

# Geant4 Simulation of Elements of NCC

## Table of Contents

14 Layers of W(4mm), Si(0.5mm), Air(2mm).....	1
W-Si-Air_14_electron_10GeV.....	1
Summary for 100 events .....	3
W-Si-Air_14_electron_100GeV.....	4
Summary for 100 events.....	4

## 14 Layers of W(4mm), Si(0.5mm), Air(2mm)

### W-Si-Air\_14\_electron\_10GeV

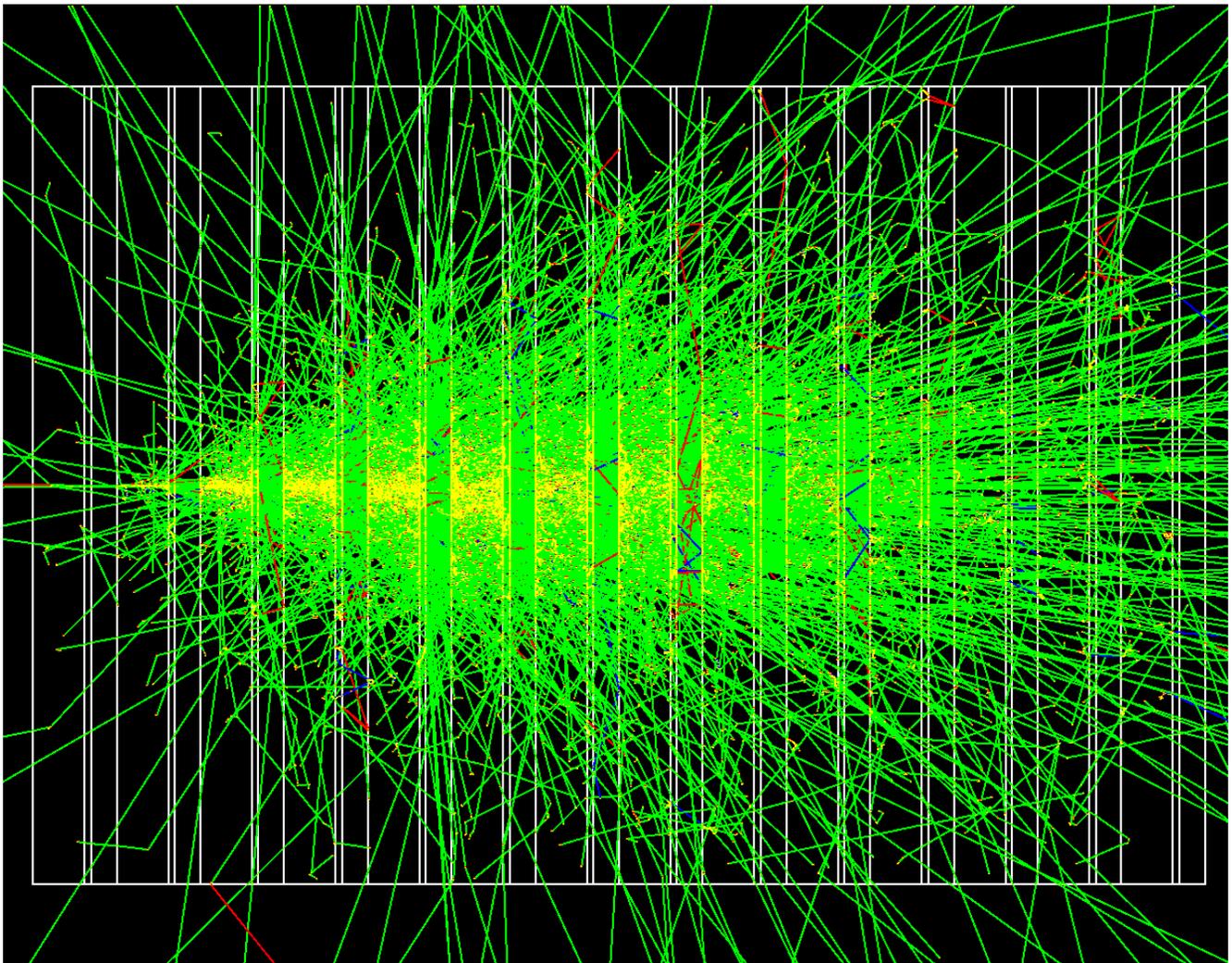
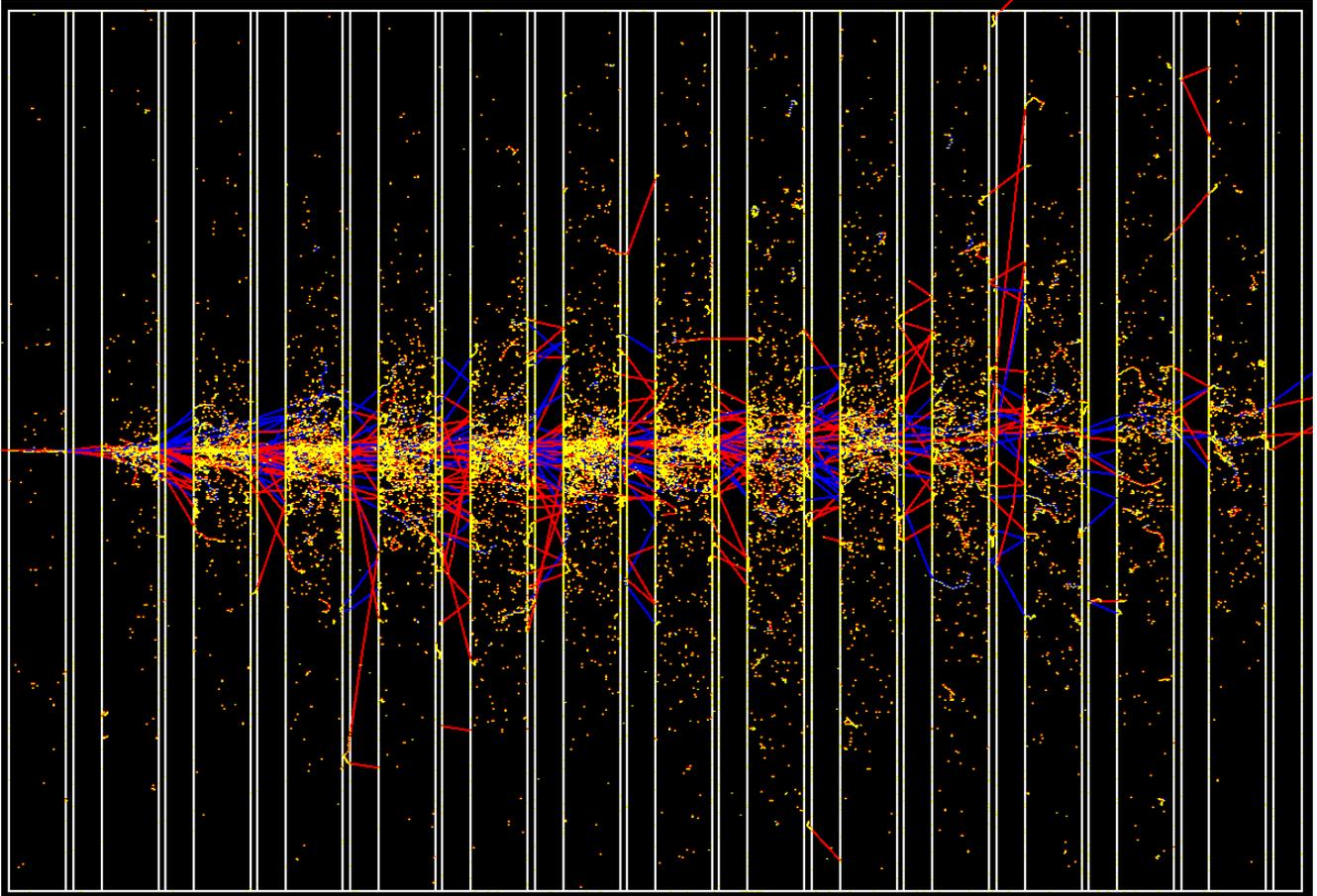
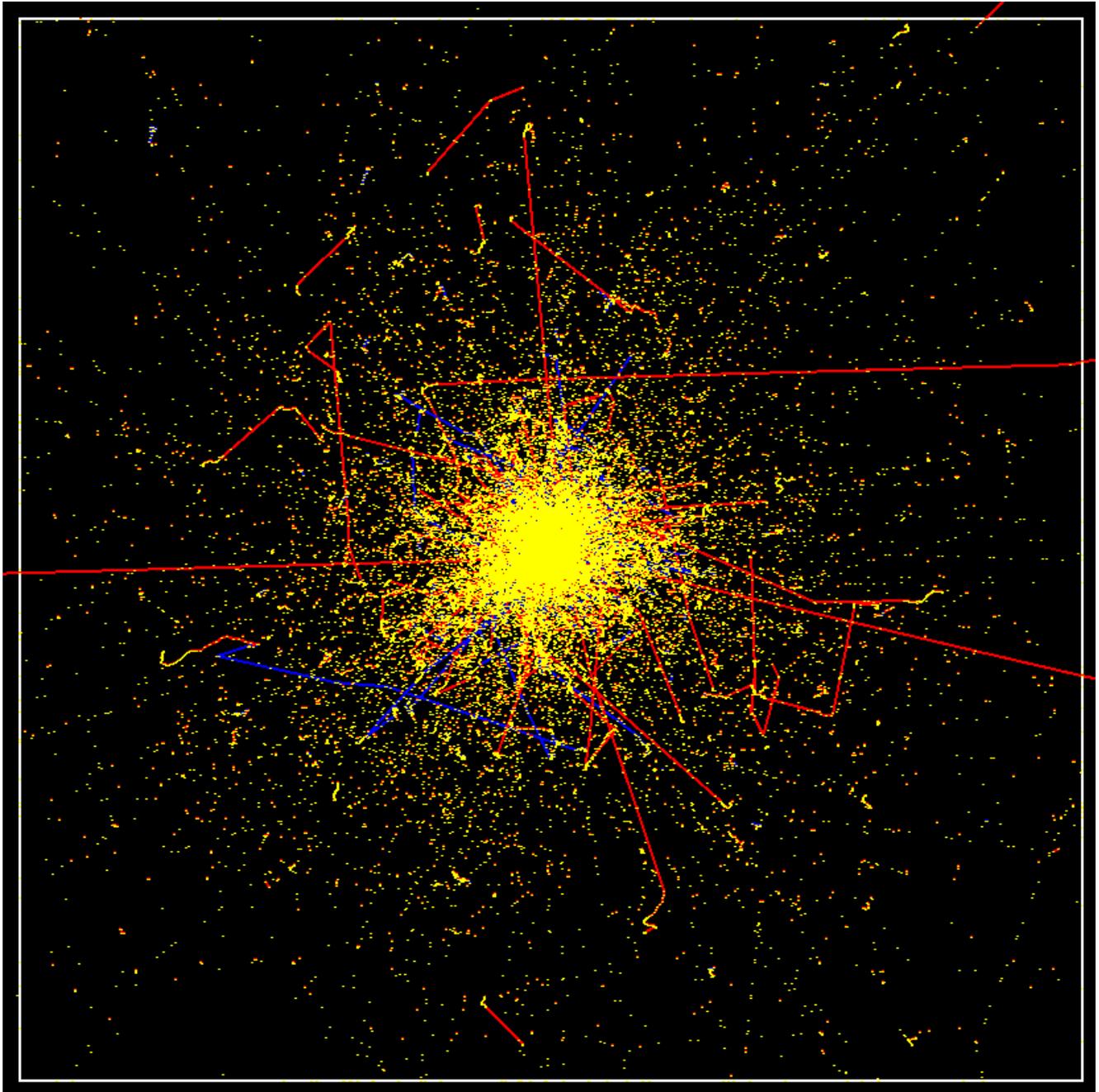


Fig. 1: One event with 10GeV electron, ZY view, all particles shown: gammas (green), electrons (red) and positrons (blue).



*Fig. 2: The same event, only charged particles shown: electrons (red) and positrons (blue).*



*Fig. 3: The same event, XY view, only charged particles.*

### **Summary for 100 events**

mean Energy in Absorber : 8.9481995 GeV +- 188.00423 MeV  
mean Energy in Sensor : 145.16617 MeV +- 11.230902 MeV  
mean Energy in Gap : 335.96273 keV +- 38.429862 keV

mean trackLength in Absorber : 3.6103833 m +- 7.7006923 cm  
mean trackLength in Sensor : 38.776235 cm +- 2.9973245 cm  
mean trackLength in Gap : 1.6308991 m +- 14.918992 cm

## ***W-Si-Air\_14\_electron\_100GeV***

The event could not be displayed as the size of heprep file was 500MB.

### **Summary for 100 events**

mean Energy in Absorber : 82.734718 GeV +- 4.3661485 GeV  
mean Energy in Sensor : 1.3612754 GeV +- 69.624635 MeV  
mean Energy in Gap : 3.1906439 MeV +- 180.77578 keV

mean trackLength in Absorber : 33.446655 m +- 1.7407939 m  
mean trackLength in Sensor : 3.6470121 m +- 18.085293 cm  
mean trackLength in Gap : 15.337791 m +- 81.904389 cm