

FCAL energy calibration QC

Igal Jaeglé

Thomas Jefferson National Accelerator Facility

for the **GlueX** Collaboration

August 7, 2023

2022-08-period-7-iteration-2-method-2

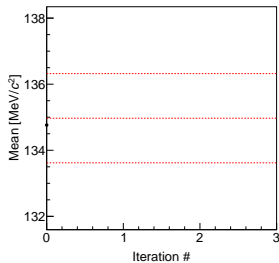


Table of contents

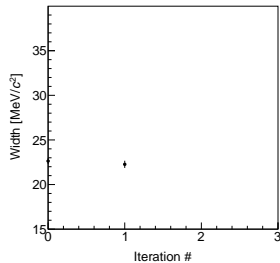
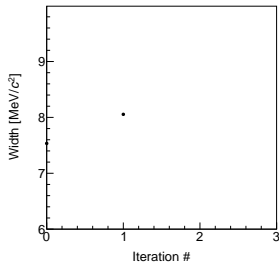
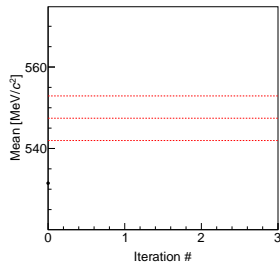
- 1 Overall QC
- 2 QC per rings

Overall QC vs iteration

• π^0

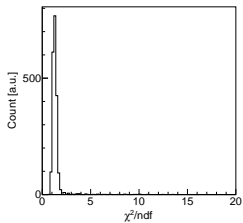


• η

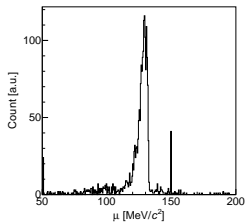


Overall QC, summary distributions

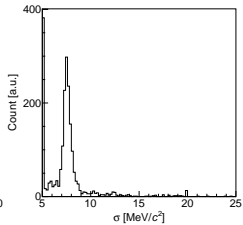
● χ^2 distribution



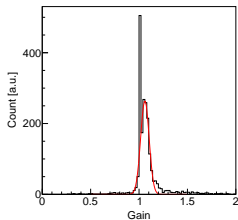
● Fitted peak distribution



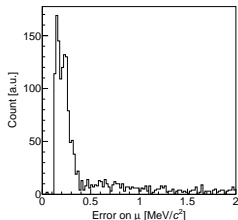
● Fitted width distribution



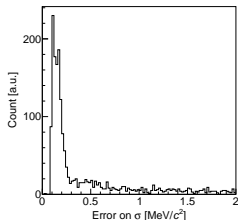
● Gain distribution



● Fitted peak error distribution

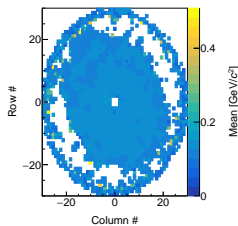


● Fitted width error distribution

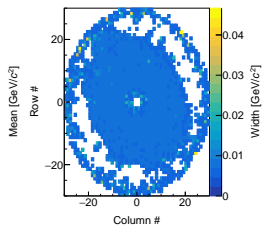


Overall QC, summary maps

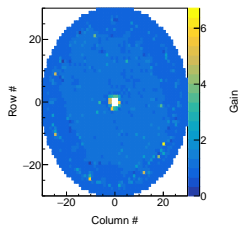
● Fitted peak map



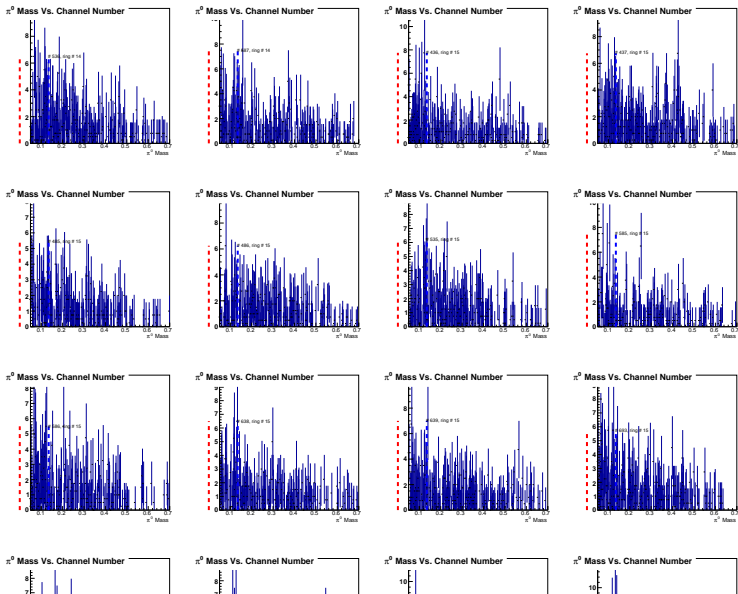
● Fitted width map



● Gain map



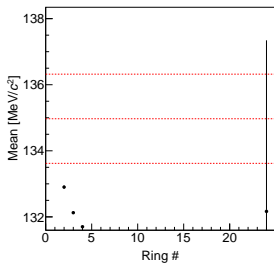
Overall QC, bad channels



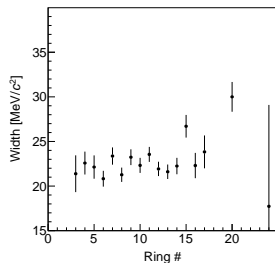
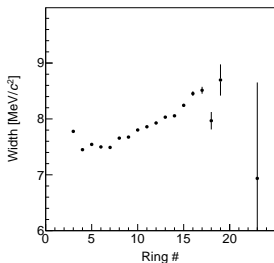
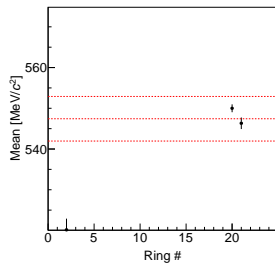
QC per rings

If radius divided by 5 cm, there is 24 rings

● π^0



● η



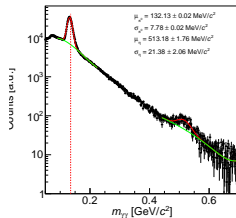
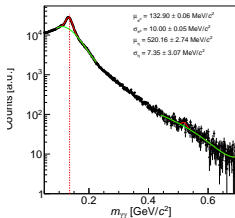
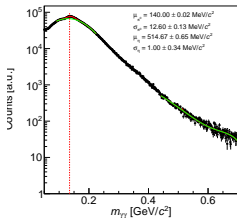
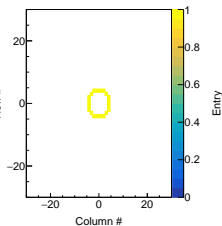
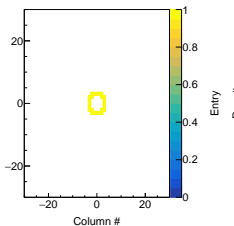
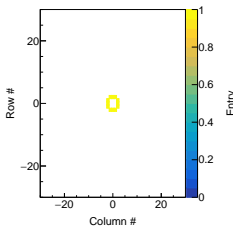
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 1

● Ring 2

● Ring 3



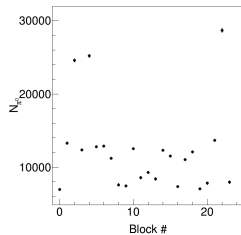
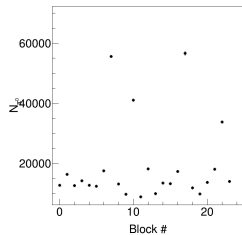
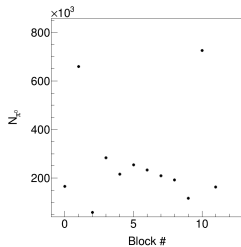
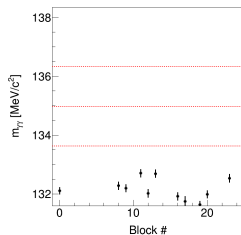
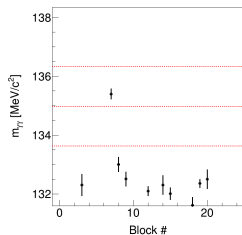
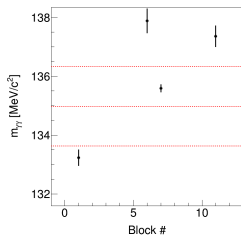
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 1

● Ring 2

● Ring 3



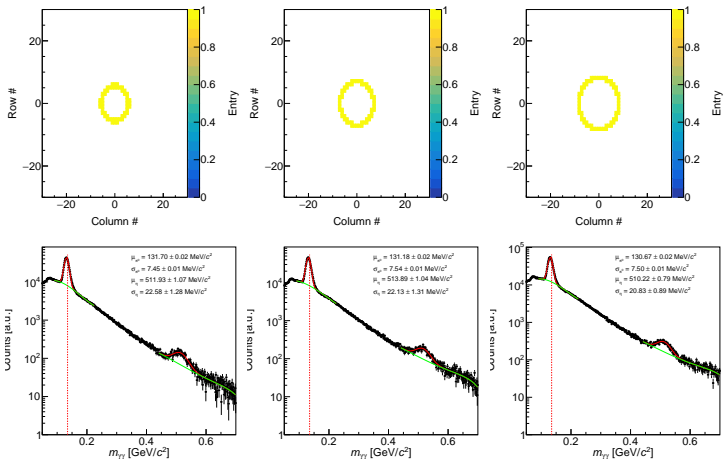
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 4

● Ring 5

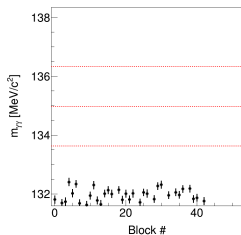
● Ring 6



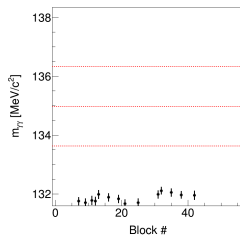
QC per rings

If radius divided by 5 cm, there is 24 rings

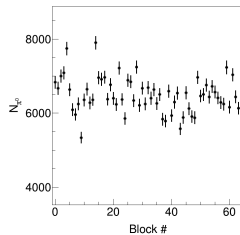
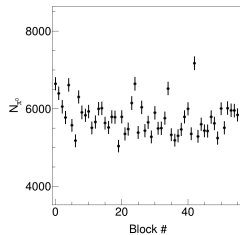
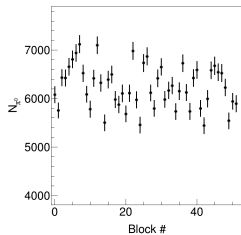
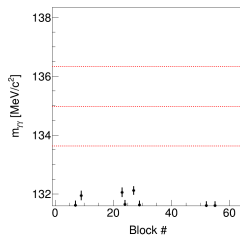
● Ring 4



● Ring 5



● Ring 6



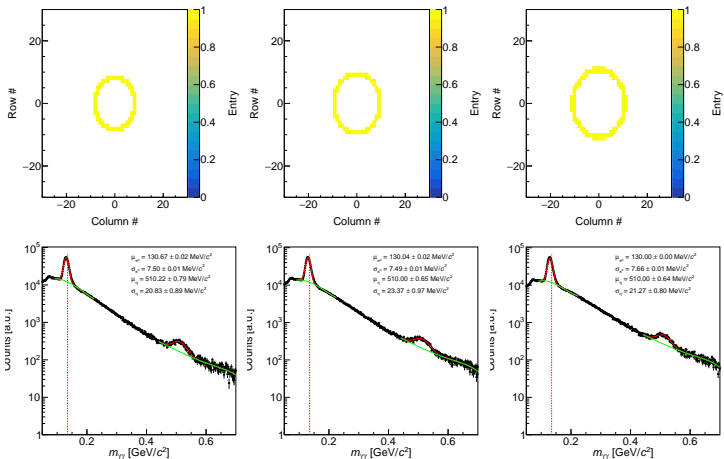
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 7

● Ring 8

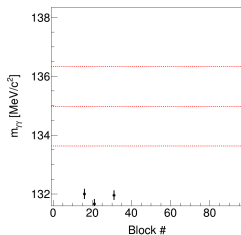
● Ring 9



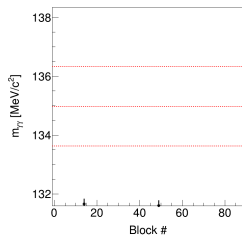
QC per rings

If radius divided by 5 cm, there is 24 rings

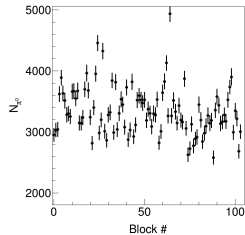
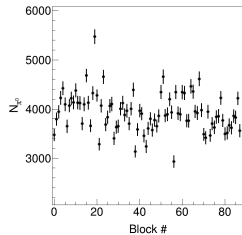
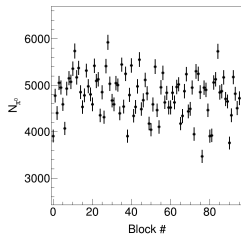
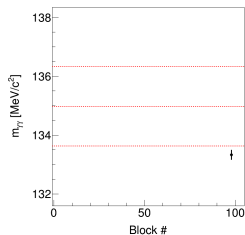
● Ring 7



● Ring 8



● Ring 9



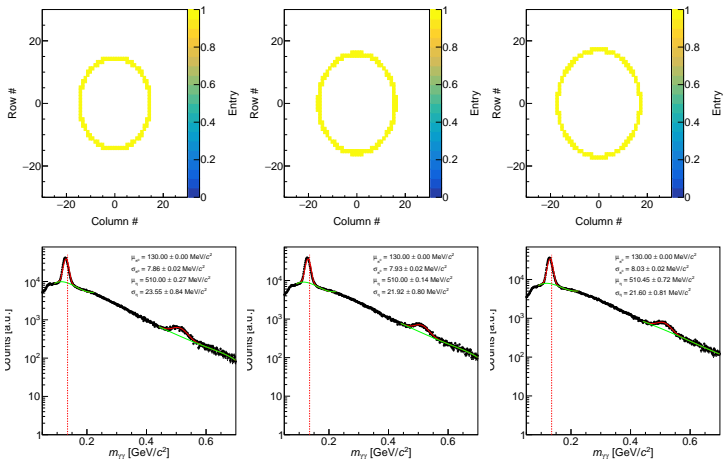
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 11

● Ring 12

● Ring 13



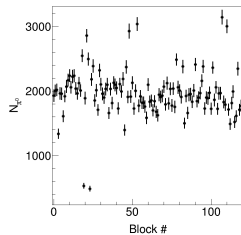
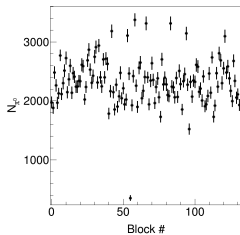
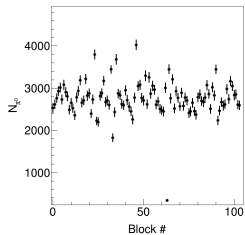
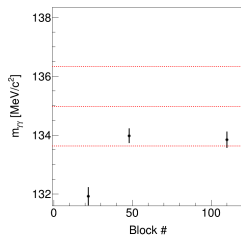
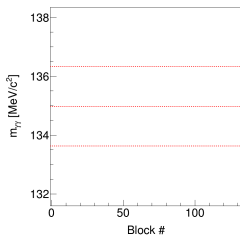
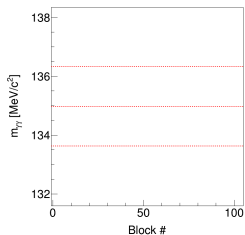
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 11

● Ring 12

● Ring 13



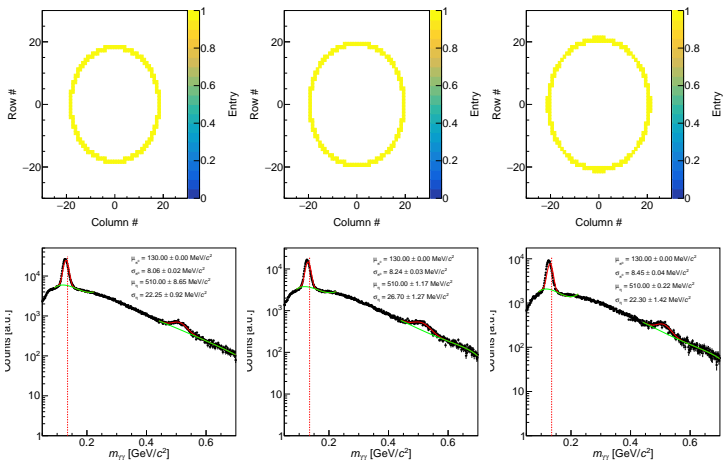
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 14

● Ring 15

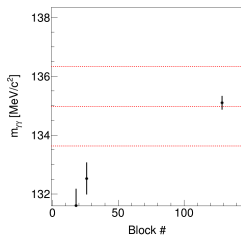
● Ring 16



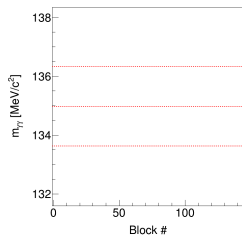
QC per rings

If radius divided by 5 cm, there is 24 rings

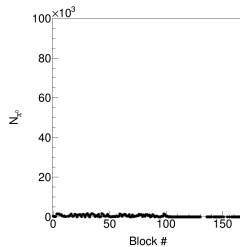
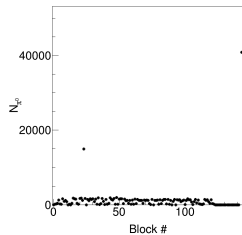
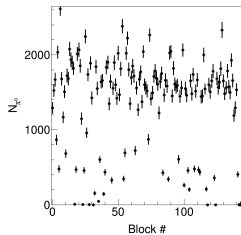
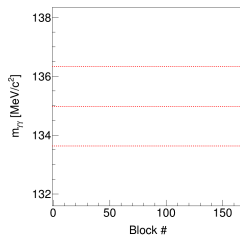
● Ring 14



● Ring 15



● Ring 16



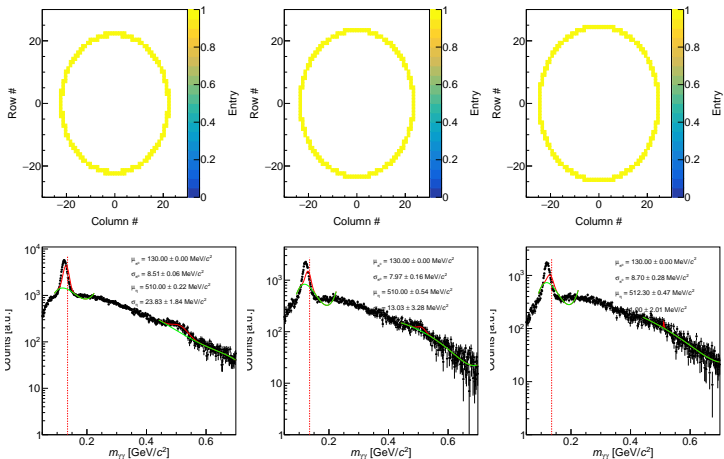
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 17

● Ring 18

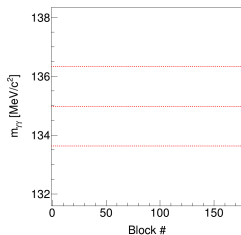
● Ring 19



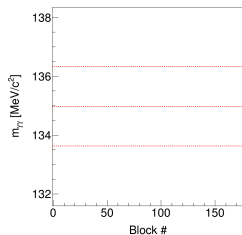
QC per rings

If radius divided by 5 cm, there is 24 rings

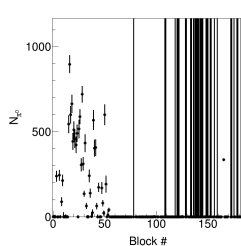
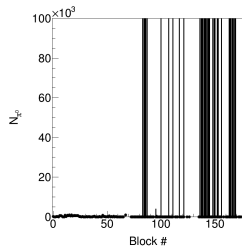
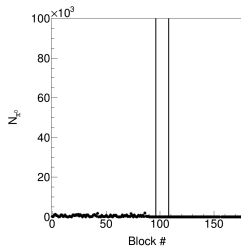
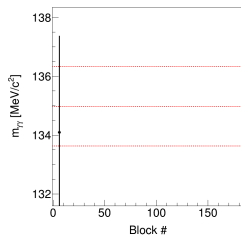
● Ring 17



● Ring 18



● Ring 19



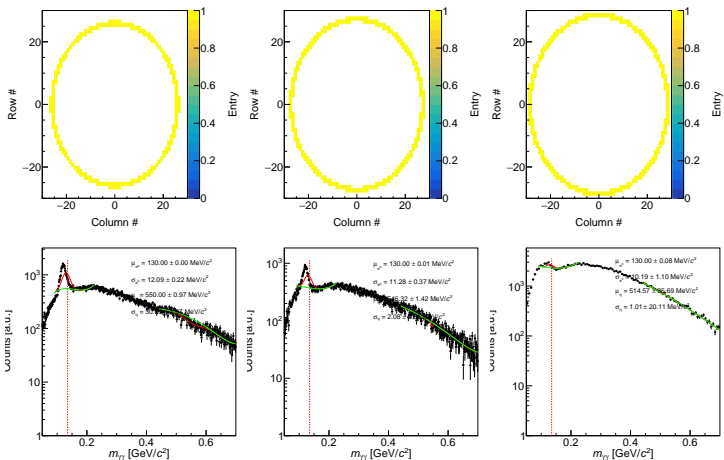
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 20

● Ring 21

● Ring 22



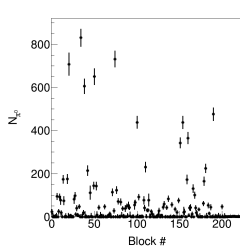
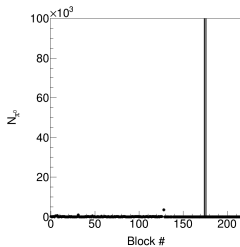
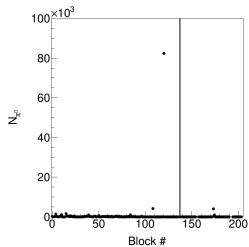
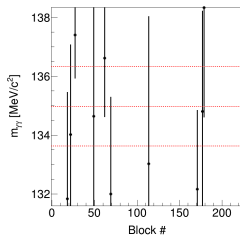
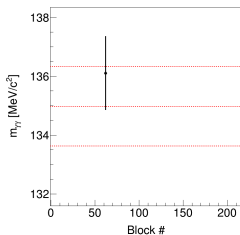
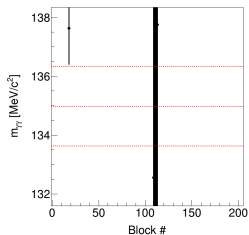
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 20

● Ring 21

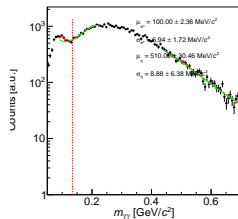
● Ring 22



QC per rings

If radius divided by 5 cm, there is 24 rings

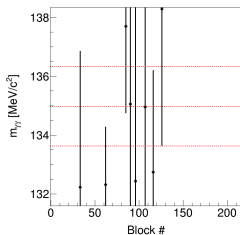
- Ring 23



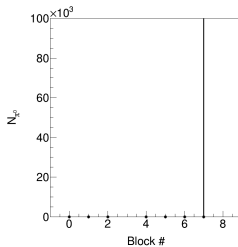
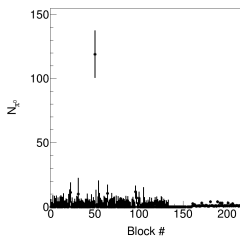
QC per rings

If radius divided by 5 cm, there is 24 rings

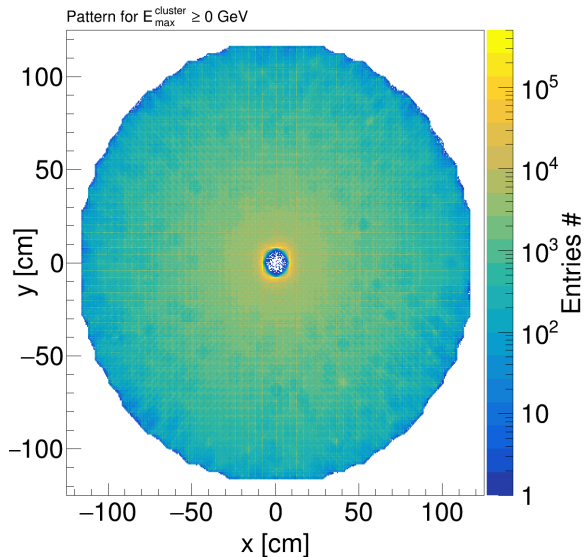
● Ring 23



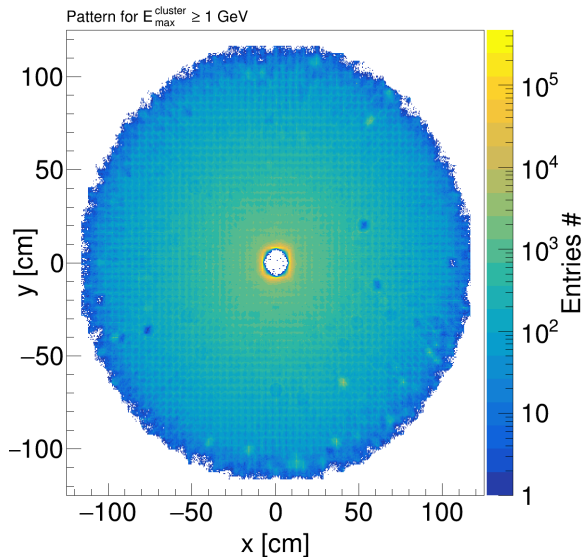
● Ring 24



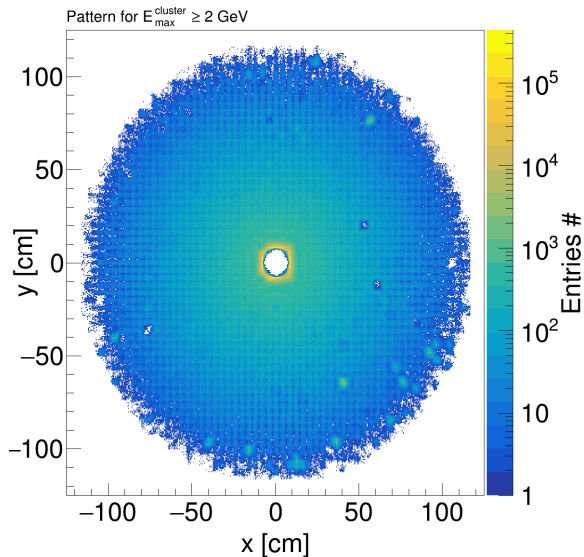
FCAL pattern



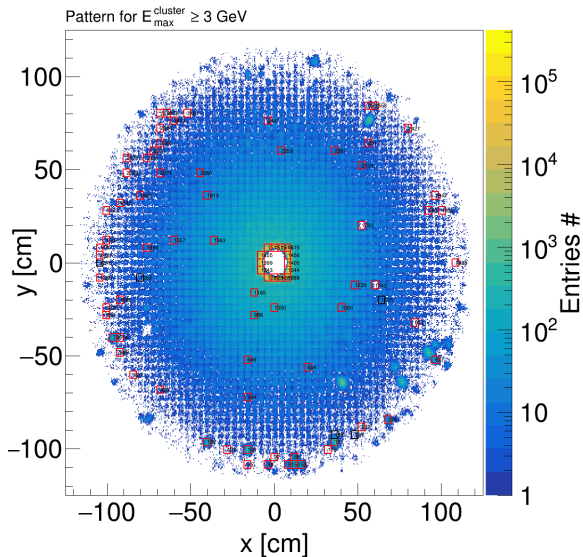
FCAL pattern



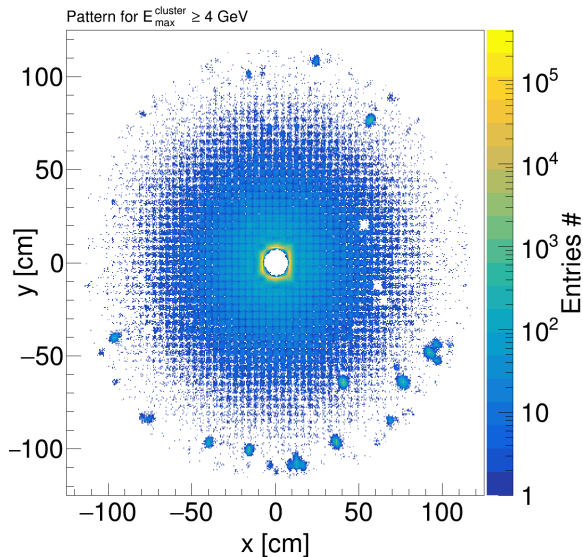
FCAL pattern



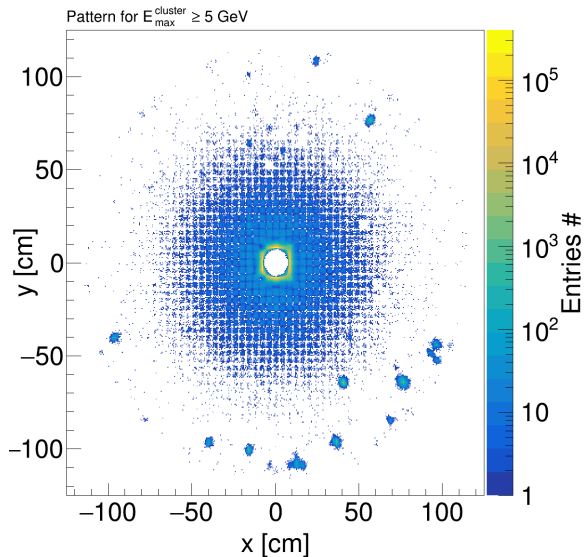
FCAL pattern



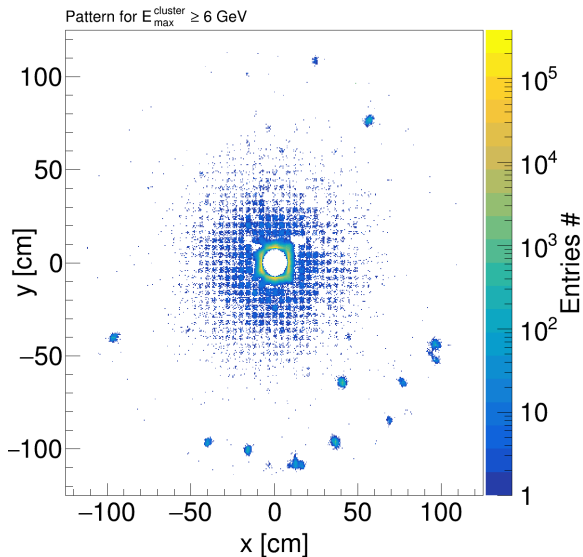
FCAL pattern



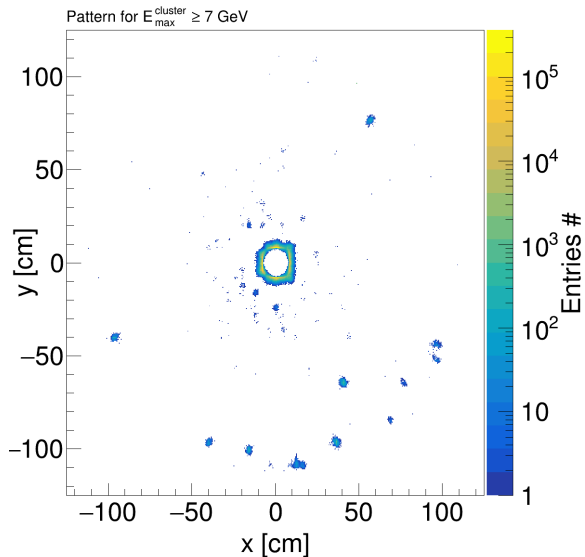
FCAL pattern



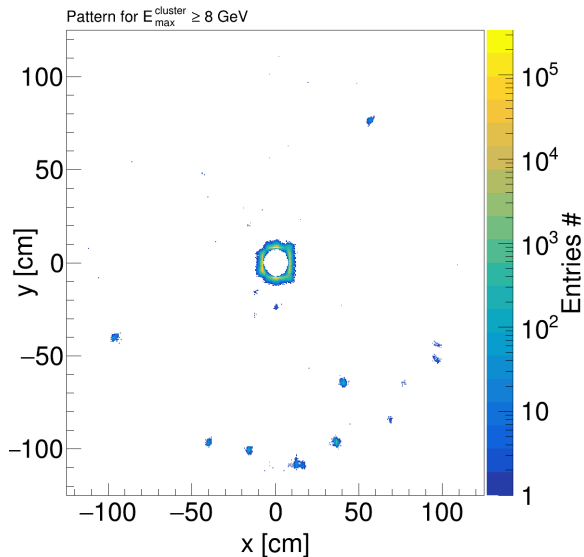
FCAL pattern



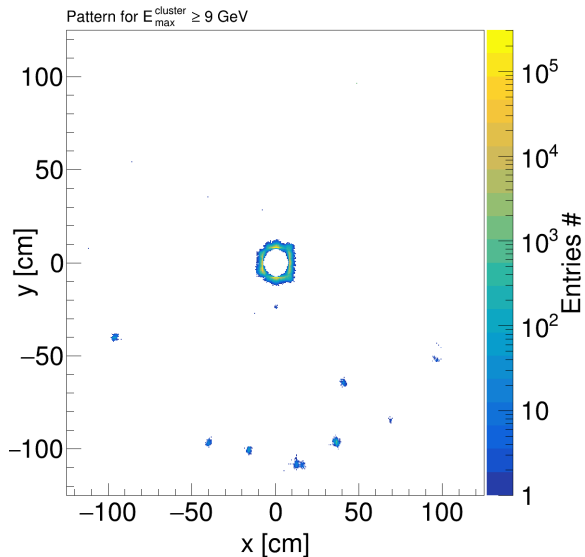
FCAL pattern



FCAL pattern



FCAL pattern



FCAL pattern

