

ZNAenergy_ZNCenergy_0n0n ZNA_ZNC_0n0n 10000 **Entries** 31790 Mean x -22.28Mean y -6.8968000 Std Dev x 234.1 Std Dev y 326.3 10² 6000 4000 10 2000 0 -2000 -2000

4000

6000

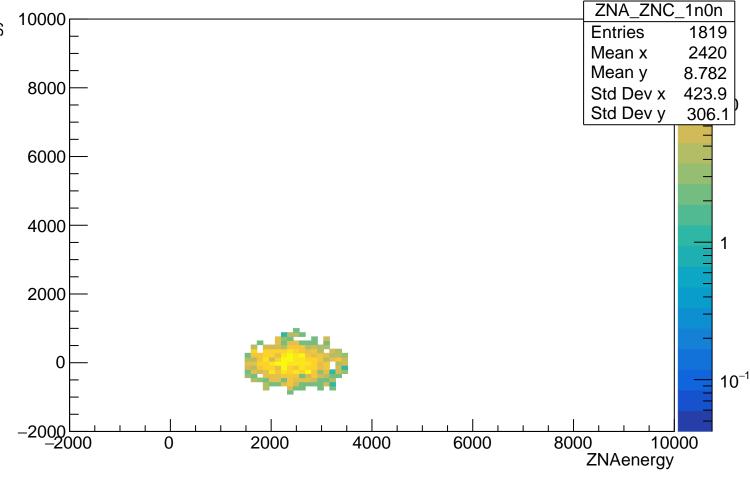
8000

10000

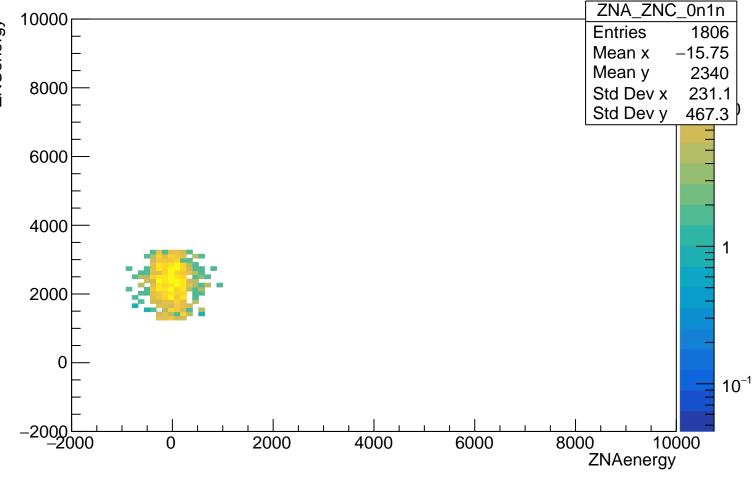
ZNAenergy

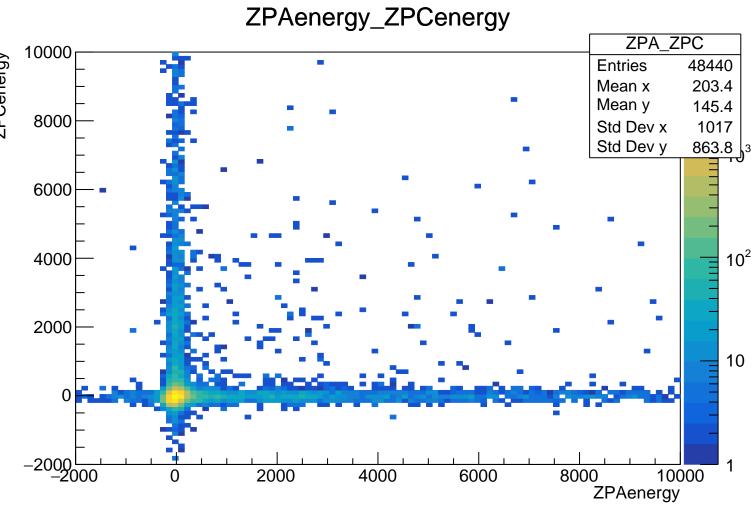
2000

ZNAenergy_ZNCenergy_1n0n



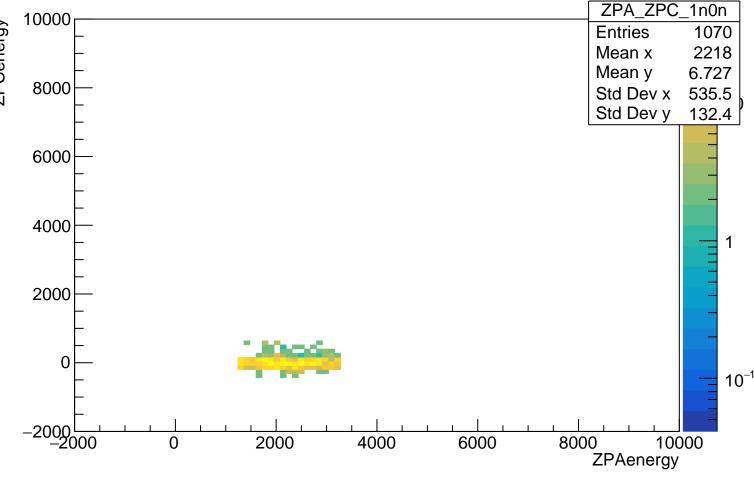
ZNAenergy_ZNCenergy_0n1n



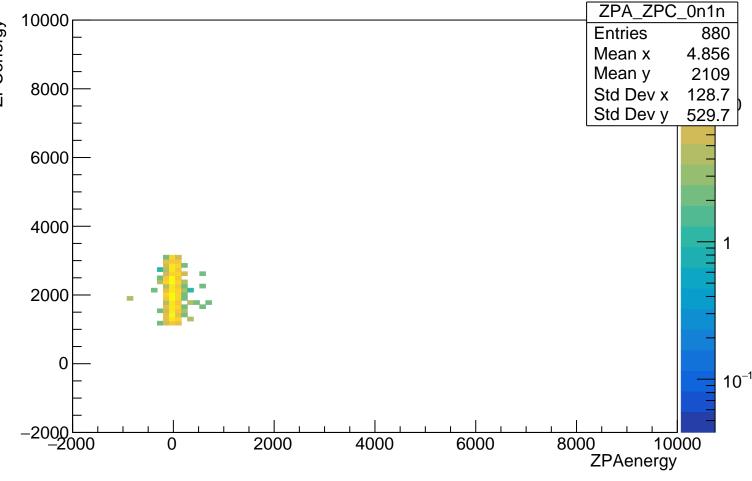


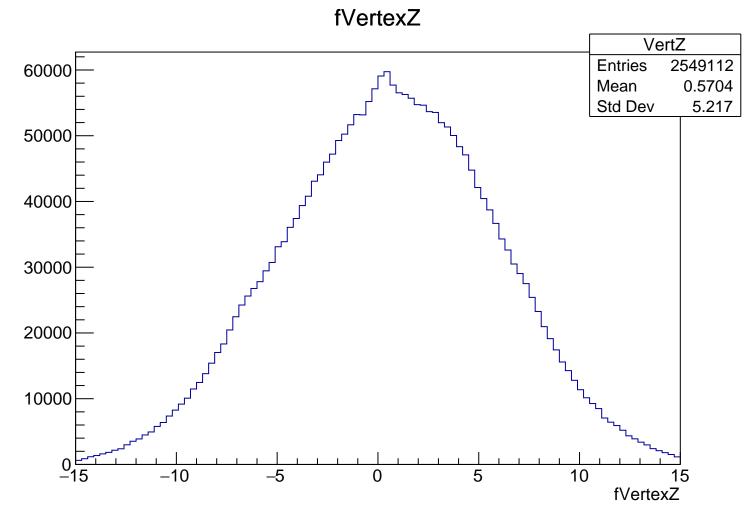
ZPAenergy_ZPCenergy_0n0n ZPA_ZPC_0n0n 10000 **Entries** 43180 Mean x 3.679 Mean y -5.1918000 Std Dev x 135 Std Dev y **141**₃ 6000 10² 4000 2000 10 0 8000 10000 2000 4000 6000 **ZPAenergy**

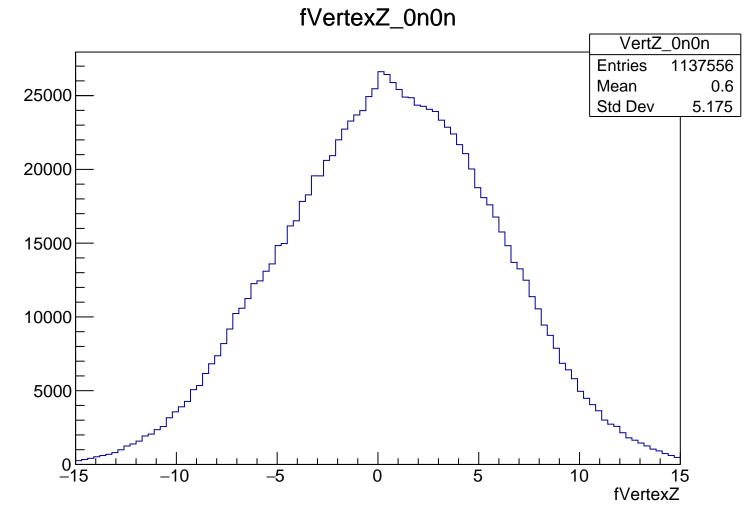
ZPAenergy_ZPCenergy_1n0n 10000

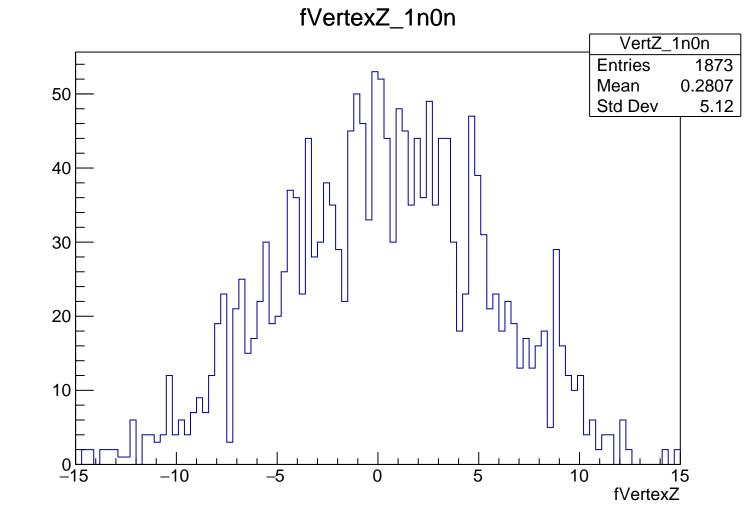


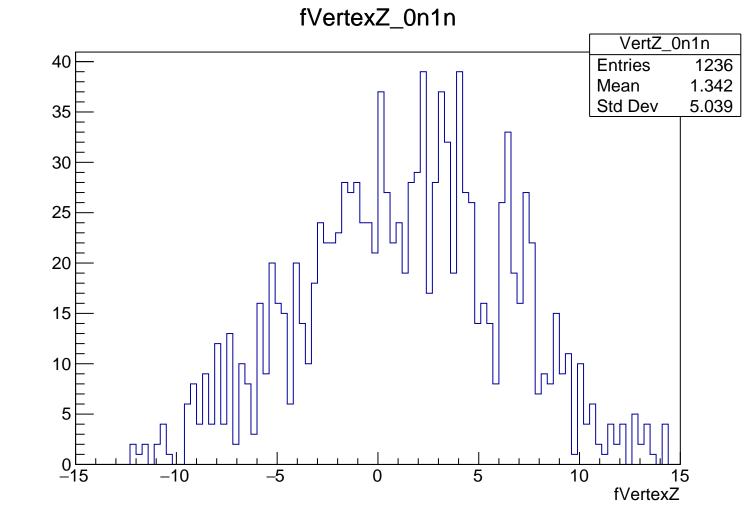
ZPAenergy_ZPCenergy_0n1n

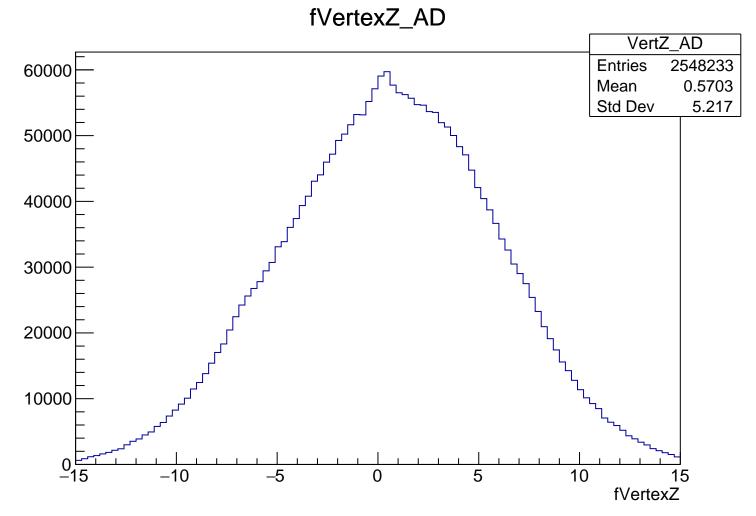


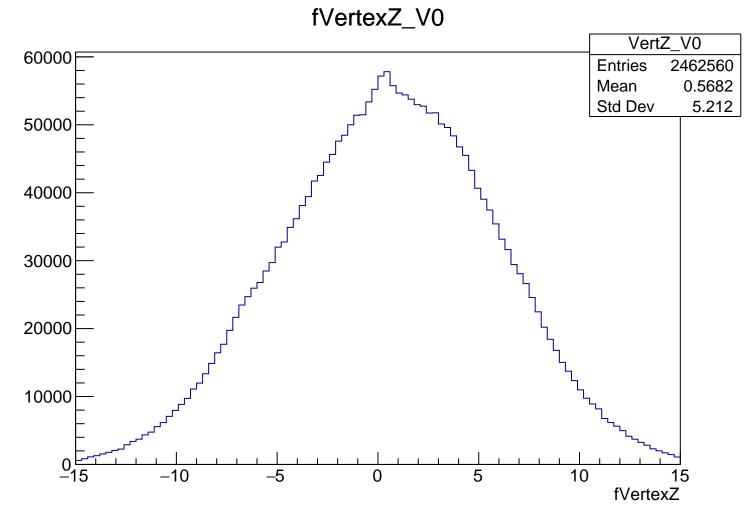




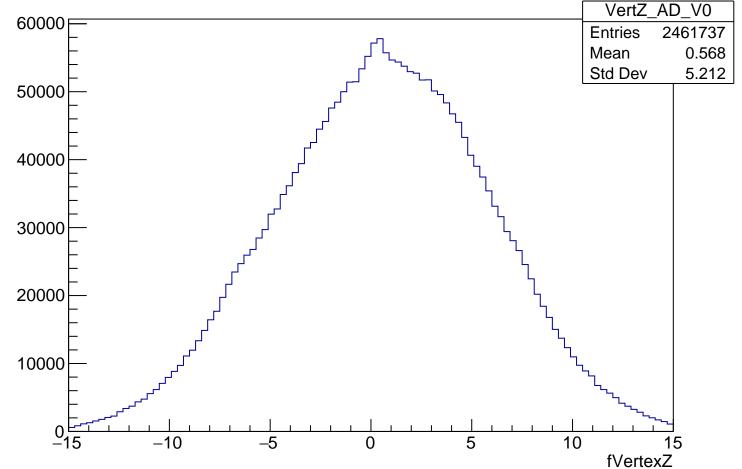








fVertexZ ADA & ADC and V0A & V0C selections



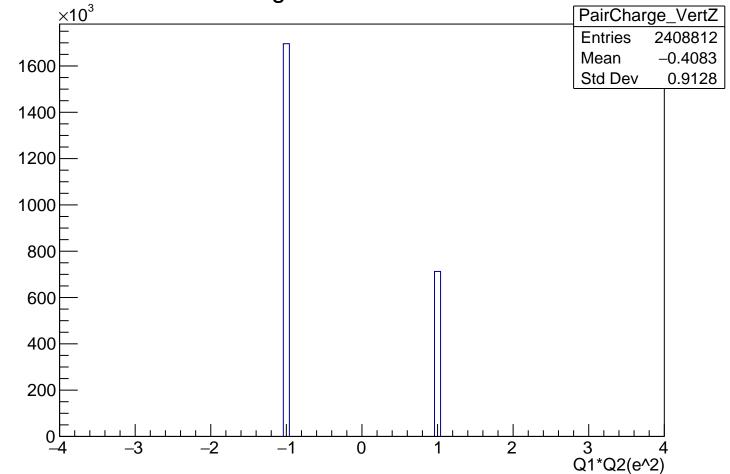
fVertexZ for Triggers[0] or Triggers[1] or Triggers[2] VertZ_Trigg_012 1200 **Entries** 48440 Mean 0.4918 Std Dev 5.127 1000 800 600 400 200 10 -10 fVertexZ

fVertexZ for Triggers[3] or Triggers[4] and Triggers[7] VertZ_Trigg_347 **Entries** 301733 7000 Mean 0.4984 Std Dev 5.2 6000 5000 4000 3000 2000 1000 5 -10 10 15 fVertexZ

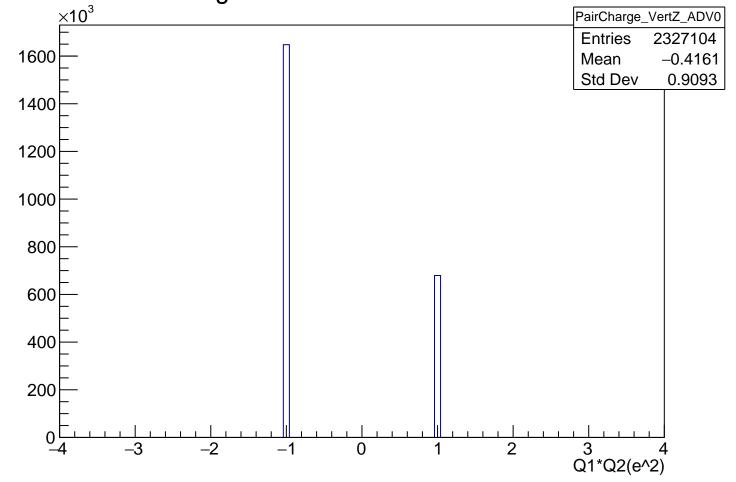
fVertexZ for Triggers[8] and Triggers[5] or Triggers[6] VertZ_Trigg_856 **Entries** 2269051 Mean 0.5806 50000 Std Dev 5.221 40000 30000 20000 10000 -10 10 15 fVertexZ

PairCharge $\times 10^3$ PairCharge 2549112 **Entries** 1800 Mean -0.4058Std Dev 0.9139 1600 1400 1200 1000 800 600 400 200 3 Q1*Q2(e^2) -3

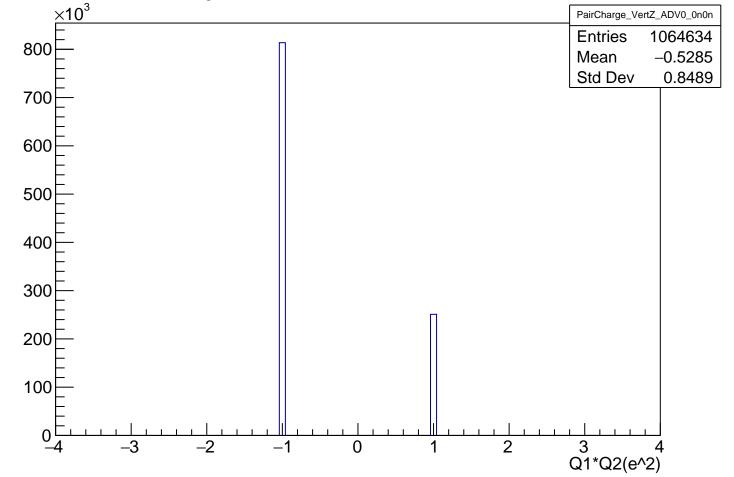
PairCharge with VertexZ selection



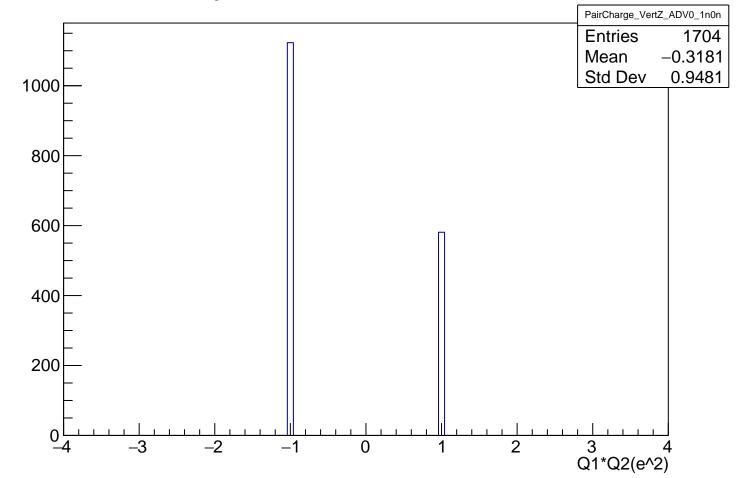
PairCharge with VertZ and AD V0 selections



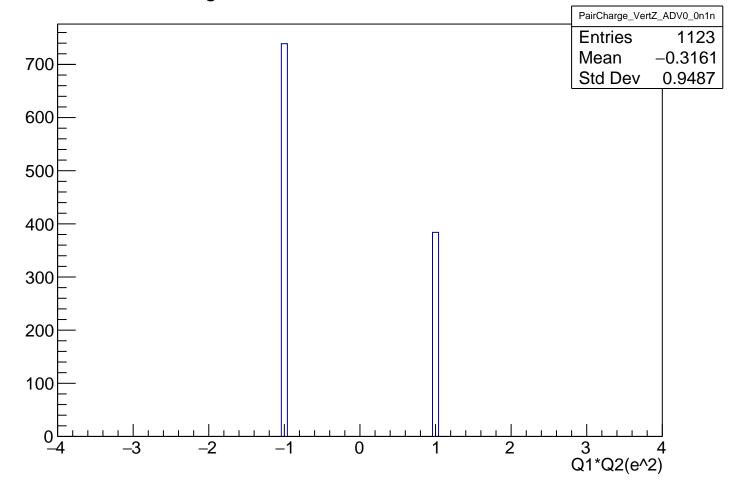
PairCharge with VertZ AD V0 and 0n0n selections

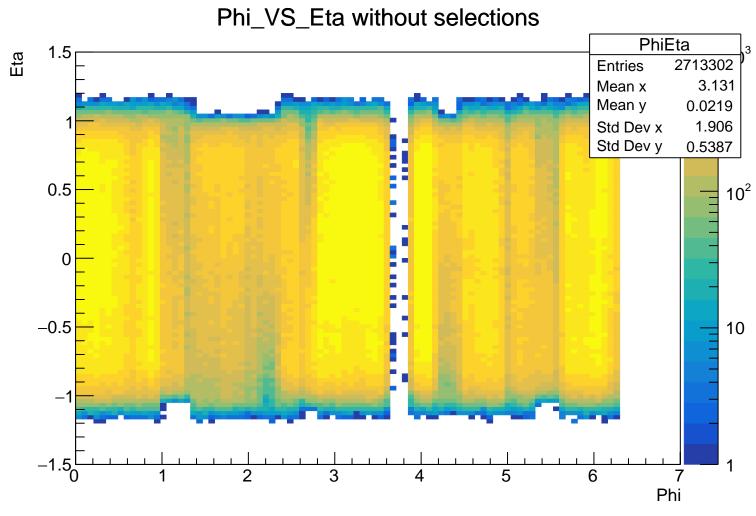


PairCharge with VertZ AD V0 and 1n0n selections

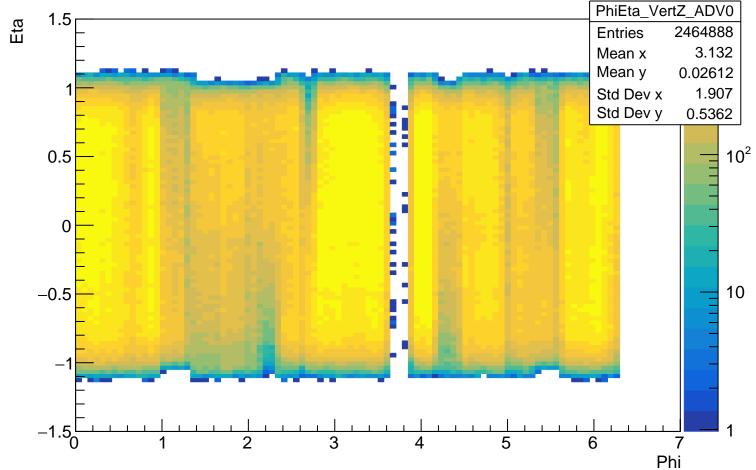


PairCharge with VertZ AD V0 and 0n1n selections

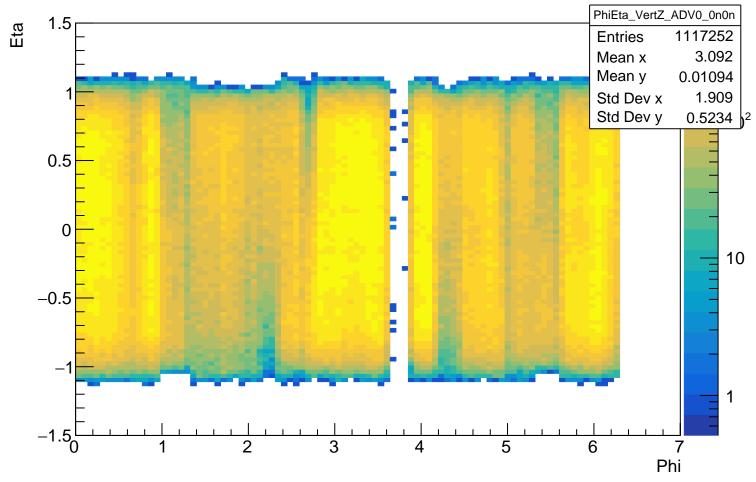




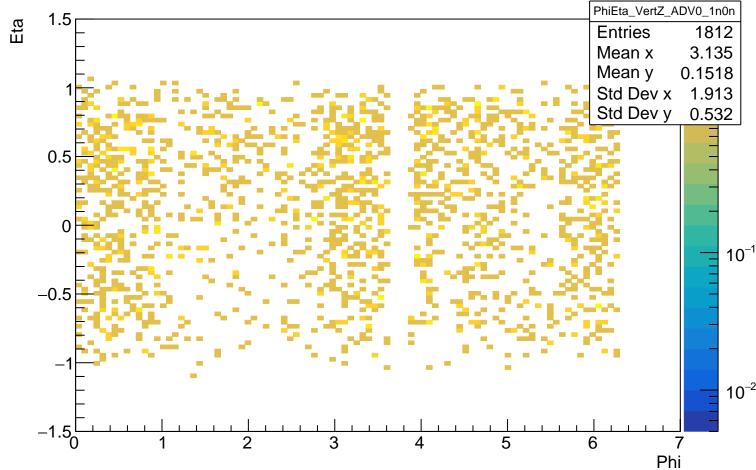
Phi_VS_Eta with VertexZ AD and V0 selections



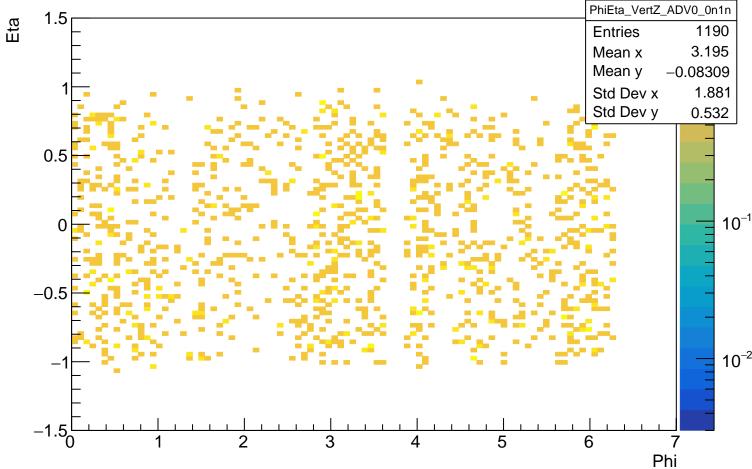
Phi_VS_Eta with VertexZ AD V0 and 0n0n selections



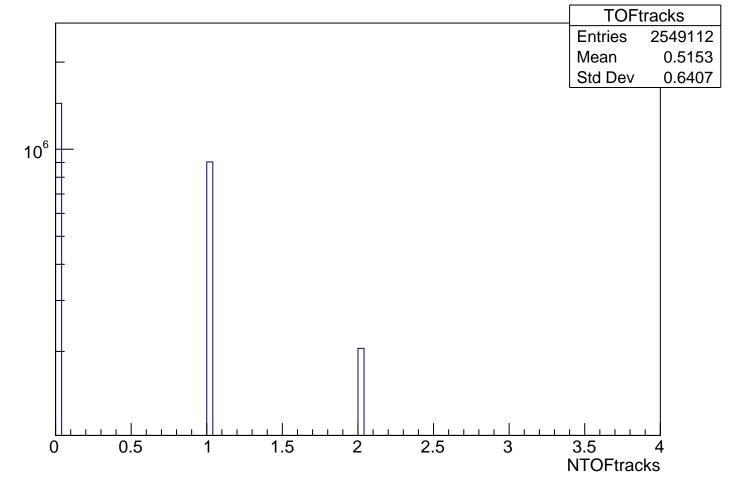
Phi_VS_Eta with VertexZ AD V0 and 1n0n selections



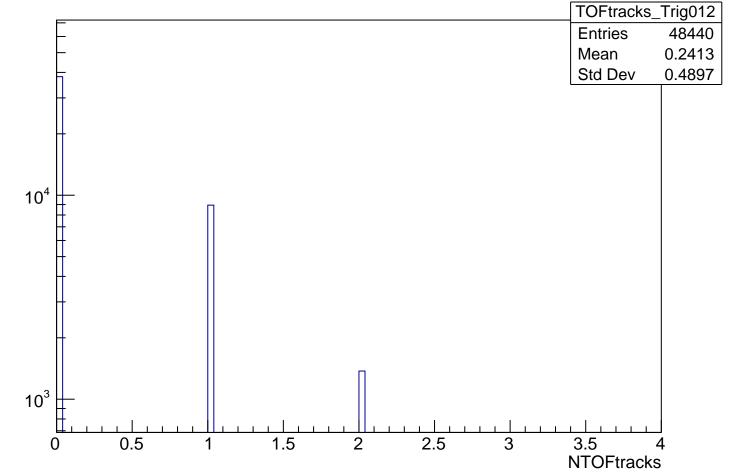
Phi_VS_Eta with VertexZ AD V0 and 0n1n selections



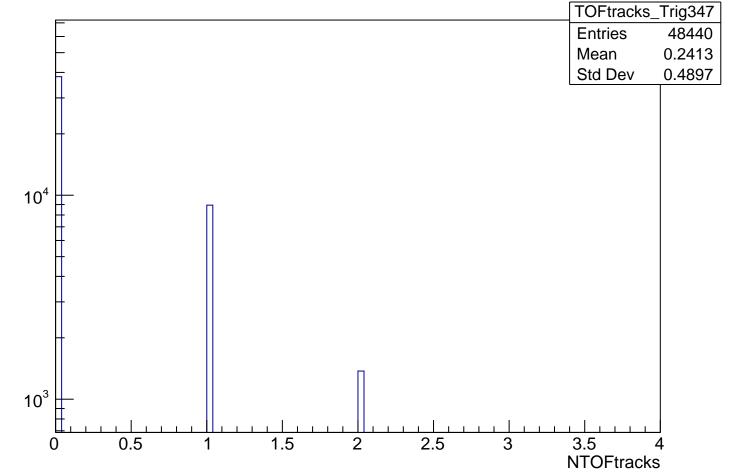
TOFtracks



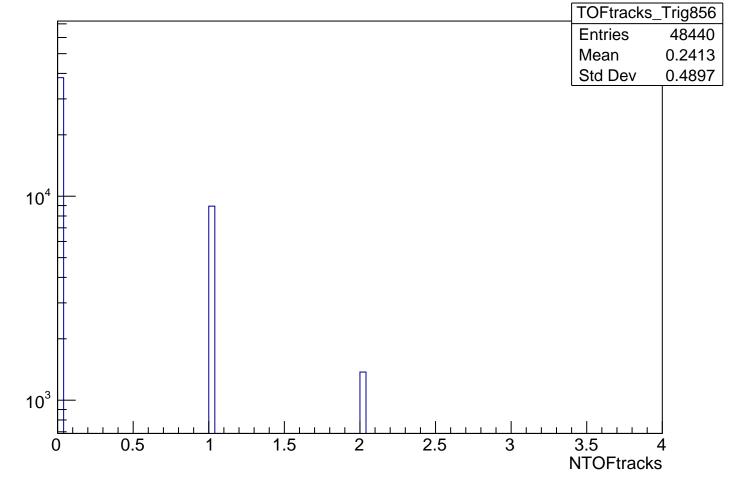
TOFtracks with Triggers[0], [1] and [2] selection



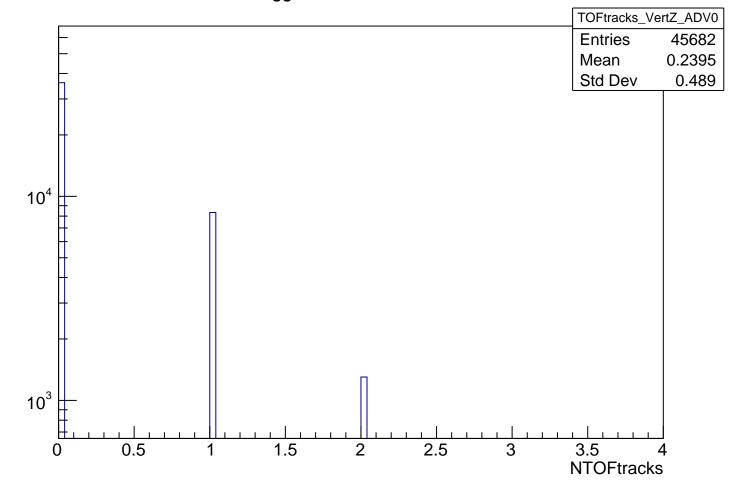
TOFtracks with Triggers[3], [4] and [7] selection



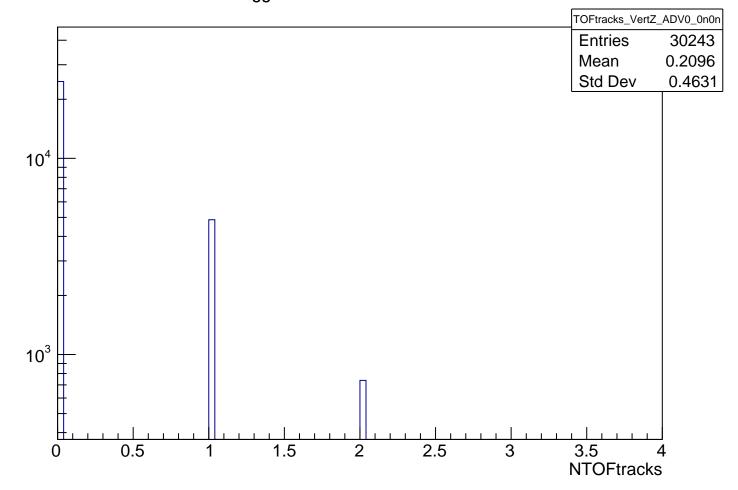
TOFtracks with Triggers[8], [5] and [6] selection



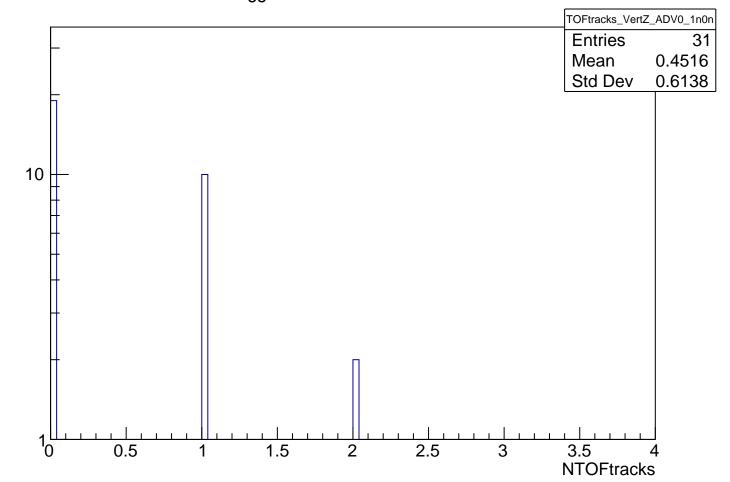
TOFtracks with Triggers012 VertexZ AD and V0 selections



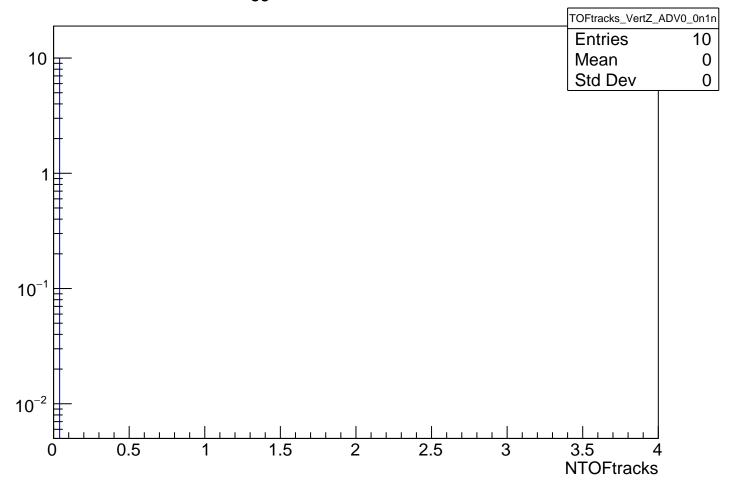
TOFtracks with Triggers 012 0n0n Vertex ZAD and V0 selections



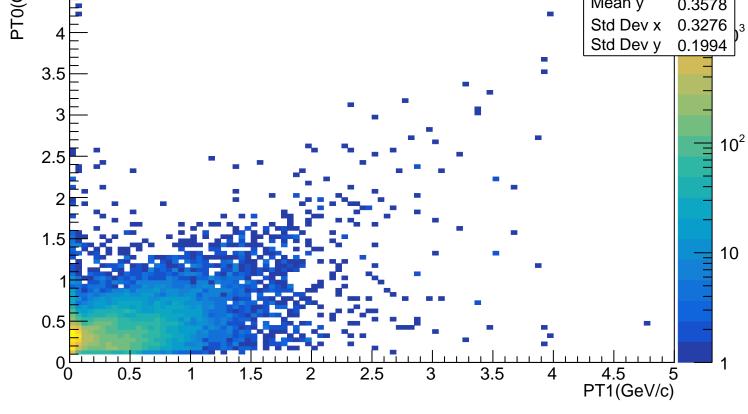
TOFtracks with Triggers012 1n0n VertexZ AD and V0 selections



TOFtracks with Triggers012 0n1n VertexZ AD and V0 selections

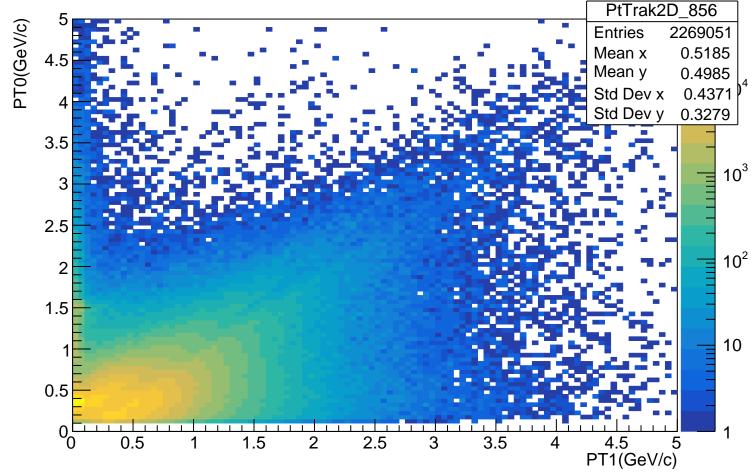


PtTrak2D_012 PtTrak2D_012 5 PT0(GeV/c) **Entries** 48440 Mean x 0.2125 4.5 Mean y 0.3578 Std Dev x Std Dev y 0.1994 3.5 3 2.5 2 1.5 10

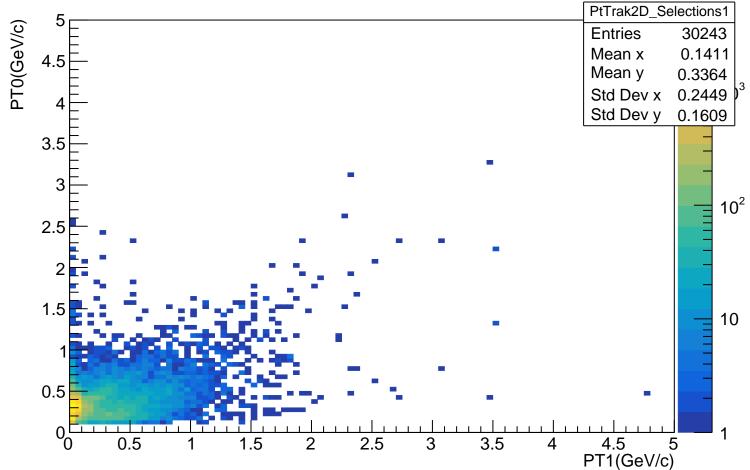


PtTrak2D_347 PtTrak2D_347 5 PT0(GeV/c) **Entries** 301733 0.3547 4 Mean x 4.5 Mean y 0.4361 Std Dev x 0.411 Std Dev y 0.2468 3.5 10³ 3 2.5 10² 2 1.5 10 0.5 0, 4.5 5 PT1(GeV/c) 0.5 1.5 2.5 3.5 3

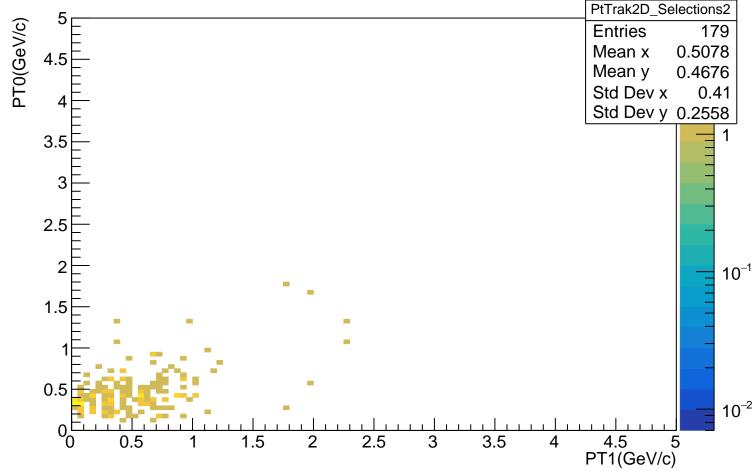
PtTrak2D_856



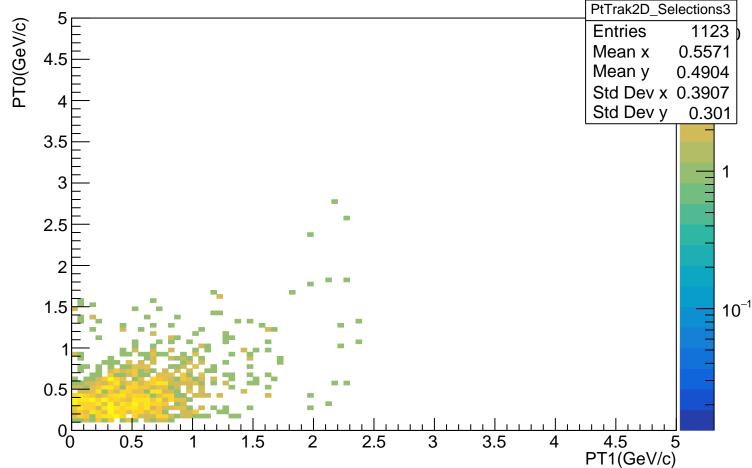
PtTrak2D_Selections1



PtTrak2D_Selections2



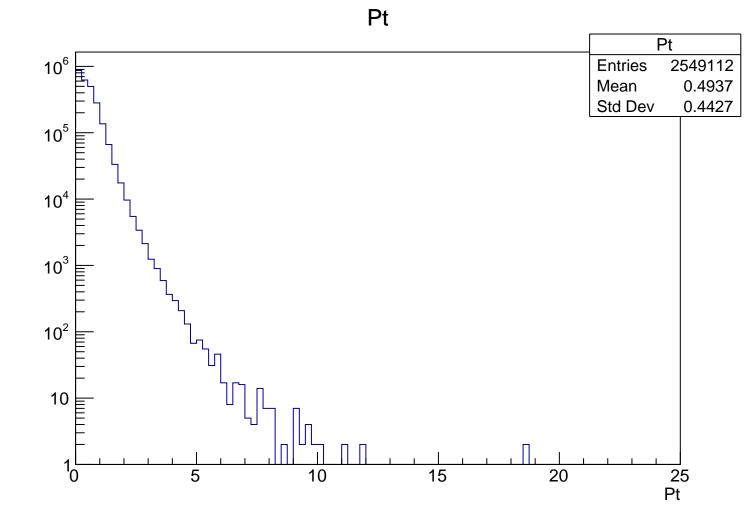
PtTrak2D_Selections3



Mass_Inv Mass_Inv **Entries** 2549112 Mean 0.8884 Std Dev 0.5288 10⁵ 10⁴ 10³ 10² 10 9 10 Mass_Inv 3 5 6 10

Mass_Inv_Selections Mass_Inv_Selections **Entries** 2327104 Mean 0.8921 Std Dev 0.5321 10⁵ 10⁴ 10³ 10² 10 5 6 10

Mass_Inv

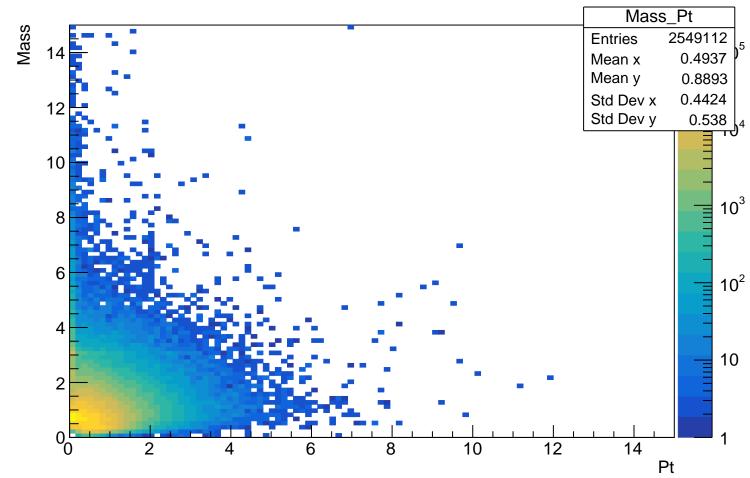


Pt_same_charge Pt_same_charge **Entries** 757279 Mean 0.5986 10⁵ Std Dev 0.4222 10⁴ 10³ 10² 10 5 10 15 20 25 Pt_same_charge

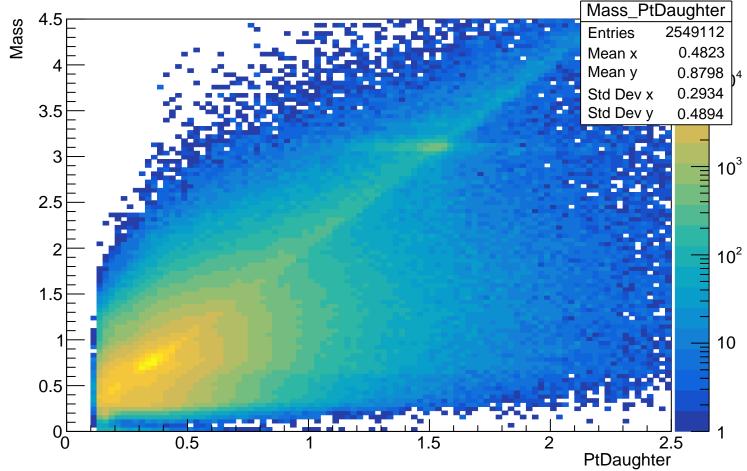
Pt_dif_charge Pt_dif_charge 10⁶ 1791833 **Entries** 0.4494 Mean Std Dev 0.4437 10⁵ 10⁴ 10³ 10² 10 20 5 10 15 25 Pt_dif_charge

Pt_inv_mass Pt_inv_mass 10⁶ **Entries** 2549112 Mean 0.4937 Std Dev 0.4427 10⁵ 10⁴ 10³ 10² 10 25 Pt_inv_mass 20 5 10 15

Invariant Mass VS momentum Pt

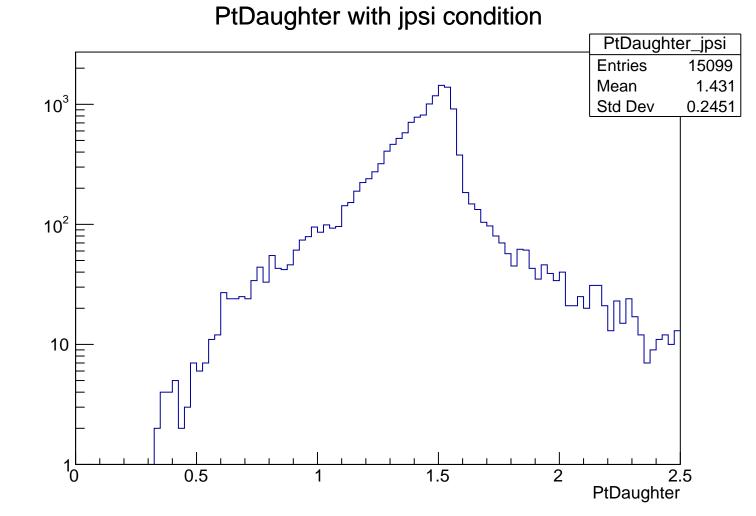


Invariant Mass VS momentum PtDaughter

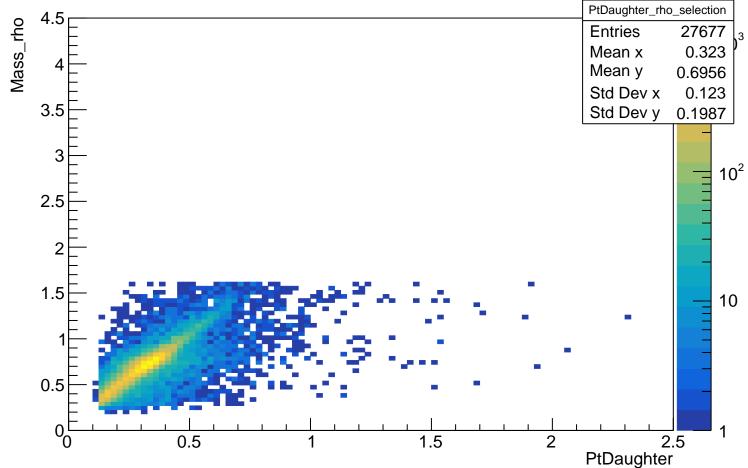


PtDaughter without any condition PtDaughter **Entries** 2549112 Mean 0.4834 Std Dev 0.2964 10⁵ 10⁴ 10³ 10² 0 0.5 1.5 2.5 PtDaughter

PtDaughter with rho condition PtDaughter_rho **Entries** 1004671 10⁵ Mean 0.4061 Std Dev 0.1861 10⁴ 10³ 10² 10 0.5 1.5 2.5 PtDaughter



PtDaughter with rho selection



PtDaughter with jpsi selection PtDaughter_jpsi_selection 4.5 Mass_jpsi **Entries** 20 Mean x 1.423 4 Mean y 3.07 Std Dev x 0.1259 3.5 Std Dev y 0.1242 3 10^{-1} 2.5 2 1.5 0.5

1.5

2.5

PtDaughter

0.5

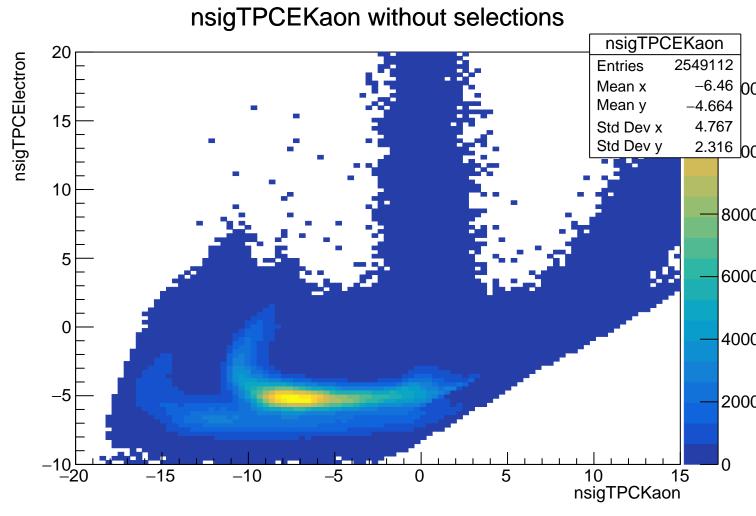
nsigTPCPion without selections nsigTPCPion **Entries** 2549112 Mean 0.3963 10⁵ Std Dev 2.018 10⁴ 10³ 10² 6 8 12 14 nsigTPCPion 10

nsigTPCKaon without selections nsigTPCKaon **Entries** 2549112 10⁵ Mean -6.415Std Dev 4.863 10⁴ 10³ 10² 10 1 -20 15 20 nsigTPCKaon -15-5 20 -1010

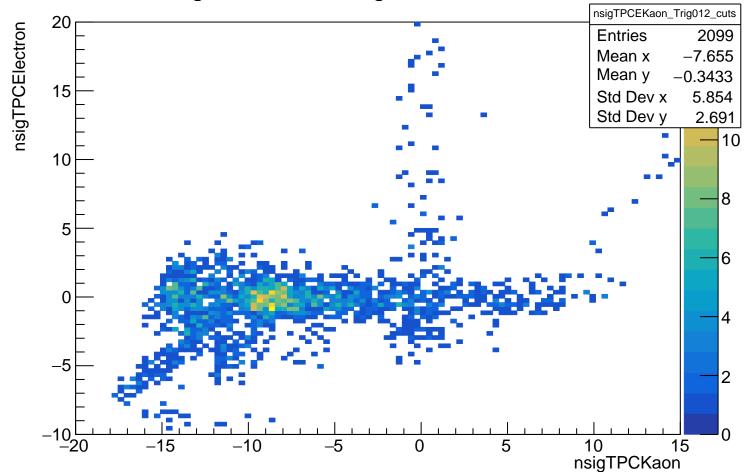
nsigTPCProton without selections nsigTPCProton **Entries** 2549112 10⁵ Mean -10.96Std Dev 4.436 10⁴ 10³ 10² 10 5 10 nsigTPCProton -20 -15 -10

nsigTPCElectron without selections nsigTPCElectron **Entries** 2549112 Mean -4.72210⁵ Std Dev 2.088 10⁴ 10³ 10² l 6 8 nsigTPCElectron -10

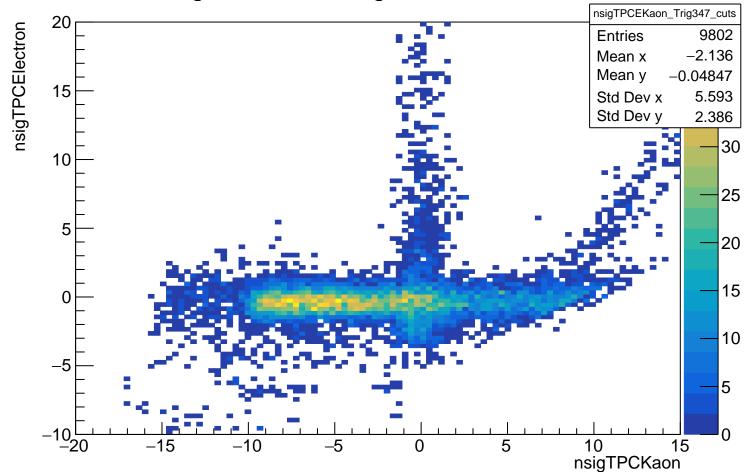
nsigTPCMuon without selections nsigTPCMuon **Entries** 2549112 Mean 0.6982 10⁵ Std Dev 2.142 10⁴ 10³ 10² 6 8 10 12 14 nsigTPCMuon



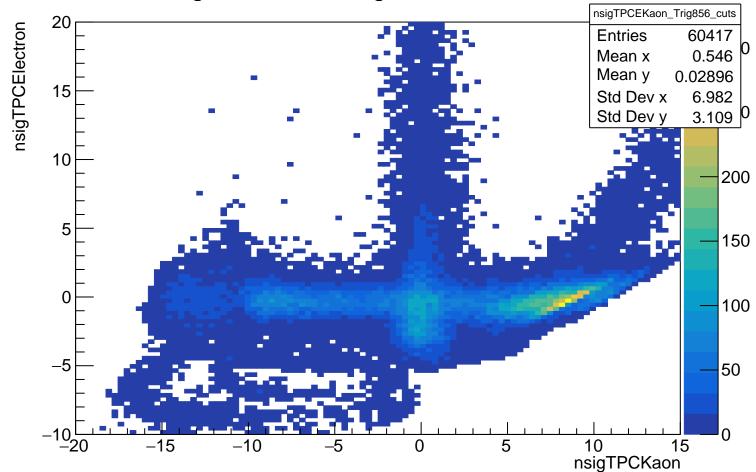
nsigTPCEKaon_Trig012 with selections



nsigTPCEKaon_Trig347 with selections

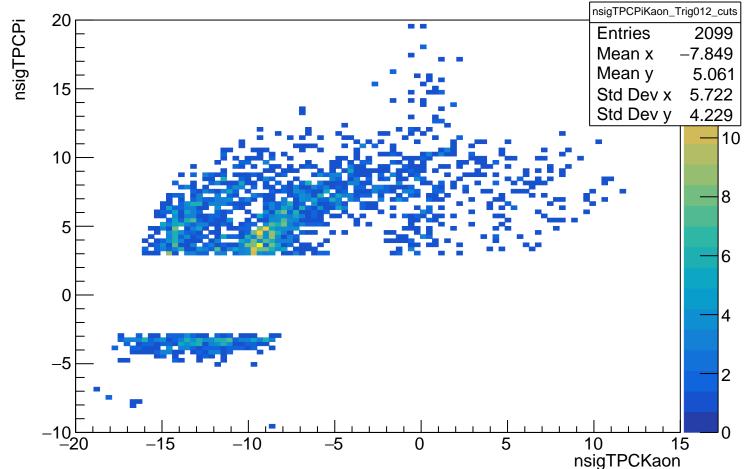


nsigTPCEKaon_Trig856 with selections

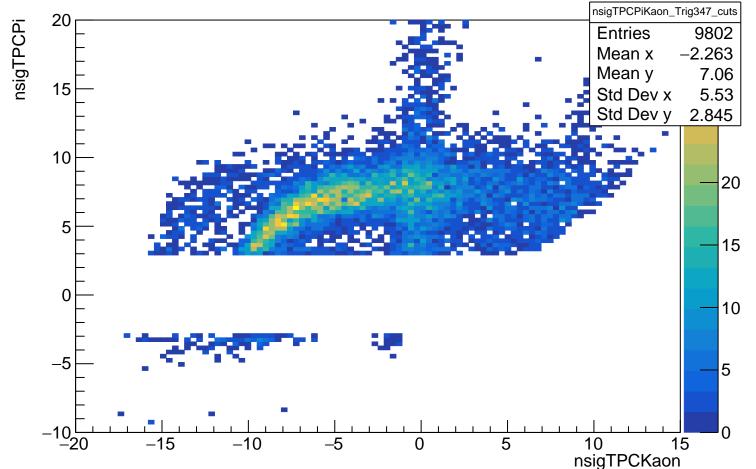


nsigTPCPiKaon without selections nsigTPCPiKaon nsigTPCPi 20 2549112 **Entries** Mean x -6.498Mean y 0.4528 15 Std Dev x 4.724 Std Dev y 2.252 8000 10 6000 5 4000 0 2000 -5 -5 5 15 10 -15 nsigTPCKaon

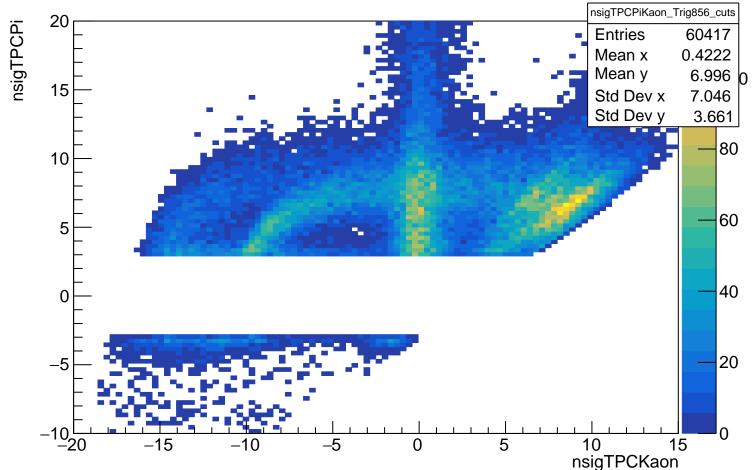
nsigTPCPiKaon_Trig012 with selections



nsigTPCPiKaon_Trig347 with selections

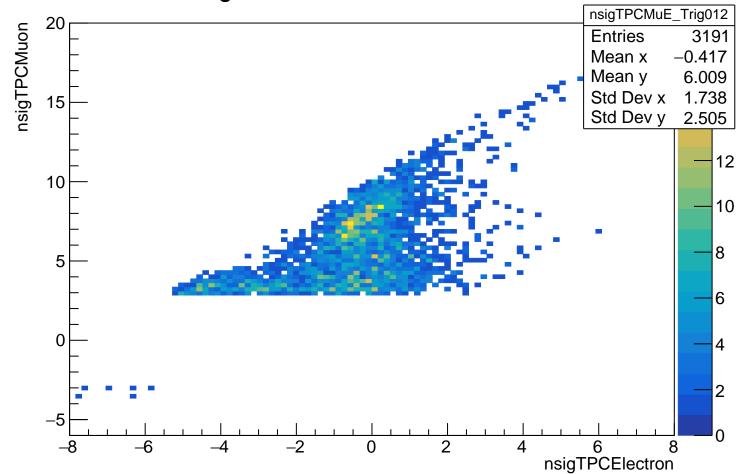


nsigTPCPiKaon_Trig856 with selections

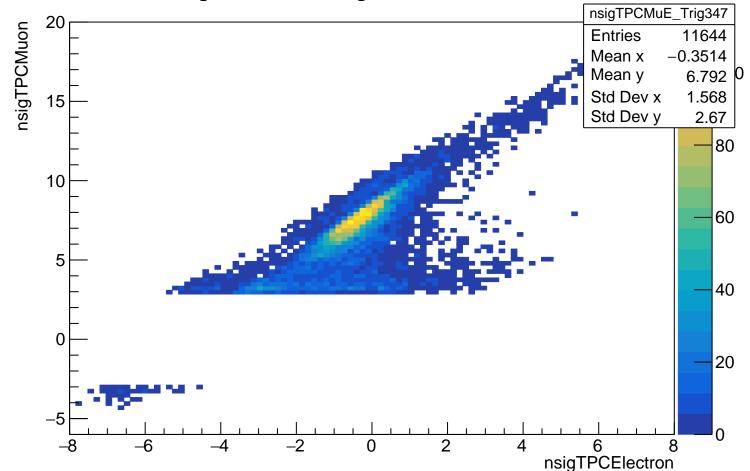


nsigTPCMuE without selections nsigTPCMuE 20 nsigTPCMuon 2549112 **Entries** Mean x -4.68Mean y 0.7844 Std Dev x 2.055 15 Std Dev y 2.329 2000 10 1500 5 1000 0 5000 -5 6 8 nsigTPCElectron

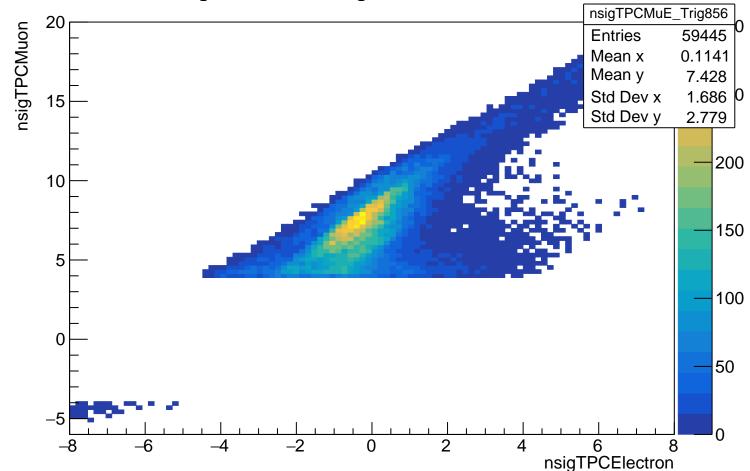
nsigTPCMuE_012 with selections



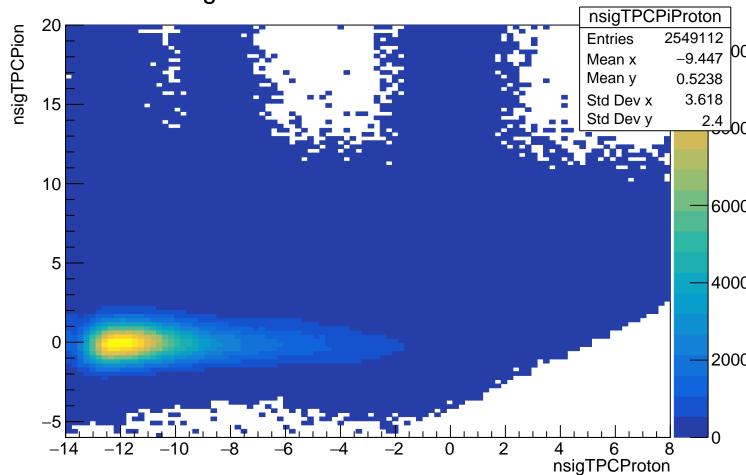
nsigTPCMuE_Trig347 with selections



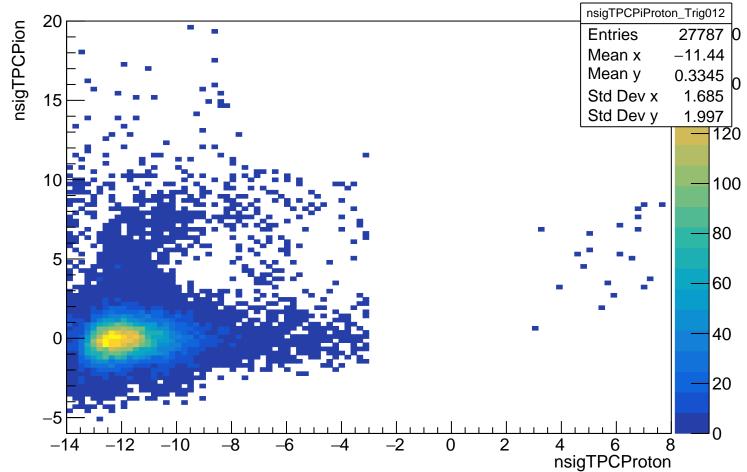
nsigTPCMuE_Trig856 with selections



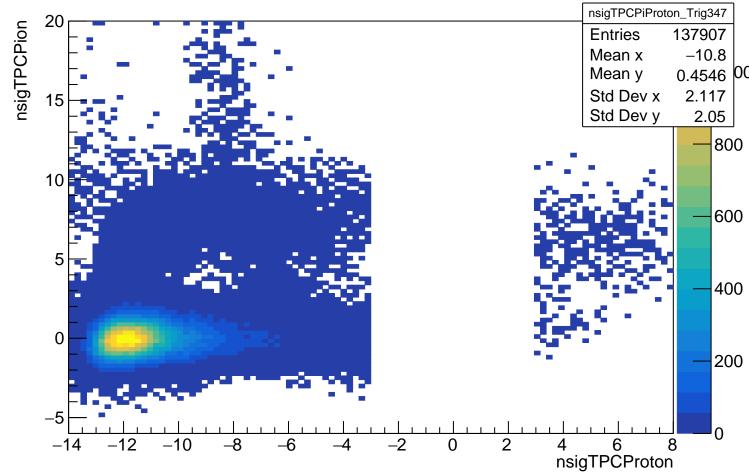
nsigTPCPiProton without selections



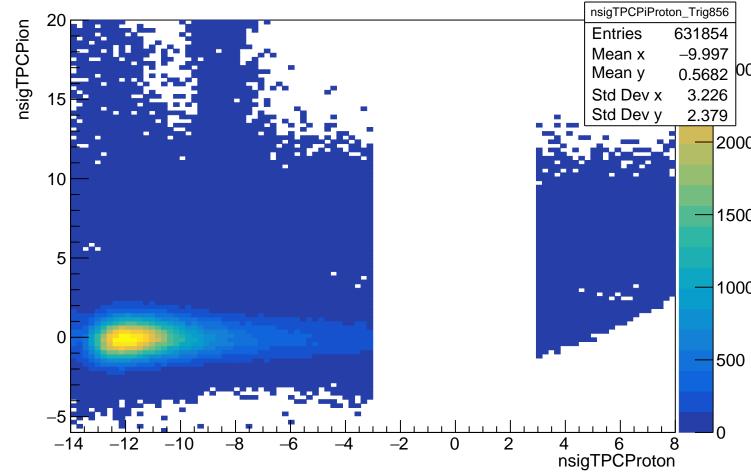
nsigTPCPiProton_Trig012 with selections



nsigTPCPiProton_Trig347 with selections

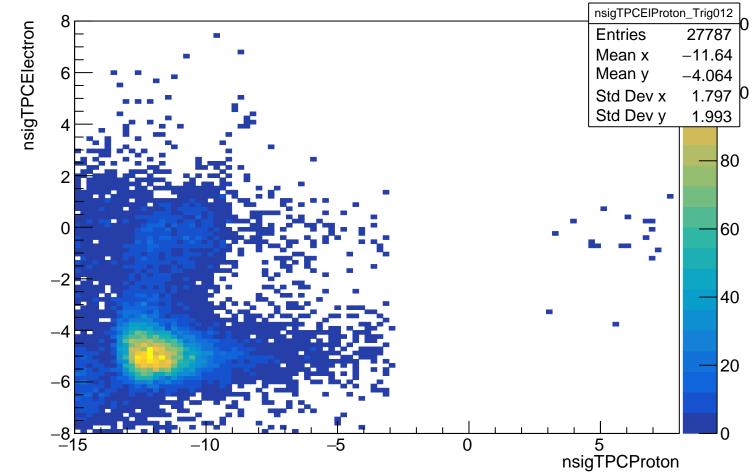


nsigTPCPiProton_Trig856 with selections

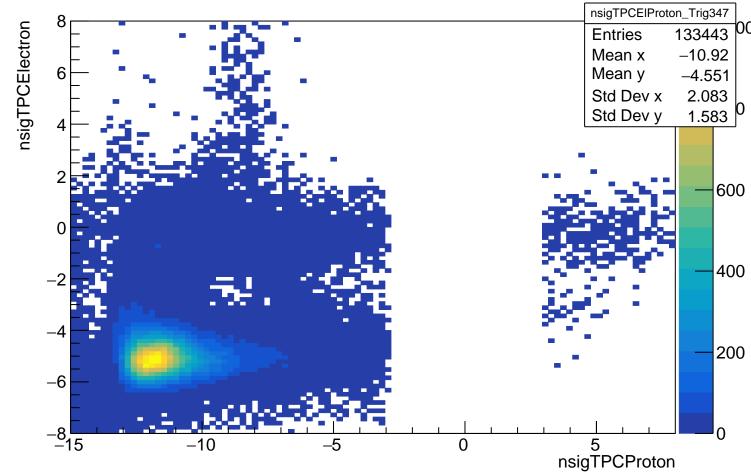


nsigTPCEIProton without selections nsigTPCEIProton 8 nsigTPCElectron 2549112 **Entries** -9.648 00 Mean x 6 Mean y -4.423Std Dev x 3.684 Std Dev y 2.027 5000 2 4000 0 3000 -2 2000 **-4** 1000 -6 -8 -15 5 nsigTPCProton -10 -5

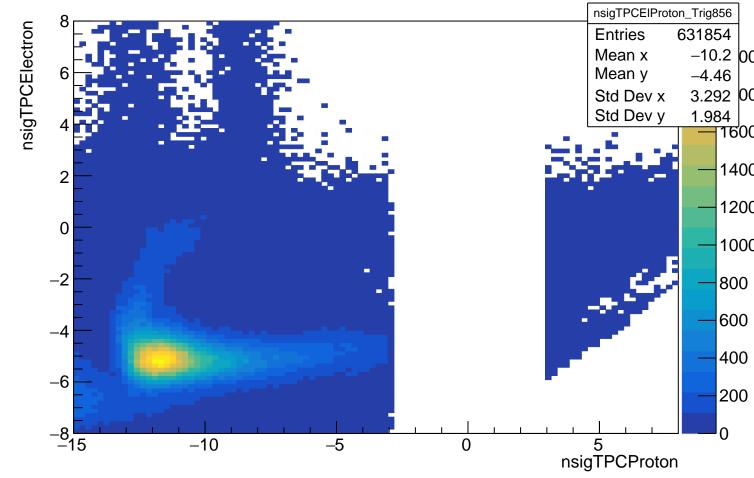
nsigTPCEIProton_Trig012 with selections



nsigTPCEIProton_Trig347 with selections

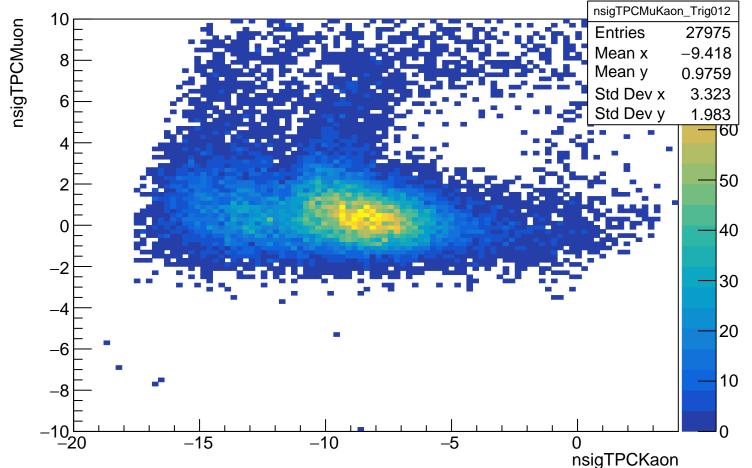


nsigTPCEIProton_Trig856 with selections



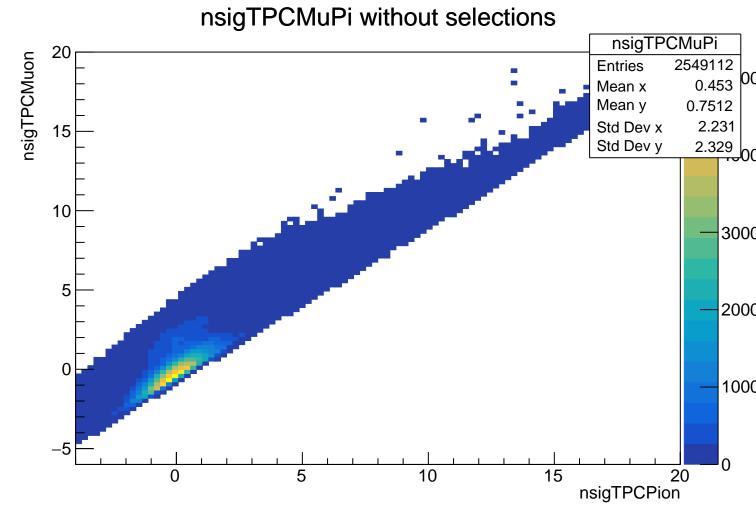
nsigTPCMuKaon without selections nsigTPCMuKaon 10 nsigTPCMuon 2549112 **Entries** -6.804 00 Mean x 8 Mean y 0.5275 4.32 00 Std Dev x 6 Std Dev y 1.783 3500 4 3000 2 2500 0 2000 -21500 **-4** 1000 -6 500 -8 -10∟ -20 -5 -15 nsigTPCKaon

nsigTPCMuKaon_Trig012 with selections

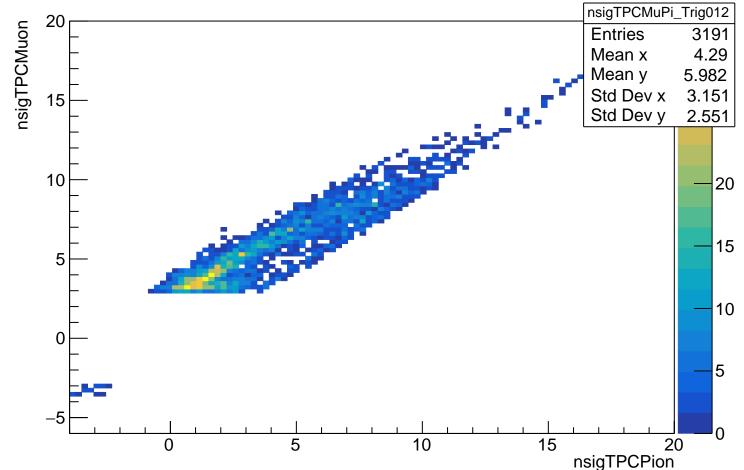


nsigTPCMuKaon_Trig347 with selections nsigTPCMuKaon_Trig347 10 nsigTPCMuon **Entries** 11644 Mean x -5.3958 Mean y 6.28 Std Dev x 4.553 6 Std Dev y 2.219 4 25 2 20 0 15 -2-4 10 -6 5 -8 -10 -20 -15 -5 -10 nsigTPCKaon

nsigTPCMuKaon_Trig856 with selections nsigTPCMuKaon_Trig856 10 nsigTPCMuon **Entries** 78583 Mean x -7.127 h 8 Mean y 5.212 Std Dev x 5.763 0 6 Std Dev y 2.638 4 160 2 140 0 120 100 -2 80 **-4** 60 -6 40 -8 20 -10└ -20 -15 -5 -10 nsigTPCKaon



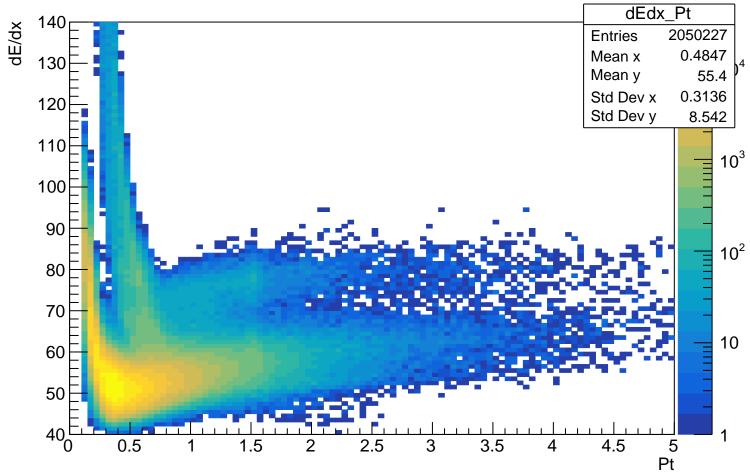
nsigTPCMuPi_Trig012 with selections



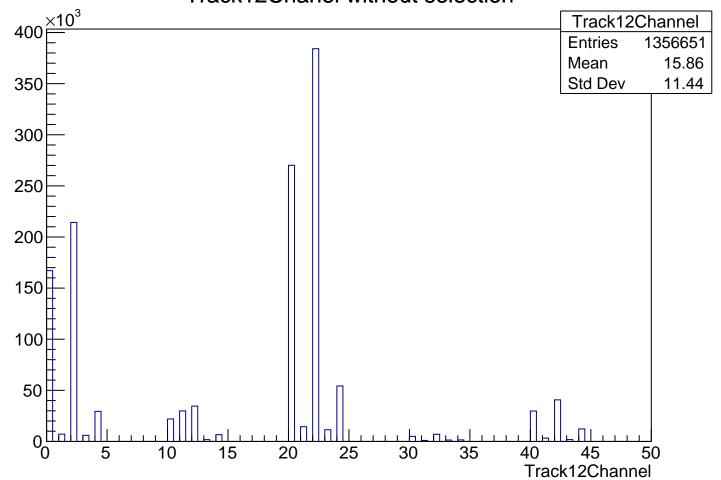
nsigTPCMuPi_Trig347 with selections nsigTPCMuPi_Trig347 20 nsigTPCMuon **Entries** 11644 Mean x 6.158 Mean y 6.765 Std Dev x 3.233 15 Std Dev y 2.699 60 10 50 40 5 30 20 0 10 -5 5 10 15 20 nsigTPCPion

nsigTPCMuPi_Trig856 with selections nsigTPCMuPi_Trig856 20 nsigTPCMuon **Entries** 78583 Mean x 5.666 Mean y 6.274 Std Dev x 3.865 0 15 Std Dev y 3.205 500 10 400 5 300 200 0 100 -5 5 10 15 20 nsigTPCPion

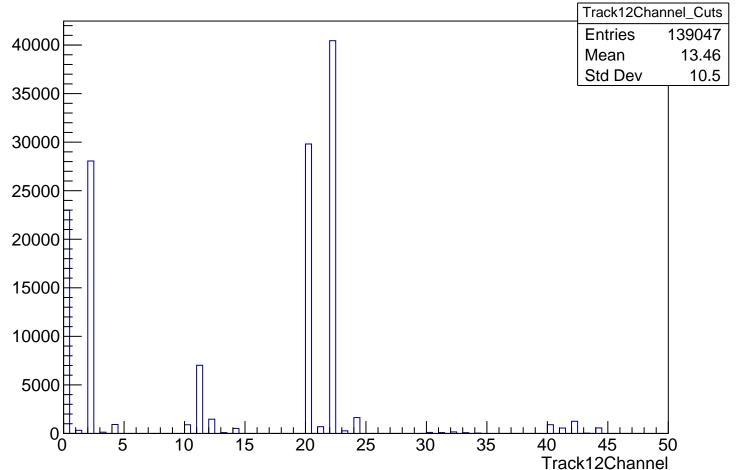
dE/dx VS Pt of pion, electron, proton, and Kaon



Track12Chanel without selection

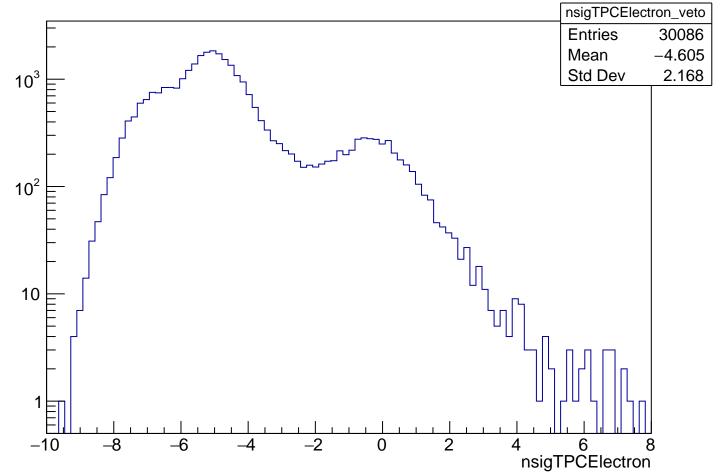


Track12Chanel with selection



nsigTPCKaon after veto nsigTPCKaon_veto **Entries** 2595733 10⁵ Mean -6.593Std Dev 4.678 10⁴ 10³ 10² 10 1 -20 15 20 nsigTPCKaon -15 -10 -5 5 20 10

nsigTPCElectron without selections



Pt of selected electrons

