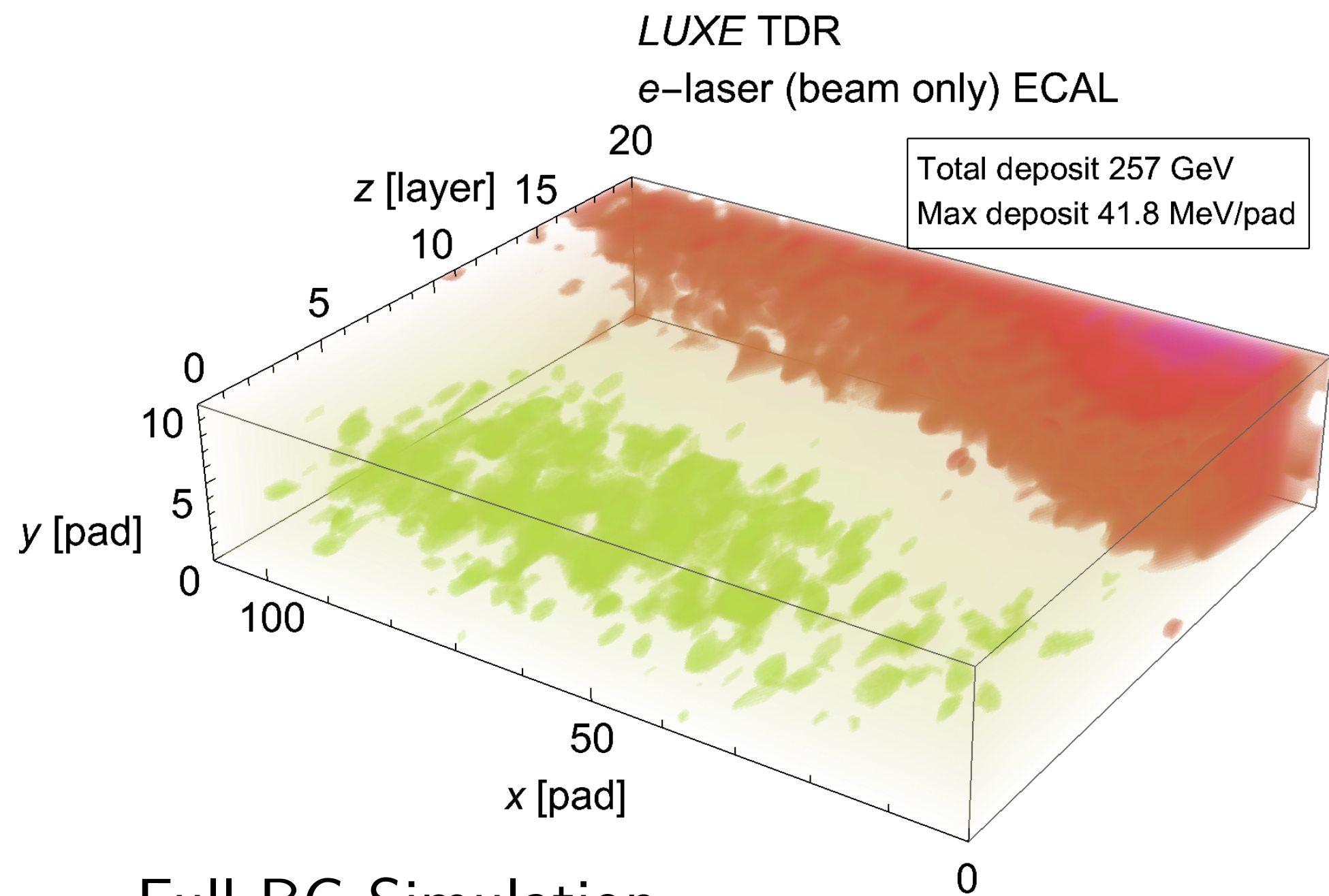


TB21 Data Analysis

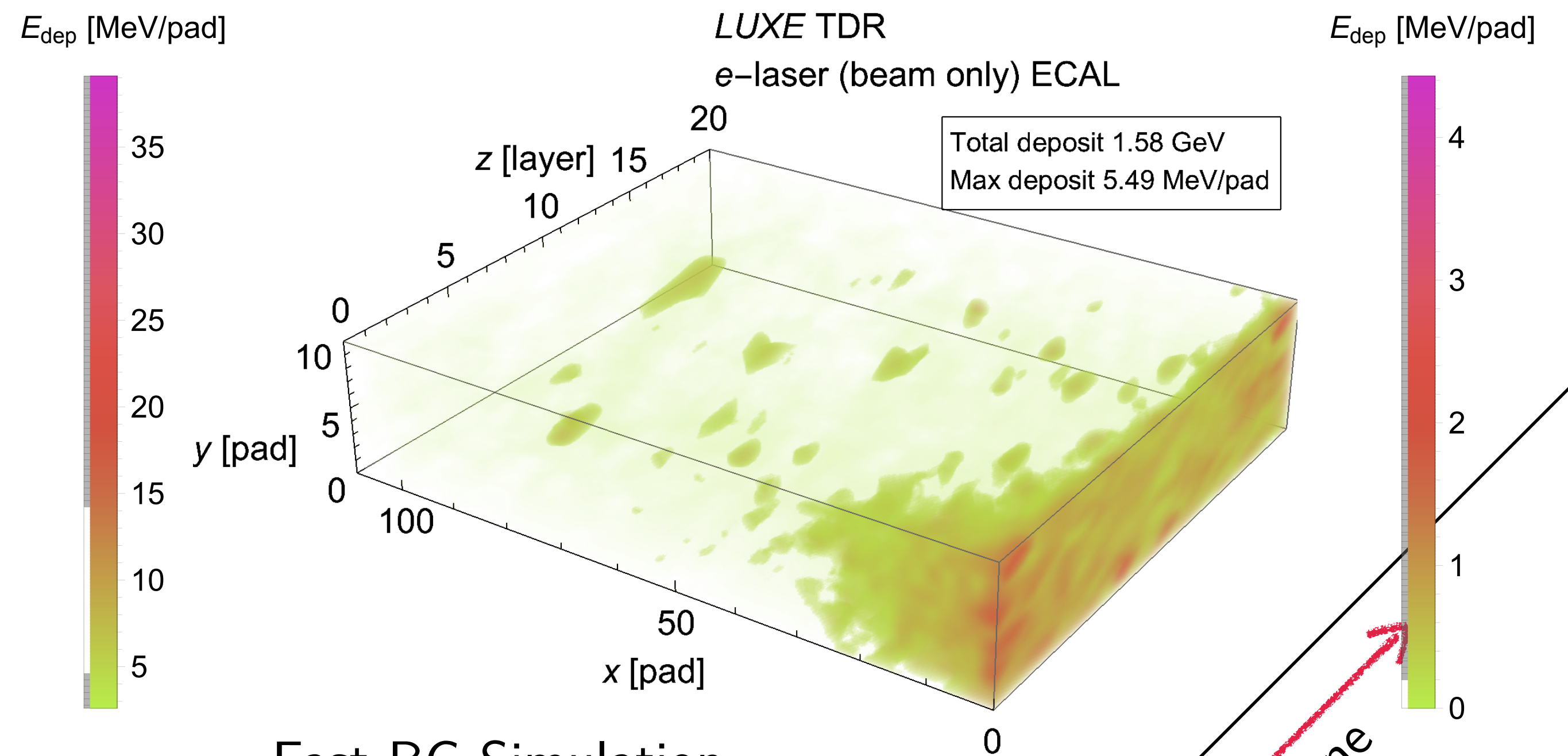
combining SENSOR & TELESCOPE

shan.huang@desy.de

- Full simulation with dump back-scattering (neutrons/photons)
- Fast simulation w/o ...
- Given the BG from the dump well shielded (or ignored in time frame), the BG is acceptable for e-laser setup.



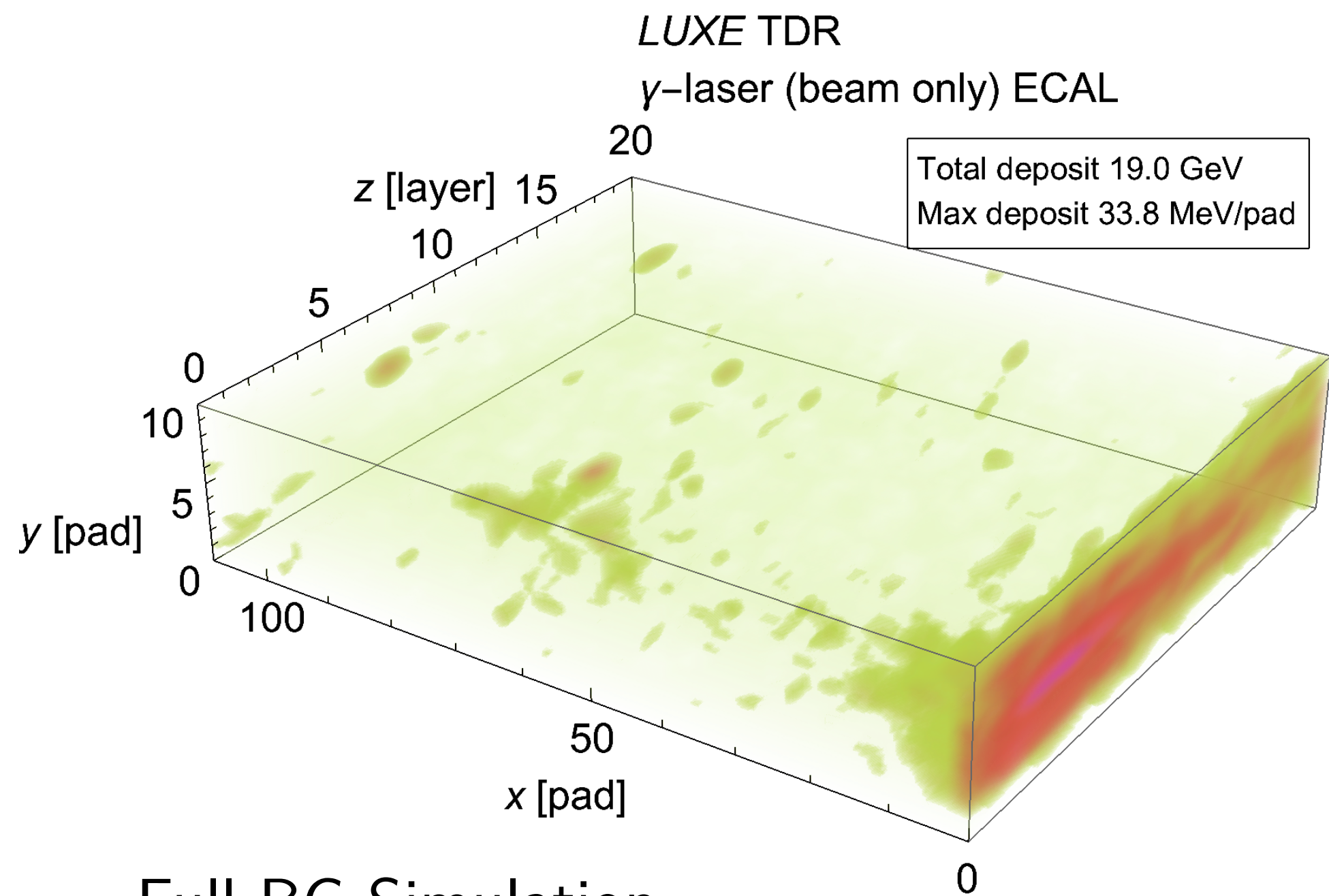
Full BG Simulation
2.13 BX



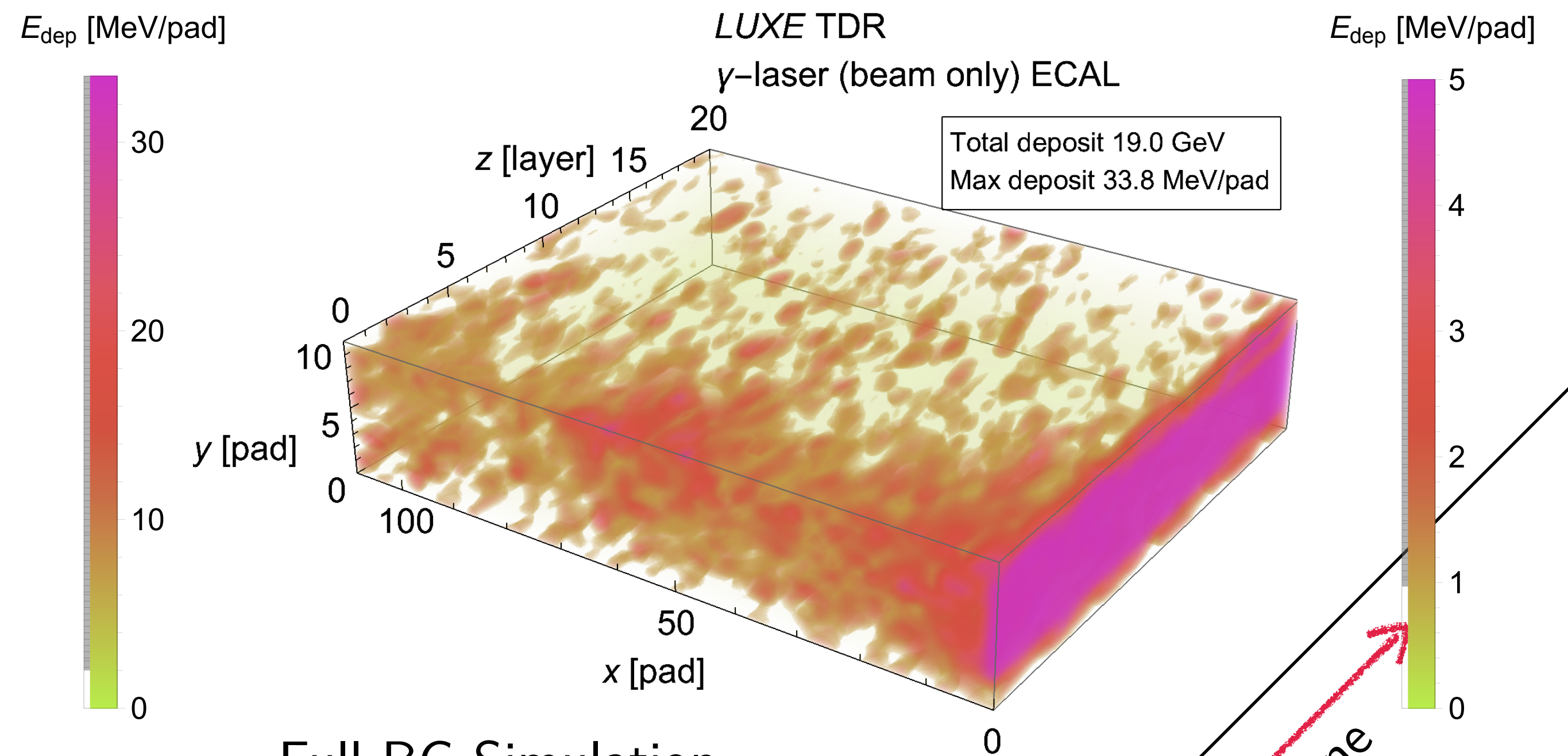
Fast BG Simulation
without dump vertices 7.45 BX

gamma-laser

- Beam dump is put before the dipole
- Full simulation 10x higher than e-laser's fast
- Higher BG near the beamline (as in the CDR); diffused BG inside
- The diffused could be the signature of neutrons and dump photons

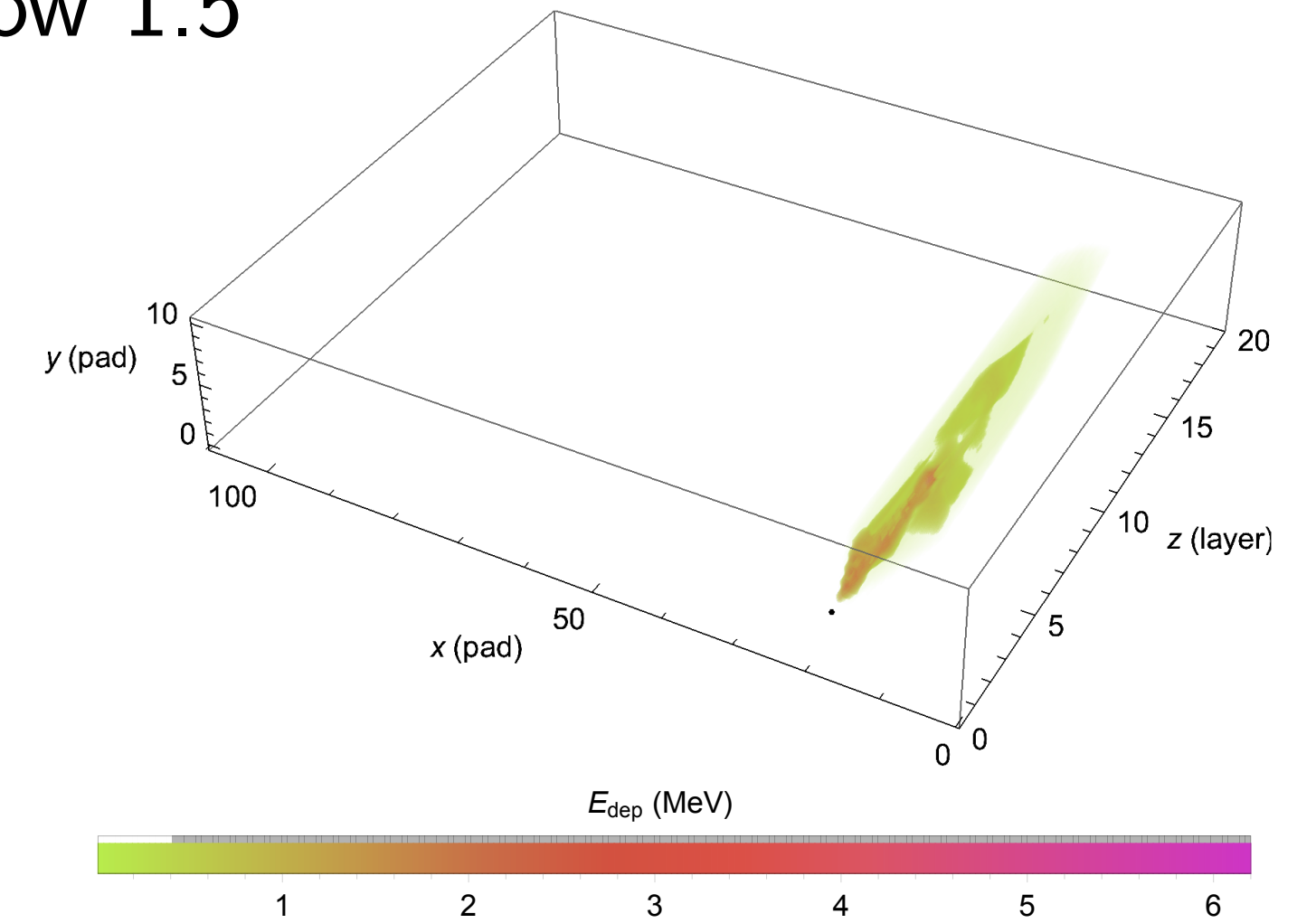
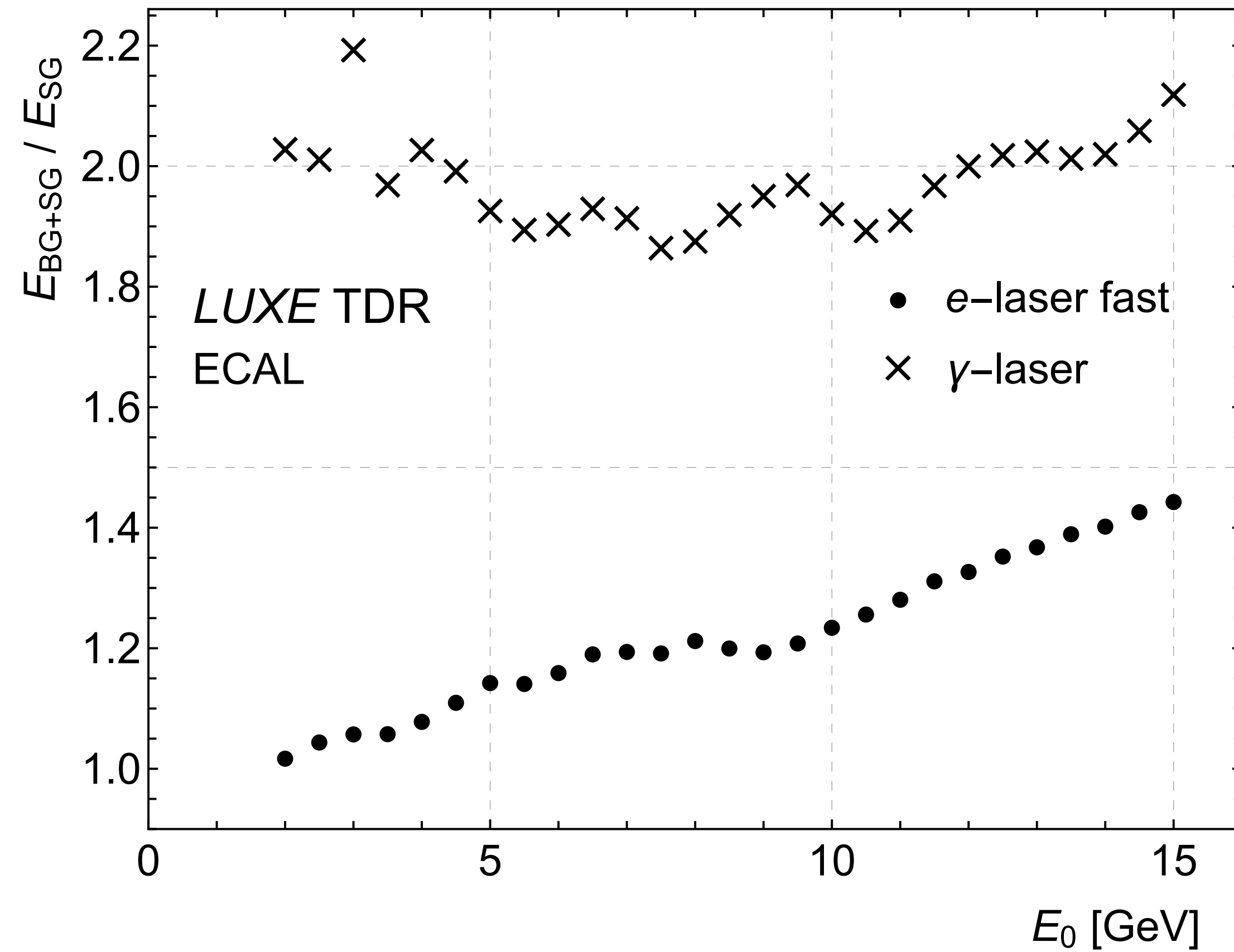


Full BG Simulation
1.26 BX



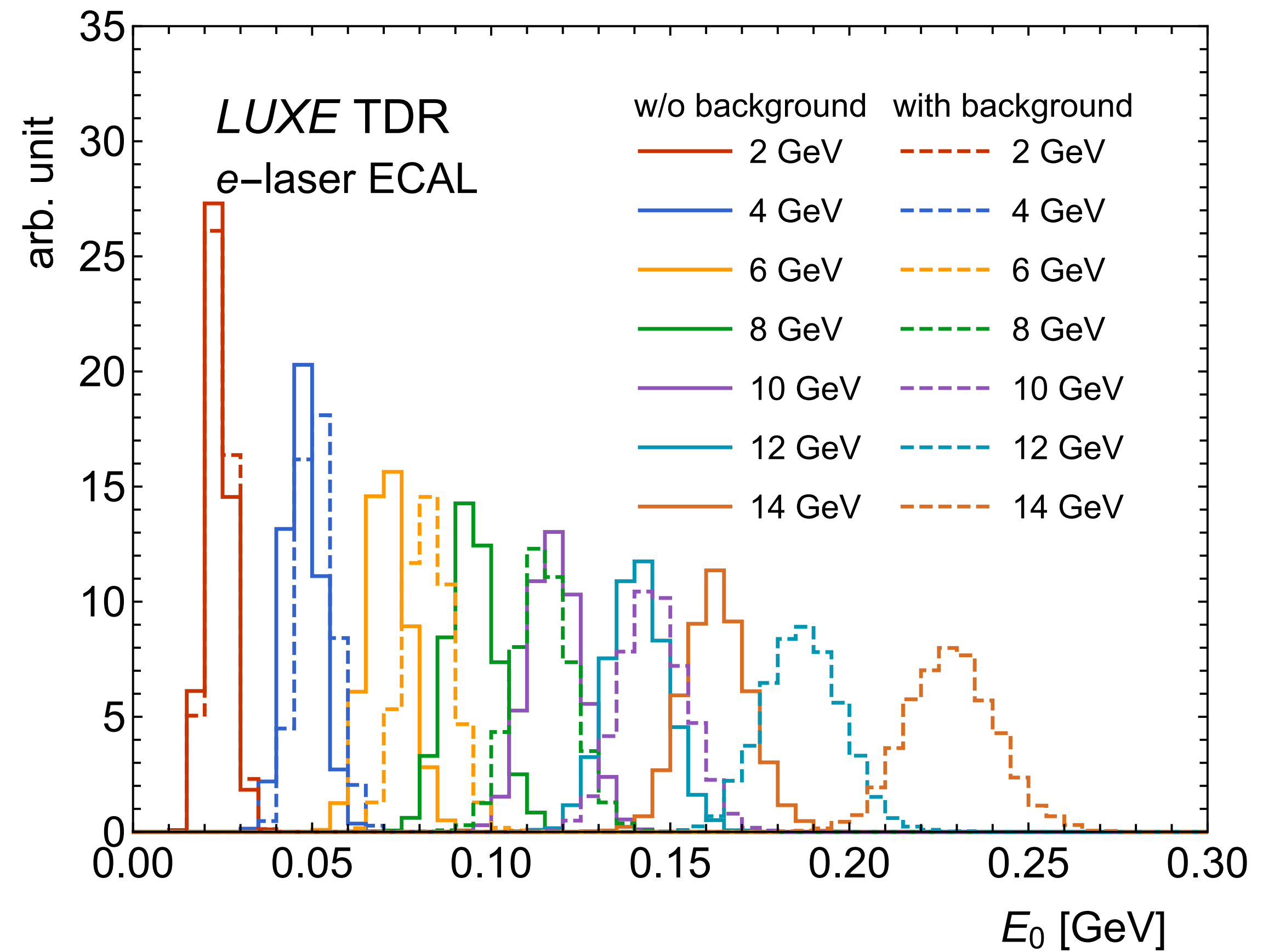
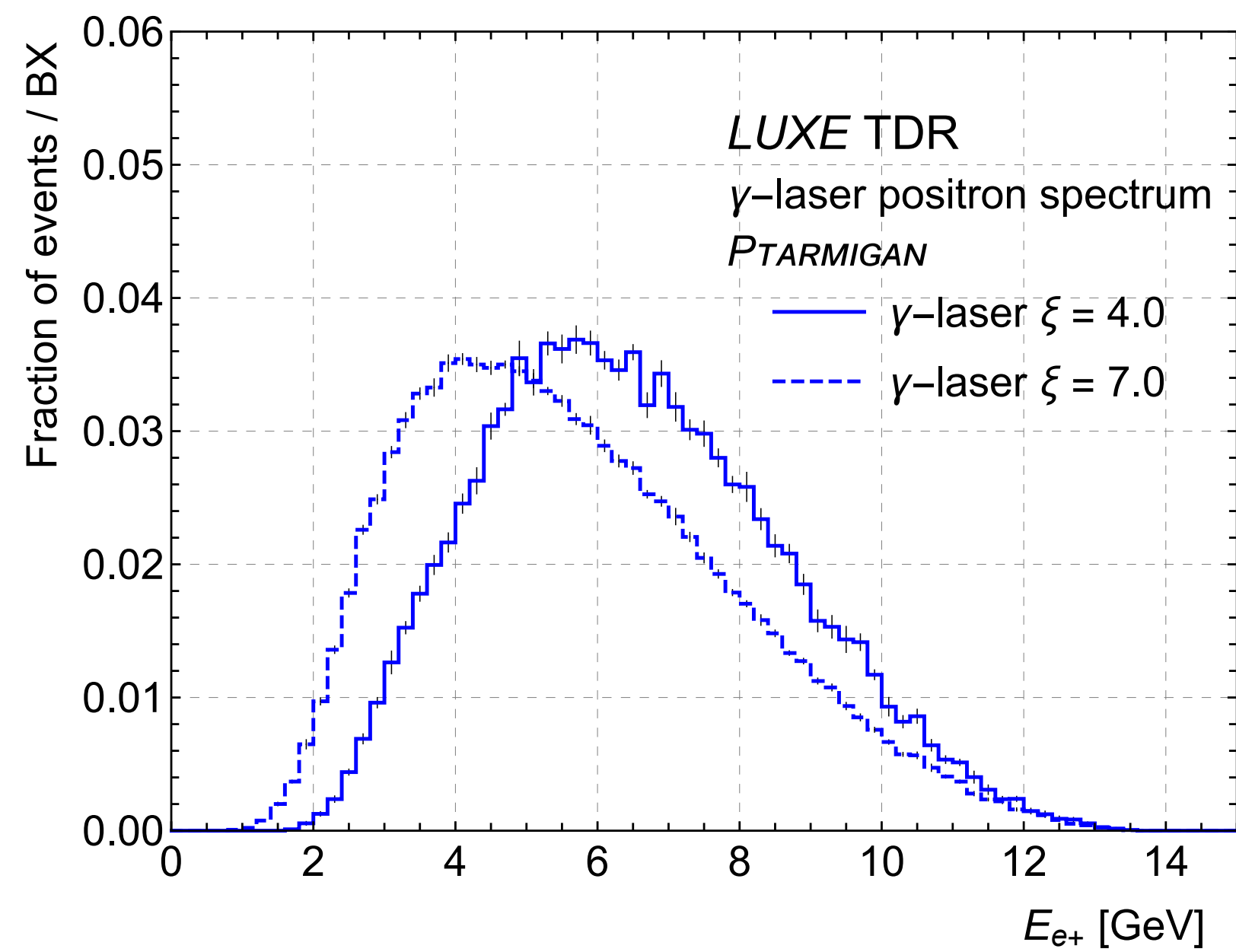
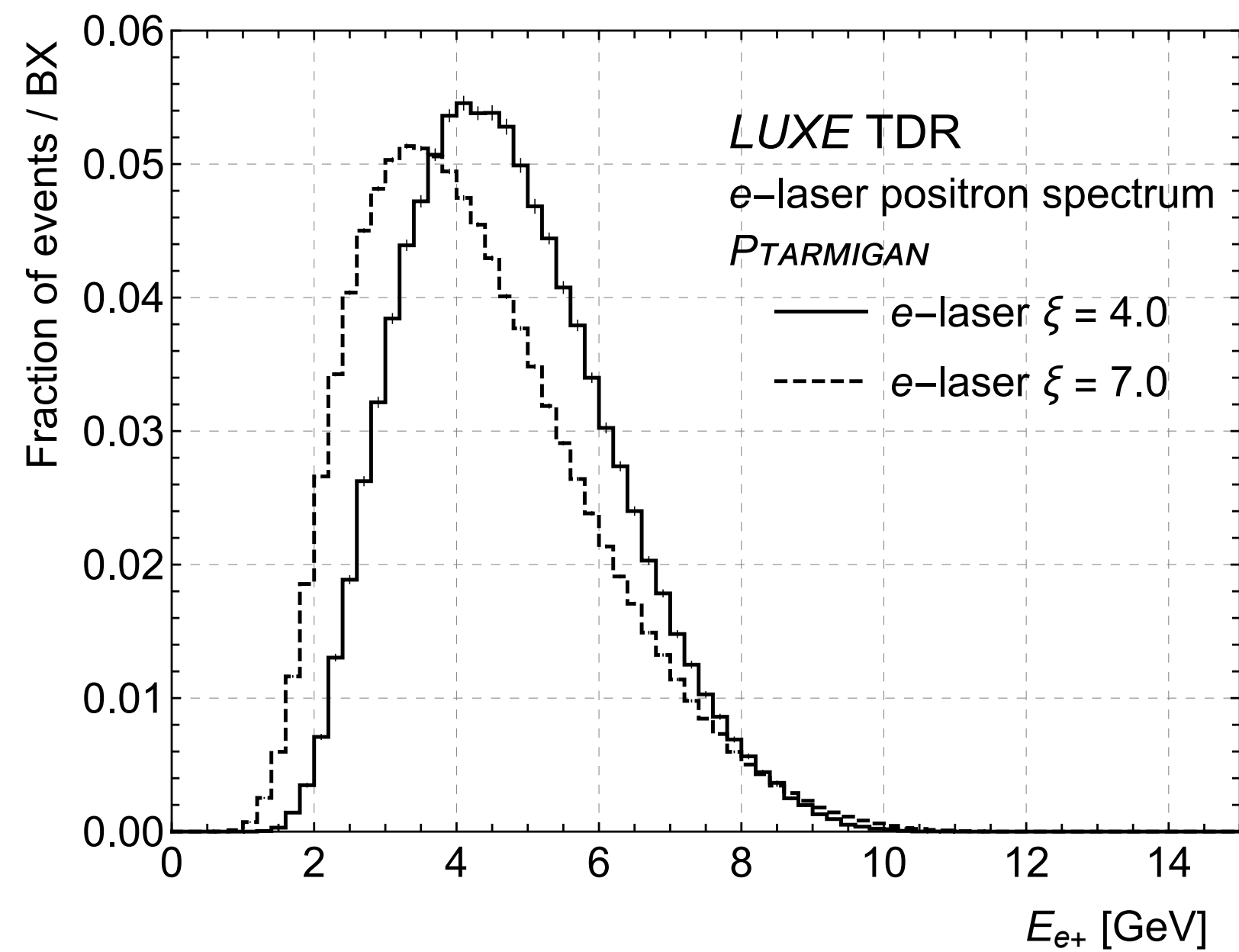
Full BG Simulation
(5 MeV rescaling) 1.26 BX

- Gamma-laser Edep ratio is flat over all energy, due to the uniformly diffused BG inside the ECAL
- Fast e-laser BG acceptable with the ratio below 1.5

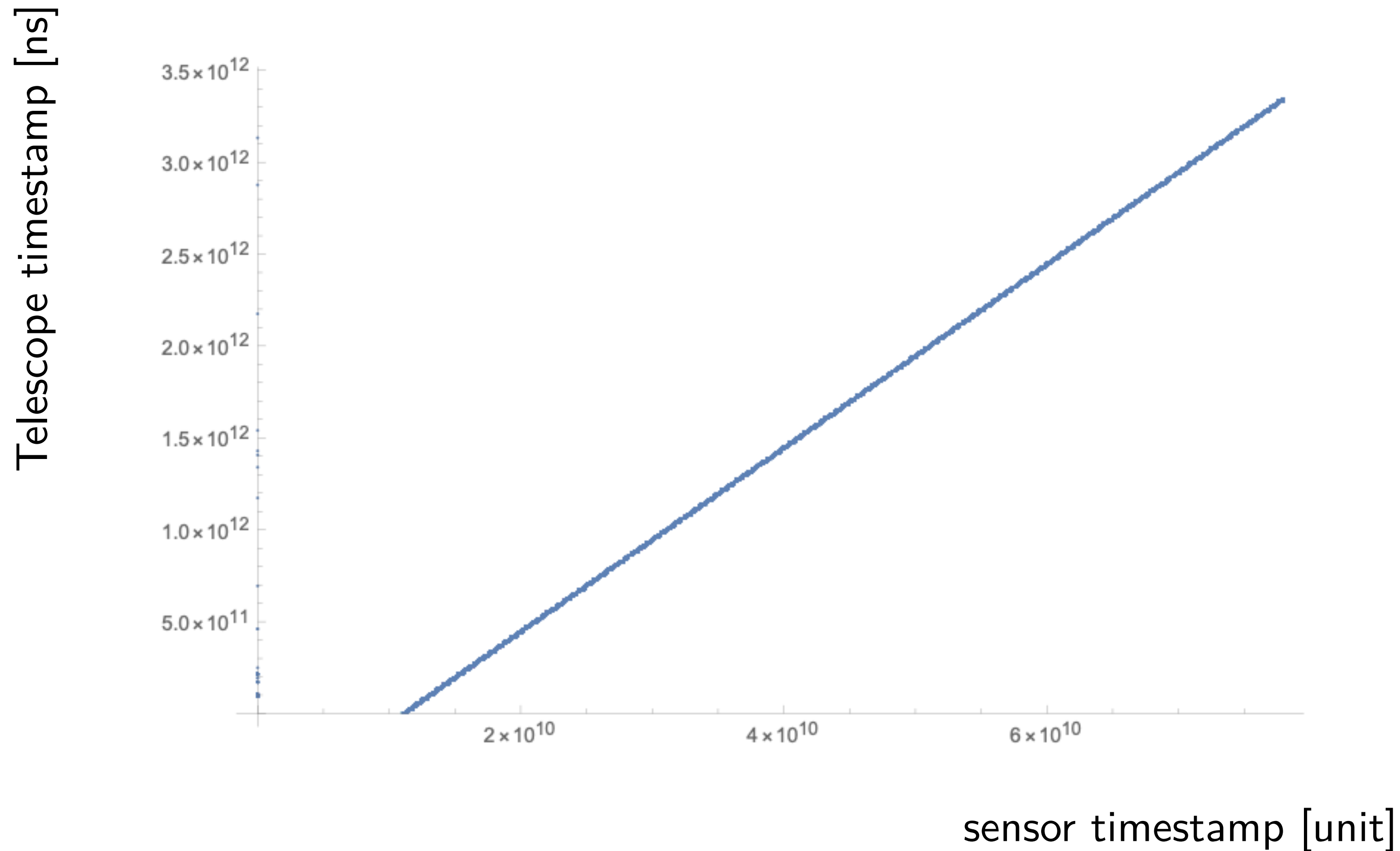


Louis's method: mixing the Edep of the e^+ shower and its surrounding BG

Updated TDR Figures (Figs 2 and 9)
available on the Overleaf page

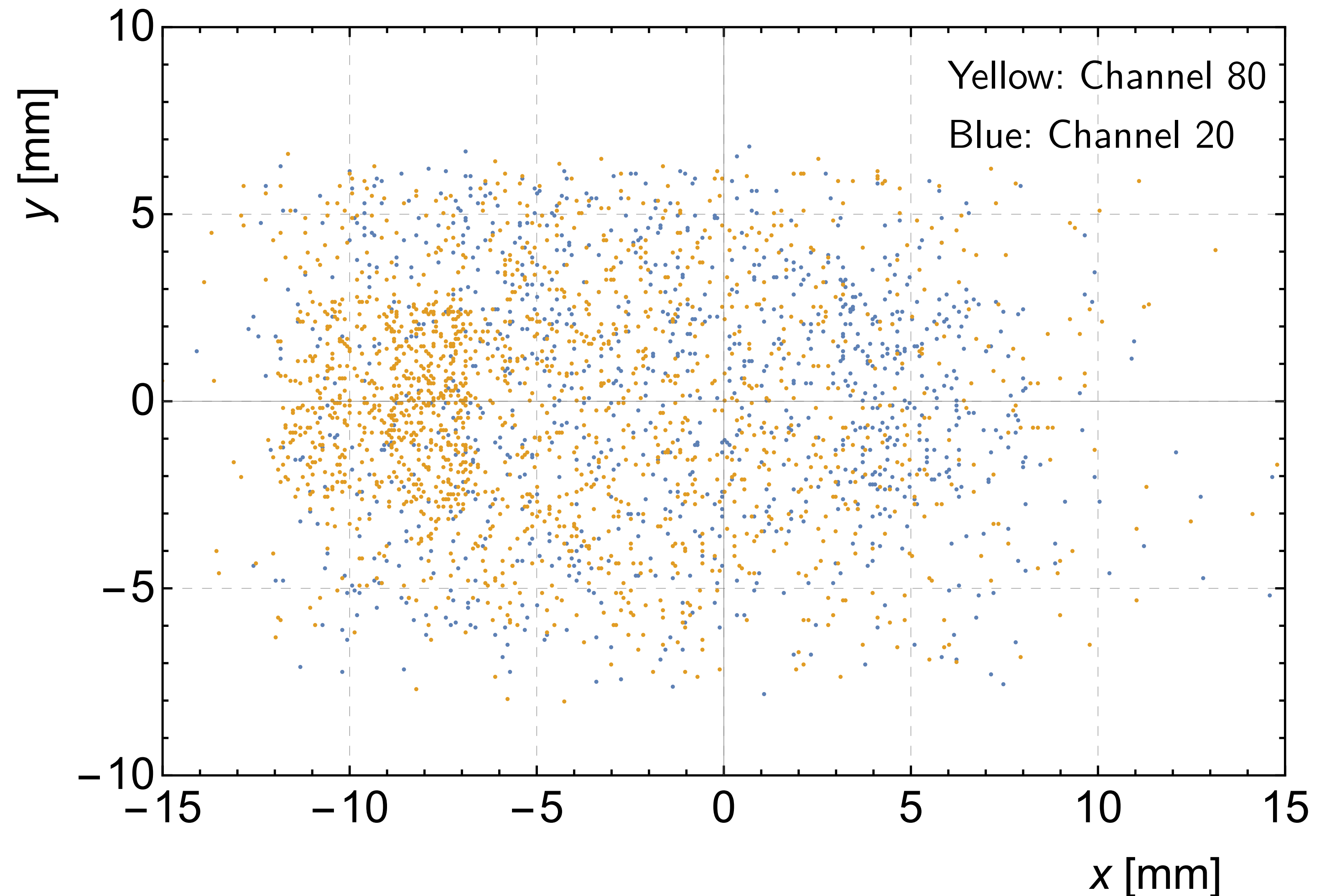


- Matching the TLU between the sensor's and the telescope's
- Method: use the timestamp intervals (which are not uniform)
- Sensor's (integer) timestamp number represents 50 ns per unit
- Jakub: possible raw TLU number mismatched by 1



Run 655

- Alignment between the telescope and the sensor, done with Runs 512/650/655/679
- Itamar's method:
Labelled the telescope dots by the channel number with the highest amplitude at that event
- Dots with the same channel number should form a square cluster, but it is hardly found (... except the right yellow one)



- Too many (?) busy channels
 - noisy channels took the top
 - Over cut of the large ADC numbers (cut at 800)
 - **alignment (20 μm tracking residues)**
- Sensor mapping problem also to be solved

