

FCAL energy calibration QC

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Thomas Jefferson National Accelerator Facility

for the **GlueX** Collaboration

January 9, 2024

2023-01-period-3-iteration-4-method-2

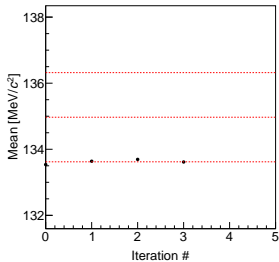


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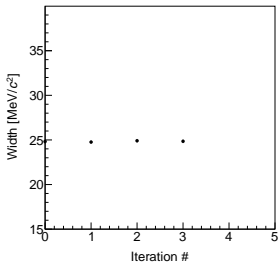
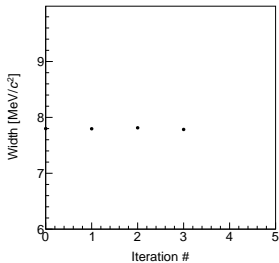
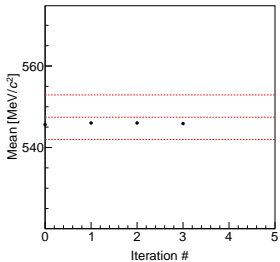
- 1 Overall QC
- 2 QC per rings

Overall QC vs iteration

• π^0

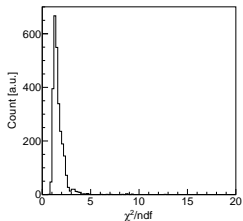


• η

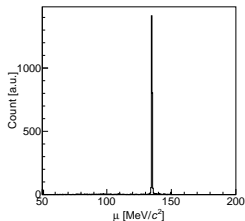


Overall QC, summary distributions

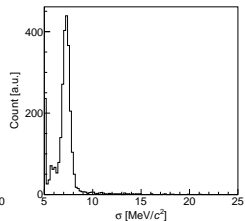
• χ^2 distribution



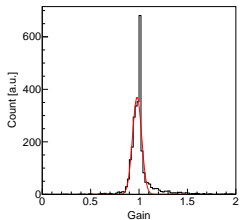
• Fitted peak distribution



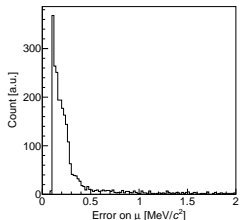
• Fitted width distribution



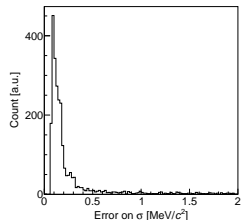
• Gain distribution



• Fitted peak error distribution

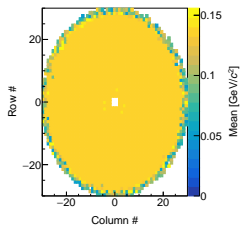


• Fitted width error distribution

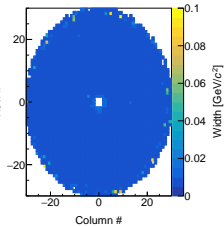


Overall QC, summary maps

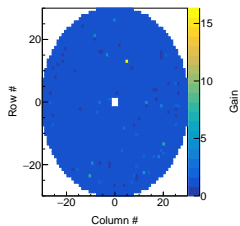
● Fitted peak map



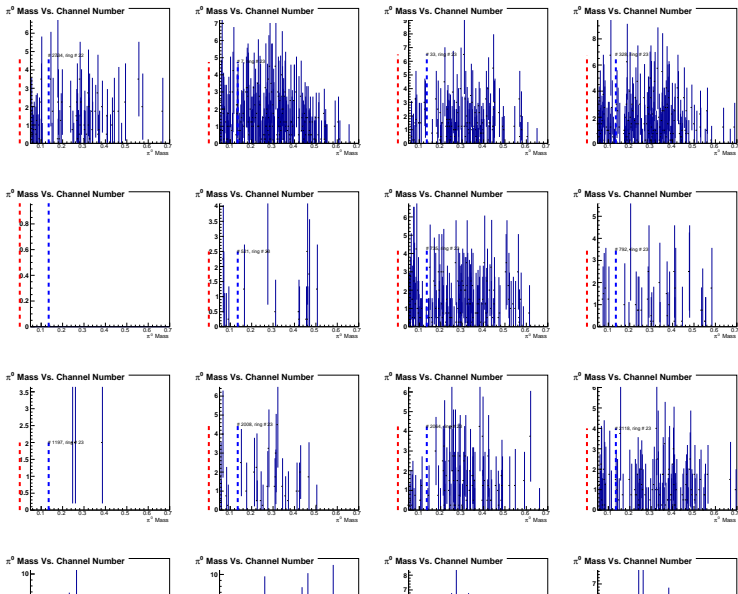
● Fitted width map



● Gain map



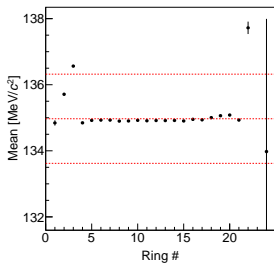
Overall QC, bad channels



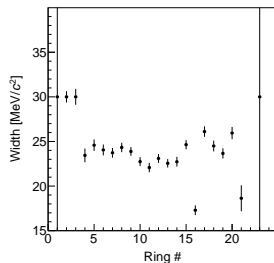
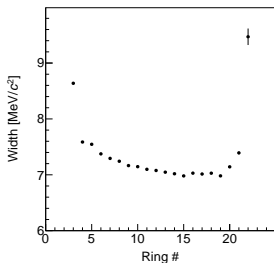
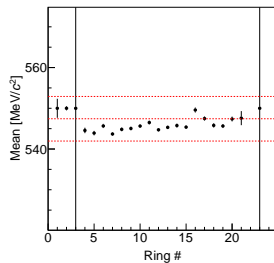
QC per rings

If radius divided by 5 cm, there is 24 rings

● π^0



● η



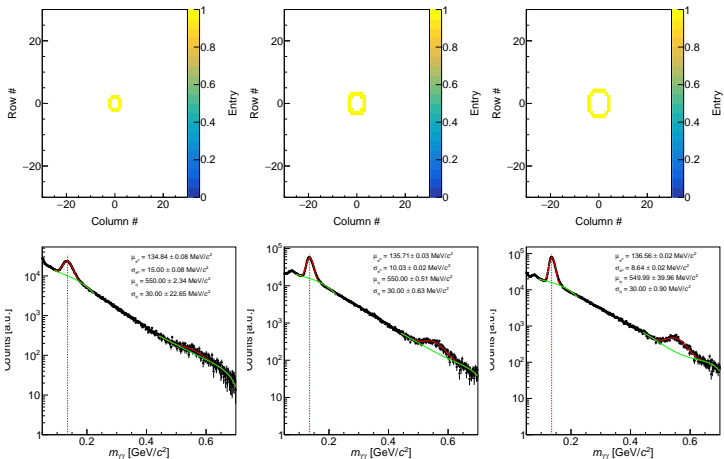
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 1

● Ring 2

● Ring 3



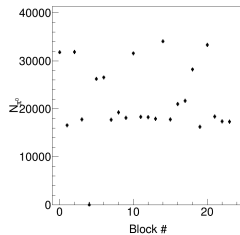
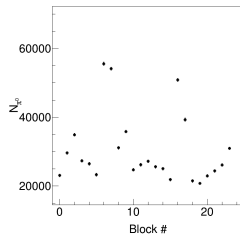
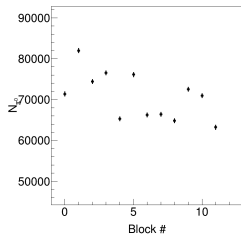
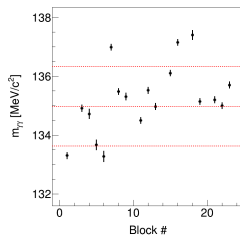
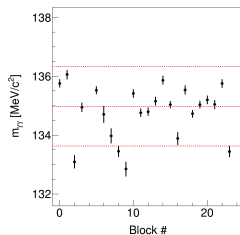
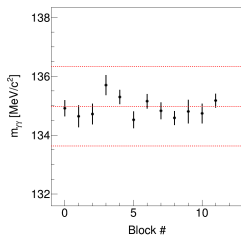
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 1

● Ring 2

● Ring 3



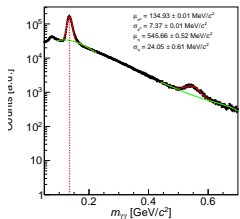
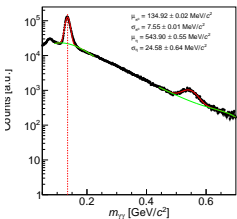
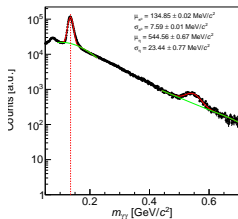
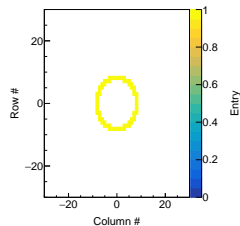
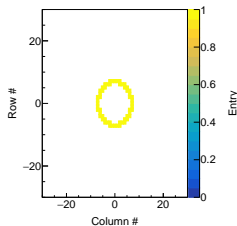
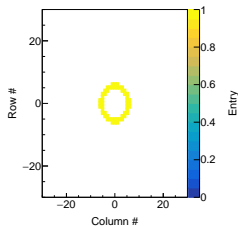
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 4

● Ring 5

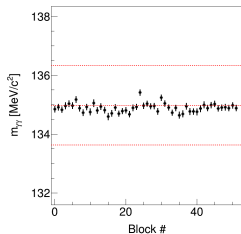
● Ring 6



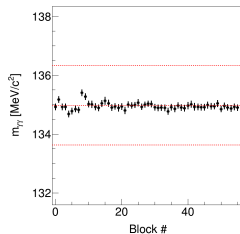
QC per rings

If radius divided by 5 cm, there is 24 rings

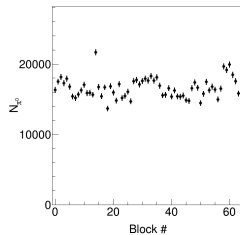
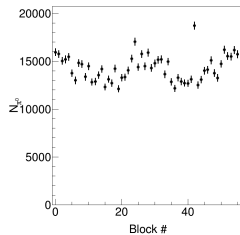
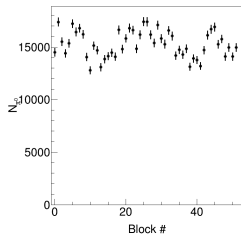
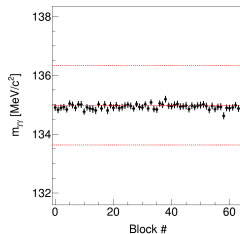
● Ring 4



● Ring 5



● Ring 6



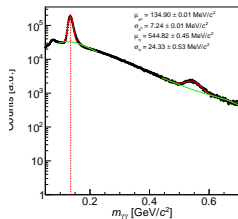
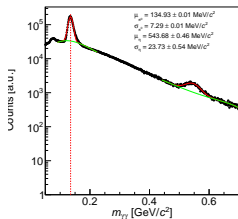
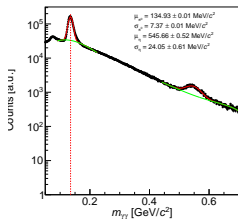
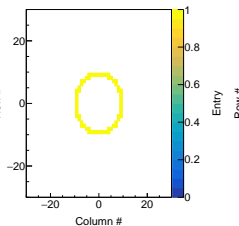
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 7

● Ring 8

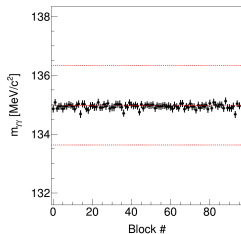
● Ring 9



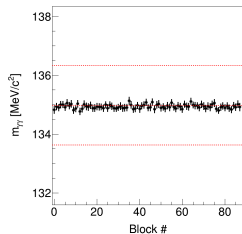
QC per rings

If radius divided by 5 cm, there is 24 rings

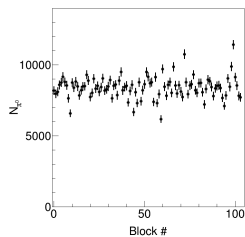
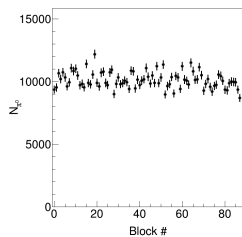
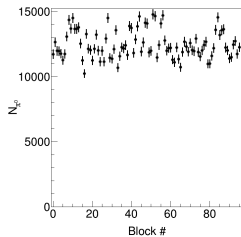
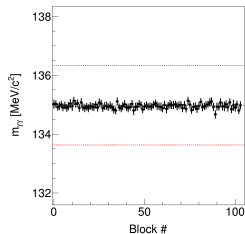
● Ring 7



● Ring 8



● Ring 9



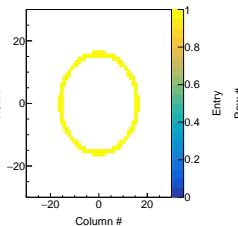
QC per rings

If radius divided by 5 cm, there is 24 rings

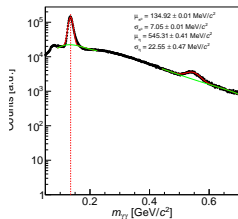
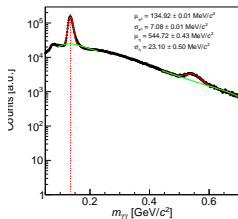
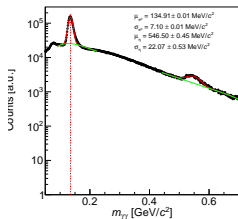
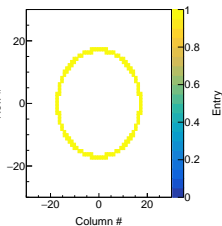
● Ring 11



● Ring 12



● Ring 13



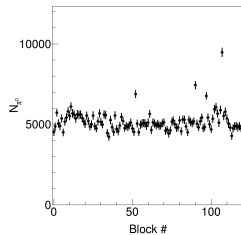
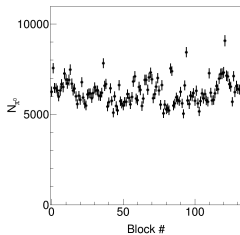
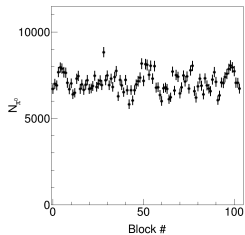
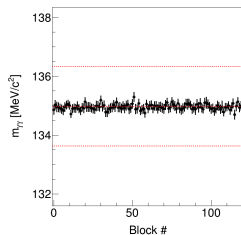
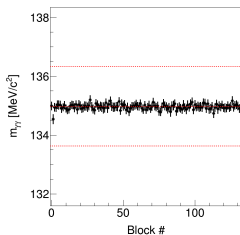
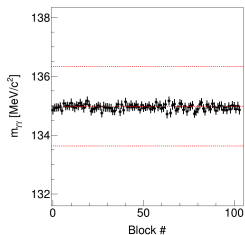
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 11

● Ring 12

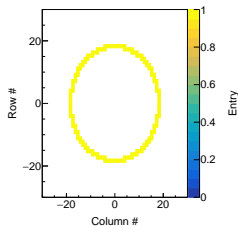
● Ring 13



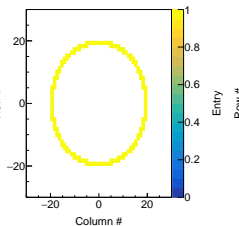
QC per rings

If radius divided by 5 cm, there is 24 rings

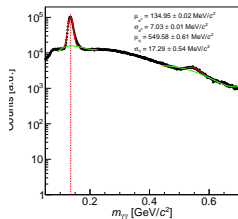
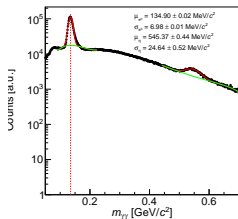
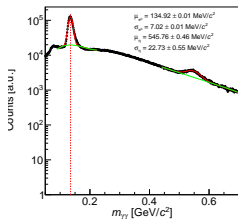
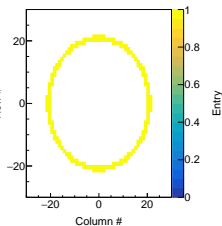
● Ring 14



● Ring 15



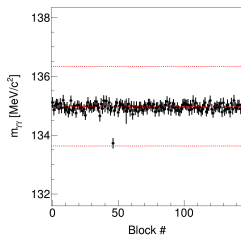
● Ring 16



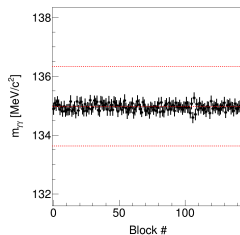
QC per rings

If radius divided by 5 cm, there is 24 rings

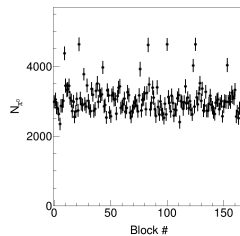
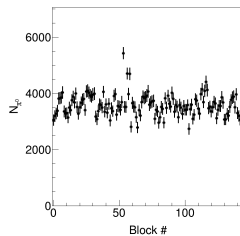
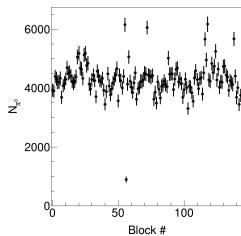
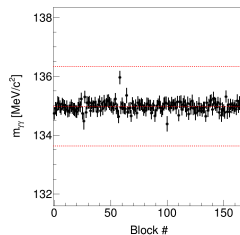
● Ring 14



● Ring 15



● Ring 16



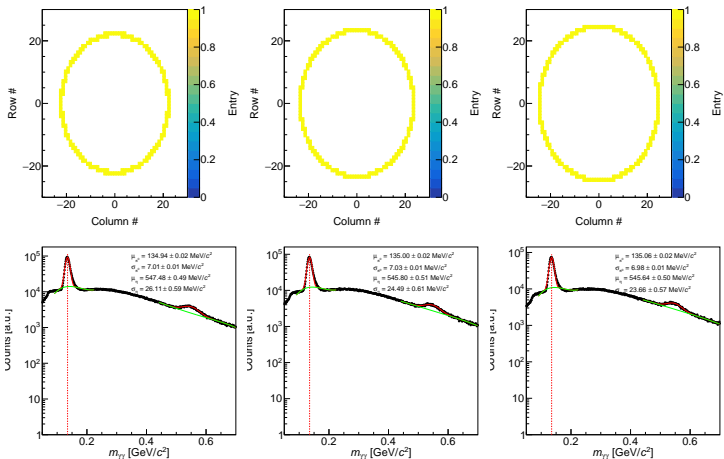
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 17

● Ring 18

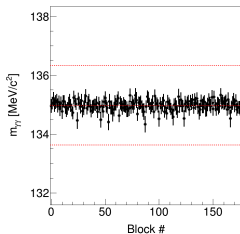
● Ring 19



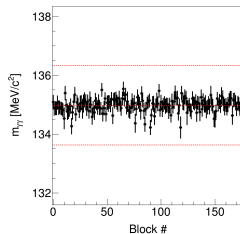
QC per rings

If radius divided by 5 cm, there is 24 rings

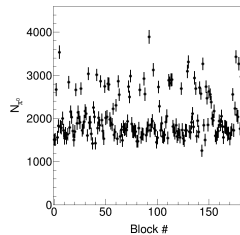
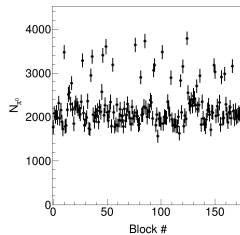
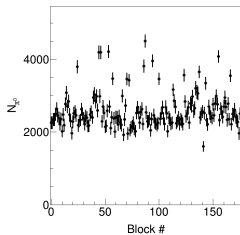
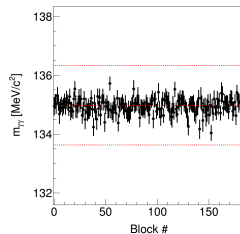
● Ring 17



● Ring 18



● Ring 19



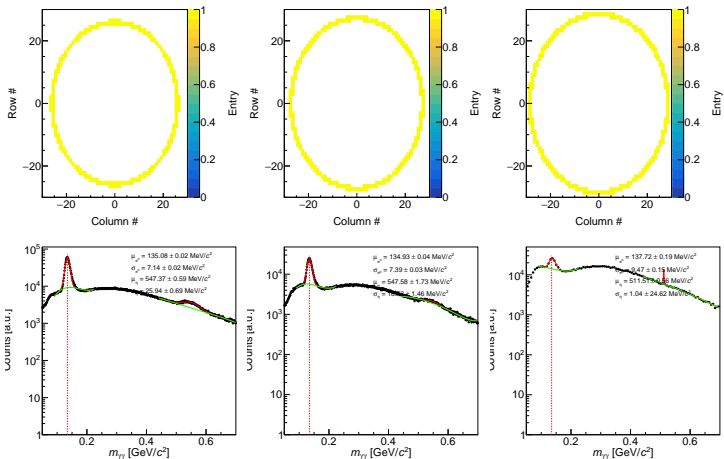
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 20

● Ring 21

● Ring 22



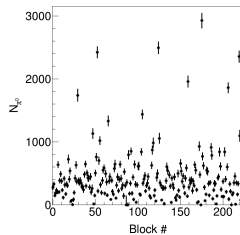
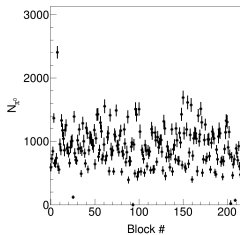
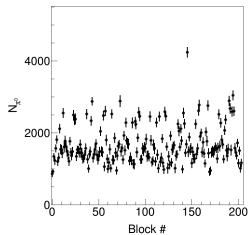
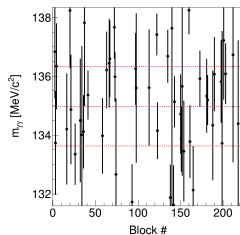
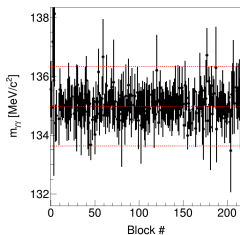
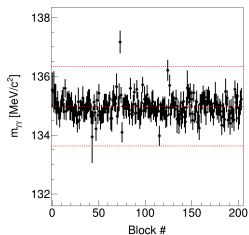
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 20

● Ring 21

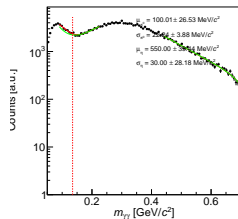
● Ring 22



QC per rings

If radius divided by 5 cm, there is 24 rings

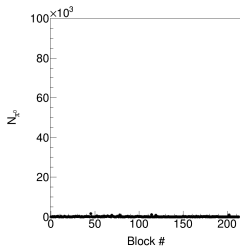
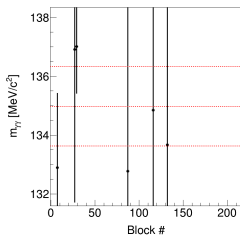
- Ring 23



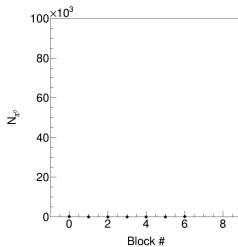
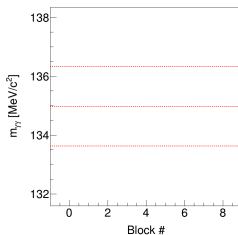
QC per rings

If radius divided by 5 cm, there is 24 rings

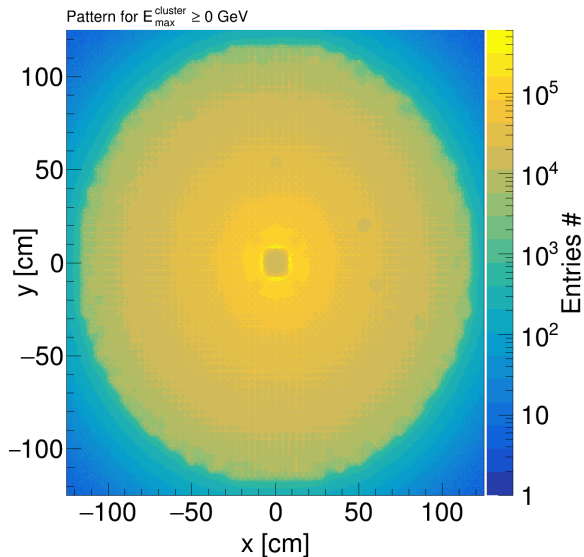
● Ring 23



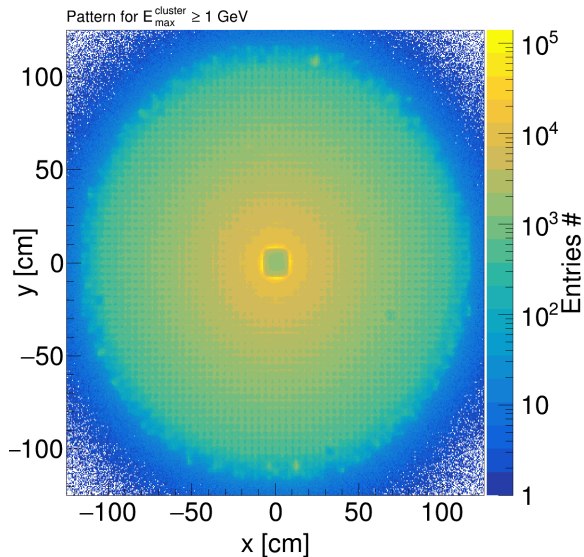
● Ring 24



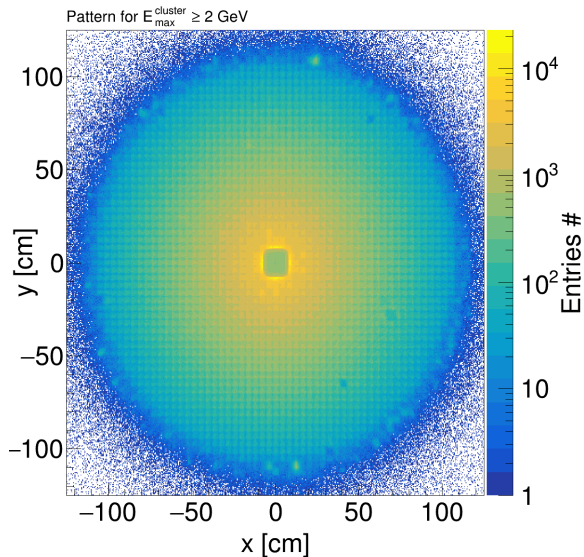
FCAL pattern



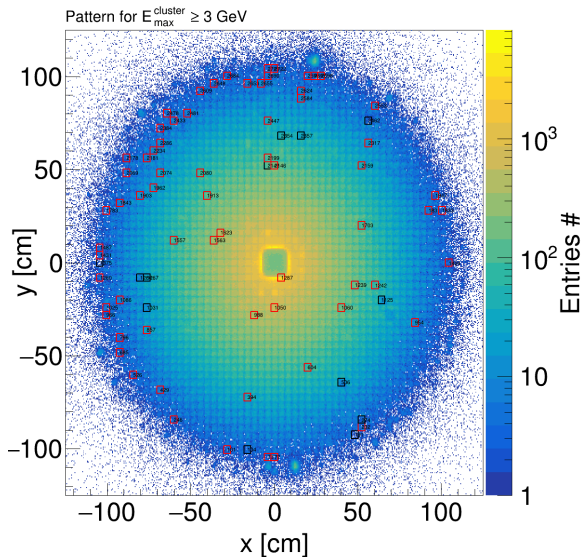
FCAL pattern



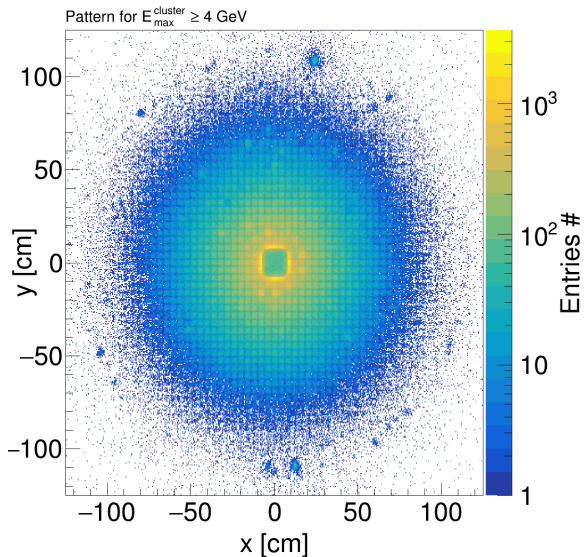
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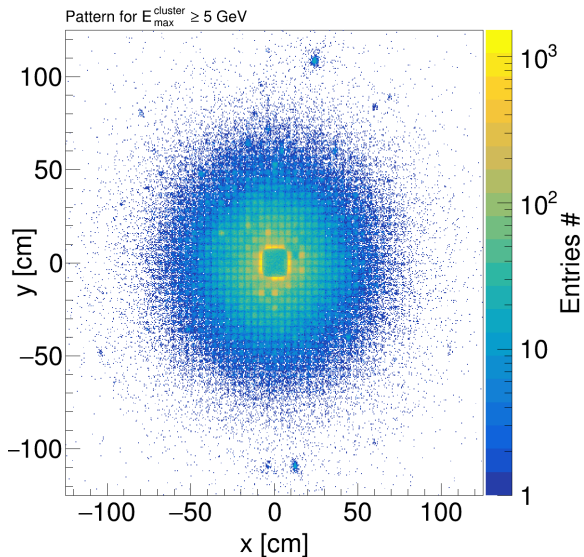
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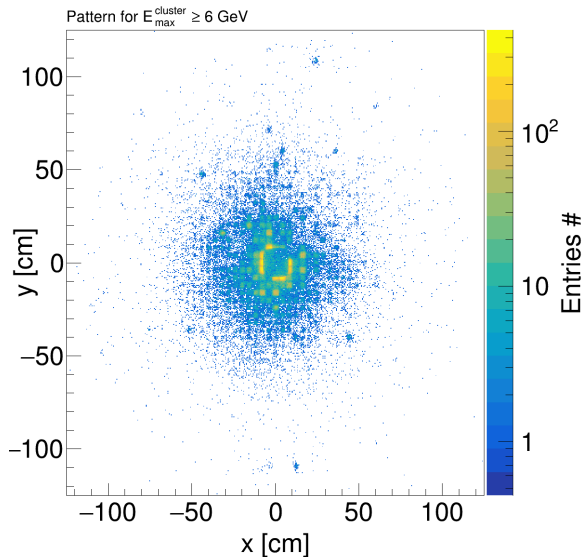
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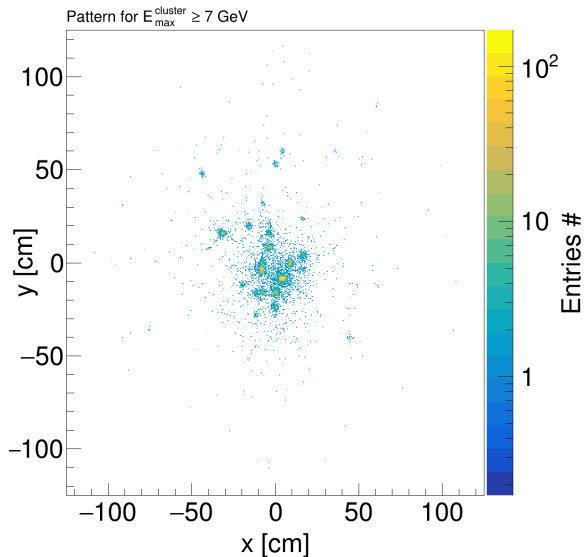
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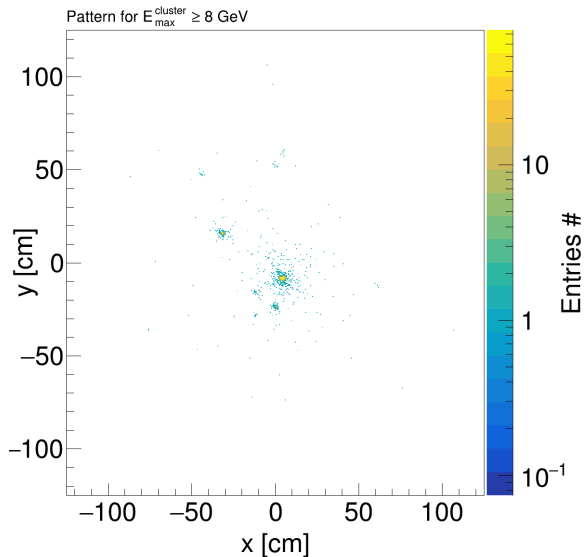
FCAL pattern



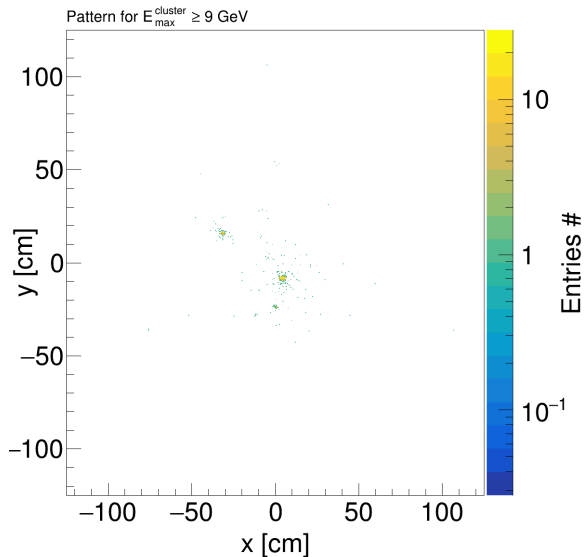
FCAL pattern



FCAL pattern



FCAL pattern



FCAL pattern

