

# A new possible resonance at Belle

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# Start over analysis again from optimization...

1. I have been using 'good charged flag' which no one is using.
  - decided check optimization cuts again.
2. Also, a good shower shape cut added for photon selection
  - $e9/e25$  (energy deposit ratio between center 3x3 crystals and 5x5 crystals in ECL)
  - 15 % increase in FoM value

**Efficiency and branching ratio studies are ongoing with new optimized cuts.**

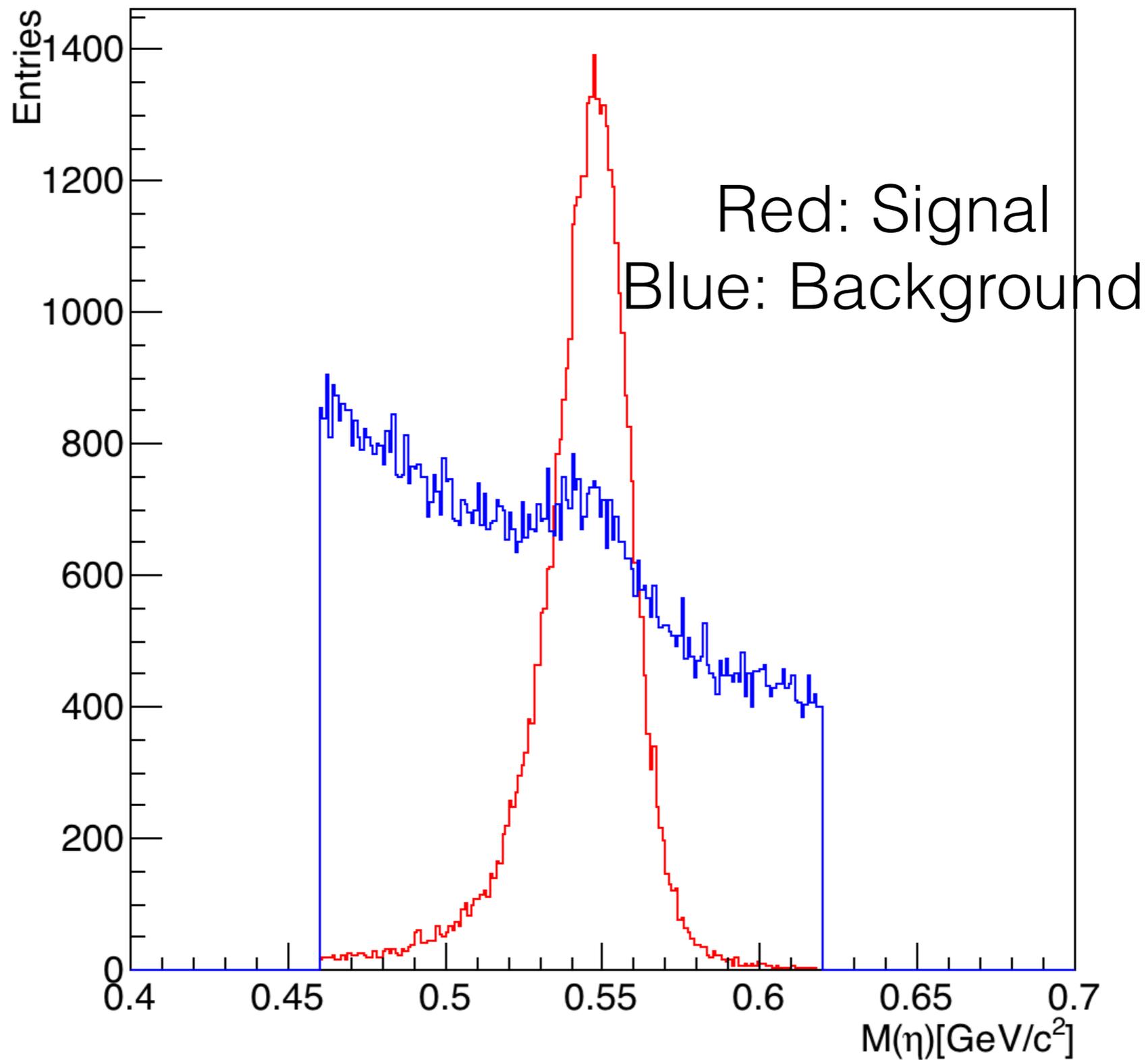
**Introduction, optimization section of Belle note is written so far.**

## **Taking SVD shifts at KEK**

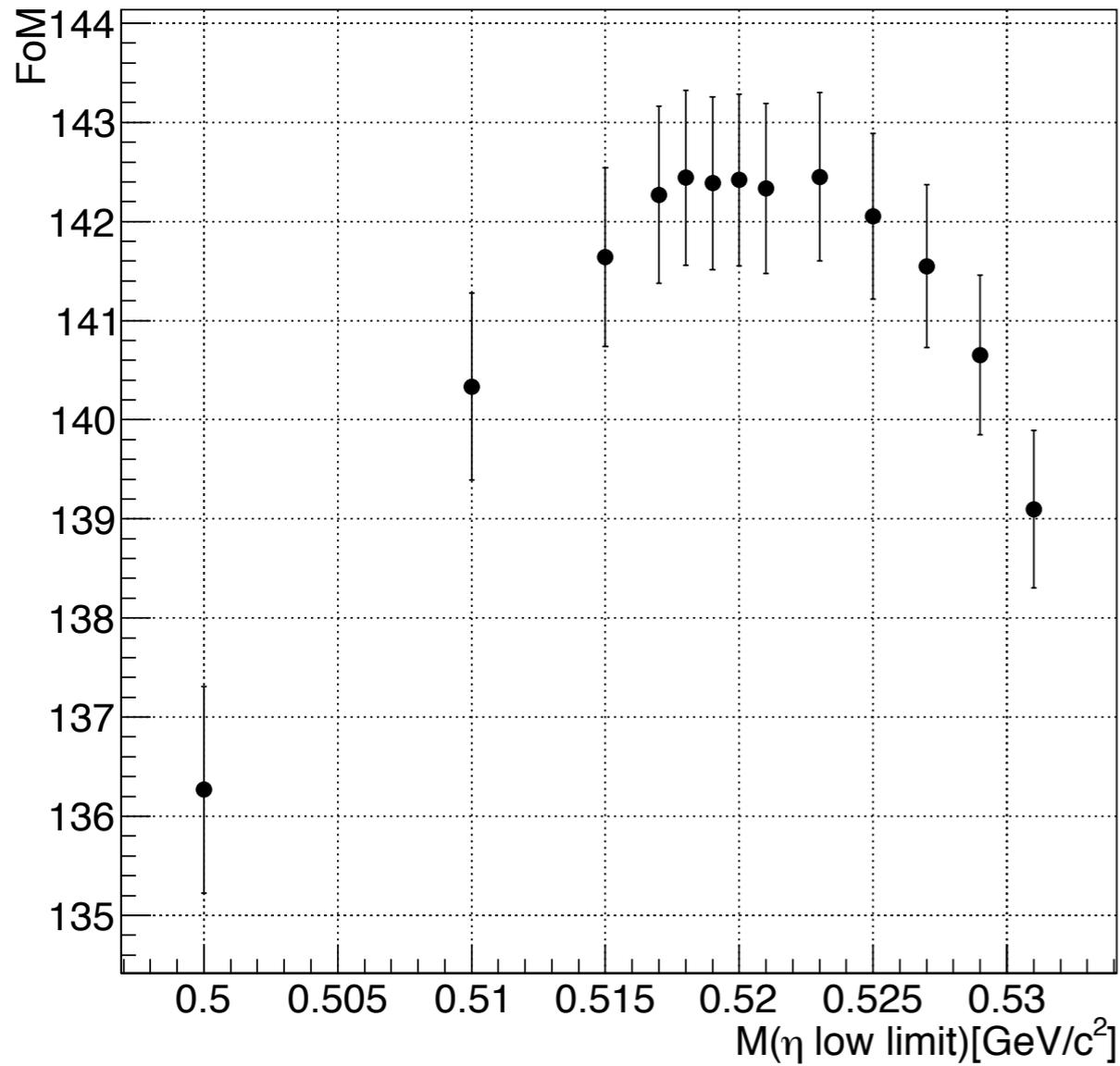
Phase 2 operation will be over by 9:00 tomorrow.

Need to take calibration data & do noise study after beam off

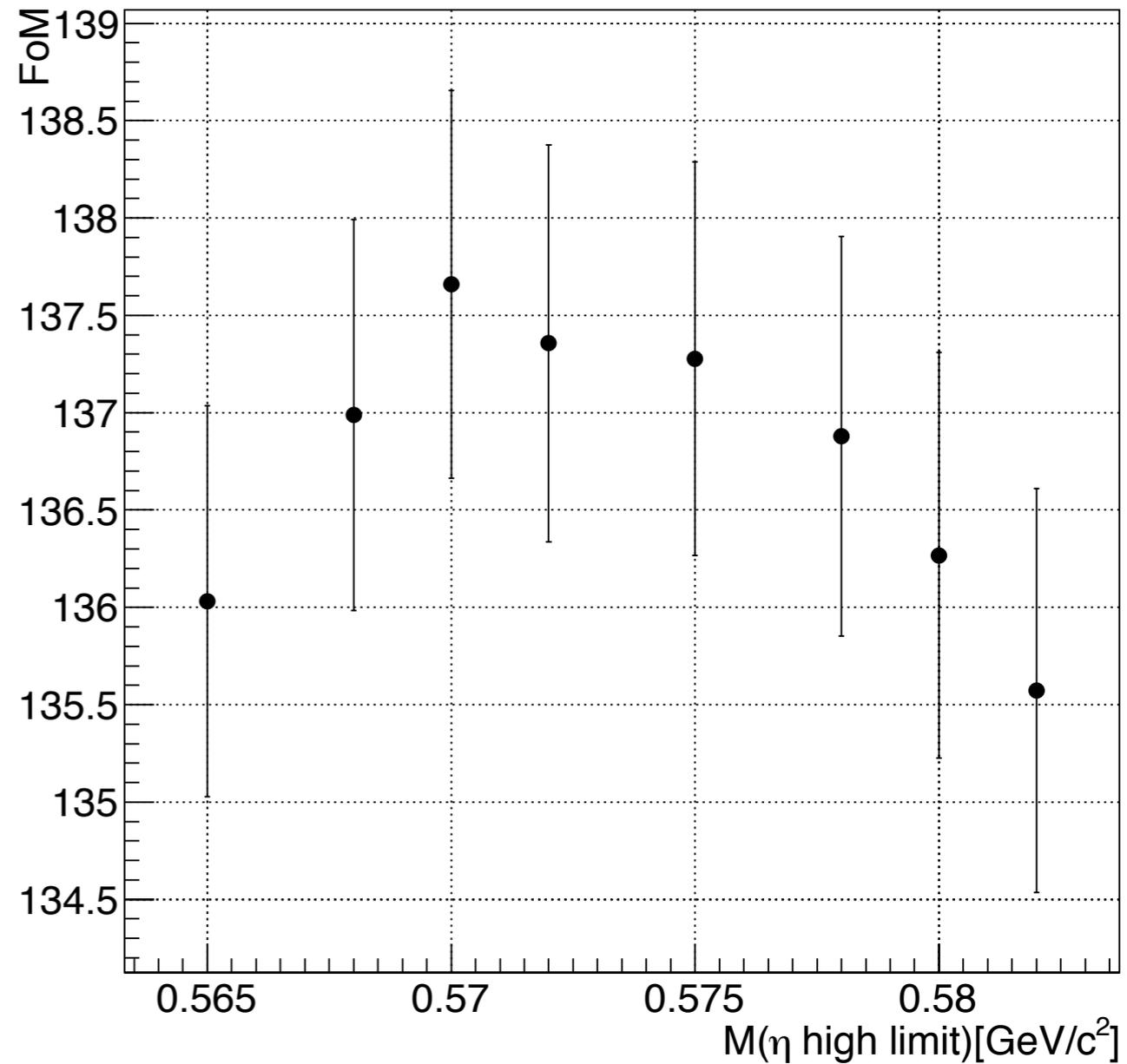
# eta mass



# Eta mass low limit FoM study plot

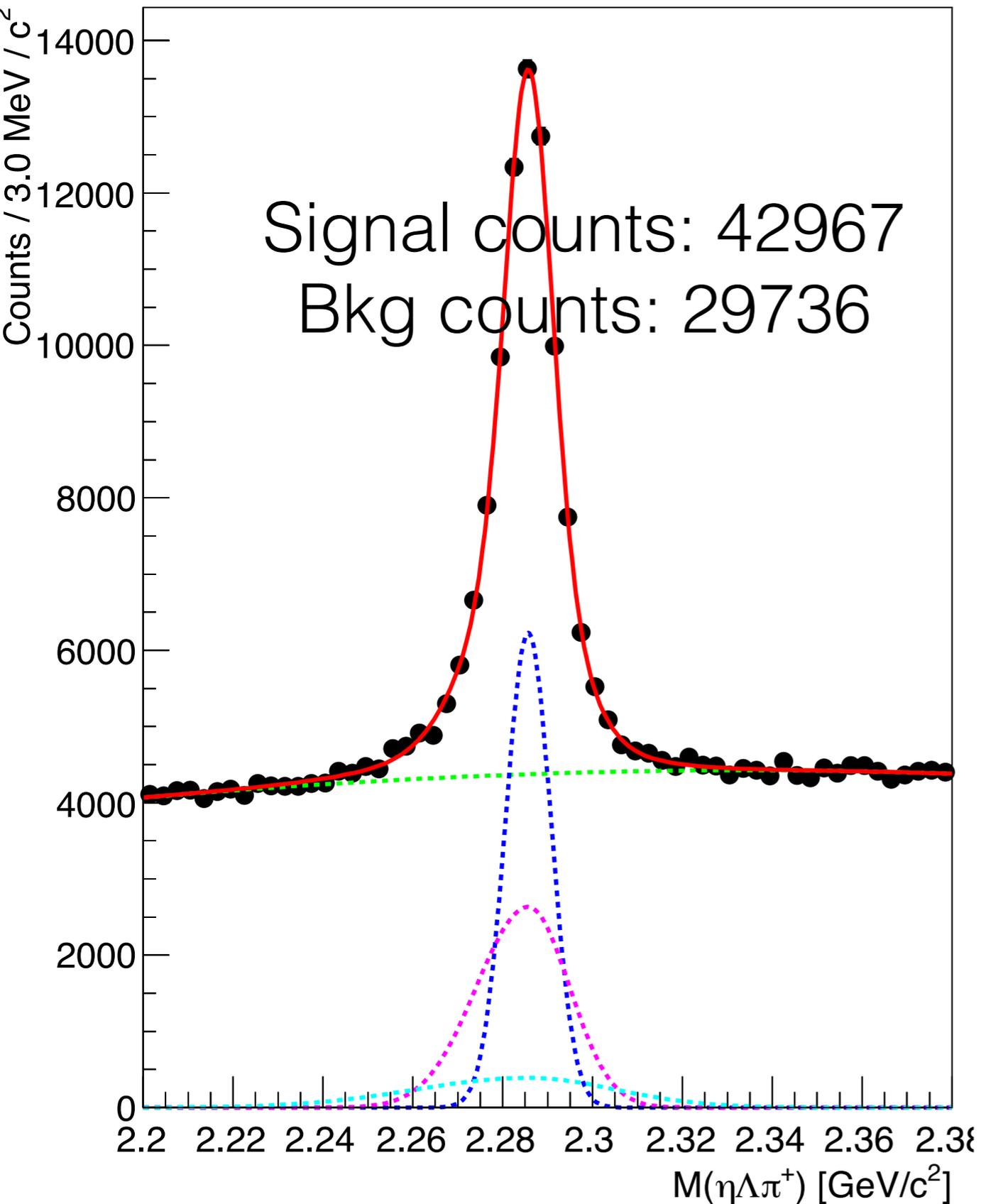


0.500 for systematic error



0.58 for systematic uncertainty

Eta mass cut not optimized  
 $0.500 < \text{ems} < 0.580$



Eta mass cut optimized (GMC)  
 $0.517 < \text{ems} < 0.570$

