

Simulation and Analysis

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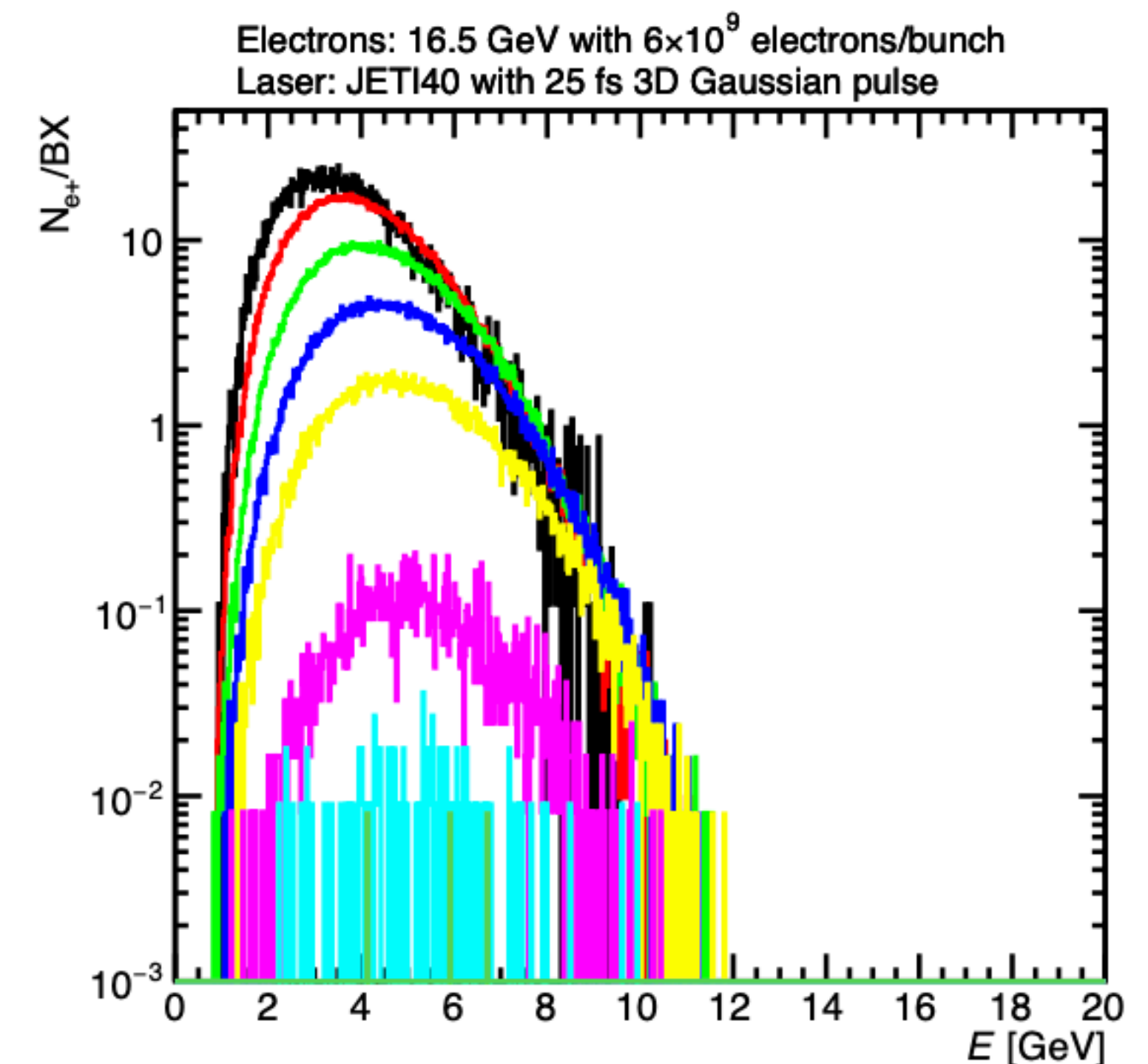
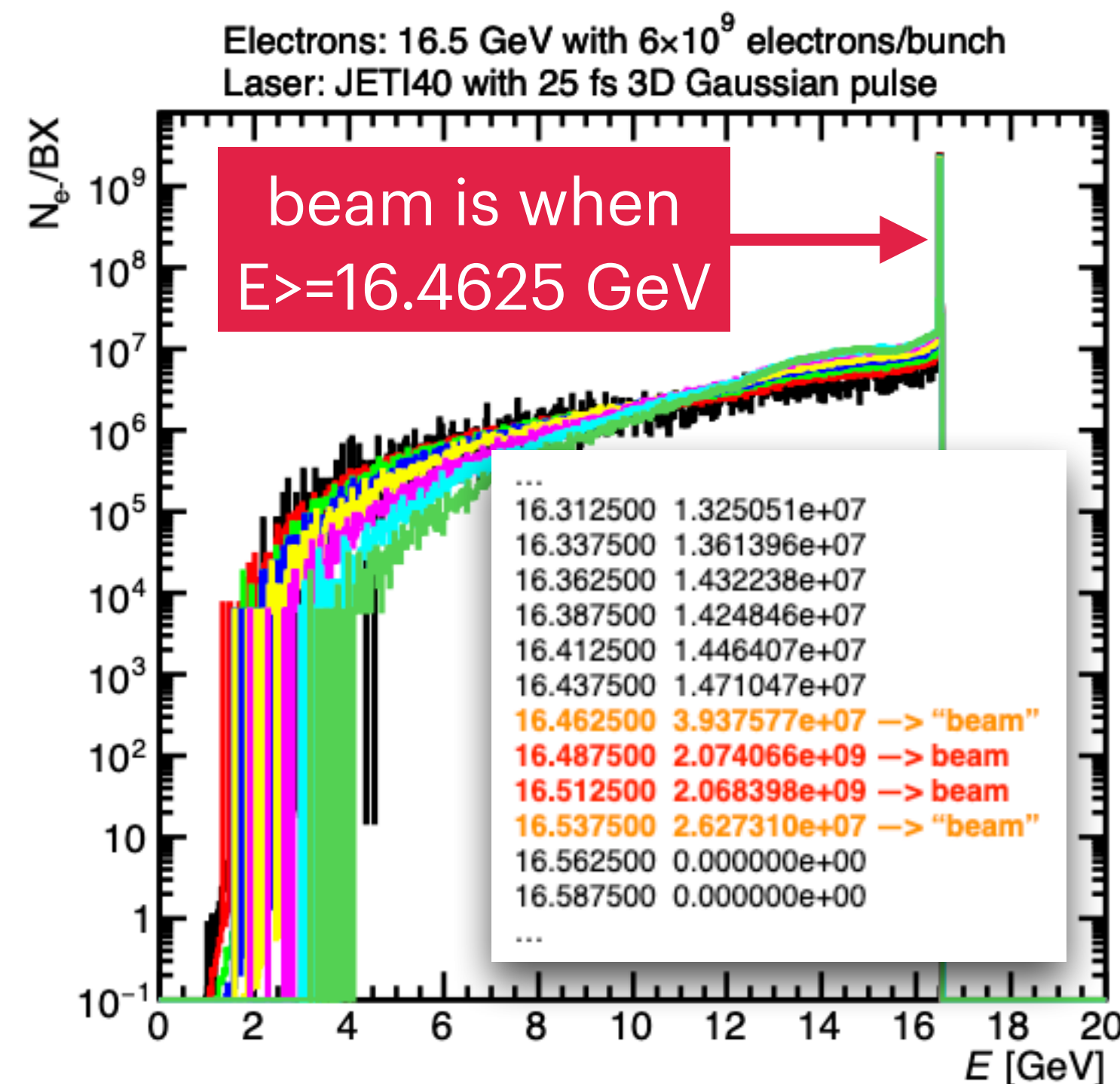
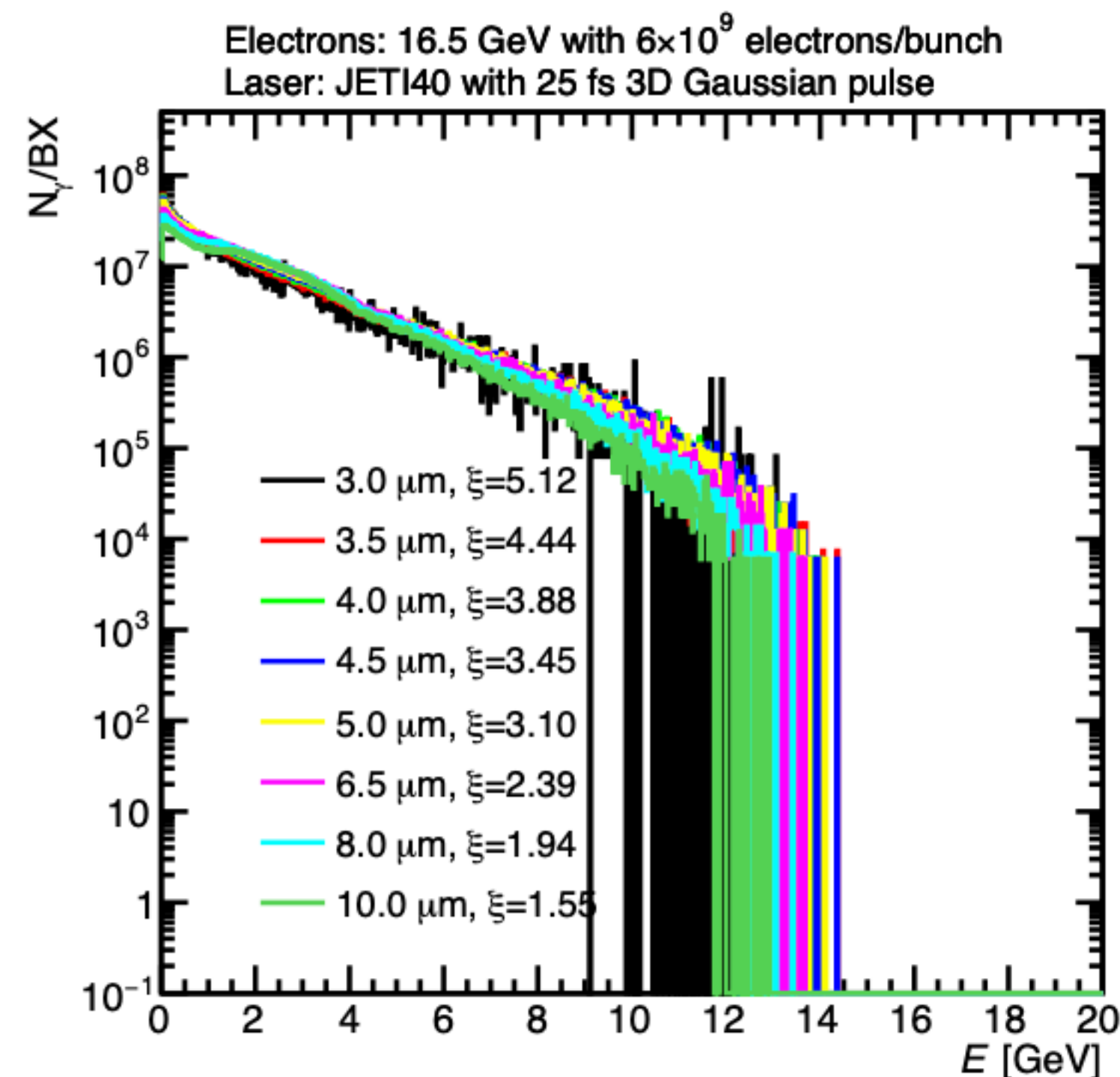
Dec 15 2020

Recap

- ◉ Tony is redoing the signals
 - ◉ will need to reprocess in G4
- ◉ Beam-only bkg: we have 3.6 (had a problem with the UCL files)
- ◉ Louis has updated the Calo numbers in the spreadsheet
 - ◉ I will regenerate the plots for Matthew
- ◉ We have looked at the fraction of non-interacting electrons to scale down the total bkg numbers from the beam-only simulation (see next)
- ◉ Arka has made a lot of progress with the analysis of several bkg BXs, the way to split those in order to work per BX and the way to scale these down as needed - see later talk

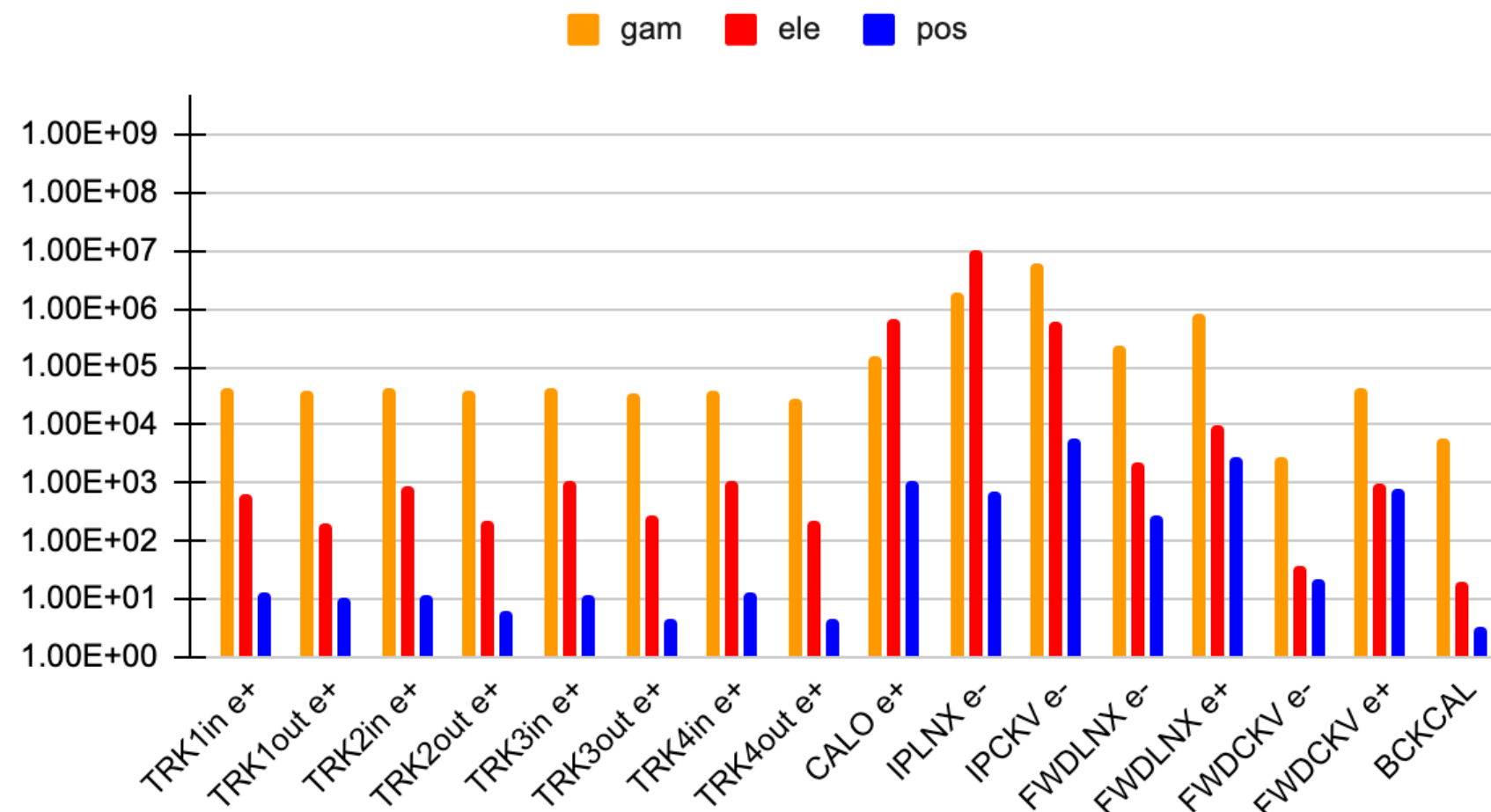
Fraction of non-interacting e⁻'s

- 3000nm --> number of non-beam electrons 2.61568e+08 --> number of non-interacting electrons is 1.23843e+09 --> fraction of non-interacting electrons is 0.826
- 3500nm --> number of non-beam electrons 3.02275e+08 --> number of non-interacting electrons is 1.19773e+09 --> fraction of non-interacting electrons is 0.798
- 4000nm --> number of non-beam electrons 3.41938e+08 --> number of non-interacting electrons is 1.15806e+09 --> fraction of non-interacting electrons is 0.772
- 4500nm --> number of non-beam electrons 3.75505e+08 --> number of non-interacting electrons is 1.12449e+09 --> fraction of non-interacting electrons is 0.750
- 5000nm --> number of non-beam electrons 4.01843e+08 --> number of non-interacting electrons is 1.09816e+09 --> fraction of non-interacting electrons is 0.732
- 6500nm --> number of non-beam electrons 4.47963e+08 --> number of non-interacting electrons is 1.05204e+09 --> fraction of non-interacting electrons is 0.701
- 8000nm --> number of non-beam electrons 4.57321e+08 --> number of non-interacting electrons is 1.04268e+09 --> fraction of non-interacting electrons is 0.695
- 10000nm --> number of non-beam electrons 4.35941e+08 --> number of non-interacting electrons is 1.06406e+09 --> fraction of non-interacting electrons is 0.709

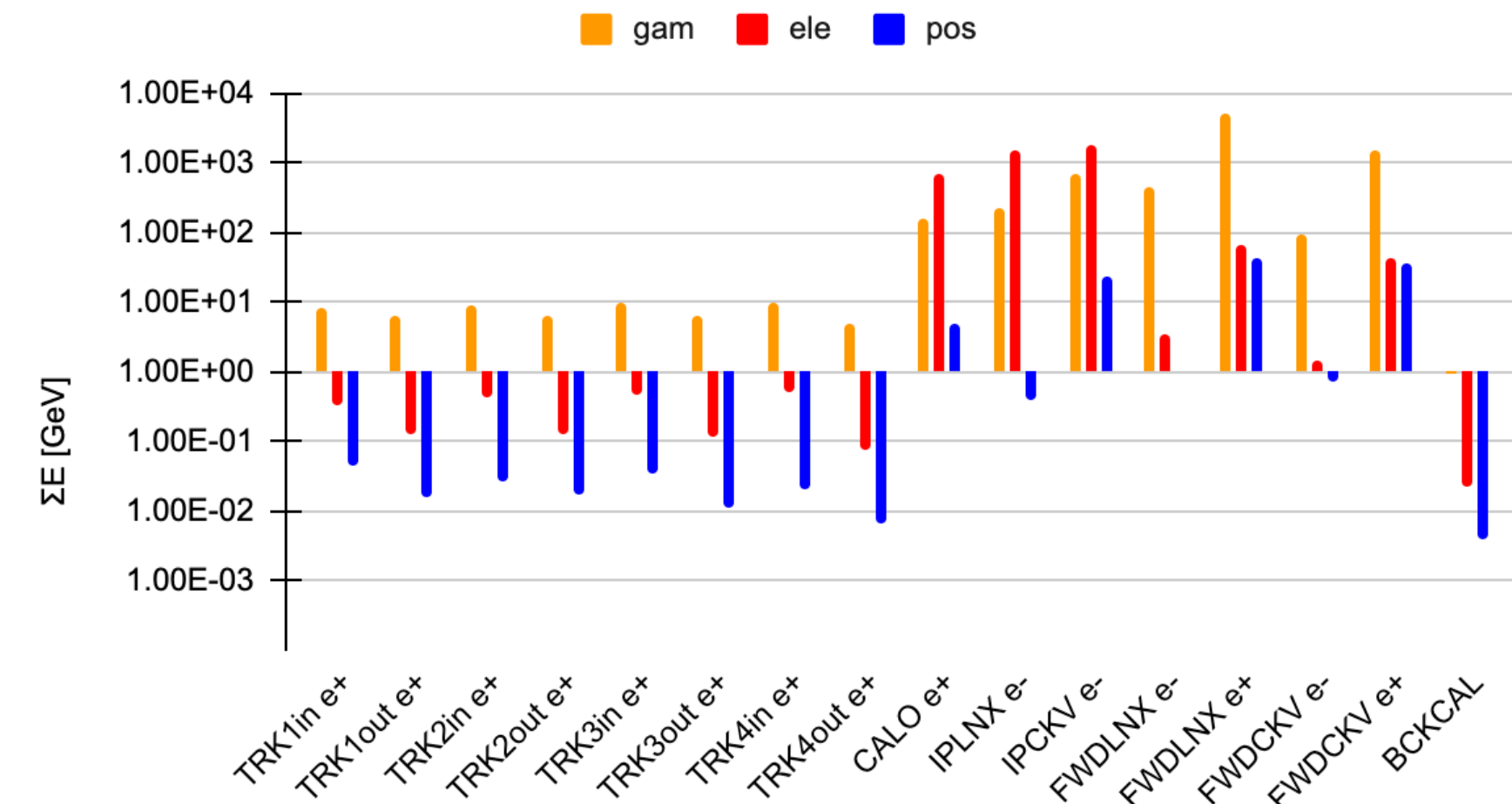


With calo numbers

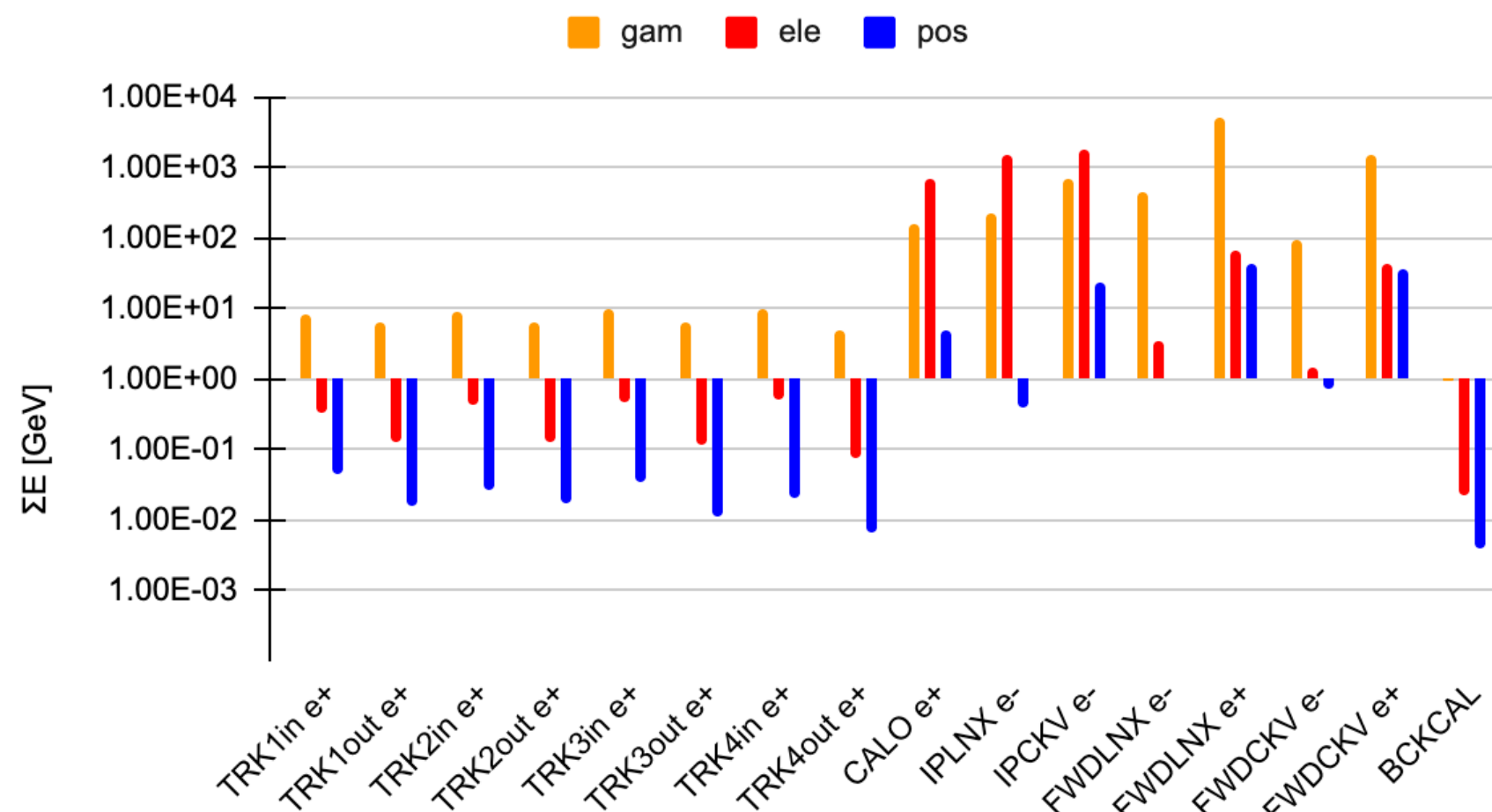
Particles per BX, electron+laser setup (beam only)



ΣE per BX, electron+laser setup (beam only)



ΣE per BX, electron+laser setup (beam only)



ΣE per BX, photon+laser setup (beam only)

