

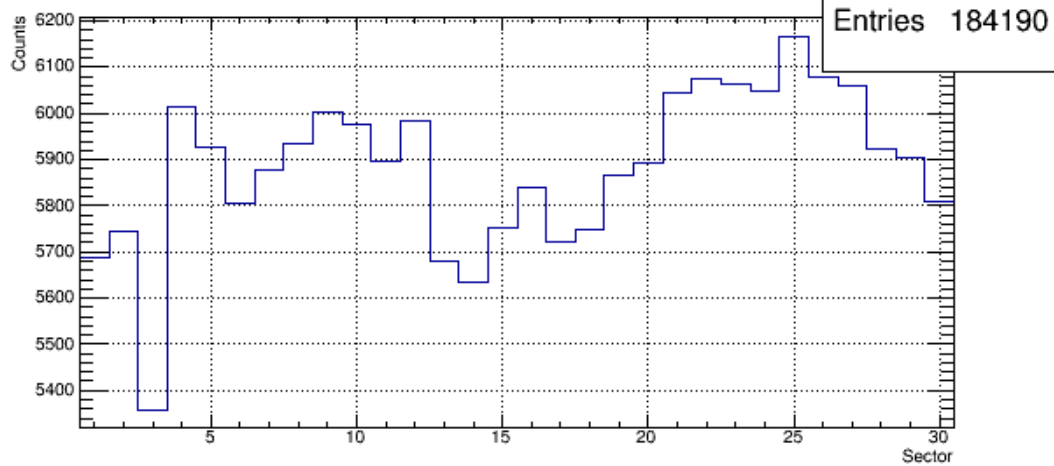
Start Counter Efficiency Studies

Mahmoud Kamel

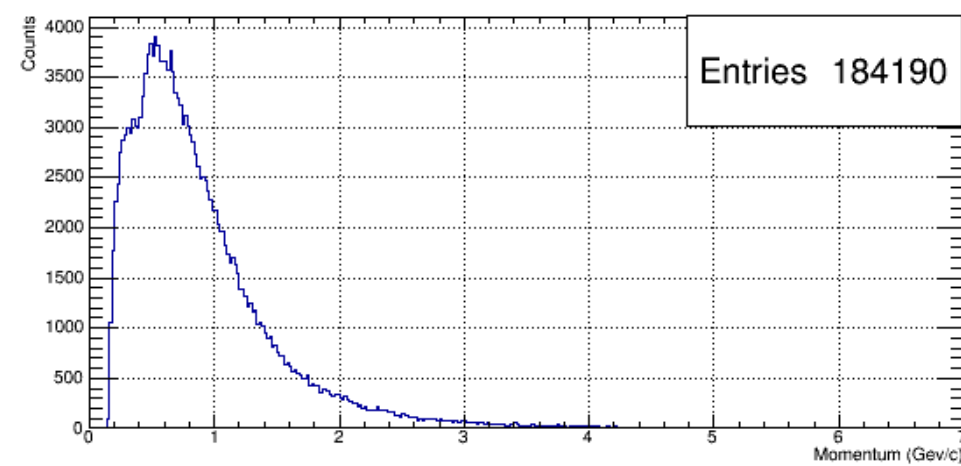
Data

ROOT tree produced from the start counter efficiency plugin run as part of the production reconstruction pass (ver03) on the Spring 2016 data are used. One file of run 11366

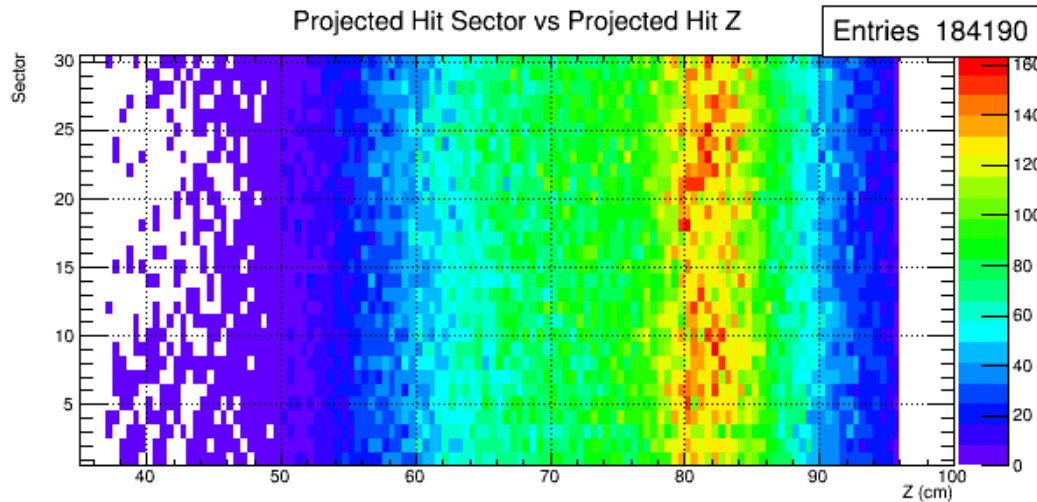
Projected SC Hit Sector



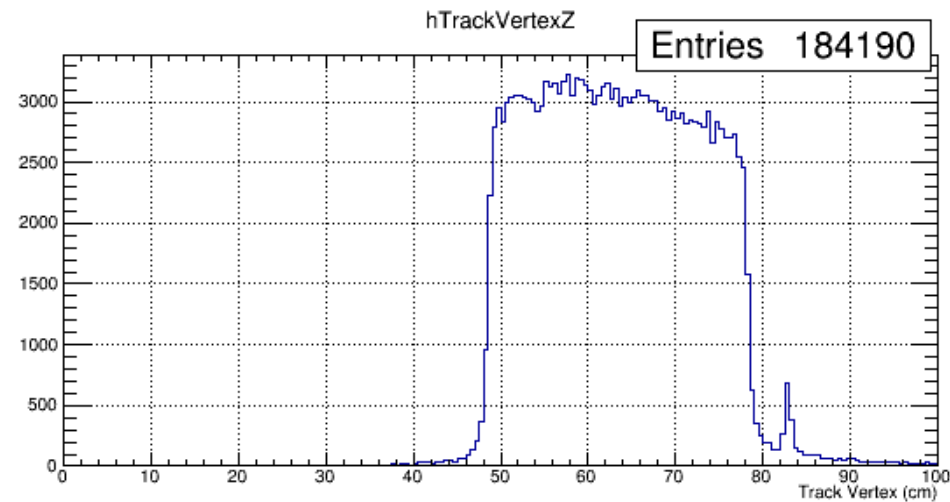
TrackP3 Magnitude



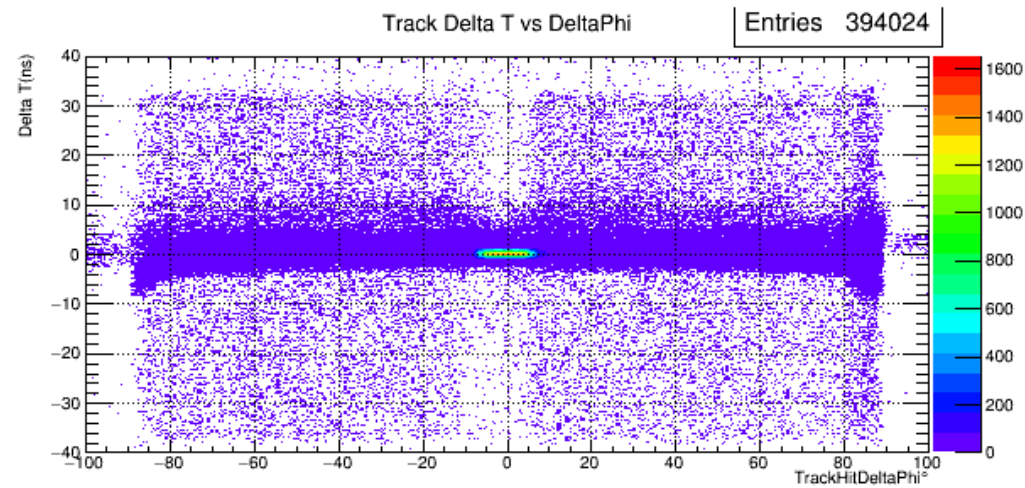
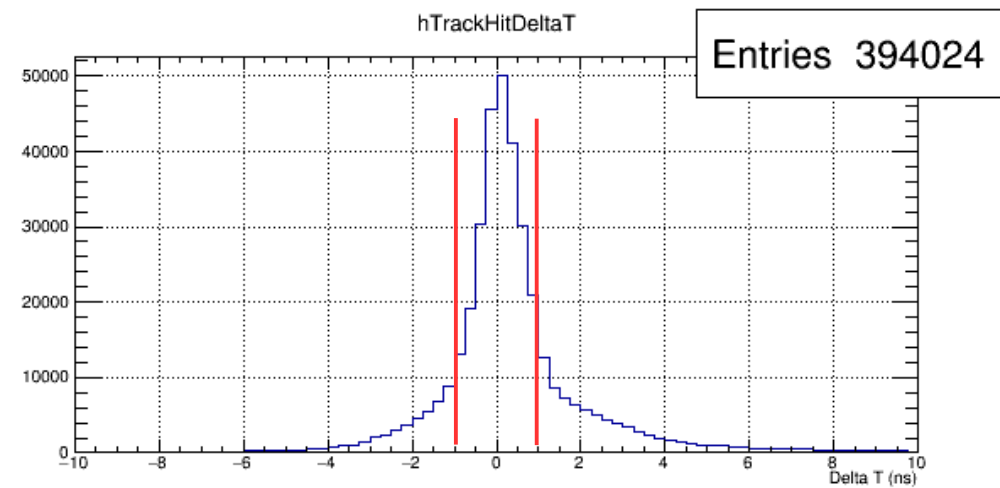
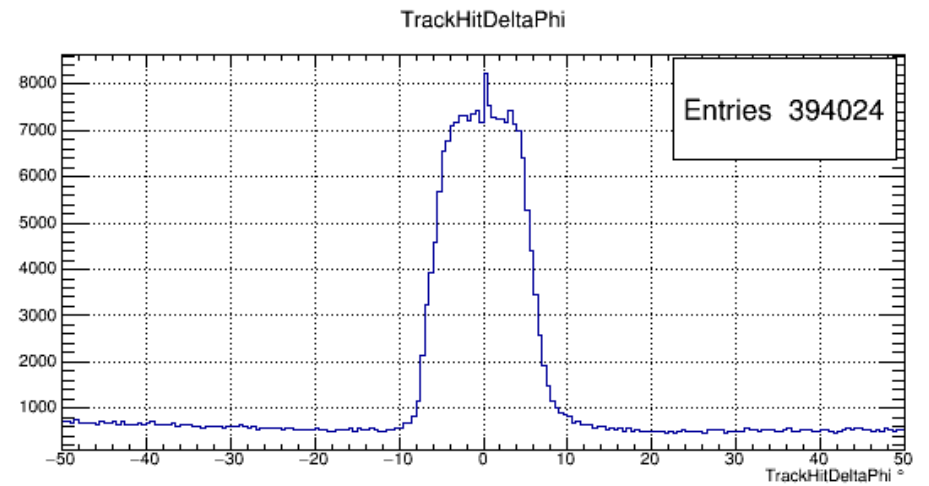
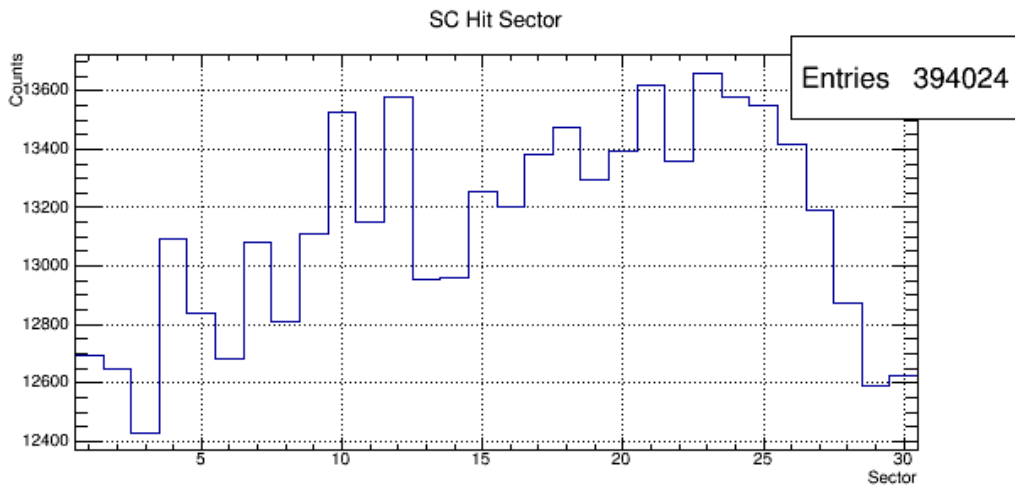
Projected Hit Sector vs Projected Hit Z



hTrackVertexZ



Matched tracks to the SC with infinitely large dPhi

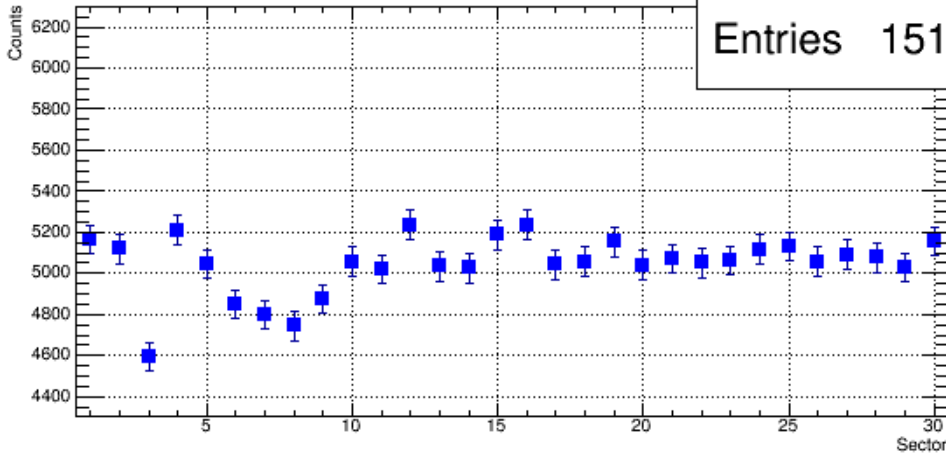


SC Matching Efficiency within ± 6 dPhi cut

$$SC_ME = SCHitSector / ProjectedSCHitSector$$

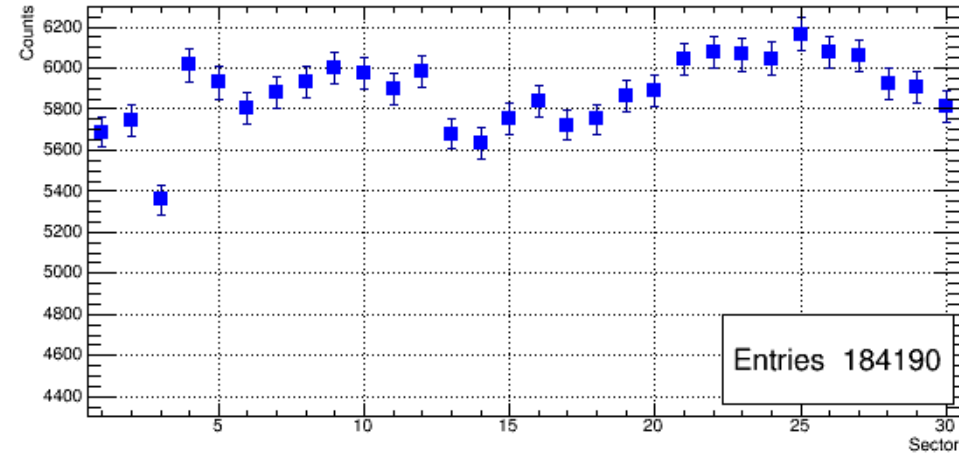
SCHitSector within $\delta\phi$ cut = $\pm 6^\circ$

Entries 151328



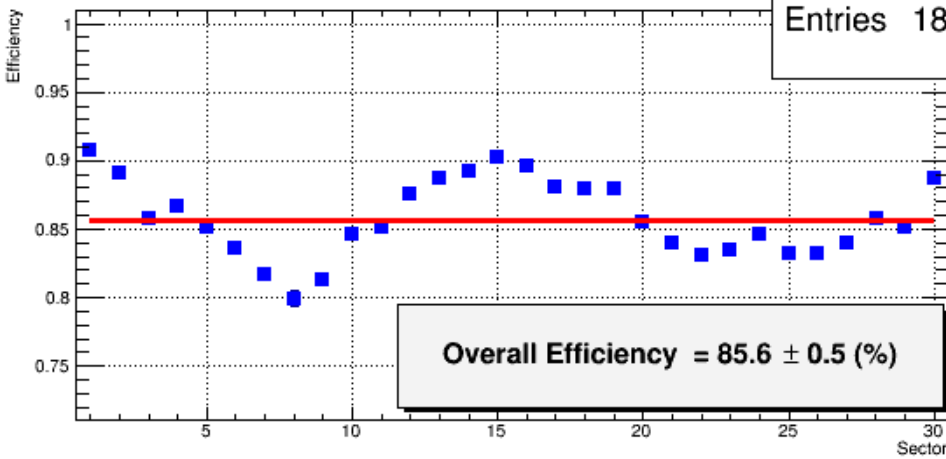
Projected SC Hit Sector

Entries 184190



$\delta\phi$ cut = $\pm 6^\circ$

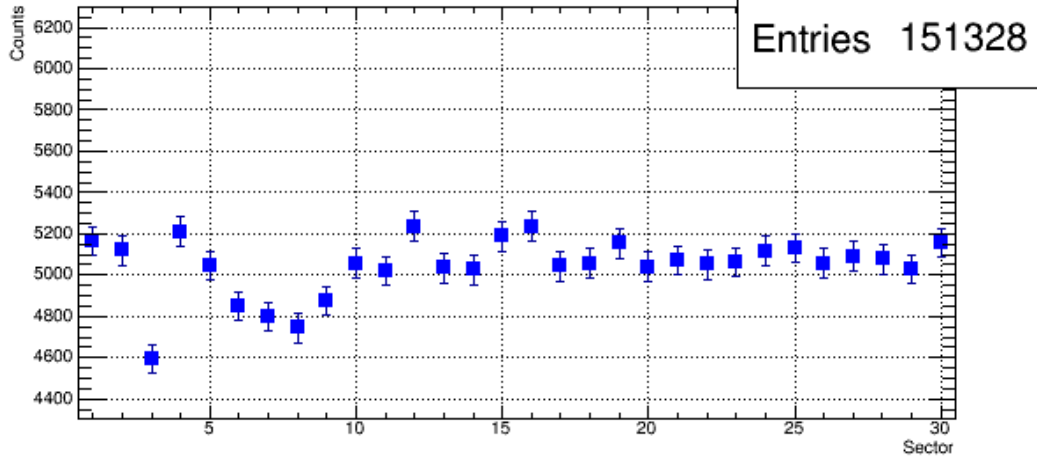
Entries 184190



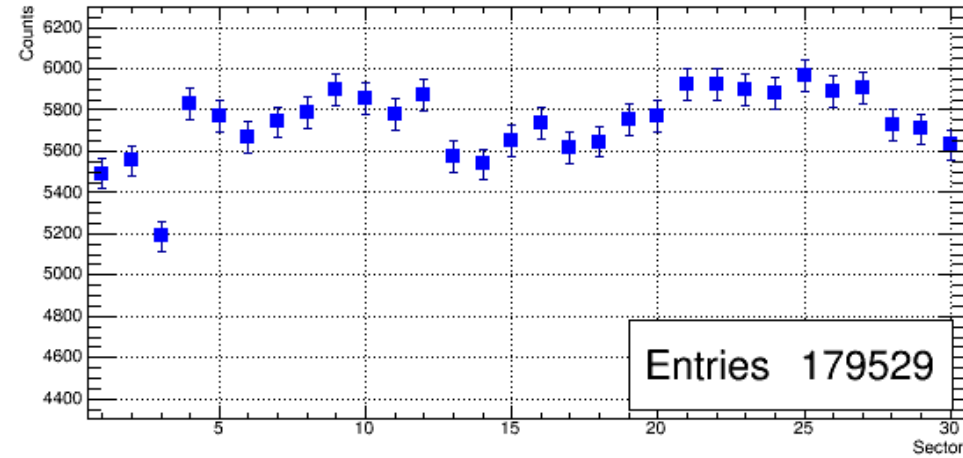
SC Matching Efficiency within ± 6 dPhi cut

$$SC_ME = SCHitSector / ProjectedSCHitSector$$

SCHitSector within $\delta\phi$ cut = $\pm 6^\circ$

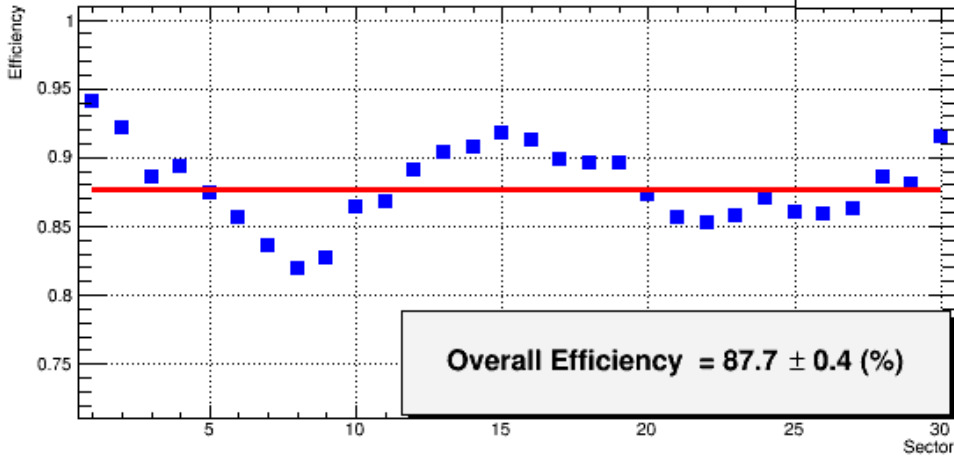


Projected SC Hit Sector



$\delta\phi$ cut = $\pm 6^\circ$

Entries 179529

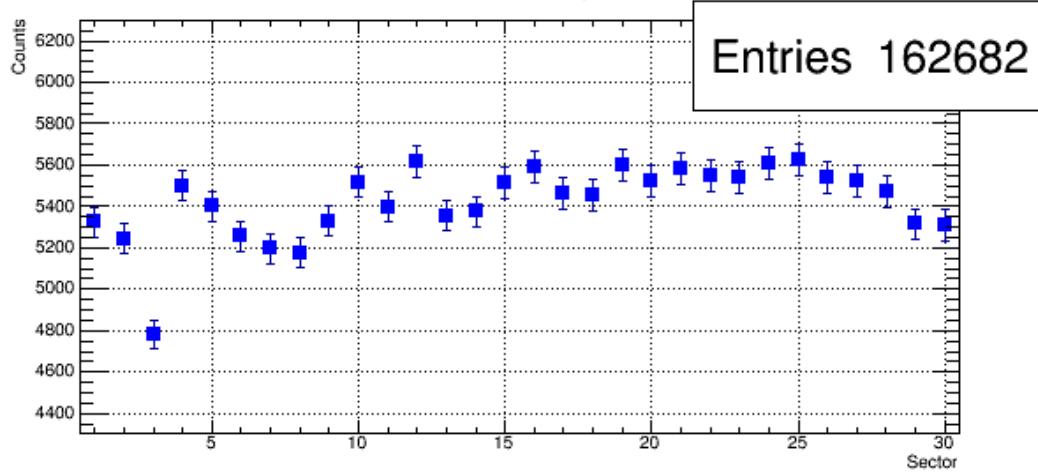


Projected TrackVertexZ
Cut applied

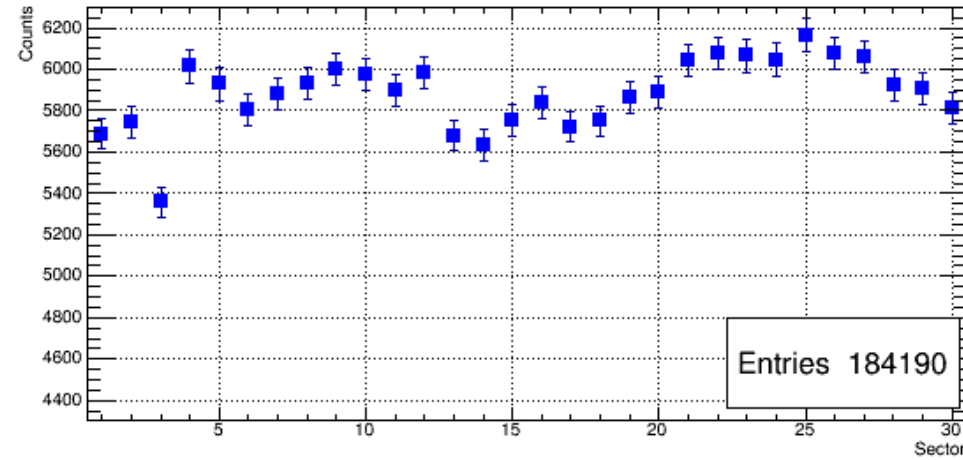
SC Matching Efficiency within ± 7 dPhi cut

$$SC_ME = SCHitSector / ProjectedSCHitSector$$

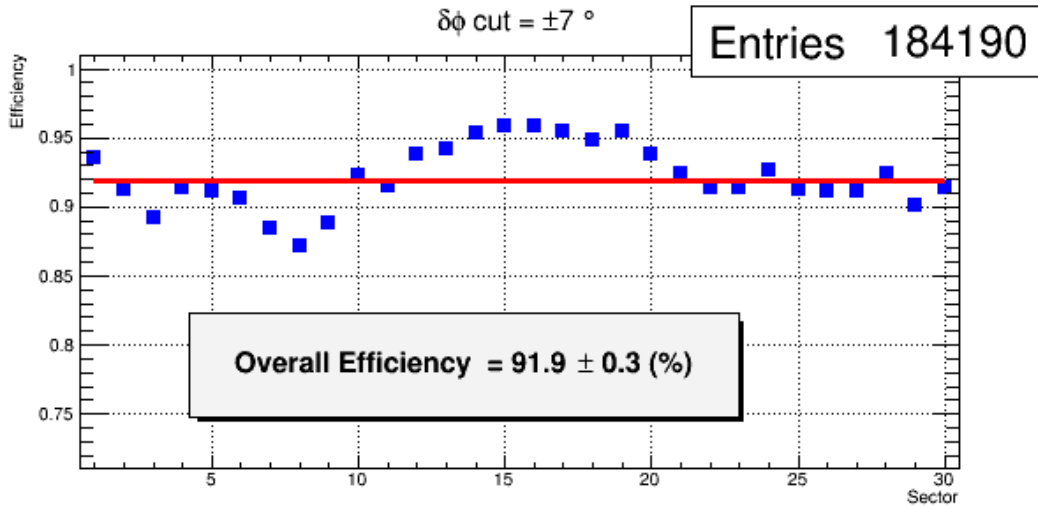
SCHitSector within $\delta\phi$ cut = $\pm 7^\circ$



Projected SC Hit Sector



$\delta\phi$ cut = $\pm 7^\circ$

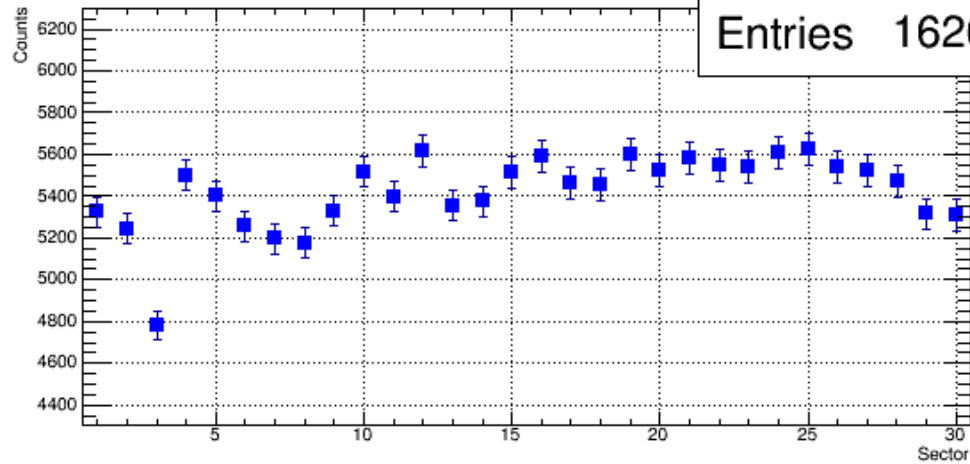


SC Matching Efficiency within ± 7 dPhi cut

SC_ME = SCHitSector / ProjectedSCHitSector

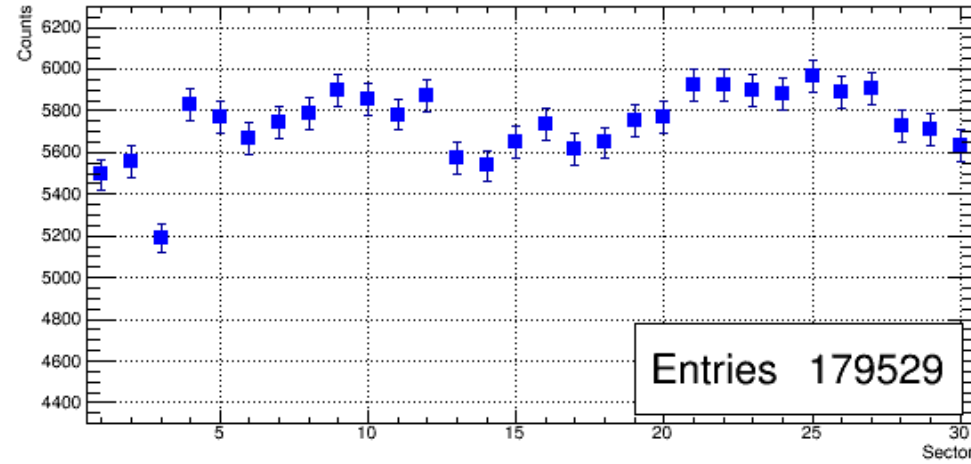
SCHitSector within $\delta\phi$ cut = $\pm 7^\circ$

Entries 162682



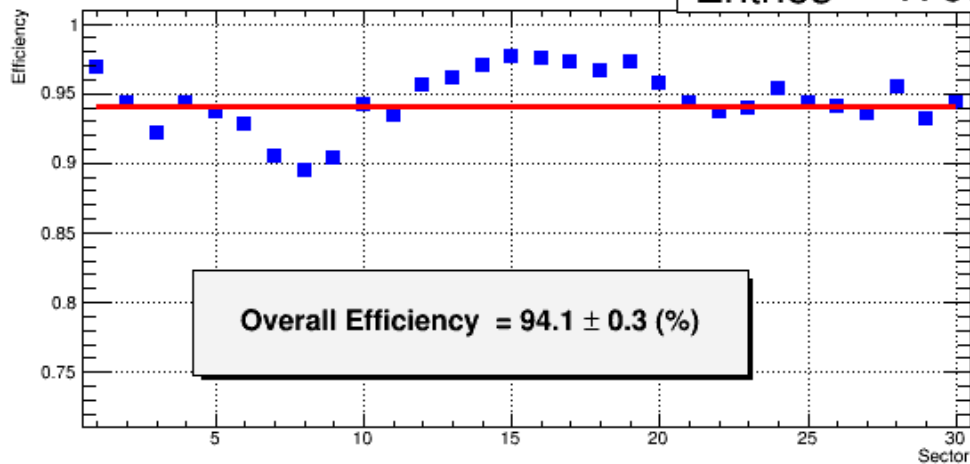
Projected SC Hit Sector

Entries 179529



$\delta\phi$ cut = $\pm 7^\circ$

Entries 179529

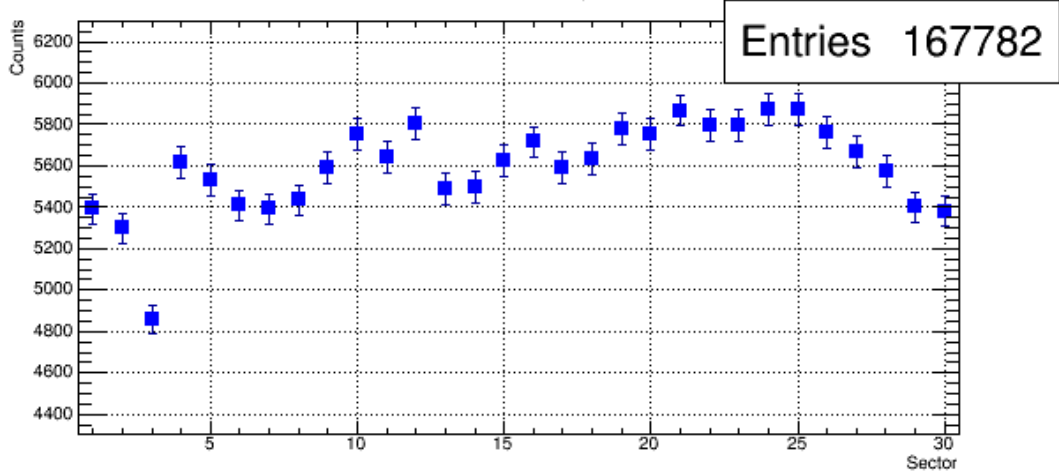


Projected TrackVertexZ
Cut applied

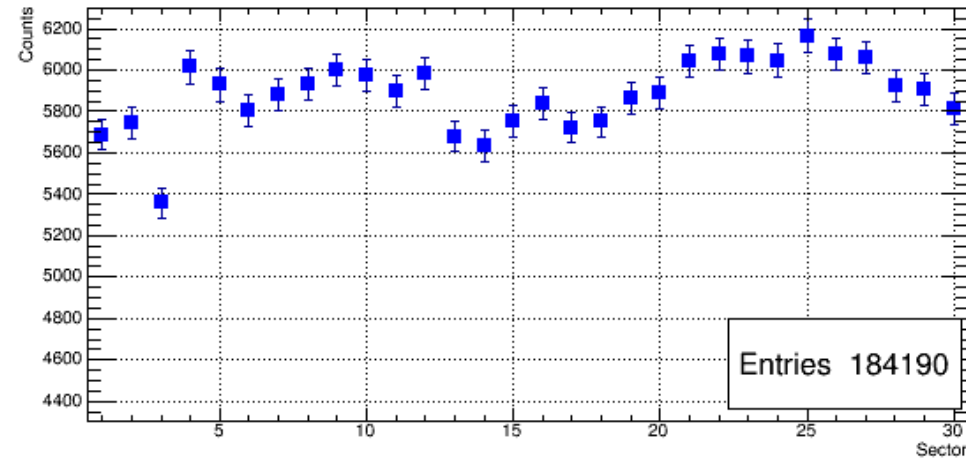
SC Matching Efficiency within ± 8 dPhi cut

$$SC_ME = SCHitSector / ProjectedSCHitSector$$

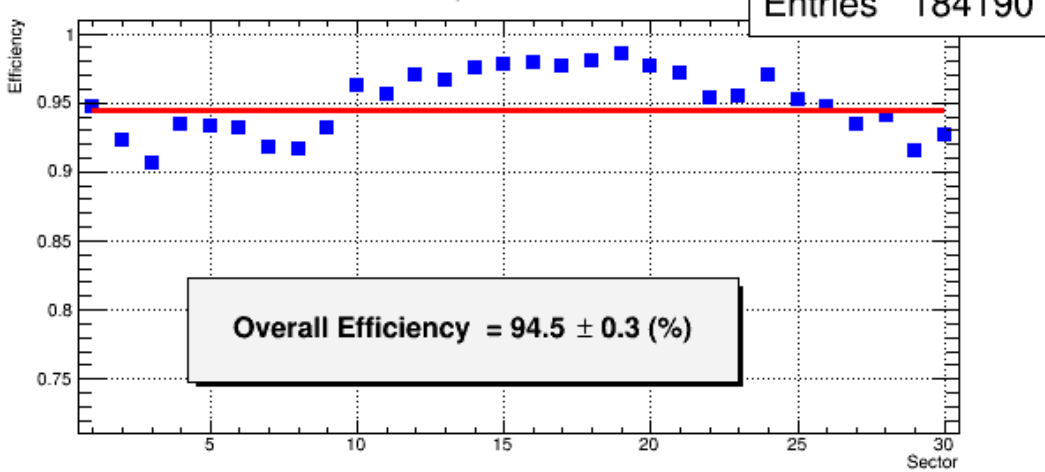
SCHitSector within $\delta\phi$ cut = $\pm 8^\circ$



Projected SC Hit Sector



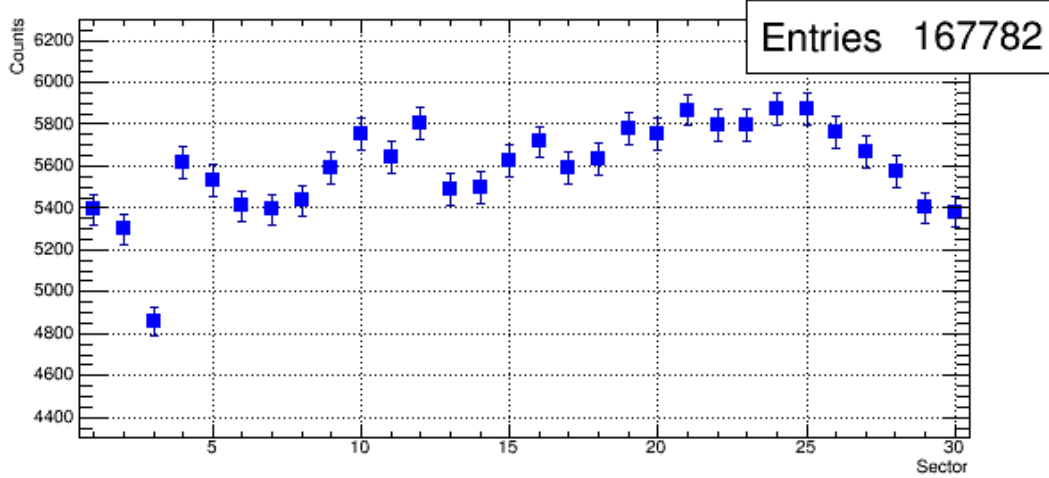
$\delta\phi$ cut = $\pm 8^\circ$



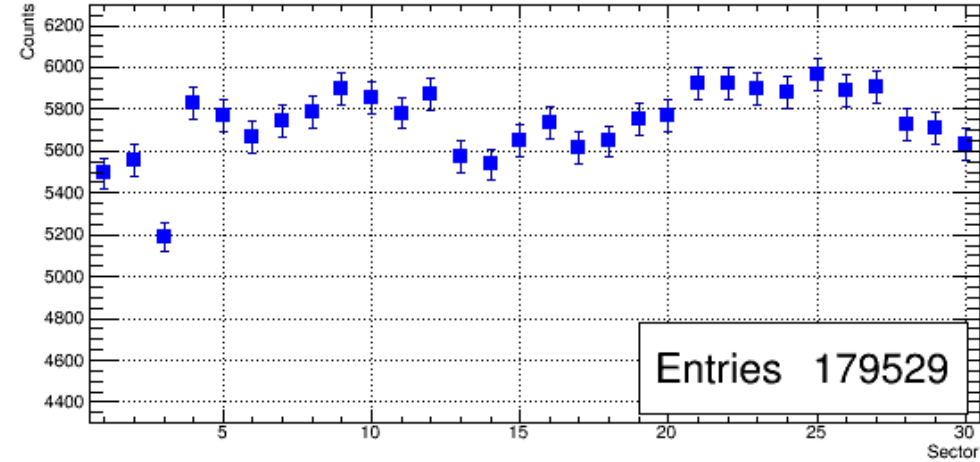
SC Matching Efficiency within $\pm 8^\circ$ $d\Phi$ cut

$$SC_ME = SCHitSector / ProjectedSCHitSector$$

SCHitSector within $\delta\phi$ cut = $\pm 8^\circ$

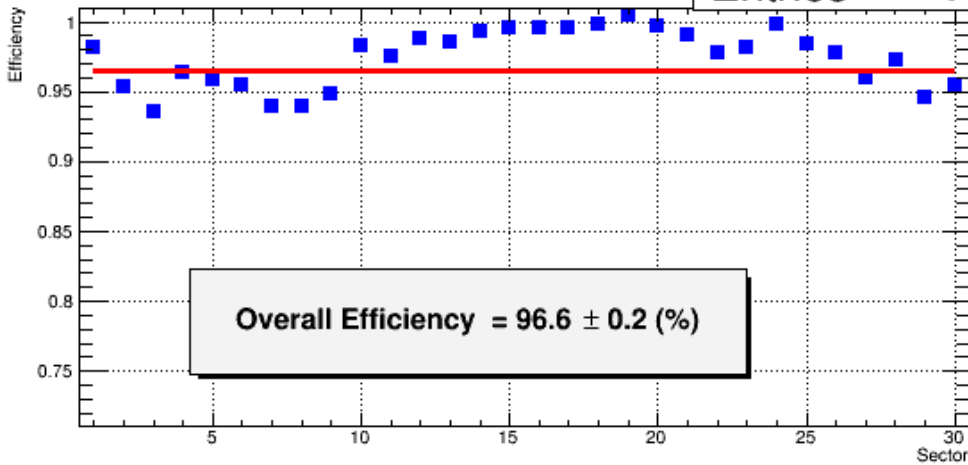


Projected SC Hit Sector



$\delta\phi$ cut = $\pm 8^\circ$

Entries 179529

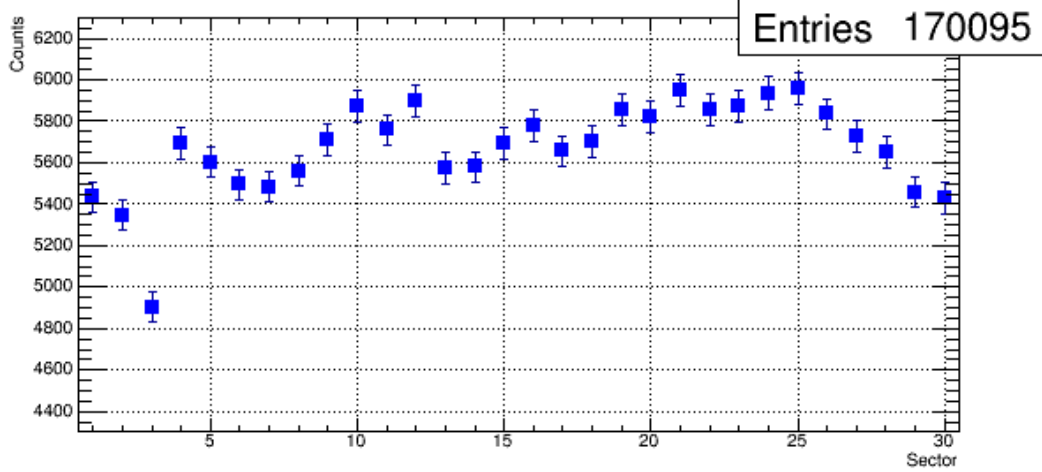


Projected TrackVertexZ
Cut applied

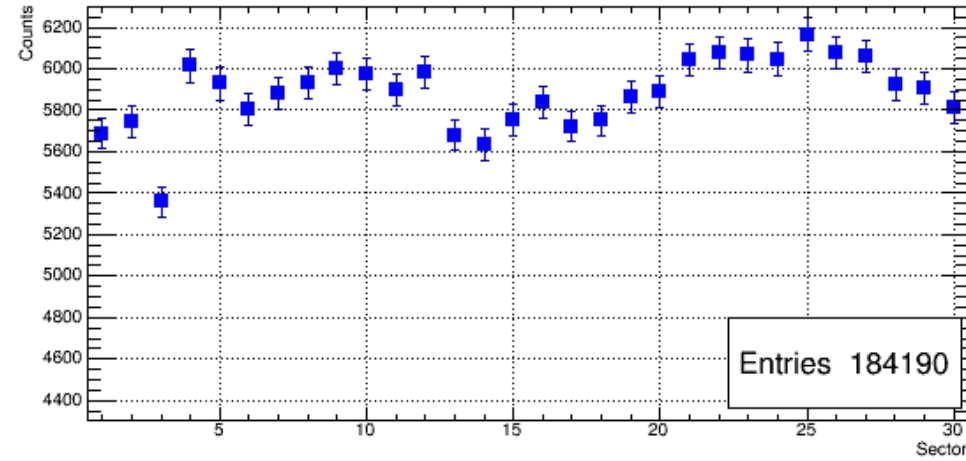
SC Matching Efficiency within ± 9 dPhi cut

$$SC_ME = SCHitSector / ProjectedSCHitSector$$

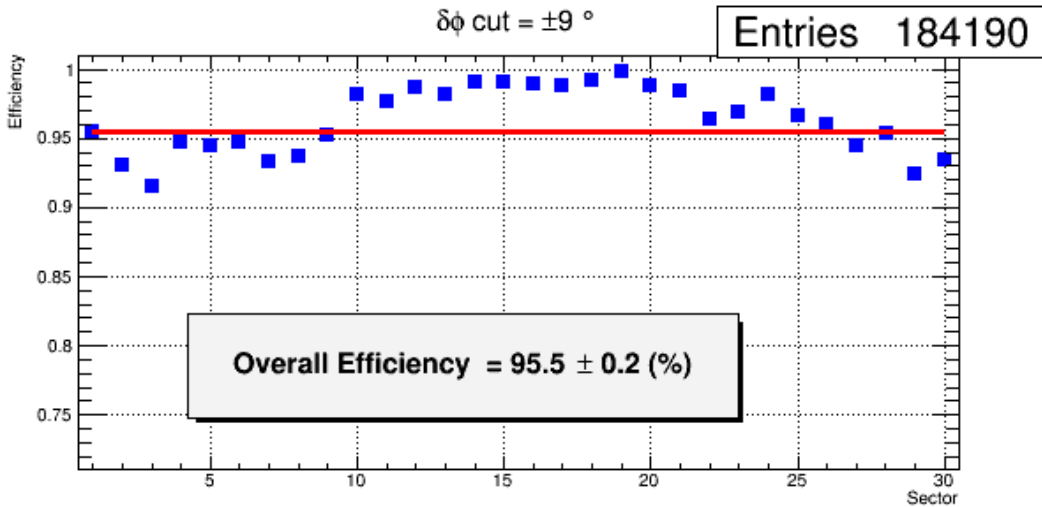
SCHitSector within $\delta\phi$ cut = $\pm 9^\circ$



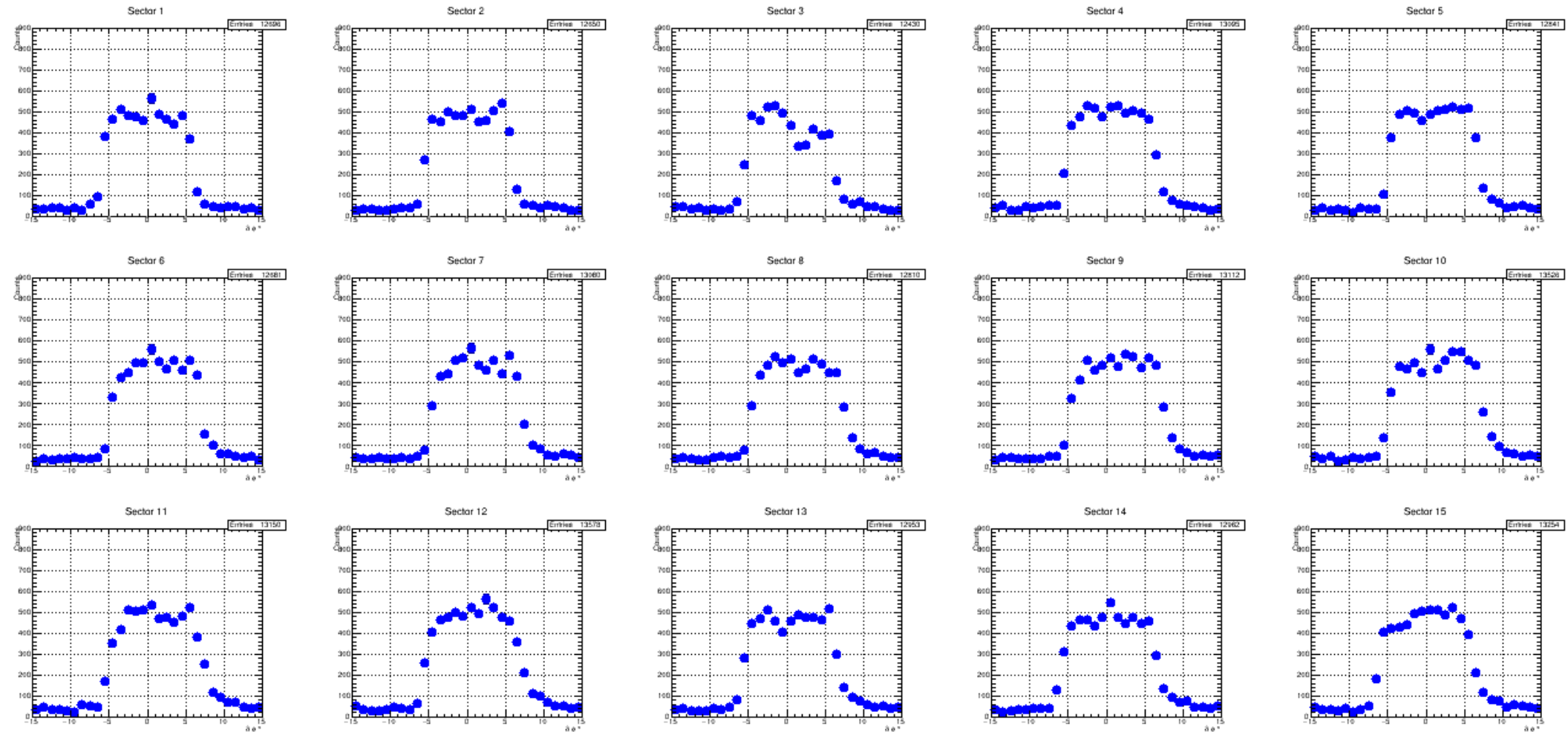
Projected SC Hit Sector



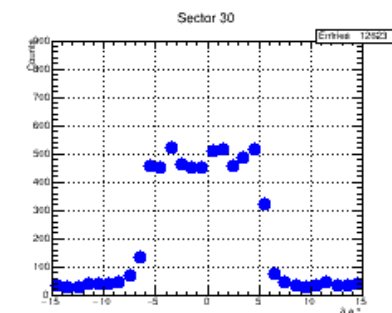
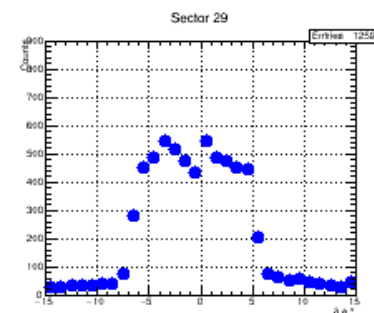
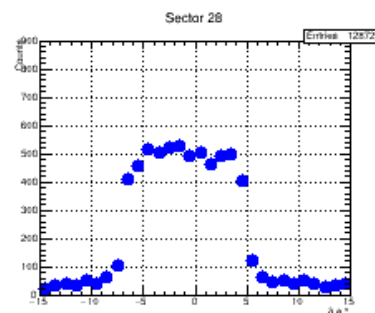
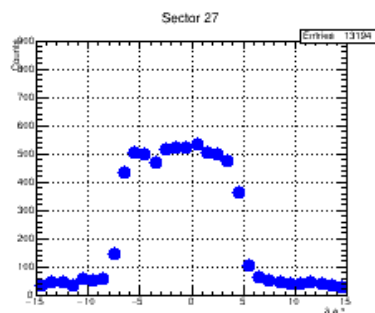
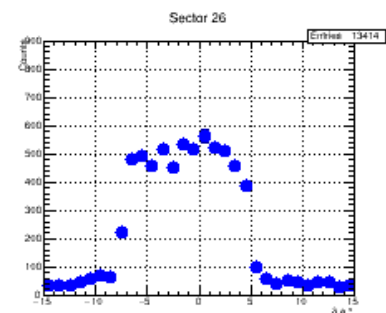
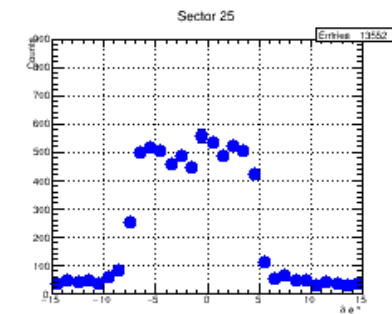
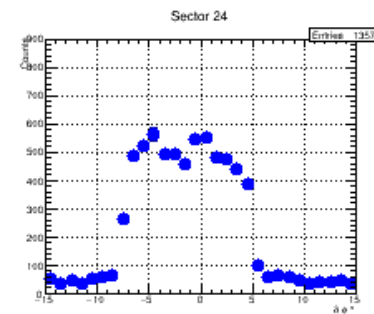
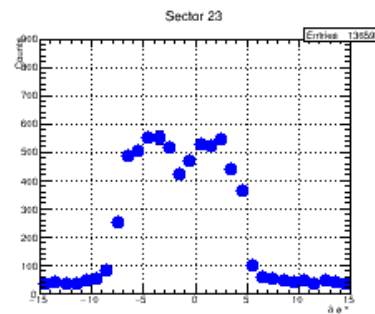
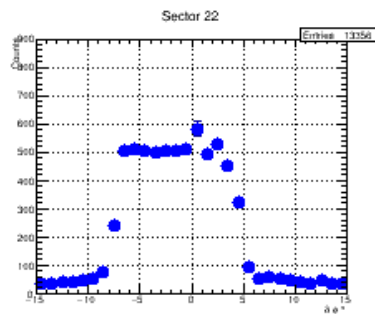
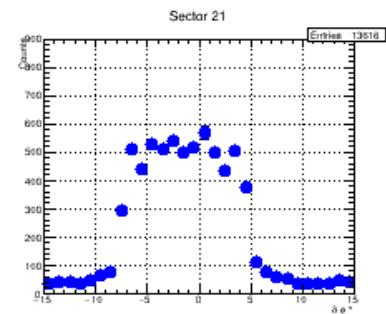
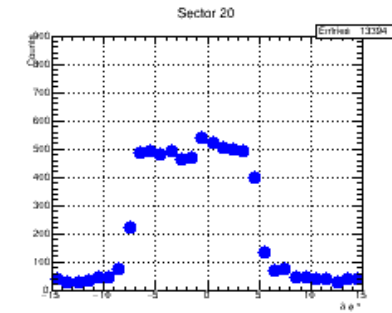
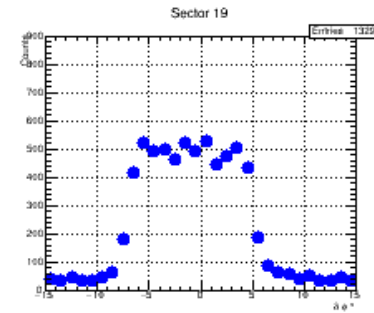
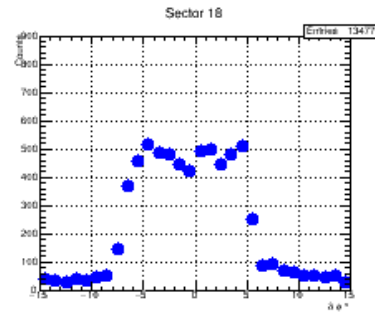
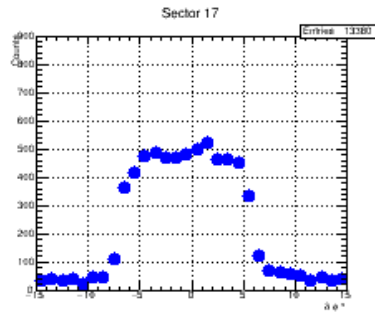
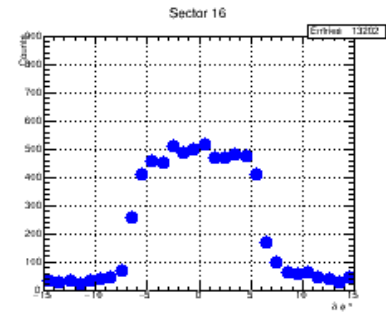
$\delta\phi$ cut = $\pm 9^\circ$



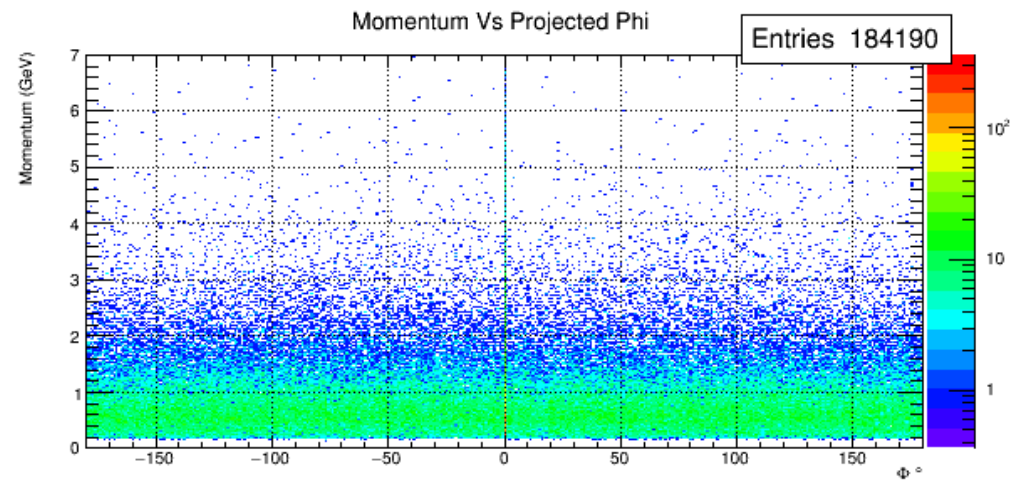
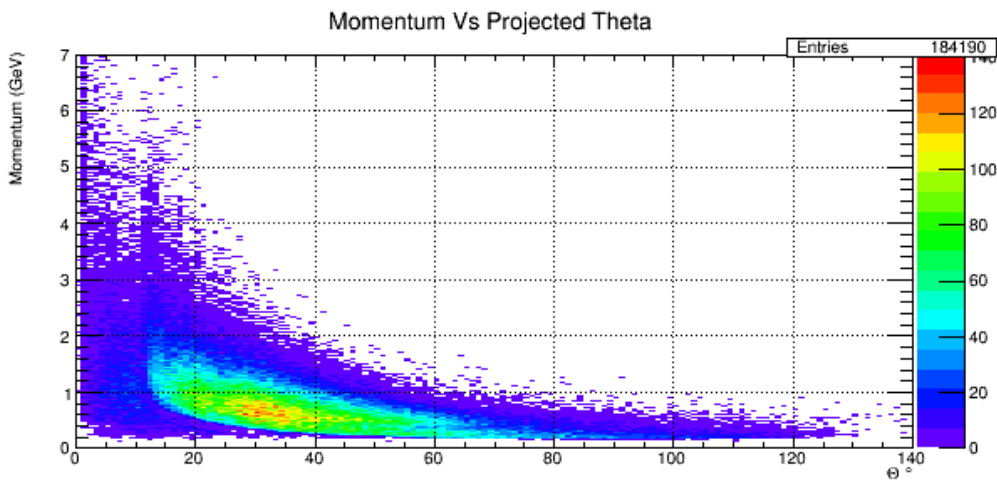
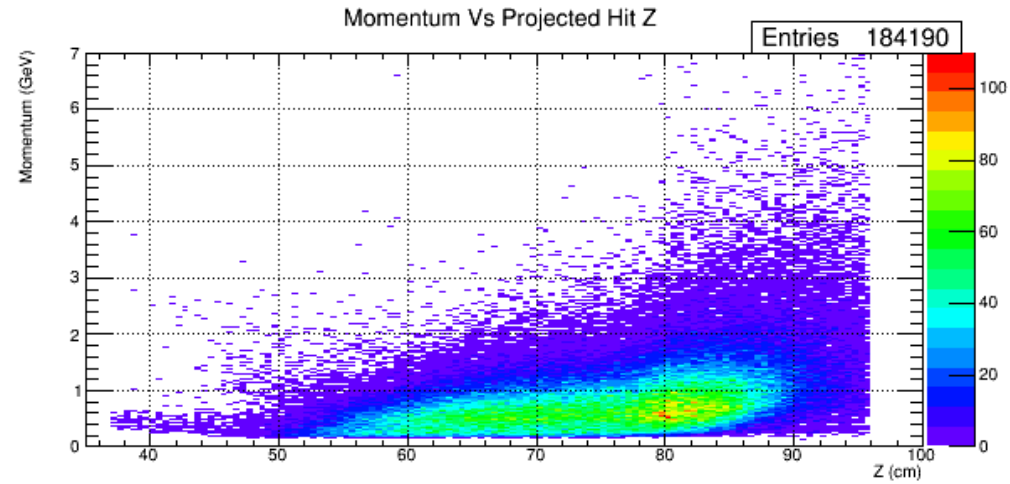
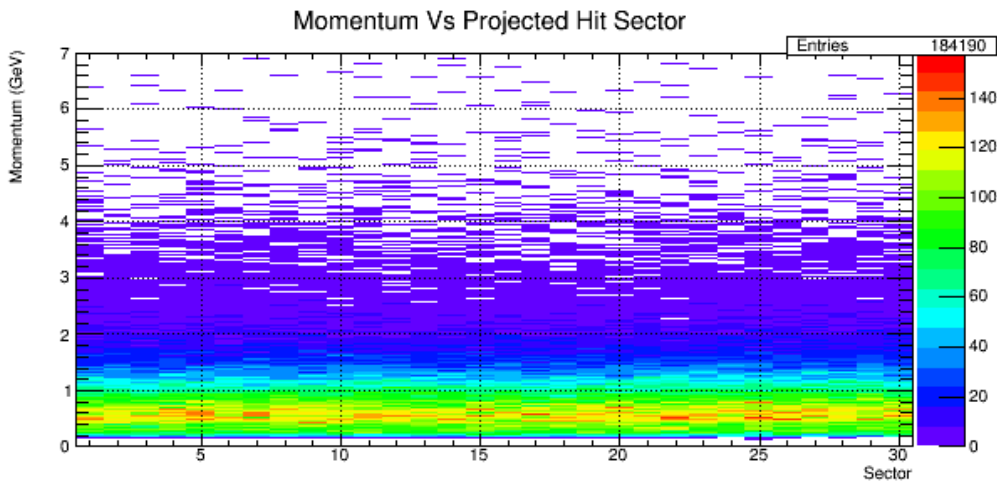
Sc – track DeltaPhi for each sector



Sc – track DeltaPhi for each sector

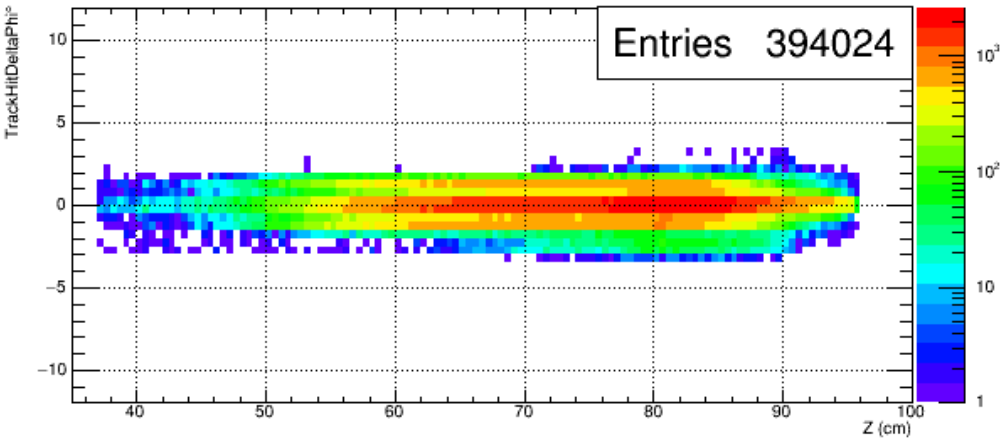


Track momentum Vs Projected Hit (sector, z, Theta, Phi)

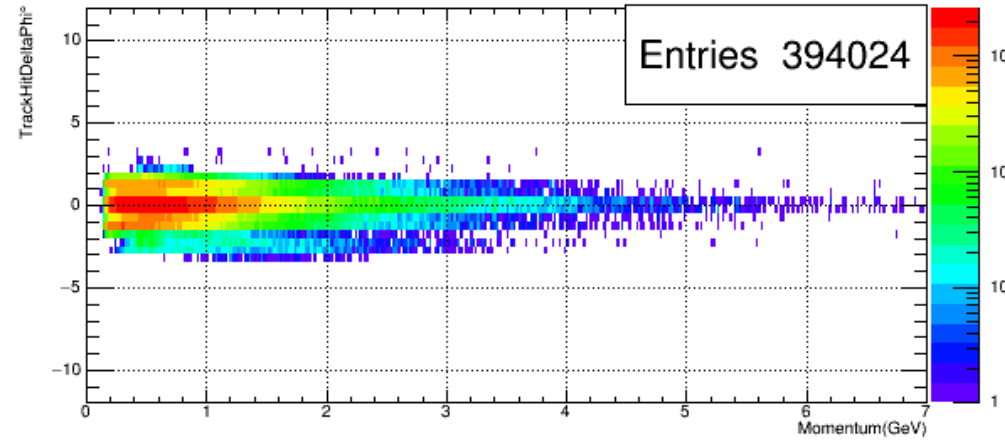


Sc – track DeltaPhi Vs Projected hit quantities ??????

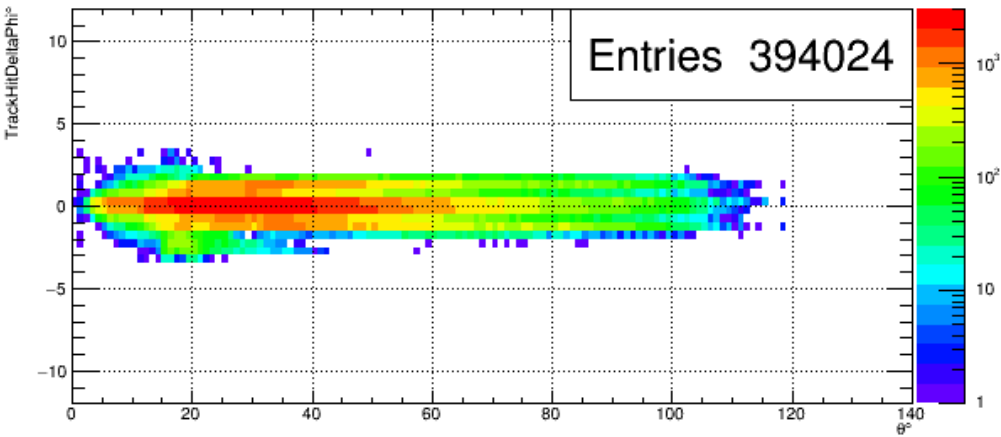
DeltaPhi Vs Projected Hit Z



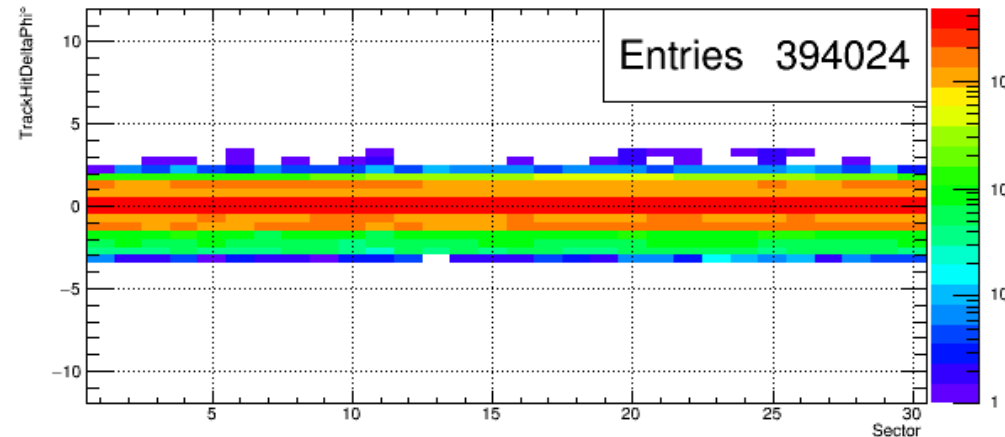
DeltaPhi Vs Momentum



DeltaPhi Vs Theta

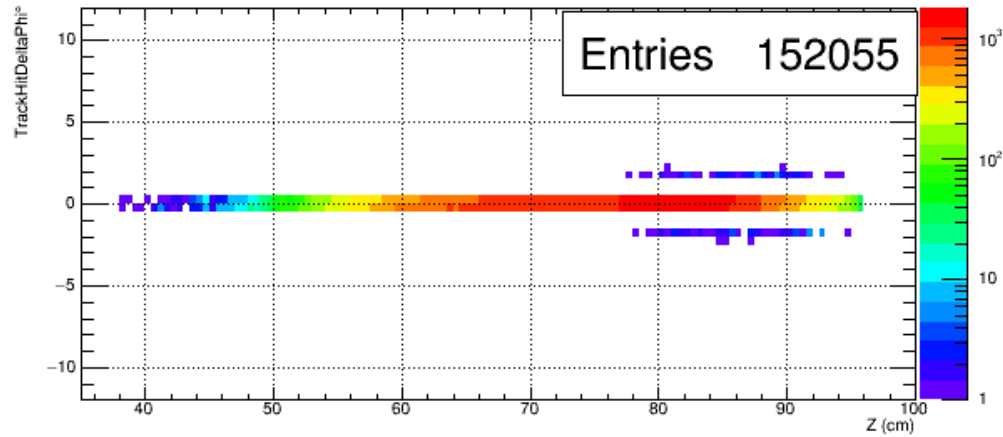


DeltaPhi Vs SCHit sector

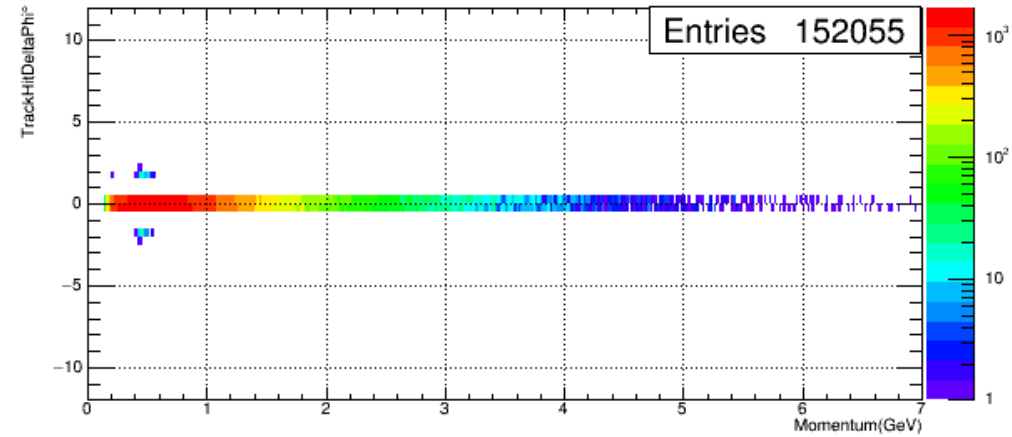


Sc – track DeltaPhi Vs Projected hit quantities if the projected hit sector is the same as SCHit sector

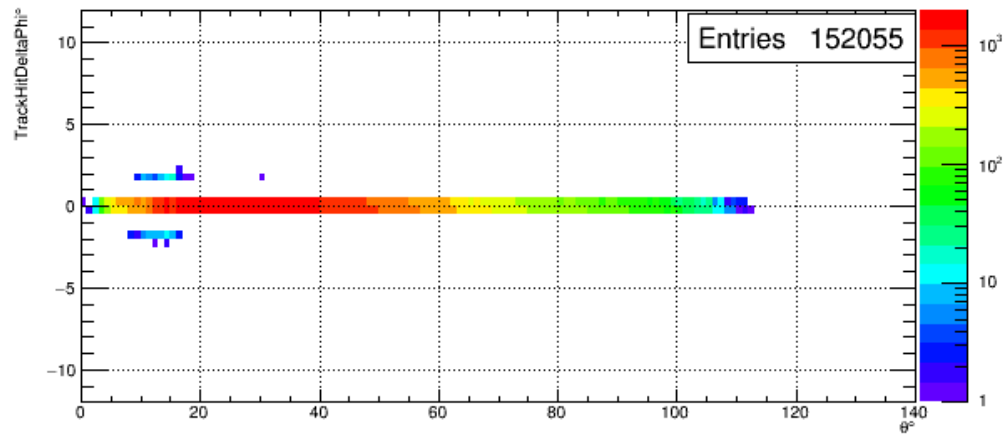
DeltaPhi Vs Projected Hit Z



DeltaPhi Vs Momentum



DeltaPhi Vs Theta



DeltaPhi Vs ProjectedSCHit sector

