

FCAL energy calibration QC

Igal Jaeglé

Thomas Jefferson National Accelerator Facility

for the **GlueX** Collaboration

January 11, 2024

2023-01-period-6-iteration-1-method-2

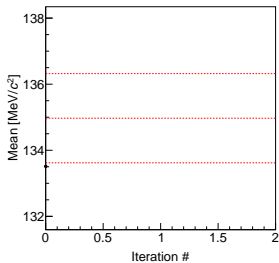


Table of contents

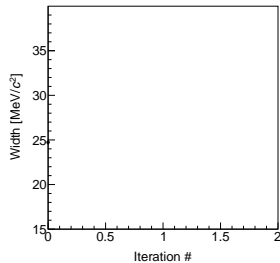
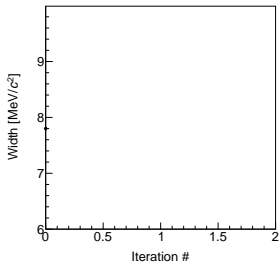
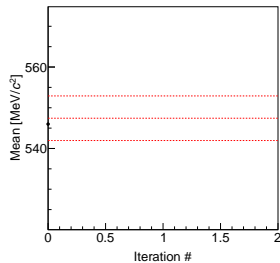
- 1 Overall QC
- 2 QC per rings

Overall QC vs iteration

• π^0

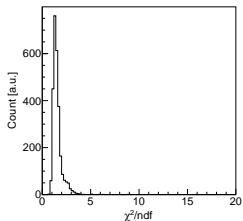


• η

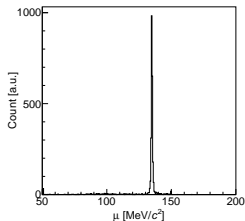


Overall QC, summary distributions

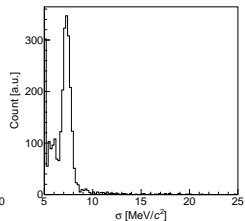
● χ^2 distribution



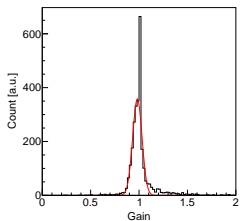
● Fitted peak distribution



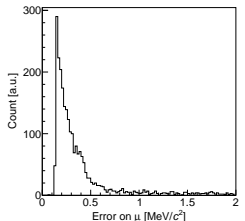
● Fitted width distribution



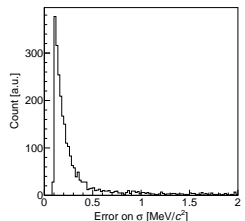
● Gain distribution



● Fitted peak error distribution

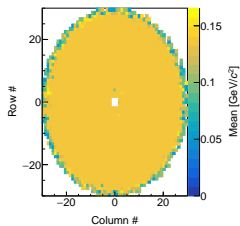


● Fitted width error distribution

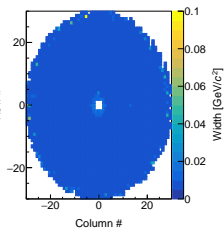


Overall QC, summary maps

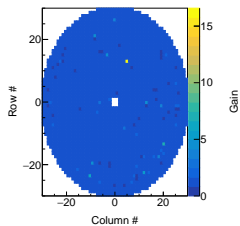
● Fitted peak map



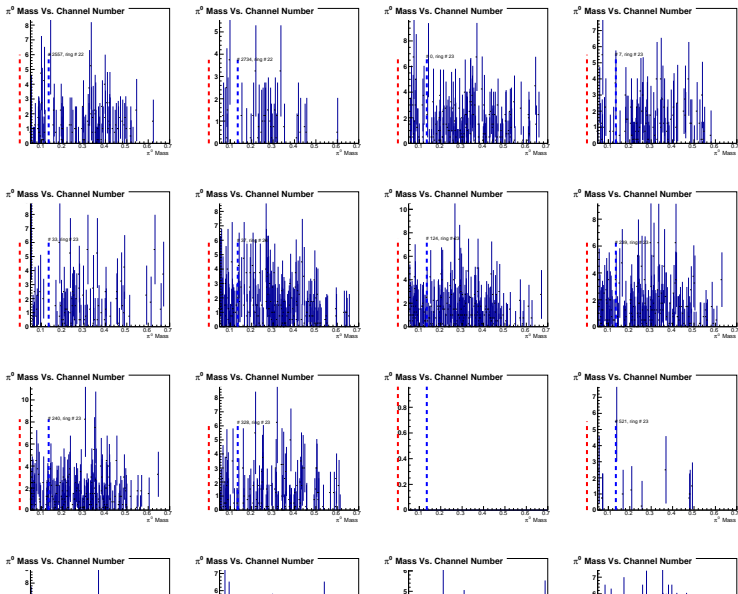
● Fitted width map



● Gain map



Overall QC, bad channels



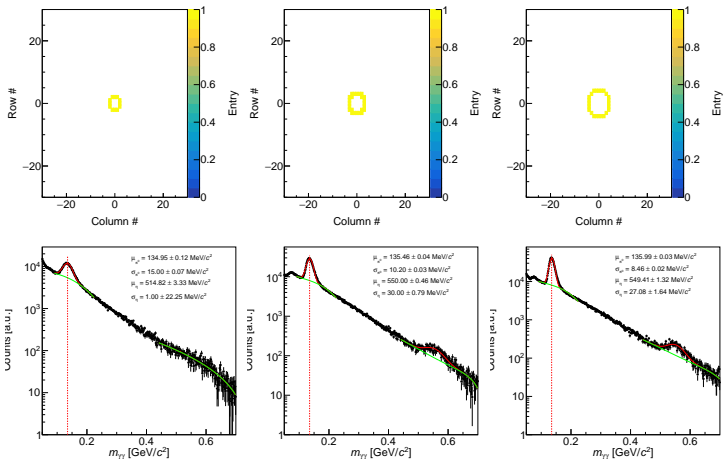
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 1

● Ring 2

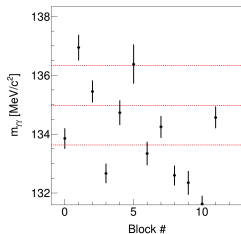
● Ring 3



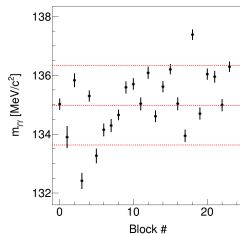
QC per rings

If radius divided by 5 cm, there is 24 rings

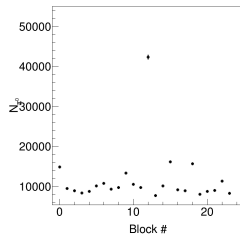
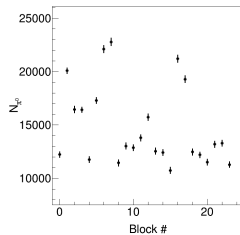
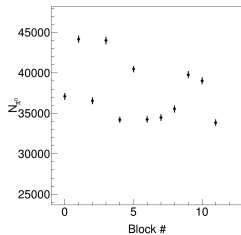
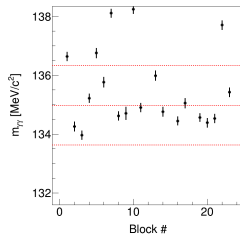
● Ring 1



● Ring 2



● Ring 3



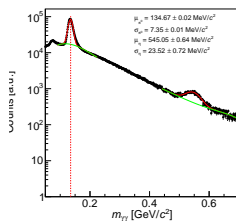
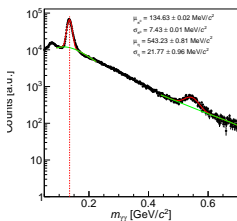
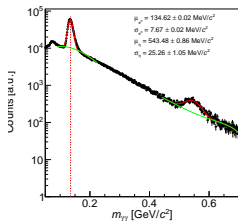
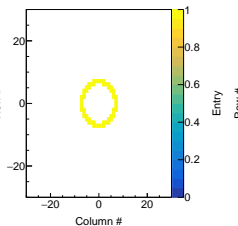
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 4

● Ring 5

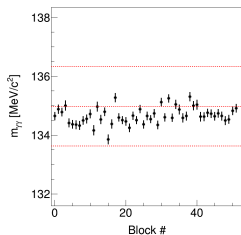
● Ring 6



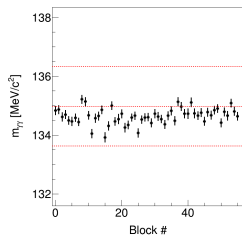
QC per rings

If radius divided by 5 cm, there is 24 rings

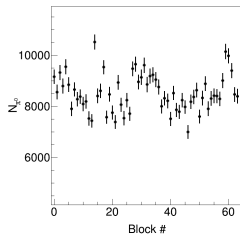
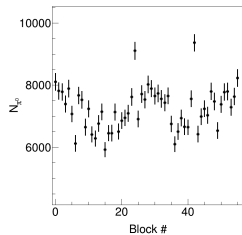
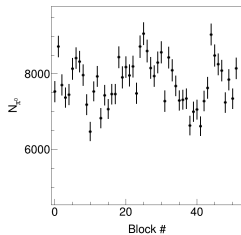
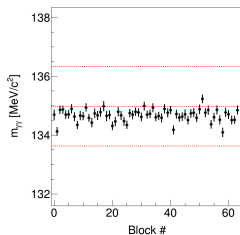
● Ring 4



● Ring 5



● Ring 6



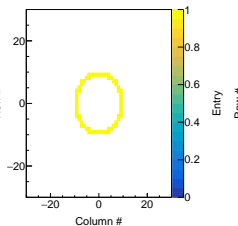
QC per rings

If radius divided by 5 cm, there is 24 rings

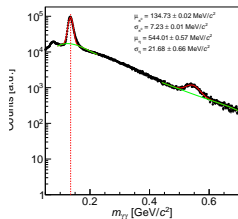
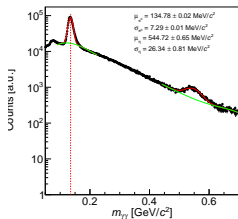
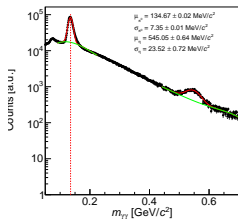
● Ring 7



● Ring 8



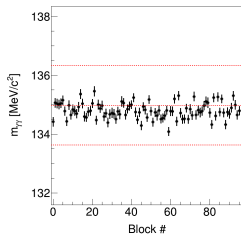
● Ring 9



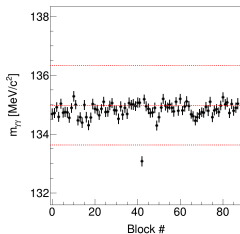
QC per rings

If radius divided by 5 cm, there is 24 rings

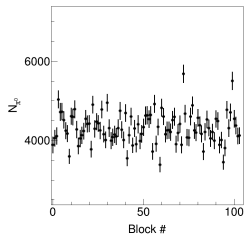
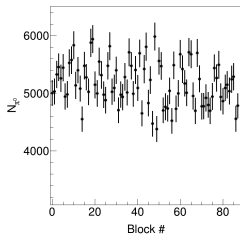
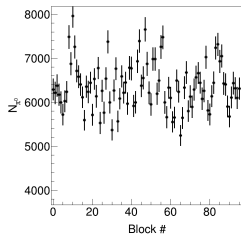
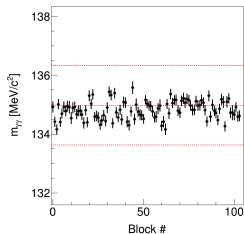
● Ring 7



● Ring 8



● Ring 9



QC per rings

If radius divided by 5 cm, there is 24 rings

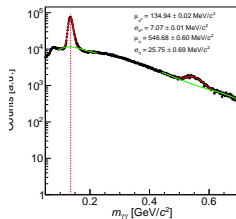
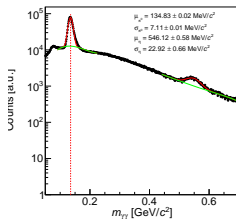
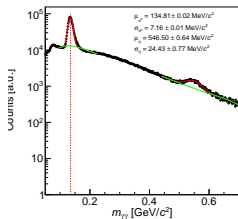
● Ring 11



● Ring 12



● Ring 13



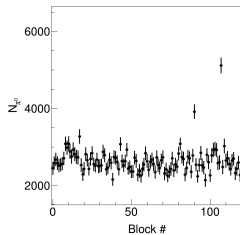
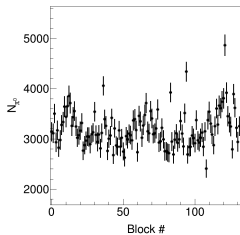
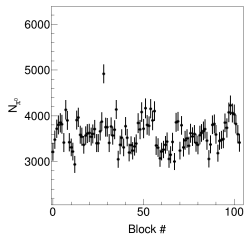
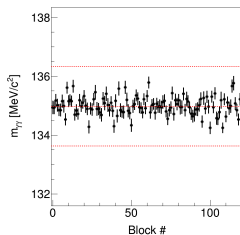
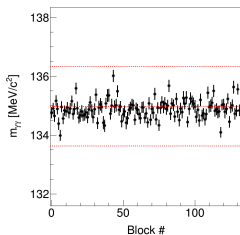
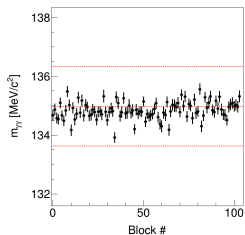
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 11

● Ring 12

● Ring 13



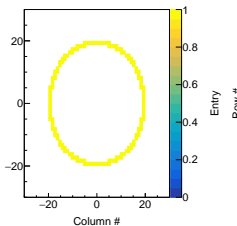
QC per rings

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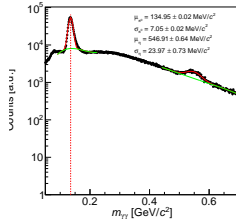
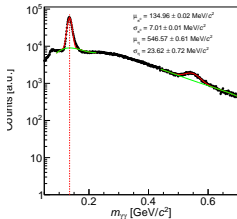
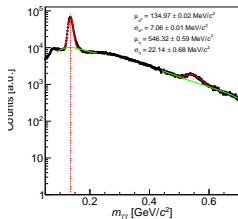
● Ring 14



● Ring 15



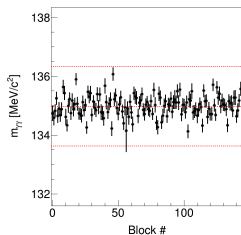
● Ring 16



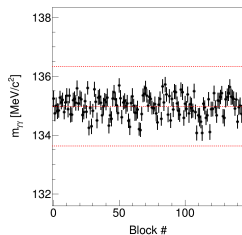
QC per rings

If radius divided by 5 cm, there is 24 rings

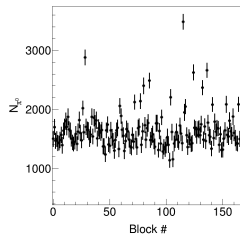
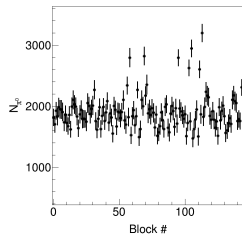
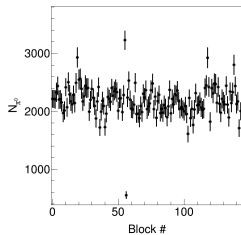
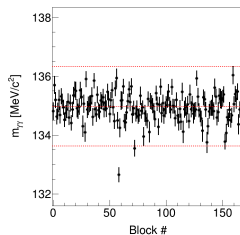
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● Ring 16



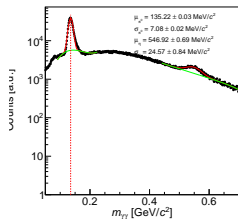
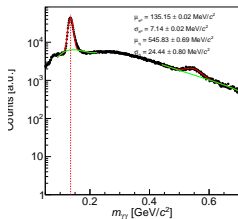
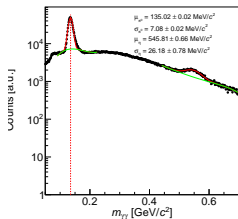
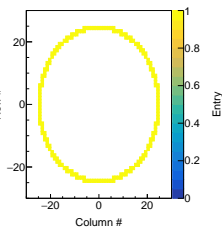
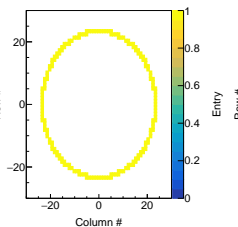
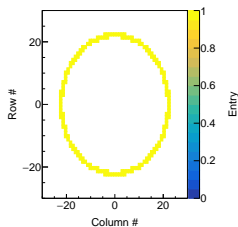
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 17

● Ring 18

● Ring 19



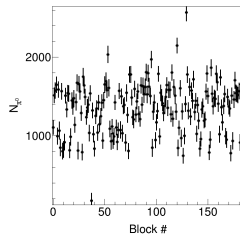
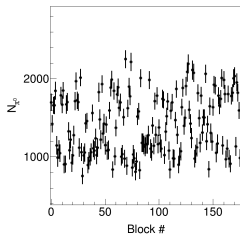
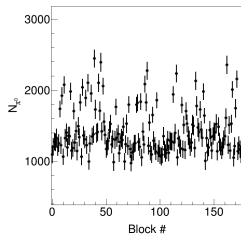
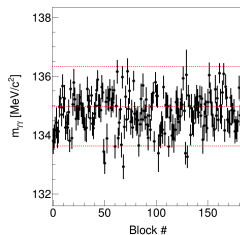
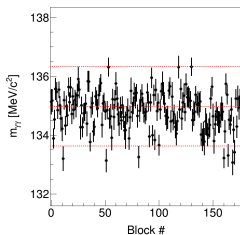
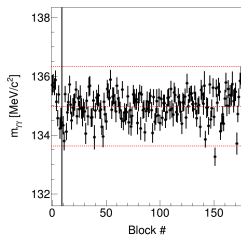
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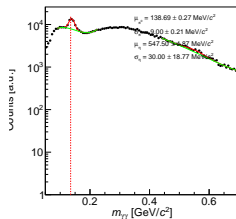
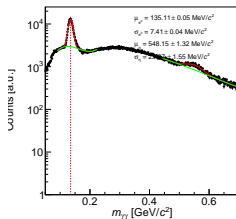
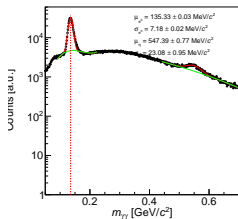
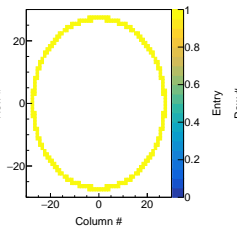
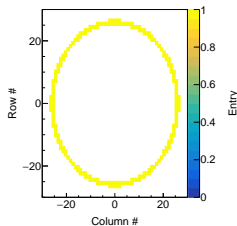
QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 20

● Ring 21

● Ring 22



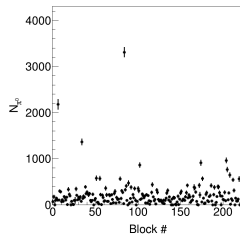
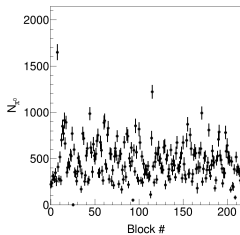
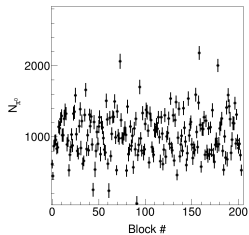
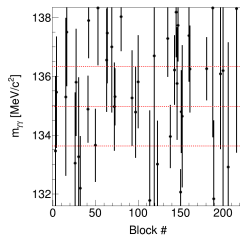
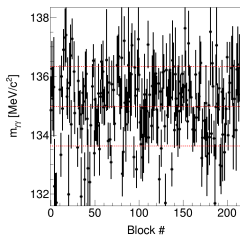
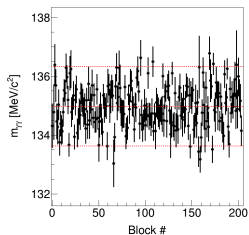
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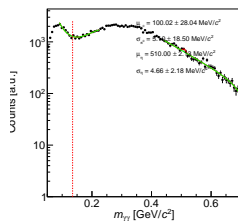
● Ring 22



QC per rings

If radius divided by 5 cm, there is 24 rings

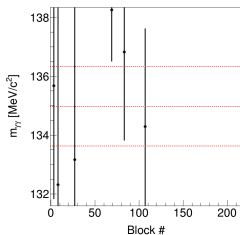
● Ring 23



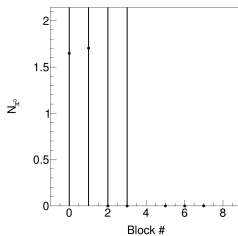
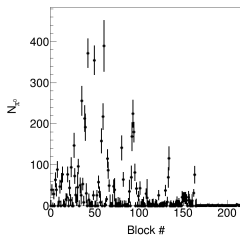
QC per rings

If radius divided by 5 cm, there is 24 rings

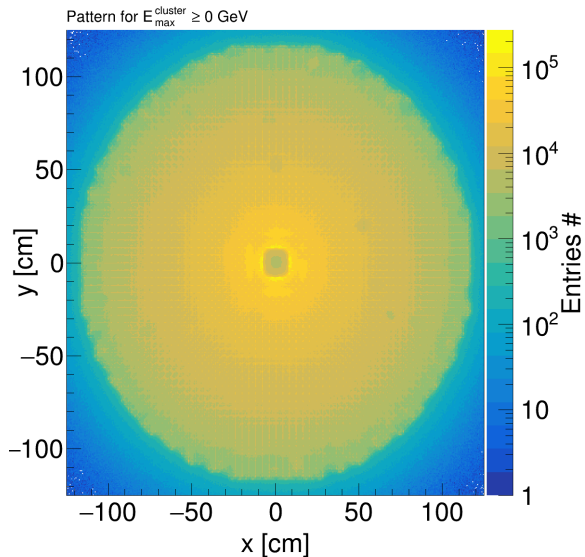
● Ring 23



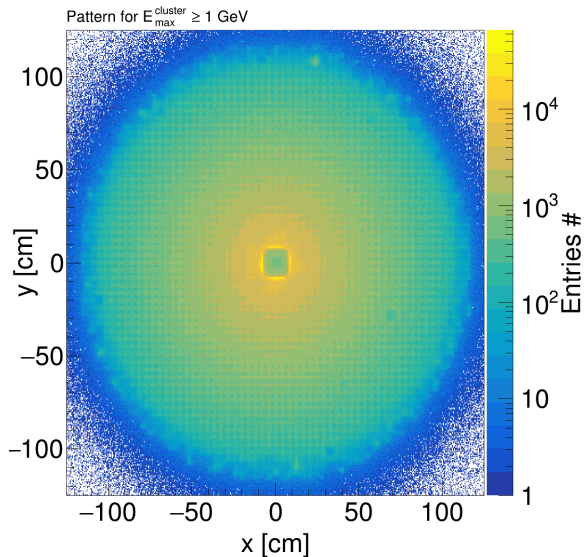
● Ring 24



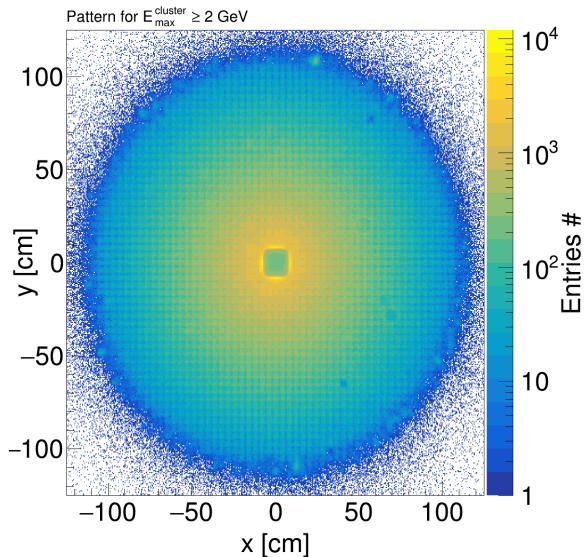
FCAL pattern



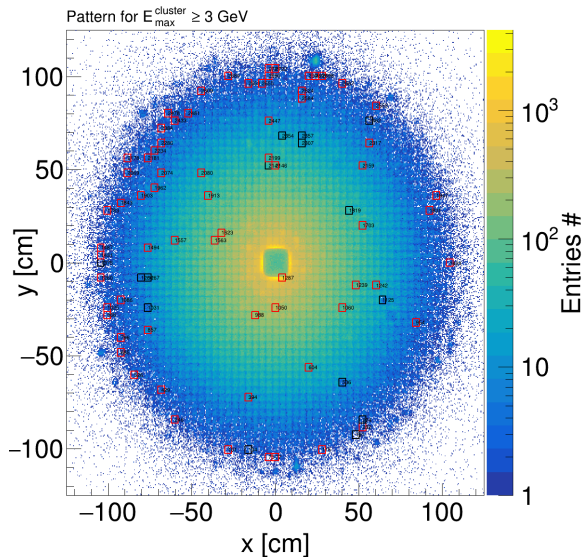
FCAL pattern



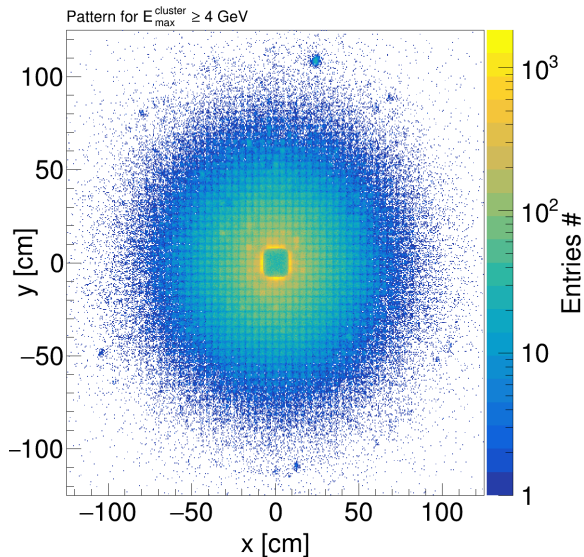
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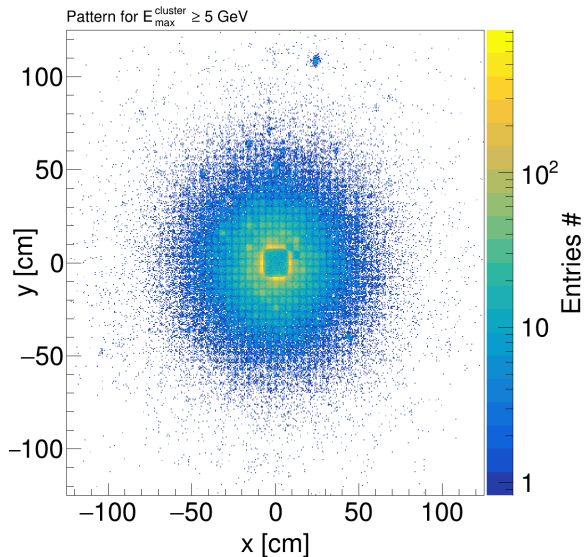
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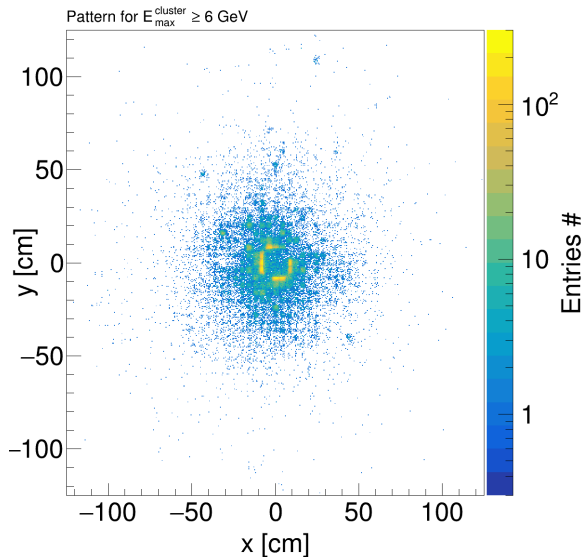
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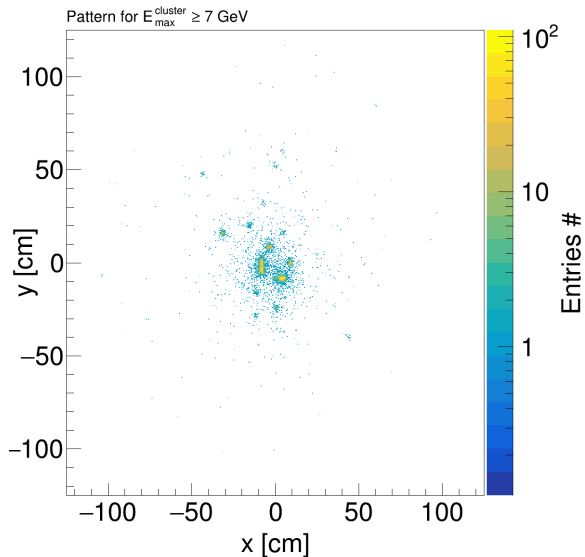
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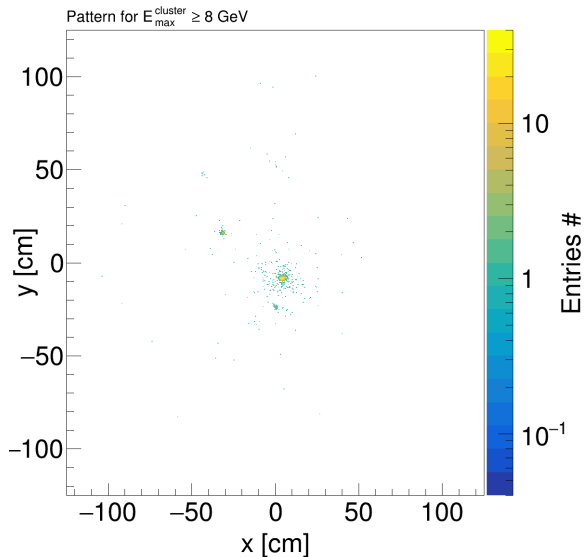
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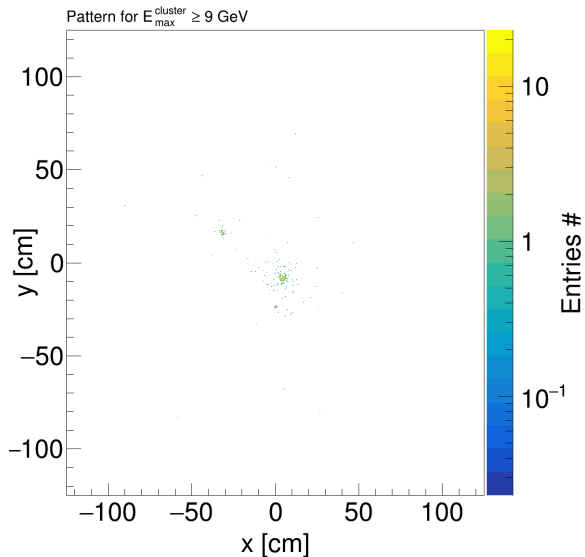
FCAL pattern



FCAL pattern



FCAL pattern



FCAL pattern

