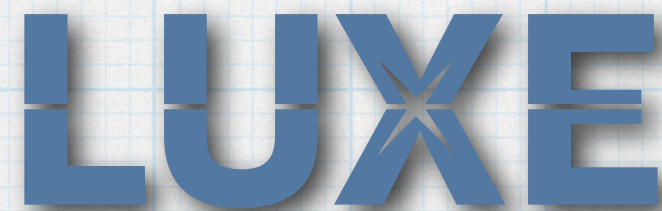


Radiation load

Borysova Maryna (KINR)

15/12/20

LUXE simulation meeting

The logo for the LUXE experiment, featuring the word "LUXE" in a bold, blue, sans-serif font. The letter "X" is stylized with a grey, multi-pointed star or cross shape in the center, giving it a three-dimensional appearance.

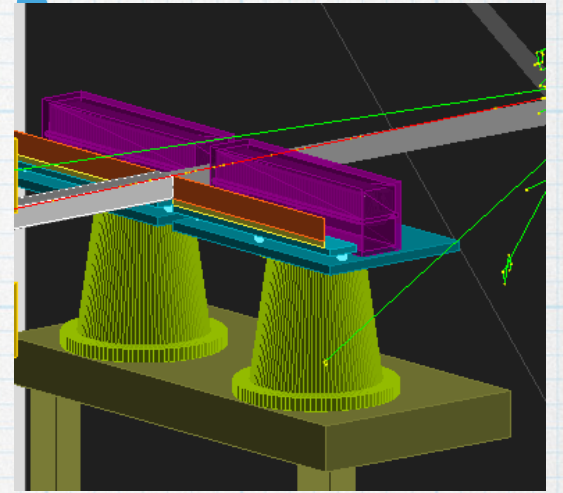
Absorbed dose estimation

- * Energy deposited in sensitive volumes from Hits tree
- * $Dose = E_{dep} / M$ $Gy = [J/kg]$
- * M is the mass of sensitive volume (pad, pixel...)
- * To convert it to Gy, convert E_{dep} in GeV to J: 1 GeV is equal to $\sim 1.6E-10$ Joule.

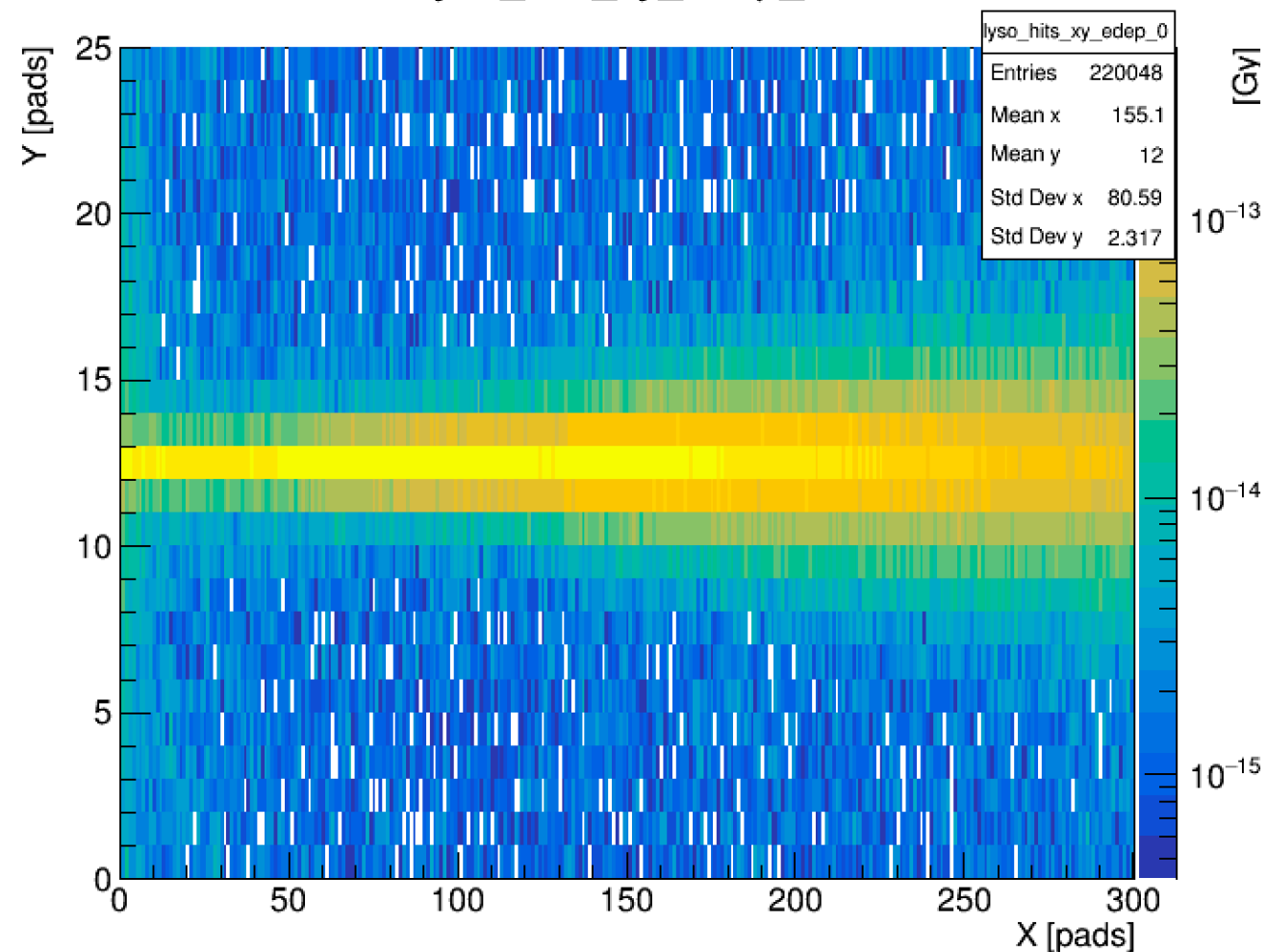
*

FDS Lanex Spectrometer

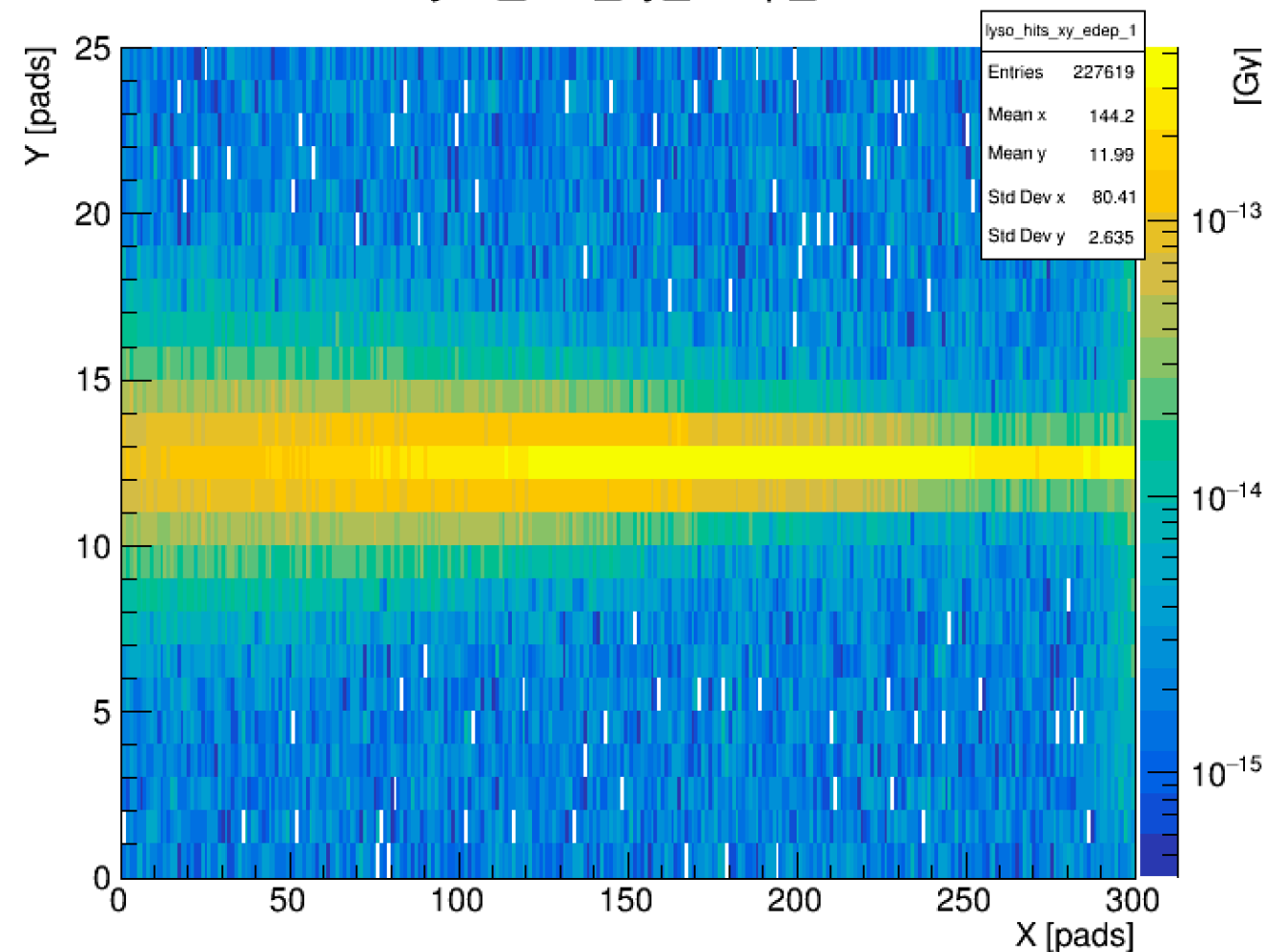
JET140, 16.5 GeV, 8 μm , 9479 BX



lyso_hits_xy_edep_0

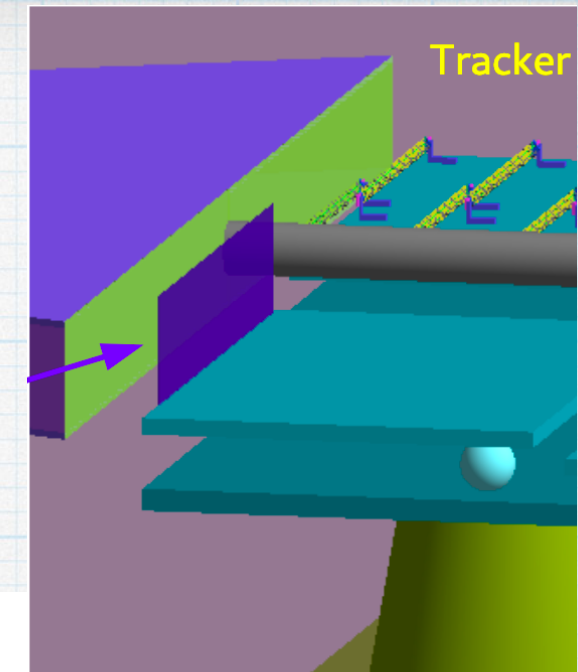


lyso_hits_xy_edep_1

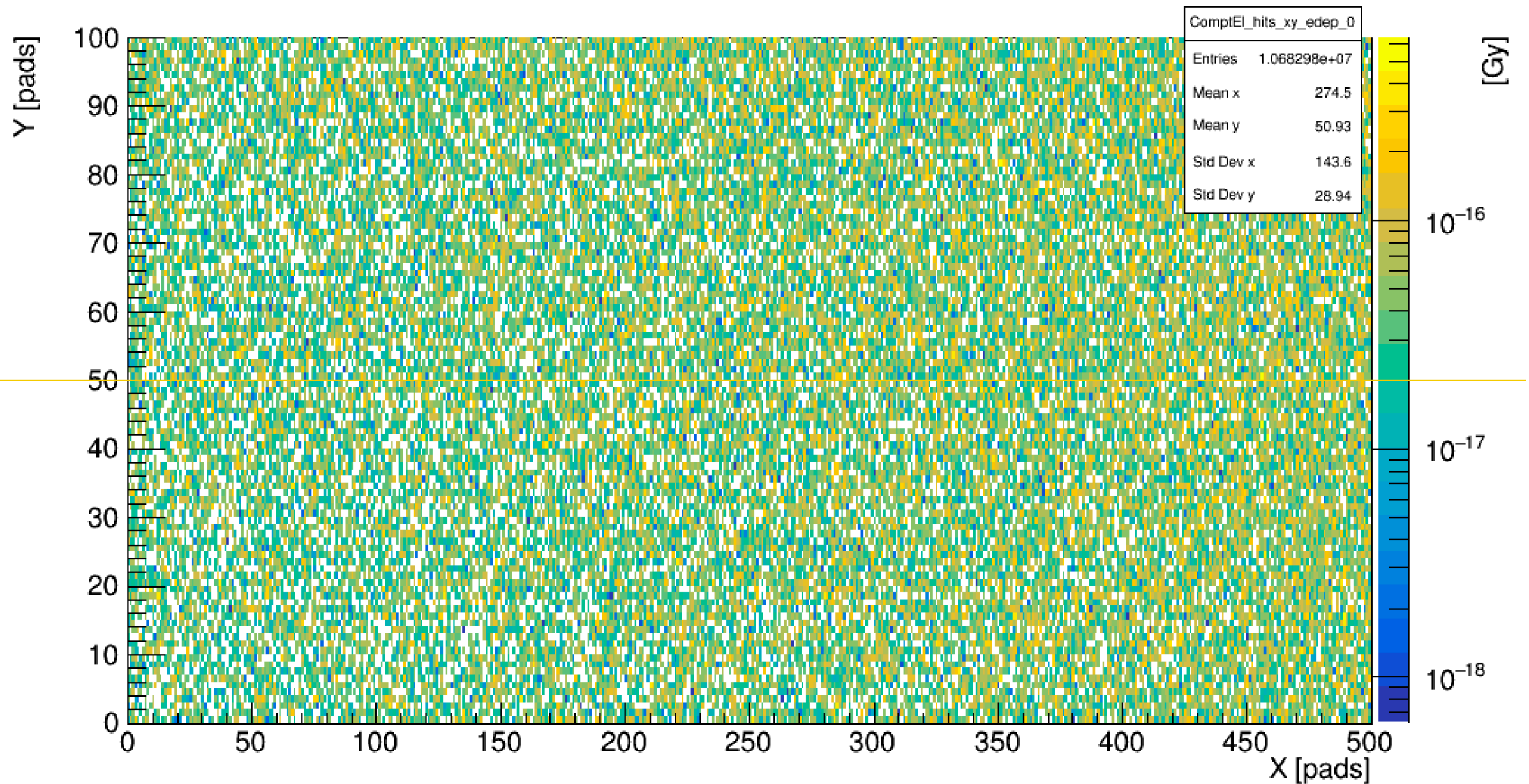


Compton Electron Lanex

JET140, 16.5 GeV, 8 μm , 9479 BX

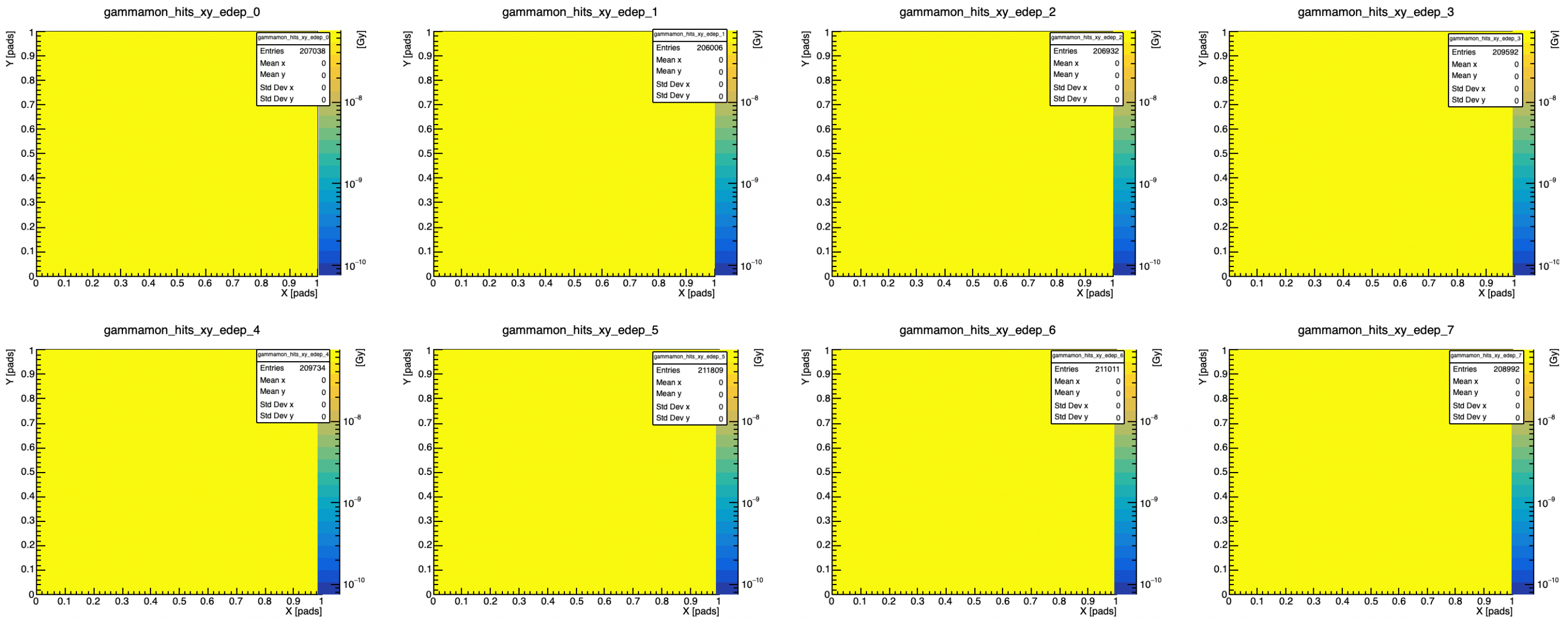
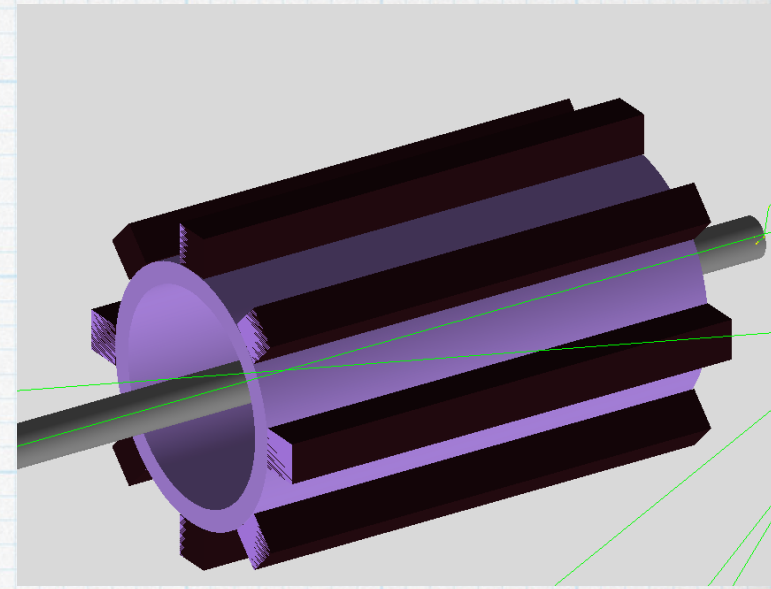


ComptEl_hits_xy_edep_0



Gamma Monitor

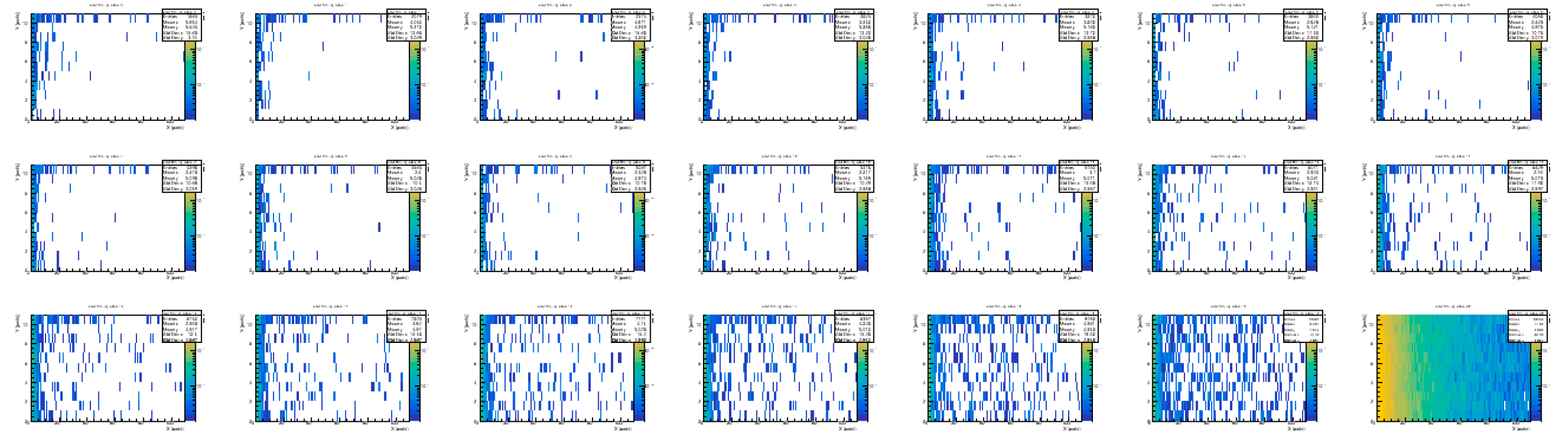
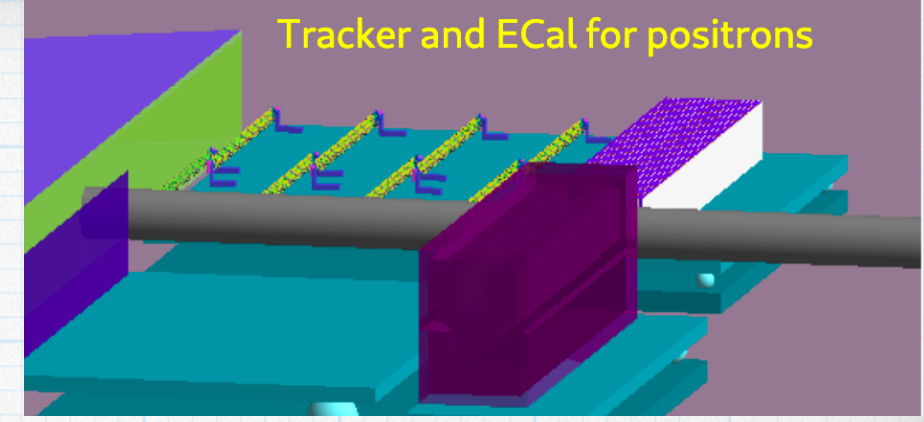
JET140, 16.5 GeV, 8 um, 9479 BX



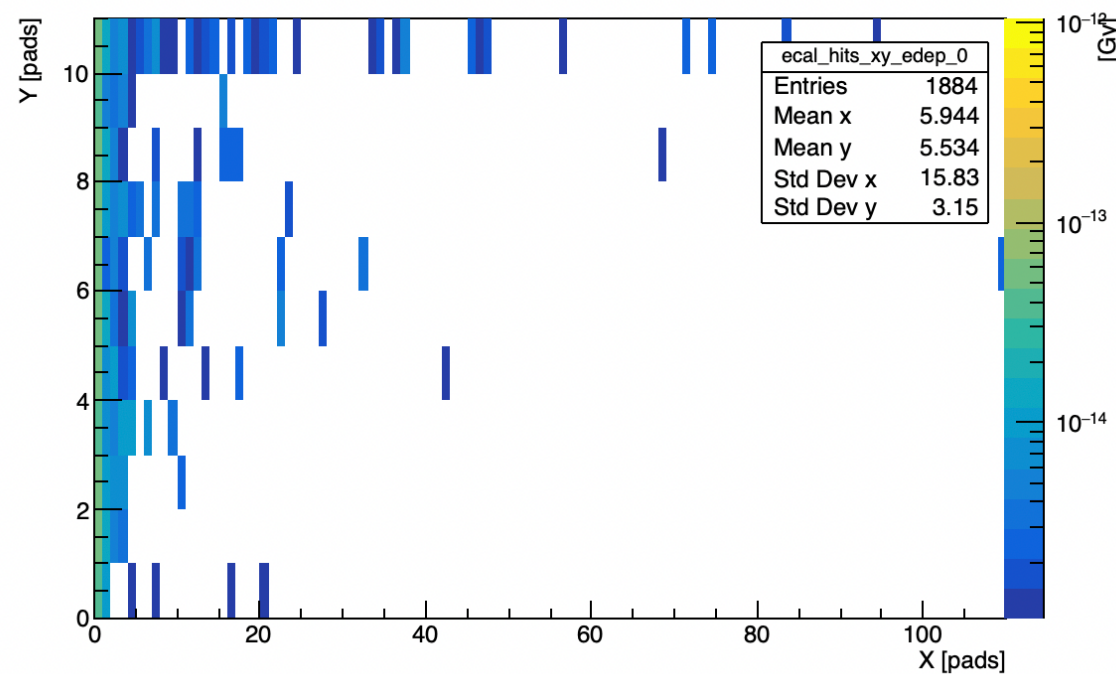
ECAL

JET140, 16.5 GeV, 8 um, 9479 BX

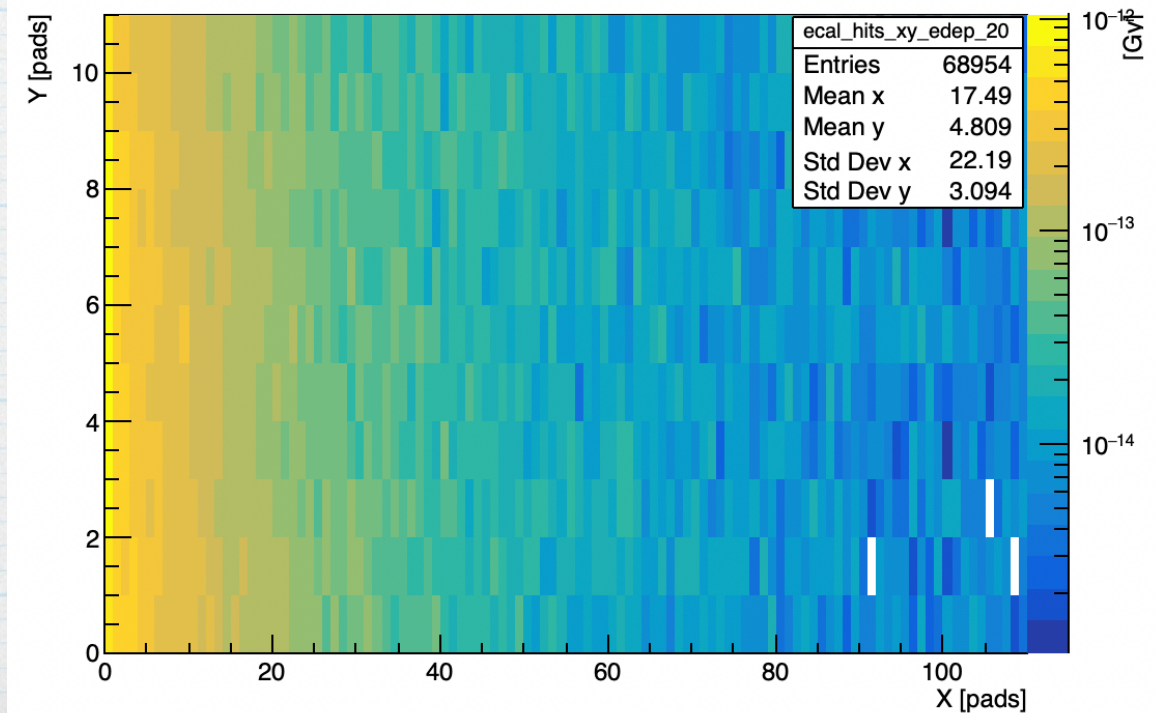
Tracker and ECal for positrons



ecal_hits_xy_edep_0

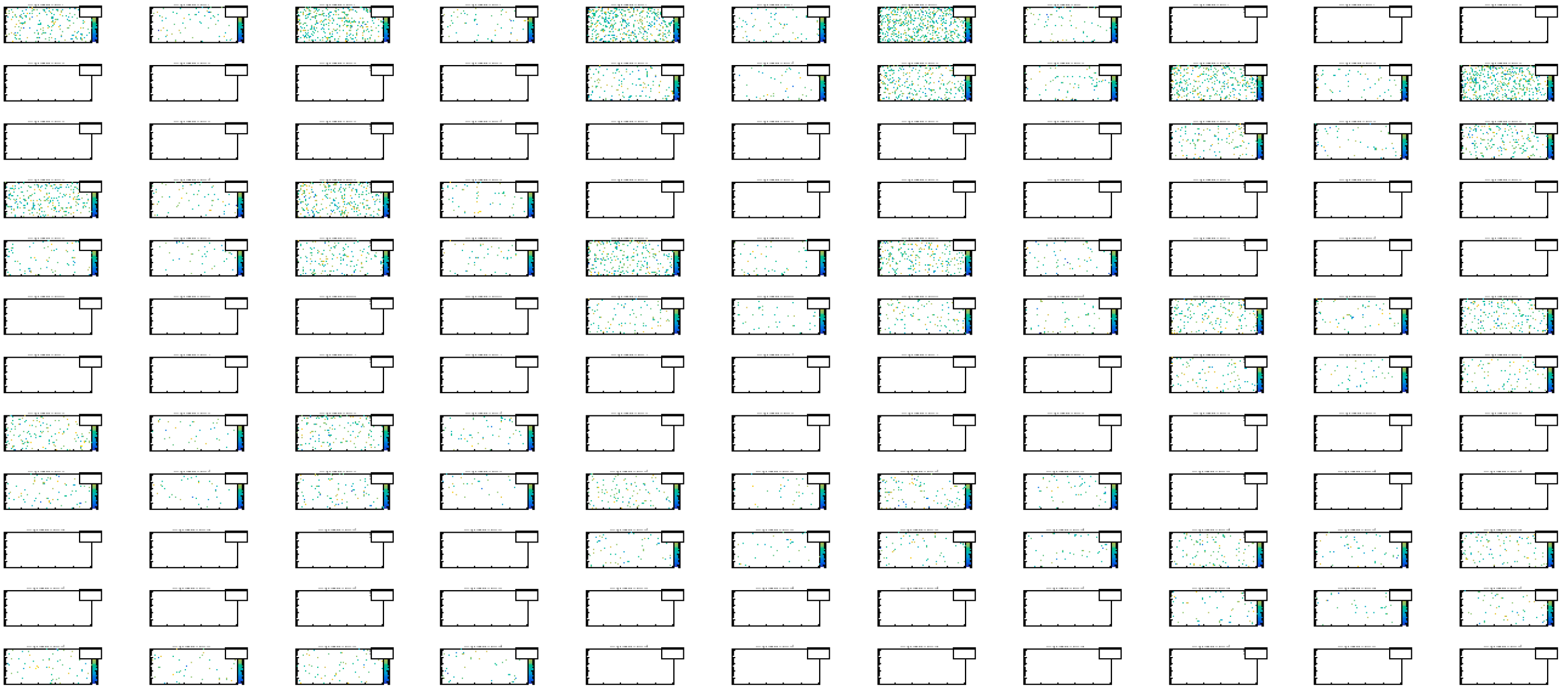
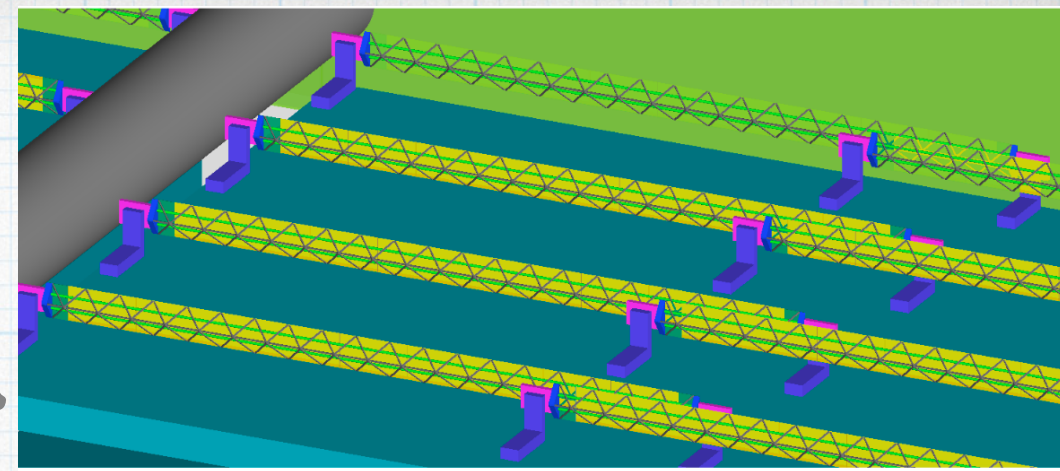


ecal_hits_xy_edep_20



Tracker

JET140, 16.5 GeV, 8 um, 9479 BX



Preliminary results on absorbed dose

JET140, 16.5 GeV, 8 um, 9479 BX

per BX, per sensitise detector

Table 1

detid	det_name	Dose, Gy
5000	ComptonEI	1E-16
3000-1	LysoCal	1E-12
4000-7	LeadGlass	1E-07
2000-20	EcalSensor	1E-12
1000-143	TrackerSensor	

Back up