

# HANUL MEETING

## E45 Hodoscope

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# CONDITIONS

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**B field ~ 1.0 T**

**EventGen - PHSP model**

$(\pi^-p \rightarrow) N^* \rightarrow \pi^0\pi^-p$

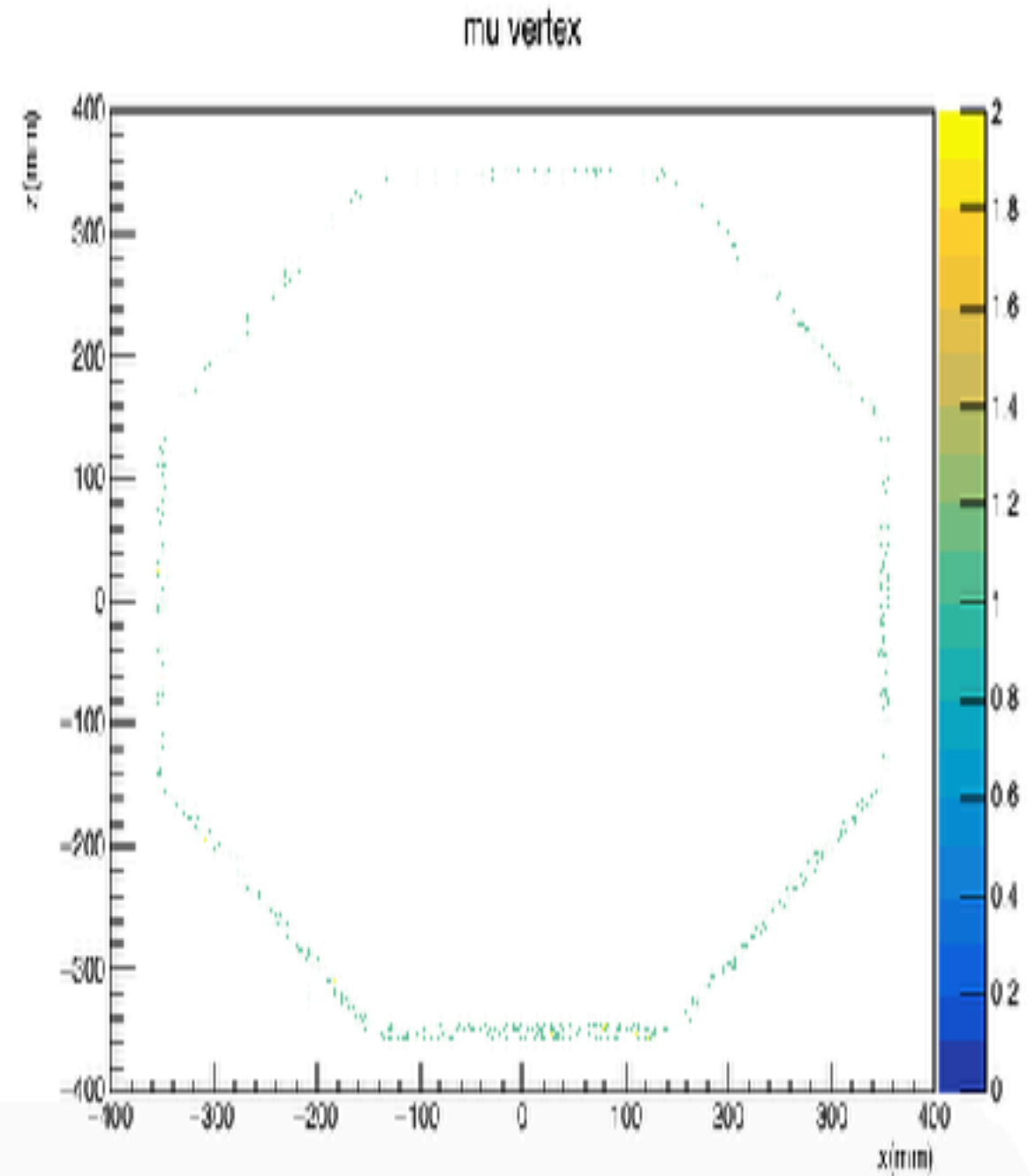
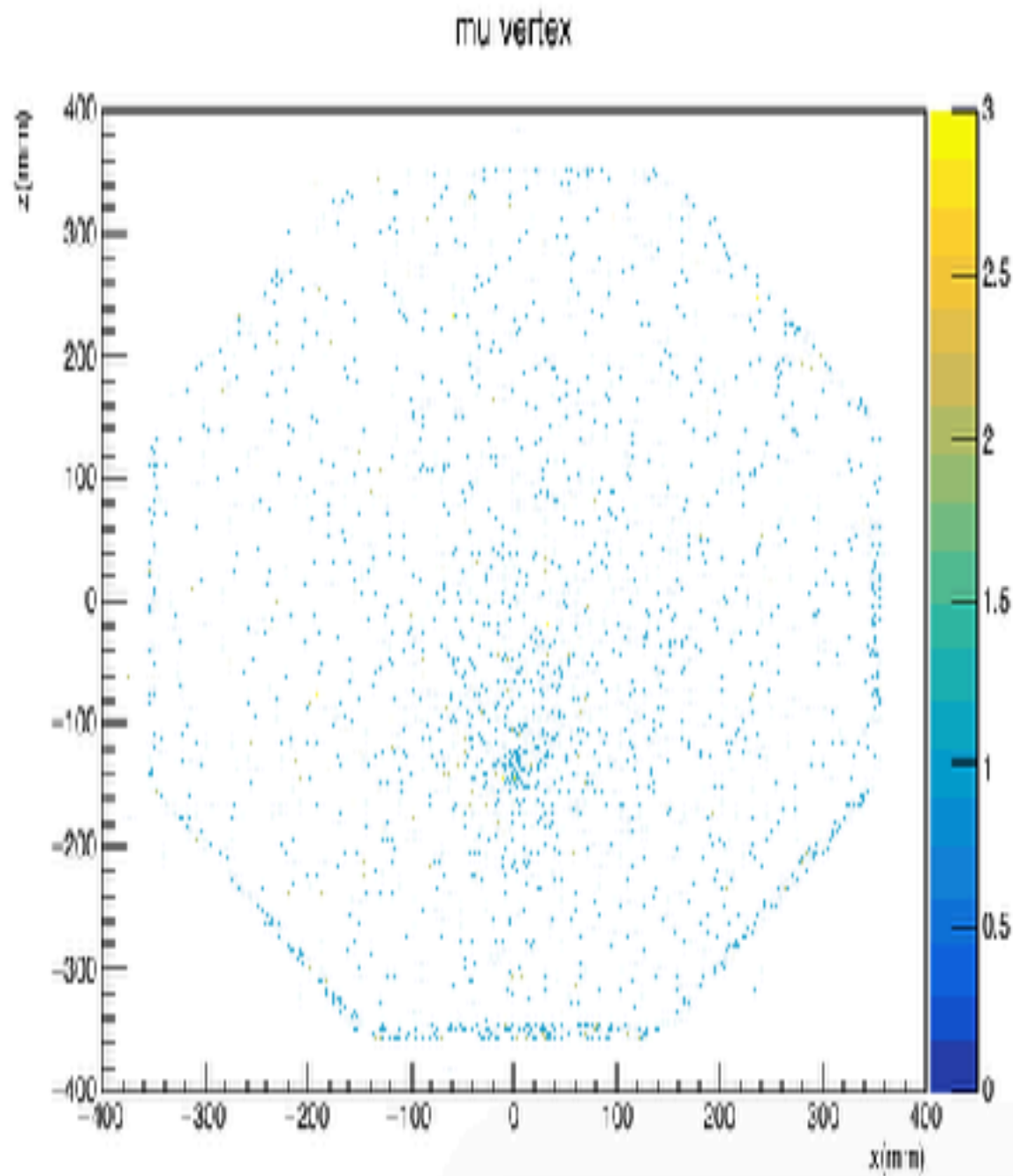
$(\pi^+p \rightarrow) \Delta^* \rightarrow \pi^0\pi^+p$

**Generated data (Event number : 100,000)**

**Assumed beam momentum :**

<b>0.635 (1.46)</b>	<b>0.835 (1.58)</b>	<b><u>1.035 (1.69)</u></b>	<b>1.235 (1.80)</b>	
<b>1.435 (1.90)</b>	<b>1.635 (1.99)</b>	<b>1.835 (2.09)</b>	<b>2.000 (2.16)</b>	<b>GeV/c</b>

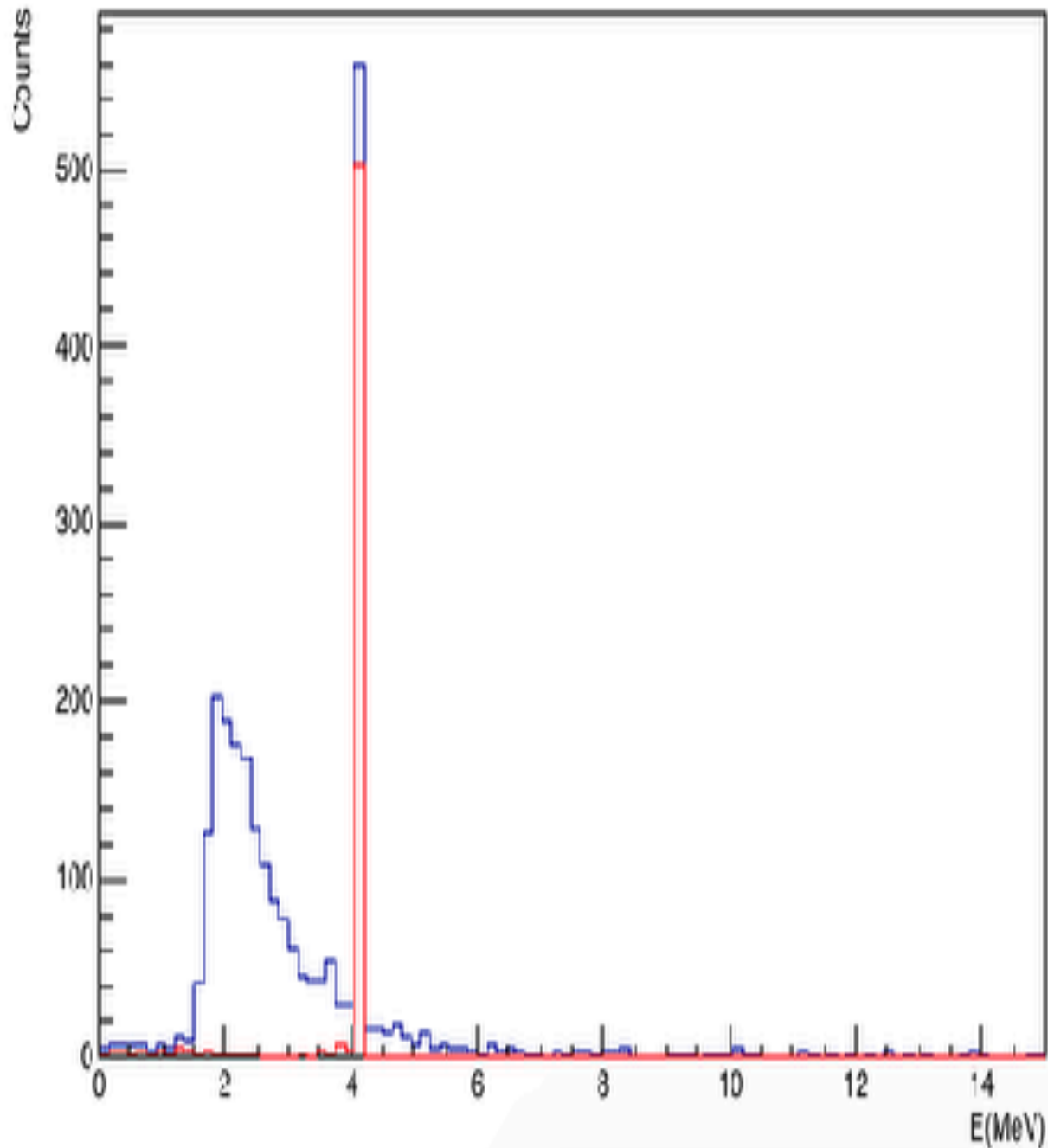
# PI -> MU VERTEX POINTS



# MU DEPOSIT ENERGY

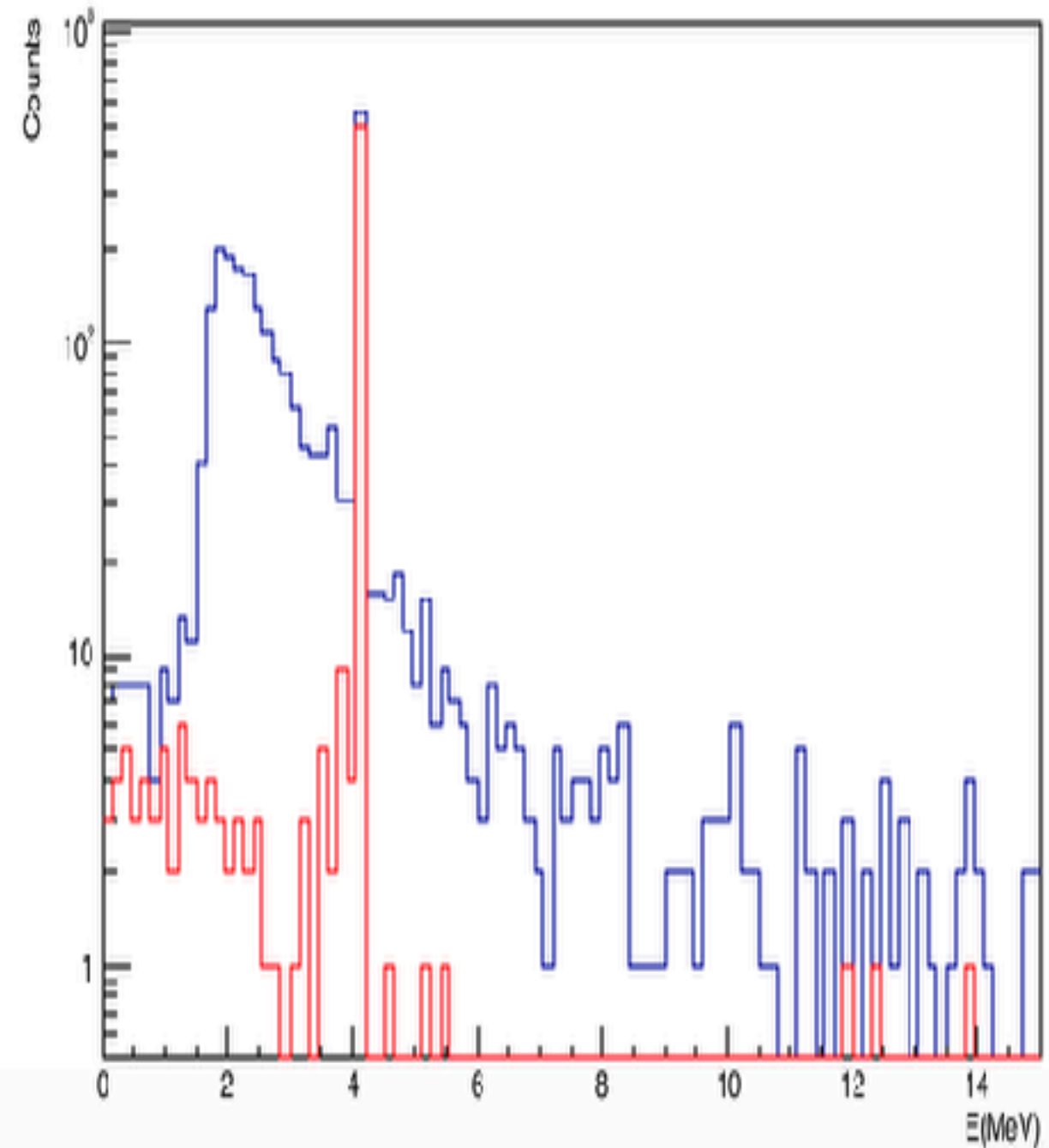
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mu deposit energy

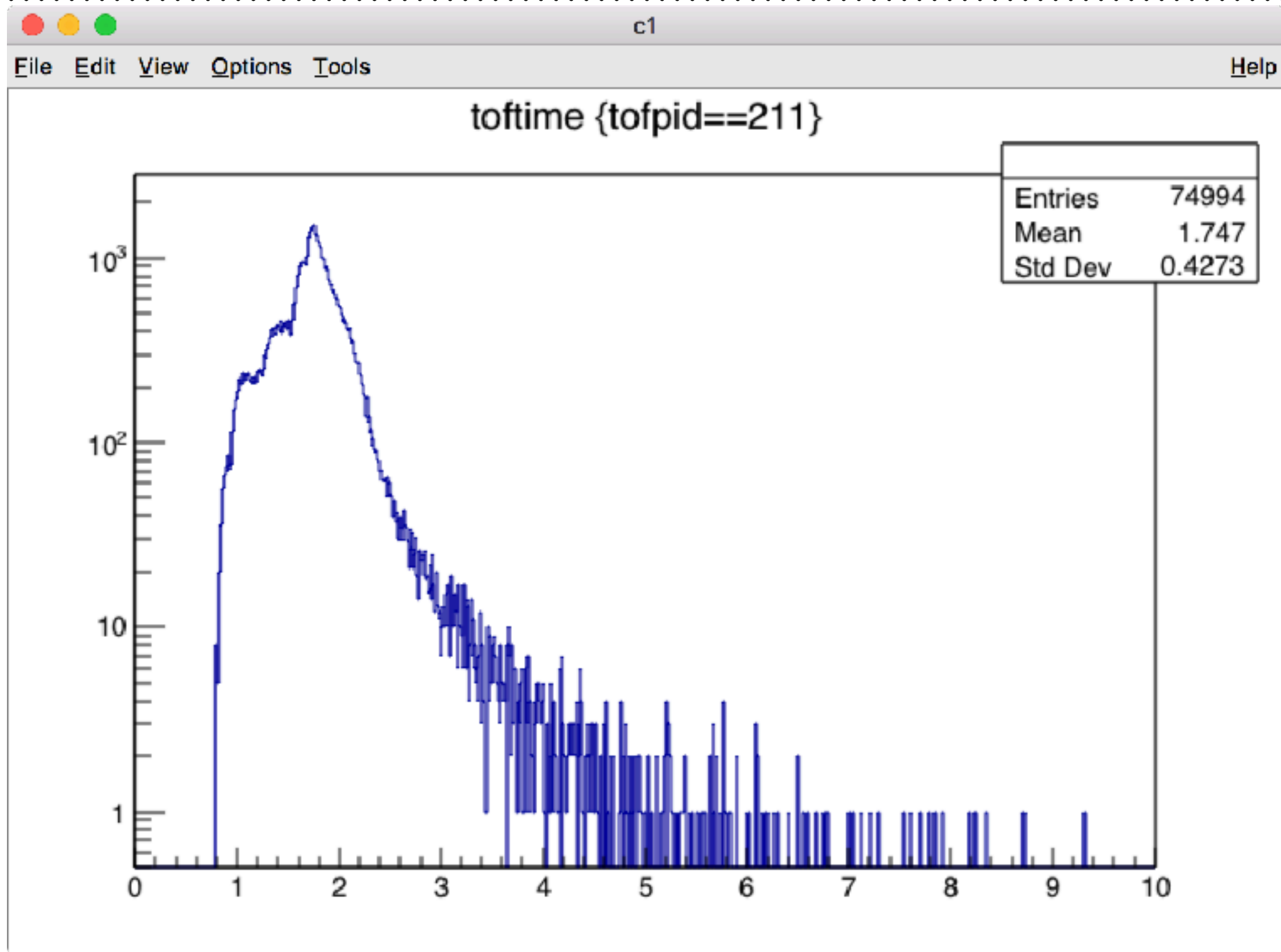


Log scale

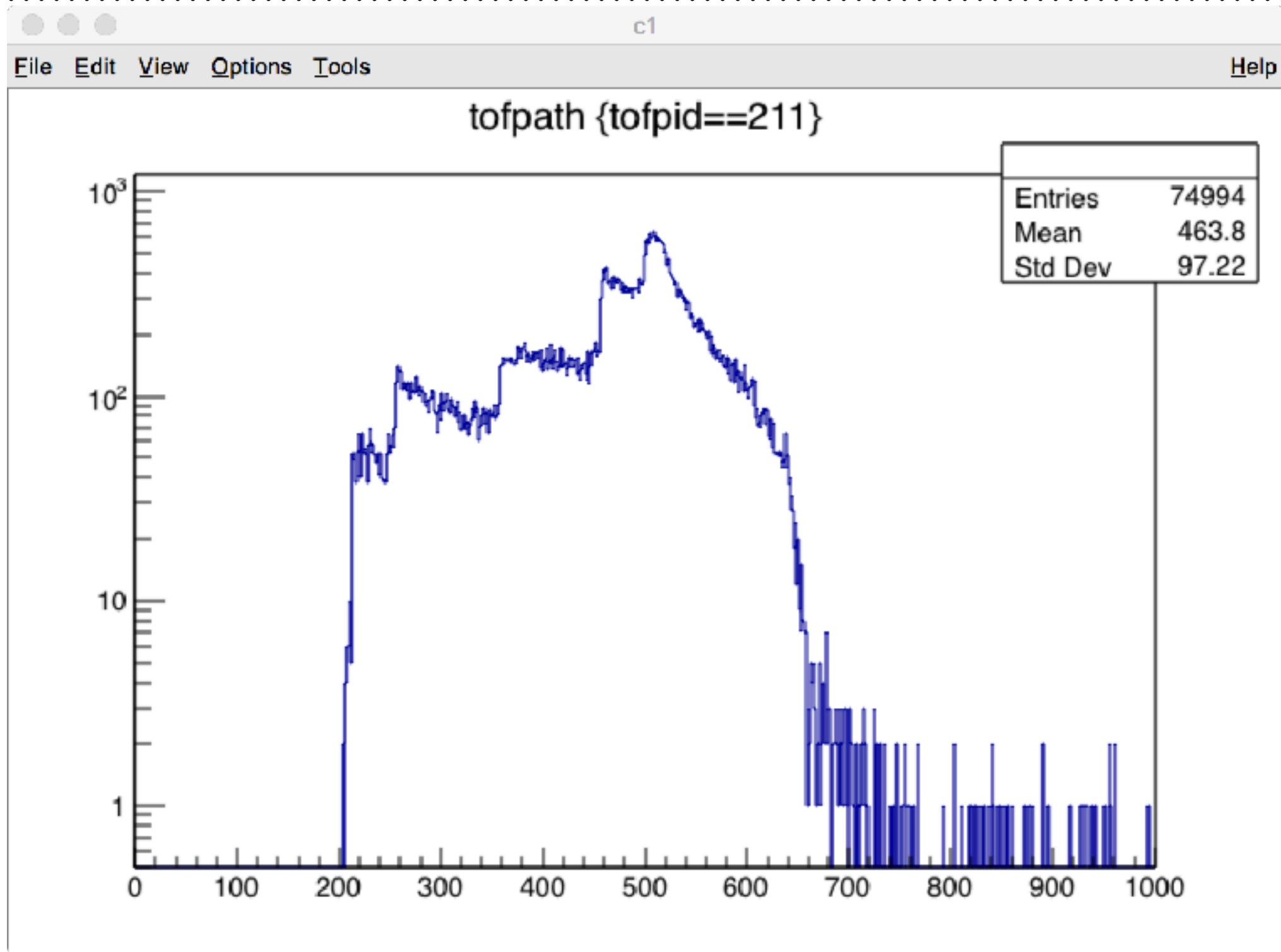
mu deposit energy



# PI, TOF

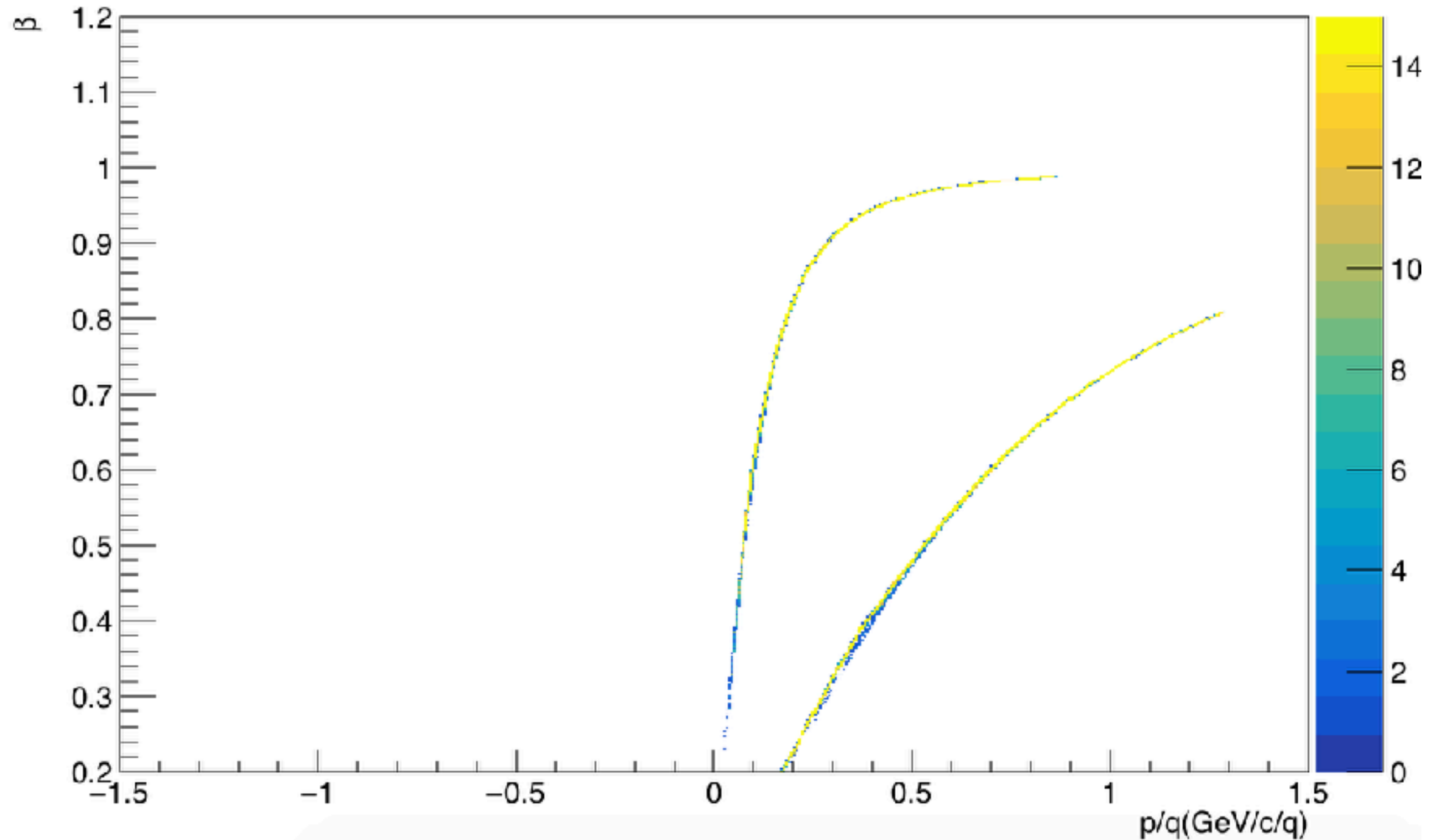


# PI, FLIGHT PATH LENGTH



# PI, FLIGHT PATH LENGTH

$\beta$  vs  $p/q$



# BACKUP

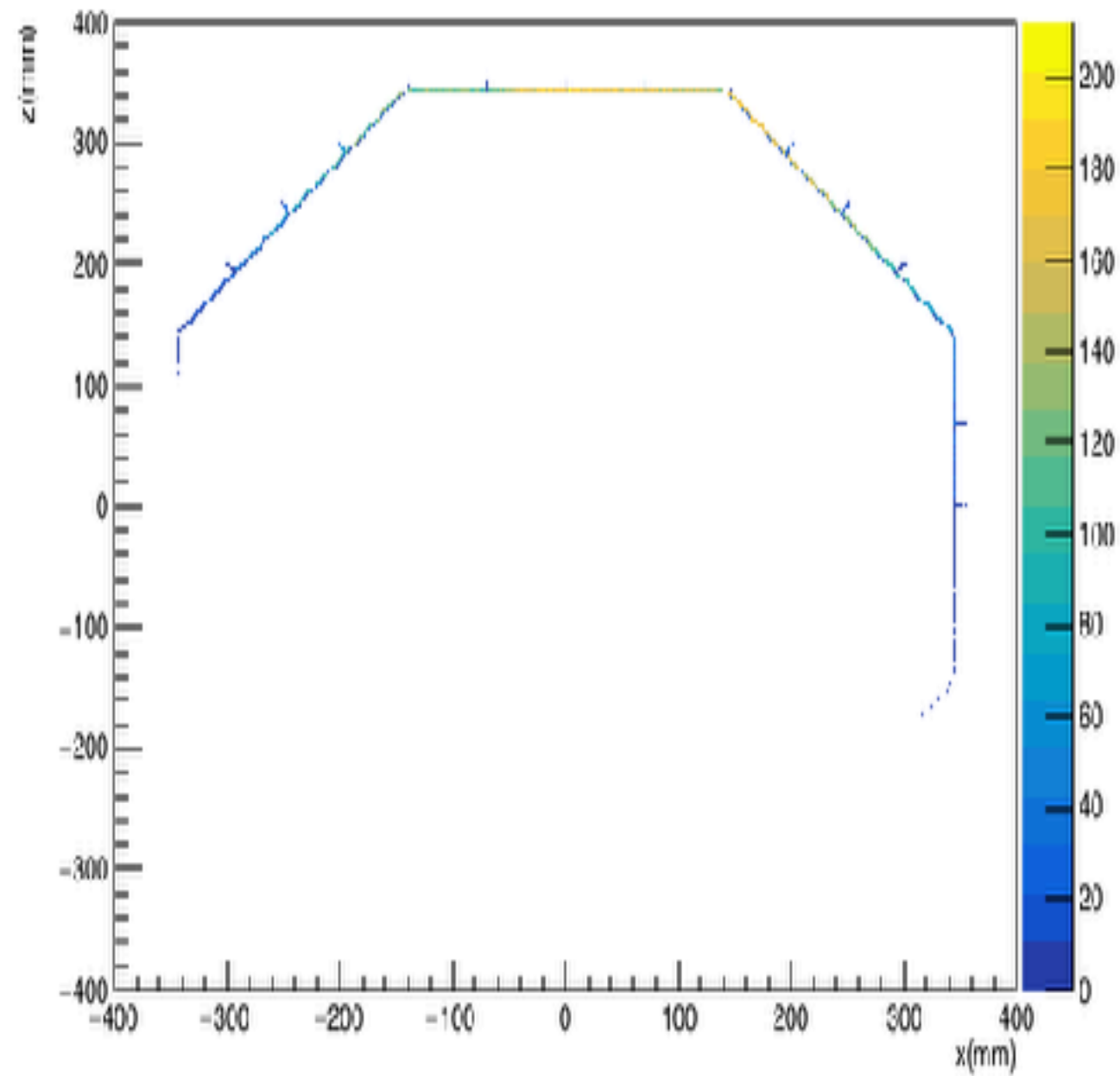
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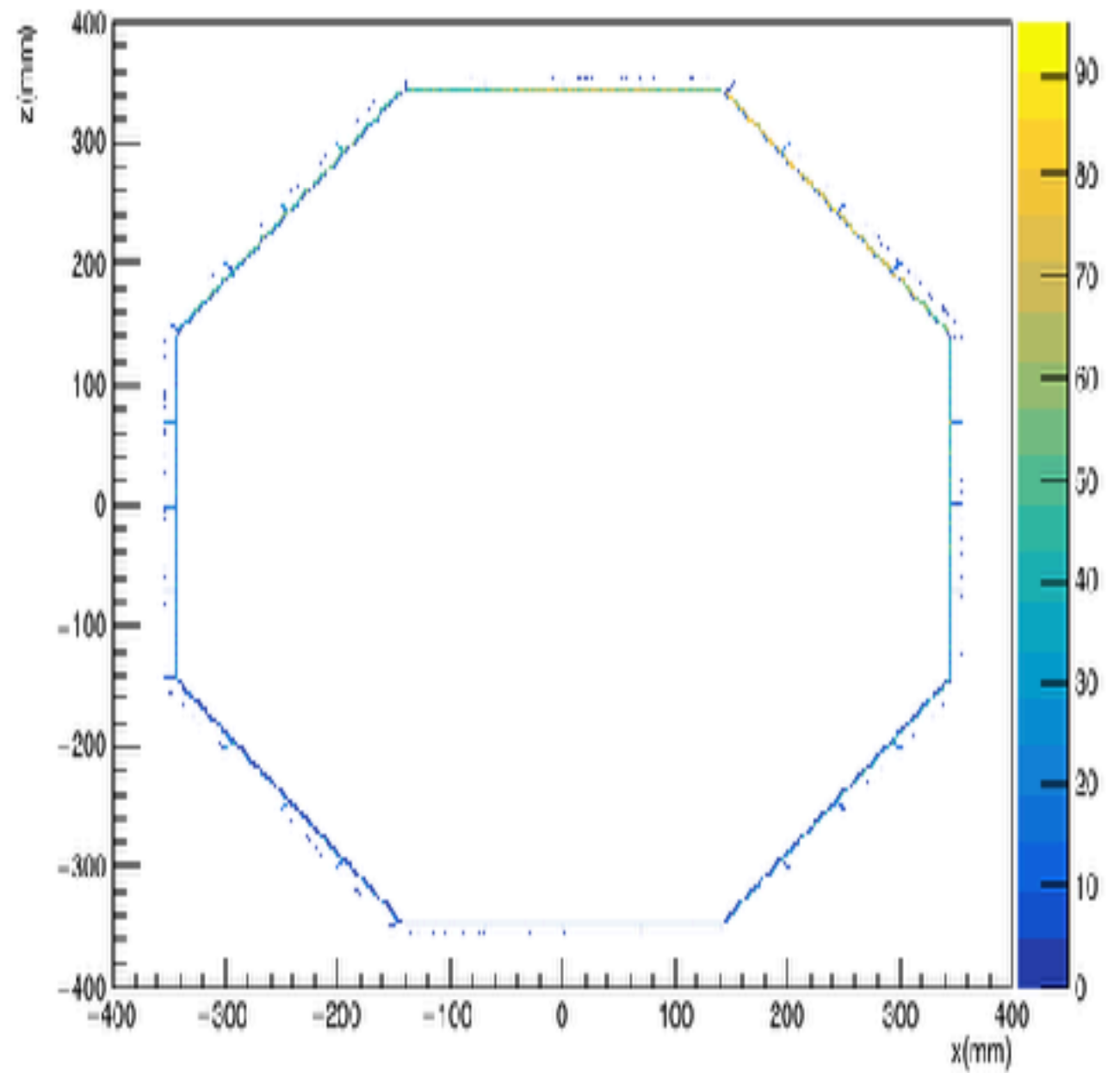
# P, PI HIT POSITION

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P hit position



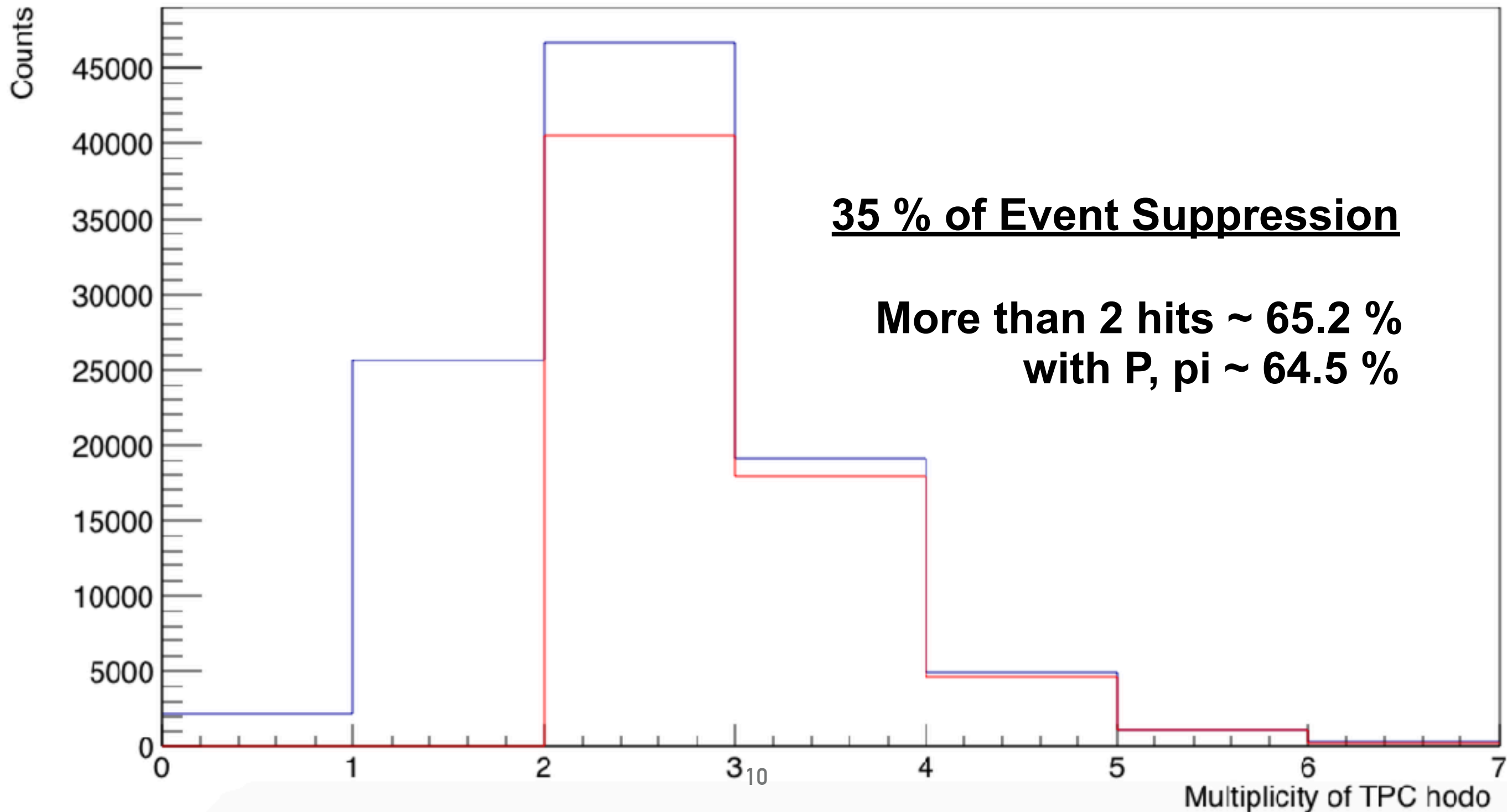
pi hit position



# ONLINE TRIGGER - MULTIPLICITY

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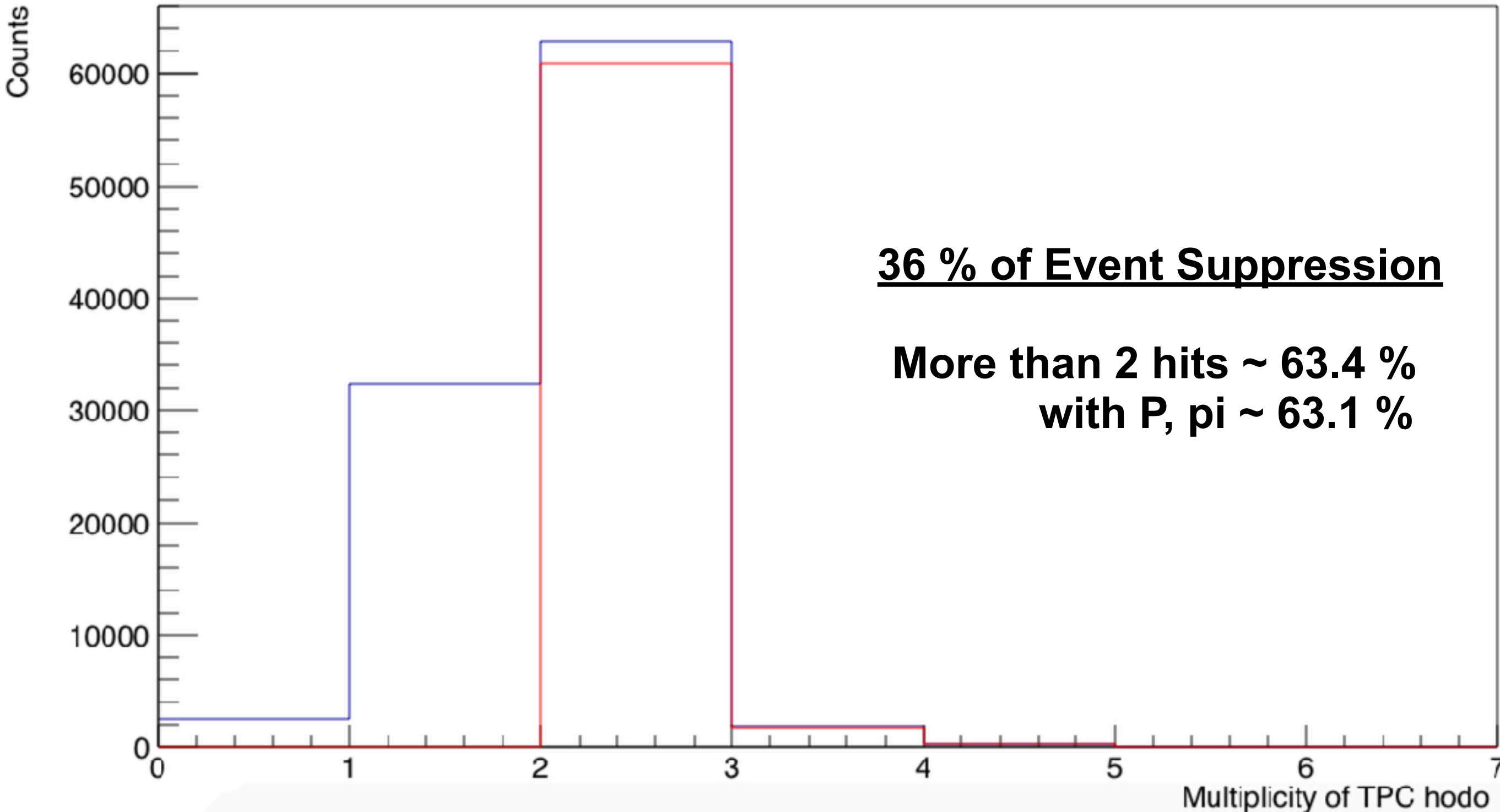
Hodoscope Multiplicity



# ONLINE TRIGGER - MULTIPLICITY

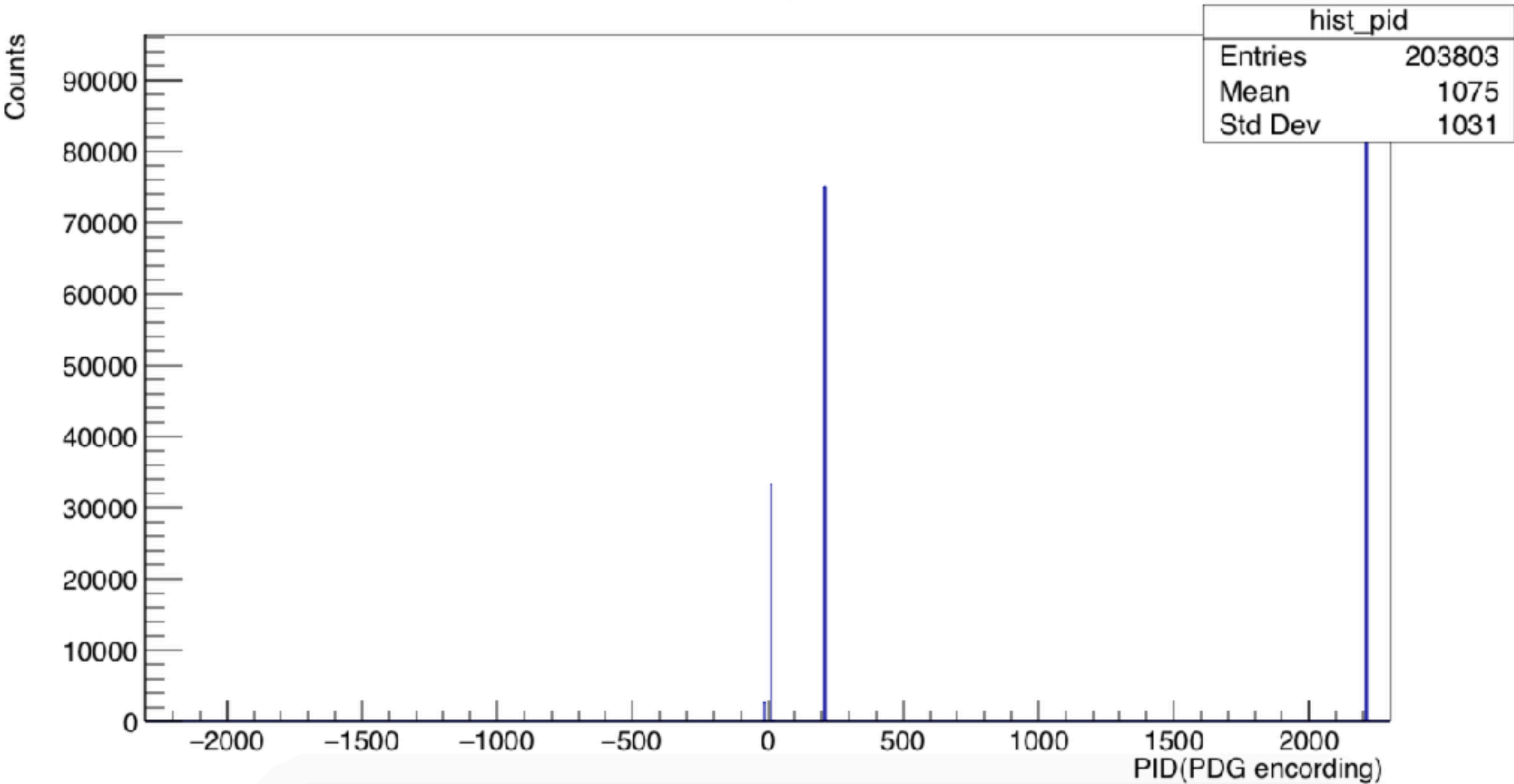
..... Hodoscope Multiplicity .....

(deposit energy > 1 MeV)



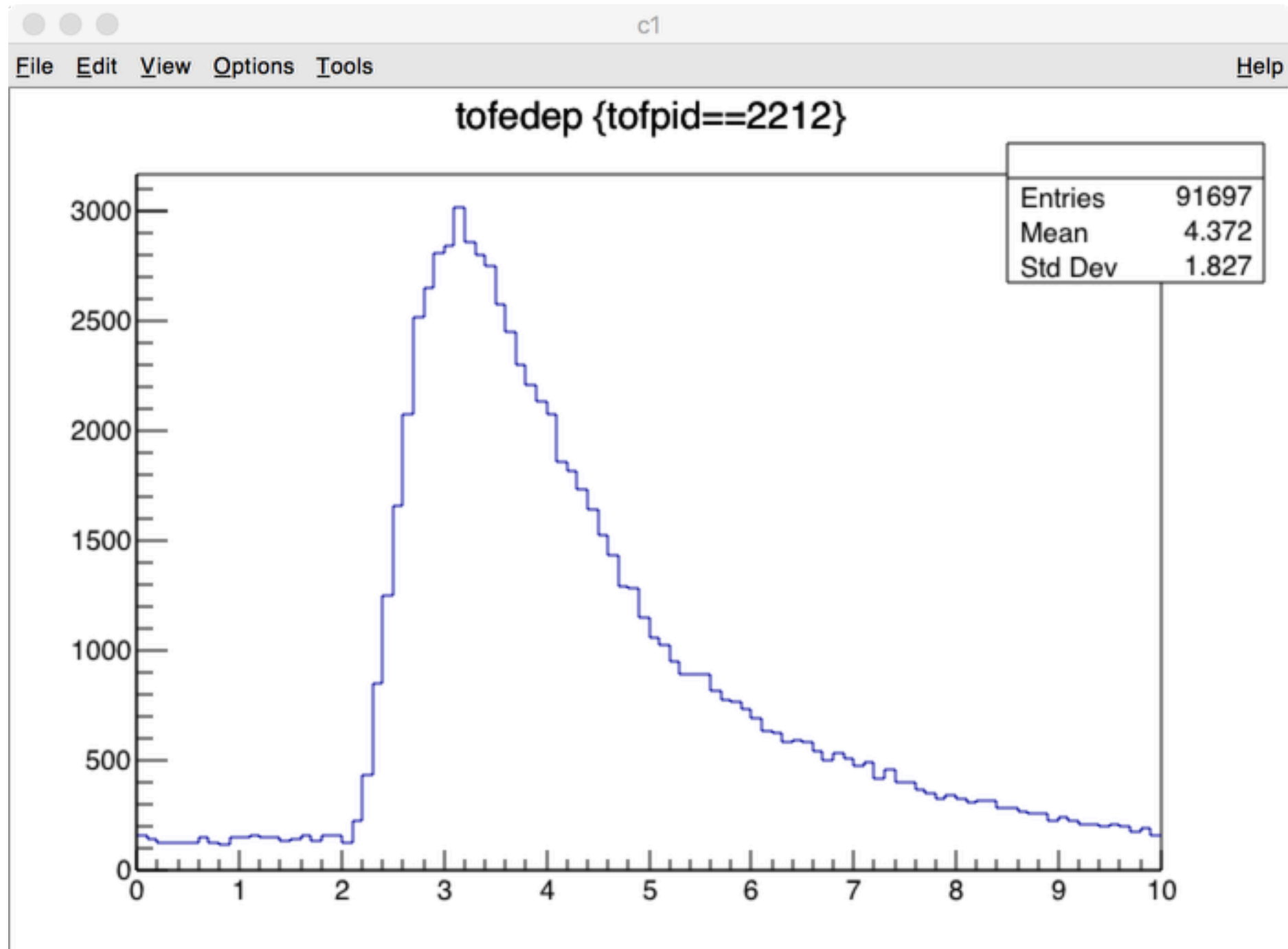
# PID

Hodoscope PID



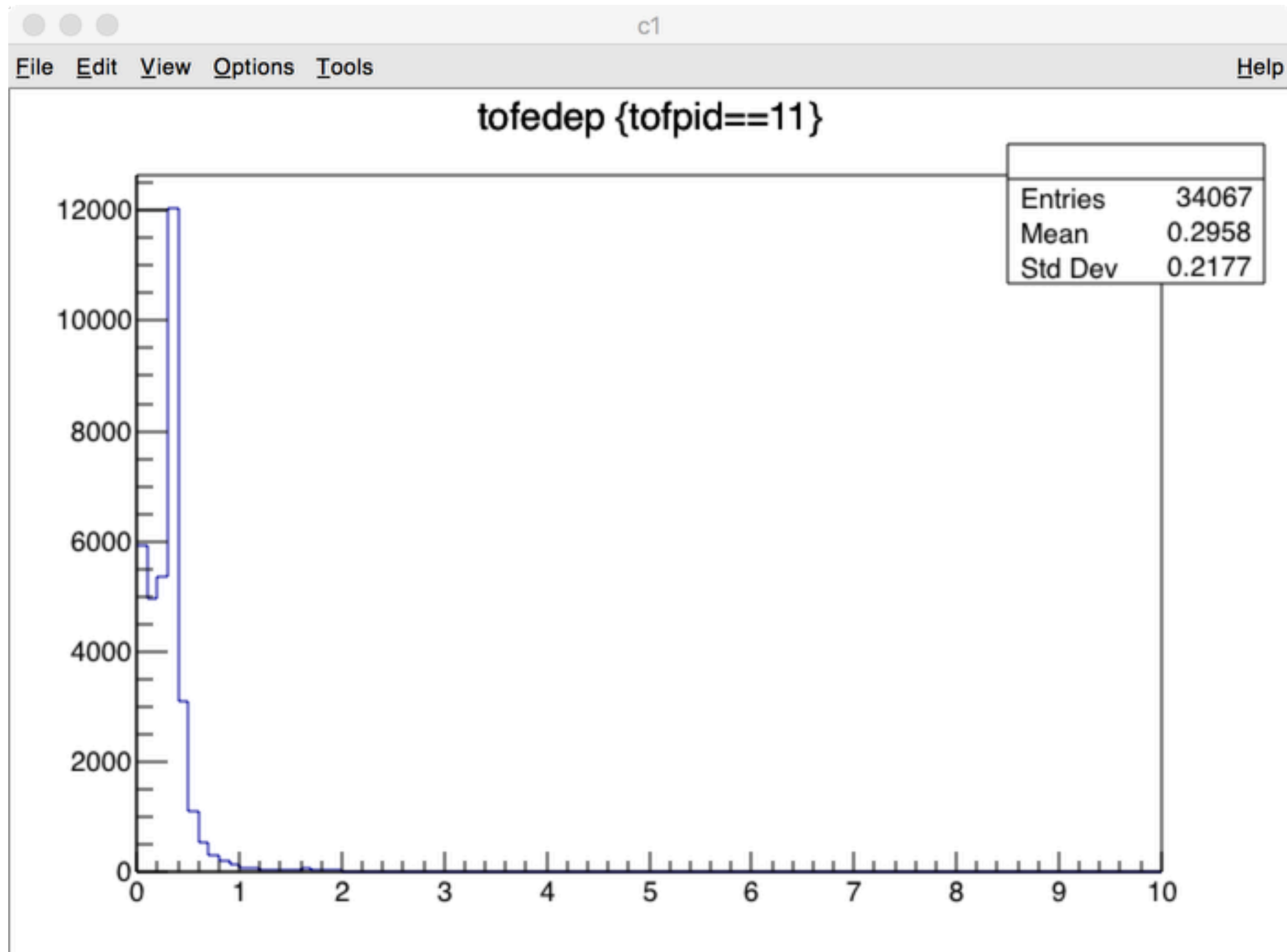
# P EDEP

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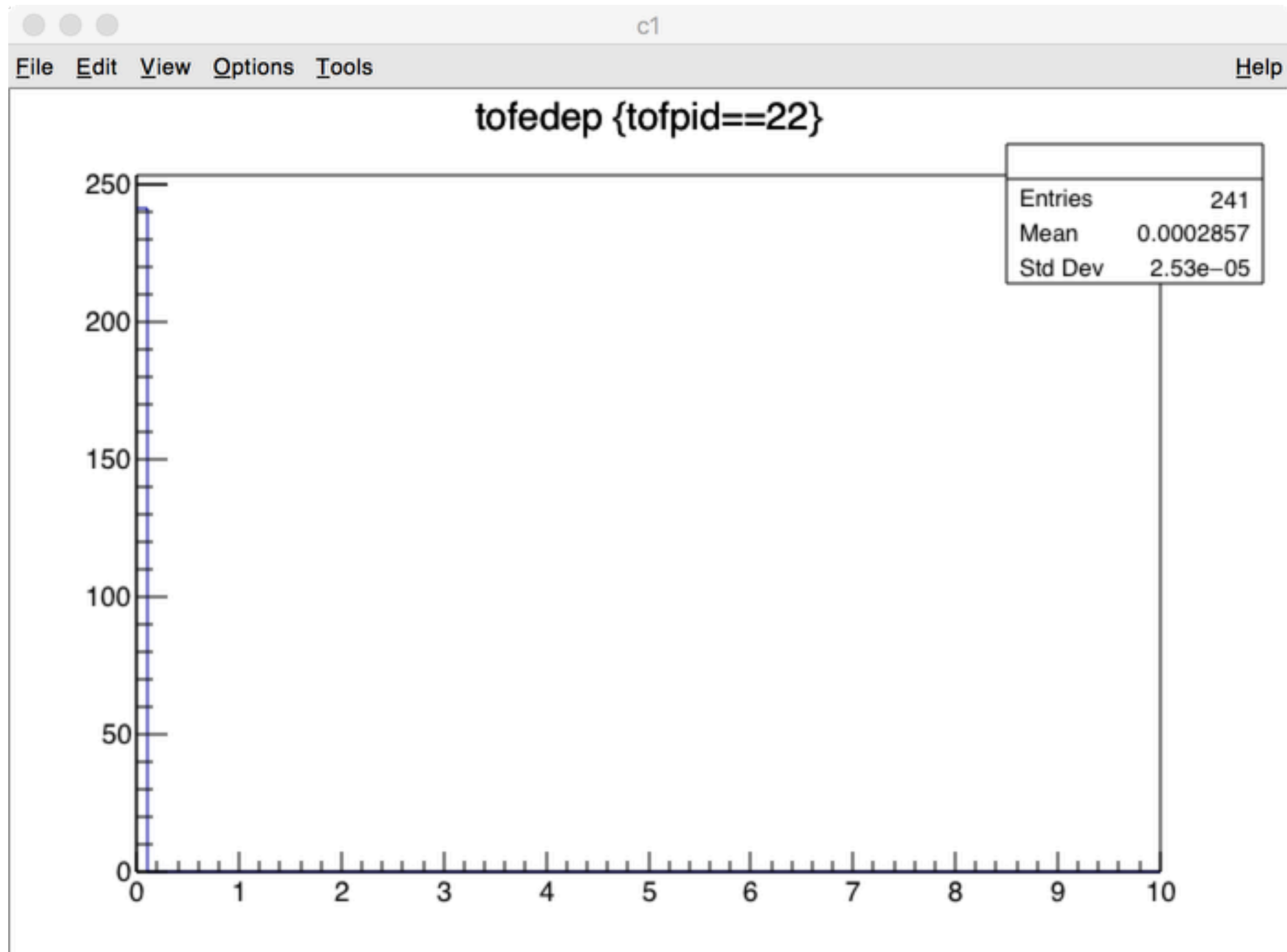
# E- EDEP

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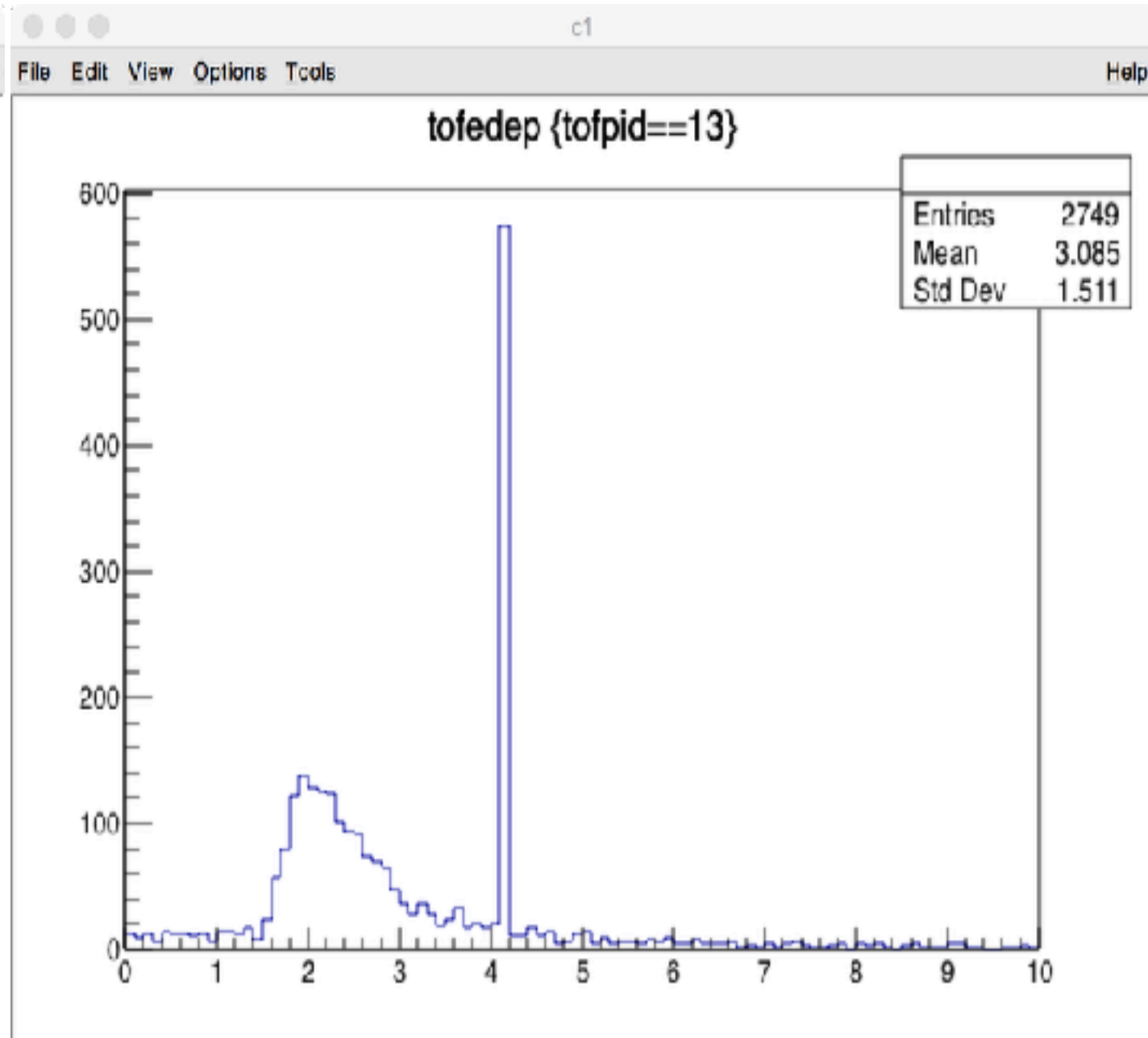
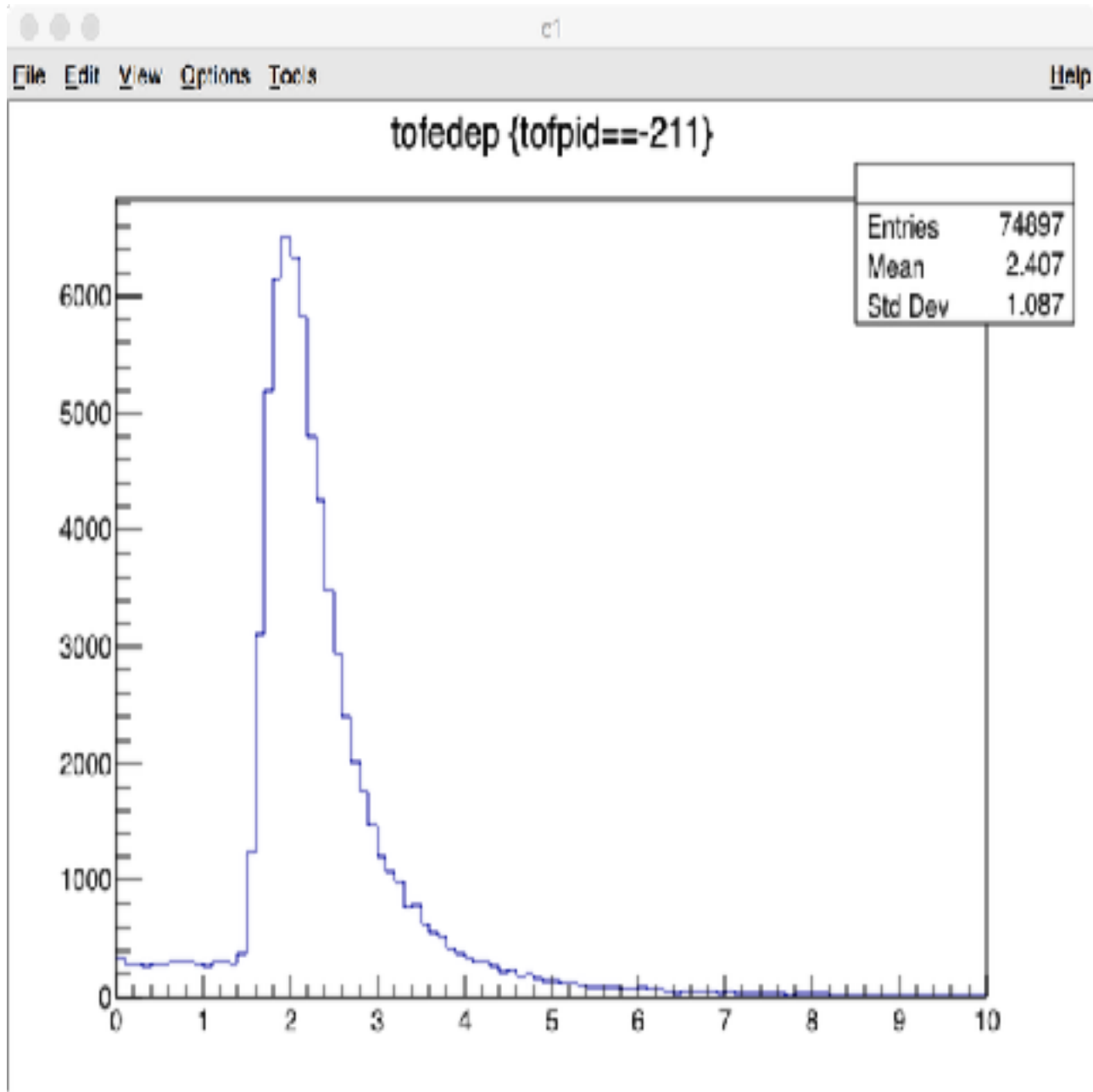
# GAMMA- EDEP

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# EDEP - PI, MUON

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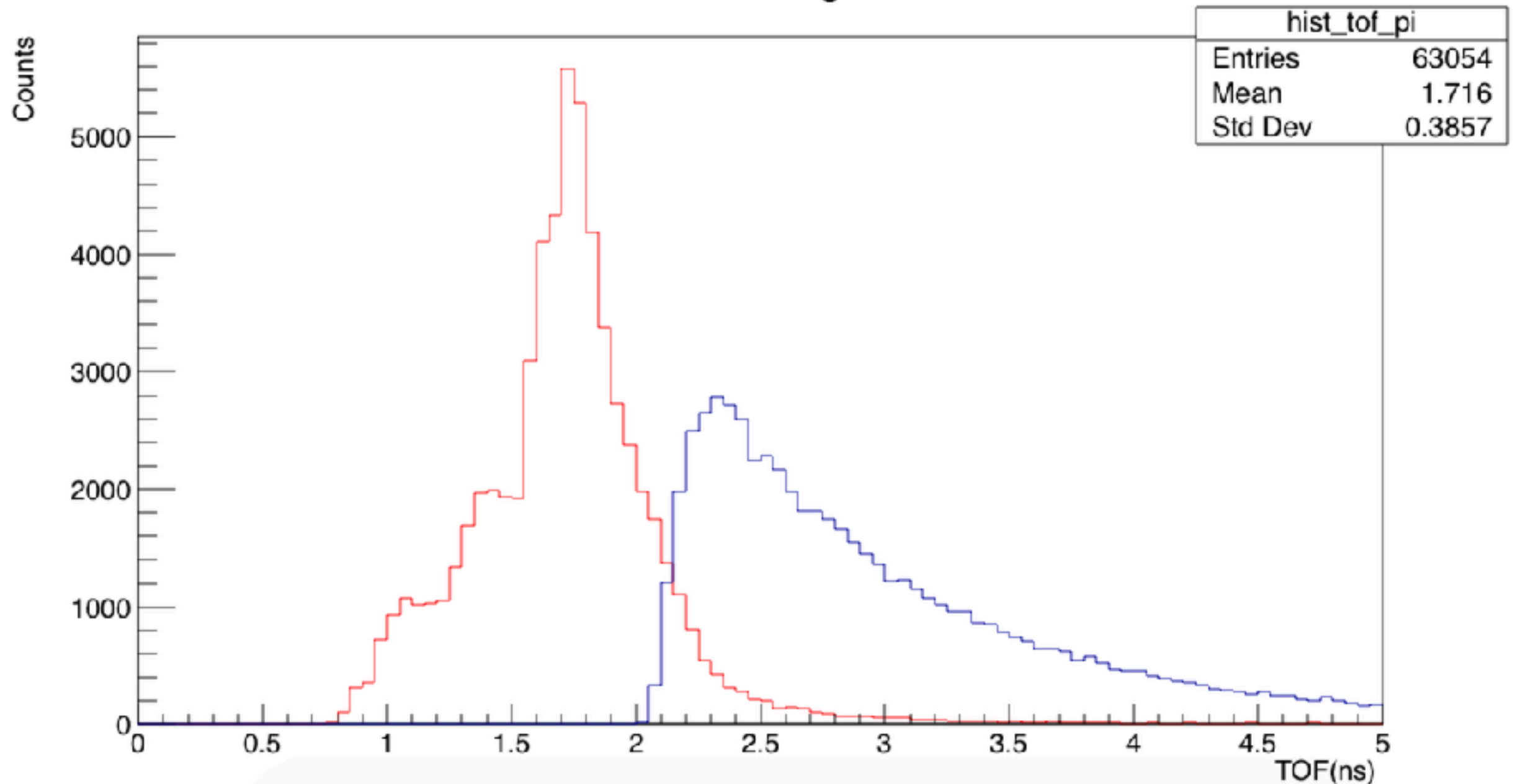




# ONLINE TRIGGER - TOF CUT

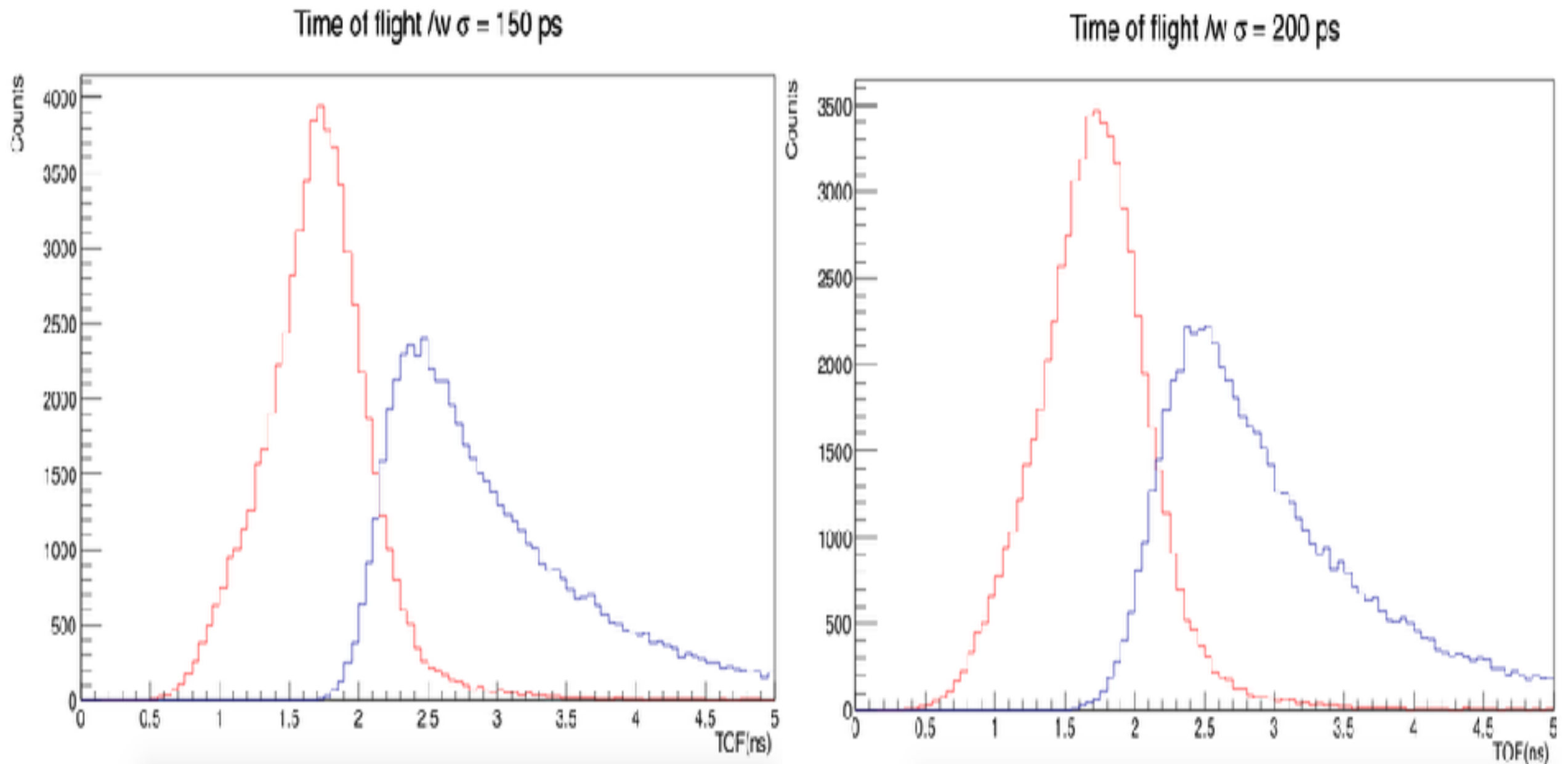
## Tof distributions of pi, p

Time of flight



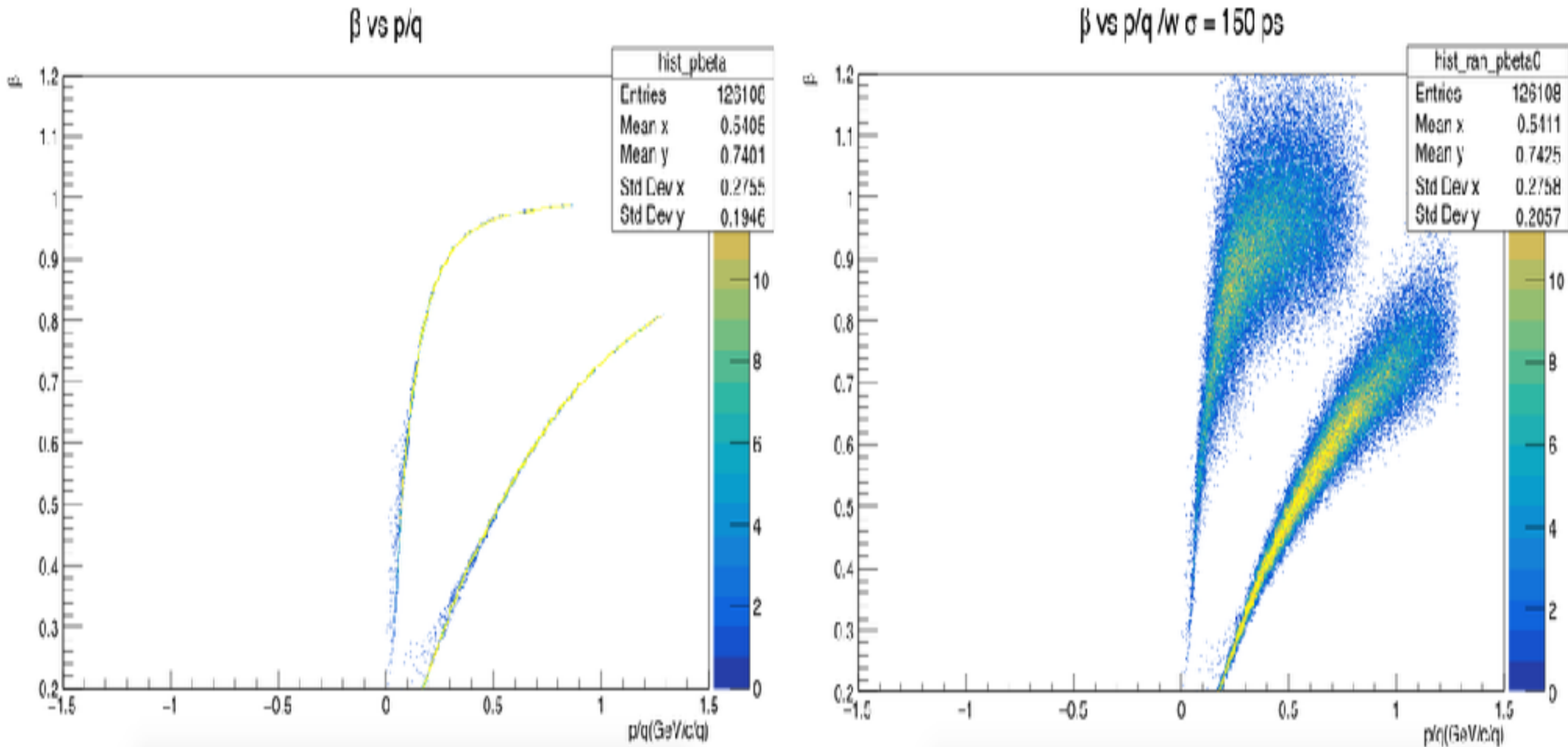
# ONLINE TRIGGER - TOF CUT

## Tof distributions of pi, p smeared with $\sigma_T$



# $\beta$ vs $p/q$ distribution smeared with $\sigma_T$

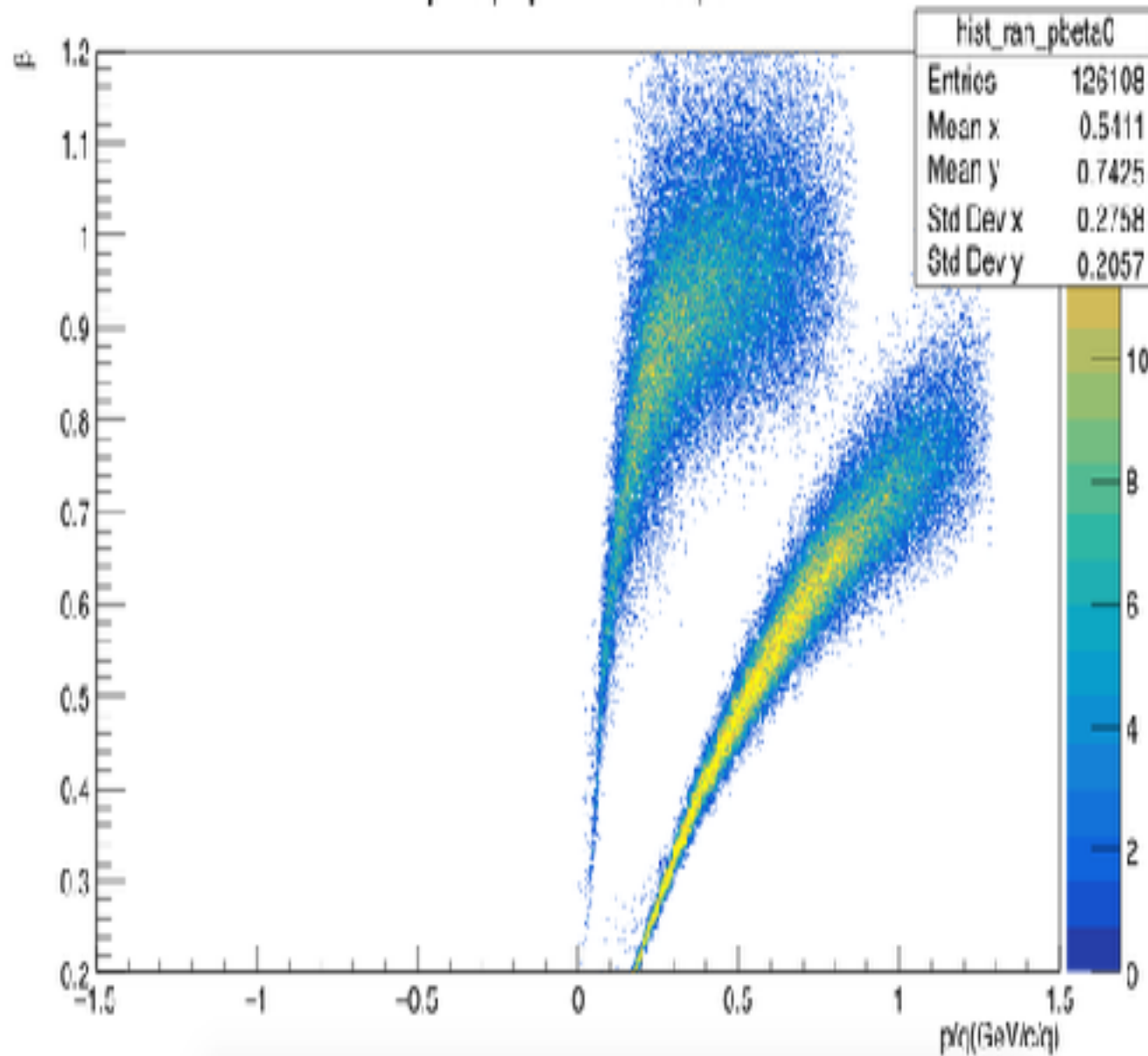
Momentum and position resolution are not yet included



# $\beta$ vs $p/q$ distribution smeared with $\sigma_T$

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 **$150 \text{ ps} < \sigma_T < 200 \text{ ps}$**

$\beta$  vs  $p/q$  /w  $\sigma = 150 \text{ ps}$



$\beta$  vs  $p/q$  /w  $\sigma = 200 \text{ ps}$

