

# FCAL energy calibration QC

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for the GlueX Collaboration

primex-eta-phase2-method0

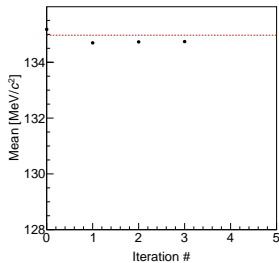


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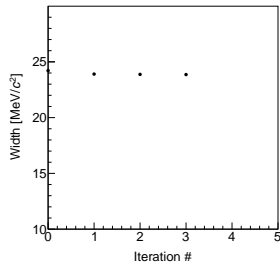
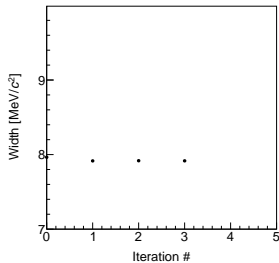
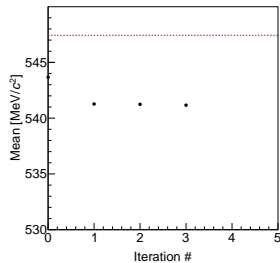
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# Overall QC vs iteration

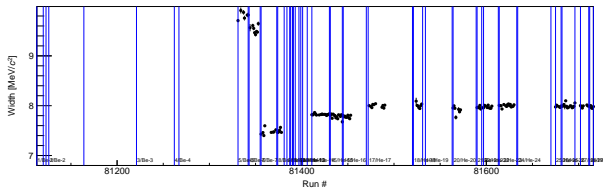
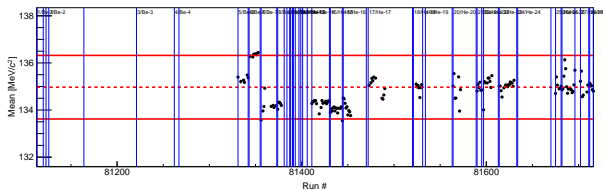
•  $\pi^0$



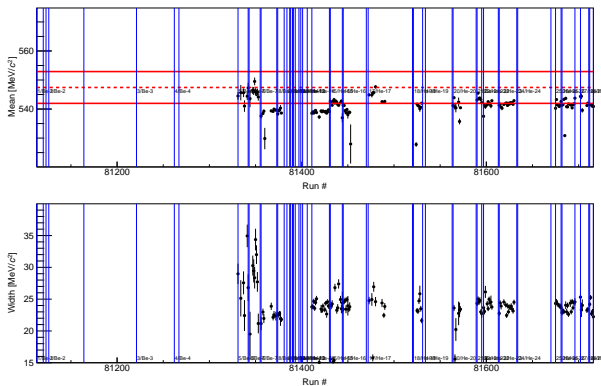
•  $\eta$



# QC vs run number



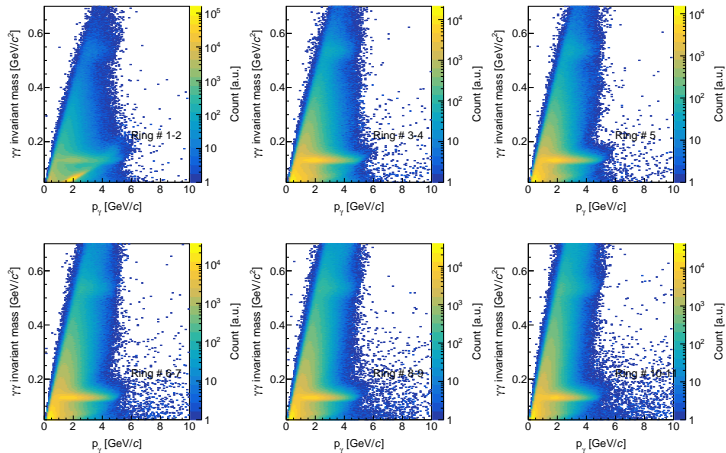
# QC vs run number



vspace5cm

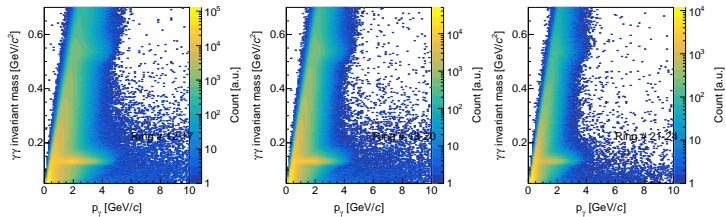
# Energy dependence correction

Di-photon invariant mass vs. photon momentum when  $0.7 \leq p_{\gamma^1}^1/p_{\gamma^2}^2 \leq 1.3$



# Energy dependence correction

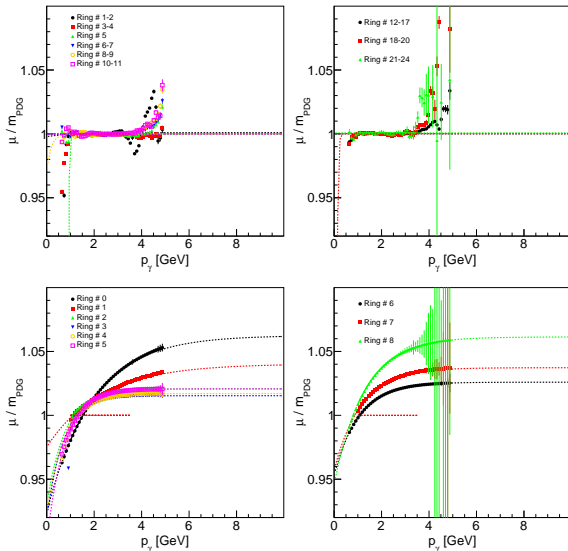
Di-photon invariant mass vs. photon momentum when  $0.7 \leq p_{\gamma}^1/p_{\gamma}^2 \leq 1.3$



vspace5cm

# Energy dependence correction

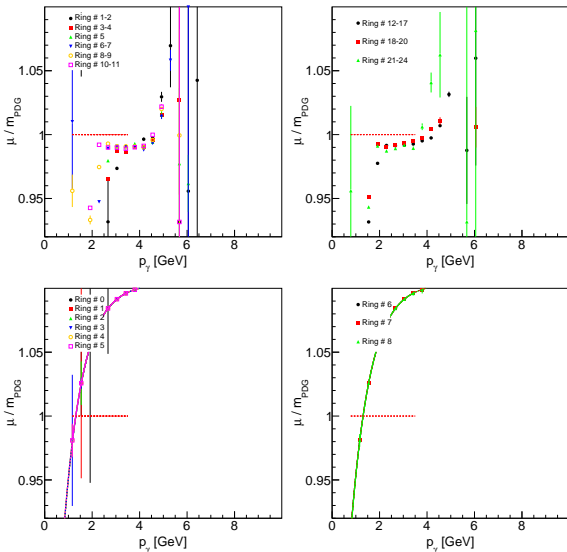
Di-photon invariant mass vs. photon momentum when  $0.7 \leq p_{\gamma}^1/p_{\gamma}^2 \leq 1.3$





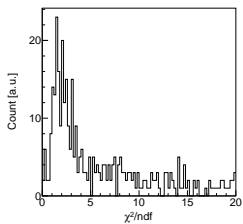
# Energy dependence correction

Di-photon invariant mass vs. photon momentum when no selection criteria for  $\eta$

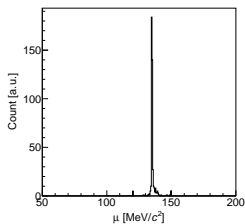


# Overall QC, fit quality

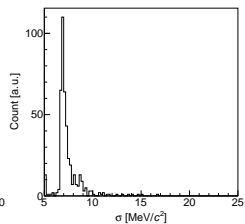
•  $\chi^2$  distribution



• Fitted peak distribution



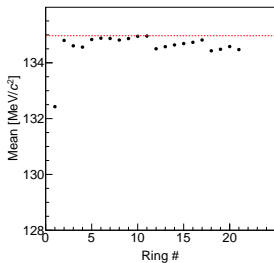
• Fitted width distribution



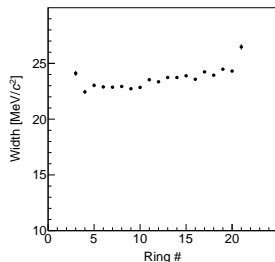
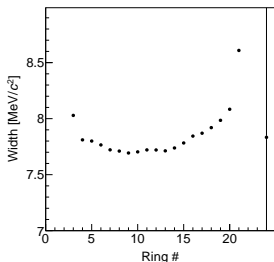
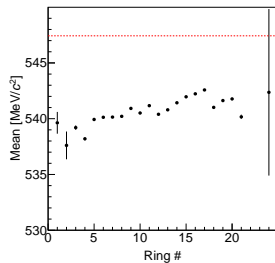
# QC per rings

If radius divided by 5 cm, there is 24 rings

●  $\pi^0$



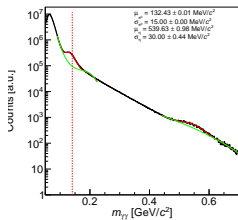
●  $\eta$



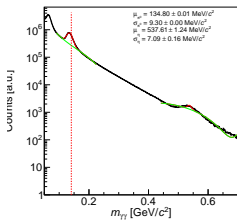
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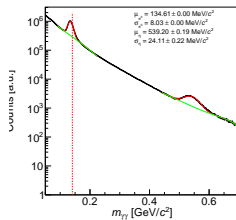
● Ring 1



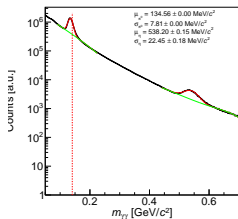
● Ring 2



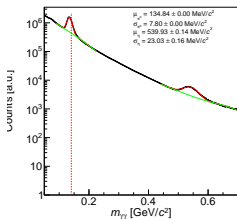
● Ring 3



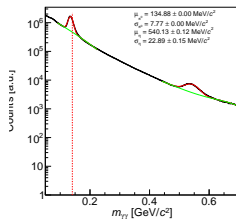
● Ring 4



● Ring 5



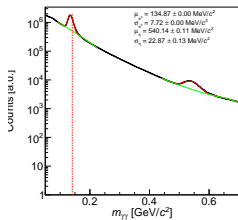
● Ring 6



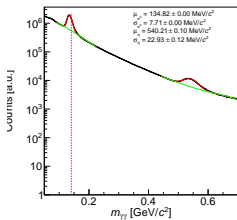
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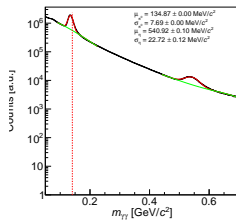
● Ring 7



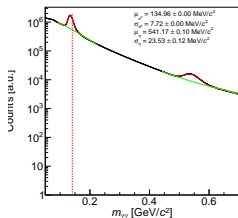
● Ring 8



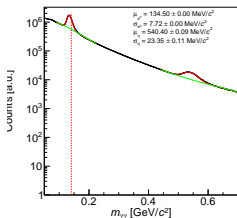
● Ring 9



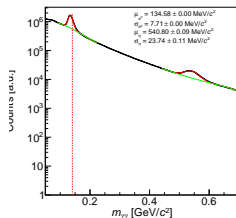
● Ring 11



● Ring 12



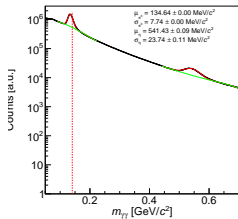
● Ring 13



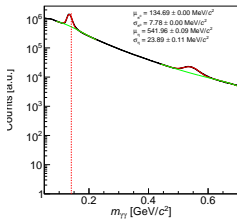
# QC per rings

If radius divided by 5 cm, there is 24 rings

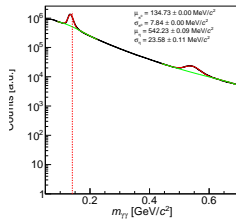
● Ring 14



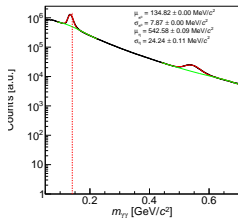
● Ring 15



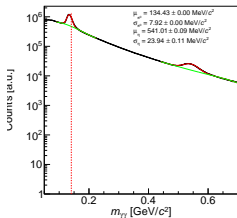
● Ring 16



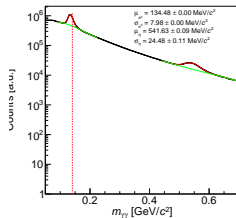
● Ring 17



● Ring 18



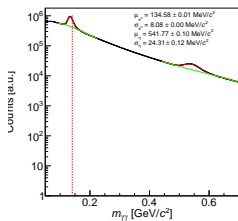
● Ring 19



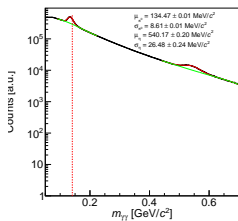
# QC per rings

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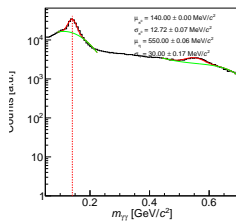
● Ring 20



● Ring 21



● Ring 22



● Ring 23

