SimpleCalo

COMPARISON
GEANT4 AND GFLASH

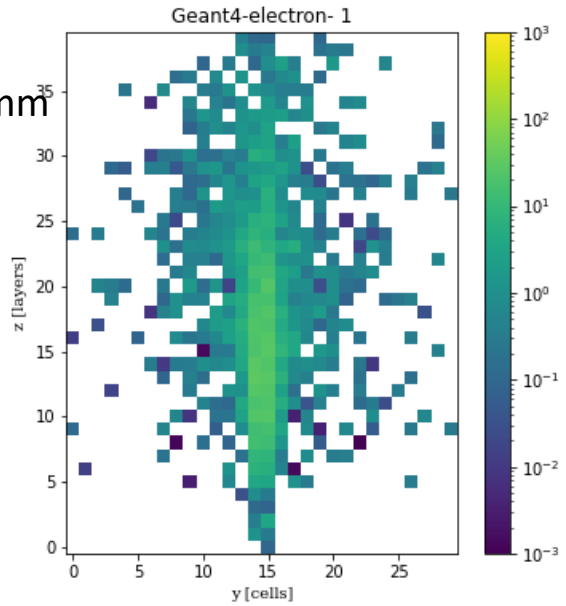
CONFIGURATION
PARAMETER:

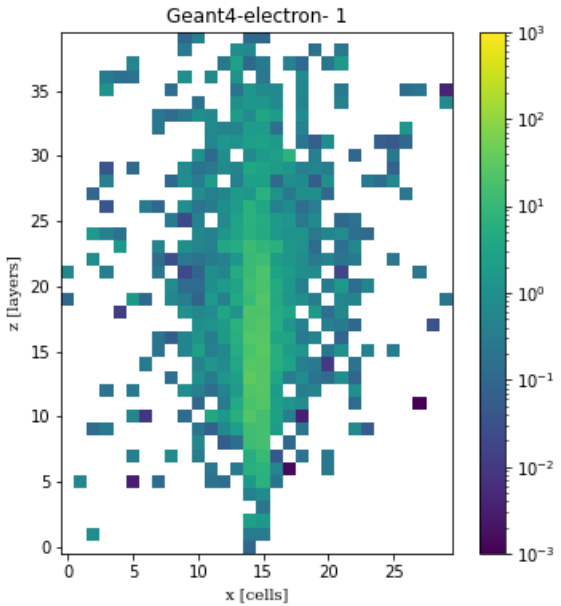
STEP SIZE

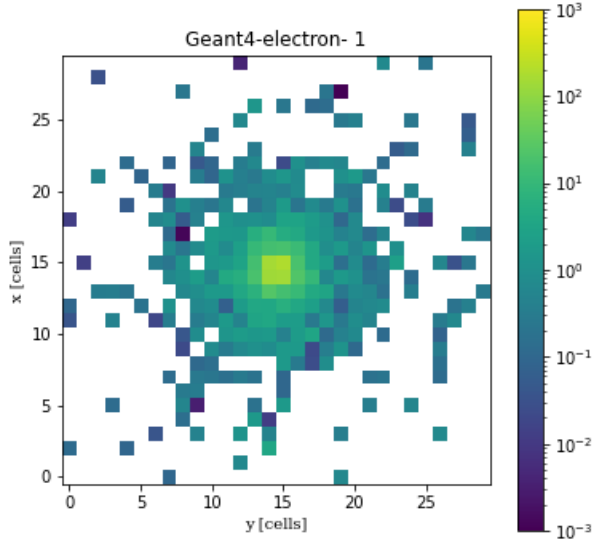
1 shower
50 GeV
Step size = 0.0001
absThickness = 5.50*mm
sensThickness = 0.120 * mm

Shower Plots (40x30x30)

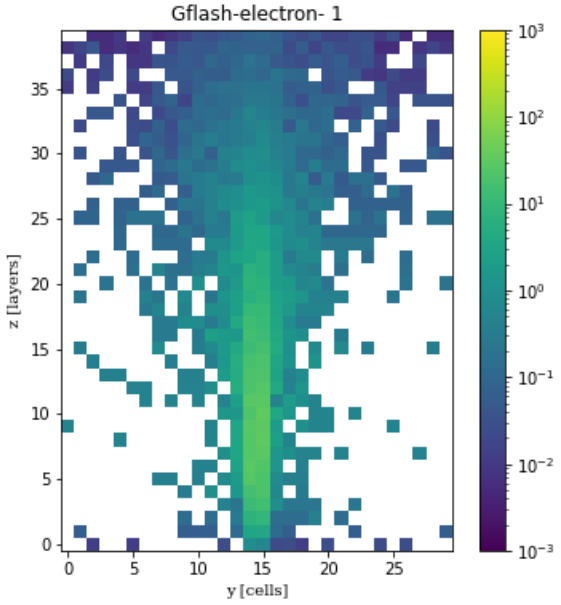
Geant4

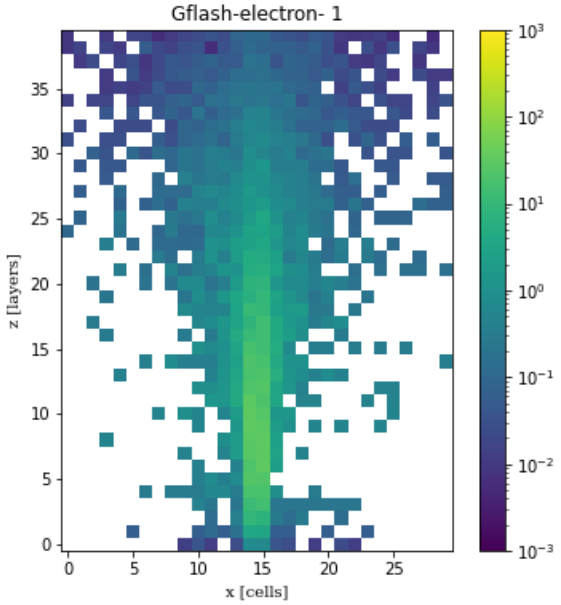


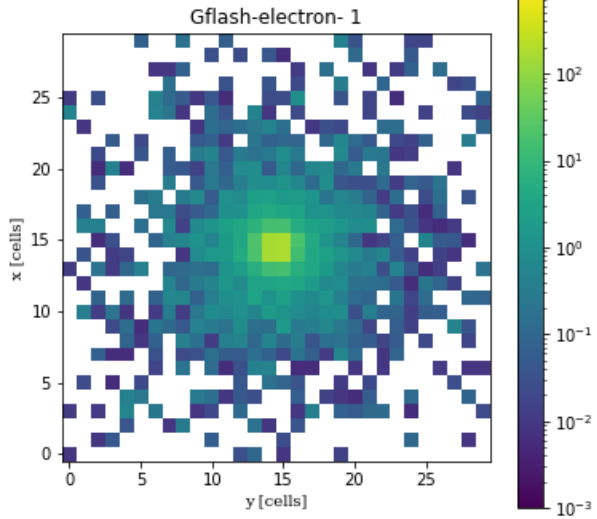




Gflash



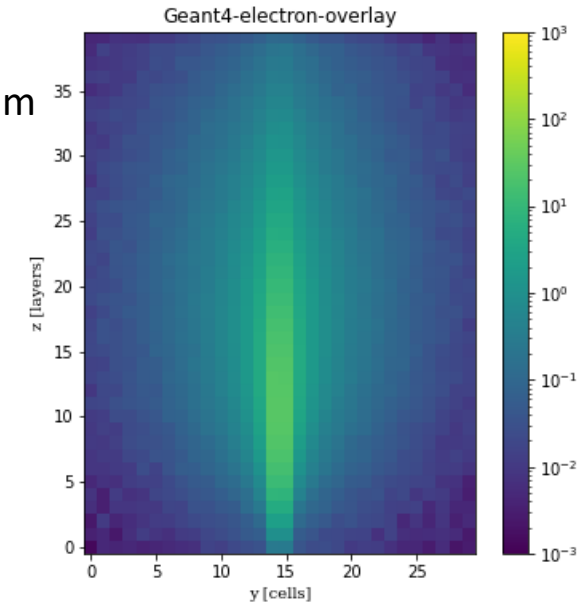


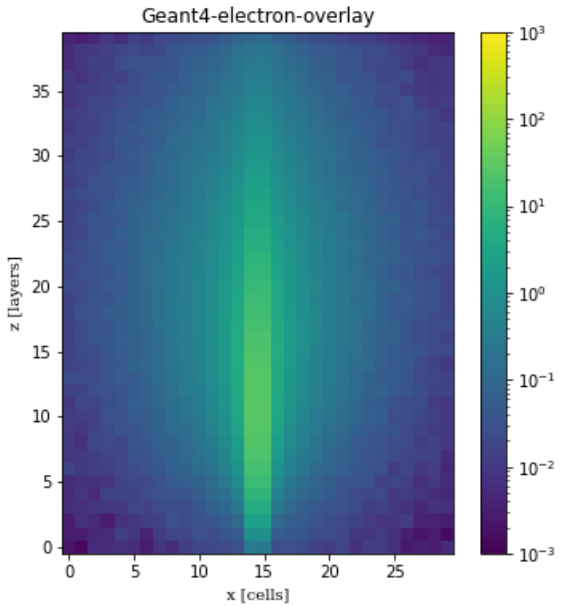


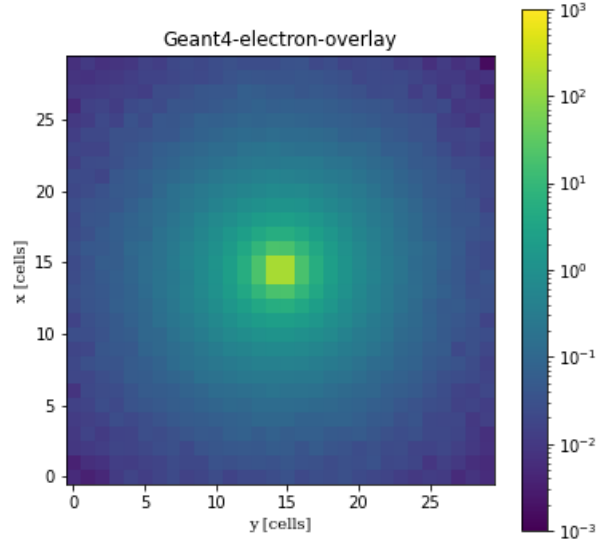
1000 shower
50 GeV
Step size = 0.0001
absThickness = 5.50*mm
sensThickness = 0.120 * mm

Shower Plots - Overlay (40x30x30)

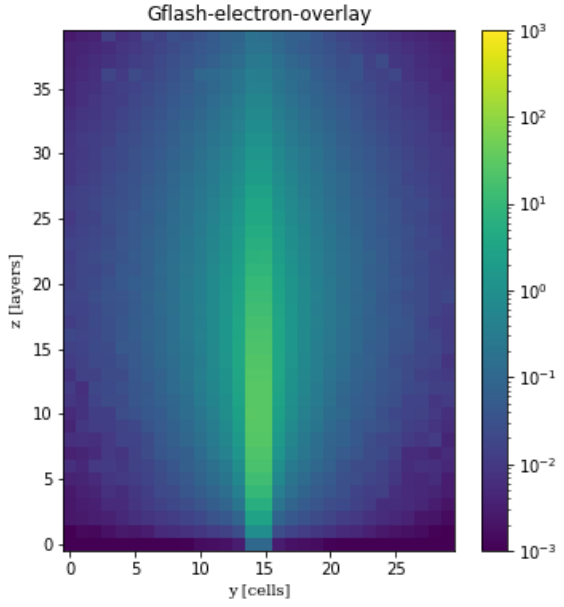
Geant4

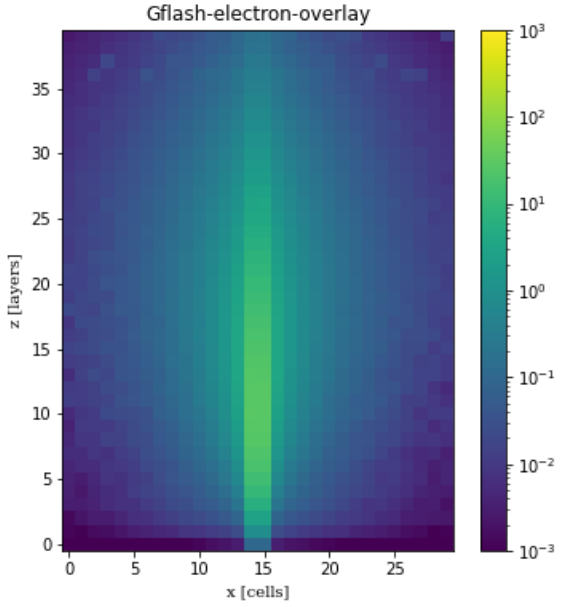


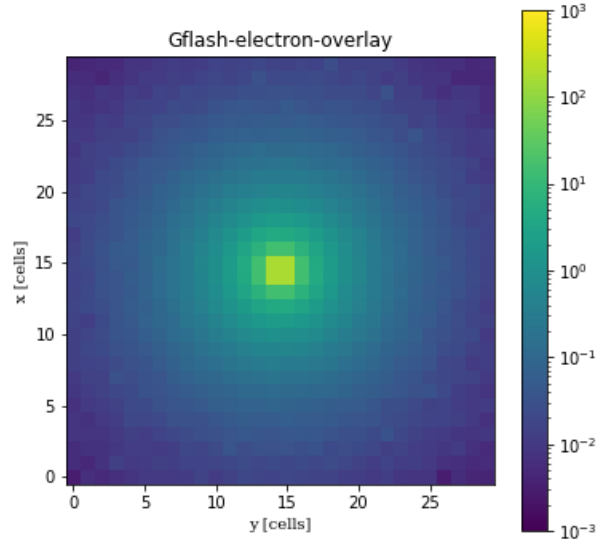




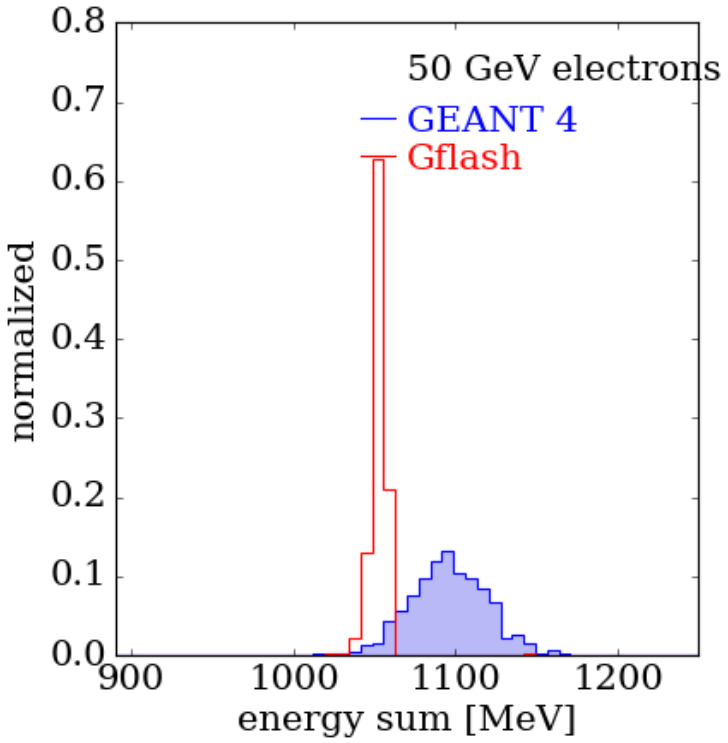
Gflash



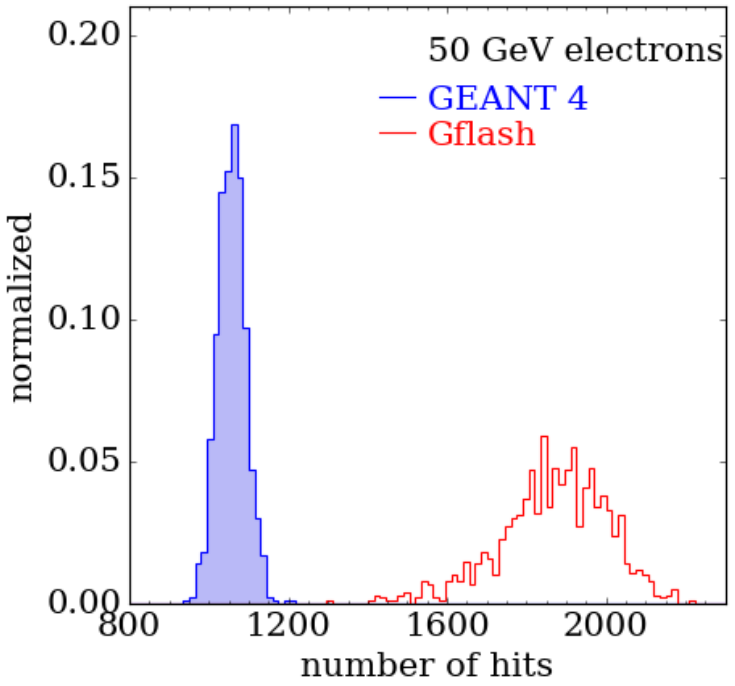




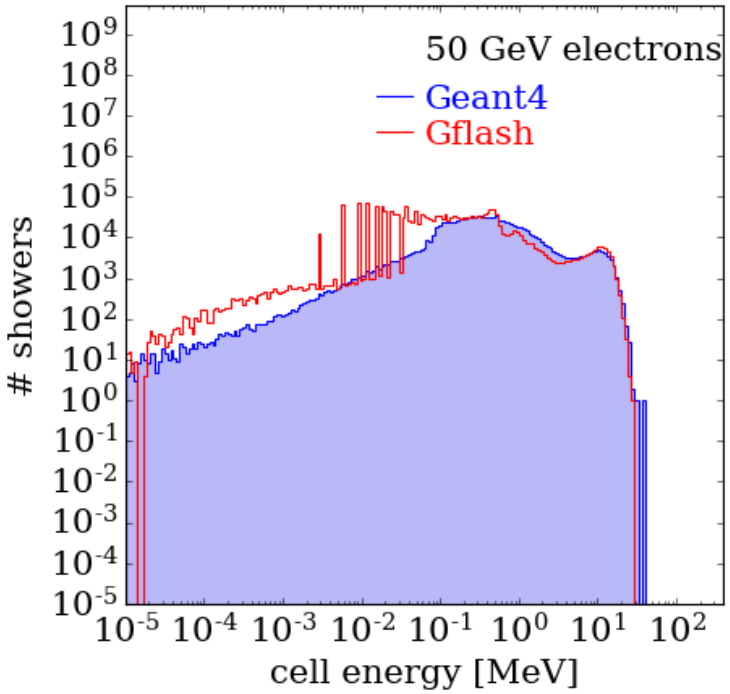
Total Energy



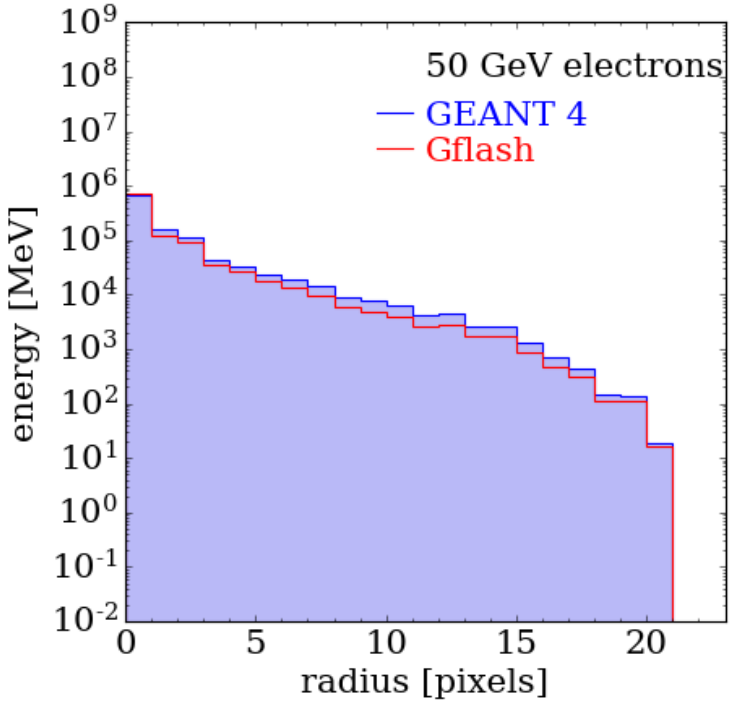
Occupancy



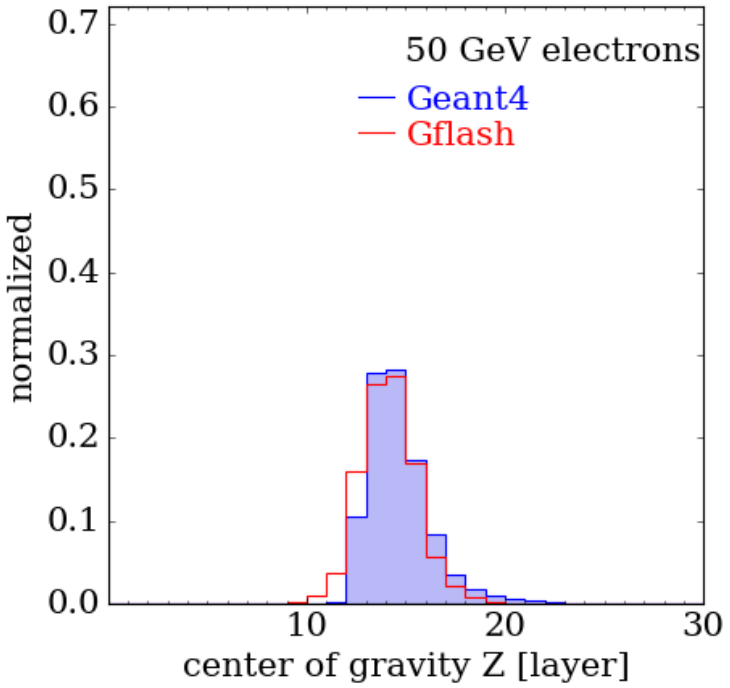
Cell Energy



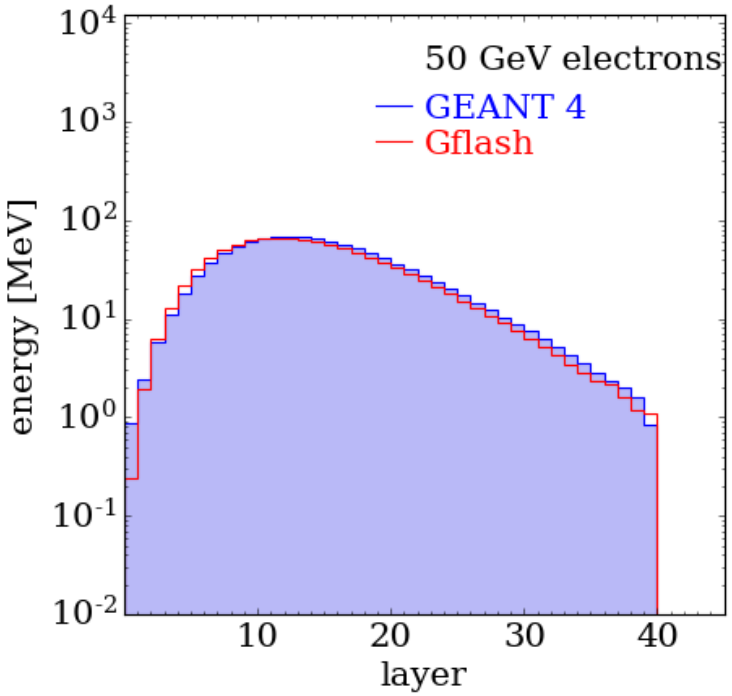
Radial Energy



Center of Gravity

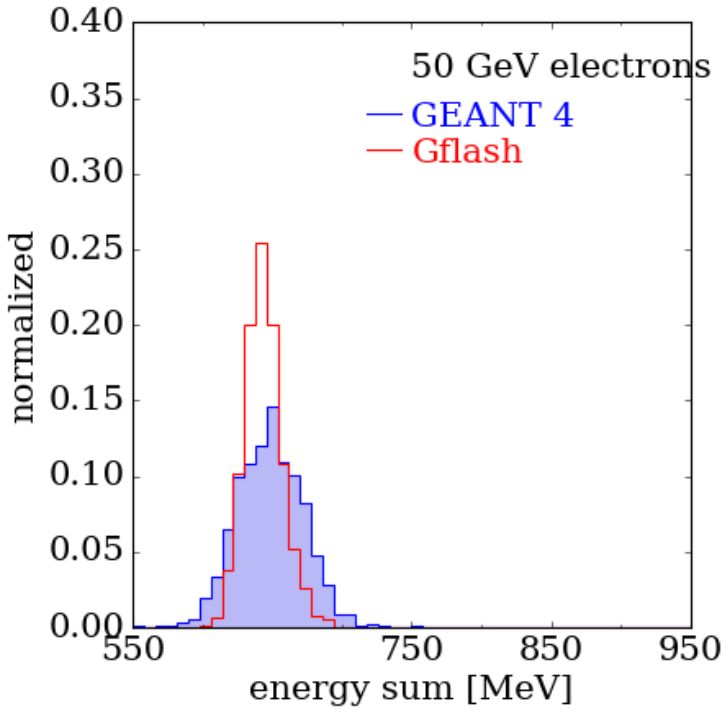


Longitudinal Energy

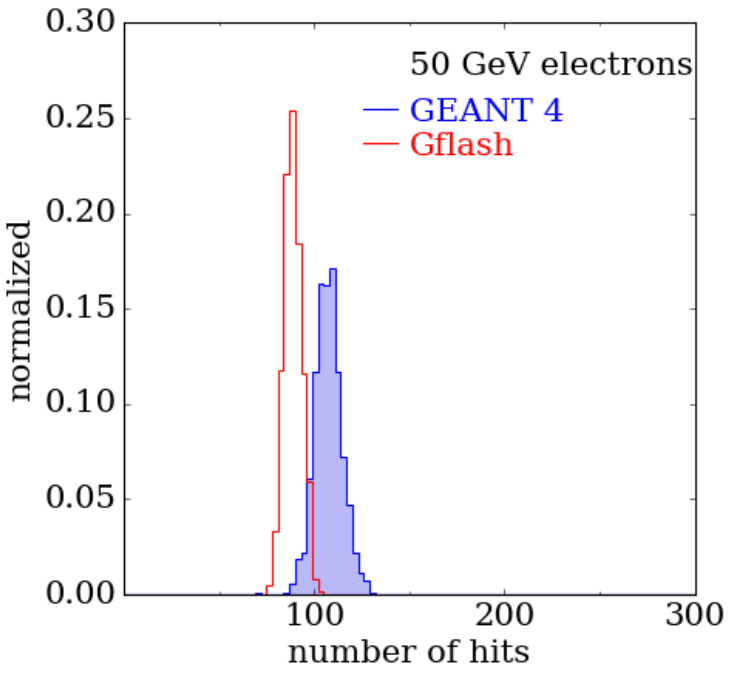


Cut at 1.7 MeV on Geant4 and Gflash

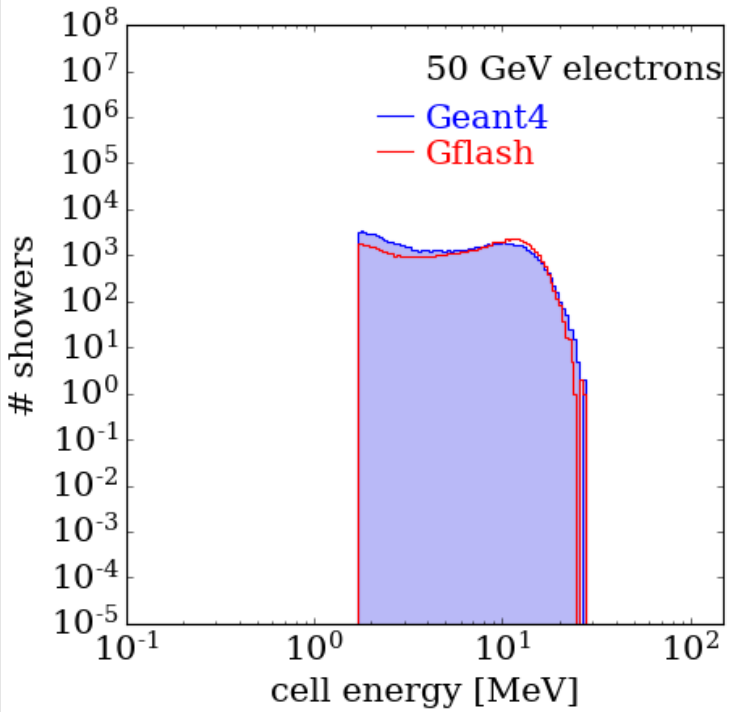
Total Energy



Occupancy



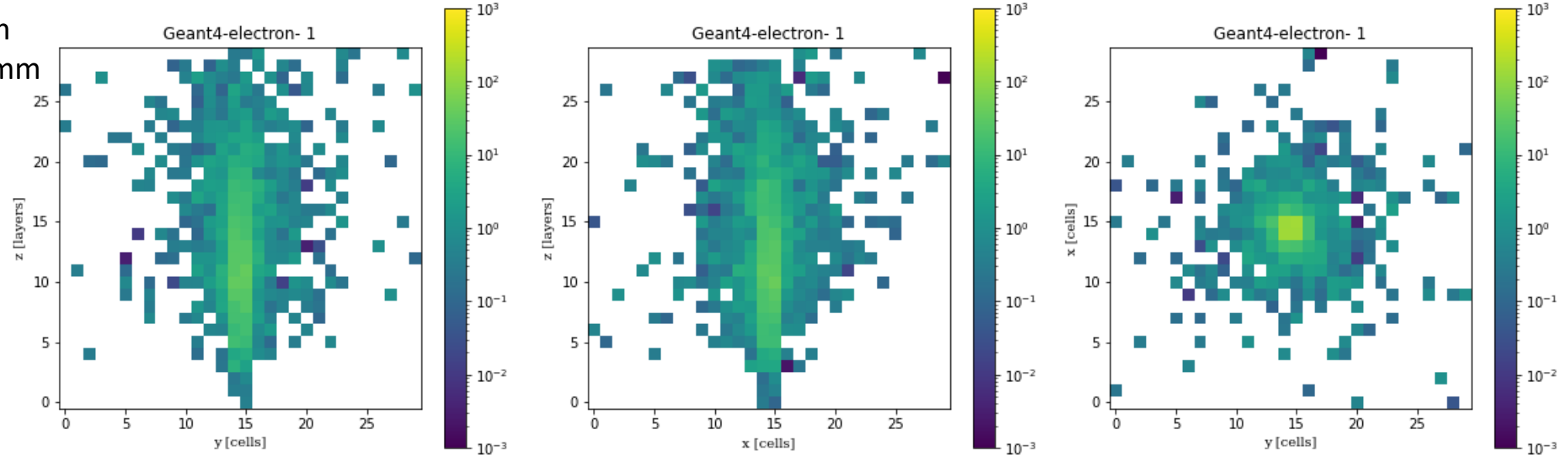
Cell Energy



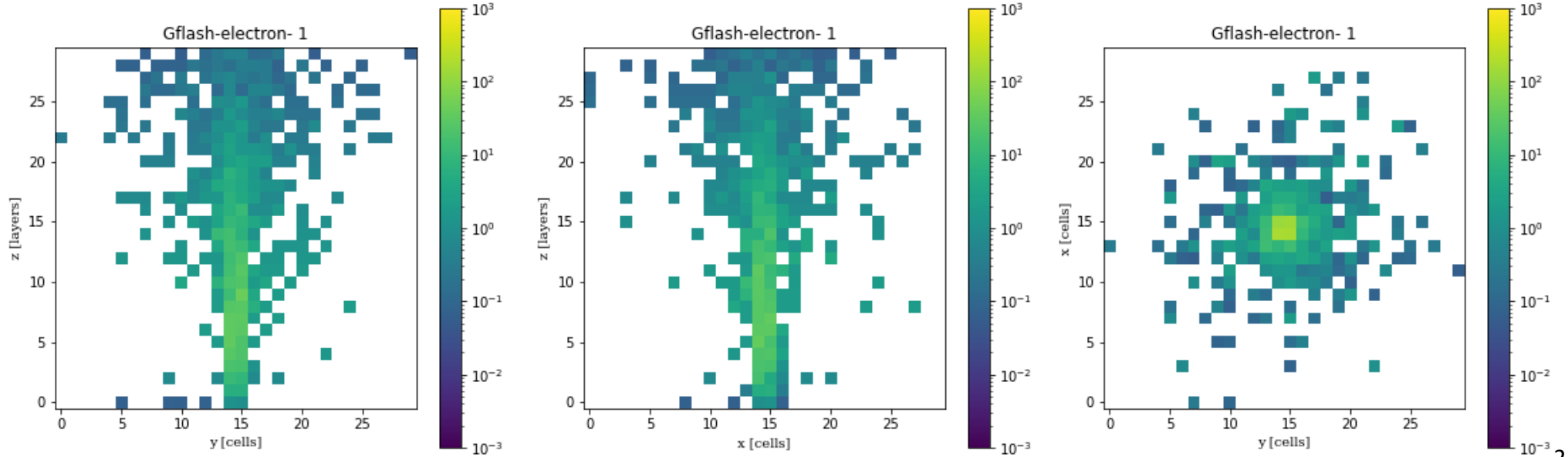
1 shower
50 GeV
Step size = 0.0003
absThickness = 6.50mm
sensThickness = 0.120mm

Shower Plots (30x30x30)

Geant4



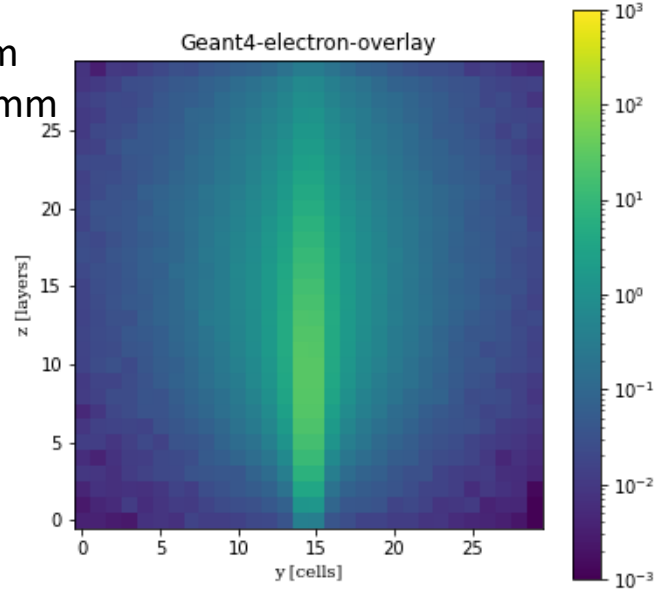
Gflash

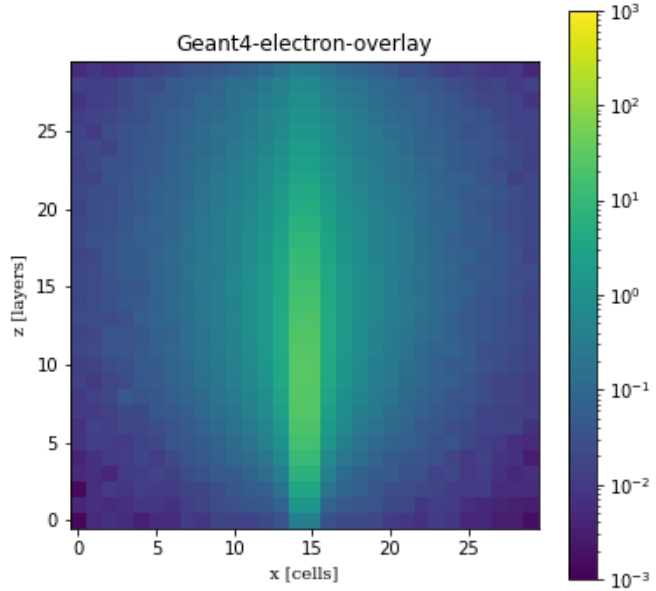


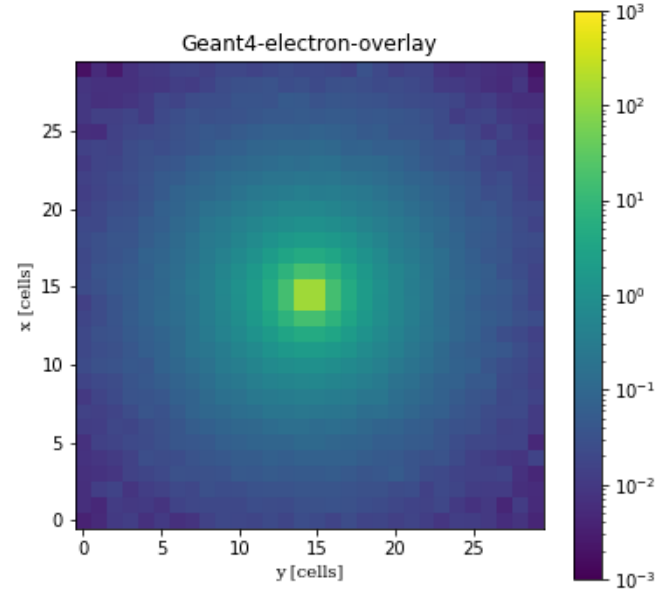
1000 shower
50 GeV
Step size = 0.0003
absThickness = 6.50mm
sensThickness = 0.120mm

Shower Plots - Overlay (30x30x30)

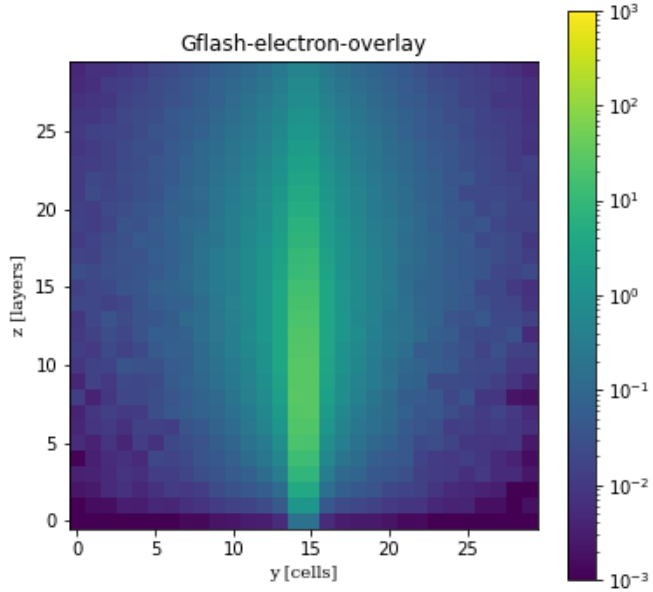
Geant4

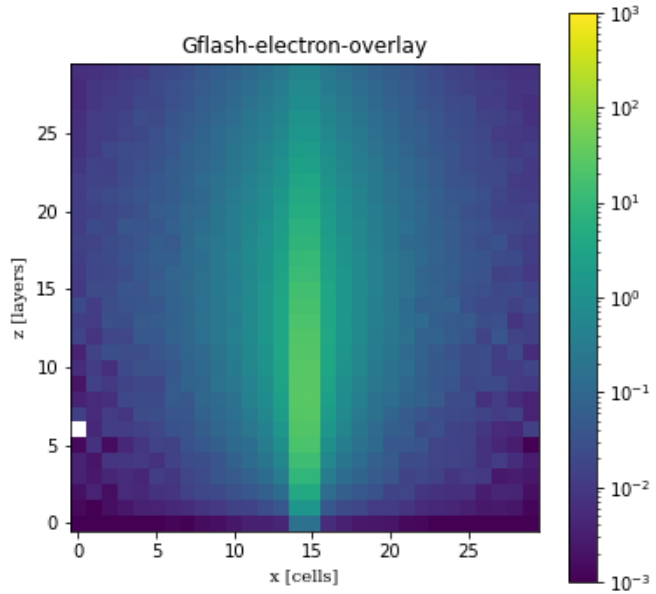


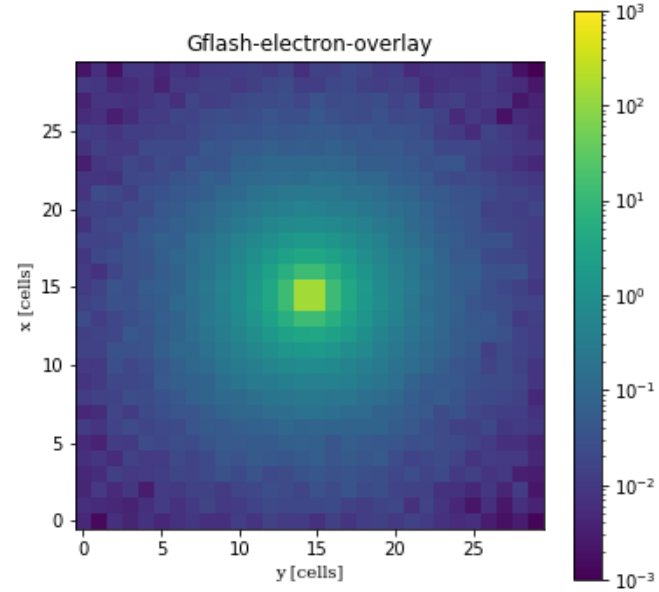




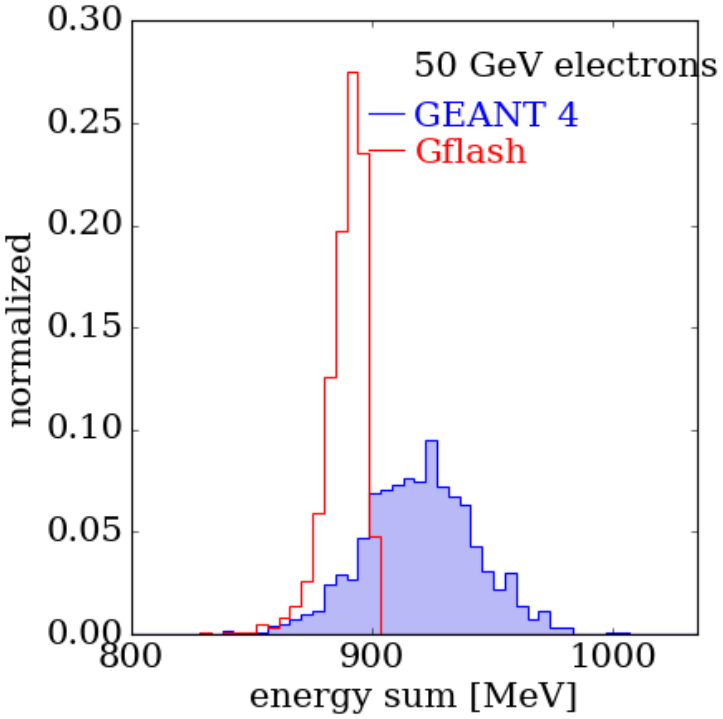
Gflash



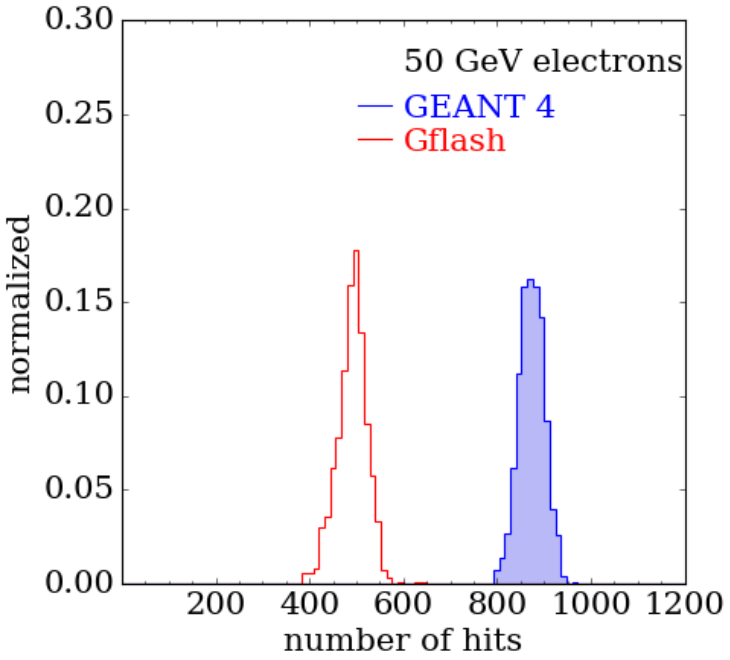




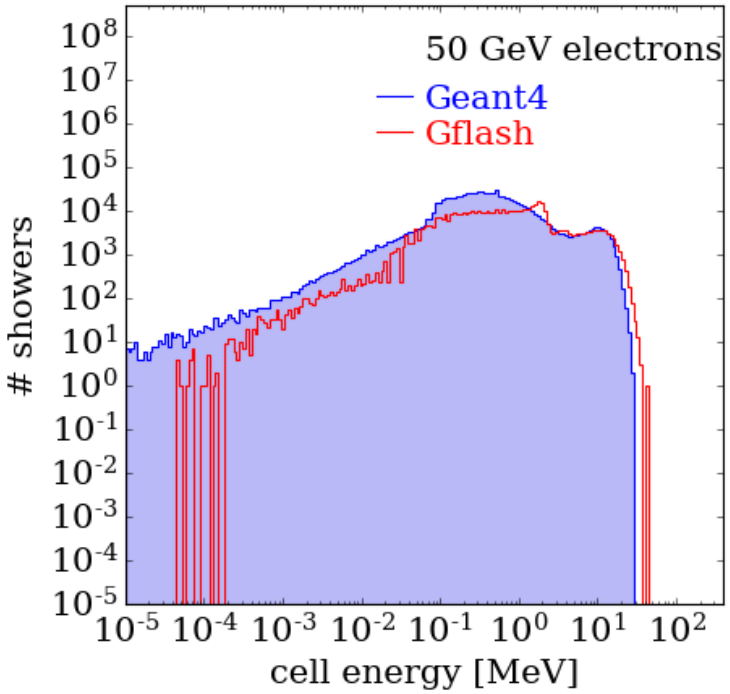
Total Energy



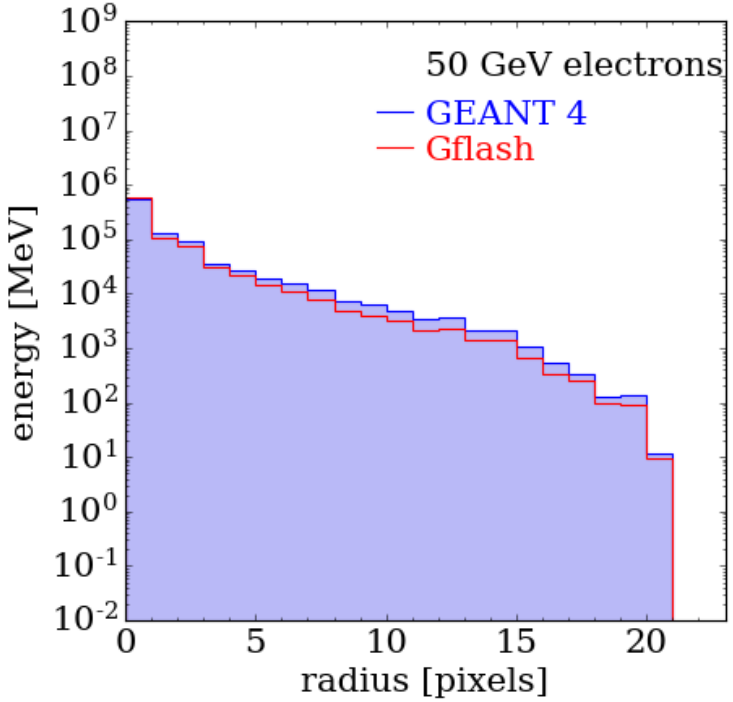
Occupancy



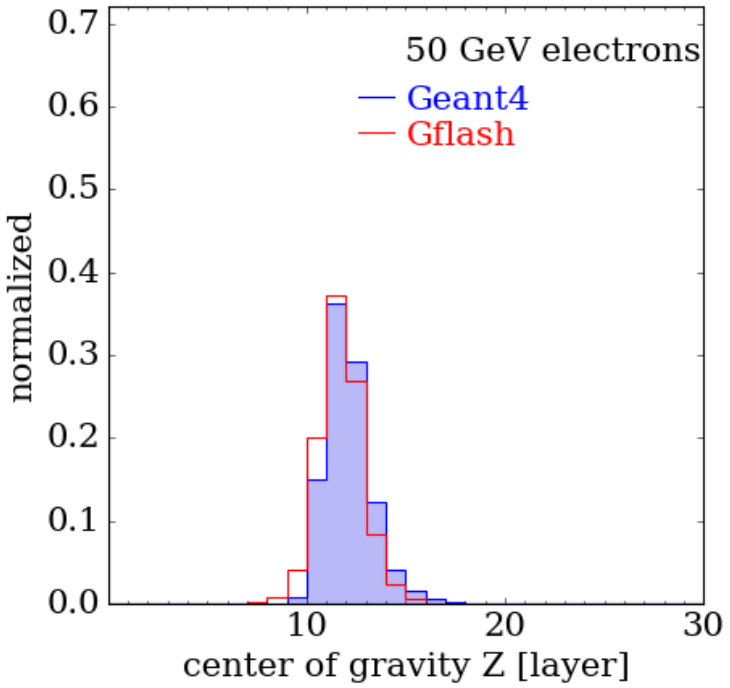
Cell Energy



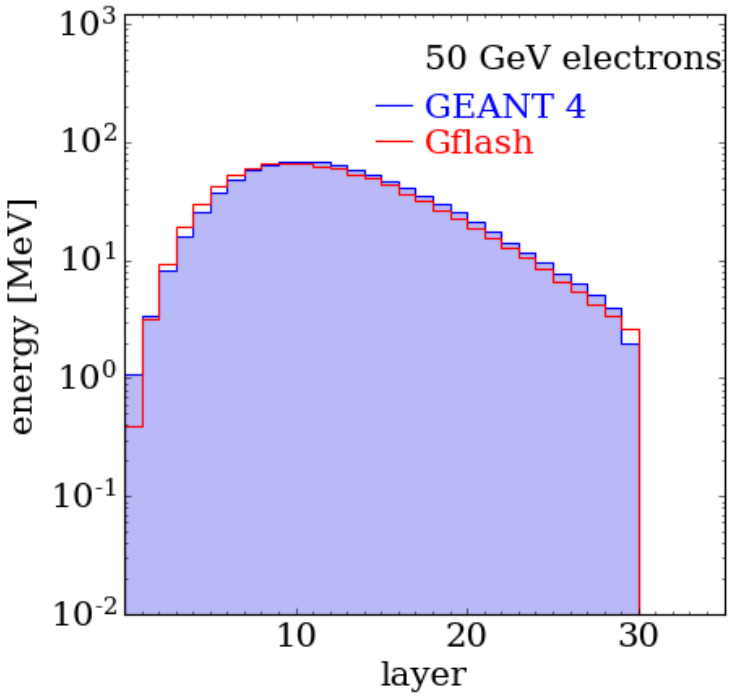
Radial Energy



Center of Gravity

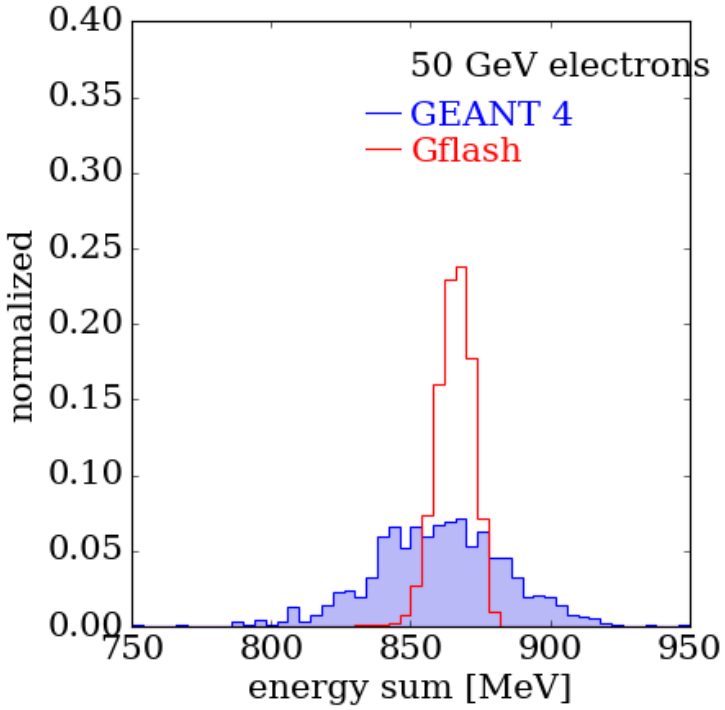


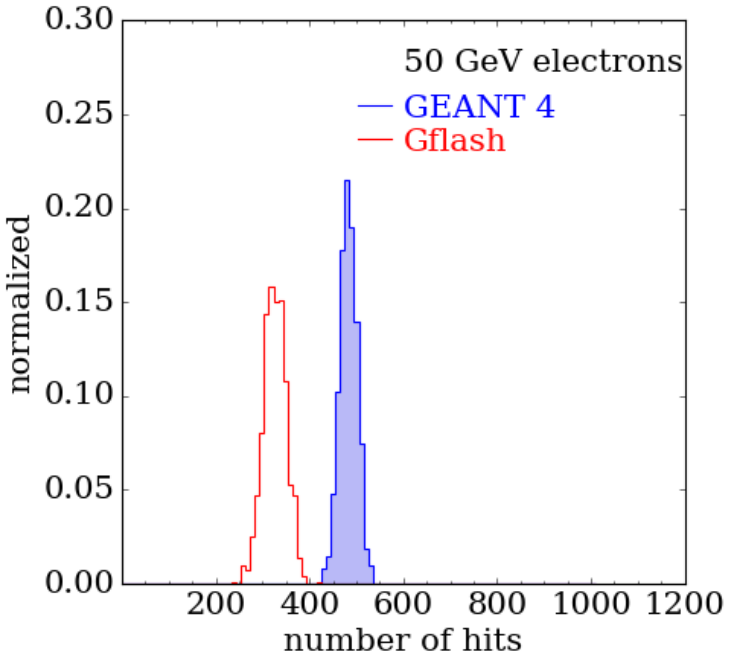
Longitudinal Energy

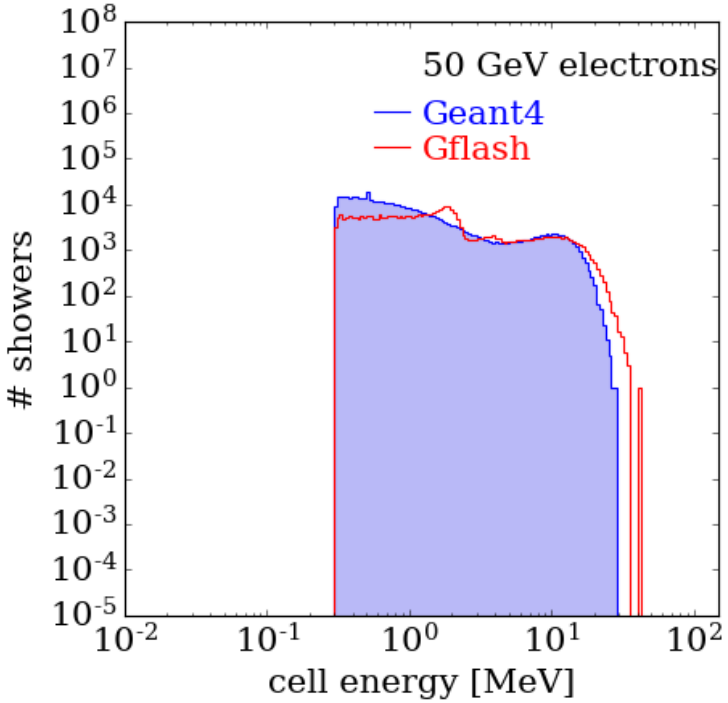


Cut at 0.3 MeV on Geant4 and Gflash

In the range of 0.1 to 0.7 MeV a Cut at 0.3 MeV gives the best result for the total energy.

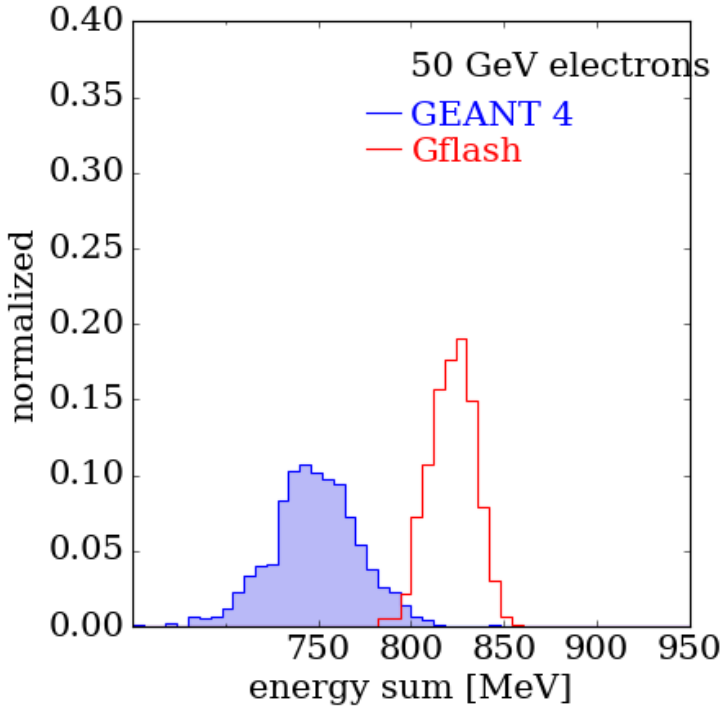


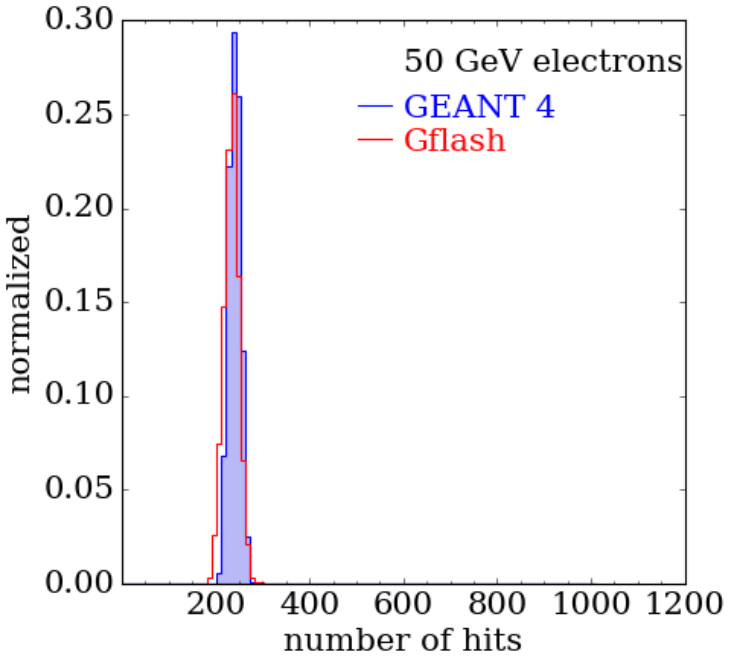


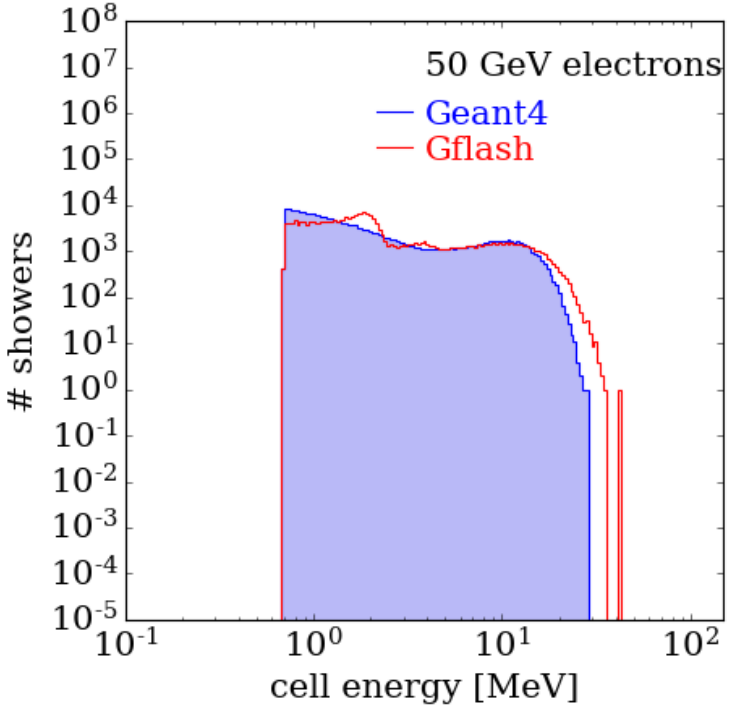


Cut at 0.7 MeV on Geant4 and Gflash

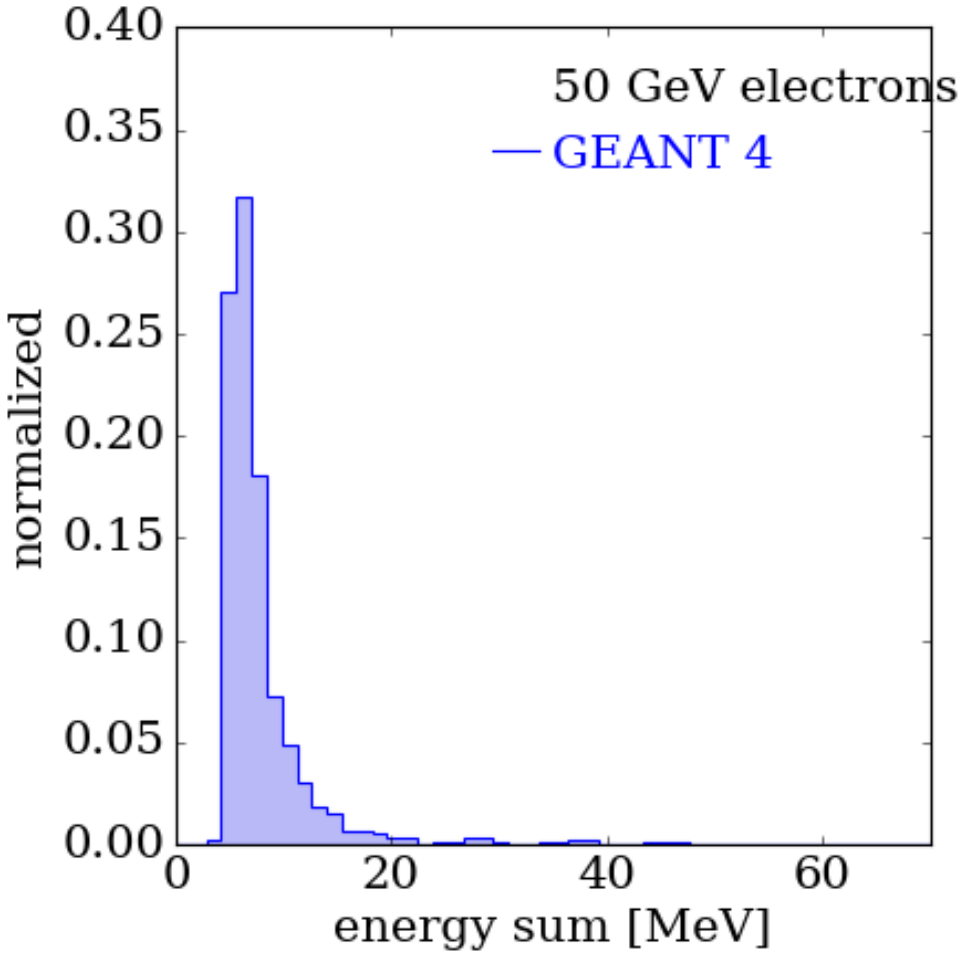
In the range of 0.1 to 0.7 MeV a Cut at 0.7 MeV gives the best result for the number of hits.

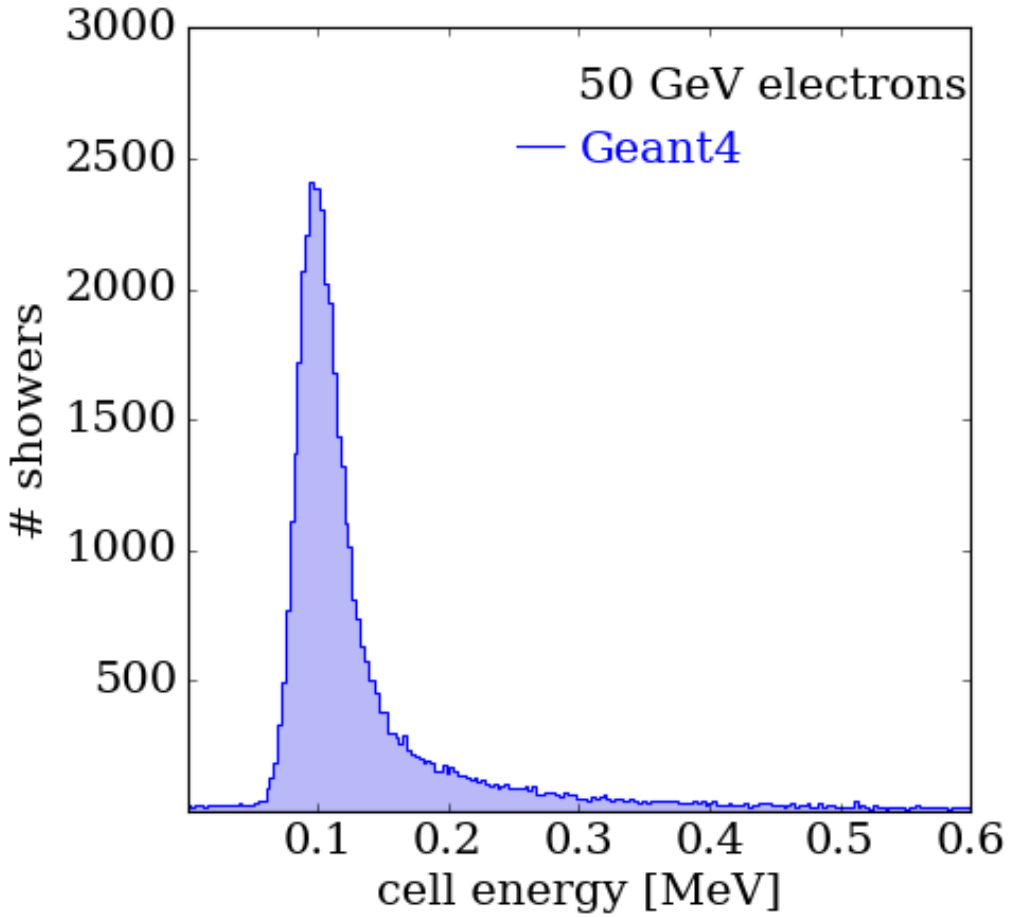






MIP Peak


50 GeV electrons
GEANT 4
normalized
energy sum [MeV]
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0
20
40
60


50 GeV electrons
Geant4
showers
cell energy [MeV]
3000
2500
2000
1500
1000
500
0.1
0.2
0.3
0.4
0.5
0.6