First comparisons EGS5-GEANT4

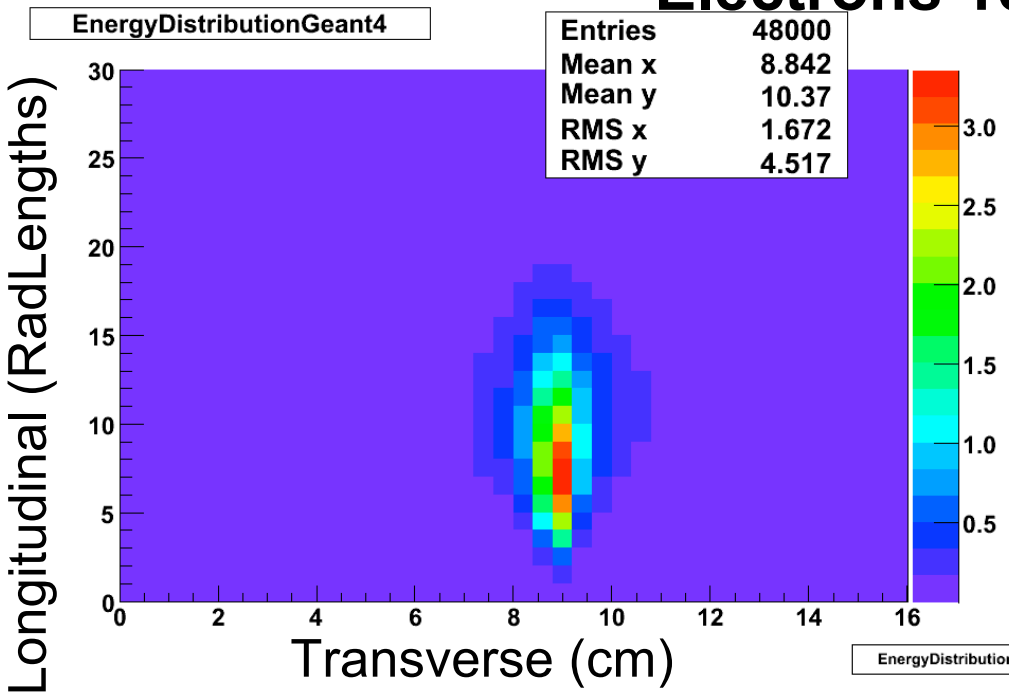
Very Simple/ideal calorimeter of CsI:

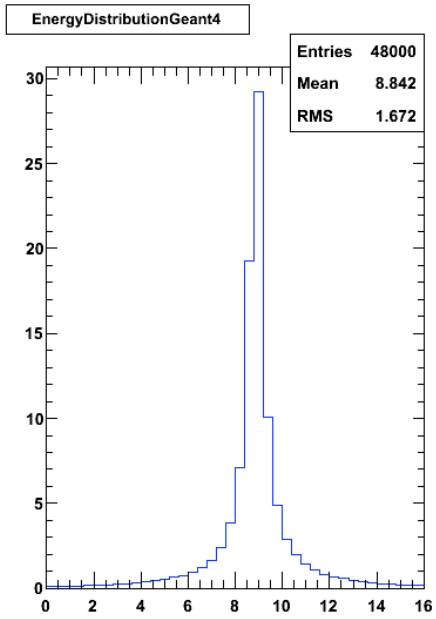
30 rad lengths, segmented in 1 rad length (1.85 cm)

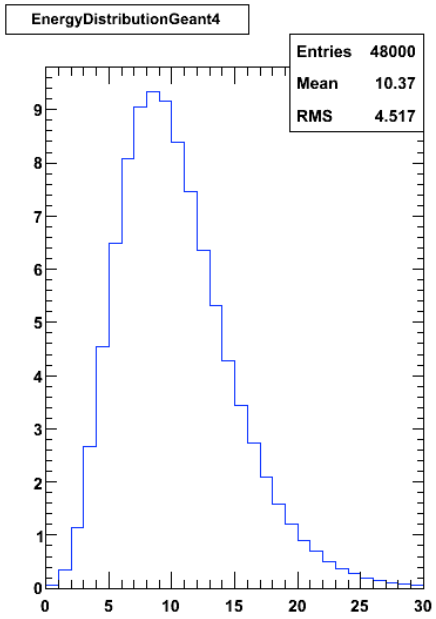
16 cm segmented in 0.4 cm

NO GAPS (yet)

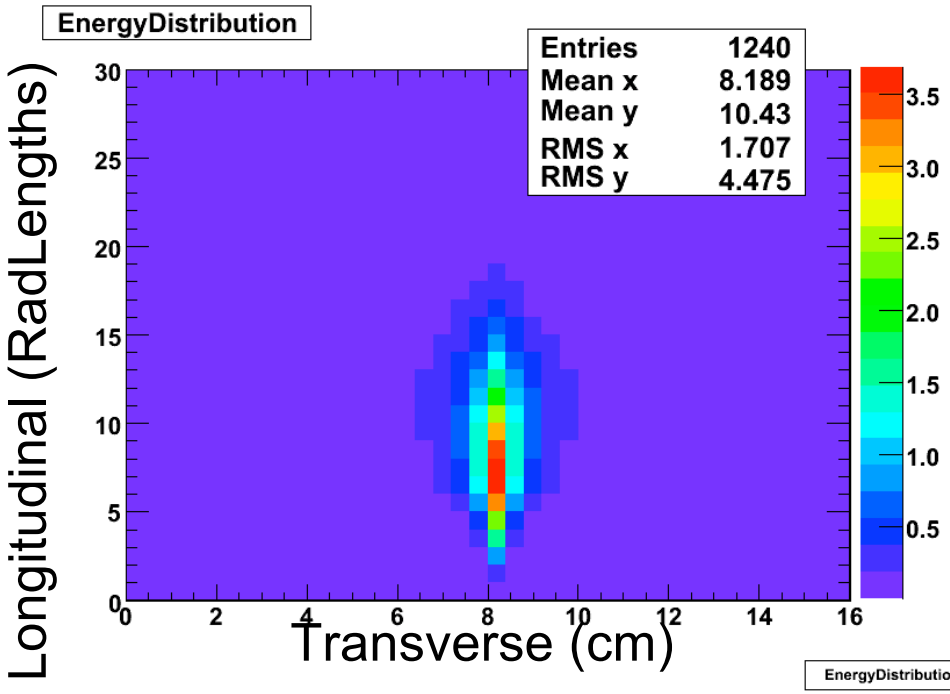
Electrons 100 GeV GEANT 4

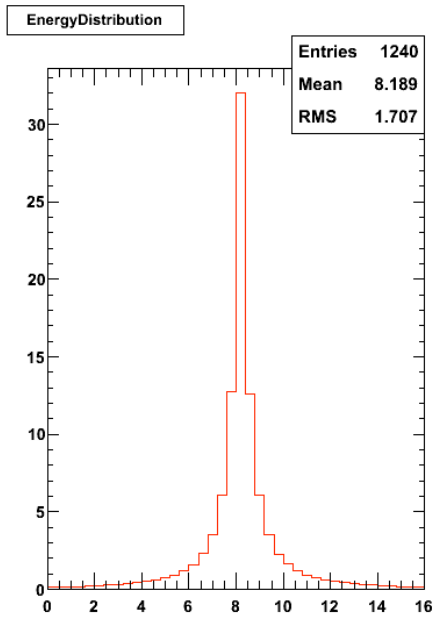


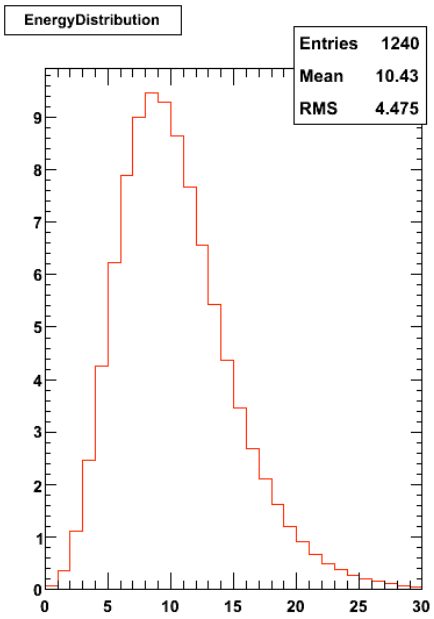




Electrons 100 GeV EGS5

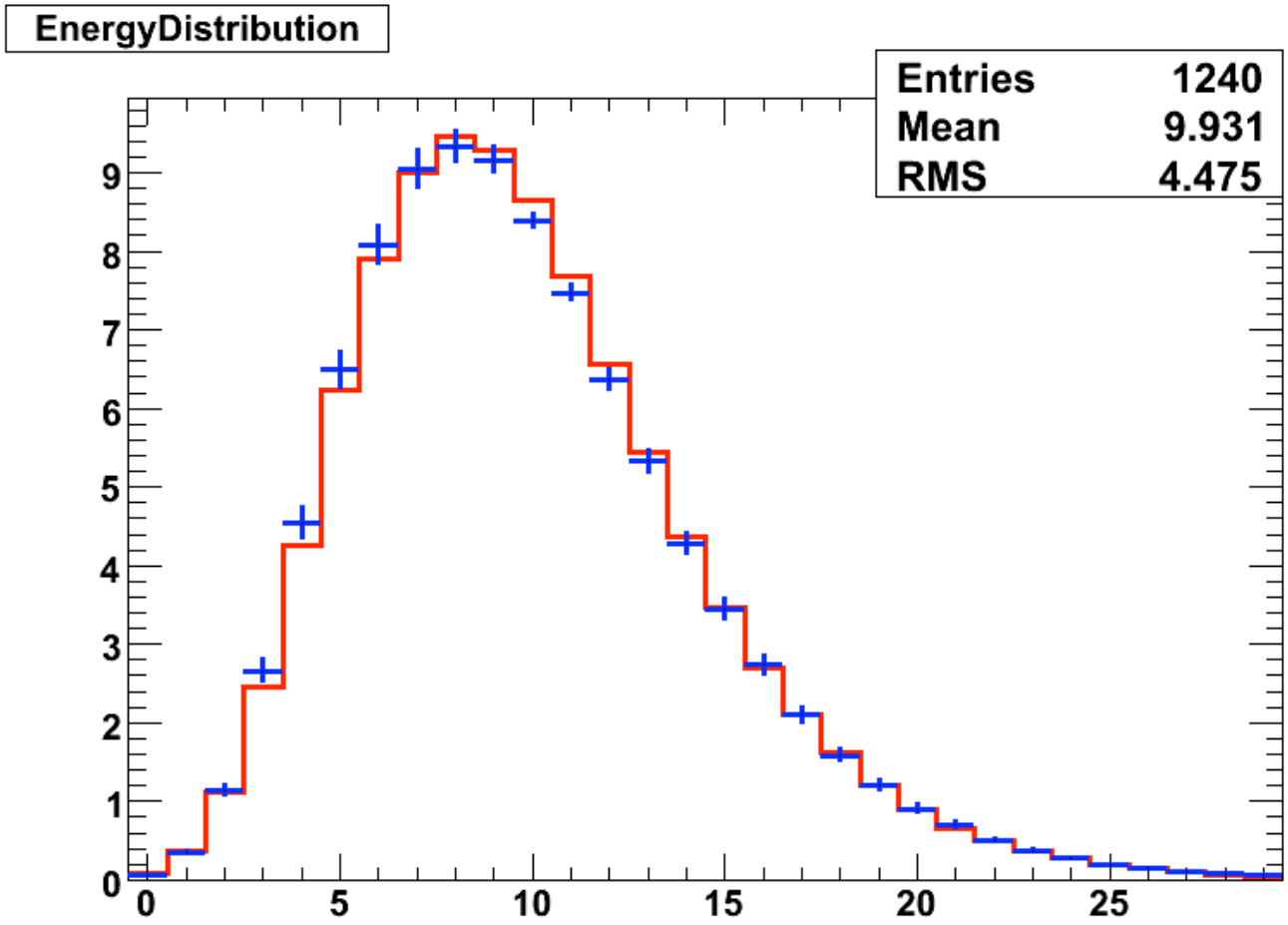




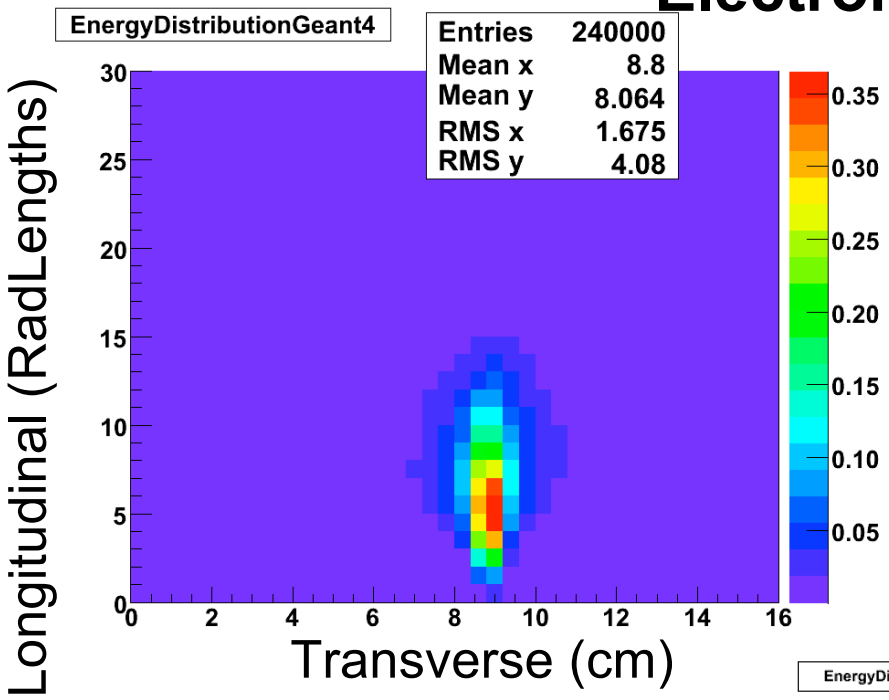


Comparison 100 GeV electrons: GEANT4 EGS4

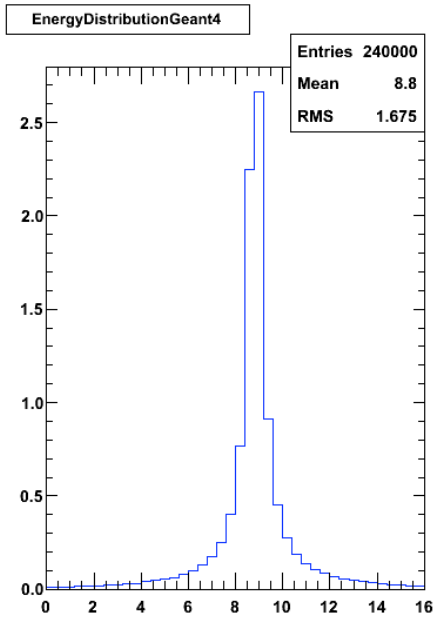
Longitudinal (using Benoit's profile)

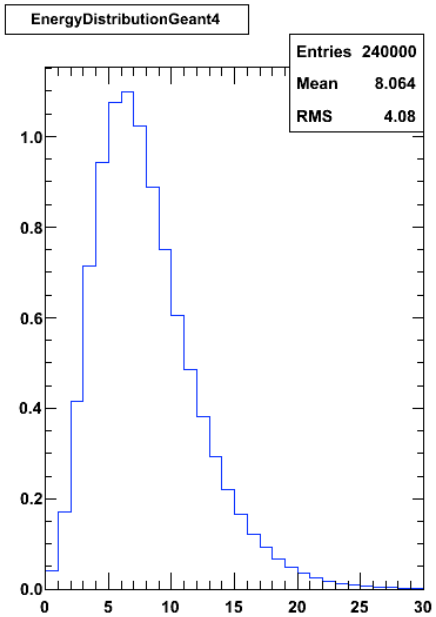


Electrons 10 GeV GEANT

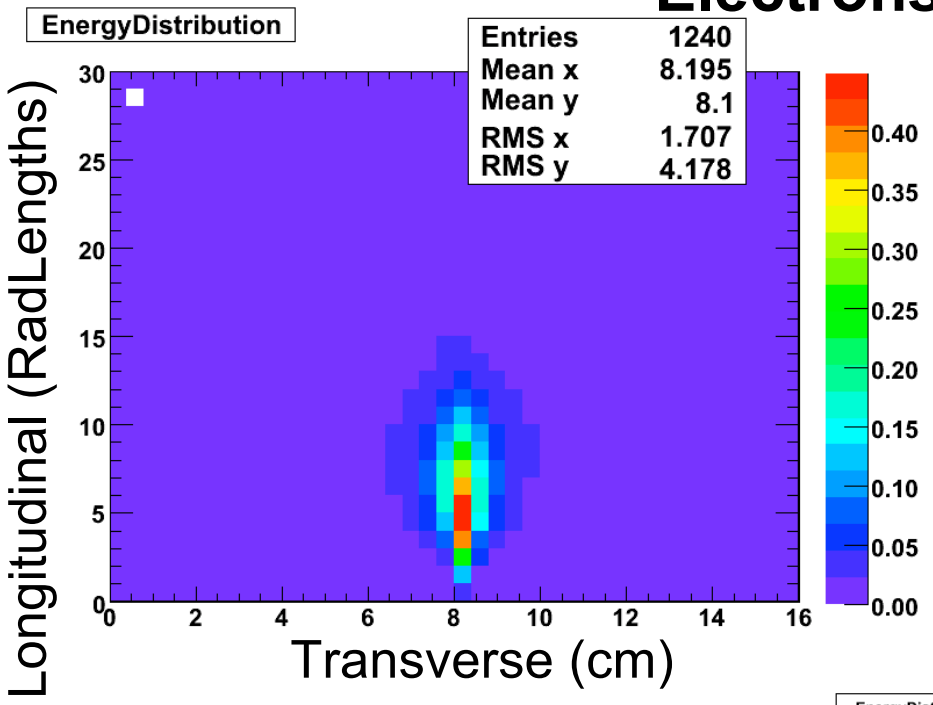


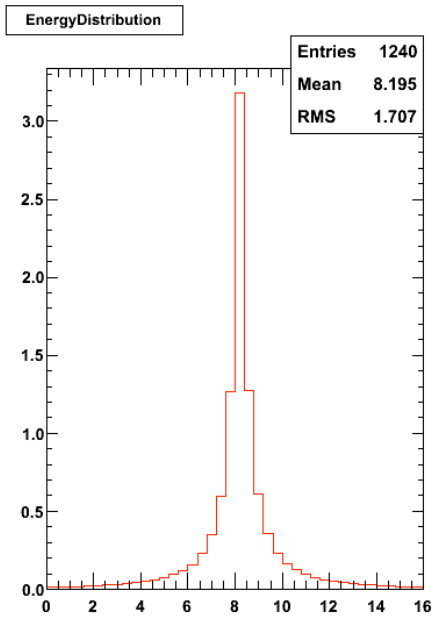
Energy (GeV)

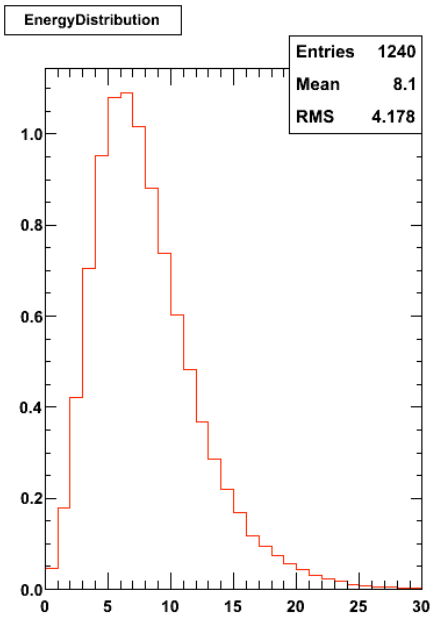




Electrons 10 GeV EGS5

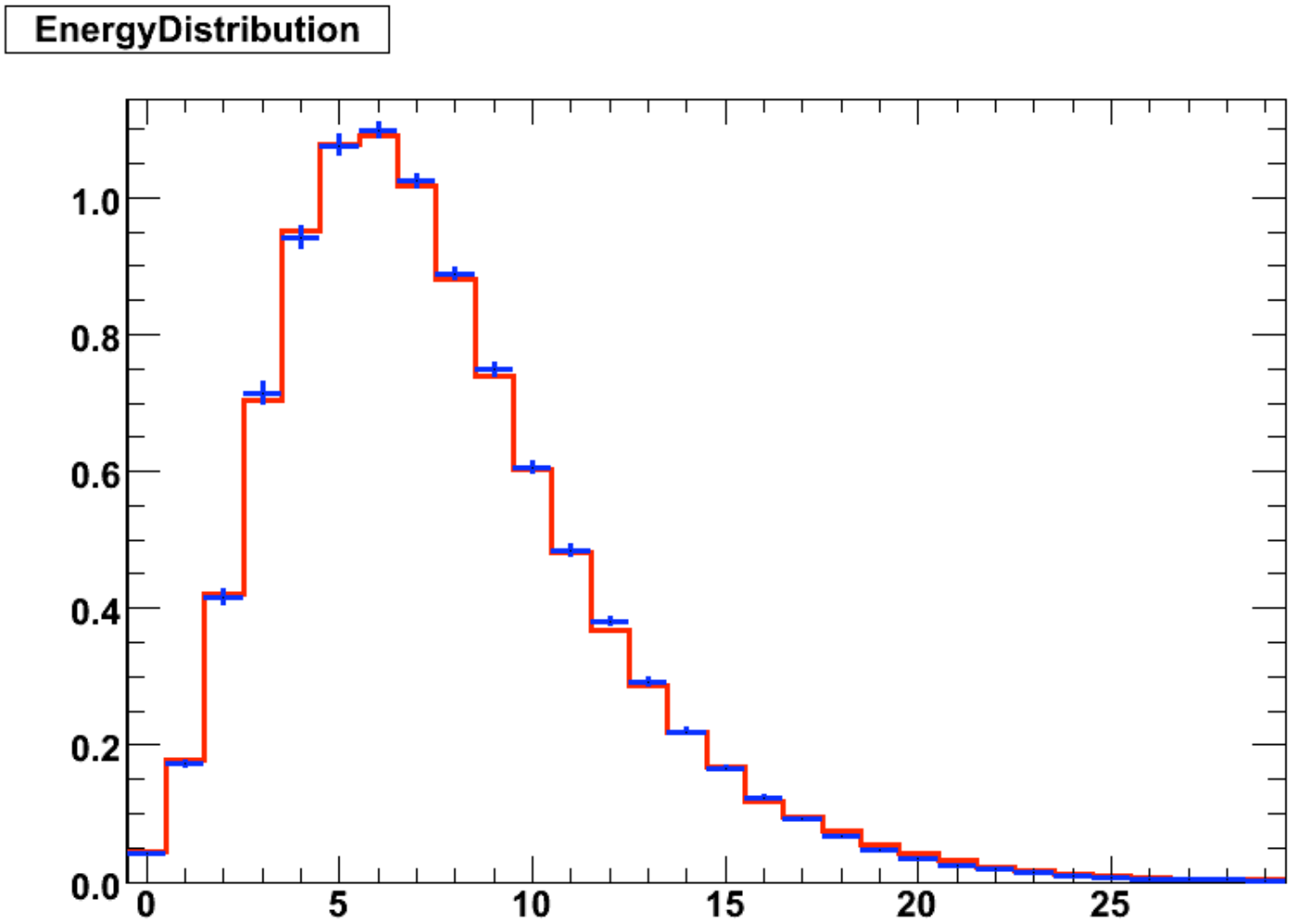






Comparison 10 GeV electrons: GEANT4 EGS4

Longitudinal (using Benoit's profile)



So far:

- Good agreement in profiles (long. and trans.)

- Shift in transverse position due to “probable-misunderstanding” between Benoit and myself; we are not shooting at exactly the same position.

TODO LIST

1 - Increase resolution in transverse dimension

2 - Add (1.5 rad length) 36 foils of W in front of calorimeter

3 - Add gaps in between detectors

4 - Make calorimeter more realistic in terms of dimensions (8 segments of 1.99 cm in long, 12 segments of 2.67 cm in trans). 3D probably not needed since we should have axial symmetry.

6 - Modify simulation code to score particles going away from calorimeter (-->>backsplash)

7 - Make a scan on Energies: 0.1,1,10,50,100,200,280 (GeV)
Angles : 0, 30, 60, 80 *Check backsplash at large angles !!!!*