

# FCAL energy calibration QC

Igal Jaeglé

Thomas Jefferson National Accelerator Facility

for the **GlueX** Collaboration

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2022-08-period-35-iteration-2-method-2

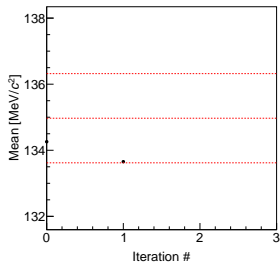


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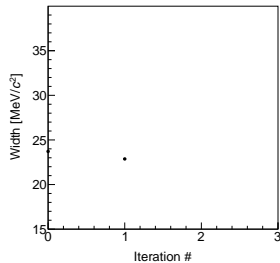
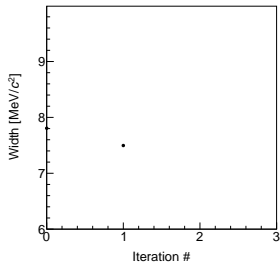
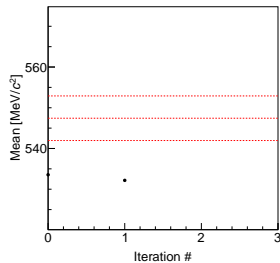
- 1 Overall QC
- 2 QC per rings

# Overall QC vs iteration

●  $\pi^0$

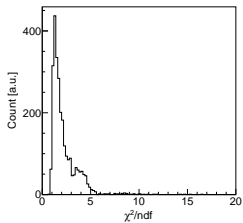


●  $\eta$

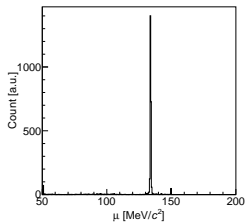


# Overall QC, summary distributions

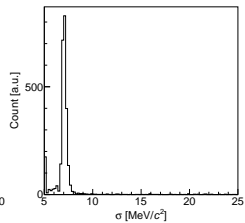
•  $\chi^2$  distribution



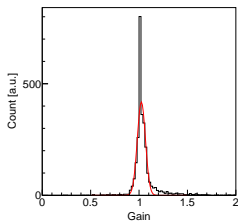
• Fitted peak distribution



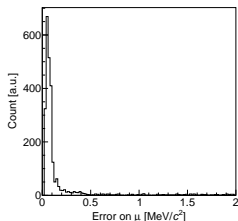
• Fitted width distribution



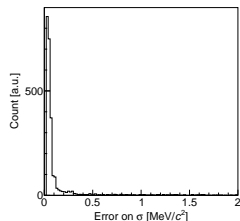
• Gain distribution



• Fitted peak error distribution

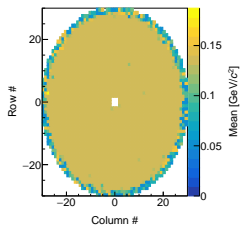


• Fitted width error distribution

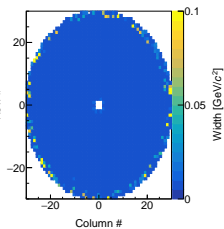


# Overall QC, summary maps

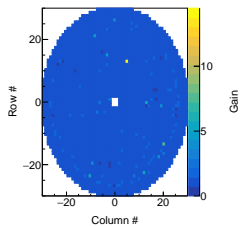
● Fitted peak map



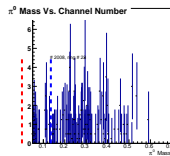
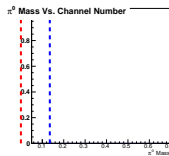
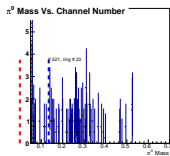
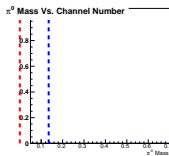
● Fitted width map



● Gain map



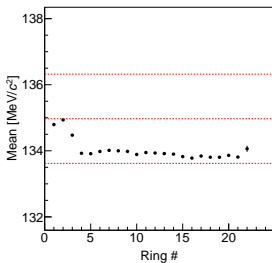
# Overall QC, bad channels



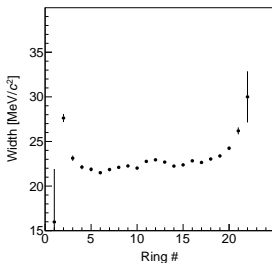
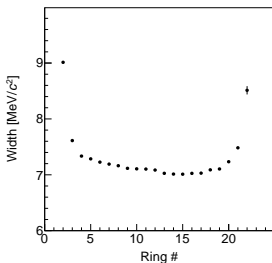
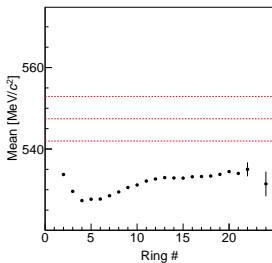
# QC per rings

If radius divided by 5 cm, there is 24 rings

●  $\pi^0$



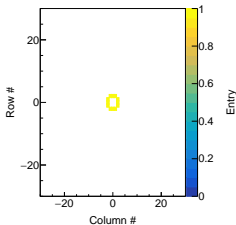
●  $\eta$



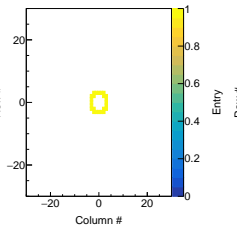
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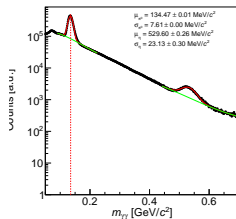
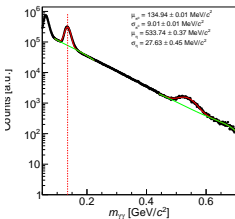
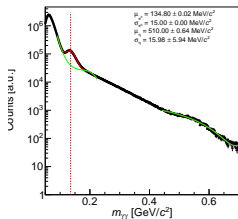
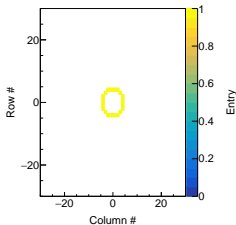
● Ring 1



● Ring 2



● Ring 3





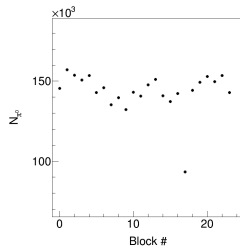
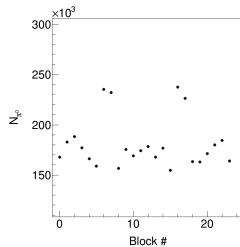
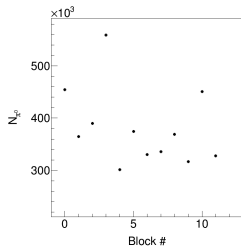
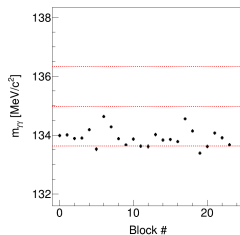
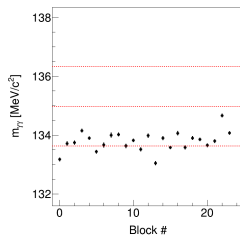
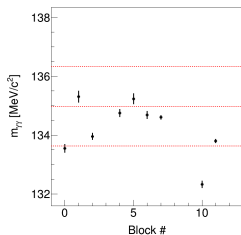
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If radius divided by 5 cm, there is 24 rings

● Ring 1

● Ring 2

● Ring 3



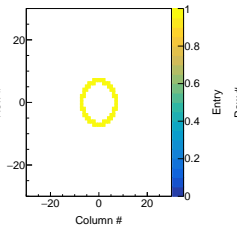
# QC per rings

If radius divided by 5 cm, there is 24 rings

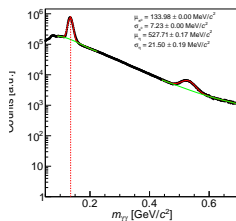
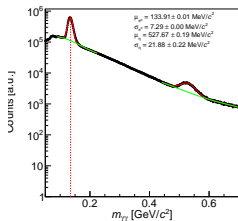
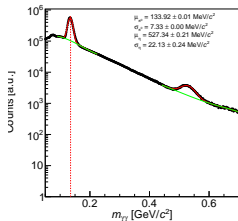
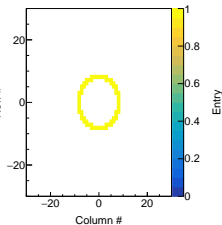
● Ring 4



● Ring 5



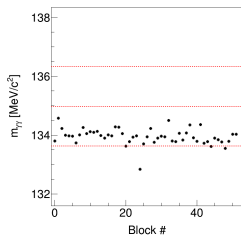
● Ring 6



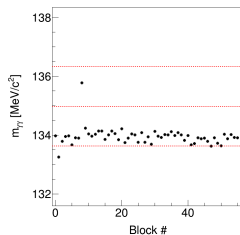
# QC per rings

If radius divided by 5 cm, there is 24 rings

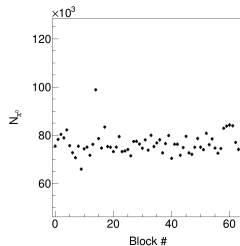
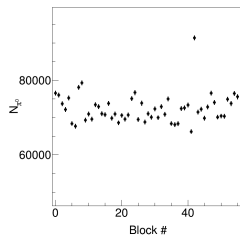
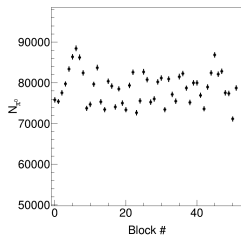
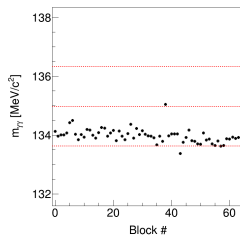
● Ring 4



● Ring 5



● Ring 6



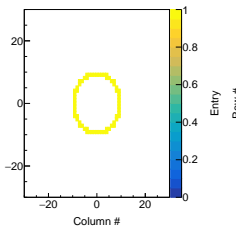
# QC per rings

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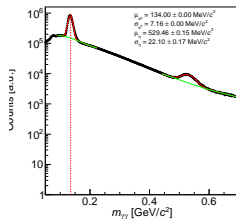
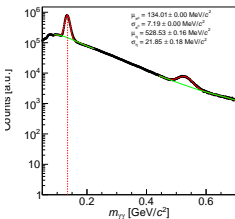
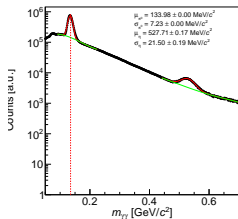
● Ring 7



● Ring 8



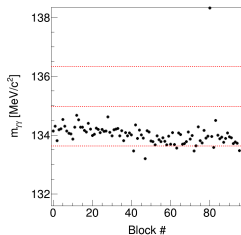
● Ring 9



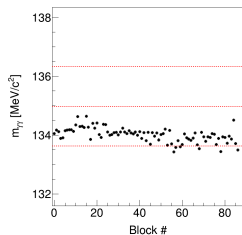
# QC per rings

If radius divided by 5 cm, there is 24 rings

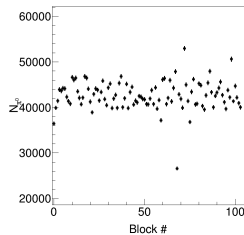
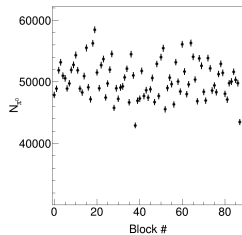
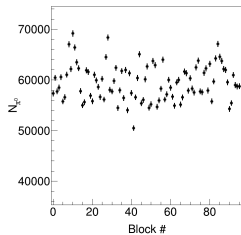
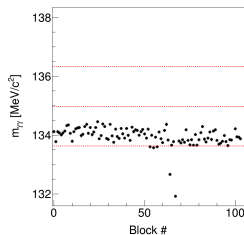
● Ring 7



● Ring 8



● Ring 9



# QC per rings

If radius divided by 5 cm, there is 24 rings

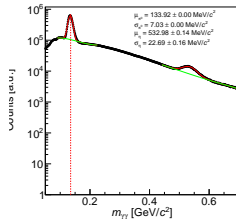
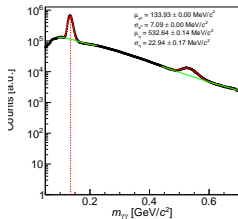
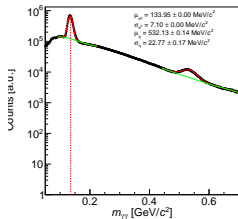
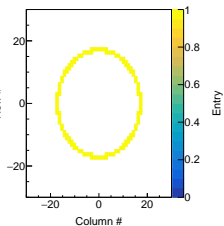
● Ring 11



● Ring 12



● Ring 13



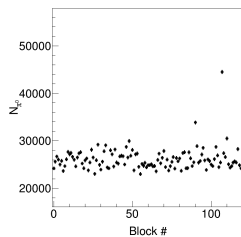
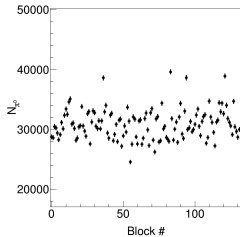
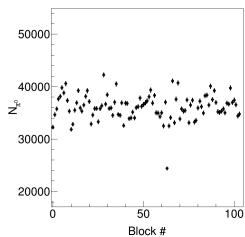
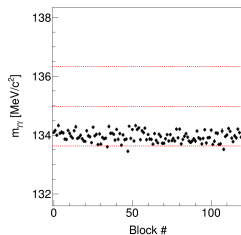
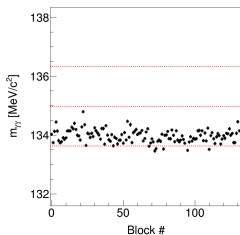
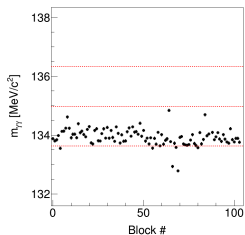
# QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 11

● Ring 12

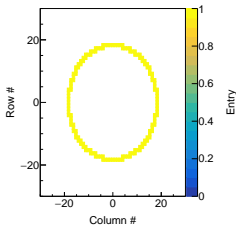
● Ring 13



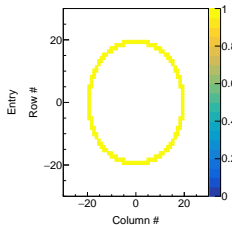
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If radius divided by 5 cm, there is 24 rings

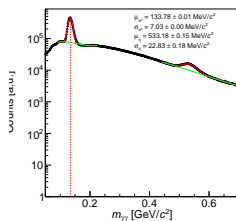
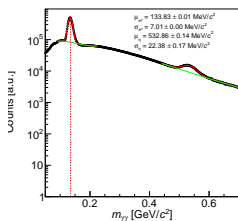
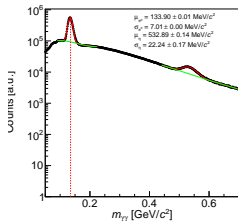
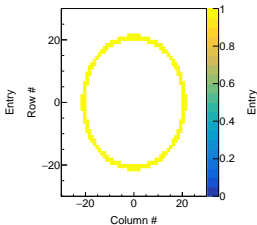
● Ring 14



● Ring 15



● Ring 16

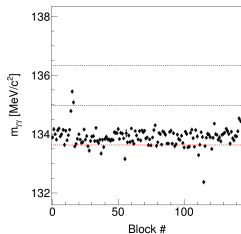




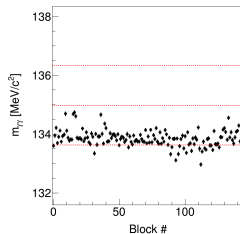
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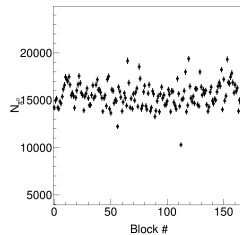
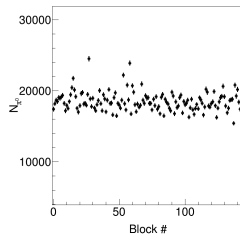
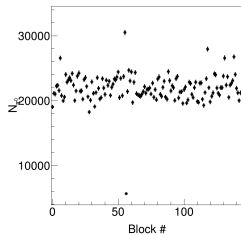
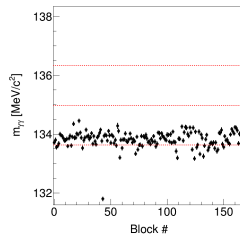
● Ring 14



● Ring 15



● Ring 16



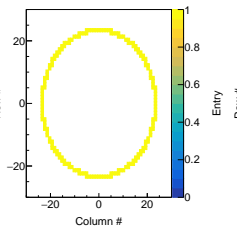
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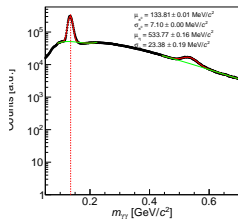
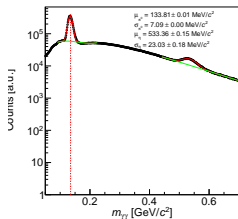
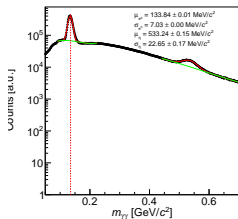
● Ring 17



● Ring 18



● Ring 19



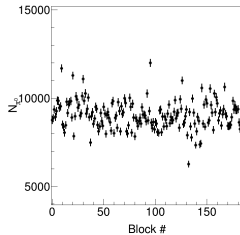
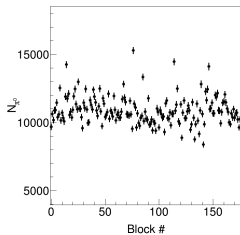
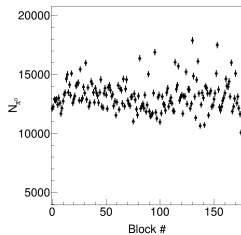
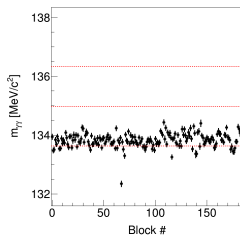
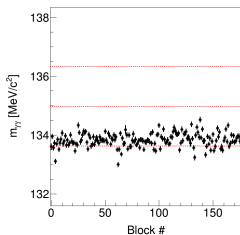
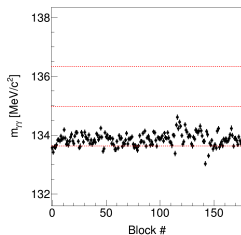
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If radius divided by 5 cm, there is 24 rings

● Ring 17

● Ring 18

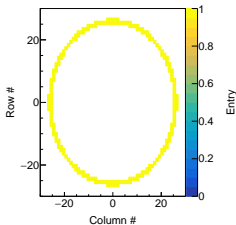
● Ring 19



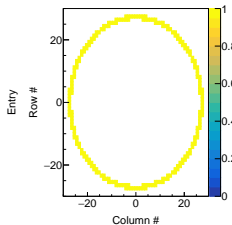
# QC per rings

If radius divided by 5 cm, there is 24 rings

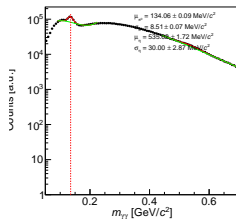
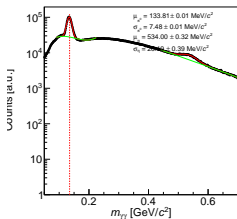
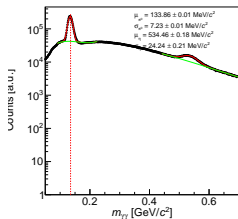
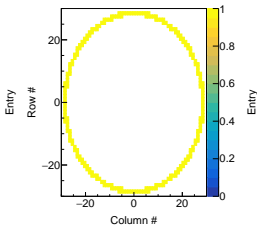
● Ring 20



● Ring 21



● Ring 22



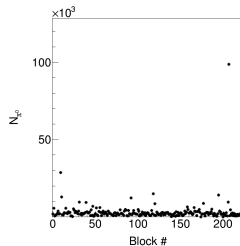
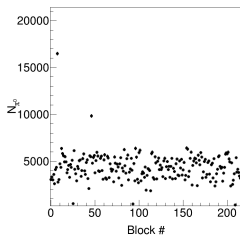
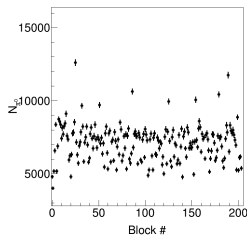
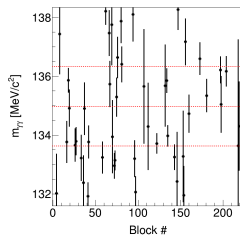
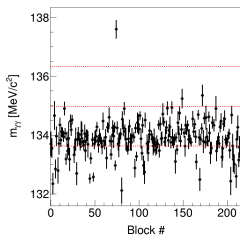
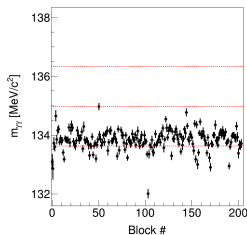
# QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 20

● Ring 21

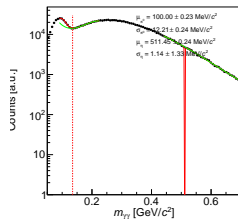
● Ring 22



# QC per rings

If radius divided by 5 cm, there is 24 rings

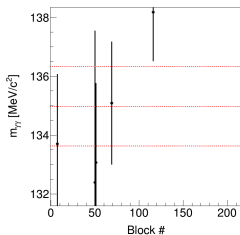
- Ring 23



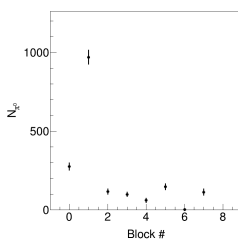
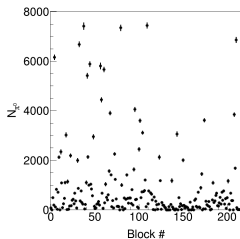
# QC per rings

If radius divided by 5 cm, there is 24 rings

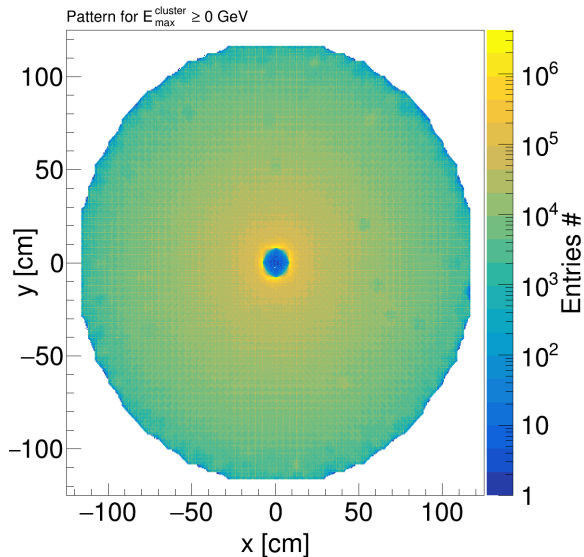
● Ring 23



● Ring 24

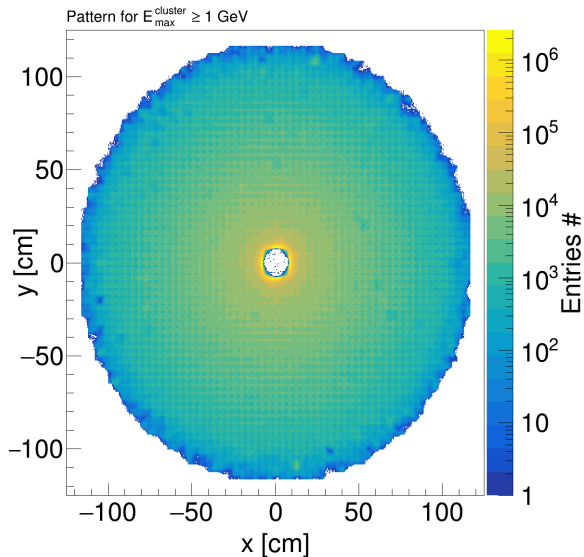


# FCAL pattern

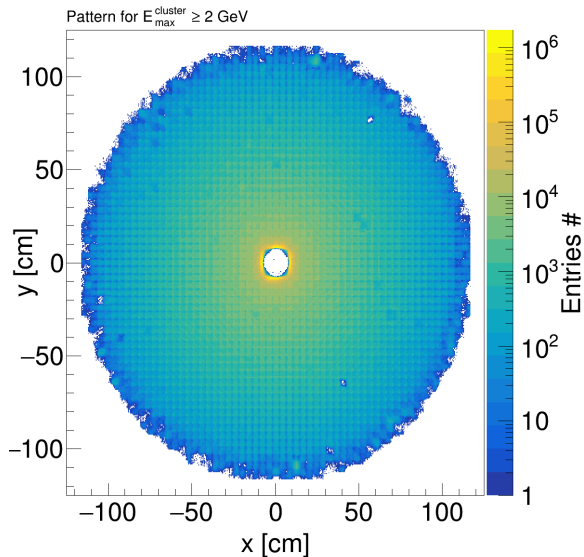




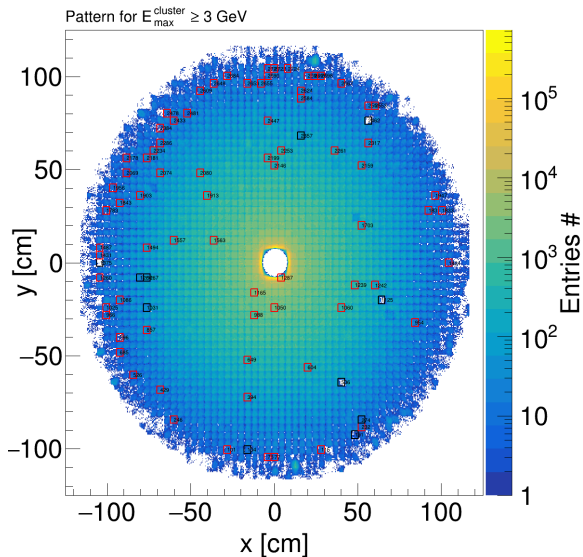
# FCAL pattern



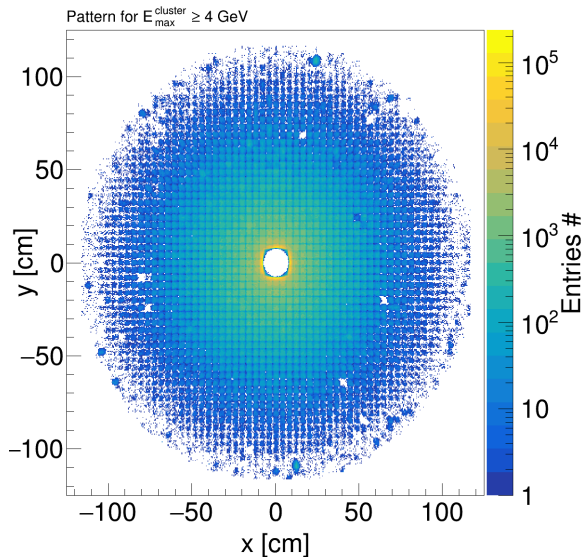
# FCAL pattern



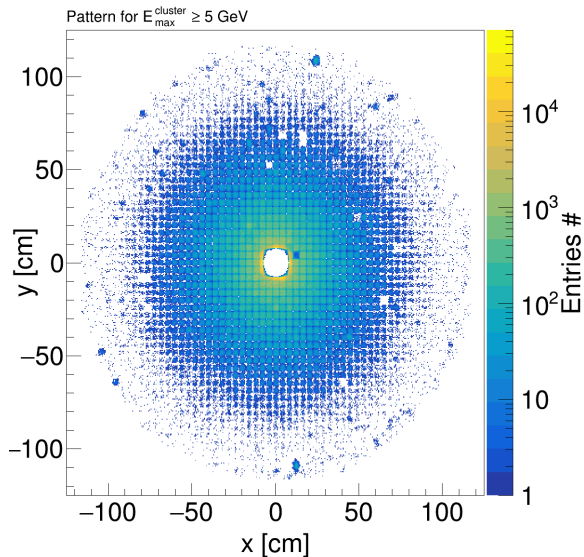
# FCAL pattern



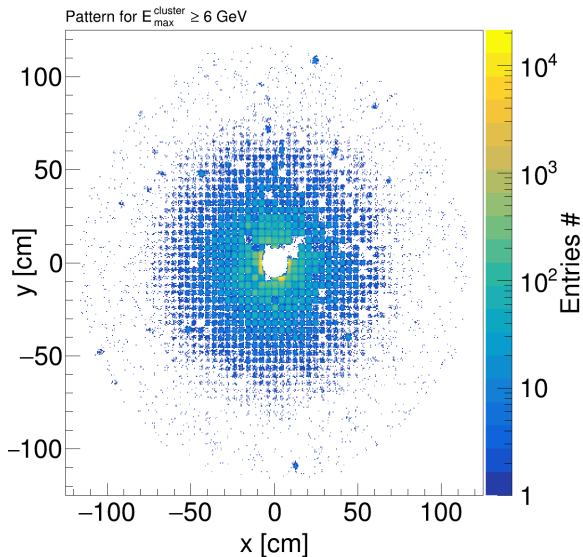
# FCAL pattern



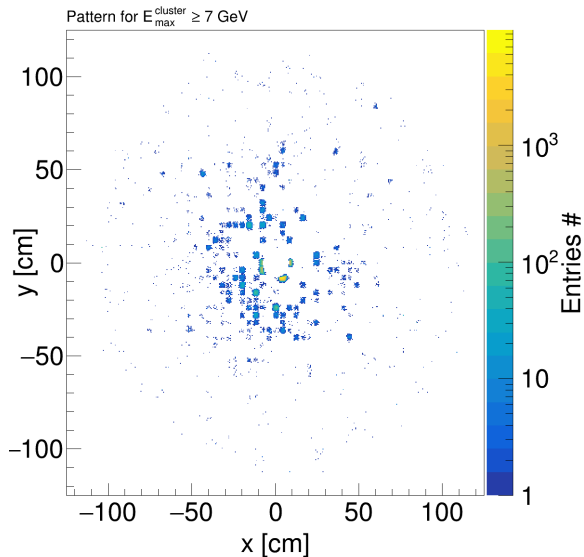
# FCAL pattern



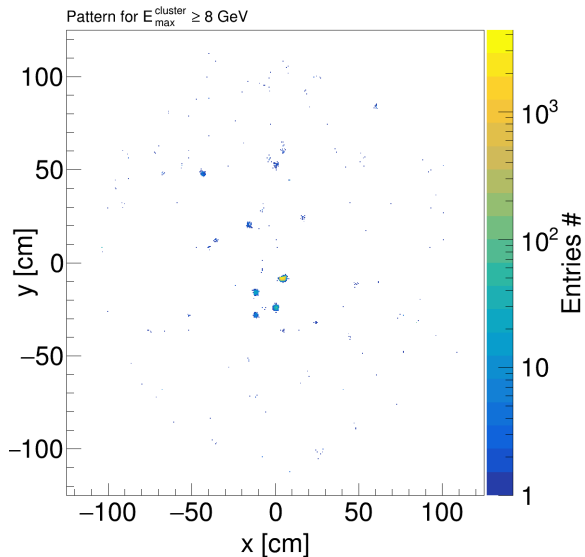
# FCAL pattern



# FCAL pattern

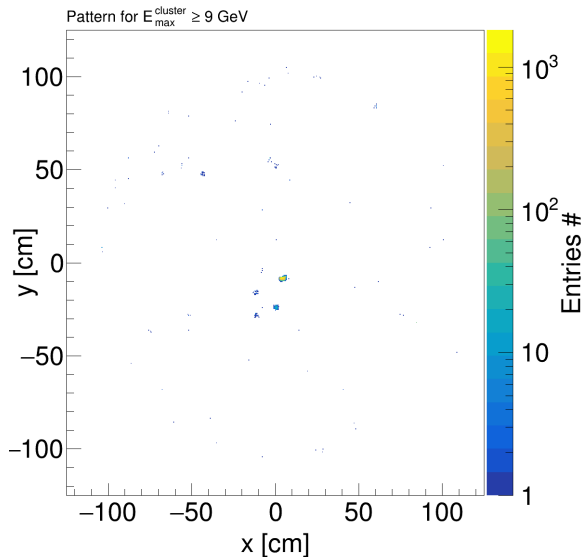


# FCAL pattern





# FCAL pattern



# FCAL pattern

