

# FCAL energy calibration QC

Igal Jaeglé

Thomas Jefferson National Accelerator Facility

for the **GlueX** Collaboration

February 8, 2023

2023-01-period-8-iteration-14-method-2

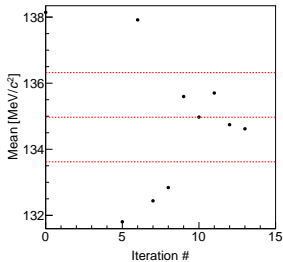


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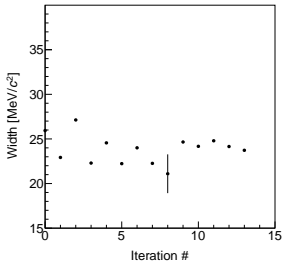
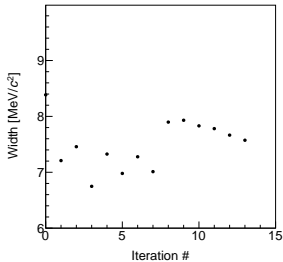
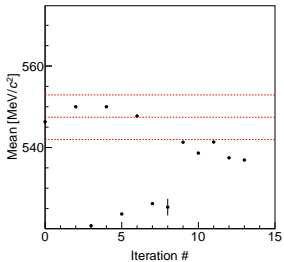
- 1 Overall QC
- 2 QC per rings

# Overall QC vs iteration

●  $\pi^0$

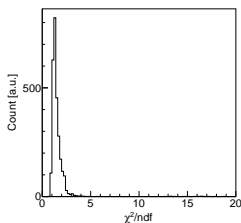


●  $\eta$

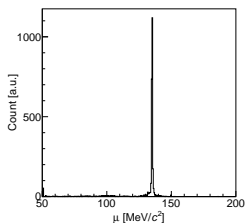


# Overall QC, summary distributions

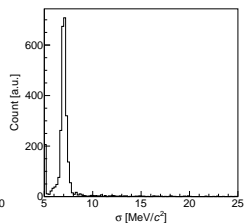
●  $\chi^2$  distribution



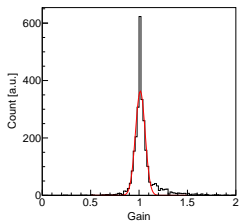
● Fitted peak distribution



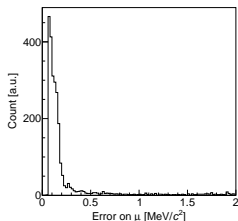
● Fitted width distribution



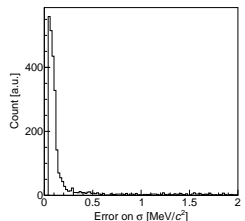
● Gain distribution



● Fitted peak error distribution

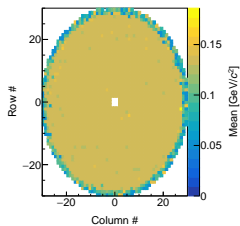


● Fitted width error distribution

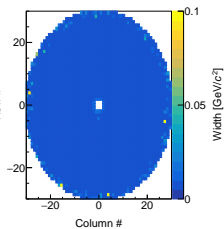


# Overall QC, summary maps

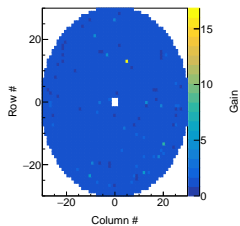
● Fitted peak map



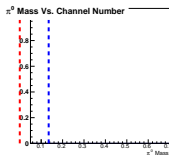
● Fitted width map



● Gain map



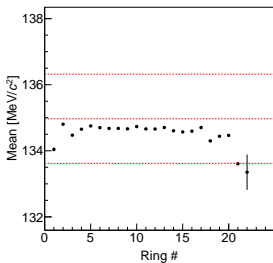
# Overall QC, bad channels



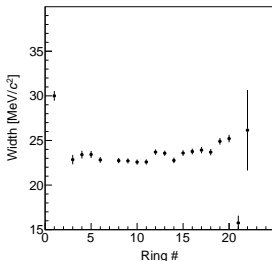
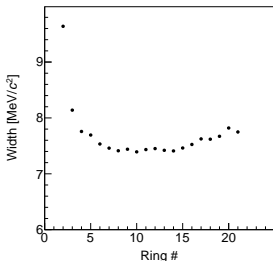
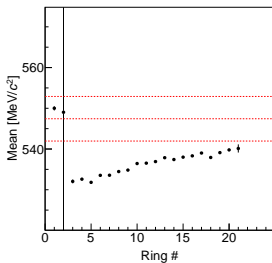
# QC per rings

If radius divided by 5 cm, there is 24 rings

●  $\pi^0$



●  $\eta$



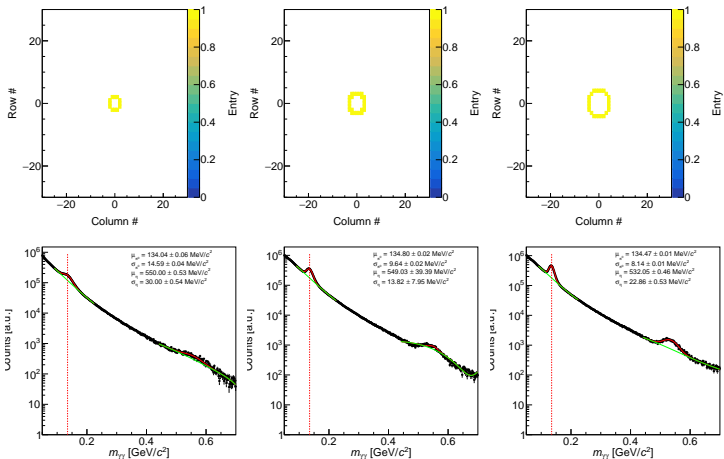
# QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 1

● Ring 2

● Ring 3

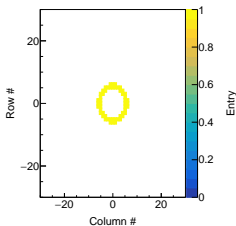




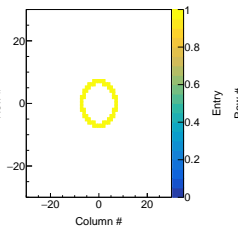
# QC per rings

If radius divided by 5 cm, there is 24 rings

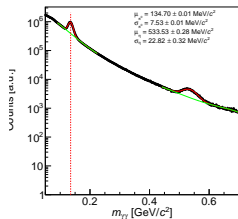
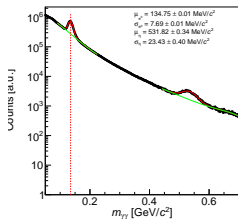
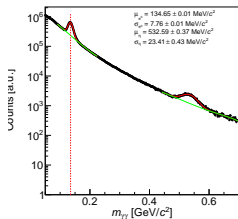
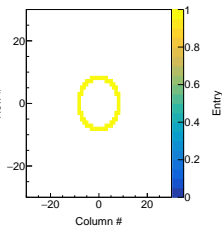
● Ring 4



● Ring 5



● Ring 6



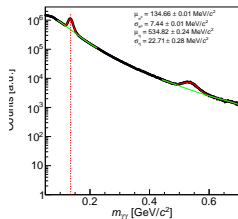
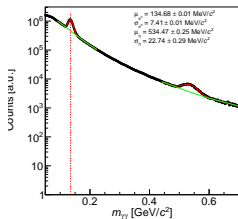
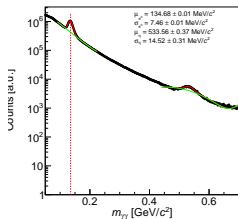
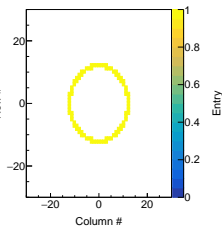
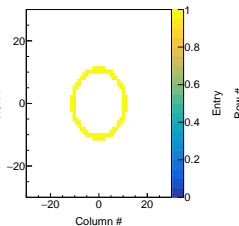
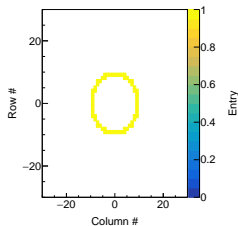
# QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 7

● Ring 8

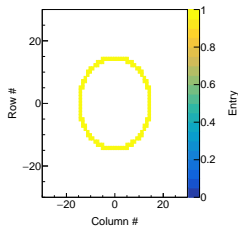
● Ring 9



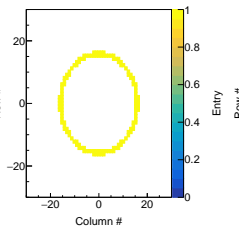
# QC per rings

If radius divided by 5 cm, there is 24 rings

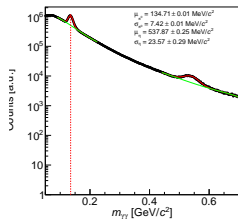
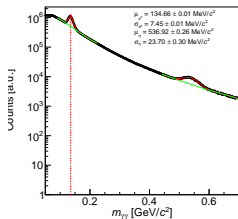
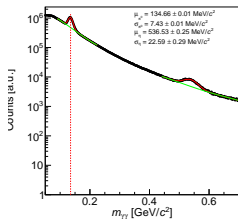
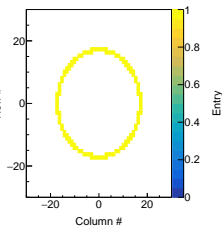
● Ring 11



● Ring 12



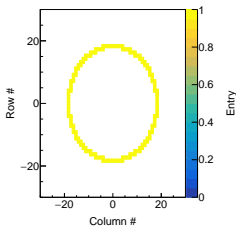
● Ring 13



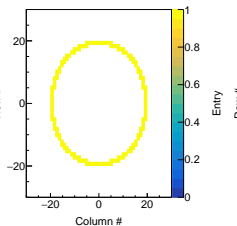
# QC per rings

If radius divided by 5 cm, there is 24 rings

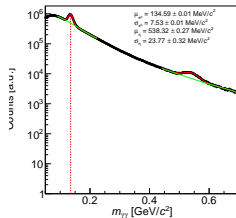
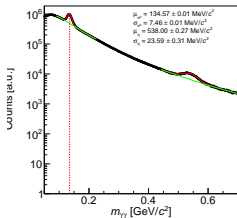
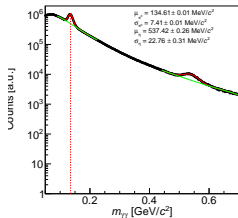
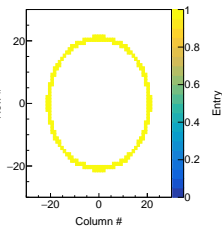
● Ring 14



● Ring 15



● Ring 16



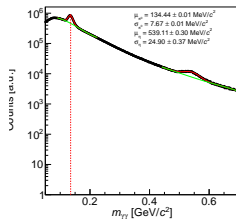
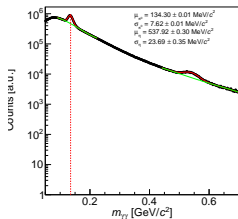
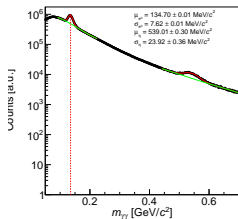
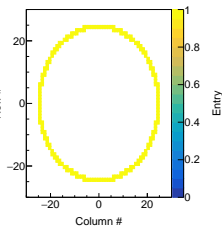
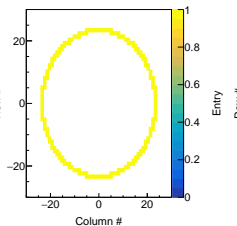
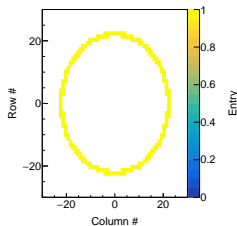
# QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 17

● Ring 18

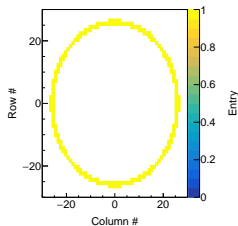
● Ring 19



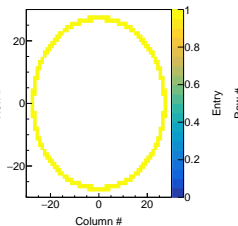
# QC per rings

If radius divided by 5 cm, there is 24 rings

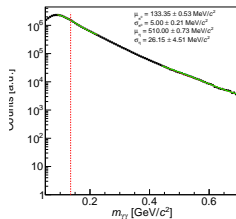
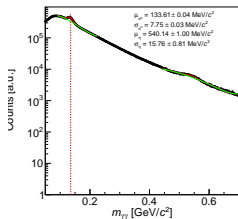
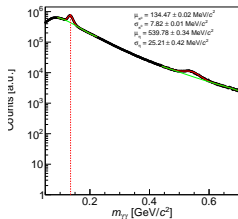
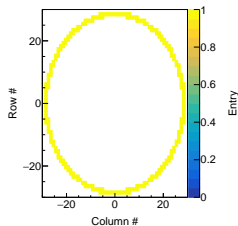
● Ring 20



● Ring 21



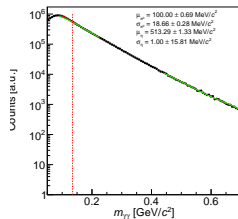
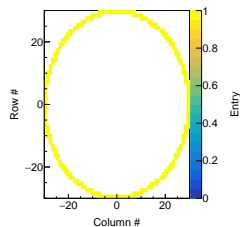
● Ring 22



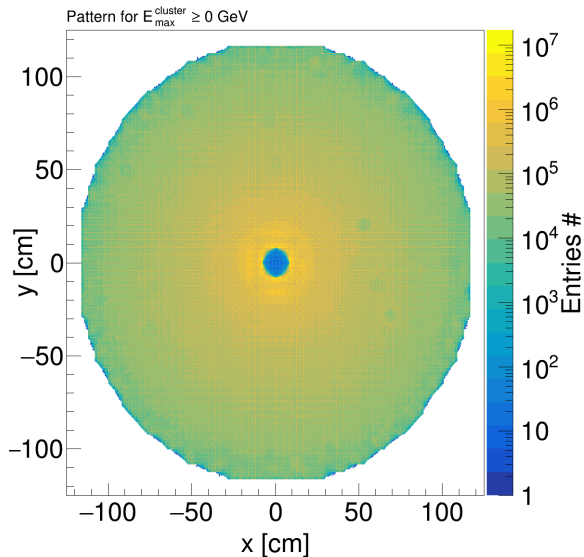
# QC per rings

If radius divided by 5 cm, there is 24 rings

● Ring 23

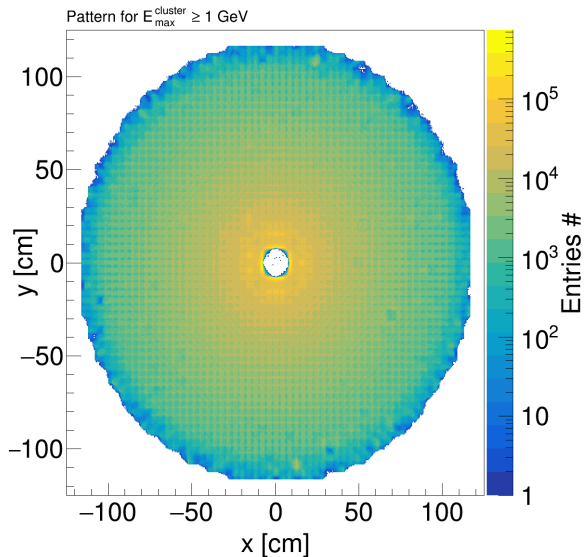


# FCAL pattern

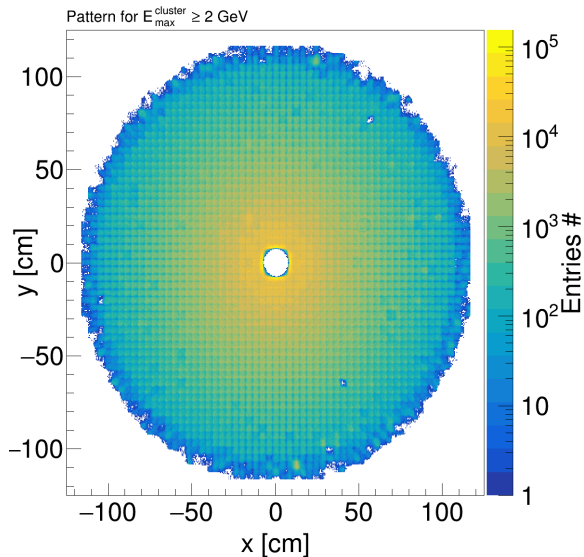




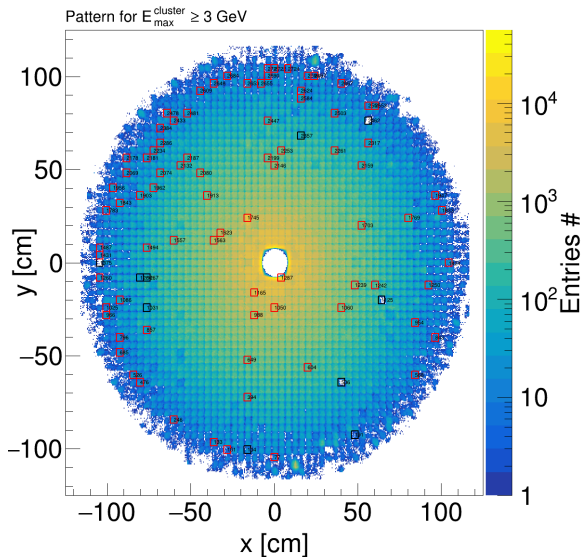
# FCAL pattern



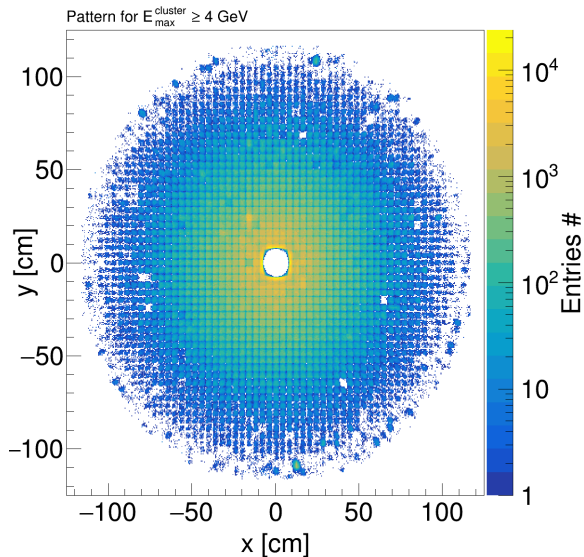
# FCAL pattern



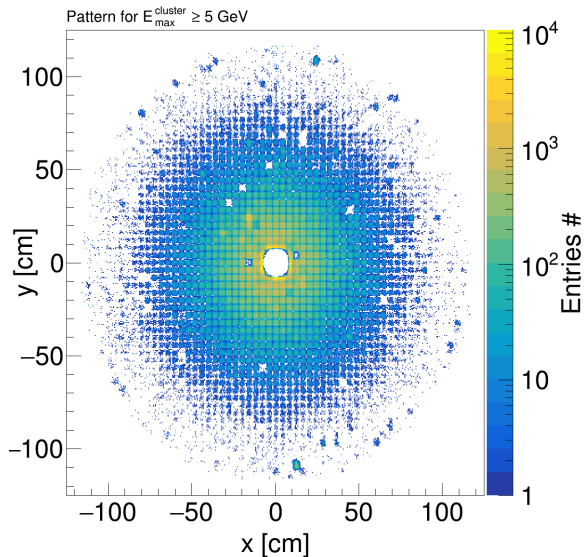
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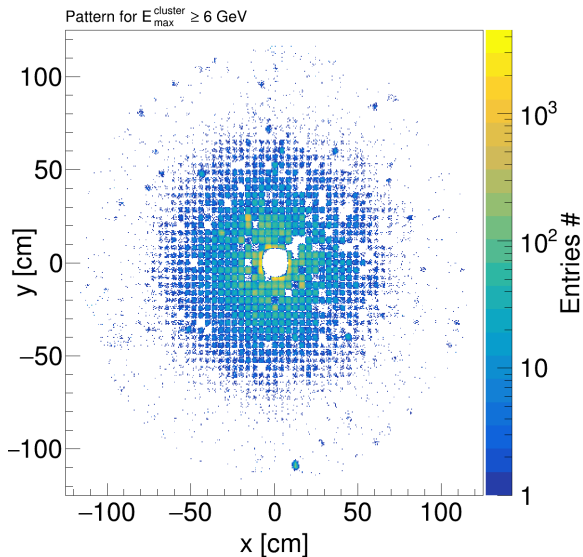
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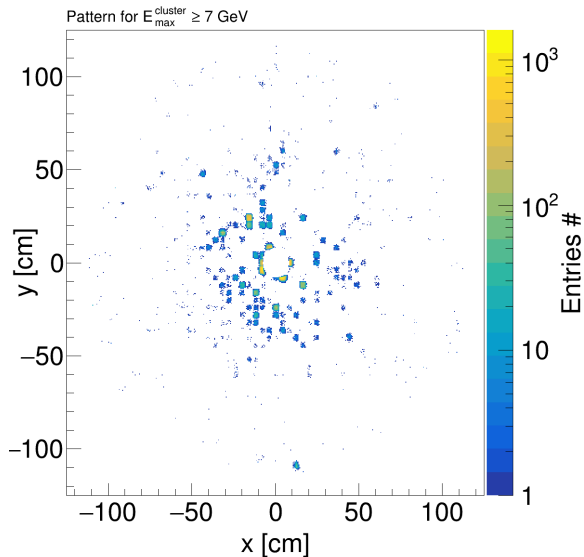
# FCAL pattern



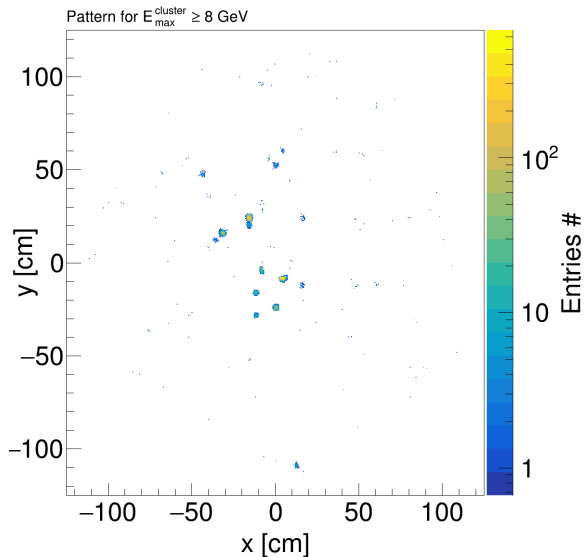
# FCAL pattern



# FCAL pattern

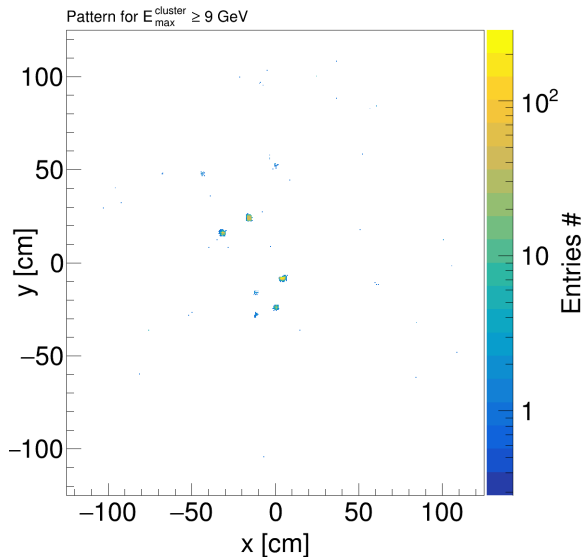


# FCAL pattern





# FCAL pattern



# FCAL pattern

