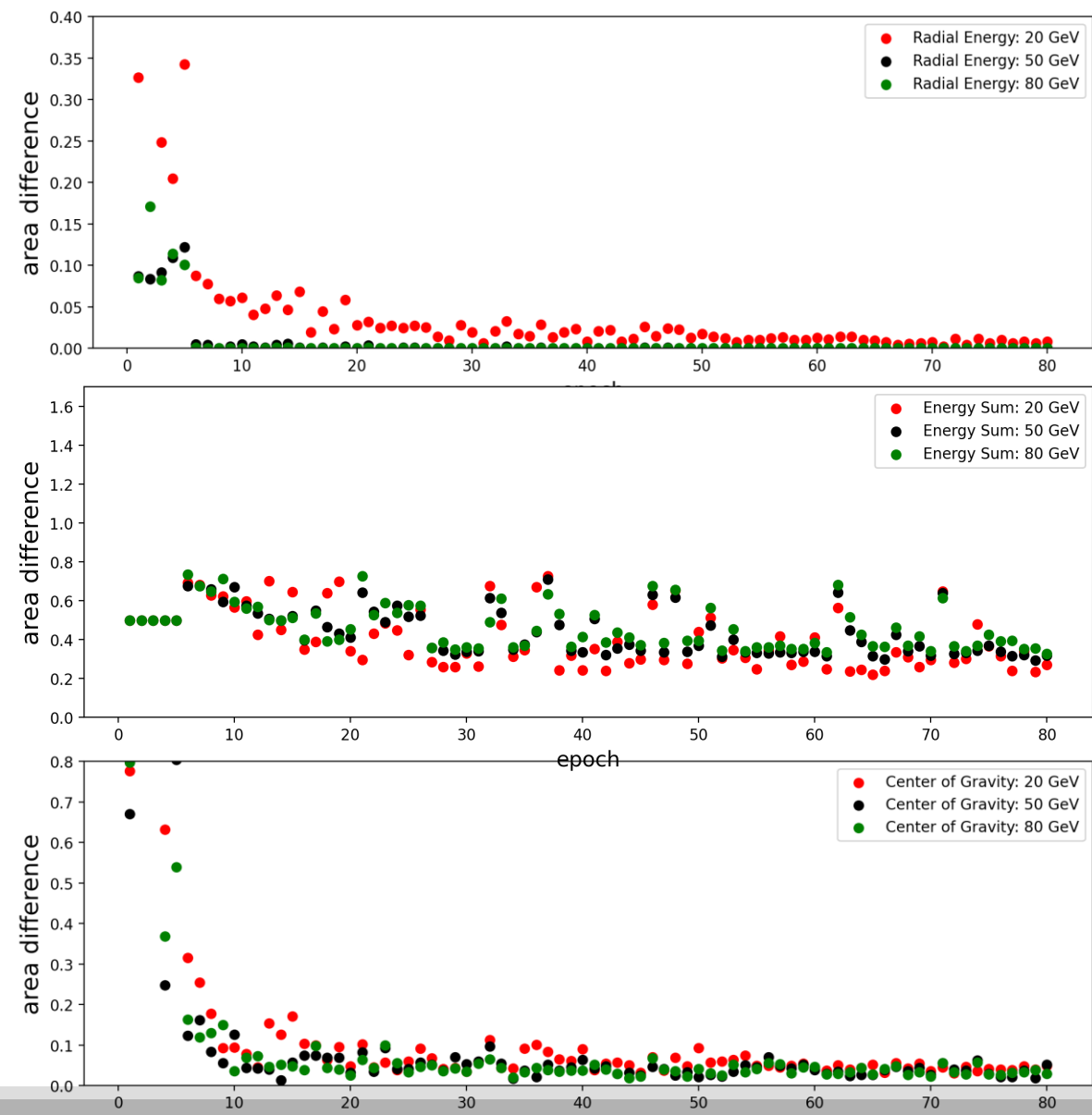
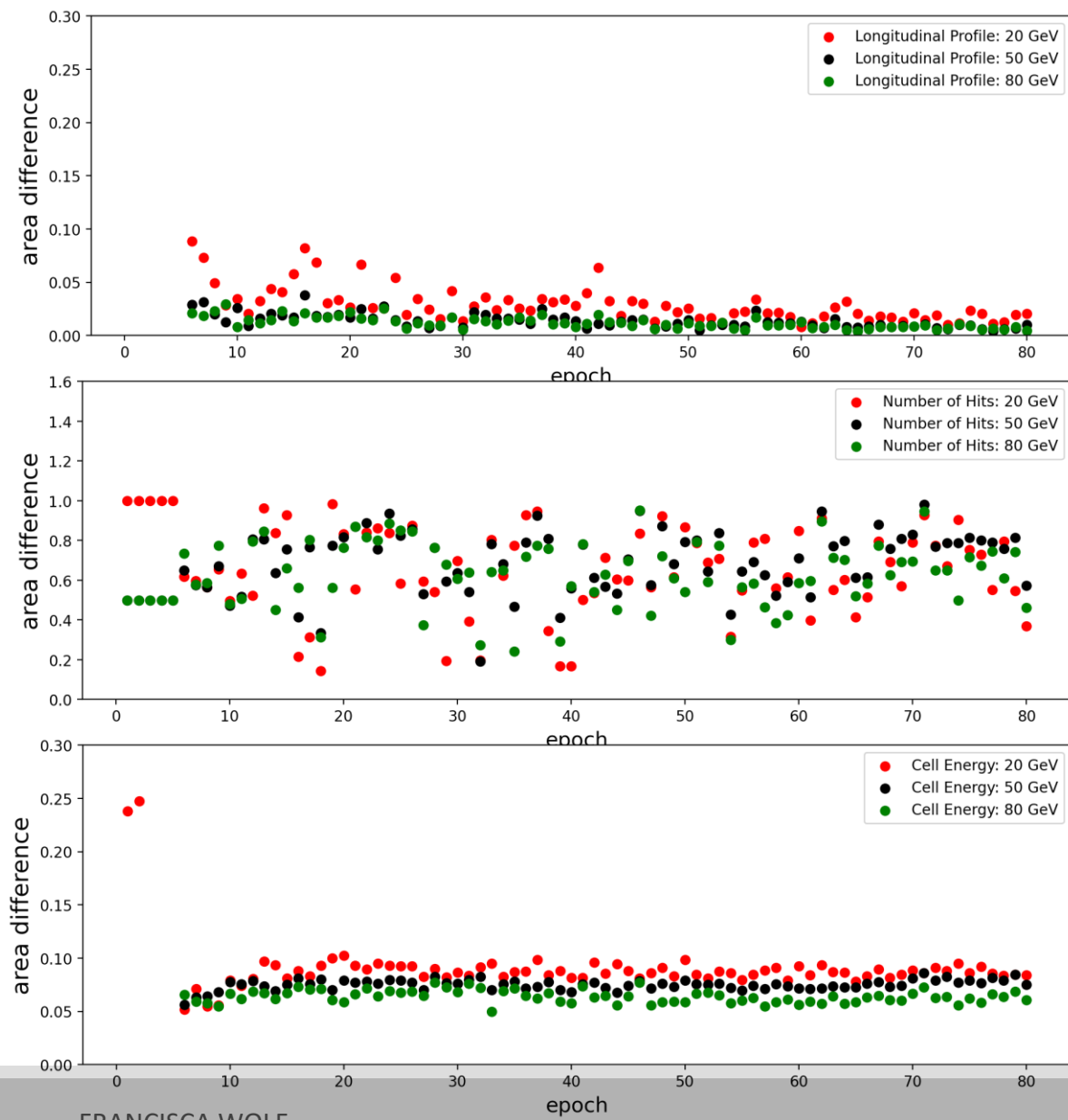


GAN

BEST EPOCH & CONTROL-PLOTS

Area Difference of Geant4 and GAN – Control Plots

80 Epochs, Energies : 20, 50 & 80 GeV electrons, 2976 showers, Cut at 0.1 MeV

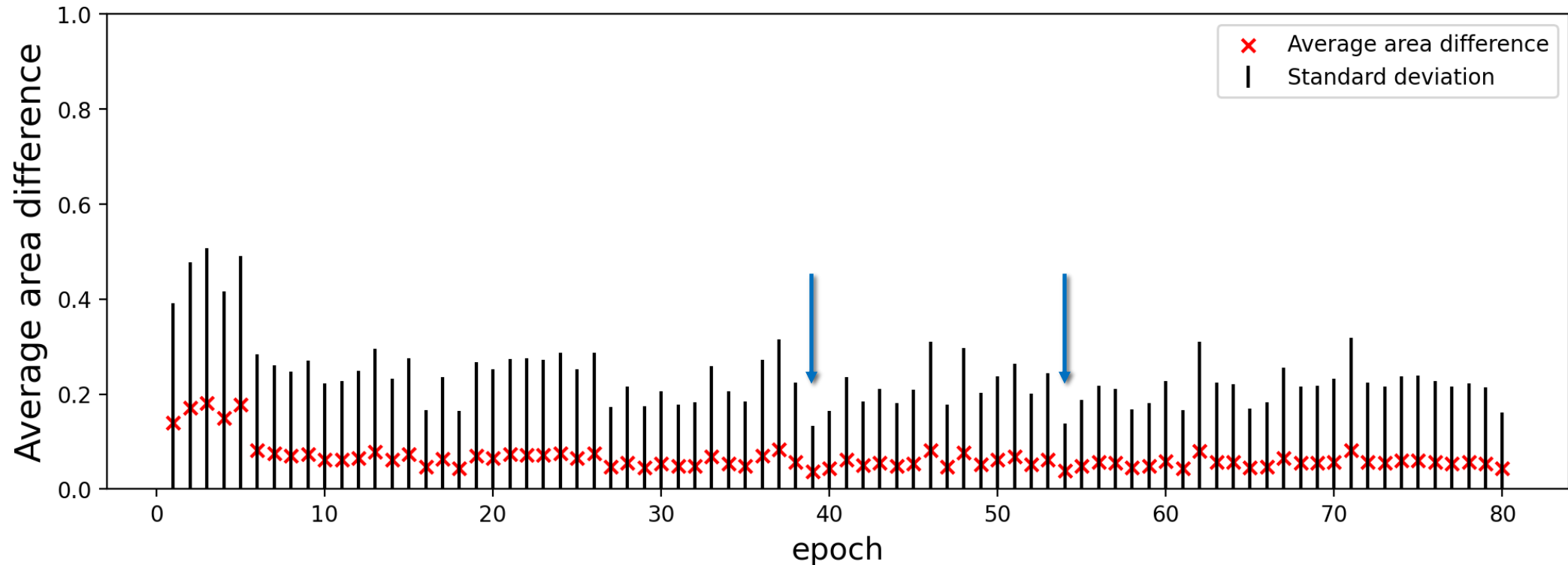


Finding the best Epoch

Average Area Difference of Geant 4 and a GAN for all 6 control-plots for 3 energies:

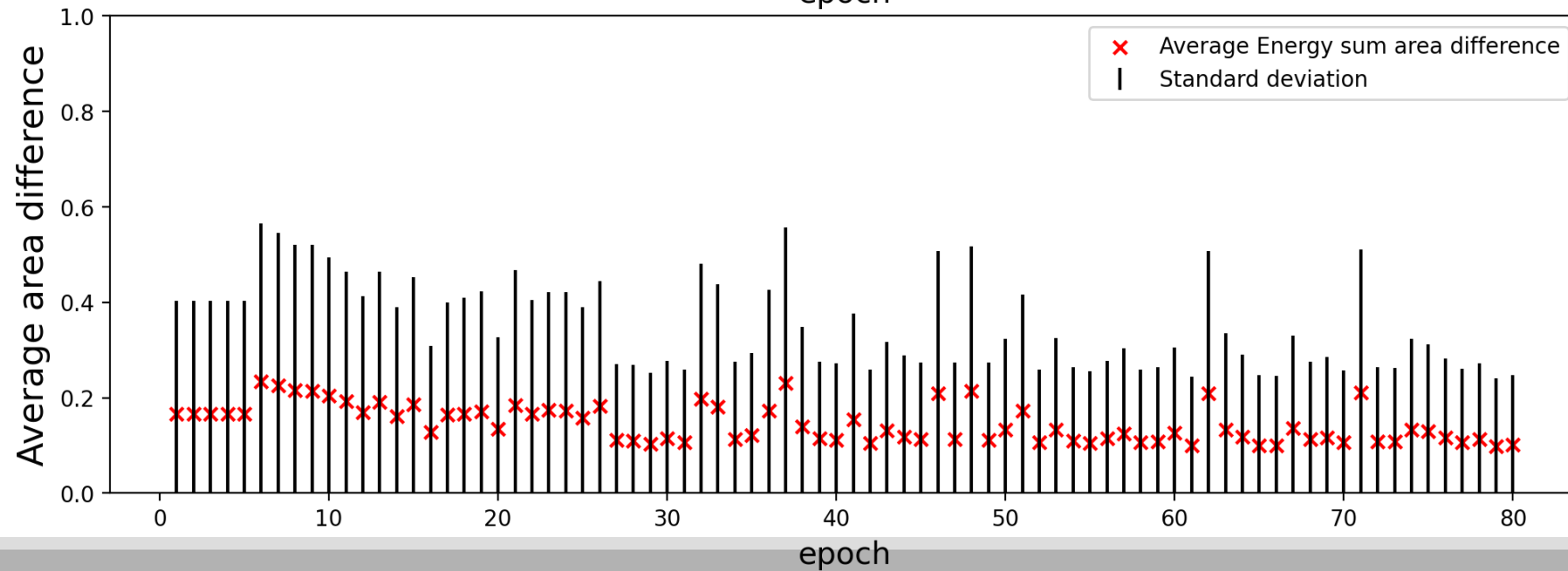
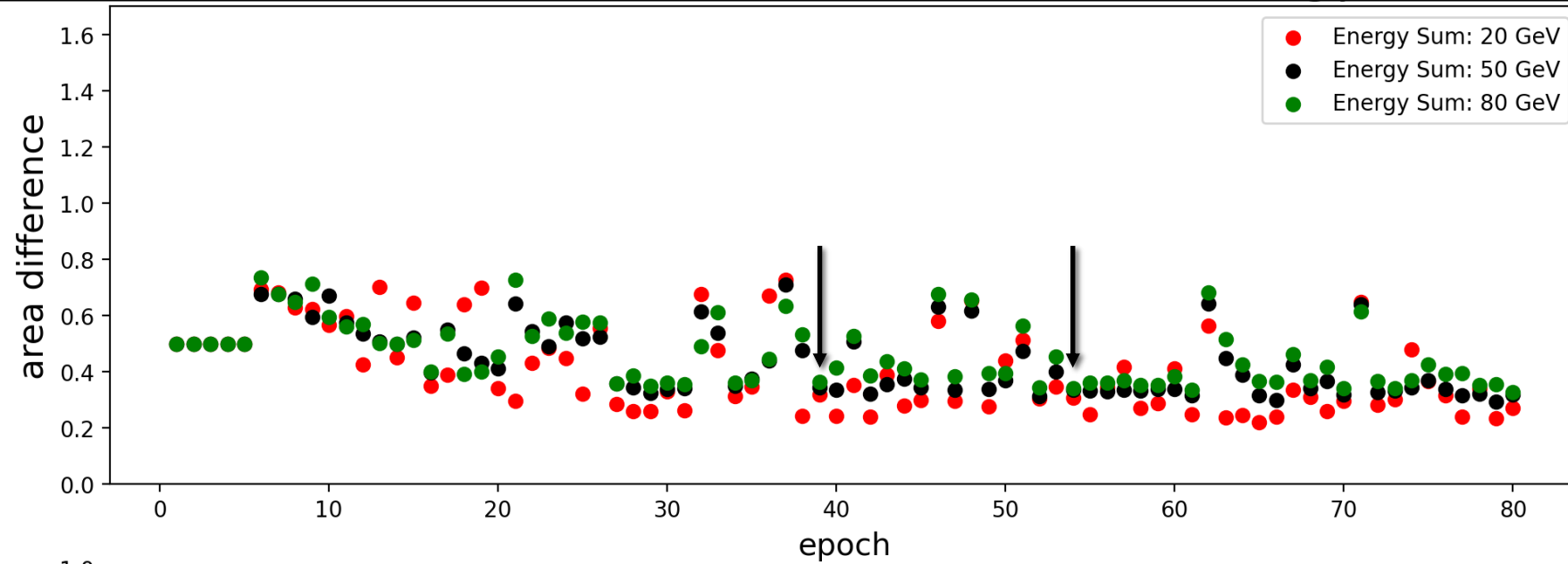
20, 50 and 80 GeV

80 Epochs, 2976 showers, Cut at 0.1 MeV



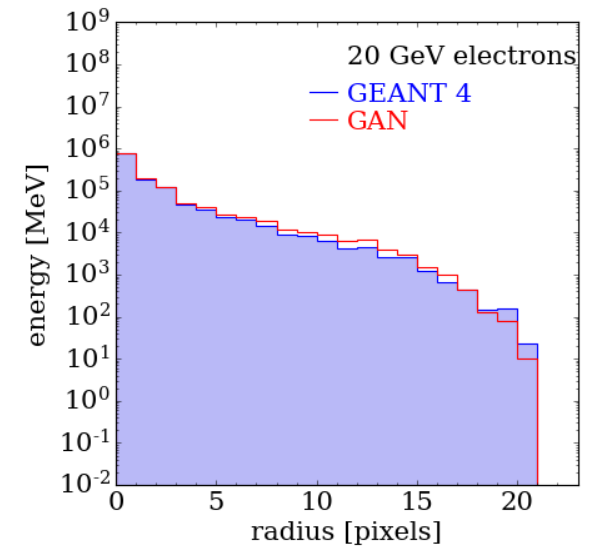
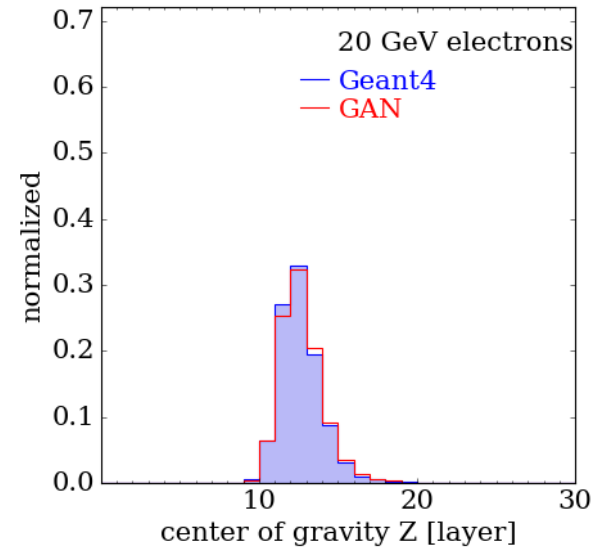
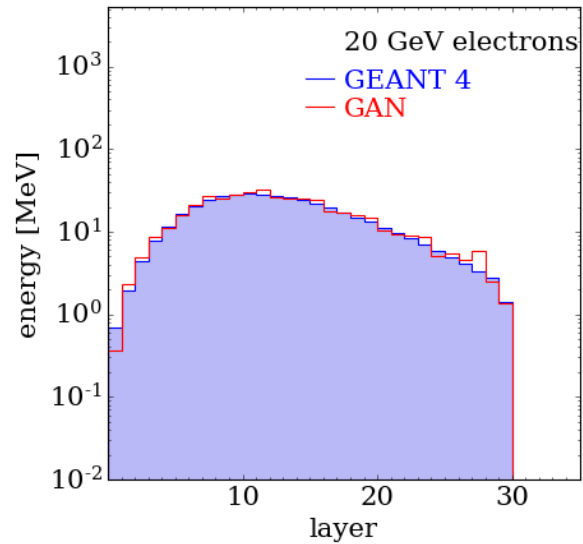
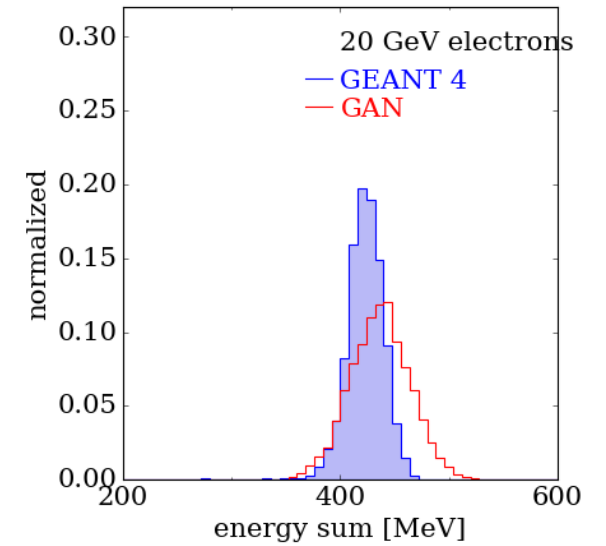
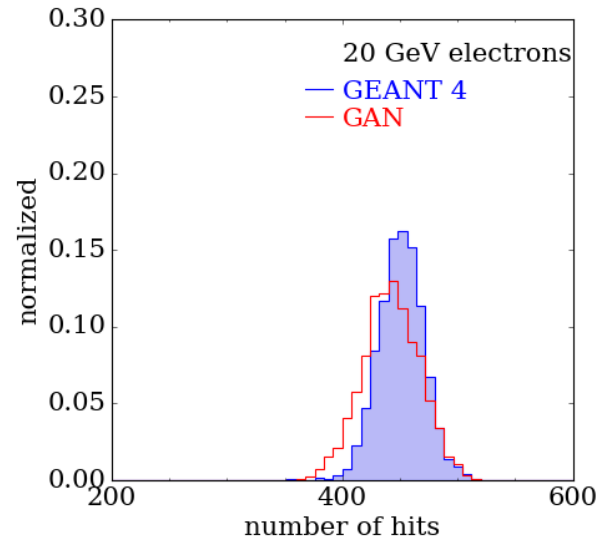
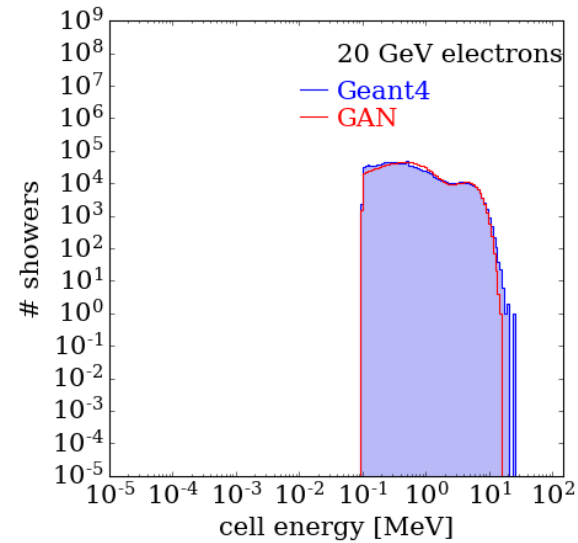
-> I chose Epoch 39 and 54

Area Difference of Geant 4 and GAN – Total Energy Distribution



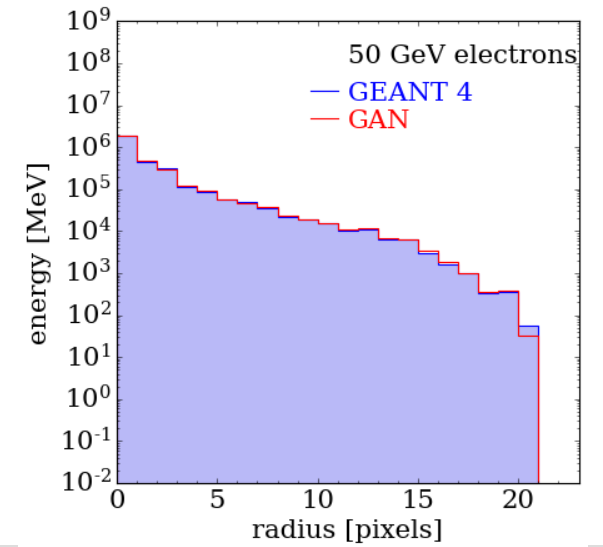
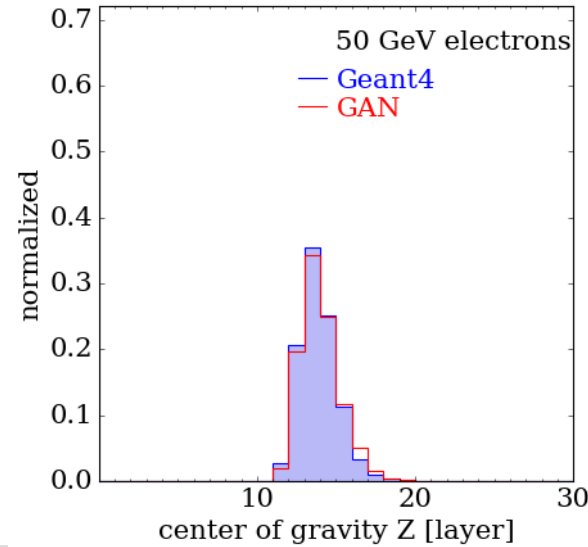
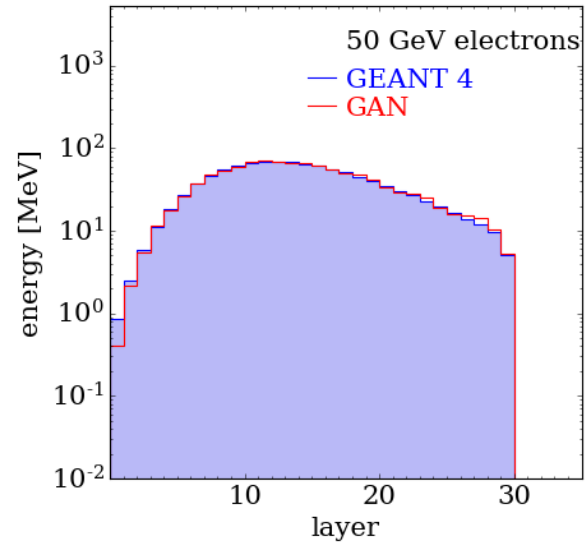
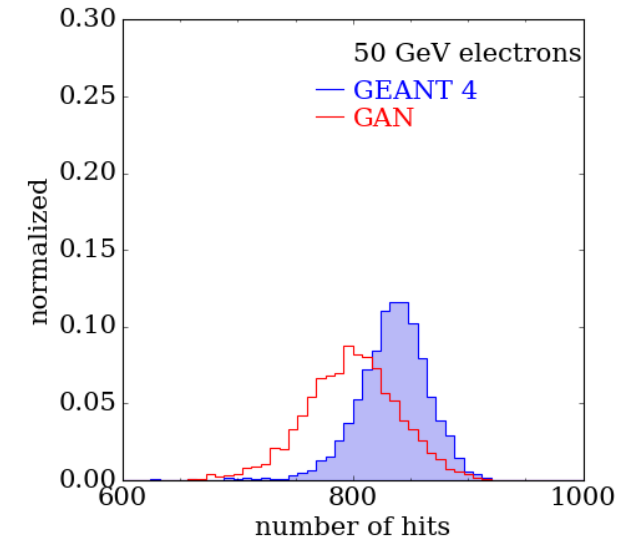
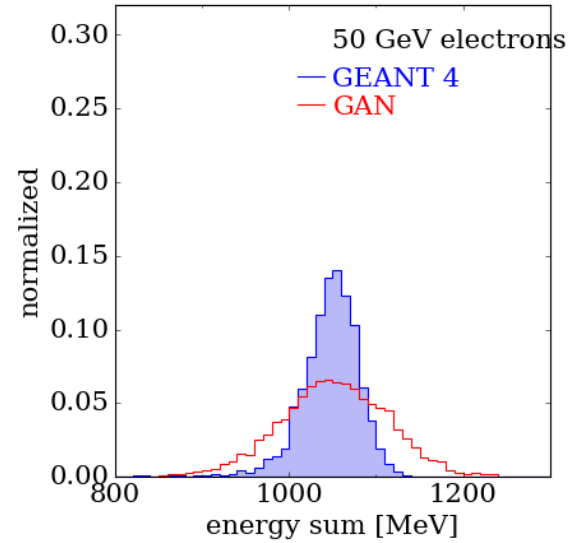
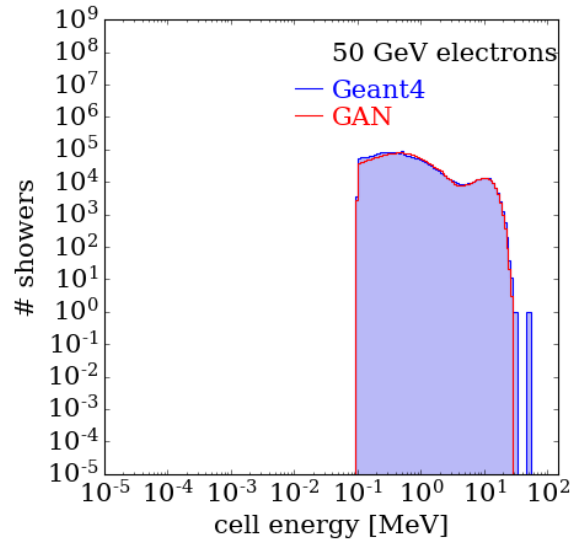
Control Plots: Epoch 39, 20 GeV electrons

2976 showers, Cut at 0.1 MeV



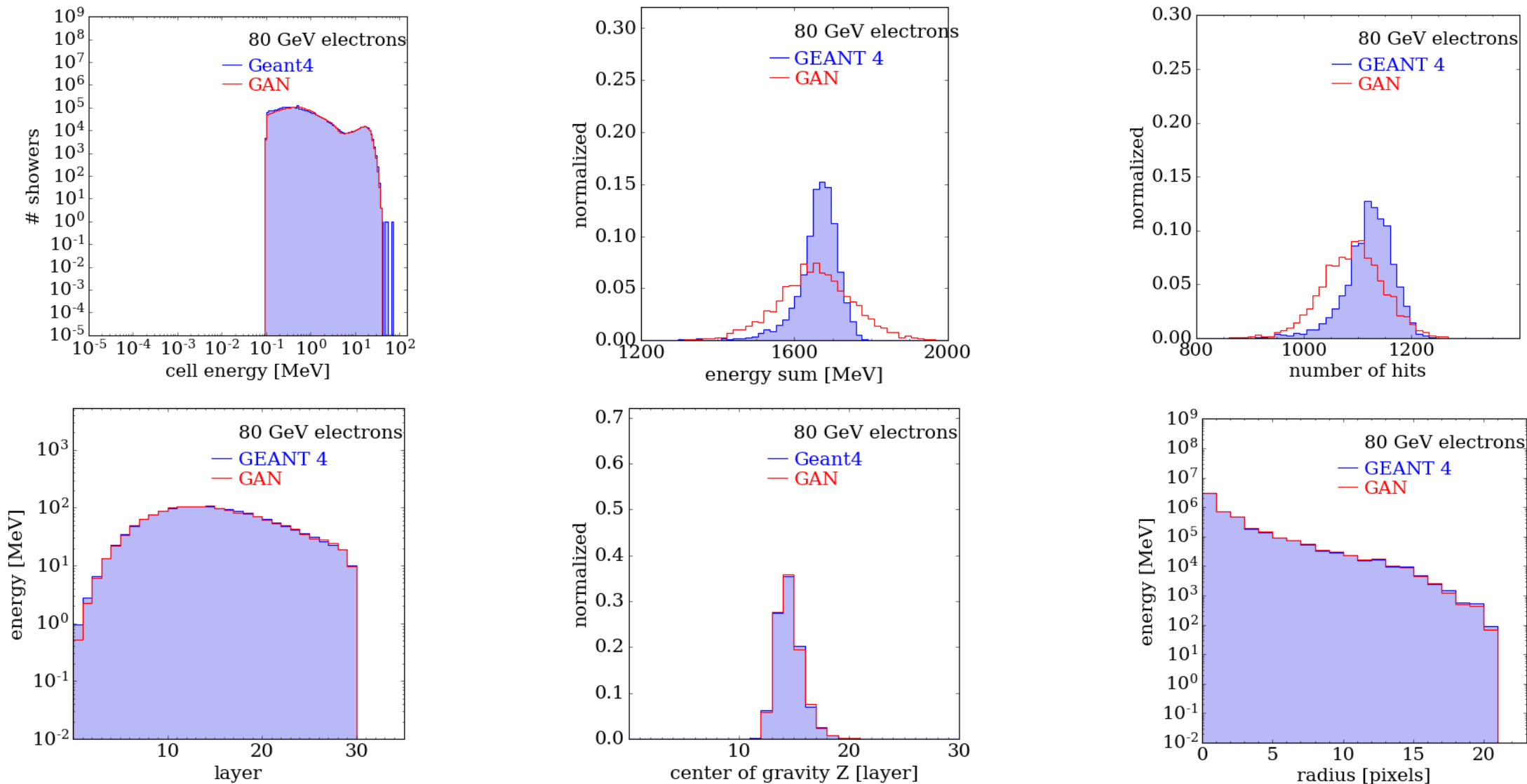
Control Plots: Epoch 39, 50 GeV electrons

2976 showers, Cut at 0.1 MeV



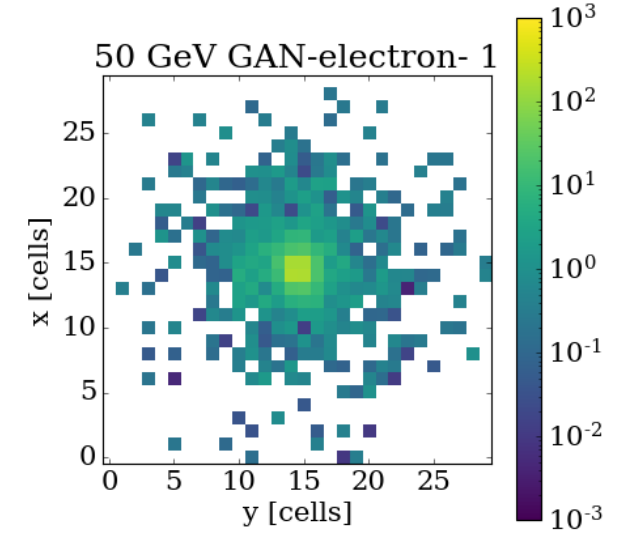
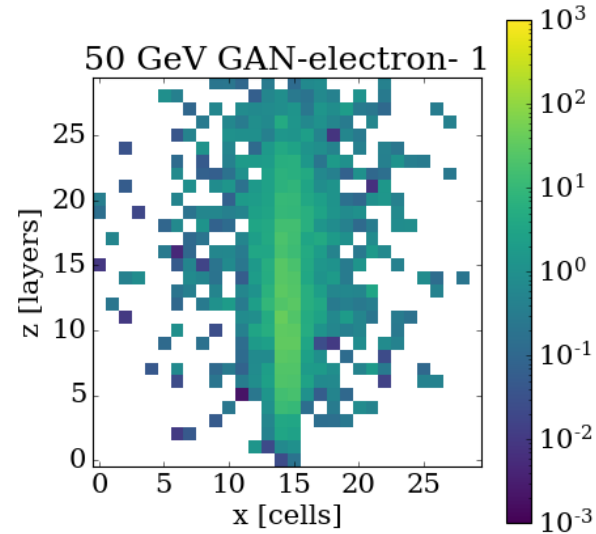
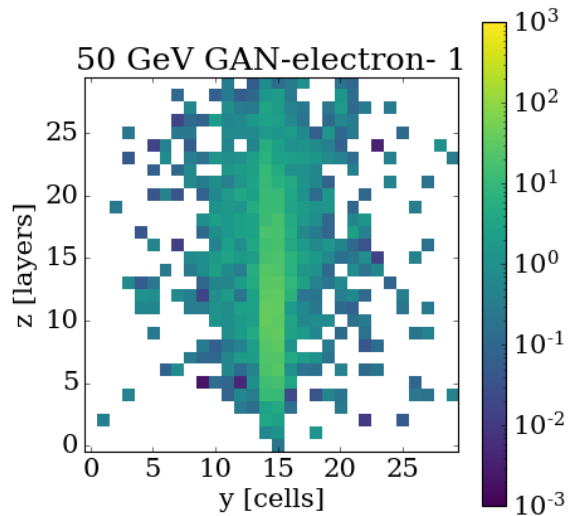
Control Plots: Epoch 39, 80 GeV electrons

2976 showers, Cut at 0.1 MeV

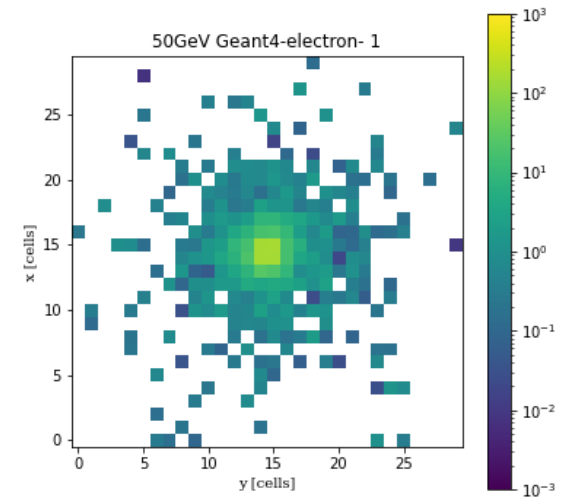
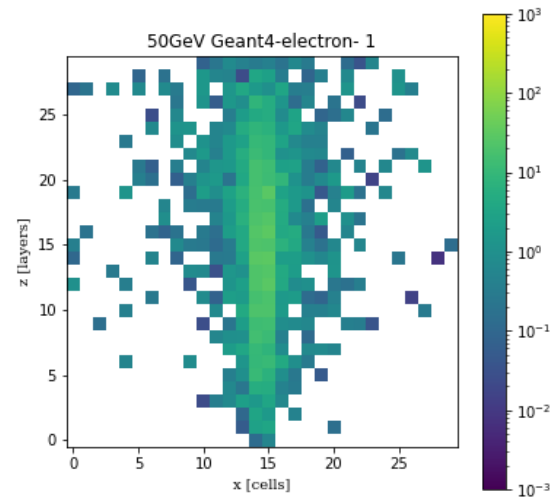
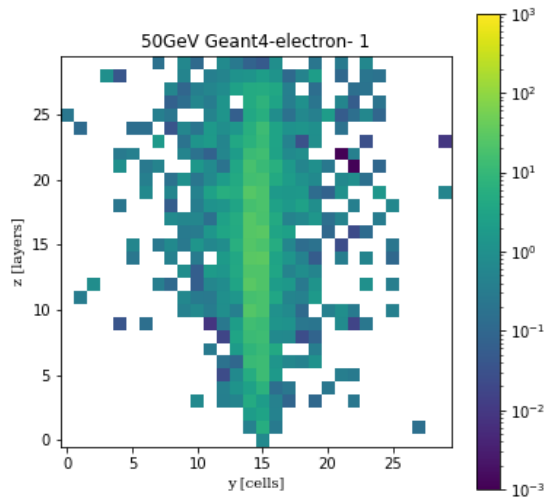


Comparison Geant4 Showers and GAN Showers

GAN

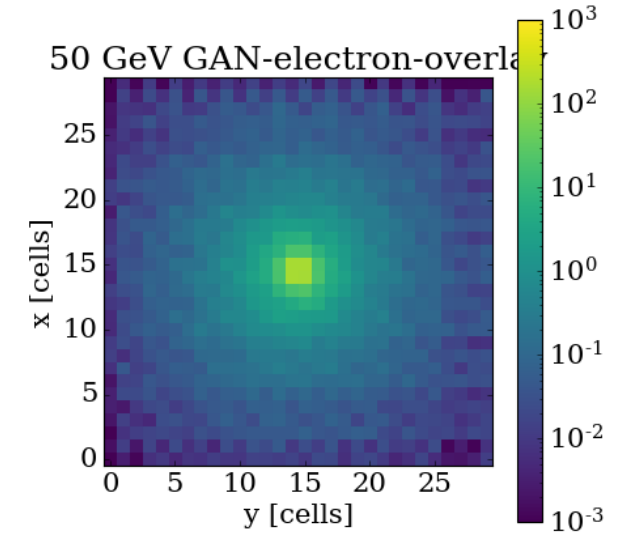
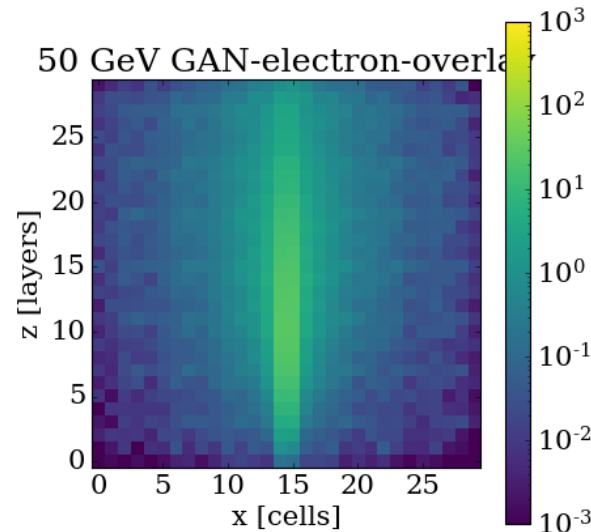
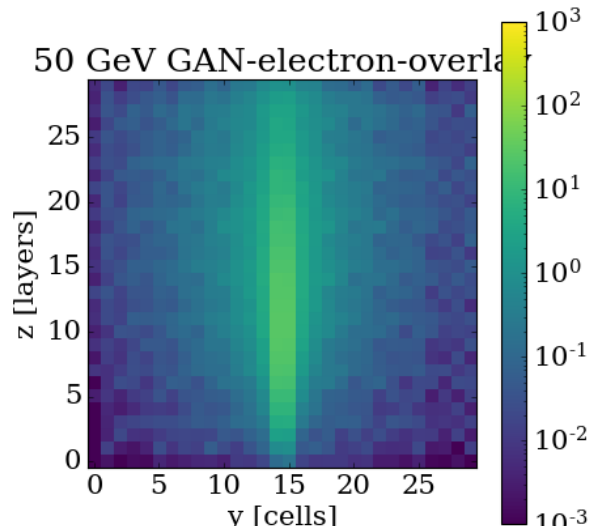


Geant4

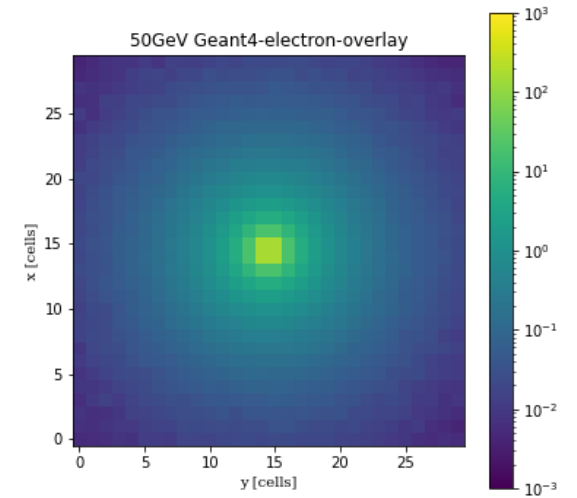
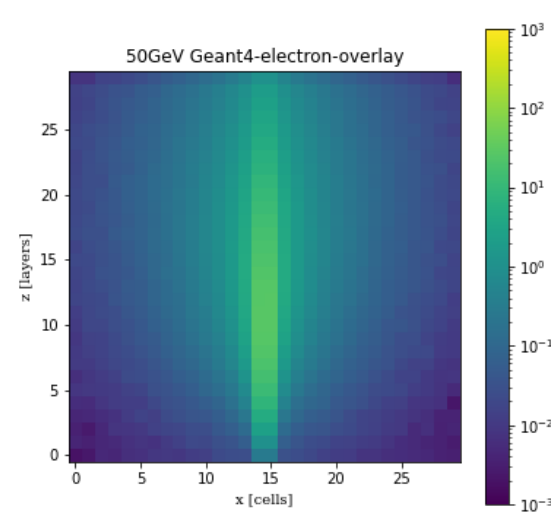
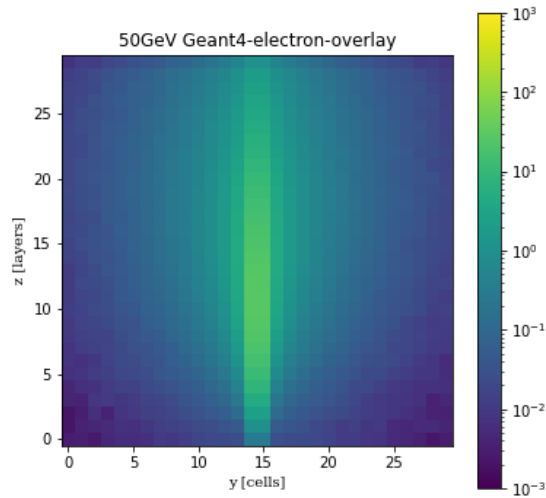


Comparison Geant4 Showers and GAN Showers - Overlay

GAN

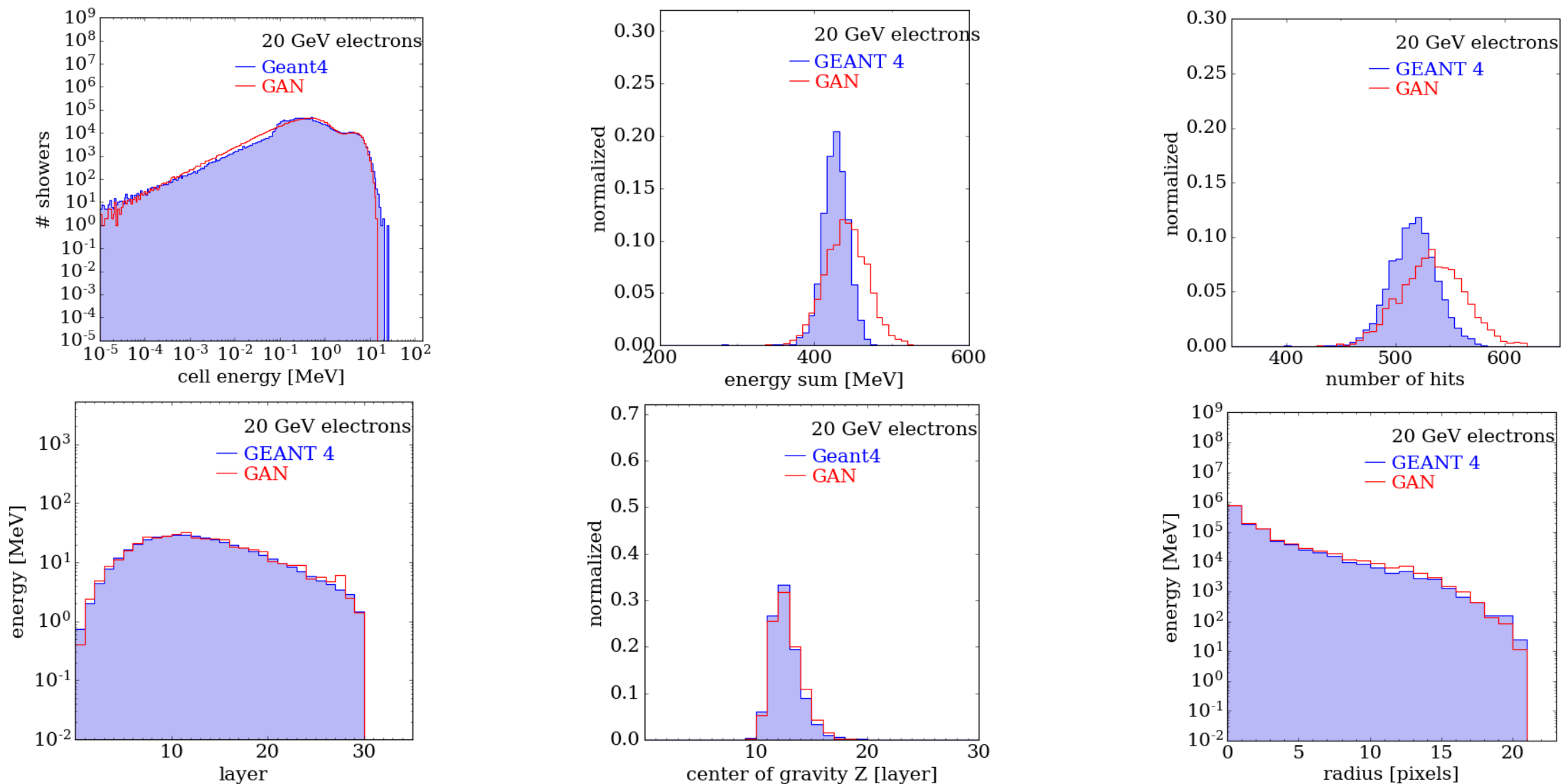


Geant4



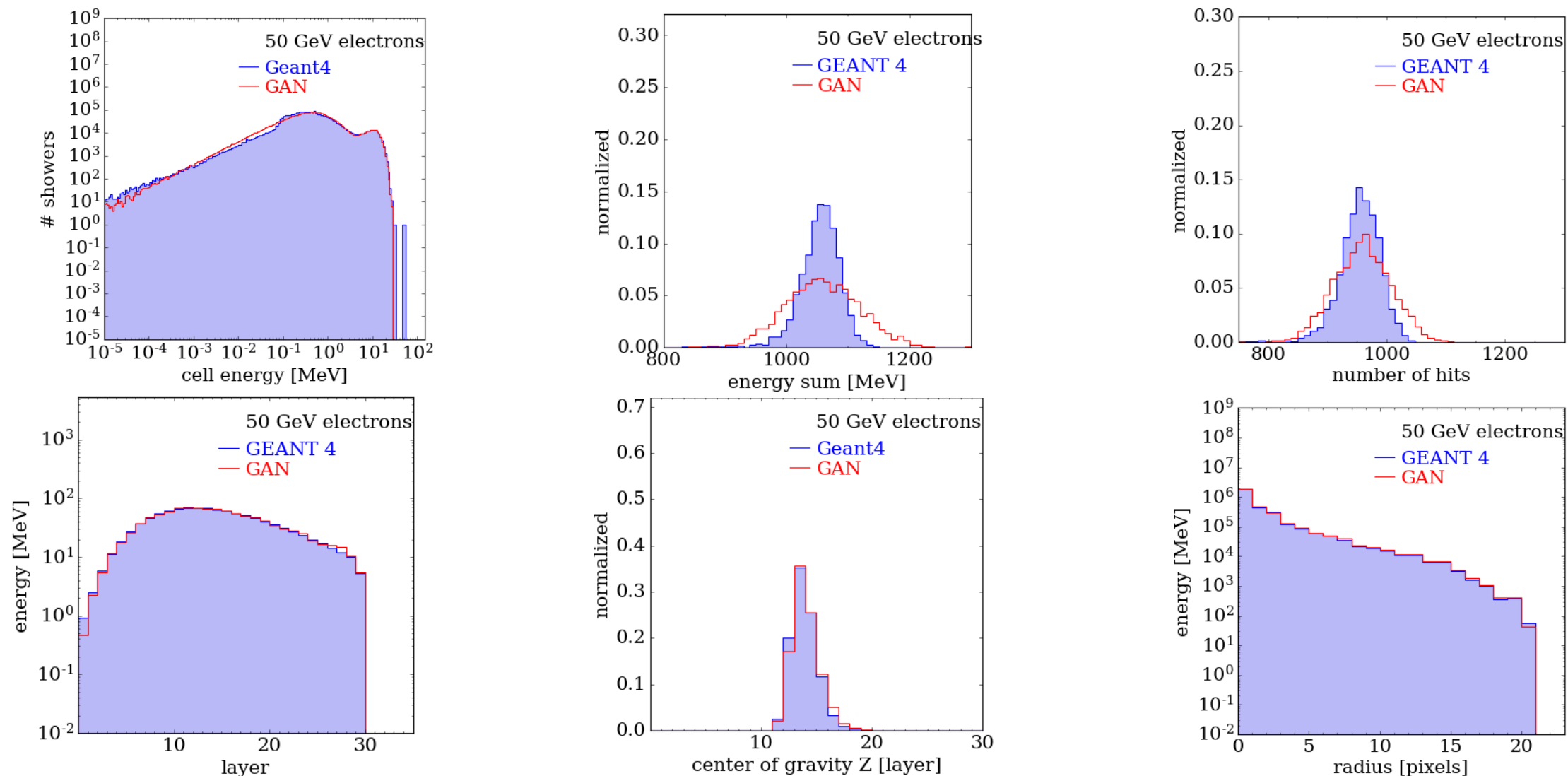
Control Plots: Epoch 39, 20 GeV electrons

2976 showers, no Cut



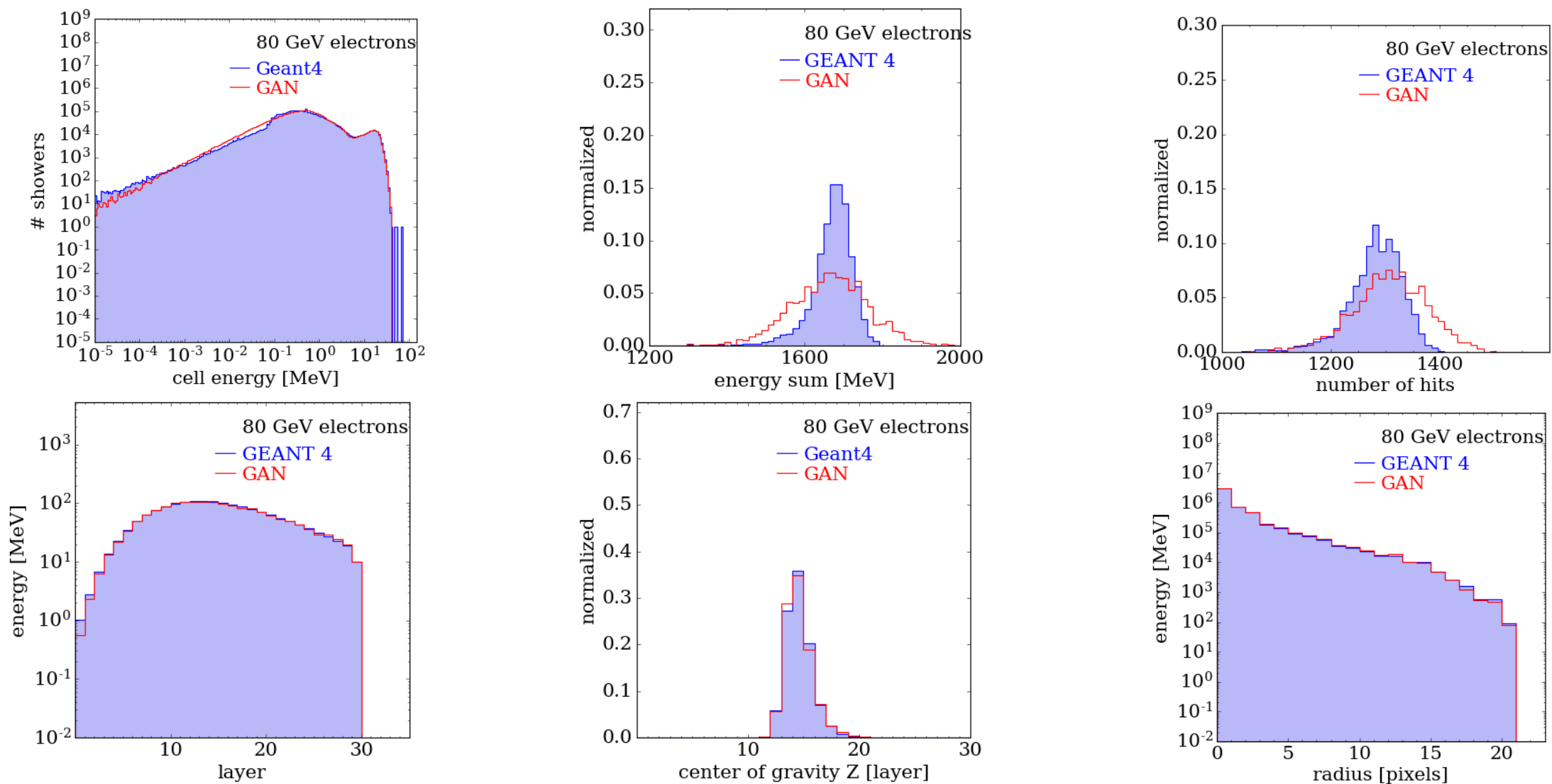
Control Plots: Epoch 39, 50 GeV electrons

2976 showers, no Cut



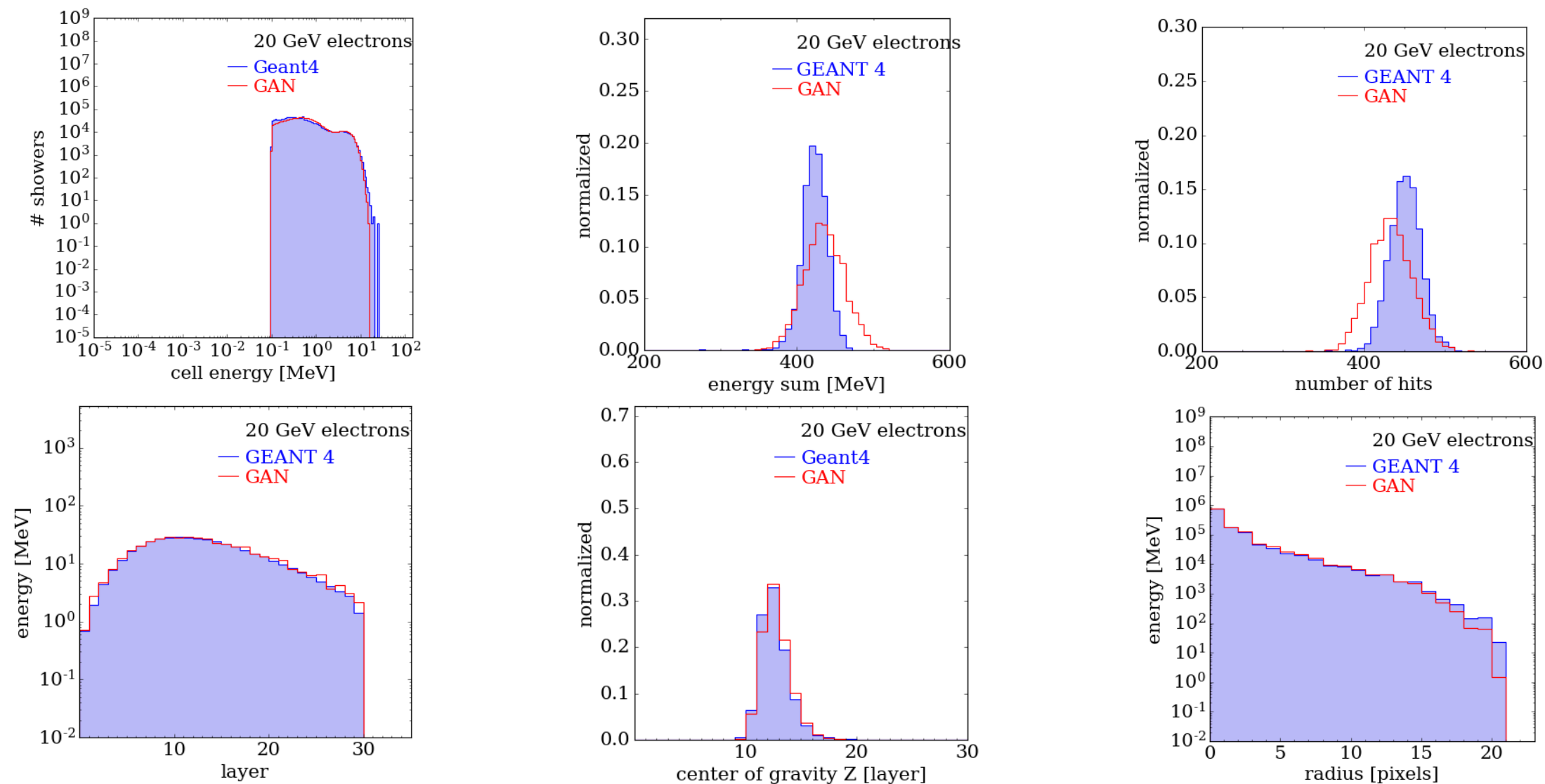
Control Plots: Epoch 39, 80 GeV electrons

2976 showers, no Cut



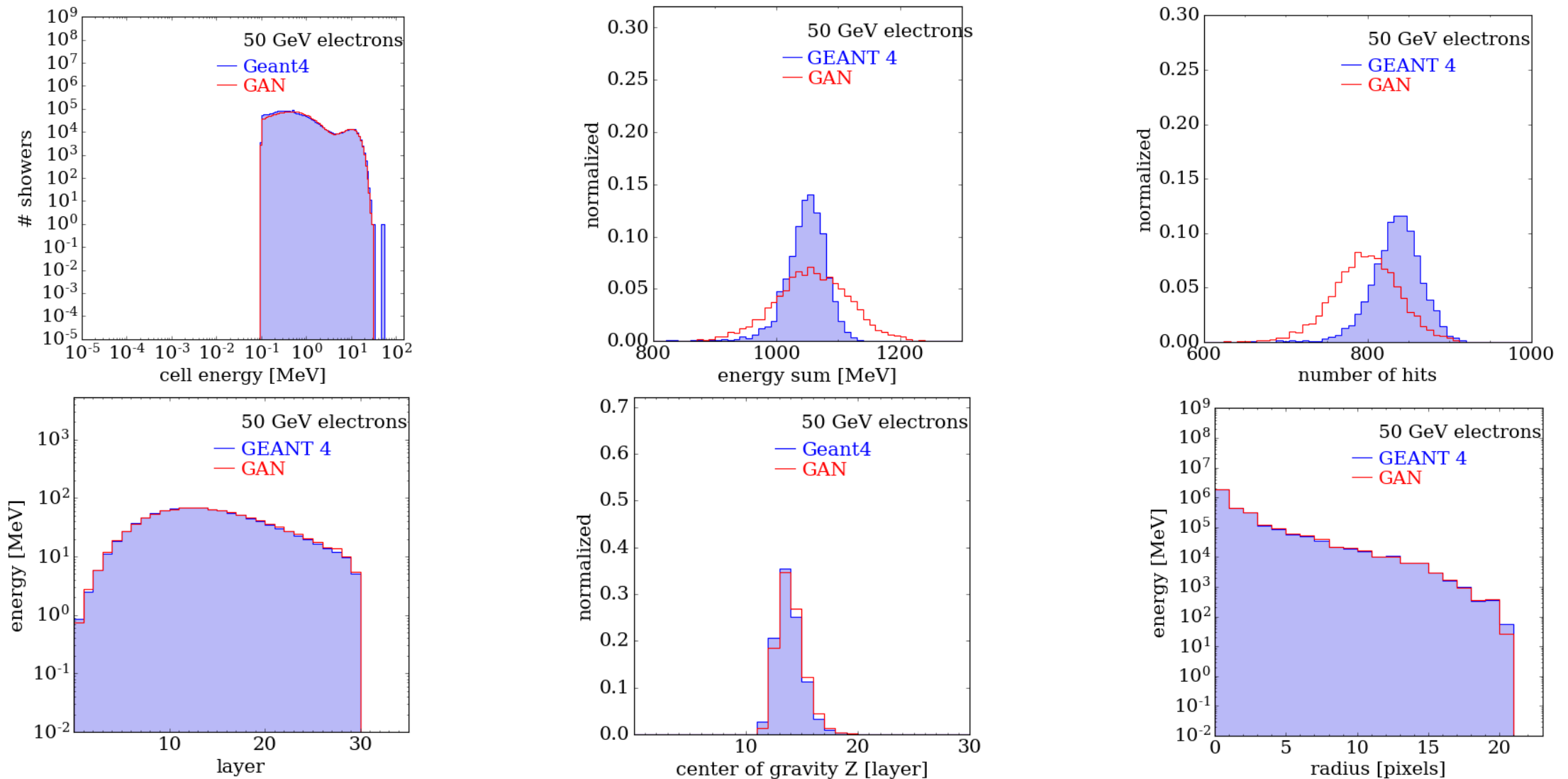
Control Plots: Epoch 54, 20 GeV electrons

2976 showers, Cut at 0.1 MeV



Control Plots: Epoch 54, 50 GeV electrons

2976 showers, Cut at 0.1 MeV



Control Plots: Epoch 54, 80 GeV electrons

2976 showers, Cut at 0.1 MeV

