

FCAL energy calibration QC

Igal Jaegle

Thomas Jefferson National Accelerator Facility

for the GlueX Collaboration

April 28, 2025

2025-01-period-15-iteration-0-method-2

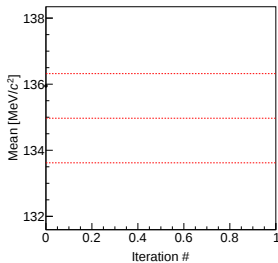


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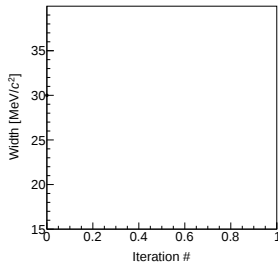
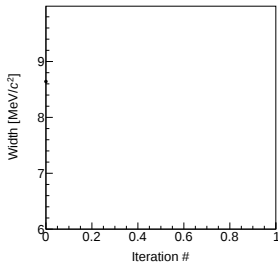
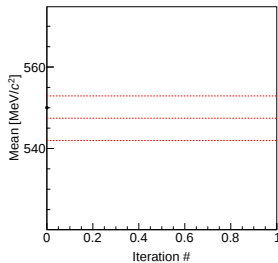
- 1 Overall QC
- 2 QC per rings

Overall QC vs iteration

● π^0

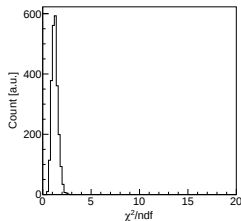


● η

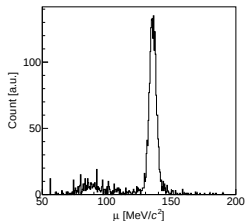


Overall QC, summary distributions

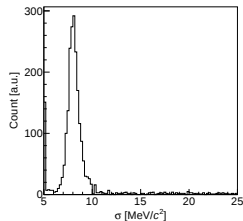
• χ^2 distribution



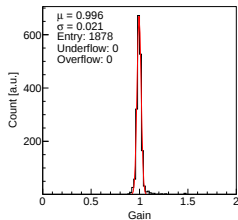
• Fitted peak distribution



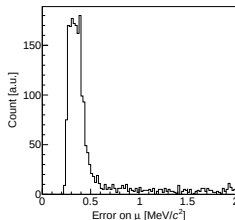
• Fitted width distribution



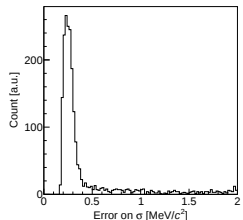
• Gain distribution



• Fitted peak error distribution

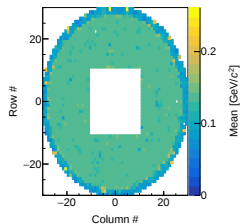


• Fitted width error distribution

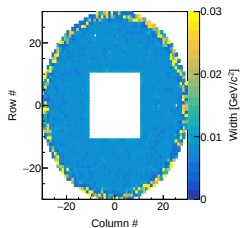


Overall QC, summary maps

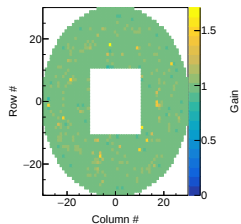
● Fitted peak map



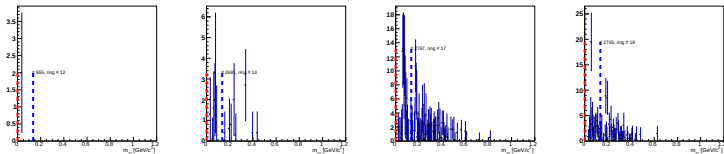
● Fitted width map



● Gain map



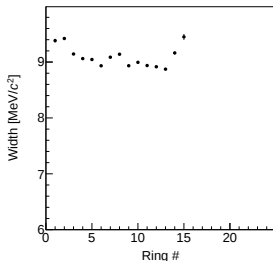
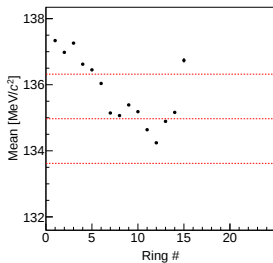
Overall QC, bad channels



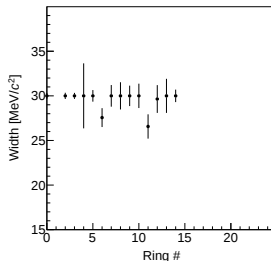
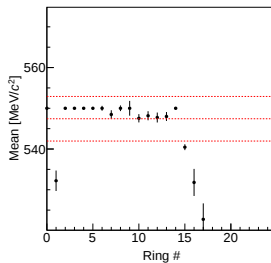
QC per rings

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

● π^0



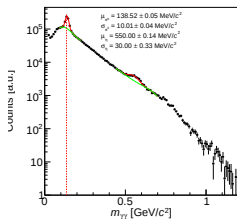
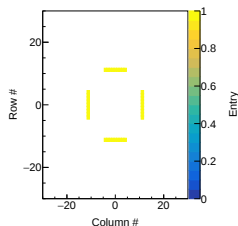
● η



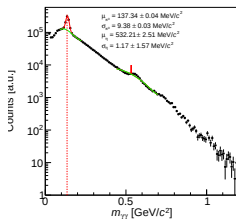
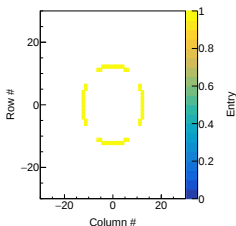
QC per rings

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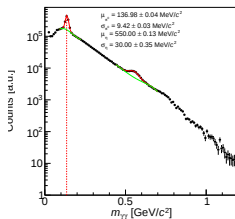
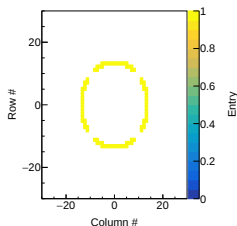
● Ring 0



● Ring 1



● Ring 2



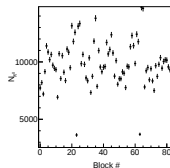
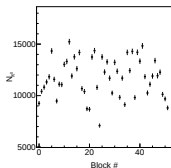
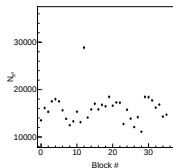
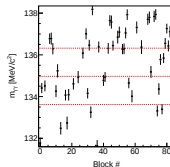
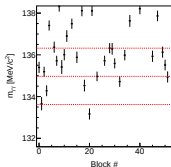
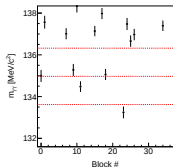
QC per rings

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

● Ring 0

● Ring 1

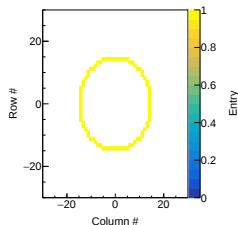
● Ring 2



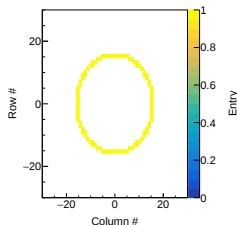
QC per rings

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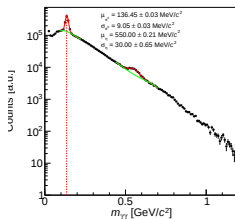
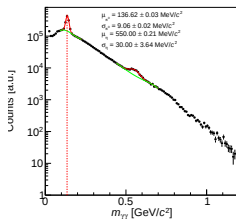
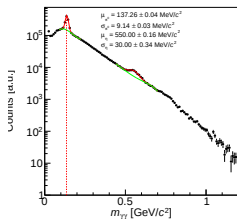
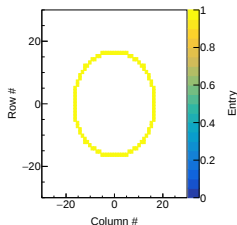
● Ring 3



● Ring 4



● Ring 5



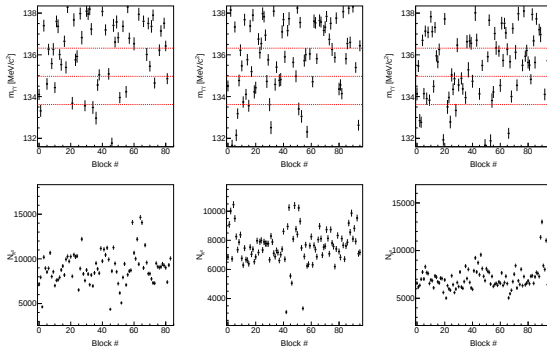
QC per rings

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● Ring 3

● Ring 4

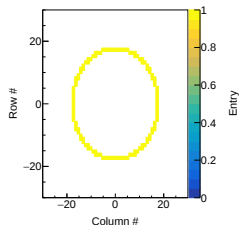
● Ring 5



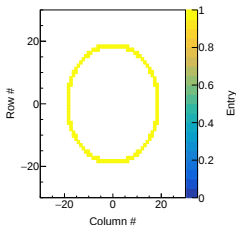
QC per rings

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

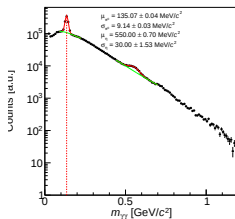
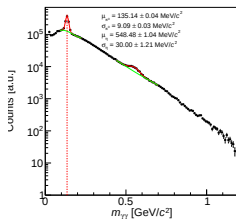
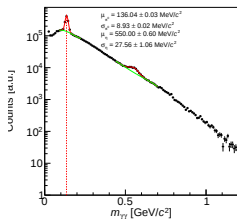
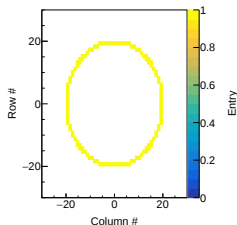
● Ring 6



● Ring 7



● Ring 8



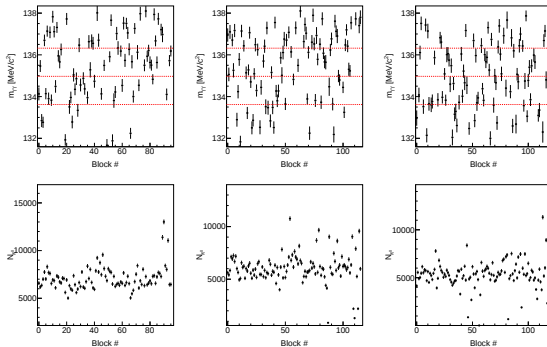
QC per rings

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● Ring 6

● Ring 7

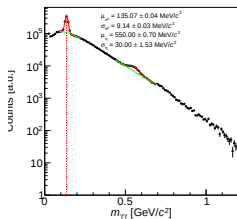
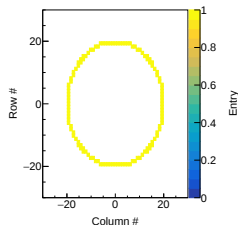
● Ring 8



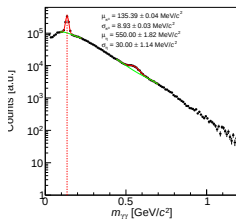
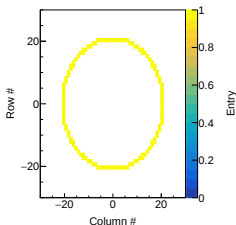
QC per rings

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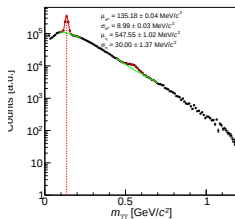
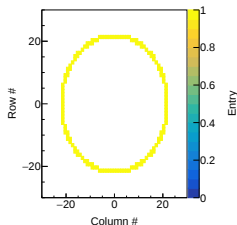
● Ring 8



● Ring 9



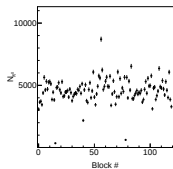
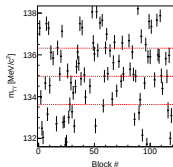
● Ring 10



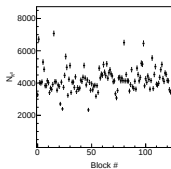
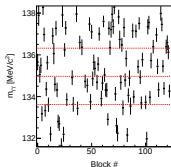
QC per rings

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

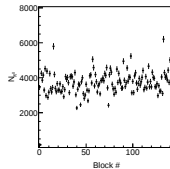
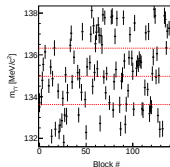
● Ring 8



● Ring 9



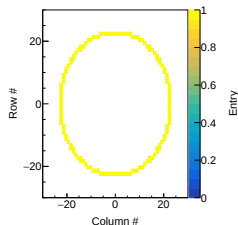
● Ring 10



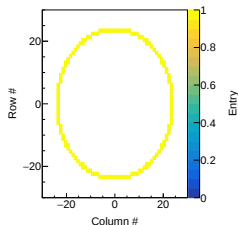
QC per rings

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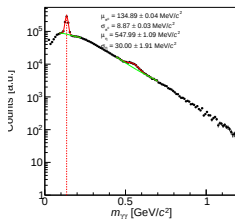
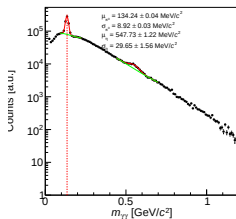
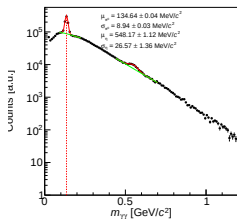
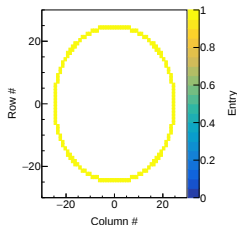
● Ring 11



● Ring 12



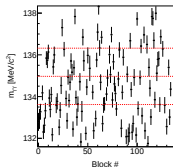
● Ring 13



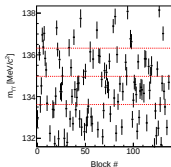
QC per rings

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

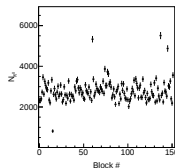
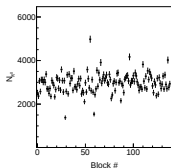
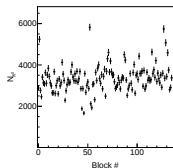
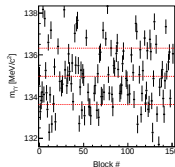
● Ring 11



● Ring 12



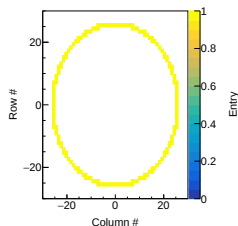
● Ring 13



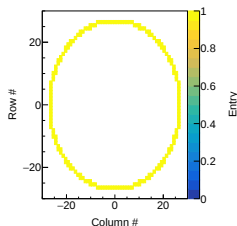
QC per rings

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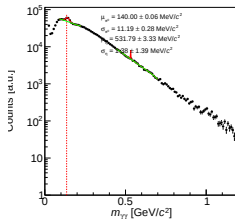
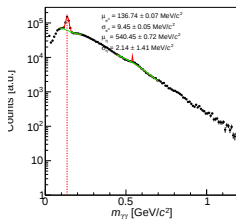
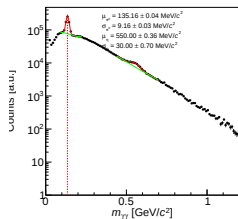
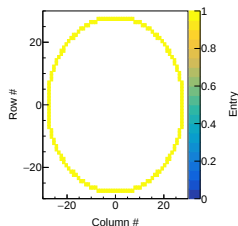
● Ring 14



● Ring 15



● Ring 16



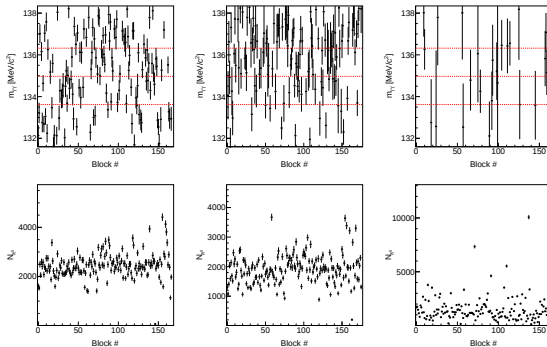
QC per rings

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

● Ring 14

● Ring 15

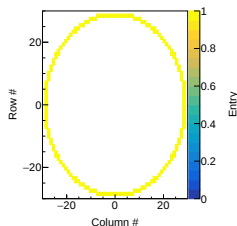
● Ring 16



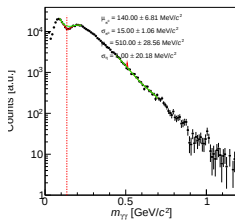
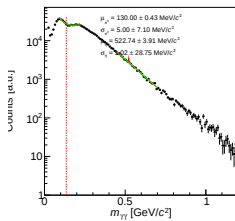
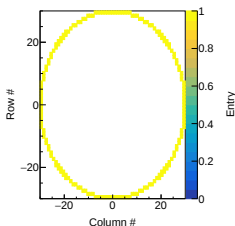
QC per rings

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

● Ring 17



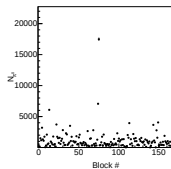
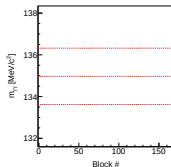
● Ring 18



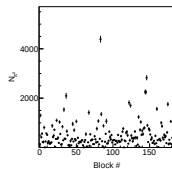
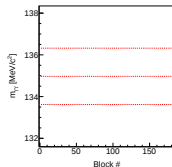
QC per rings

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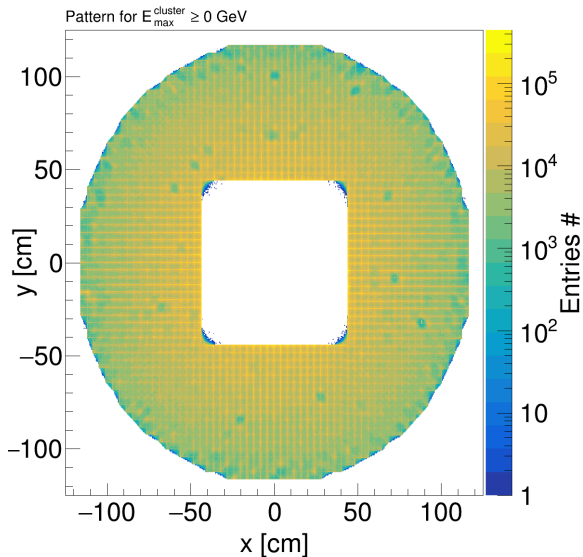
● Ring 17



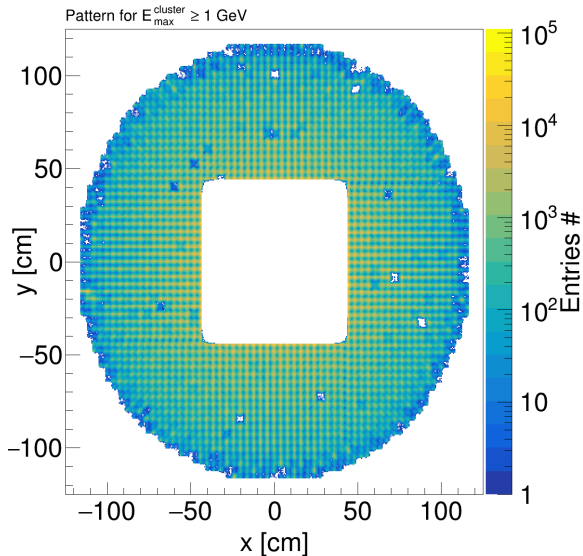
● Ring 18



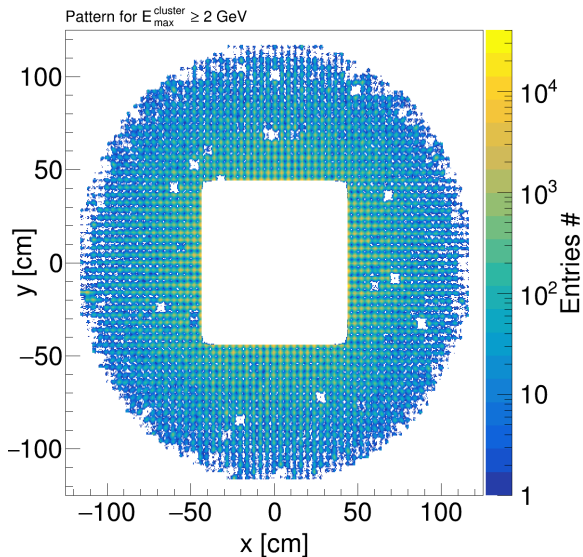
FCAL pattern



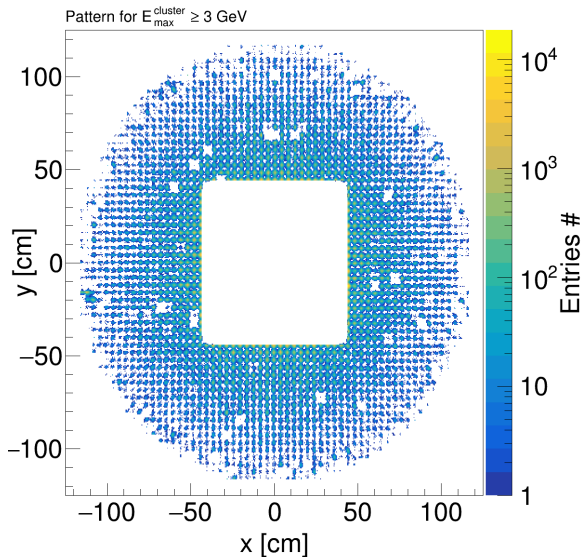
FCAL pattern



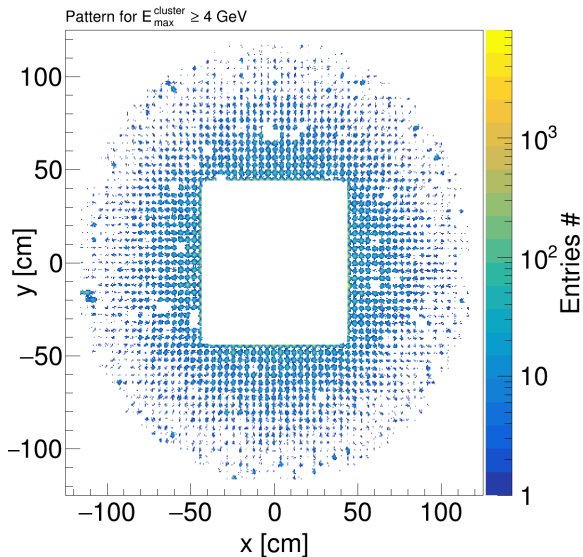
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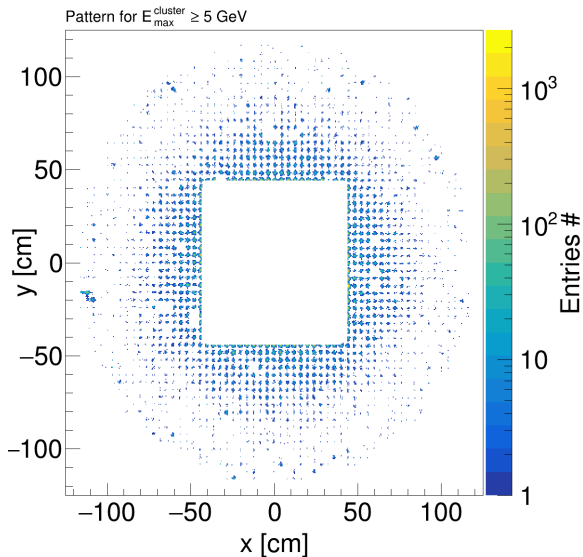
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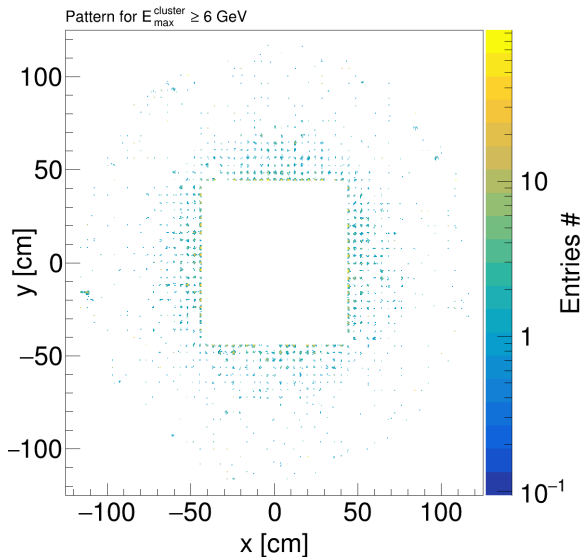
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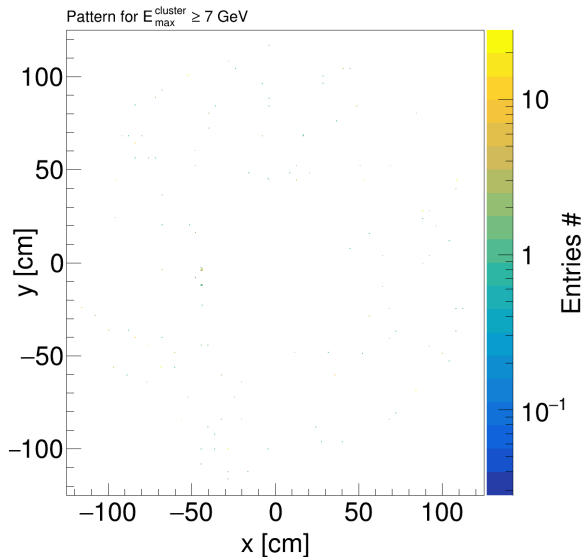
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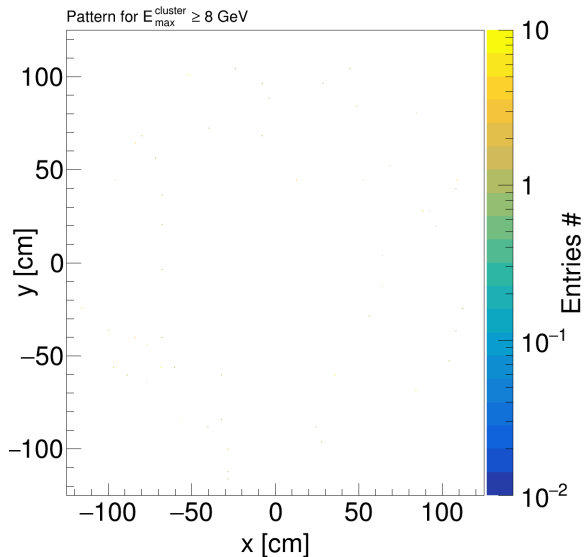
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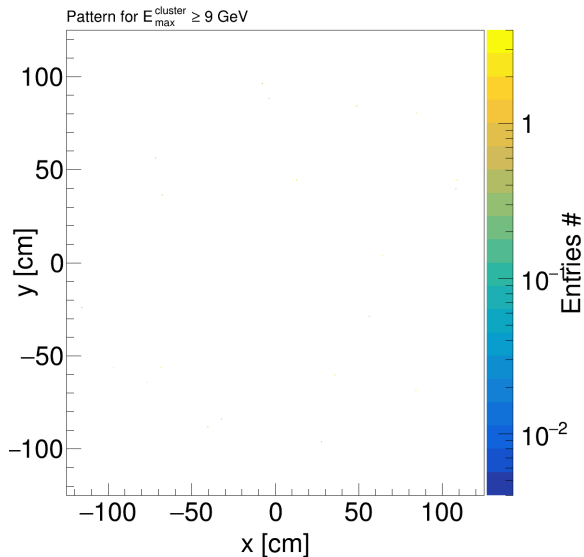
FCAL pattern



FCAL pattern



FCAL pattern



FCAL pattern

