

FCAL energy calibration QC

Igal Jaegle

Thomas Jefferson National Accelerator Facility

for the GlueX Collaboration

April 20, 2025

2025-01-period-7-iteration-5-method-2

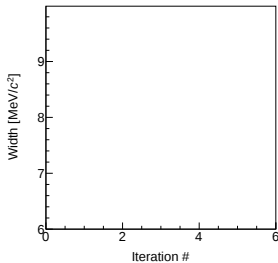
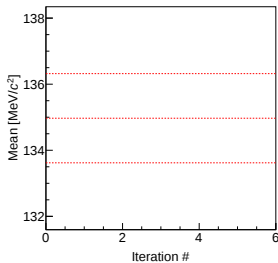


Table of contents

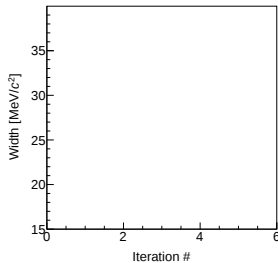
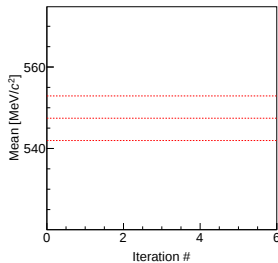
- 1 Overall QC
- 2 QC per rings

Overall QC vs iteration

● π^0

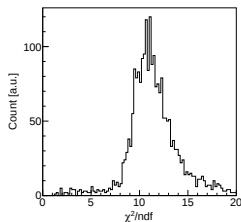


● η

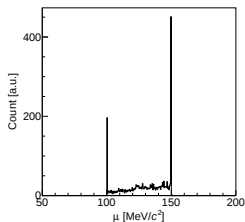


Overall QC, summary distributions

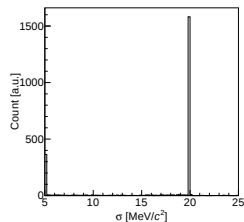
• χ^2 distribution



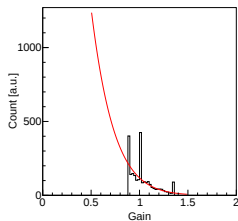
• Fitted peak distribution



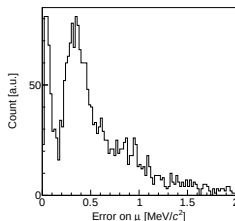
• Fitted width distribution



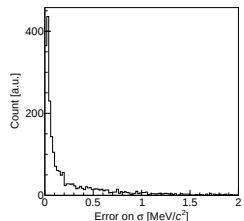
• Gain distribution



• Fitted peak error distribution

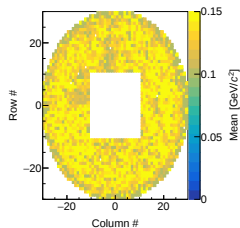


• Fitted width error distribution

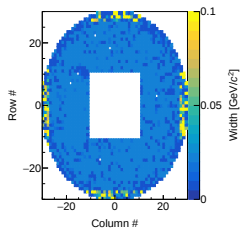


Overall QC, summary maps

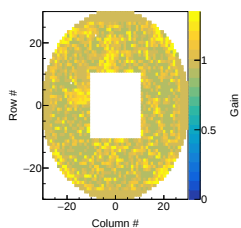
● Fitted peak map



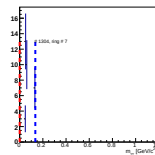
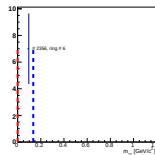
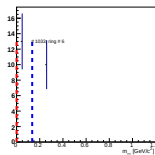
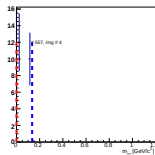
● Fitted width map



● Gain map



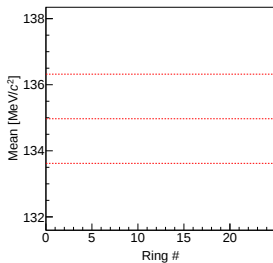
Overall QC, bad channels



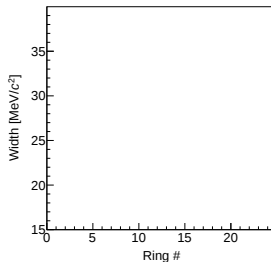
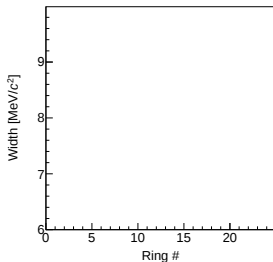
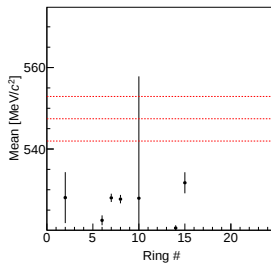
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

● π^0



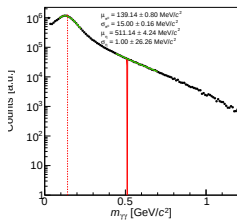
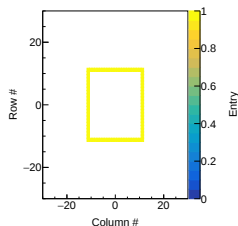
● η



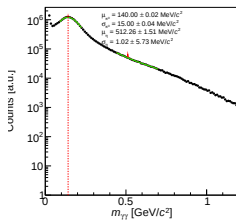
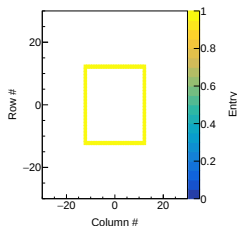
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

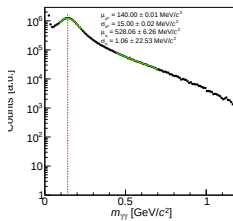
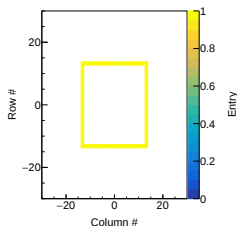
● Ring 0



● Ring 1



● Ring 2



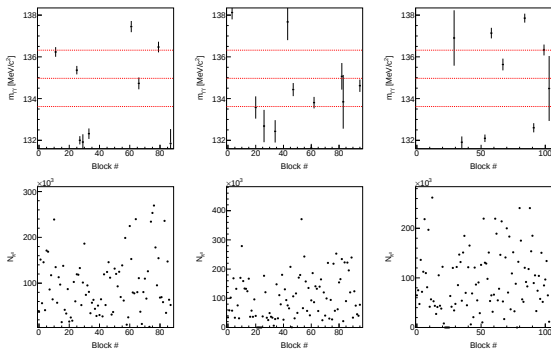
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

● Ring 0

● Ring 1

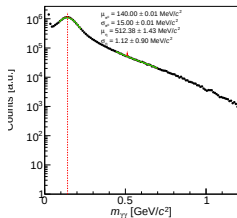
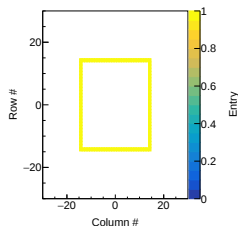
● Ring 2



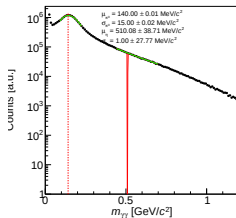
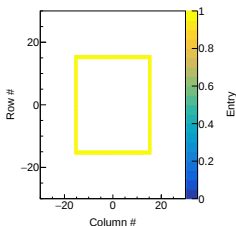
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

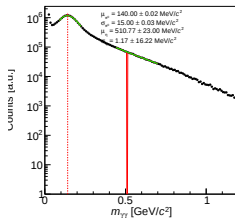
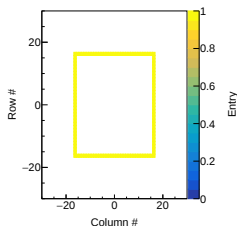
● Ring 3



● Ring 4



● Ring 5



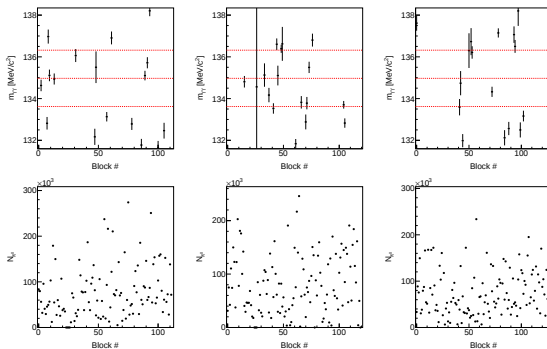
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

● Ring 3

● Ring 4

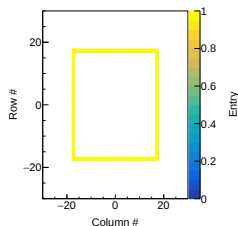
● Ring 5



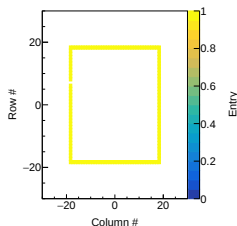
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

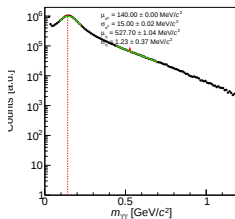
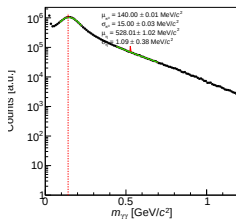
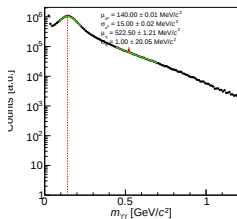
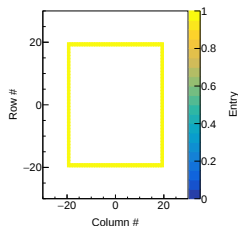
● Ring 6



● Ring 7



● Ring 8



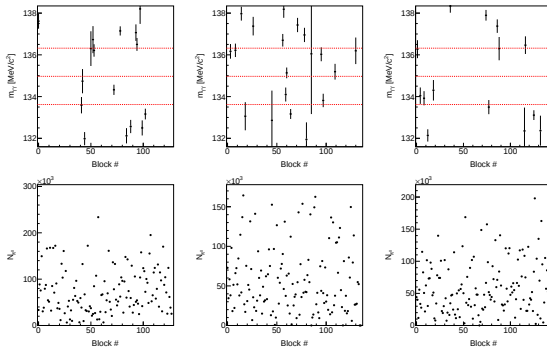
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

● Ring 6

● Ring 7

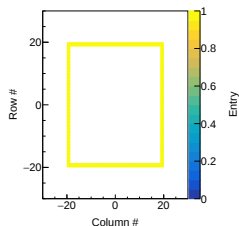
● Ring 8



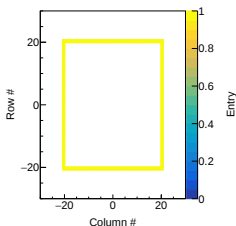
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

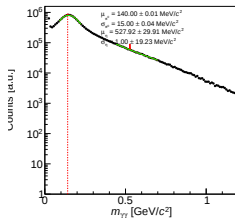
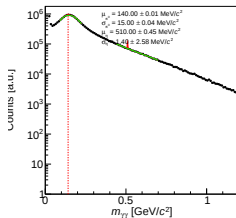
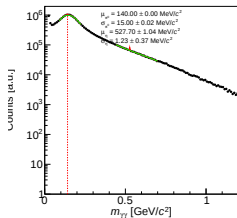
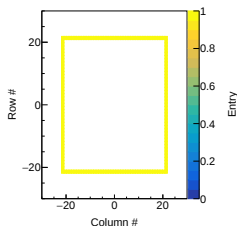
● Ring 8



● Ring 9



● Ring 10



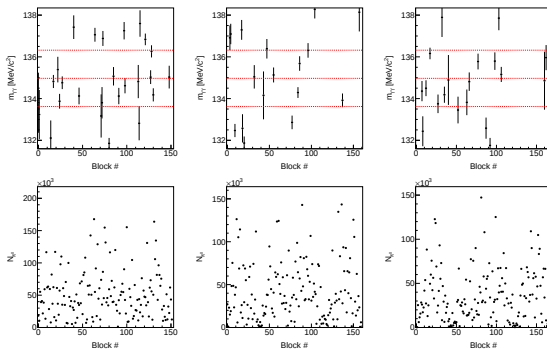
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

● Ring 8

● Ring 9

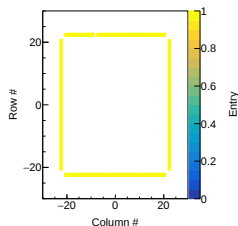
● Ring 10



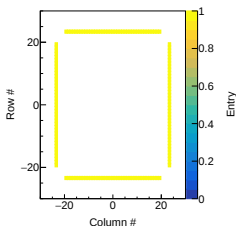
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

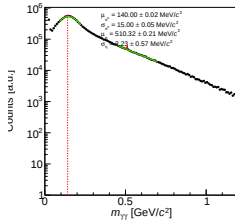
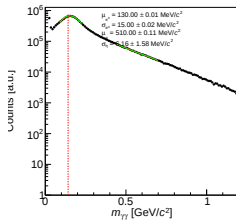
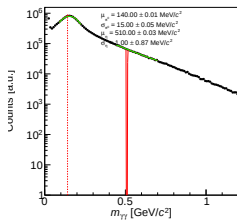
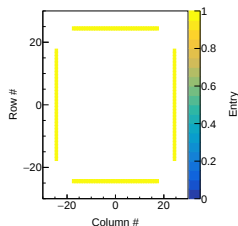
● Ring 11



● Ring 12



● Ring 13



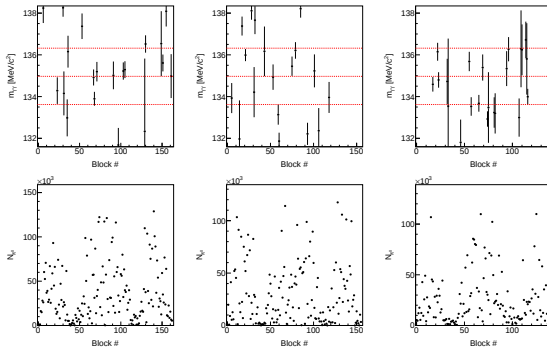
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

● Ring 11

● Ring 12

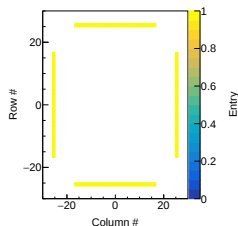
● Ring 13



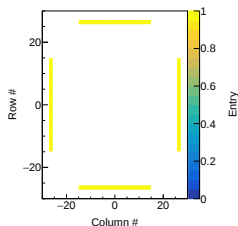
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

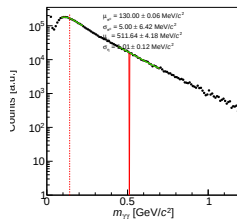
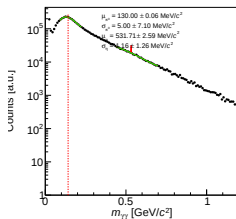
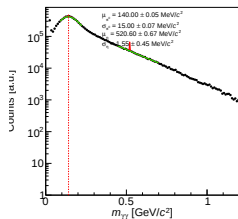
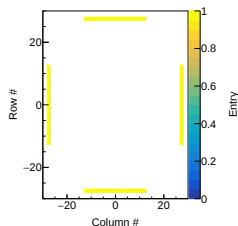
● Ring 14



● Ring 15



● Ring 16



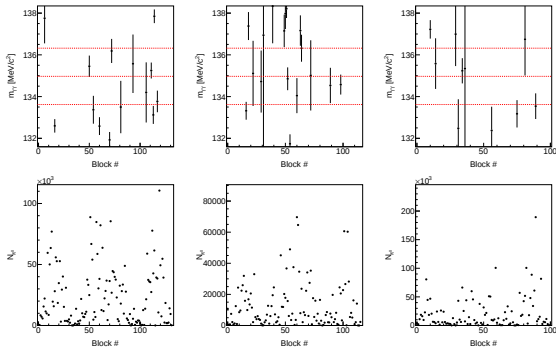
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

● Ring 14

● Ring 15

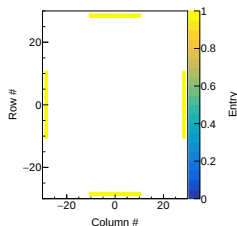
● Ring 16



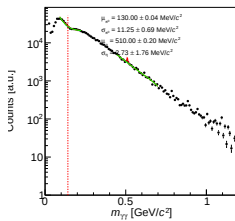
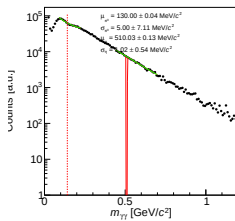
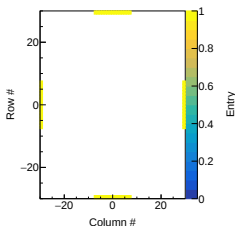
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

● Ring 17



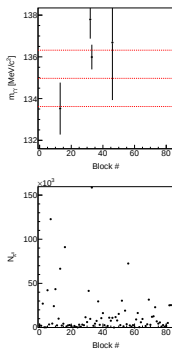
● Ring 18



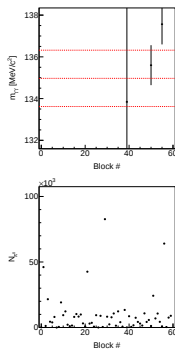
QC per rings

There are 19 squared layers, from 0 to 18, but in reality from 11 to 29

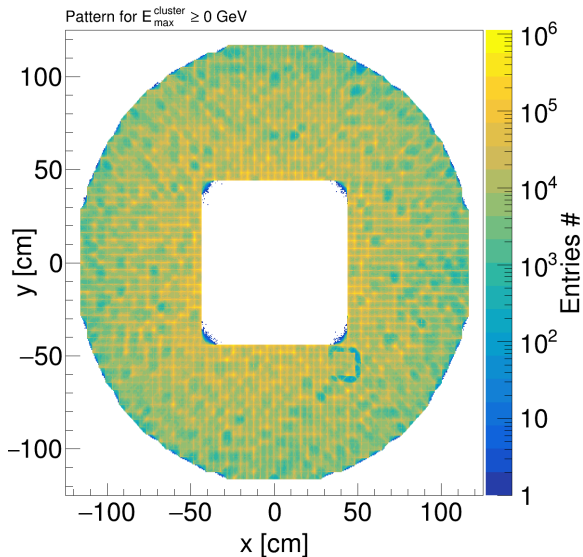
● Ring 17



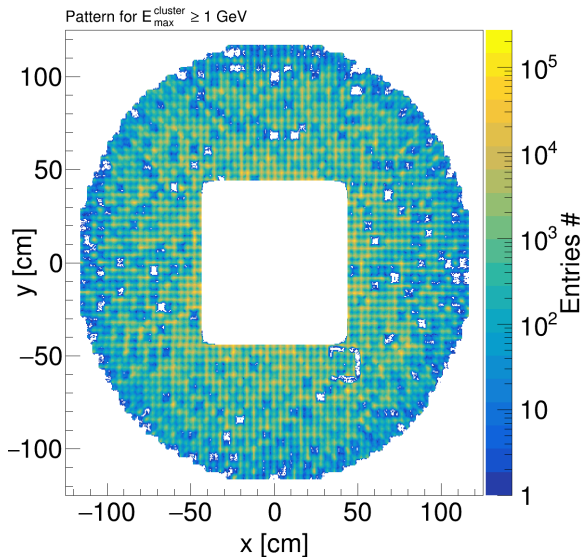
● Ring 18



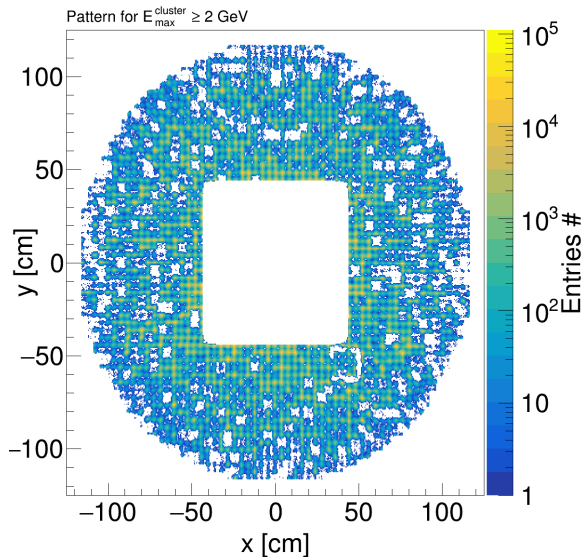
FCAL pattern



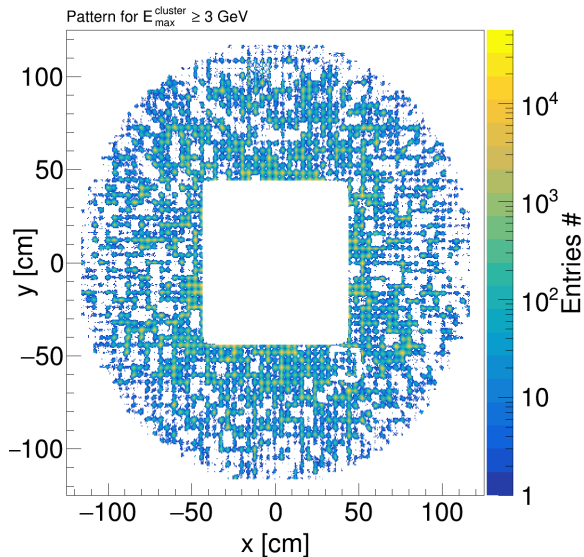
FCAL pattern



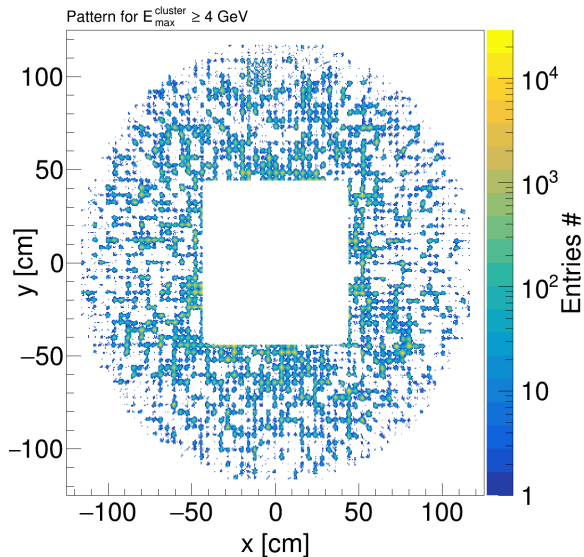
FCAL pattern



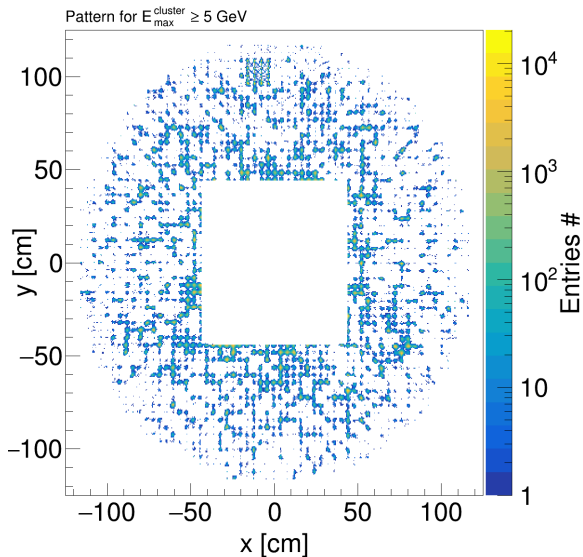
FCAL pattern



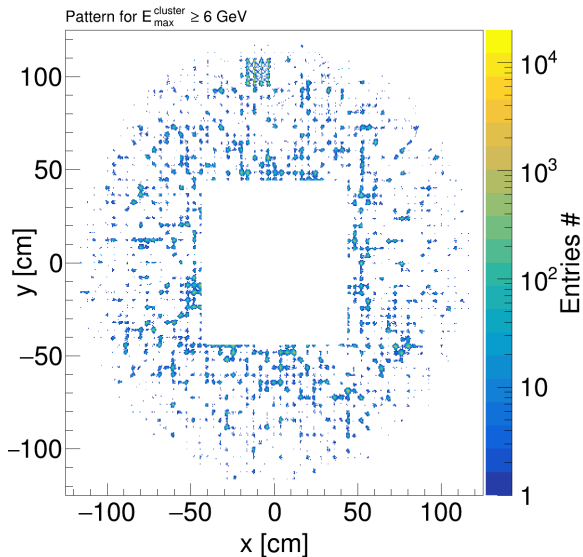
FCAL pattern



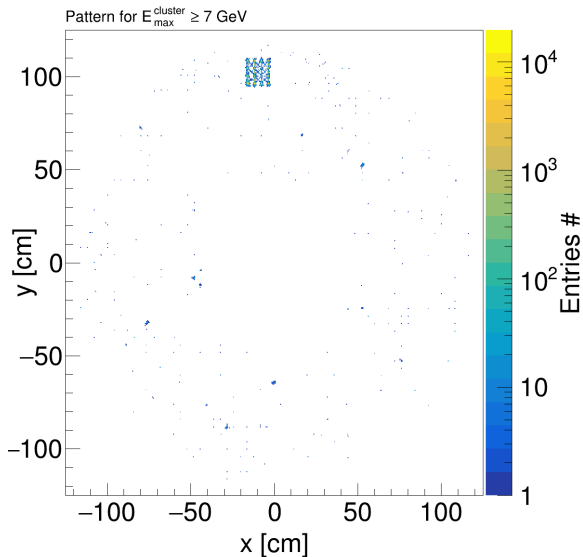
FCAL pattern



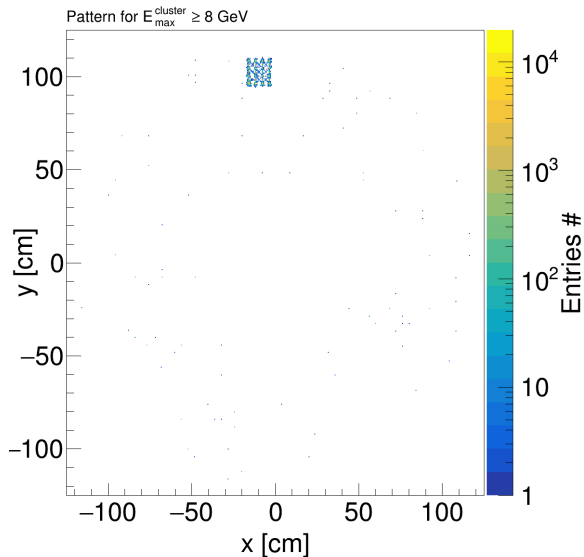
FCAL pattern



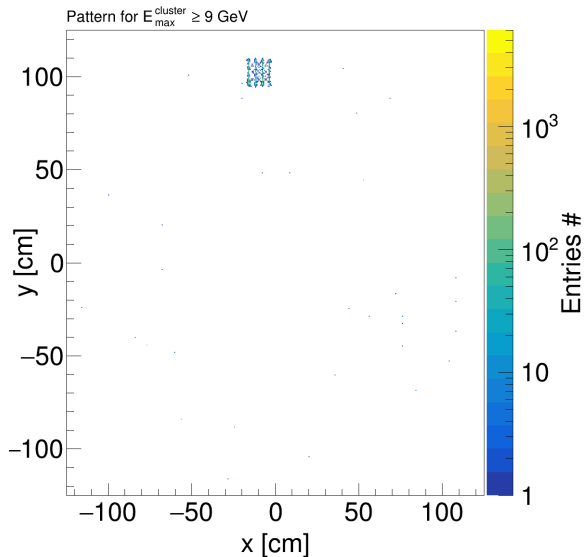
FCAL pattern



FCAL pattern



FCAL pattern



FCAL pattern

