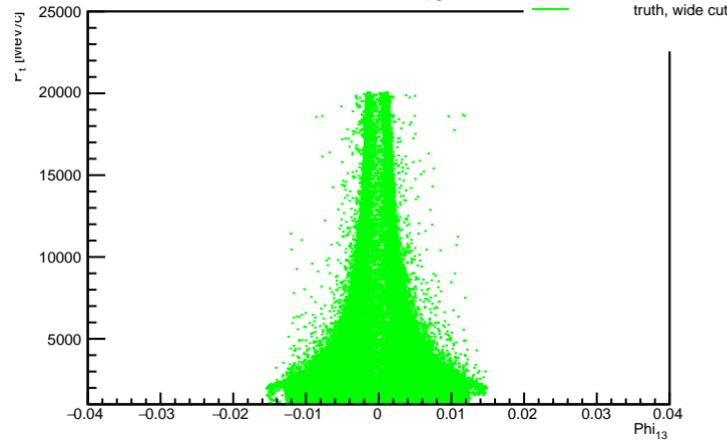
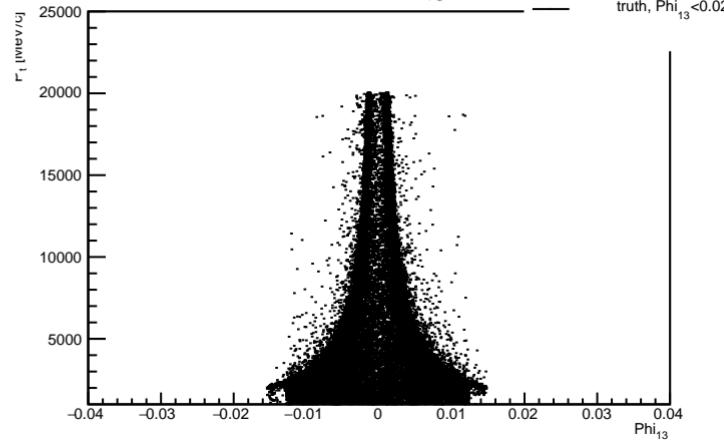


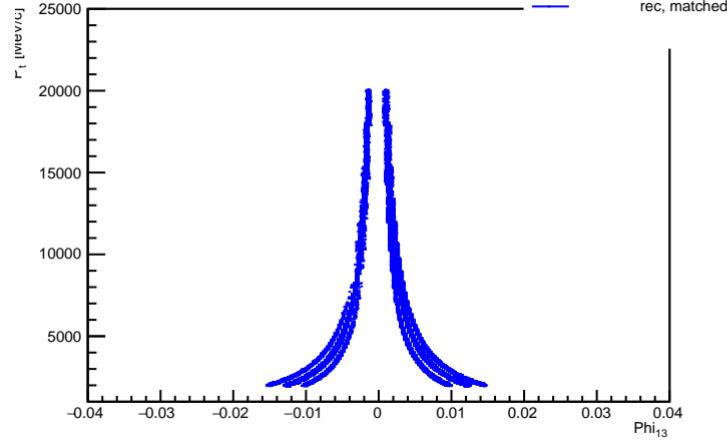
P_t Vs Φ_{13}



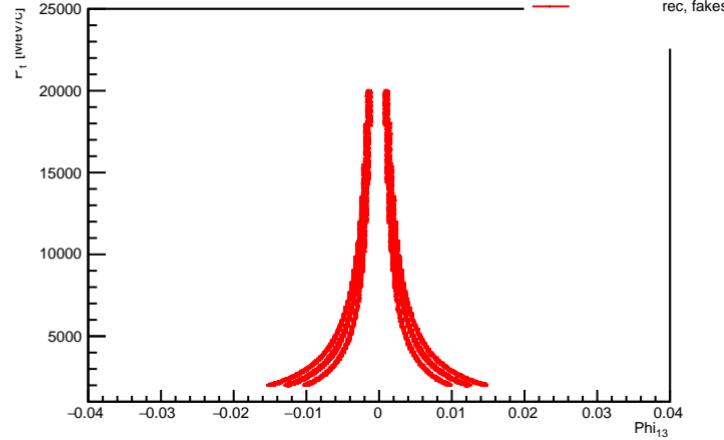
P_t Vs Φ_{13}



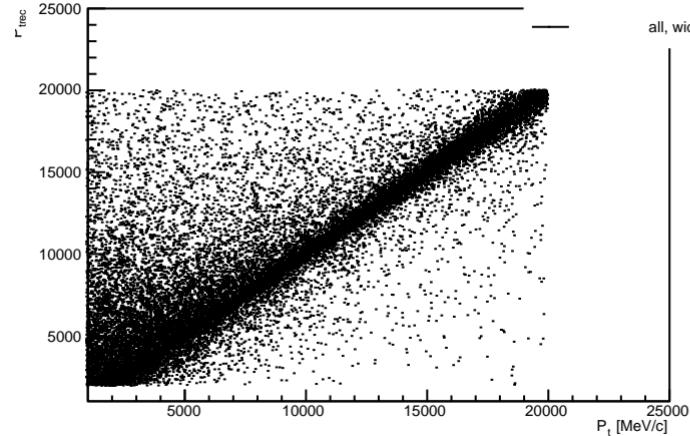
P_t Vs Φ_{13}



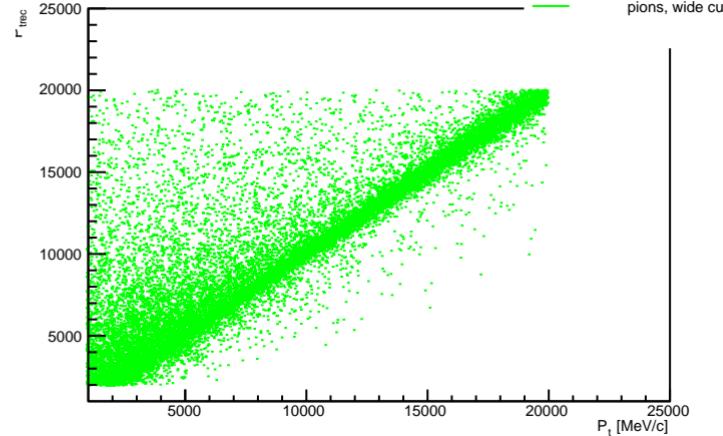
P_t Vs Φ_{13}



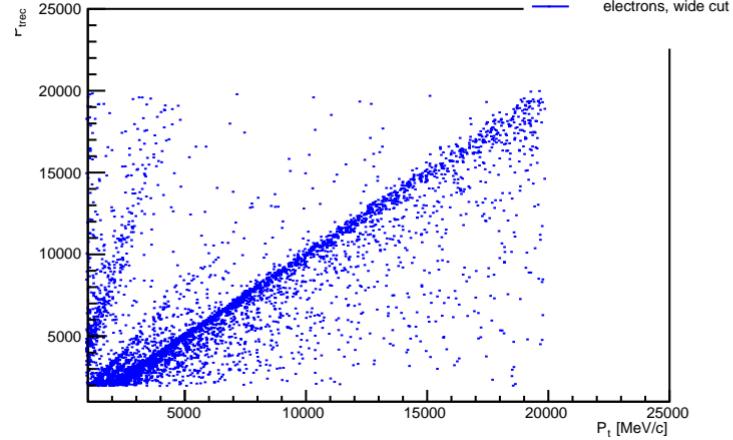
$P_{t\text{rec}}$ Vs P_t



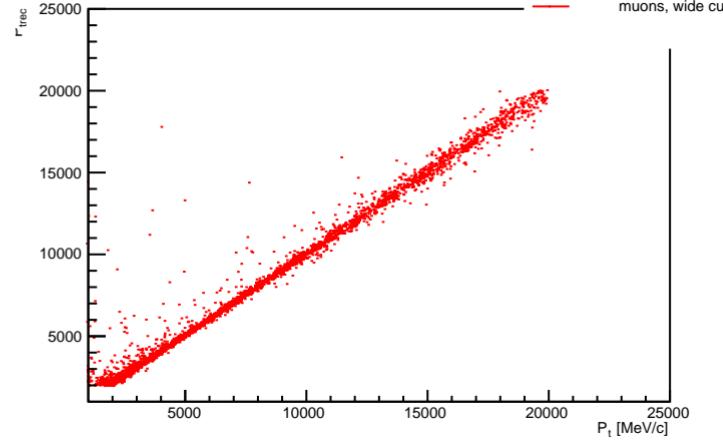
$P_{t\text{rec}}$ Vs P_t



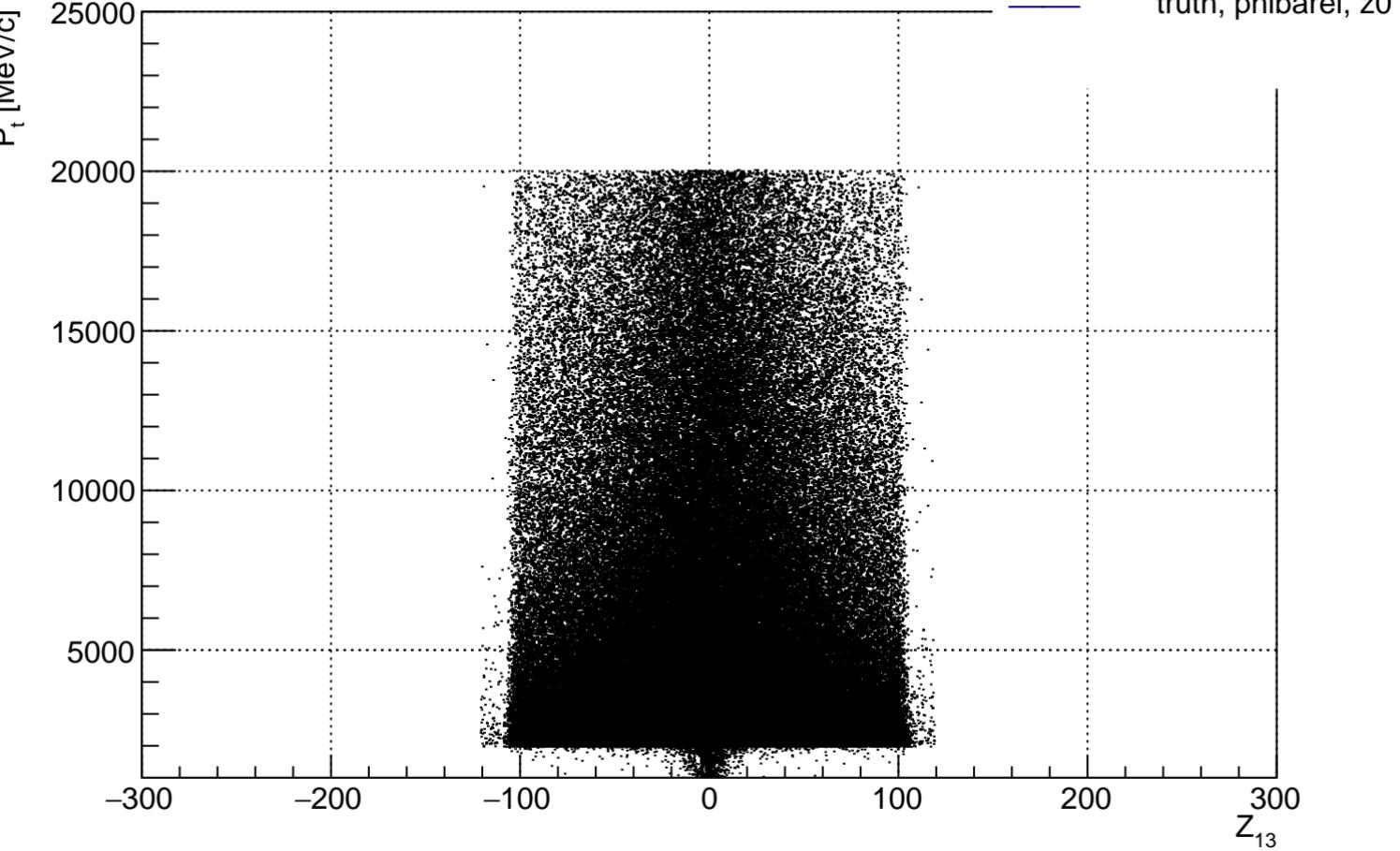
$P_{t\text{rec}}$ Vs P_t

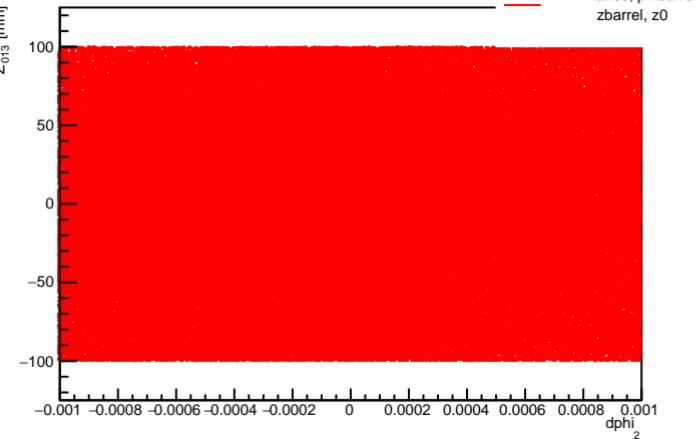
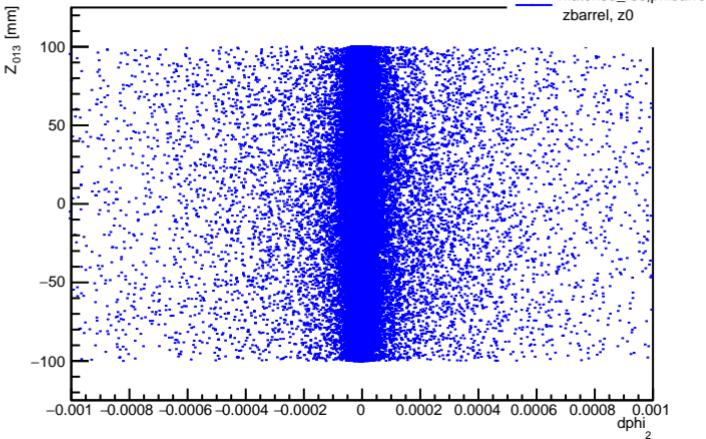
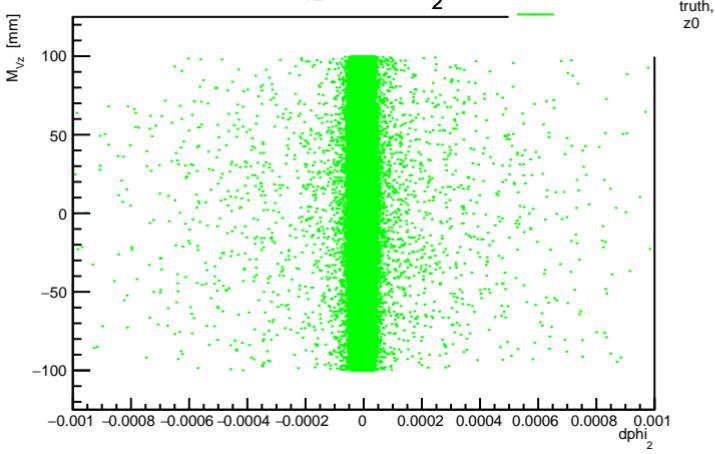
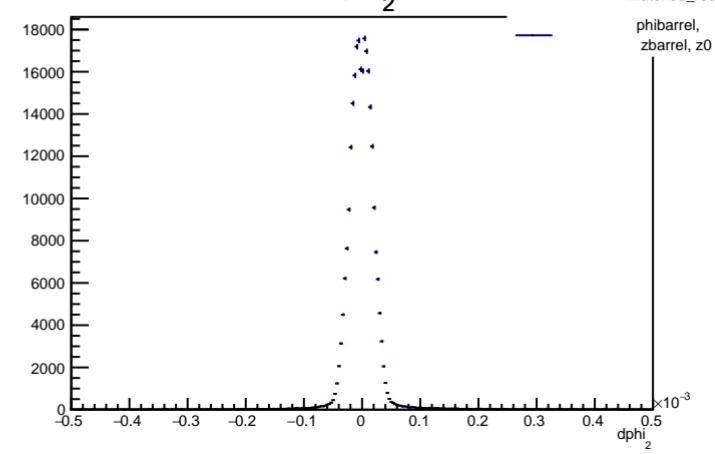


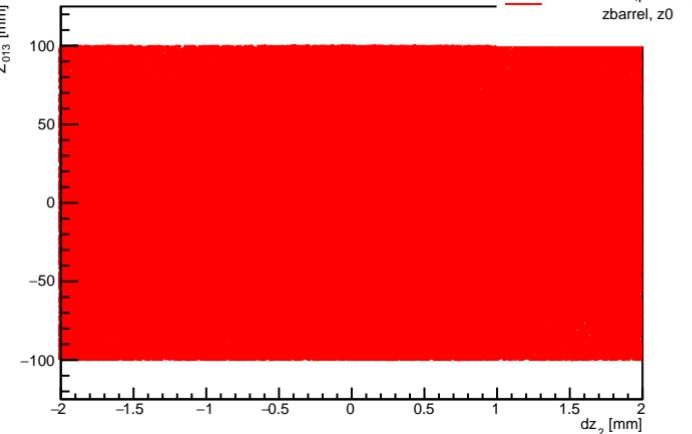
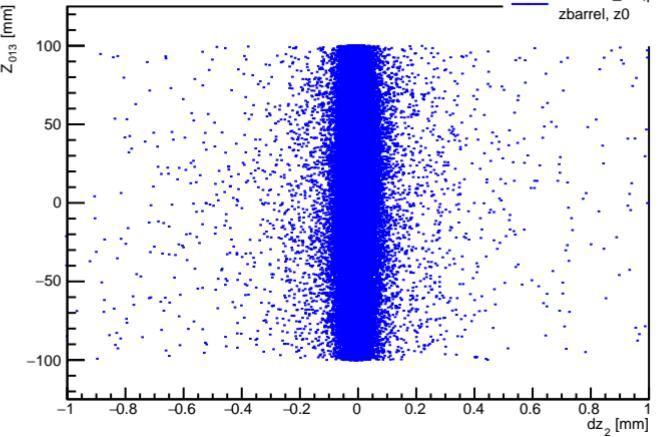
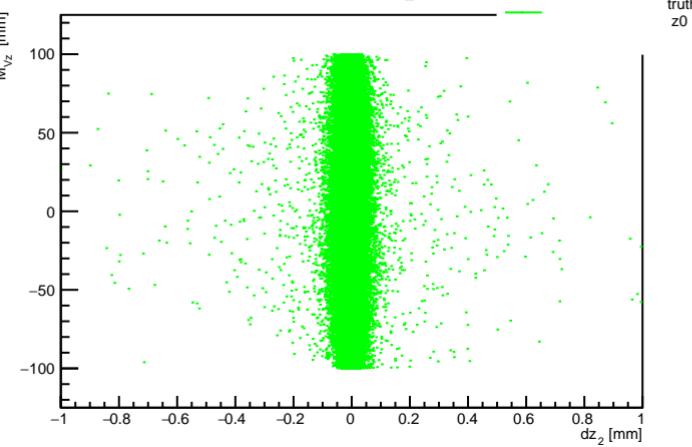
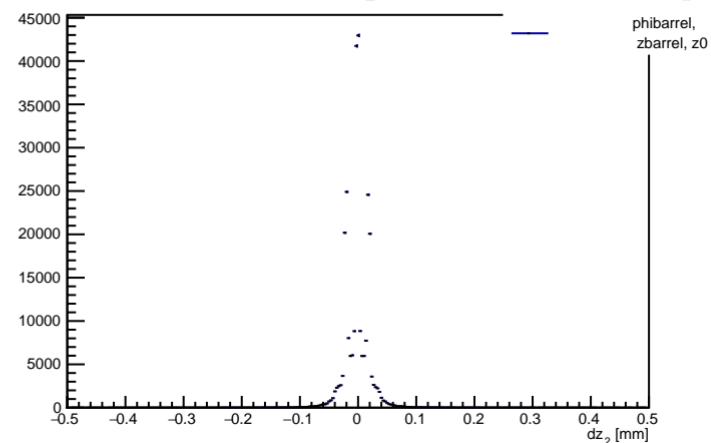
$P_{t\text{rec}}$ Vs P_t



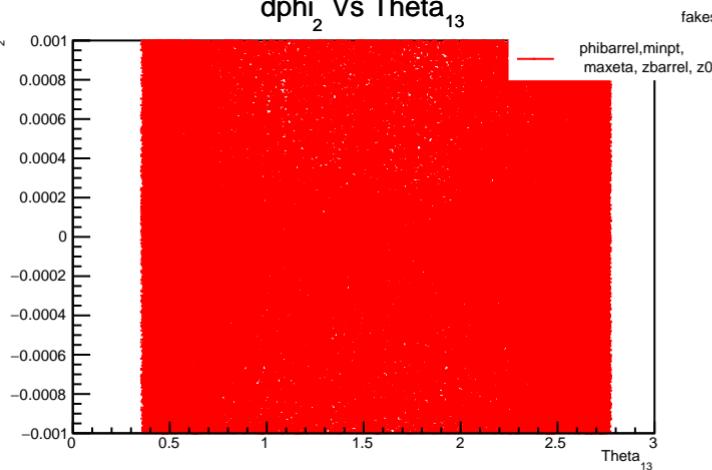
P_t Vs Z_{13}



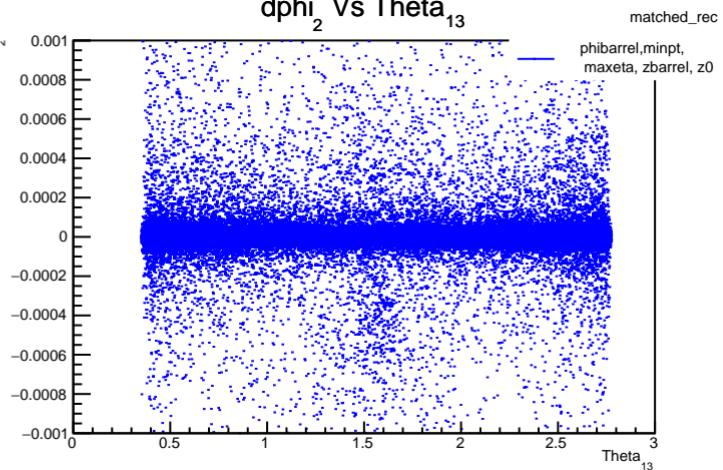
Z_{013} Vs $d\phi_i$  Z_{013} Vs $d\phi_i$  M_{vz} Vs $d\phi_i$  $d\phi_i$ 

Z_{013} Vs dz_2  Z_{013} Vs dz_2  M_{vz} Vs dz_2  dz_2 

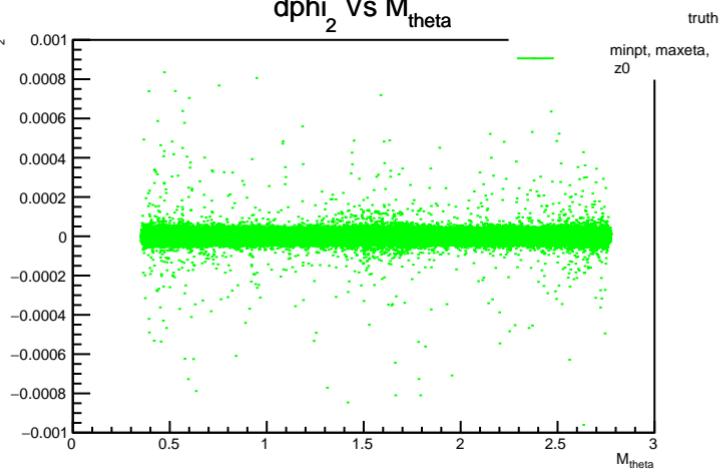
dphi₂ Vs Theta₁₃



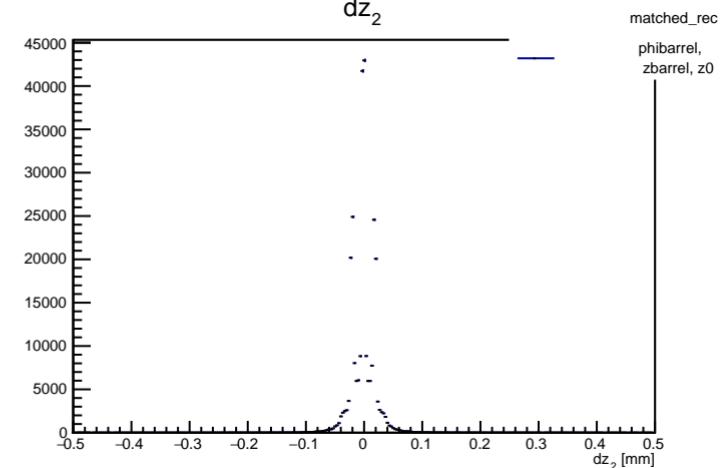
dphi₂ Vs Theta₁₃



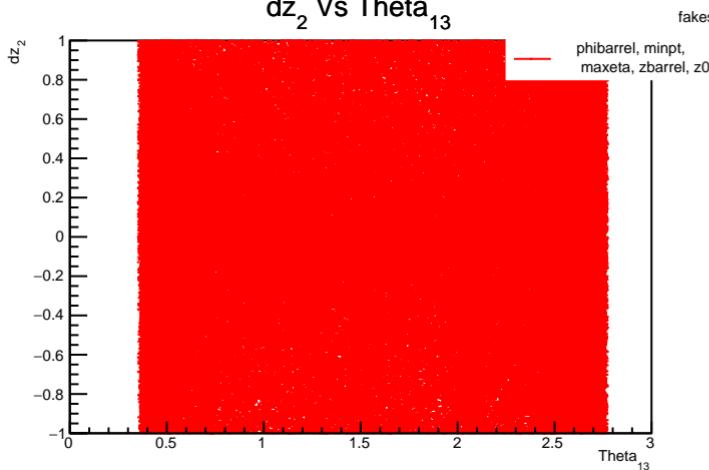
dphi₂ Vs M_{theta}



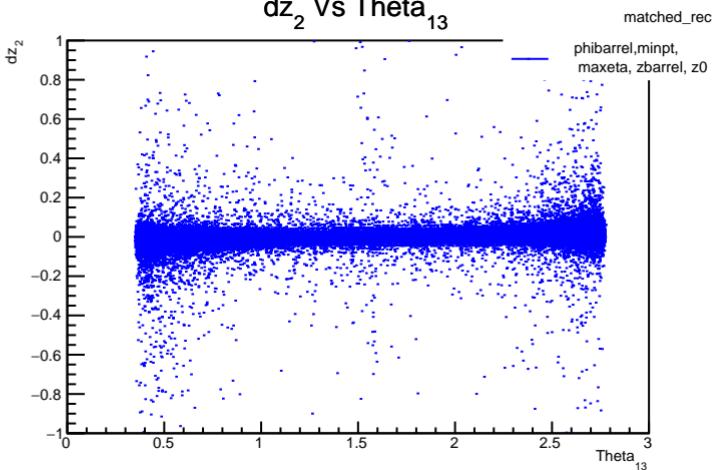
dz₂



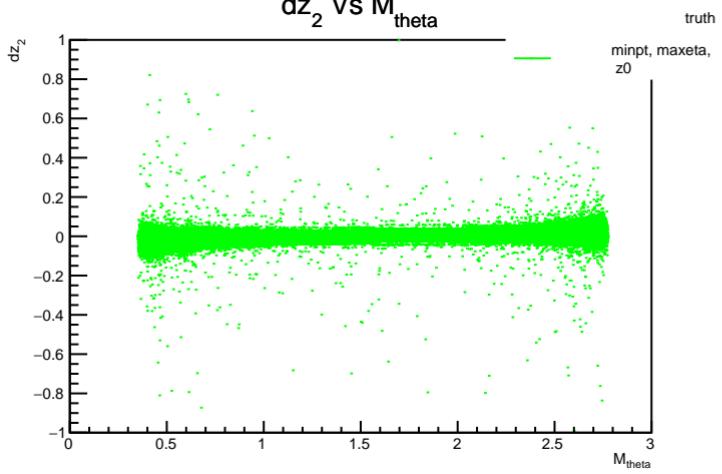
dz_2 Vs Θ_{13}



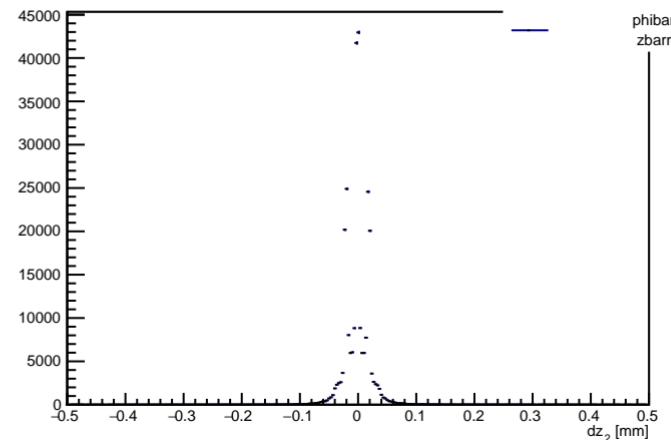
dz_2 Vs Θ_{13}



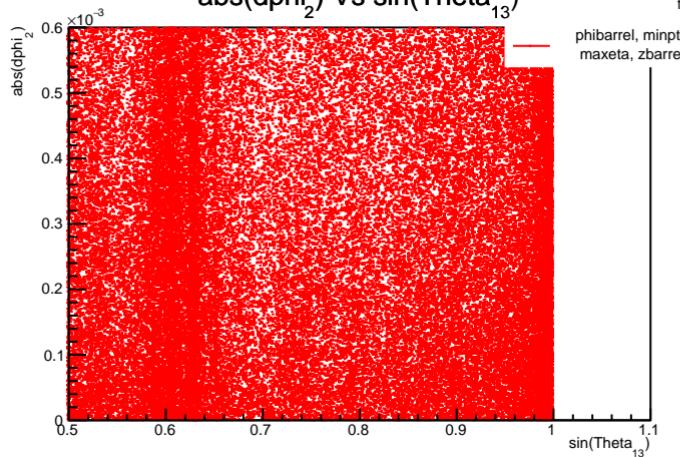
dz_2 Vs M_{θ}



dz_2



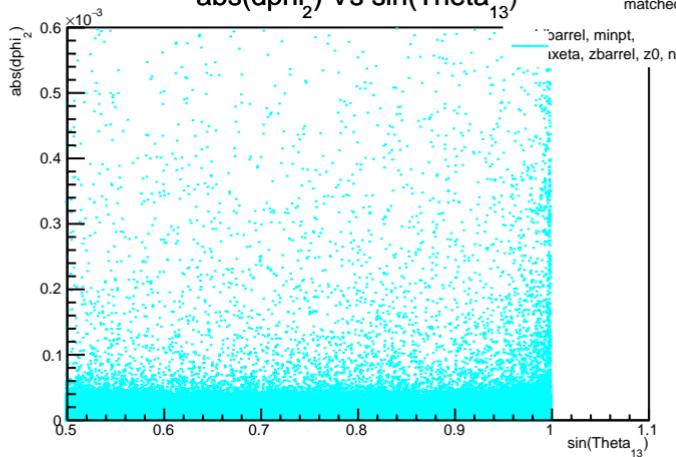
$\text{abs}(\text{dphi}_2)$ Vs $\sin(\Theta_{13})$



fakes

phibarrel, minpt,
maxeta, zbarrel, z0

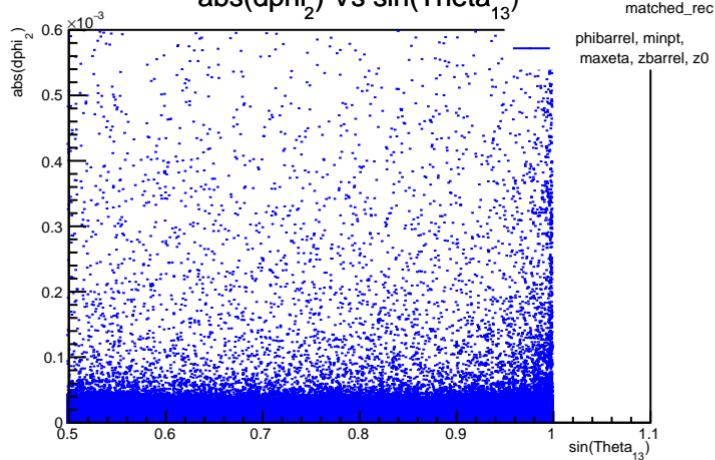
$\text{abs}(\text{dphi}_2)$ Vs $\sin(\Theta_{13})$



matched_rec

barrel, minpt,
maxeta, zbarrel, z0, no e's

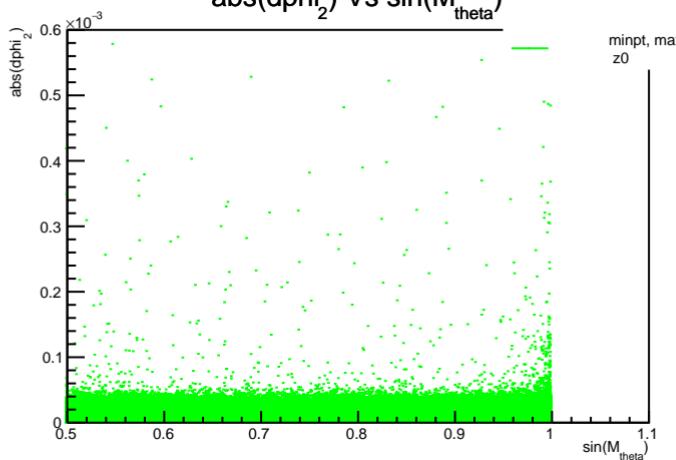
$\text{abs}(\text{dphi}_2)$ Vs $\sin(\Theta_{13})$



matched_rec

phibarrel, minpt,
maxeta, zbarrel, z0

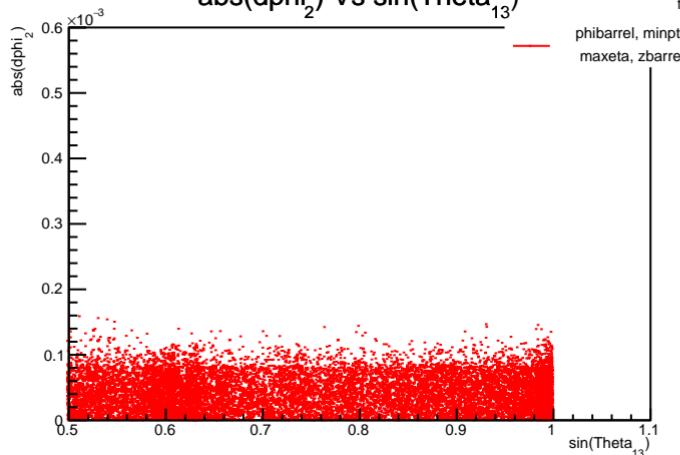
$\text{abs}(\text{dphi}_2)$ Vs $\sin(M_{\theta})$



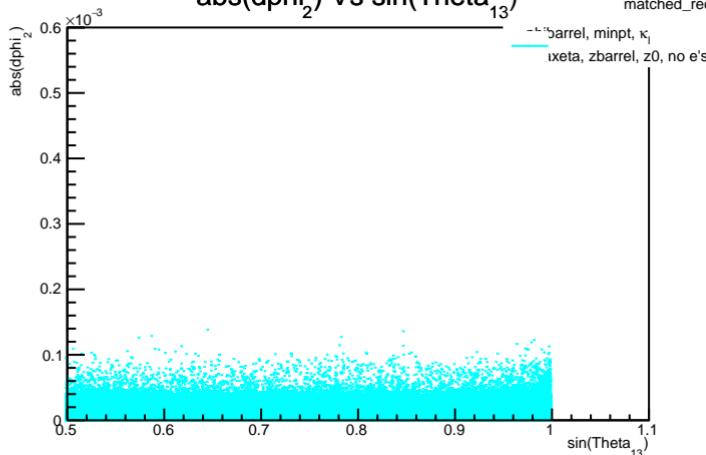
truth

minpt, maxeta,
z0

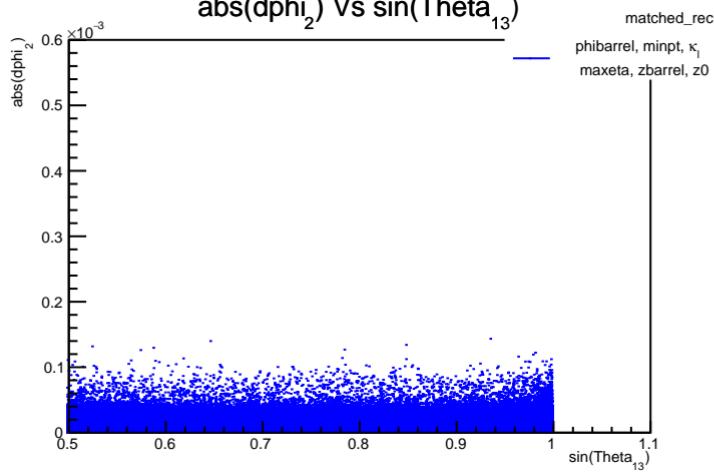
$\text{abs}(\text{dphi}_2)$ Vs $\sin(\Theta_{13})$



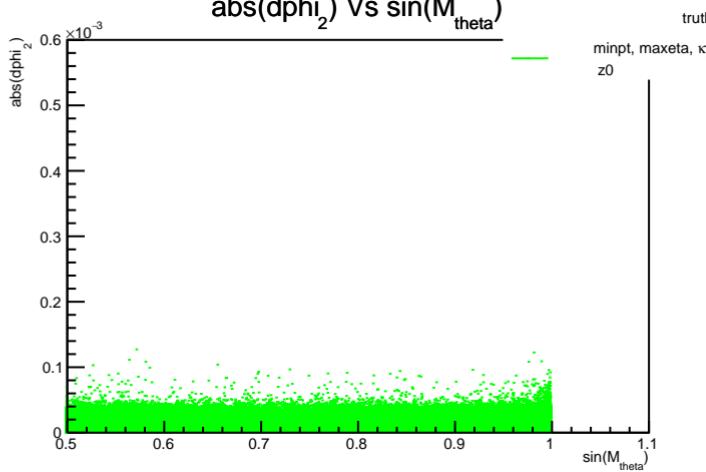
$\text{abs}(\text{dphi}_2)$ Vs $\sin(\Theta_{13})$



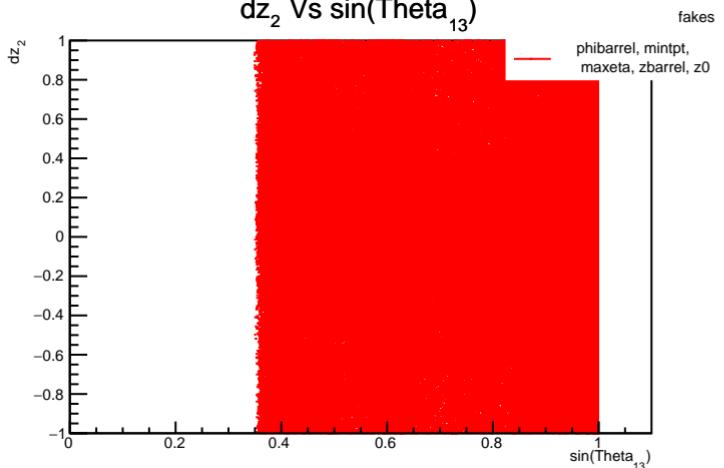
$\text{abs}(\text{dphi}_2)$ Vs $\sin(\Theta_{13})$



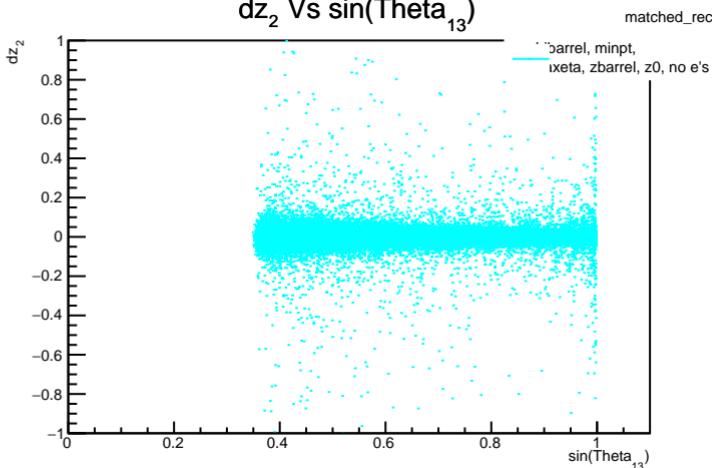
$\text{abs}(\text{dphi}_2)$ Vs $\sin(M_{\theta})$



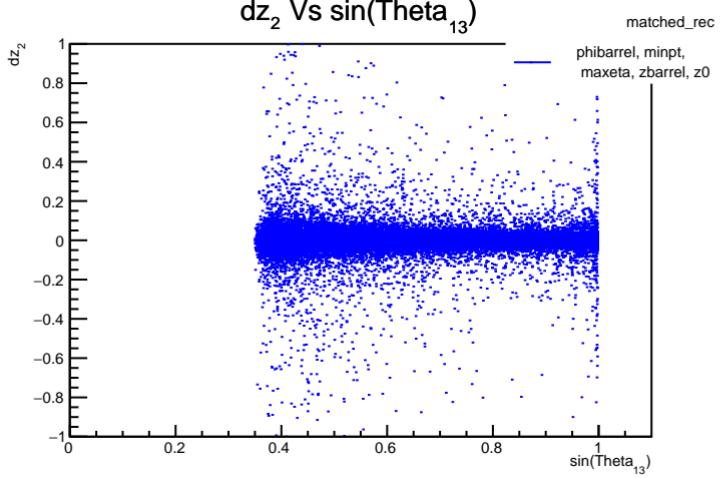
dz_2 Vs $\sin(\Theta_{13})$



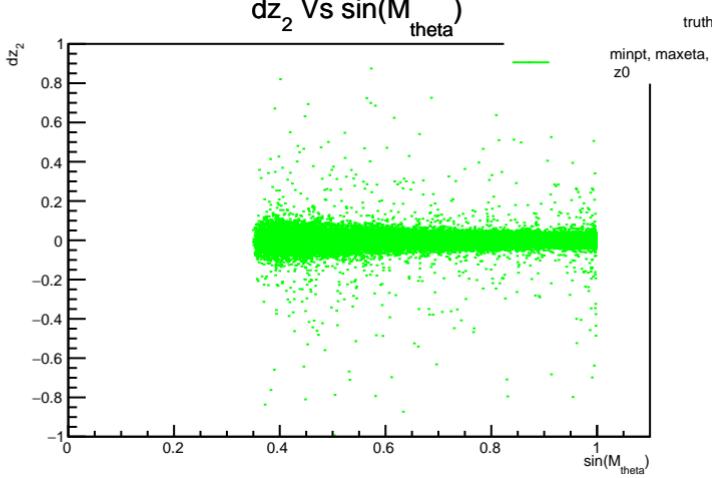
dz_2 Vs $\sin(\Theta_{13})$



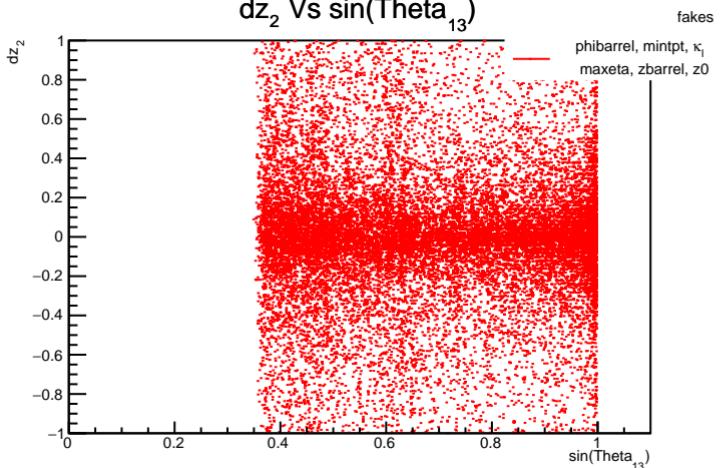
dz_2 Vs $\sin(\Theta_{13})$



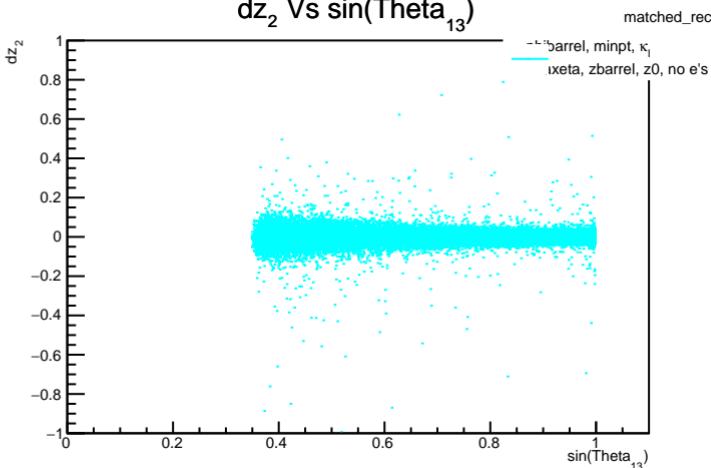
dz_2 Vs $\sin(M_{\theta})$



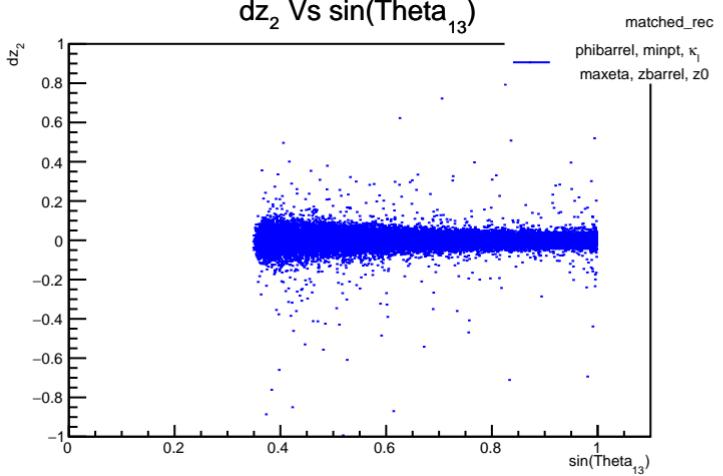
dz_2 Vs $\sin(\Theta_{13})$



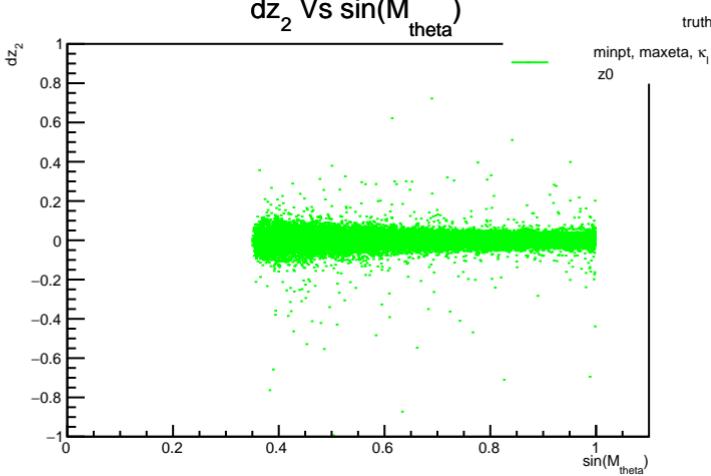
dz_2 Vs $\sin(\Theta_{13})$



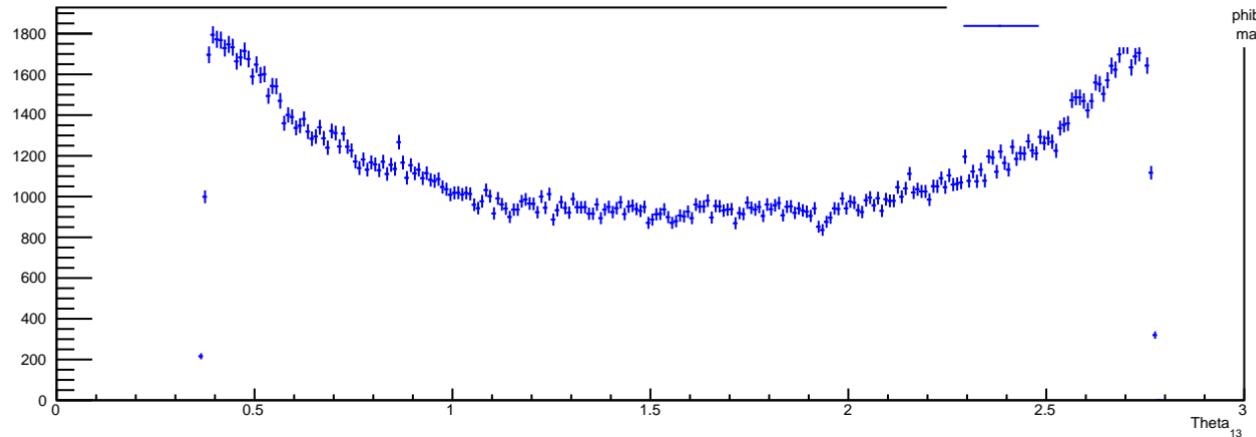
dz_2 Vs $\sin(\Theta_{13})$



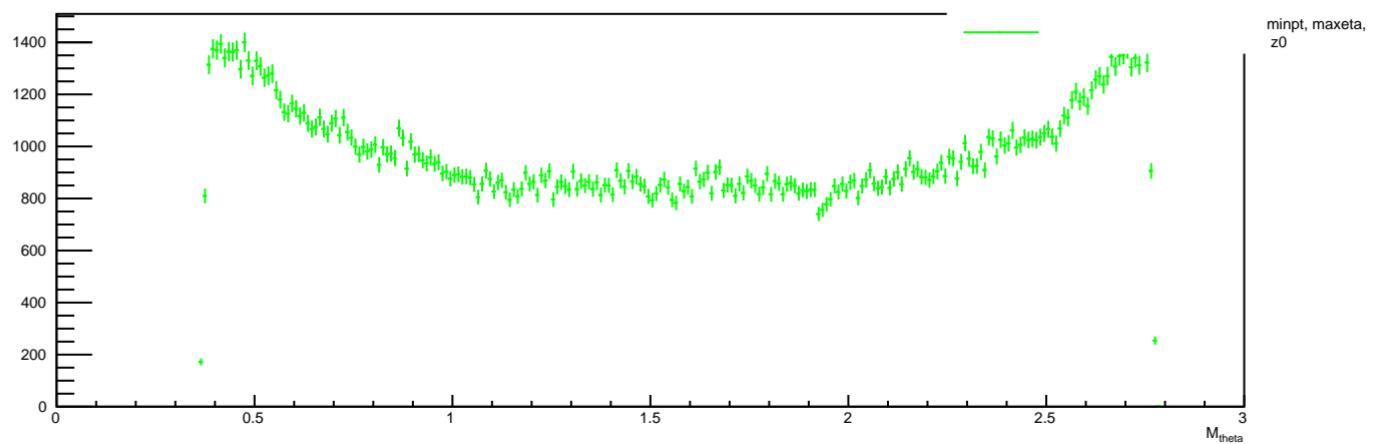
dz_2 Vs $\sin(M_{\theta})$

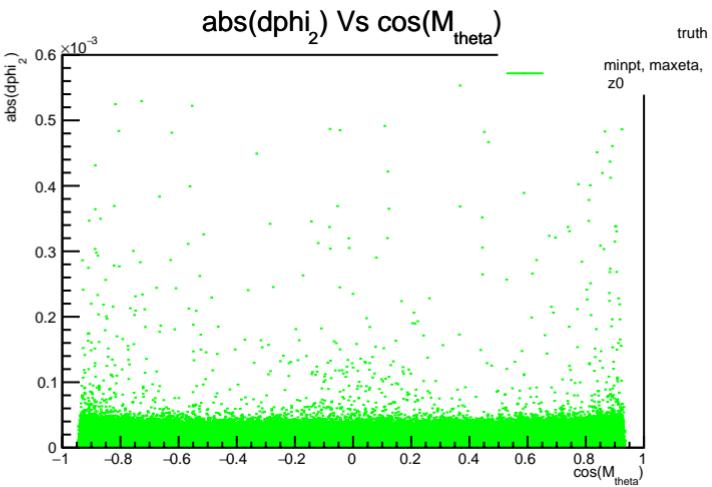
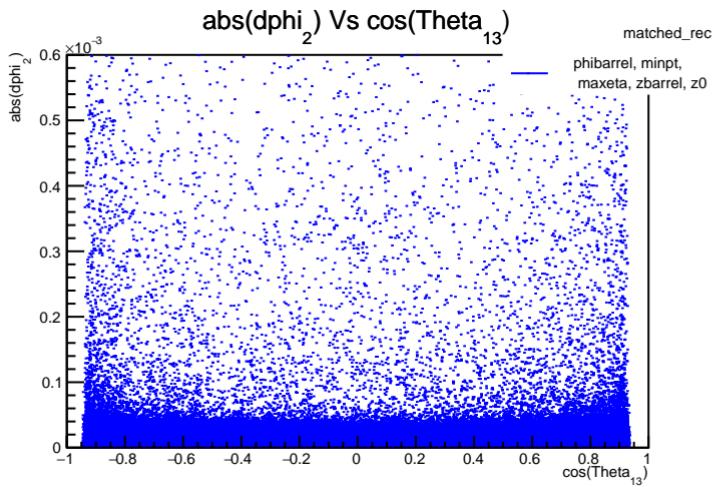
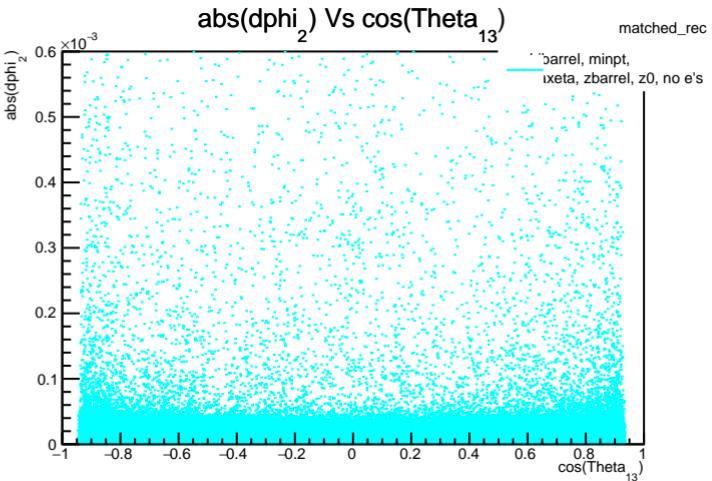
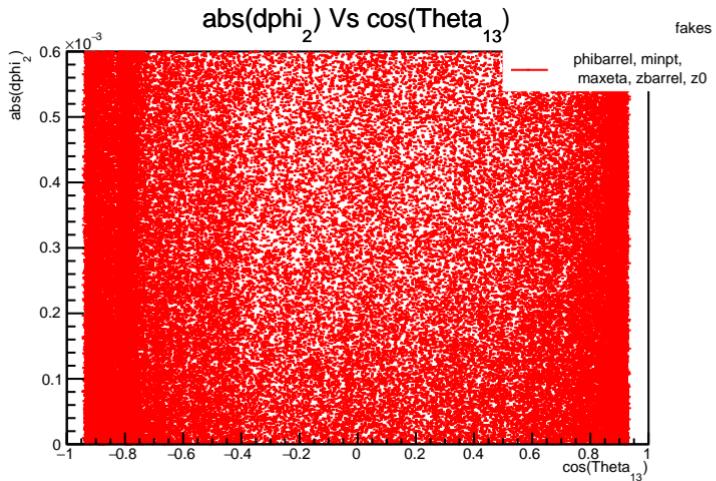


Theta₁₃

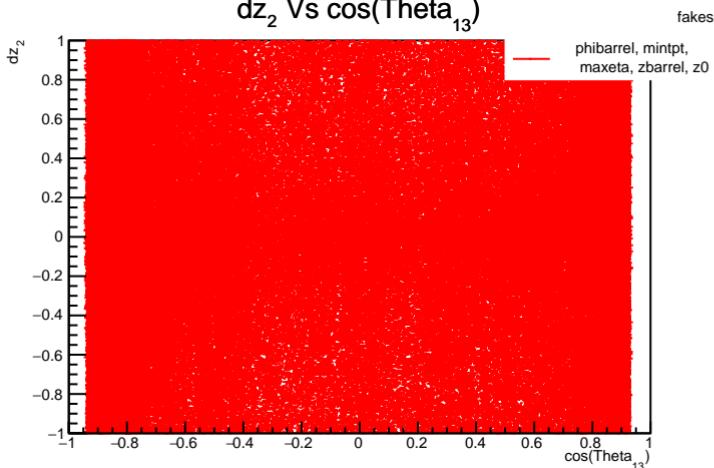


M_{theta}

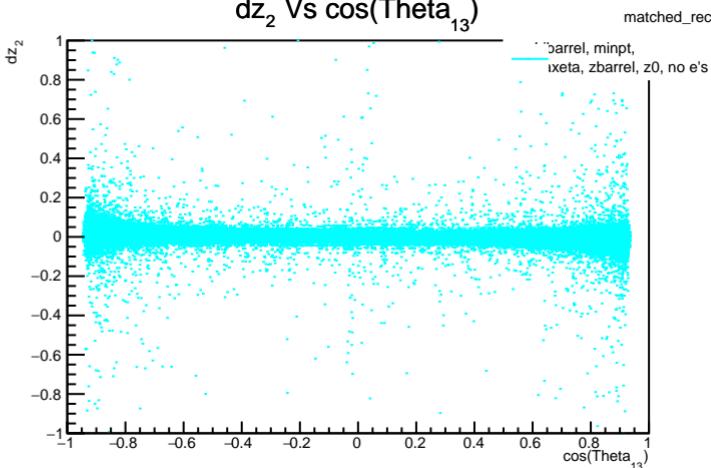




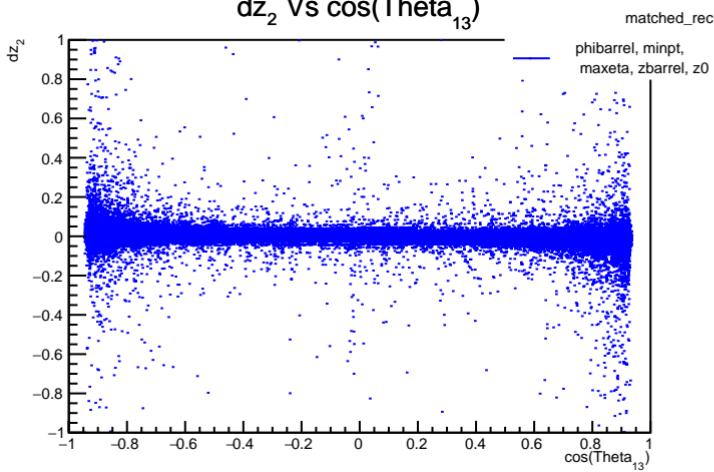
dz_2 Vs $\cos(\Theta_{13})$



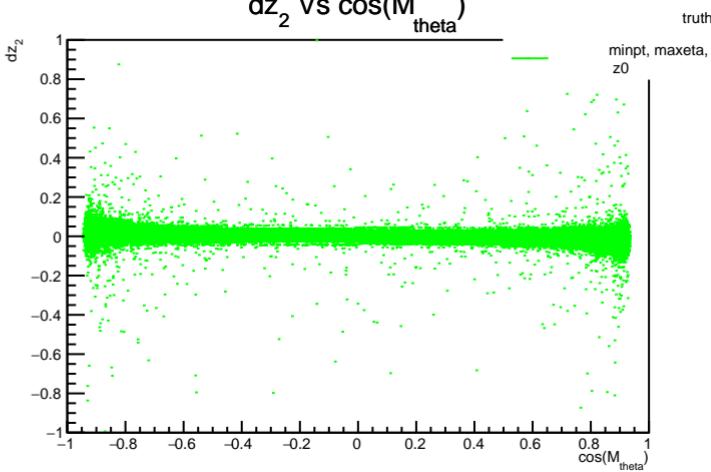
dz_2 Vs $\cos(\Theta_{13})$



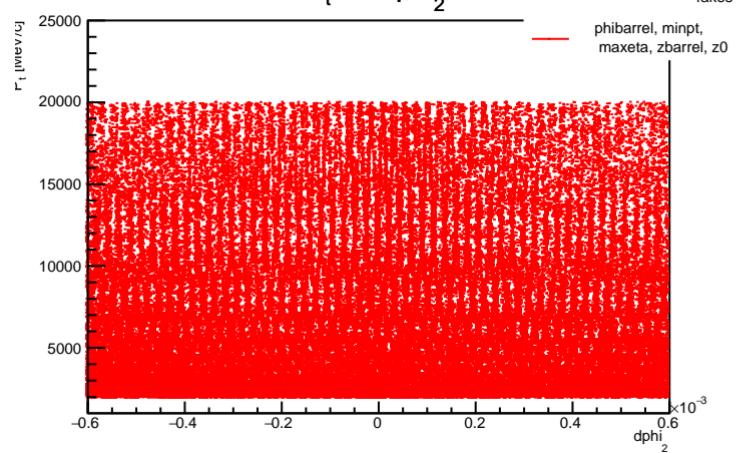
dz_2 Vs $\cos(\Theta_{13})$



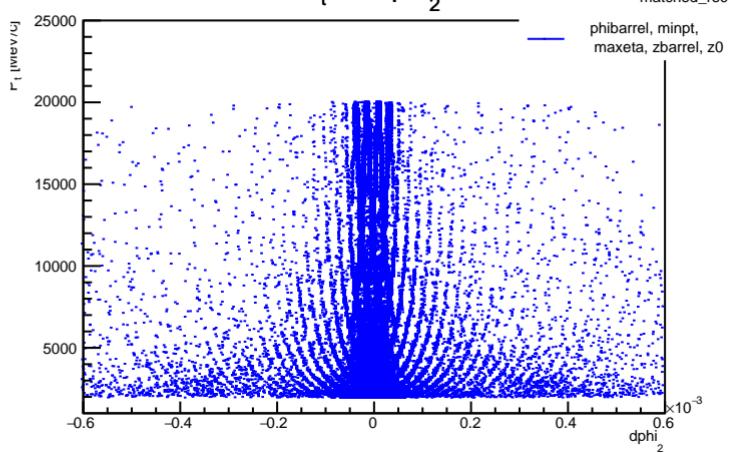
dz_2 Vs $\cos(M_{\theta})$



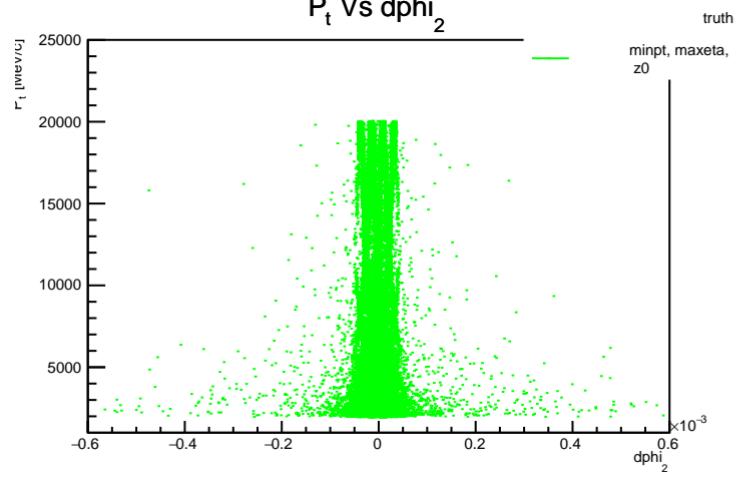
P_t Vs $d\phi_{i_2}$



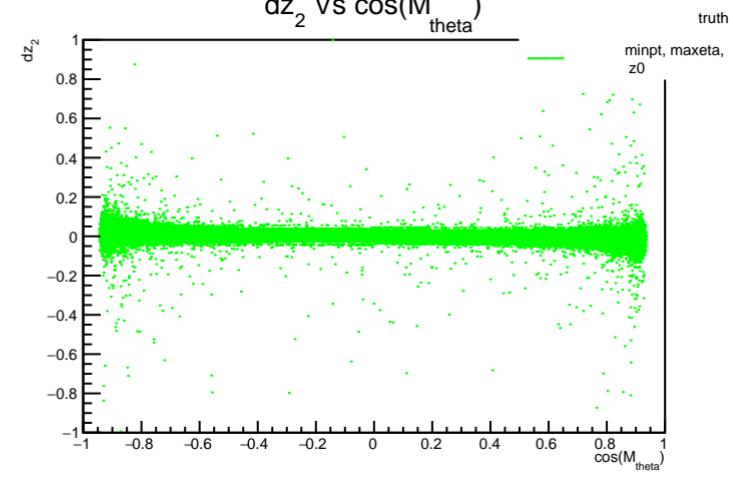
P_t Vs $d\phi_{i_2}$



P_t Vs $d\phi_{i_2}$

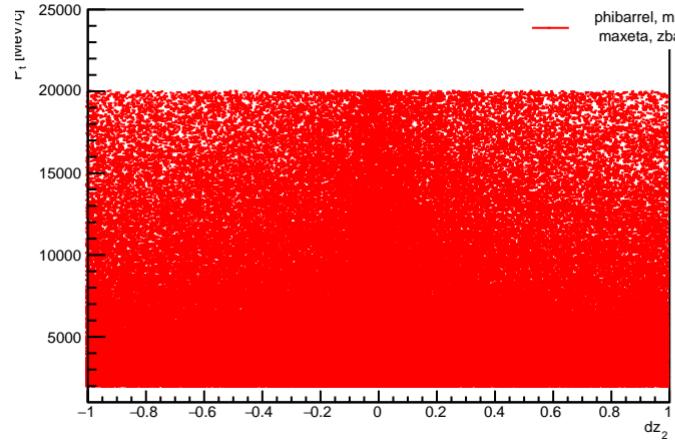


dz_2 Vs $\cos(M_{\theta})$



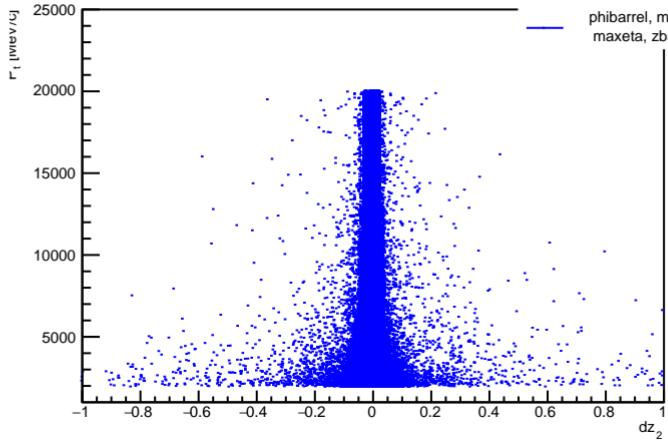
P_t Vs dz_2

fakes



P_t Vs dz_2

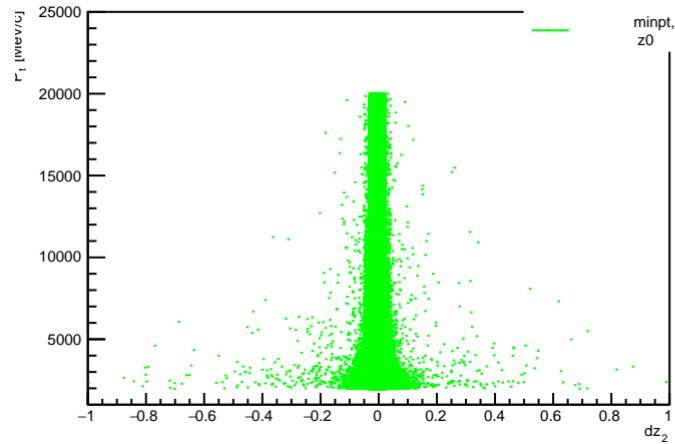
matched_rec



P_t Vs dz_2

truth

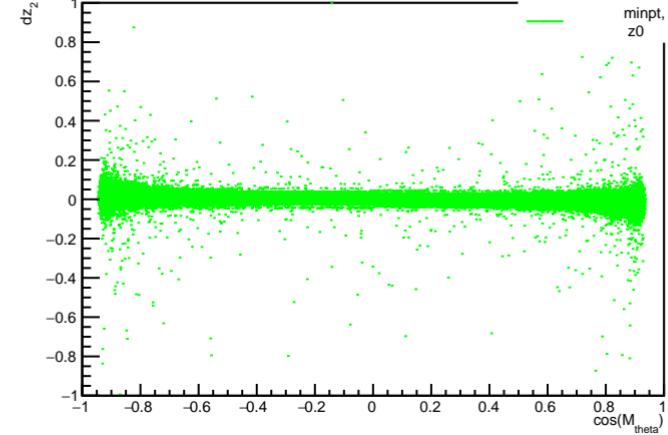
minpt, maxeta
z0



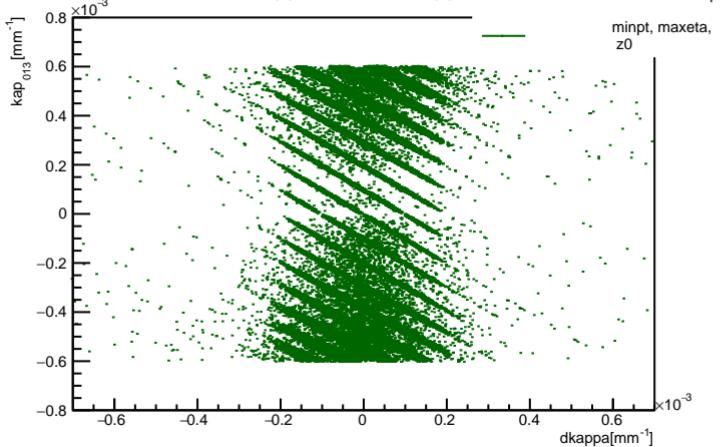
dz_2 Vs $\cos(M_{\theta})$

truth

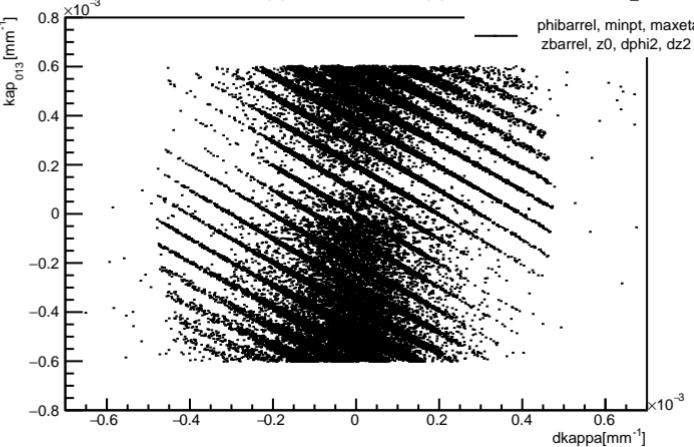
minpt, maxeta,
z0



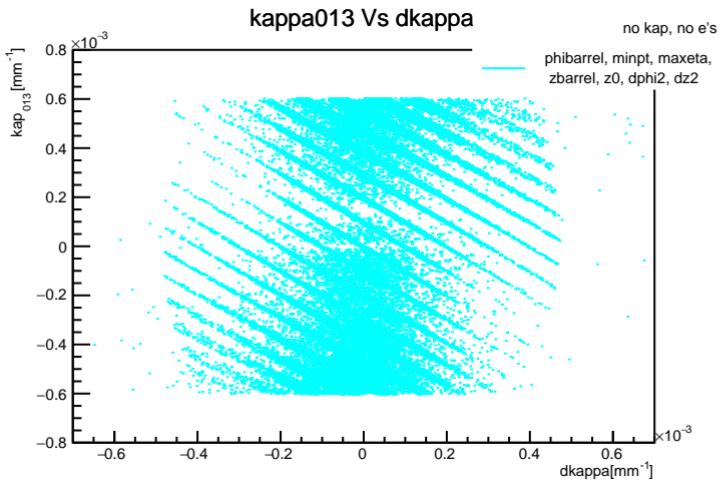
kappa013 Vs dkappa



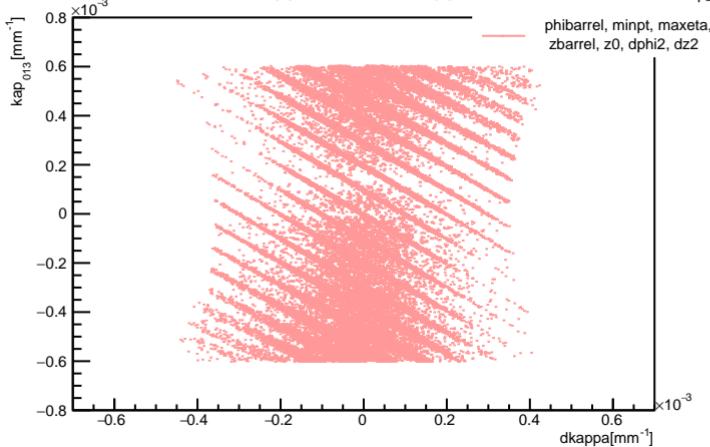
kappa013 Vs dkappa



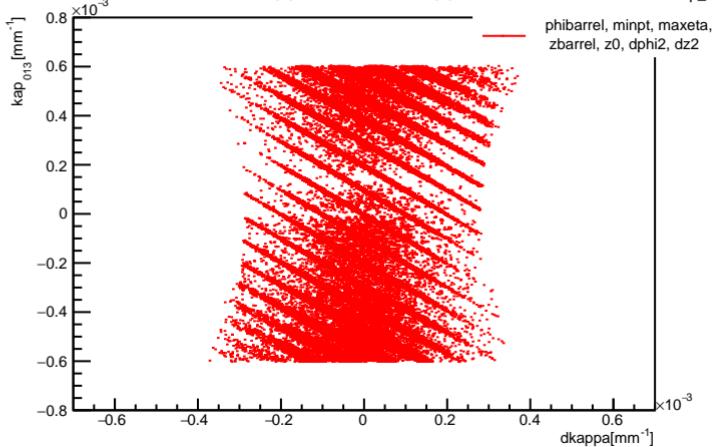
kappa013 Vs dkappa



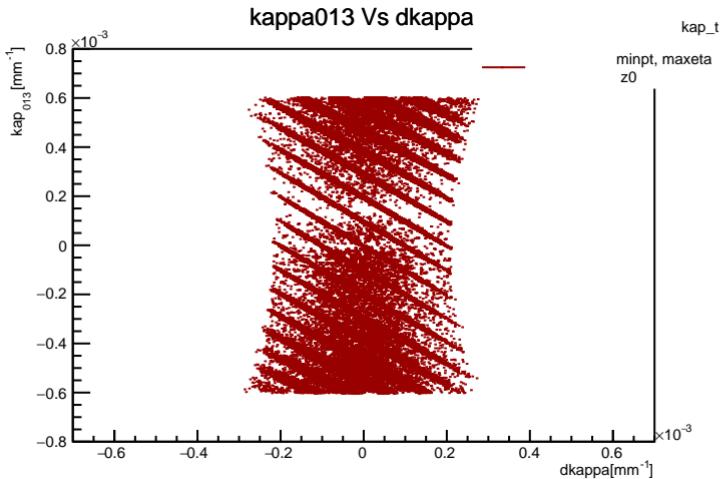
kappa013 Vs dkappa



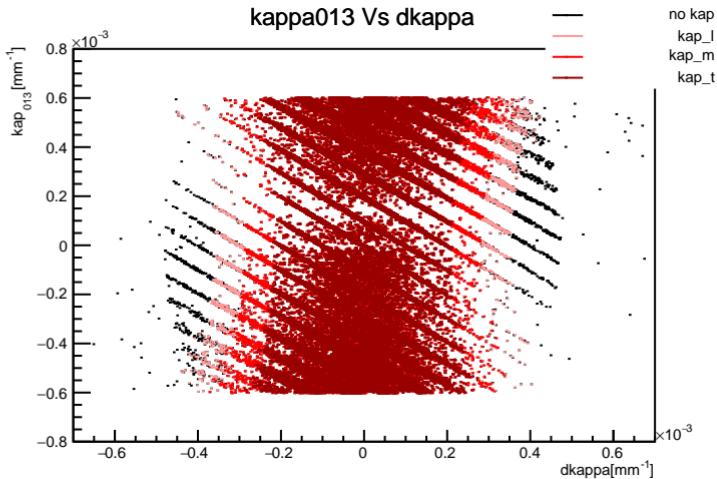
kappa013 Vs dkappa



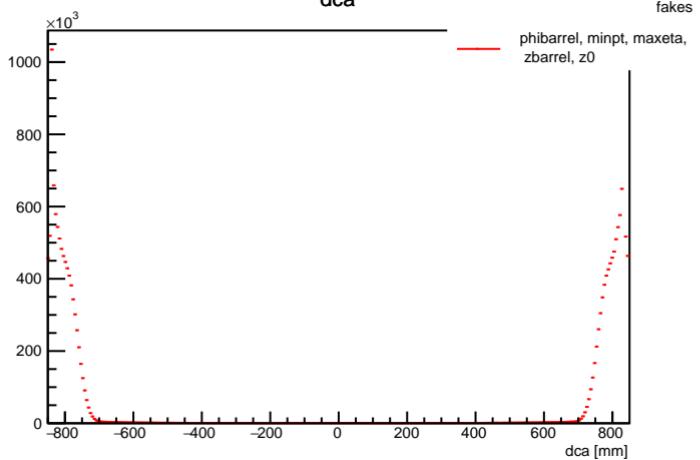
kappa013 Vs dkappa



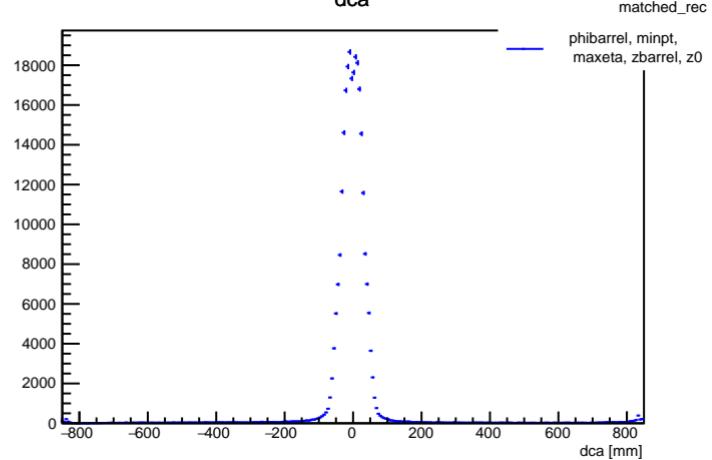
kappa013 Vs dkappa



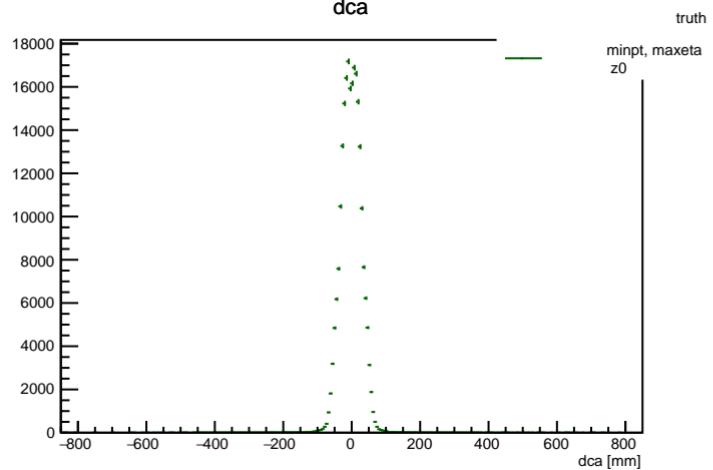
dca



dca

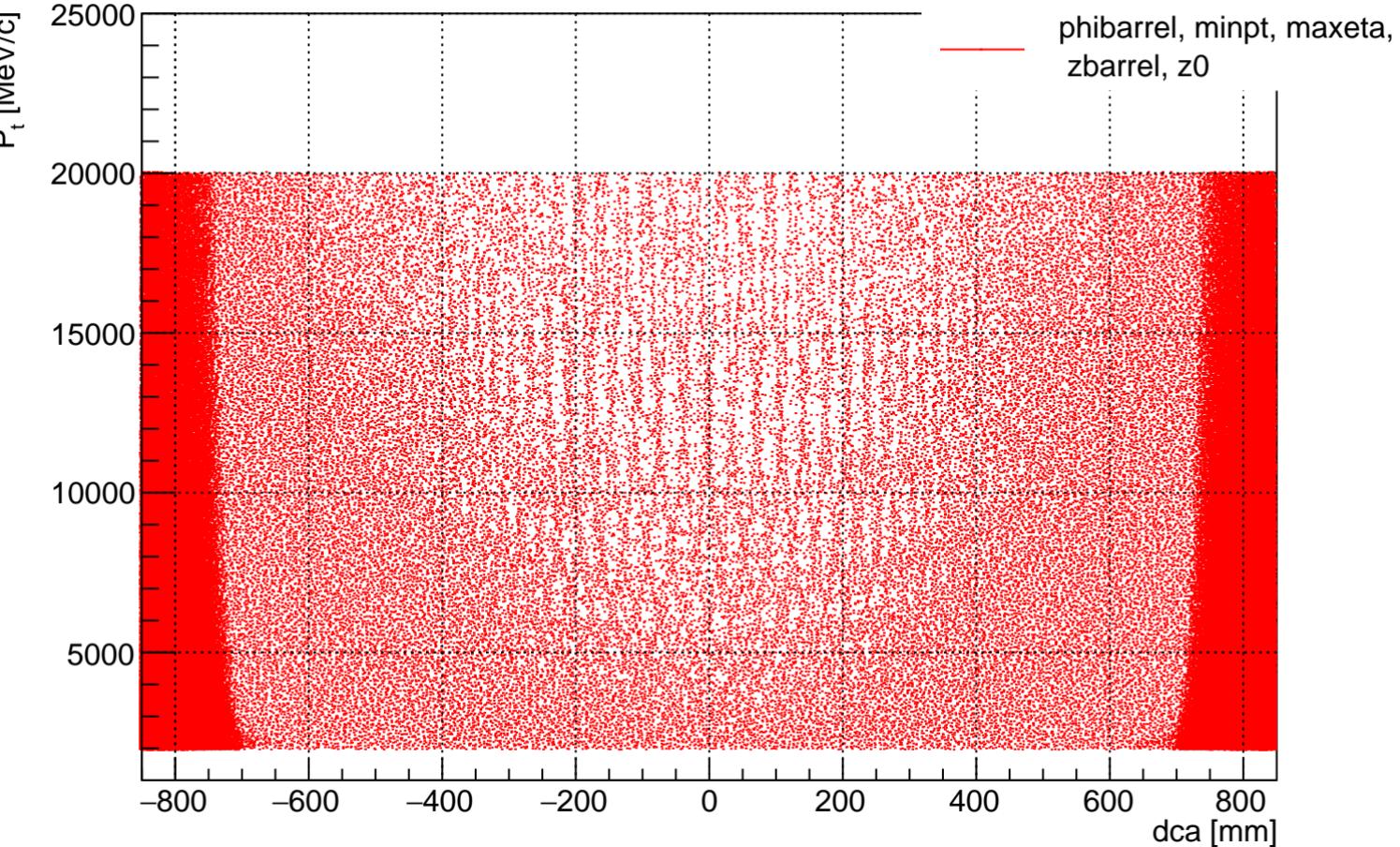


dca

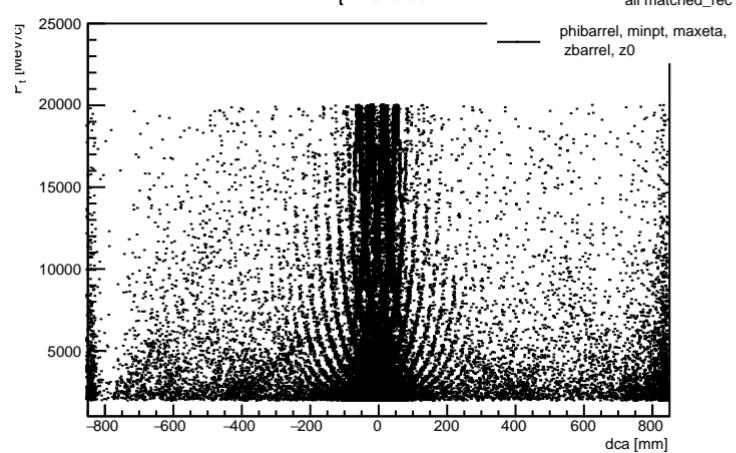


P_t Vs dca

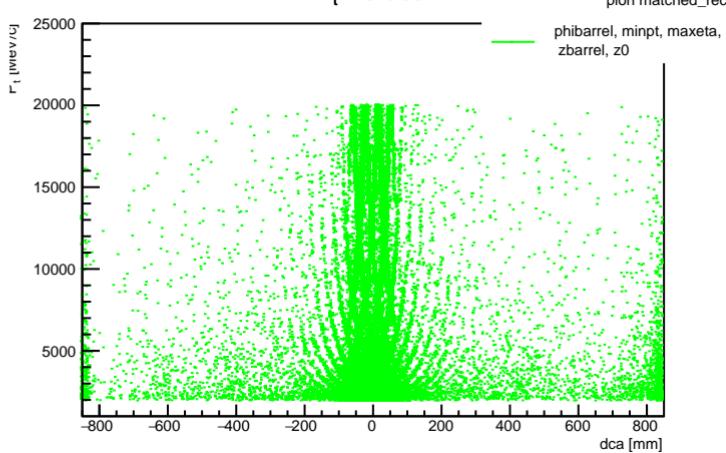
fakes



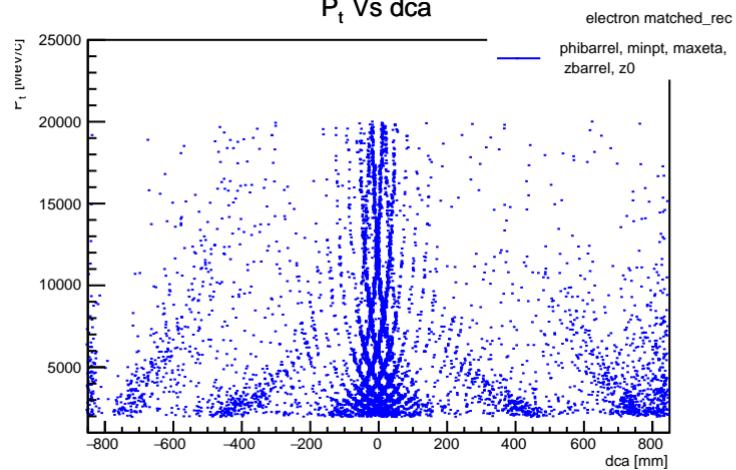
P_t Vs dca



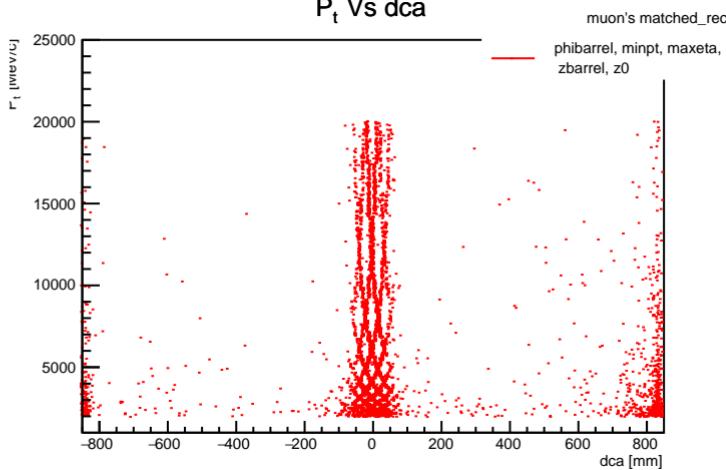
P_t Vs dca



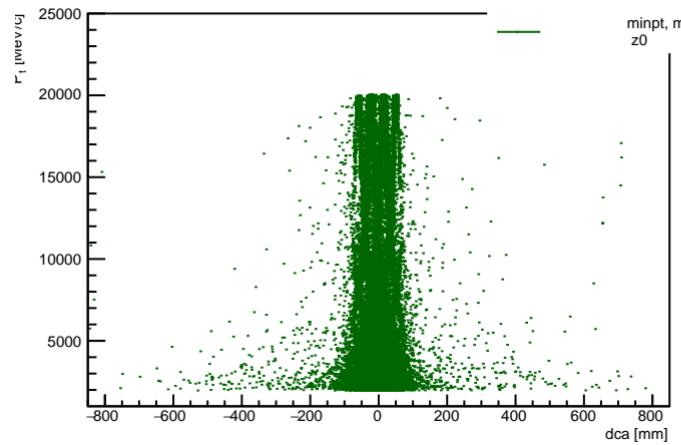
P_t Vs dca



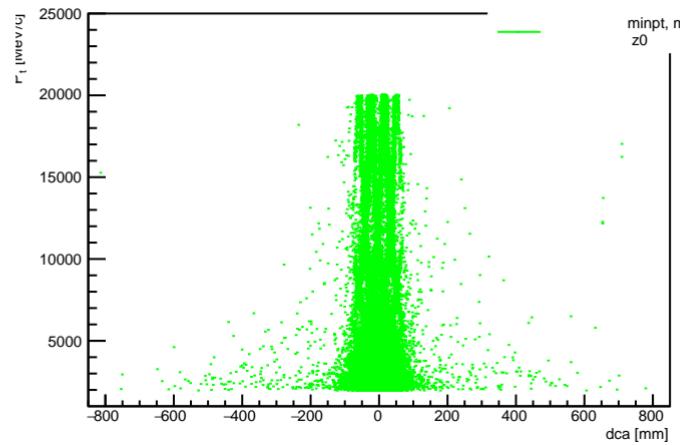
P_t Vs dca



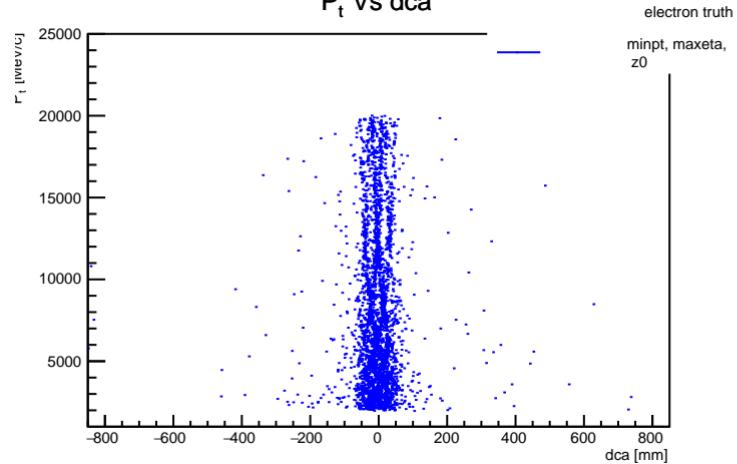
P_t Vs dca



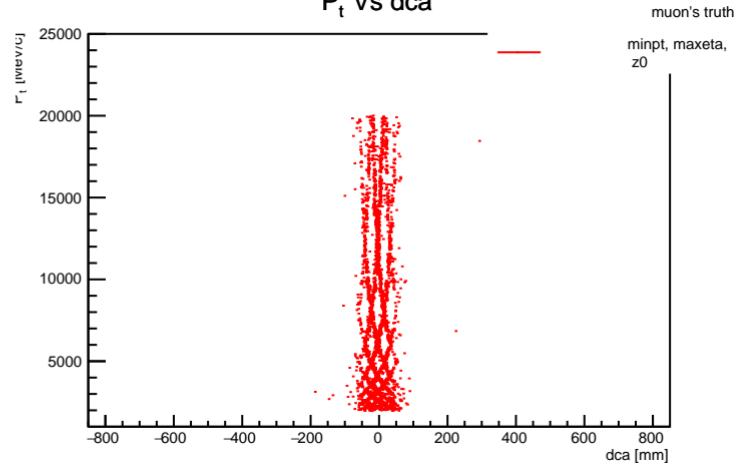
P_t Vs dca



P_t Vs dca

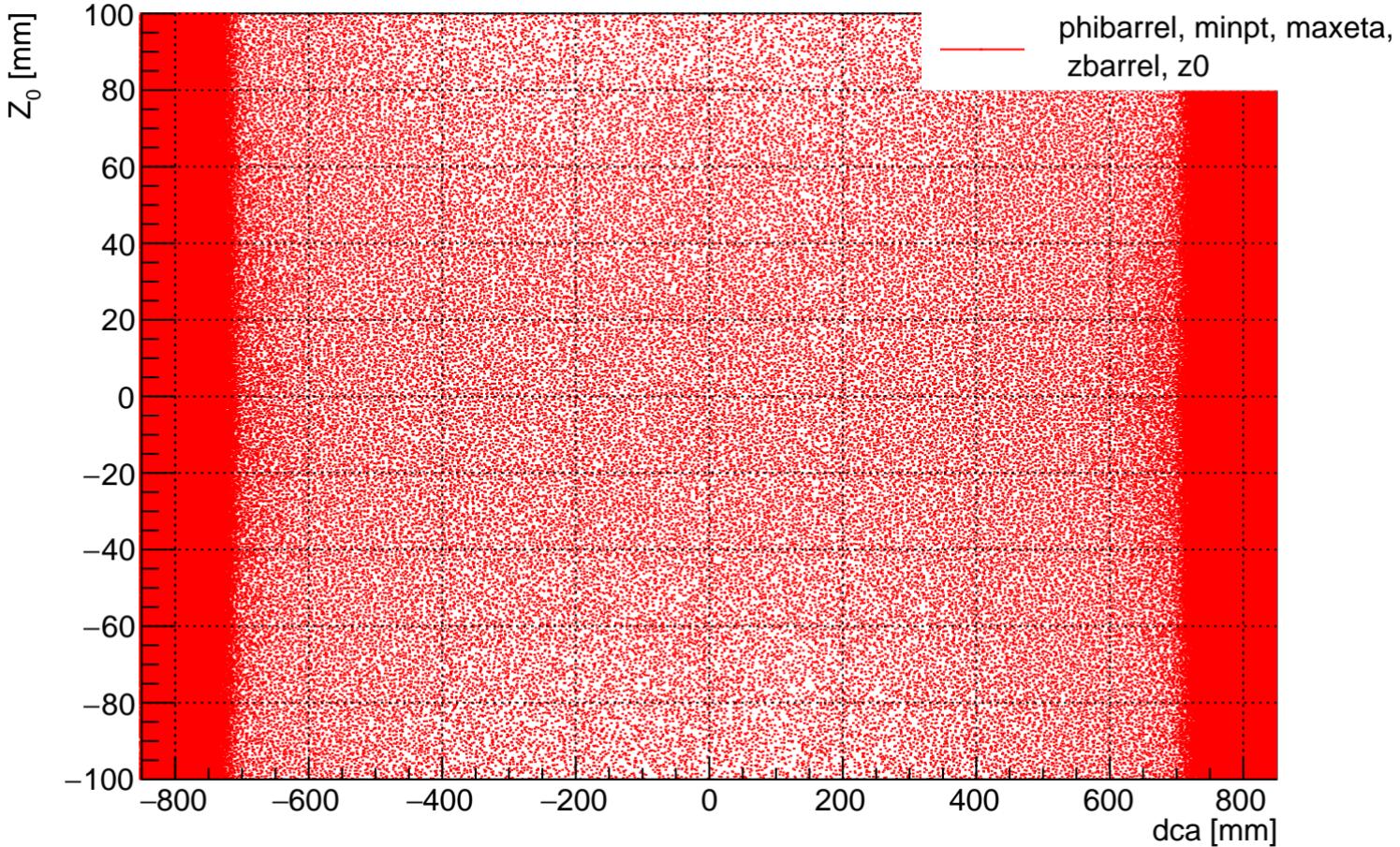


P_t Vs dca

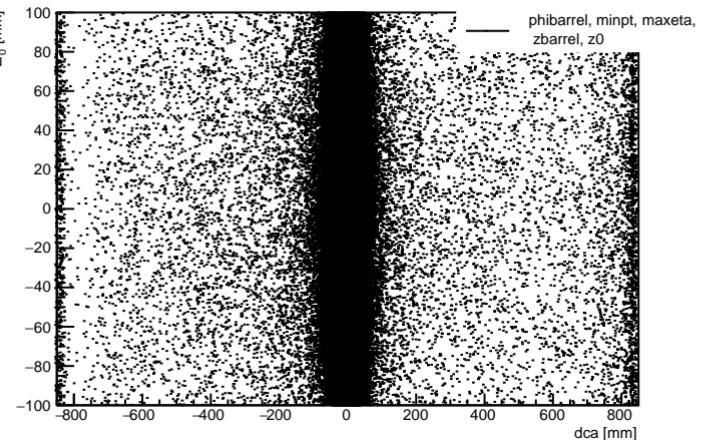


Z_0 Vs dca

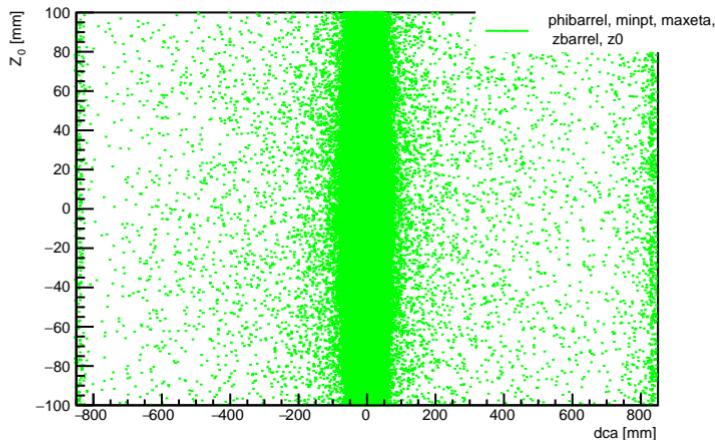
fakes



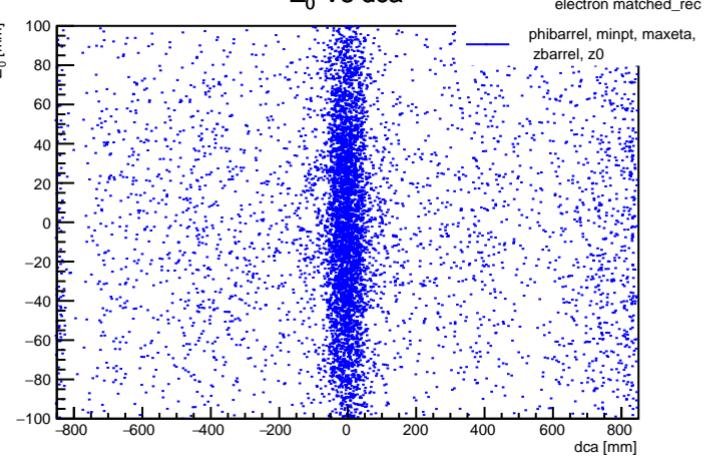
Z_0 Vs dca



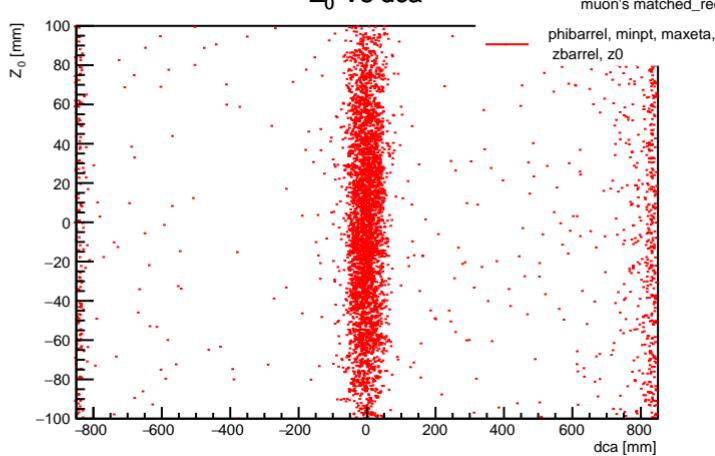
Z_0 Vs dca

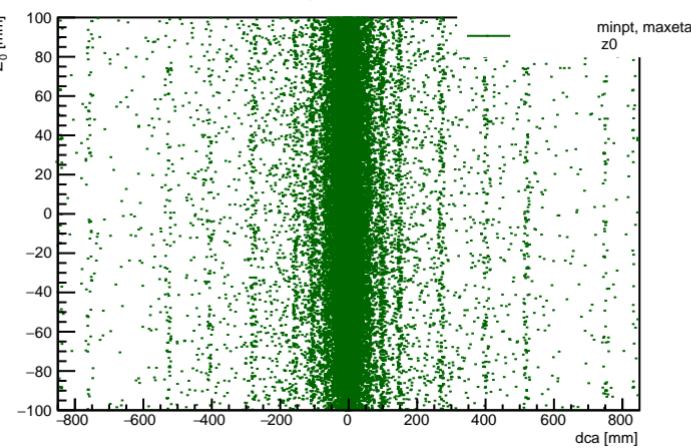
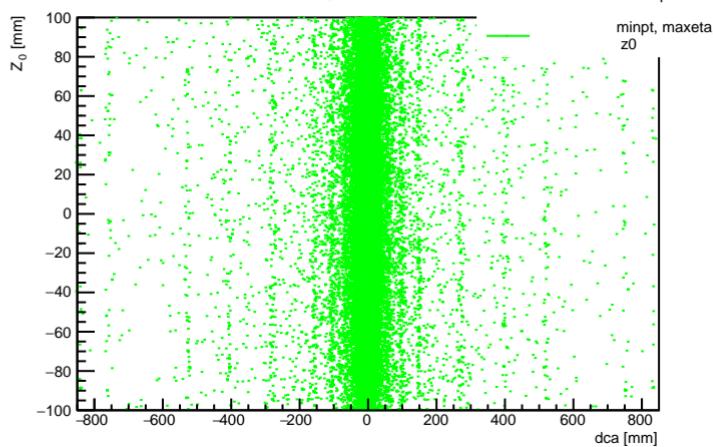
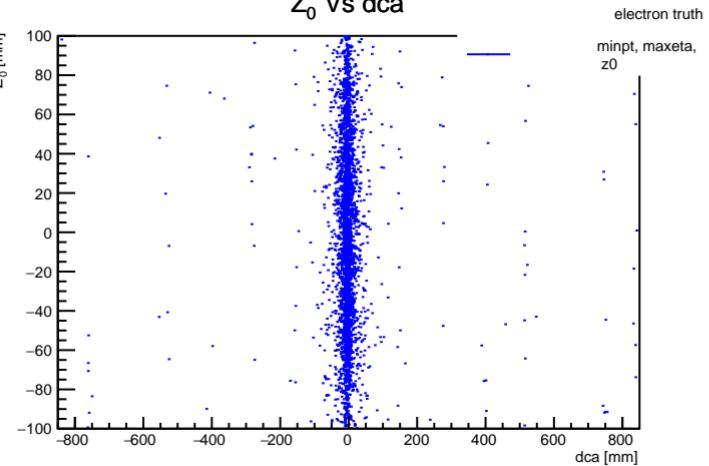
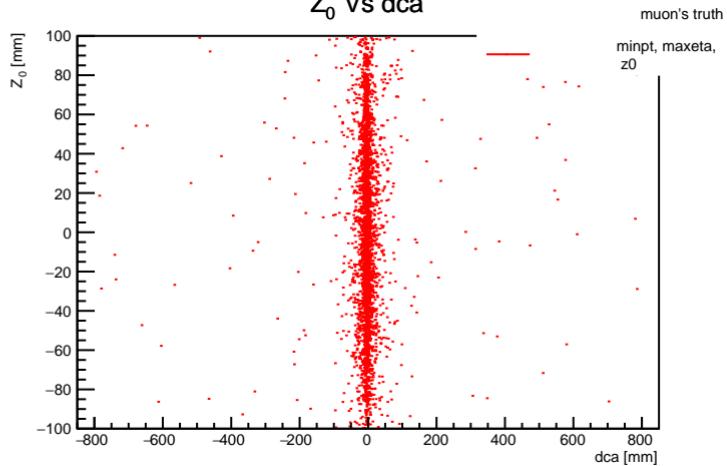


Z_0 Vs dca

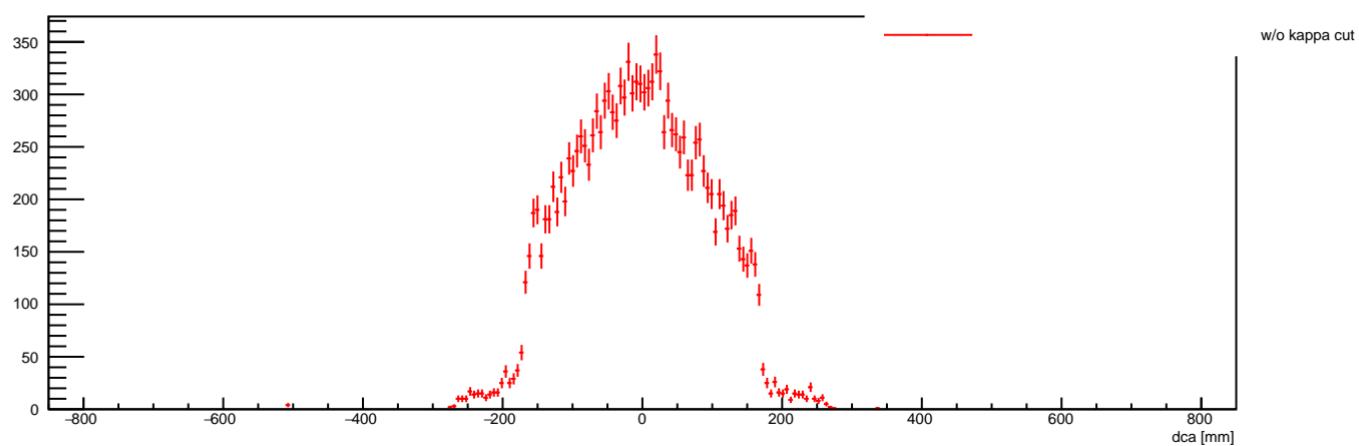


Z_0 Vs dca

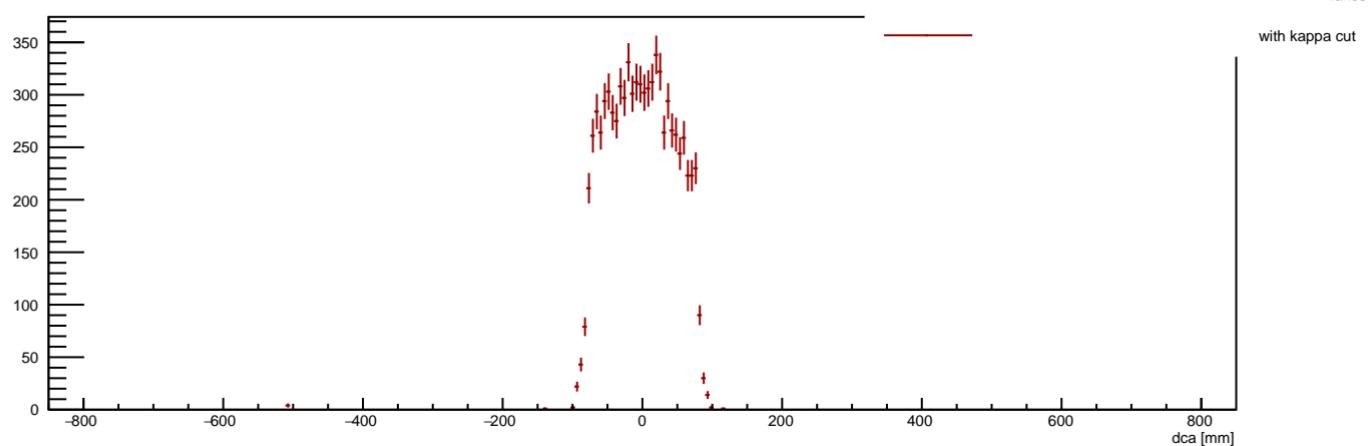


Z_0 Vs dca Z_0 Vs dca Z_0 Vs dca Z_0 Vs dca

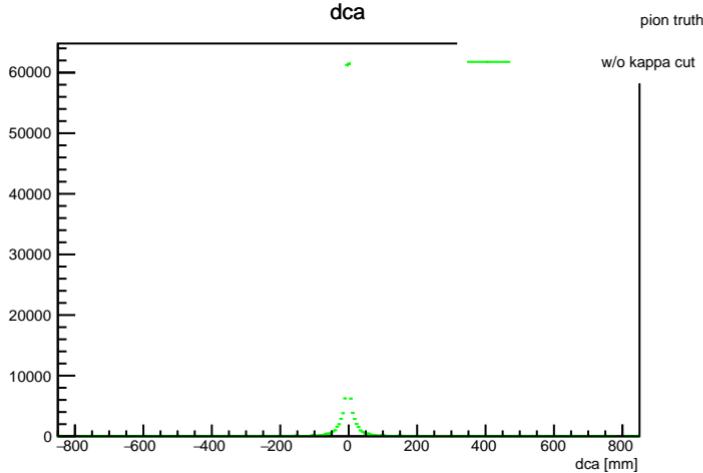
dca



dca



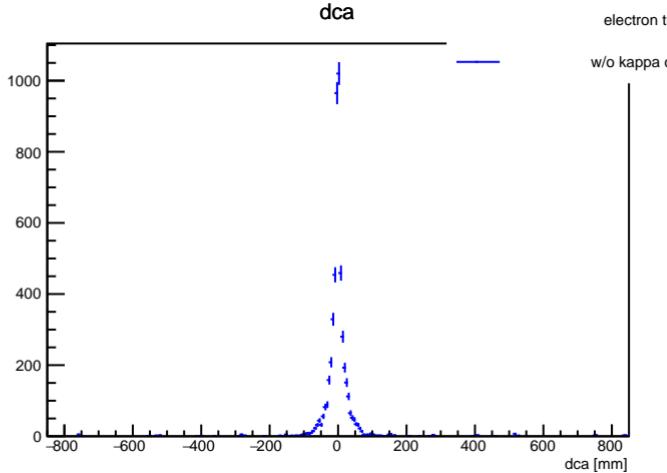
dca



pion truth

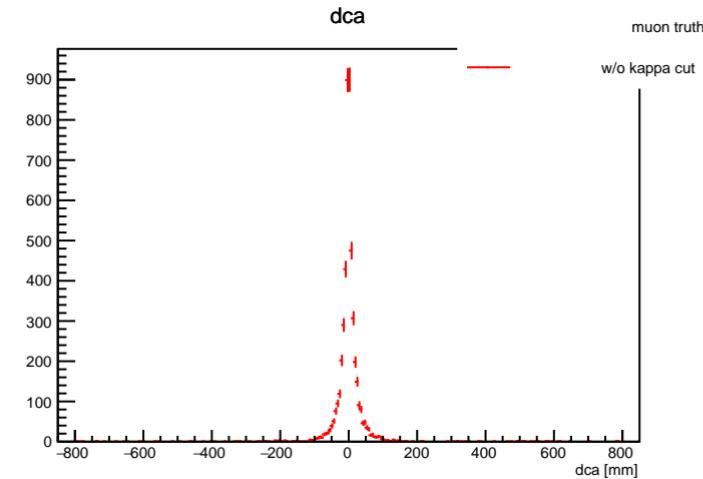
w/o kappa cut

dca



electron truth

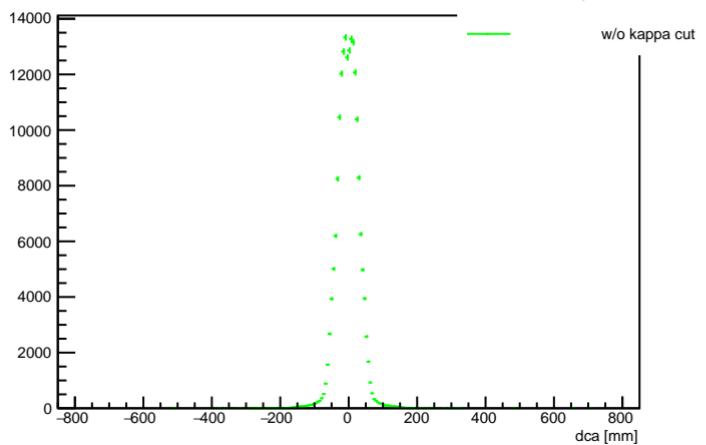
dca



muon truth

w/o kappa cut

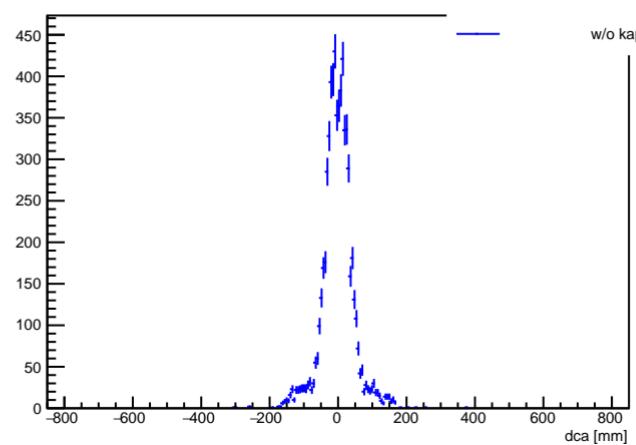
dca



pion matched_rec

w/o kappa cut

dca

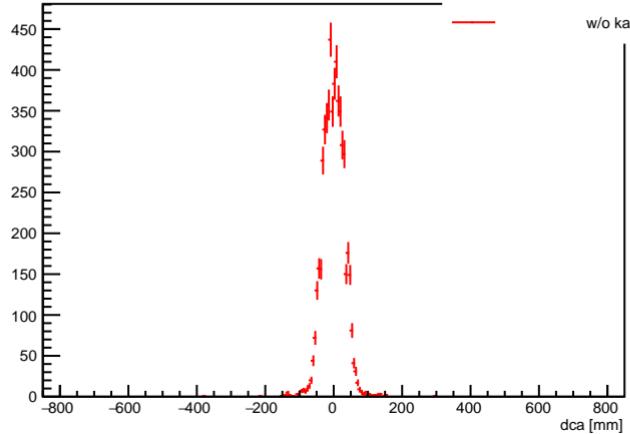


electron matched_rec

w/o kappa cut

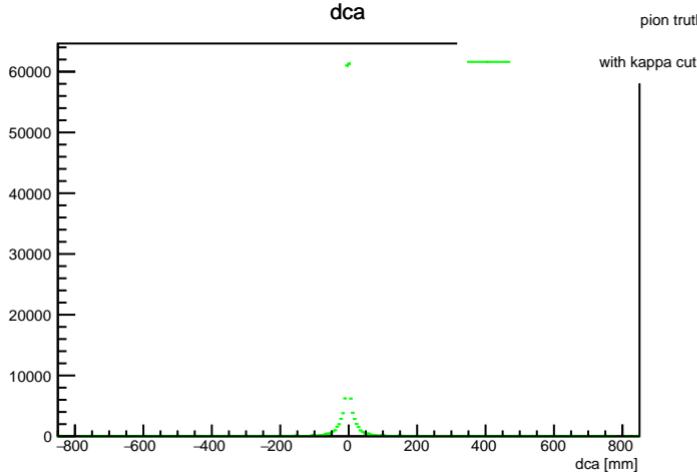
dca

muon matched_rec



w/o kappa cut

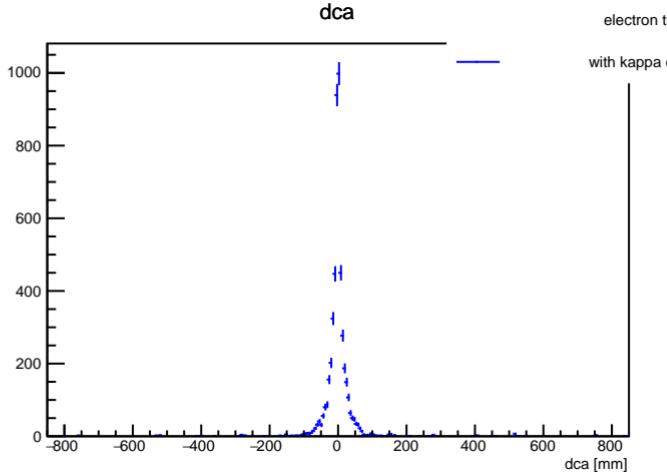
dca



pion truth

with kappa cut

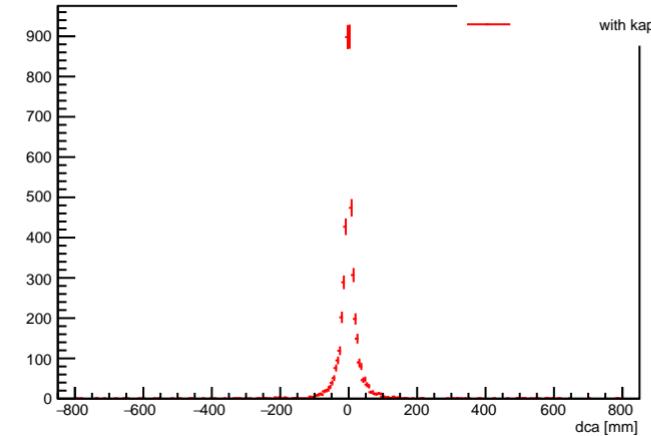
dca



electron truth

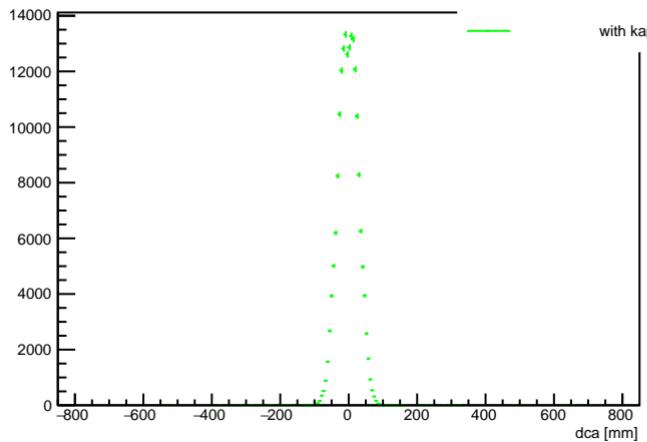
muon truth

dca



with kappa cut

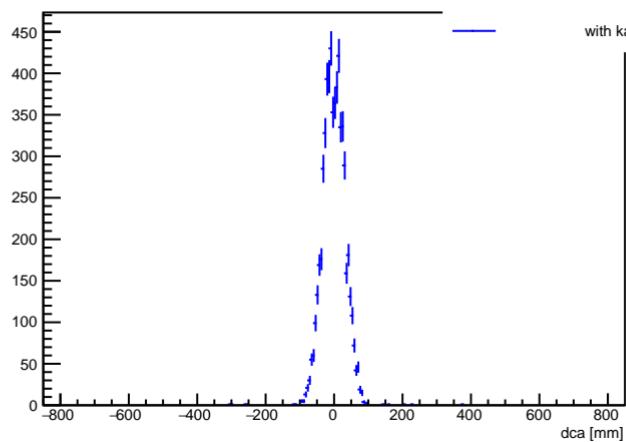
dca



pion matched_rec

with kappa cut

dca



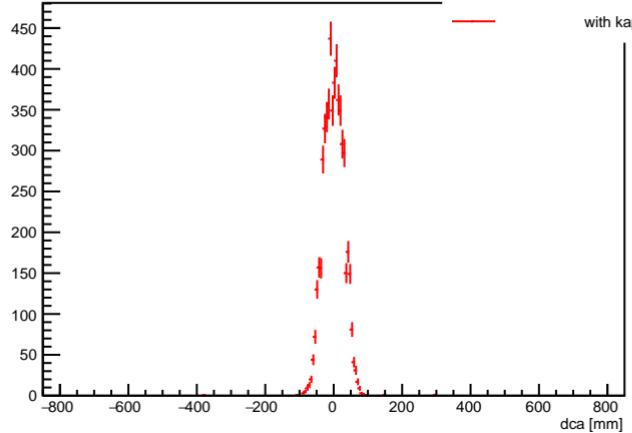
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with kappa cut

dca

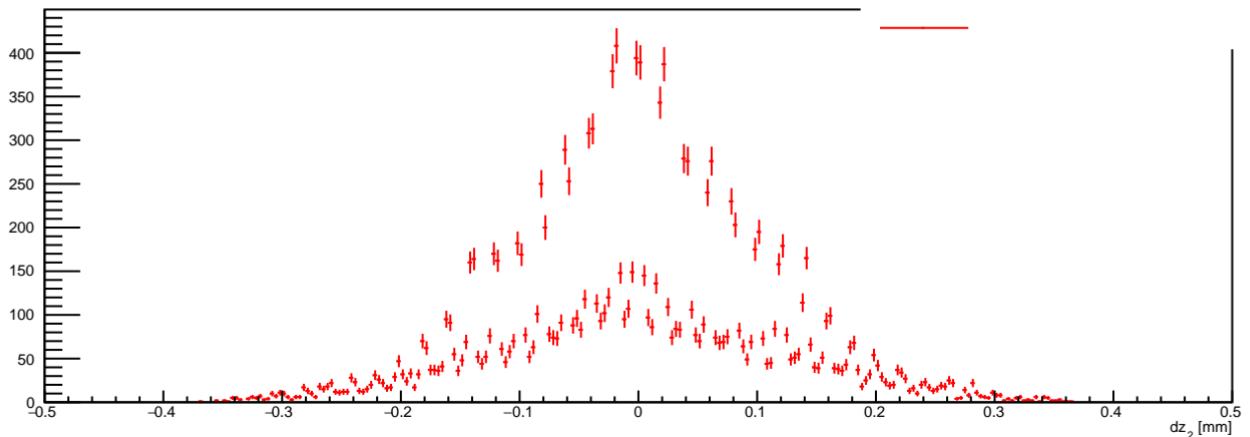
muon matched_rec

with kappa cut

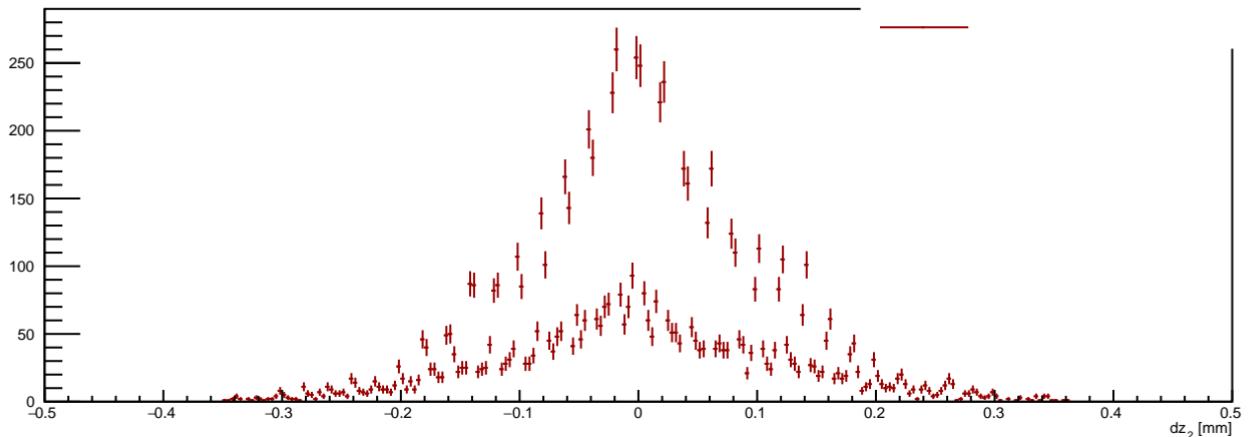


dz_2

fakes

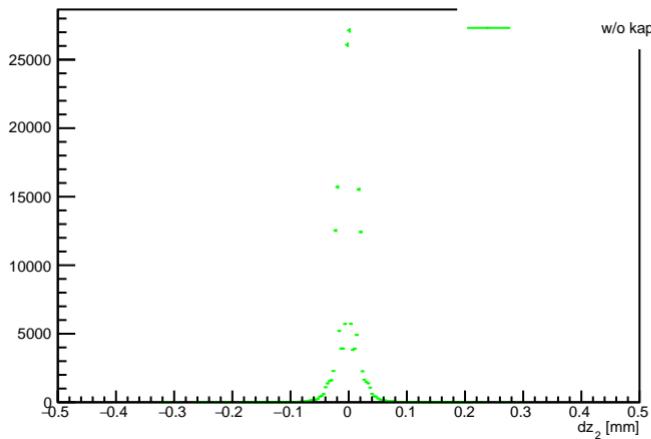
 dz_2

fakes

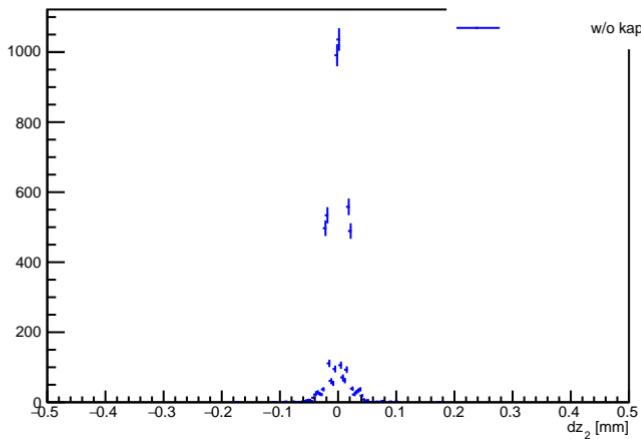


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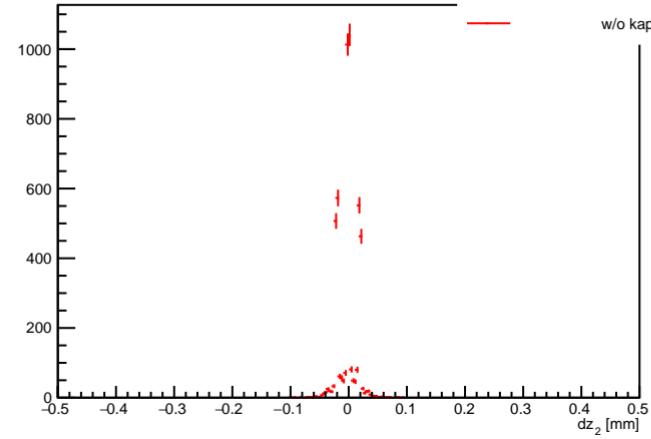
pion truth

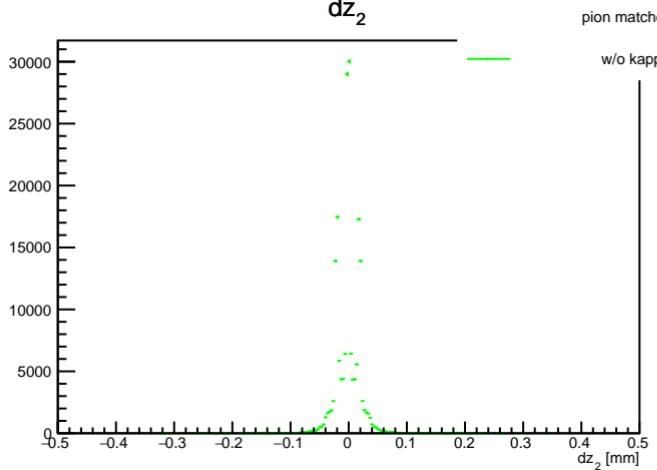
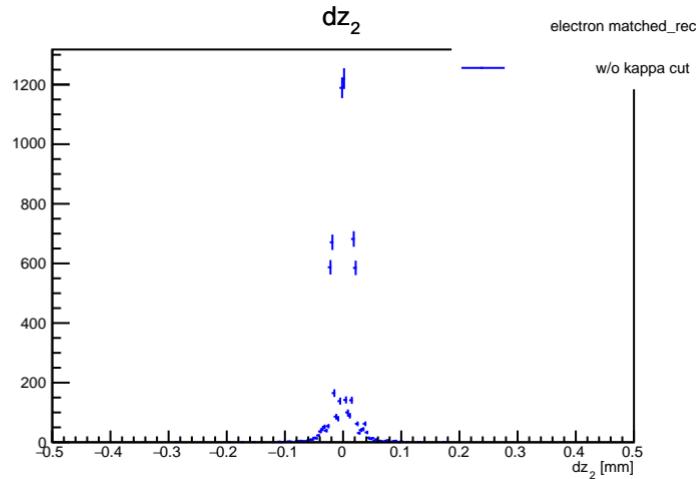
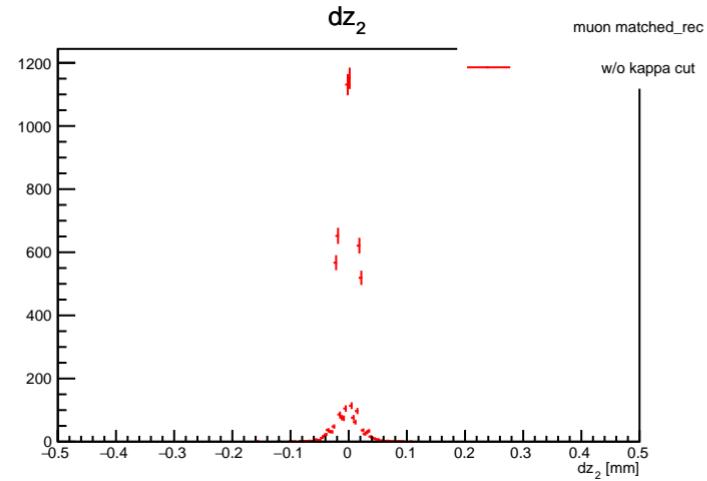
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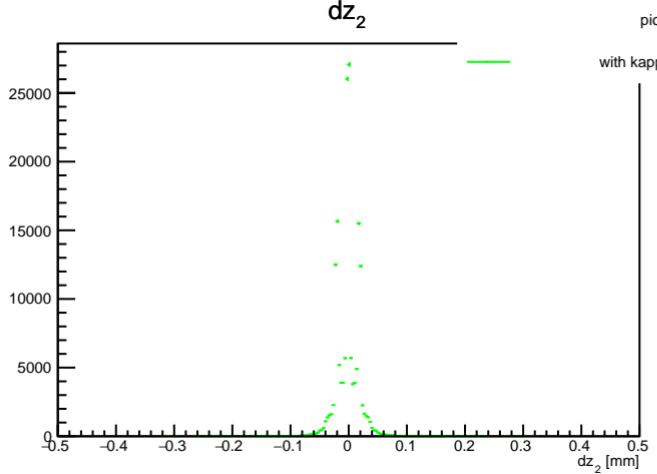
electron truth

 dz_2

muon truth

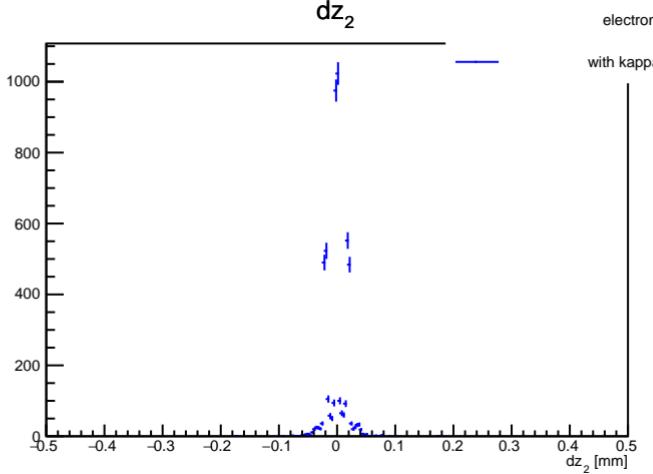


$d\zeta_2$  $d\zeta_2$  $d\zeta_2$ 

dz_2 

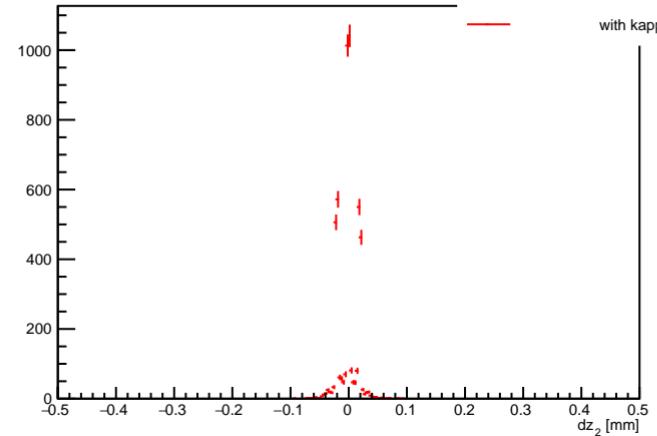
pion truth

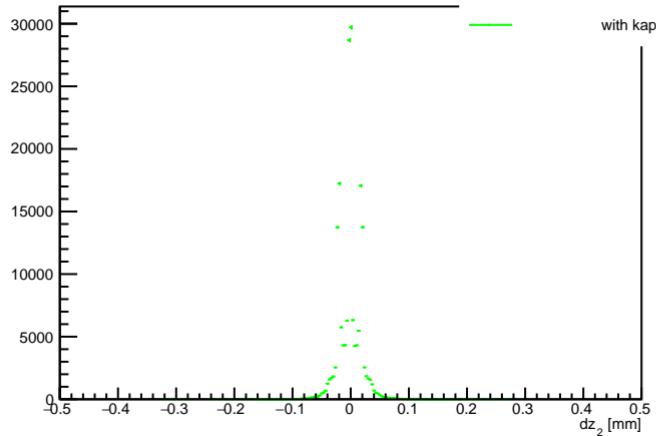
with kappa cut

 dz_2 

electron truth

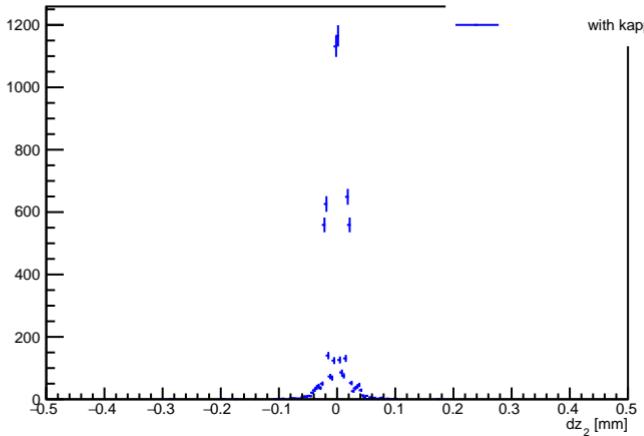
muon truth

 dz_2 

dz_2 

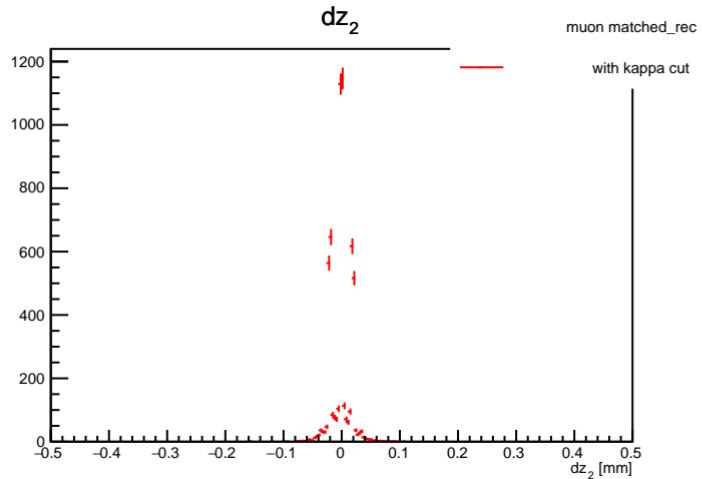
pion matched_rec

with kappa cut

 dz_2 

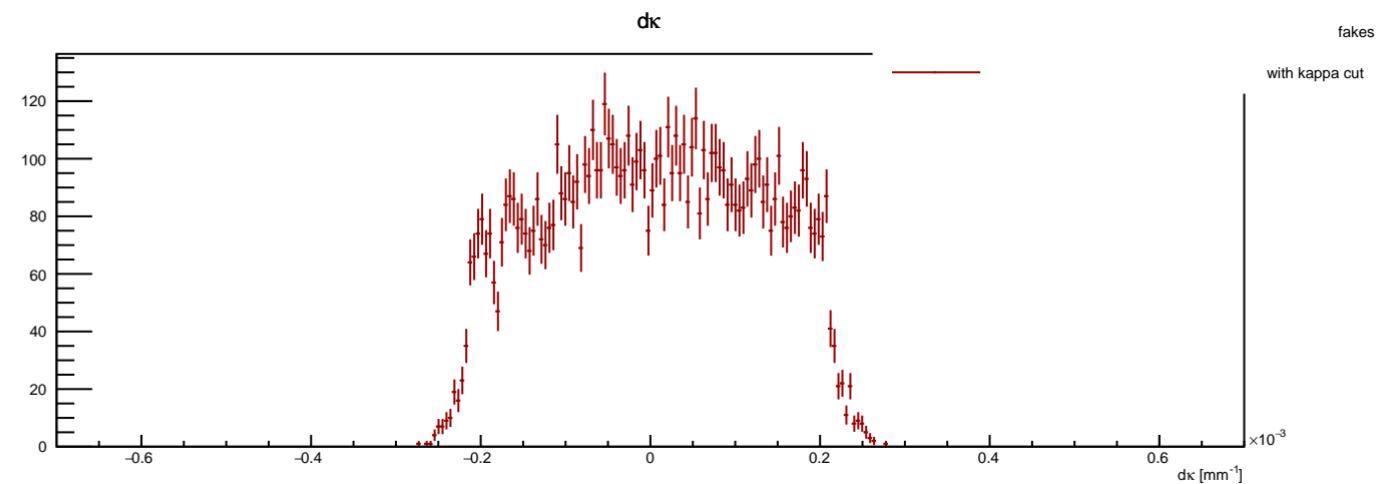
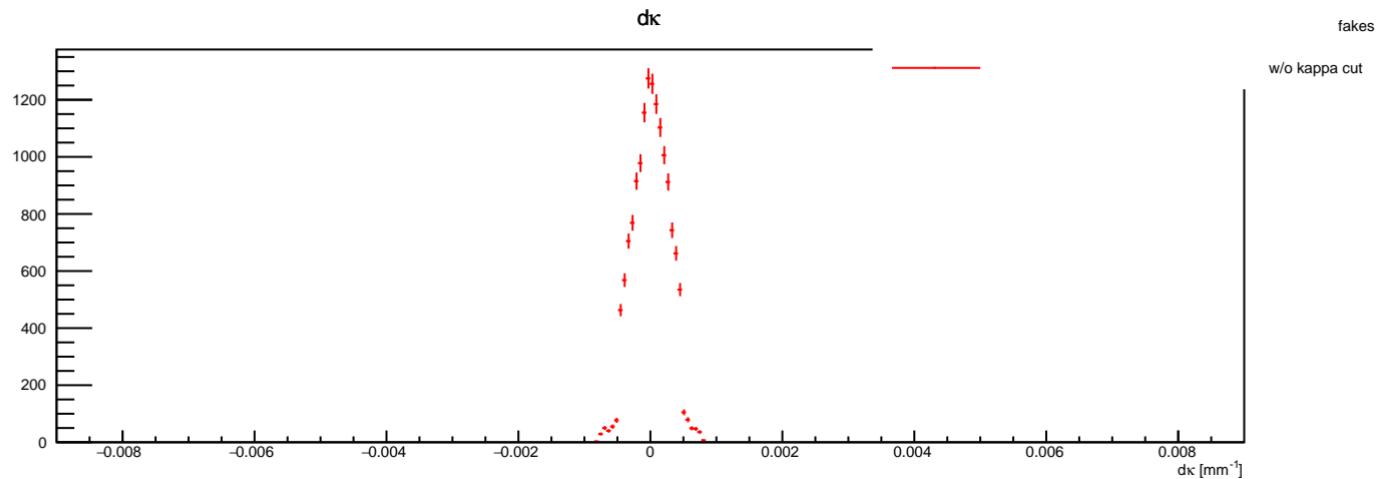
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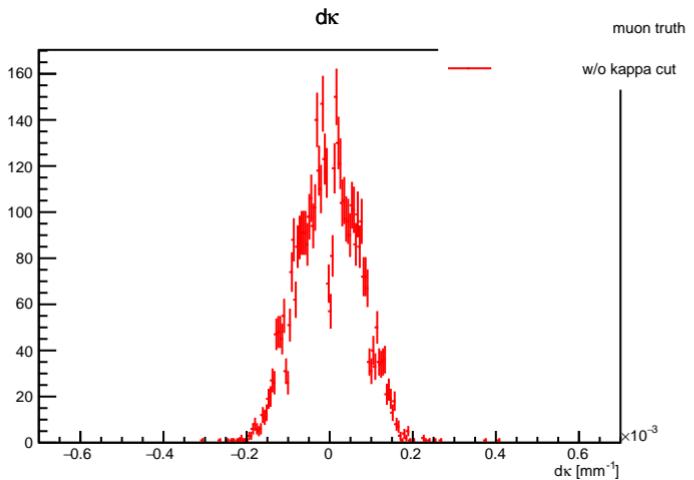
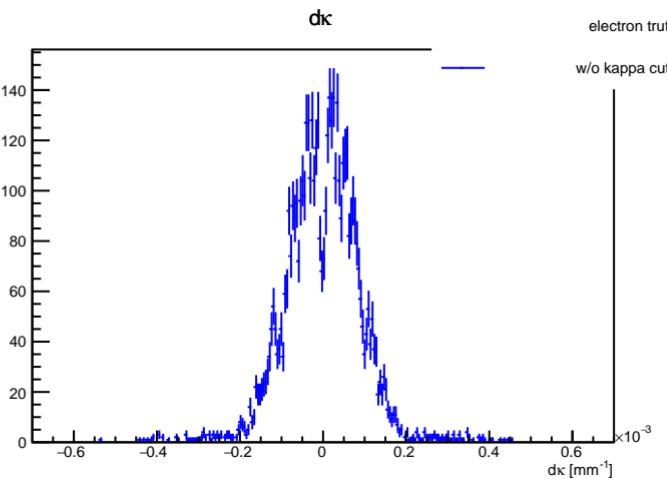
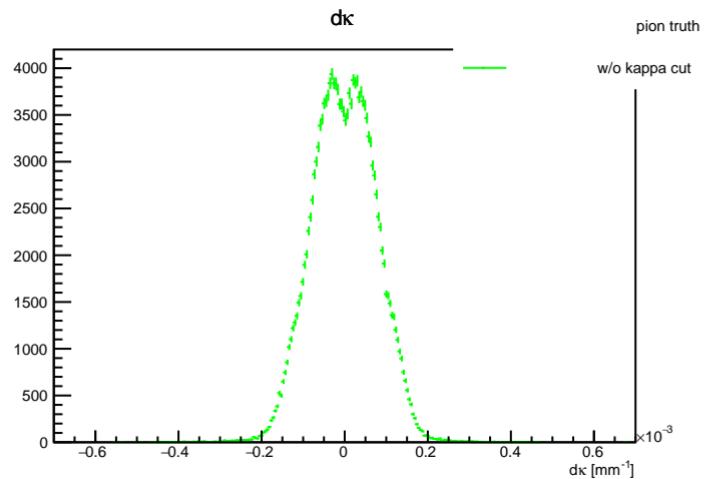
with kappa cut

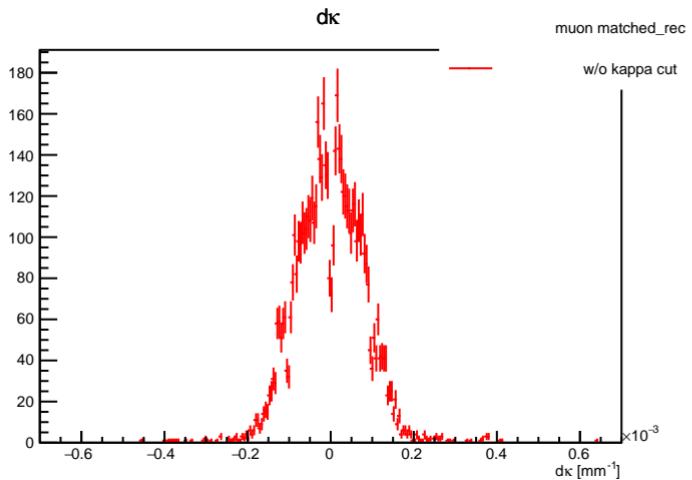
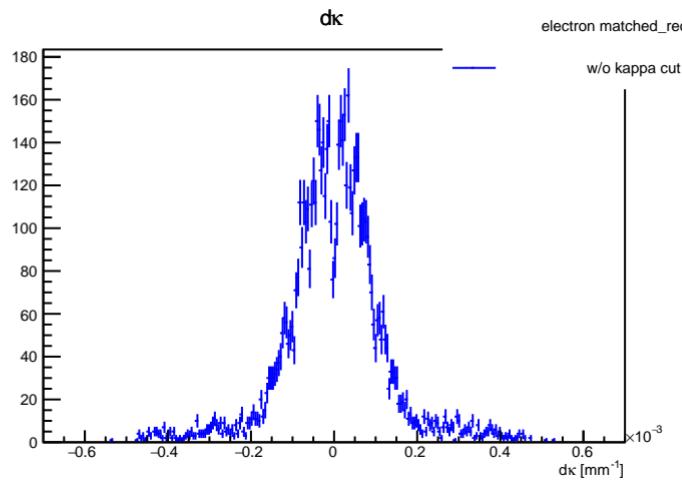
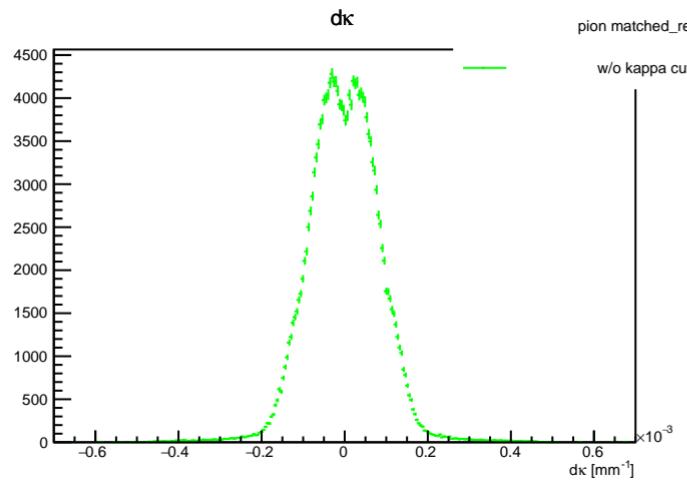
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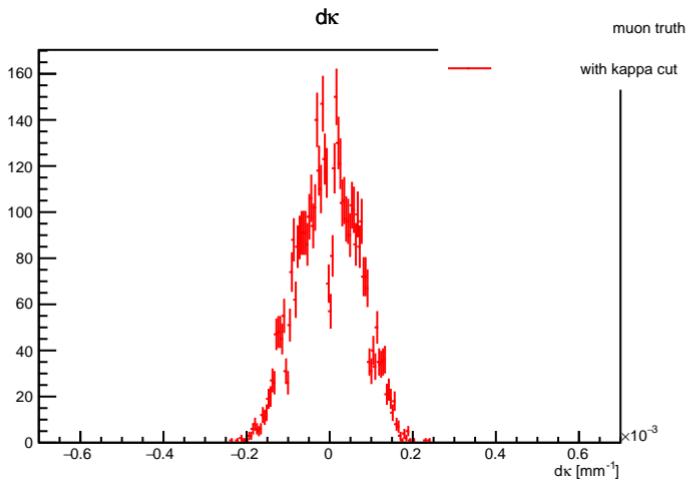
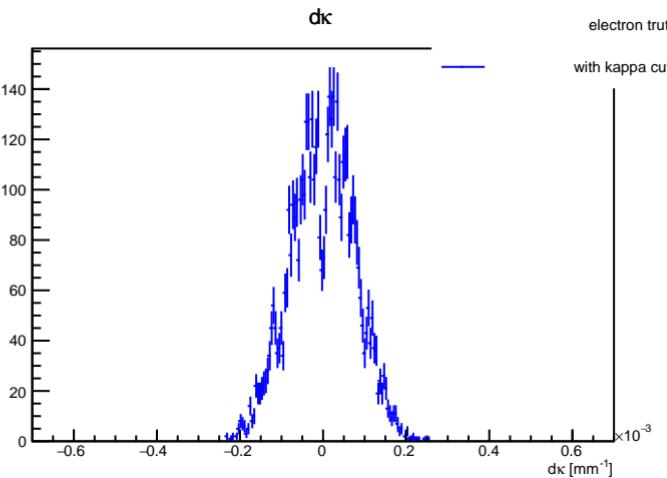
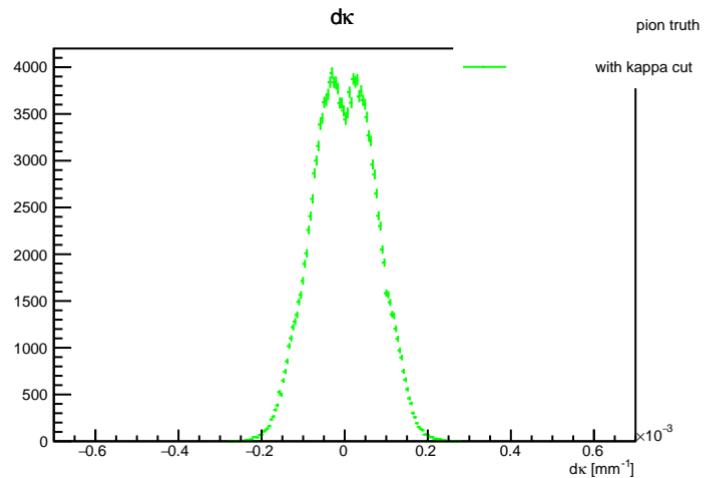
muon matched_rec

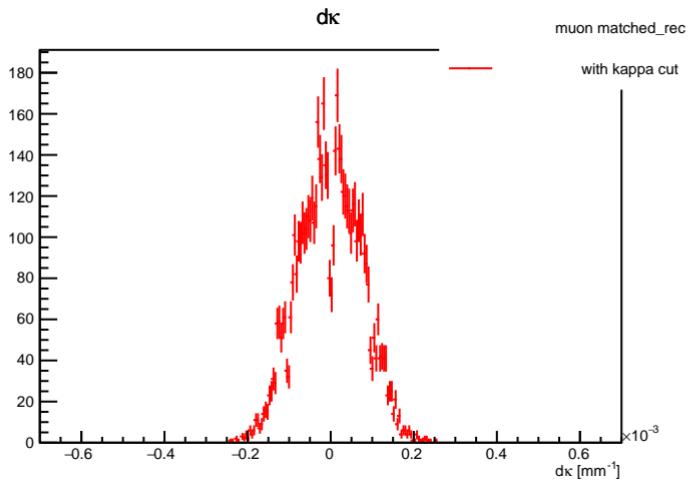
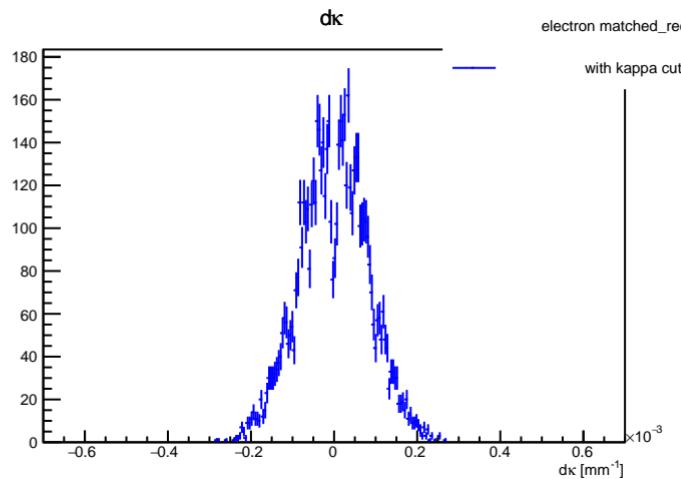
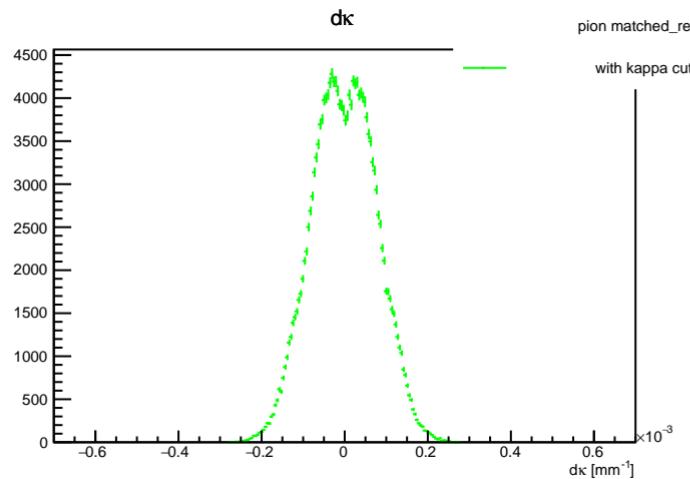
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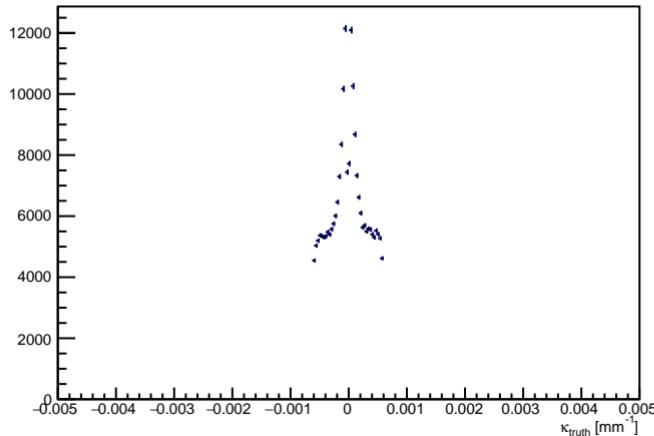




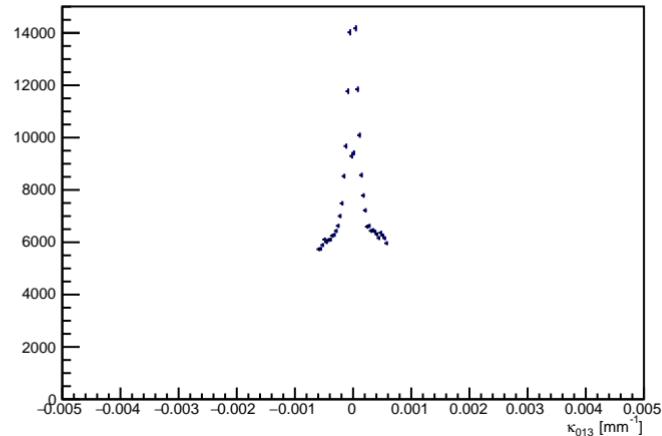




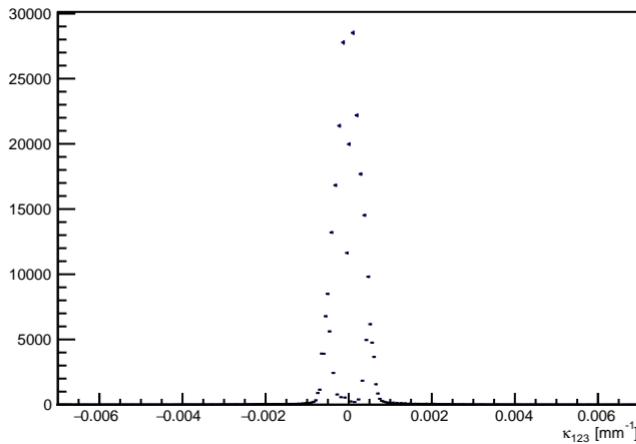
kappa truth

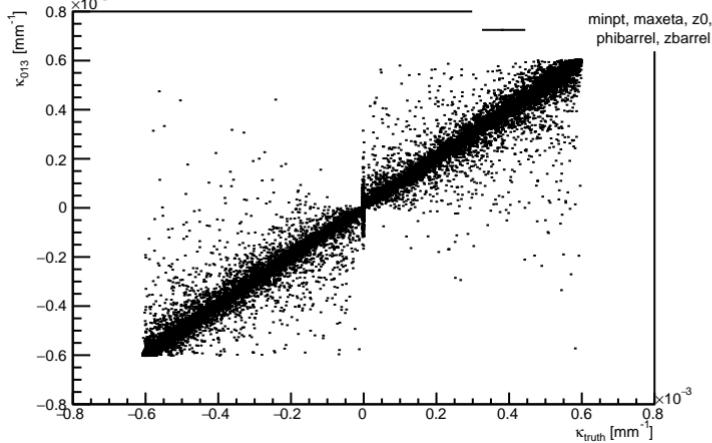
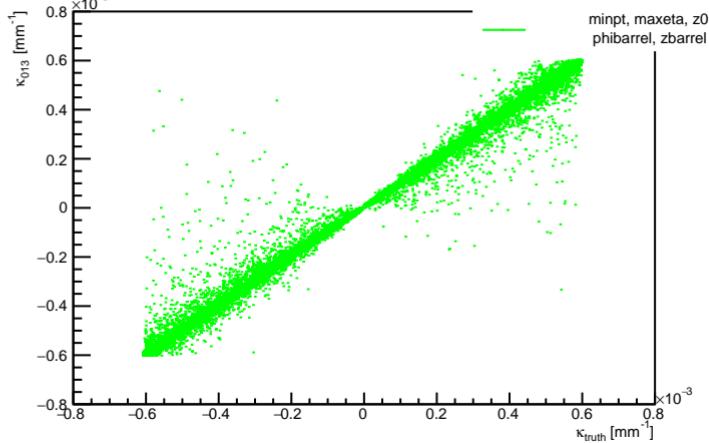
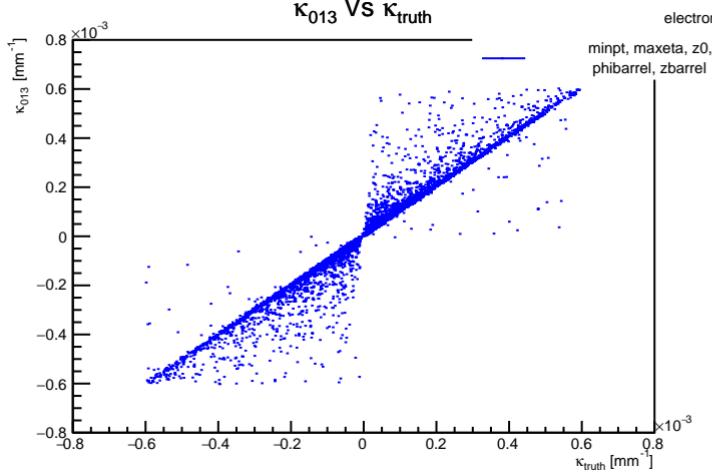
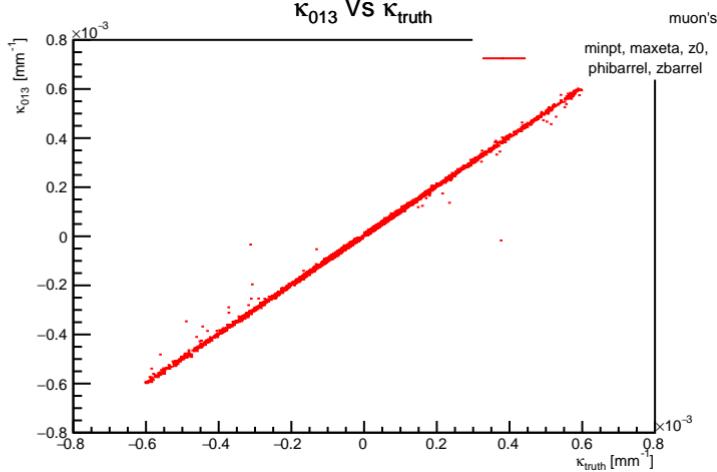


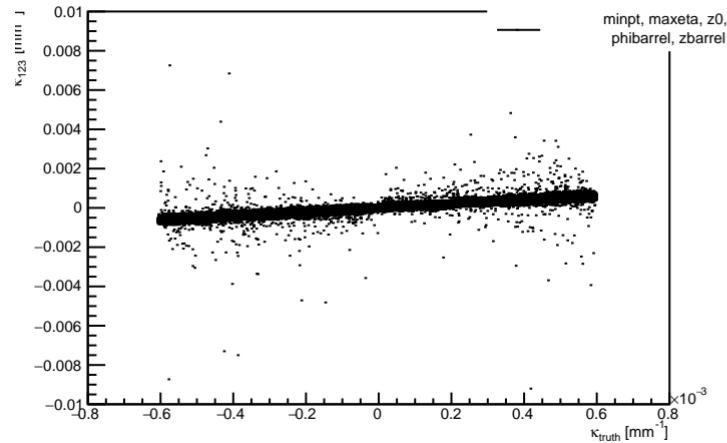
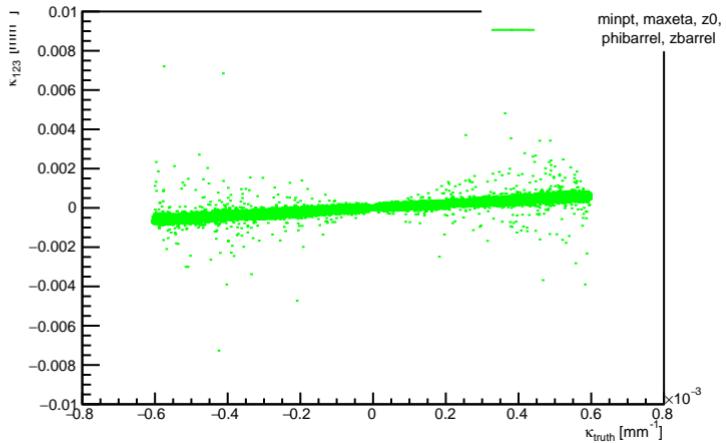
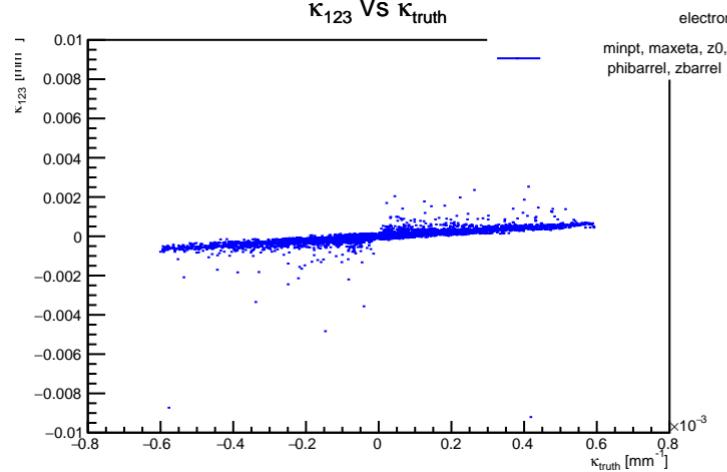
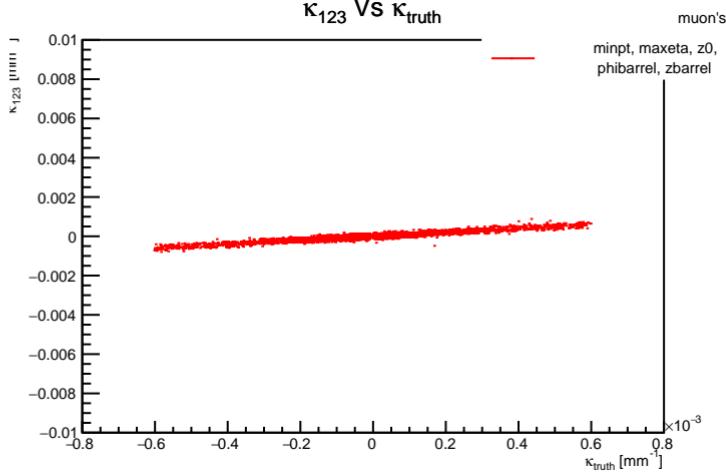
kappa rec with bml constraint



kappa rec w/o bml constraint

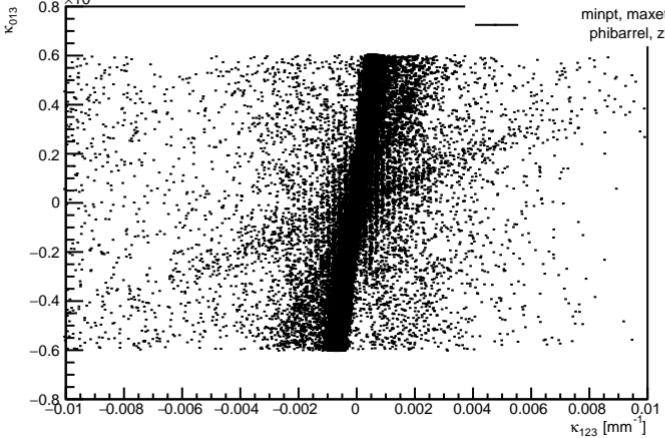


κ_{013} Vs κ_{truth}  κ_{013} Vs κ_{truth}  κ_{013} Vs κ_{truth}  κ_{013} Vs κ_{truth} 

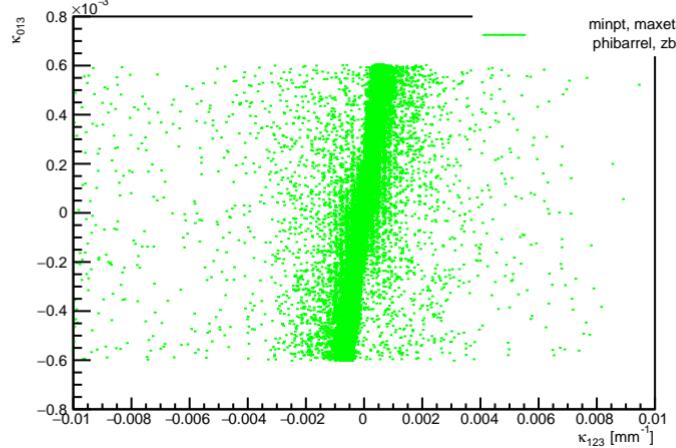
κ_{123} Vs κ_{truth}  κ_{123} Vs κ_{truth}  κ_{123} Vs κ_{truth}  κ_{123} Vs κ_{truth} 

κ_{013} Vs κ_{123}

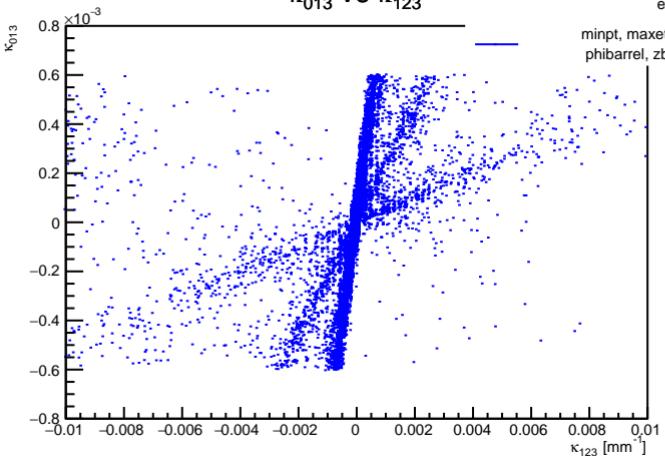
all

 κ_{013} Vs κ_{123}

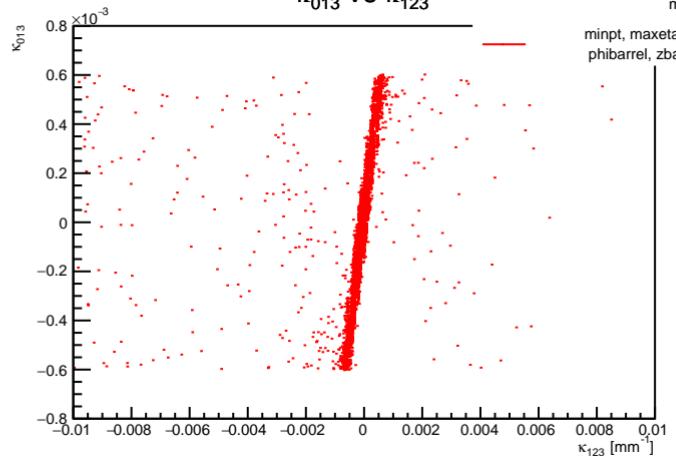
pion

 κ_{013} Vs κ_{123}

electron

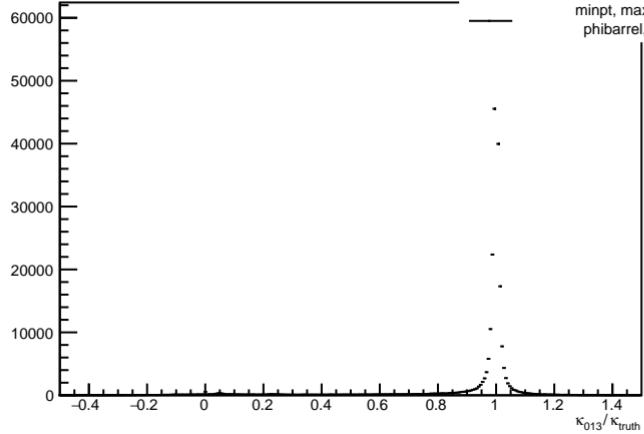
 κ_{013} Vs κ_{123}

muon's

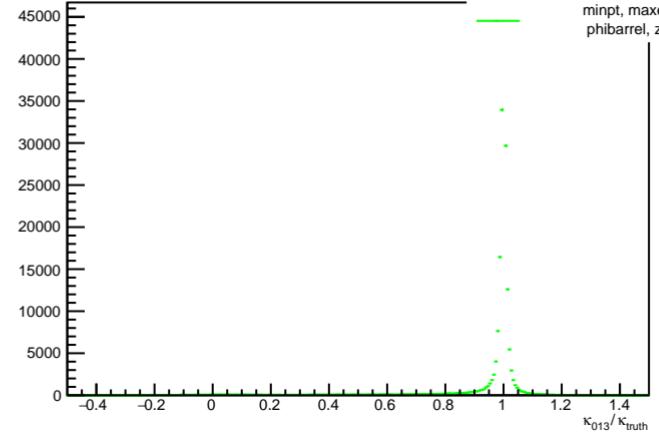


$\kappa_{013}/\kappa_{\text{truth}}$

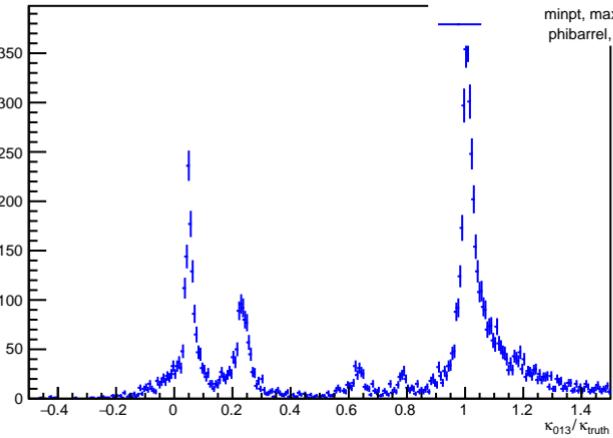
all

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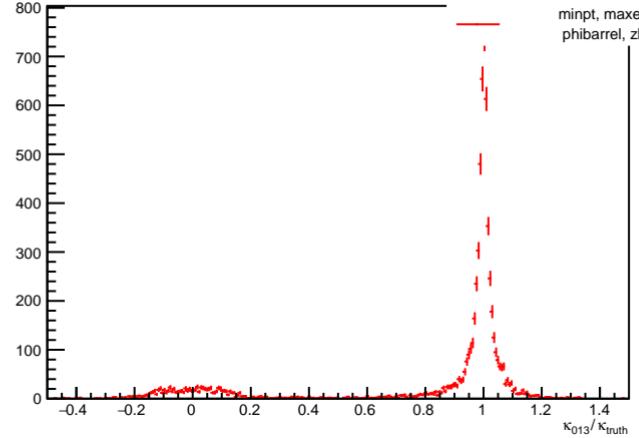
pion

 $\kappa_{013}/\kappa_{\text{truth}}$

electron

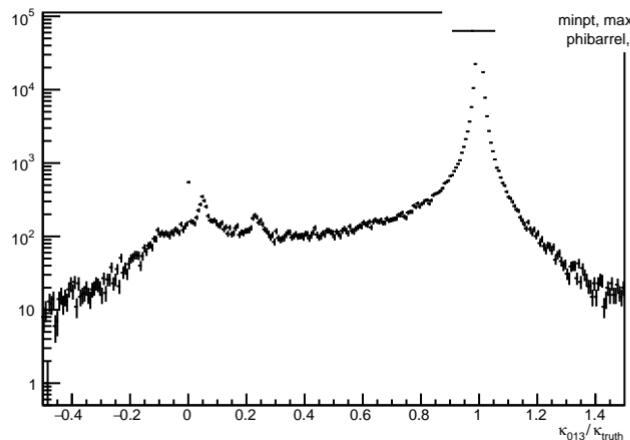
 $\kappa_{013}/\kappa_{\text{truth}}$

muon's

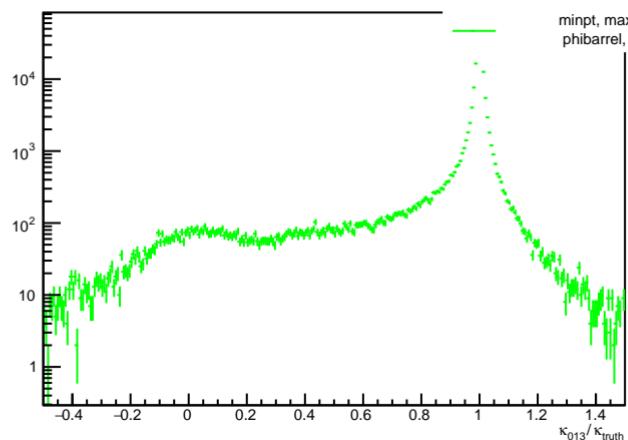


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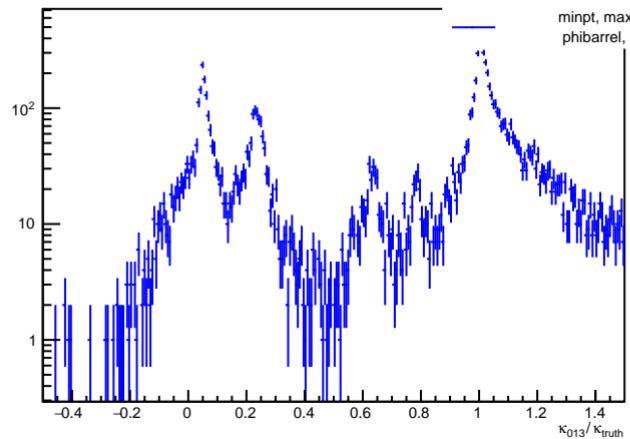
all

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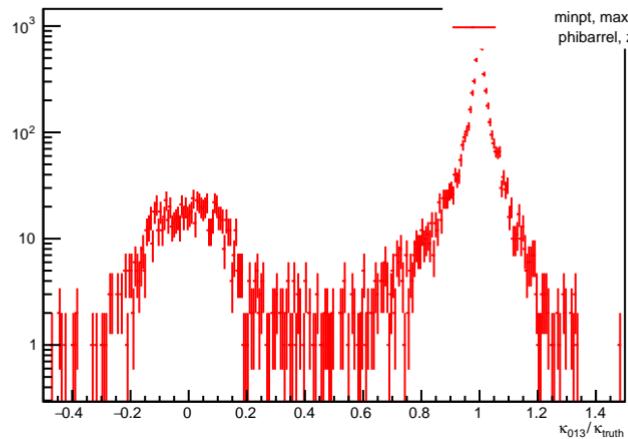
pion

 $\kappa_{013}/\kappa_{\text{truth}}$

electron

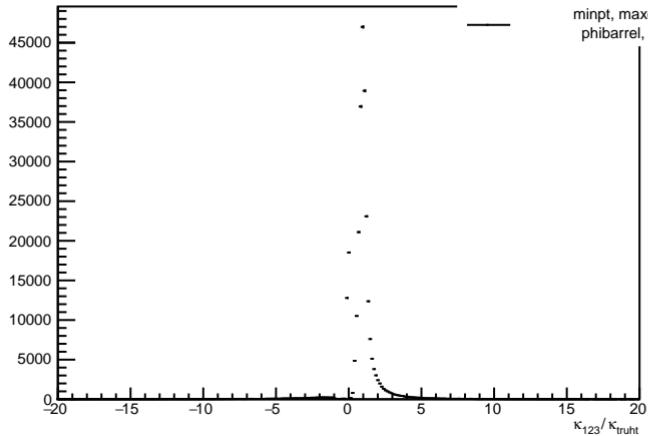
 $\kappa_{013}/\kappa_{\text{truth}}$

muon's

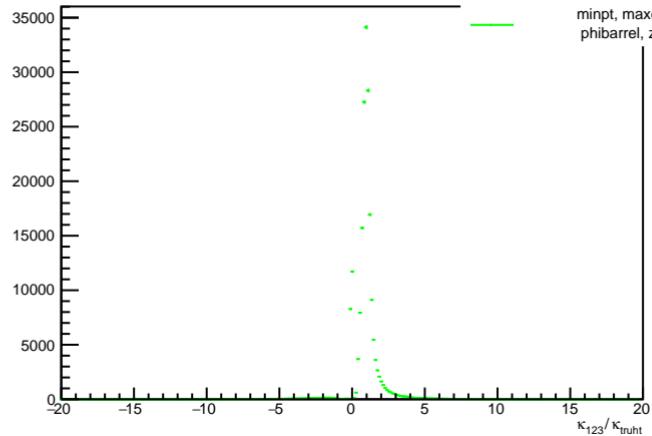


$\kappa_{123}/\kappa_{\text{truth}}$

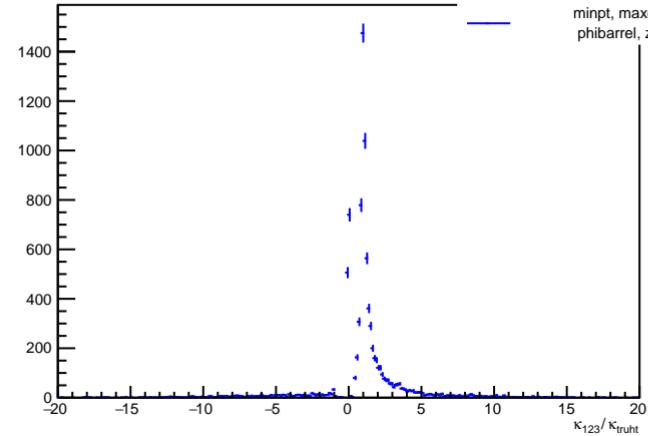
all

 $\kappa_{123}/\kappa_{\text{truth}}$

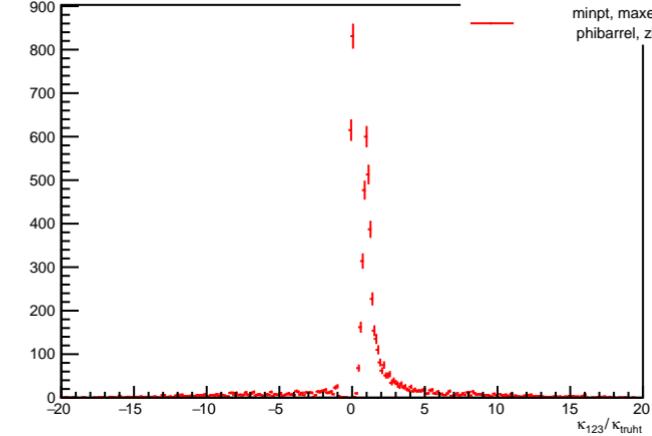
pion

 $\kappa_{123}/\kappa_{\text{truth}}$

electron

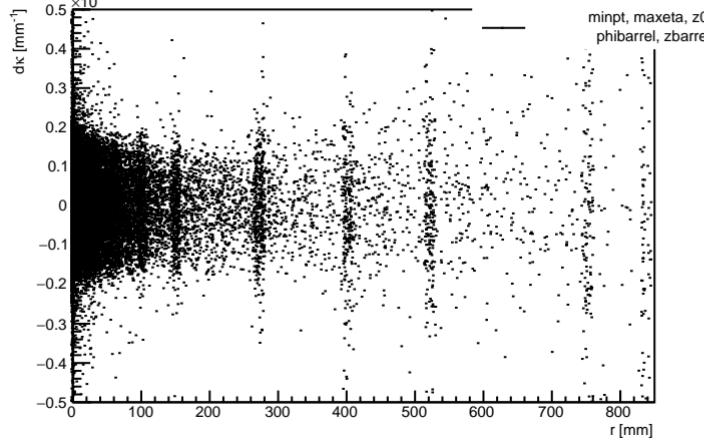
 $\kappa_{123}/\kappa_{\text{truth}}$

muon's



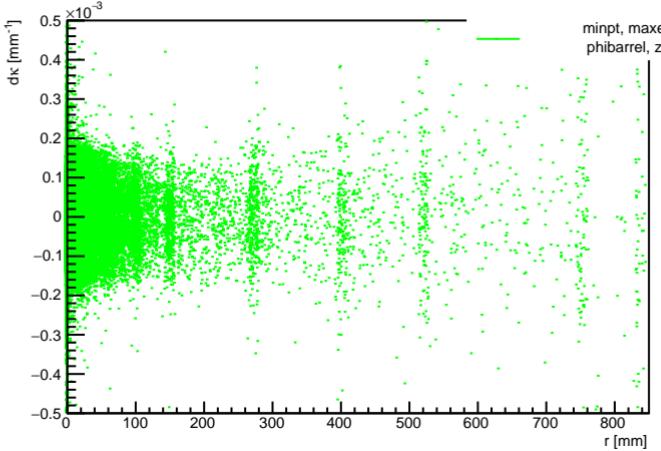
dk Vs r

all



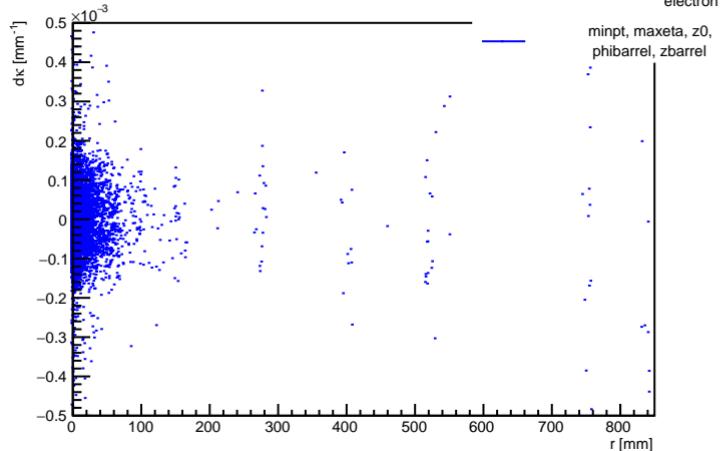
dk Vs r

pion



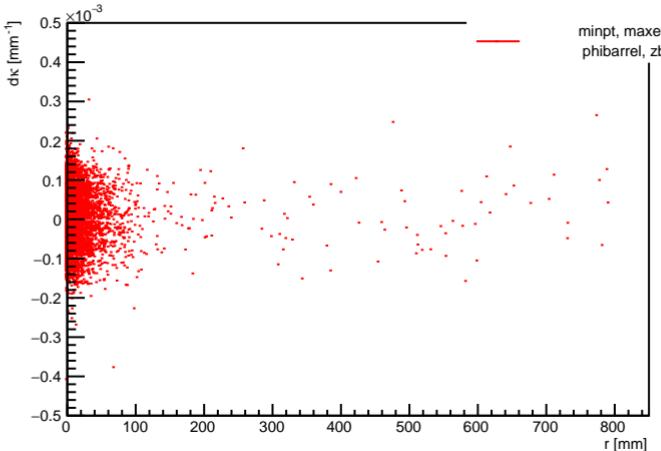
dk Vs r

electron



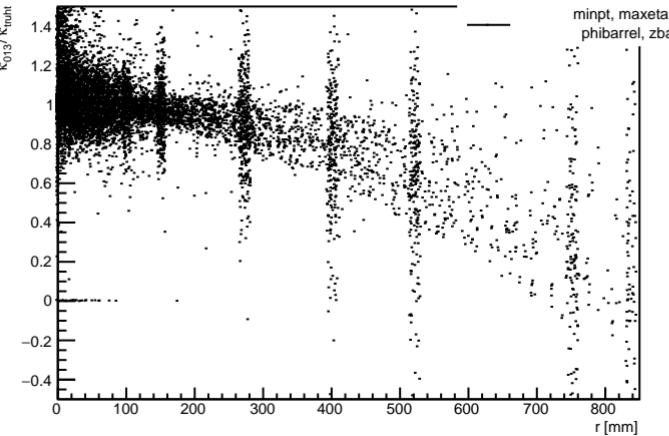
dk Vs r

muon's

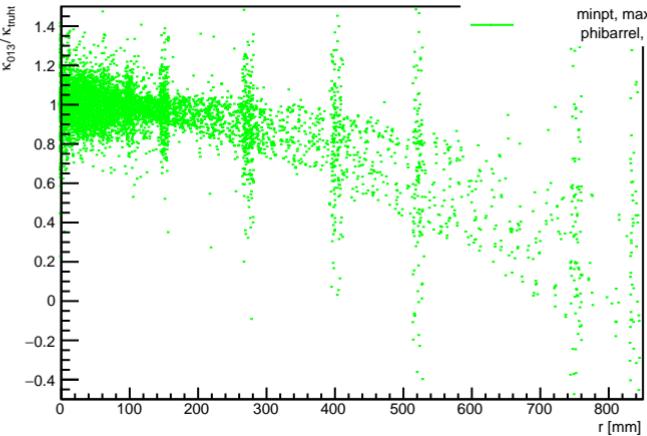


$\kappa_{013}/\kappa_{\text{truth}}$ Vs r

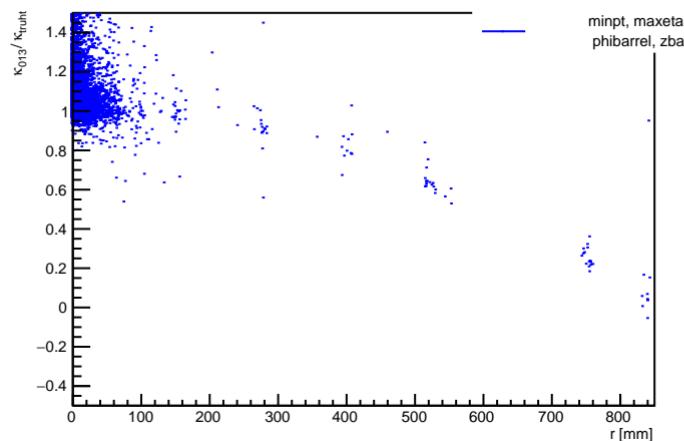
all

 $\kappa_{013}/\kappa_{\text{truth}}$ Vs r

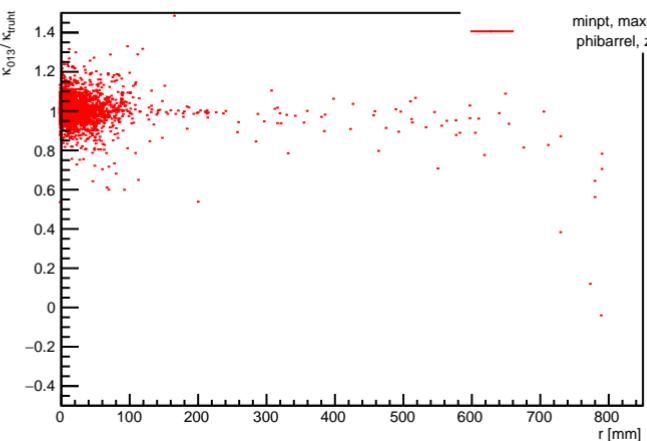
pion

 $\kappa_{013}/\kappa_{\text{truth}}$ Vs r

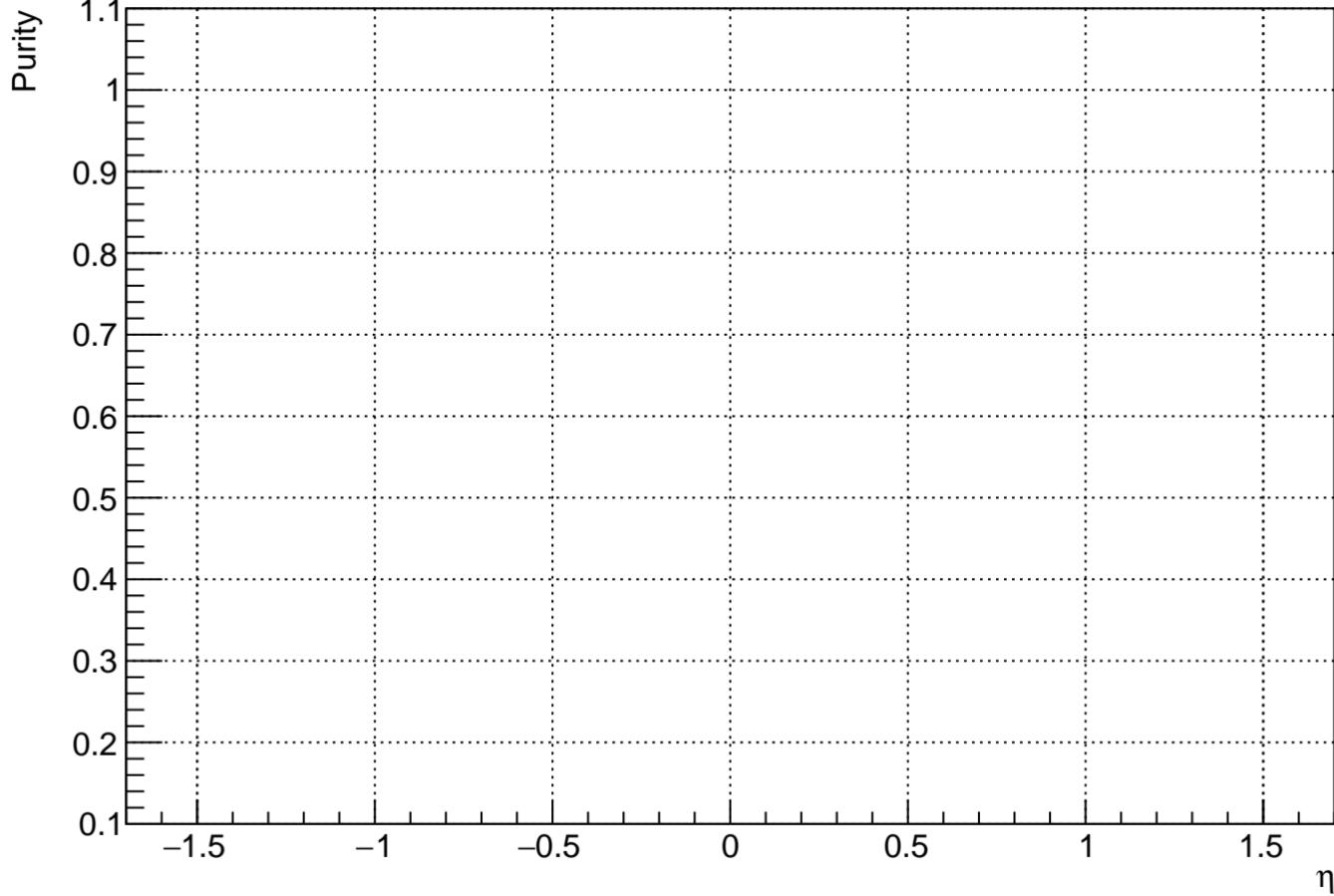
electron

 $\kappa_{013}/\kappa_{\text{truth}}$ Vs r

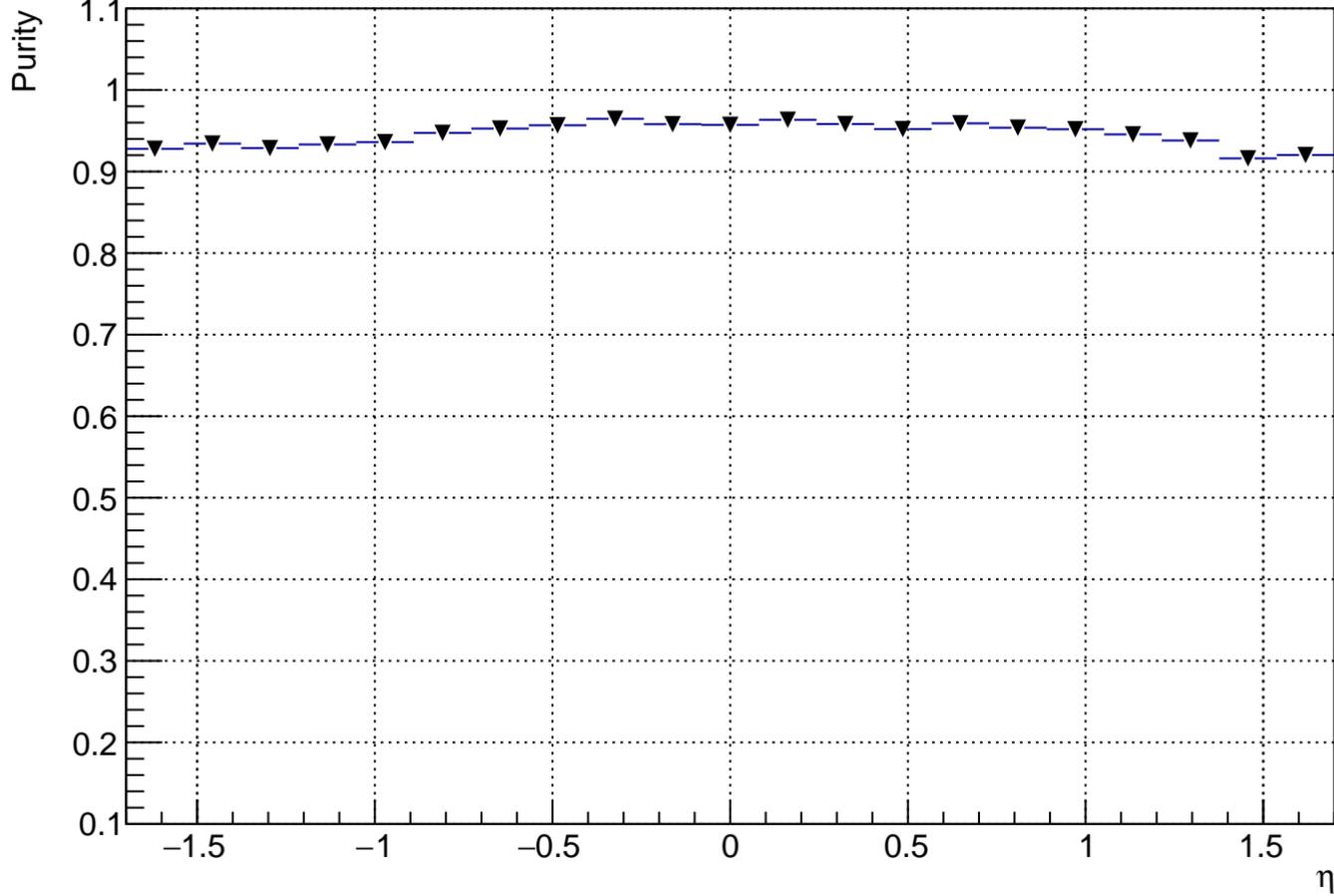
muon's



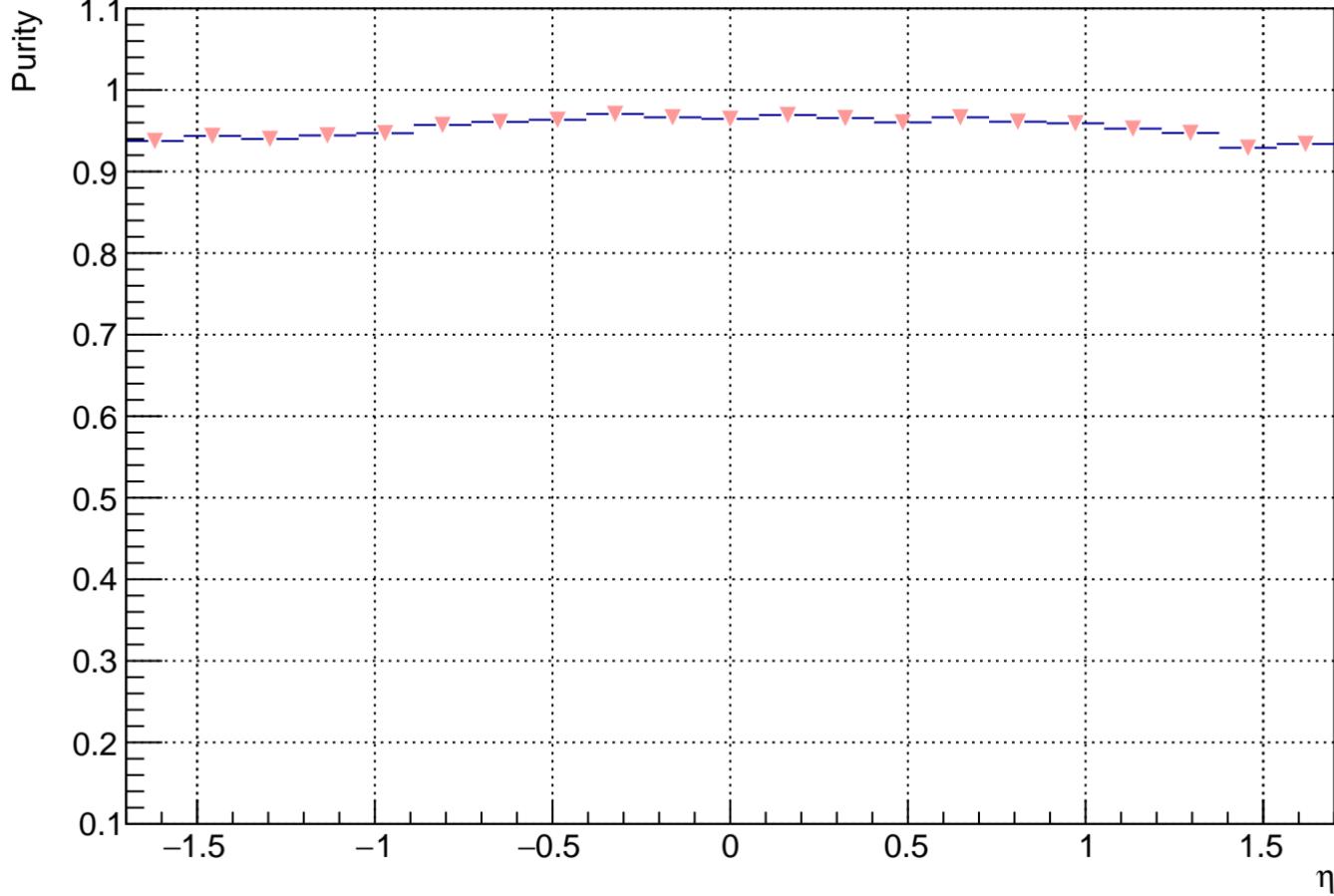
Purity vs η



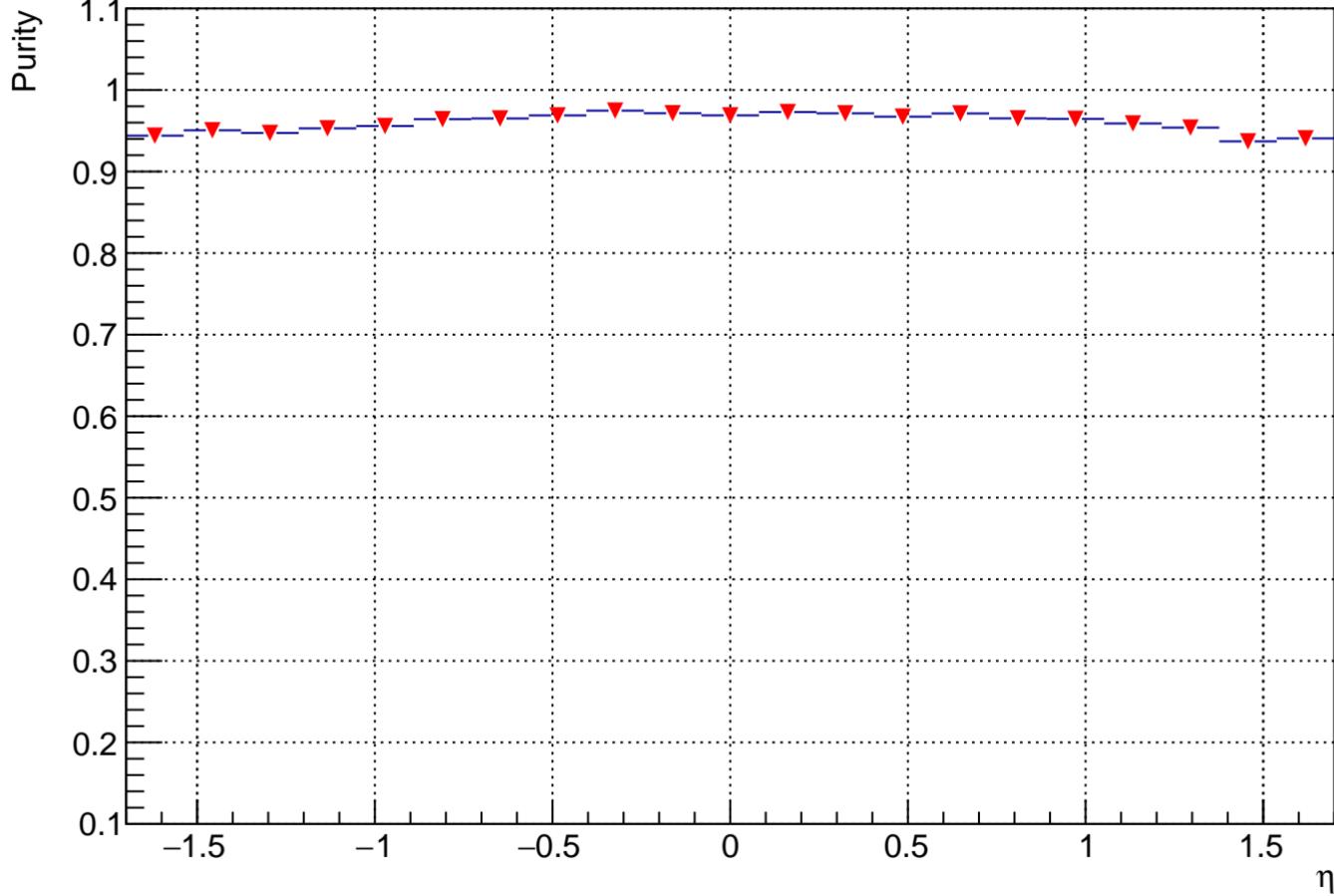
Purity vs η



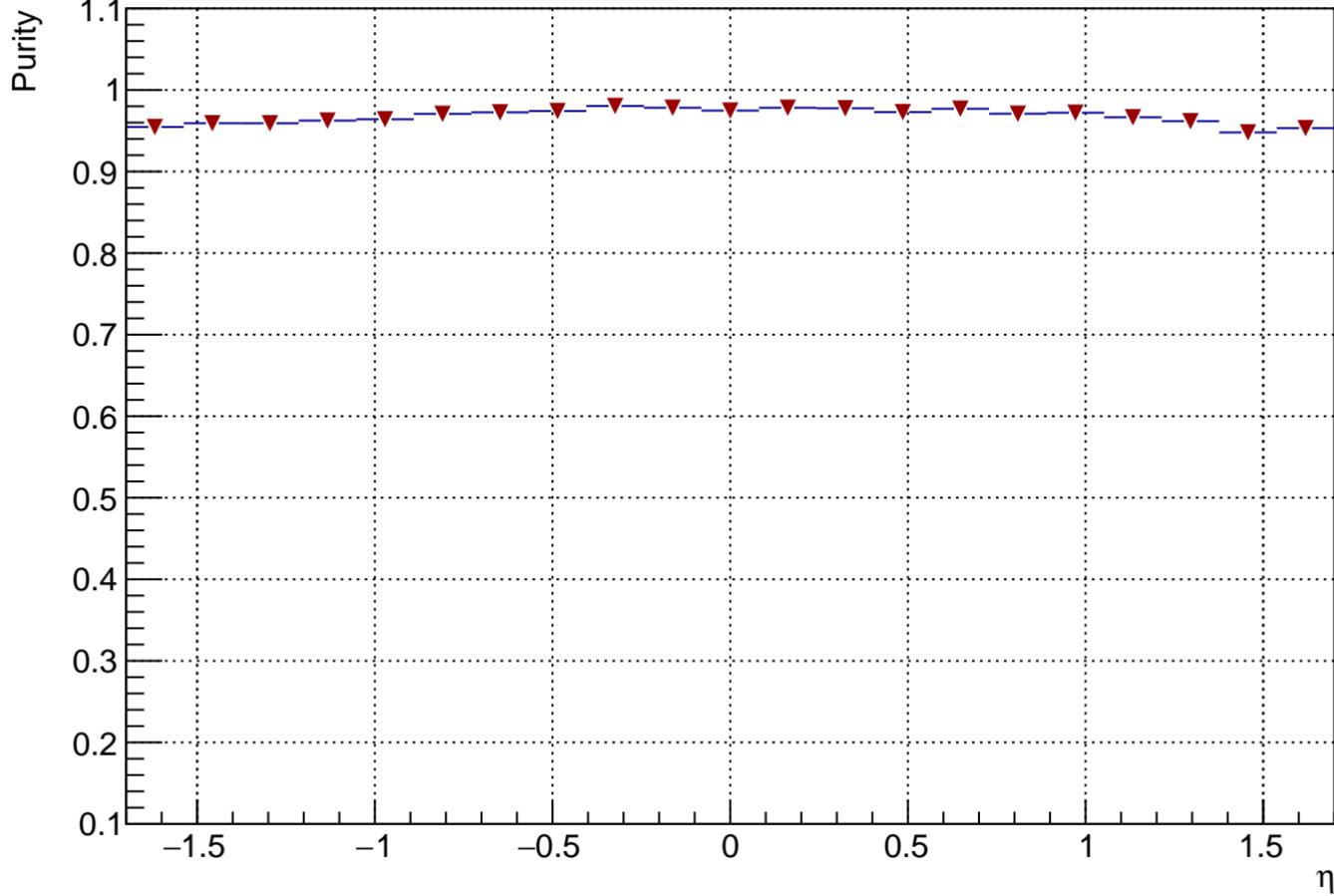
Purity vs η



Purity vs η

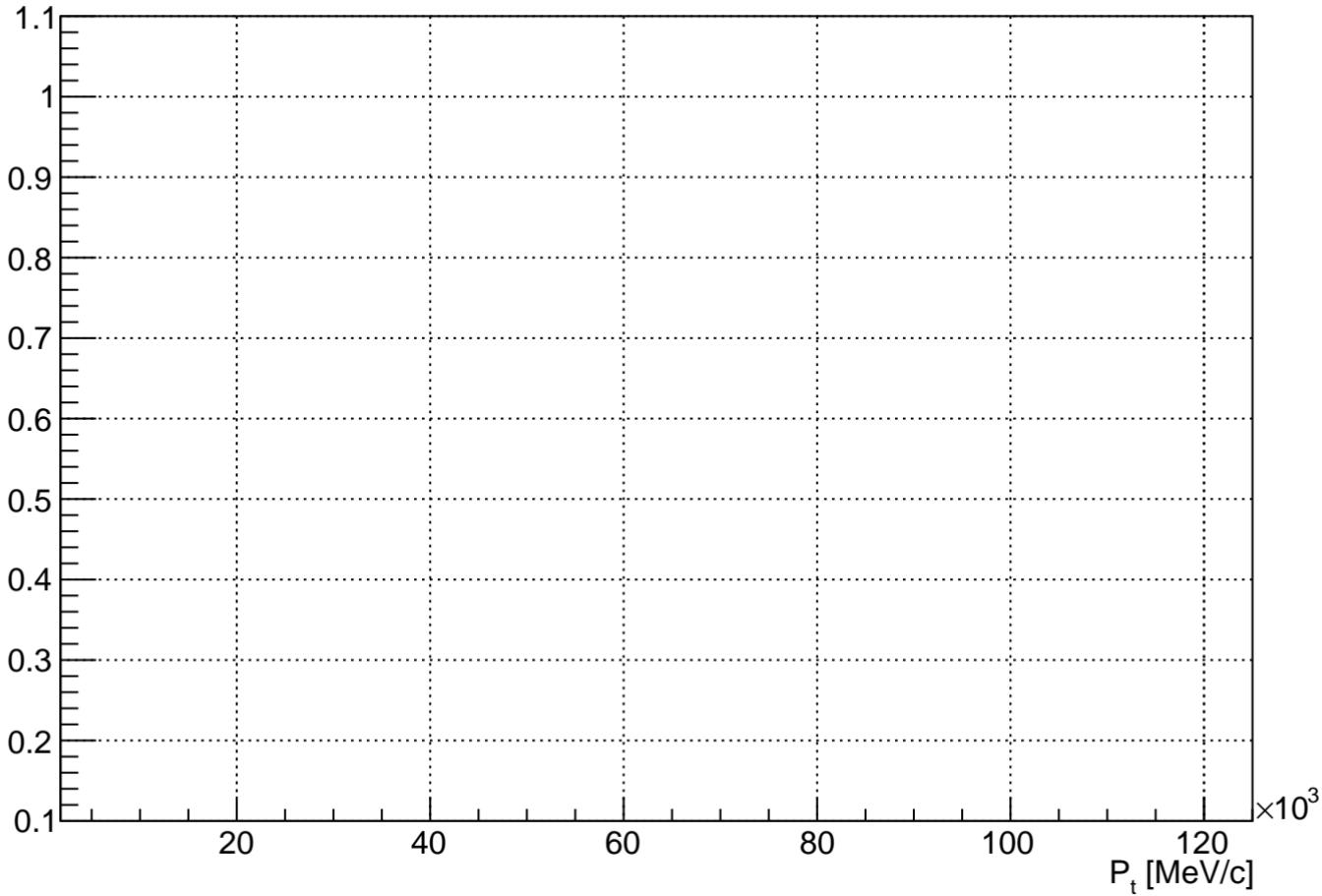


Purity vs η

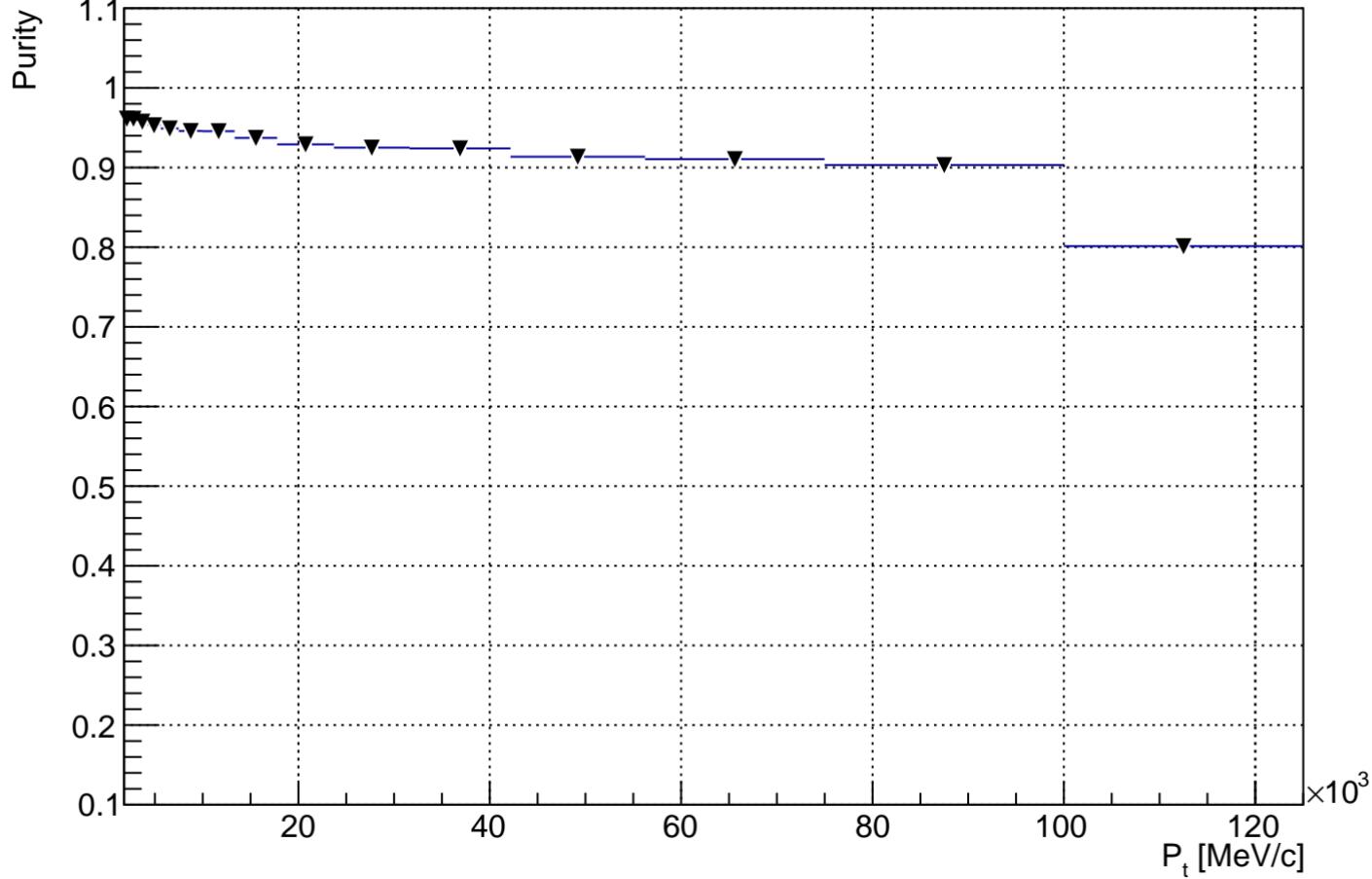


Purity vs P_t

Purity

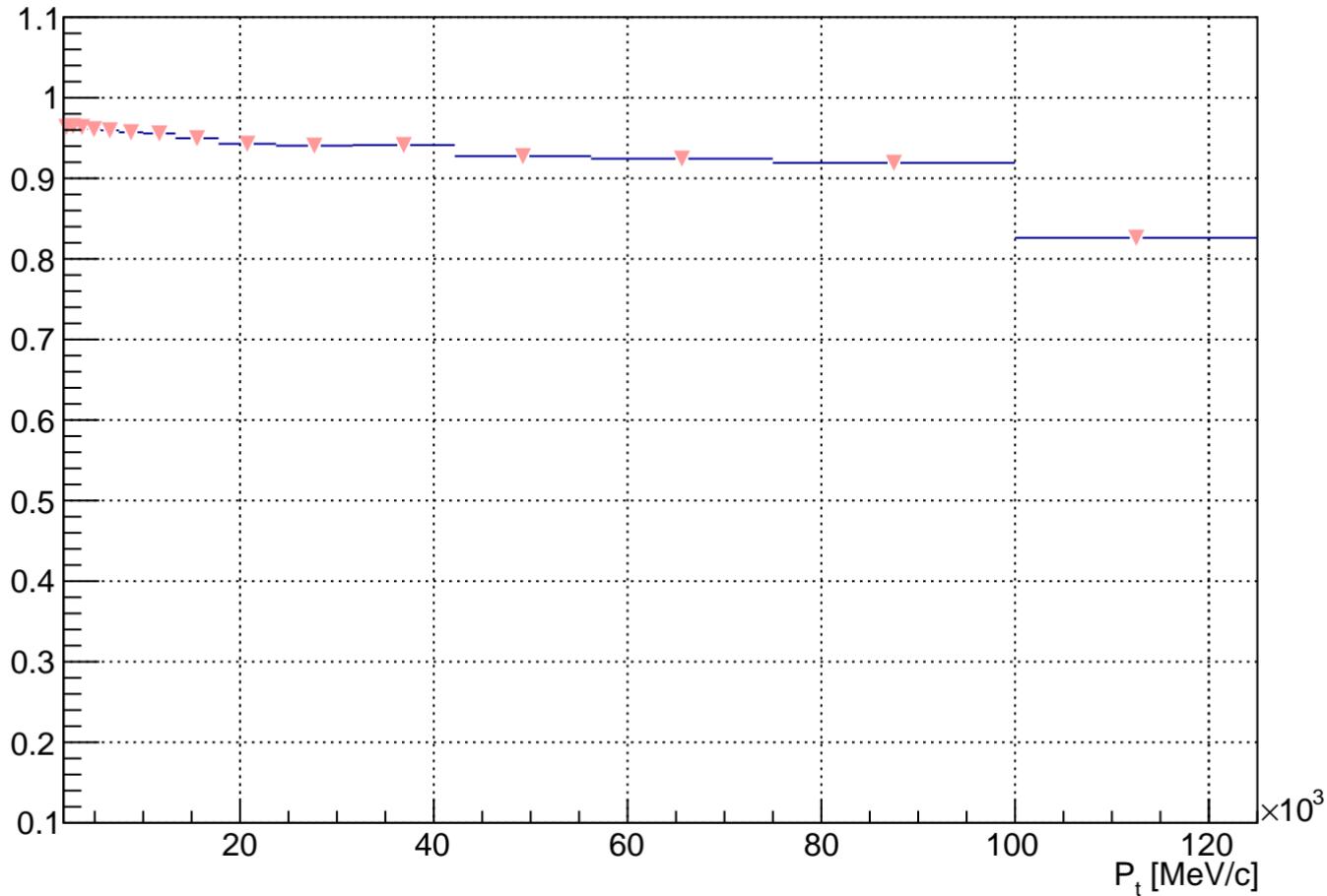


Purity vs P_t

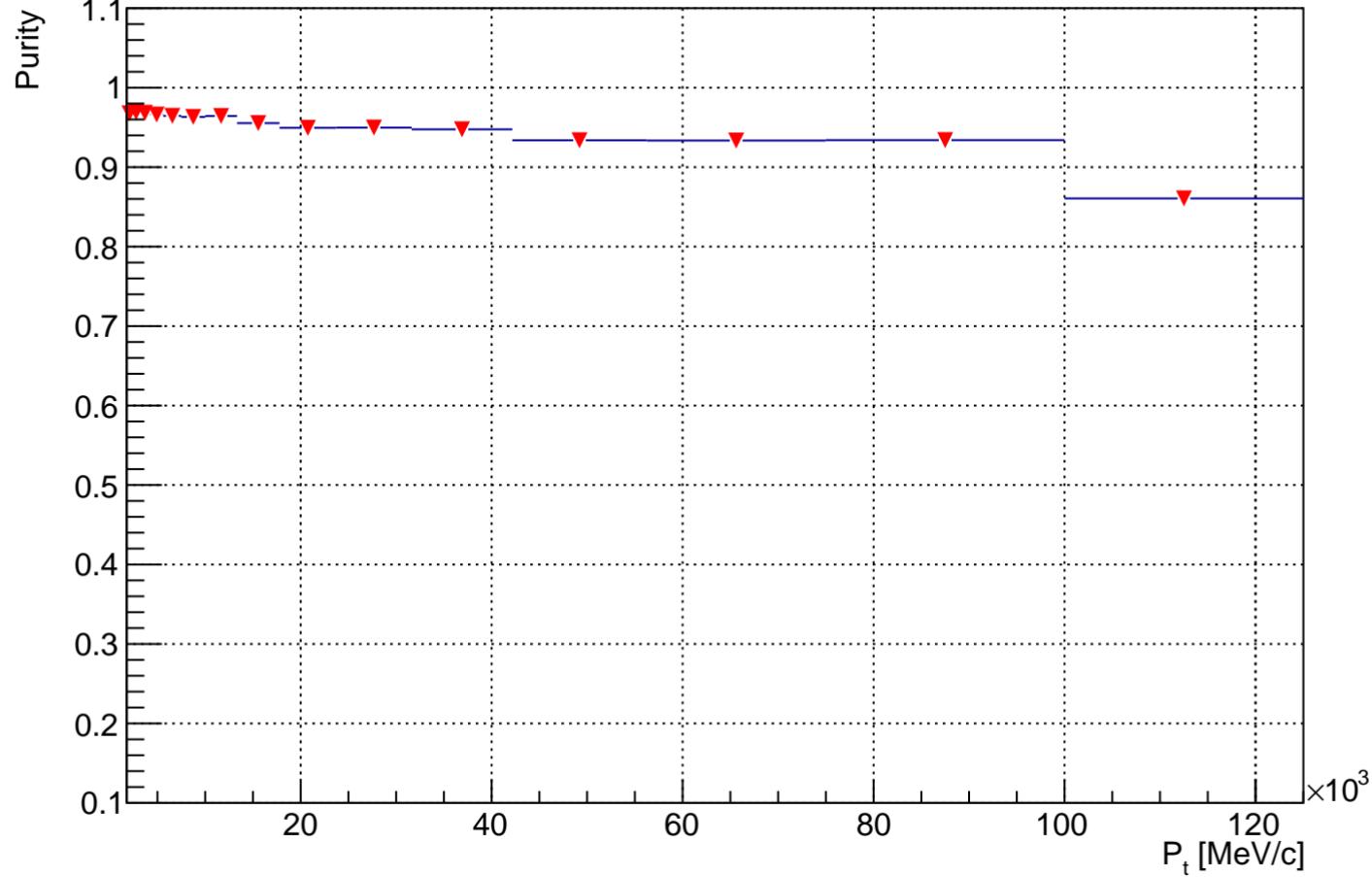


Purity vs P_t

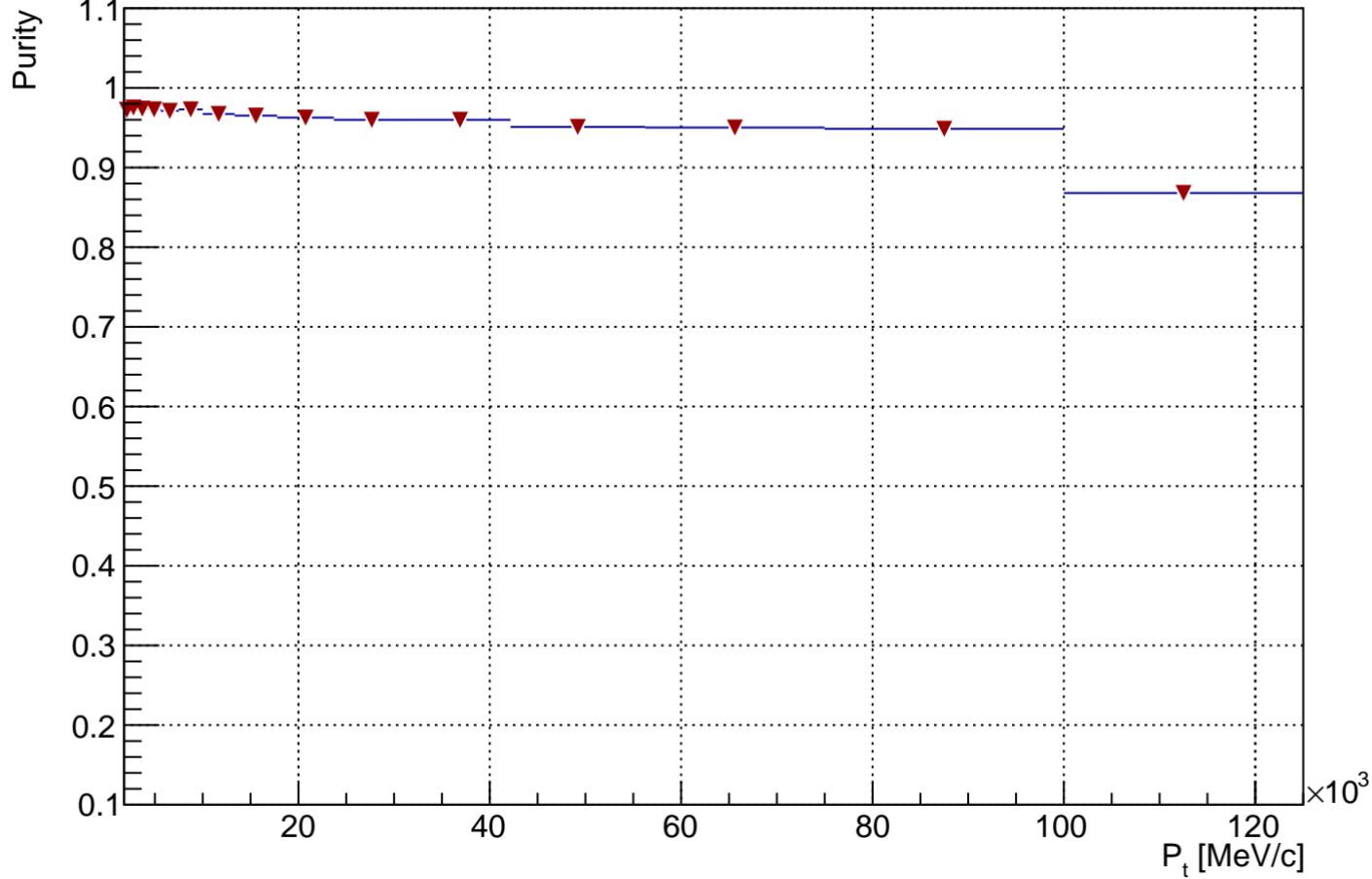
Purity



Purity vs P_t

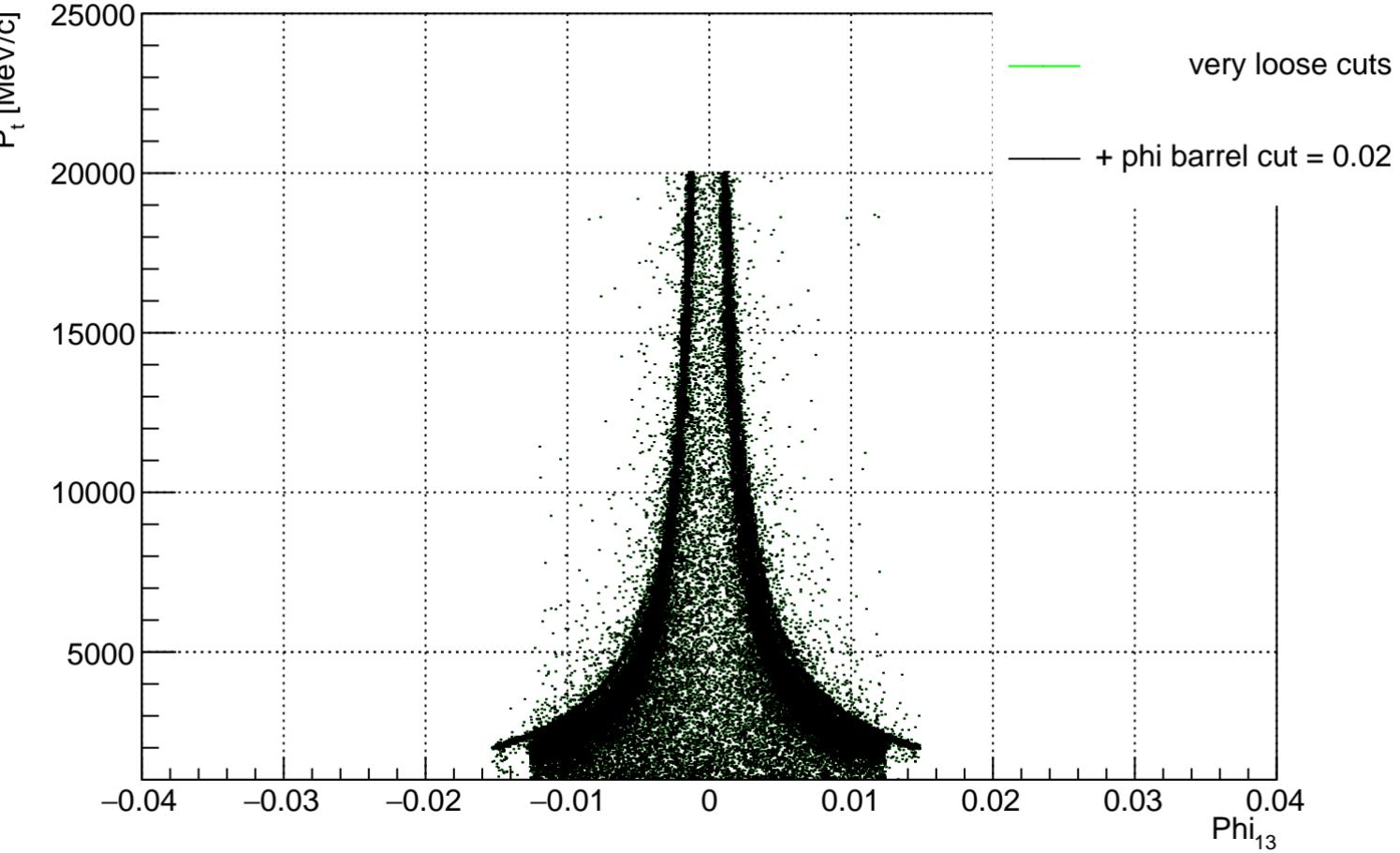


Purity vs P_t

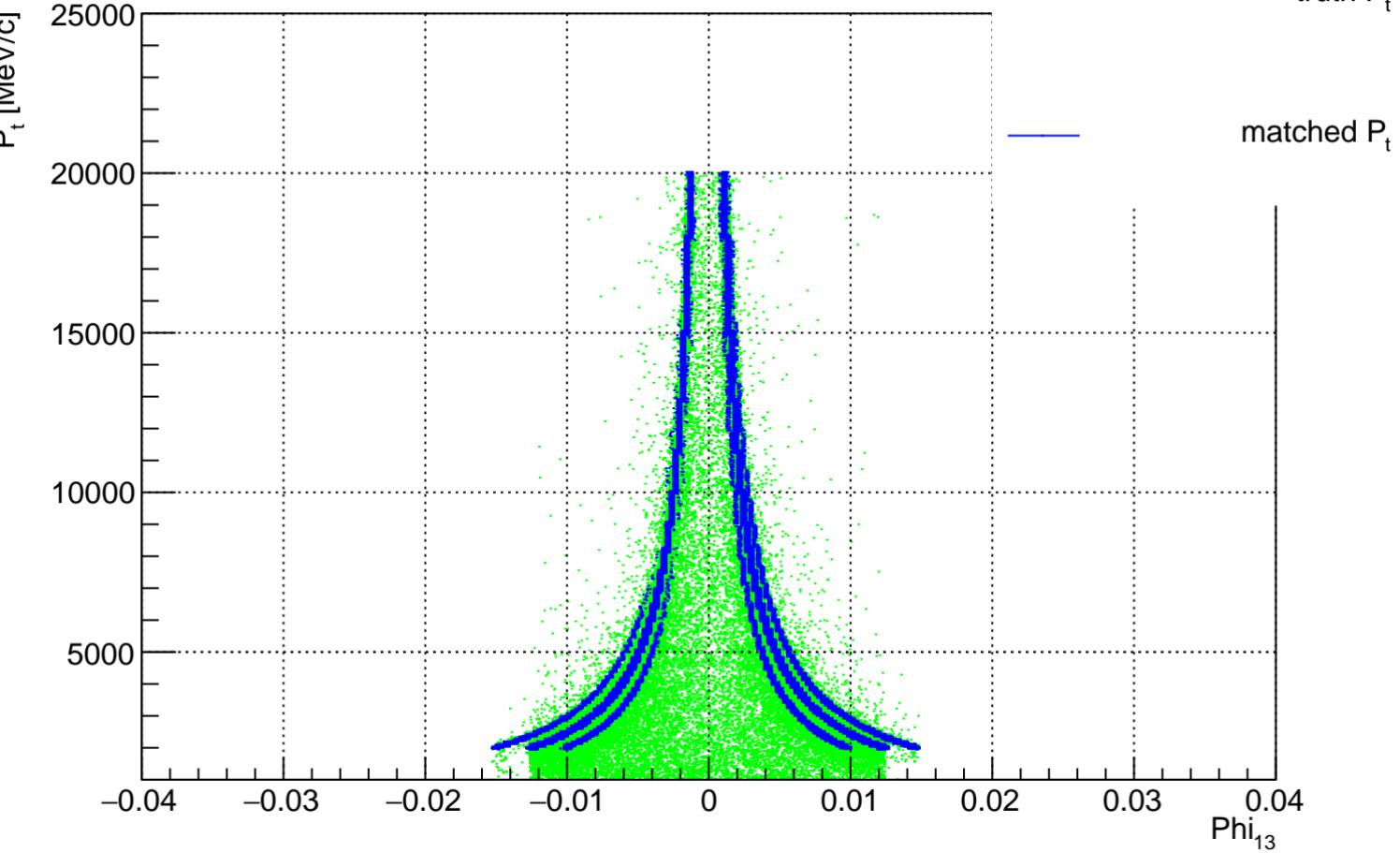


P_t Vs Φ_{13}

truth P_t

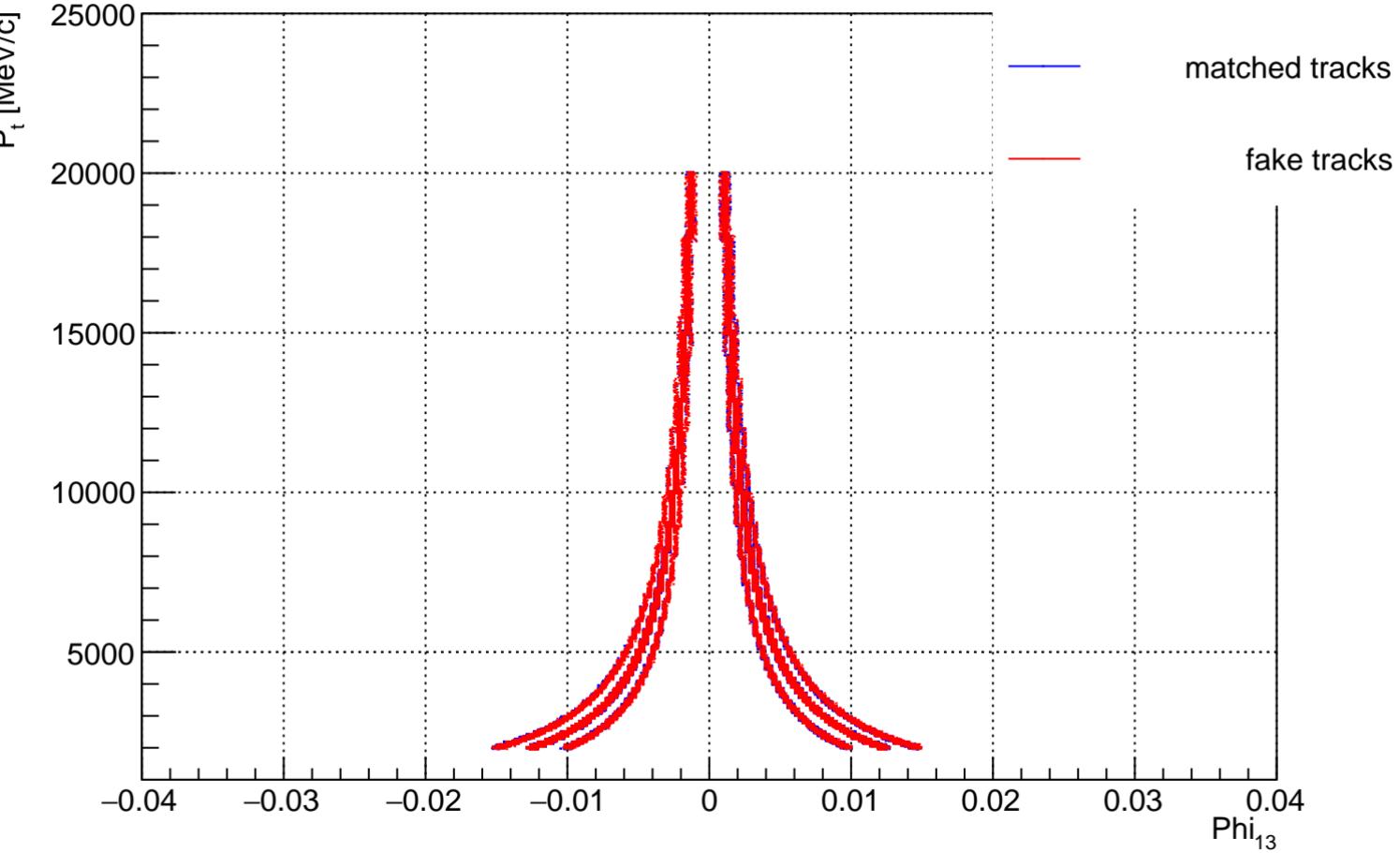


P_t Vs Φ_{13}

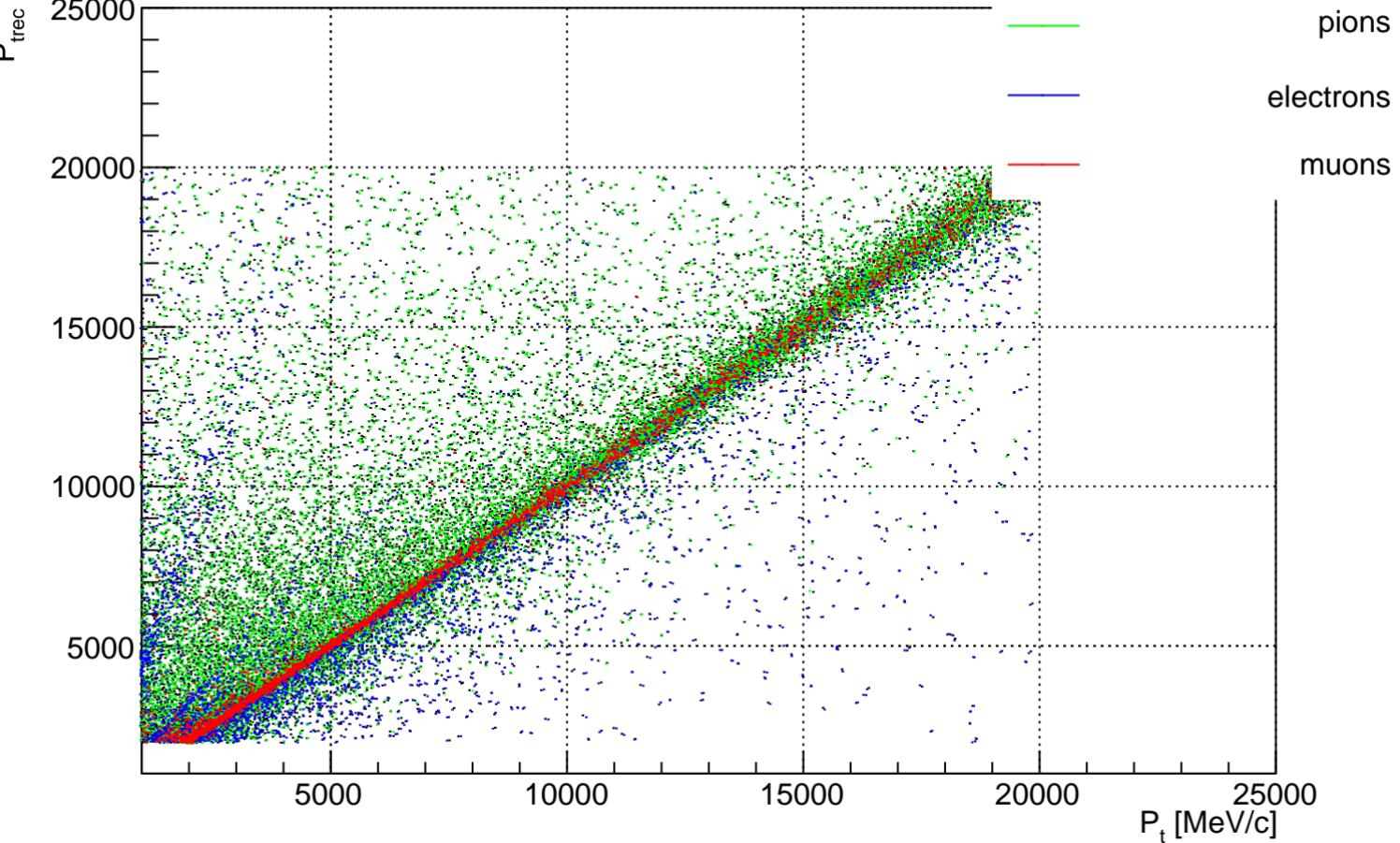


P_t Vs Φ_{13}

rec P_t

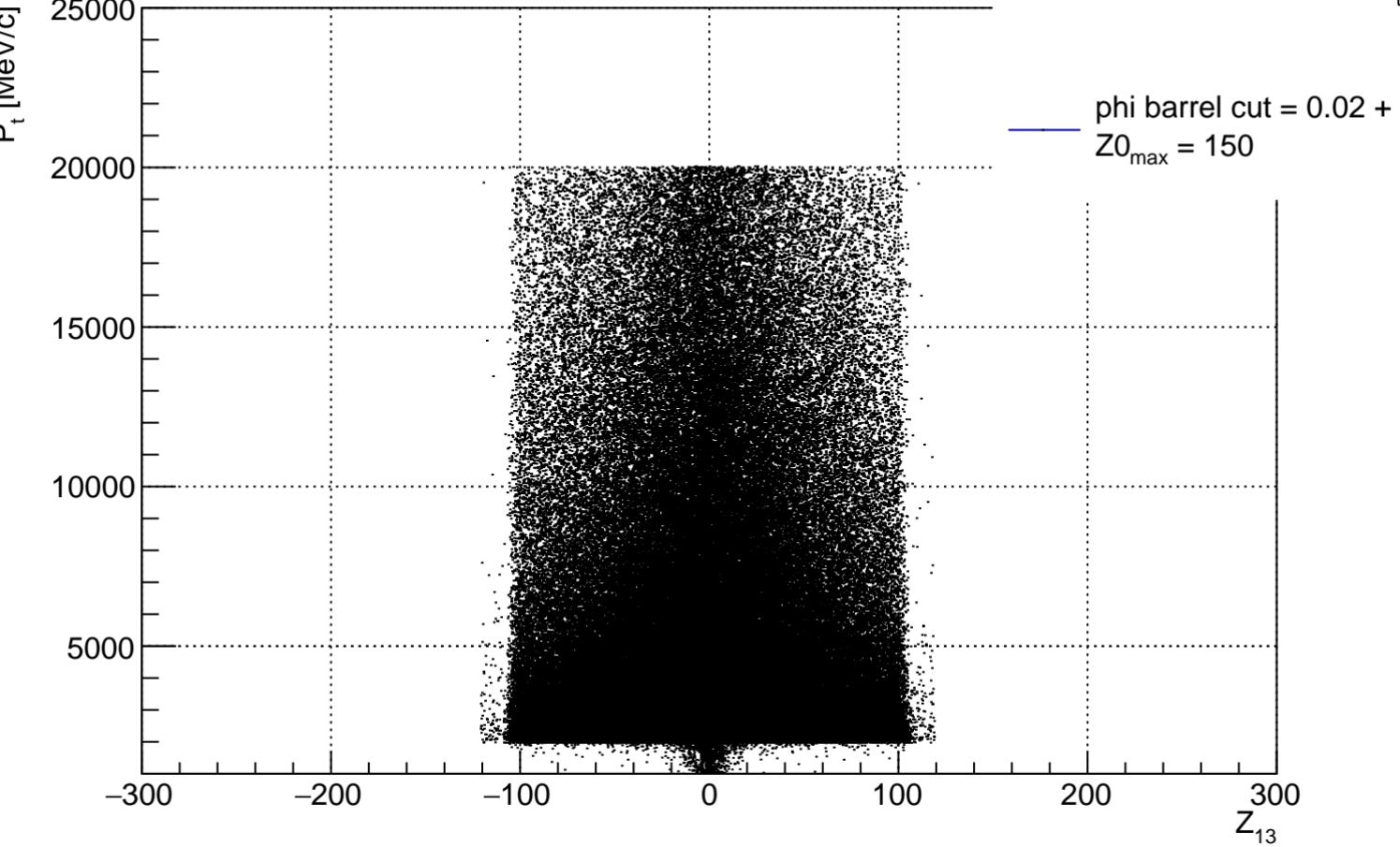


P_{trec} Vs P_t



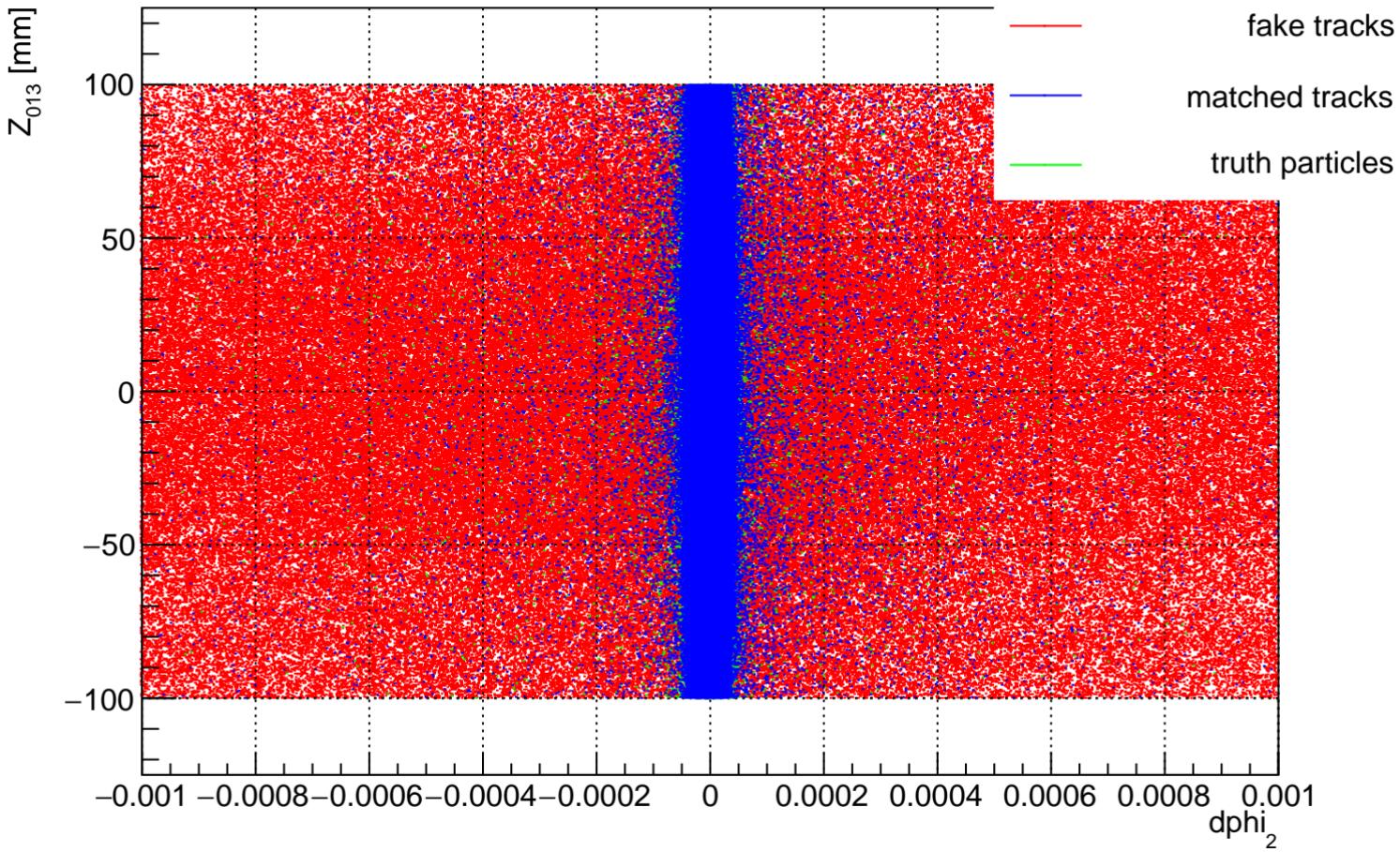
P_t Vs Z_{13}

truth P_t



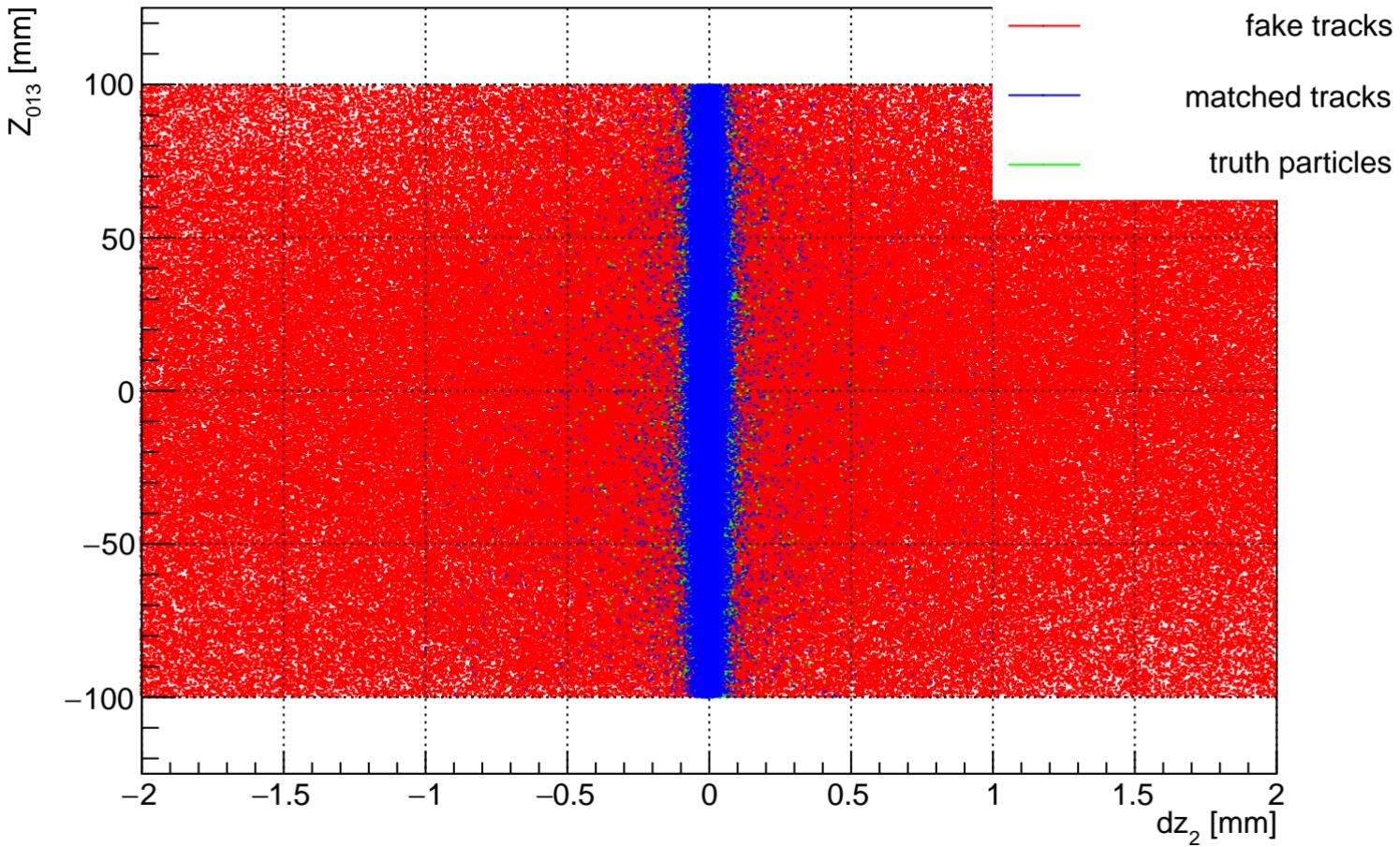
Z_{013} Vs $d\phi_{_2}$

ϕ Barrel = 0.02 +
 $Z_{\text{barrel}} = 160 + Z_{0\text{max}} = 150$



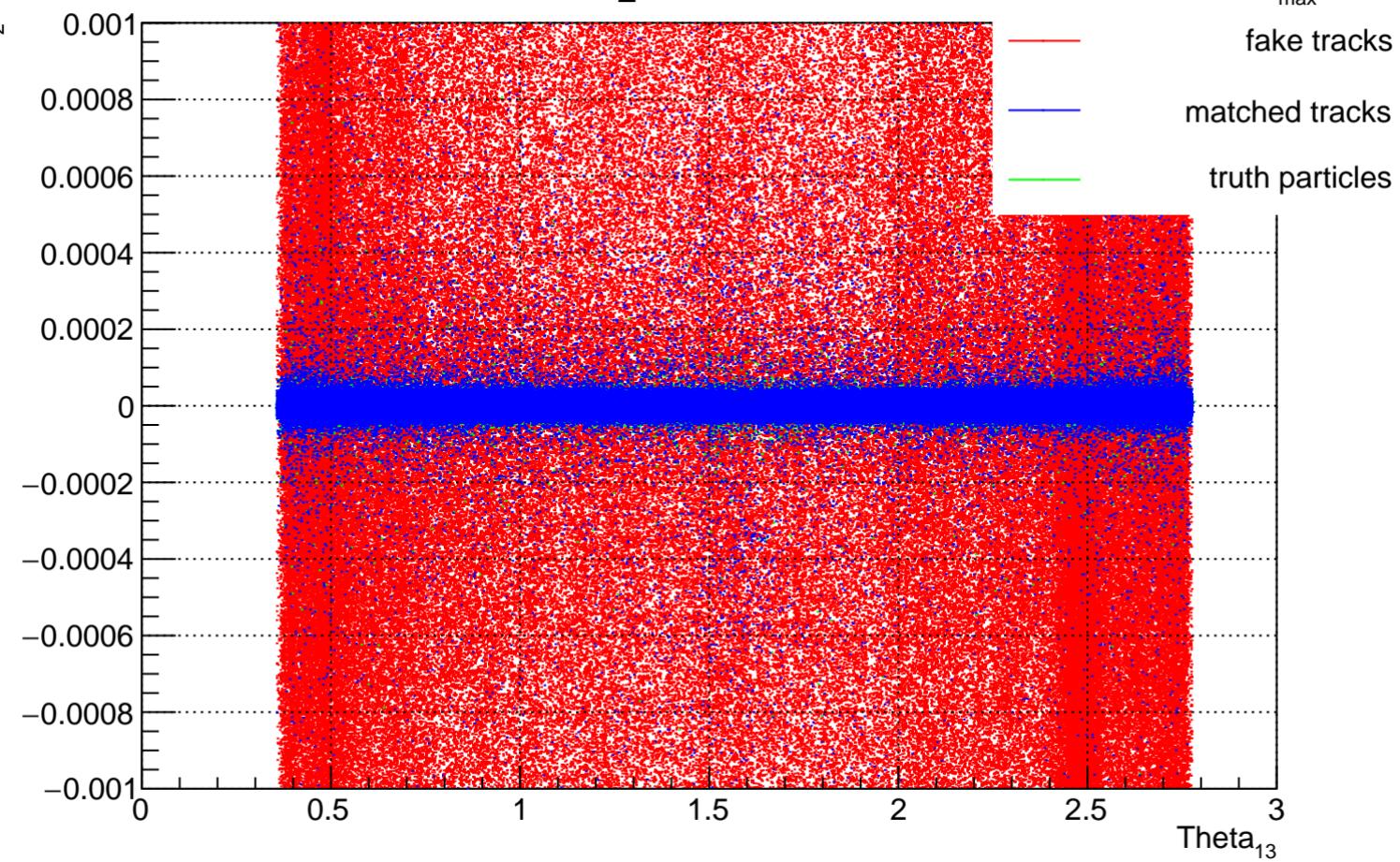
Z_{013} Vs dz_2

ϕ Barrel = 0.02 +
 $Z_{\text{barrel}} = 160 + Z_{0_{\max}} = 150$



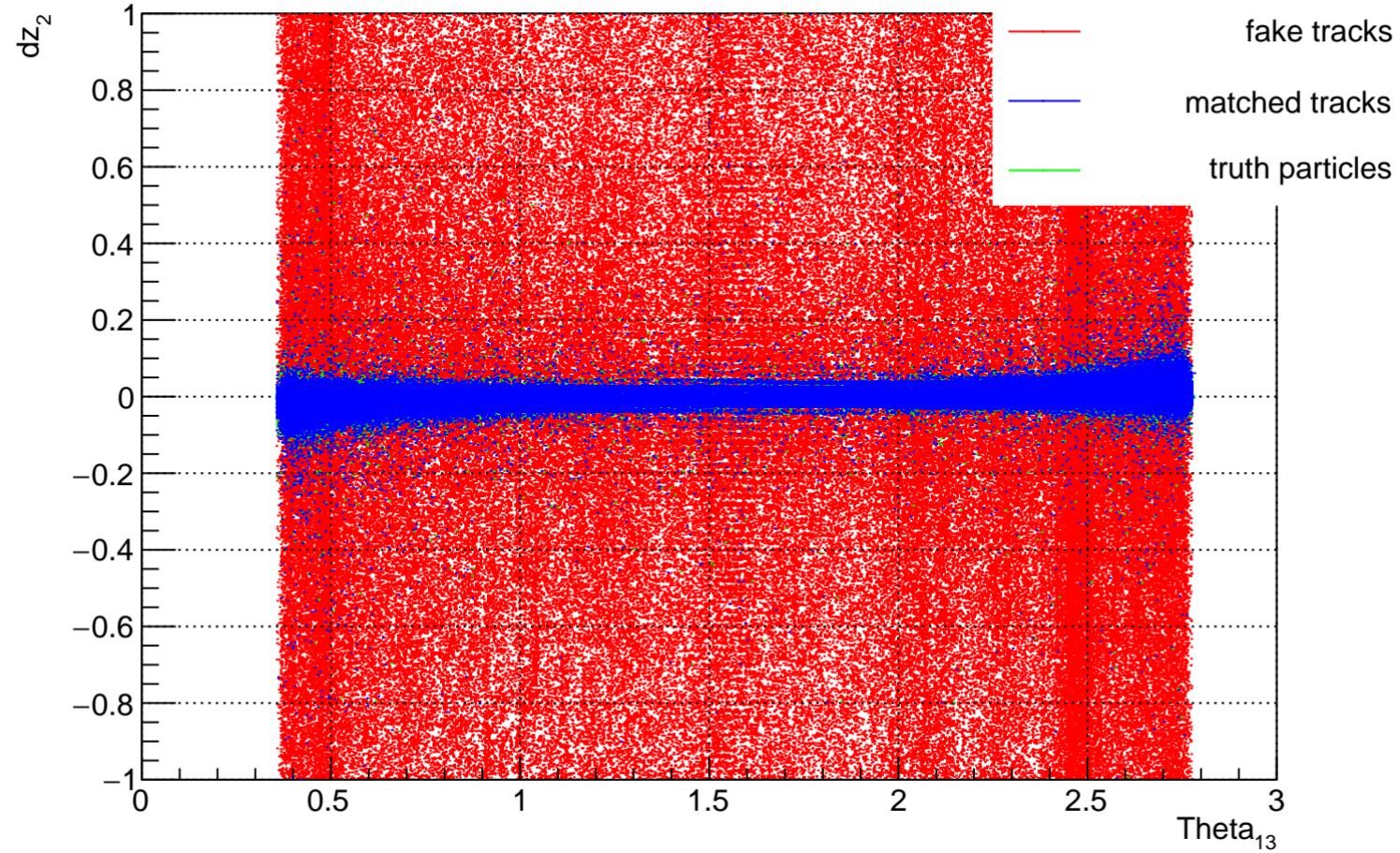
$d\phi_{2}$ Vs Θ_{13}

ϕ Barrel = 0.02 +
 $Z_{\text{barrel}} = 160 + Z_{0_{\text{max}}} = 150$



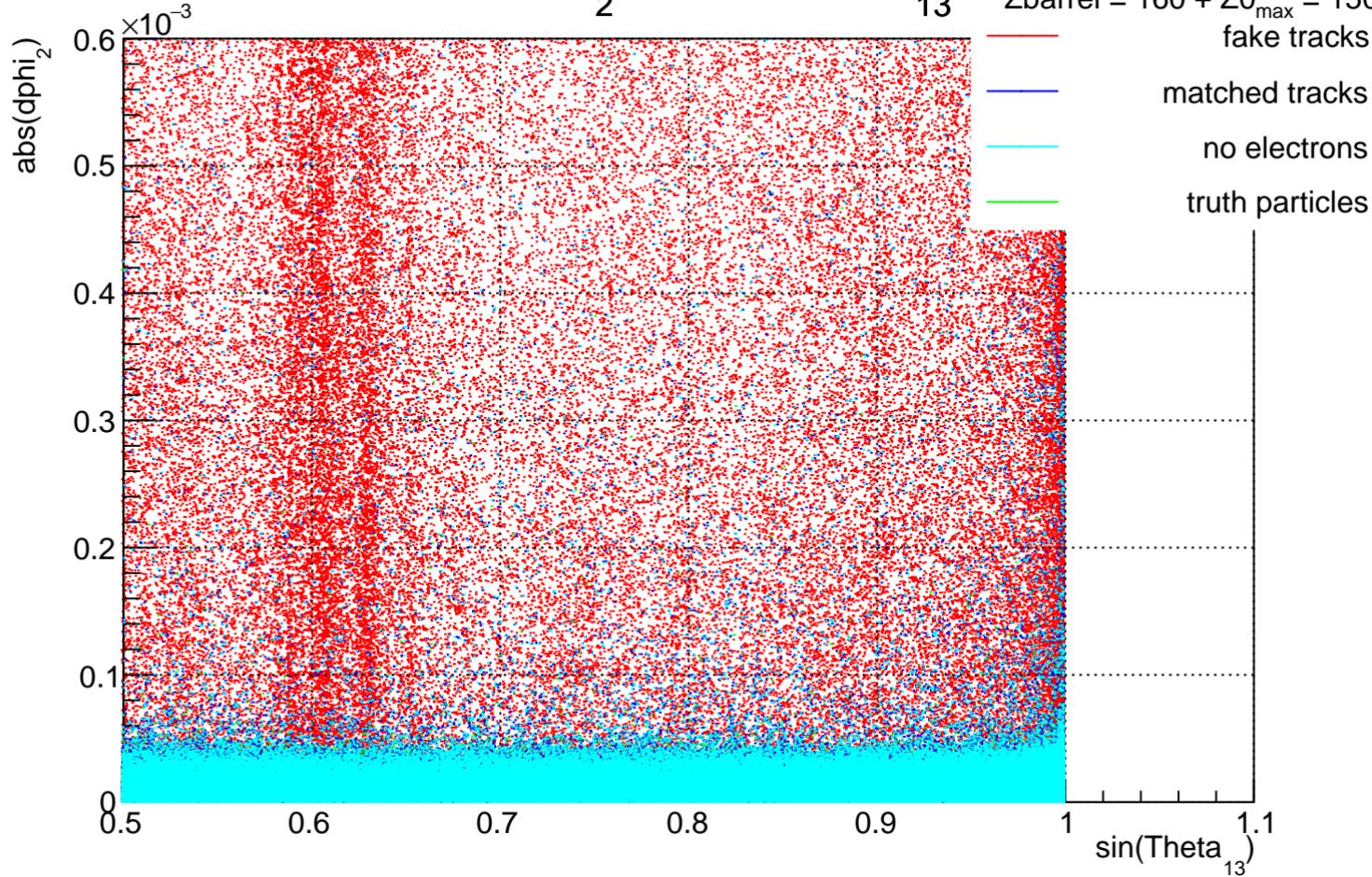
dz_2 Vs Θ_{13}

ϕ Barrel = 0.02 +
 $Z_{\text{barrel}} = 160 + Z_{0_{\max}} = 150$

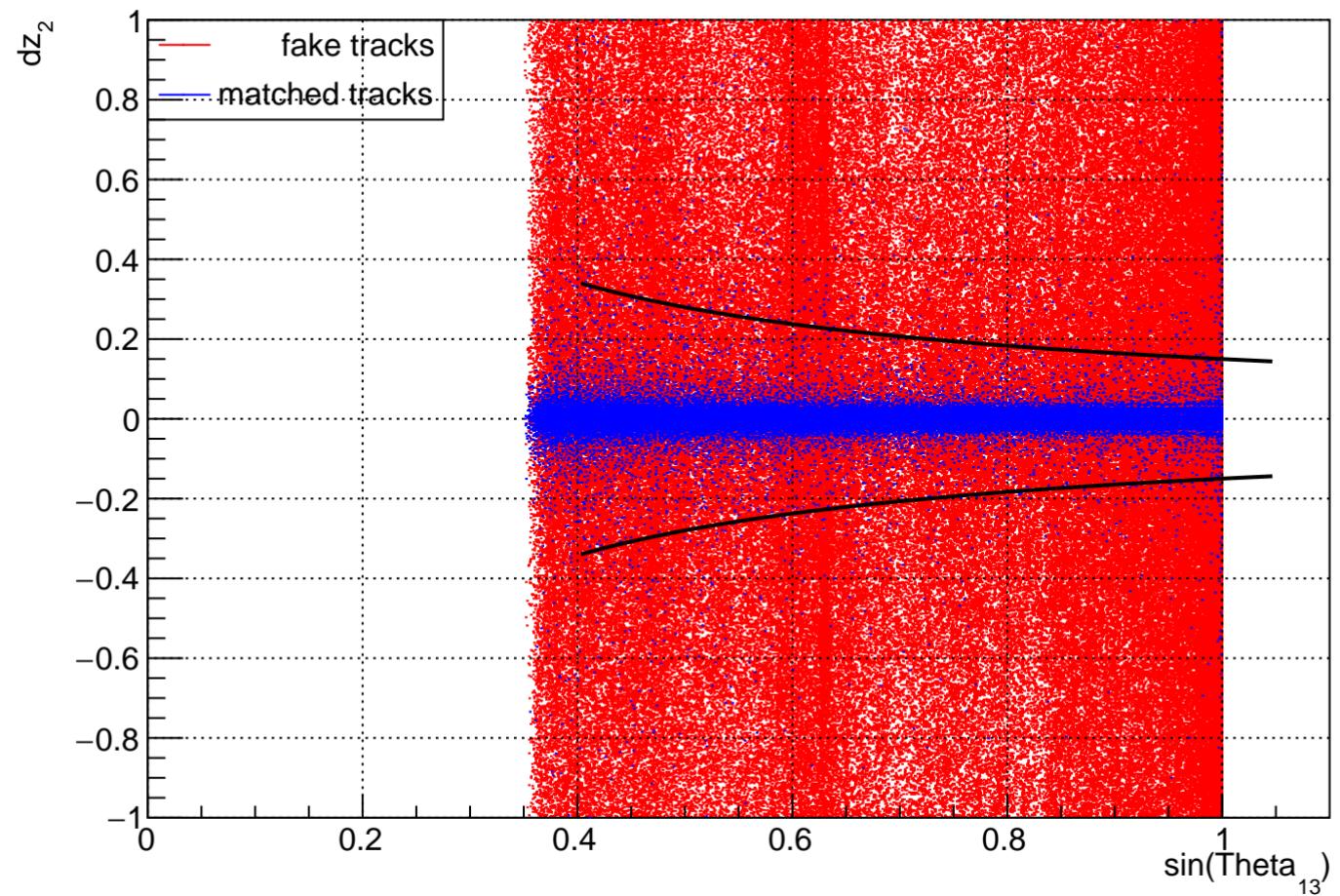


$\text{abs}(\text{dphi}_2)$ Vs $\sin(\text{Theta}_{13})$

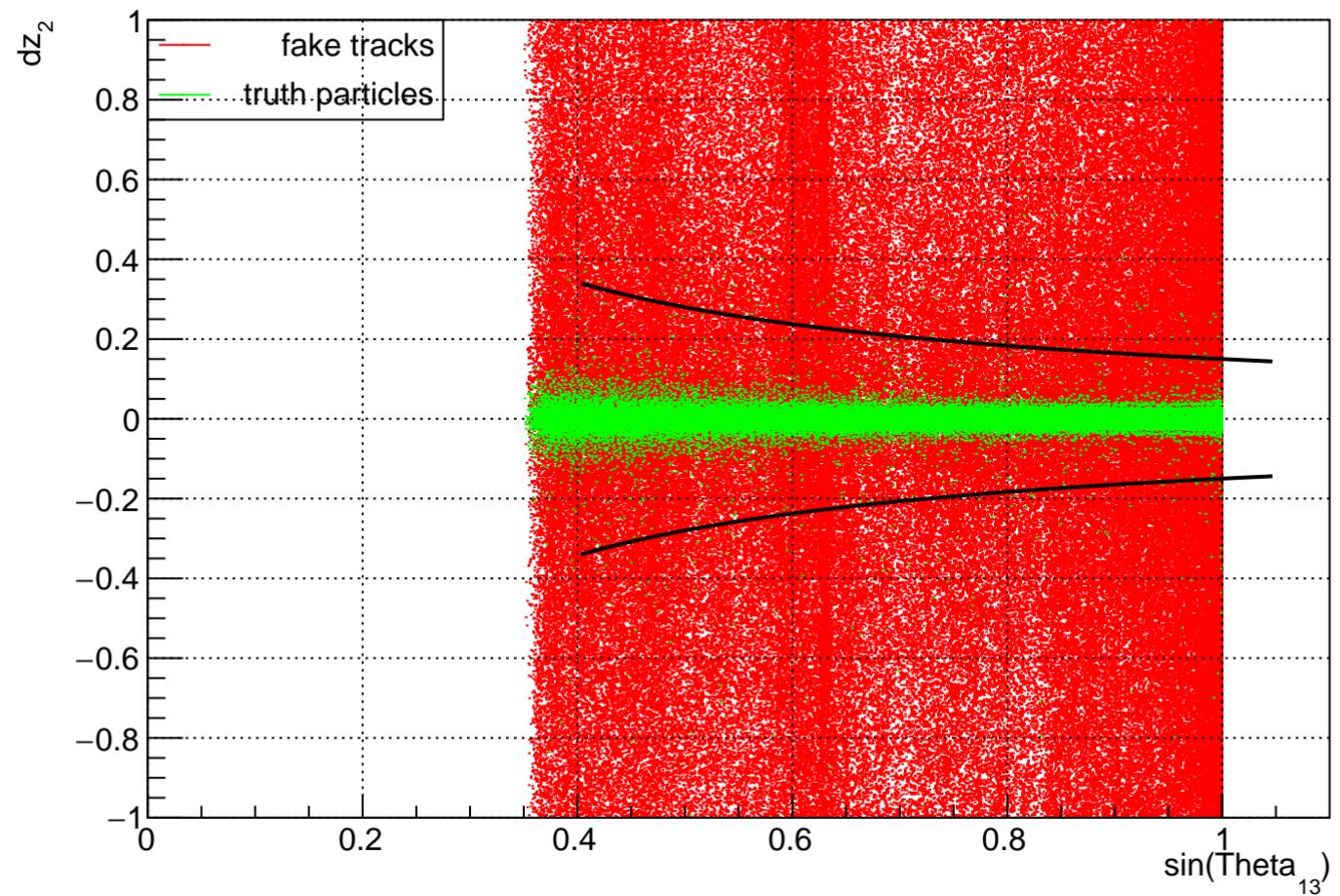
$\text{phi Barrel} = 0.02 +$
 $Z_{\text{barrel}} = 160 + Z_{0,\text{max}} = 150$
fake tracks



dz_2 Vs $\sin(\Theta_{13})$

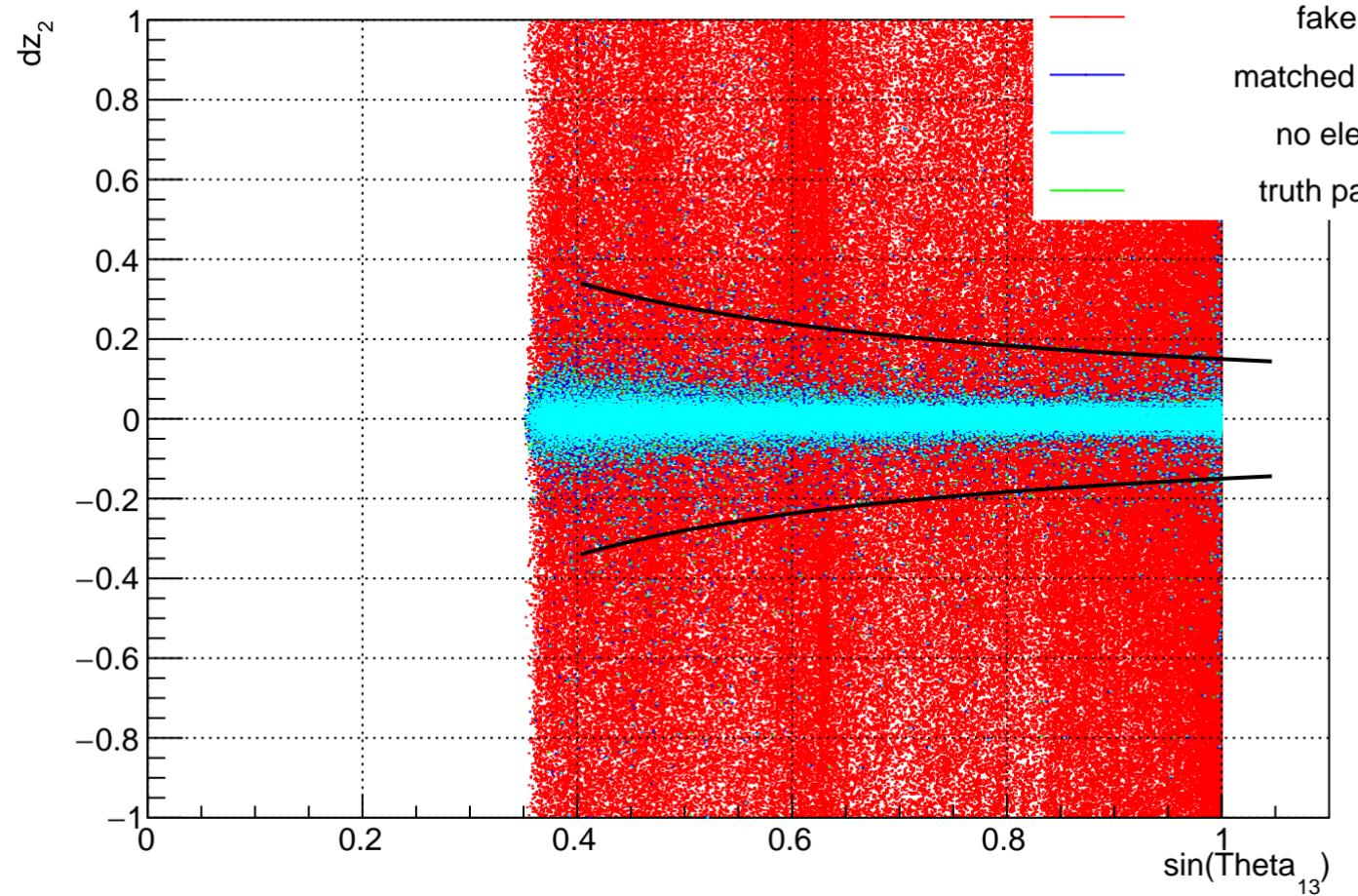


dz_2 Vs $\sin(\Theta_{13})$



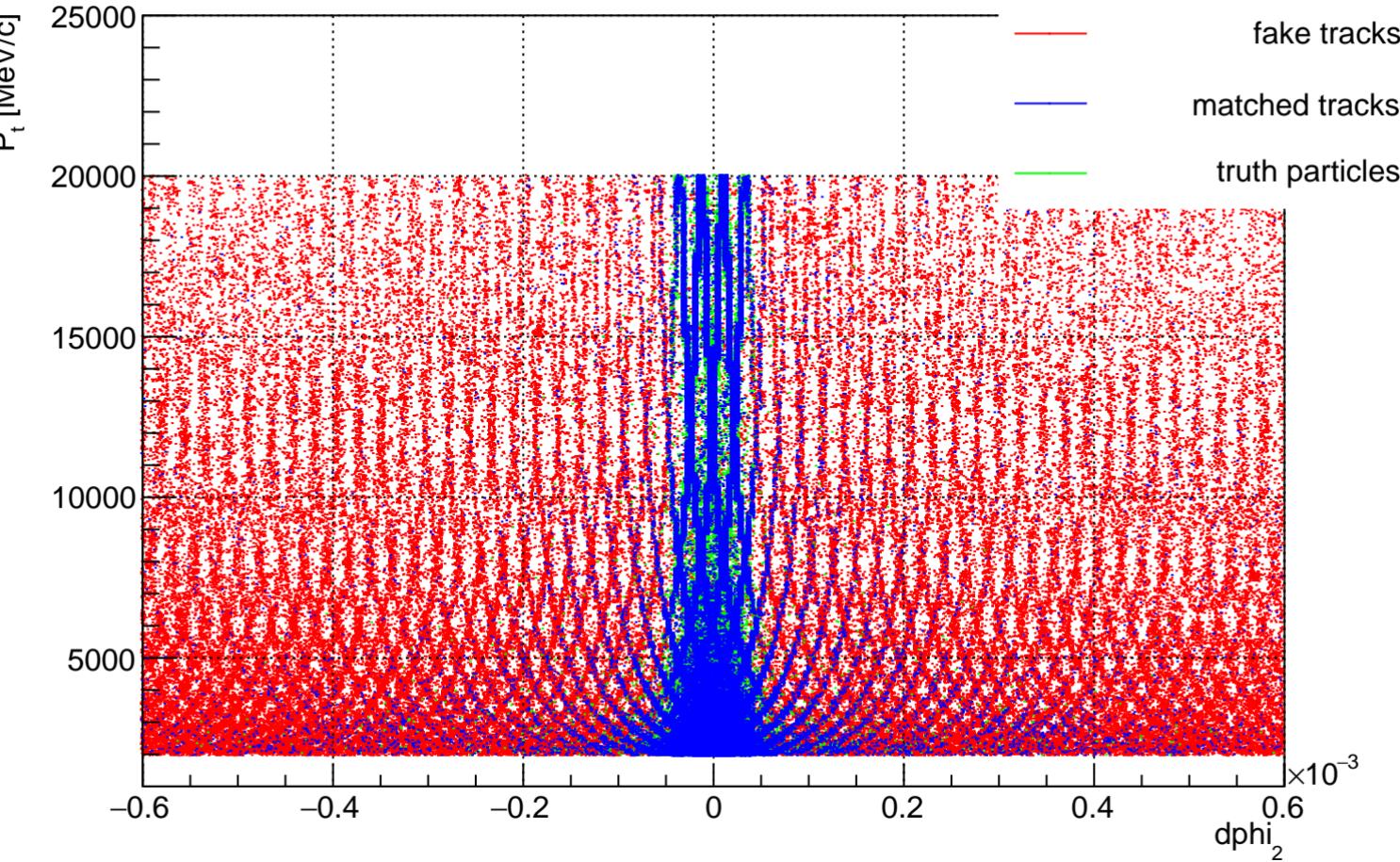
dz_2 Vs $\sin(\Theta_{13})$

ϕ Barrel = 0.02 +
 $Z_{\text{barrel}} = 160 + Z_{0,\text{max}} = 150$
fake tracks
matched tracks
no electrons
truth particles



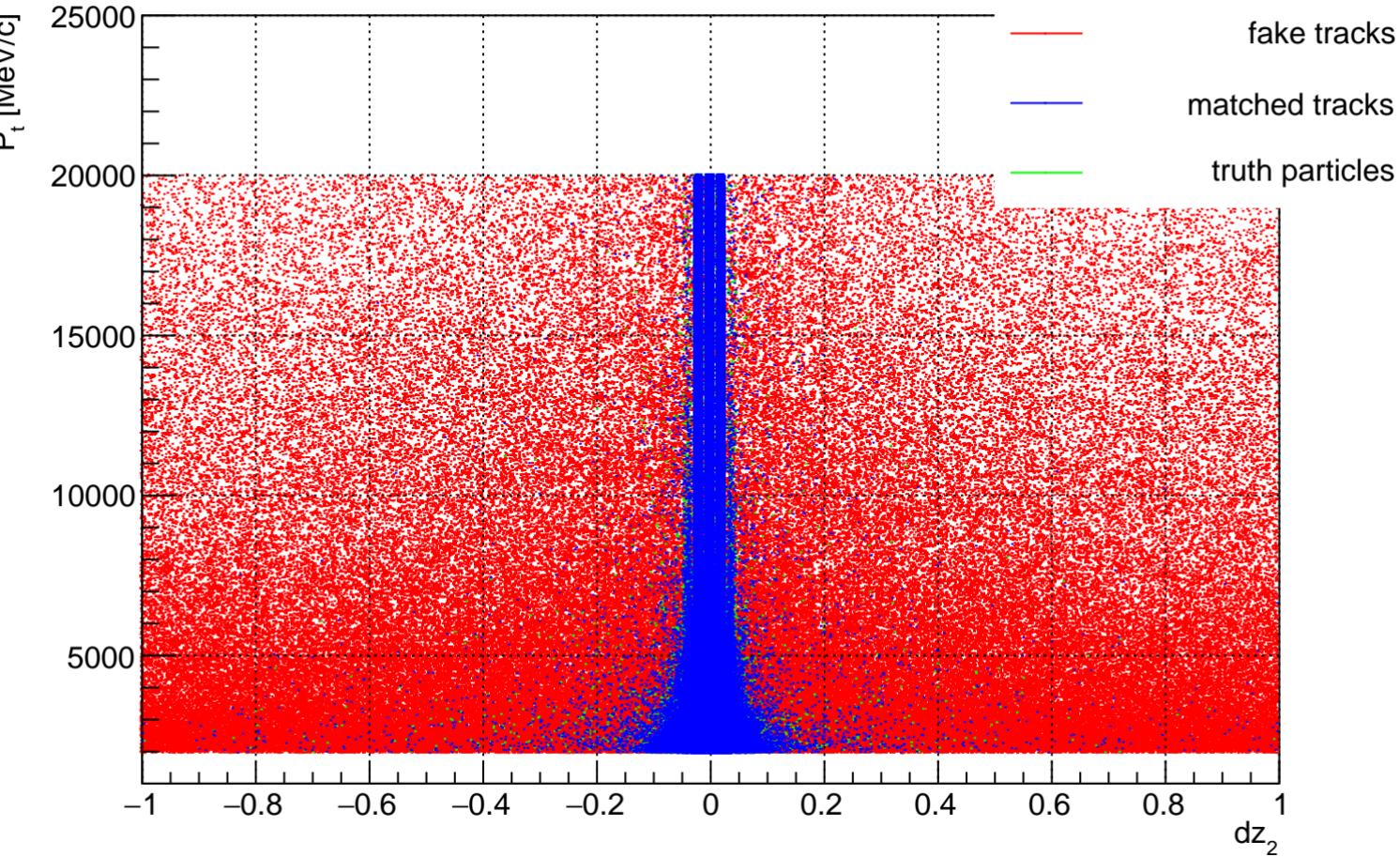
P_t Vs $d\phi_{2}$

phi Barrel = 0.02 +
Zbarrel = 160 + $Z_0^{\max} = 150$



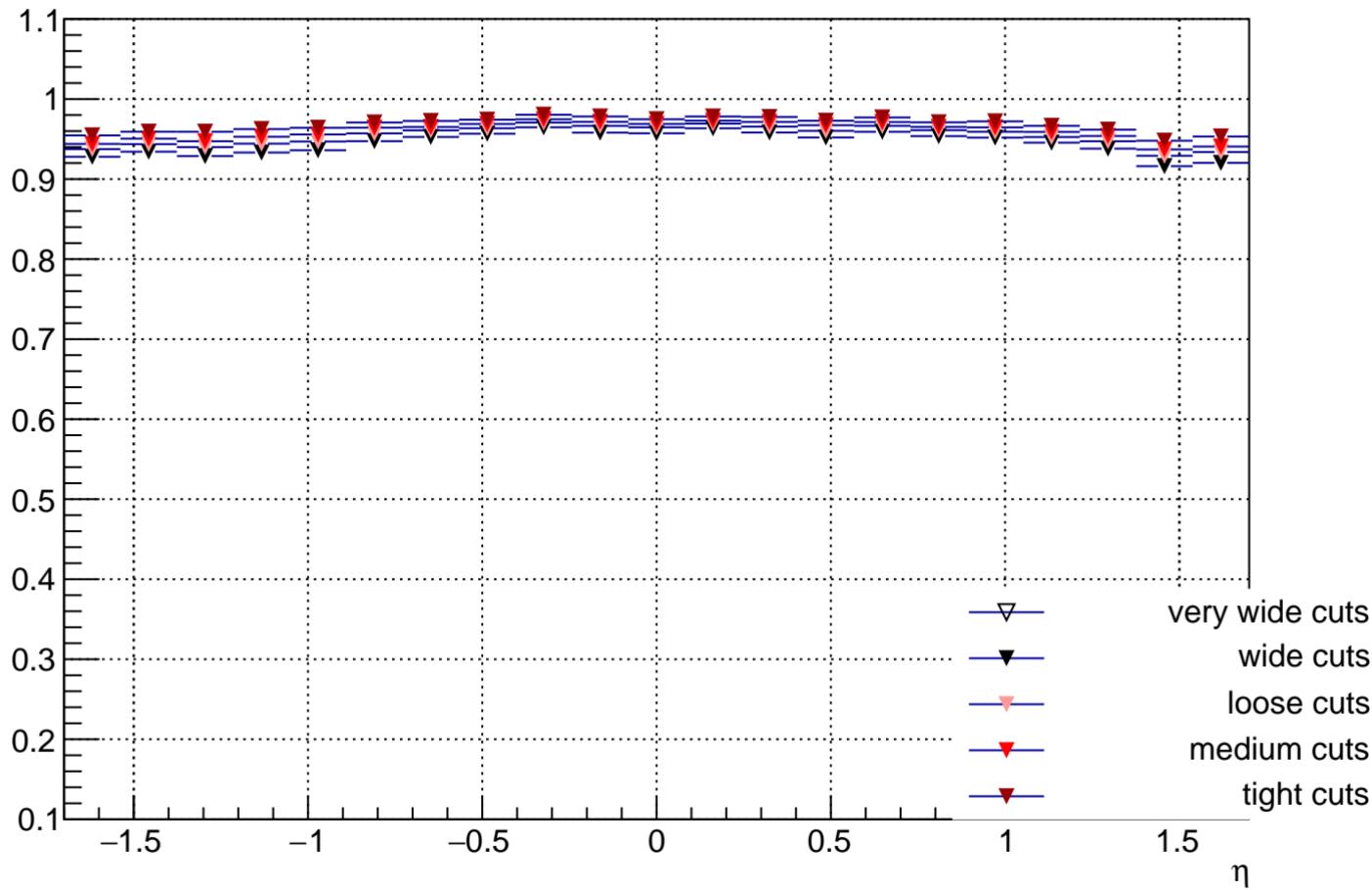
P_t Vs dz_2

phi Barrel = 0.02 +
Zbarrel = 160 + $Z_{\max} = 150$

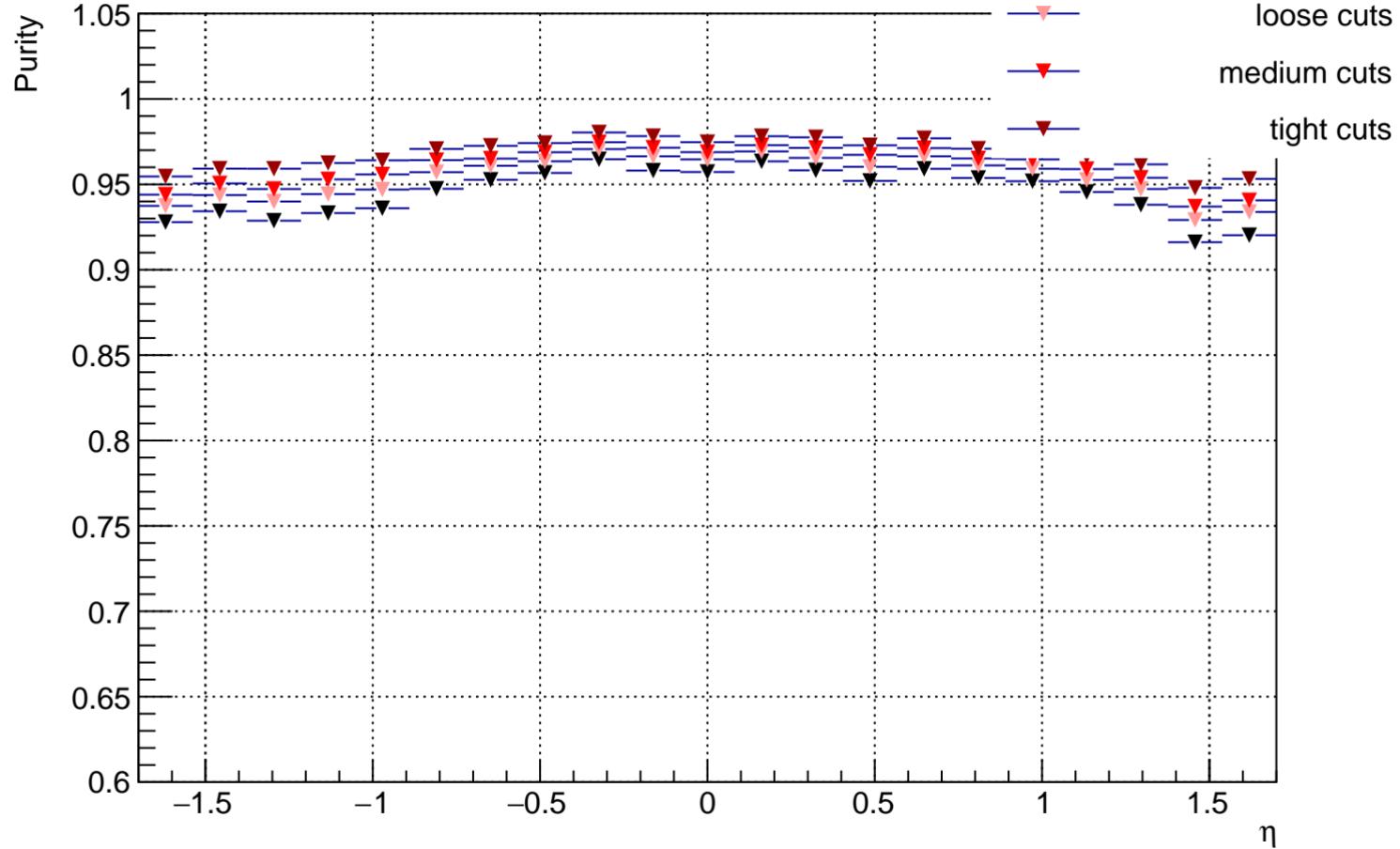


Purity vs η

Purity

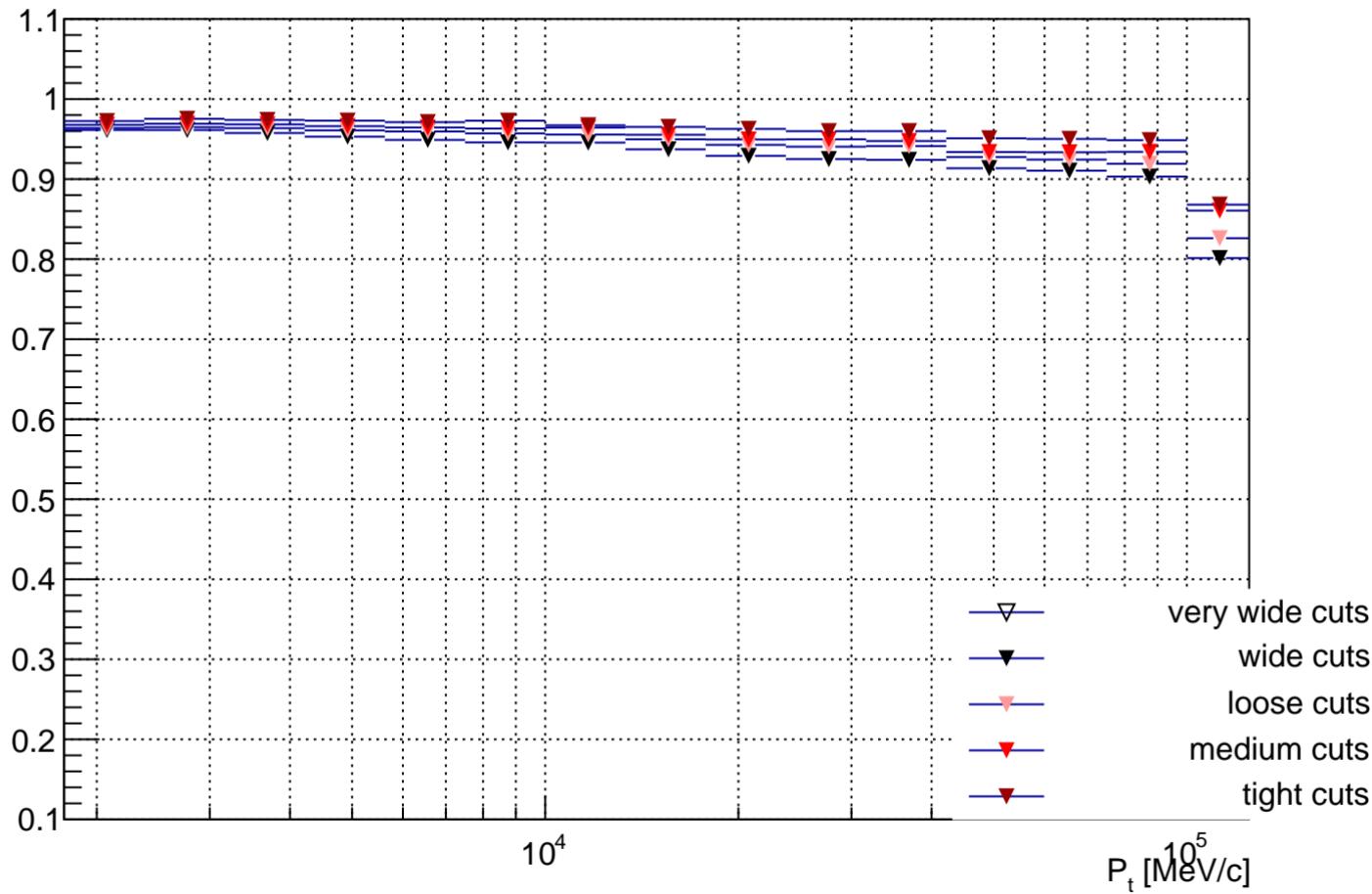


Purity vs η



Purity vs P_t

Purity



Purity vs P_t

