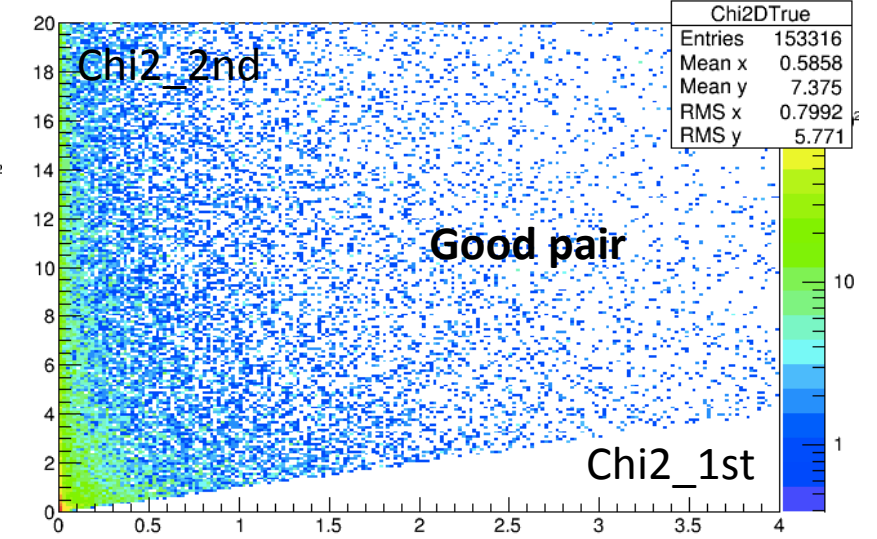
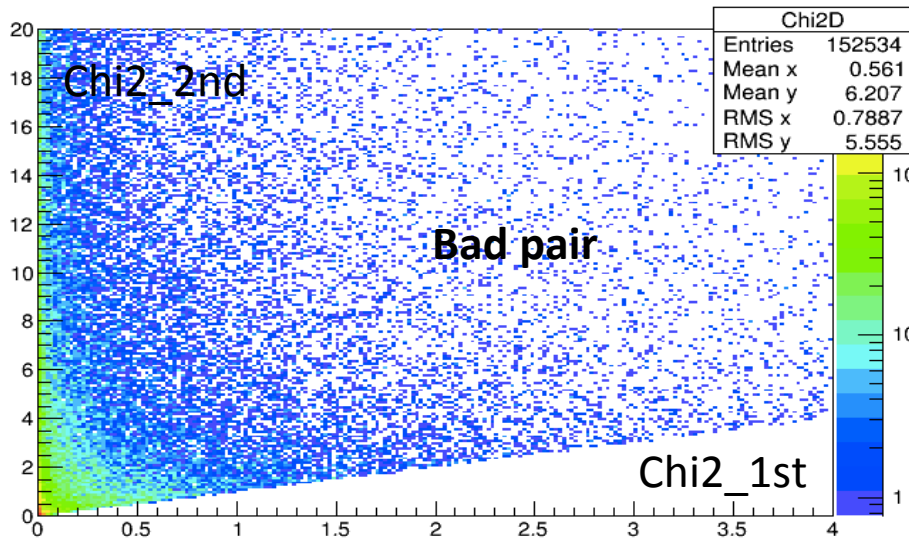
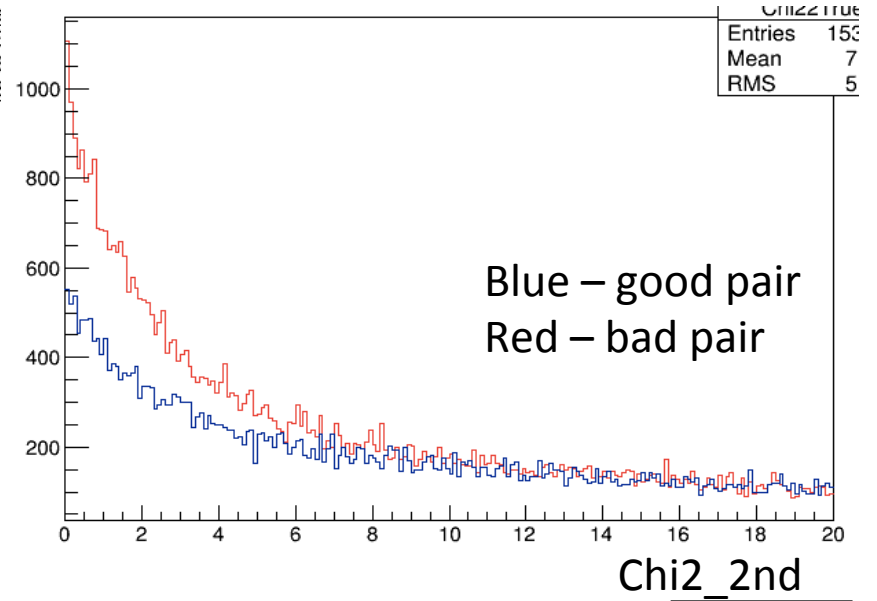
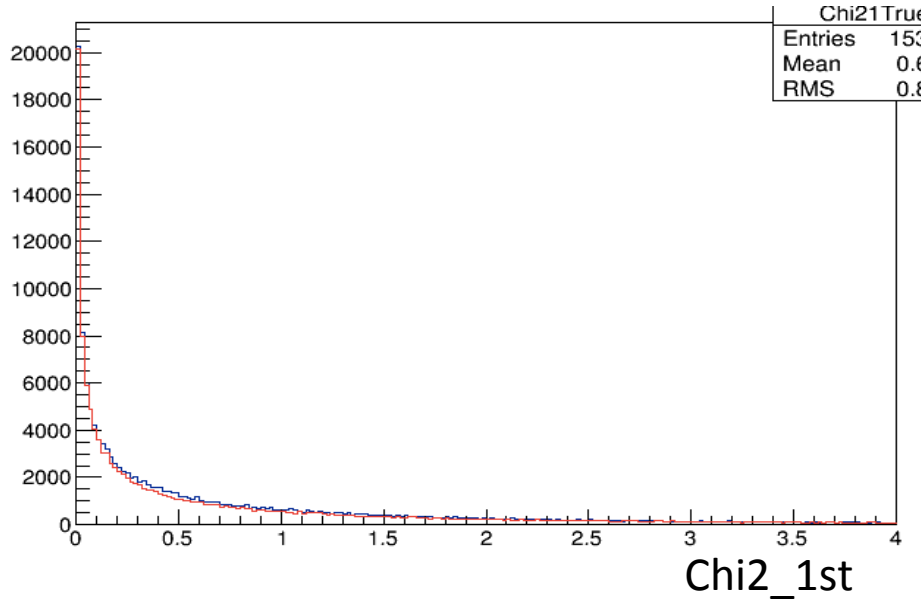
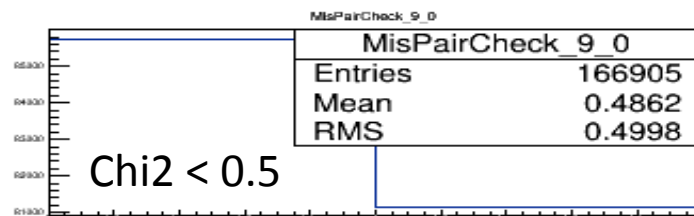
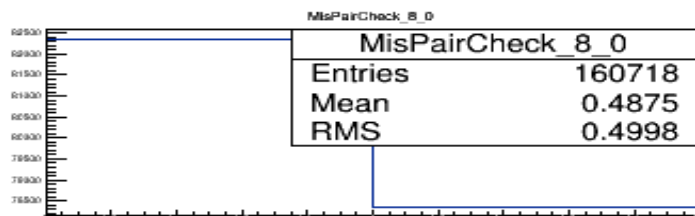
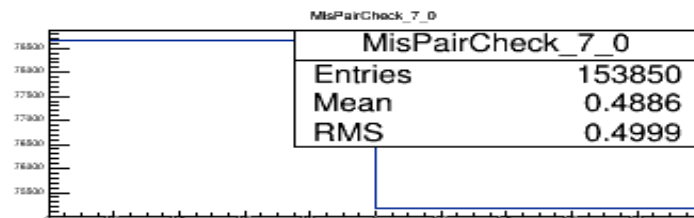
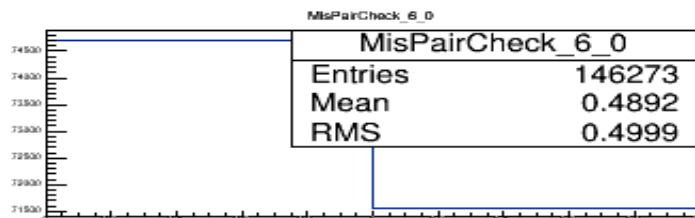
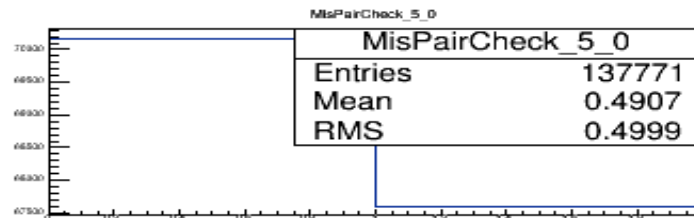
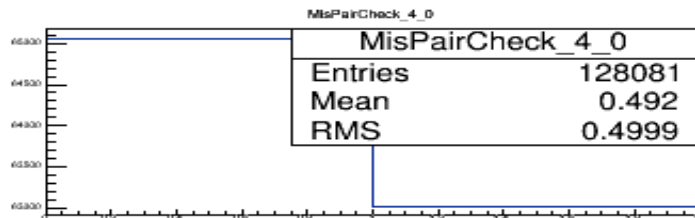
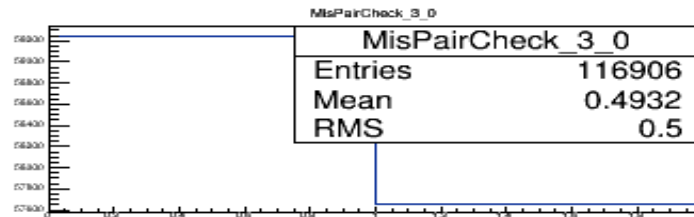
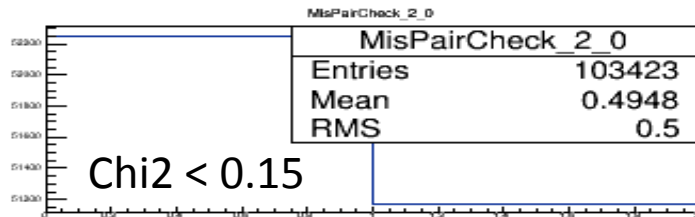
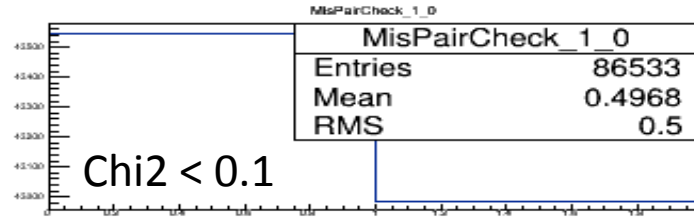
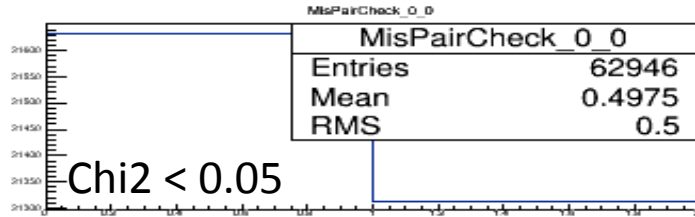


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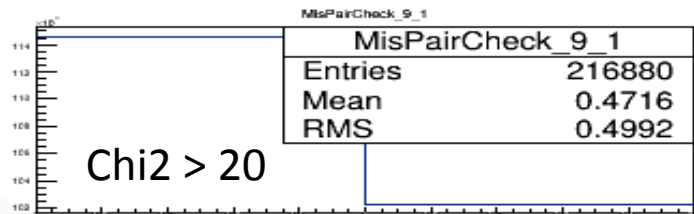
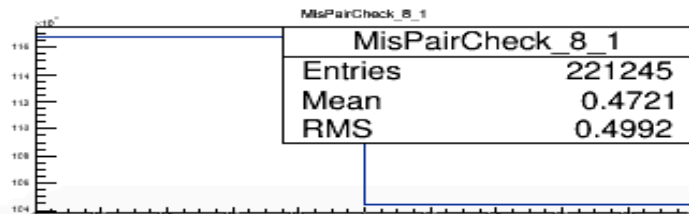
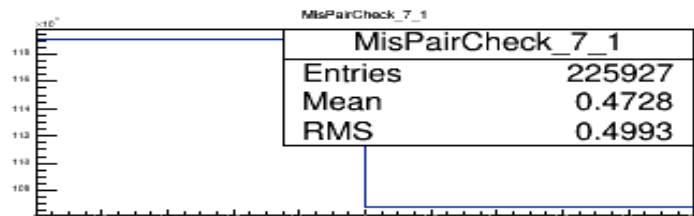
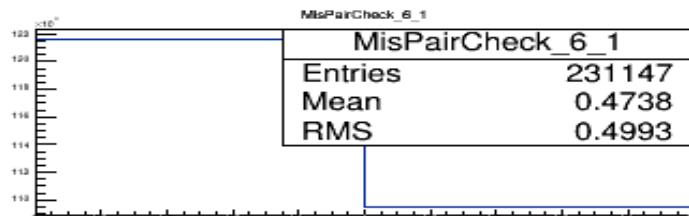
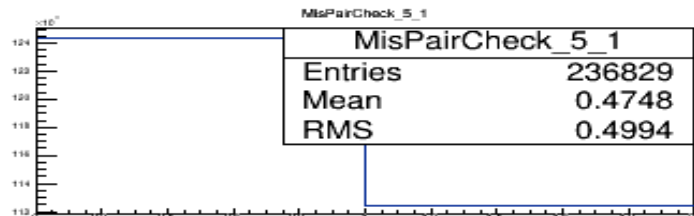
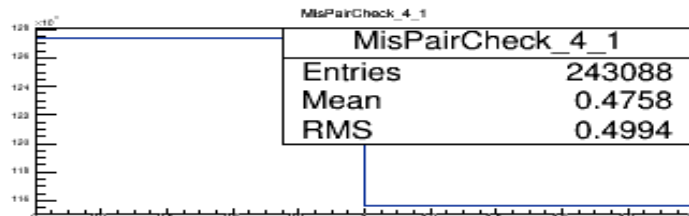
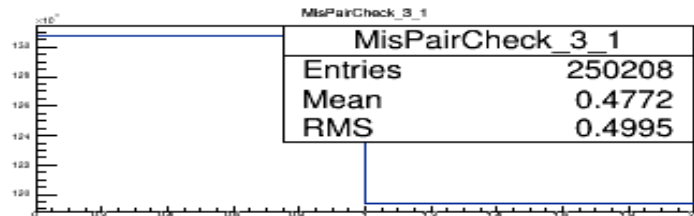
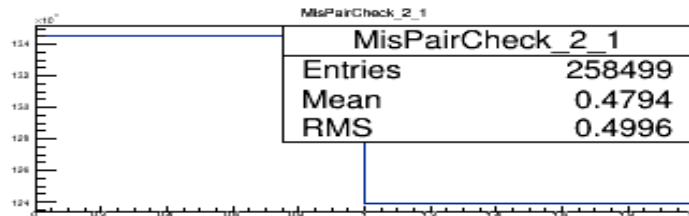
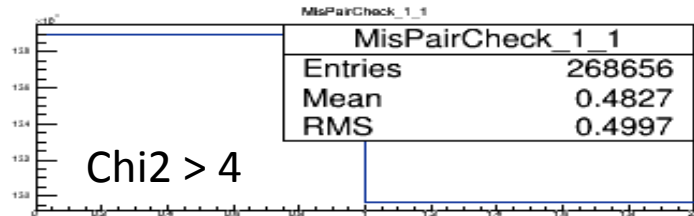
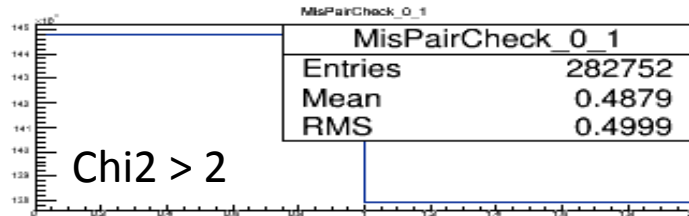
# Chi2



# 1<sup>st</sup> chi2 cut



# 2<sup>nd</sup> chi2 cut



# Error of Vertex

- Error of Energy

$$\sigma_{\text{energy}} = \sqrt{(0.01\text{energy})^2 + 4.0\text{energy}10^{-4}} \quad \text{GeV}$$

- Error of Position

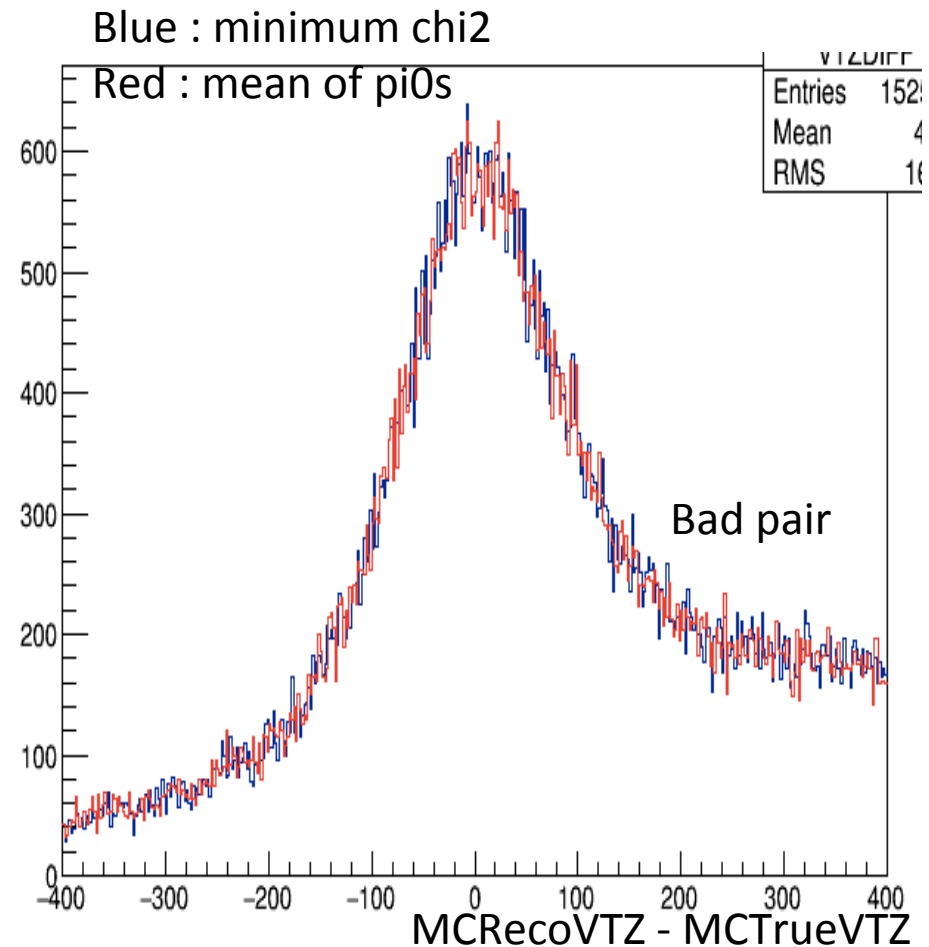
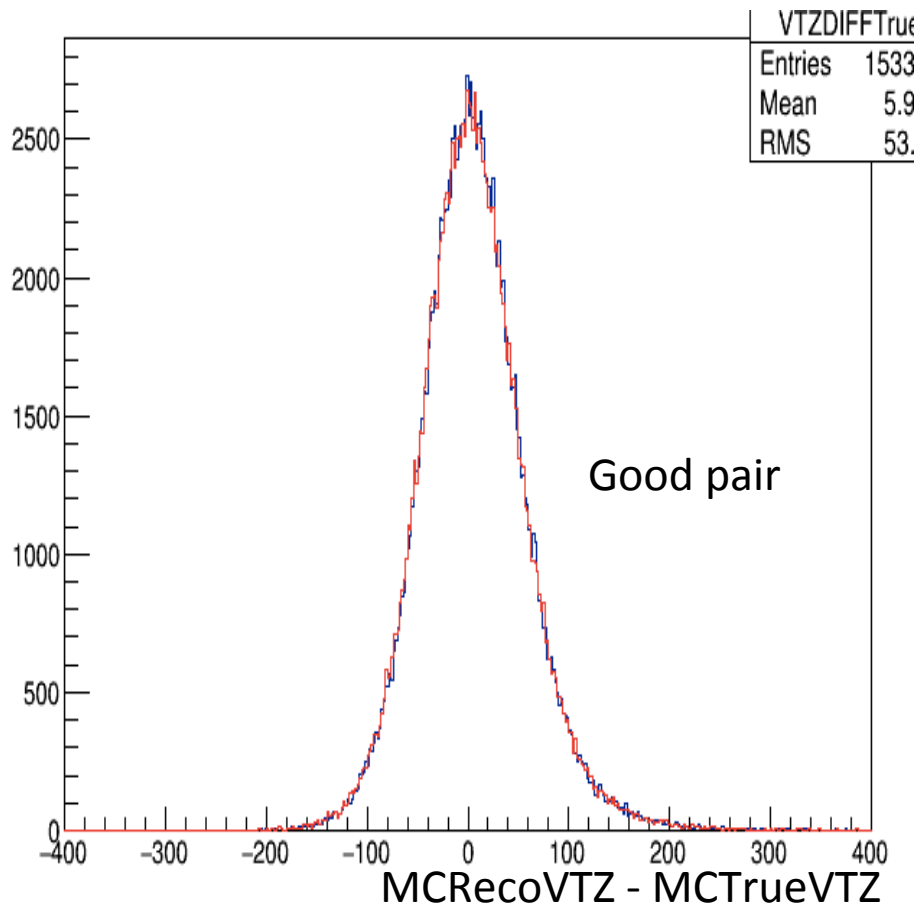
$$\sigma_{\text{position}} = \frac{5}{\sqrt{\text{energy}}} \quad \text{mm}$$

- Error propagation of energy and position

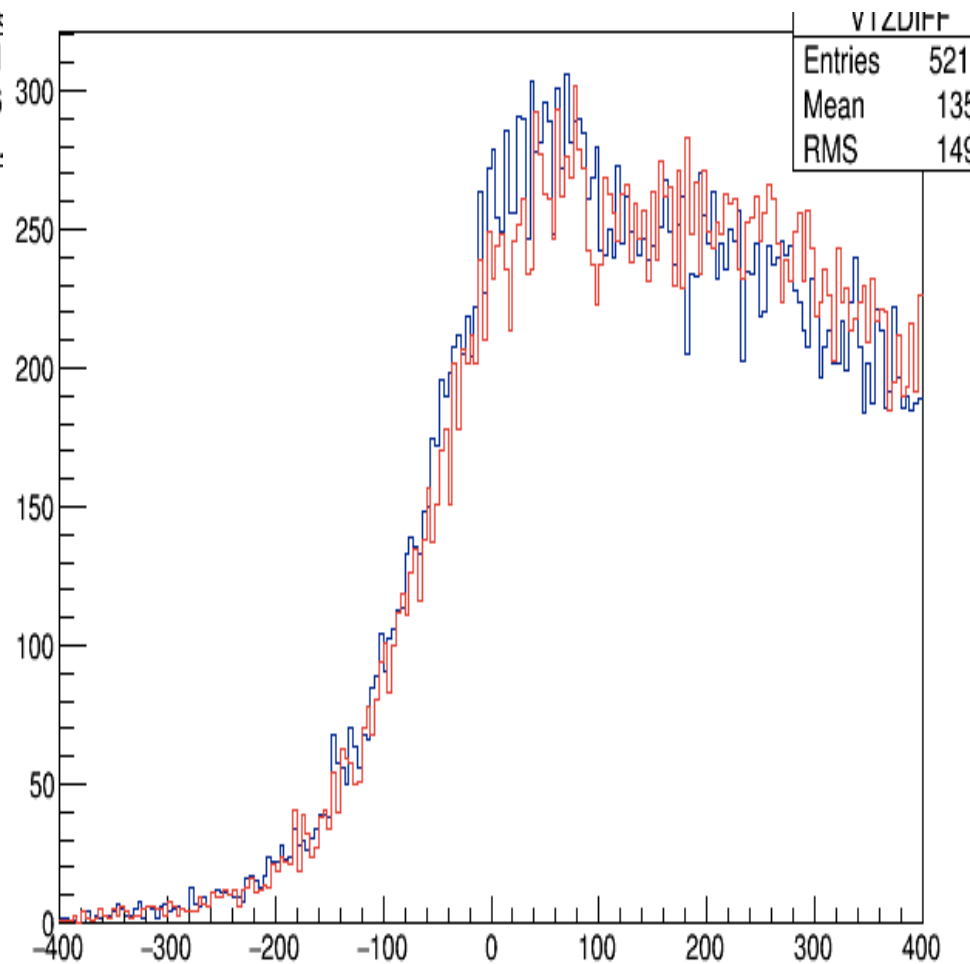
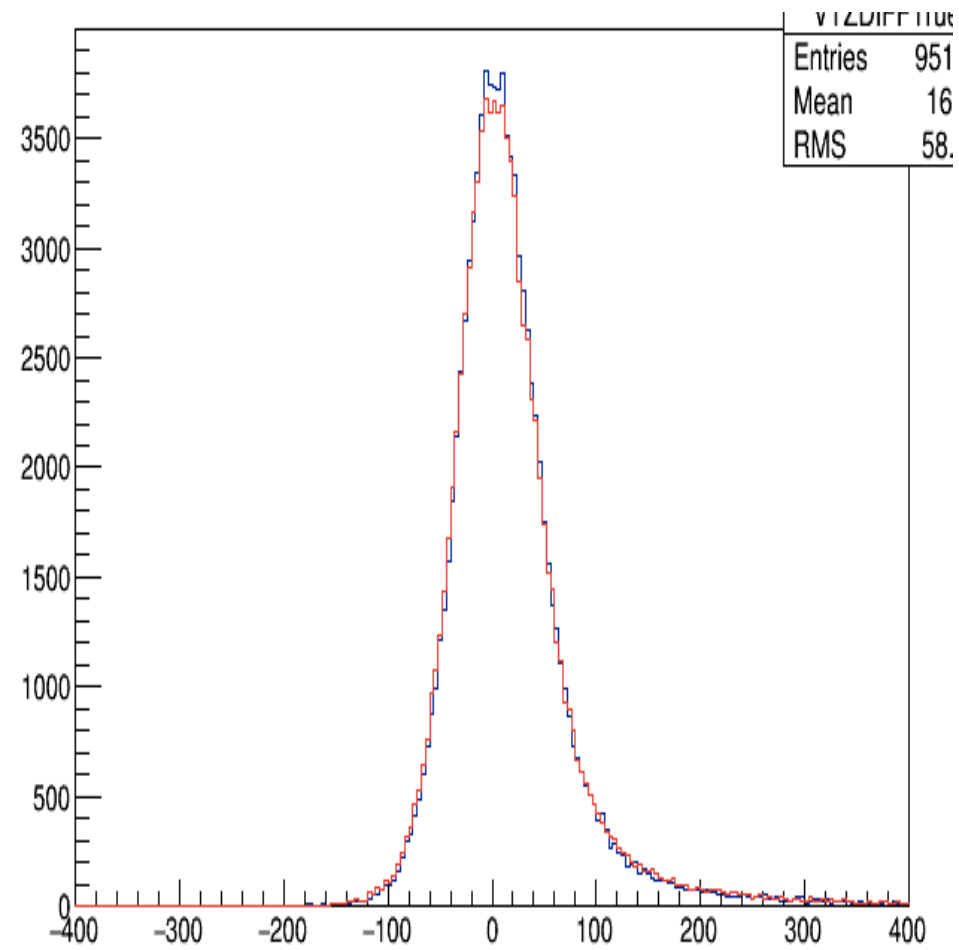
# Minimum chi2 vs mean of pi0s

$$\chi^2 = \sum_{i=1}^{i=n} \left( \frac{VTZ_{\pi^0} - VTZ_{K_L}}{\text{Error}_{VTZ_{\pi}}} \right)^2$$

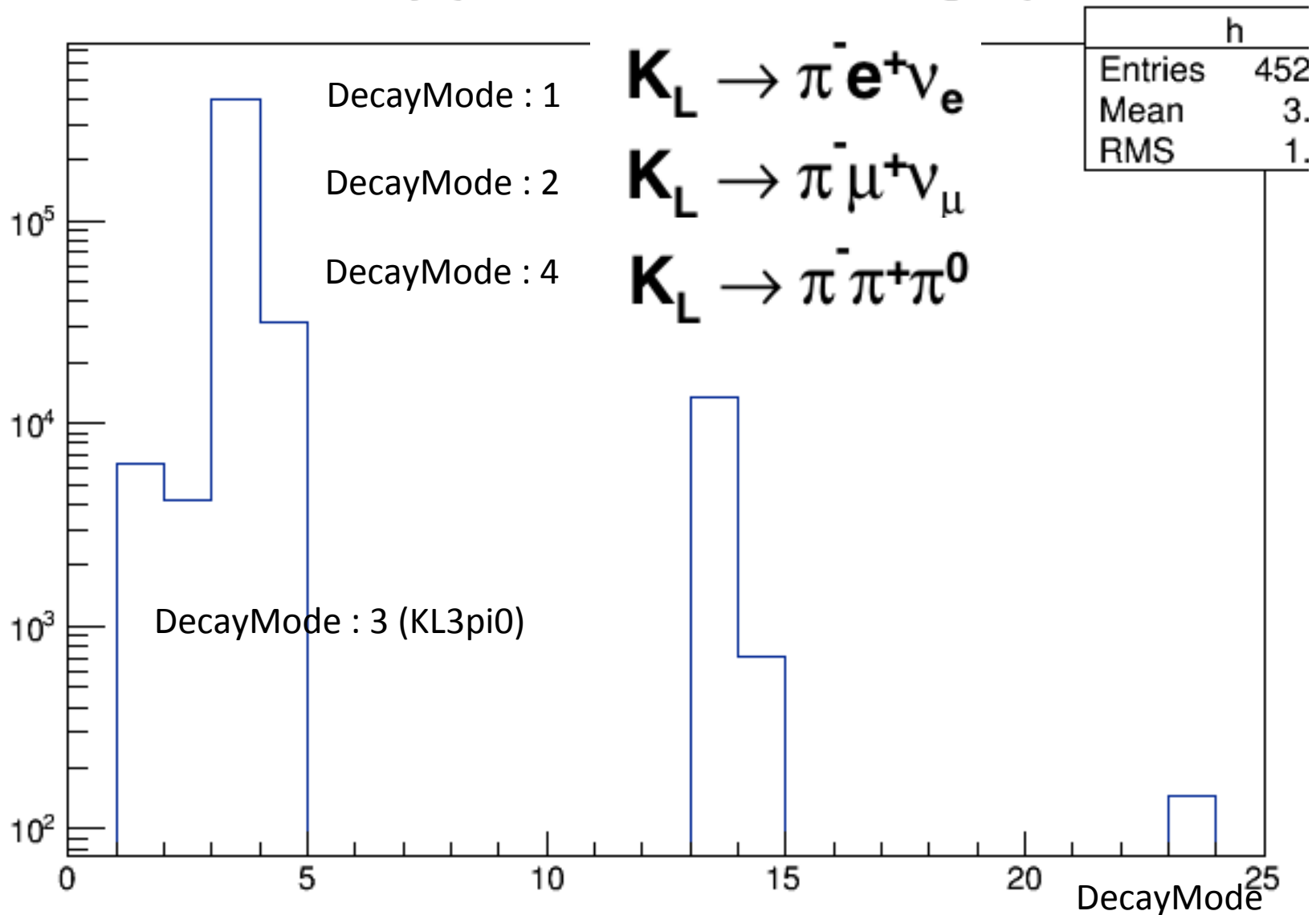
$$VTZ_{K_L} = \frac{VTZ_{\pi_1^0} + VTZ_{\pi_2^0}}{2}$$



# In 6g



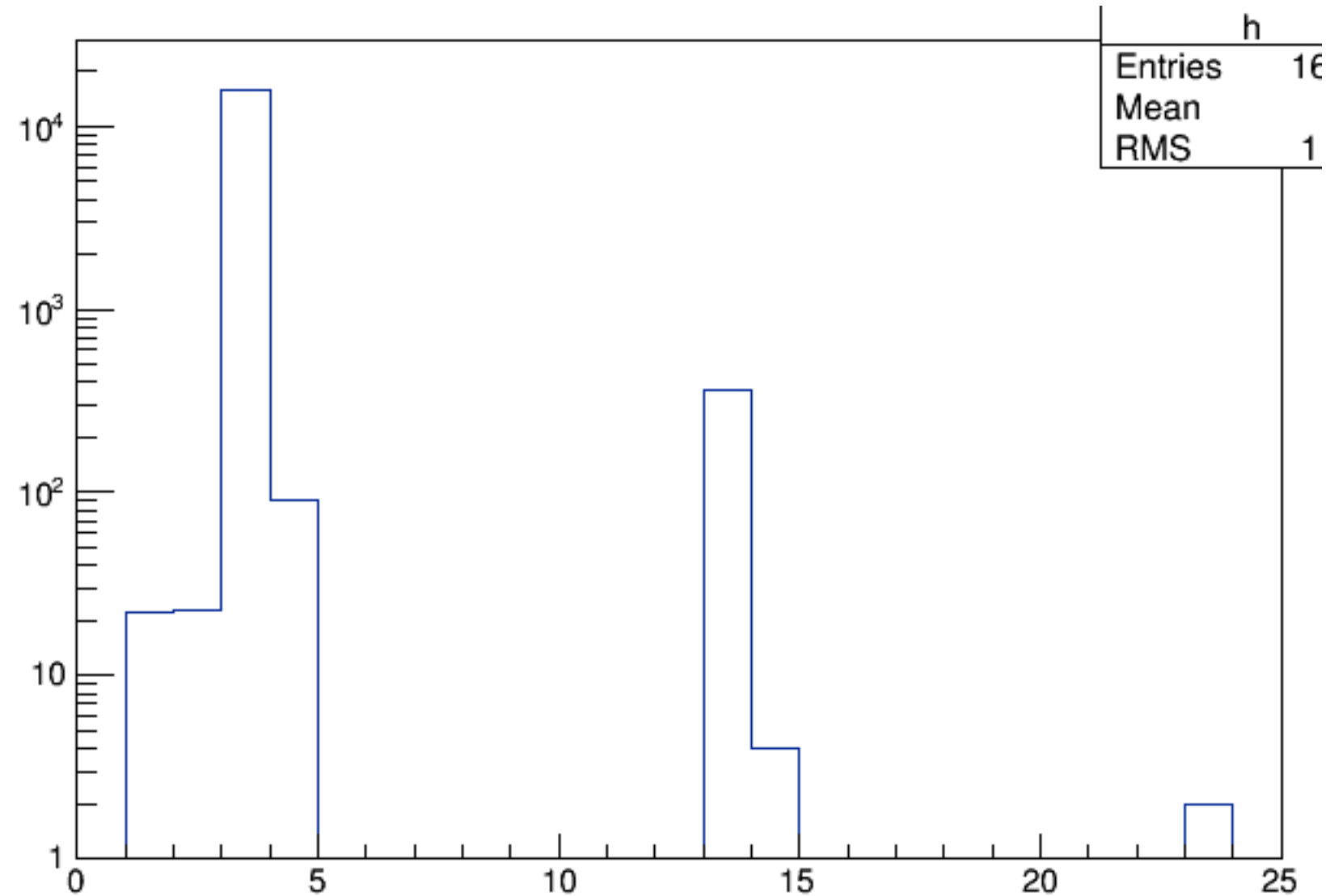
# Decay Mode





# Decay Mode

All cut applied



# Things to do

- It is hard to find vertex of klong from  $2\pi^0$  reconstruction
- Other way to find vertex of klong
  - Study of klong to  $2\pi^0\gamma$ ?
- Klong pt cut help rejection of other events in  $5g+1g$