# Embedding QA

## embedding + real

Color code for embedding and real data

MC (black)

Reconstructed embedding tracks* (red)

Real** (blue)

* matched pairs or contaminated pairs

** black is also used, see legend for each pad

# Event & track selections

## *** Event selections

z-vertex cut : $|v_z| < 220.0$ cm

trigger id cut : id = 730000

***NOTE: Trigger id cut for real data has to be made manually in doEmbeddingQAMaker.C***

## *** Track selections

$0.0 < p_T < 5.0$ GeV/c

$|\eta| < 10.00$

$|y| < 2.50$

nHitsFit > 10

nHitsFit/nHitsPoss > 0.51

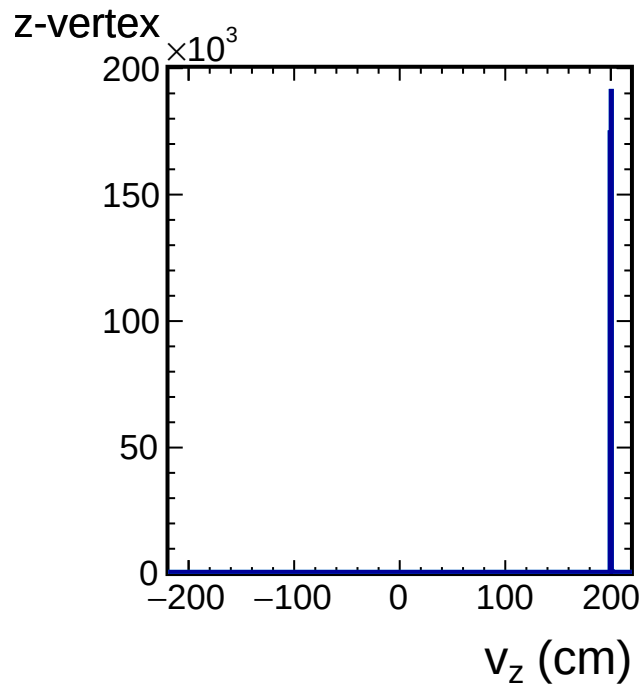
global Dca < 3.0 cm

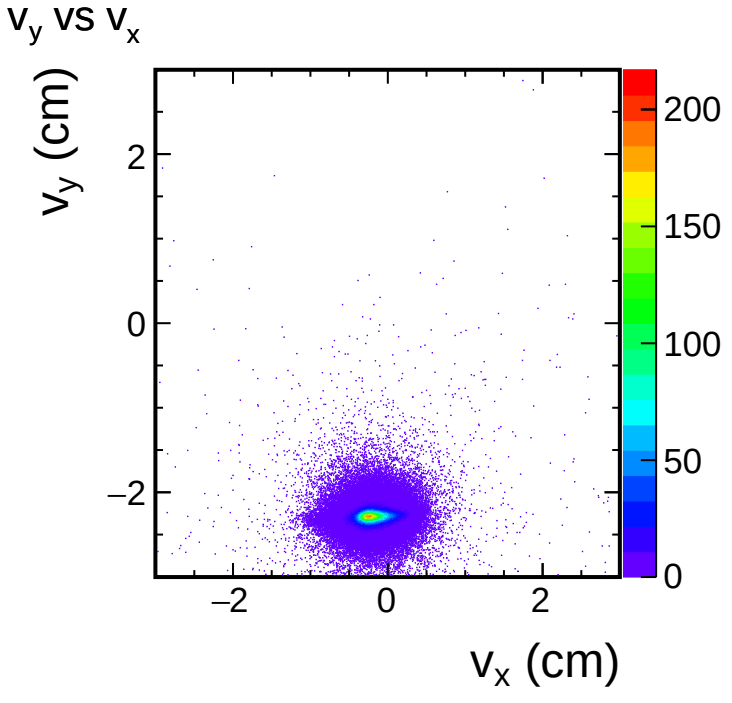
$|n\sigma| < 2.0$, using TPC dE/dx

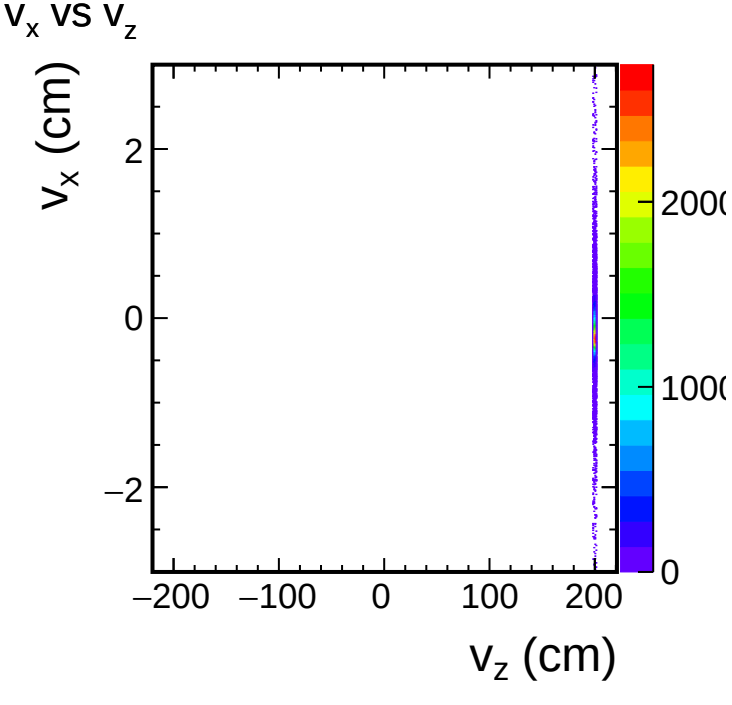
***NOTE1: Rapidity cut for real data has to be made manually in doEmbeddingQAMaker.C***

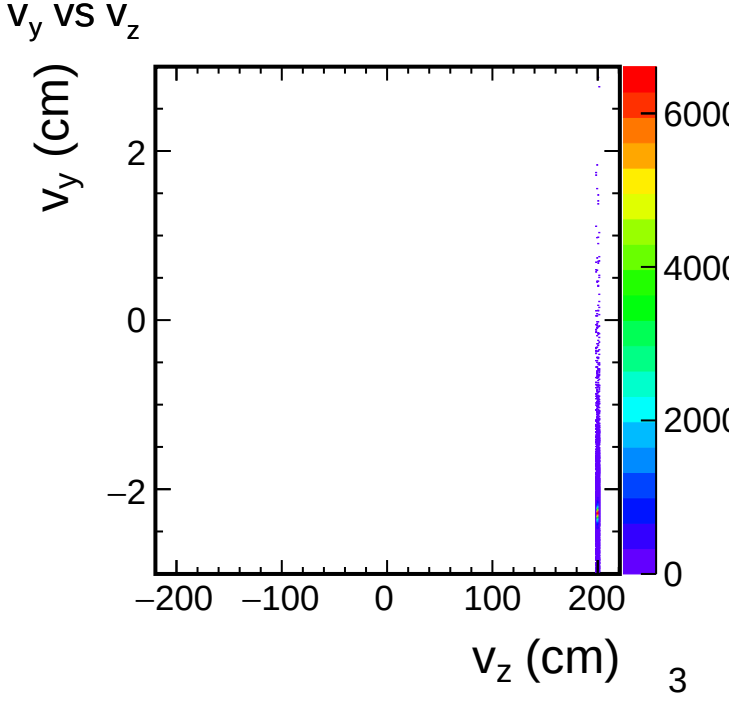
***NOTE2: Cut on its own variable is currently disabled, e.x. no dca cut for dca histogram***

Event vertices, offline cuts: -220.0 < $v_z$ < 220.0 cm



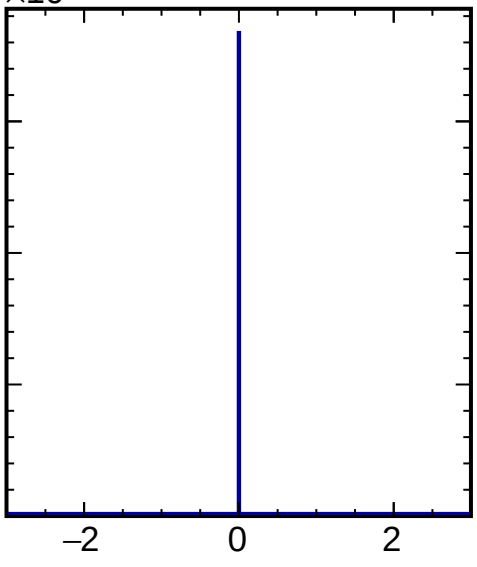



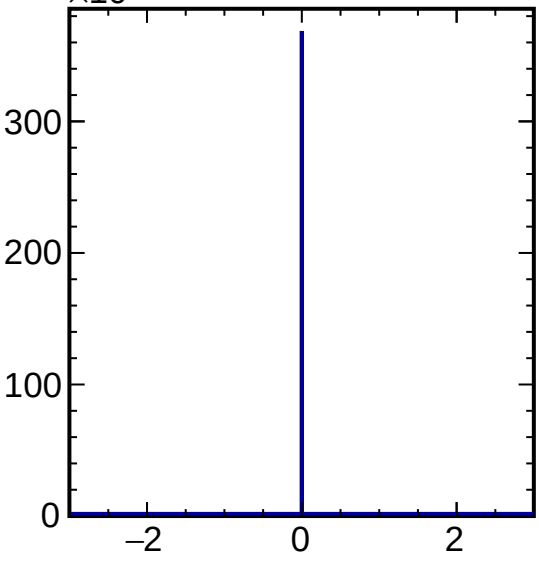
# Event vertices, Δv = v(Data) - v(MC)

= $v_x$ - $v_x$(MC)



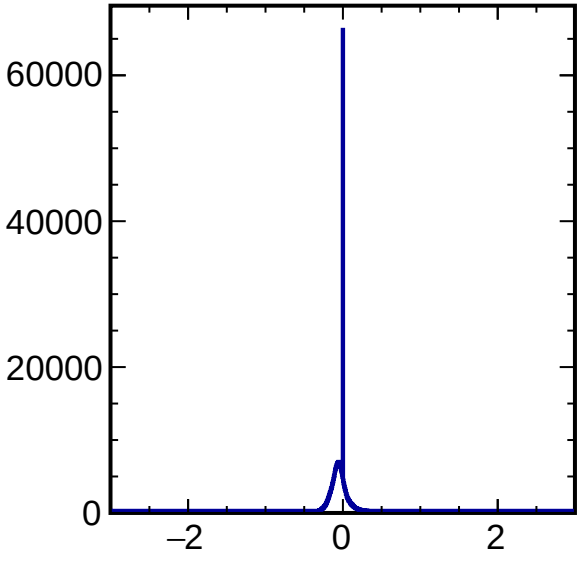

$\Delta v_x = v_x - v_x(MC)$ (cm)

= $v_y$ - $v_y$(MC)



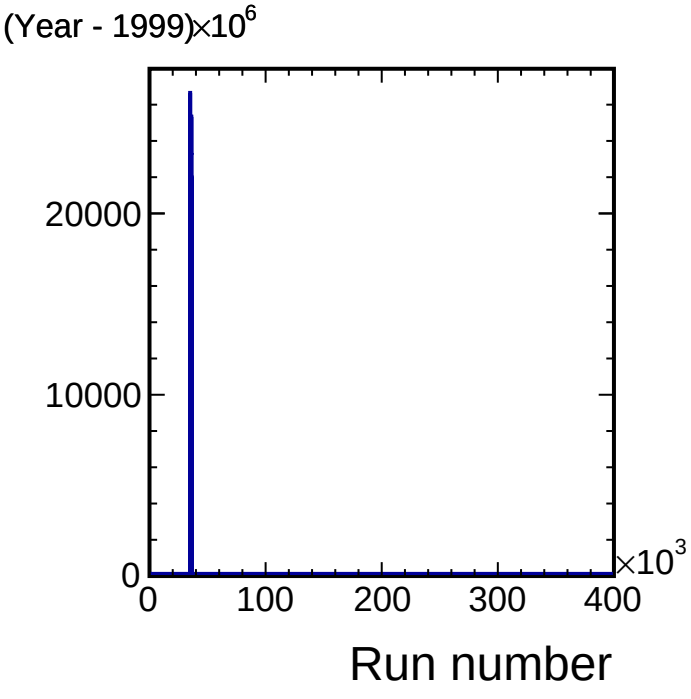

$\Delta v_y = v_y - v_y(MC)$ (cm)

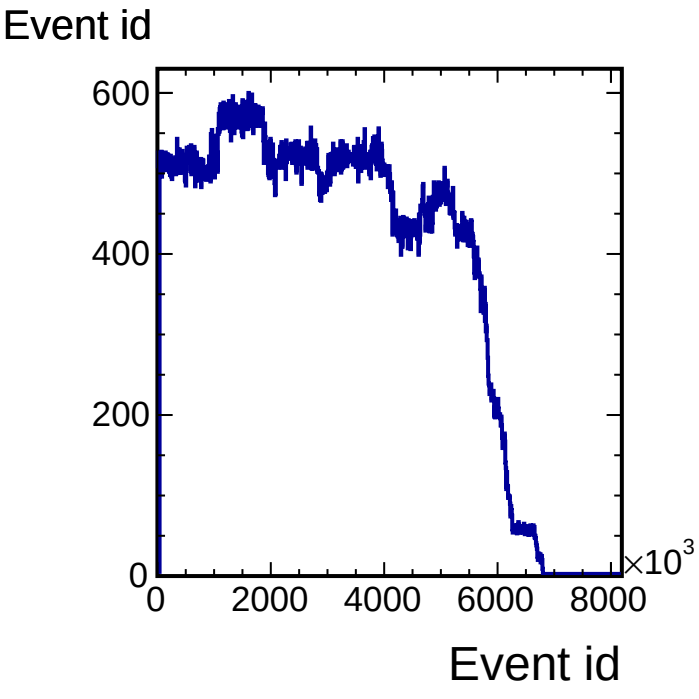
= $v_z$ - $v_z$(MC)




$\Delta v_z = v_z - v_z(MC)$ (cm)

# Run and event id




| Run id | statistics |
|---|---|
| 21035003 | 26648 events |
| 21035004 | 17592 events |
| 21035005 | 22313 events |
| 21035006 | 6871 events |
| 21035007 | 4158 events |
| 21035009 | 8957 events |

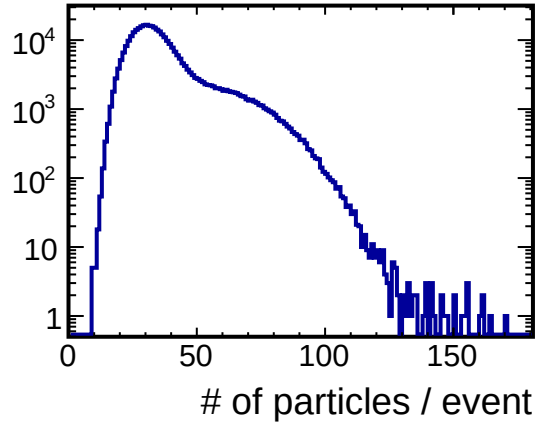
| Run id | statistics |
|---|---|
| 21035012 | 10140 events |
| 21035013 | 16761 events |
| 21035016 | 15198 events |
| 21035017 | 8347 events |
| 21035025 | 15011 events |
| 21035026 | 18243 events |

| Run id | statistics |
|---|---|
| 21035027 | 12961 events |
| 21035028 | 8228 events |
| 21035031 | 21259 events |
| 21035032 | 16000 events |
| 21035033 | 16931 events |
| 21035036 | 15306 events |

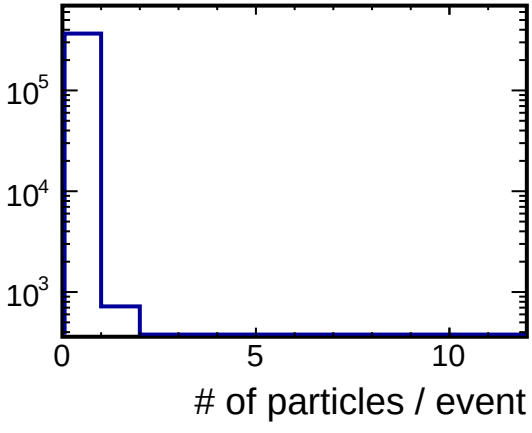
| Run id | statistics |
|---|---|
| 21036002 | 2792 events |
| 21036003 | 2744 events |
| 21036006 | 25338 events |
| 21036007 | 23226 events |
| 21036008 | 14107 events |
| 21036009 | 21986 events |
| 21036013 | 16132 events |

# Multiplicity distribution

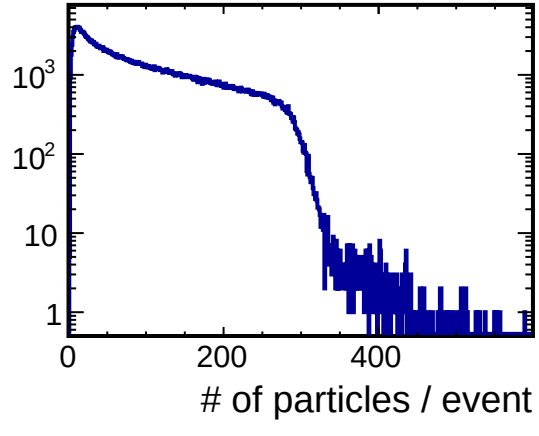
MC tracks



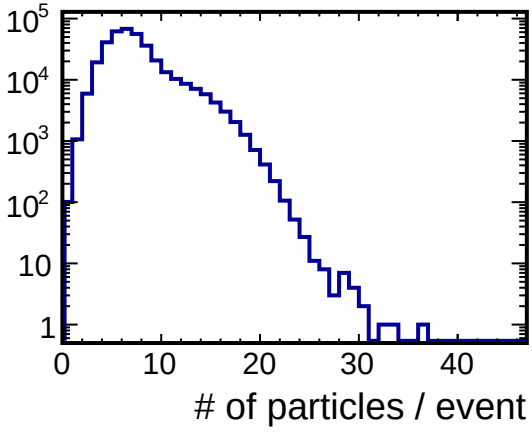

Matched pairs



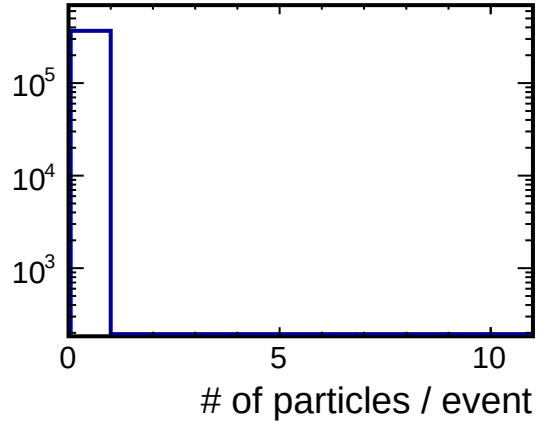

Ghost pairs



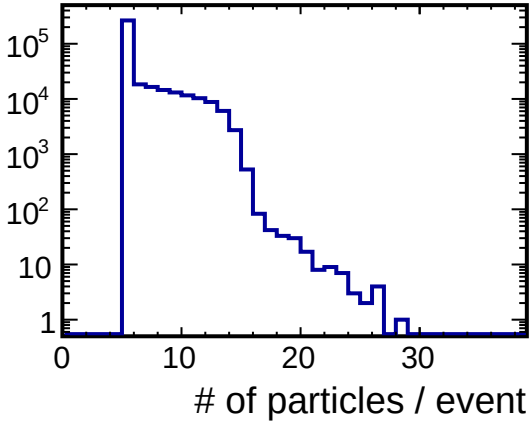

ıtaminated pairs



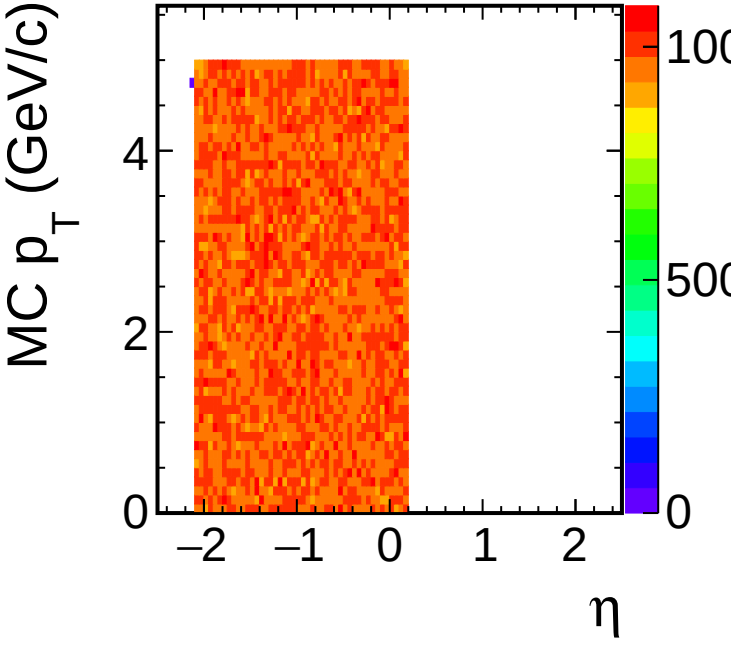

ched global pairs

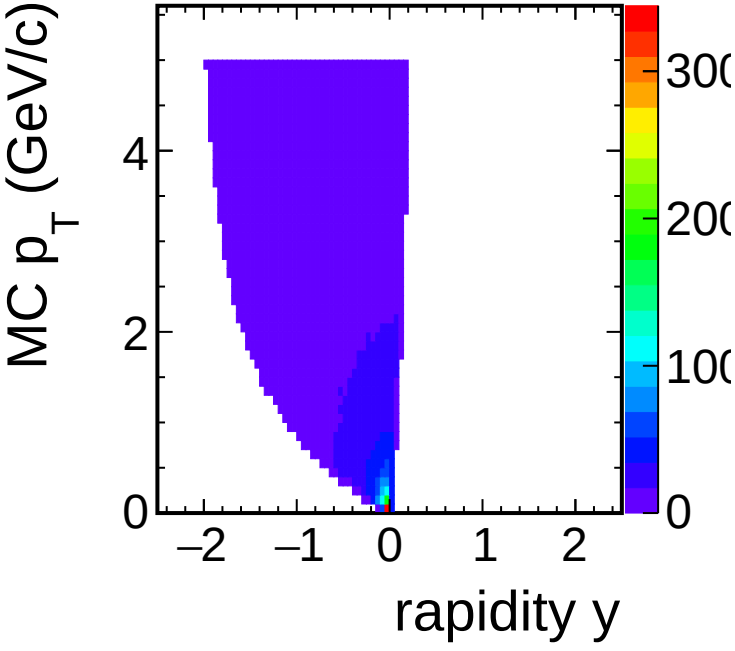


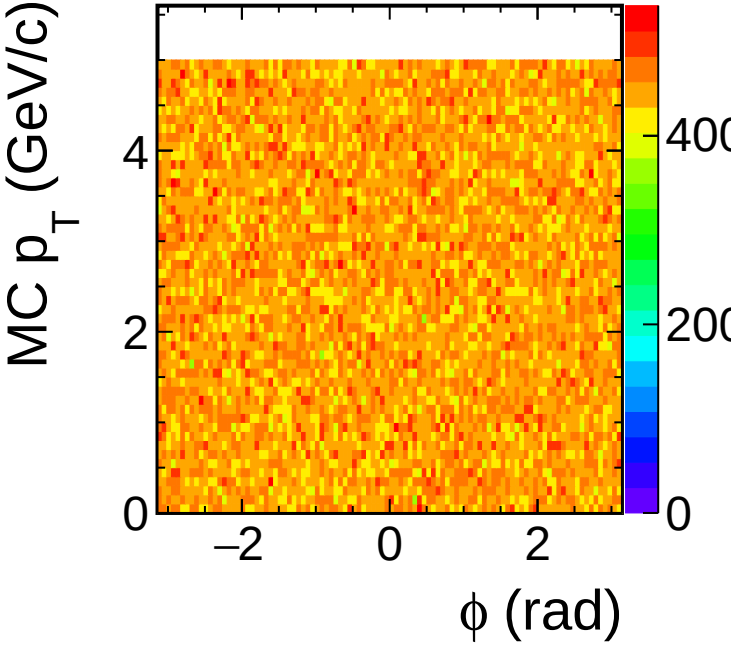

mary MC tracks



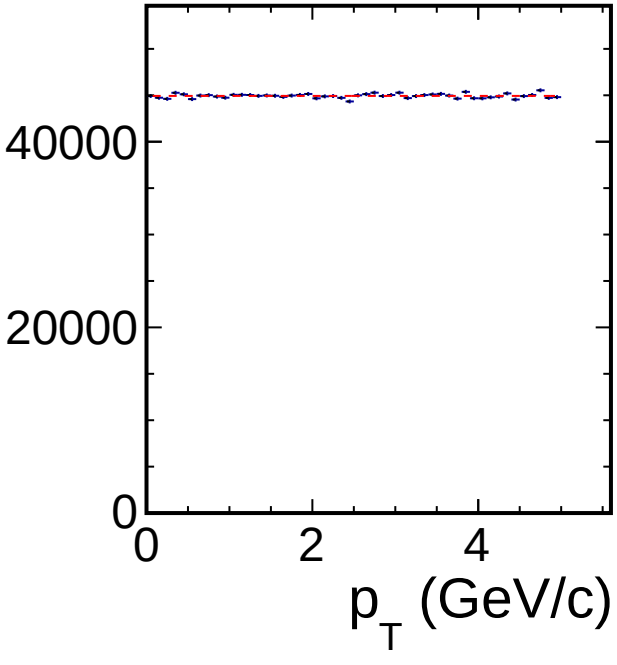
# MC track QA (2D)

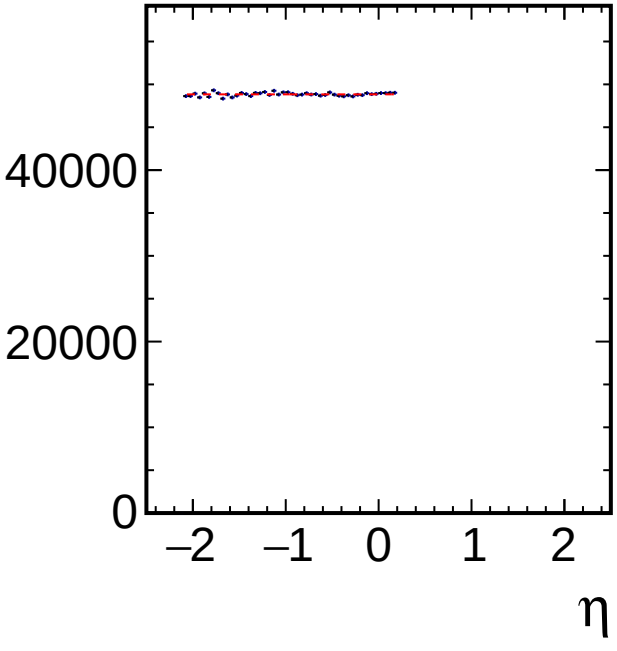


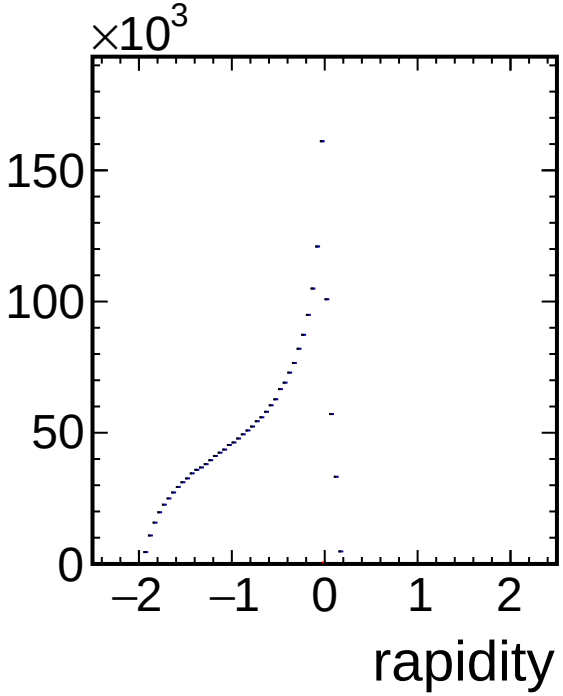



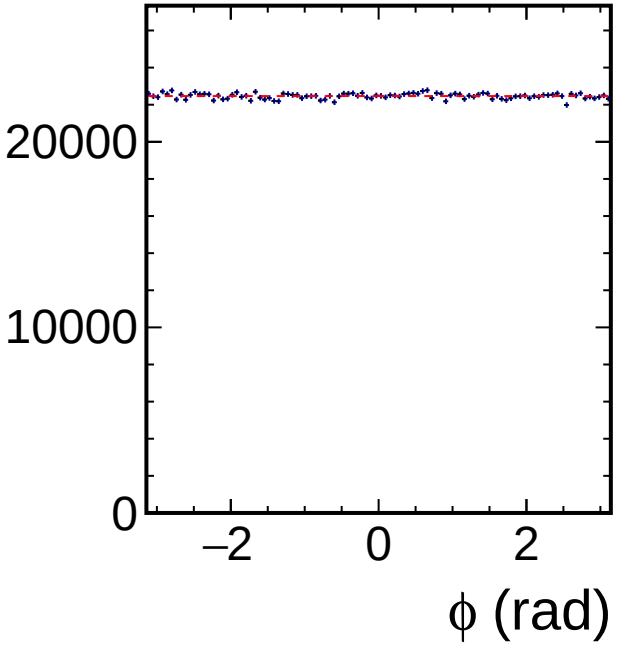



# MC track QA (1D)



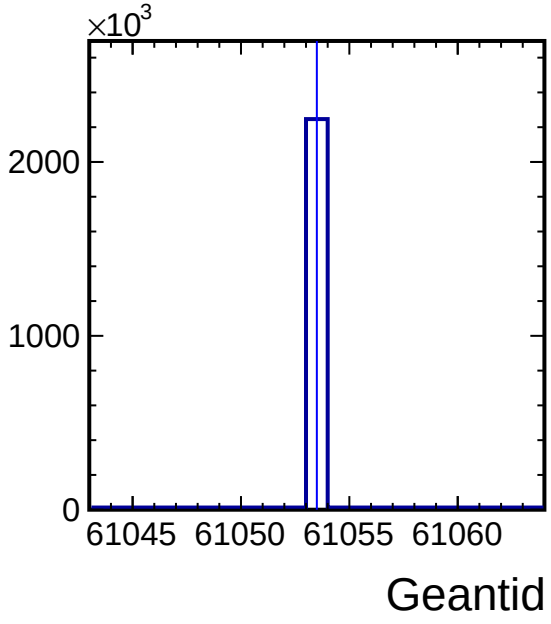



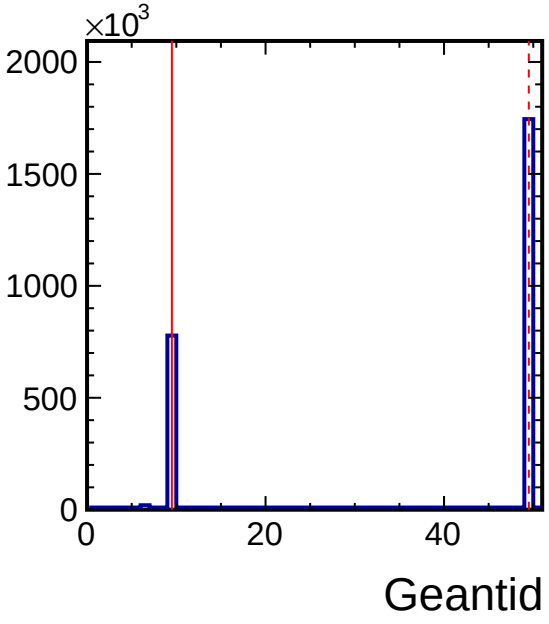



# Geant id

ıt id for HyperTriton




tructed geant id



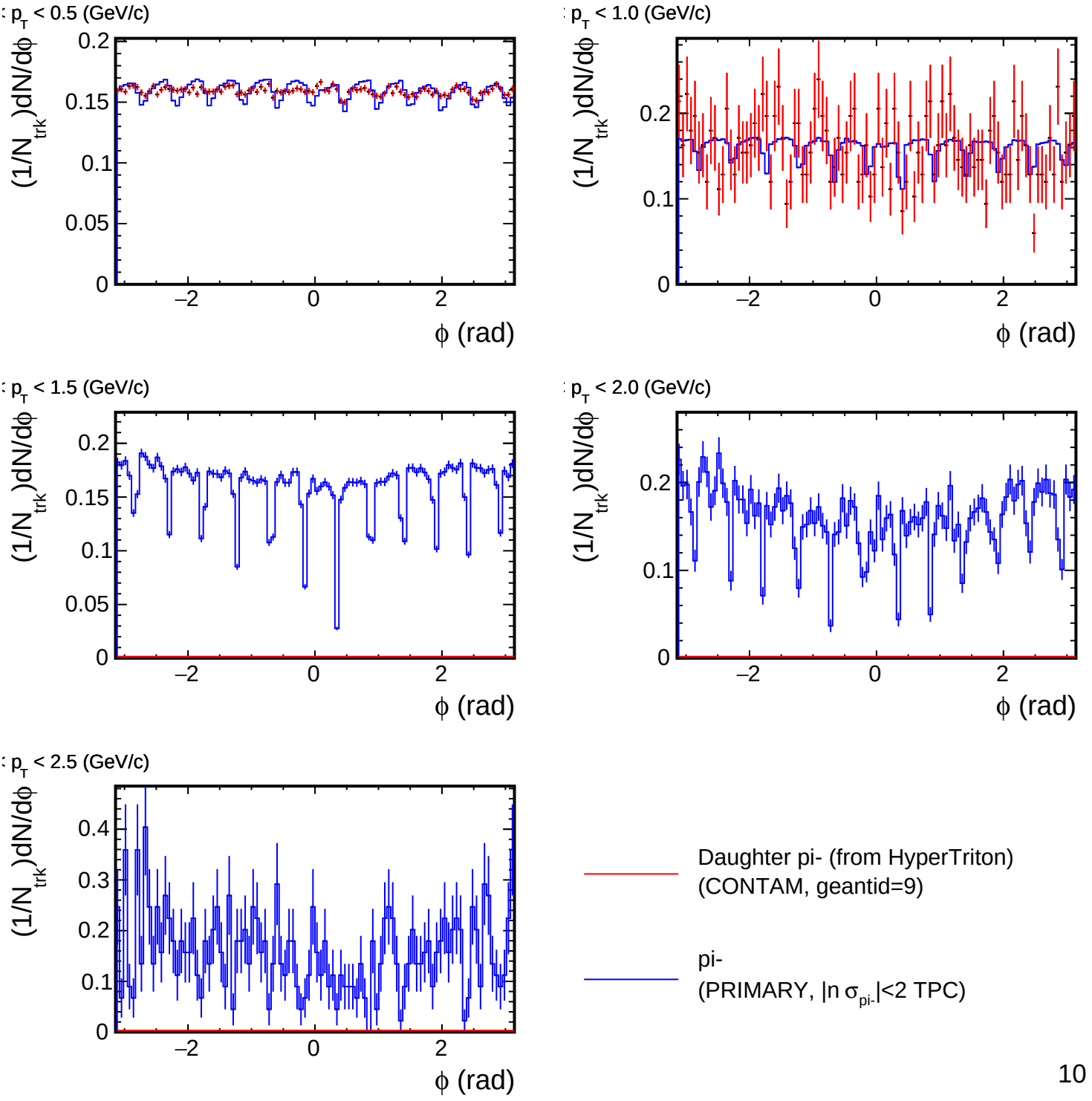

Particle informations

Parent HyperTriton (MC, geantid=61053)

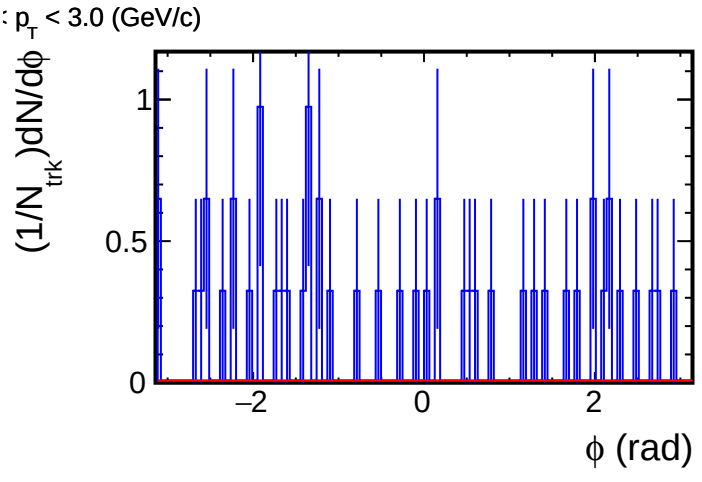
Daughter pi- (from HyperTriton) (CONTAM, geantid=9)

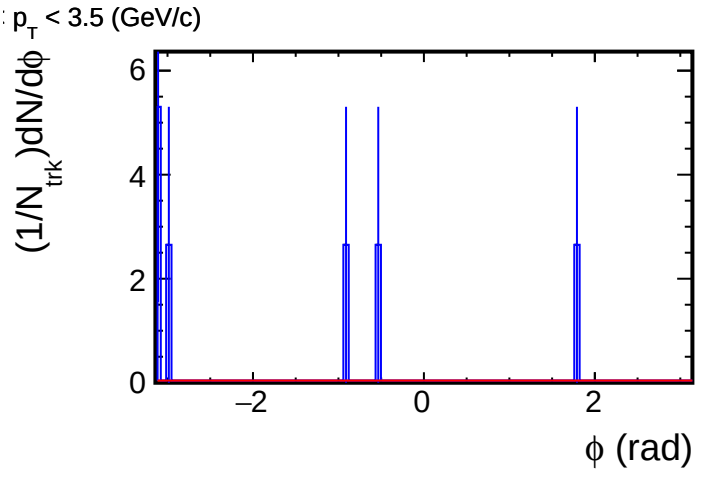
Daughter He3 (from HyperTriton) (CONTAM, geantid=49)

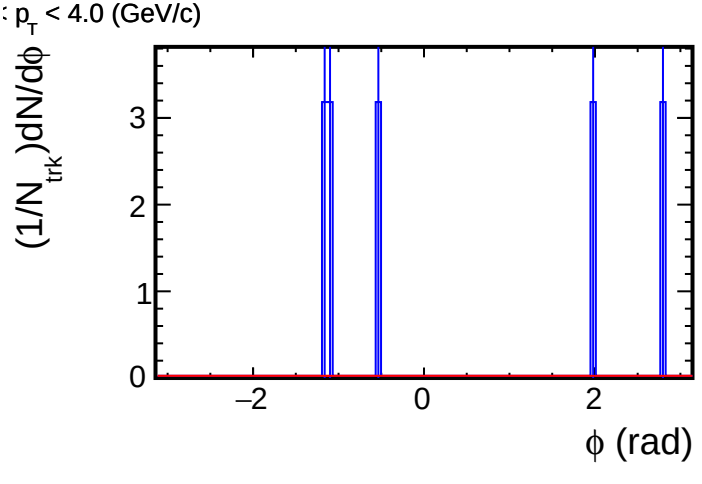
# Projection of $\phi$ for each $p_T$ bin

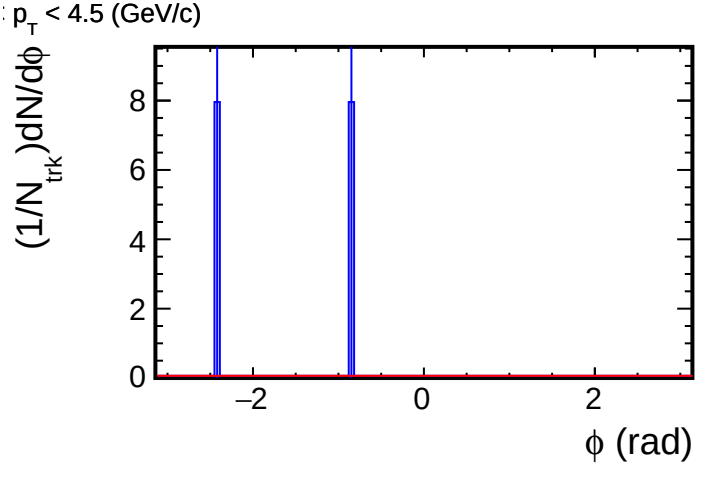


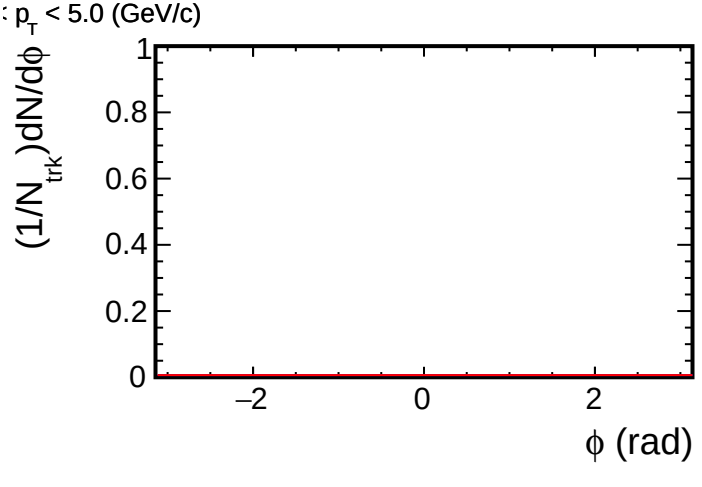
# Projection of $\phi$ for each $p_T$ bin



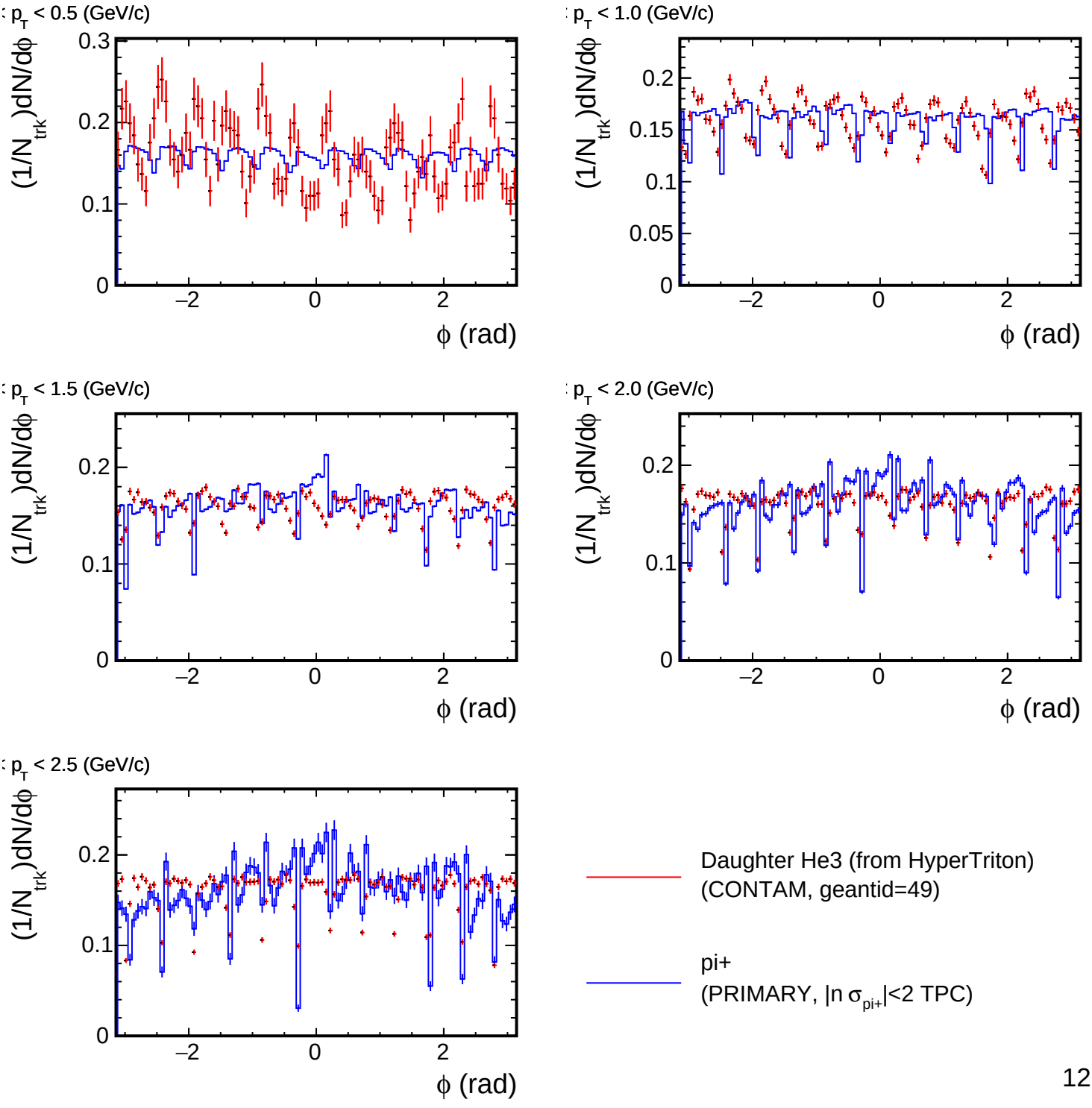



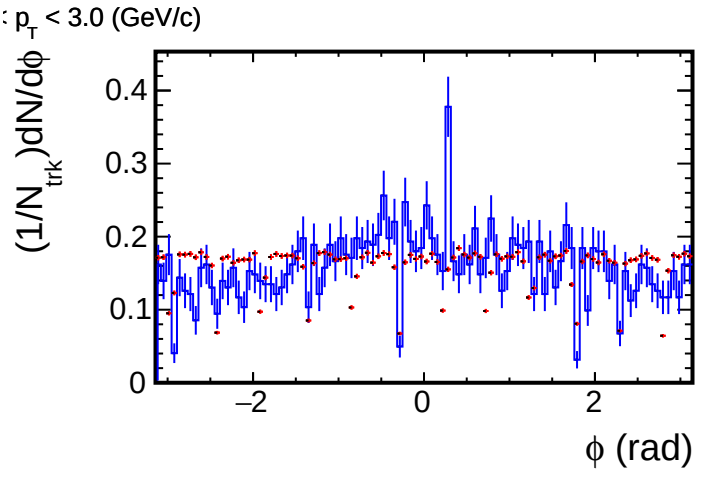

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

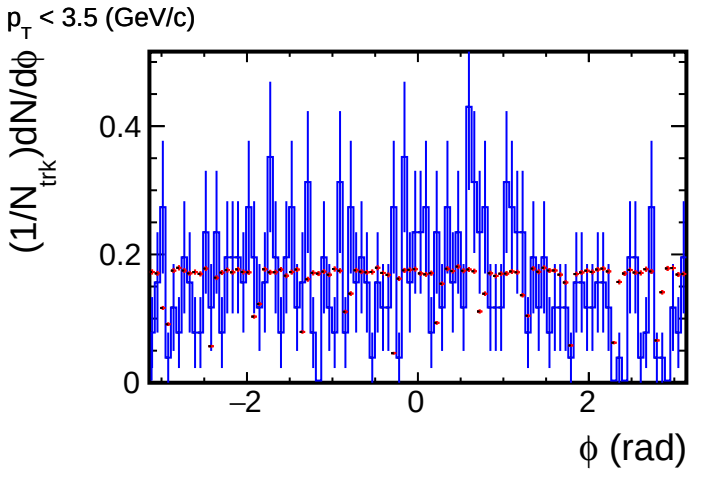
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

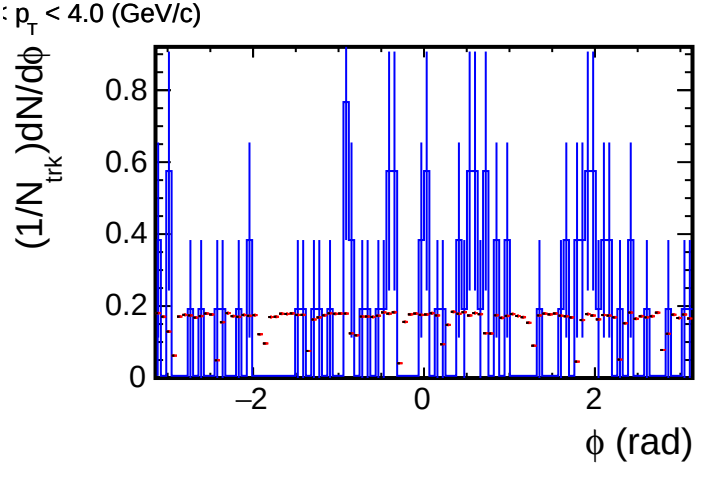
# Projection of $\phi$ for each $p_T$ bin

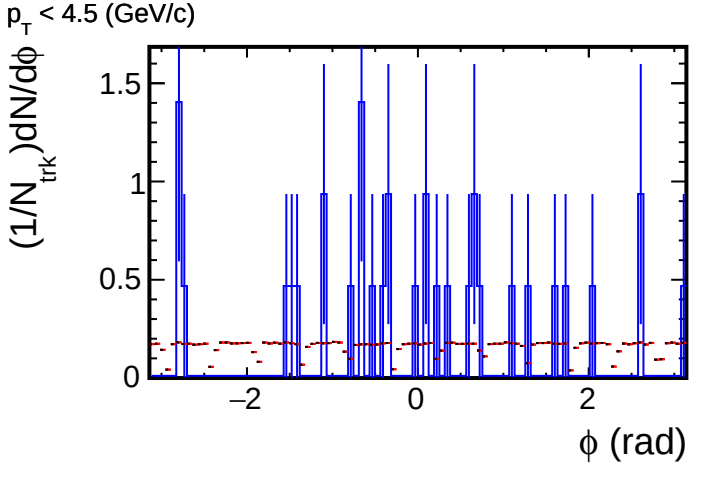


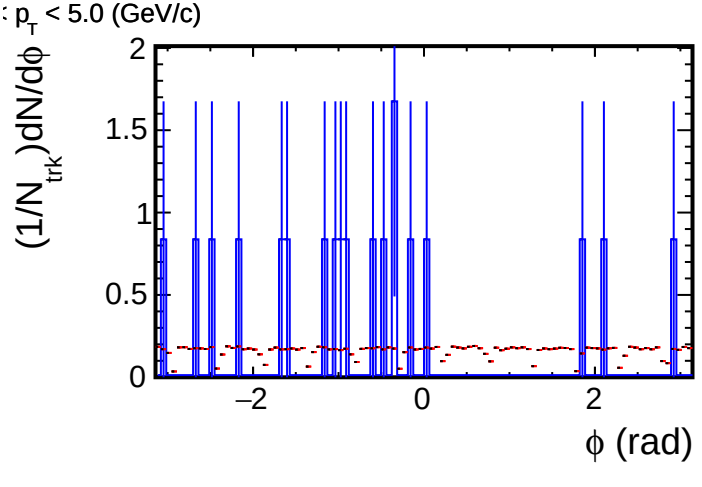
# Projection of $\phi$ for each $p_T$ bin



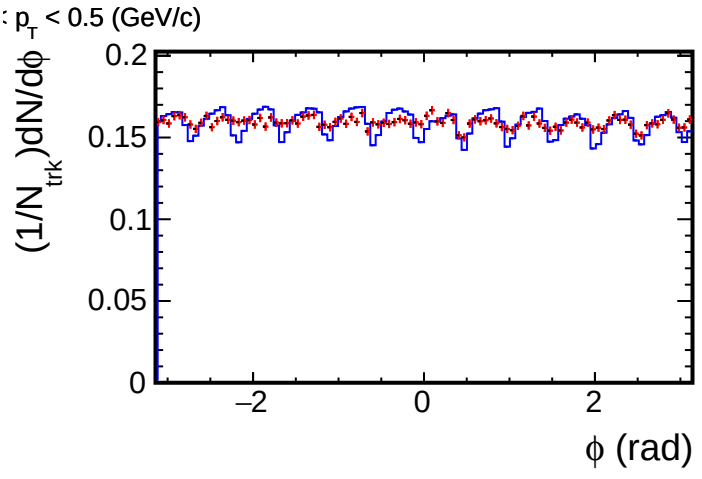



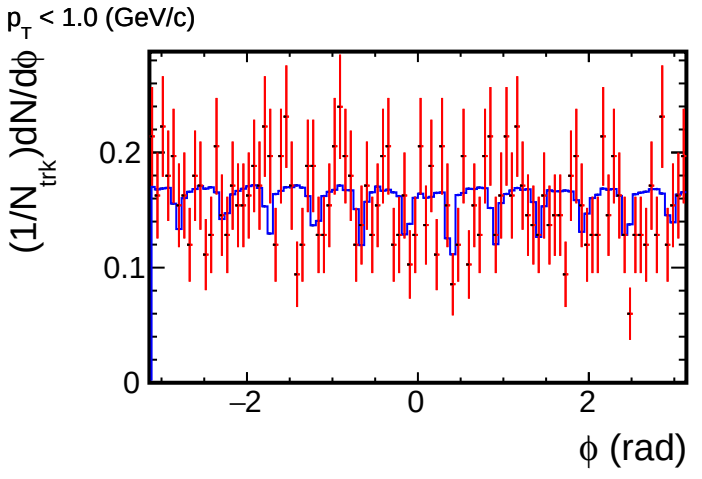



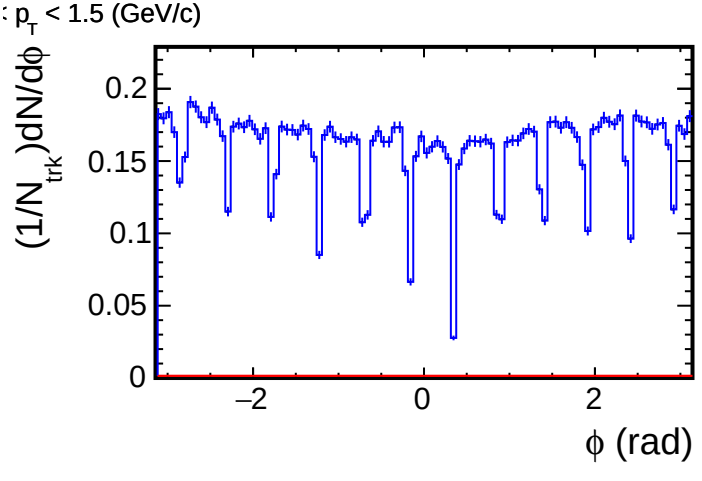

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

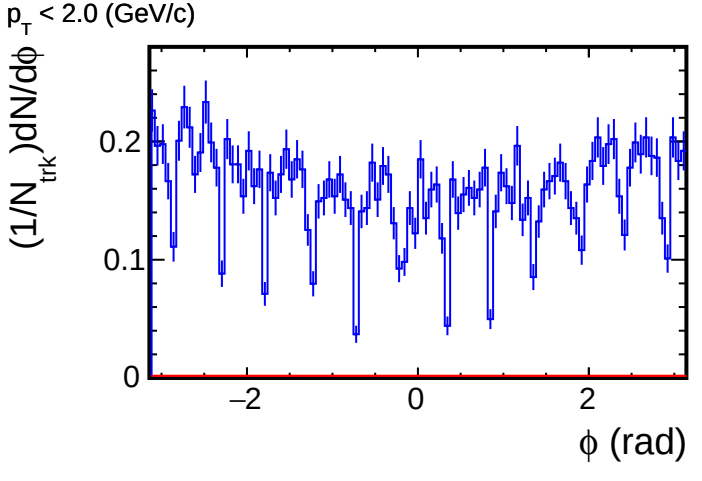
pi+
(PRIMARY, $|n\sigma_{pi+}|$<2 TPC)

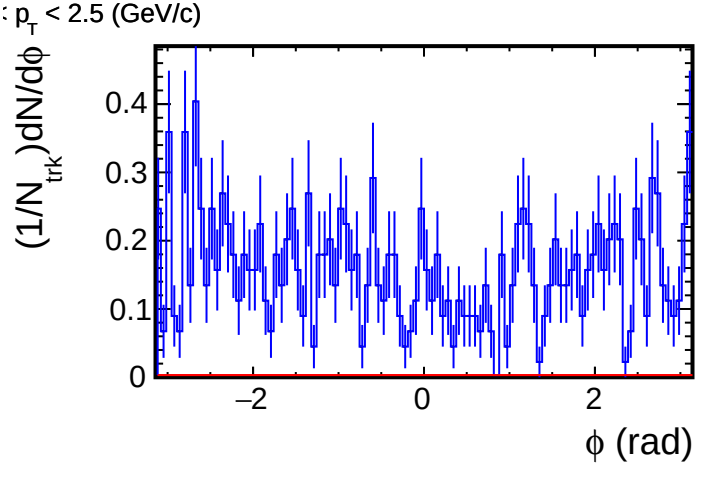
# Projection of $\phi$ for each $p_T$ bin



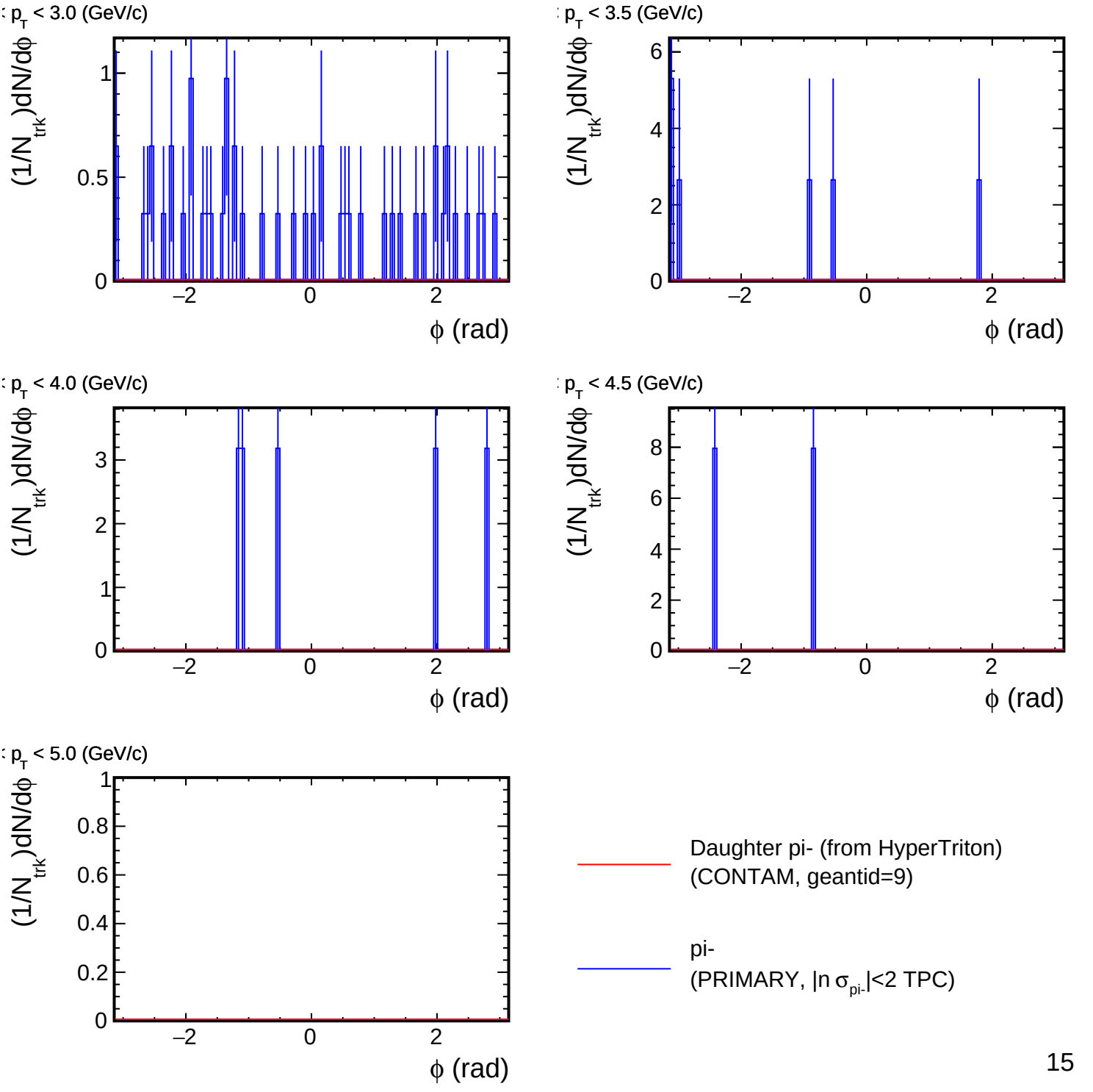



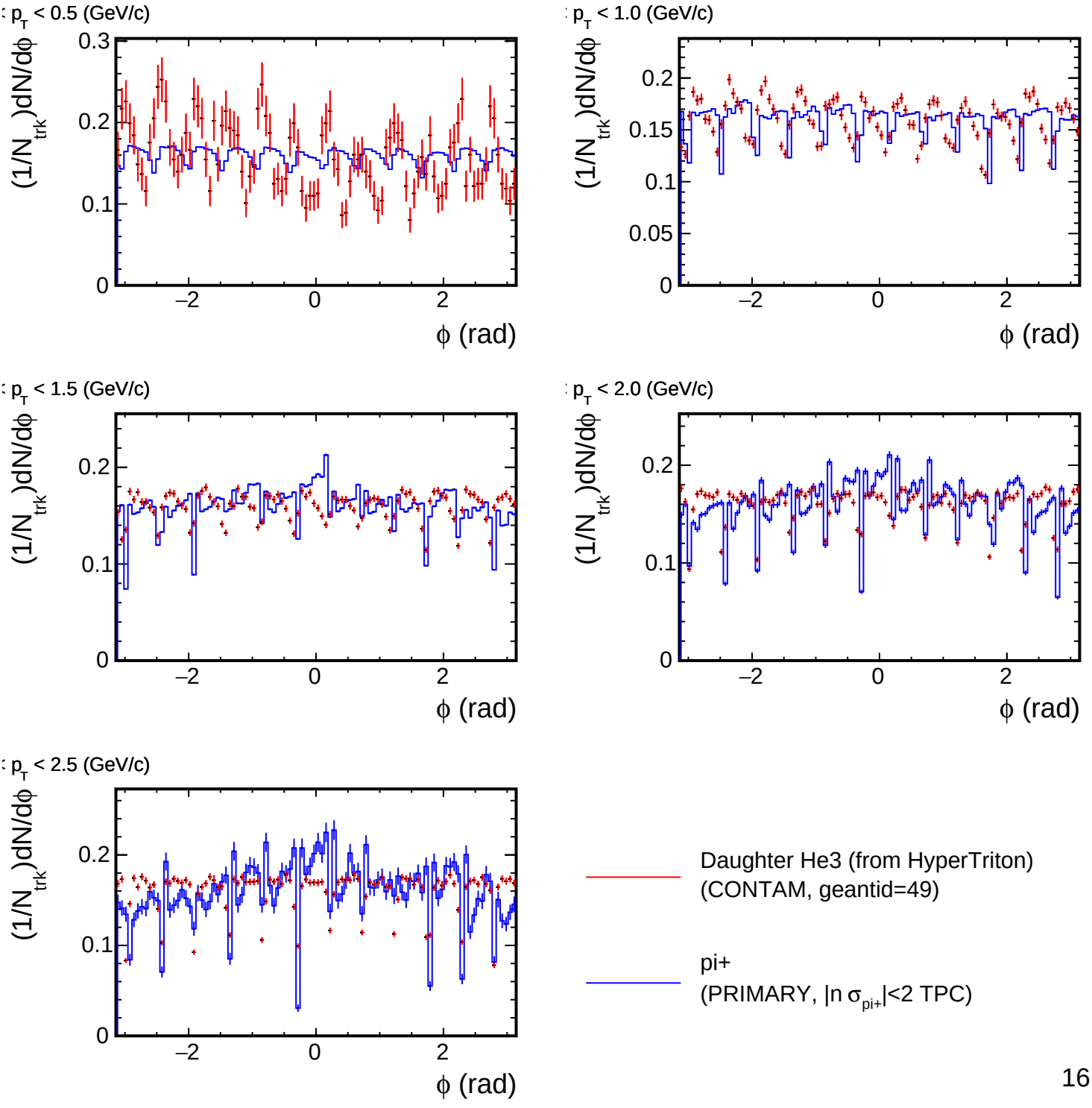

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

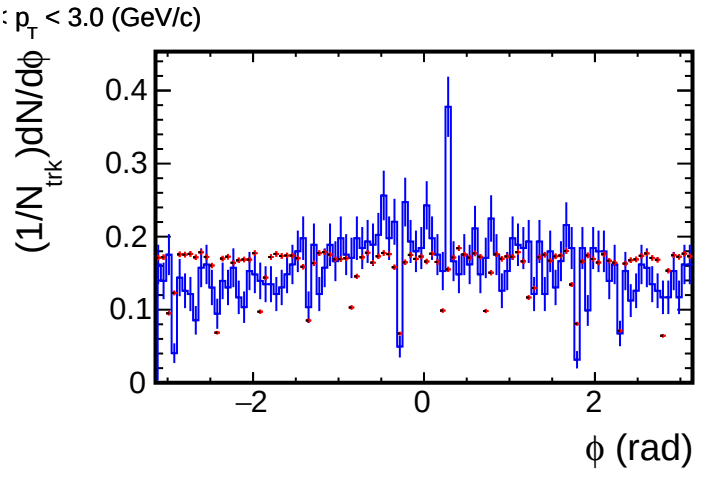
# Projection of $\phi$ for each $p_T$ bin

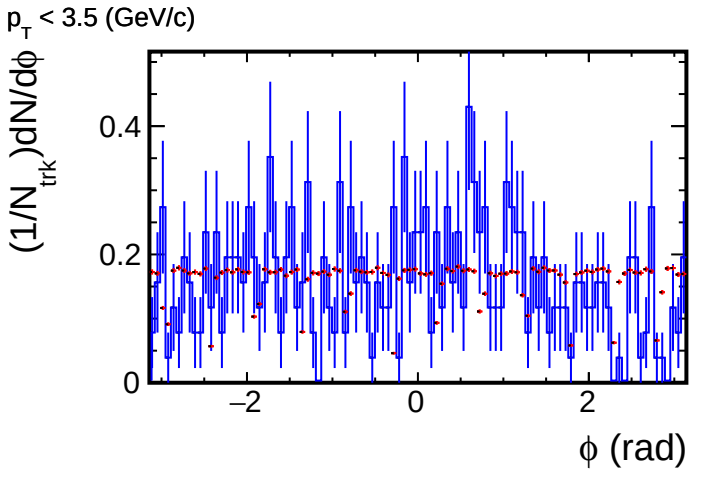


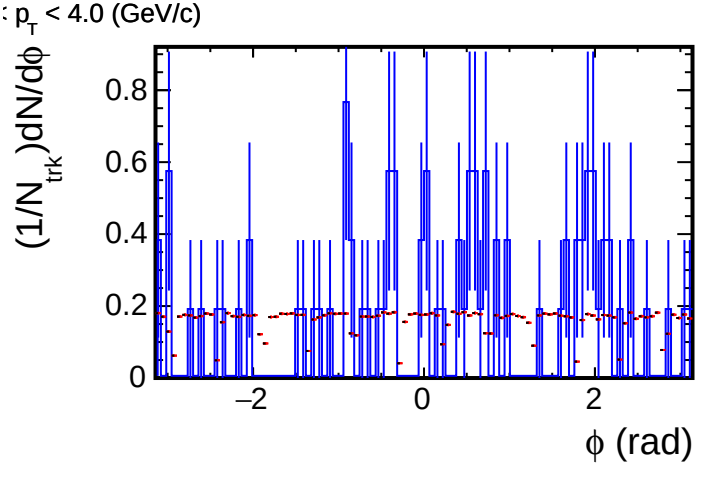
# Projection of $\phi$ for each $p_T$ bin

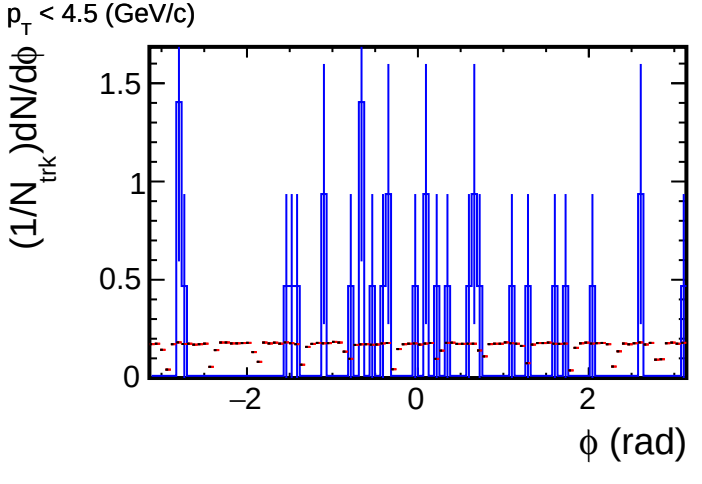


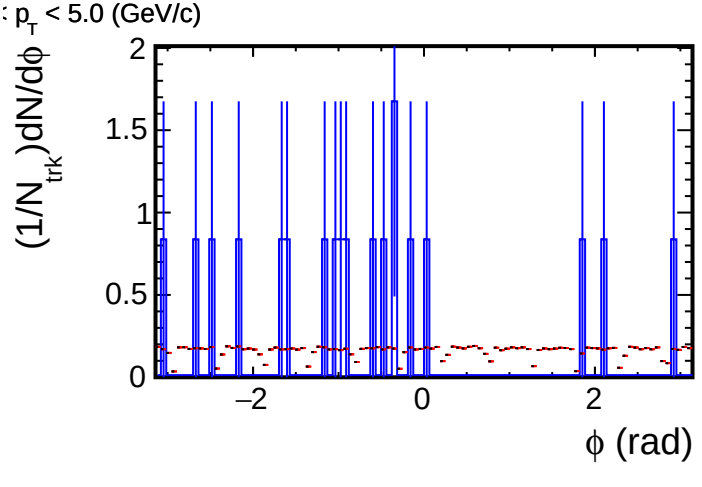
# Projection of $\phi$ for each $p_T$ bin



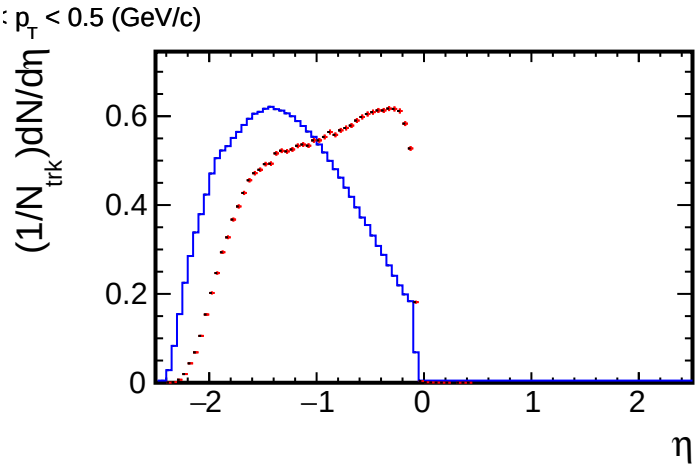



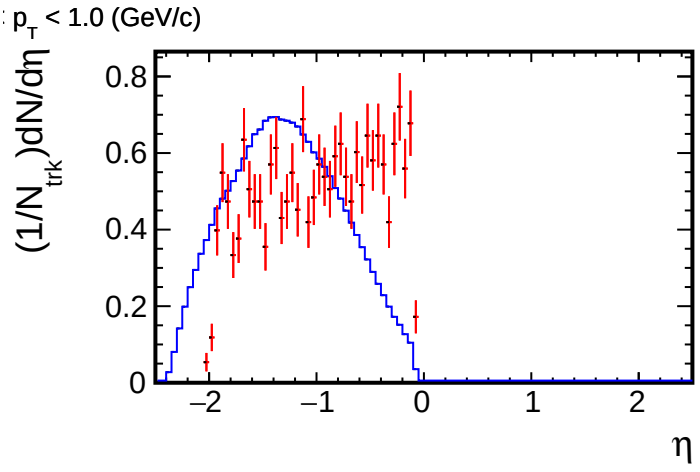



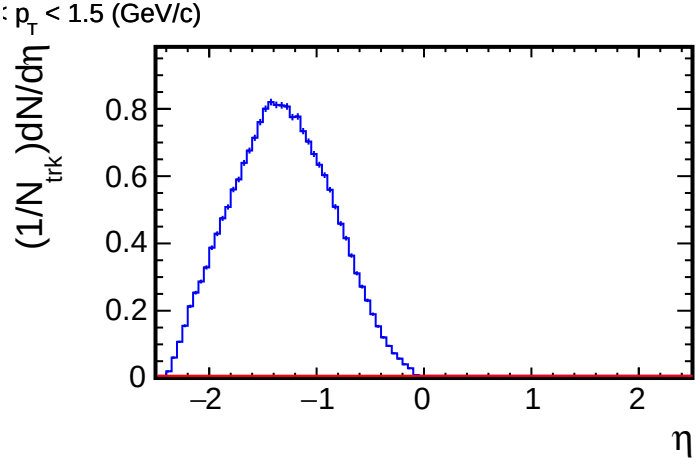

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

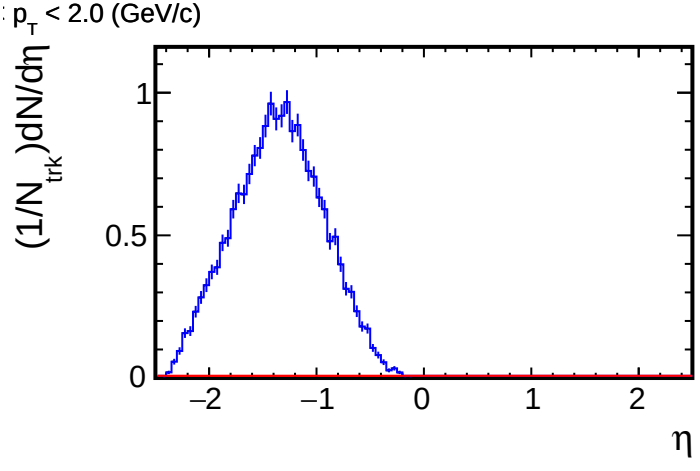
pi+
(PRIMARY, $|n\sigma_{pi+}|$<2 TPC)

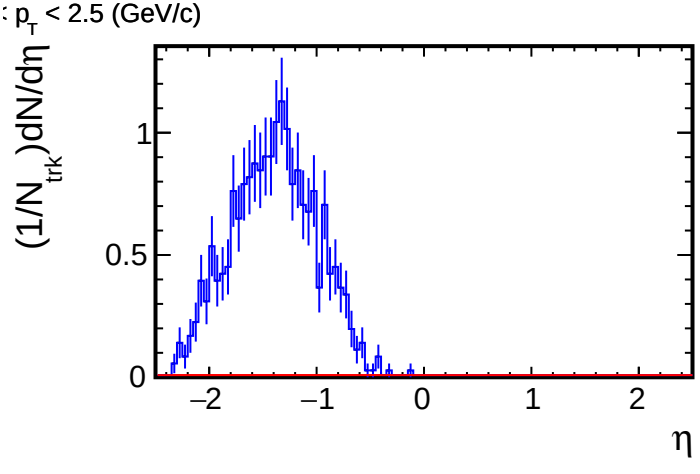
# Projection of η for each $p_T$ bin



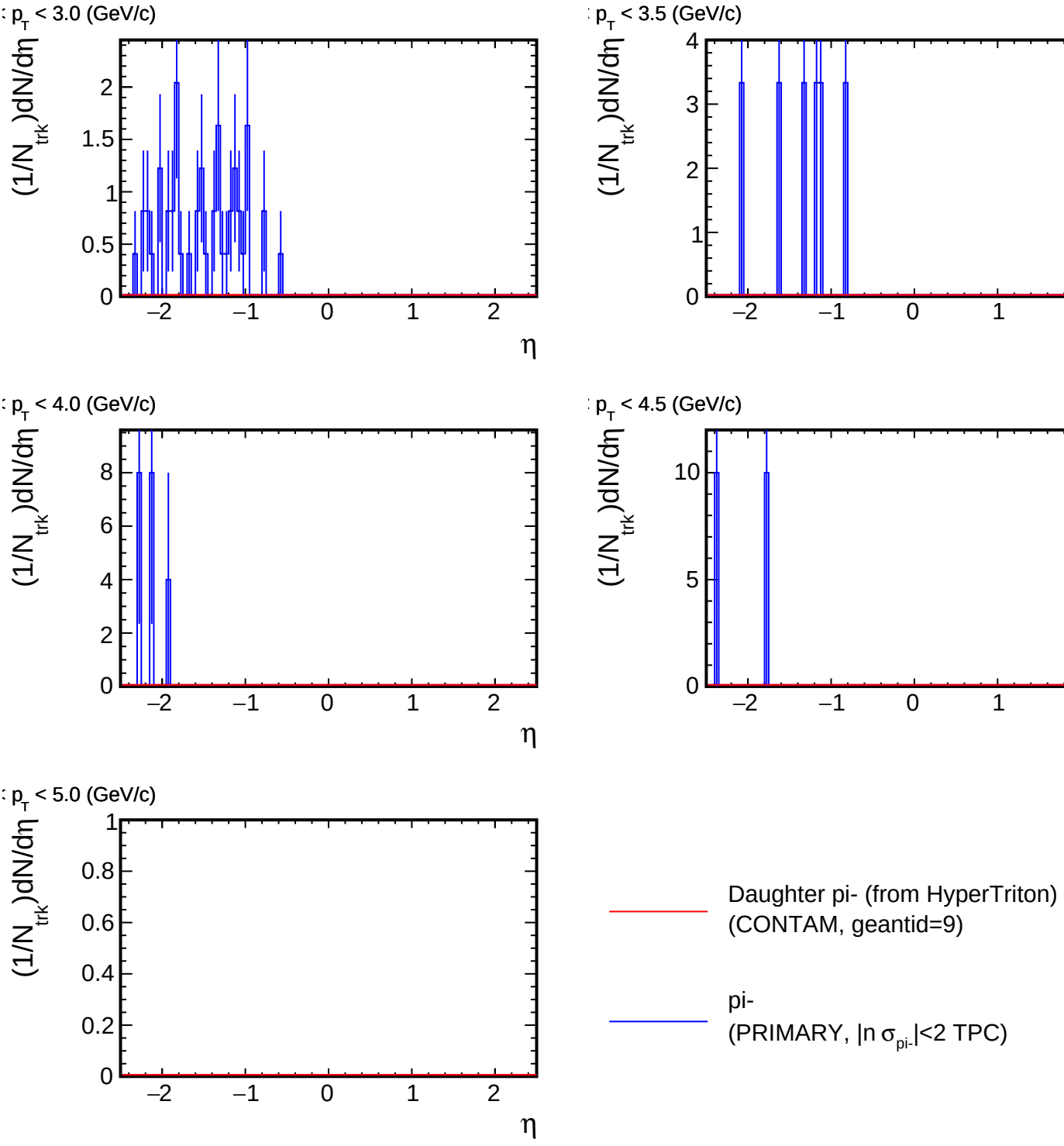



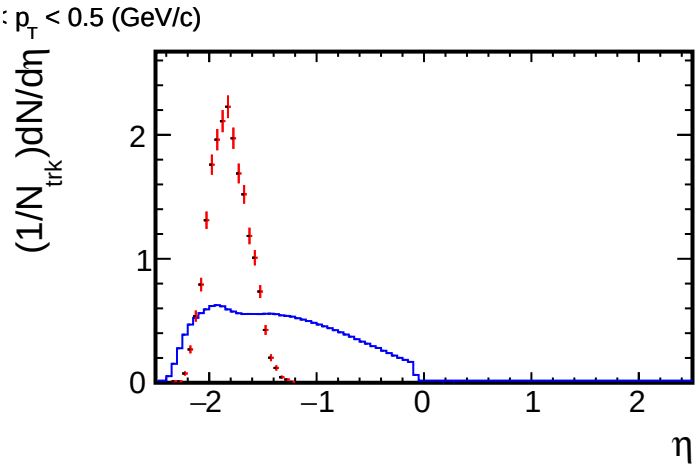

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

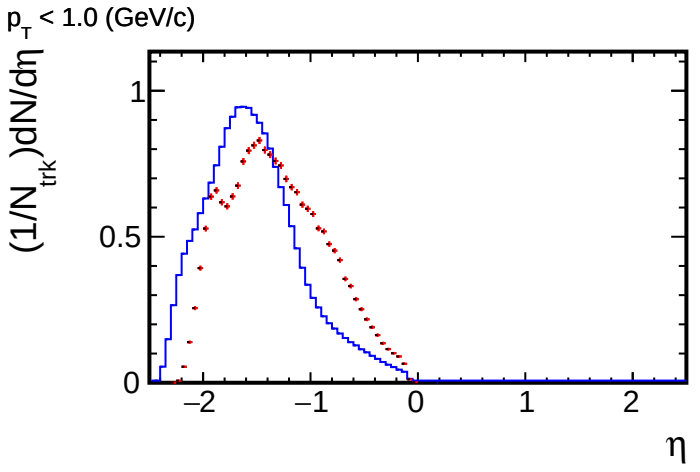
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

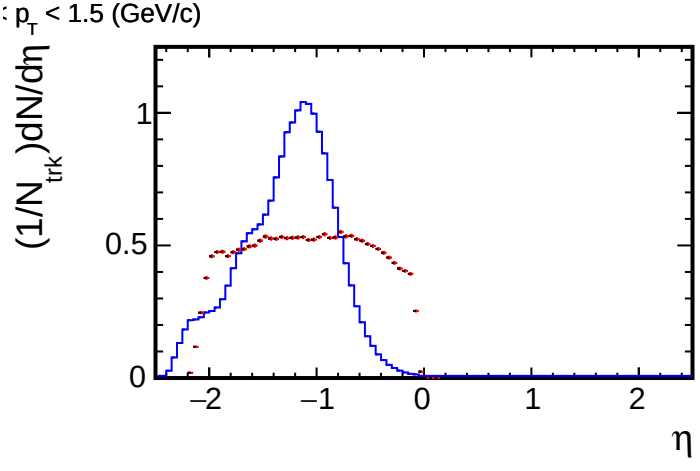
# Projection of η for each $p_T$ bin

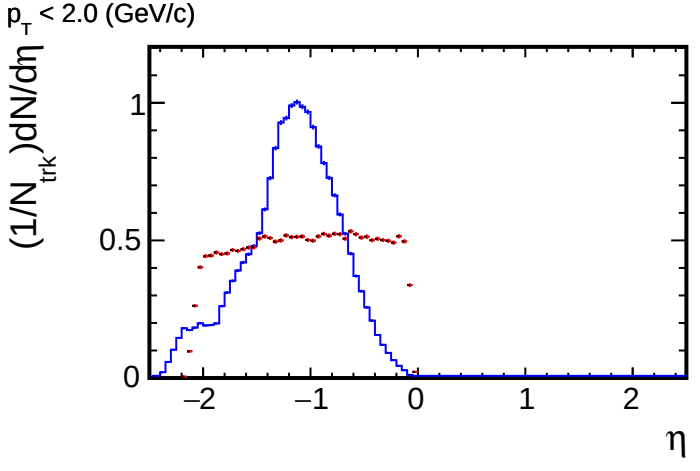


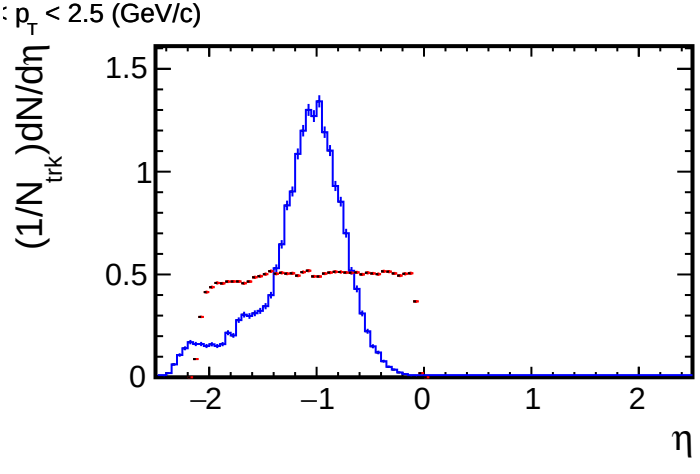
# Projection of η for each $p_T$ bin



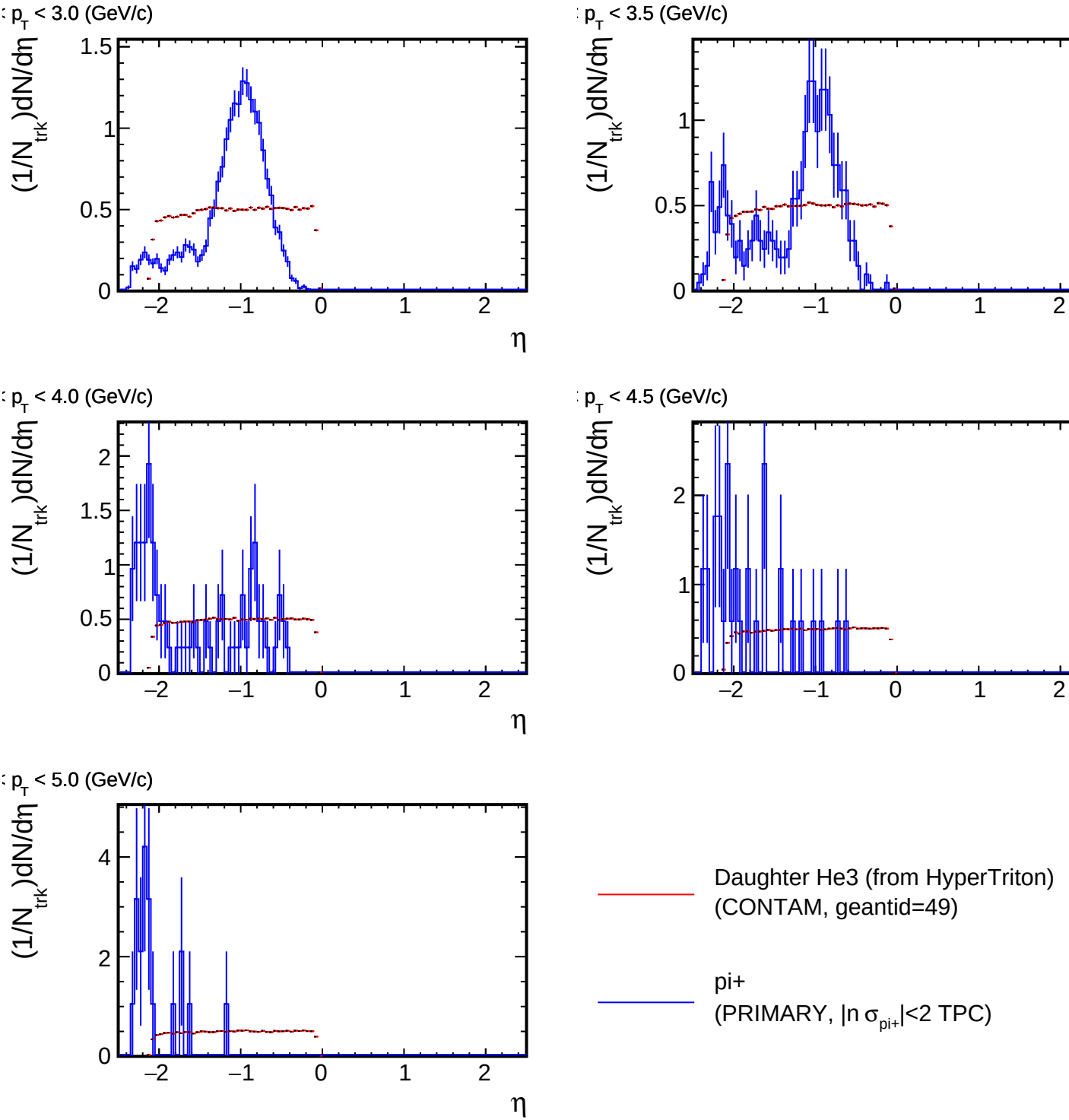



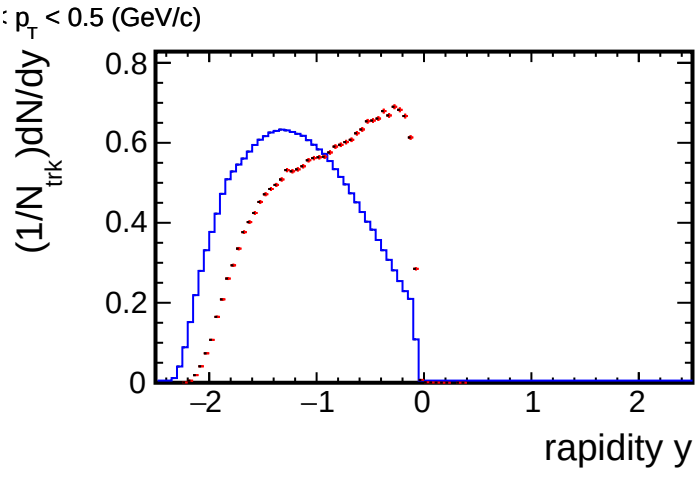

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

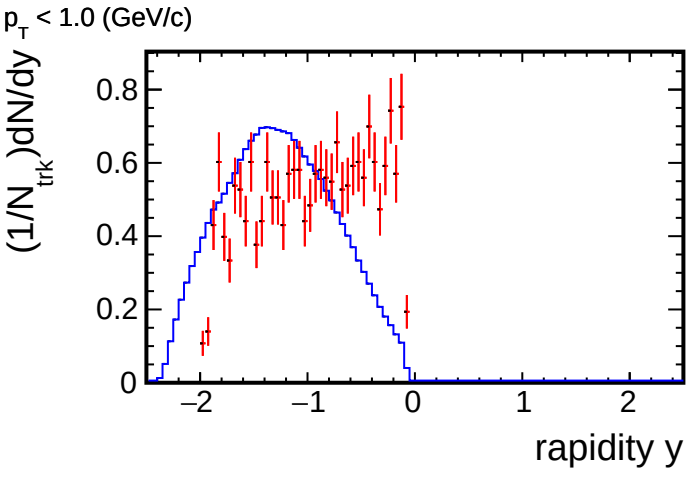
pi+
(PRIMARY, $|n\sigma_{pi+}|$<2 TPC)

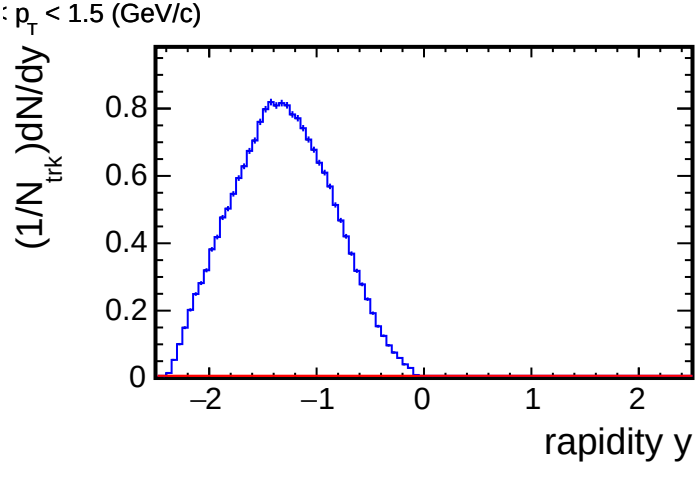
# Projection of η for each $p_T$ bin

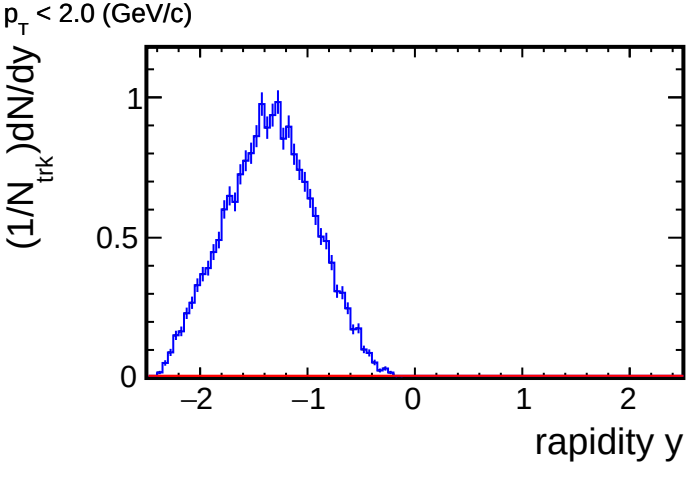


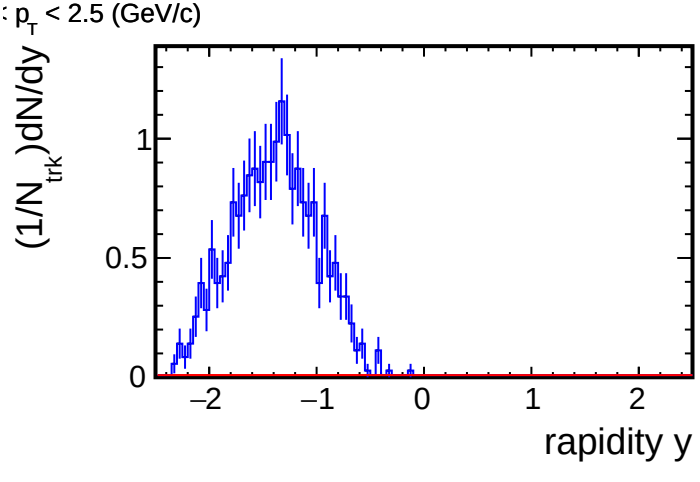
# Projection of y for each $p_T$ bin



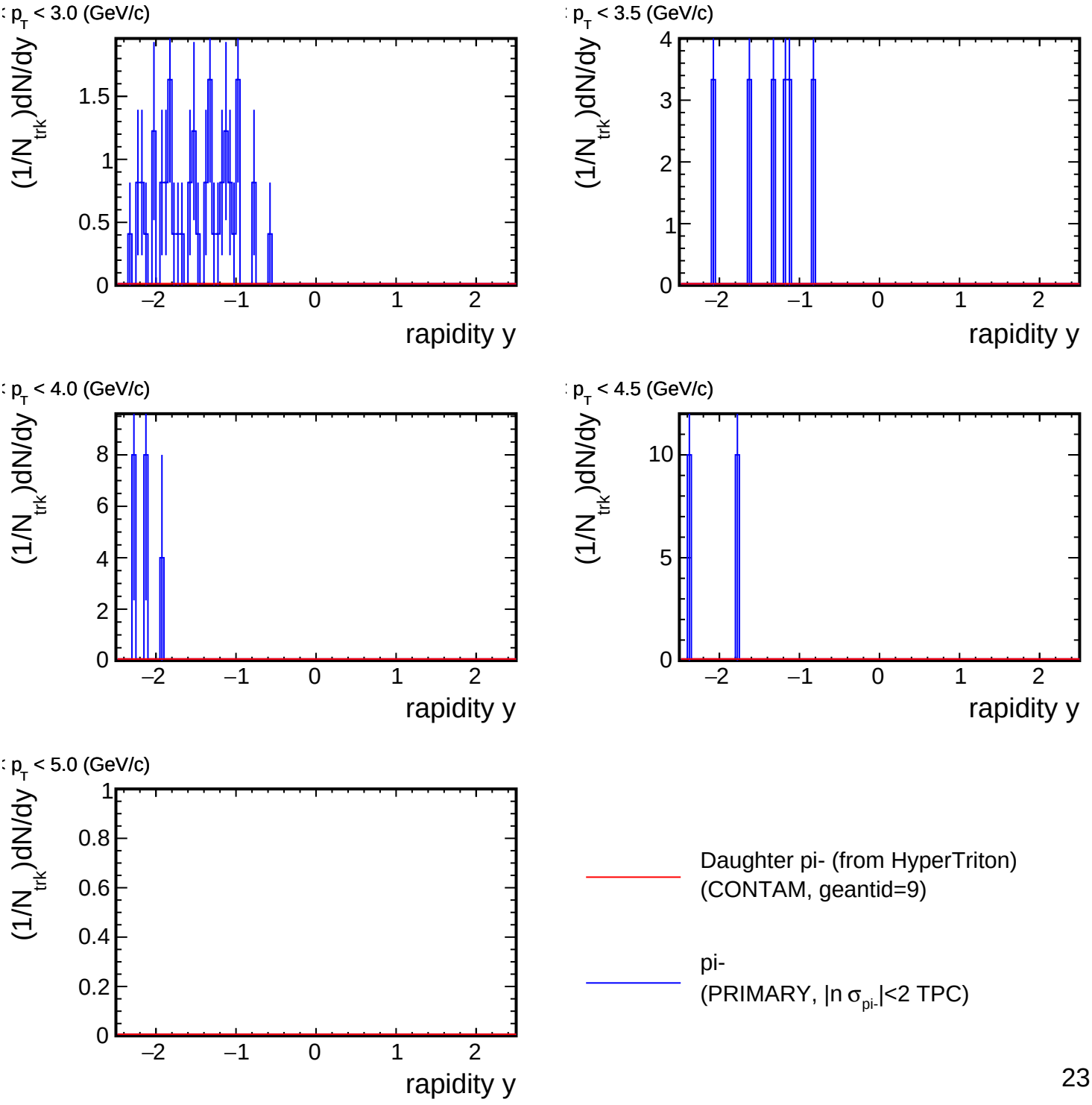



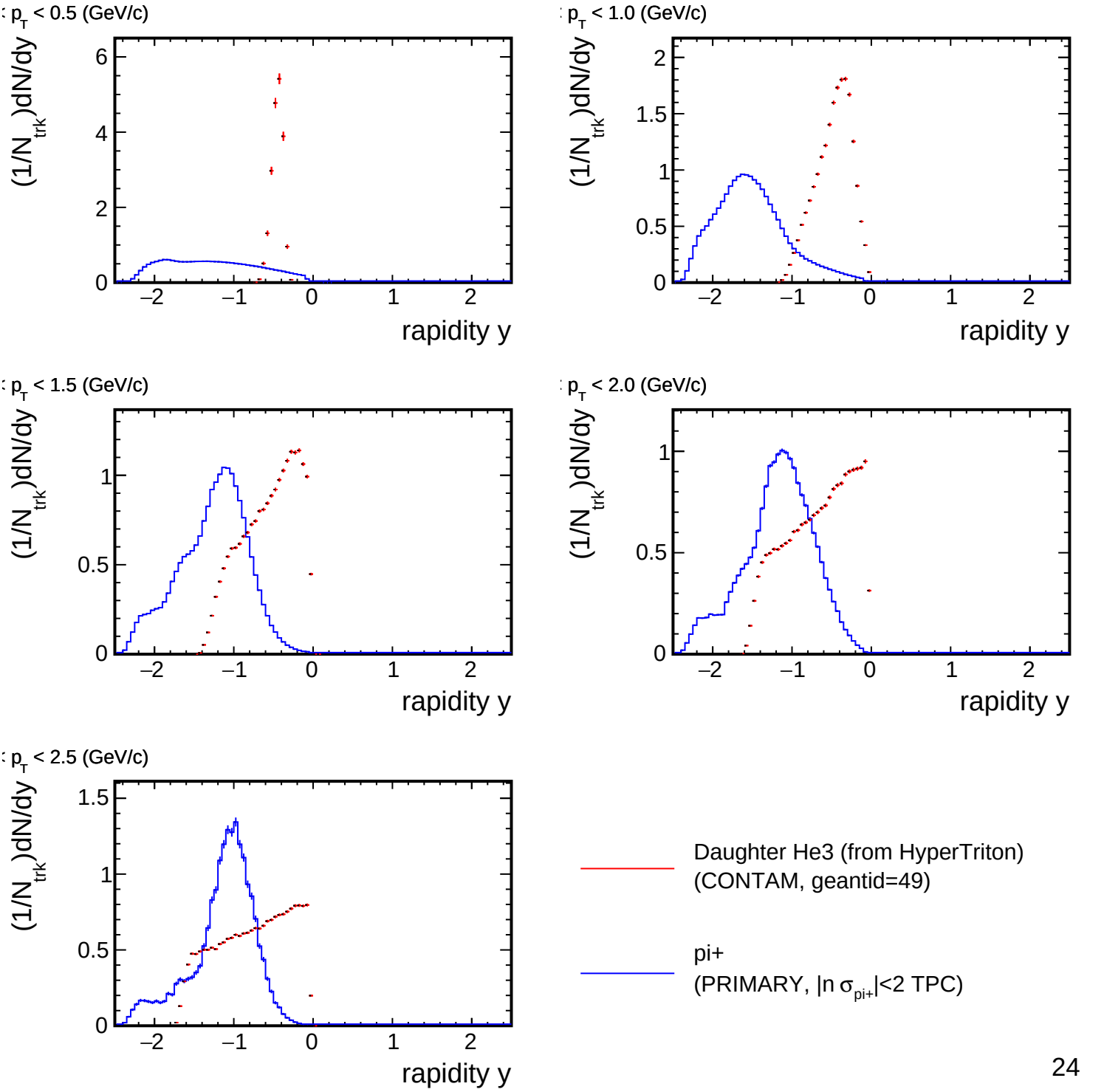

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

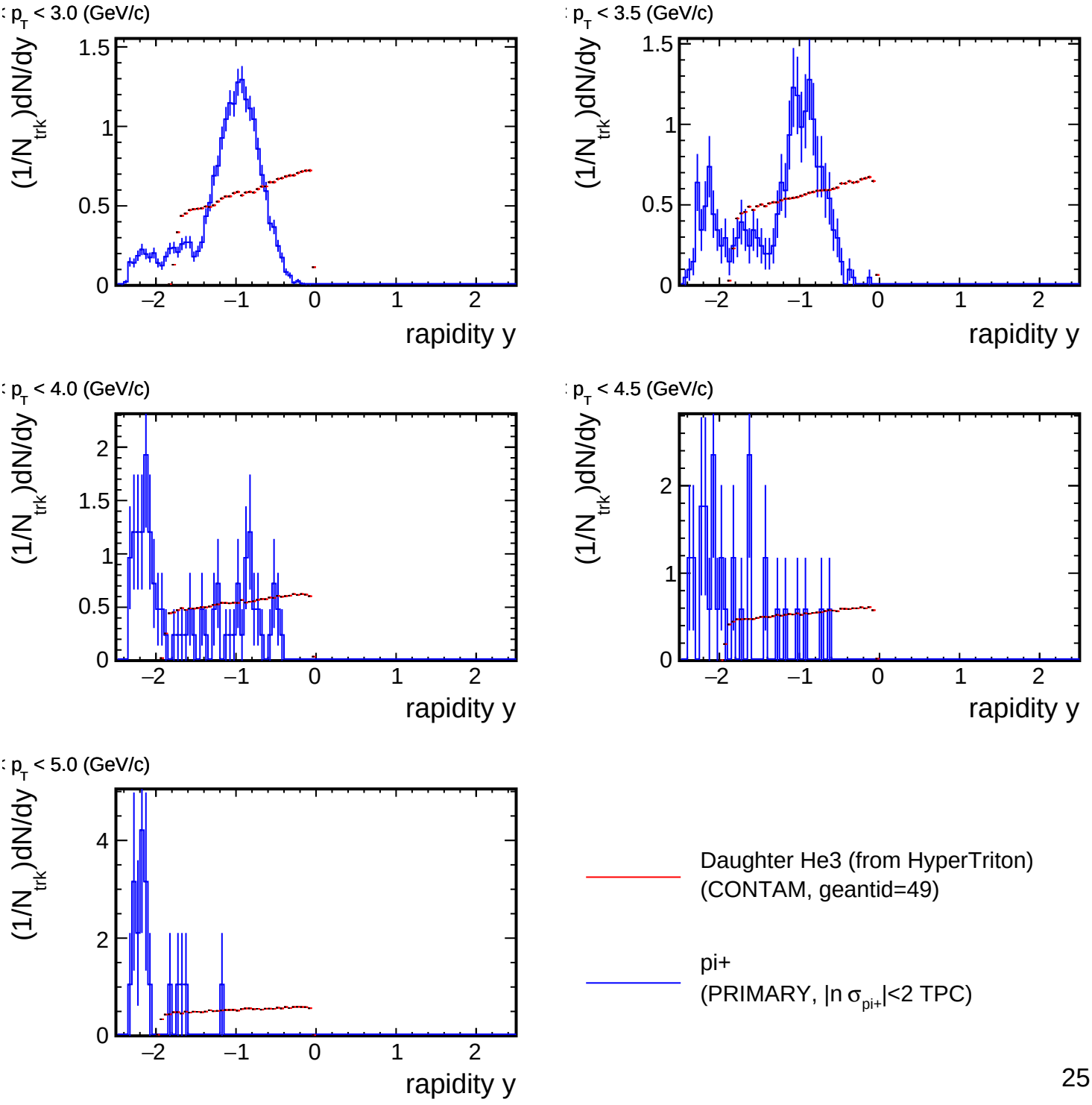
# Projection of y for each $p_T$ bin



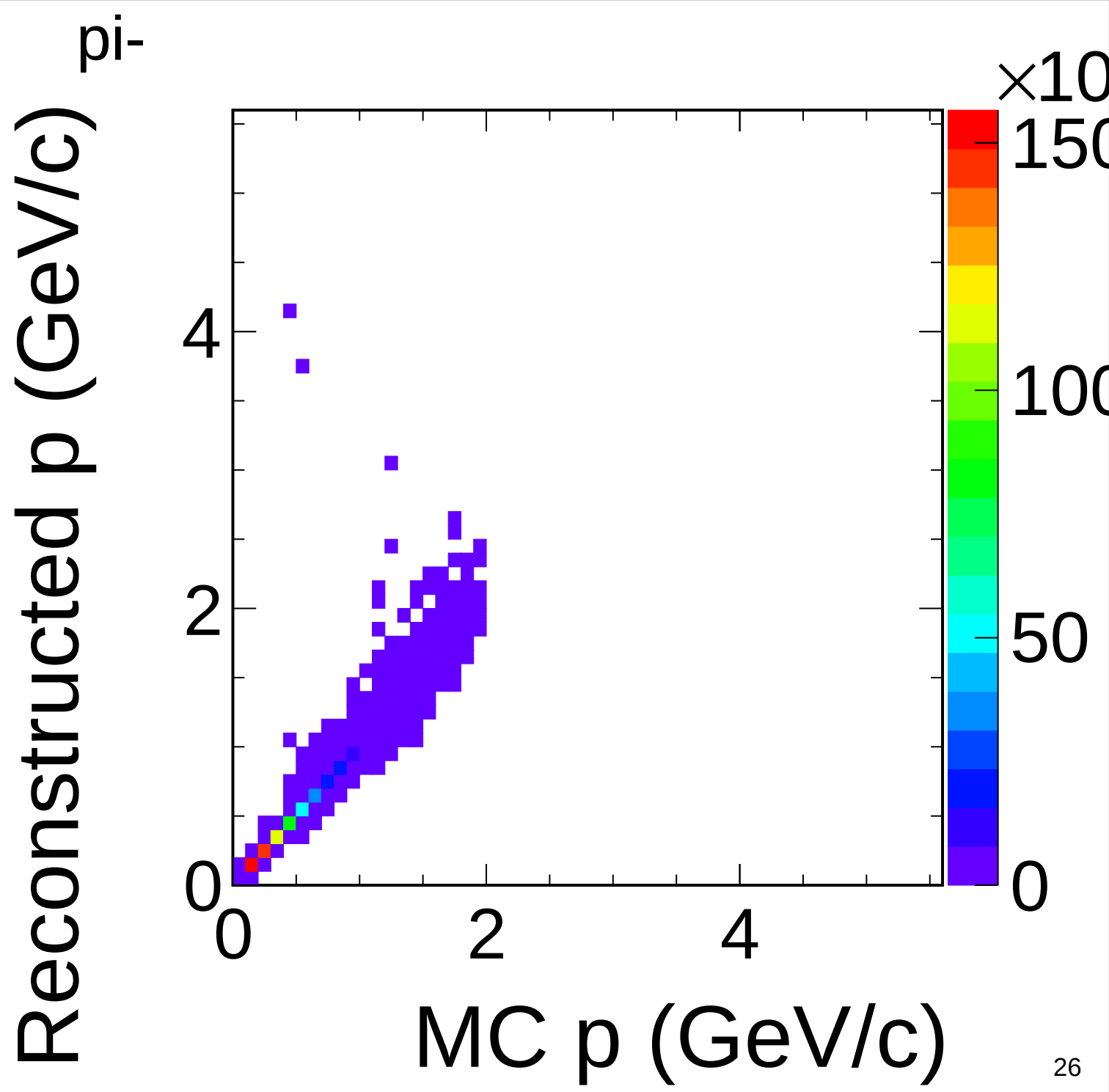
# Projection of y for each $p_T$ bin



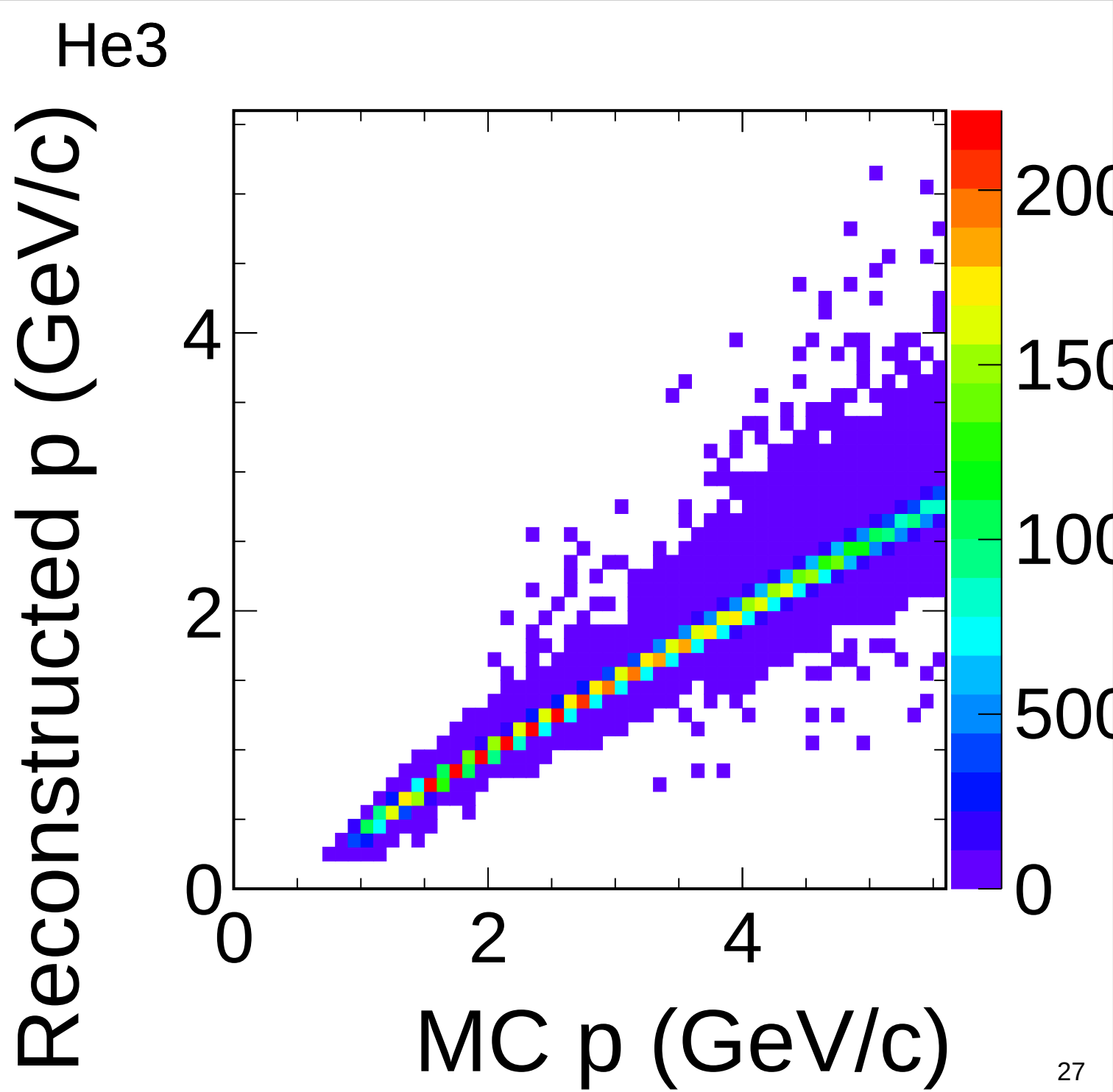
# Projection of y for each $p_T$ bin



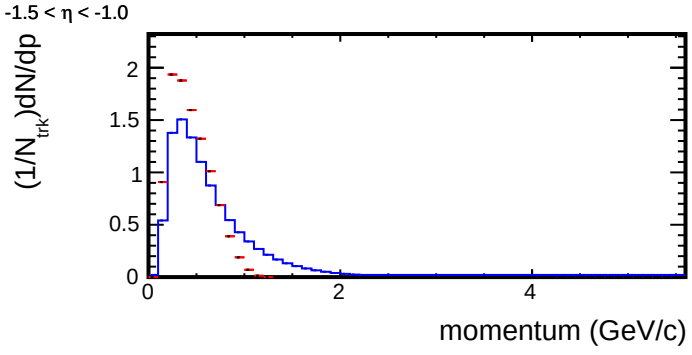
Reconstructed momentum vs MC momentum

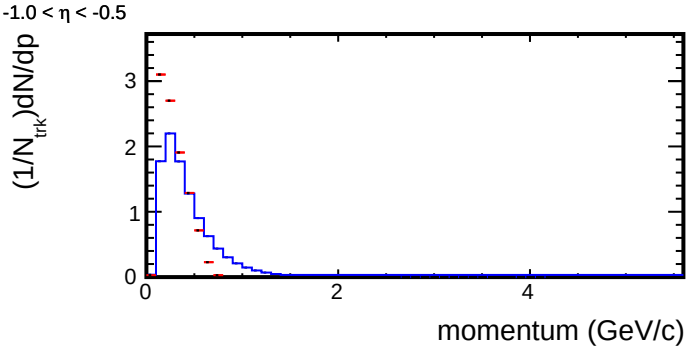


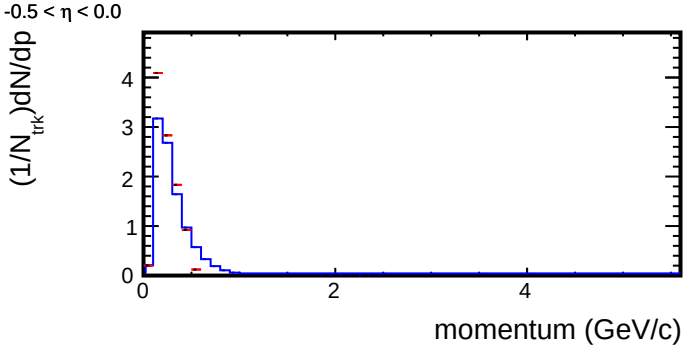
Reconstructed momentum vs MC momentum

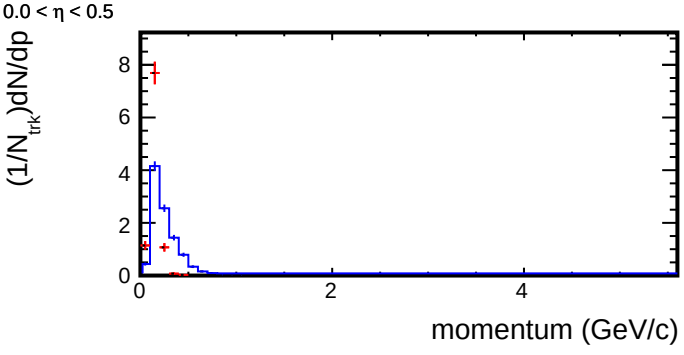


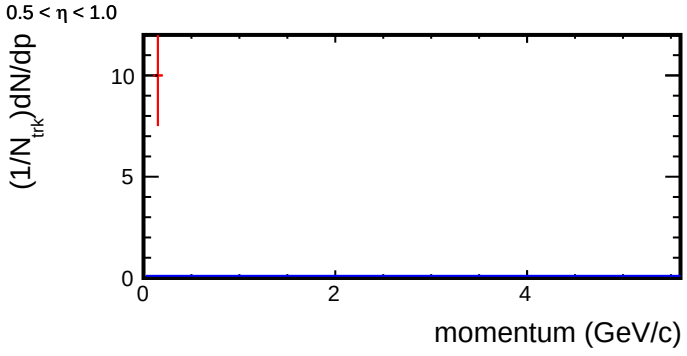
# Projection of p for each η bin

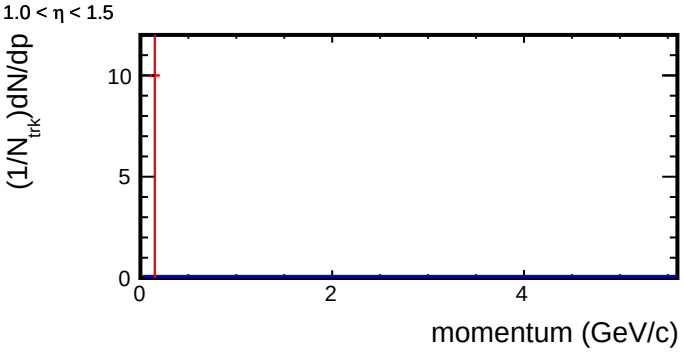


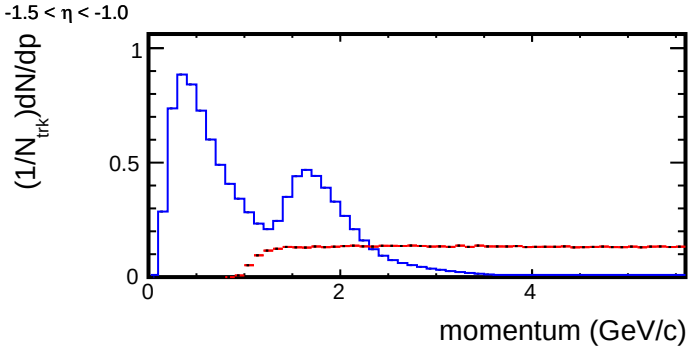



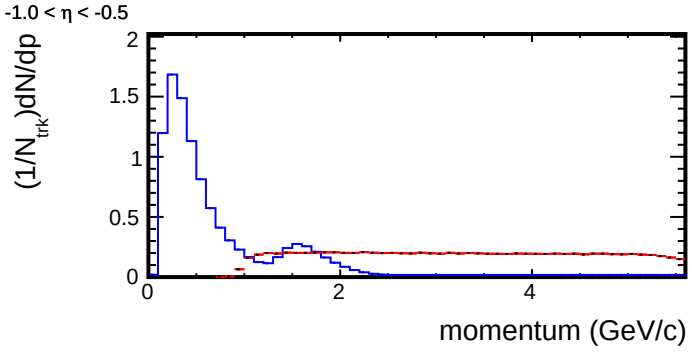



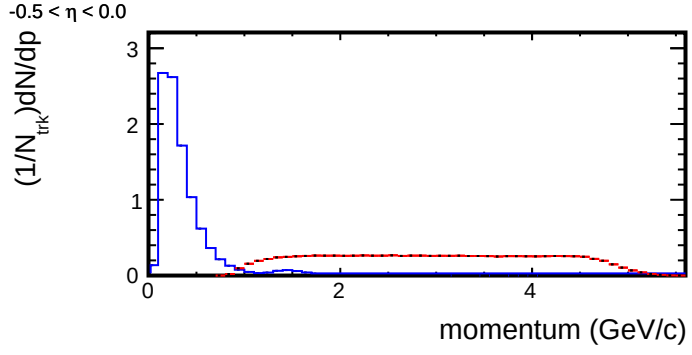

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

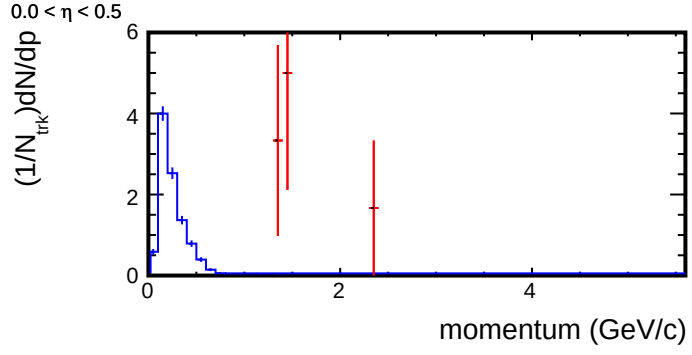
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

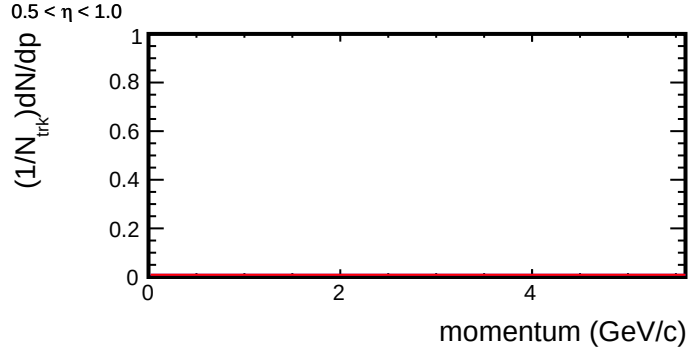
# Projection of p for each η bin

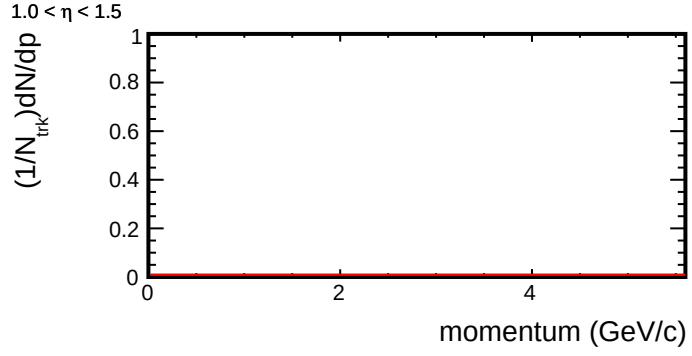


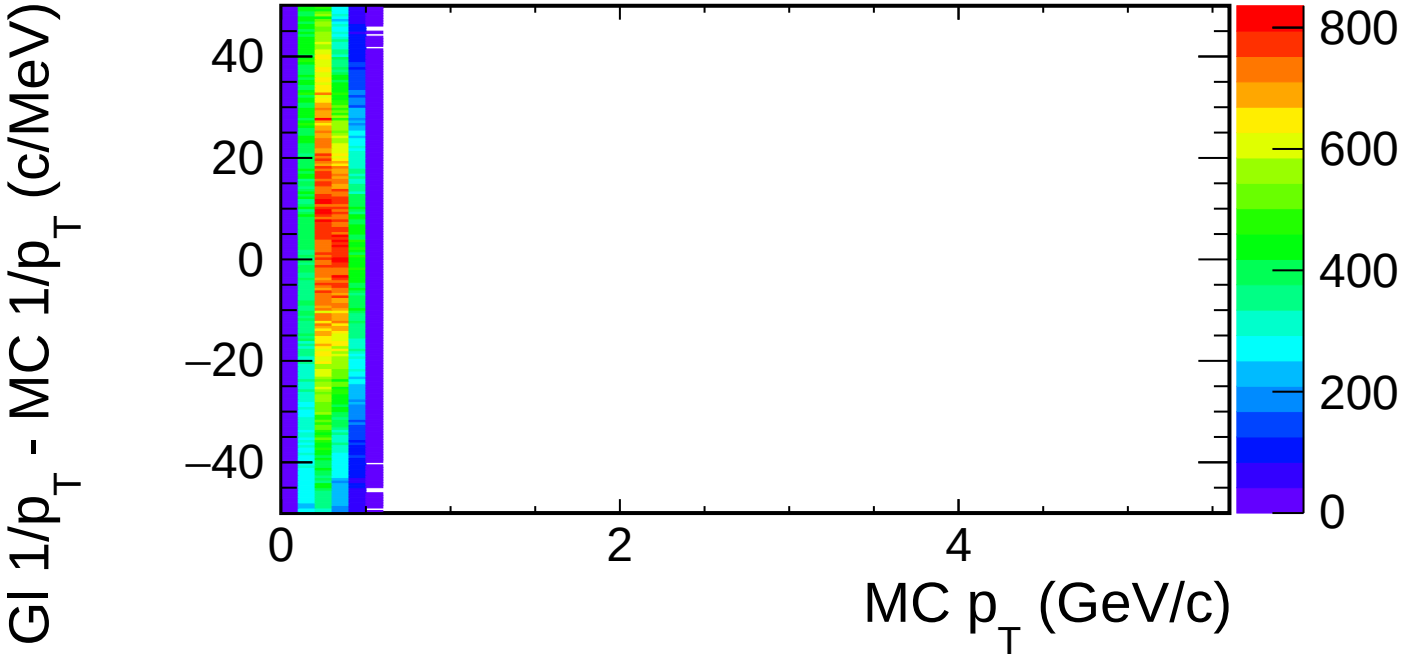



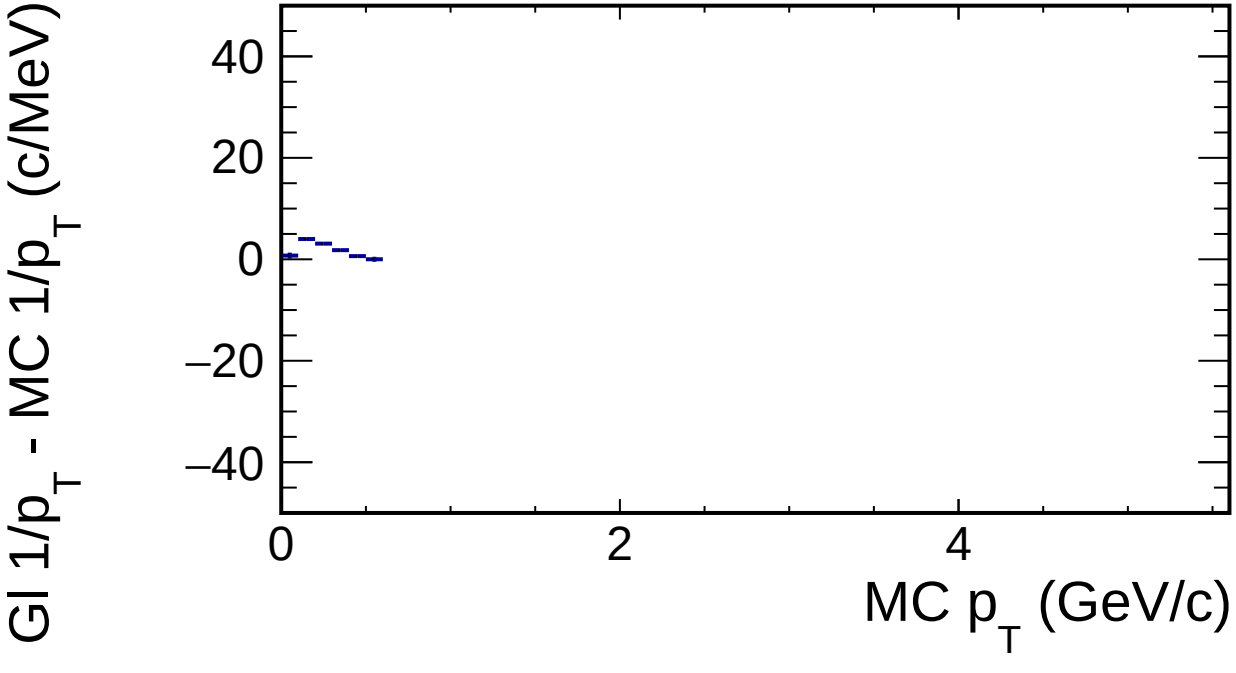




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

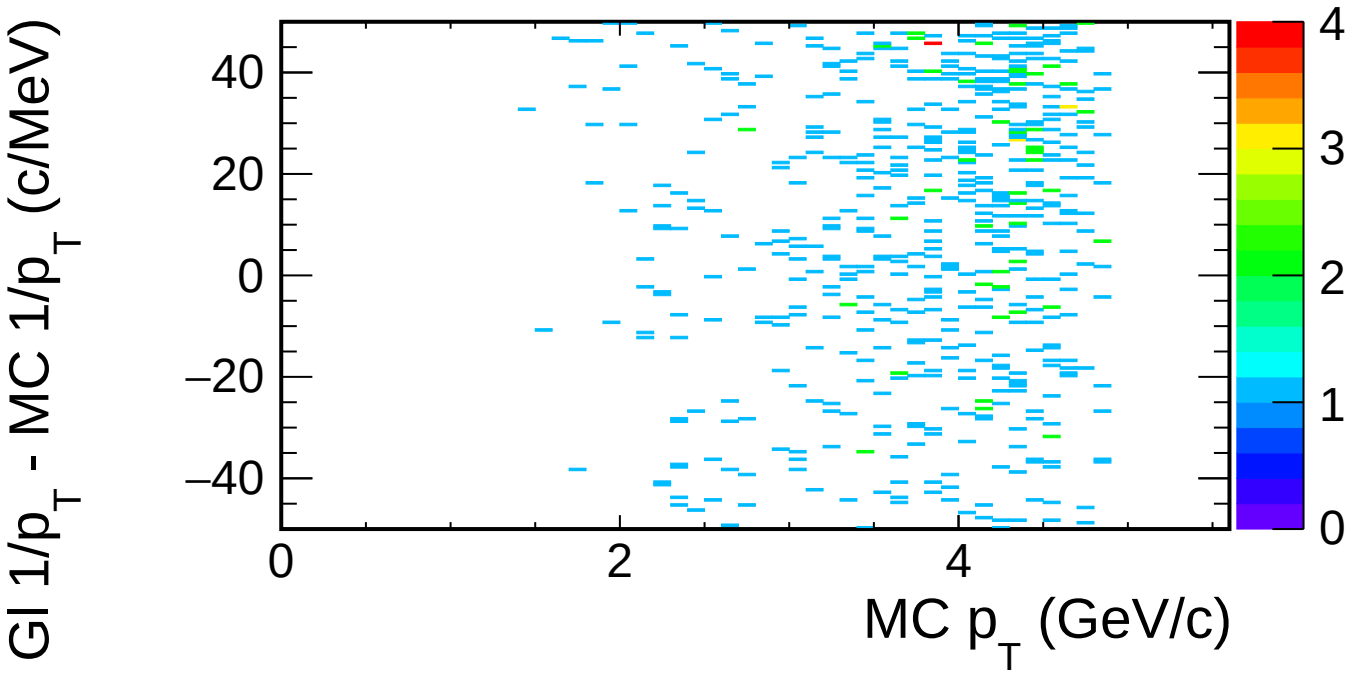
pi+
(PRIMARY, $|n\,\sigma_{pi+}|$<2 TPC)

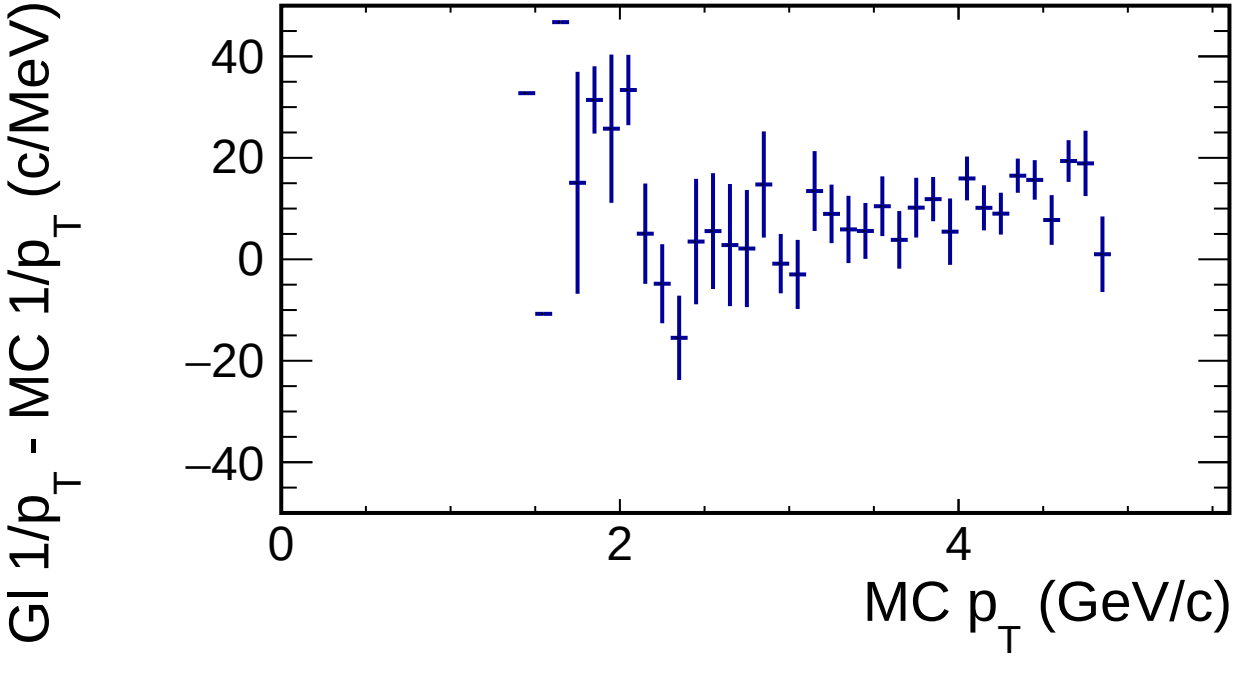
$1/p_T$ (Gl) - $1/p_T$ (MC) vs $p_T$ (MC) (pi-)



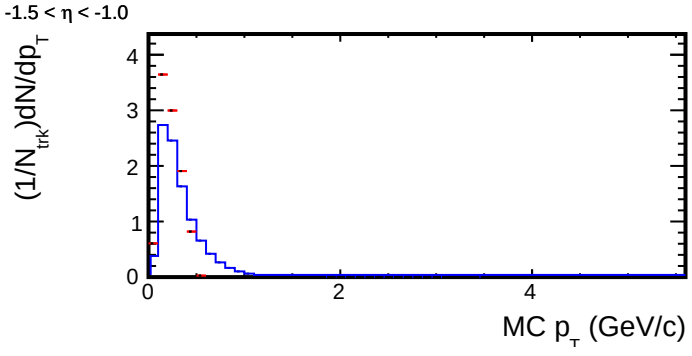



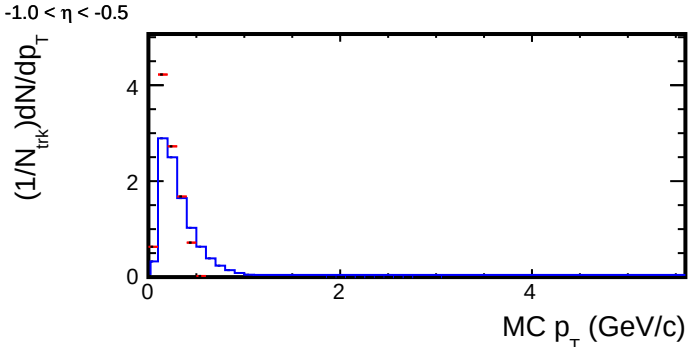
## $1/p_T$ (Gl) - $1/p_T$ (MC) vs $p_T$ (MC) (He3)

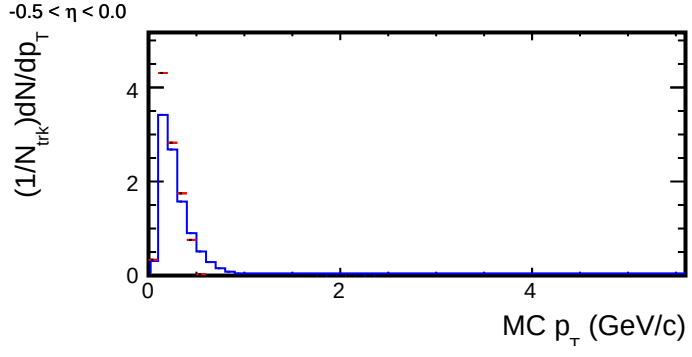


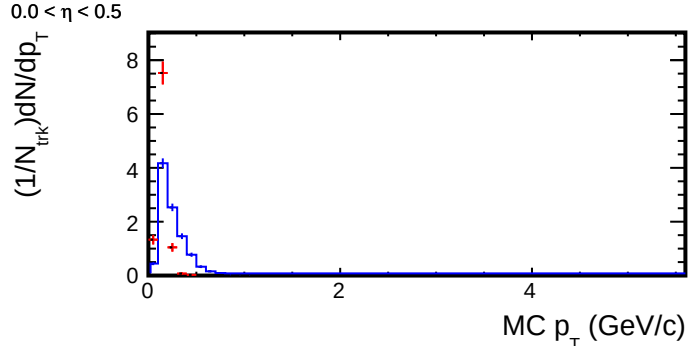



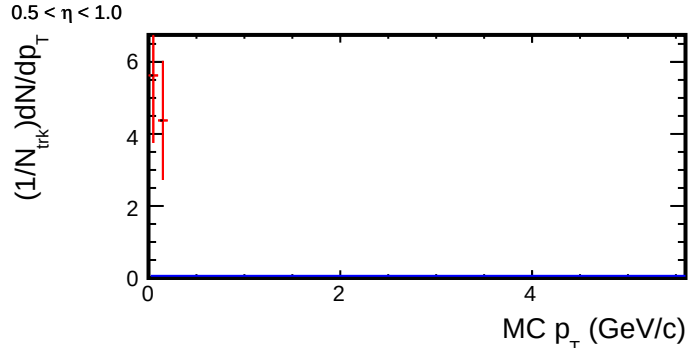
# Projection of $p_T$ for each η bin

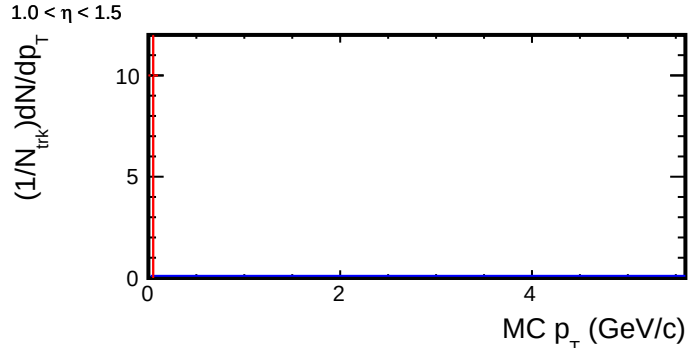


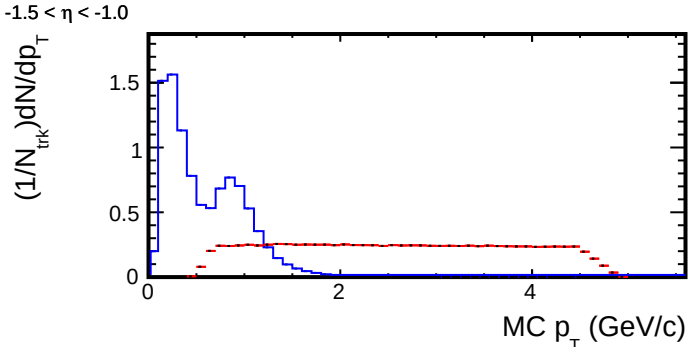



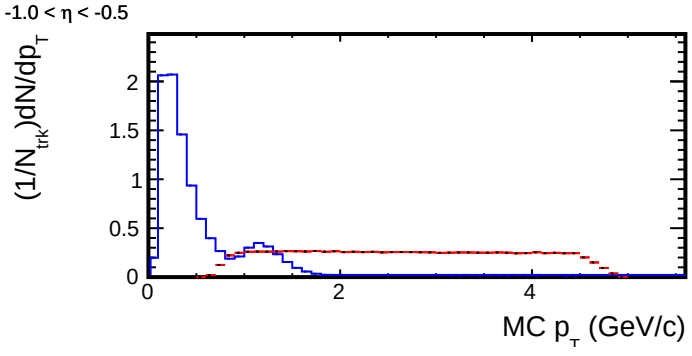



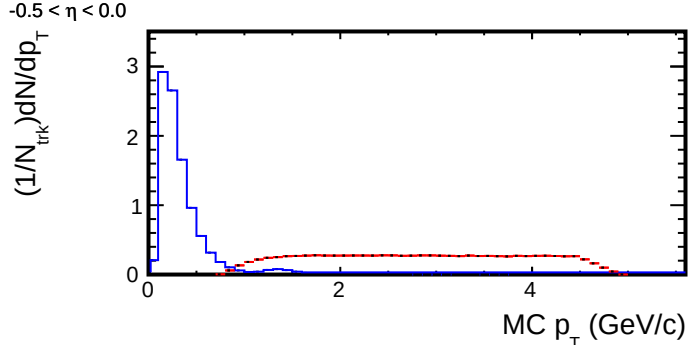

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

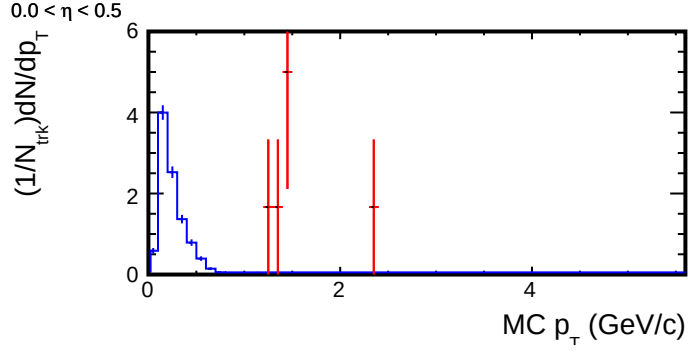
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

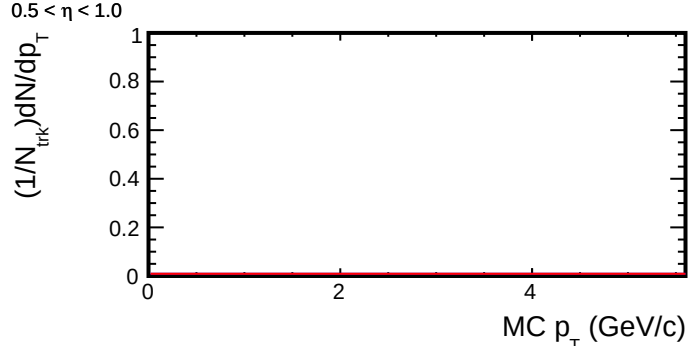
# Projection of $p_T$ for each η bin

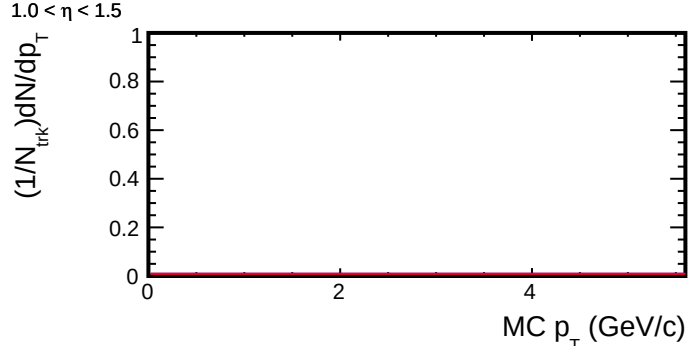


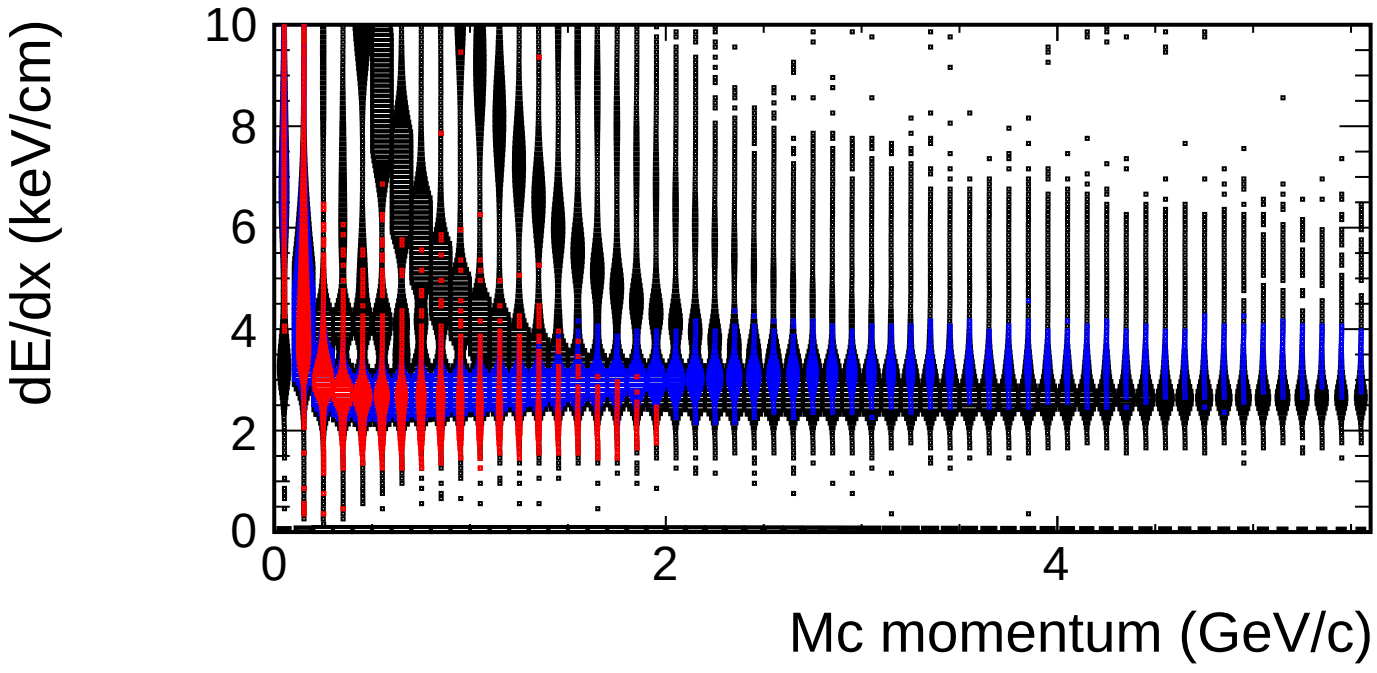




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

pi+
(PRIMARY, $|n\sigma_{pi+}|$<2 TPC)

dE/dx vs momentum (Embedding:pi-, Real:pi-)

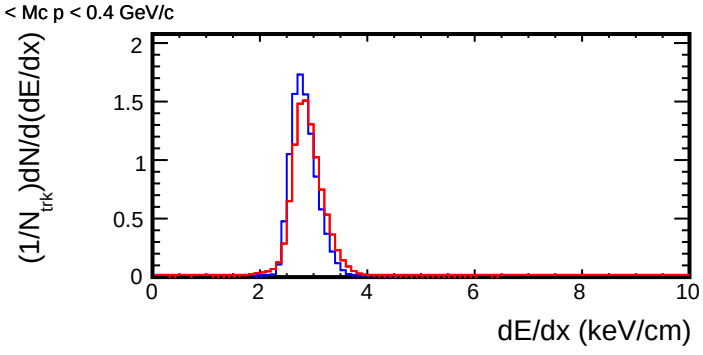


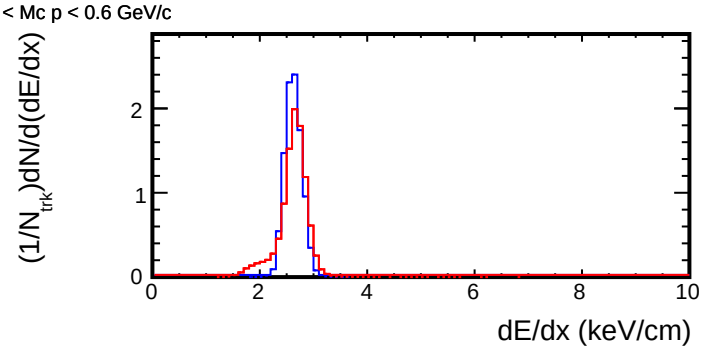

Daughter pi- (from HyperTriton) (CONTAM, geantid=9)

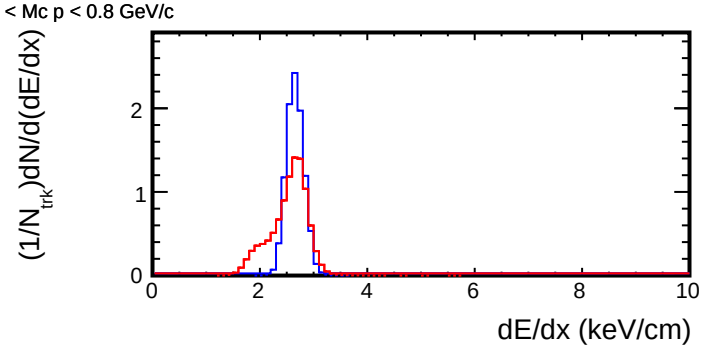
Real data

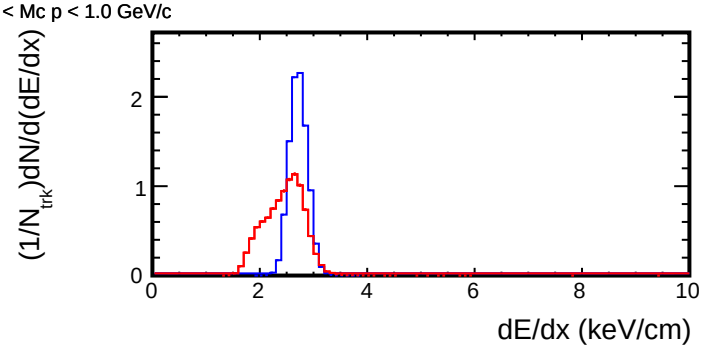
Real data with PID cut (σ<2) TPC

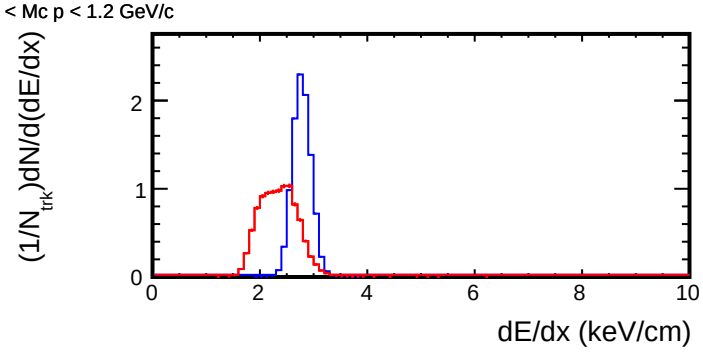
# Projection of dE/dx for each p bin

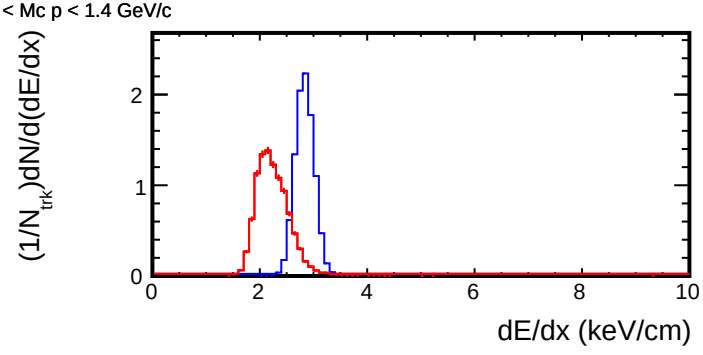


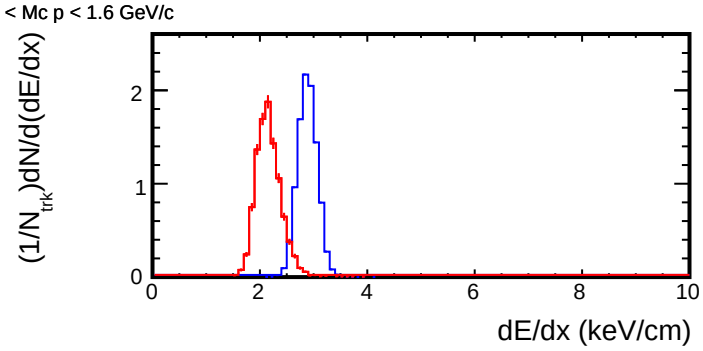



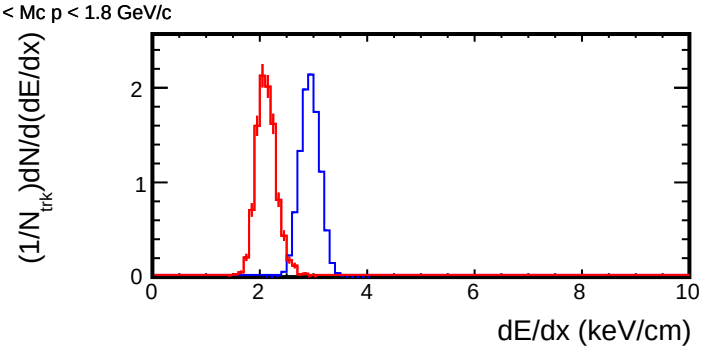



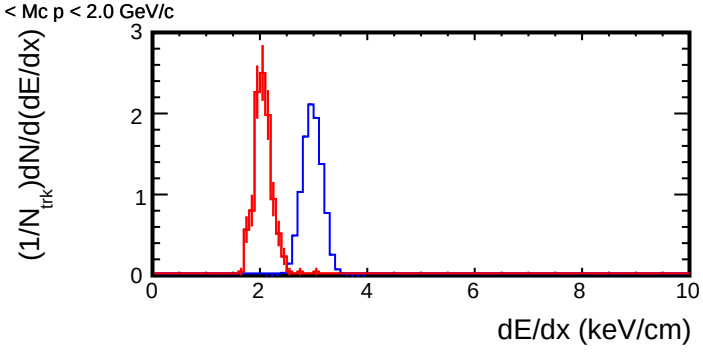

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

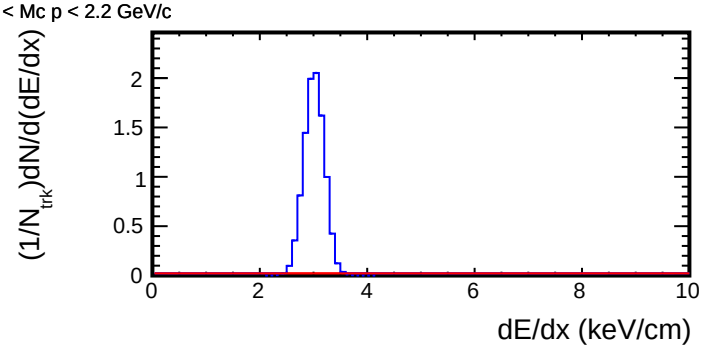
pi-
(PRIMARY, $|n\,\sigma_{pi-}|$<2 TPC)

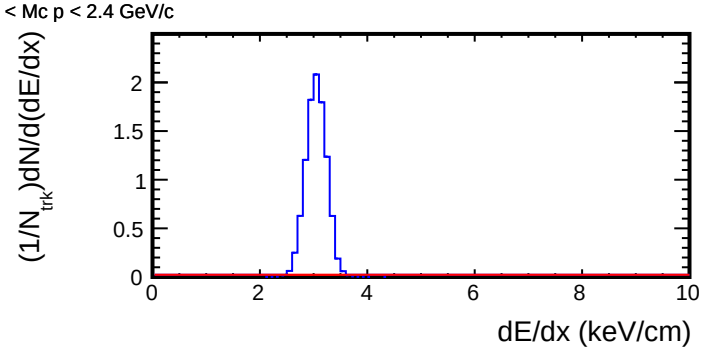
# Projection of dE/dx for each p bin

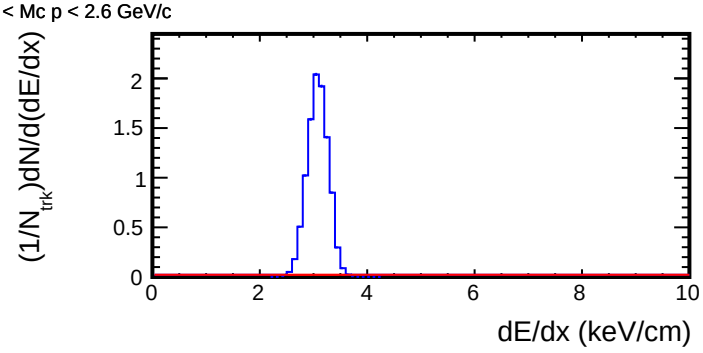


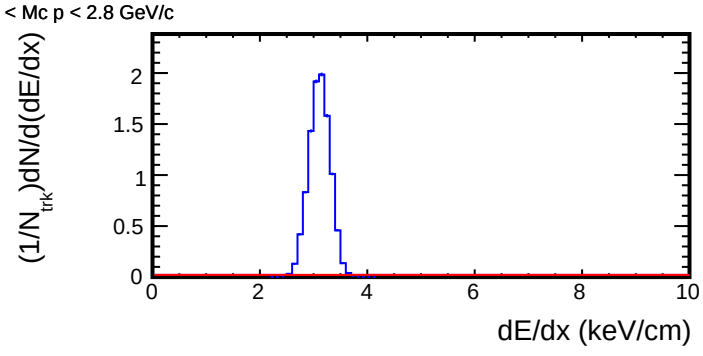



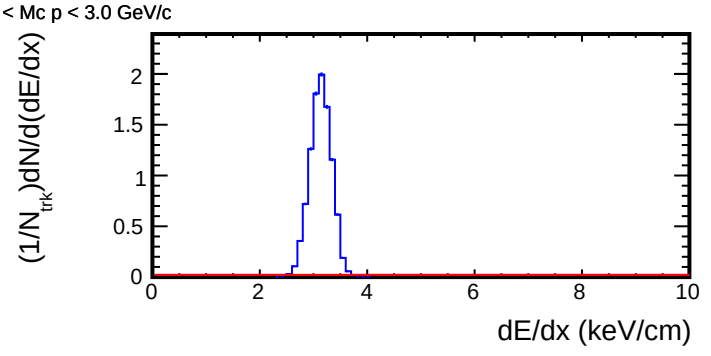



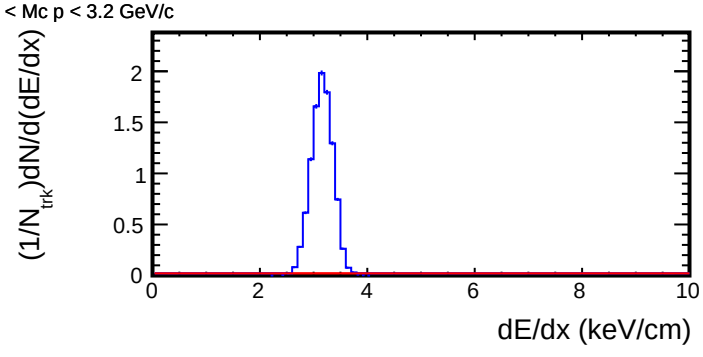

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

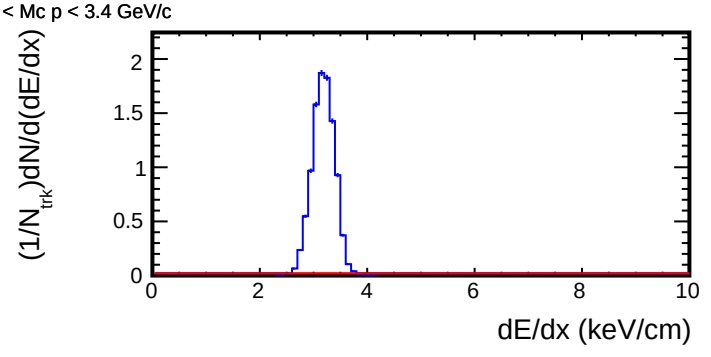
pi-
(PRIMARY, $|n\,\sigma_{pi-}|<2$ TPC)

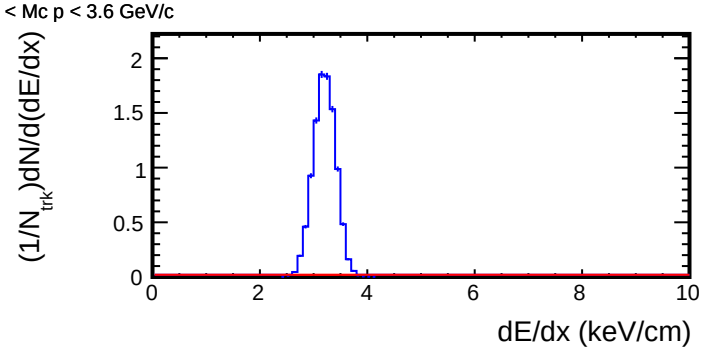
# Projection of dE/dx for each p bin

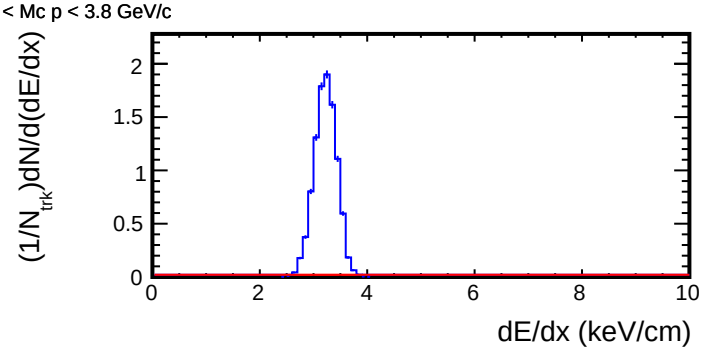


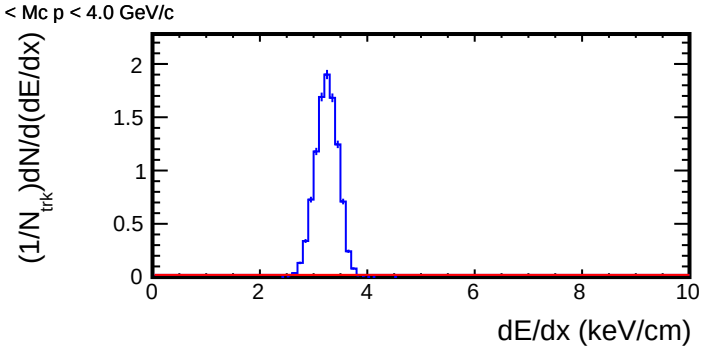



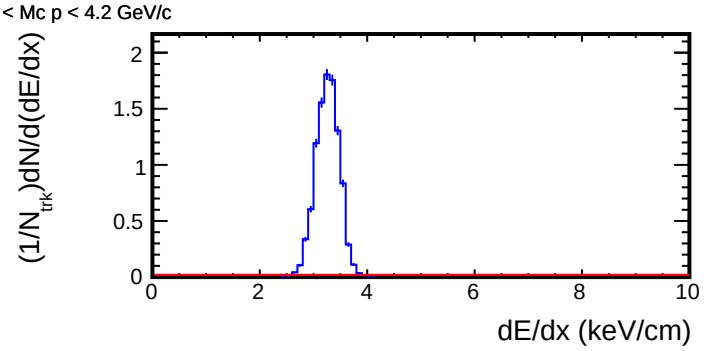



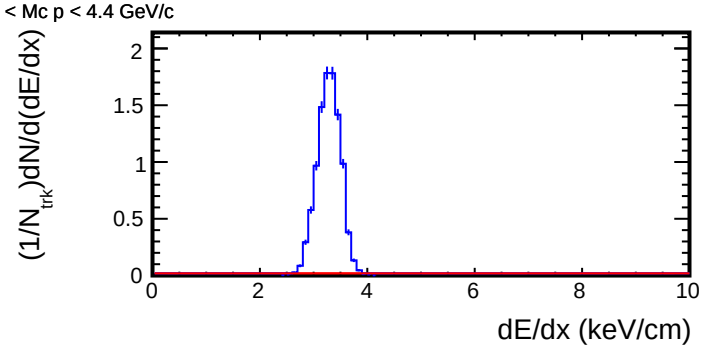

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

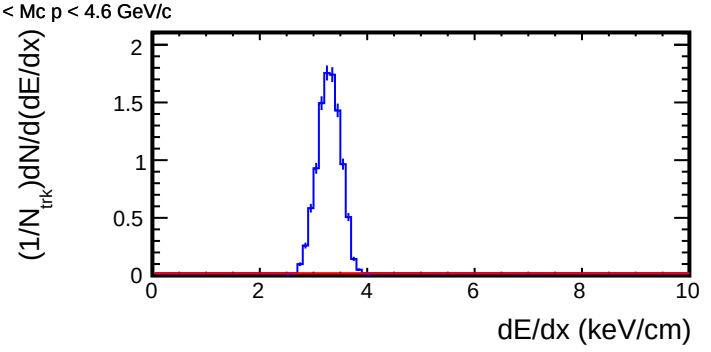
pi-
(PRIMARY, $|n\,\sigma_{pi-}|<2$ TPC)

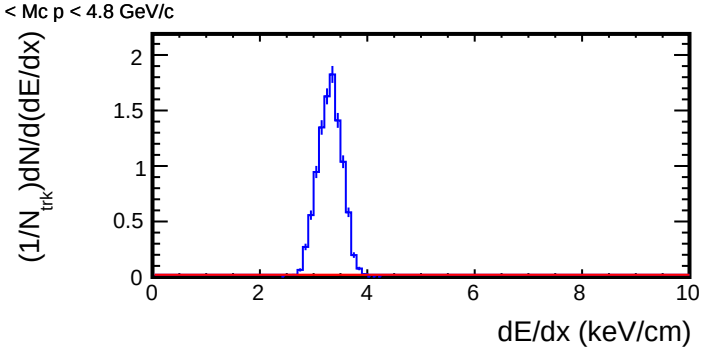
# Projection of dE/dx for each p bin

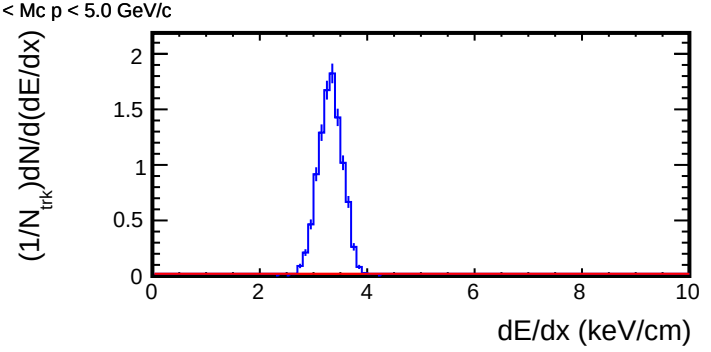


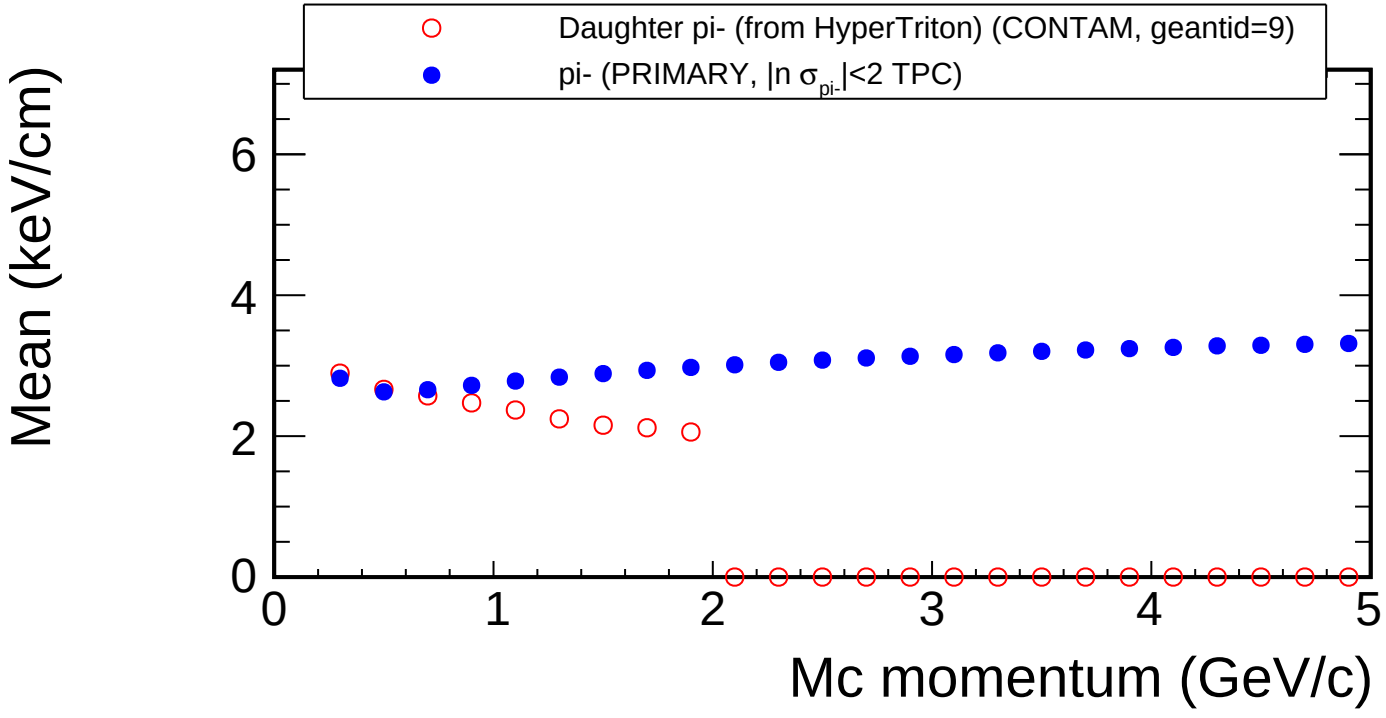



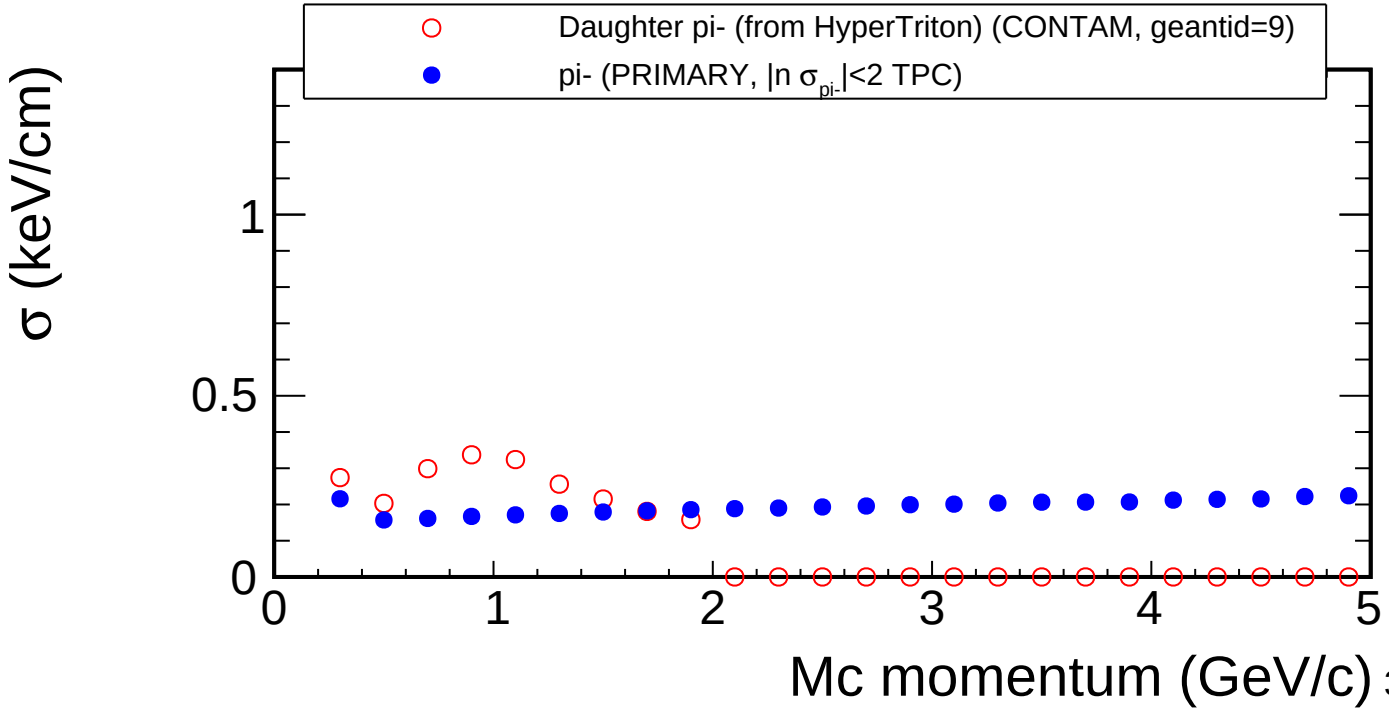




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

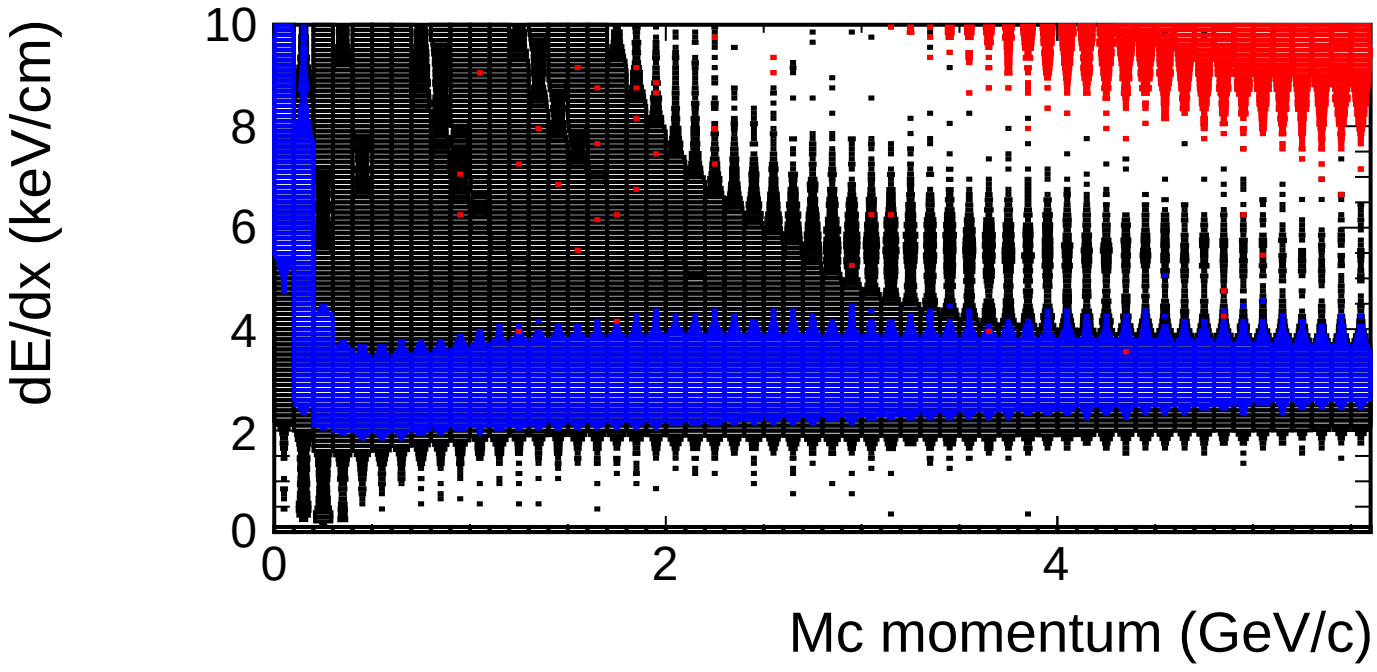
pi-
(PRIMARY, $|n\,\sigma_{pi-}|<2$ TPC)

## Mean/σ of dE/dx vs momentum



# dE/dx vs momentum (Embedding:He3, Real:He3)

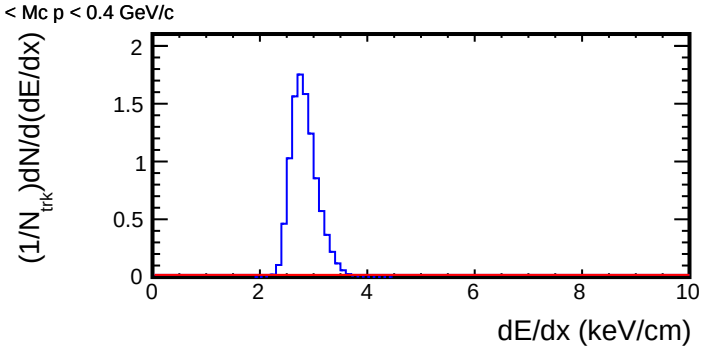


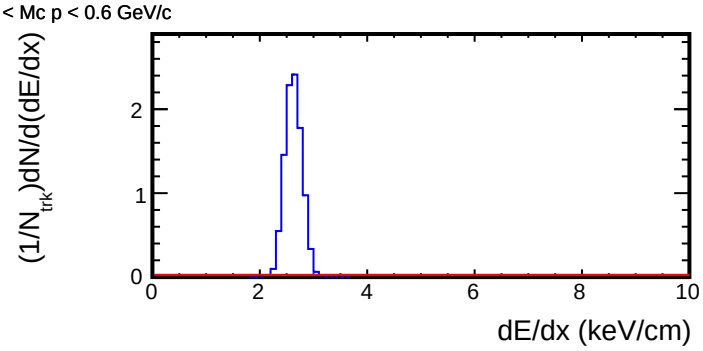

Daughter He3 (from HyperTriton) (CONTAM, geantid=49)

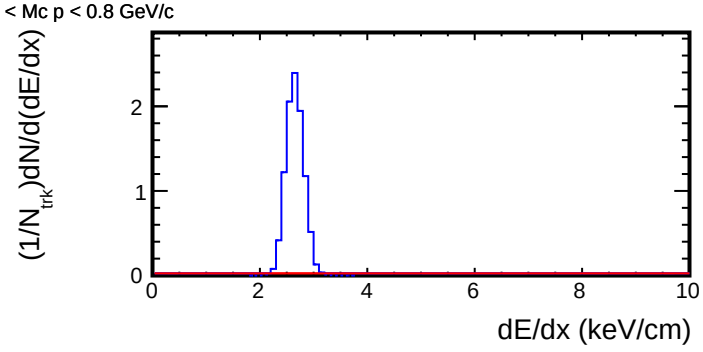
Real data

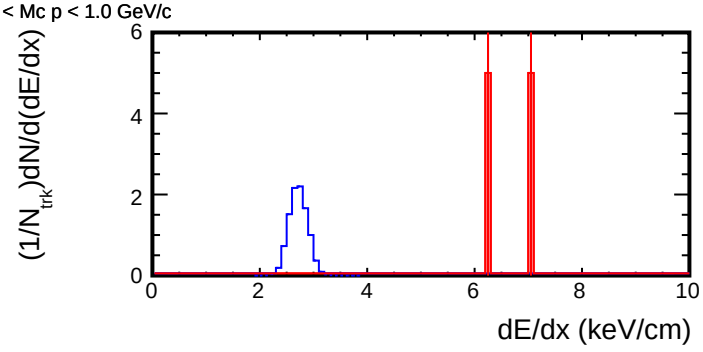
Real data with PID cut (σ<2) TPC

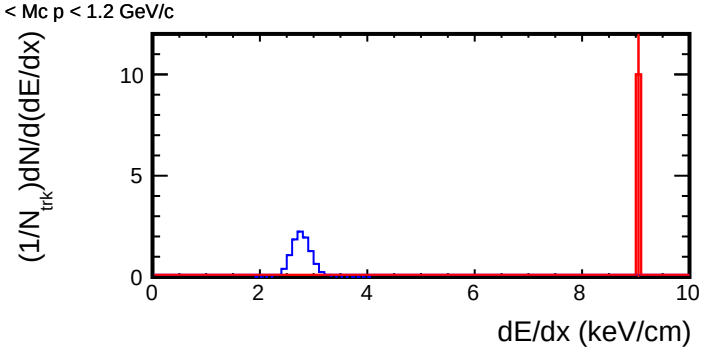
# Projection of dE/dx for each p bin

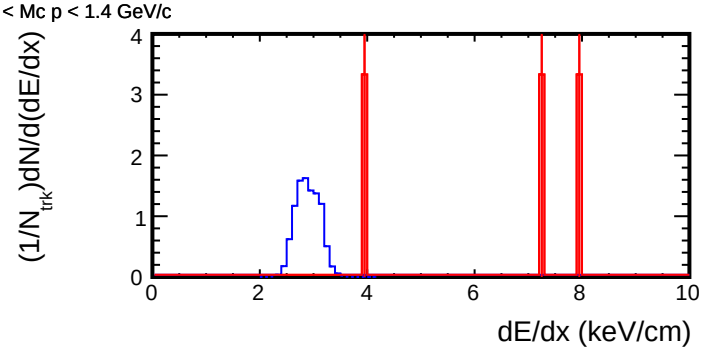


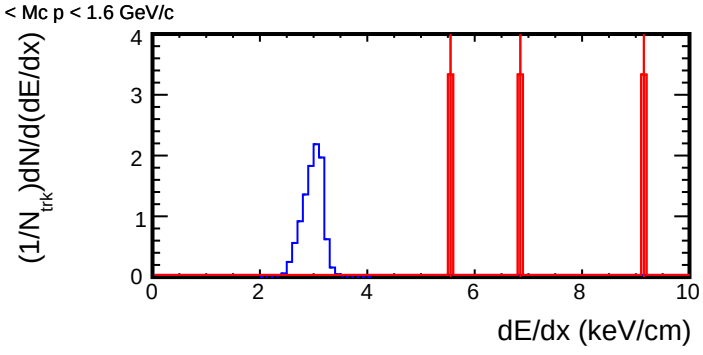



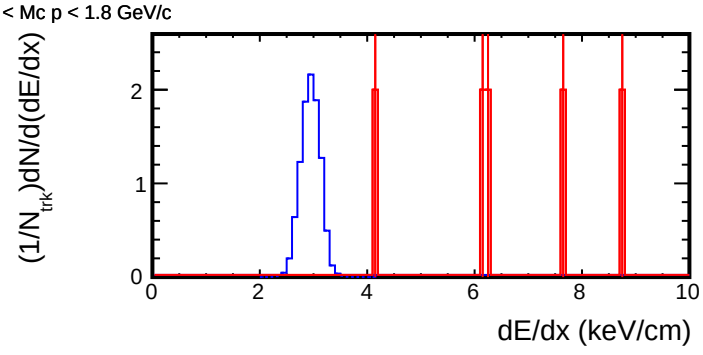



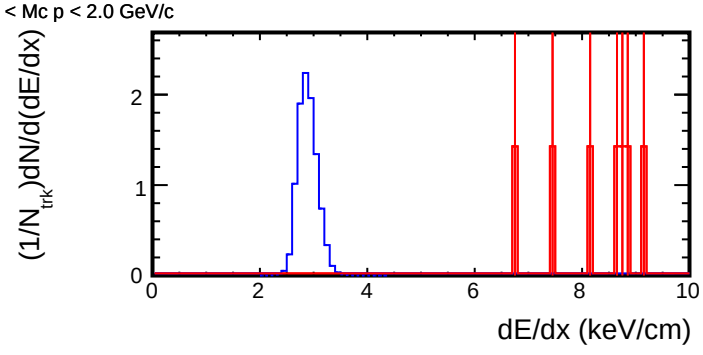

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

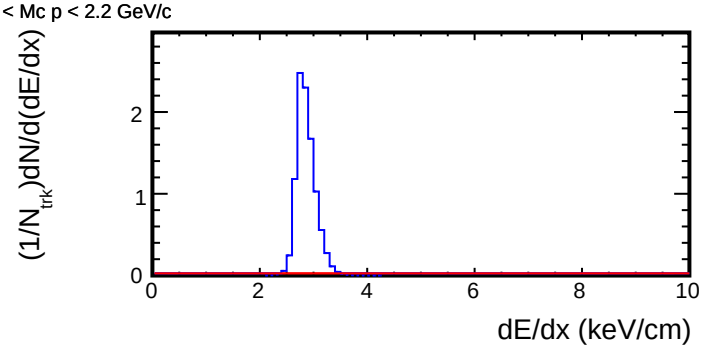
pi+
(PRIMARY, $|n\,\sigma_{pi+}|$<2 TPC)

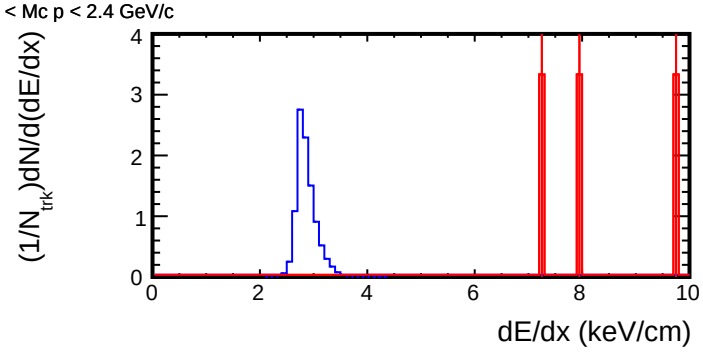
# Projection of dE/dx for each p bin

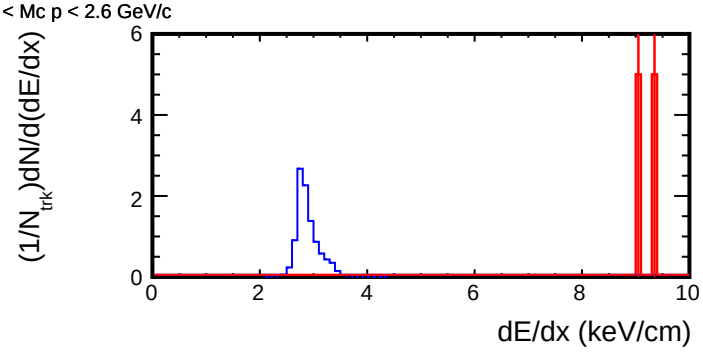


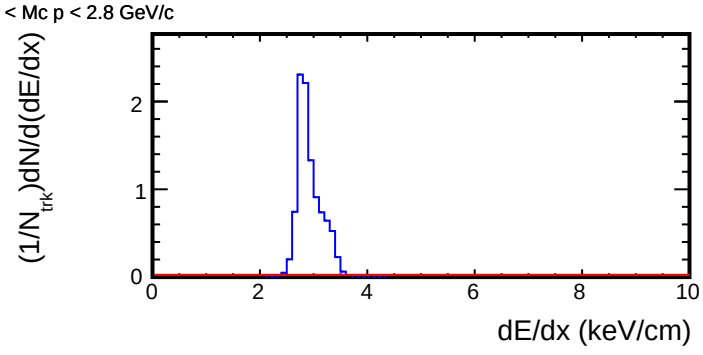



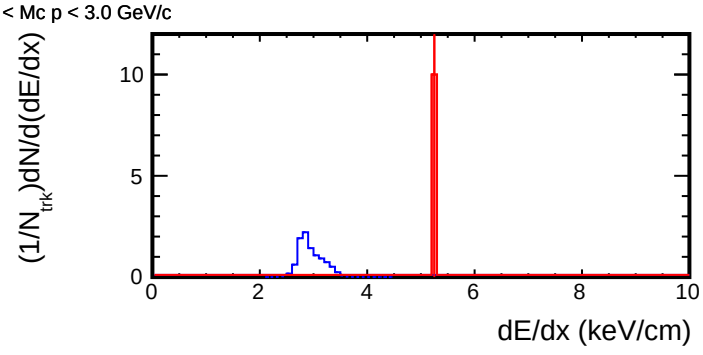



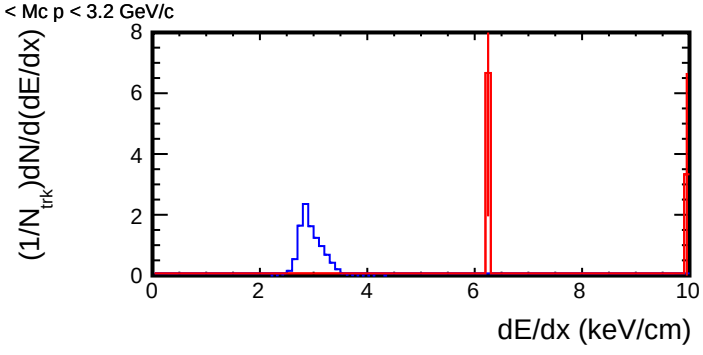

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

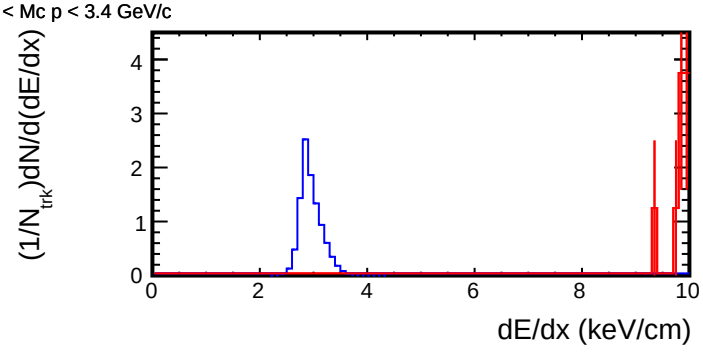
pi+
(PRIMARY, $|n\,\sigma_{pi+}|<2$ TPC)

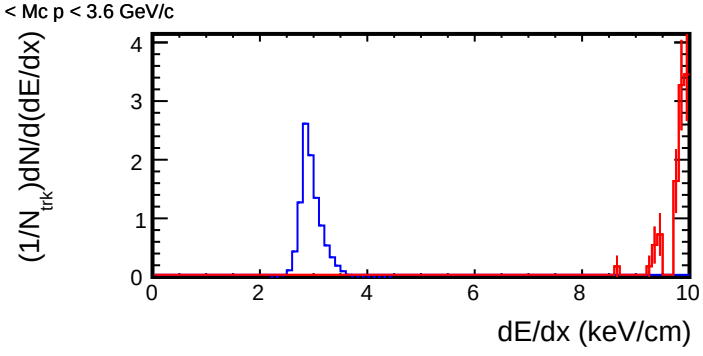
# Projection of dE/dx for each p bin

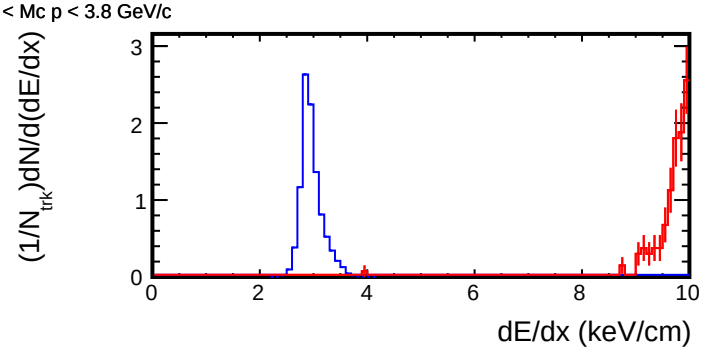


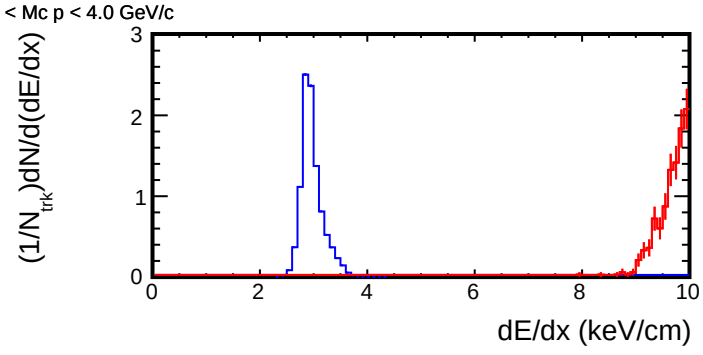



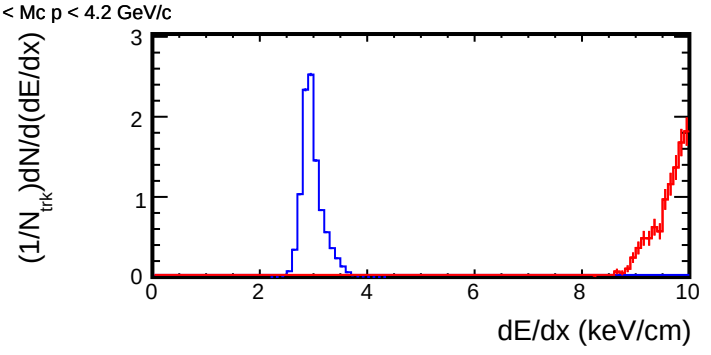



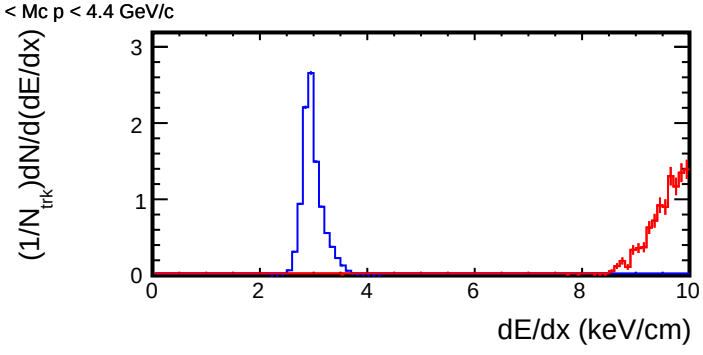

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

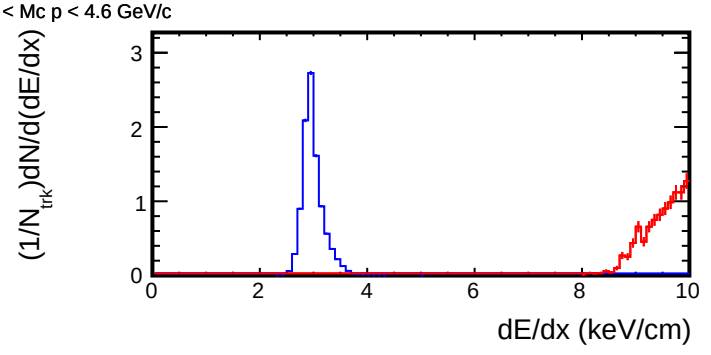
pi+
(PRIMARY, $|n\,\sigma_{pi+}|$<2 TPC)

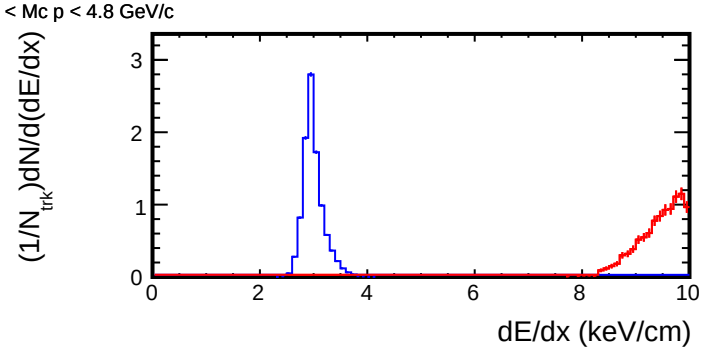
# Projection of dE/dx for each p bin

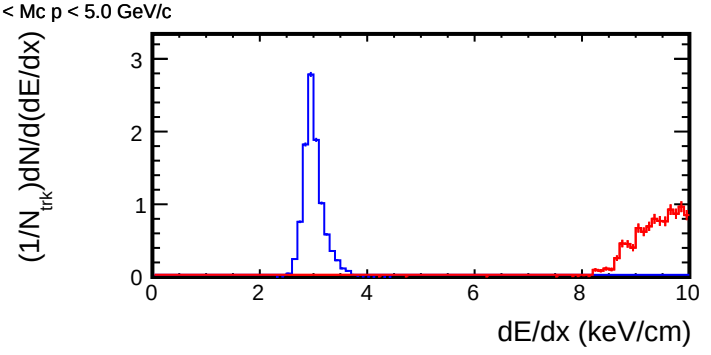


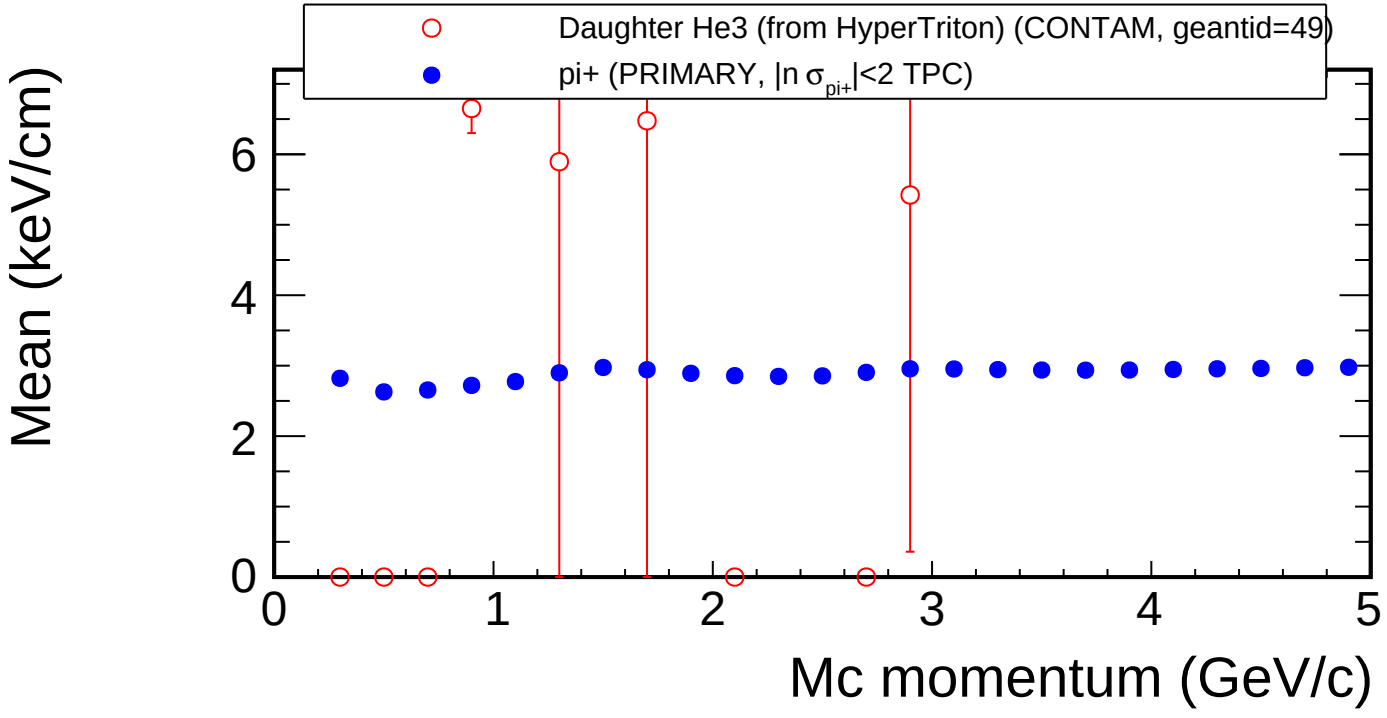



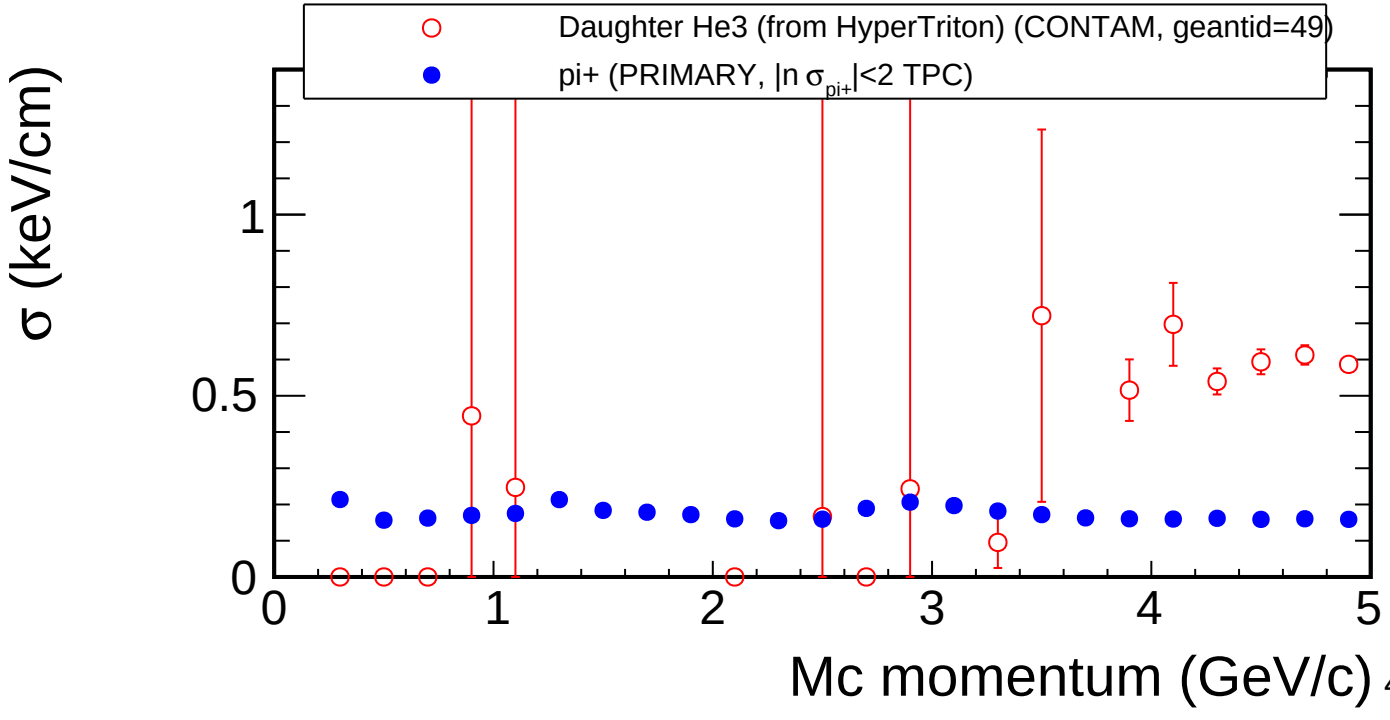




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

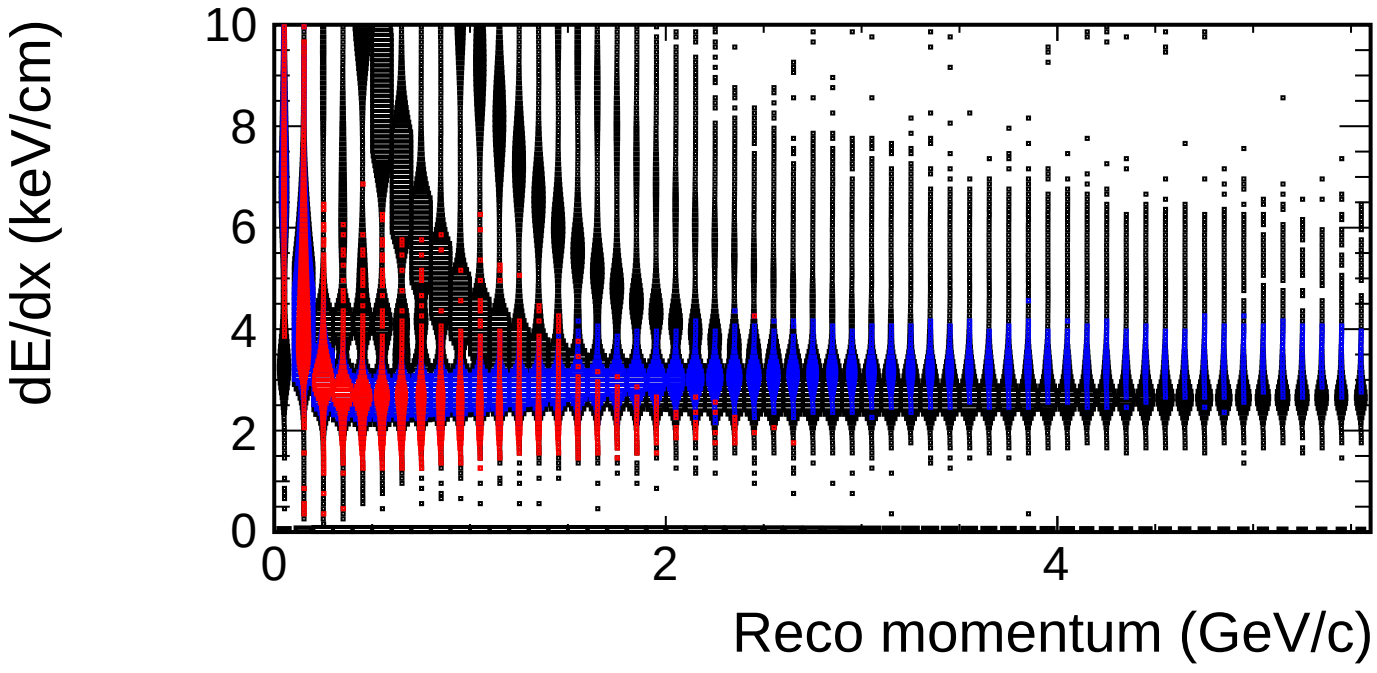
pi+
(PRIMARY, $|n\,\sigma_{pi+}|$<2 TPC)

## Mean/σ of dE/dx vs momentum



dE/dx vs momentum (Embedding:pi-, Real:pi-)

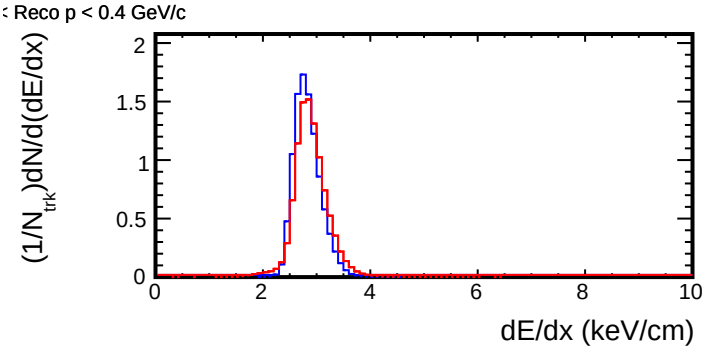


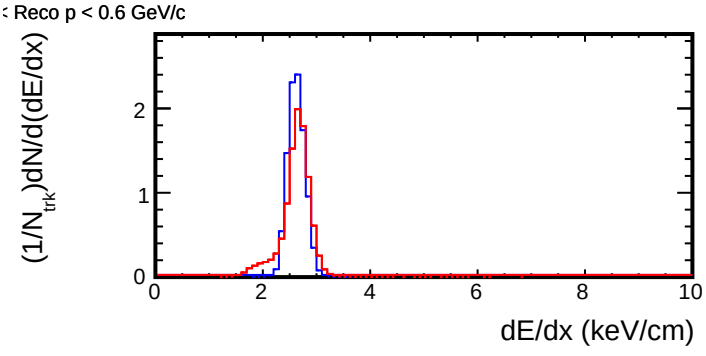

Daughter pi- (from HyperTriton) (CONTAM, geantid=9)

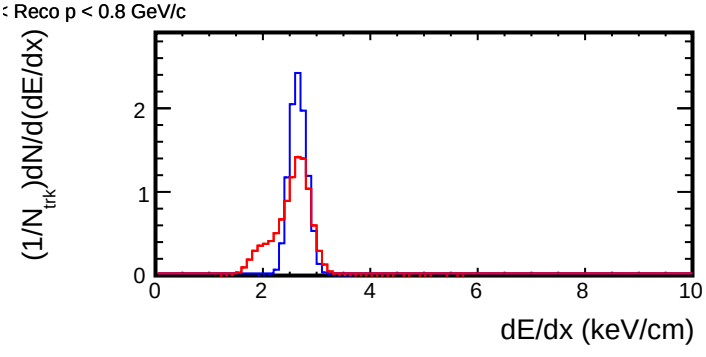
Real data

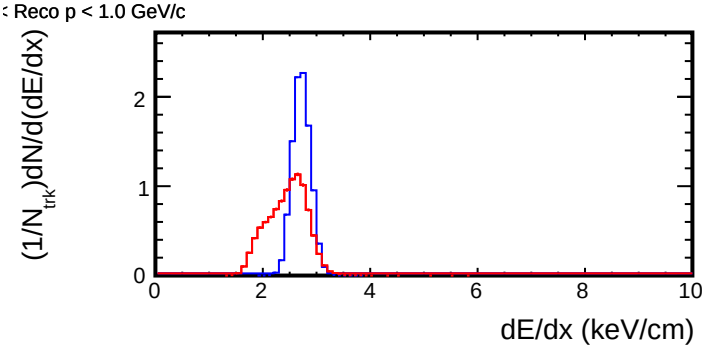
Real data with PID cut (σ<2) TPC

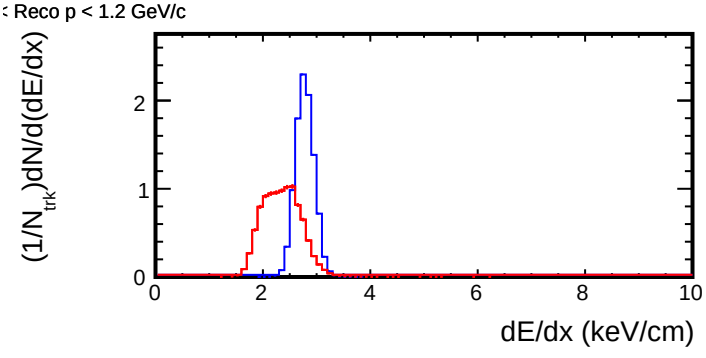
# Projection of dE/dx for each p bin

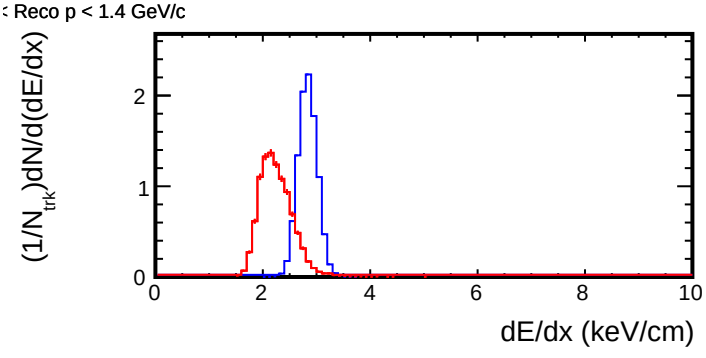


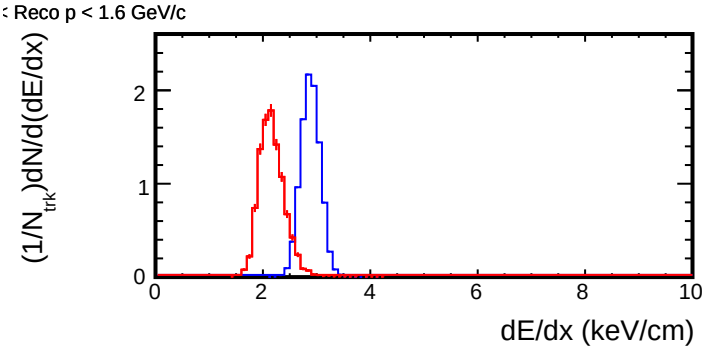



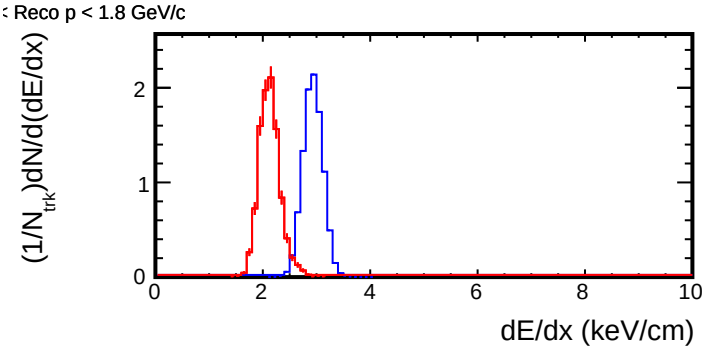



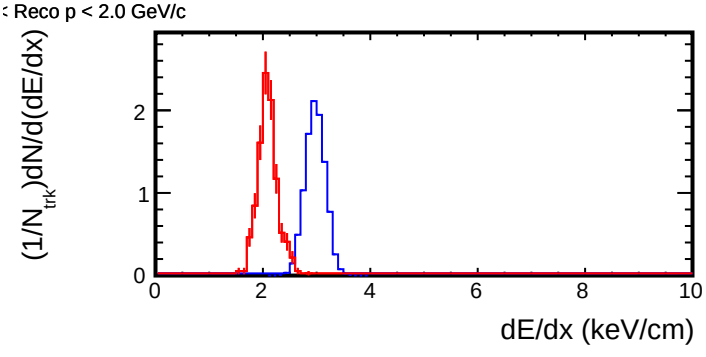

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

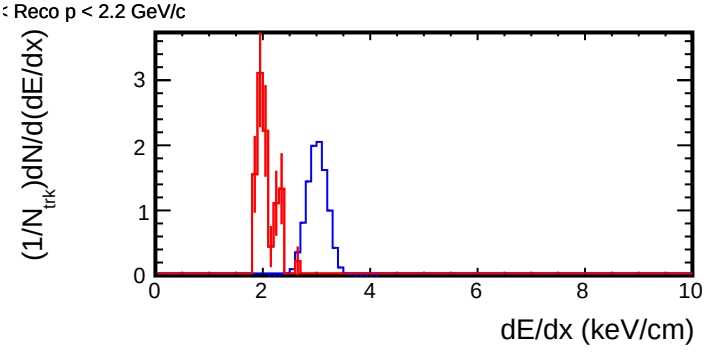
pi-
(PRIMARY, $|n\,\sigma_{pi-}|$<2 TPC)

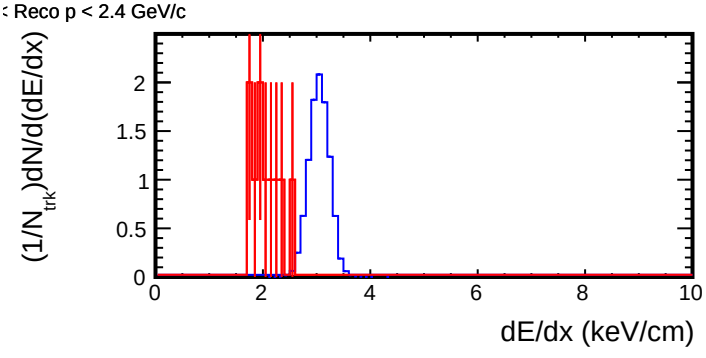
# Projection of dE/dx for each p bin

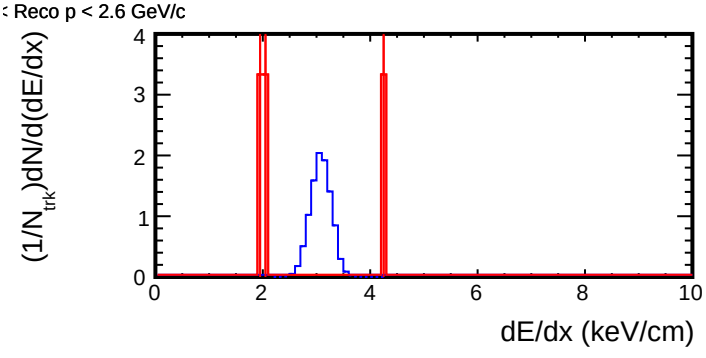


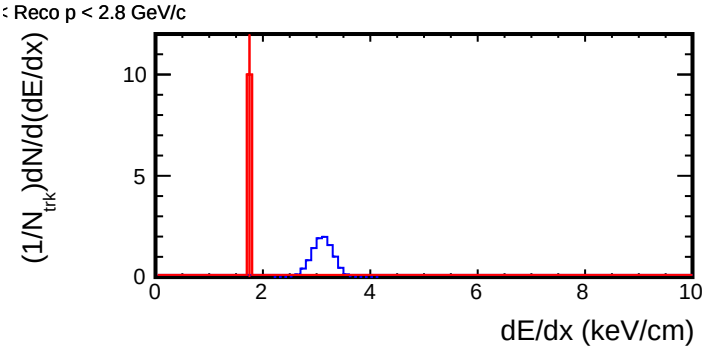



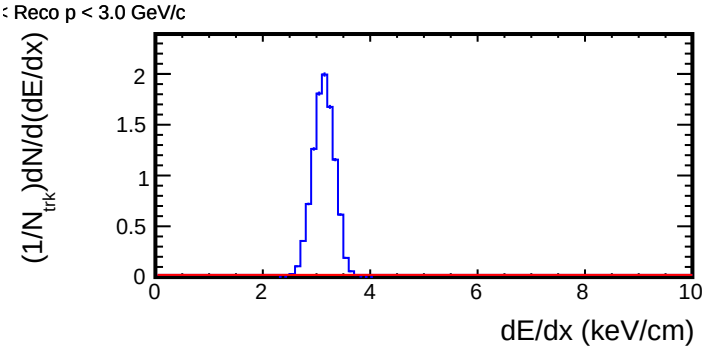



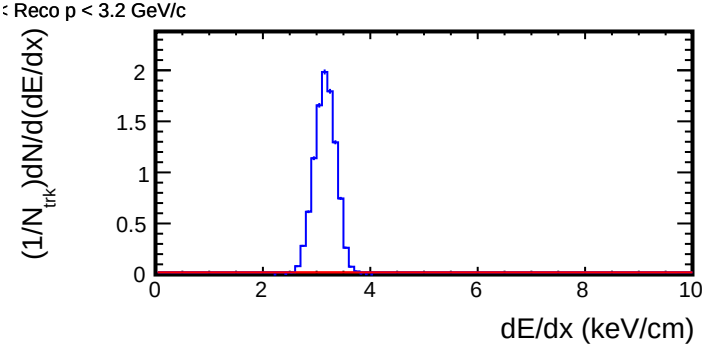

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

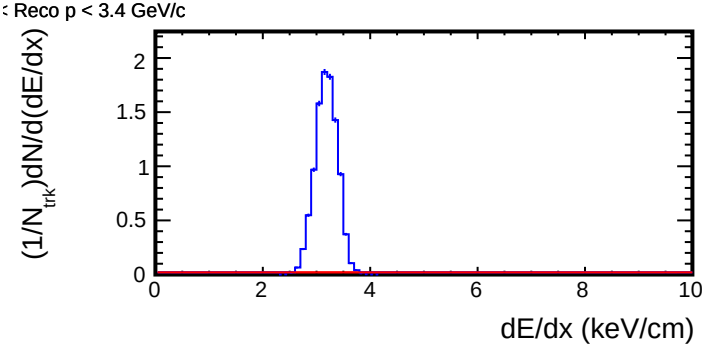
pi-
(PRIMARY, $|n\,\sigma_{pi-}|$<2 TPC)

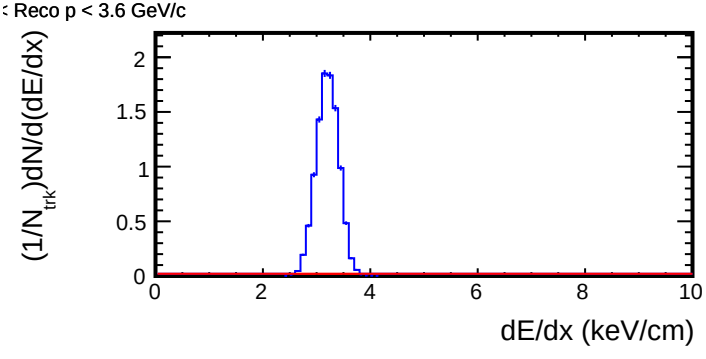
# Projection of dE/dx for each p bin

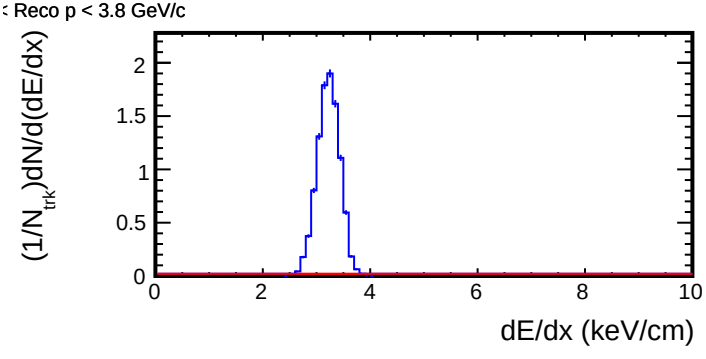


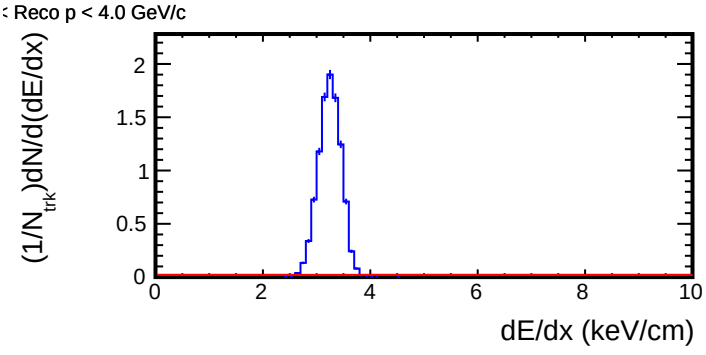



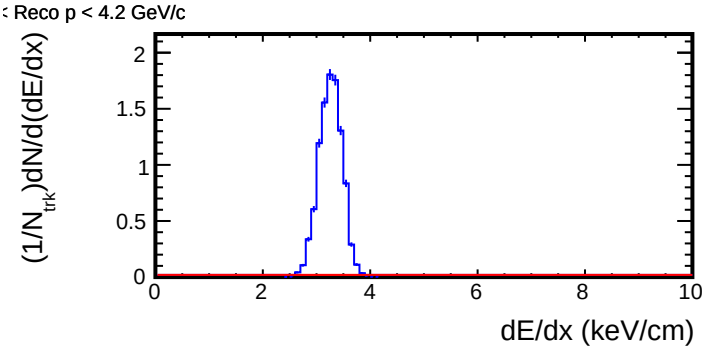



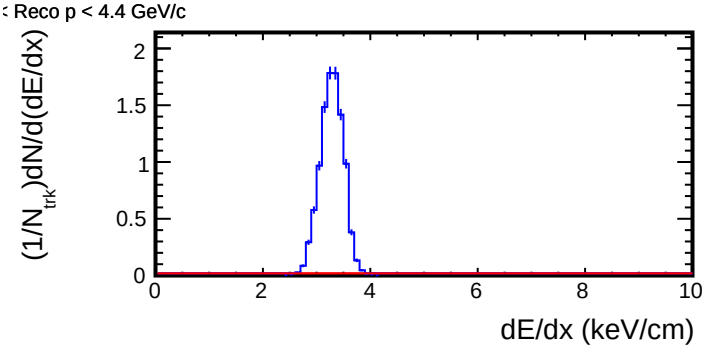

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

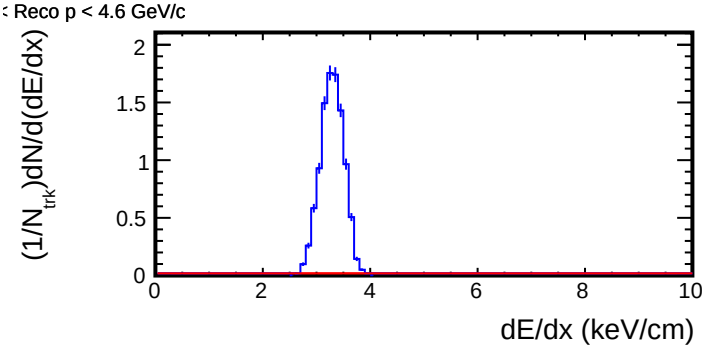
pi-
(PRIMARY, $|n\,\sigma_{pi-}|$<2 TPC)

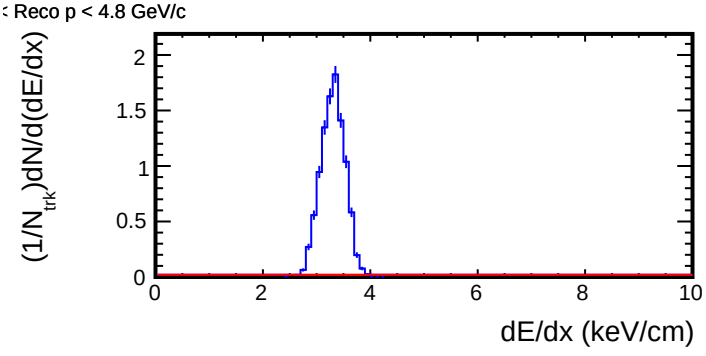
# Projection of dE/dx for each p bin

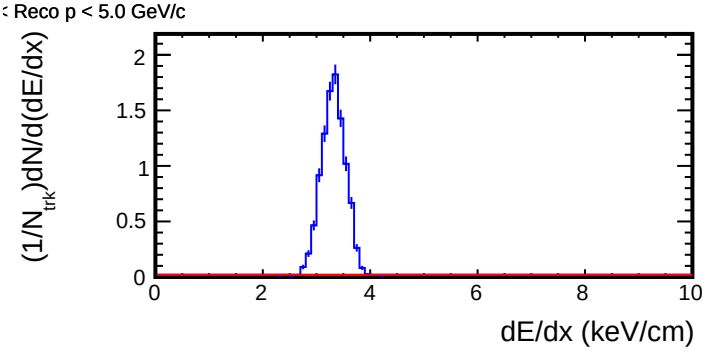


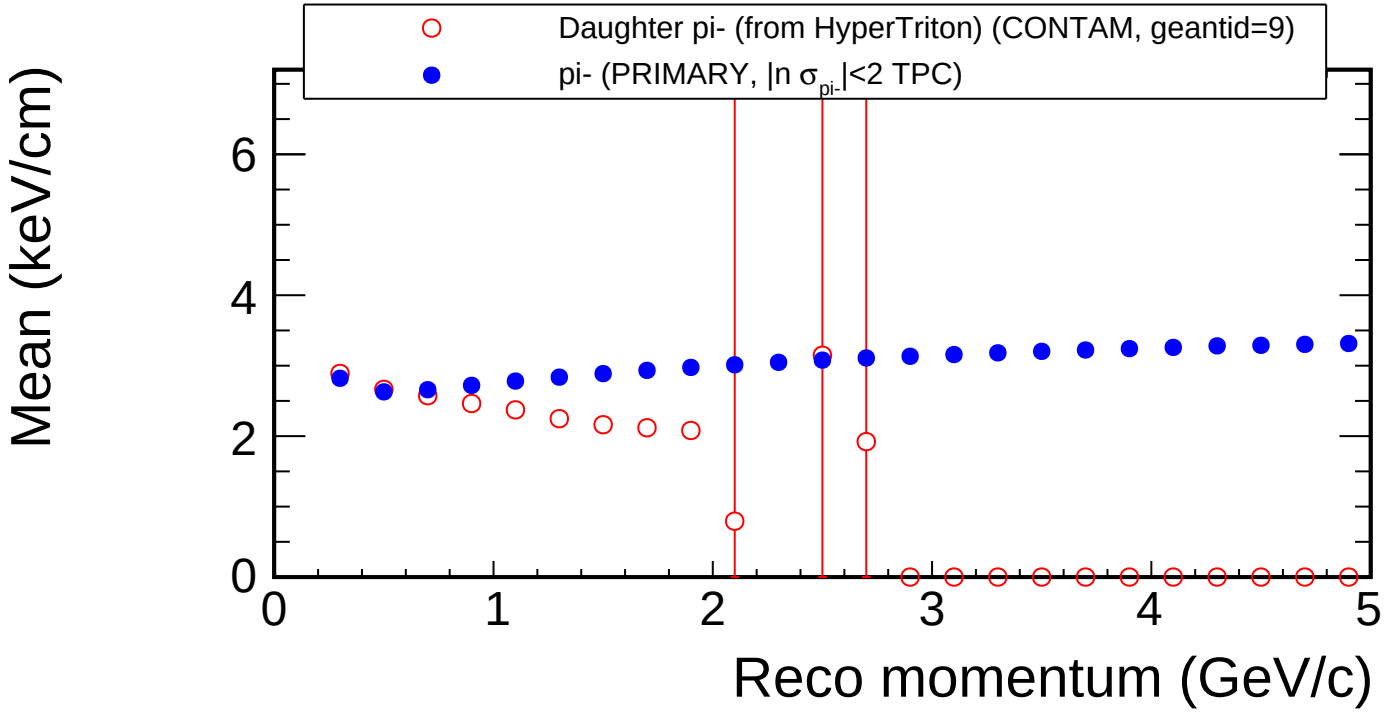



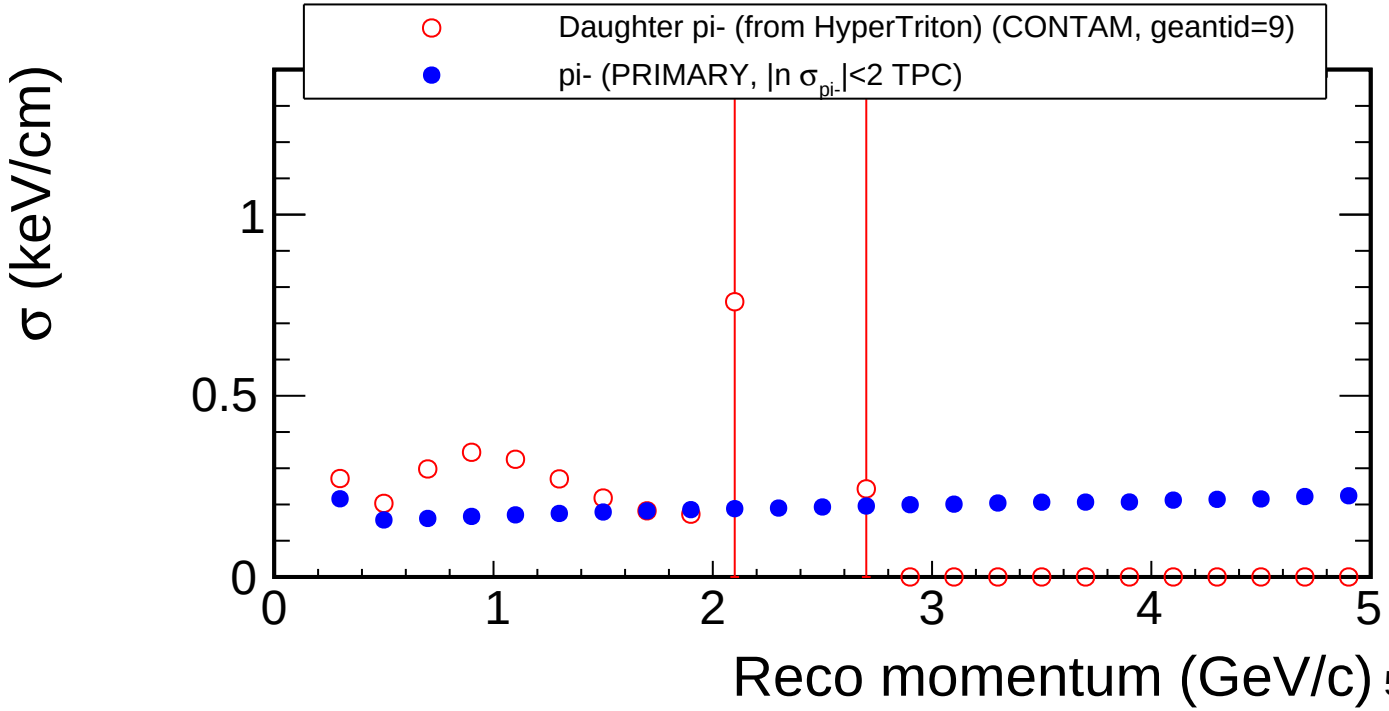




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

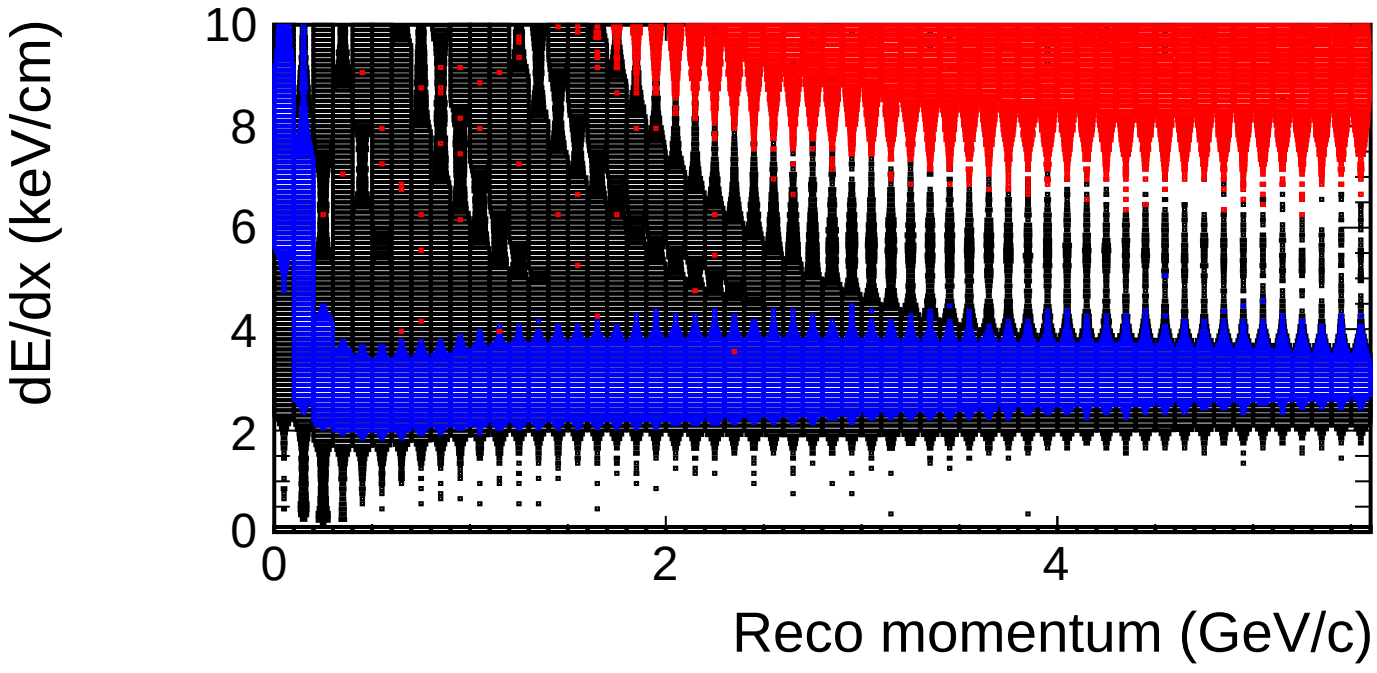
pi-
(PRIMARY, $|n\,\sigma_{pi-}|<2$ TPC)

## Mean/σ of dE/dx vs momentum



# dE/dx vs momentum (Embedding:He3, Real:He3)

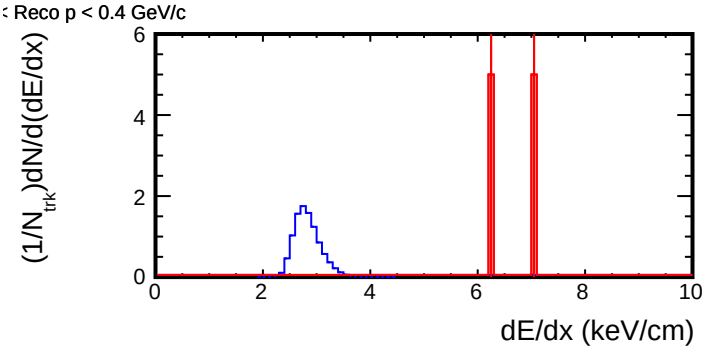


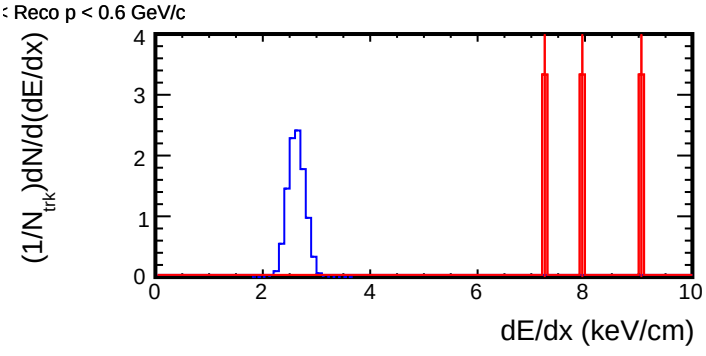

Daughter He3 (from HyperTriton) (CONTAM, geantid=49)

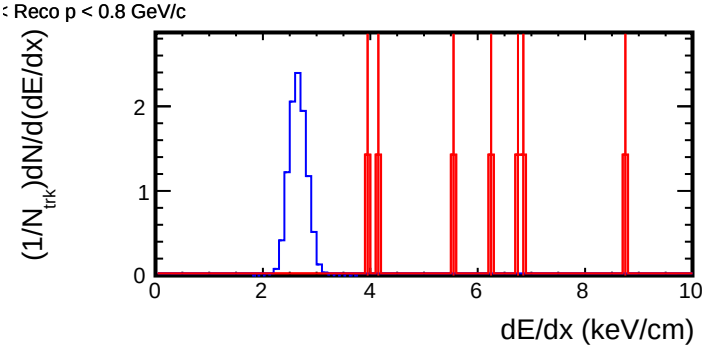
Real data

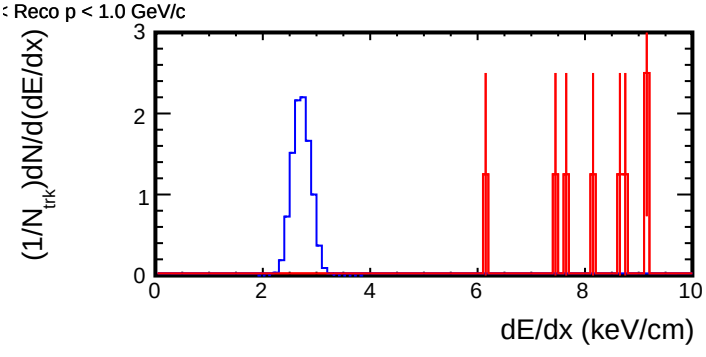
Real data with PID cut (σ<2) TPC

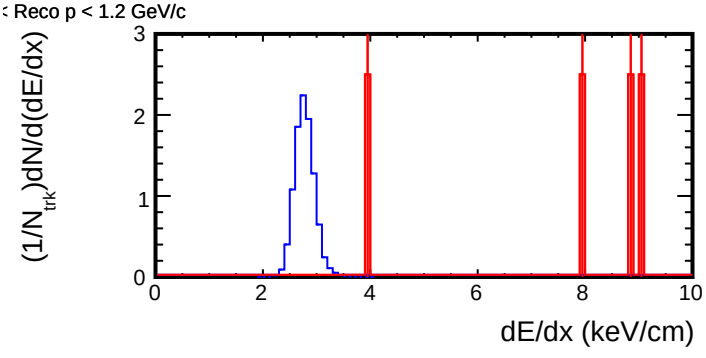
# Projection of dE/dx for each p bin

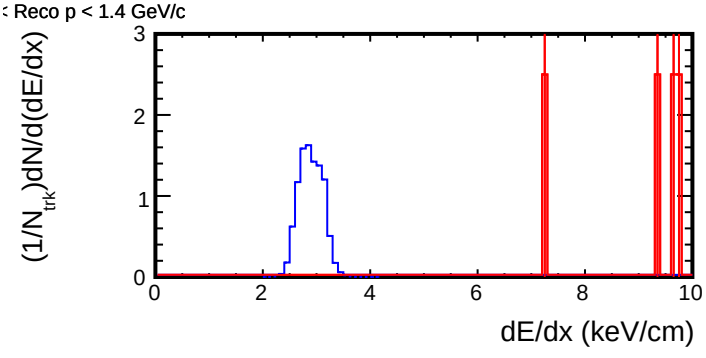


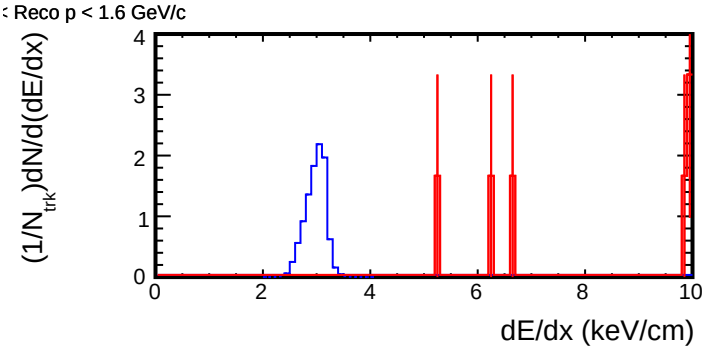



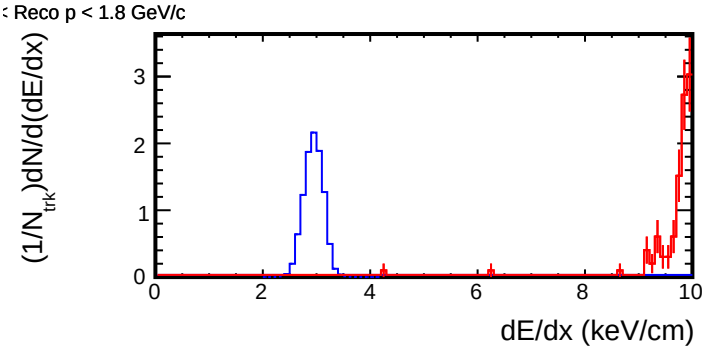



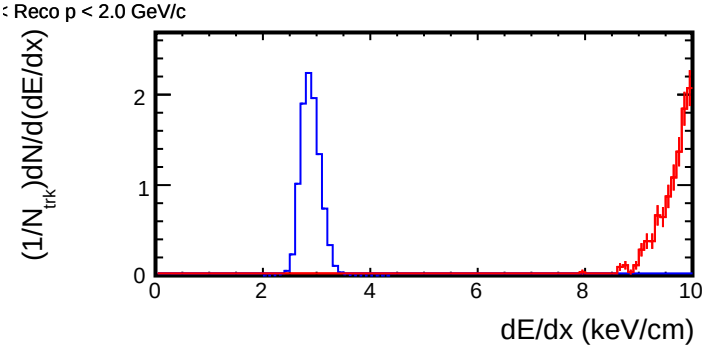

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

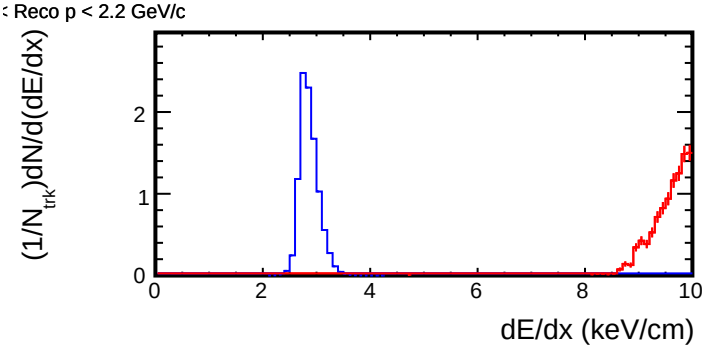
pi+
(PRIMARY, $|n\,\sigma_{pi+}|$<2 TPC)

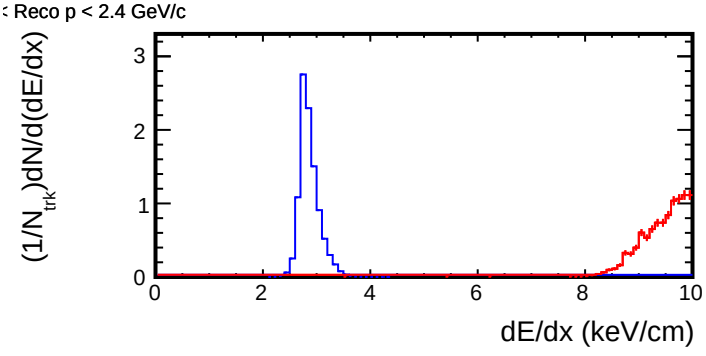
# Projection of dE/dx for each p bin

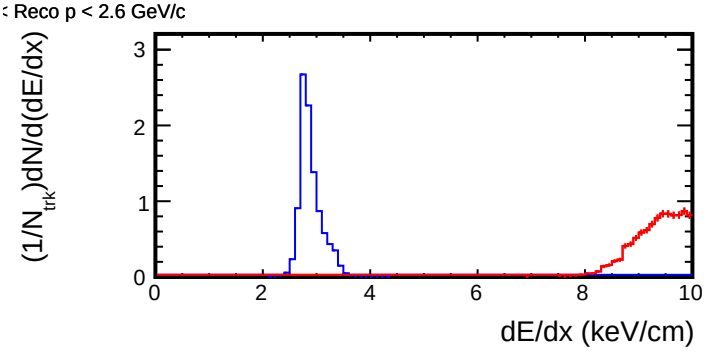


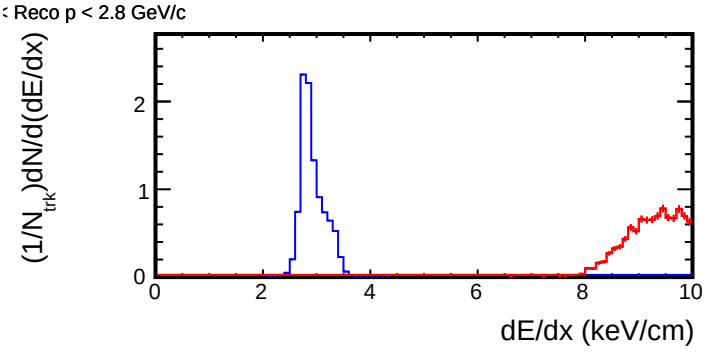



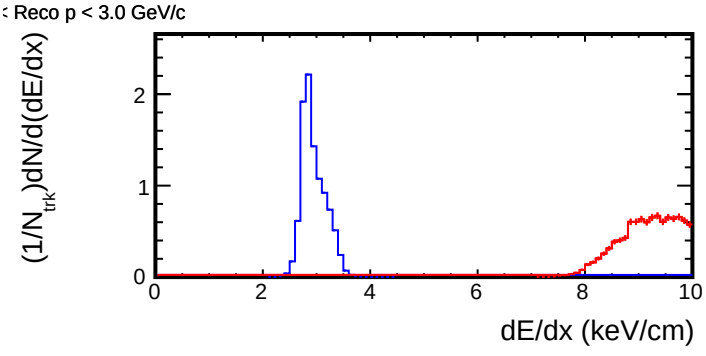



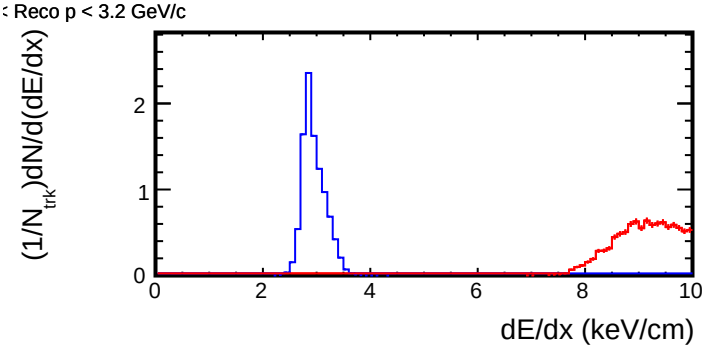

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

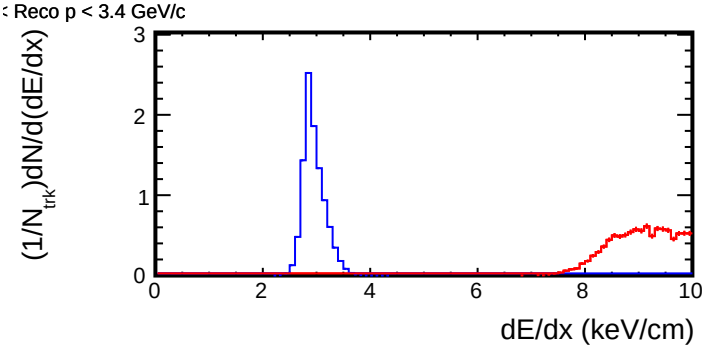
pi+
(PRIMARY, $|n\,\sigma_{pi+}|$<2 TPC)

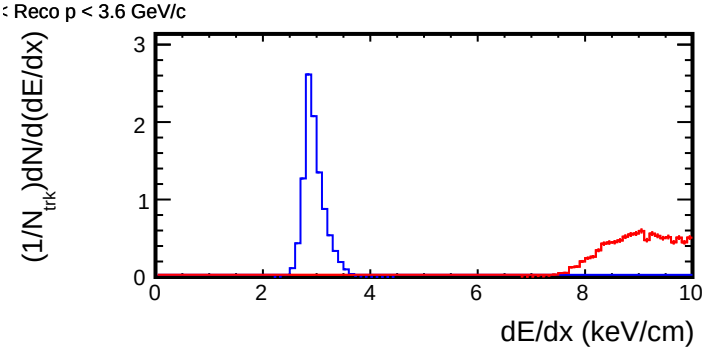
# Projection of dE/dx for each p bin

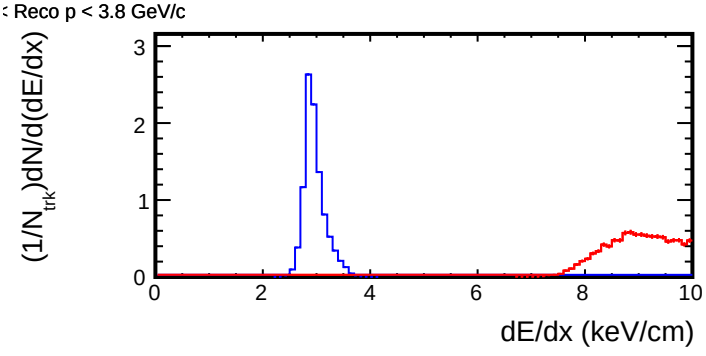


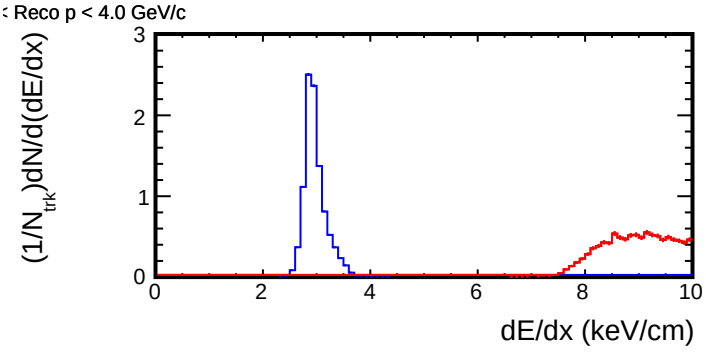



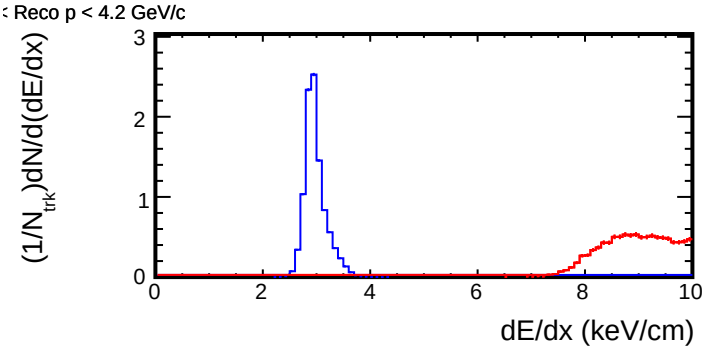



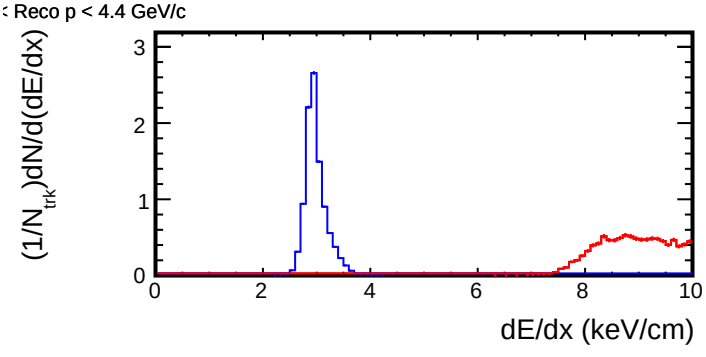

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

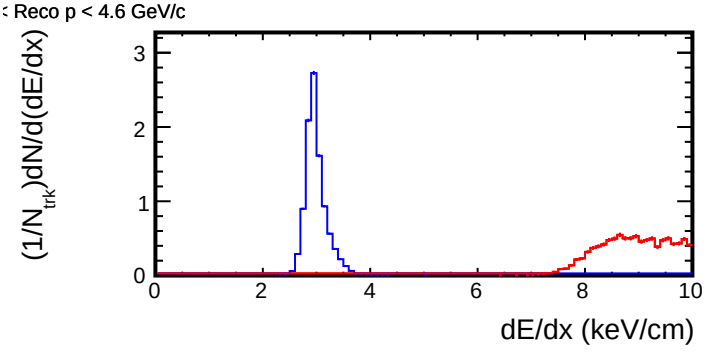
pi+
(PRIMARY, $|n\,\sigma_{pi+}|$<2 TPC)

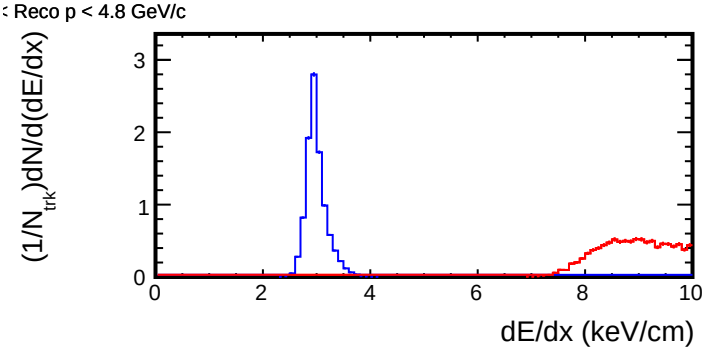
# Projection of dE/dx for each p bin

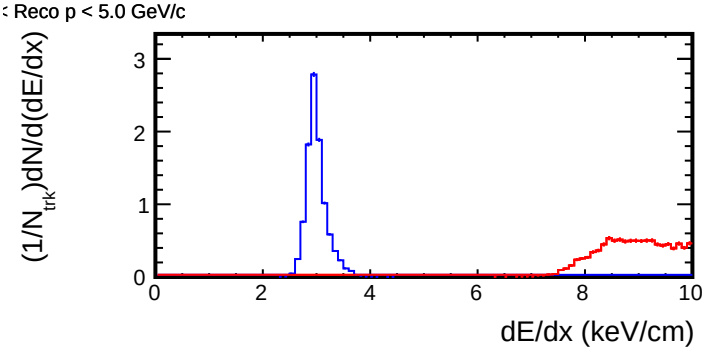


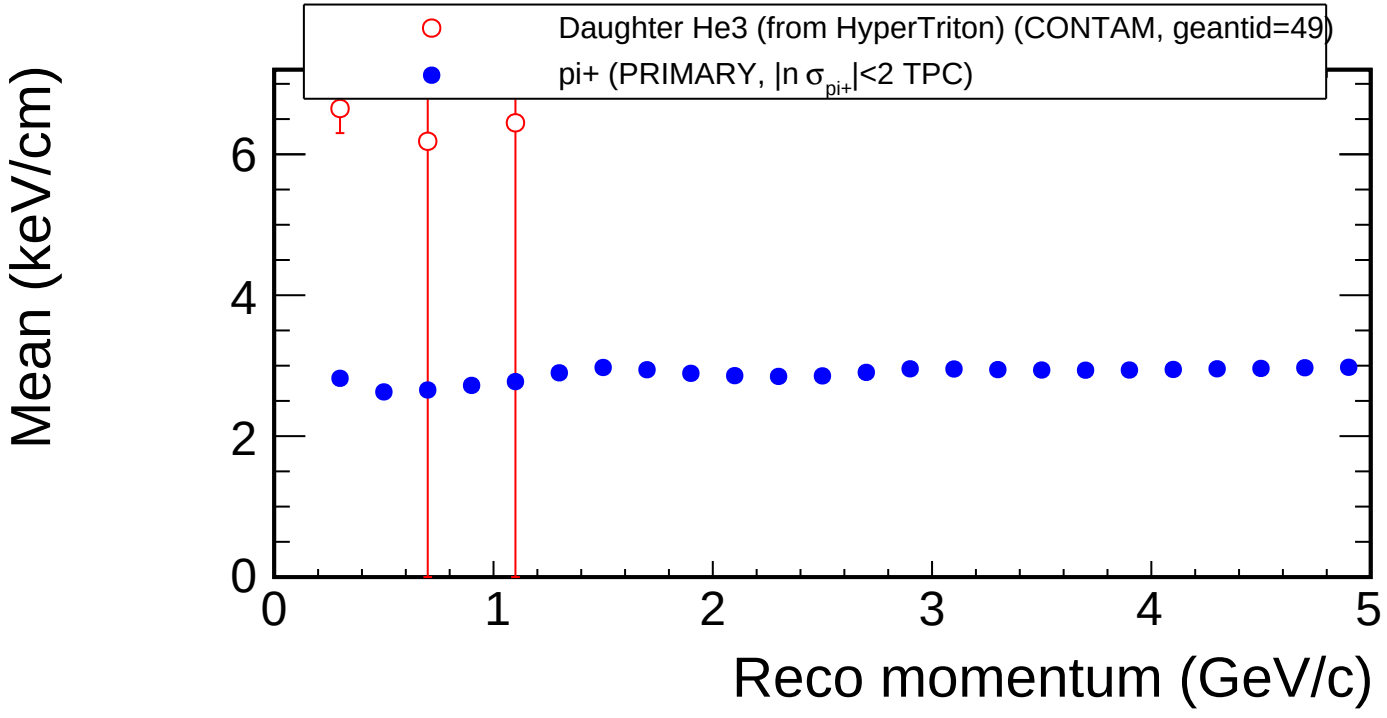



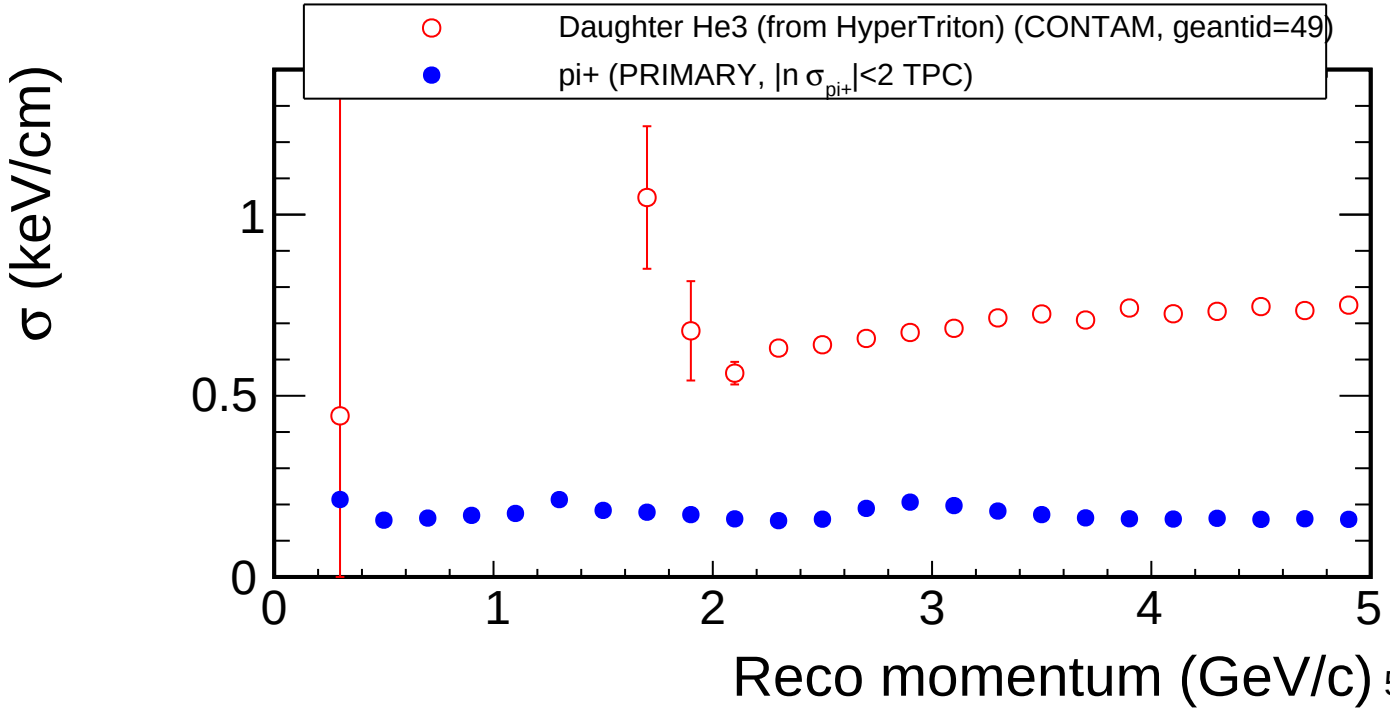




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

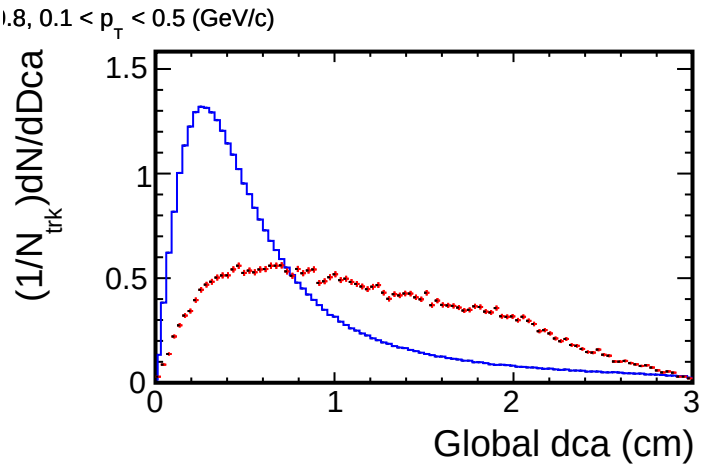
pi+
(PRIMARY, $|n\,\sigma_{pi+}|$<2 TPC)

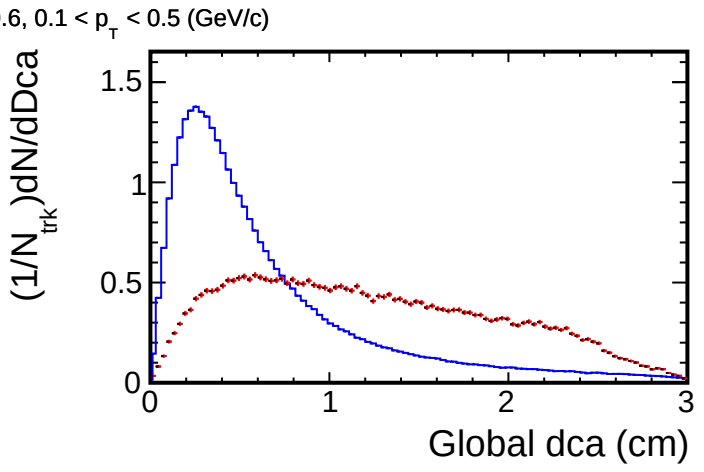
## Mean/σ of dE/dx vs momentum

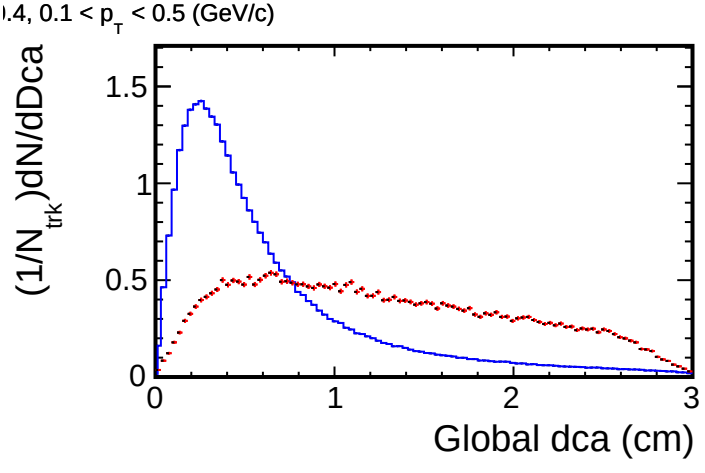


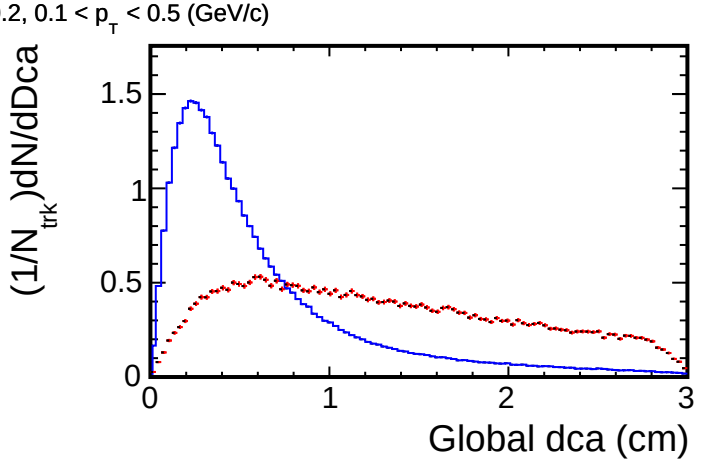



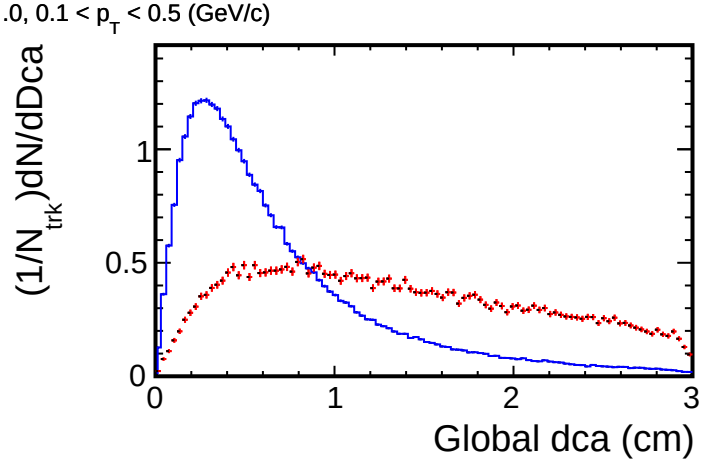
# Dca distribution for ($p_T$, η) slices



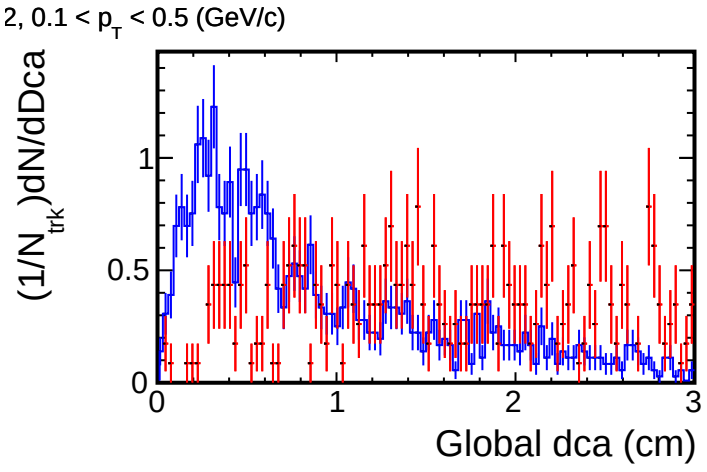



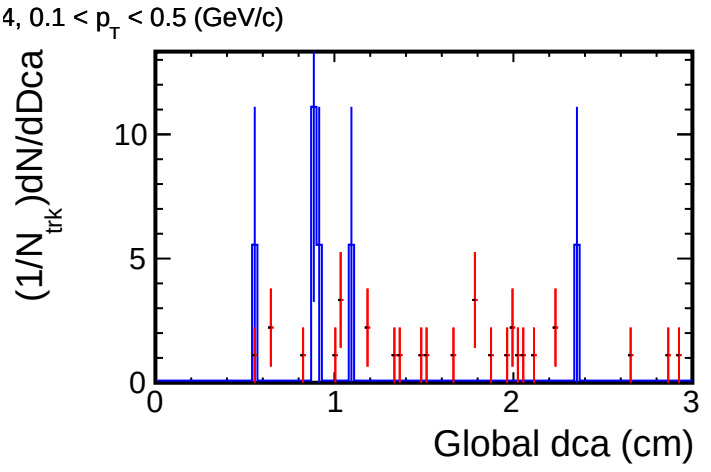



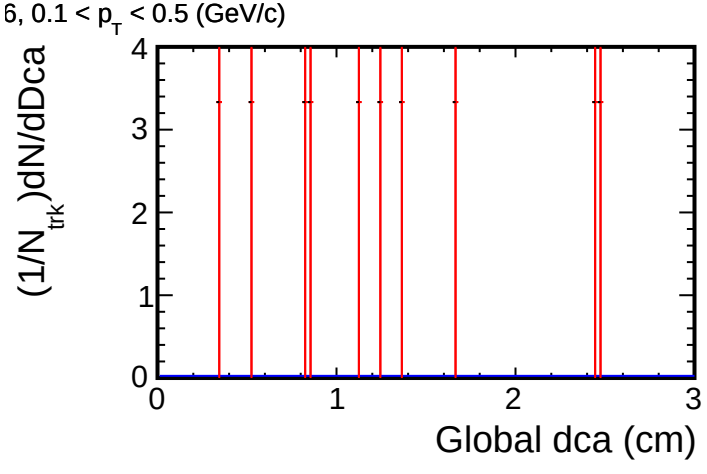

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

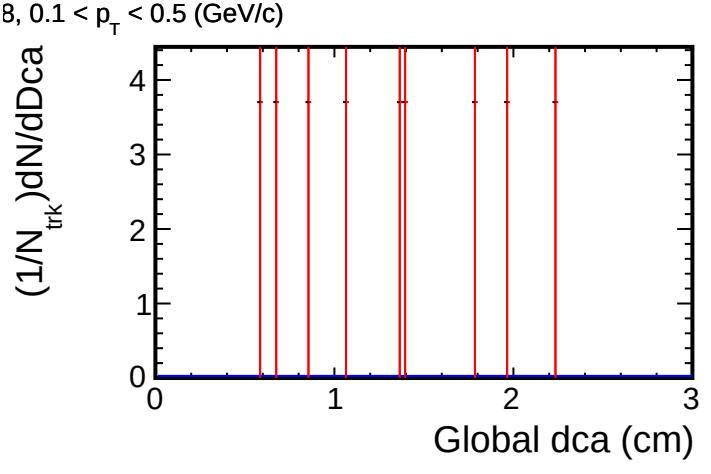
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

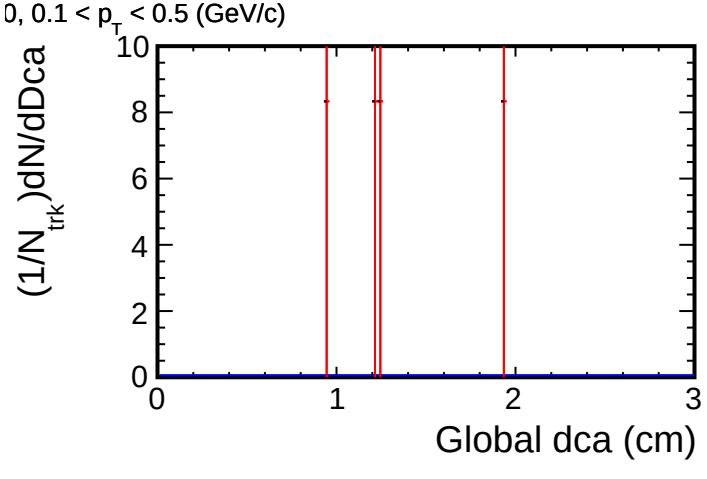
# Dca distribution for ($p_T$, η) slices



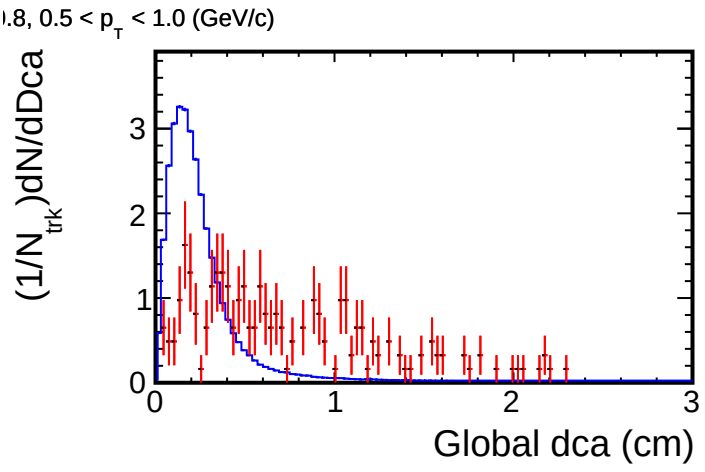



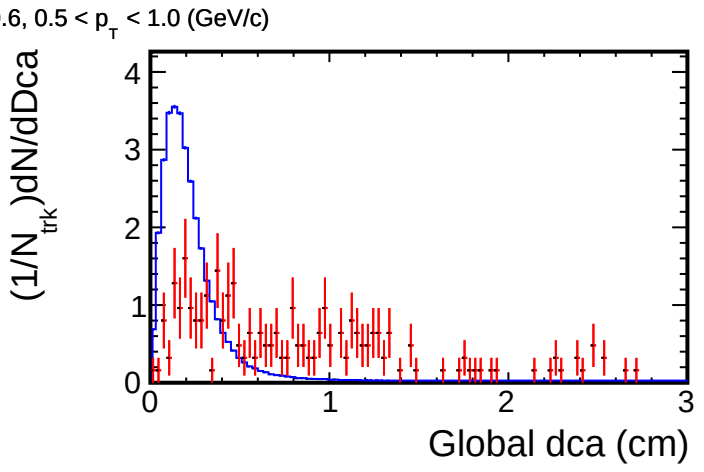



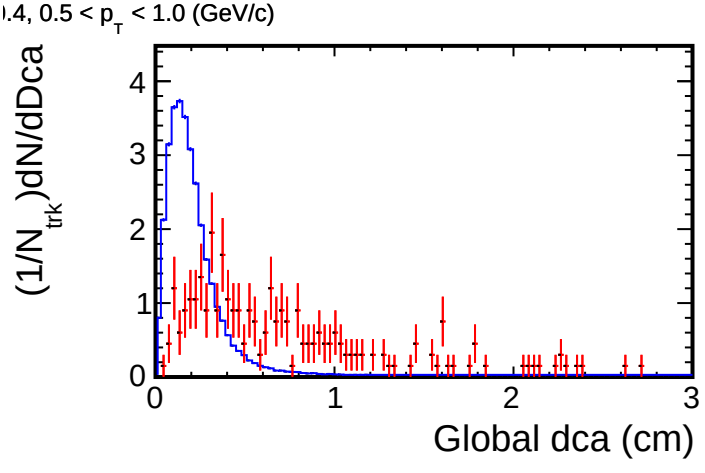

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

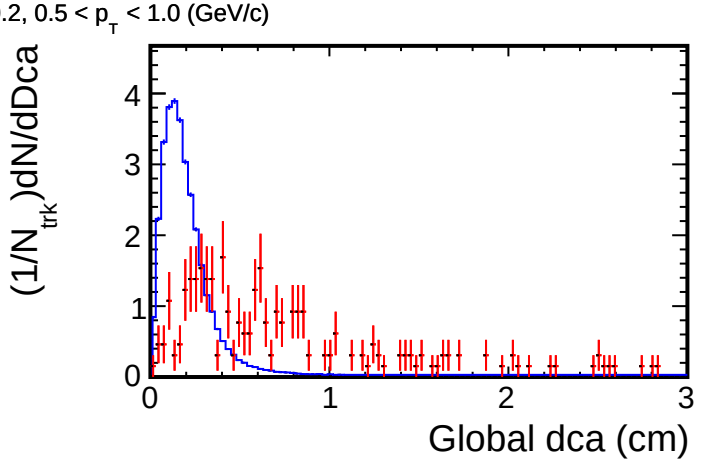
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

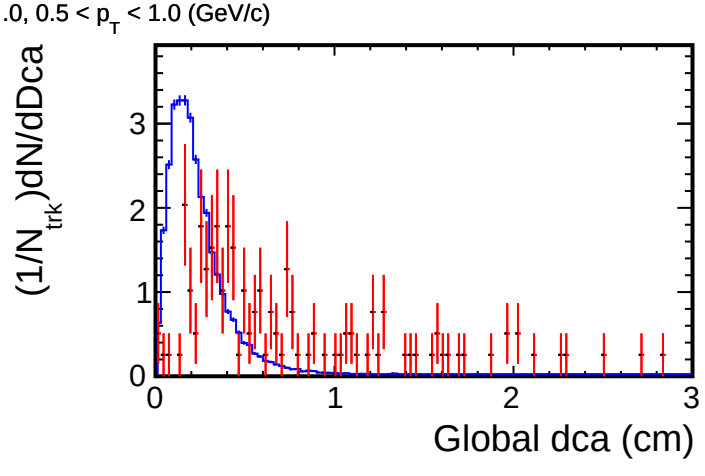
# Dca distribution for ($p_T$, η) slices



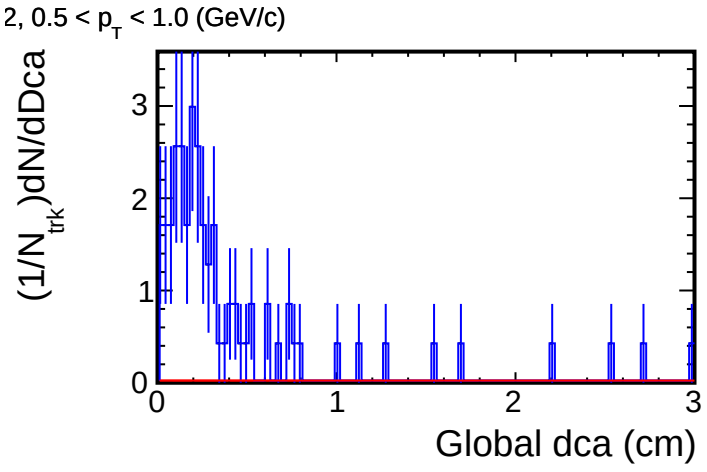



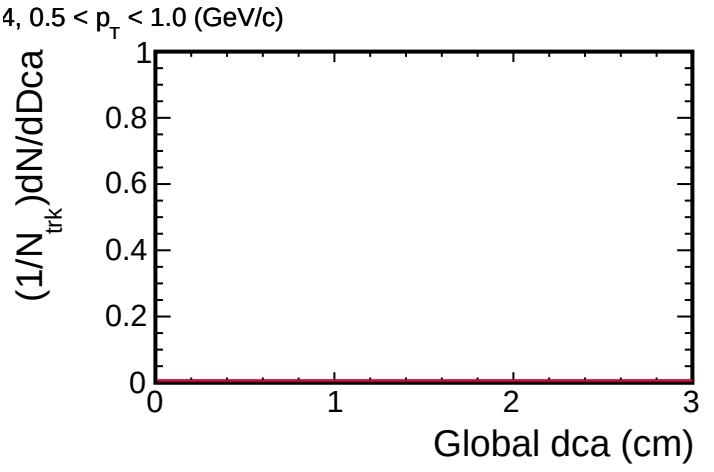



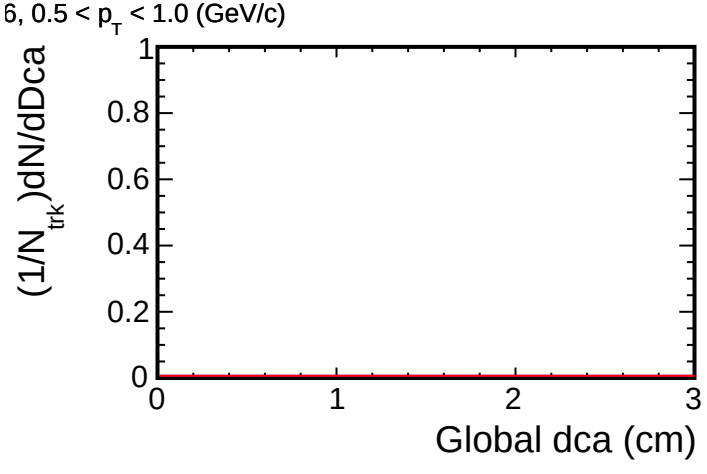

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

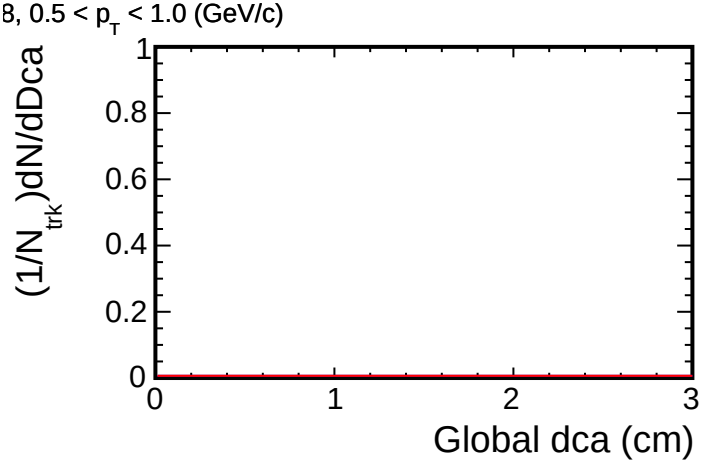
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

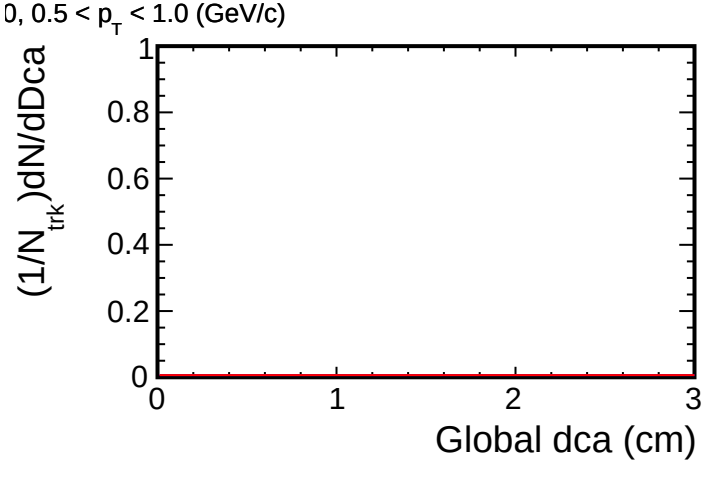
# Dca distribution for ($p_T$, η) slices



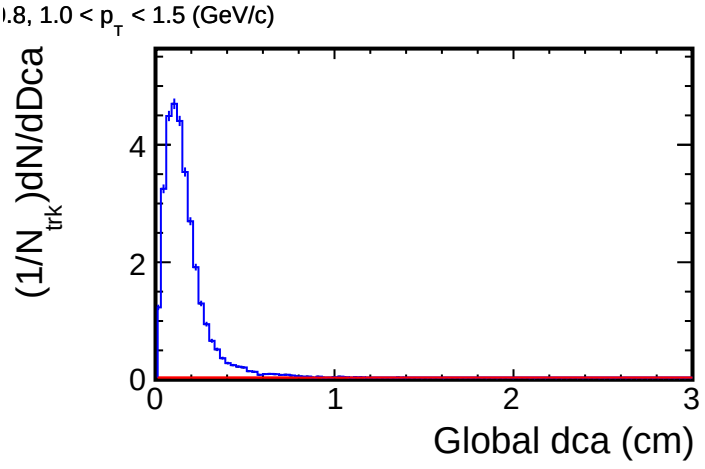



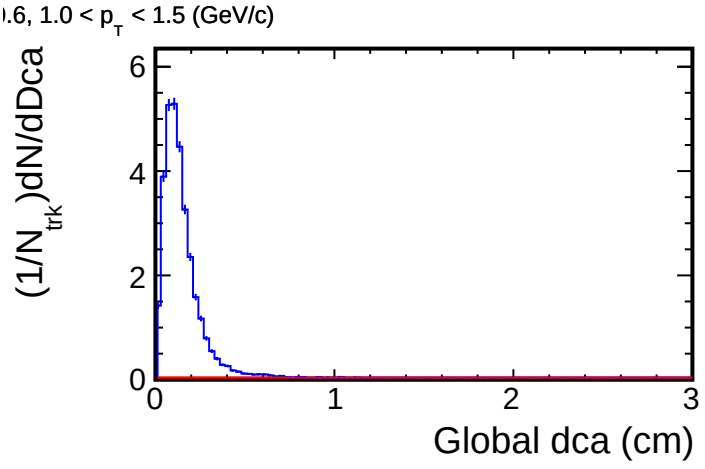



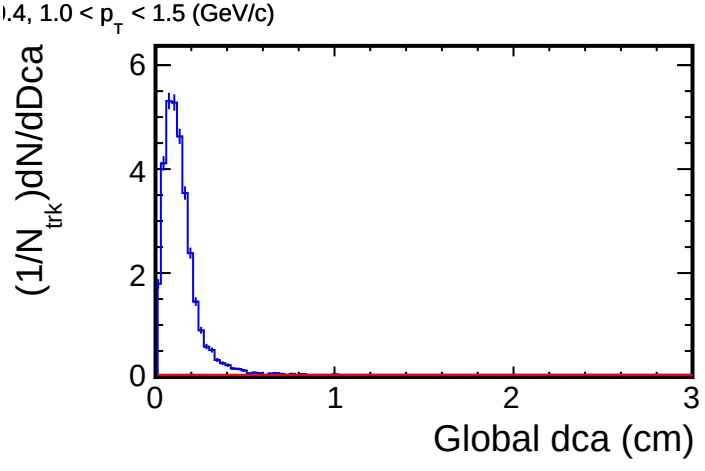

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

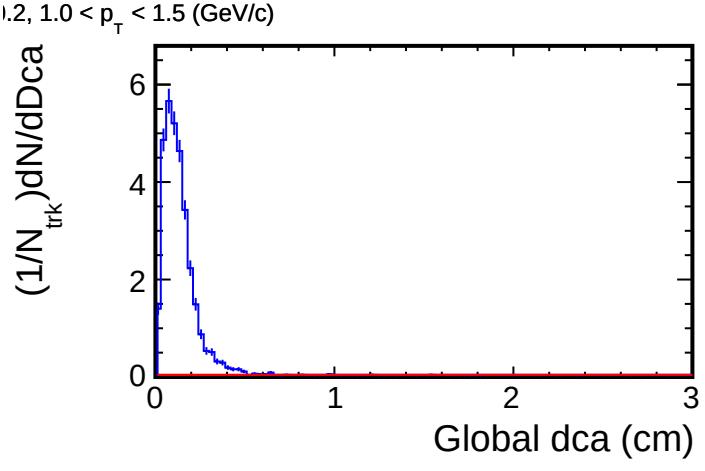
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

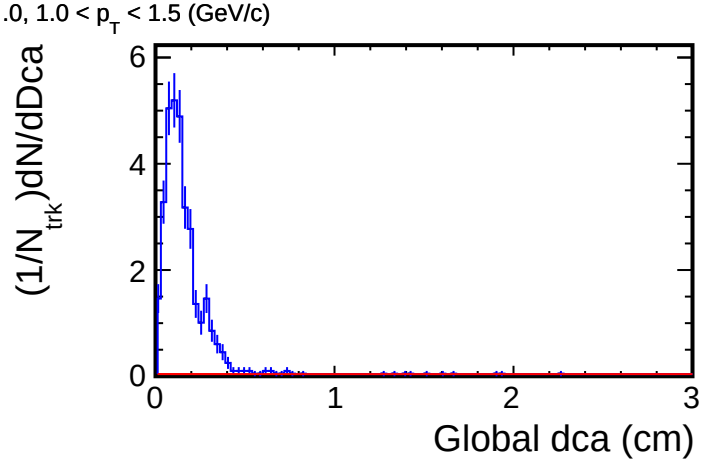
# Dca distribution for ($p_T$, η) slices



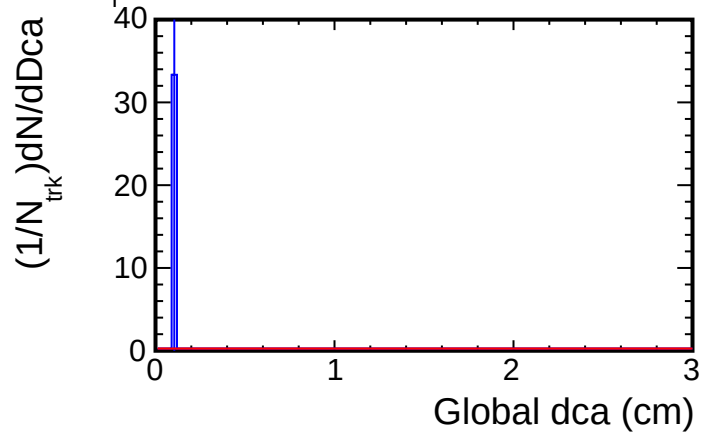




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

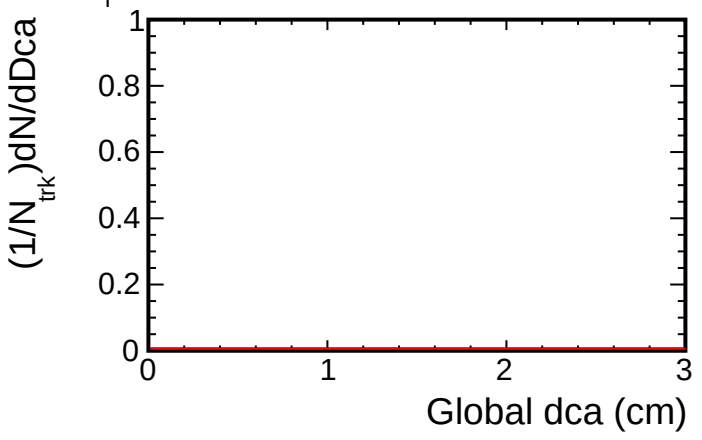
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

# Dca distribution for ($p_T$, η) slices

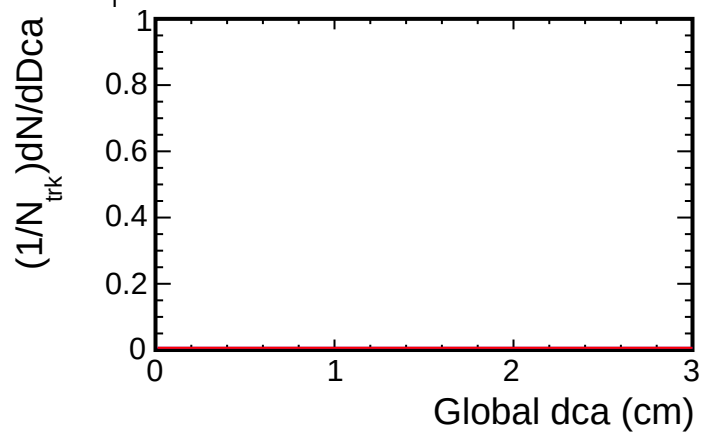
2, 1.0 < $p_T$ < 1.5 (GeV/c)



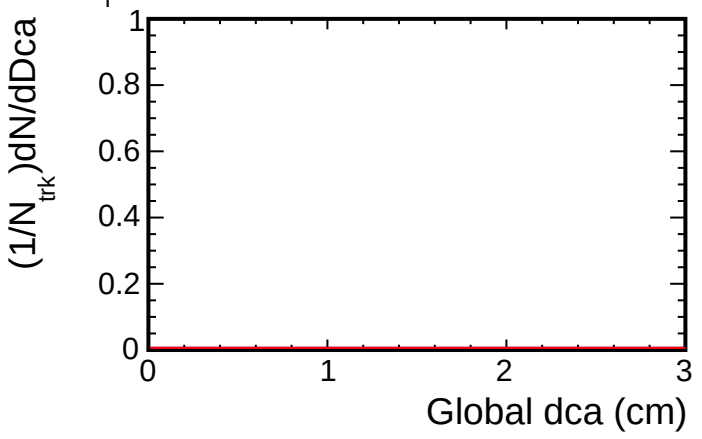

4, 1.0 < $p_T$ < 1.5 (GeV/c)



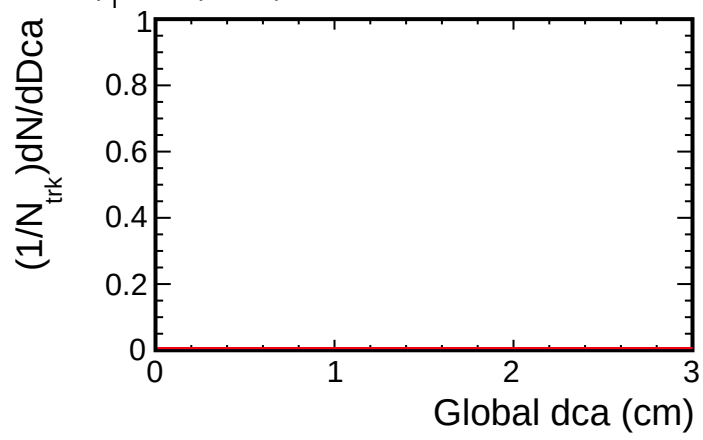

6, 1.0 < $p_T$ < 1.5 (GeV/c)




8, 1.0 < $p_T$ < 1.5 (GeV/c)



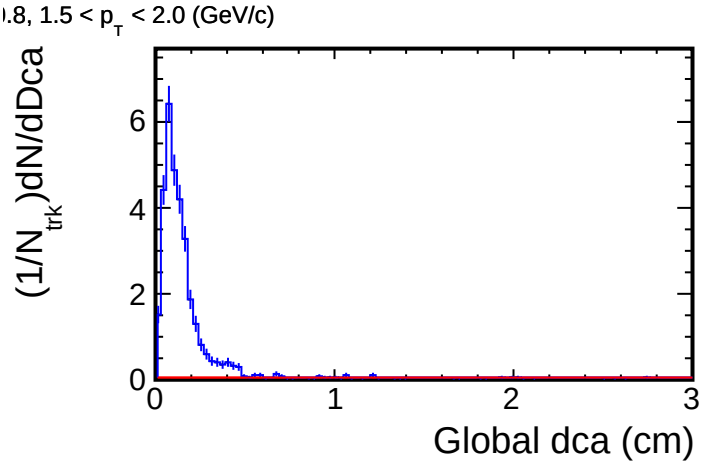

0, 1.0 < $p_T$ < 1.5 (GeV/c)

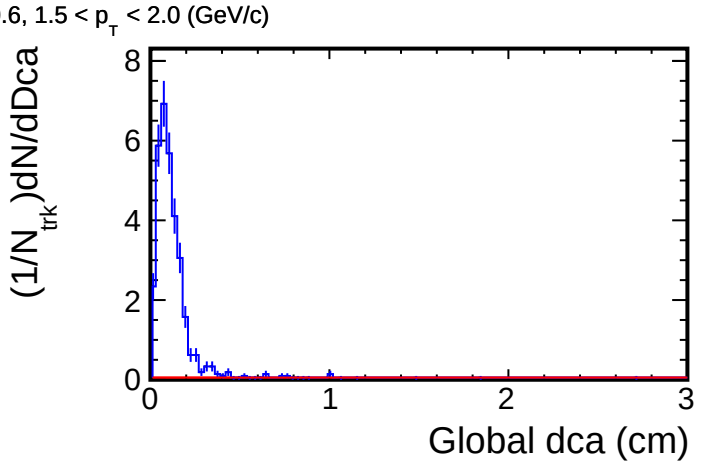


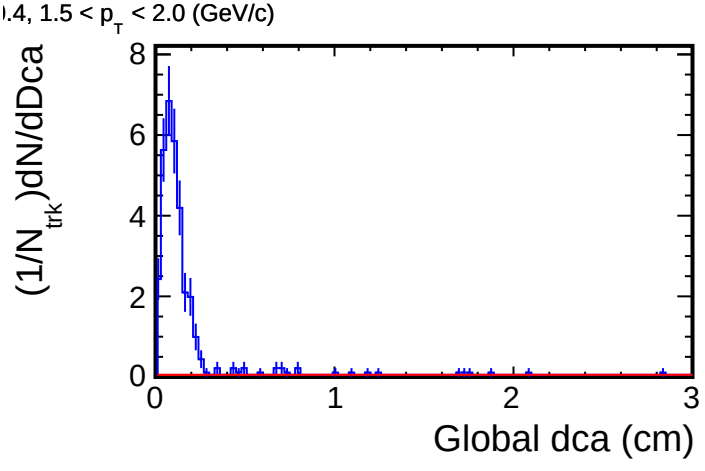

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

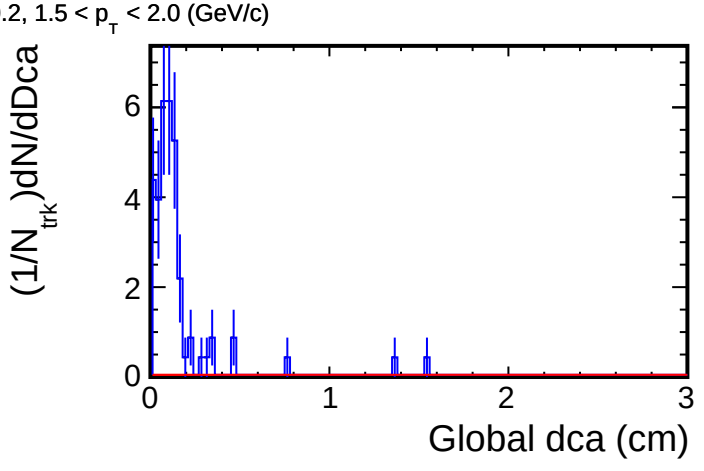
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

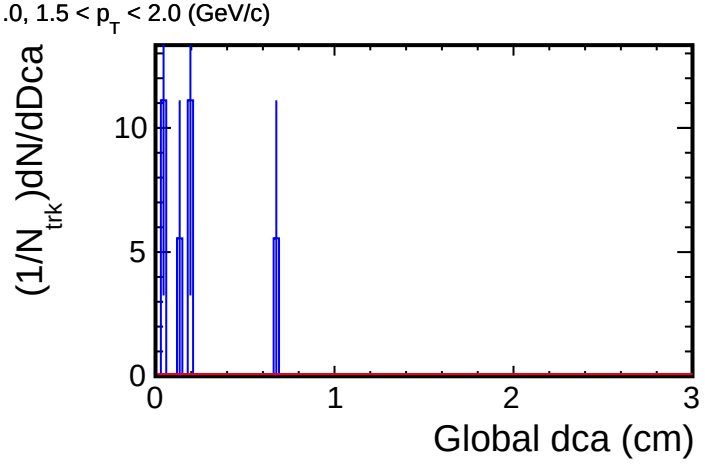
# Dca distribution for ($p_T$, η) slices



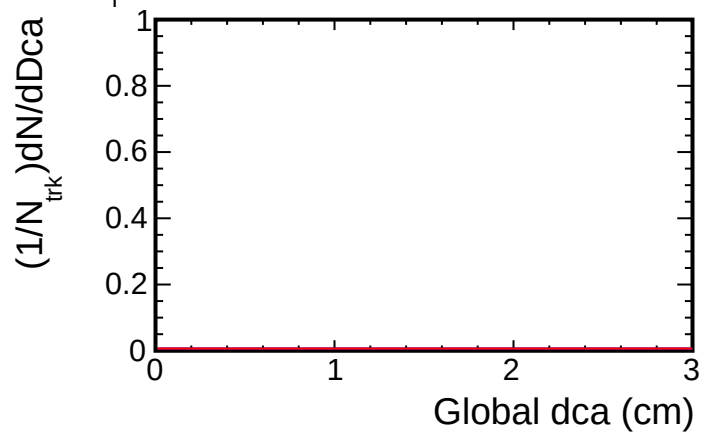




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

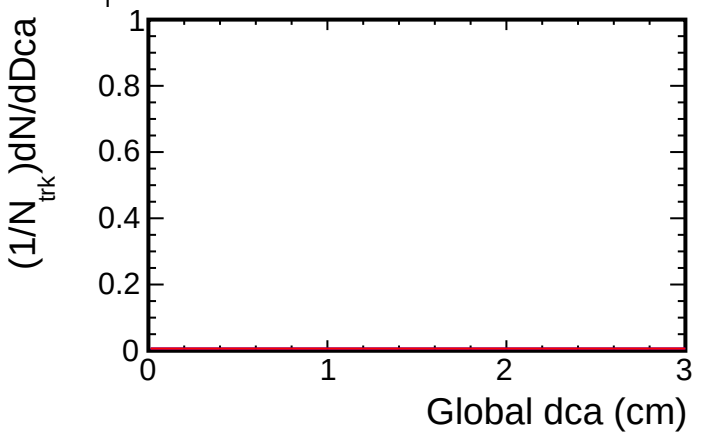
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

# Dca distribution for ($p_T$, η) slices

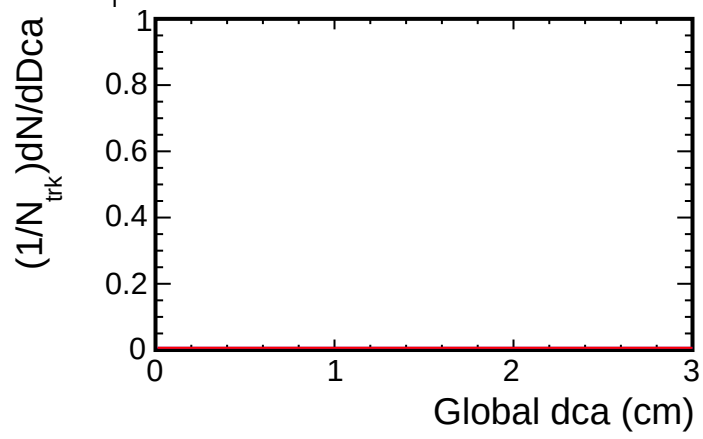
2, 1.5 < $p_T$ < 2.0 (GeV/c)



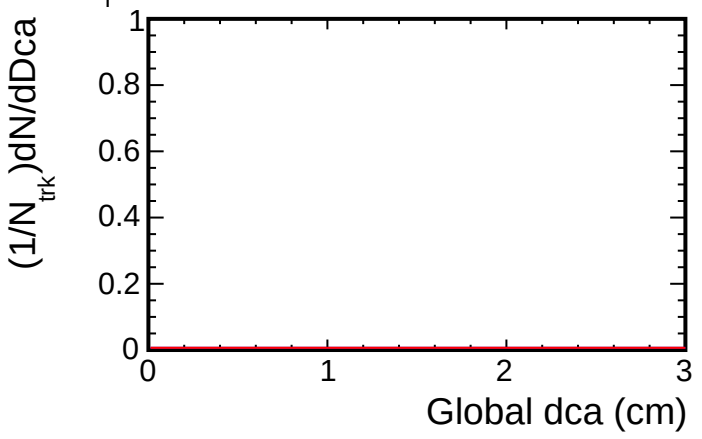

4, 1.5 < $p_T$ < 2.0 (GeV/c)



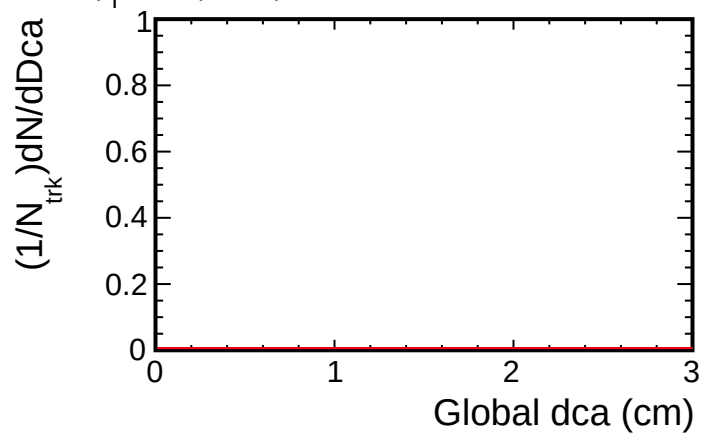

6, 1.5 < $p_T$ < 2.0 (GeV/c)




8, 1.5 < $p_T$ < 2.0 (GeV/c)



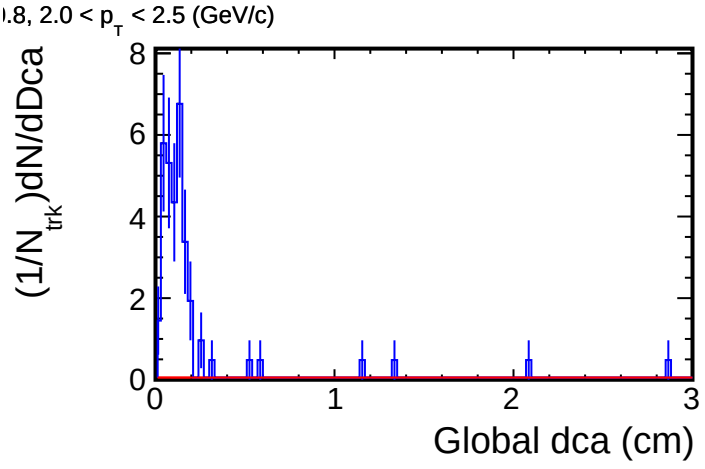

0, 1.5 < $p_T$ < 2.0 (GeV/c)

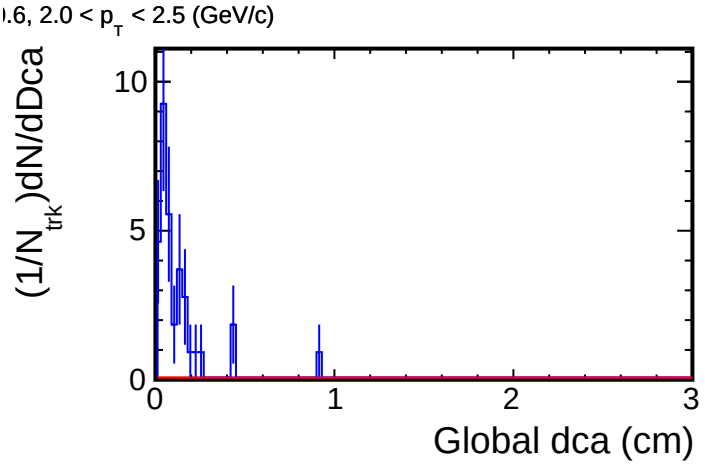


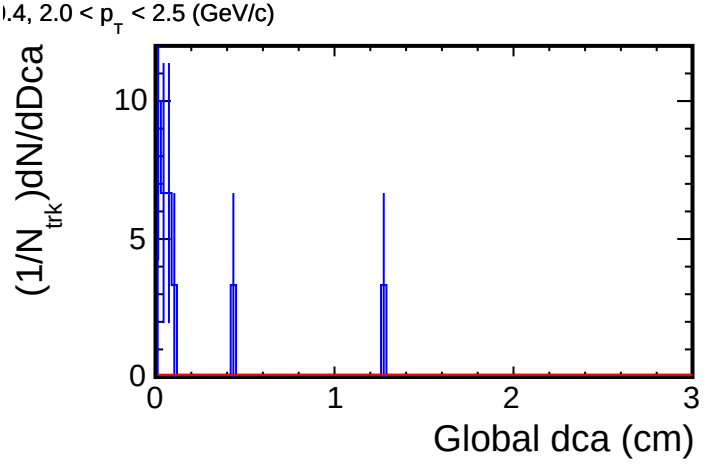

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

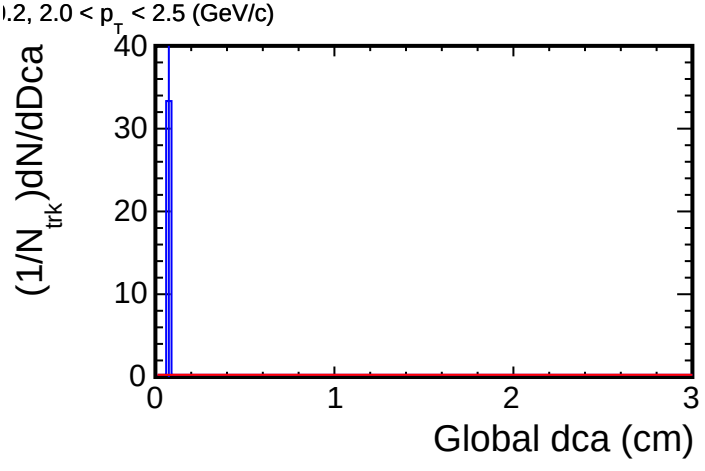
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

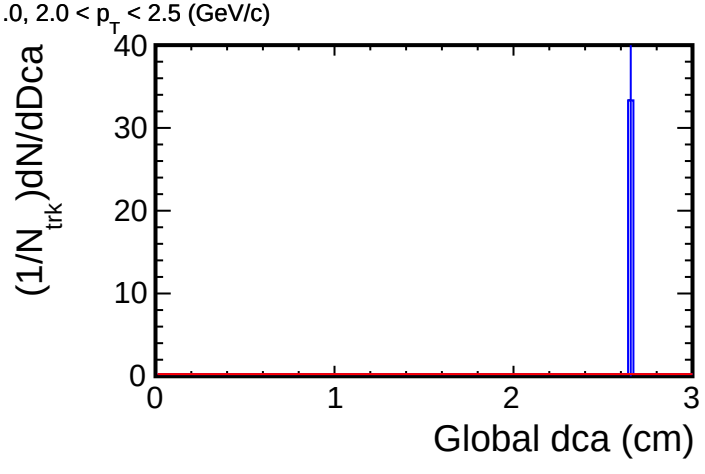
# Dca distribution for ($p_T$, η) slices



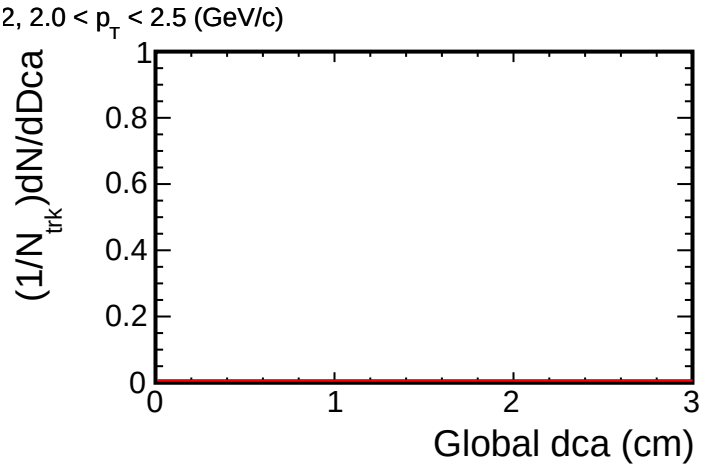



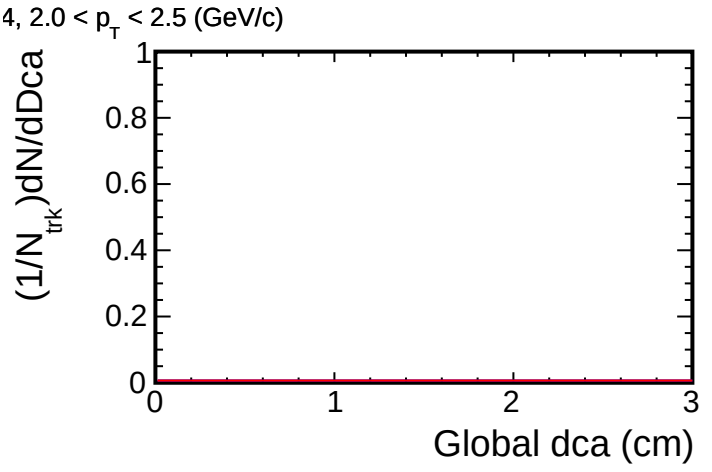



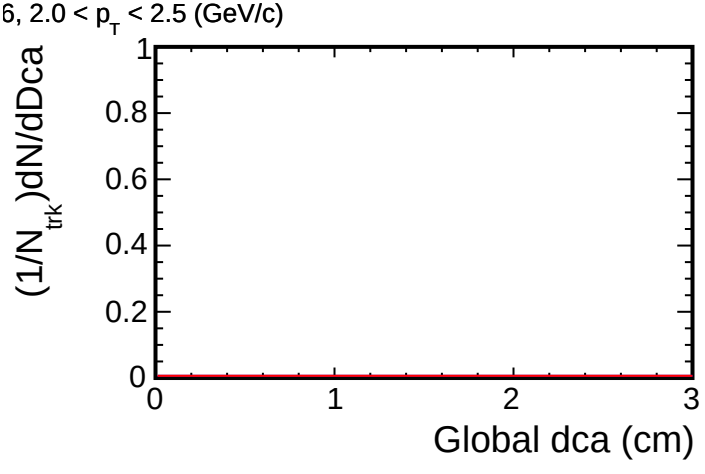

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

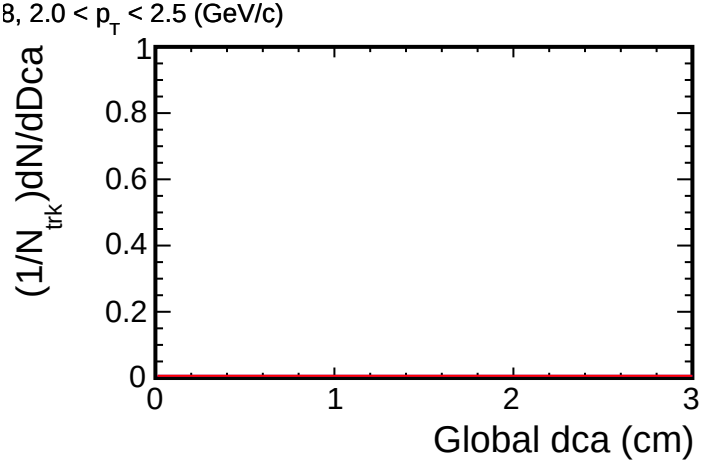
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

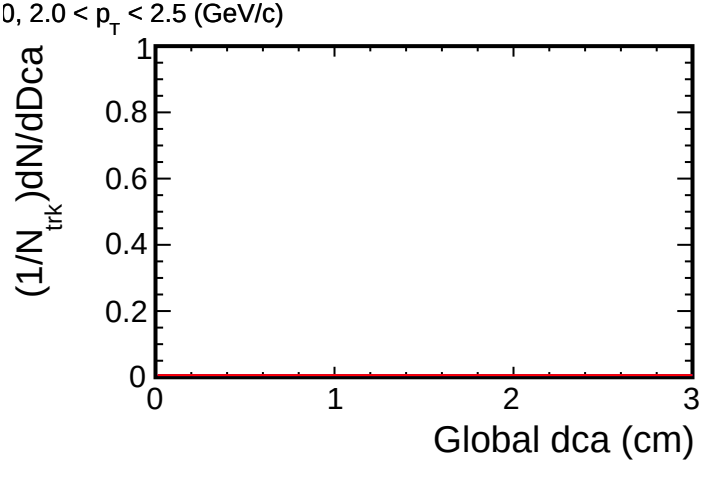
# Dca distribution for ($p_T$, η) slices



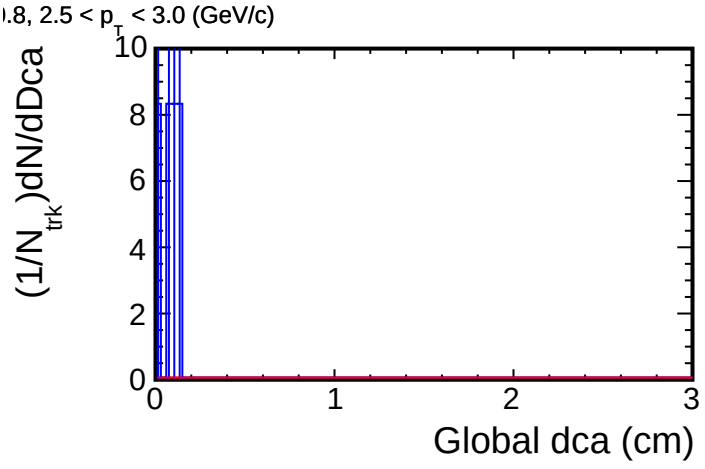



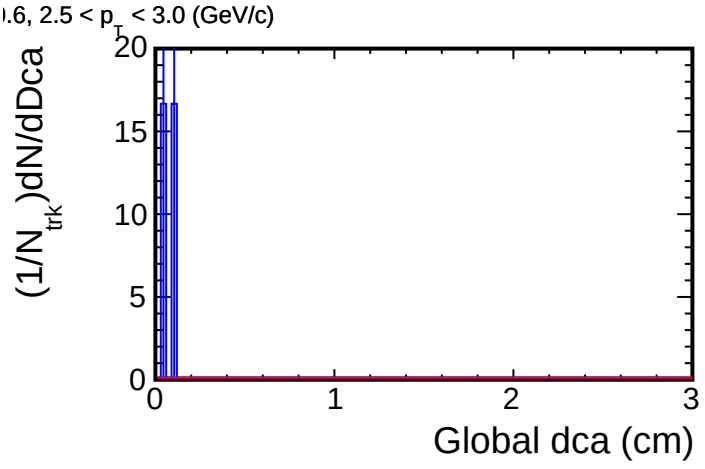



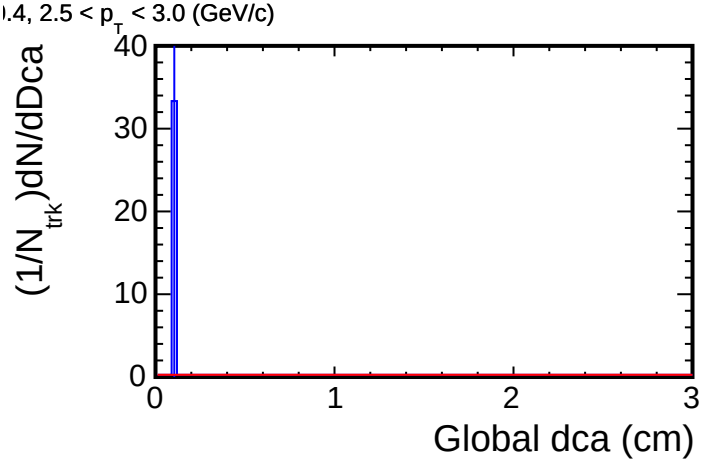

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

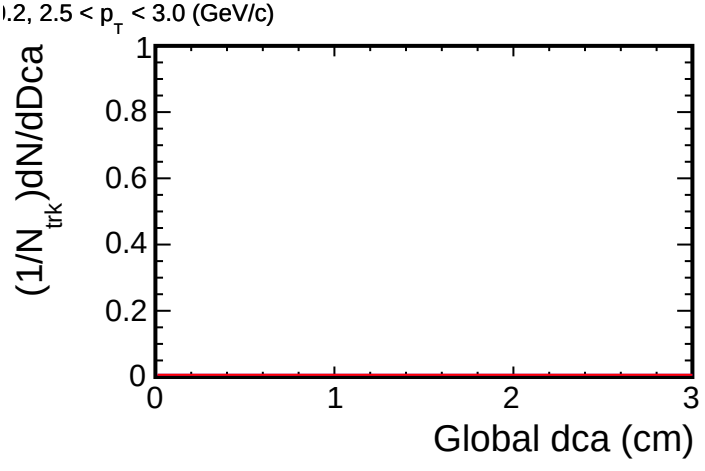
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

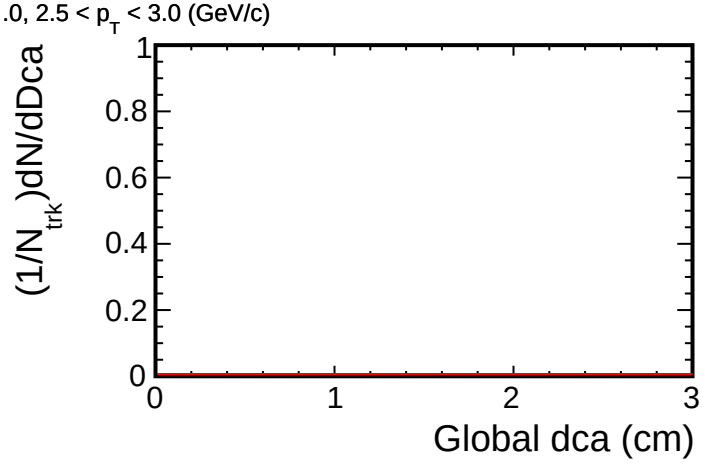
# Dca distribution for ($p_T$, η) slices



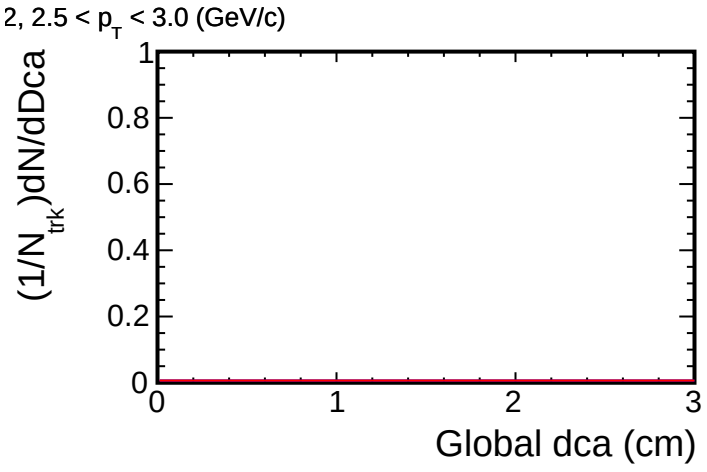



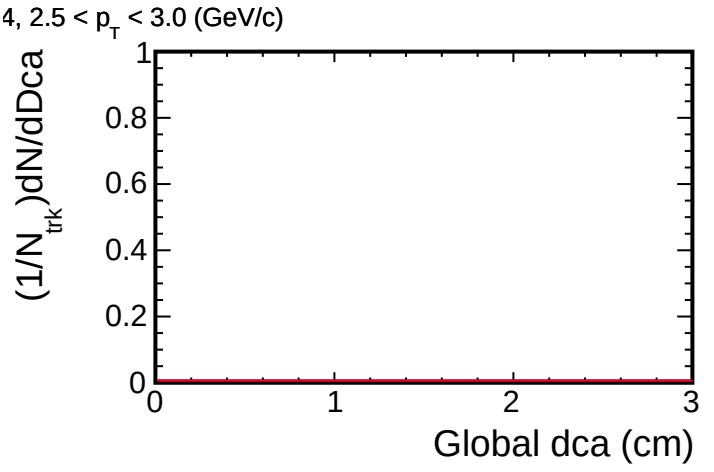



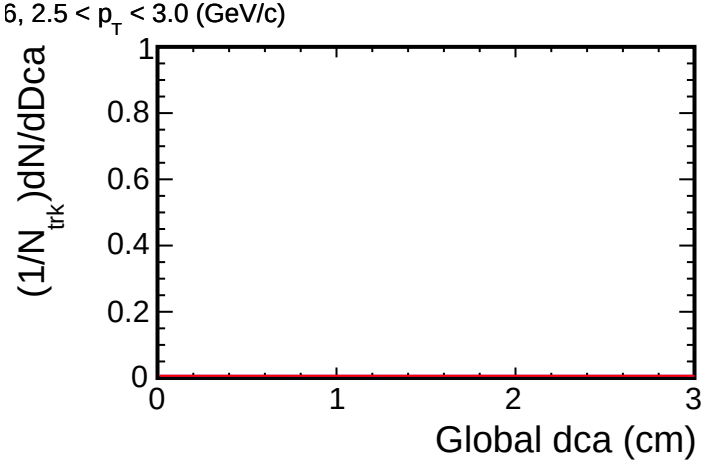

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

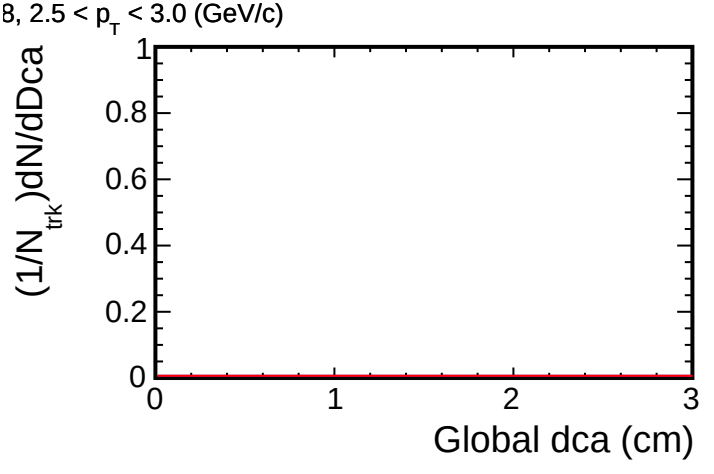
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

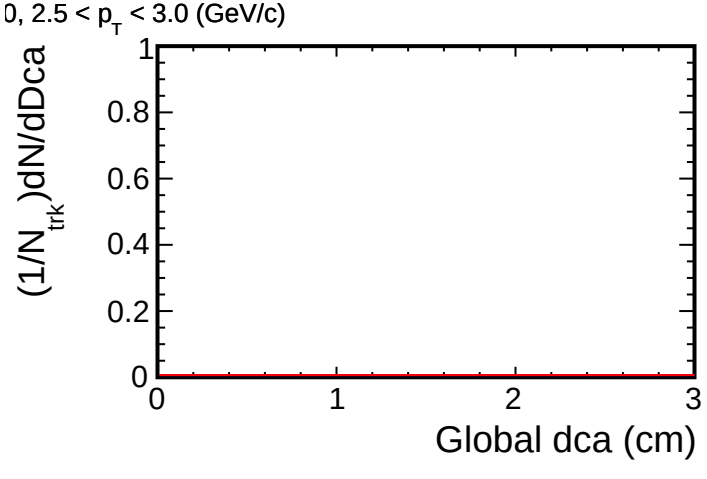
# Dca distribution for ($p_T$, η) slices



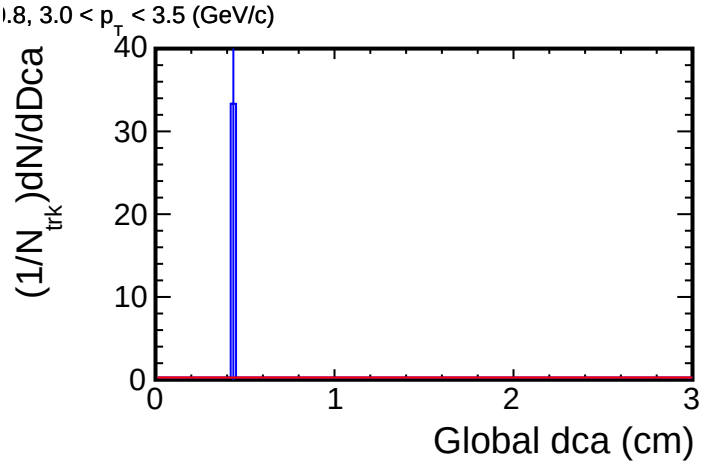



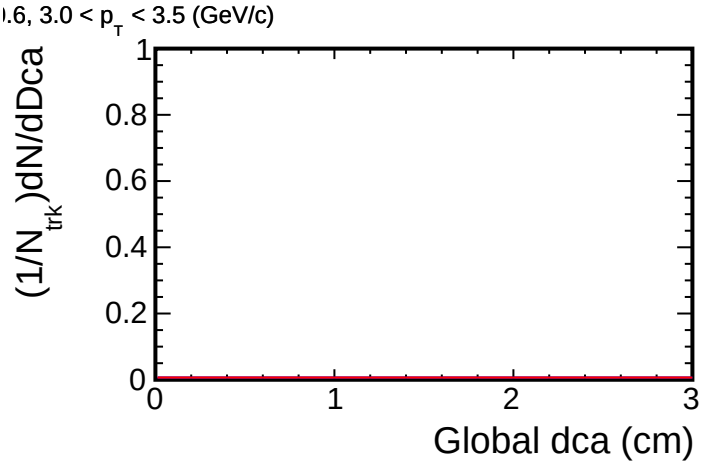



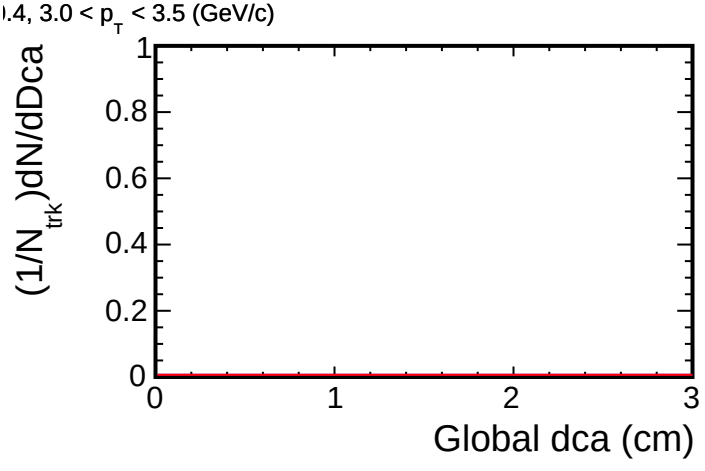

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

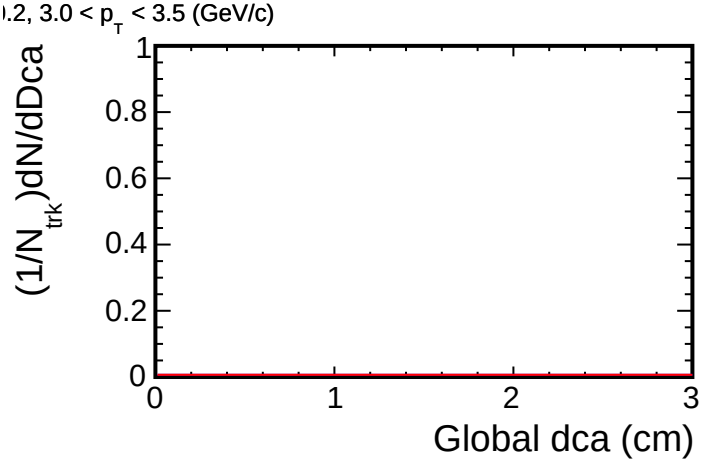
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

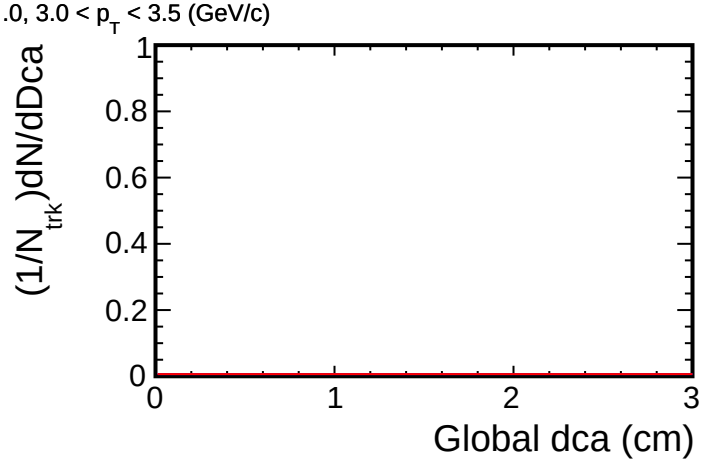
# Dca distribution for ($p_T$, η) slices



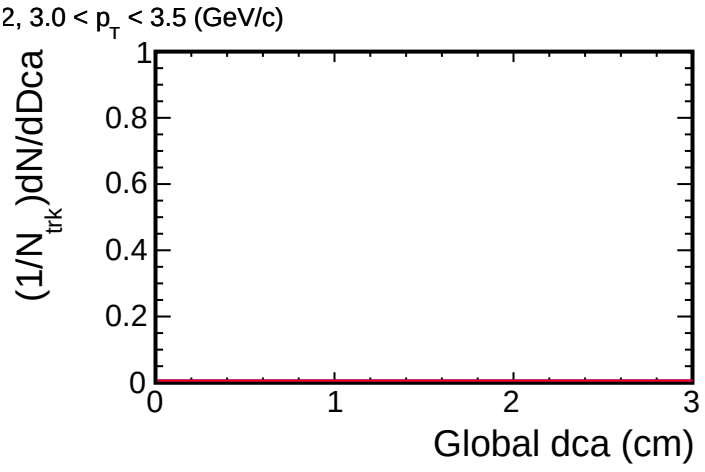



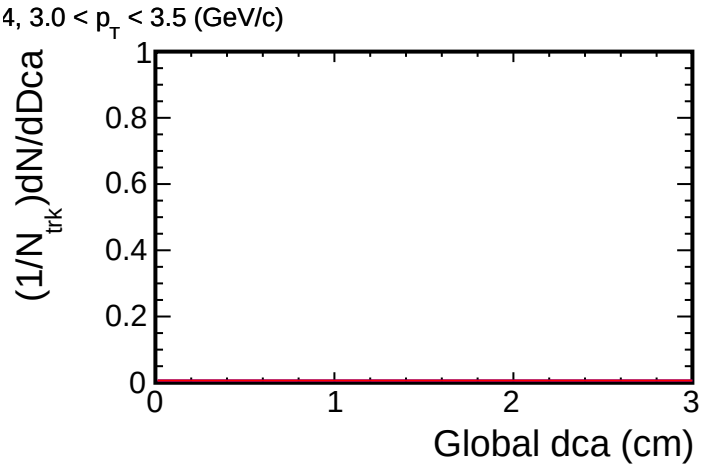



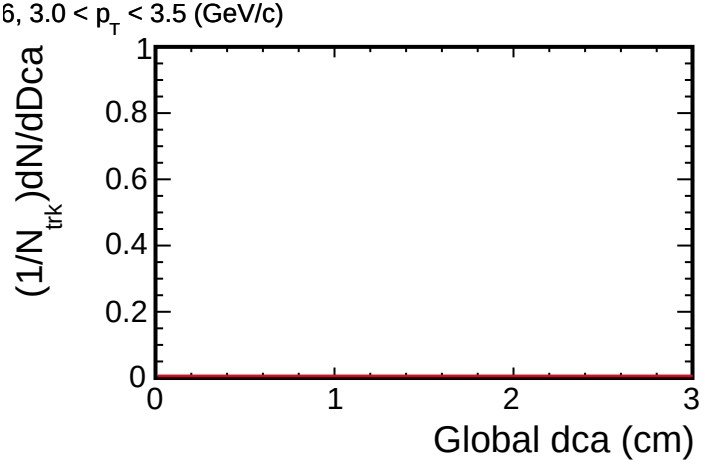

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

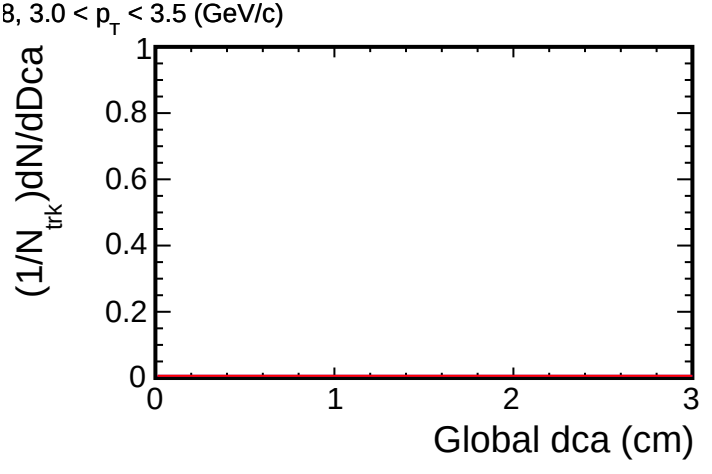
pi-
(PRIMARY, |n σ$_{pi-}$|<2 TPC)

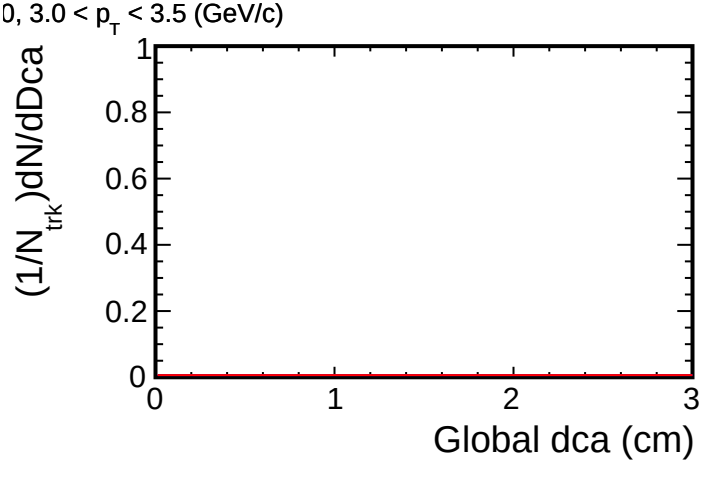
# Dca distribution for ($p_T$, η) slices



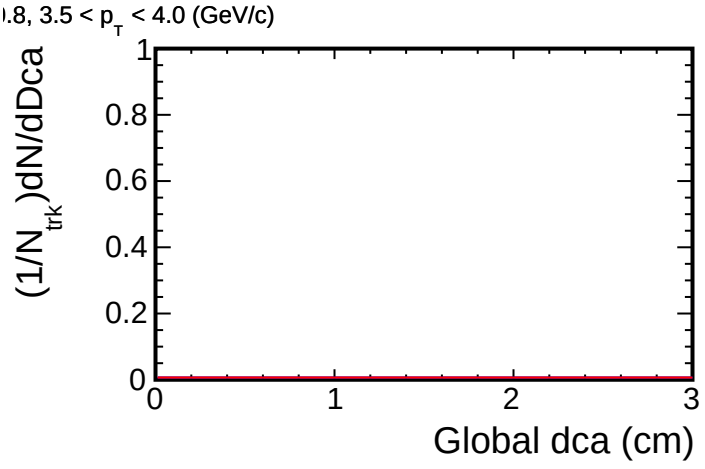



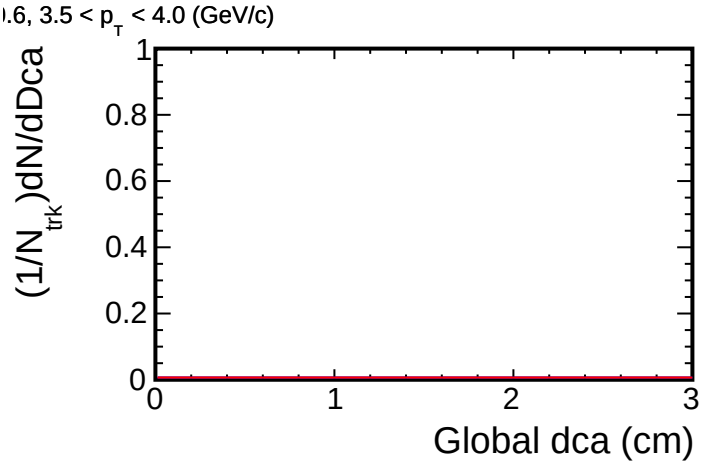



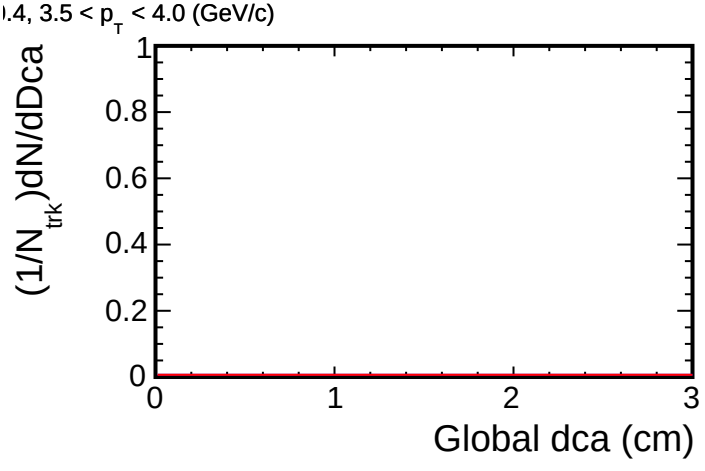

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

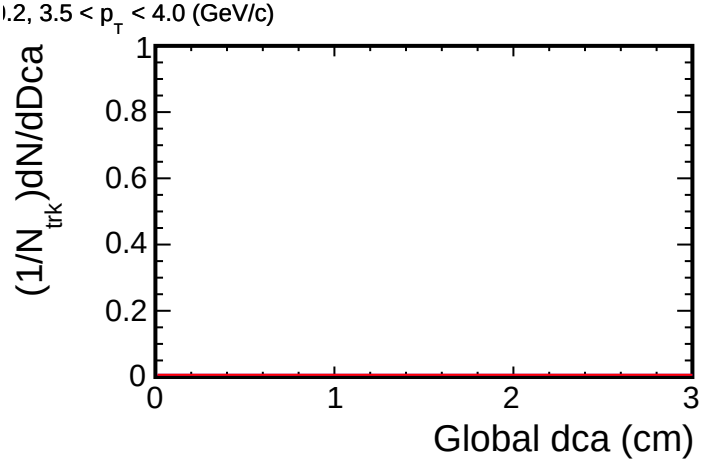
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

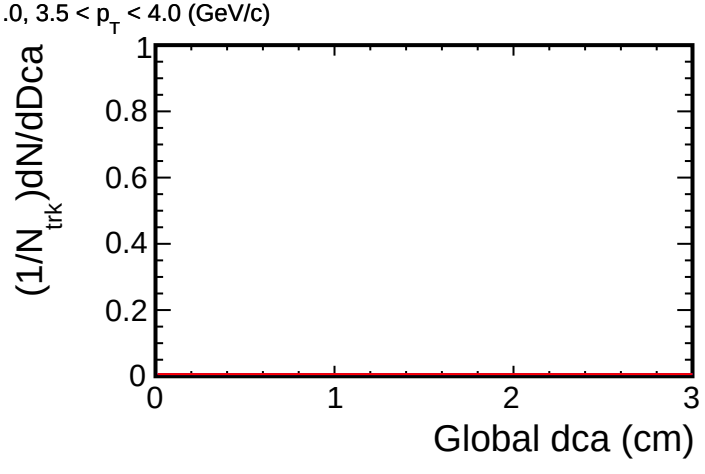
# Dca distribution for ($p_T$, η) slices



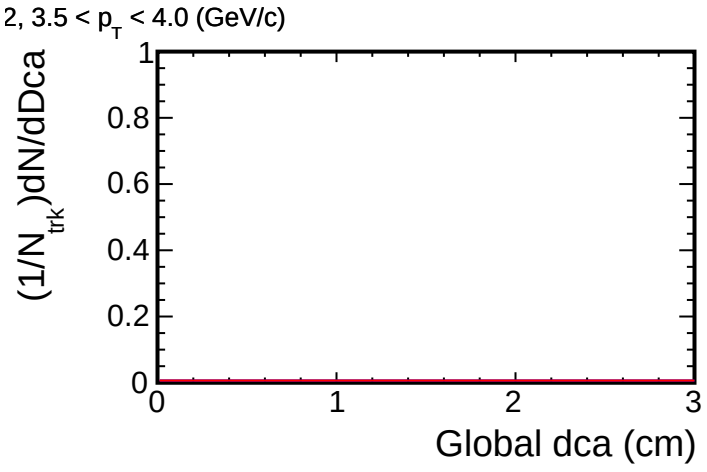



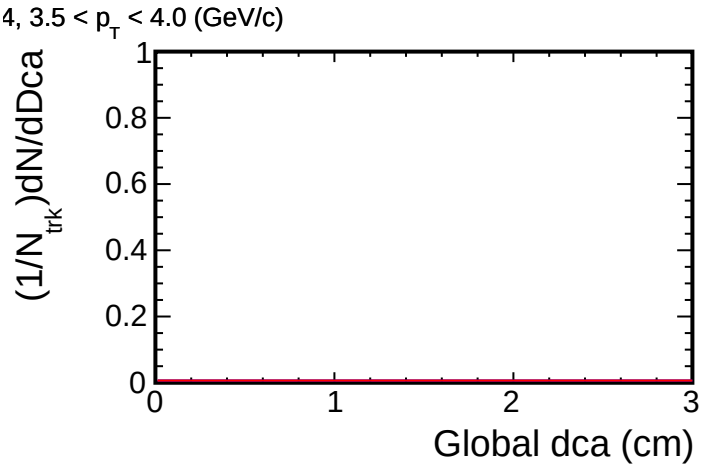



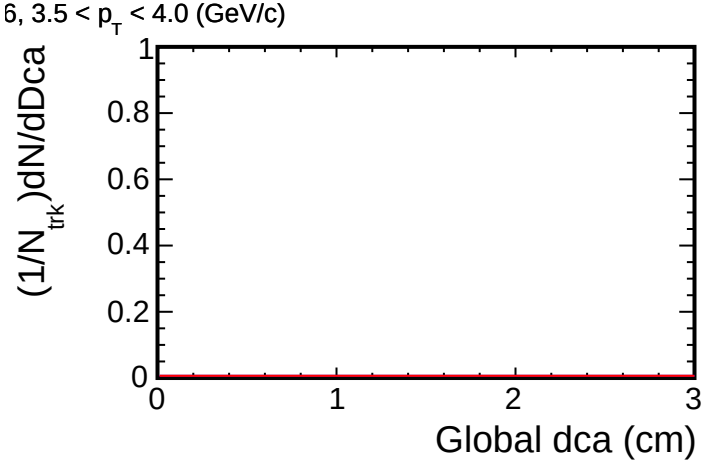

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

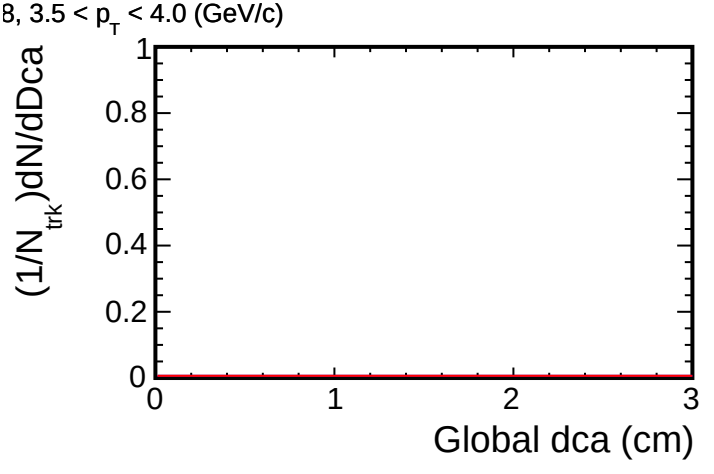
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

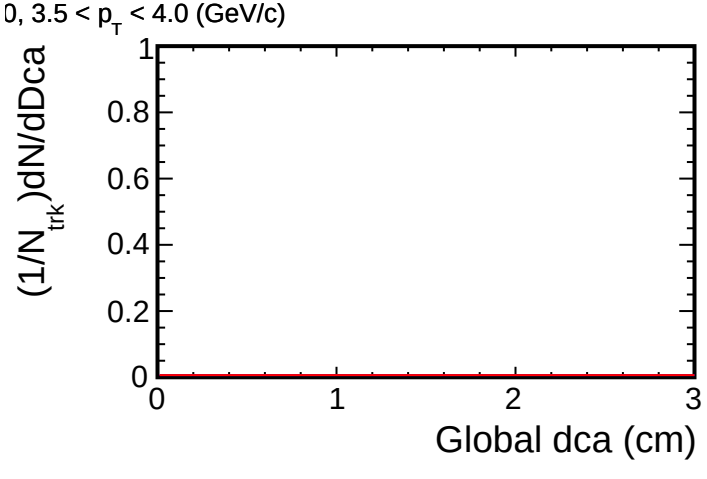
# Dca distribution for ($p_T$, η) slices



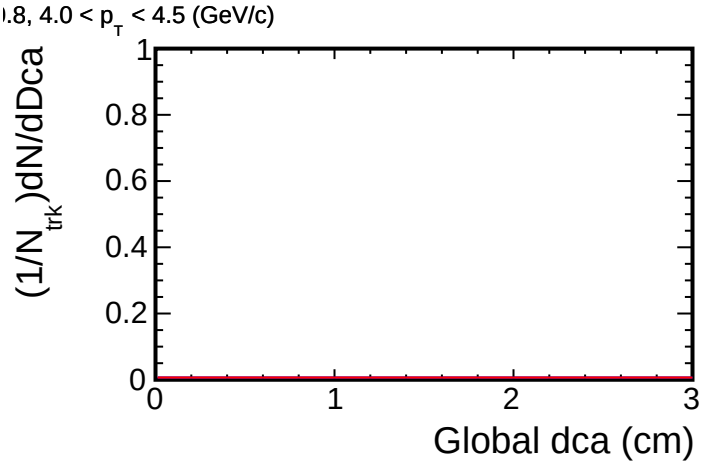



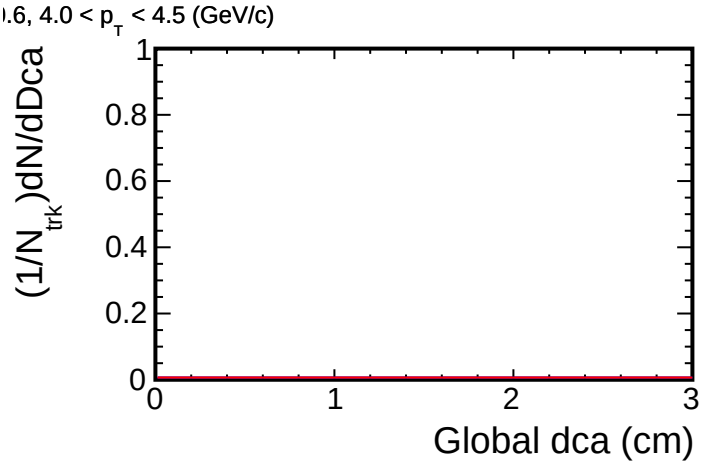



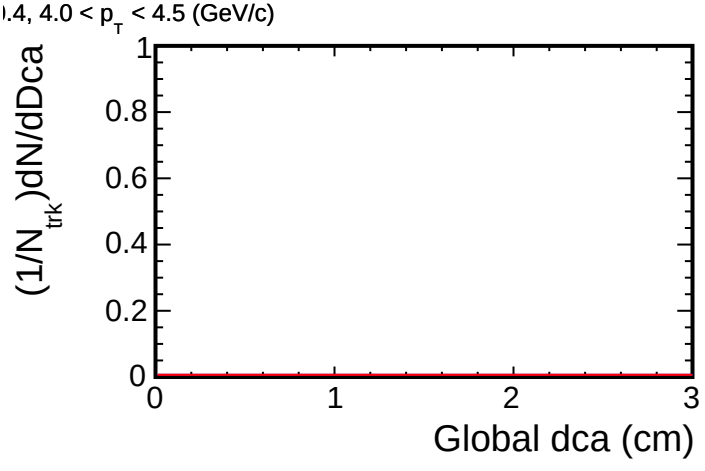

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

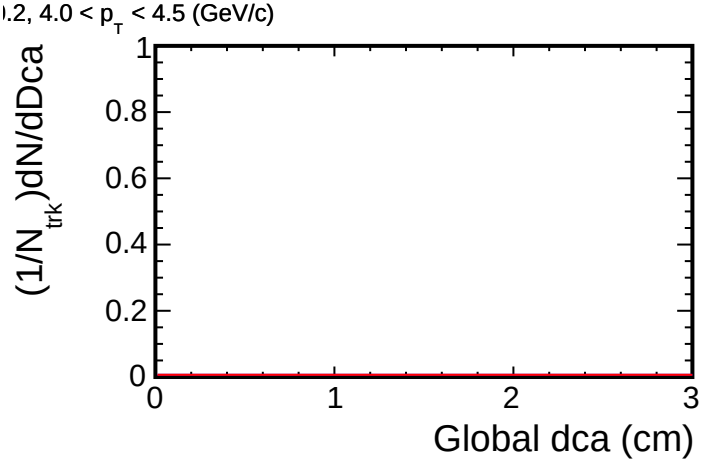
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

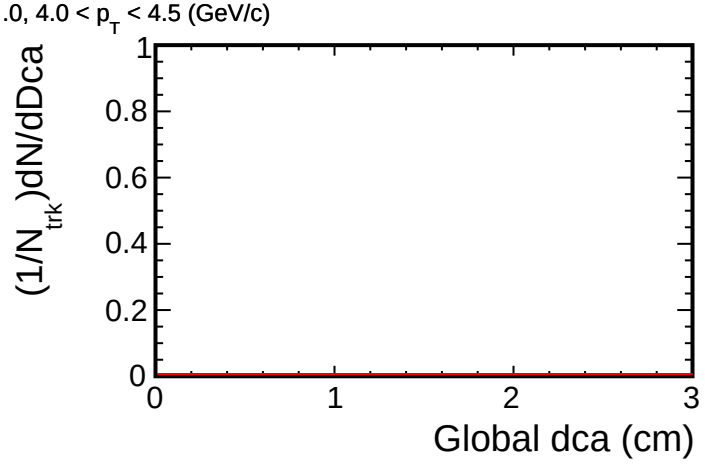
# Dca distribution for ($p_T$, η) slices



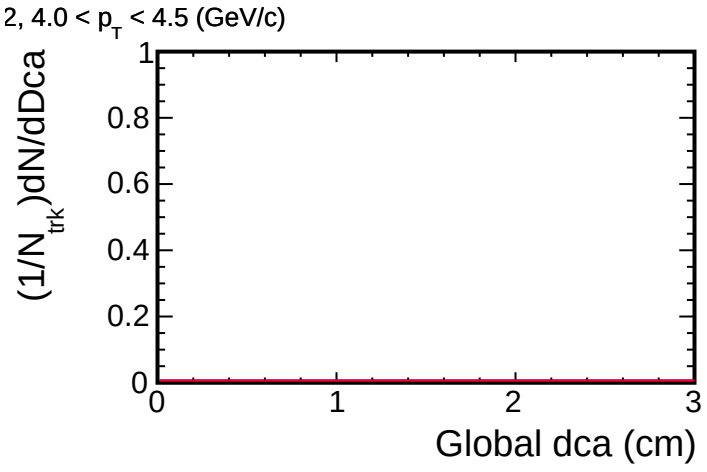



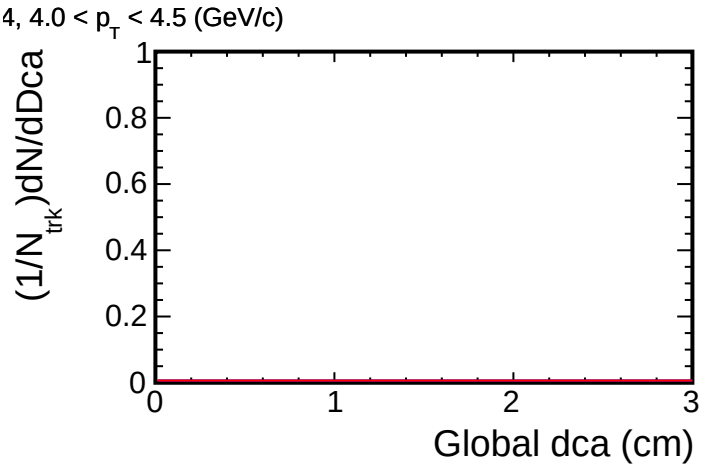



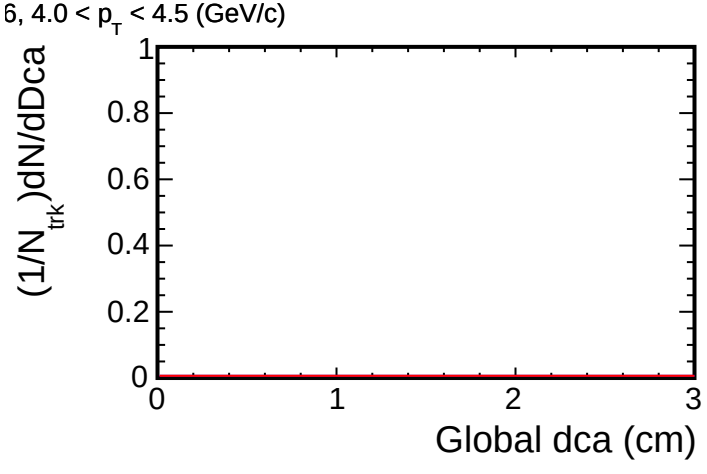

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

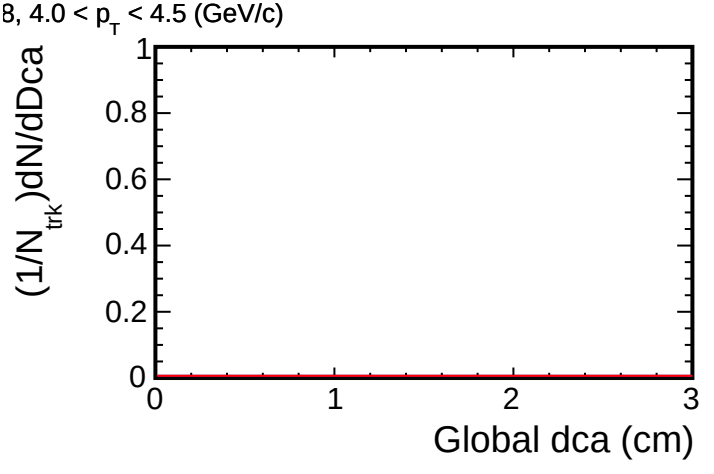
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

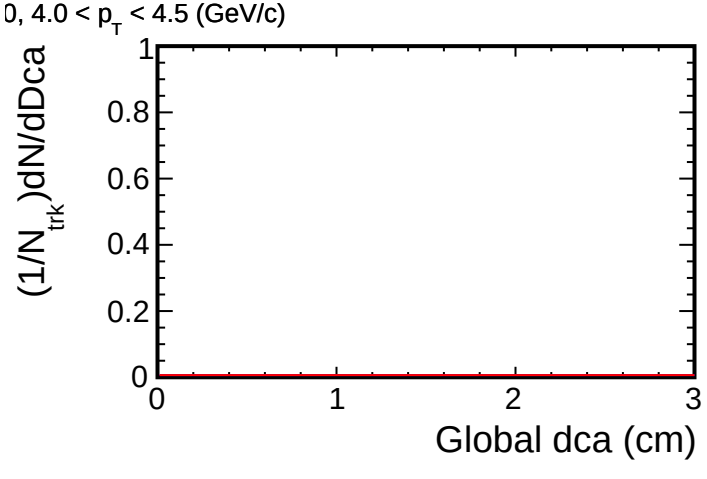
# Dca distribution for ($p_T$, η) slices



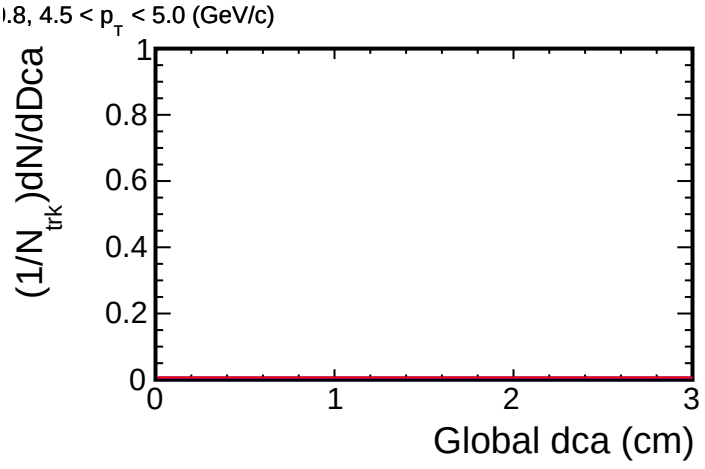



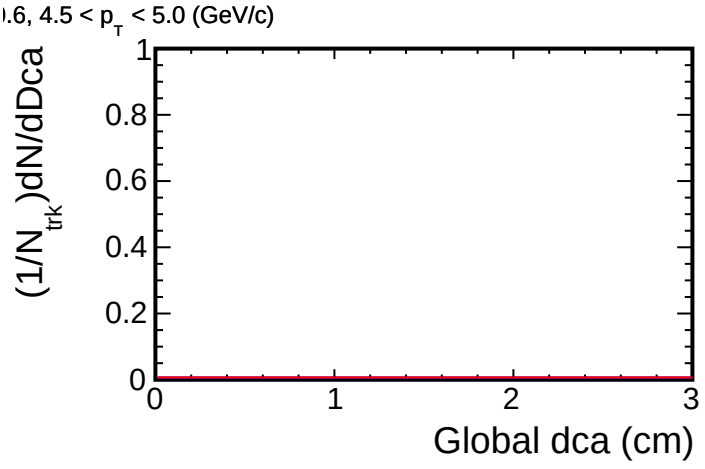



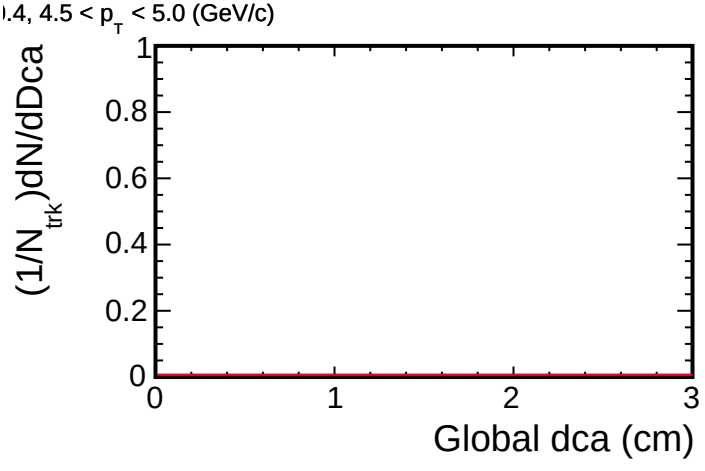

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

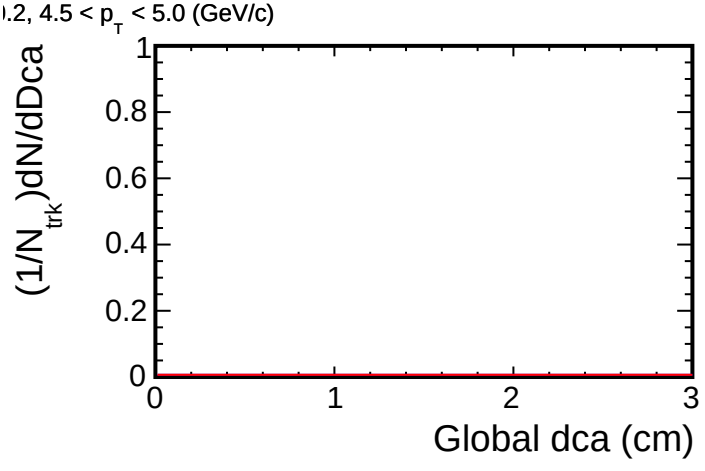
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

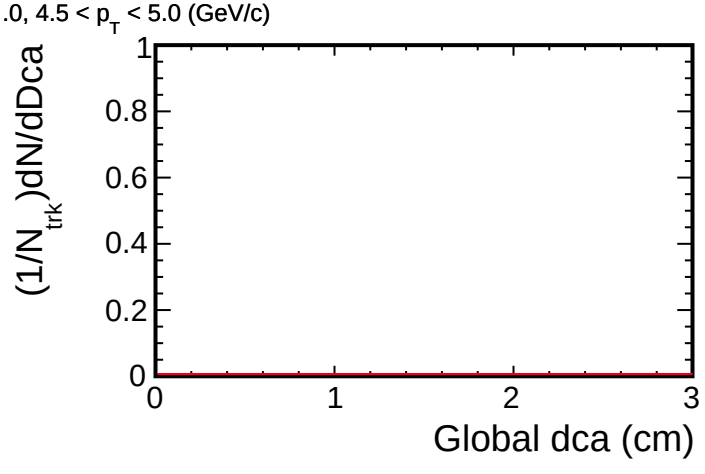
# Dca distribution for ($p_T$, η) slices



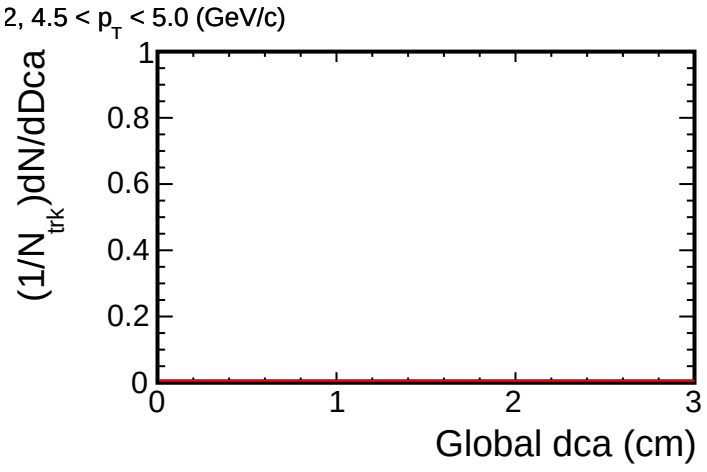



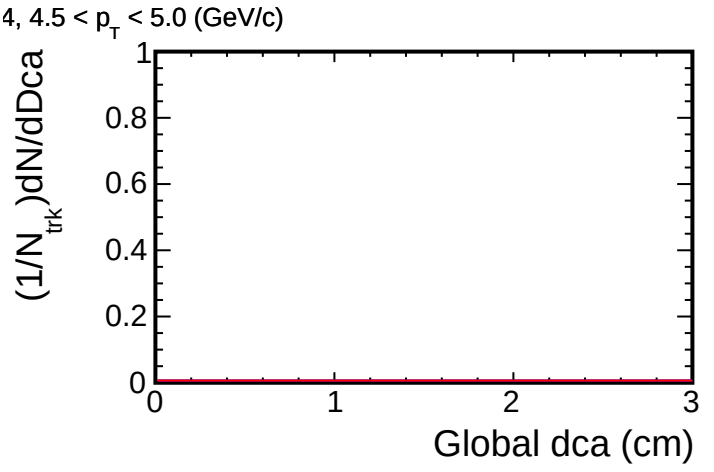



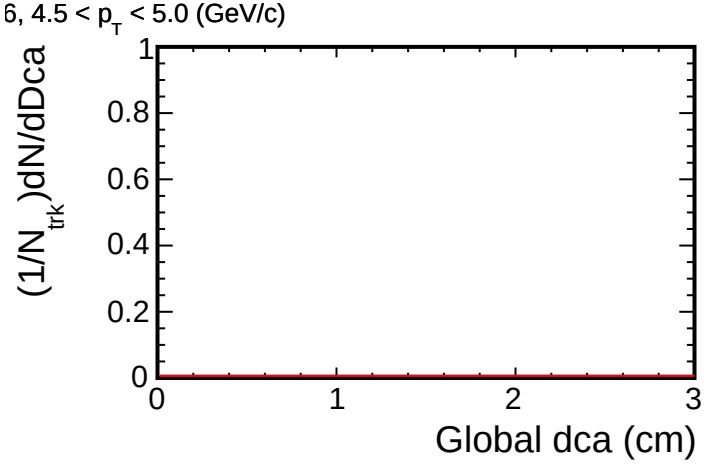

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

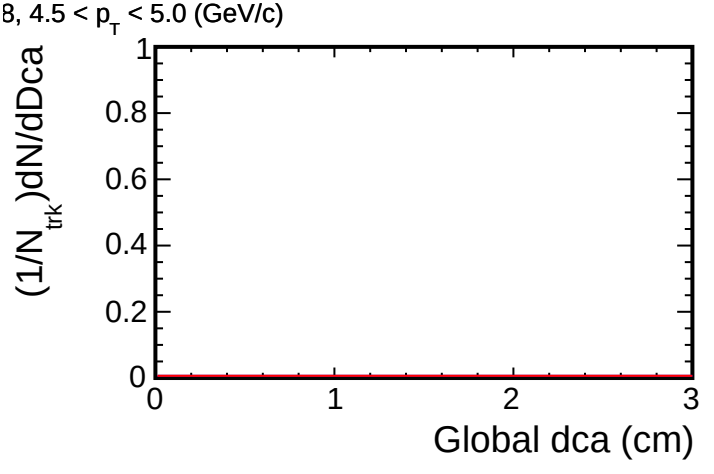
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

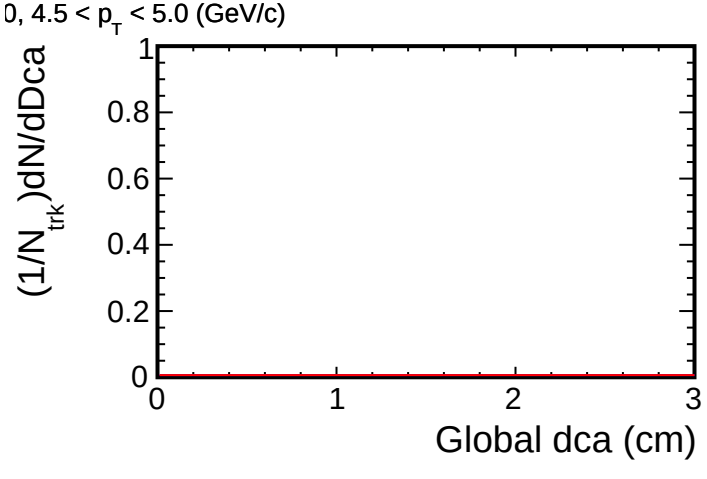
# Dca distribution for ($p_T$, η) slices



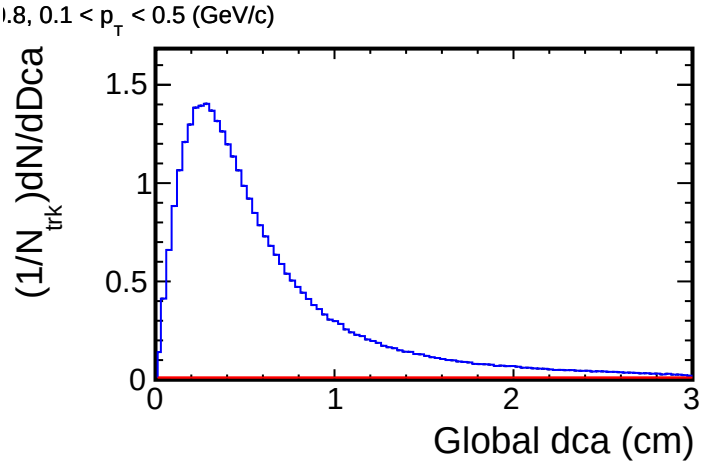



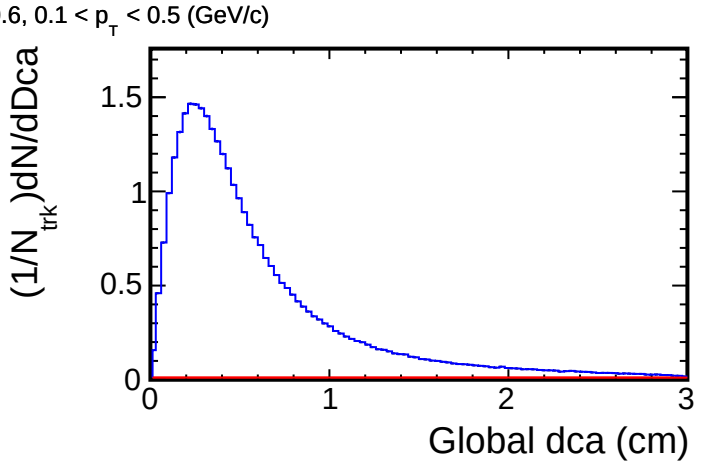



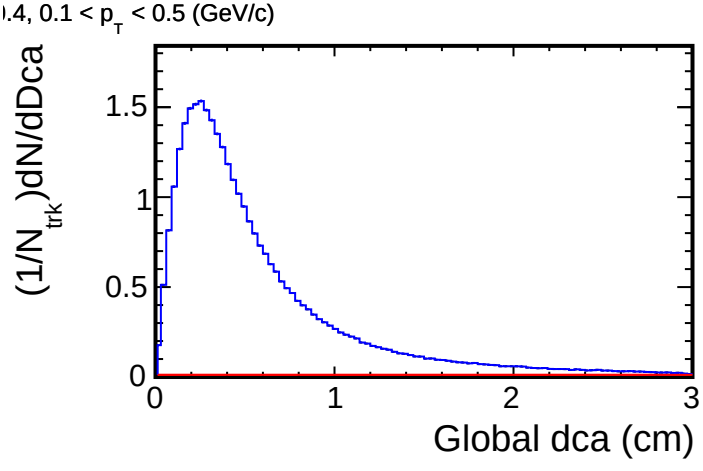

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

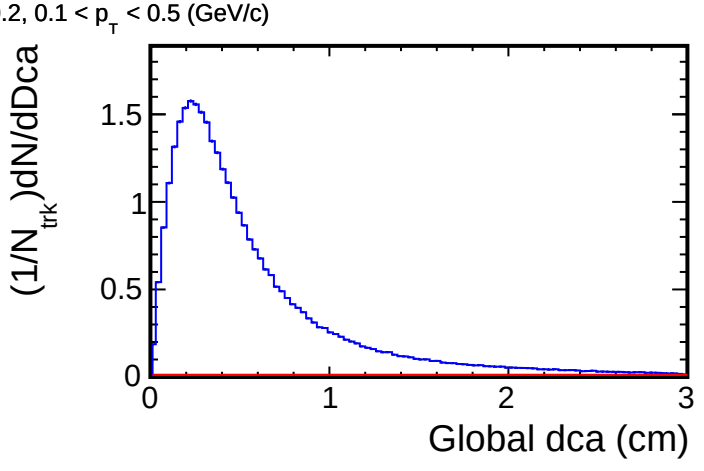
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

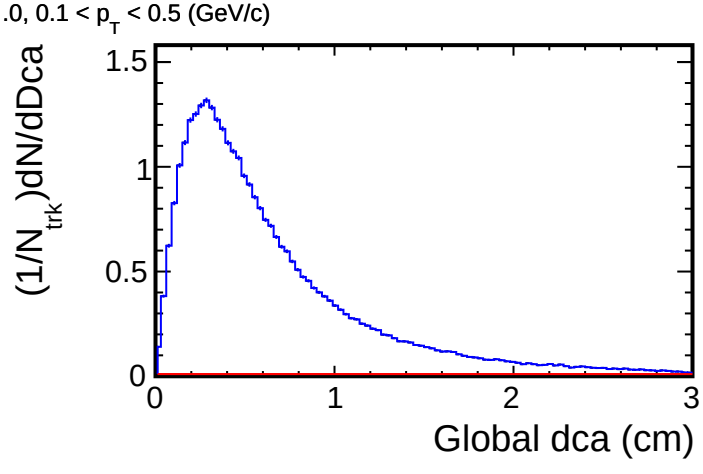
# Dca distribution for ($p_T$, η) slices



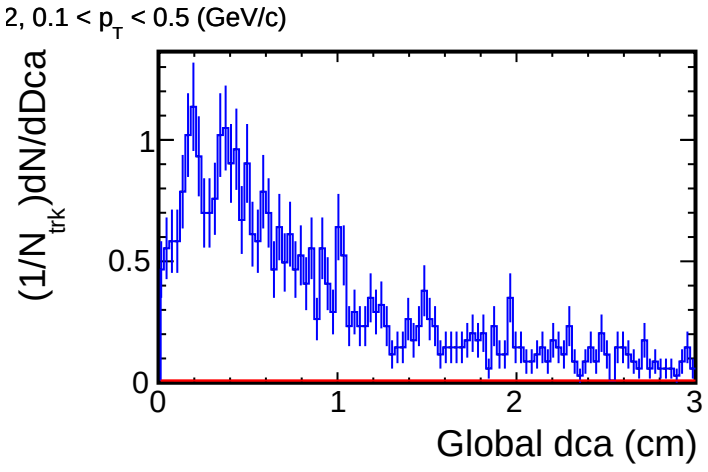



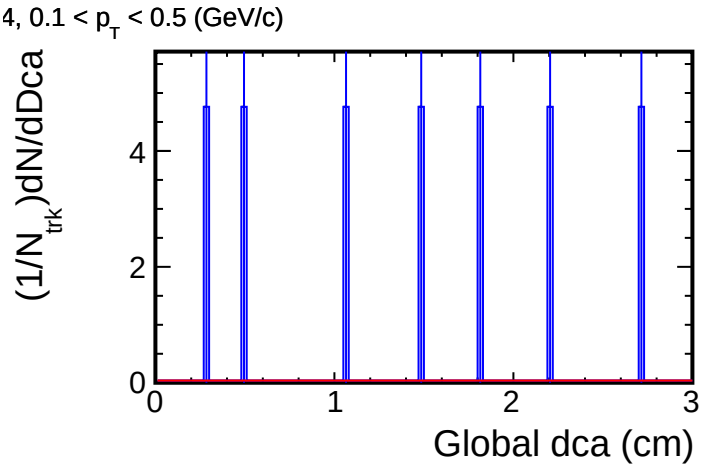



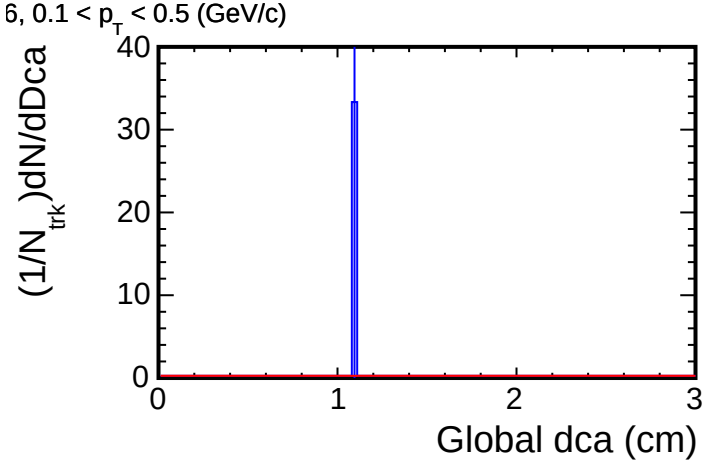

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

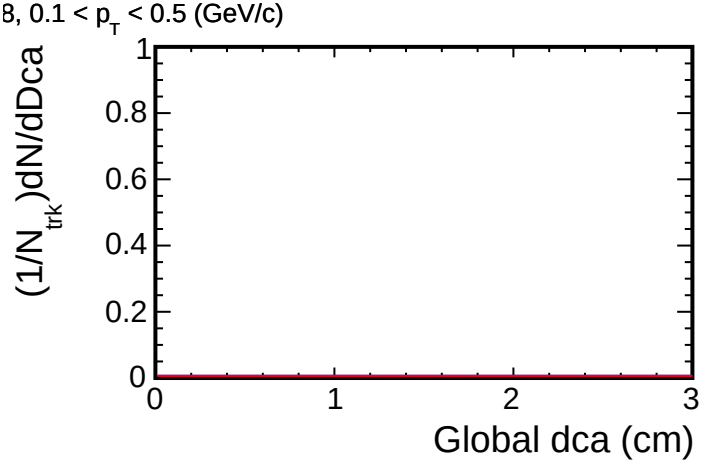
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

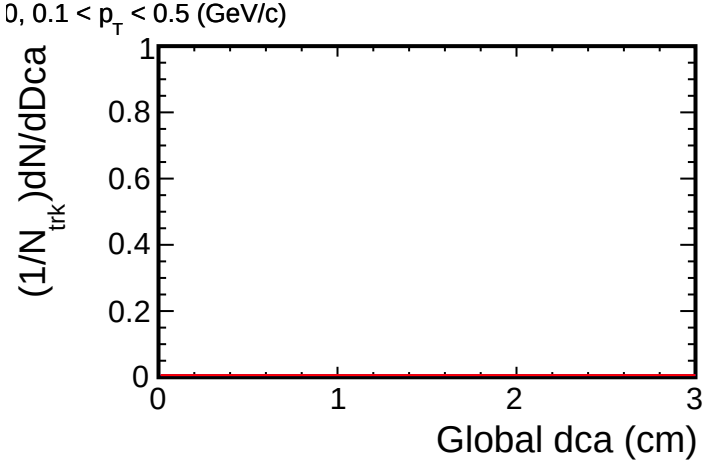
# Dca distribution for ($p_T$, η) slices



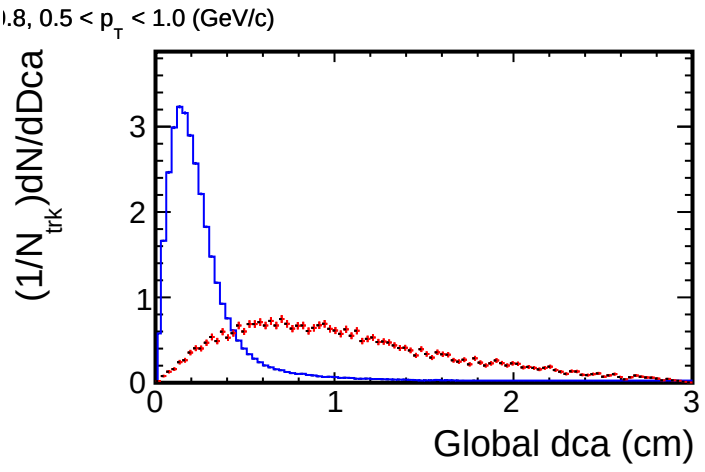



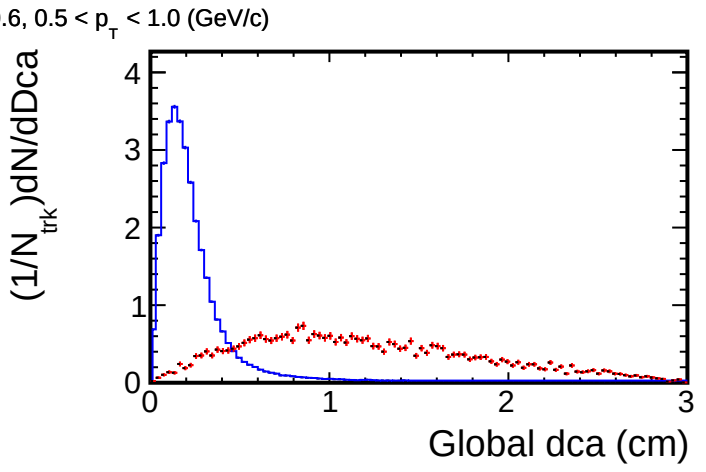



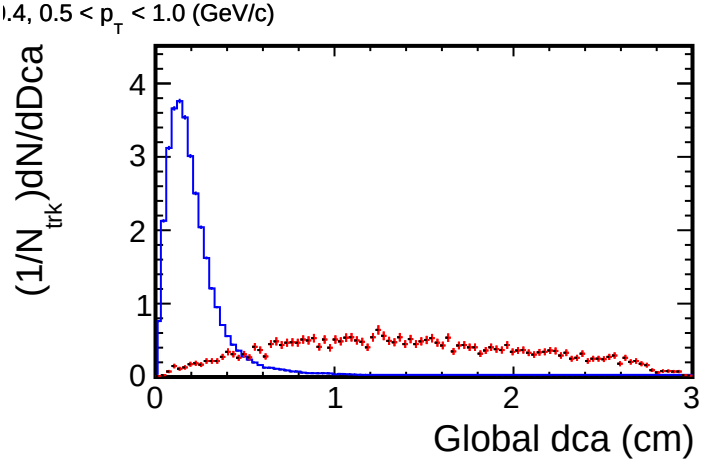

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

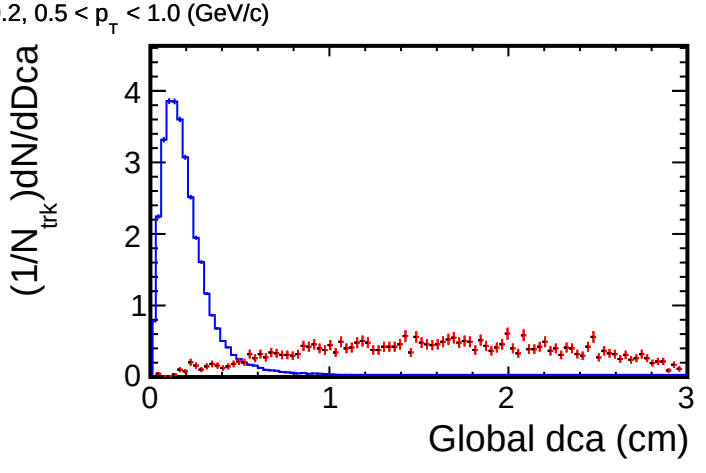
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

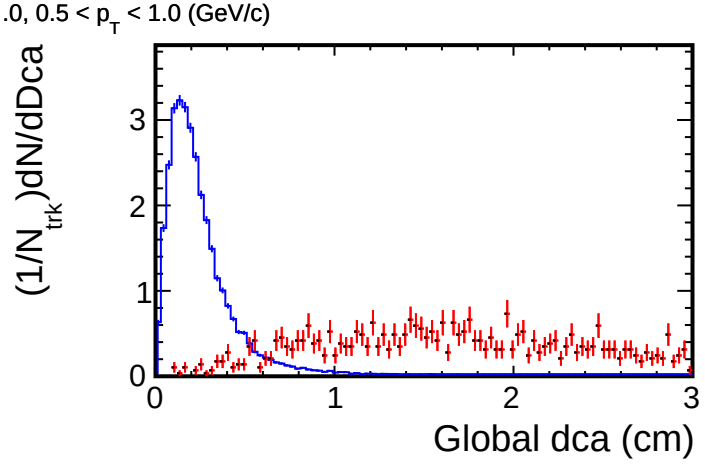
# Dca distribution for ($p_T$, η) slices



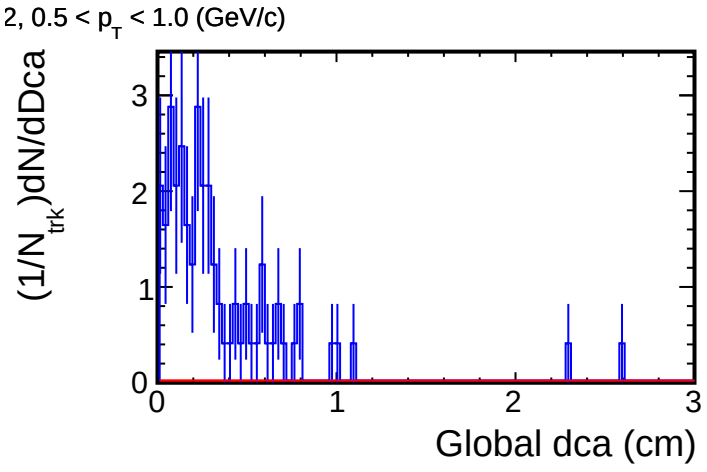



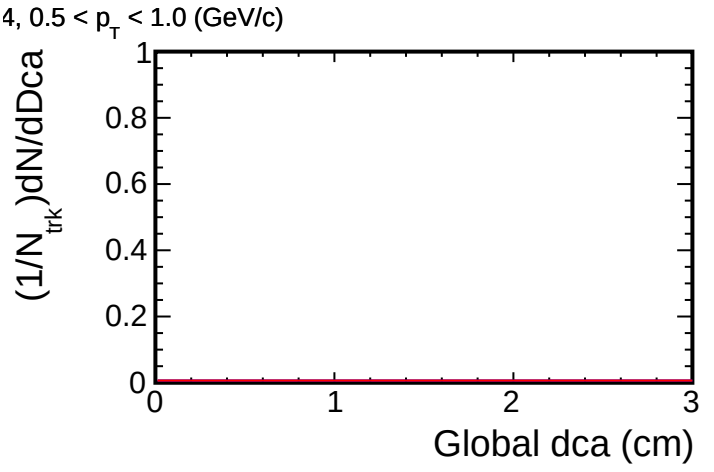



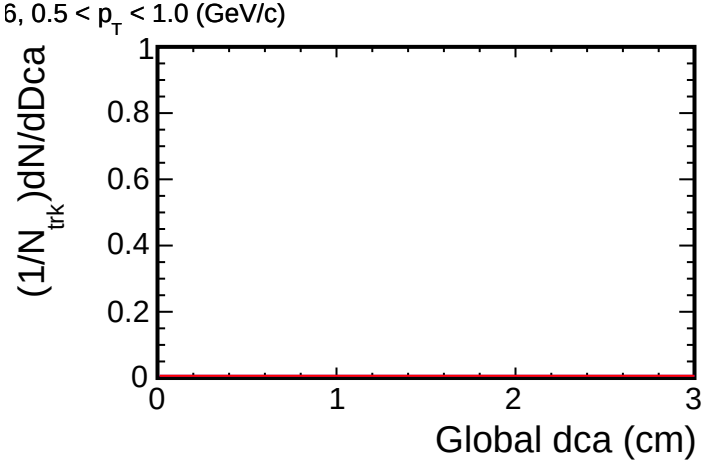

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

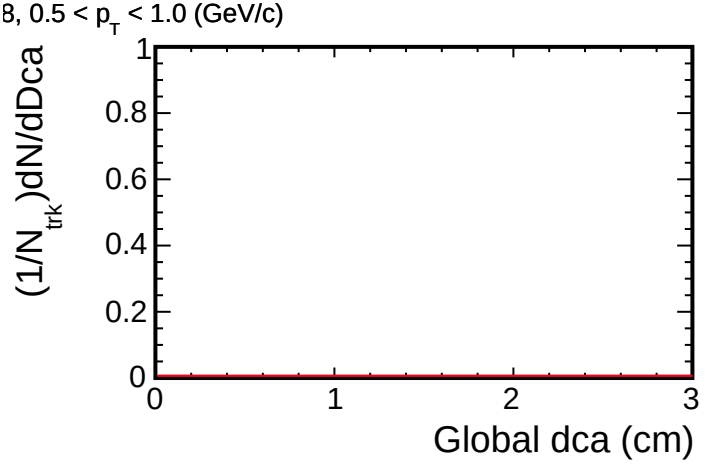
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

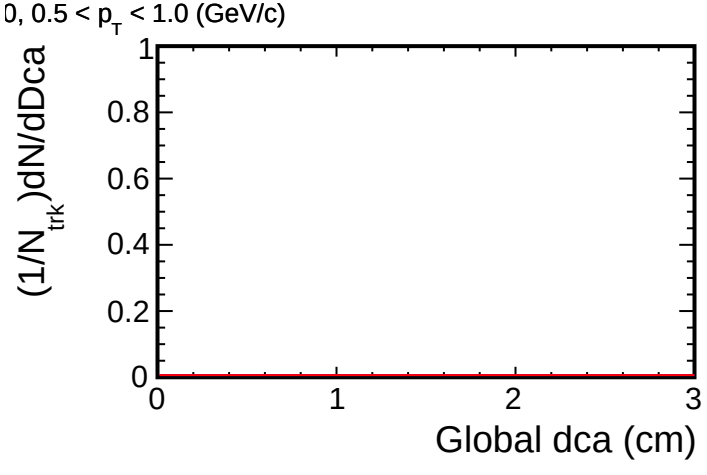
# Dca distribution for ($p_T$, η) slices



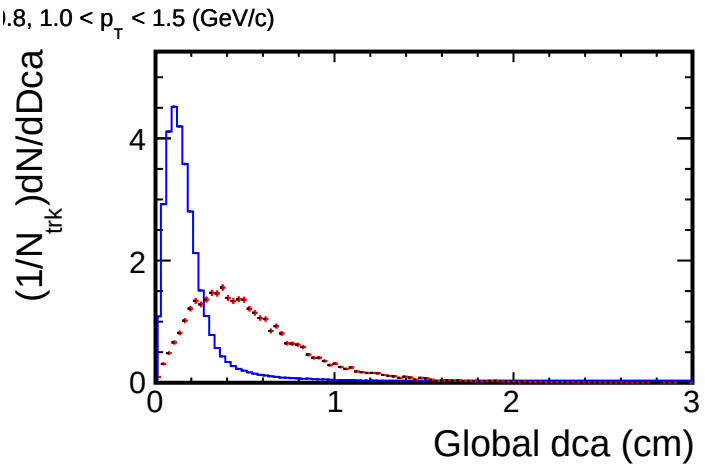



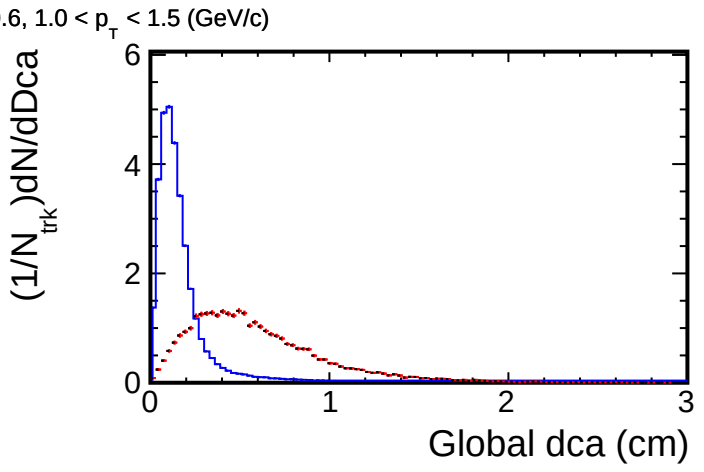



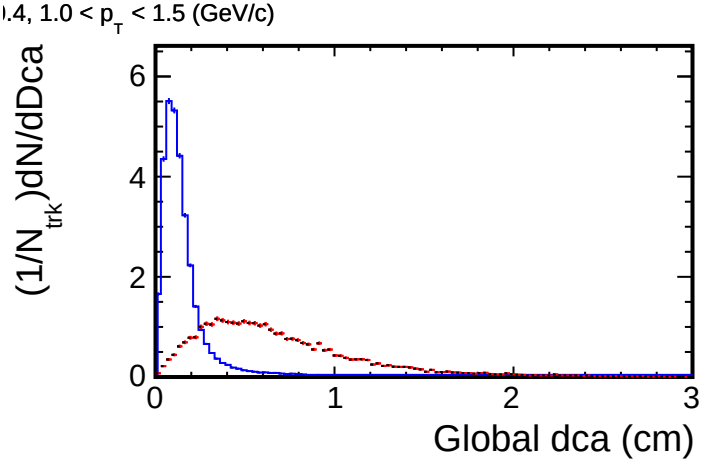

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

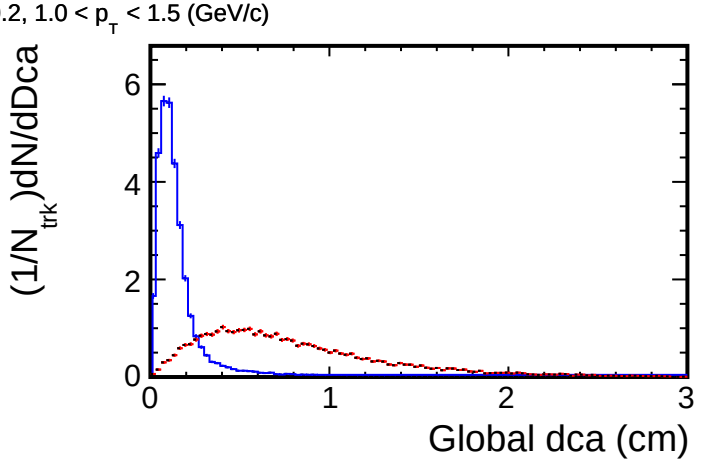
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

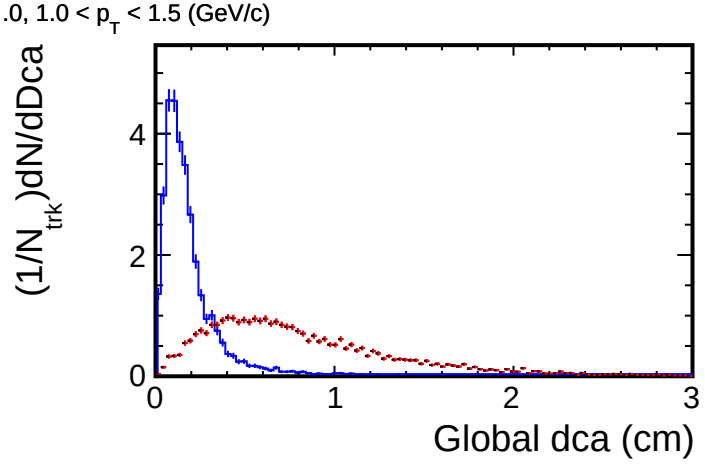
# Dca distribution for ($p_T$, η) slices



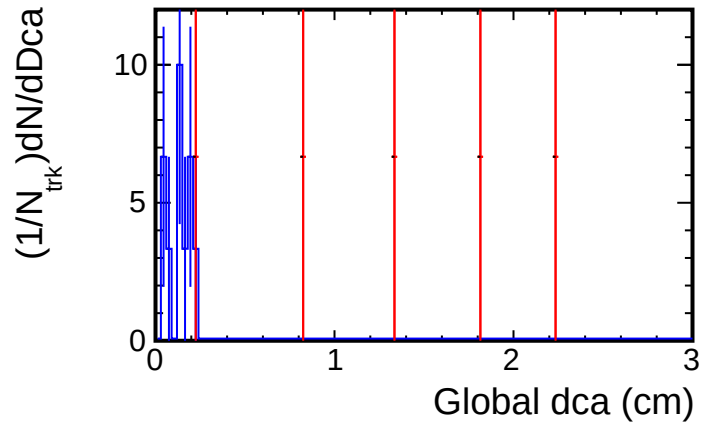




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

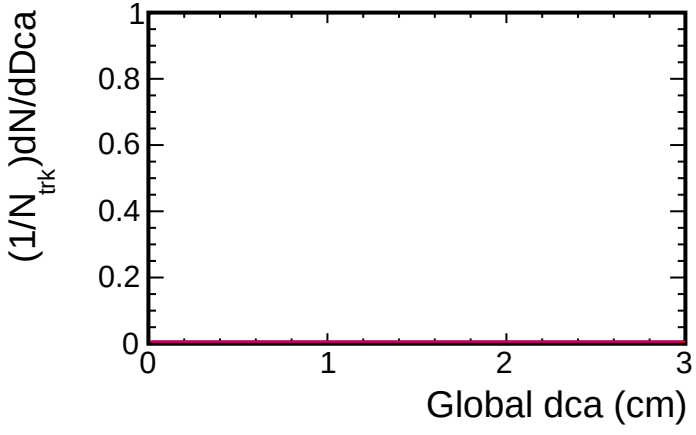
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

# Dca distribution for ($p_T$, η) slices

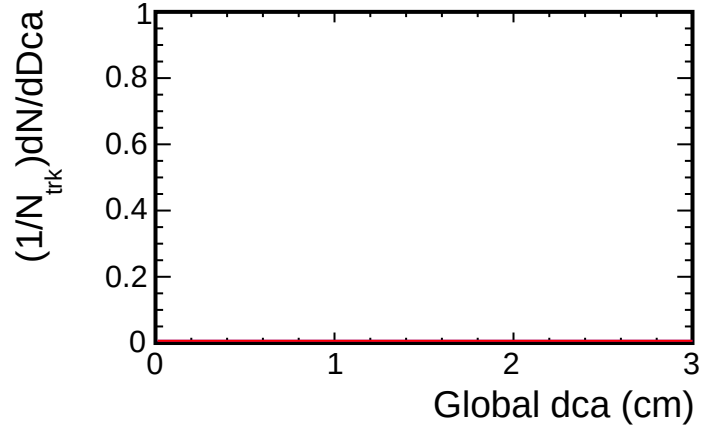
2, 1.0 < $p_T$ < 1.5 (GeV/c)



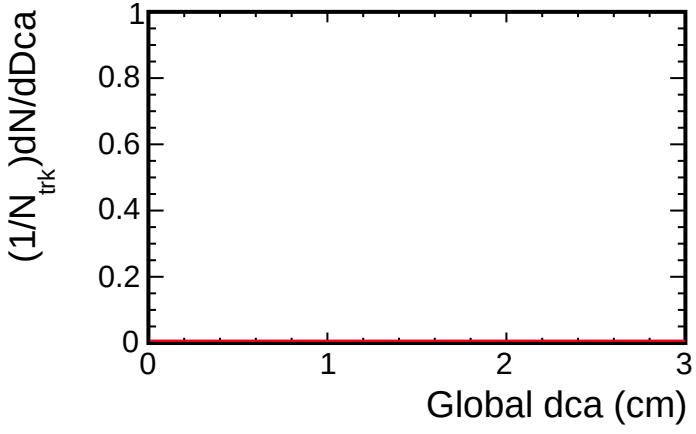

4, 1.0 < $p_T$ < 1.5 (GeV/c)



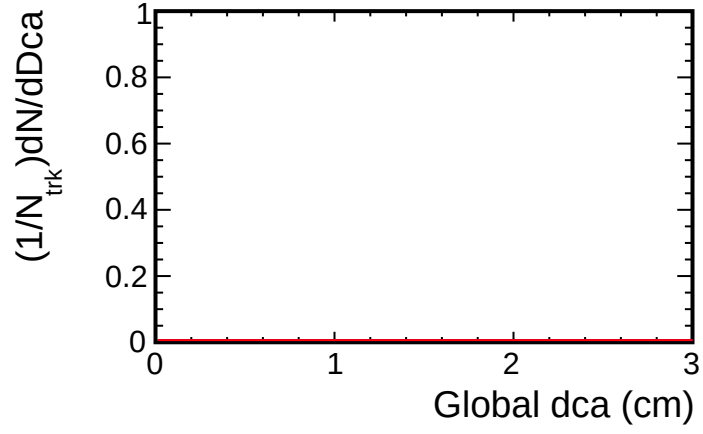

6, 1.0 < $p_T$ < 1.5 (GeV/c)




8, 1.0 < $p_T$ < 1.5 (GeV/c)



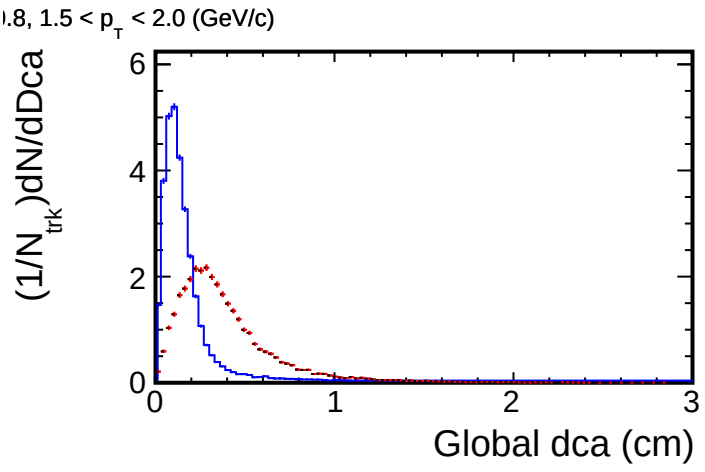

0, 1.0 < $p_T$ < 1.5 (GeV/c)

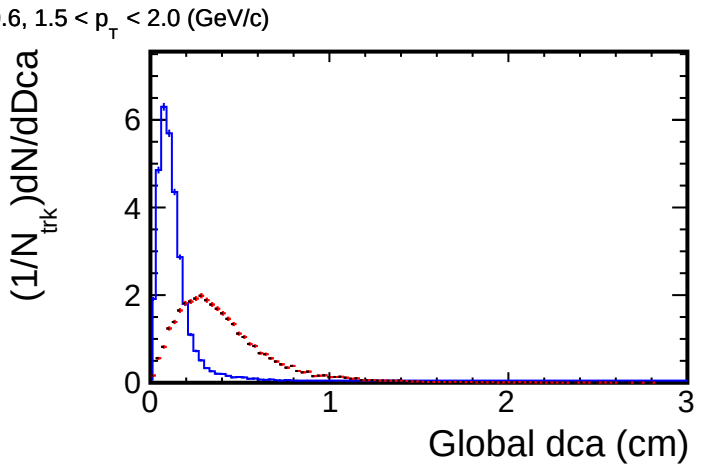


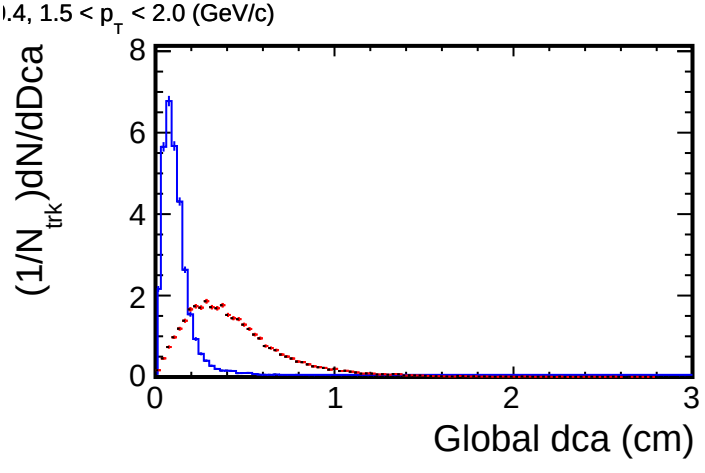

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

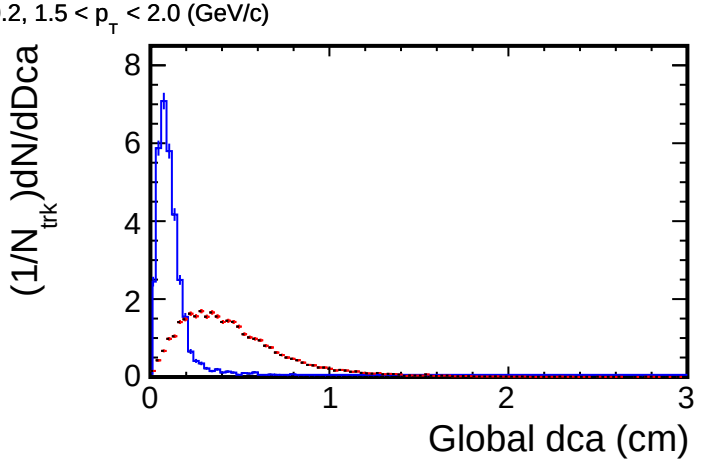
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

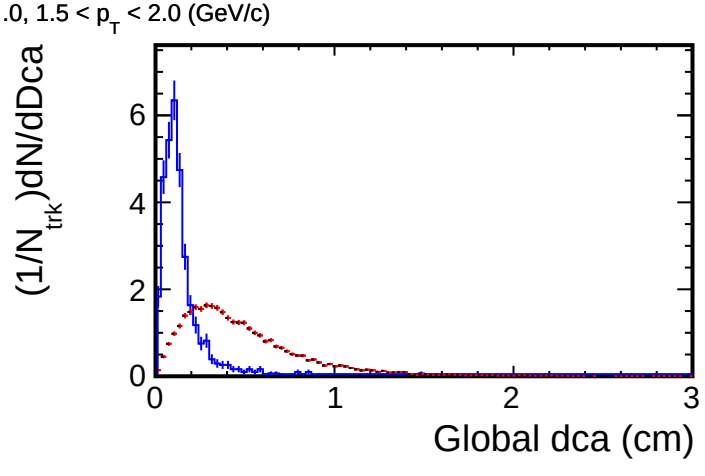
# Dca distribution for ($p_T$, η) slices



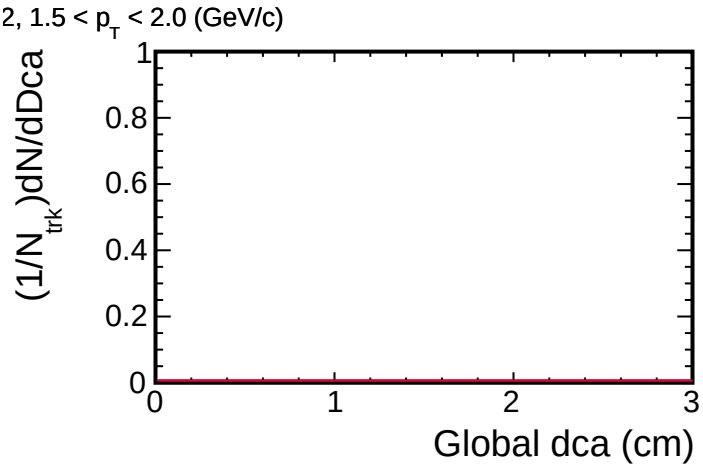



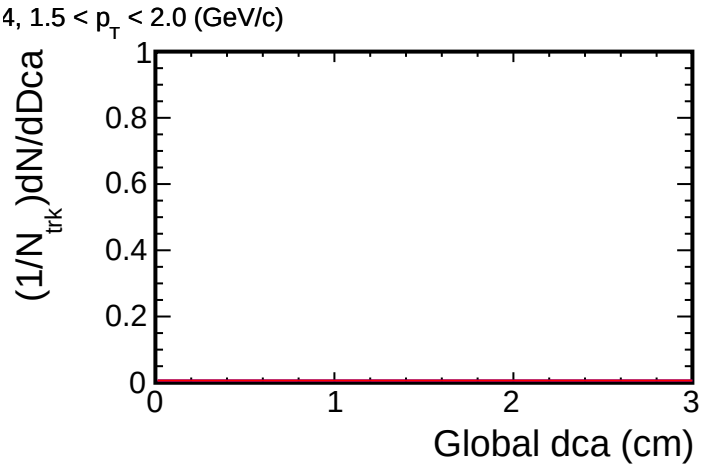



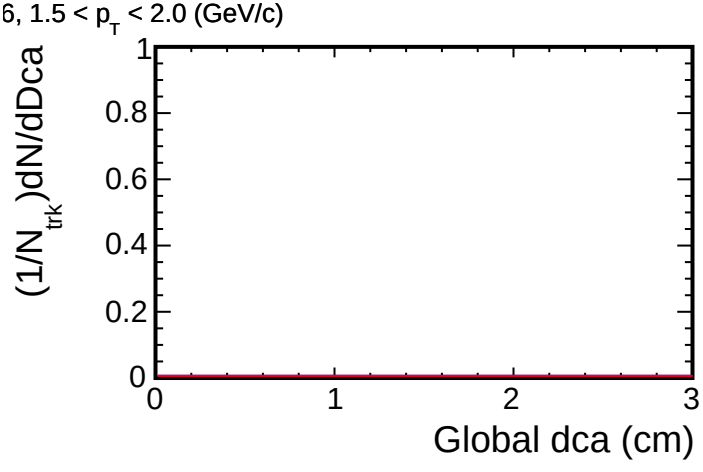

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

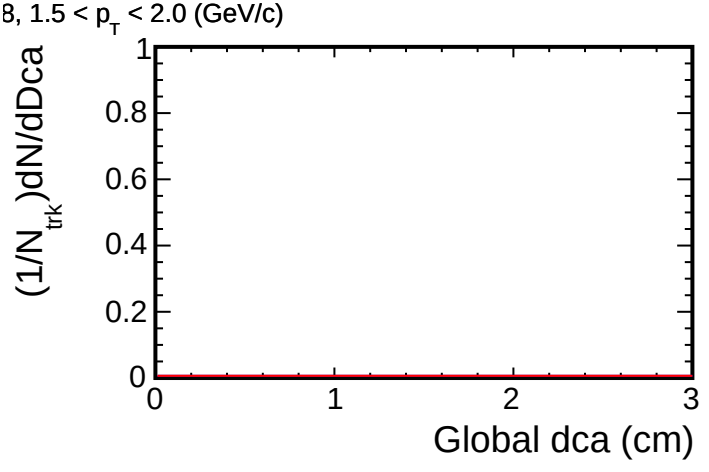
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

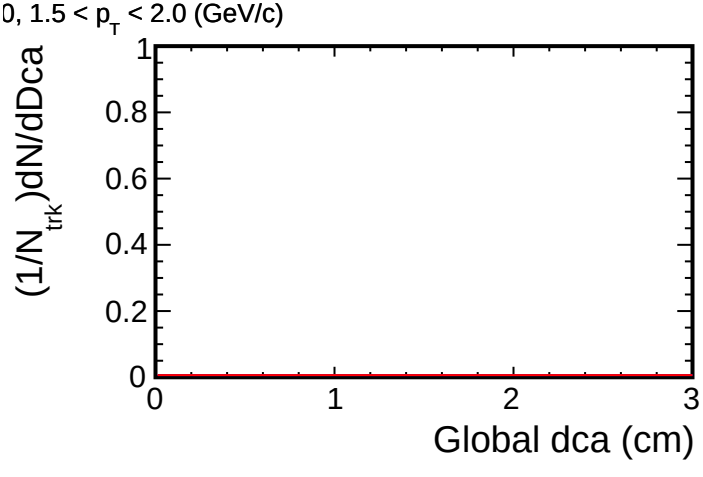
# Dca distribution for ($p_T$, η) slices



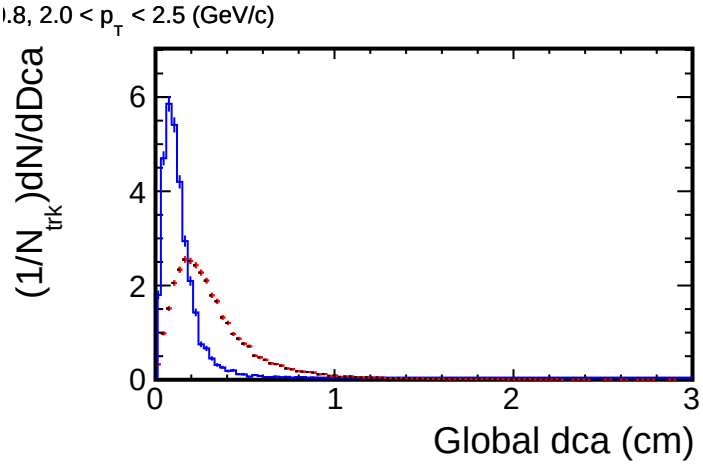



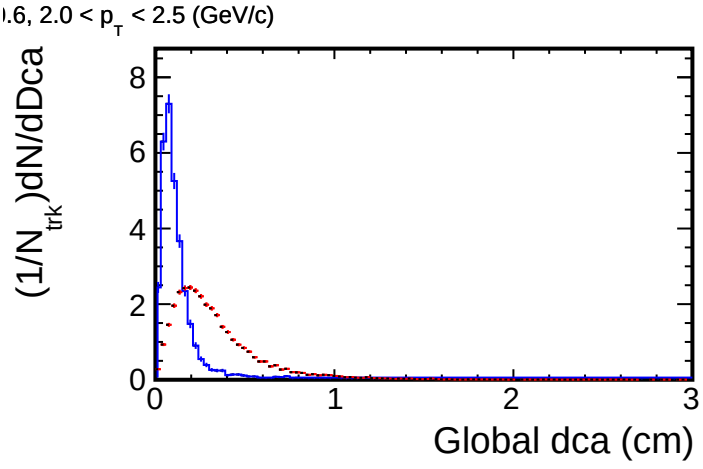



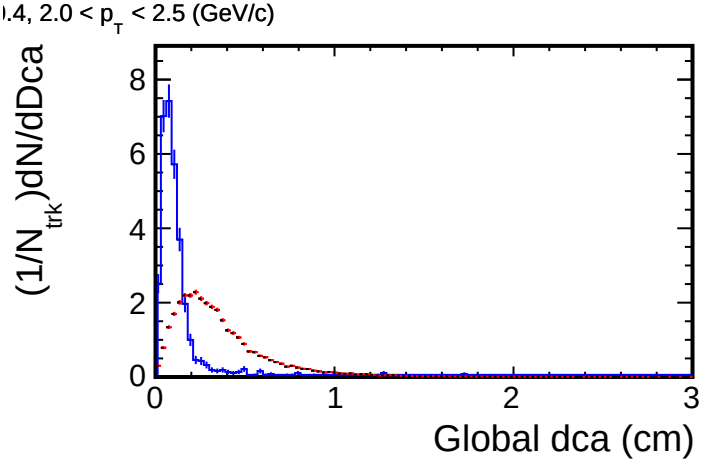

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

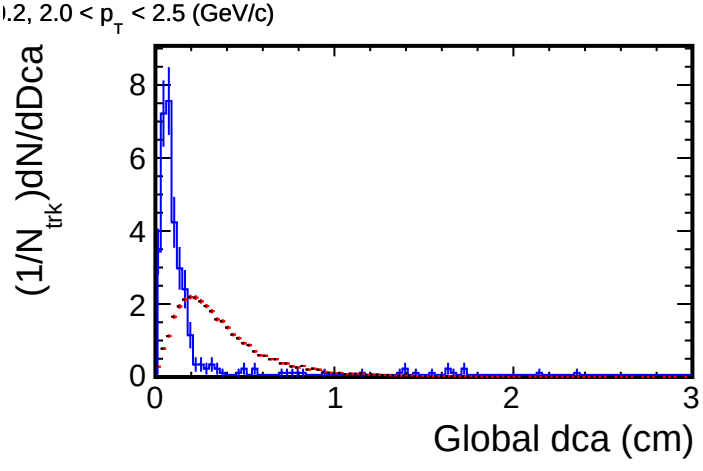
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

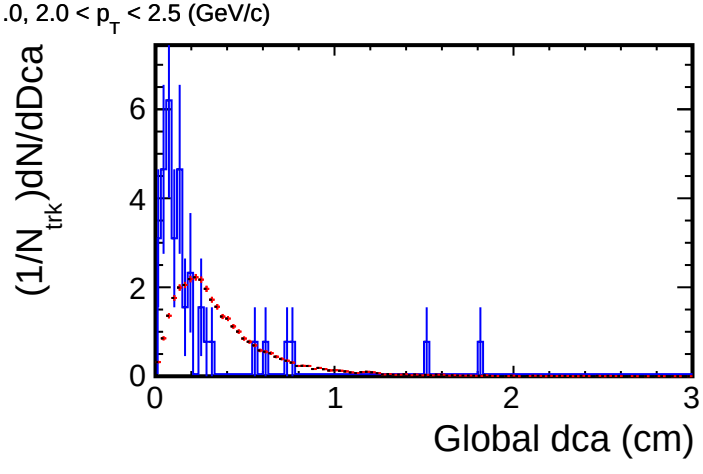
# Dca distribution for ($p_T$, η) slices



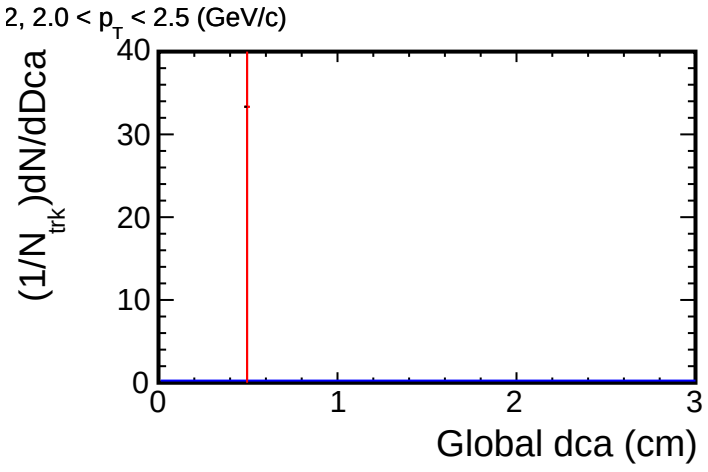



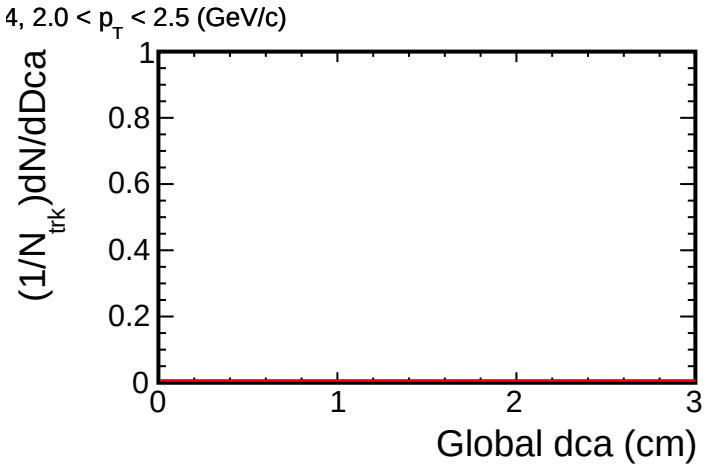



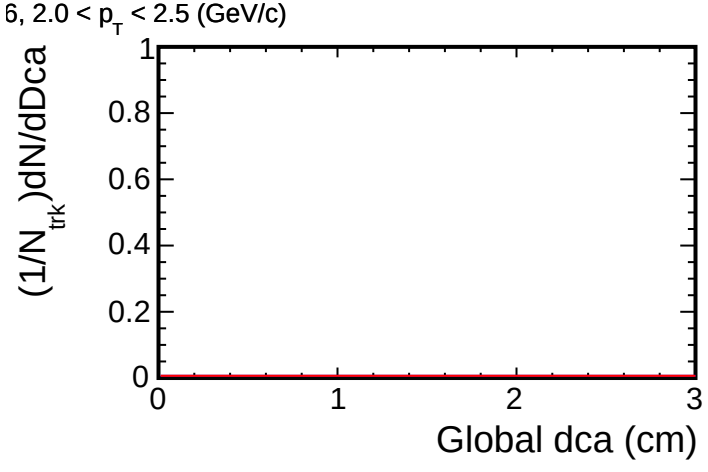

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

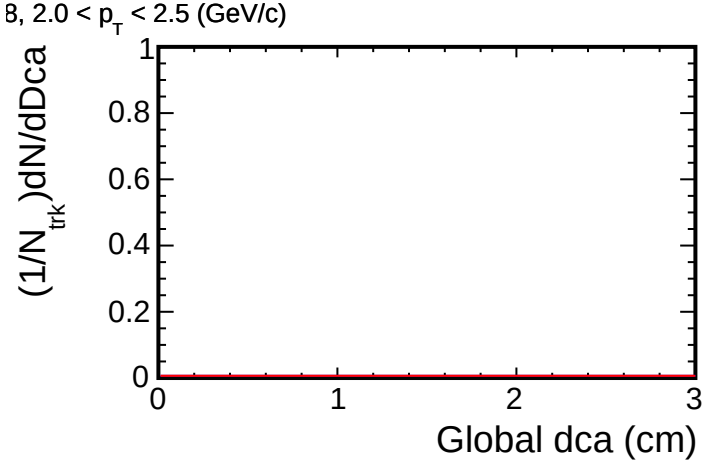
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

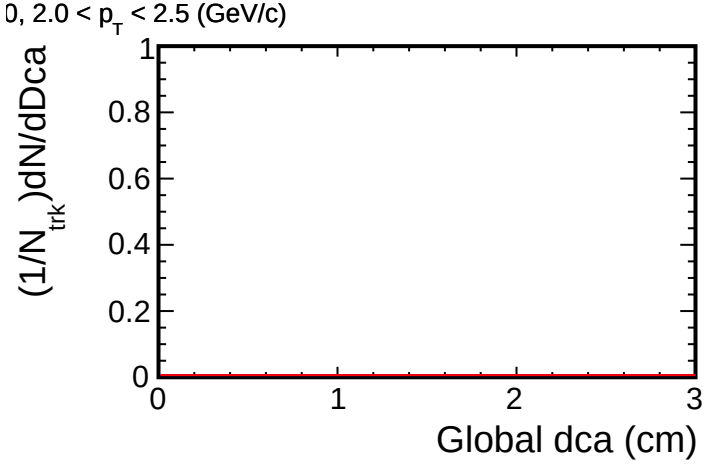
# Dca distribution for ($p_T$, η) slices



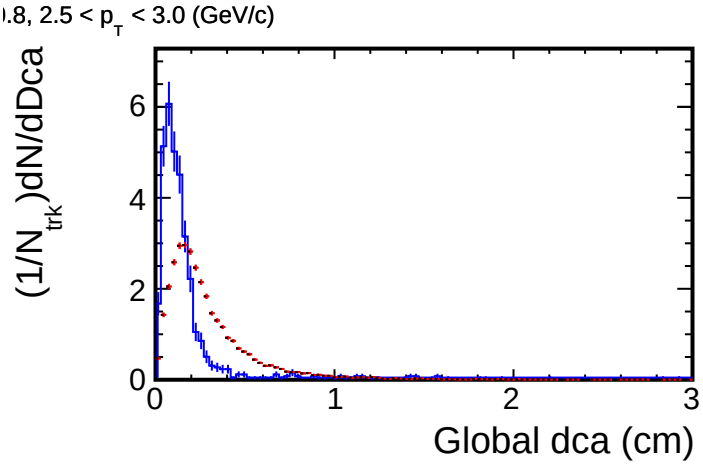



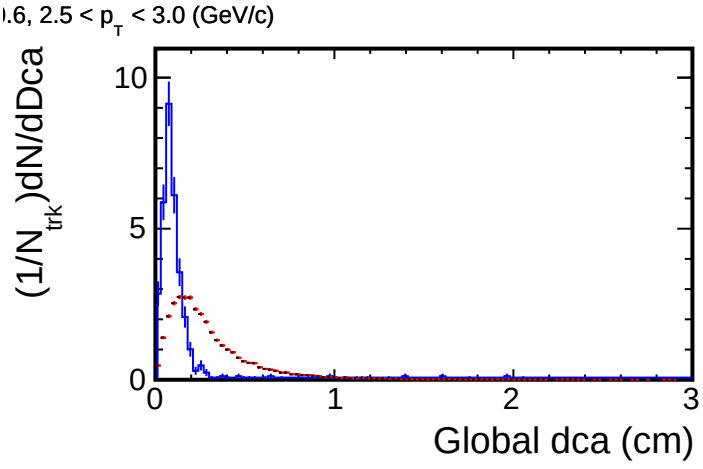



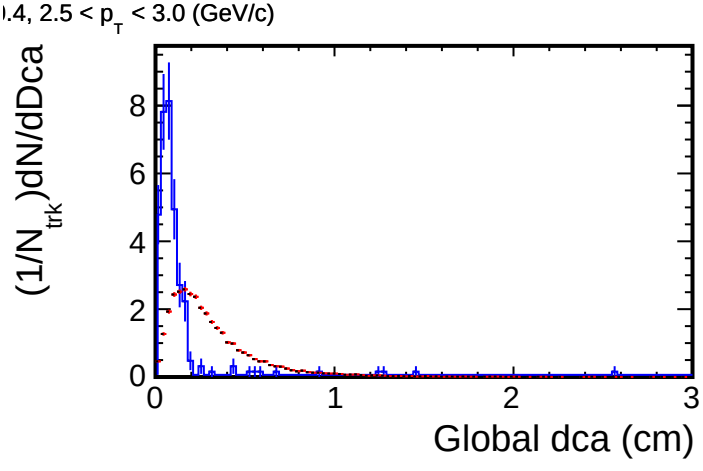

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

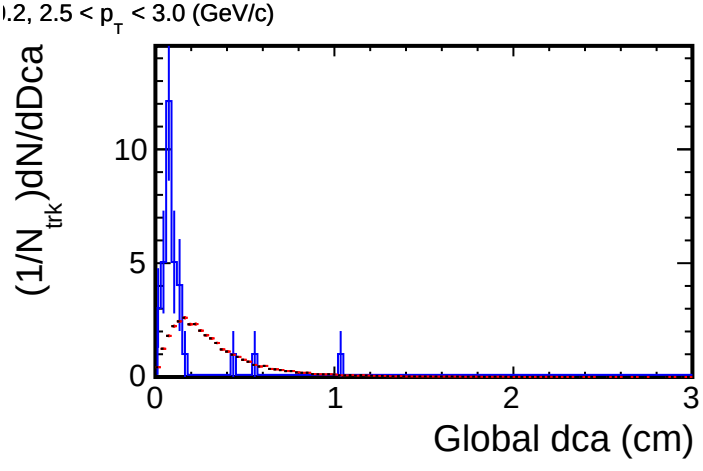
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

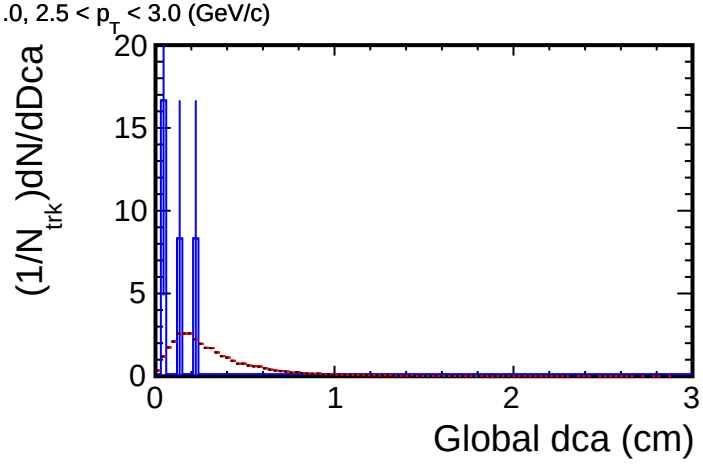
# Dca distribution for ($p_T$, η) slices



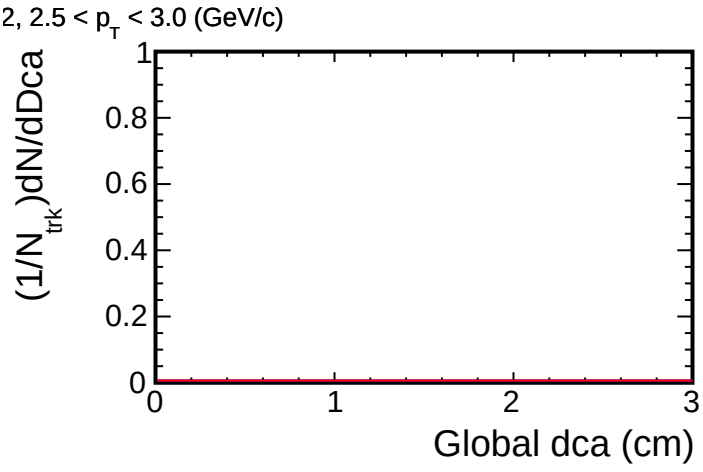



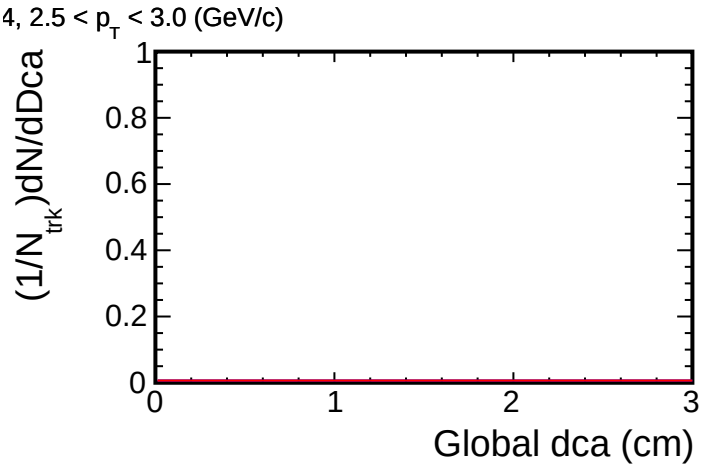



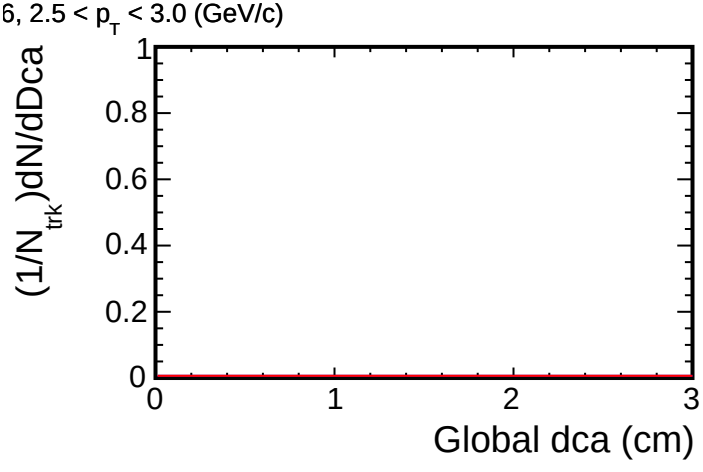

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

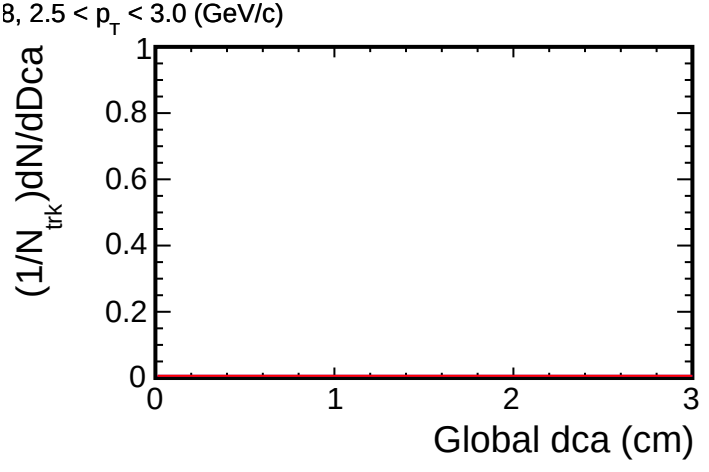
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

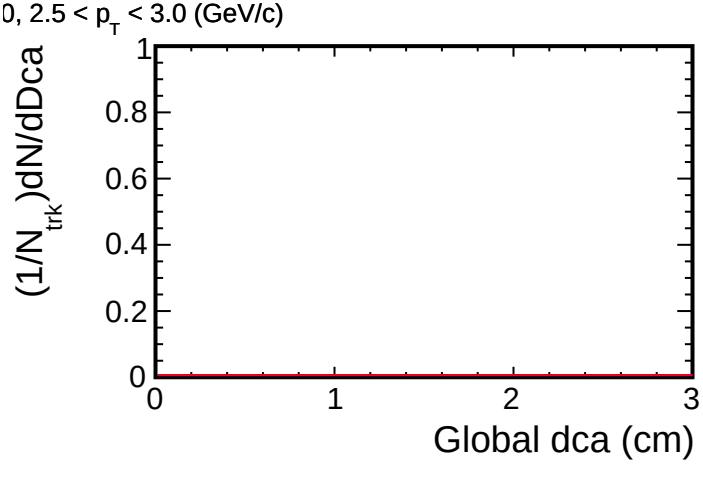
# Dca distribution for ($p_T$, η) slices



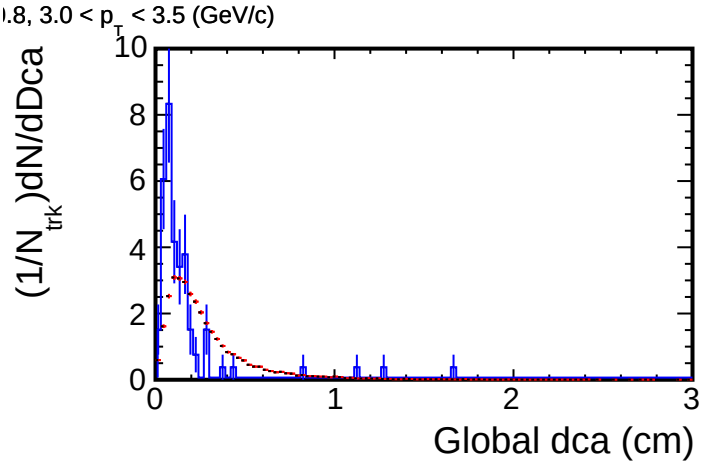



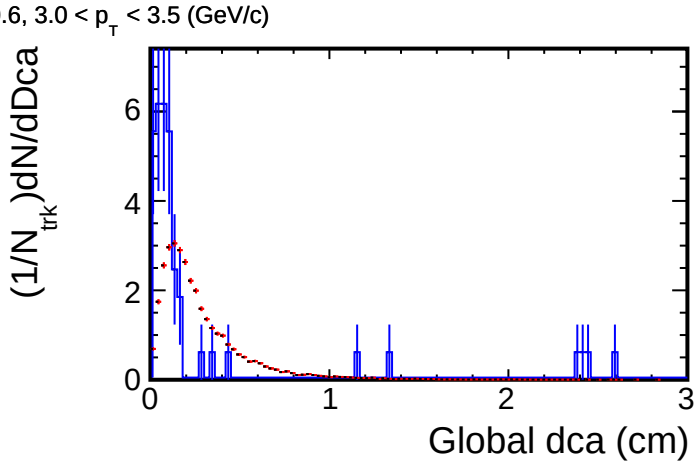



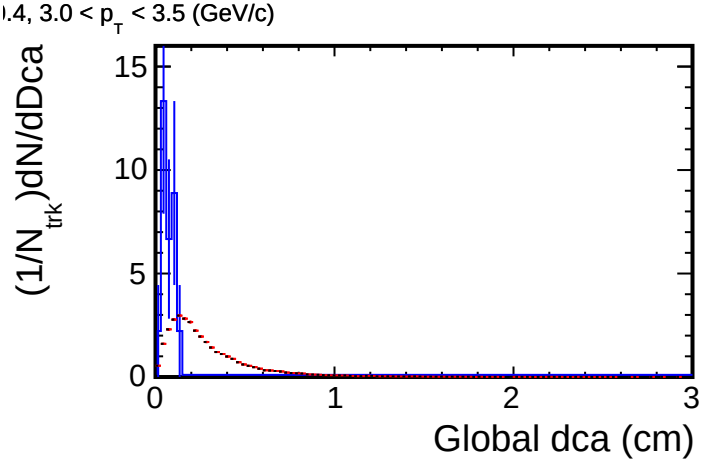

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

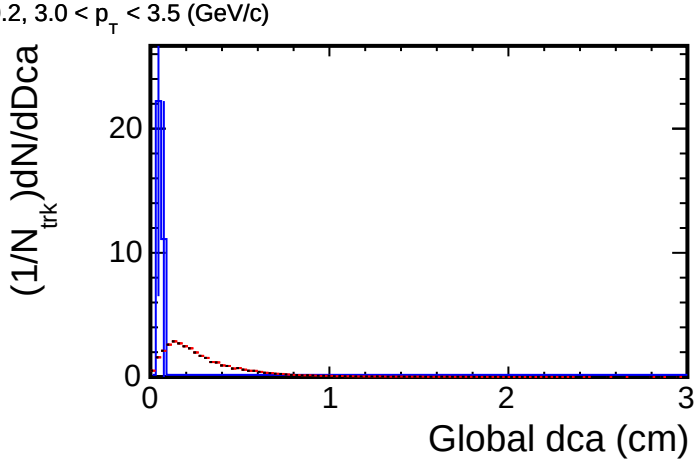
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

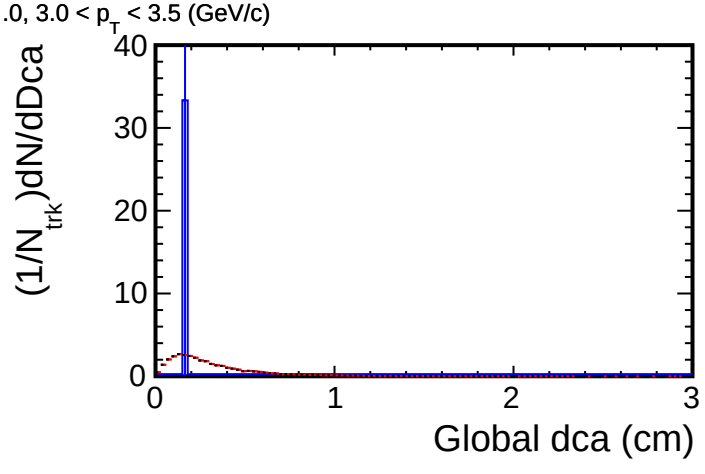
# Dca distribution for ($p_T$, η) slices



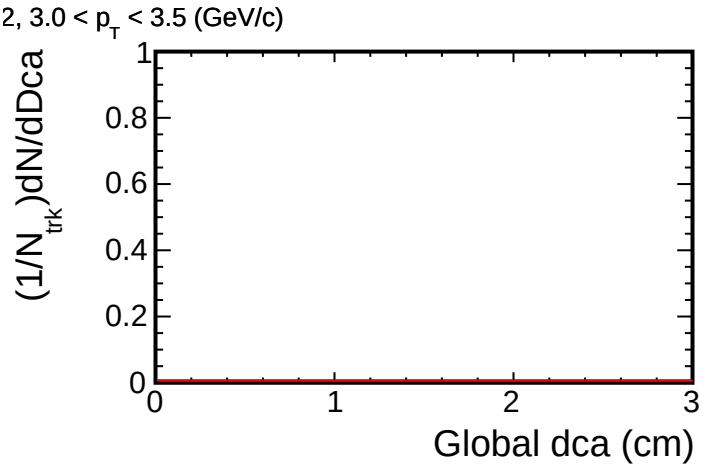



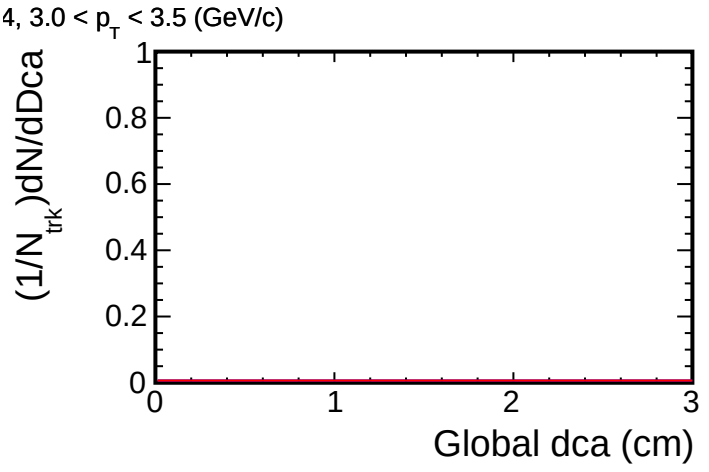



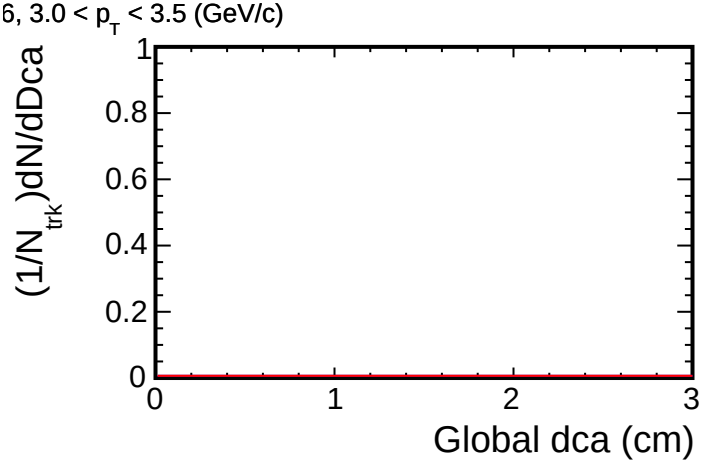

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

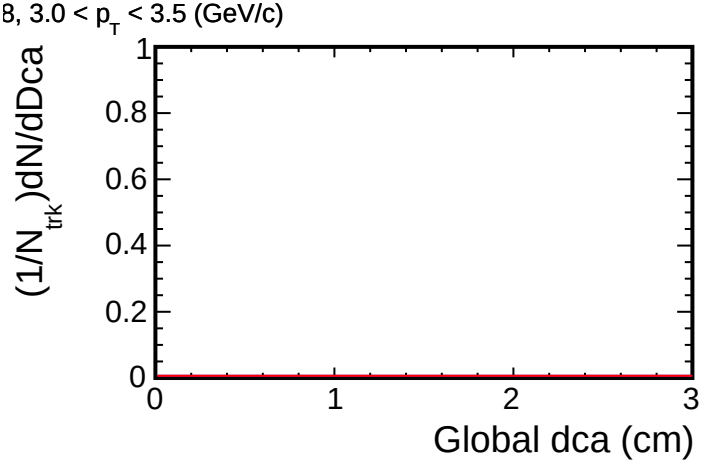
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

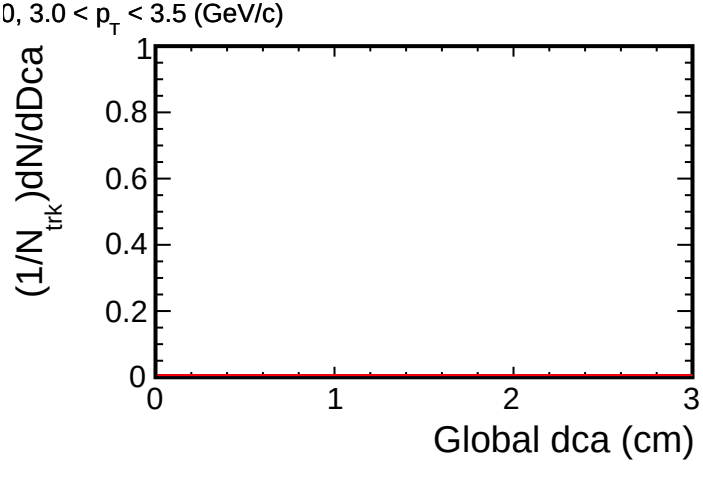
# Dca distribution for ($p_T$, η) slices



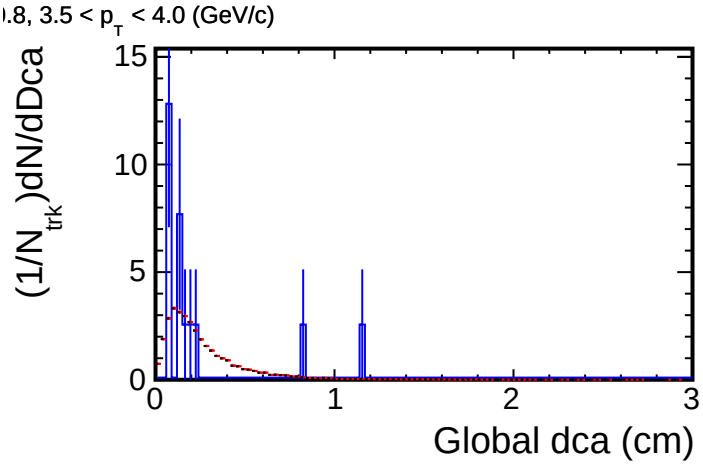



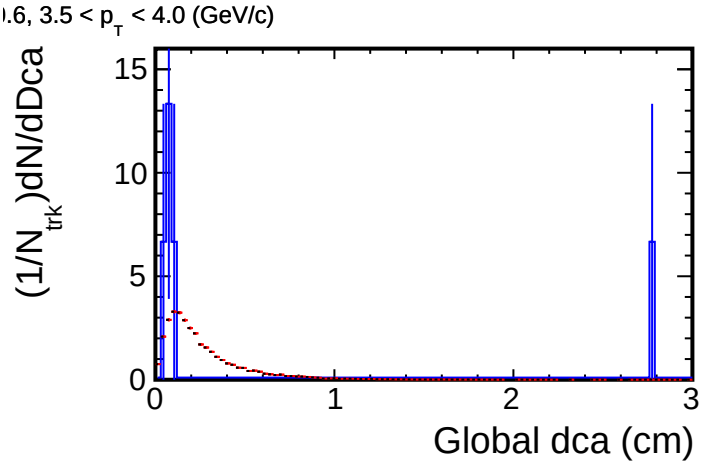



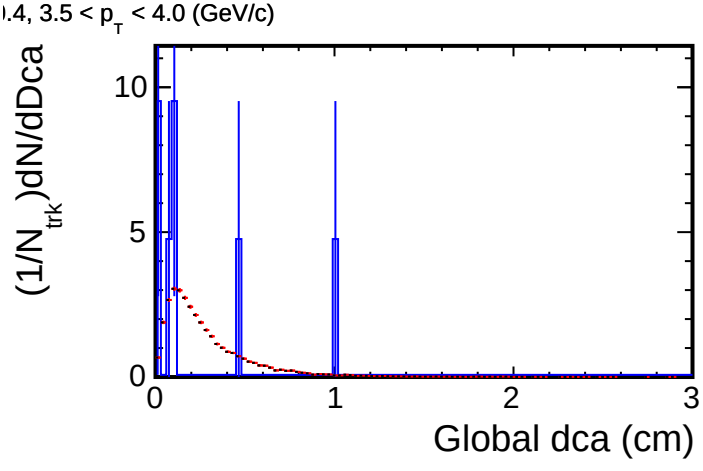

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

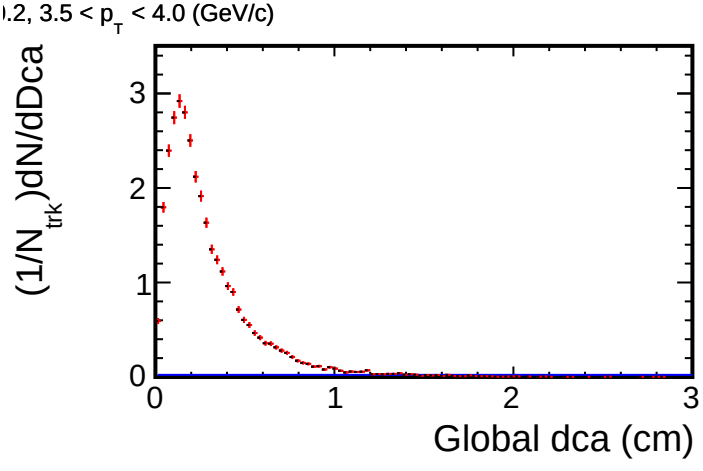
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

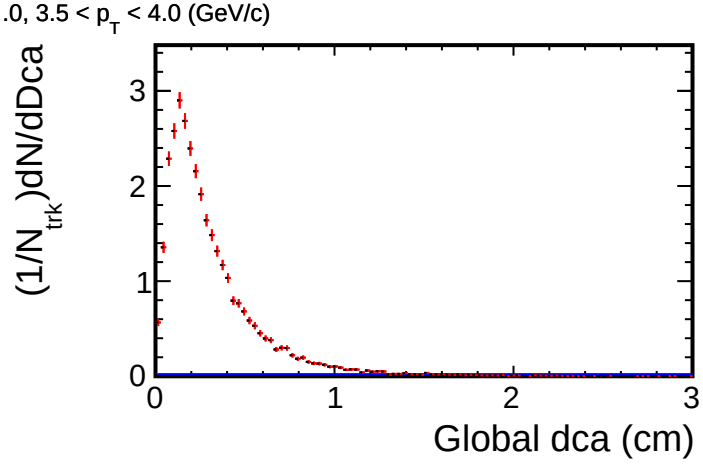
# Dca distribution for ($p_T$, η) slices



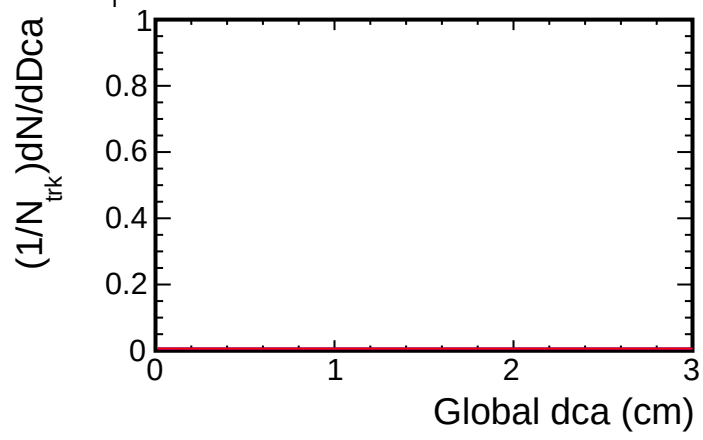




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

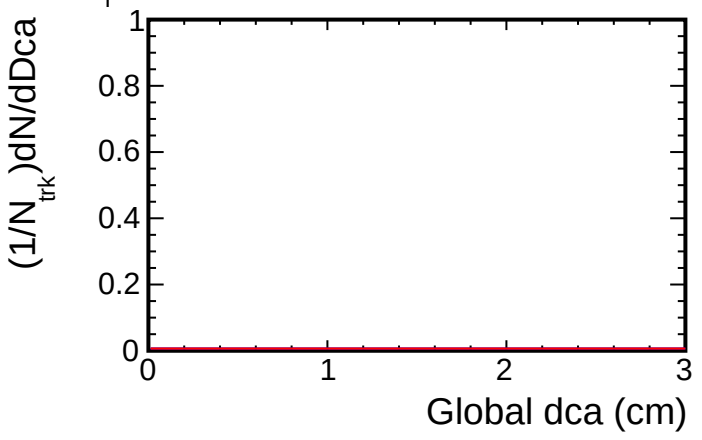
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

# Dca distribution for ($p_T$, η) slices

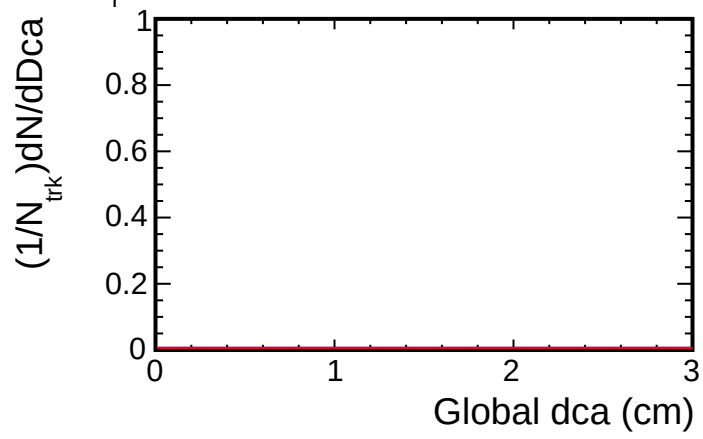
2, 3.5 < $p_T$ < 4.0 (GeV/c)



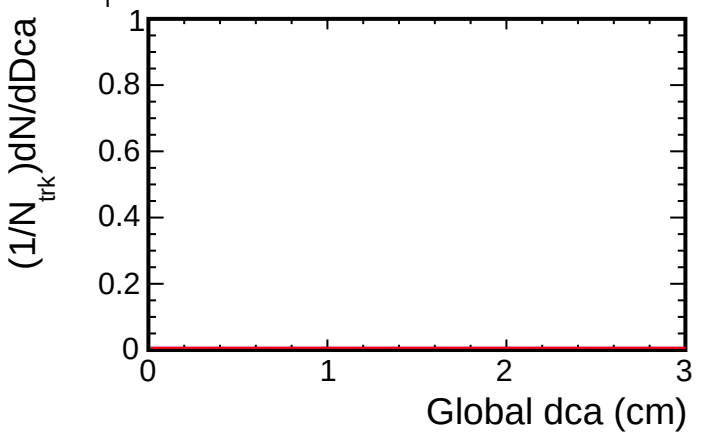

4, 3.5 < $p_T$ < 4.0 (GeV/c)



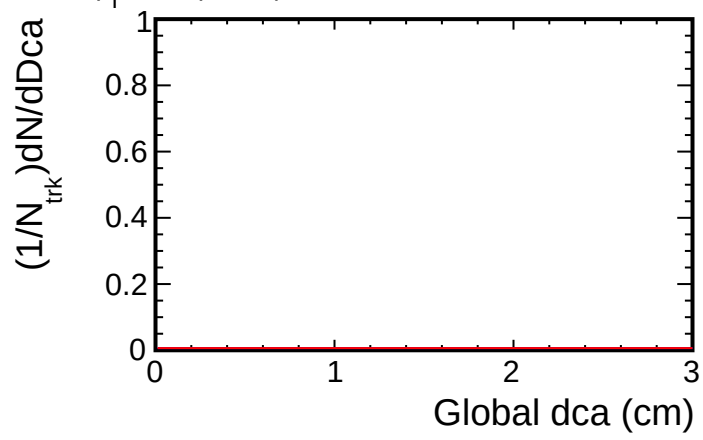

6, 3.5 < $p_T$ < 4.0 (GeV/c)




8, 3.5 < $p_T$ < 4.0 (GeV/c)



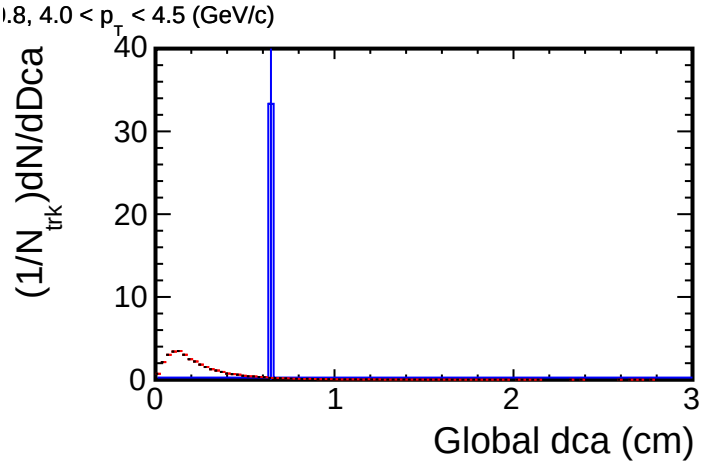

0, 3.5 < $p_T$ < 4.0 (GeV/c)

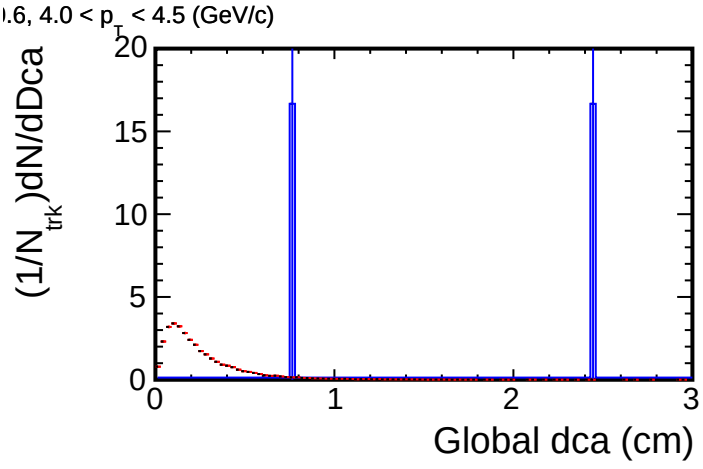


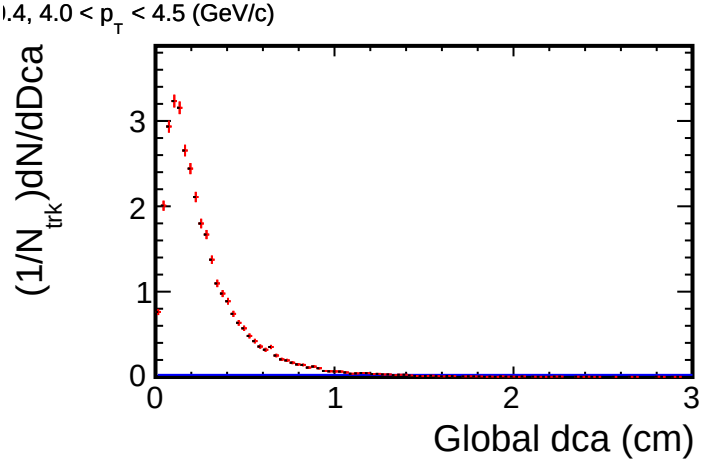

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

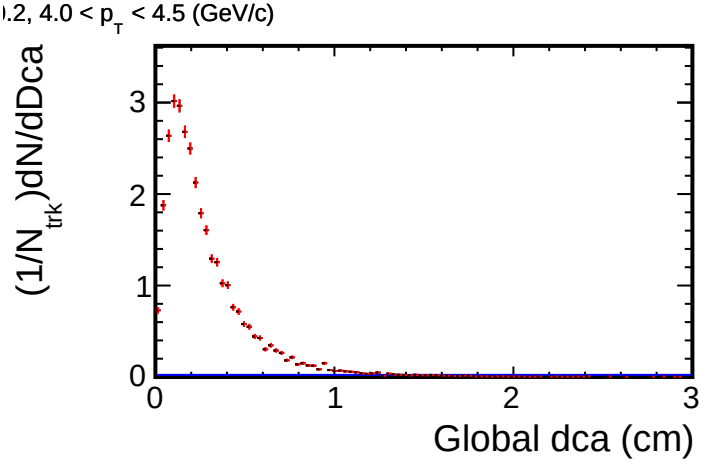
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

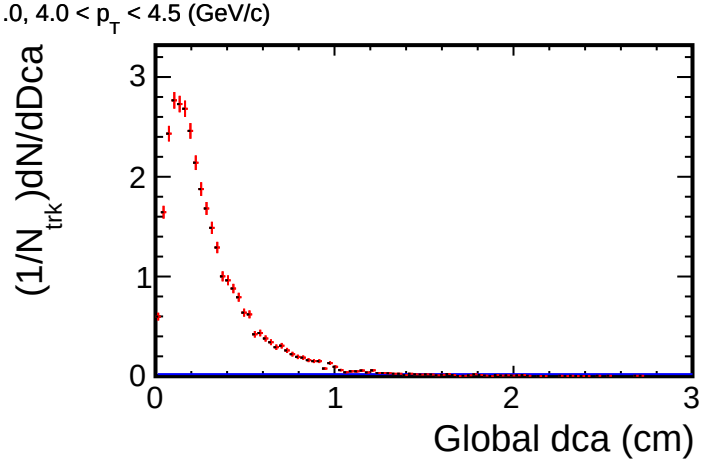
# Dca distribution for ($p_T$, η) slices



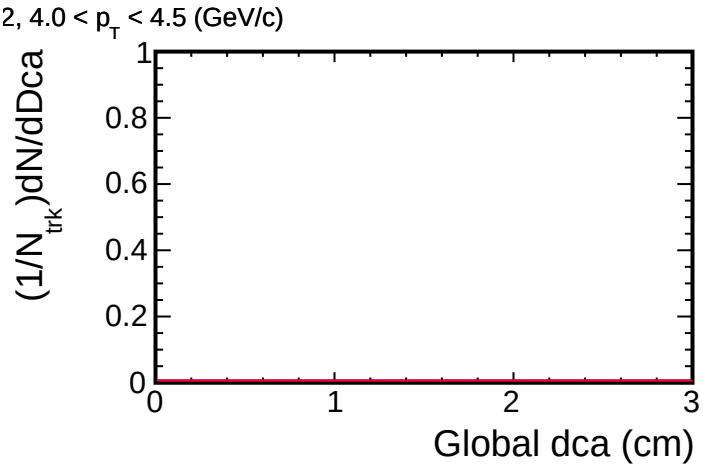



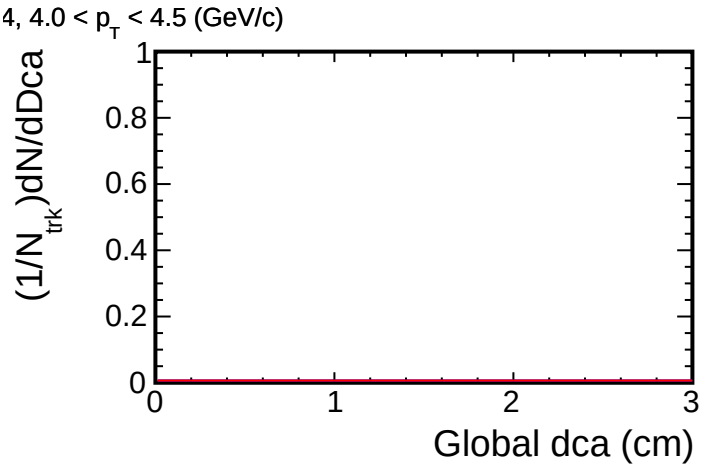



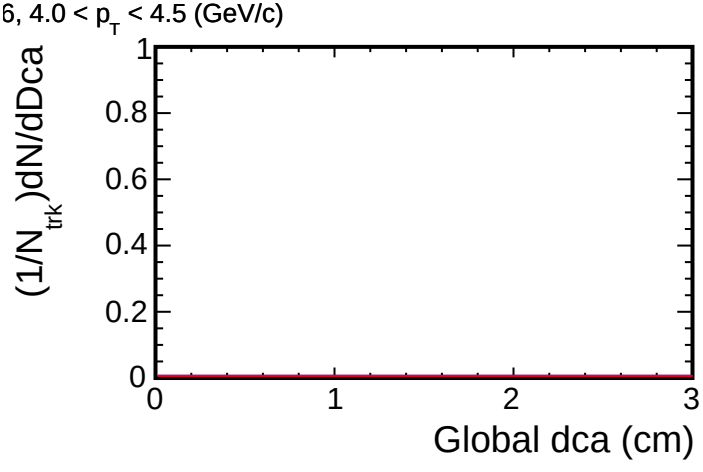

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

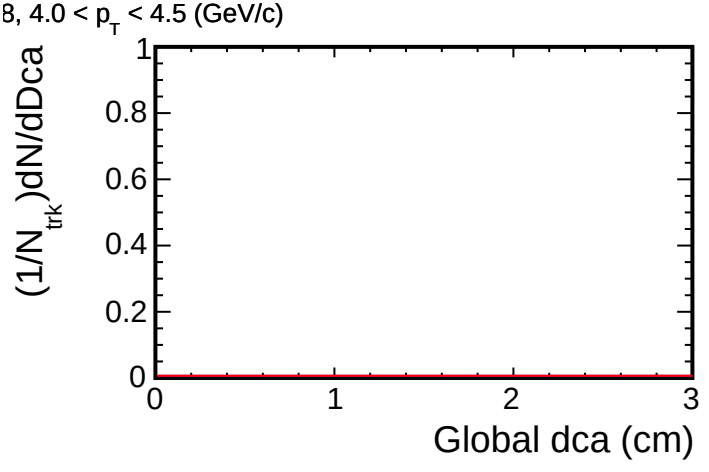
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

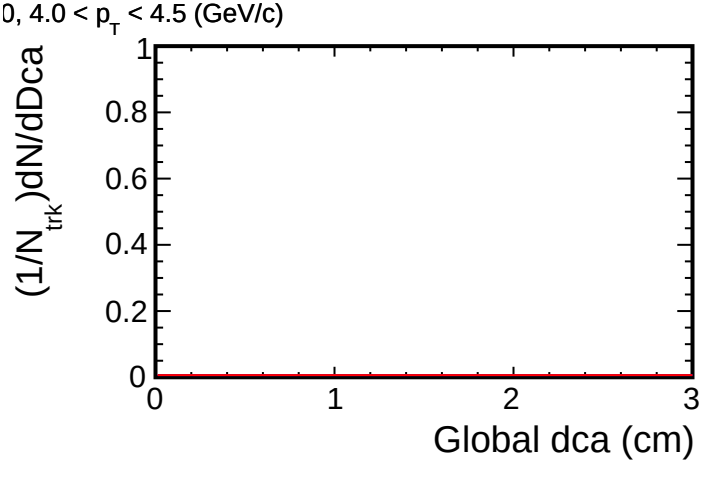
# Dca distribution for ($p_T$, η) slices



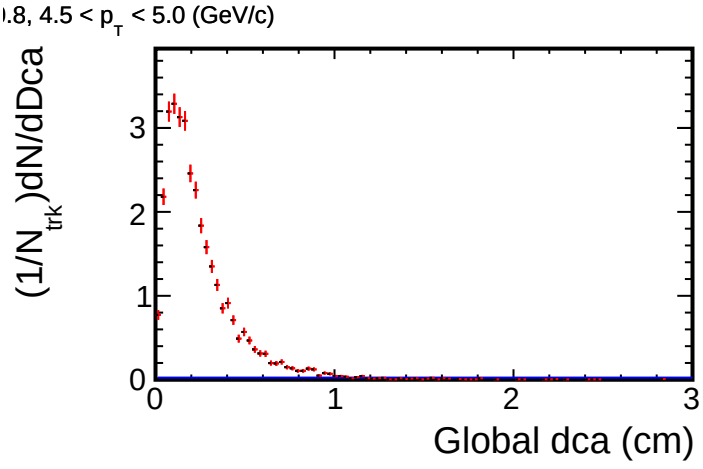



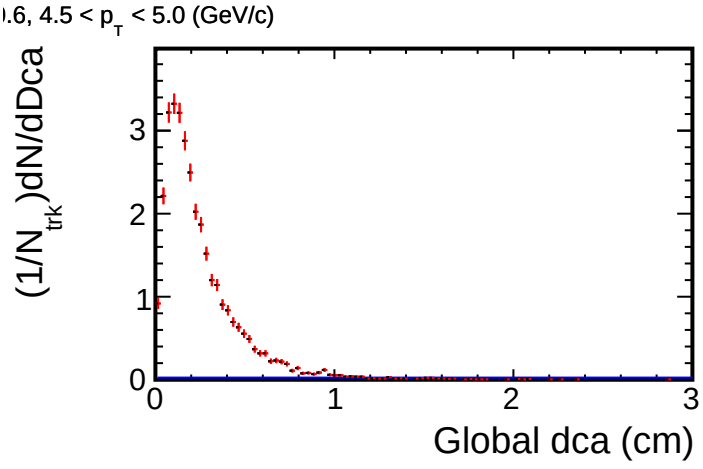



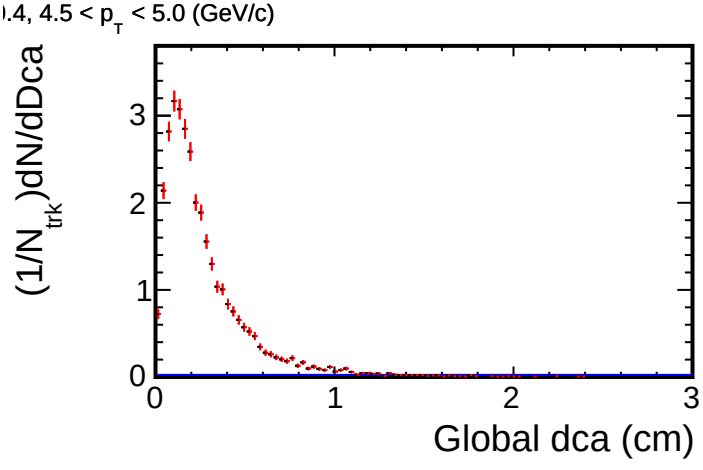

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

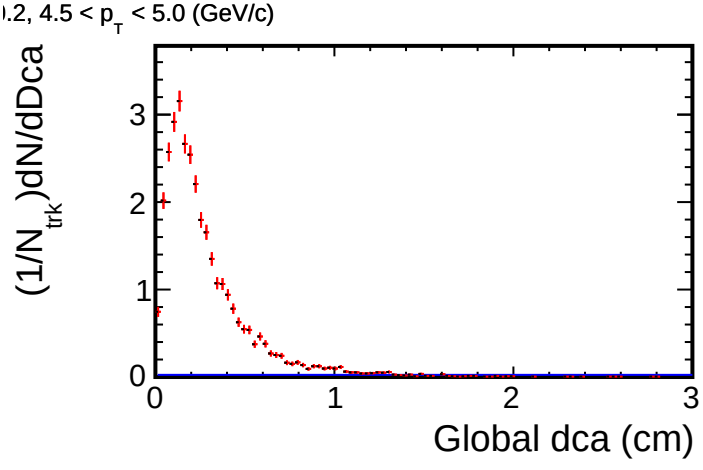
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

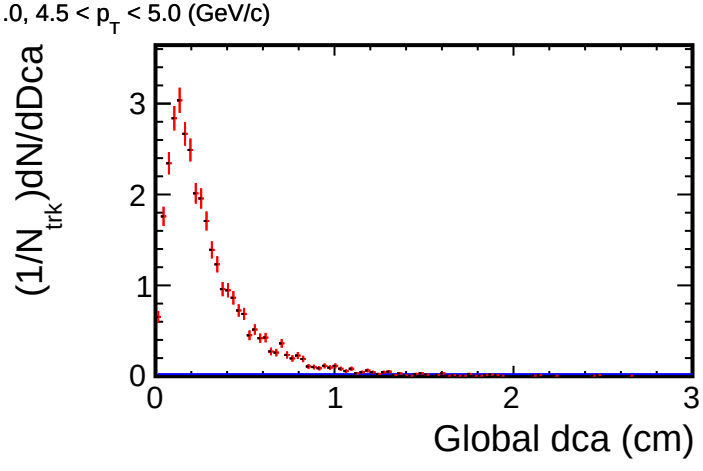
# Dca distribution for ($p_T$, η) slices



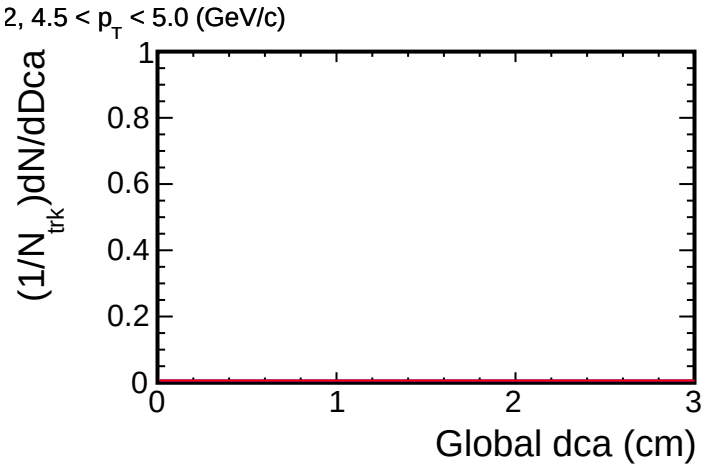



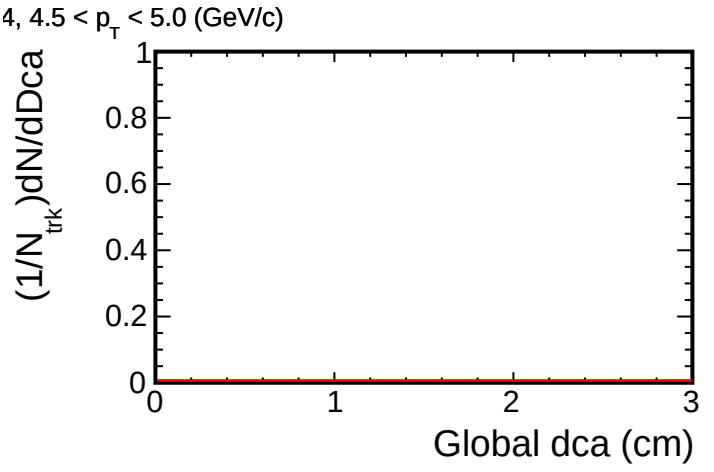



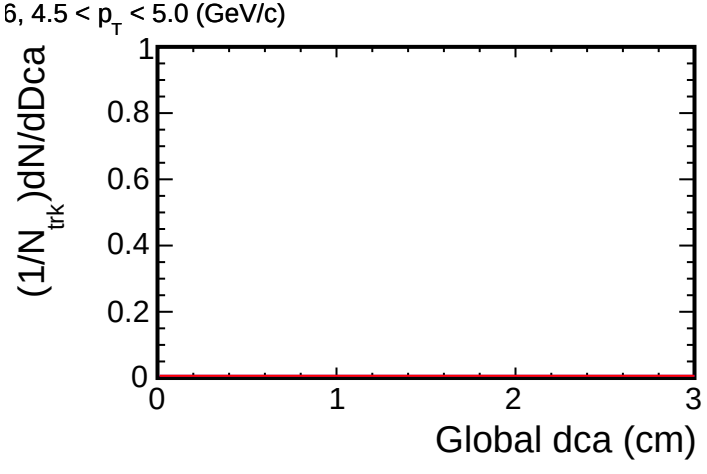

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

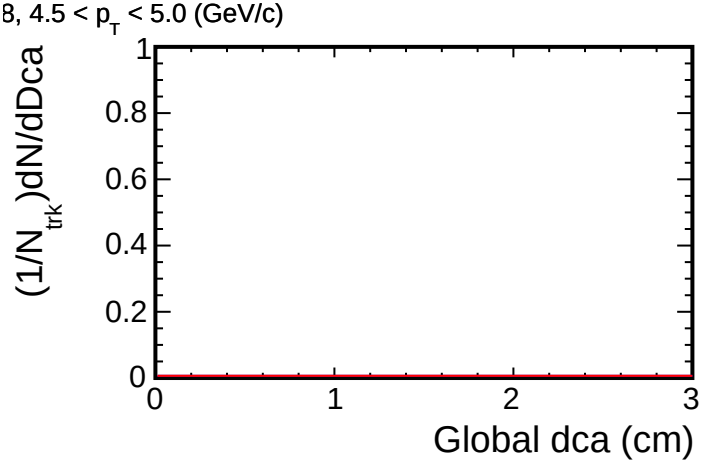
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

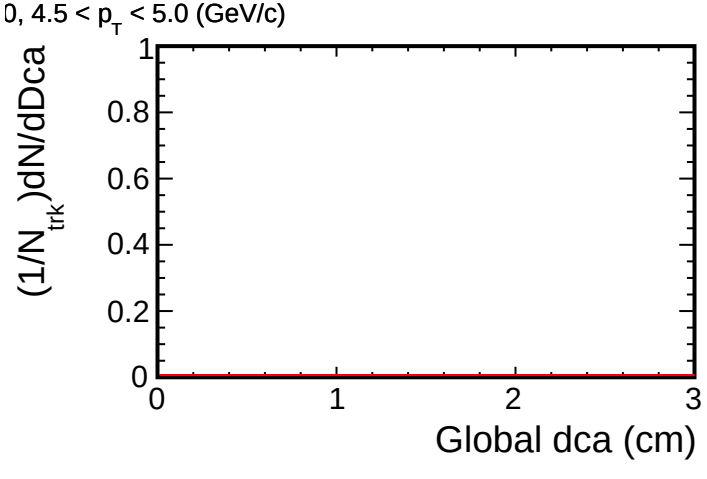
# Dca distribution for ($p_T$, η) slices



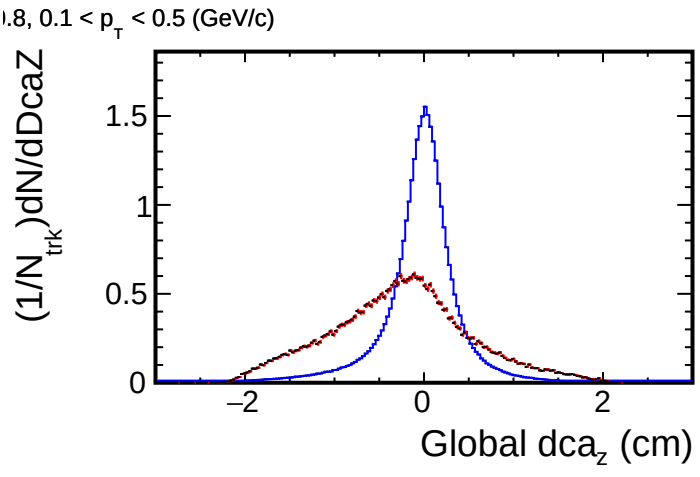



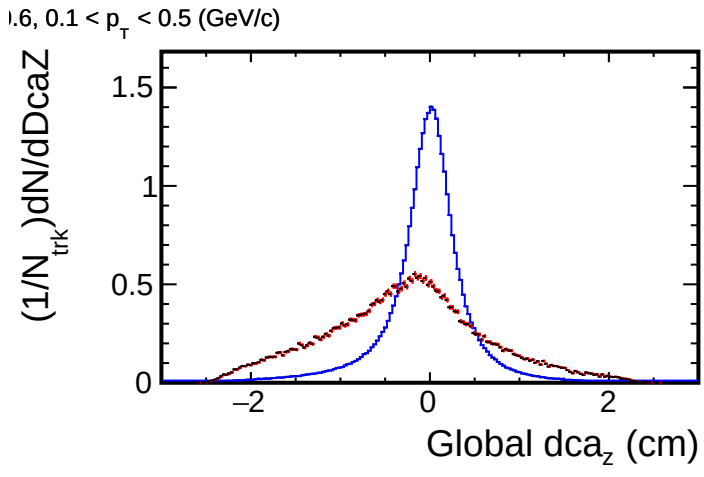



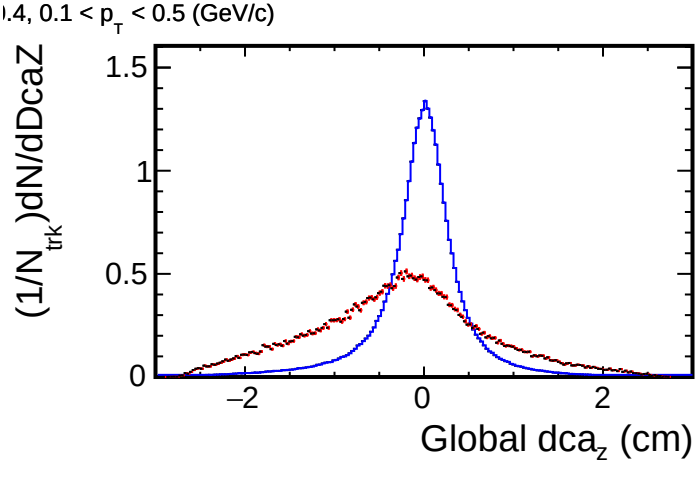

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

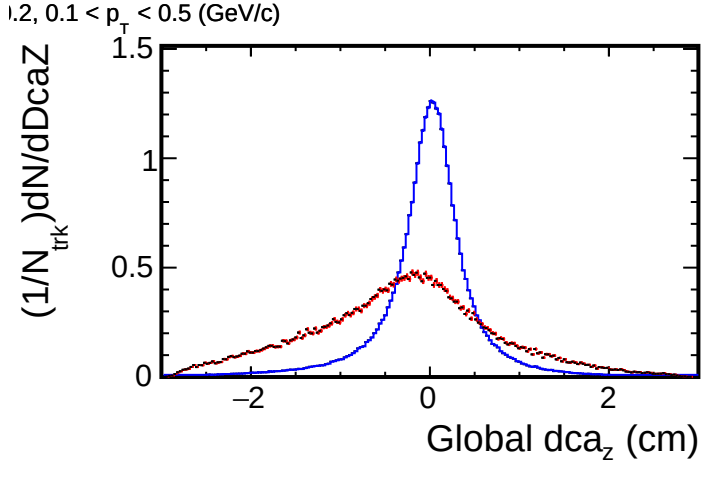
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

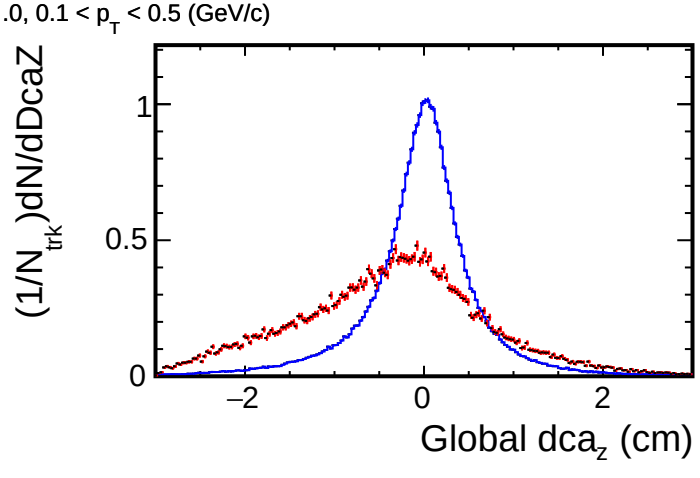
# DcaZ distribution for ($p_T$, η) slices



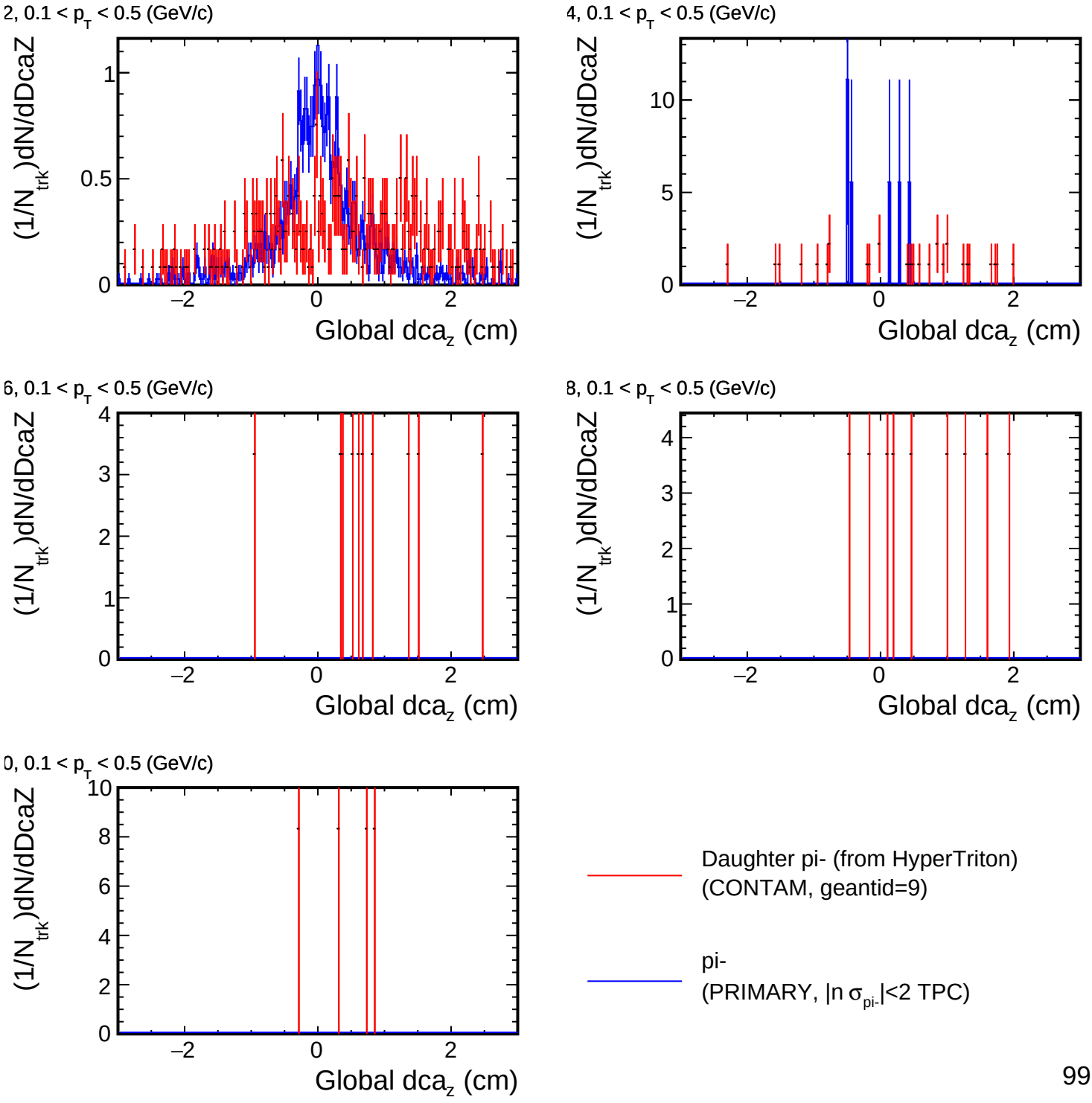



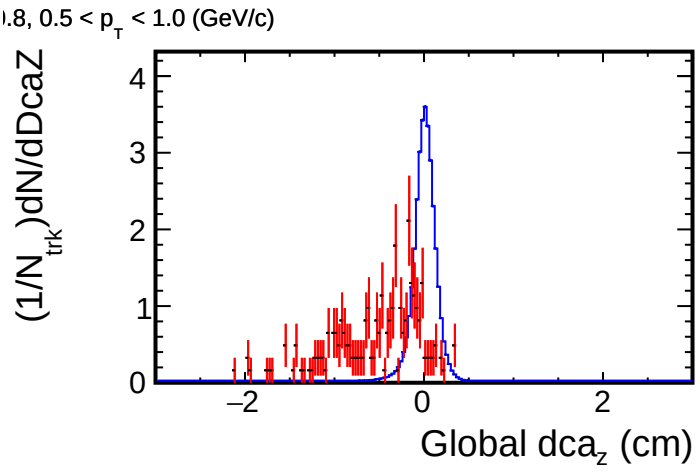

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

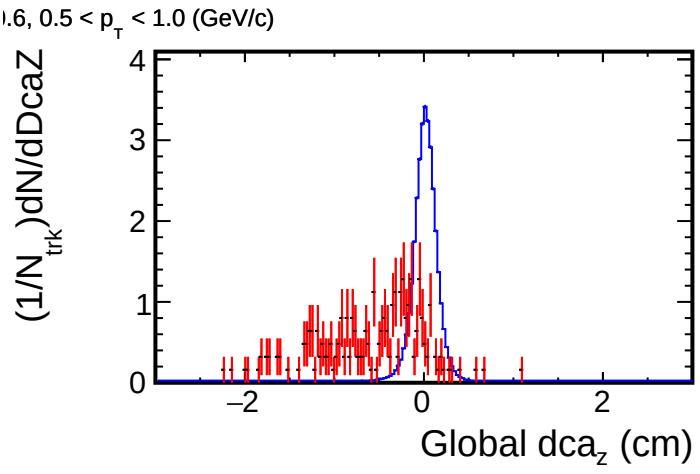
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

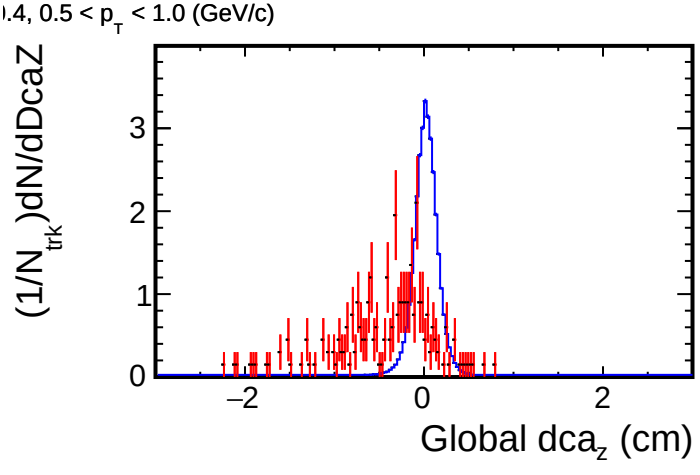
# DcaZ distribution for ($p_T$, η) slices

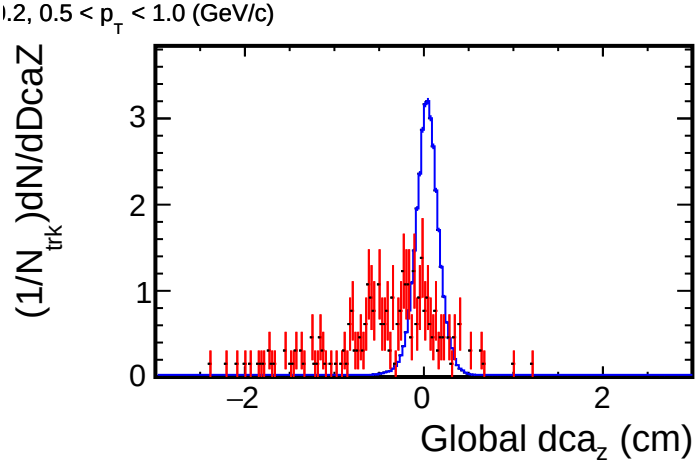


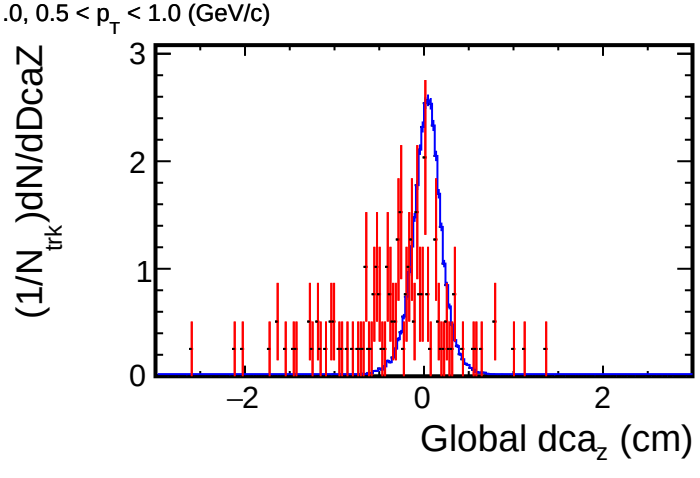
# DcaZ distribution for ($p_T$, η) slices



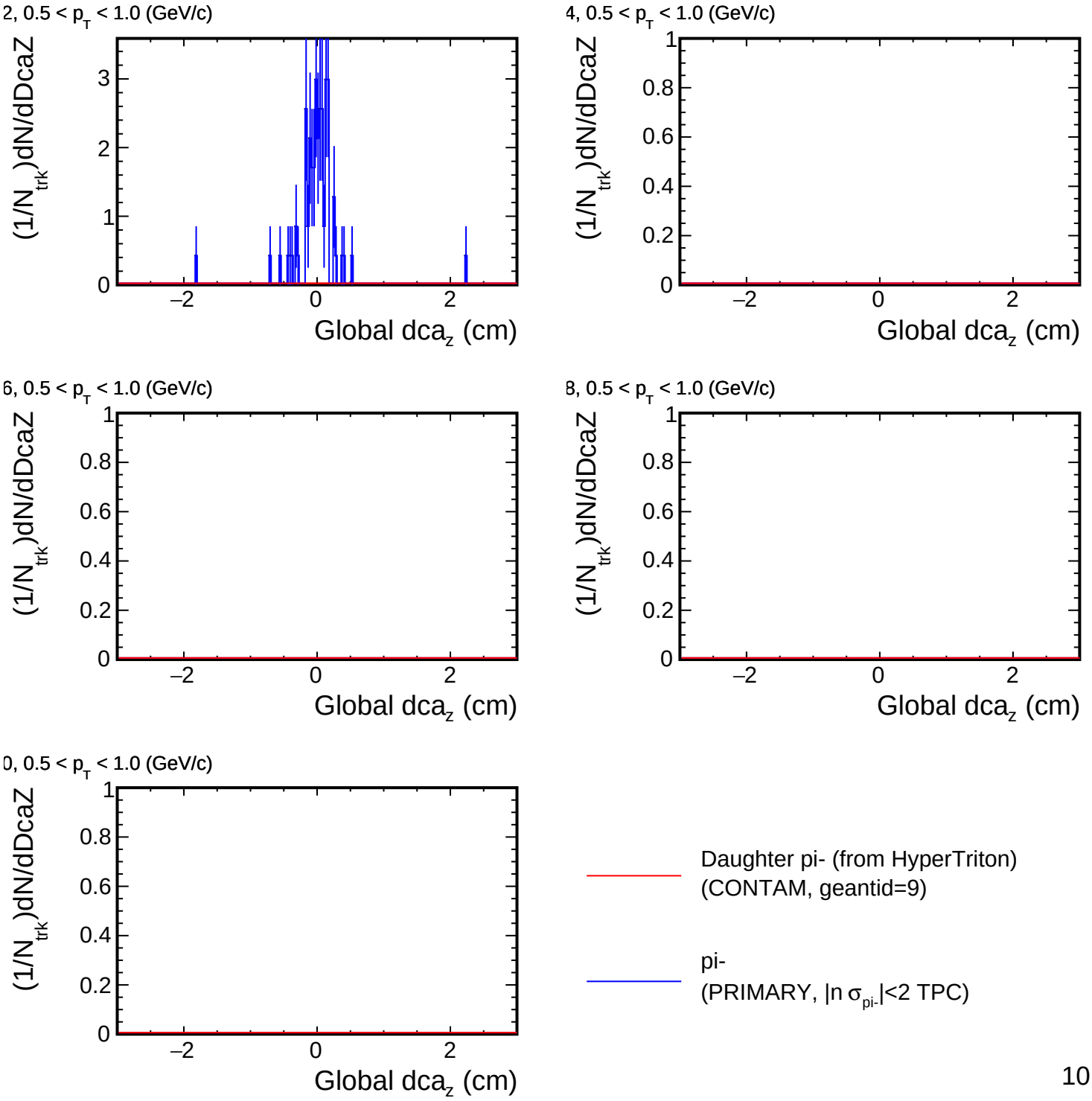



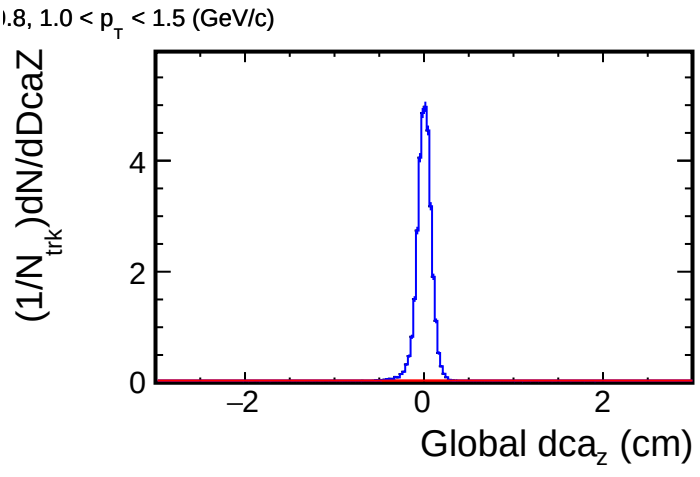

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

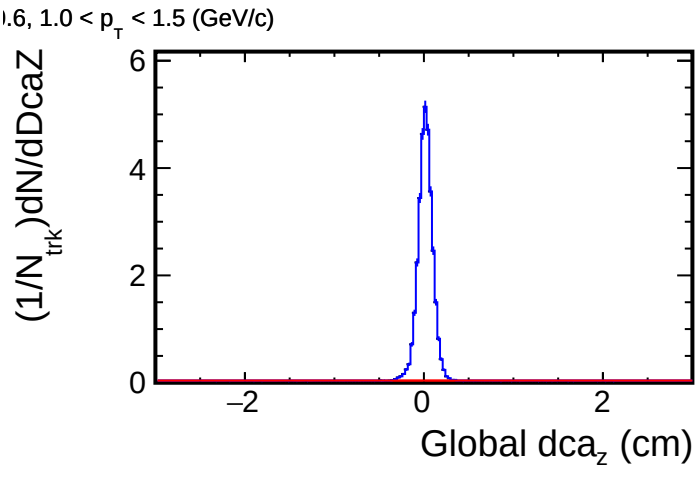
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

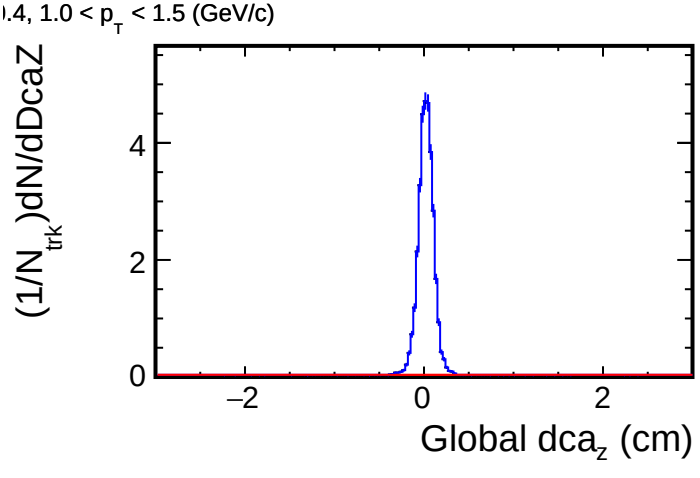
# DcaZ distribution for ($p_T$, η) slices

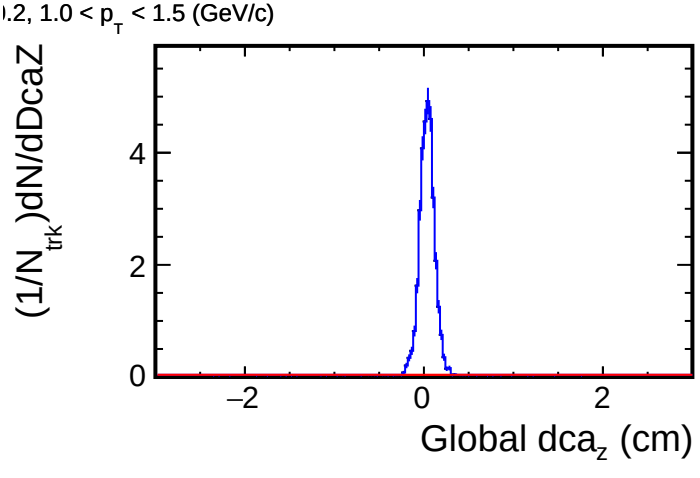


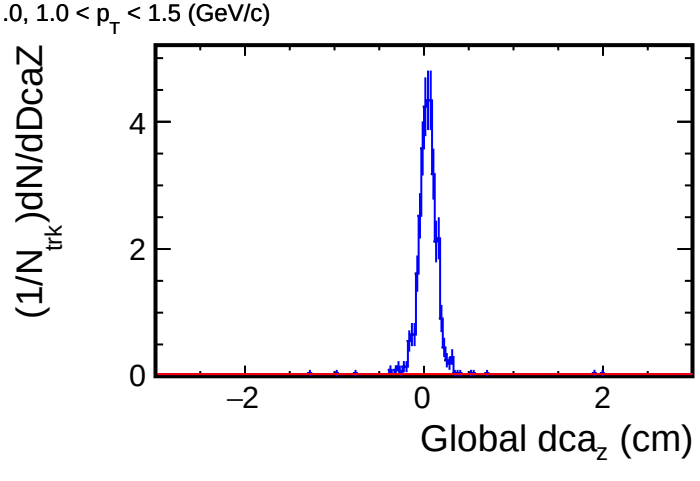
# DcaZ distribution for ($p_T$, η) slices



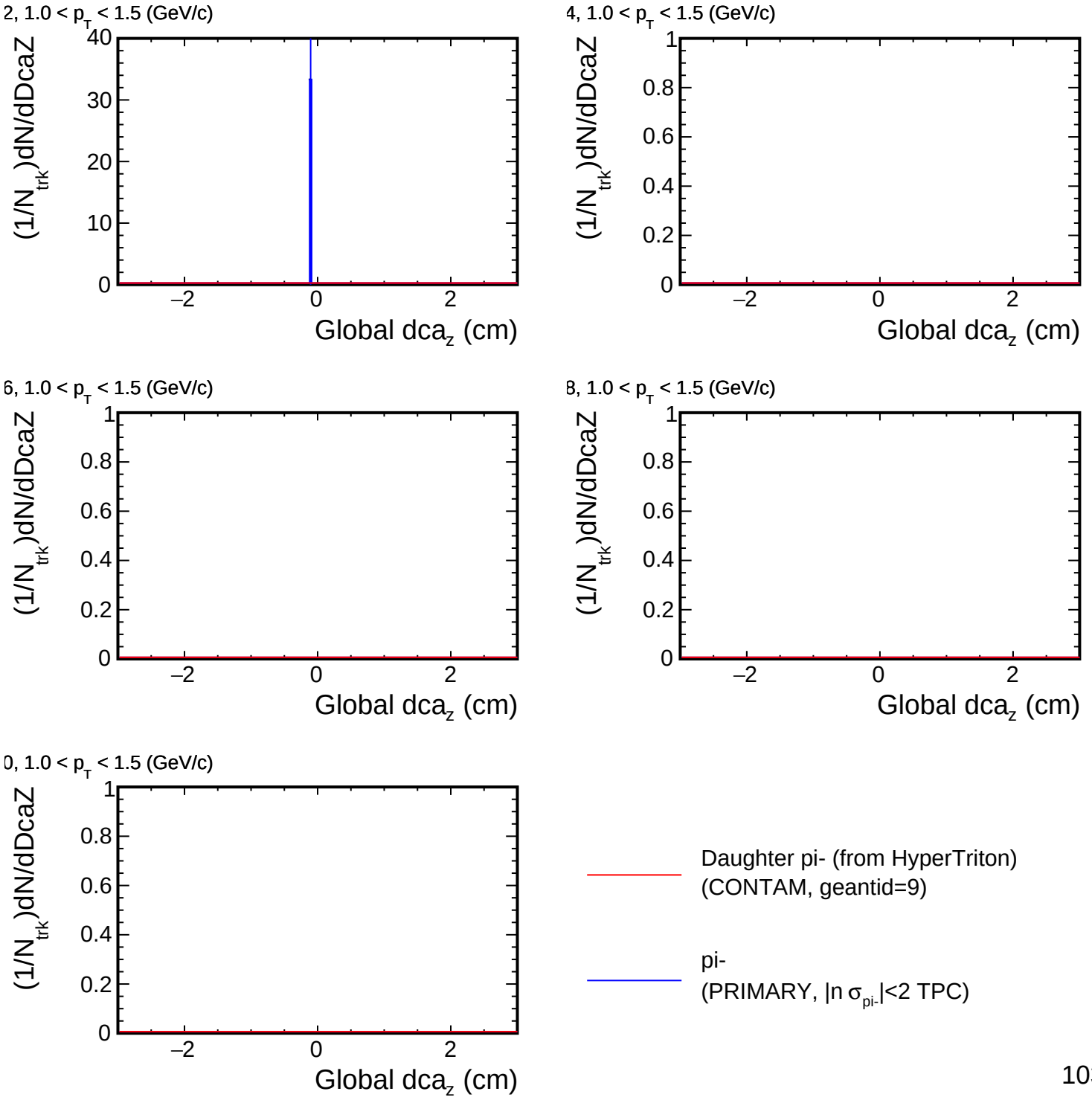



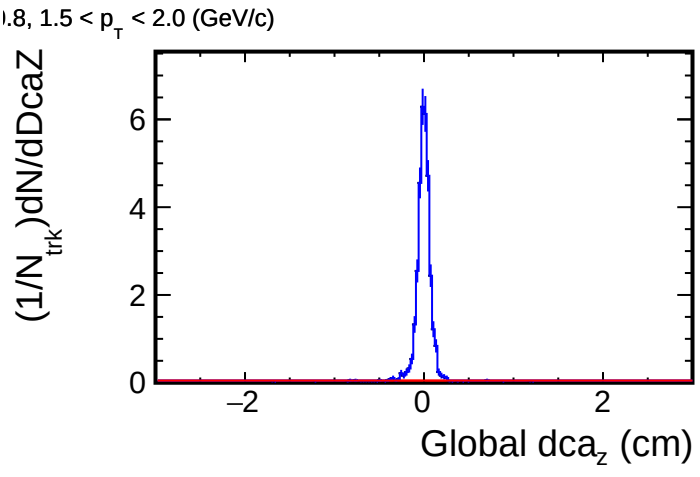

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

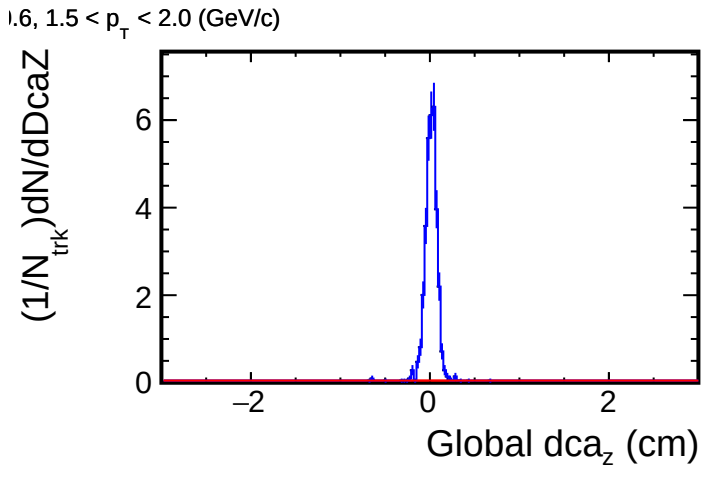
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

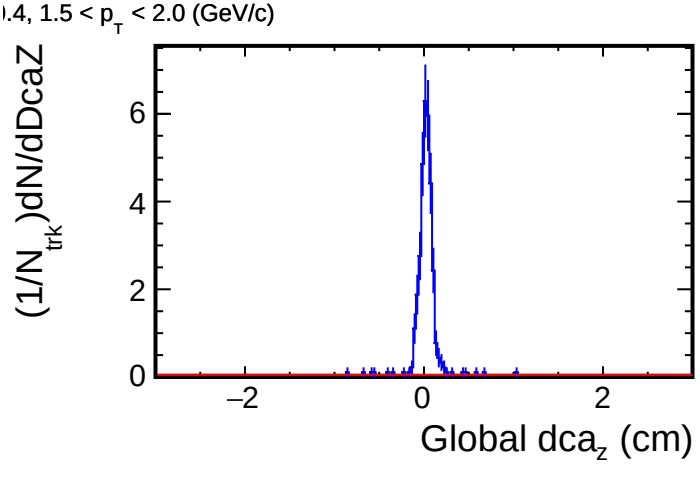
# DcaZ distribution for ($p_T$, η) slices

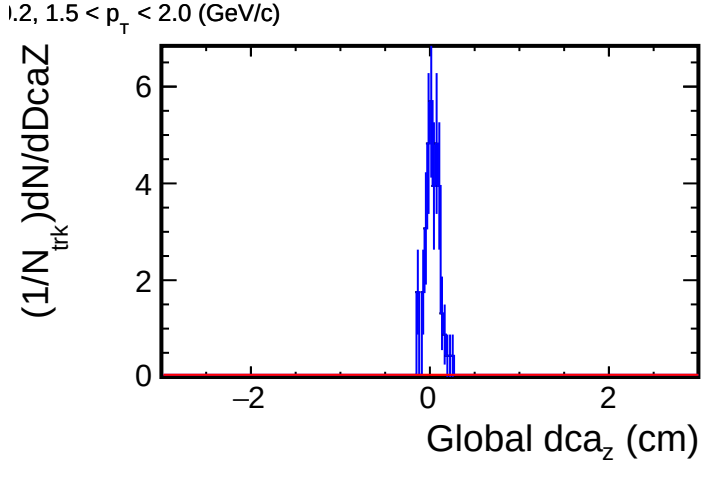


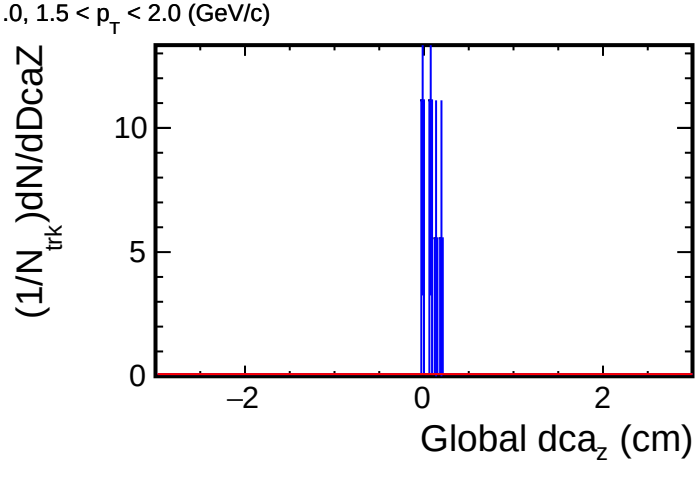
# DcaZ distribution for ($p_T$, η) slices



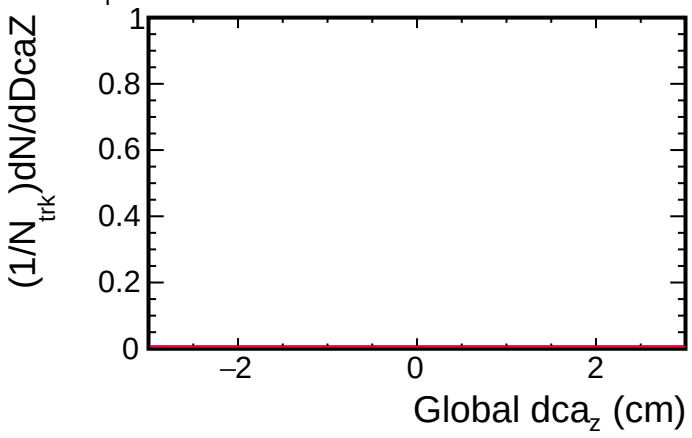




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

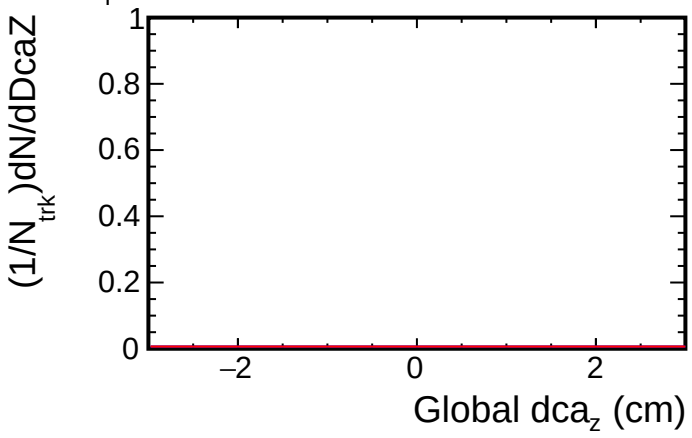
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

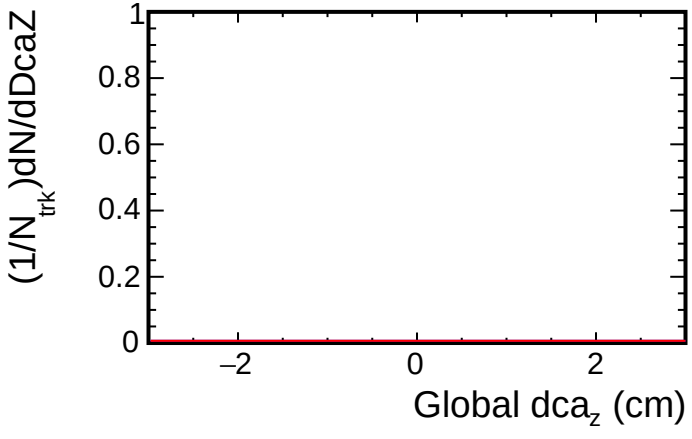
2, 1.5 < $p_T$ < 2.0 (GeV/c)



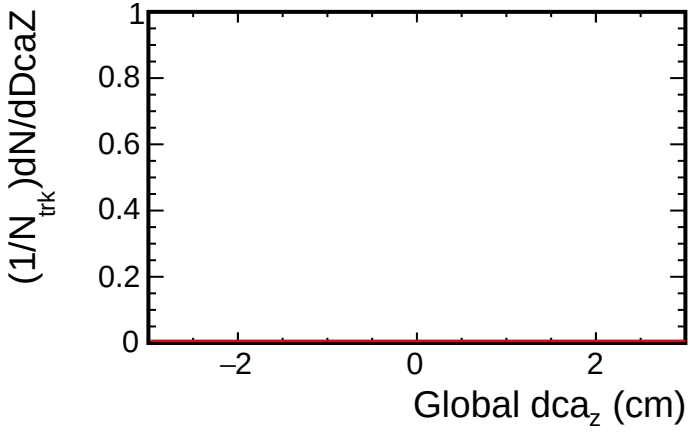

4, 1.5 < $p_T$ < 2.0 (GeV/c)



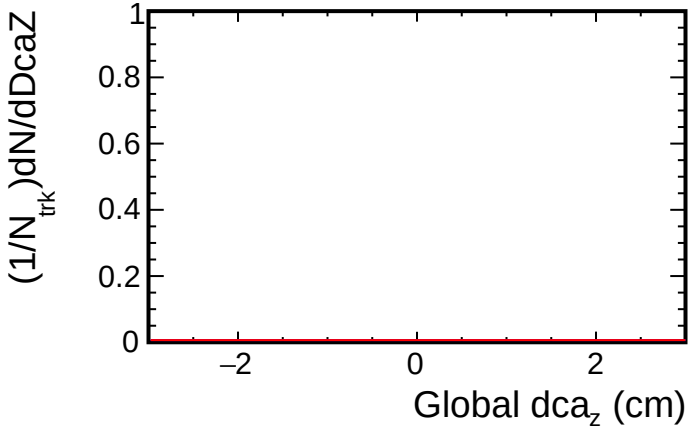

6, 1.5 < $p_T$ < 2.0 (GeV/c)




8, 1.5 < $p_T$ < 2.0 (GeV/c)



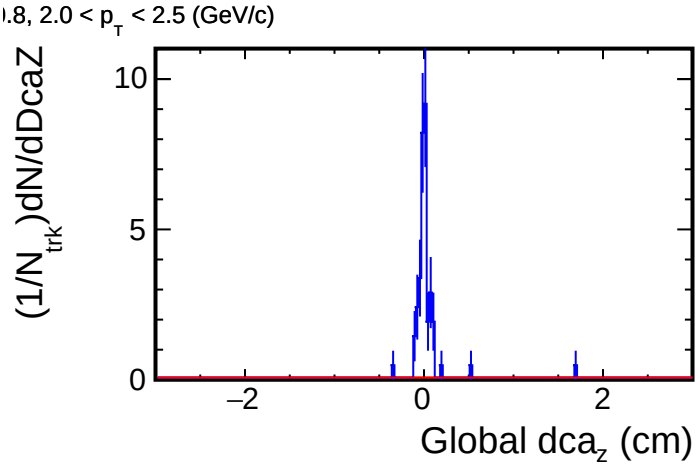

0, 1.5 < $p_T$ < 2.0 (GeV/c)

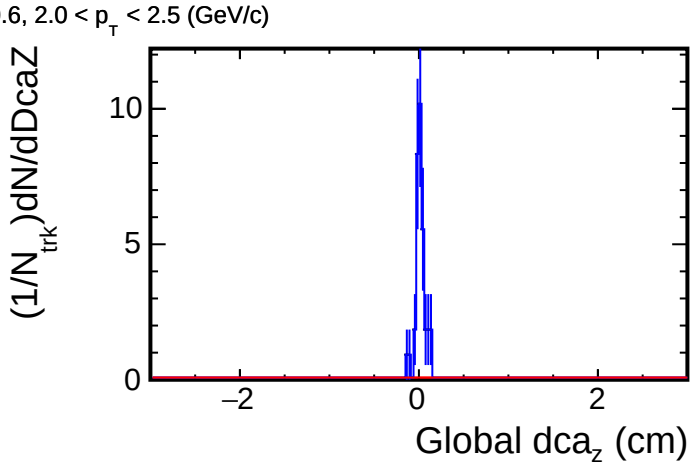


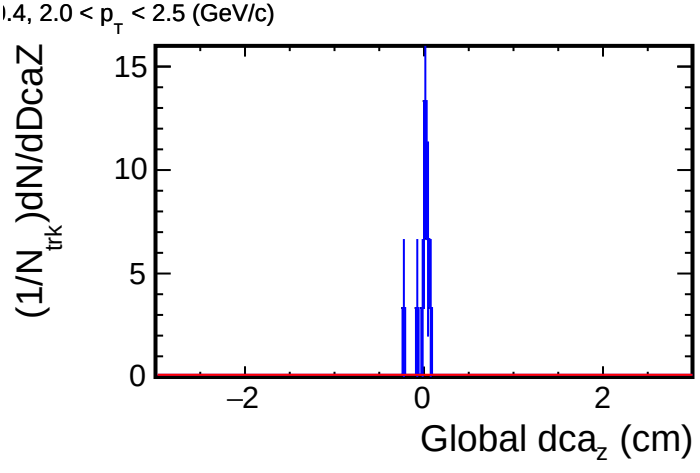

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

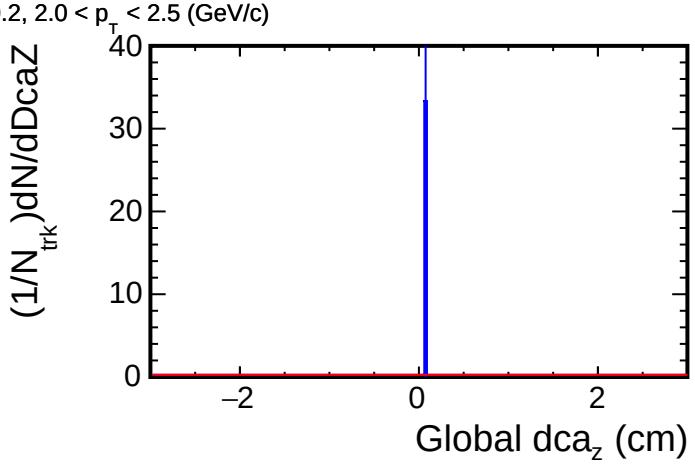
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

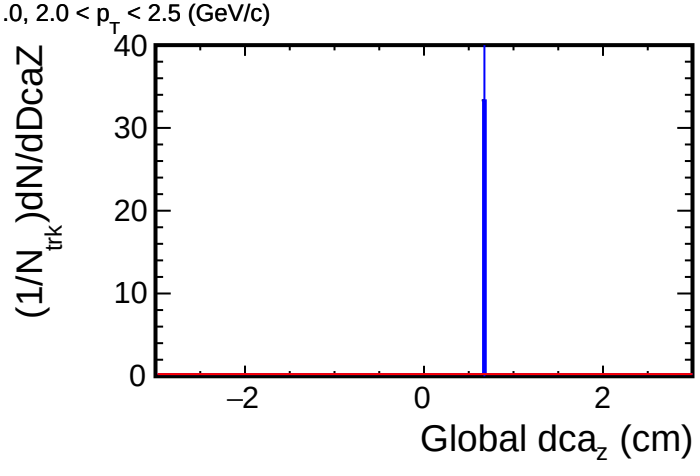
# DcaZ distribution for ($p_T$, η) slices



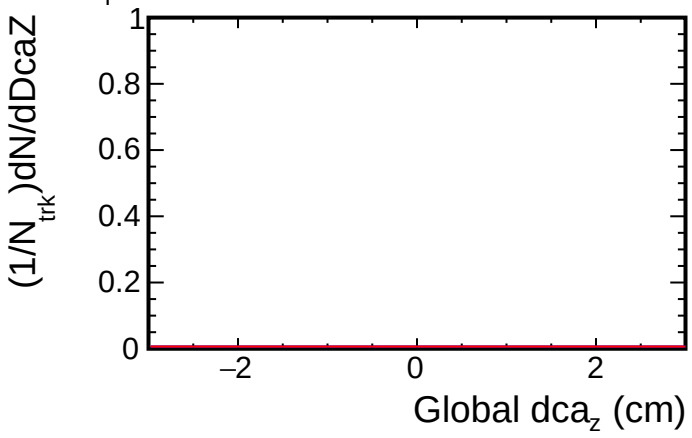




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

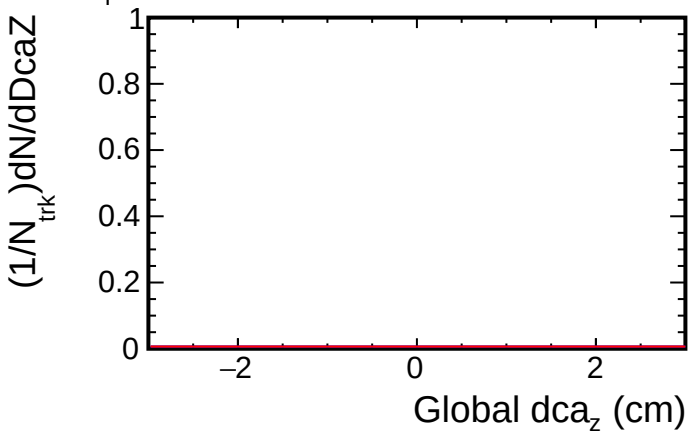
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

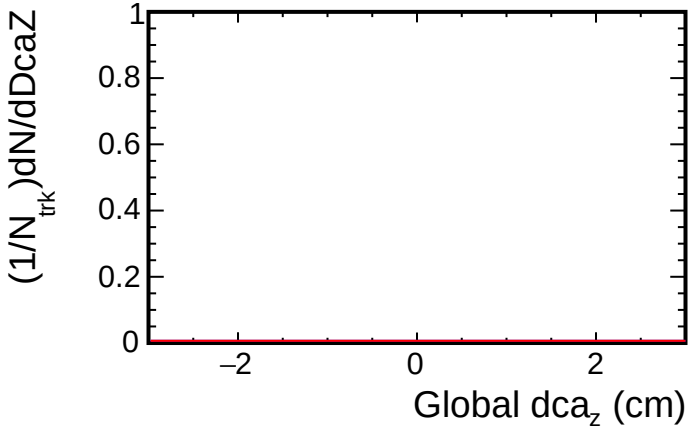
2, 2.0 < $p_T$ < 2.5 (GeV/c)



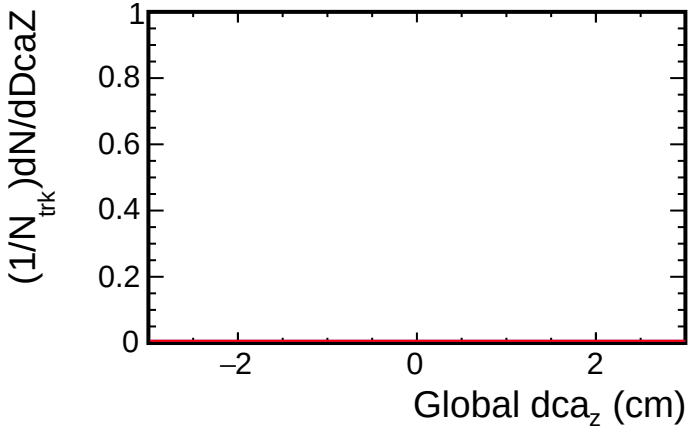

4, 2.0 < $p_T$ < 2.5 (GeV/c)



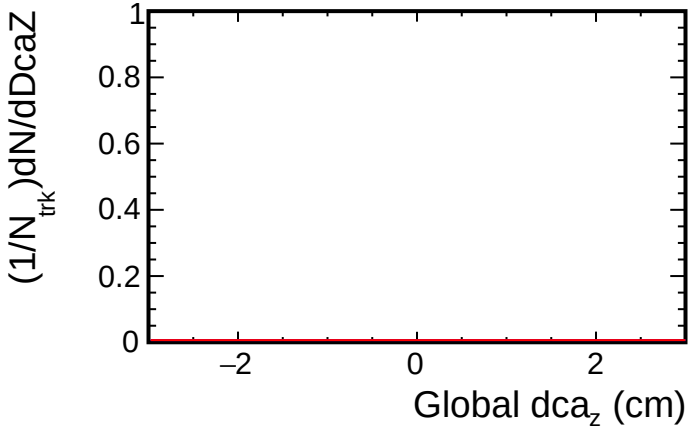

6, 2.0 < $p_T$ < 2.5 (GeV/c)




8, 2.0 < $p_T$ < 2.5 (GeV/c)



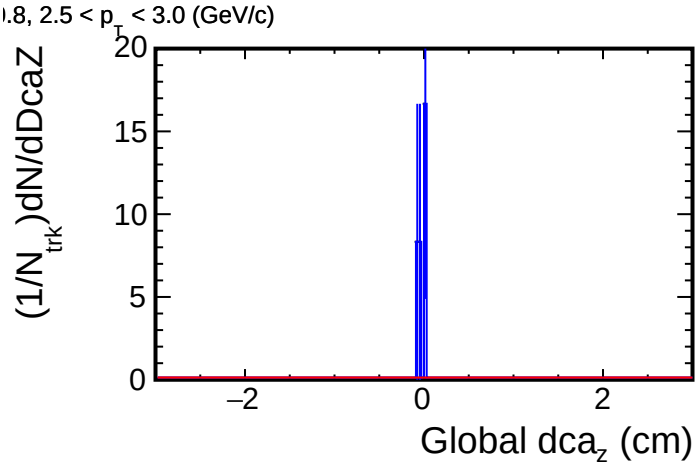

0, 2.0 < $p_T$ < 2.5 (GeV/c)

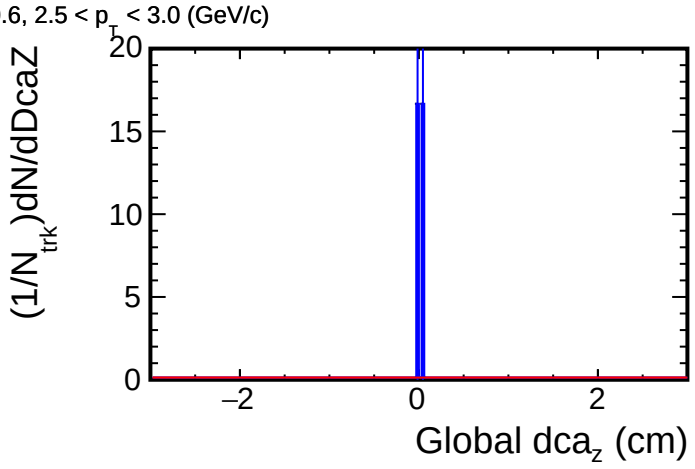


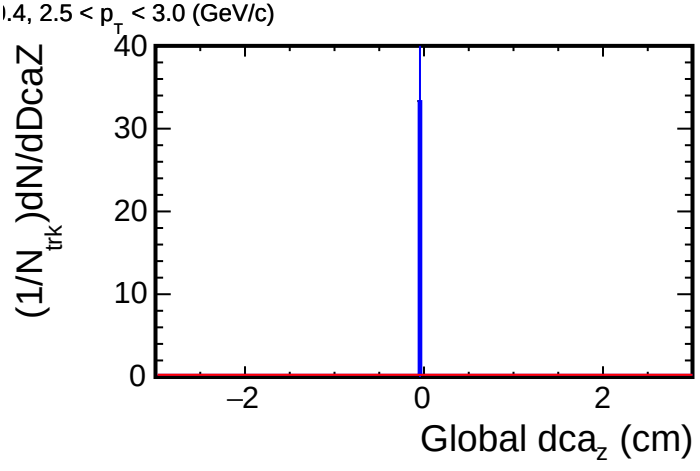

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

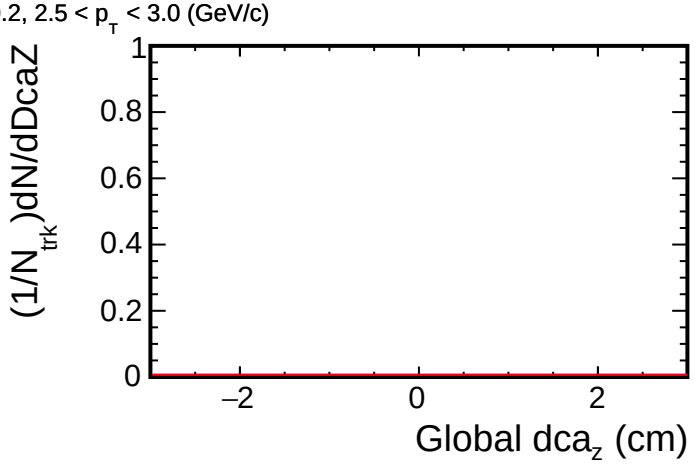
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

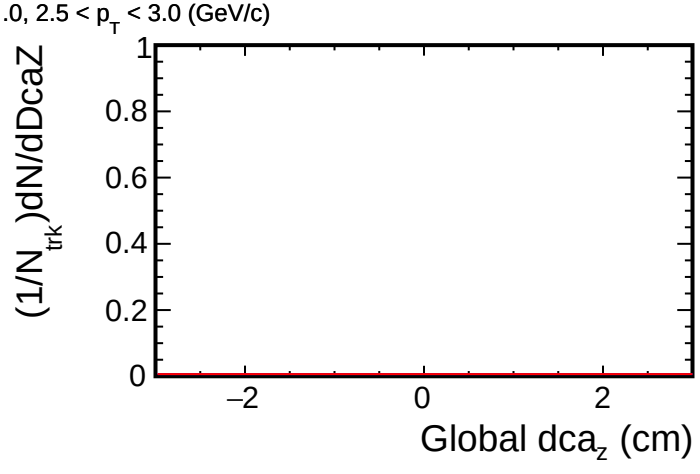
# DcaZ distribution for ($p_T$, η) slices



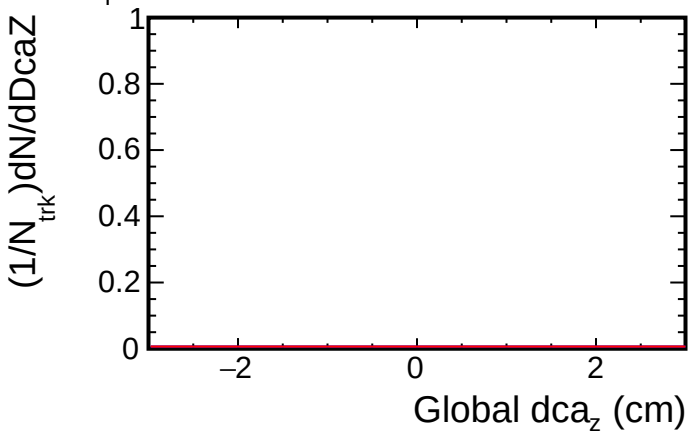




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

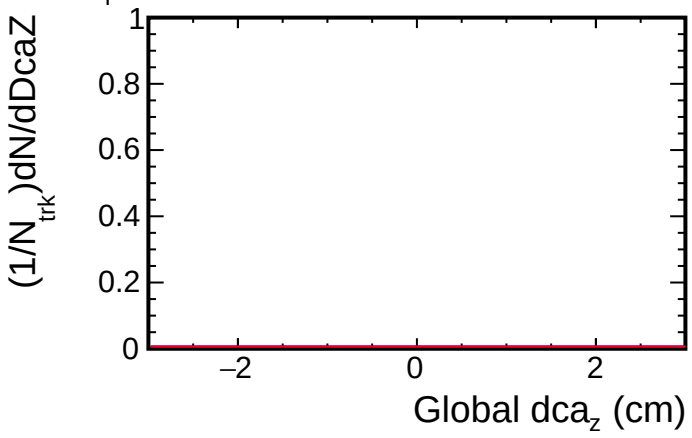
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

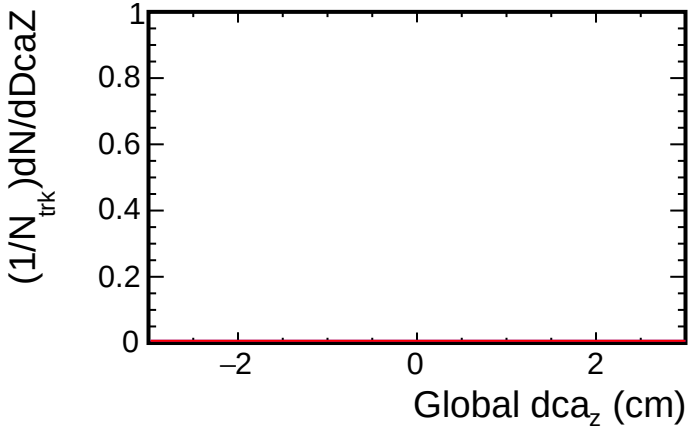
2, 2.5 < $p_T$ < 3.0 (GeV/c)



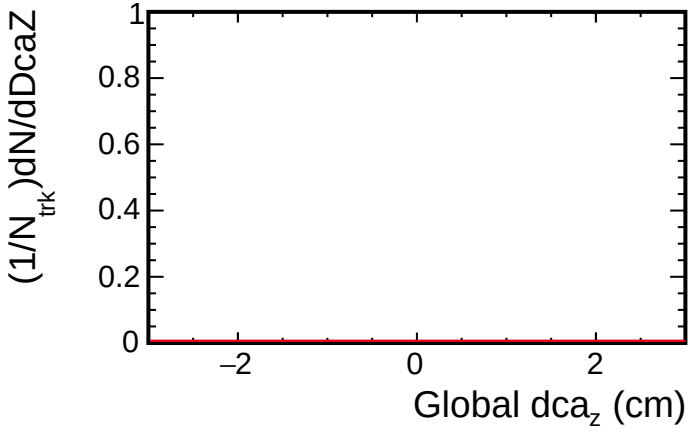

4, 2.5 < $p_T$ < 3.0 (GeV/c)



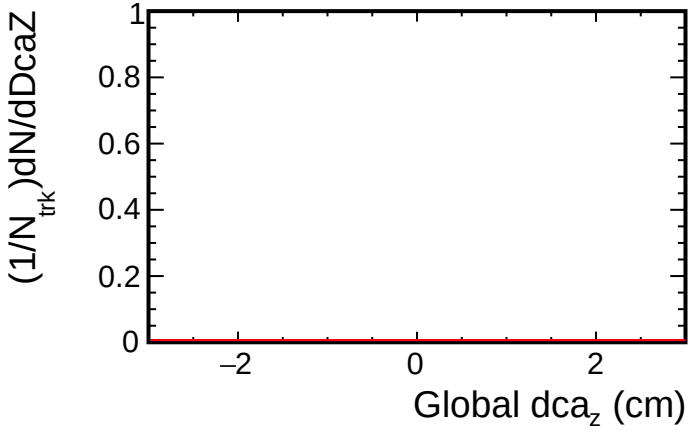

6, 2.5 < $p_T$ < 3.0 (GeV/c)




8, 2.5 < $p_T$ < 3.0 (GeV/c)



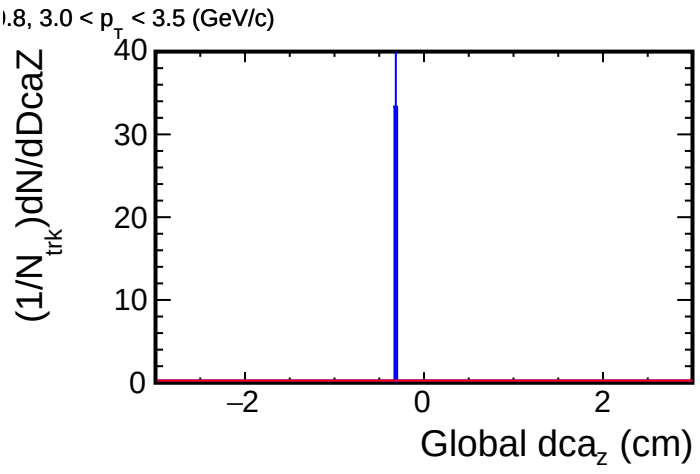

0, 2.5 < $p_T$ < 3.0 (GeV/c)

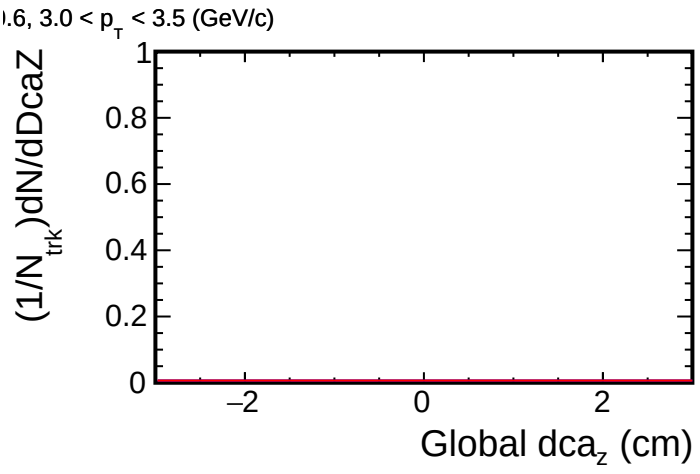


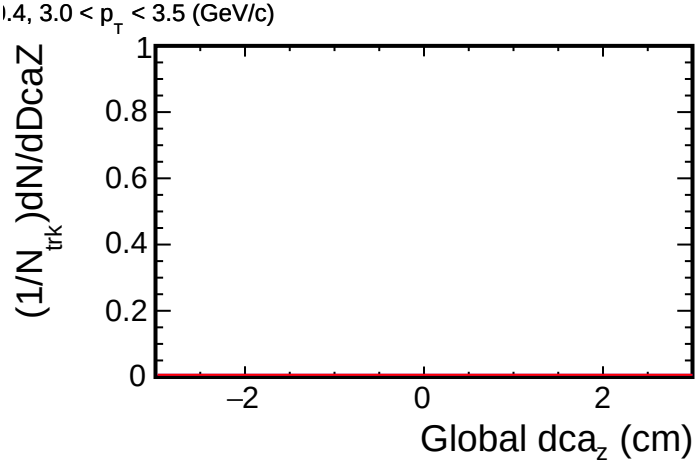

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

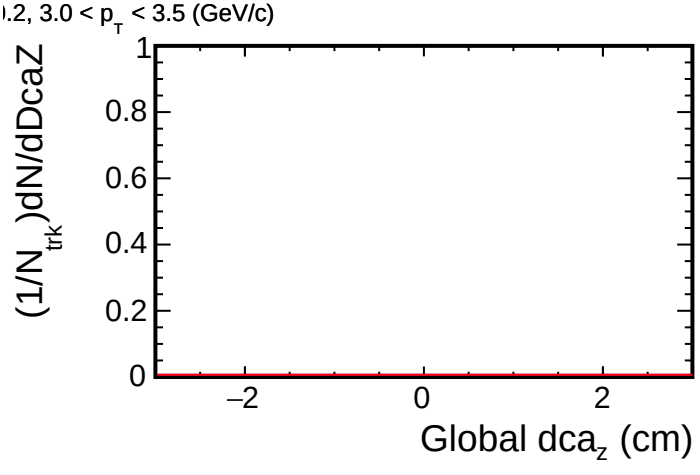
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

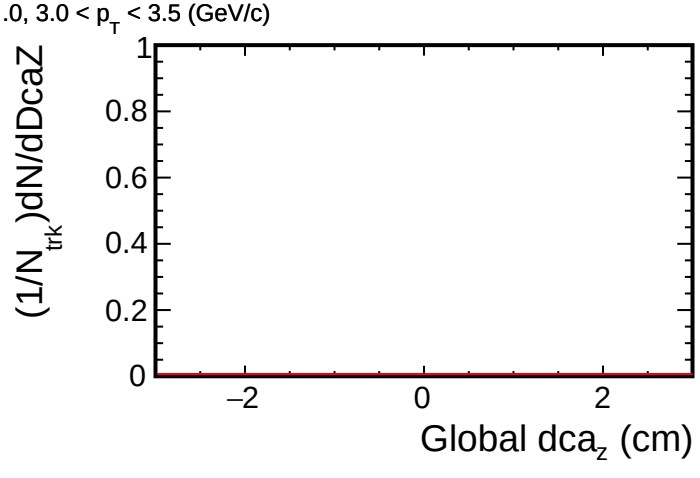
# DcaZ distribution for ($p_T$, η) slices



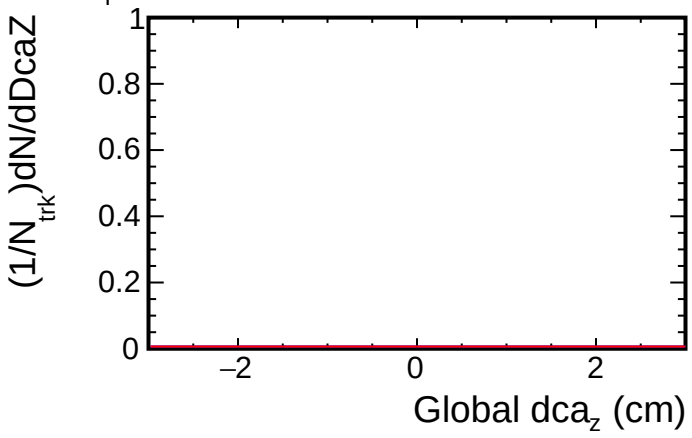




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

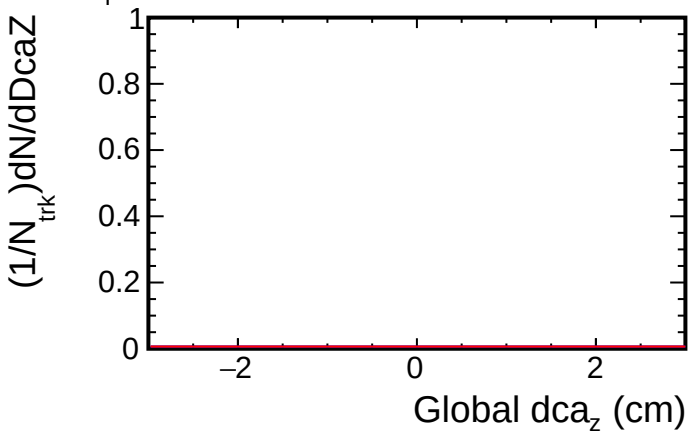
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

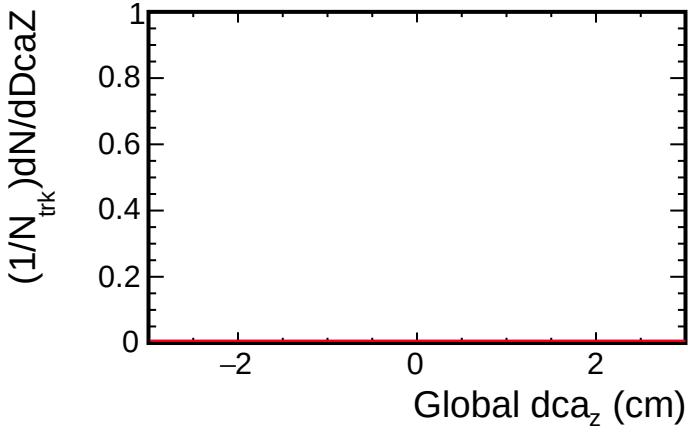
2, 3.0 < $p_T$ < 3.5 (GeV/c)



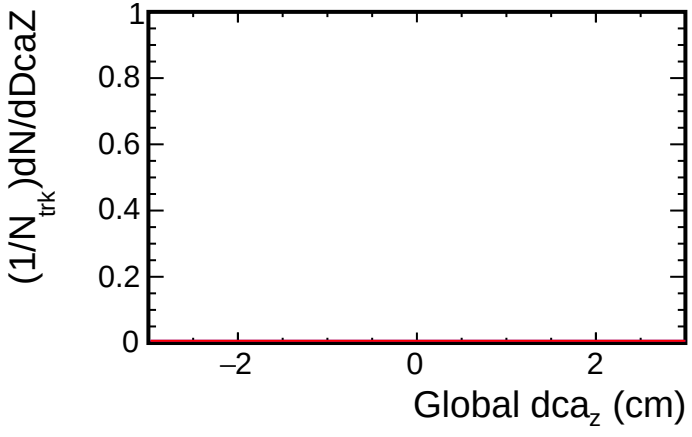

4, 3.0 < $p_T$ < 3.5 (GeV/c)



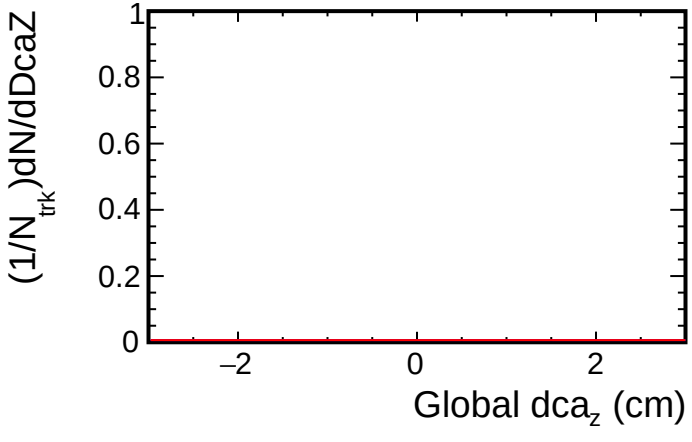

6, 3.0 < $p_T$ < 3.5 (GeV/c)




8, 3.0 < $p_T$ < 3.5 (GeV/c)



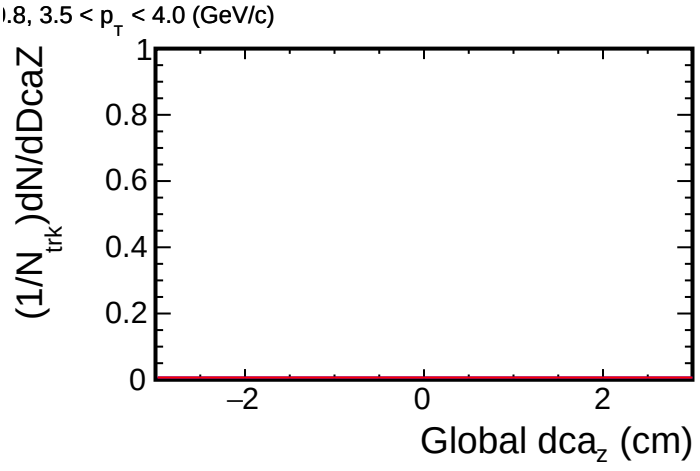

0, 3.0 < $p_T$ < 3.5 (GeV/c)

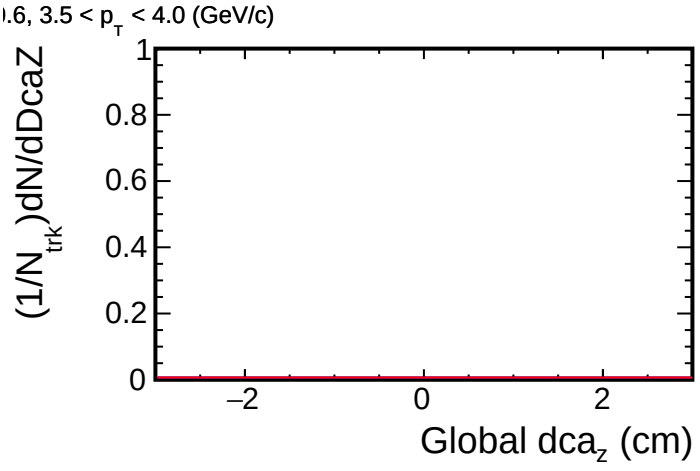


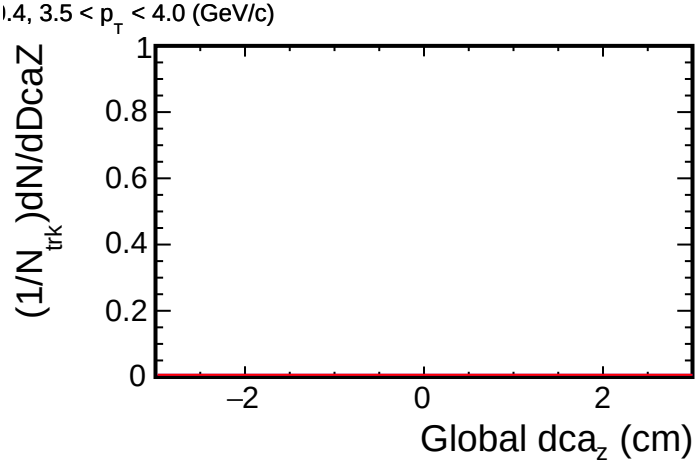

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

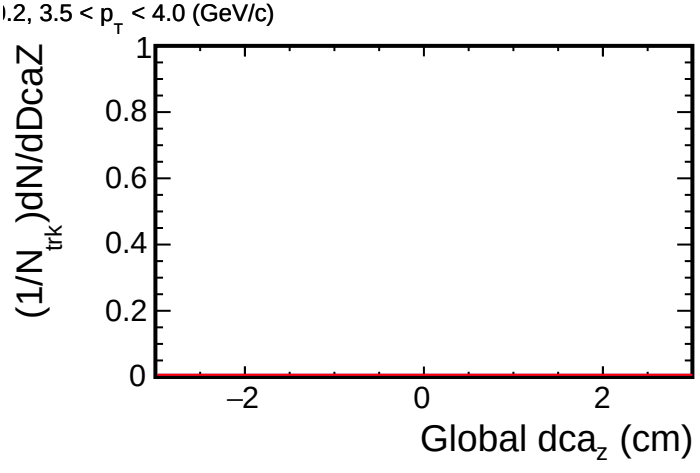
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

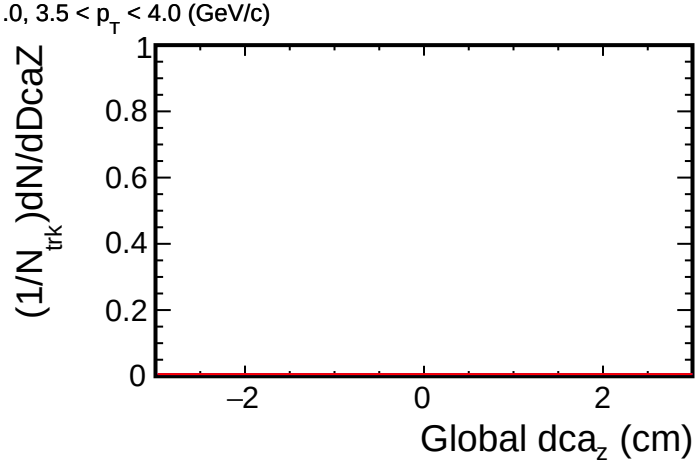
# DcaZ distribution for ($p_T$, η) slices



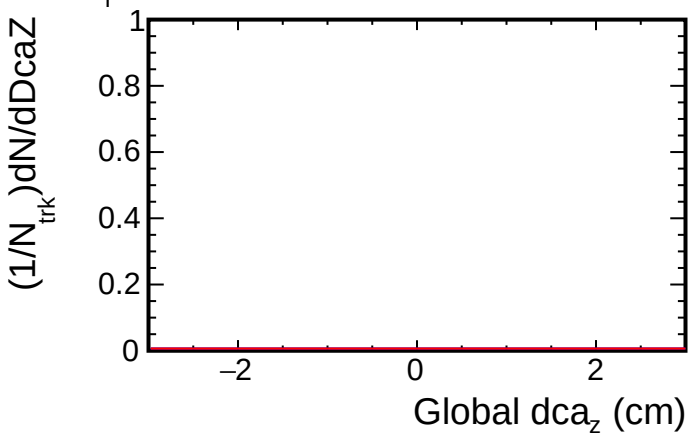




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

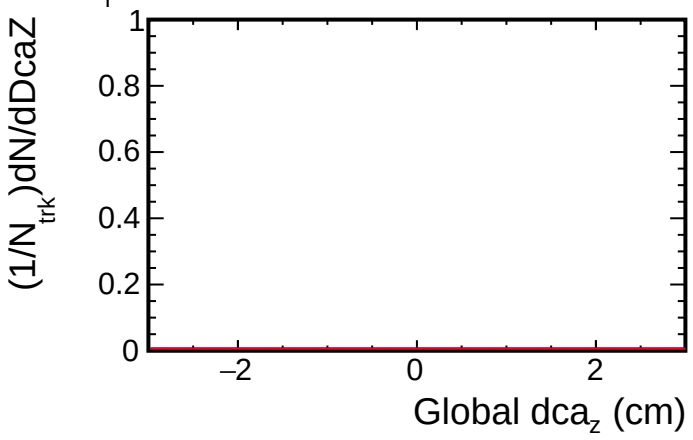
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

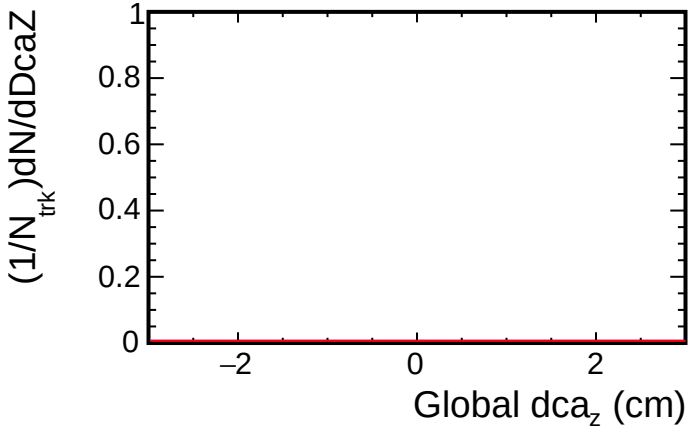
2, 3.5 < $p_T$ < 4.0 (GeV/c)



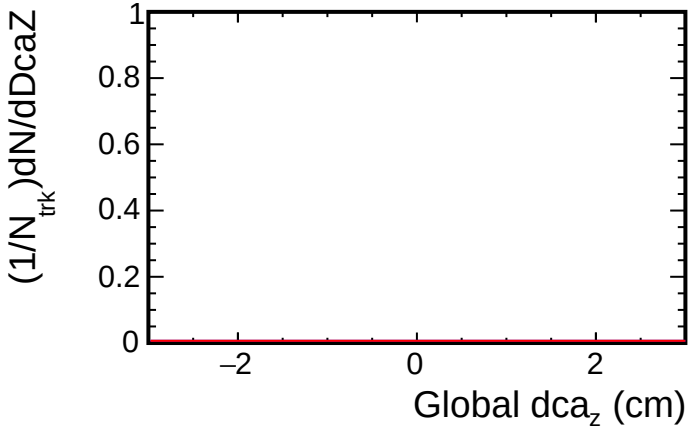

4, 3.5 < $p_T$ < 4.0 (GeV/c)



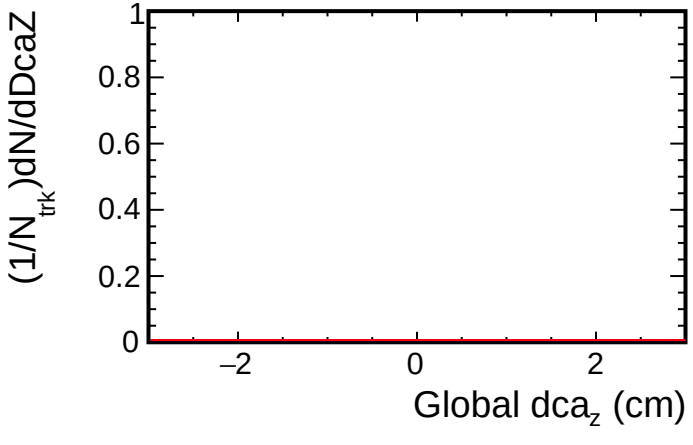

6, 3.5 < $p_T$ < 4.0 (GeV/c)




8, 3.5 < $p_T$ < 4.0 (GeV/c)



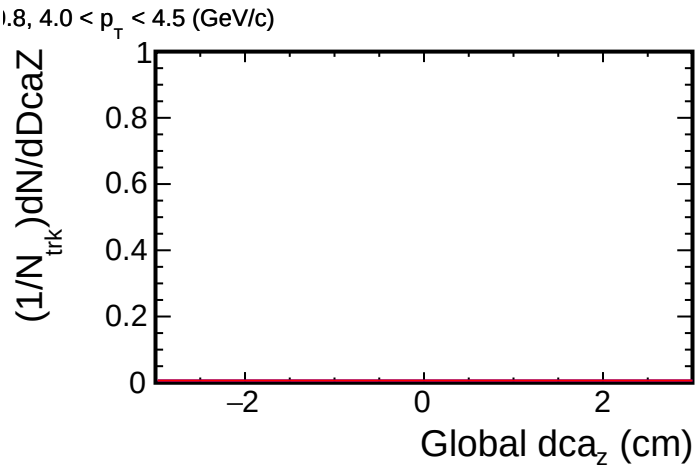

0, 3.5 < $p_T$ < 4.0 (GeV/c)

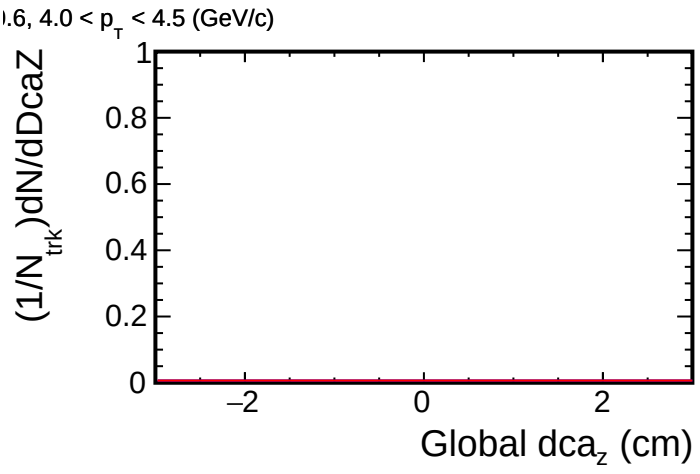


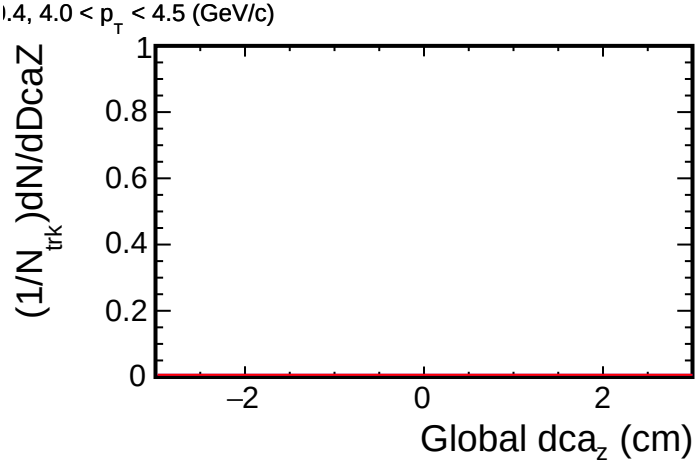

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

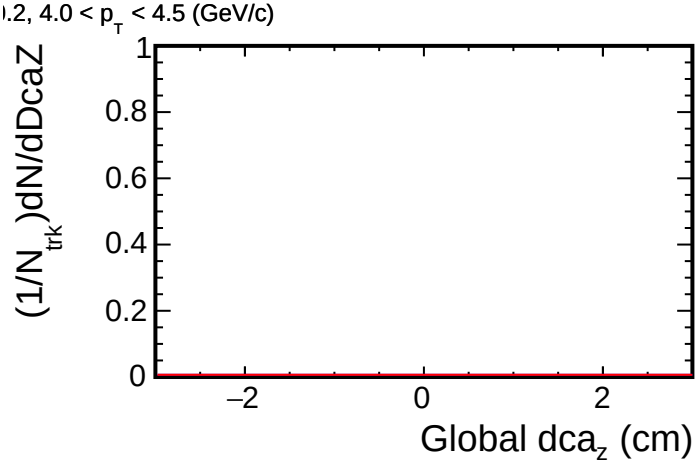
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

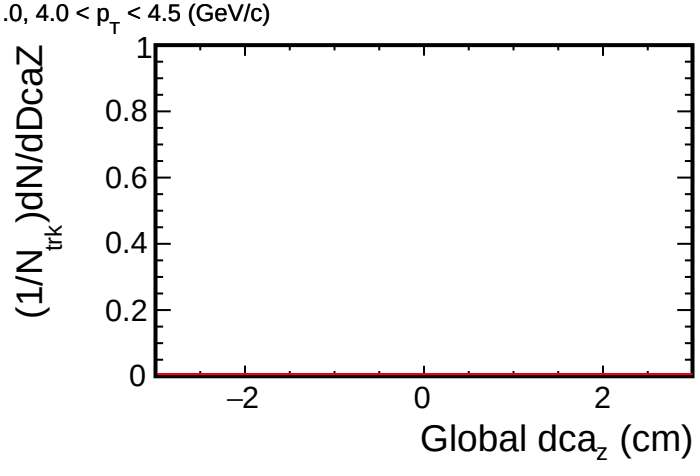
# DcaZ distribution for ($p_T$, η) slices



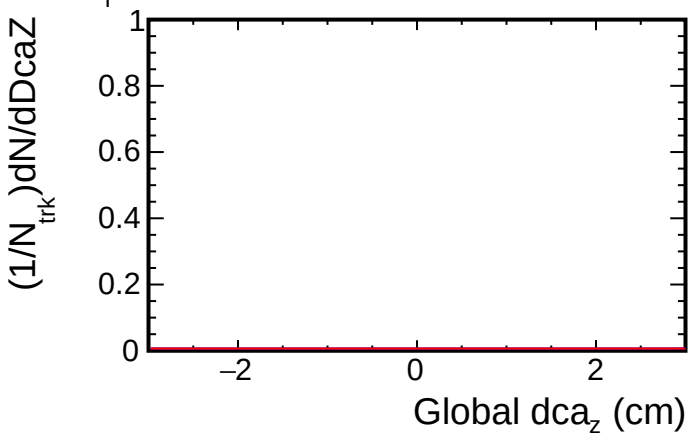




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

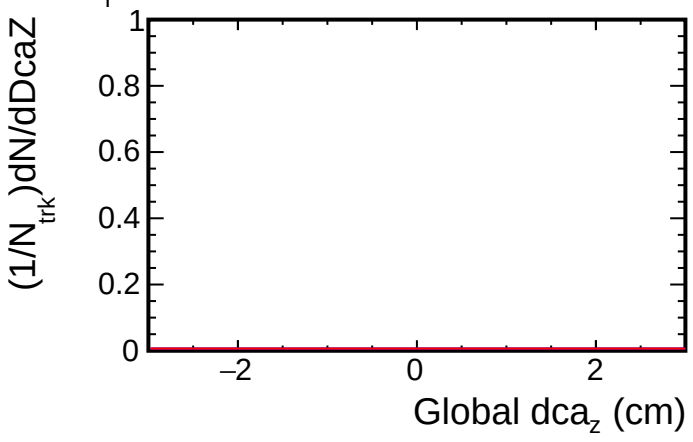
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

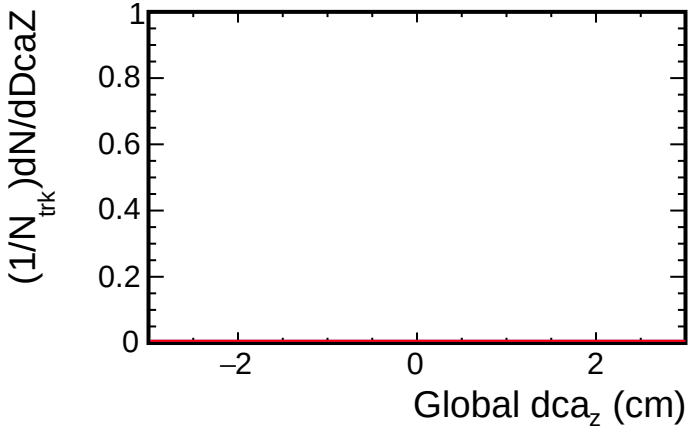
2, 4.0 < $p_T$ < 4.5 (GeV/c)



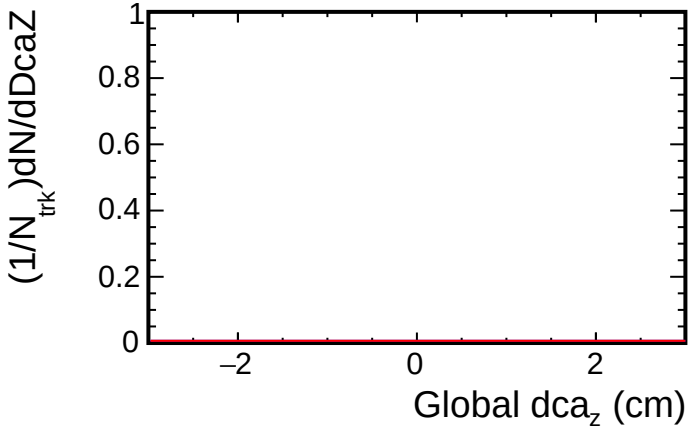

4, 4.0 < $p_T$ < 4.5 (GeV/c)



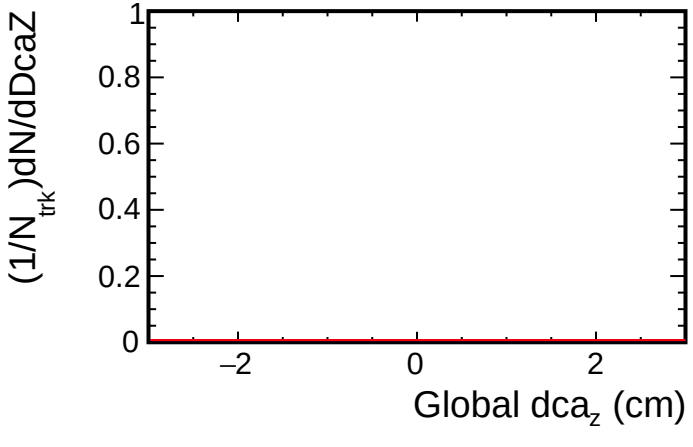

6, 4.0 < $p_T$ < 4.5 (GeV/c)




8, 4.0 < $p_T$ < 4.5 (GeV/c)



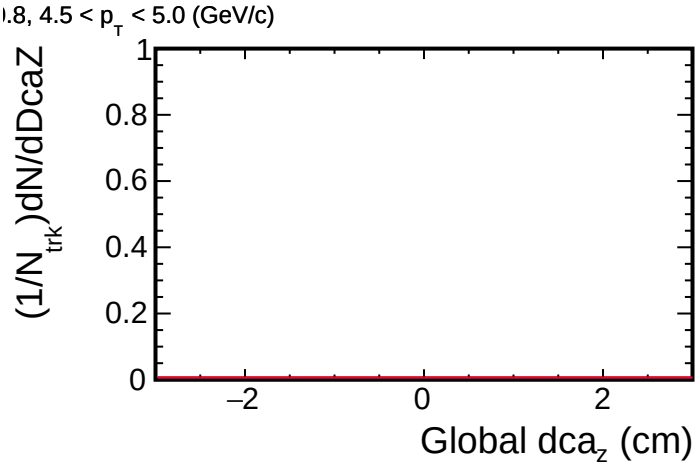

0, 4.0 < $p_T$ < 4.5 (GeV/c)

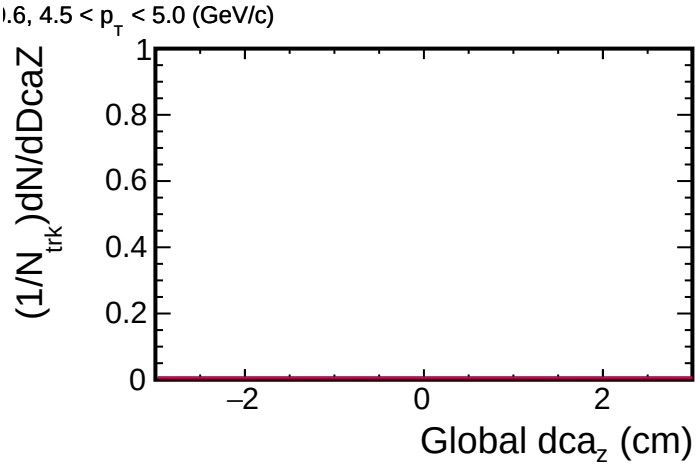


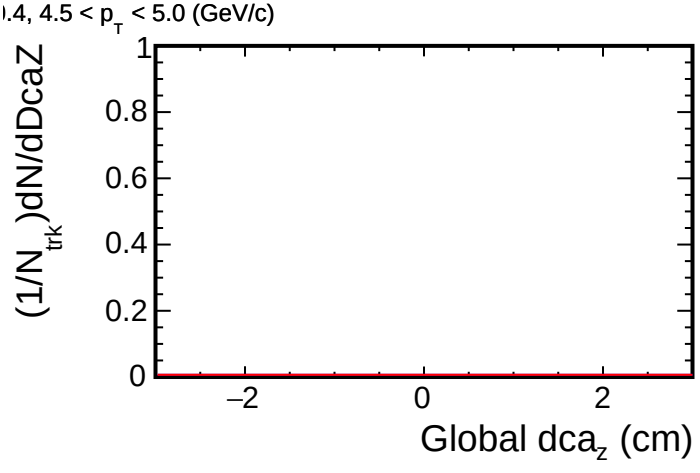

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

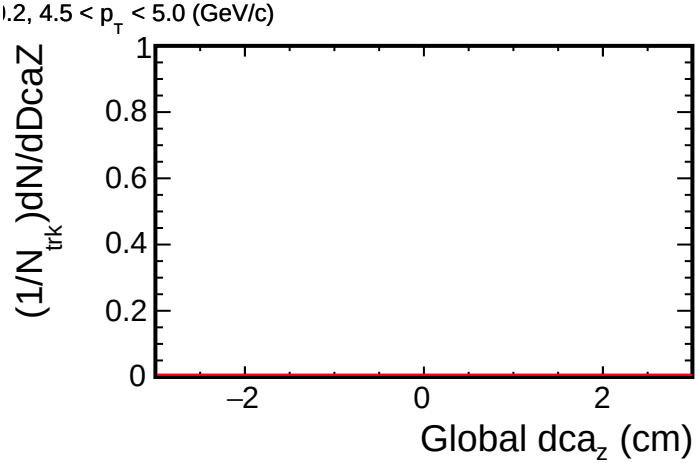
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

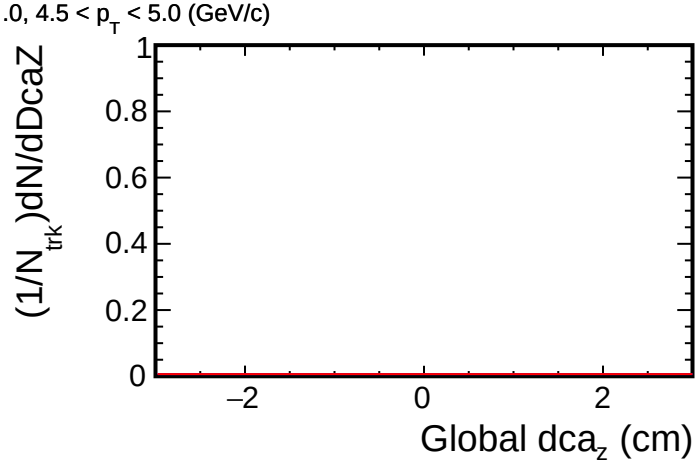
# DcaZ distribution for ($p_T$, η) slices



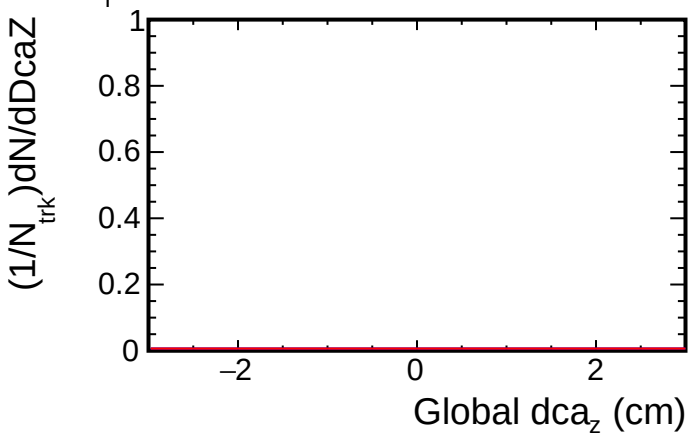




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

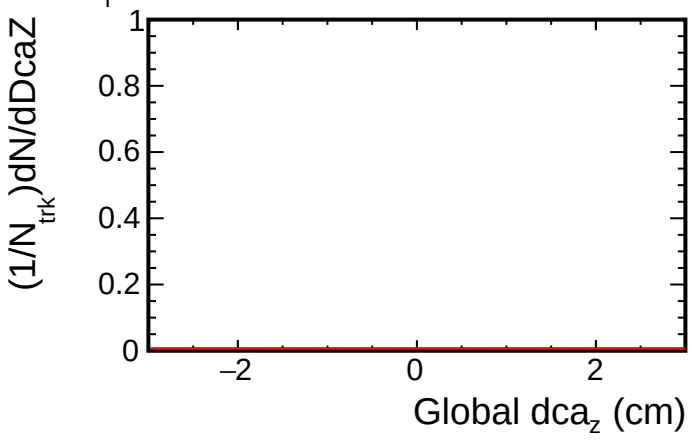
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

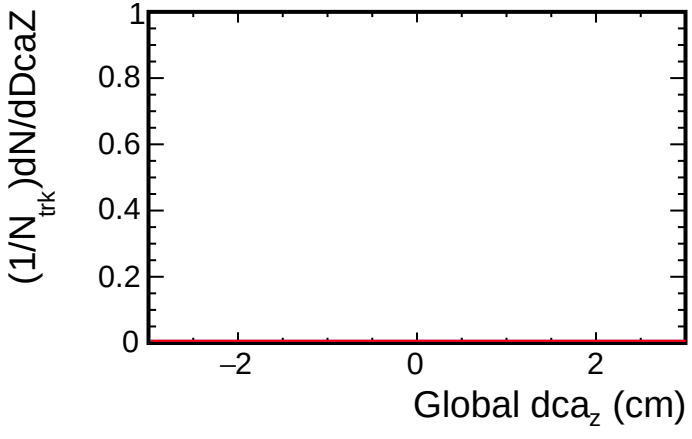
2, 4.5 < $p_T$ < 5.0 (GeV/c)



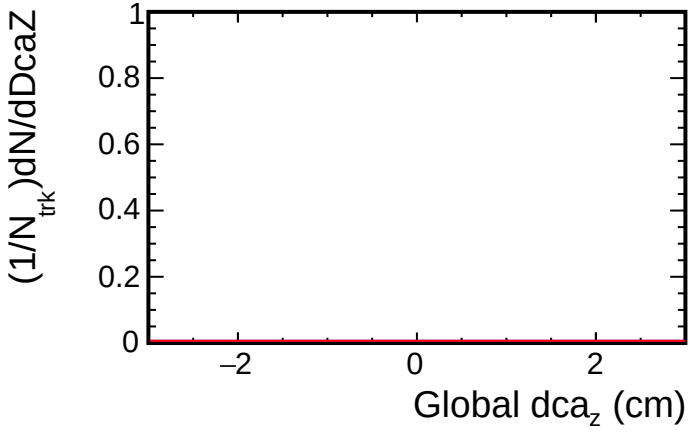

4, 4.5 < $p_T$ < 5.0 (GeV/c)



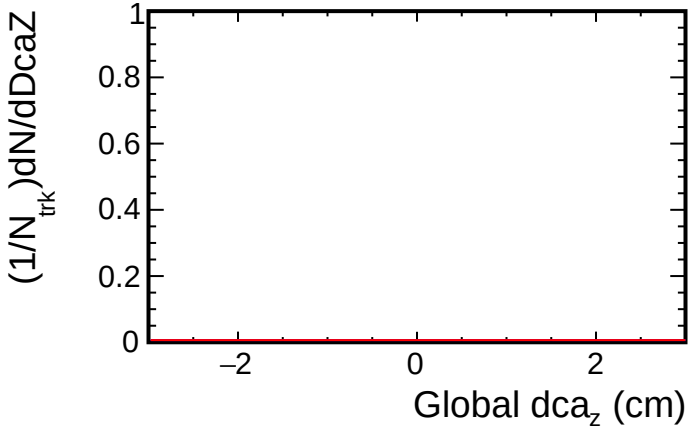

6, 4.5 < $p_T$ < 5.0 (GeV/c)




8, 4.5 < $p_T$ < 5.0 (GeV/c)



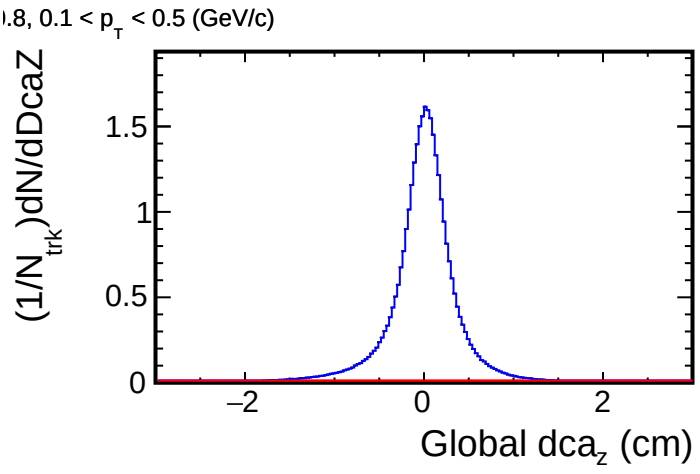

0, 4.5 < $p_T$ < 5.0 (GeV/c)

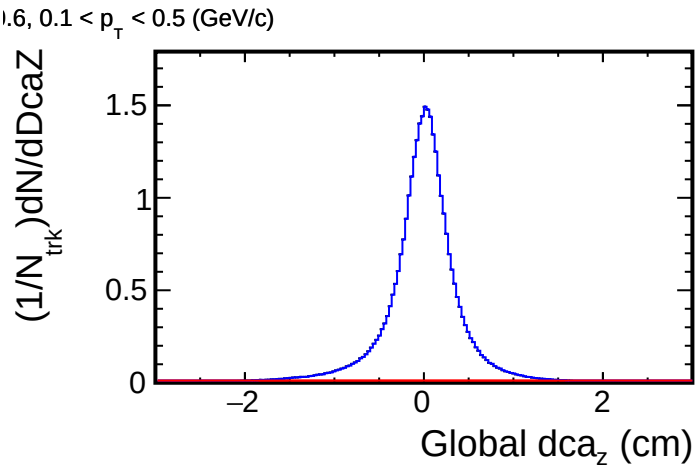


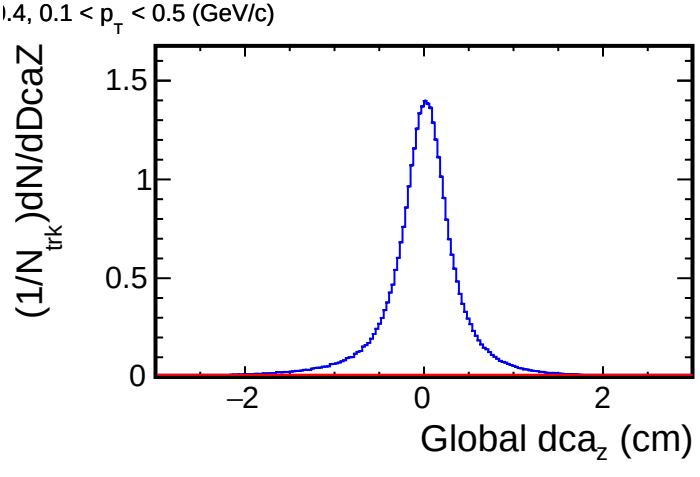

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

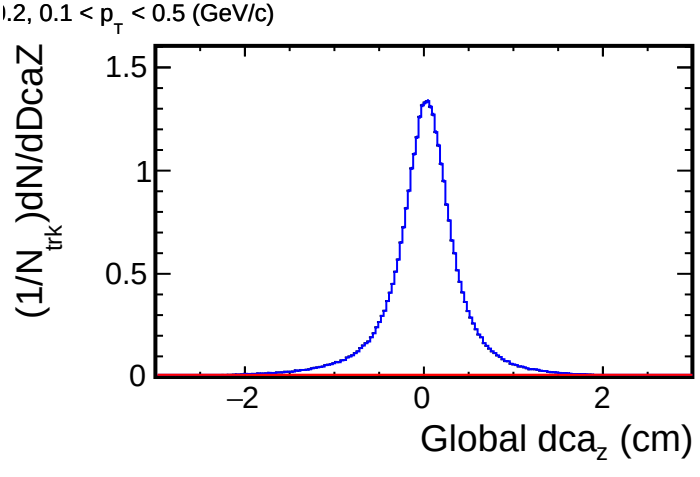
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

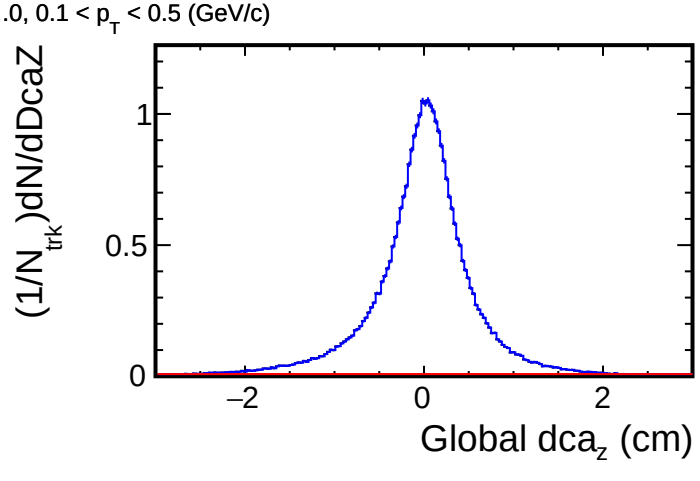
# DcaZ distribution for ($p_T$, η) slices



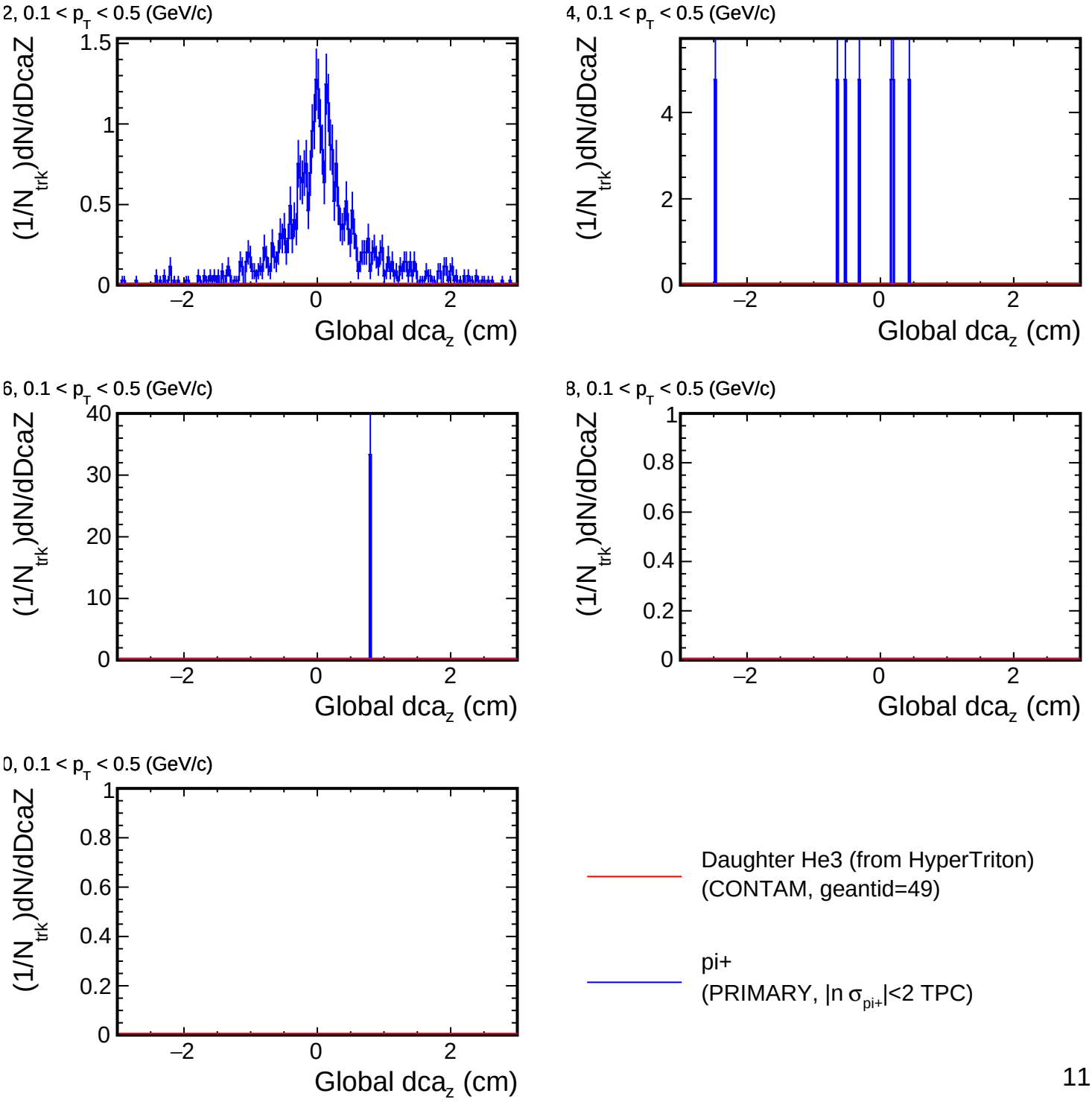



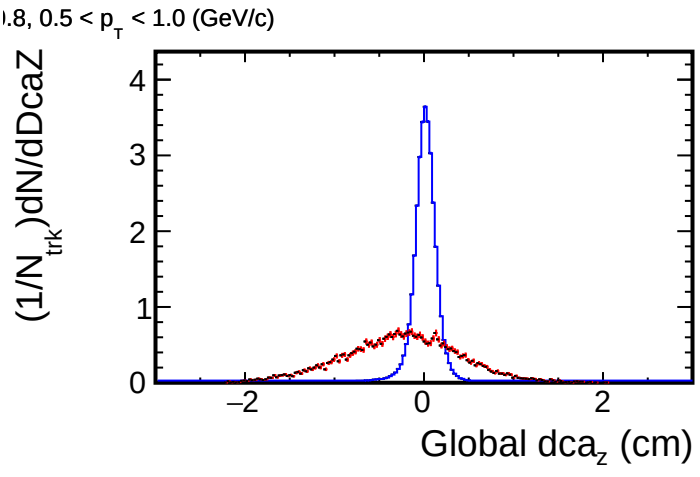

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

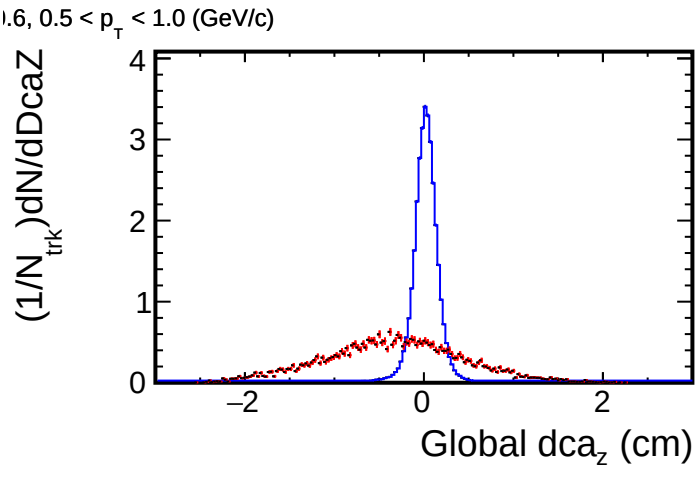
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

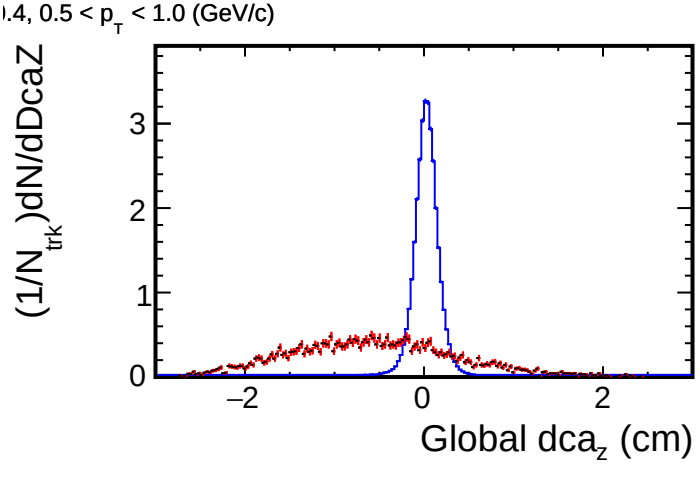
# DcaZ distribution for ($p_T$, η) slices

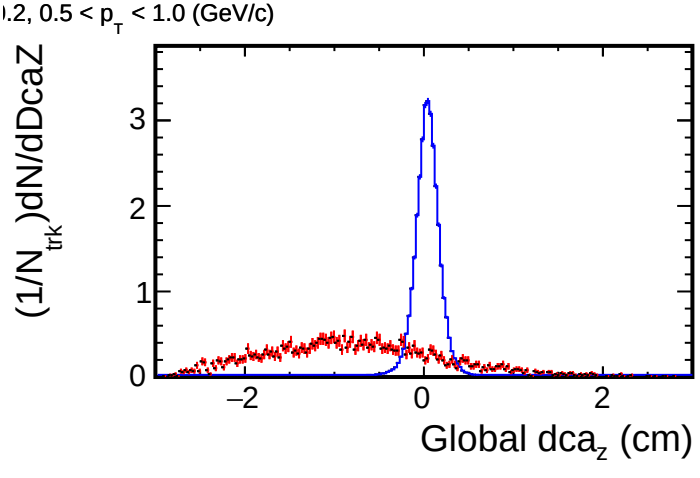


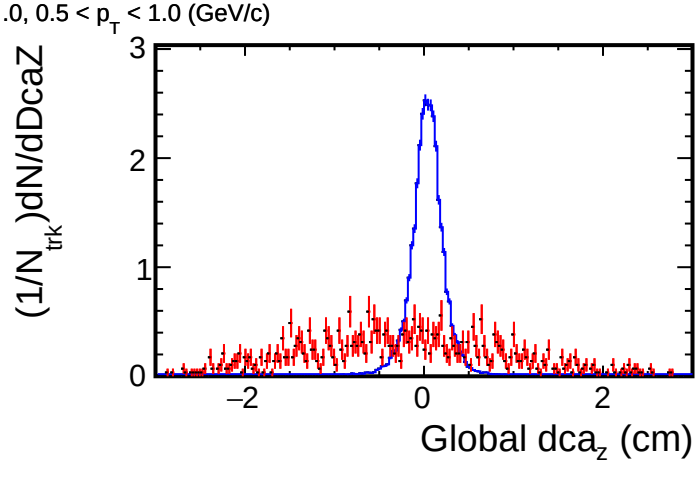
# DcaZ distribution for ($p_T$, η) slices



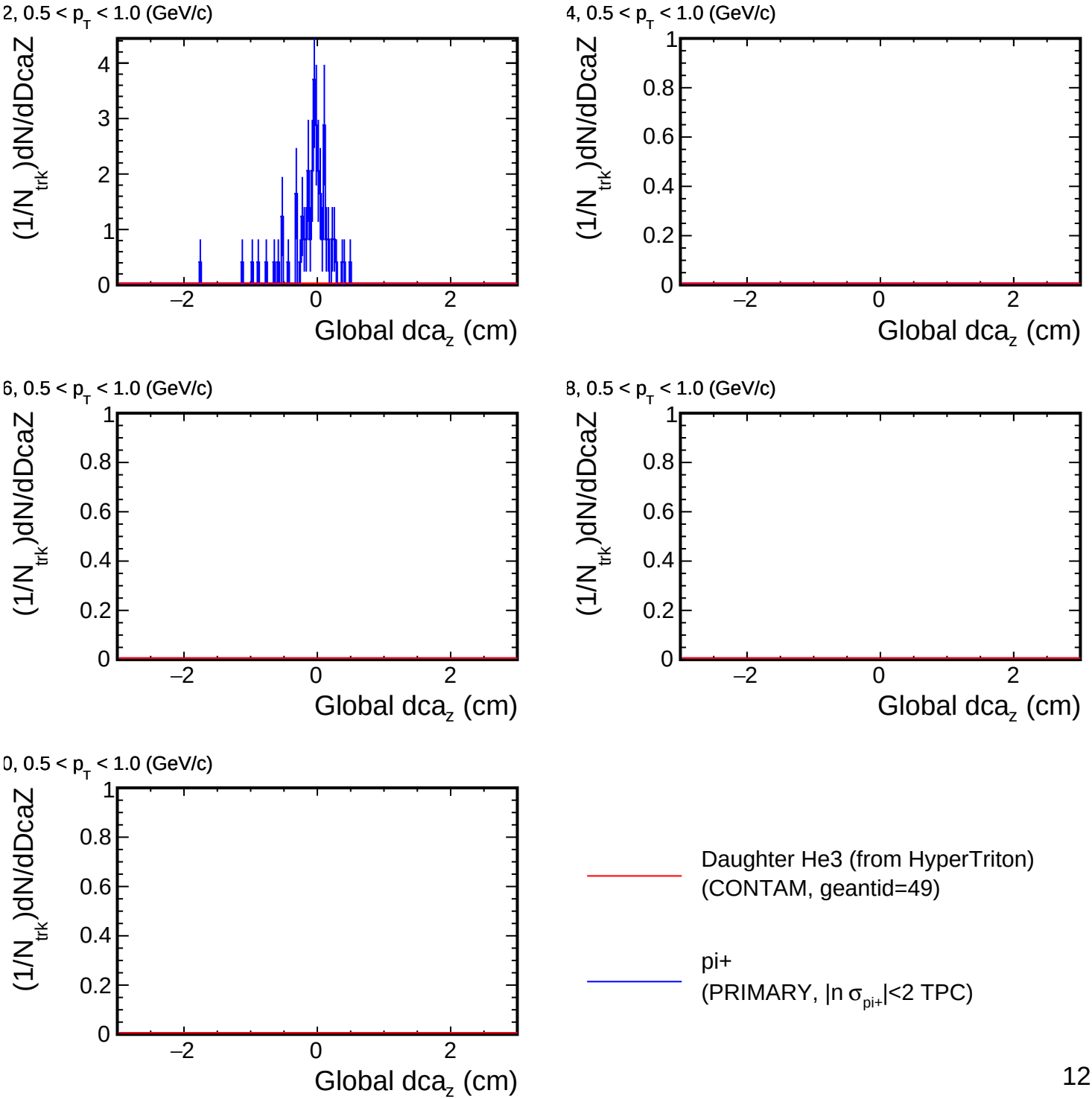



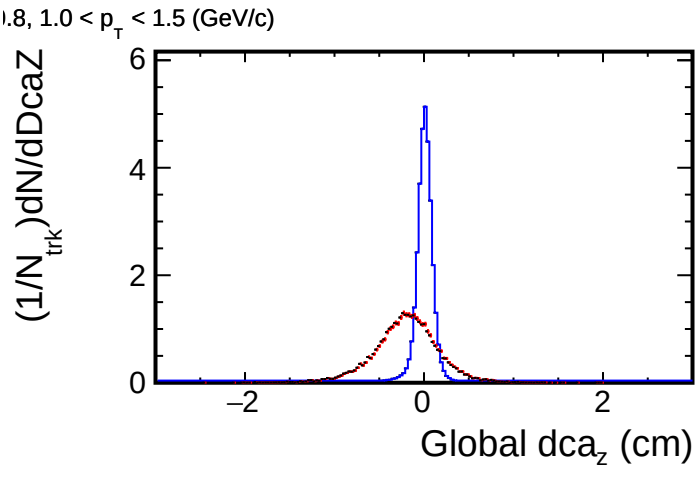

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

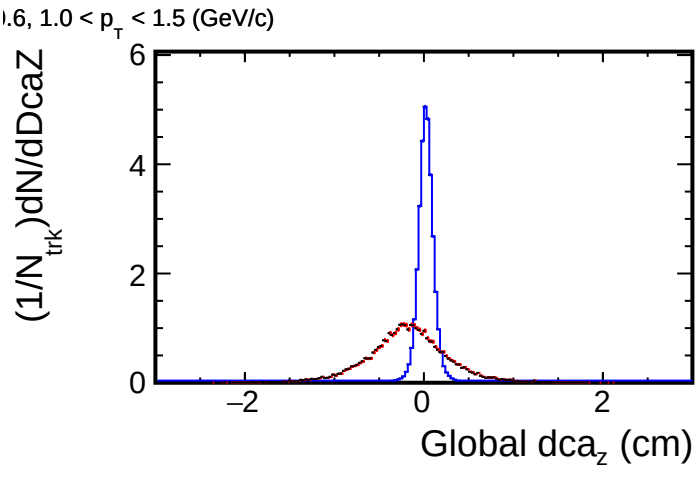
pi+
(PRIMARY, $|n\sigma_{pi+}|$<2 TPC)

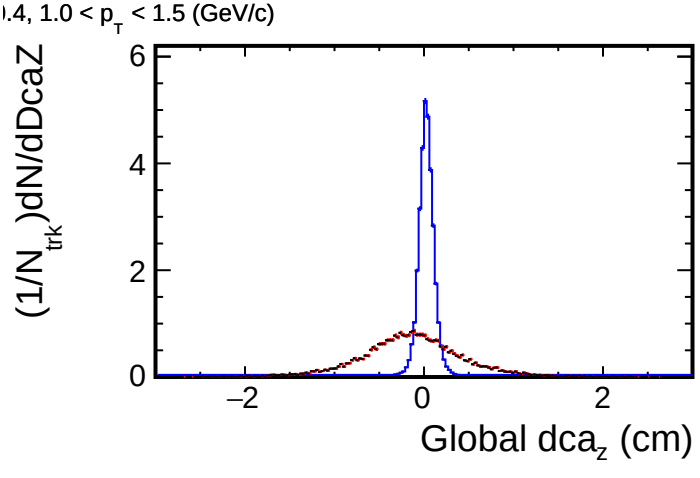
# DcaZ distribution for ($p_T$, η) slices

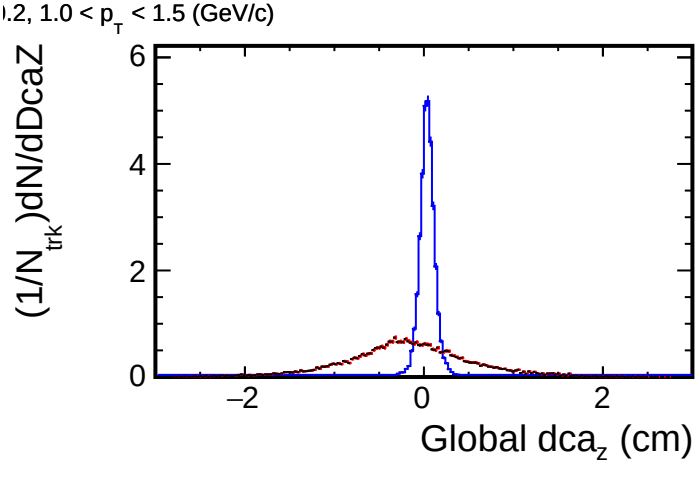


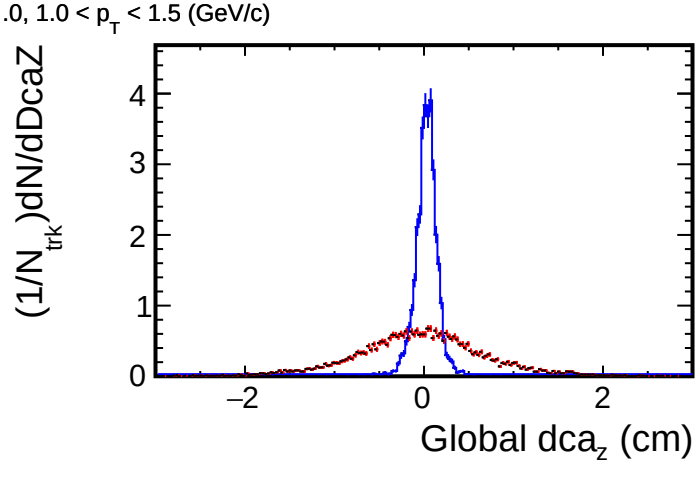
# DcaZ distribution for ($p_T$, η) slices



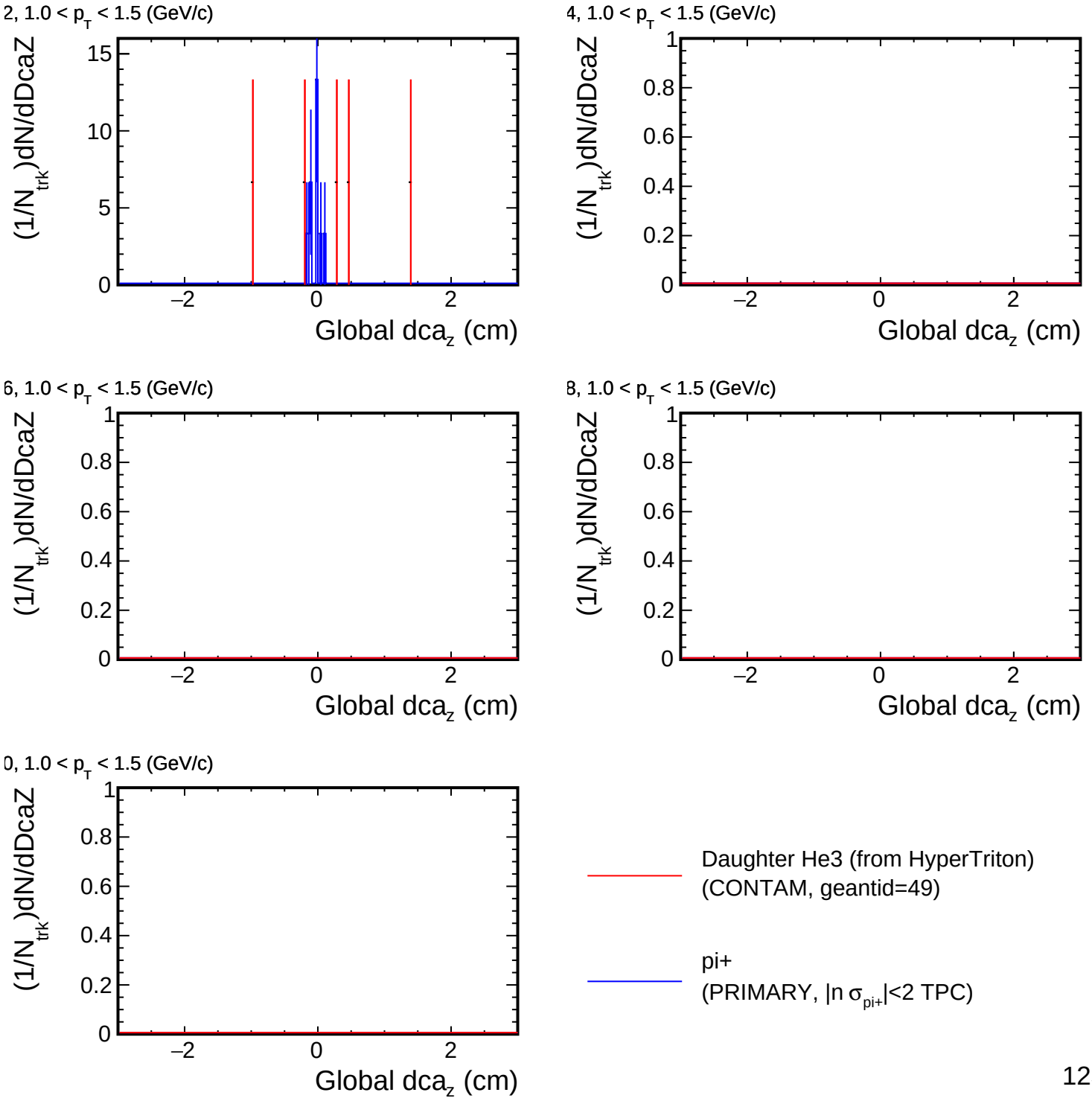



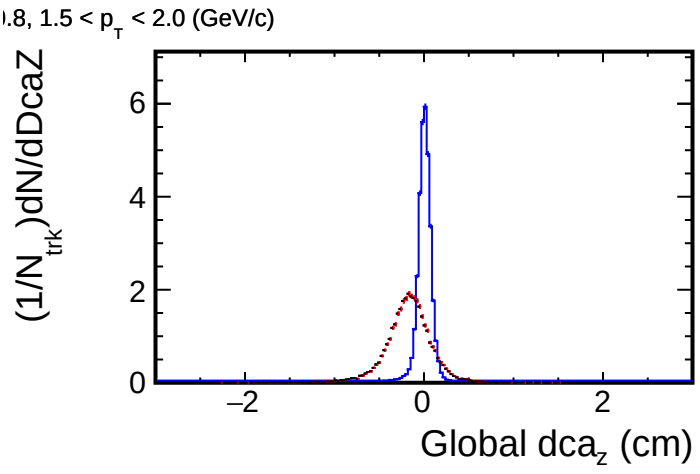

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

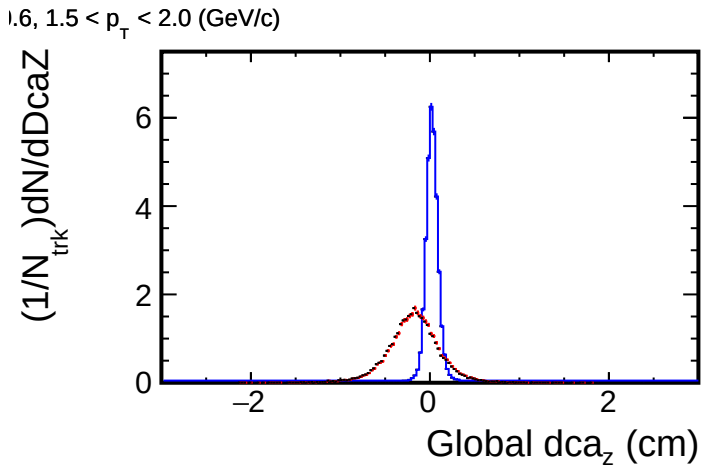
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

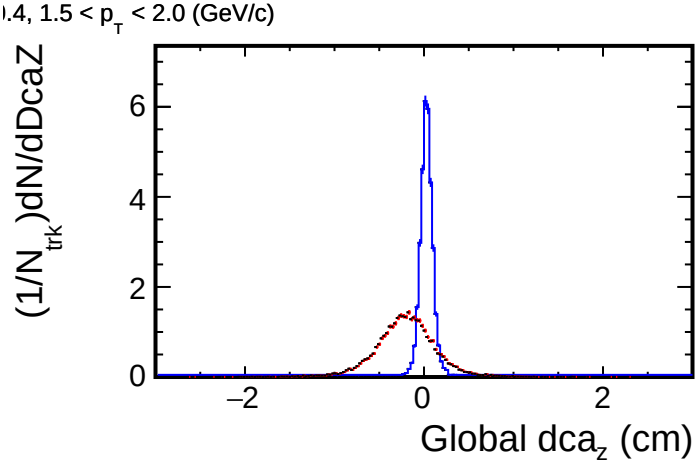
# DcaZ distribution for ($p_T$, η) slices

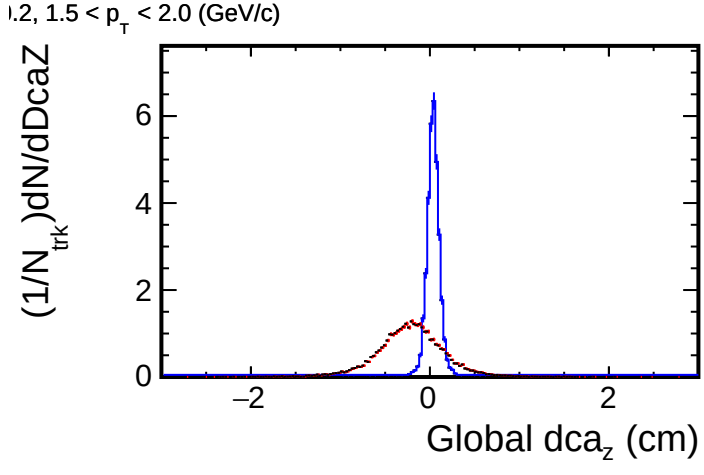


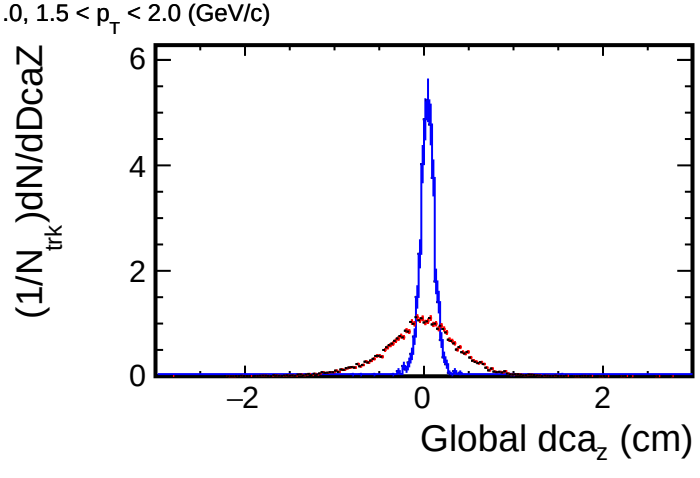
# DcaZ distribution for ($p_T$, η) slices



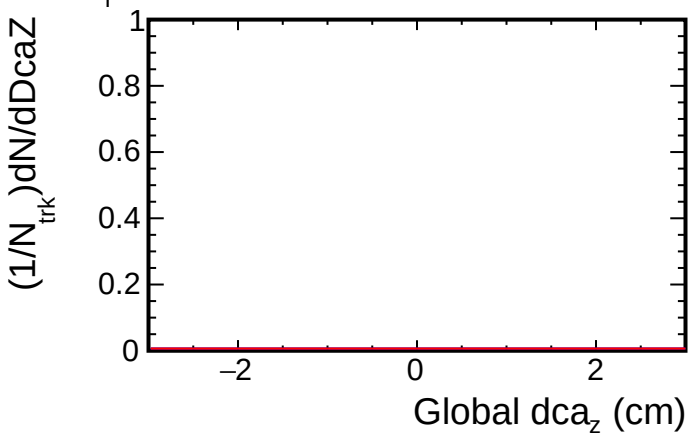




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

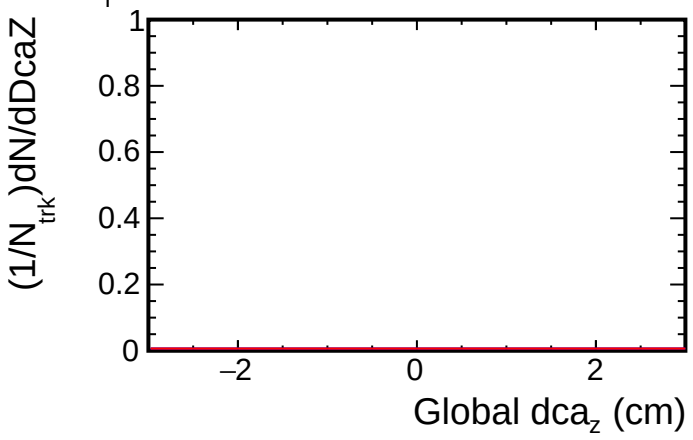
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

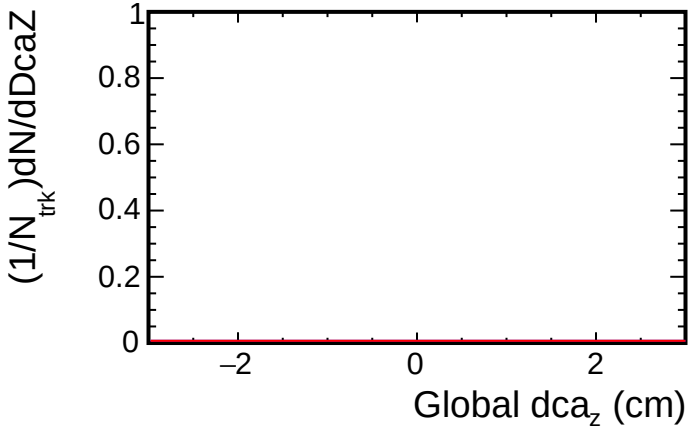
2, 1.5 < $p_T$ < 2.0 (GeV/c)



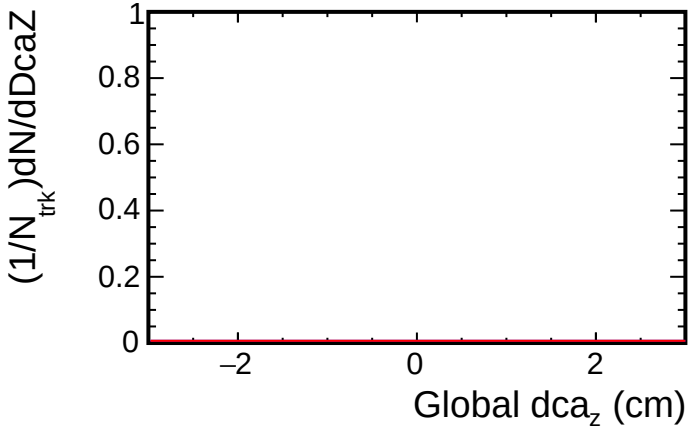

4, 1.5 < $p_T$ < 2.0 (GeV/c)



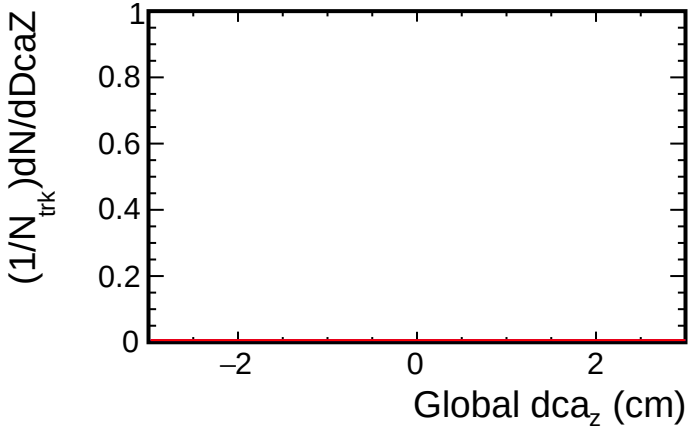

6, 1.5 < $p_T$ < 2.0 (GeV/c)




8, 1.5 < $p_T$ < 2.0 (GeV/c)



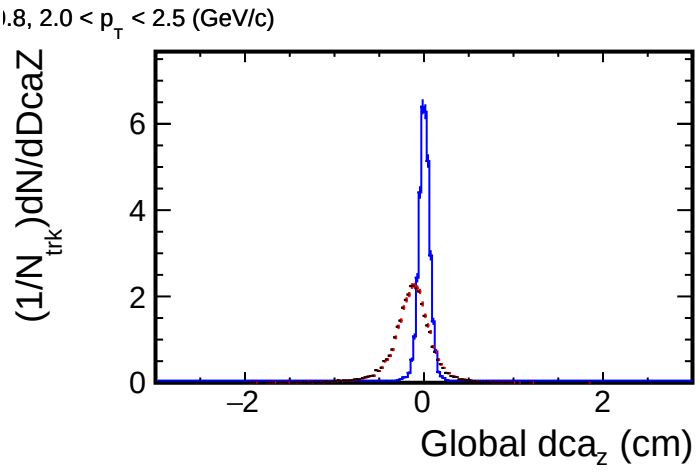

0, 1.5 < $p_T$ < 2.0 (GeV/c)

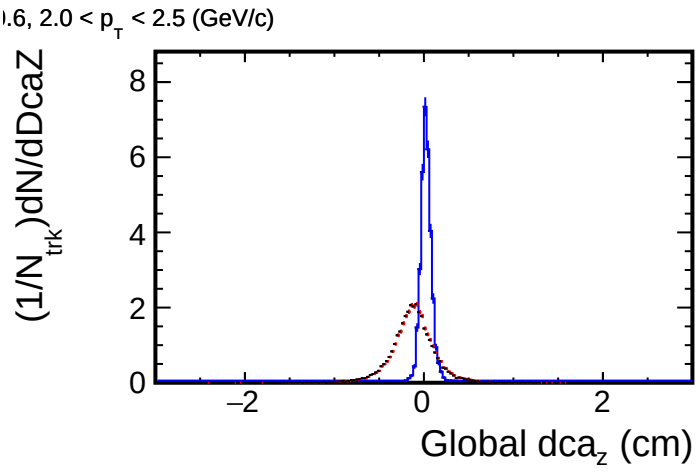


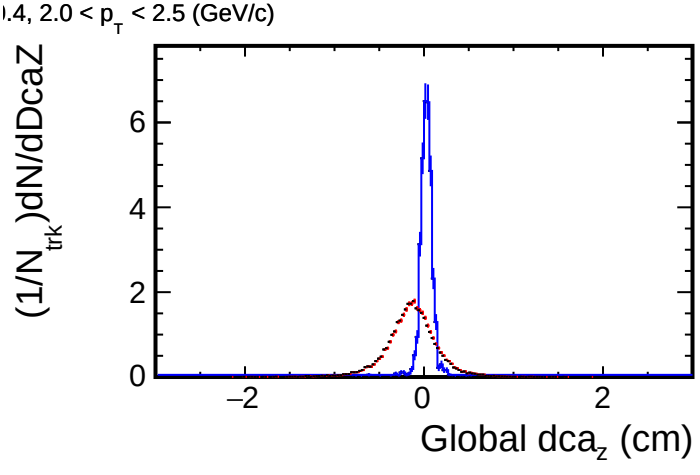

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

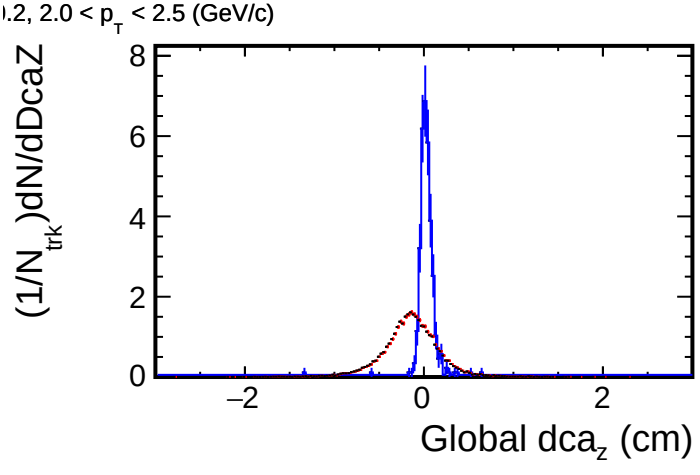
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

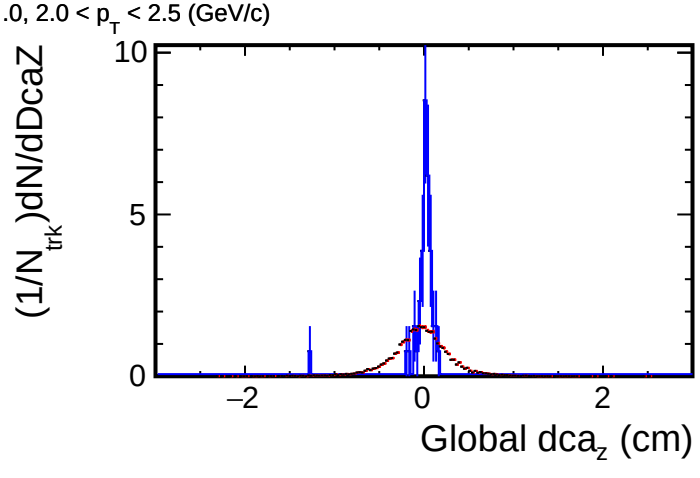
# DcaZ distribution for ($p_T$, η) slices



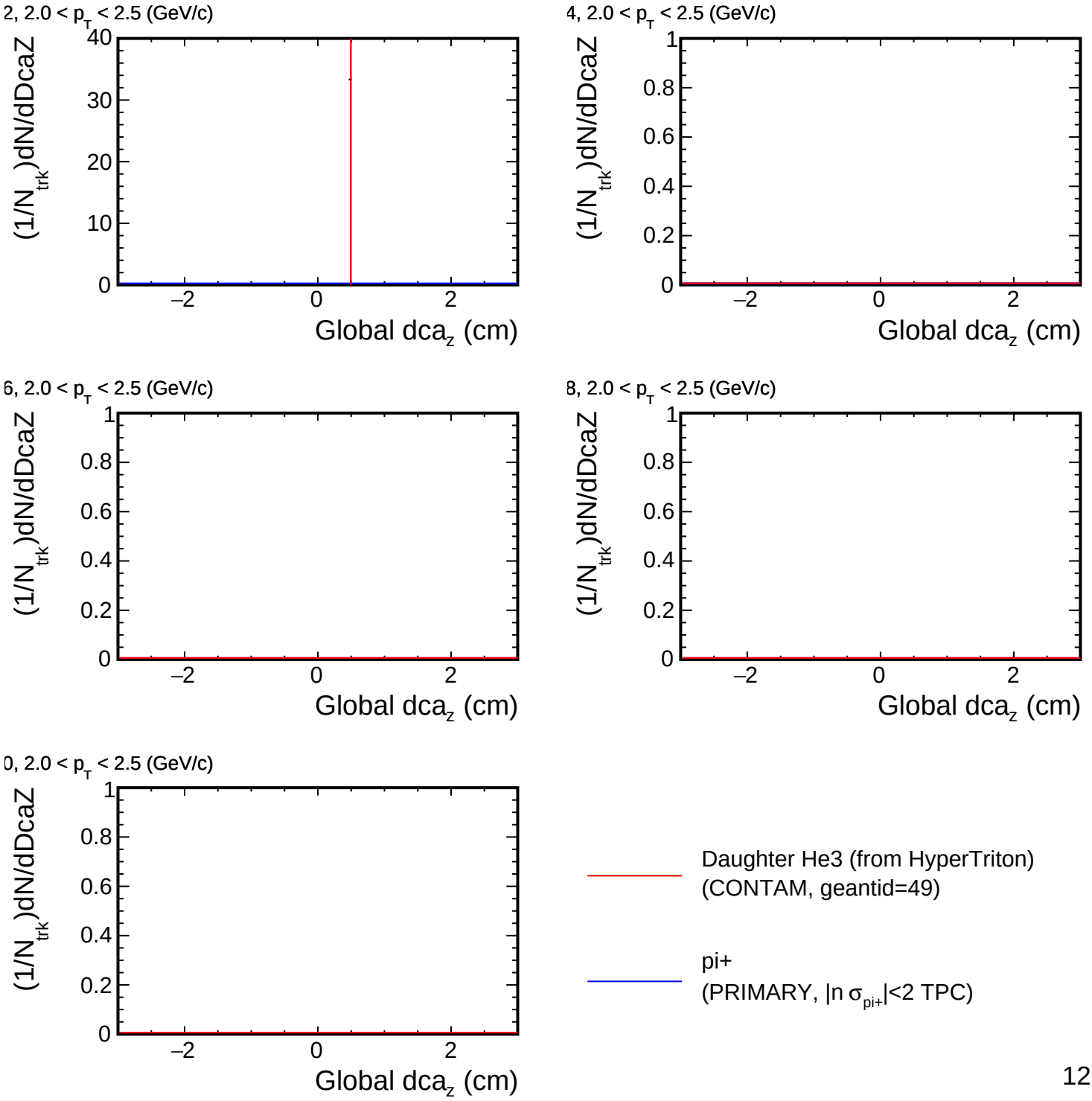



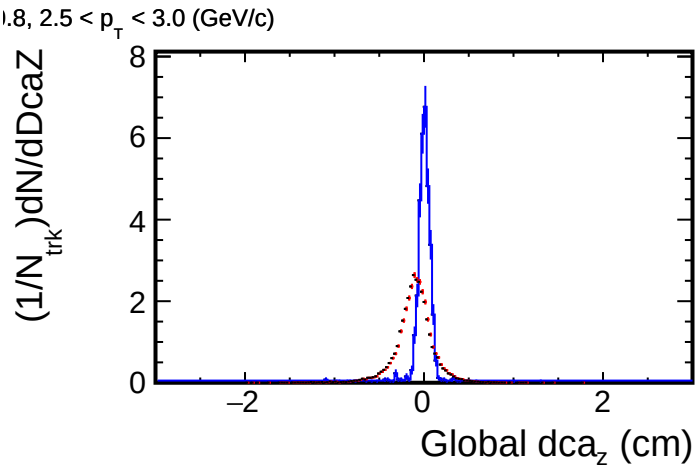

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

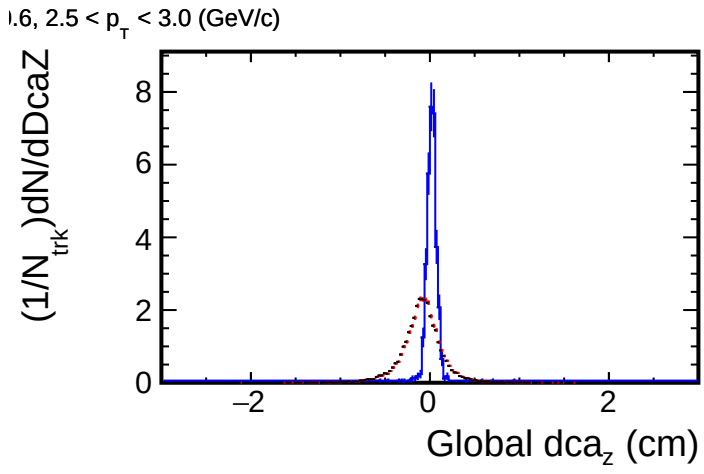
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

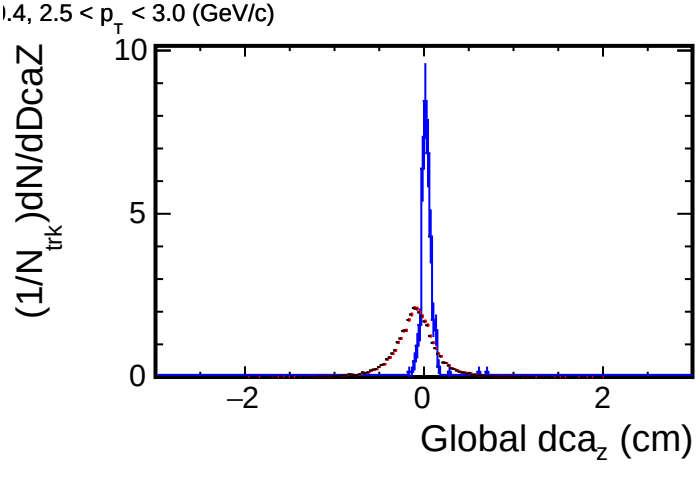
# DcaZ distribution for ($p_T$, η) slices

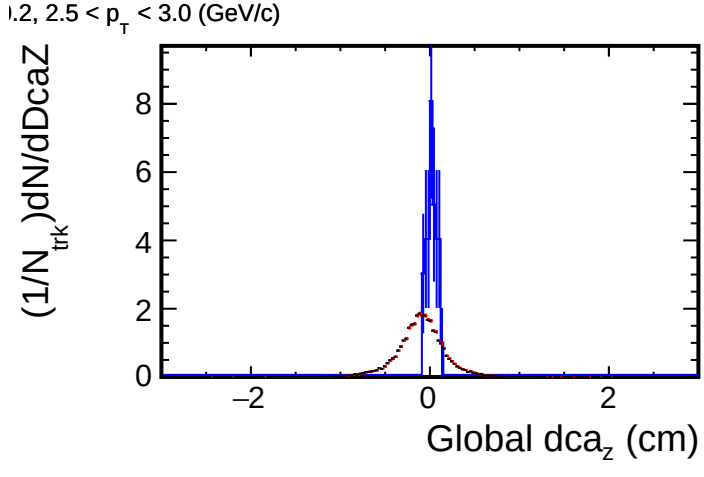


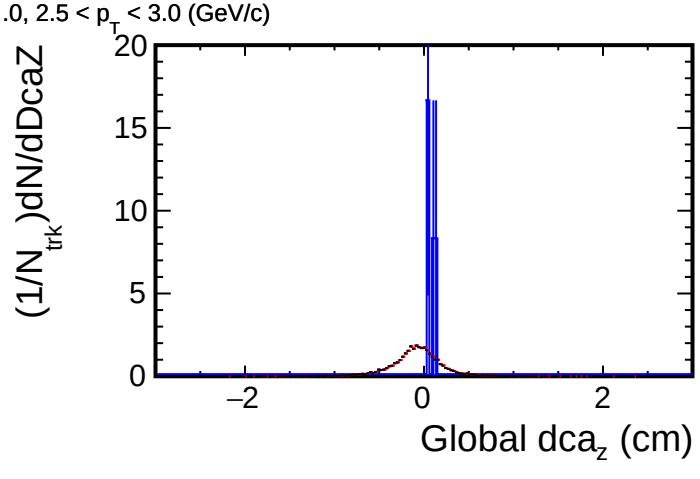
# DcaZ distribution for ($p_T$, η) slices



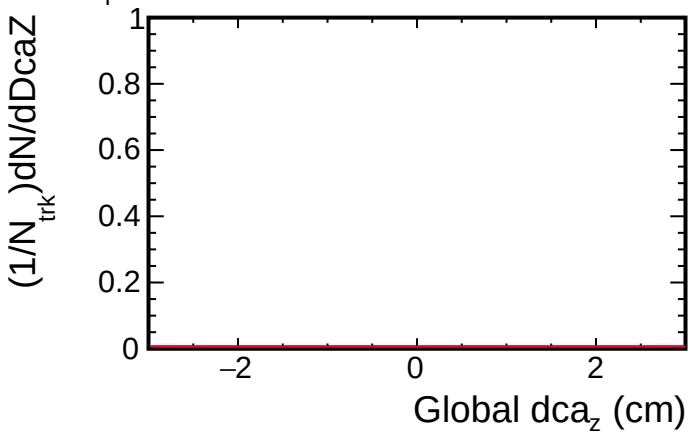




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

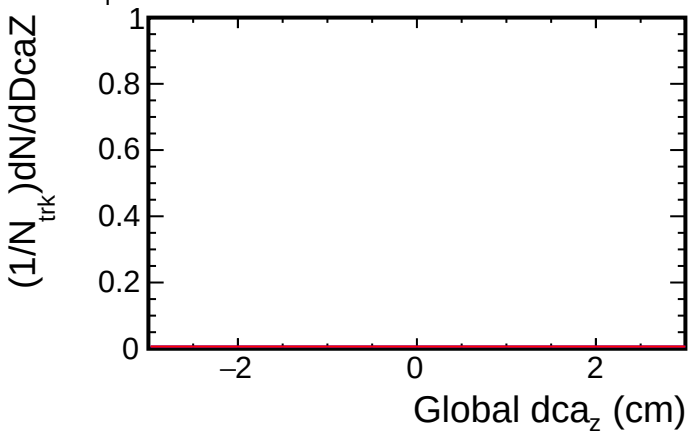
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

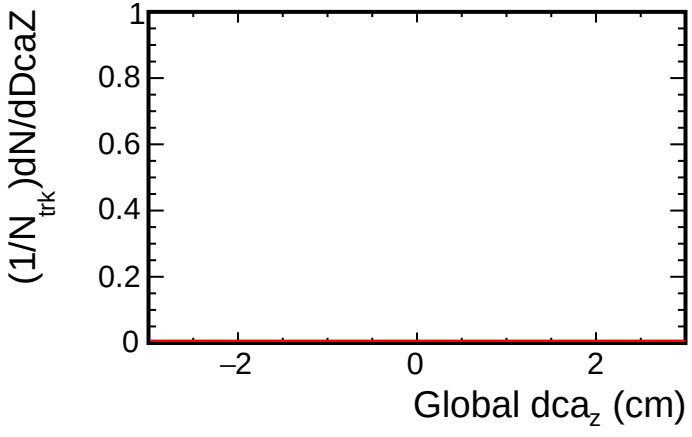
2, 2.5 < $p_T$ < 3.0 (GeV/c)



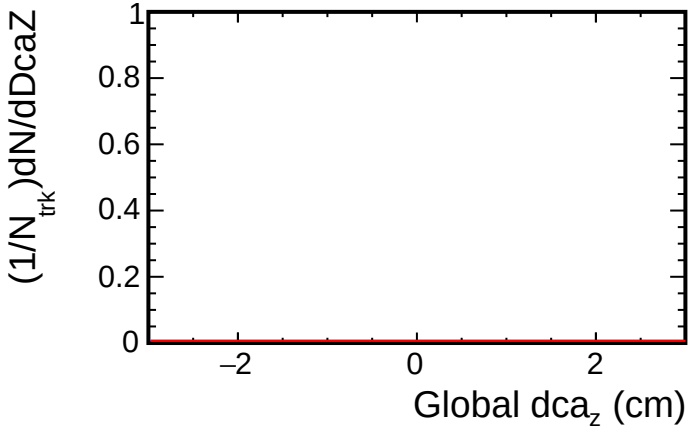

4, 2.5 < $p_T$ < 3.0 (GeV/c)



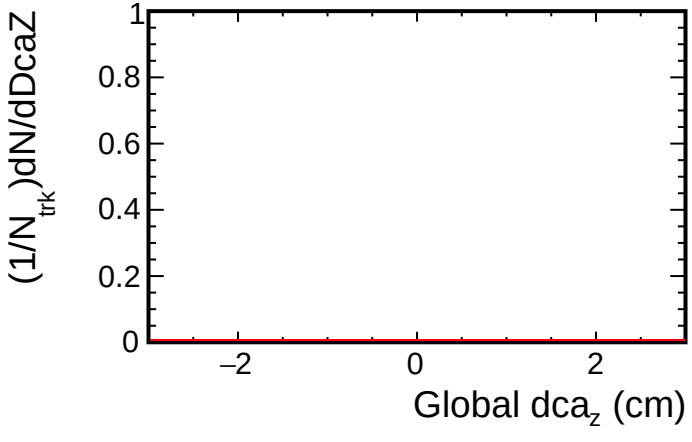

6, 2.5 < $p_T$ < 3.0 (GeV/c)




8, 2.5 < $p_T$ < 3.0 (GeV/c)



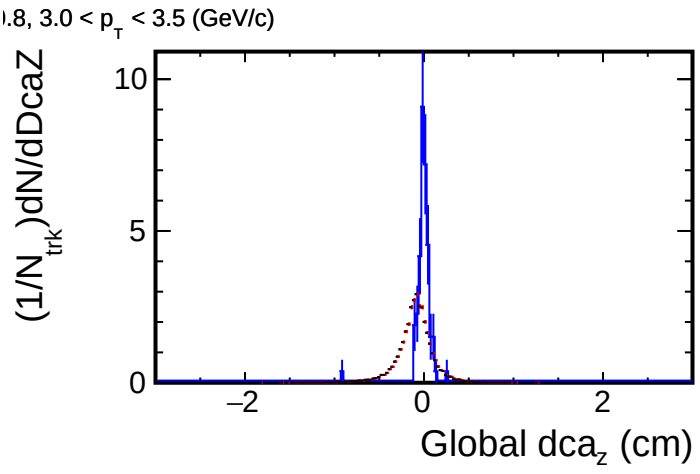

0, 2.5 < $p_T$ < 3.0 (GeV/c)

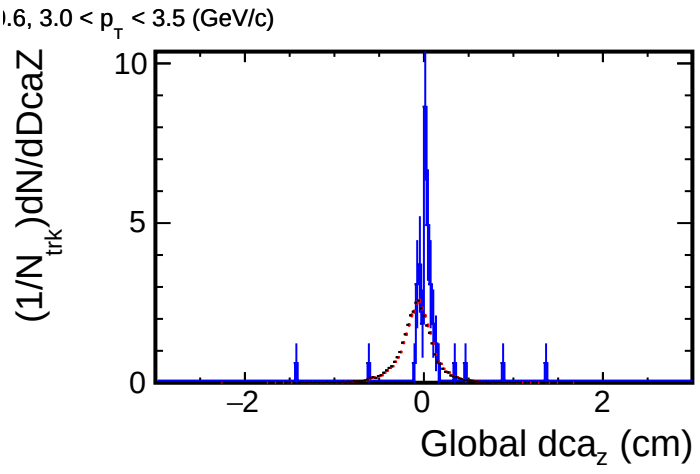


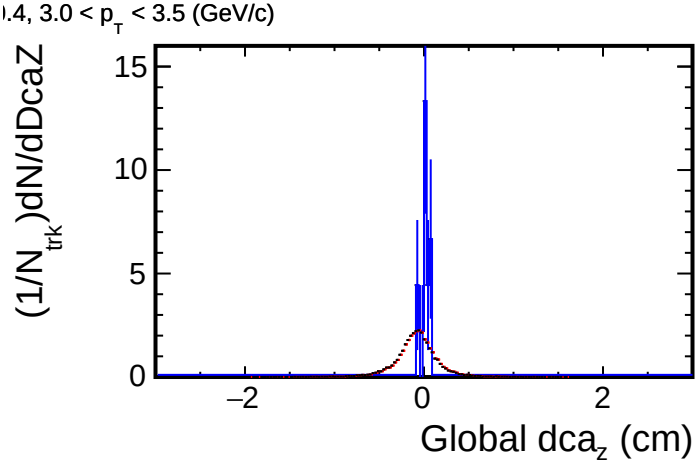

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

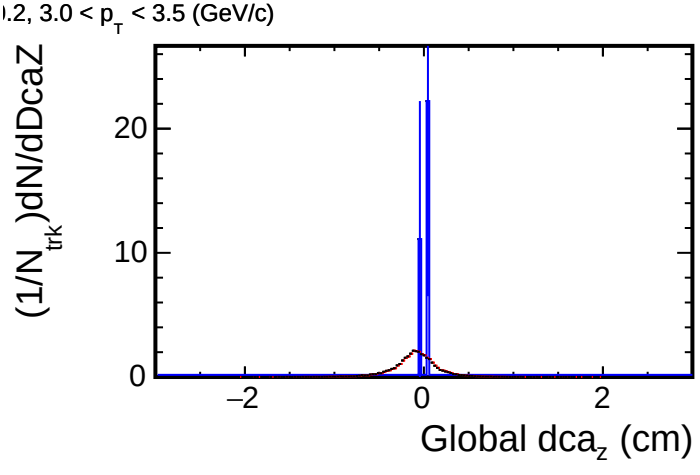
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

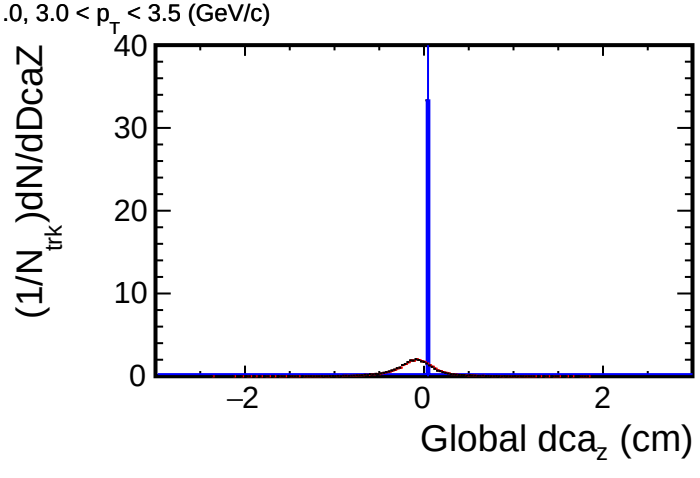
# DcaZ distribution for ($p_T$, η) slices



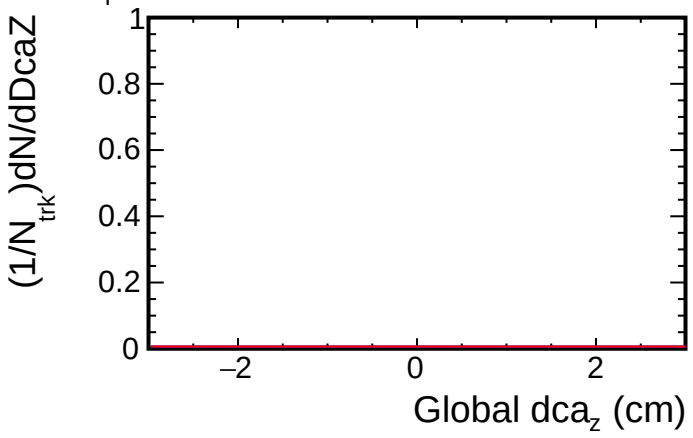




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

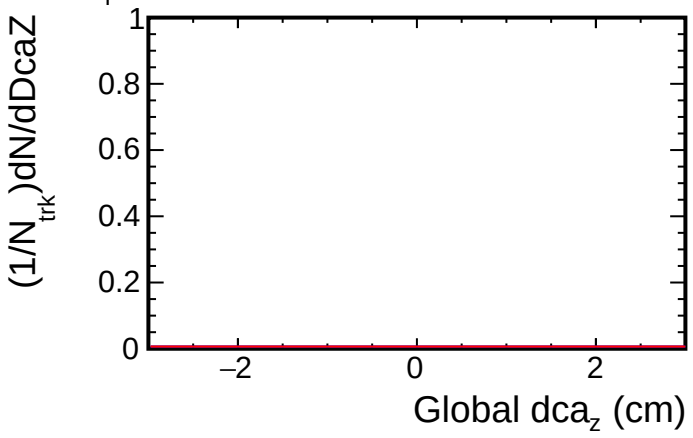
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

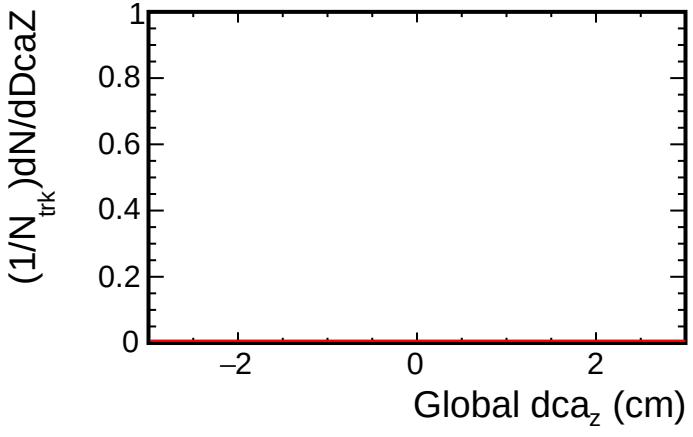
2, 3.0 < $p_T$ < 3.5 (GeV/c)



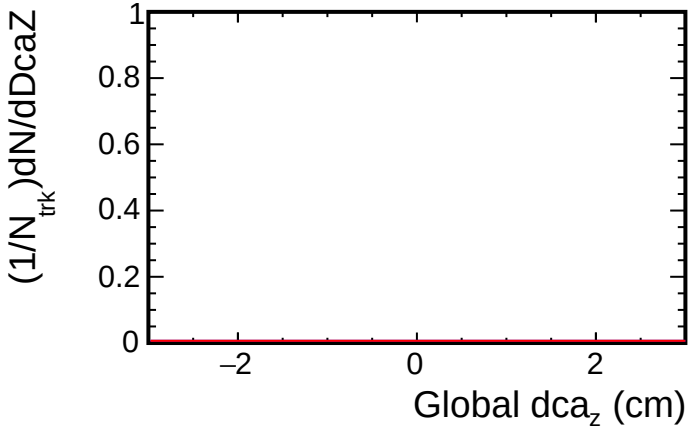

4, 3.0 < $p_T$ < 3.5 (GeV/c)



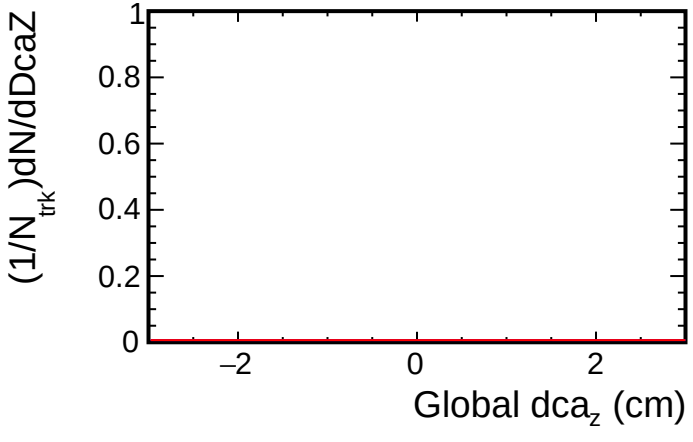

6, 3.0 < $p_T$ < 3.5 (GeV/c)




8, 3.0 < $p_T$ < 3.5 (GeV/c)



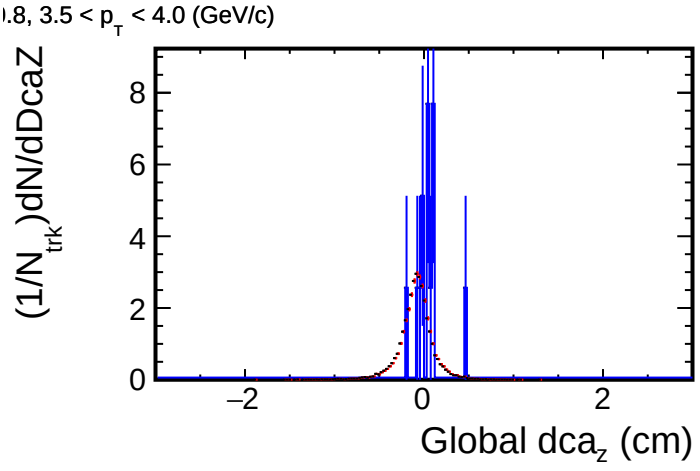

0, 3.0 < $p_T$ < 3.5 (GeV/c)

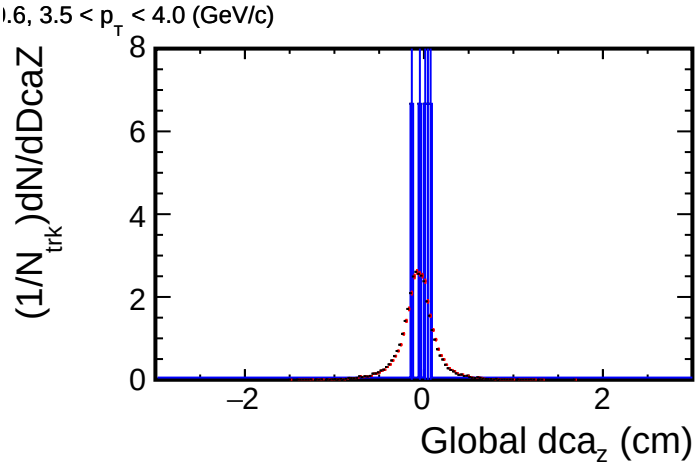


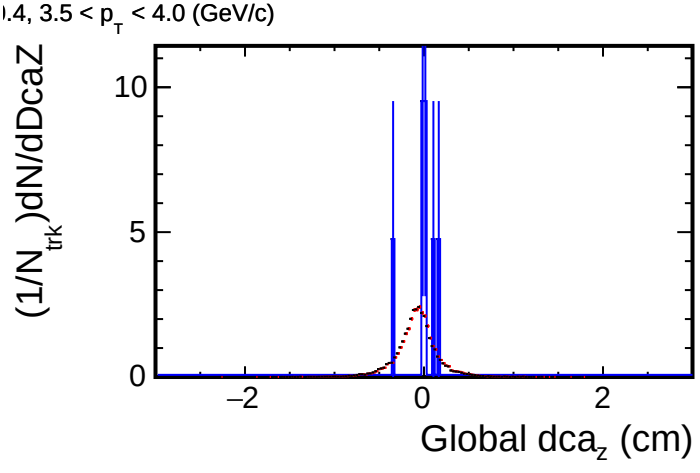

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

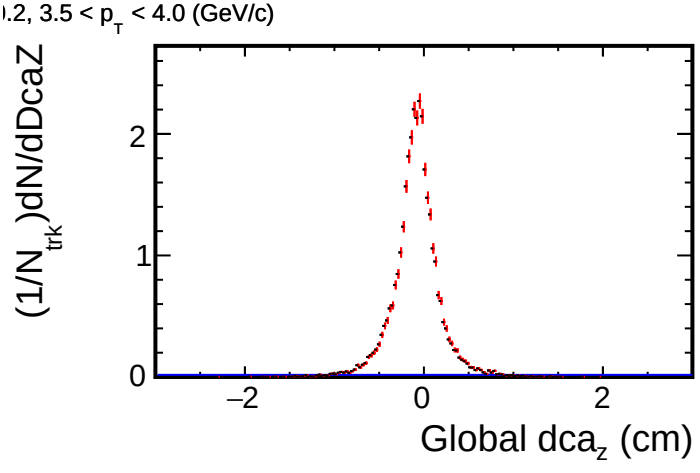
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

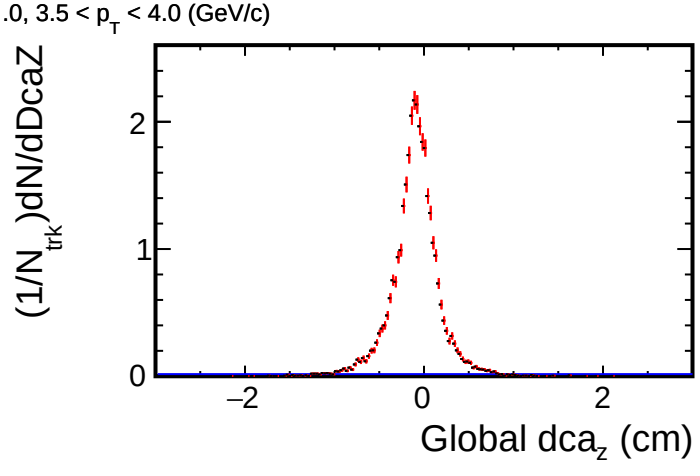
# DcaZ distribution for ($p_T$, η) slices



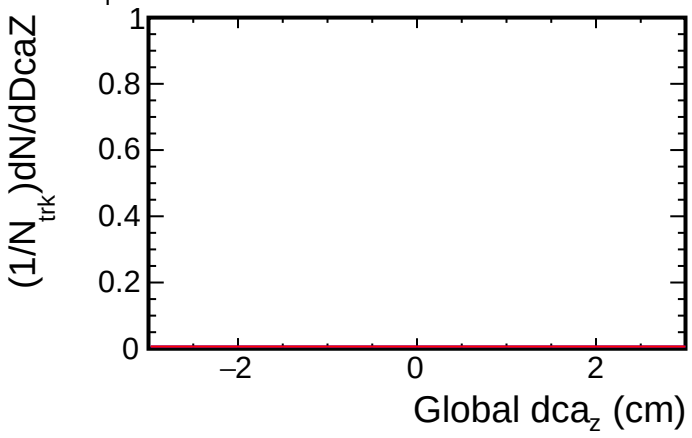




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

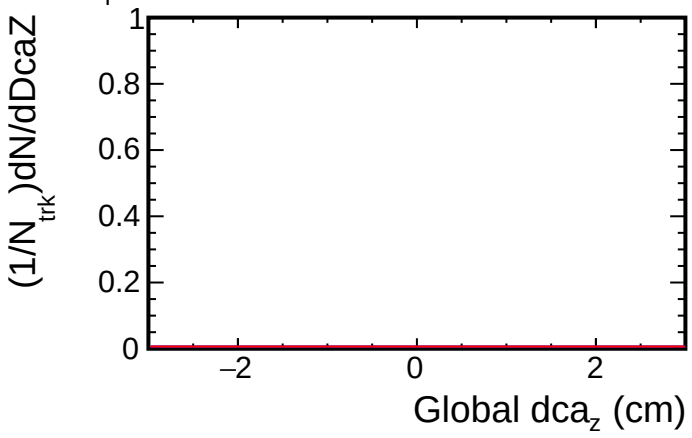
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

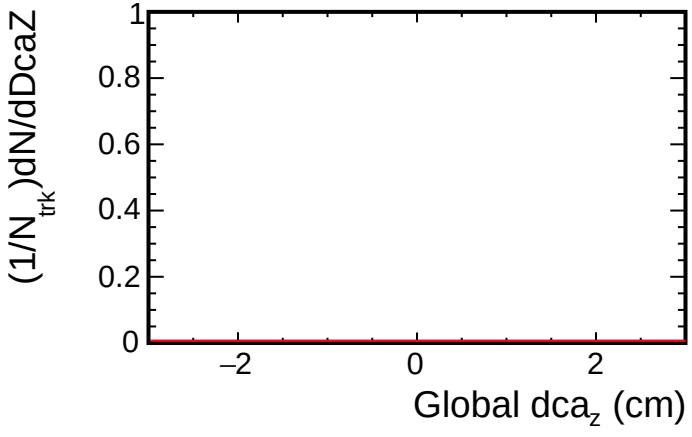
2, 3.5 < $p_T$ < 4.0 (GeV/c)



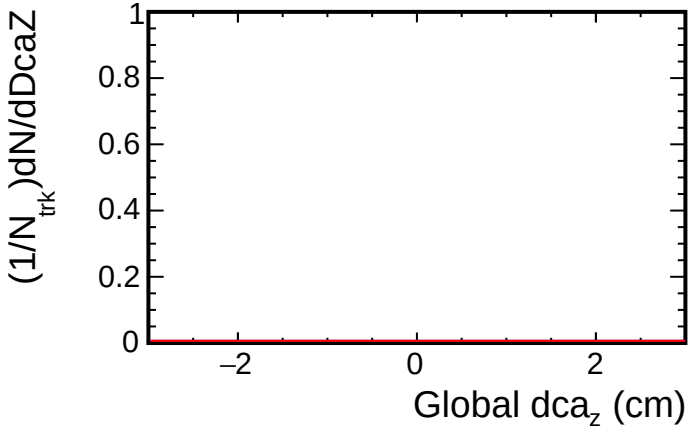

4, 3.5 < $p_T$ < 4.0 (GeV/c)



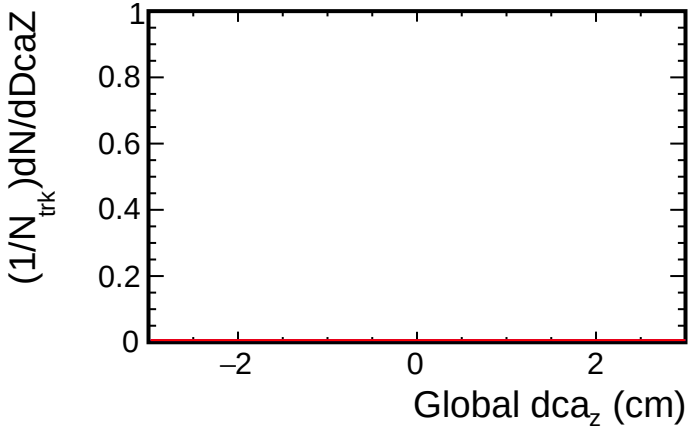

6, 3.5 < $p_T$ < 4.0 (GeV/c)




8, 3.5 < $p_T$ < 4.0 (GeV/c)



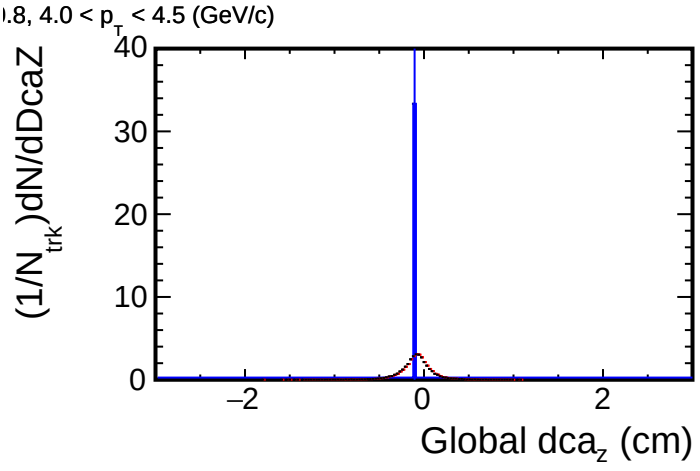

0, 3.5 < $p_T$ < 4.0 (GeV/c)

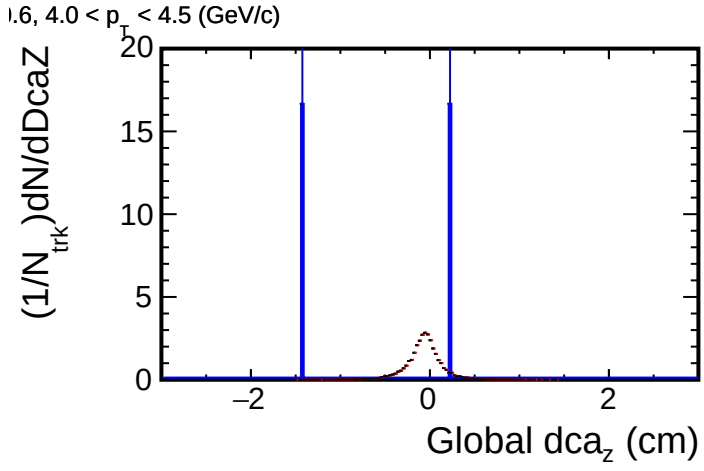


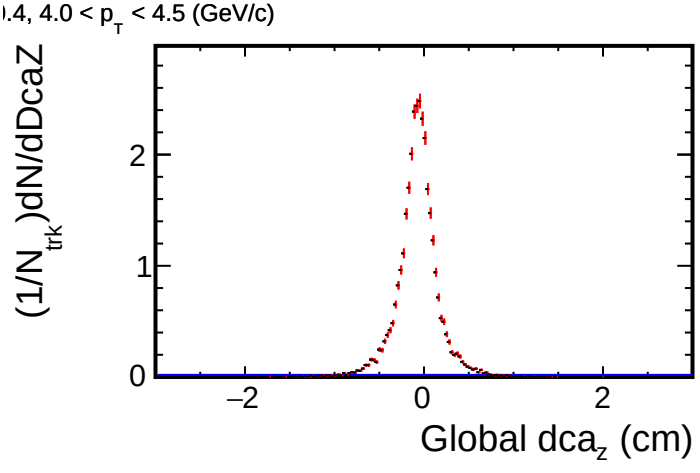

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

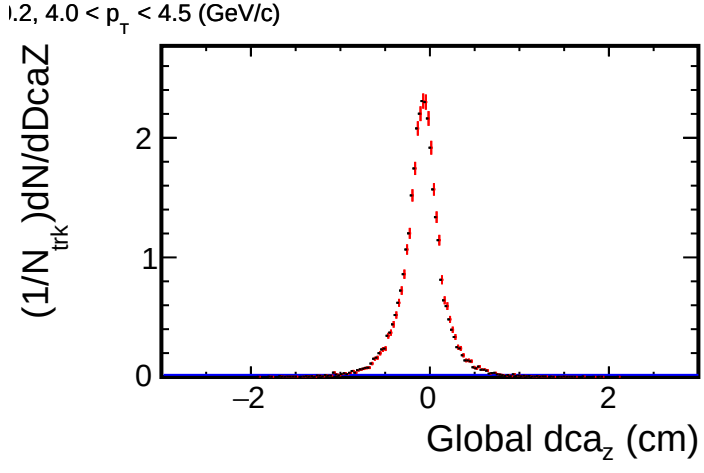
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

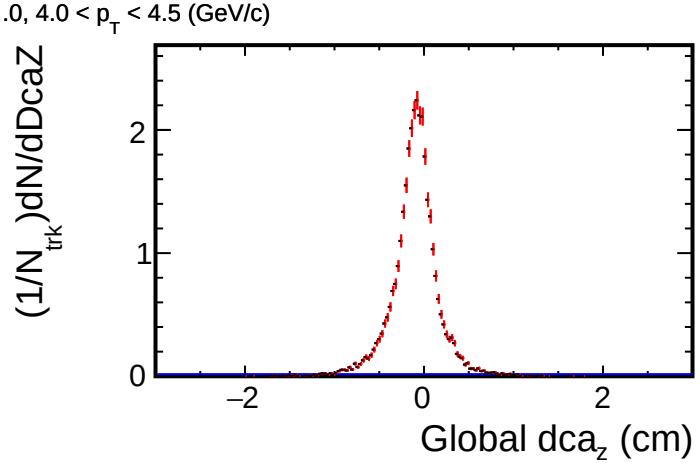
# DcaZ distribution for ($p_T$, η) slices



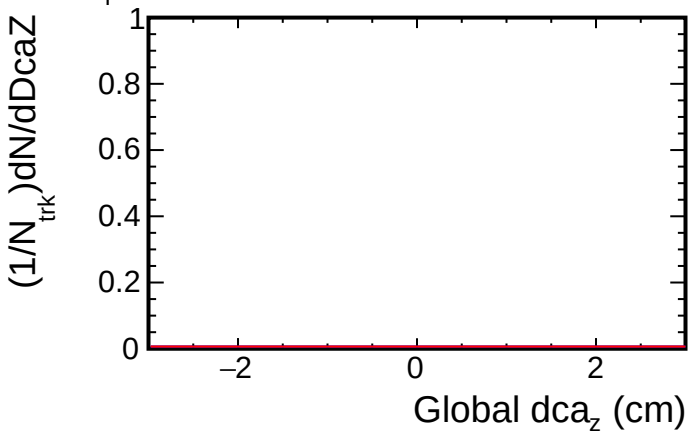




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

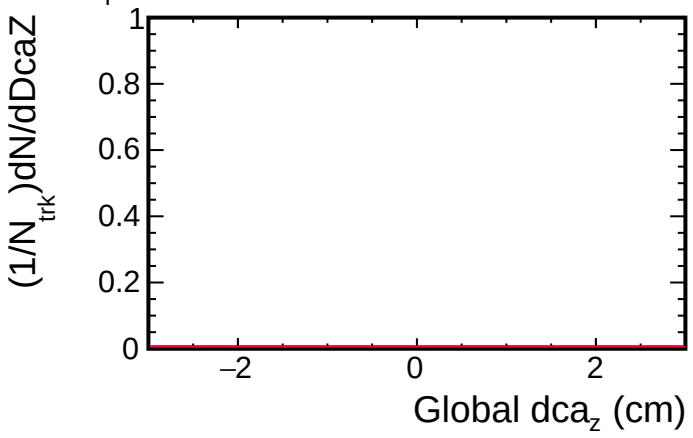
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

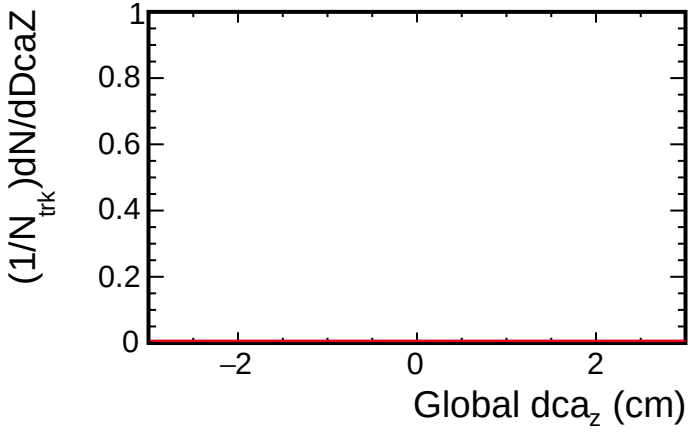
2, 4.0 < $p_T$ < 4.5 (GeV/c)



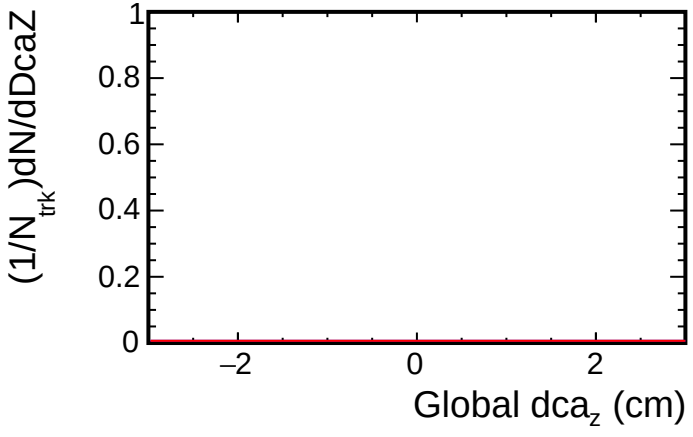

4, 4.0 < $p_T$ < 4.5 (GeV/c)



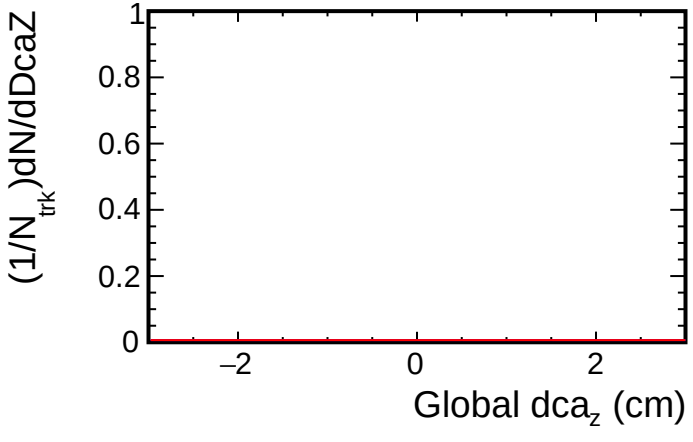

6, 4.0 < $p_T$ < 4.5 (GeV/c)




8, 4.0 < $p_T$ < 4.5 (GeV/c)



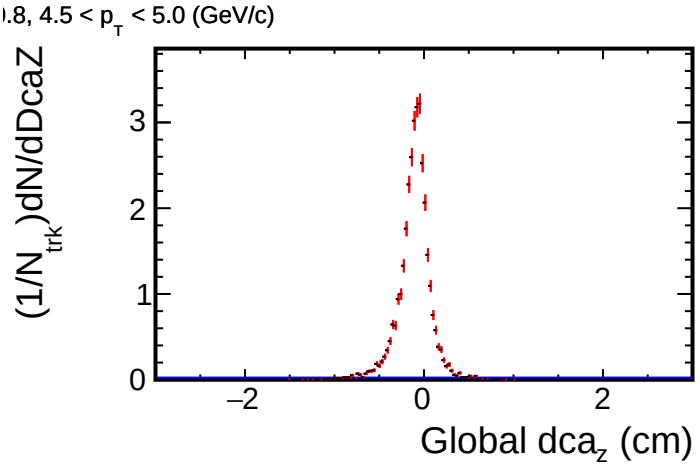

0, 4.0 < $p_T$ < 4.5 (GeV/c)

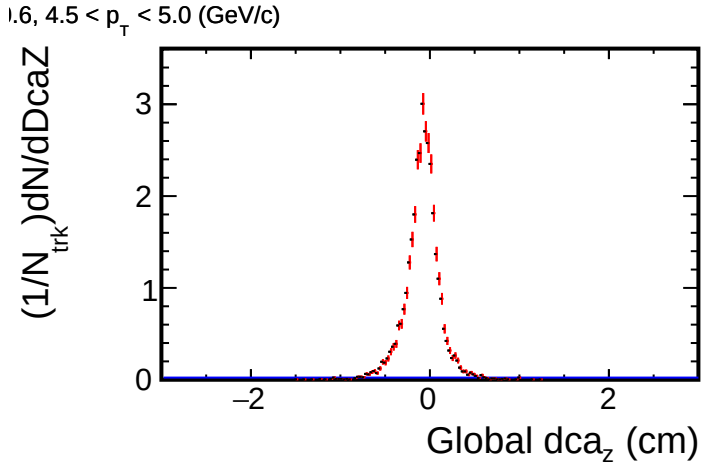


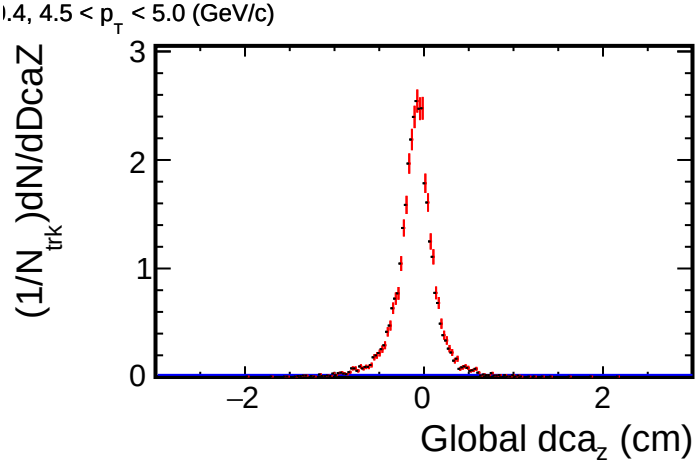

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

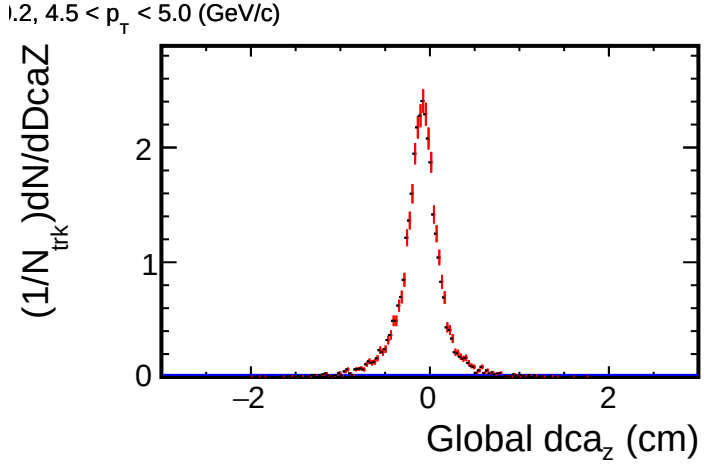
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

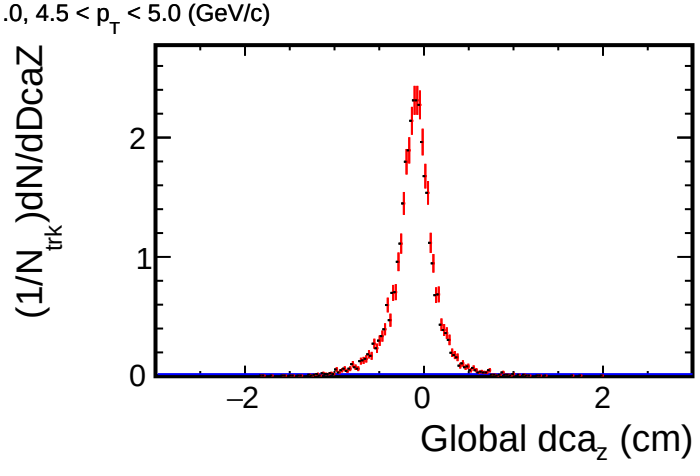
# DcaZ distribution for ($p_T$, η) slices



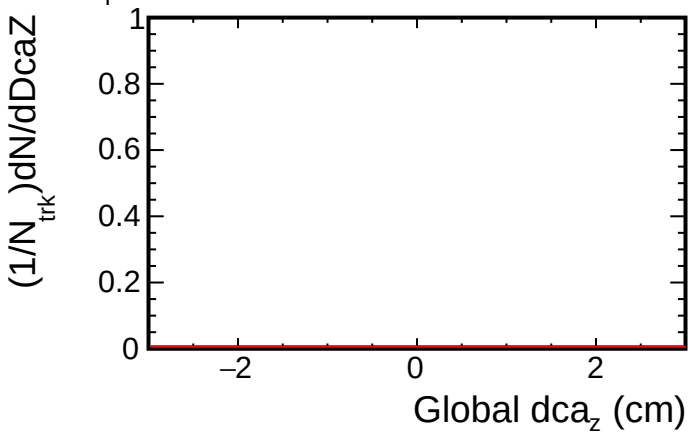




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

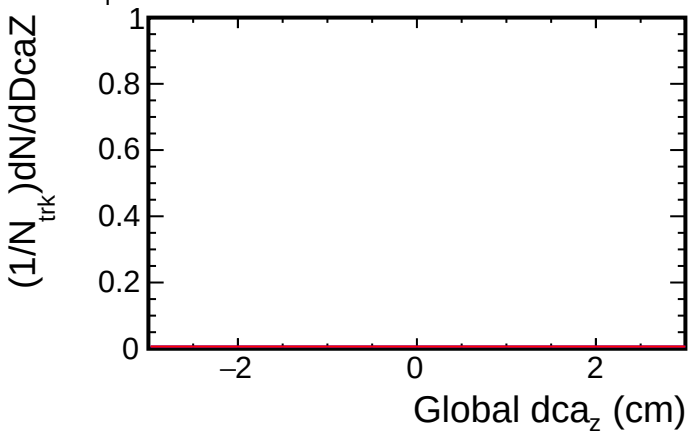
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

# DcaZ distribution for ($p_T$, η) slices

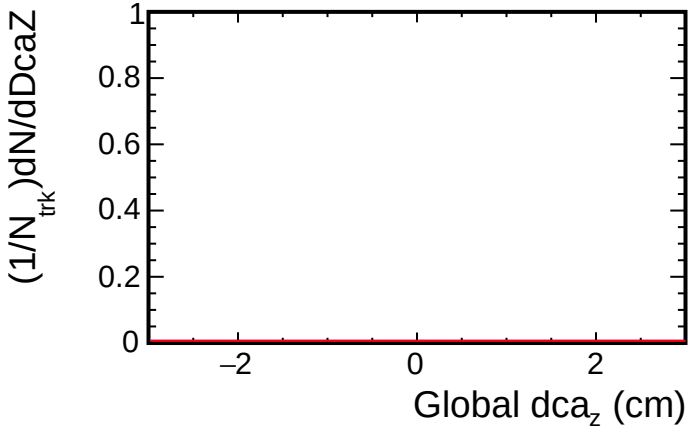
2, 4.5 < $p_T$ < 5.0 (GeV/c)



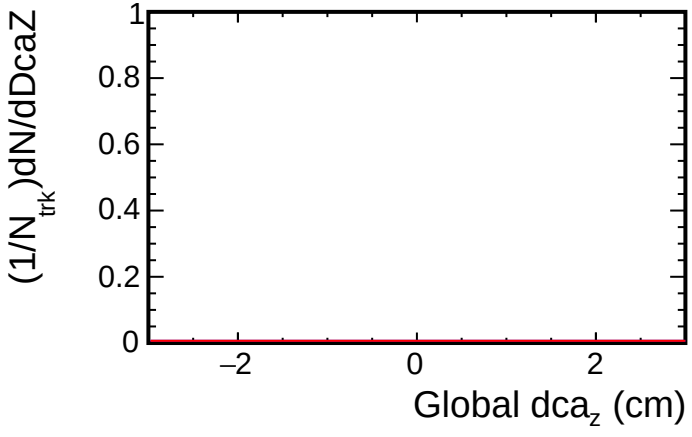

4, 4.5 < $p_T$ < 5.0 (GeV/c)



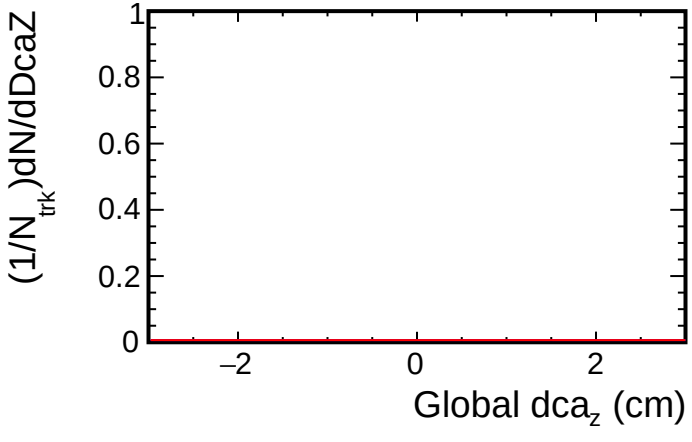

6, 4.5 < $p_T$ < 5.0 (GeV/c)




8, 4.5 < $p_T$ < 5.0 (GeV/c)



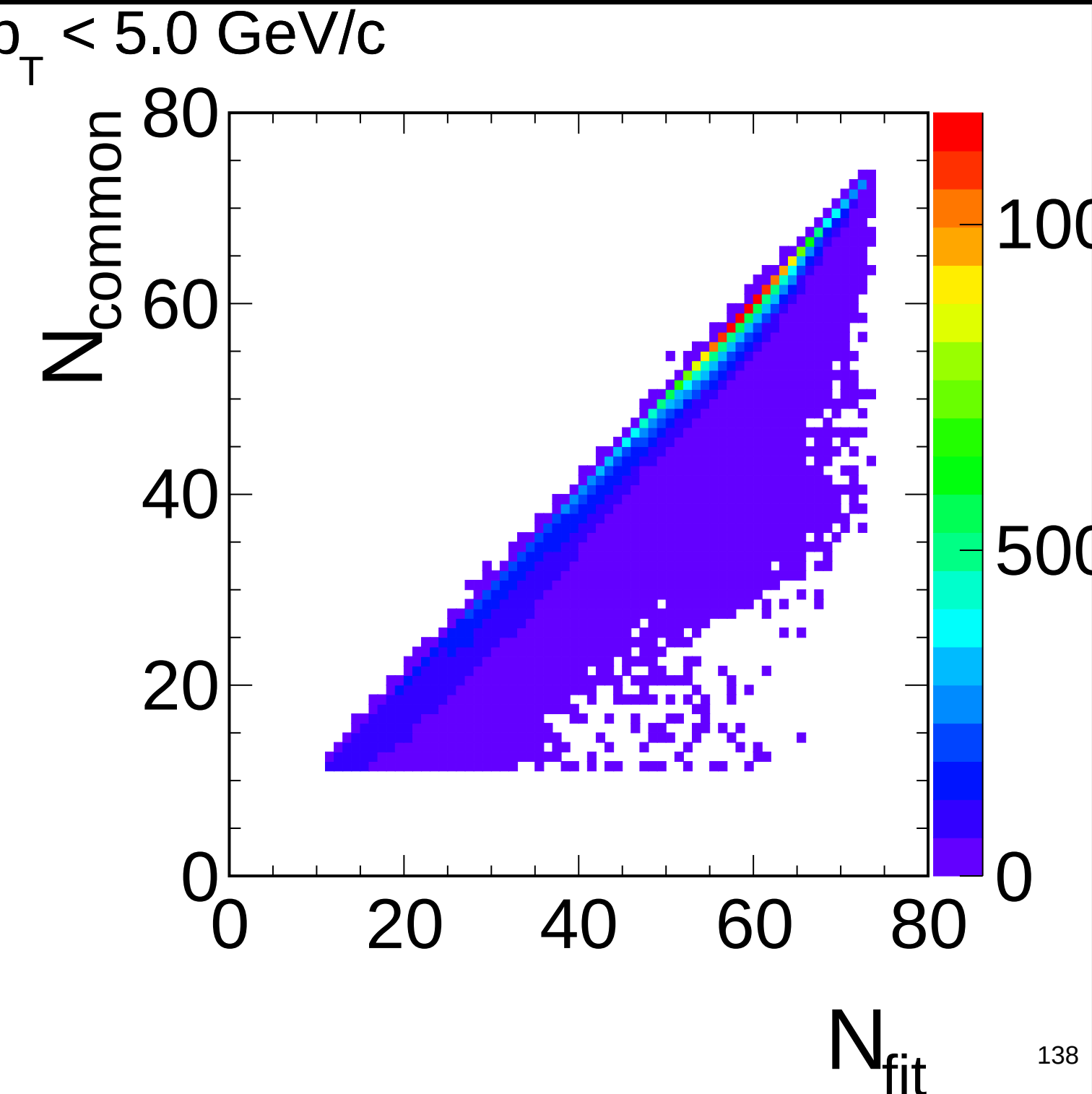

0, 4.5 < $p_T$ < 5.0 (GeV/c)




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

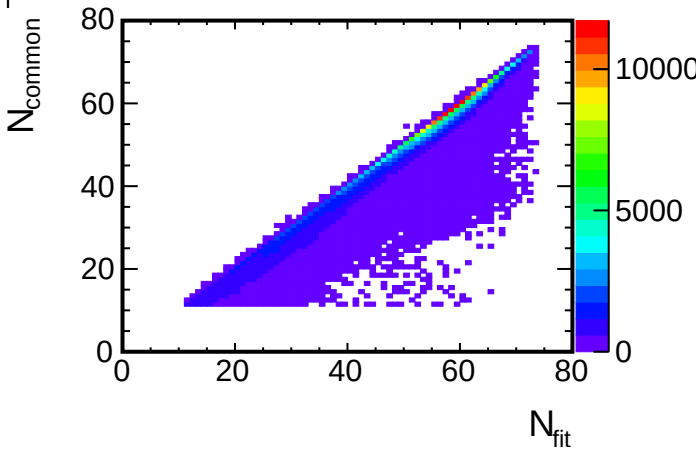
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

$N_{common}$ vs $N_{hit}$ (Embedding:pi-, Real:pi-)

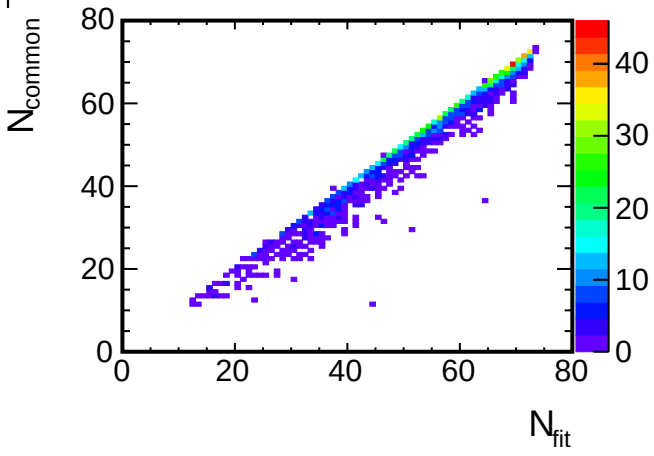


# $N_{common}$ vs $N_{hit}$, $p_T$ dependence (Embedding:pi-, Real:pi-)

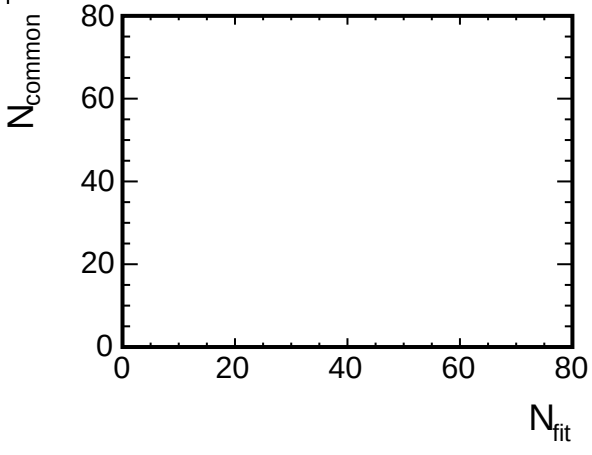
< $p_T$ < 0.5 GeV/c



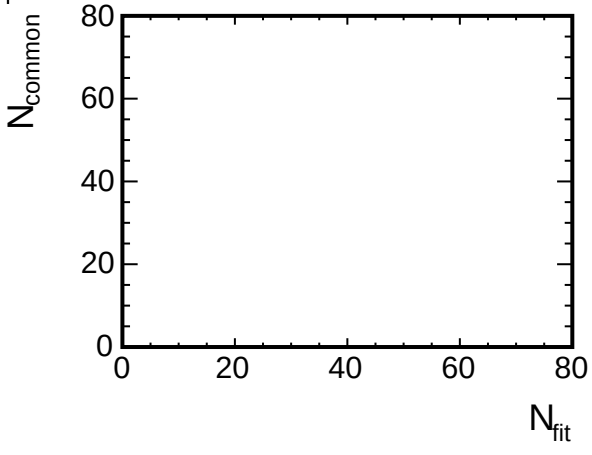

< $p_T$ < 1.0 GeV/c



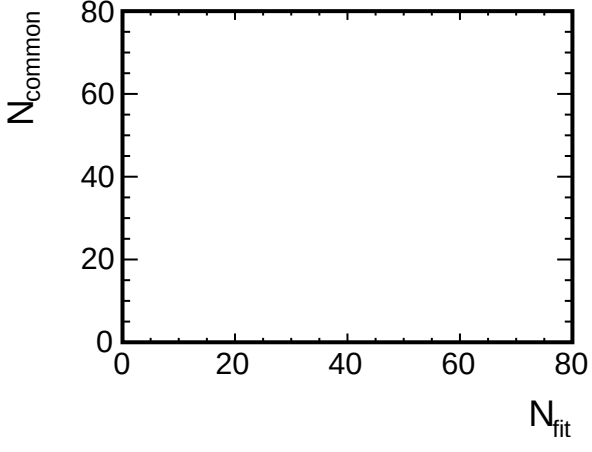

< $p_T$ < 1.5 GeV/c




< $p_T$ < 2.0 GeV/c

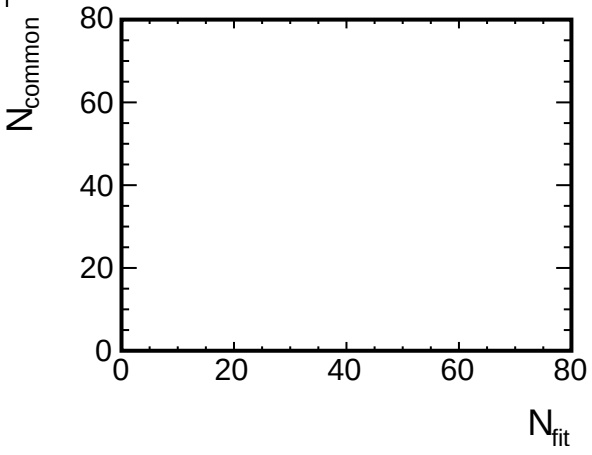



< $p_T$ < 2.5 GeV/c

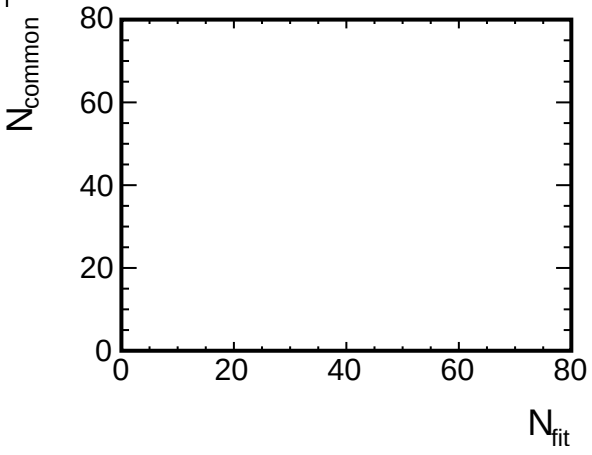


# $N_{common}$ vs $N_{hit}$, $p_T$ dependence (Embedding:pi-, Real:pi-)

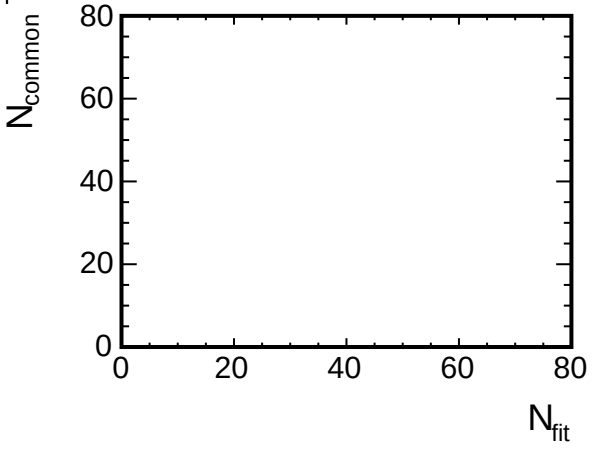
< $p_T$ < 3.0 GeV/c



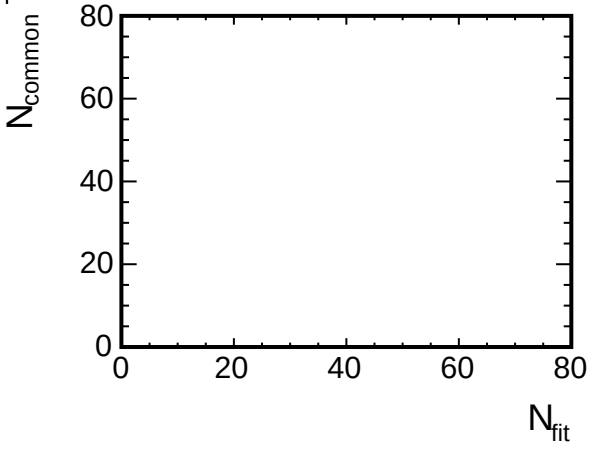

< $p_T$ < 3.5 GeV/c



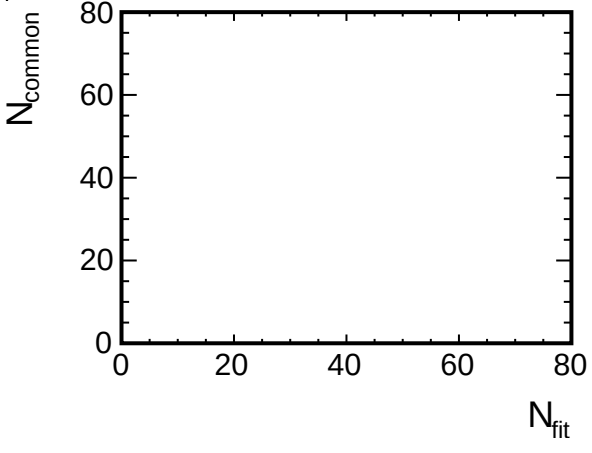

< $p_T$ < 4.0 GeV/c




< $p_T$ < 4.5 GeV/c

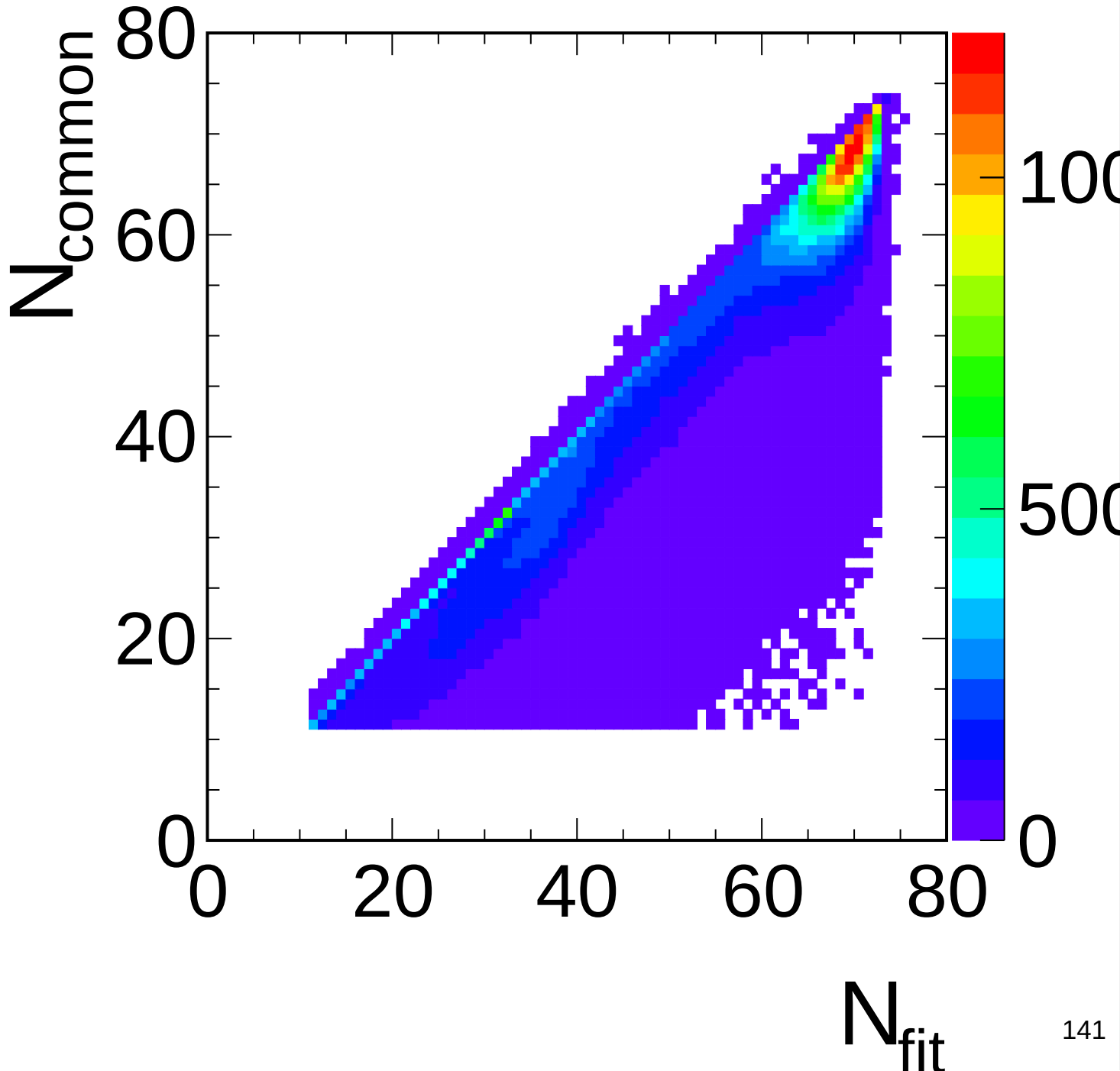



< $p_T$ < 5.0 GeV/c



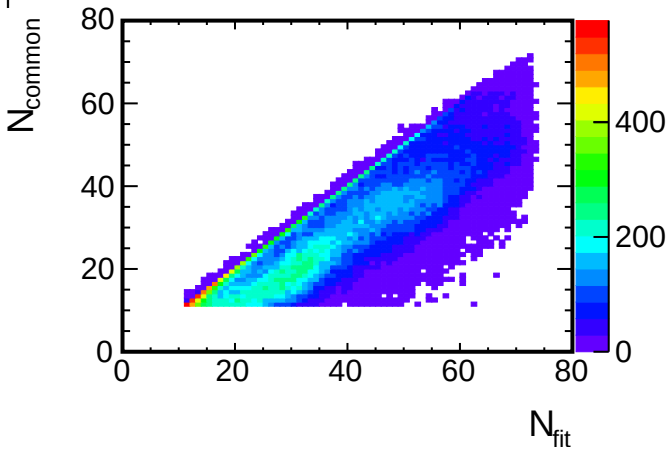
$N_{common}$ vs $N_{hit}$ (Embedding:He3, Real:He3)

$p_T$ < 5.0 GeV/c

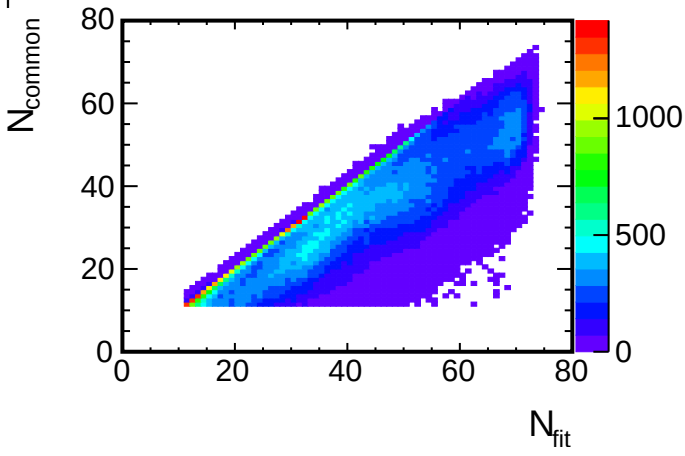


# $N_{common}$ vs $N_{hit}$, $p_T$ dependence (Embedding:He3, Real:He3)

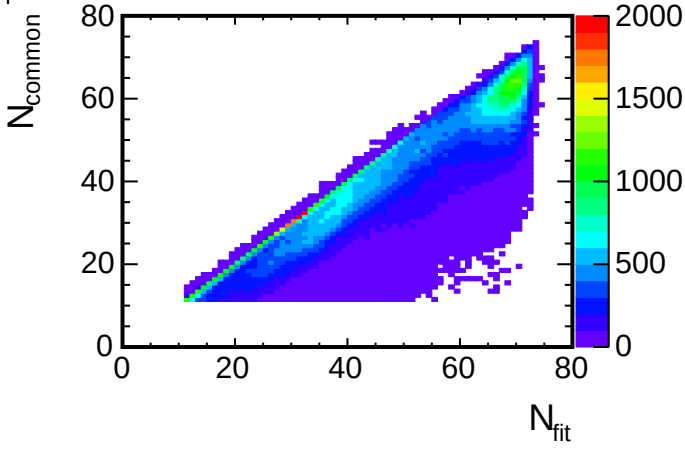
$< p_T <$ 0.5 GeV/c



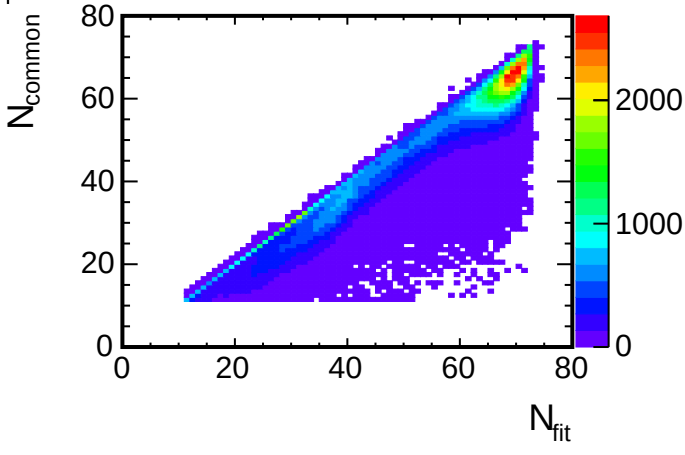

$< p_T <$ 1.0 GeV/c



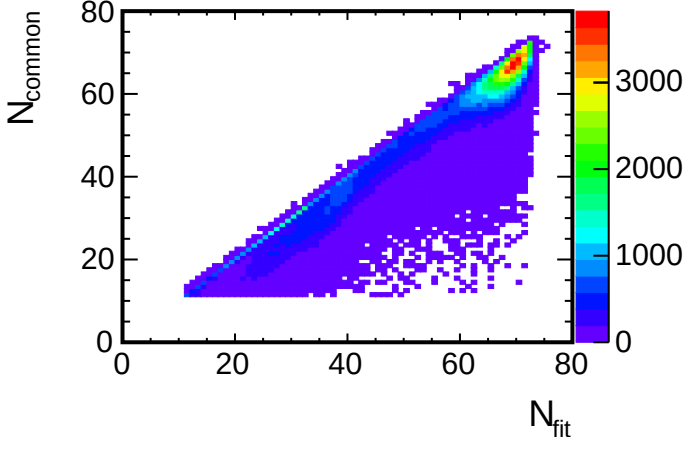

$< p_T <$ 1.5 GeV/c




$< p_T <$ 2.0 GeV/c

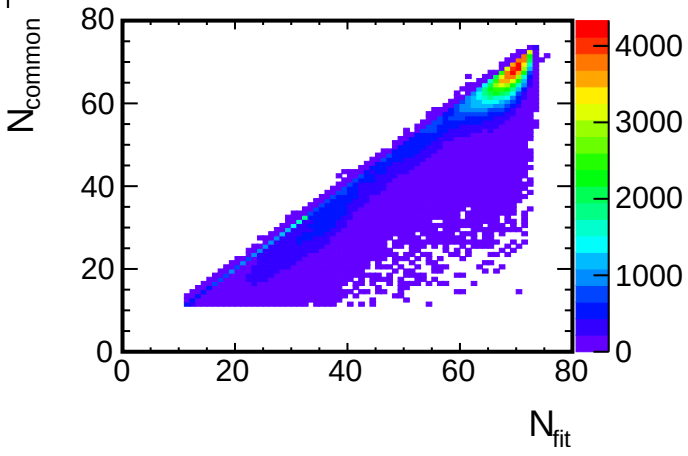



$< p_T <$ 2.5 GeV/c

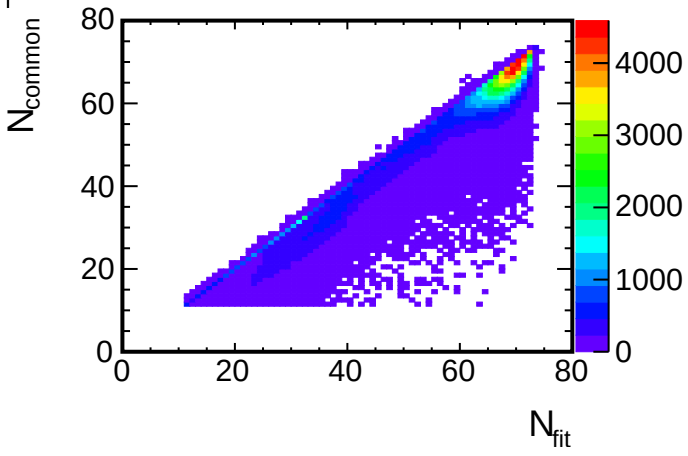


# $N_{common}$ vs $N_{hit}$, $p_T$ dependence (Embedding:He3, Real:He3)

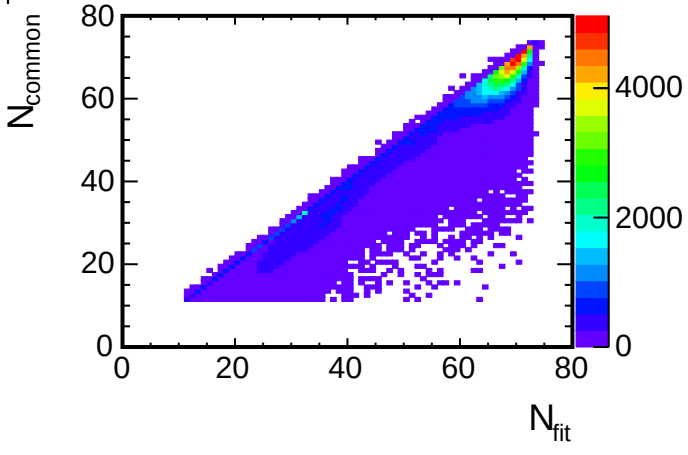
< $p_T$ < 3.0 GeV/c



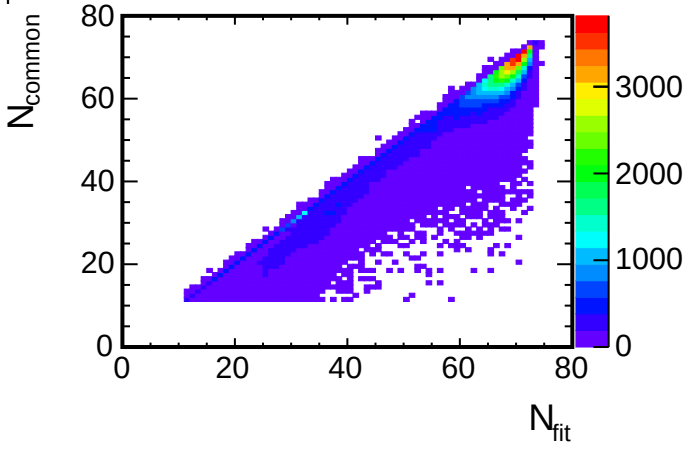

< $p_T$ < 3.5 GeV/c



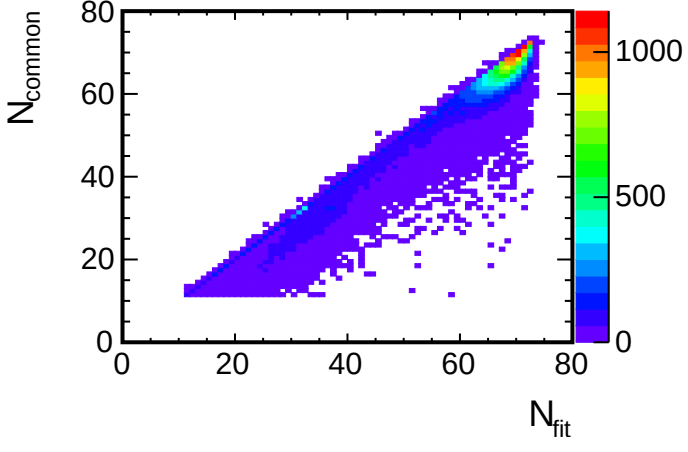

< $p_T$ < 4.0 GeV/c



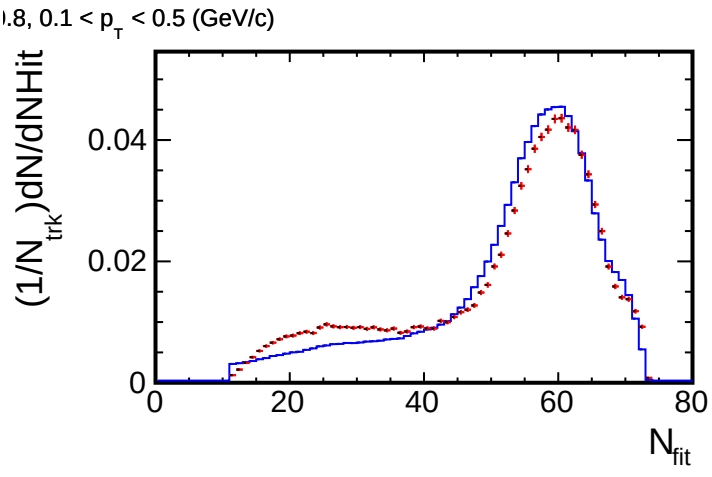

< $p_T$ < 4.5 GeV/c

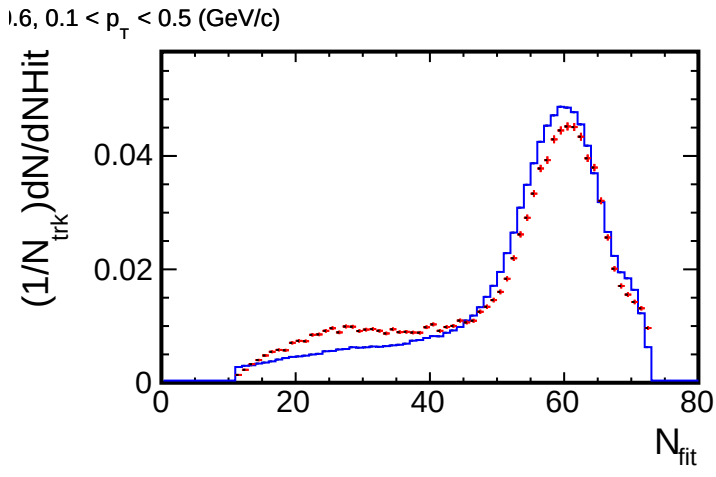


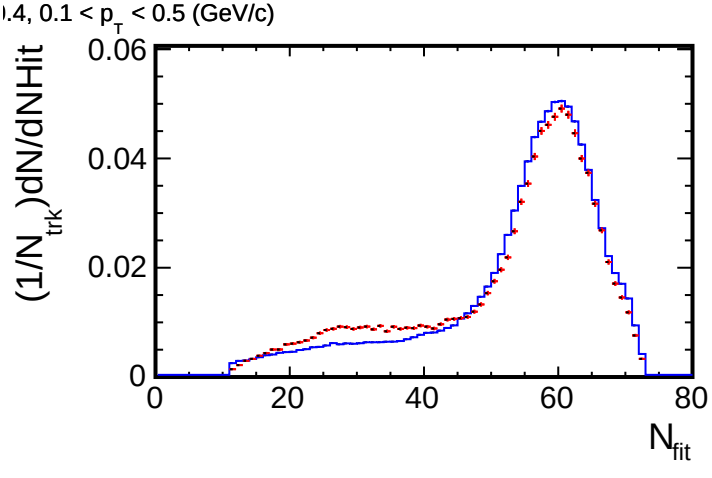

< $p_T$ < 5.0 GeV/c

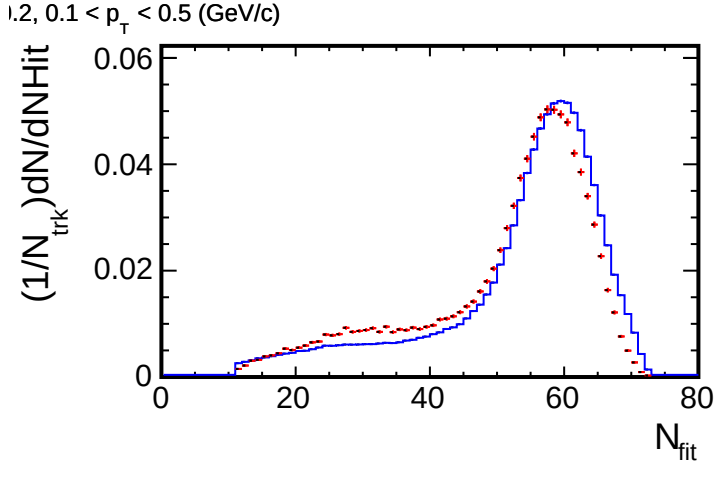


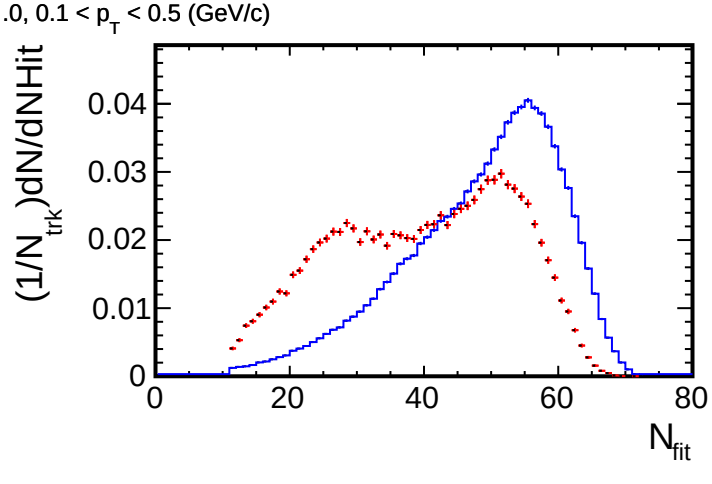
# NHit distribution for ($p_T$, η) slices



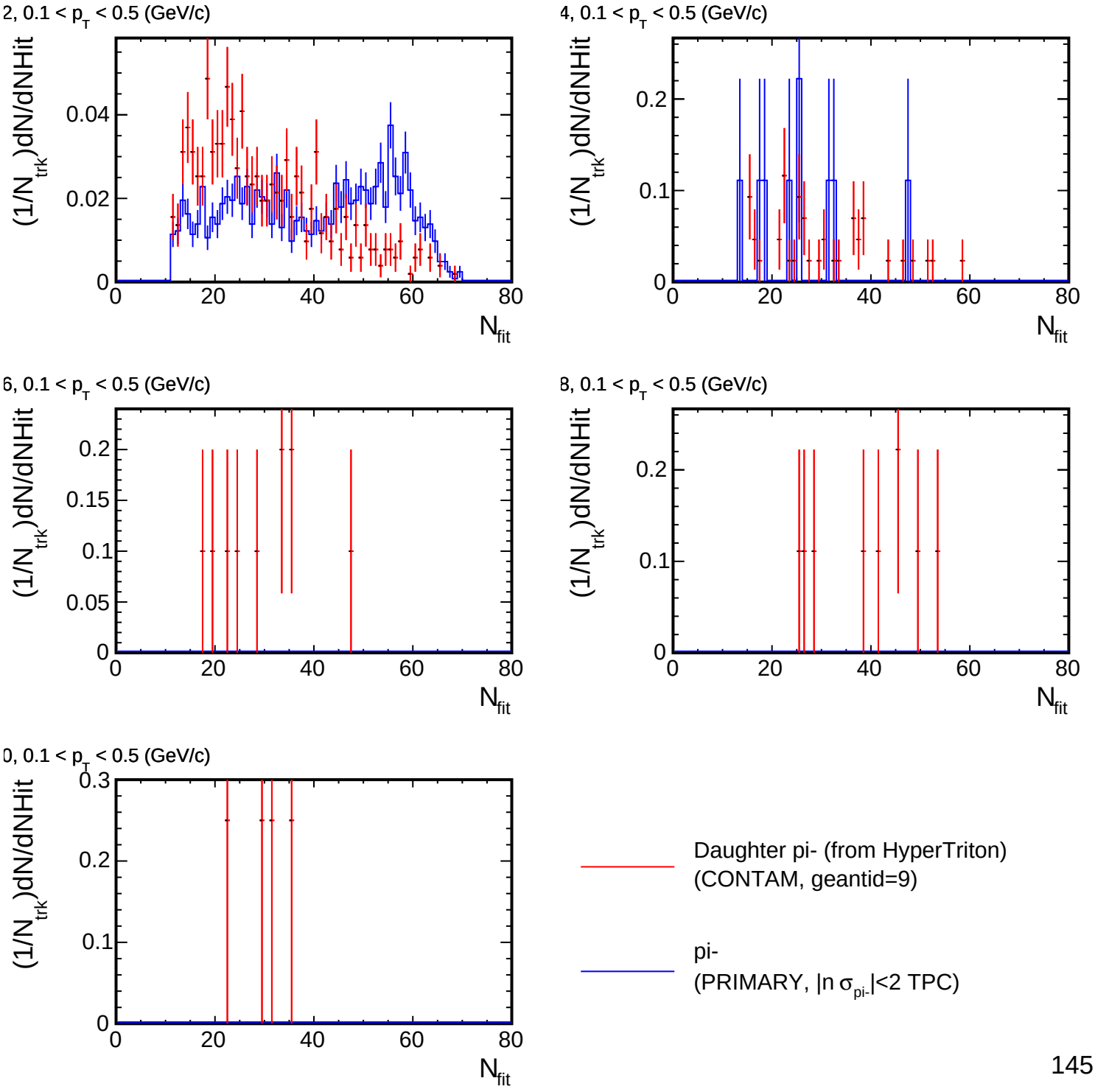



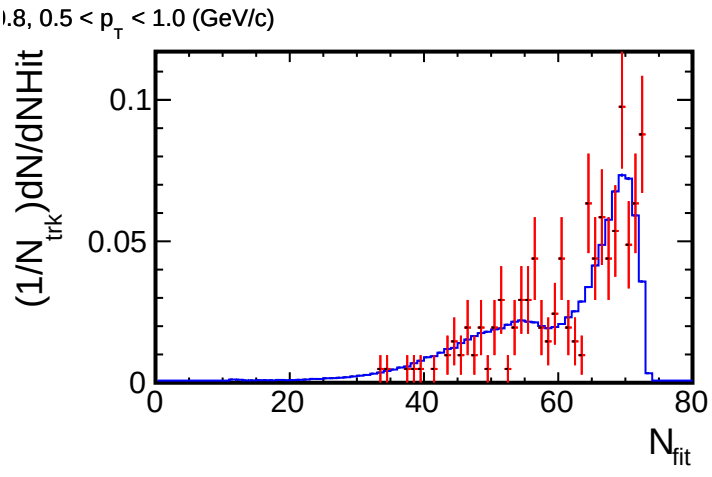

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

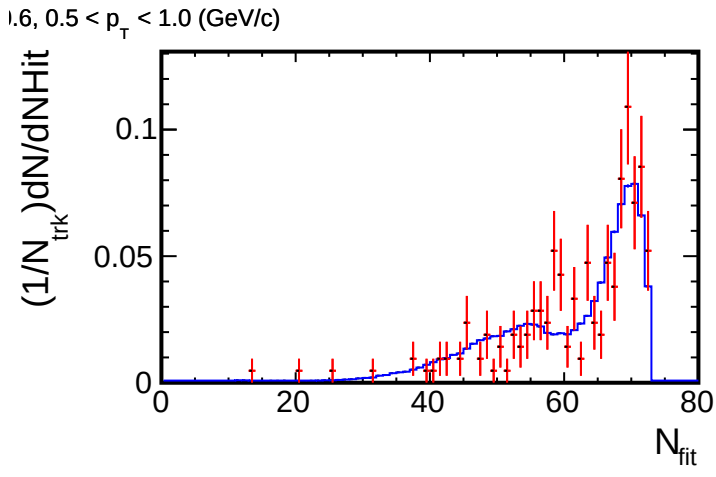
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

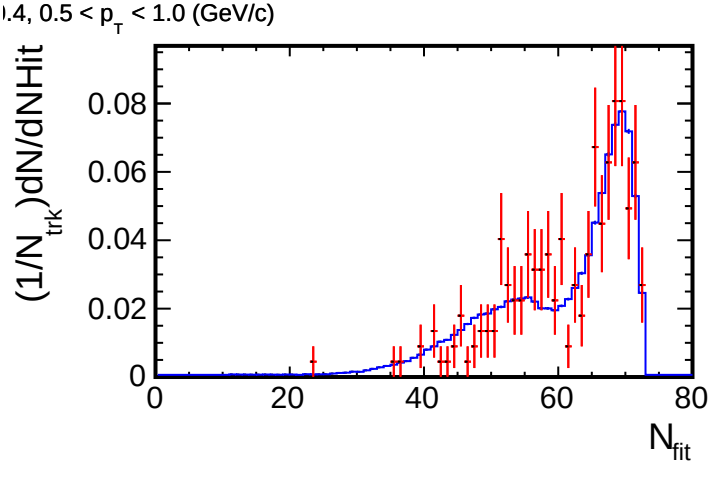
# NHit distribution for ($p_T$, η) slices

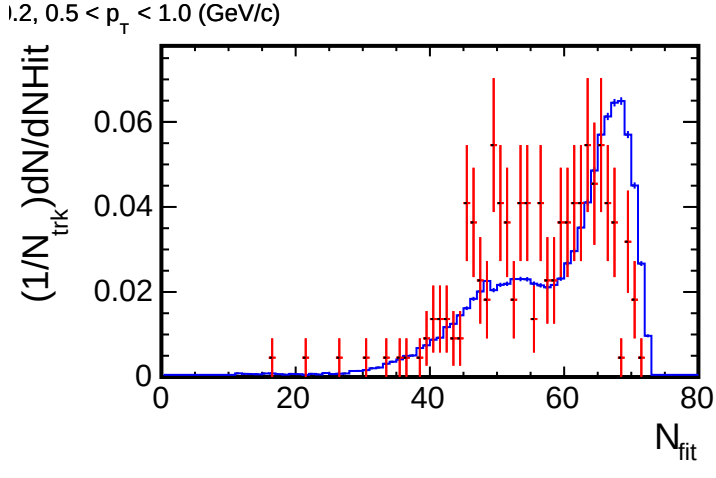


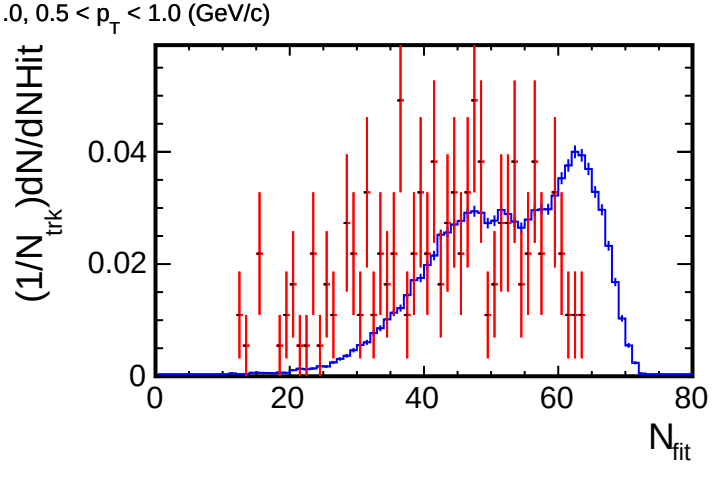
# NHit distribution for ($p_T$, η) slices



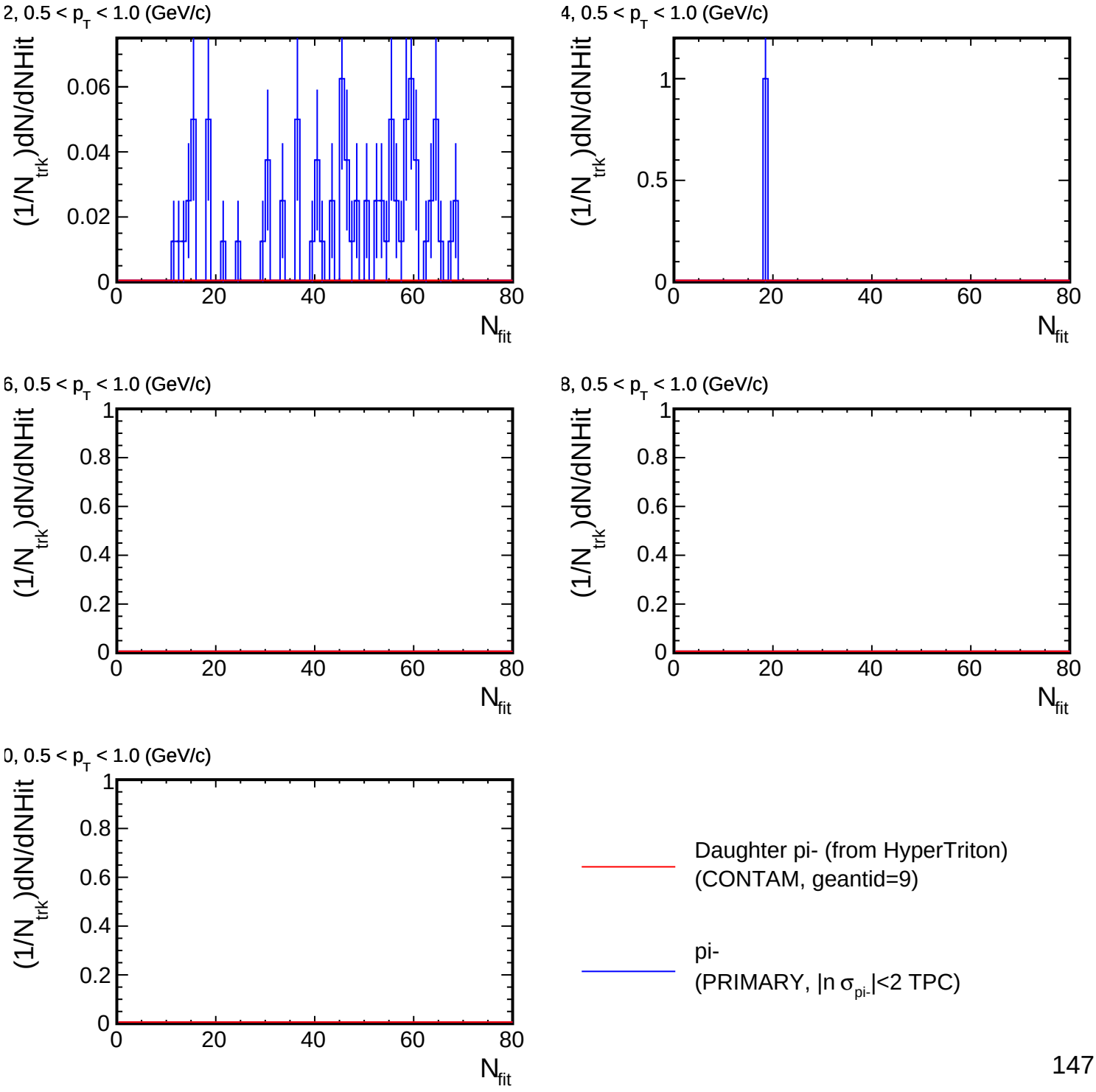



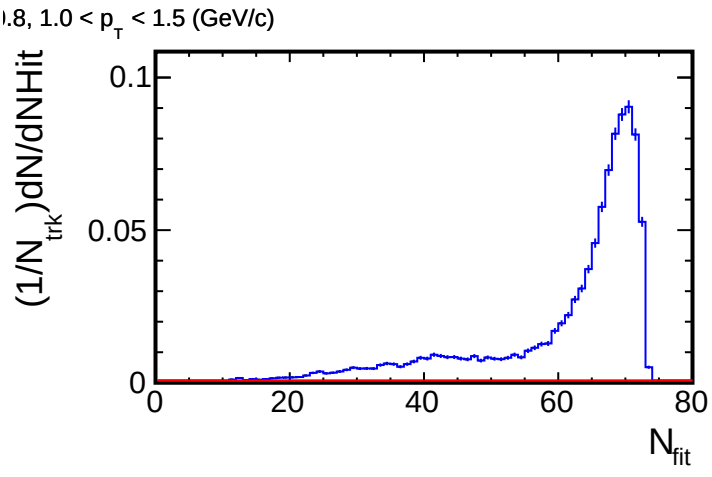

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

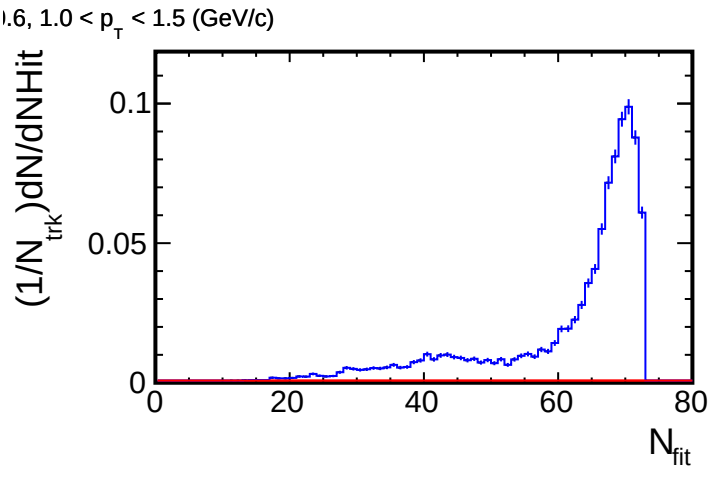
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

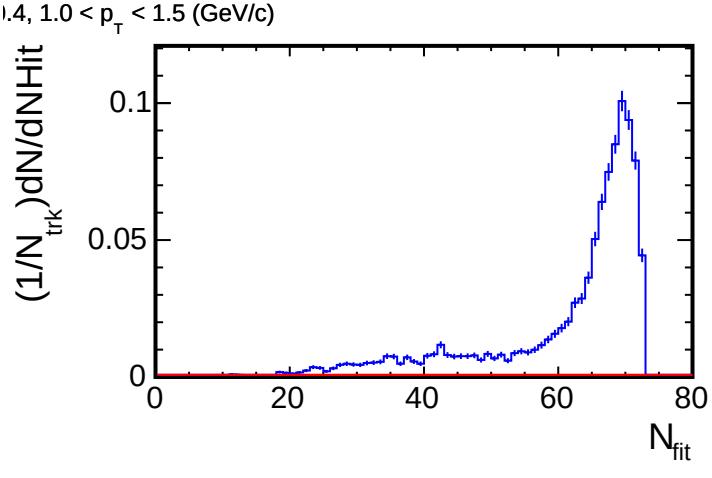
# NHit distribution for ($p_T$, η) slices

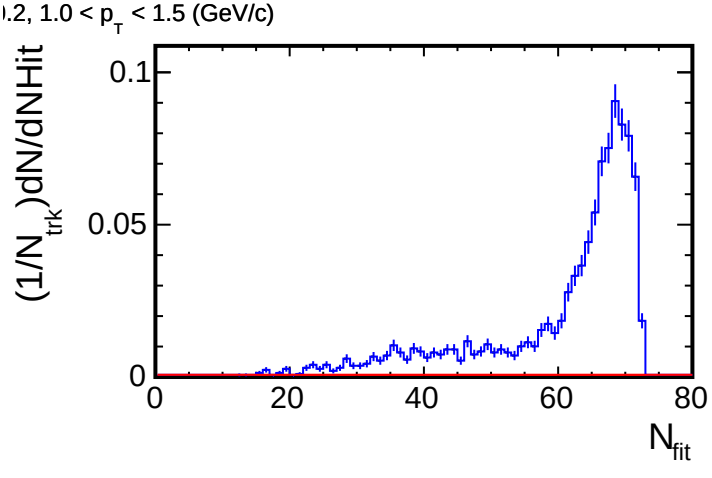


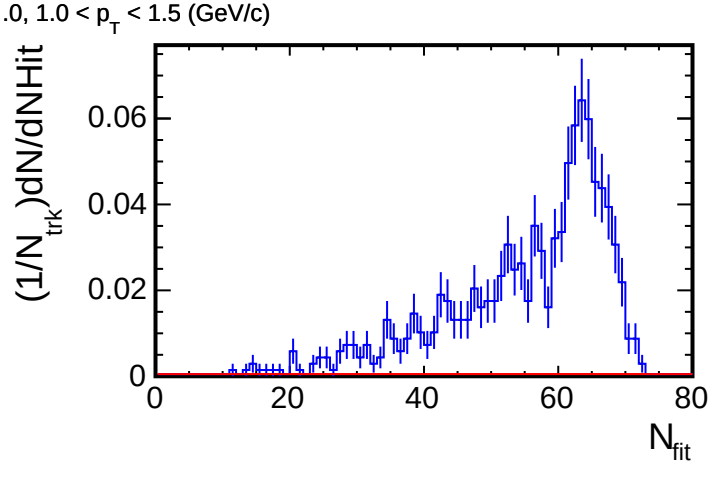
# NHit distribution for ($p_T$, η) slices



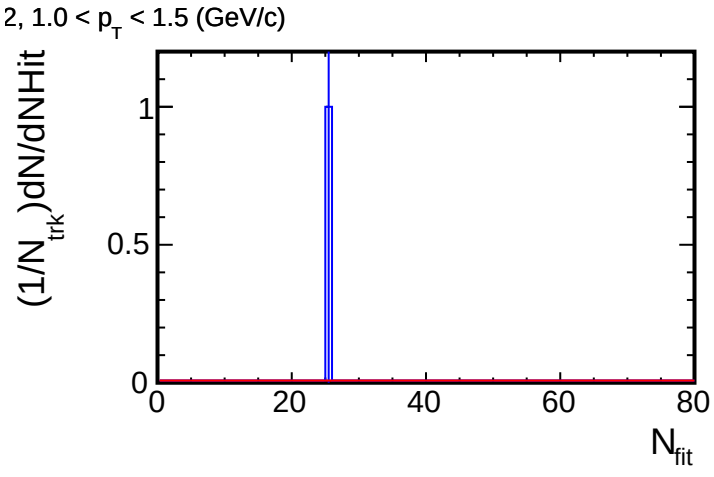



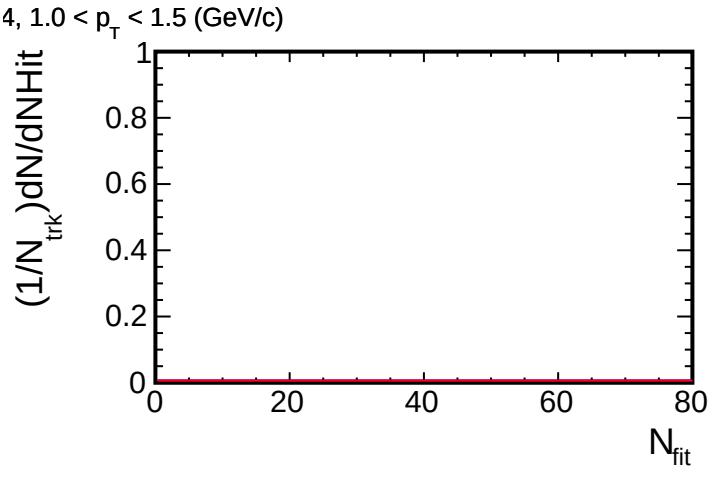



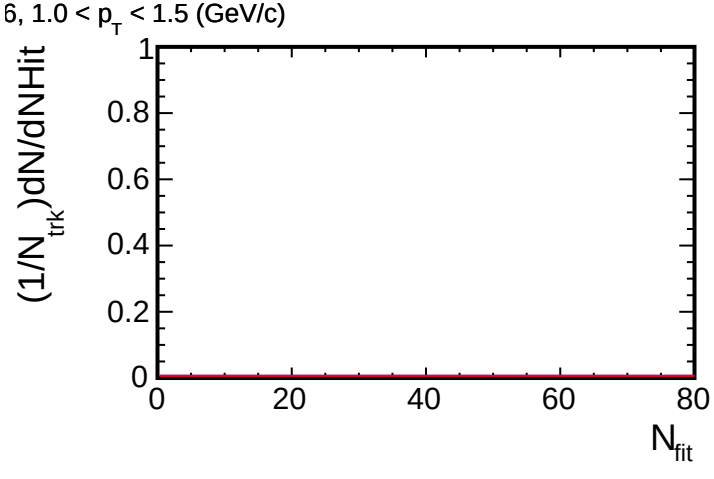

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

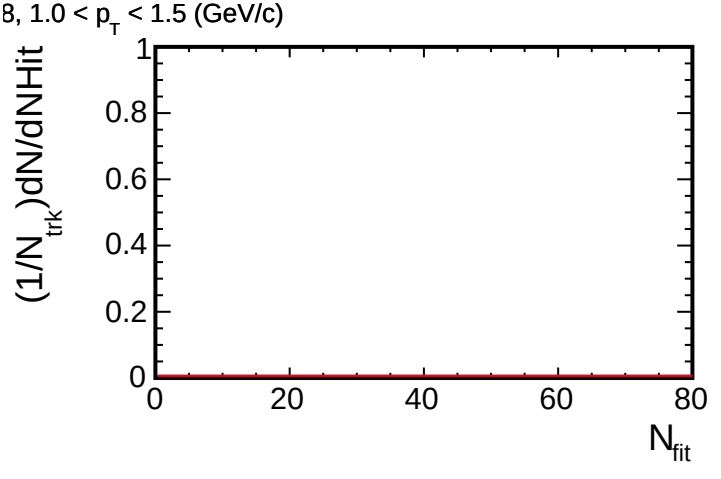
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

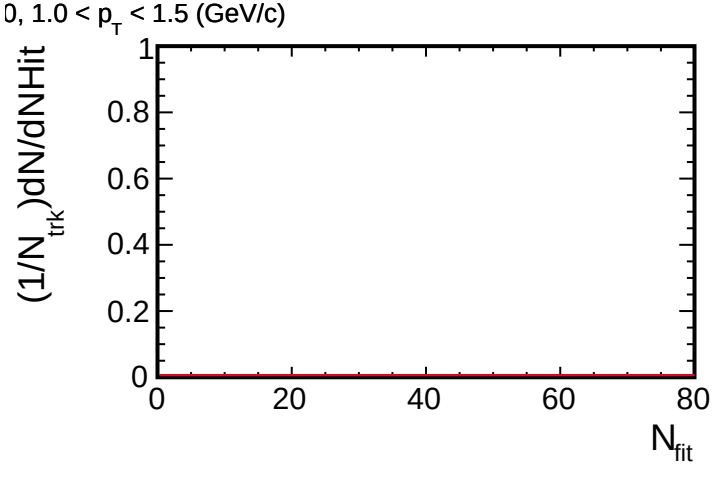
# NHit distribution for ($p_T$, η) slices



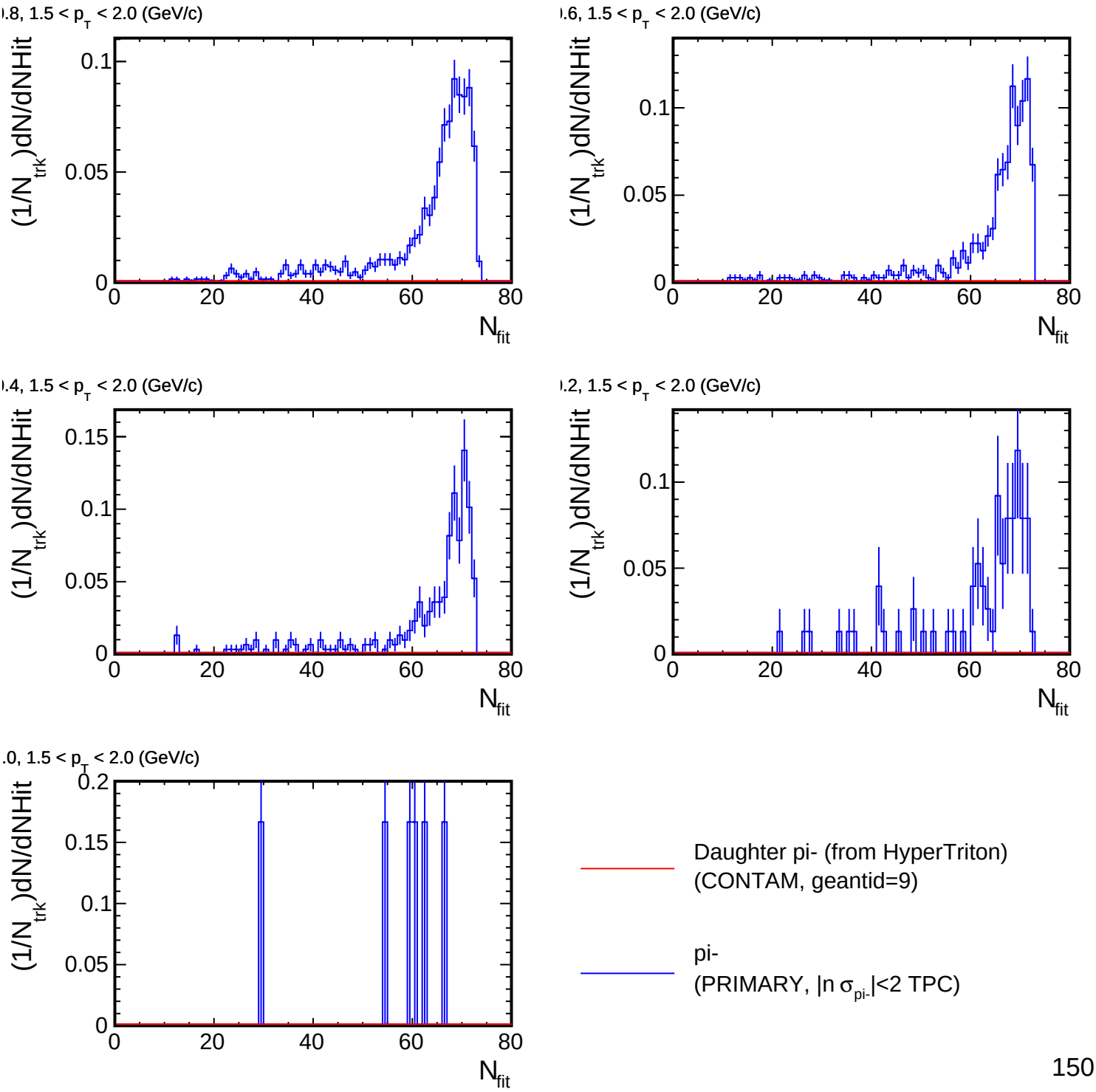




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

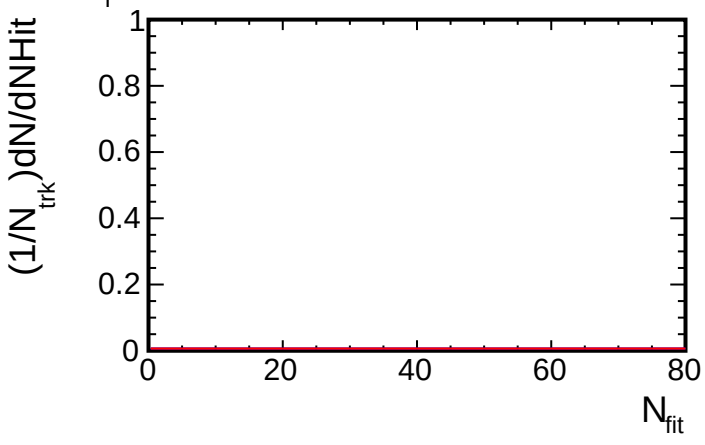
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

# NHit distribution for ($p_T$, η) slices

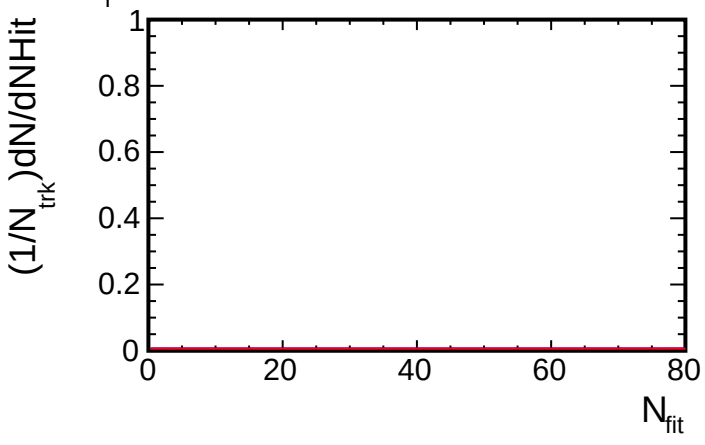


# NHit distribution for ($p_T$, η) slices

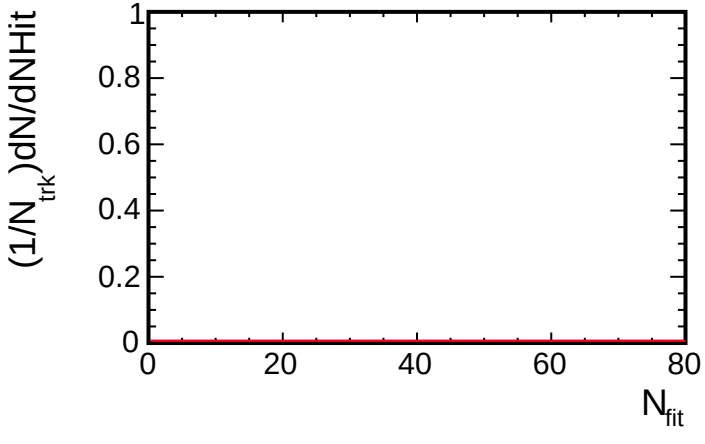
2, 1.5 < $p_T$ < 2.0 (GeV/c)



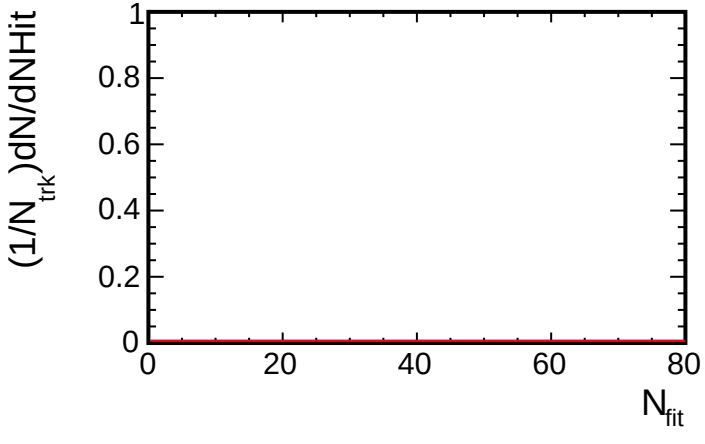

4, 1.5 < $p_T$ < 2.0 (GeV/c)



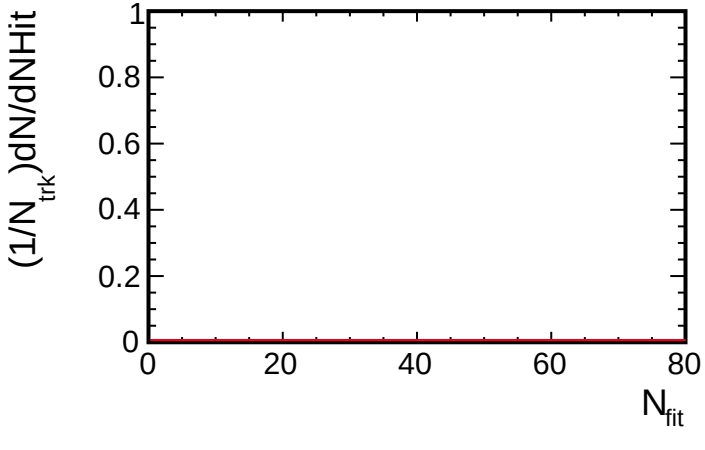

6, 1.5 < $p_T$ < 2.0 (GeV/c)




8, 1.5 < $p_T$ < 2.0 (GeV/c)



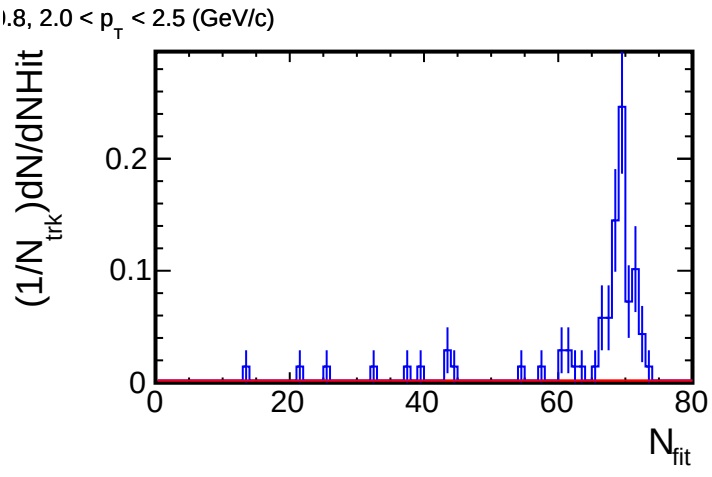

0, 1.5 < $p_T$ < 2.0 (GeV/c)

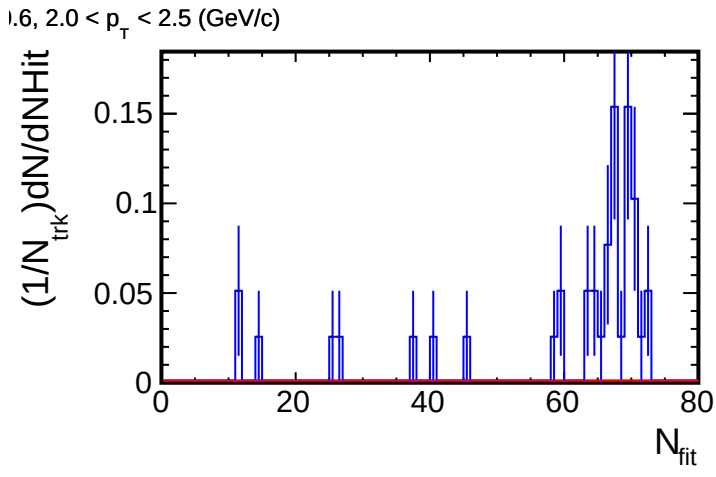


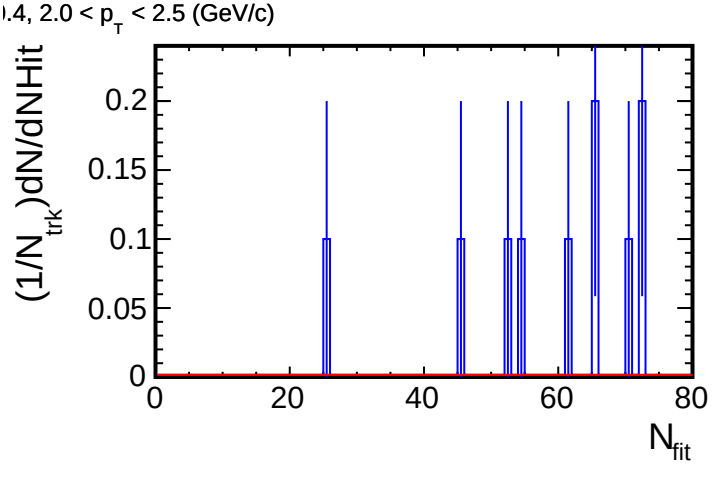

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

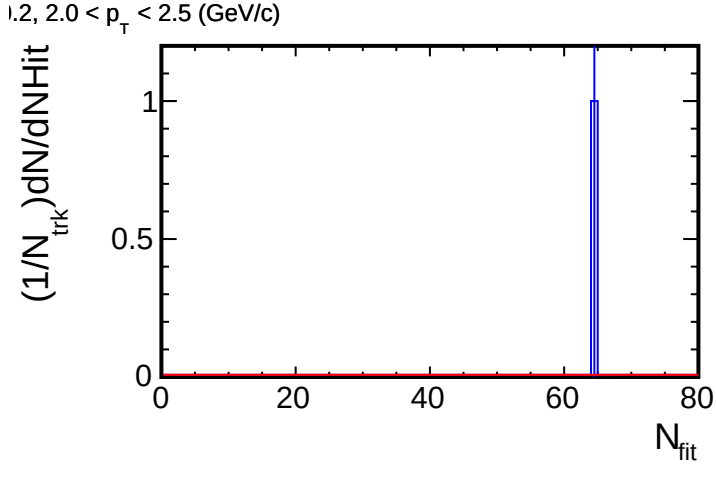
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

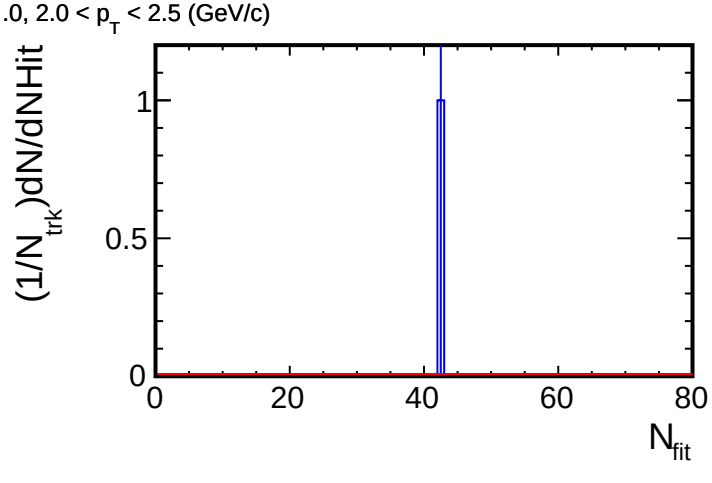
# NHit distribution for ($p_T$, η) slices



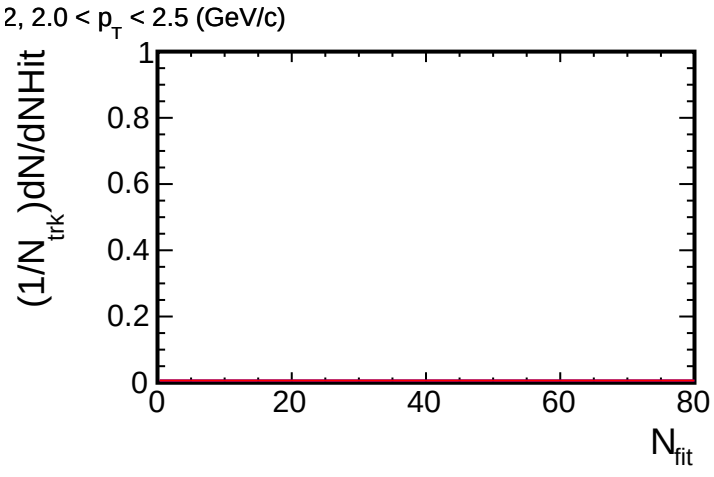



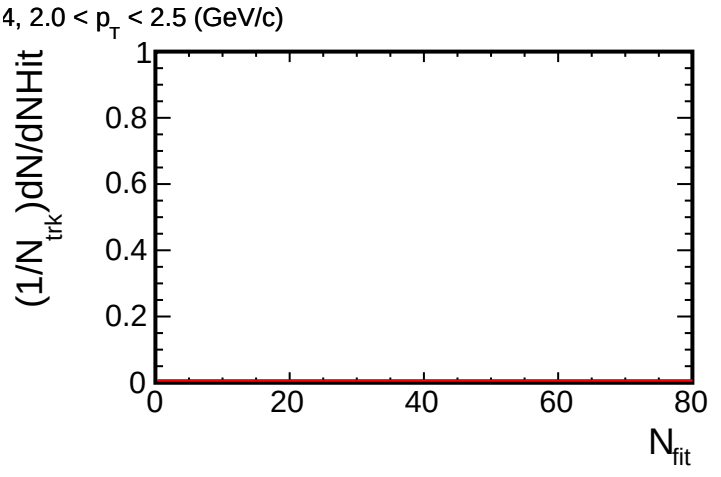



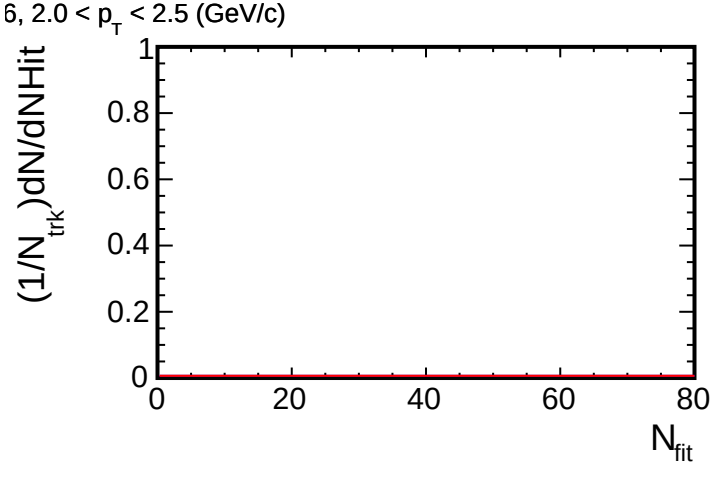

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

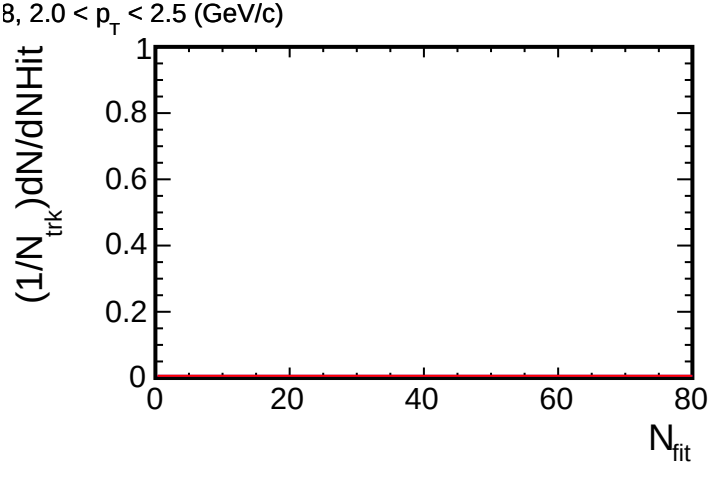
pi-
(PRIMARY, |n σ$_{pi-}$|<2 TPC)

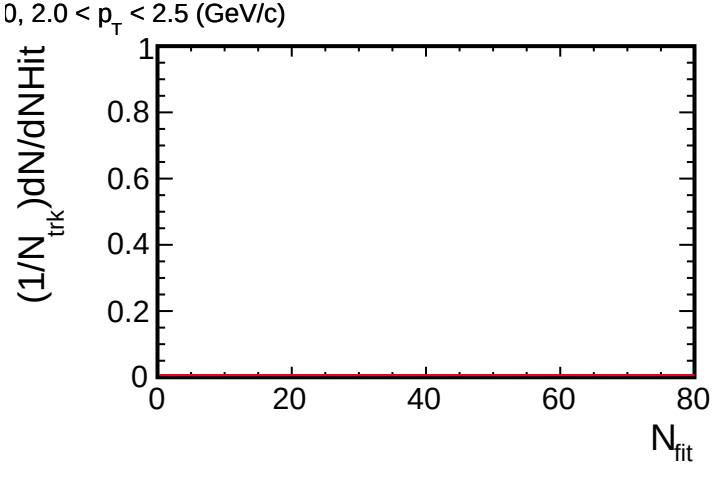
# NHit distribution for ($p_T$, η) slices



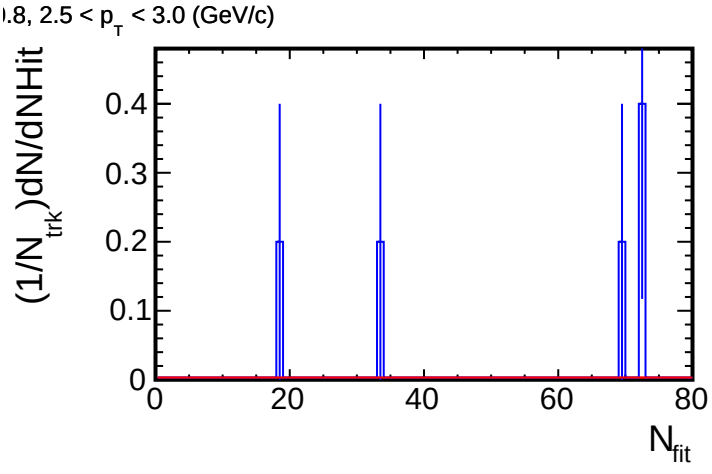



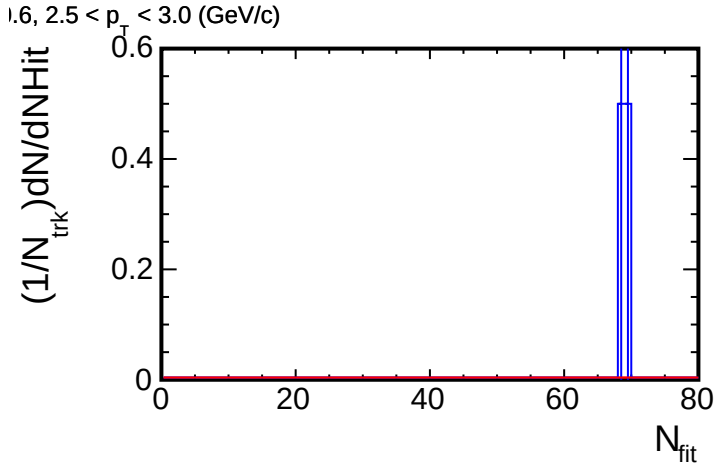



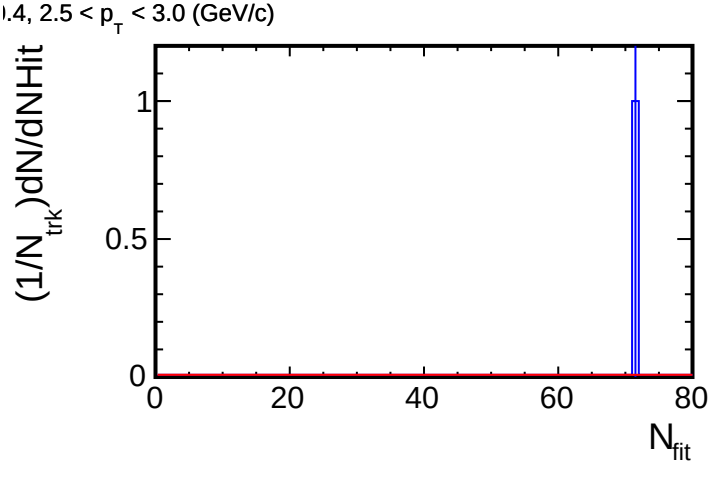

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

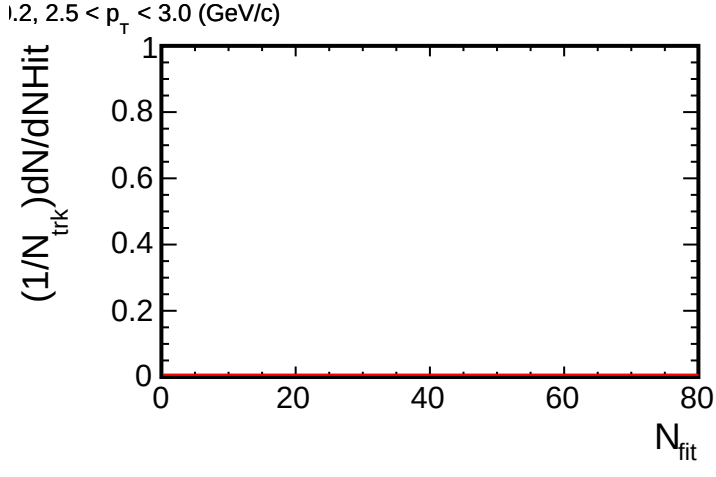
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

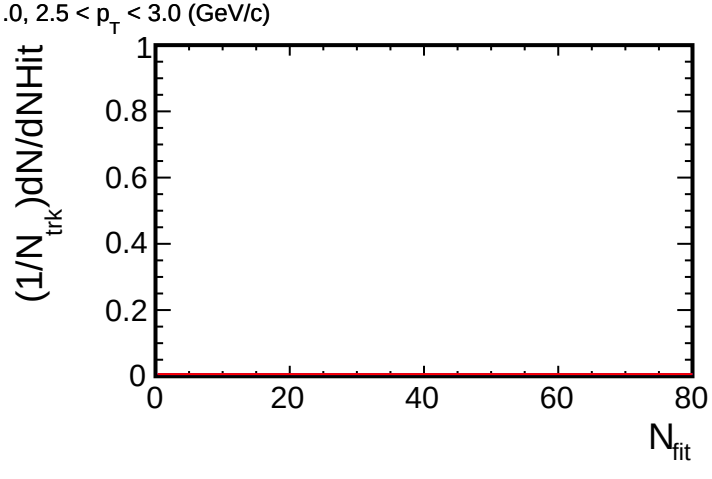
# NHit distribution for ($p_T$, η) slices



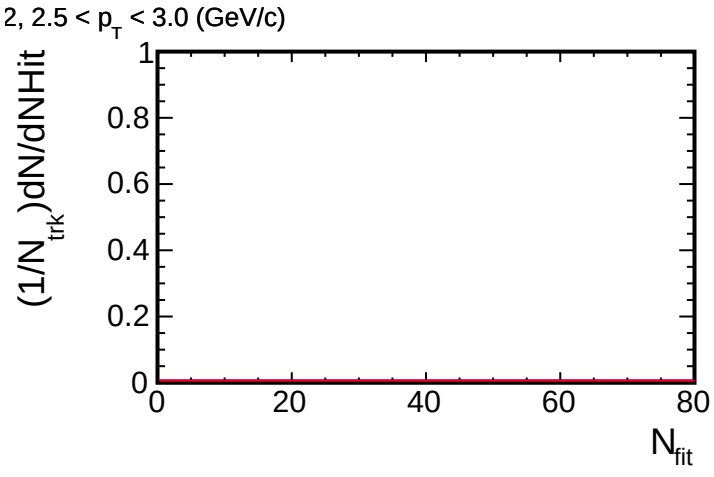



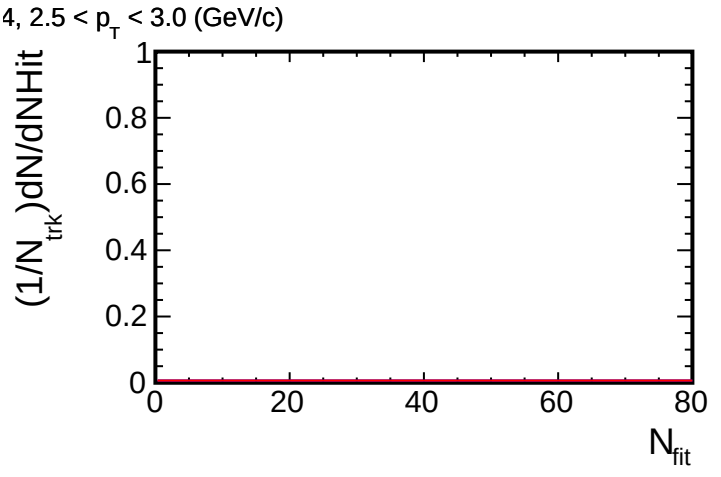



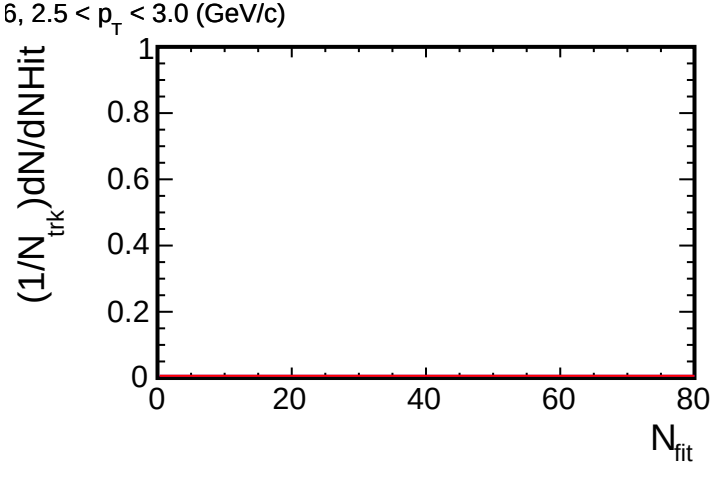

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

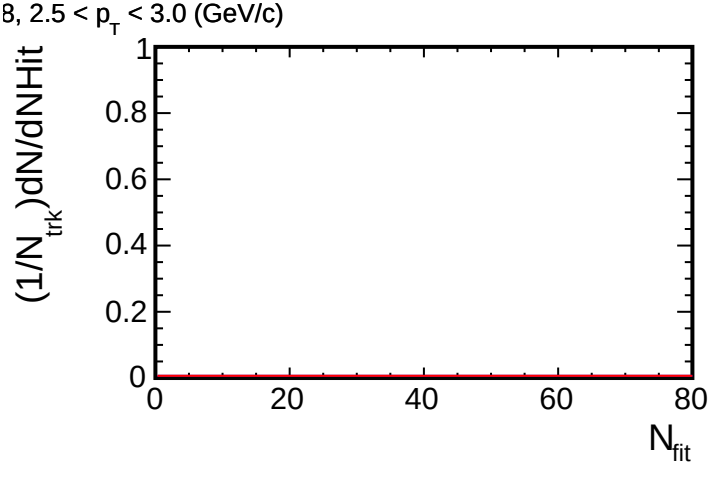
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

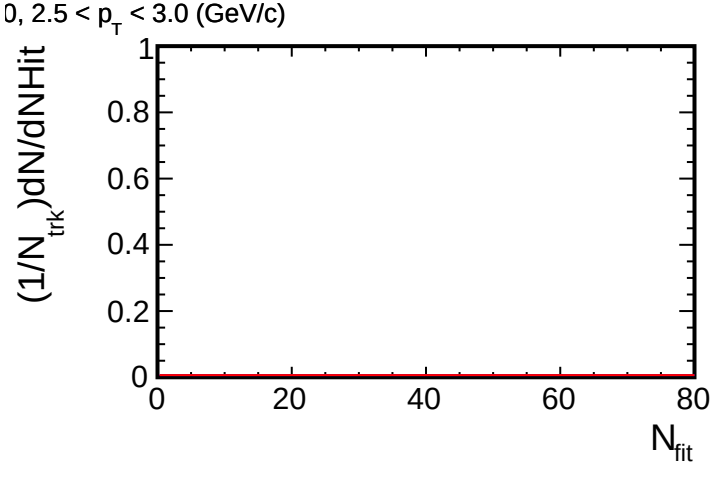
# NHit distribution for ($p_T$, η) slices



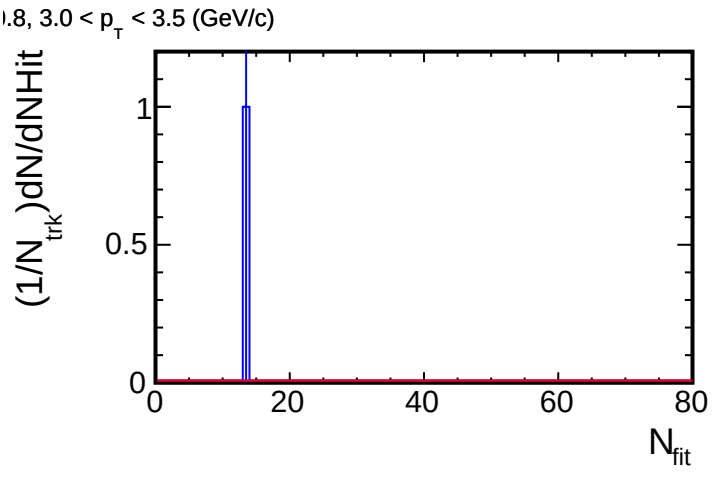



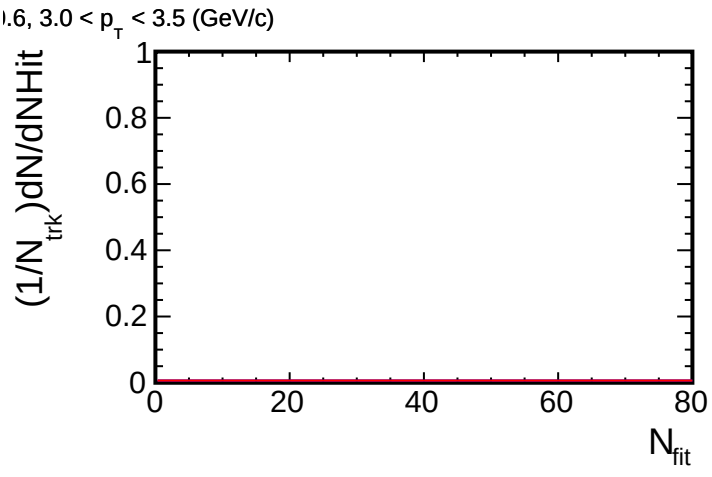



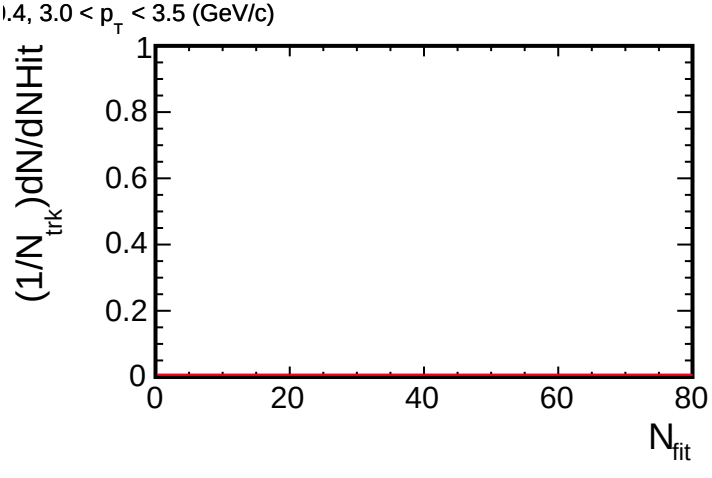

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

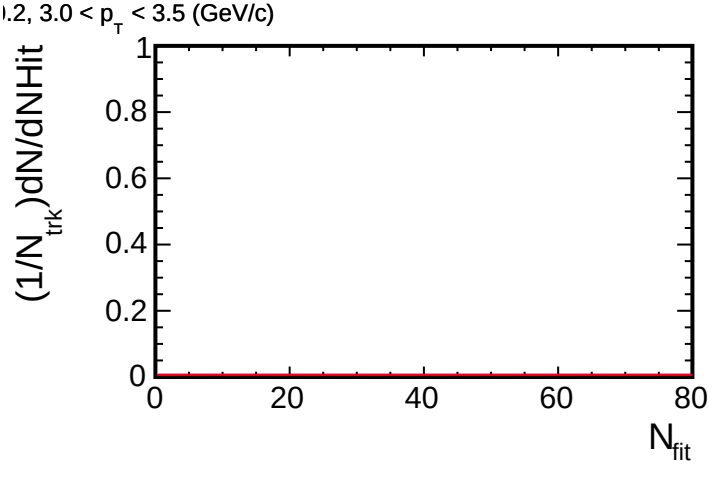
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

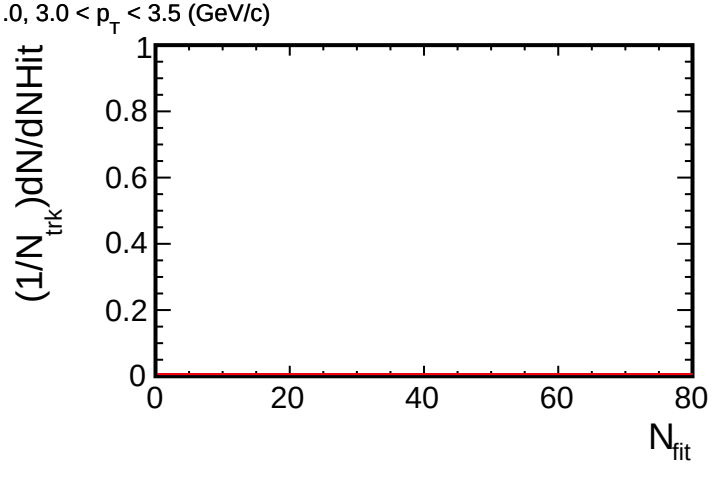
# NHit distribution for ($p_T$, η) slices



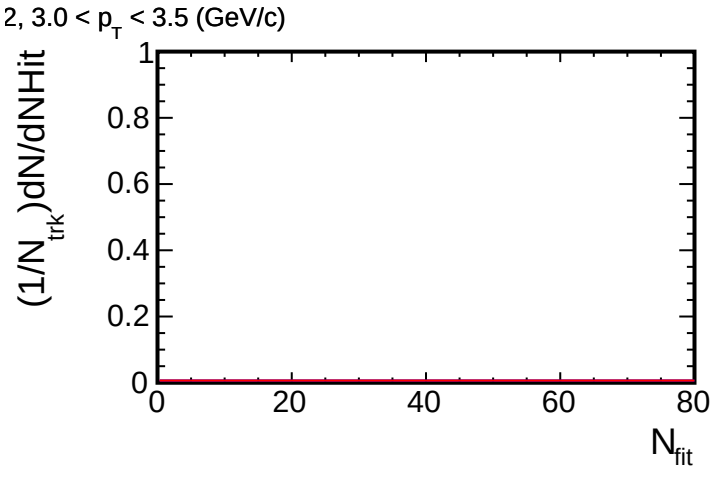



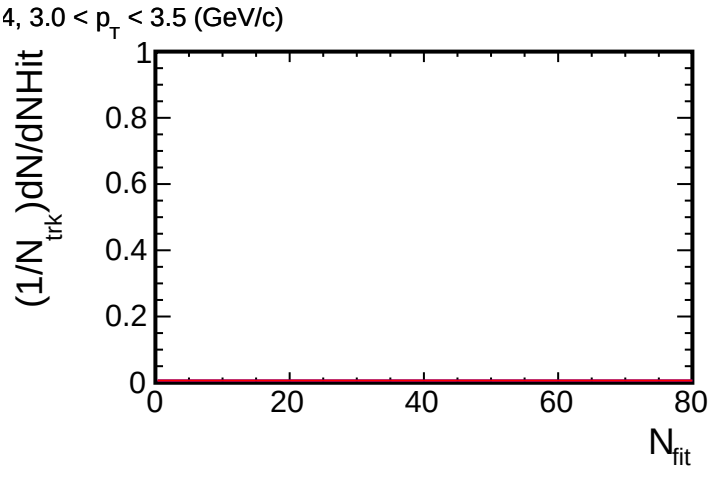



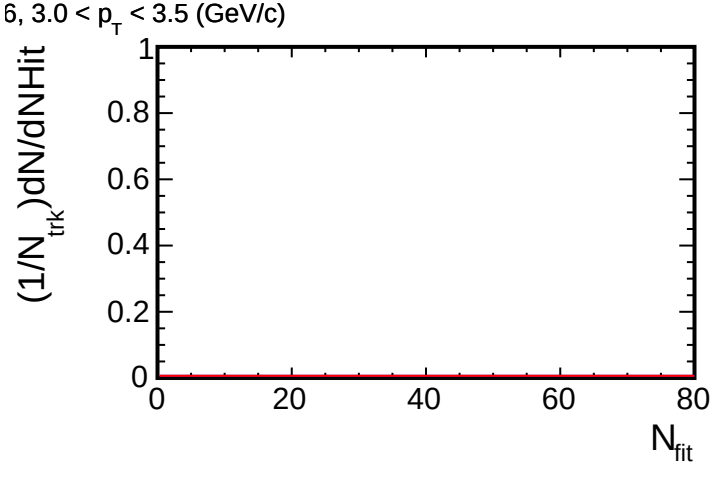

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

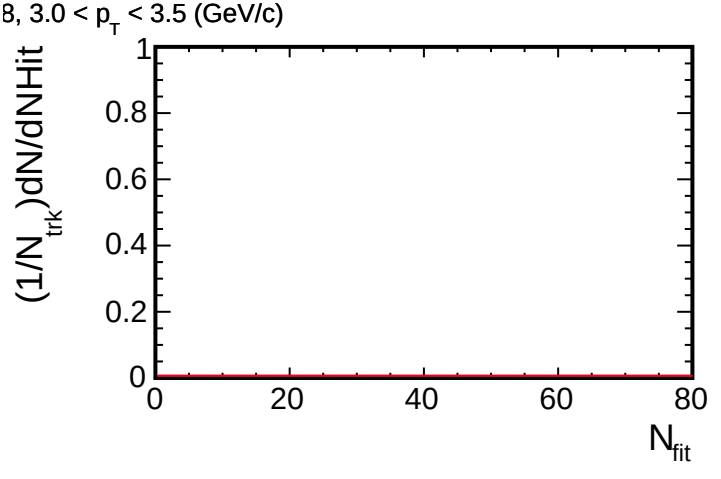
pi-
(PRIMARY, |n σ$_{pi-}$|<2 TPC)

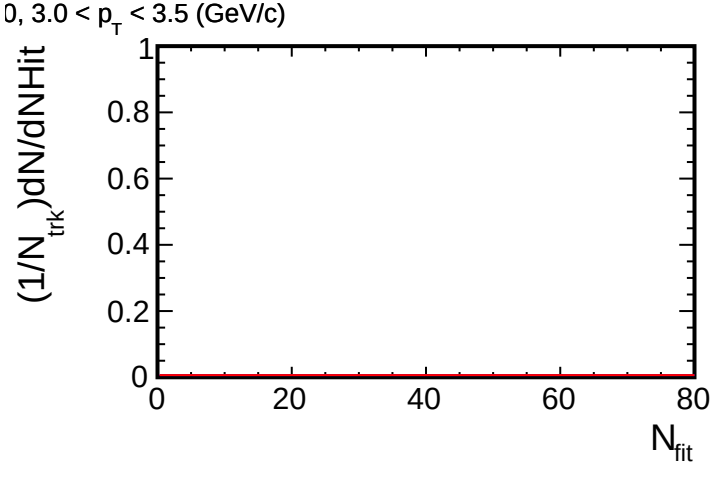
# NHit distribution for ($p_T$, η) slices



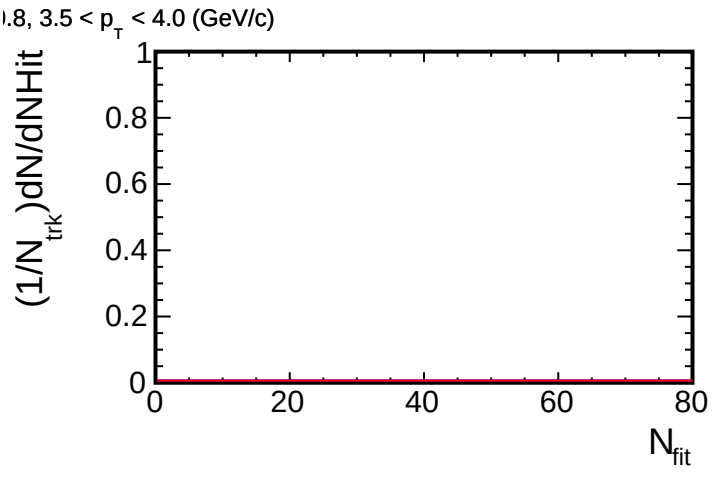



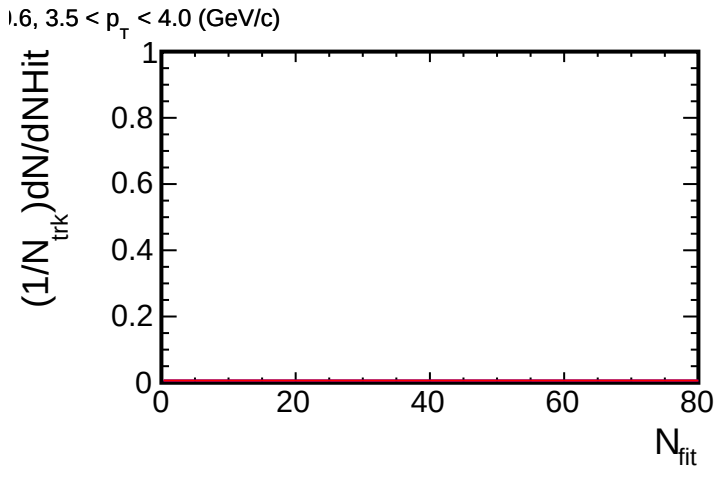



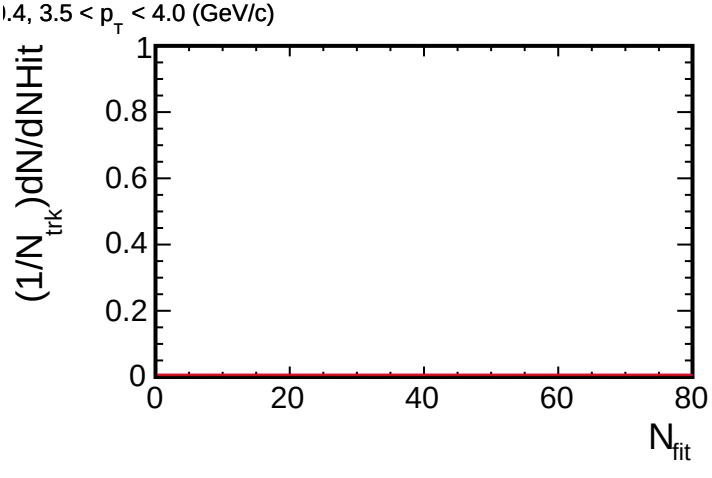

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

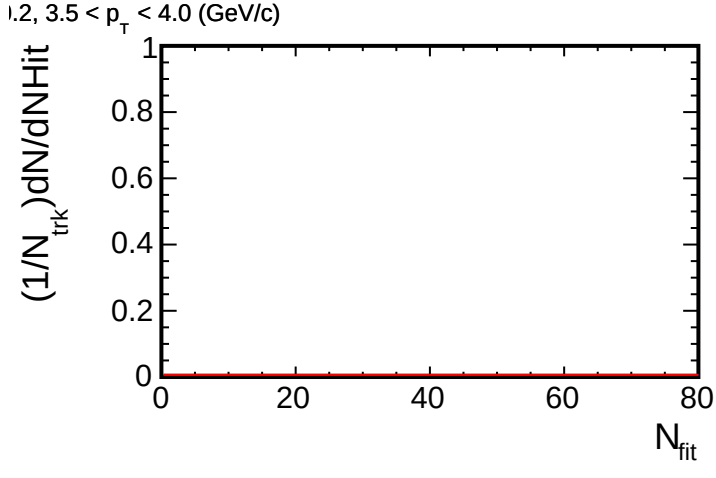
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

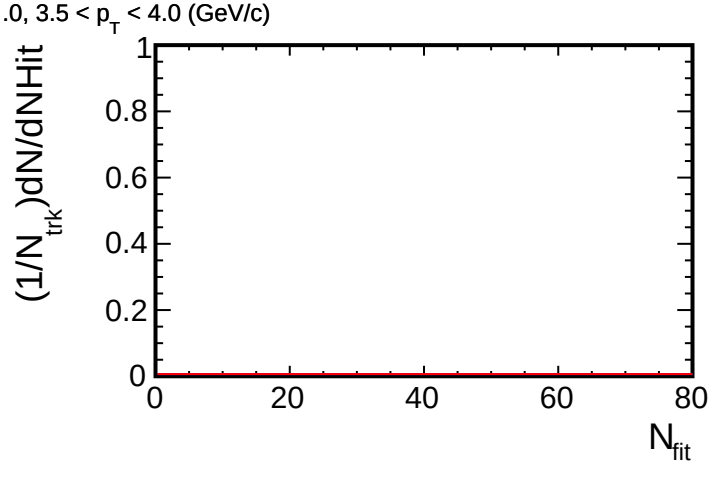
# NHit distribution for ($p_T$, η) slices



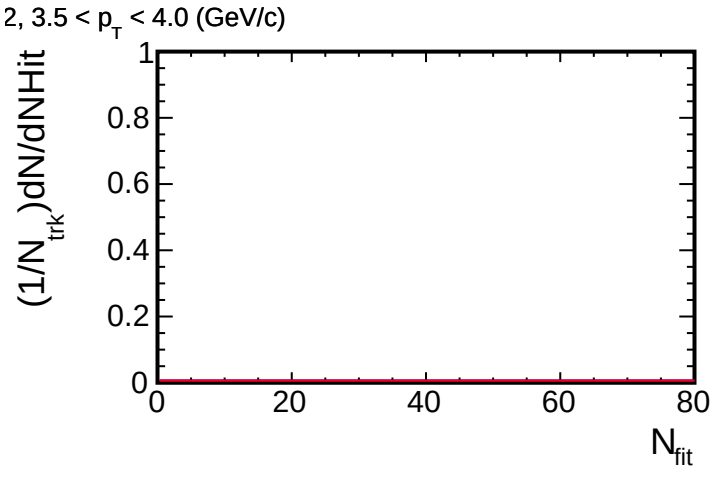



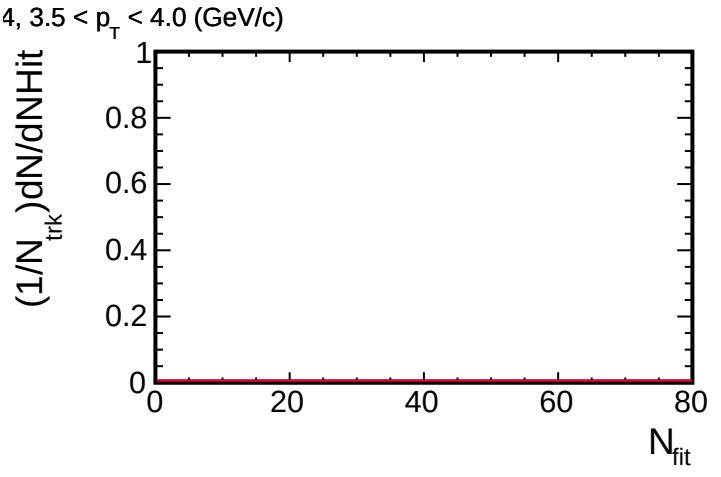



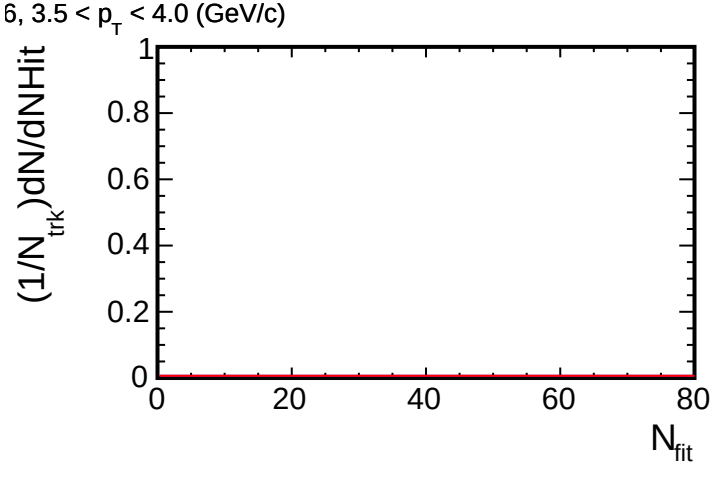

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

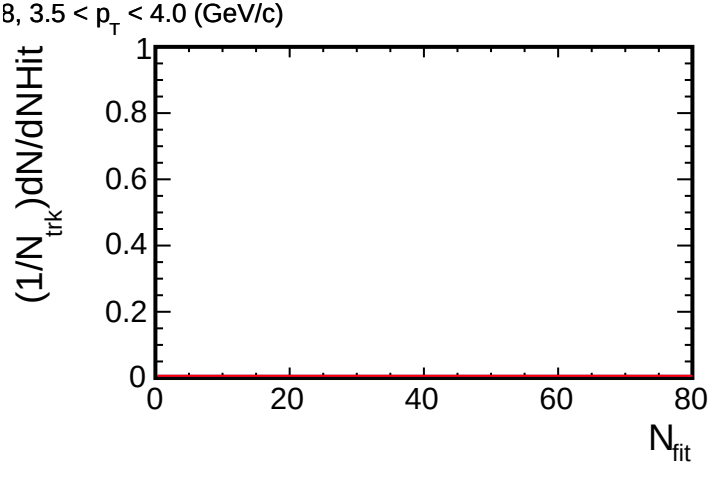
pi-
(PRIMARY, |n σ$_{pi-}$|<2 TPC)

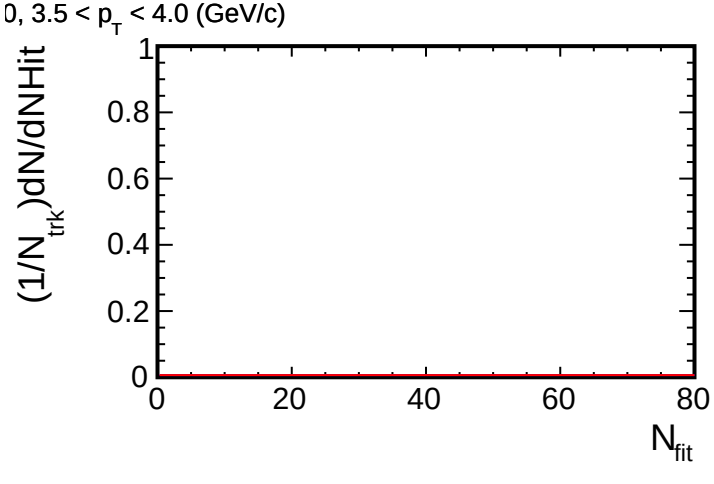
# NHit distribution for ($p_T$, η) slices



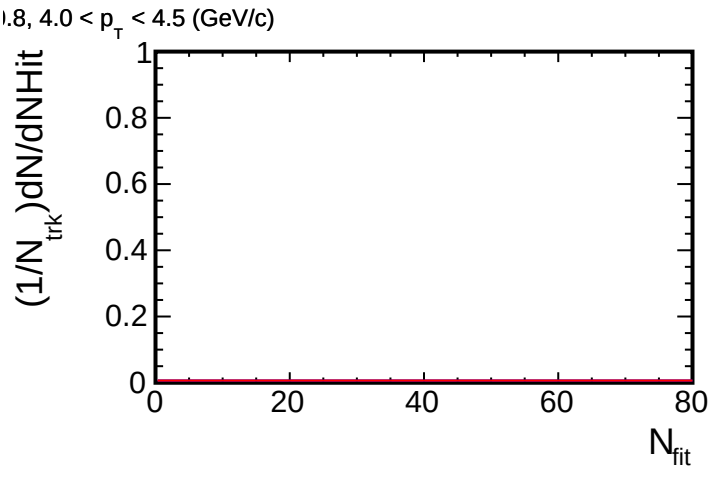



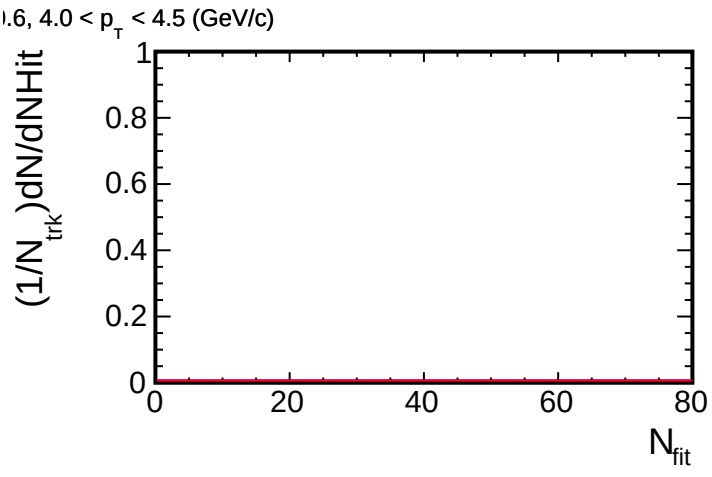



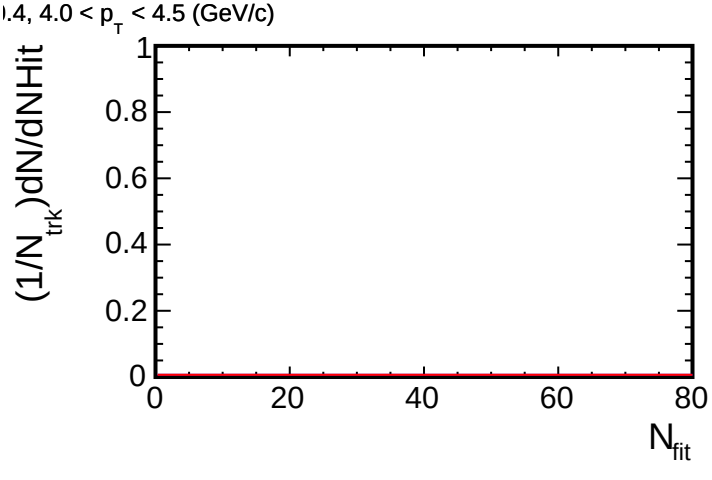

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

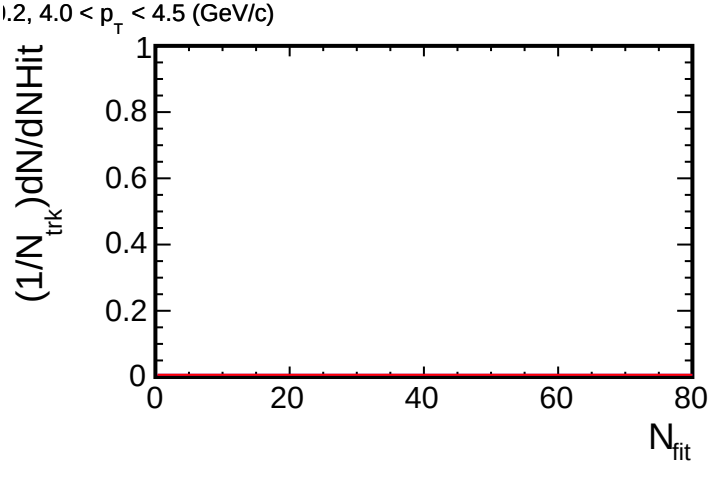
pi-
(PRIMARY, $|n\sigma_{pi-}|$<2 TPC)

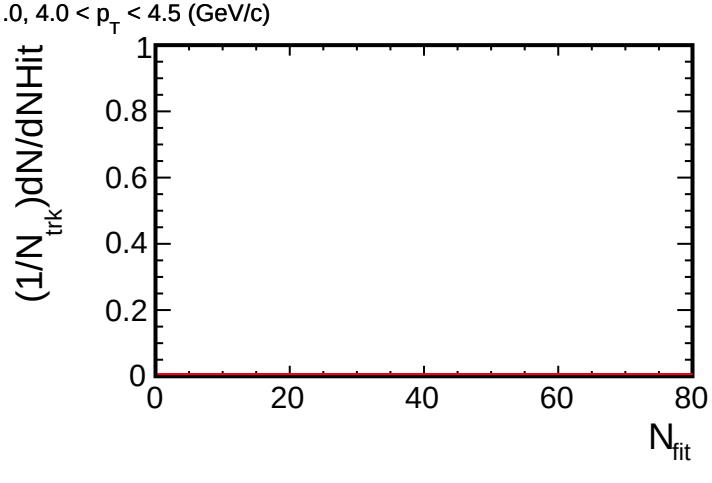
# NHit distribution for ($p_T$, η) slices



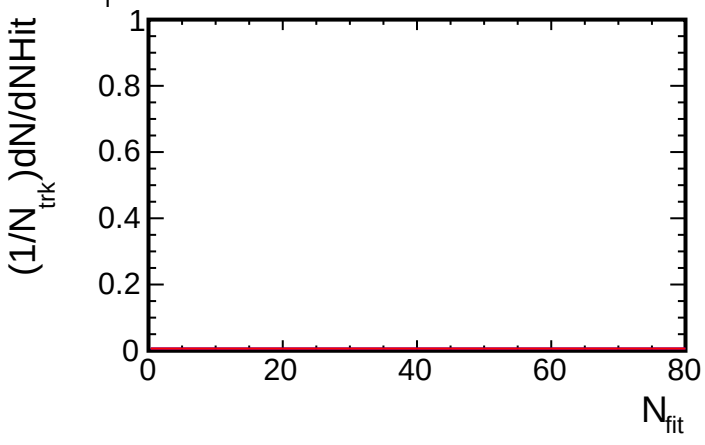




Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

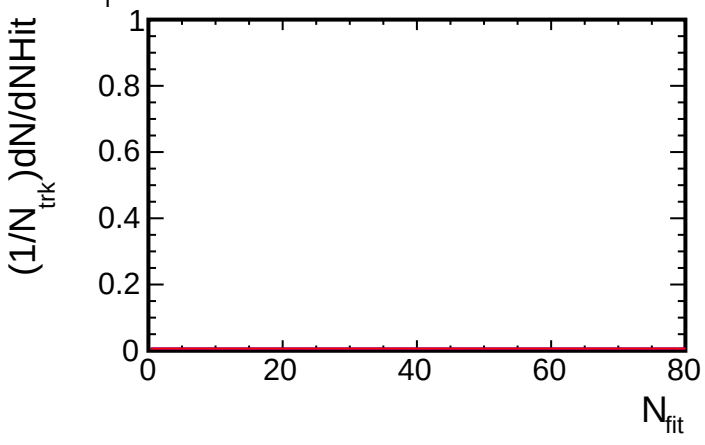
pi-
(PRIMARY, |n σ$_{pi-}$|<2 TPC)

# NHit distribution for ($p_T$, η) slices

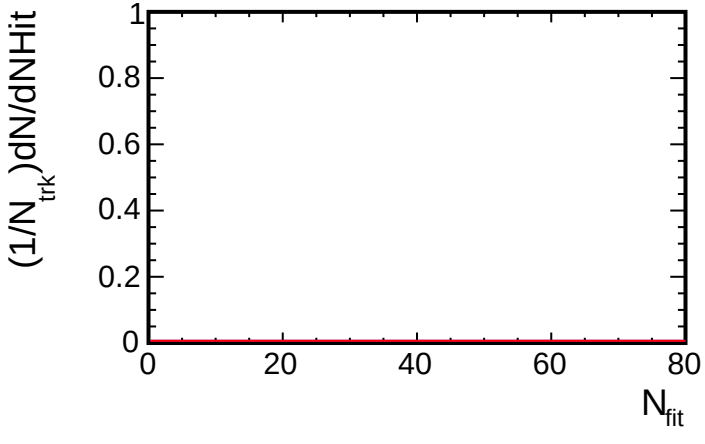
2, 4.0 < $p_T$ < 4.5 (GeV/c)



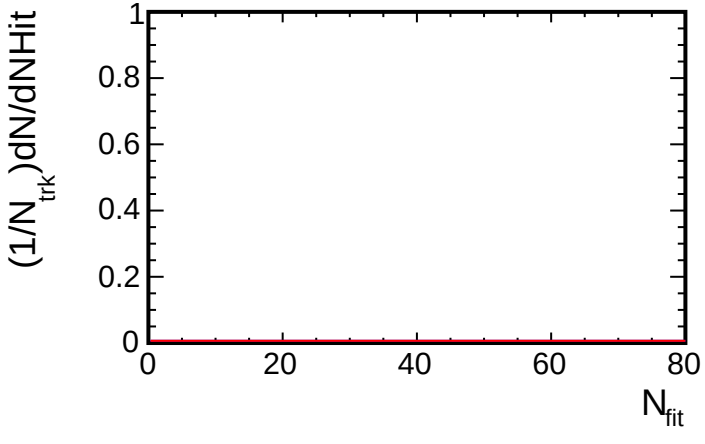

4, 4.0 < $p_T$ < 4.5 (GeV/c)



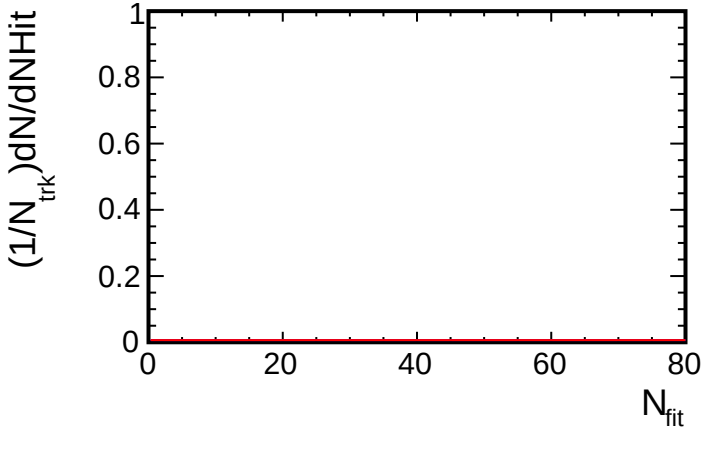

6, 4.0 < $p_T$ < 4.5 (GeV/c)




8, 4.0 < $p_T$ < 4.5 (GeV/c)



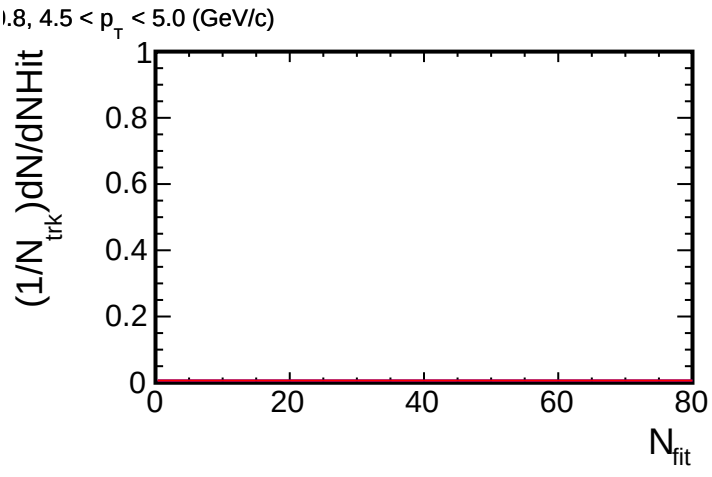

0, 4.0 < $p_T$ < 4.5 (GeV/c)

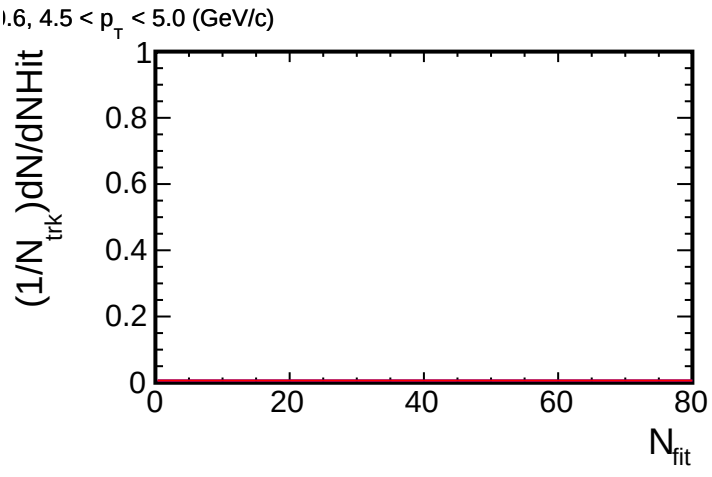


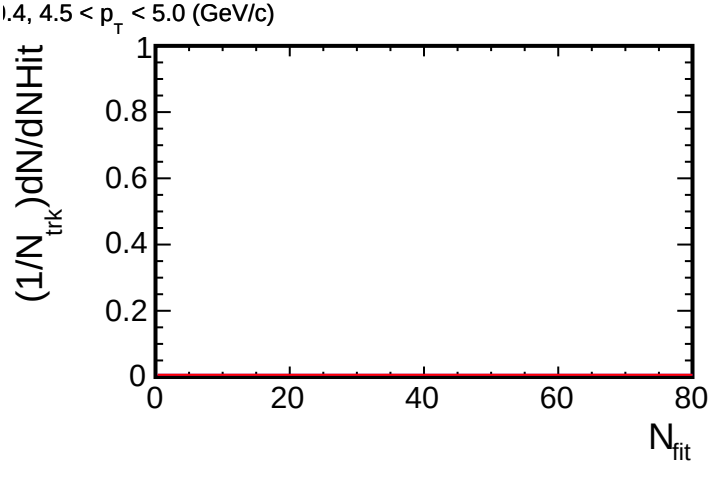

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

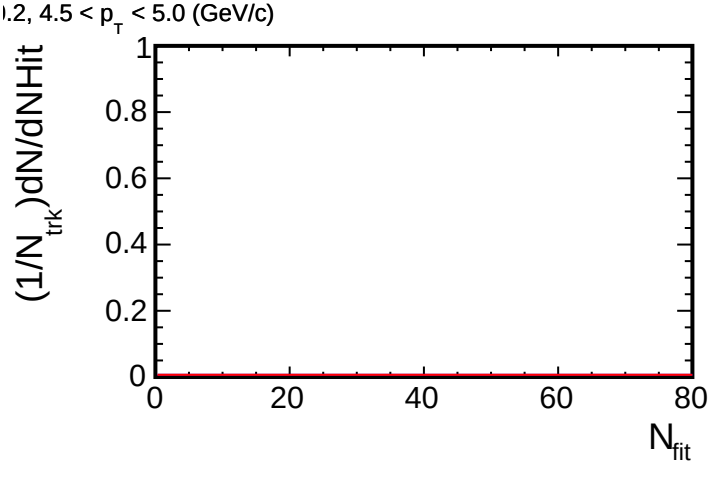
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

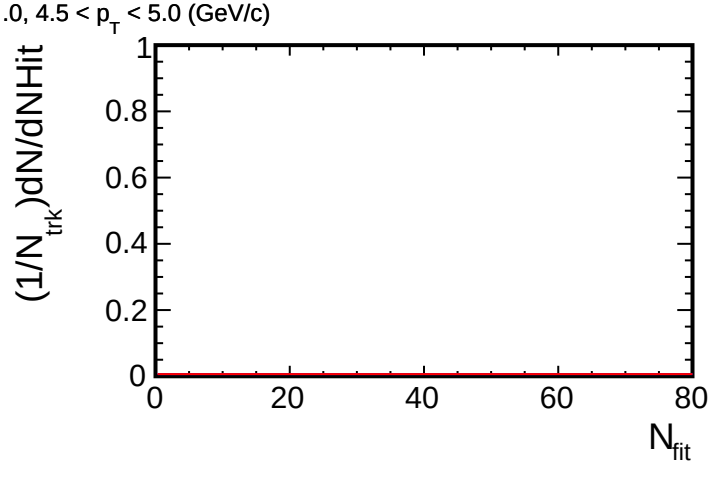
# NHit distribution for ($p_T$, η) slices



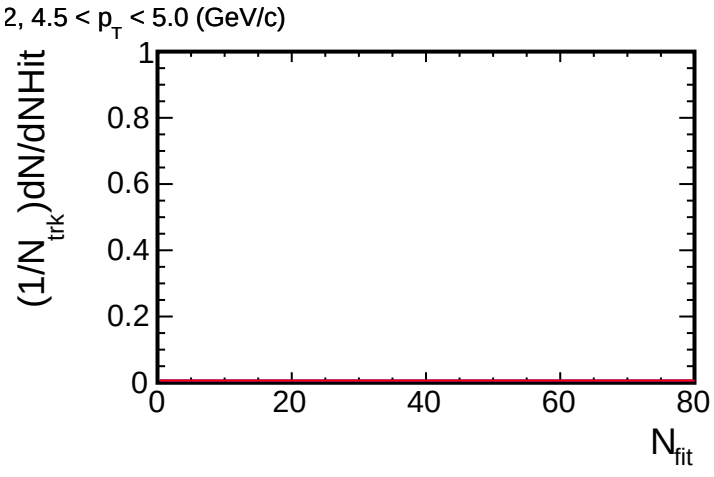



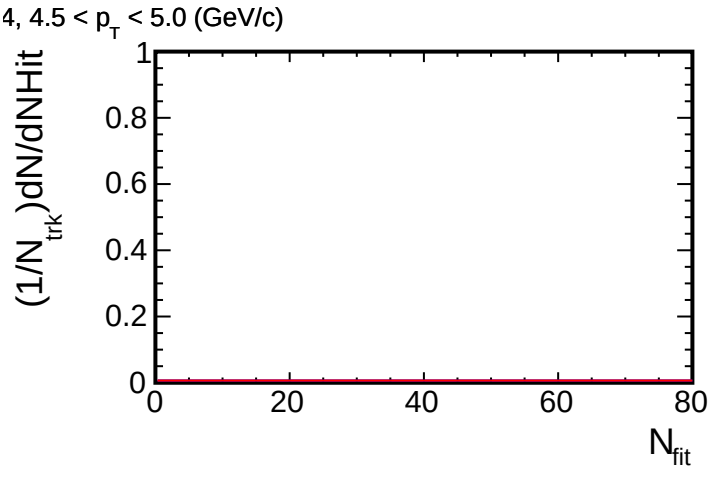



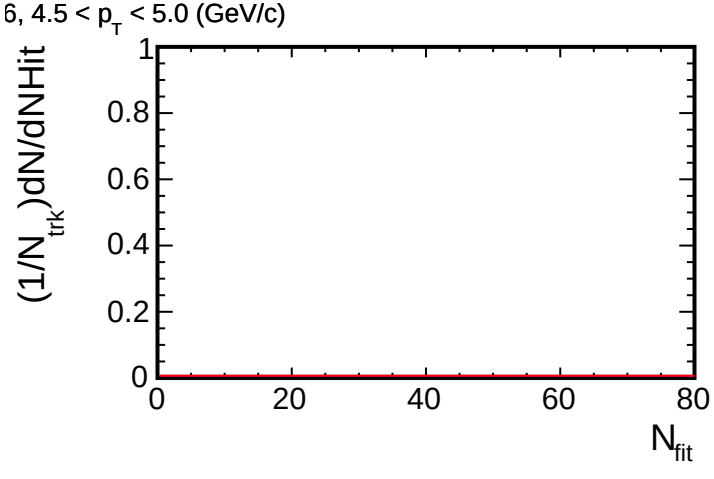

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

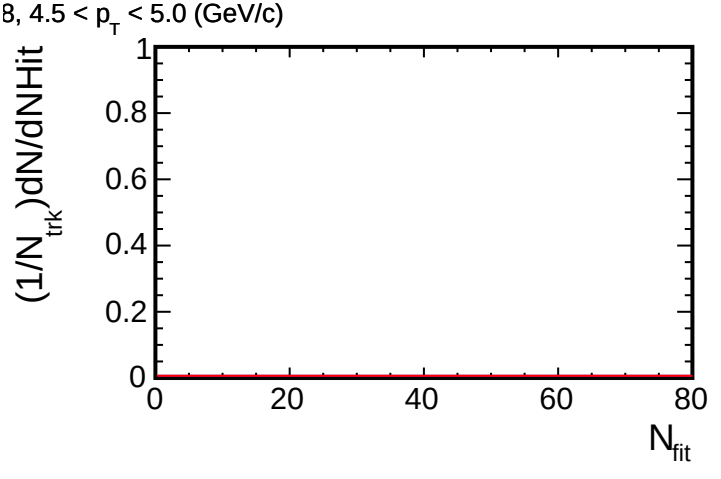
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

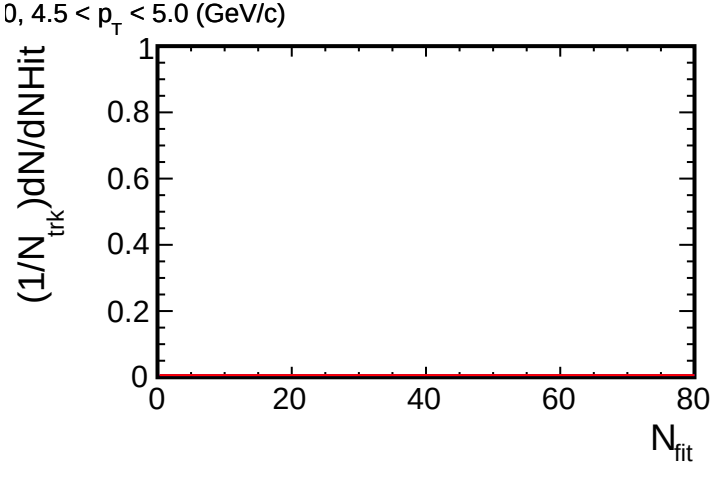
# NHit distribution for ($p_T$, η) slices



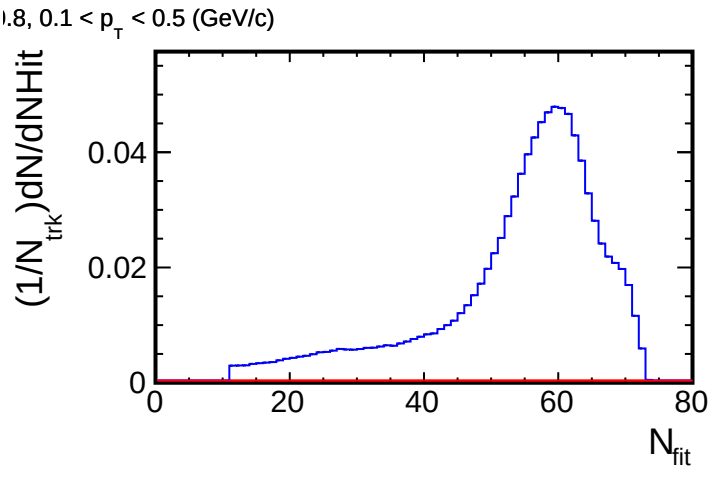



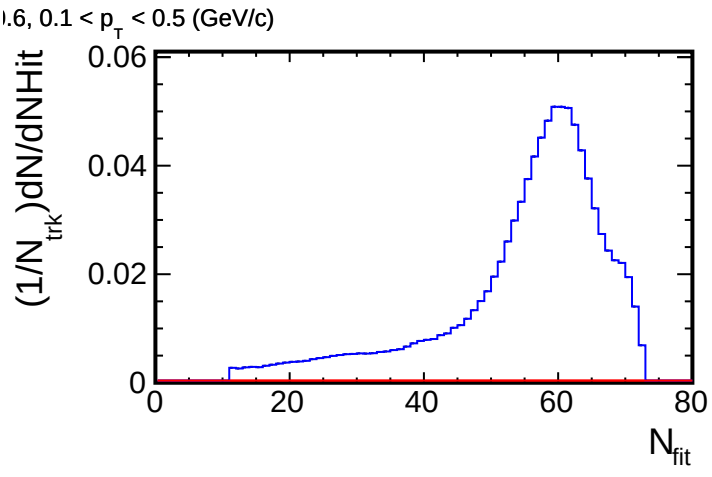



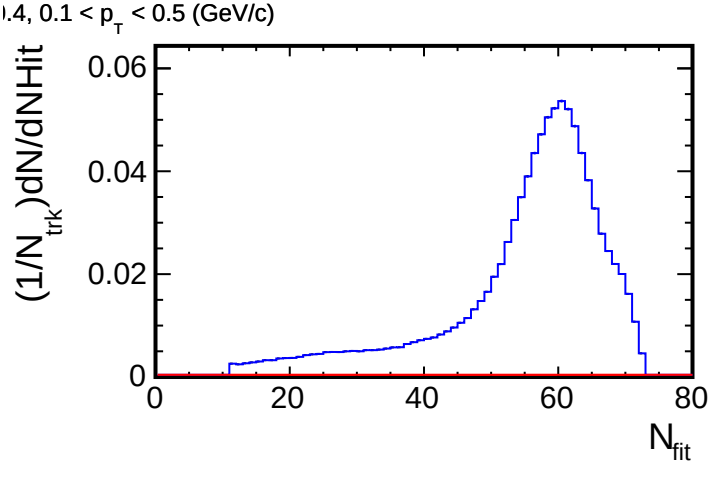

Daughter pi- (from HyperTriton)
(CONTAM, geantid=9)

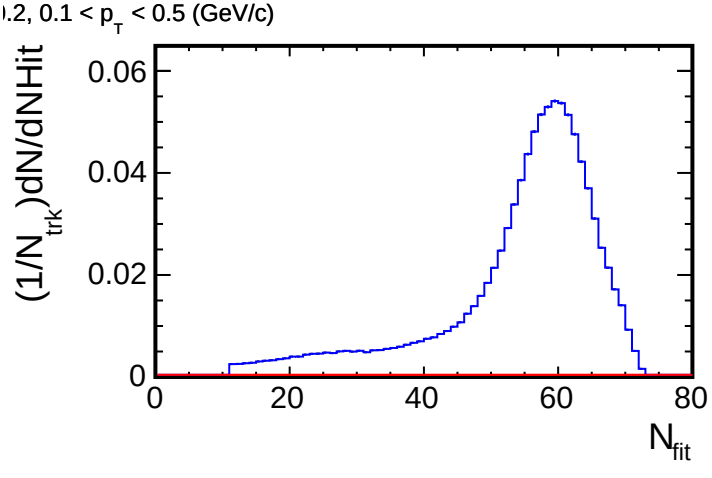
pi-
(PRIMARY, |n $\sigma_{pi-}$|<2 TPC)

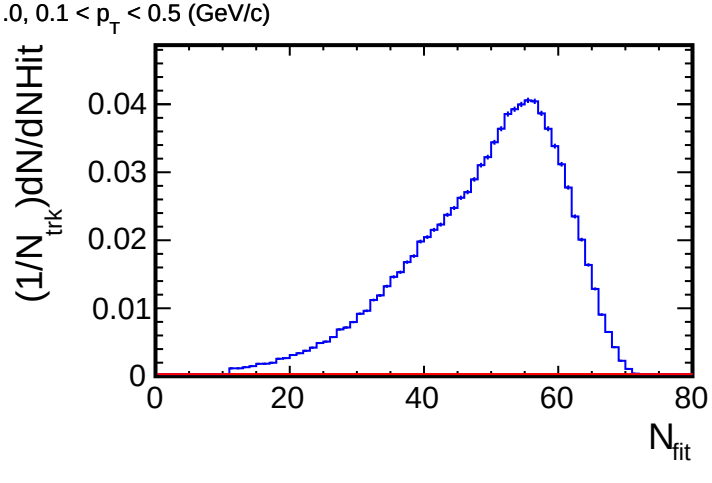
# NHit distribution for ($p_T$, η) slices



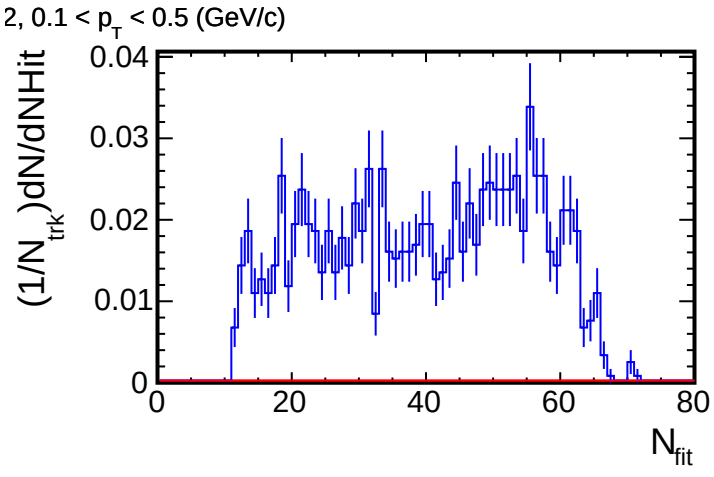



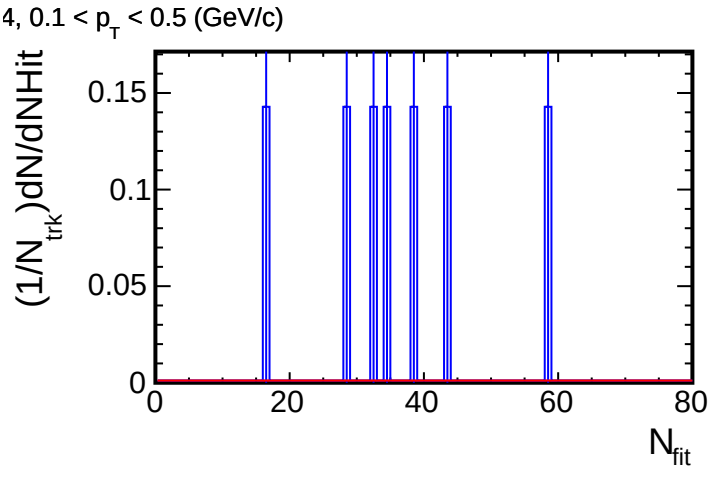



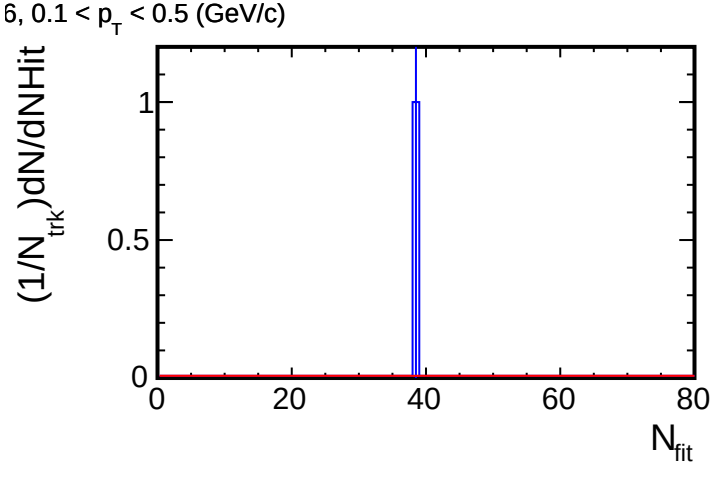

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

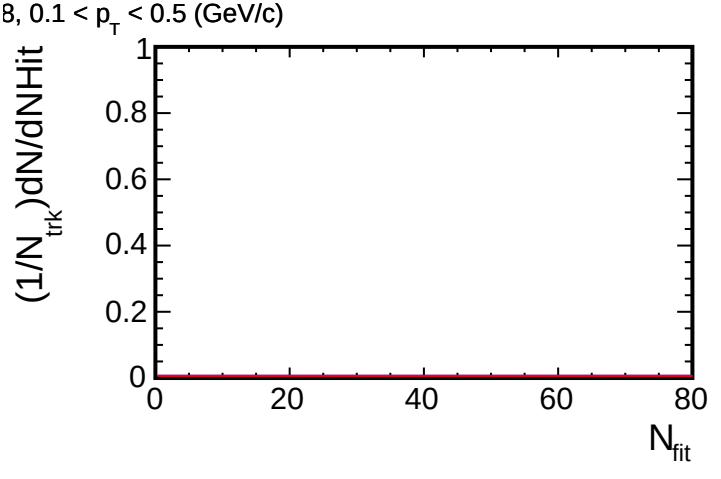
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

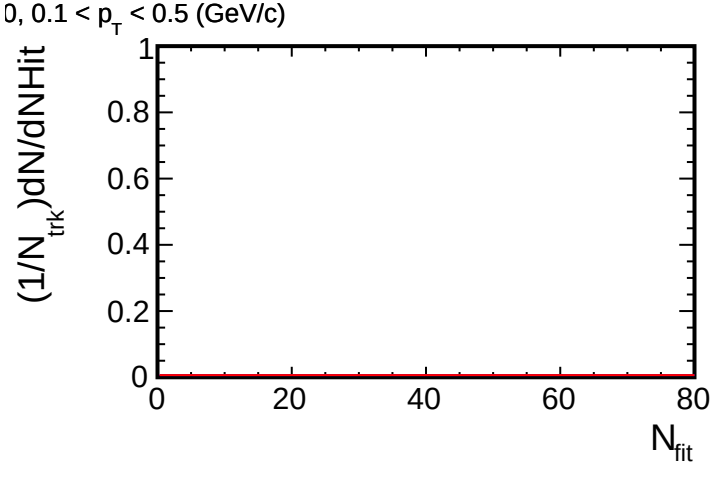
# NHit distribution for ($p_T$, η) slices



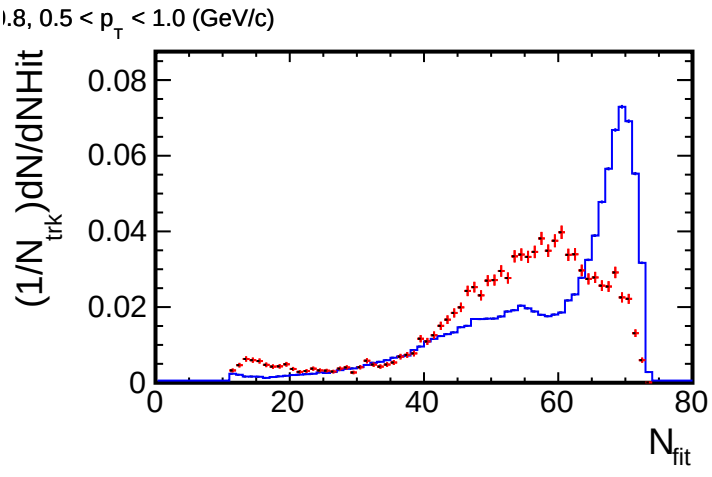



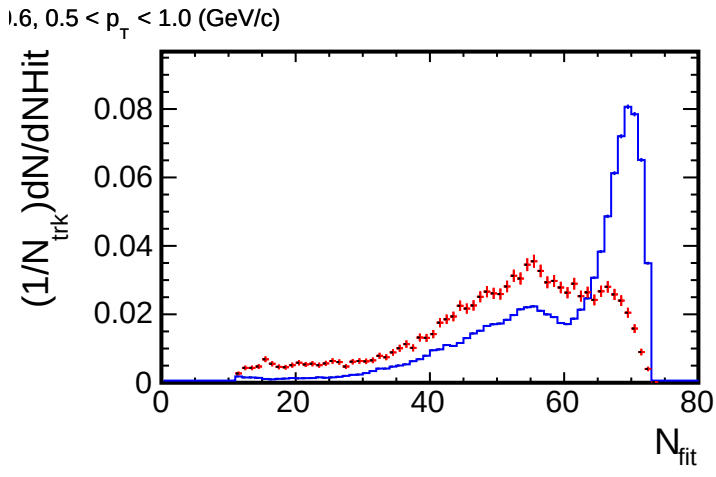



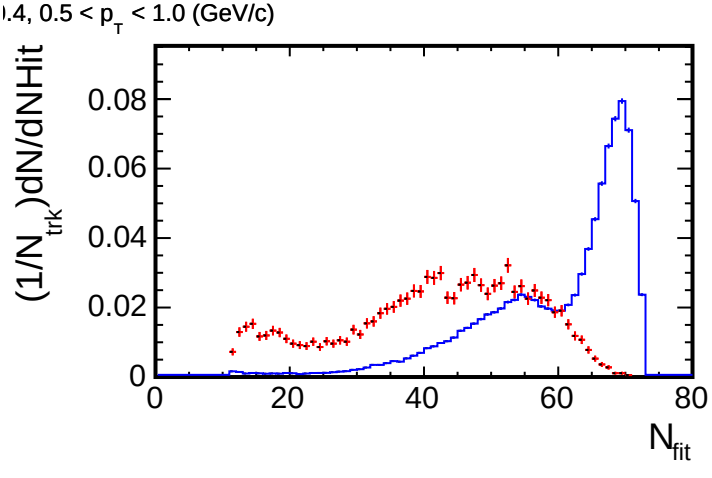

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

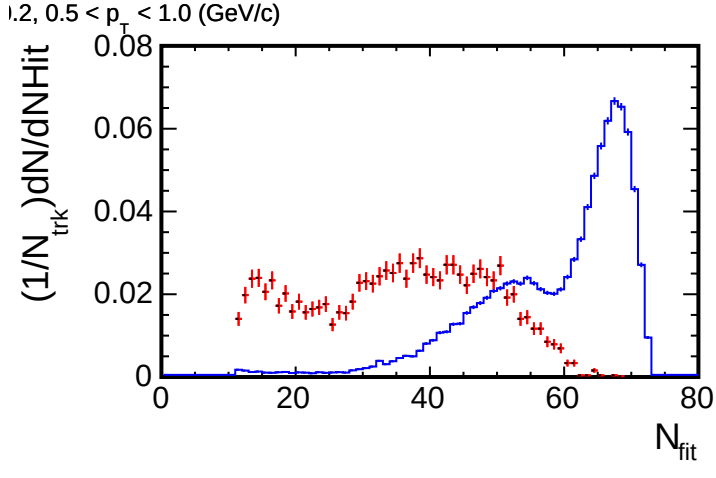
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

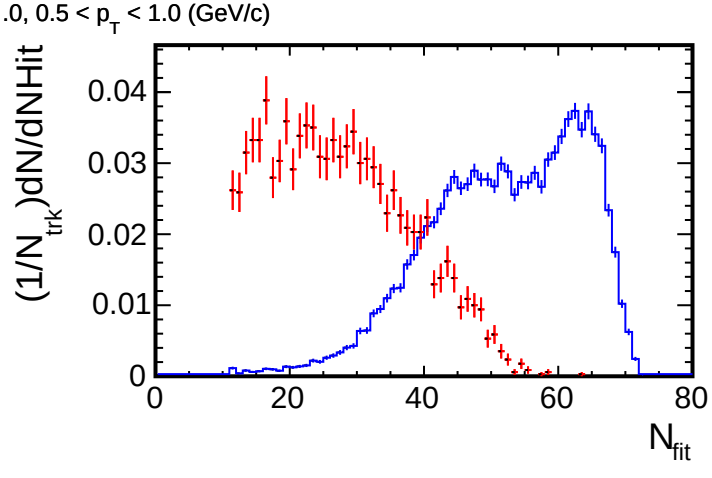
# NHit distribution for ($p_T$, η) slices



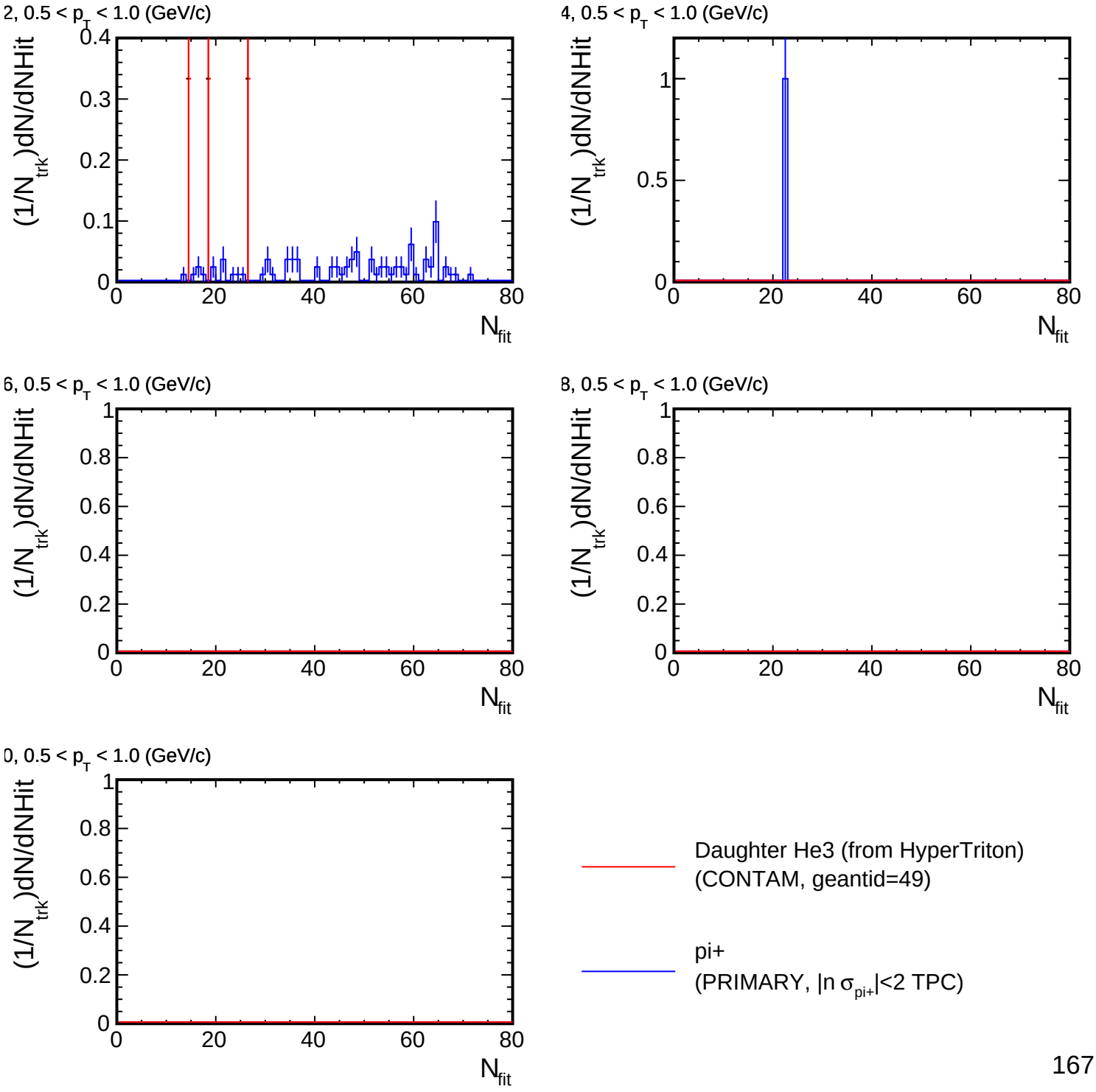



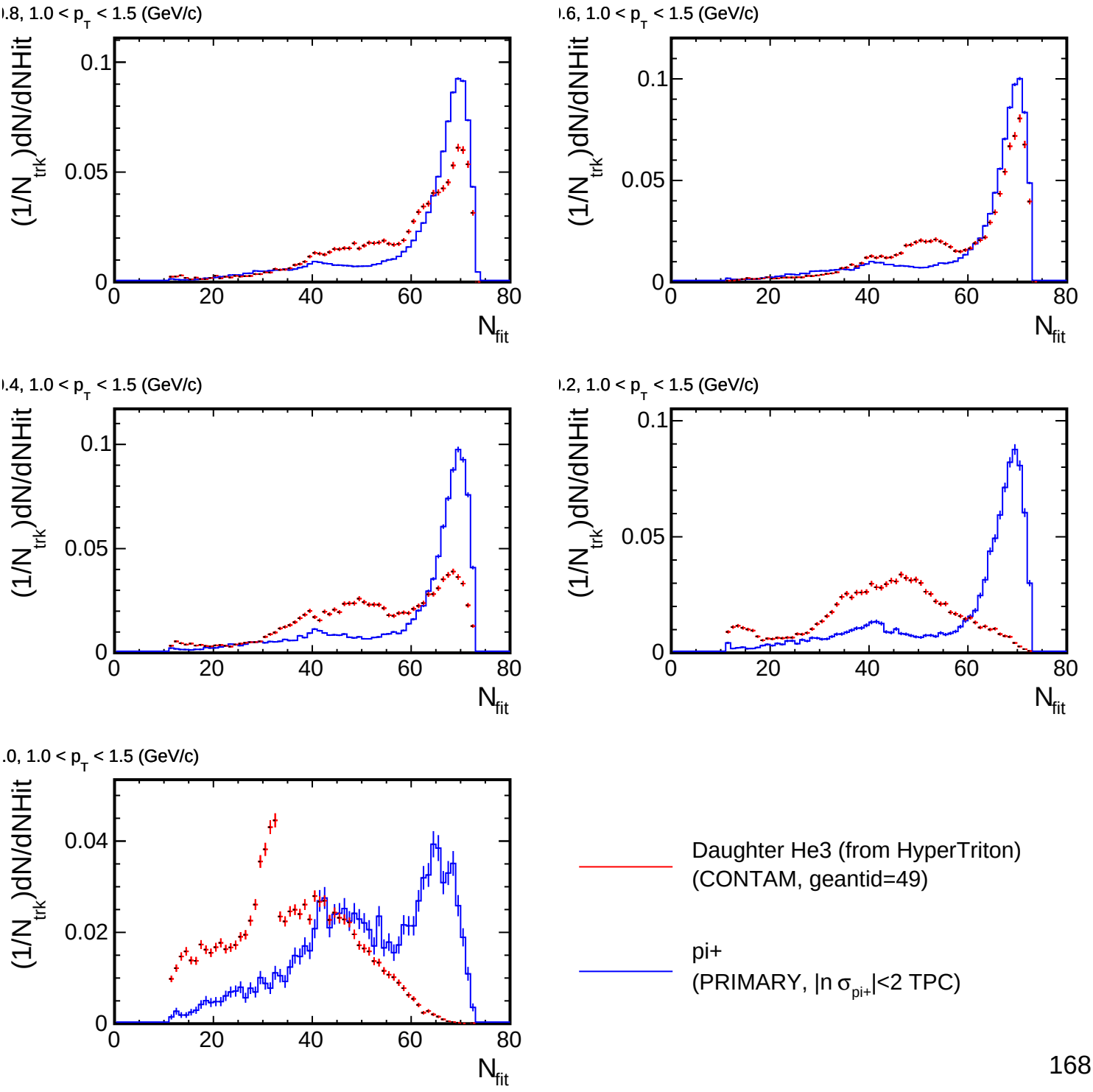

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

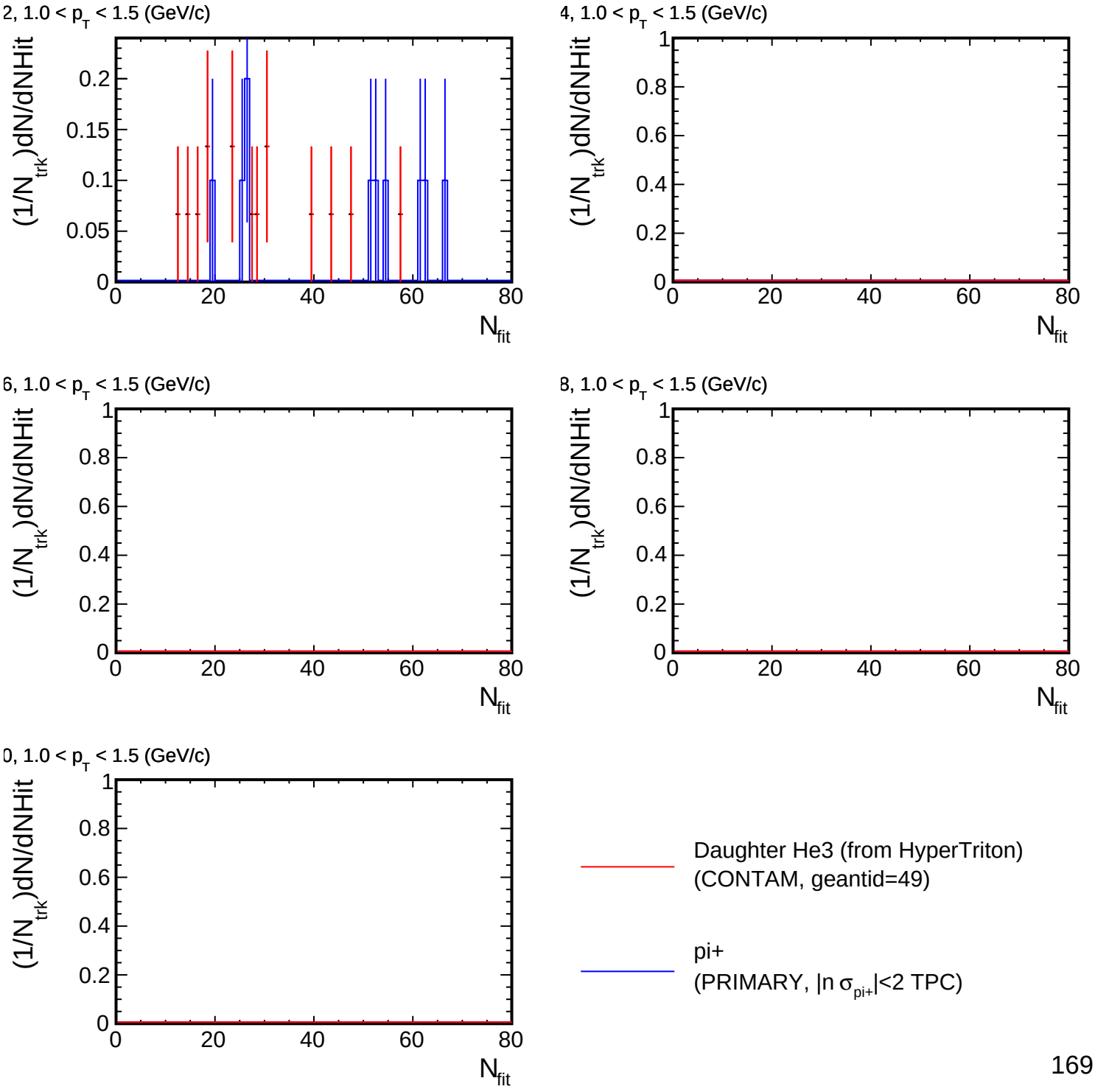
# NHit distribution for ($p_T$, η) slices



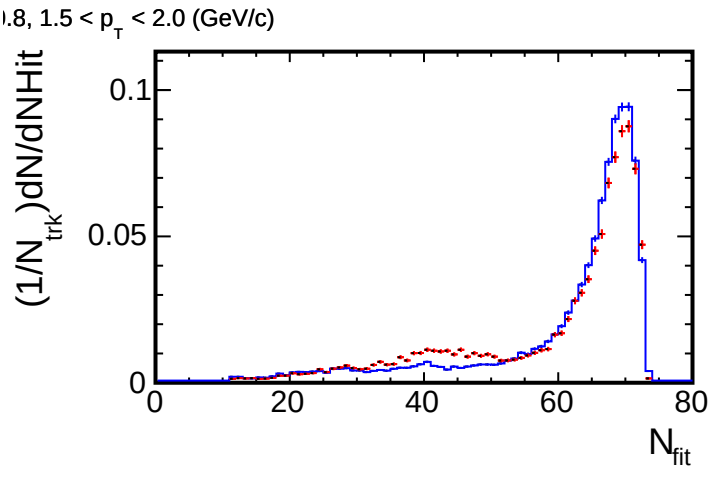
# NHit distribution for ($p_T$, η) slices

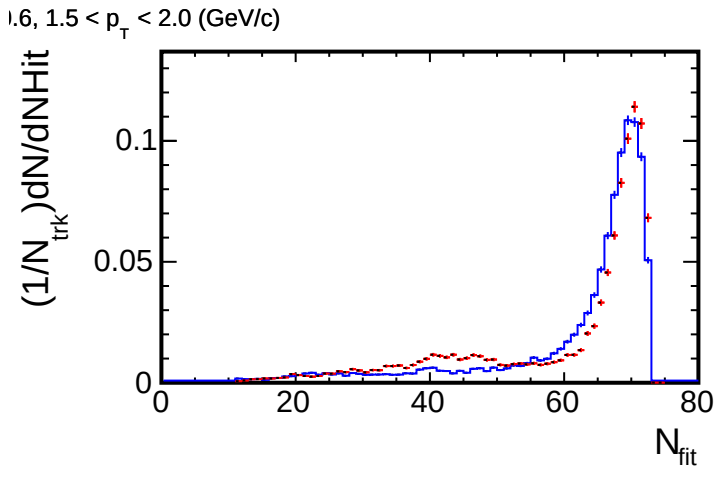


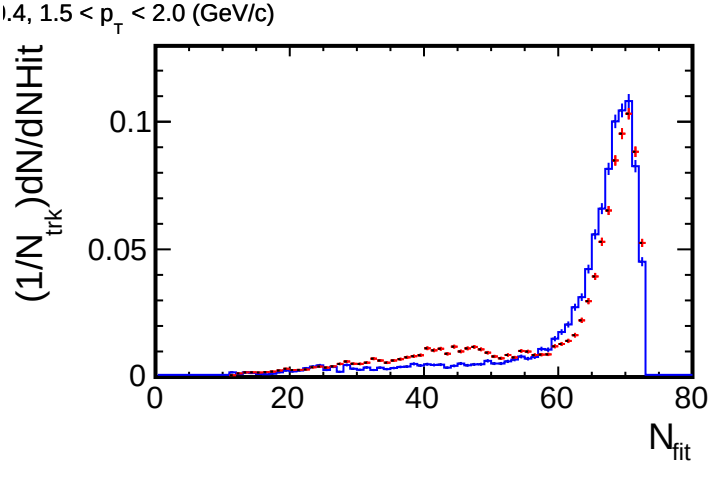
# NHit distribution for ($p_T$, η) slices

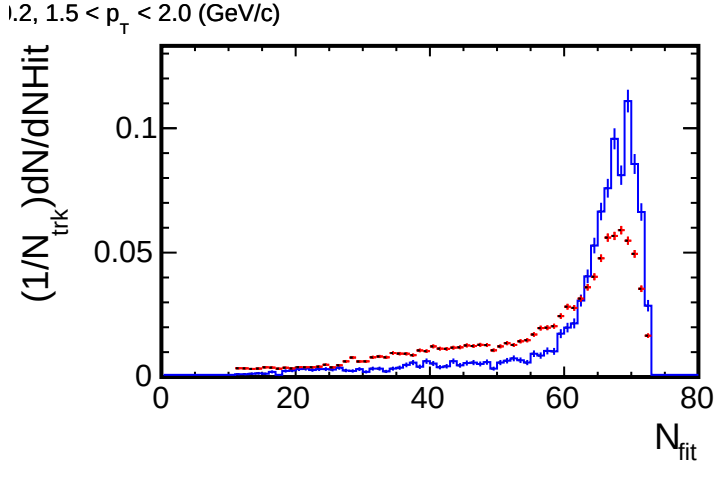


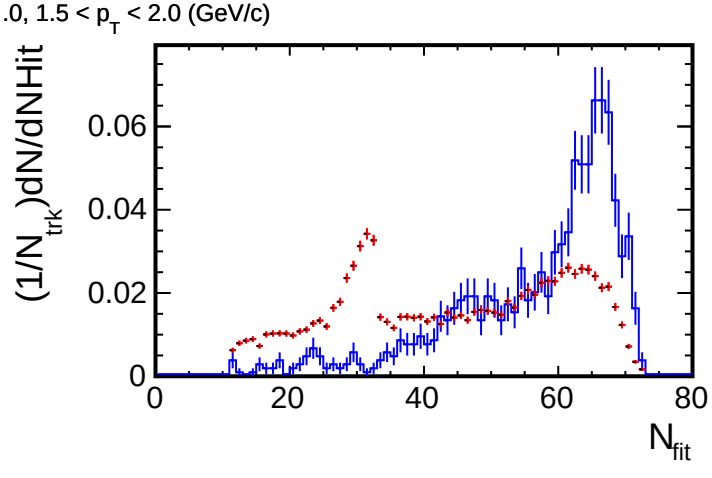
# NHit distribution for ($p_T$, η) slices



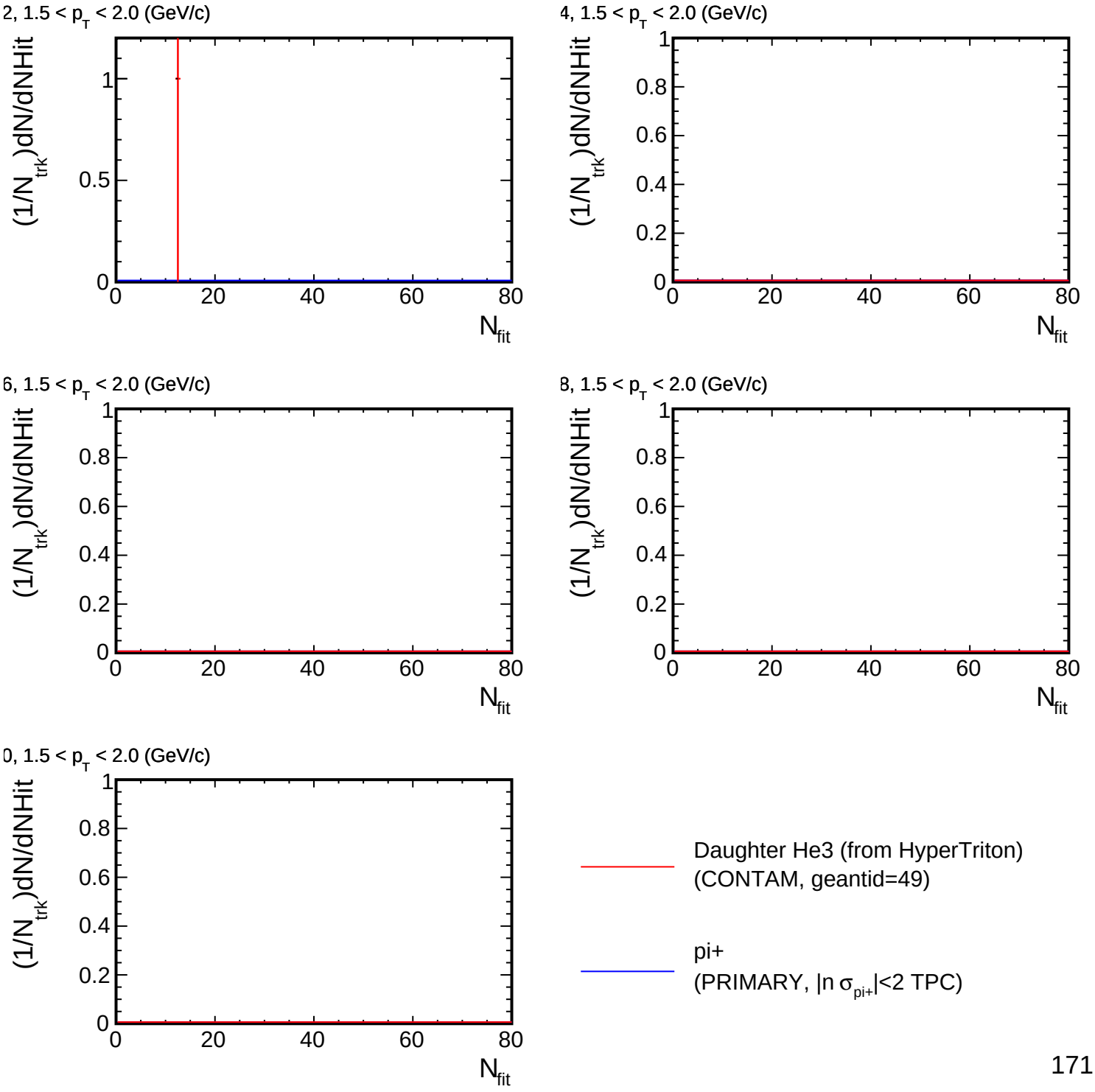



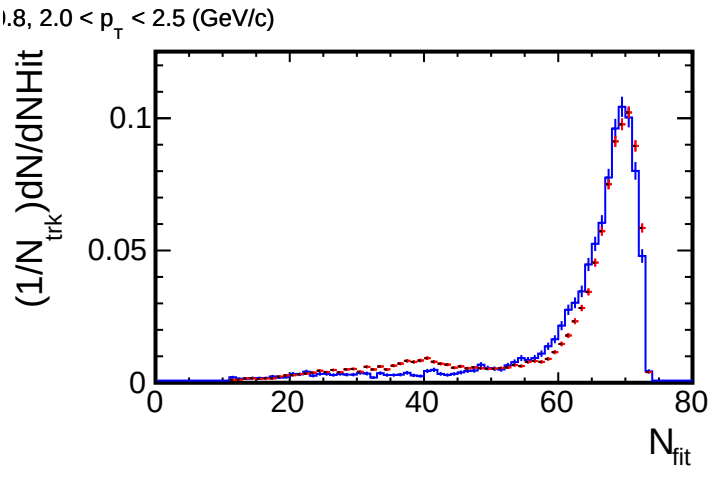

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

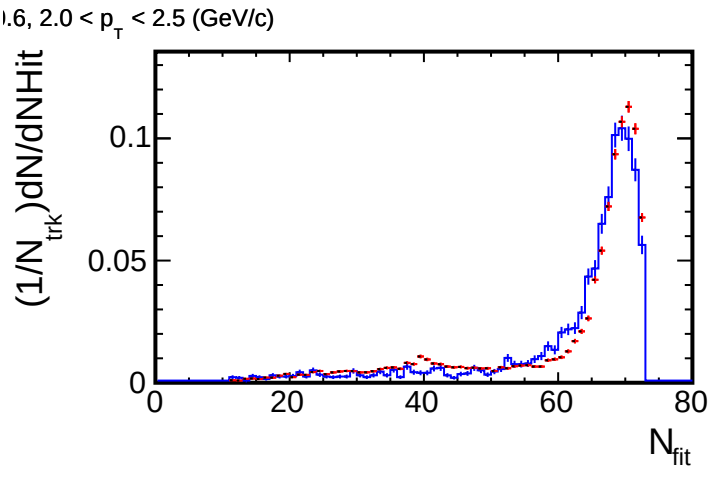
pi+
(PRIMARY, |n σ$_{pi+}$|<2 TPC)

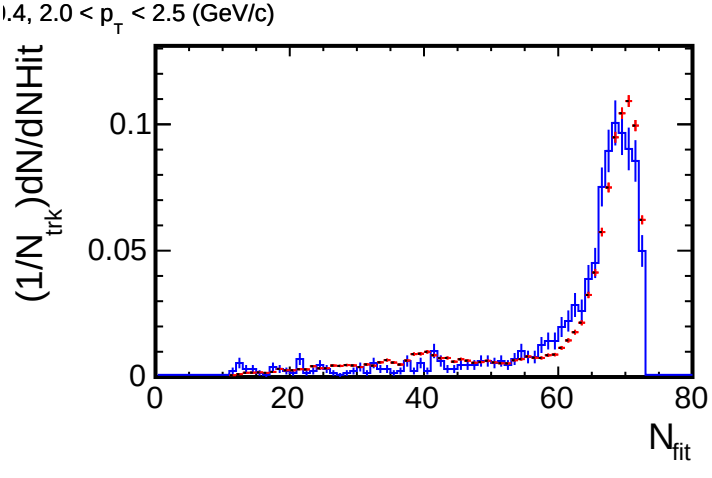
# NHit distribution for ($p_T$, η) slices

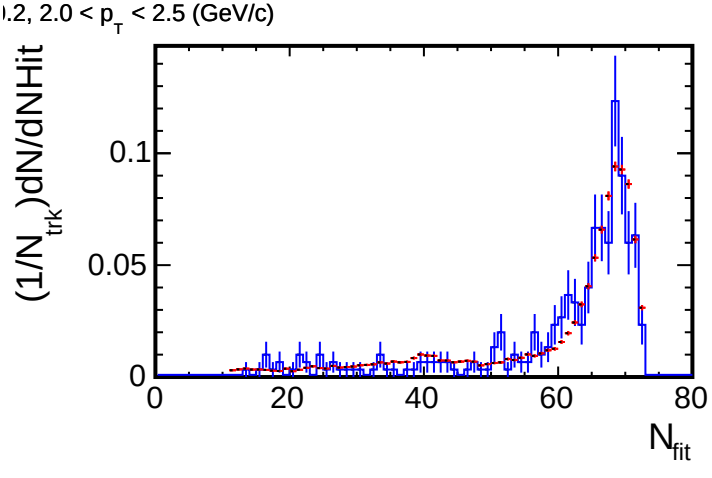


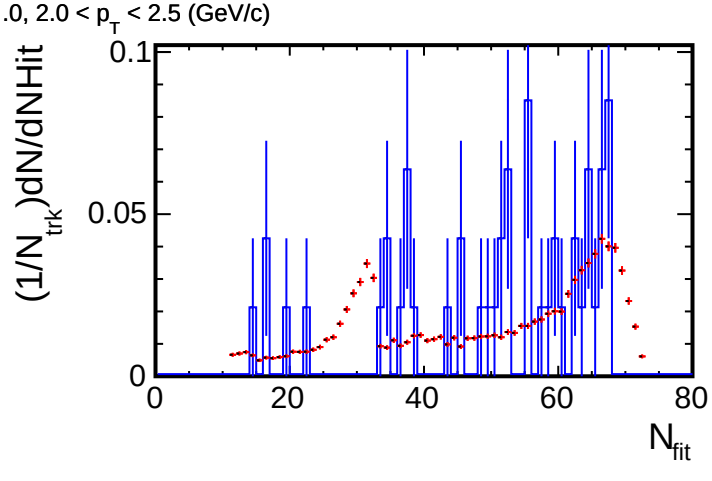
# NHit distribution for ($p_T$, η) slices



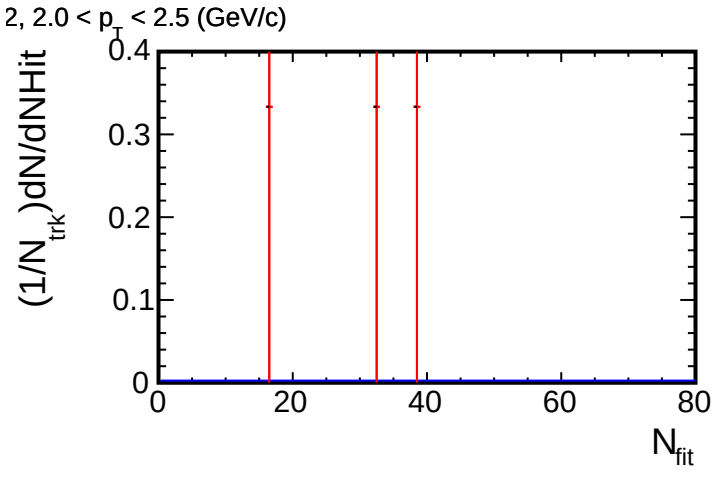



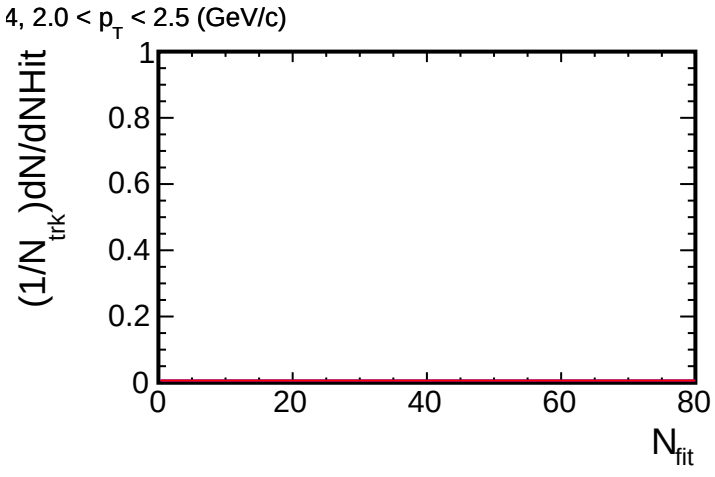



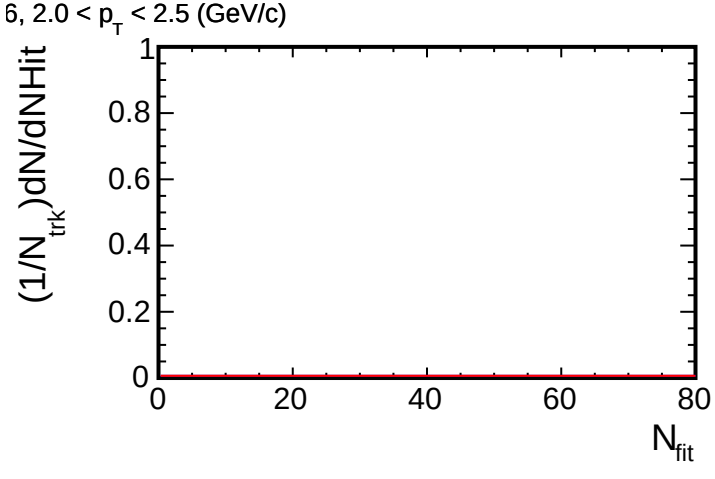

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

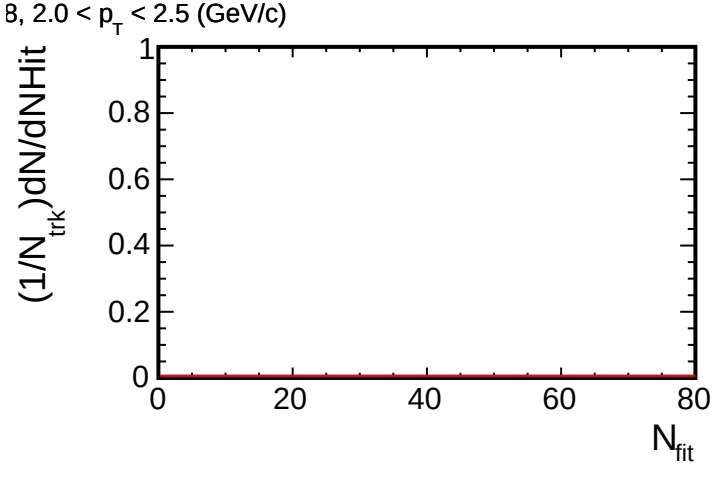
pi+
(PRIMARY, |n σ$_{pi+}$|<2 TPC)

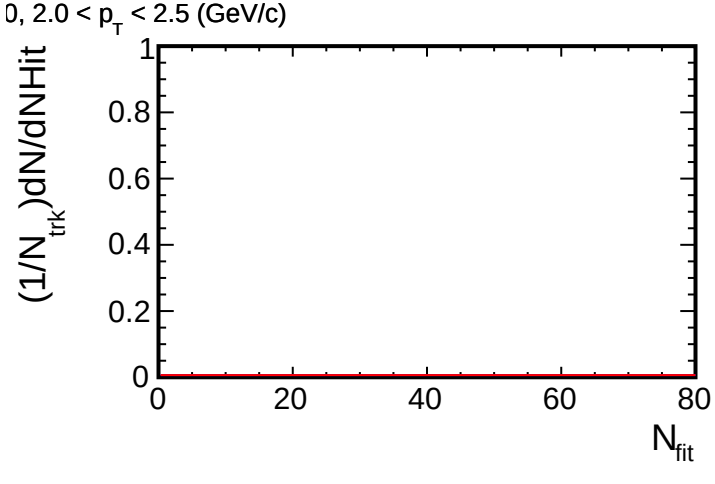
# NHit distribution for ($p_T$, η) slices



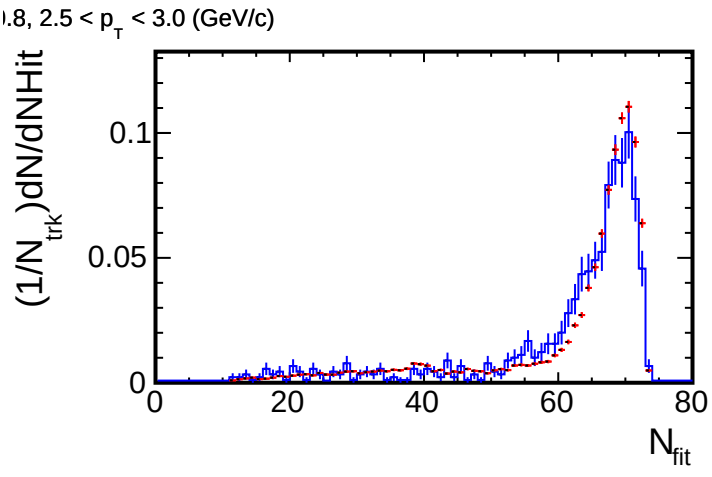



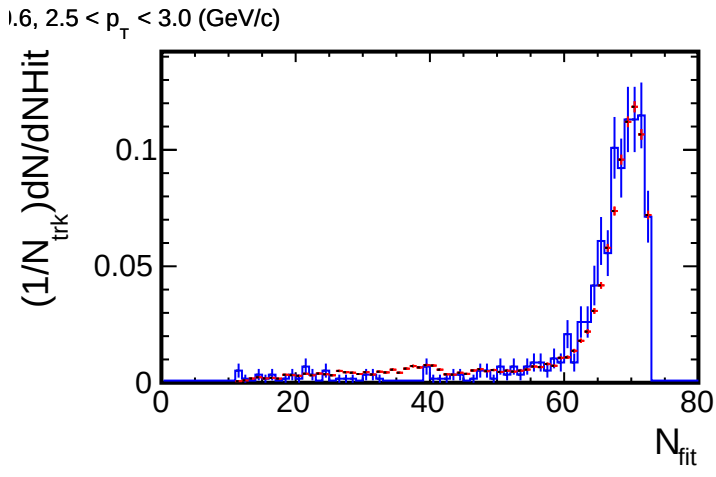



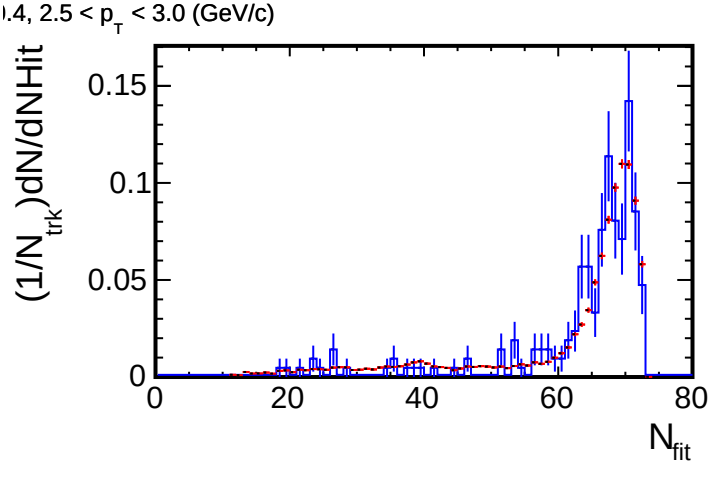

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

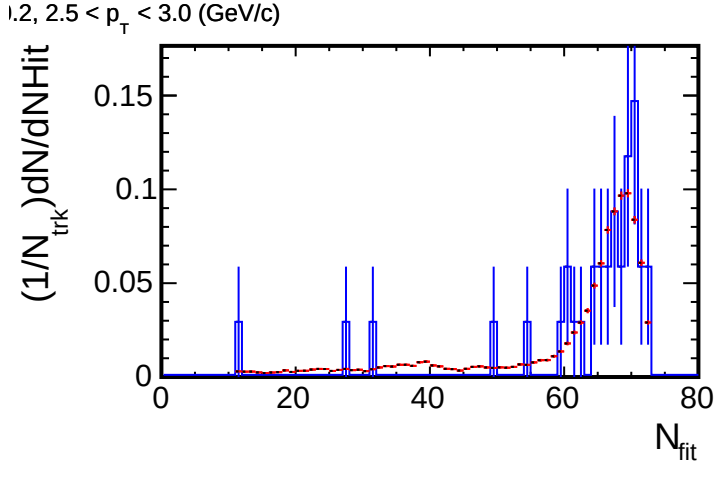
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

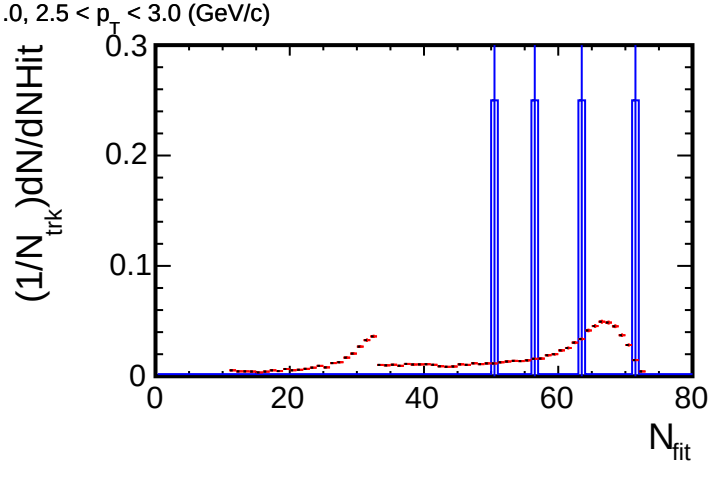
# NHit distribution for ($p_T$, η) slices



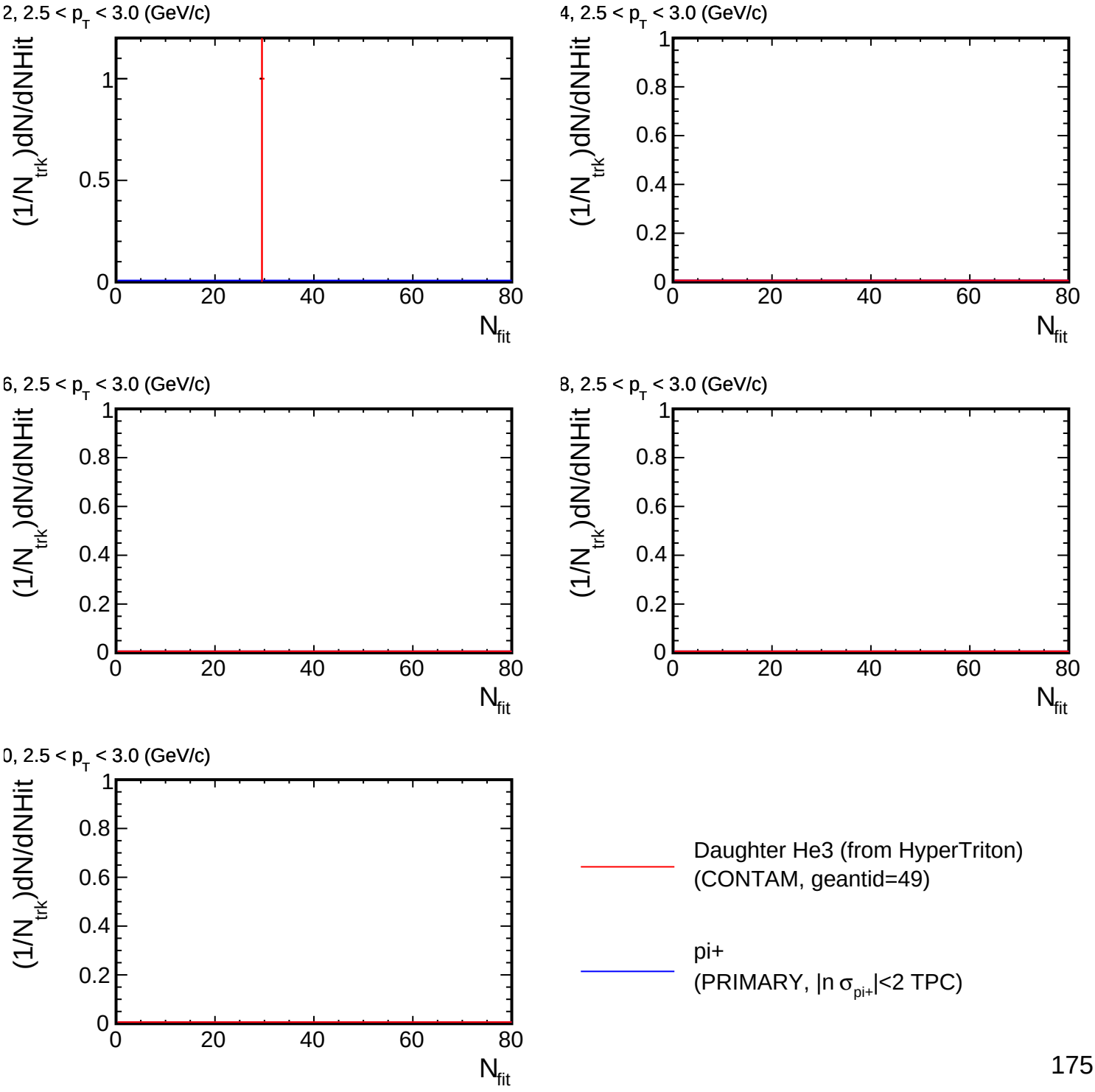



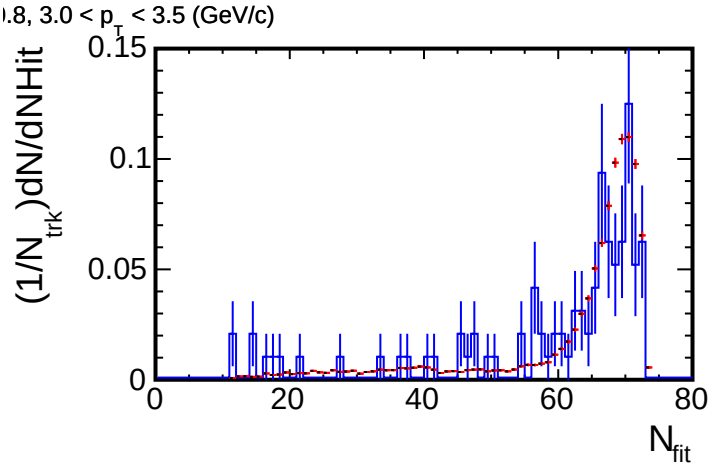

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

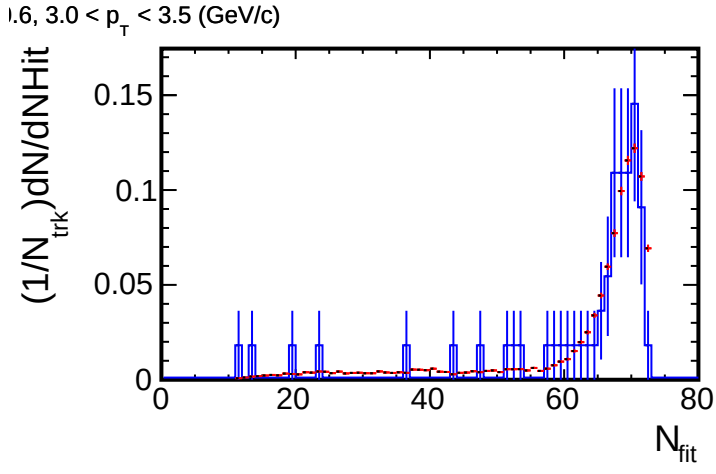
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

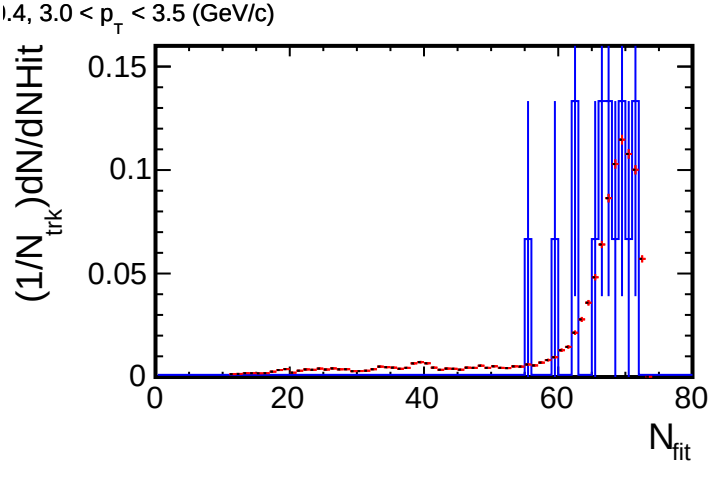
# NHit distribution for ($p_T$, η) slices

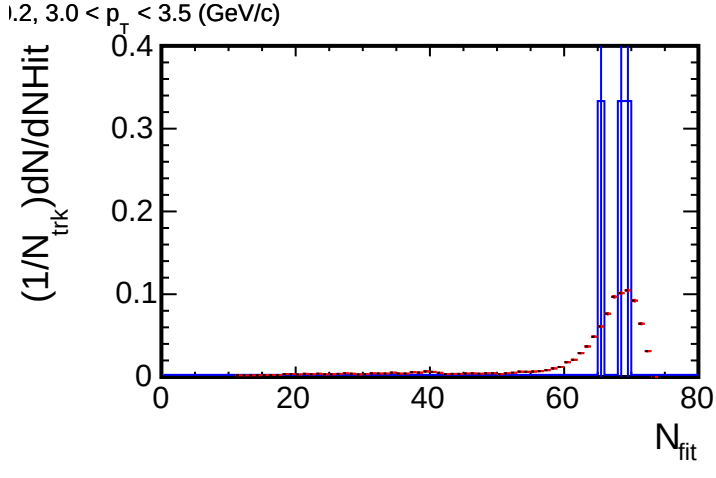


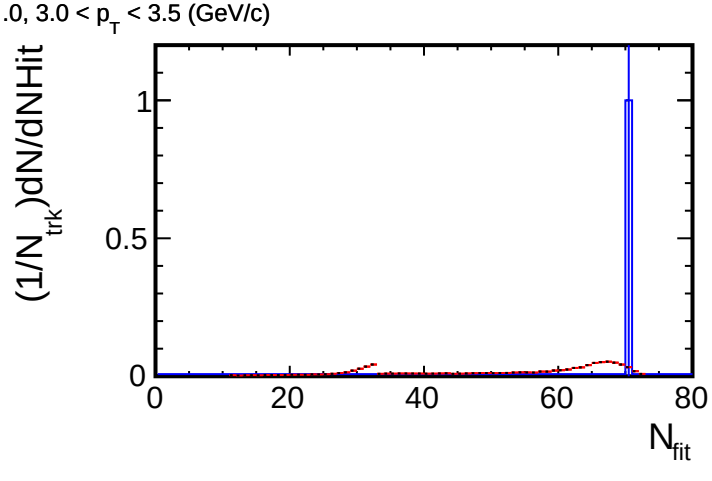
# NHit distribution for ($p_T$, η) slices



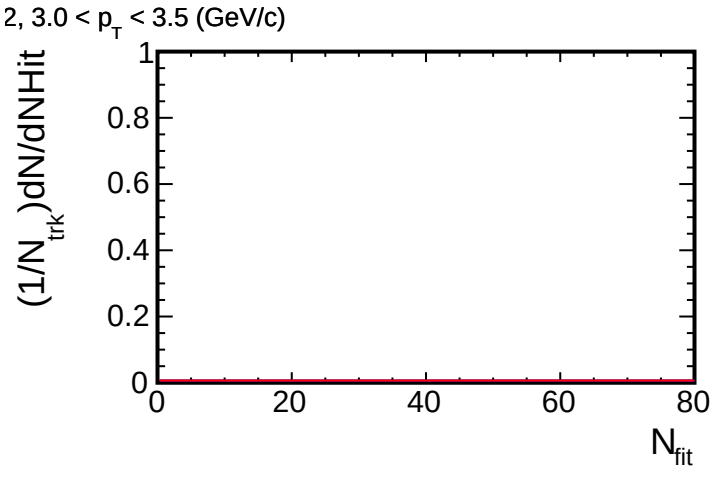



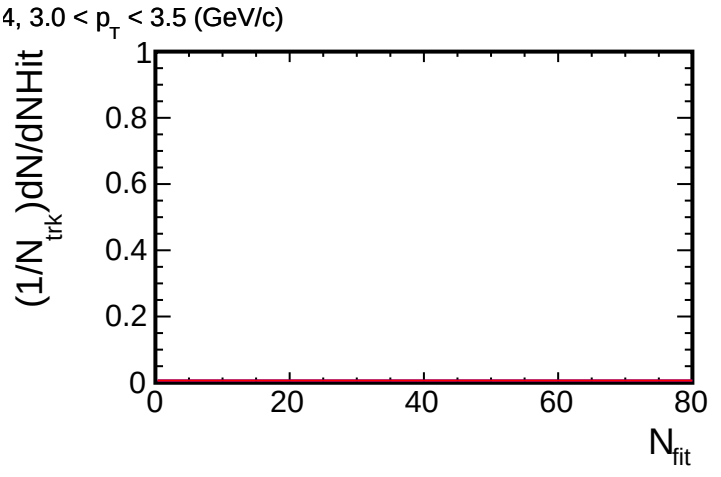



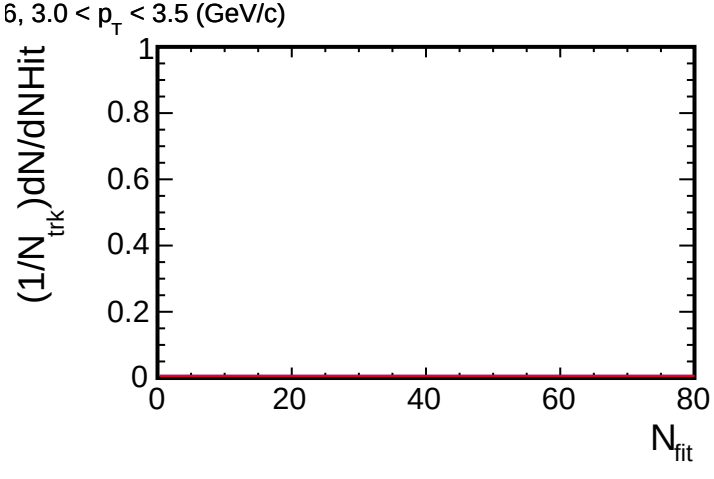

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

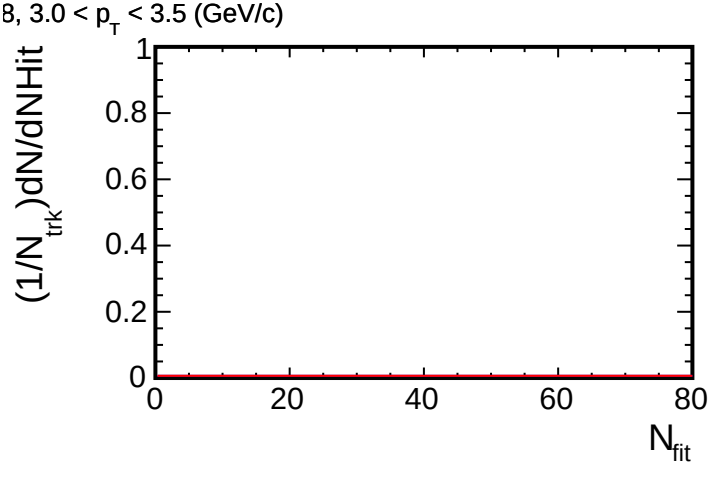
pi+
(PRIMARY, |n σ$_{pi+}$|<2 TPC)

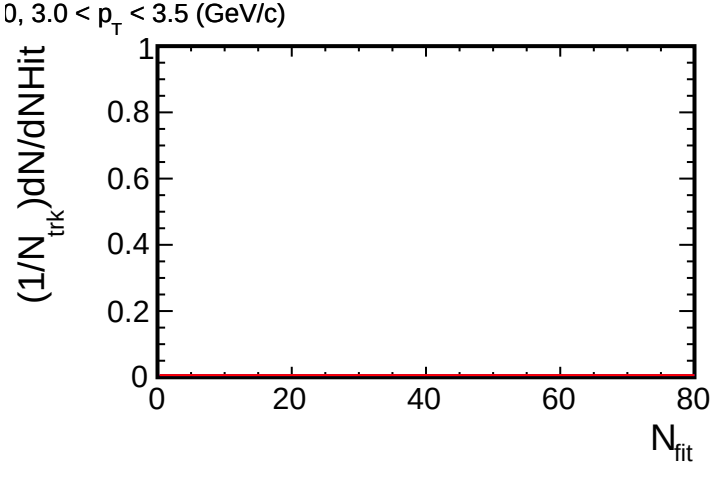
# NHit distribution for ($p_T$, η) slices



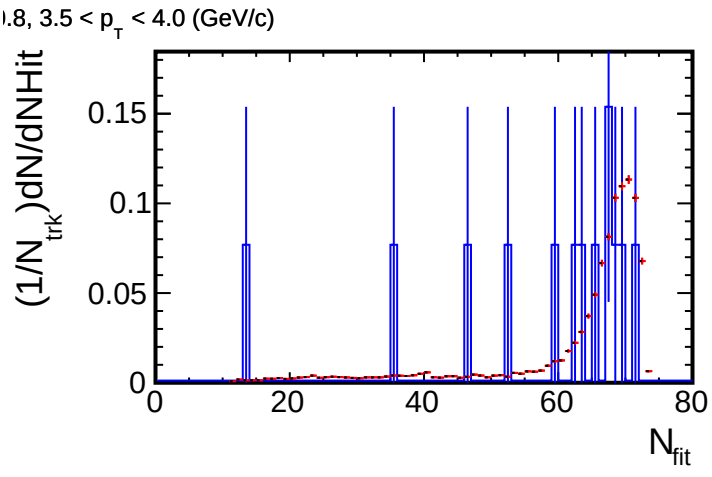



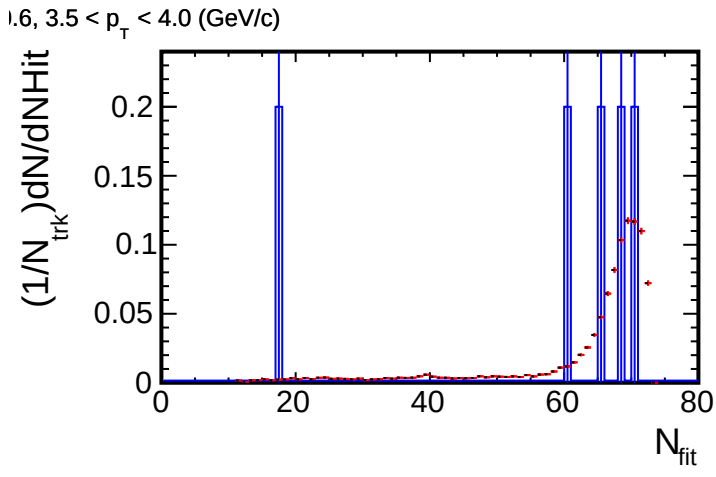



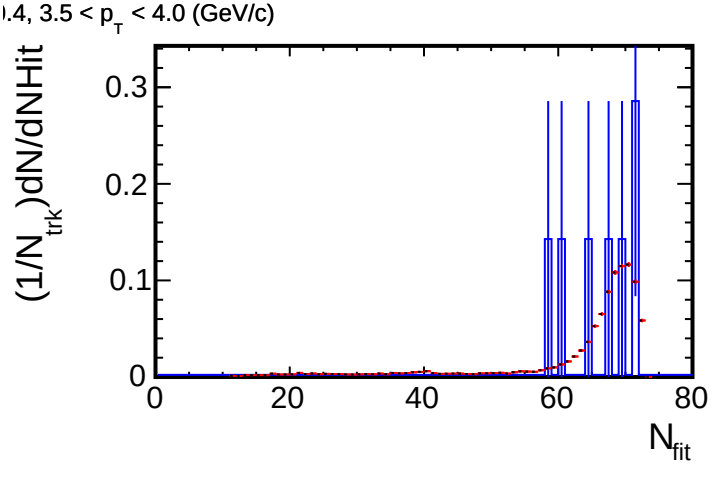

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

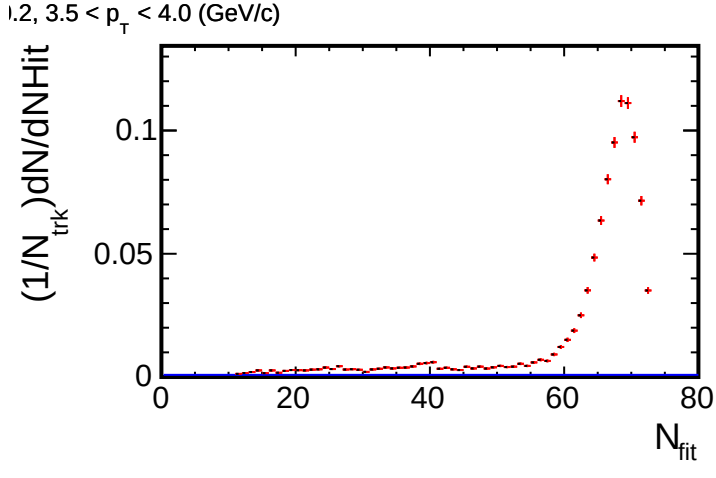
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

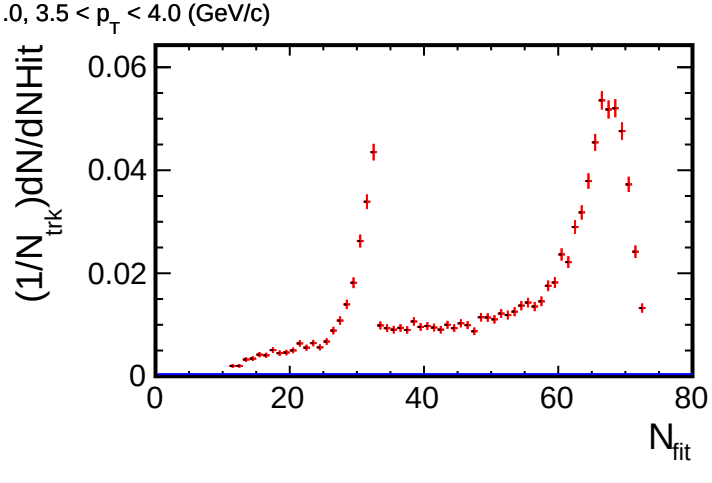
# NHit distribution for ($p_T$, η) slices



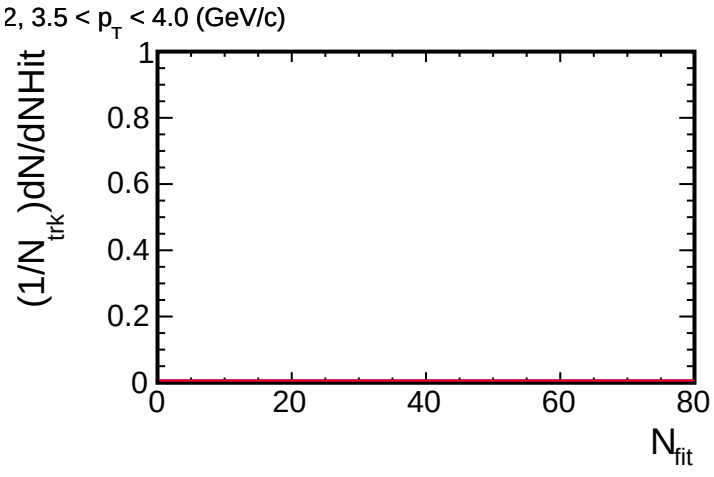



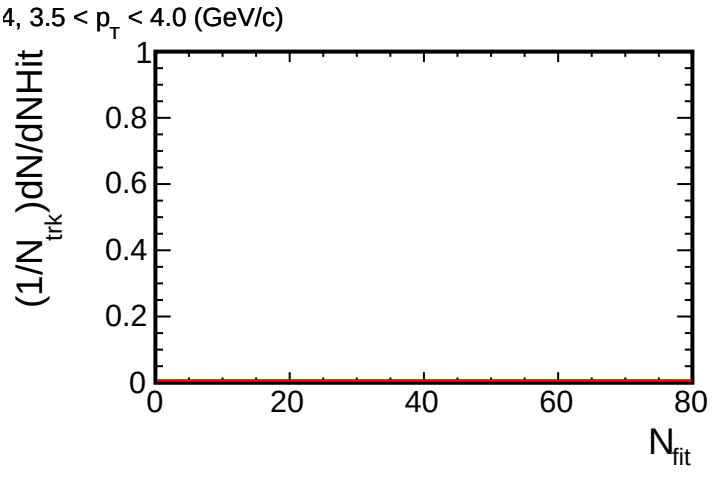



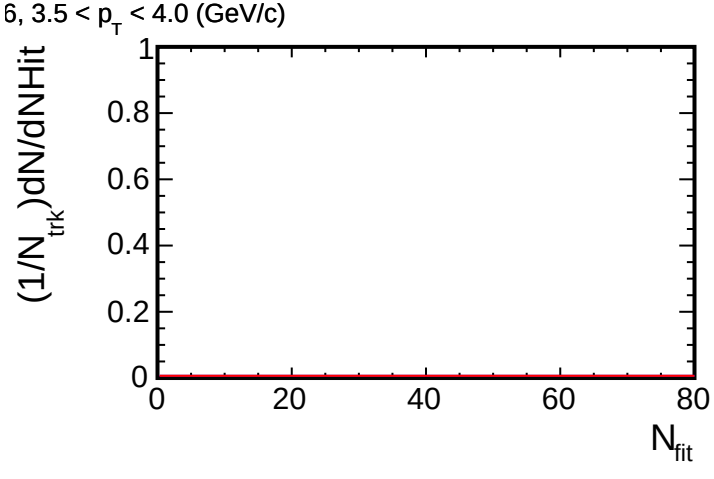

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

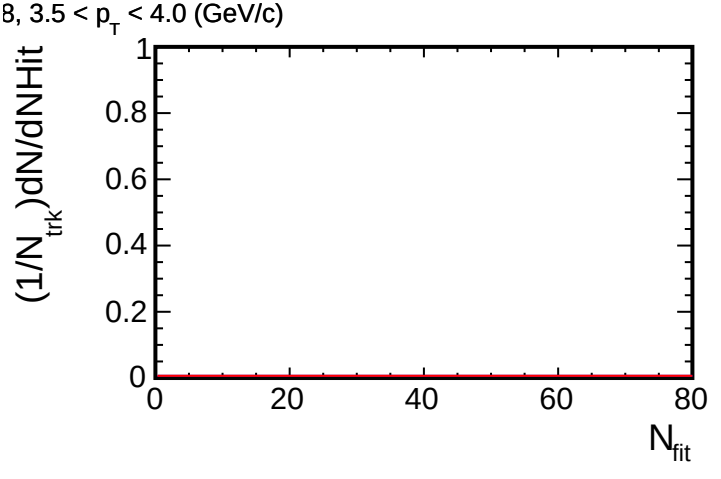
pi+
(PRIMARY, |n σ$_{pi+}$|<2 TPC)

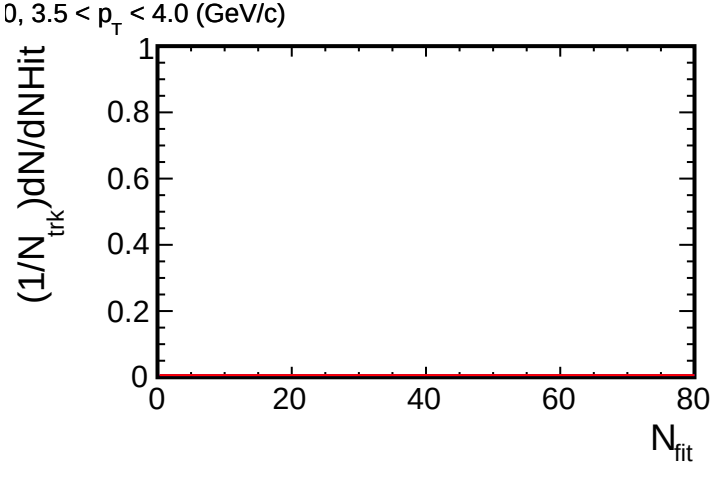
# NHit distribution for ($p_T$, η) slices



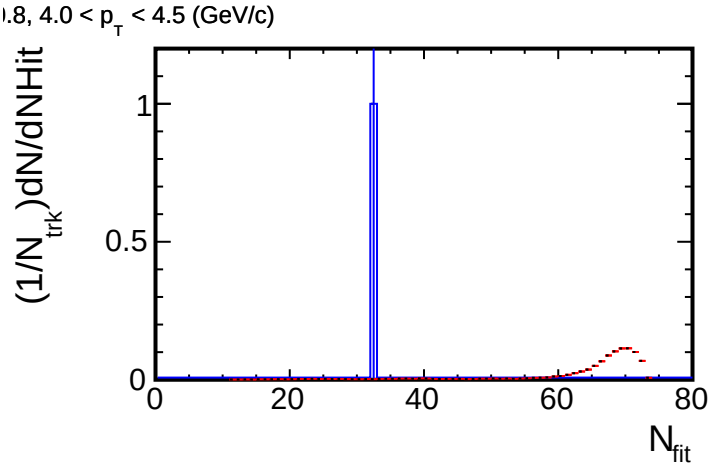



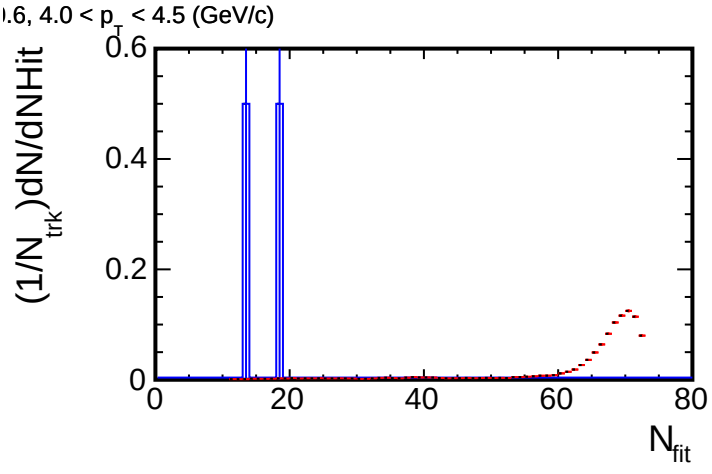



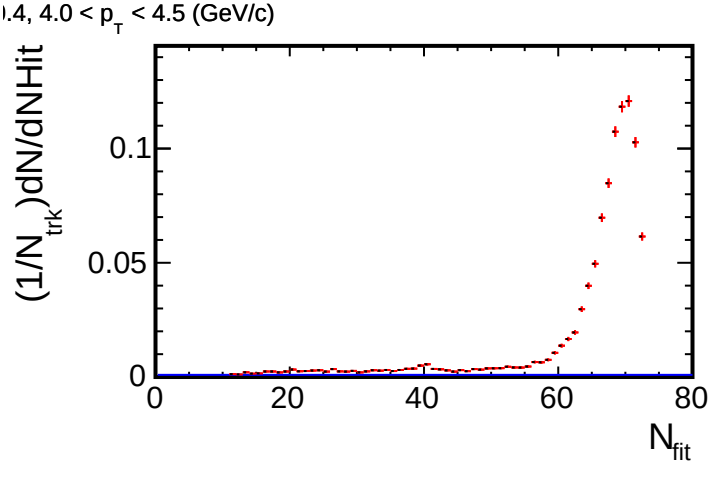

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

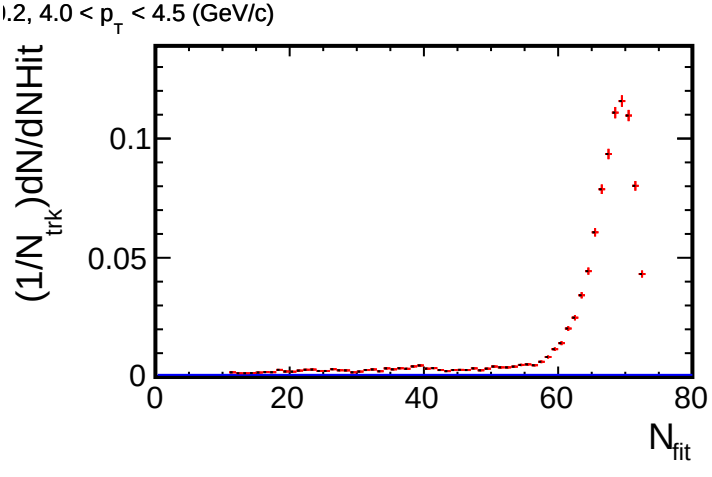
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

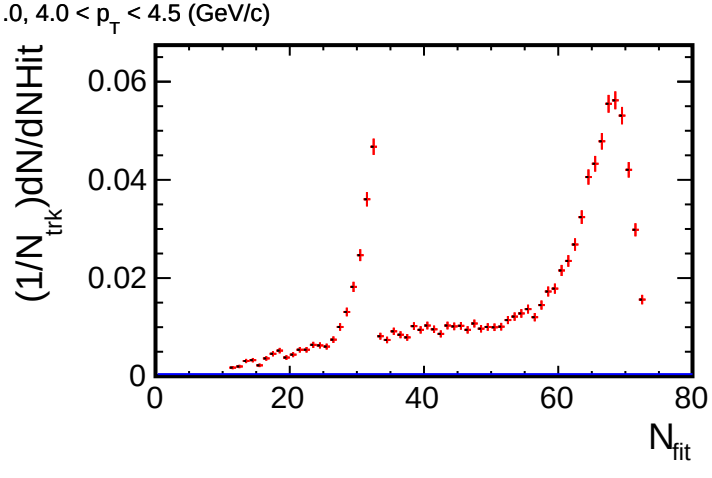
# NHit distribution for ($p_T$, η) slices



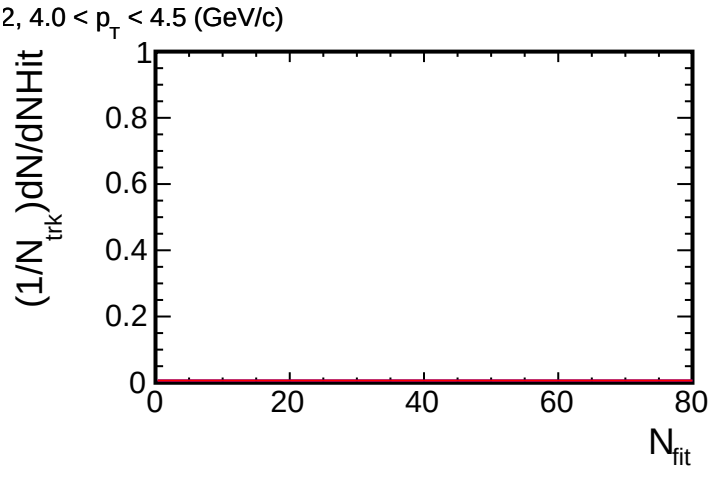



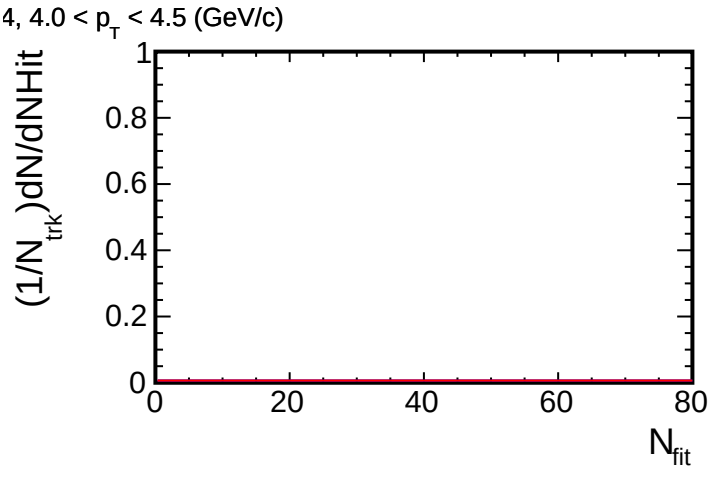



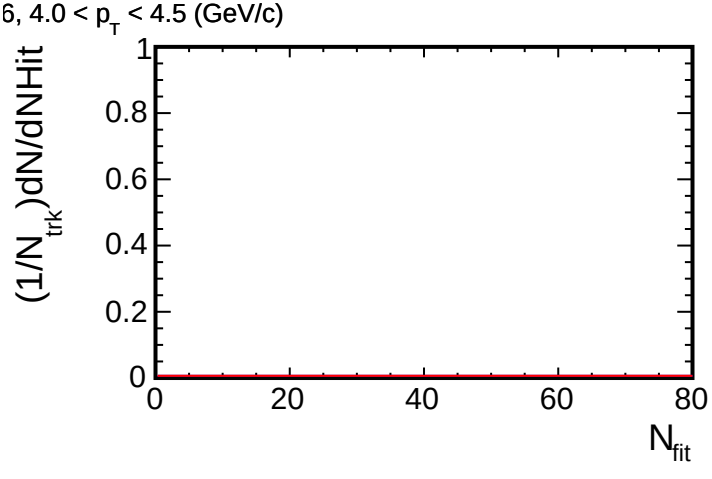

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

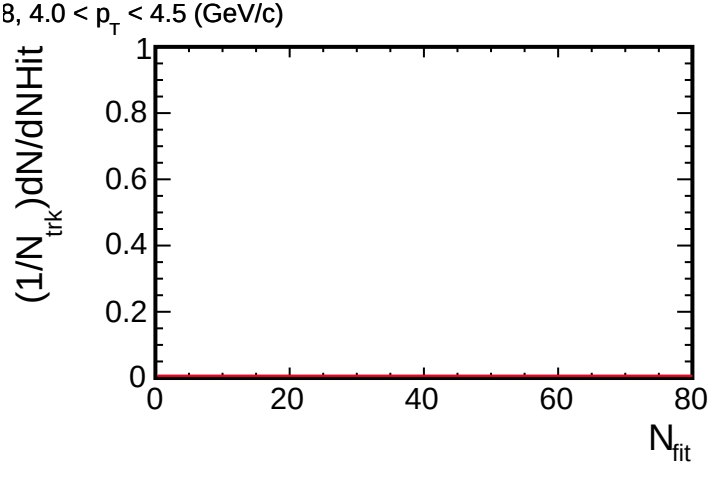
pi+
(PRIMARY, |n σ$_{pi+}$|<2 TPC)

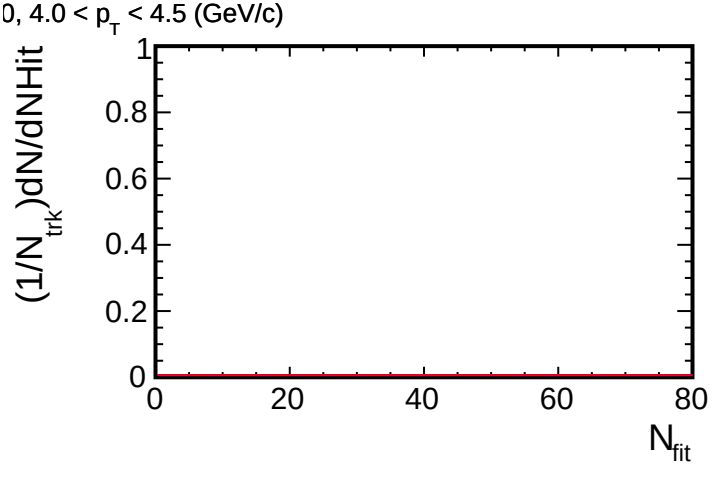
# NHit distribution for ($p_T$, η) slices



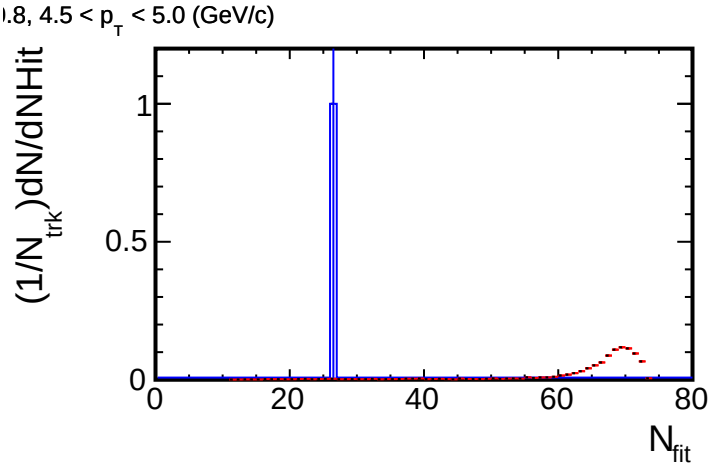



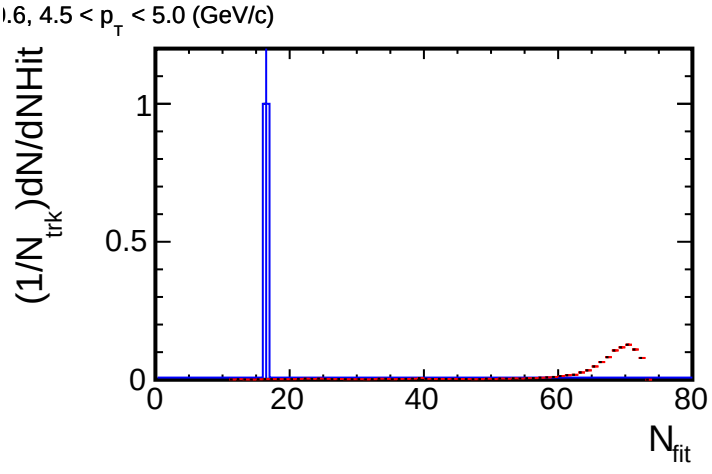



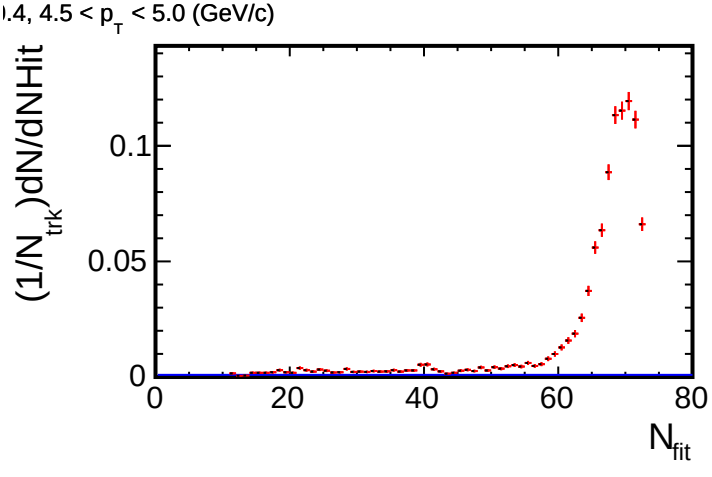

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

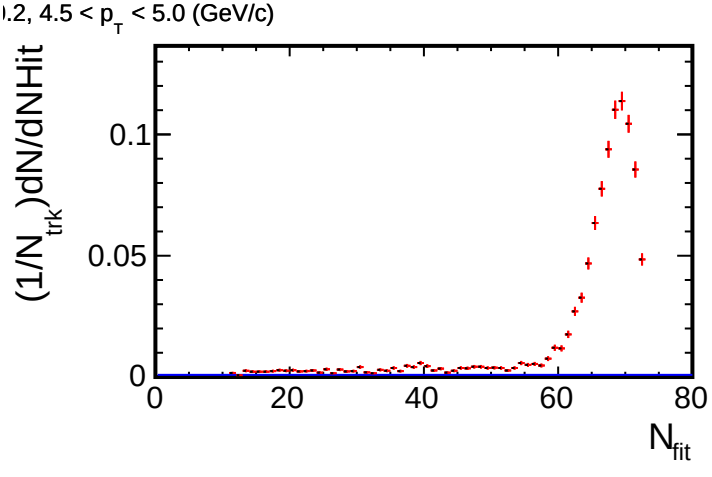
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

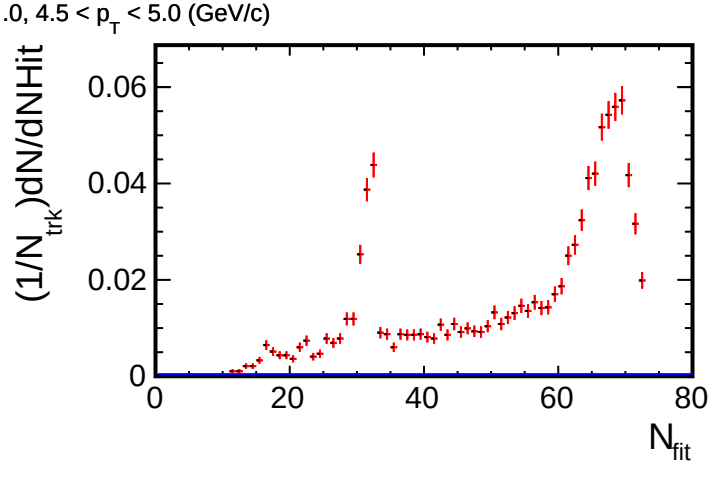
# NHit distribution for ($p_T$, η) slices



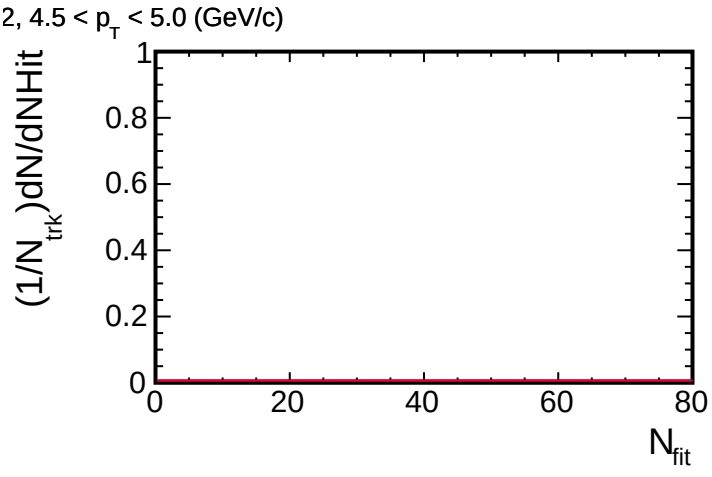



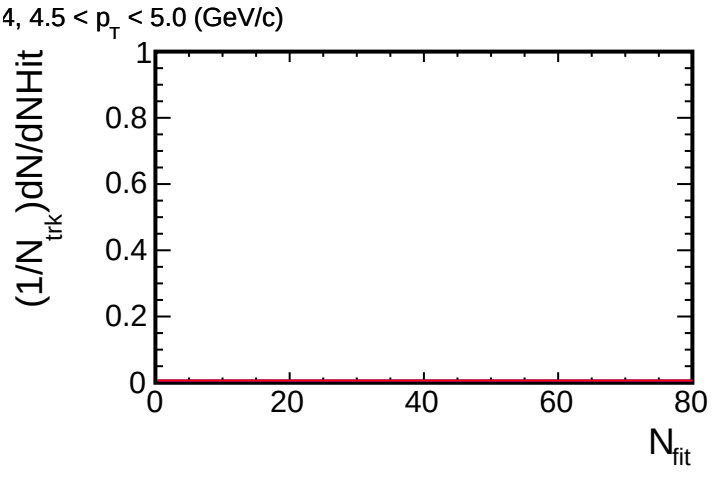



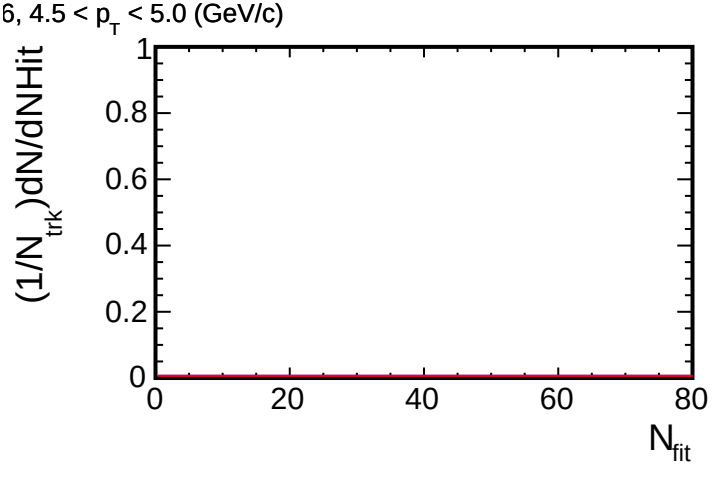

Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

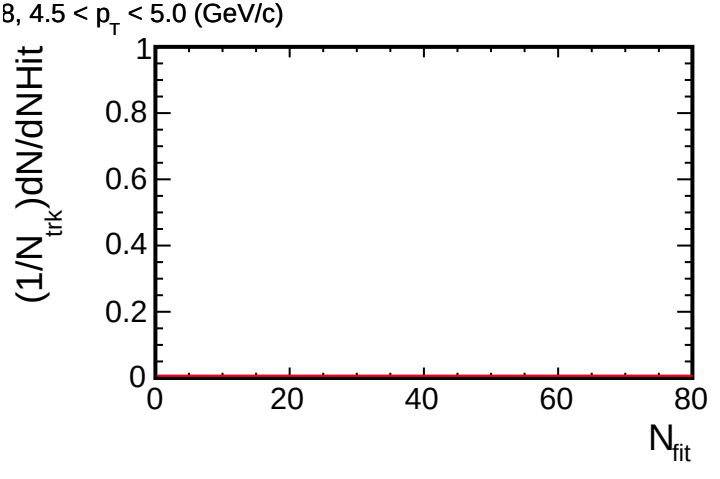
pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

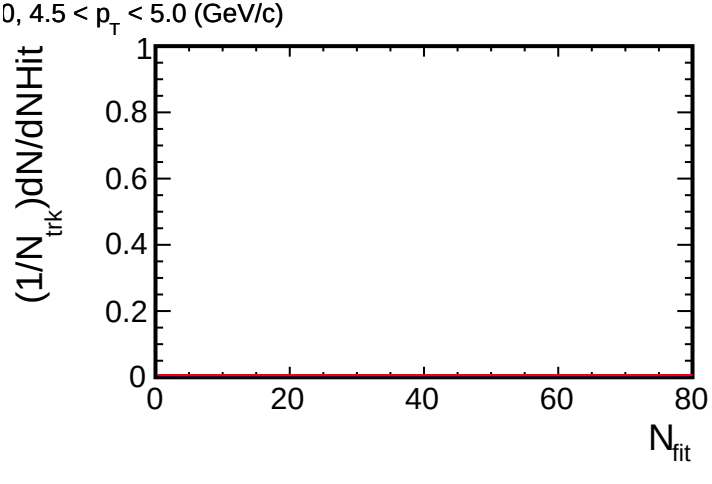
# NHit distribution for ($p_T$, η) slices




Daughter He3 (from HyperTriton)
(CONTAM, geantid=49)

pi+
(PRIMARY, |n $\sigma_{pi+}$|<2 TPC)

# End of QA