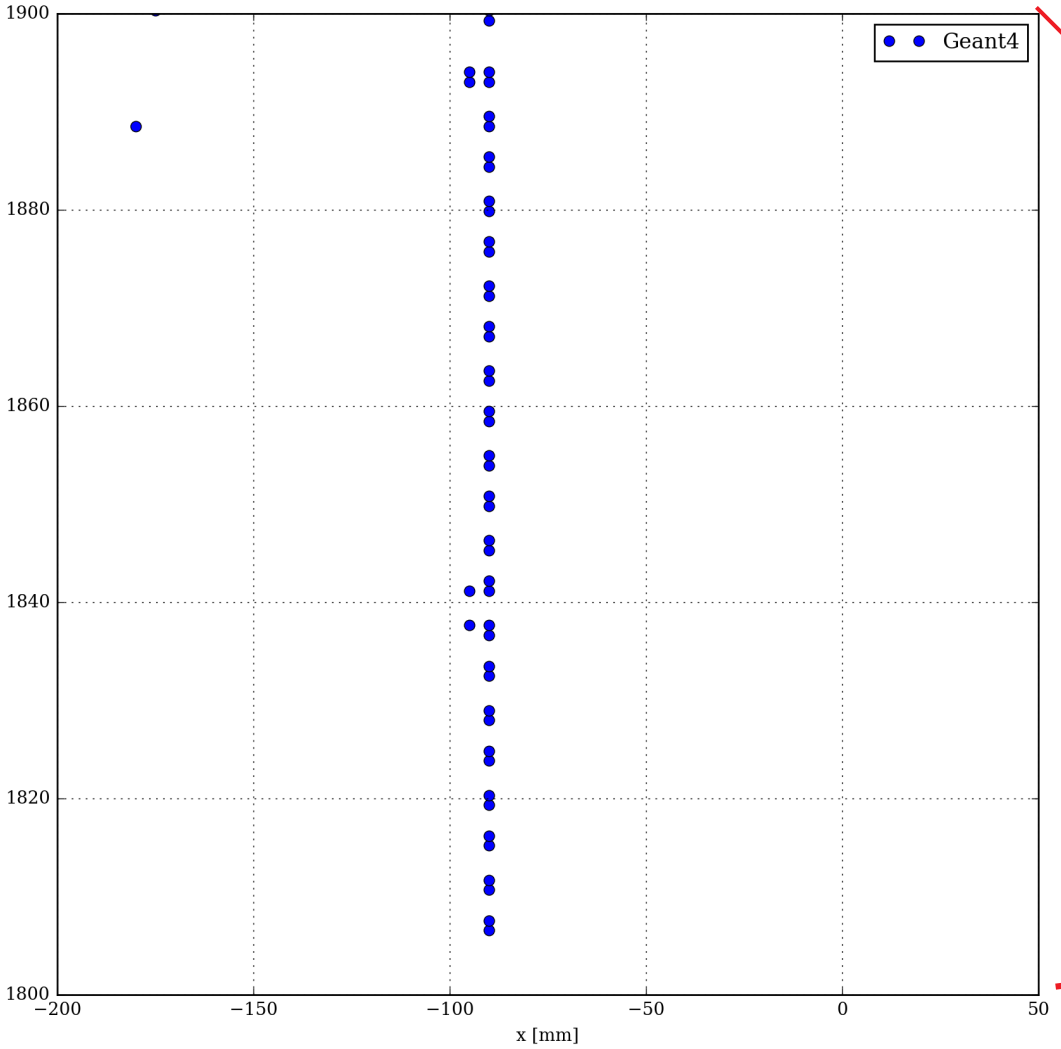
Y-coordinate is the **depth** of the calorimeter

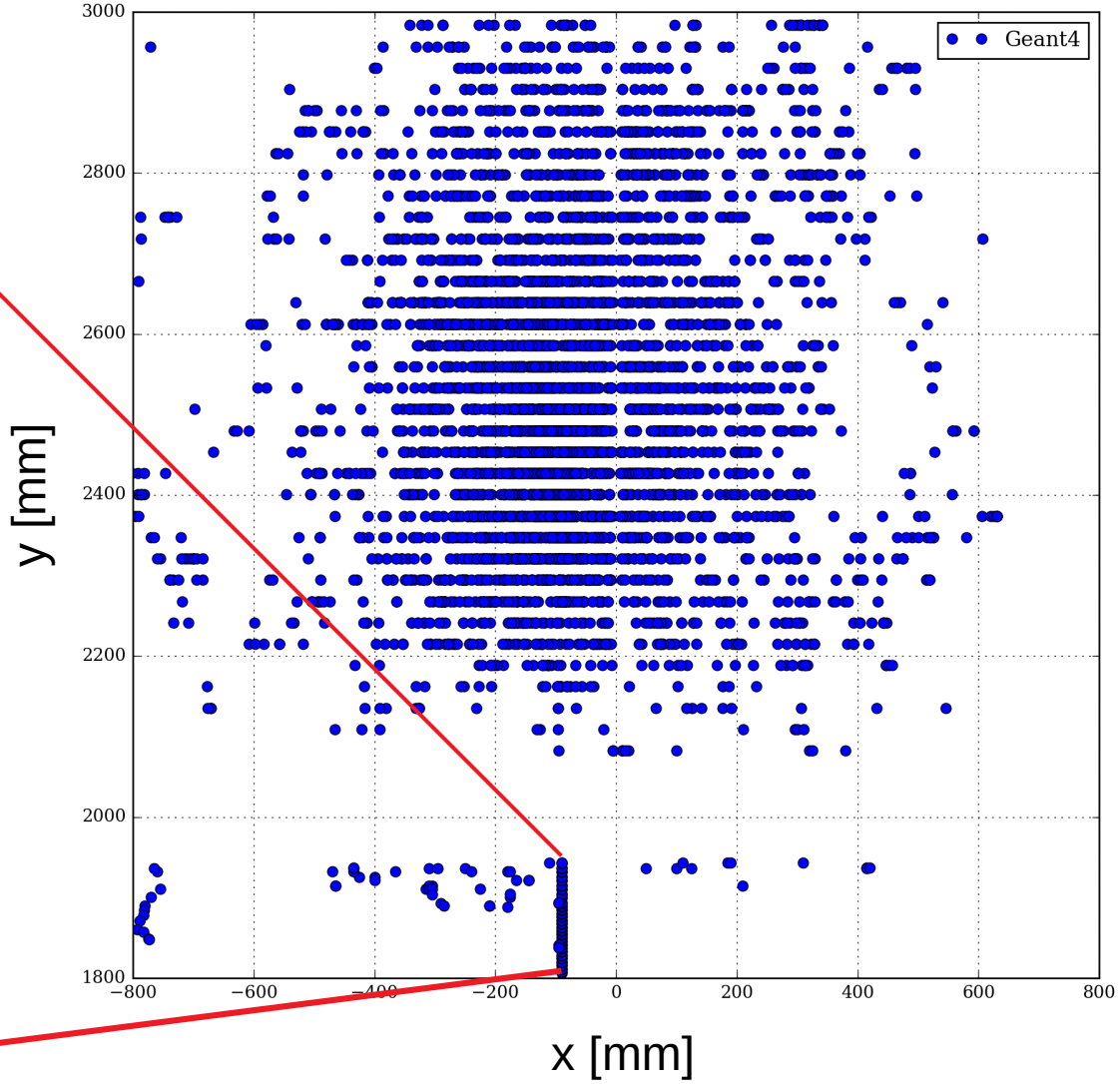
Pion Data (x-y plane)



Y-coordinate is the **depth** of the calorimeter

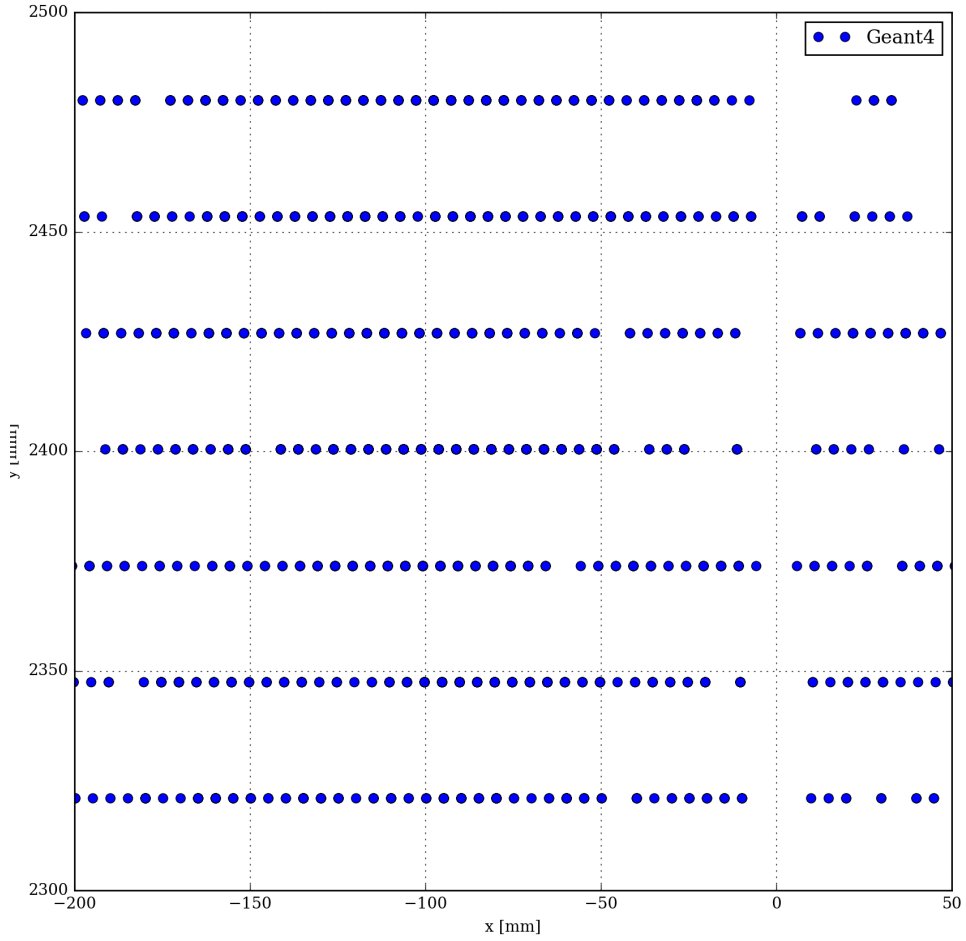
Pion Data (x-y plane, ECAL ZOOM)

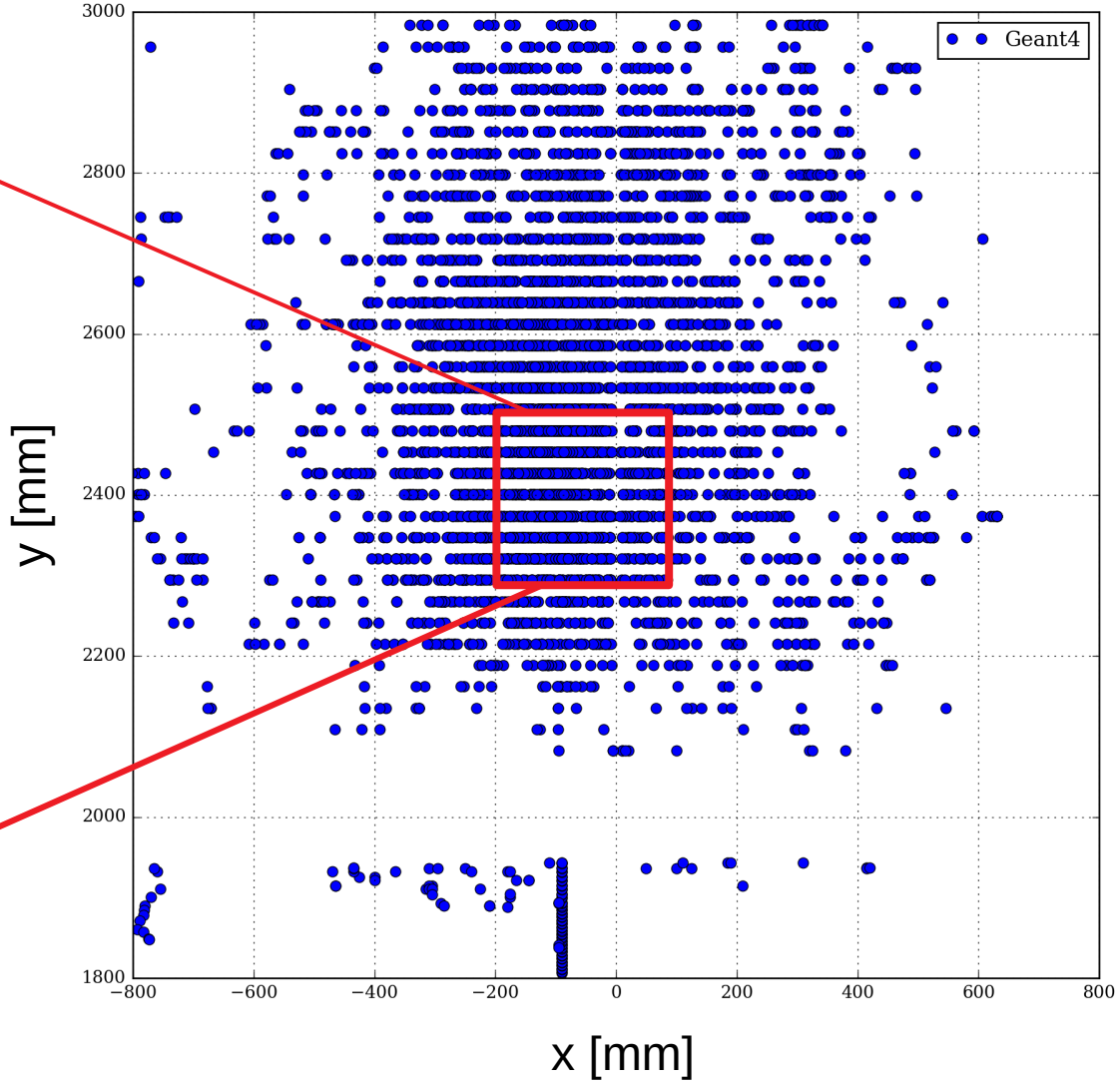




Y-coordinate is the **depth** of the calorimeter

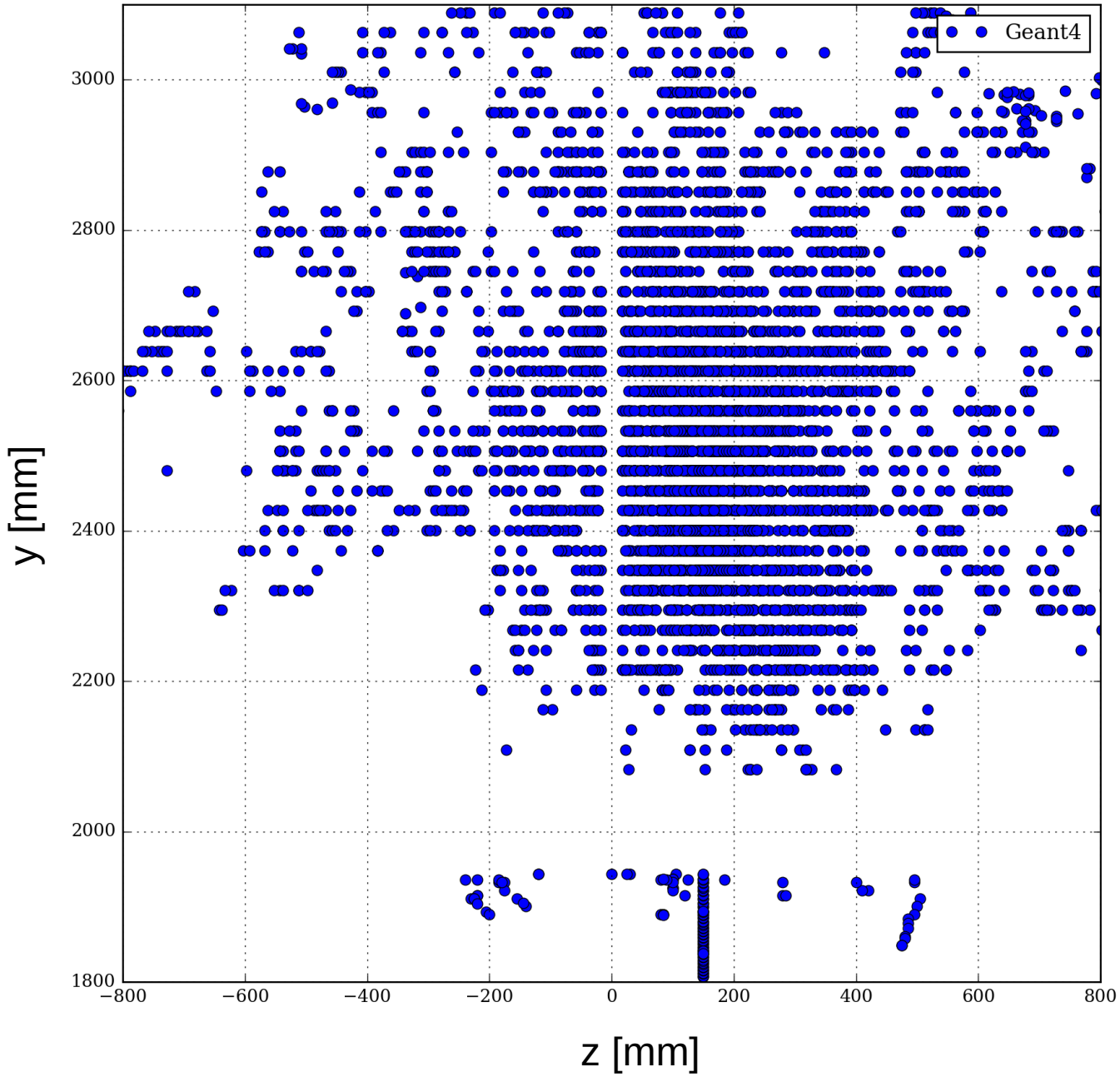
Pion Data (x-y plane, HCAL ZOOM)





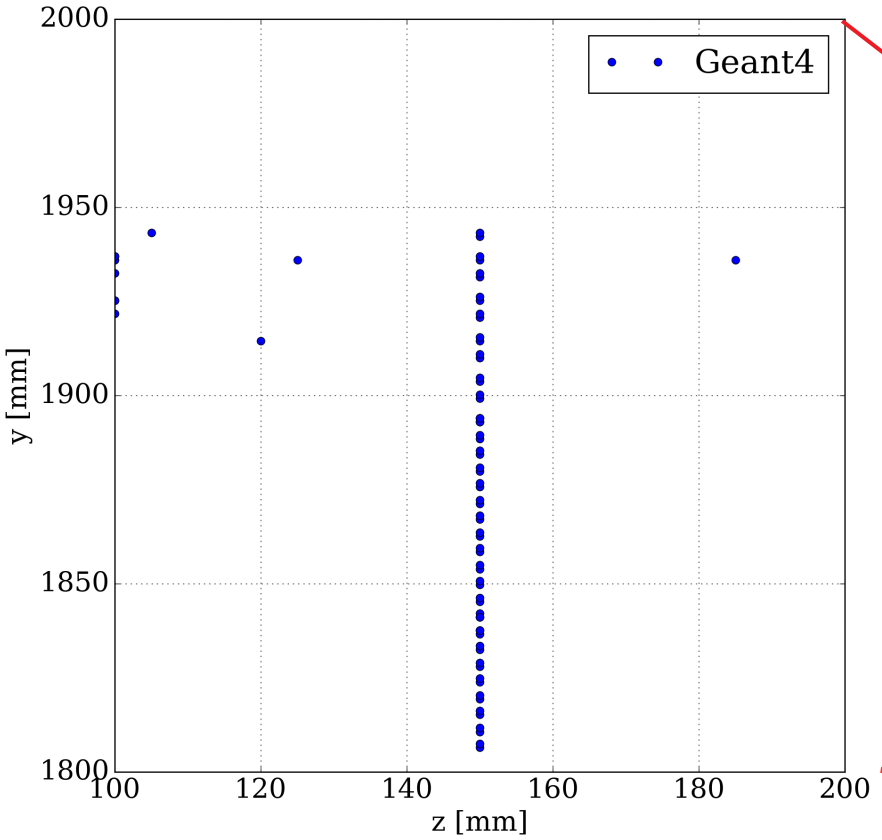
Y-coordinate is the **depth** of the calorimeter

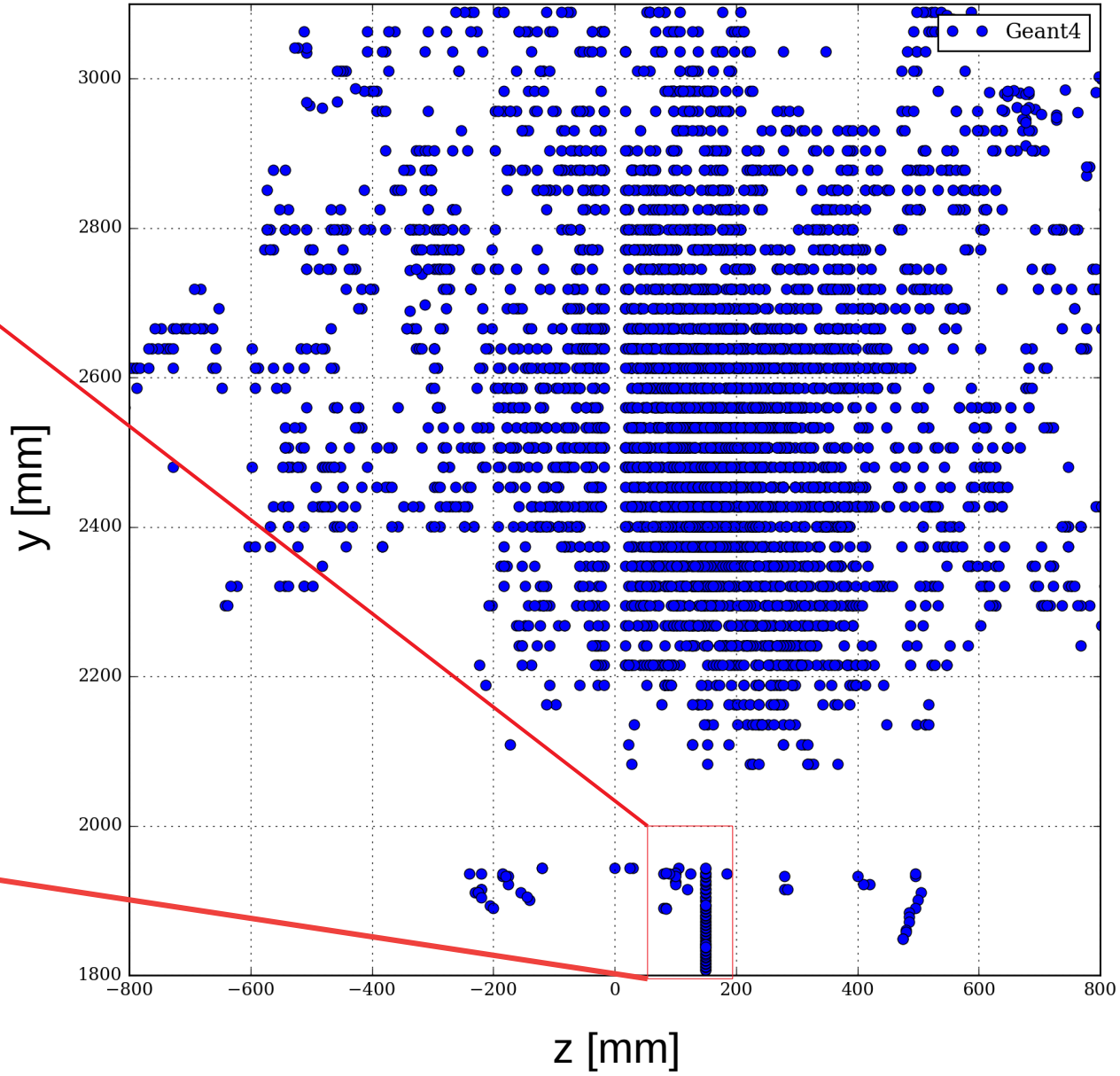
Pion Data (z-y plane)



Y-coordinate is the **depth** of the calorimeter

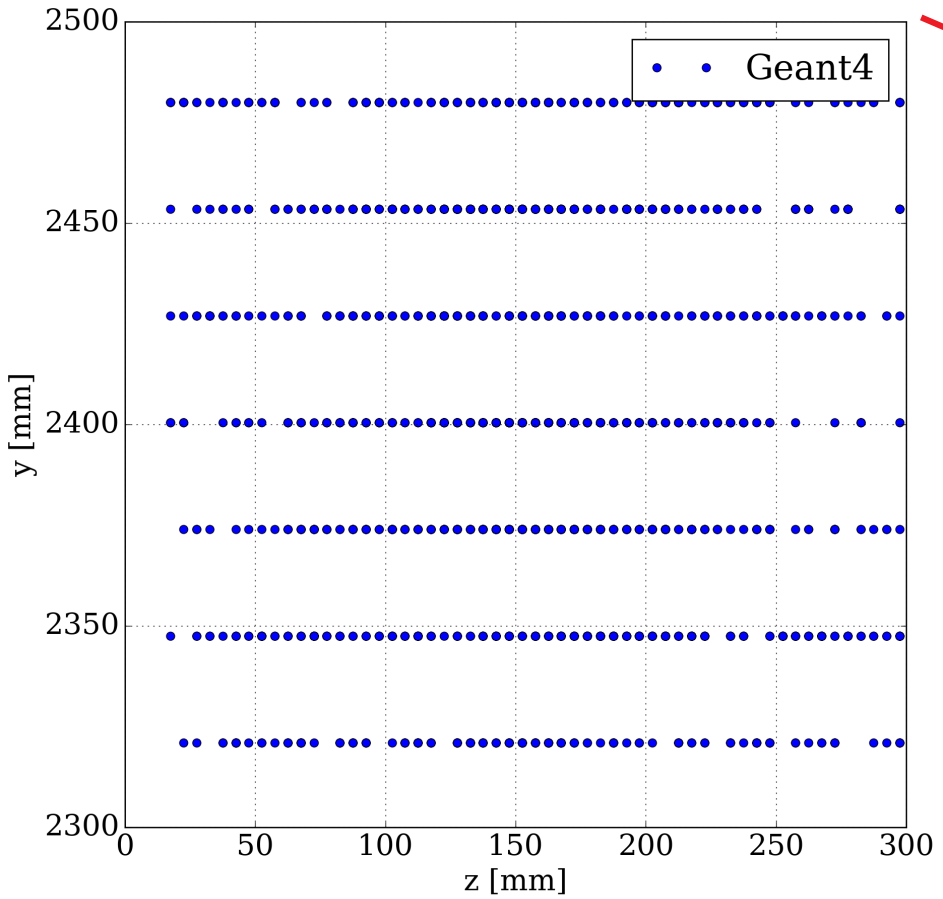
Pion Data (z-y plane, ECAL ZOOM)

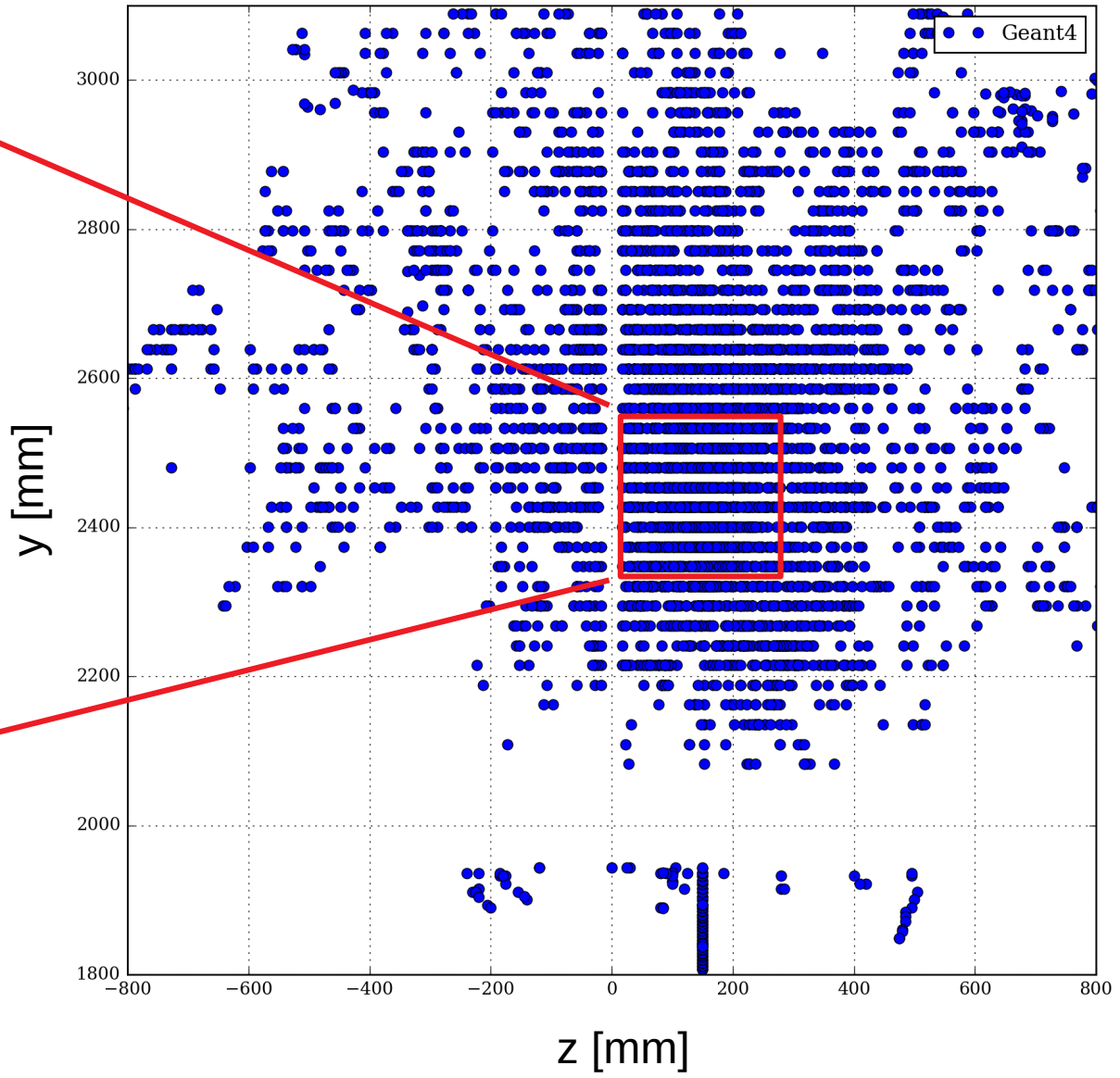




Y-coordinate is the **depth** of the calorimeter

Pion Data (z-y plane, HCAL ZOOM)

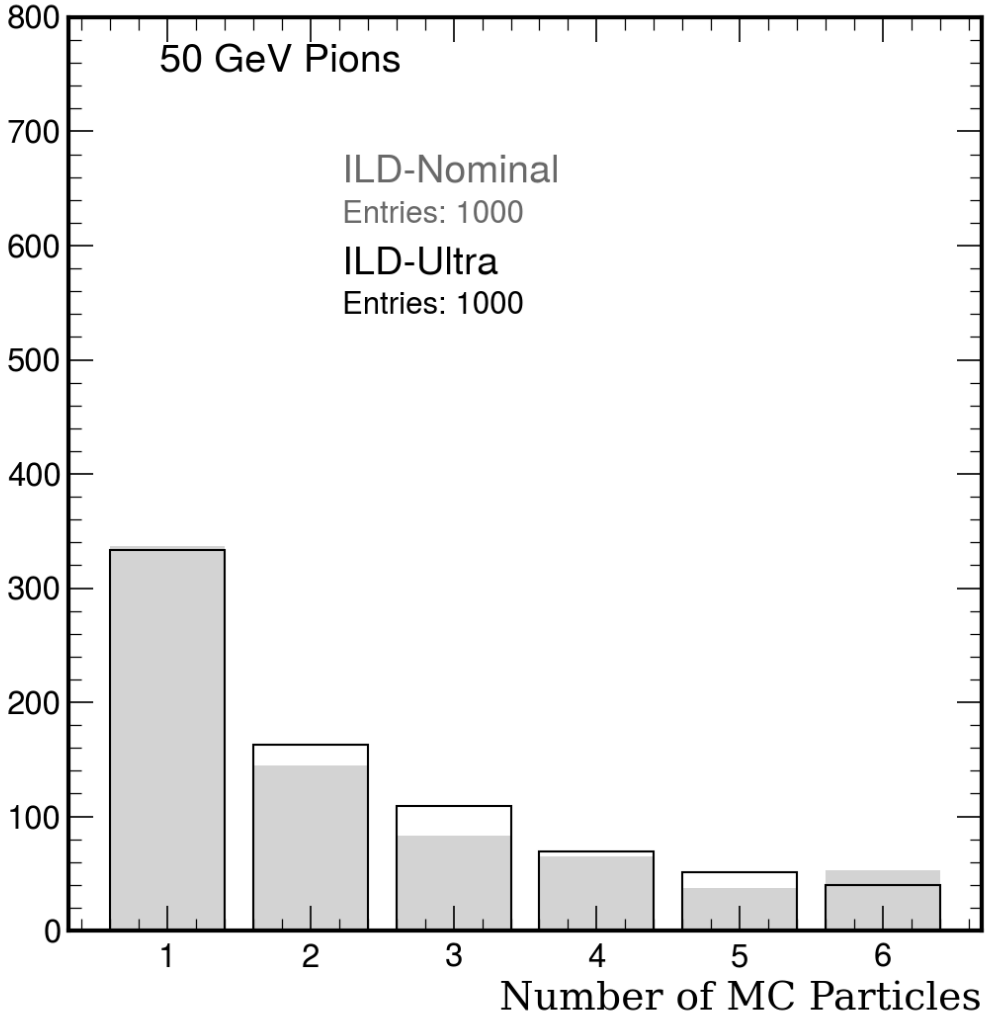


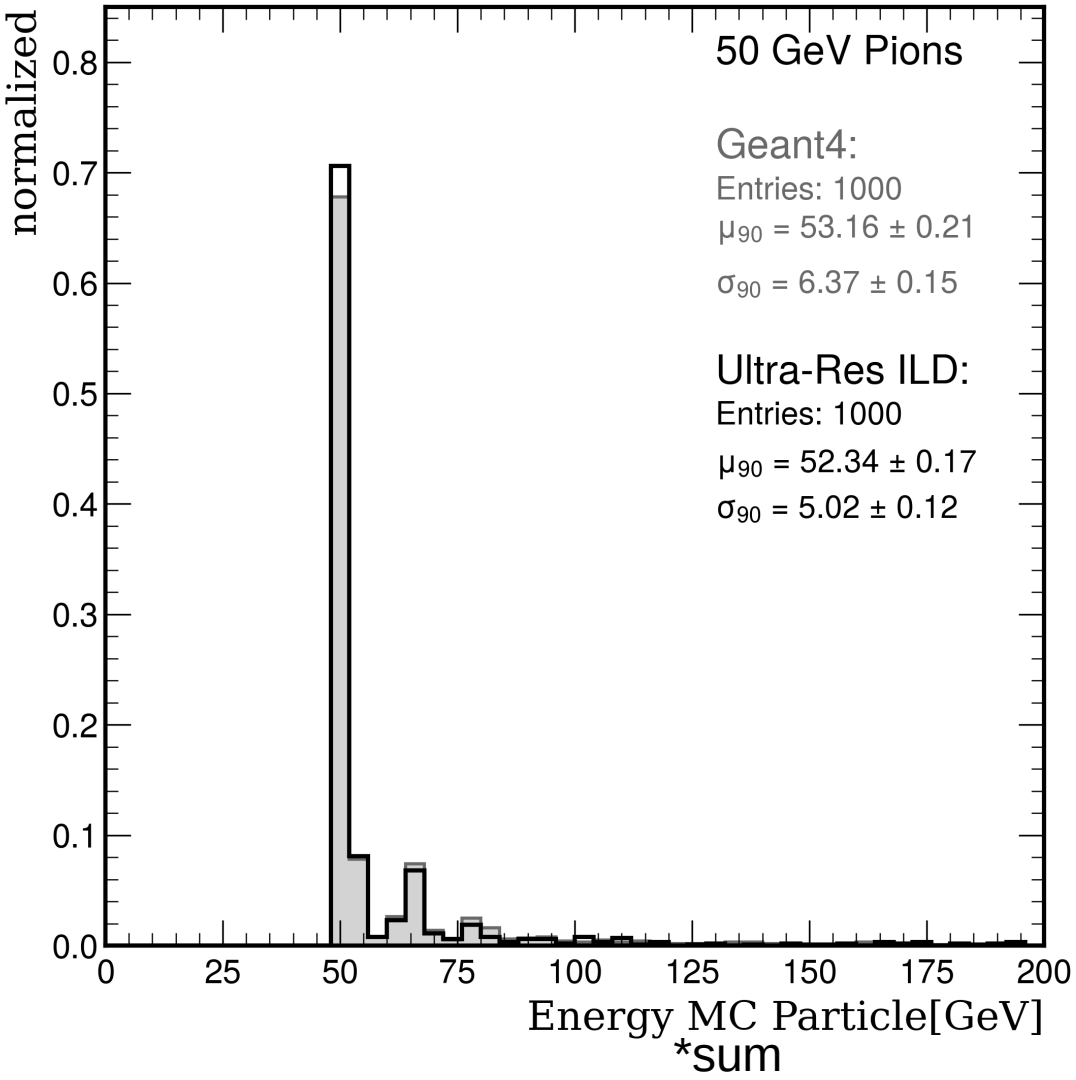


Y-coordinate is the **depth** of the calorimeter

Comparison to the nominal detector (ILD_l5_v02)

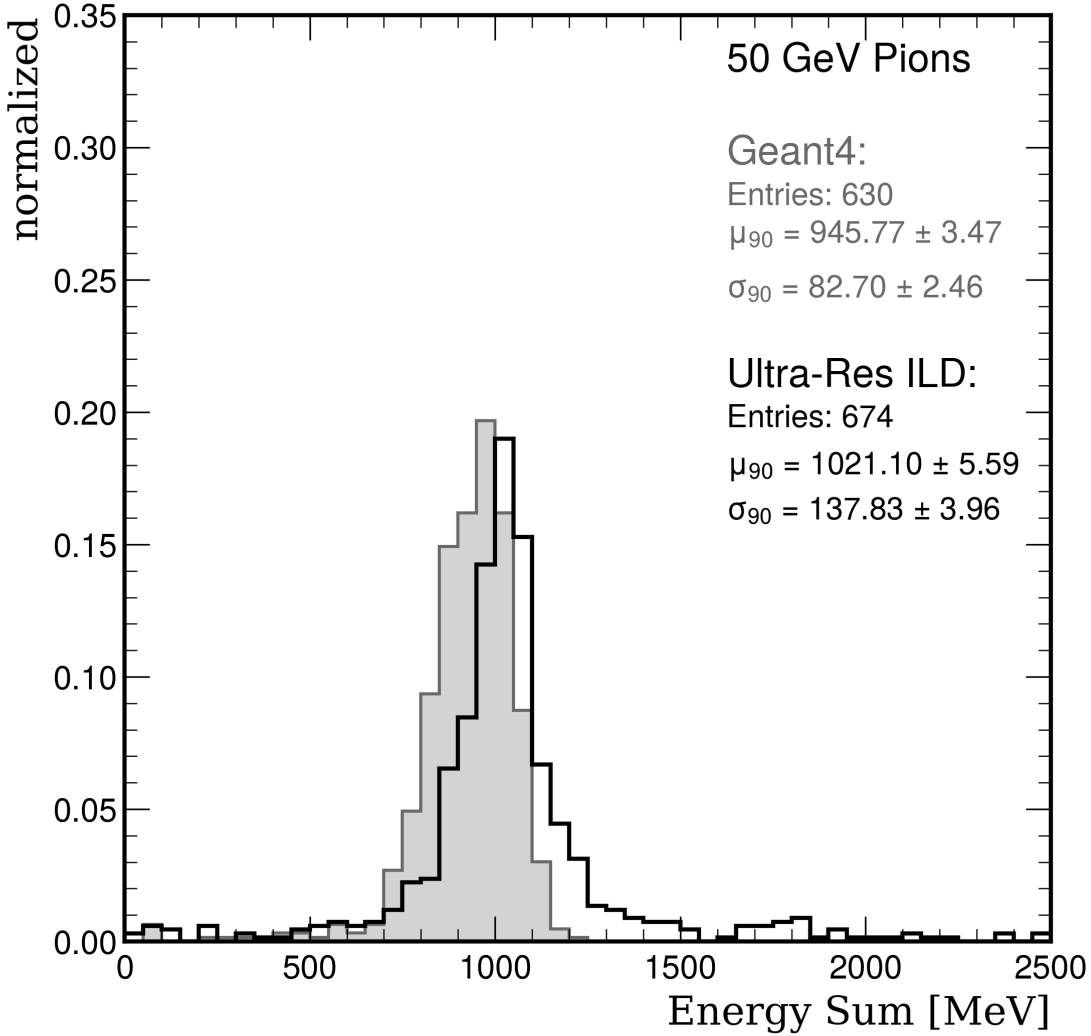
MCParticle Collection

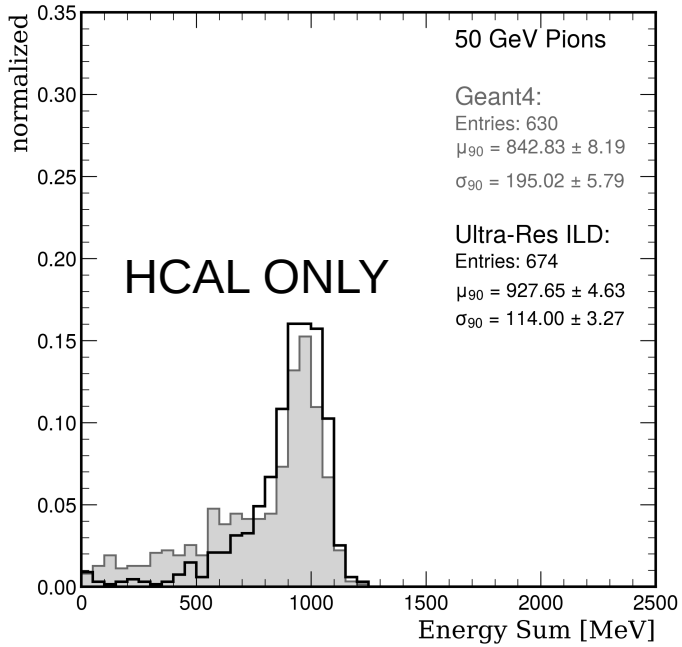


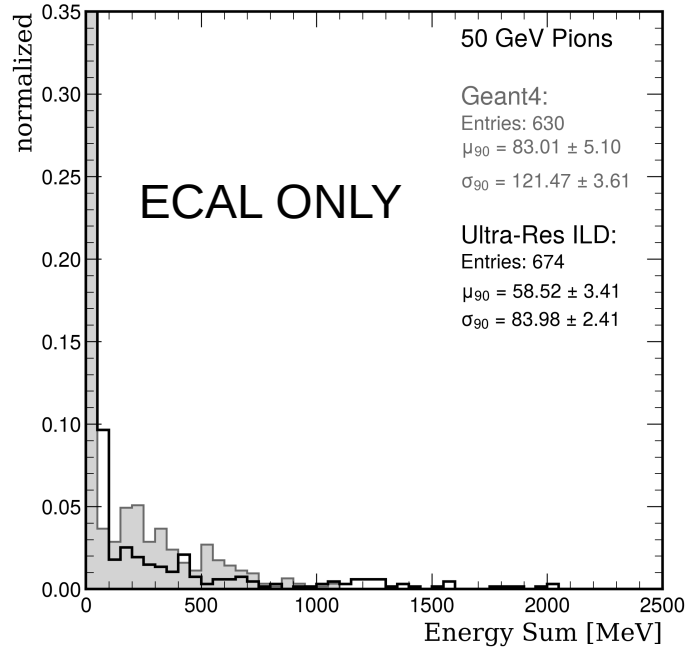


Comparison to the nominal detector (ILD_l5_v02)

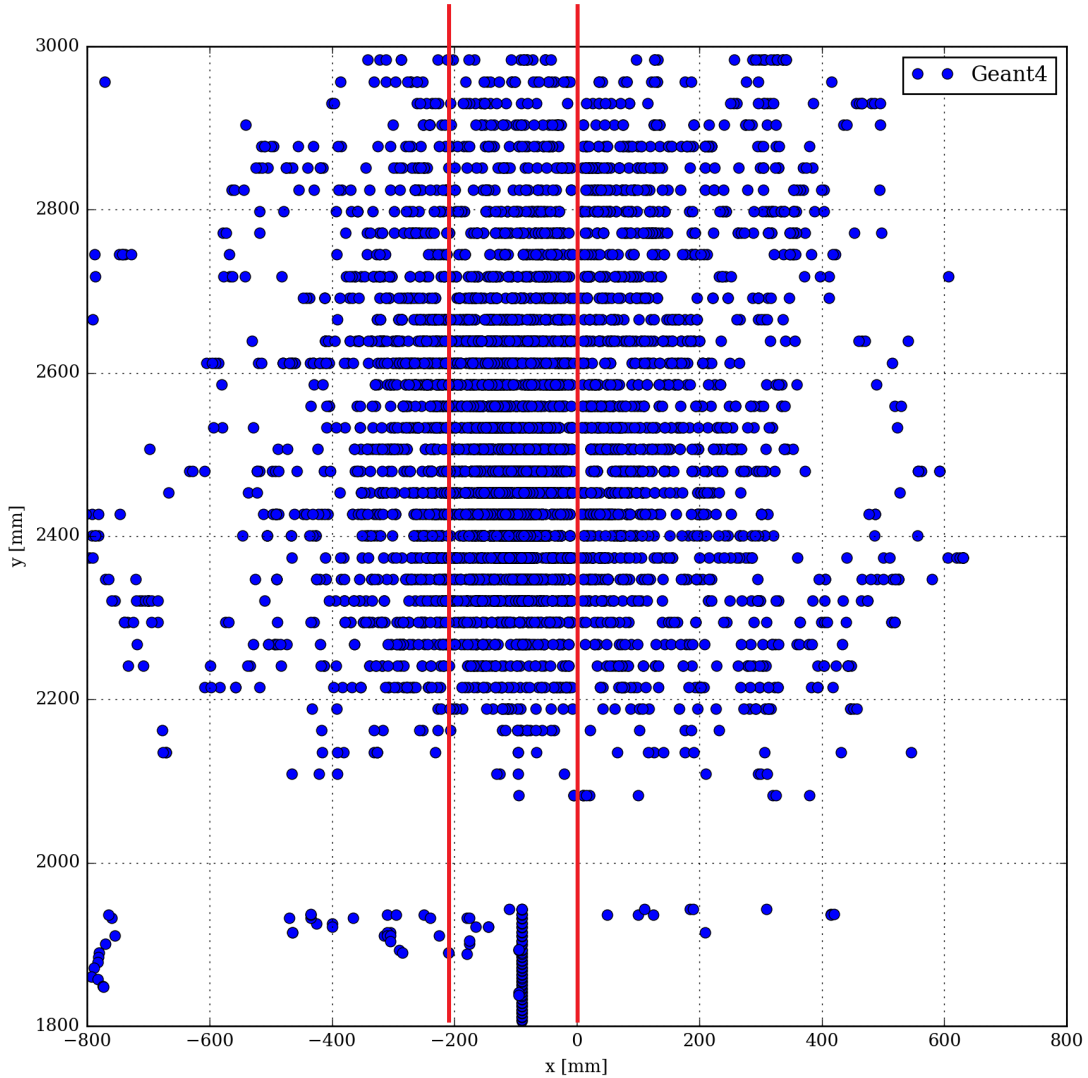
ECAL + HCAL Barrel Collection



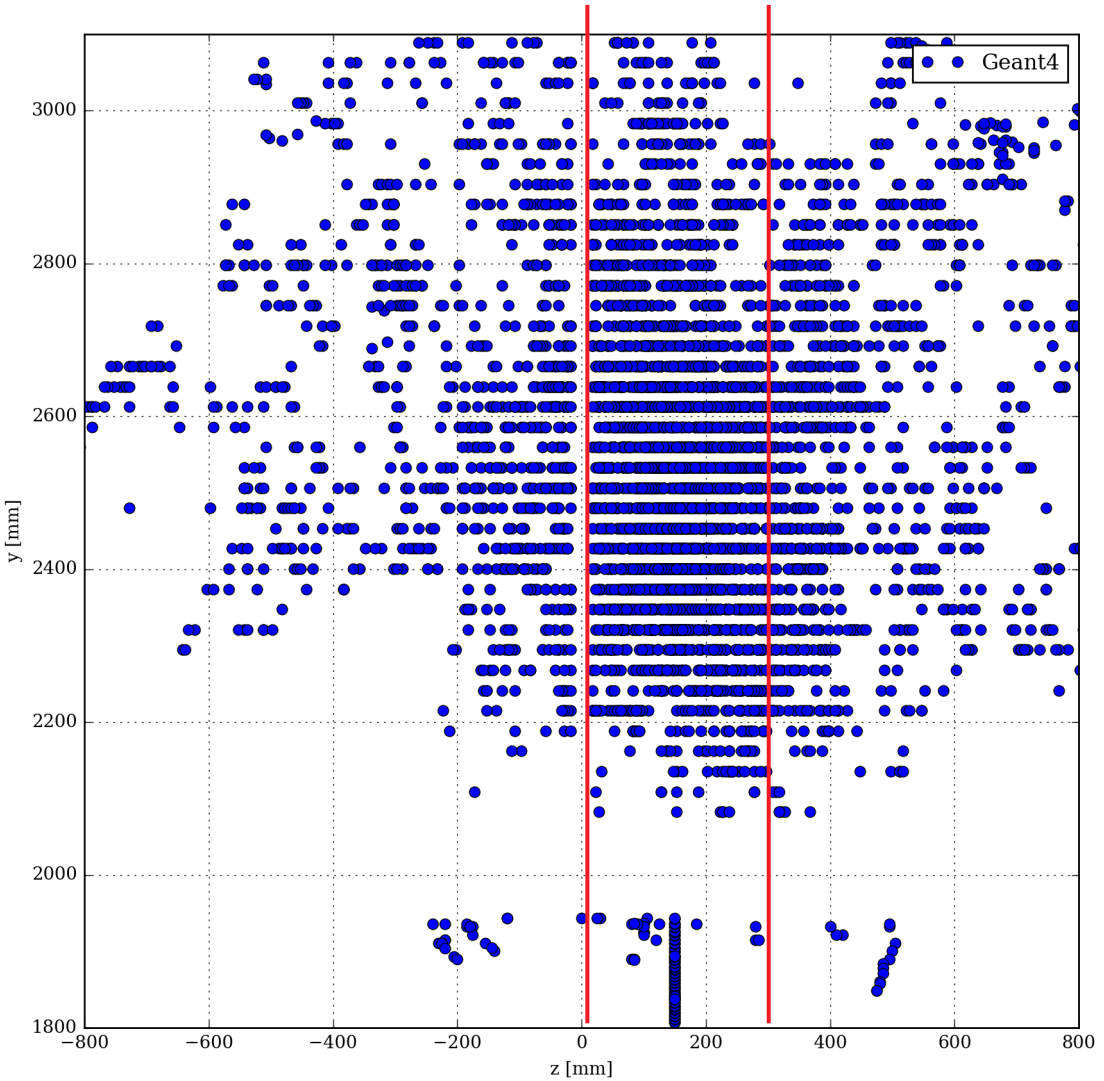




Boxing..



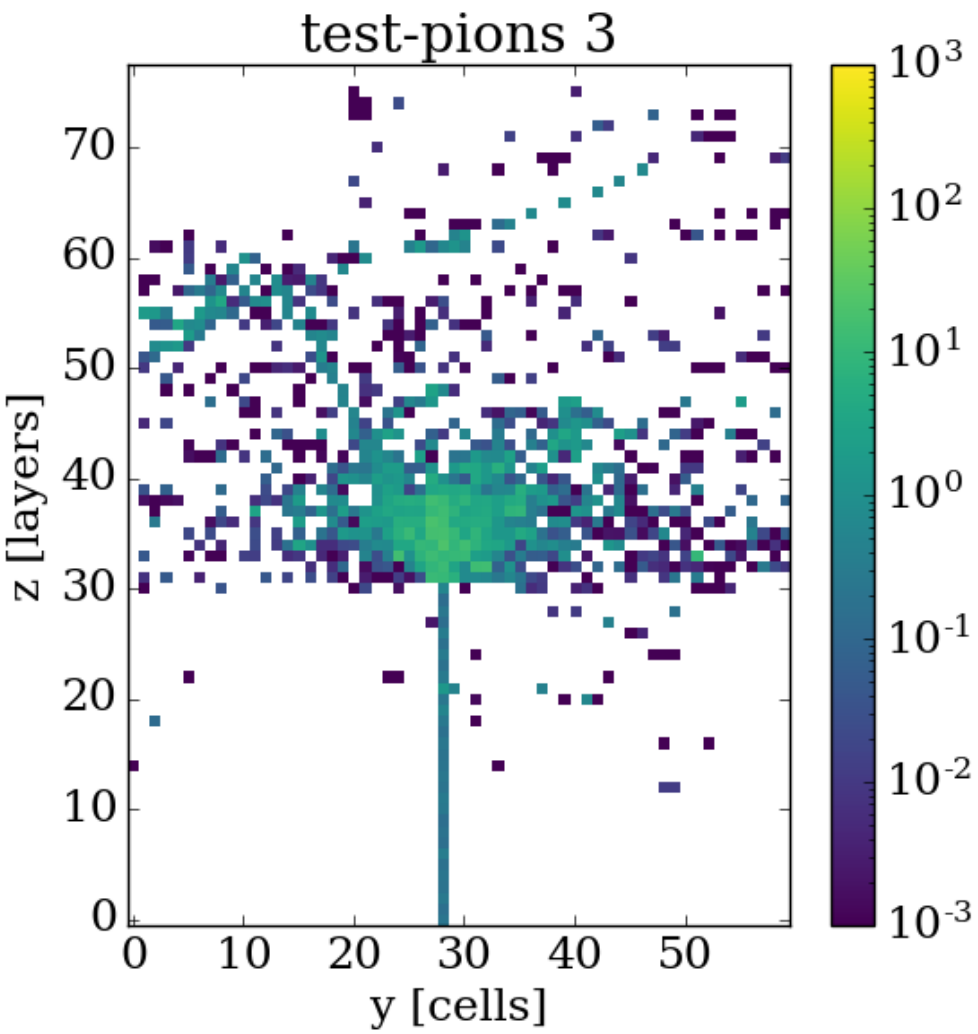
[-200, 0] mm

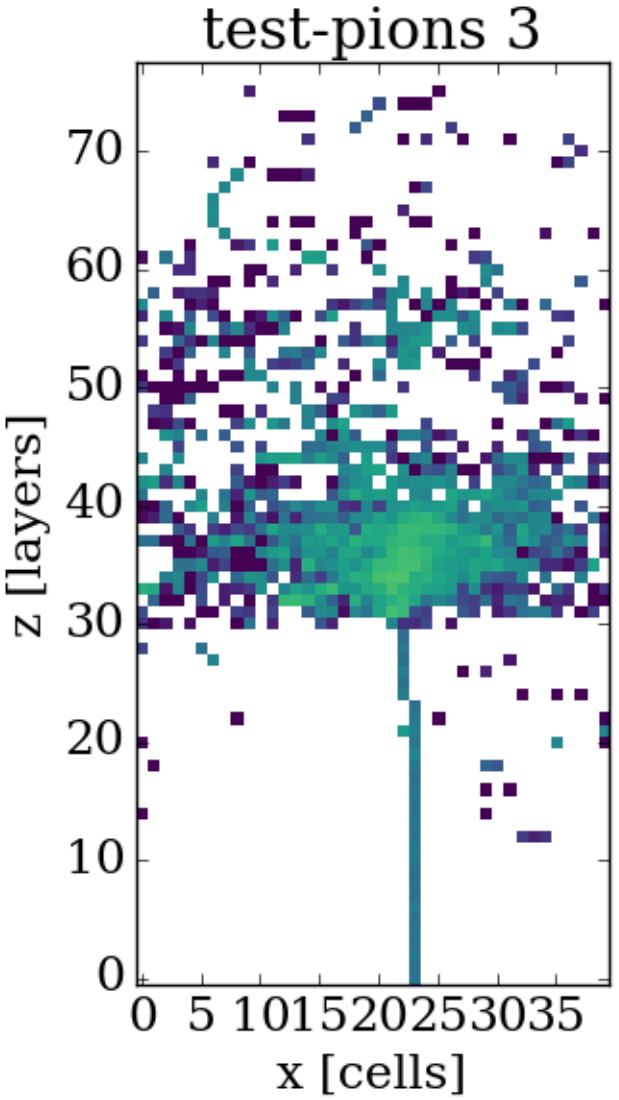


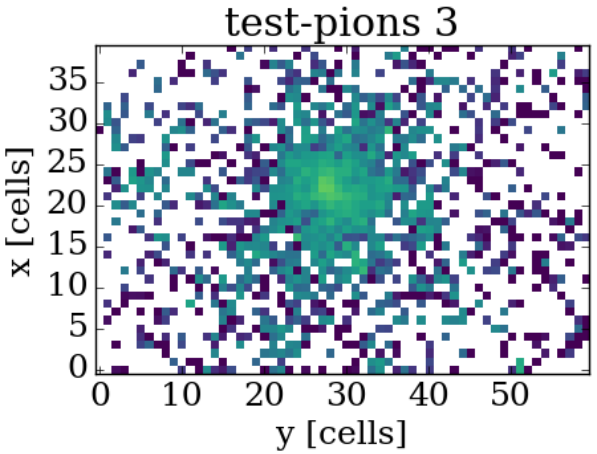
[10, 310] mm

Showers: (z=78 * x=40 * y=60)

~6 times more cells compared to H. B. F. S.

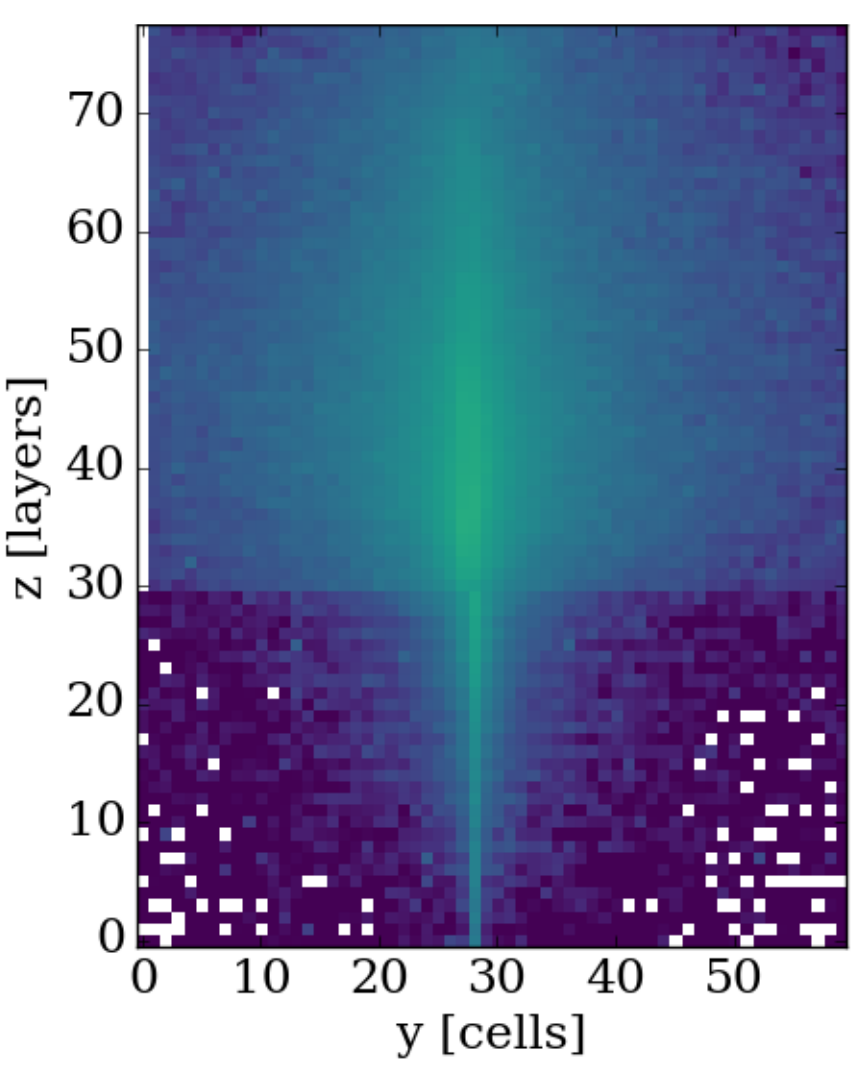


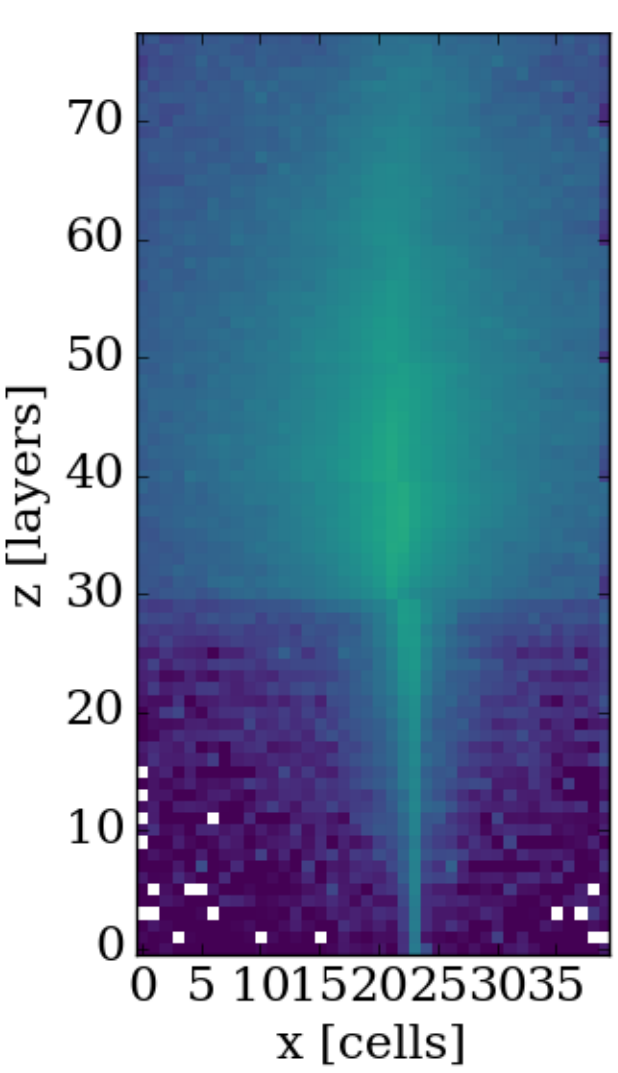


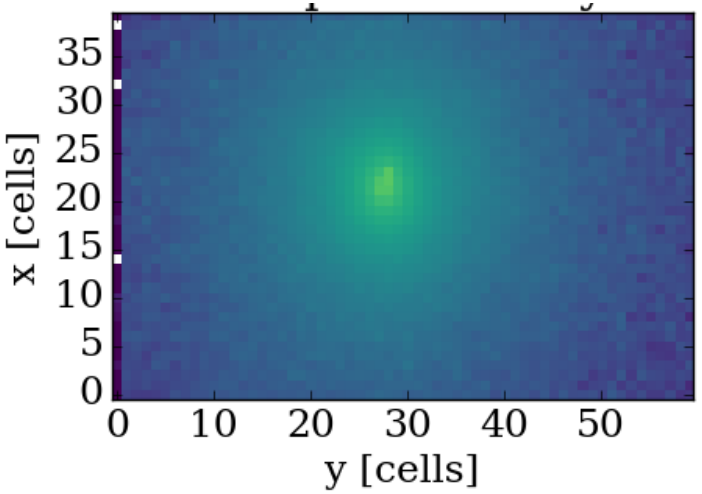


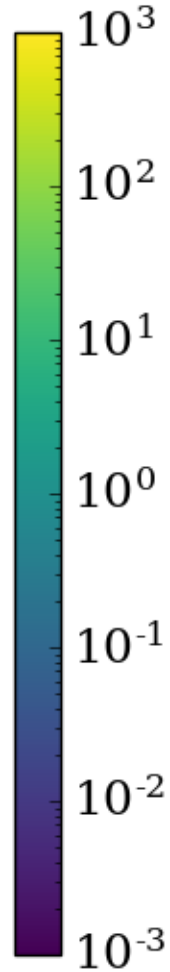
Showers: (z=78 * x=40 * y=60)

Overlay of 1k showers



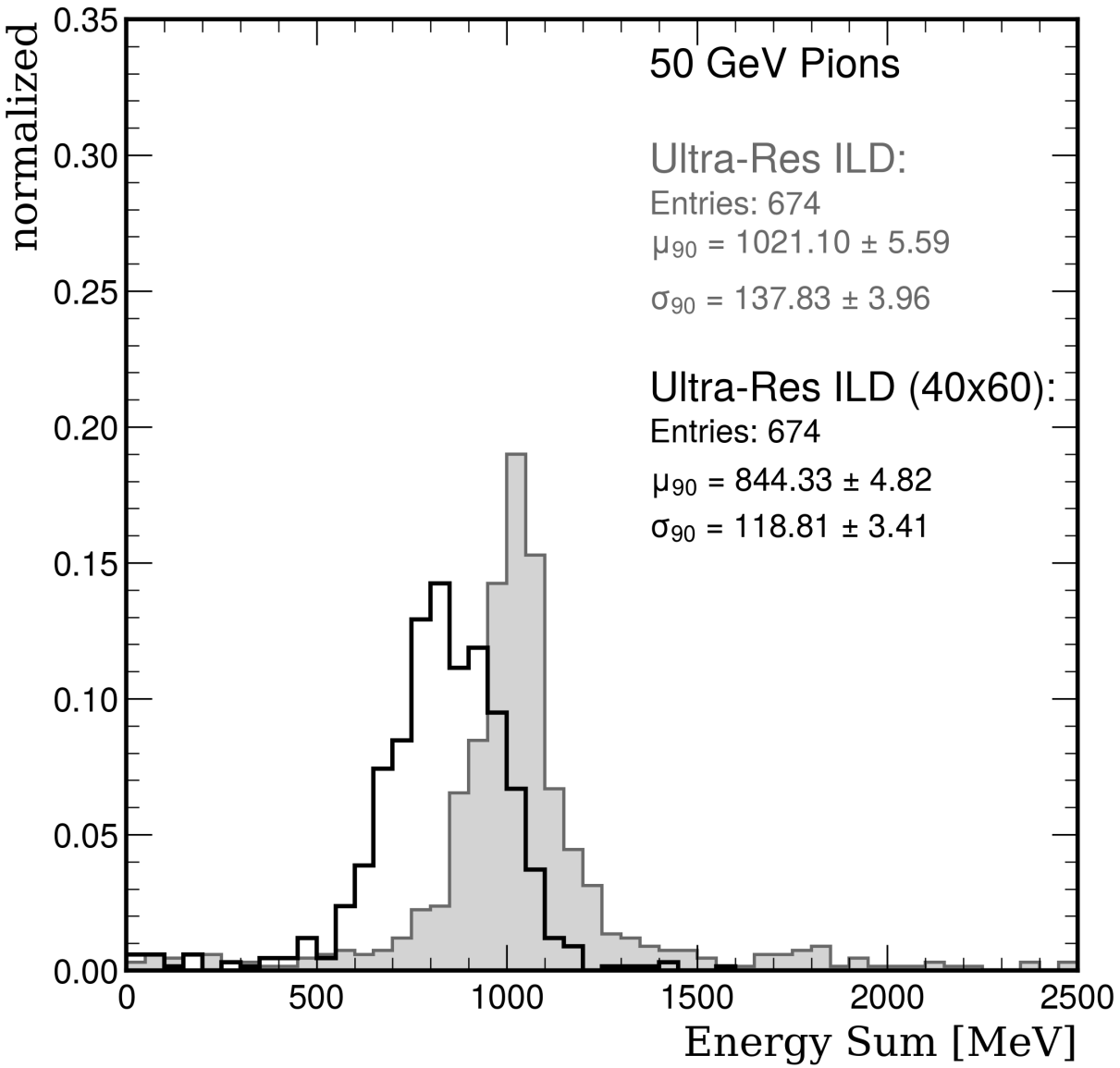


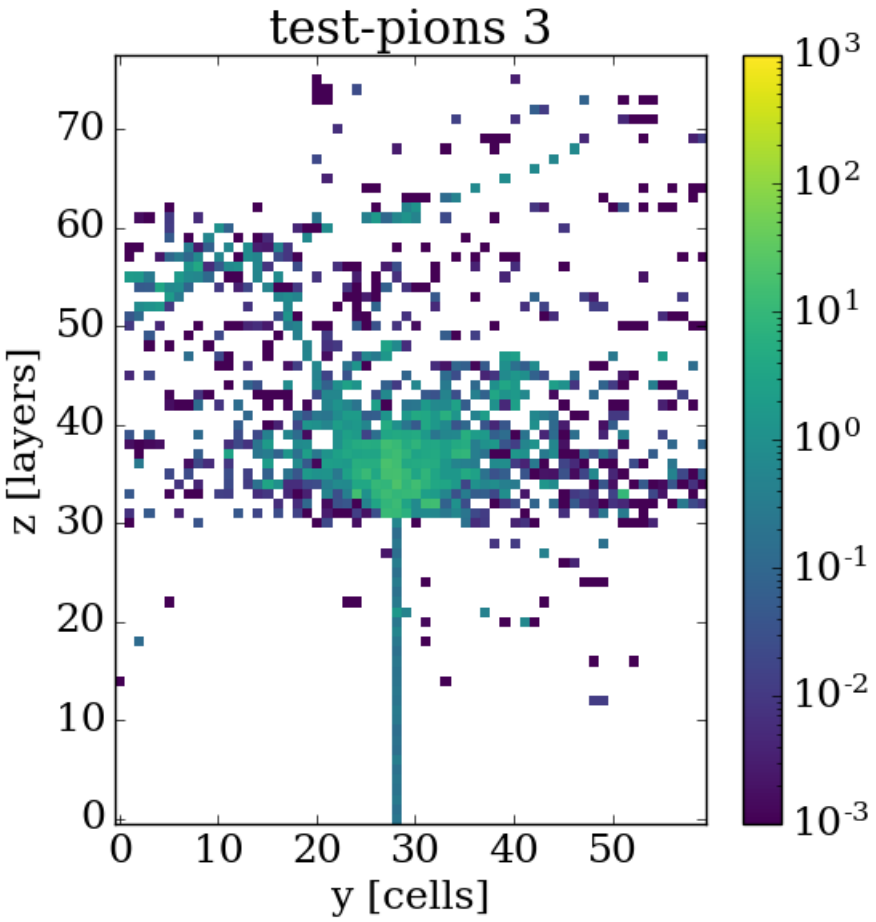




Showers: (z=78 * x=40 * y=60)

How much energy do we lose by boxing ?





Thank you