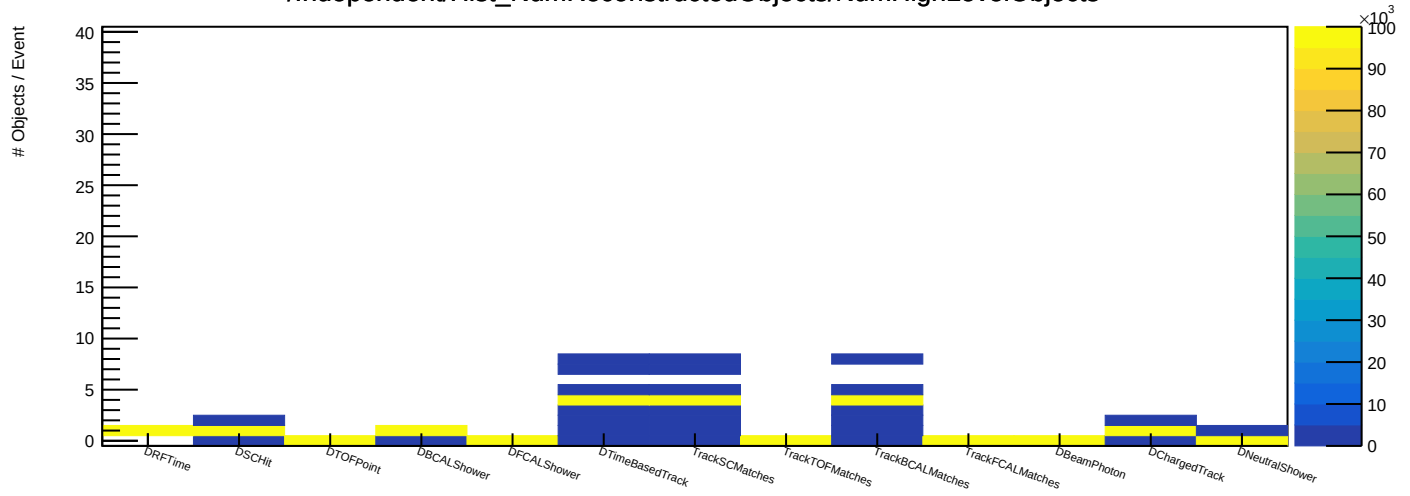
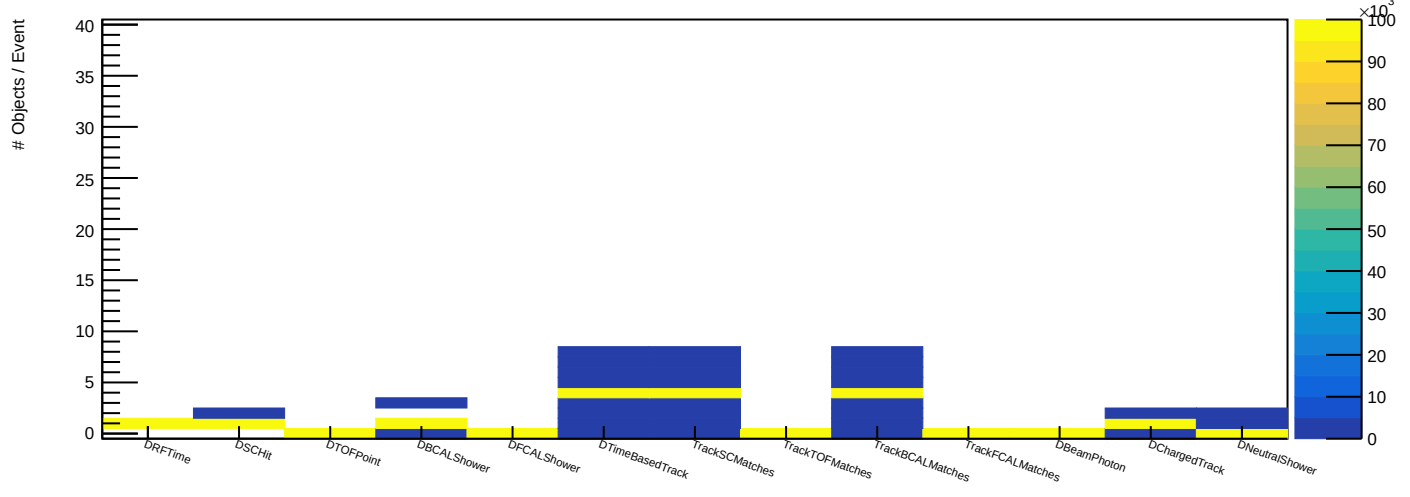
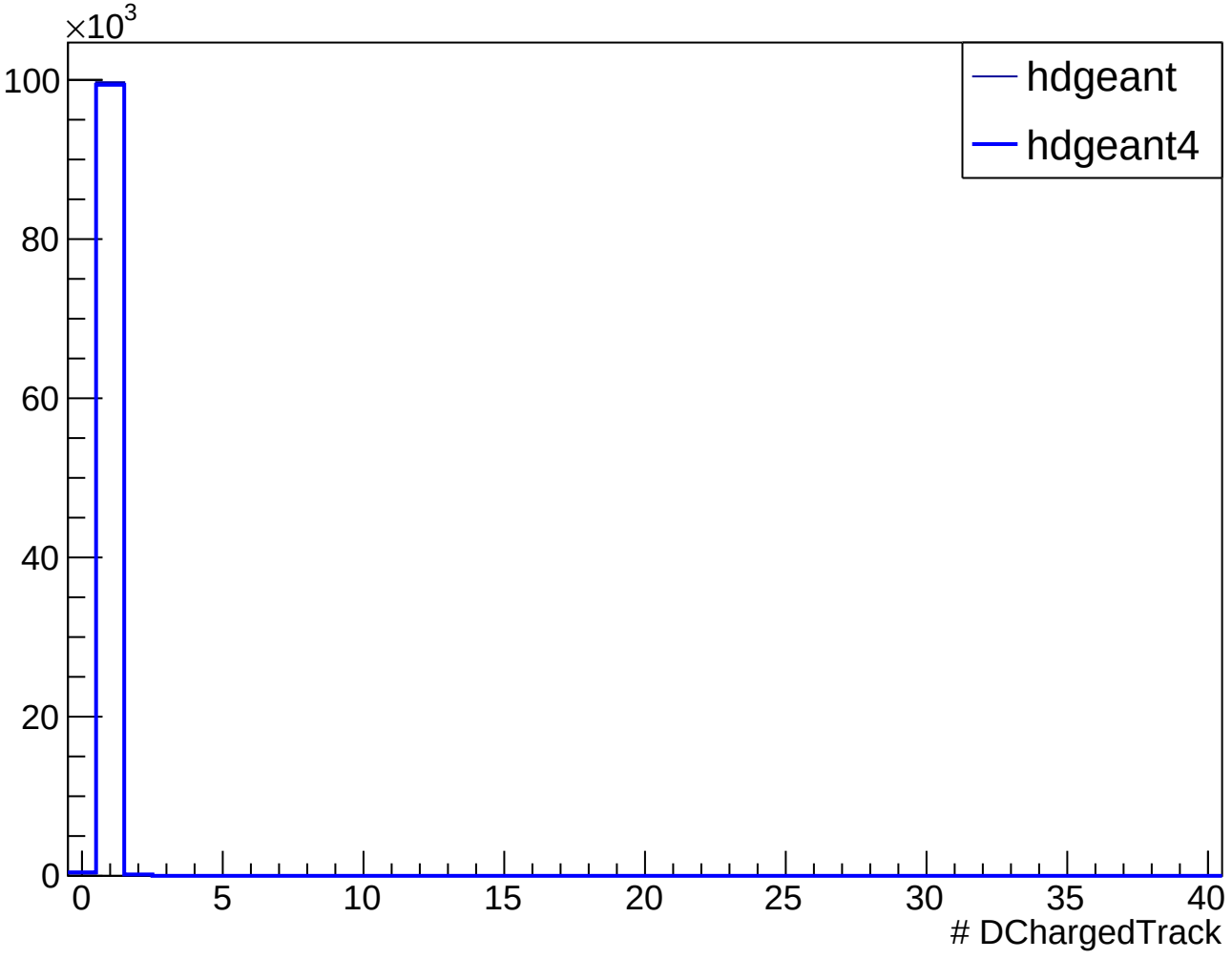
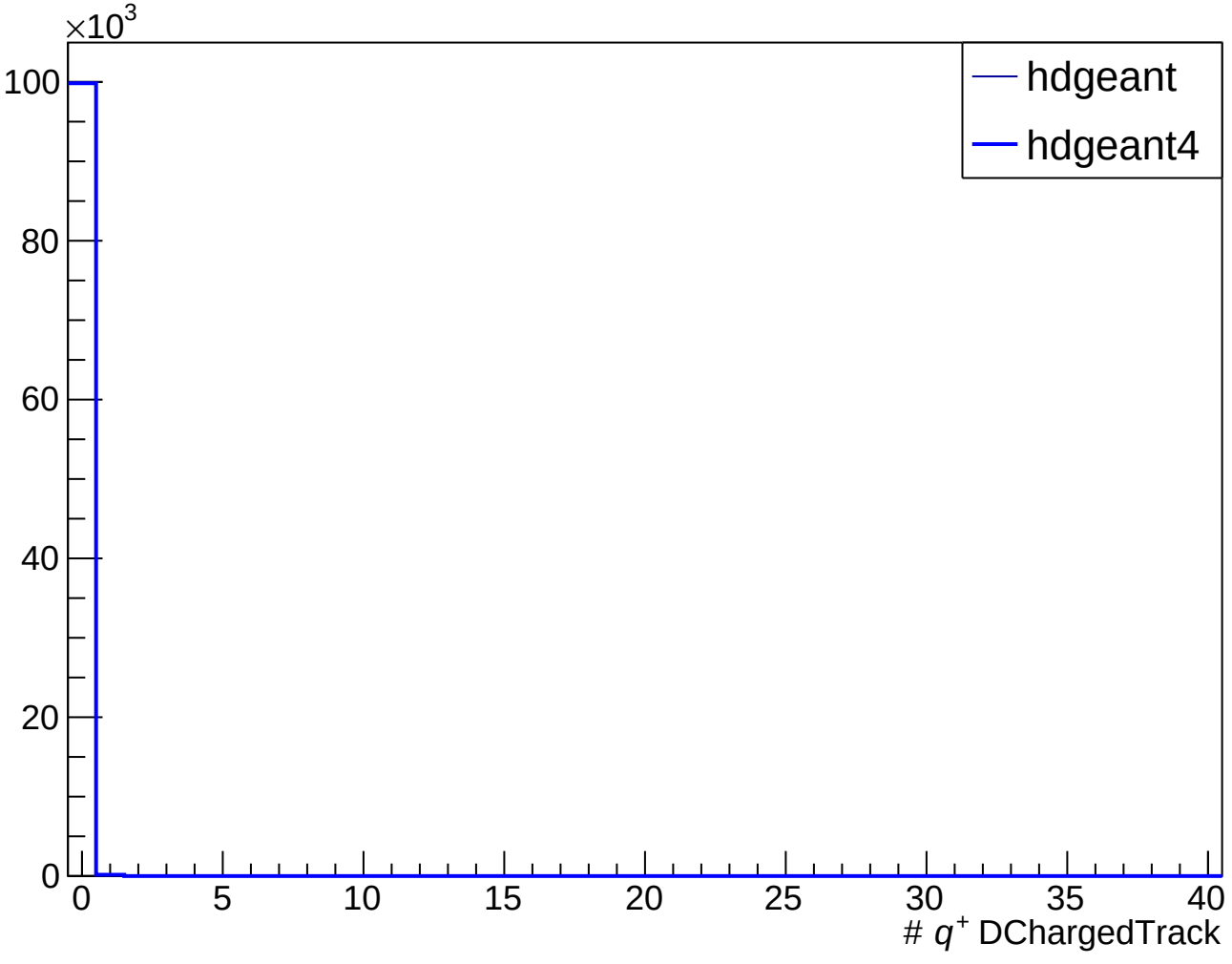
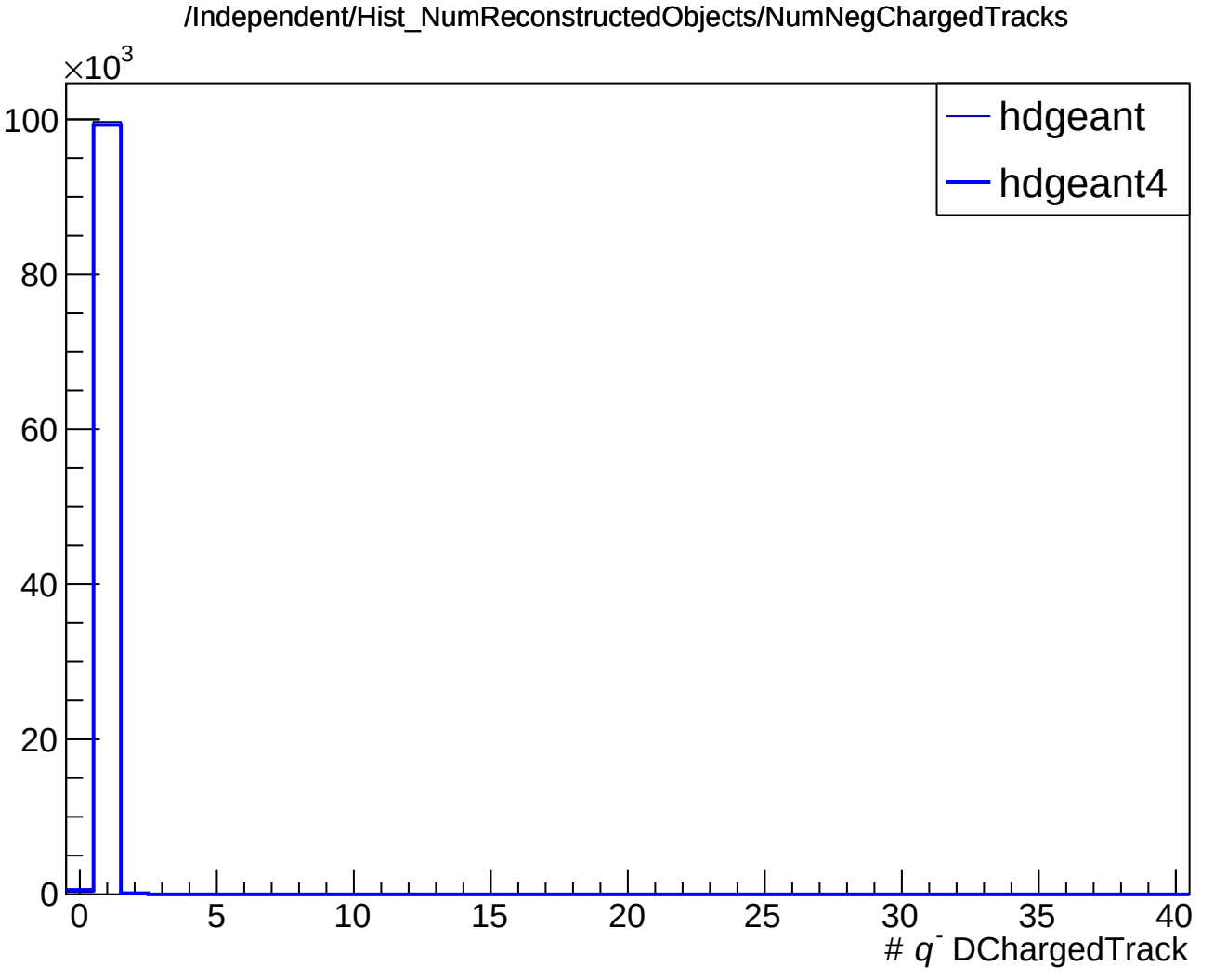
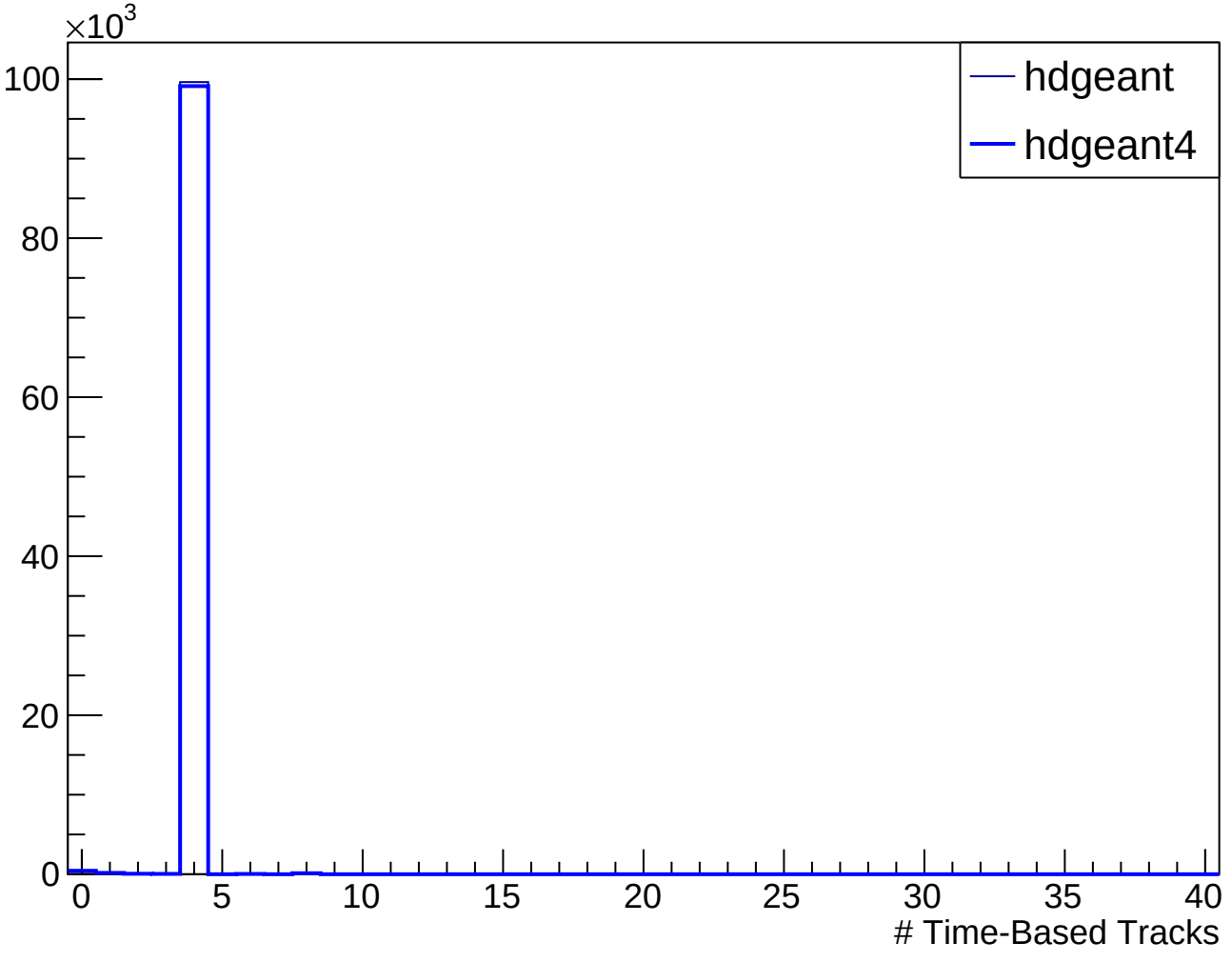

/Independent/Hist_NumReconstructedObjects/NumHighLevelObjects
Objects / Event
×10^3
DRFTime
DSCHit
DTOFPoint
DBCALShower
DFCALShower
DTimeBasedTrack
TrackSCMatches
TrackTOFMatches
TrackBCALMatches
TrackFCALMatches
DBeamPhoton
DChargedTrack
DNeutralShower

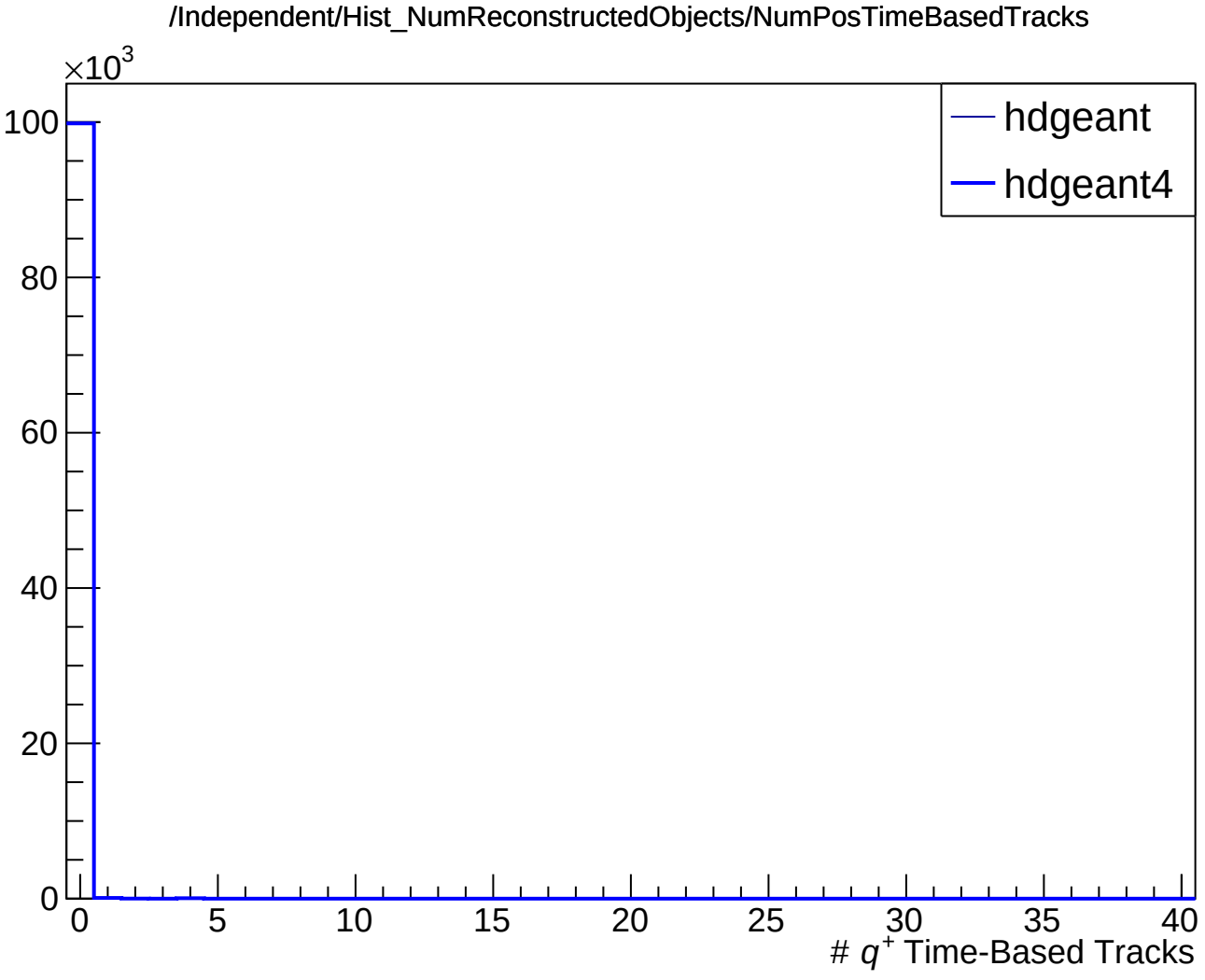

/Independent/Hist_NumReconstructedObjects/NumHighLevelObjects
Objects / Event
×10^3
DRFTime
DSCHit
DTOFPoint
DBCALShower
DFCALShower
DTimeBasedTrack
TrackSCMatches
TrackTOFMatches
TrackBCALMatches
TrackFCALMatches
DBeamPhoton
DChargedTrack
DNeutralShower

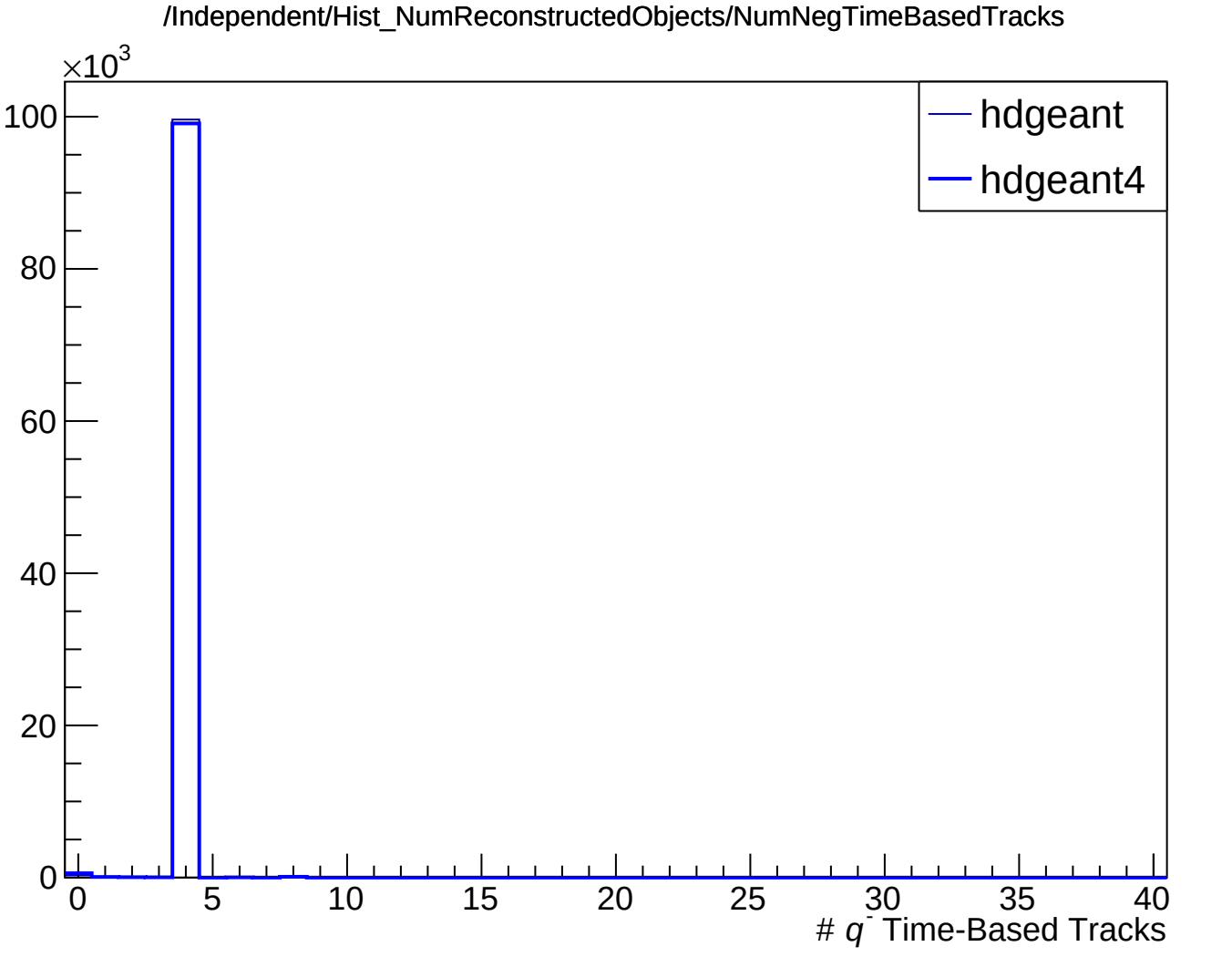

/Independent/Hist_NumReconstructedObjects/NumChargedTracks
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
DChargedTrack
hdgeant
hdgeant4


/Independent/Hist_NumReconstructedObjects/NumPosChargedTracks
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
q+ DChargedTrack
hdgeant
hdgeant4

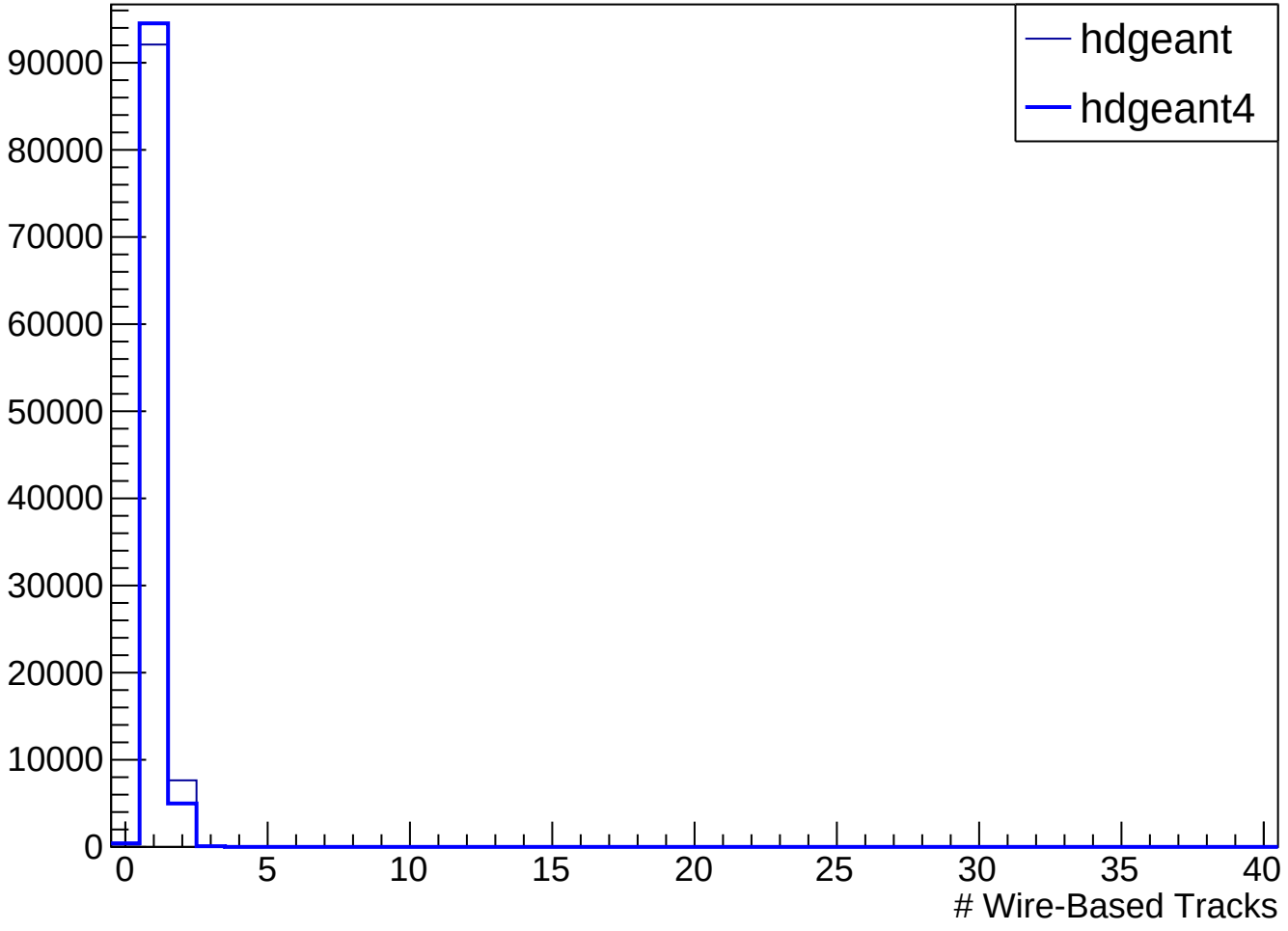

/Independent/Hist_NumReconstructedObjects/NumNegChargedTracks
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
q⁻ DChargedTrack
hdgeant
hdgeant4

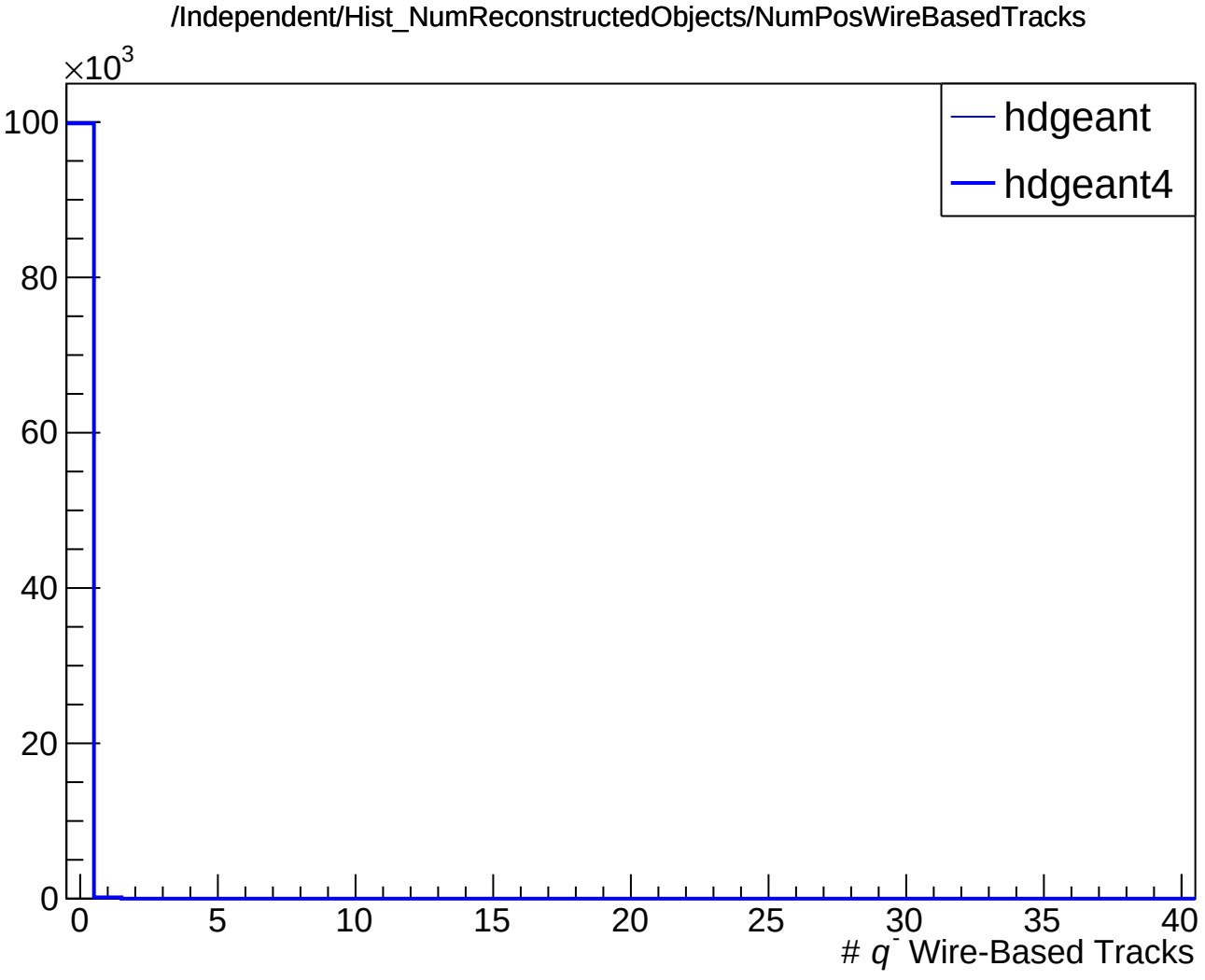

/Independent/Hist_NumReconstructedObjects/NumTimeBasedTracks
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
Time-Based Tracks
hdgeant
hdgeant4


/Independent/Hist_NumReconstructedObjects/NumPosTimeBasedTracks
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
q+ Time-Based Tracks
hdgeant
hdgeant4

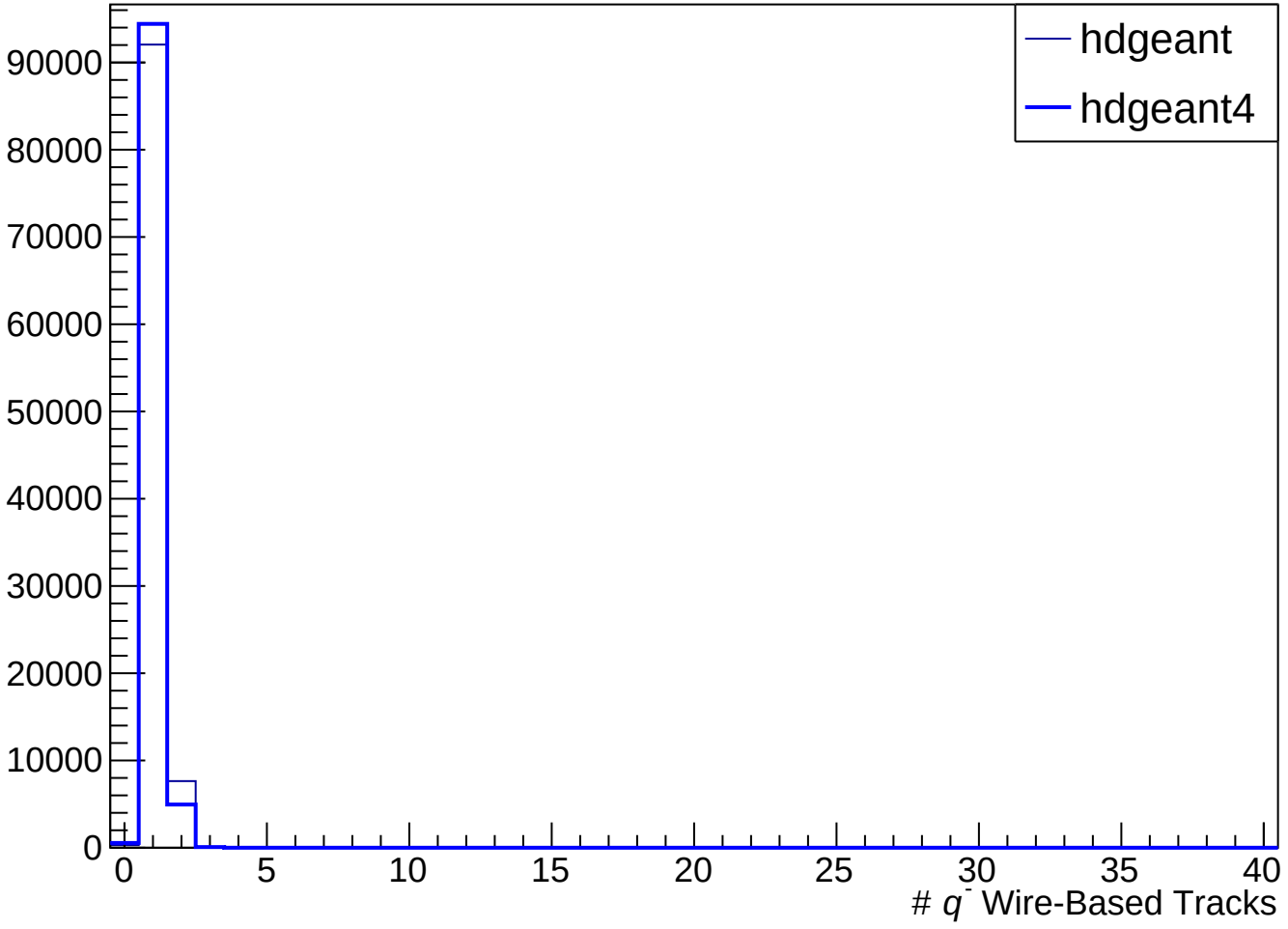

/Independent/Hist_NumReconstructedObjects/NumNegTimeBasedTracks
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
q⁻ Time-Based Tracks
hdgeant
hdgeant4

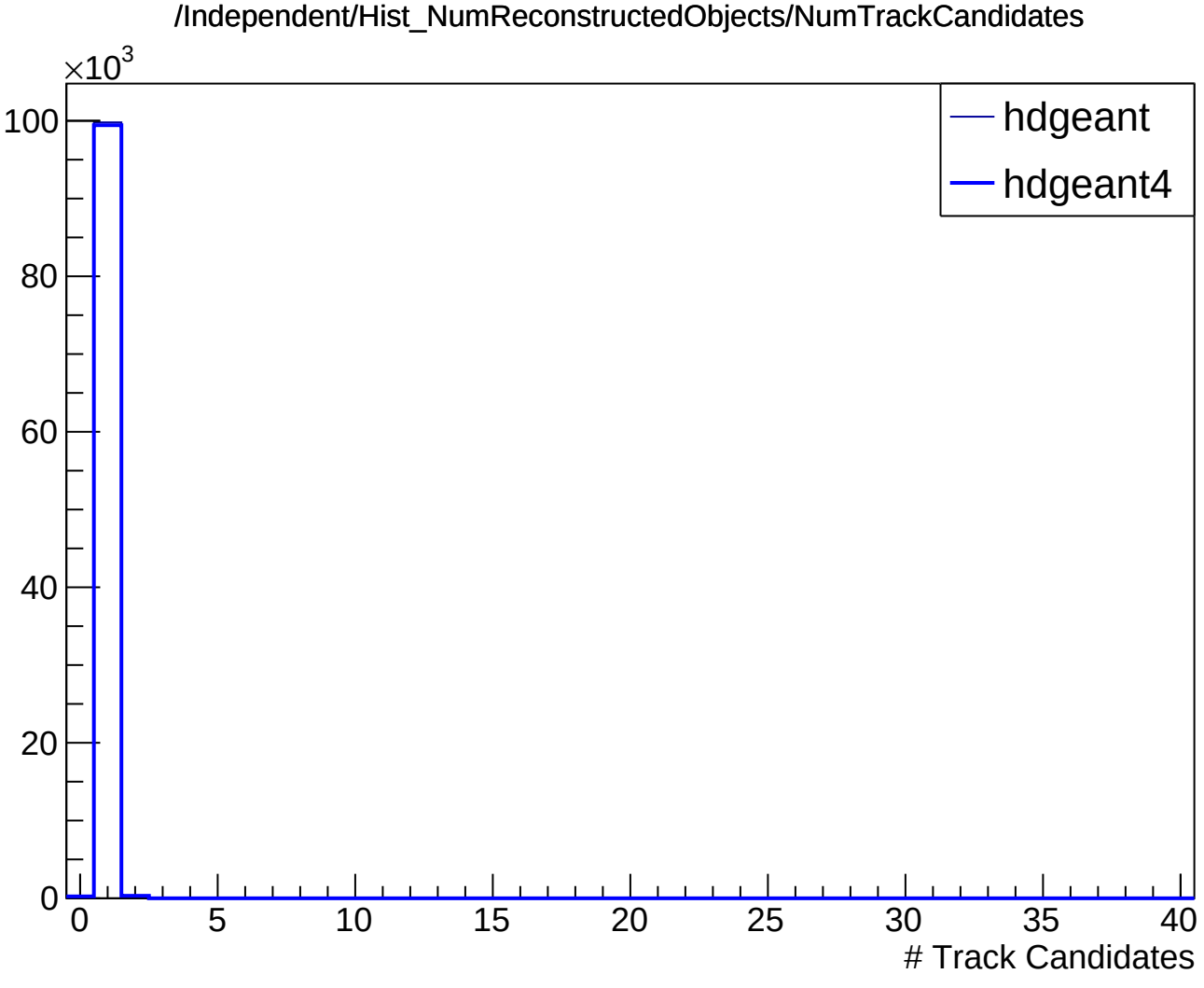
/Independent/Hist_NumReconstructedObjects/NumWireBasedTracks

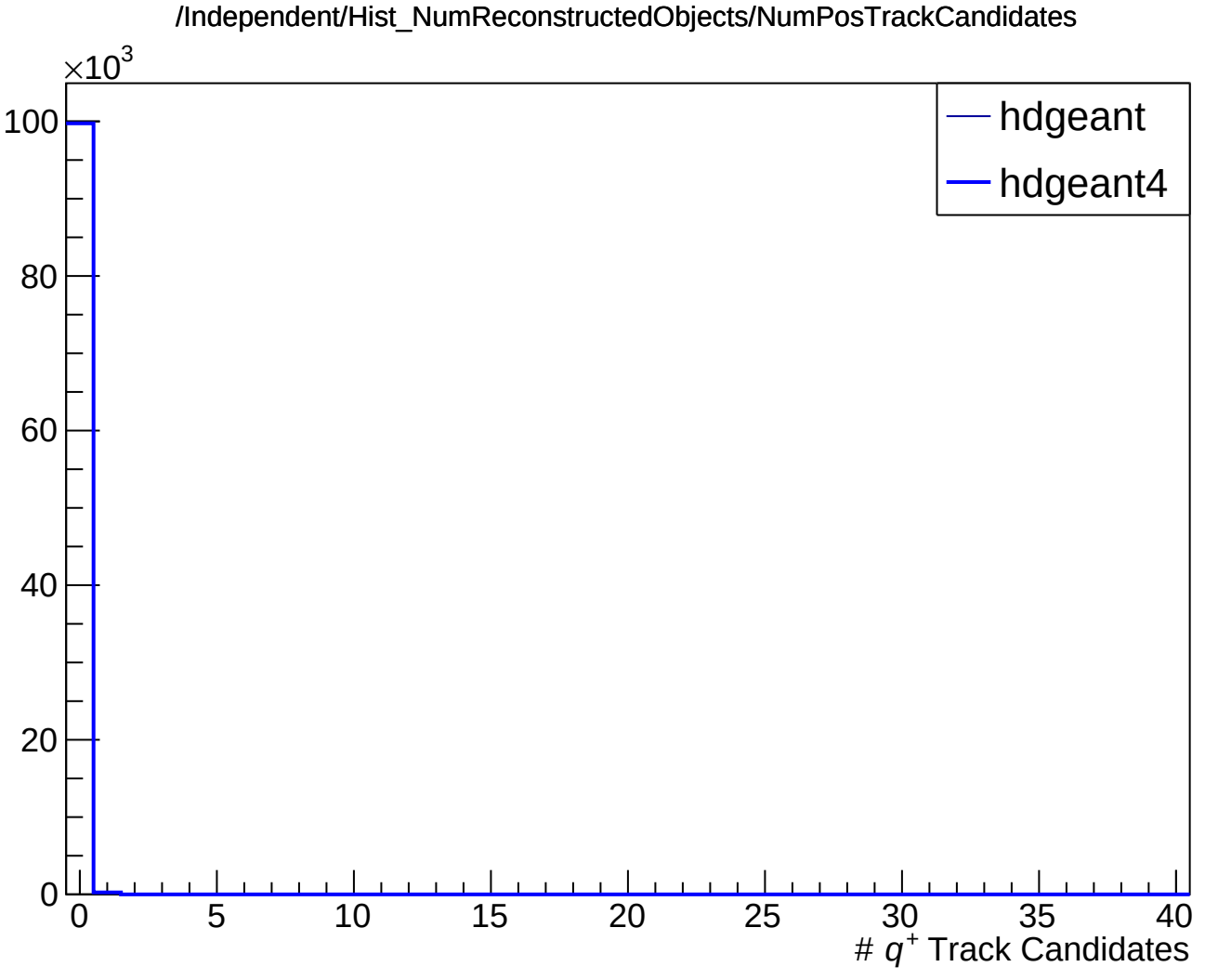


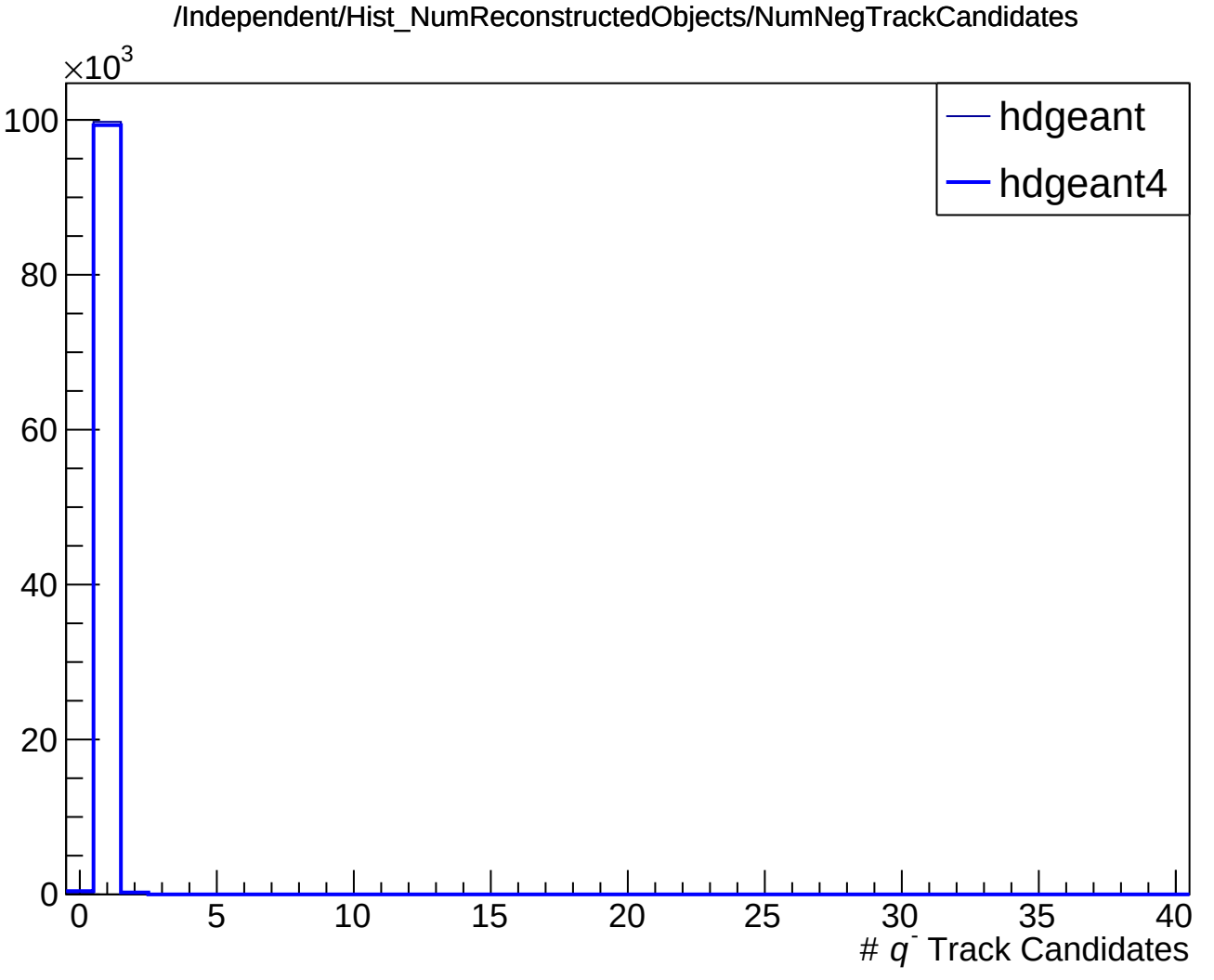

/Independent/Hist_NumReconstructedObjects/NumPosWireBasedTracks
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
q⁻ Wire-Based Tracks
hdgeant
hdgeant4

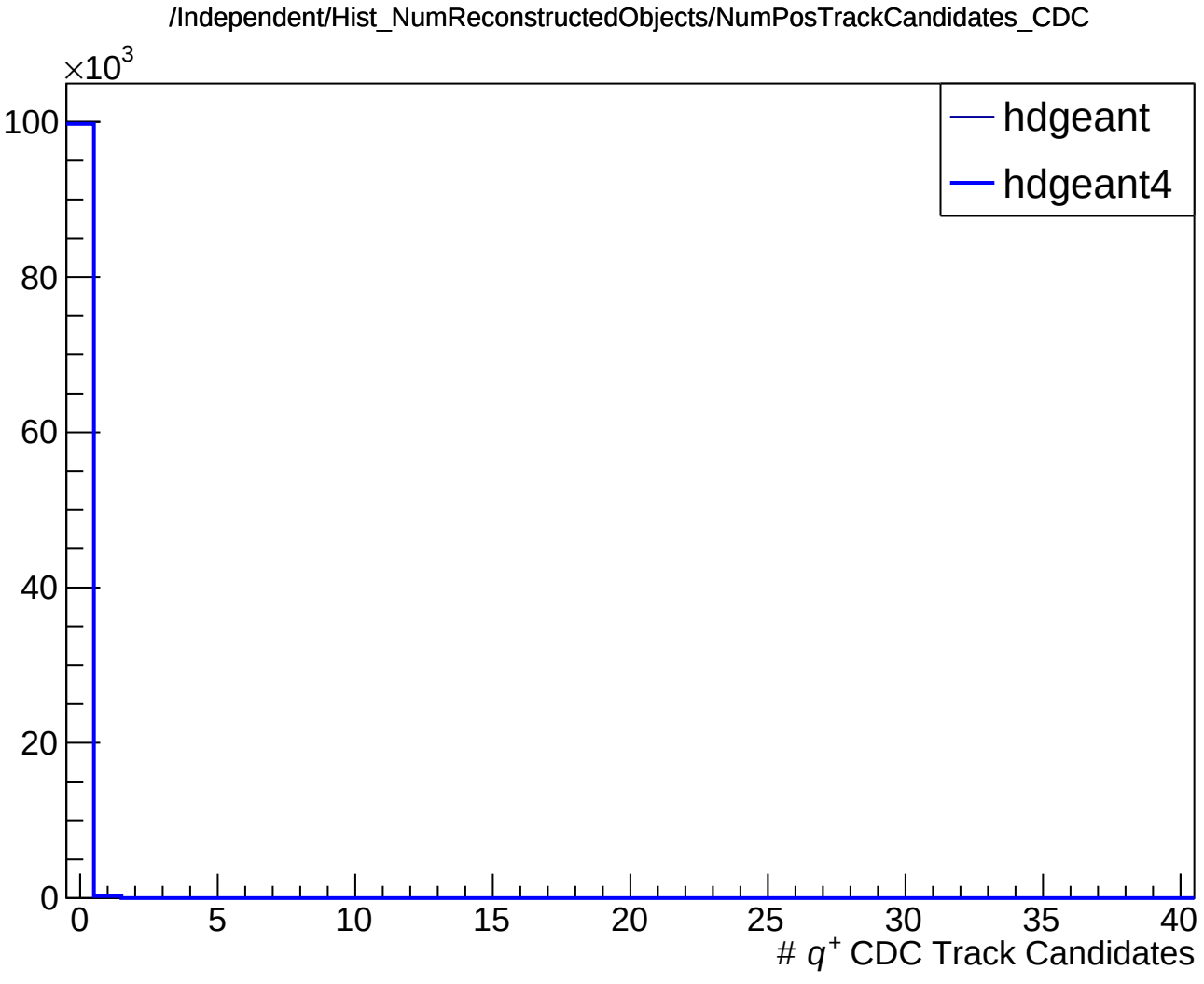
/Independent/Hist_NumReconstructedObjects/NumNegWireBasedTracks

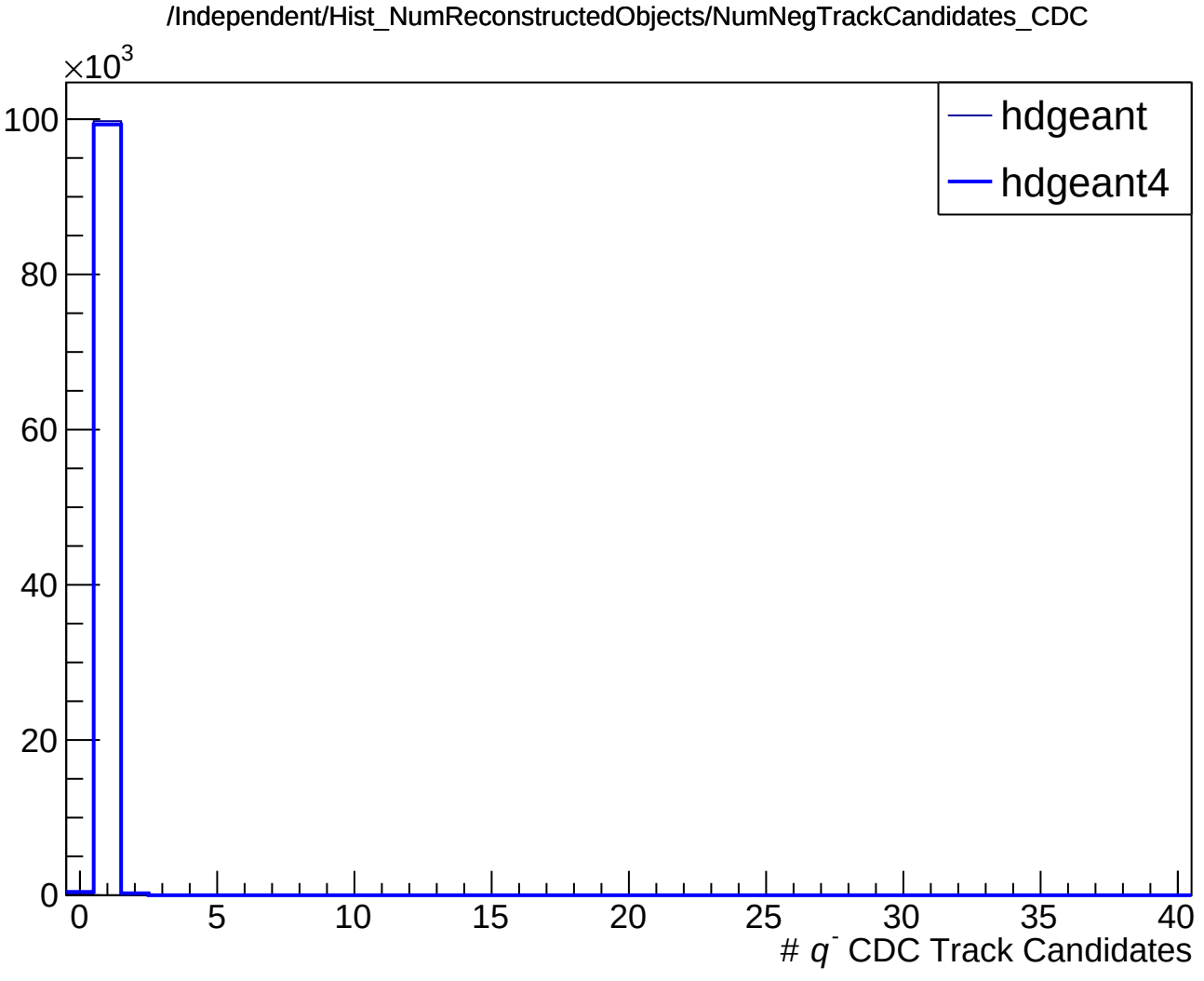



/Independent/Hist_NumReconstructedObjects/NumTrackCandidates
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
Track Candidates
hdgeant
hdgeant4

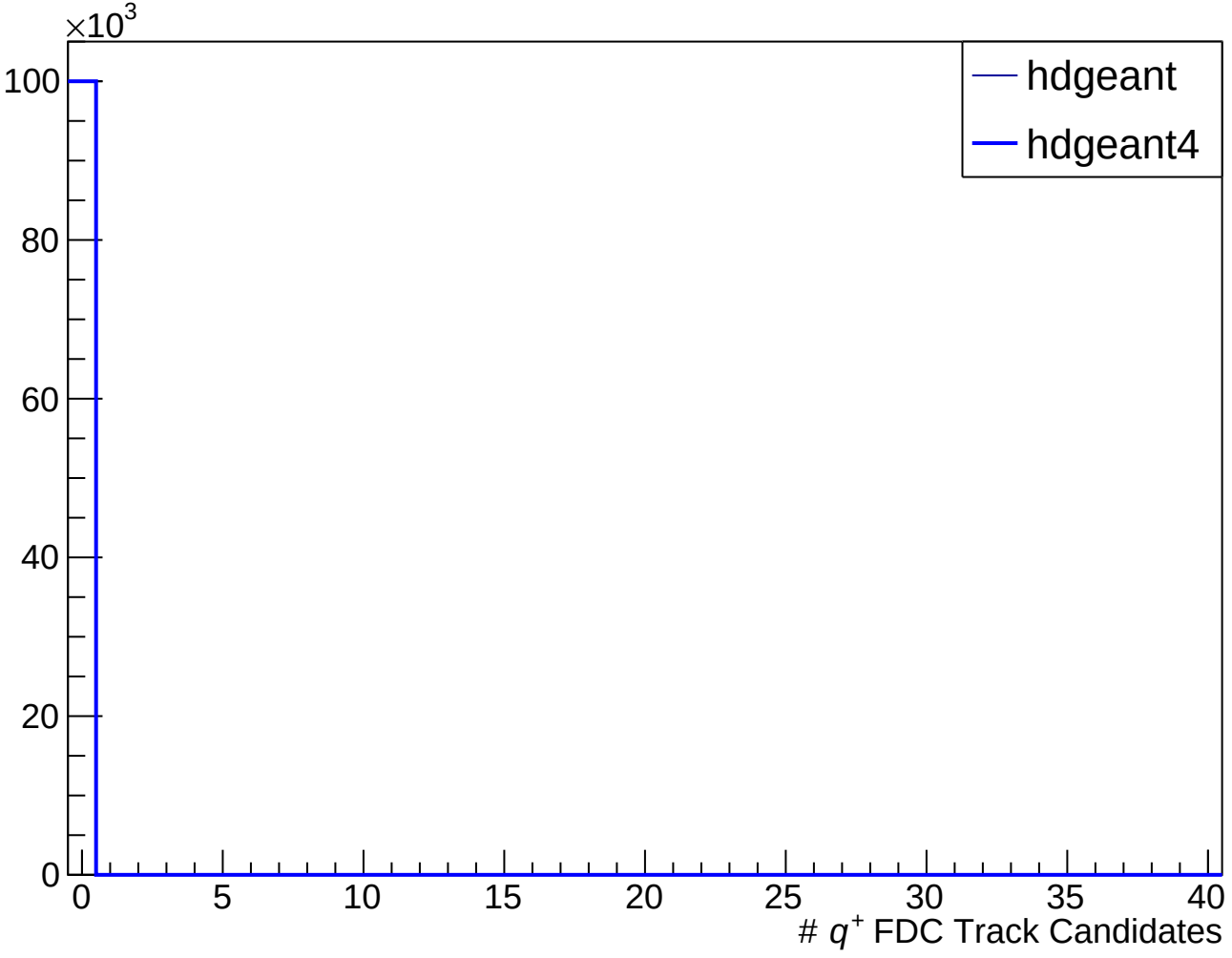

/Independent/Hist_NumReconstructedObjects/NumPosTrackCandidates
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
q+ Track Candidates
hdgeant
hdgeant4


/Independent/Hist_NumReconstructedObjects/NumNegTrackCandidates
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
q⁻ Track Candidates
hdgeant
hdgeant4

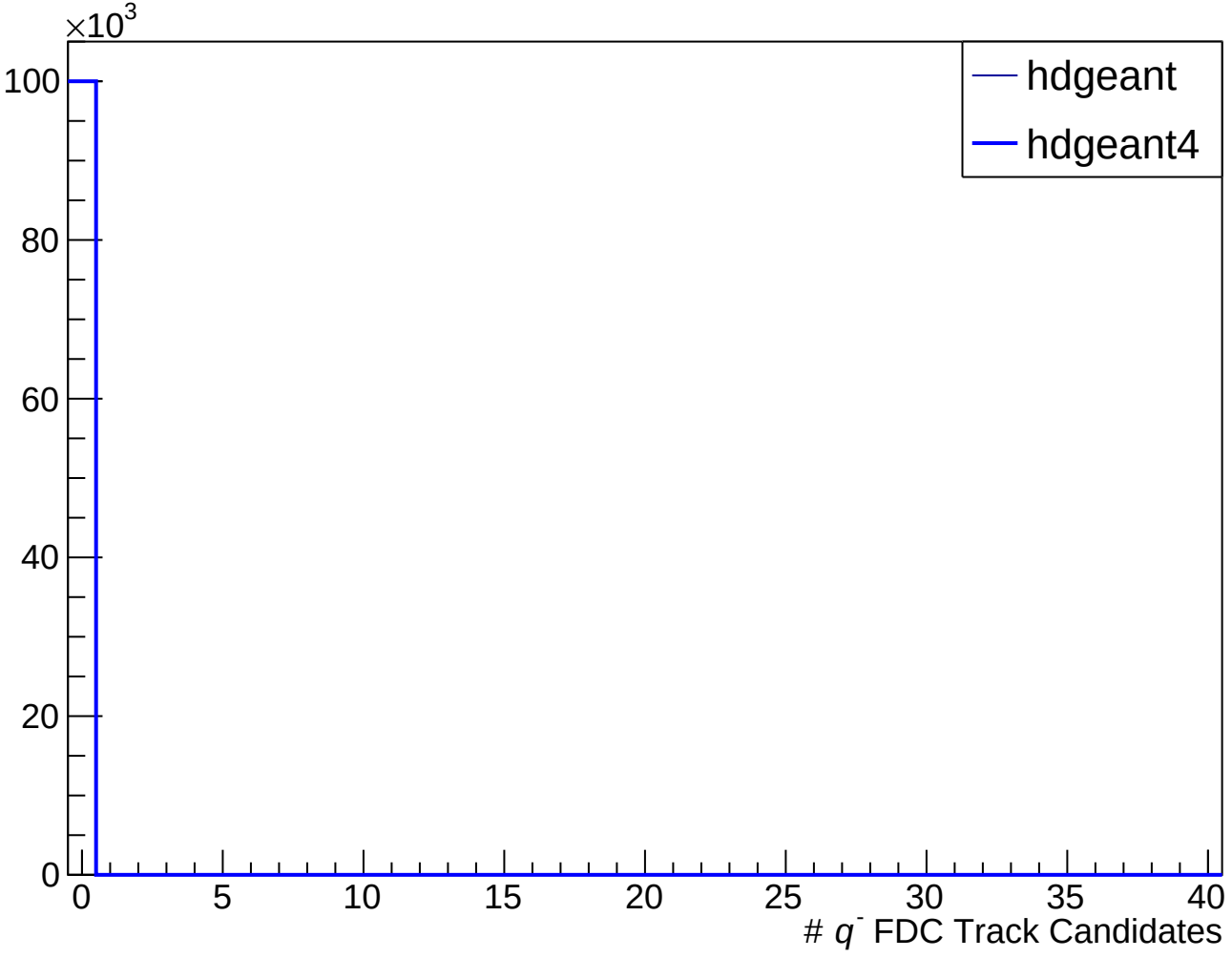

/Independent/Hist_NumReconstructedObjects/NumPosTrackCandidates_CDC
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
q+ CDC Track Candidates
hdgeant
hdgeant4

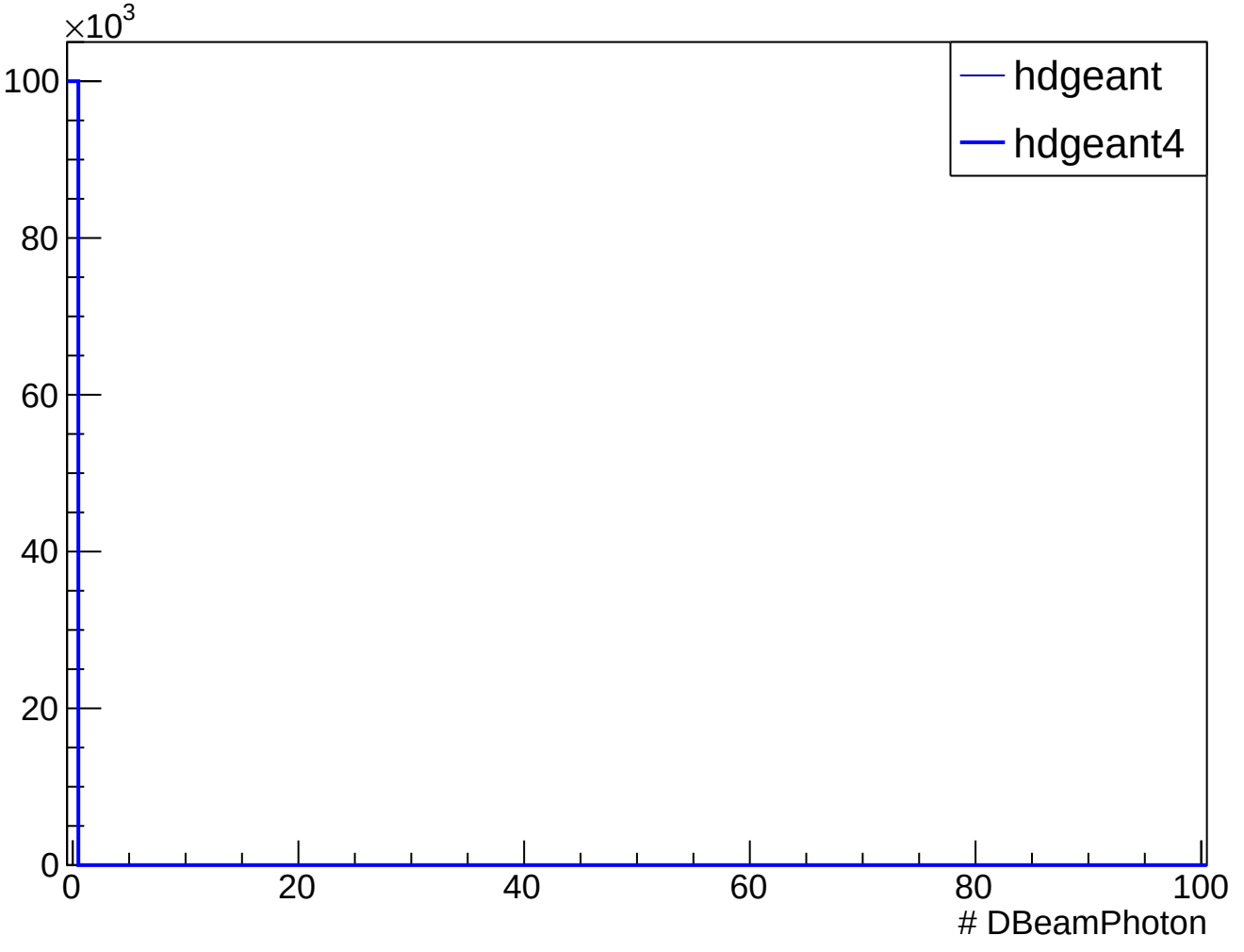

/Independent/Hist_NumReconstructedObjects/NumNegTrackCandidates_CDC
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
q^- CDC Track Candidates
hdgeant
hdgeant4

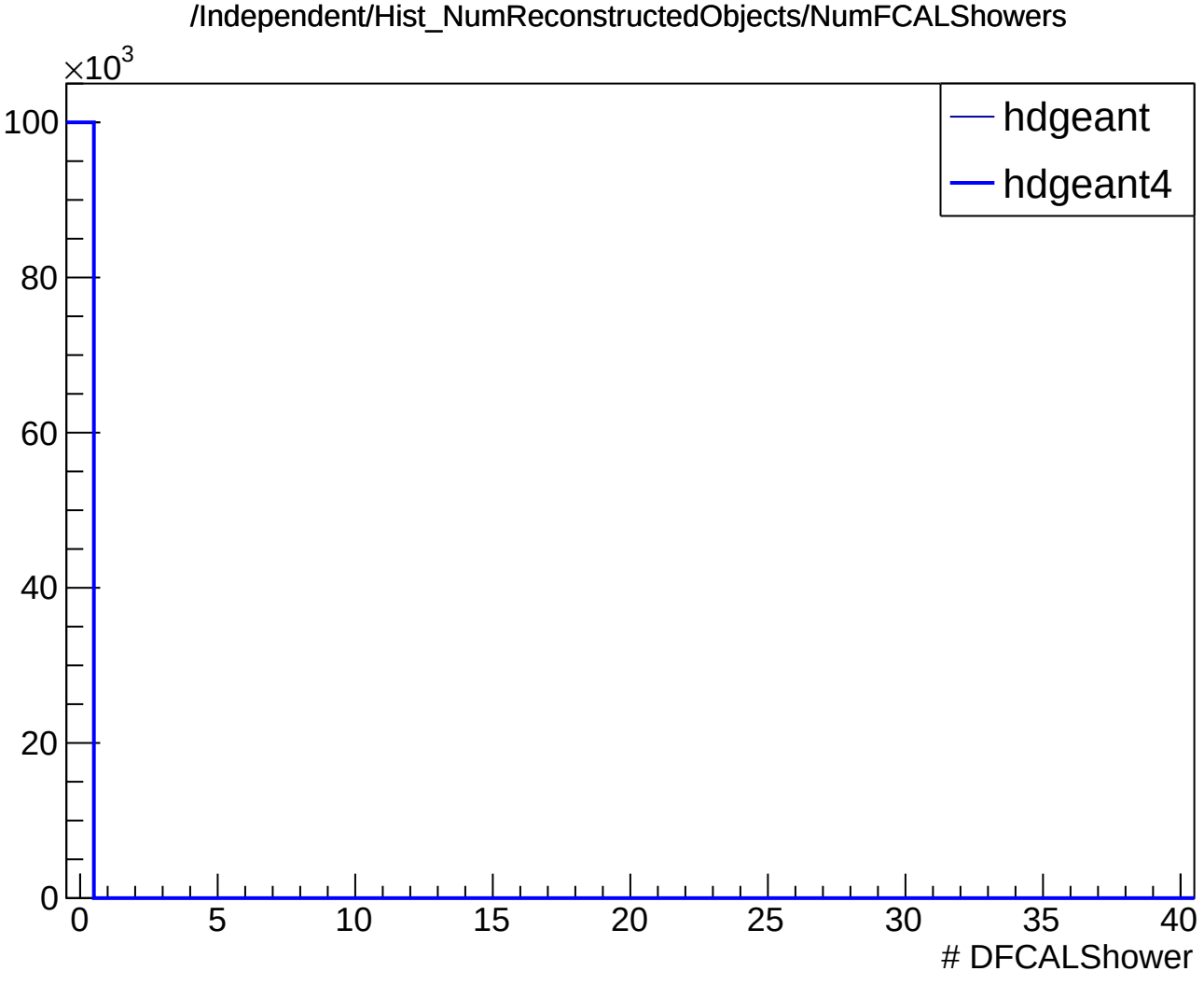
/Independent/Hist_NumReconstructedObjects/NumPosTrackCandidates_FDC

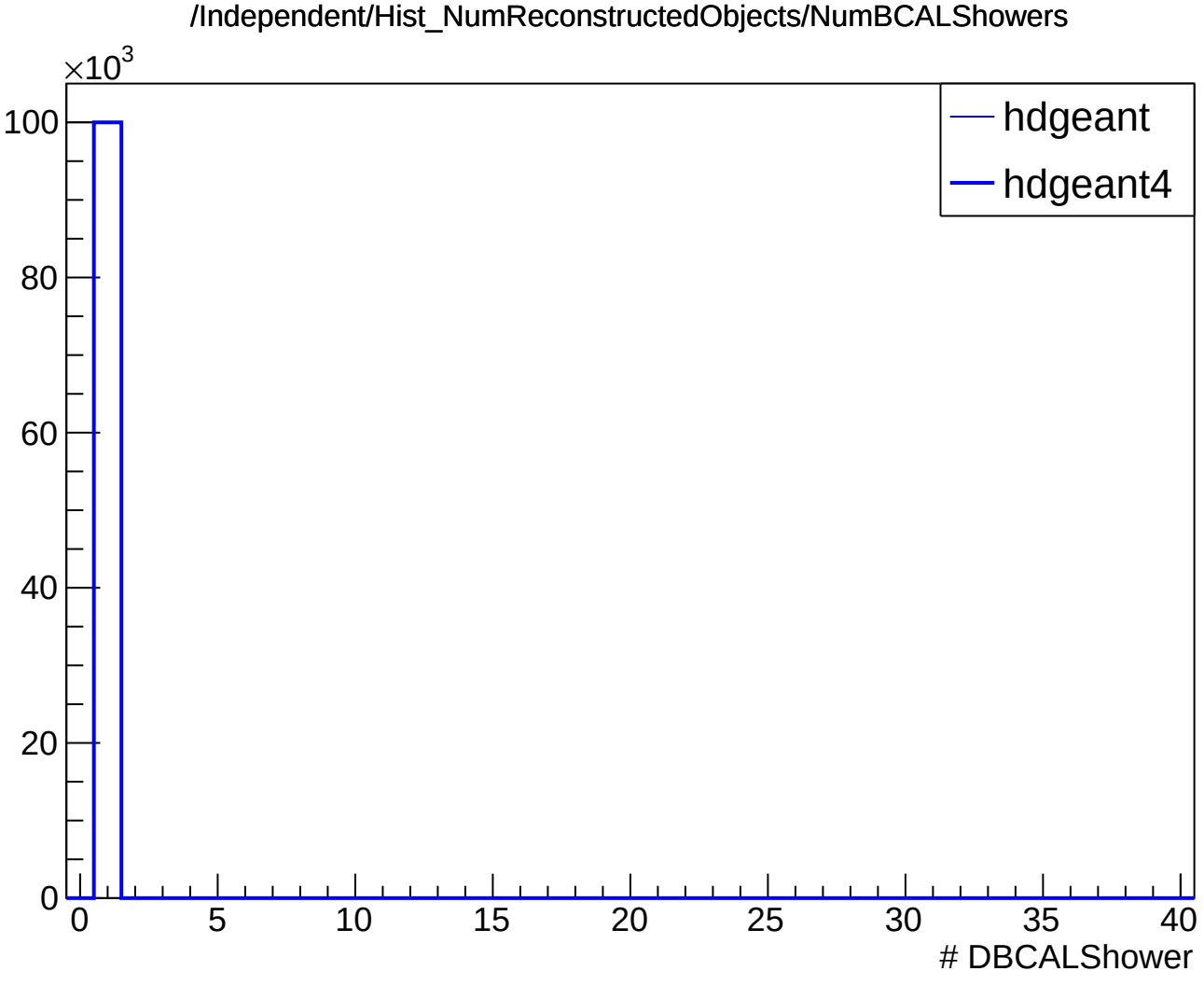


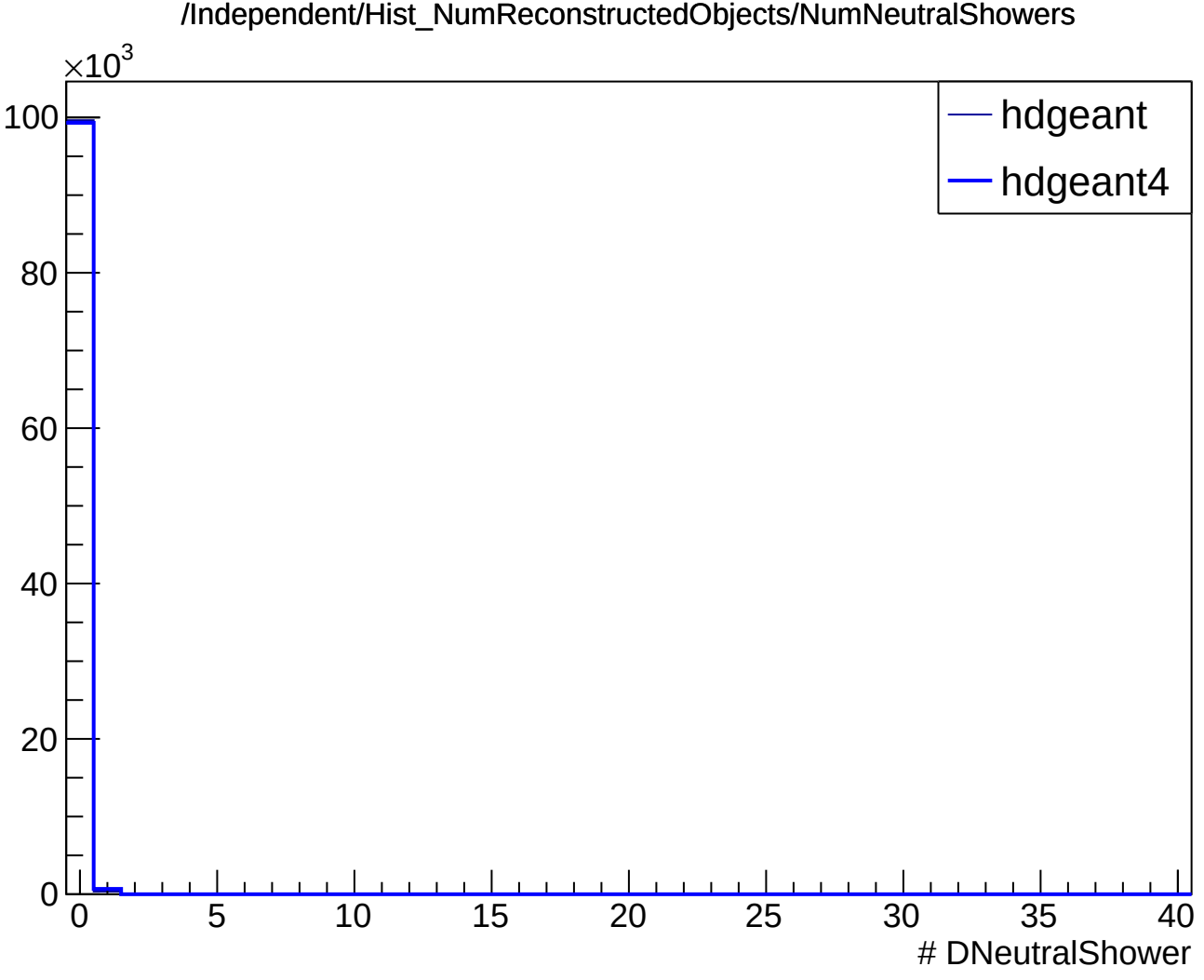
/Independent/Hist_NumReconstructedObjects/NumNegTrackCandidates_FDC

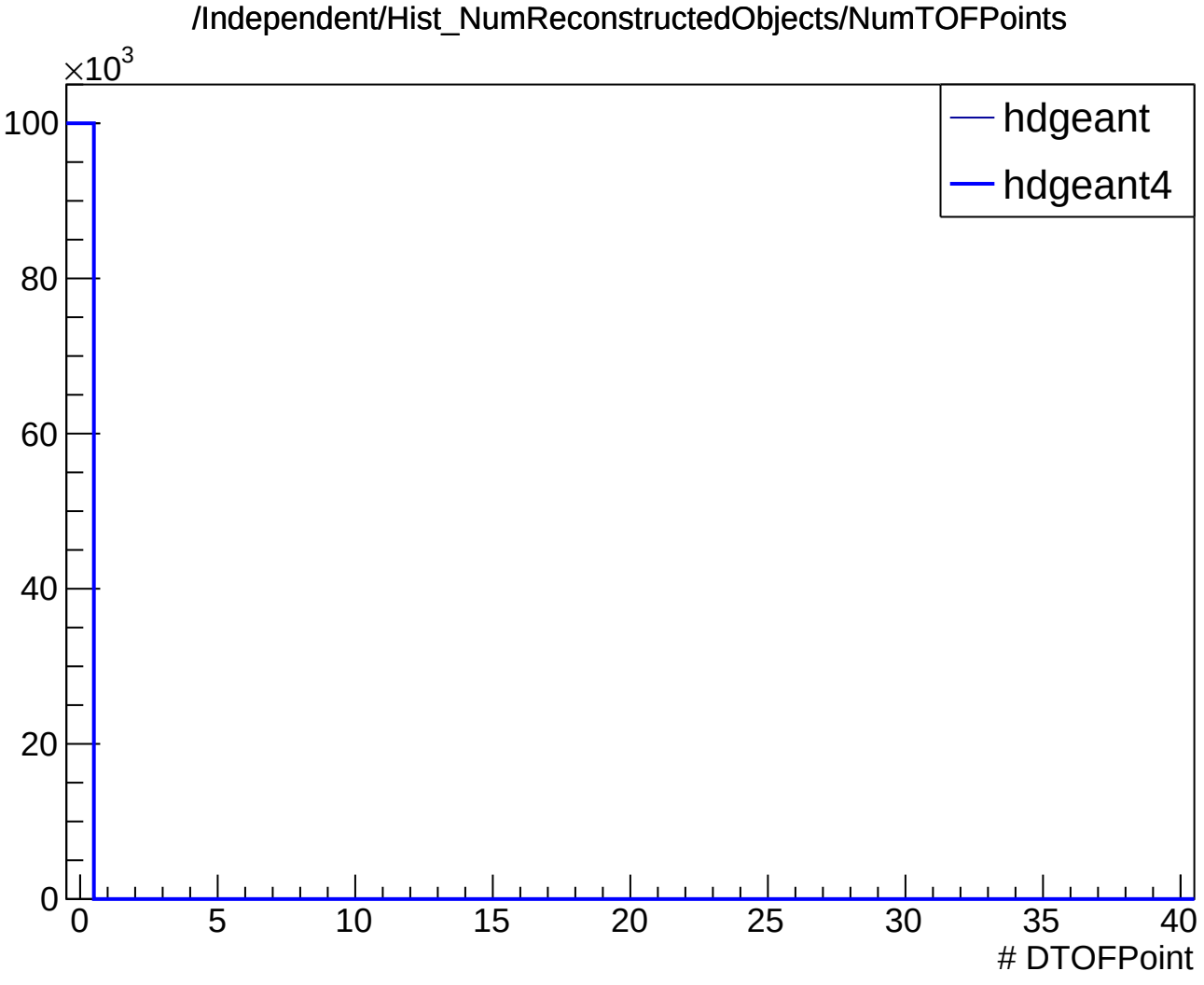


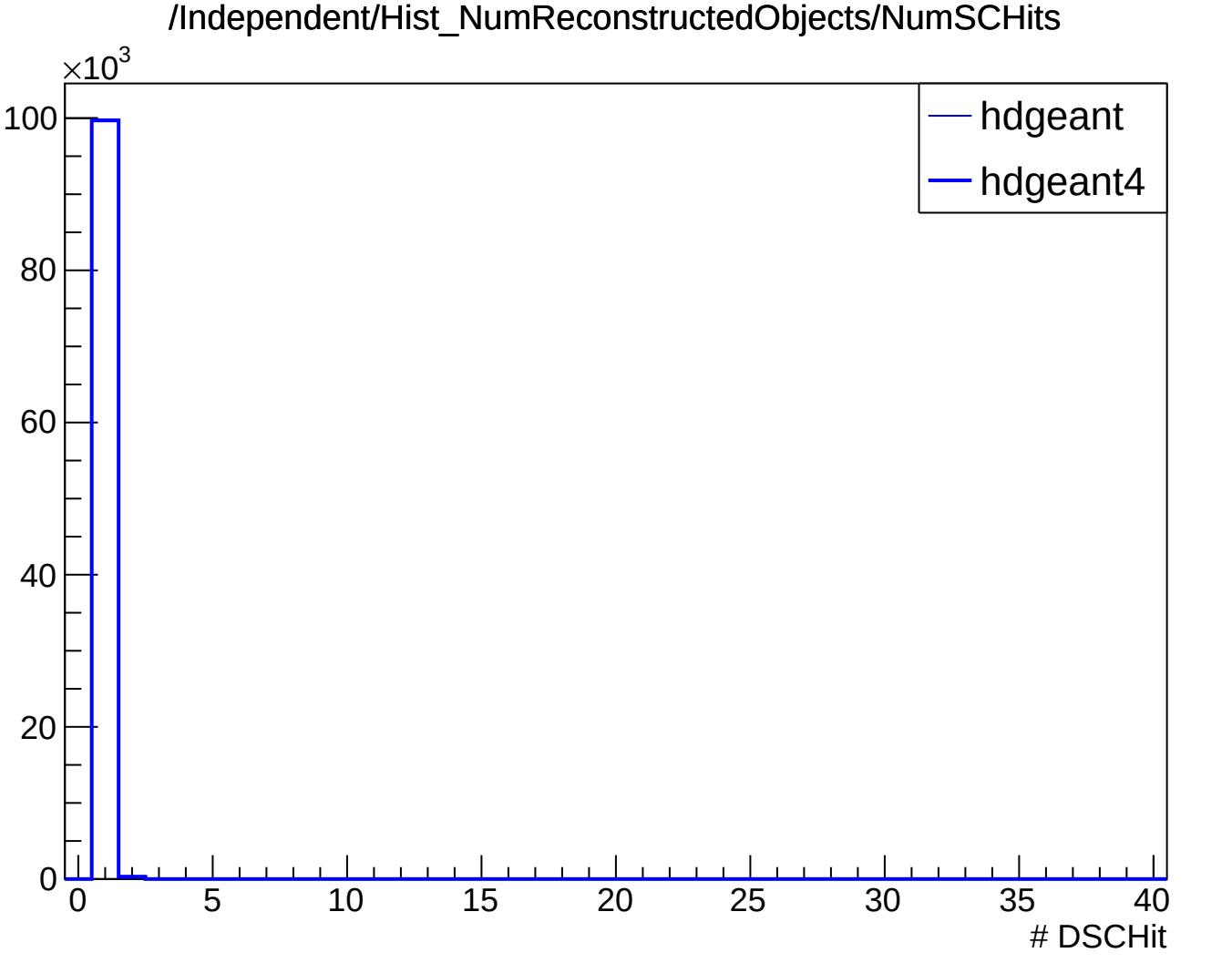

/Independent/Hist_NumReconstructedObjects/NumBeamPhotons
×10^3
100
80
60
40
20
0
0
20
40
60
80
100
DBeamPhoton
hdgeant
hdgeant4

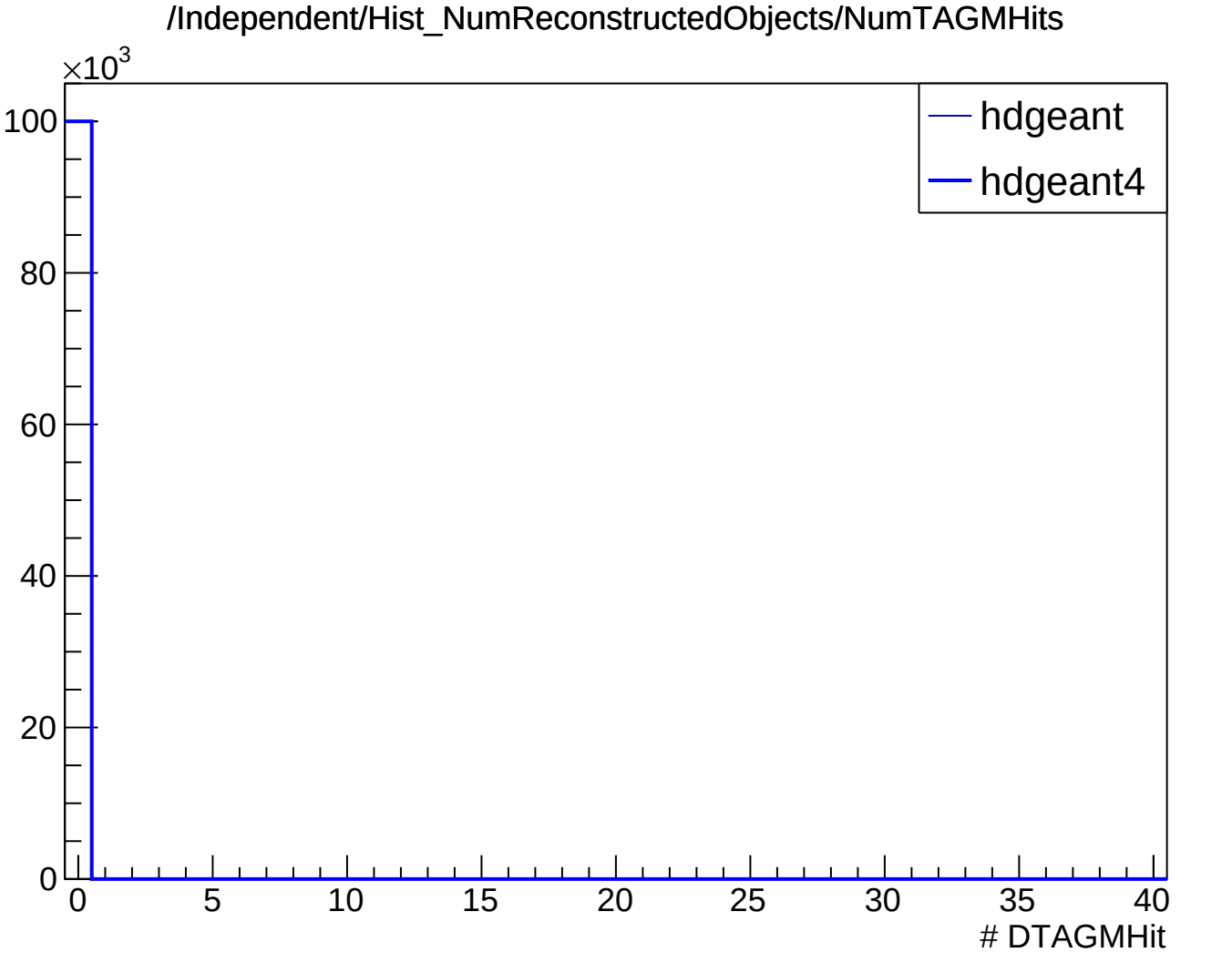

/Independent/Hist_NumReconstructedObjects/NumFCALShowers
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
DFCALShower
hdgeant
hdgeant4

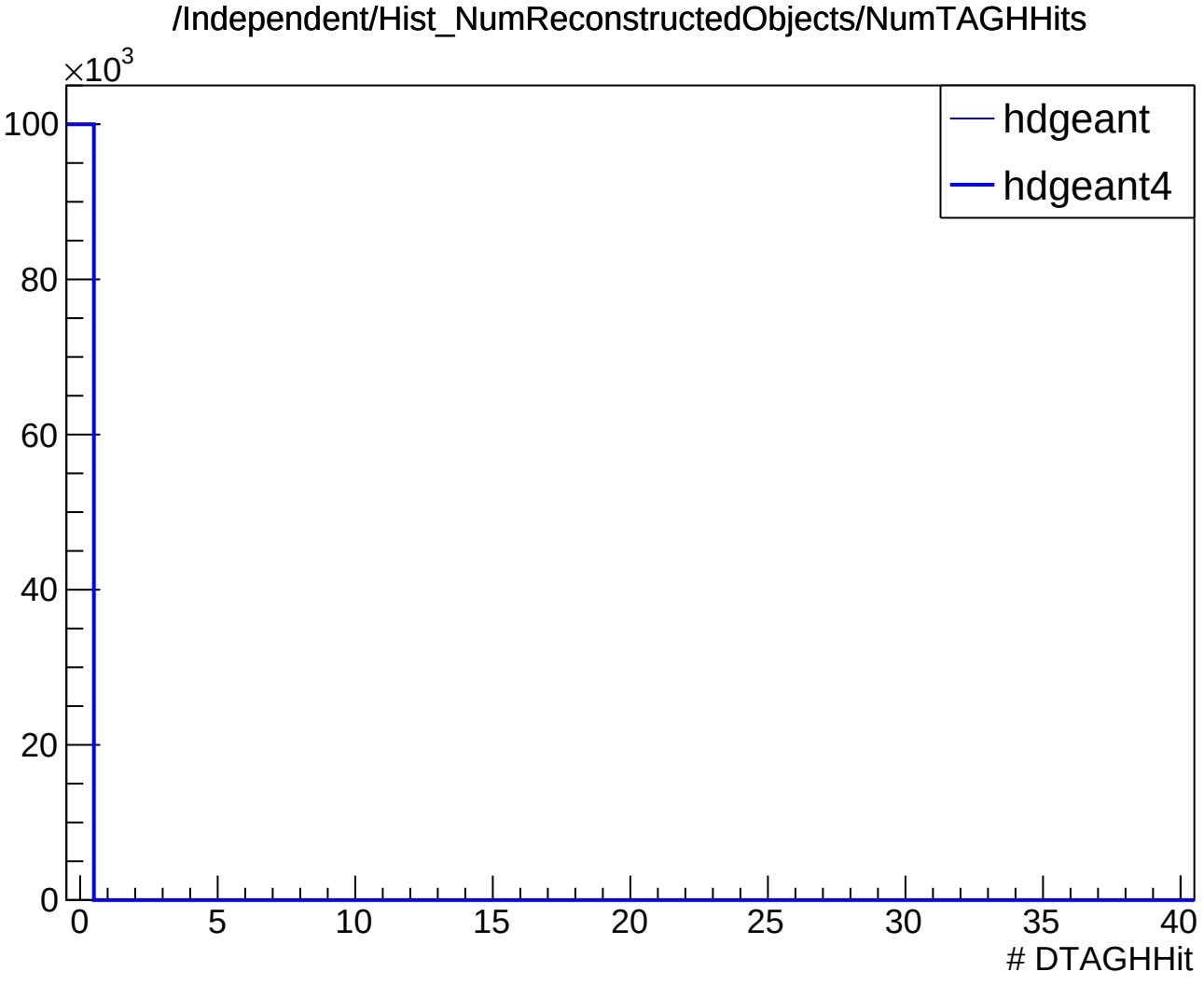

/Independent/Hist_NumReconstructedObjects/NumBCALShowers
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
DBCALShower
hdgeant
hdgeant4

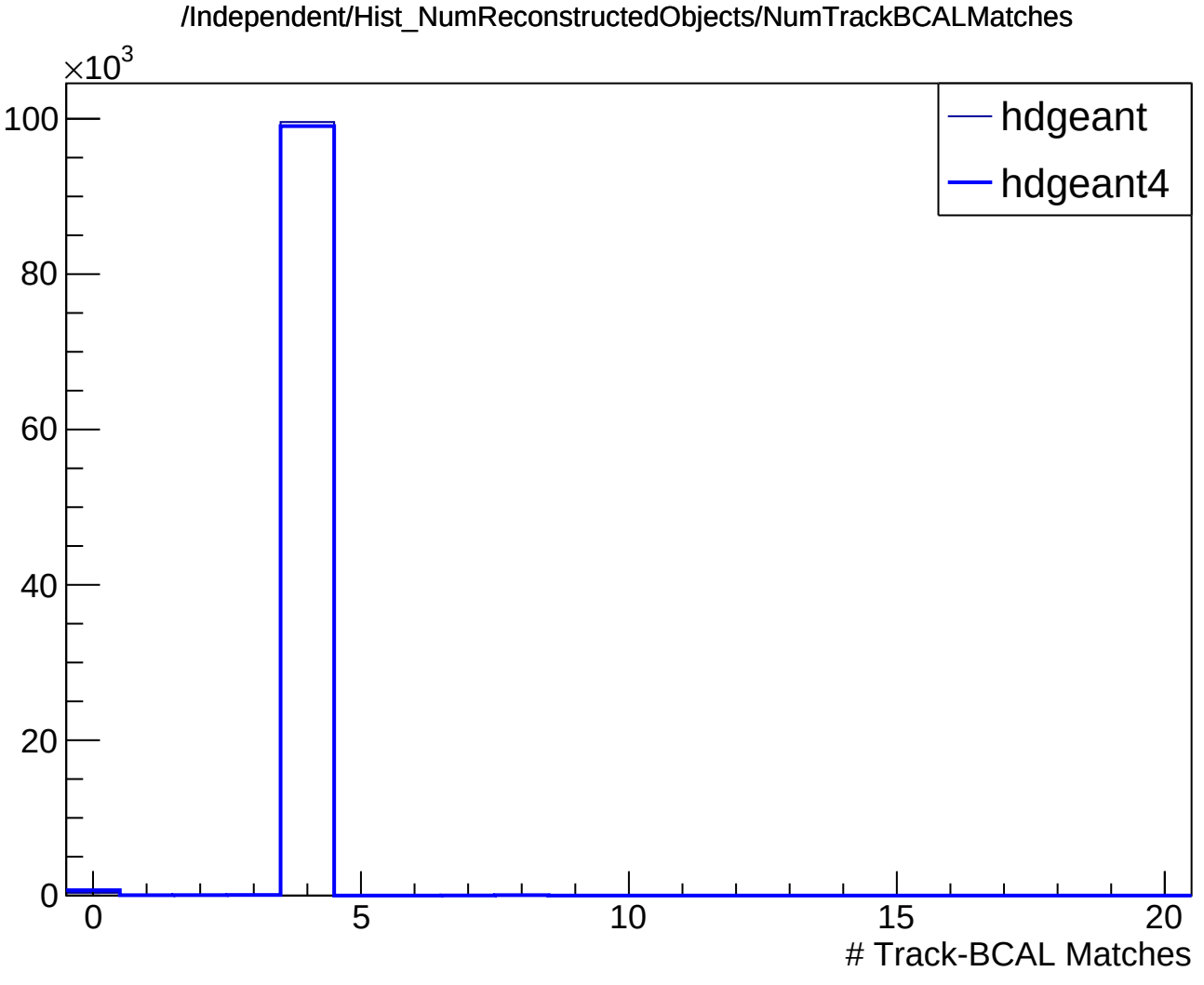

/Independent/Hist_NumReconstructedObjects/NumNeutralShowers
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
DNeutralShower
hdgeant
hdgeant4

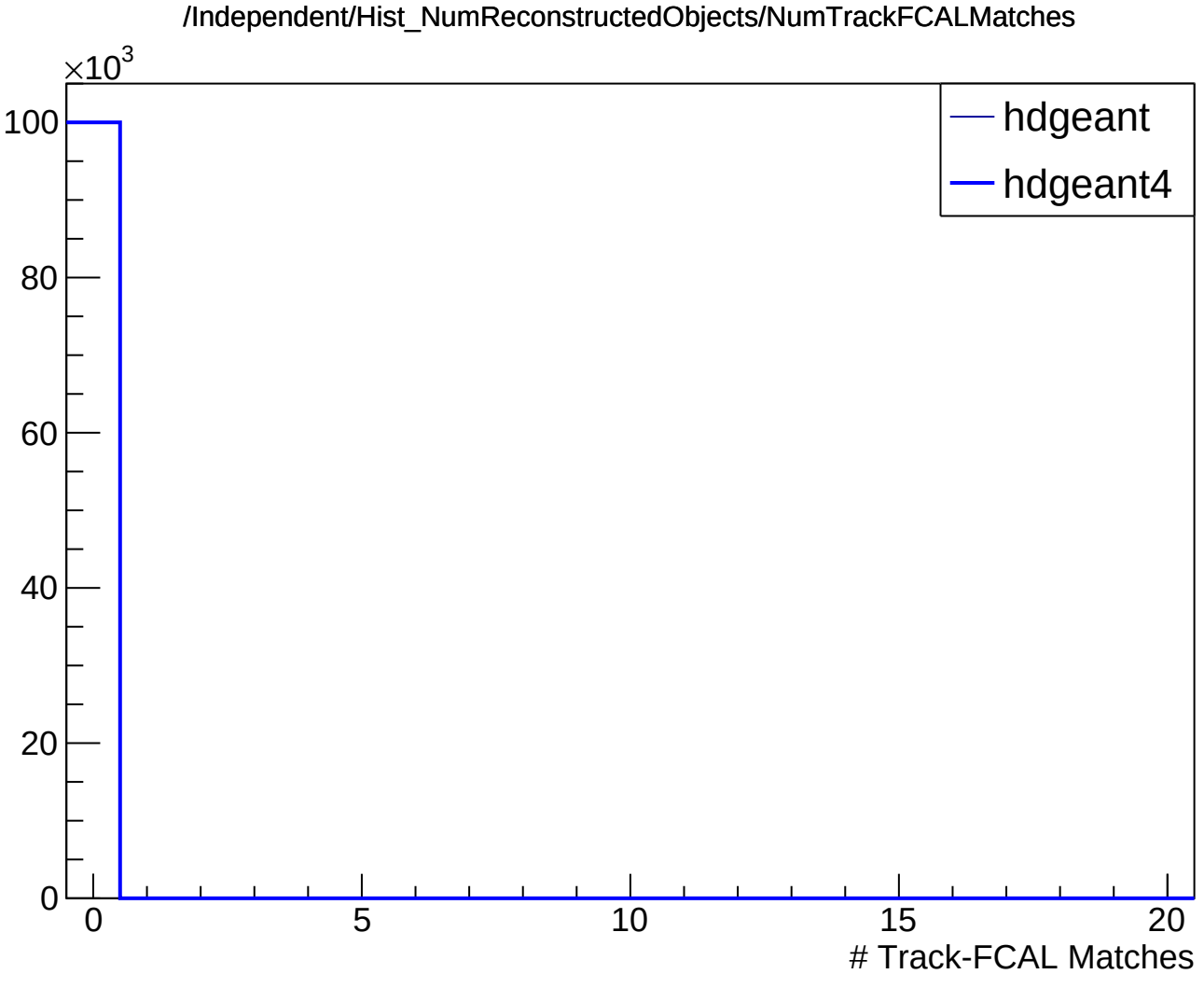

/Independent/Hist_NumReconstructedObjects/NumTOFPoints
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
DTOFPoint
hdgeant
hdgeant4

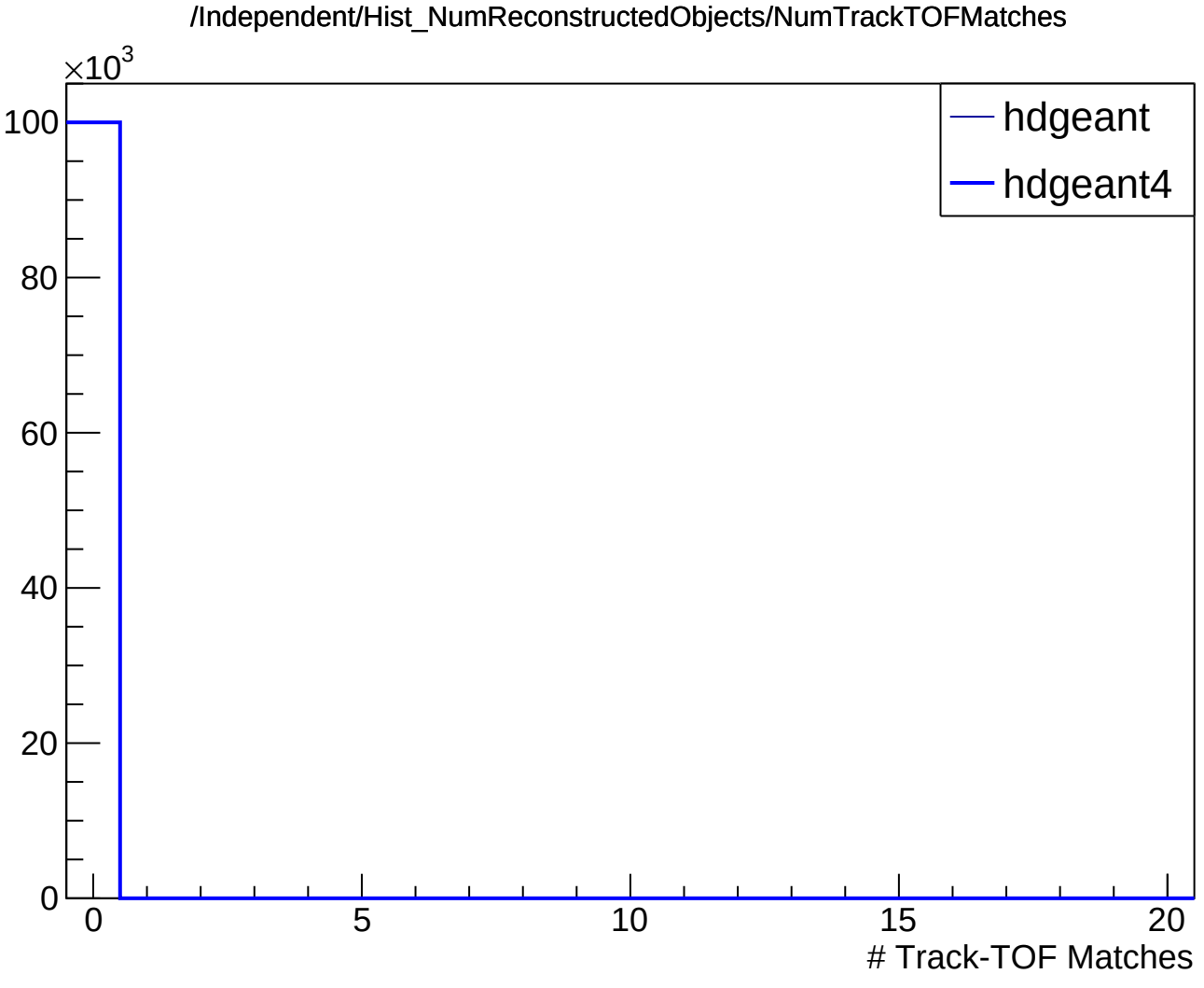

/Independent/Hist_NumReconstructedObjects/NumSCHits
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
DSCHit
hdgeant
hdgeant4

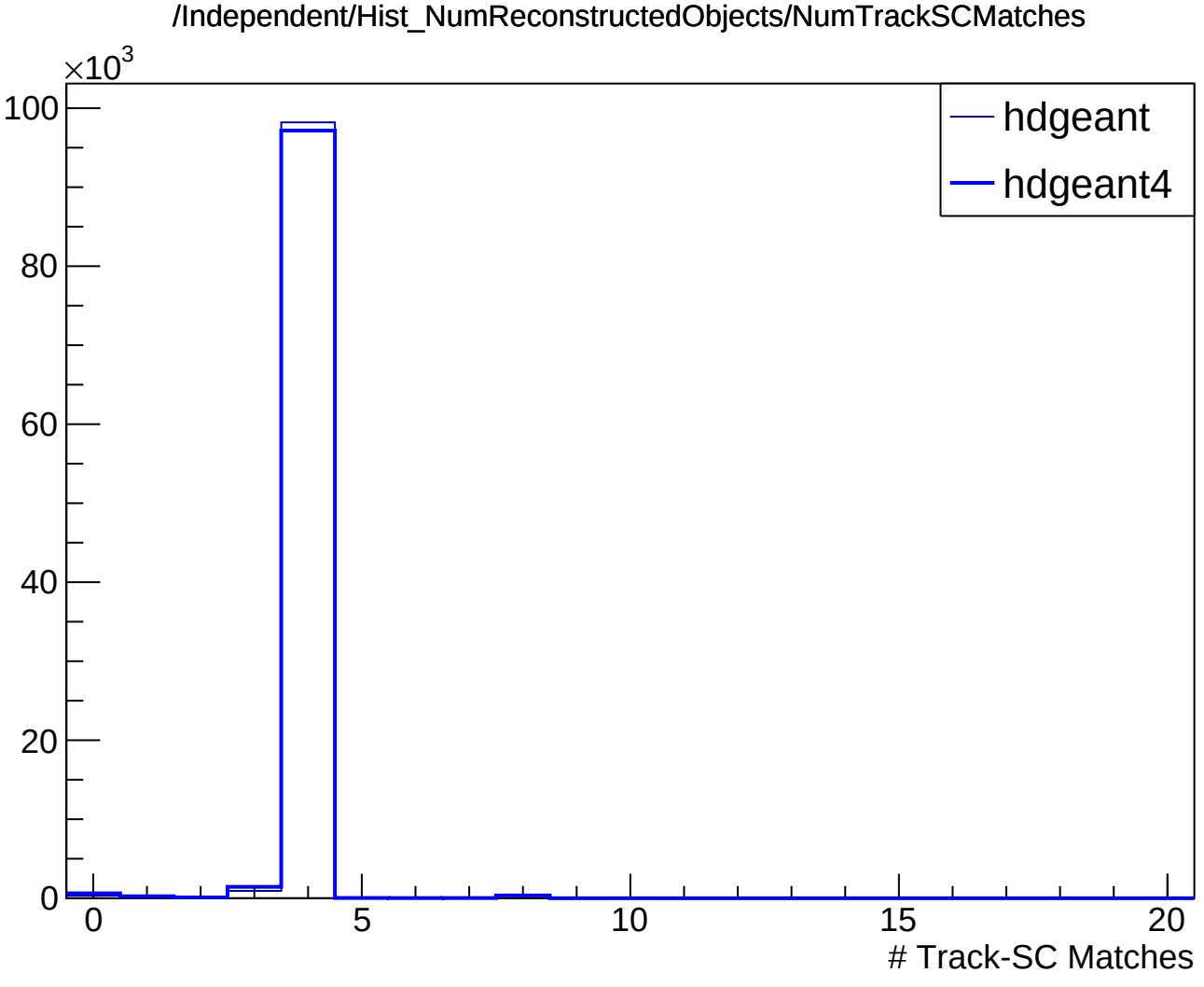

/Independent/Hist_NumReconstructedObjects/NumTAGMHits
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
DTAGMHit
hdgeant
hdgeant4

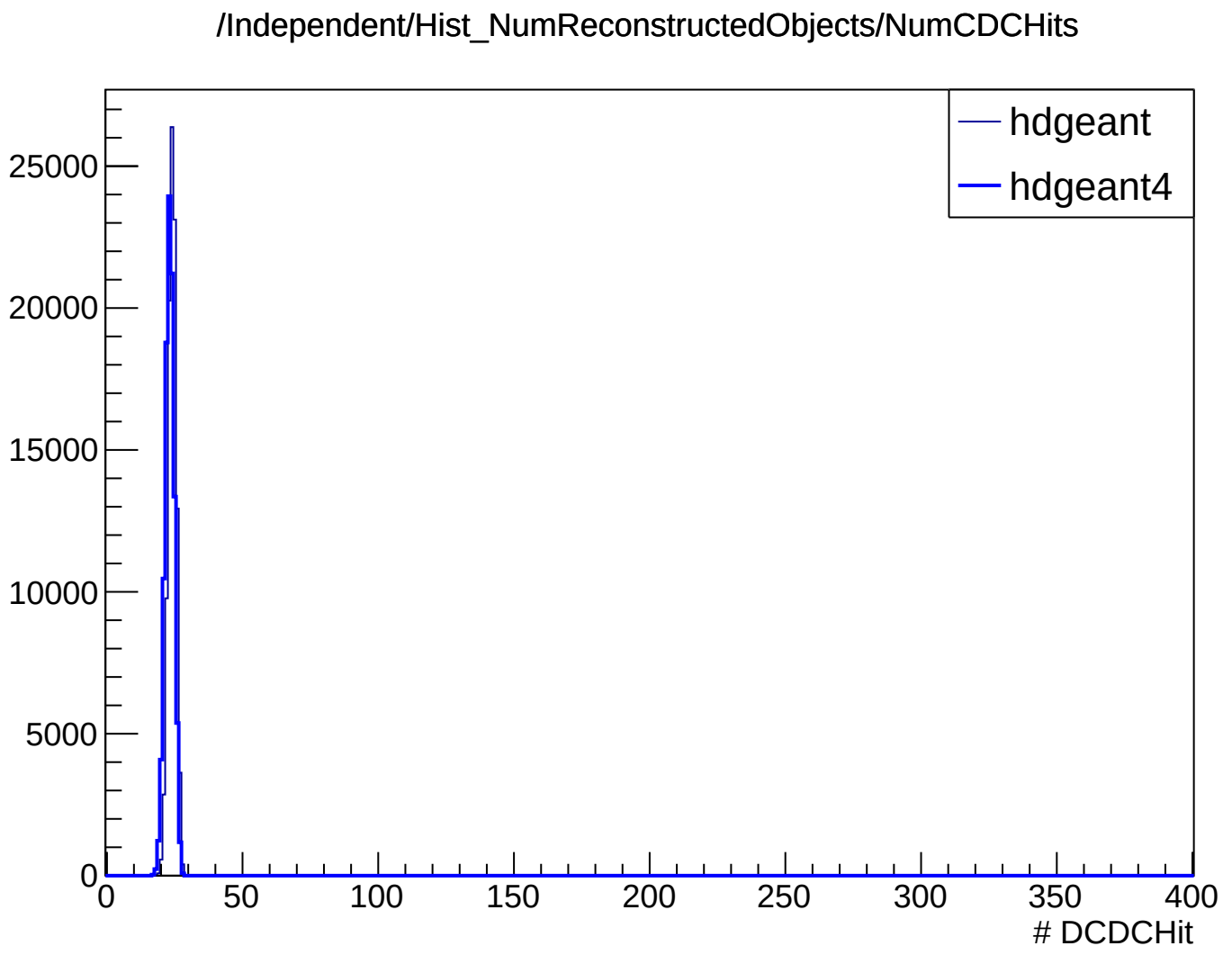

/Independent/Hist_NumReconstructedObjects/NumTAGHHits
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
DTAGHHit
hdgeant
hdgeant4

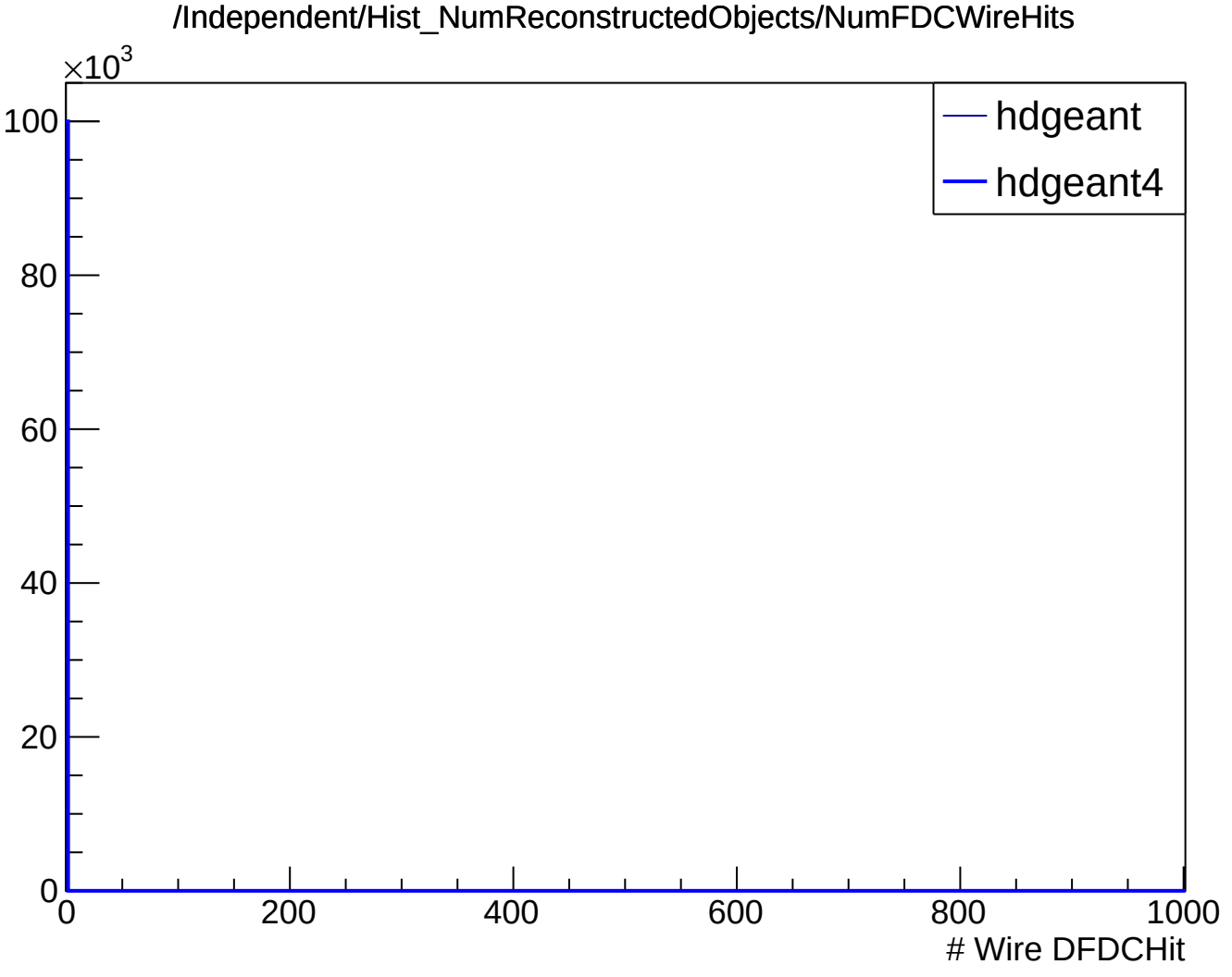

/Independent/Hist_NumReconstructedObjects/NumTrackBCALMatches
×10^3
100
80
60
40
20
0
0
5
10
15
20
Track-BCAL Matches
hdgeant
hdgeant4

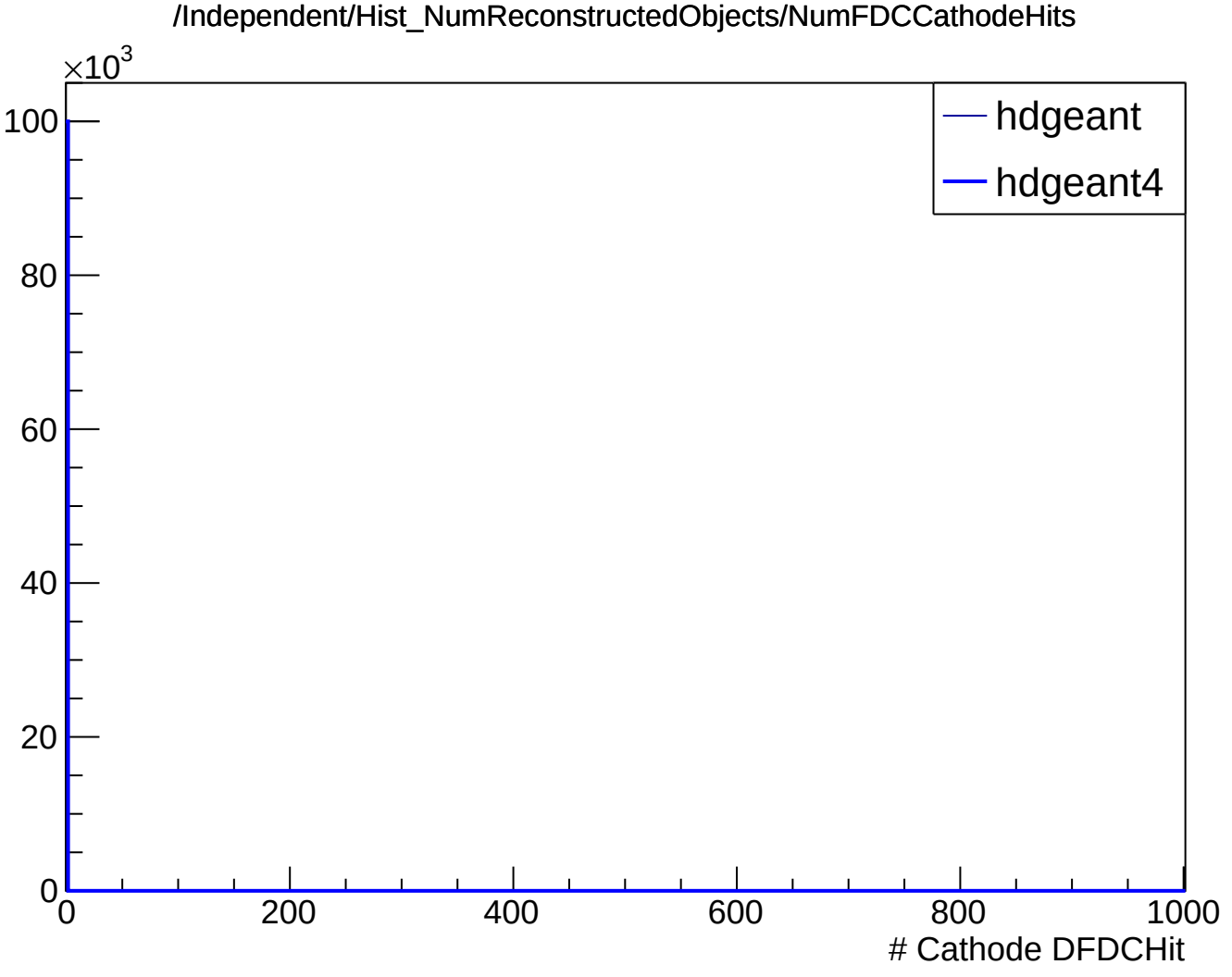

/Independent/Hist_NumReconstructedObjects/NumTrackFCALMatches
×10^3
100
80
60
40
20
0
0
5
10
15
20
Track-FCAL Matches
hdgeant
hdgeant4

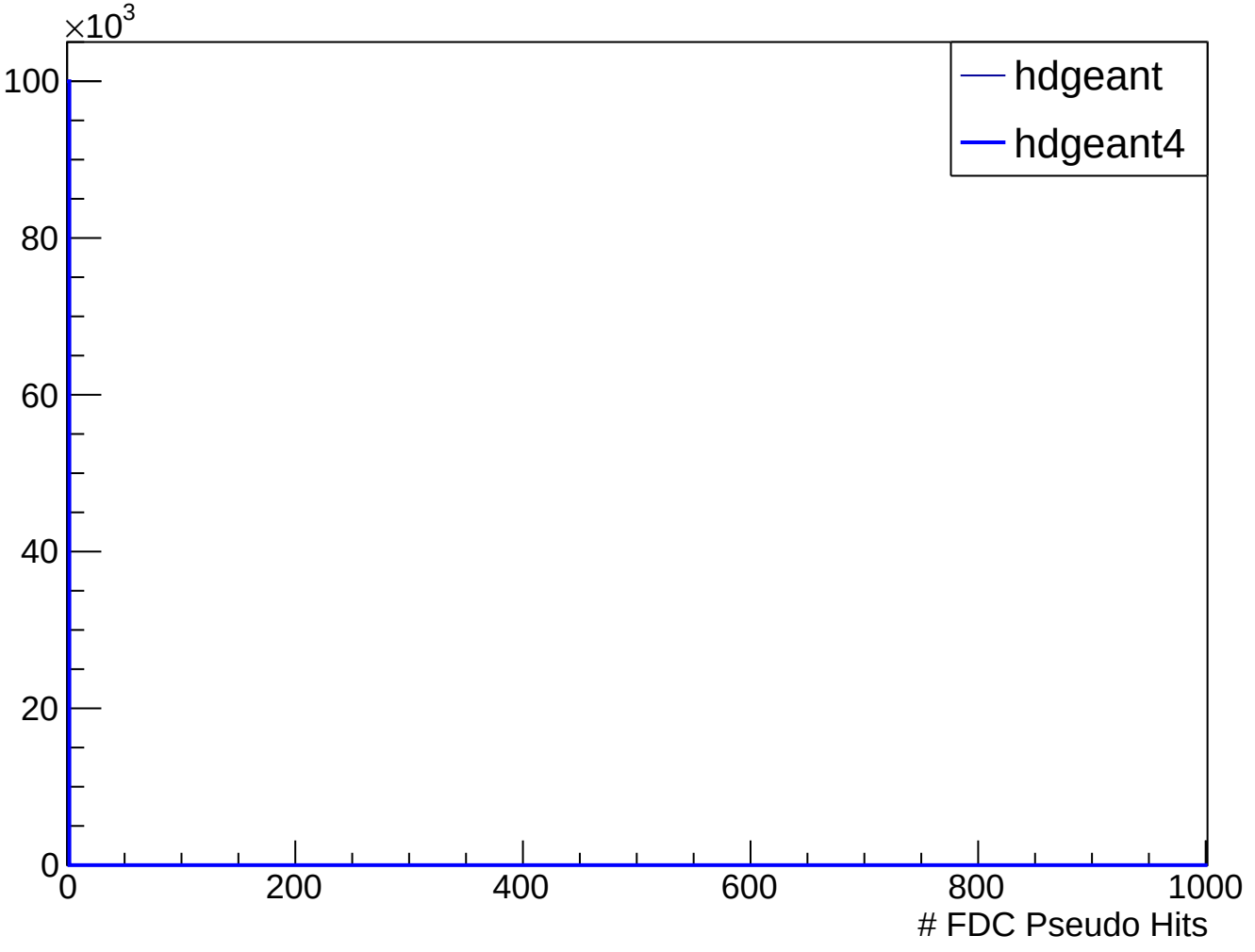

/Independent/Hist_NumReconstructedObjects/NumTrackTOFMatches
×10^3
100
80
60
40
20
0
0
5
10
15
20
Track-TOF Matches
hdgeant
hdgeant4

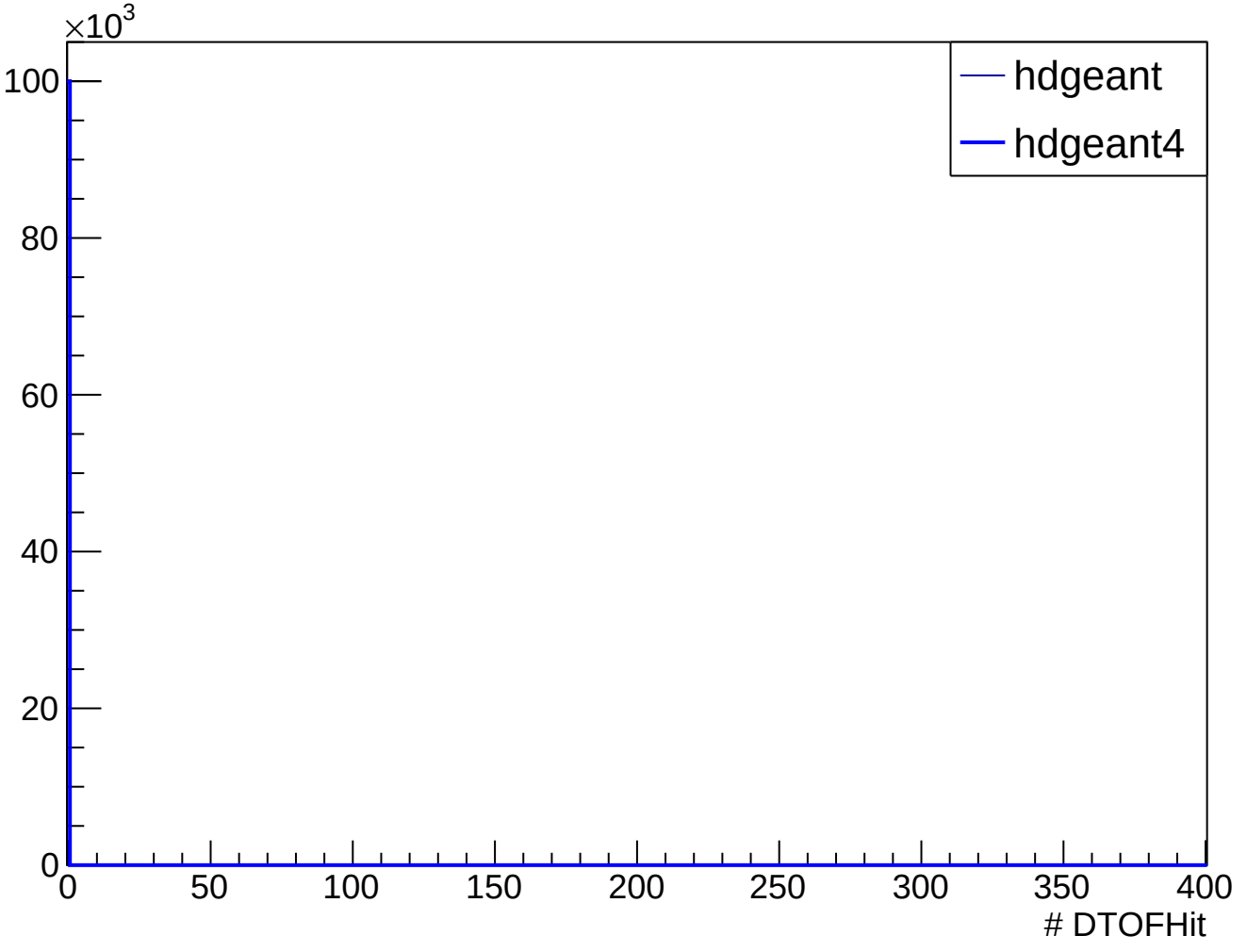

/Independent/Hist_NumReconstructedObjects/NumTrackSCMatches
×10^3
100
80
60
40
20
0
0
5
10
15
20
Track-SC Matches
hdgeant
hdgeant4

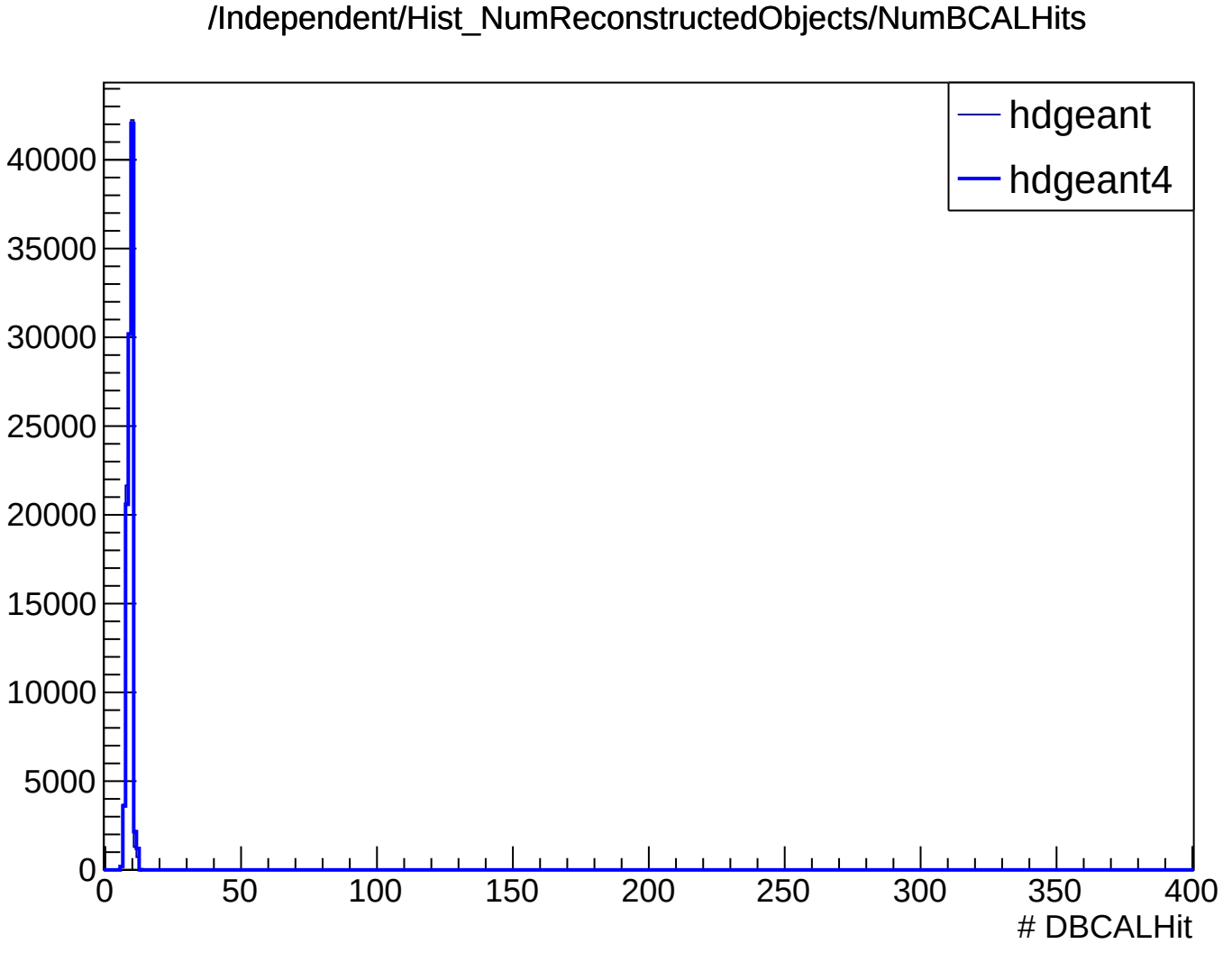

/Independent/Hist_NumReconstructedObjects/NumCDCHits
hdgeant
hdgeant4
25000
20000
15000
10000
5000
0
0
50
100
150
200
250
300
350
400
DCDCHit

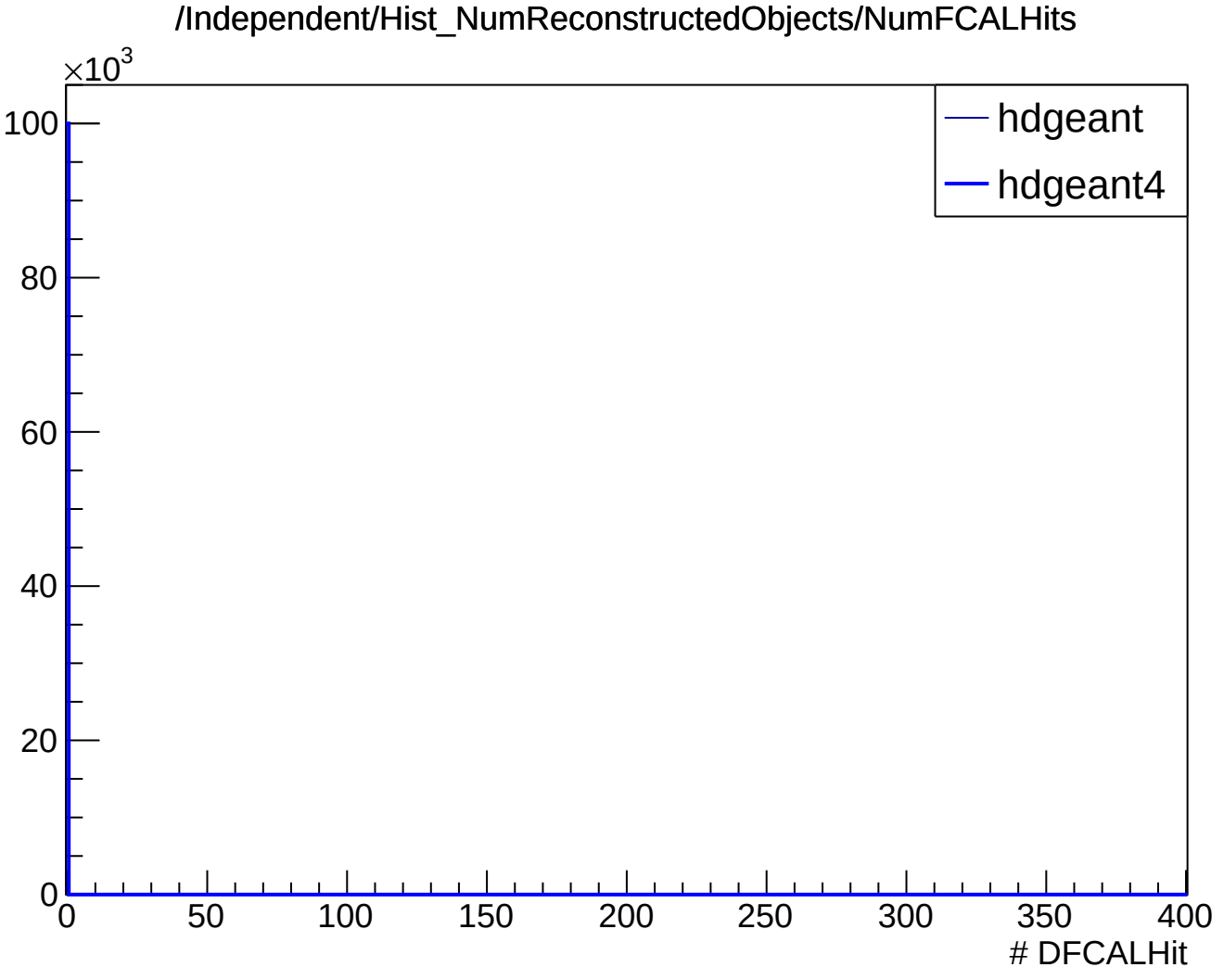

/Independent/Hist_NumReconstructedObjects/NumFDCWireHits
×10^3
100
80
60
40
20
0
0
200
400
600
800
1000
Wire DFDCHit
hdgeant
hdgeant4

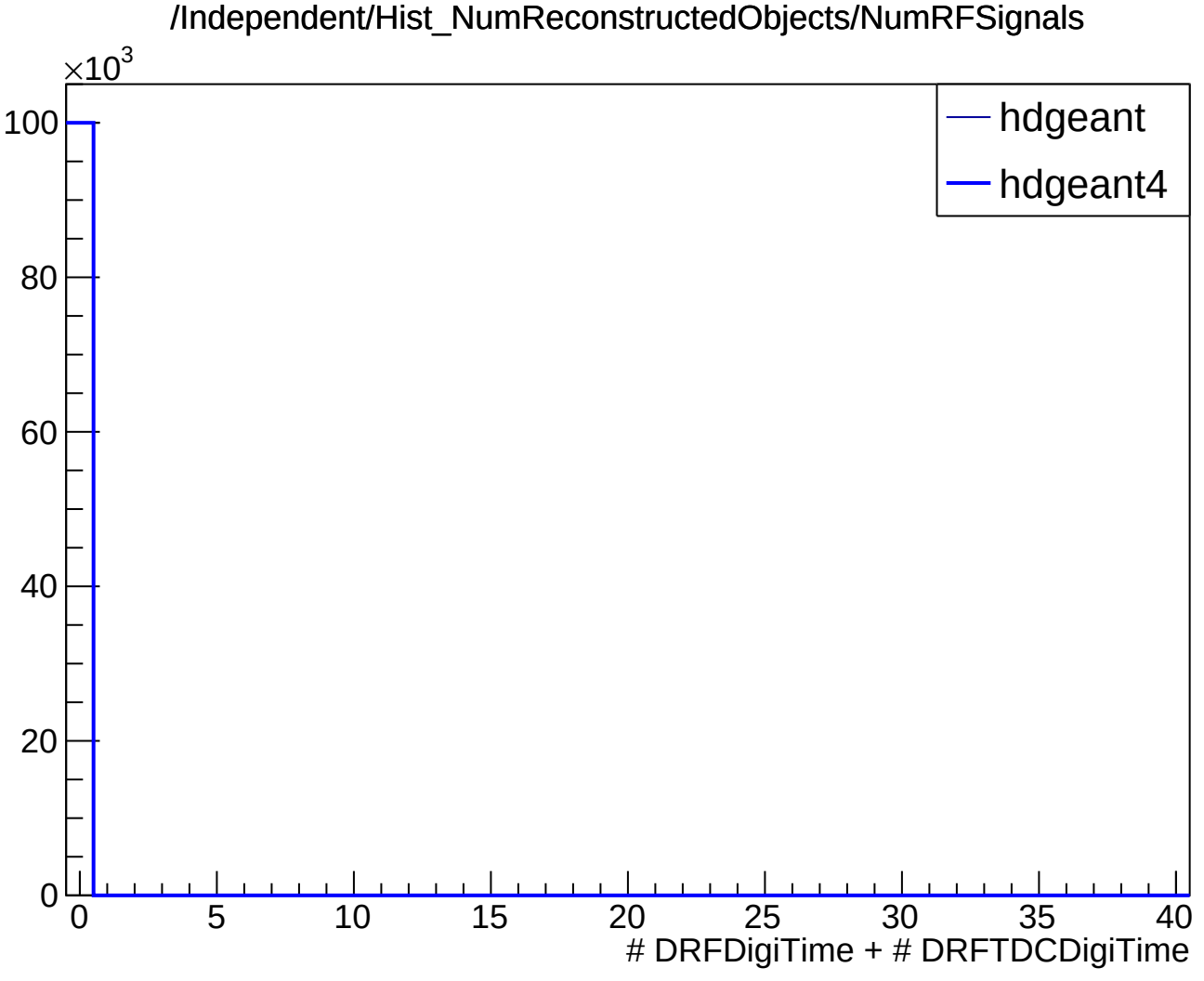

/Independent/Hist_NumReconstructedObjects/NumFDCCathodeHits
×10^3
100
80
60
40
20
0
0
200
400
600
800
1000
Cathode DFDCHit
hdgeant
hdgeant4

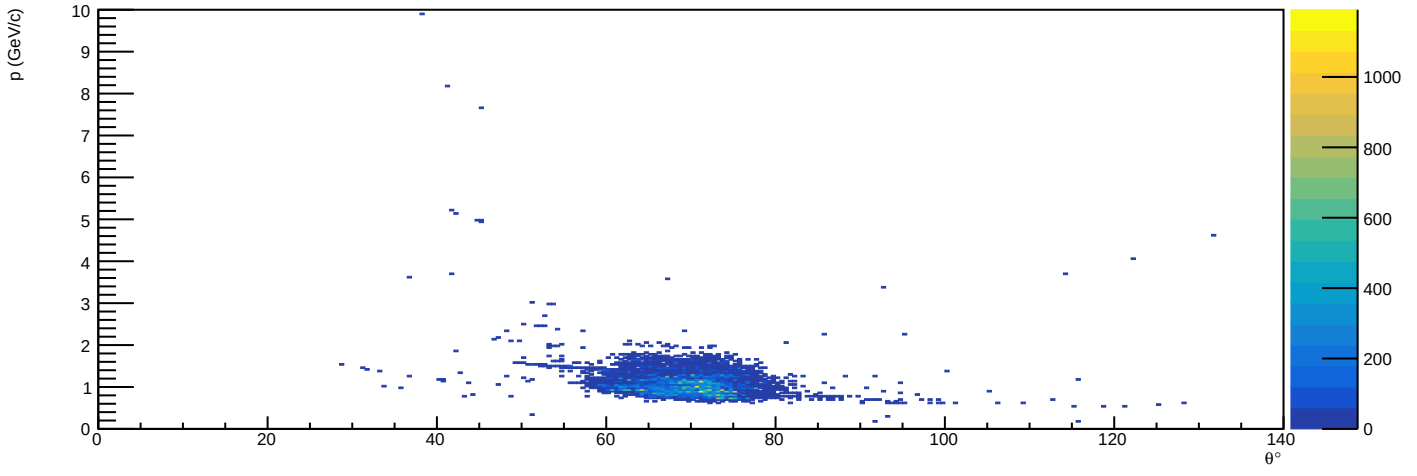

/Independent/Hist_NumReconstructedObjects/NumFDCPseudoHits
×10^3
100
80
60
40
20
0
0
200
400
600
800
1000
FDC Pseudo Hits
hdgeant
hdgeant4

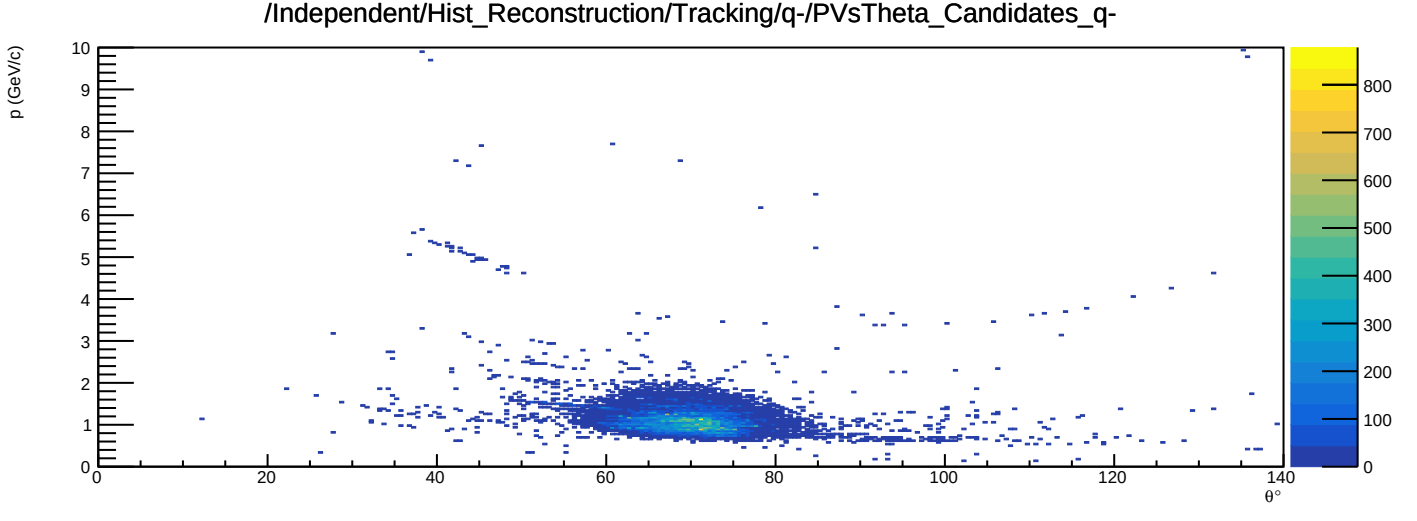

/Independent/Hist_NumReconstructedObjects/NumTOFHits
×10^3
100
80
60
40
20
0
0
50
100
150
200
250
300
350
400
DTOFHit
hdgeant
hdgeant4

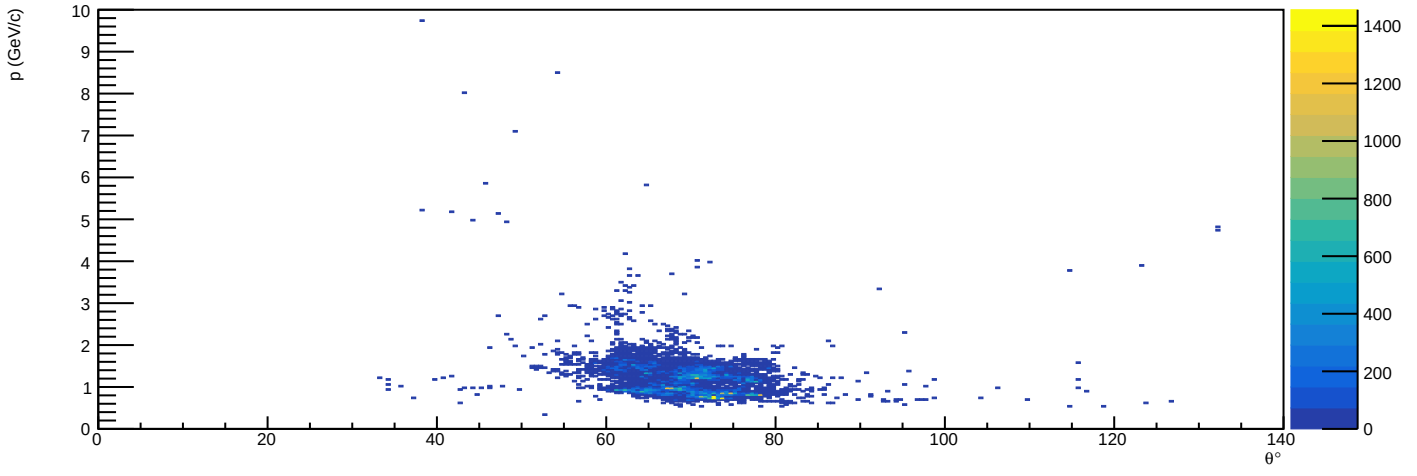

/Independent/Hist_NumReconstructedObjects/NumBCALHits
hdgeant
hdgeant4
40000
35000
30000
25000
20000
15000
10000
5000
0
0
50
100
150
200
250
300
350
400
DBCALHit

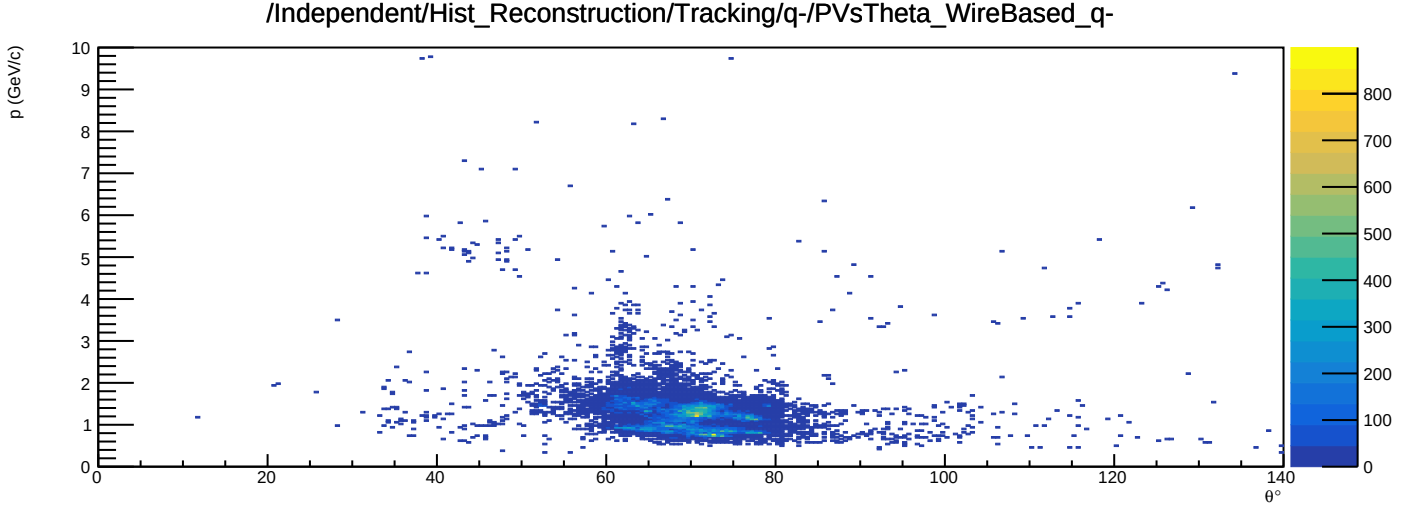

/Independent/Hist_NumReconstructedObjects/NumFCALHits
×10^3
100
80
60
40
20
0
0
50
100
150
200
250
300
350
400
DFCALHit
hdgeant
hdgeant4

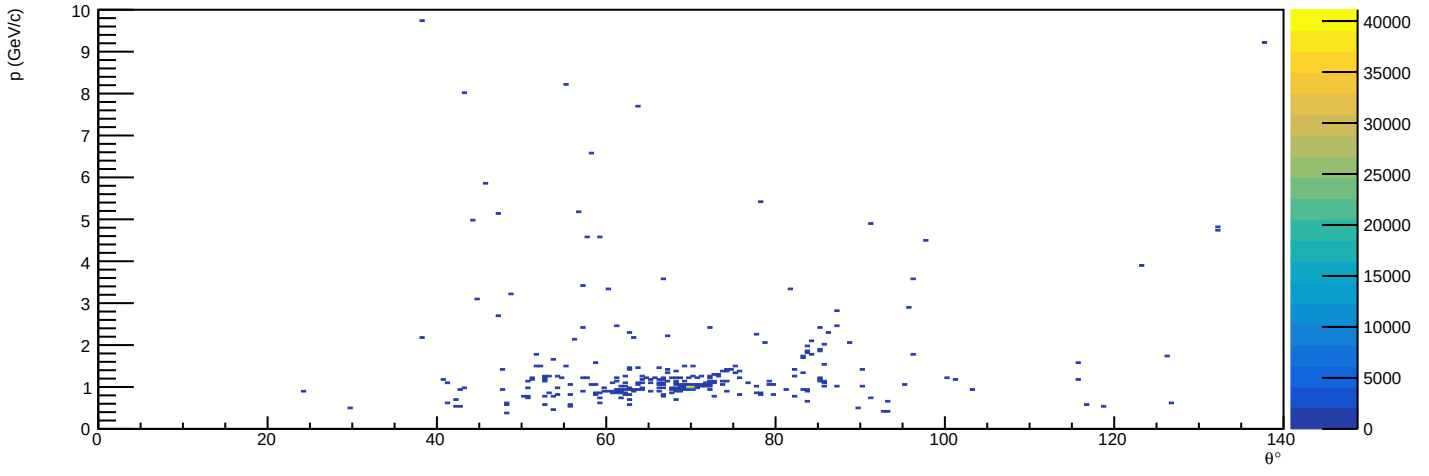

/Independent/Hist_NumReconstructedObjects/NumRFSignals
×10^3
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
DRFDigiTime + # DRFTDCDigiTime
hdgeant
hdgeant4

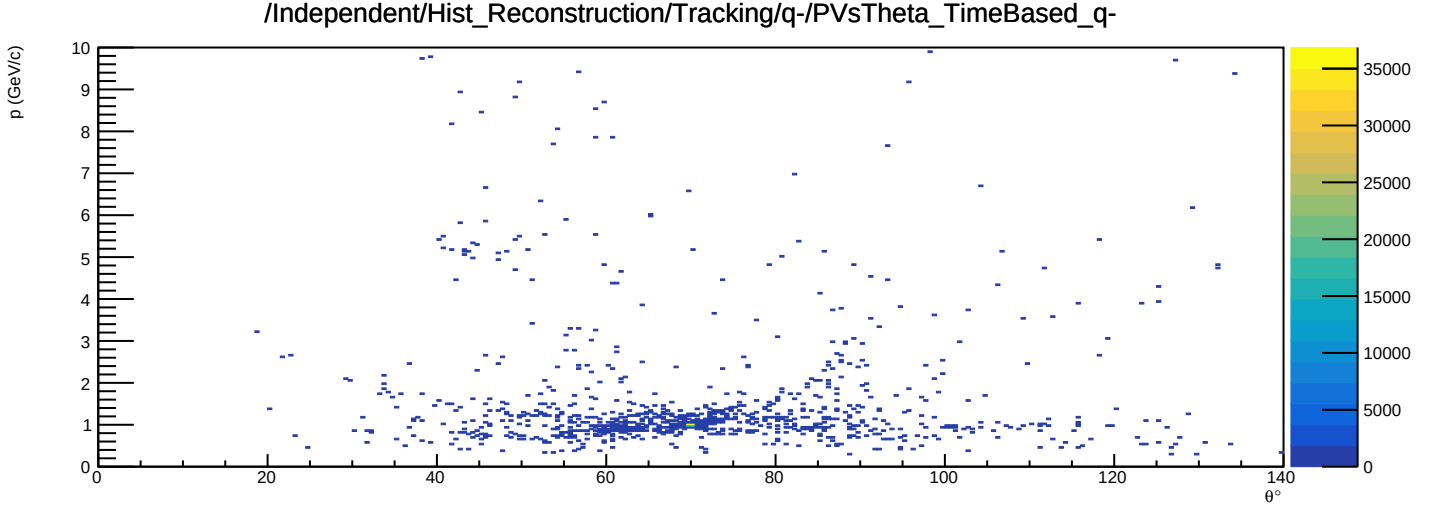

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_Candidates_q-
p (GeV/c)
θ°

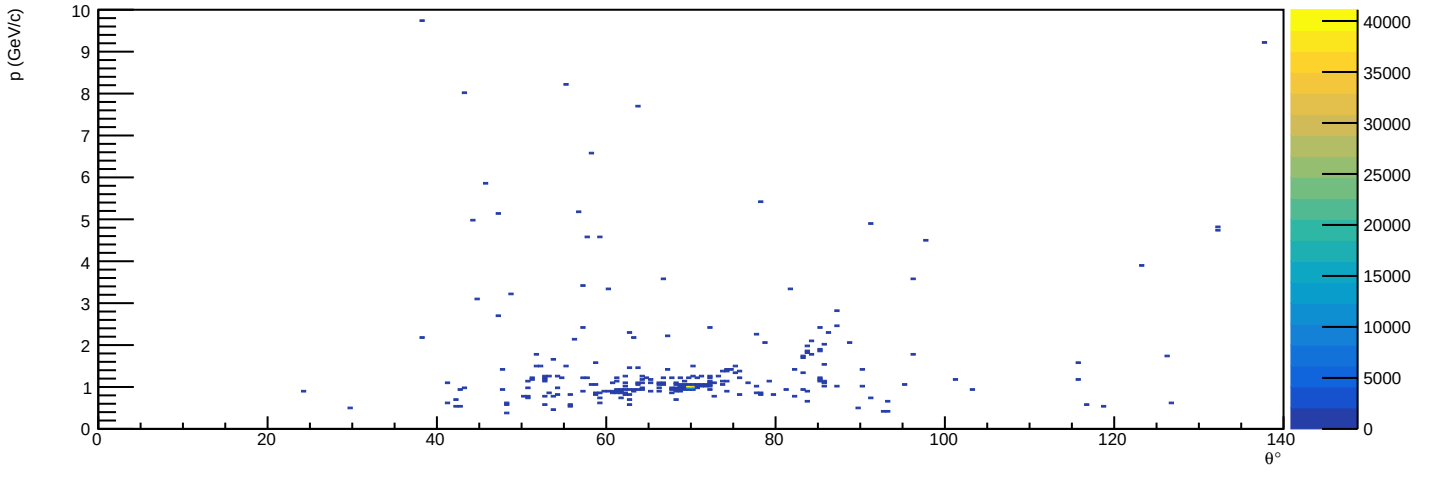

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_Candidates_q-
p (GeV/c)
θ°

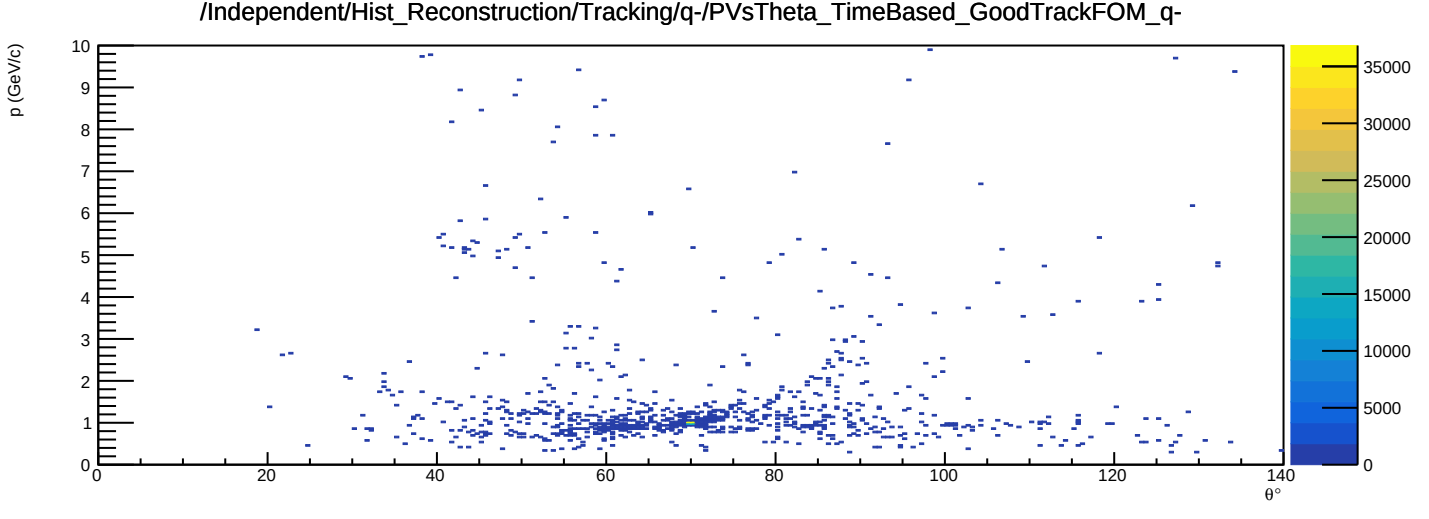

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_WireBased_q-
p (GeV/c)
θ°

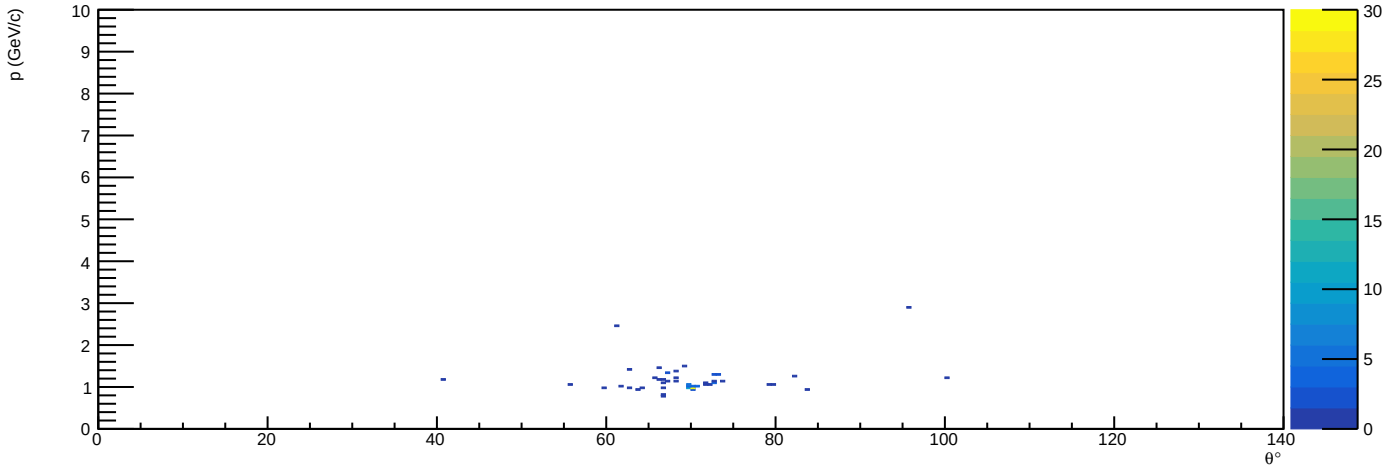

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_WireBased_q-
p (GeV/c)
θ°

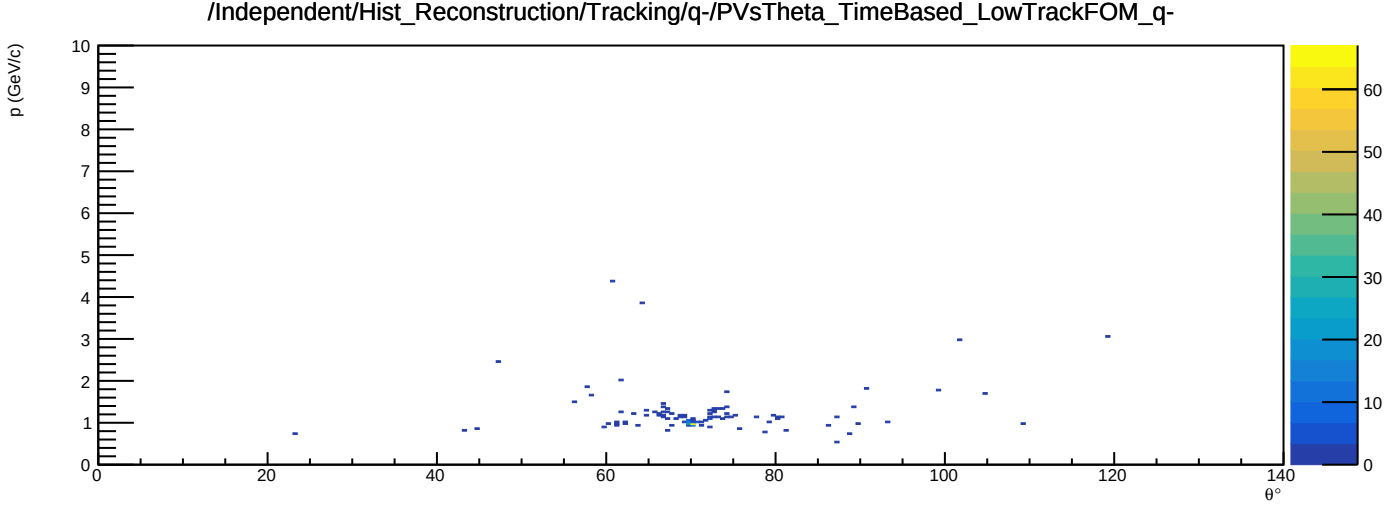

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_TimeBased_q-
p (GeV/c)
θ°

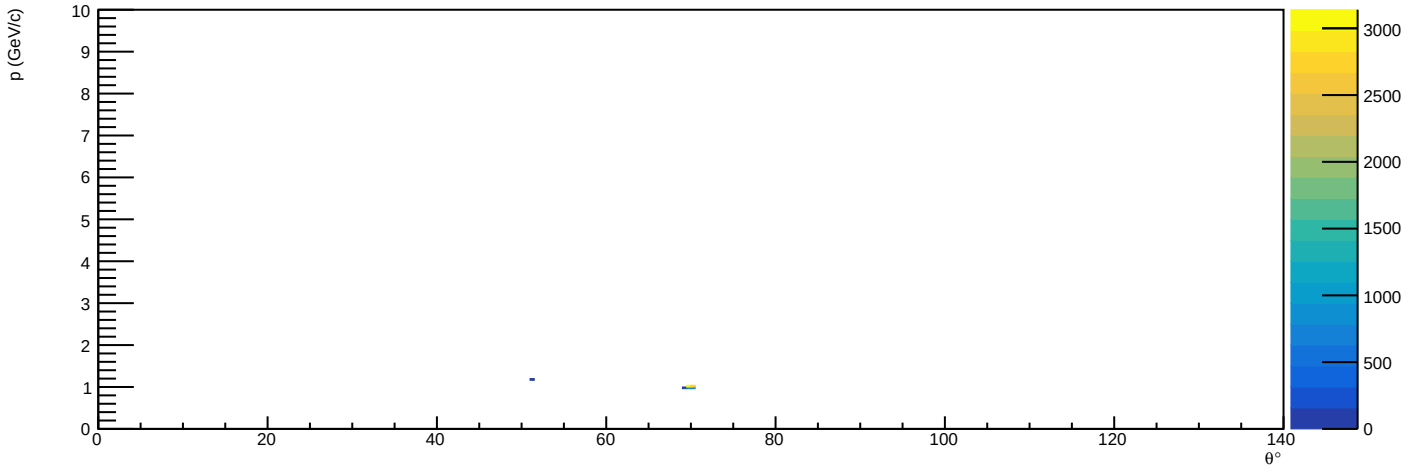

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_TimeBased_q-
p (GeV/c)
θ°

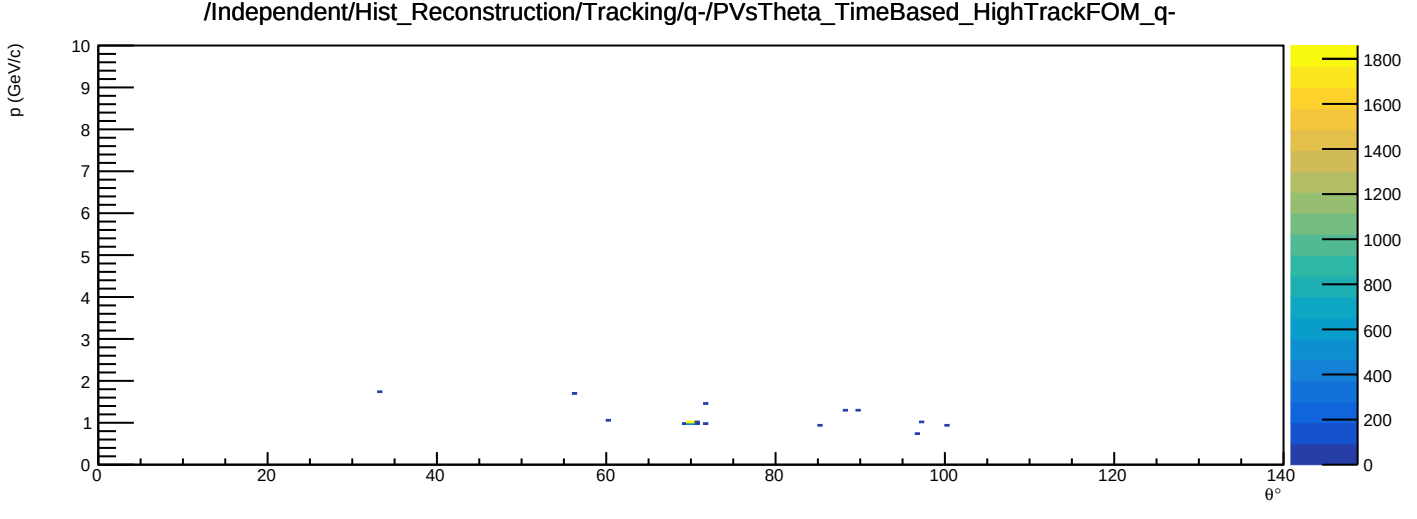

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_TimeBased_GoodTrackFOM_q-
p (GeV/c)
θ°

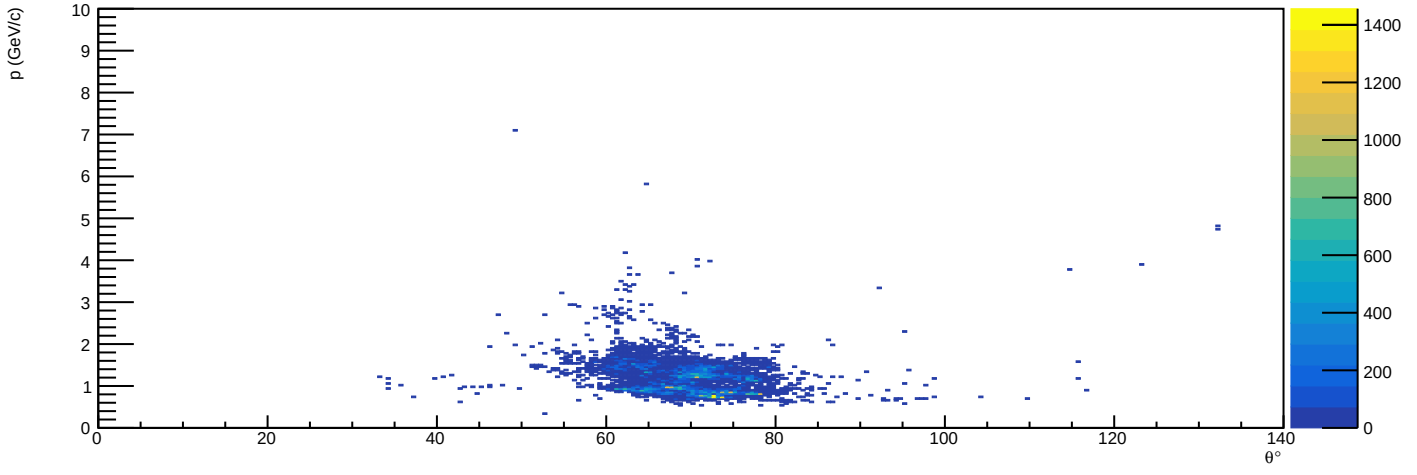

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_TimeBased_GoodTrackFOM_q-
p (GeV/c)
θ°

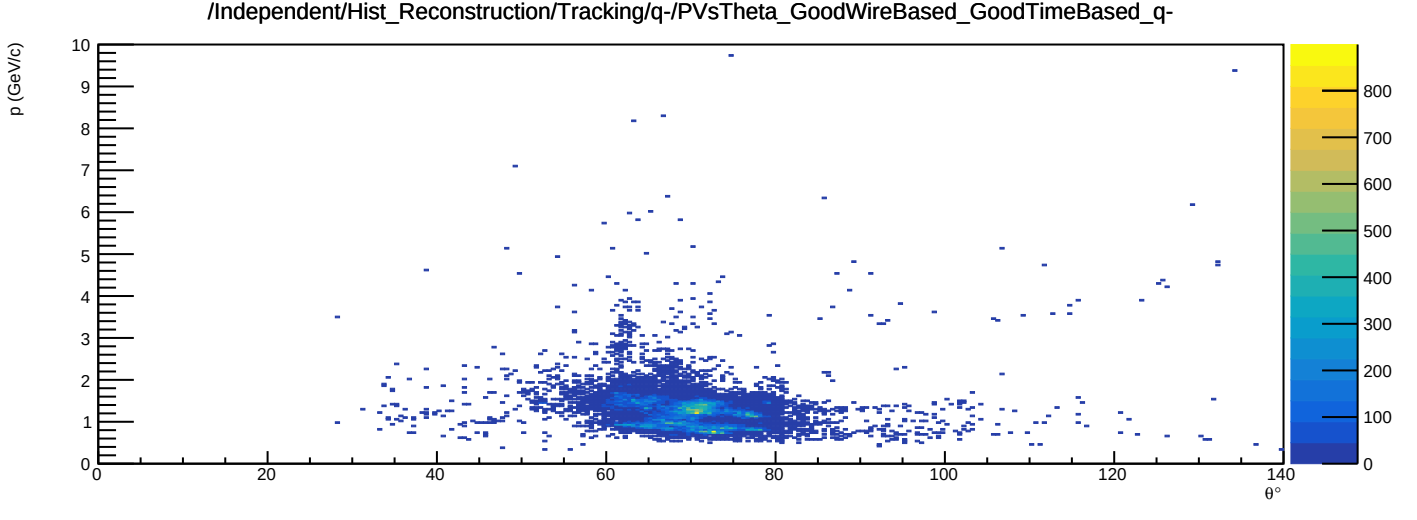

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_TimeBased_LowTrackFOM_q-
p (GeV/c)
θ°

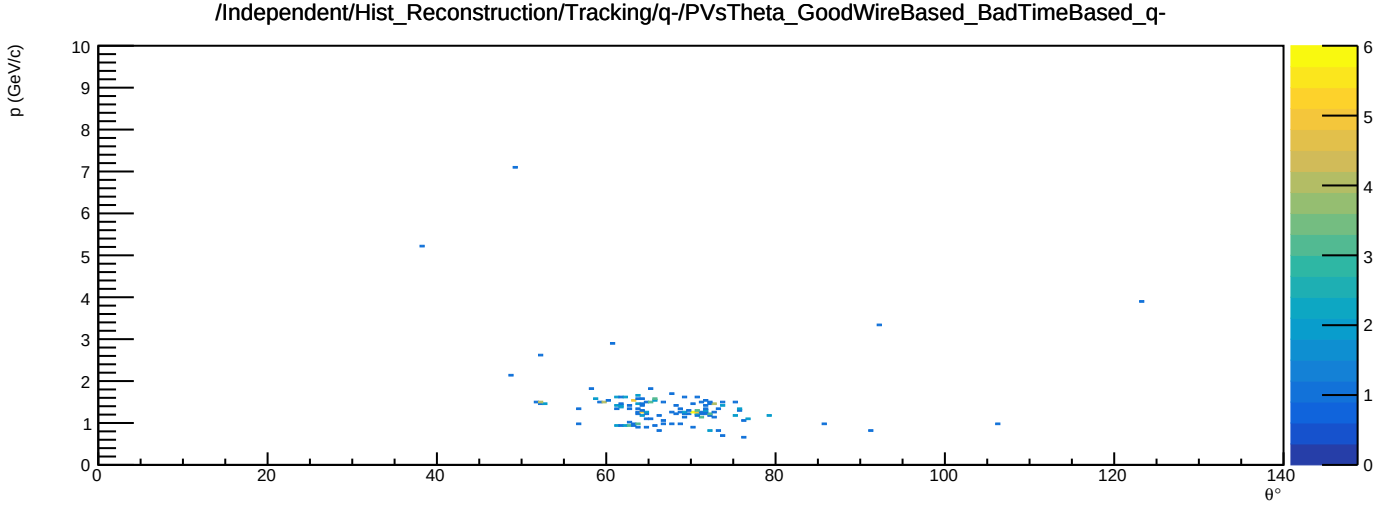

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_TimeBased_LowTrackFOM_q-
p (GeV/c)
θ°

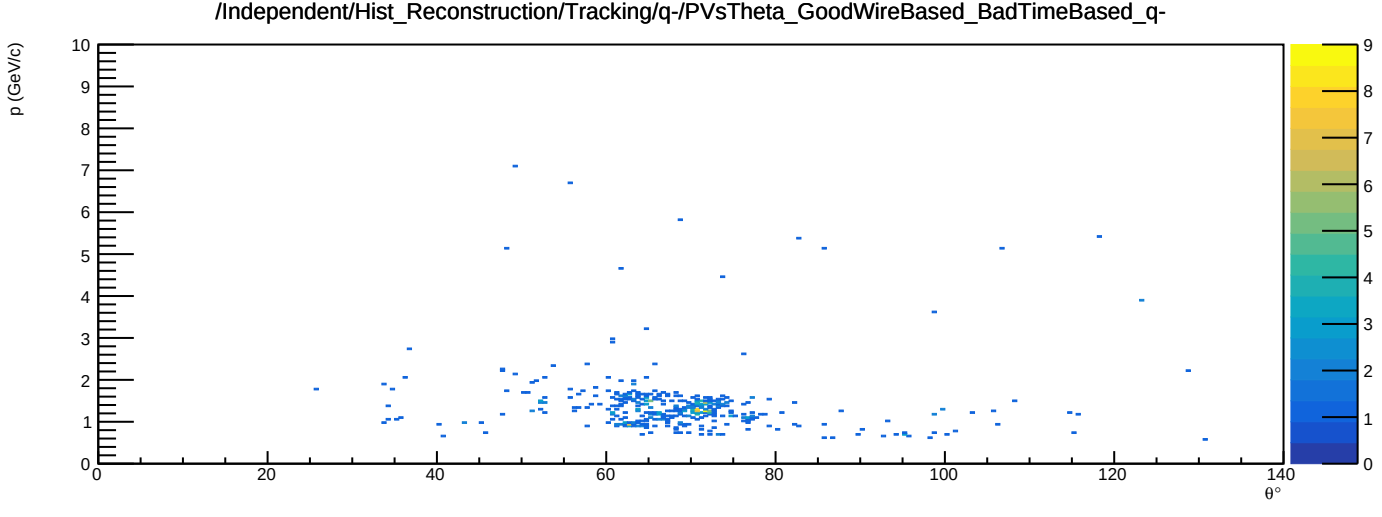

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_TimeBased_HighTrackFOM_q-
p (GeV/c)
θ°

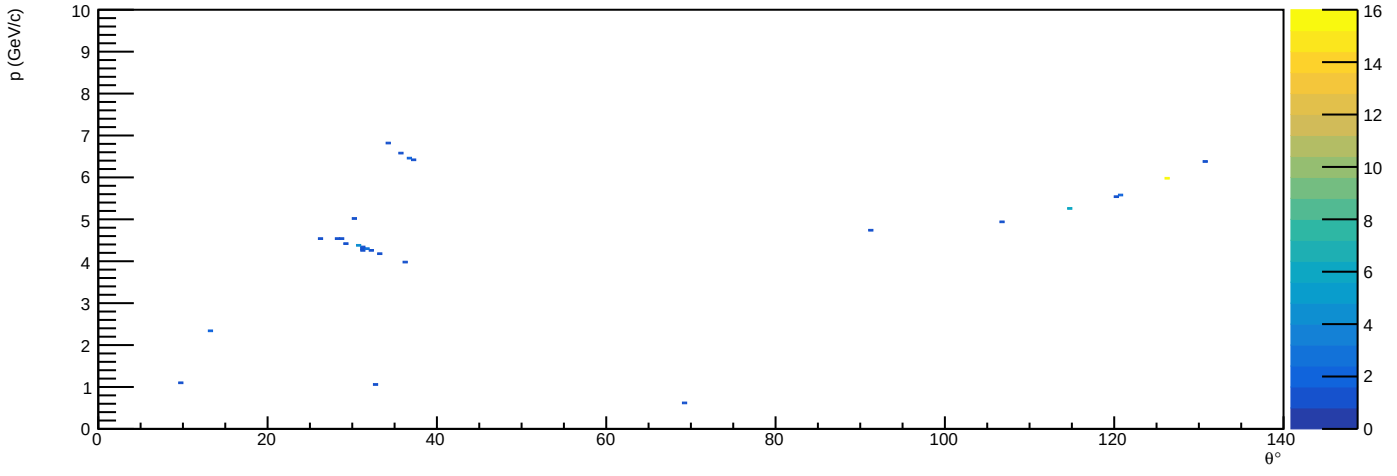

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_TimeBased_HighTrackFOM_q-
p (GeV/c)
θ°

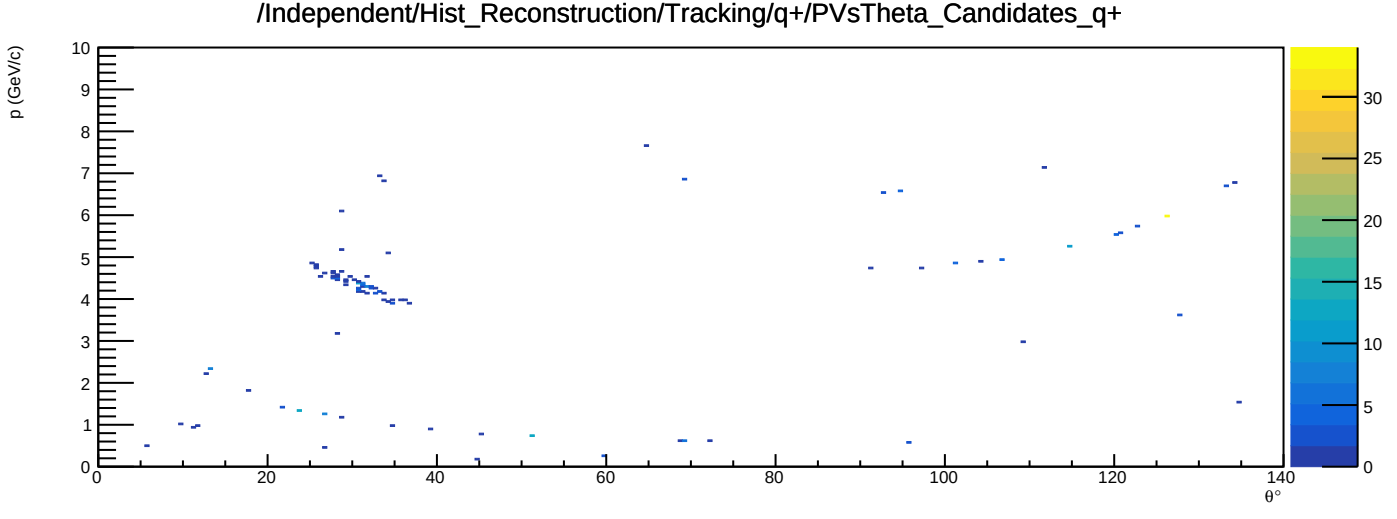

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_GoodWireBased_GoodTimeBased_q-
p (GeV/c)
θ°

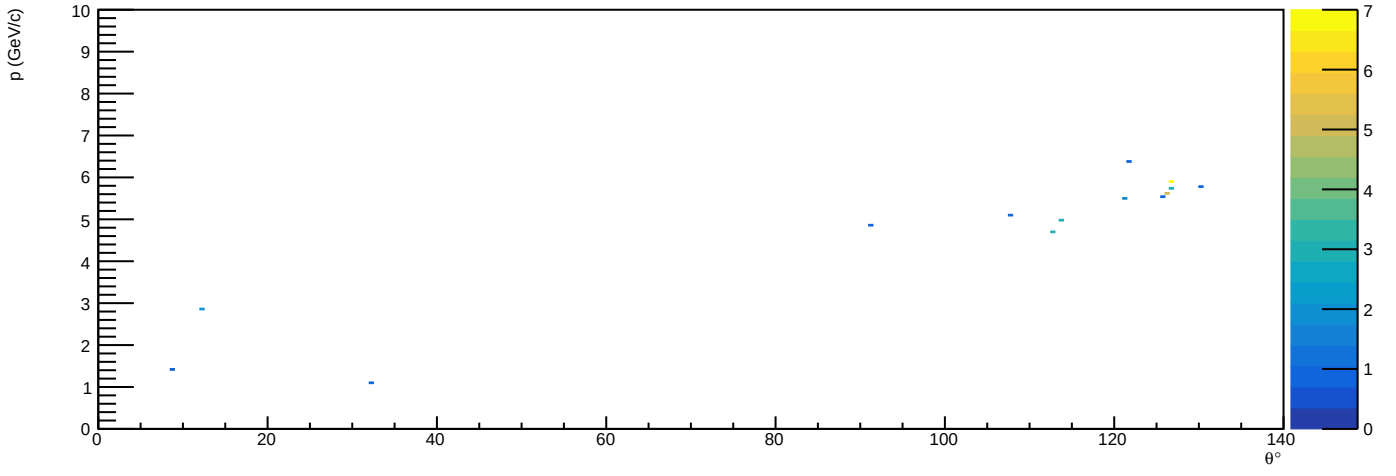

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_GoodWireBased_GoodTimeBased_q-
p (GeV/c)
θ°

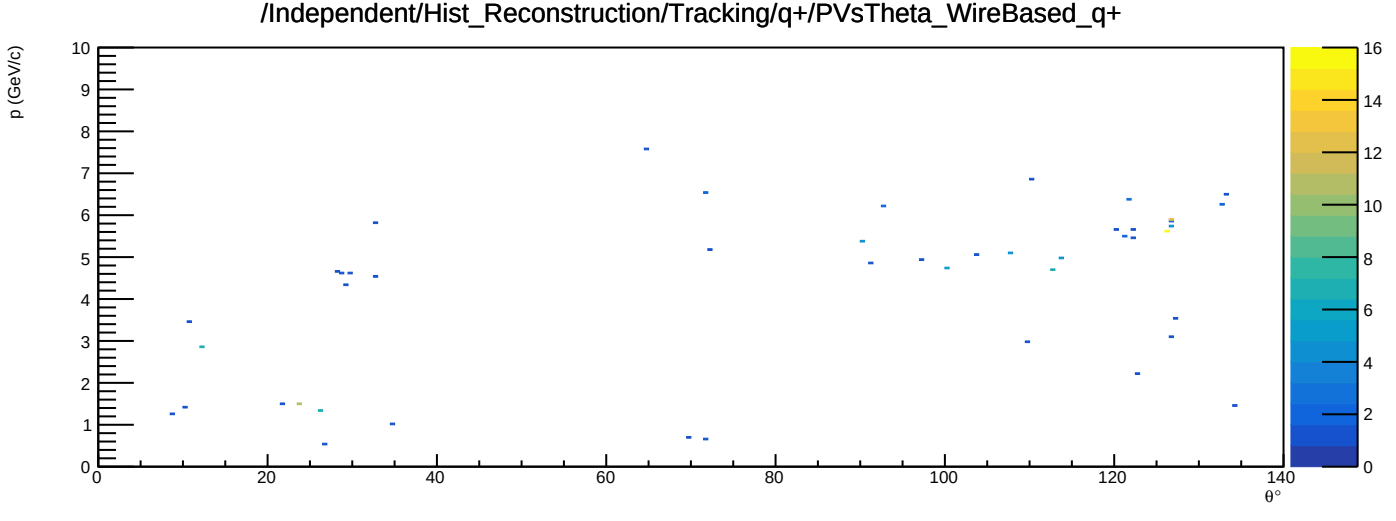

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_GoodWireBased_BadTimeBased_q-
p (GeV/c)
θ°

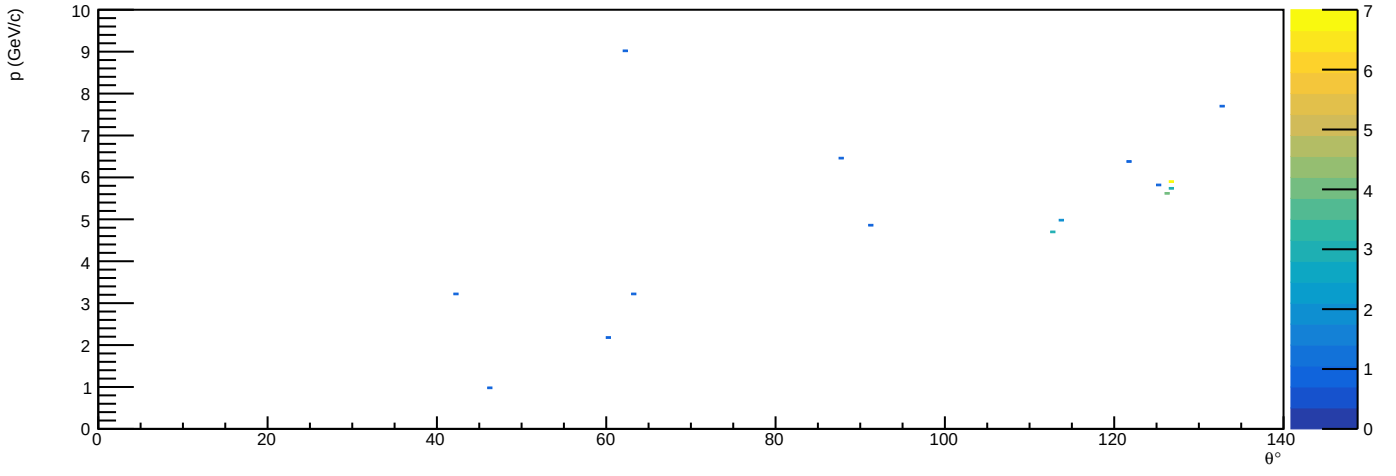

/Independent/Hist_Reconstruction/Tracking/q-/PVsTheta_GoodWireBased_BadTimeBased_q-
p (GeV/c)
θ°

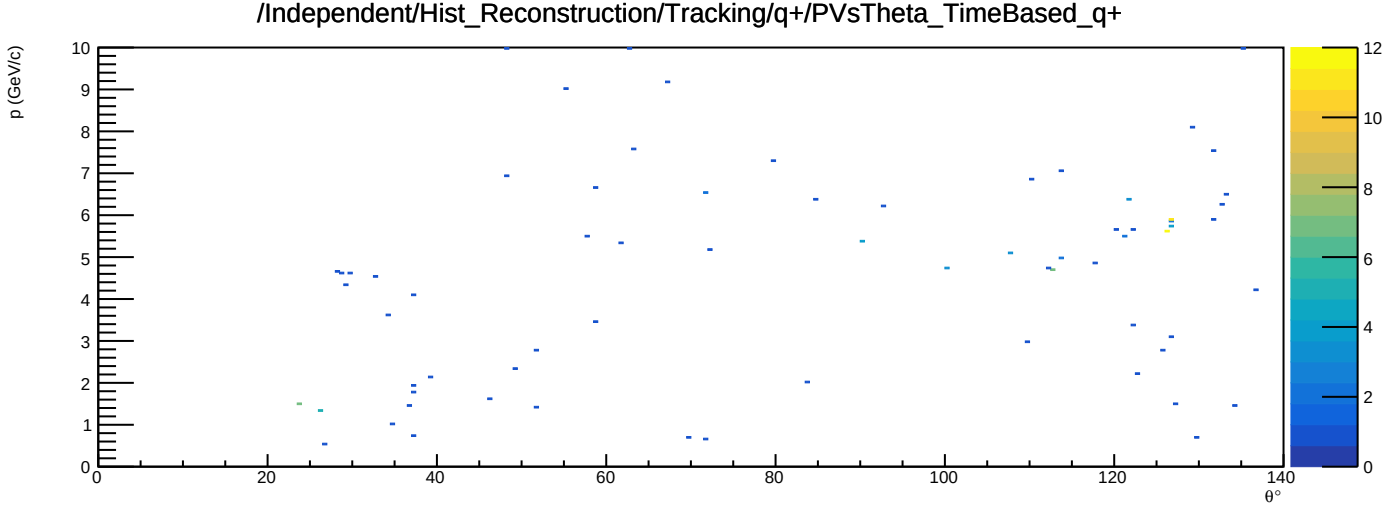

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_Candidates_q+
p (GeV/c)
θ°

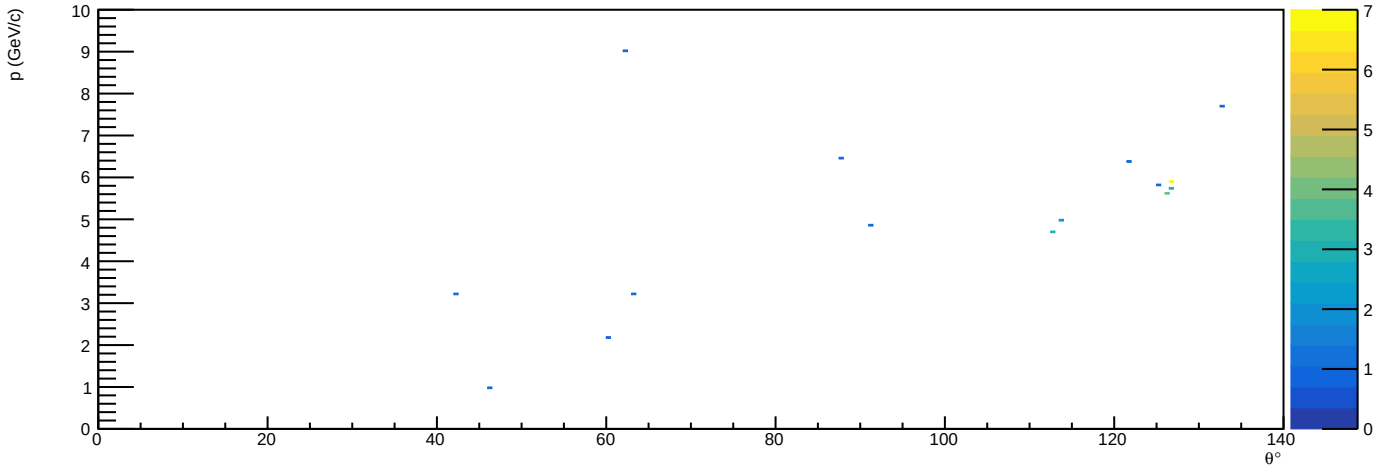

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_Candidates_q+
p (GeV/c)
θ°

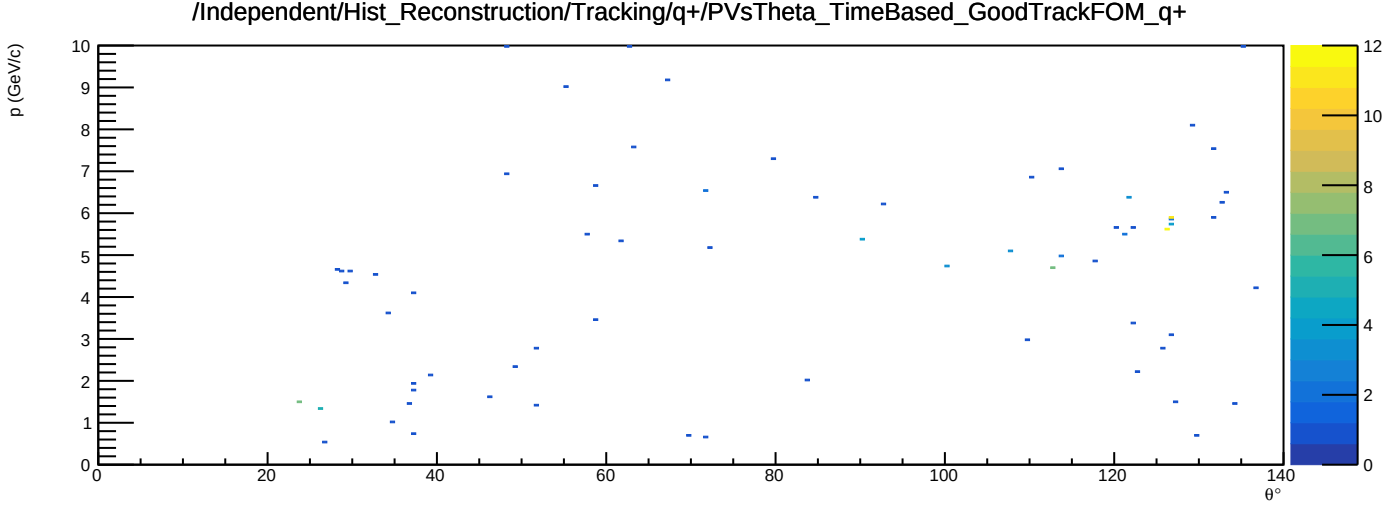

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_WireBased_q+
p (GeV/c)
θ°

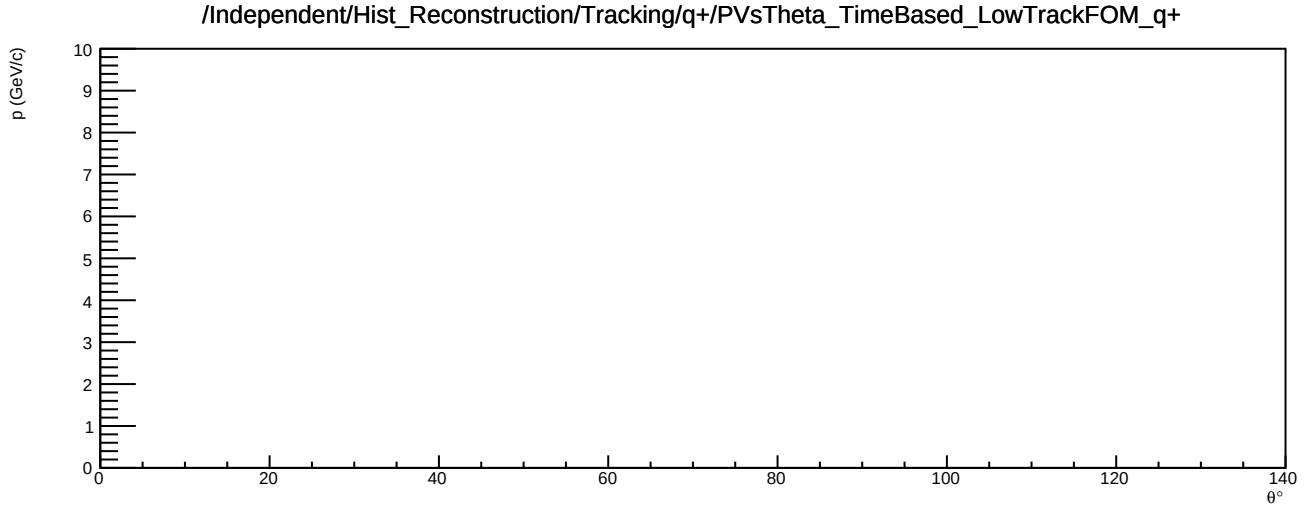

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_WireBased_q+
p (GeV/c)
θ°

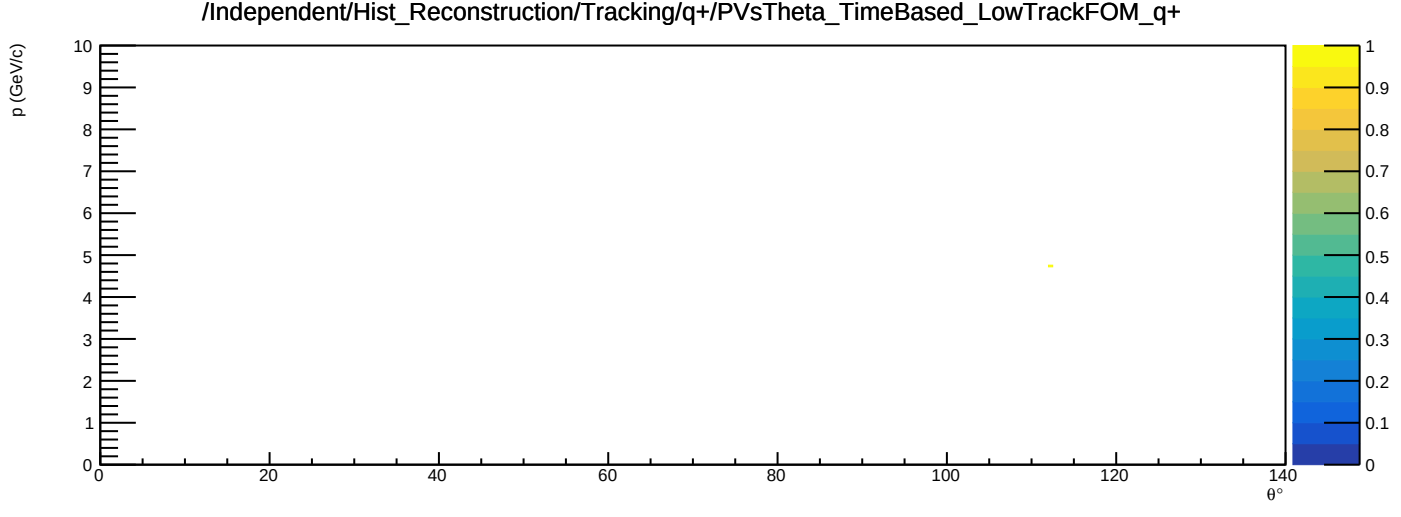

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_TimeBased_q+
p (GeV/c)
θ°

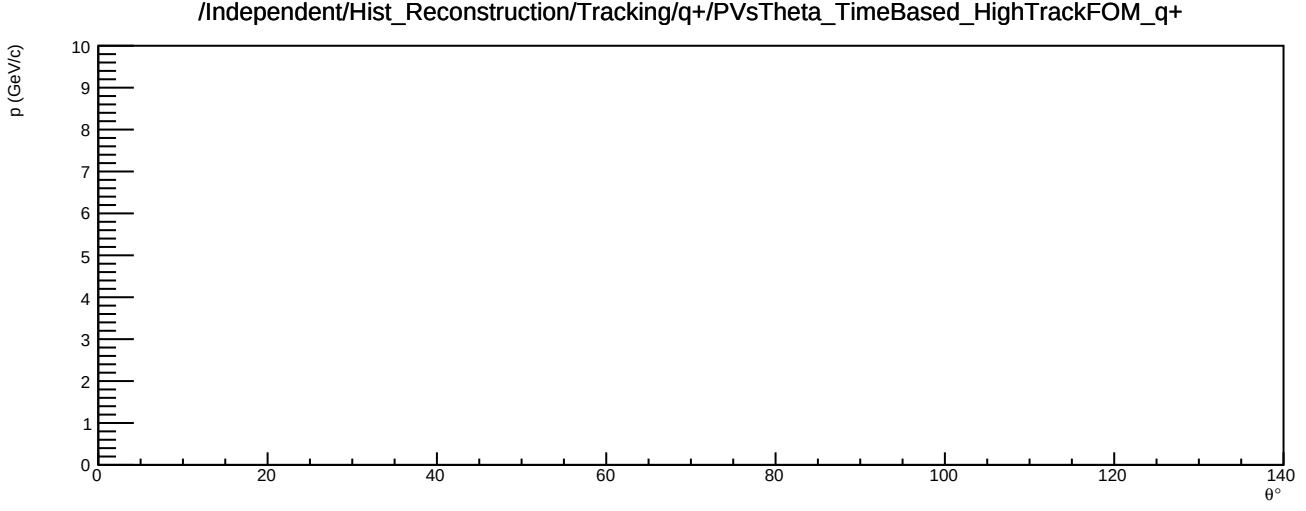

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_TimeBased_q+
p (GeV/c)
θ°

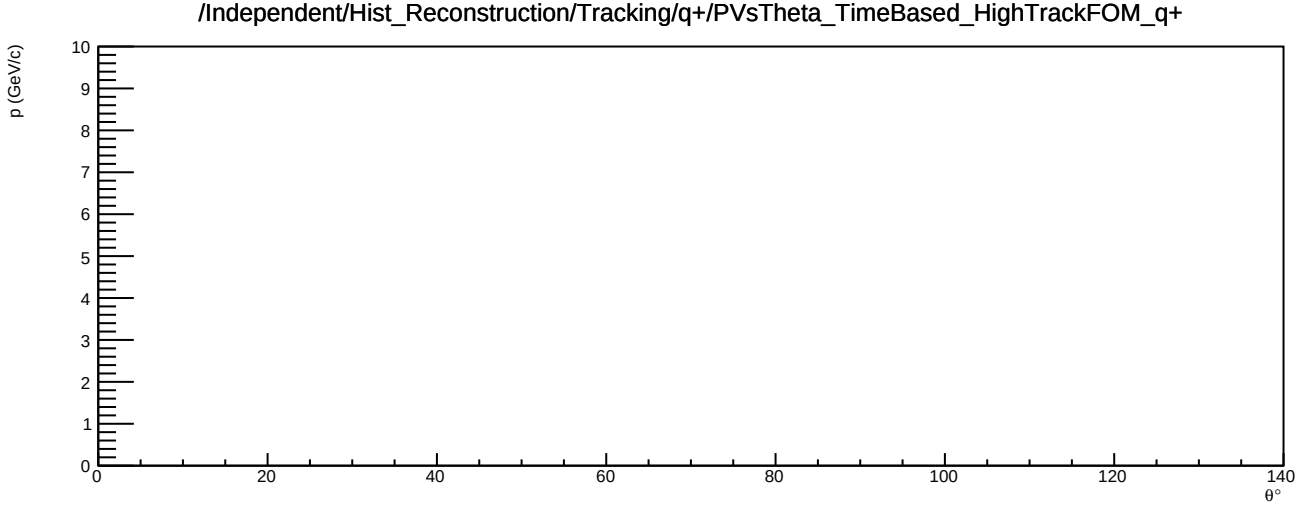

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_TimeBased_GoodTrackFOM_q+
p (GeV/c)
θ°

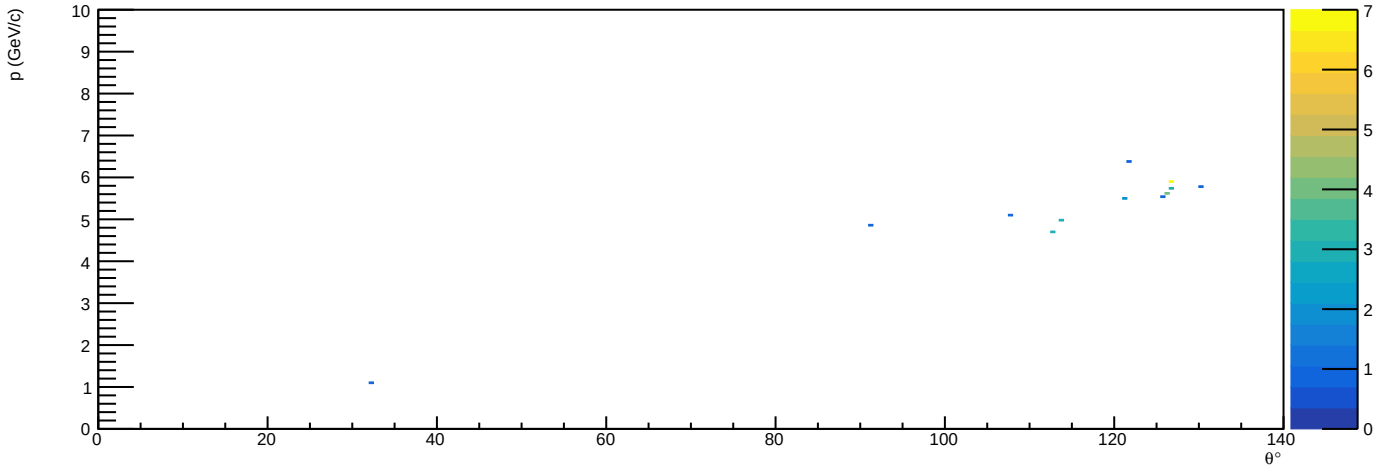

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_TimeBased_GoodTrackFOM_q+
p (GeV/c)
θ°

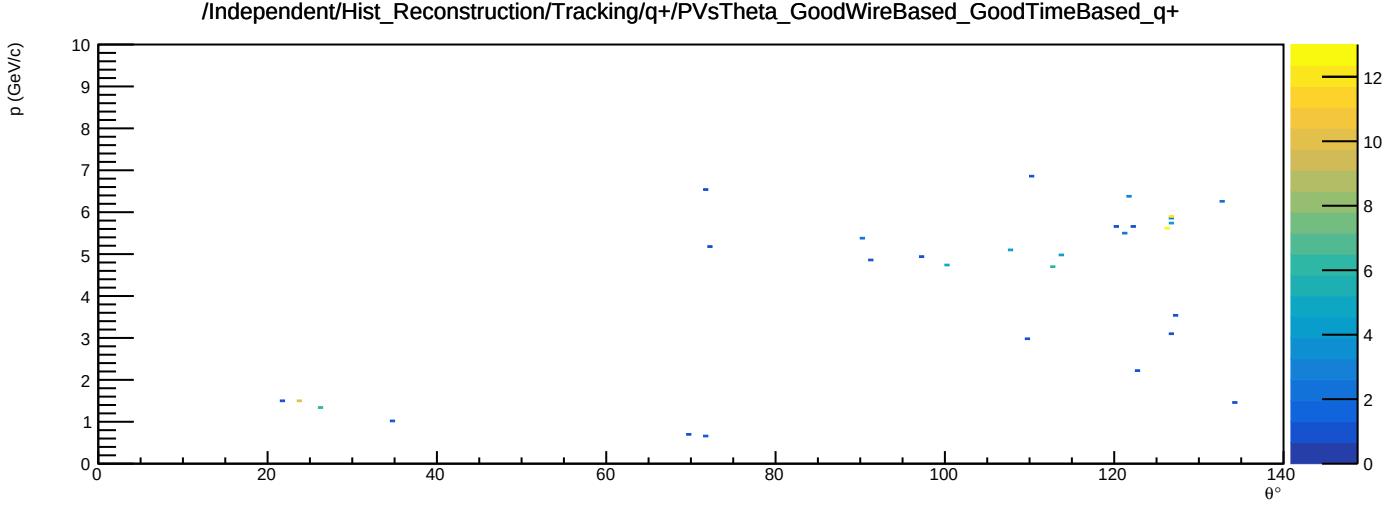

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_TimeBased_LowTrackFOM_q+
p (GeV/c)
θ°

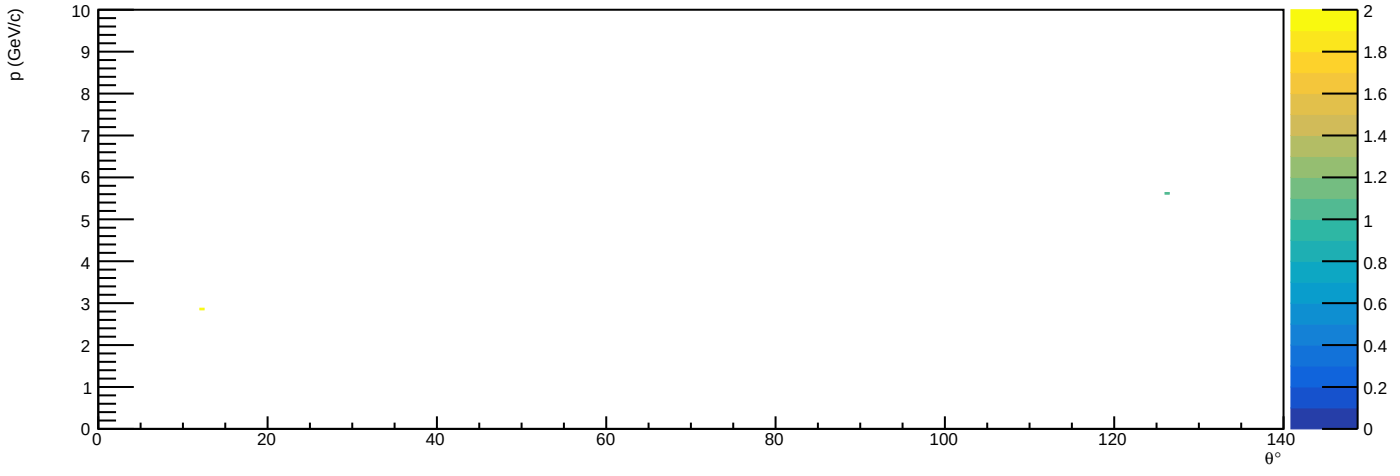

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_TimeBased_LowTrackFOM_q+
p (GeV/c)
θ°

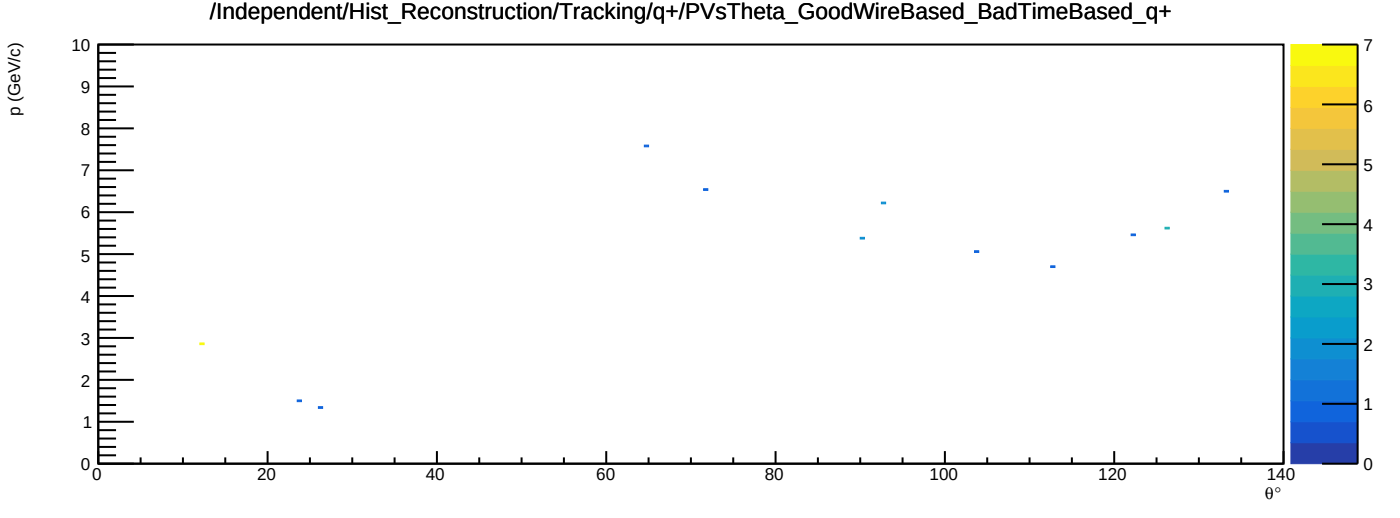

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_TimeBased_HighTrackFOM_q+
p (GeV/c)
0
1
2
3
4
5
6
7
8
9
10
0
20
40
60
80
100
120
140
θ°

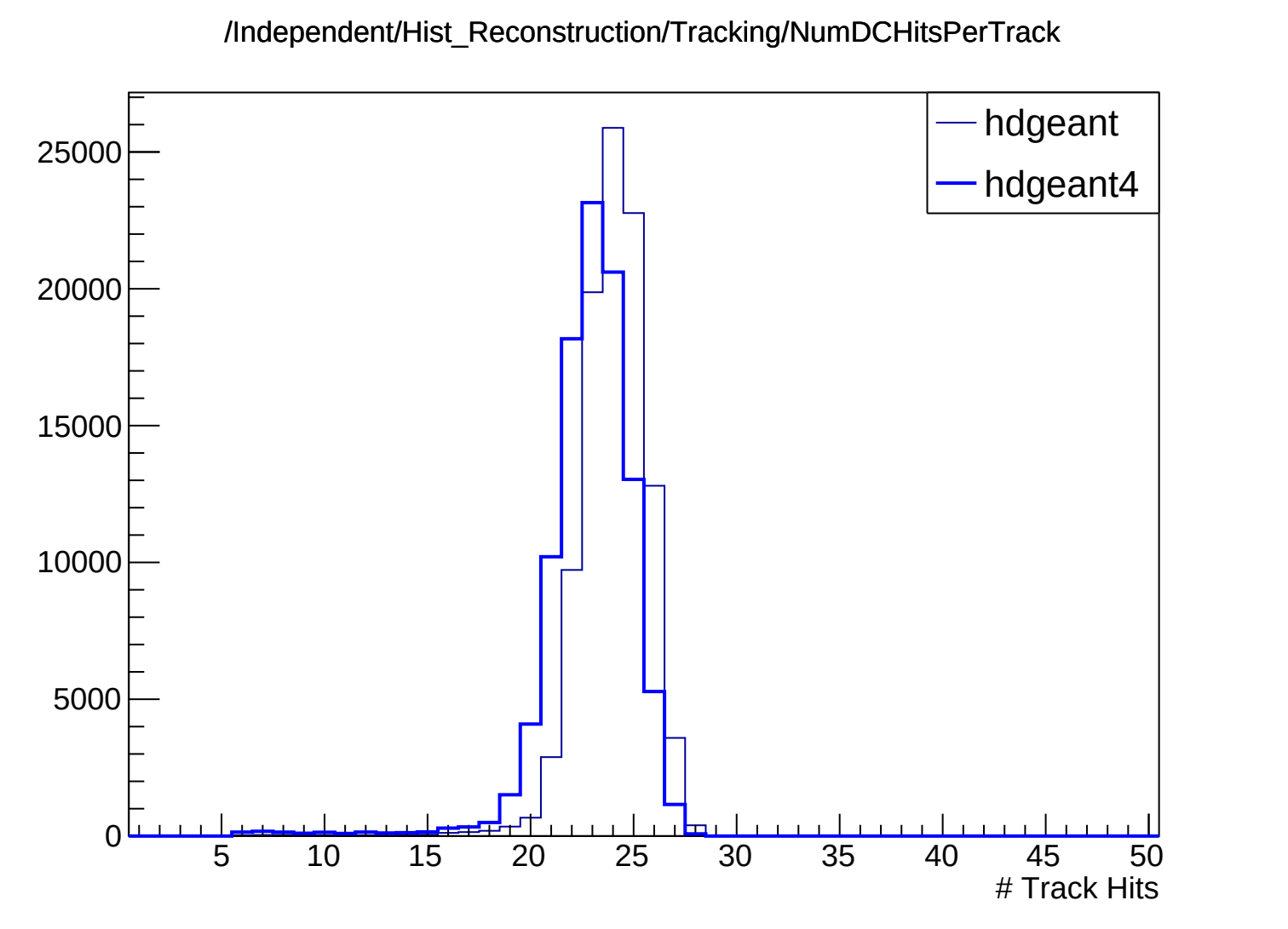

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_TimeBased_HighTrackFOM_q+
p (GeV/c)
0
1
2
3
4
5
6
7
8
9
10
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_GoodWireBased_GoodTimeBased_q+
p (GeV/c)
θ°

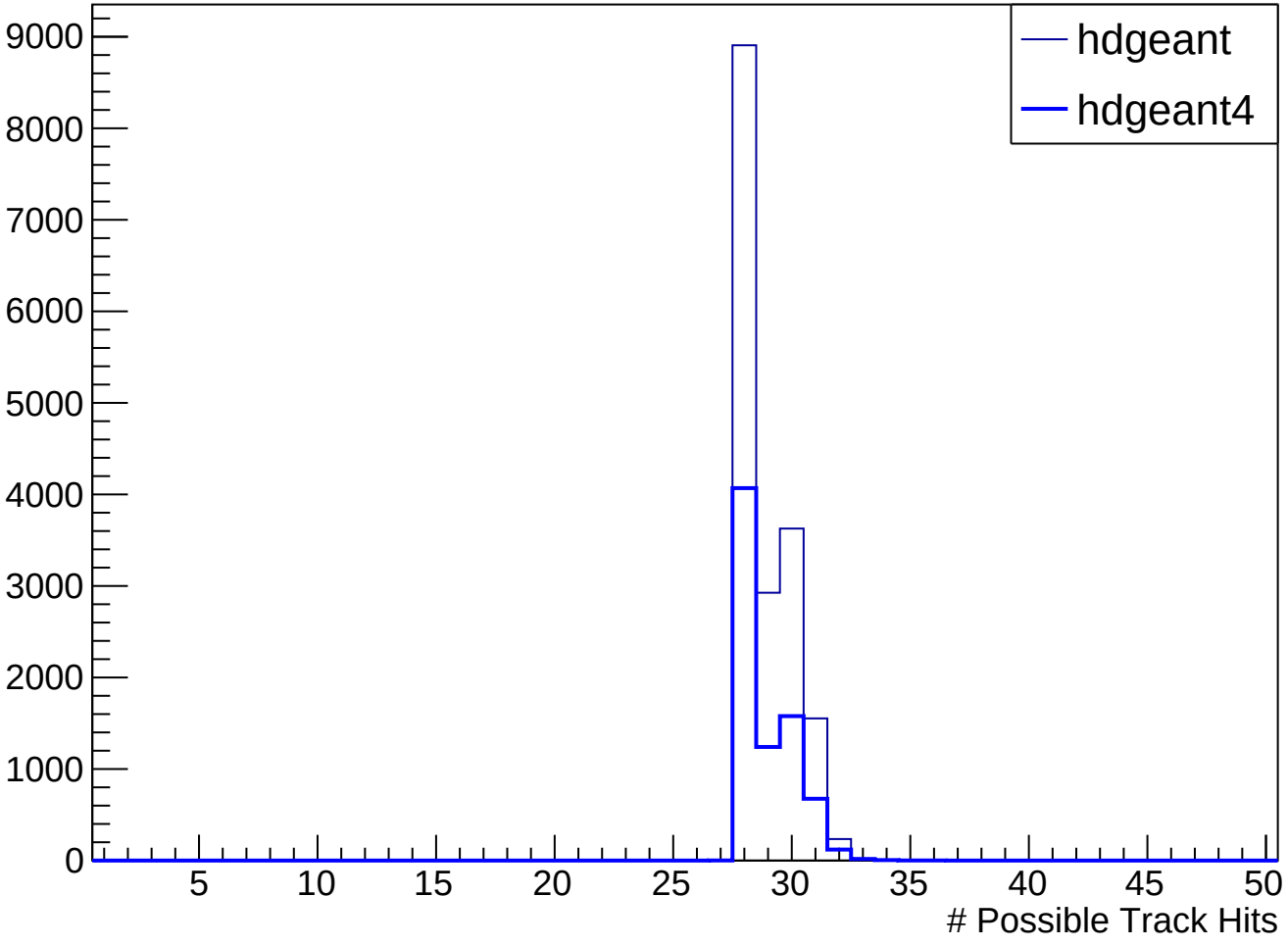

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_GoodWireBased_GoodTimeBased_q+
p (GeV/c)
θ°


/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_GoodWireBased_BadTimeBased_q+
p (GeV/c)
θ°

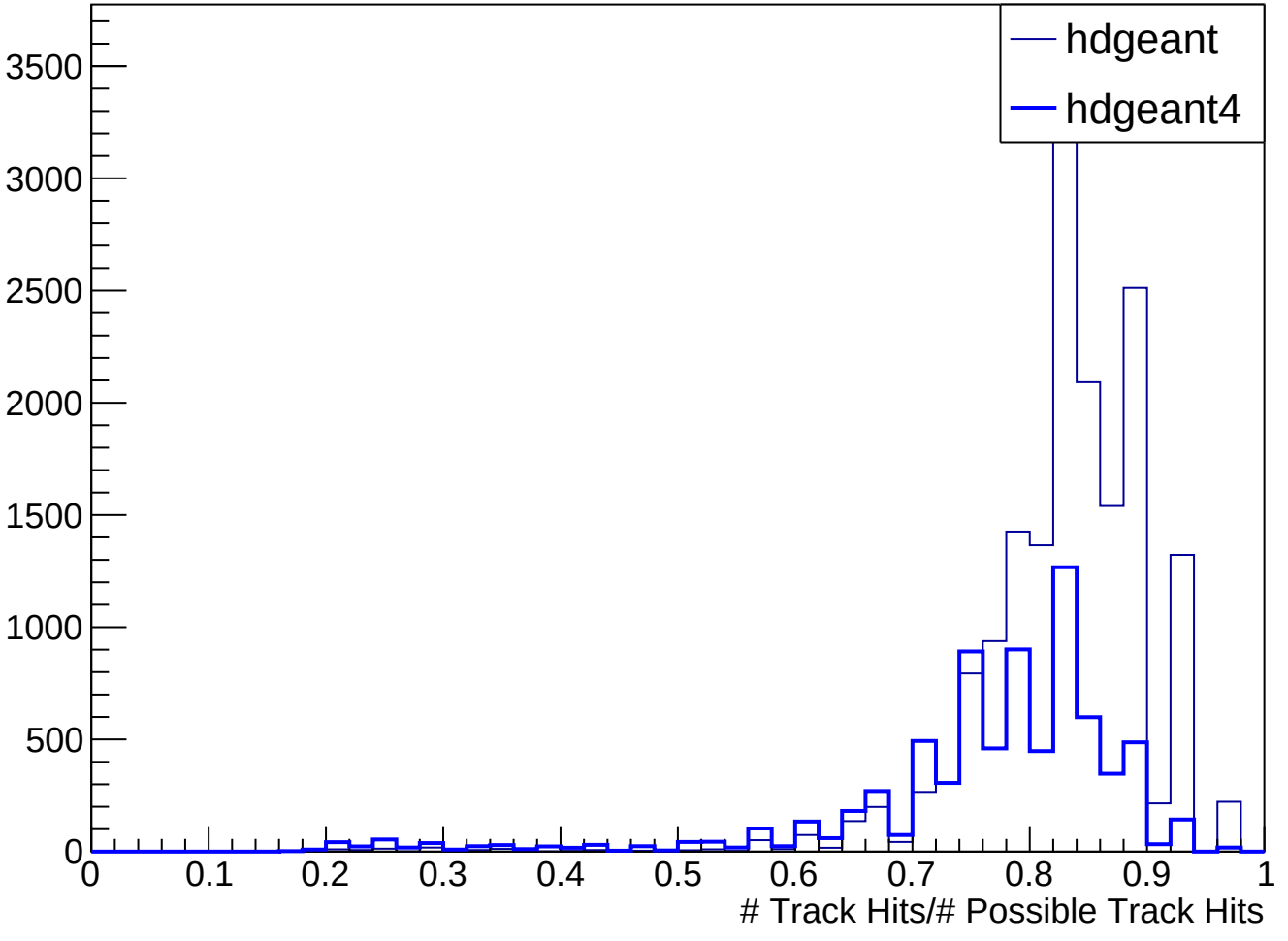

/Independent/Hist_Reconstruction/Tracking/q+/PVsTheta_GoodWireBased_BadTimeBased_q+
p (GeV/c)
θ°

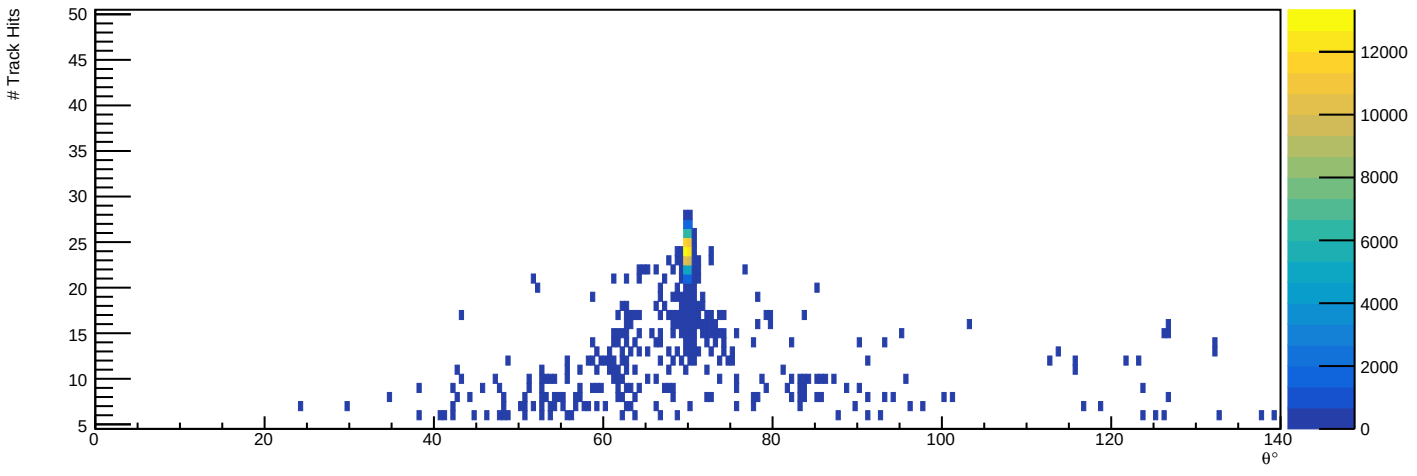

/Independent/Hist_Reconstruction/Tracking/NumDCHitsPerTrack
hdgeant
hdgeant4
25000
20000
15000
10000
5000
0
5
10
15
20
25
30
35
40
45
50
Track Hits

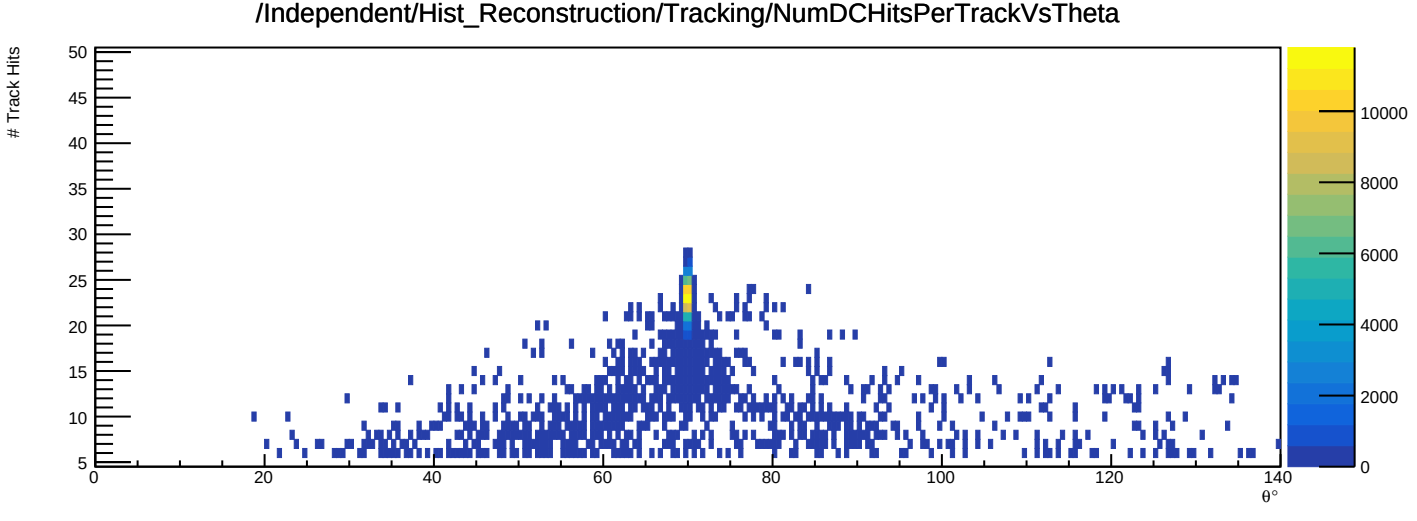
/Independent/Hist_Reconstruction/Tracking/NumPossDCHitsPerTrack

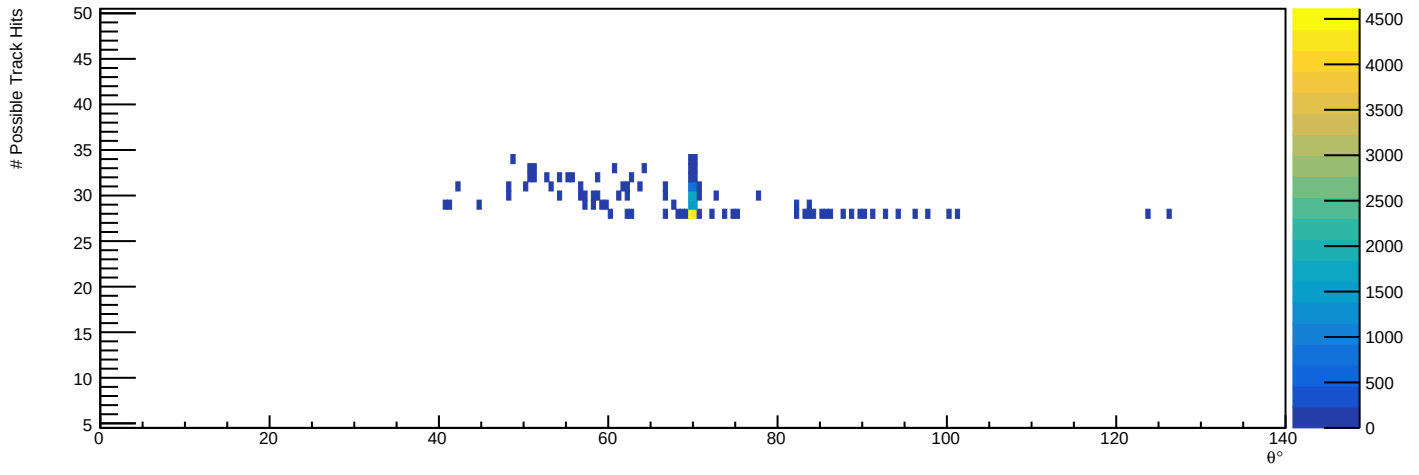


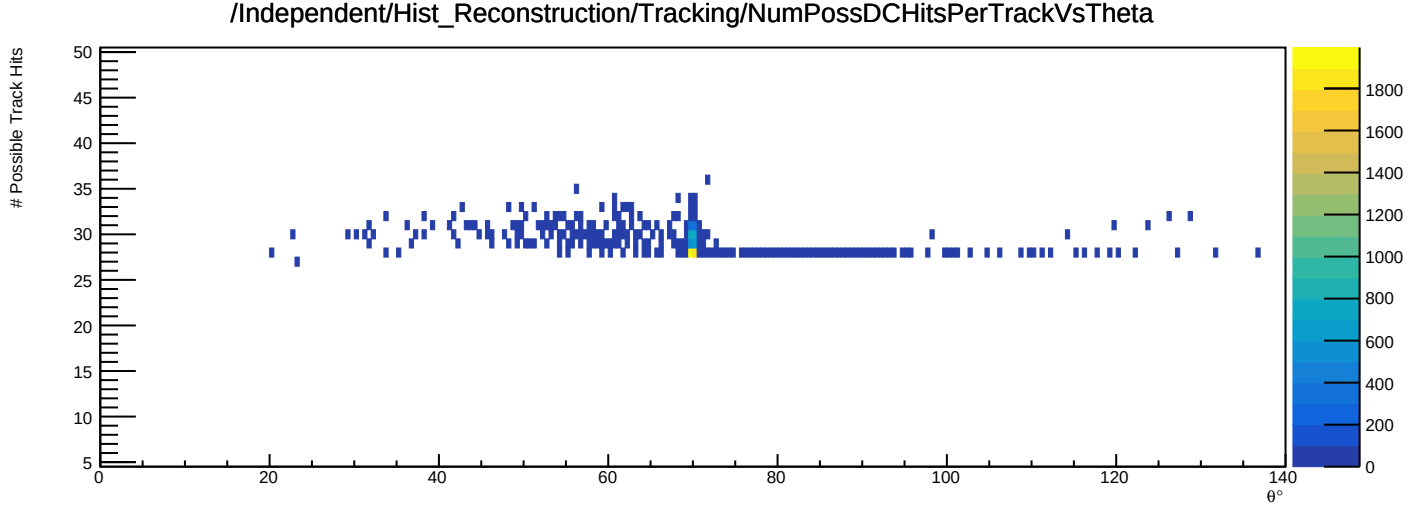
/Independent/Hist_Reconstruction/Tracking/TrackHitFraction

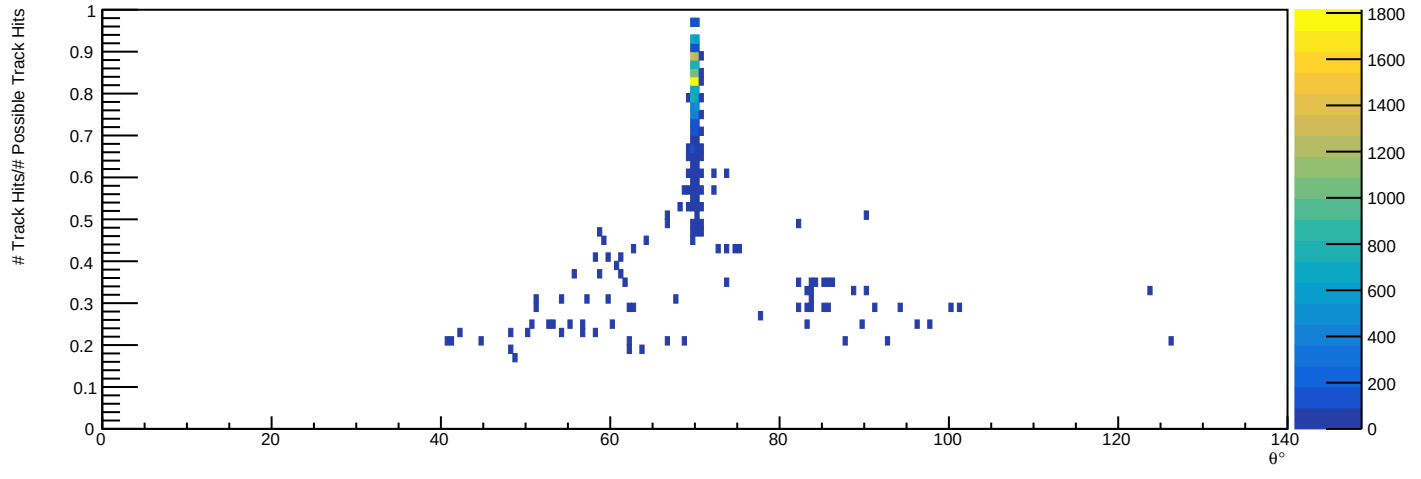


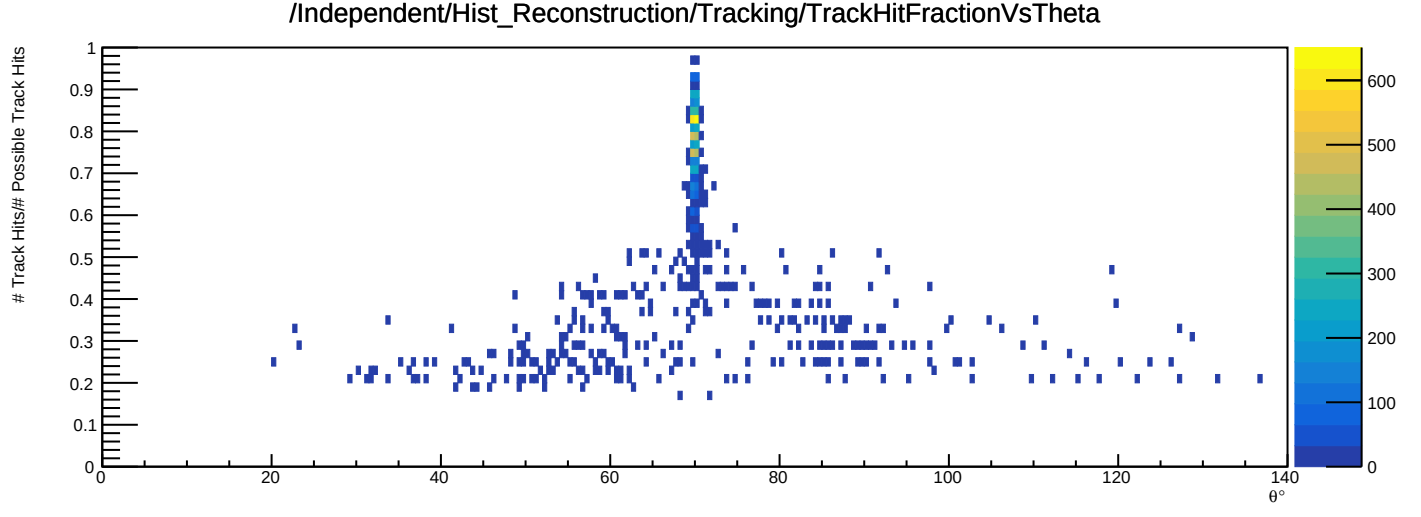

/Independent/Hist_Reconstruction/Tracking/NumDCHitsPerTrackVsTheta
Track Hits
θ°


/Independent/Hist_Reconstruction/Tracking/NumDCHitsPerTrackVsTheta
Track Hits
θ°

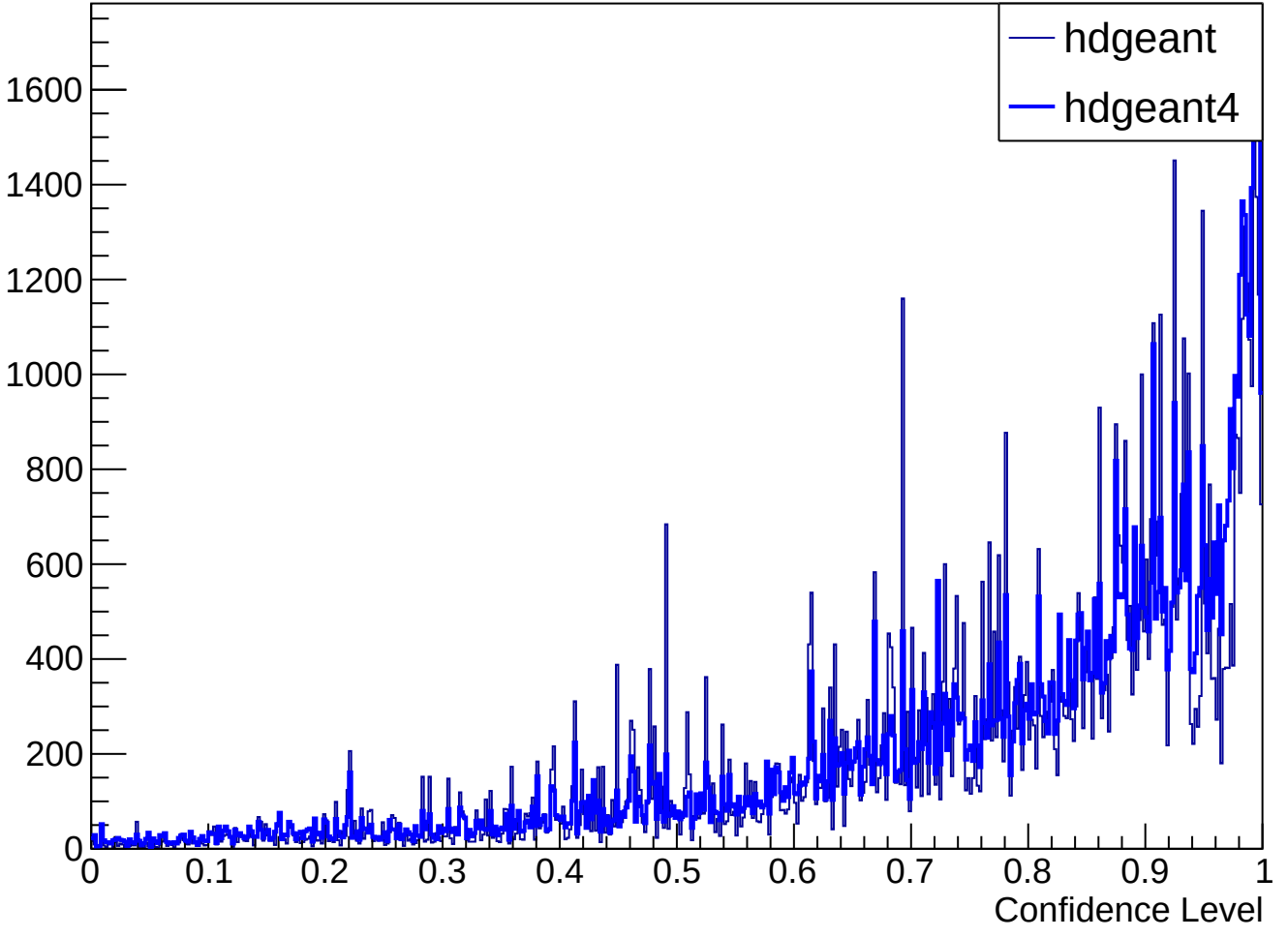

/Independent/Hist_Reconstruction/Tracking/NumPossDCHitsPerTrackVsTheta
Possible Track Hits
θ°

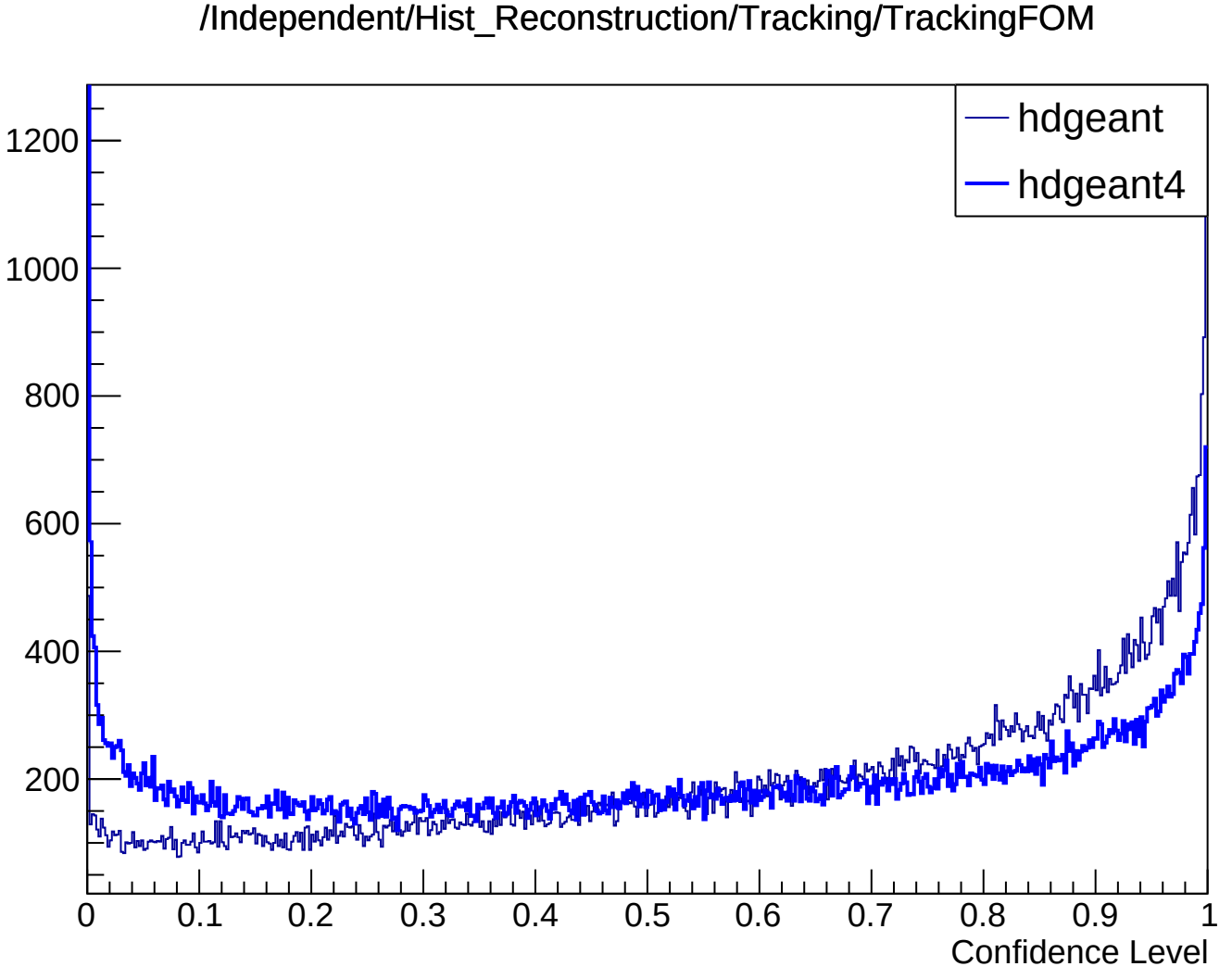

/Independent/Hist_Reconstruction/Tracking/NumPossDCHitsPerTrackVsTheta
Possible Track Hits
θ°

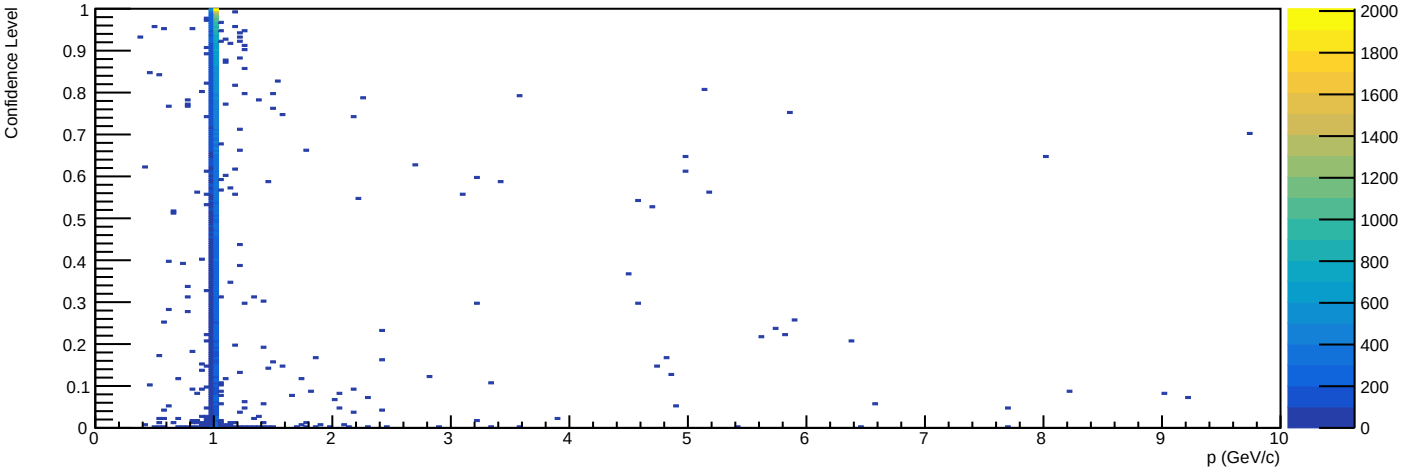

/Independent/Hist_Reconstruction/Tracking/TrackHitFractionVsTheta
Track Hits/# Possible Track Hits
θ°

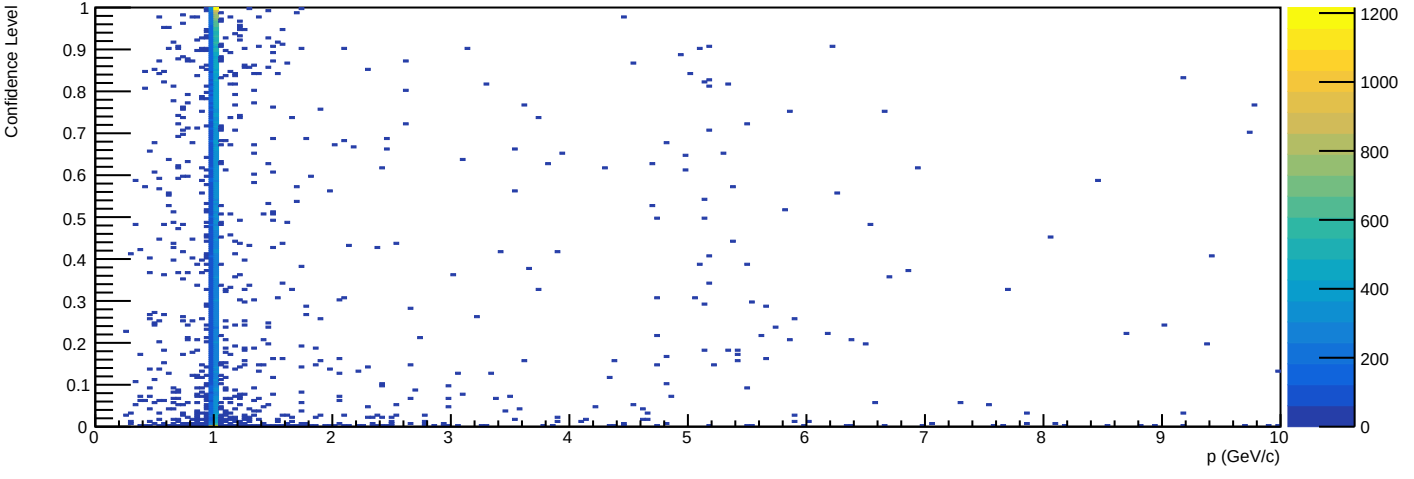

/Independent/Hist_Reconstruction/Tracking/TrackHitFractionVsTheta
Track Hits/# Possible Track Hits
θ°

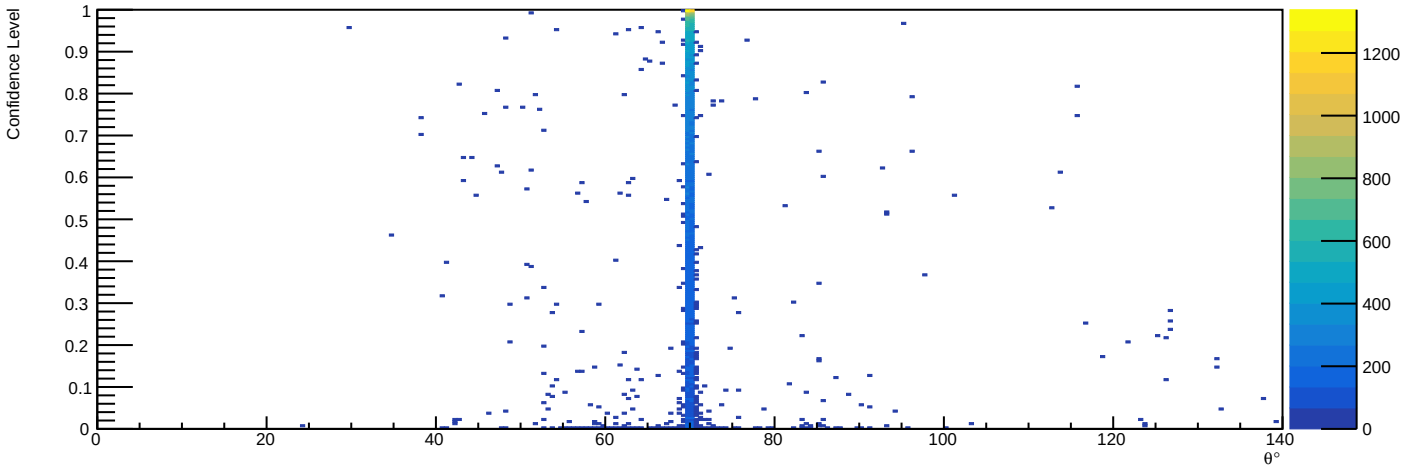
/Independent/Hist_Reconstruction/Tracking/TrackingFOM_WireBased

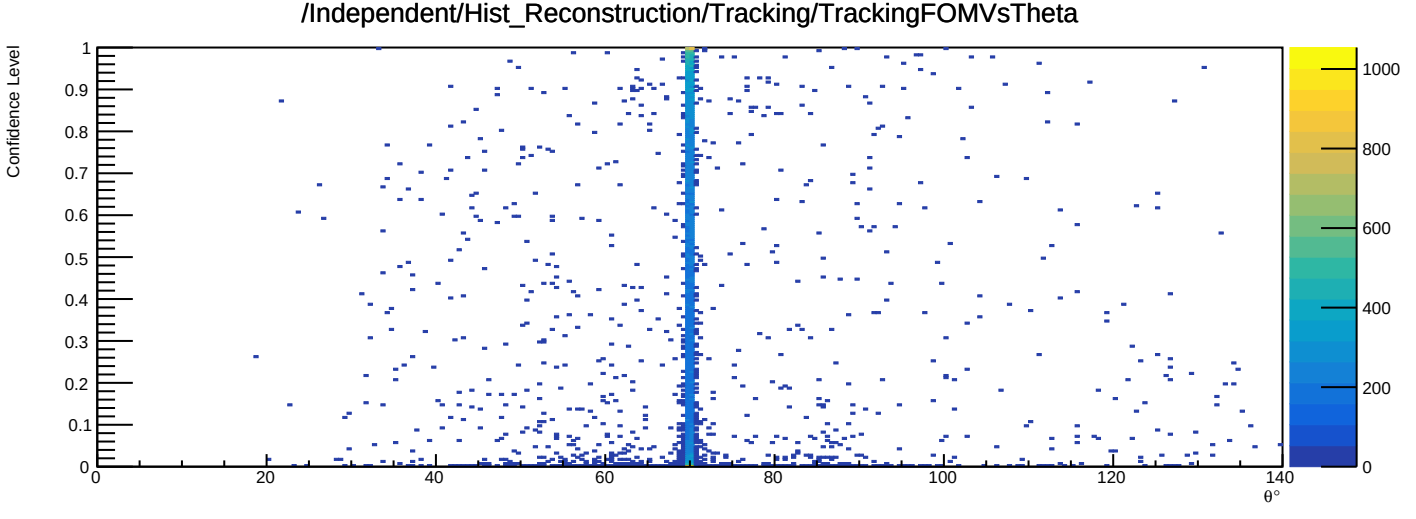


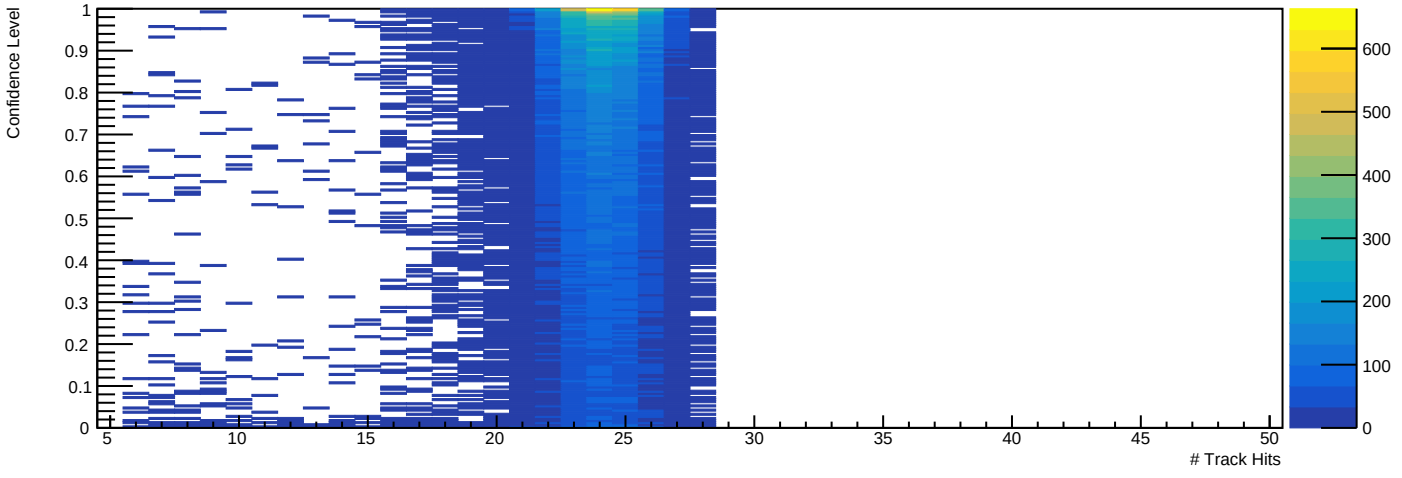

/Independent/Hist_Reconstruction/Tracking/TrackingFOM
hdgeant
hdgeant4
1200
1000
800
600
400
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Confidence Level

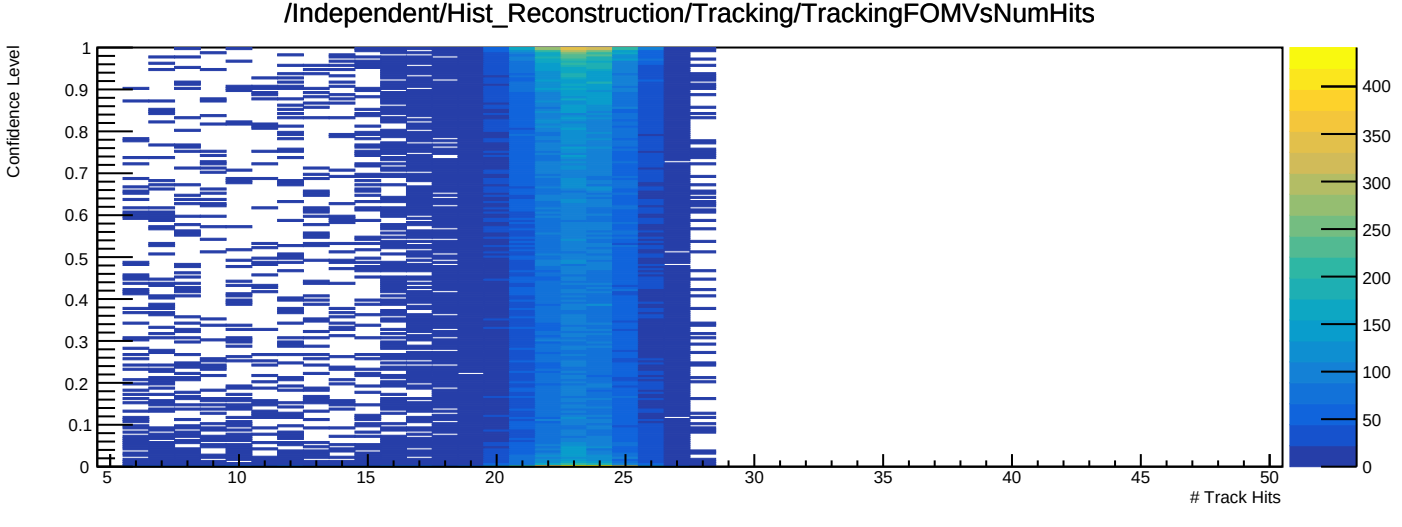

/Independent/Hist_Reconstruction/Tracking/TrackingFOMVsP
Confidence Level
p (GeV/c)

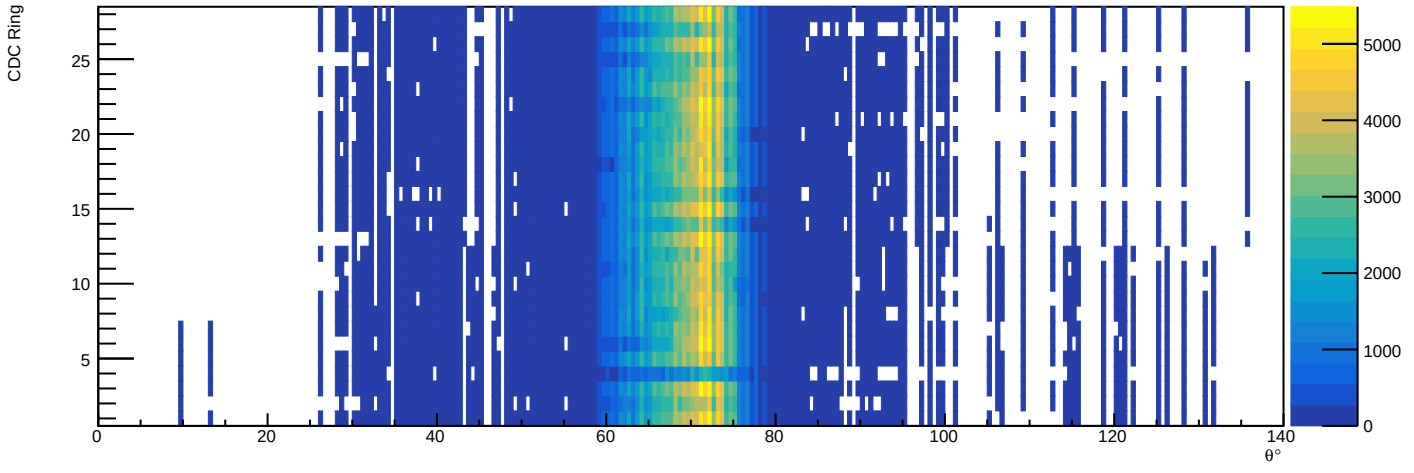

/Independent/Hist_Reconstruction/Tracking/TrackingFOMVsP
Confidence Level
p (GeV/c)

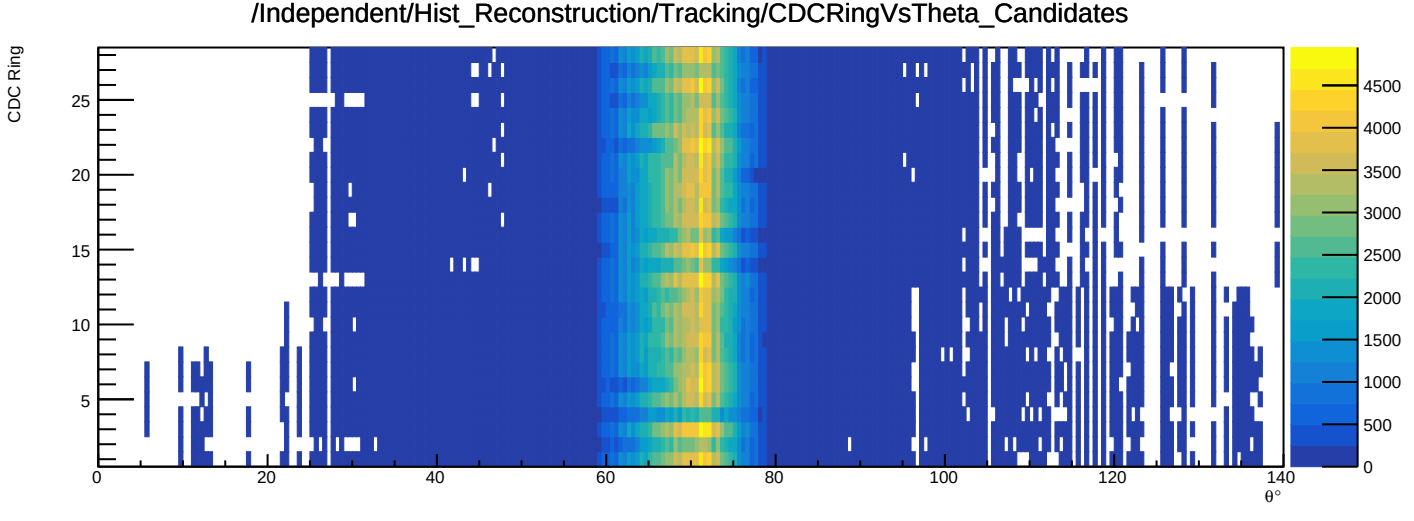

/Independent/Hist_Reconstruction/Tracking/TrackingFOMVsTheta
Confidence Level
θ°

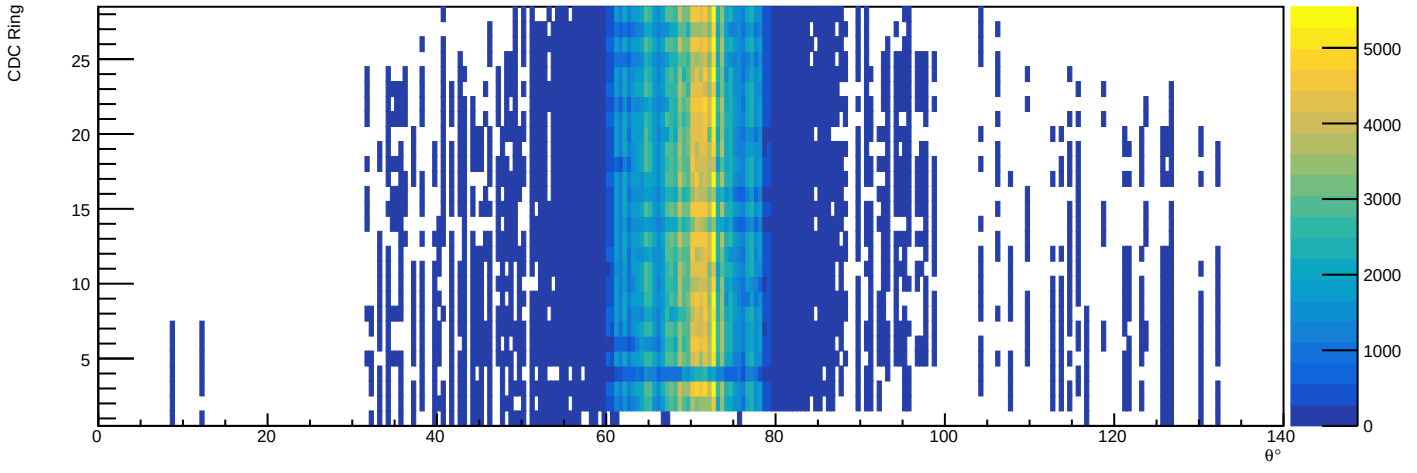

/Independent/Hist_Reconstruction/Tracking/TrackingFOMVsTheta
Confidence Level
θ°

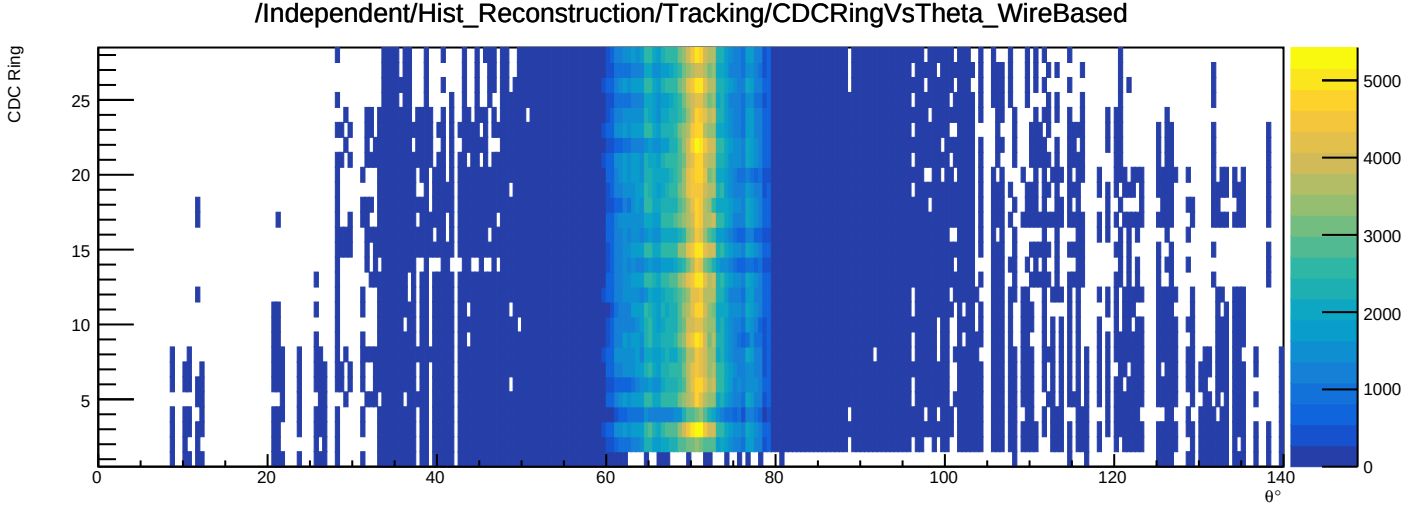

/Independent/Hist_Reconstruction/Tracking/TrackingFOMVsNumHits
Confidence Level
Track Hits

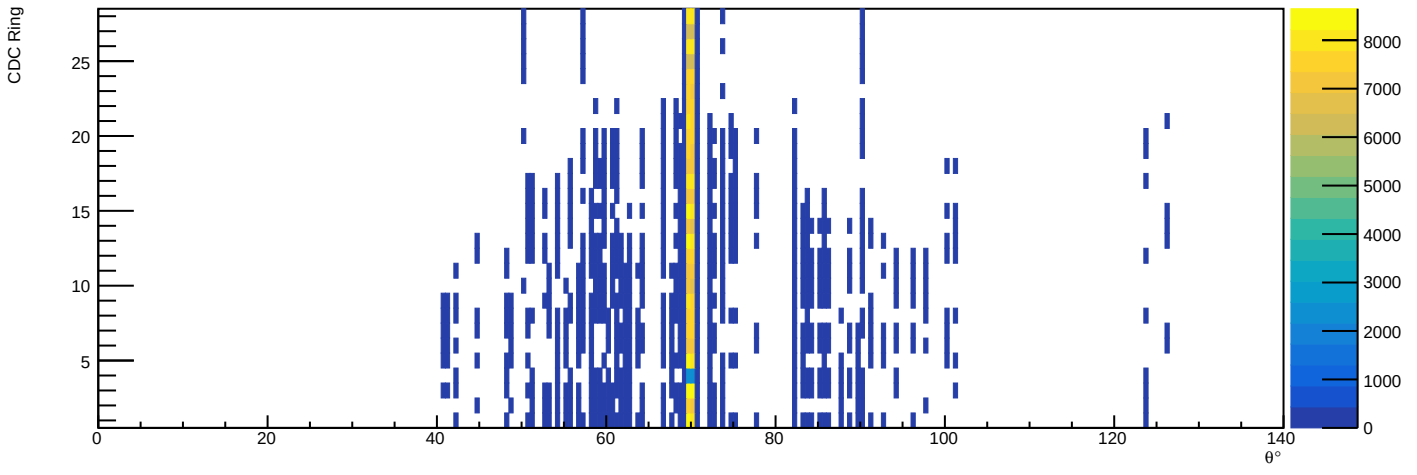

/Independent/Hist_Reconstruction/Tracking/TrackingFOMVsNumHits
Confidence Level
Track Hits

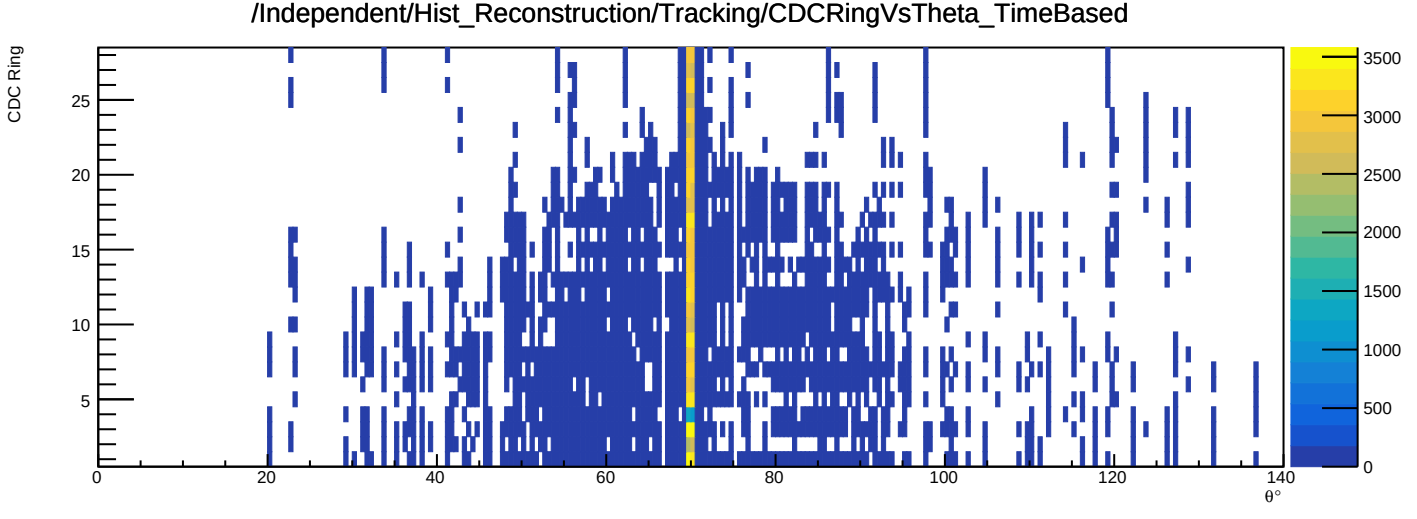

/Independent/Hist_Reconstruction/Tracking/CDCRingVsTheta_Candidates
CDC Ring
θ°

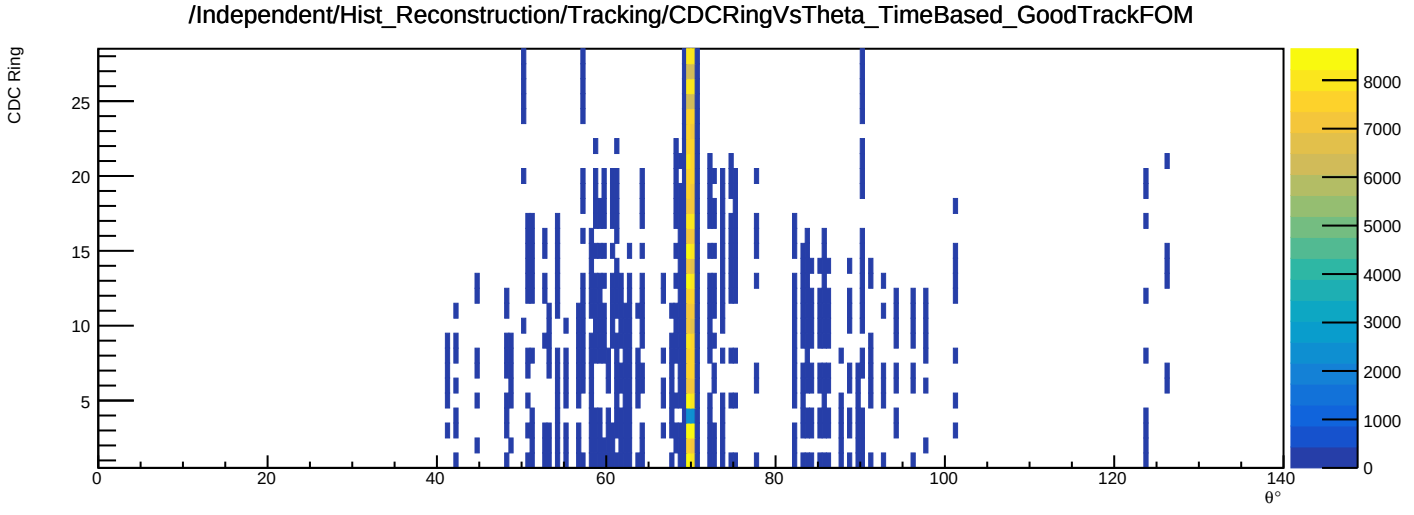

/Independent/Hist_Reconstruction/Tracking/CDCRingVsTheta_Candidates
CDC Ring
θ°

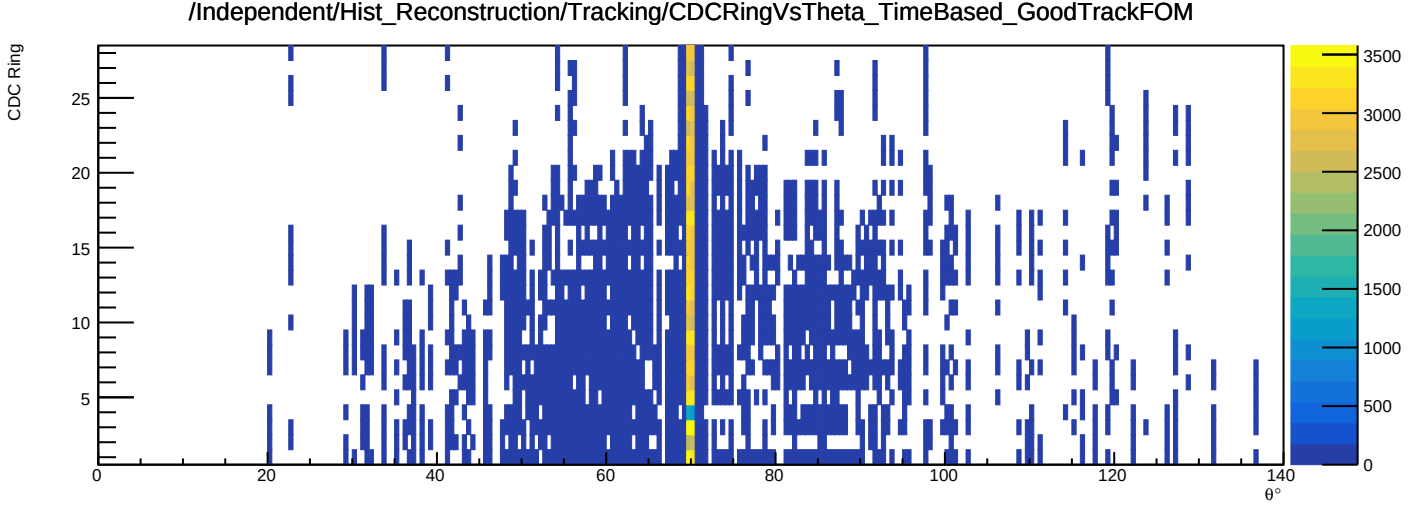

/Independent/Hist_Reconstruction/Tracking/CDCRingVsTheta_WireBased
CDC Ring
θ°

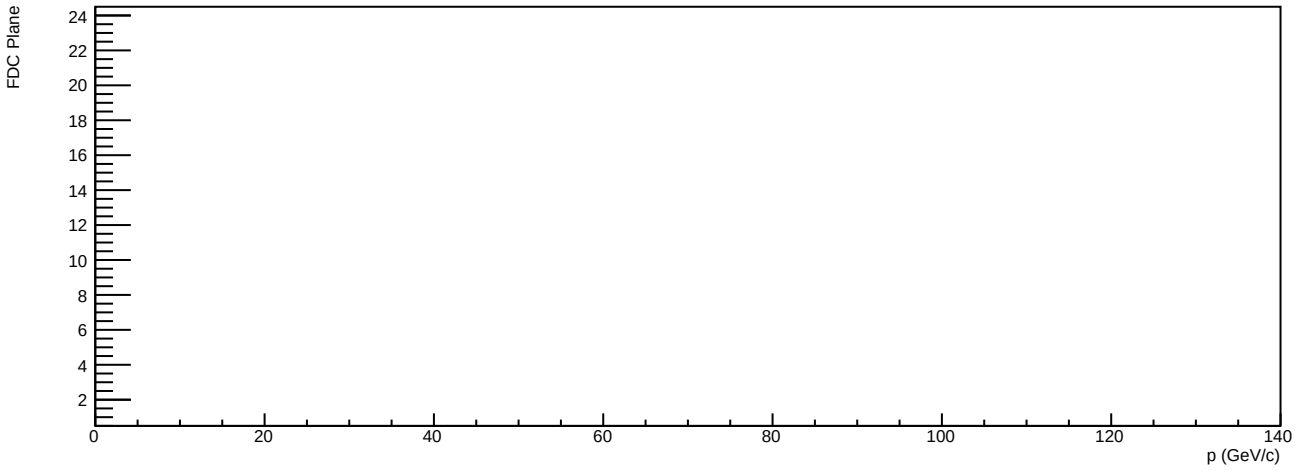

/Independent/Hist_Reconstruction/Tracking/CDCRingVsTheta_WireBased
CDC Ring
θ°

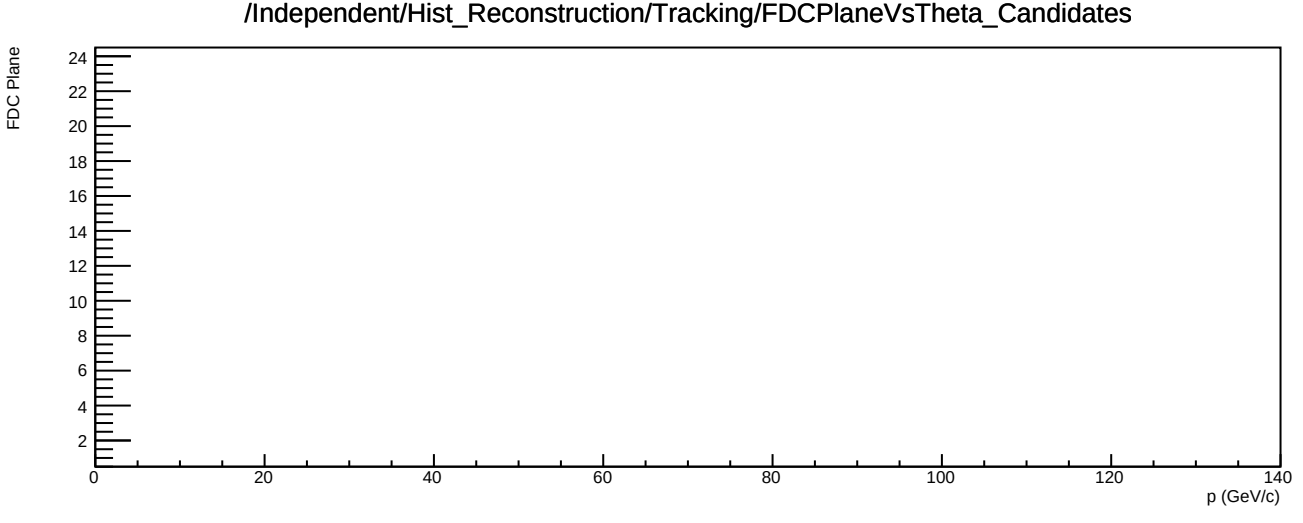

/Independent/Hist_Reconstruction/Tracking/CDCRingVsTheta_TimeBased
CDC Ring
θ°

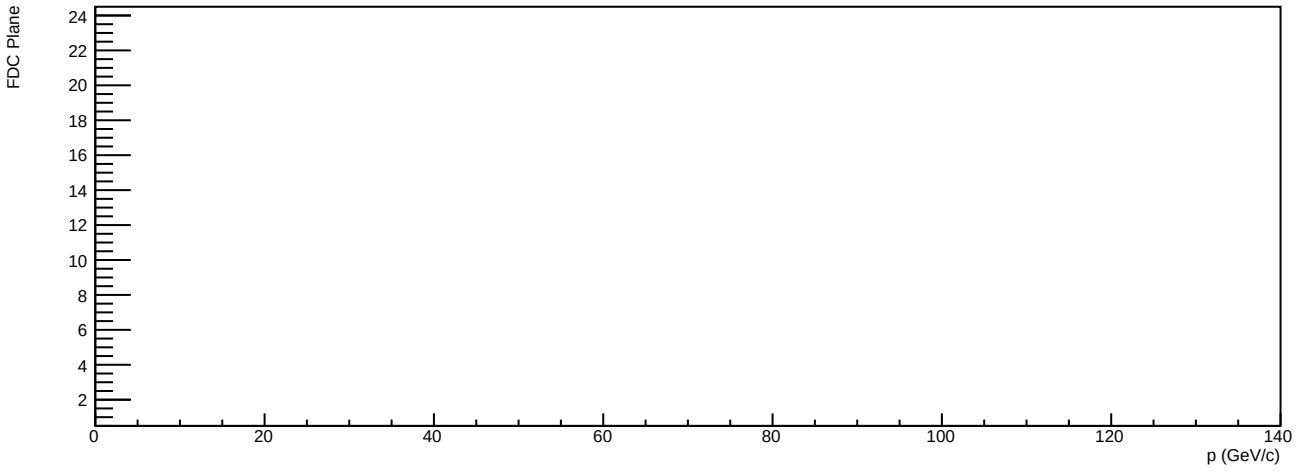

/Independent/Hist_Reconstruction/Tracking/CDCRingVsTheta_TimeBased
CDC Ring
θ°

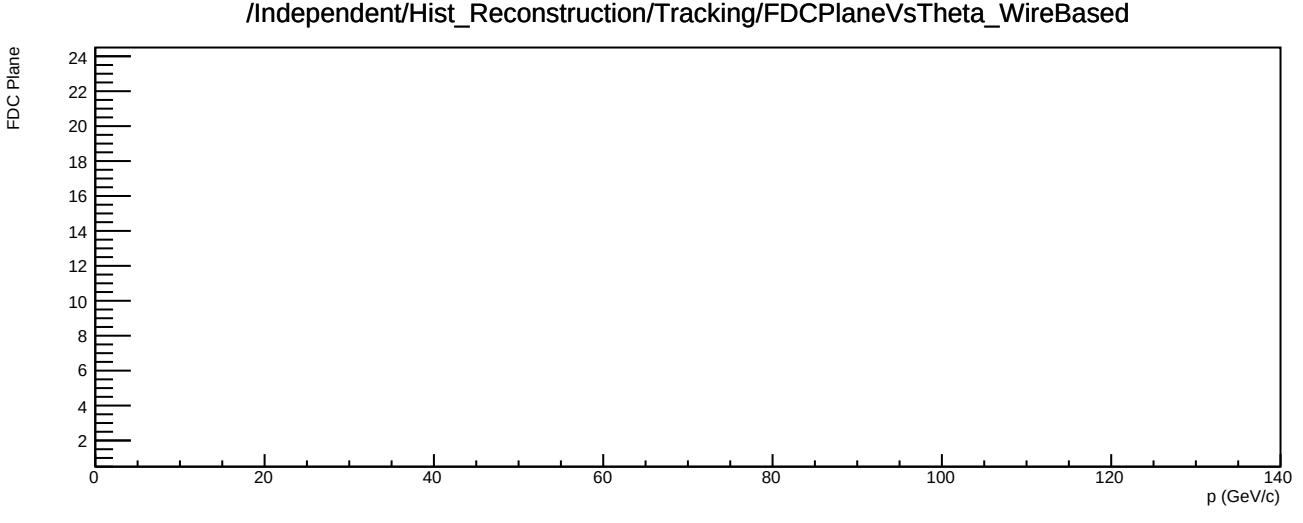

/Independent/Hist_Reconstruction/Tracking/CDCRingVsTheta_TimeBased_GoodTrackFOM
CDC Ring
θ°

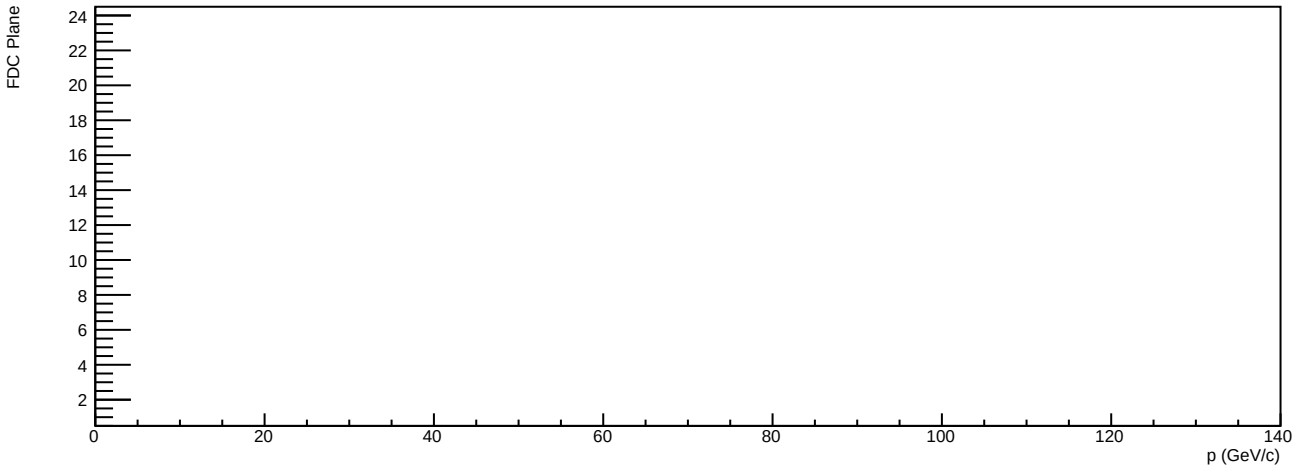

/Independent/Hist_Reconstruction/Tracking/CDCRingVsTheta_TimeBased_GoodTrackFOM
CDC Ring
θ°

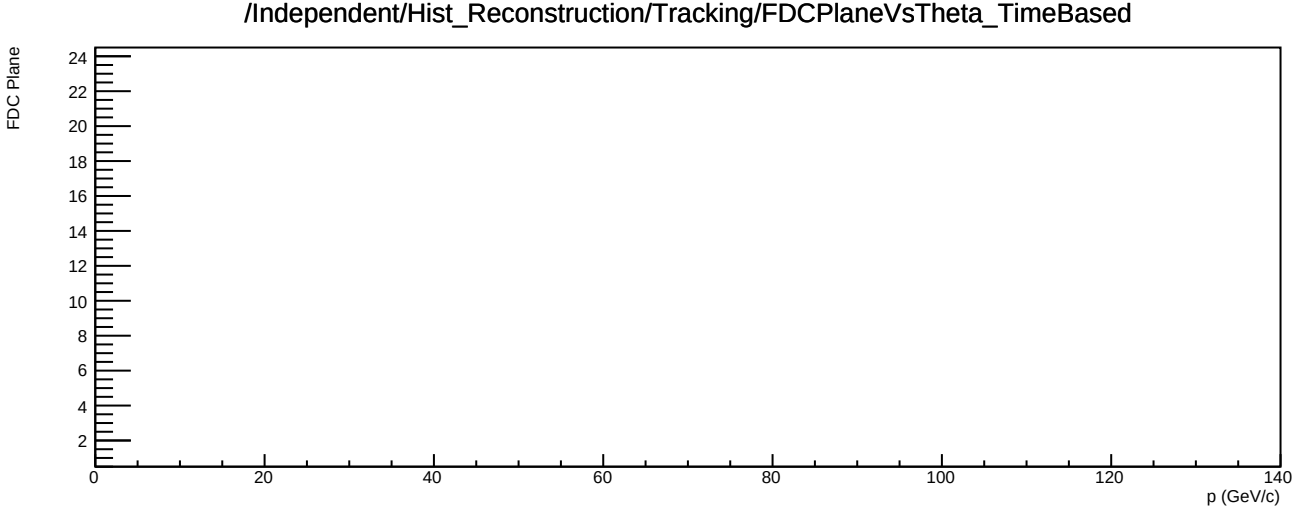

/Independent/Hist_Reconstruction/Tracking/FDCPlaneVsTheta_Candidates
FDC Plane
24
22
20
18
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140
p (GeV/c)

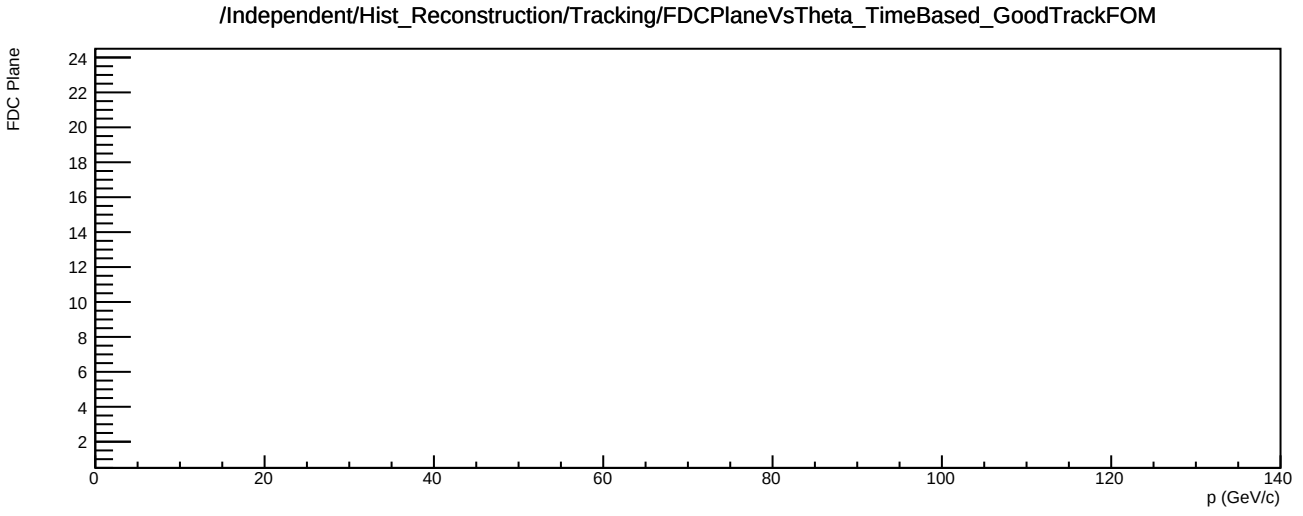

/Independent/Hist_Reconstruction/Tracking/FDCPlaneVsTheta_Candidates
FDC Plane
24
22
20
18
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140
p (GeV/c)

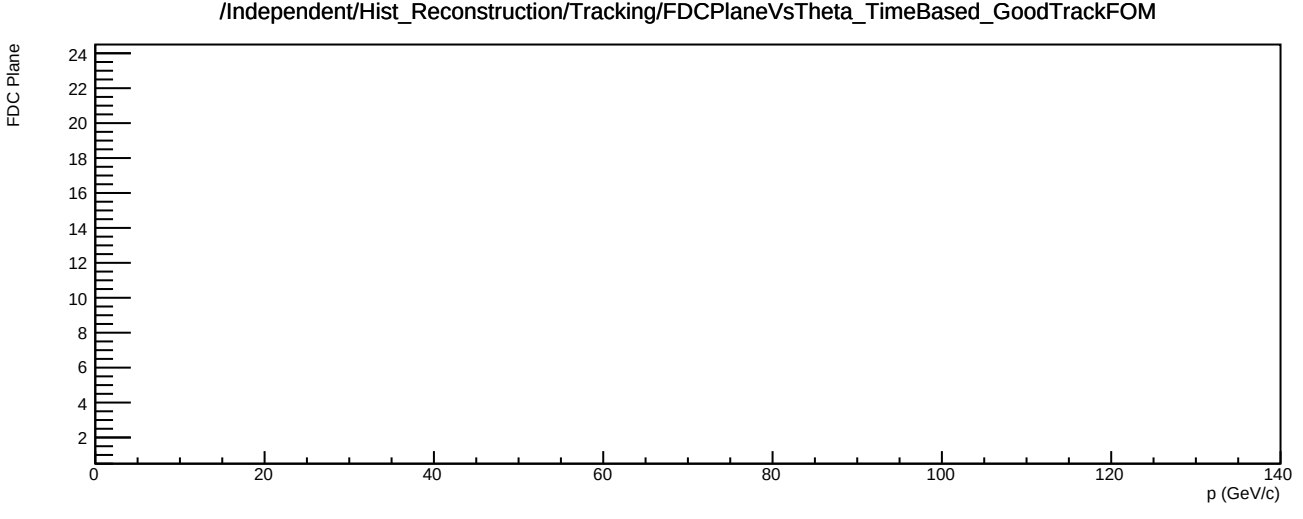

/Independent/Hist_Reconstruction/Tracking/FDCPlaneVsTheta_WireBased
FDC Plane
24
22
20
18
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140
p (GeV/c)

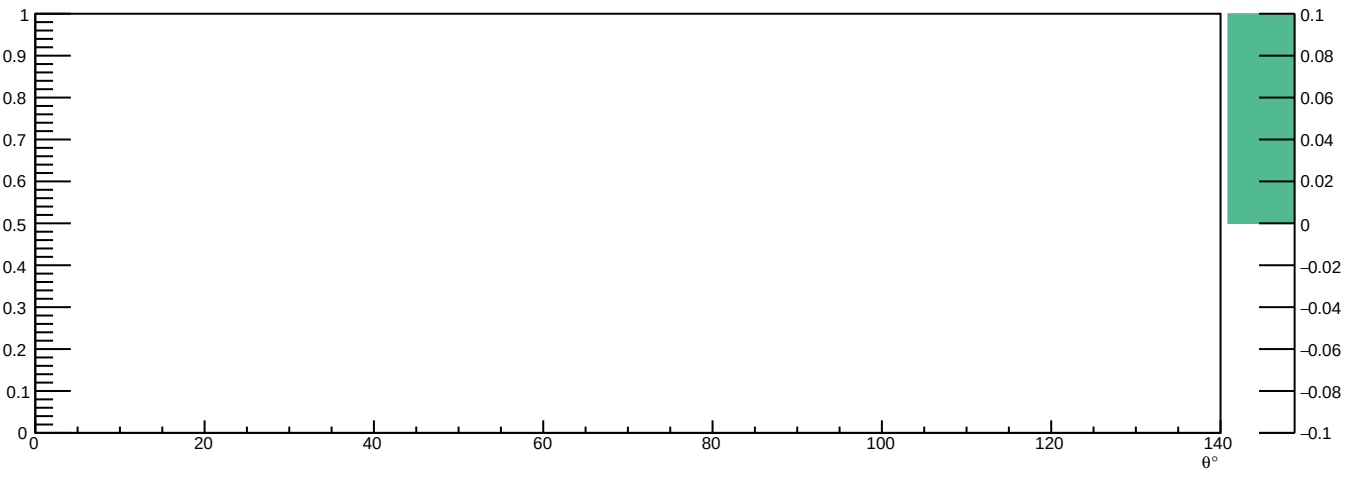

/Independent/Hist_Reconstruction/Tracking/FDCPlaneVsTheta_WireBased
FDC Plane
24
22
20
18
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140
p (GeV/c)

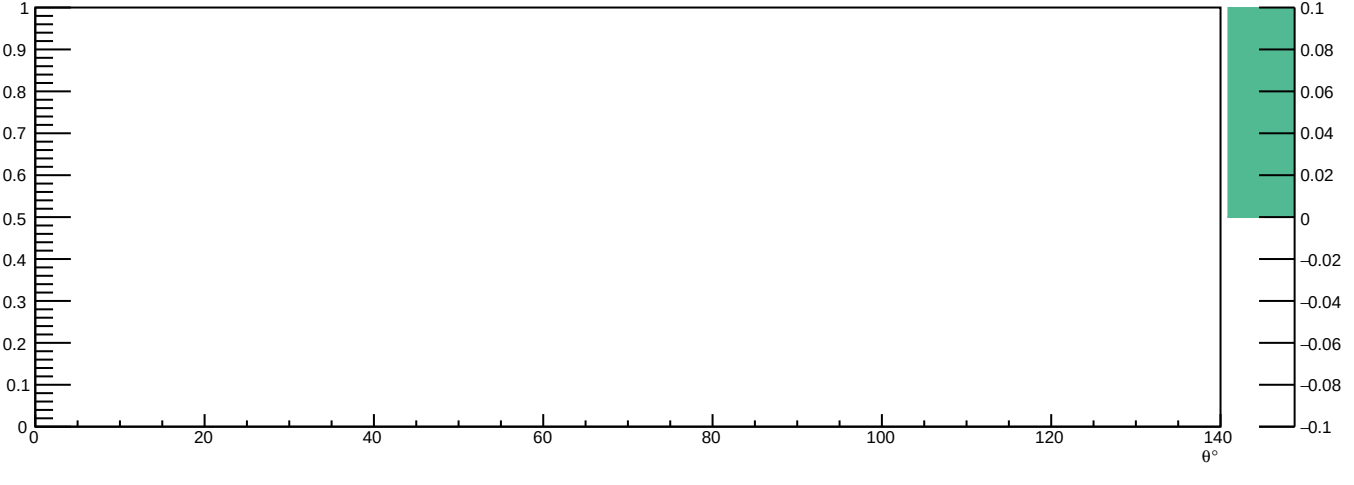

/Independent/Hist_Reconstruction/Tracking/FDCPlaneVsTheta_TimeBased
FDC Plane
24
22
20
18
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140
p (GeV/c)

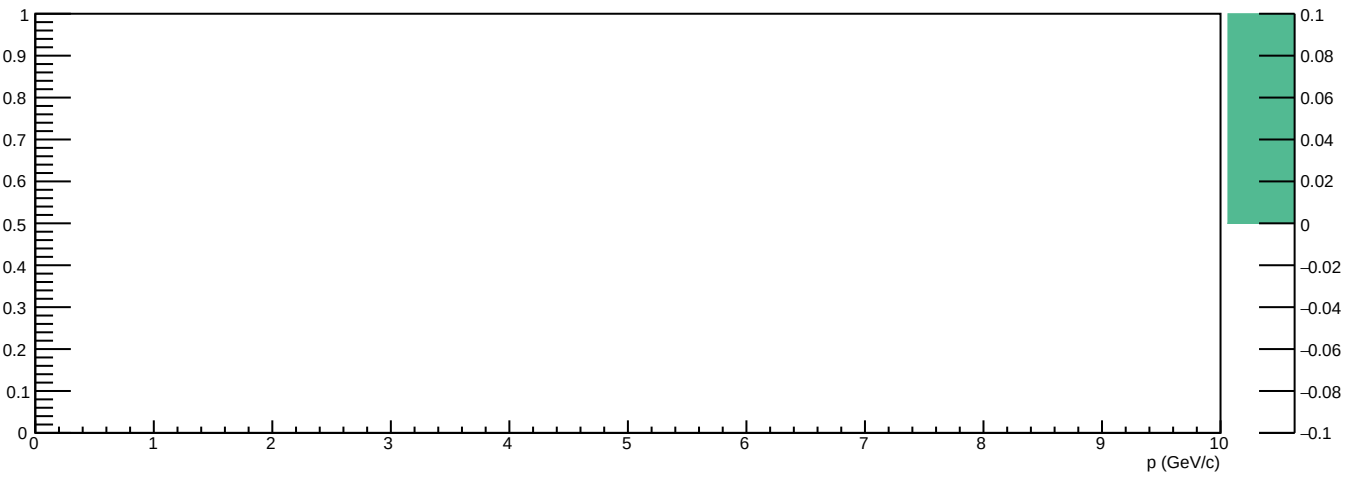

/Independent/Hist_Reconstruction/Tracking/FDCPlaneVsTheta_TimeBased
FDC Plane
24
22
20
18
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140
p (GeV/c)

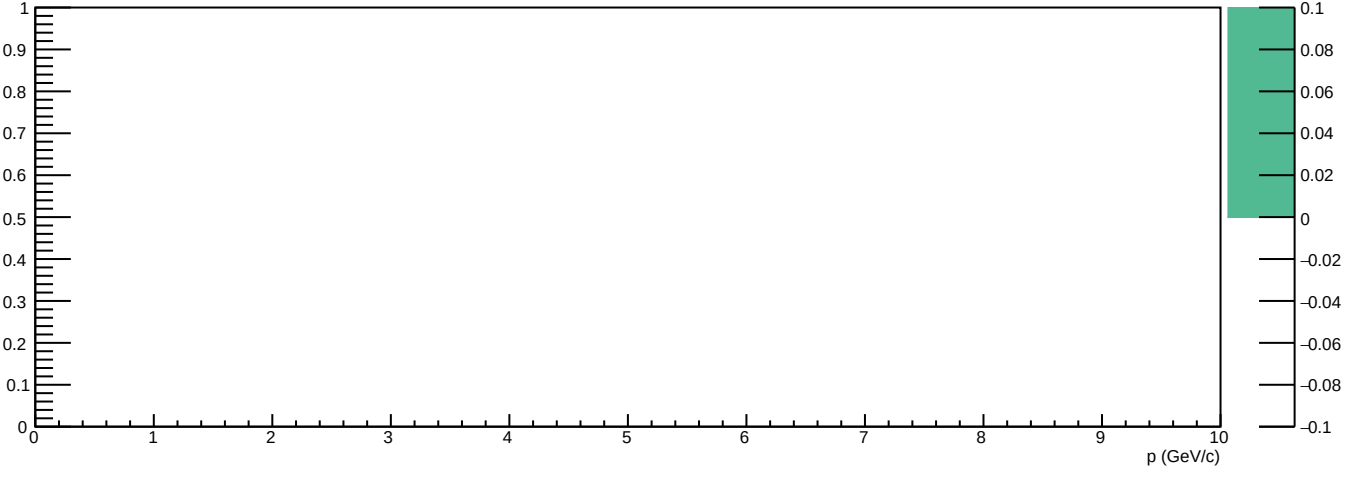

/Independent/Hist_Reconstruction/Tracking/FDCPlaneVsTheta_TimeBased_GoodTrackFOM
FDC Plane
24
22
20
18
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140
p (GeV/c)

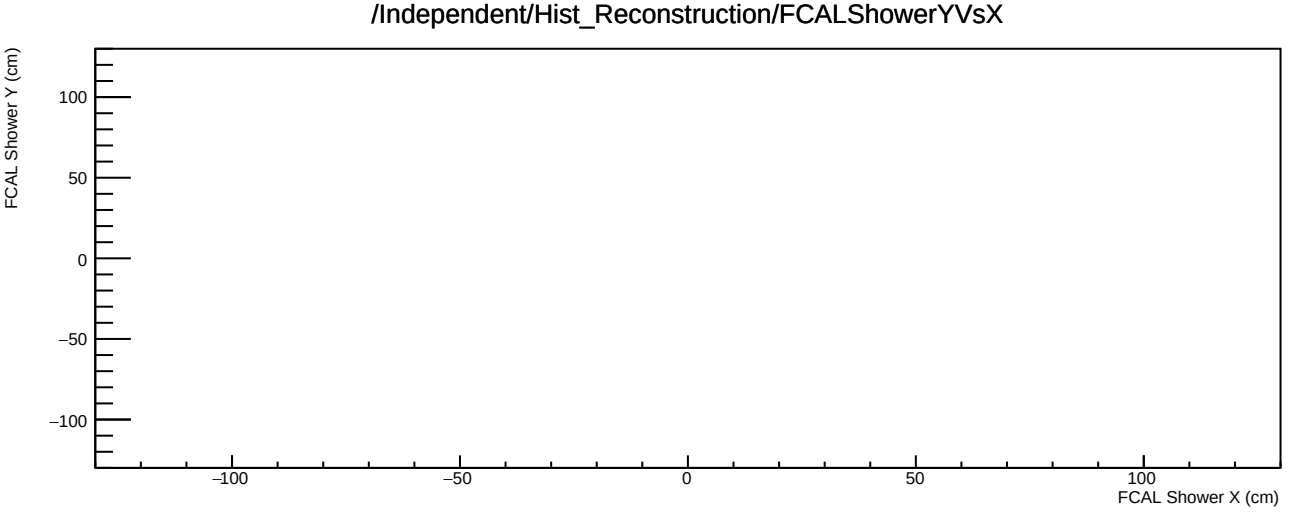

/Independent/Hist_Reconstruction/Tracking/FDCPlaneVsTheta_TimeBased_GoodTrackFOM
FDC Plane
24
22
20
18
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140
p (GeV/c)

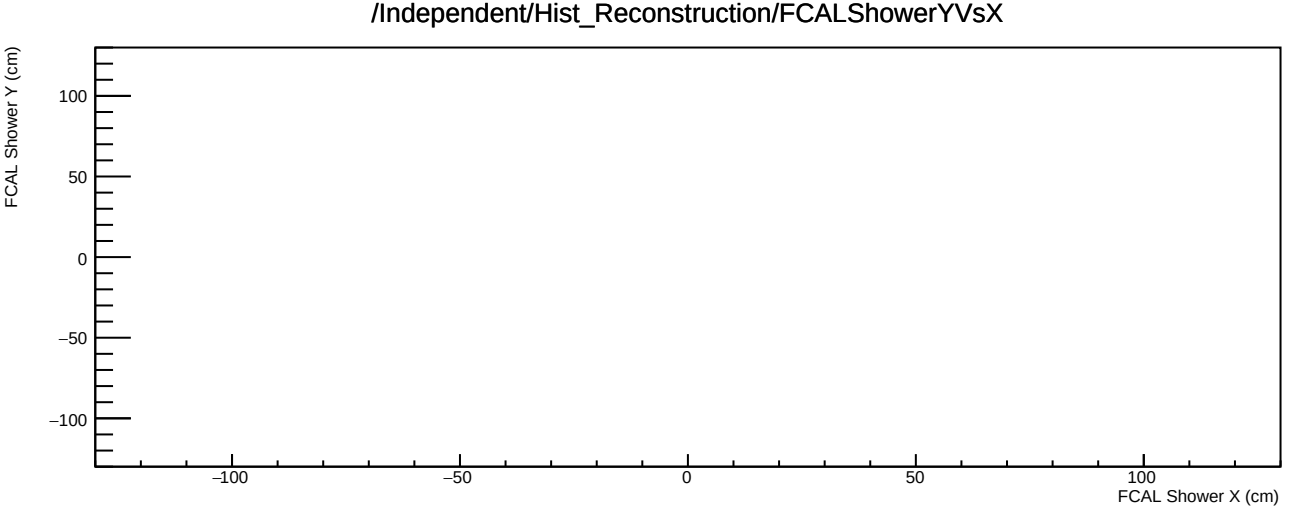

/Independent/Hist_Reconstruction/Tracking/MCMatchedHitsVsTheta
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
20
40
60
80
100
120
140
θ°
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1


/Independent/Hist_Reconstruction/Tracking/MCMatchedHitsVsTheta
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
20
40
60
80
100
120
140
θ°
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

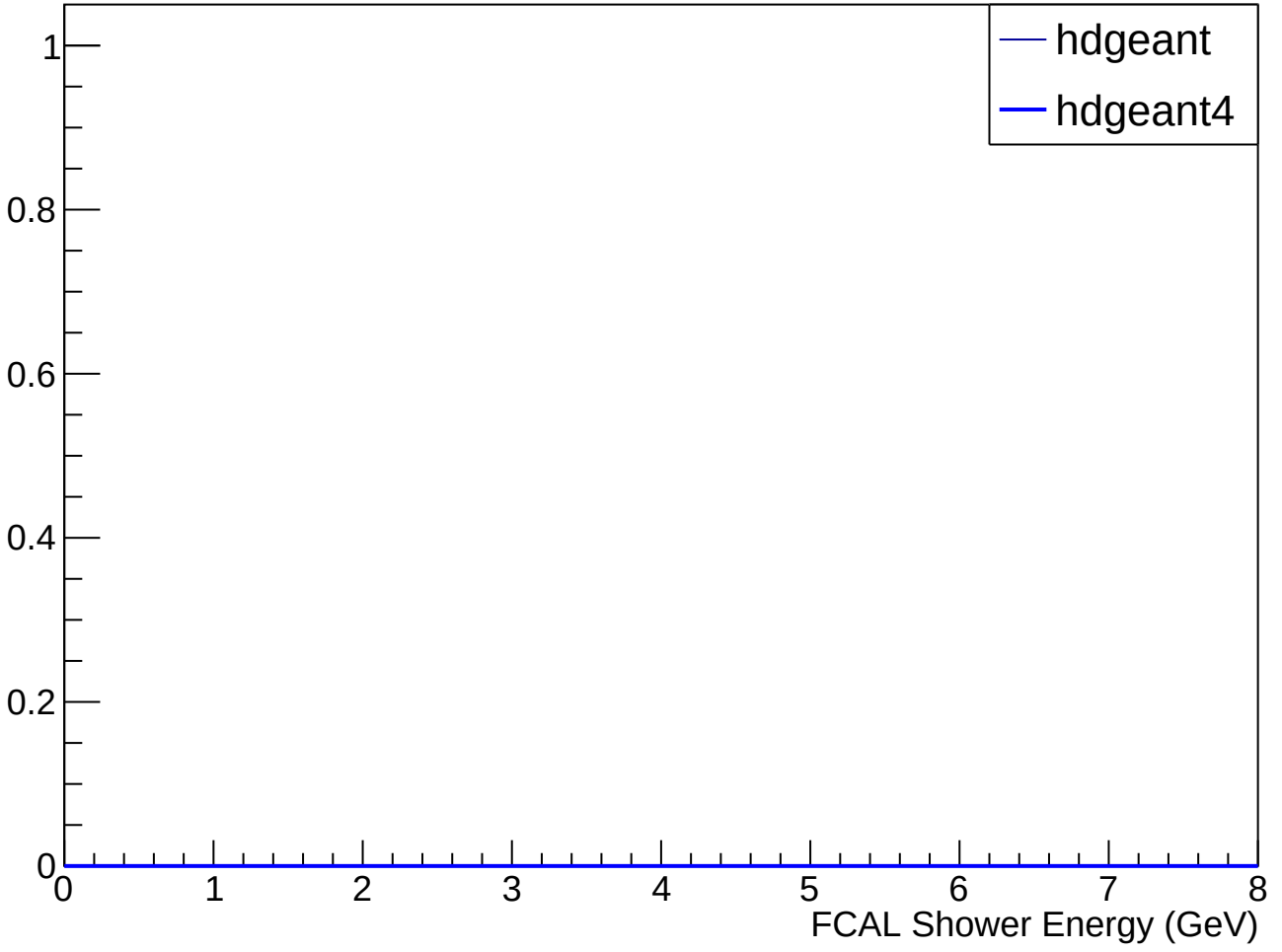

/Independent/Hist_Reconstruction/Tracking/MCMatchedHitsVsP
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

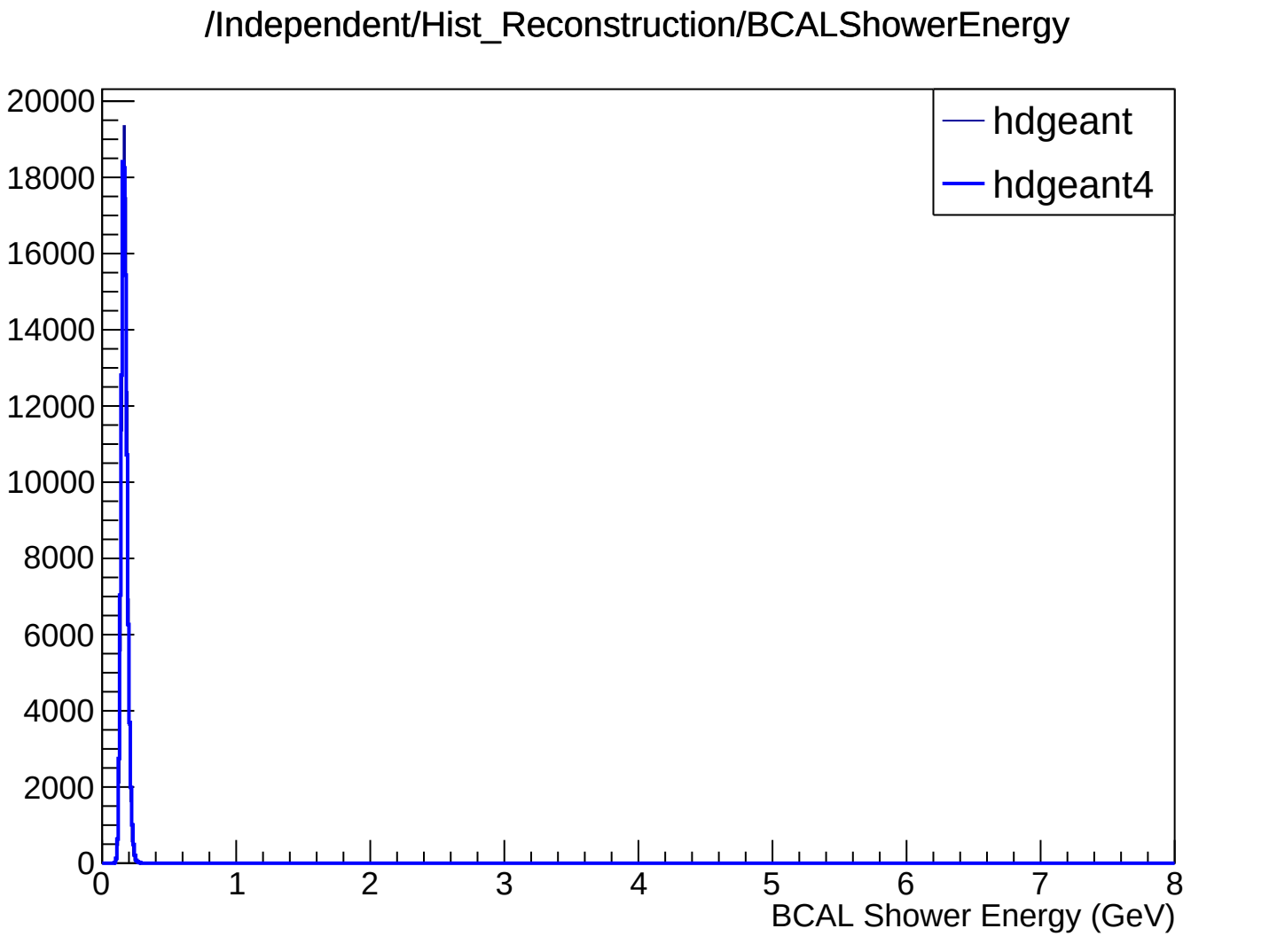

/Independent/Hist_Reconstruction/Tracking/MCMatchedHitsVsP
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

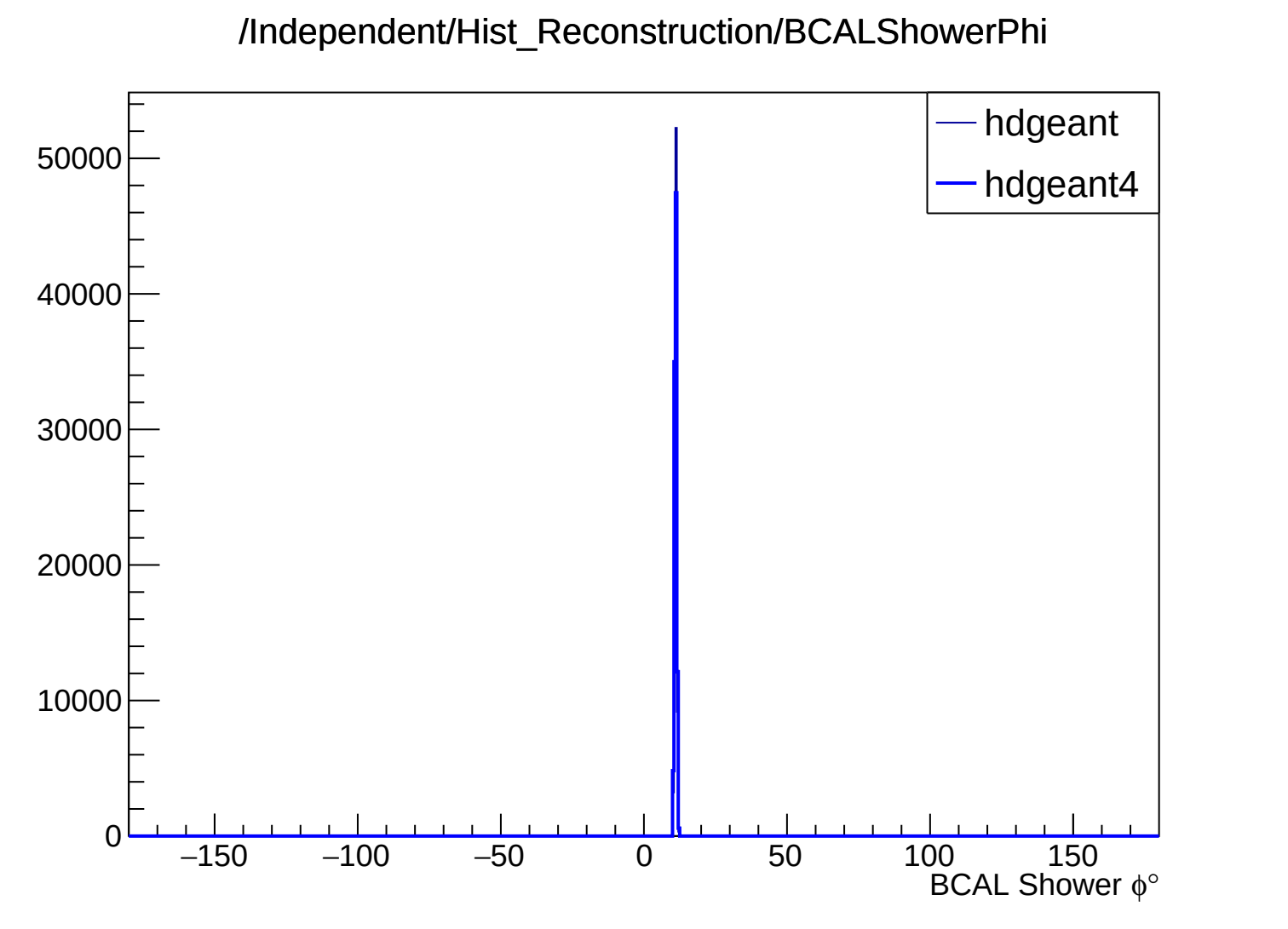

/Independent/Hist_Reconstruction/FCALShowerYVsX
FCAL Shower Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
FCAL Shower X (cm)

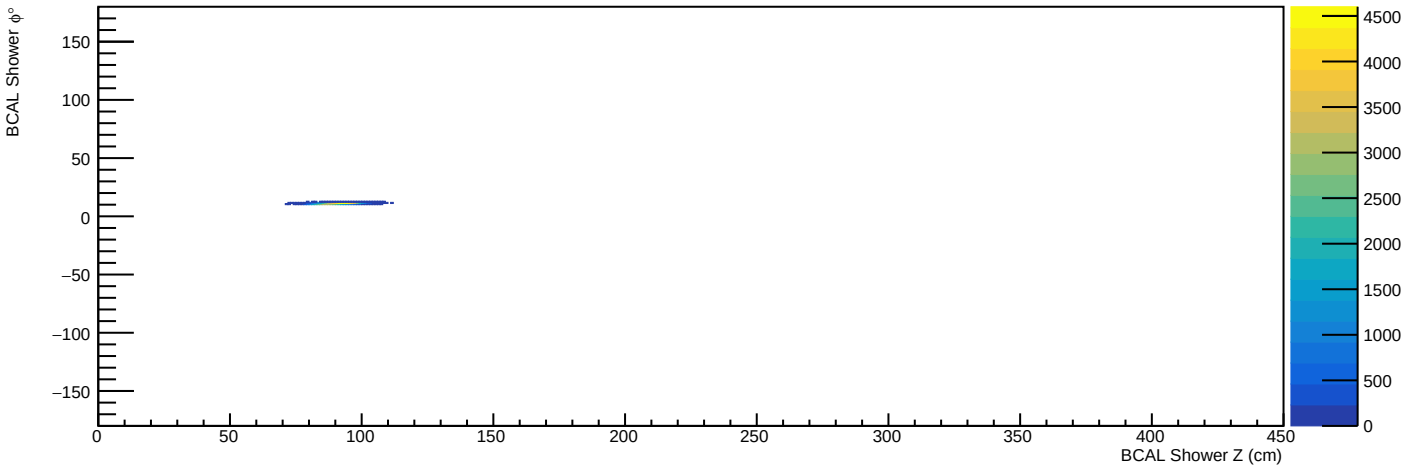

/Independent/Hist_Reconstruction/FCALShowerYVsX
FCAL Shower Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
FCAL Shower X (cm)

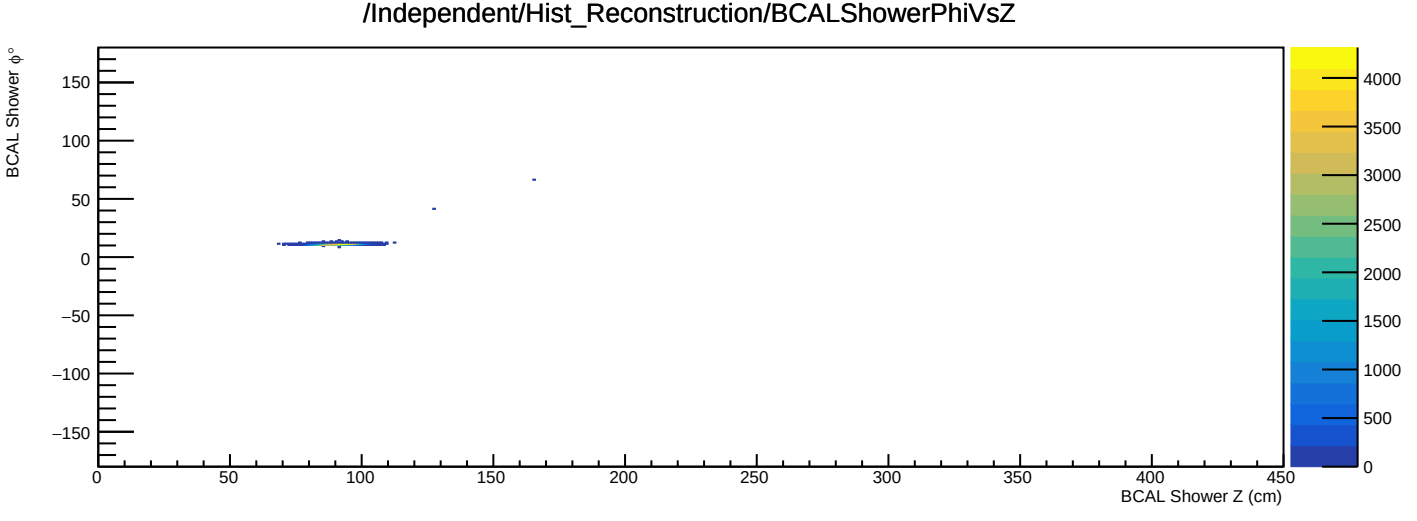
/Independent/Hist_Reconstruction/FCALShowerEnergy

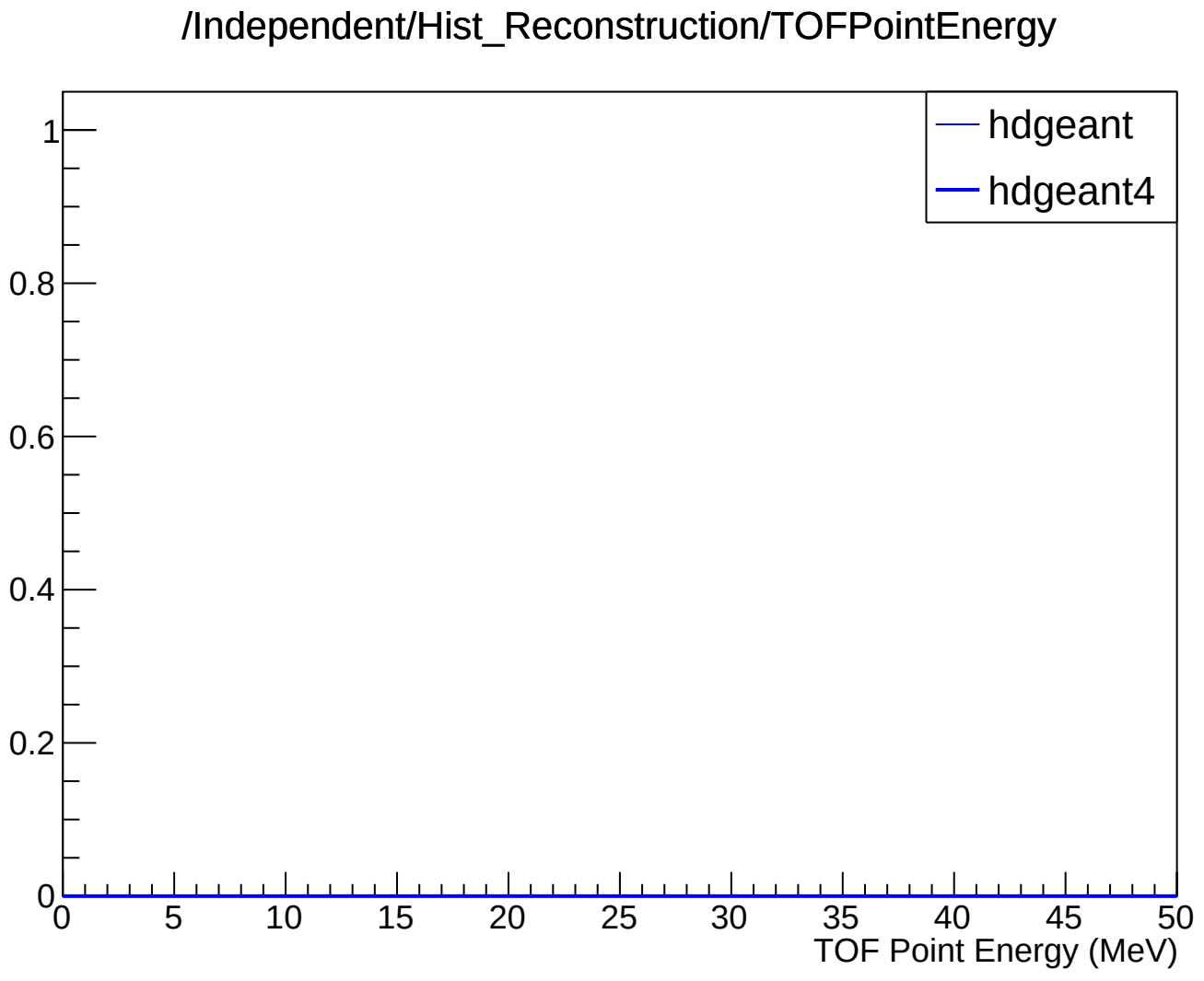


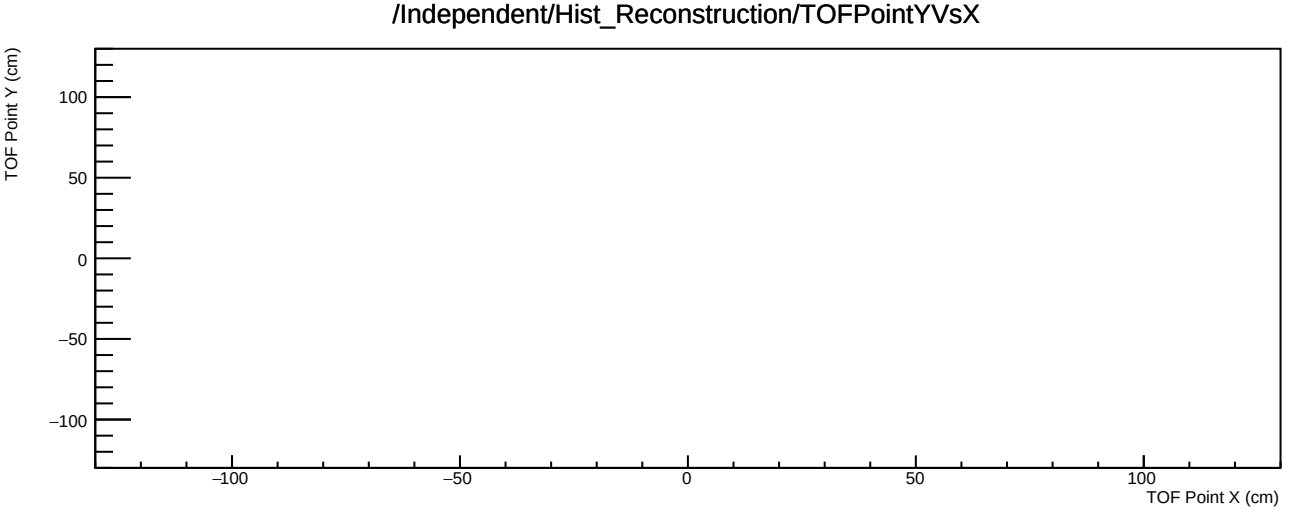

/Independent/Hist_Reconstruction/BCALShowerEnergy
hdgeant
hdgeant4
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
7
8
BCAL Shower Energy (GeV)

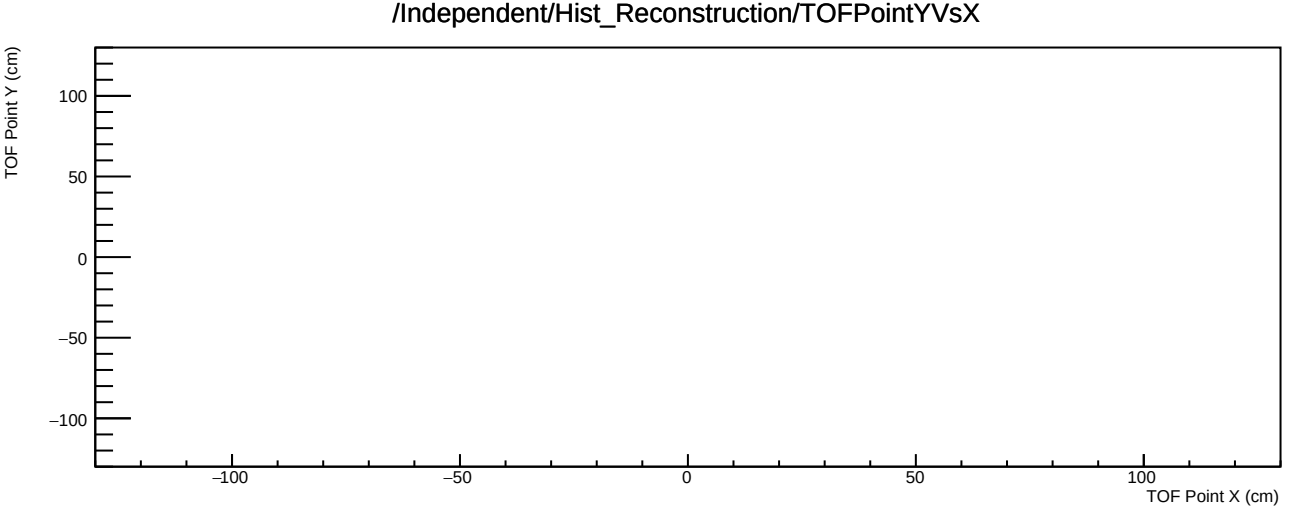

/Independent/Hist_Reconstruction/BCALShowerPhi
hdgeant
hdgeant4
50000
40000
30000
20000
10000
0
–150
–100
–50
0
50
100
150
BCAL Shower ϕ°

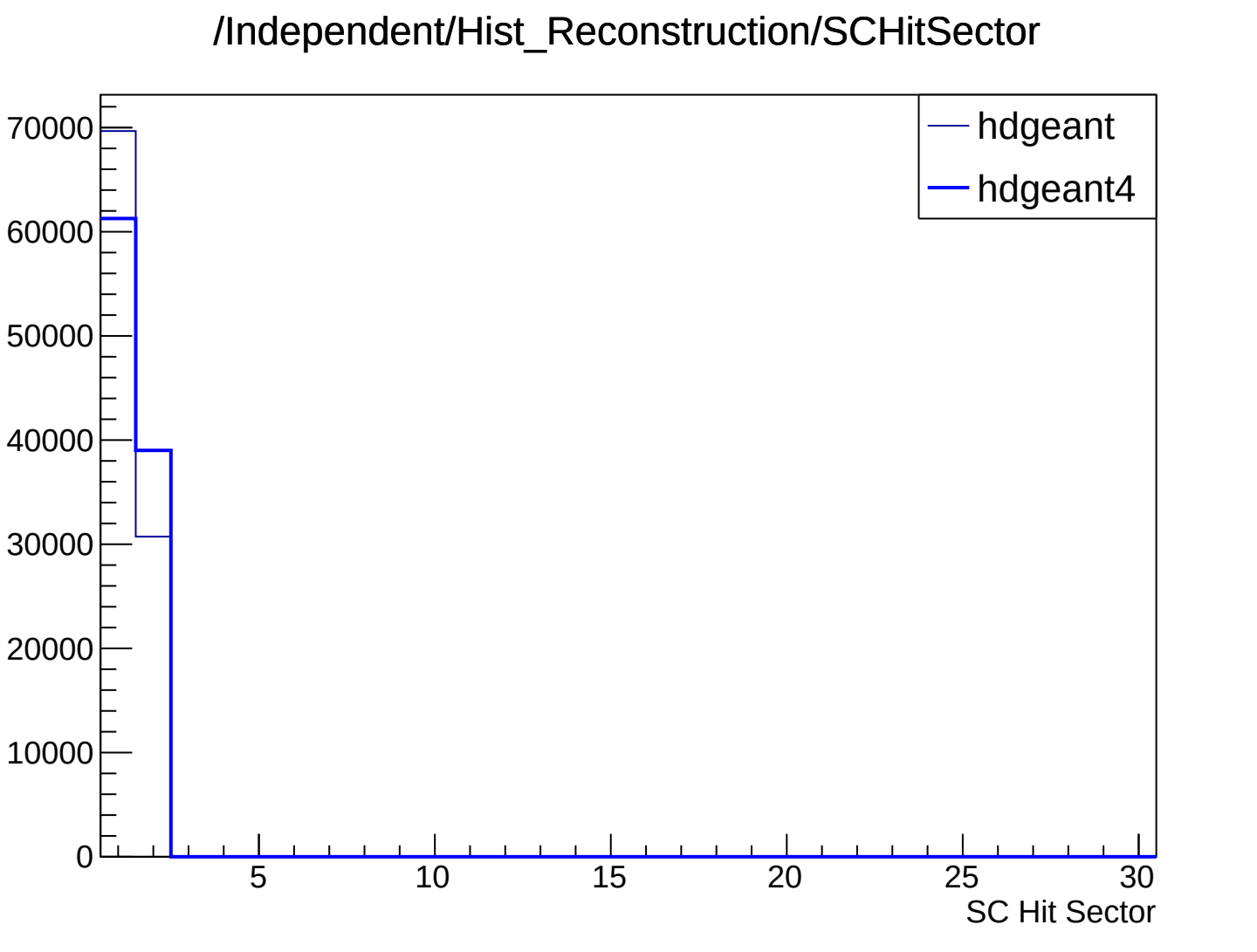

/Independent/Hist_Reconstruction/BCALShowerPhiVsZ
BCAL Shower ϕ°
150
100
50
0
−50
−100
−150
0
50
100
150
200
250
300
350
400
450
BCAL Shower Z (cm)
4500
4000
3500
3000
2500
2000
1500
1000
500
0

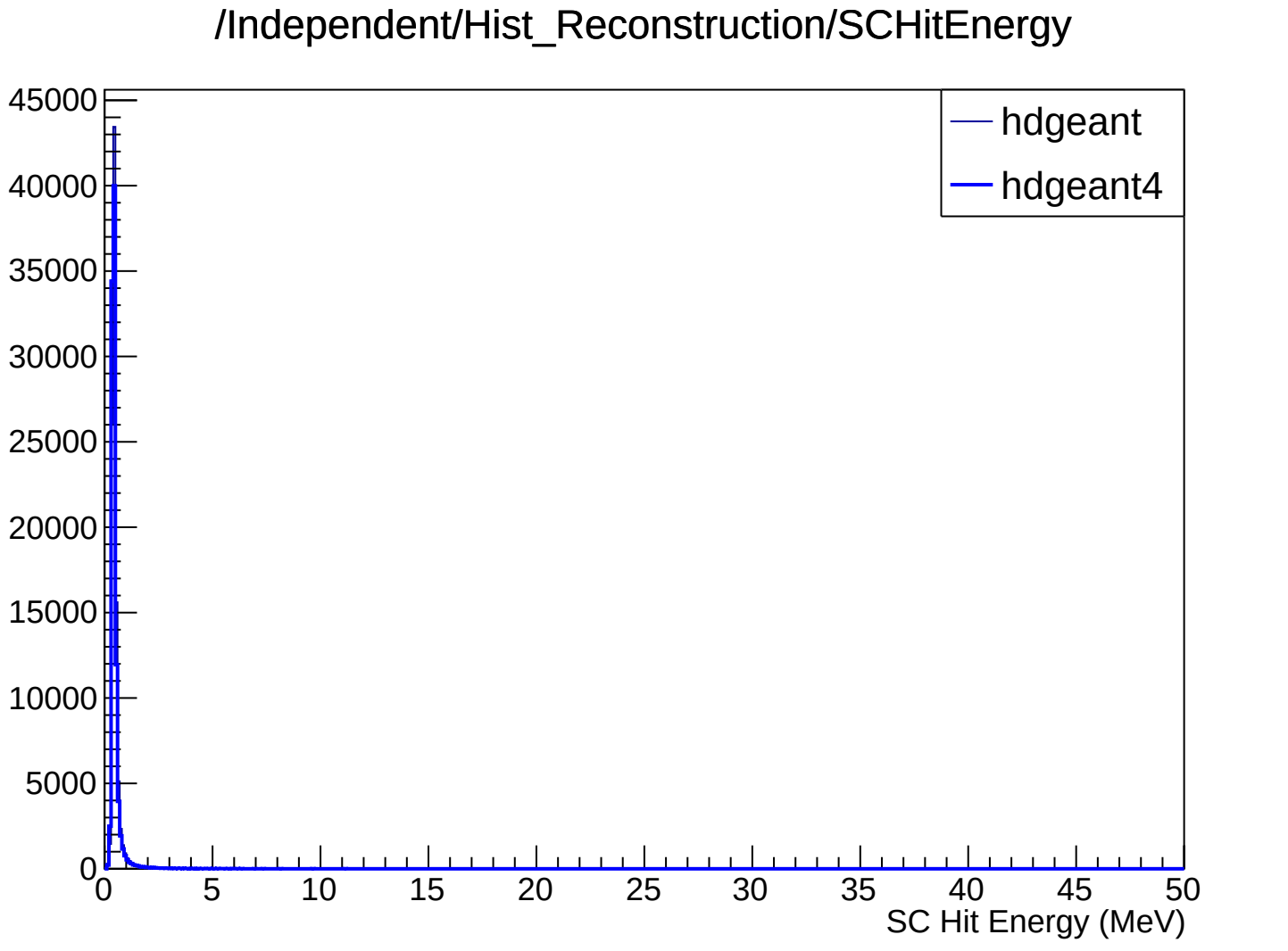

/Independent/Hist_Reconstruction/BCALShowerPhiVsZ
BCAL Shower ϕ°
150
100
50
0
−50
−100
−150
0
50
100
150
200
250
300
350
400
450
BCAL Shower Z (cm)
4000
3500
3000
2500
2000
1500
1000
500
0

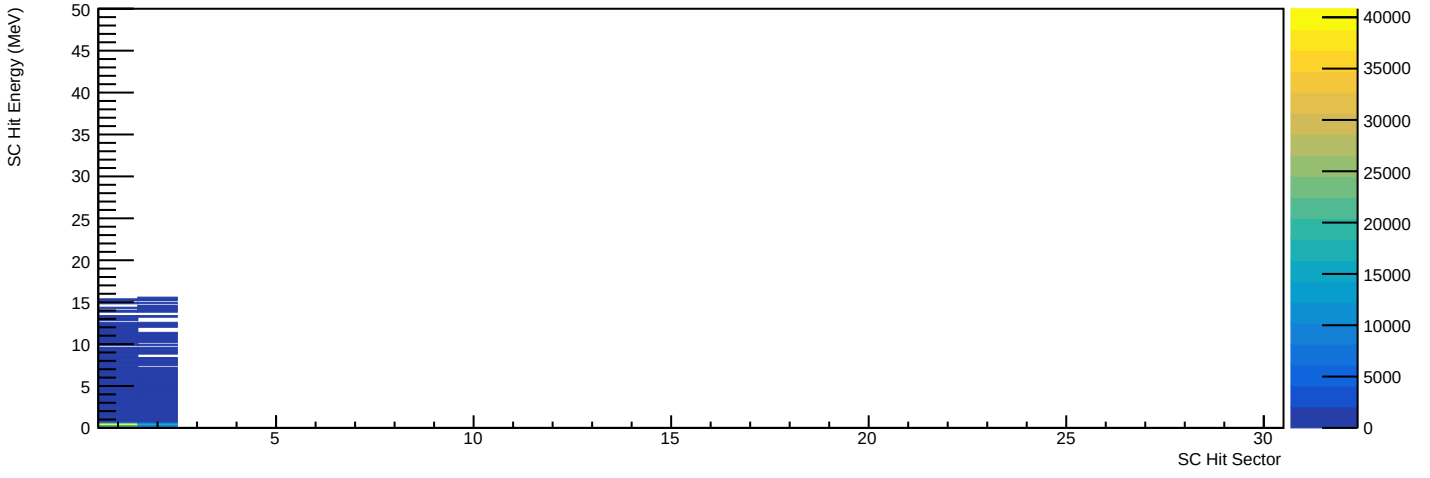

/Independent/Hist_Reconstruction/TOFPointEnergy
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
5
10
15
20
25
30
35
40
45
50
TOF Point Energy (MeV)

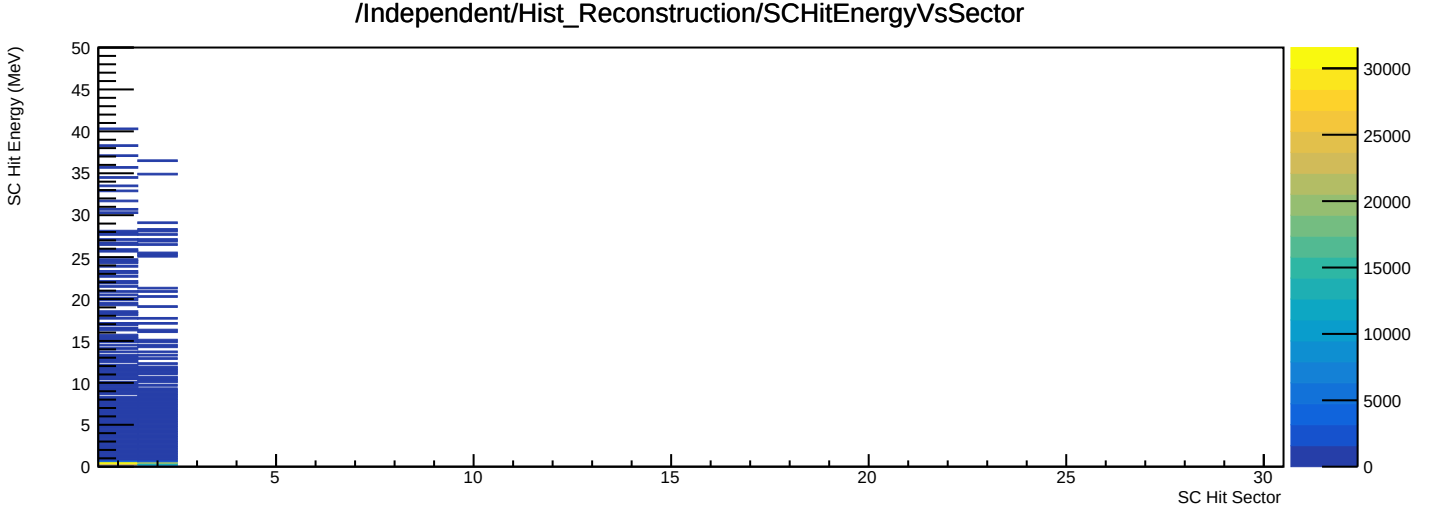

/Independent/Hist_Reconstruction/TOFPointYVsX
TOF Point Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
TOF Point X (cm)

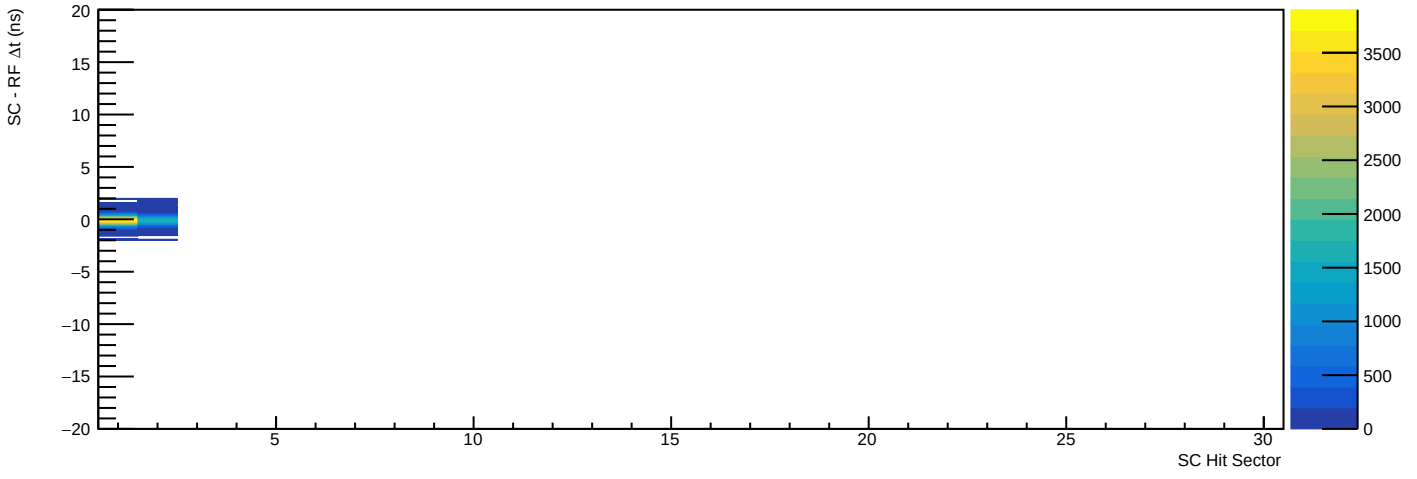

/Independent/Hist_Reconstruction/TOFPointYVsX
TOF Point Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
TOF Point X (cm)

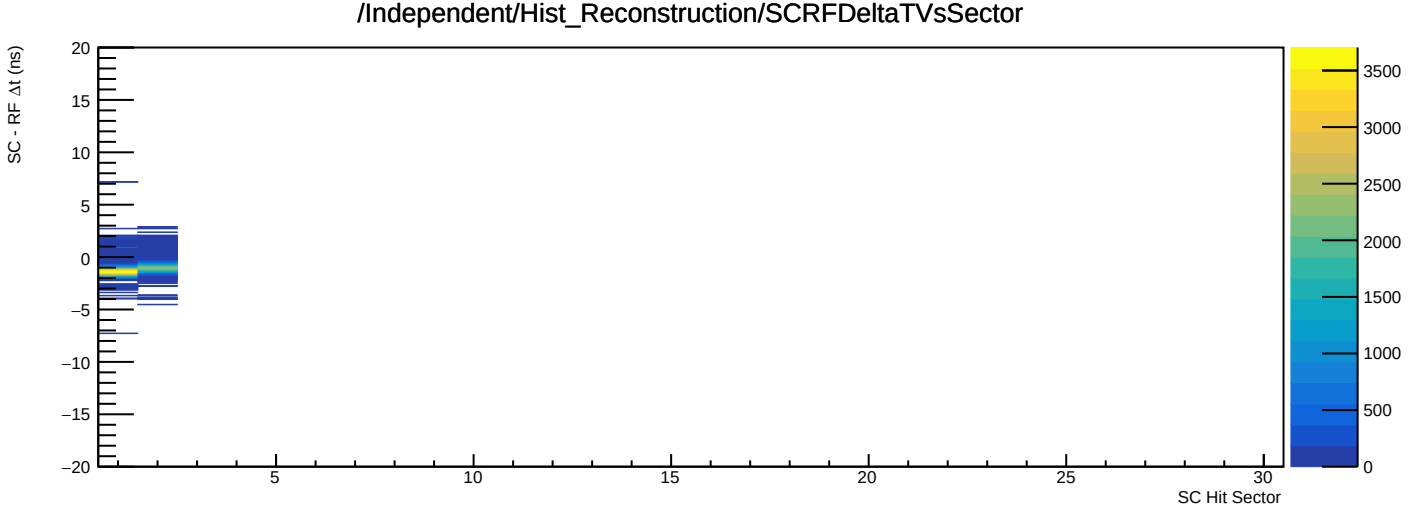

/Independent/Hist_Reconstruction/SCHitSector
hdgeant
hdgeant4
70000
60000
50000
40000
30000
20000
10000
0
5
10
15
20
25
30
SC Hit Sector

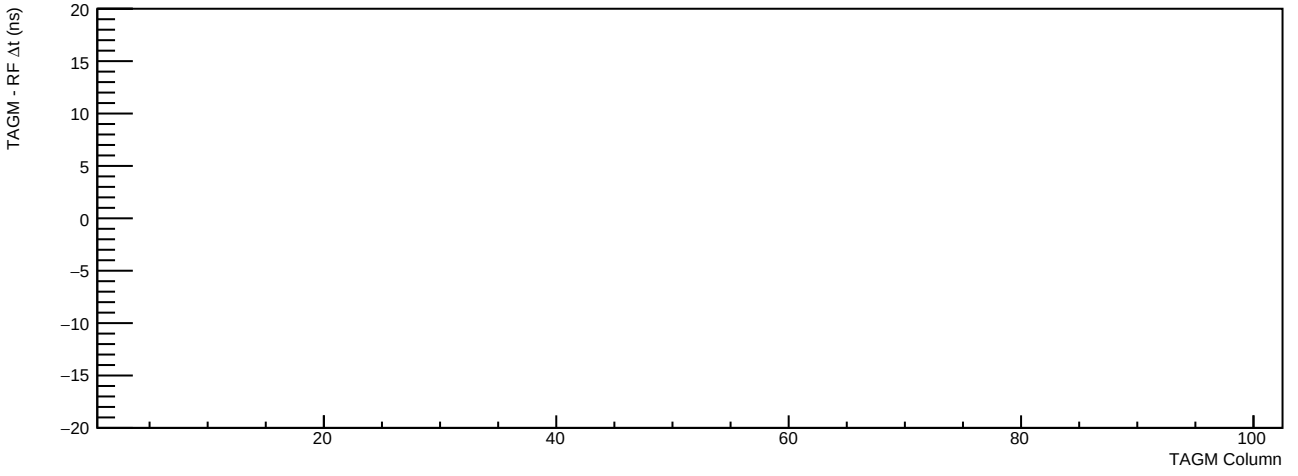

/Independent/Hist_Reconstruction/SCHitEnergy
hdgeant
hdgeant4
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
0
5
10
15
20
25
30
35
40
45
50
SC Hit Energy (MeV)

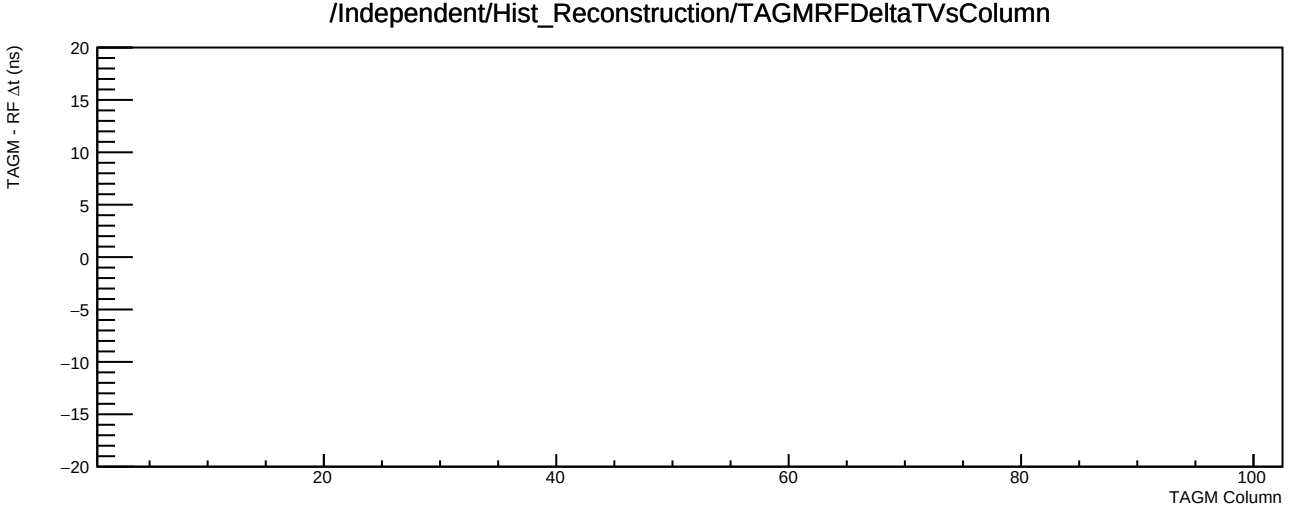

/Independent/Hist_Reconstruction/SCHitEnergyVsSector
SC Hit Energy (MeV)
SC Hit Sector
0
5
10
15
20
25
30
35
40
45
50
0
5000
10000
15000
20000
25000
30000
35000
40000

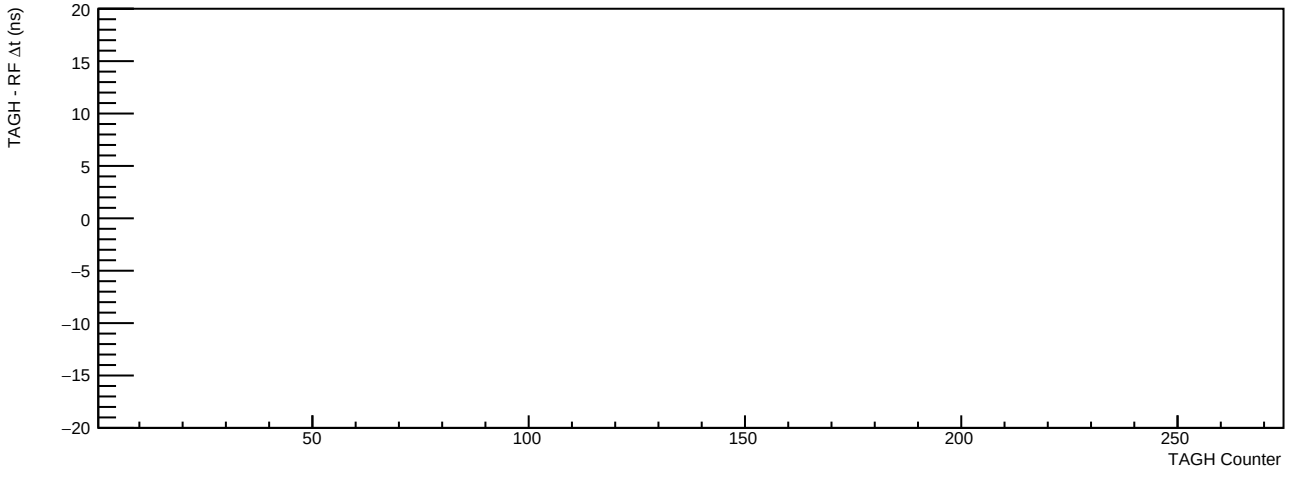

/Independent/Hist_Reconstruction/SCHitEnergyVsSector
SC Hit Energy (MeV)
SC Hit Sector
0
5
10
15
20
25
30
35
40
45
50
0
5000
10000
15000
20000
25000
30000

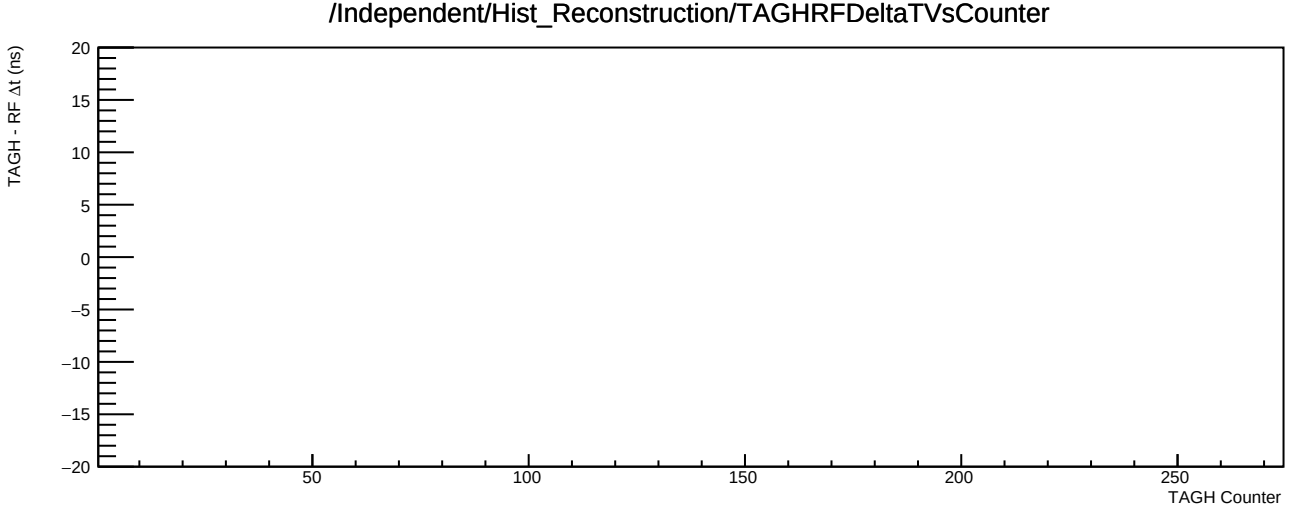

/Independent/Hist_Reconstruction/SCRFDeltaTVsSector
SC - RF Δt (ns)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
SC Hit Sector
3500
3000
2500
2000
1500
1000
500
0

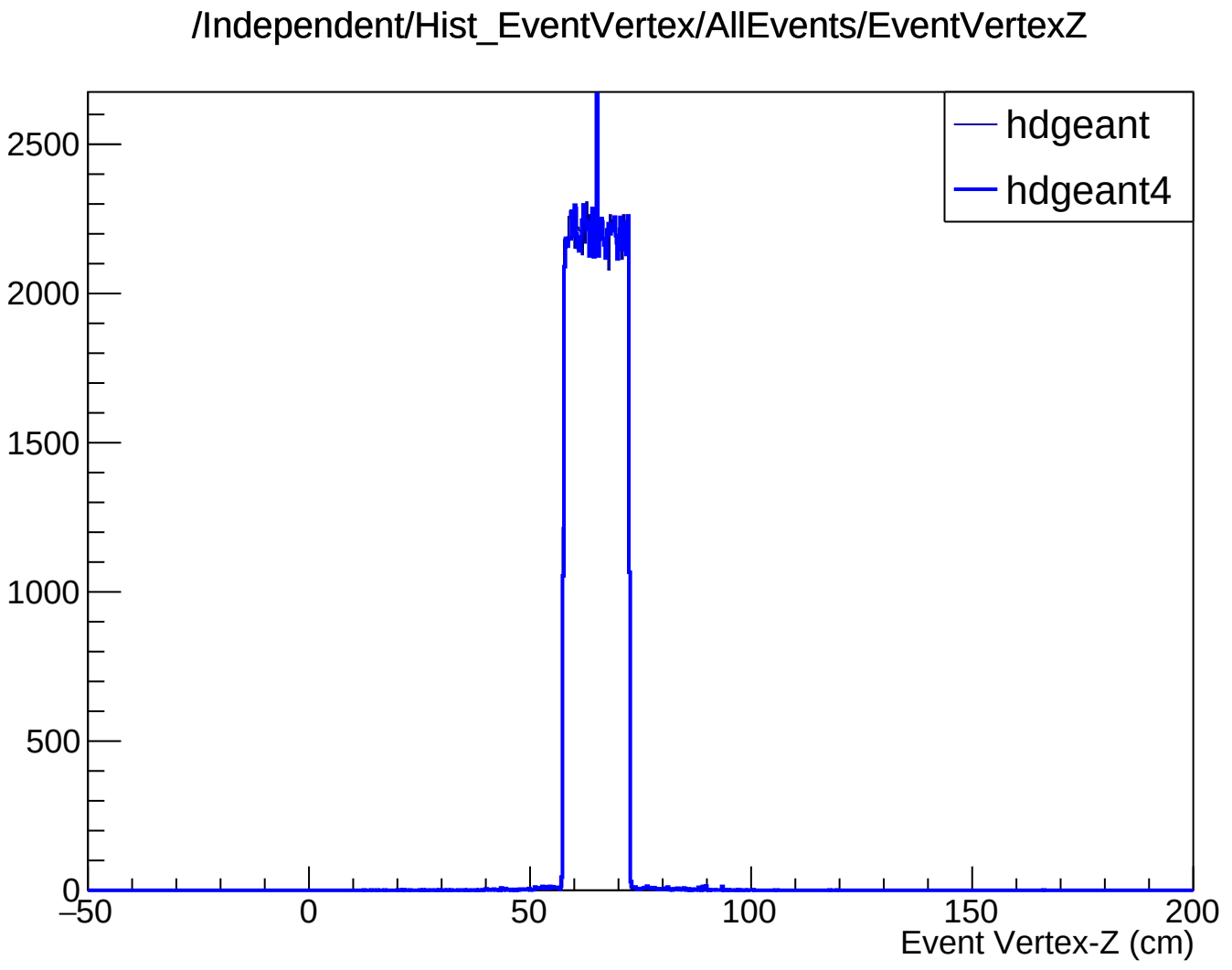

/Independent/Hist_Reconstruction/SCRFDeltaTVsSector
SC - RF Δt (ns)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
SC Hit Sector
3500
3000
2500
2000
1500
1000
500
0

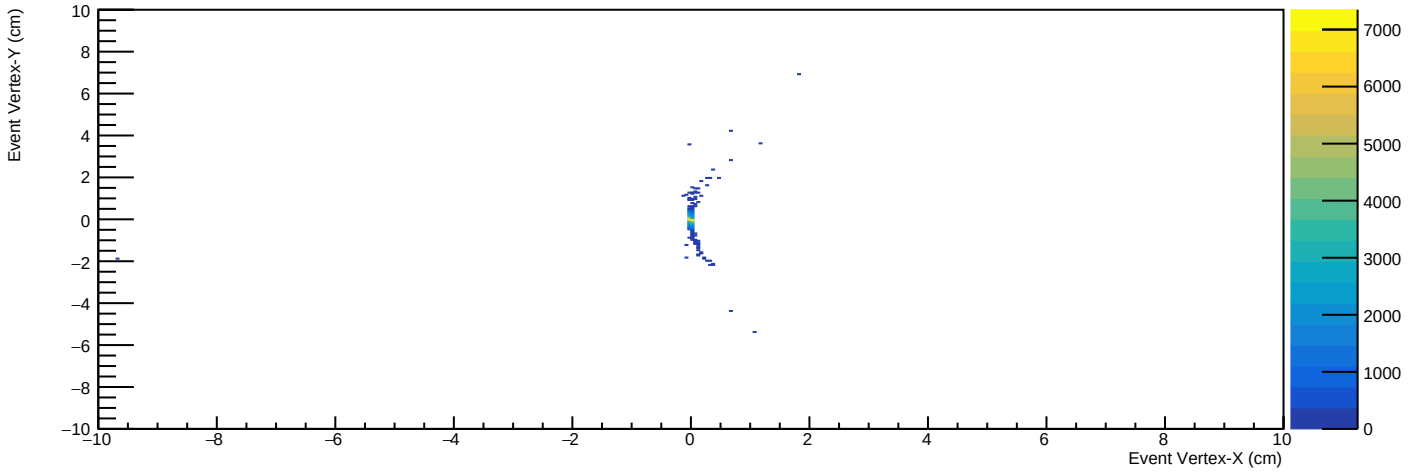

/Independent/Hist_Reconstruction/TAGMRFDeltaTVsColumn
TAGM - RF Δt (ns)
20
15
10
5
0
−5
−10
−15
−20
20
40
60
80
100
TAGM Column

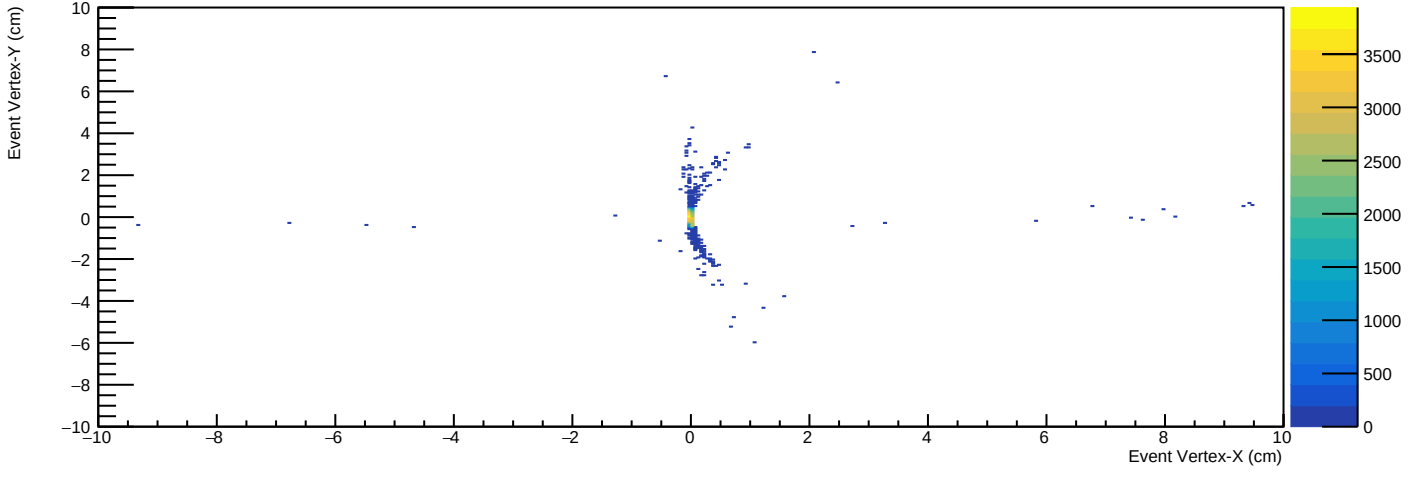

/Independent/Hist_Reconstruction/TAGMRFDeltaTVsColumn
TAGM - RF Δt (ns)
20
15
10
5
0
−5
−10
−15
−20
20
40
60
80
100
TAGM Column

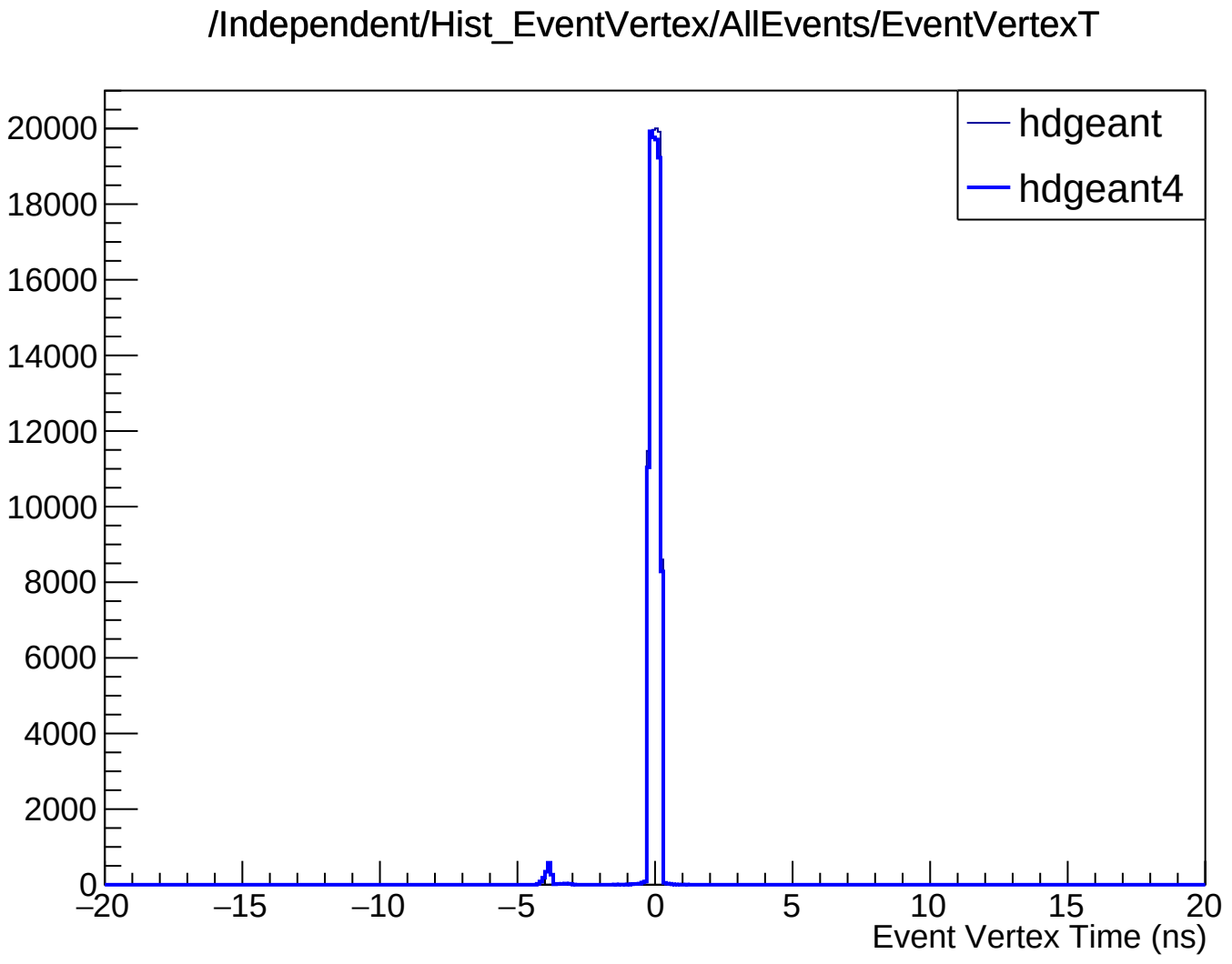

/Independent/Hist_Reconstruction/TAGHRFDeltaTVsCounter
TAGH - RF Δt (ns)
20
15
10
5
0
−5
−10
−15
−20
50
100
150
200
250
TAGH Counter

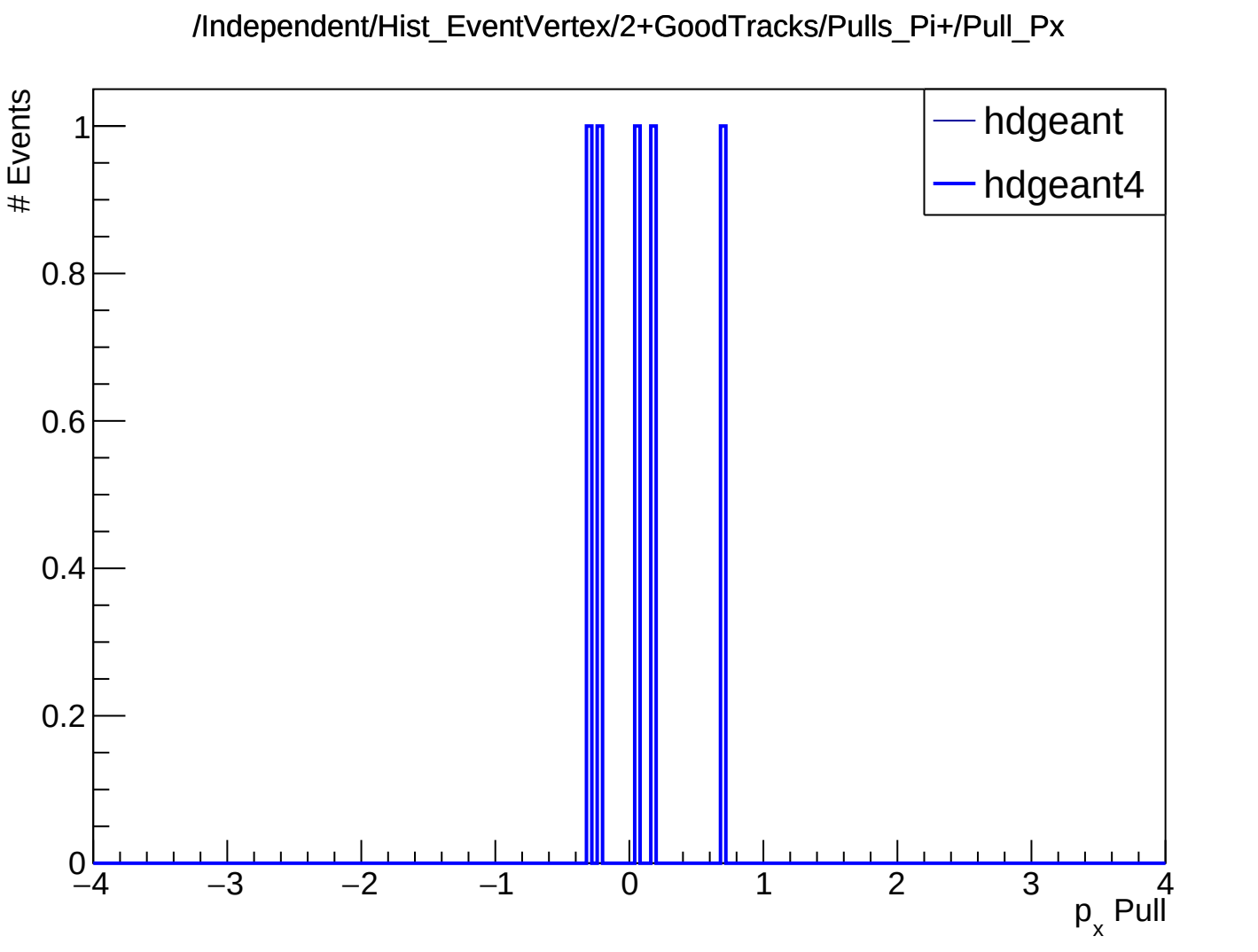

/Independent/Hist_Reconstruction/TAGHRFDeltaTVsCounter
TAGH - RF Δt (ns)
20
15
10
5
0
−5
−10
−15
−20
50
100
150
200
250
TAGH Counter

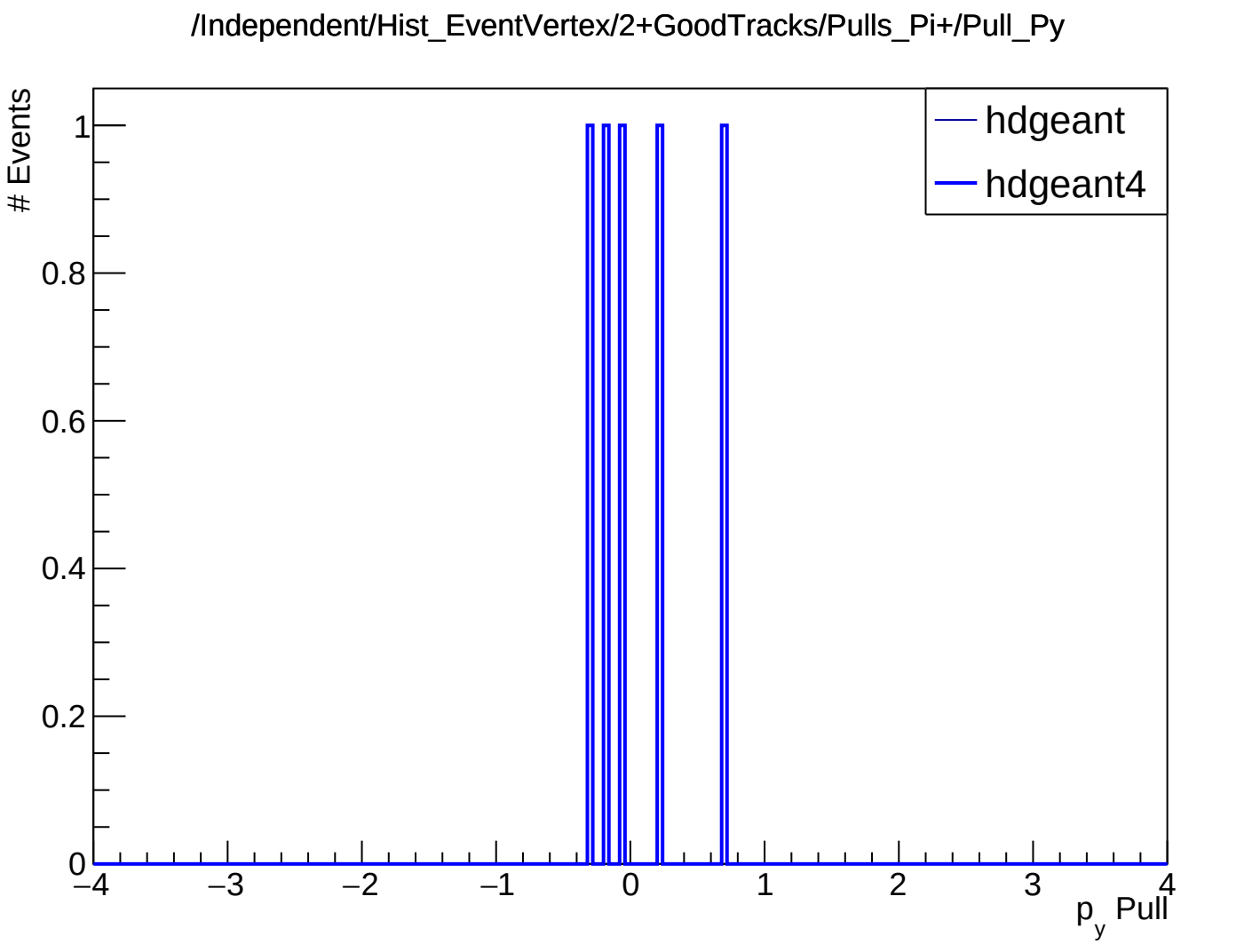

/Independent/Hist_EventVertex/AllEvents/EventVertexZ
hdgeant
hdgeant4
2500
2000
1500
1000
500
0
–50
0
50
100
150
200
Event Vertex-Z (cm)

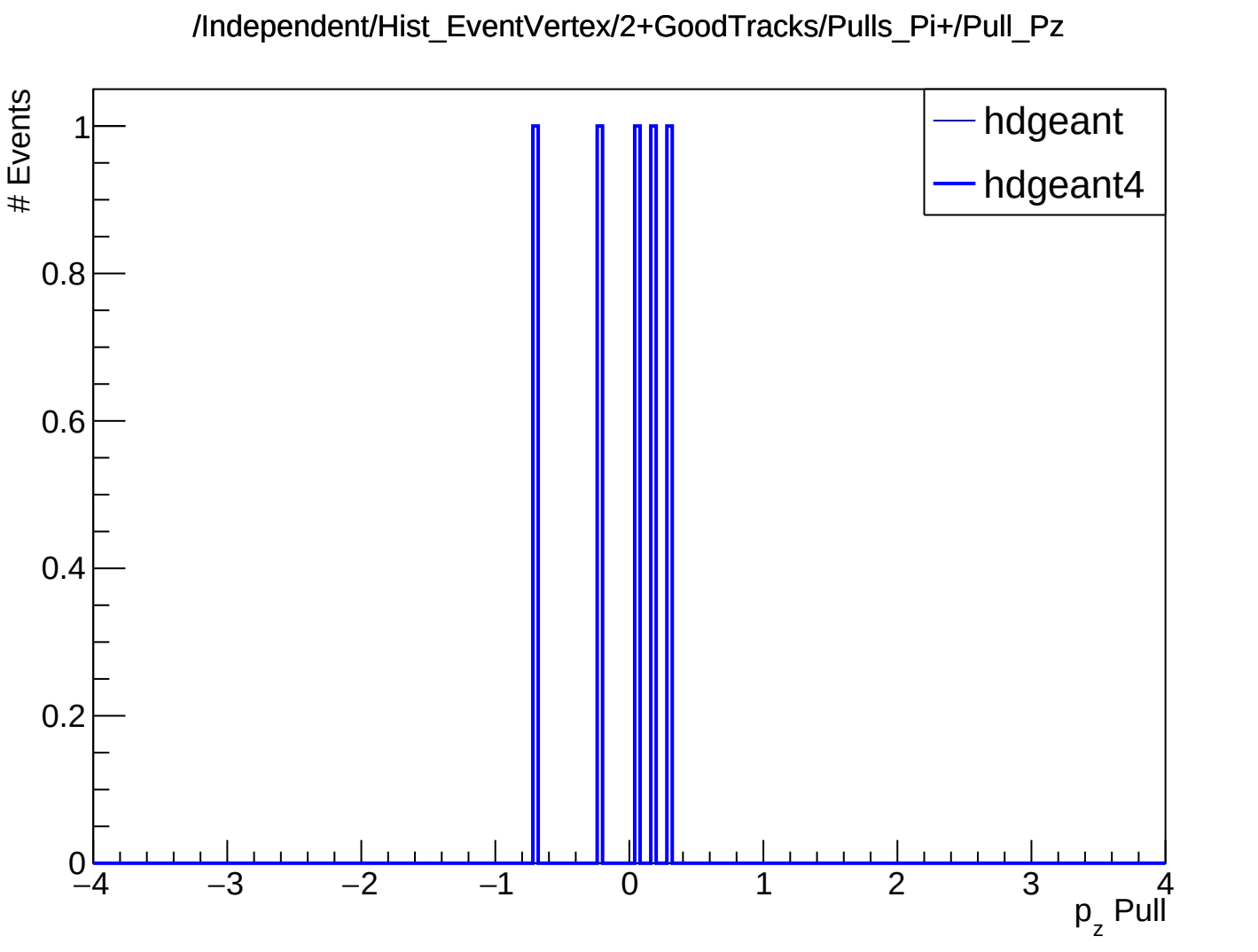

/Independent/Hist_EventVertex/AllEvents/EventVertexYVsX
Event Vertex-Y (cm)
Event Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
7000
6000
5000
4000
3000
2000
1000
0

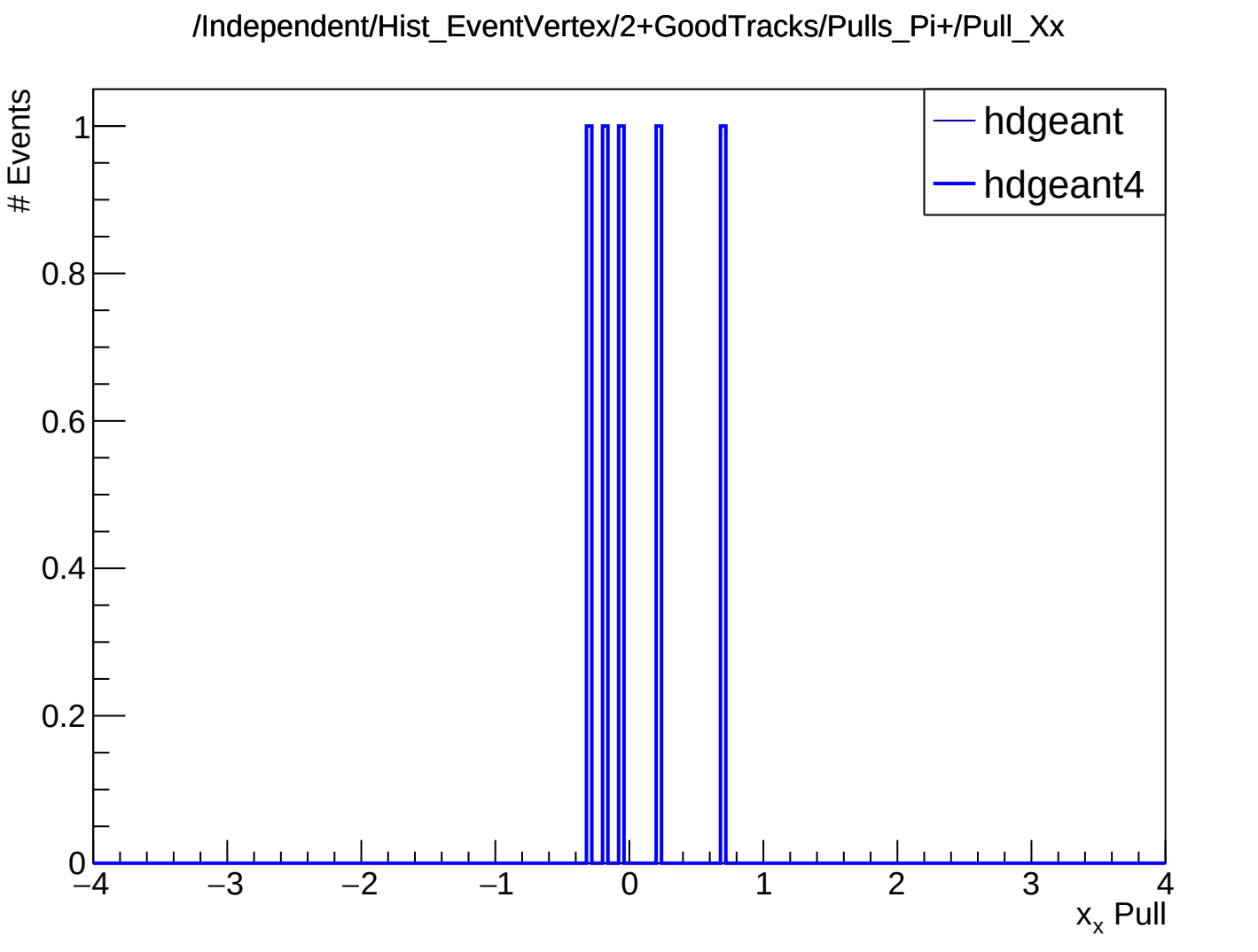

/Independent/Hist_EventVertex/AllEvents/EventVertexYVsX
Event Vertex-Y (cm)
Event Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
3500
3000
2500
2000
1500
1000
500
0

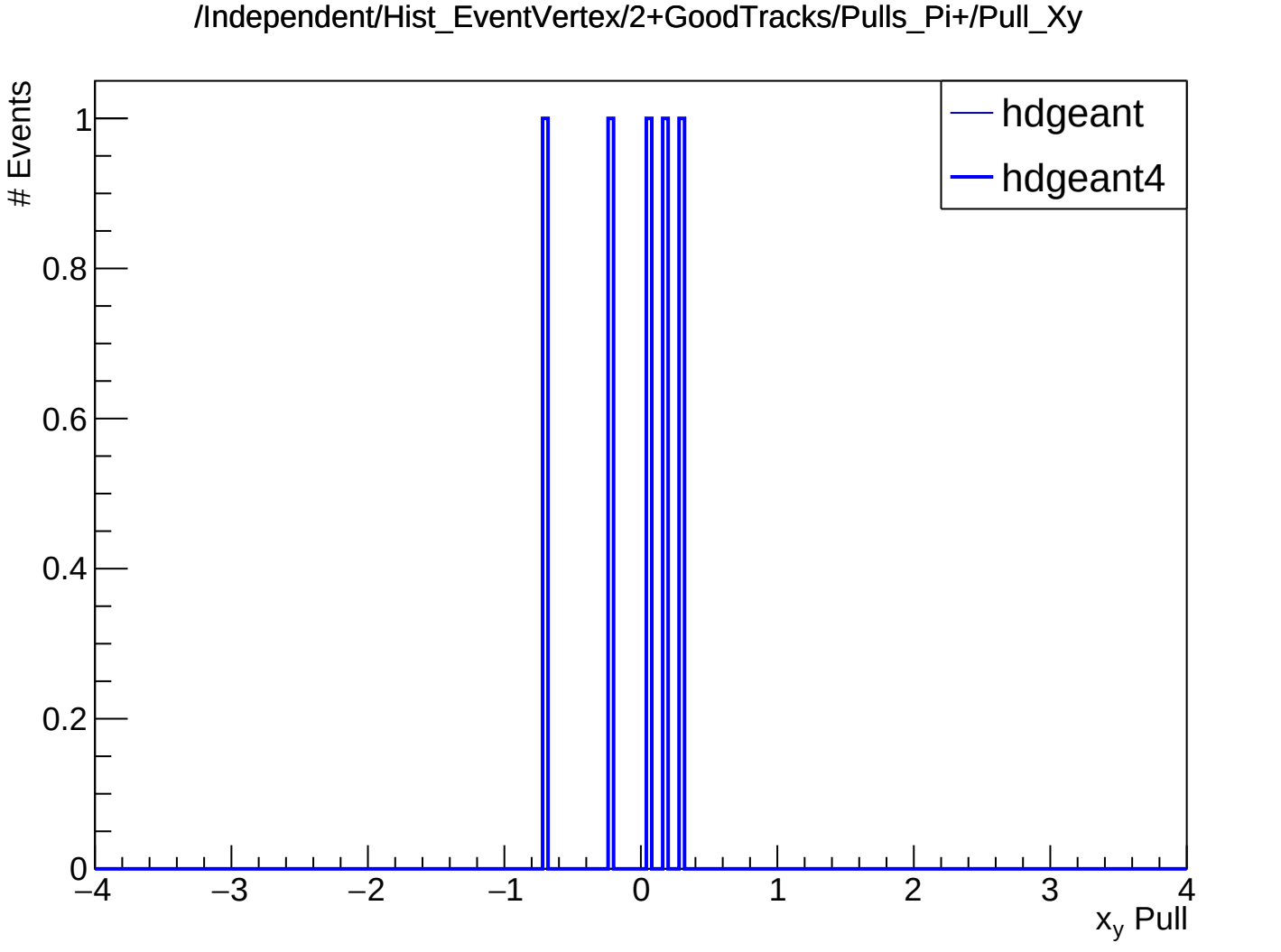

/Independent/Hist_EventVertex/AllEvents/EventVertexT
hdgeant
hdgeant4
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
–20
–15
–10
–5
0
5
10
15
20
Event Vertex Time (ns)

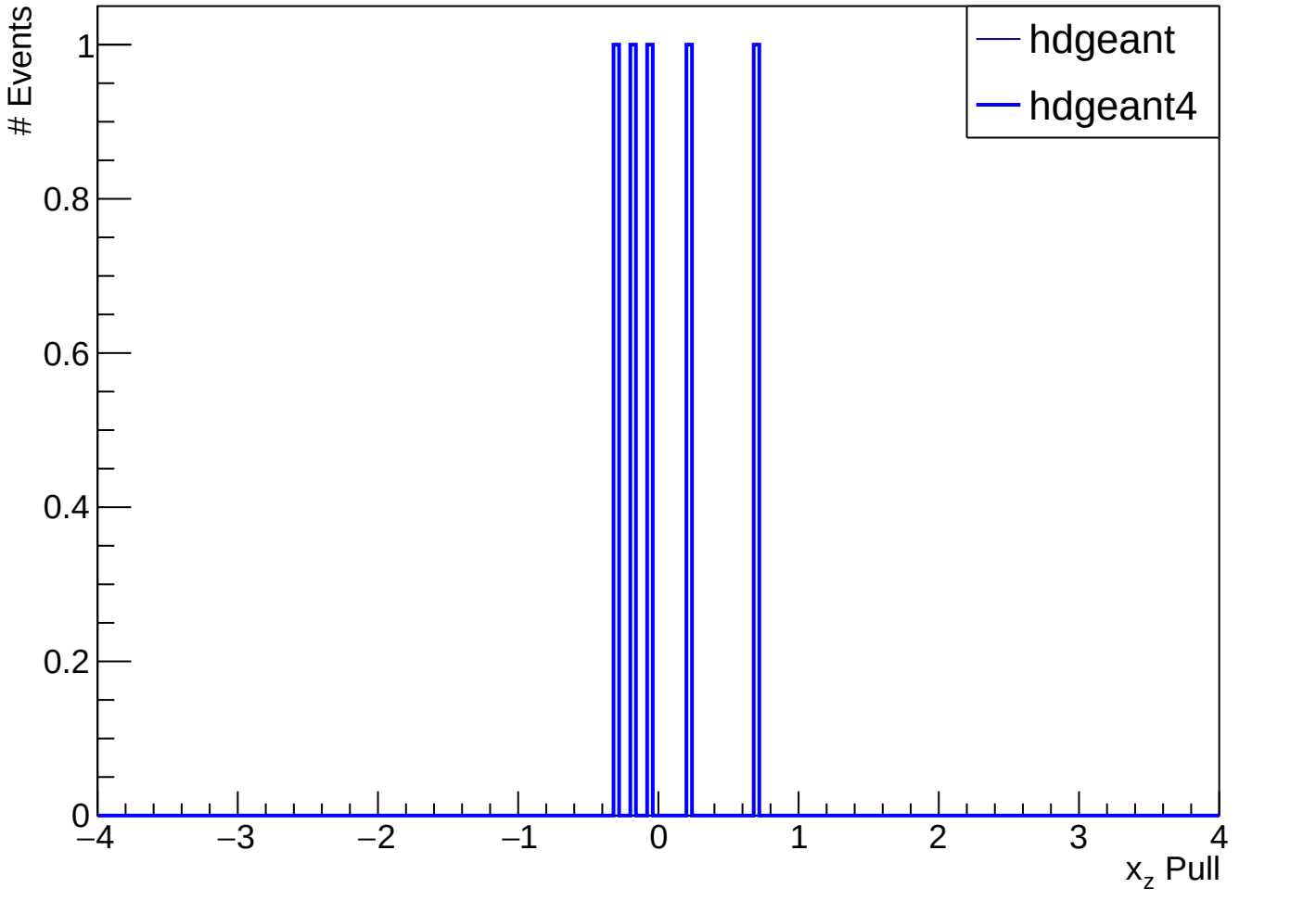

/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi+/Pull_Px
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
p_x Pull
hdgeant
hdgeant4


/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi+/Pull_Py
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
p_y Pull
hdgeant
hdgeant4

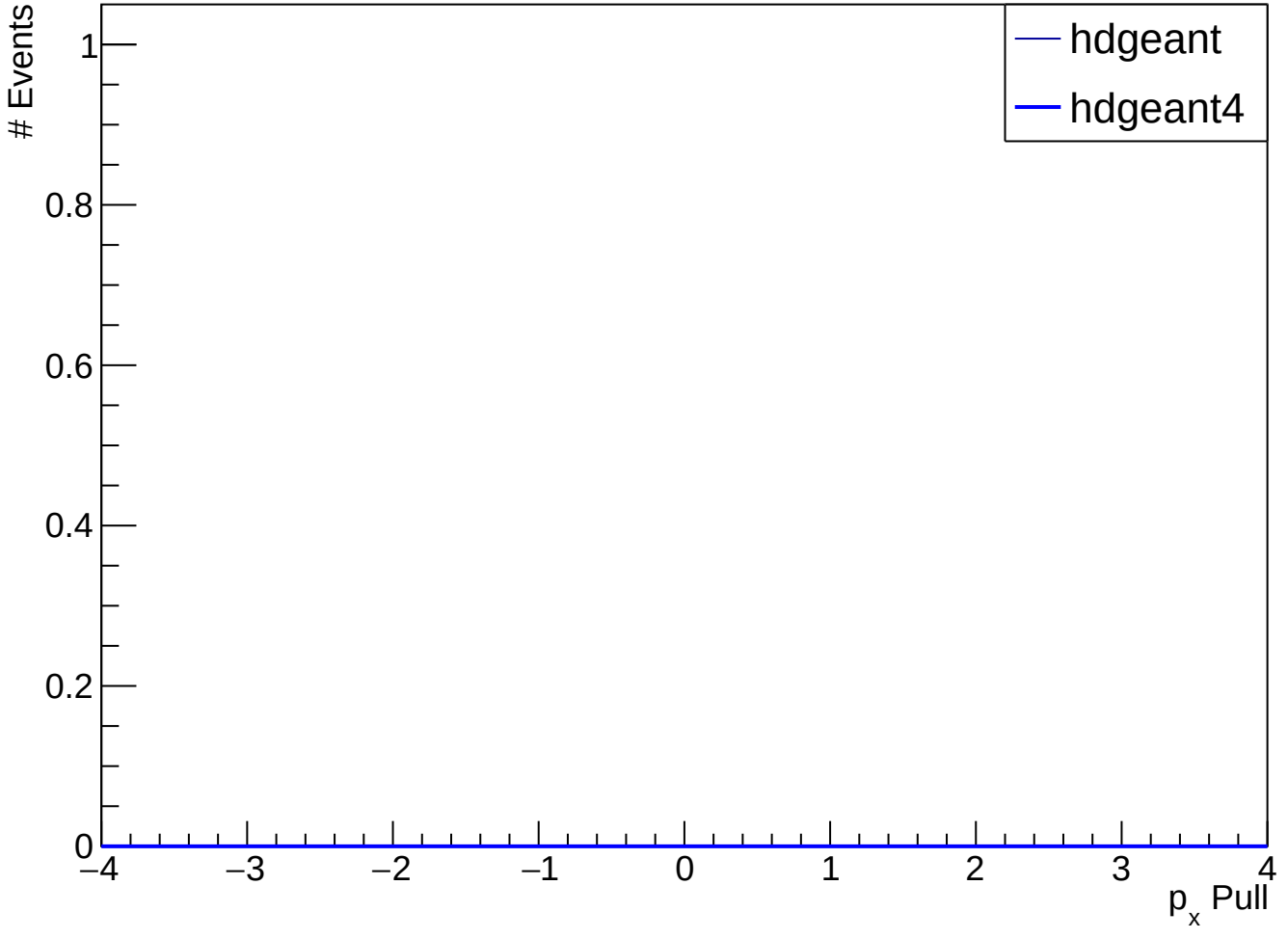

/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi+/Pull_Pz
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
p_z Pull
hdgeant
hdgeant4


/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi+/Pull_Xx
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
x_x Pull
hdgeant
hdgeant4

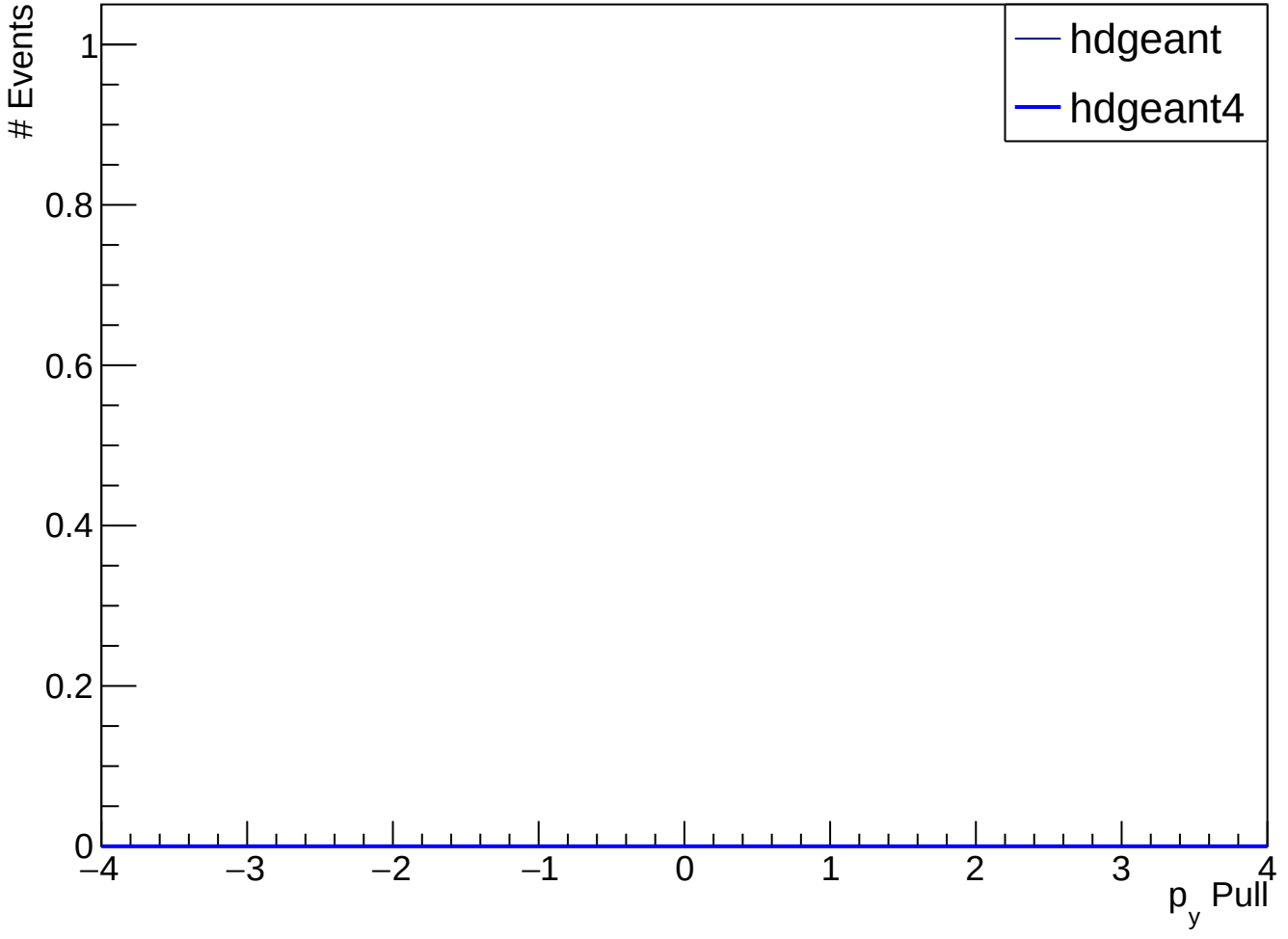

/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi+/Pull_Xy
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
x_y Pull
hdgeant
hdgeant4

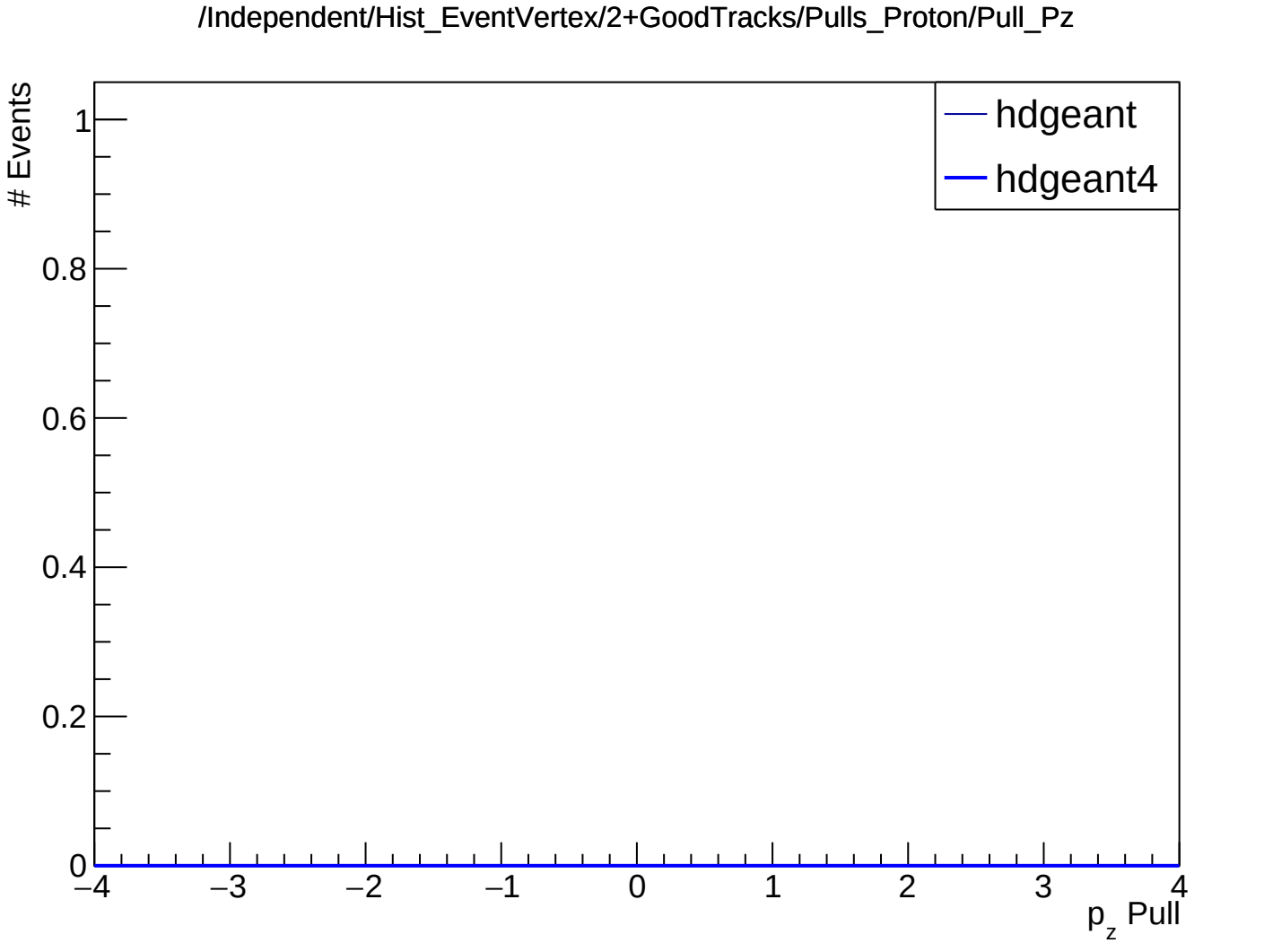

/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi+/Pull_Xz
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
x_z Pull
hdgeant
hdgeant4

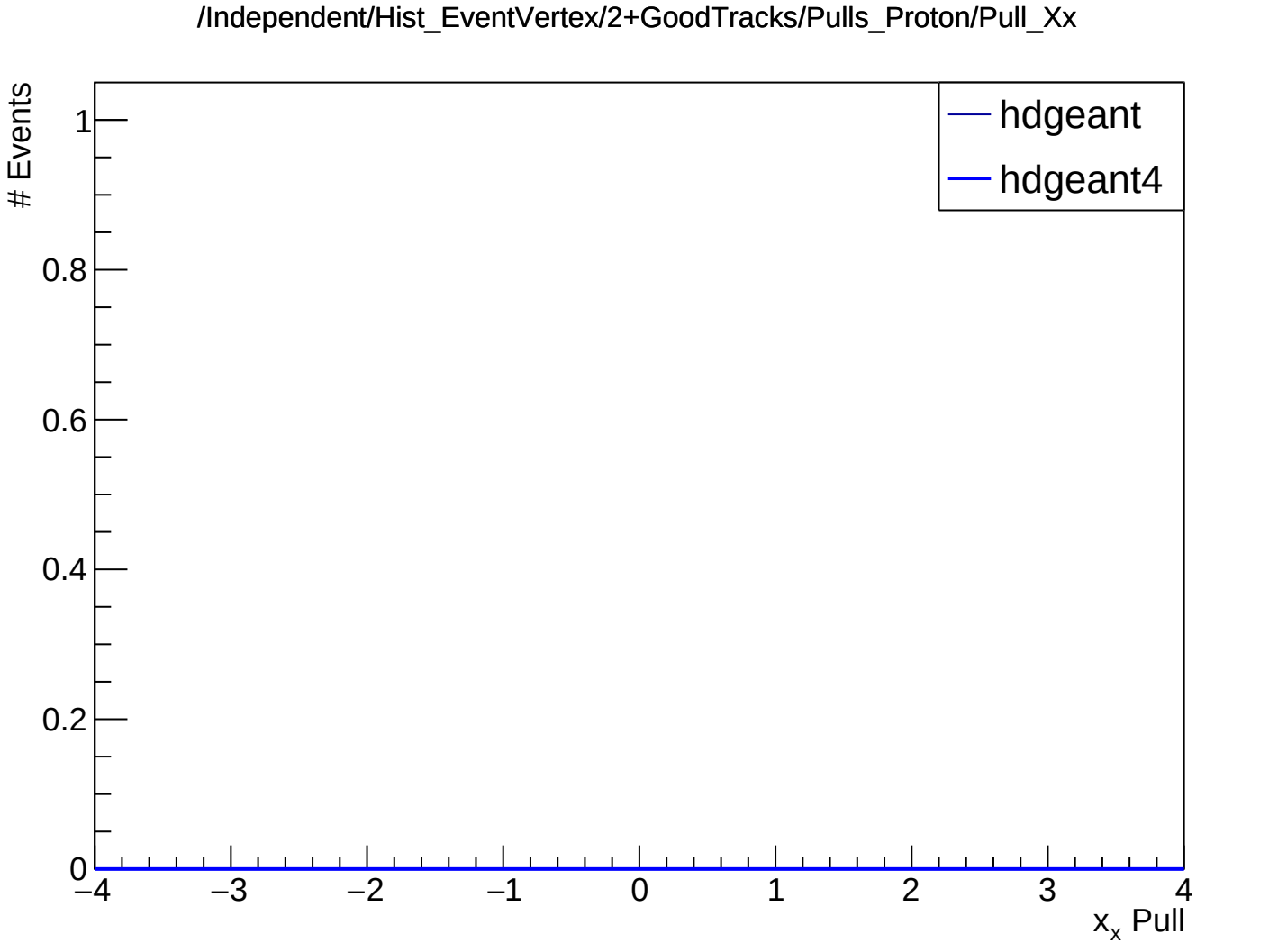
/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Proton/Pull_Px



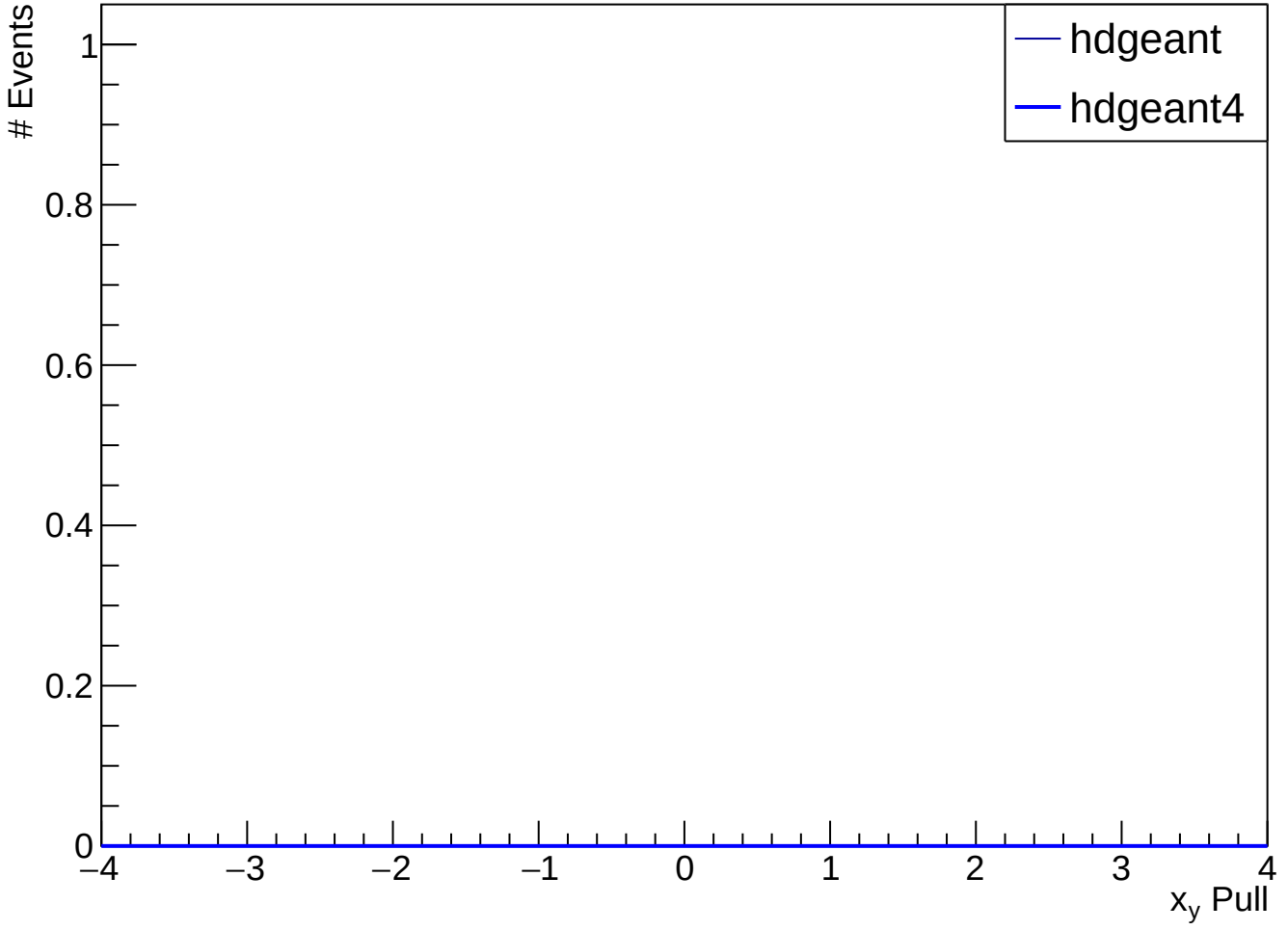
/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Proton/Pull_Py



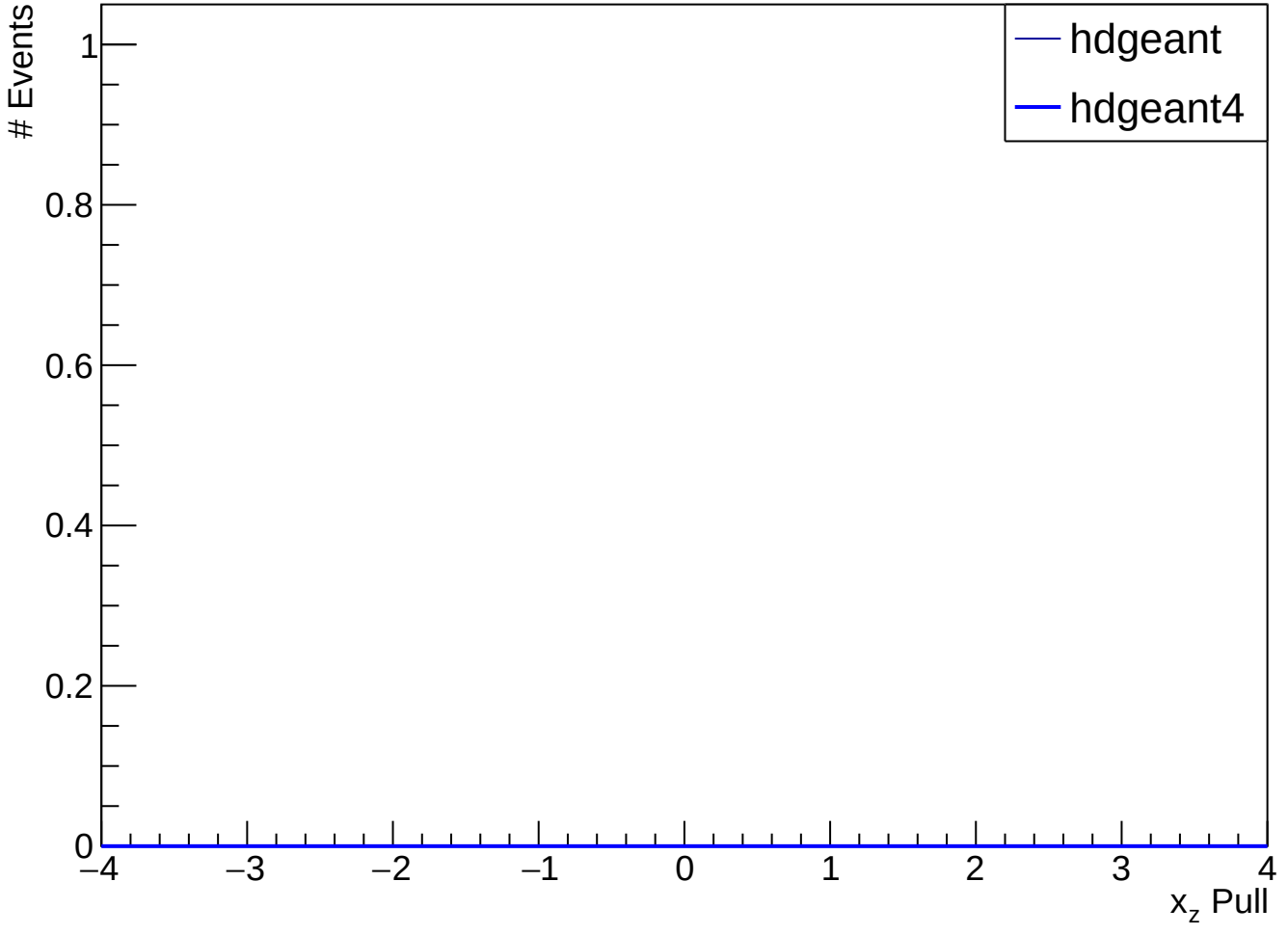

/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Proton/Pull_Pz
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
p_z Pull
hdgeant
hdgeant4

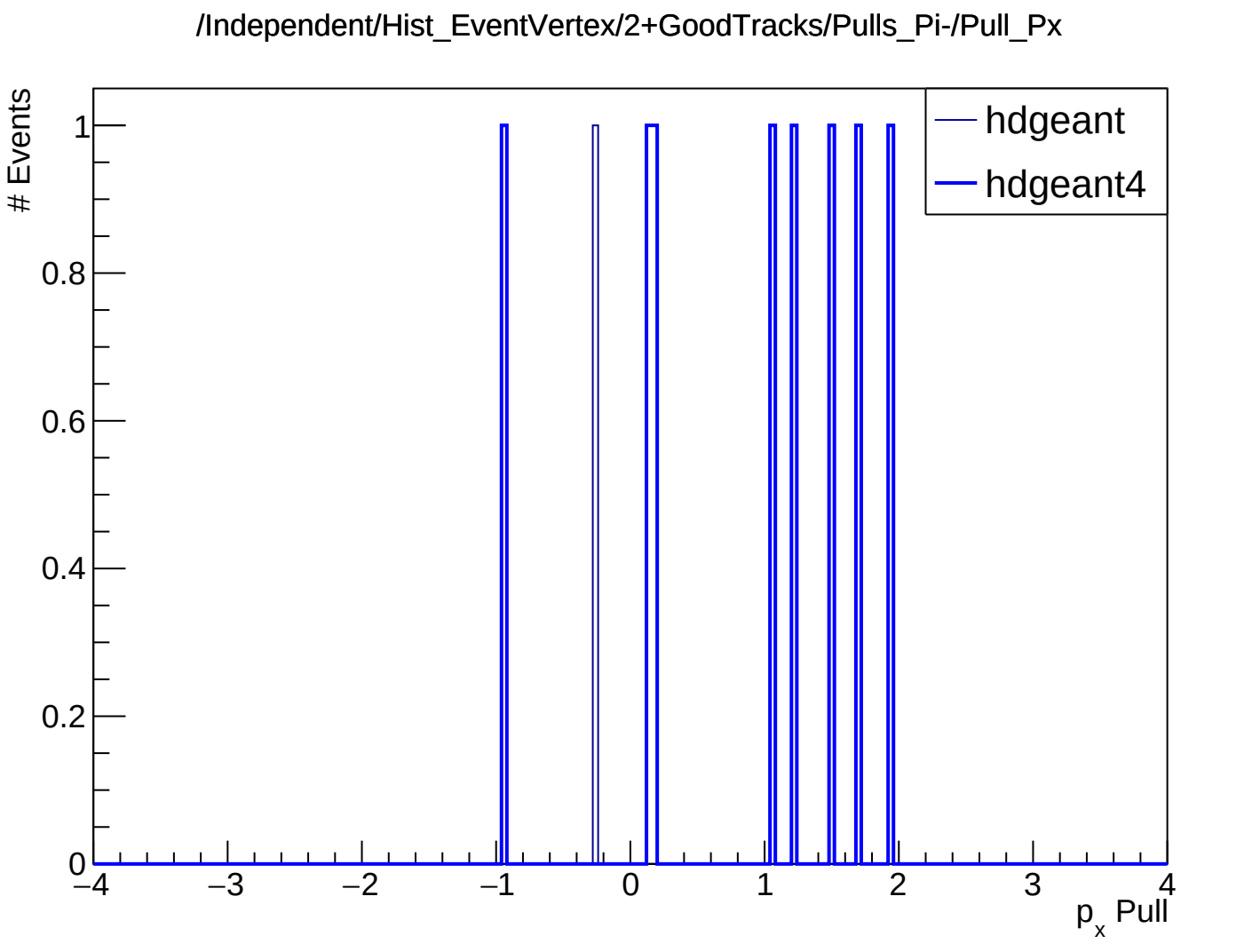

/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Proton/Pull_Xx
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
x_x Pull
hdgeant
hdgeant4

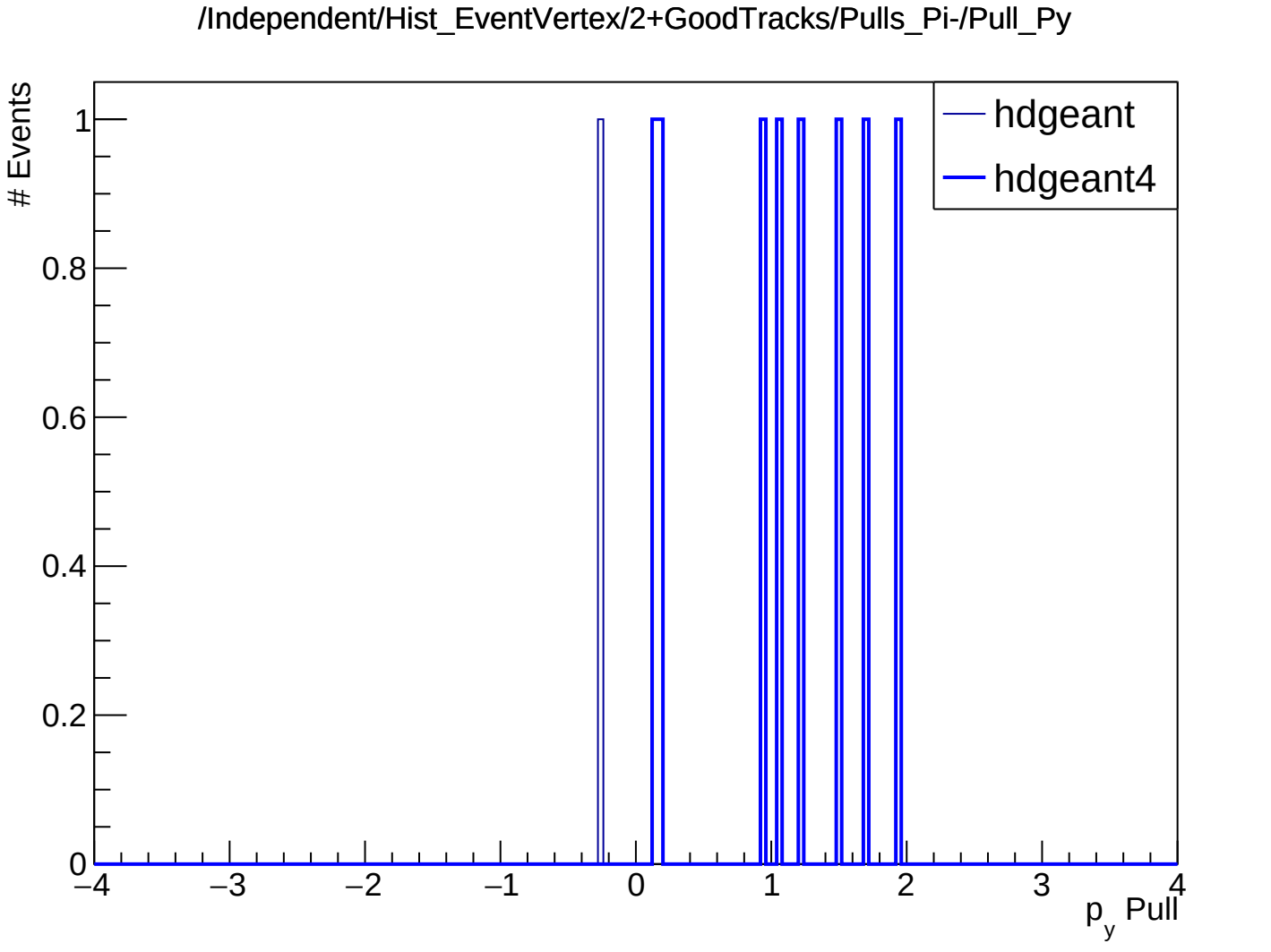
/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Proton/Pull_Xy

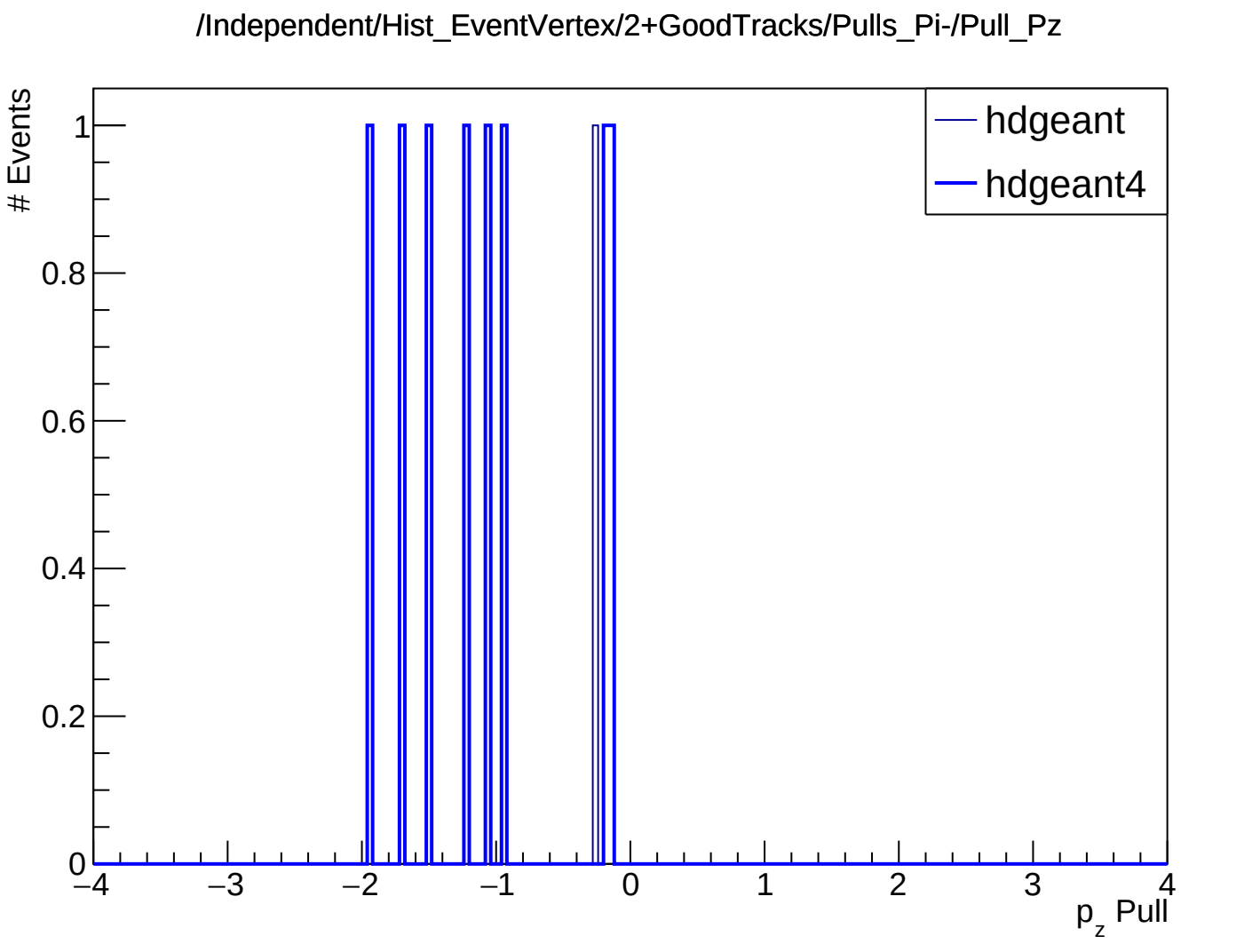


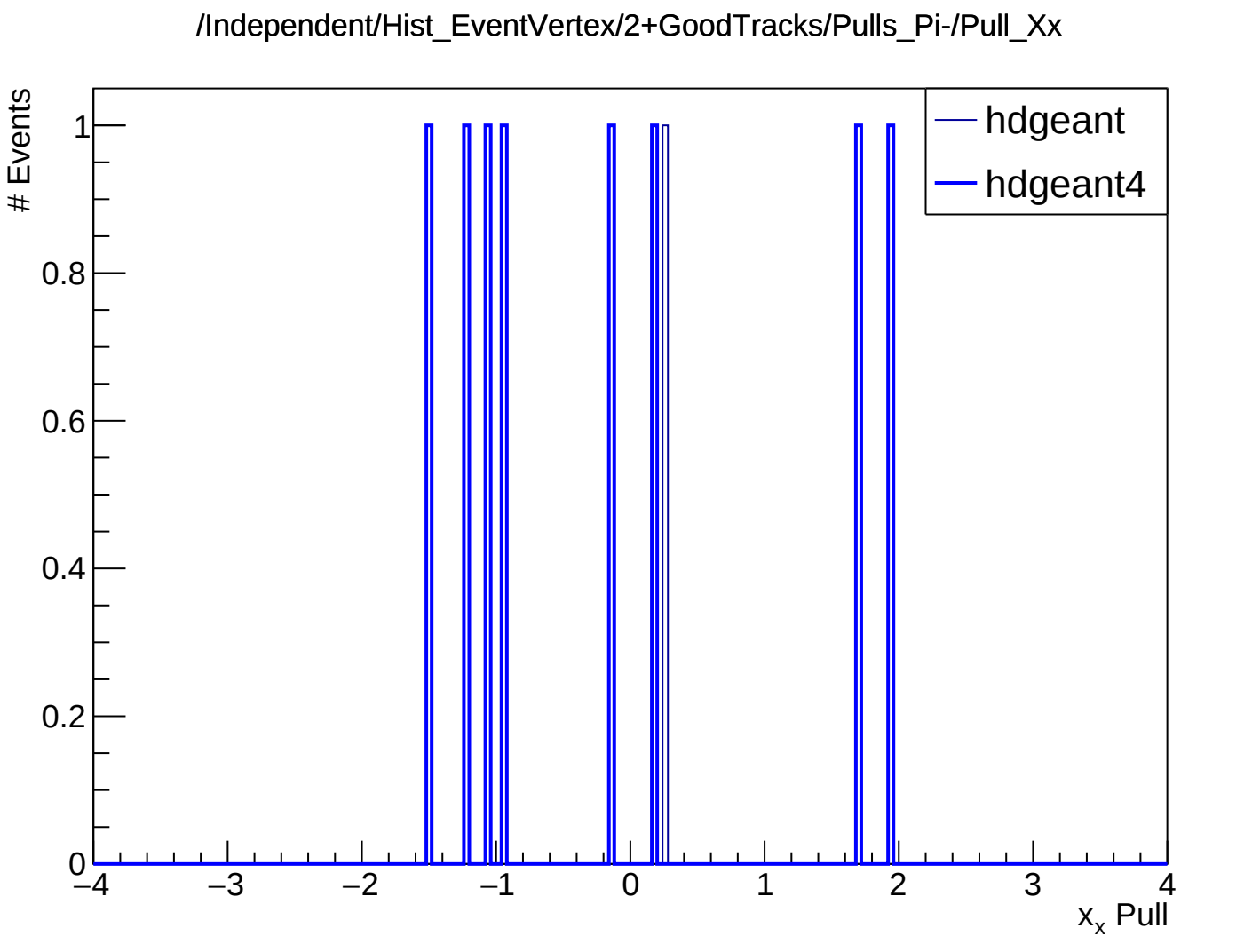
/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Proton/Pull_Xz

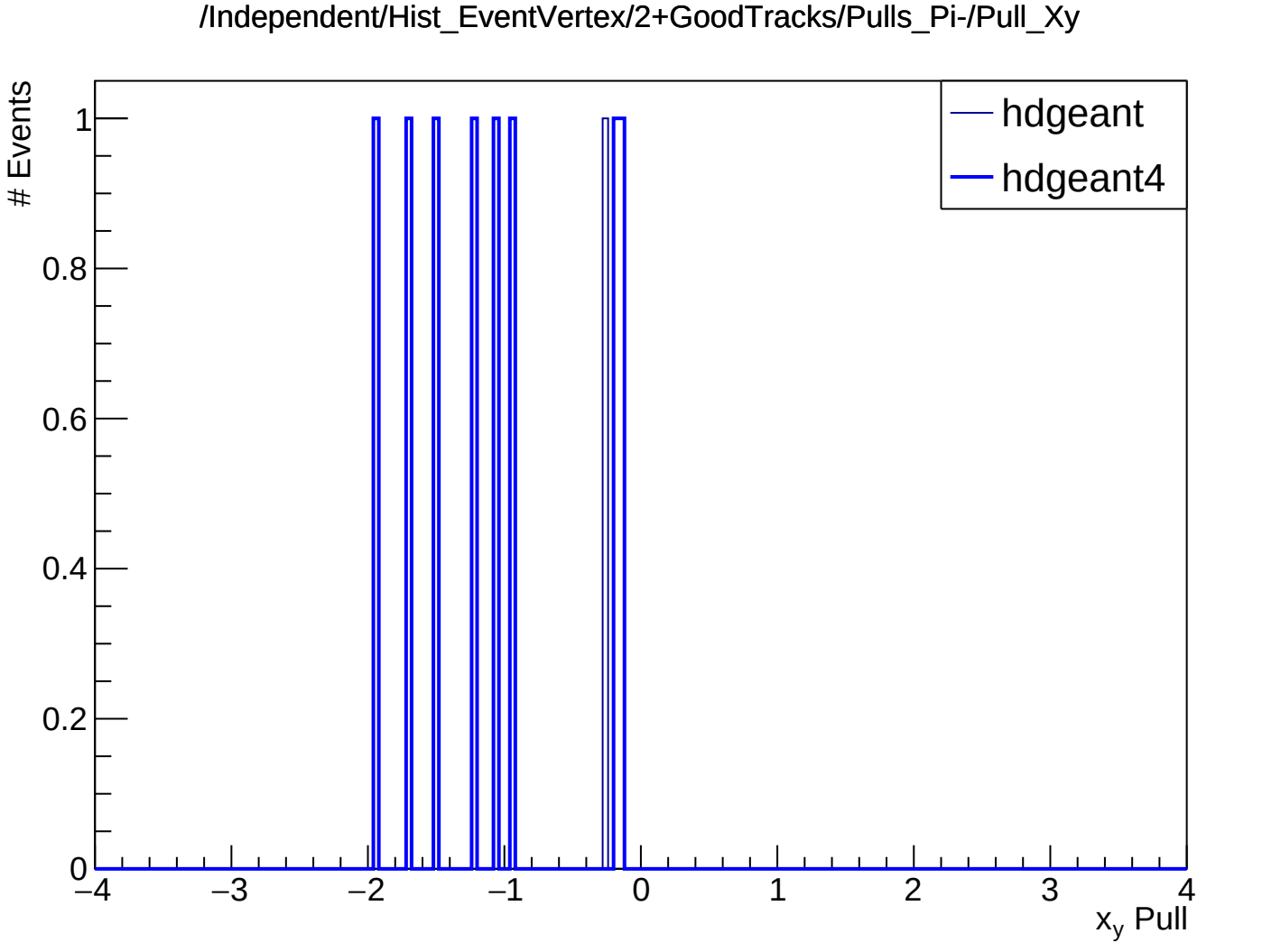



/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi-/Pull_Px
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
p_x Pull
hdgeant
hdgeant4

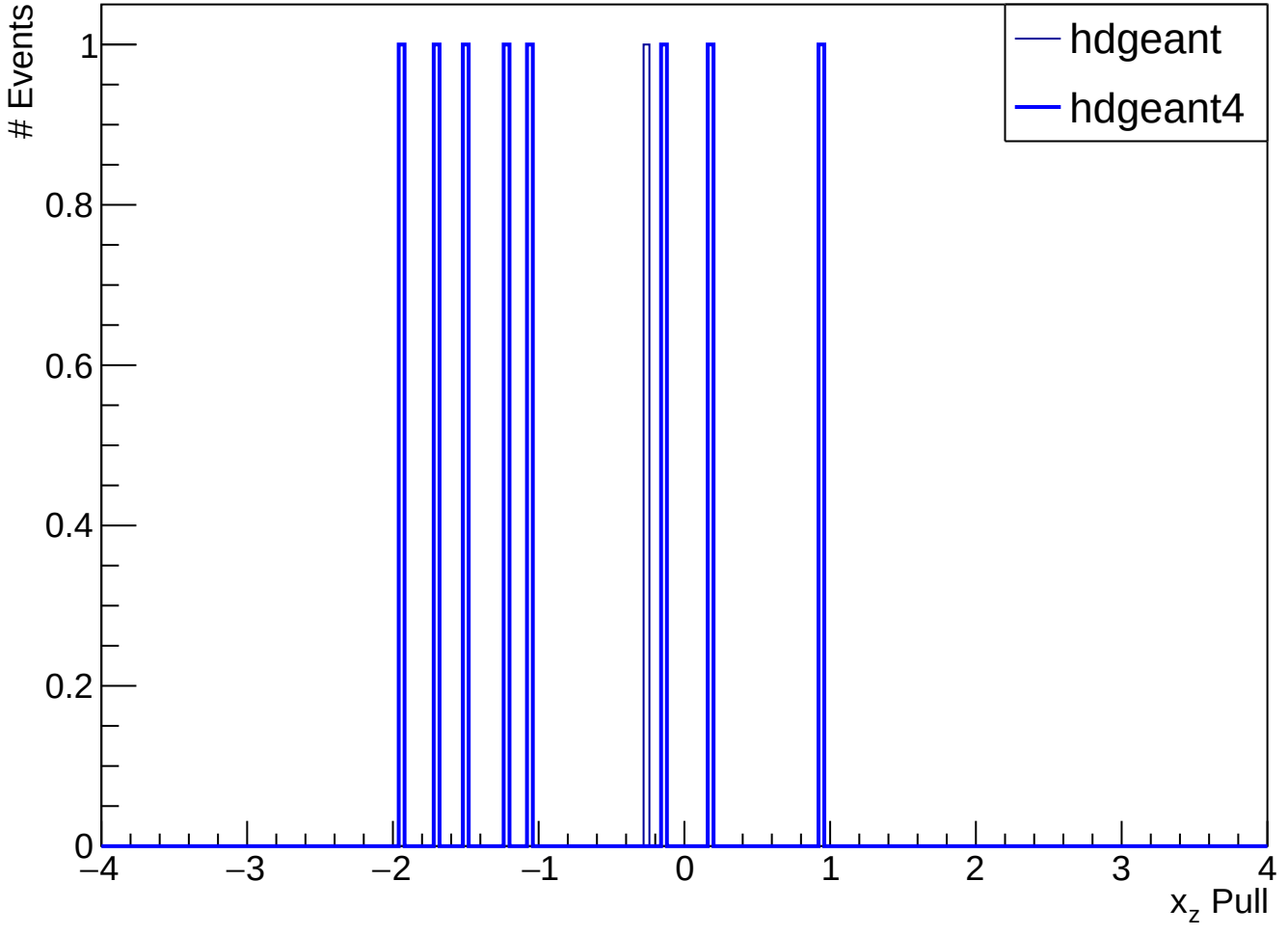

/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi-/Pull_Py
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
p_y Pull
hdgeant
hdgeant4

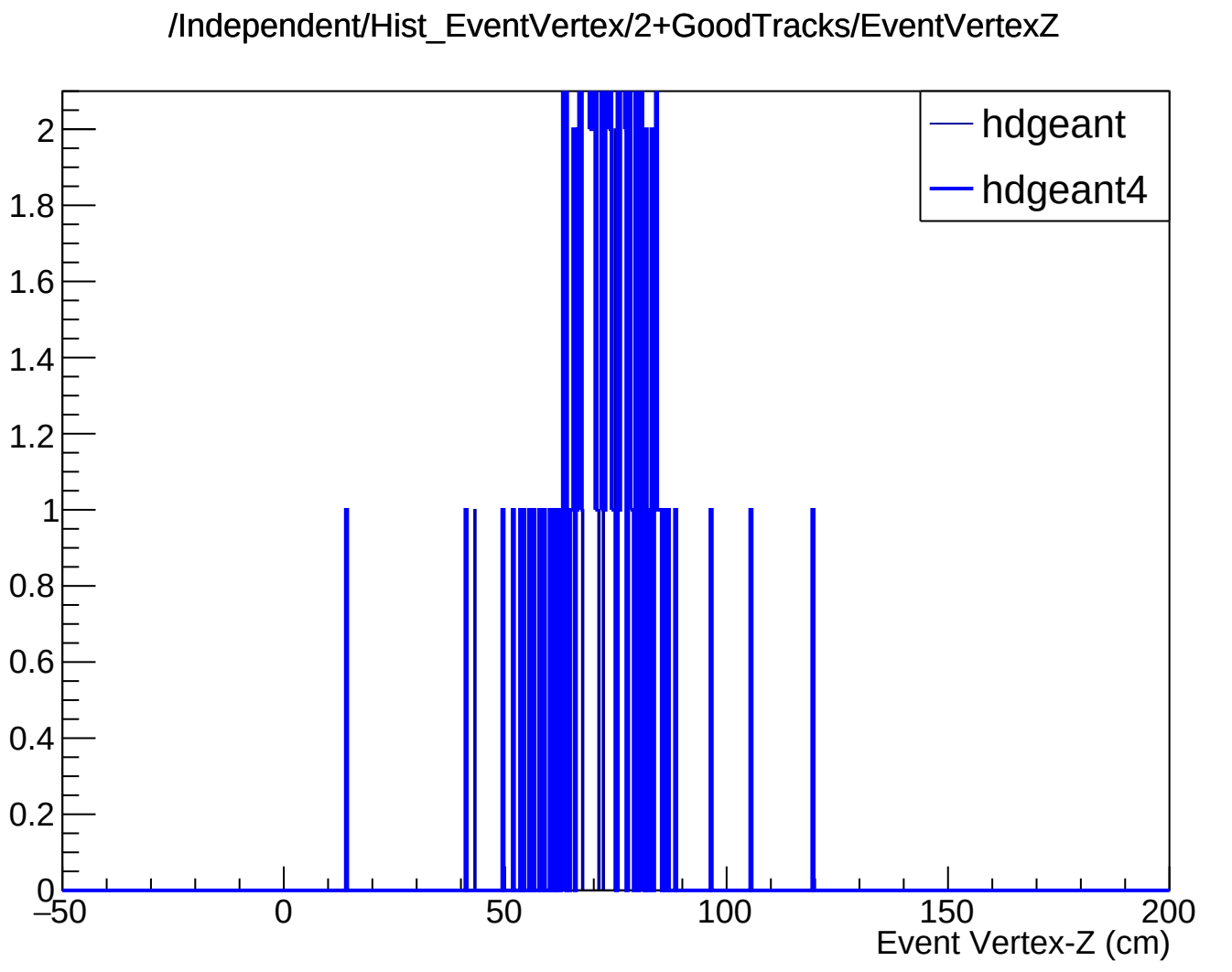

/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi-/Pull_Pz
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
p_z Pull
hdgeant
hdgeant4

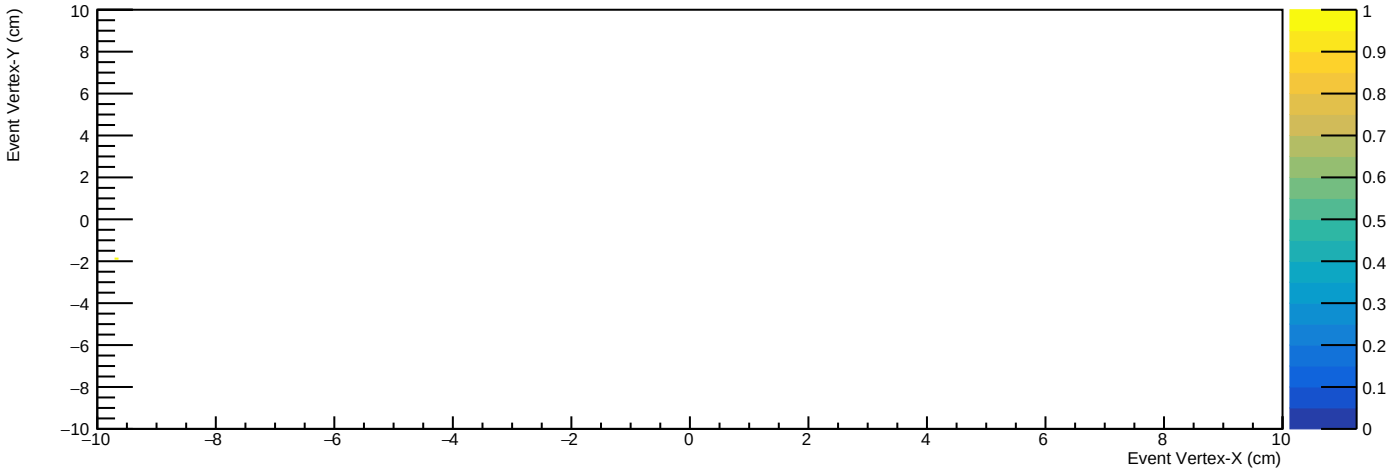

/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi-/Pull_Xx
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
x_x Pull
hdgeant
hdgeant4

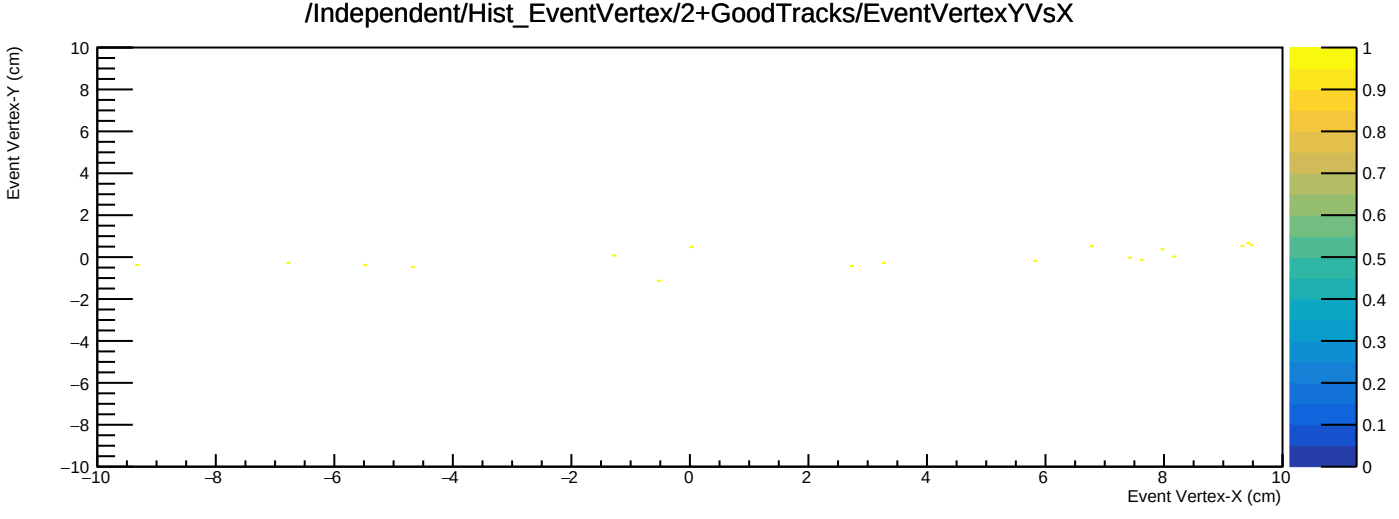

/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi-/Pull_Xy
Events
1
0.8
0.6
0.4
0.2
0
−4
−3
−2
−1
0
1
2
3
4
x_y Pull
hdgeant
hdgeant4

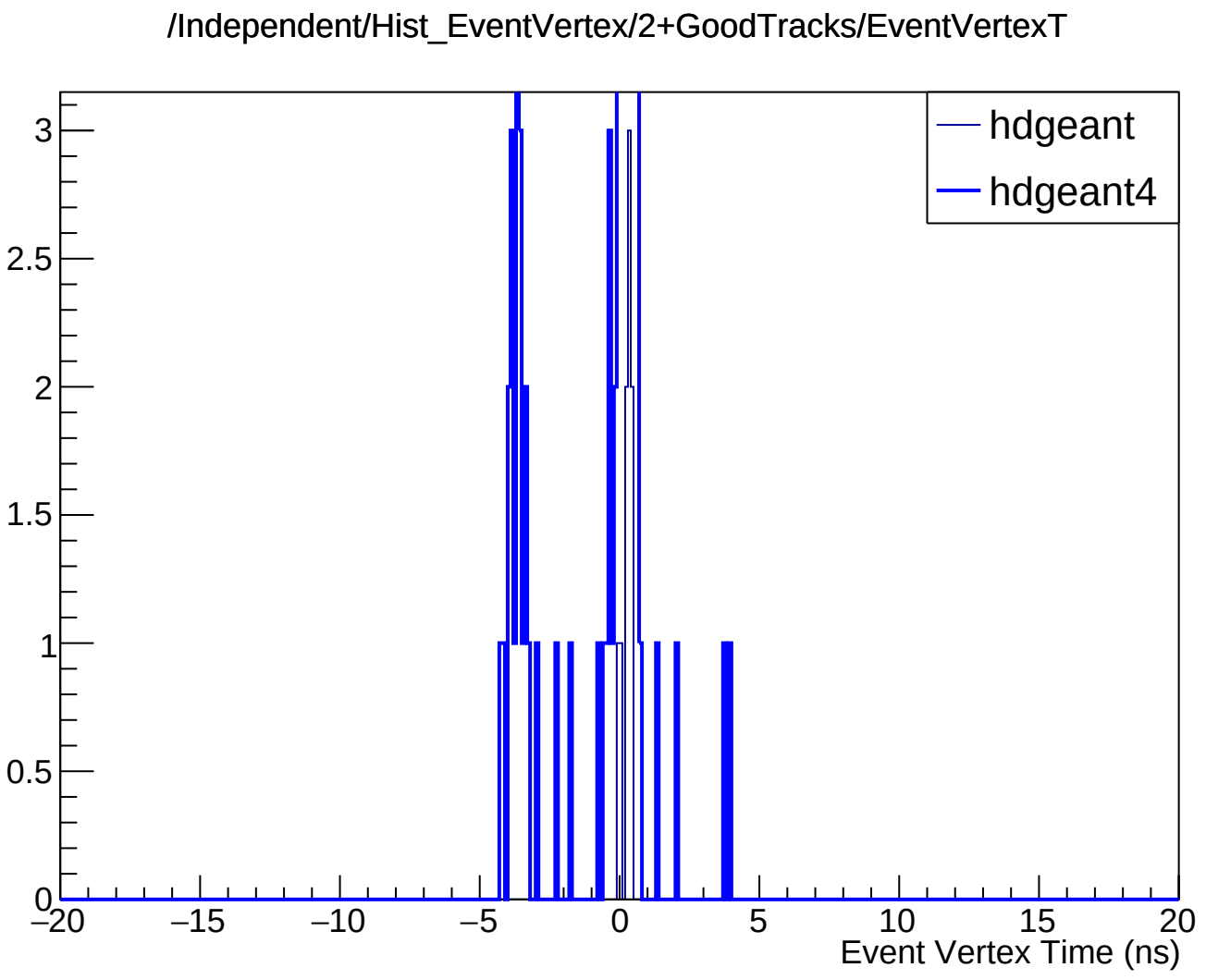
/Independent/Hist_EventVertex/2+GoodTracks/Pulls_Pi-/Pull_Xz

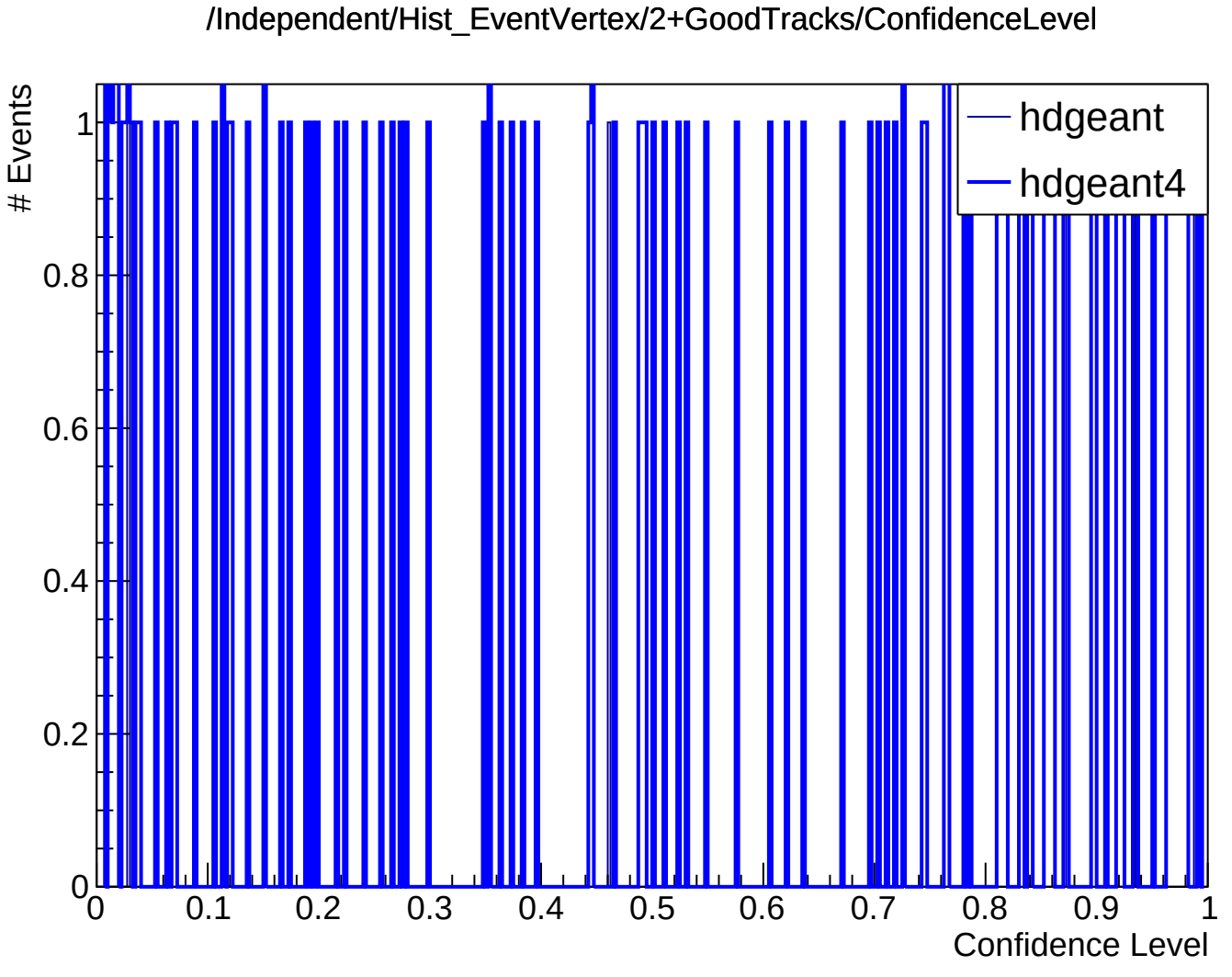


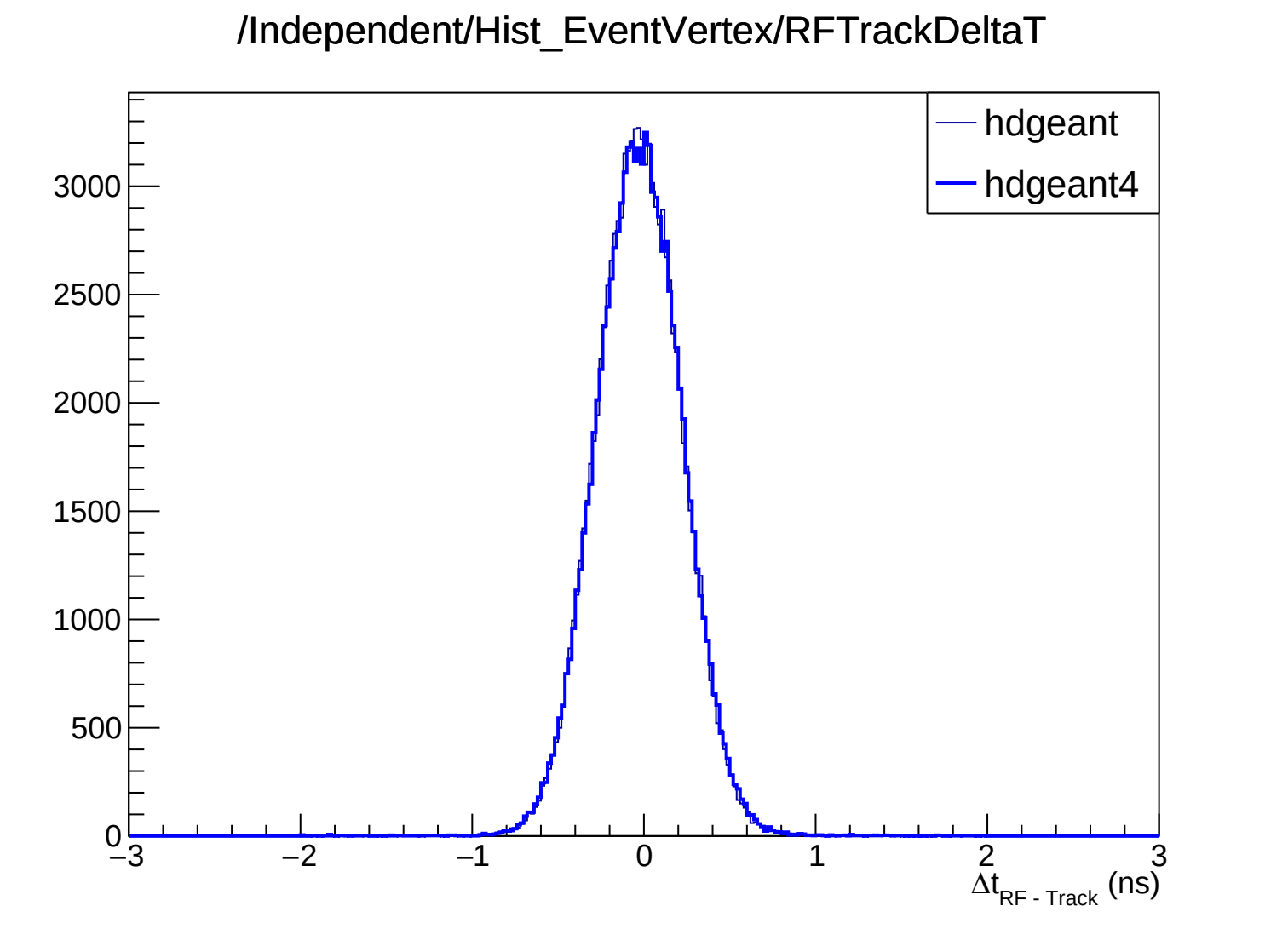

/Independent/Hist_EventVertex/2+GoodTracks/EventVertexZ
hdgeant
hdgeant4
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Event Vertex-Z (cm)

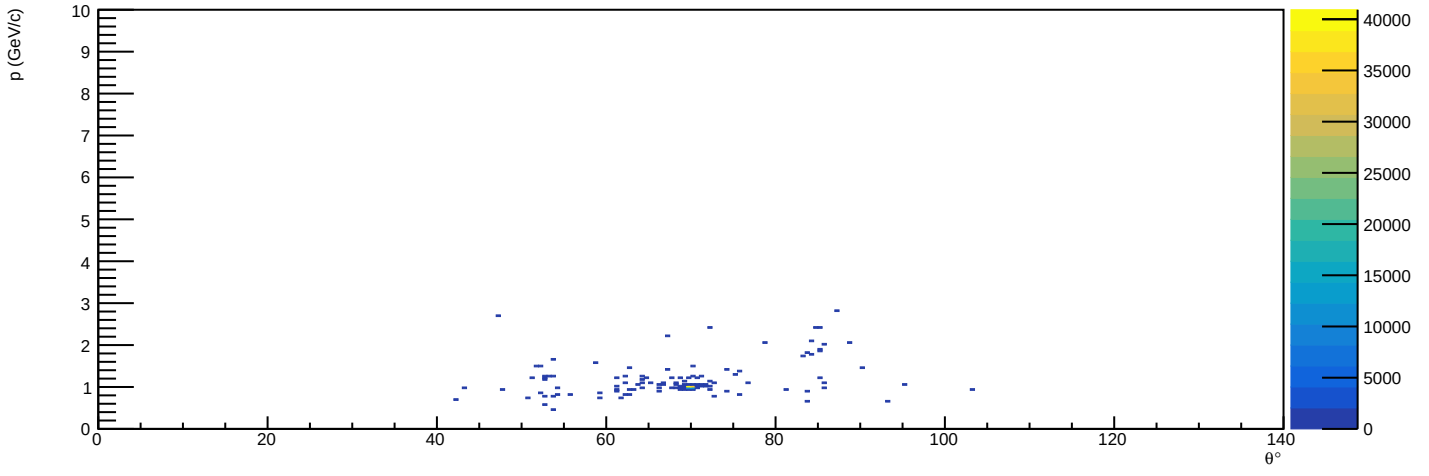

/Independent/Hist_EventVertex/2+GoodTracks/EventVertexYVsX
Event Vertex-Y (cm)
Event Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

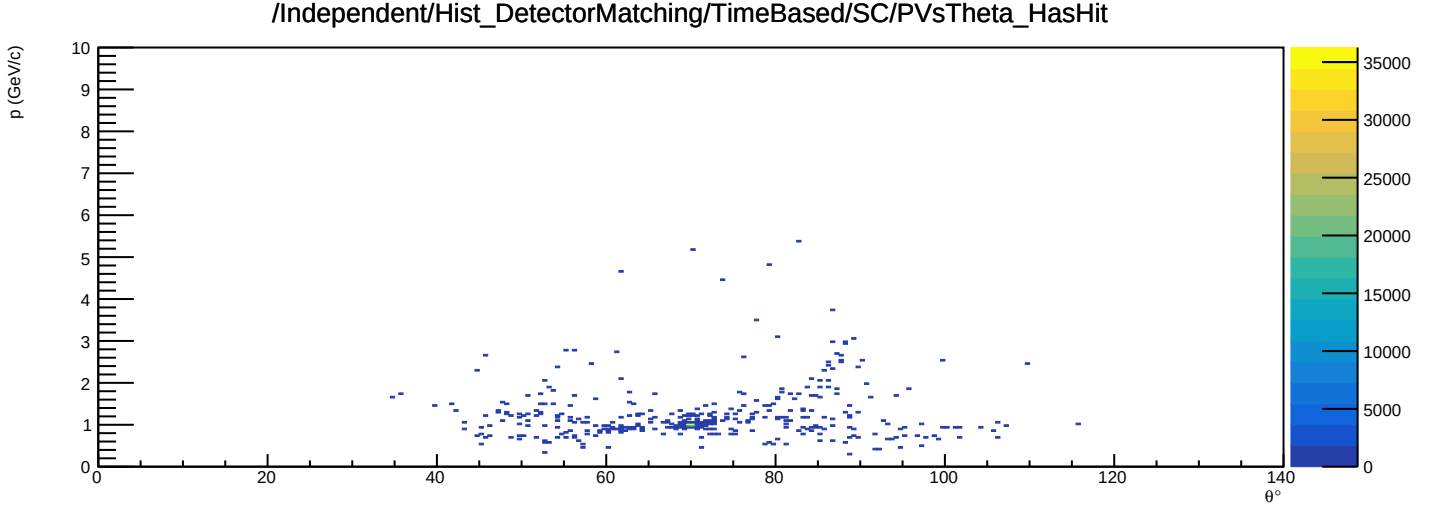

/Independent/Hist_EventVertex/2+GoodTracks/EventVertexYVsX
Event Vertex-Y (cm)
Event Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

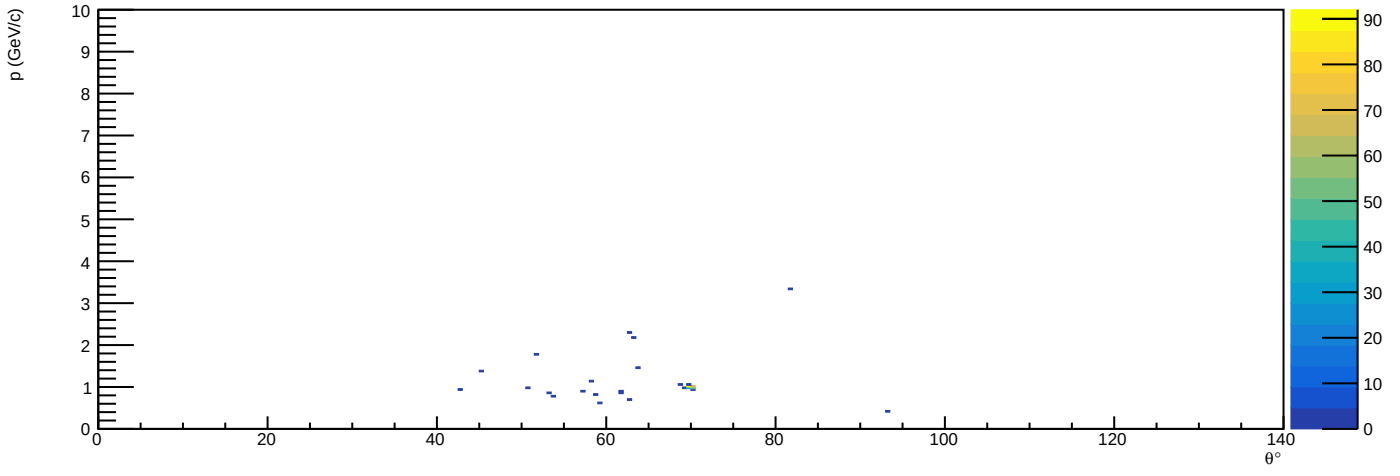

/Independent/Hist_EventVertex/2+GoodTracks/EventVertexT
hdgeant
hdgeant4
3
2.5
2
1.5
1
0.5
0
–20
–15
–10
–5
0
5
10
15
20
Event Vertex Time (ns)

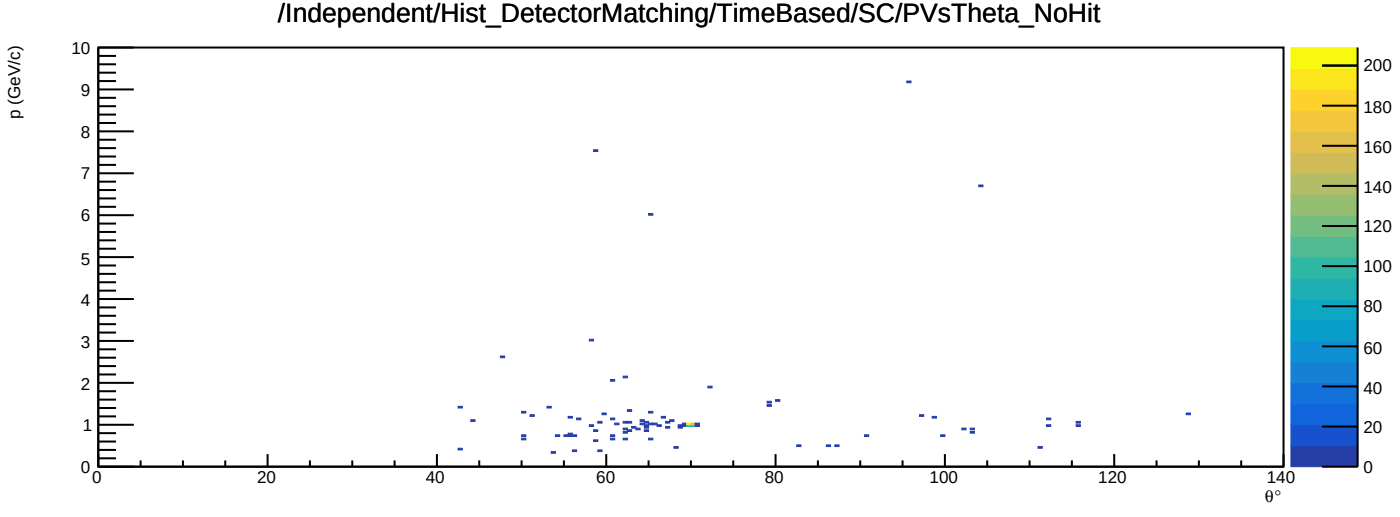

/Independent/Hist_EventVertex/2+GoodTracks/ConfidenceLevel
Events
Confidence Level
hdgeant
hdgeant4
0
0.2
0.4
0.6
0.8
1
0.1
0.3
0.5
0.7
0.9

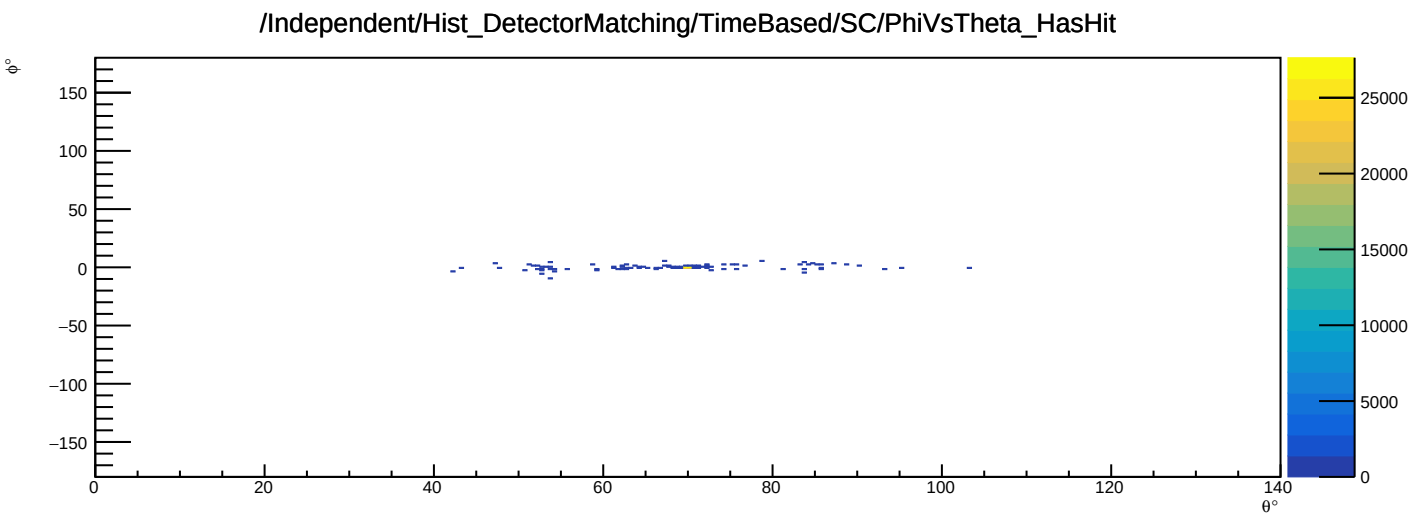

/Independent/Hist_EventVertex/RFTrackDeltaT
hdgeant
hdgeant4
3000
2500
2000
1500
1000
500
0
−3
−2
−1
0
1
2
3
Δt RF - Track (ns)

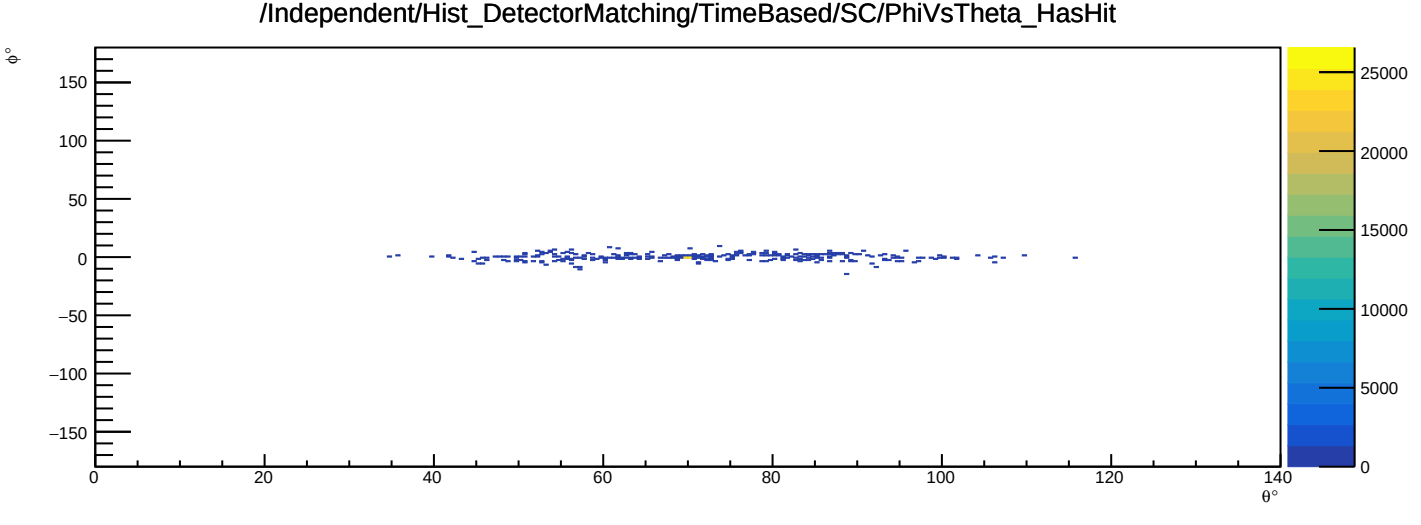

/Independent/Hist_DetectorMatching/TimeBased/SC/PVsTheta_HasHit
p (GeV/c)
θ°
0
20
40
60
80
100
120
140
1
2
3
4
5
6
7
8
9
10
5000
10000
15000
20000
25000
30000
35000
40000

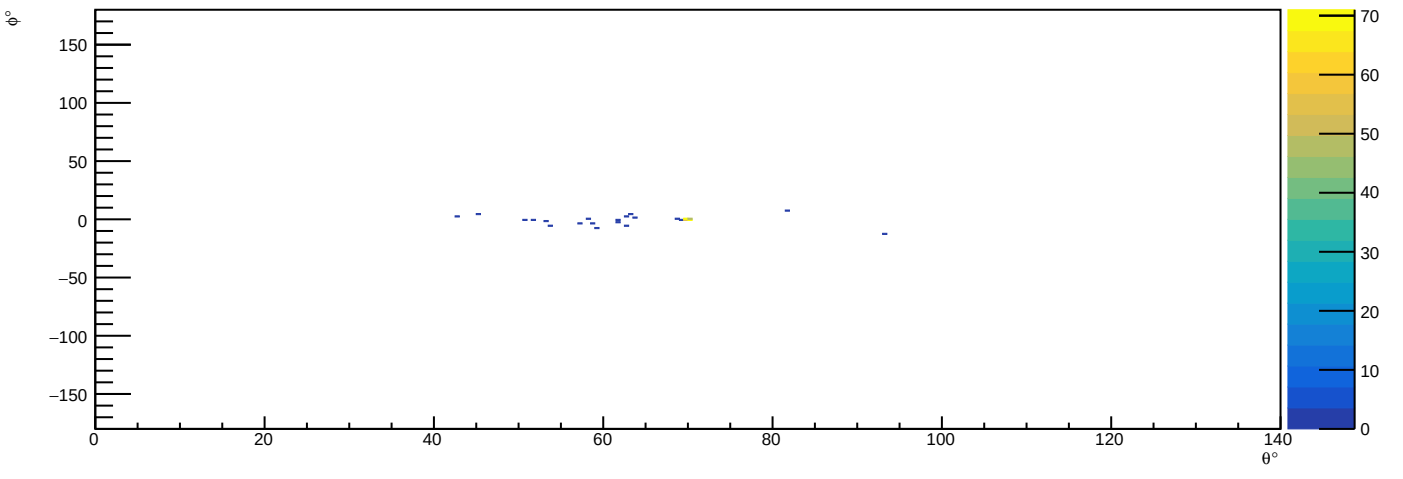

/Independent/Hist_DetectorMatching/TimeBased/SC/PVsTheta_HasHit
p (GeV/c)
θ°
0
20
40
60
80
100
120
140
1
2
3
4
5
6
7
8
9
10
5000
10000
15000
20000
25000
30000
35000

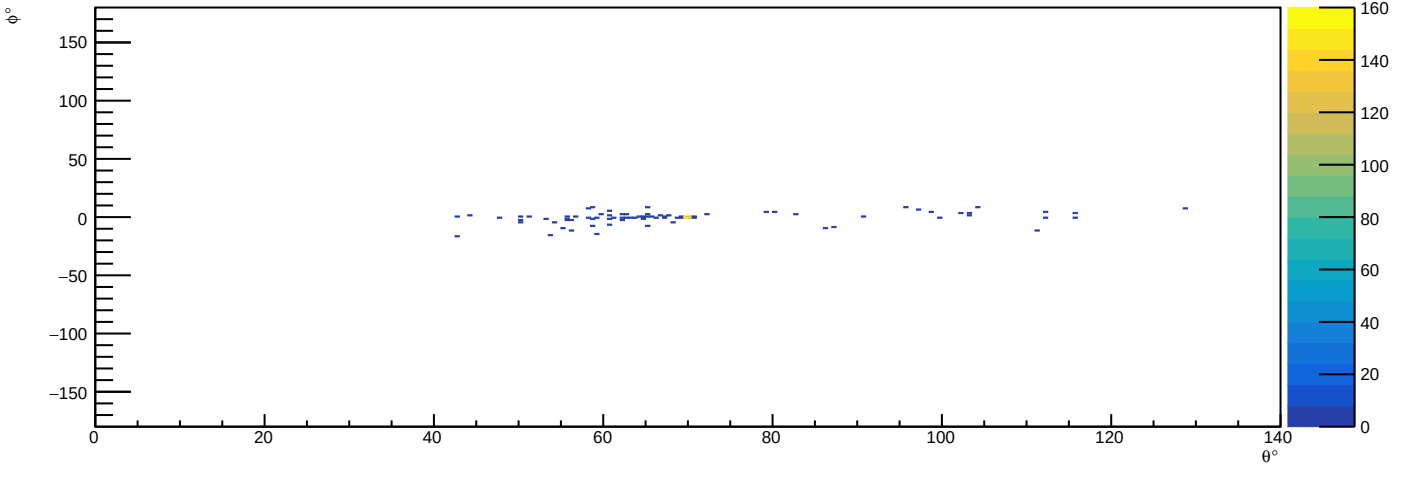

/Independent/Hist_DetectorMatching/TimeBased/SC/PVsTheta_NoHit
p (GeV/c)
θ°

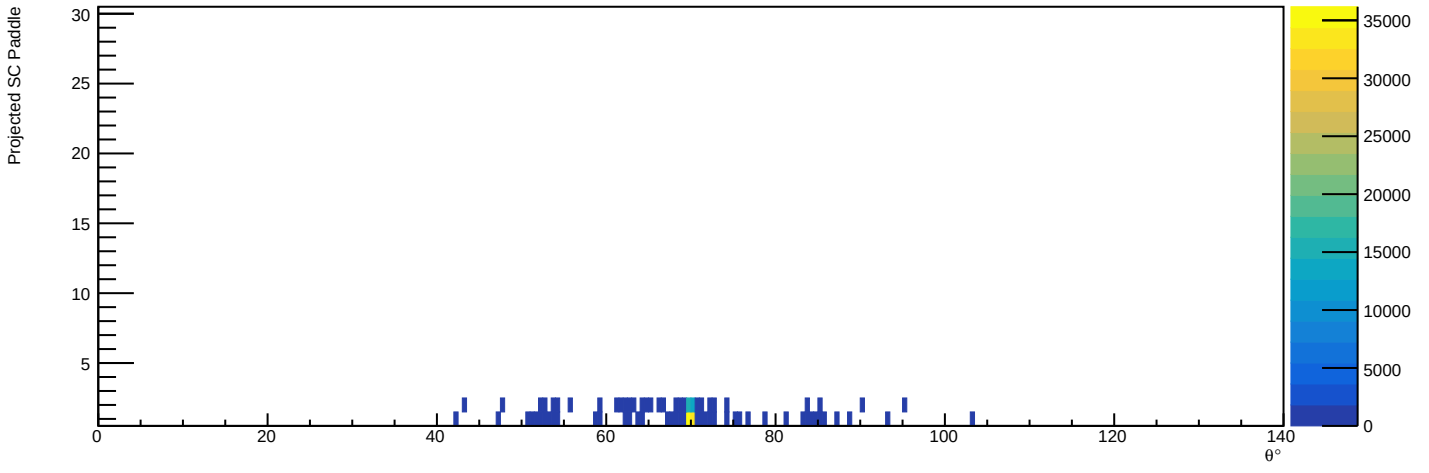

/Independent/Hist_DetectorMatching/TimeBased/SC/PVsTheta_NoHit
p (GeV/c)
θ°

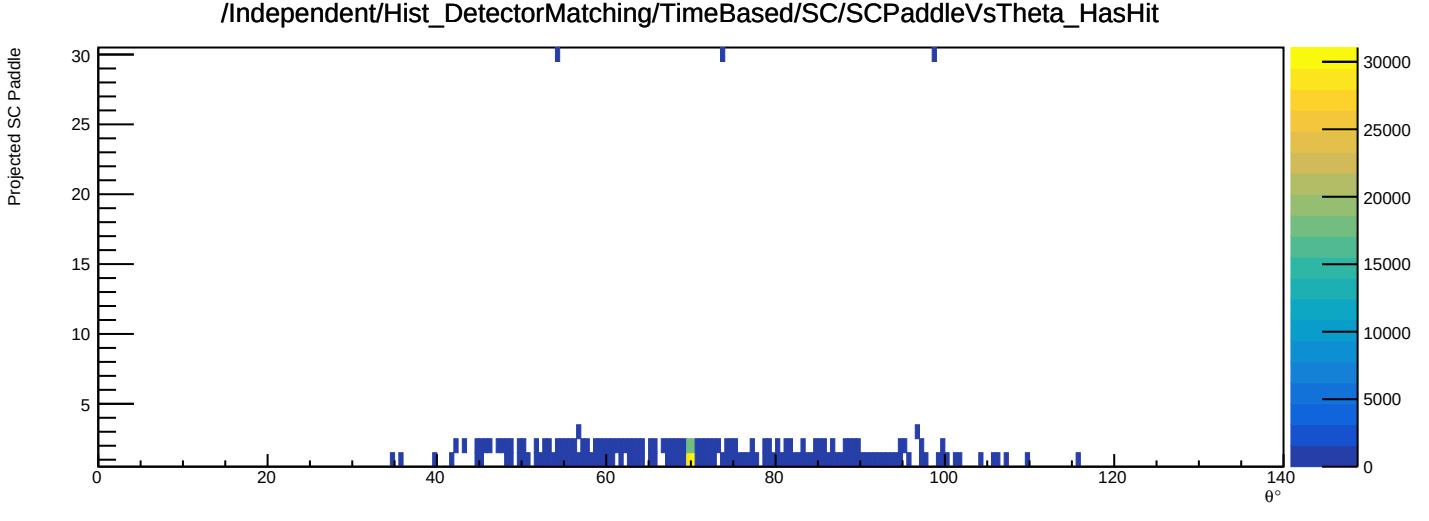

/Independent/Hist_DetectorMatching/TimeBased/SC/PhiVsTheta_HasHit
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25000
20000
15000
10000
5000
0

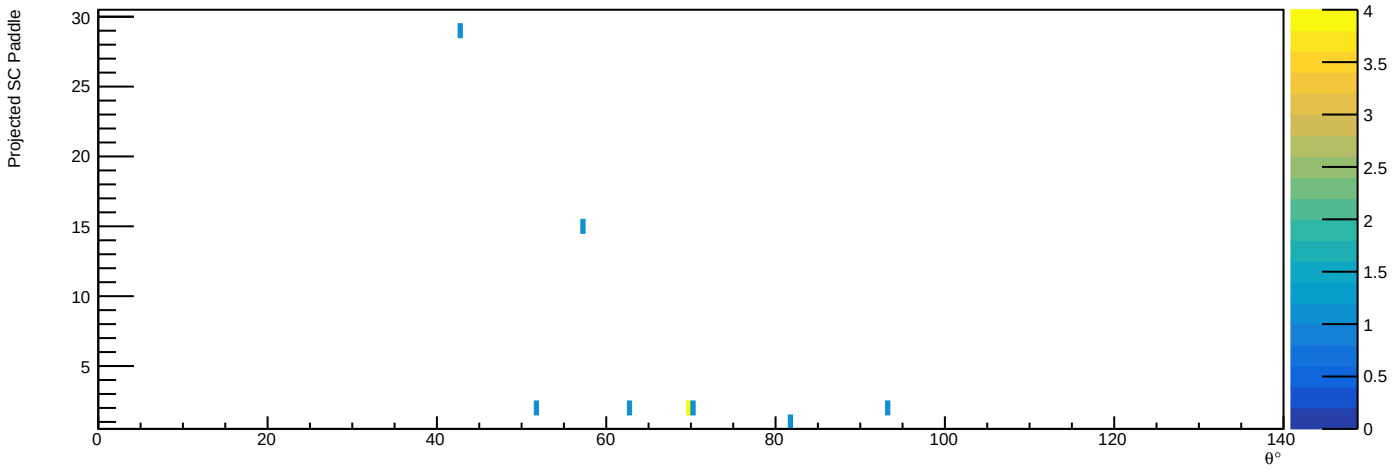

/Independent/Hist_DetectorMatching/TimeBased/SC/PhiVsTheta_HasHit
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25000
20000
15000
10000
5000
0

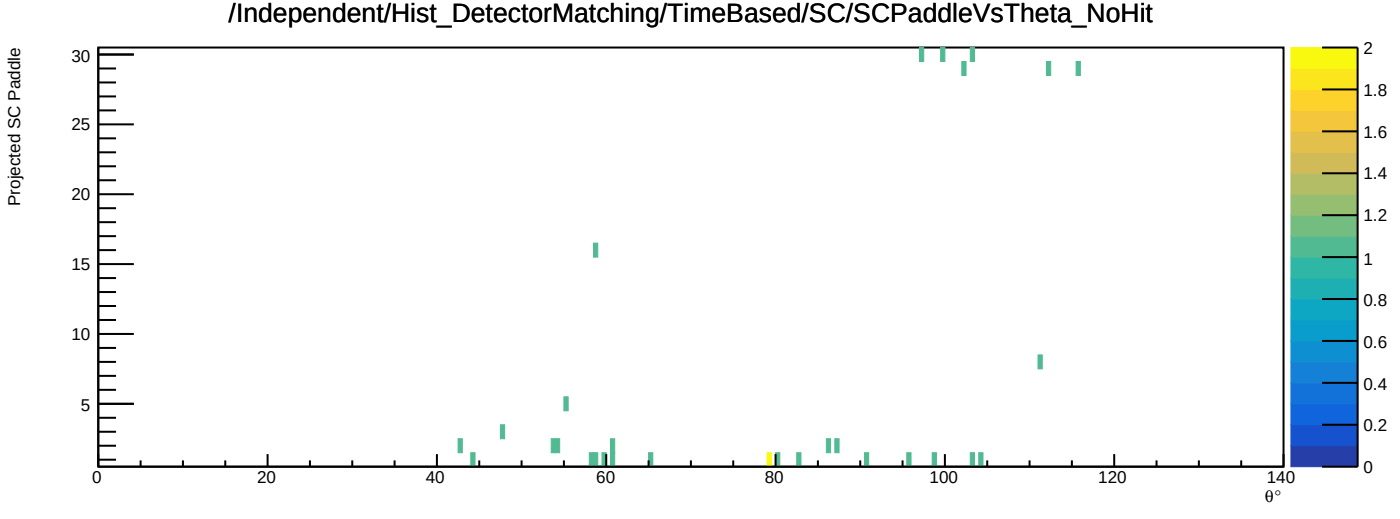

/Independent/Hist_DetectorMatching/TimeBased/SC/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
70
60
50
40
30
20
10
0

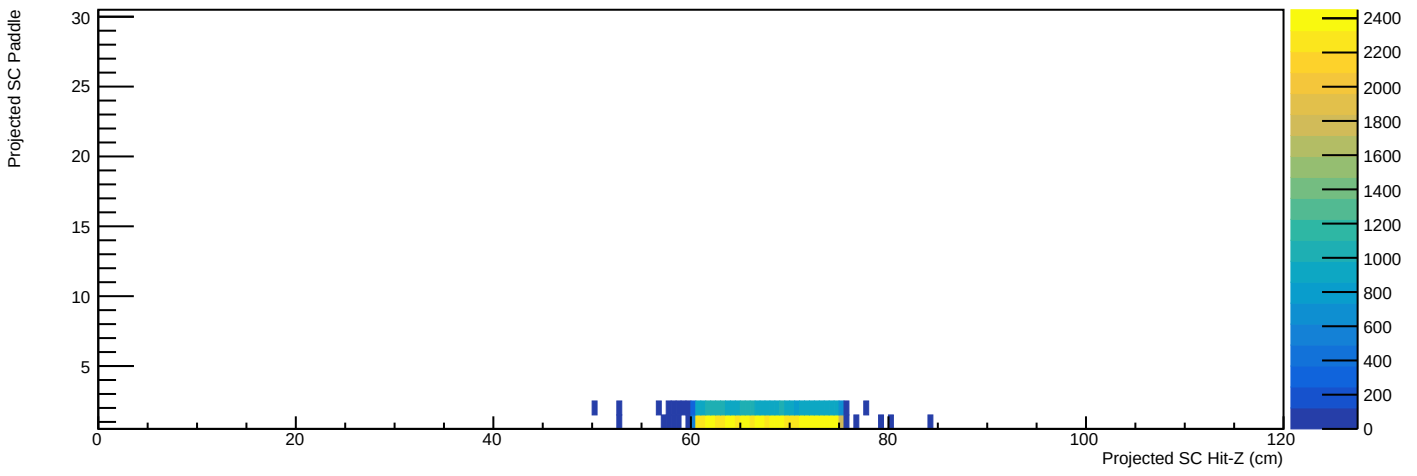

/Independent/Hist_DetectorMatching/TimeBased/SC/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
160
140
120
100
80
60
40
20
0

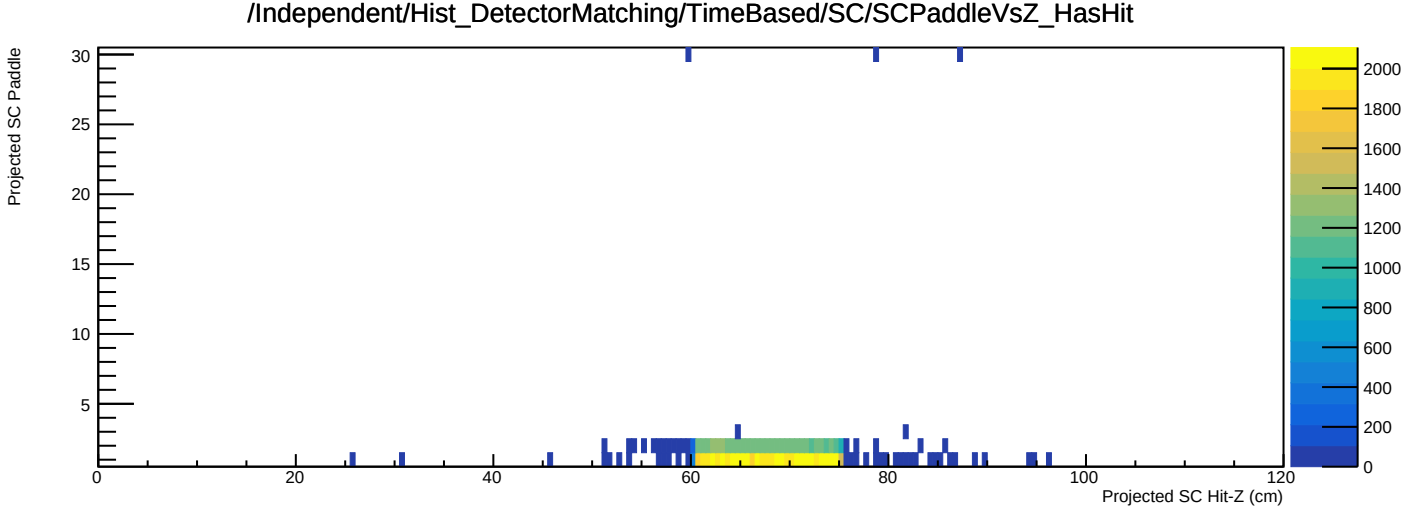

/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddleVsTheta_HasHit
Projected SC Paddle
30
25
20
15
10
5
0
20
40
60
80
100
120
140
θ°
35000
30000
25000
20000
15000
10000
5000
0

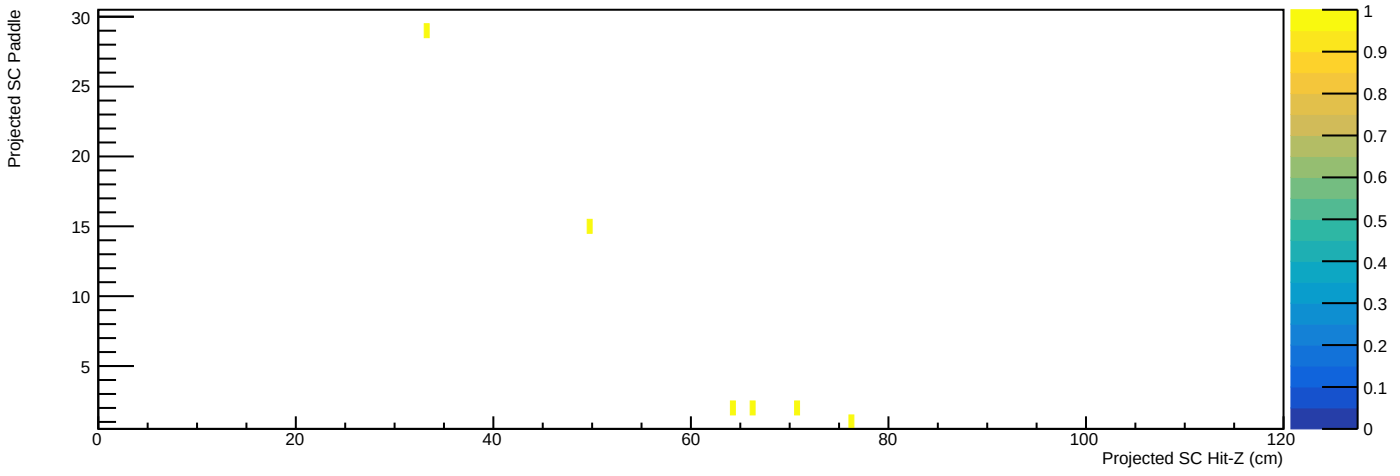

/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddleVsTheta_HasHit
Projected SC Paddle
30
25
20
15
10
5
0
20
40
60
80
100
120
140
θ°
30000
25000
20000
15000
10000
5000
0

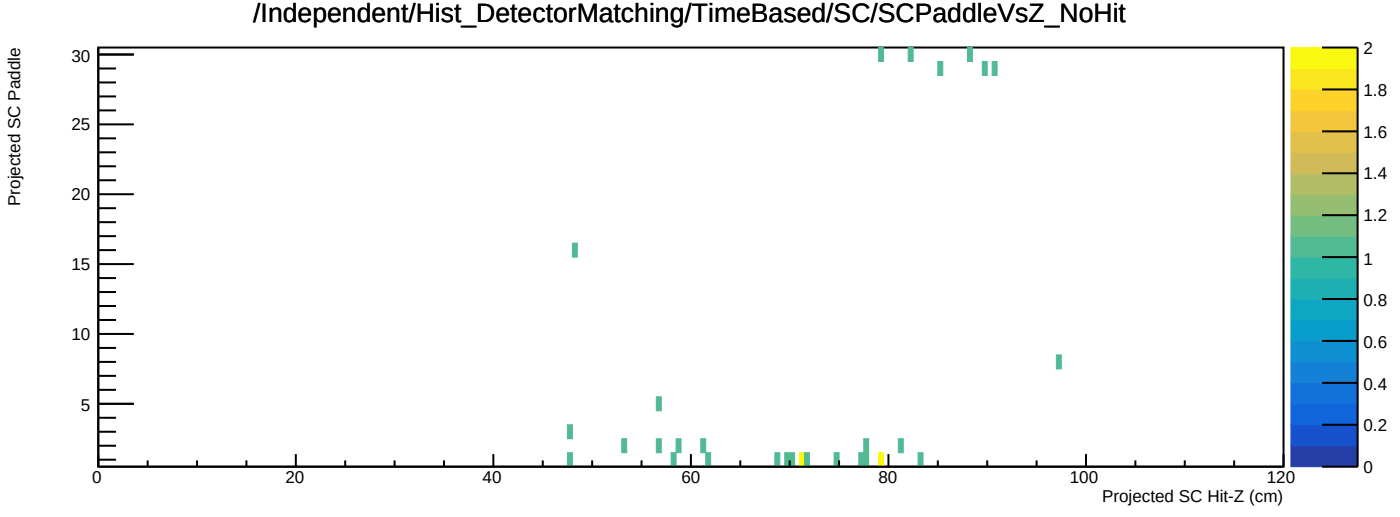

/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddleVsTheta_NoHit
Projected SC Paddle
θ°


/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddleVsTheta_NoHit
Projected SC Paddle
θ°

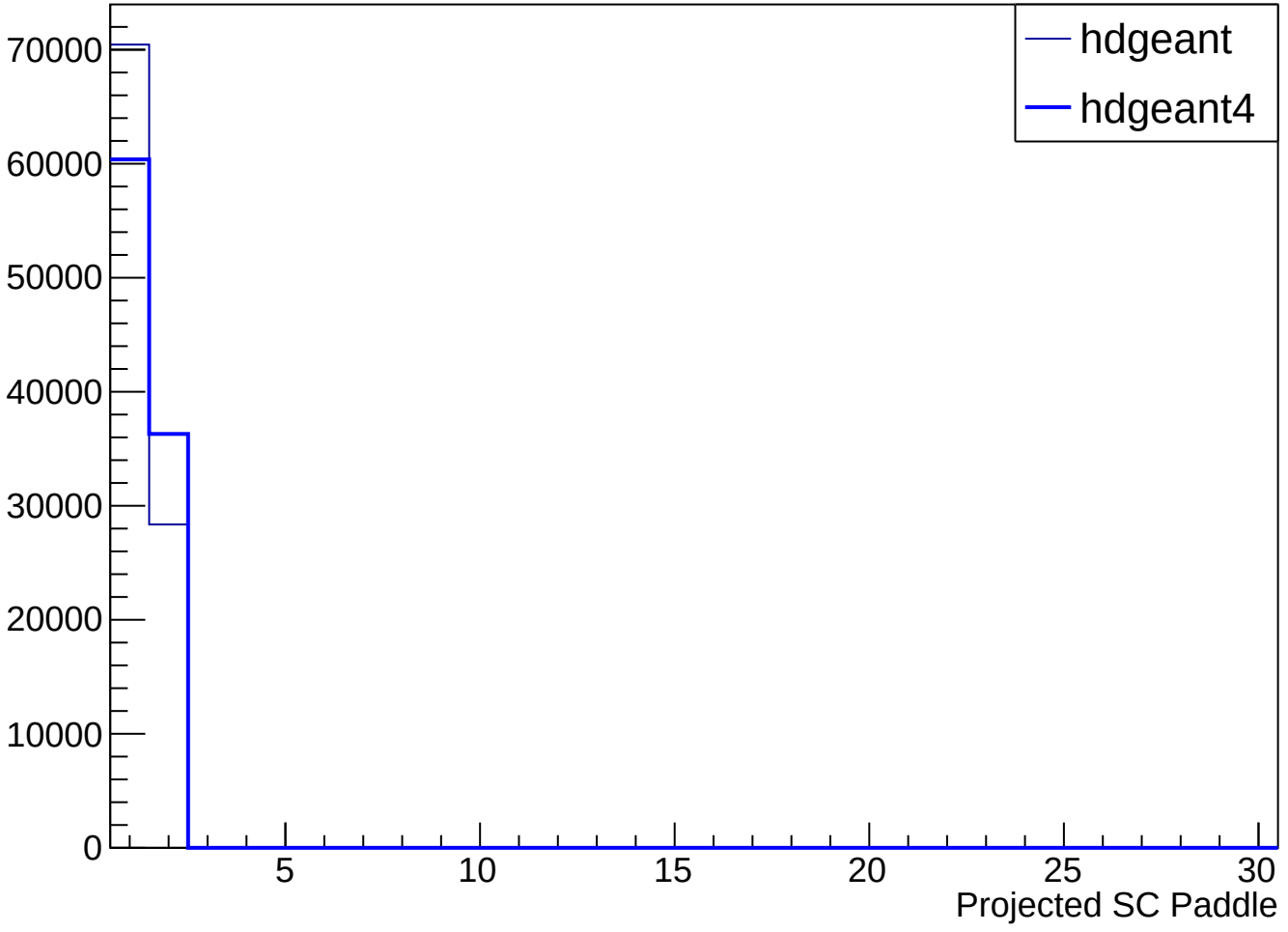

/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddleVsZ_HasHit
Projected SC Paddle
30
25
20
15
10
5
0
20
40
60
80
100
120
Projected SC Hit-Z (cm)
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0


/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddleVsZ_HasHit
Projected SC Paddle
30
25
20
15
10
5
0
20
40
60
80
100
120
Projected SC Hit-Z (cm)
2000
1800
1600
1400
1200
1000
800
600
400
200
0

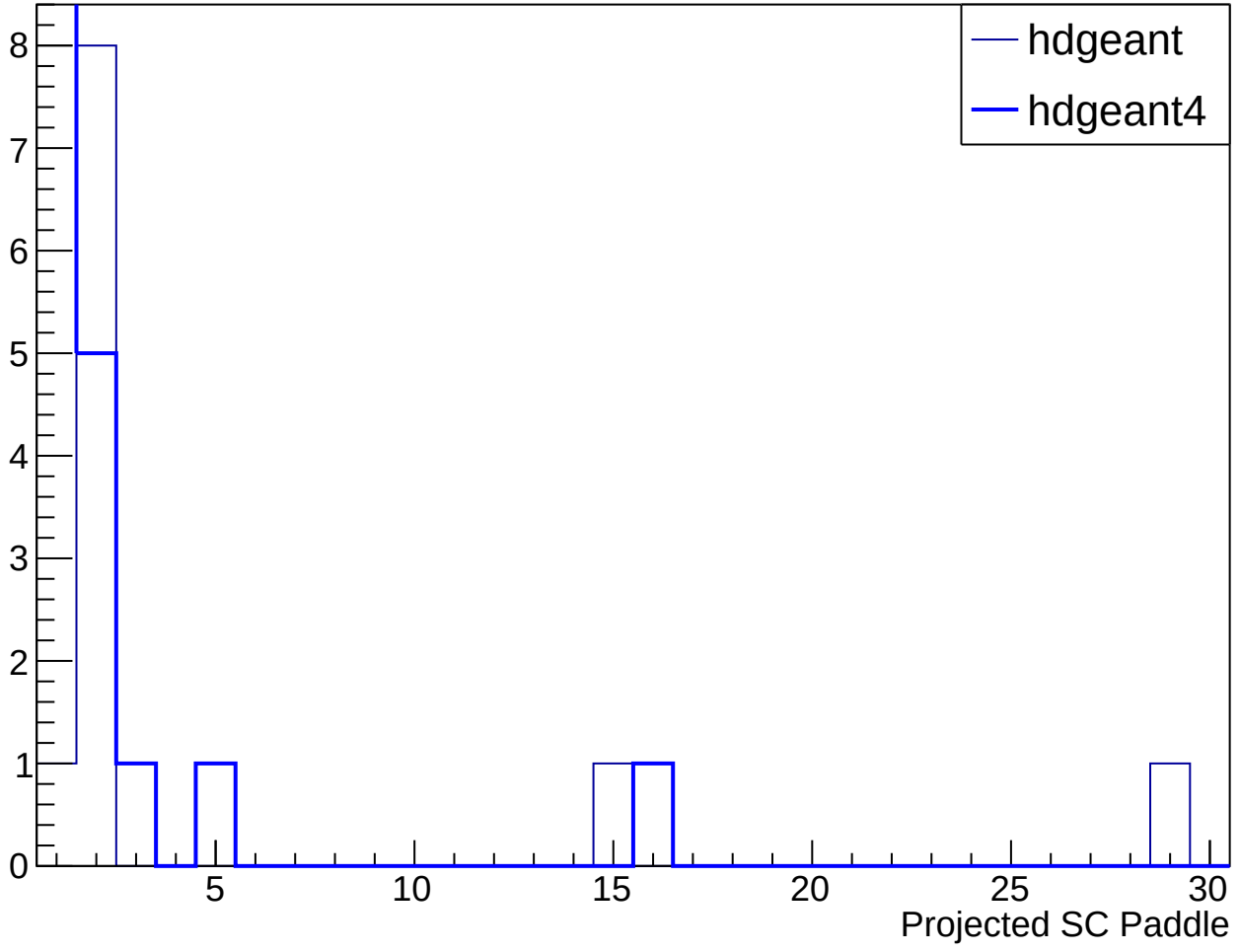

/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddleVsZ_NoHit
Projected SC Paddle
Projected SC Hit-Z (cm)
0
5
10
15
20
25
30
0
20
40
60
80
100
120
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1


/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddleVsZ_NoHit
Projected SC Paddle
Projected SC Hit-Z (cm)
0
5
10
15
20
25
30
0
20
40
60
80
100
120
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

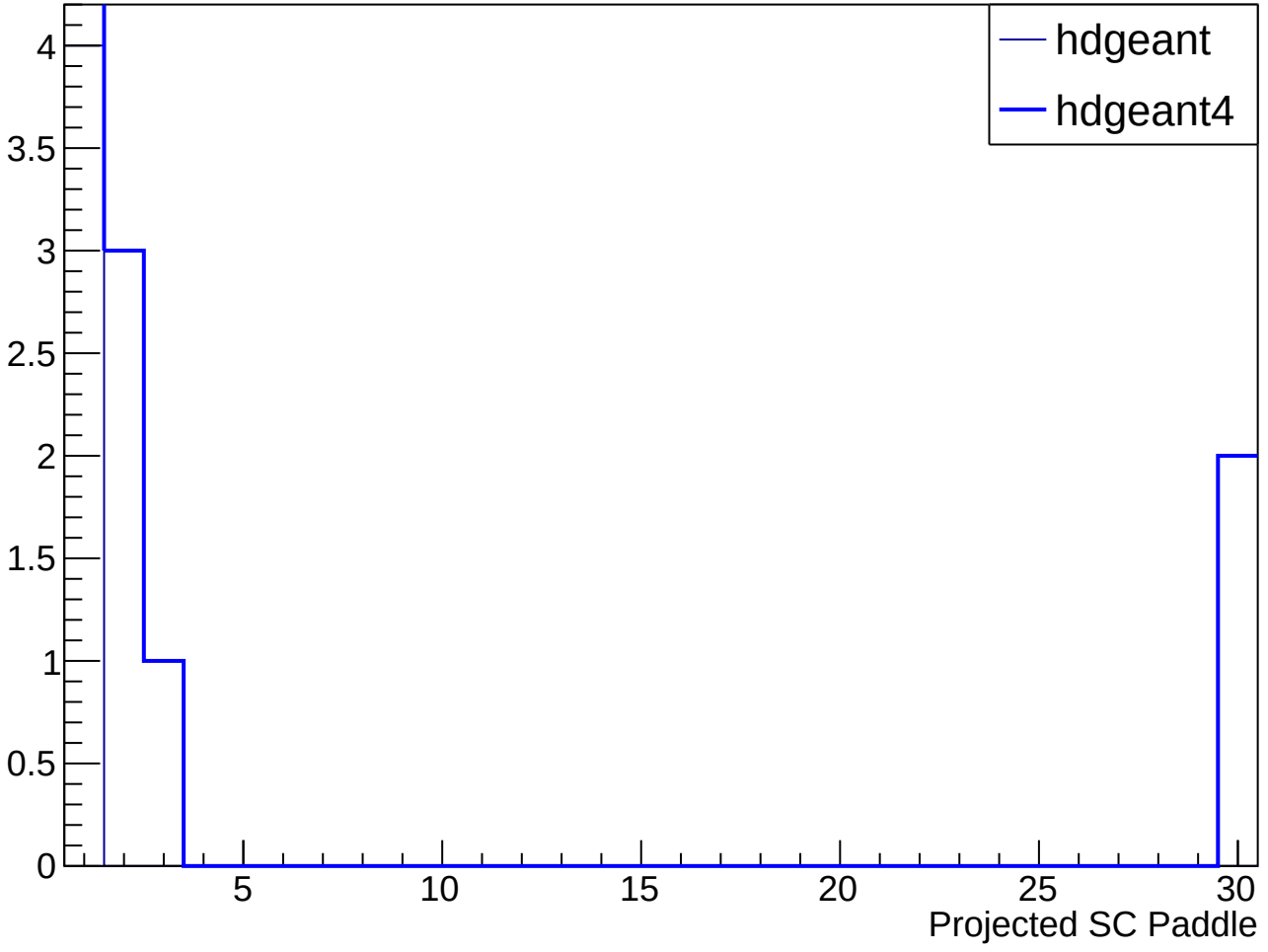
/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddle_BarrelRegion_HasHit



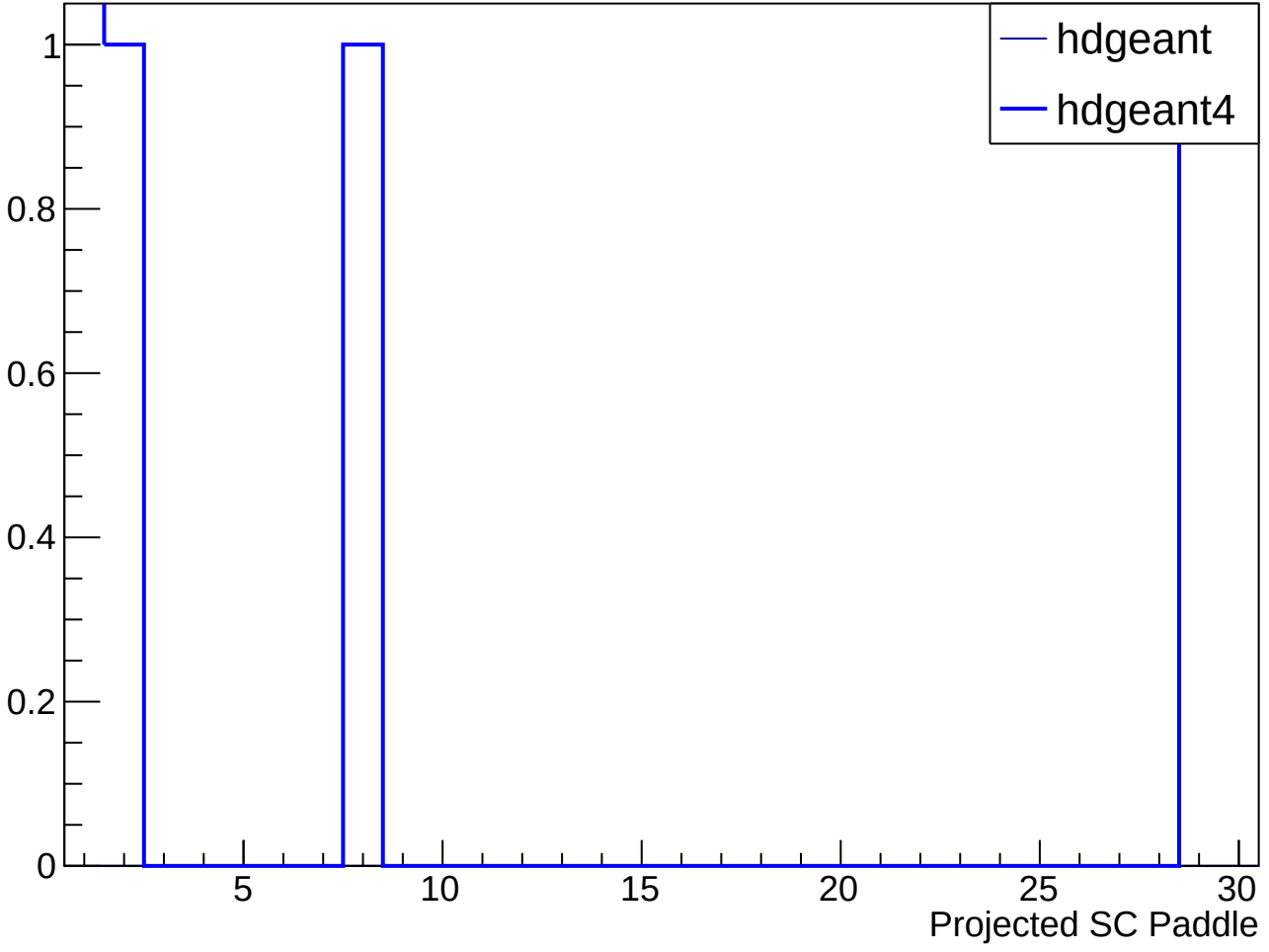
/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddle_BarrelRegion_NoHit

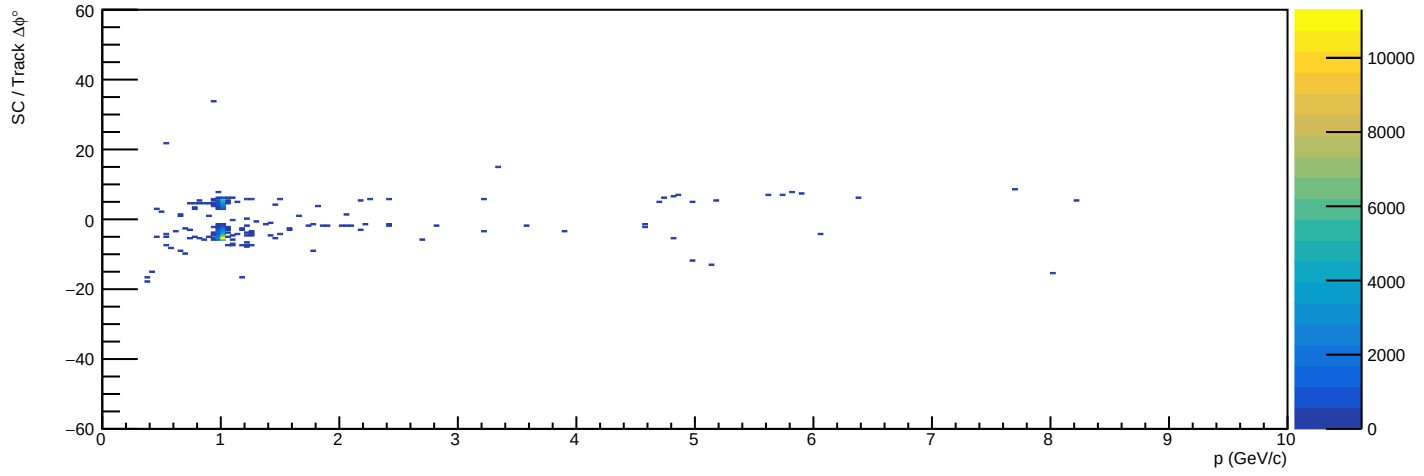


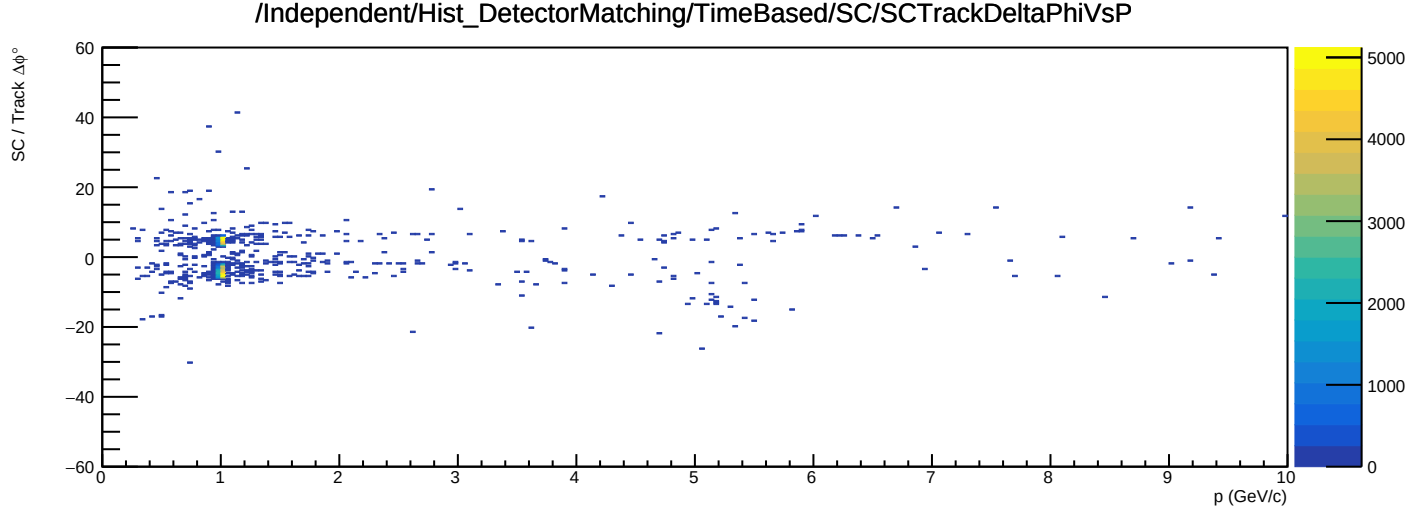
/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddle_NoseRegion_HasHit

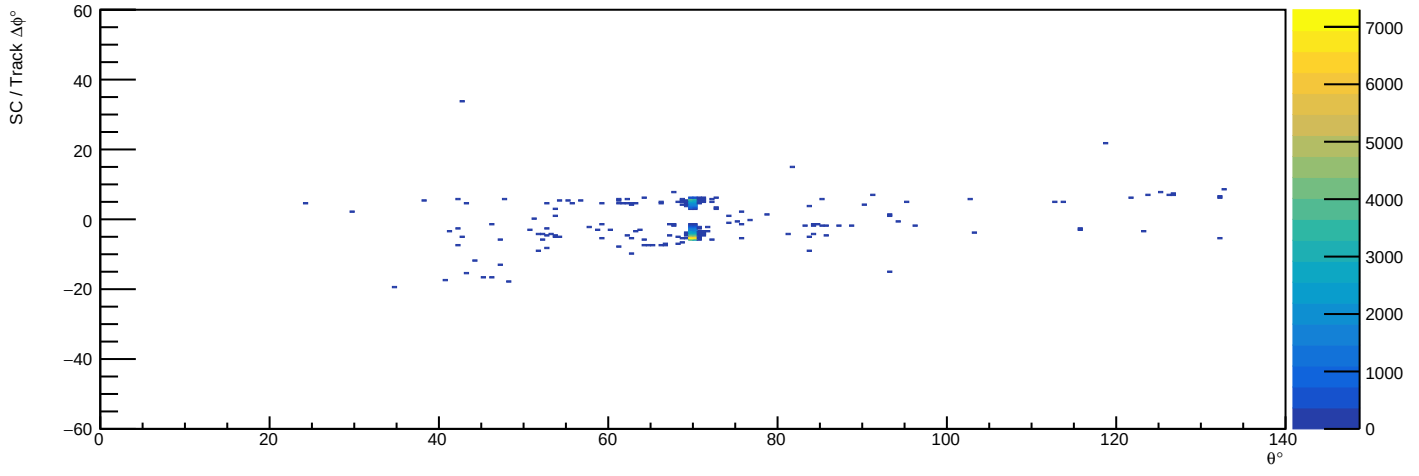


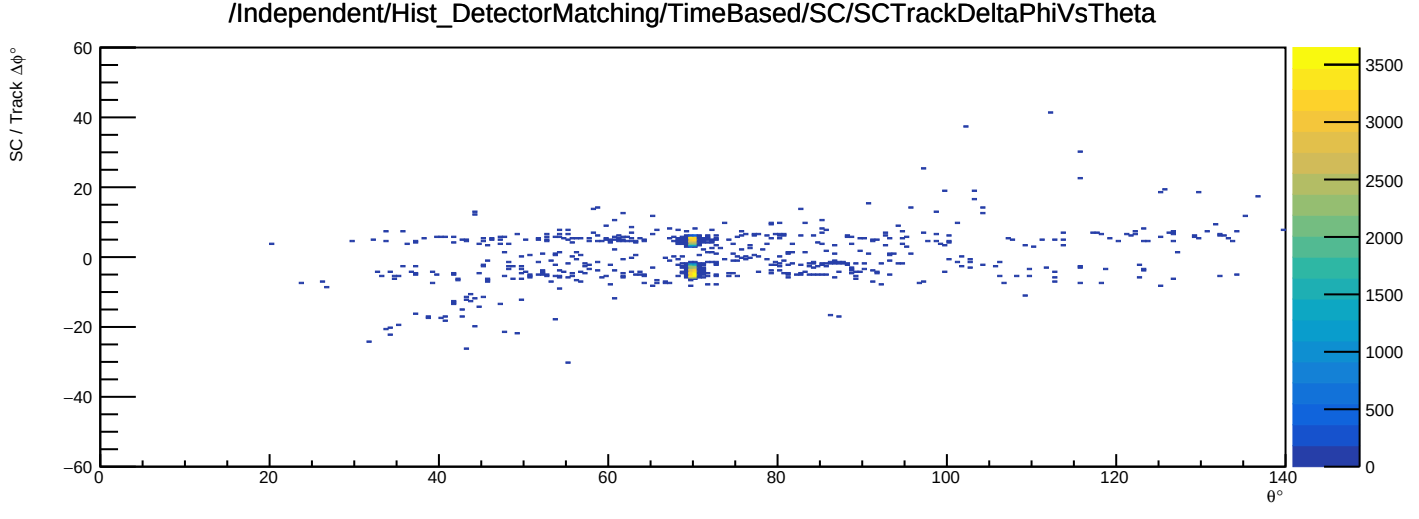
/Independent/Hist_DetectorMatching/TimeBased/SC/SCPaddle_NoseRegion_NoHit

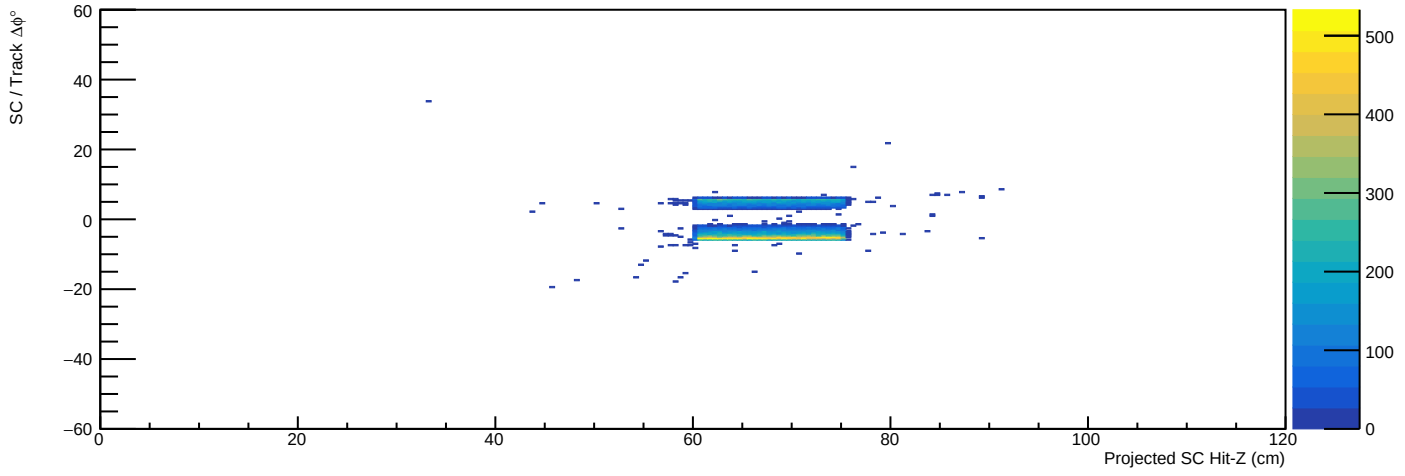


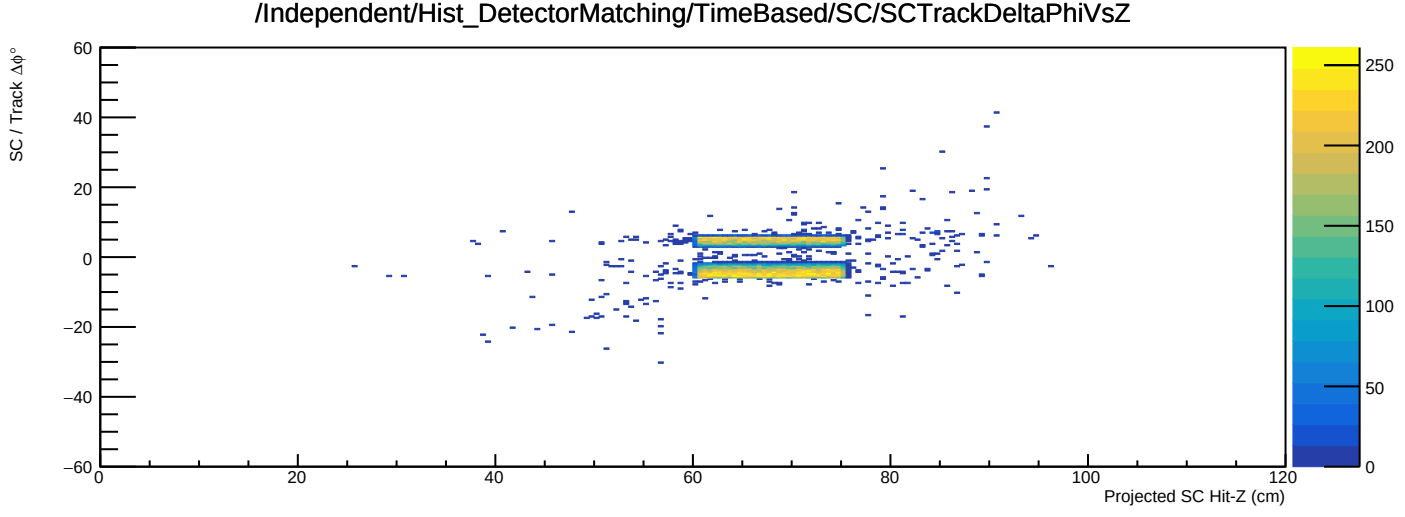

/Independent/Hist_DetectorMatching/TimeBased/SC/SCTrackDeltaPhiVsP
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
10000
8000
6000
4000
2000
0

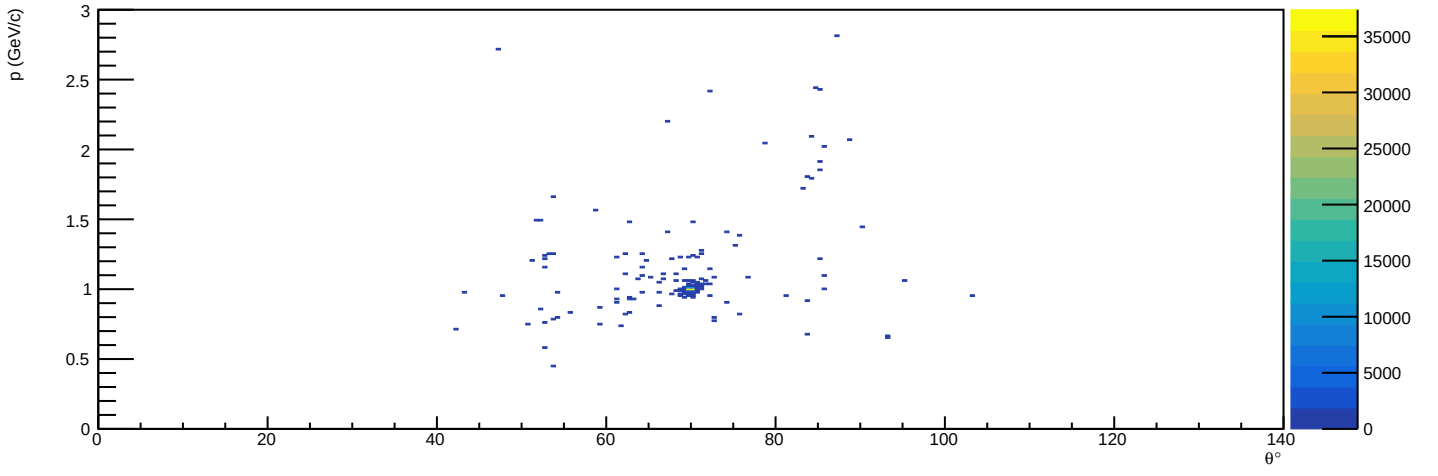

/Independent/Hist_DetectorMatching/TimeBased/SC/SCTrackDeltaPhiVsP
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
5000
4000
3000
2000
1000
0

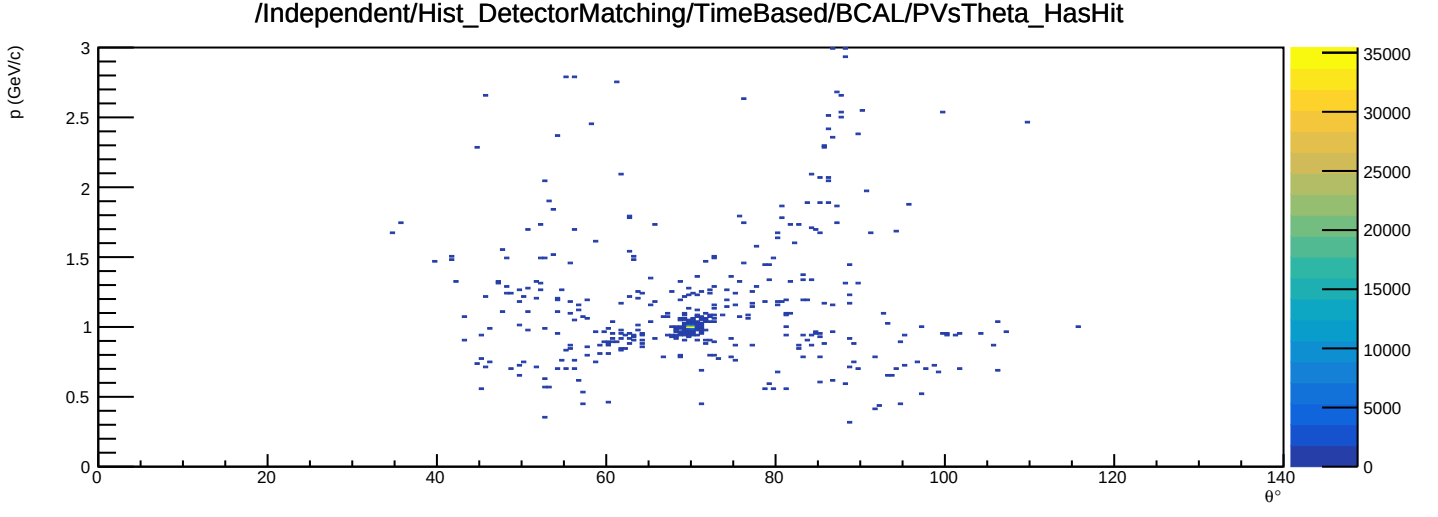

/Independent/Hist_DetectorMatching/TimeBased/SC/SCTrackDeltaPhiVsTheta
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
20
40
60
80
100
120
140
θ°
7000
6000
5000
4000
3000
2000
1000
0

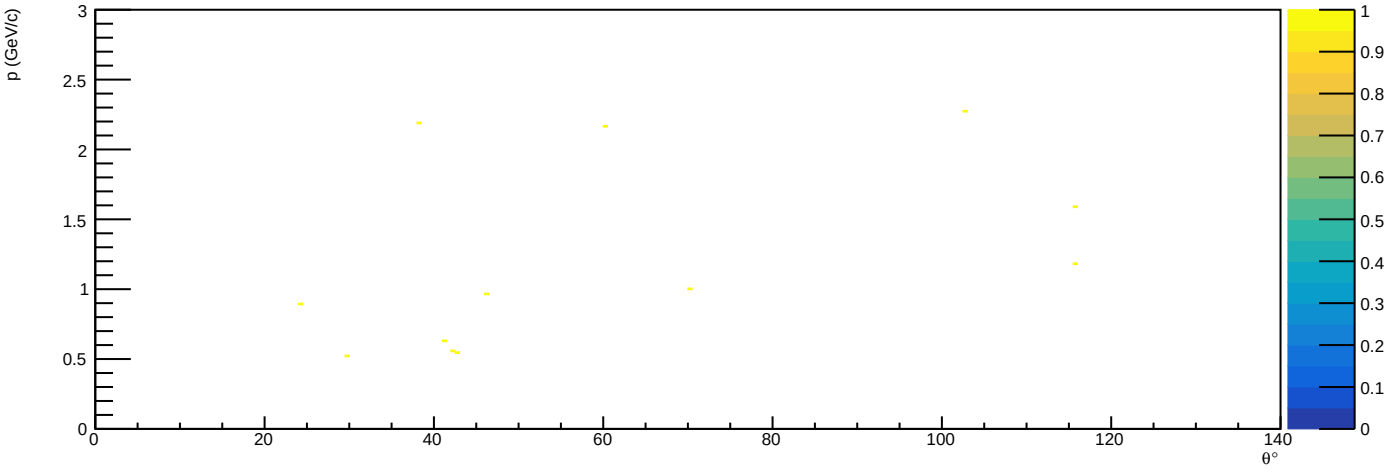

/Independent/Hist_DetectorMatching/TimeBased/SC/SCTrackDeltaPhiVsTheta
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
20
40
60
80
100
120
140
θ°
3500
3000
2500
2000
1500
1000
500
0

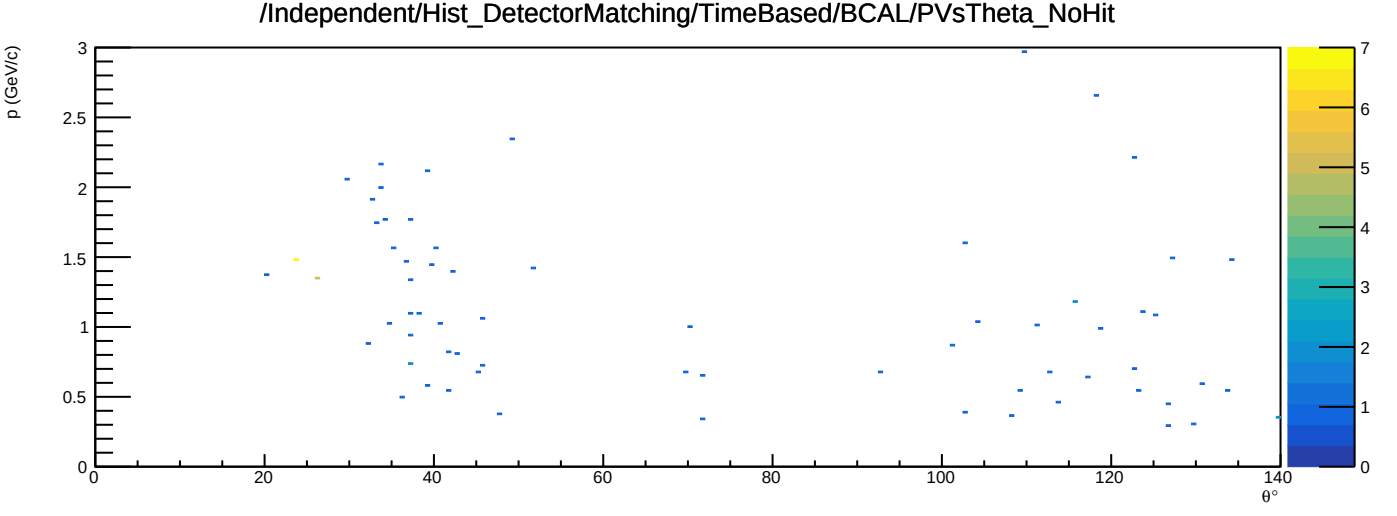

/Independent/Hist_DetectorMatching/TimeBased/SC/SCTrackDeltaPhiVsZ
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
20
40
60
80
100
120
Projected SC Hit-Z (cm)
500
400
300
200
100
0

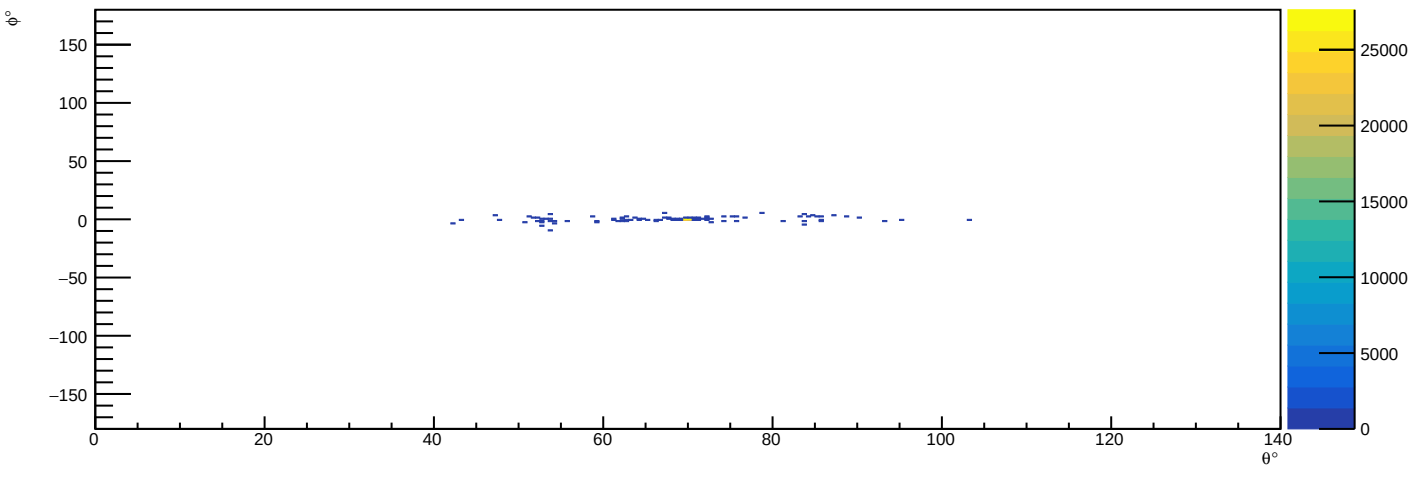

/Independent/Hist_DetectorMatching/TimeBased/SC/SCTrackDeltaPhiVsZ
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
20
40
60
80
100
120
Projected SC Hit-Z (cm)
250
200
150
100
50
0

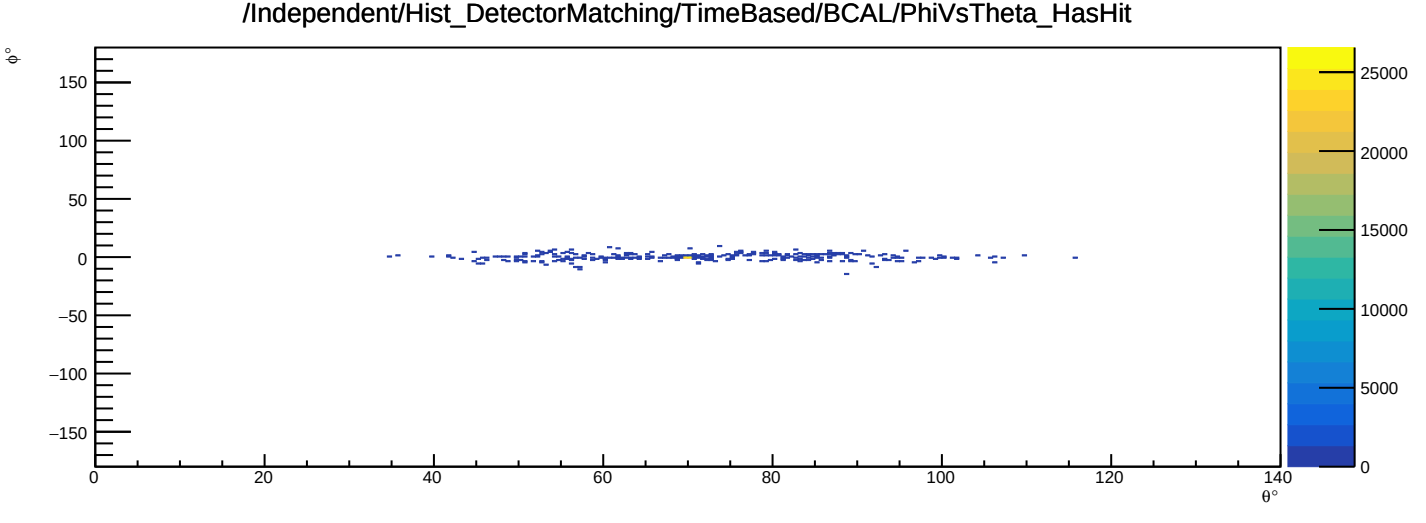

/Independent/Hist_DetectorMatching/TimeBased/BCAL/PVsTheta_HasHit
p (GeV/c)
θ°

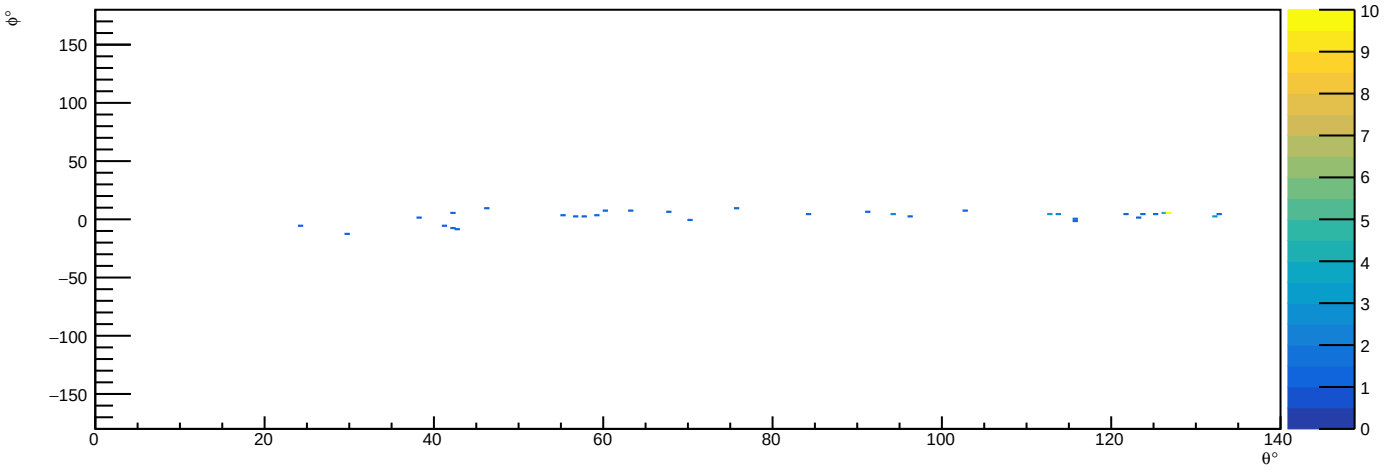

/Independent/Hist_DetectorMatching/TimeBased/BCAL/PVsTheta_HasHit
p (GeV/c)
θ°

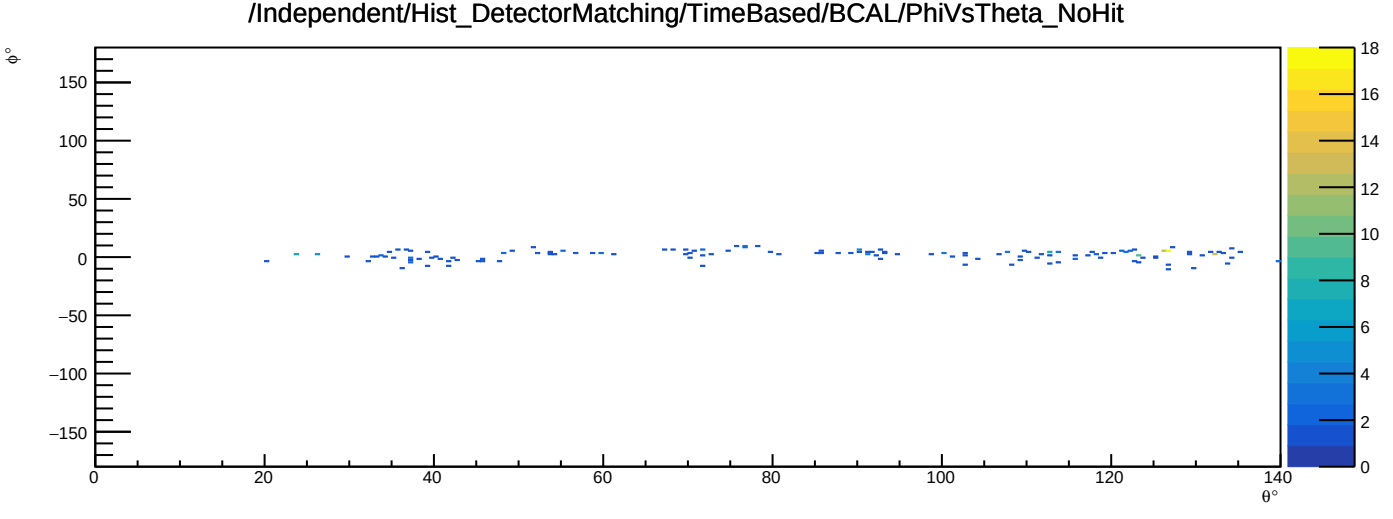

/Independent/Hist_DetectorMatching/TimeBased/BCAL/PVsTheta_NoHit
p (GeV/c)
θ°

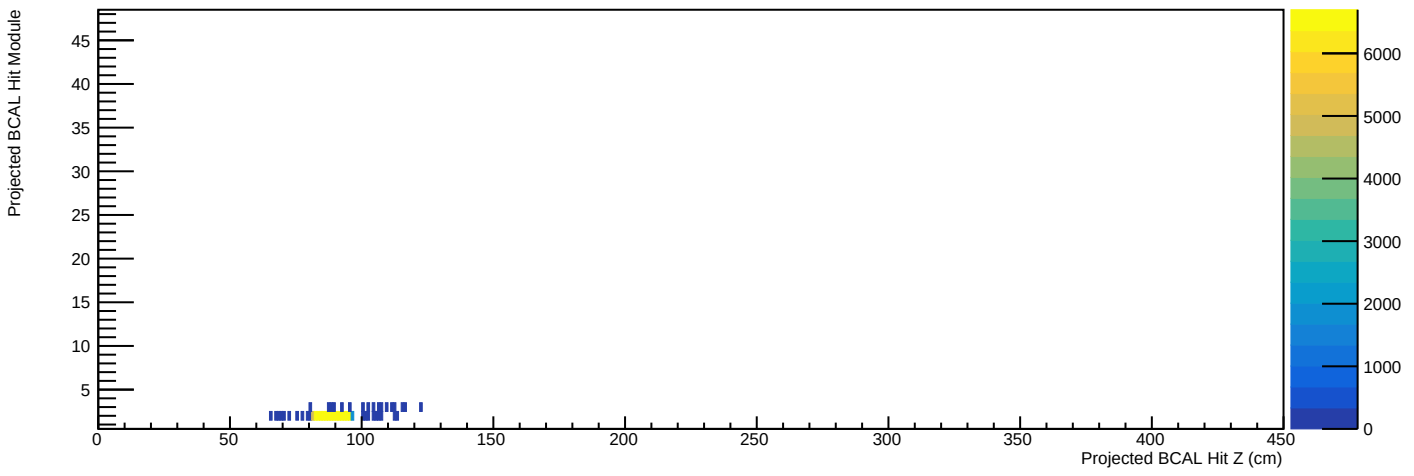

/Independent/Hist_DetectorMatching/TimeBased/BCAL/PVsTheta_NoHit
p (GeV/c)
θ°

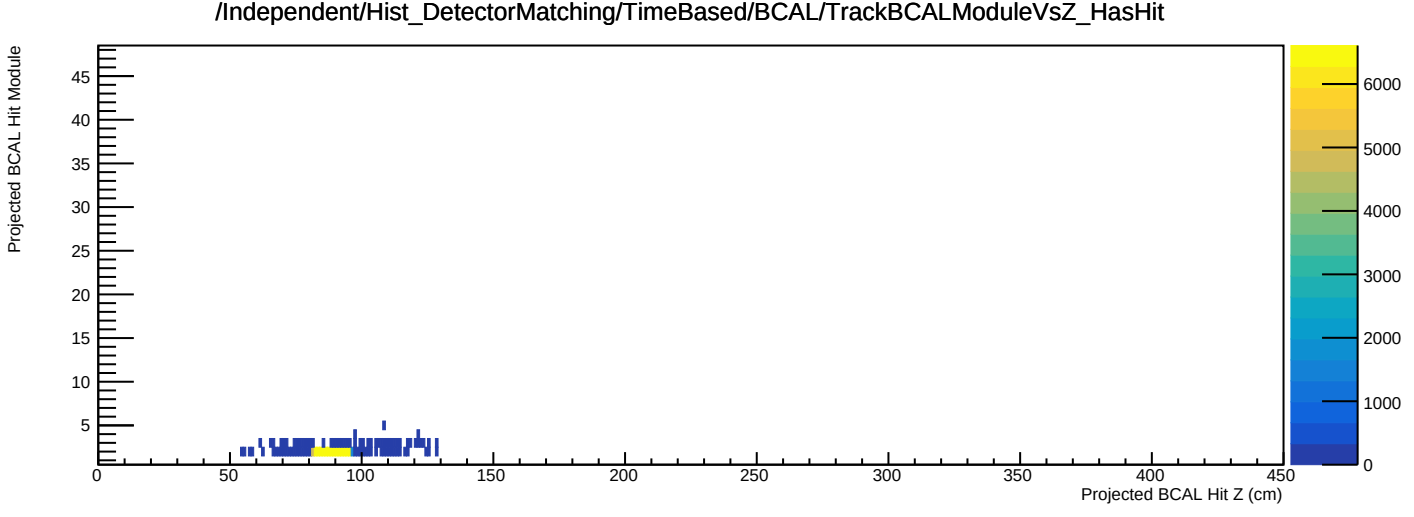

/Independent/Hist_DetectorMatching/TimeBased/BCAL/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25000
20000
15000
10000
5000
0

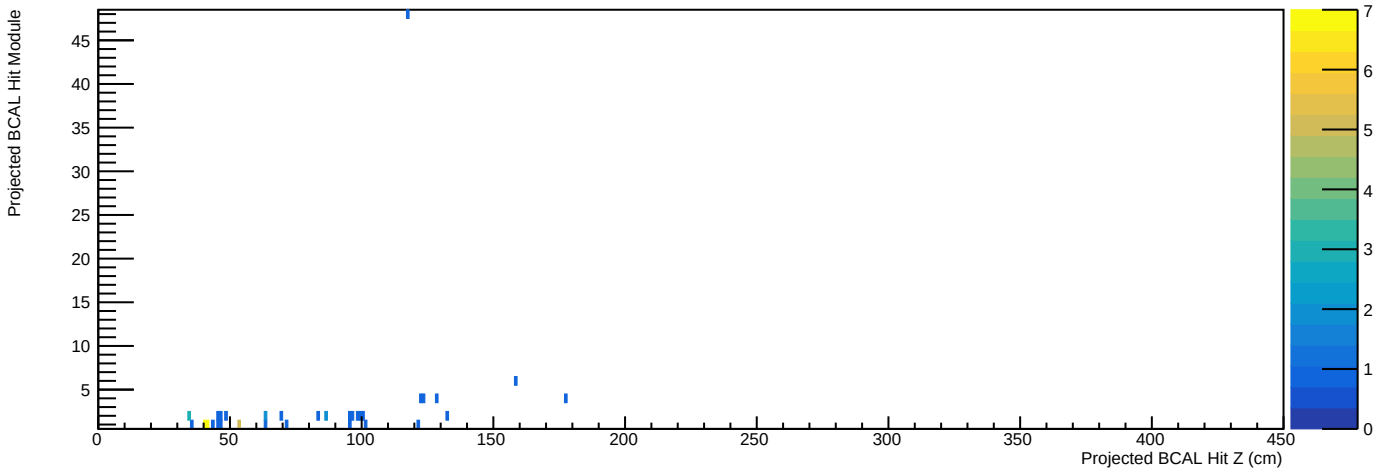

/Independent/Hist_DetectorMatching/TimeBased/BCAL/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25000
20000
15000
10000
5000
0

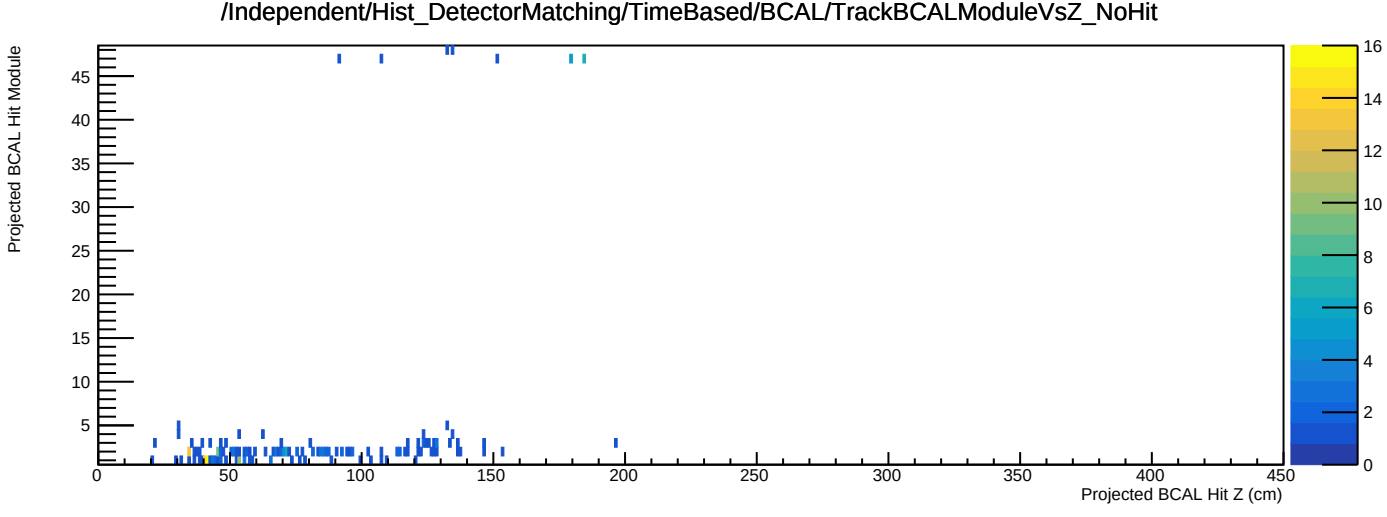

/Independent/Hist_DetectorMatching/TimeBased/BCAL/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
10
9
8
7
6
5
4
3
2
1
0

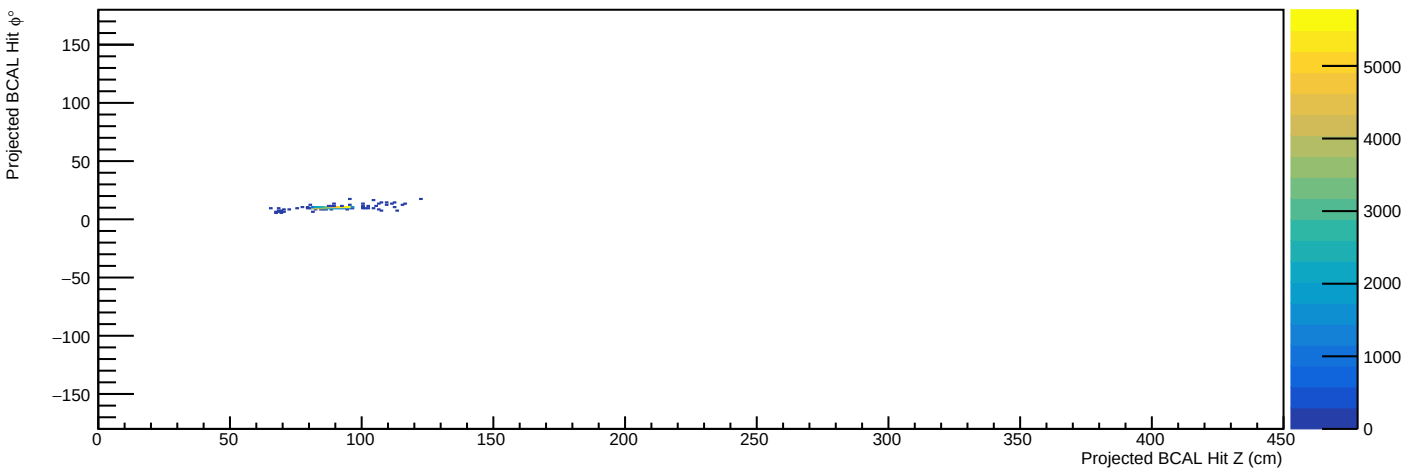

/Independent/Hist_DetectorMatching/TimeBased/BCAL/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
18
16
14
12
10
8
6
4
2
0

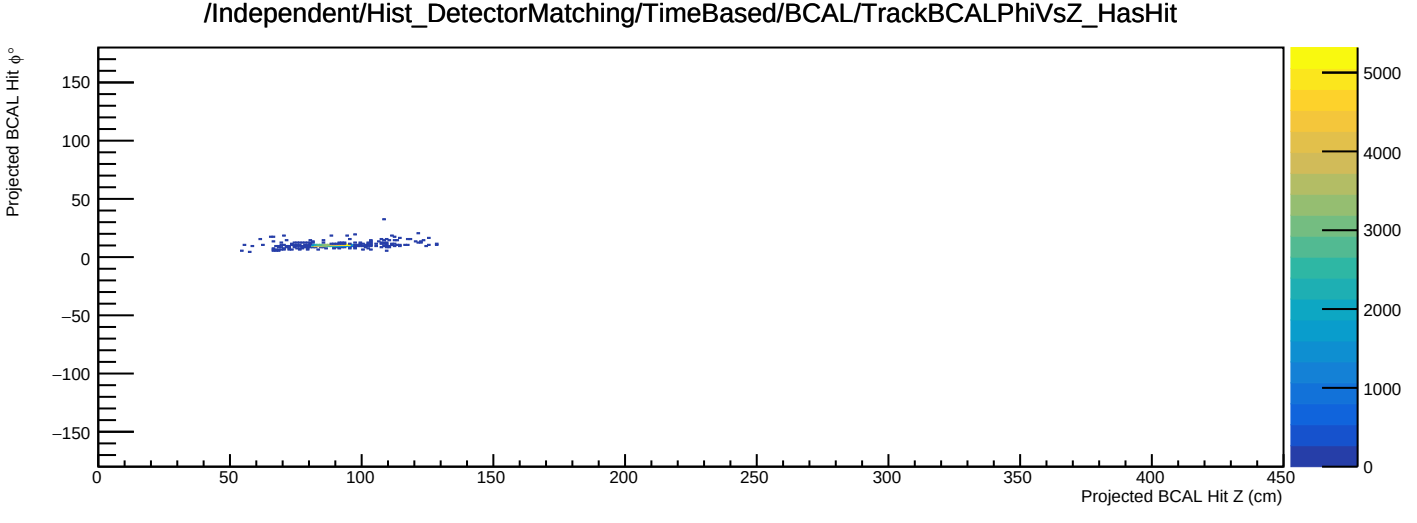

/Independent/Hist_DetectorMatching/TimeBased/BCAL/TrackBCALModuleVsZ_HasHit
Projected BCAL Hit Module
Projected BCAL Hit Z (cm)
0
5
10
15
20
25
30
35
40
45
0
50
100
150
200
250
300
350
400
450
0
1000
2000
3000
4000
5000
6000

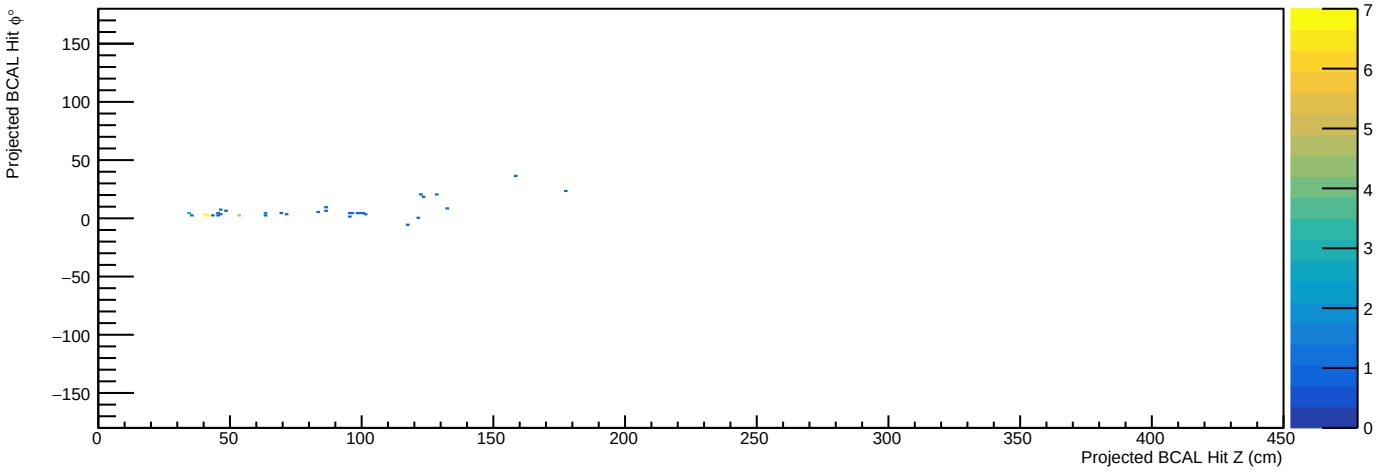

/Independent/Hist_DetectorMatching/TimeBased/BCAL/TrackBCALModuleVsZ_HasHit
Projected BCAL Hit Module
Projected BCAL Hit Z (cm)
0
5
10
15
20
25
30
35
40
45
0
50
100
150
200
250
300
350
400
450
0
1000
2000
3000
4000
5000
6000

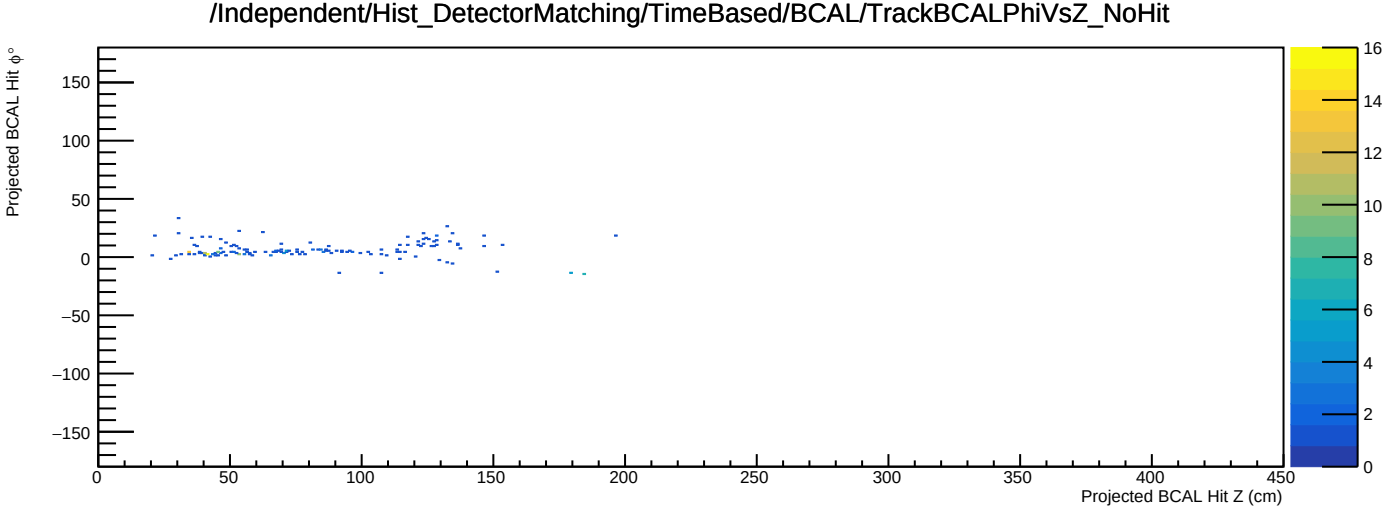

/Independent/Hist_DetectorMatching/TimeBased/BCAL/TrackBCALModuleVsZ_NoHit
Projected BCAL Hit Module
Projected BCAL Hit Z (cm)
0
5
10
15
20
25
30
35
40
45
0
50
100
150
200
250
300
350
400
450
0
1
2
3
4
5
6
7

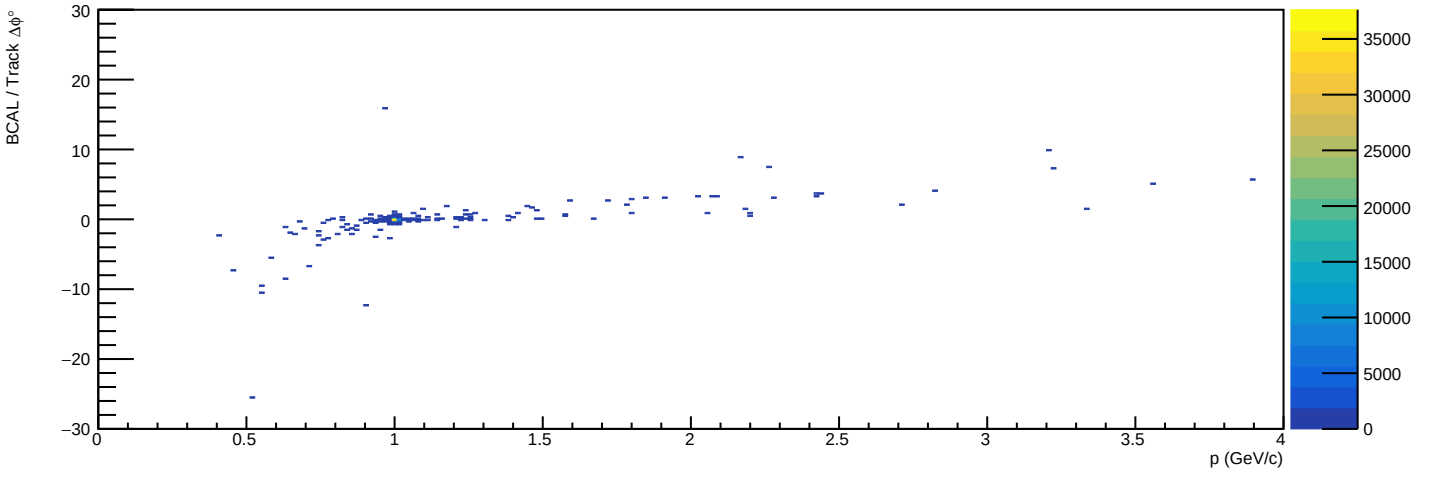

/Independent/Hist_DetectorMatching/TimeBased/BCAL/TrackBCALModuleVsZ_NoHit
Projected BCAL Hit Module
Projected BCAL Hit Z (cm)
0
5
10
15
20
25
30
35
40
45
0
50
100
150
200
250
300
350
400
450
0
2
4
6
8
10
12
14
16

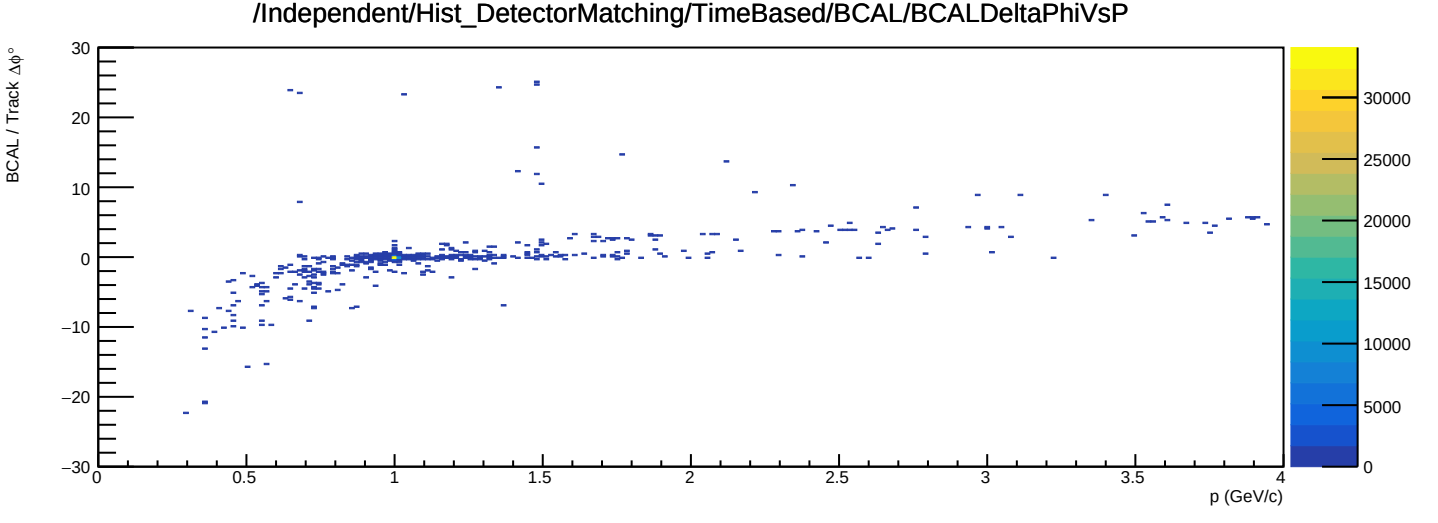

/Independent/Hist_DetectorMatching/TimeBased/BCAL/TrackBCALPhiVsZ_HasHit
Projected BCAL Hit ϕ°
150
100
50
0
−50
−100
−150
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit Z (cm)
5000
4000
3000
2000
1000
0

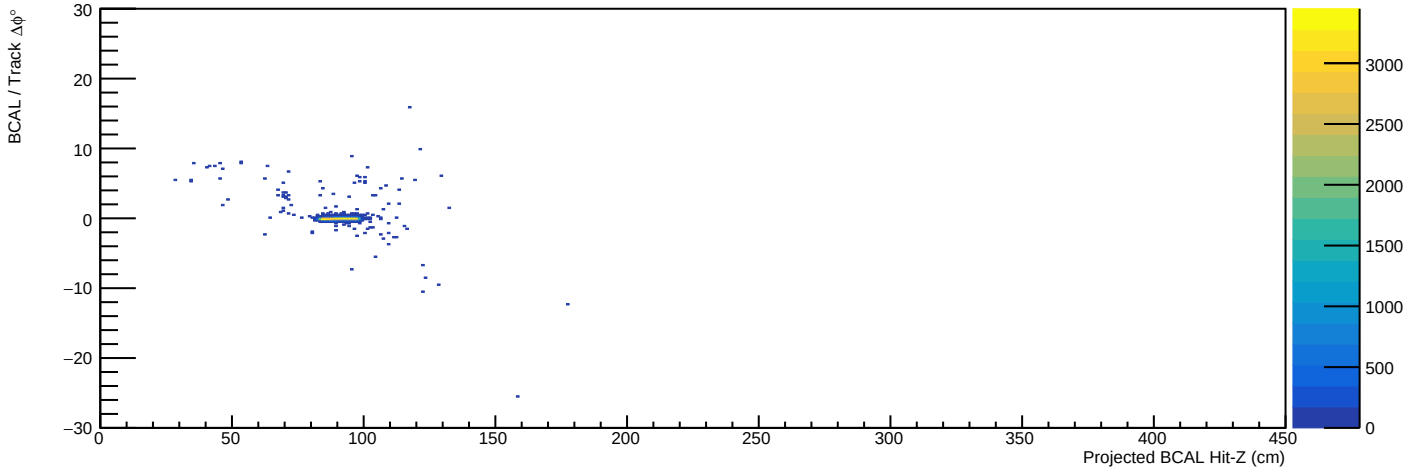

/Independent/Hist_DetectorMatching/TimeBased/BCAL/TrackBCALPhiVsZ_HasHit
Projected BCAL Hit ϕ°
150
100
50
0
−50
−100
−150
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit Z (cm)
5000
4000
3000
2000
1000
0

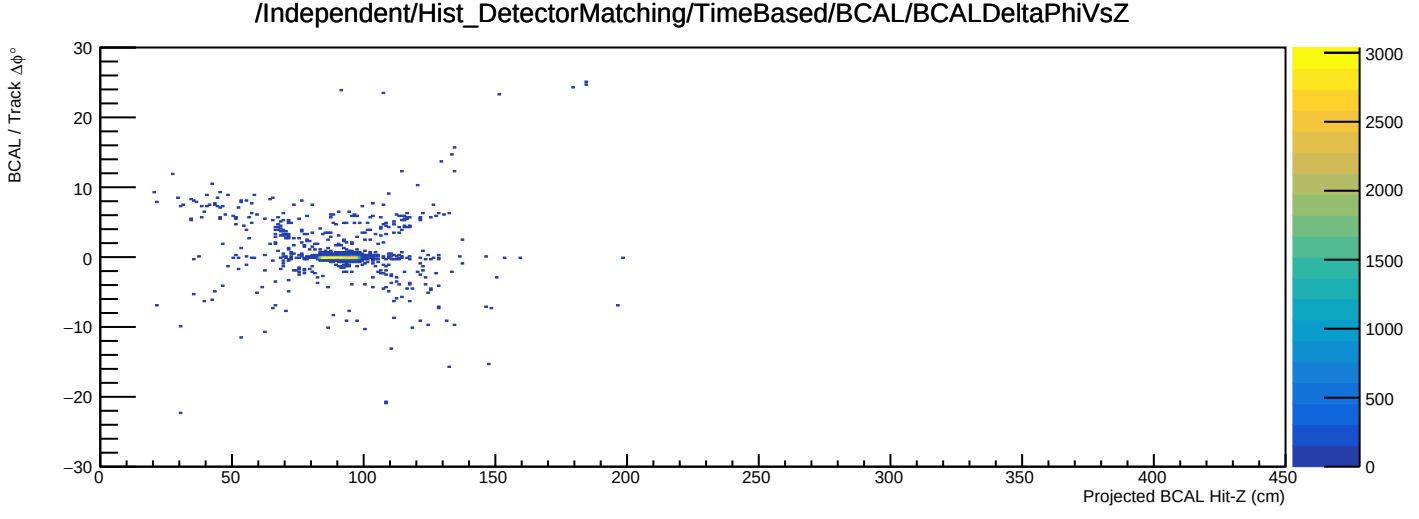

/Independent/Hist_DetectorMatching/TimeBased/BCAL/TrackBCALPhiVsZ_NoHit
Projected BCAL Hit ϕ°
150
100
50
0
−50
−100
−150
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit Z (cm)
7
6
5
4
3
2
1
0

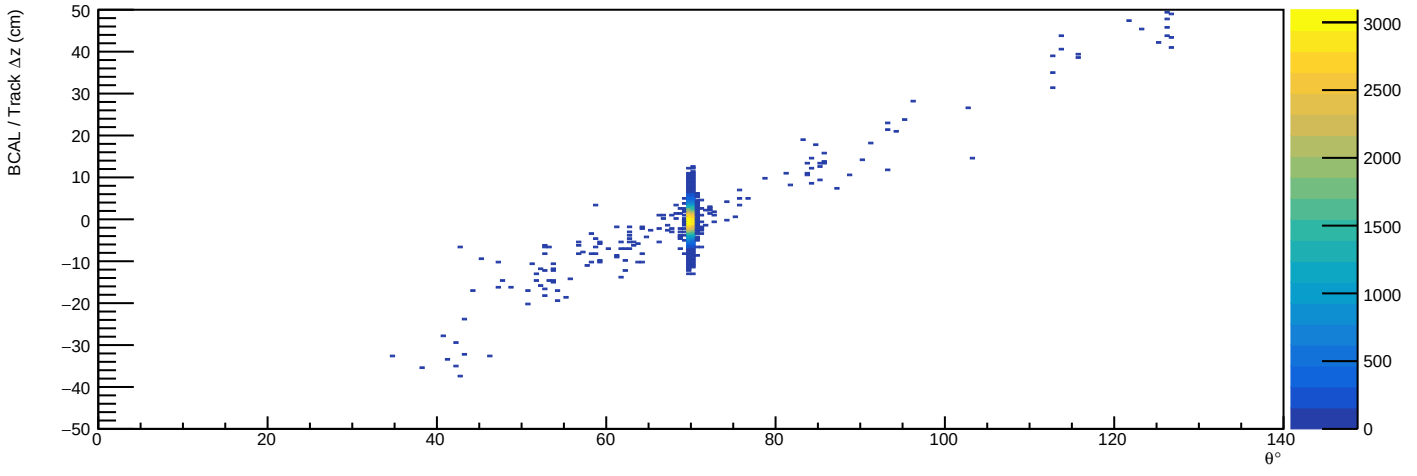

/Independent/Hist_DetectorMatching/TimeBased/BCAL/TrackBCALPhiVsZ_NoHit
Projected BCAL Hit ϕ°
150
100
50
0
−50
−100
−150
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit Z (cm)
16
14
12
10
8
6
4
2
0

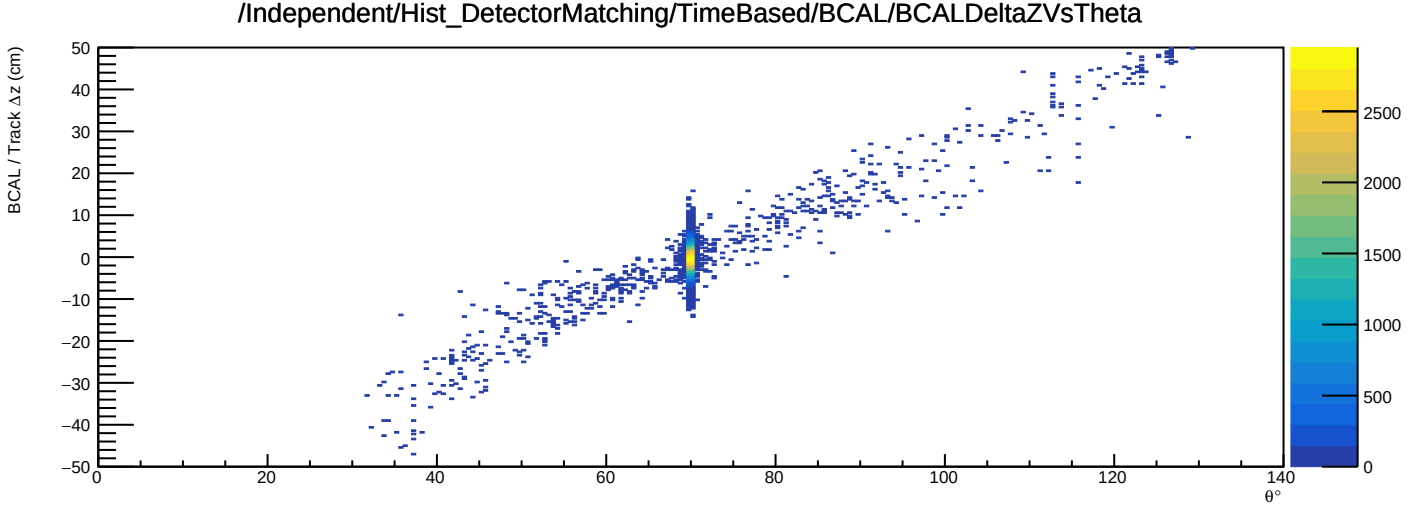

/Independent/Hist_DetectorMatching/TimeBased/BCAL/BCALDeltaPhiVsP
BCAL / Track Δφ°
30
20
10
0
−10
−20
−30
0
0.5
1
1.5
2
2.5
3
3.5
4
p (GeV/c)
35000
30000
25000
20000
15000
10000
5000
0

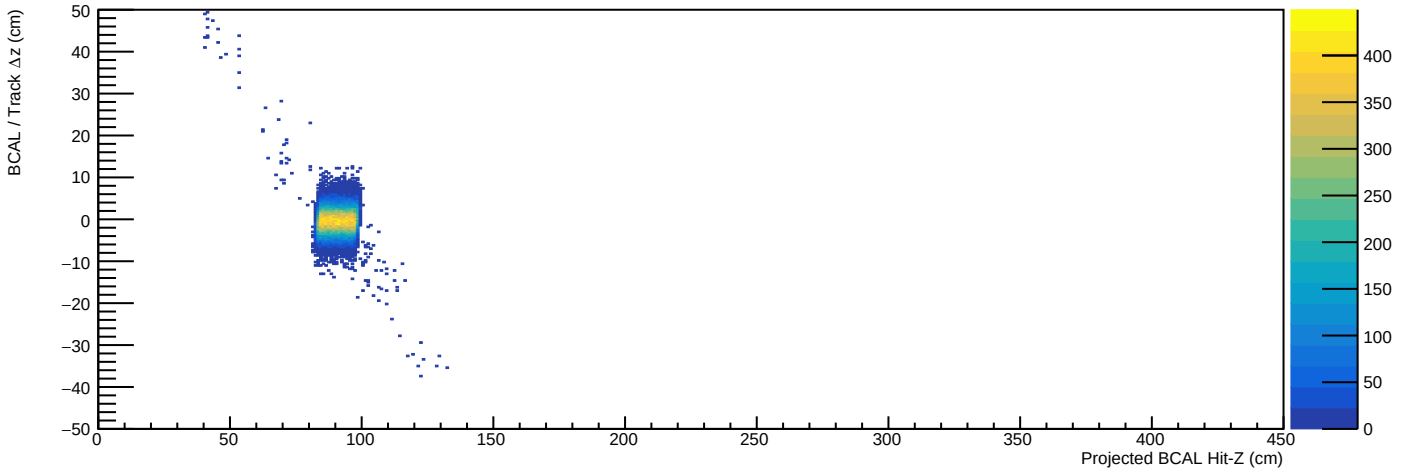

/Independent/Hist_DetectorMatching/TimeBased/BCAL/BCALDeltaPhiVsP
BCAL / Track Δφ°
30
20
10
0
−10
−20
−30
0
0.5
1
1.5
2
2.5
3
3.5
4
p (GeV/c)
30000
25000
20000
15000
10000
5000
0

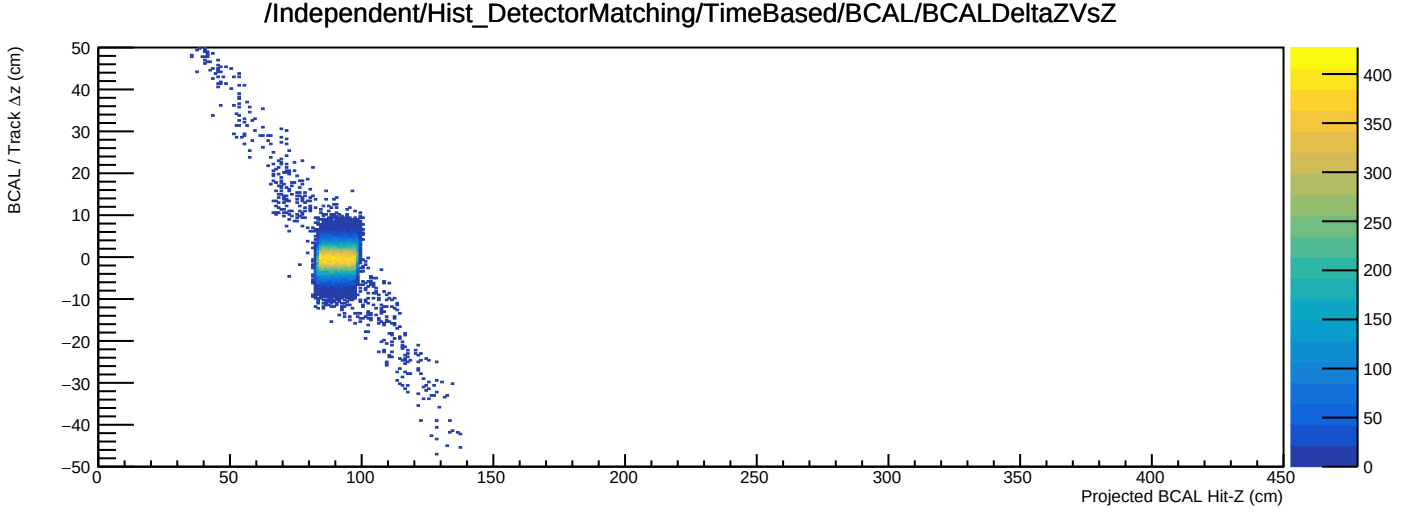

/Independent/Hist_DetectorMatching/TimeBased/BCAL/BCALDeltaPhiVsZ
BCAL / Track Δφ°
30
20
10
0
−10
−20
−30
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit-Z (cm)
3000
2500
2000
1500
1000
500
0

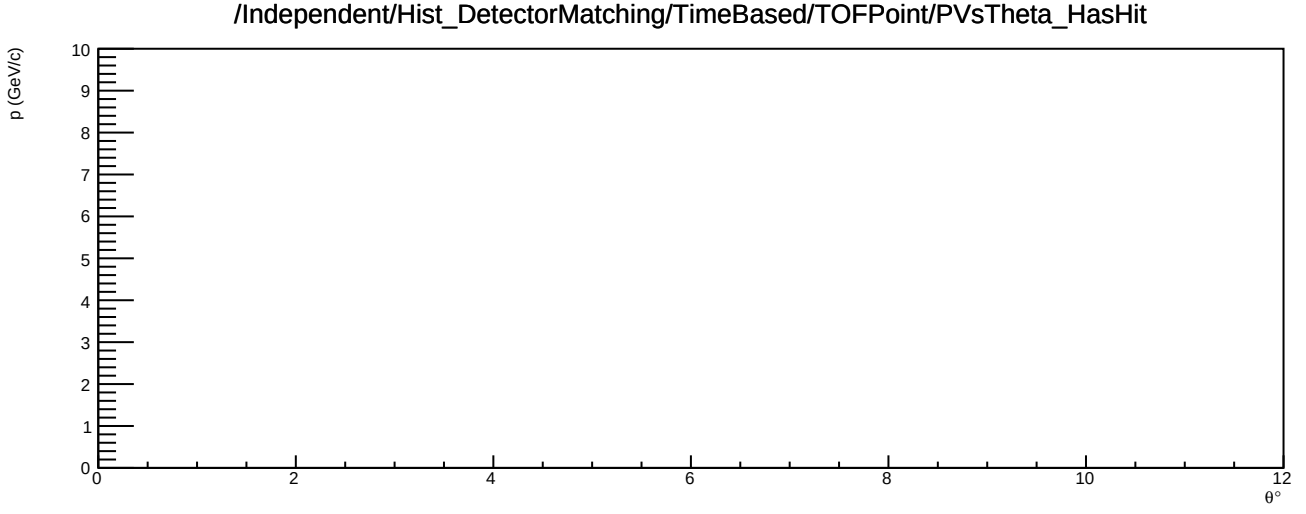

/Independent/Hist_DetectorMatching/TimeBased/BCAL/BCALDeltaPhiVsZ
BCAL / Track Δφ°
30
20
10
0
−10
−20
−30
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit-Z (cm)
3000
2500
2000
1500
1000
500
0

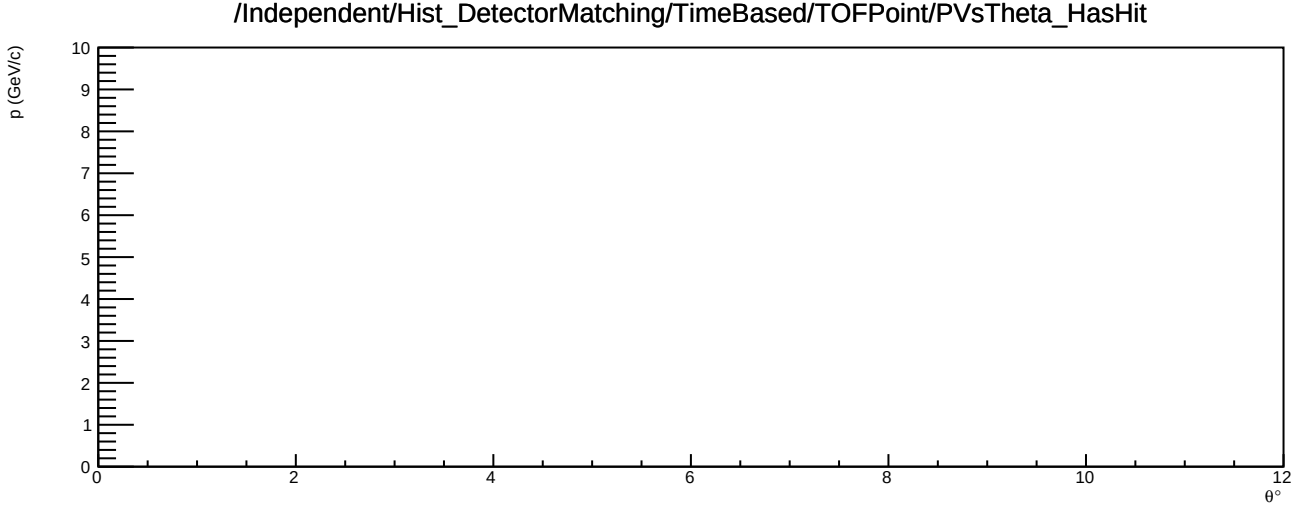

/Independent/Hist_DetectorMatching/TimeBased/BCAL/BCALDeltaZVsTheta
BCAL / Track Δz (cm)
50
40
30
20
10
0
−10
−20
−30
−40
−50
0
20
40
60
80
100
120
140
θ°
3000
2500
2000
1500
1000
500
0

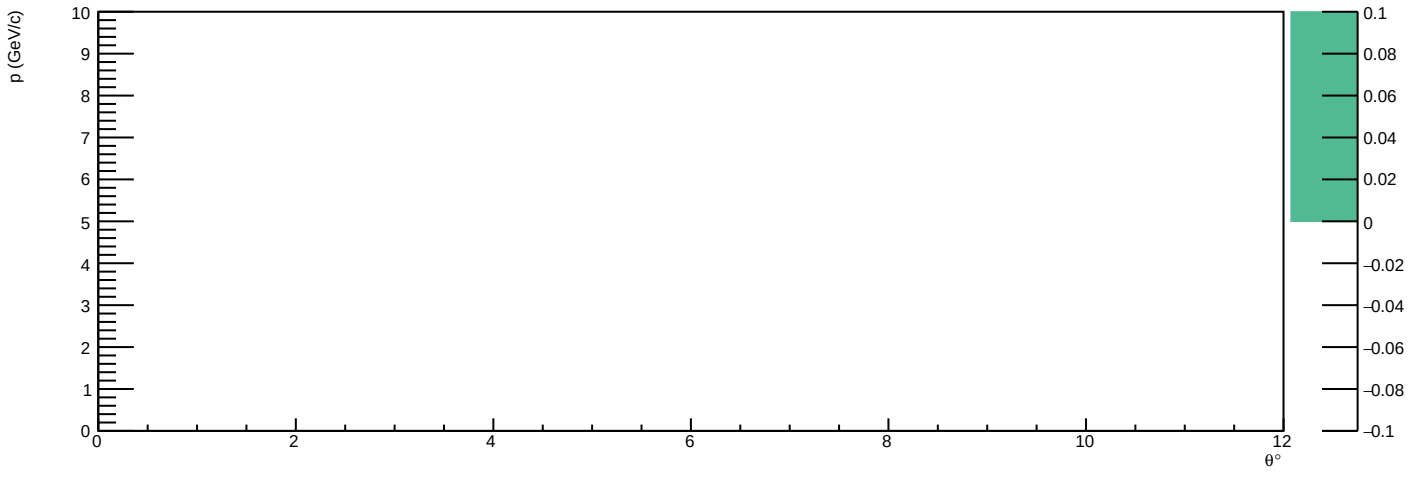

/Independent/Hist_DetectorMatching/TimeBased/BCAL/BCALDeltaZVsTheta
BCAL / Track Δz (cm)
50
40
30
20
10
0
−10
−20
−30
−40
−50
0
20
40
60
80
100
120
140
θ°
2500
2000
1500
1000
500
0

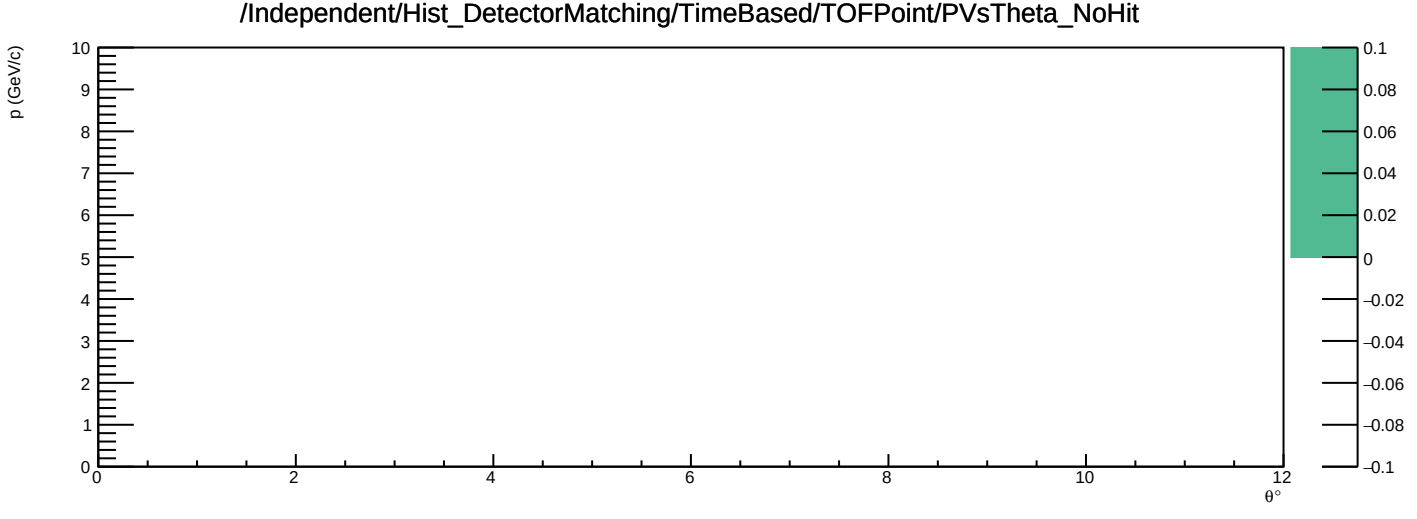

/Independent/Hist_DetectorMatching/TimeBased/BCAL/BCALDeltaZVsZ
BCAL / Track Δz (cm)
Projected BCAL Hit-Z (cm)

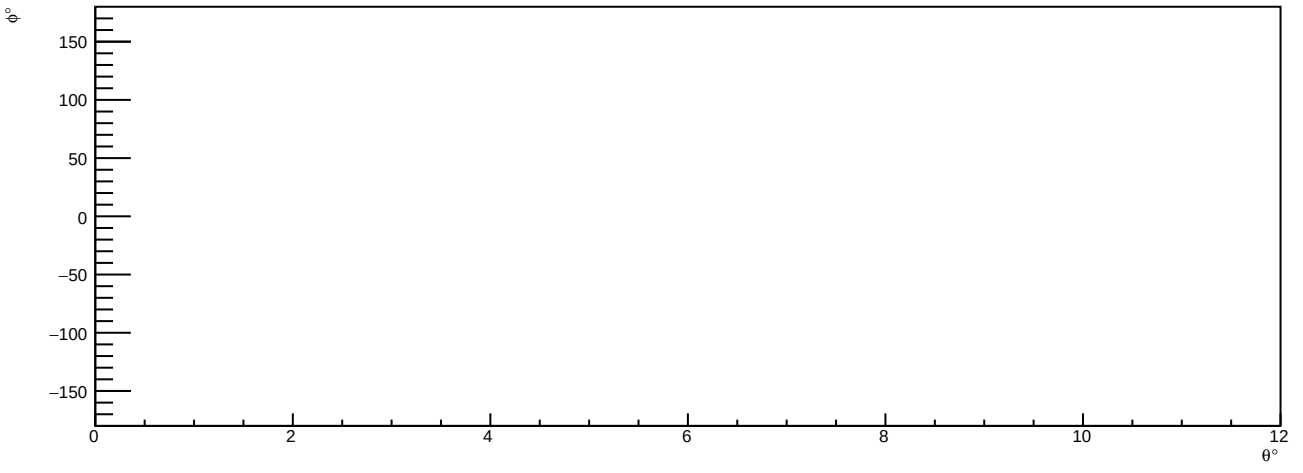

/Independent/Hist_DetectorMatching/TimeBased/BCAL/BCALDeltaZVsZ
BCAL / Track Δz (cm)
Projected BCAL Hit-Z (cm)

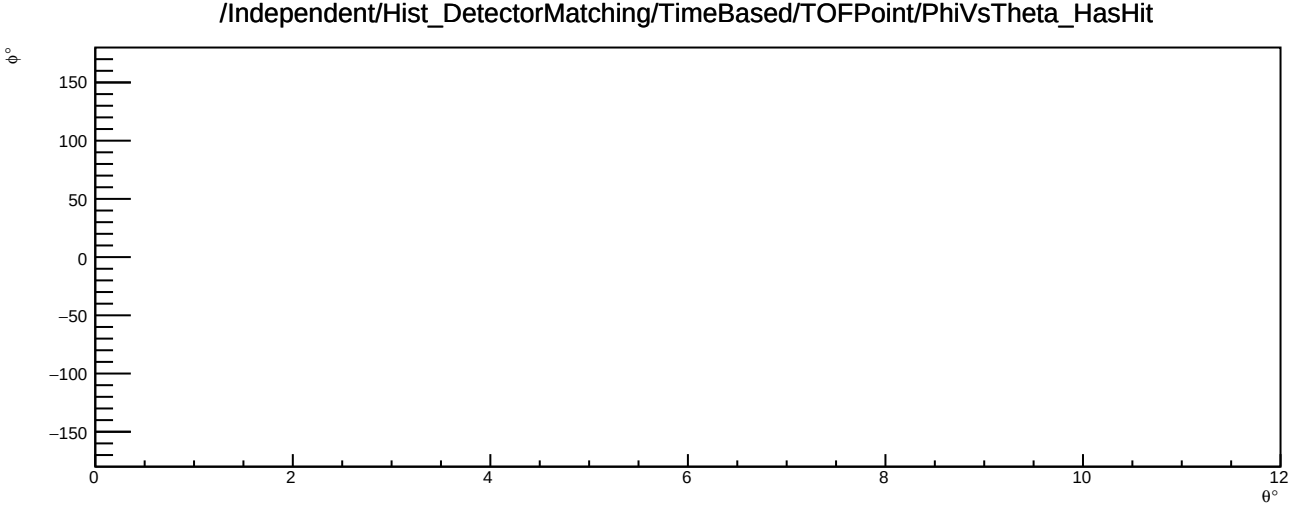

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/PVsTheta_HasHit
p (GeV/c)
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
12
θ°


/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/PVsTheta_HasHit
p (GeV/c)
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
12
θ°

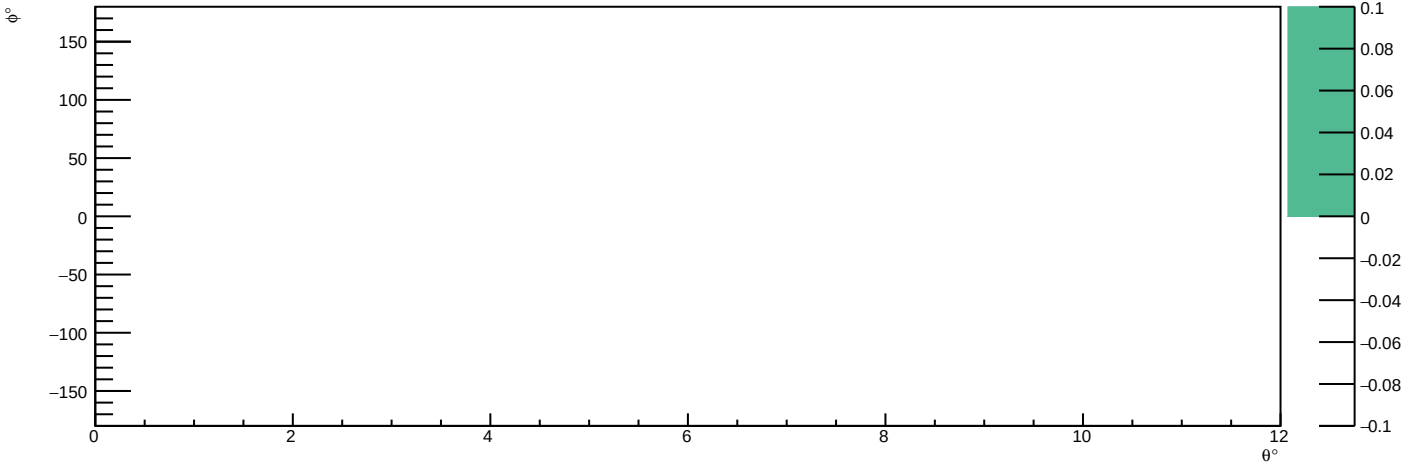

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/PVsTheta_NoHit
p (GeV/c)
θ°
0
1
2
3
4
5
6
7
8
9
10
12
0.1
0.08
0.06
0.04
0.02
−0.02
−0.04
−0.06
−0.08
−0.1


/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/PVsTheta_NoHit
p (GeV/c)
θ°
0
1
2
3
4
5
6
7
8
9
10
12
0.1
0.08
0.06
0.04
0.02
−0.02
−0.04
−0.06
−0.08
−0.1

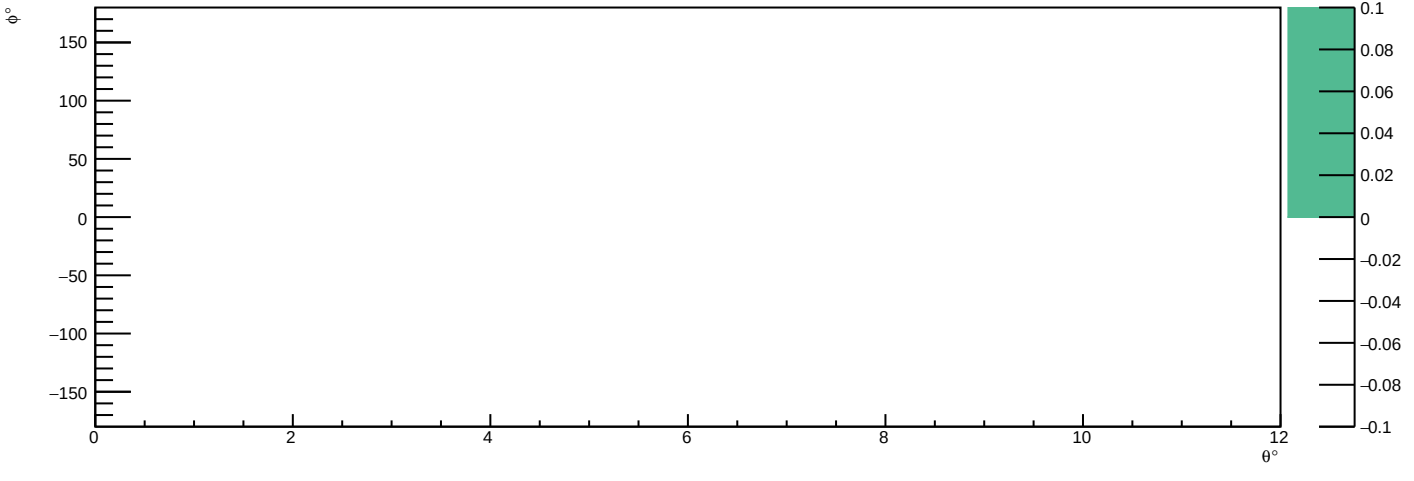

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°

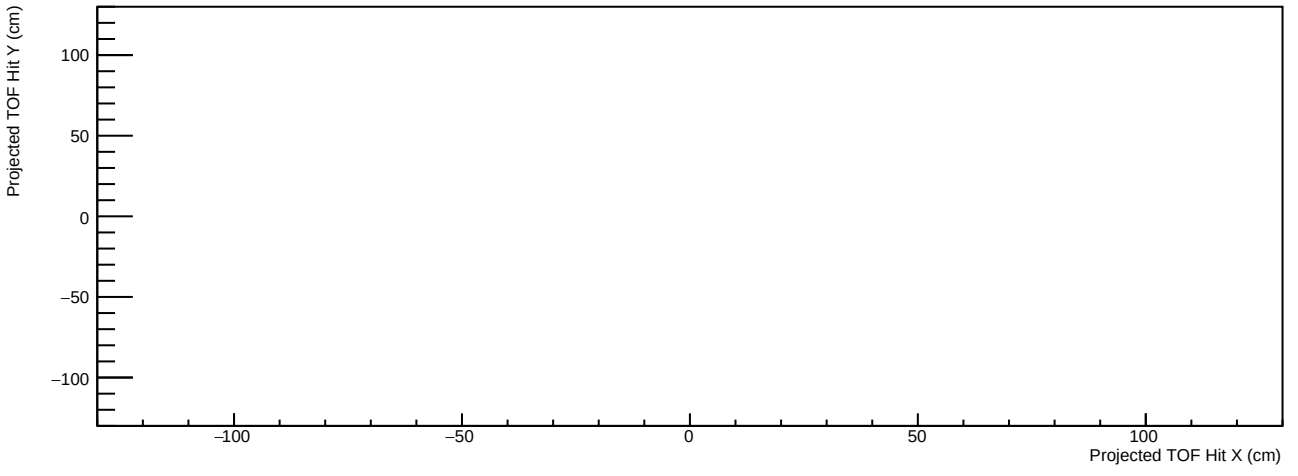

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°

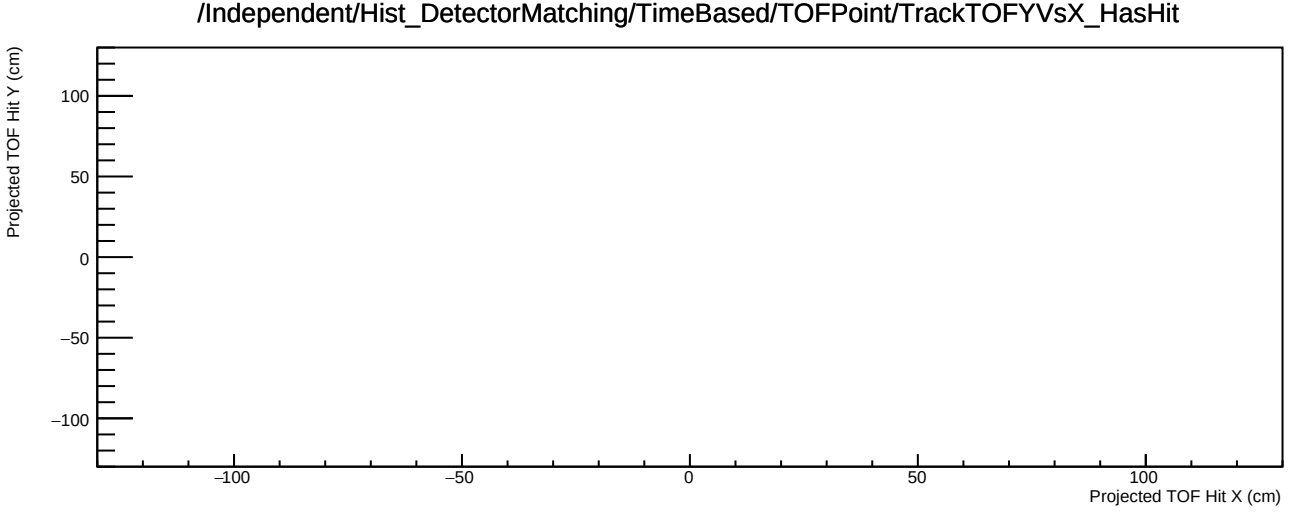
/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/PhiVsTheta_NoHit

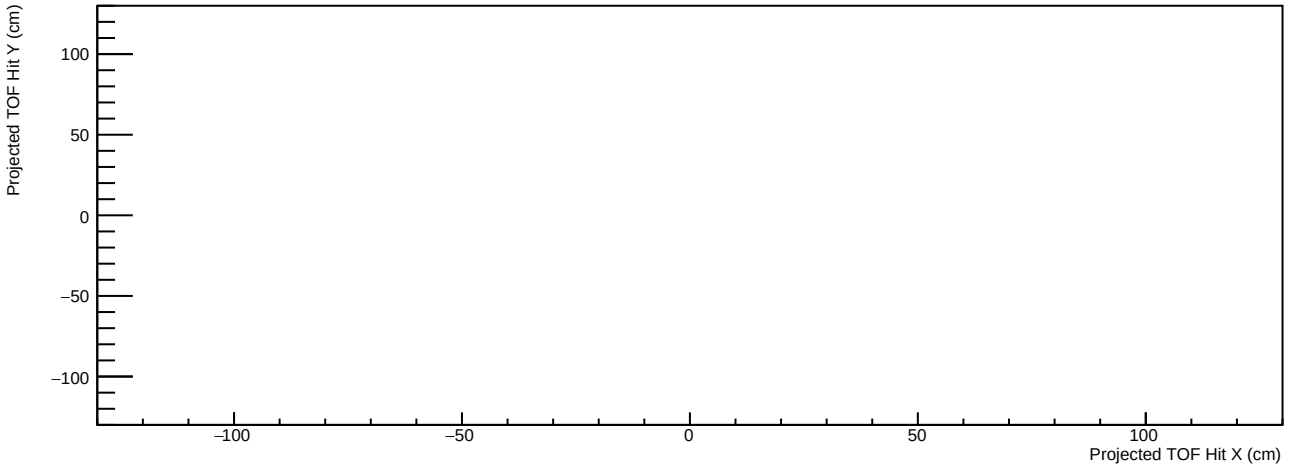


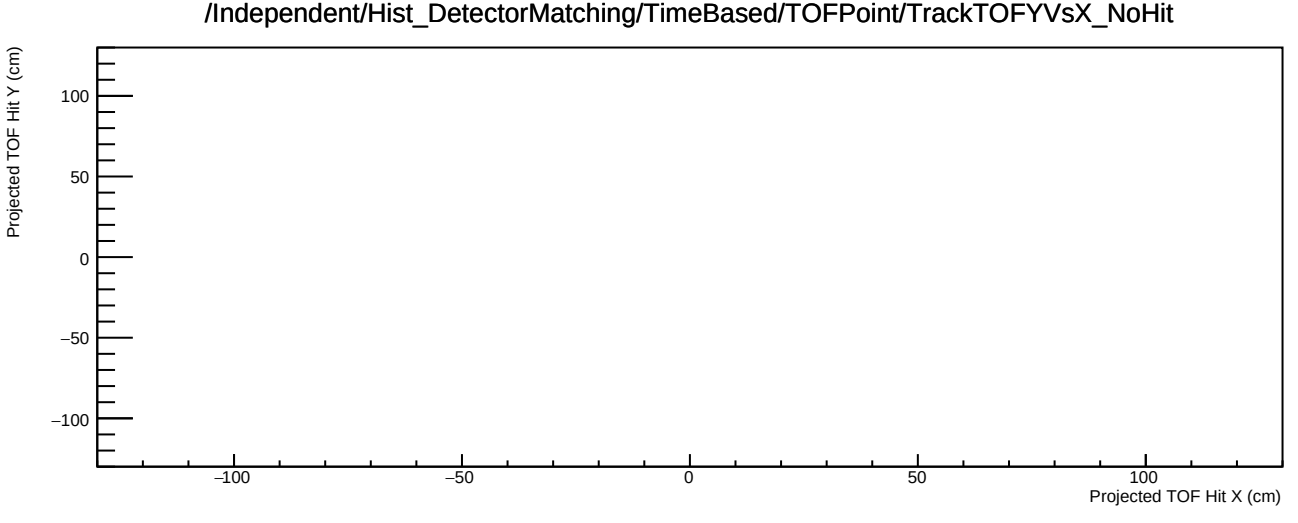
/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/PhiVsTheta_NoHit

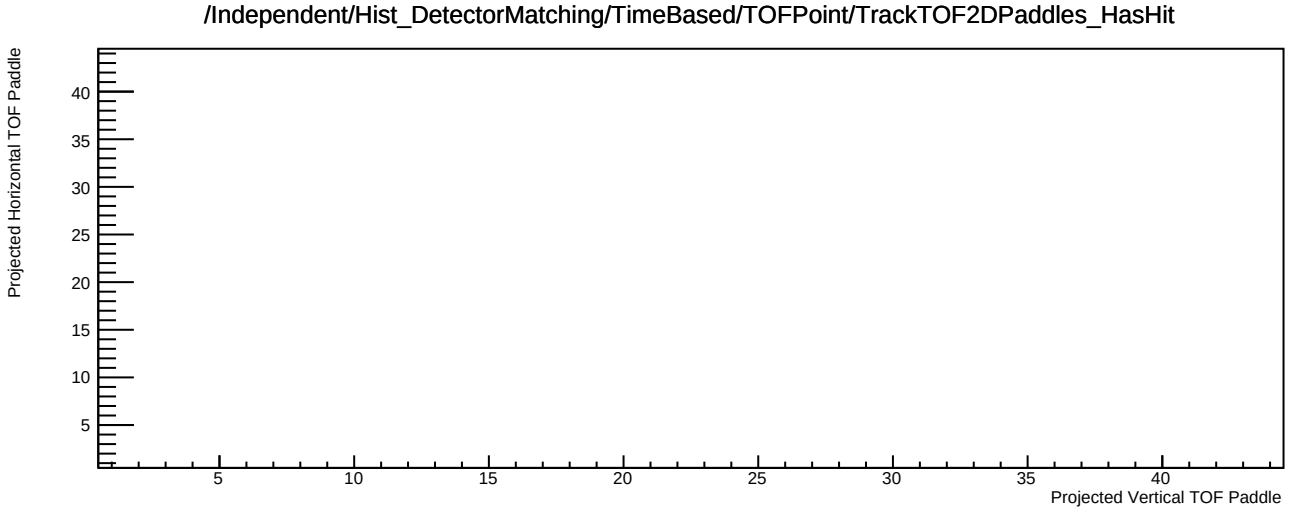


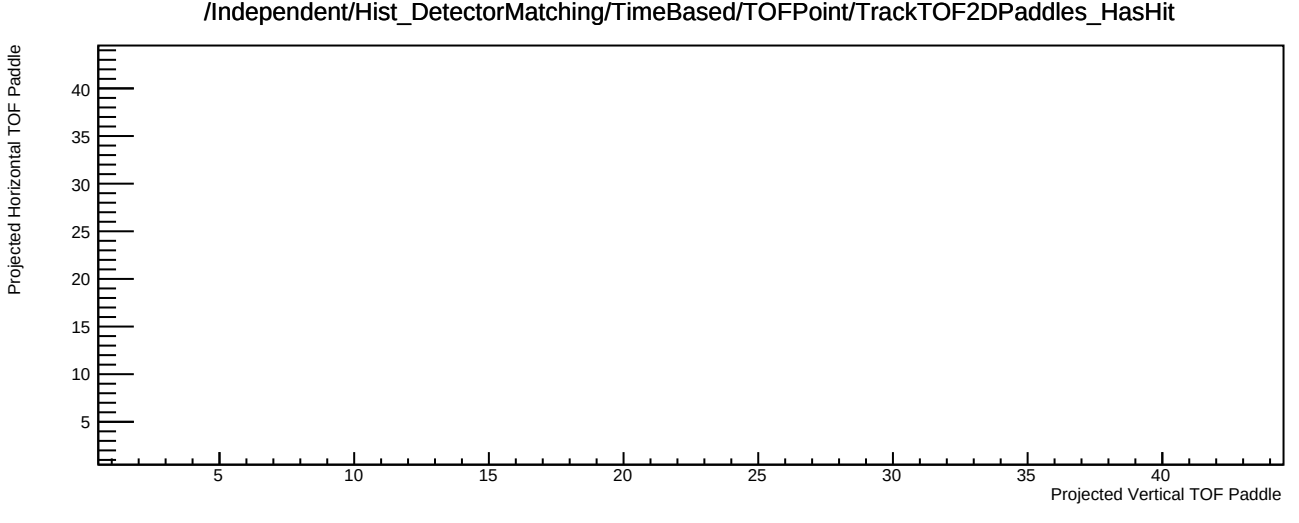

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOFYVsX_HasHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected TOF Hit X (cm)

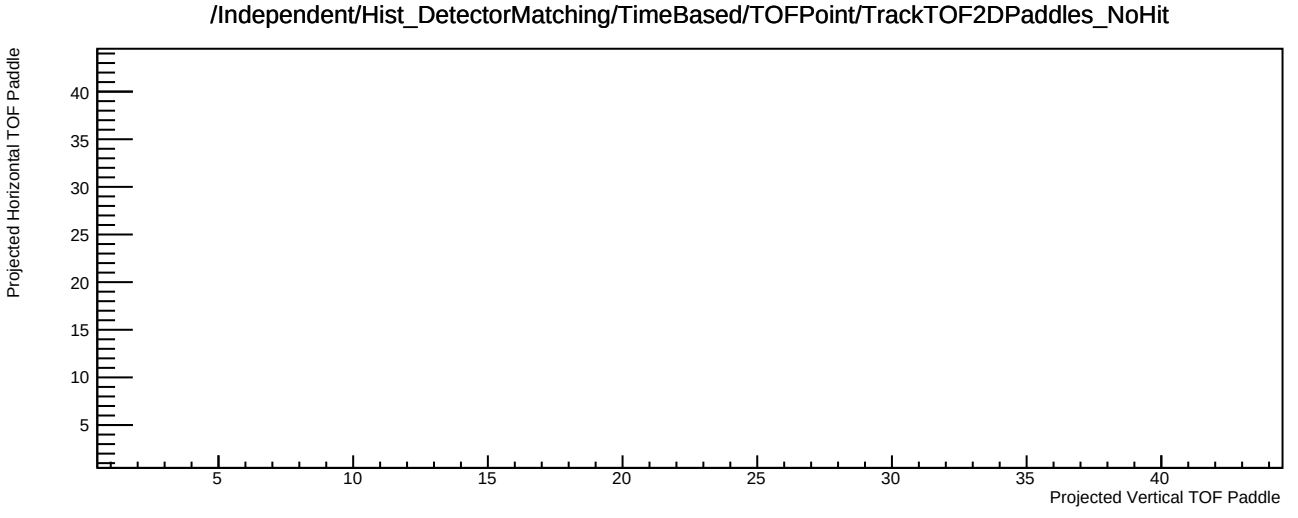

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOFYVsX_HasHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected TOF Hit X (cm)

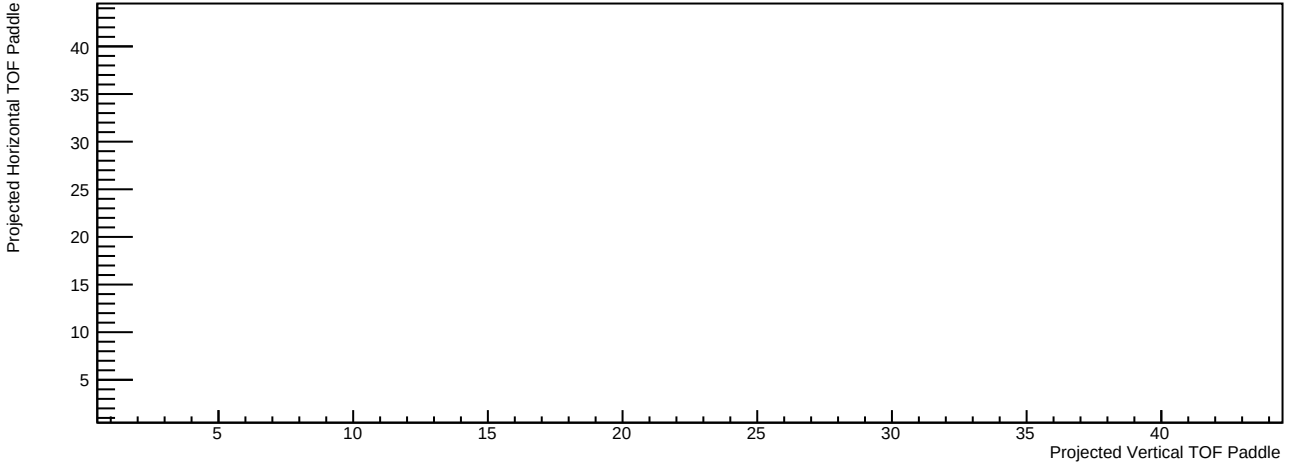

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOFYVsX_NoHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected TOF Hit X (cm)


/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOFYVsX_NoHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected TOF Hit X (cm)

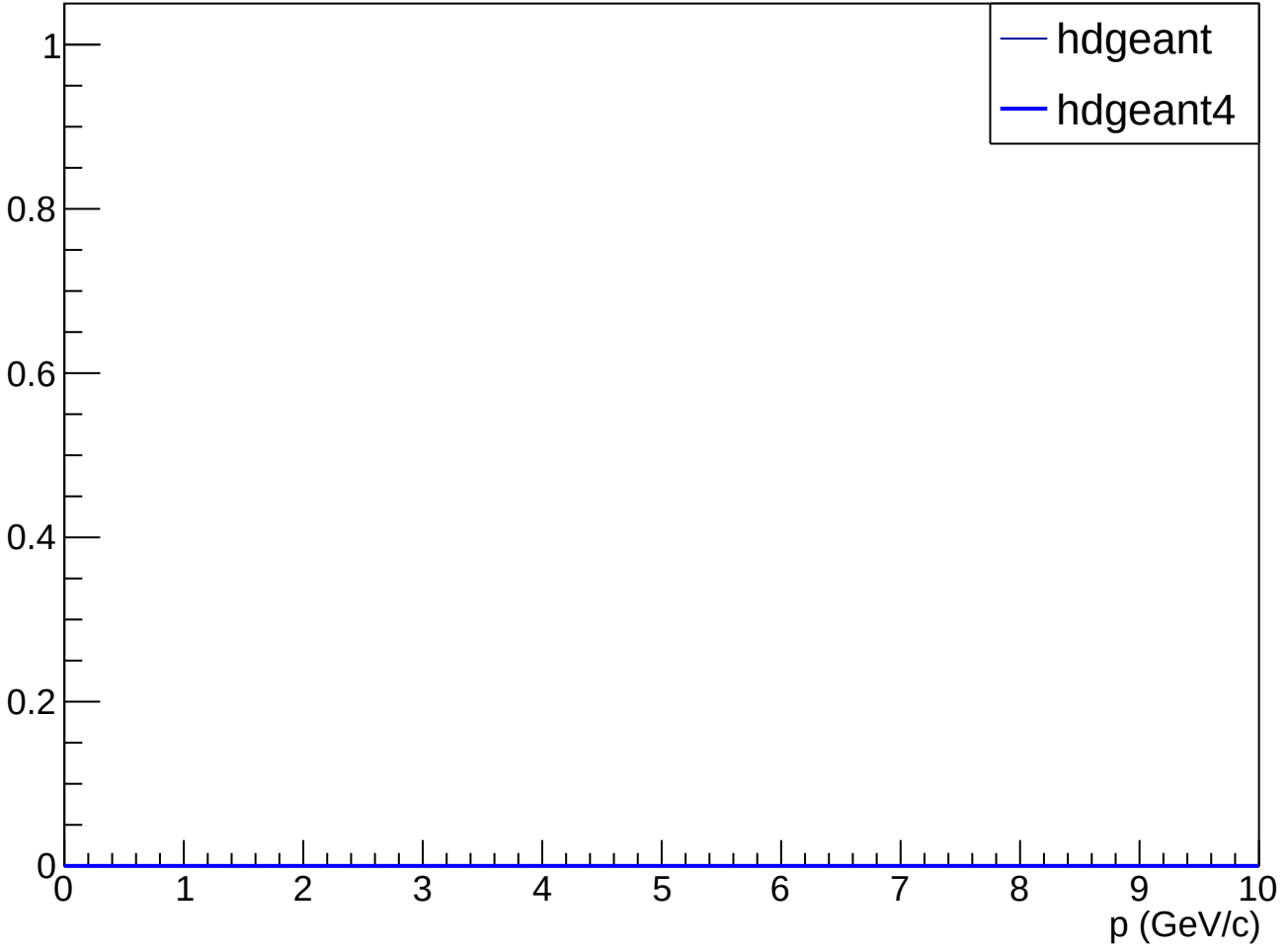

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOF2DPaddles_HasHit
Projected Horizontal TOF Paddle
Projected Vertical TOF Paddle
5
10
15
20
25
30
35
40


/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOF2DPaddles_HasHit
Projected Horizontal TOF Paddle
Projected Vertical TOF Paddle
5
10
15
20
25
30
35
40

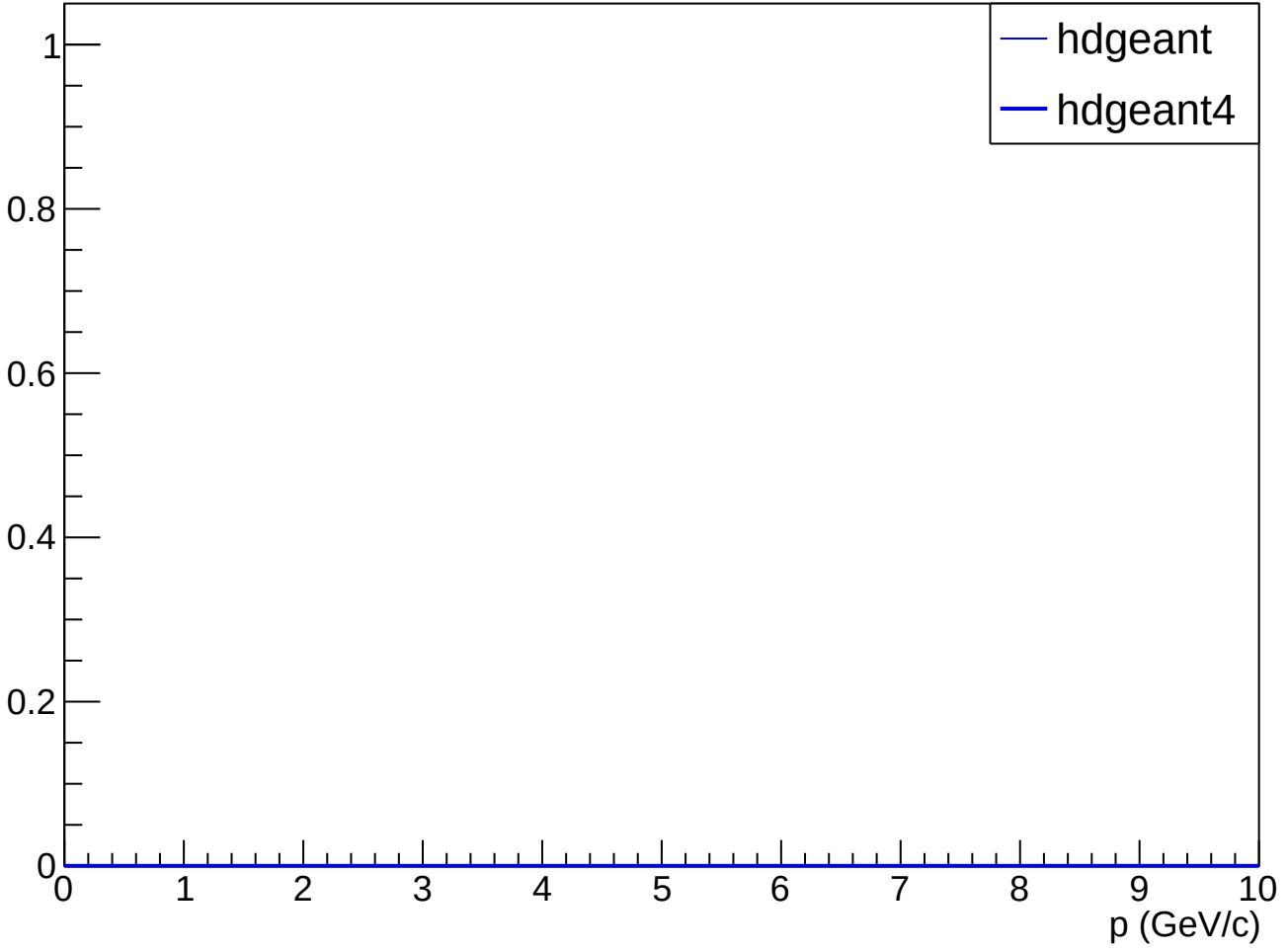

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOF2DPaddles_NoHit
Projected Horizontal TOF Paddle
Projected Vertical TOF Paddle
5
10
15
20
25
30
35
40


/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOF2DPaddles_NoHit
Projected Horizontal TOF Paddle
Projected Vertical TOF Paddle
5
10
15
20
25
30
35
40

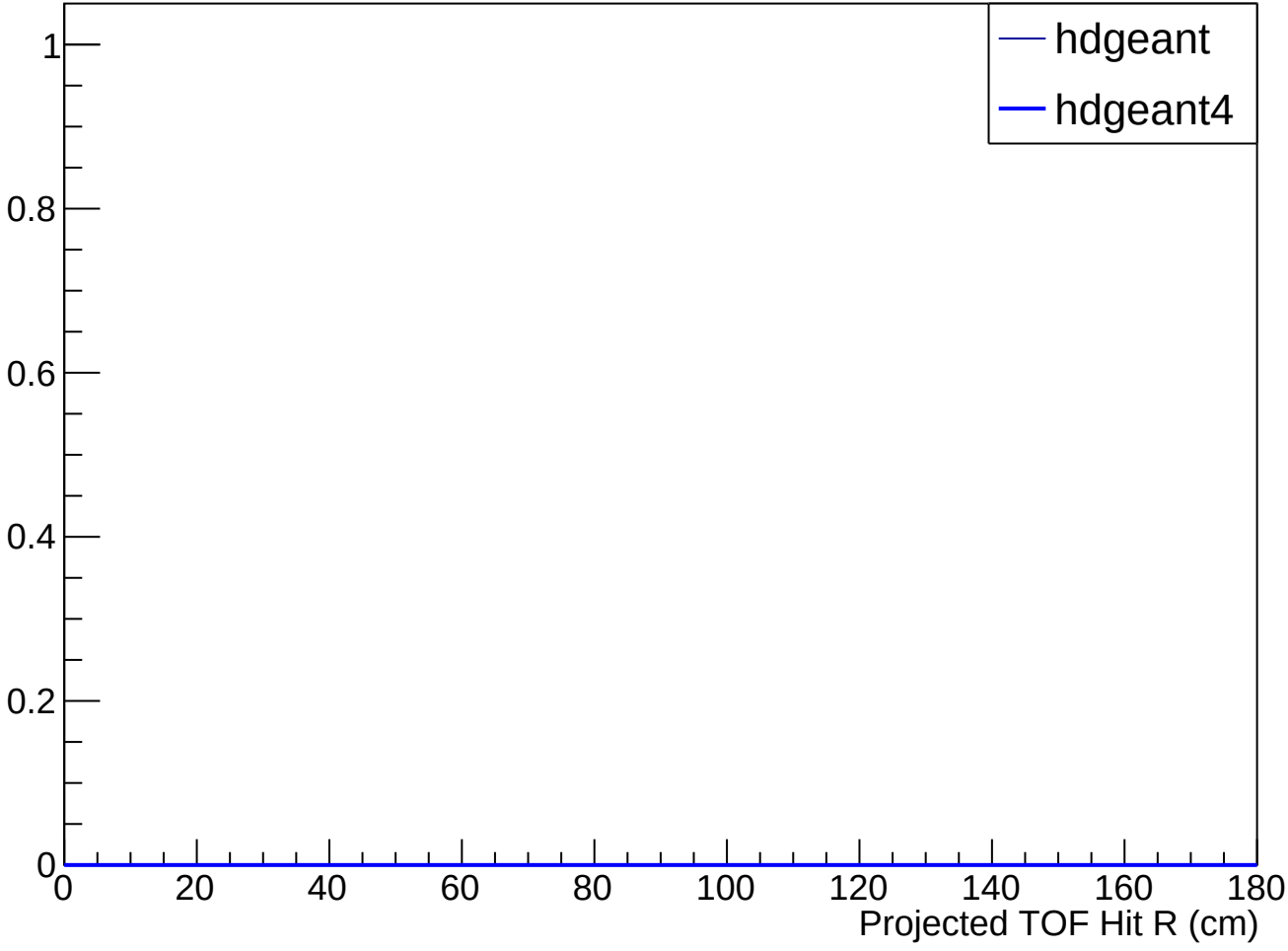
/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOFP_HasHit



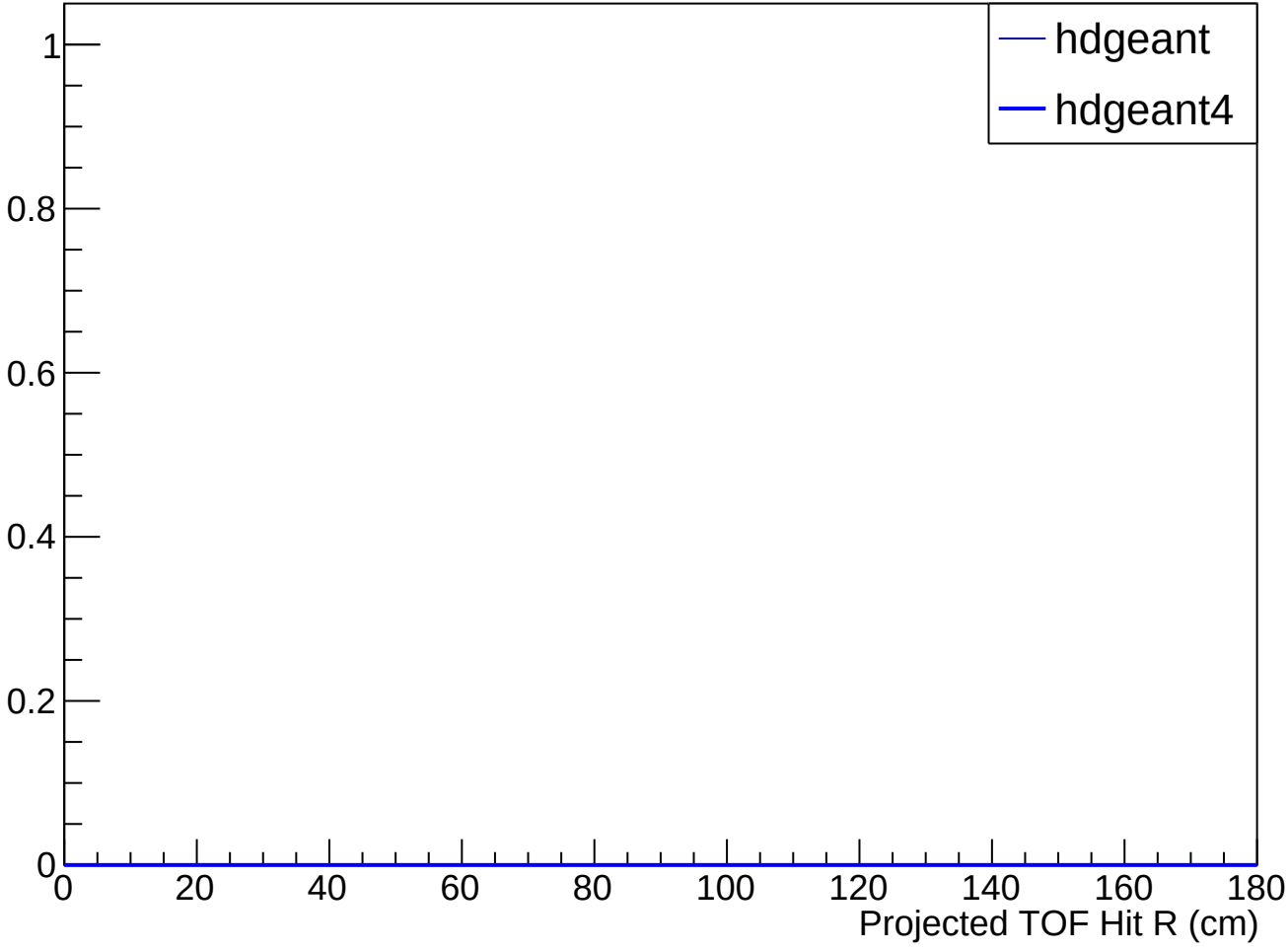
/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOFP_NoHit

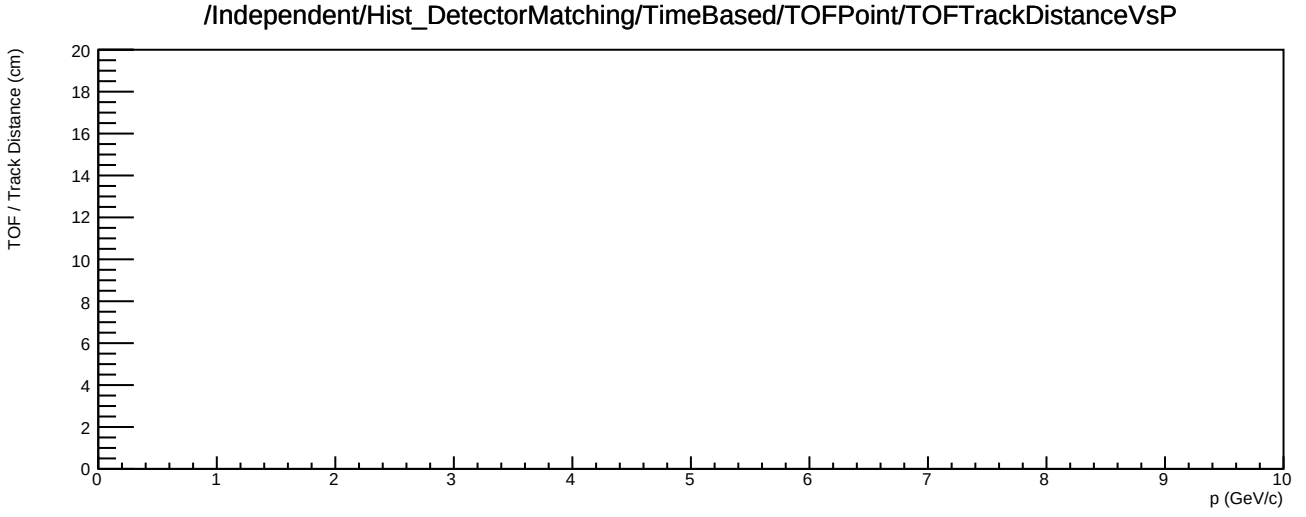


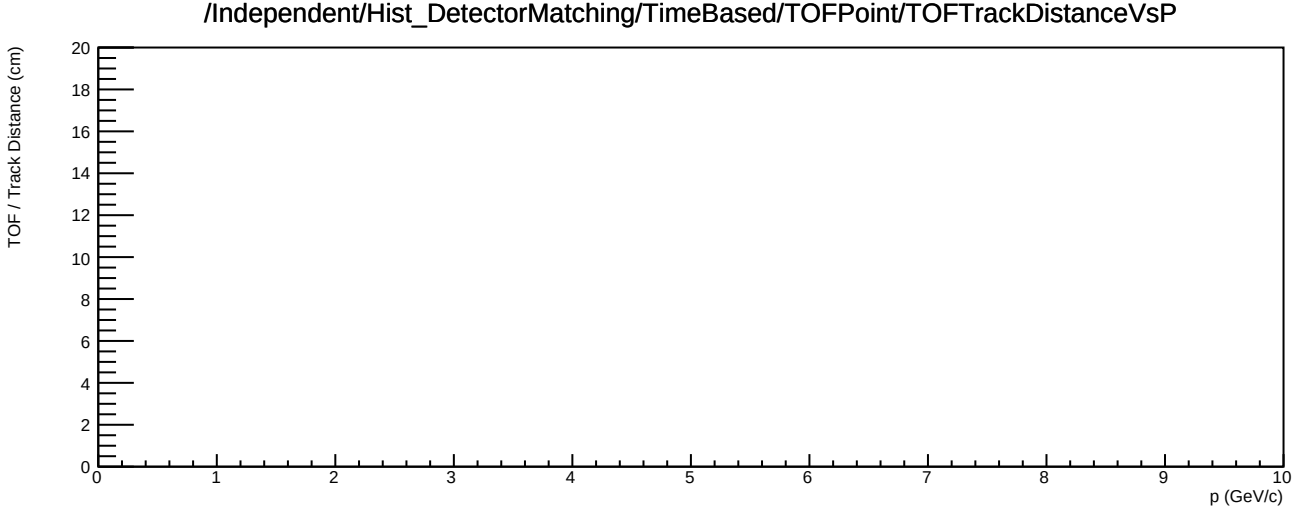
/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOFR_HasHit

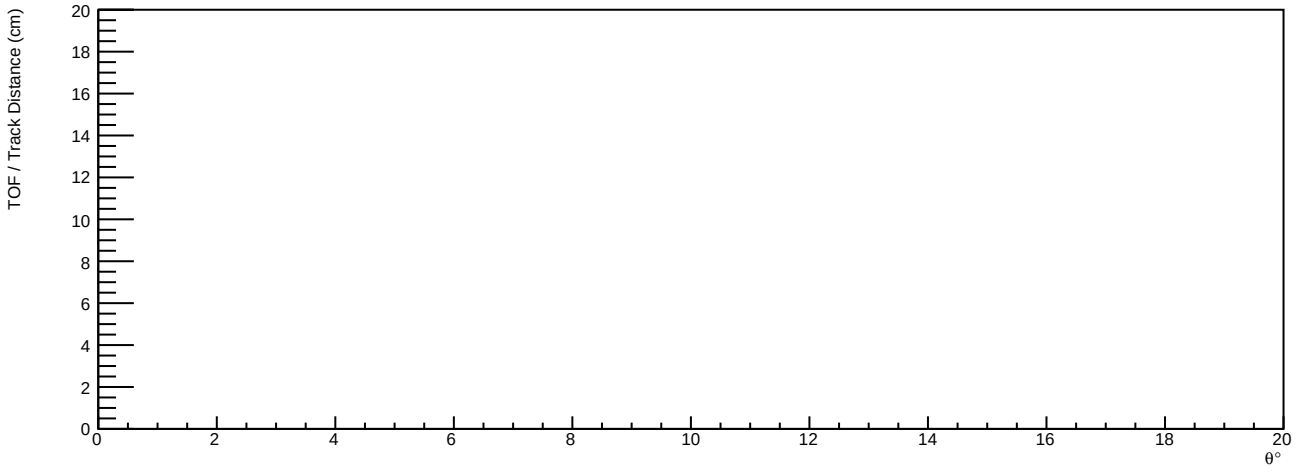


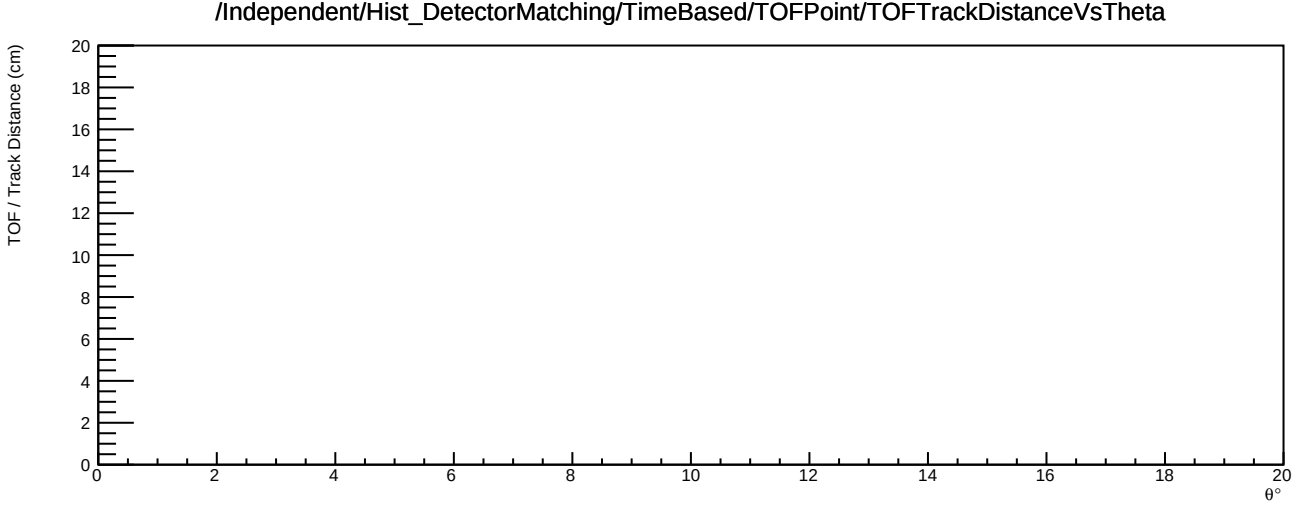
/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TrackTOFR_NoHit

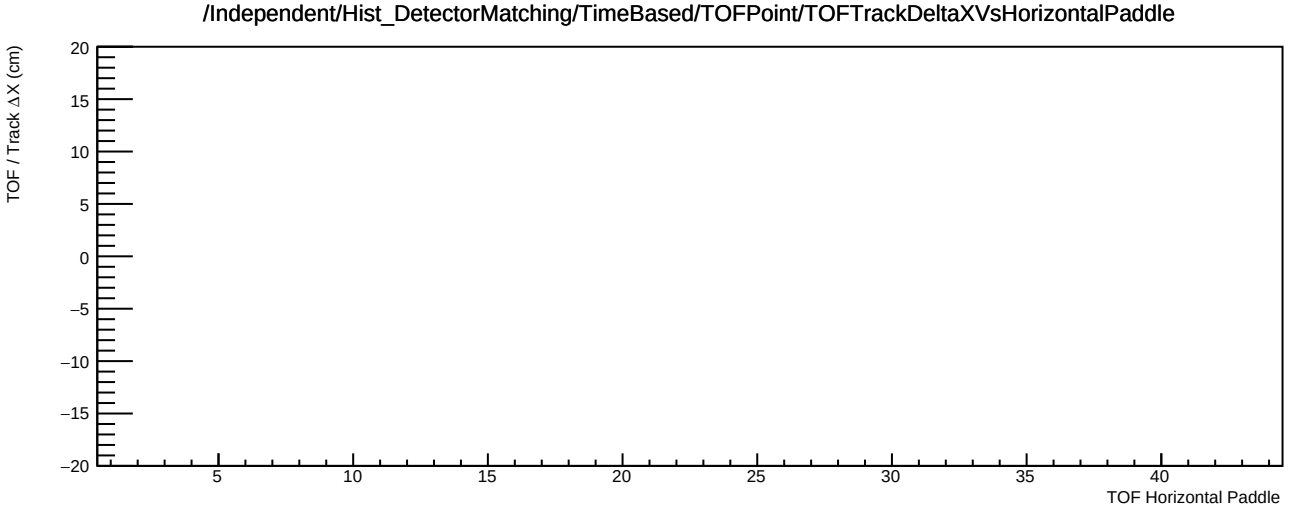


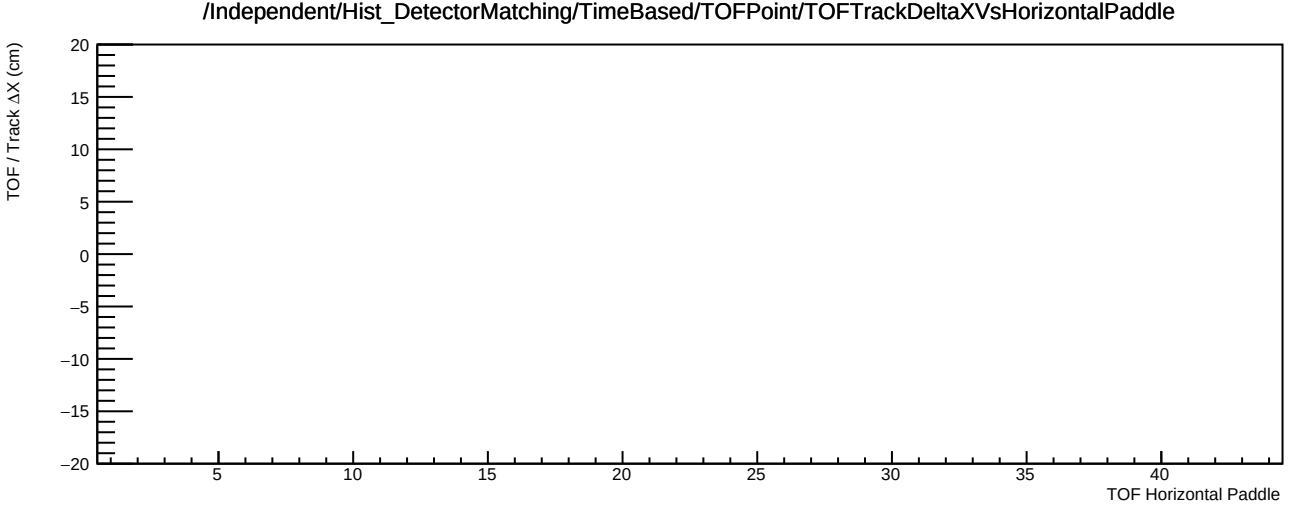

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDistanceVsP
TOF / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

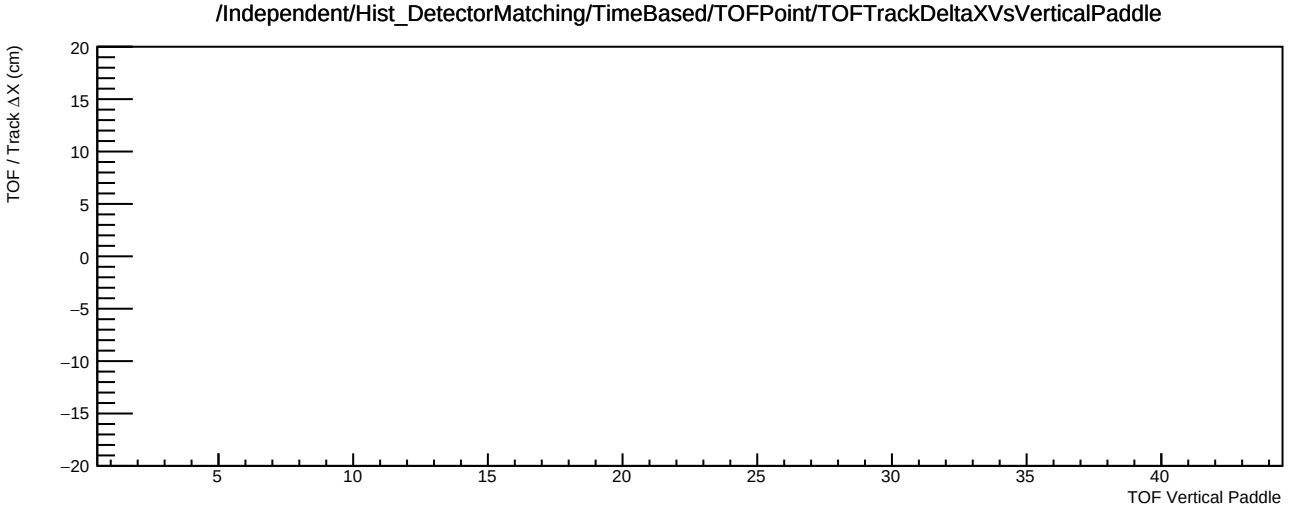

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDistanceVsP
TOF / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

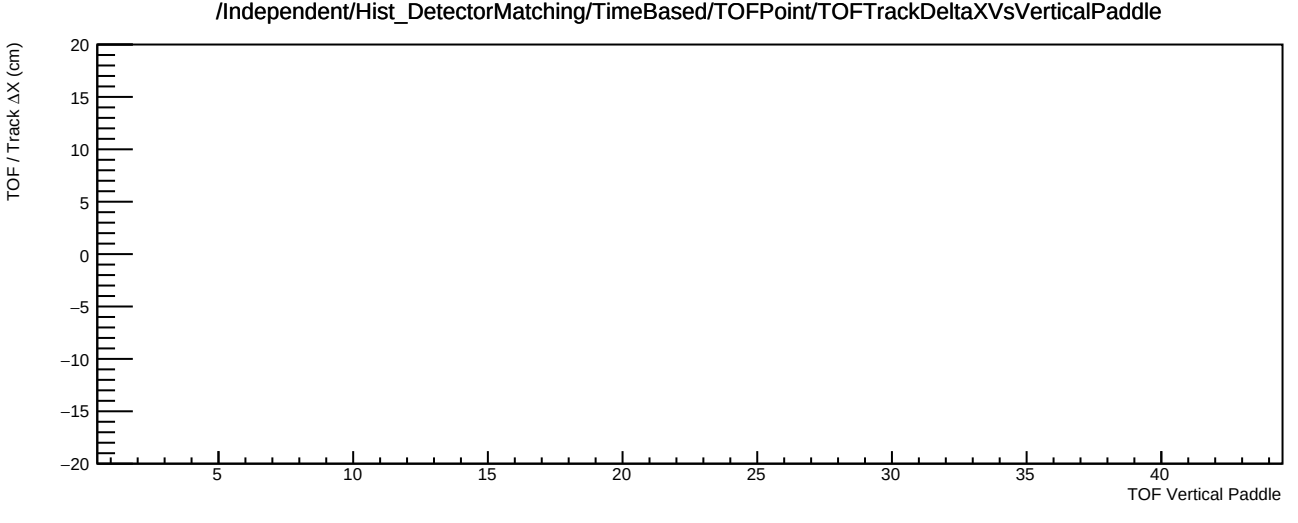

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDistanceVsTheta
TOF / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
θ°

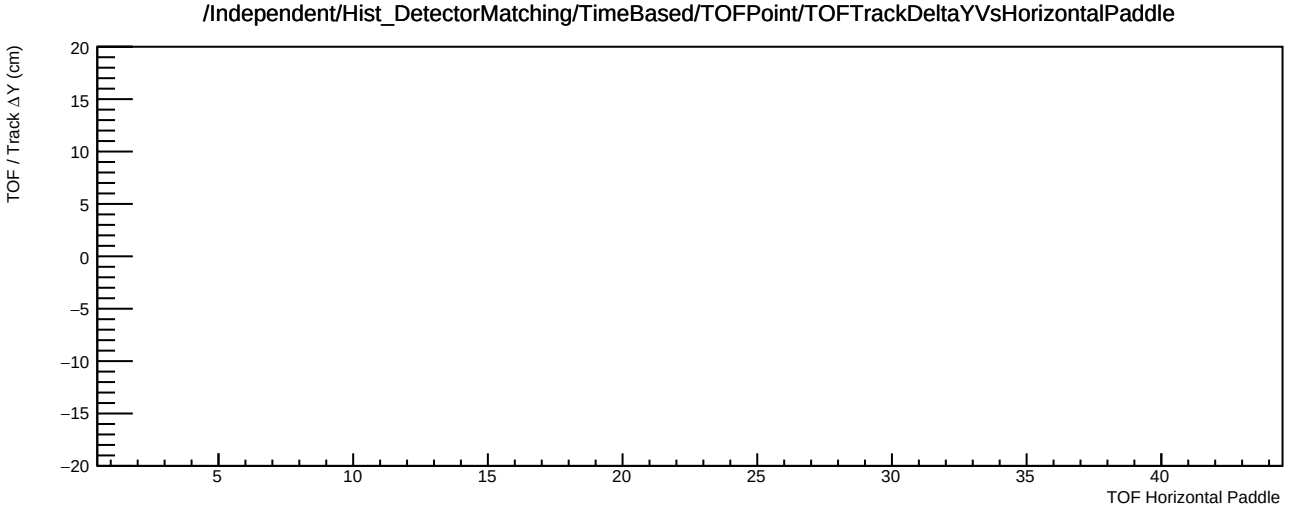

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDistanceVsTheta
TOF / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
θ°

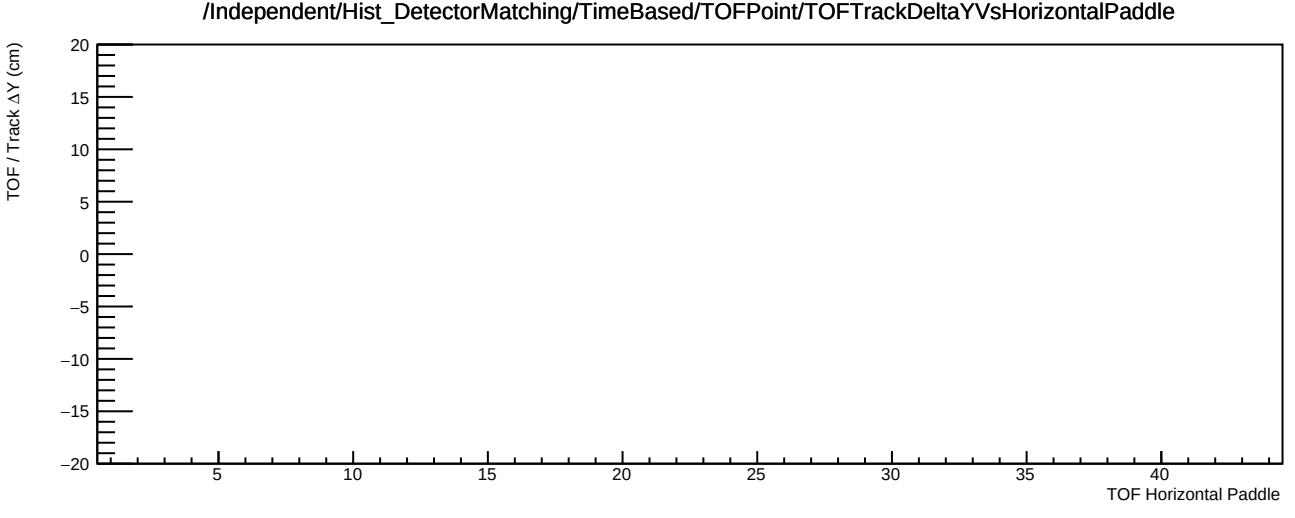

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDeltaXVsHorizontalPaddle
TOF / Track ΔX (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Horizontal Paddle

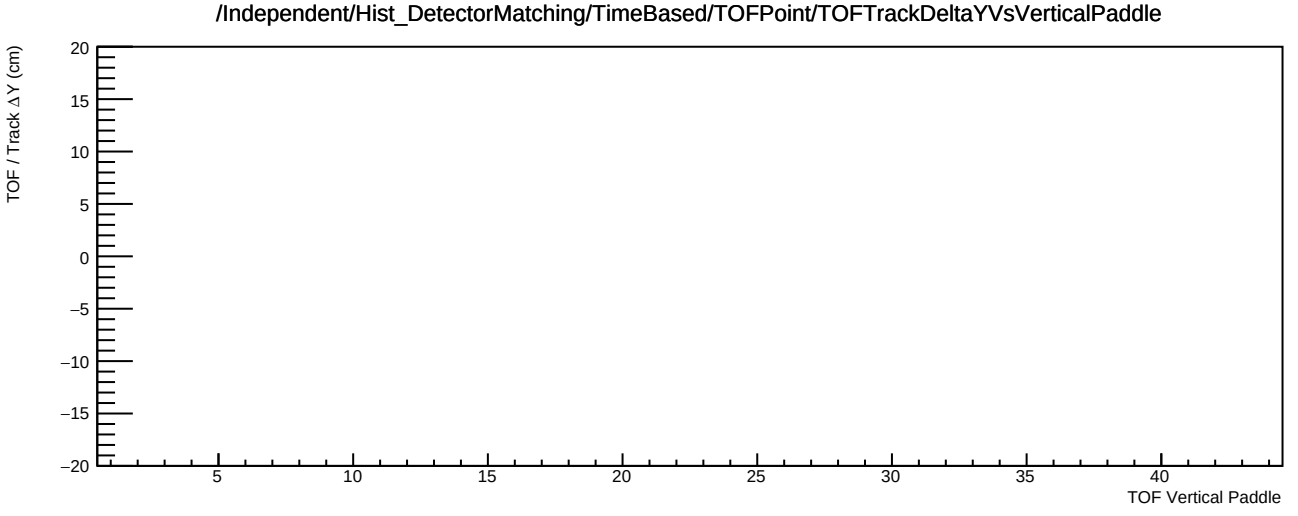

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDeltaXVsHorizontalPaddle
TOF / Track ΔX (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Horizontal Paddle

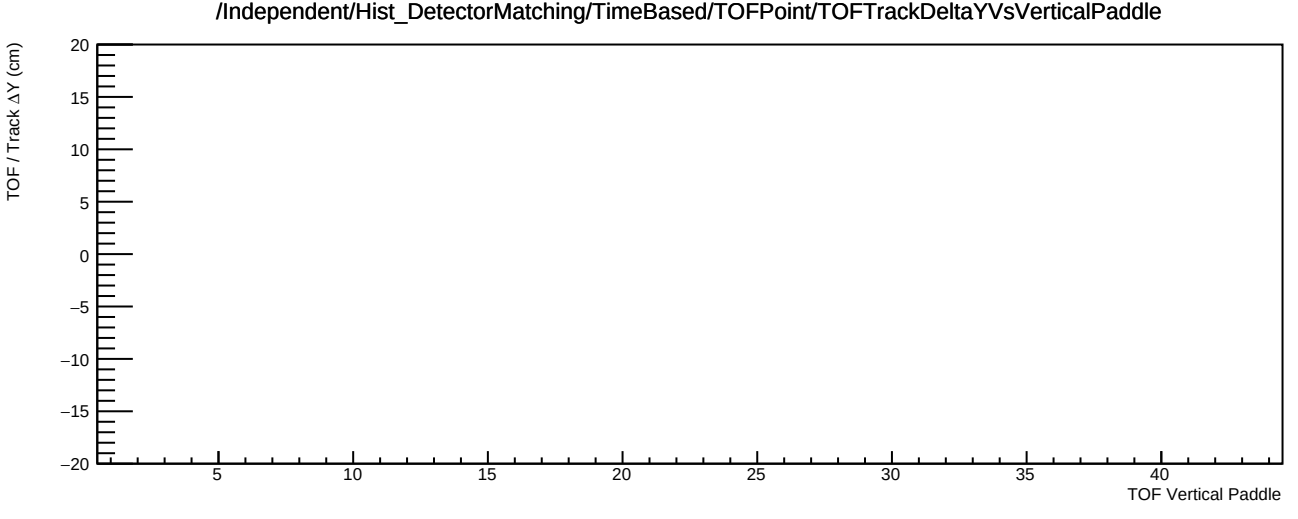

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDeltaXVsVerticalPaddle
TOF / Track ΔX (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Vertical Paddle


/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDeltaXVsVerticalPaddle
TOF / Track ΔX (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Vertical Paddle

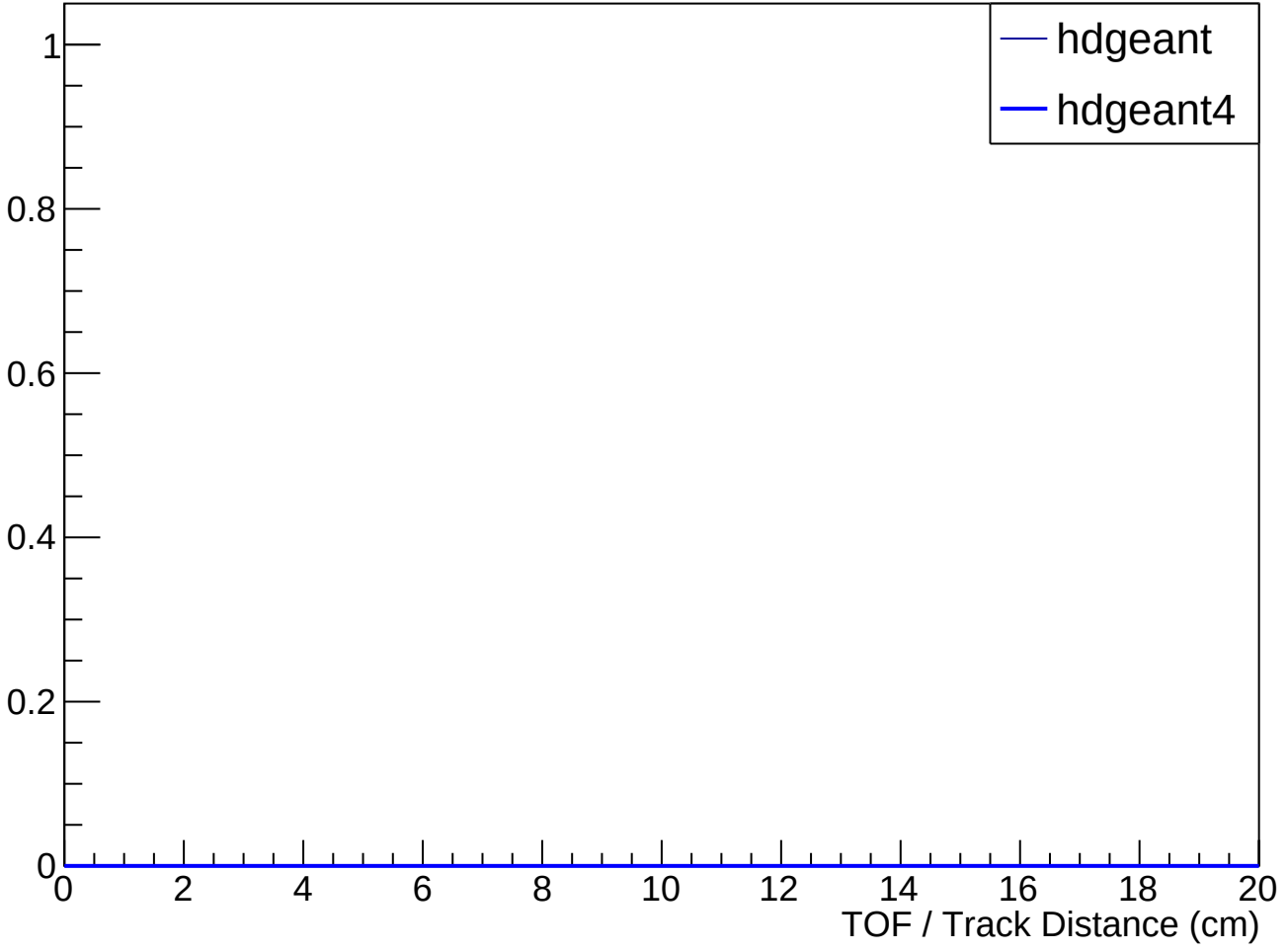

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDeltaYVsHorizontalPaddle
TOF / Track ΔY (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Horizontal Paddle


/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDeltaYVsHorizontalPaddle
TOF / Track ΔY (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Horizontal Paddle

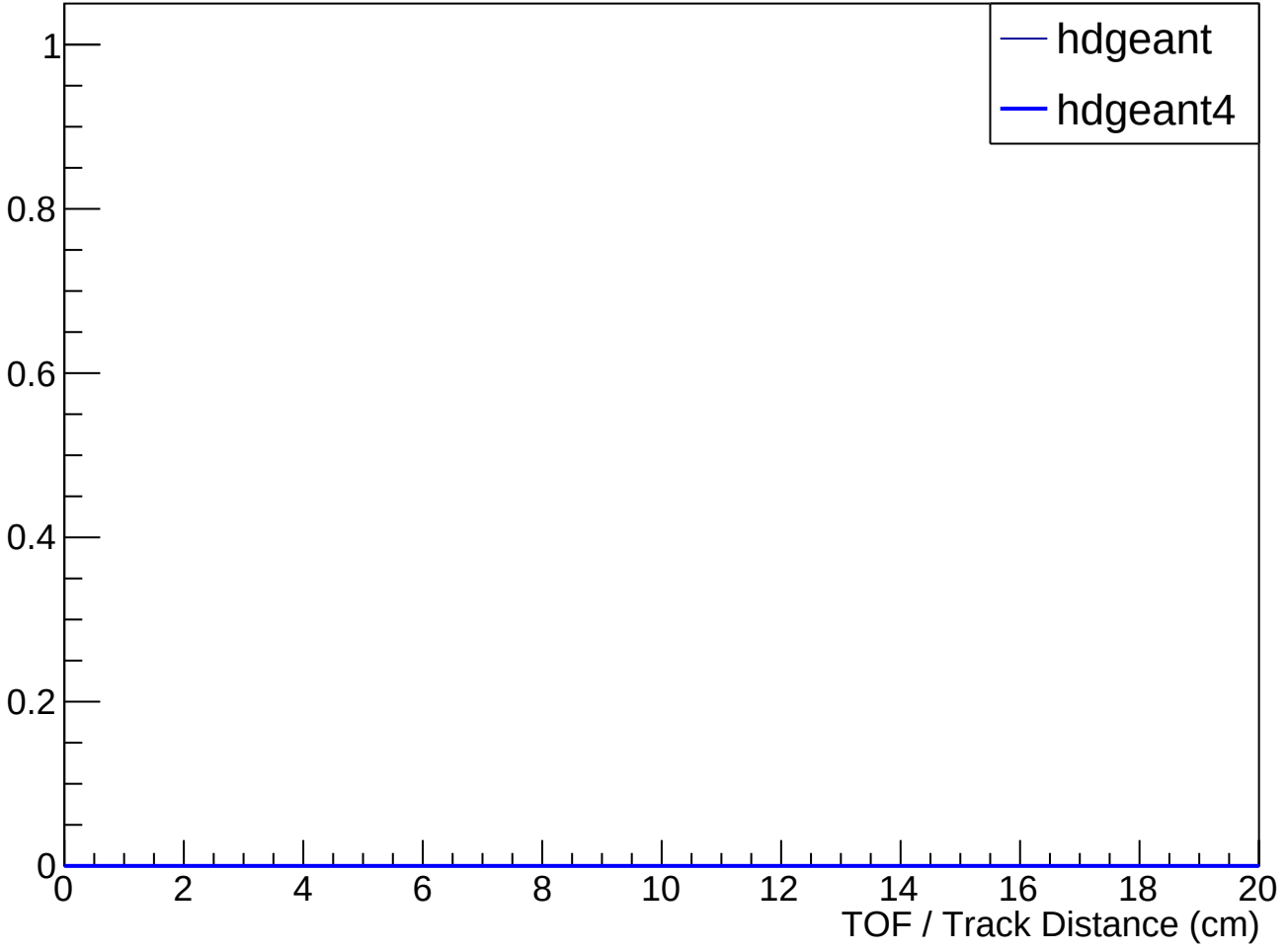

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDeltaYVsVerticalPaddle
TOF / Track ΔY (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Vertical Paddle

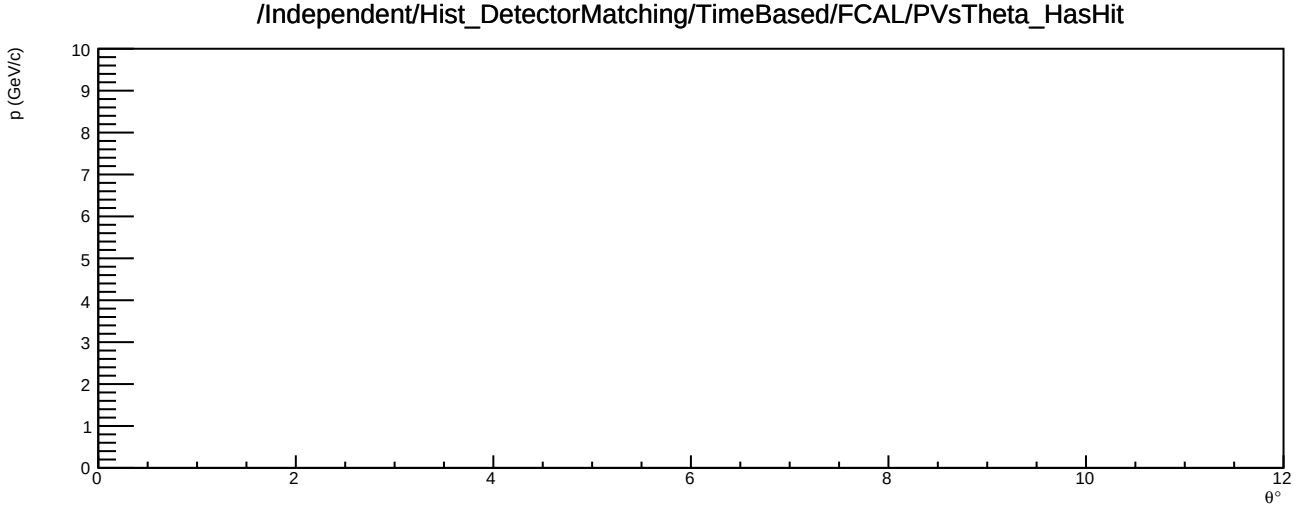

/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDeltaYVsVerticalPaddle
TOF / Track ΔY (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Vertical Paddle

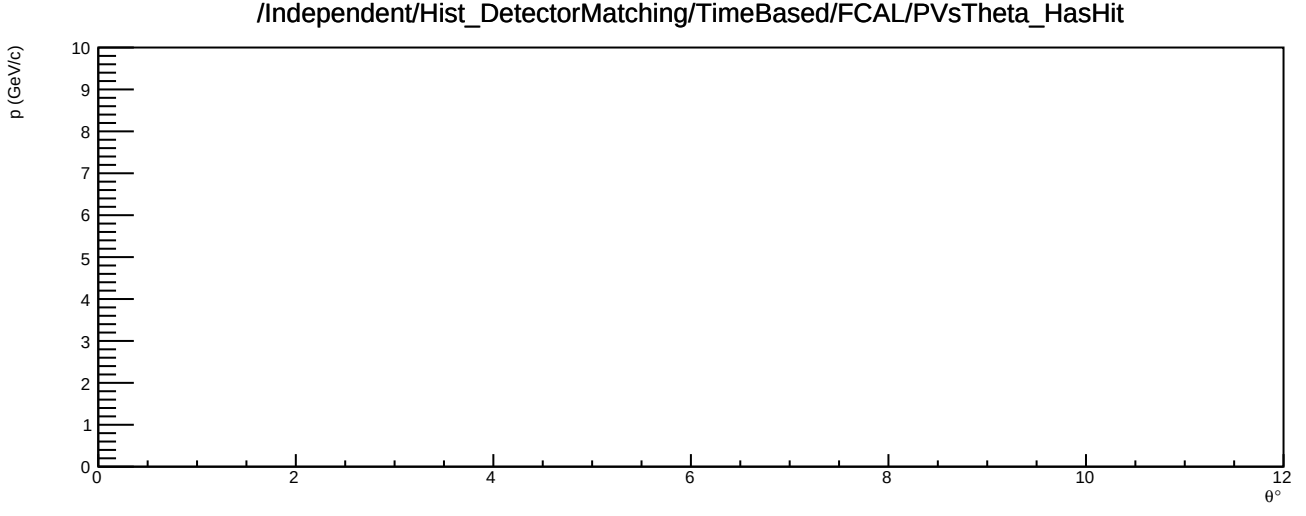
/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDistance_BothPlanes

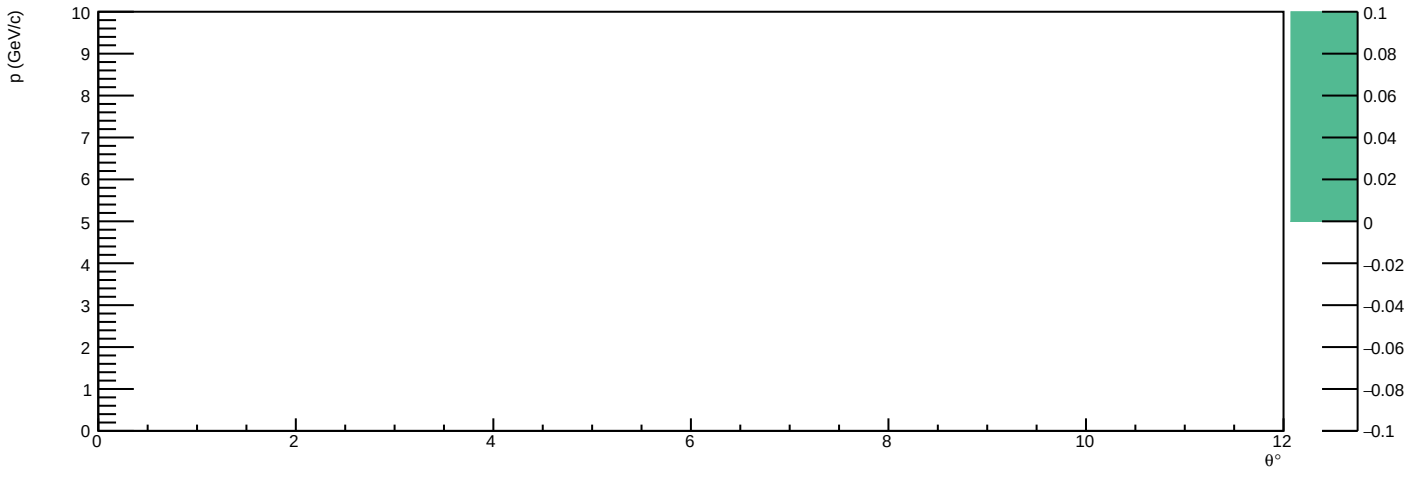


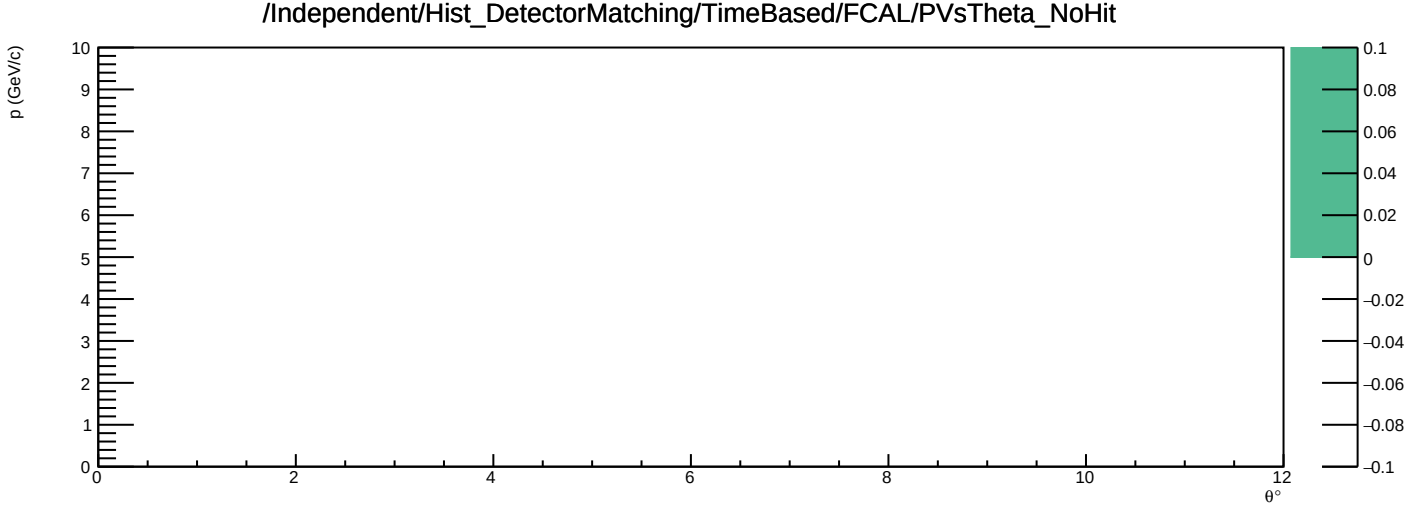
/Independent/Hist_DetectorMatching/TimeBased/TOFPoint/TOFTrackDistance_OnePlane

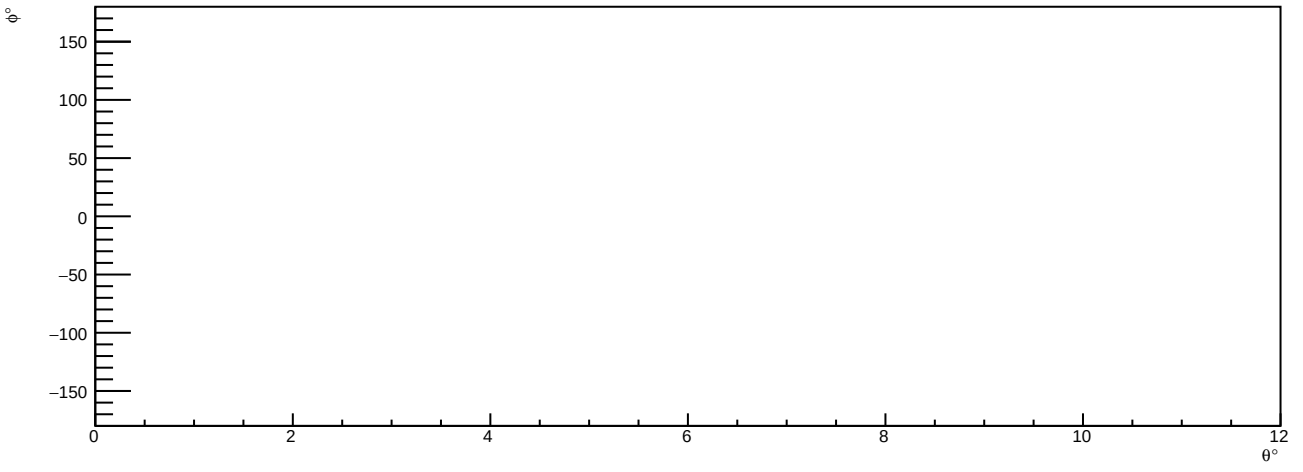


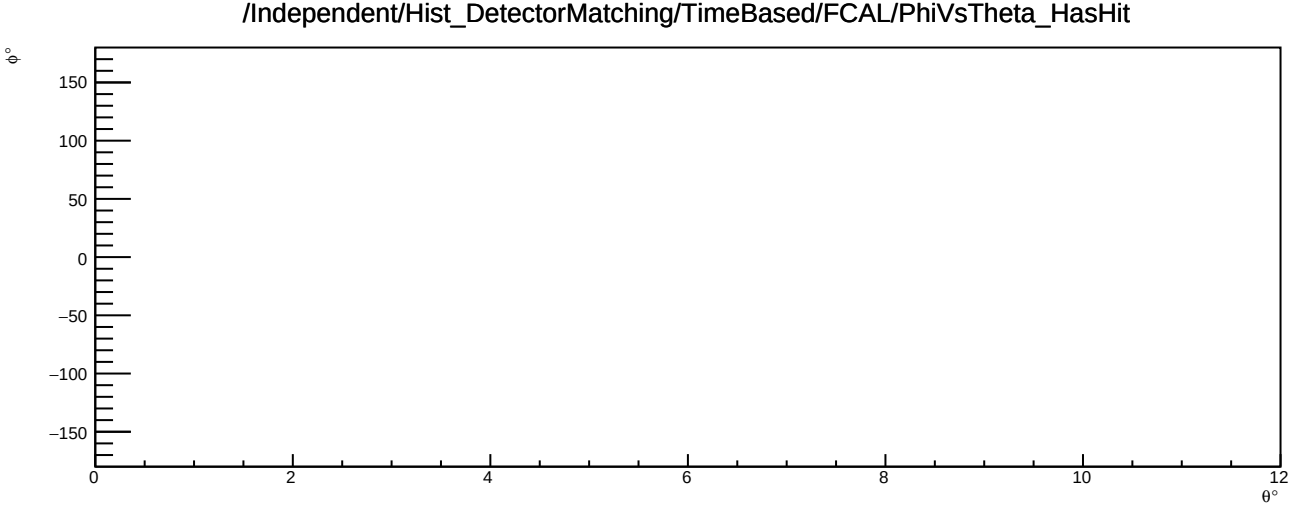

/Independent/Hist_DetectorMatching/TimeBased/FCAL/PVsTheta_HasHit
p (GeV/c)
0
1
2
3
4
5
6
7
8
9
10
0
2
4
6
8
10
12
θ°

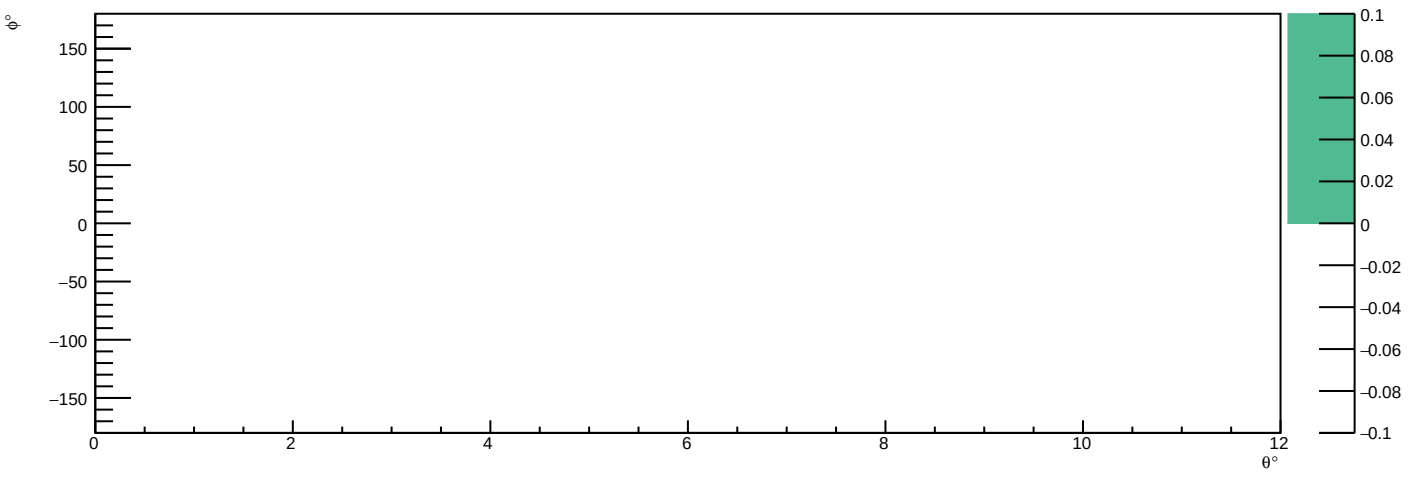

/Independent/Hist_DetectorMatching/TimeBased/FCAL/PVsTheta_HasHit
p (GeV/c)
0
1
2
3
4
5
6
7
8
9
10
0
2
4
6
8
10
12
θ°

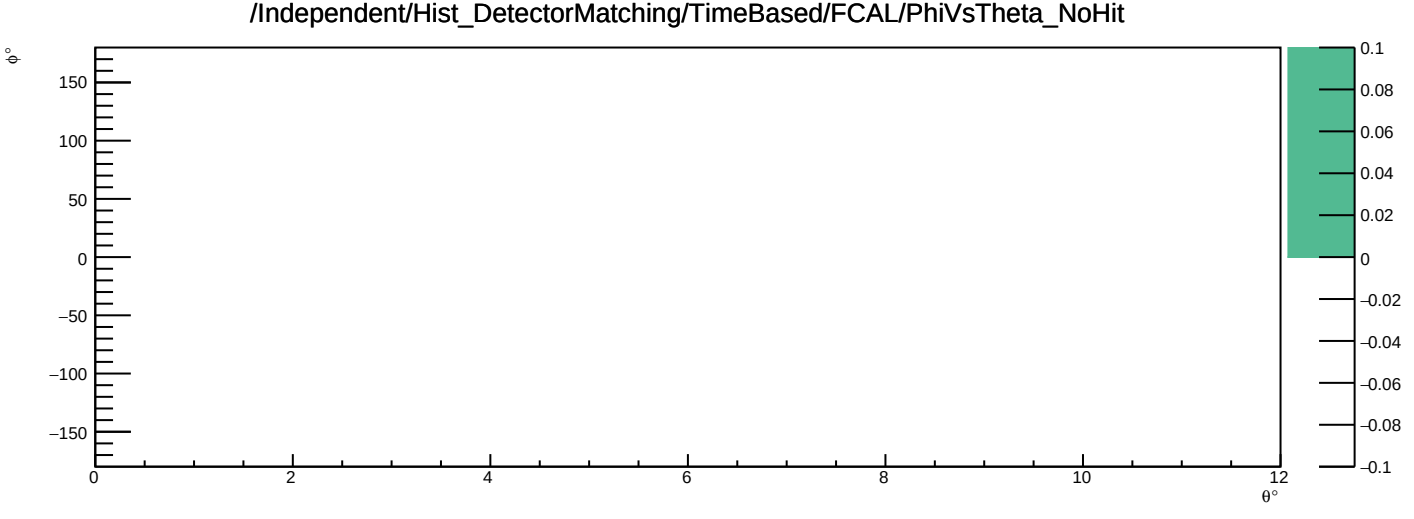

/Independent/Hist_DetectorMatching/TimeBased/FCAL/PVsTheta_NoHit
p (GeV/c)
θ°

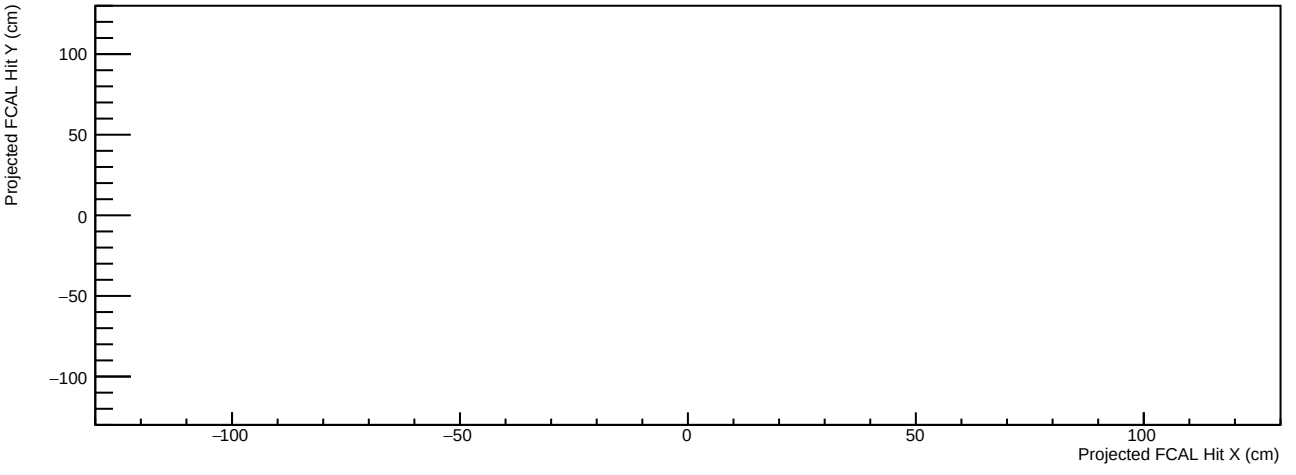

/Independent/Hist_DetectorMatching/TimeBased/FCAL/PVsTheta_NoHit
p (GeV/c)
θ°

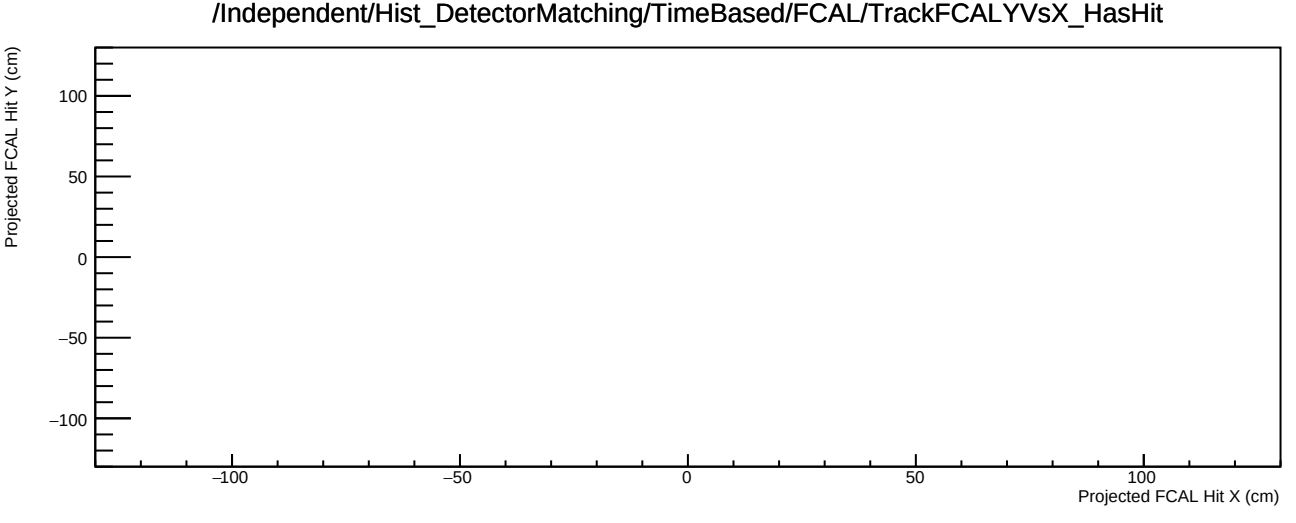

/Independent/Hist_DetectorMatching/TimeBased/FCAL/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°

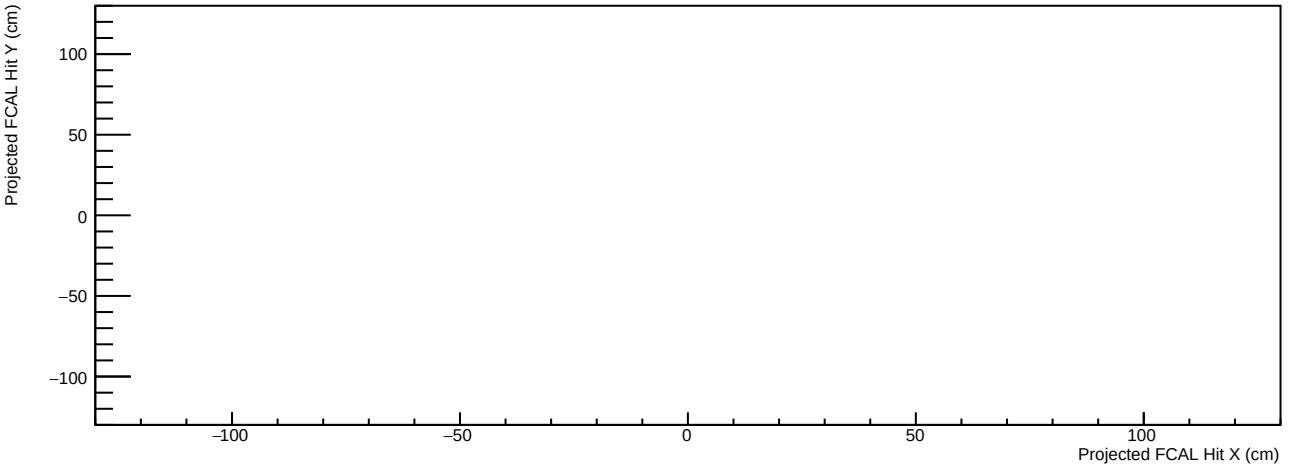

/Independent/Hist_DetectorMatching/TimeBased/FCAL/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°

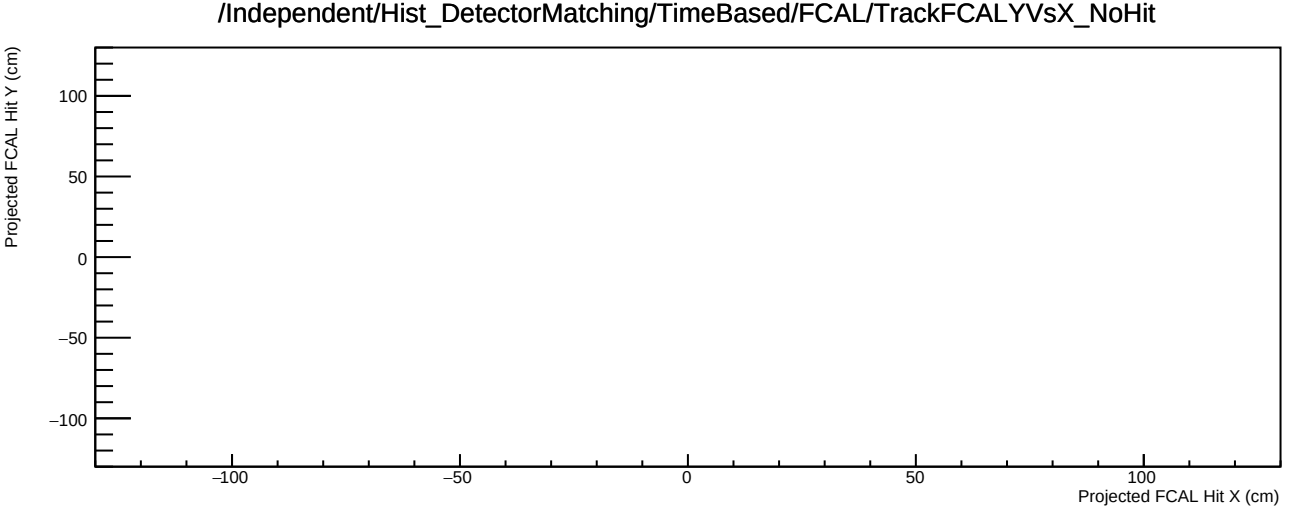

/Independent/Hist_DetectorMatching/TimeBased/FCAL/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1


/Independent/Hist_DetectorMatching/TimeBased/FCAL/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

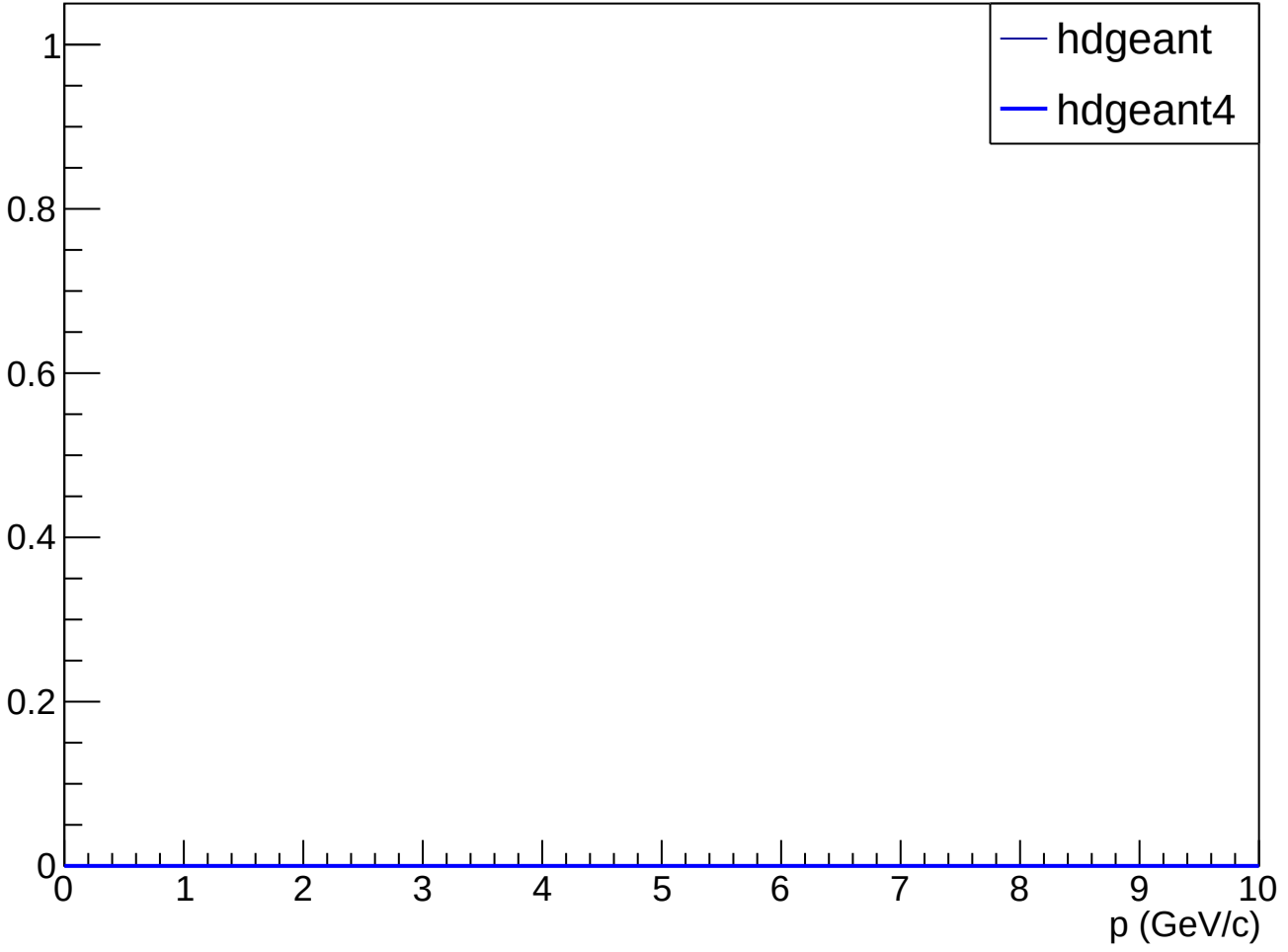

/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALYVsX_HasHit
Projected FCAL Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected FCAL Hit X (cm)


/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALYVsX_HasHit
Projected FCAL Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected FCAL Hit X (cm)

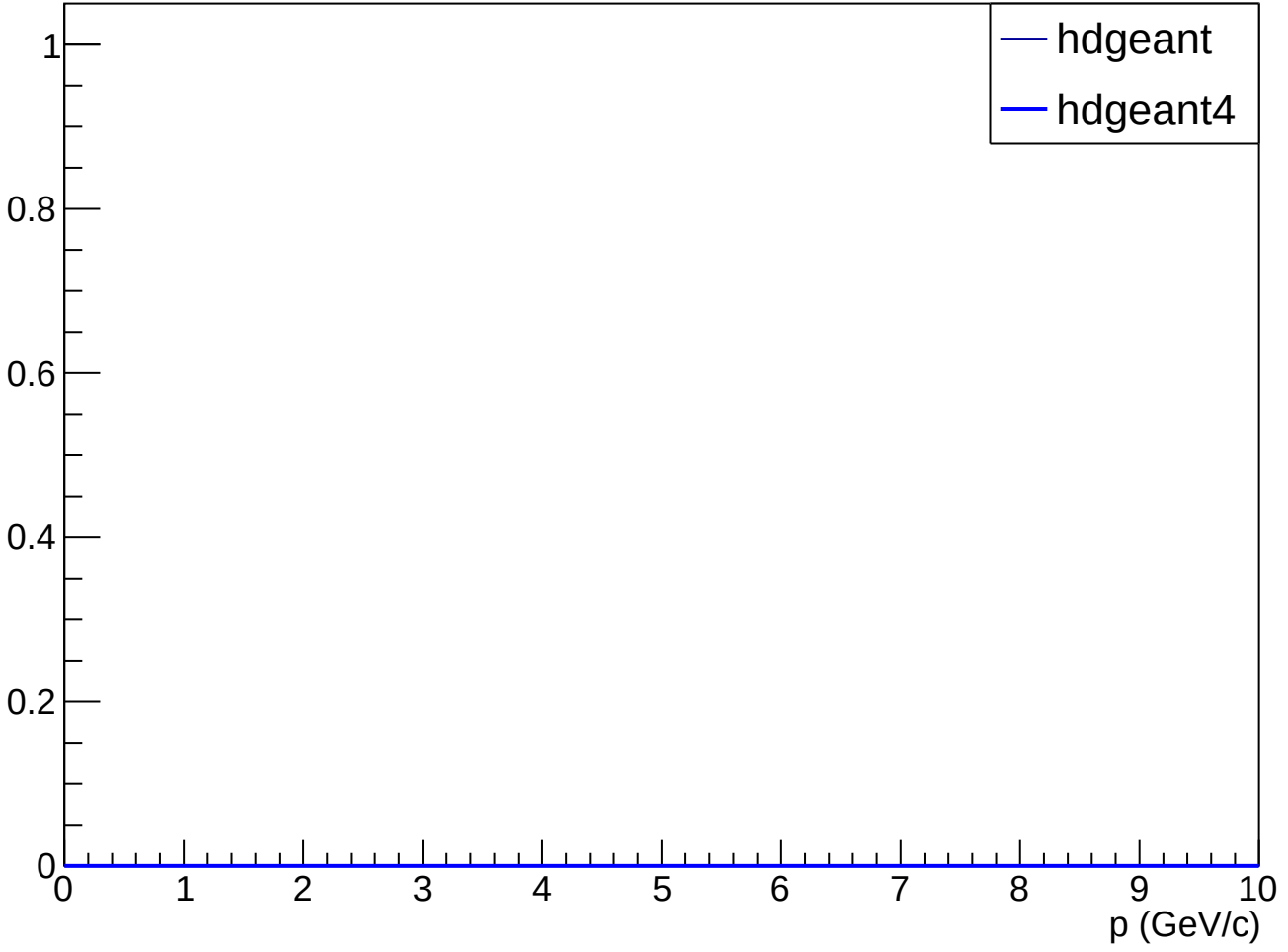

/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALYVsX_NoHit
Projected FCAL Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected FCAL Hit X (cm)


/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALYVsX_NoHit
Projected FCAL Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected FCAL Hit X (cm)

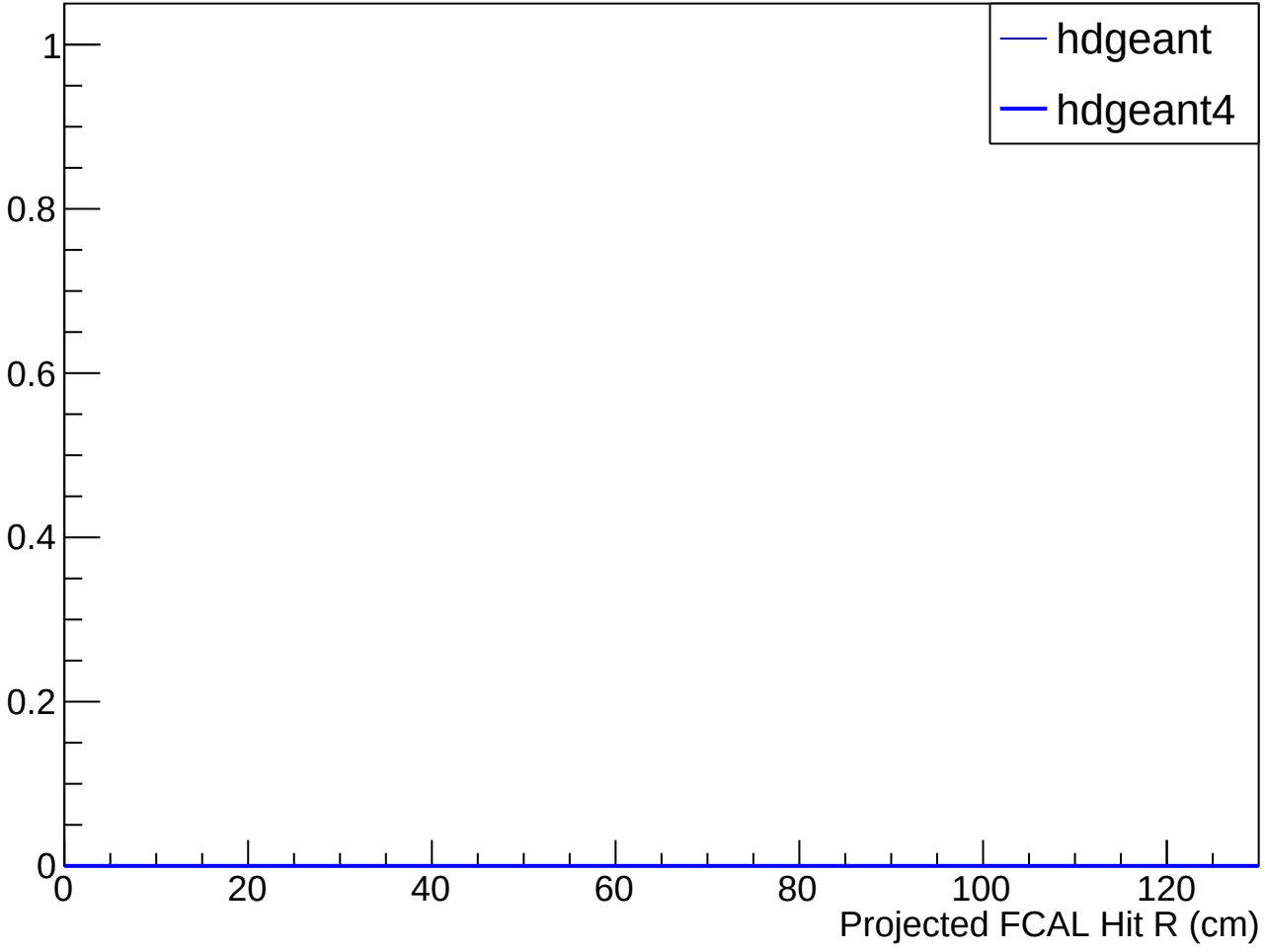
/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALP_HasHit



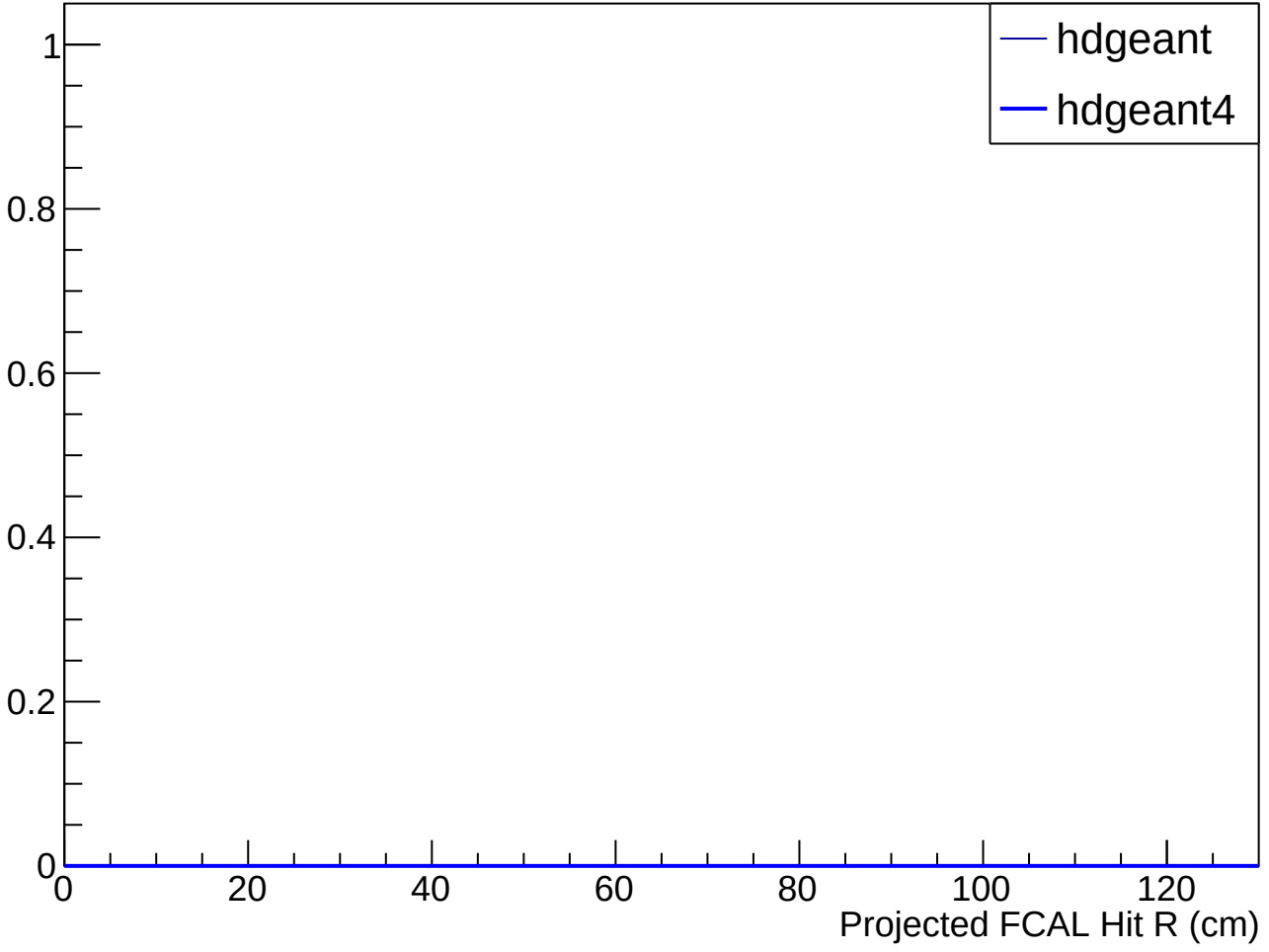
/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALP_NoHit

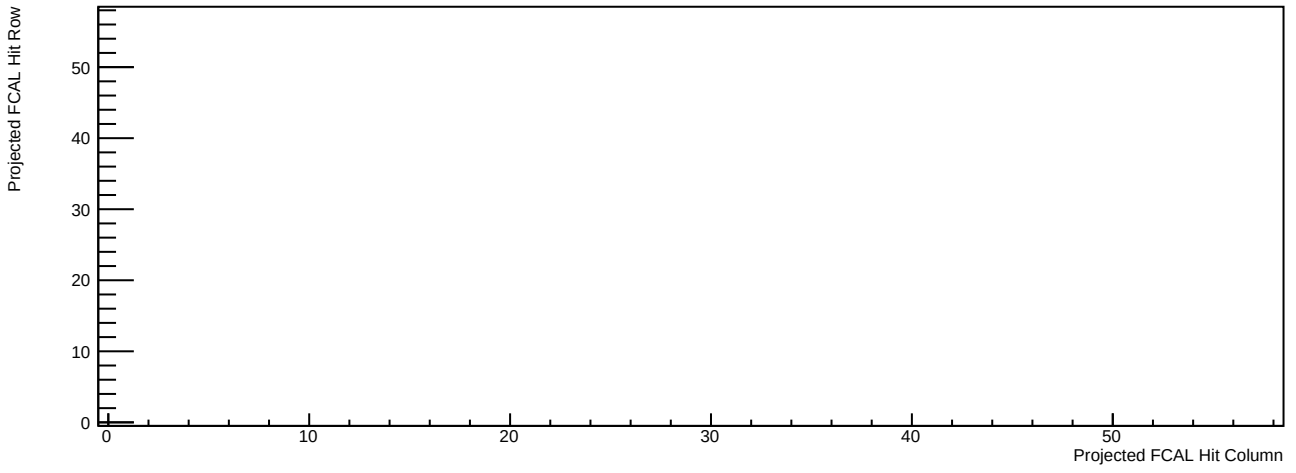


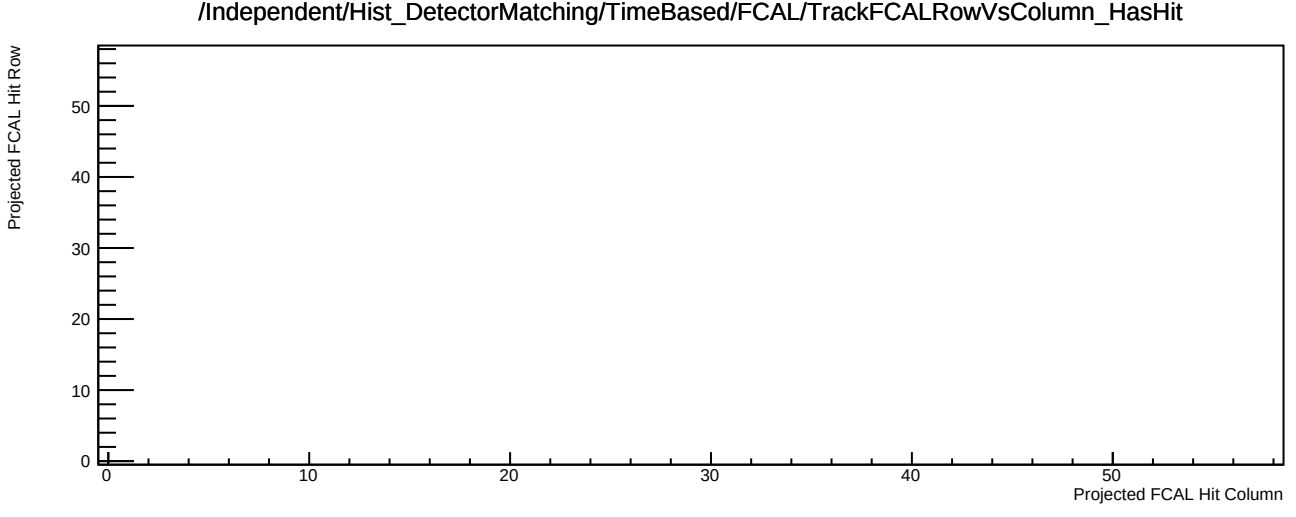
/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALR_HasHit

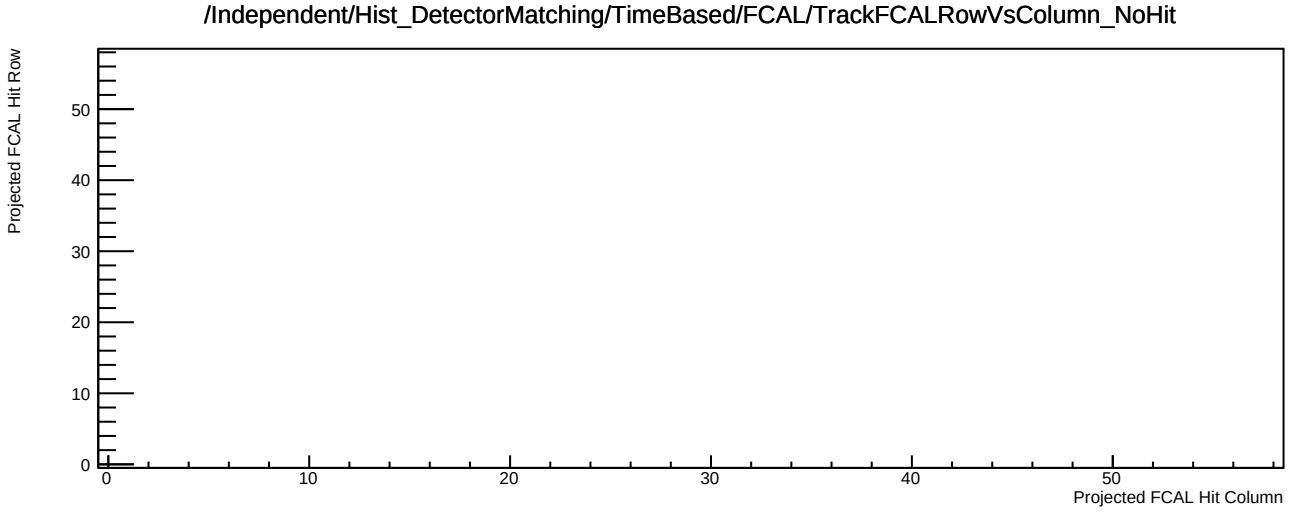


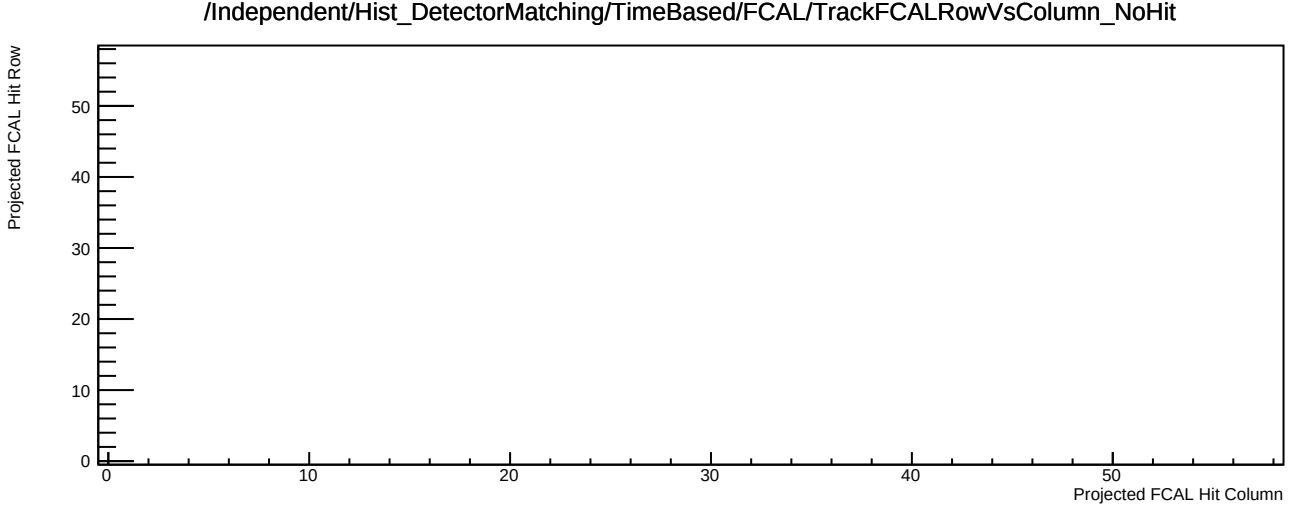
/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALR_NoHit

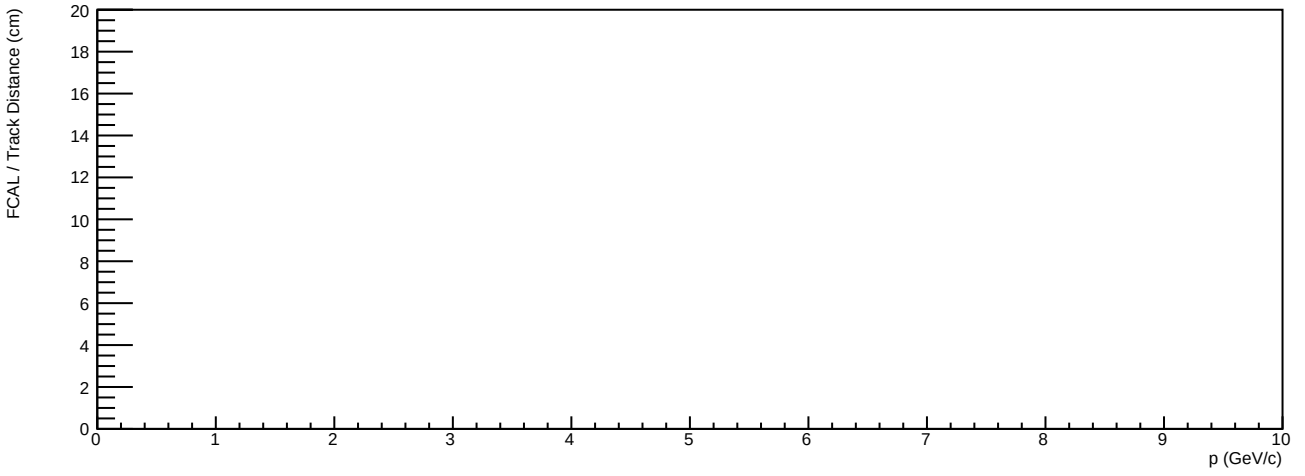


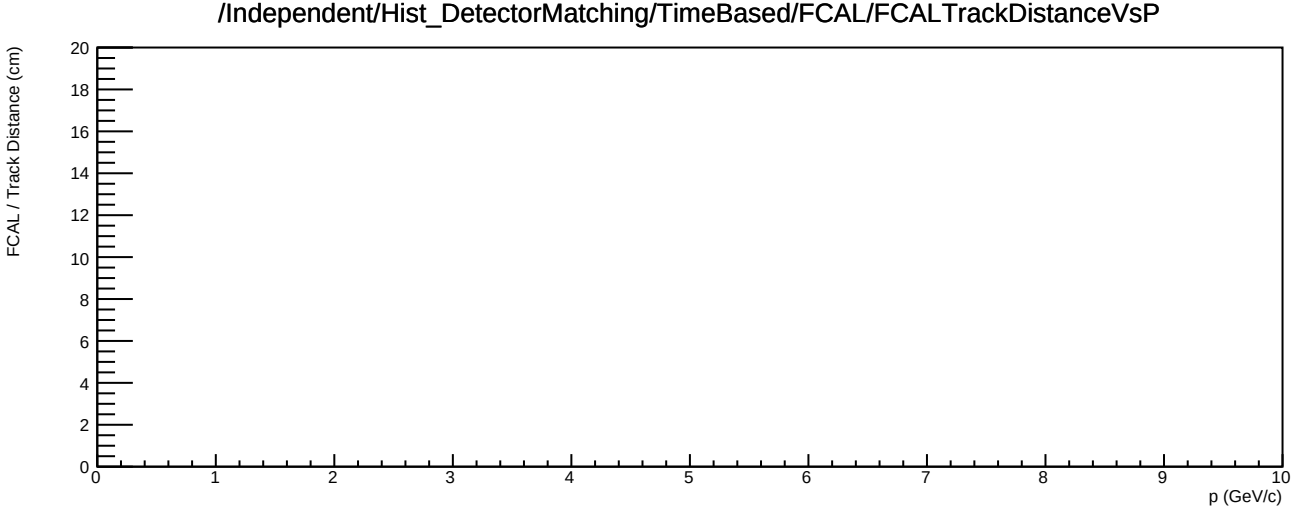

/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALRowVsColumn_HasHit
Projected FCAL Hit Row
0
10
20
30
40
50
Projected FCAL Hit Column

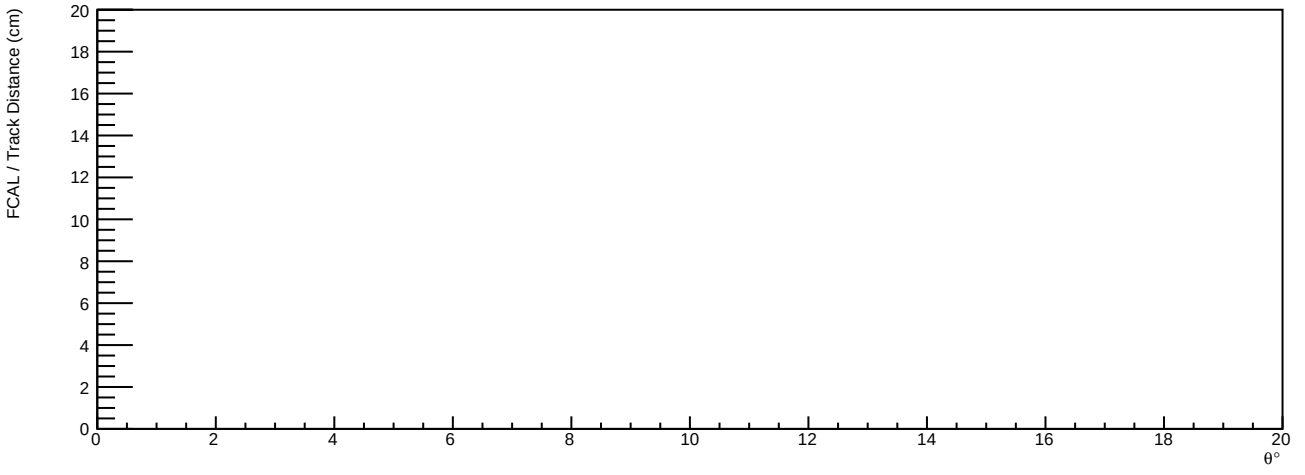

/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALRowVsColumn_HasHit
Projected FCAL Hit Row
0
10
20
30
40
50
Projected FCAL Hit Column

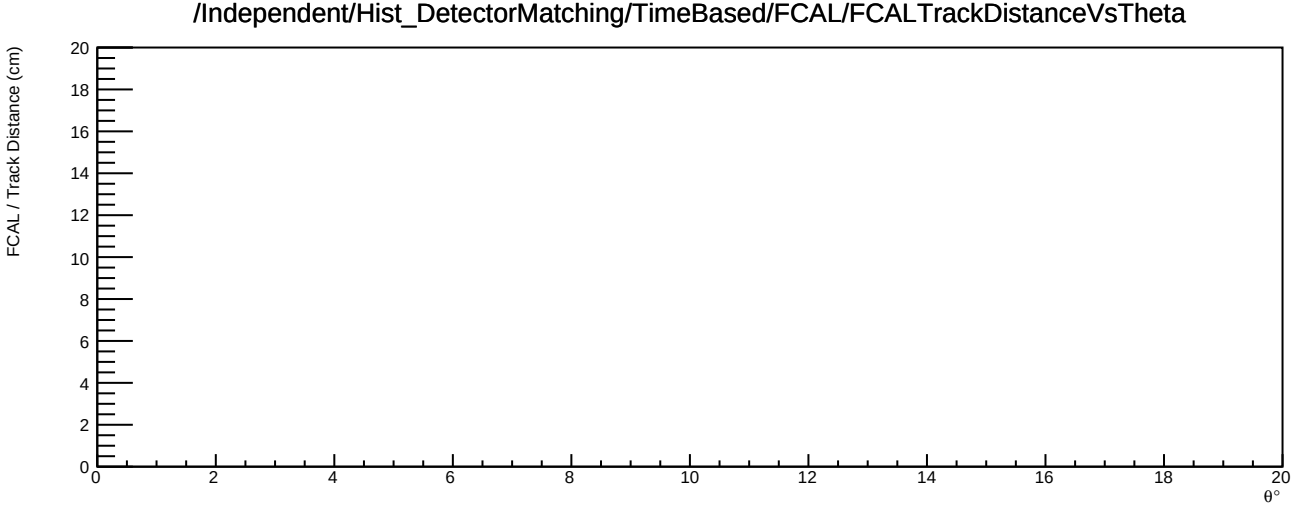

/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALRowVsColumn_NoHit
Projected FCAL Hit Row
0
10
20
30
40
50
Projected FCAL Hit Column


/Independent/Hist_DetectorMatching/TimeBased/FCAL/TrackFCALRowVsColumn_NoHit
Projected FCAL Hit Row
0
10
20
30
40
50
Projected FCAL Hit Column

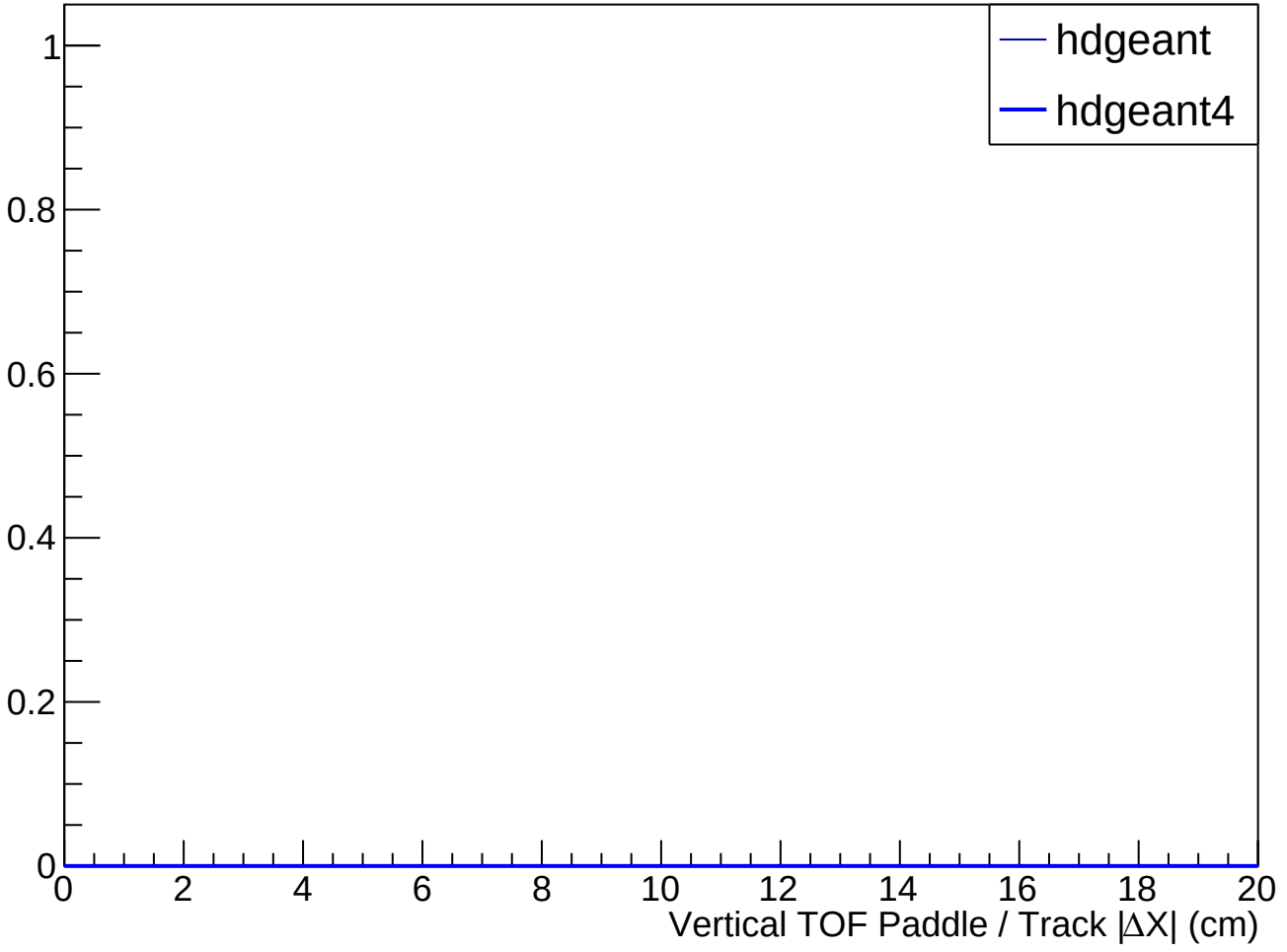

/Independent/Hist_DetectorMatching/TimeBased/FCAL/FCALTrackDistanceVsP
FCAL / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatching/TimeBased/FCAL/FCALTrackDistanceVsP
FCAL / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

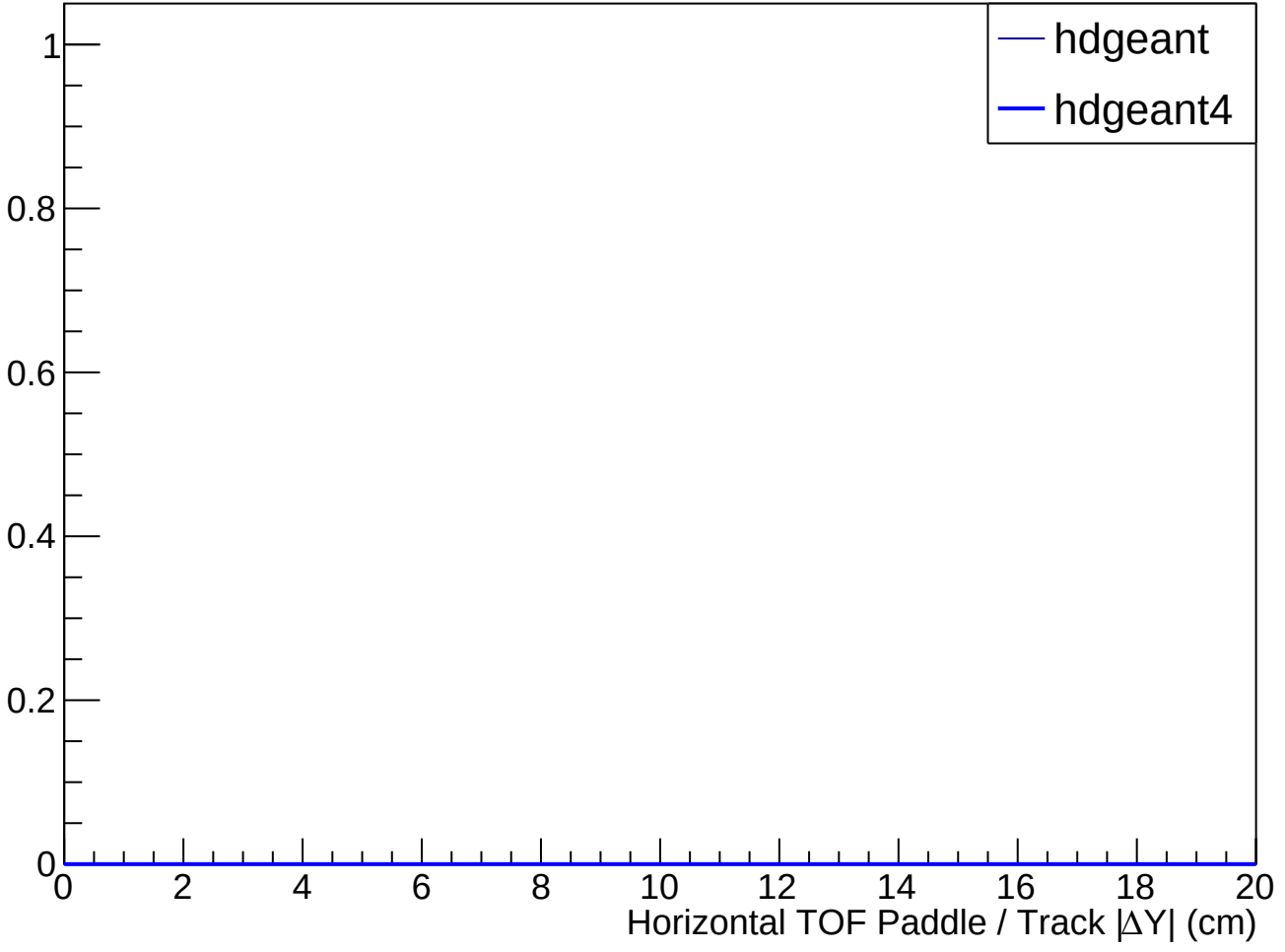

/Independent/Hist_DetectorMatching/TimeBased/FCAL/FCALTrackDistanceVsTheta
FCAL / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
θ°

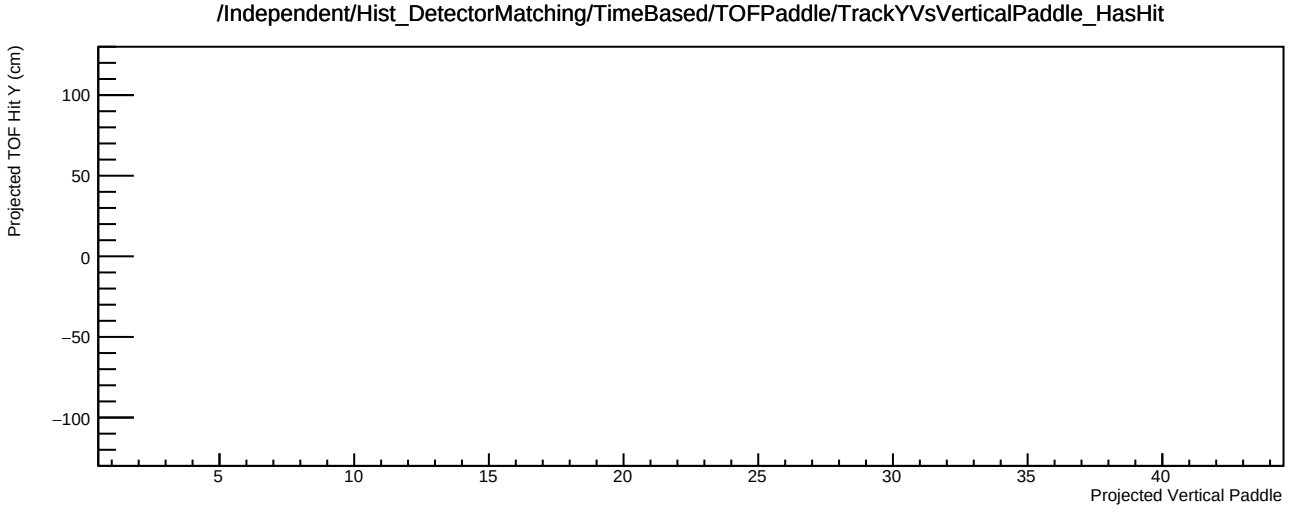

/Independent/Hist_DetectorMatching/TimeBased/FCAL/FCALTrackDistanceVsTheta
FCAL / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
θ°

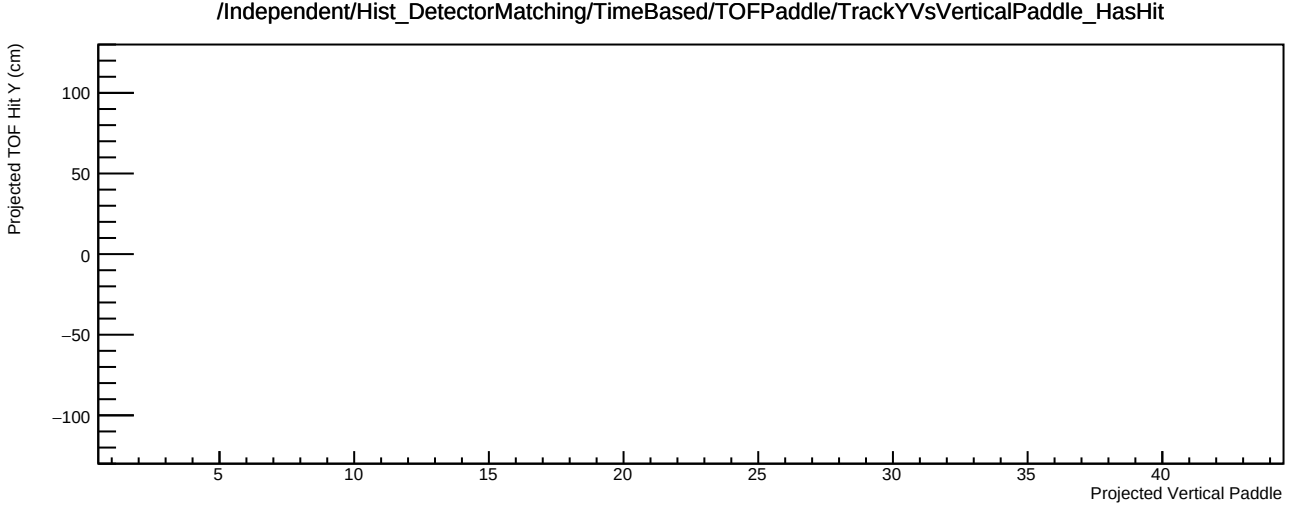
/Independent/Hist_DetectorMatching/TimeBased/TOFPaddle/VerticalPaddleTrackDeltaX

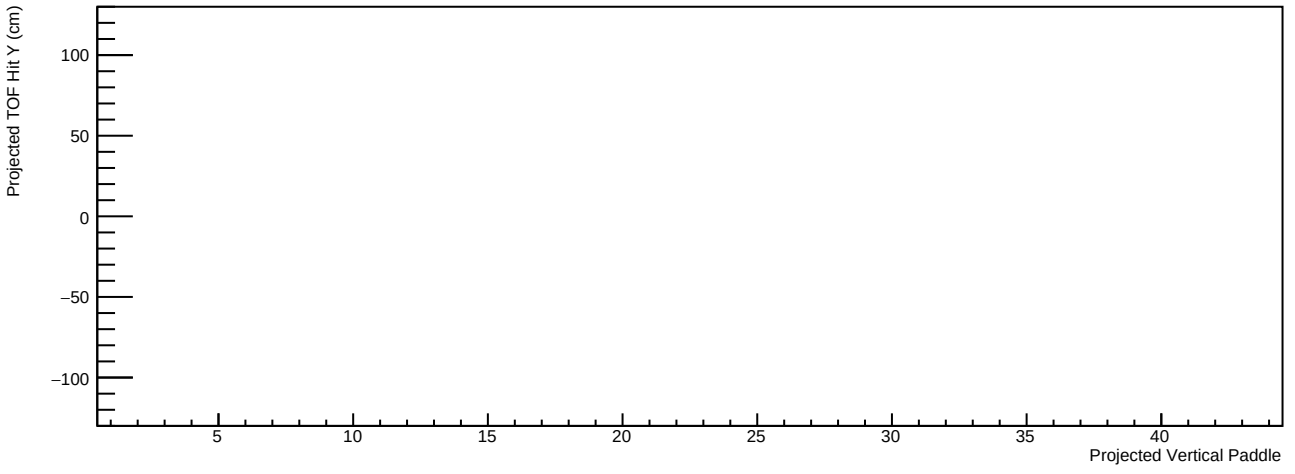


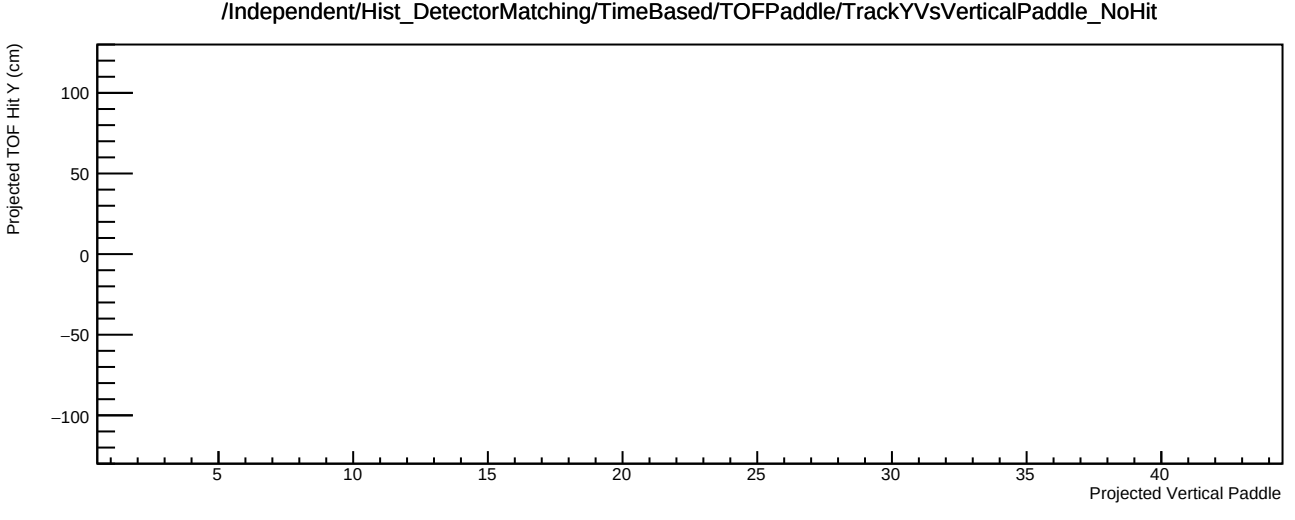
/Independent/Hist_DetectorMatching/TimeBased/TOFPaddle/HorizontalPaddleTrackDeltaY

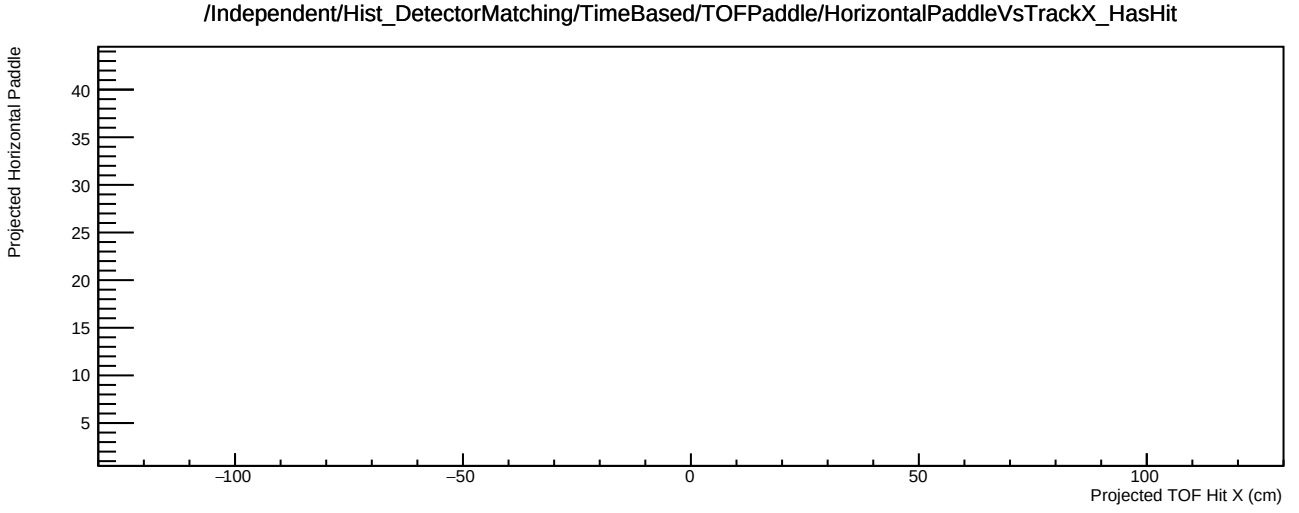


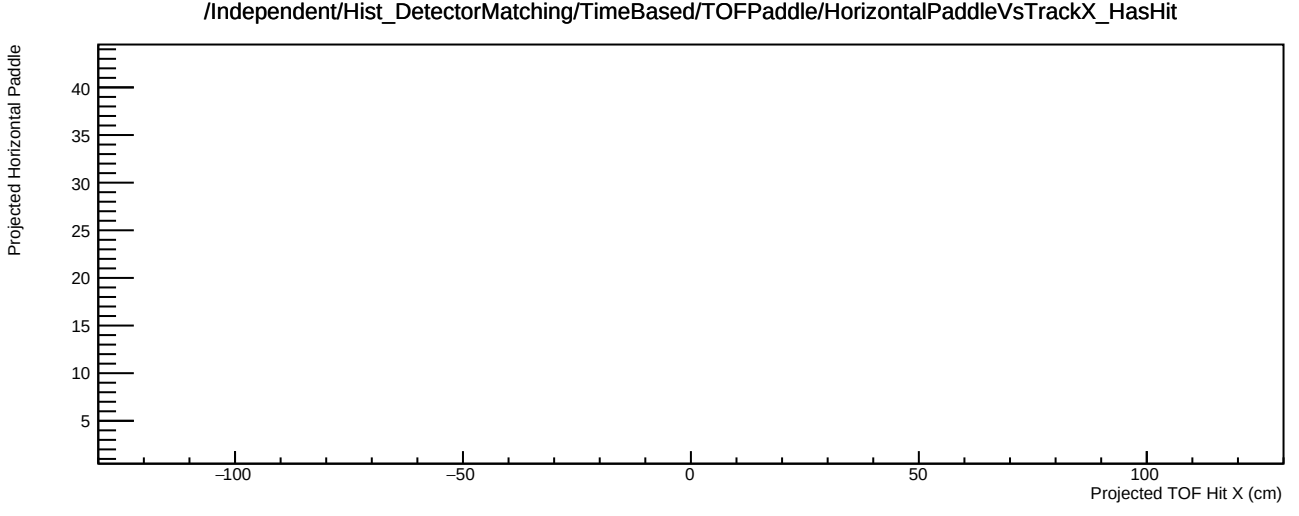

/Independent/Hist_DetectorMatching/TimeBased/TOFPaddle/TrackYVsVerticalPaddle_HasHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
5
10
15
20
25
30
35
40
Projected Vertical Paddle

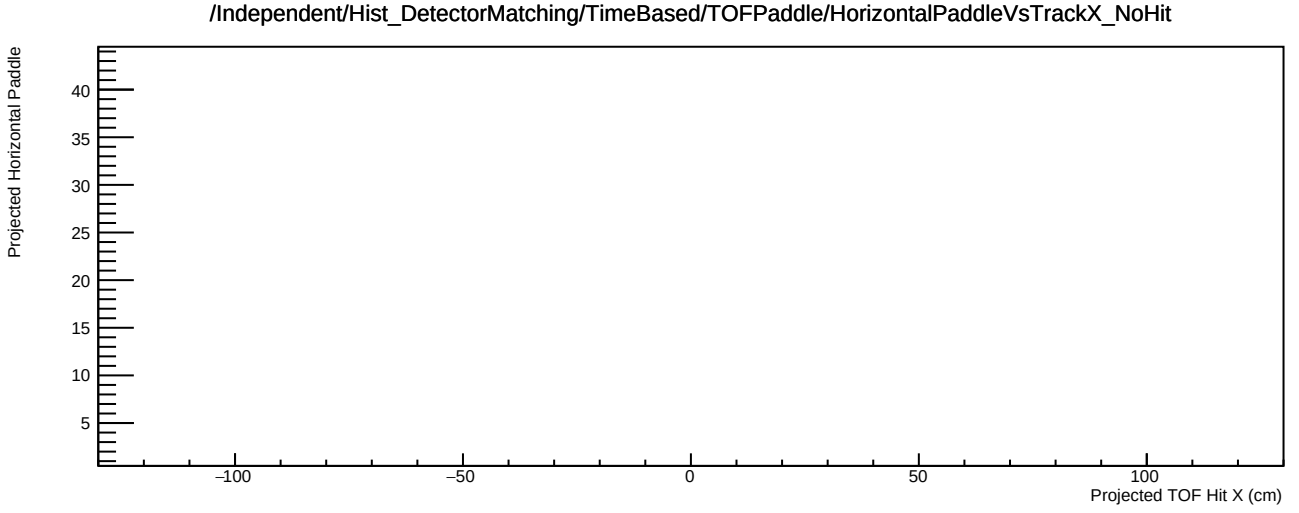

/Independent/Hist_DetectorMatching/TimeBased/TOFPaddle/TrackYVsVerticalPaddle_HasHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
5
10
15
20
25
30
35
40
Projected Vertical Paddle

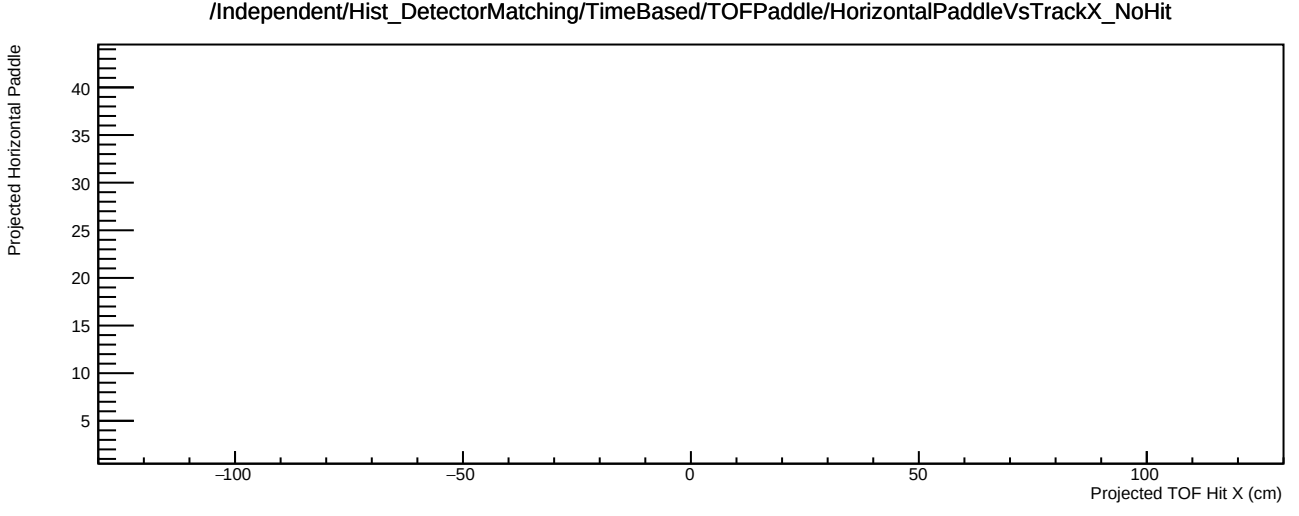

/Independent/Hist_DetectorMatching/TimeBased/TOFPaddle/TrackYVsVerticalPaddle_NoHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
5
10
15
20
25
30
35
40
Projected Vertical Paddle

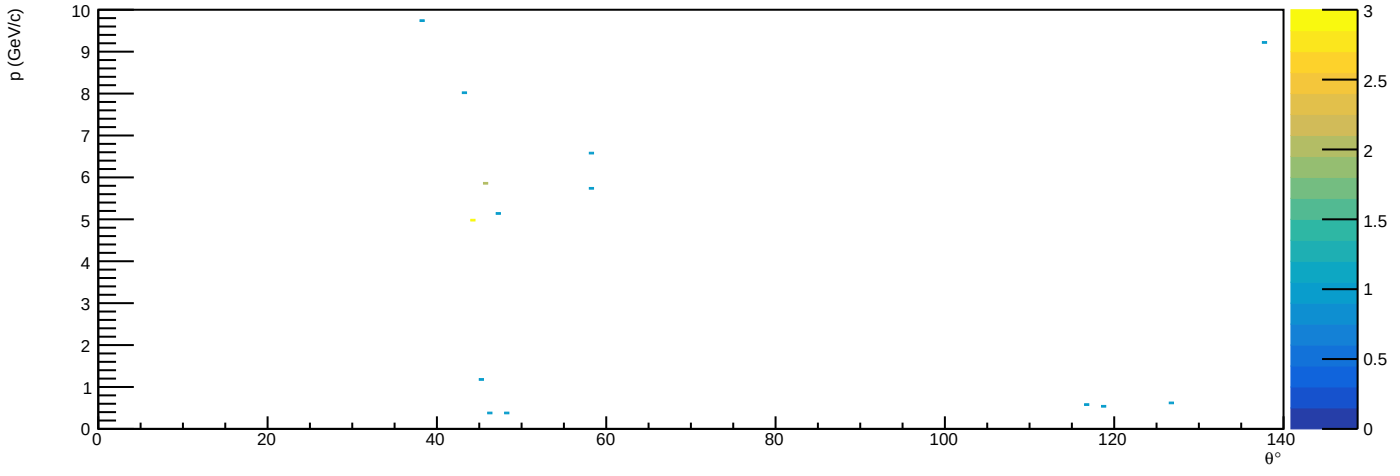

/Independent/Hist_DetectorMatching/TimeBased/TOFPaddle/TrackYVsVerticalPaddle_NoHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
5
10
15
20
25
30
35
40
Projected Vertical Paddle

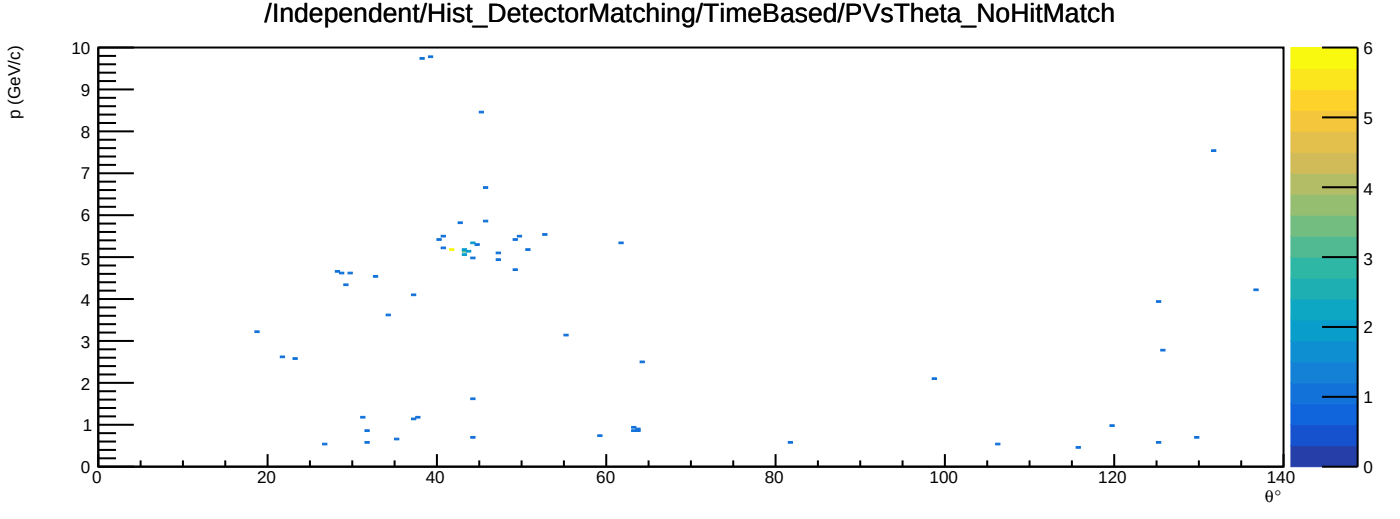

/Independent/Hist_DetectorMatching/TimeBased/TOFPaddle/HorizontalPaddleVsTrackX_HasHit
Projected Horizontal Paddle
40
35
30
25
20
15
10
5
−100
−50
0
50
100
Projected TOF Hit X (cm)

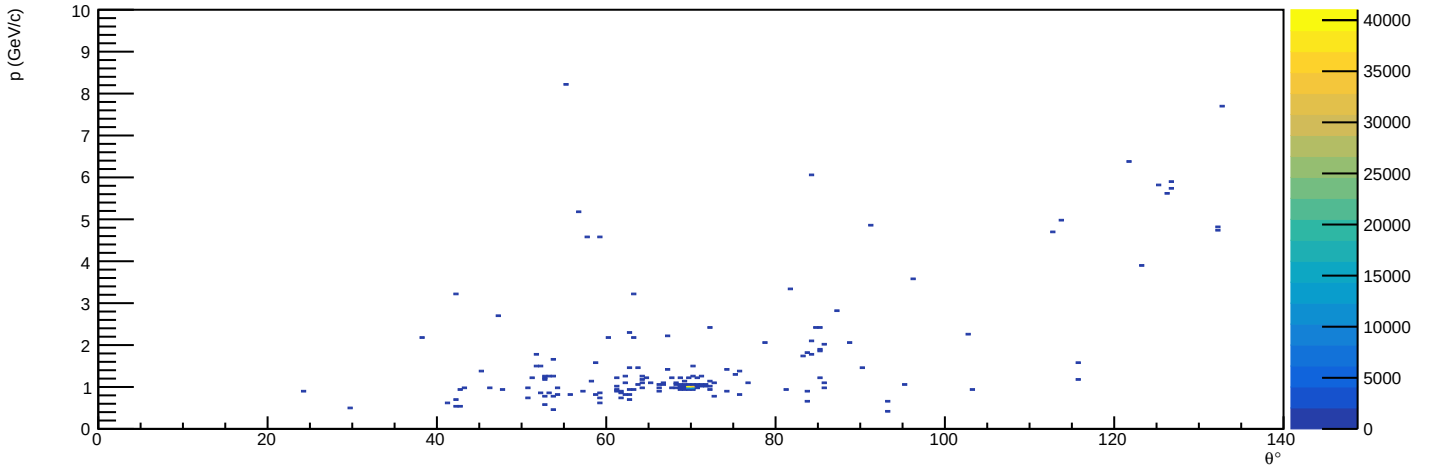

/Independent/Hist_DetectorMatching/TimeBased/TOFPaddle/HorizontalPaddleVsTrackX_HasHit
Projected Horizontal Paddle
40
35
30
25
20
15
10
5
−100
−50
0
50
100
Projected TOF Hit X (cm)

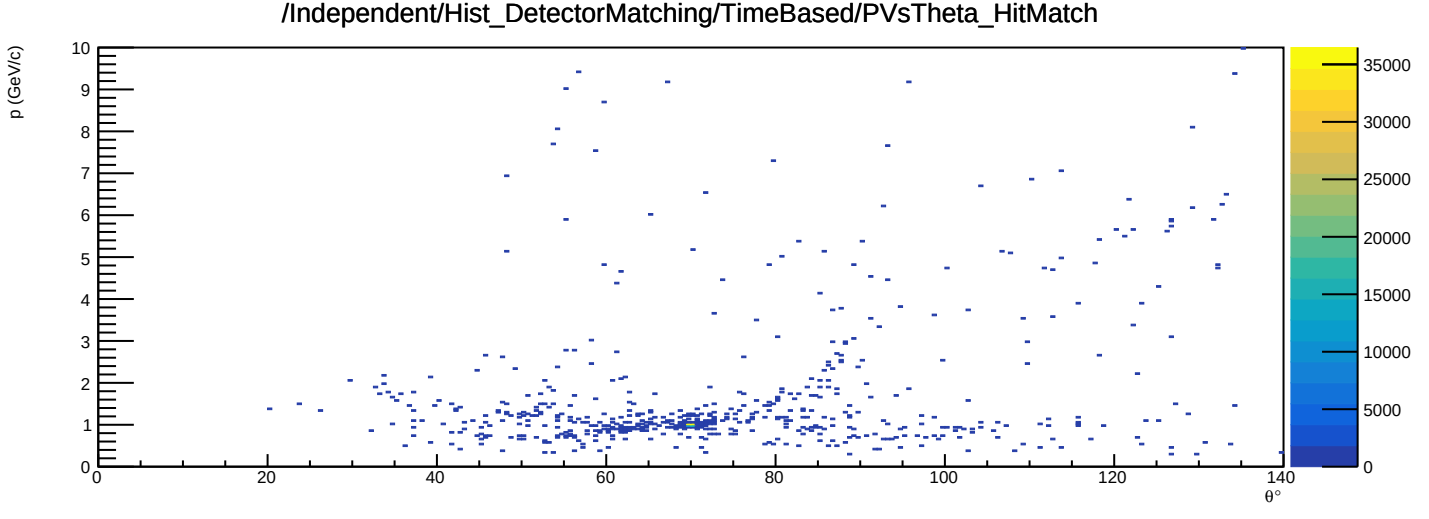

/Independent/Hist_DetectorMatching/TimeBased/TOFPaddle/HorizontalPaddleVsTrackX_NoHit
Projected Horizontal Paddle
40
35
30
25
20
15
10
5
−100
−50
0
50
100
Projected TOF Hit X (cm)

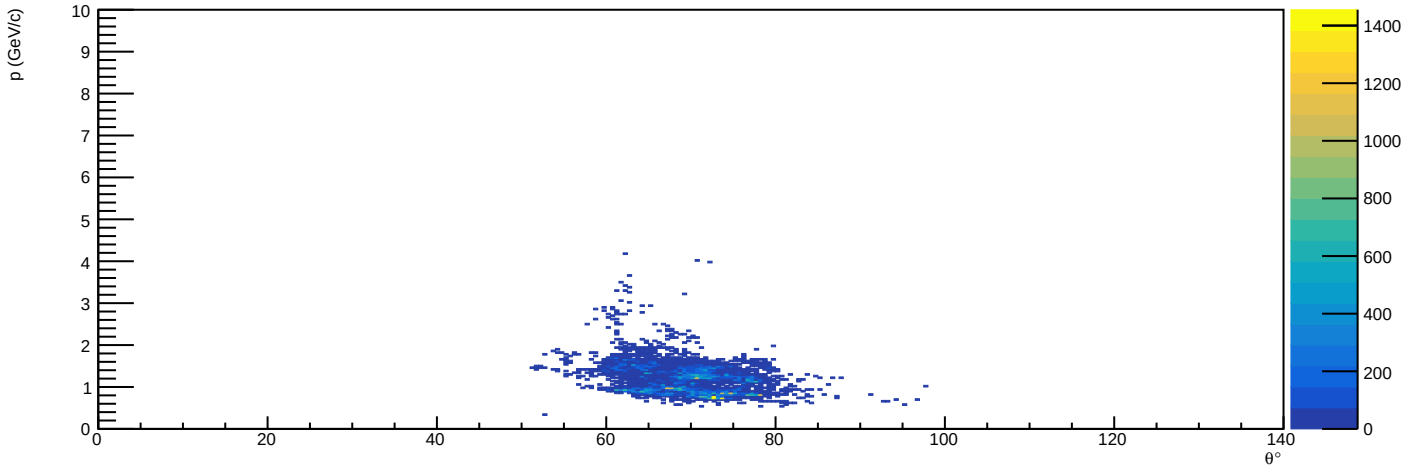

/Independent/Hist_DetectorMatching/TimeBased/TOFPaddle/HorizontalPaddleVsTrackX_NoHit
Projected Horizontal Paddle
40
35
30
25
20
15
10
5
−100
−50
0
50
100
Projected TOF Hit X (cm)

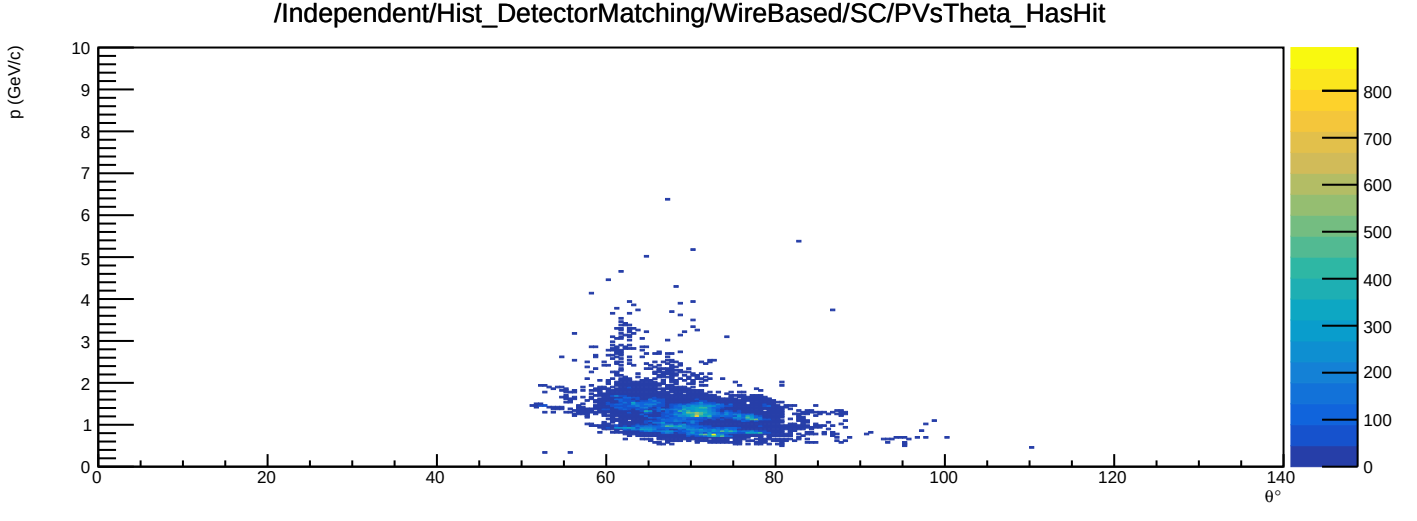

/Independent/Hist_DetectorMatching/TimeBased/PVsTheta_NoHitMatch
p (GeV/c)
θ°

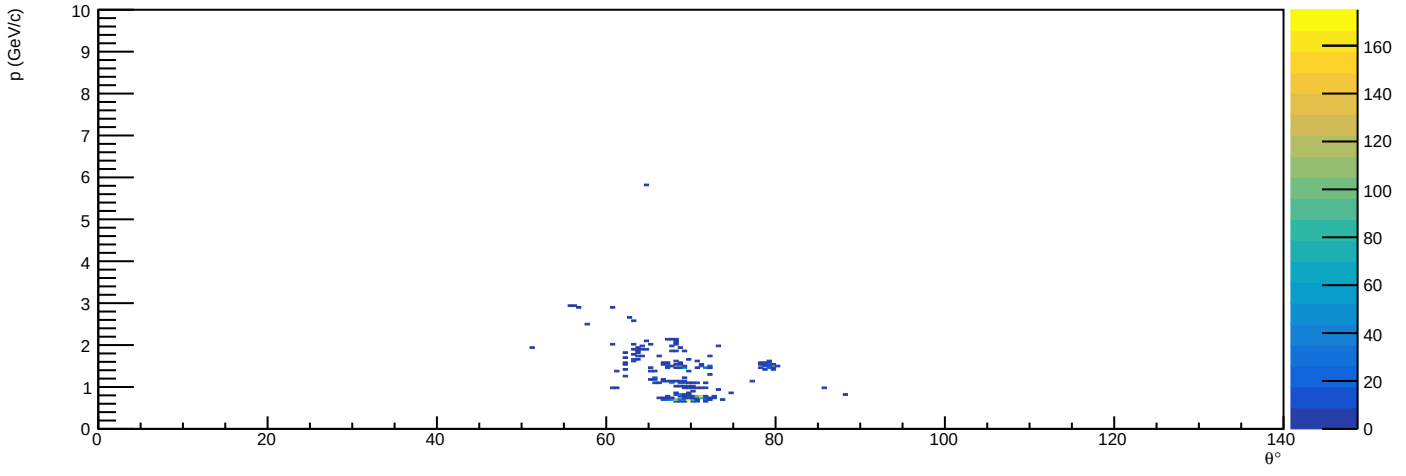

/Independent/Hist_DetectorMatching/TimeBased/PVsTheta_NoHitMatch
p (GeV/c)
θ°

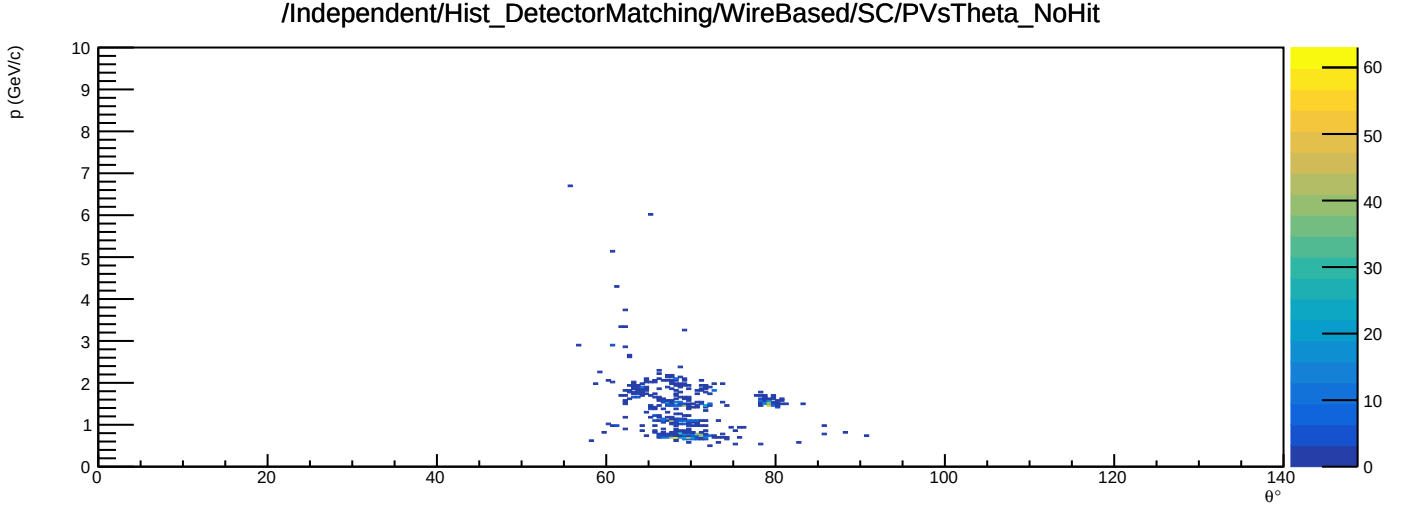

/Independent/Hist_DetectorMatching/TimeBased/PVsTheta_HitMatch
p (GeV/c)
θ°
0
1
2
3
4
5
6
7
8
9
10
0
20
40
60
80
100
120
140
0
5000
10000
15000
20000
25000
30000
35000
40000

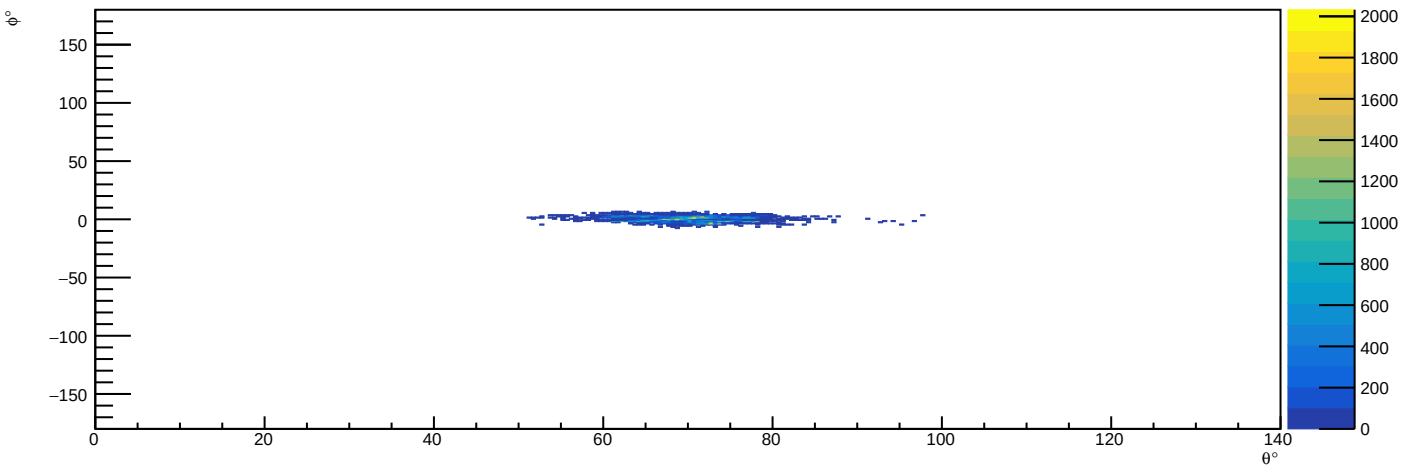

/Independent/Hist_DetectorMatching/TimeBased/PVsTheta_HitMatch
p (GeV/c)
θ°
0
1
2
3
4
5
6
7
8
9
10
0
20
40
60
80
100
120
140
0
5000
10000
15000
20000
25000
30000
35000

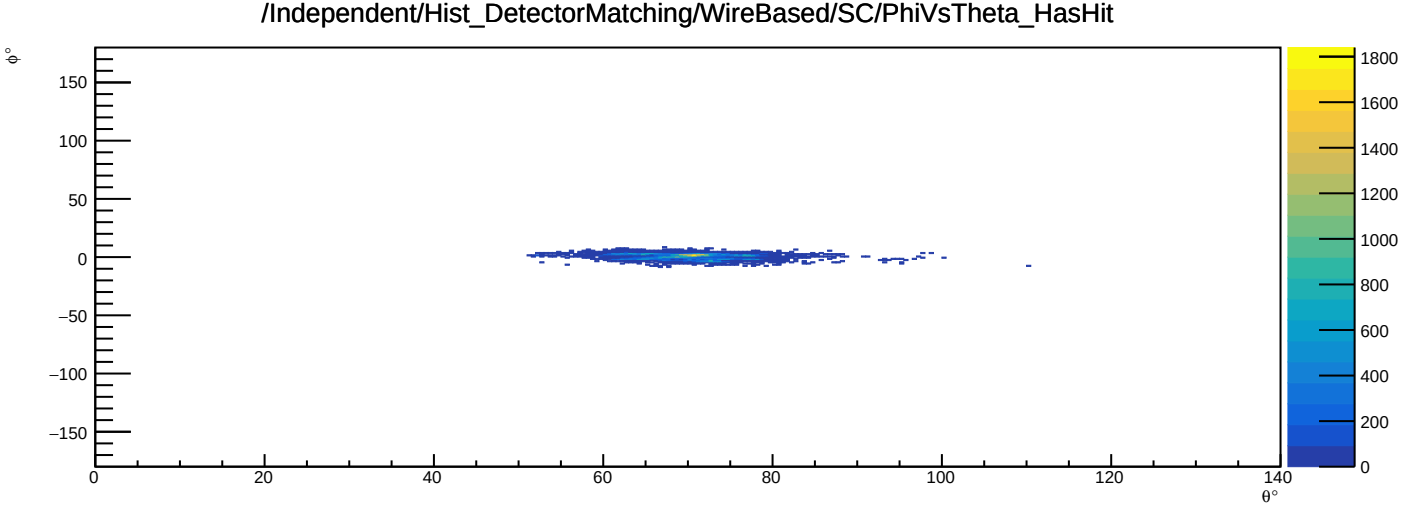

/Independent/Hist_DetectorMatching/WireBased/SC/PVsTheta_HasHit
p (GeV/c)
θ°

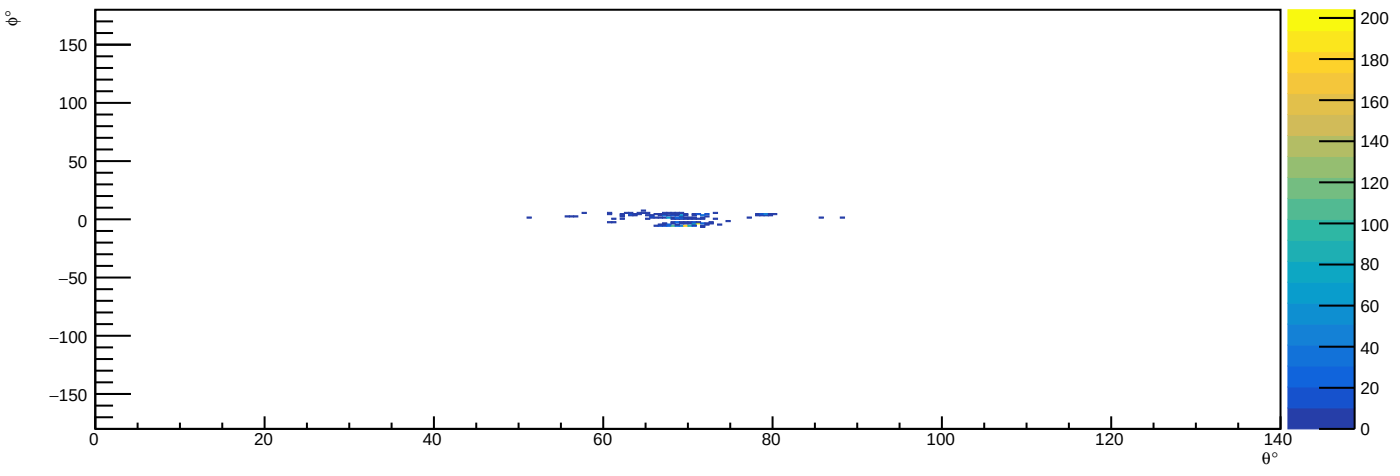

/Independent/Hist_DetectorMatching/WireBased/SC/PVsTheta_HasHit
p (GeV/c)
θ°

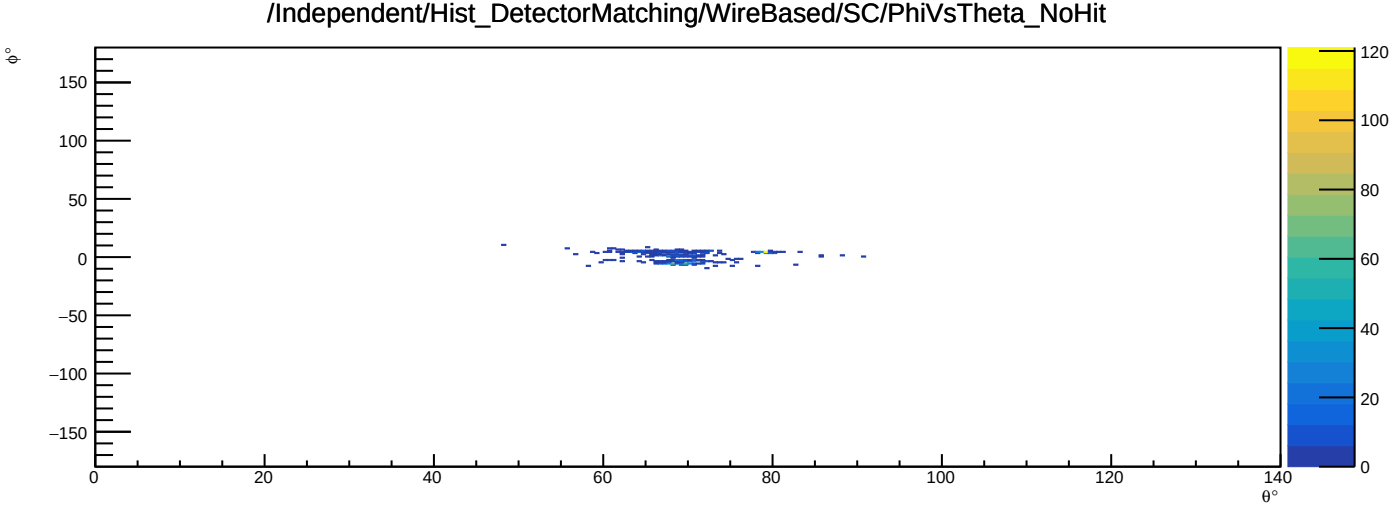

/Independent/Hist_DetectorMatching/WireBased/SC/PVsTheta_NoHit
p (GeV/c)
θ°

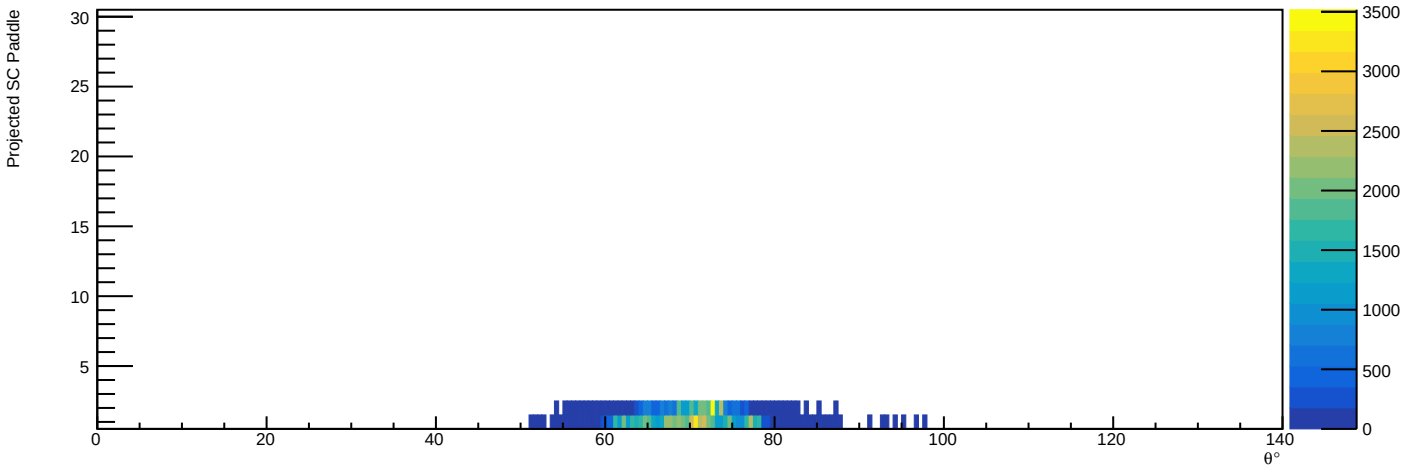

/Independent/Hist_DetectorMatching/WireBased/SC/PVsTheta_NoHit
p (GeV/c)
θ°

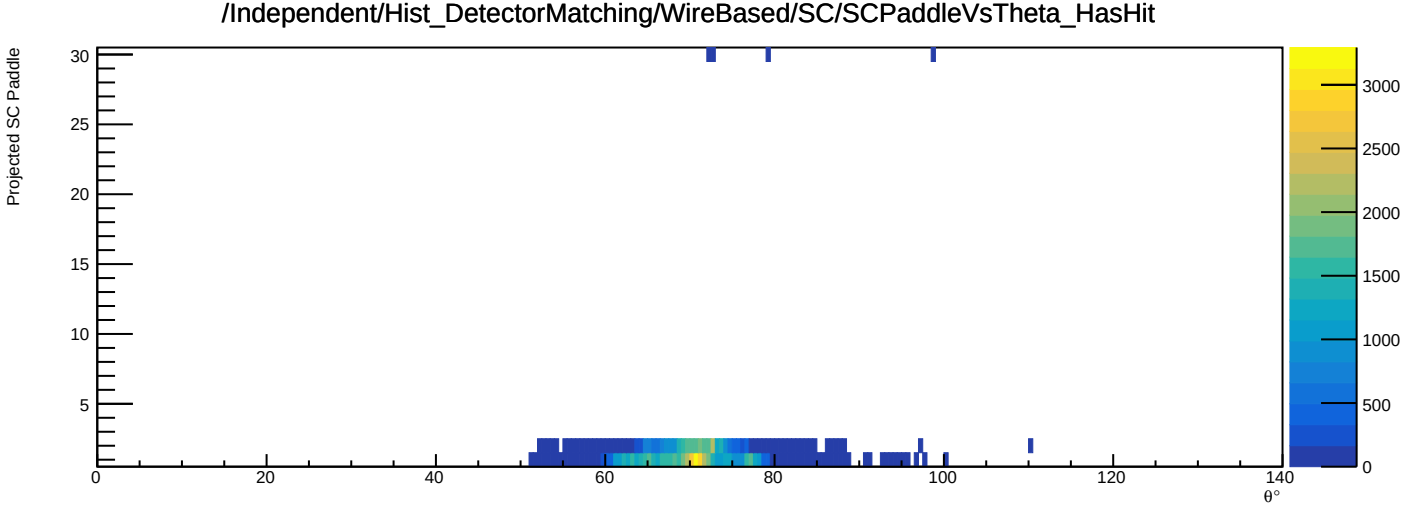

/Independent/Hist_DetectorMatching/WireBased/SC/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
2000
1800
1600
1400
1200
1000
800
600
400
200
0

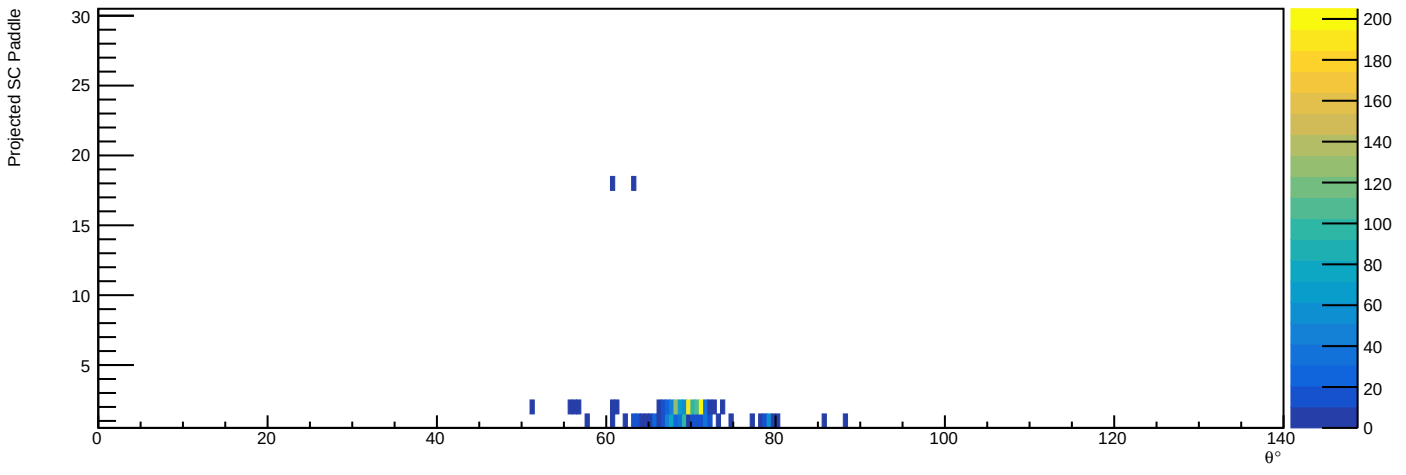

/Independent/Hist_DetectorMatching/WireBased/SC/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
1800
1600
1400
1200
1000
800
600
400
200
0

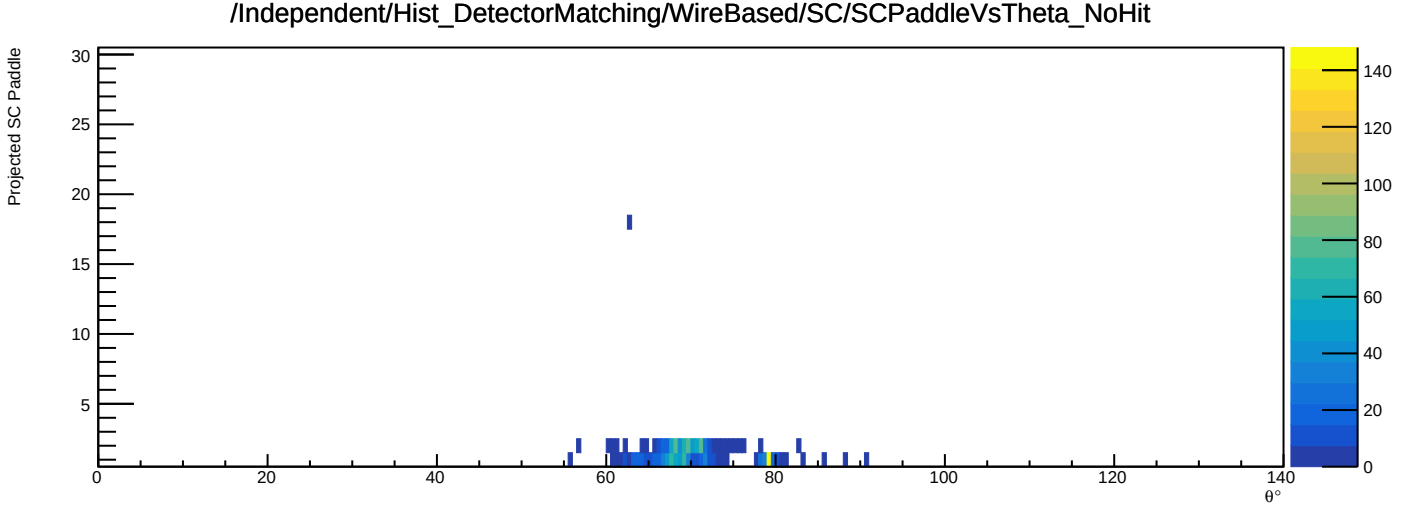

/Independent/Hist_DetectorMatching/WireBased/SC/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
200
180
160
140
120
100
80
60
40
20
0

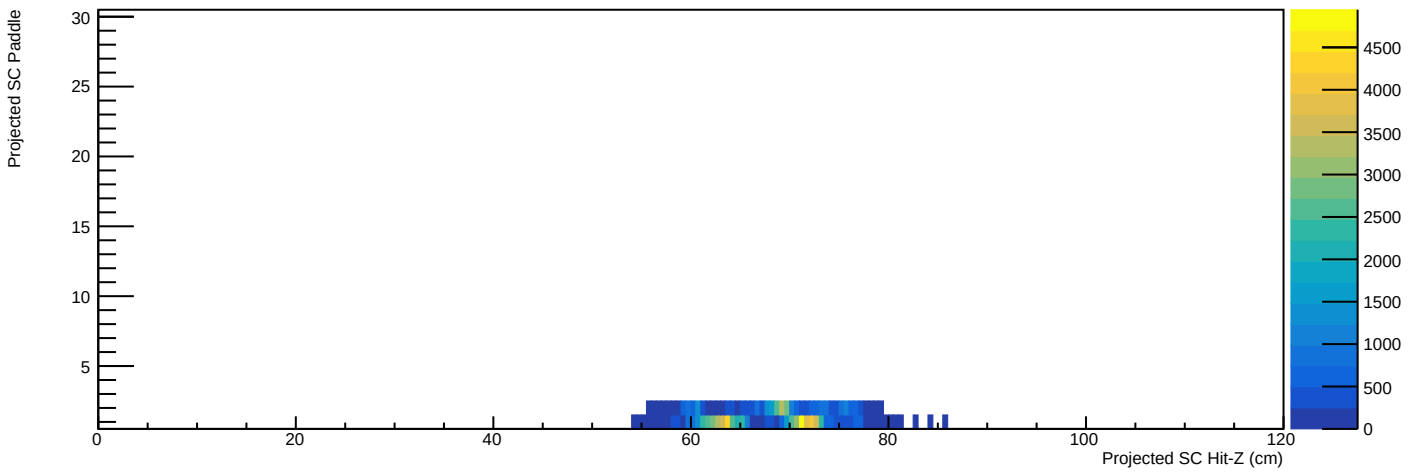

/Independent/Hist_DetectorMatching/WireBased/SC/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
120
100
80
60
40
20
0

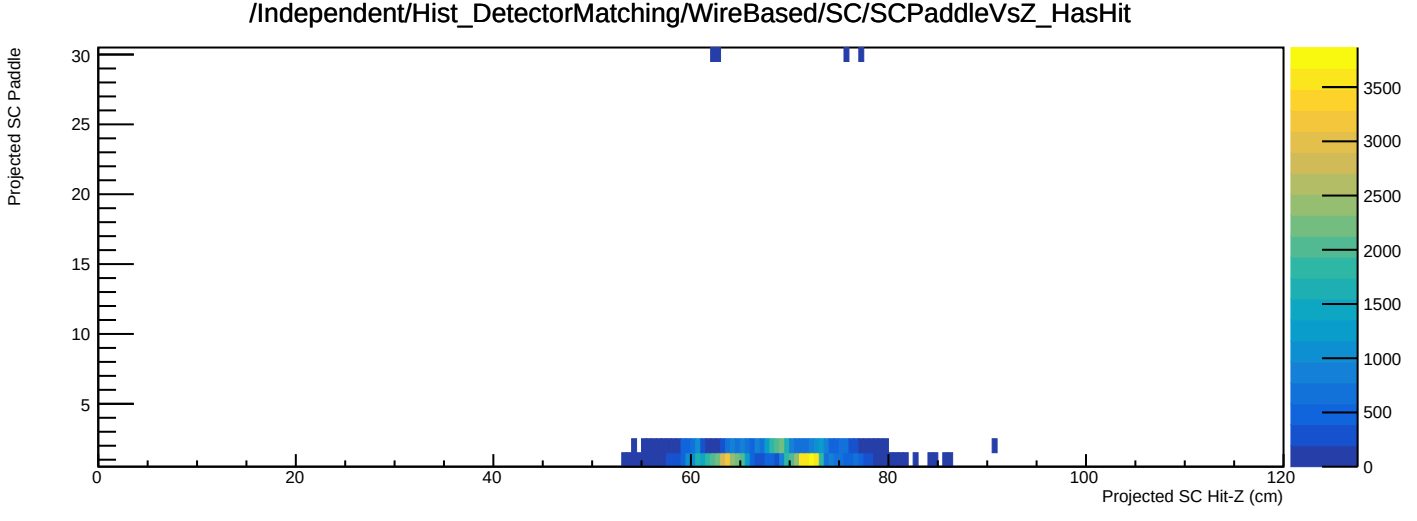

/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddleVsTheta_HasHit
Projected SC Paddle
30
25
20
15
10
5
0
20
40
60
80
100
120
140
θ°
3500
3000
2500
2000
1500
1000
500
0

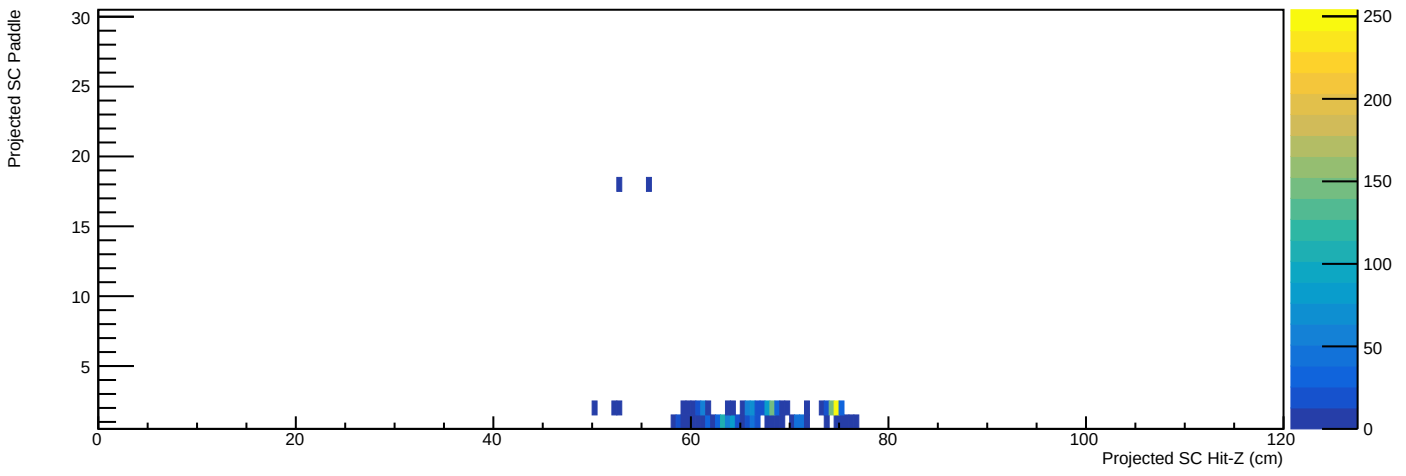

/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddleVsTheta_HasHit
Projected SC Paddle
30
25
20
15
10
5
0
20
40
60
80
100
120
140
θ°
3000
2500
2000
1500
1000
500
0

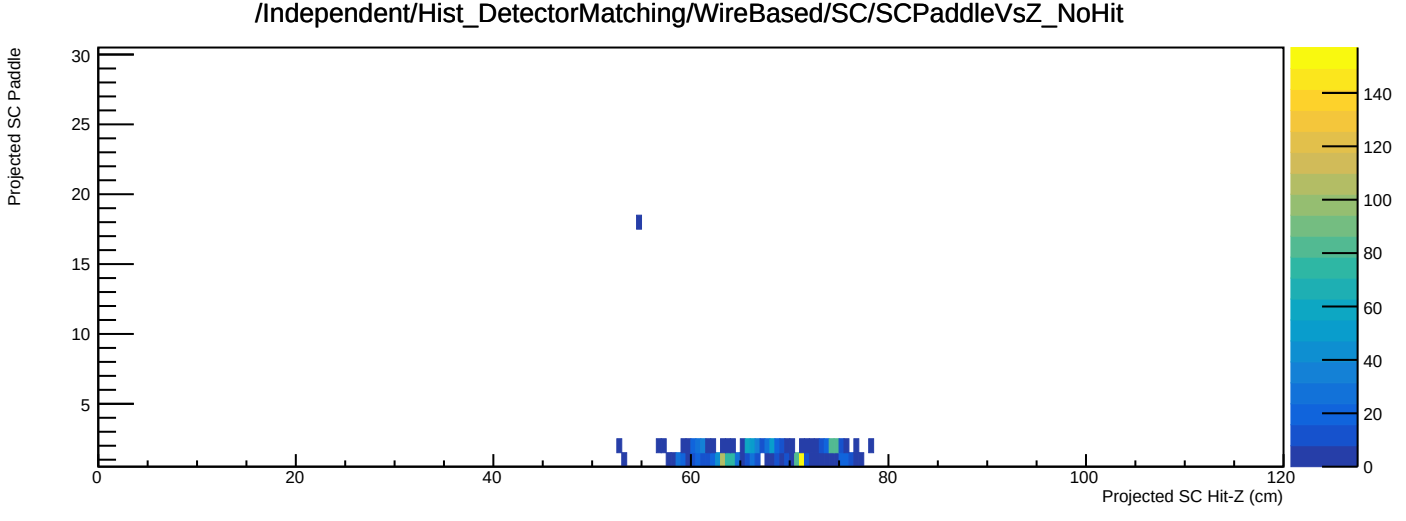

/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddleVsTheta_NoHit
Projected SC Paddle
θ°


/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddleVsTheta_NoHit
Projected SC Paddle
θ°

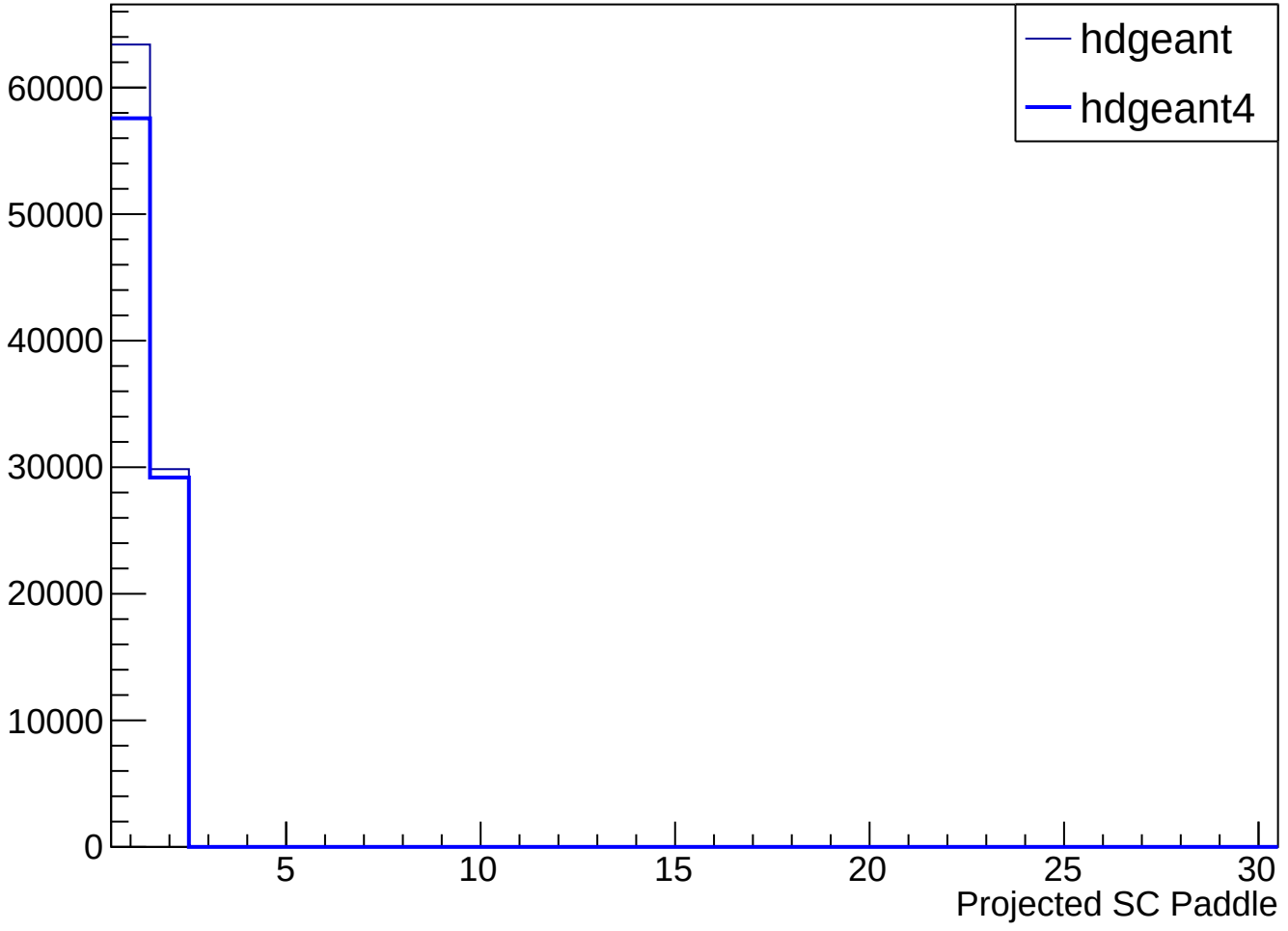

/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddleVsZ_HasHit
Projected SC Paddle
30
25
20
15
10
5
0
20
40
60
80
100
120
Projected SC Hit-Z (cm)
4500
4000
3500
3000
2500
2000
1500
1000
500
0


/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddleVsZ_HasHit
Projected SC Paddle
30
25
20
15
10
5
0
20
40
60
80
100
120
Projected SC Hit-Z (cm)
3500
3000
2500
2000
1500
1000
500
0

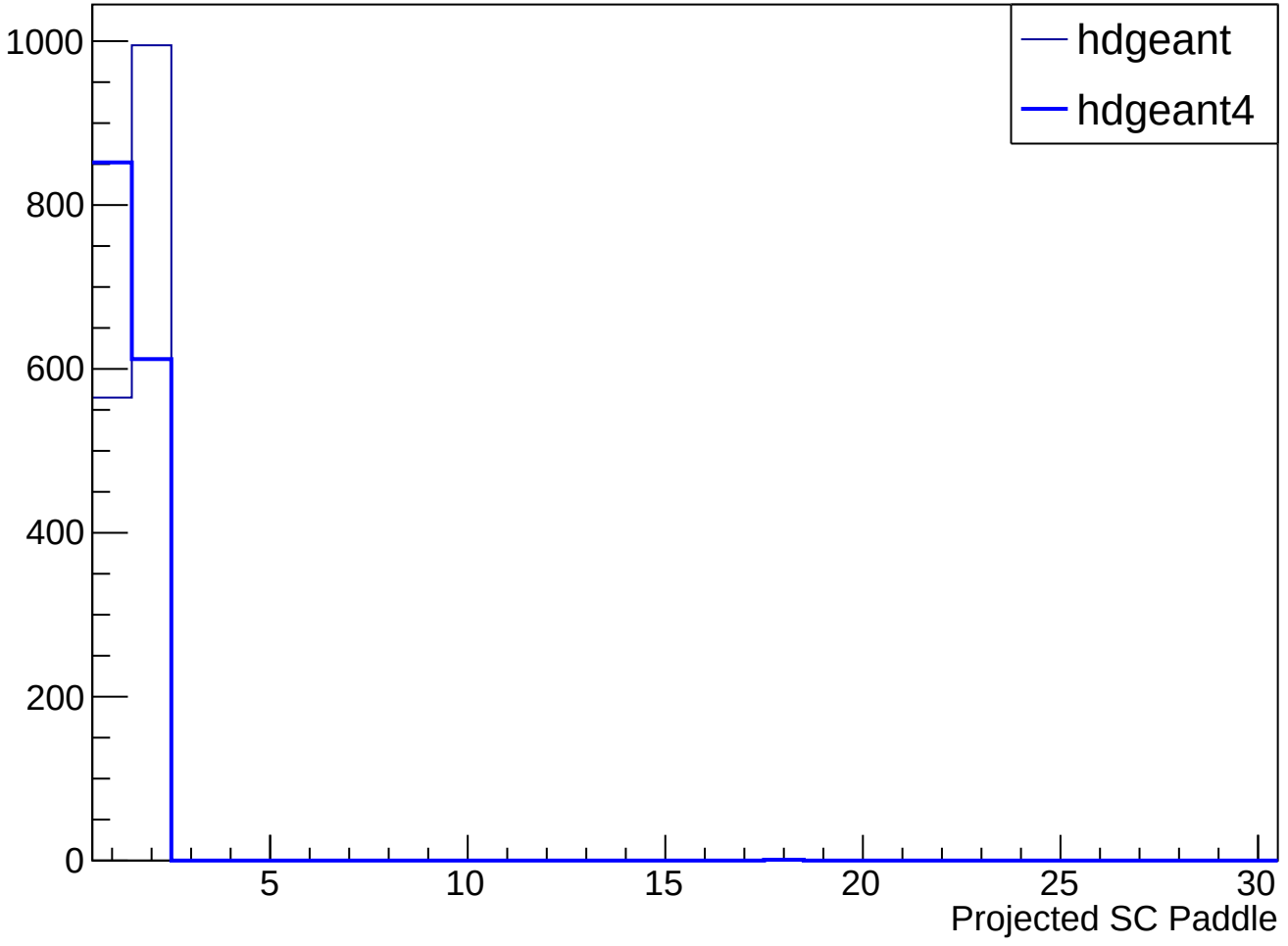

/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddleVsZ_NoHit
Projected SC Paddle
30
25
20
15
10
5
0
20
40
60
80
100
120
Projected SC Hit-Z (cm)
250
200
150
100
50
0


/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddleVsZ_NoHit
Projected SC Paddle
30
25
20
15
10
5
0
20
40
60
80
100
120
Projected SC Hit-Z (cm)
140
120
100
80
60
40
20
0

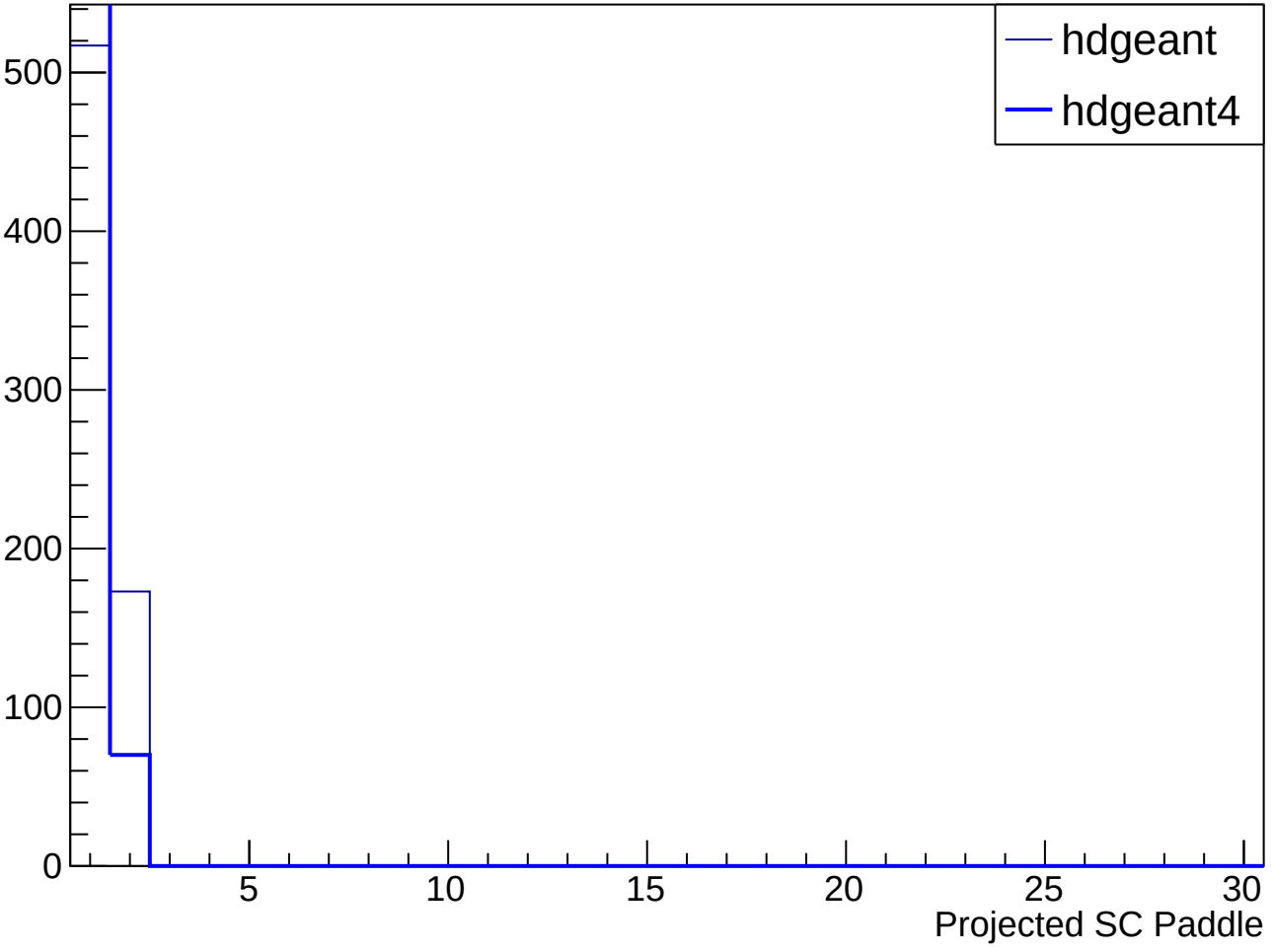
/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddle_BarrelRegion_HasHit



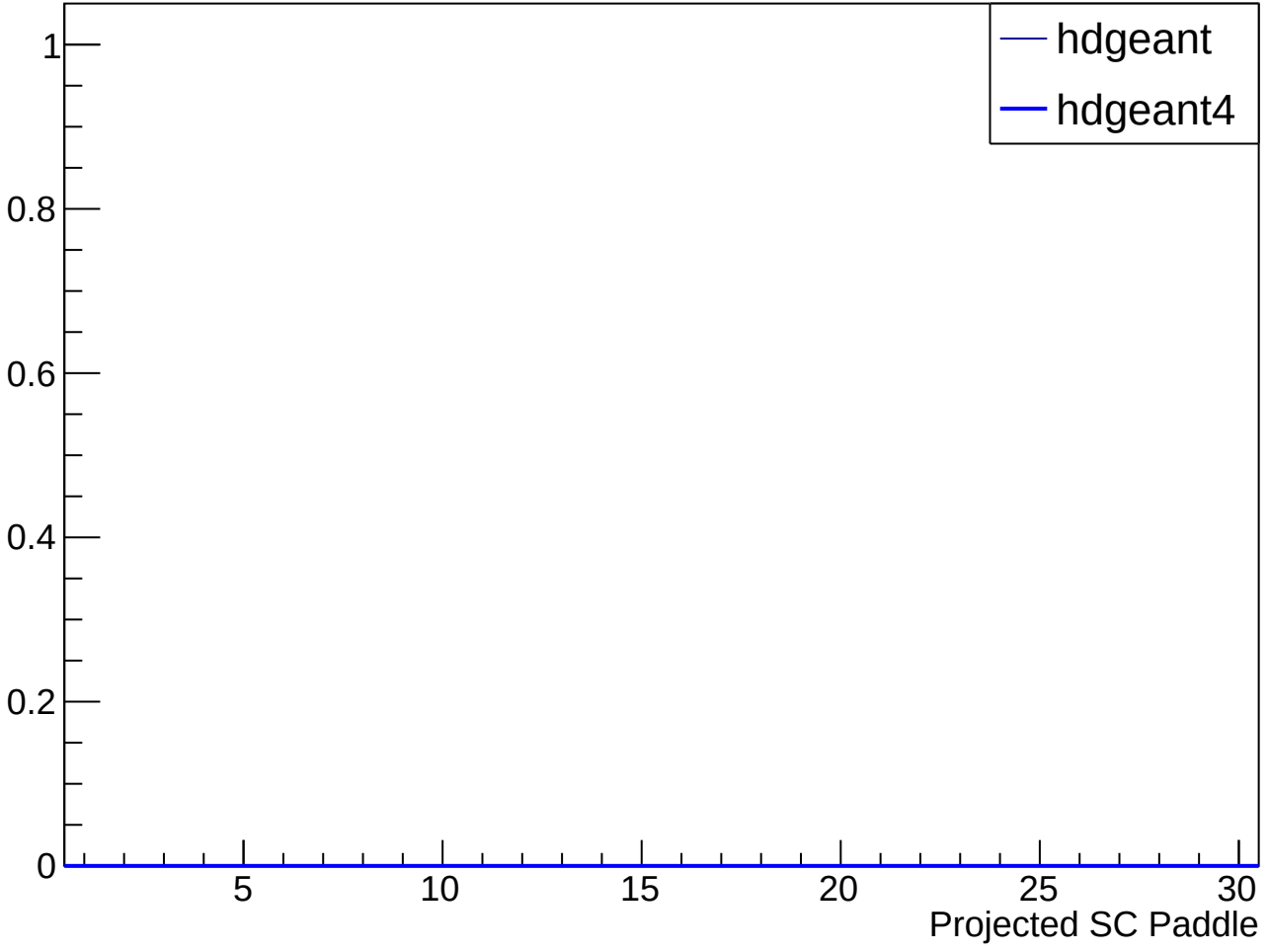
/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddle_BarrelRegion_NoHit

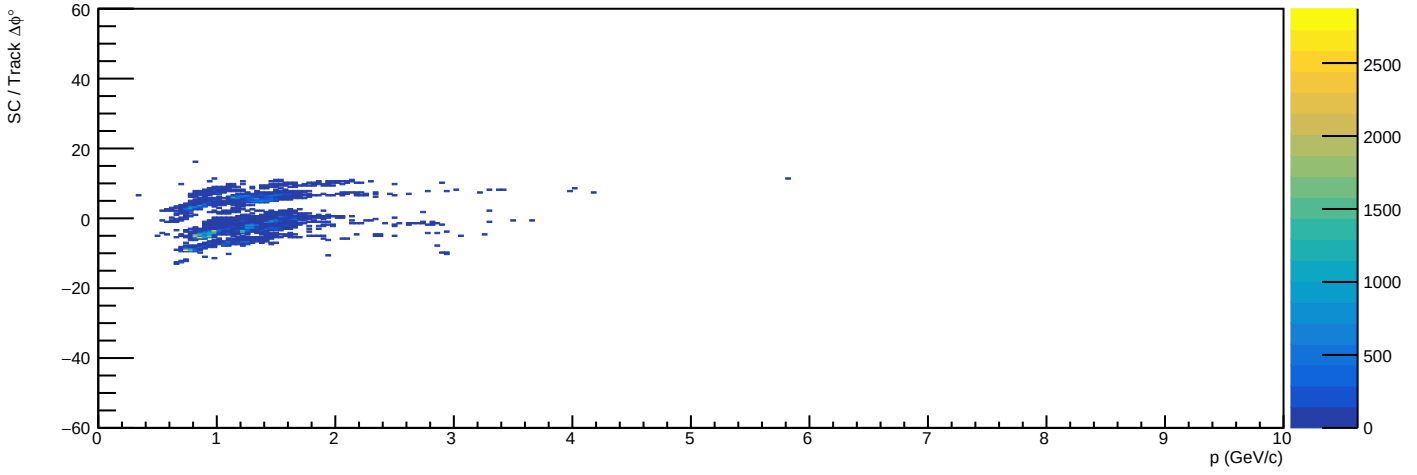


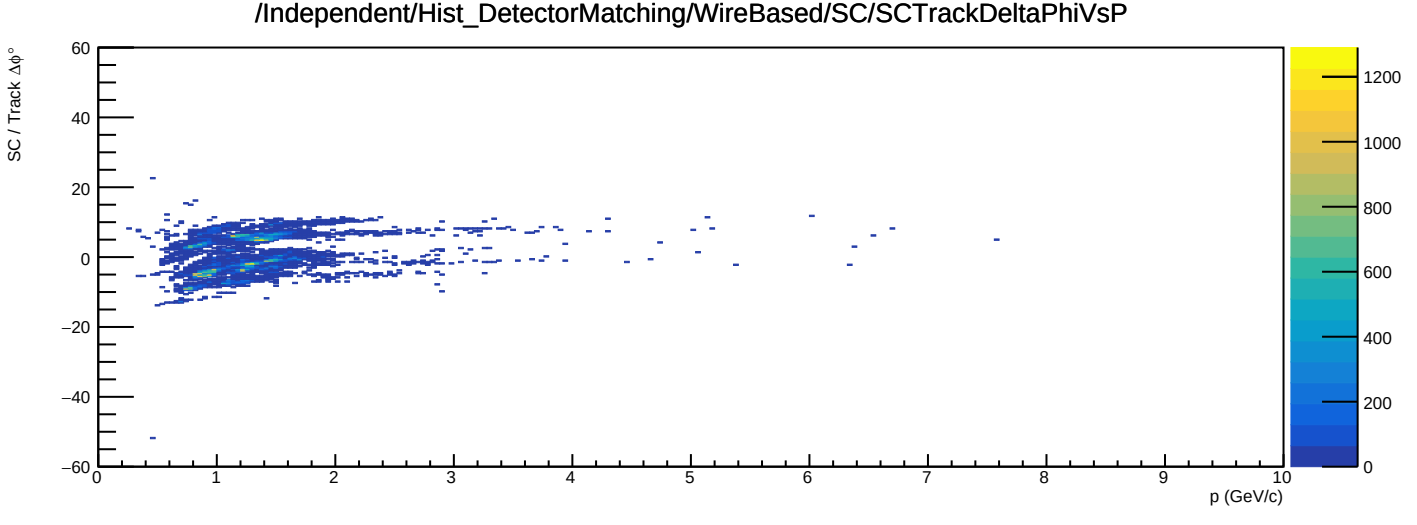
/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddle_NoseRegion_HasHit

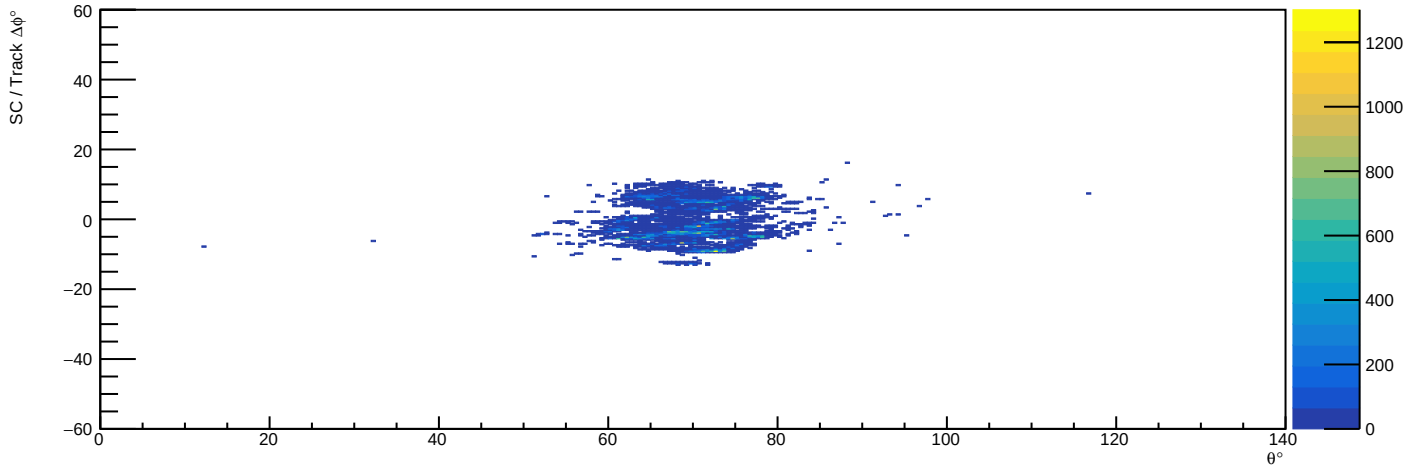


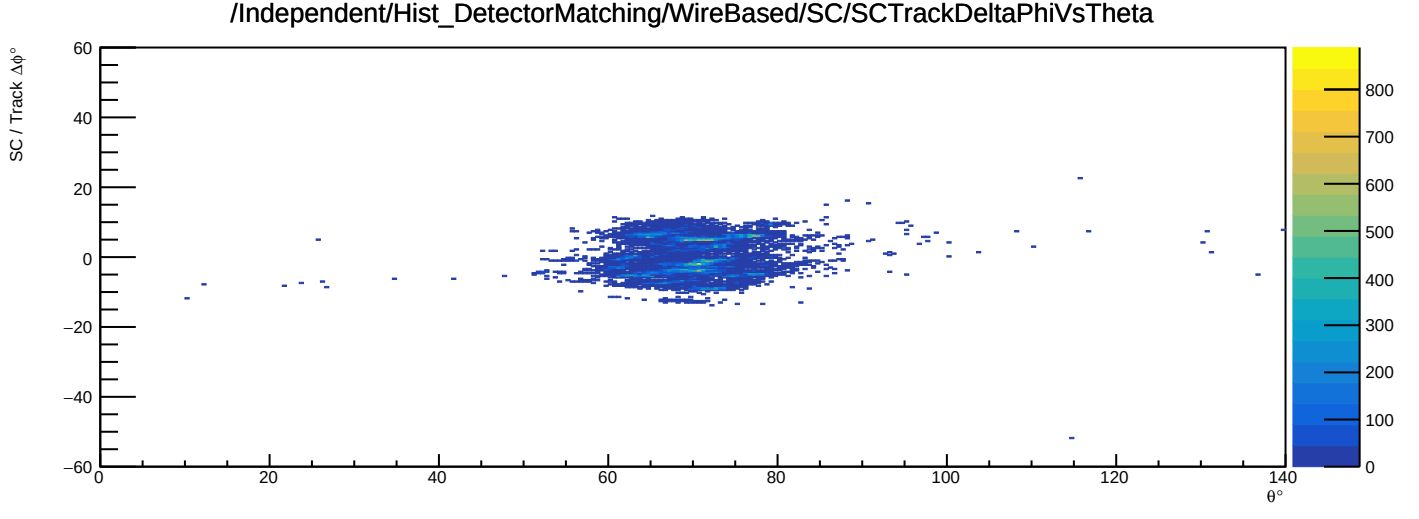
/Independent/Hist_DetectorMatching/WireBased/SC/SCPaddle_NoseRegion_NoHit

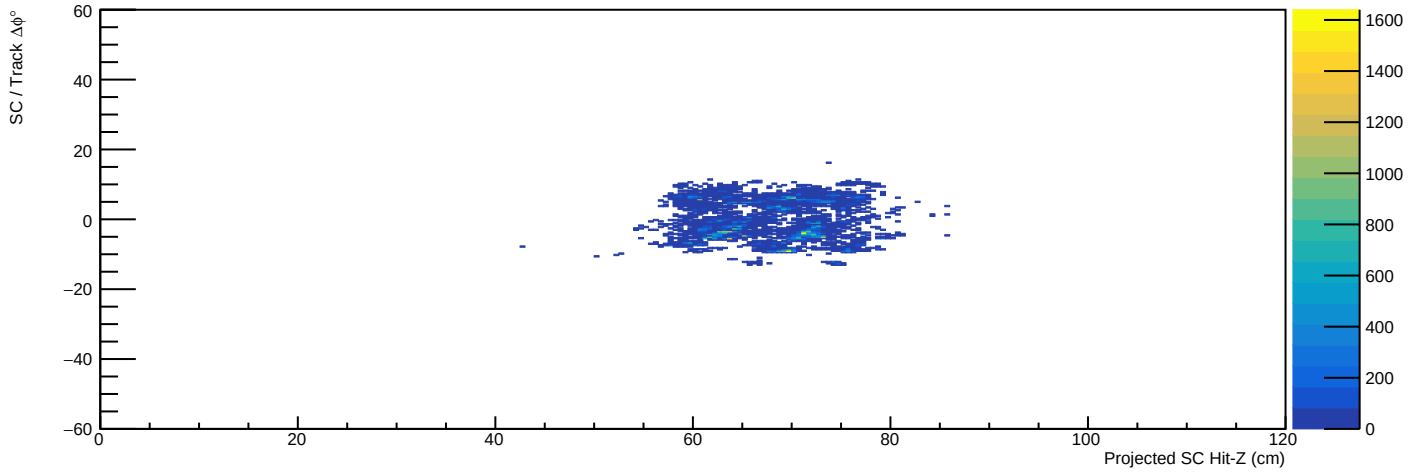


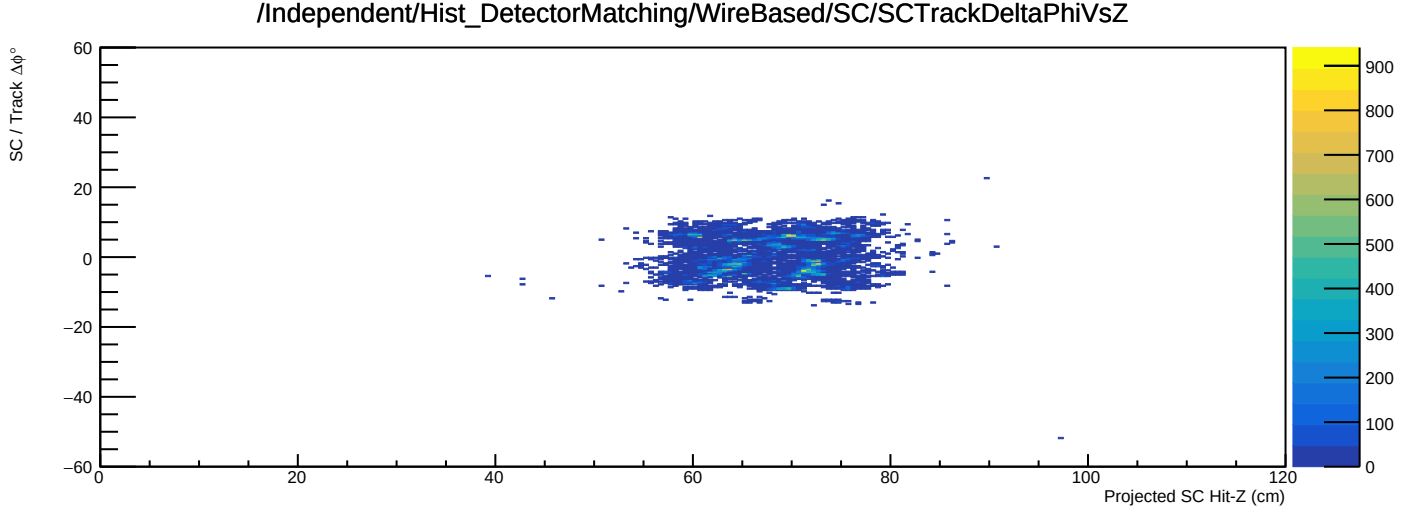

/Independent/Hist_DetectorMatching/WireBased/SC/SCTrackDeltaPhiVsP
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
2500
2000
1500
1000
500
0

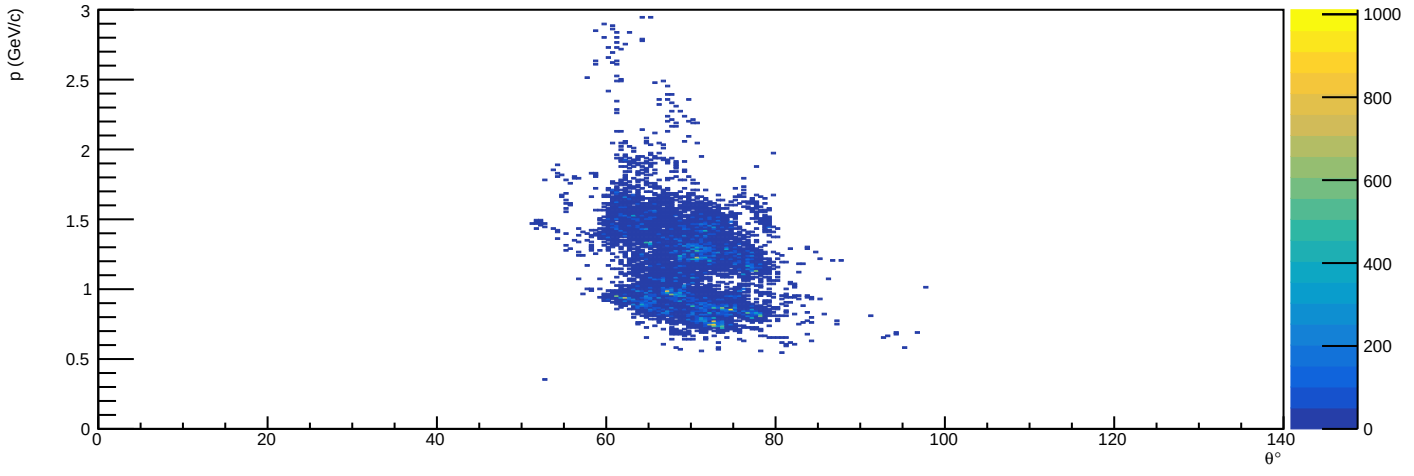

/Independent/Hist_DetectorMatching/WireBased/SC/SCTrackDeltaPhiVsP
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1200
1000
800
600
400
200
0

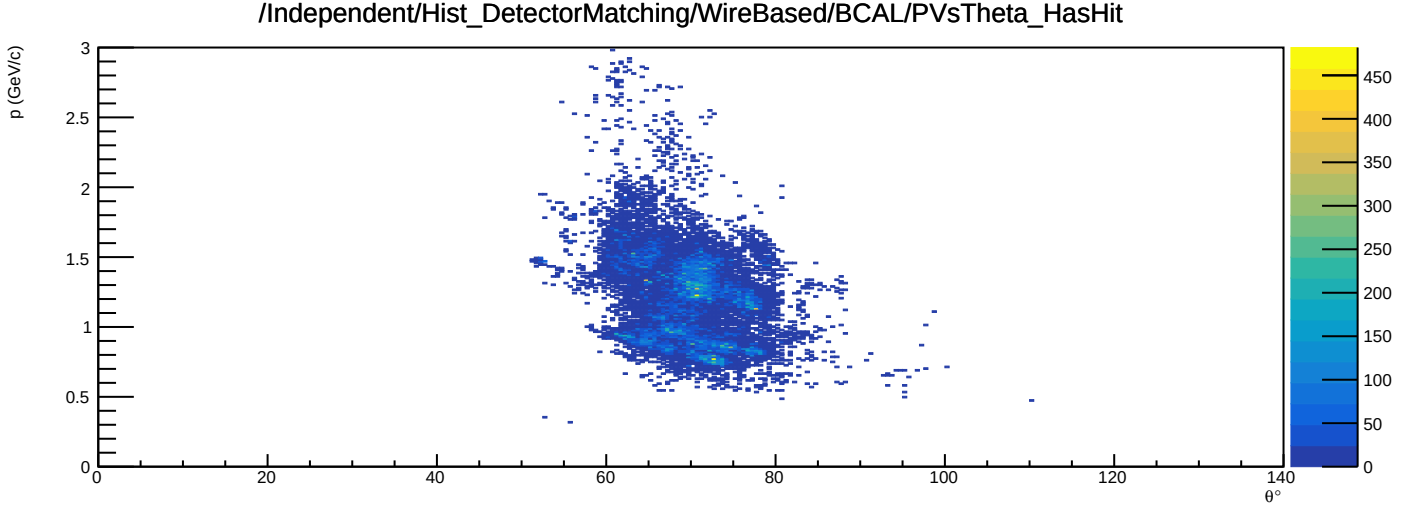

/Independent/Hist_DetectorMatching/WireBased/SC/SCTrackDeltaPhiVsTheta
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
20
40
60
80
100
120
140
θ°
1200
1000
800
600
400
200
0

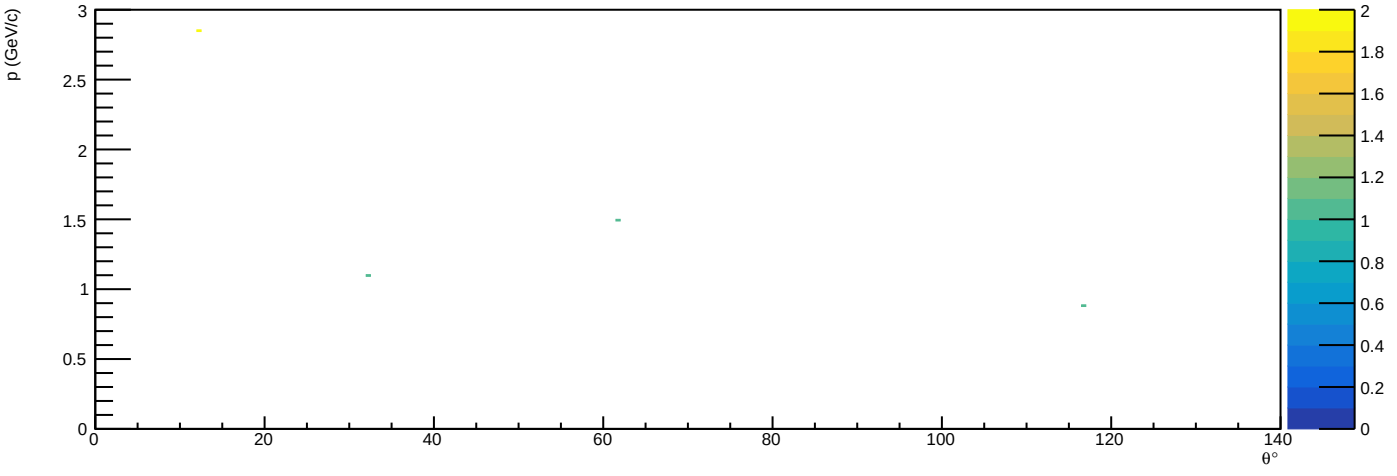

/Independent/Hist_DetectorMatching/WireBased/SC/SCTrackDeltaPhiVsTheta
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
20
40
60
80
100
120
140
θ°
800
700
600
500
400
300
200
100
0

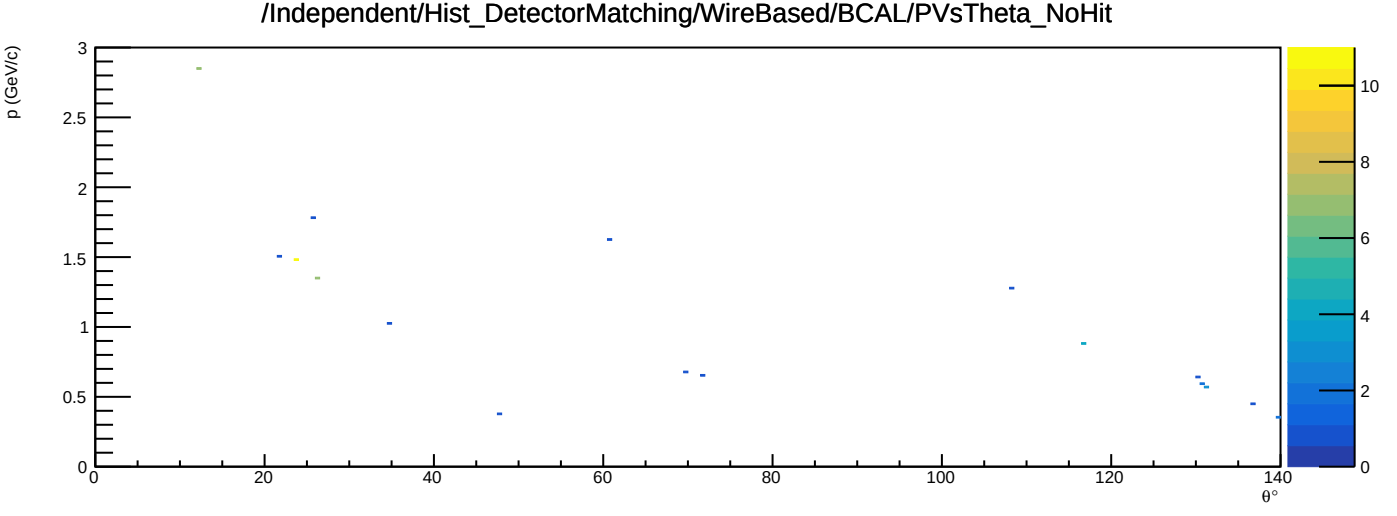

/Independent/Hist_DetectorMatching/WireBased/SC/SCTrackDeltaPhiVsZ
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
20
40
60
80
100
120
Projected SC Hit-Z (cm)
1600
1400
1200
1000
800
600
400
200
0

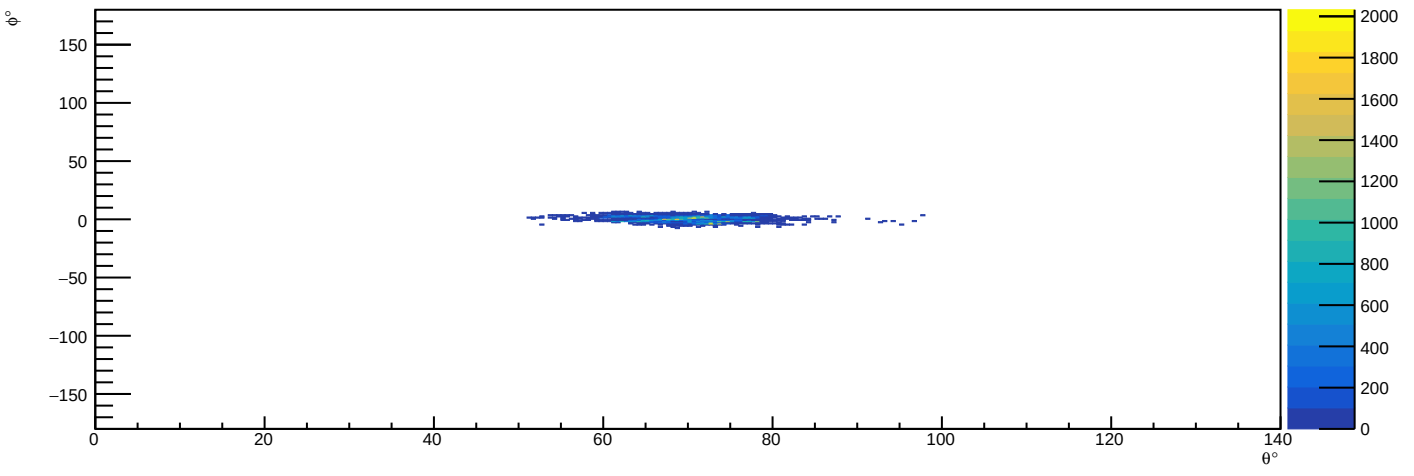

/Independent/Hist_DetectorMatching/WireBased/SC/SCTrackDeltaPhiVsZ
SC / Track Δφ°
60
40
20
0
−20
−40
−60
0
20
40
60
80
100
120
Projected SC Hit-Z (cm)
900
800
700
600
500
400
300
200
100
0

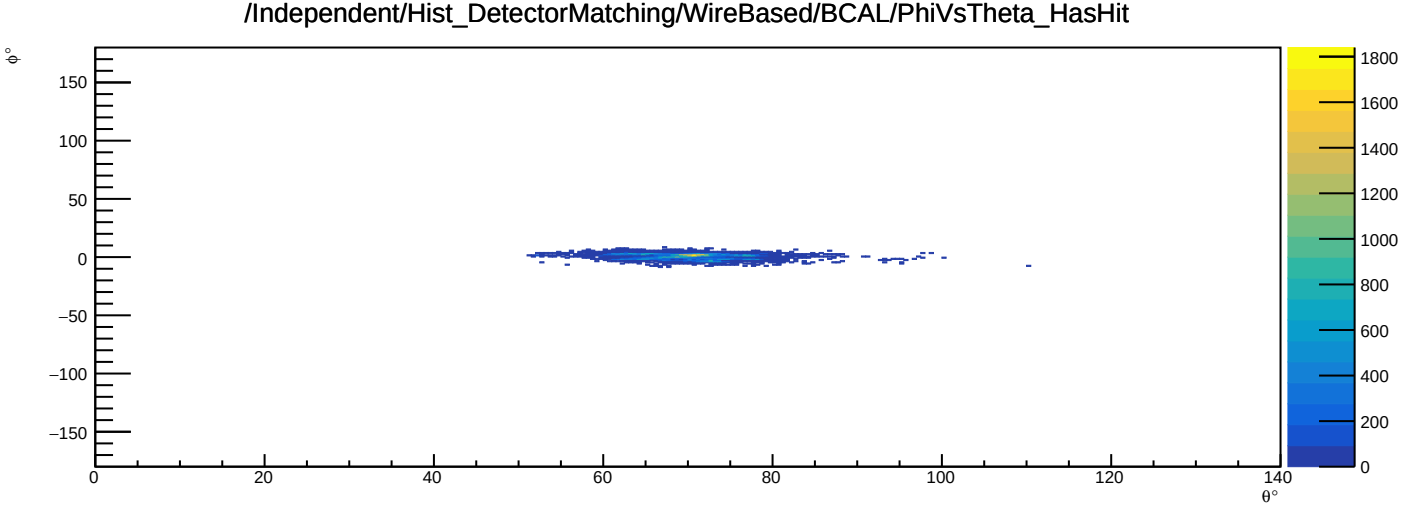

/Independent/Hist_DetectorMatching/WireBased/BCAL/PVsTheta_HasHit
p (GeV/c)
θ°

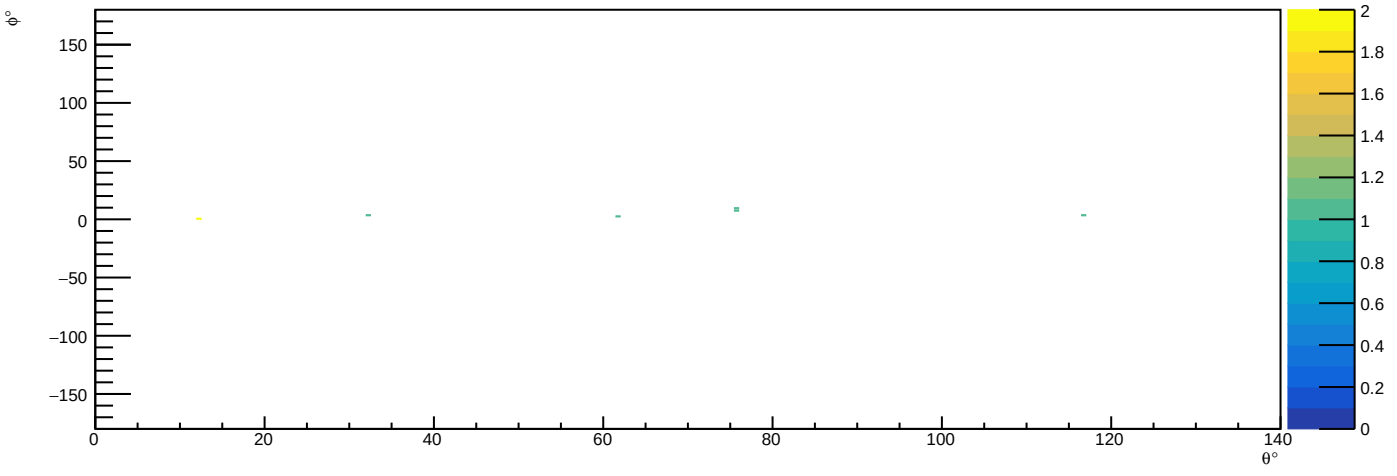

/Independent/Hist_DetectorMatching/WireBased/BCAL/PVsTheta_HasHit
p (GeV/c)
θ°

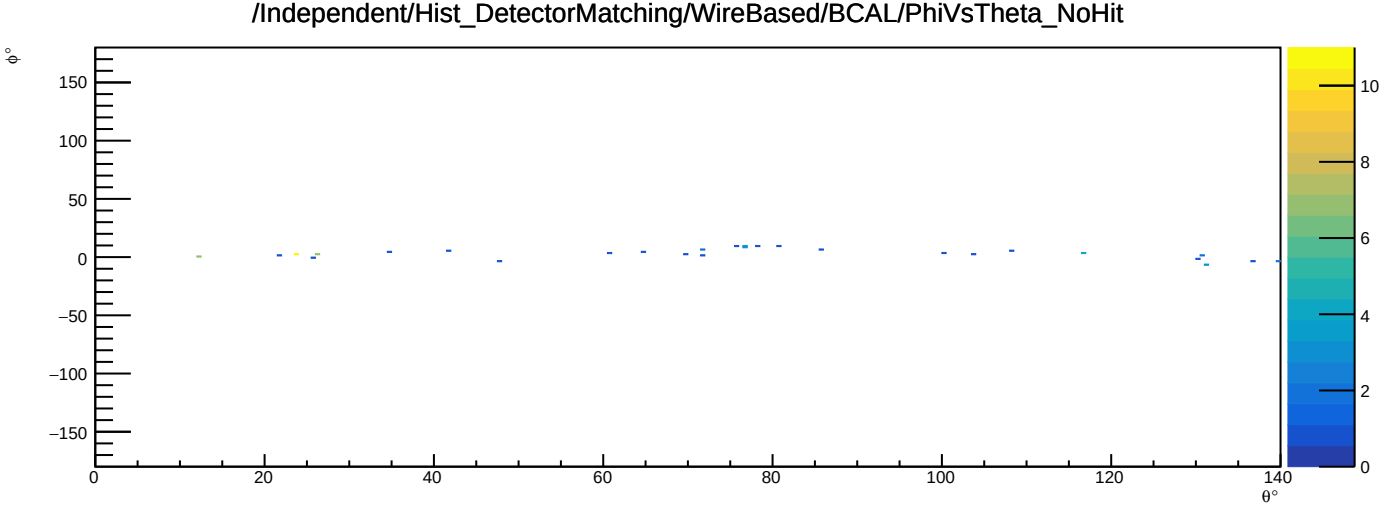

/Independent/Hist_DetectorMatching/WireBased/BCAL/PVsTheta_NoHit
p (GeV/c)
θ°

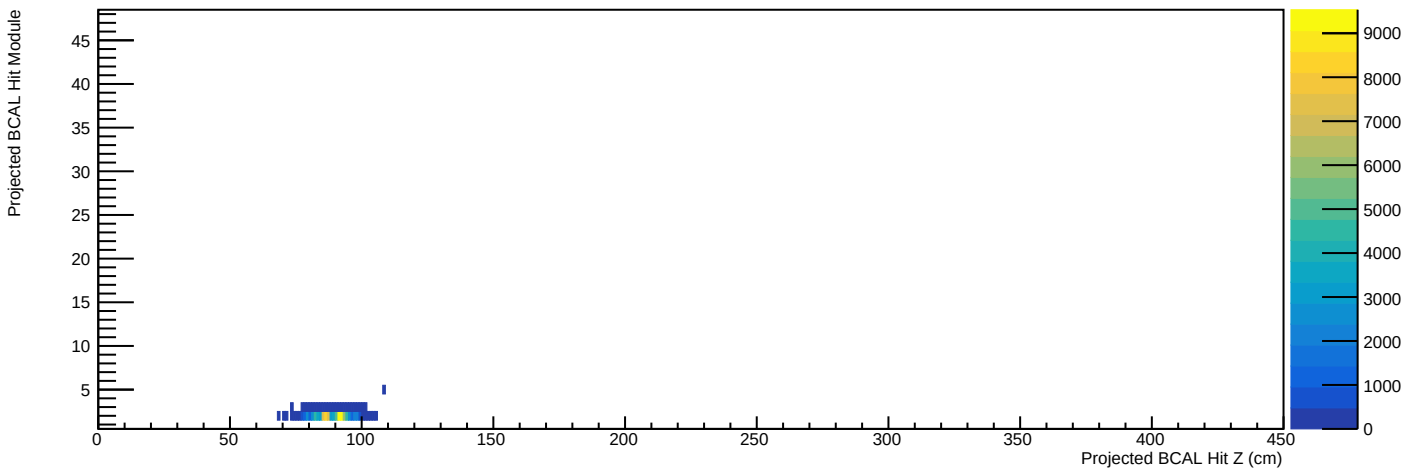

/Independent/Hist_DetectorMatching/WireBased/BCAL/PVsTheta_NoHit
p (GeV/c)
θ°

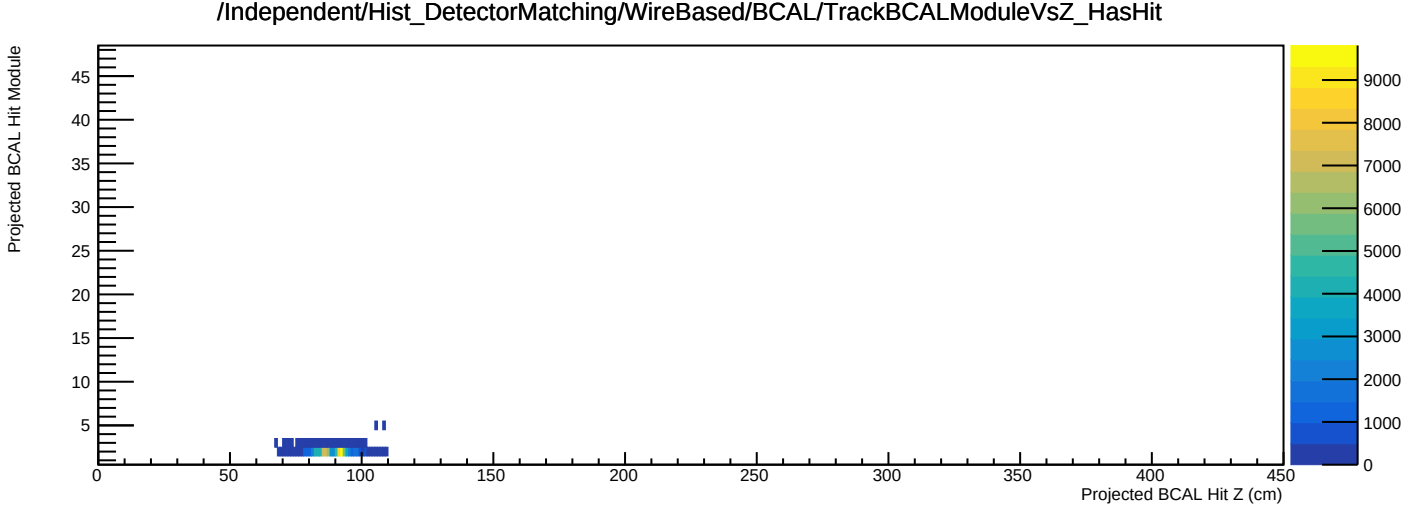

/Independent/Hist_DetectorMatching/WireBased/BCAL/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
2000
1800
1600
1400
1200
1000
800
600
400
200
0

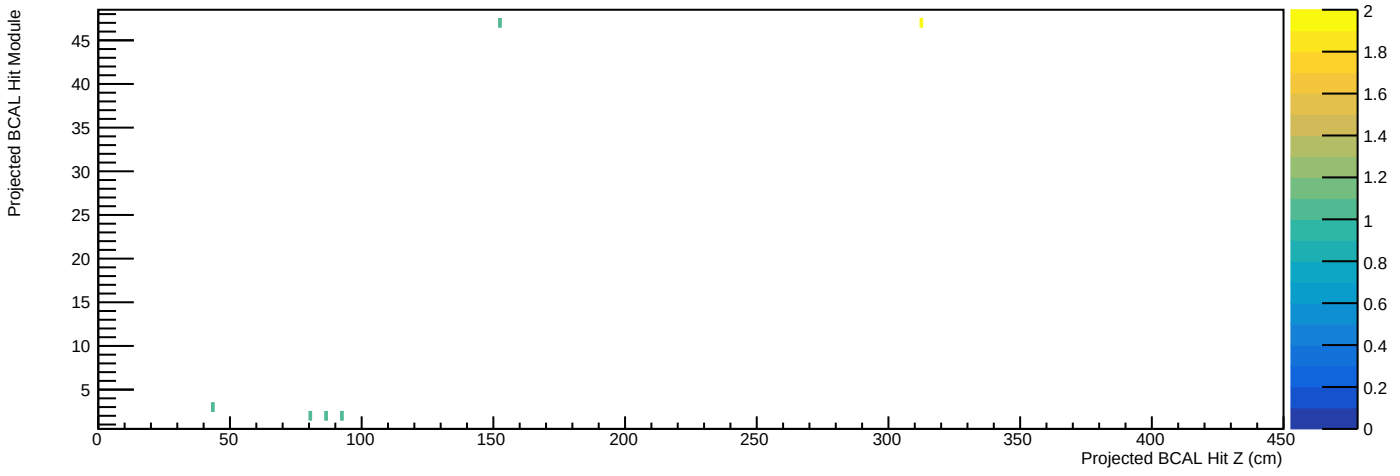

/Independent/Hist_DetectorMatching/WireBased/BCAL/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
1800
1600
1400
1200
1000
800
600
400
200
0

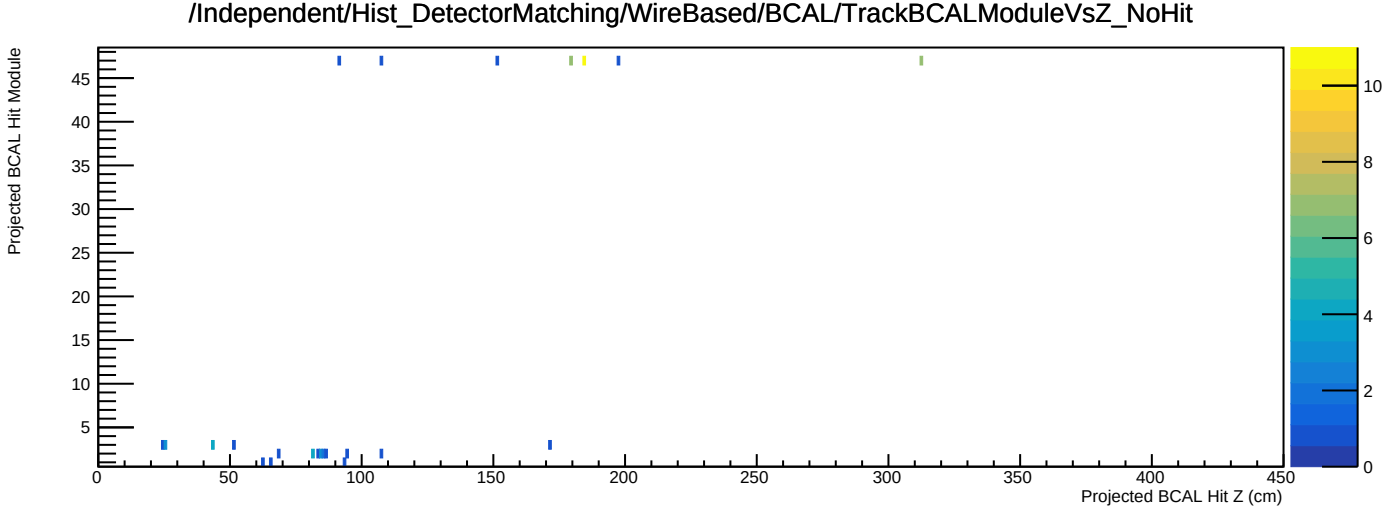

/Independent/Hist_DetectorMatching/WireBased/BCAL/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

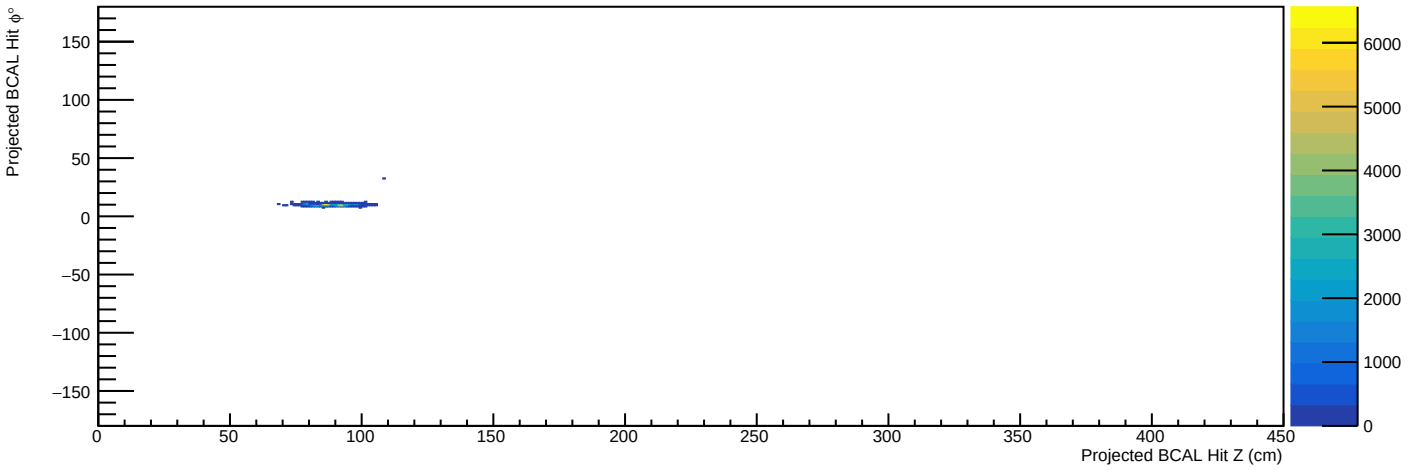

/Independent/Hist_DetectorMatching/WireBased/BCAL/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
10
8
6
4
2
0

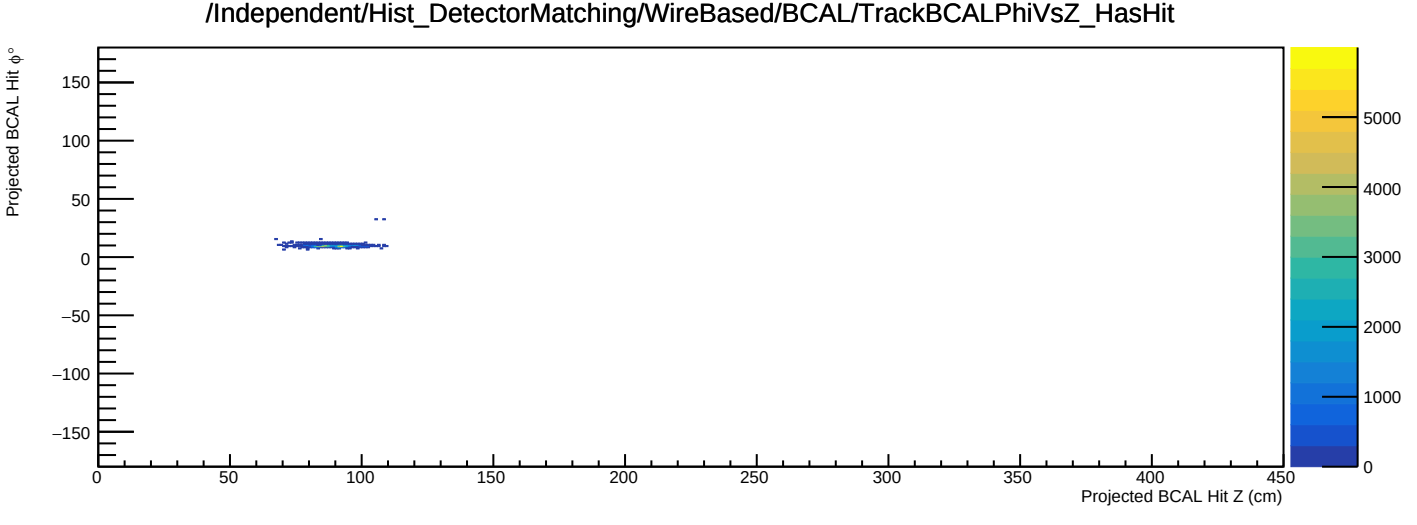

/Independent/Hist_DetectorMatching/WireBased/BCAL/TrackBCALModuleVsZ_HasHit
Projected BCAL Hit Module
Projected BCAL Hit Z (cm)
0
50
100
150
200
250
300
350
400
450
5
10
15
20
25
30
35
40
45
1000
2000
3000
4000
5000
6000
7000
8000
9000

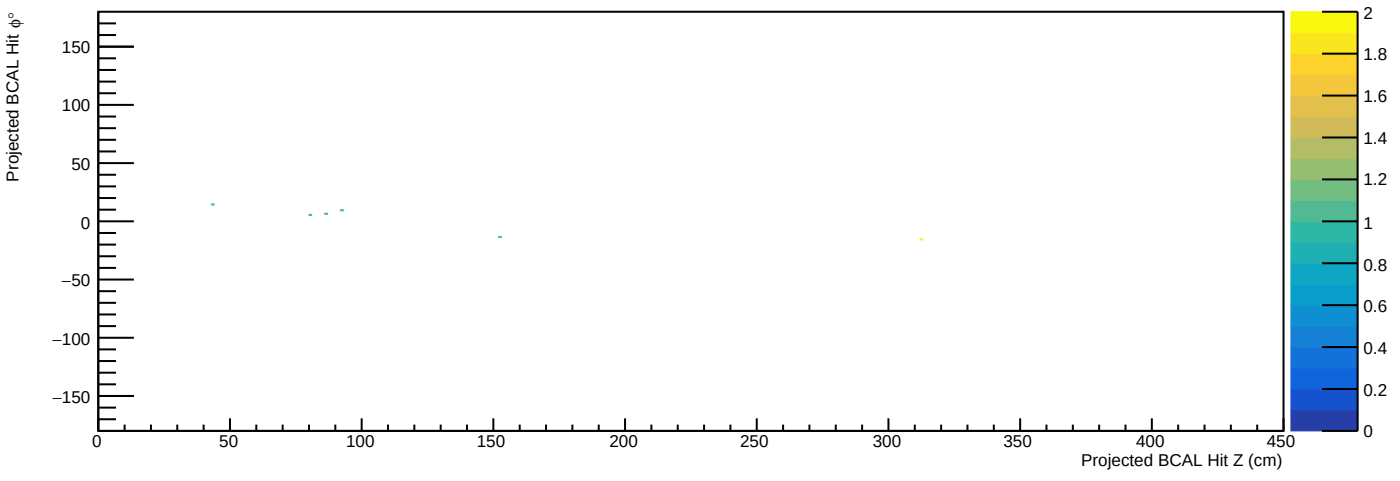

/Independent/Hist_DetectorMatching/WireBased/BCAL/TrackBCALModuleVsZ_HasHit
Projected BCAL Hit Module
Projected BCAL Hit Z (cm)
0
50
100
150
200
250
300
350
400
450
5
10
15
20
25
30
35
40
45
1000
2000
3000
4000
5000
6000
7000
8000
9000

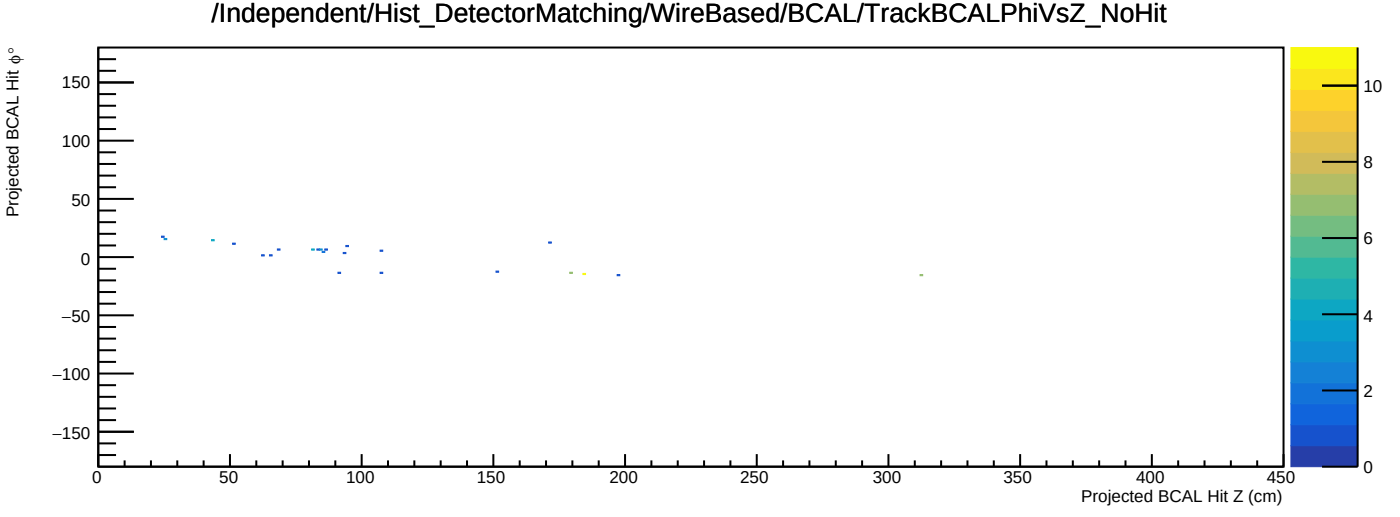

/Independent/Hist_DetectorMatching/WireBased/BCAL/TrackBCALModuleVsZ_NoHit
Projected BCAL Hit Module
Projected BCAL Hit Z (cm)
0
50
100
150
200
250
300
350
400
450
5
10
15
20
25
30
35
40
45
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

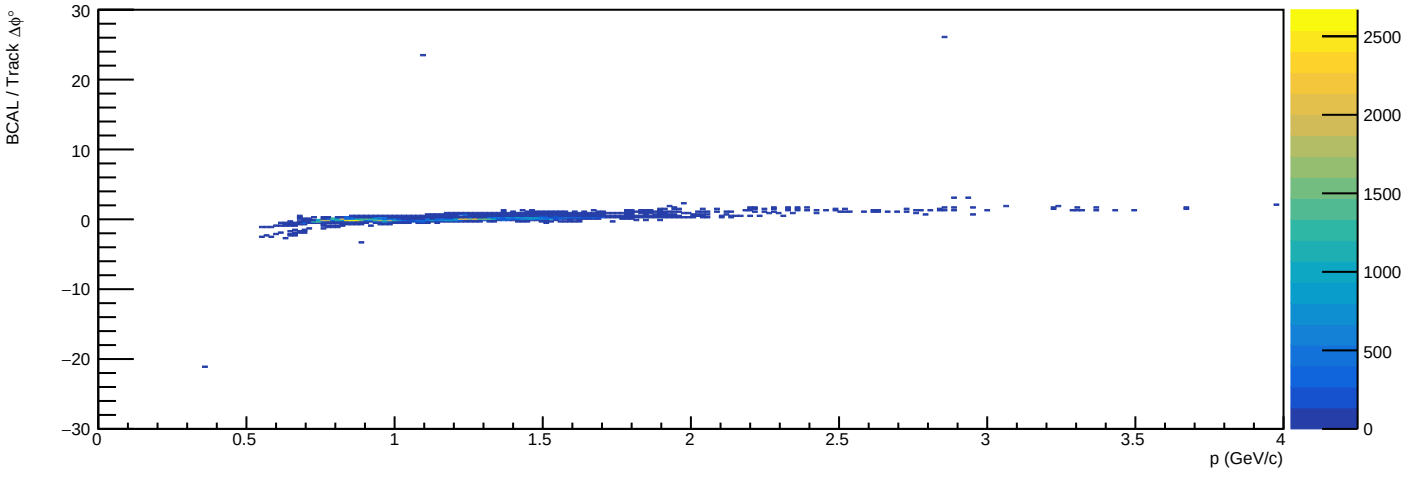

/Independent/Hist_DetectorMatching/WireBased/BCAL/TrackBCALModuleVsZ_NoHit
Projected BCAL Hit Module
Projected BCAL Hit Z (cm)
0
50
100
150
200
250
300
350
400
450
5
10
15
20
25
30
35
40
45
0
2
4
6
8
10

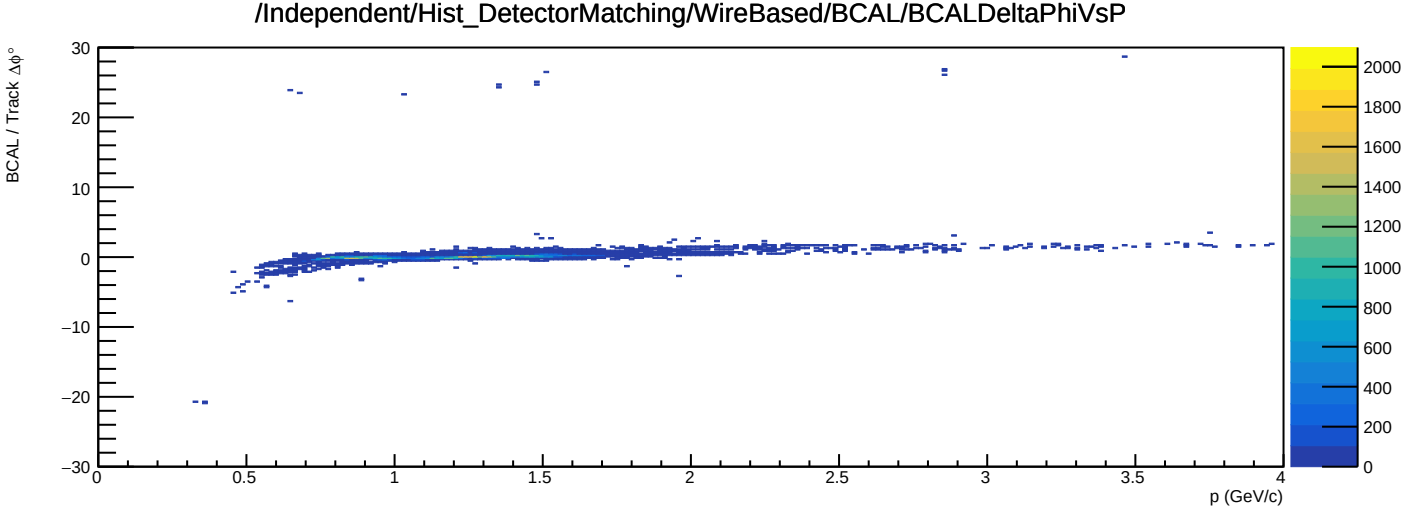

/Independent/Hist_DetectorMatching/WireBased/BCAL/TrackBCALPhiVsZ_HasHit
Projected BCAL Hit ϕ°
150
100
50
0
−50
−100
−150
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit Z (cm)
6000
5000
4000
3000
2000
1000
0

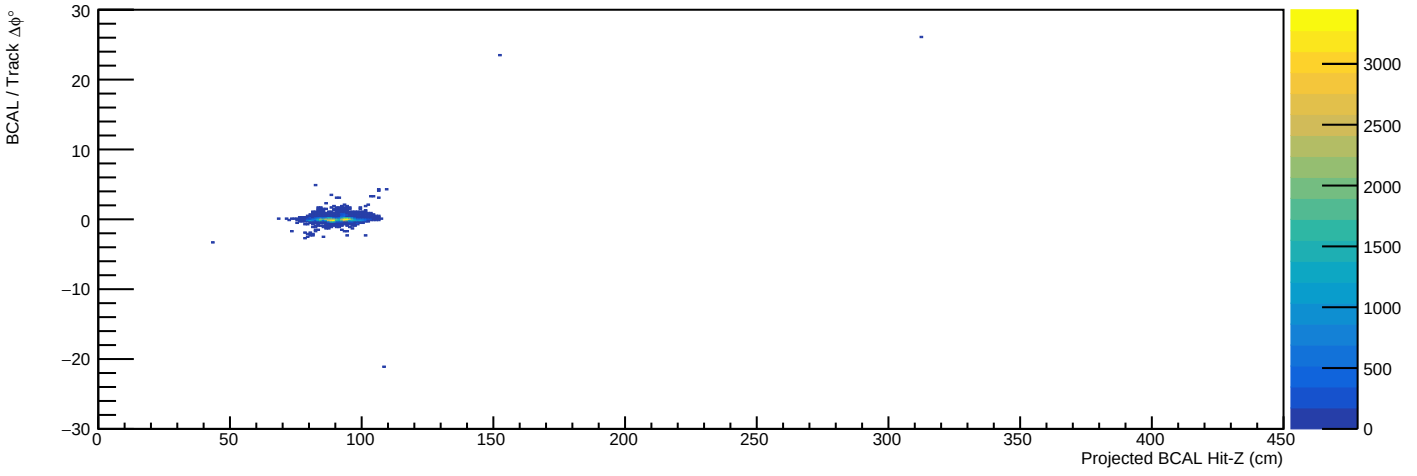

/Independent/Hist_DetectorMatching/WireBased/BCAL/TrackBCALPhiVsZ_HasHit
Projected BCAL Hit ϕ°
150
100
50
0
−50
−100
−150
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit Z (cm)
5000
4000
3000
2000
1000
0

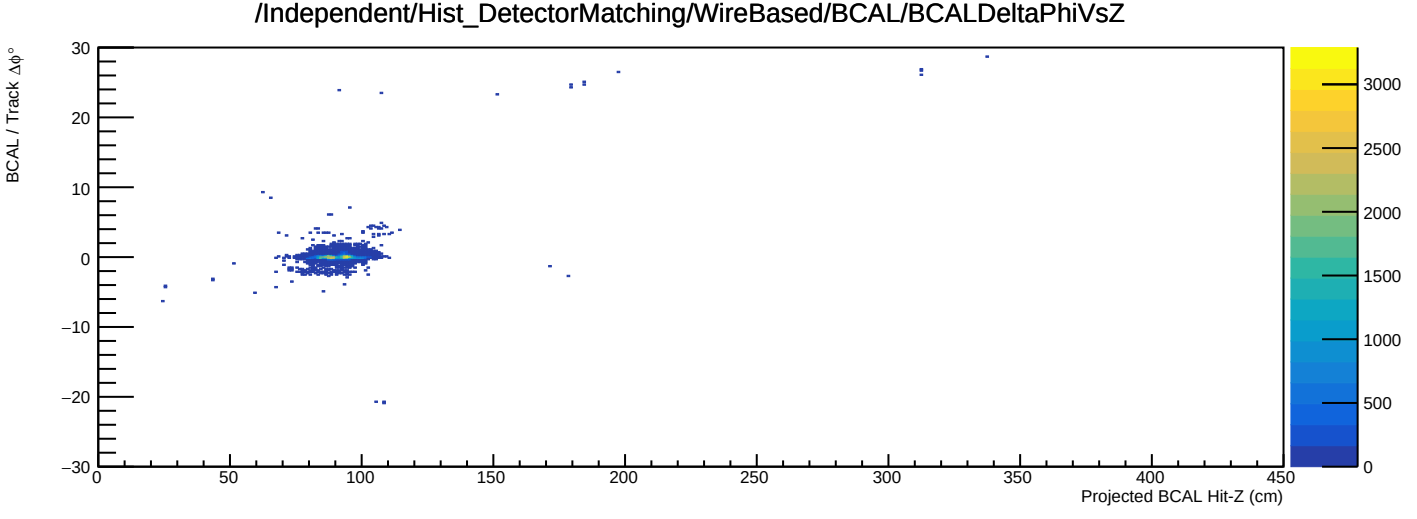

/Independent/Hist_DetectorMatching/WireBased/BCAL/TrackBCALPhiVsZ_NoHit
Projected BCAL Hit ϕ°
150
100
50
0
−50
−100
−150
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit Z (cm)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

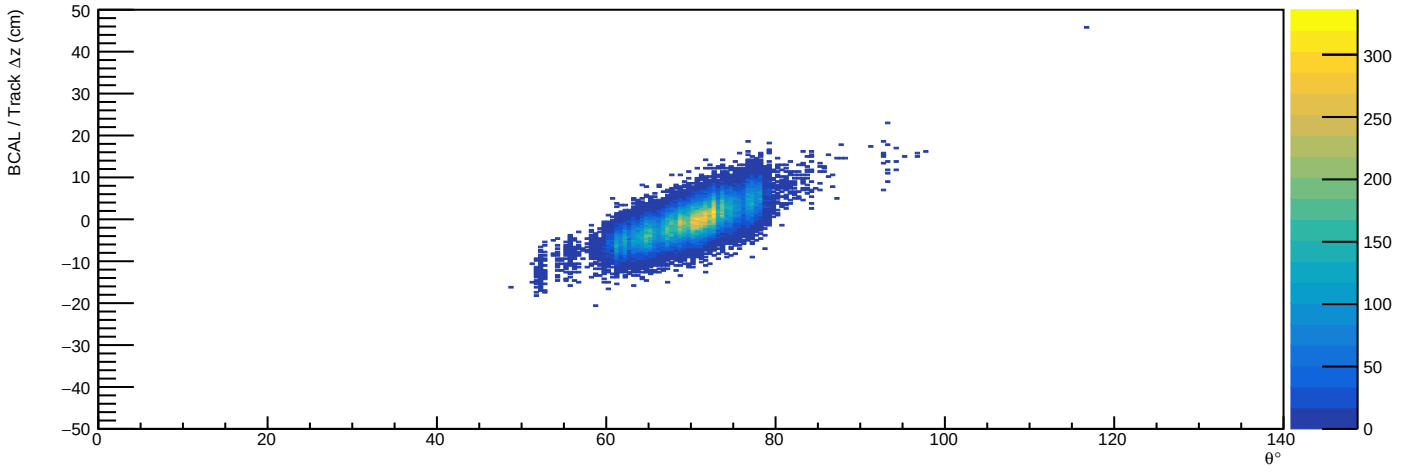

/Independent/Hist_DetectorMatching/WireBased/BCAL/TrackBCALPhiVsZ_NoHit
Projected BCAL Hit ϕ°
150
100
50
0
−50
−100
−150
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit Z (cm)
10
8
6
4
2
0

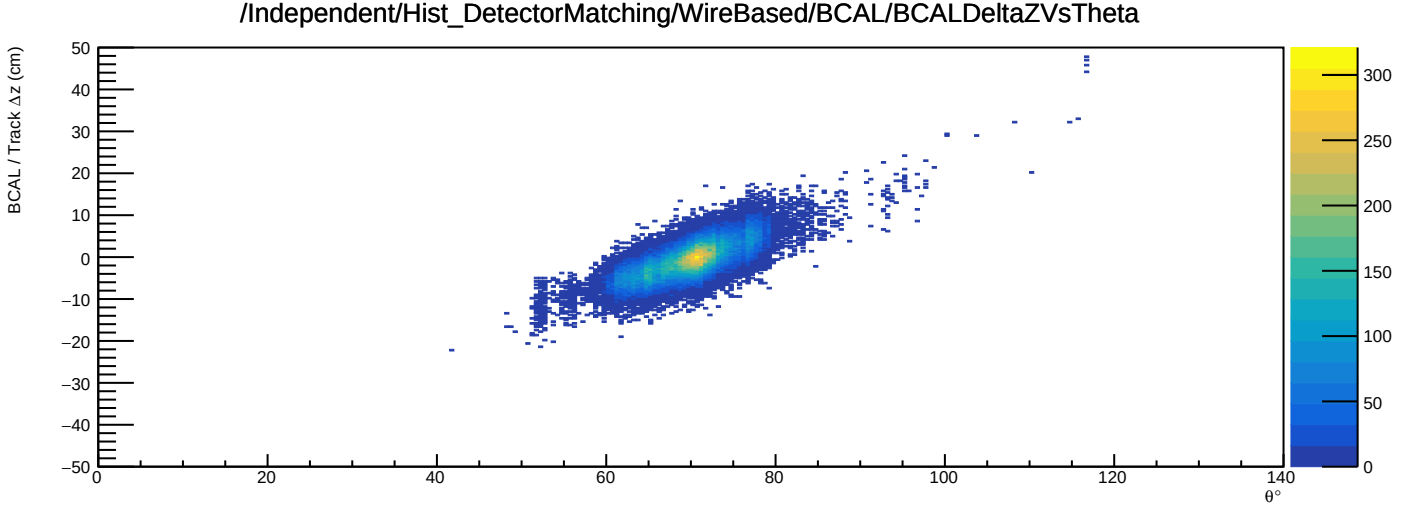

/Independent/Hist_DetectorMatching/WireBased/BCAL/BCALDeltaPhiVsP
BCAL / Track Δφ°
30
20
10
0
−10
−20
−30
0
0.5
1
1.5
2
2.5
3
3.5
4
p (GeV/c)
2500
2000
1500
1000
500
0

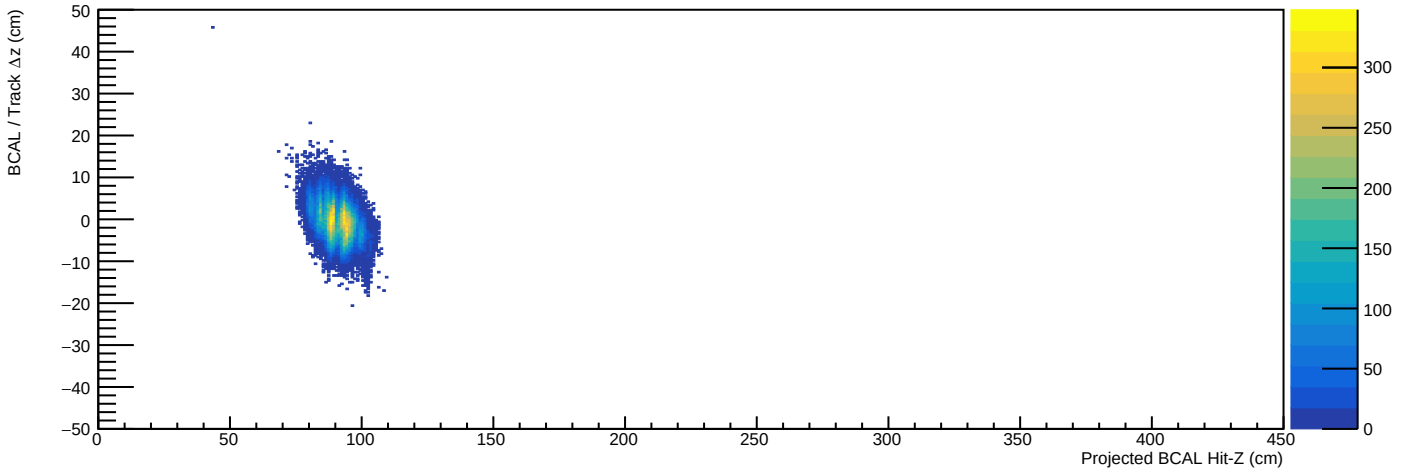

/Independent/Hist_DetectorMatching/WireBased/BCAL/BCALDeltaPhiVsP
BCAL / Track Δφ°
30
20
10
0
−10
−20
−30
0
0.5
1
1.5
2
2.5
3
3.5
4
p (GeV/c)
2000
1800
1600
1400
1200
1000
800
600
400
200
0

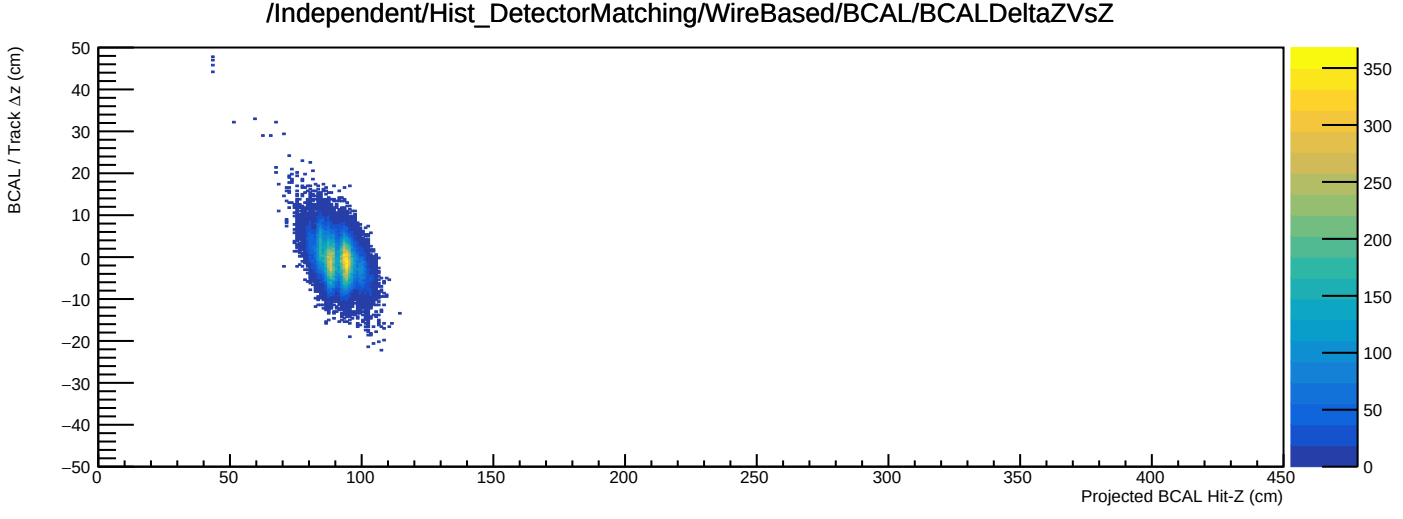

/Independent/Hist_DetectorMatching/WireBased/BCAL/BCALDeltaPhiVsZ
BCAL / Track Δφ°
30
20
10
0
−10
−20
−30
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit-Z (cm)
3000
2500
2000
1500
1000
500
0

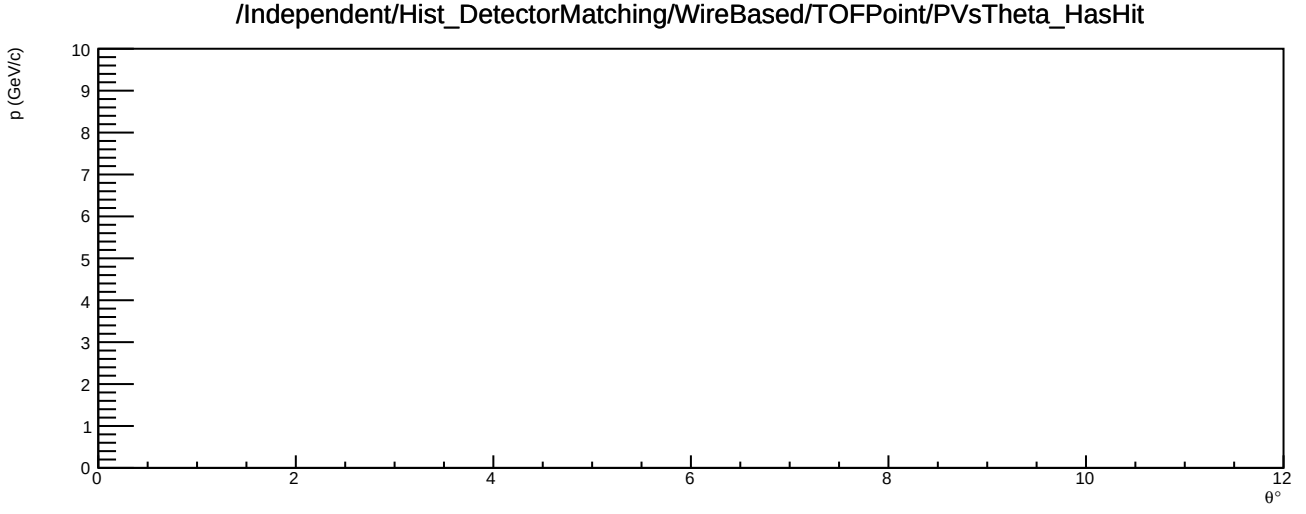

/Independent/Hist_DetectorMatching/WireBased/BCAL/BCALDeltaPhiVsZ
BCAL / Track Δφ°
30
20
10
0
−10
−20
−30
0
50
100
150
200
250
300
350
400
450
Projected BCAL Hit-Z (cm)
3000
2500
2000
1500
1000
500
0

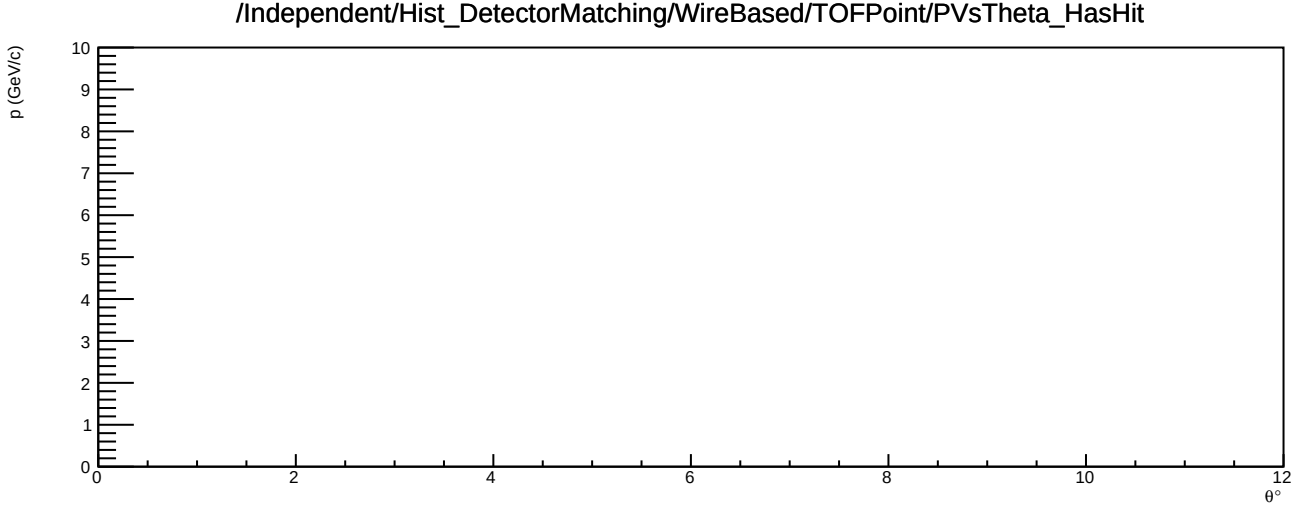

/Independent/Hist_DetectorMatching/WireBased/BCAL/BCALDeltaZVsTheta
BCAL / Track Δz (cm)
50
40
30
20
10
0
−10
−20
−30
−40
−50
0
20
40
60
80
100
120
140
θ°
300
250
200
150
100
50
0

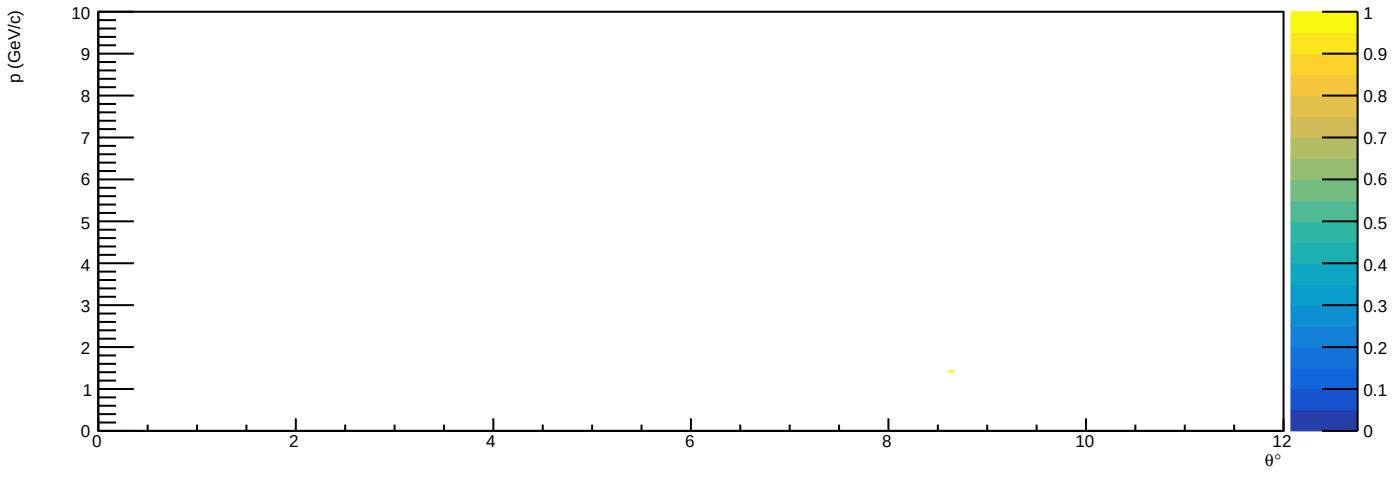

/Independent/Hist_DetectorMatching/WireBased/BCAL/BCALDeltaZVsTheta
BCAL / Track Δz (cm)
50
40
30
20
10
0
−10
−20
−30
−40
−50
0
20
40
60
80
100
120
140
θ°
300
250
200
150
100
50
0

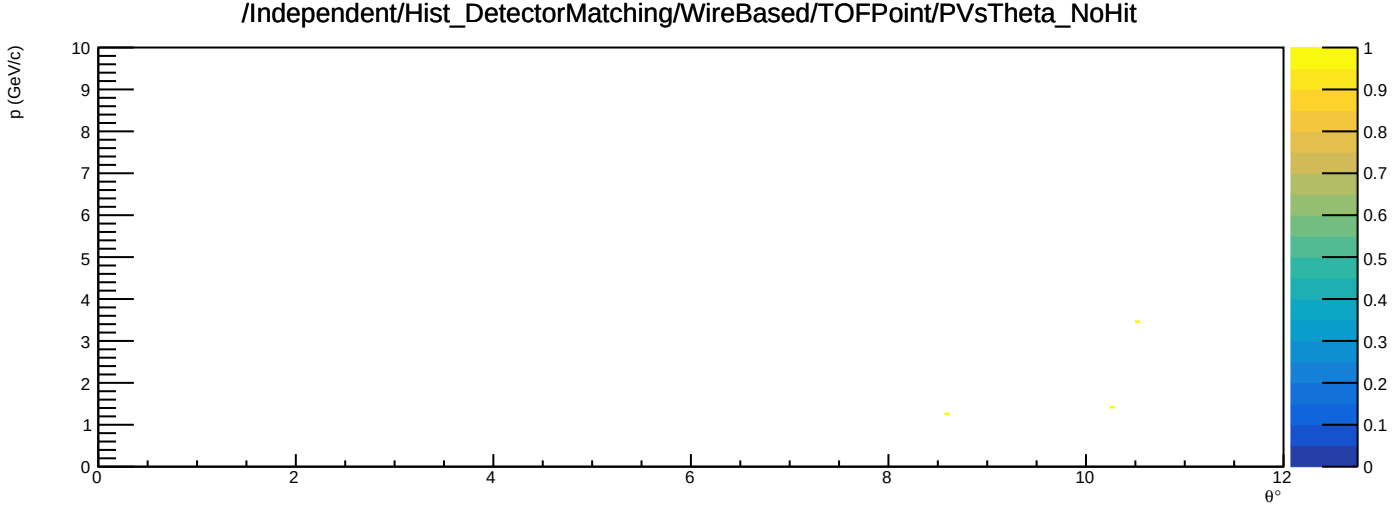

/Independent/Hist_DetectorMatching/WireBased/BCAL/BCALDeltaZVsZ
BCAL / Track Δz (cm)
Projected BCAL Hit-Z (cm)

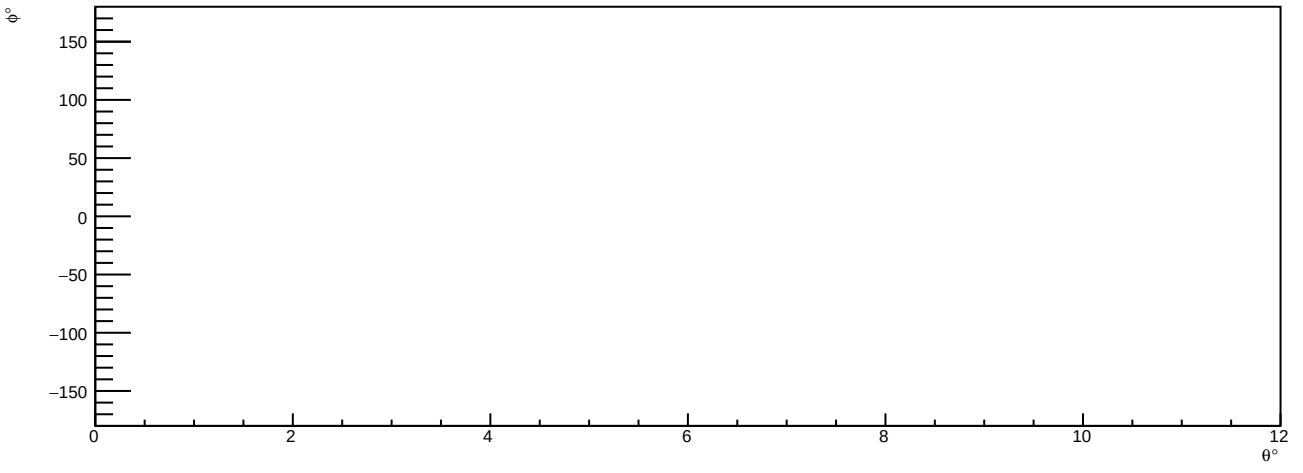

/Independent/Hist_DetectorMatching/WireBased/BCAL/BCALDeltaZVsZ
BCAL / Track Δz (cm)
Projected BCAL Hit-Z (cm)

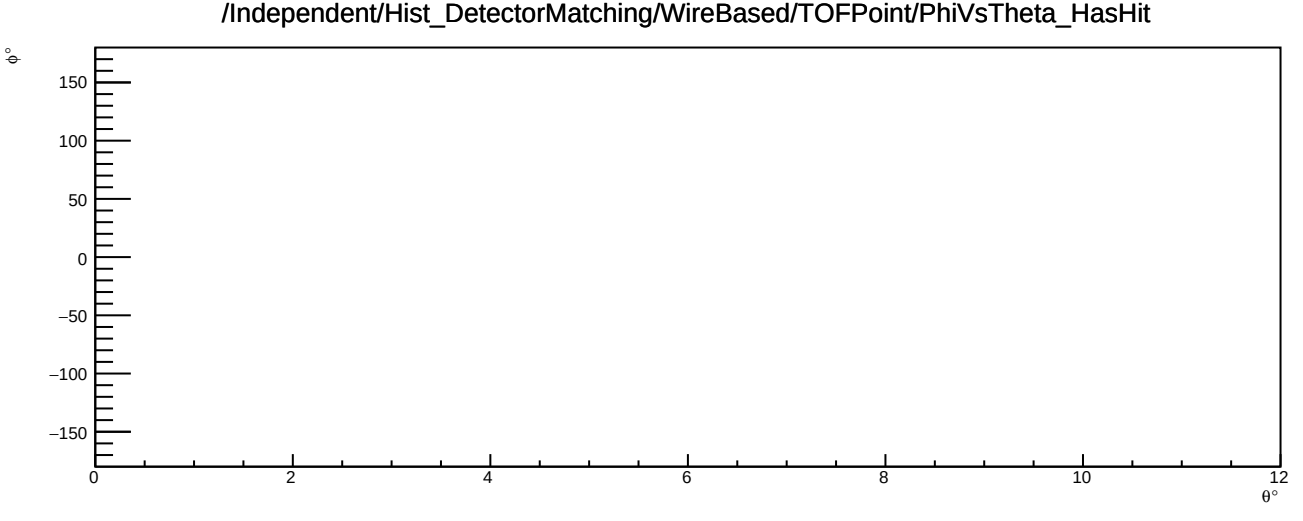

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/PVsTheta_HasHit
p (GeV/c)
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
12
θ°


/Independent/Hist_DetectorMatching/WireBased/TOFPoint/PVsTheta_HasHit
p (GeV/c)
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
12
θ°

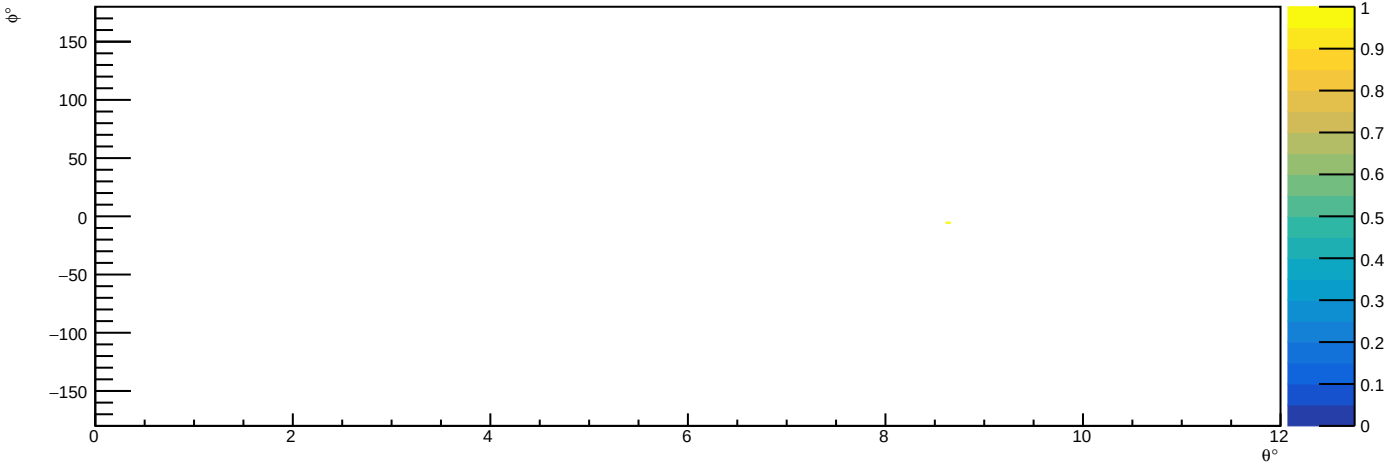

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/PVsTheta_NoHit
p (GeV/c)
θ°


/Independent/Hist_DetectorMatching/WireBased/TOFPoint/PVsTheta_NoHit
p (GeV/c)
θ°

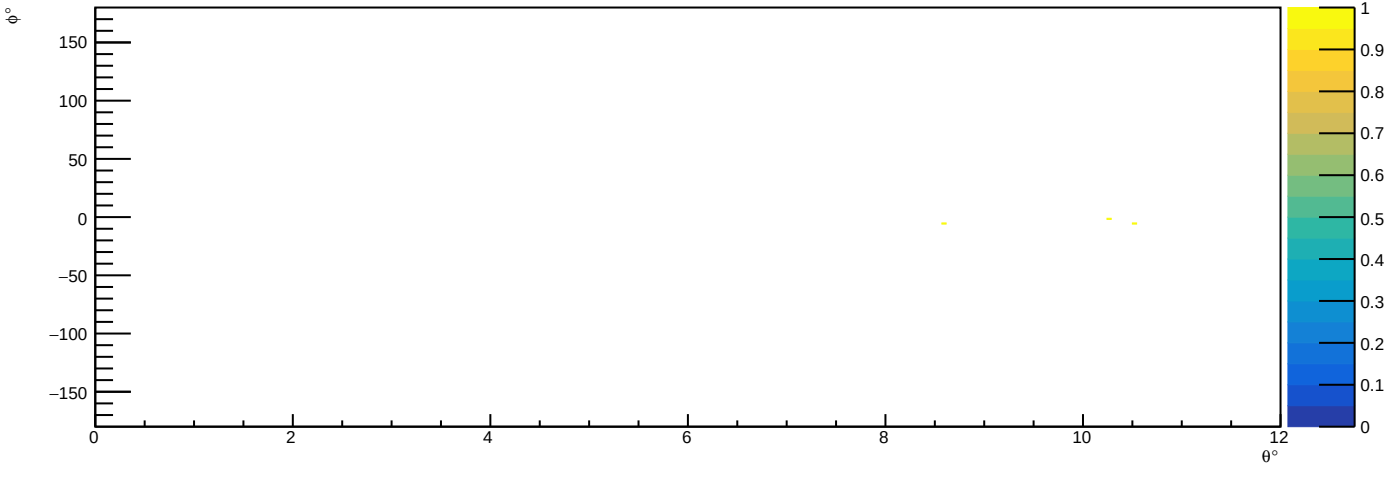

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°

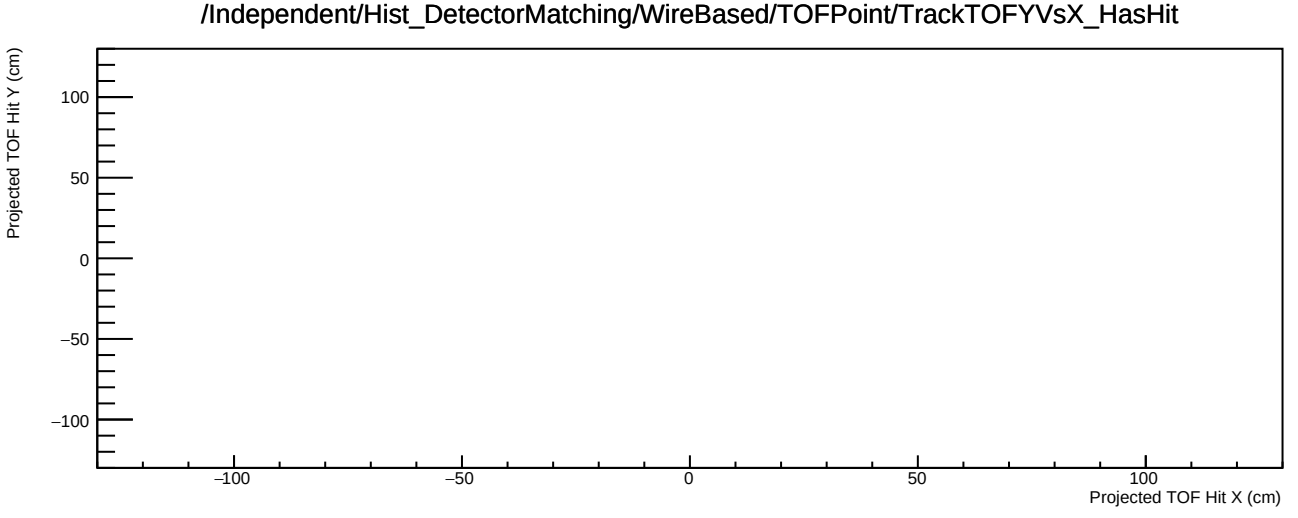

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/PhiVsTheta_HasHit
φ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°

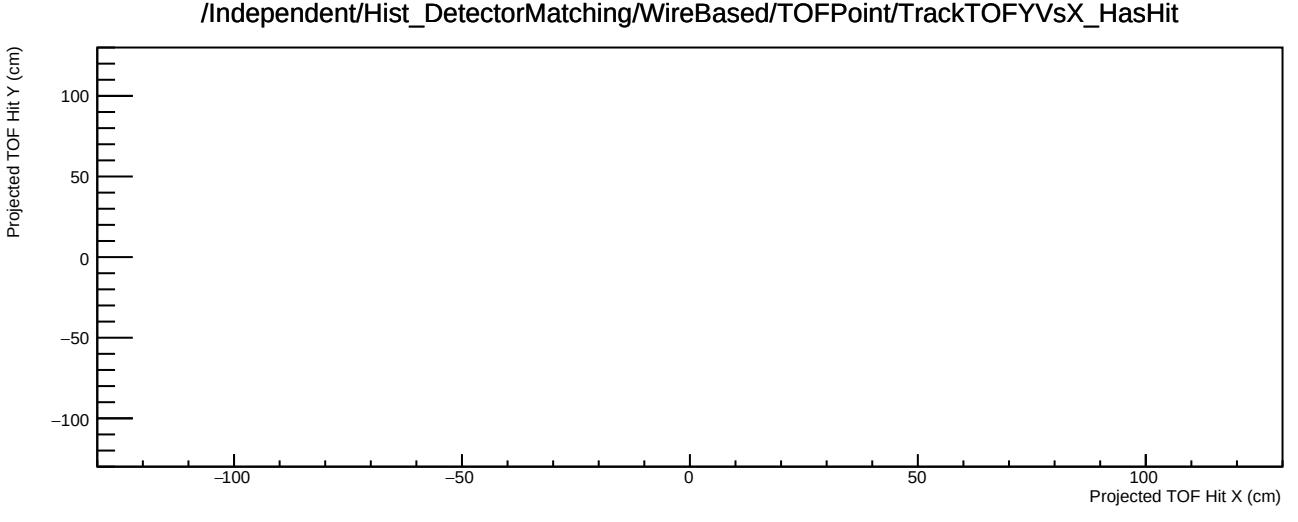
/Independent/Hist_DetectorMatching/WireBased/TOFPoint/PhiVsTheta_NoHit

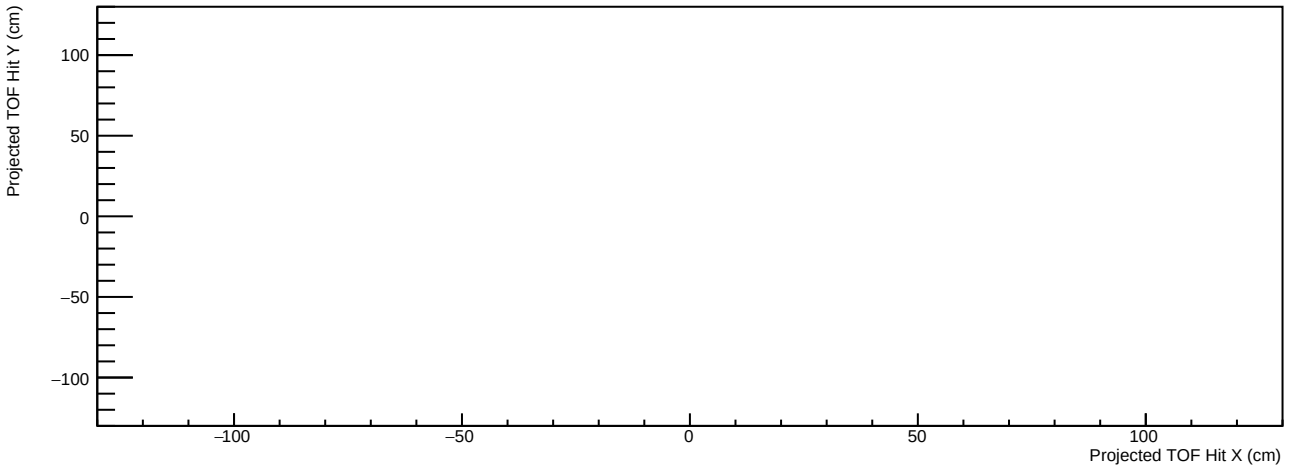


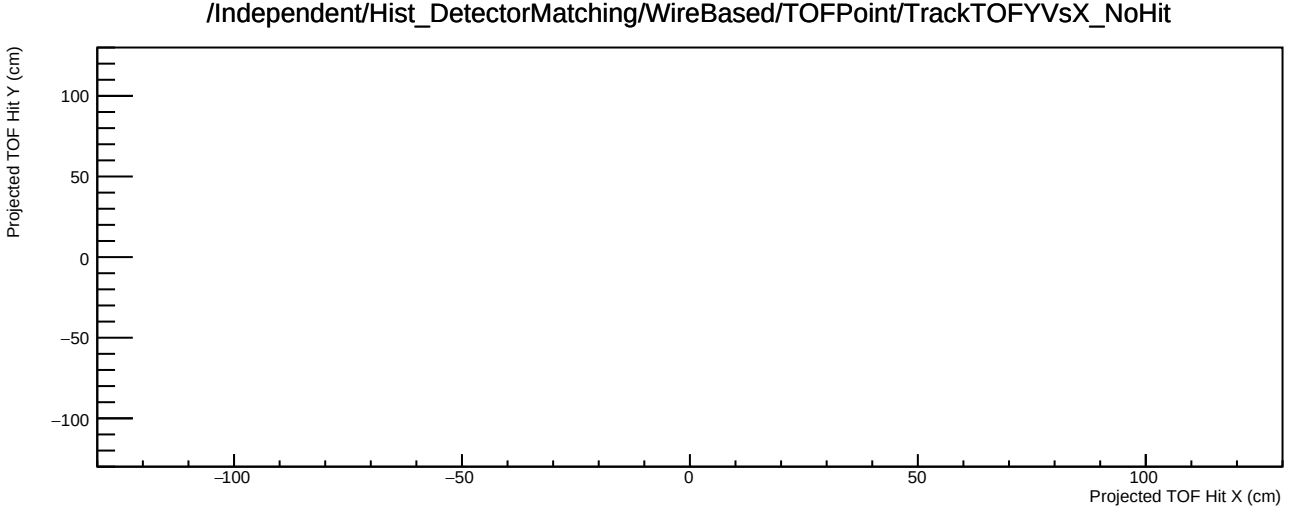
/Independent/Hist_DetectorMatching/WireBased/TOFPoint/PhiVsTheta_NoHit

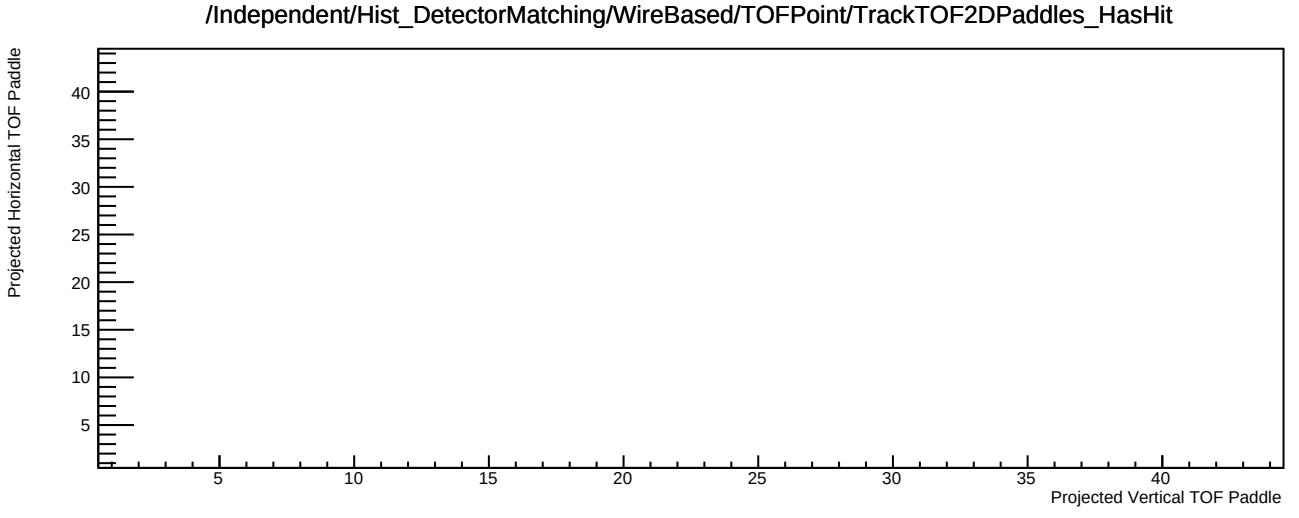


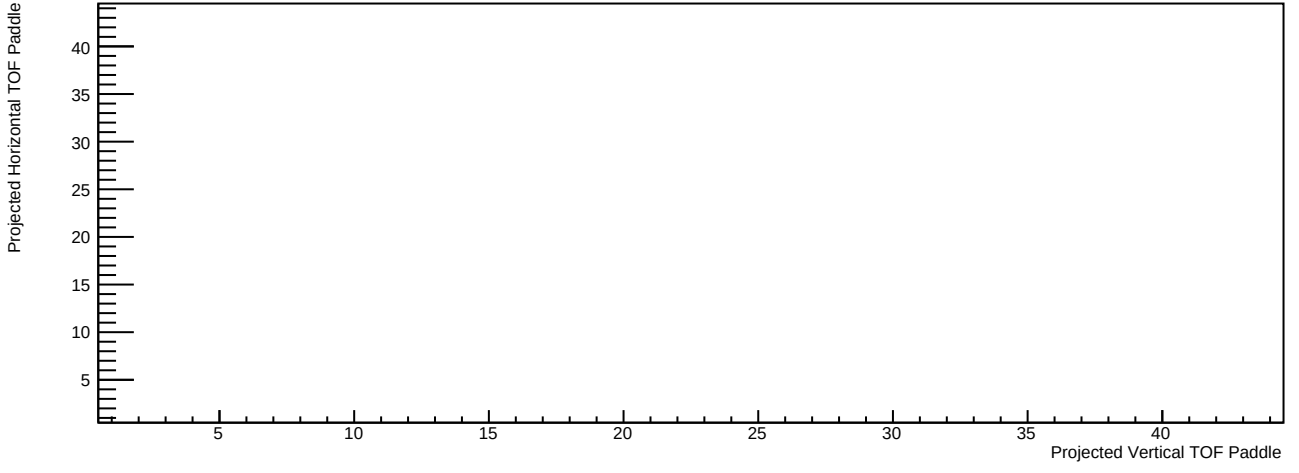

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOFYVsX_HasHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected TOF Hit X (cm)

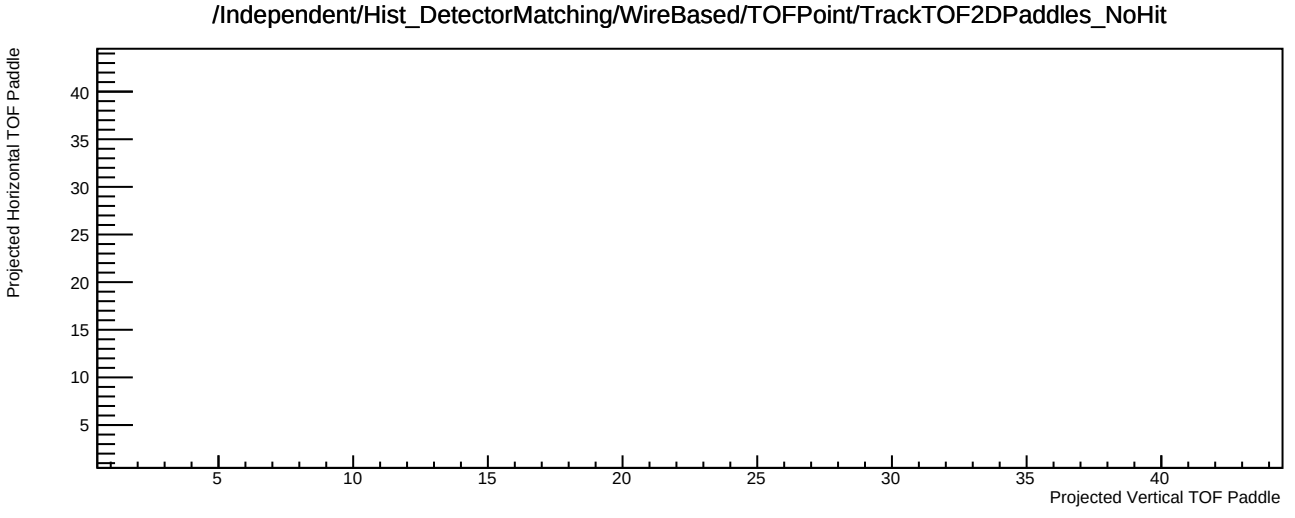

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOFYVsX_HasHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected TOF Hit X (cm)

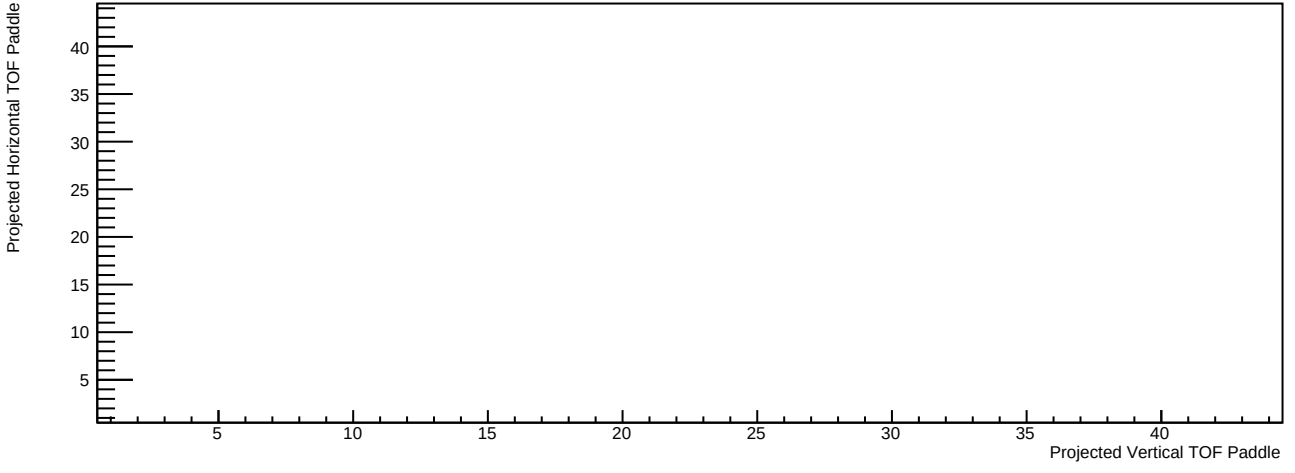

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOFYVsX_NoHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected TOF Hit X (cm)


/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOFYVsX_NoHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected TOF Hit X (cm)

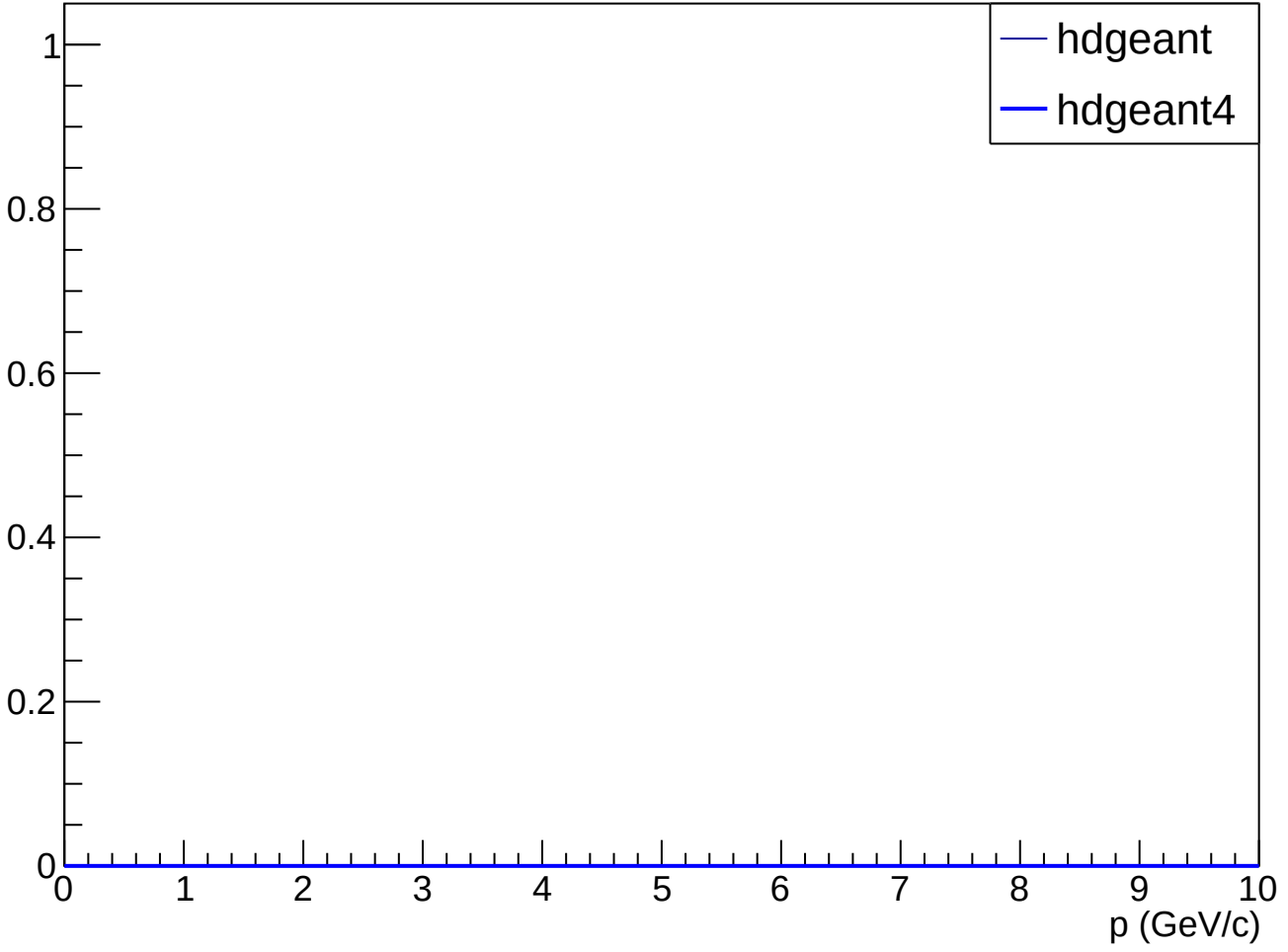

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOF2DPaddles_HasHit
Projected Horizontal TOF Paddle
Projected Vertical TOF Paddle
5
10
15
20
25
30
35
40


/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOF2DPaddles_HasHit
Projected Horizontal TOF Paddle
Projected Vertical TOF Paddle
5
10
15
20
25
30
35
40

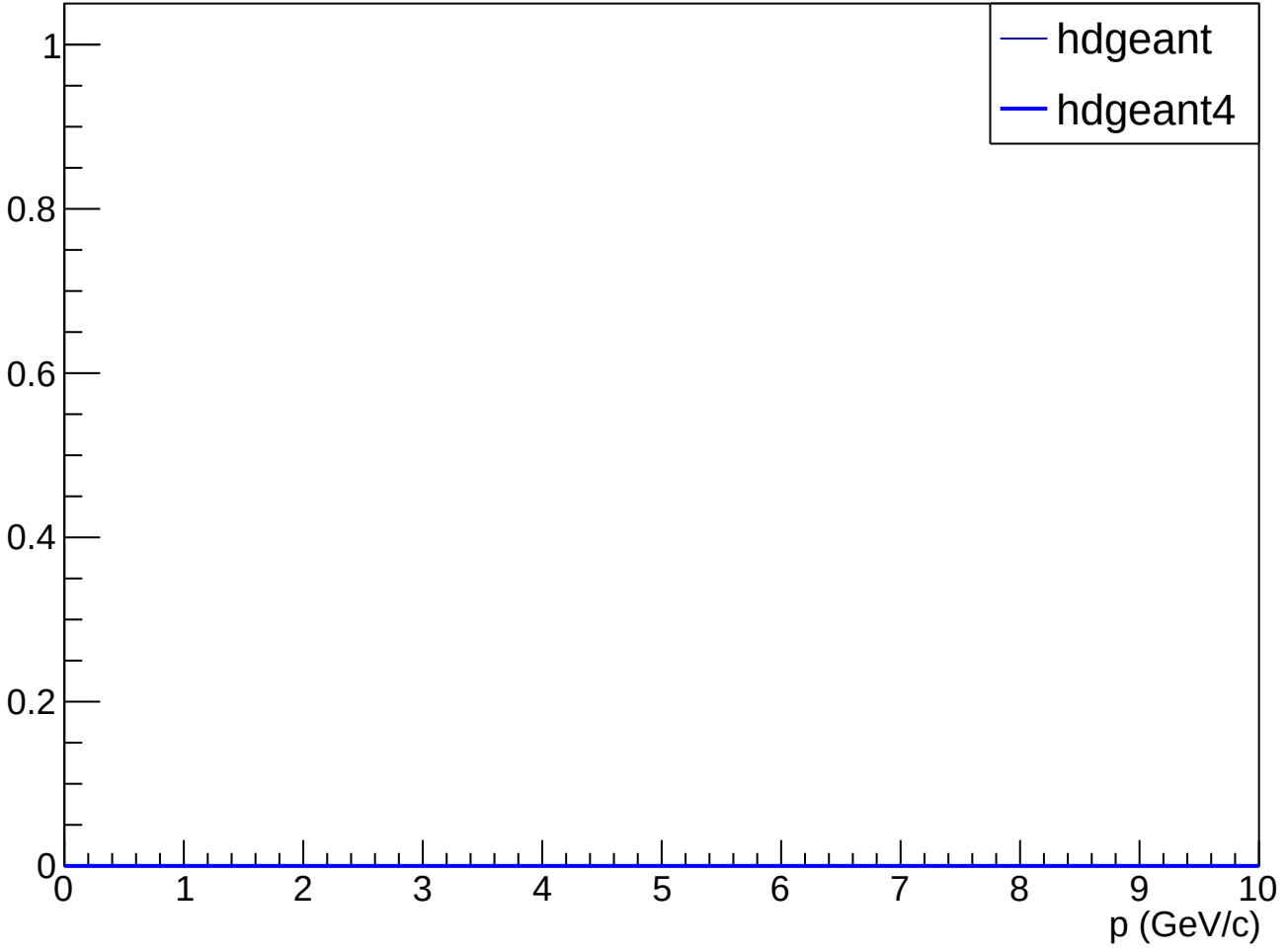

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOF2DPaddles_NoHit
Projected Horizontal TOF Paddle
Projected Vertical TOF Paddle
5
10
15
20
25
30
35
40


/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOF2DPaddles_NoHit
Projected Horizontal TOF Paddle
Projected Vertical TOF Paddle
5
10
15
20
25
30
35
40

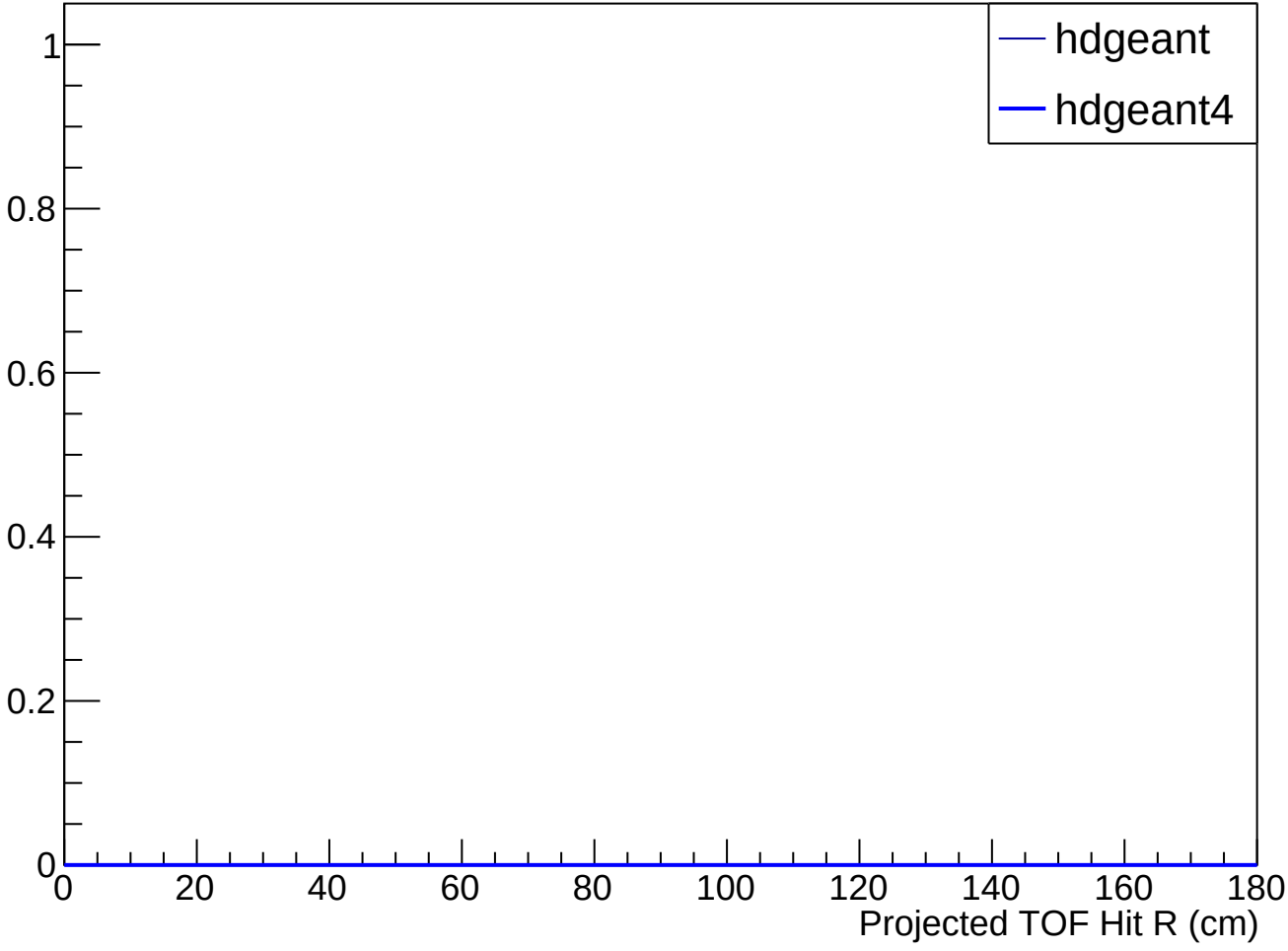
/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOFP_HasHit



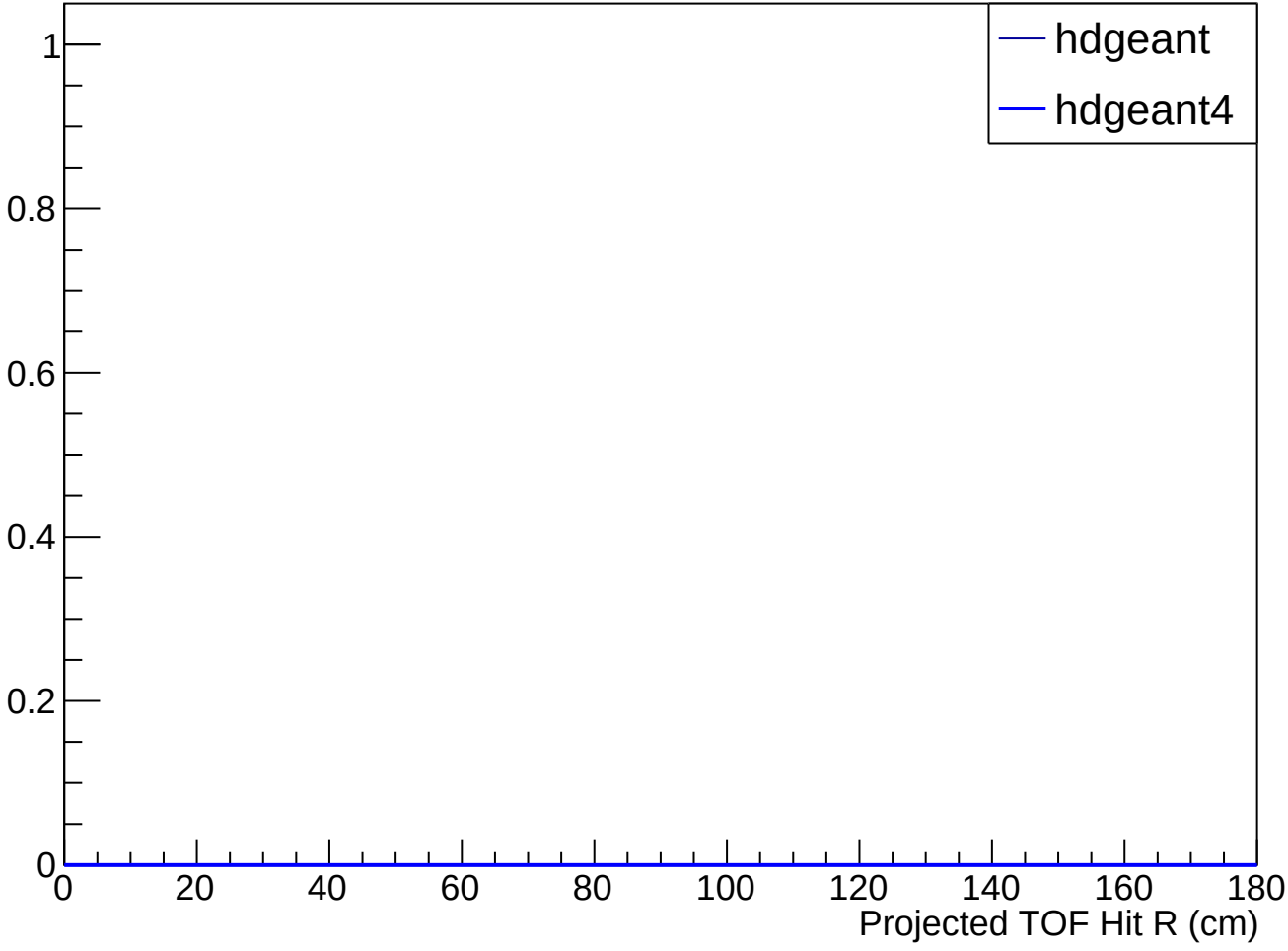
/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOFP_NoHit

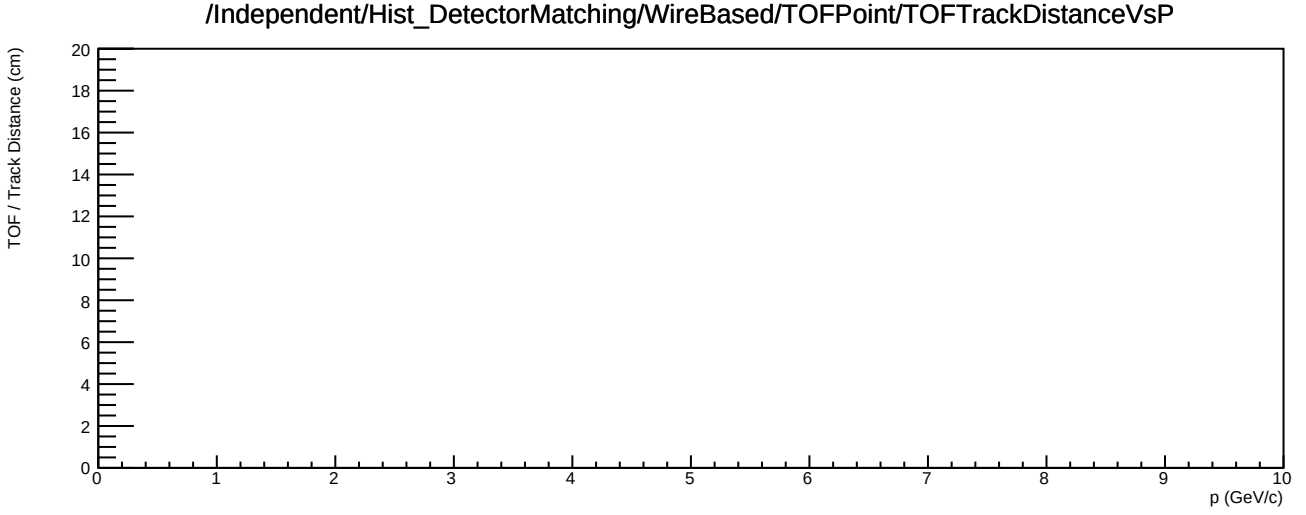


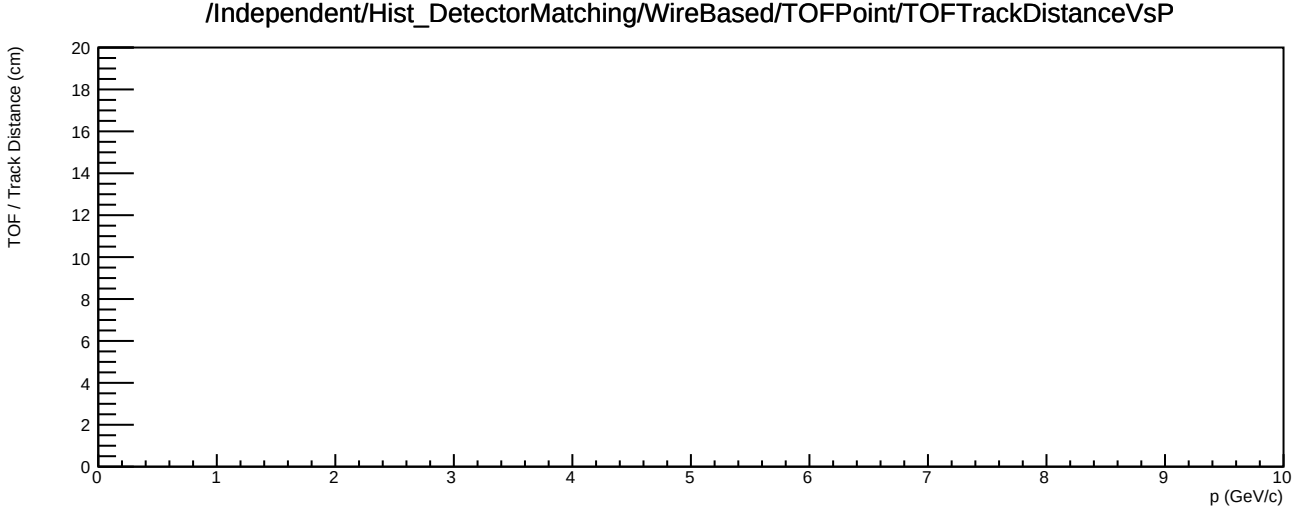
/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOFR_HasHit

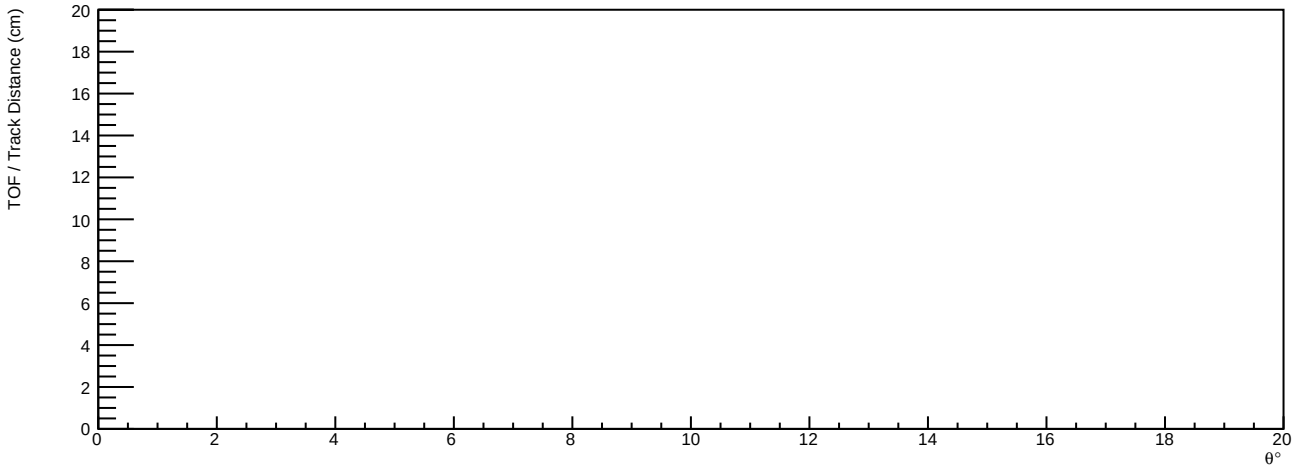


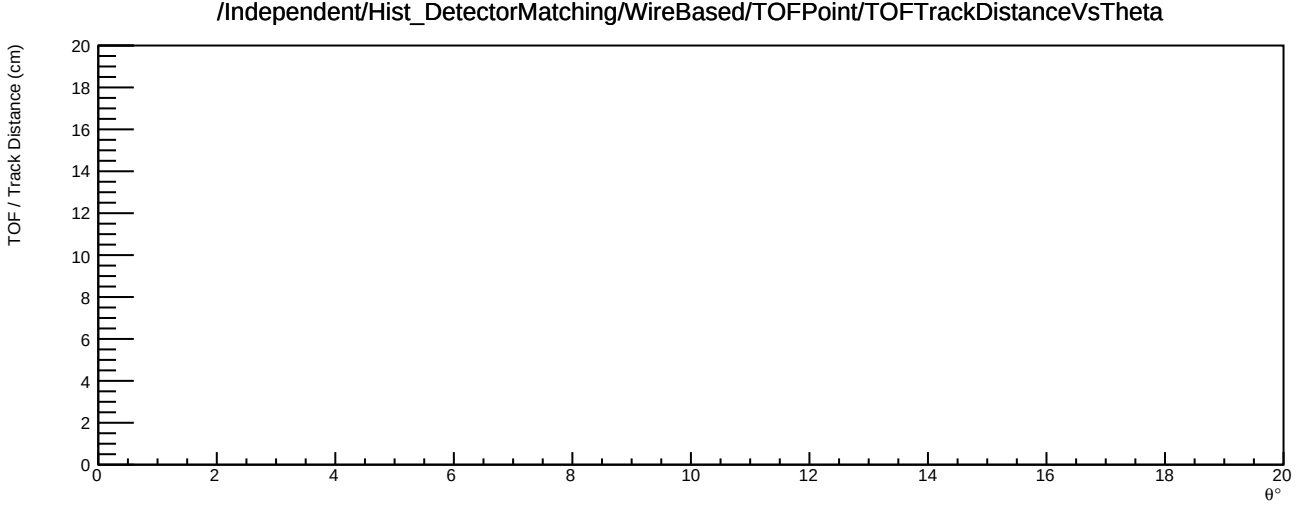
/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TrackTOFR_NoHit

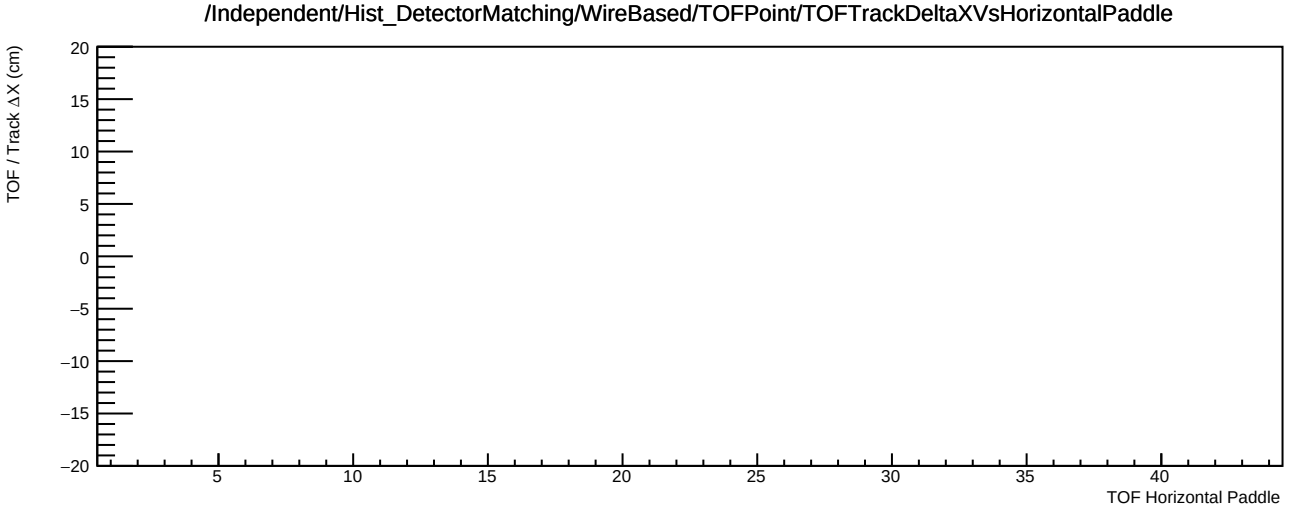


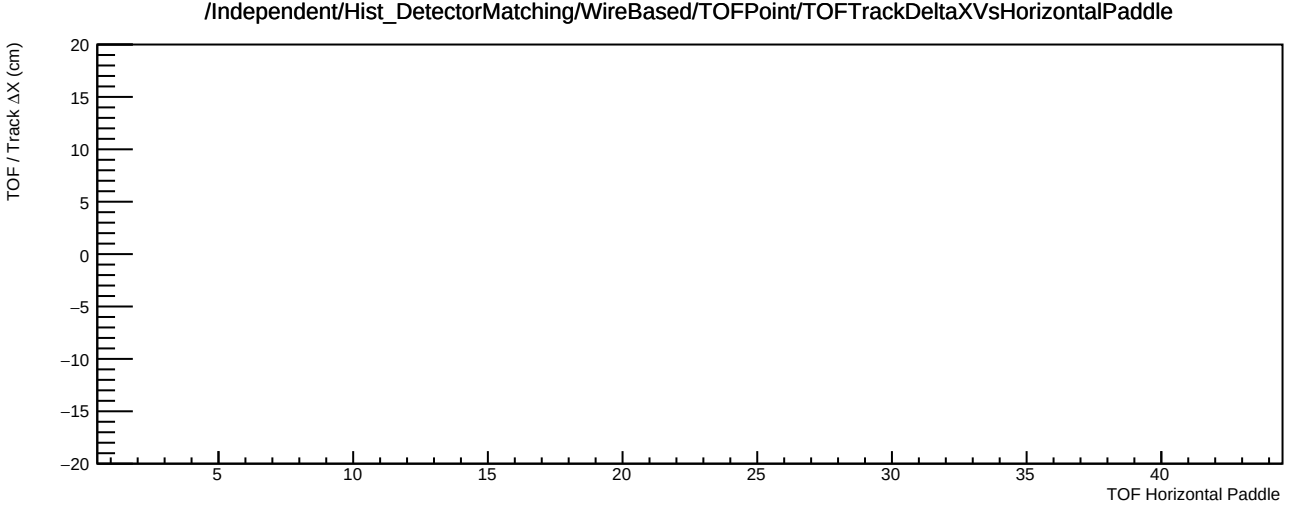

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDistanceVsP
TOF / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

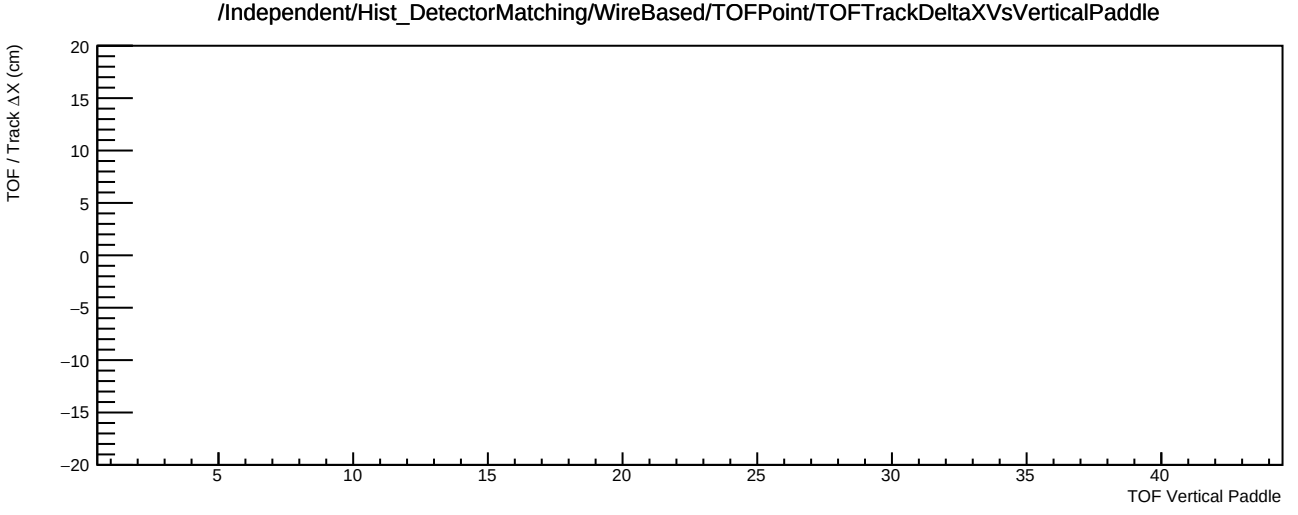

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDistanceVsP
TOF / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

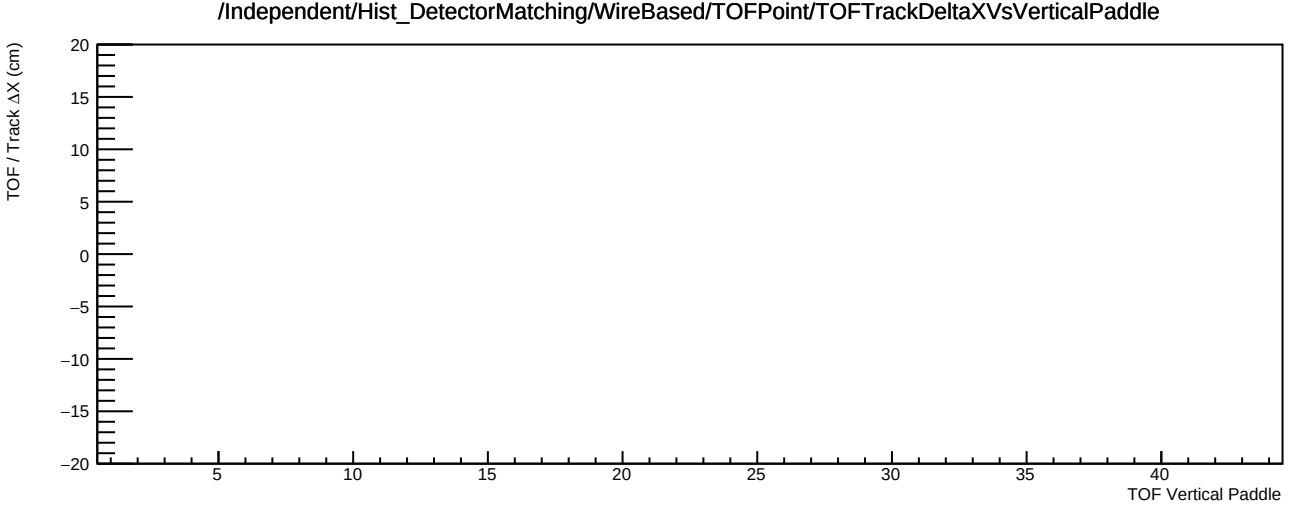

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDistanceVsTheta
TOF / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
θ°

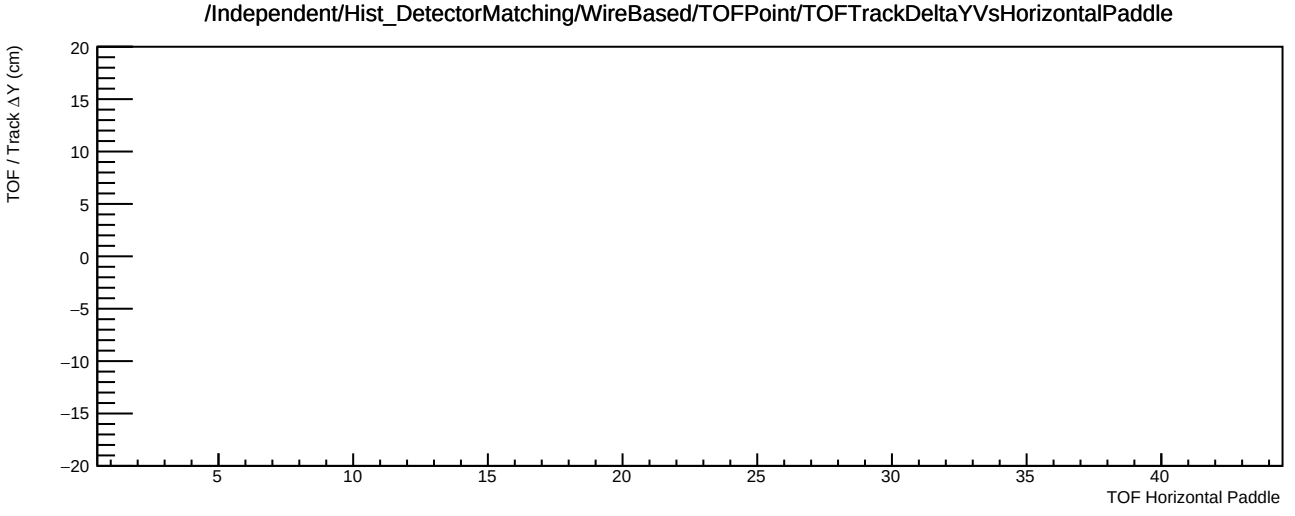

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDistanceVsTheta
TOF / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
θ°

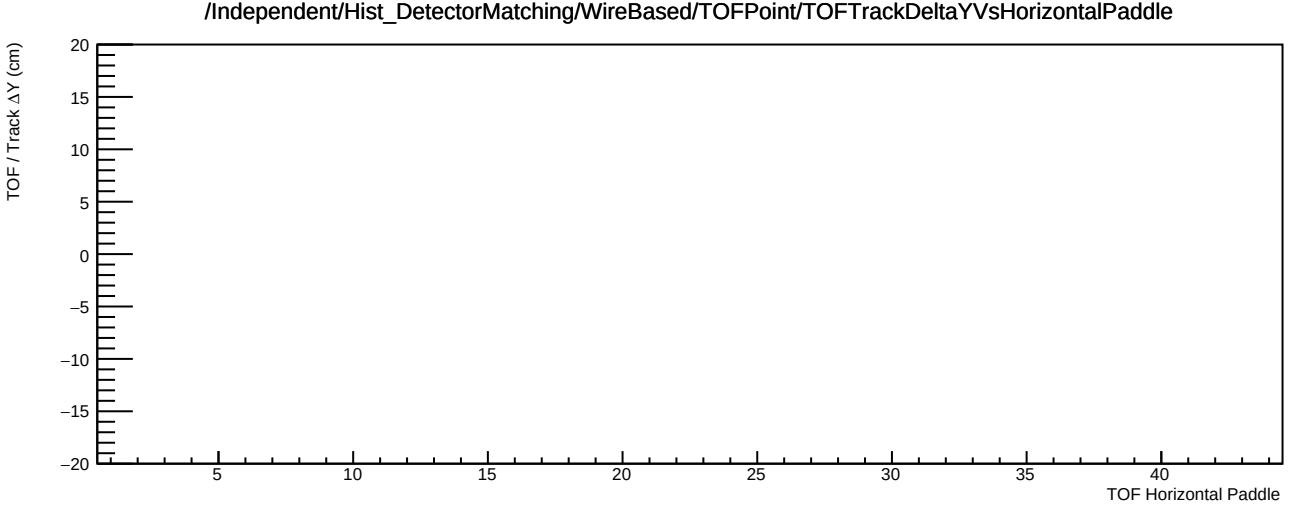

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDeltaXVsHorizontalPaddle
TOF / Track ΔX (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Horizontal Paddle

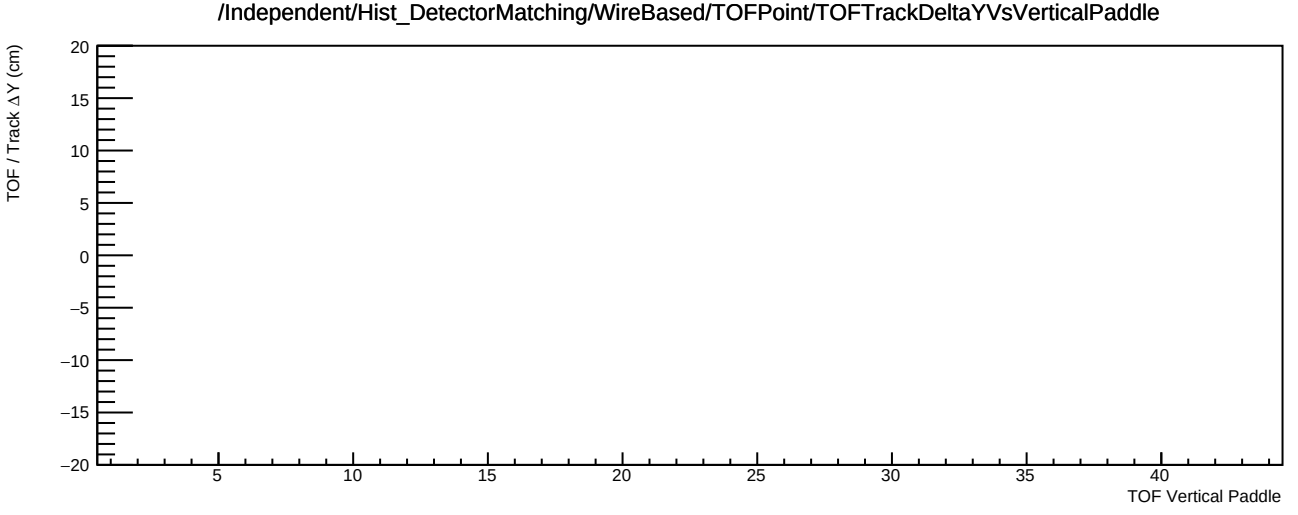

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDeltaXVsHorizontalPaddle
TOF / Track ΔX (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Horizontal Paddle

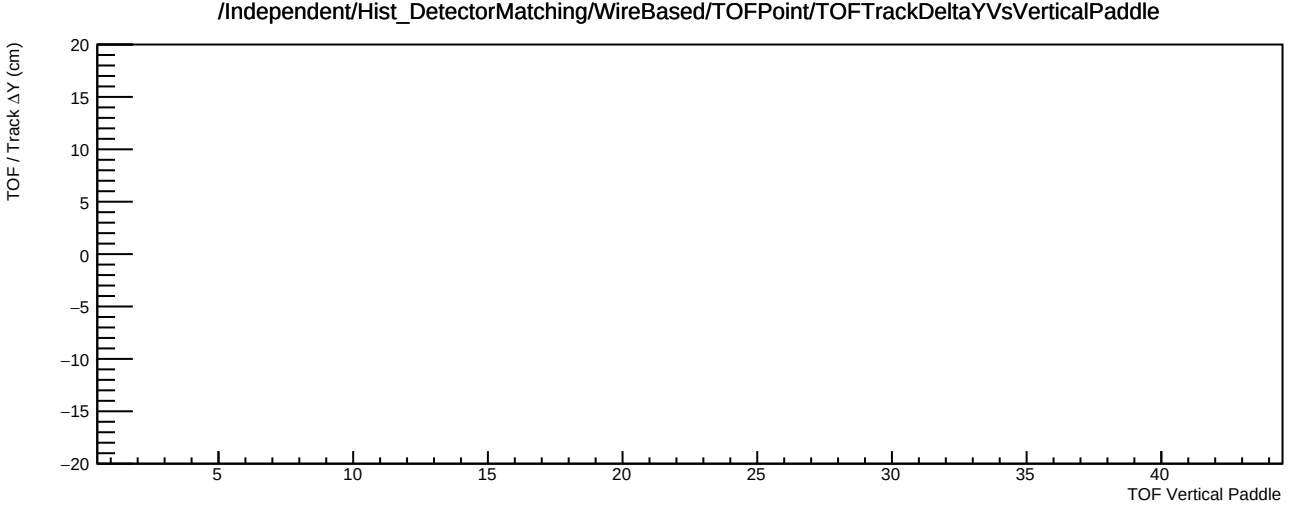

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDeltaXVsVerticalPaddle
TOF / Track ΔX (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Vertical Paddle


/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDeltaXVsVerticalPaddle
TOF / Track ΔX (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Vertical Paddle

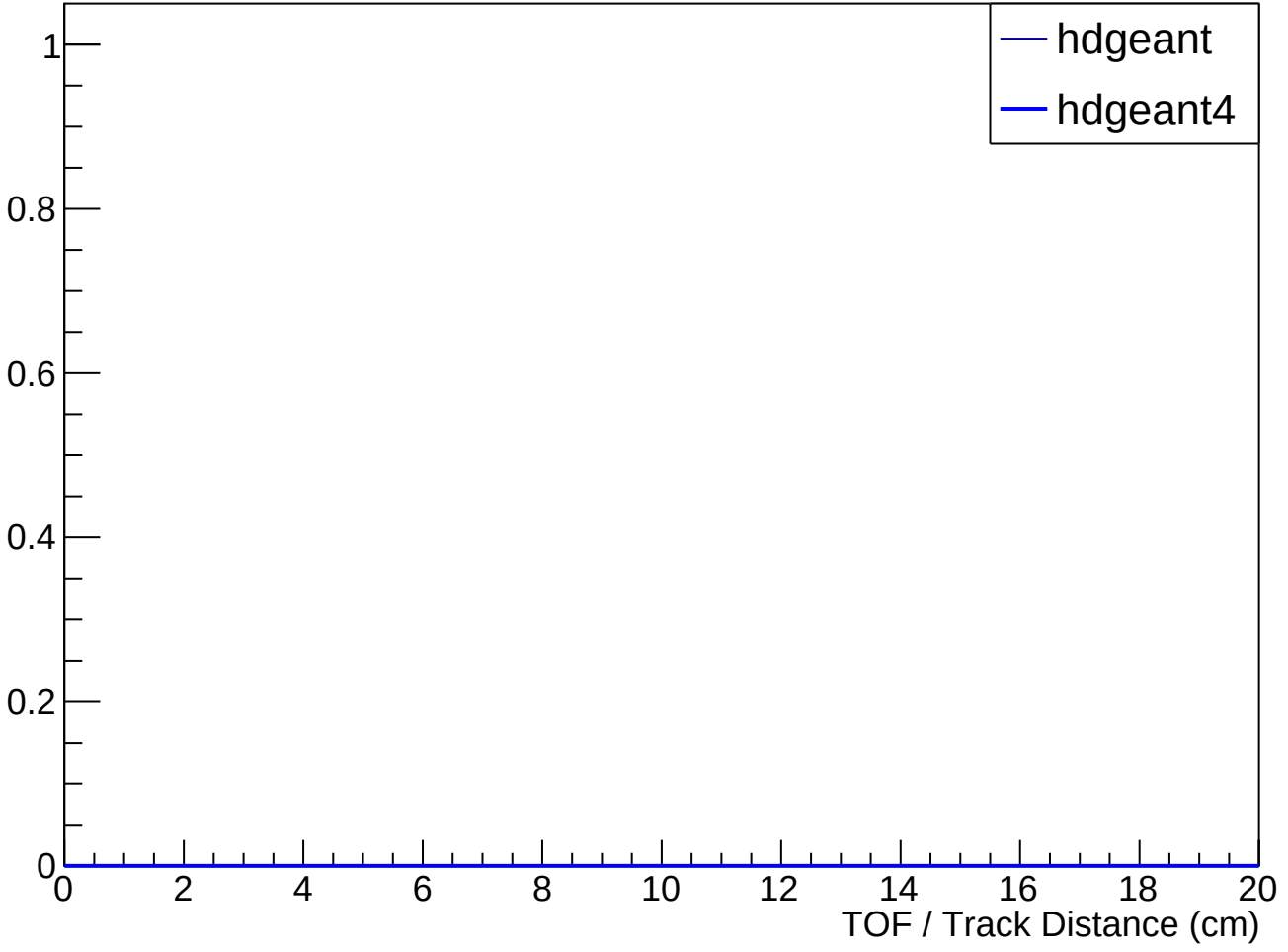

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDeltaYVsHorizontalPaddle
TOF / Track ΔY (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Horizontal Paddle


/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDeltaYVsHorizontalPaddle
TOF / Track ΔY (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Horizontal Paddle

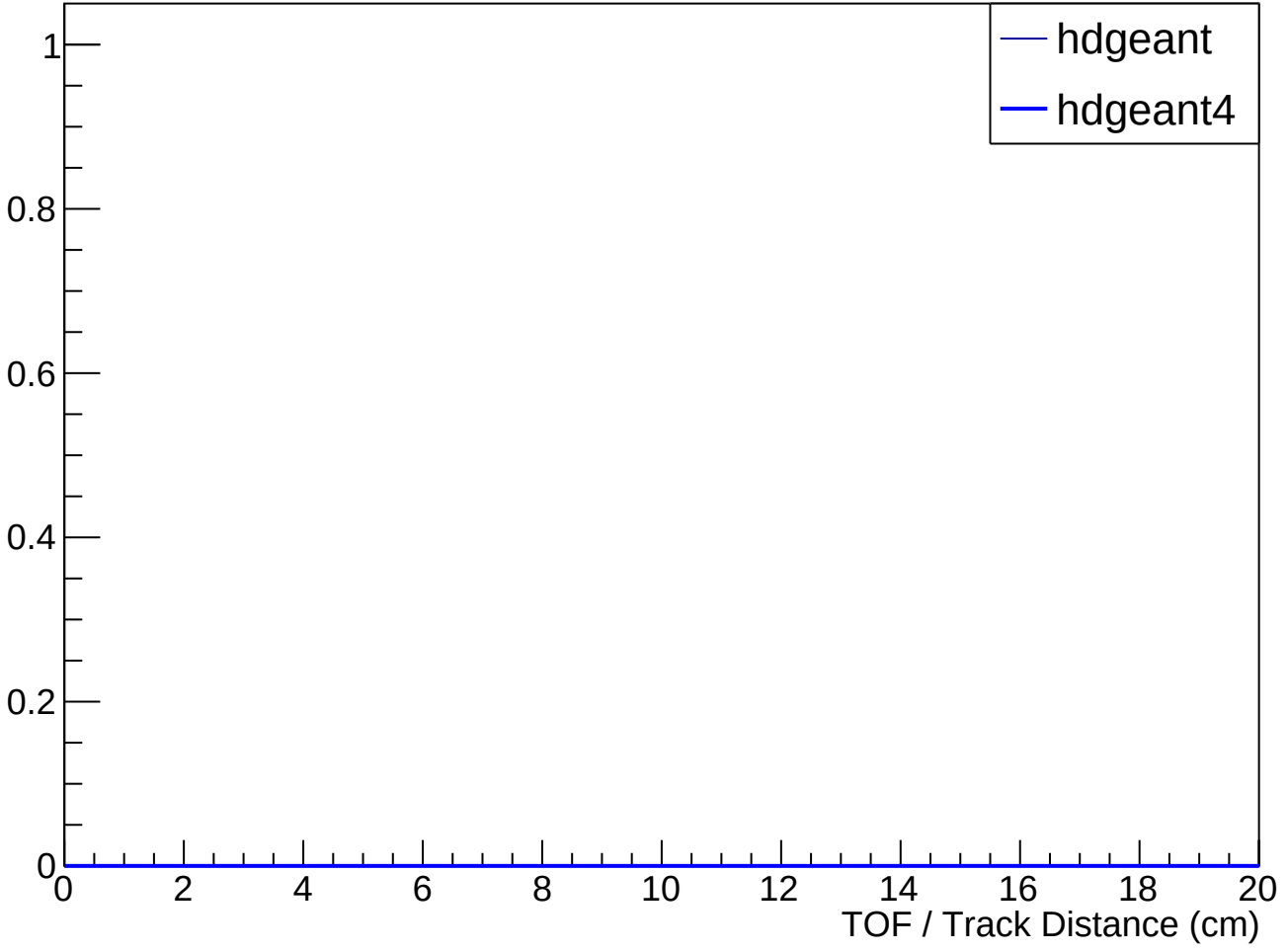

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDeltaYVsVerticalPaddle
TOF / Track ΔY (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Vertical Paddle

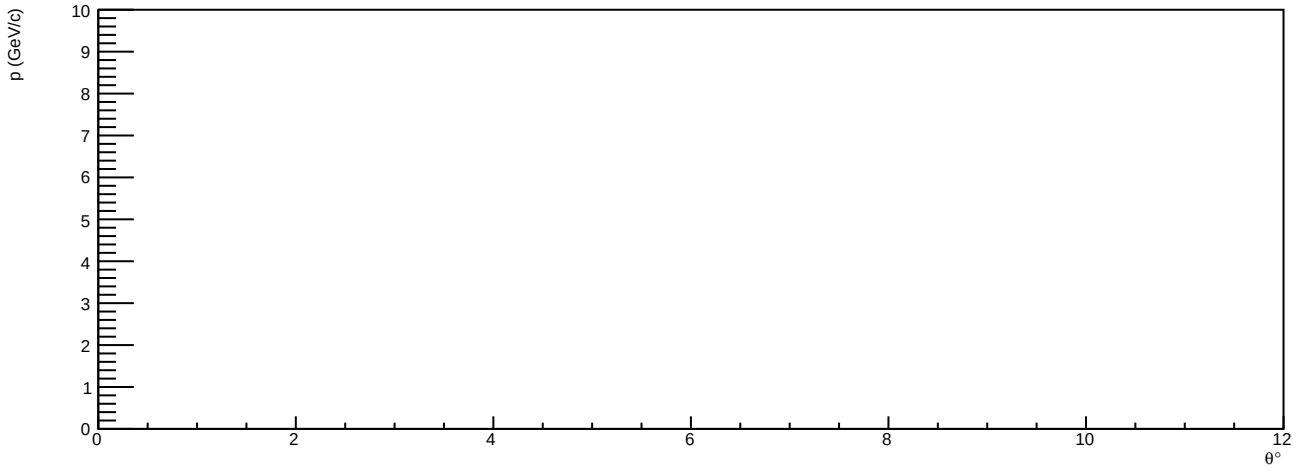

/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDeltaYVsVerticalPaddle
TOF / Track ΔY (cm)
20
15
10
5
0
−5
−10
−15
−20
5
10
15
20
25
30
35
40
TOF Vertical Paddle

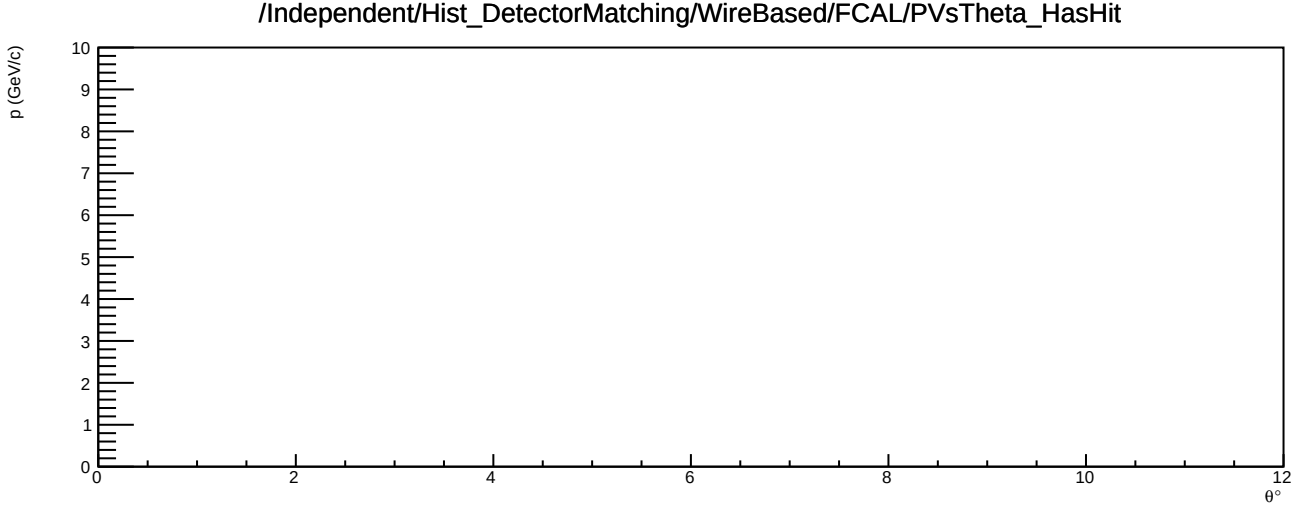
/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDistance_BothPlanes

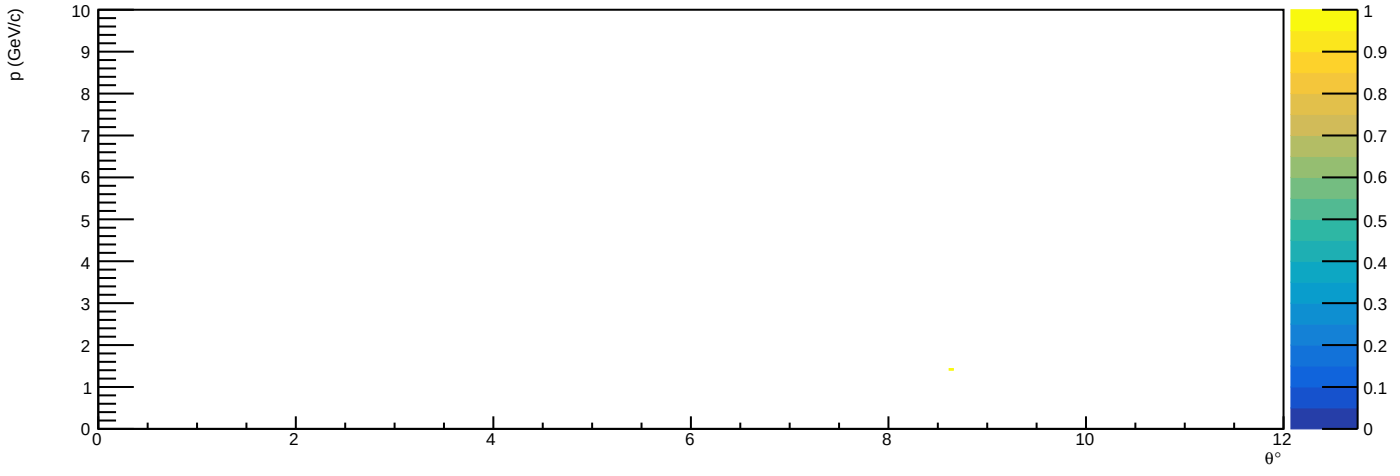


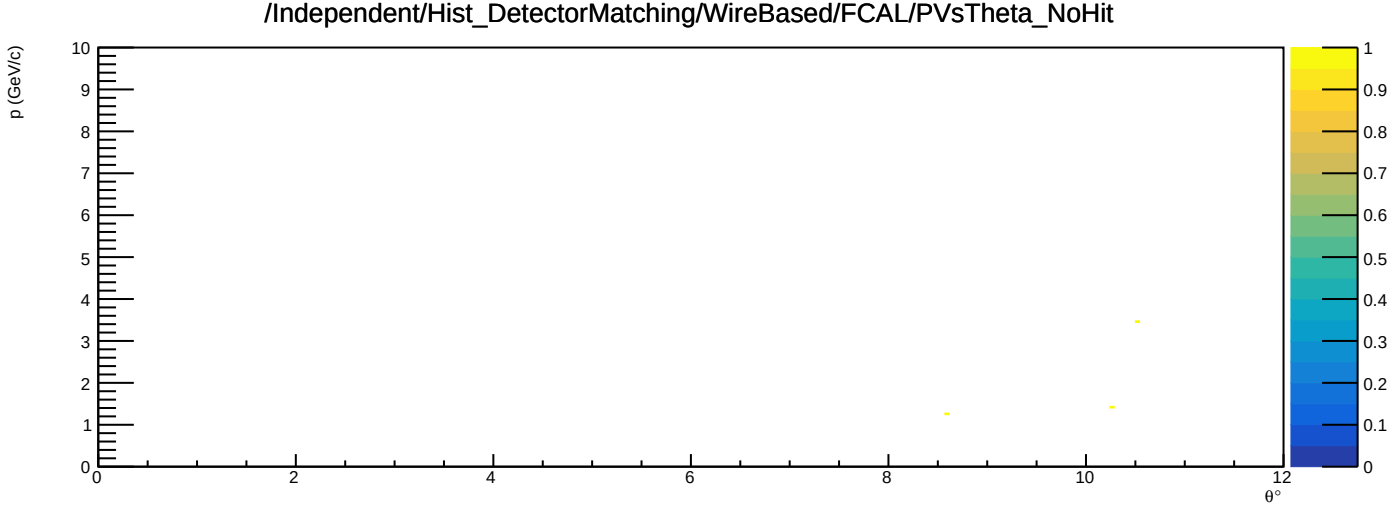
/Independent/Hist_DetectorMatching/WireBased/TOFPoint/TOFTrackDistance_OnePlane

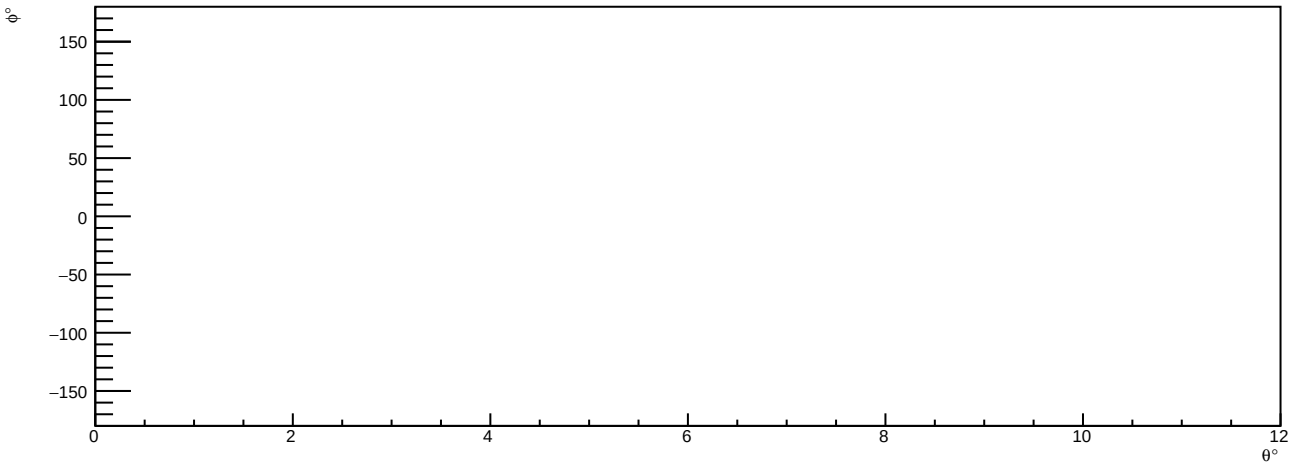


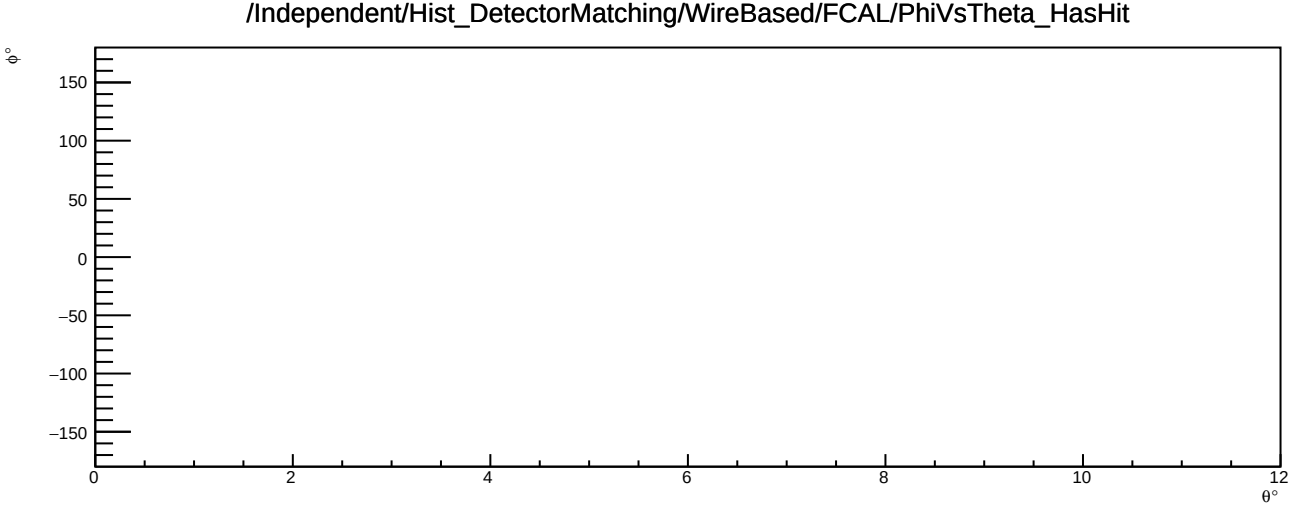

/Independent/Hist_DetectorMatching/WireBased/FCAL/PVsTheta_HasHit
p (GeV/c)
θ°

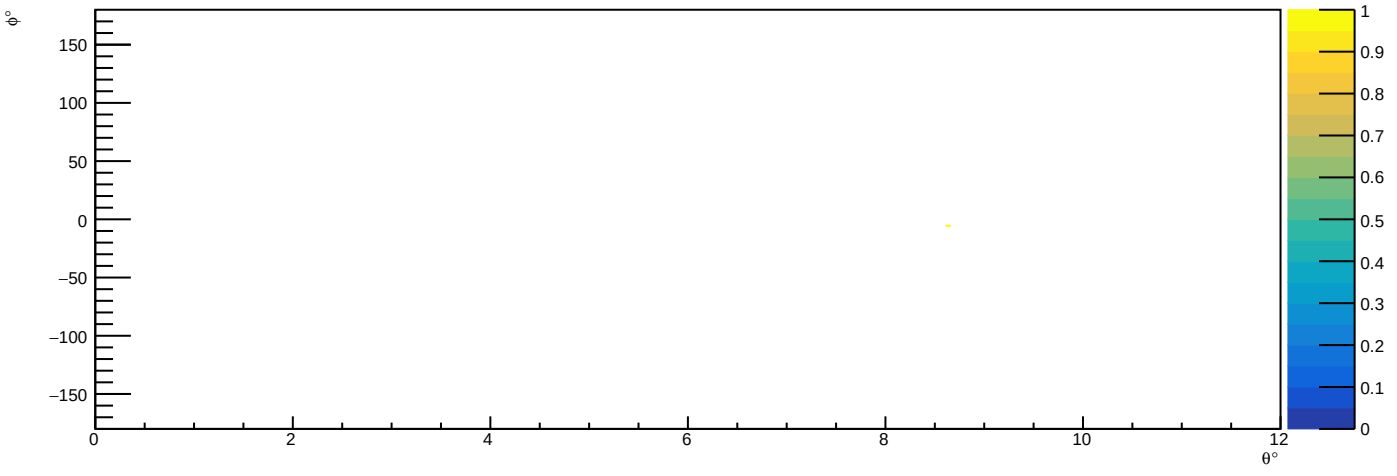

/Independent/Hist_DetectorMatching/WireBased/FCAL/PVsTheta_HasHit
p (GeV/c)
θ°

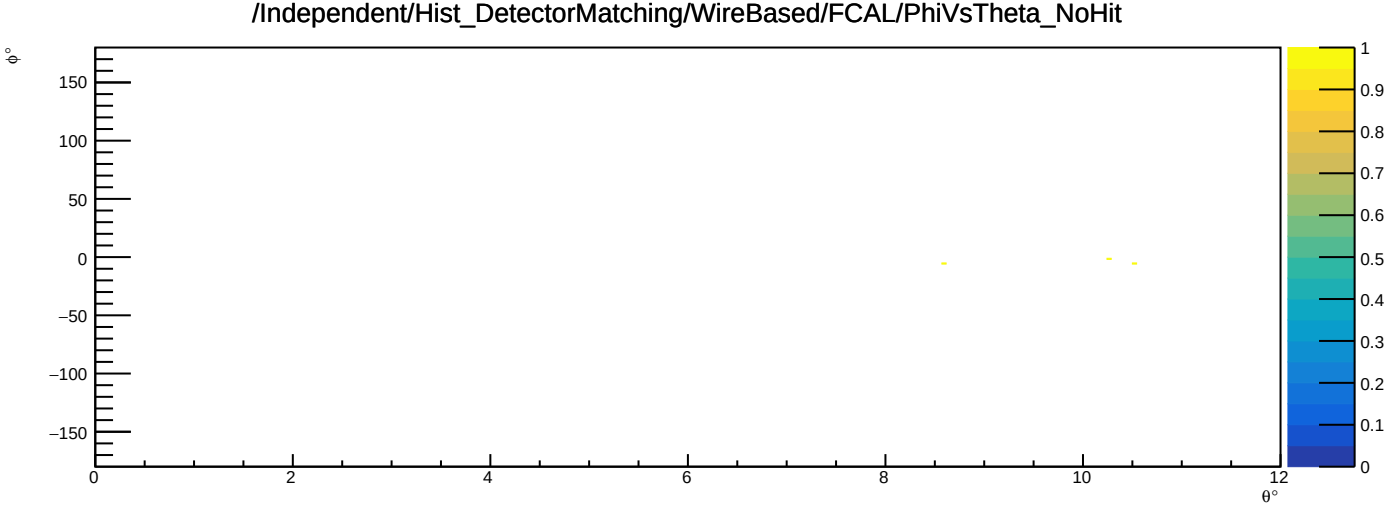

/Independent/Hist_DetectorMatching/WireBased/FCAL/PVsTheta_NoHit
p (GeV/c)
θ°

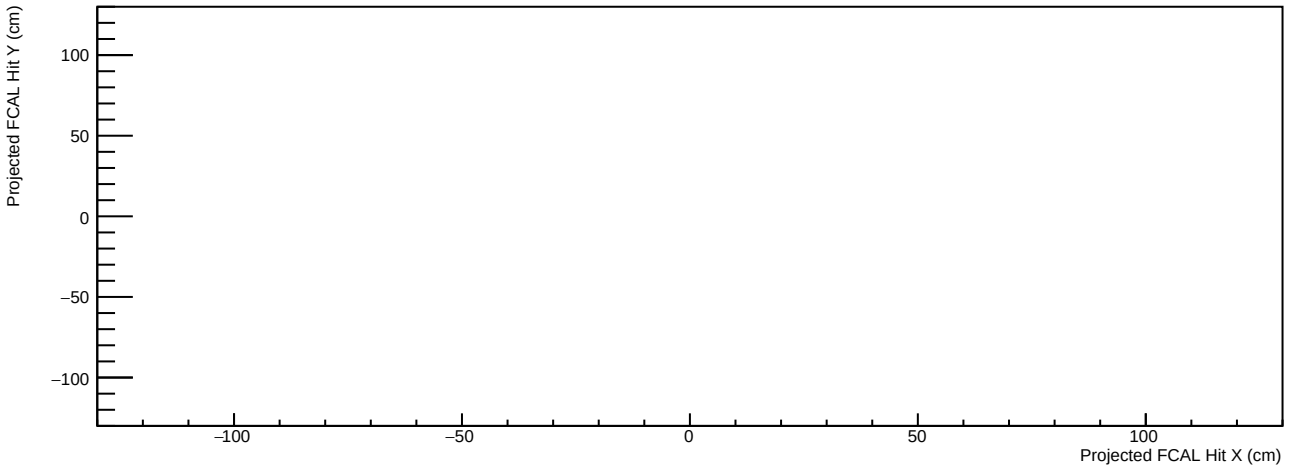

/Independent/Hist_DetectorMatching/WireBased/FCAL/PVsTheta_NoHit
p (GeV/c)
θ°

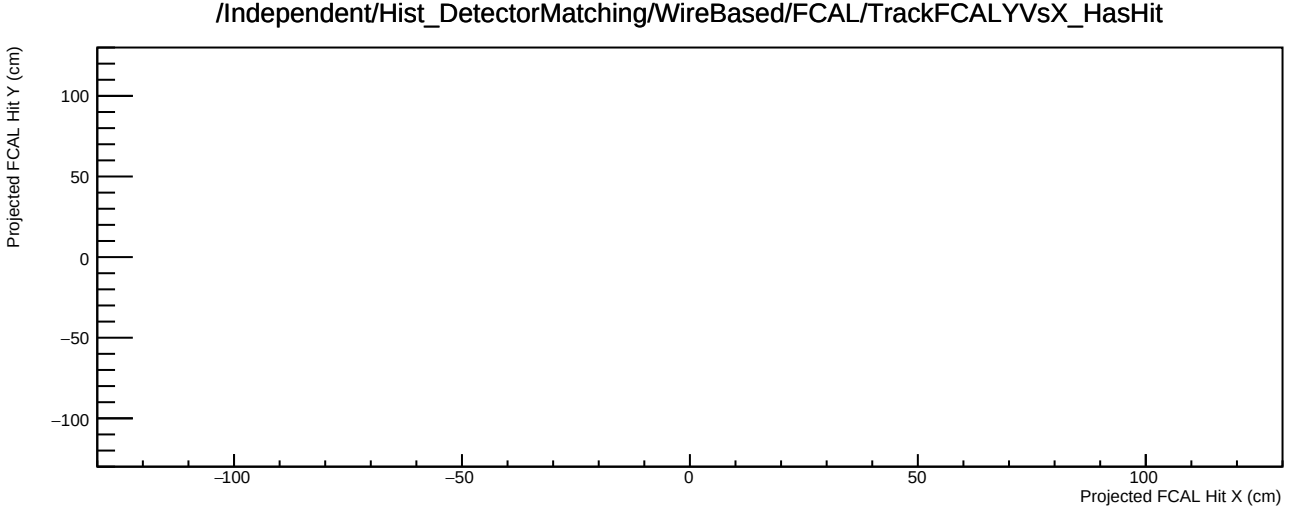

/Independent/Hist_DetectorMatching/WireBased/FCAL/PhiVsTheta_HasHit
ϕ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°

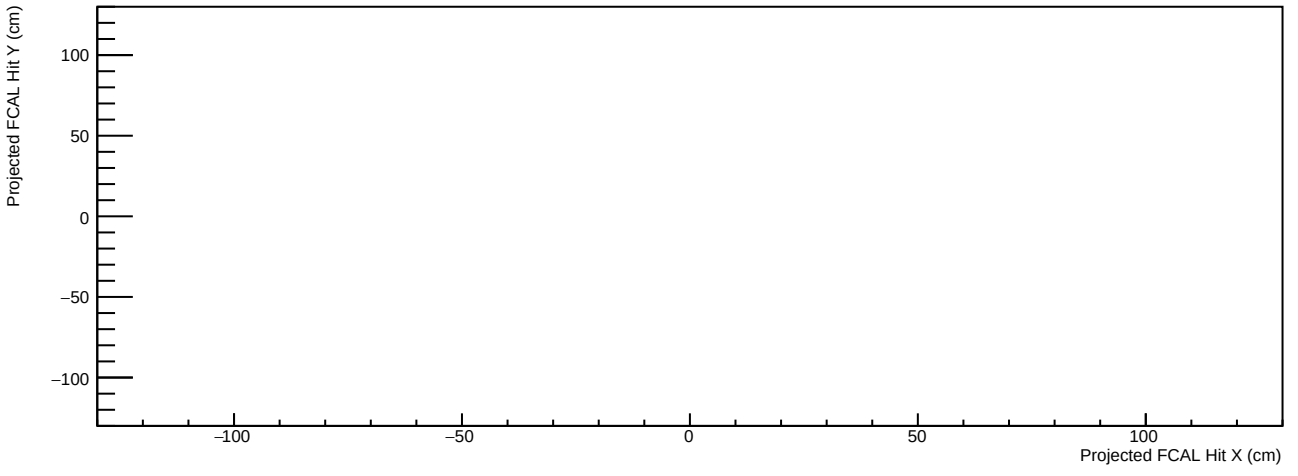

/Independent/Hist_DetectorMatching/WireBased/FCAL/PhiVsTheta_HasHit
ϕ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°

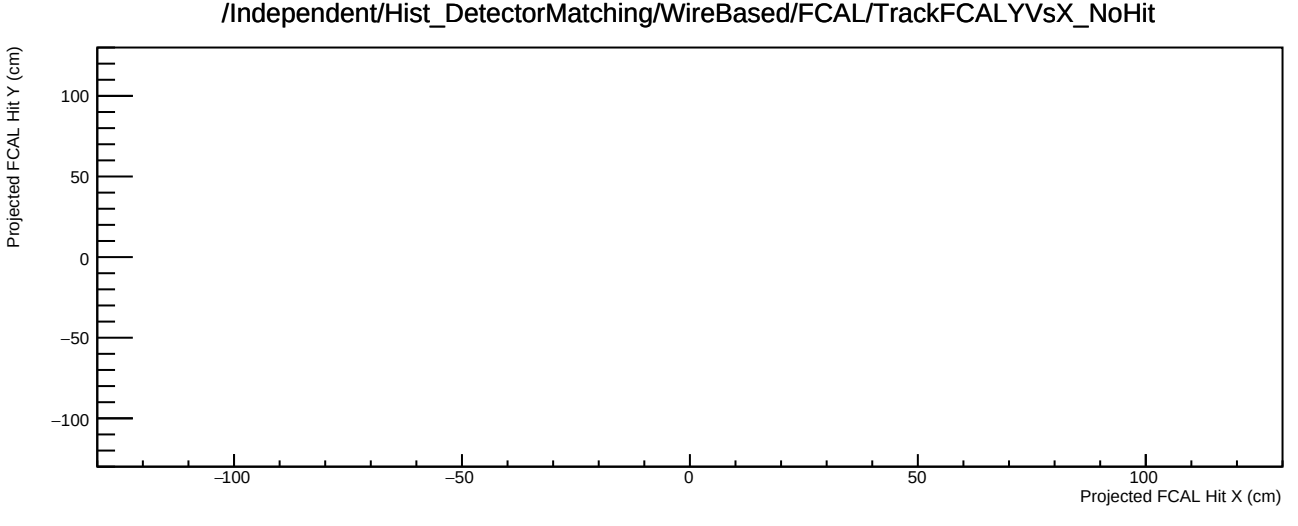

/Independent/Hist_DetectorMatching/WireBased/FCAL/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0


/Independent/Hist_DetectorMatching/WireBased/FCAL/PhiVsTheta_NoHit
φ°
150
100
50
0
−50
−100
−150
0
2
4
6
8
10
12
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

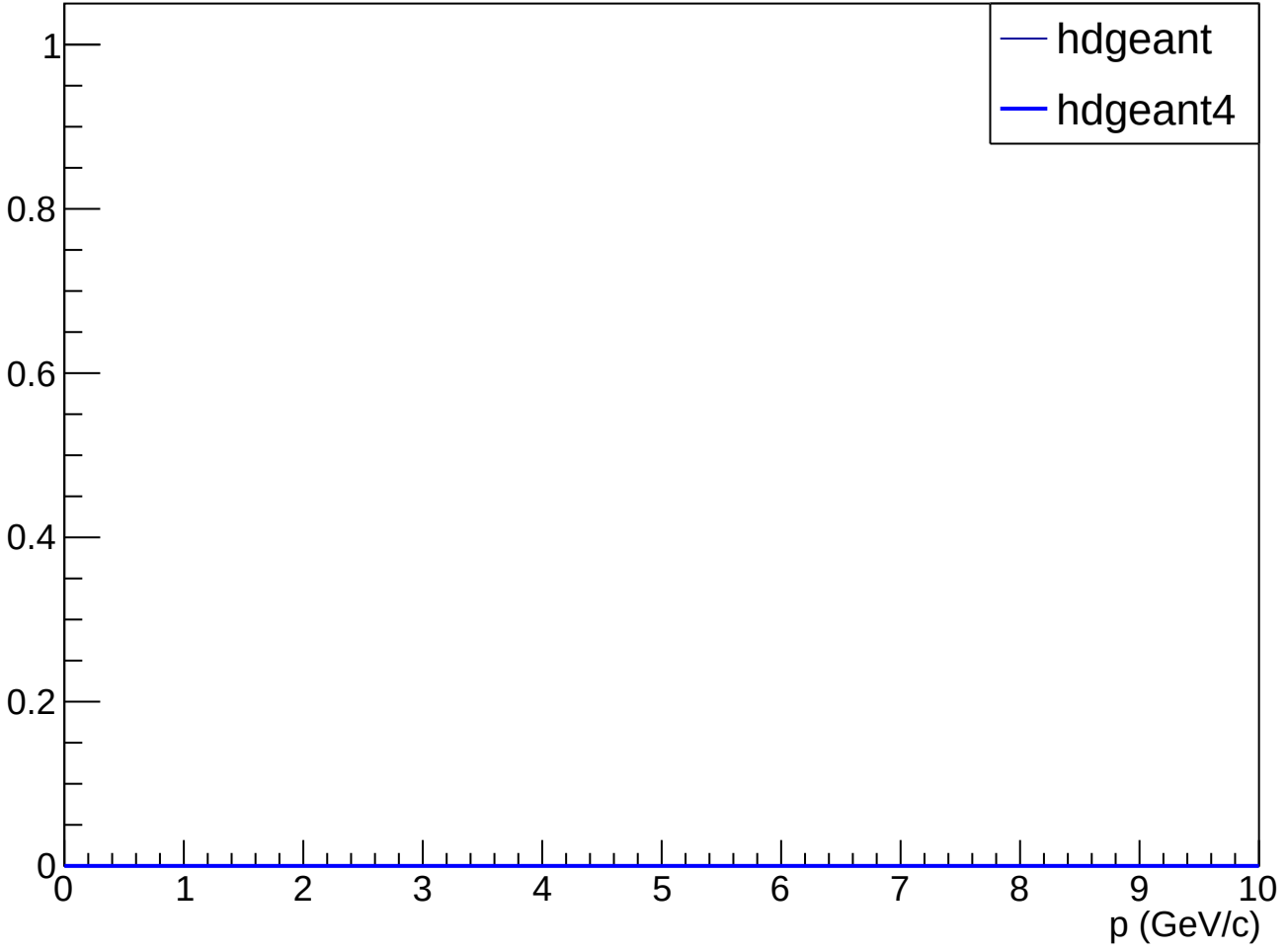

/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALYVsX_HasHit
Projected FCAL Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected FCAL Hit X (cm)


/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALYVsX_HasHit
Projected FCAL Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected FCAL Hit X (cm)

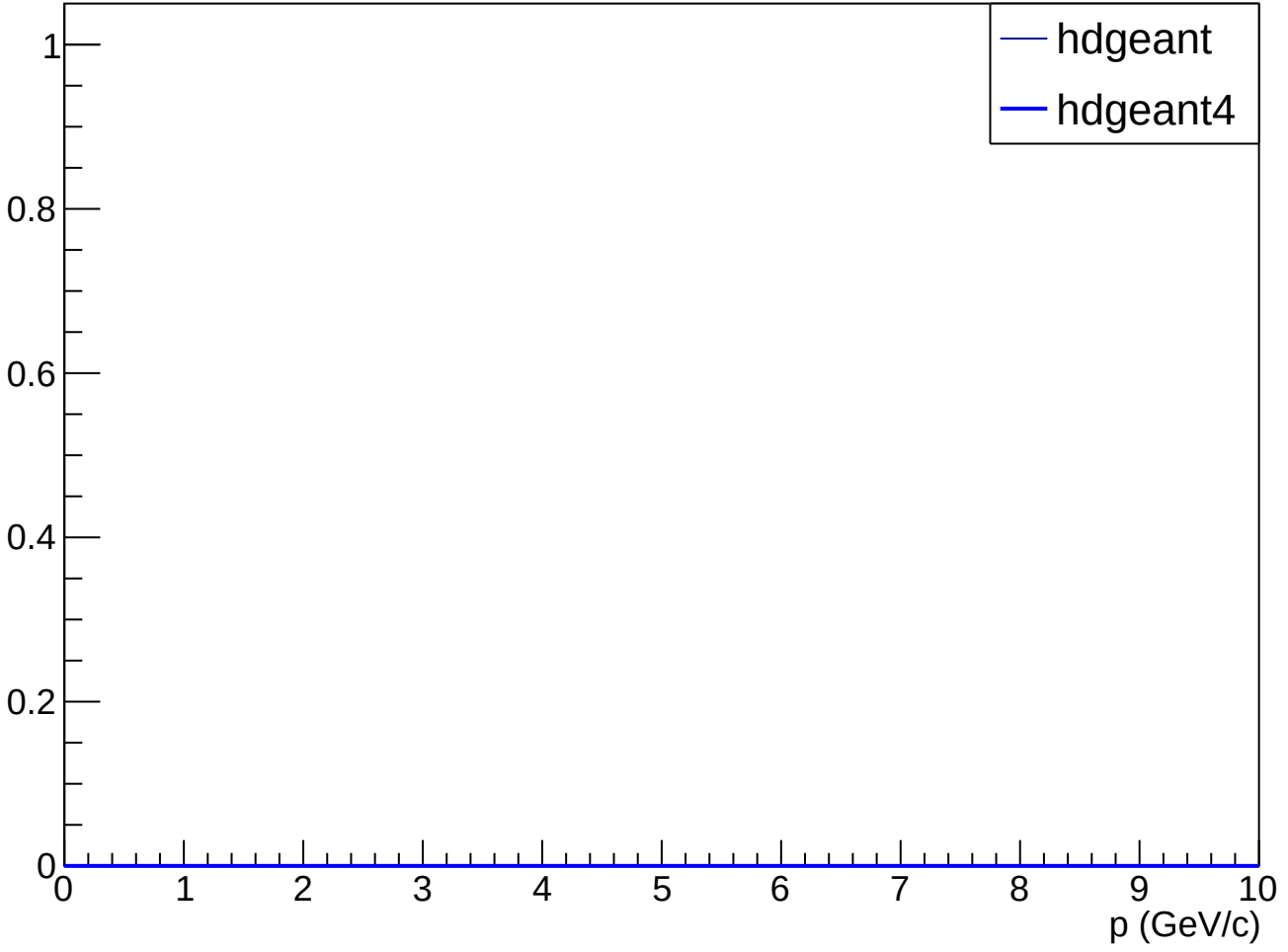

/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALYVsX_NoHit
Projected FCAL Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected FCAL Hit X (cm)


/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALYVsX_NoHit
Projected FCAL Hit Y (cm)
100
50
0
−50
−100
−100
−50
0
50
100
Projected FCAL Hit X (cm)

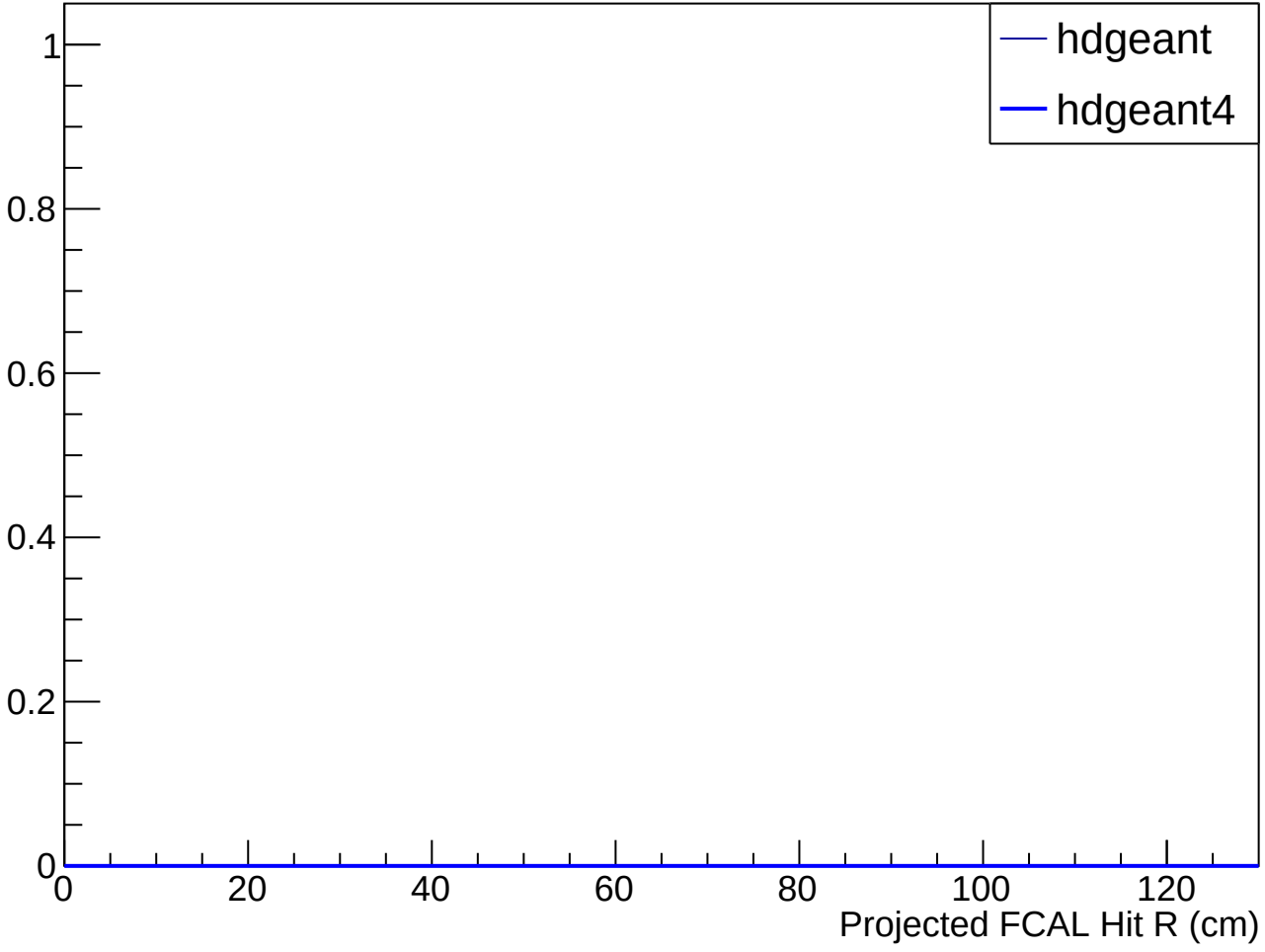
/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALP_HasHit



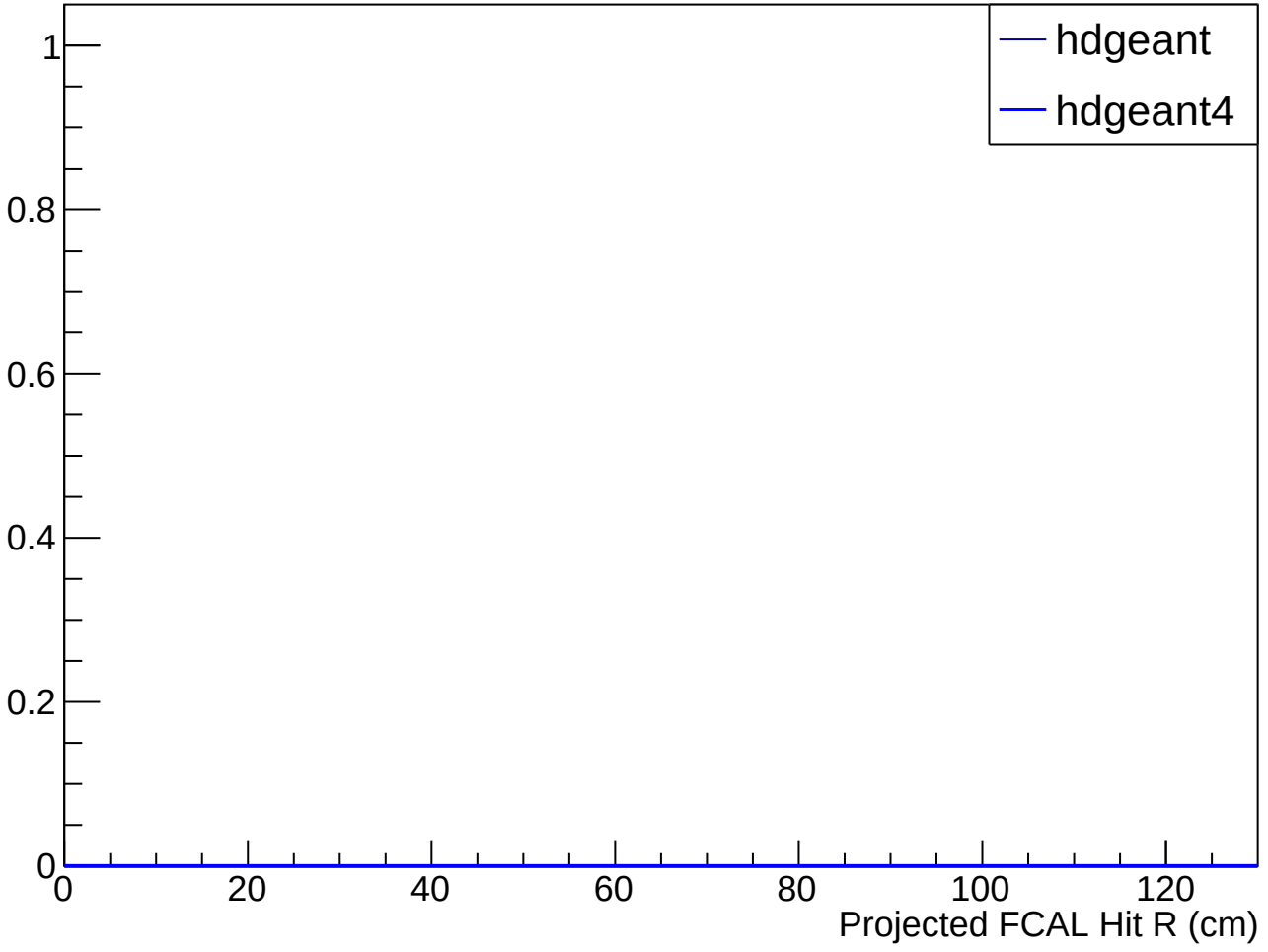
/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALP_NoHit

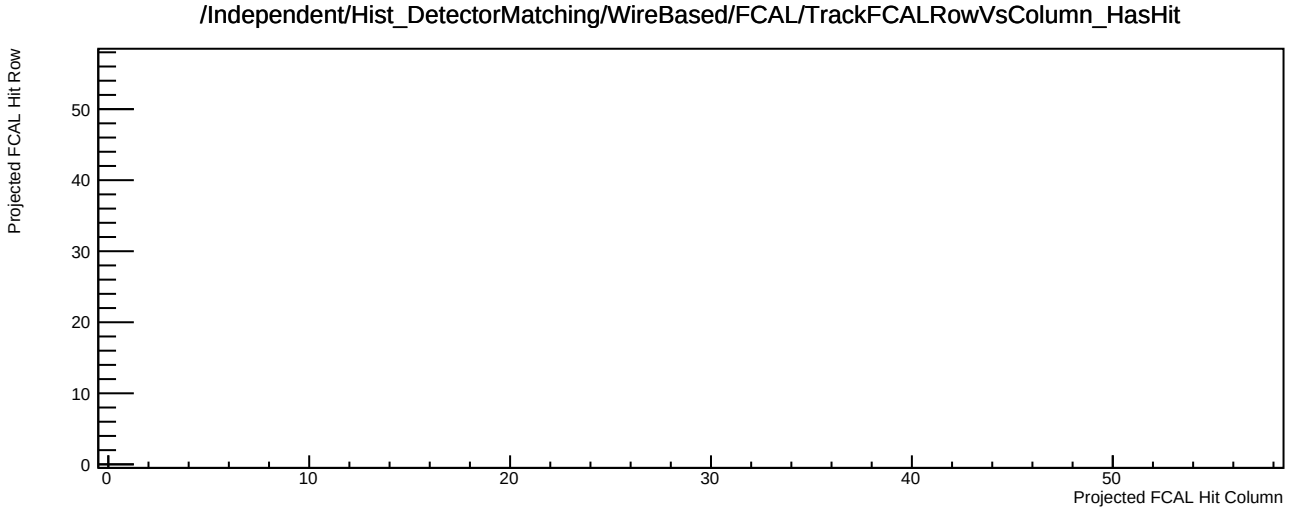


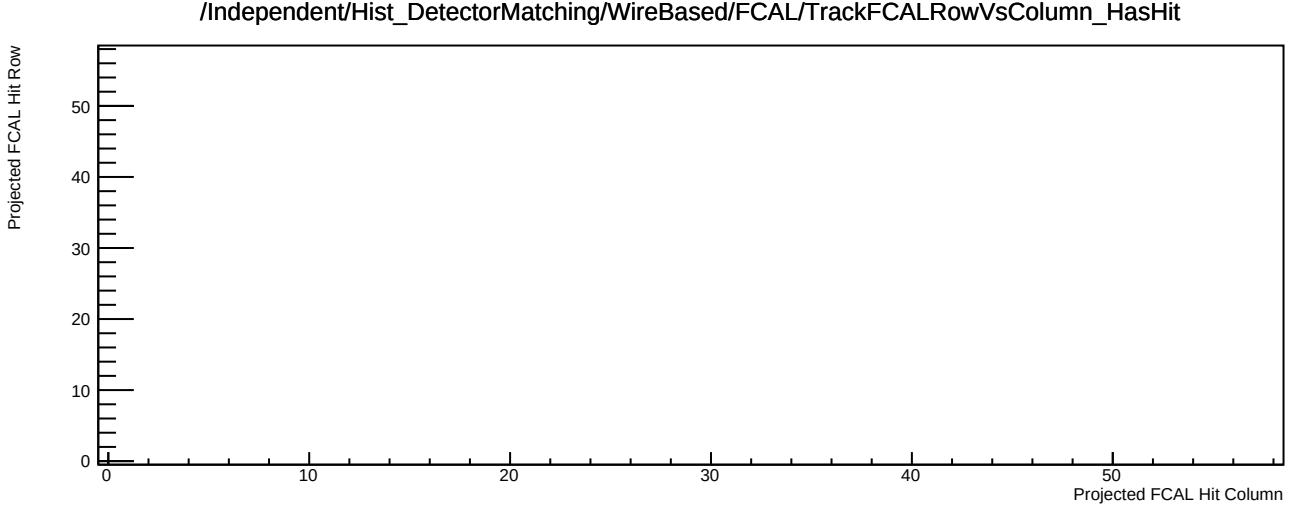
/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALR_HasHit

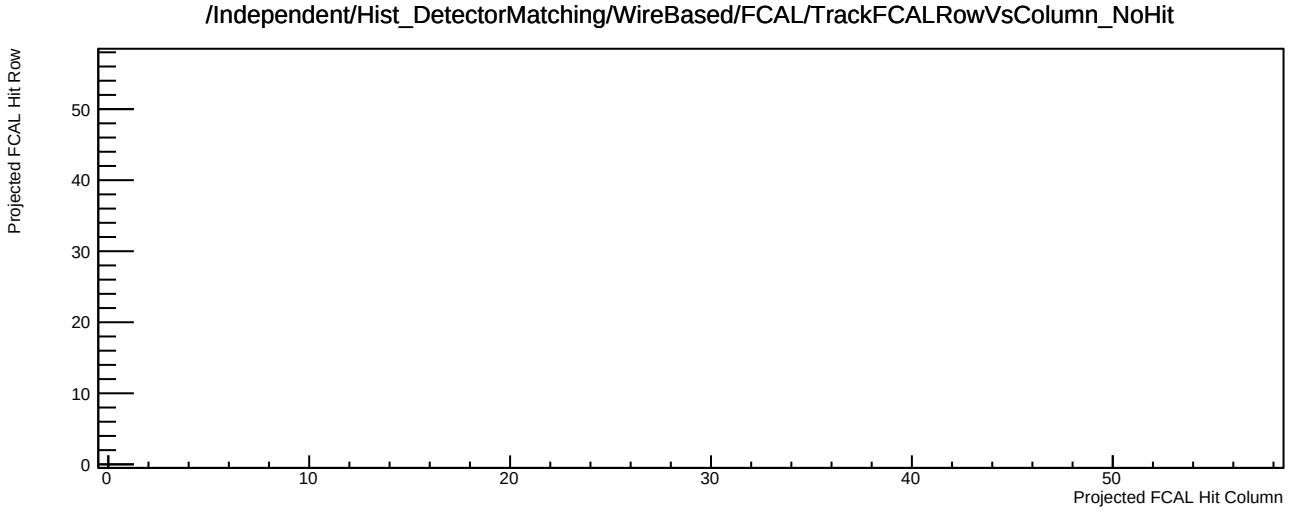


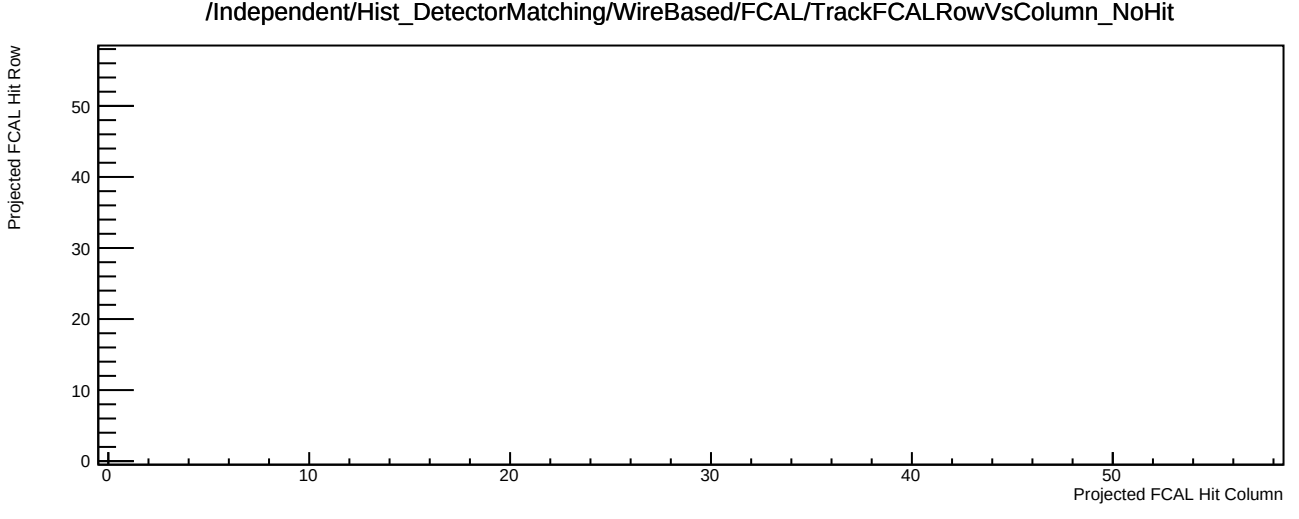
/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALR_NoHit

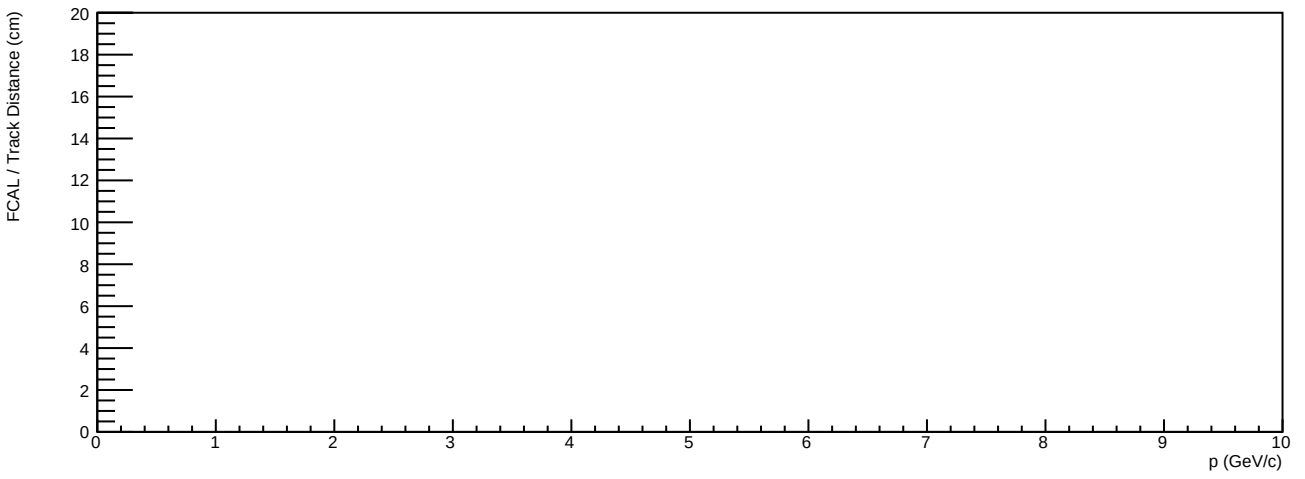


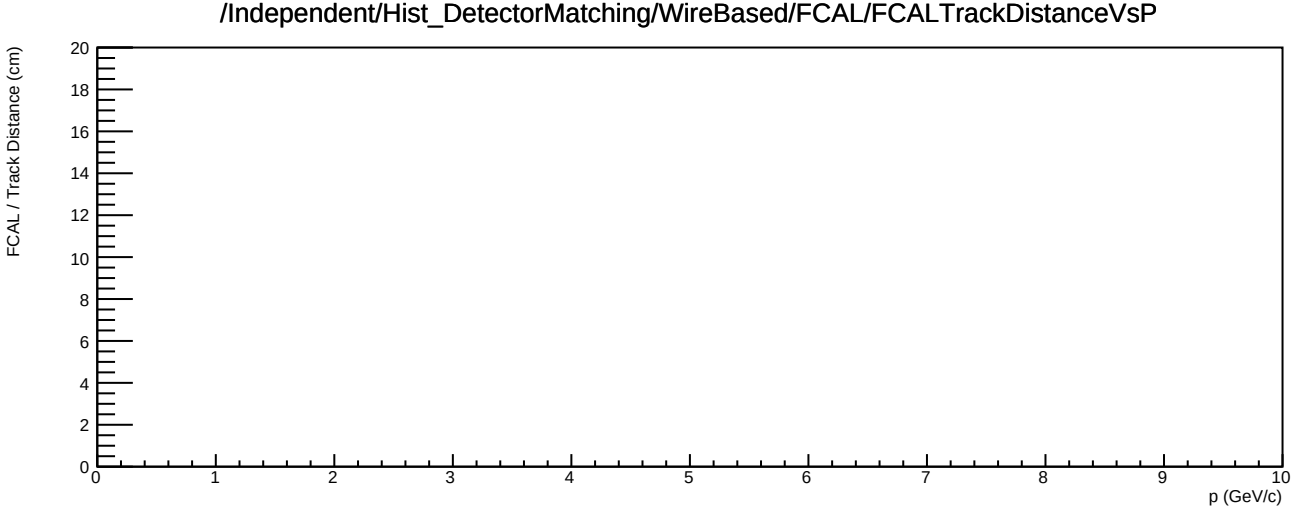

/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALRowVsColumn_HasHit
Projected FCAL Hit Row
0
10
20
30
40
50
Projected FCAL Hit Column

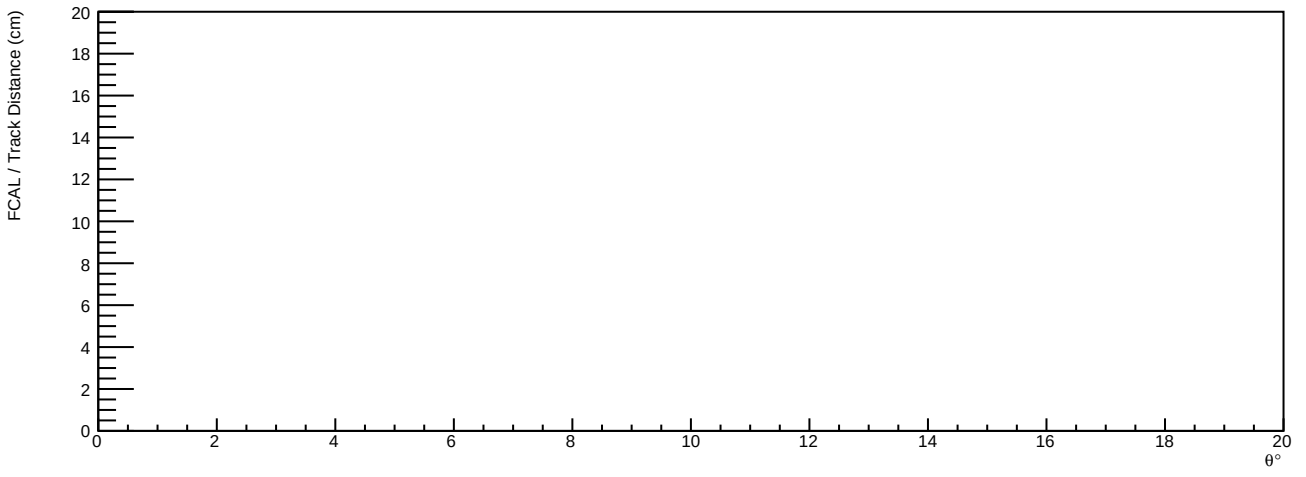

/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALRowVsColumn_HasHit
Projected FCAL Hit Row
0
10
20
30
40
50
Projected FCAL Hit Column

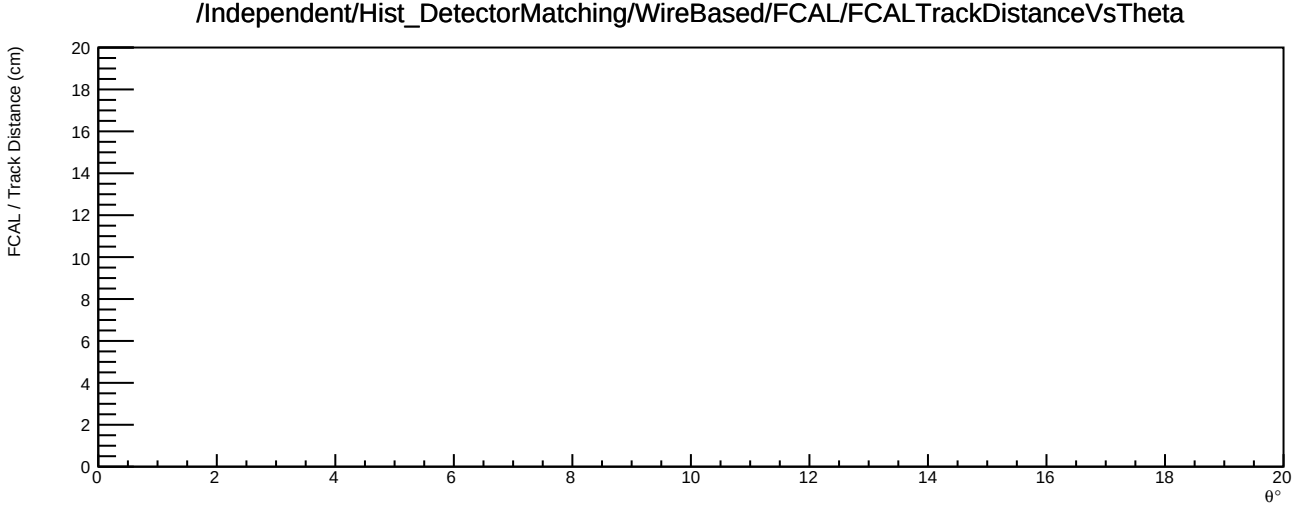

/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALRowVsColumn_NoHit
Projected FCAL Hit Row
0
10
20
30
40
50
Projected FCAL Hit Column


/Independent/Hist_DetectorMatching/WireBased/FCAL/TrackFCALRowVsColumn_NoHit
Projected FCAL Hit Row
0
10
20
30
40
50
Projected FCAL Hit Column

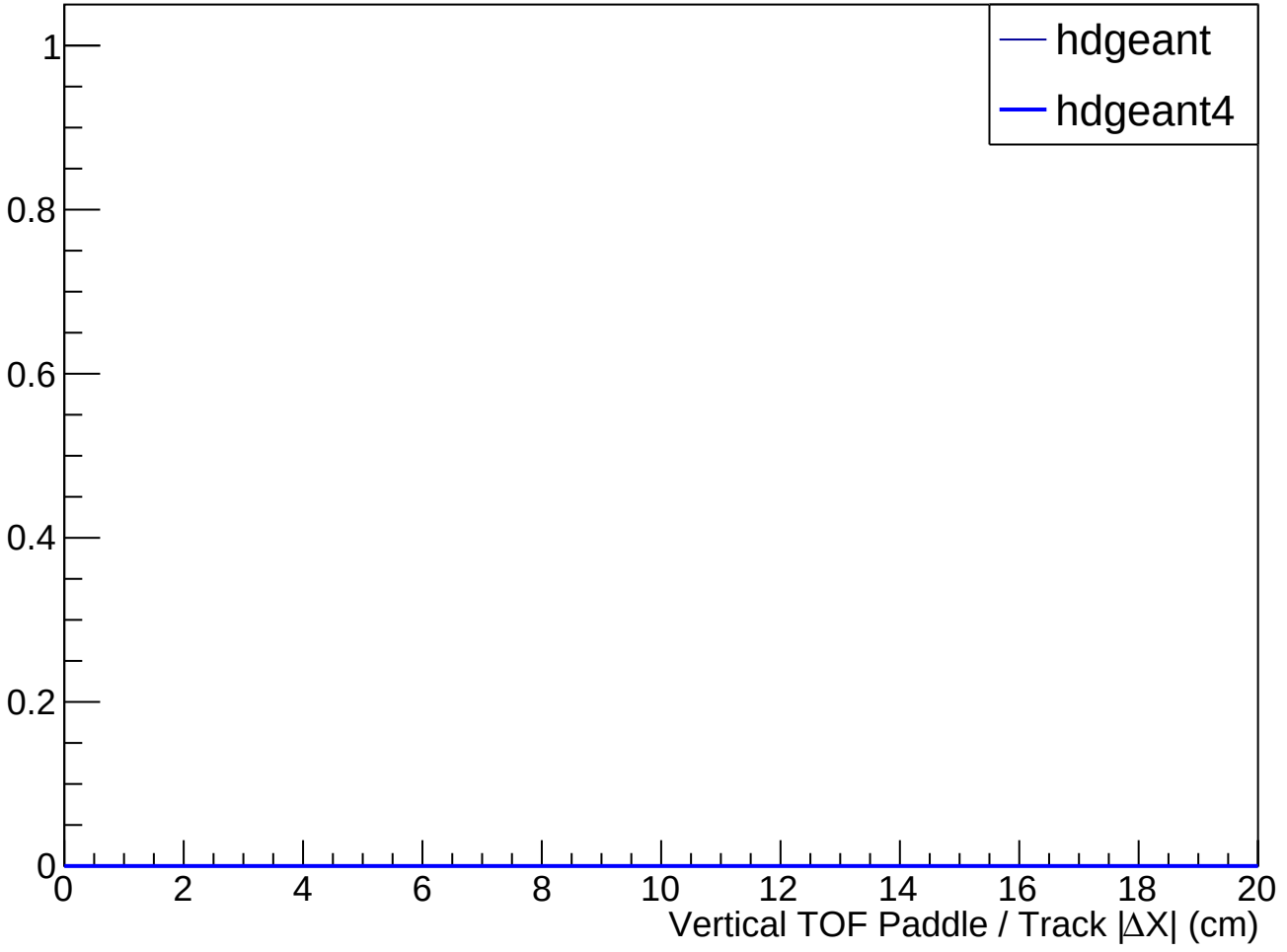

/Independent/Hist_DetectorMatching/WireBased/FCAL/FCALTrackDistanceVsP
FCAL / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatching/WireBased/FCAL/FCALTrackDistanceVsP
FCAL / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

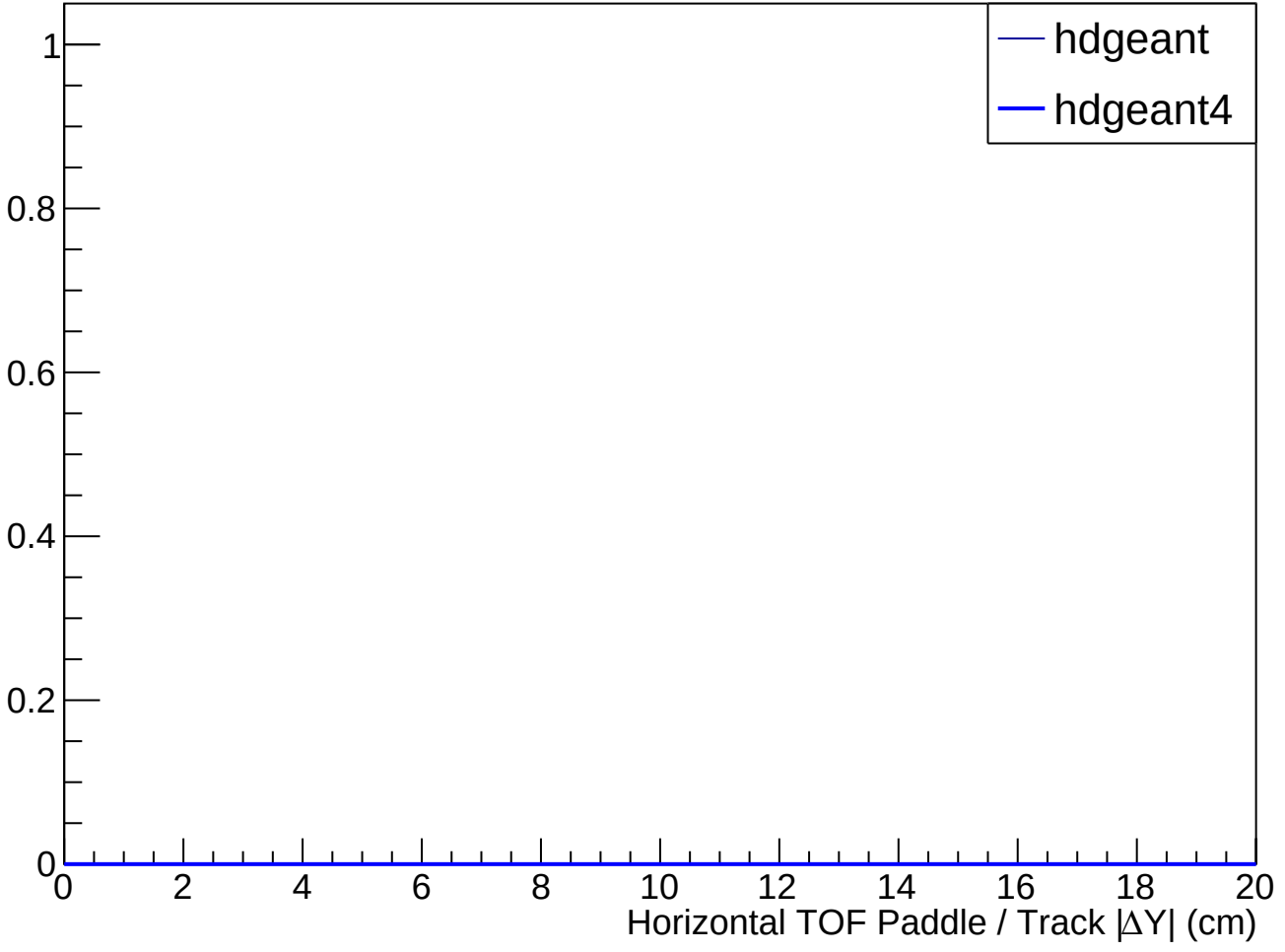

/Independent/Hist_DetectorMatching/WireBased/FCAL/FCALTrackDistanceVsTheta
FCAL / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
θ°

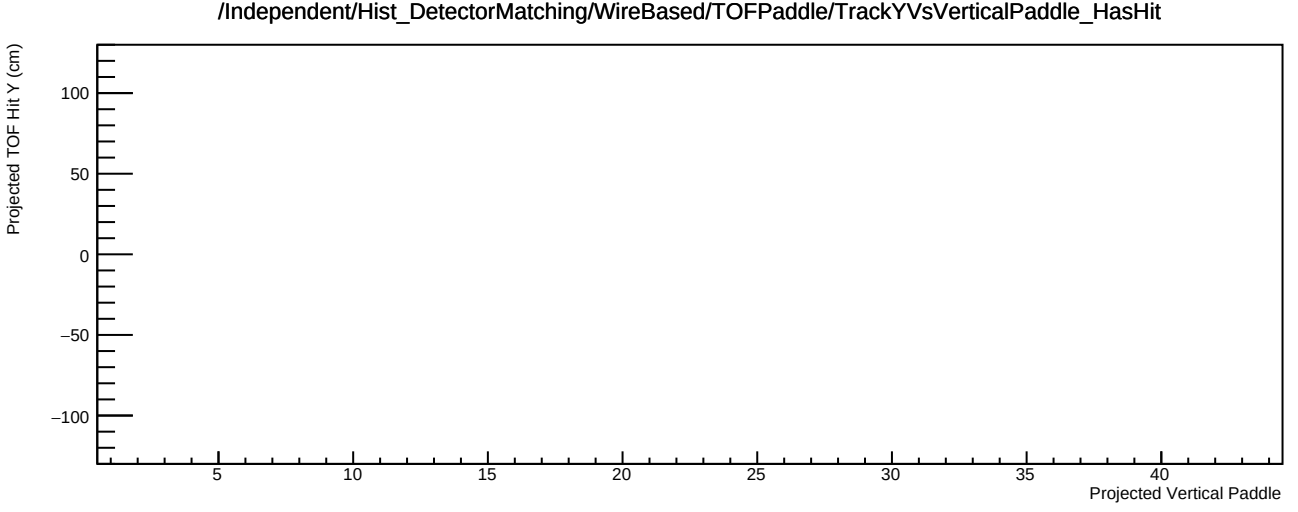

/Independent/Hist_DetectorMatching/WireBased/FCAL/FCALTrackDistanceVsTheta
FCAL / Track Distance (cm)
0
2
4
6
8
10
12
14
16
18
20
θ°

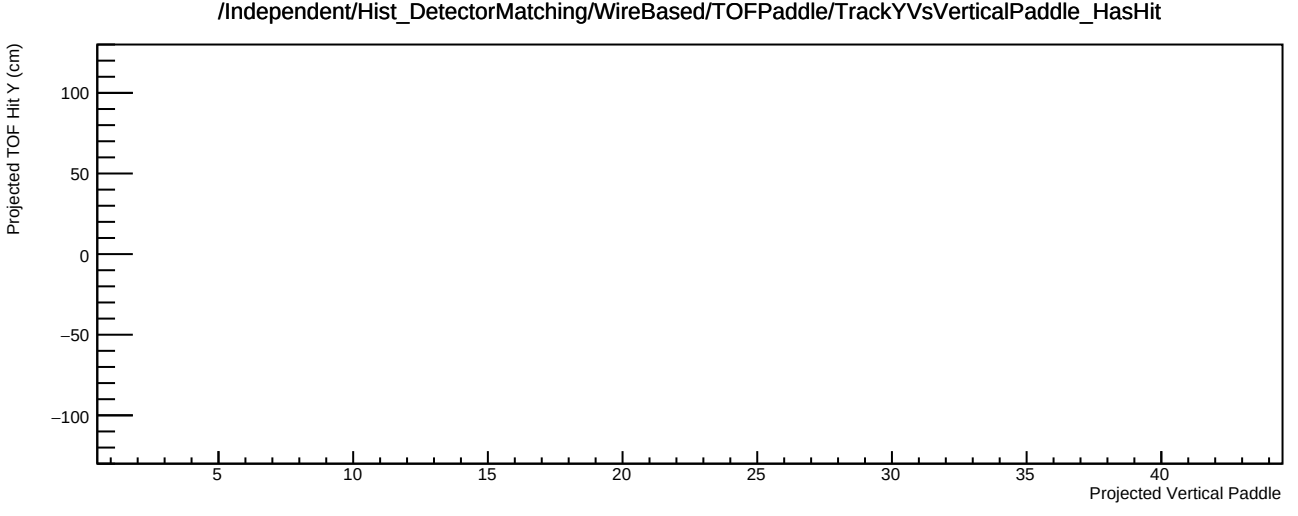
/Independent/Hist_DetectorMatching/WireBased/TOFPaddle/VerticalPaddleTrackDeltaX

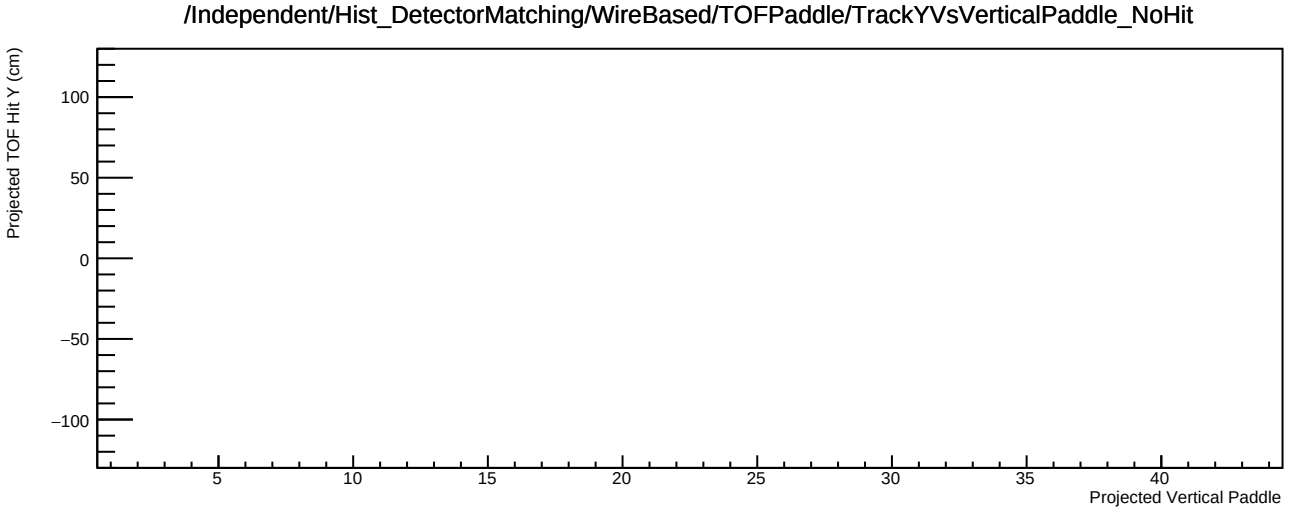


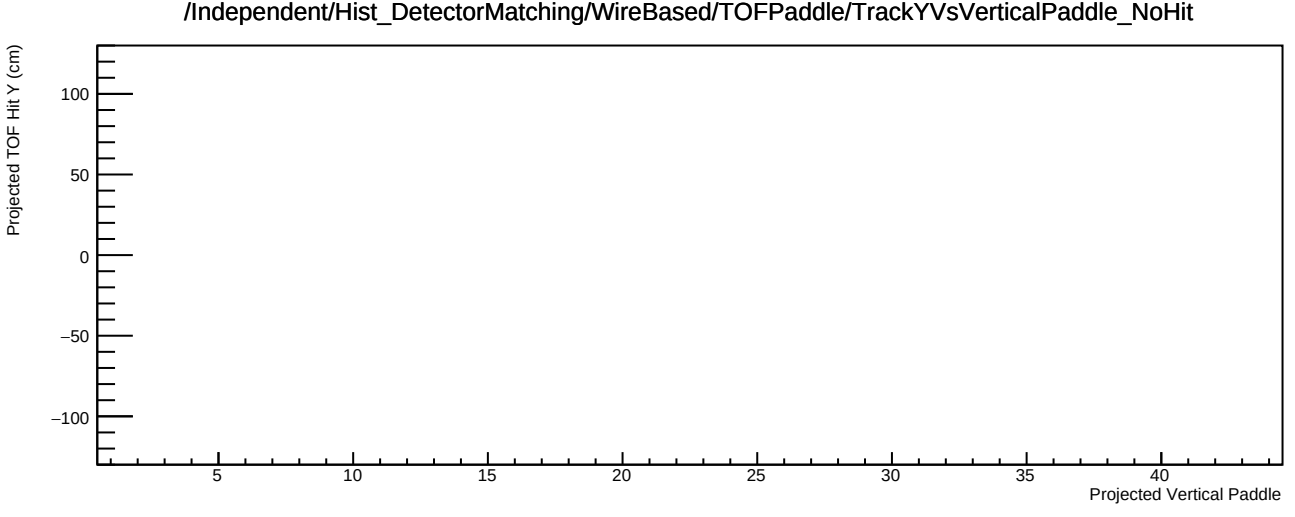
/Independent/Hist_DetectorMatching/WireBased/TOFPaddle/HorizontalPaddleTrackDeltaY

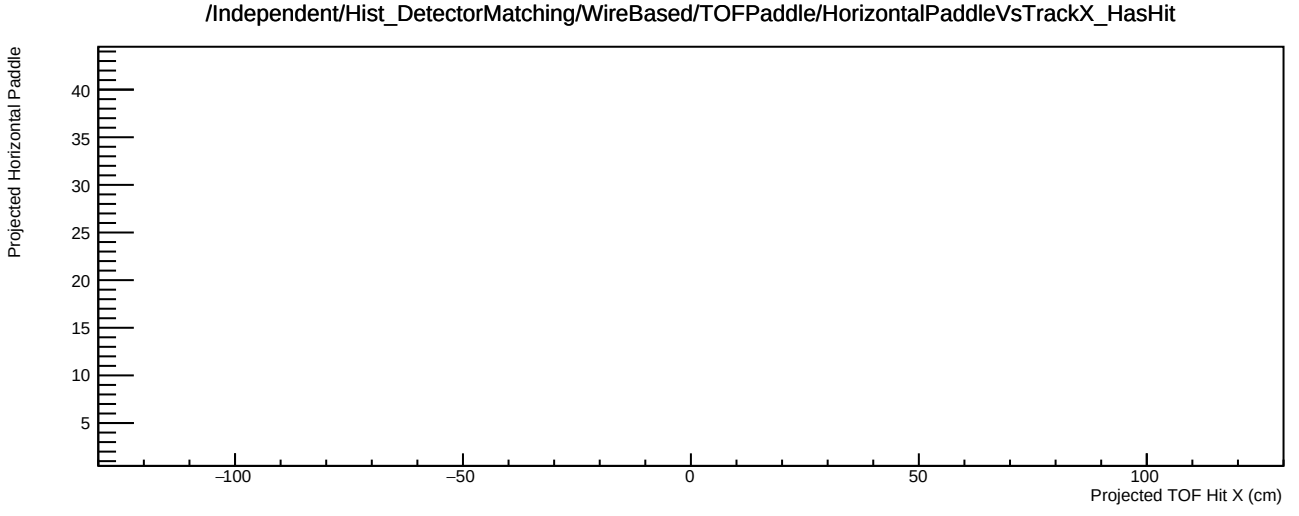


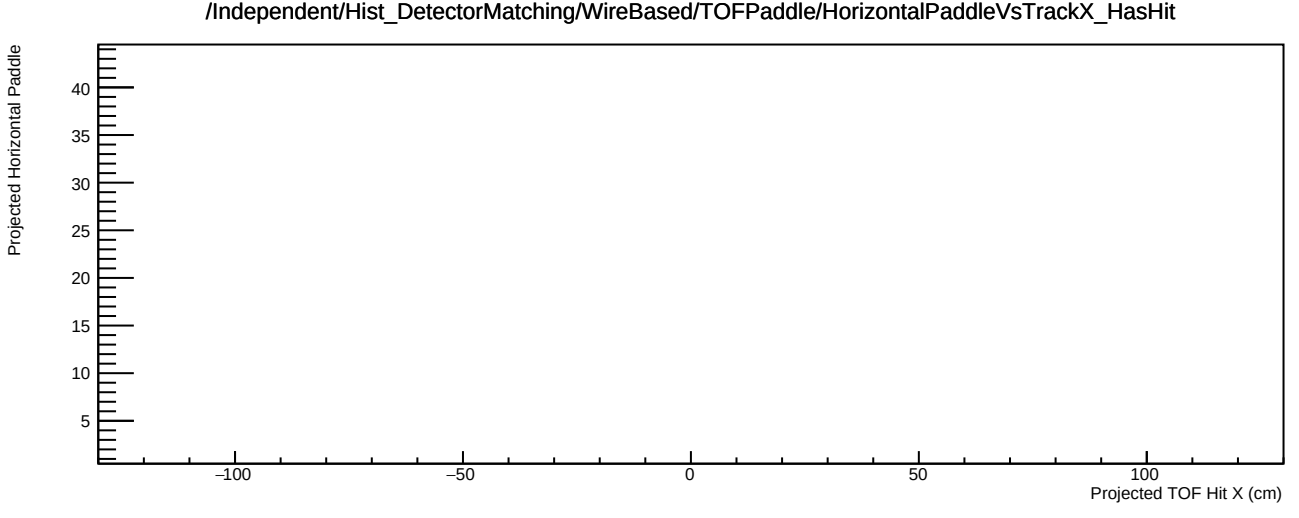

/Independent/Hist_DetectorMatching/WireBased/TOFPaddle/TrackYVsVerticalPaddle_HasHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
5
10
15
20
25
30
35
40
Projected Vertical Paddle

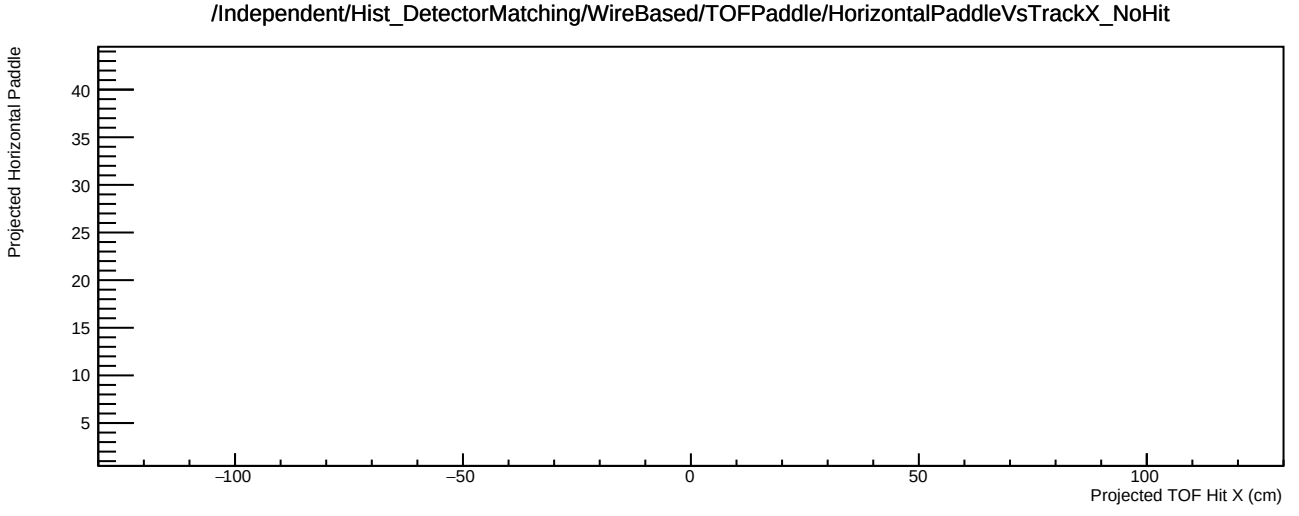

/Independent/Hist_DetectorMatching/WireBased/TOFPaddle/TrackYVsVerticalPaddle_HasHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
5
10
15
20
25
30
35
40
Projected Vertical Paddle

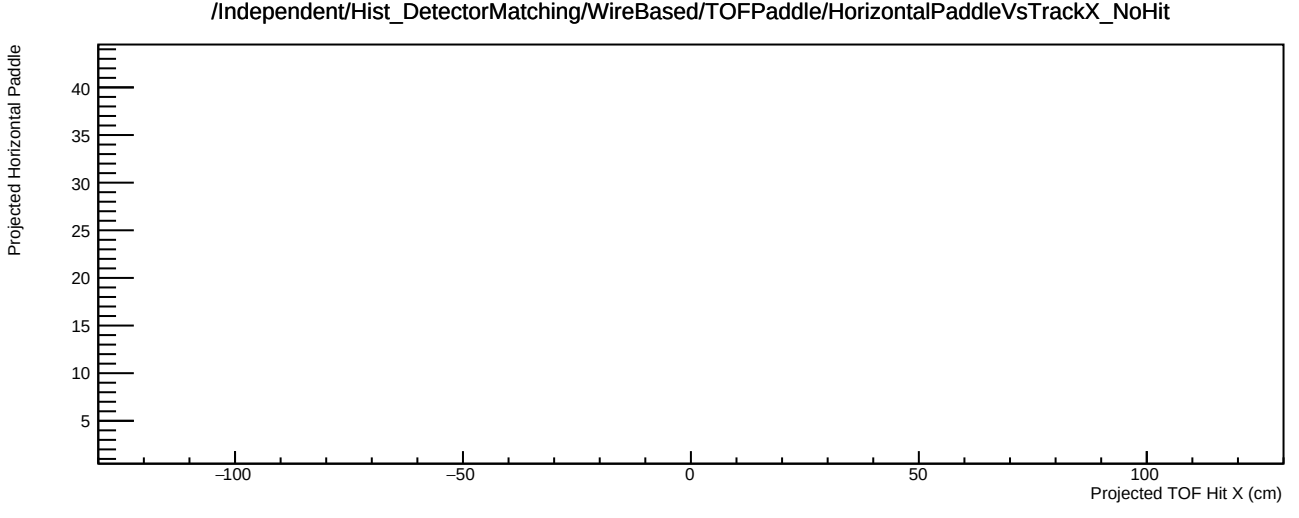

/Independent/Hist_DetectorMatching/WireBased/TOFPaddle/TrackYVsVerticalPaddle_NoHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
5
10
15
20
25
30
35
40
Projected Vertical Paddle

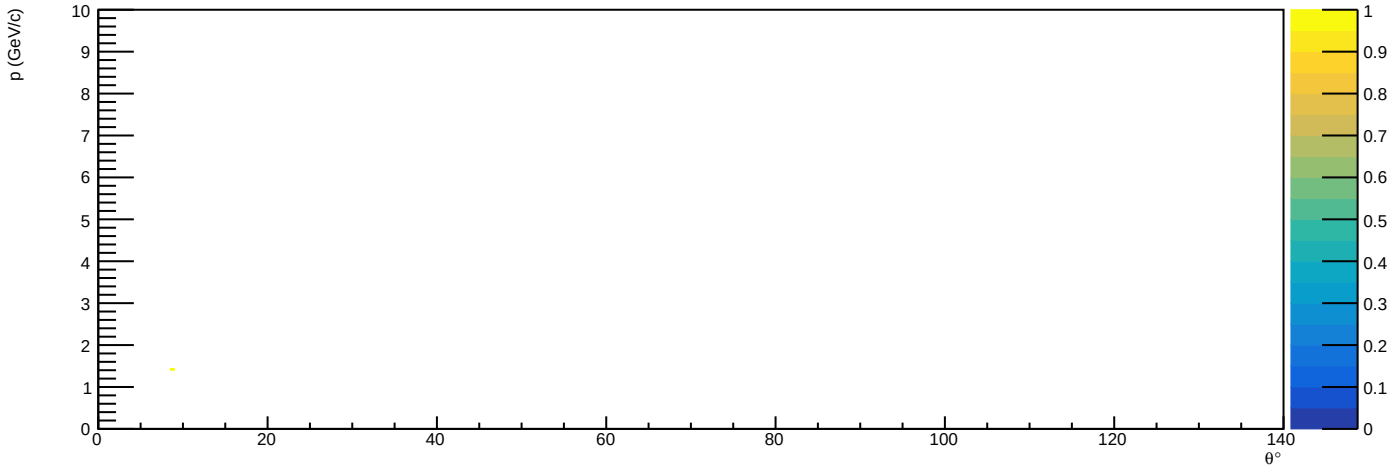

/Independent/Hist_DetectorMatching/WireBased/TOFPaddle/TrackYVsVerticalPaddle_NoHit
Projected TOF Hit Y (cm)
100
50
0
−50
−100
5
10
15
20
25
30
35
40
Projected Vertical Paddle

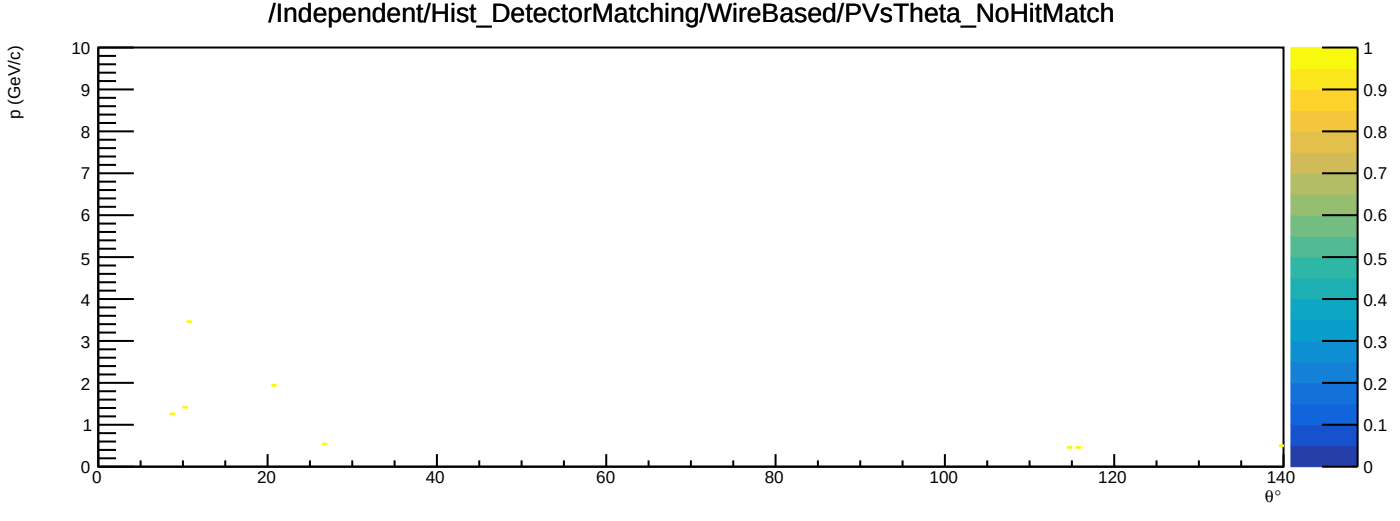

/Independent/Hist_DetectorMatching/WireBased/TOFPaddle/HorizontalPaddleVsTrackX_HasHit
Projected Horizontal Paddle
40
35
30
25
20
15
10
5
−100
−50
0
50
100
Projected TOF Hit X (cm)

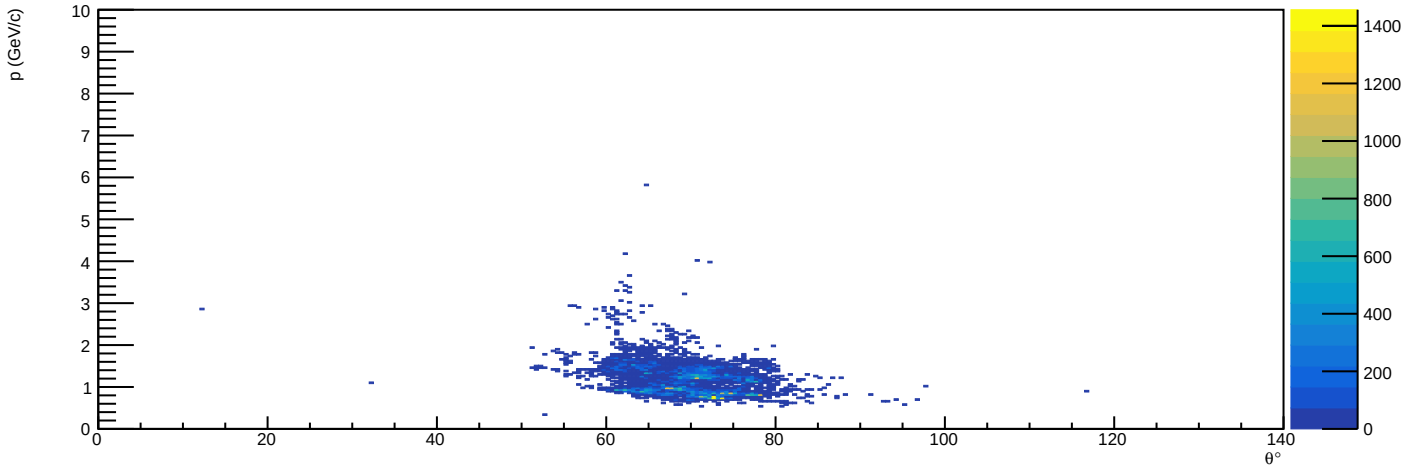

/Independent/Hist_DetectorMatching/WireBased/TOFPaddle/HorizontalPaddleVsTrackX_HasHit
Projected Horizontal Paddle
40
35
30
25
20
15
10
5
−100
−50
0
50
100
Projected TOF Hit X (cm)

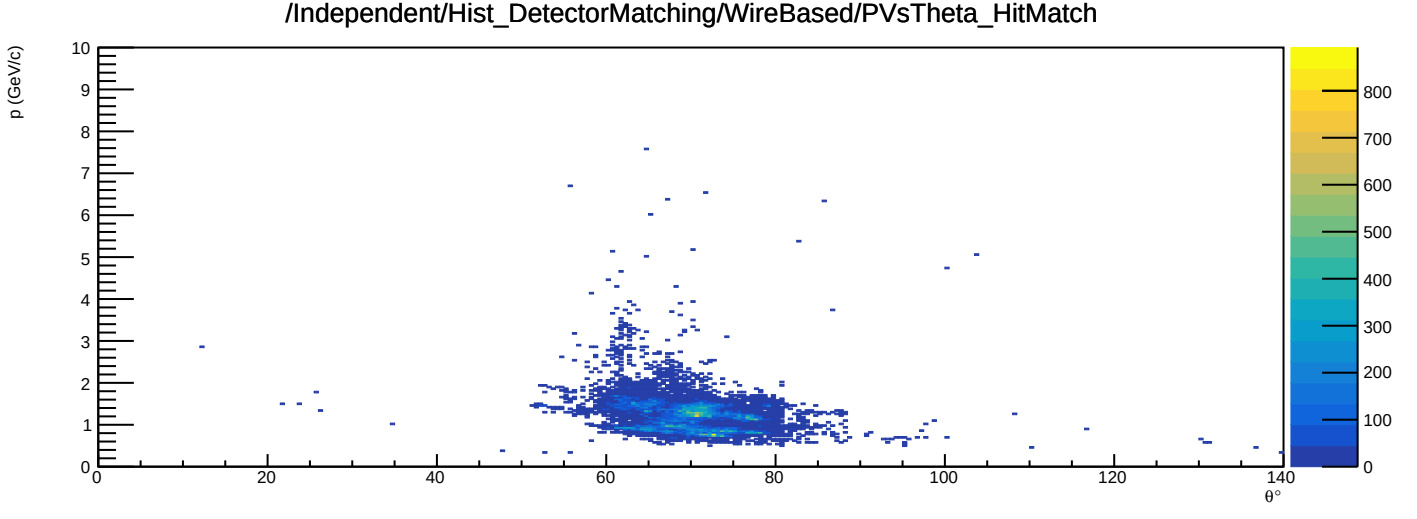

/Independent/Hist_DetectorMatching/WireBased/TOFPaddle/HorizontalPaddleVsTrackX_NoHit
Projected Horizontal Paddle
40
35
30
25
20
15
10
5
−100
−50
0
50
100
Projected TOF Hit X (cm)


/Independent/Hist_DetectorMatching/WireBased/TOFPaddle/HorizontalPaddleVsTrackX_NoHit
Projected Horizontal Paddle
40
35
30
25
20
15
10
5
−100
−50
0
50
100
Projected TOF Hit X (cm)

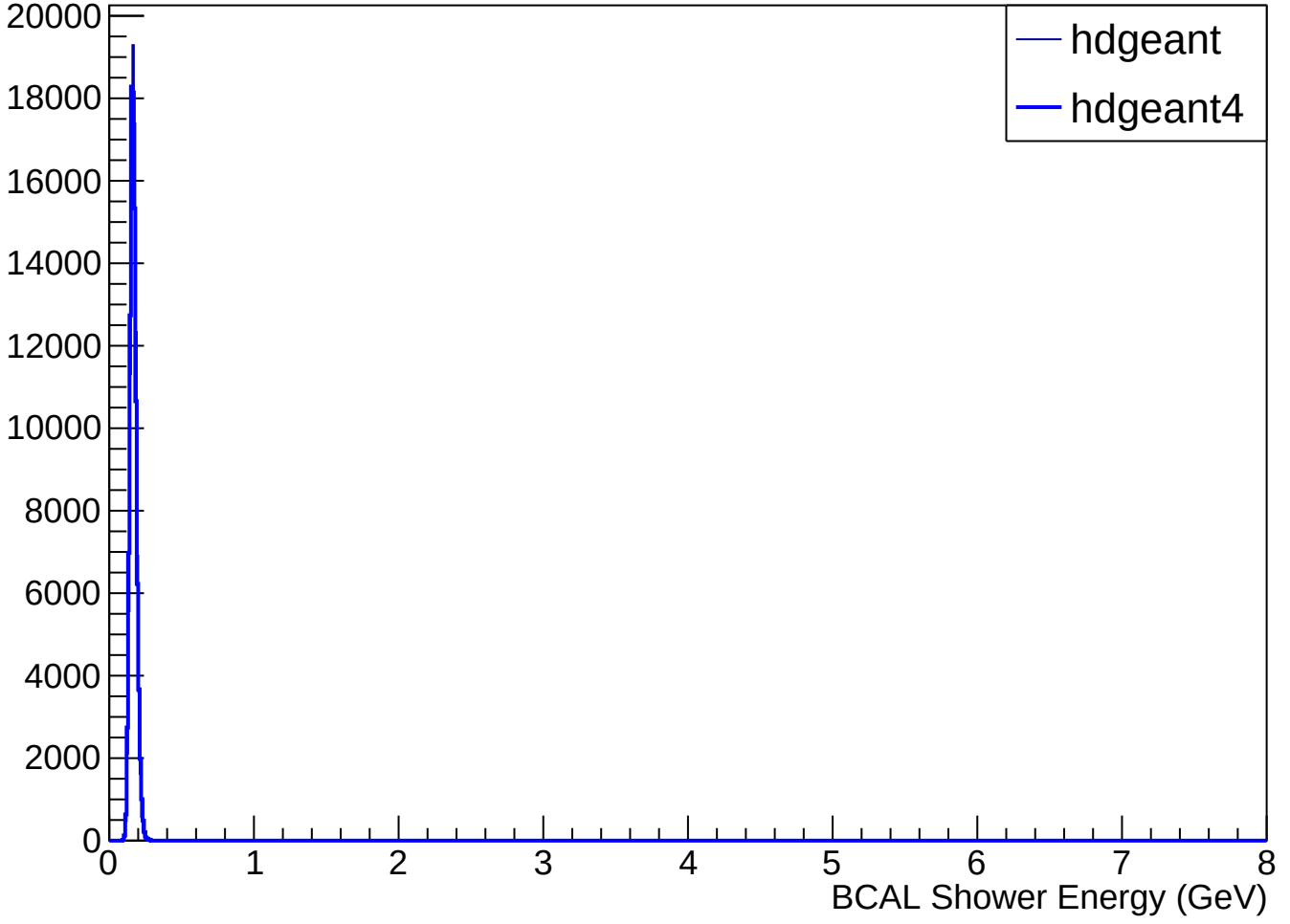

/Independent/Hist_DetectorMatching/WireBased/PVsTheta_NoHitMatch
p (GeV/c)
θ°


/Independent/Hist_DetectorMatching/WireBased/PVsTheta_NoHitMatch
p (GeV/c)
θ°

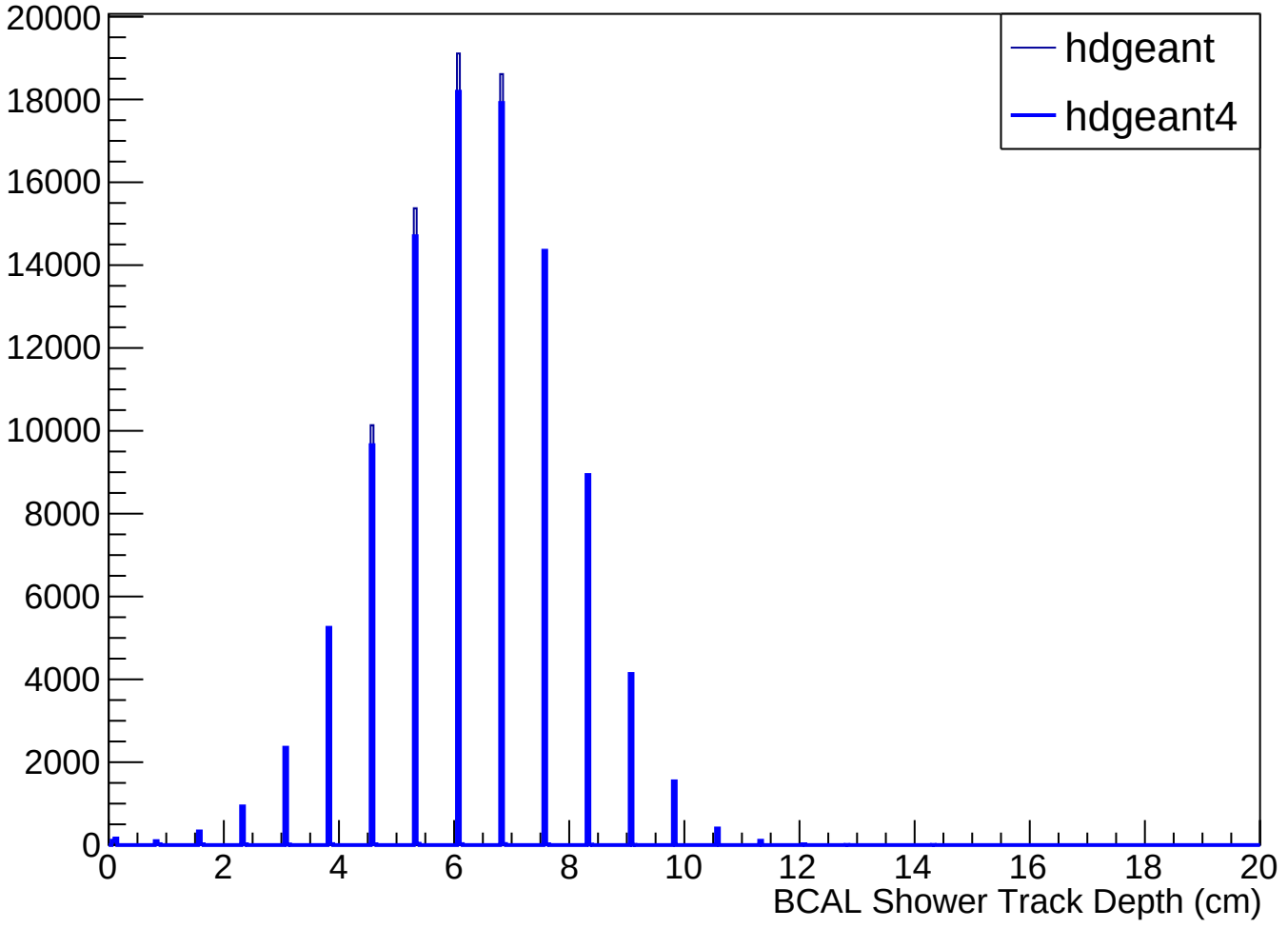

/Independent/Hist_DetectorMatching/WireBased/PVsTheta_HitMatch
p (GeV/c)
θ°

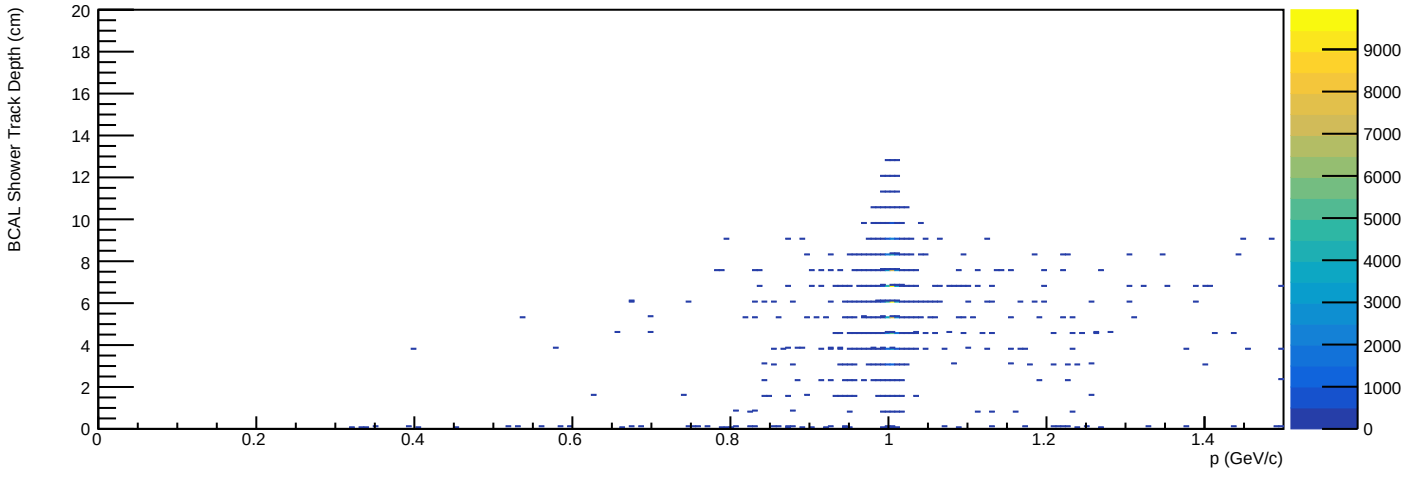

/Independent/Hist_DetectorMatching/WireBased/PVsTheta_HitMatch
p (GeV/c)
θ°

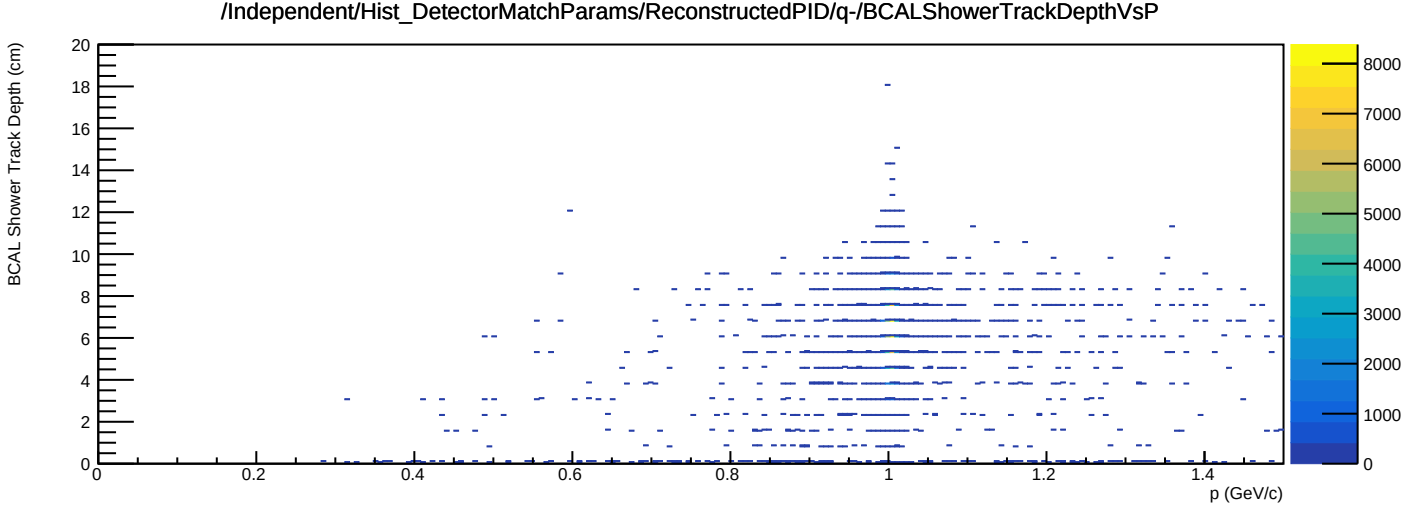
/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/BCALShowerEnergy



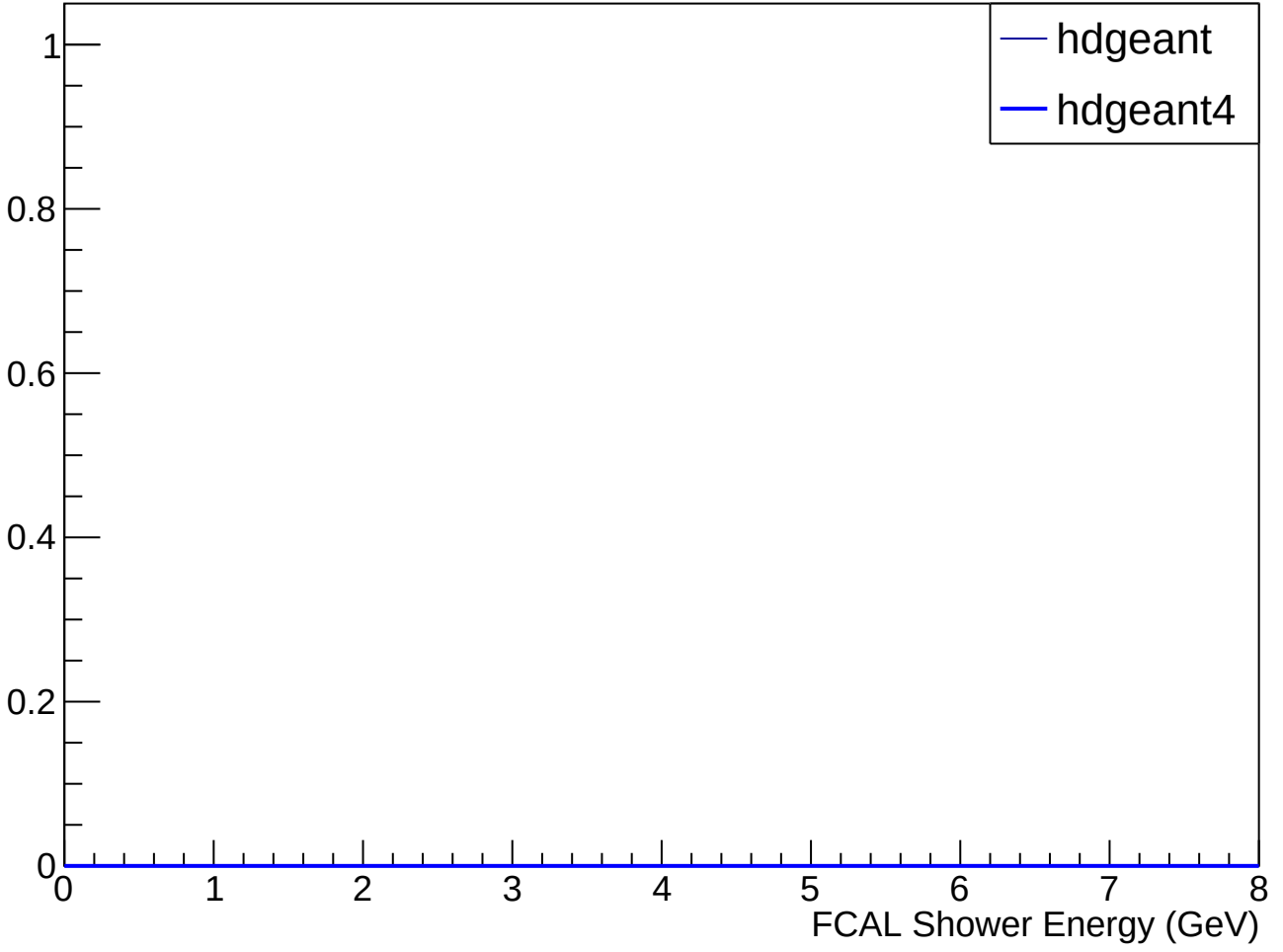
/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/BCALShowerTrackDepth



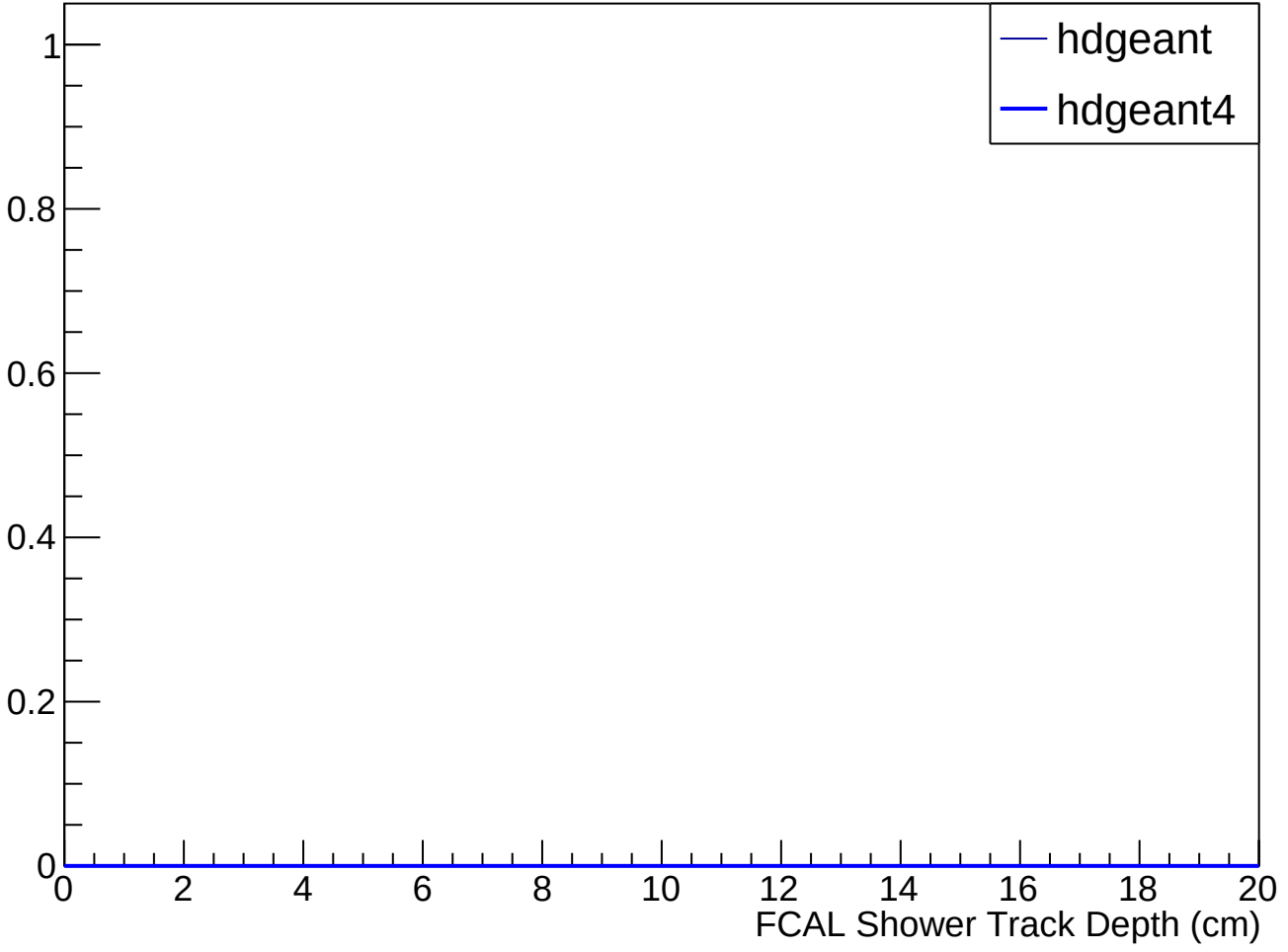

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)

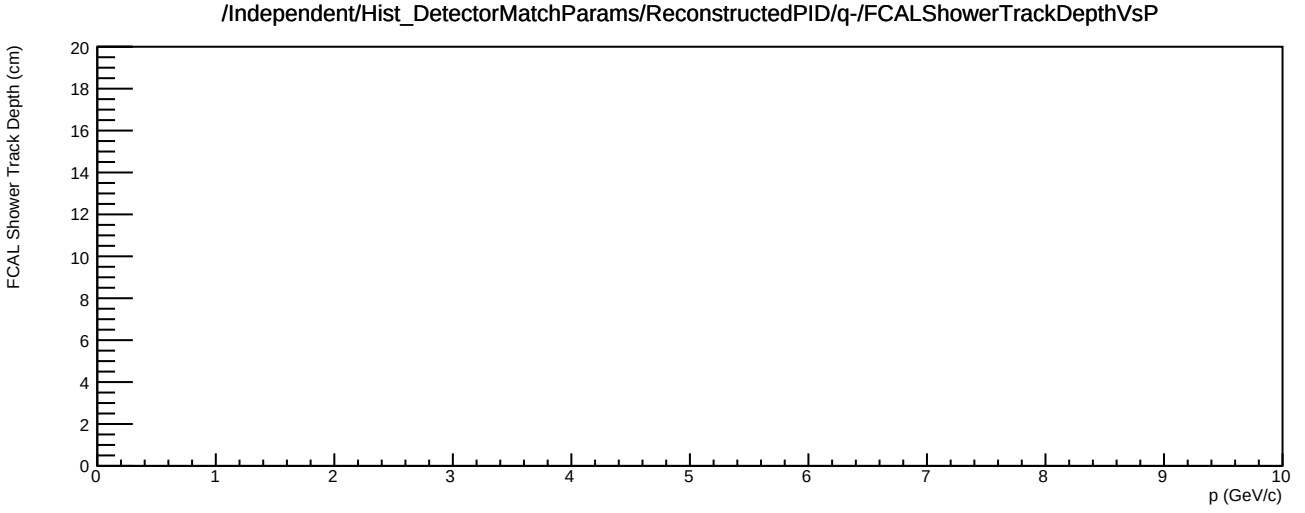

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)

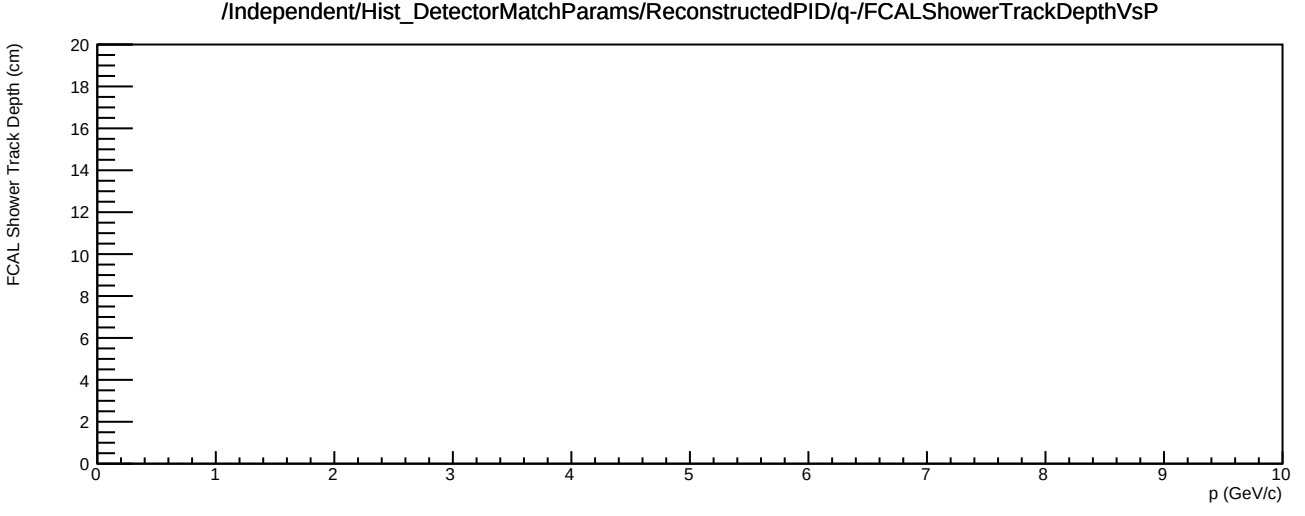
/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/FCALShowerEnergy

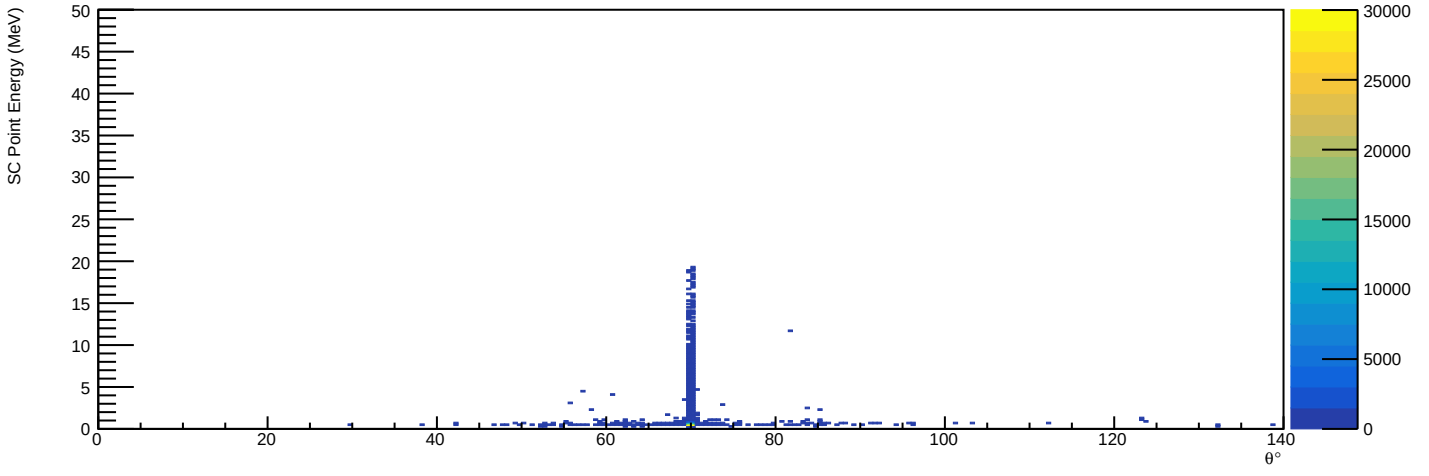


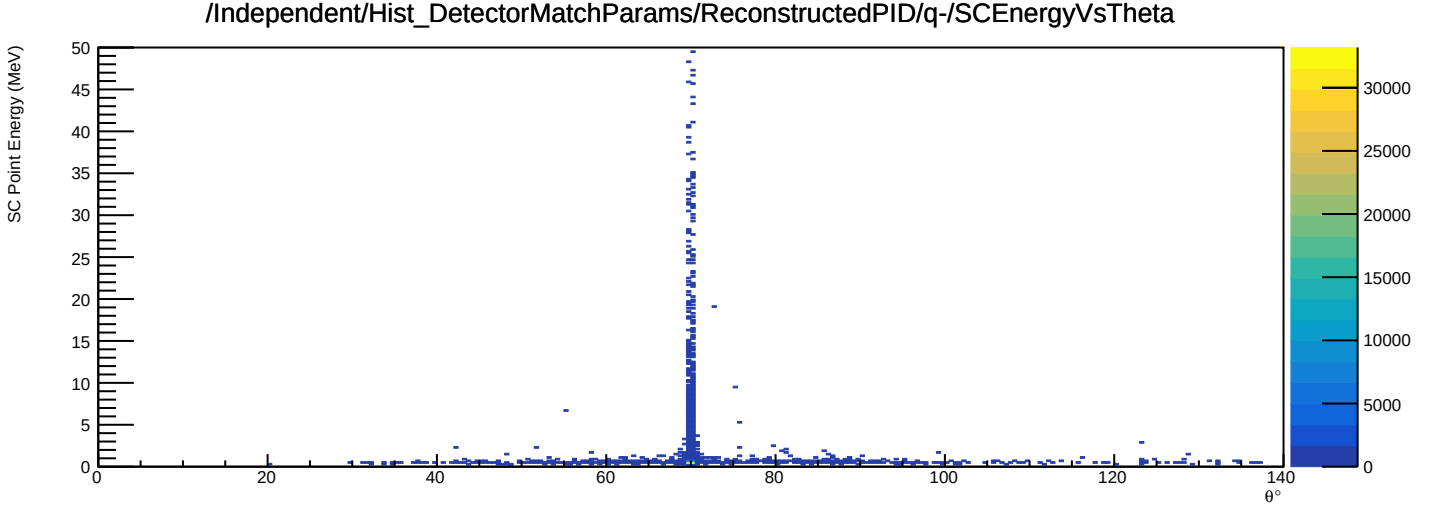
/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/FCALShowerTrackDepth

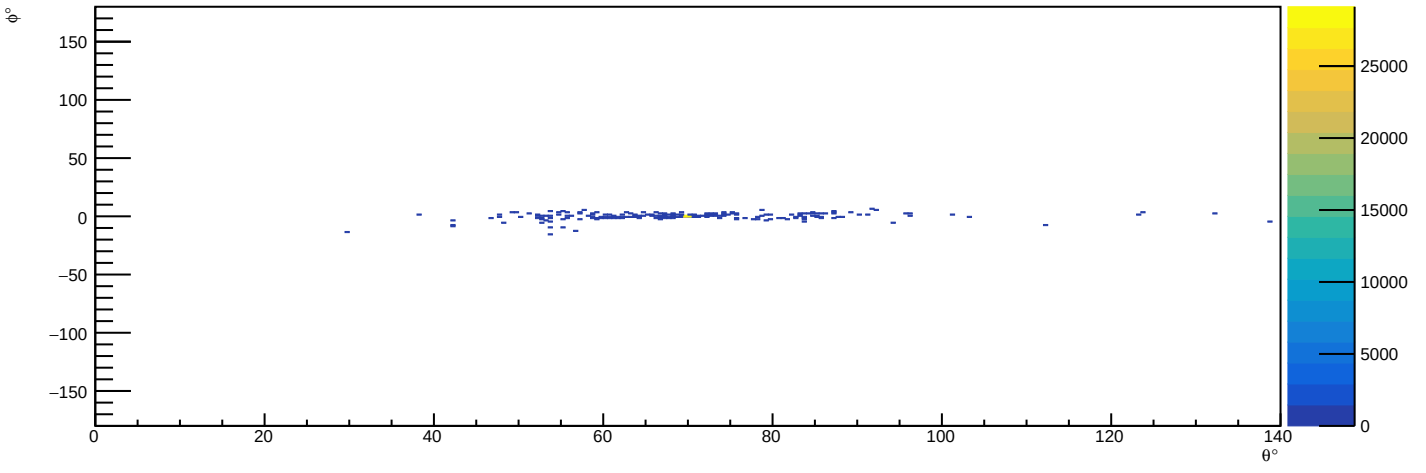


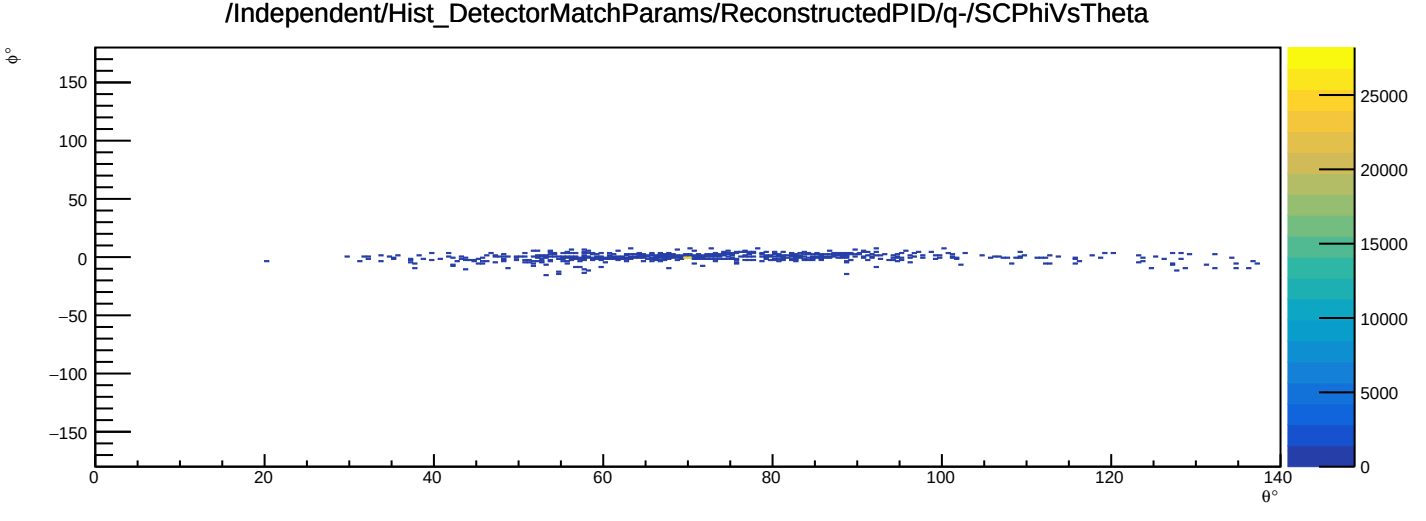

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

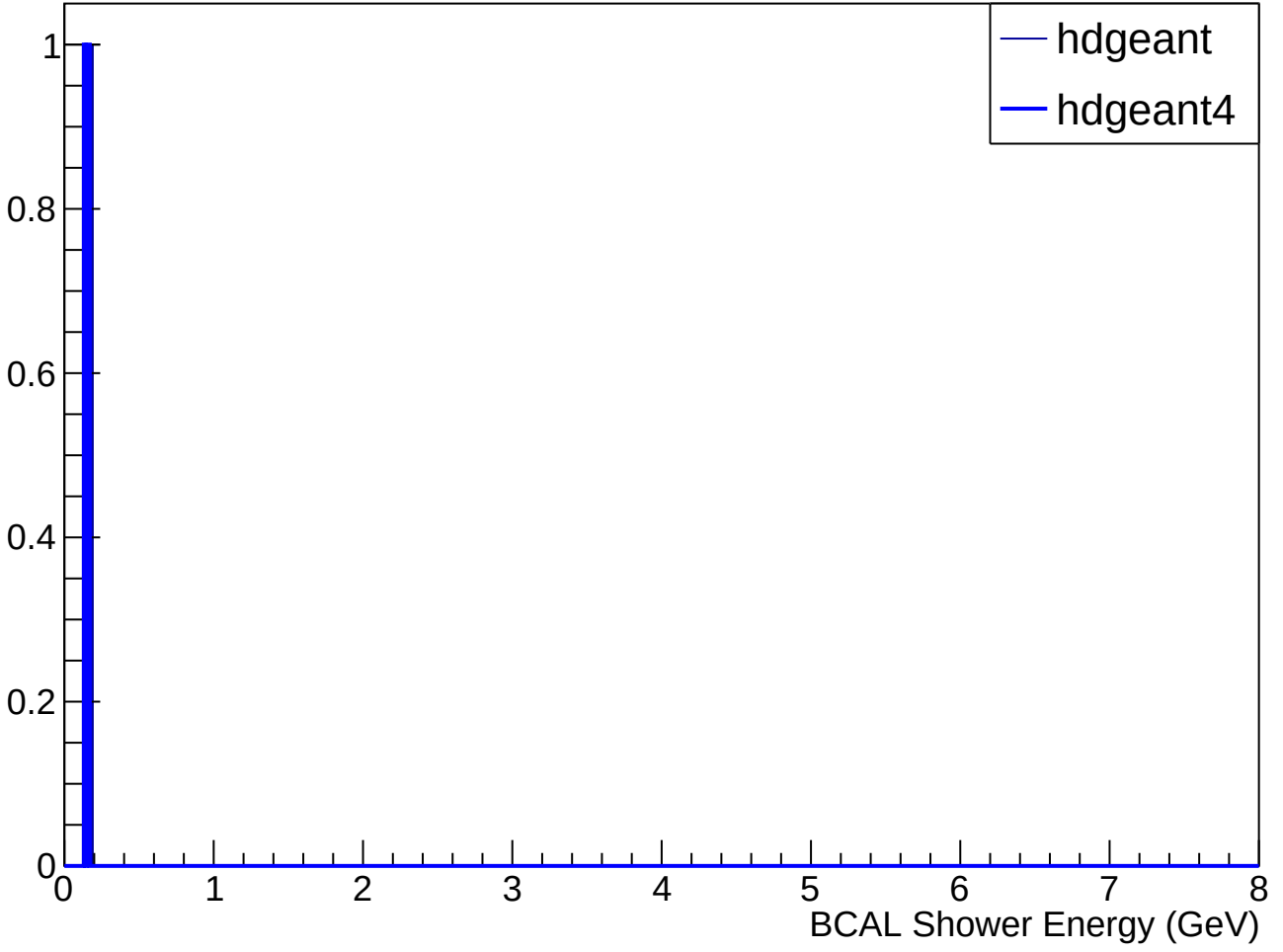

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/SCEnergyVsTheta
SC Point Energy (MeV)
θ°


/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/SCEnergyVsTheta
SC Point Energy (MeV)
θ°

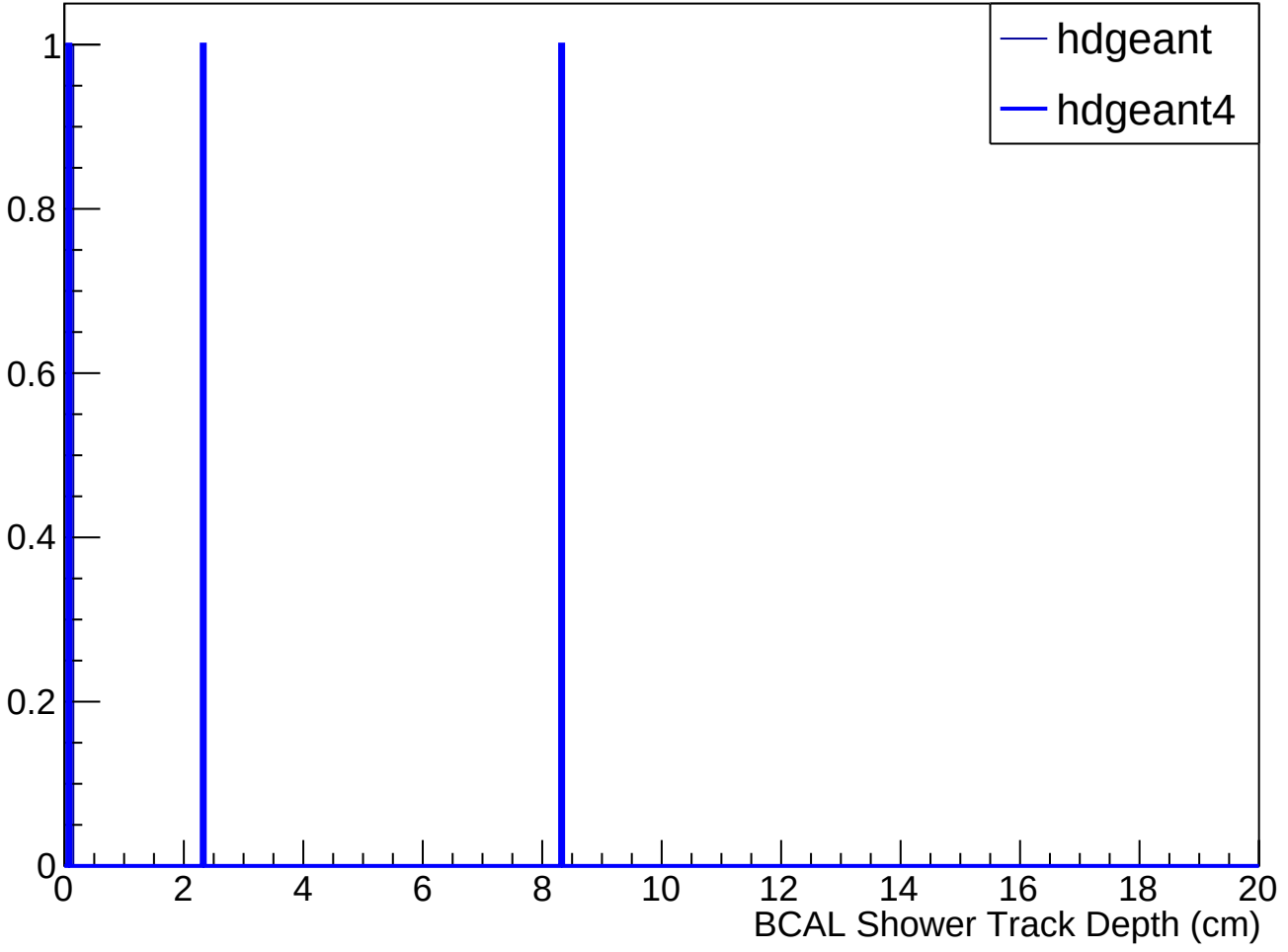

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25000
20000
15000
10000
5000
0

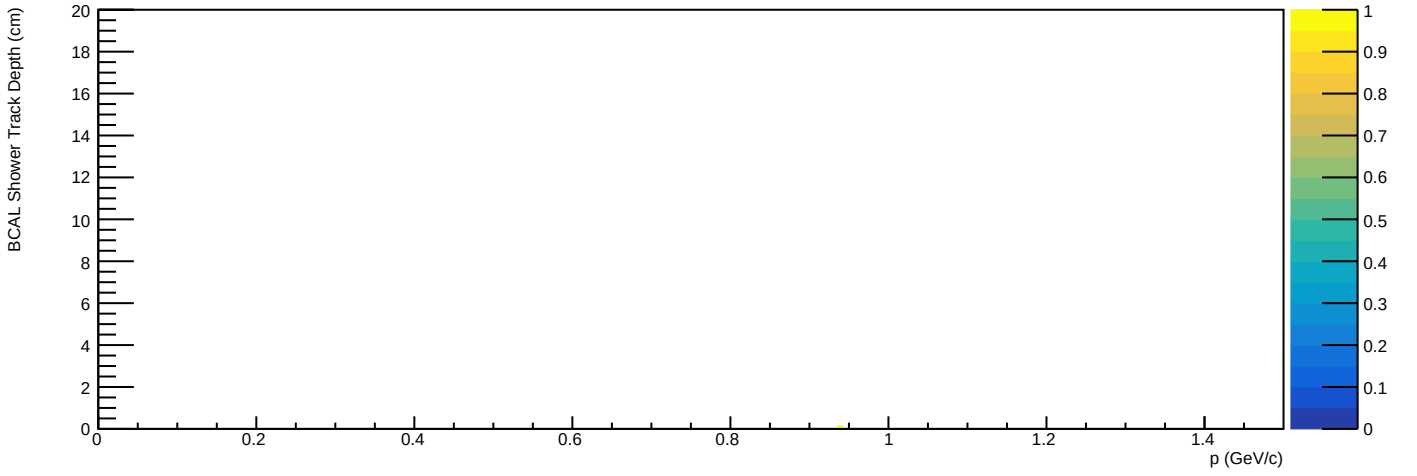

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q-/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25000
20000
15000
10000
5000
0

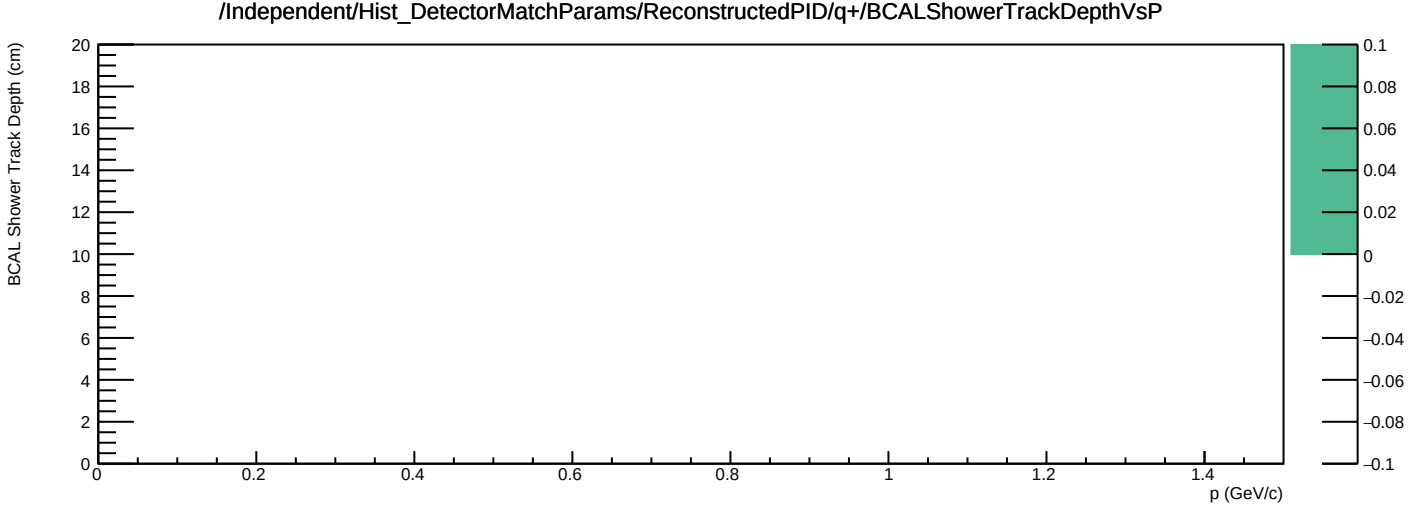
/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/BCALShowerEnergy



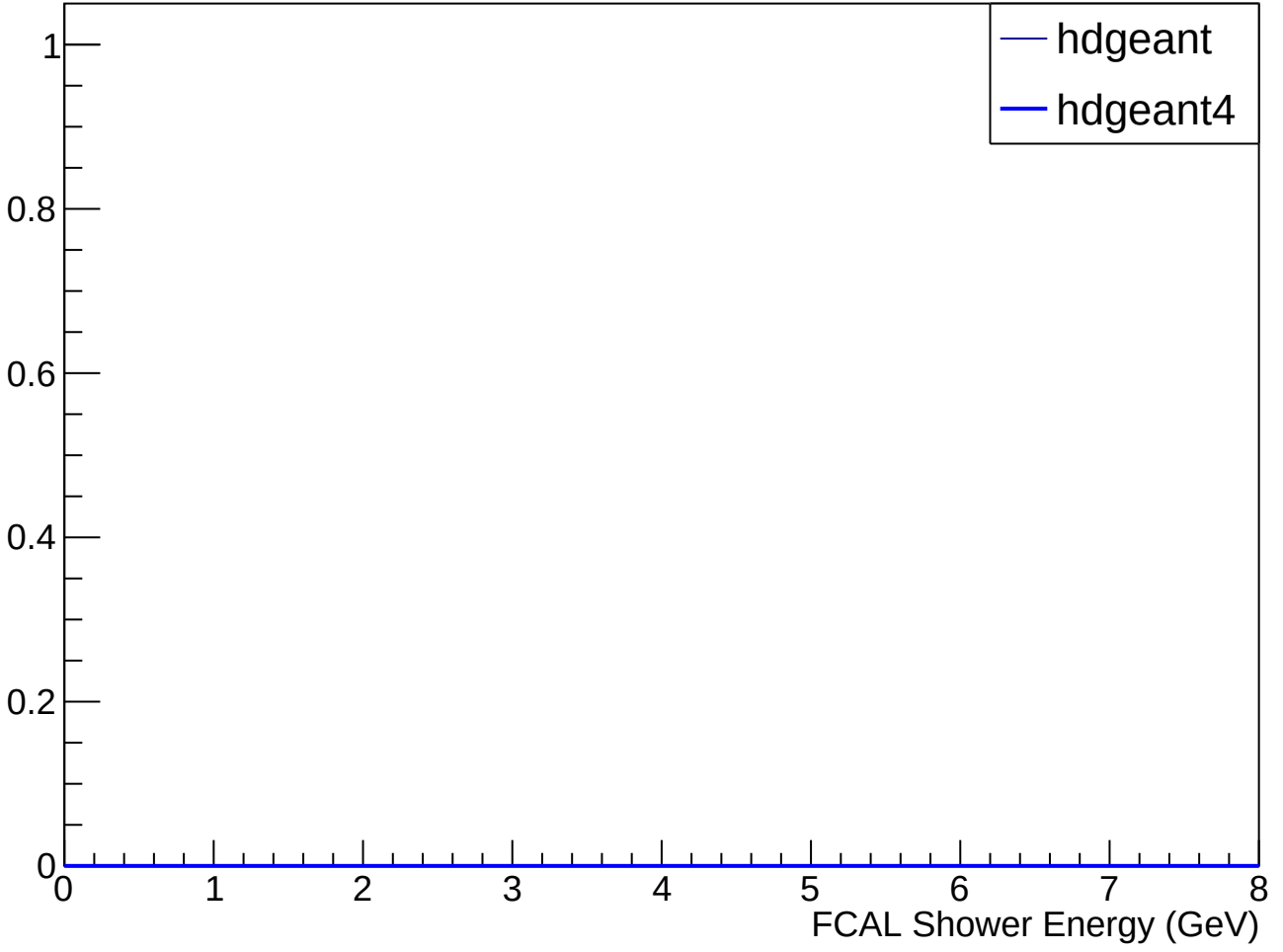
/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/BCALShowerTrackDepth



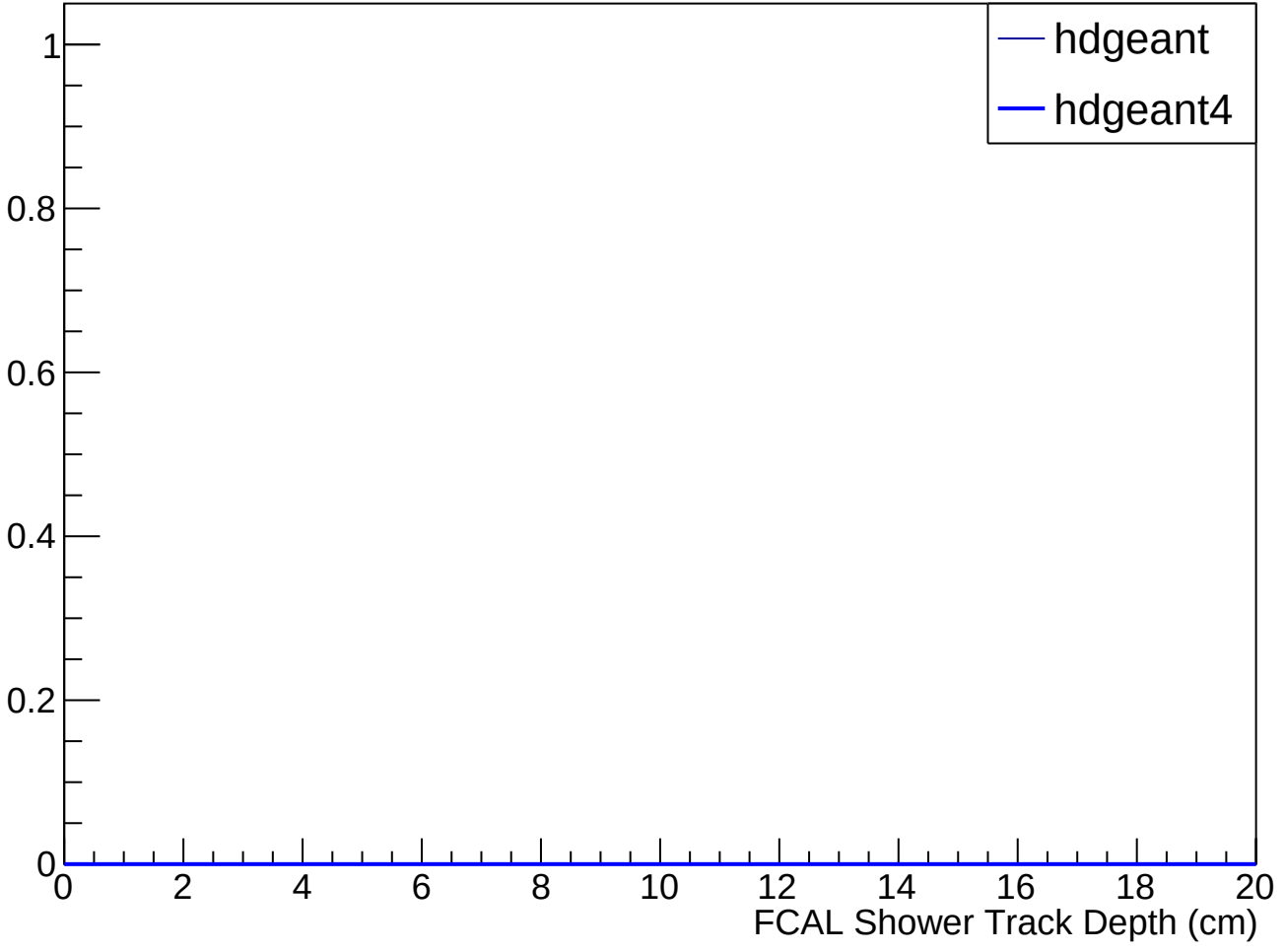

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)

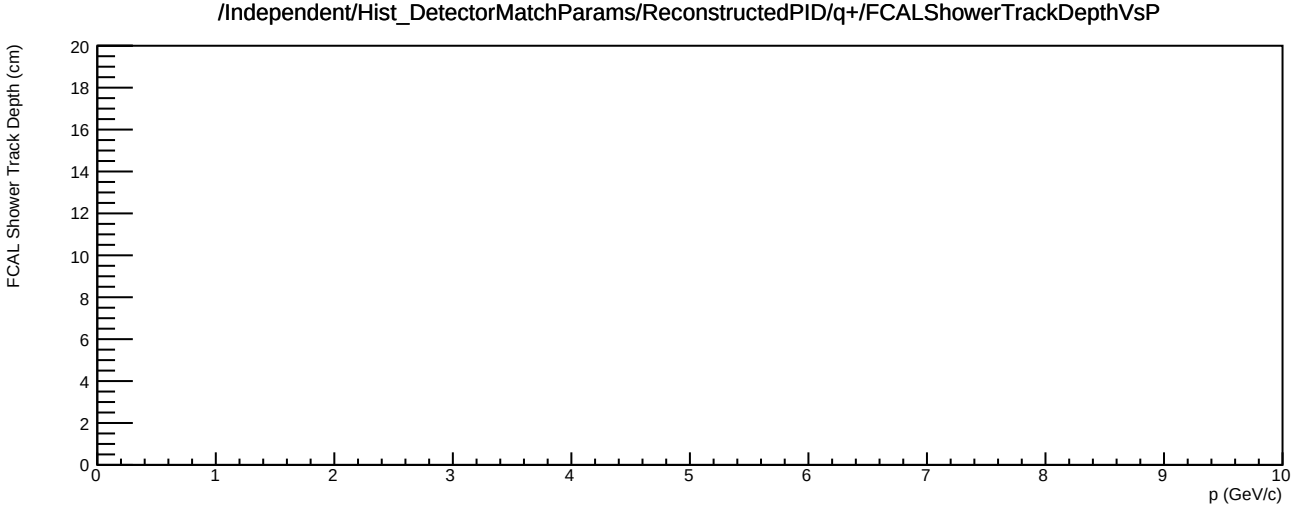

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)

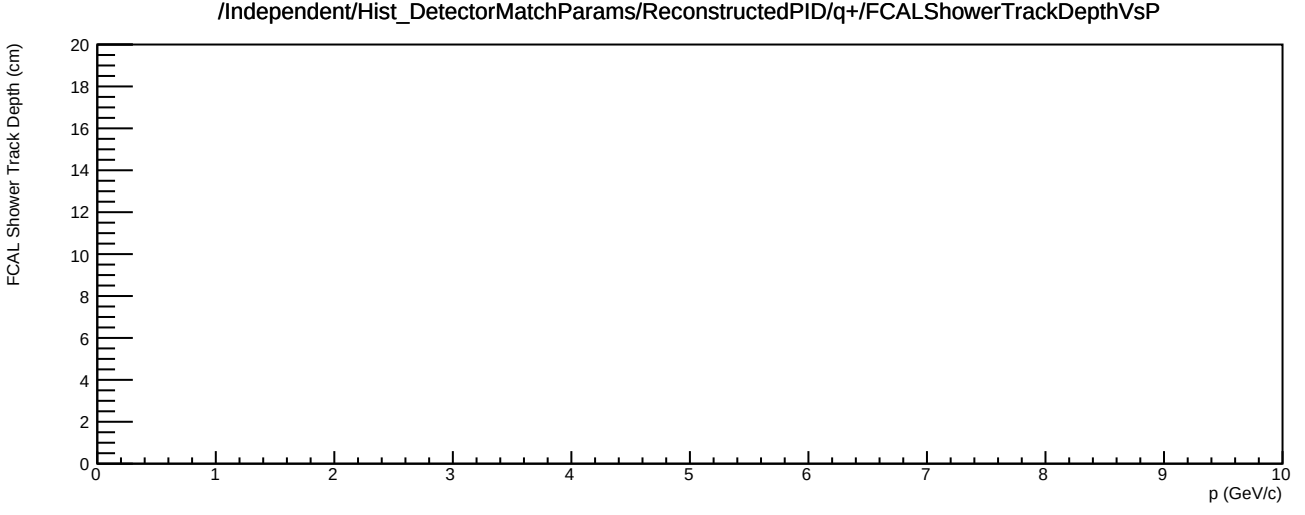
/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/FCALShowerEnergy

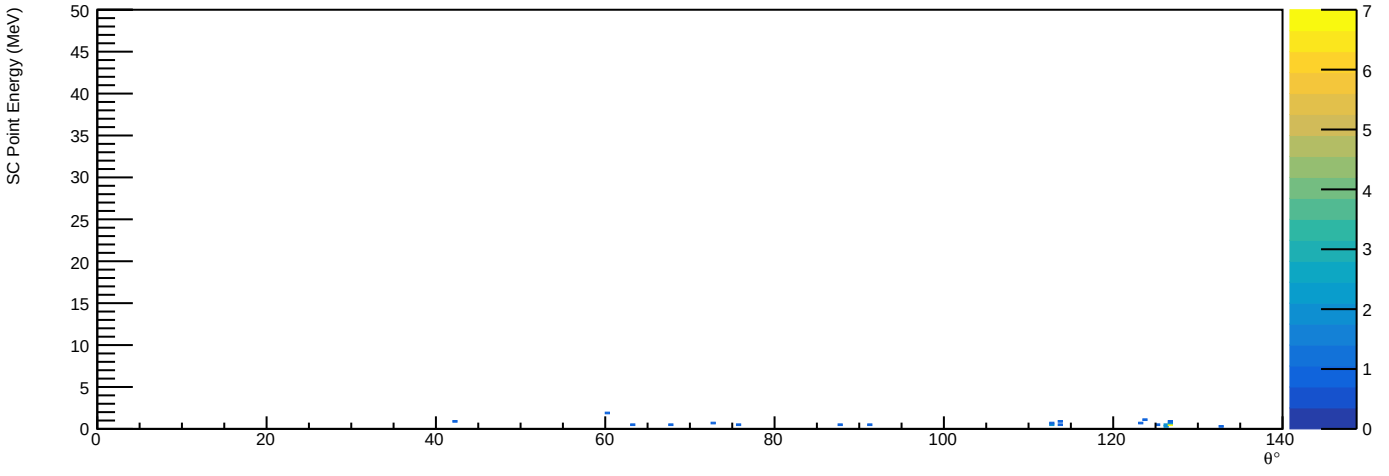


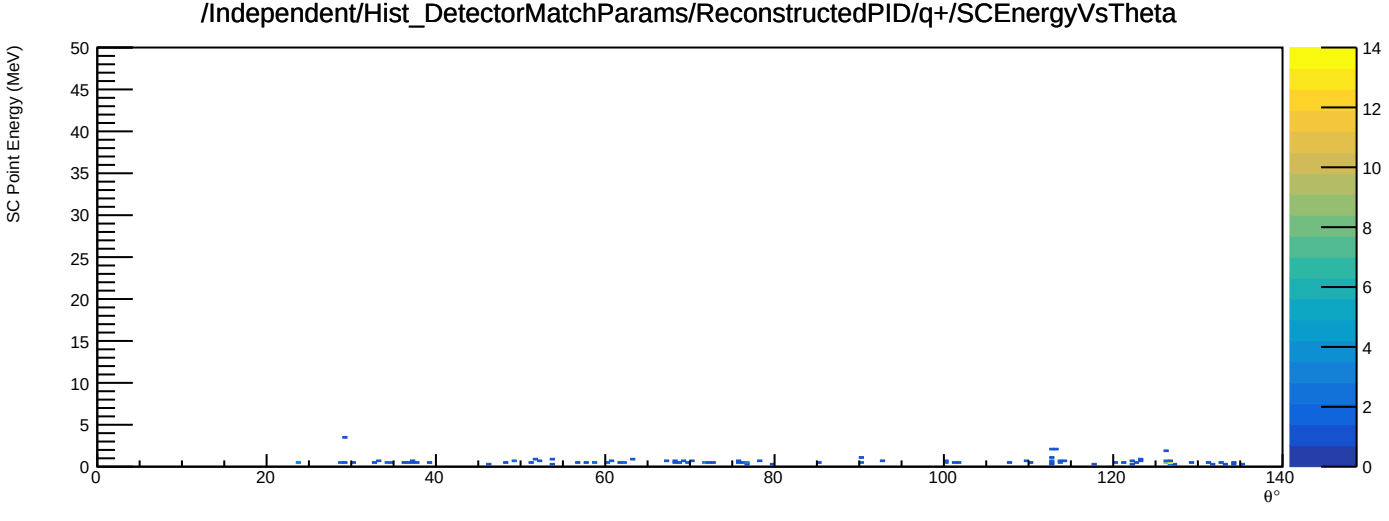
/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/FCALShowerTrackDepth

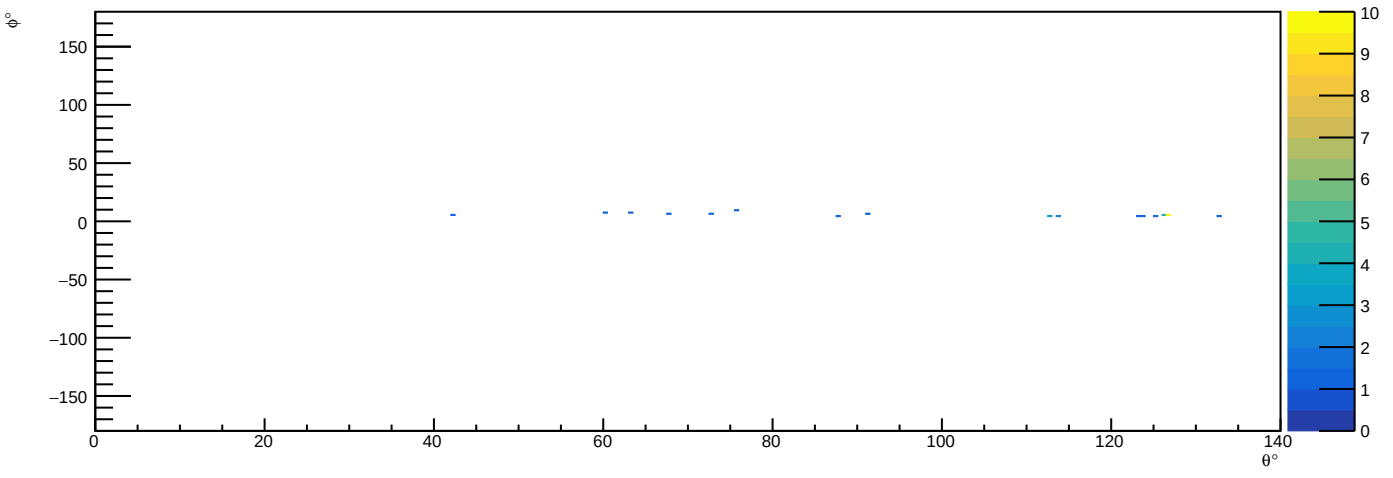


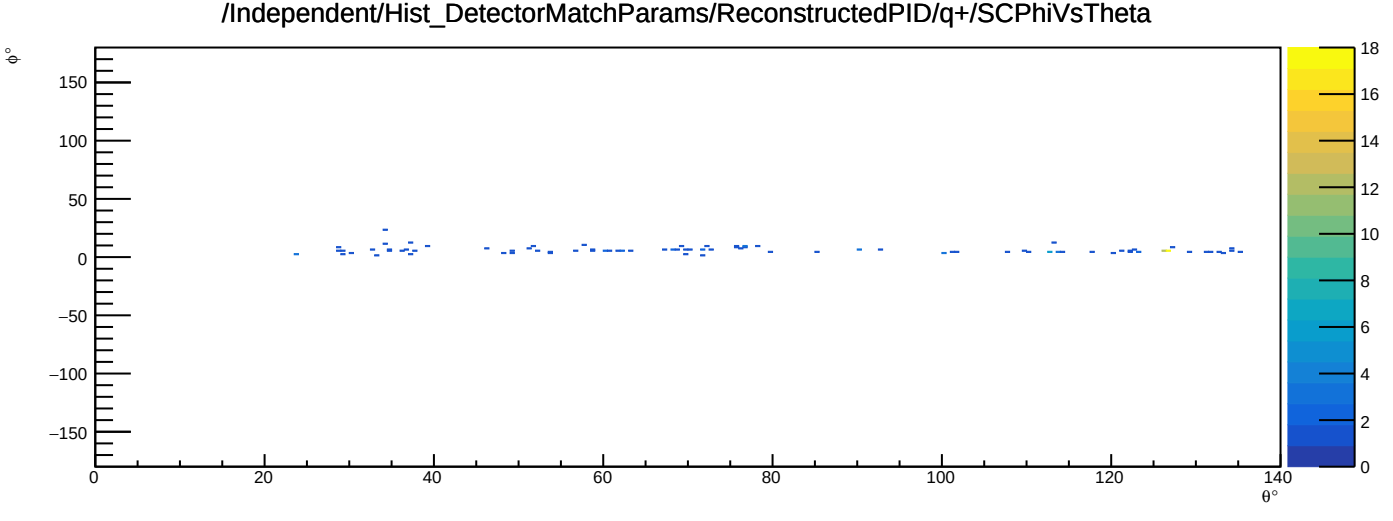

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

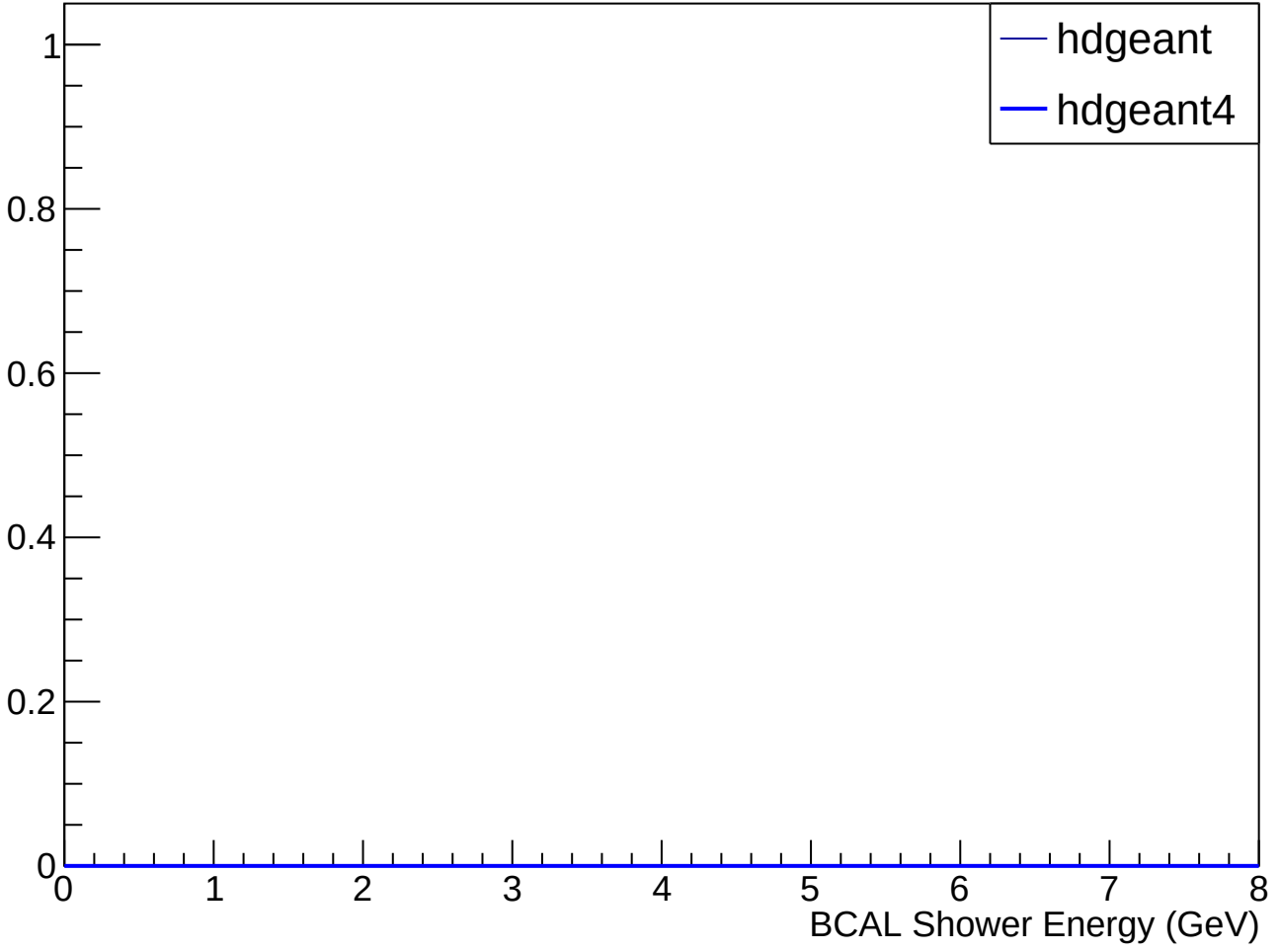

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/SCEnergyVsTheta
SC Point Energy (MeV)
θ°


/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/SCEnergyVsTheta
SC Point Energy (MeV)
θ°

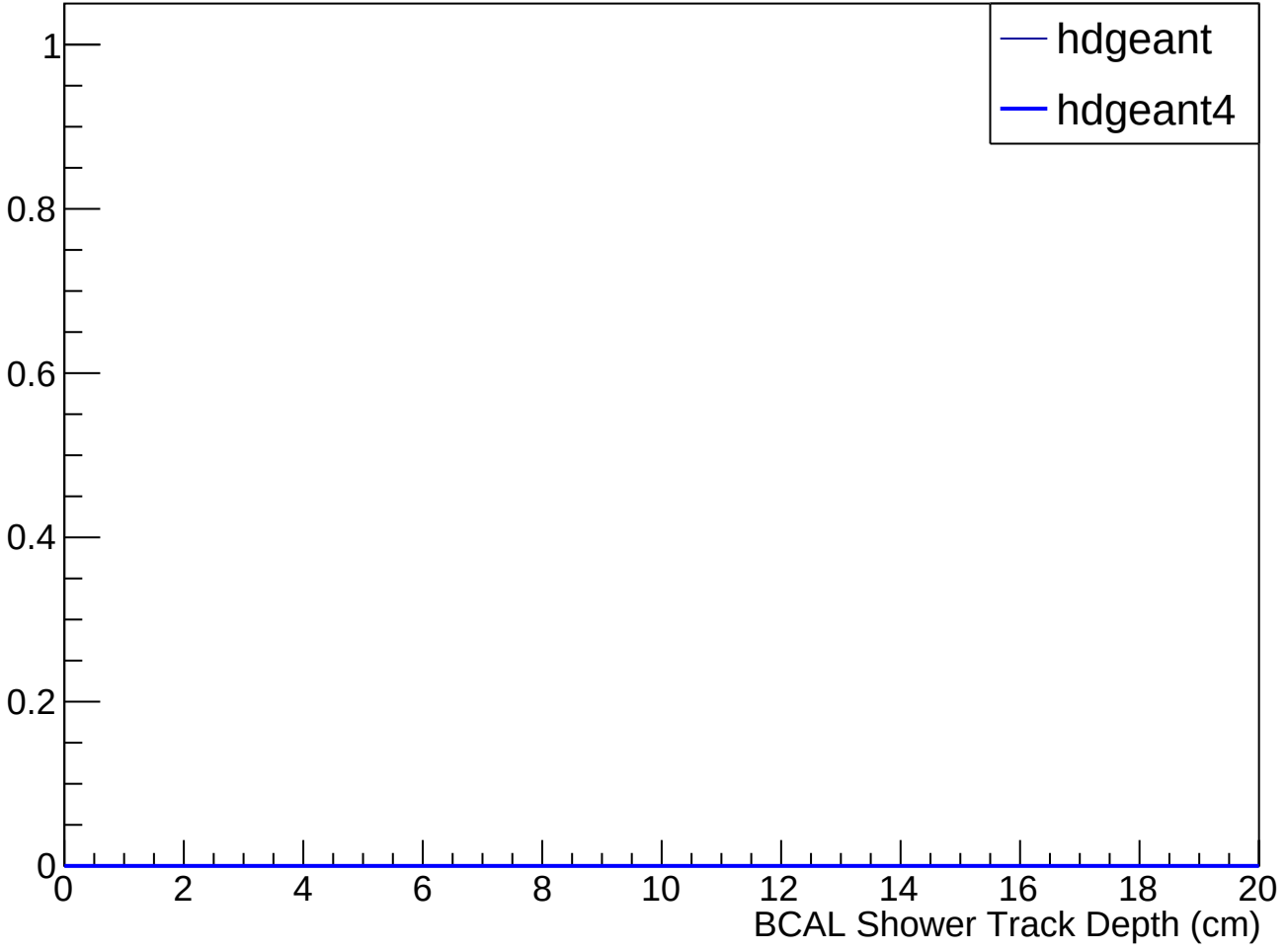

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
10
9
8
7
6
5
4
3
2
1
0

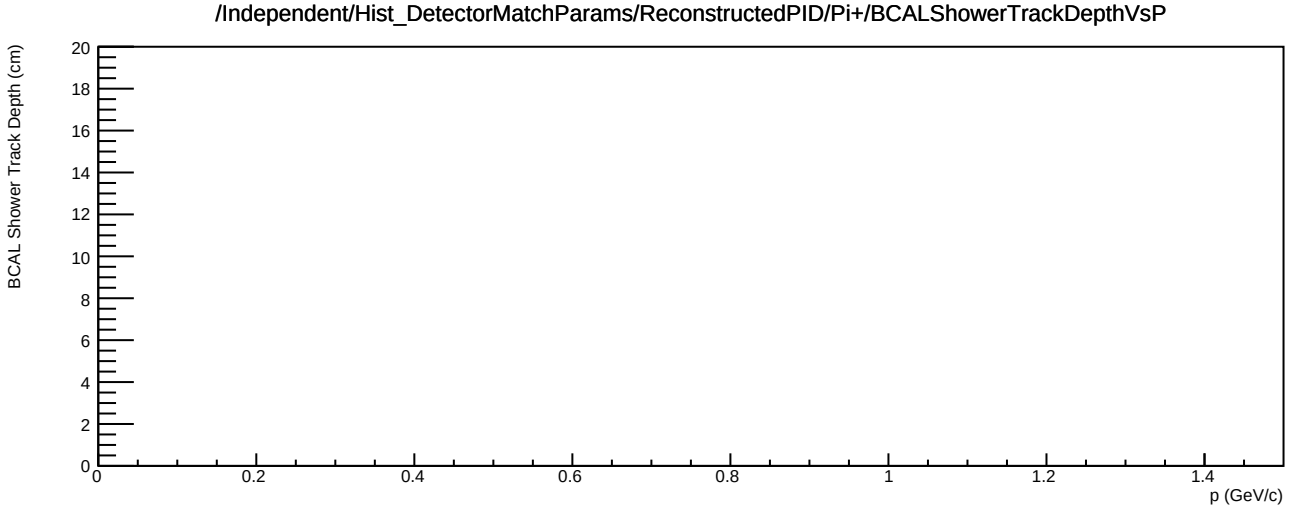

/Independent/Hist_DetectorMatchParams/ReconstructedPID/q+/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
18
16
14
12
10
8
6
4
2
0

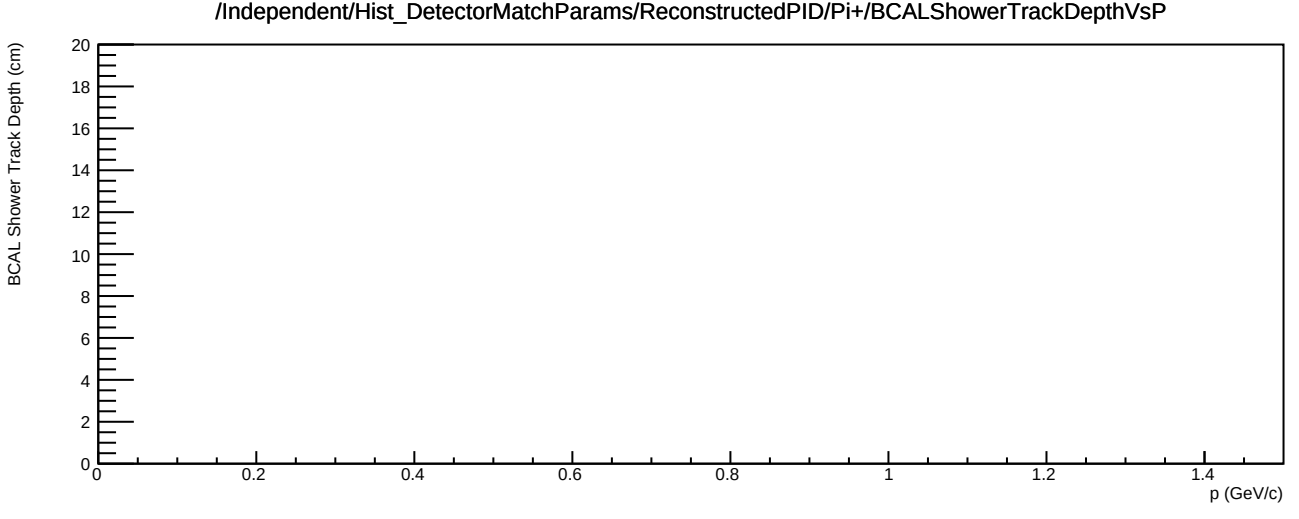
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/BCALShowerEnergy



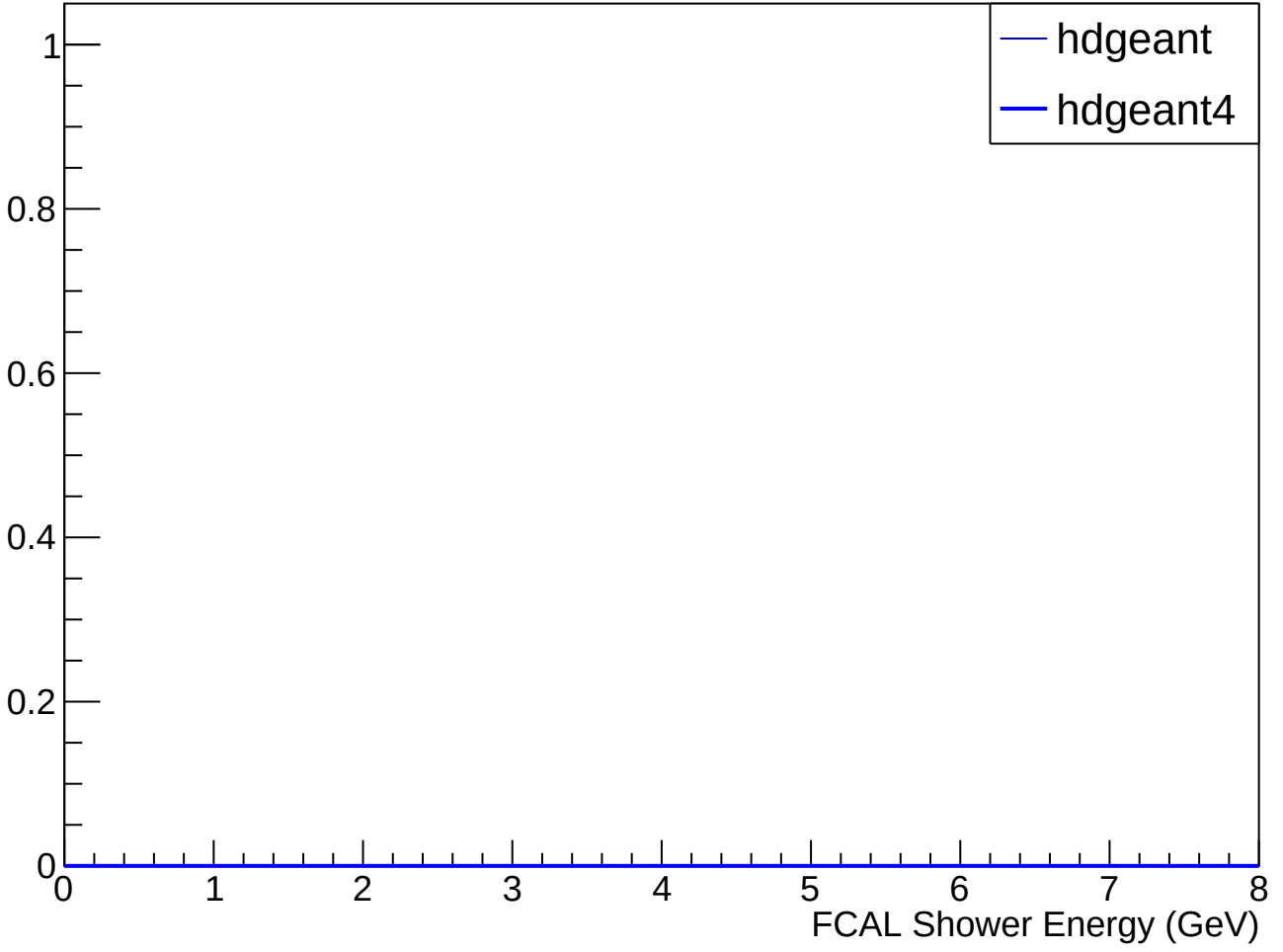
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/BCALShowerTrackDepth



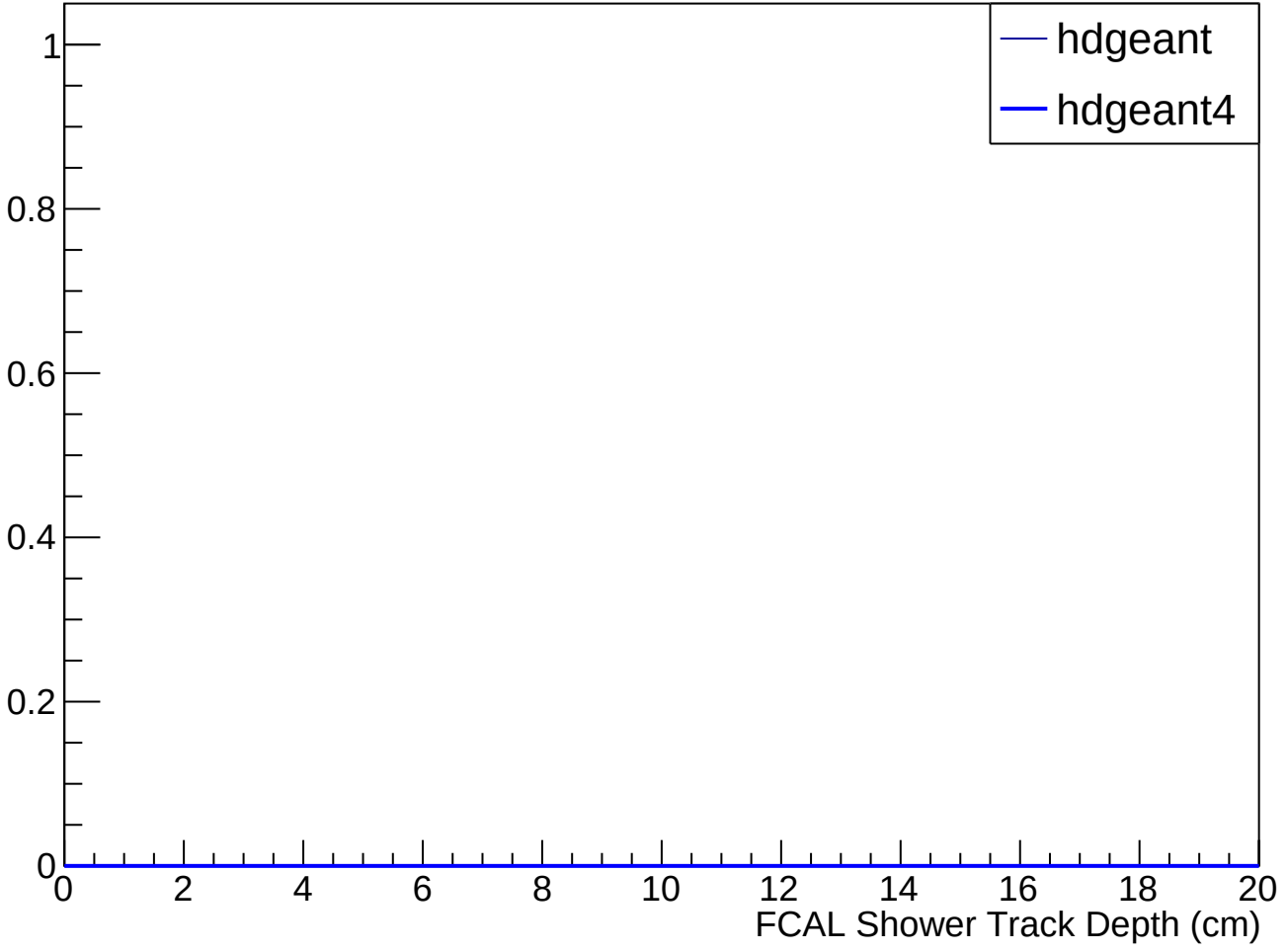

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

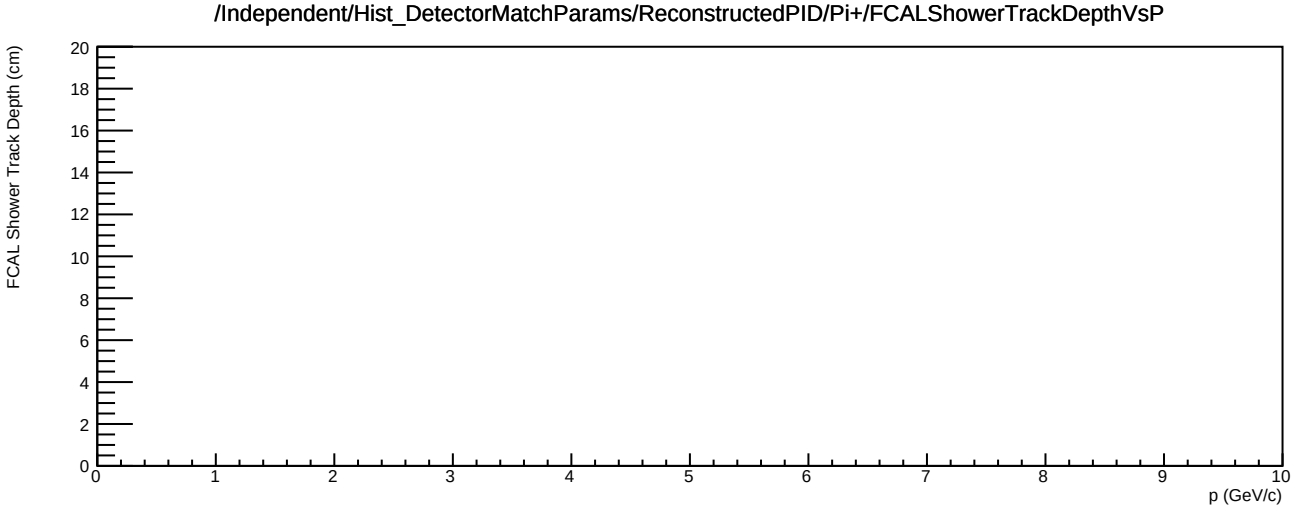

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

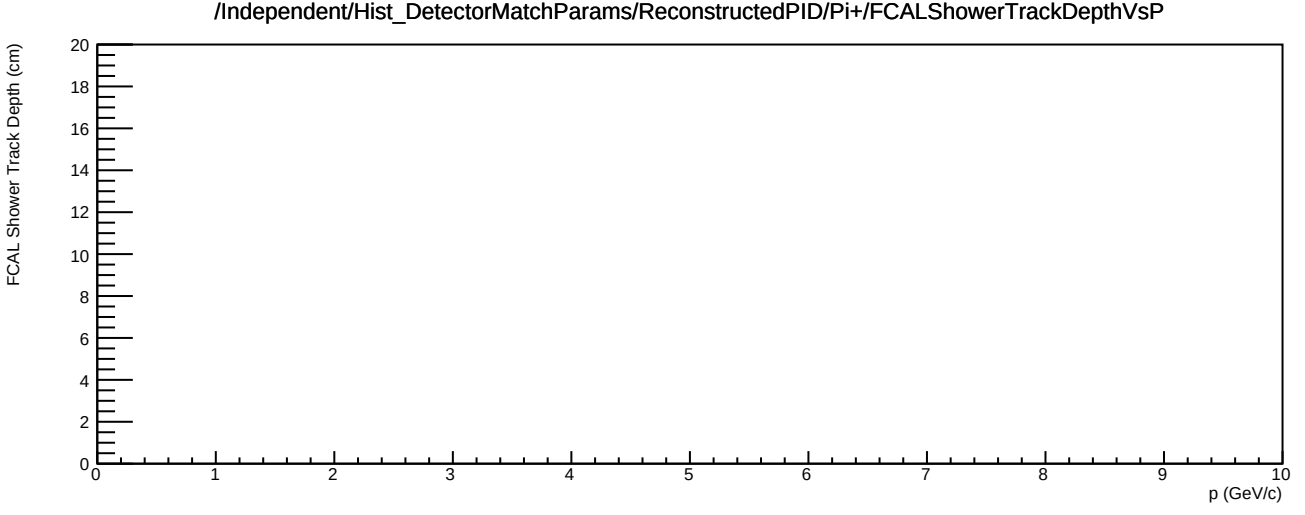
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/FCALShowerEnergy

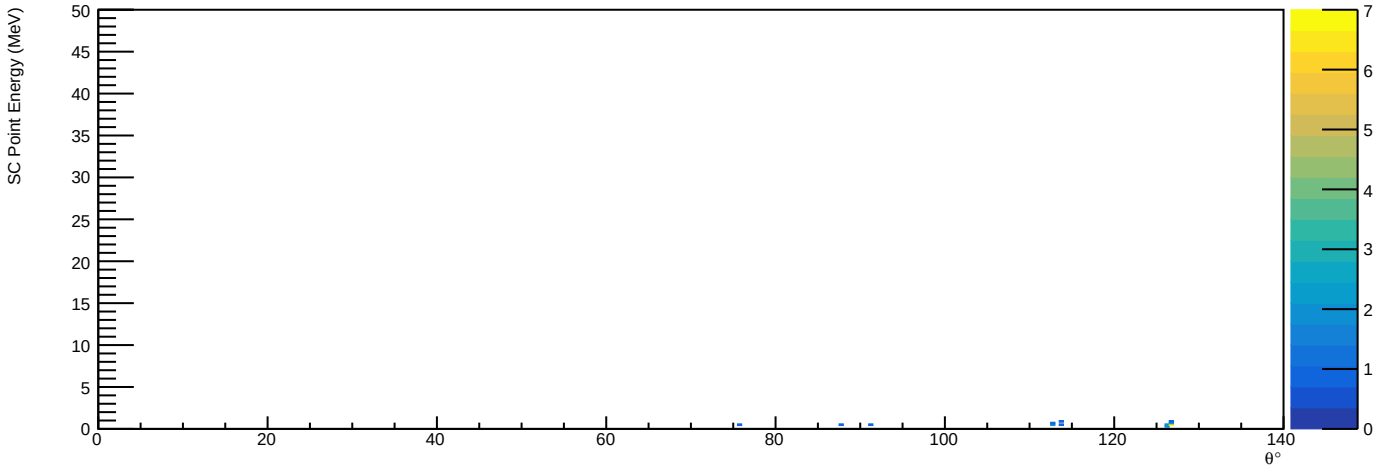


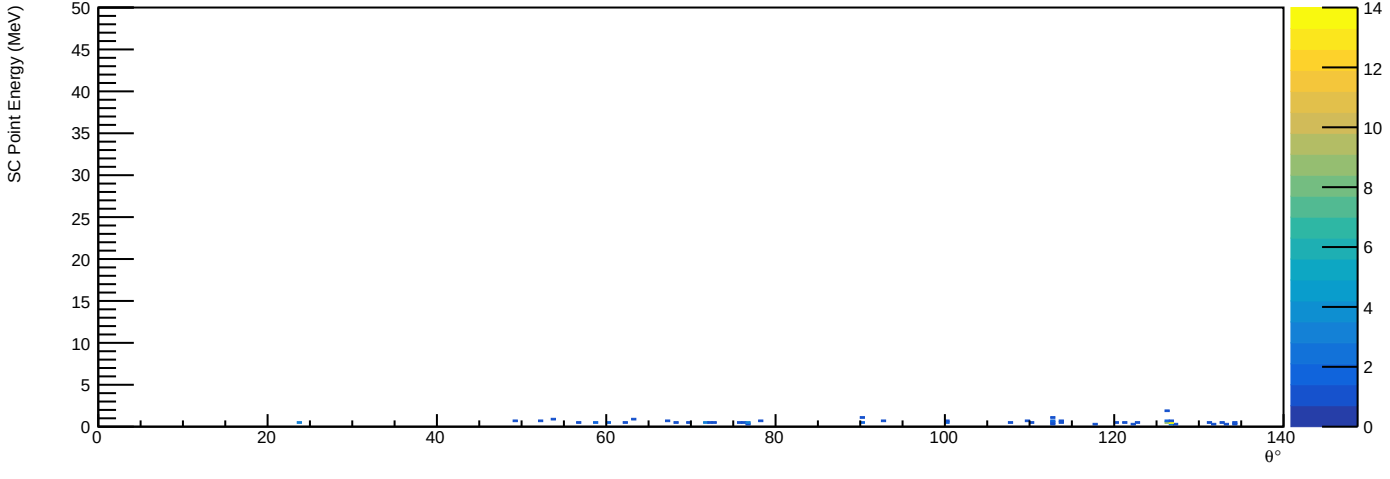
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/FCALShowerTrackDepth

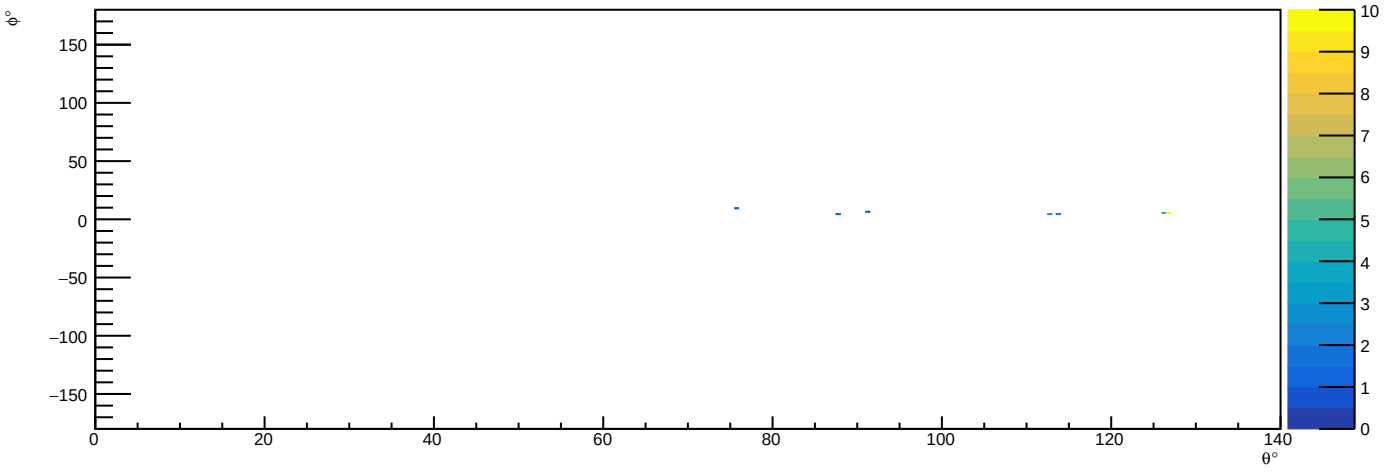


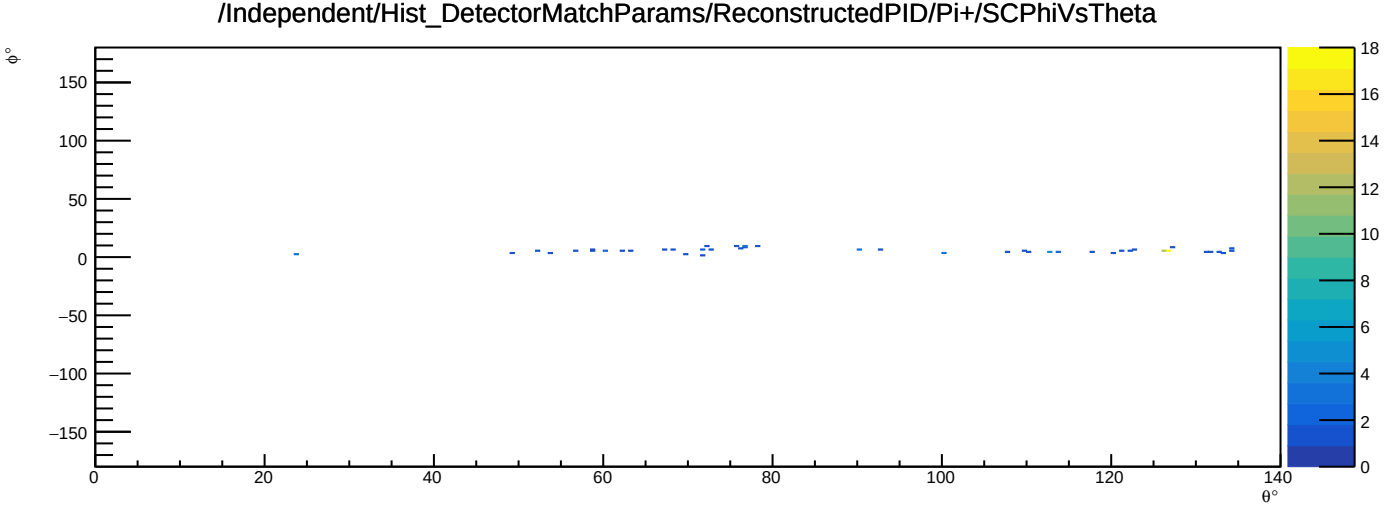

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

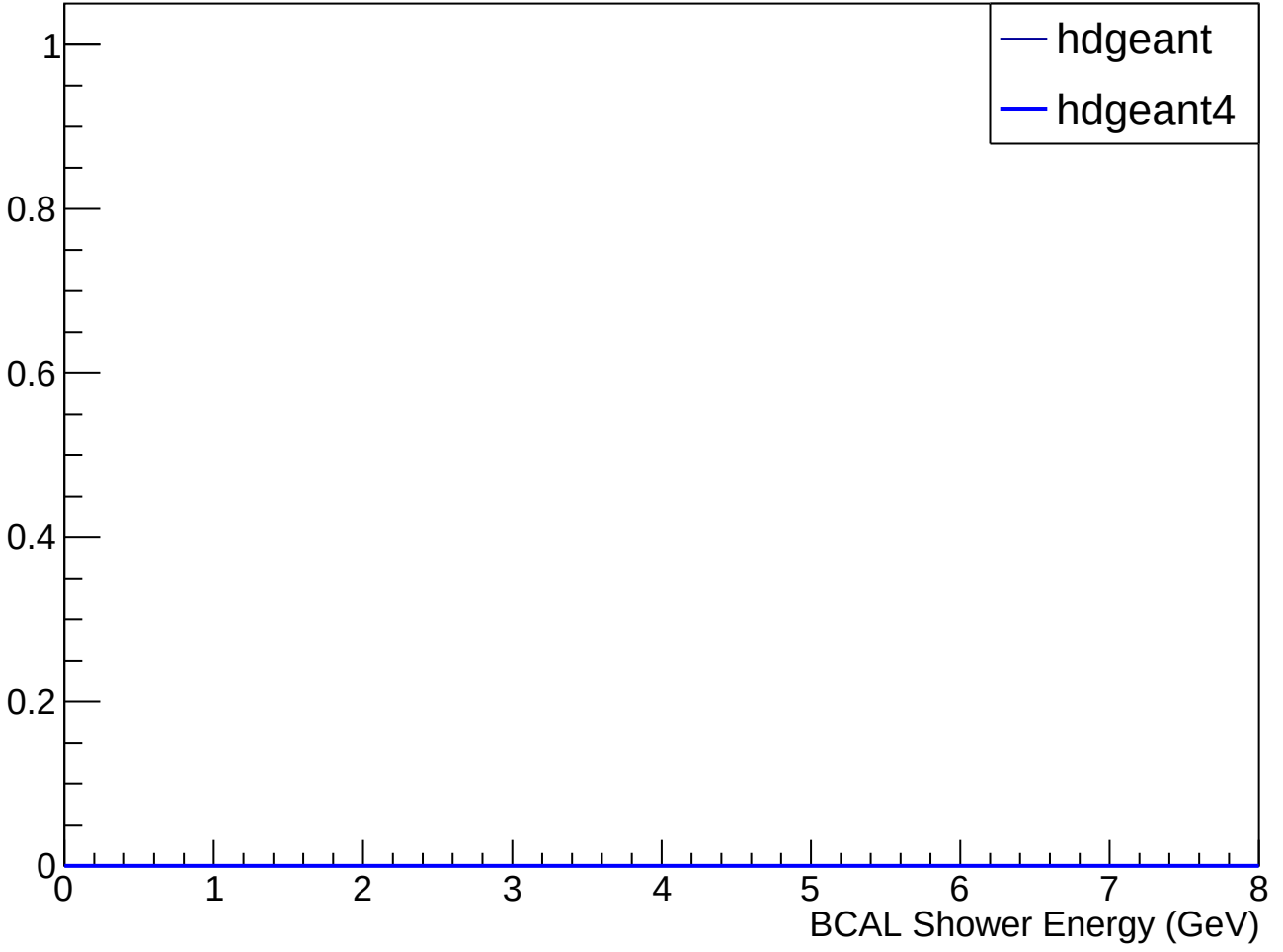

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/SCEnergyVsTheta
SC Point Energy (MeV)
θ°


/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/SCEnergyVsTheta
SC Point Energy (MeV)
θ°

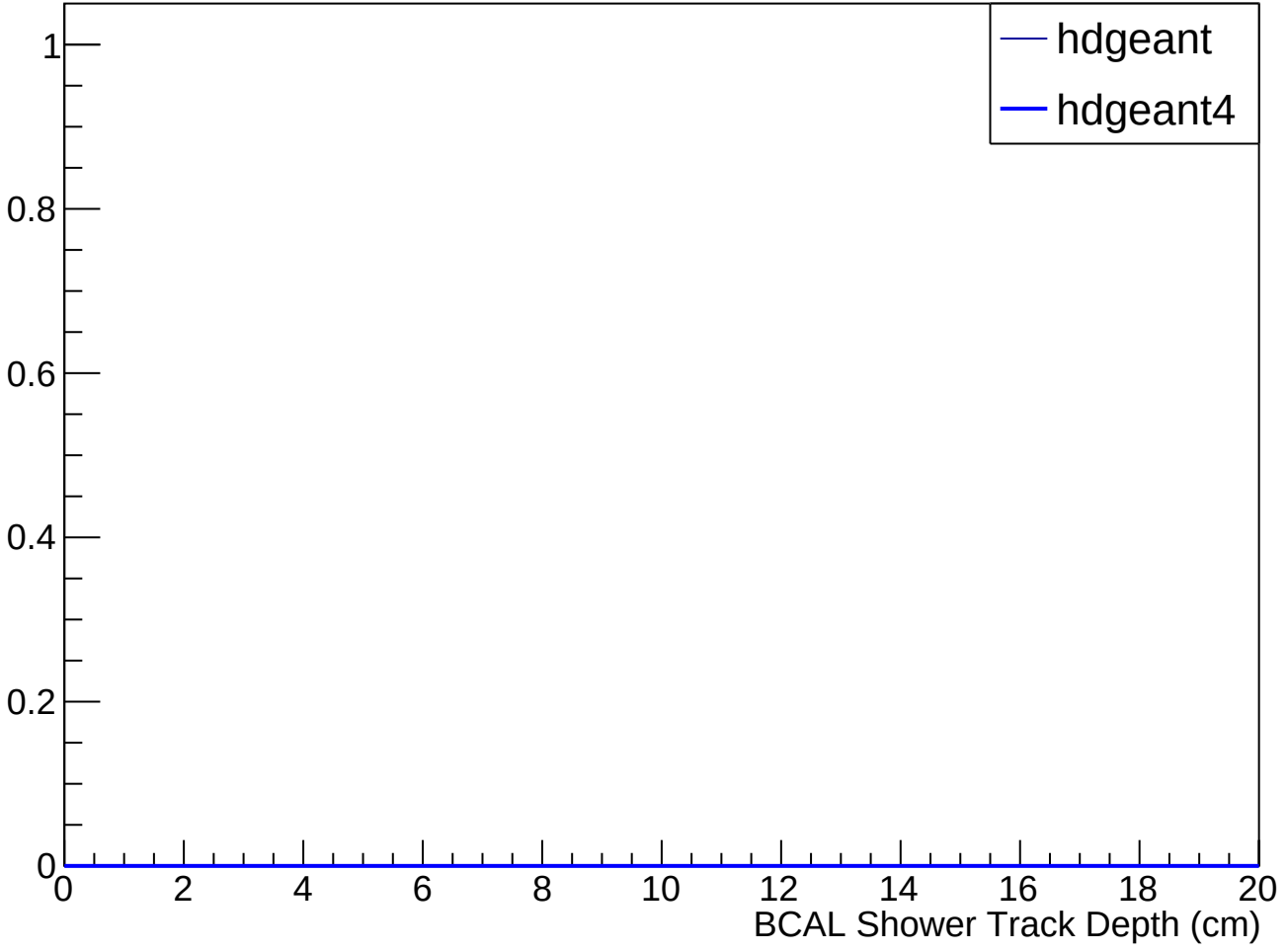

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
10
9
8
7
6
5
4
3
2
1
0

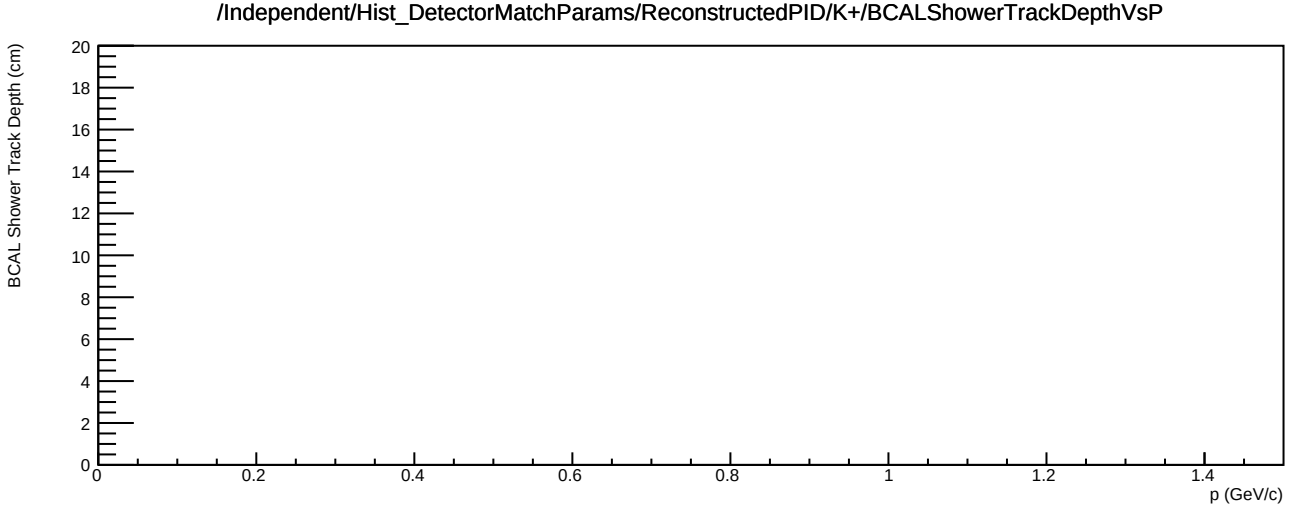

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi+/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
18
16
14
12
10
8
6
4
2
0

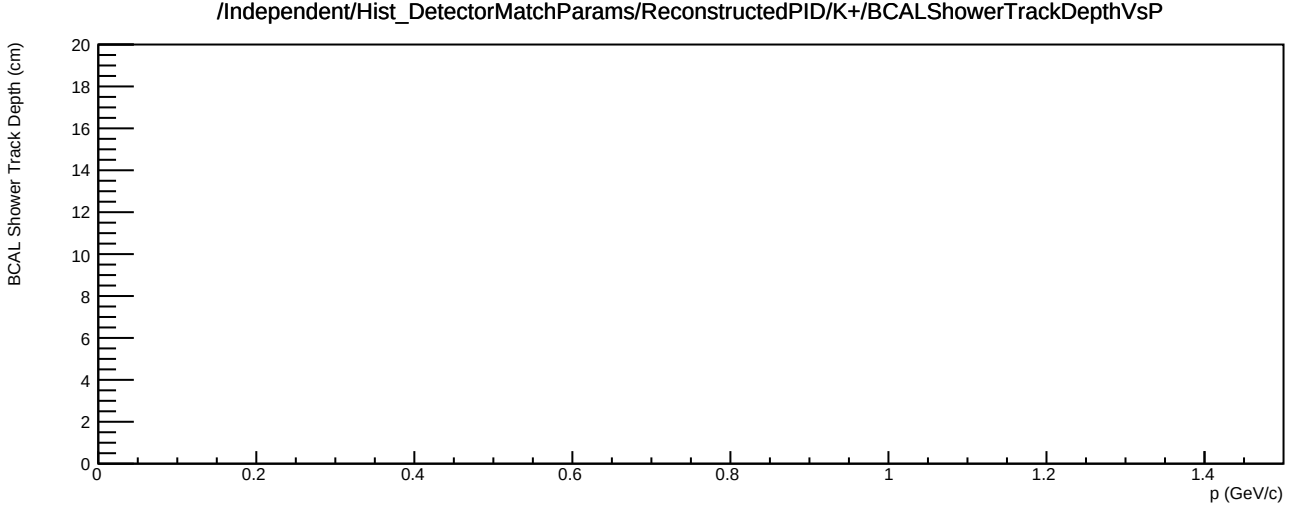
/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/BCALShowerEnergy



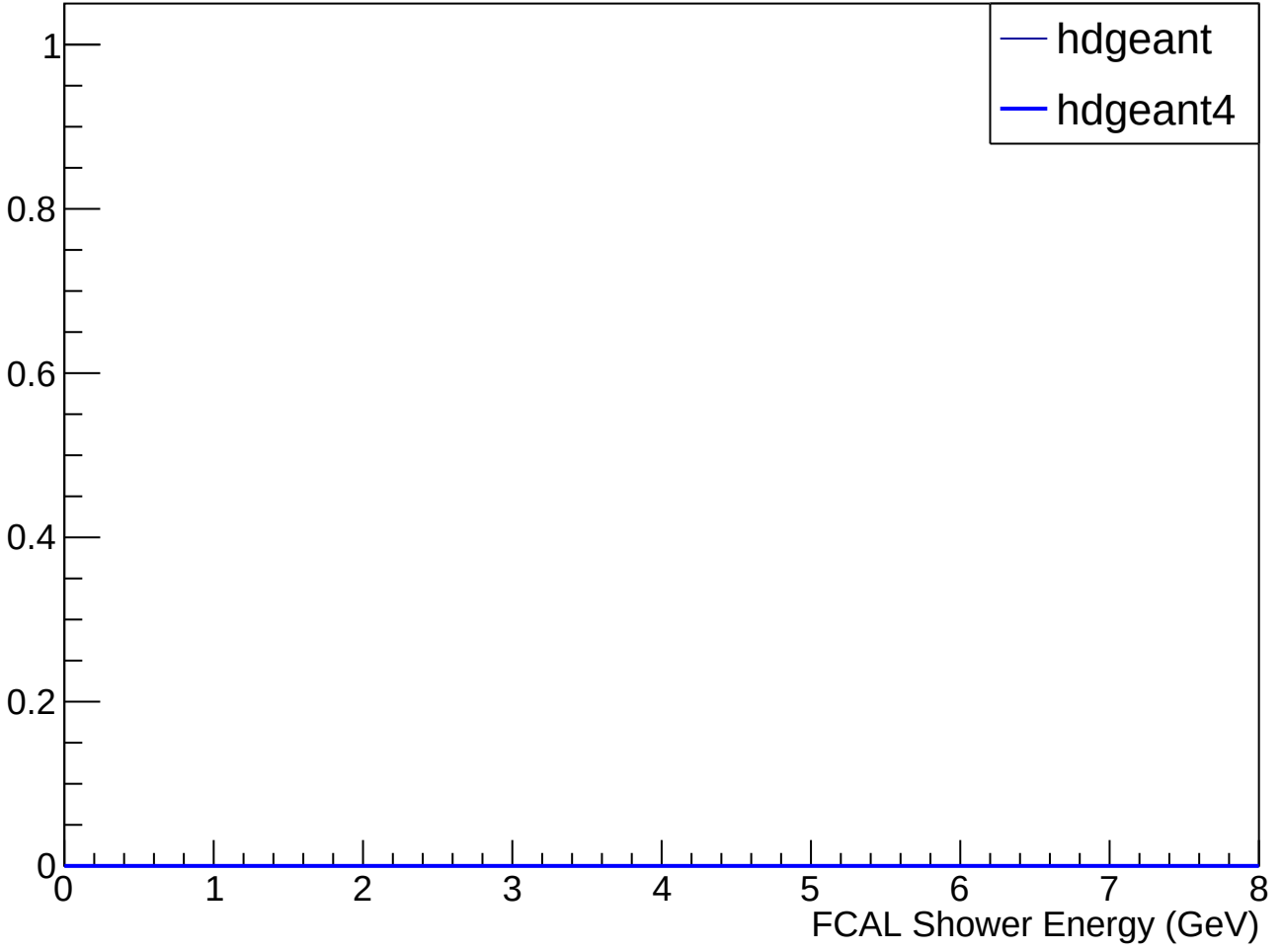
/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/BCALShowerTrackDepth



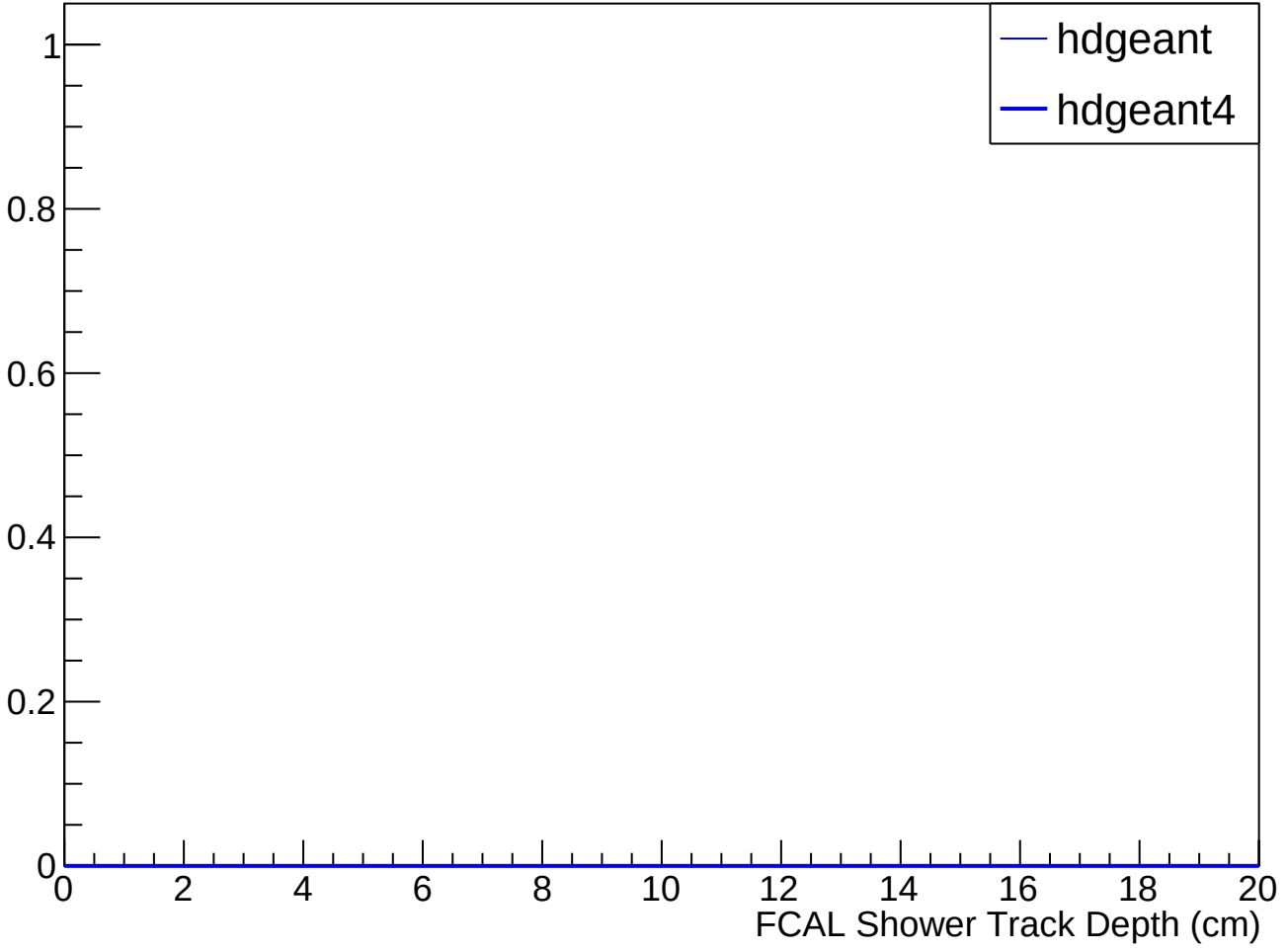

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

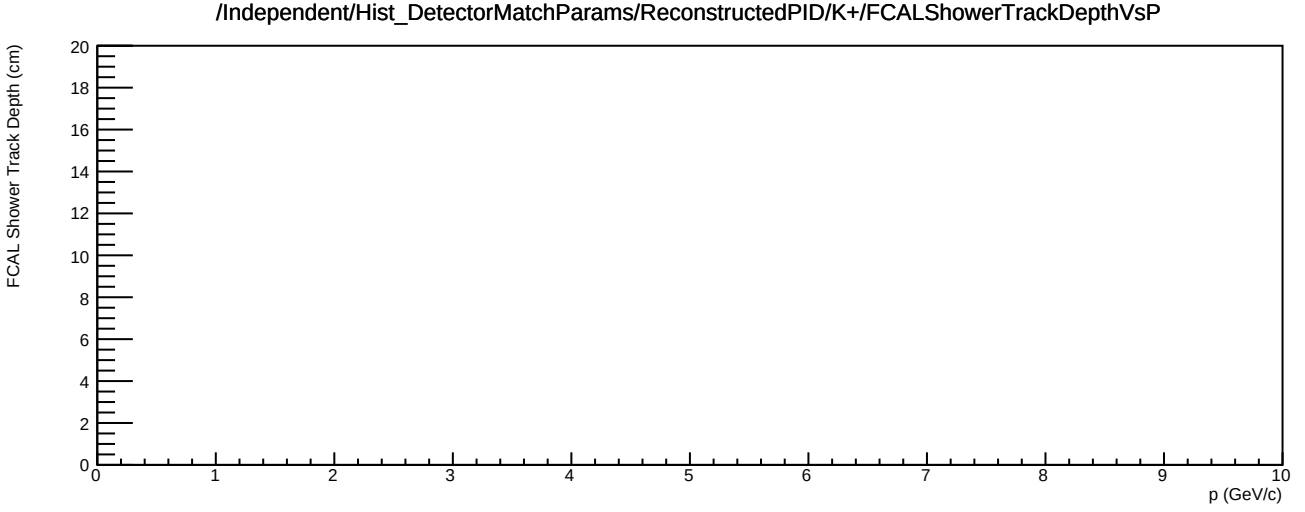

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

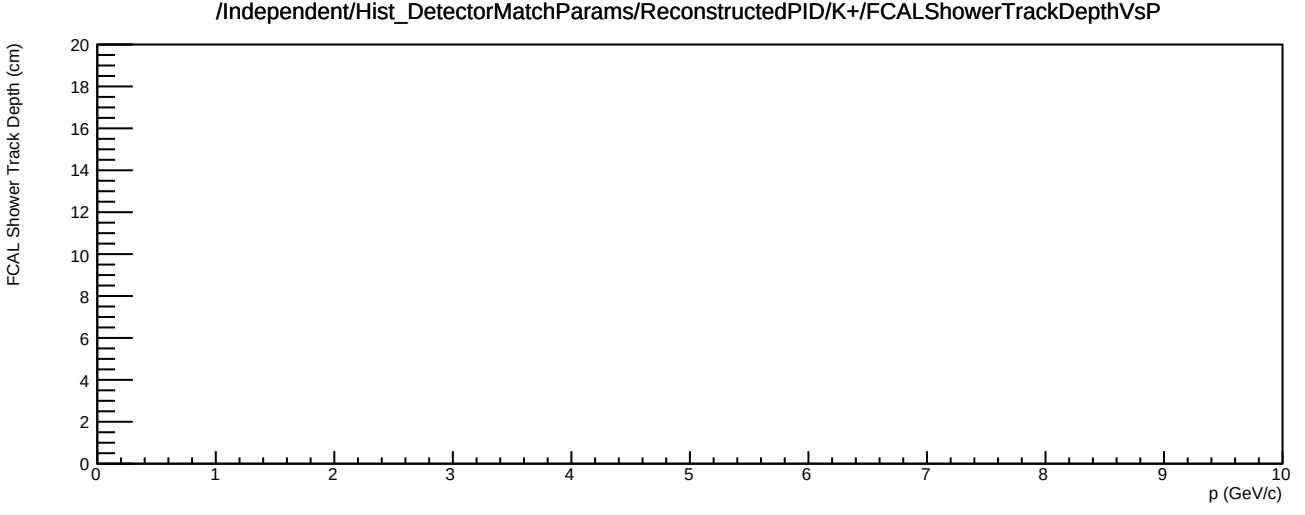
/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/FCALShowerEnergy

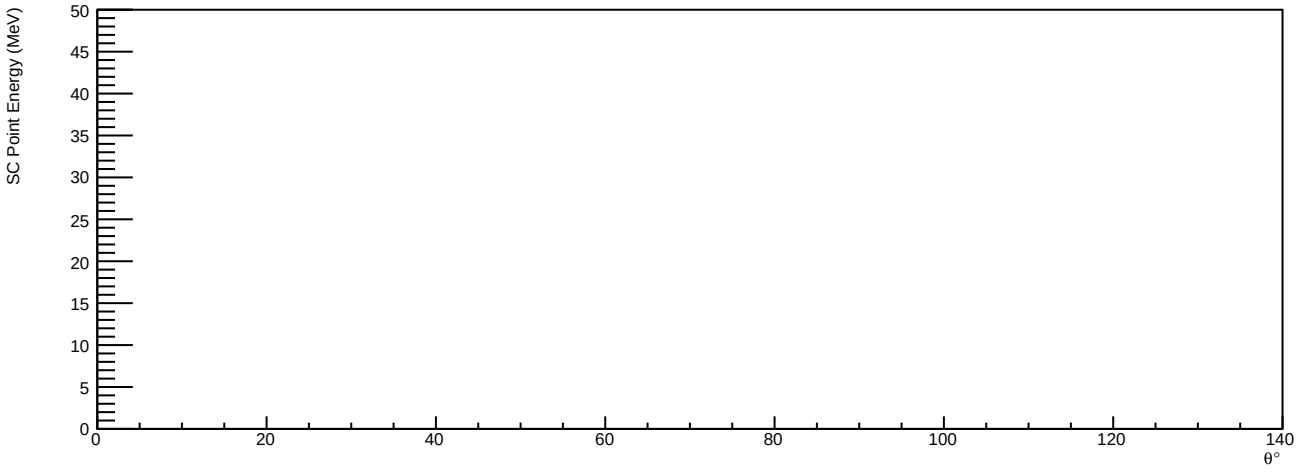


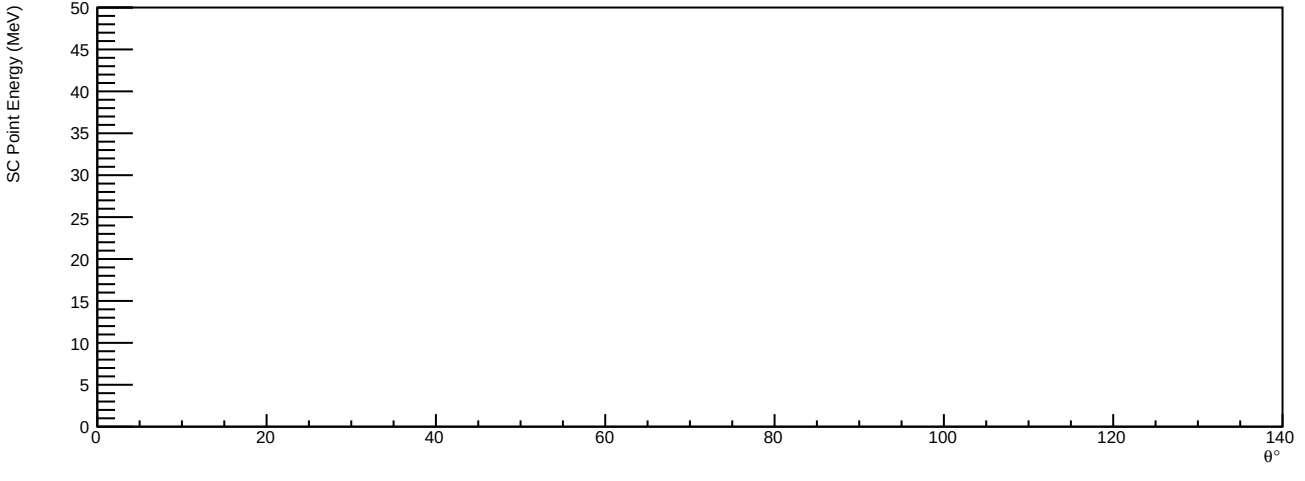
/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/FCALShowerTrackDepth

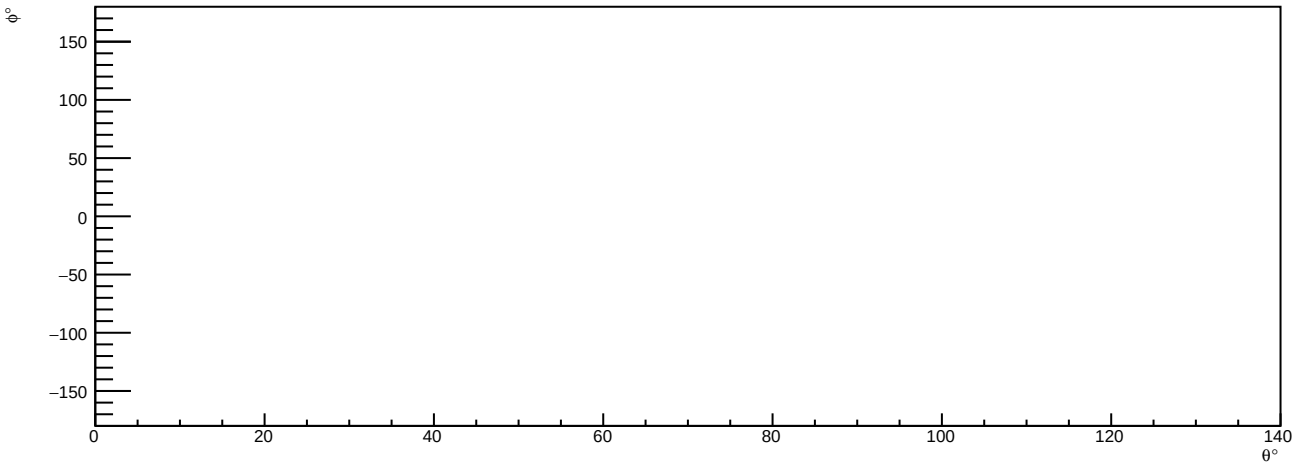


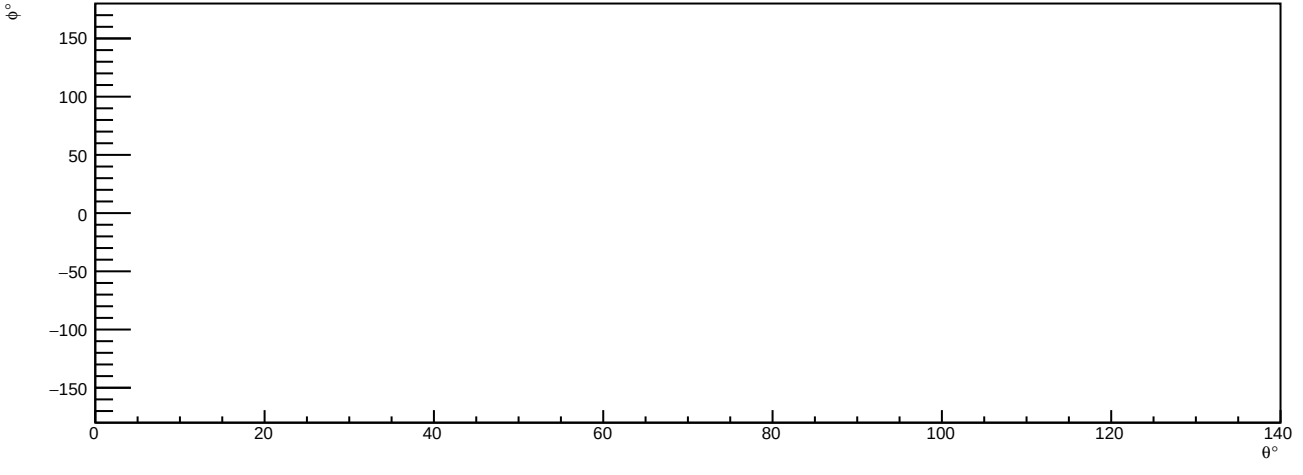

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

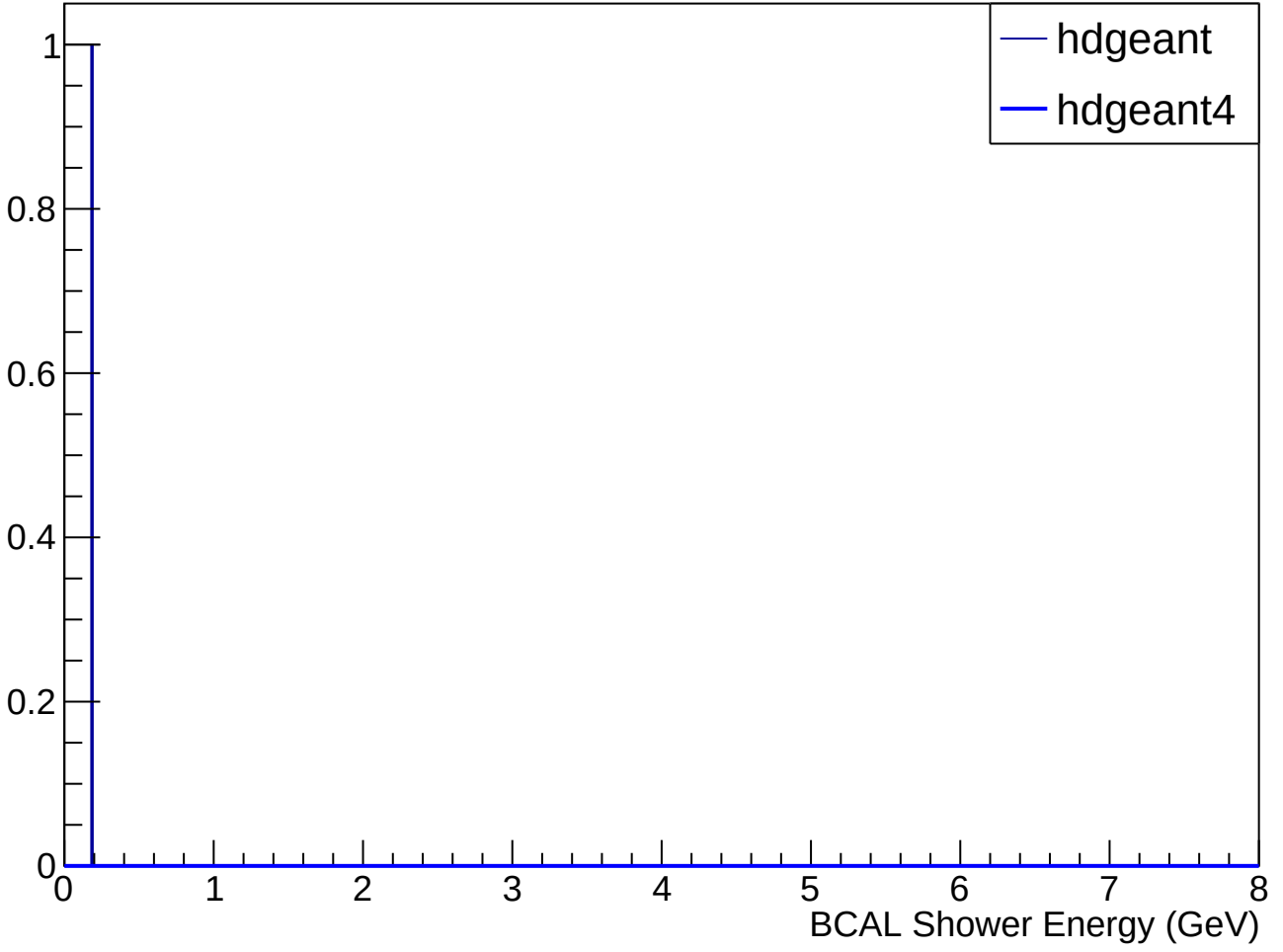

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/SCEnergyVsTheta
SC Point Energy (MeV)
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/SCEnergyVsTheta
SC Point Energy (MeV)
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100
120
140
θ°

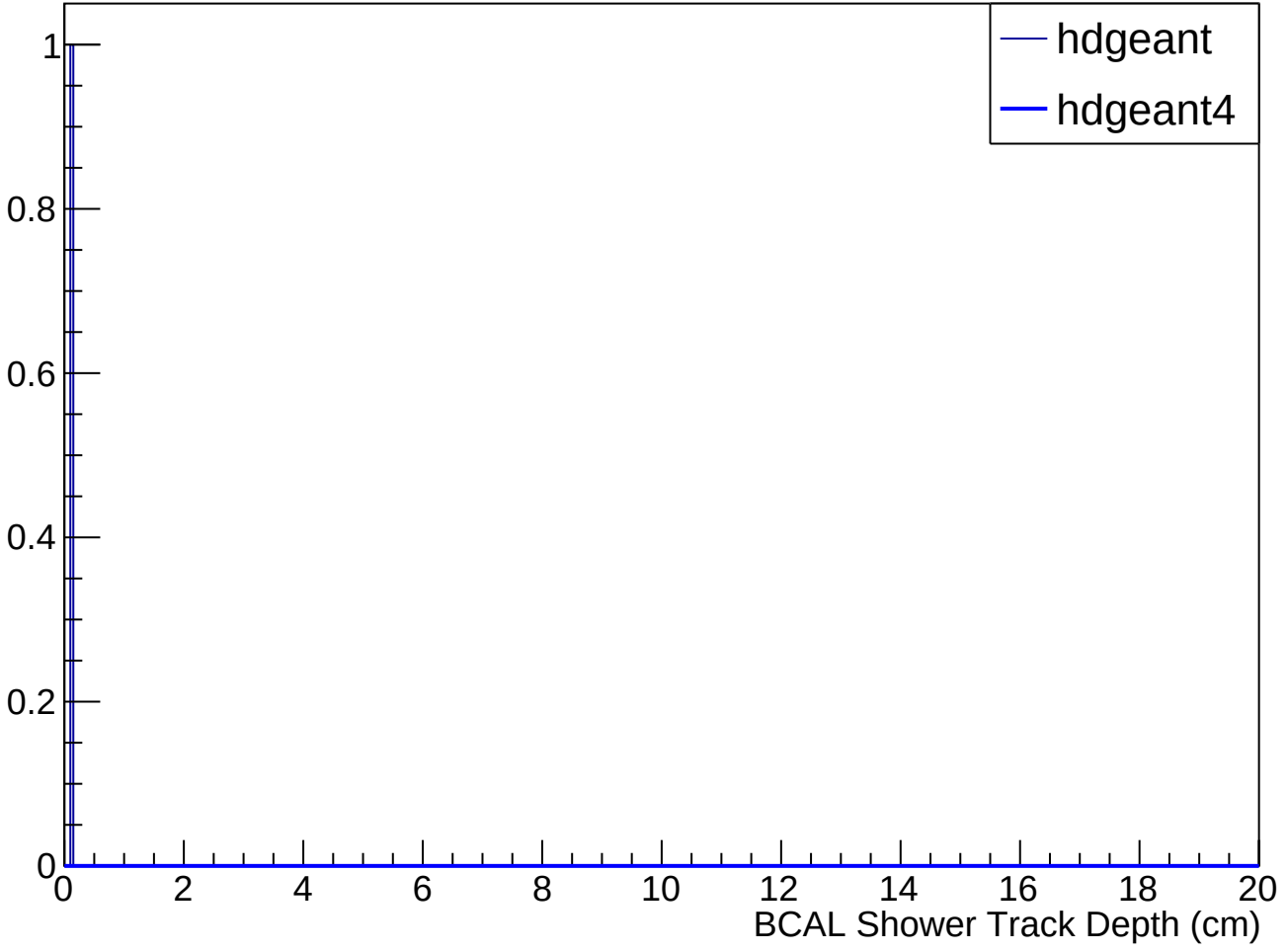

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

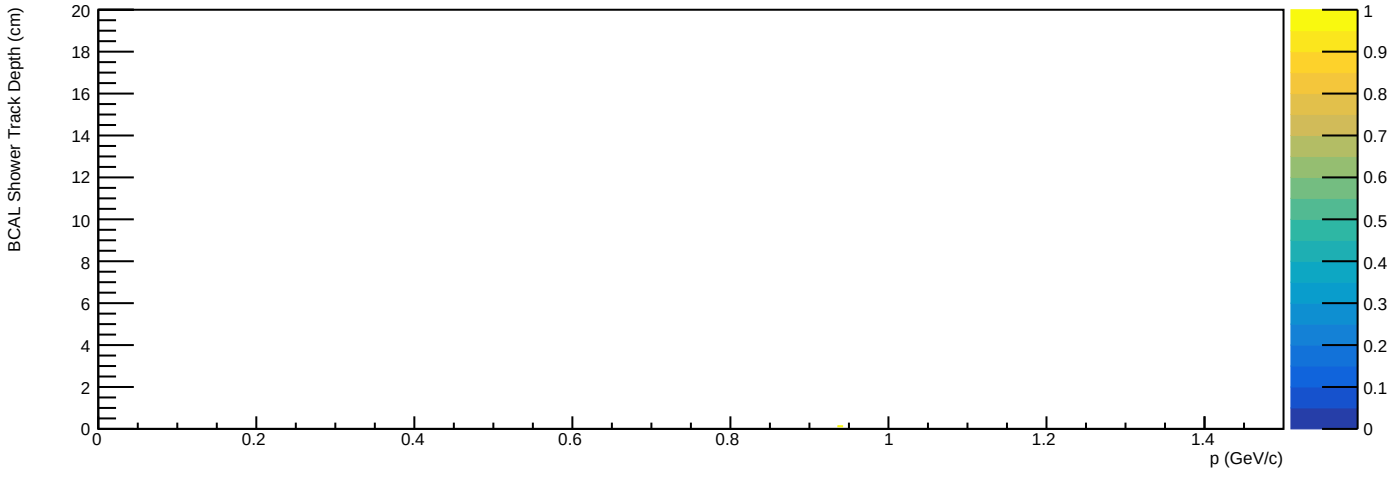

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K+/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

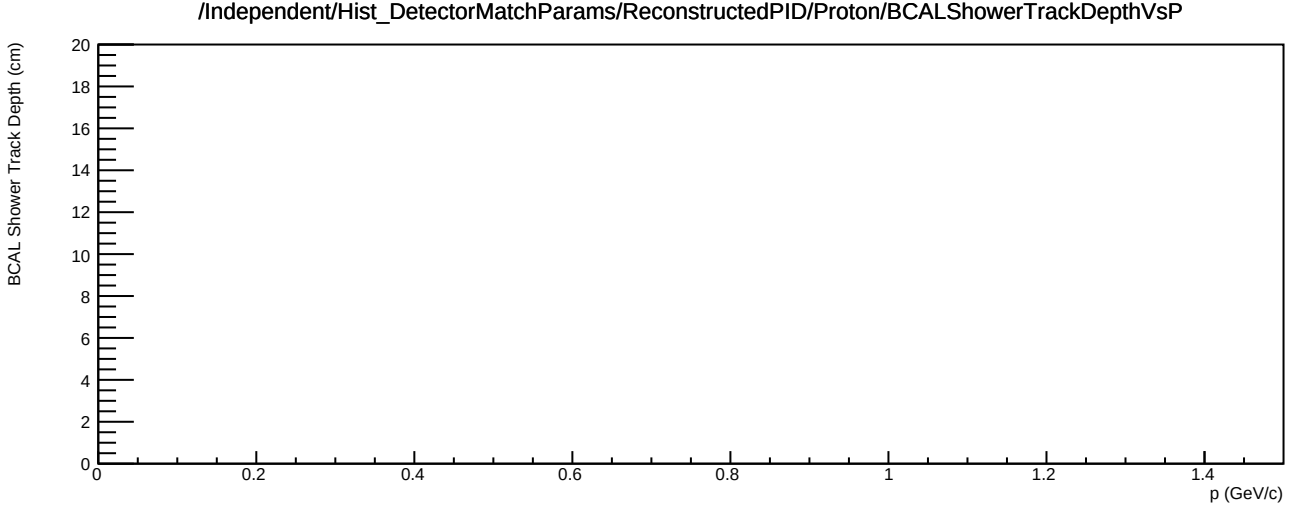
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/BCALShowerEnergy



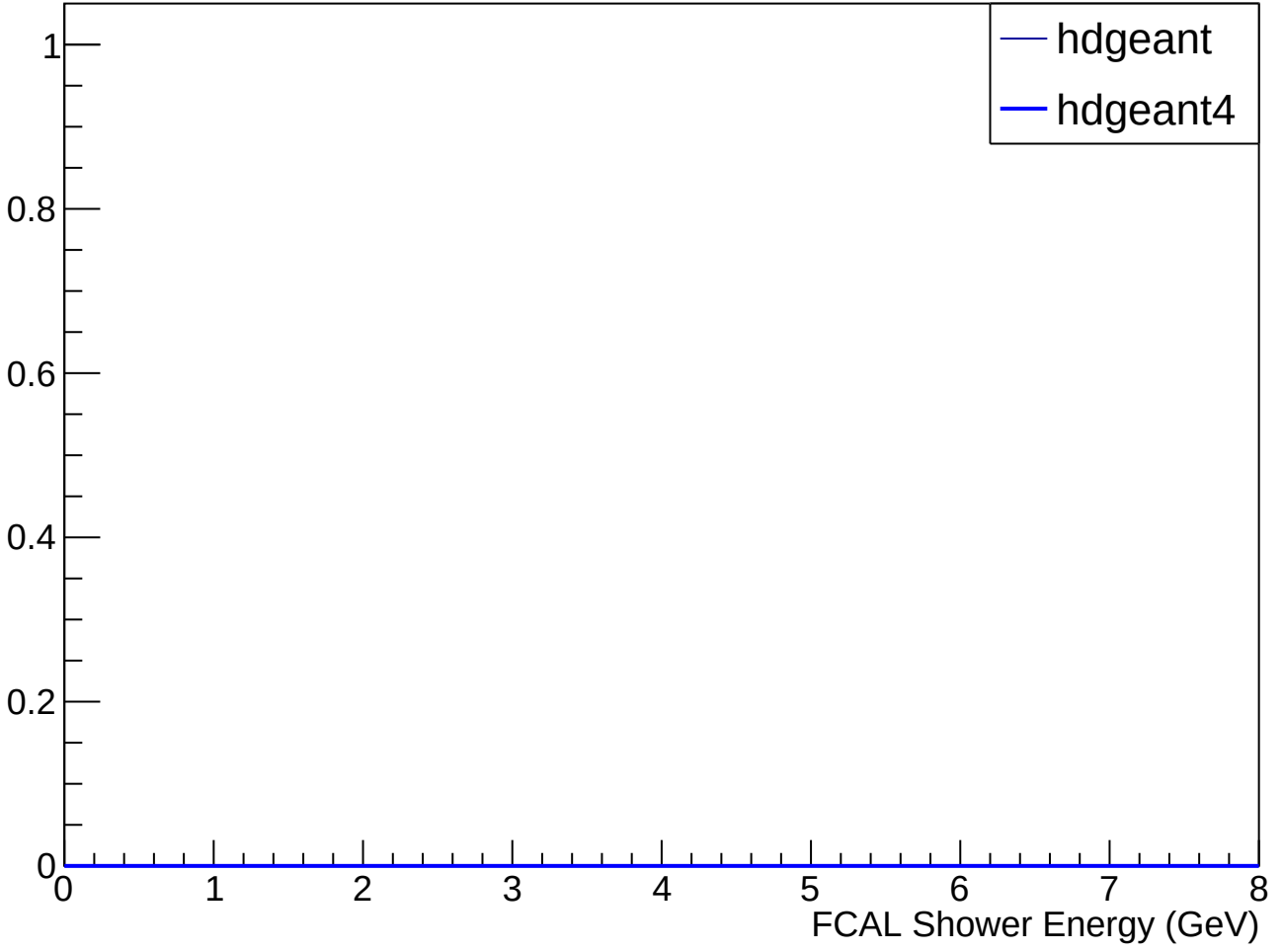
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/BCALShowerTrackDepth



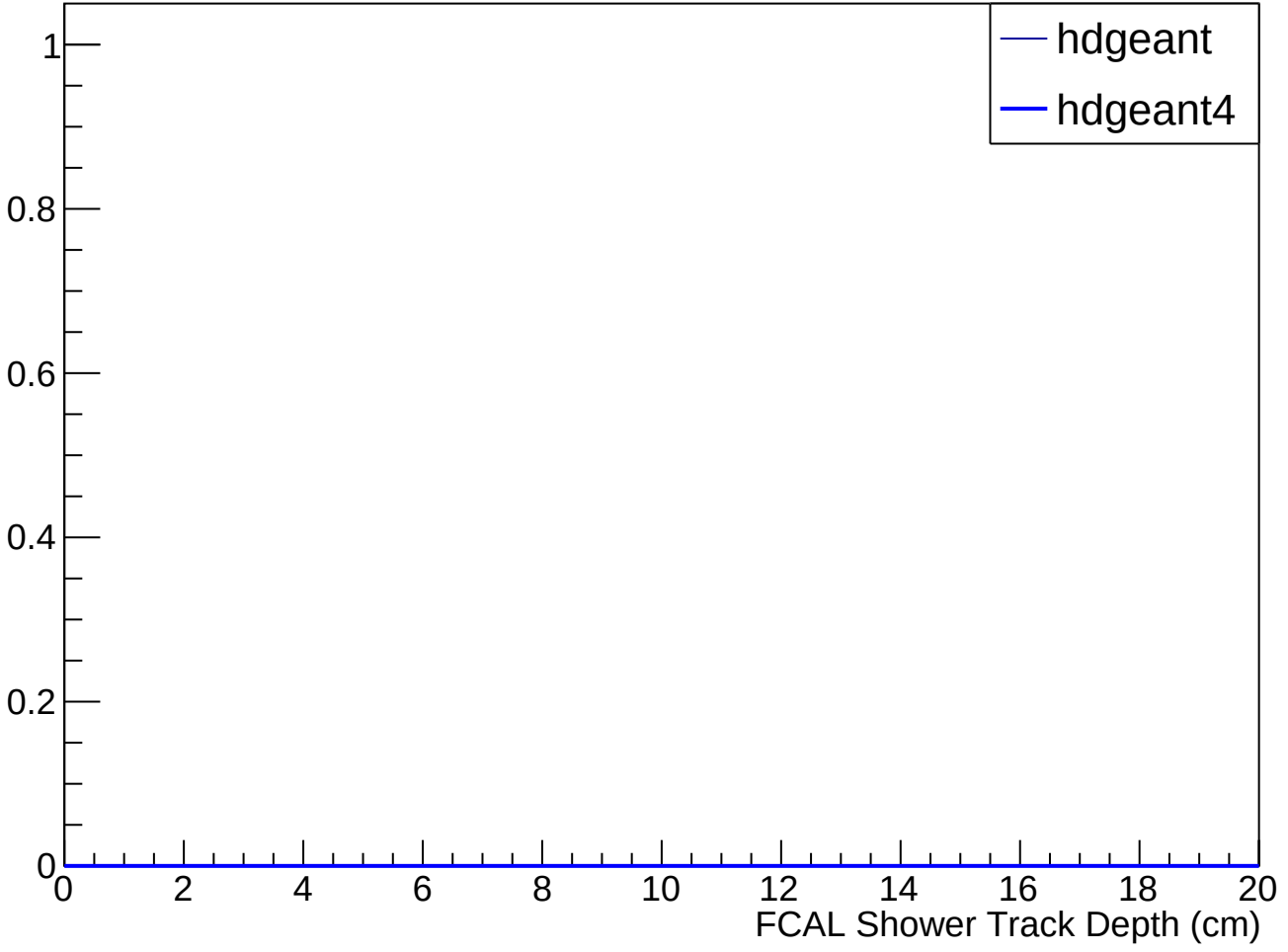

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

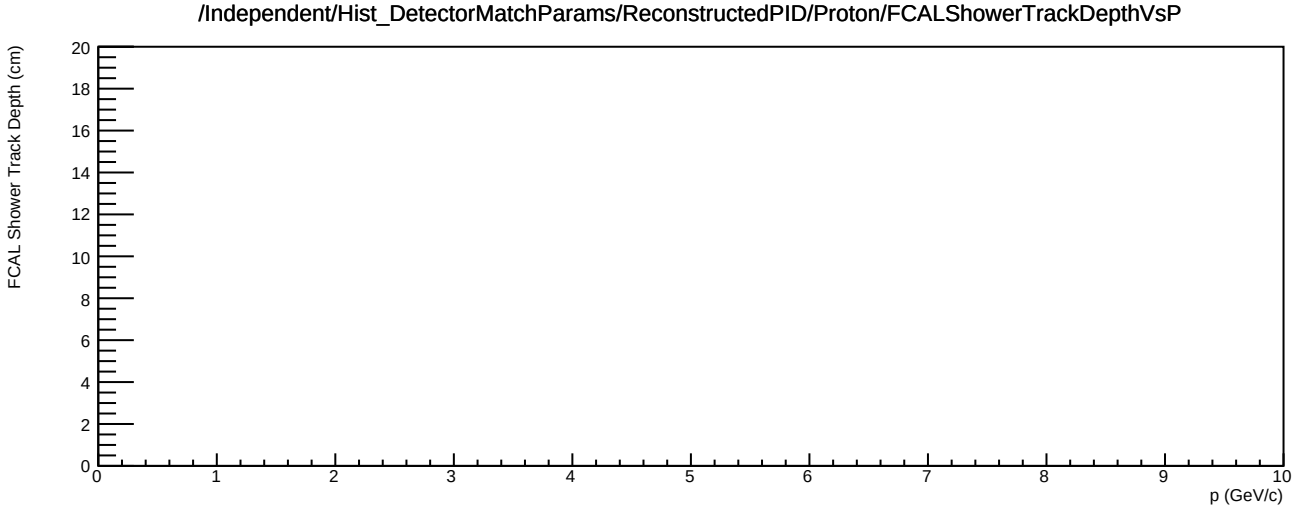

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

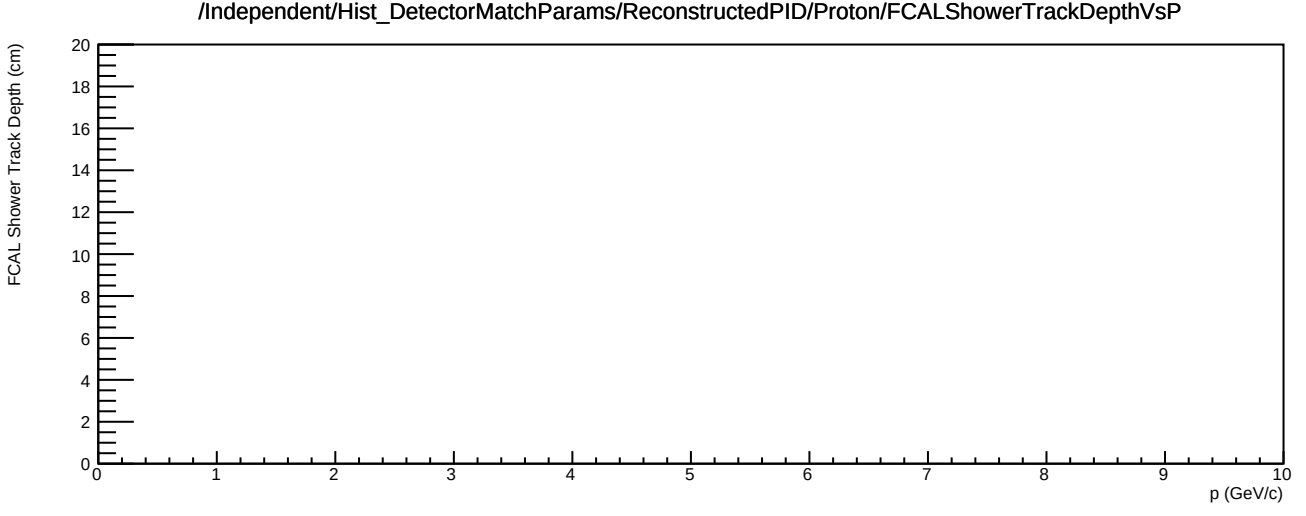
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/FCALShowerEnergy

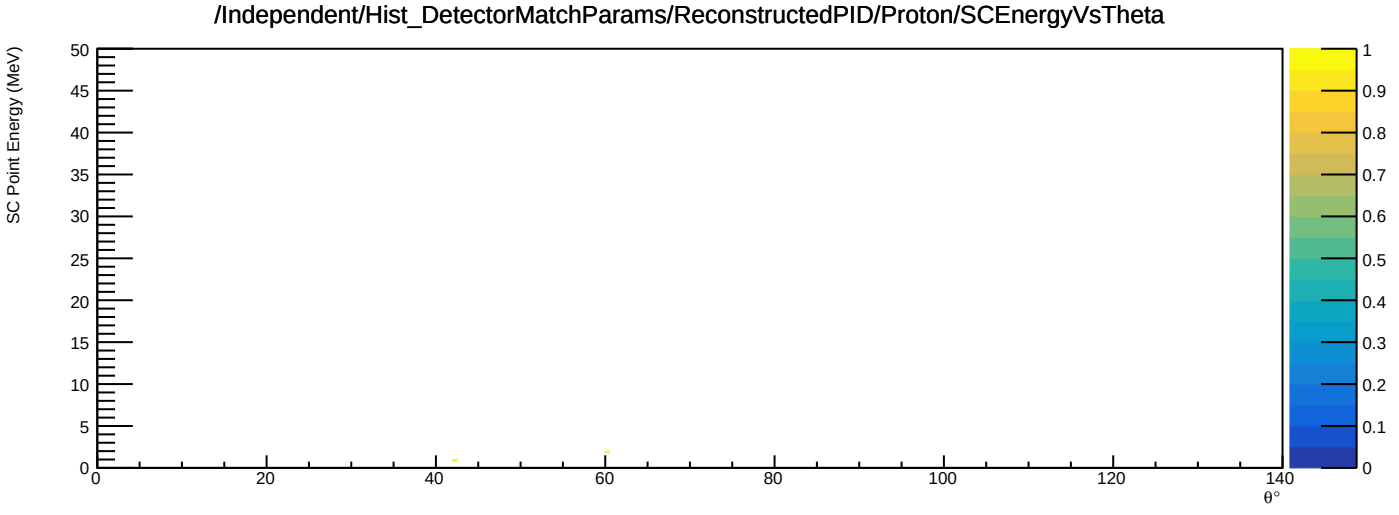


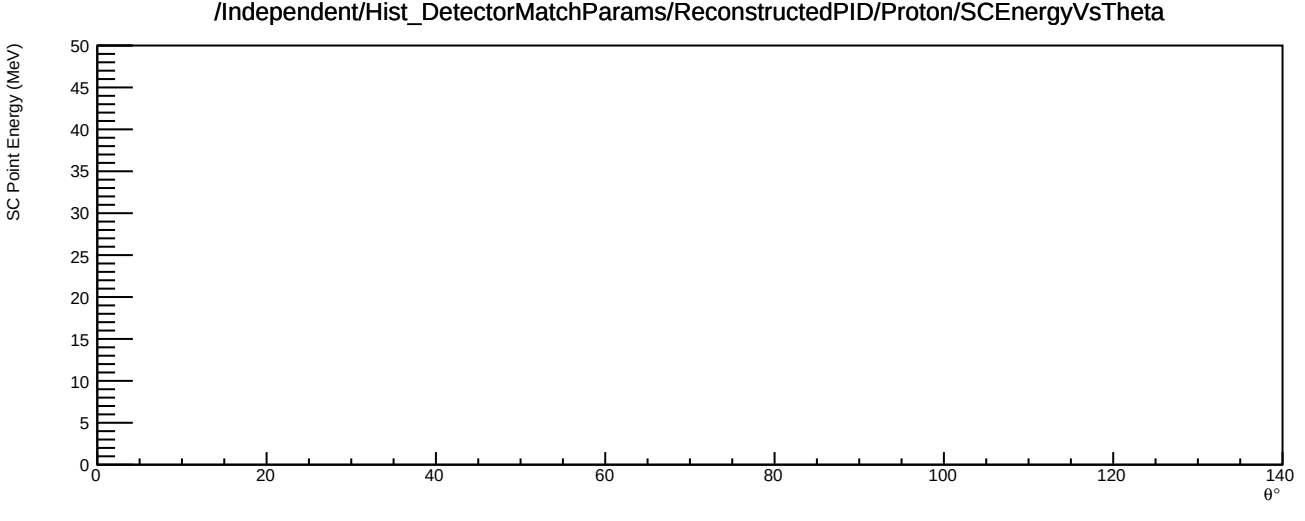
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/FCALShowerTrackDepth

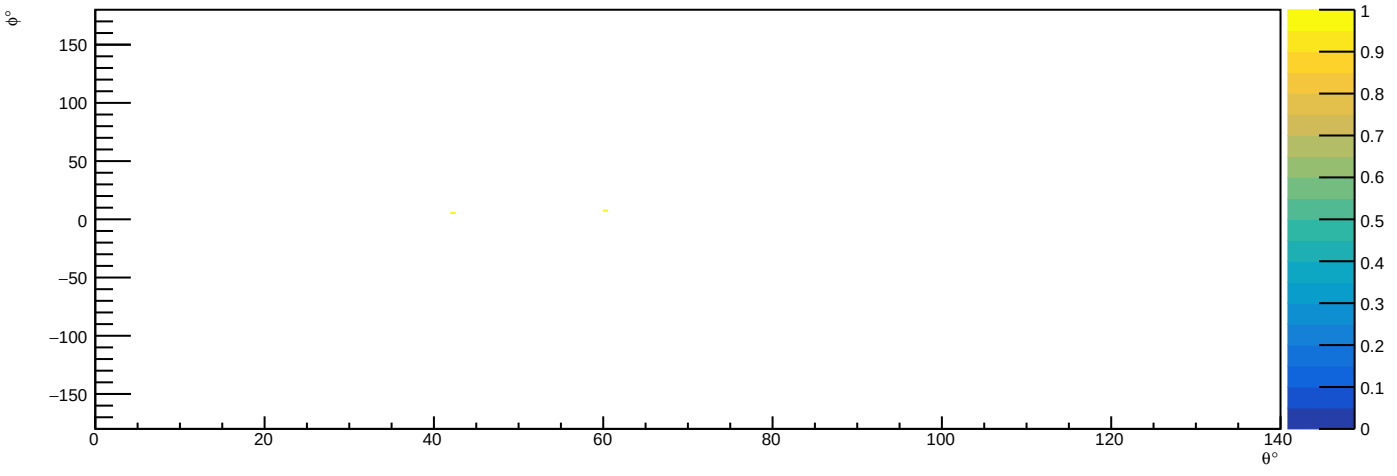


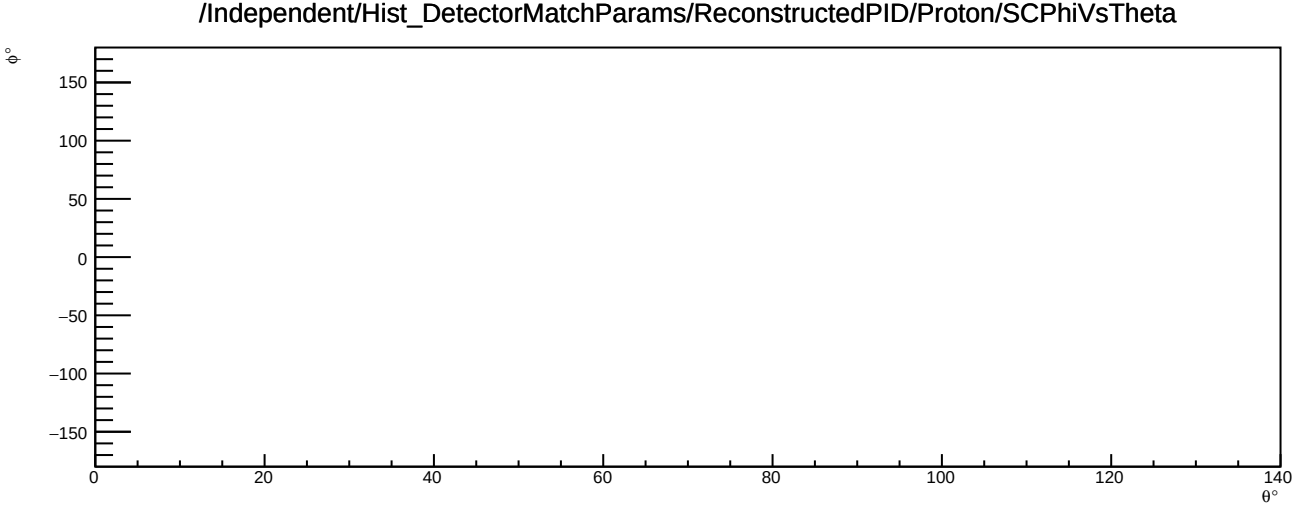

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

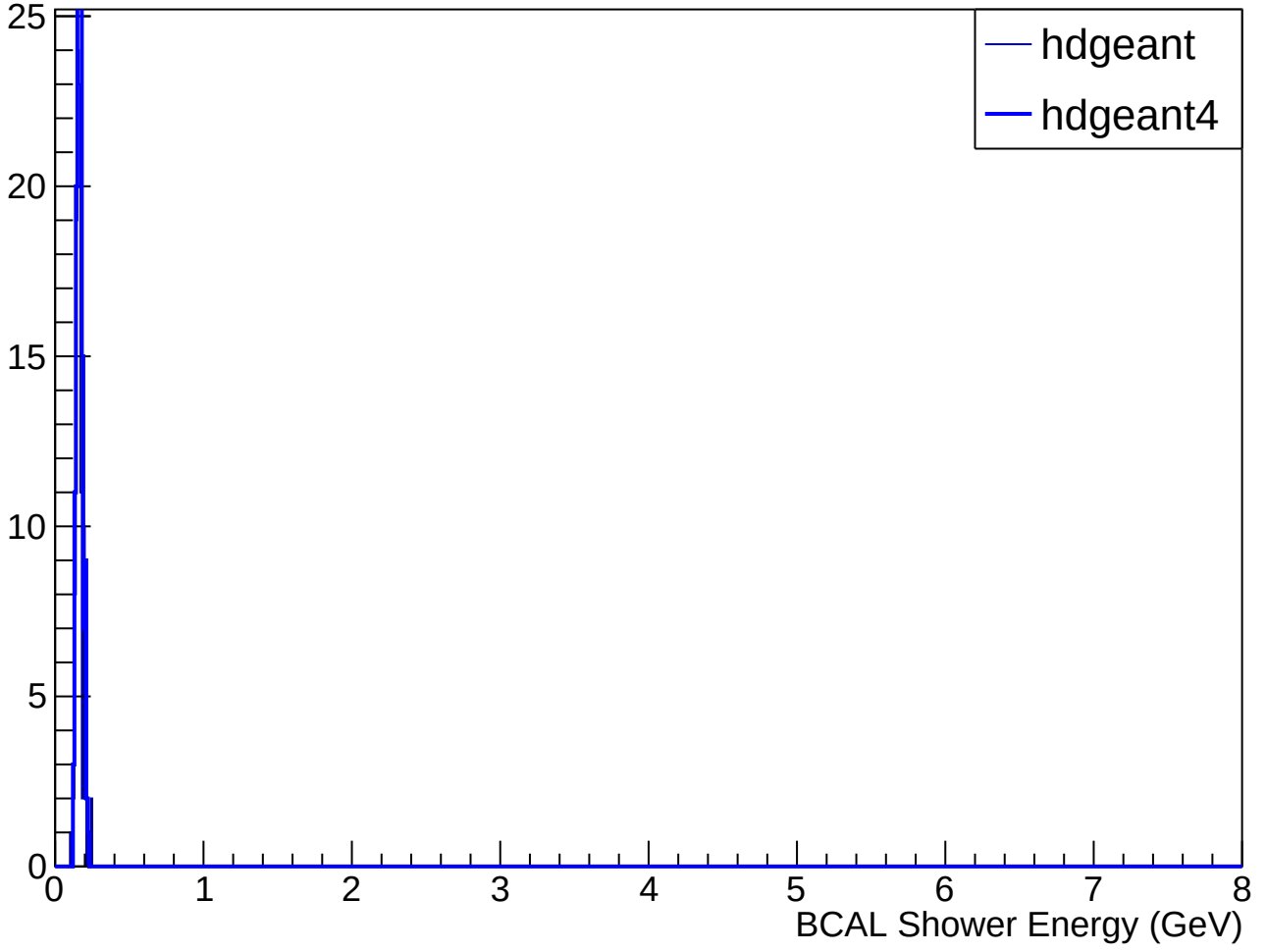

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/SCEnergyVsTheta
SC Point Energy (MeV)
θ°


/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/SCEnergyVsTheta
SC Point Energy (MeV)
θ°

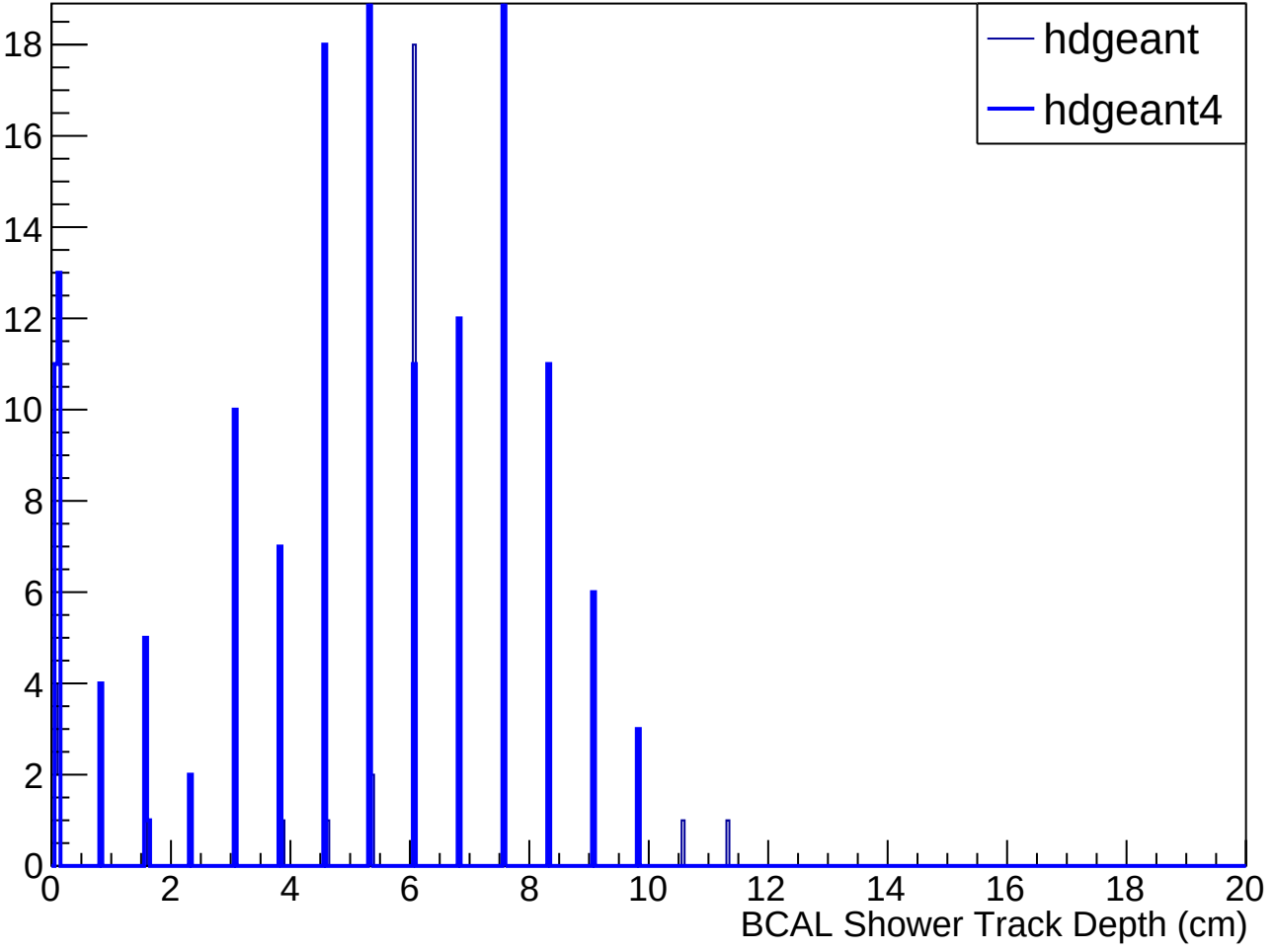

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

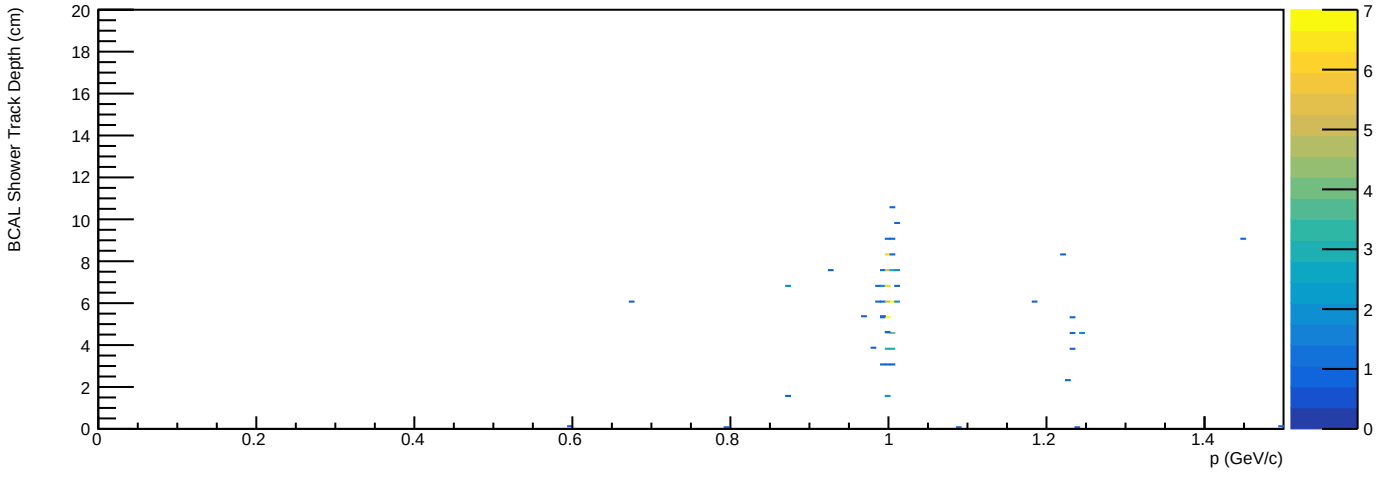

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Proton/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

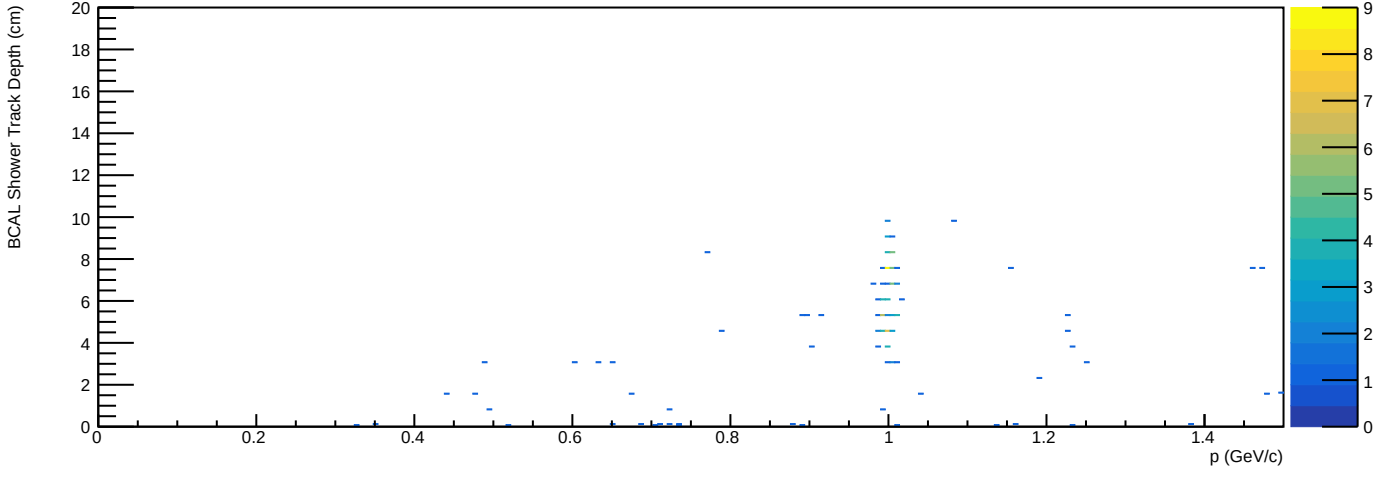
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/BCALShowerEnergy



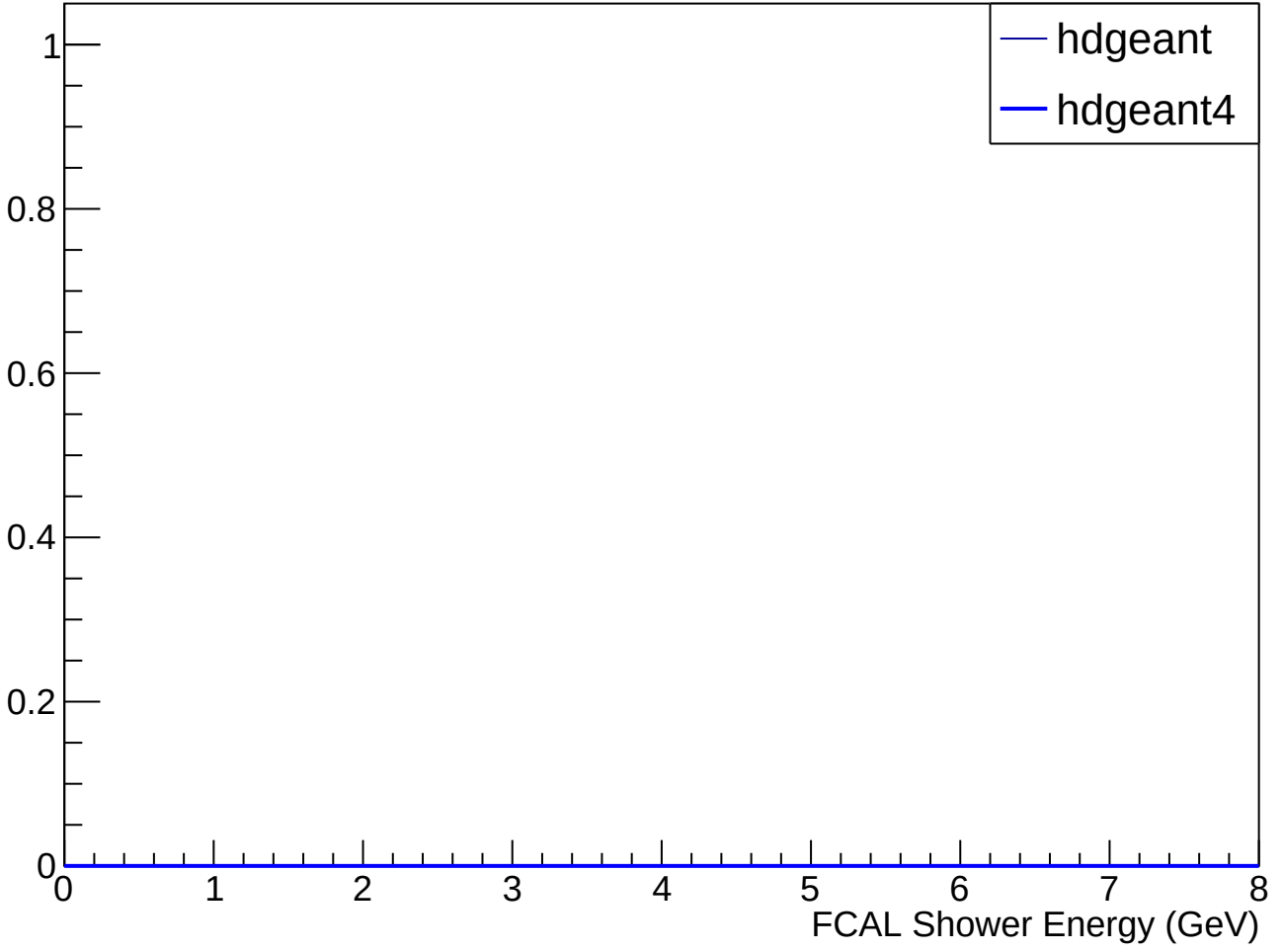
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/BCALShowerTrackDepth



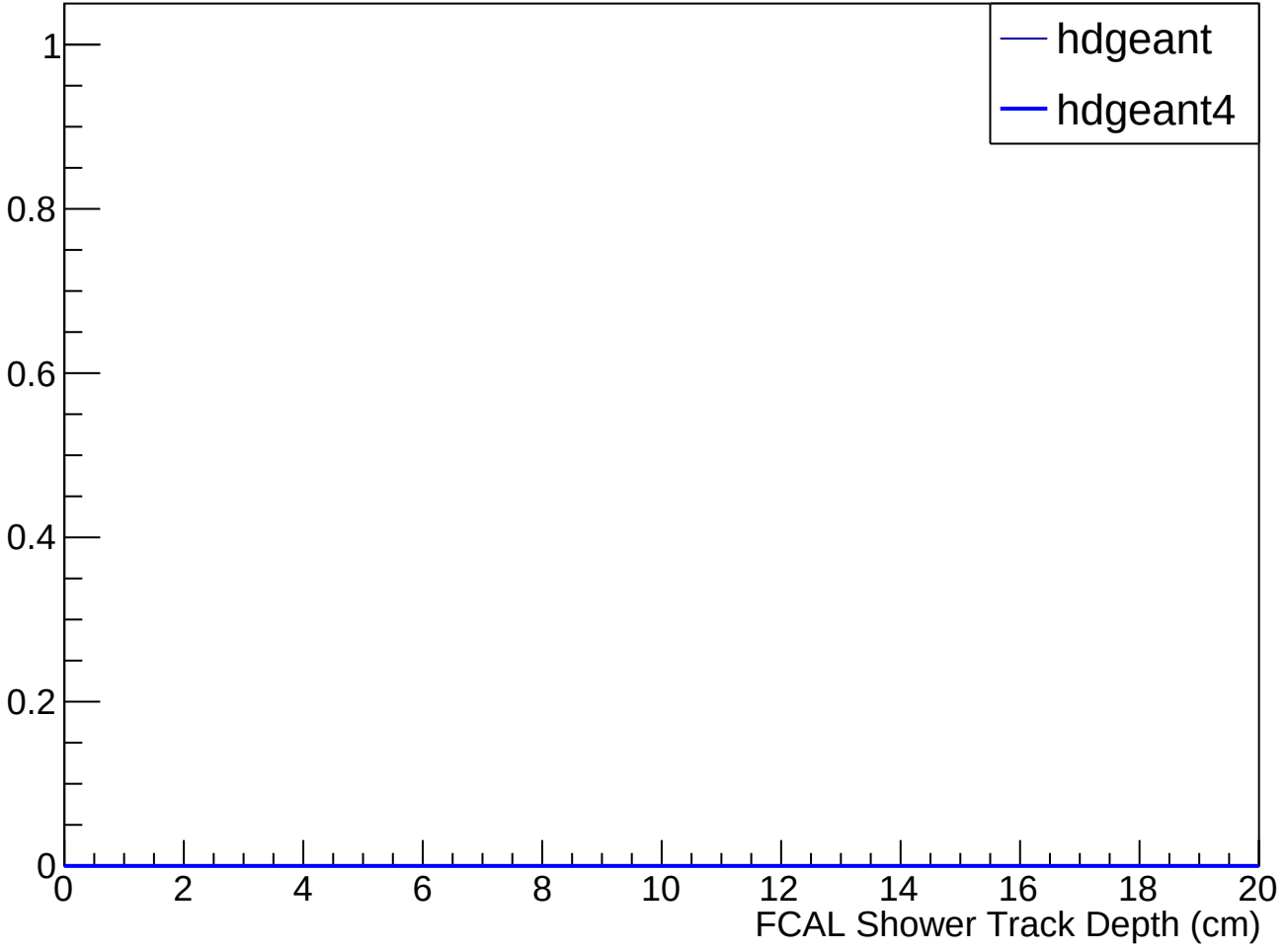

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)

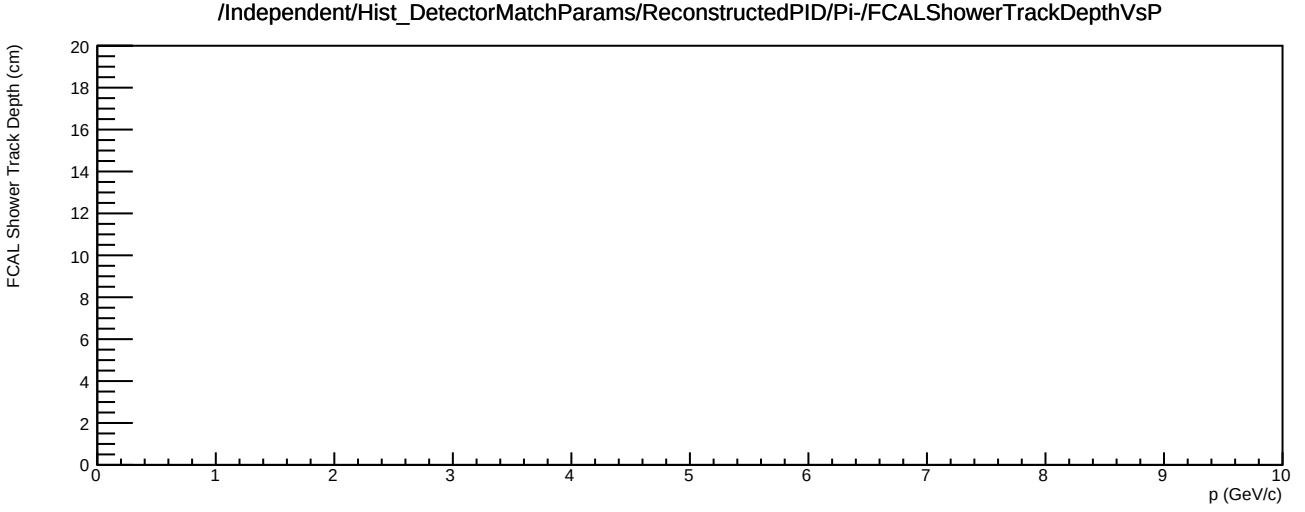

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)

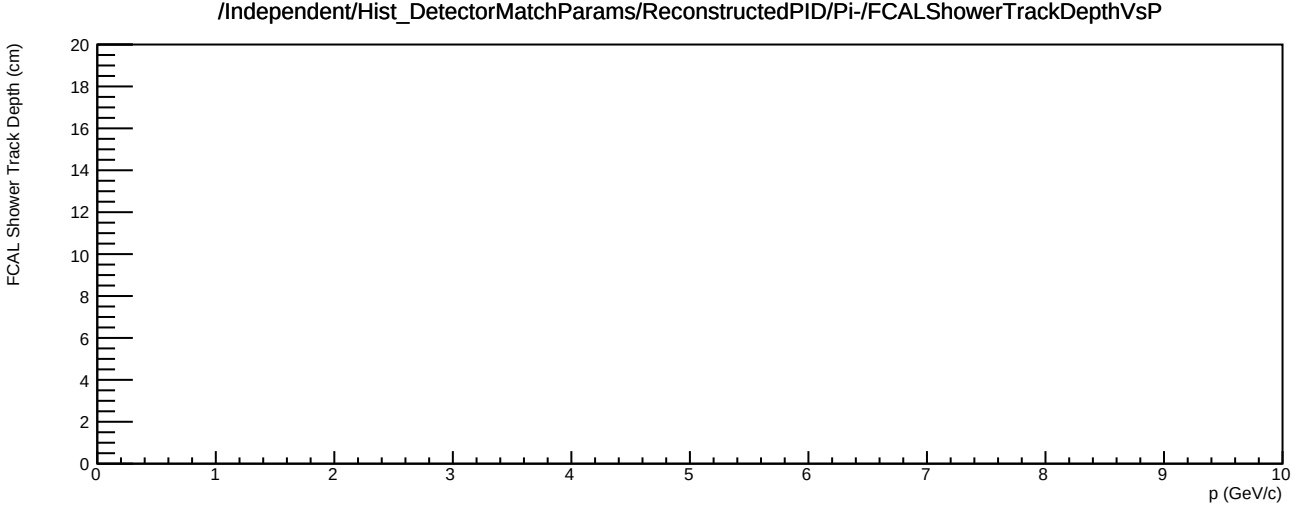
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/FCALShowerEnergy

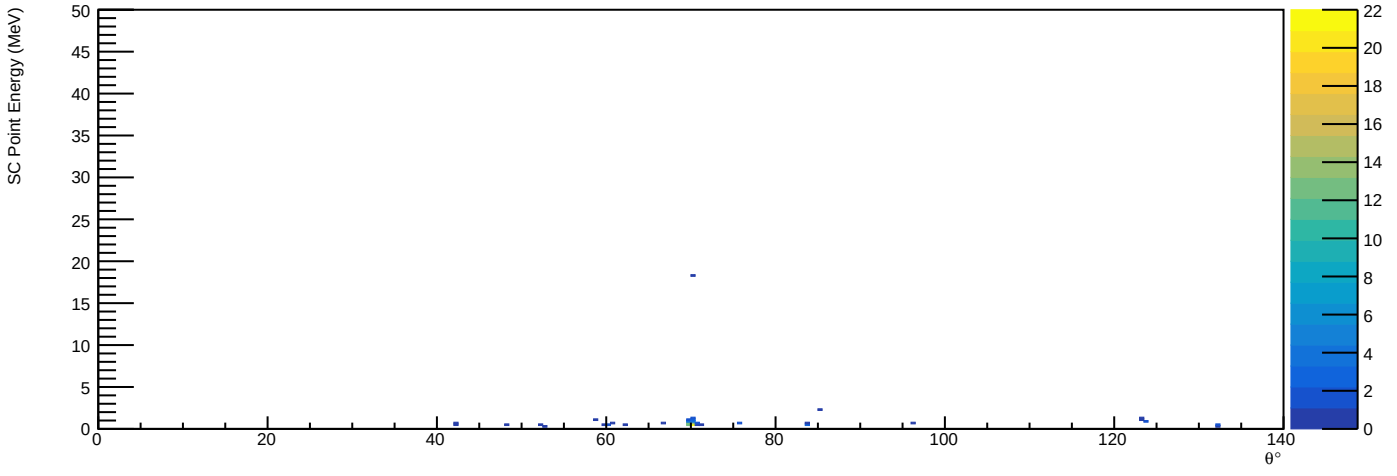


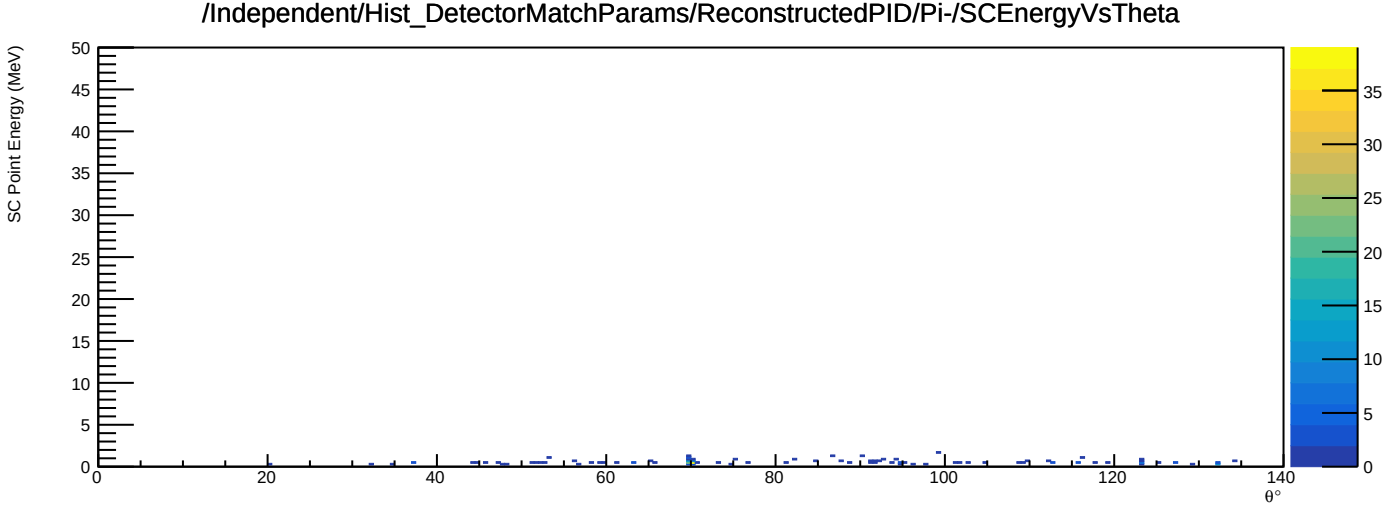
/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/FCALShowerTrackDepth

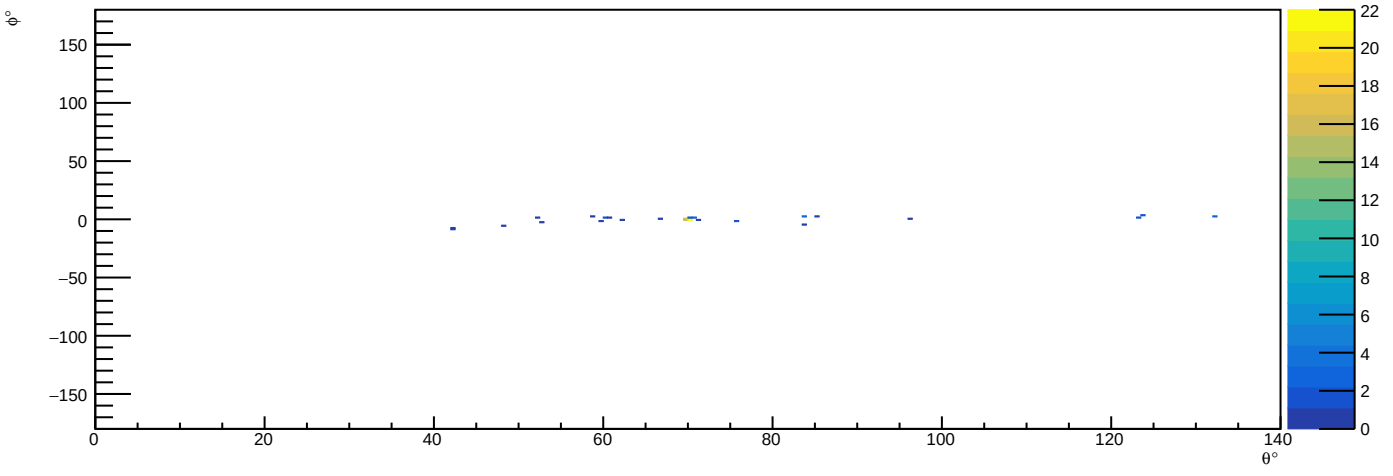


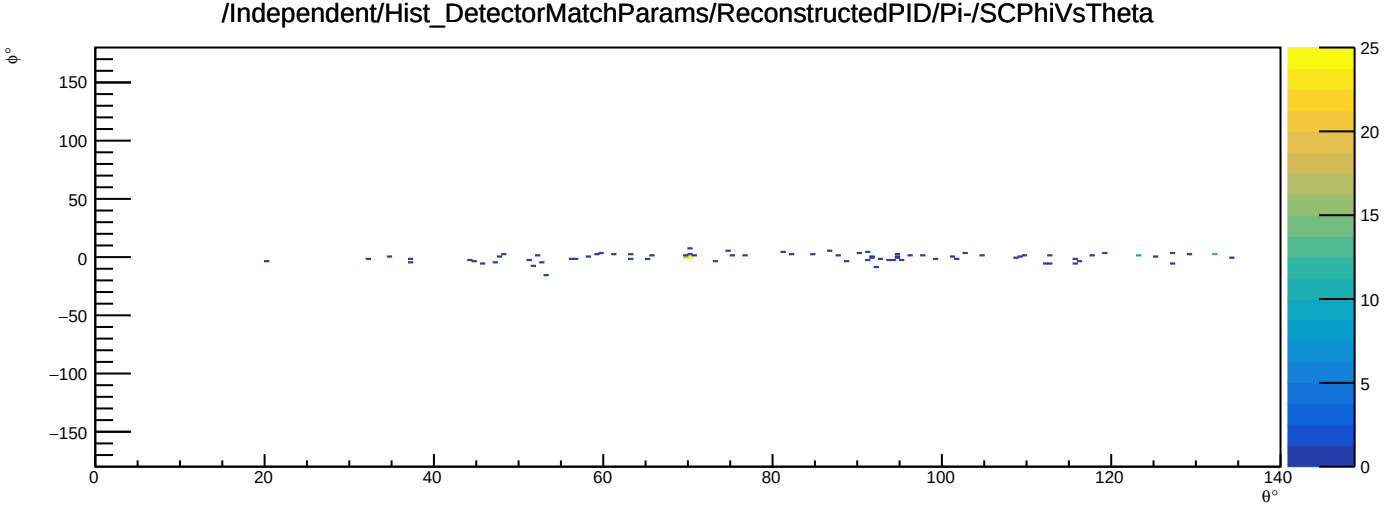

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

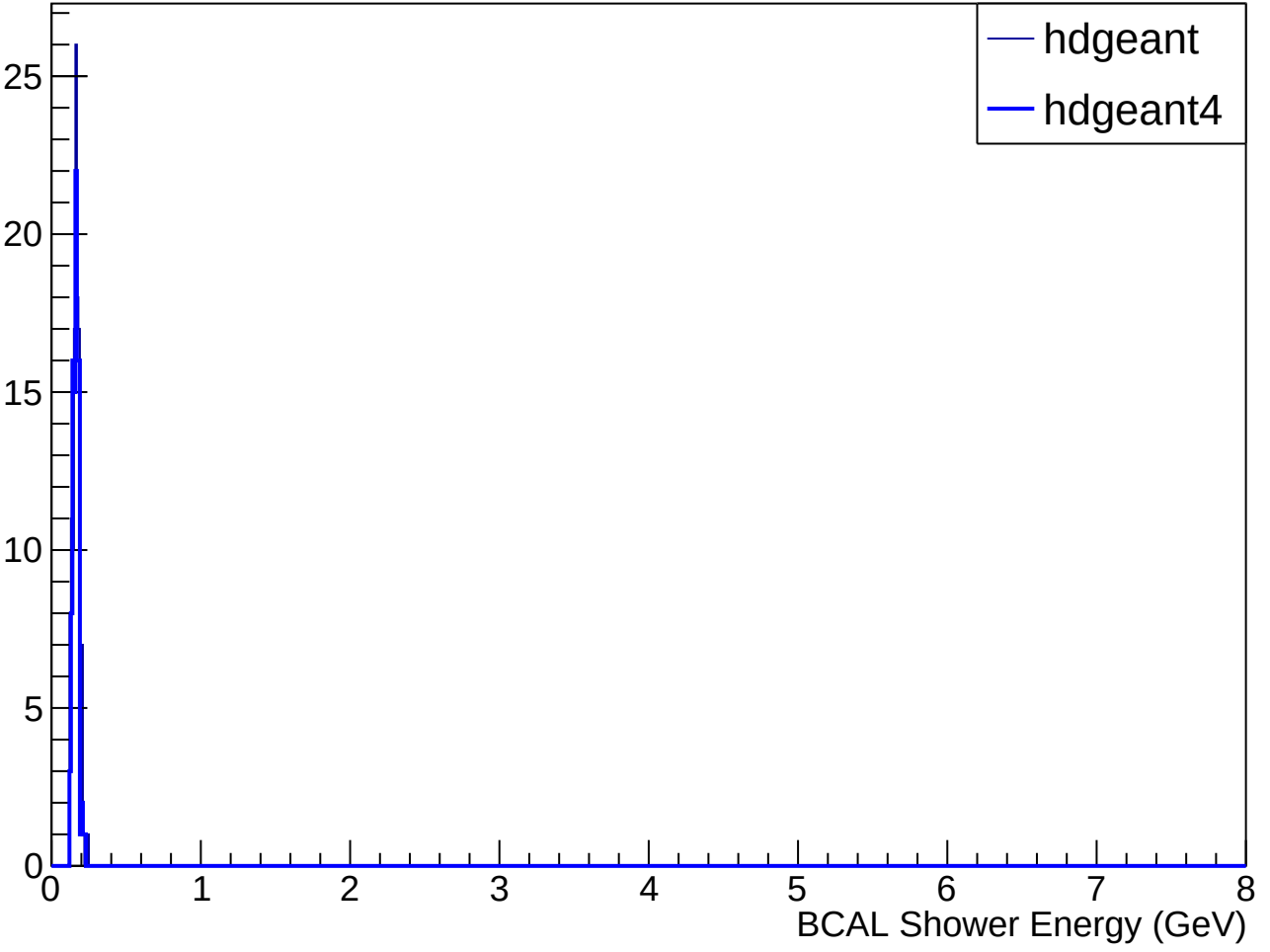

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/SCEnergyVsTheta
SC Point Energy (MeV)
θ°


/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/SCEnergyVsTheta
SC Point Energy (MeV)
θ°

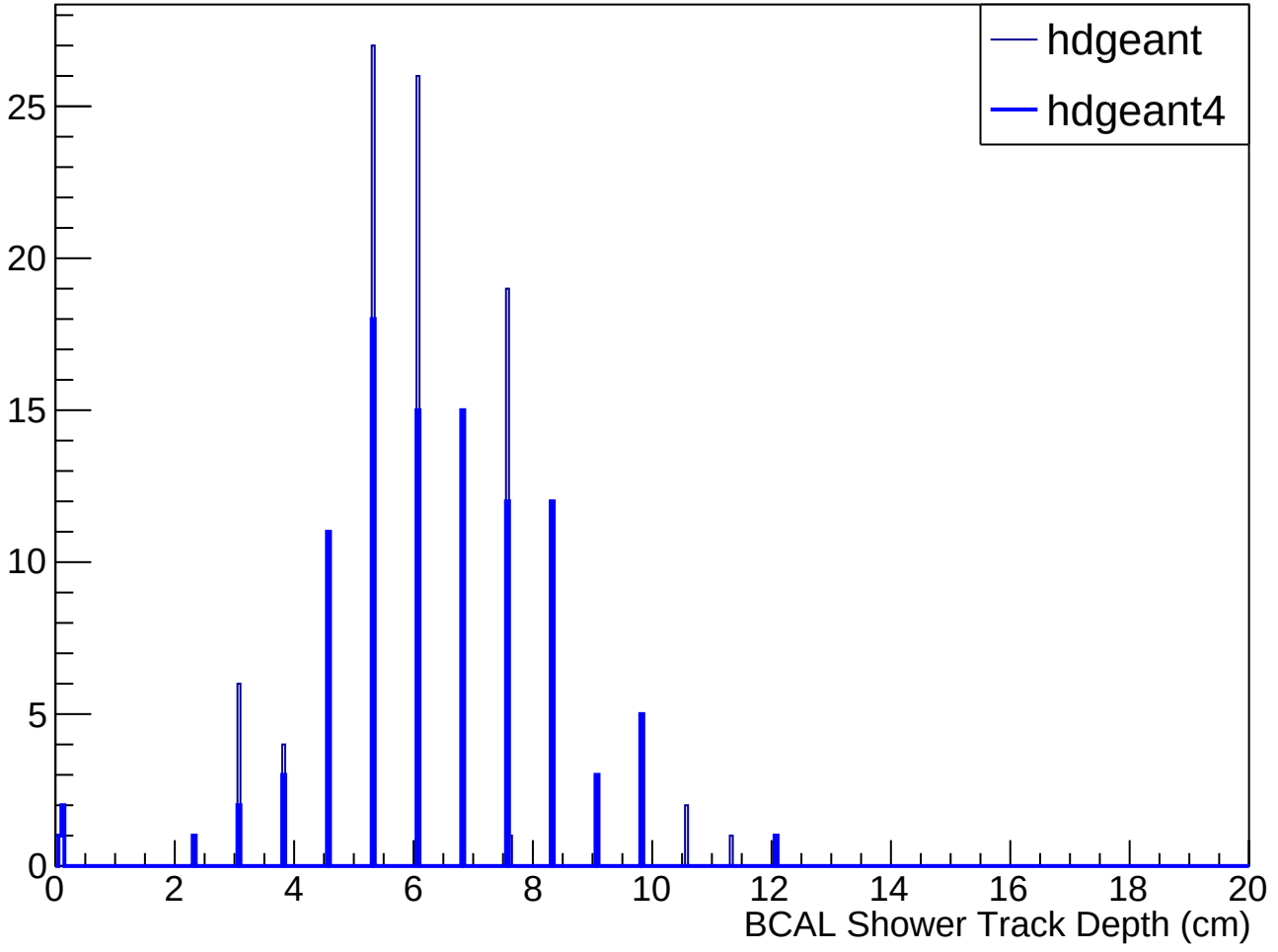

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
22
20
18
16
14
12
10
8
6
4
2
0

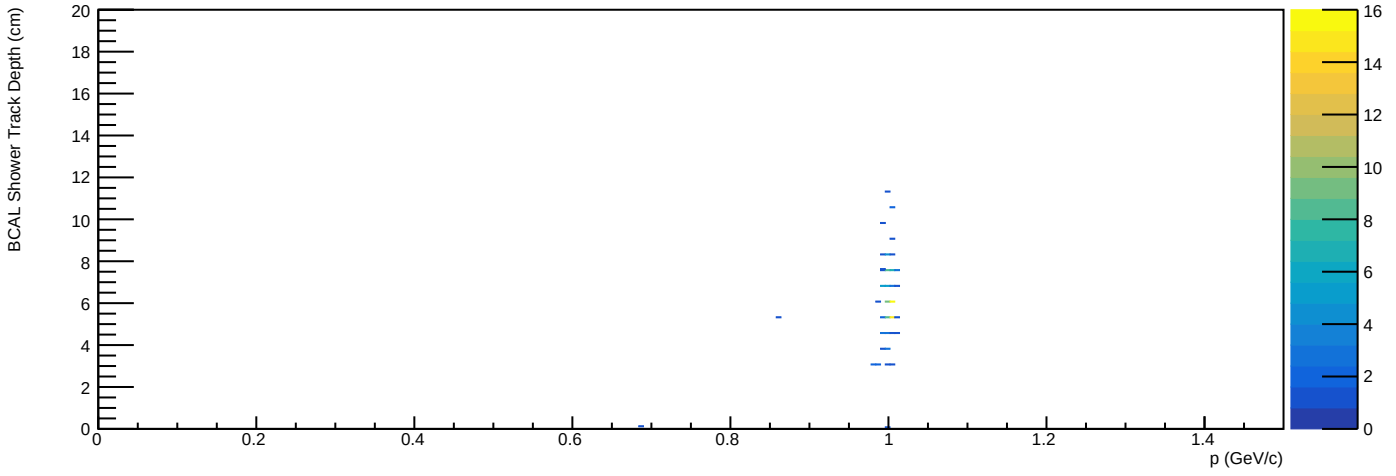

/Independent/Hist_DetectorMatchParams/ReconstructedPID/Pi-/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25
20
15
10
5
0

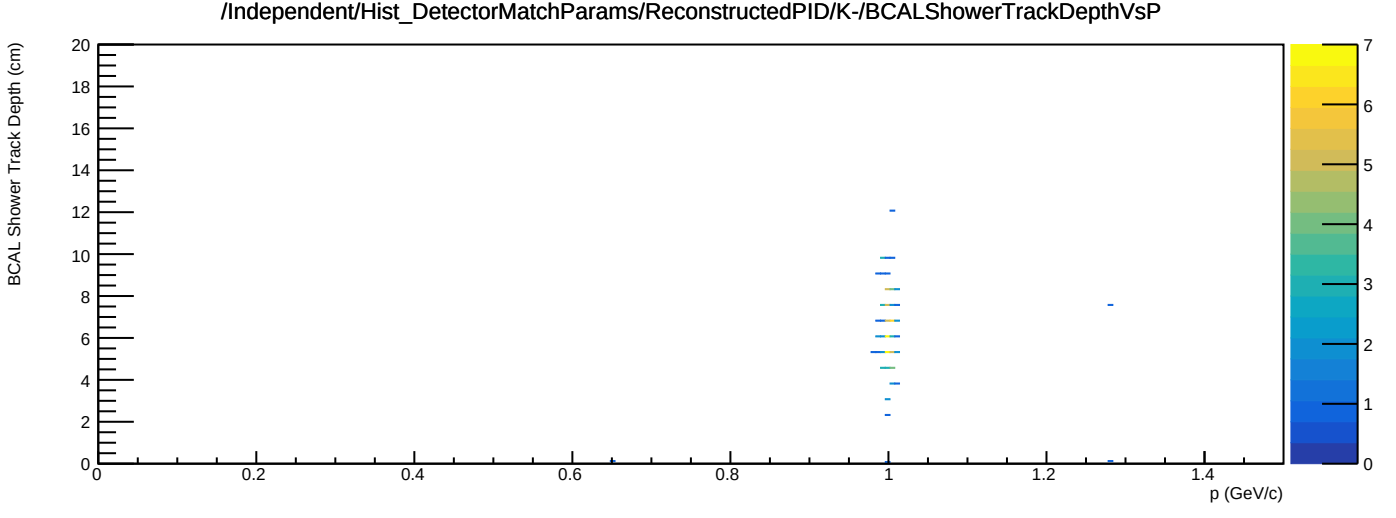
/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/BCALShowerEnergy



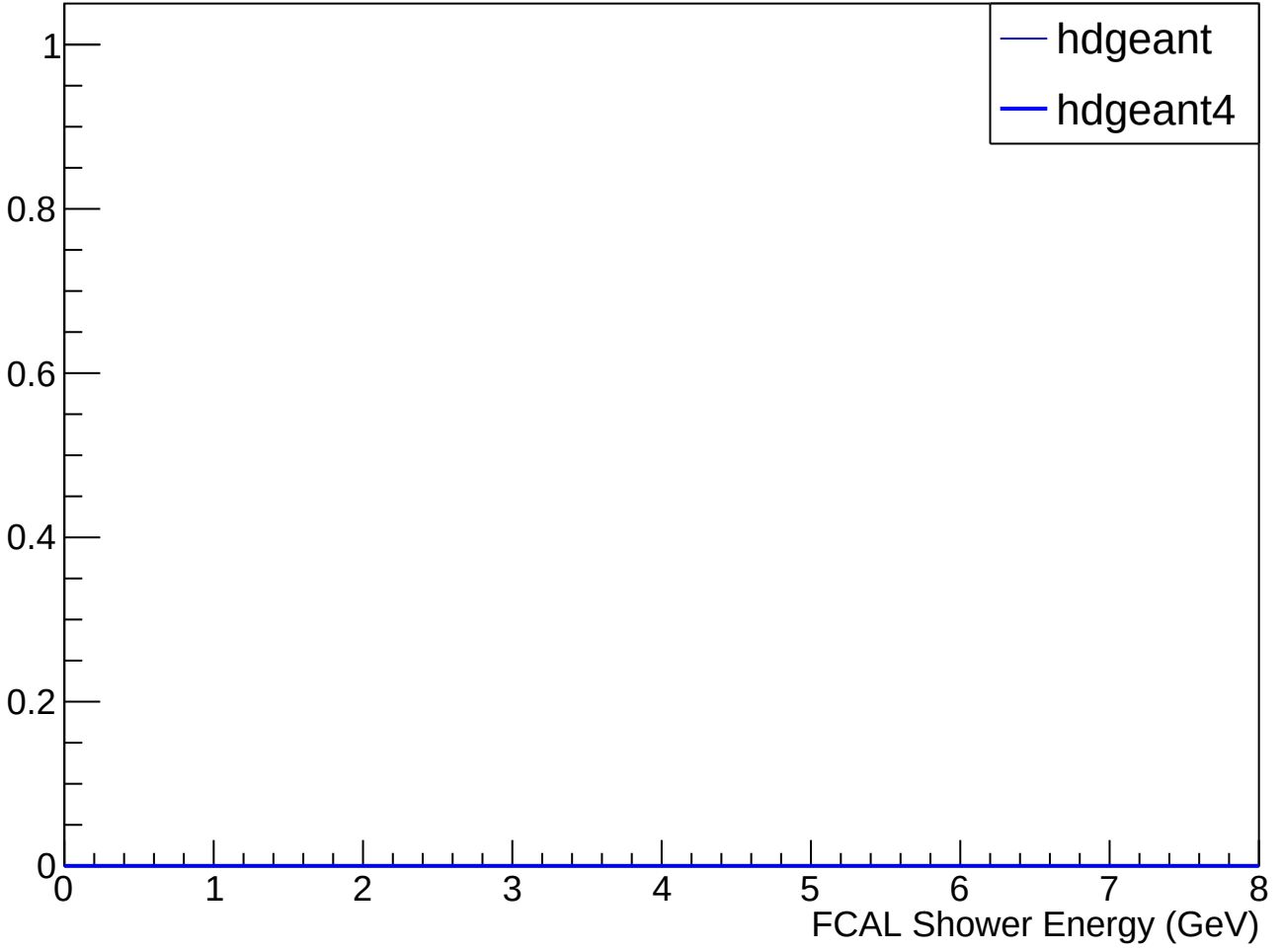
/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/BCALShowerTrackDepth



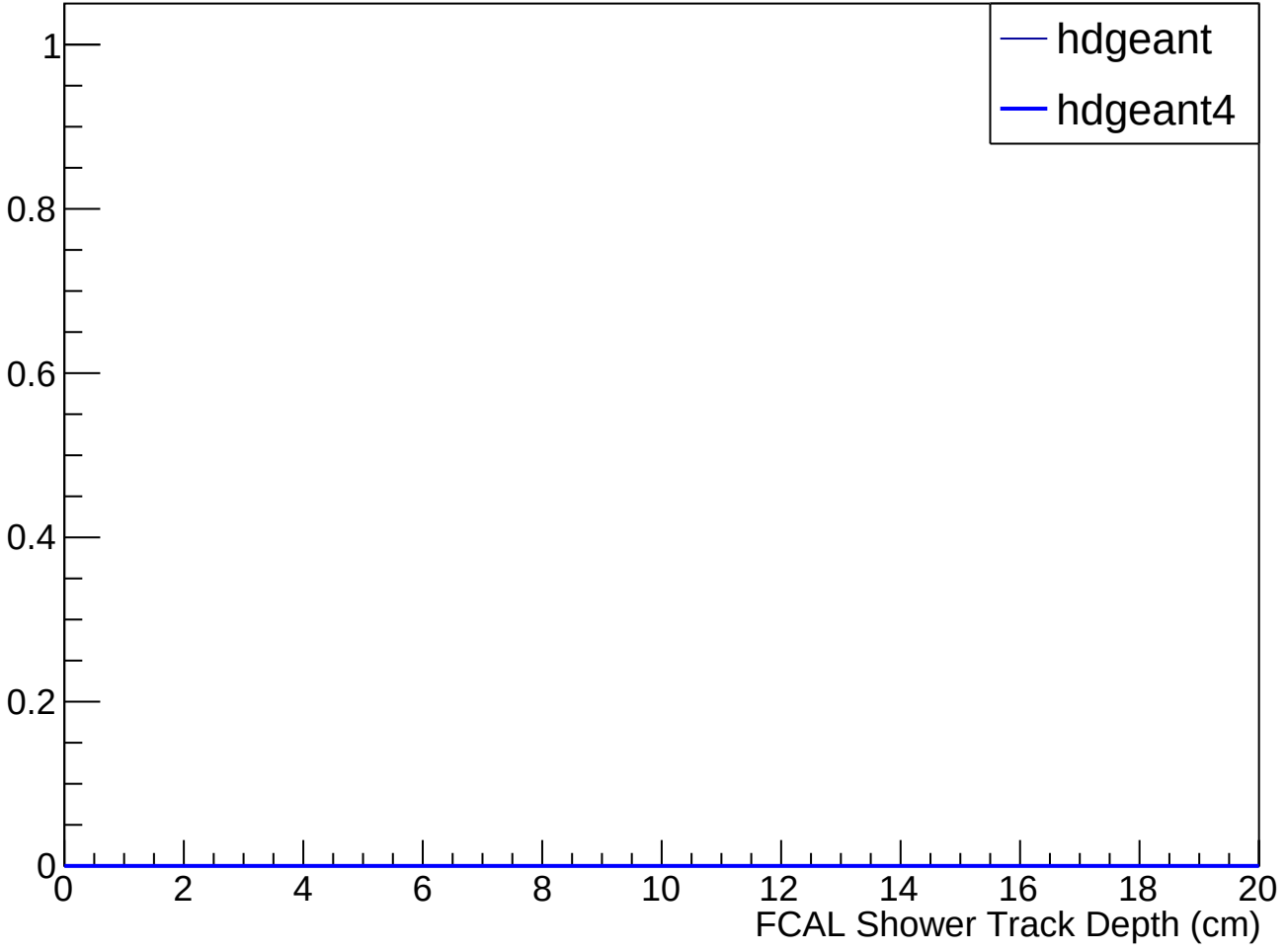

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
0
2
4
6
8
10
12
14
16
18
20
0
2
4
6
8
10
12
14
16

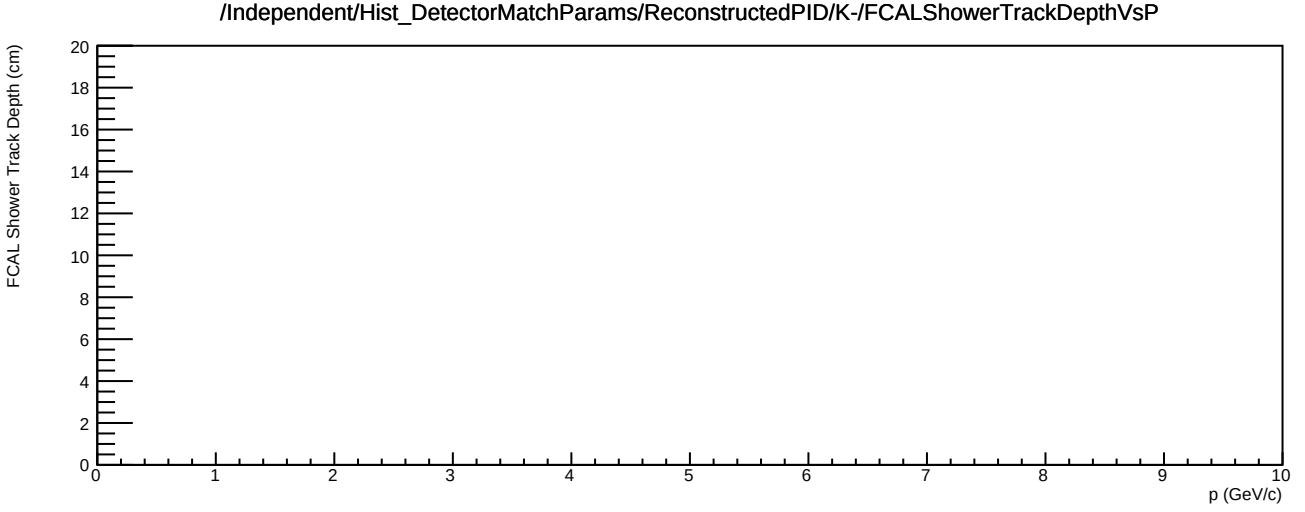

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7

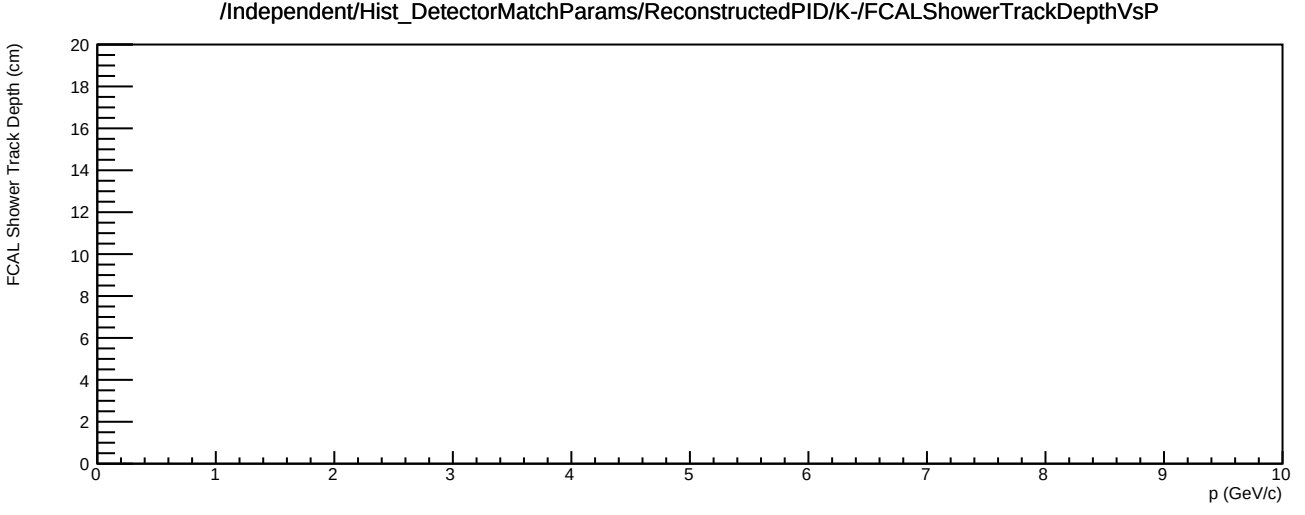
/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/FCALShowerEnergy

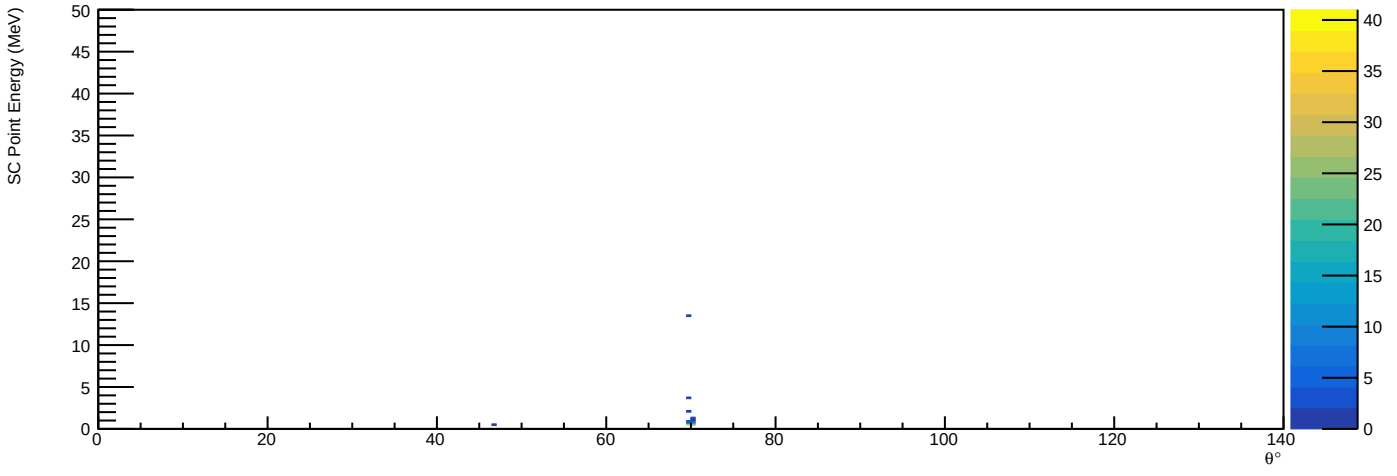


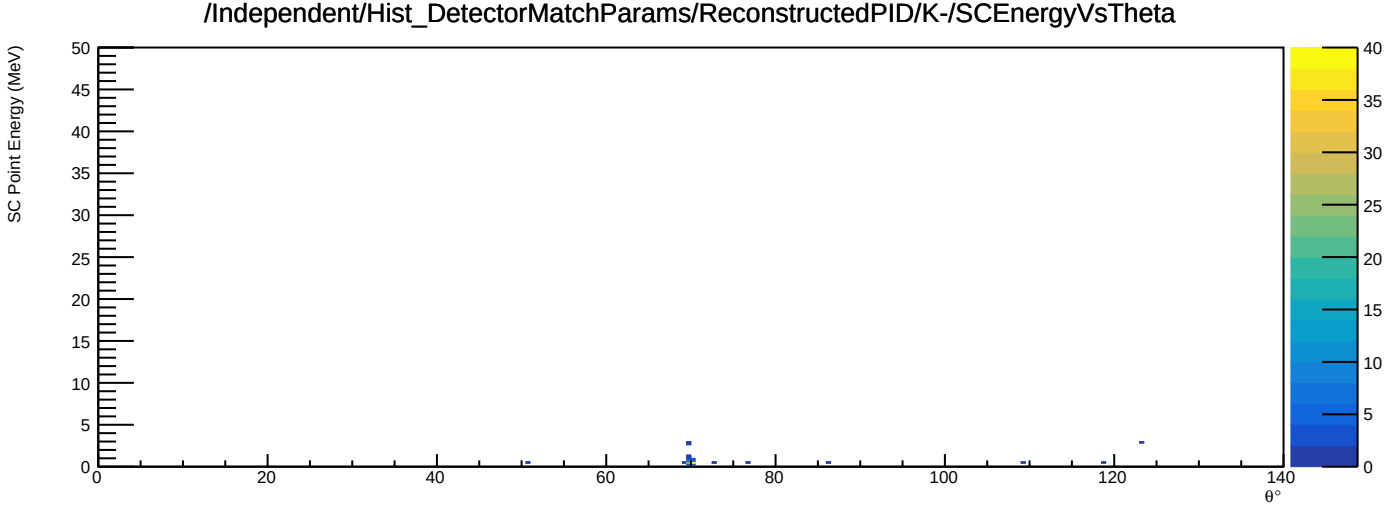
/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/FCALShowerTrackDepth

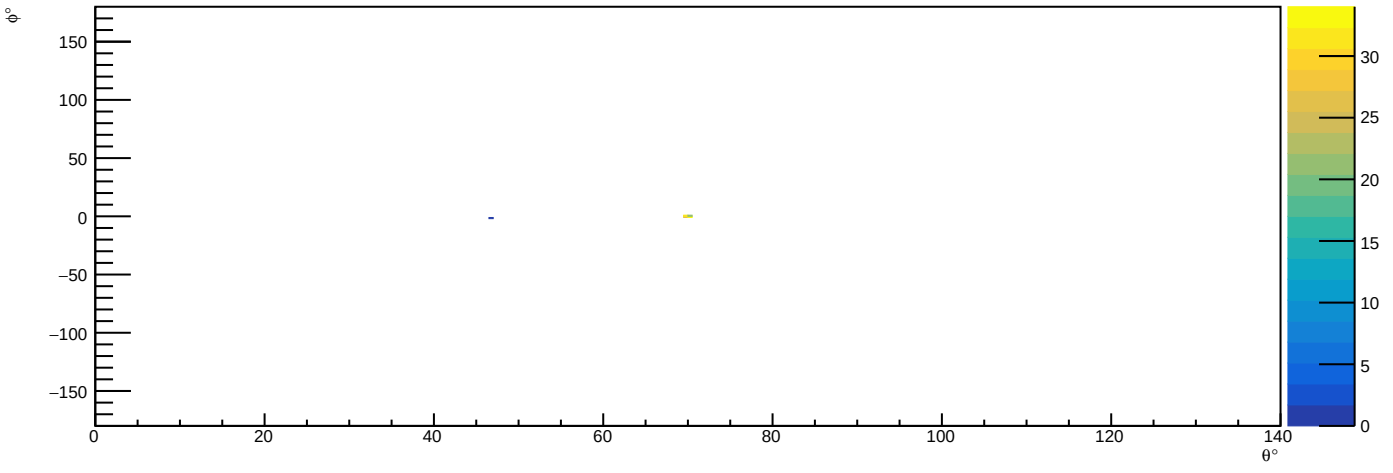


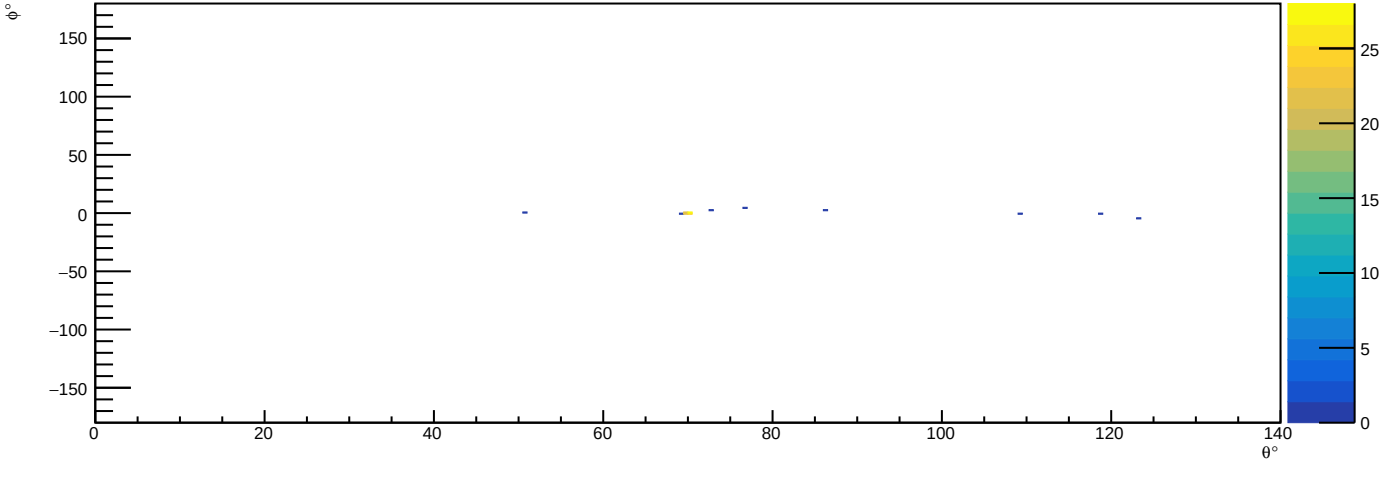

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

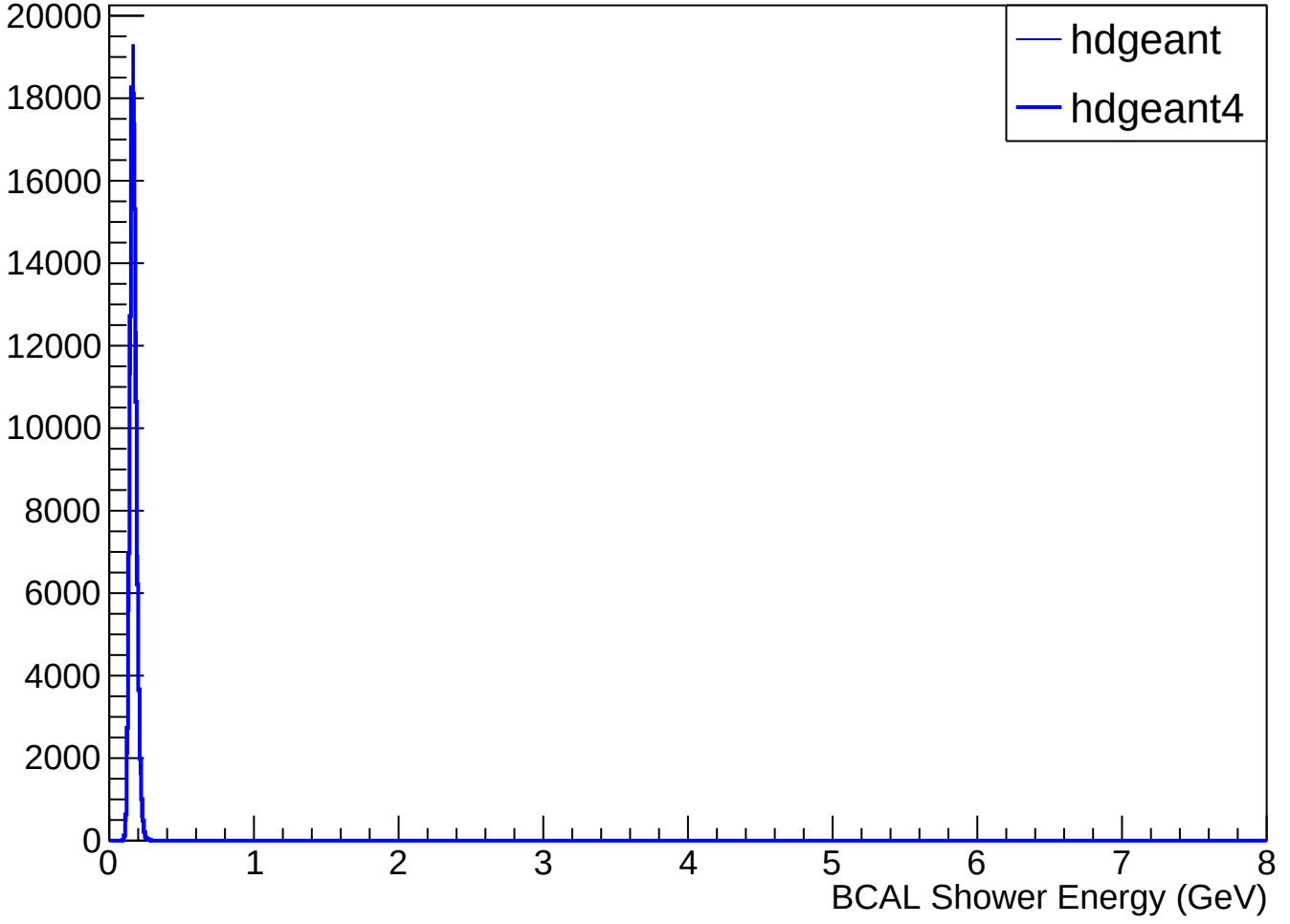

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/SCEnergyVsTheta
SC Point Energy (MeV)
θ°


/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/SCEnergyVsTheta
SC Point Energy (MeV)
θ°

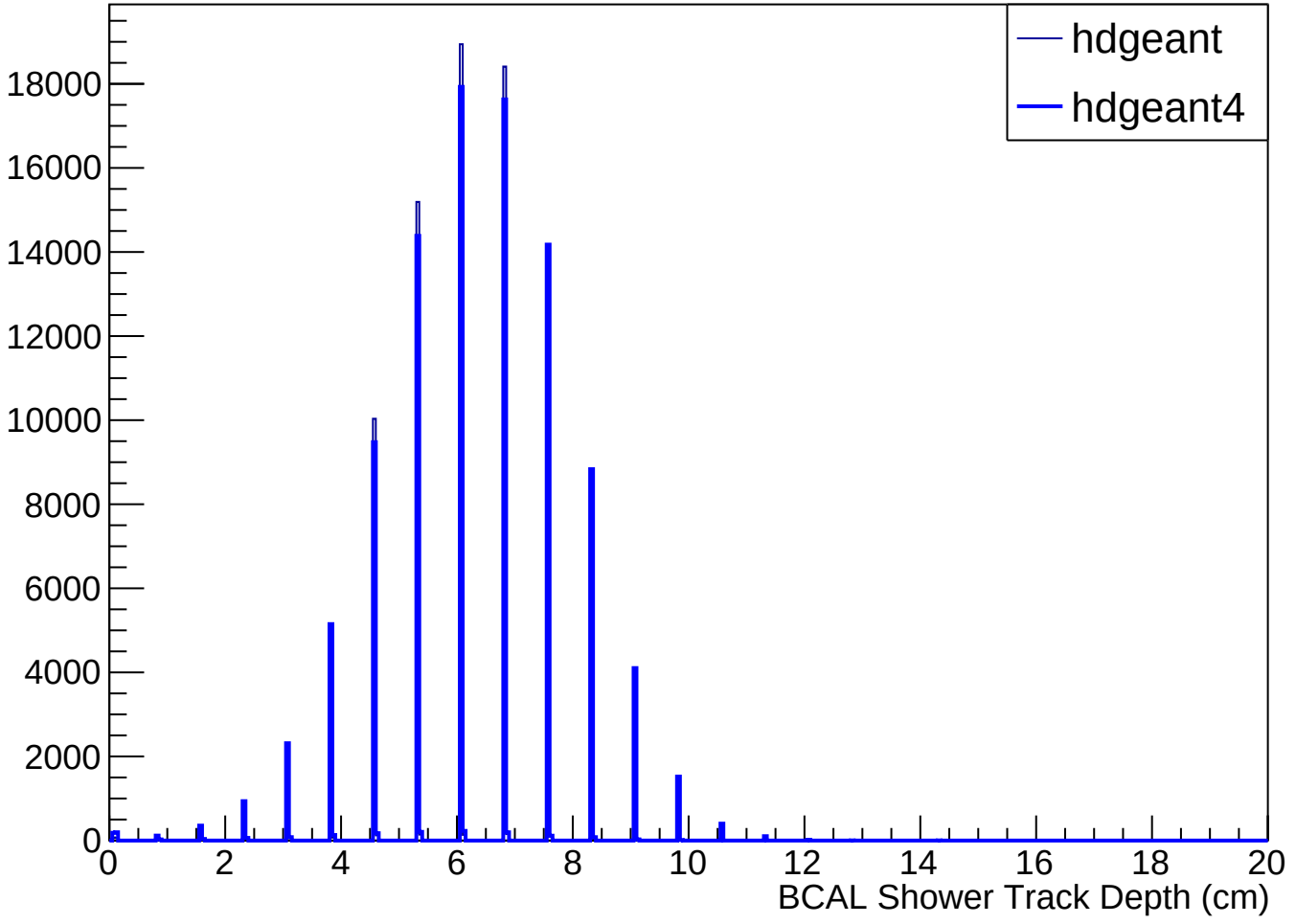

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
30
25
20
15
10
5
0

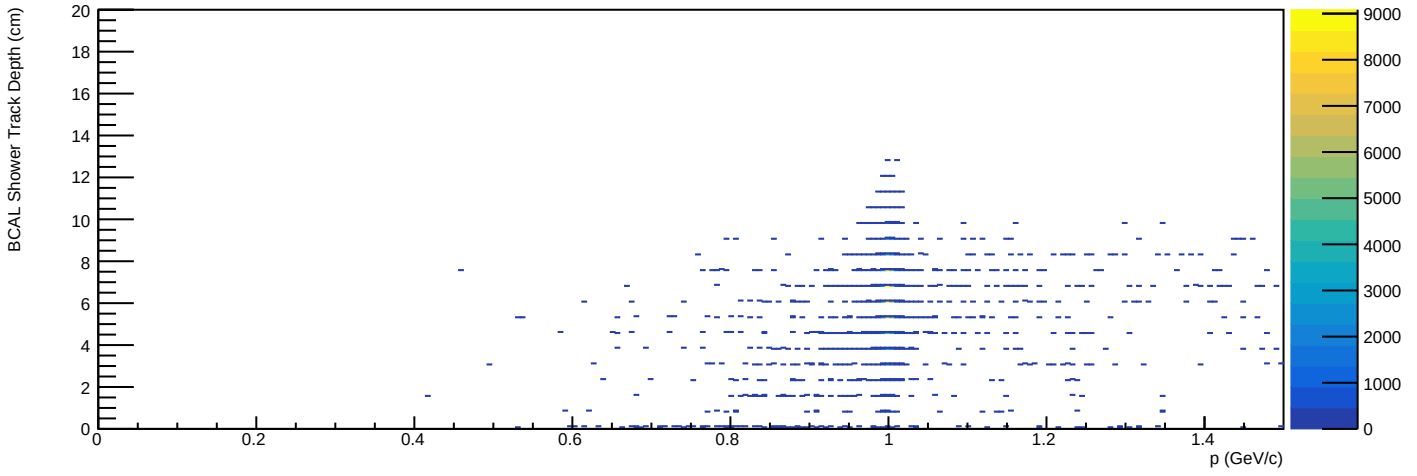

/Independent/Hist_DetectorMatchParams/ReconstructedPID/K-/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25
20
15
10
5
0

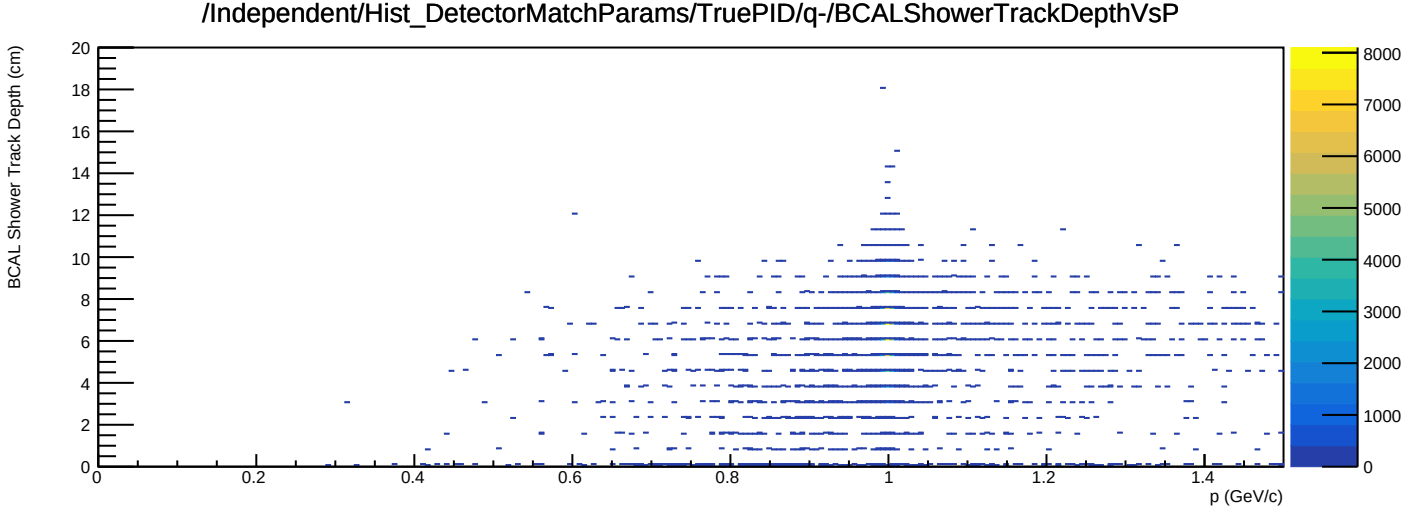
/Independent/Hist_DetectorMatchParams/TruePID/q-/BCALShowerEnergy



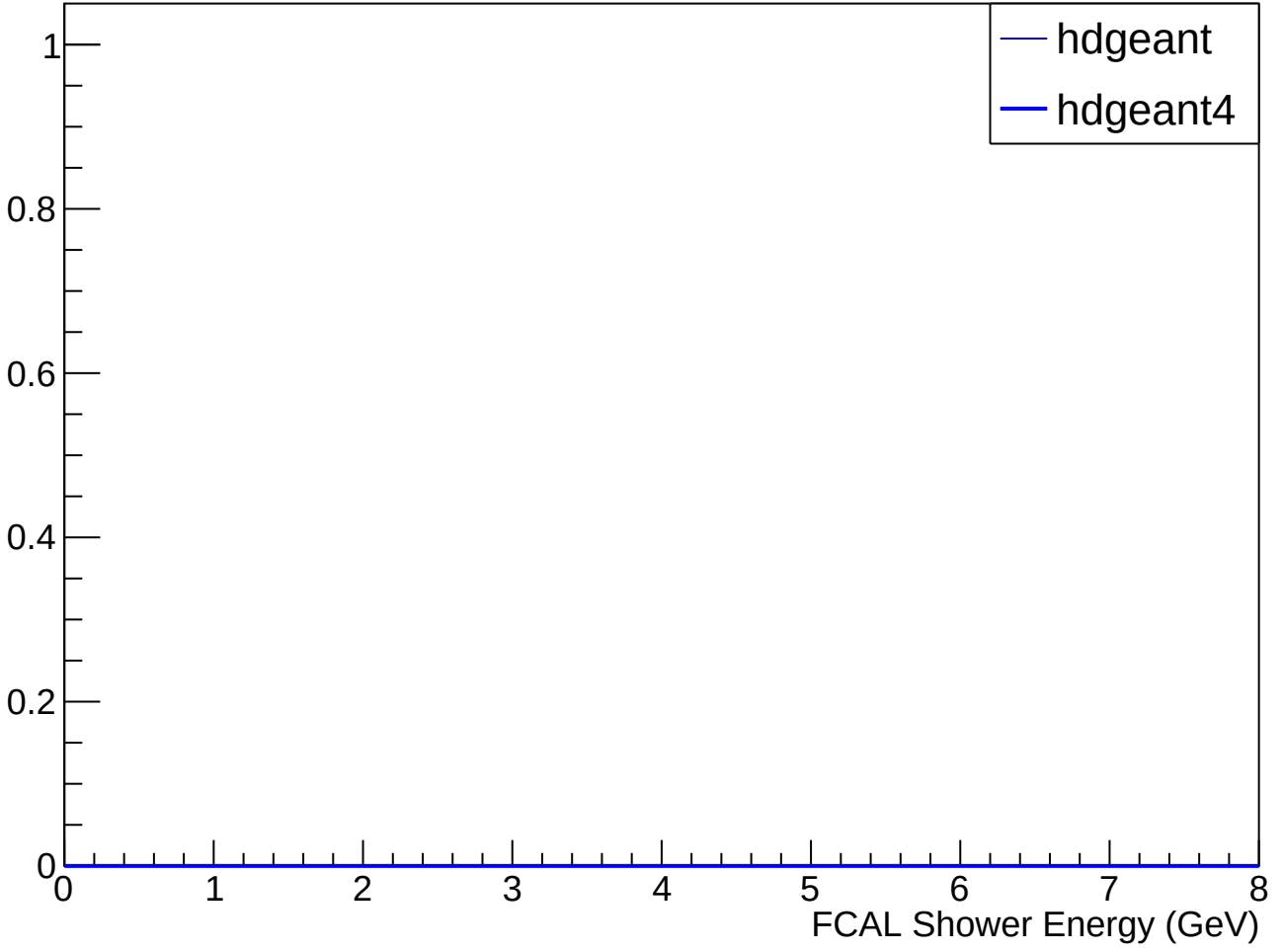
/Independent/Hist_DetectorMatchParams/TruePID/q-/BCALShowerTrackDepth



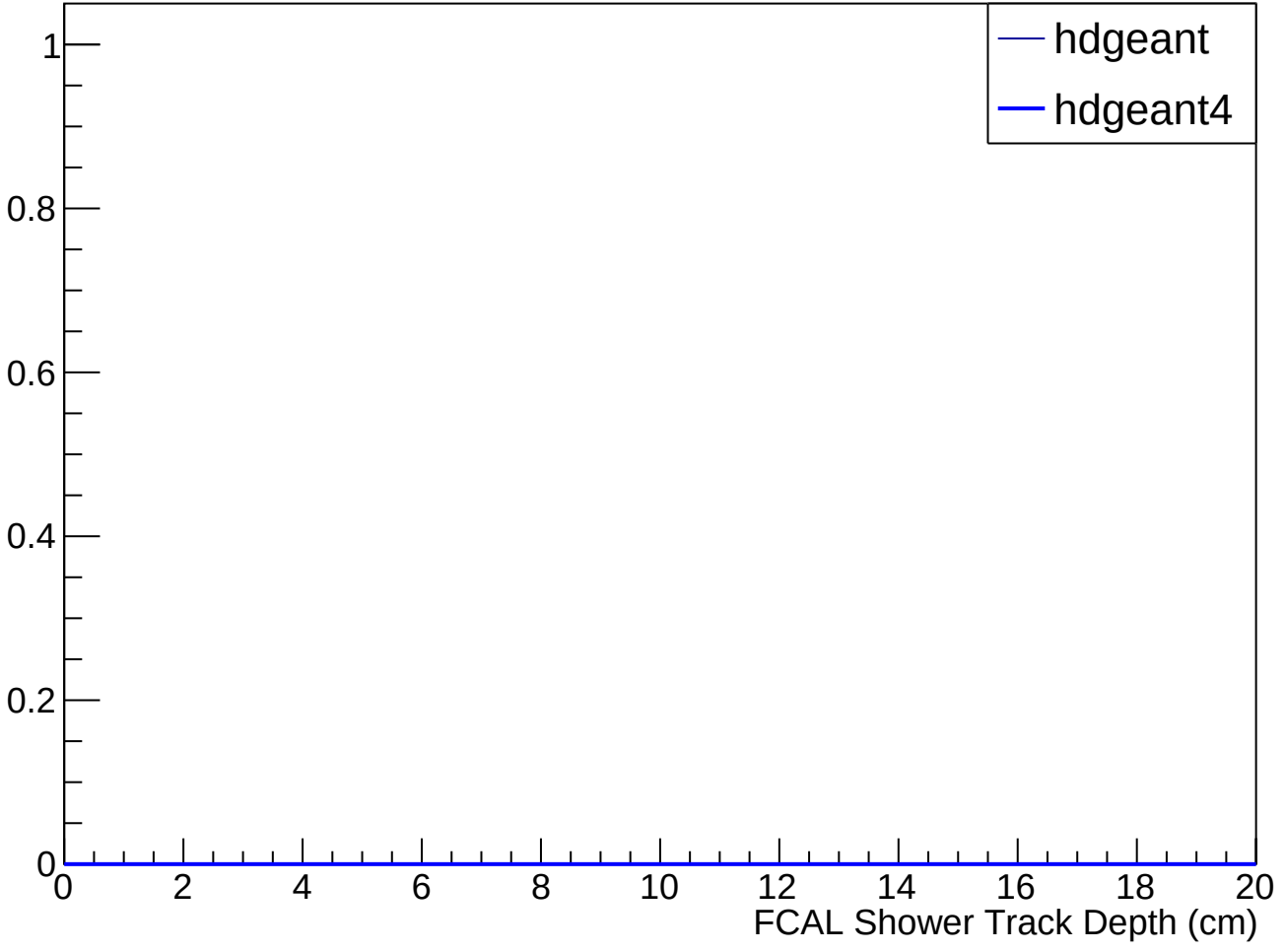

/Independent/Hist_DetectorMatchParams/TruePID/q-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)
0
2
4
6
8
10
12
14
16
18
20
0.2
0.4
0.6
0.8
1
1.2
1.4
1000
2000
3000
4000
5000
6000
7000
8000
9000

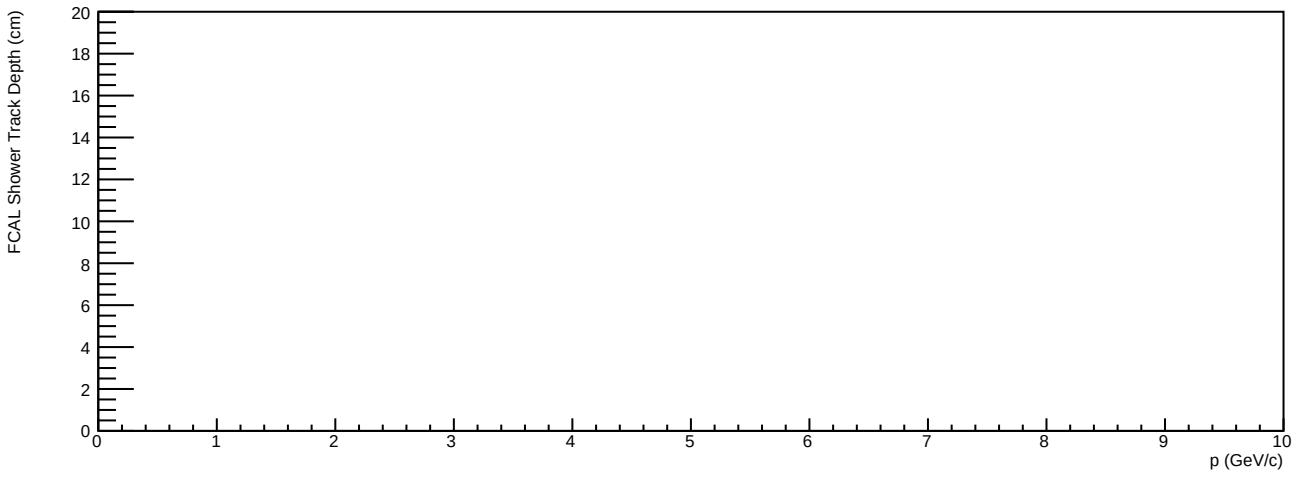

/Independent/Hist_DetectorMatchParams/TruePID/q-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)
0
2
4
6
8
10
12
14
16
18
20
0.2
0.4
0.6
0.8
1
1.2
1.4
1000
2000
3000
4000
5000
6000
7000
8000

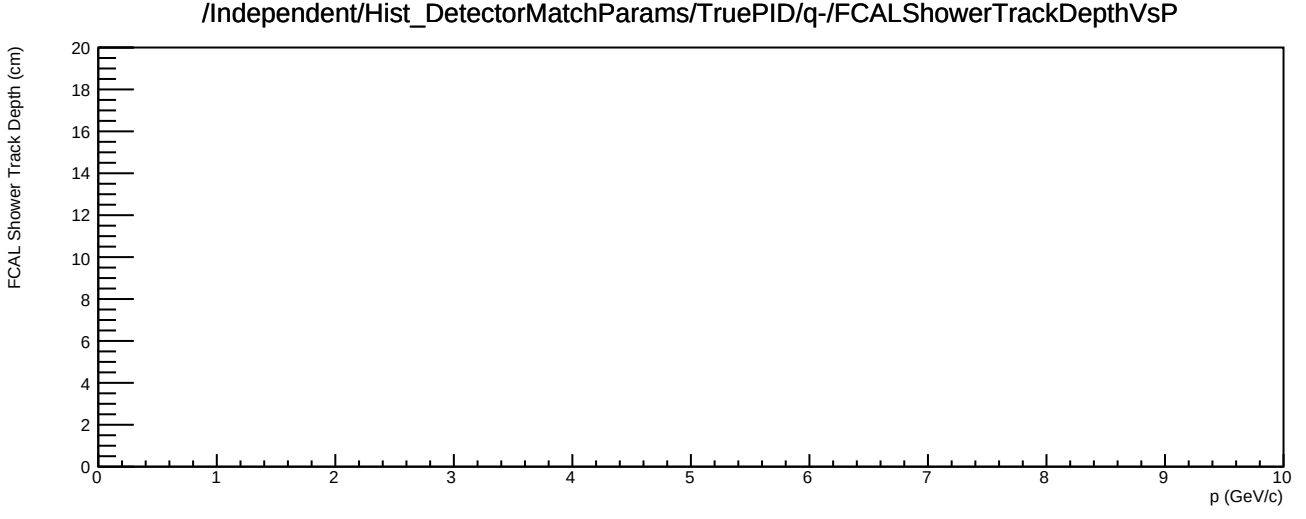
/Independent/Hist_DetectorMatchParams/TruePID/q-/FCALShowerEnergy

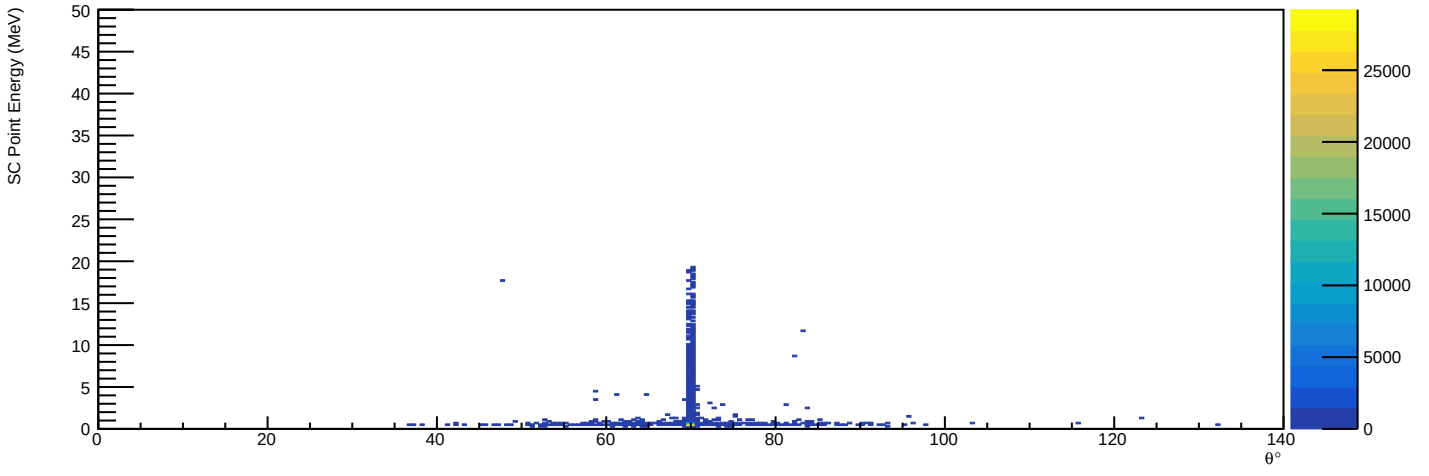


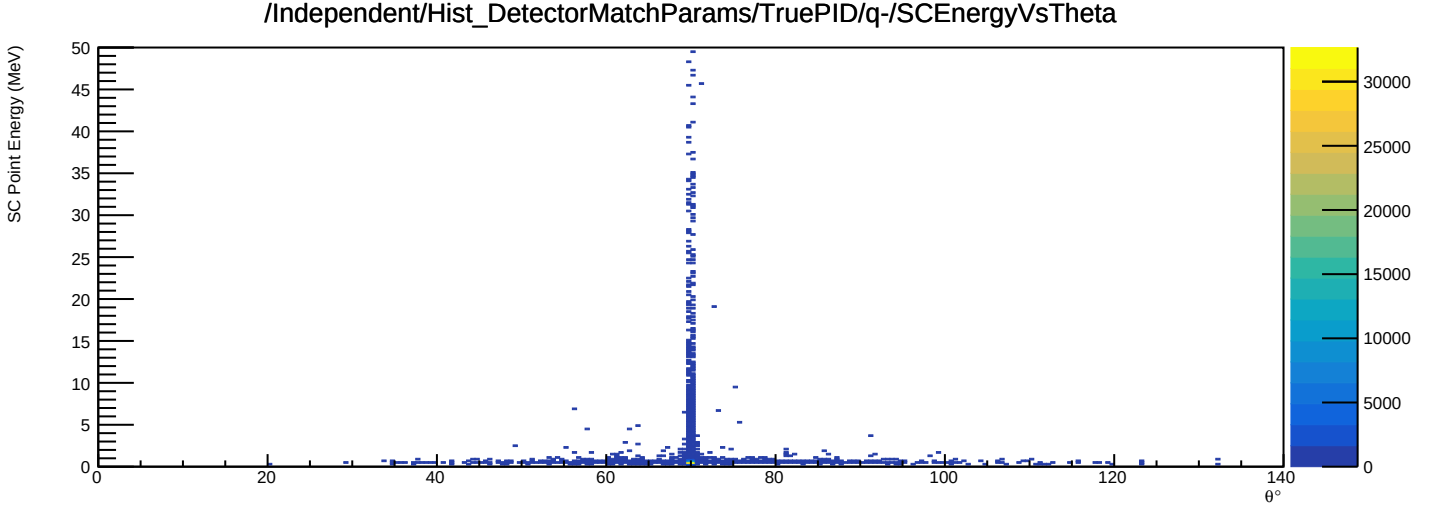
/Independent/Hist_DetectorMatchParams/TruePID/q-/FCALShowerTrackDepth

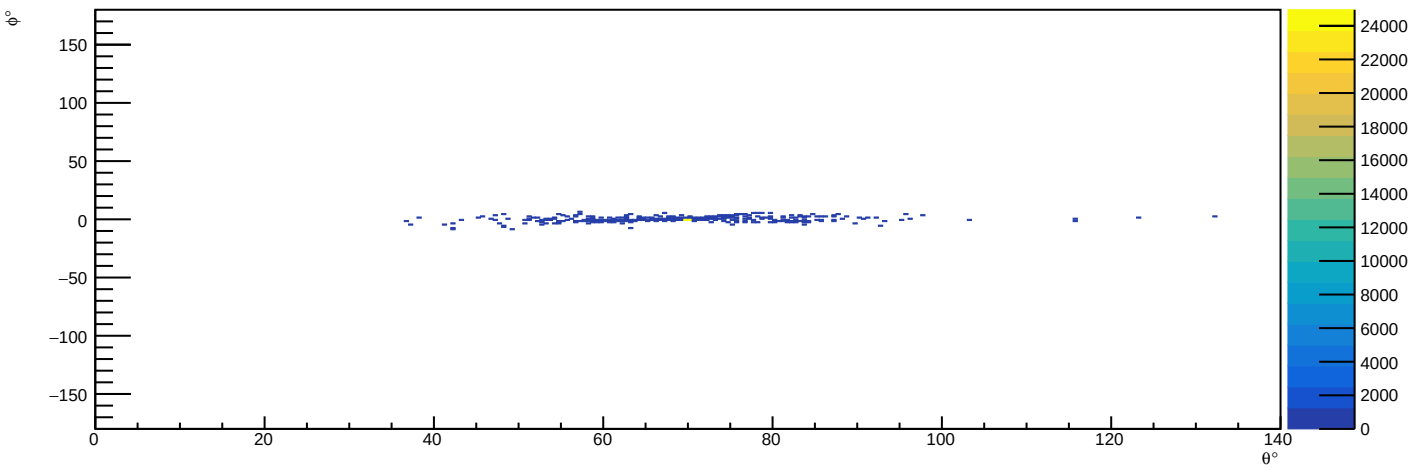


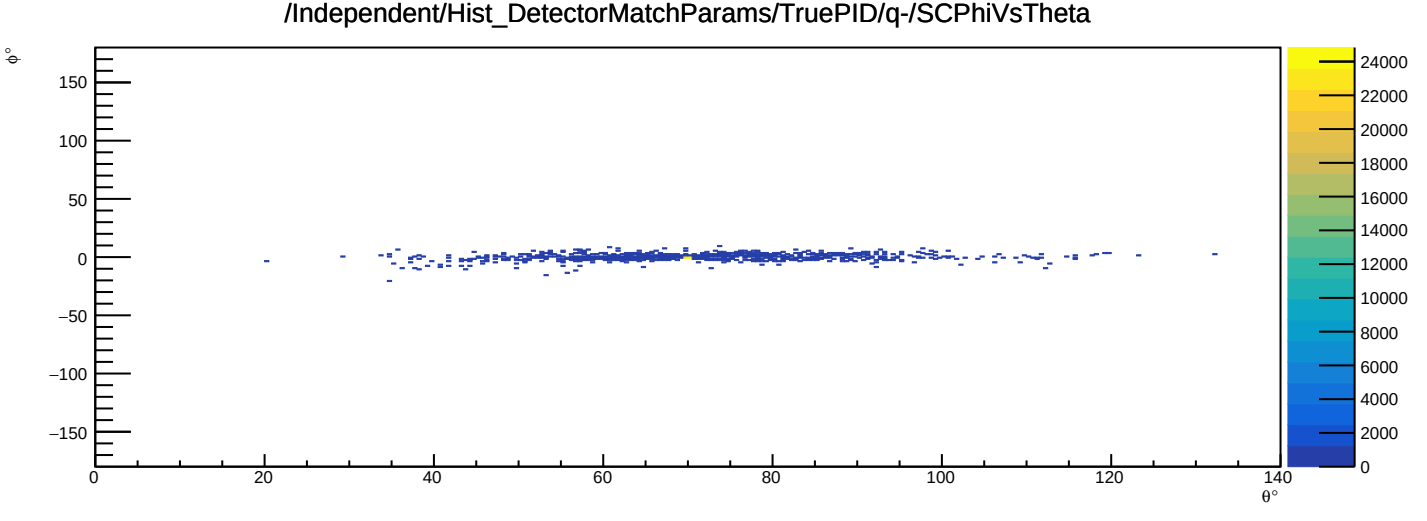

/Independent/Hist_DetectorMatchParams/TruePID/q-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/TruePID/q-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

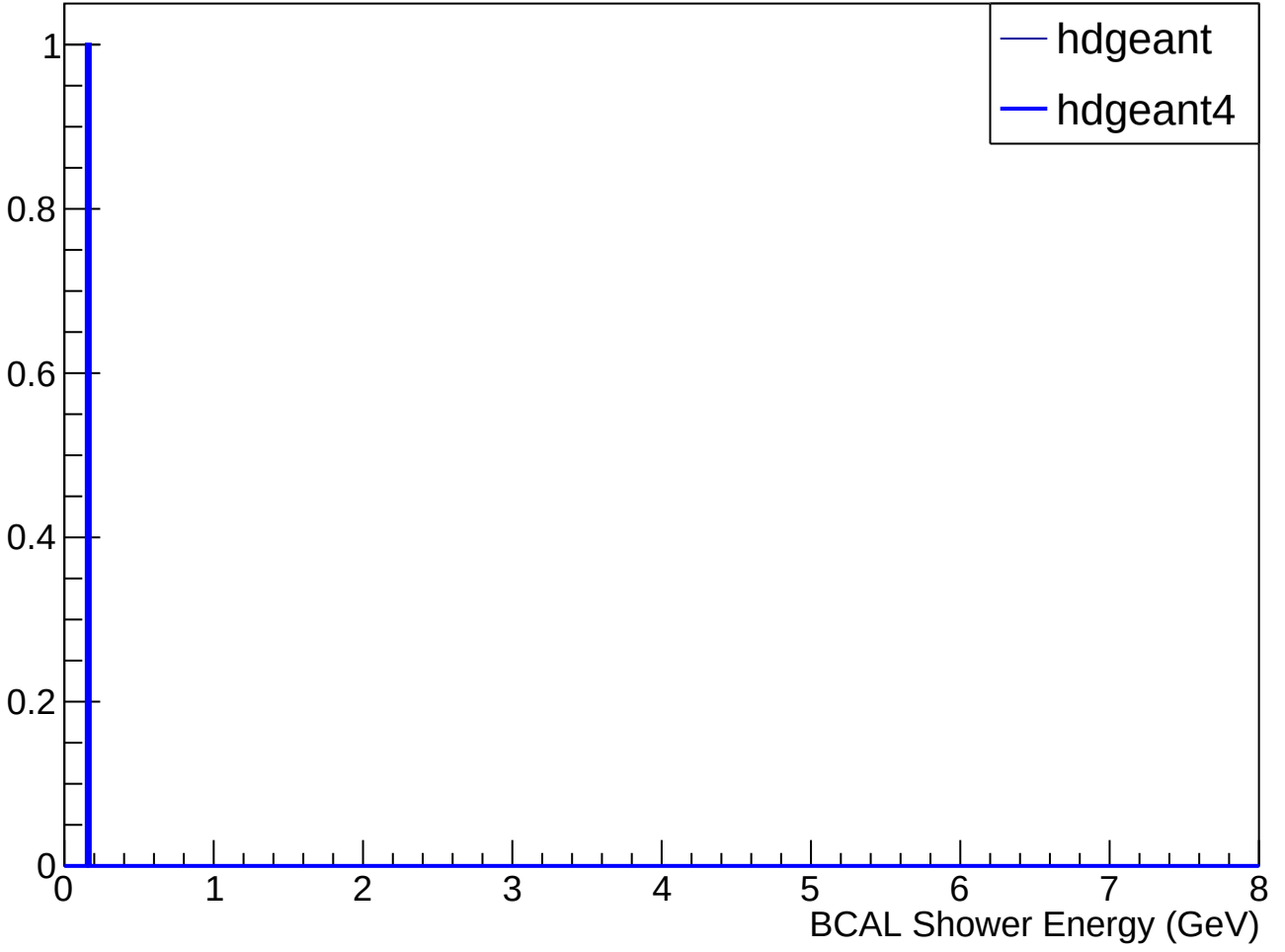

/Independent/Hist_DetectorMatchParams/TruePID/q-/SCEnergyVsTheta
SC Point Energy (MeV)
θ°


/Independent/Hist_DetectorMatchParams/TruePID/q-/SCEnergyVsTheta
SC Point Energy (MeV)
θ°

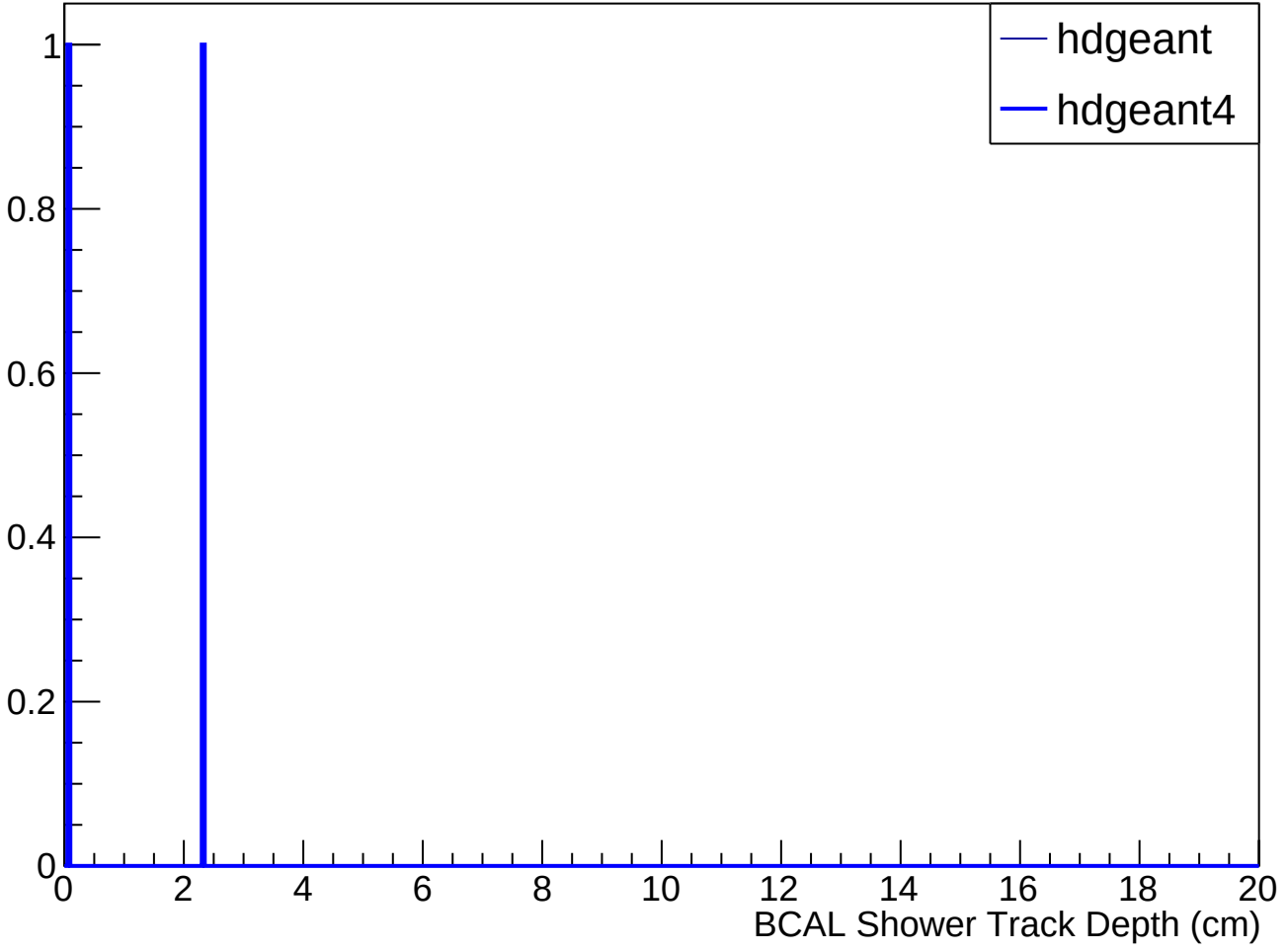

/Independent/Hist_DetectorMatchParams/TruePID/q-/SCPhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
24000
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0

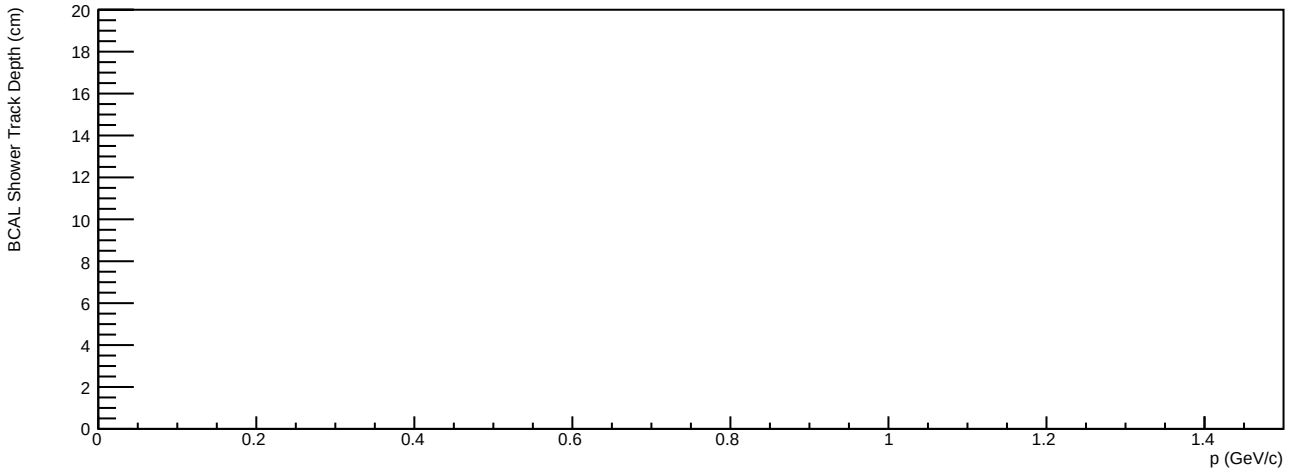

/Independent/Hist_DetectorMatchParams/TruePID/q-/SCPhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
24000
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0

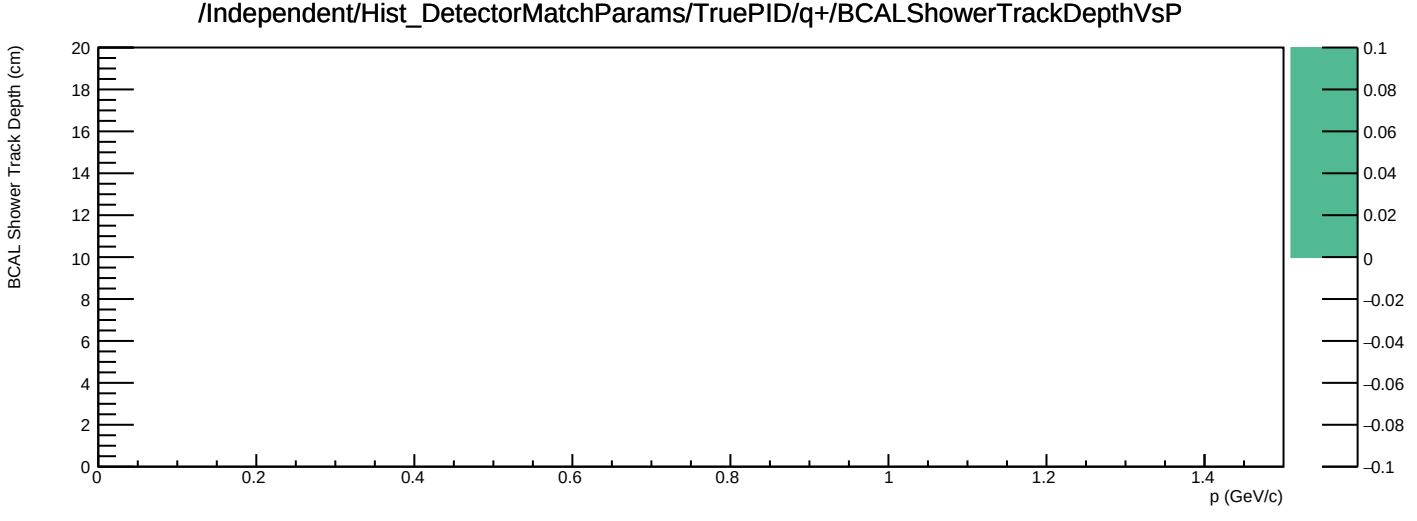
/Independent/Hist_DetectorMatchParams/TruePID/q+/BCALShowerEnergy



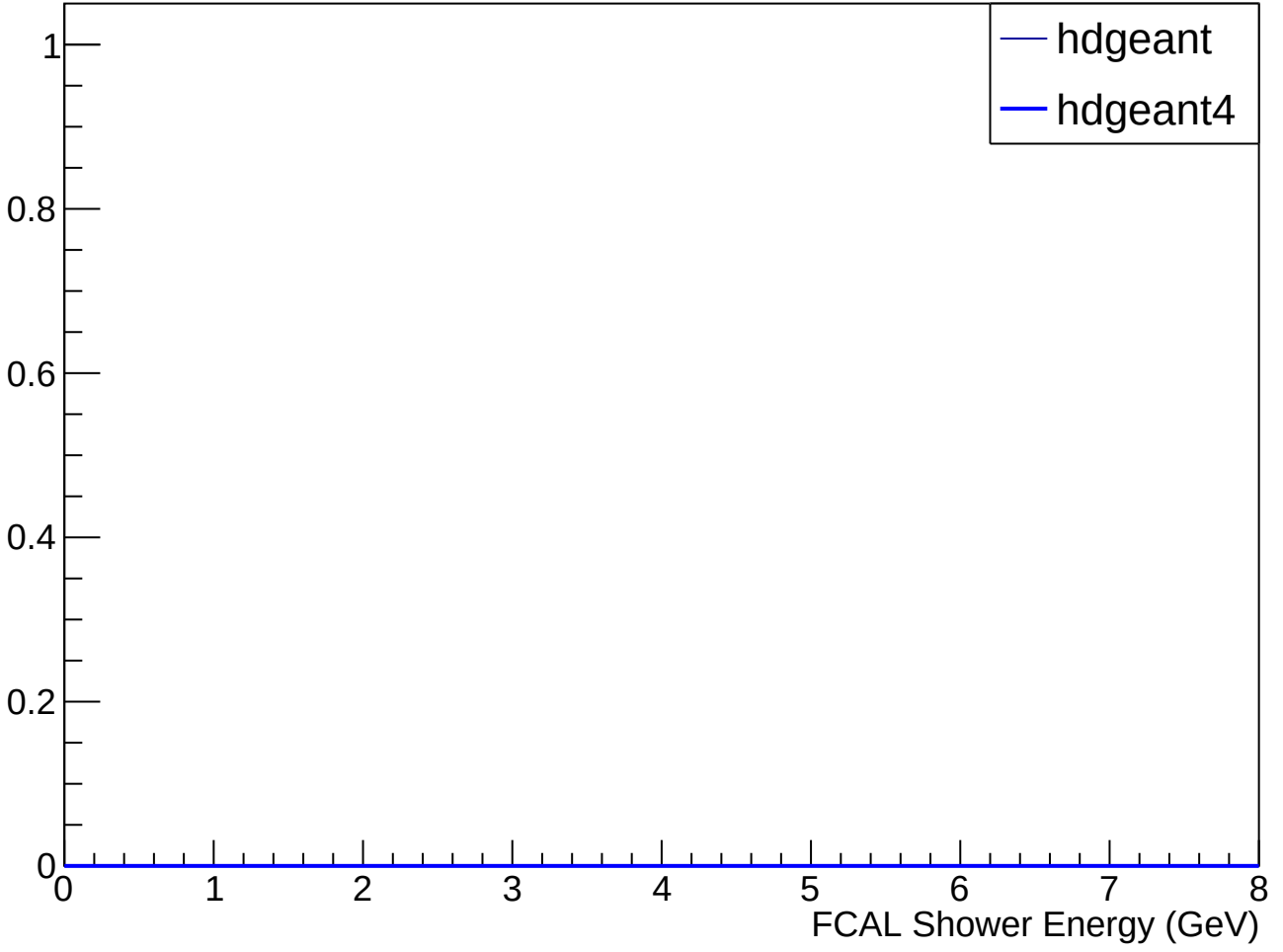
/Independent/Hist_DetectorMatchParams/TruePID/q+/BCALShowerTrackDepth



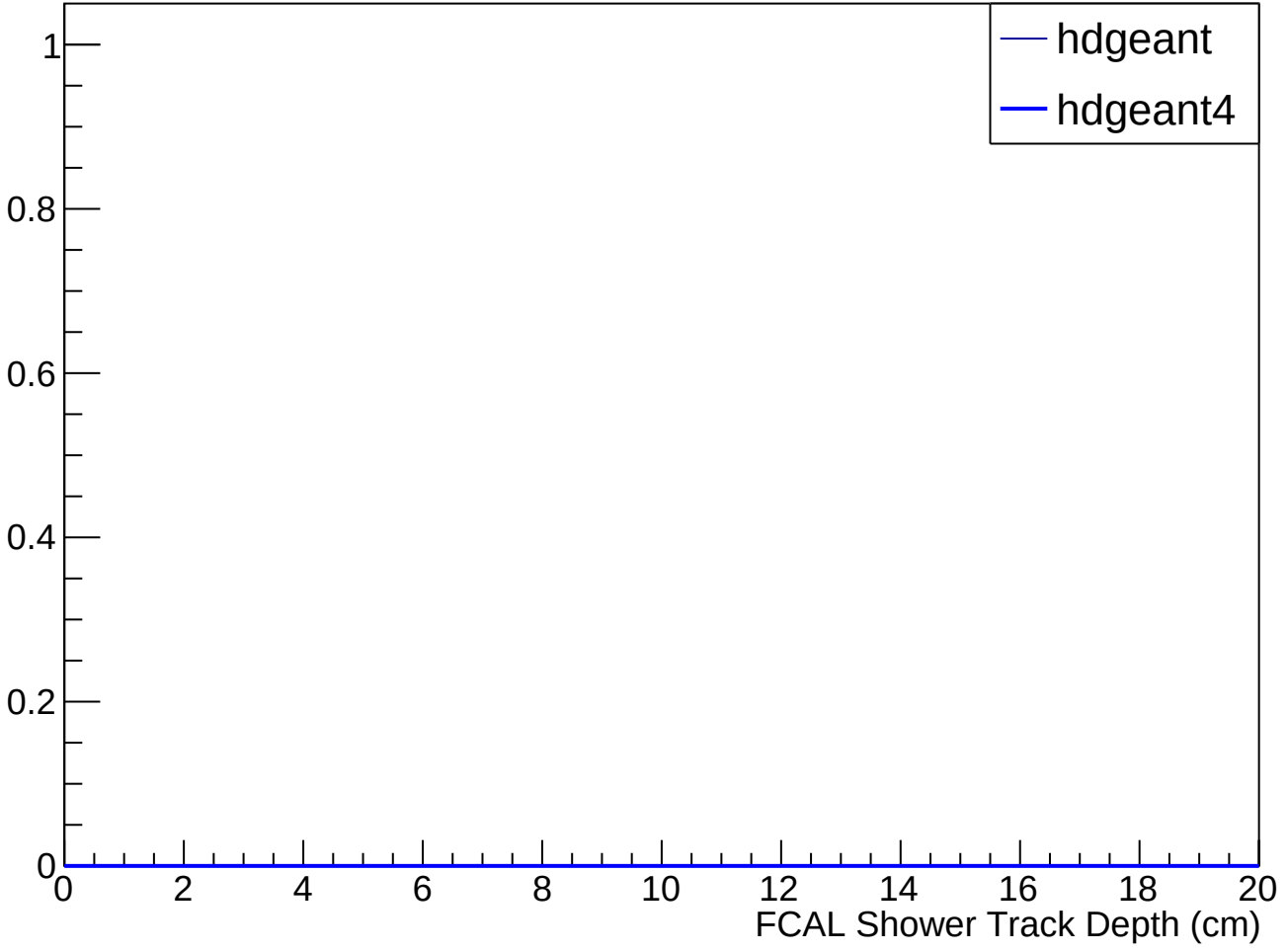

/Independent/Hist_DetectorMatchParams/TruePID/q+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

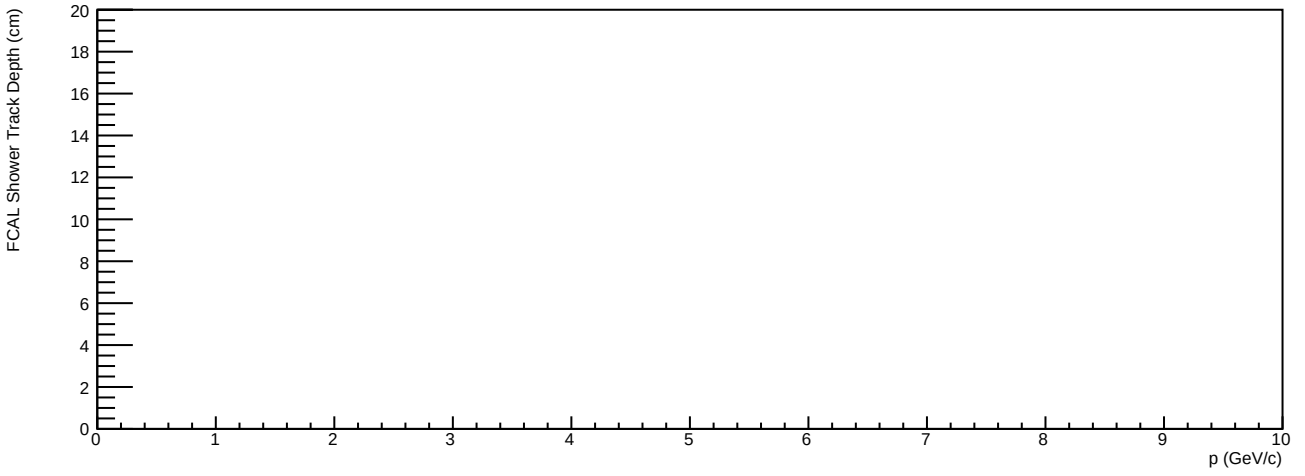

/Independent/Hist_DetectorMatchParams/TruePID/q+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

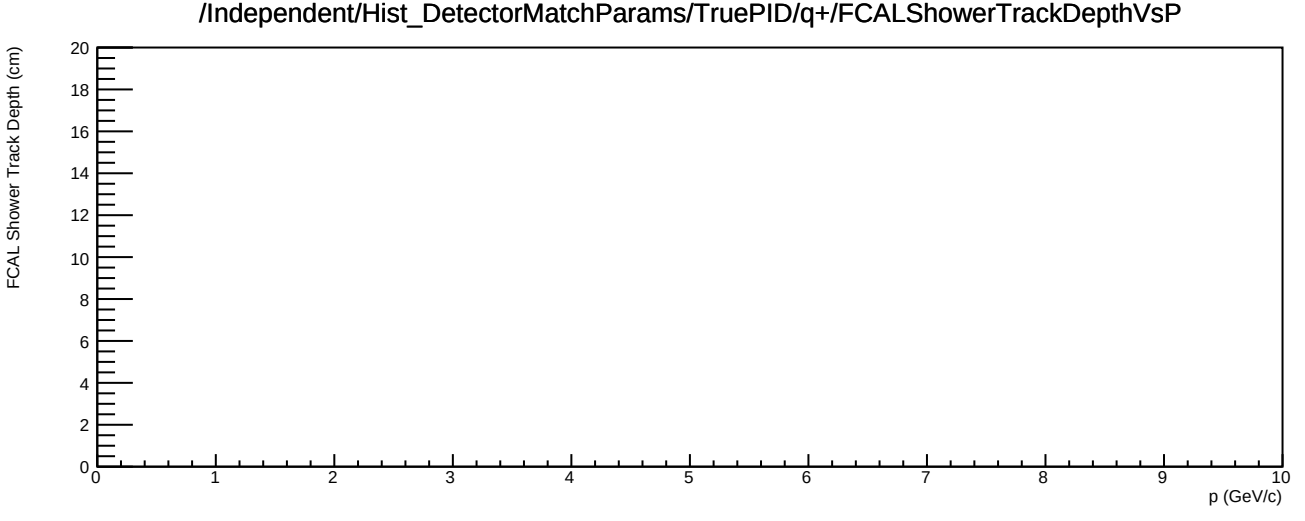
/Independent/Hist_DetectorMatchParams/TruePID/q+/FCALShowerEnergy

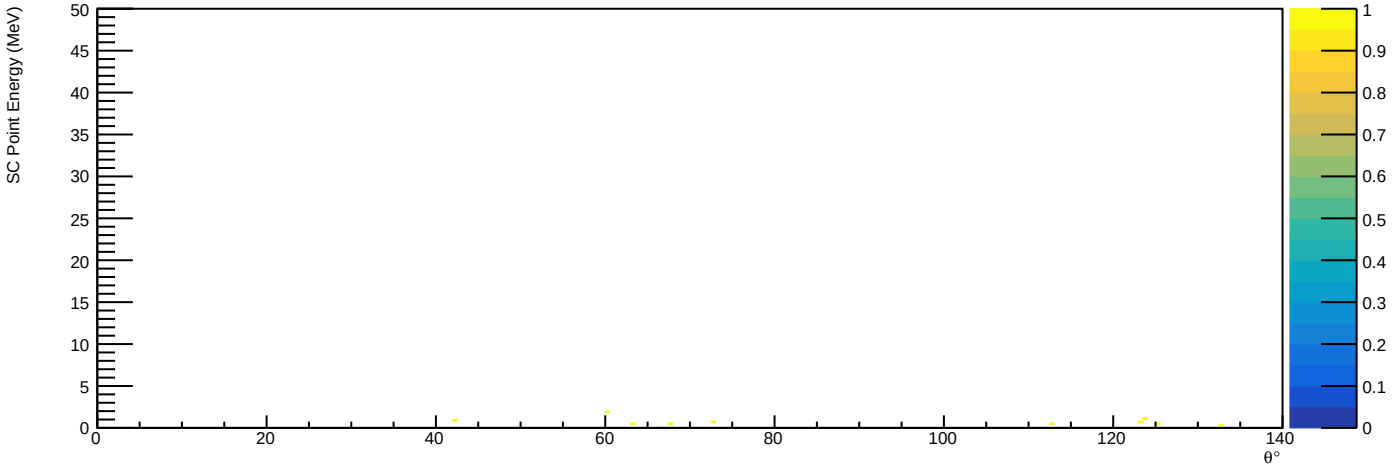


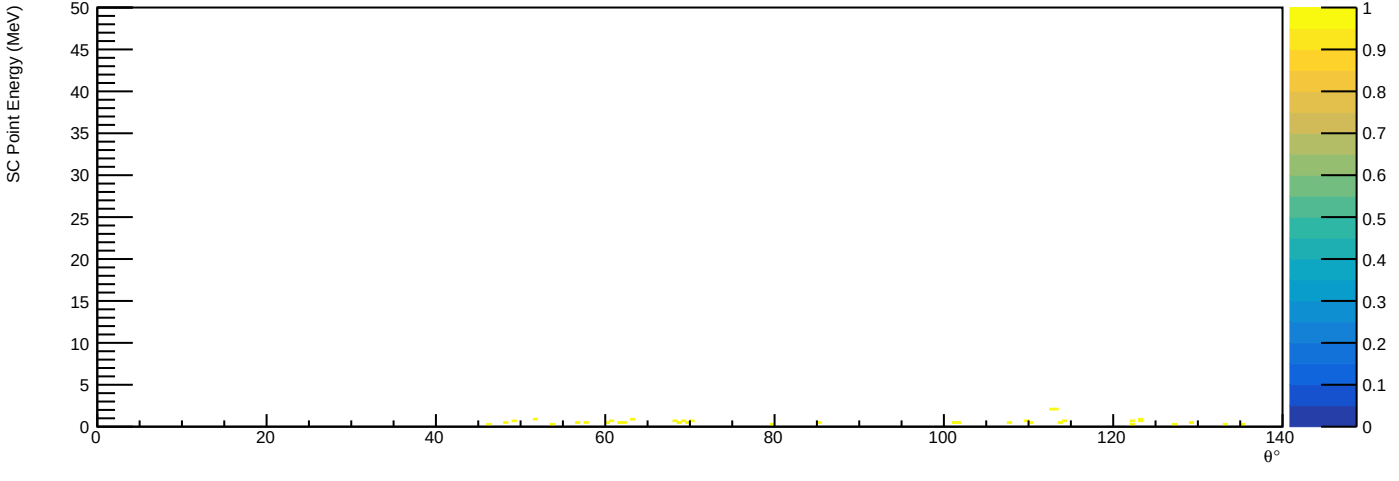
/Independent/Hist_DetectorMatchParams/TruePID/q+/FCALShowerTrackDepth

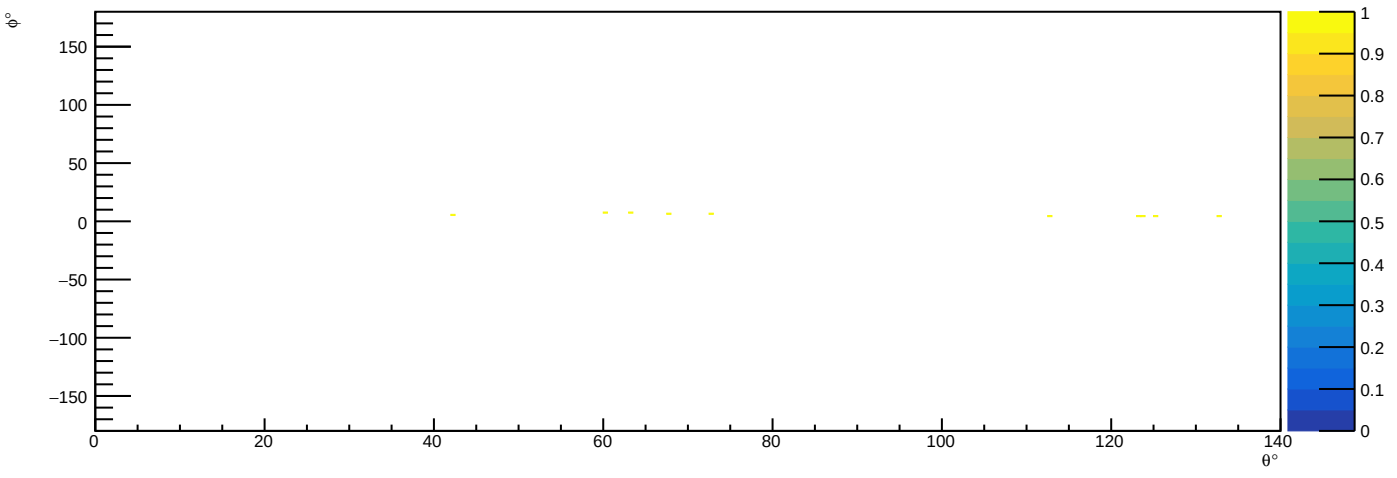


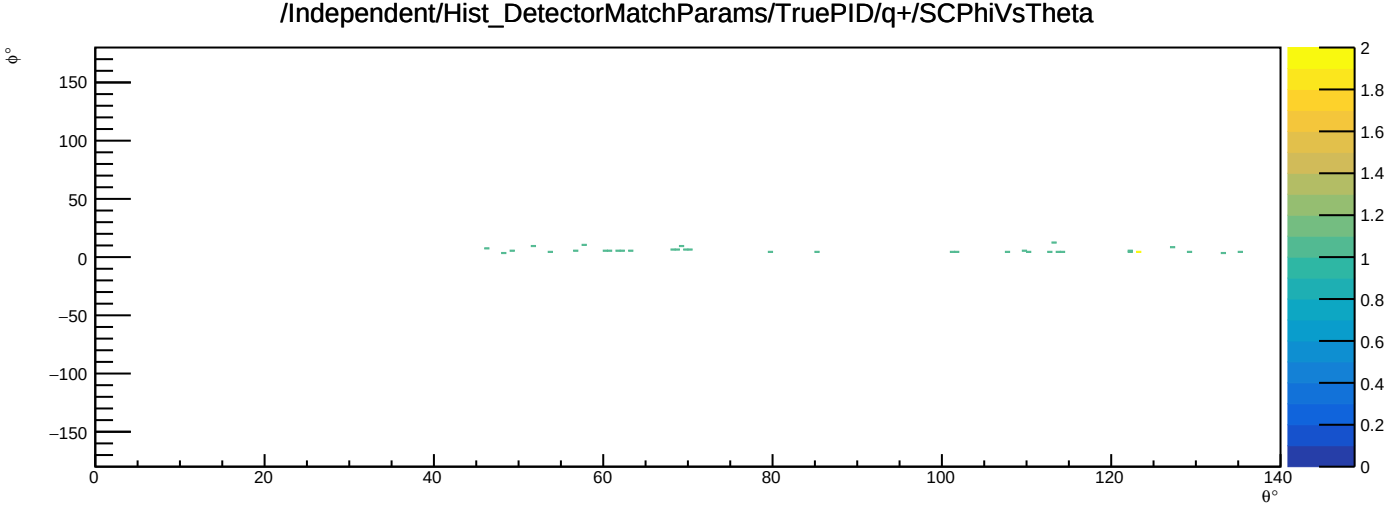

/Independent/Hist_DetectorMatchParams/TruePID/q+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/TruePID/q+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

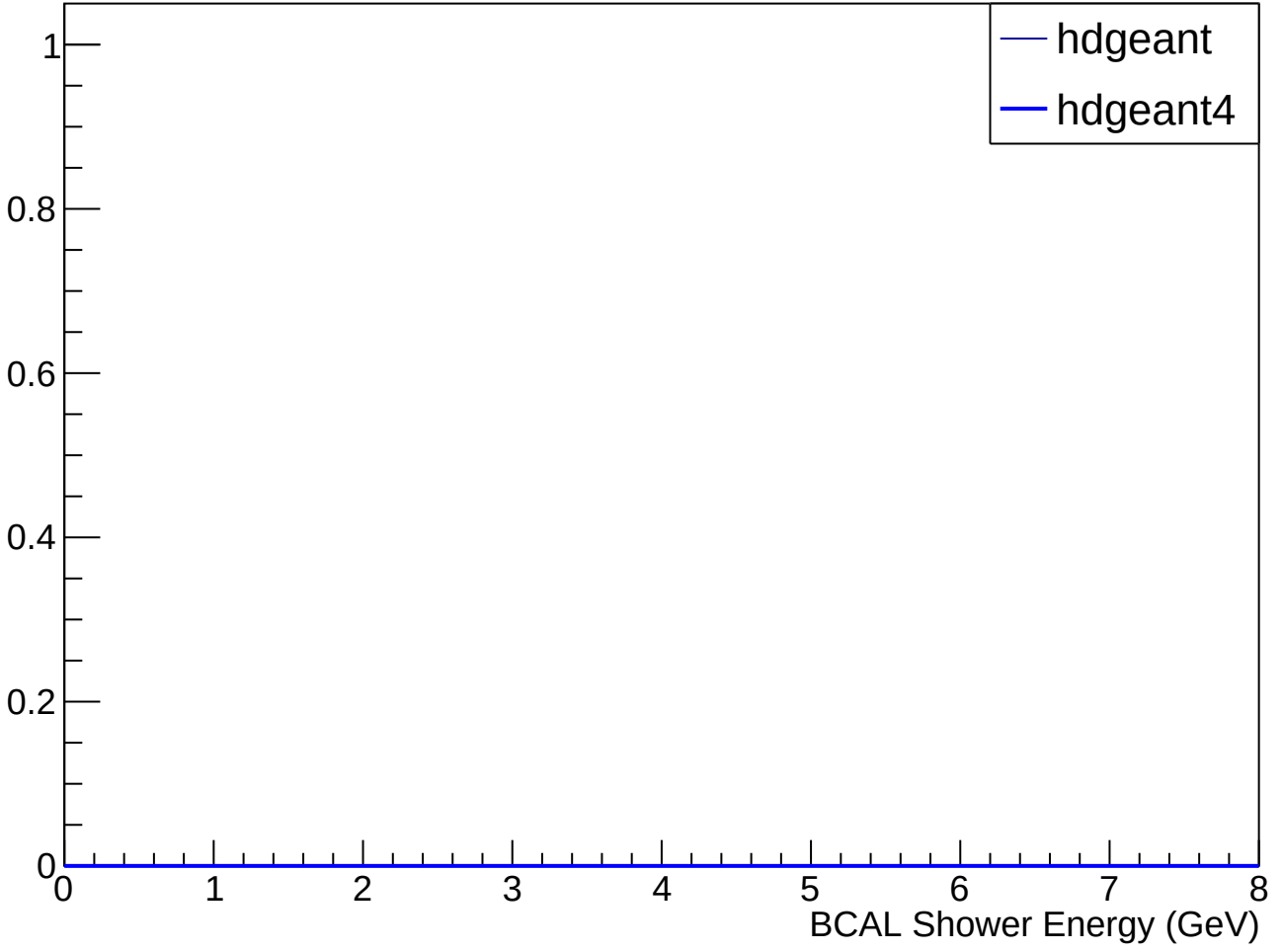

/Independent/Hist_DetectorMatchParams/TruePID/q+/SCEnergyVsTheta
SC Point Energy (MeV)
θ°


/Independent/Hist_DetectorMatchParams/TruePID/q+/SCEnergyVsTheta
SC Point Energy (MeV)
θ°

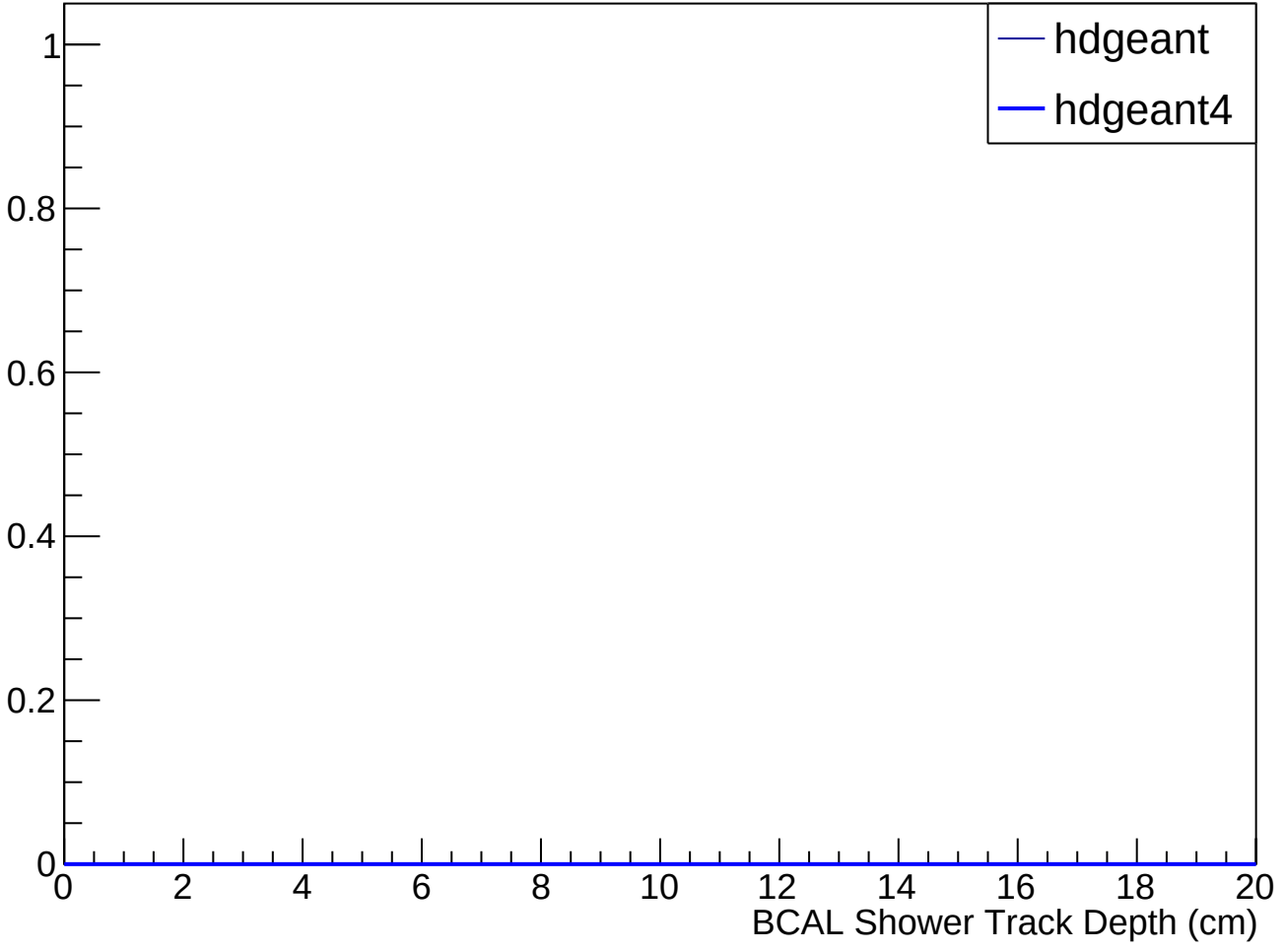

/Independent/Hist_DetectorMatchParams/TruePID/q+/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

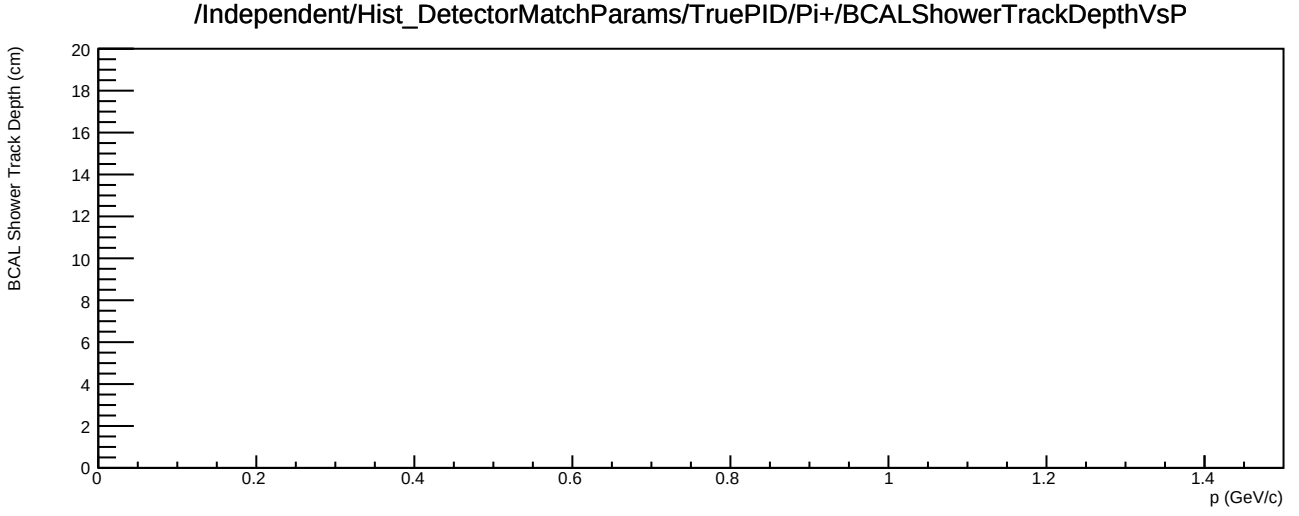

/Independent/Hist_DetectorMatchParams/TruePID/q+/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

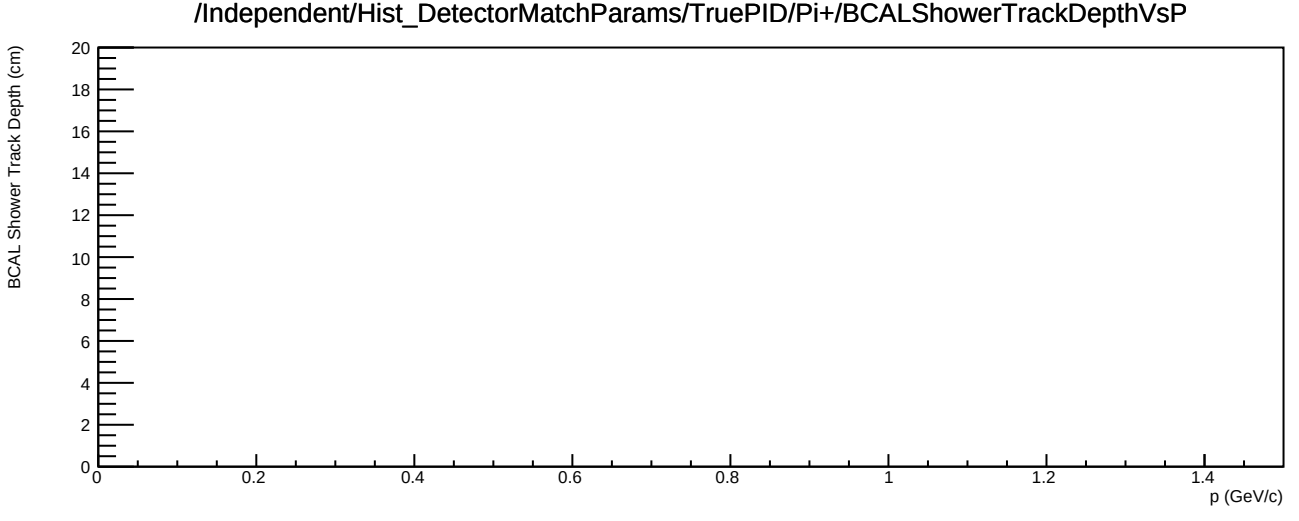
/Independent/Hist_DetectorMatchParams/TruePID/Pi+/BCALShowerEnergy



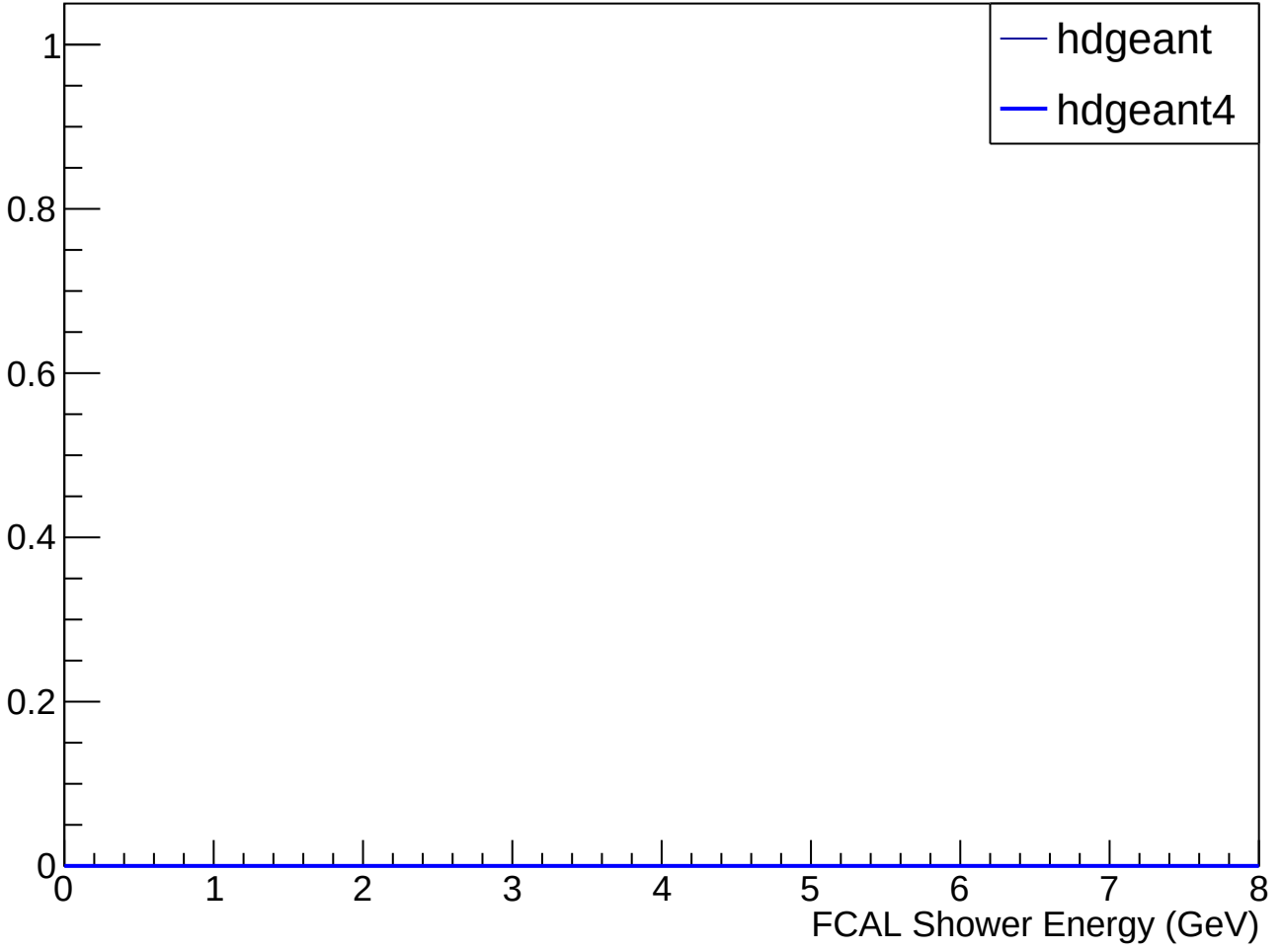
/Independent/Hist_DetectorMatchParams/TruePID/Pi+/BCALShowerTrackDepth



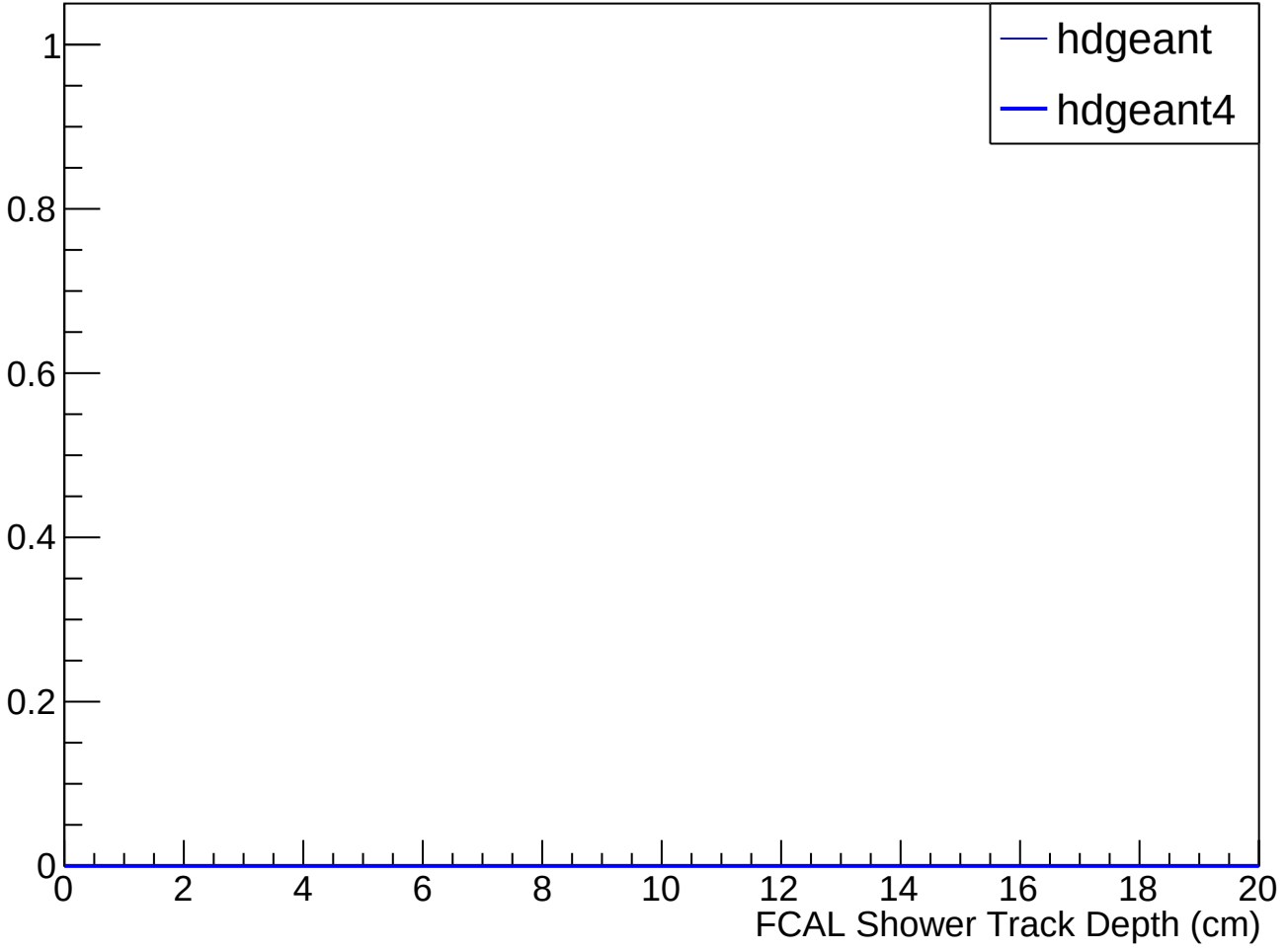

/Independent/Hist_DetectorMatchParams/TruePID/Pi+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

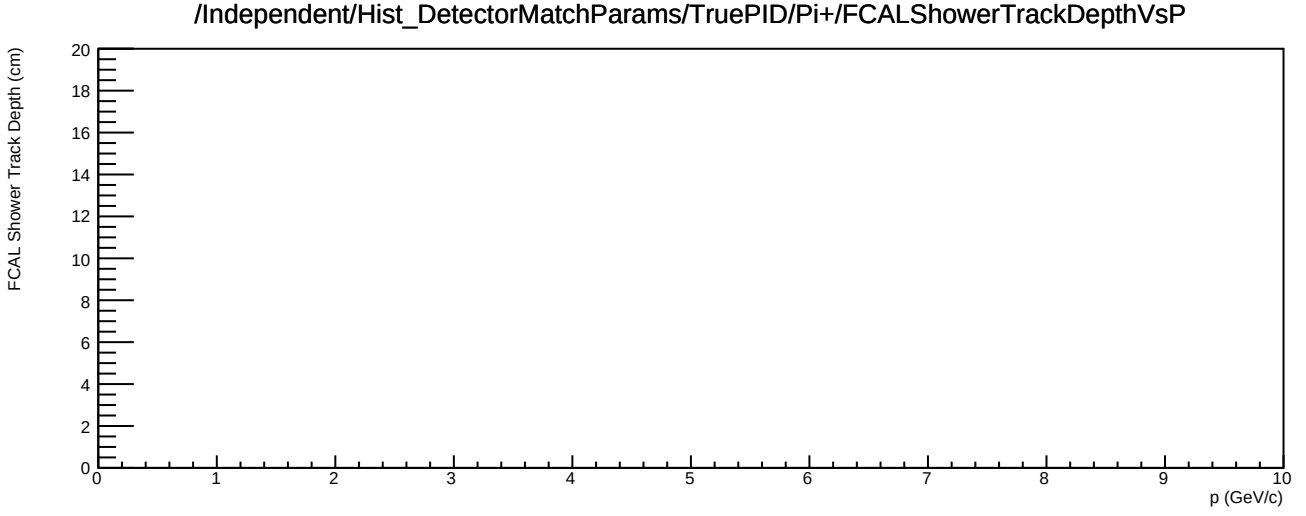

/Independent/Hist_DetectorMatchParams/TruePID/Pi+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

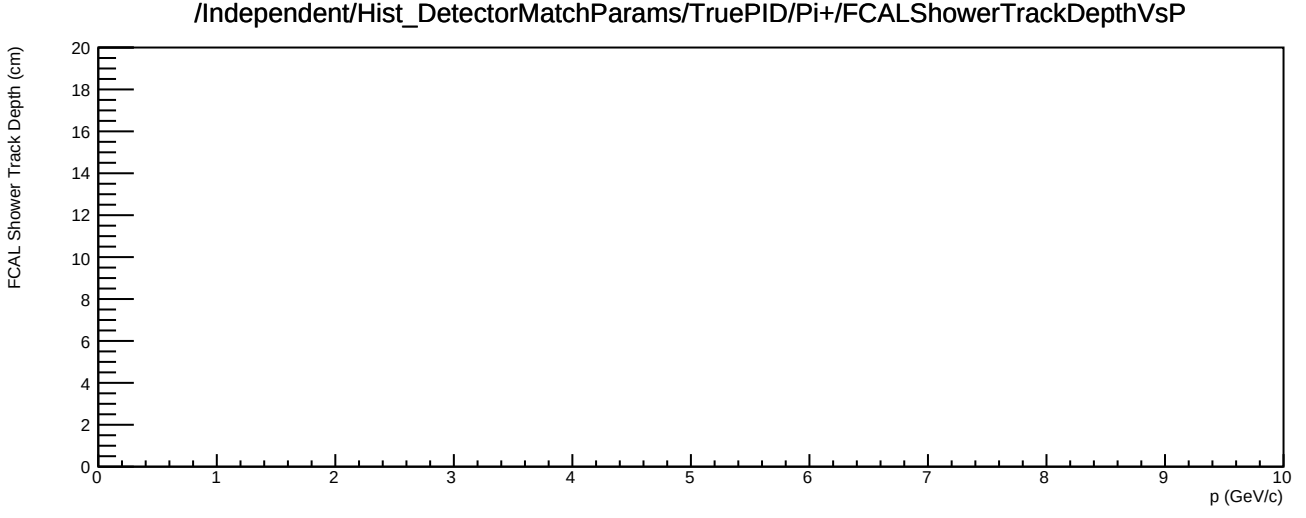
/Independent/Hist_DetectorMatchParams/TruePID/Pi+/FCALShowerEnergy

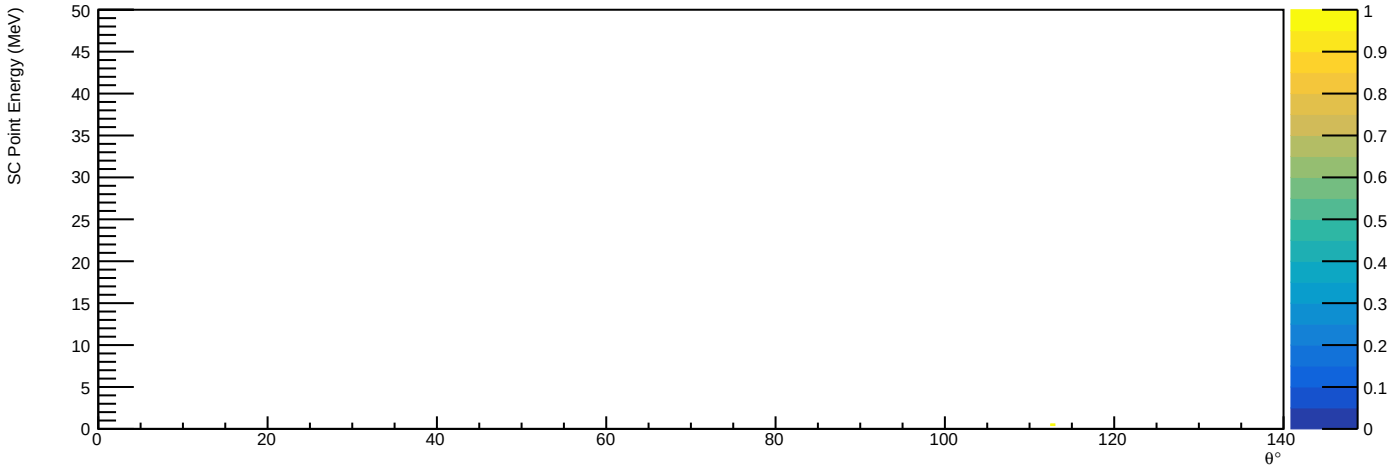


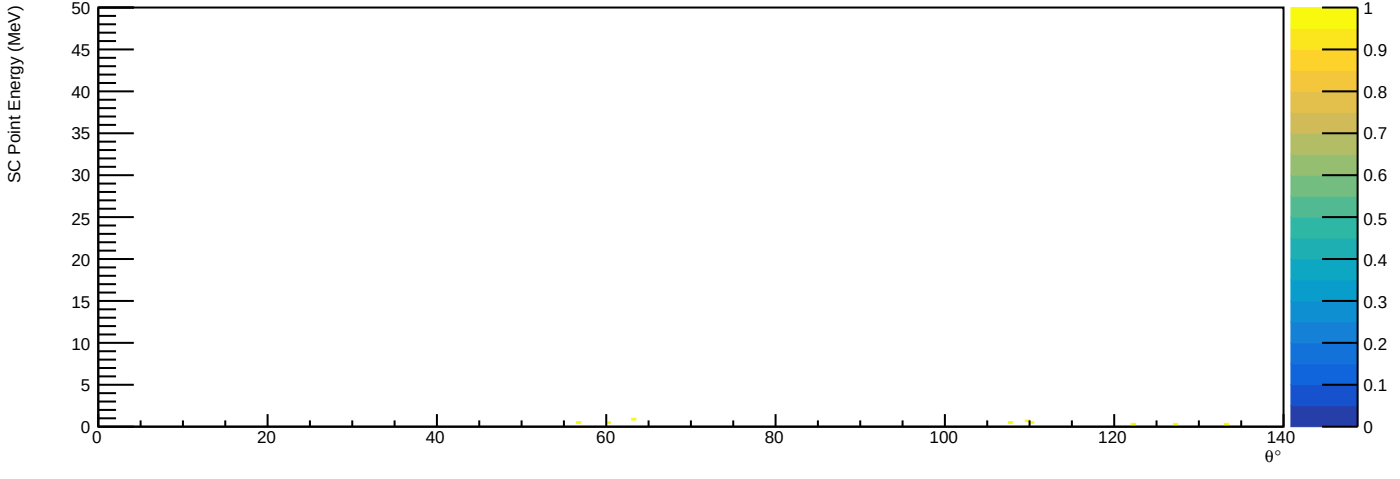
/Independent/Hist_DetectorMatchParams/TruePID/Pi+/FCALShowerTrackDepth

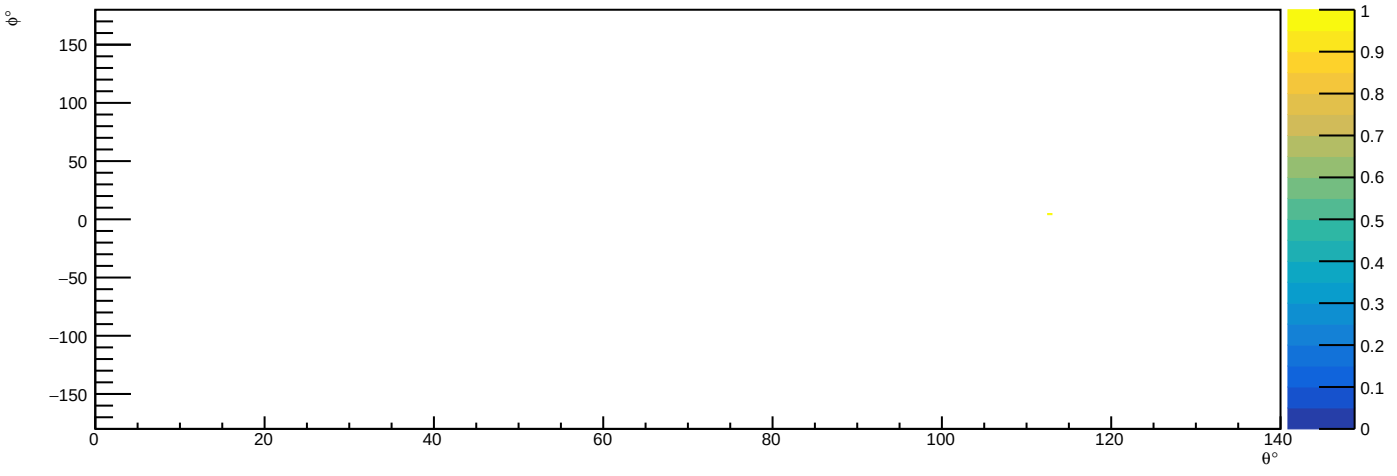


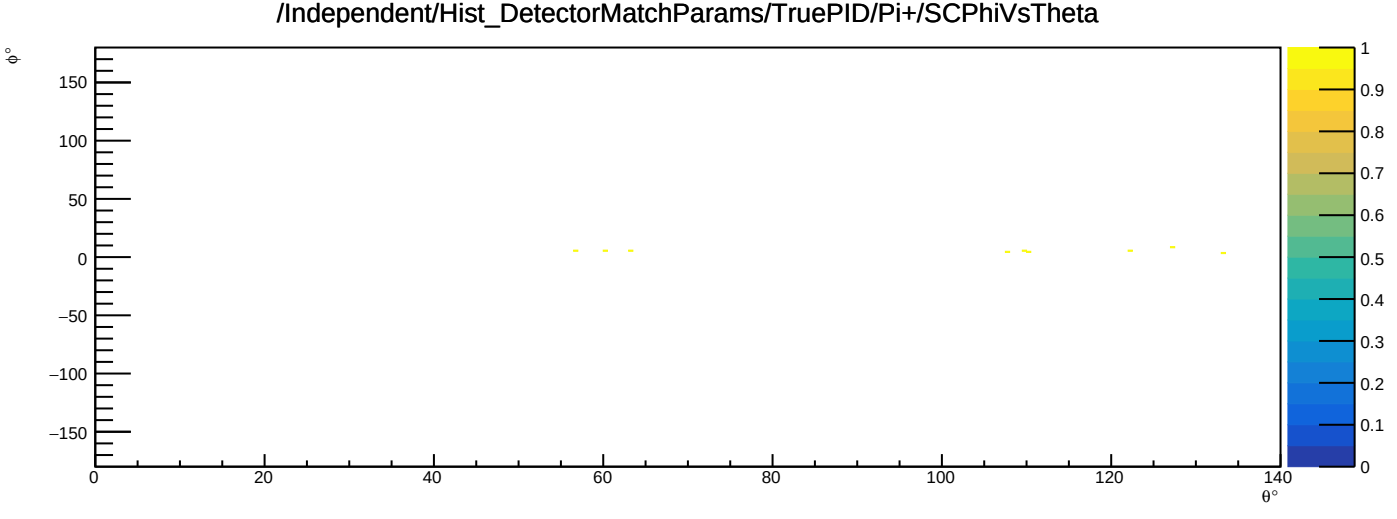

/Independent/Hist_DetectorMatchParams/TruePID/Pi+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/TruePID/Pi+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

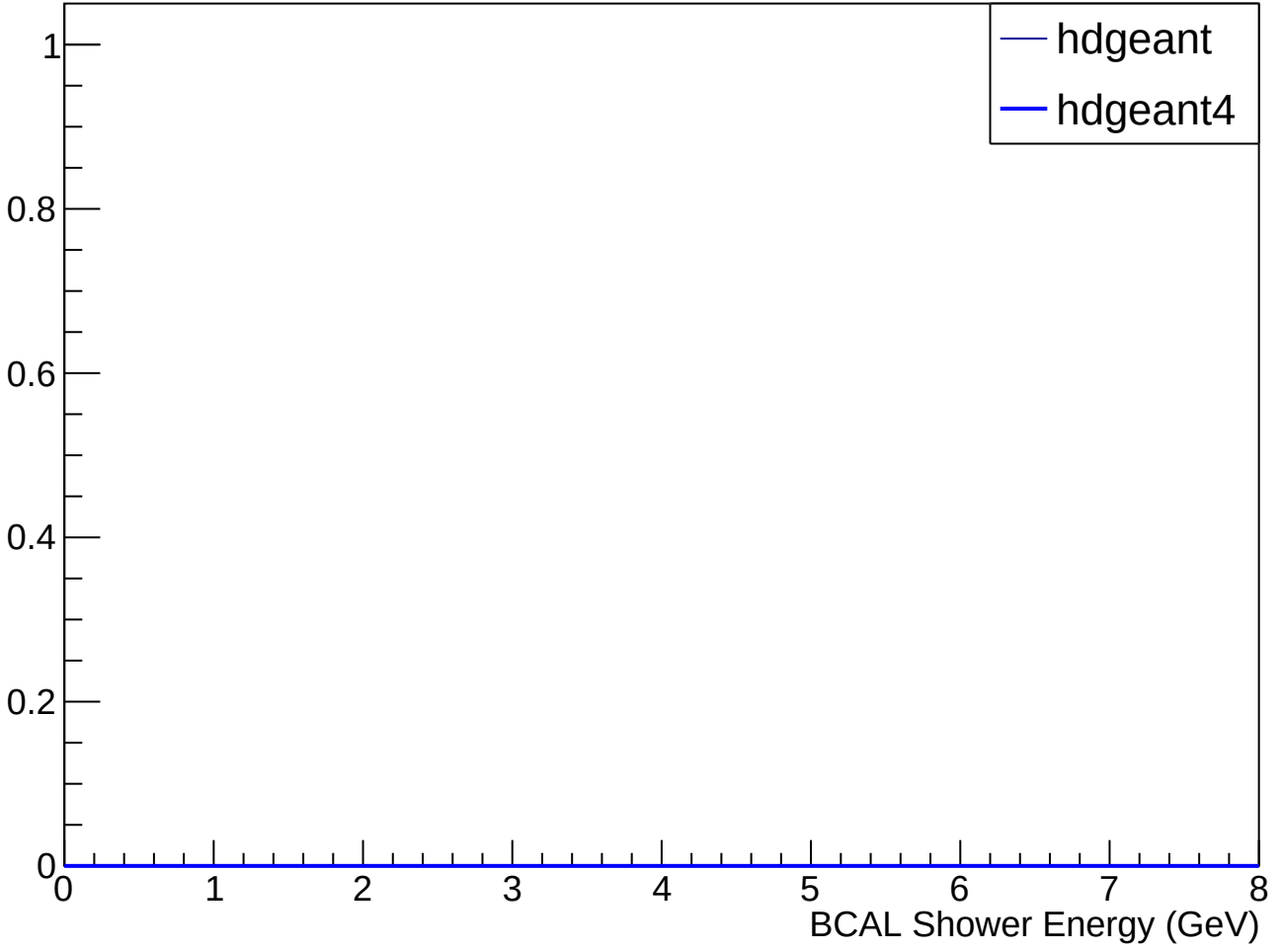

/Independent/Hist_DetectorMatchParams/TruePID/Pi+/SCEnergyVsTheta
SC Point Energy (MeV)
θ°


/Independent/Hist_DetectorMatchParams/TruePID/Pi+/SCEnergyVsTheta
SC Point Energy (MeV)
θ°

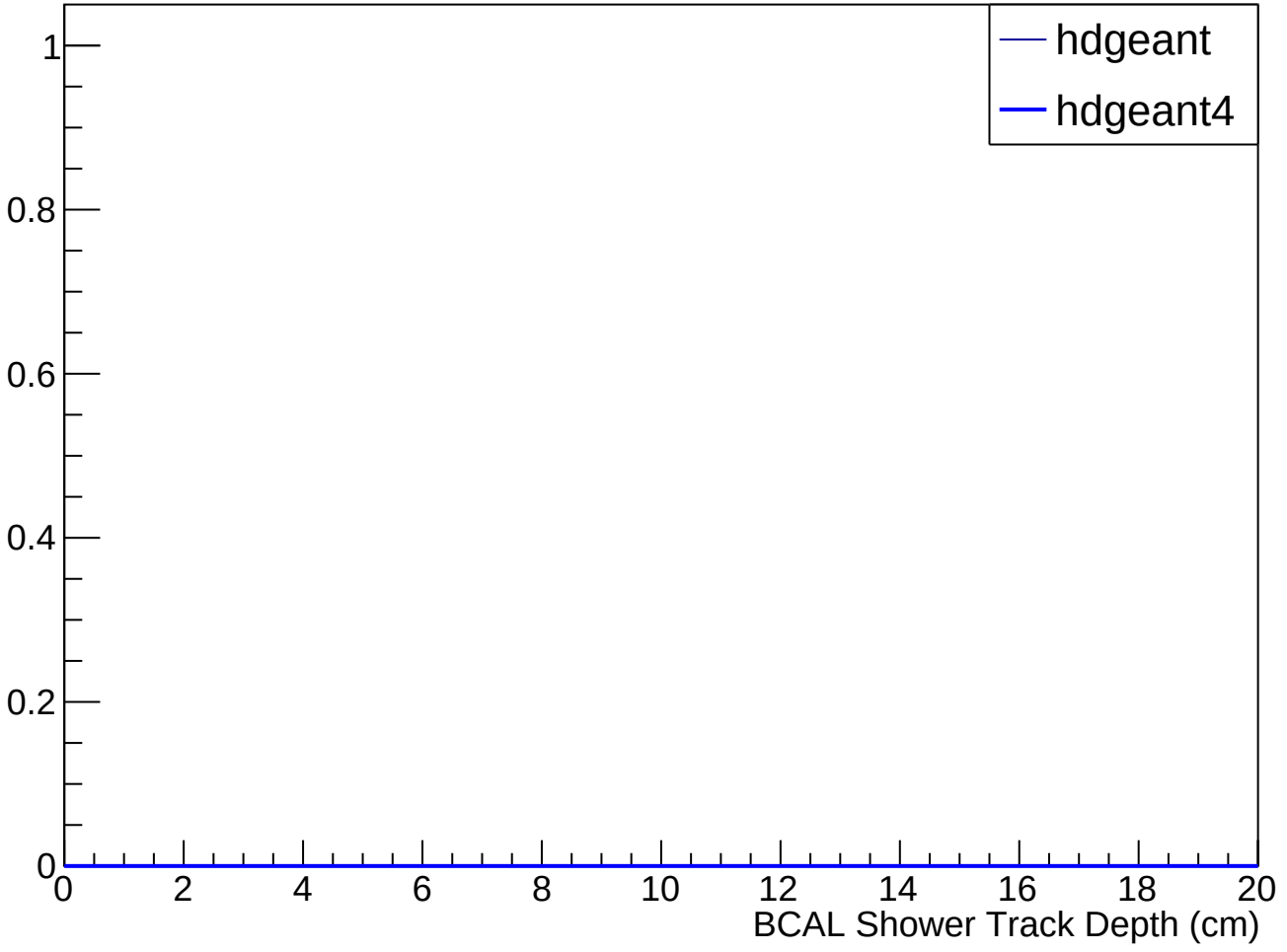

/Independent/Hist_DetectorMatchParams/TruePID/Pi+/SCPhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

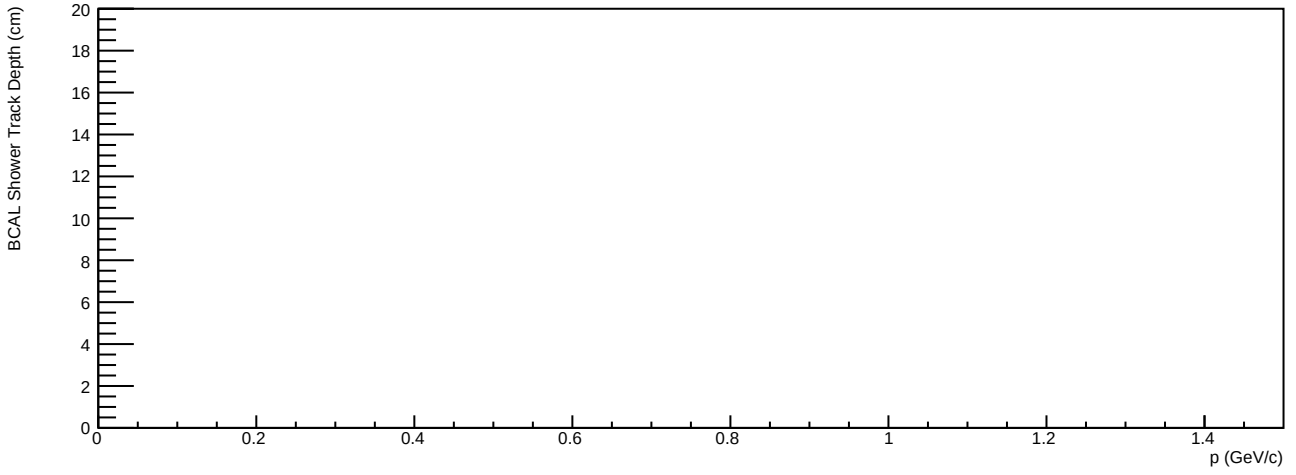

/Independent/Hist_DetectorMatchParams/TruePID/Pi+/SCPhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

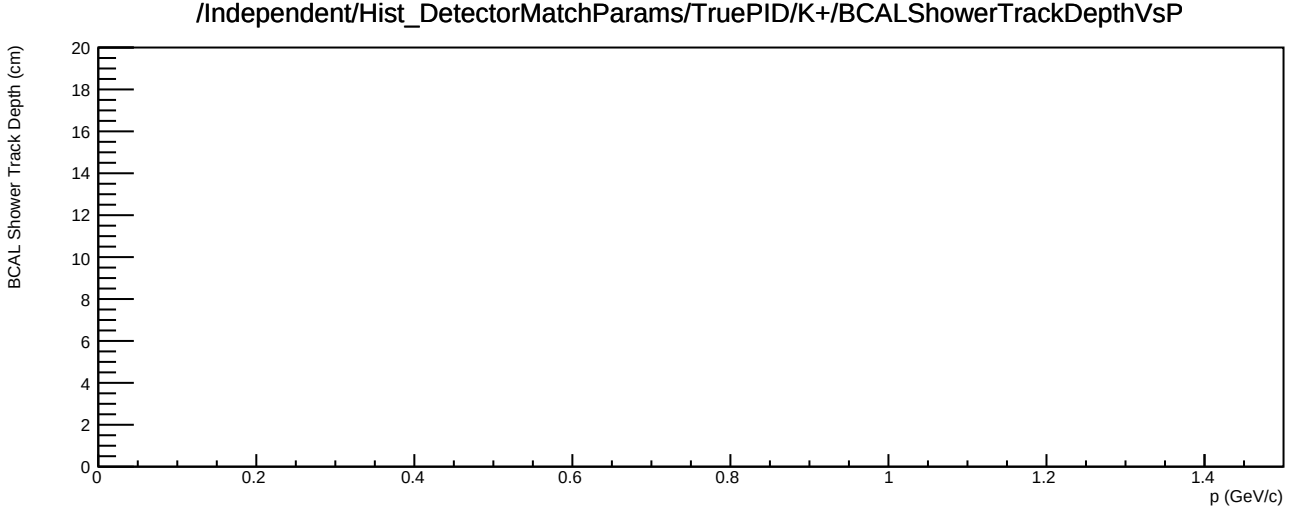
/Independent/Hist_DetectorMatchParams/TruePID/K+/BCALShowerEnergy



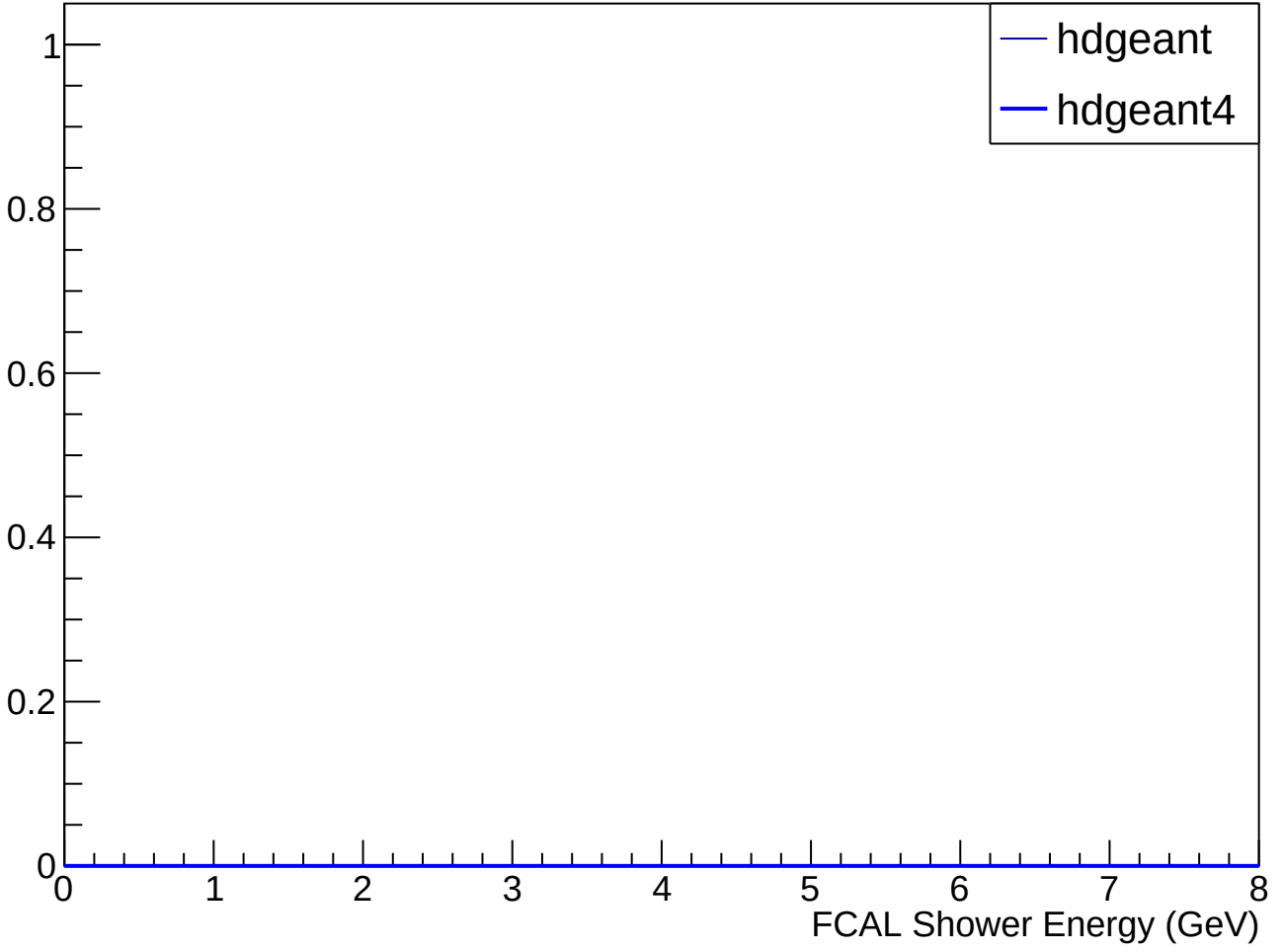
/Independent/Hist_DetectorMatchParams/TruePID/K+/BCALShowerTrackDepth



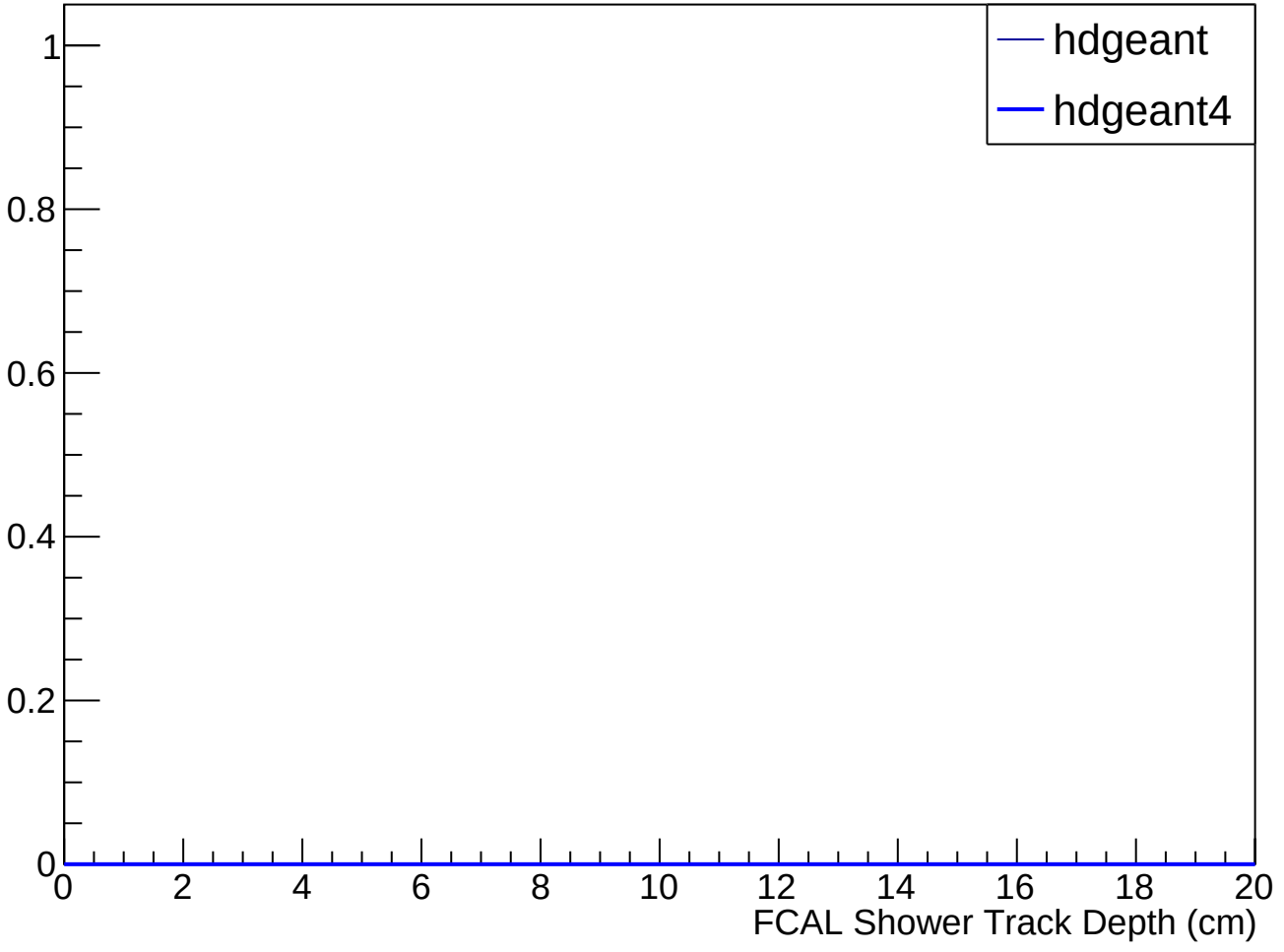

/Independent/Hist_DetectorMatchParams/TruePID/K+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

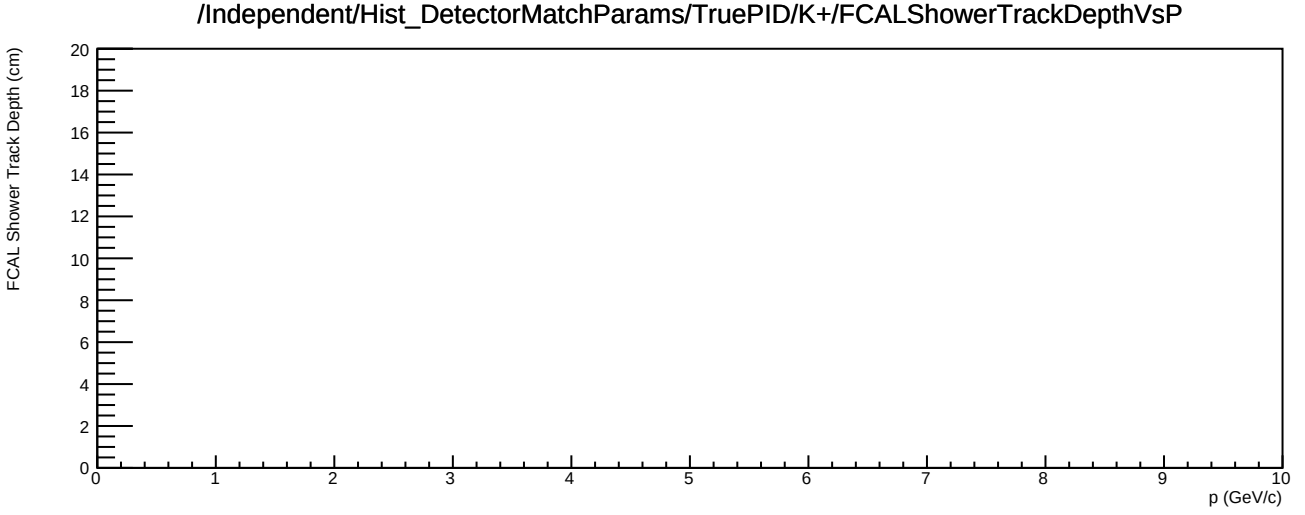

/Independent/Hist_DetectorMatchParams/TruePID/K+/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

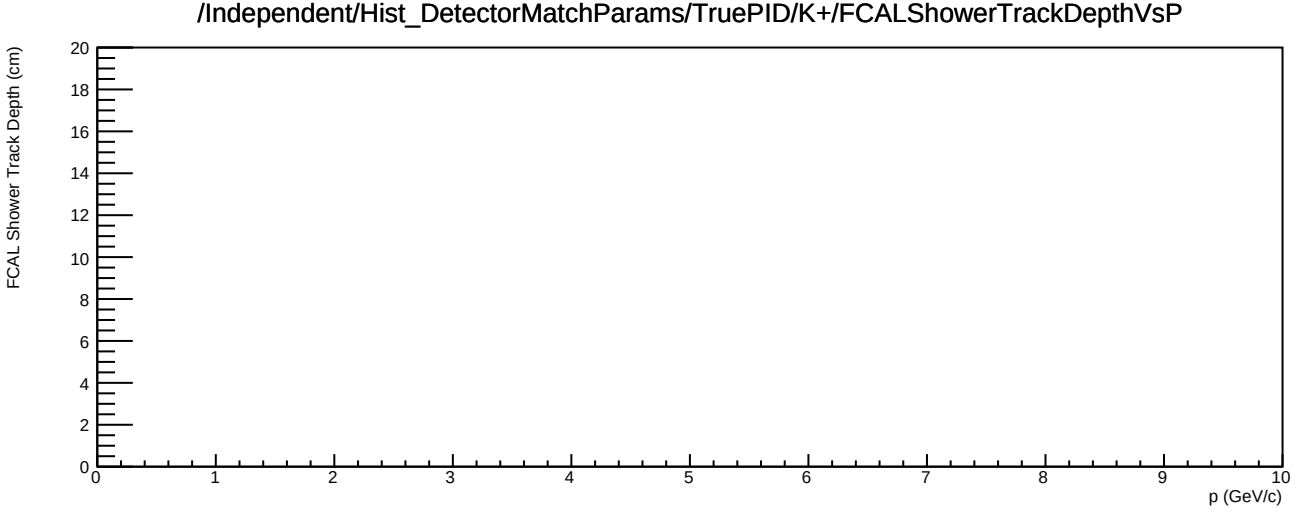
/Independent/Hist_DetectorMatchParams/TruePID/K+/FCALShowerEnergy

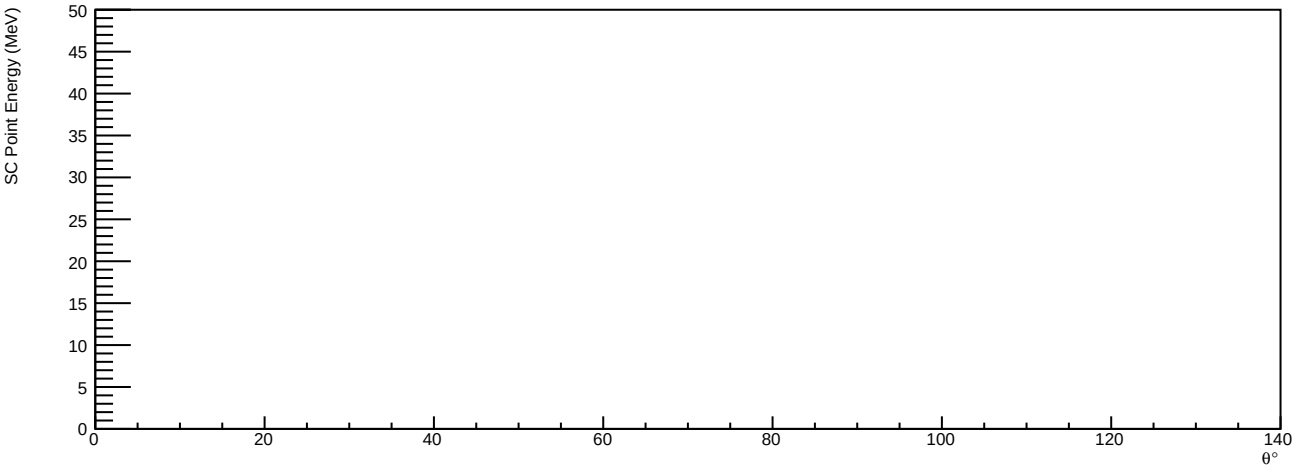


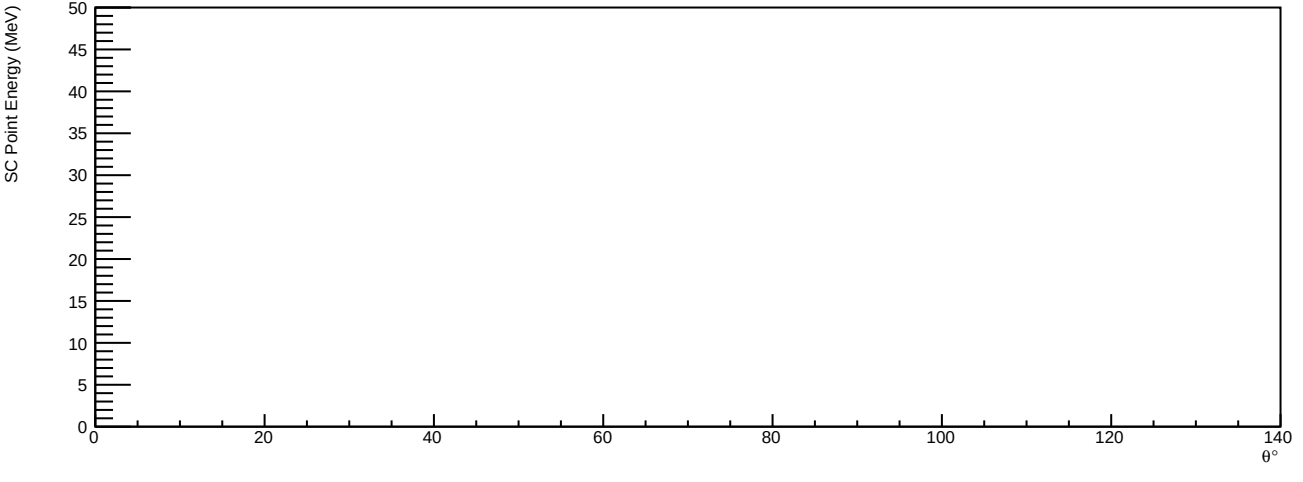
/Independent/Hist_DetectorMatchParams/TruePID/K+/FCALShowerTrackDepth

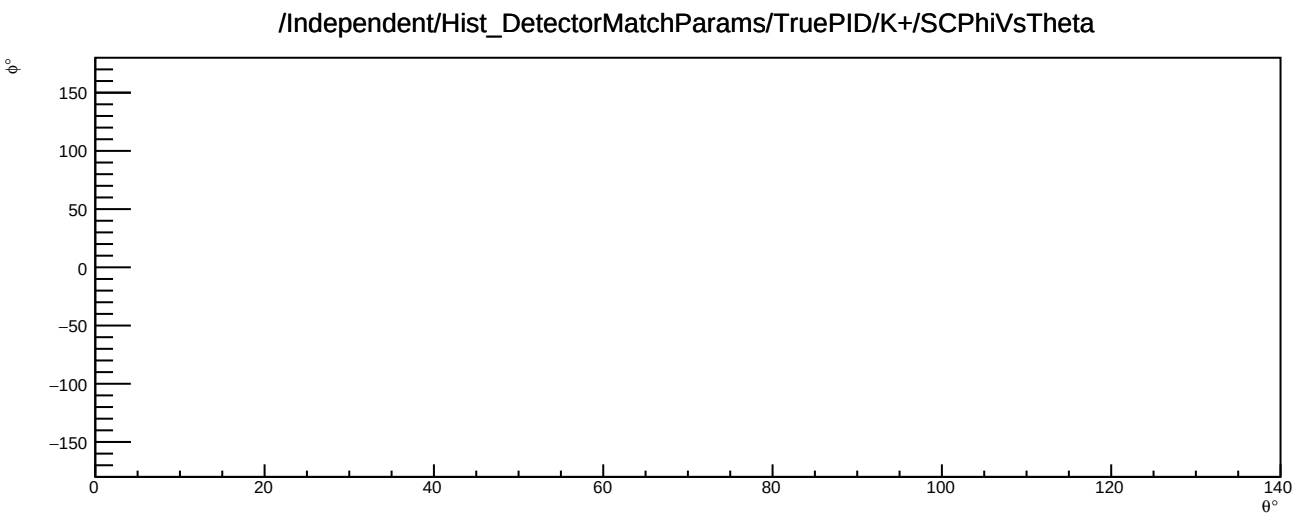


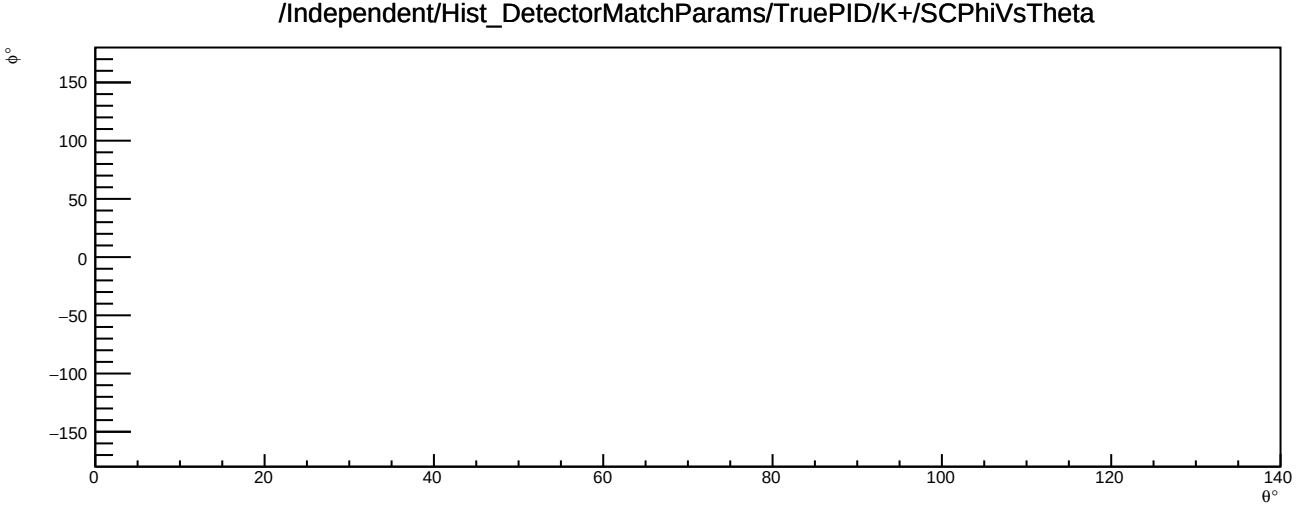

/Independent/Hist_DetectorMatchParams/TruePID/K+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/TruePID/K+/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

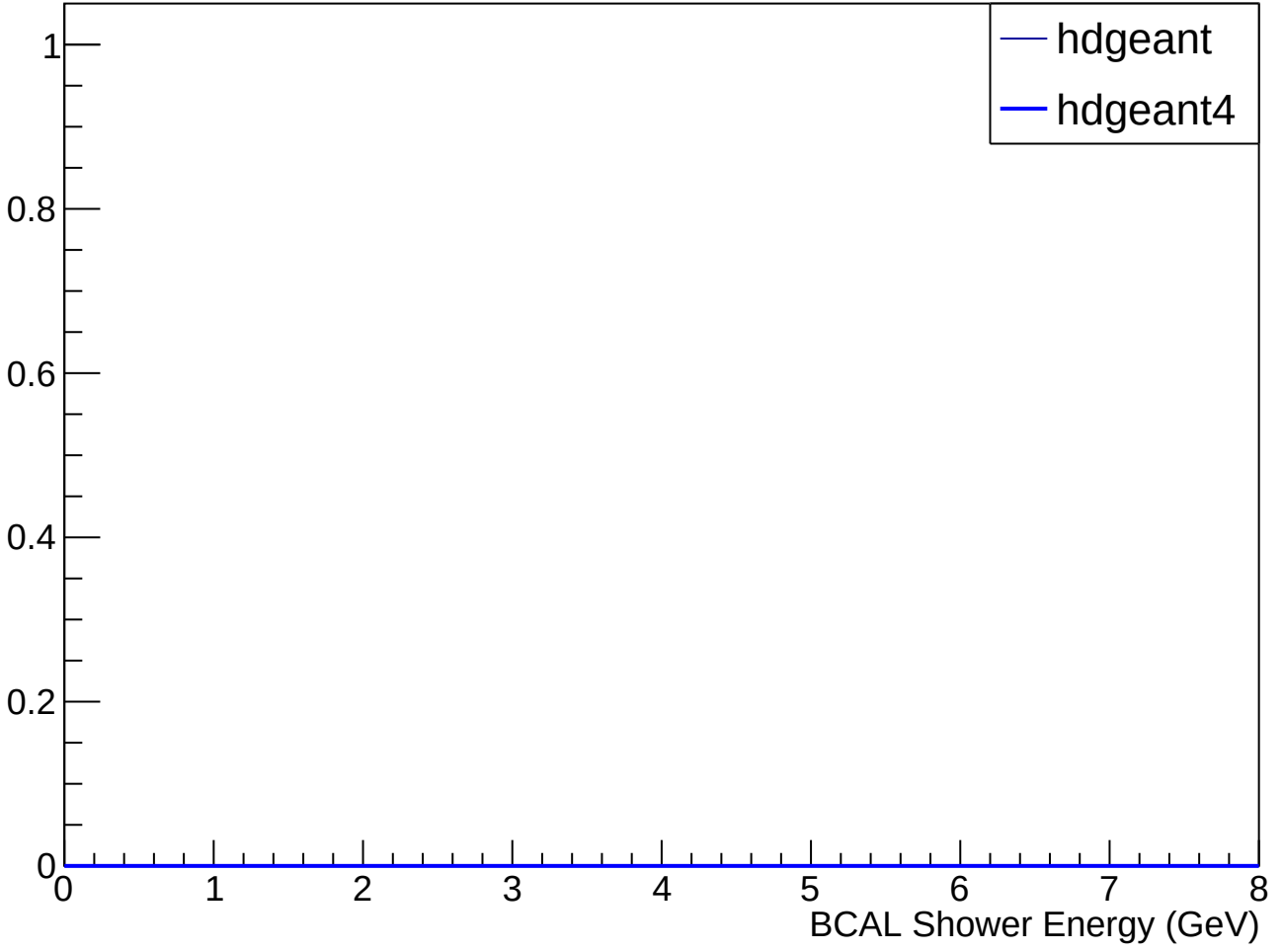

/Independent/Hist_DetectorMatchParams/TruePID/K+/SCEnergyVsTheta
SC Point Energy (MeV)
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_DetectorMatchParams/TruePID/K+/SCEnergyVsTheta
SC Point Energy (MeV)
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100
120
140
θ°

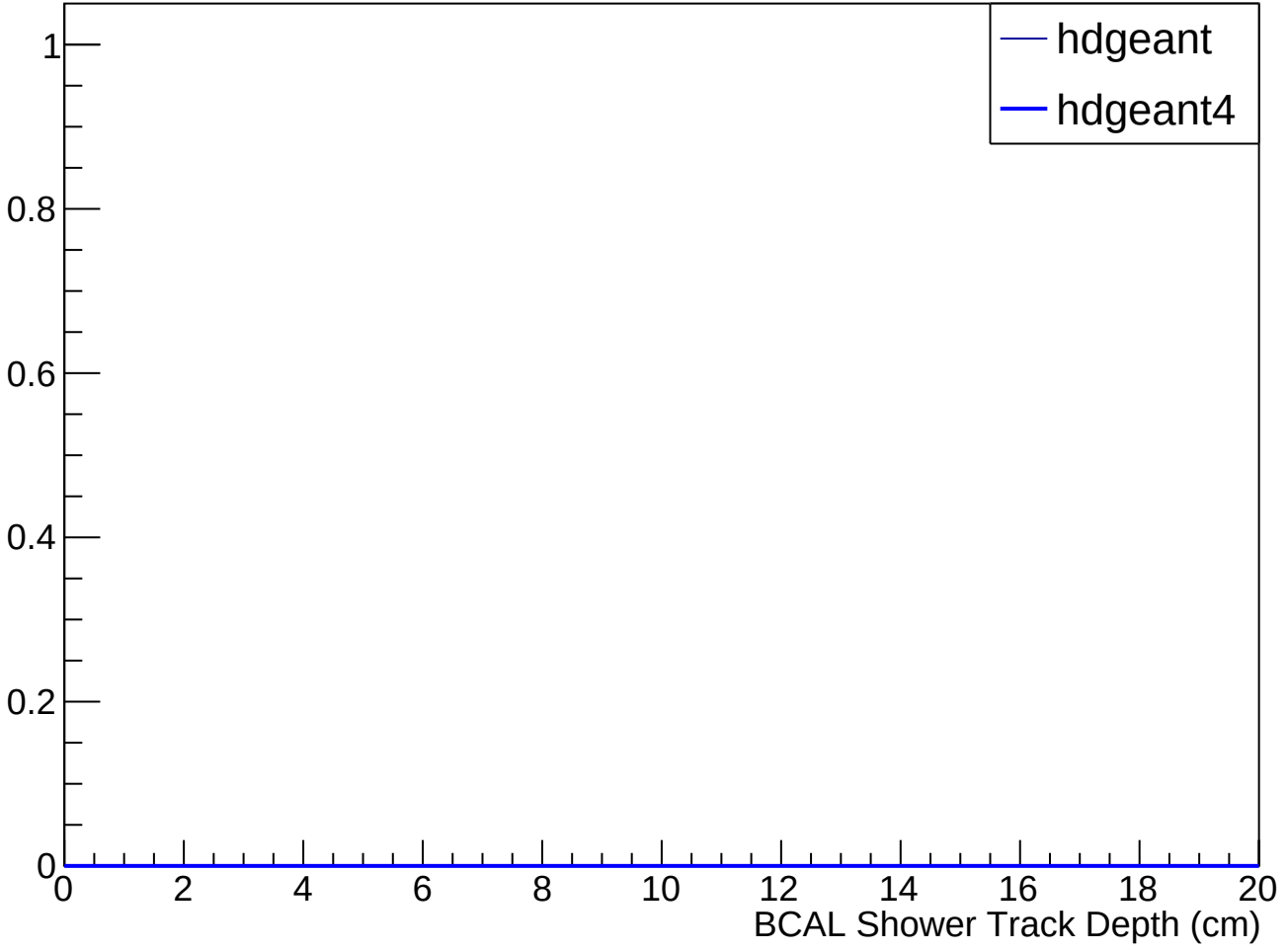

/Independent/Hist_DetectorMatchParams/TruePID/K+/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

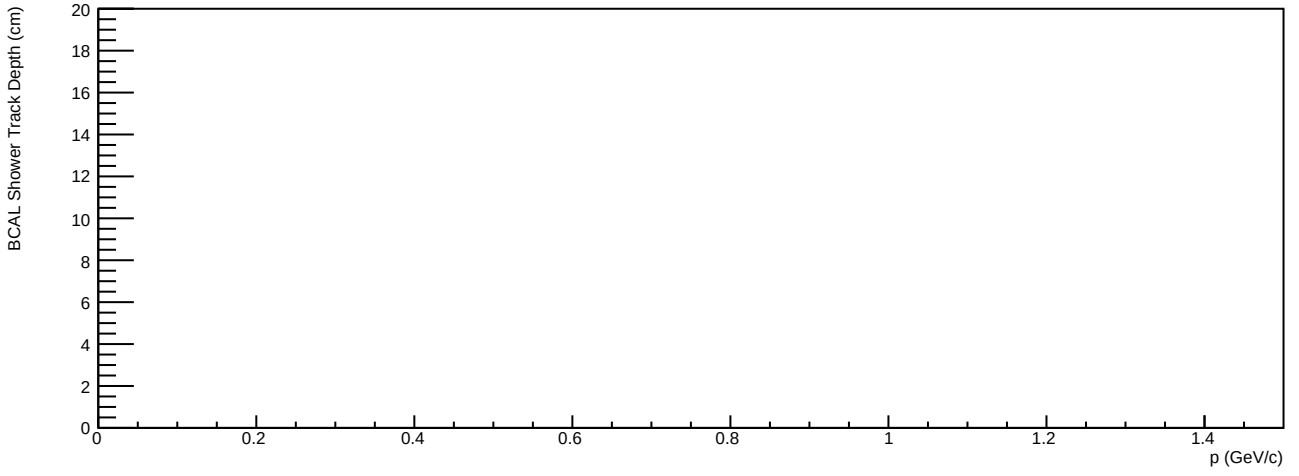

/Independent/Hist_DetectorMatchParams/TruePID/K+/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

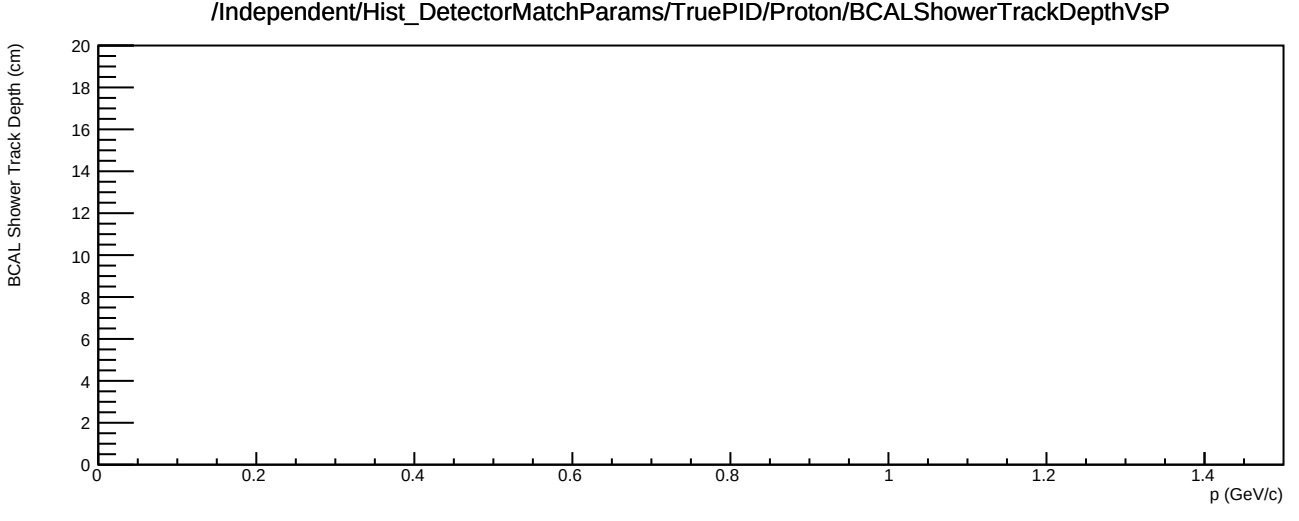
/Independent/Hist_DetectorMatchParams/TruePID/Proton/BCALShowerEnergy



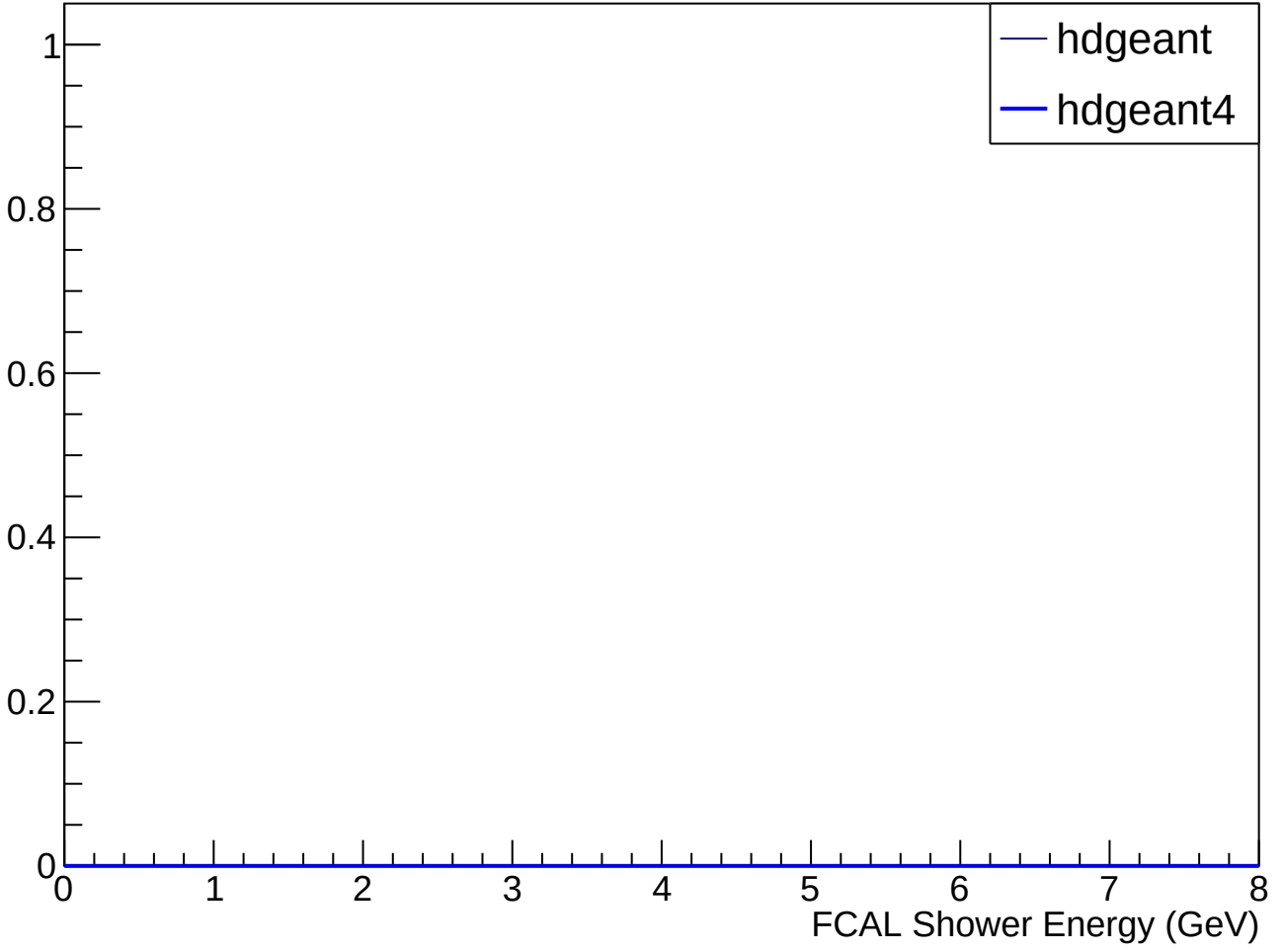
/Independent/Hist_DetectorMatchParams/TruePID/Proton/BCALShowerTrackDepth



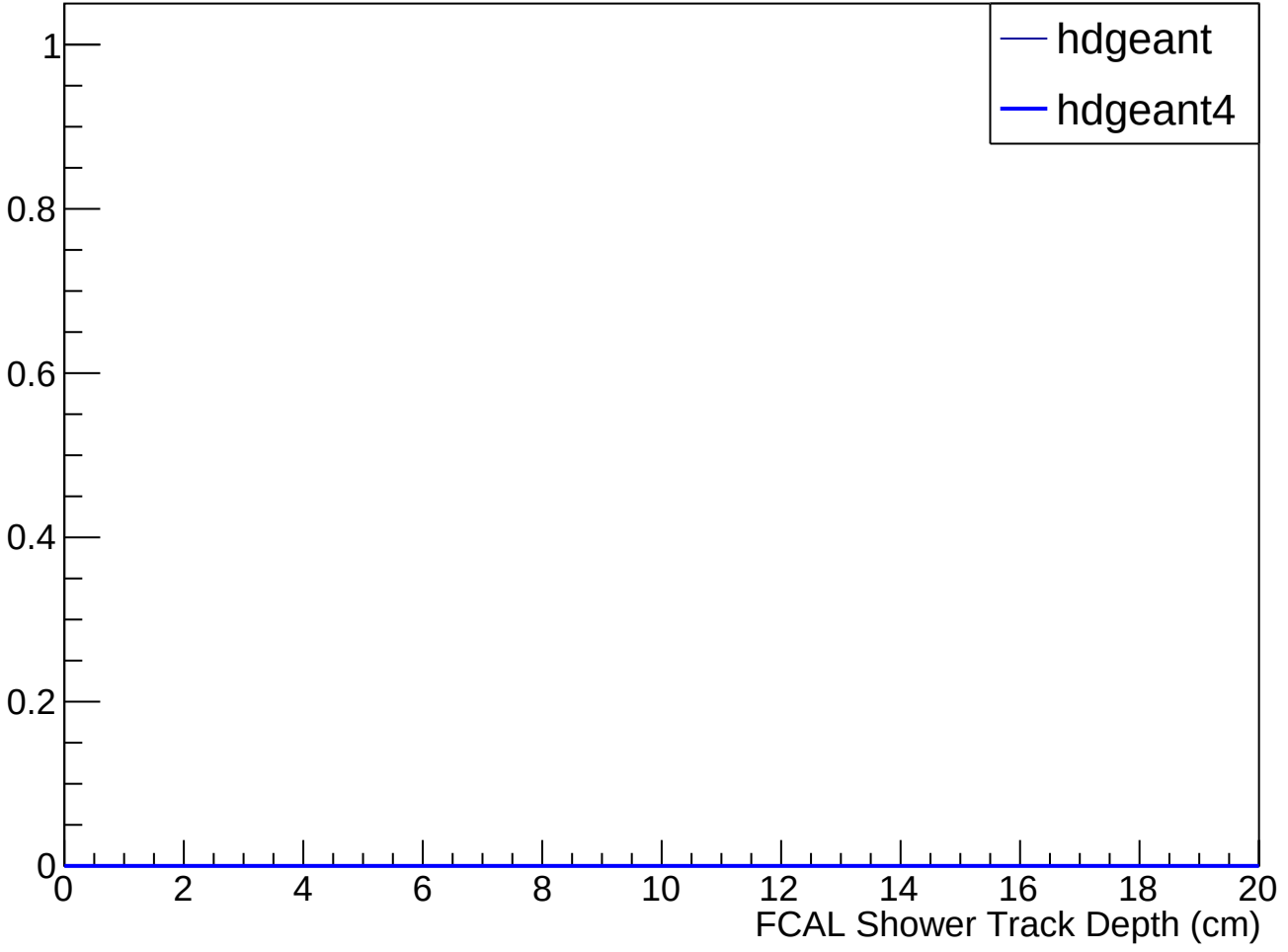

/Independent/Hist_DetectorMatchParams/TruePID/Proton/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

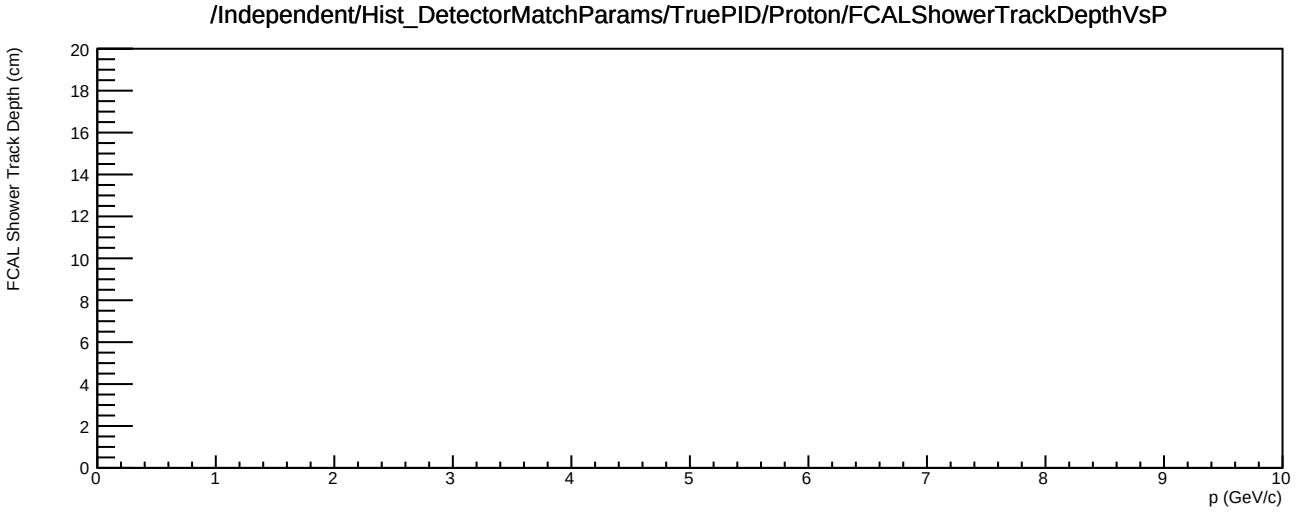

/Independent/Hist_DetectorMatchParams/TruePID/Proton/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

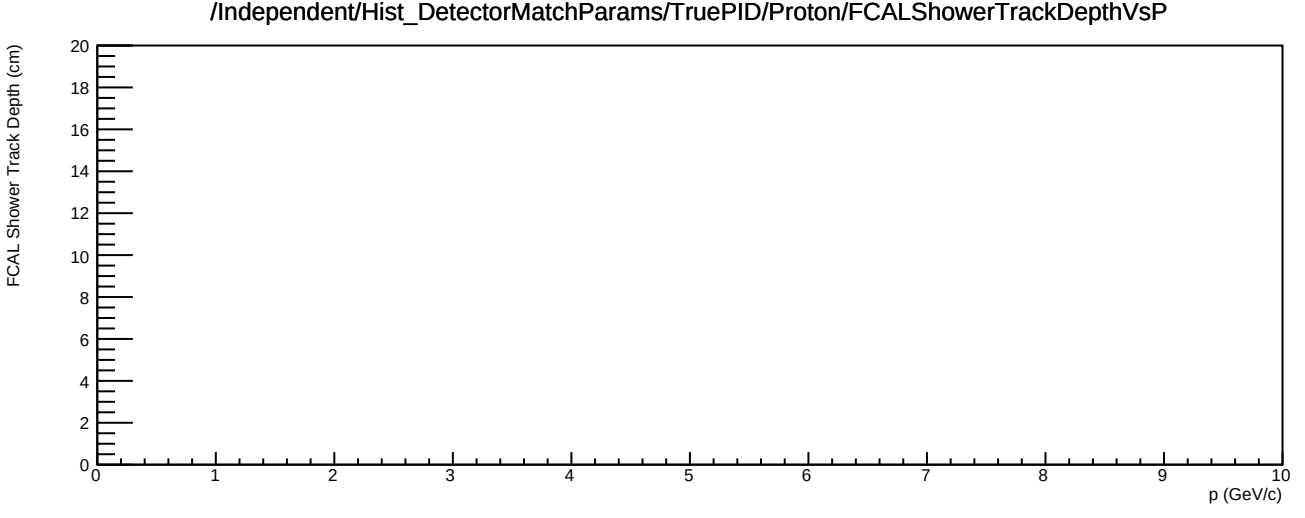
/Independent/Hist_DetectorMatchParams/TruePID/Proton/FCALShowerEnergy

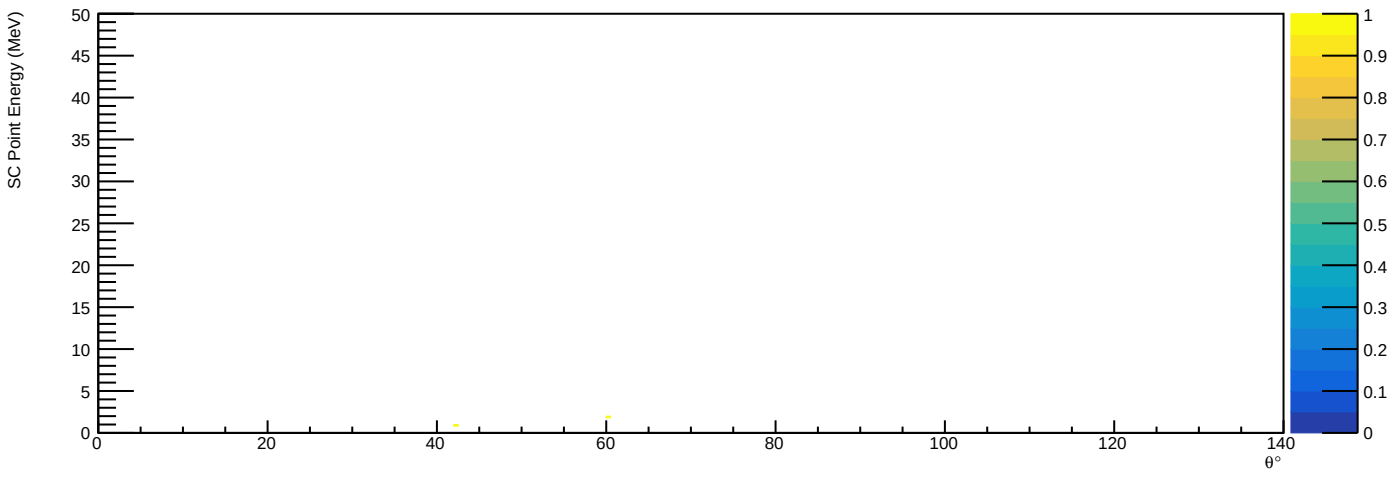


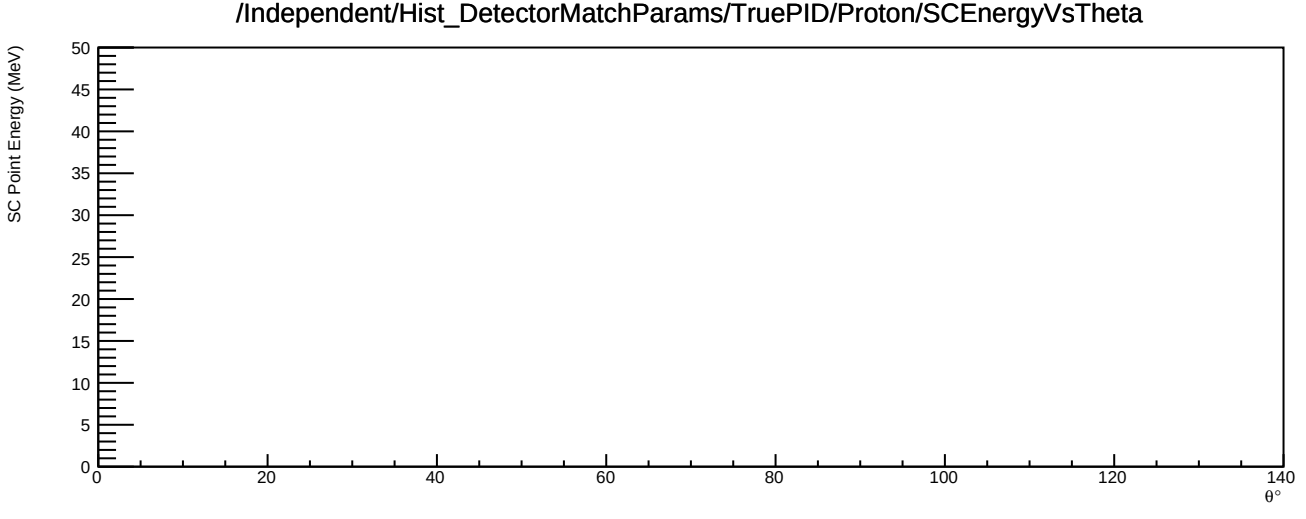
/Independent/Hist_DetectorMatchParams/TruePID/Proton/FCALShowerTrackDepth

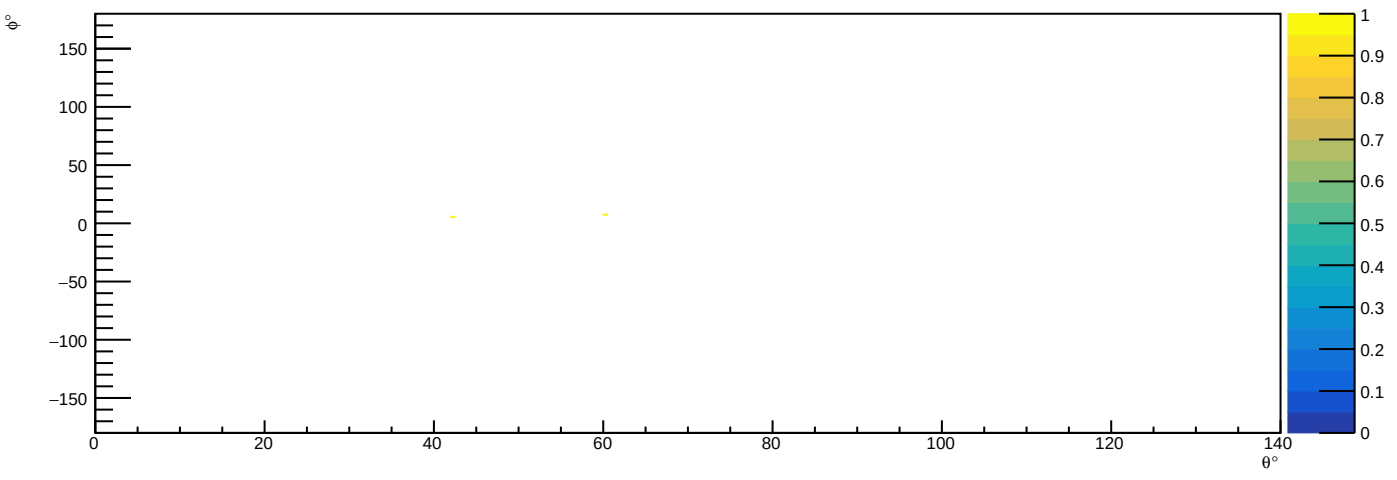


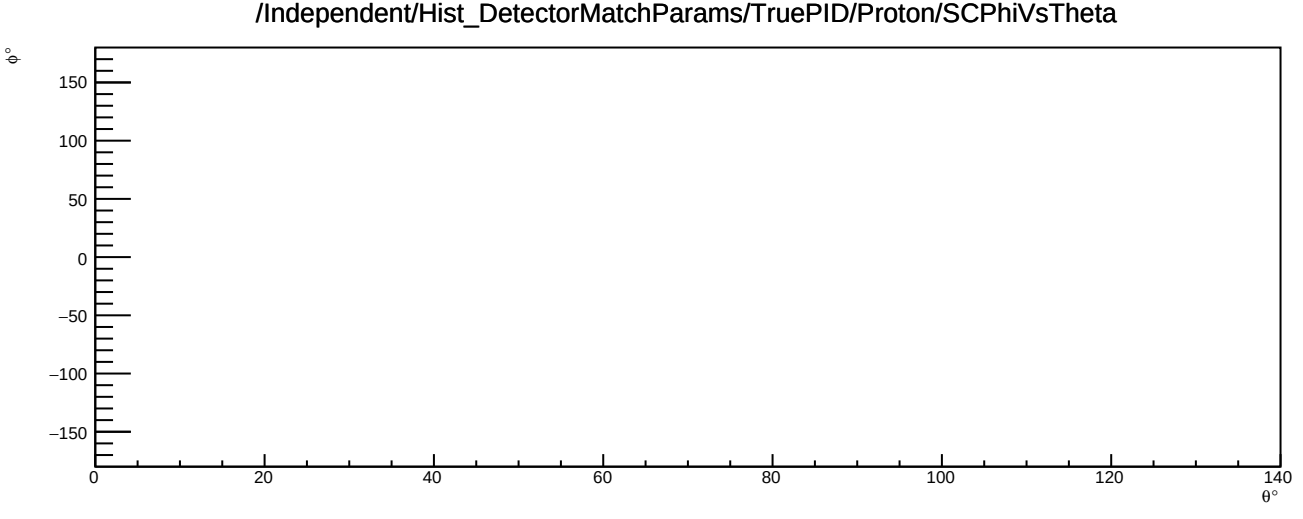

/Independent/Hist_DetectorMatchParams/TruePID/Proton/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/TruePID/Proton/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

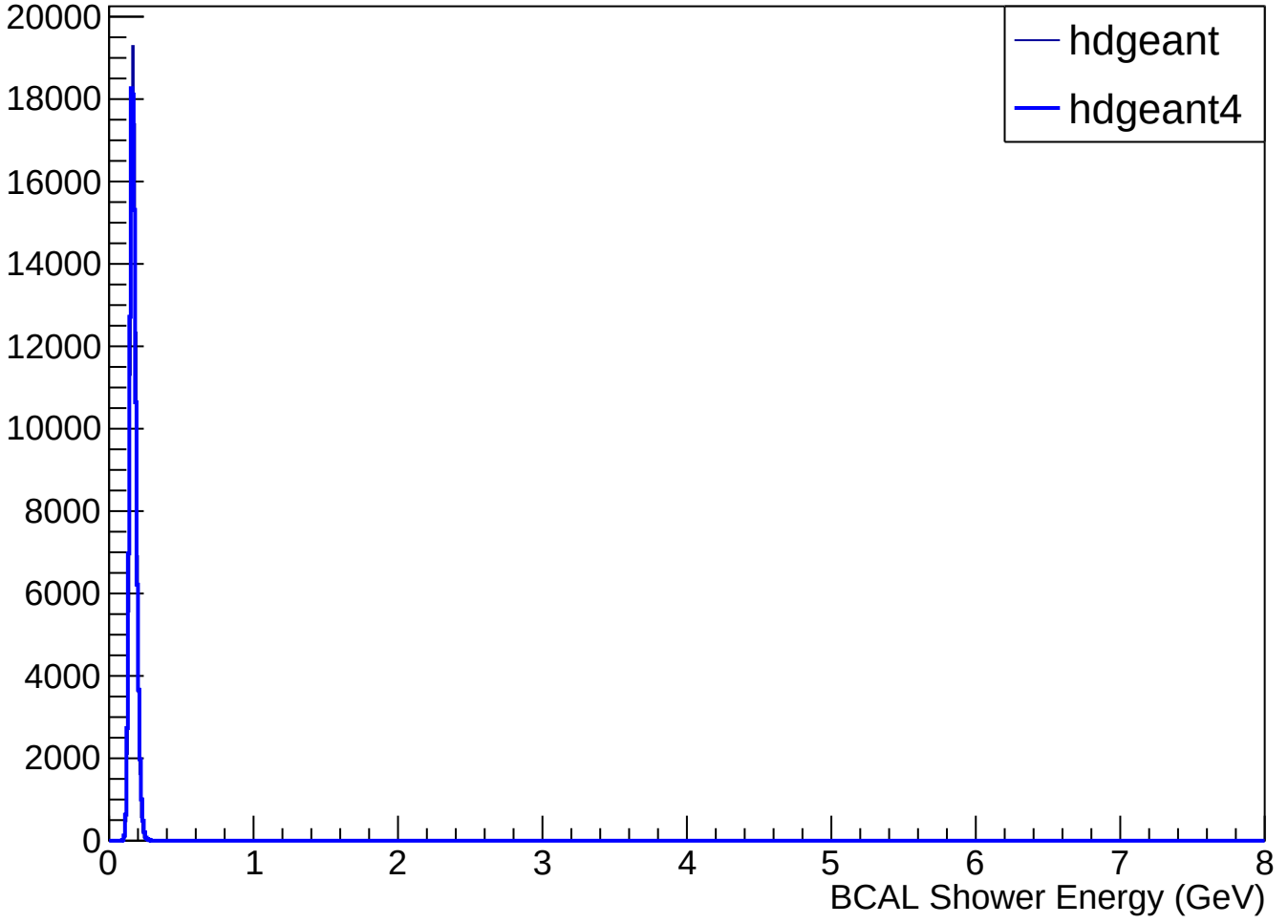

/Independent/Hist_DetectorMatchParams/TruePID/Proton/SCEnergyVsTheta
SC Point Energy (MeV)
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100
120
140
θ°
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1


/Independent/Hist_DetectorMatchParams/TruePID/Proton/SCEnergyVsTheta
SC Point Energy (MeV)
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100
120
140
θ°

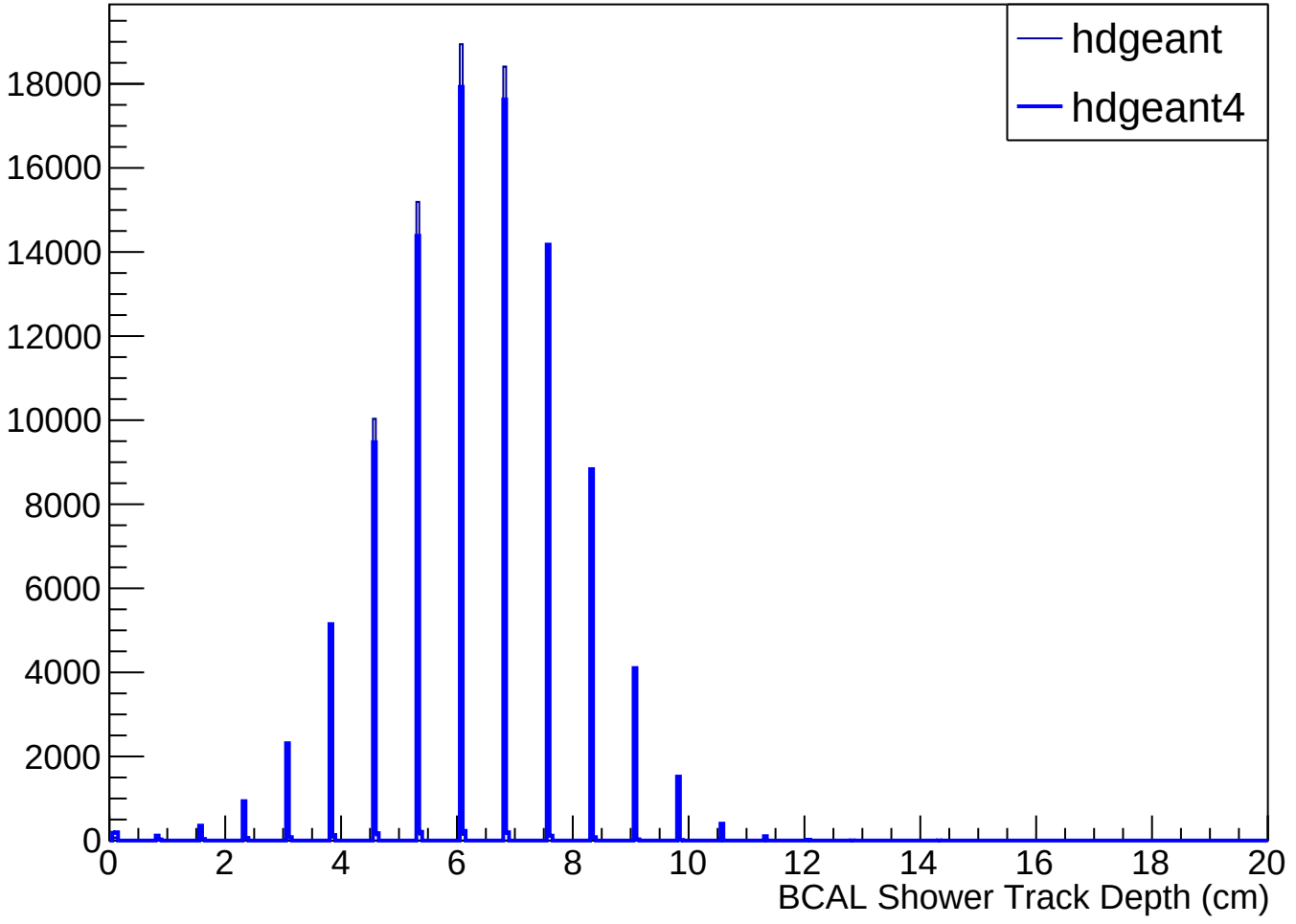

/Independent/Hist_DetectorMatchParams/TruePID/Proton/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

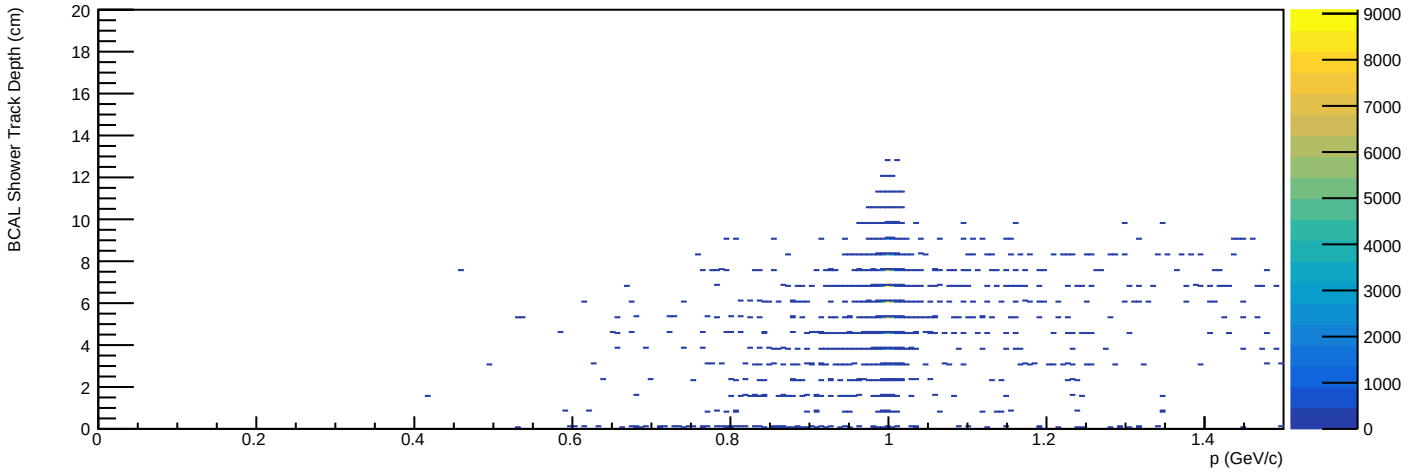

/Independent/Hist_DetectorMatchParams/TruePID/Proton/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

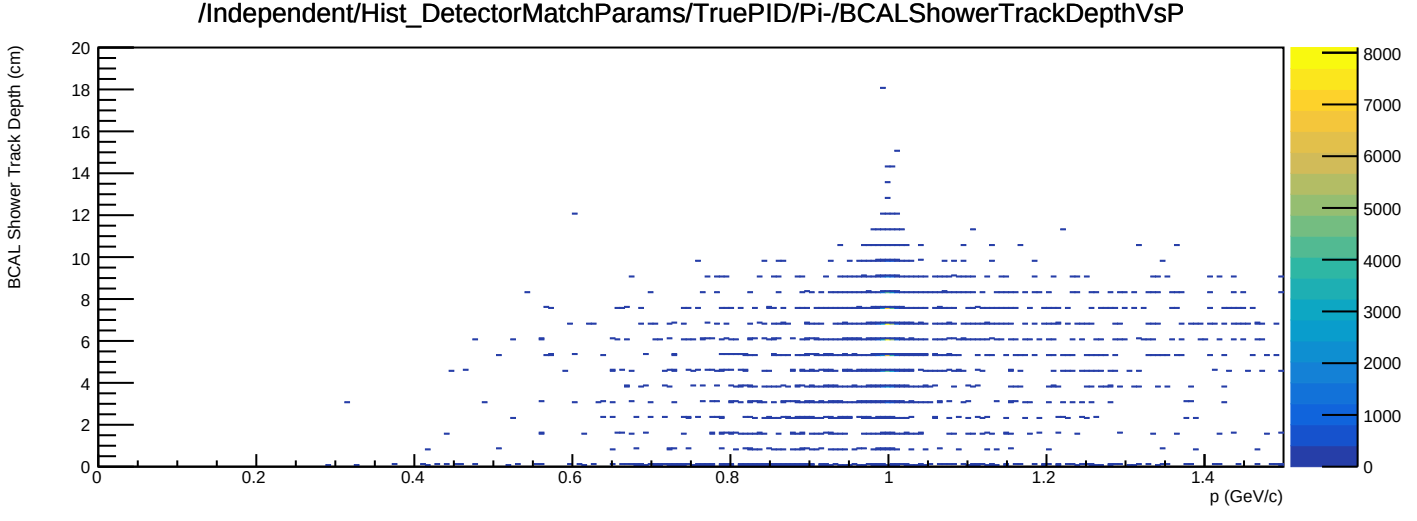
/Independent/Hist_DetectorMatchParams/TruePID/Pi-/BCALShowerEnergy



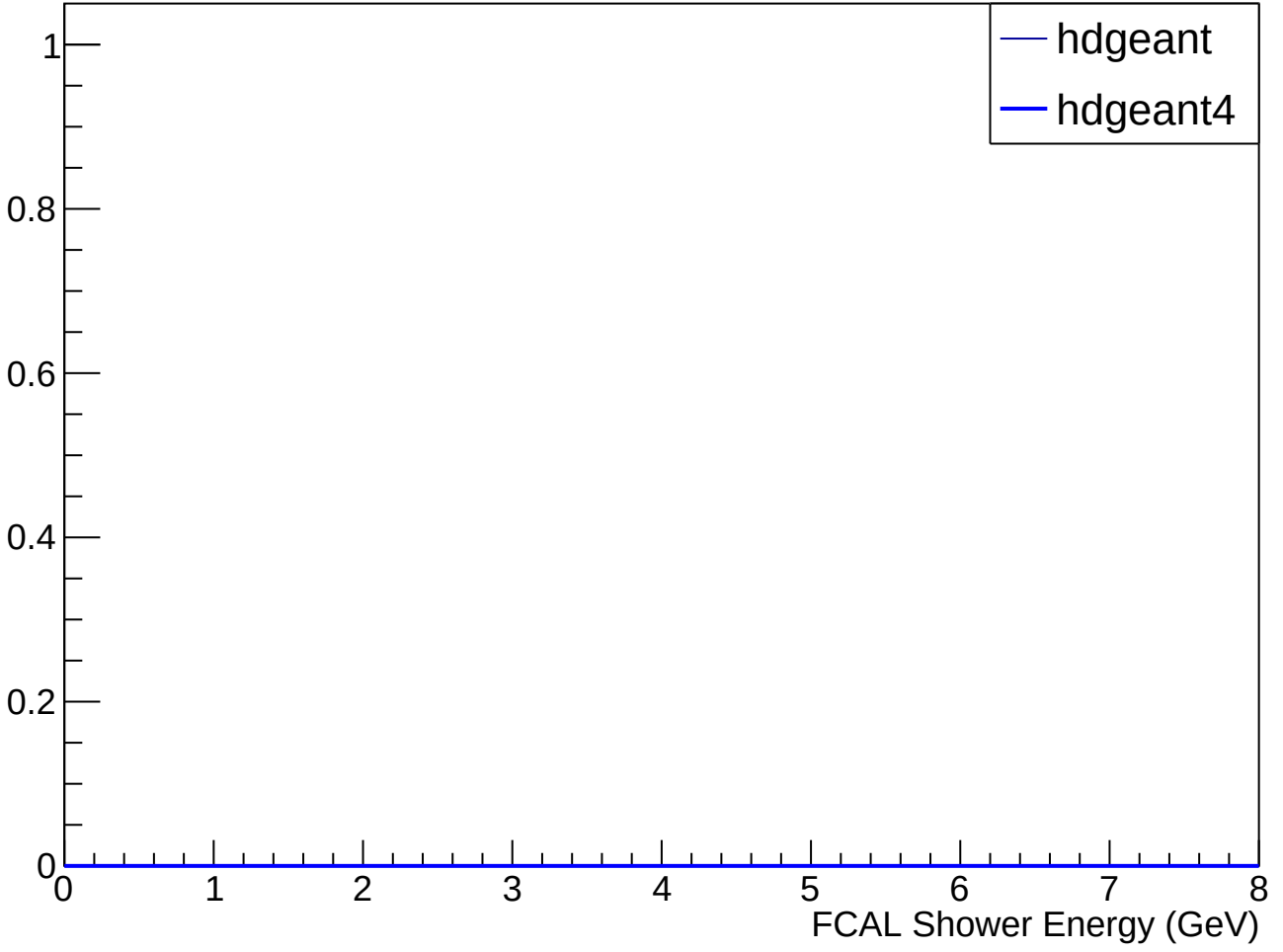
/Independent/Hist_DetectorMatchParams/TruePID/Pi-/BCALShowerTrackDepth



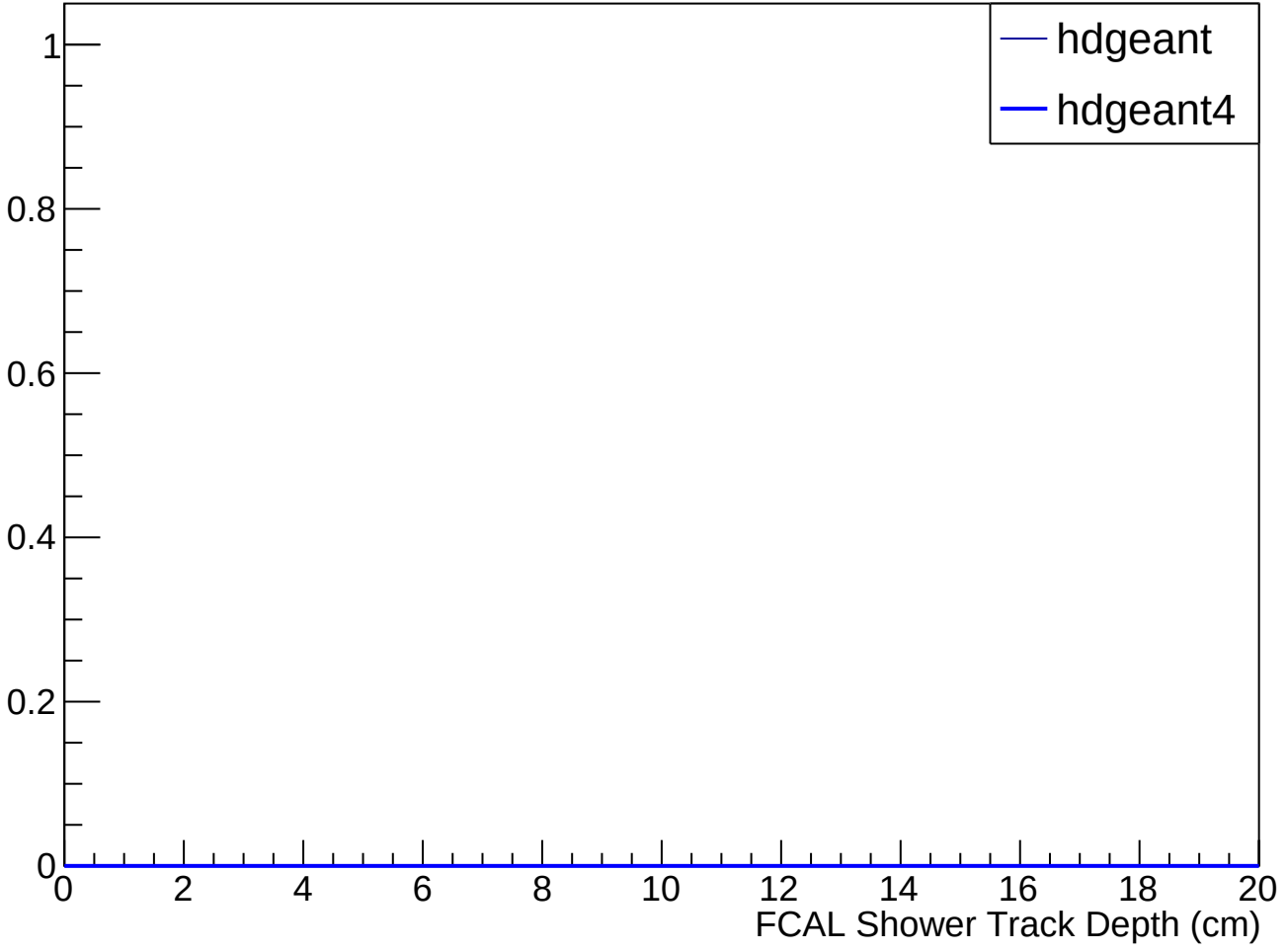

/Independent/Hist_DetectorMatchParams/TruePID/Pi-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)
0
2
4
6
8
10
12
14
16
18
20
0.2
0.4
0.6
0.8
1
1.2
1.4
1000
2000
3000
4000
5000
6000
7000
8000
9000

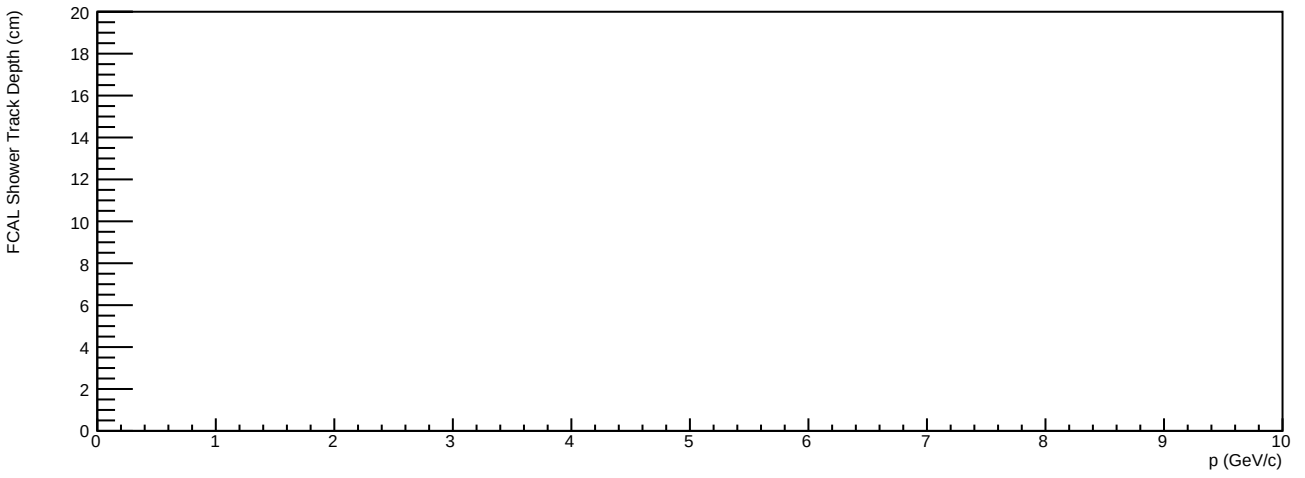

/Independent/Hist_DetectorMatchParams/TruePID/Pi-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
p (GeV/c)
0
2
4
6
8
10
12
14
16
18
20
0.2
0.4
0.6
0.8
1
1.2
1.4
1000
2000
3000
4000
5000
6000
7000
8000

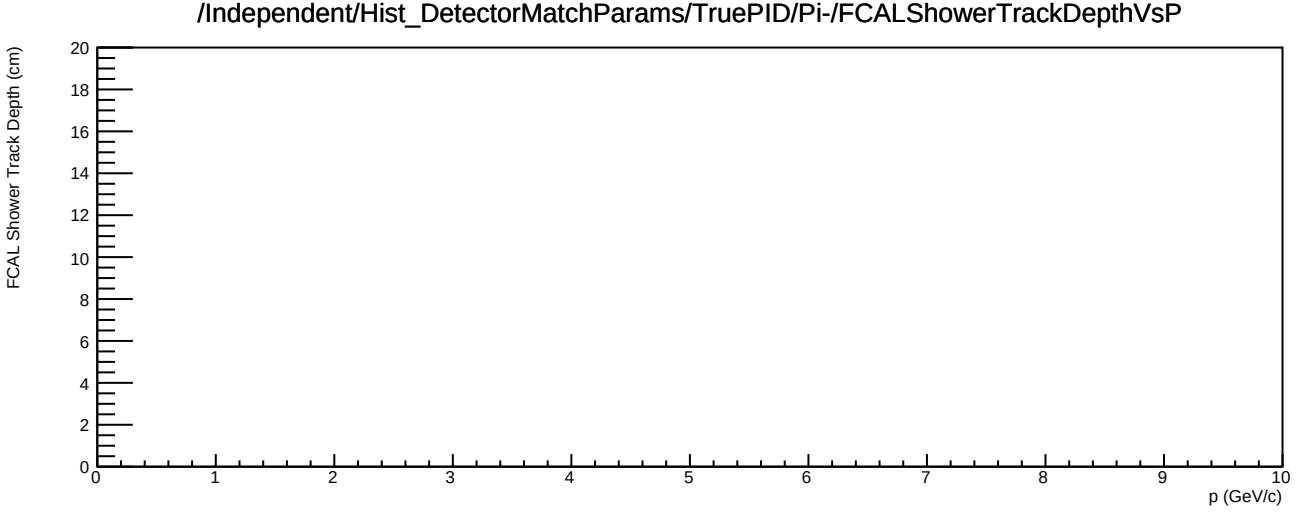
/Independent/Hist_DetectorMatchParams/TruePID/Pi-/FCALShowerEnergy

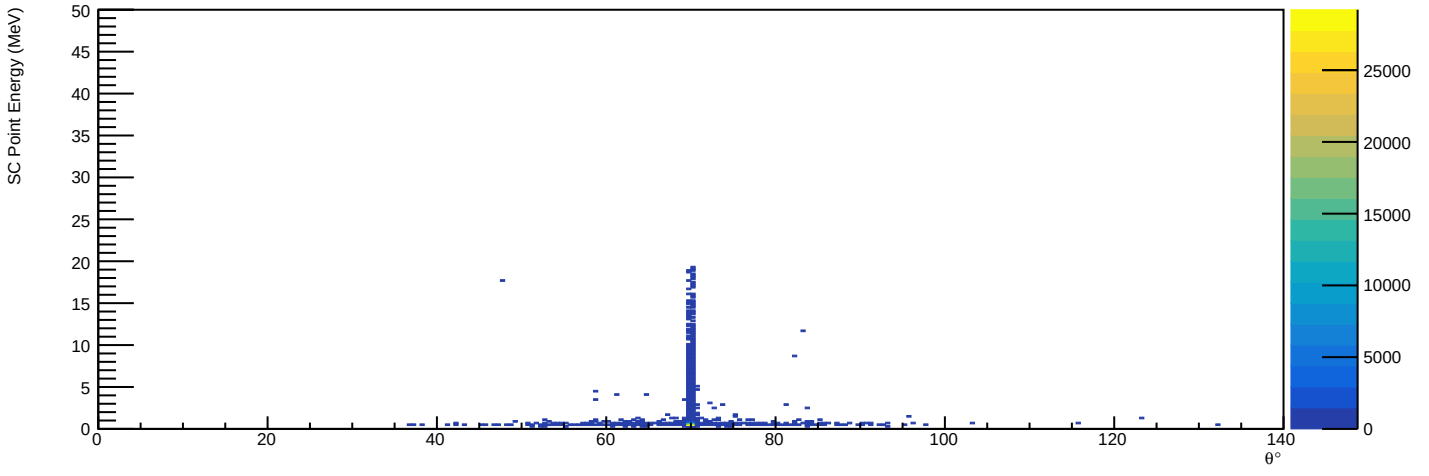


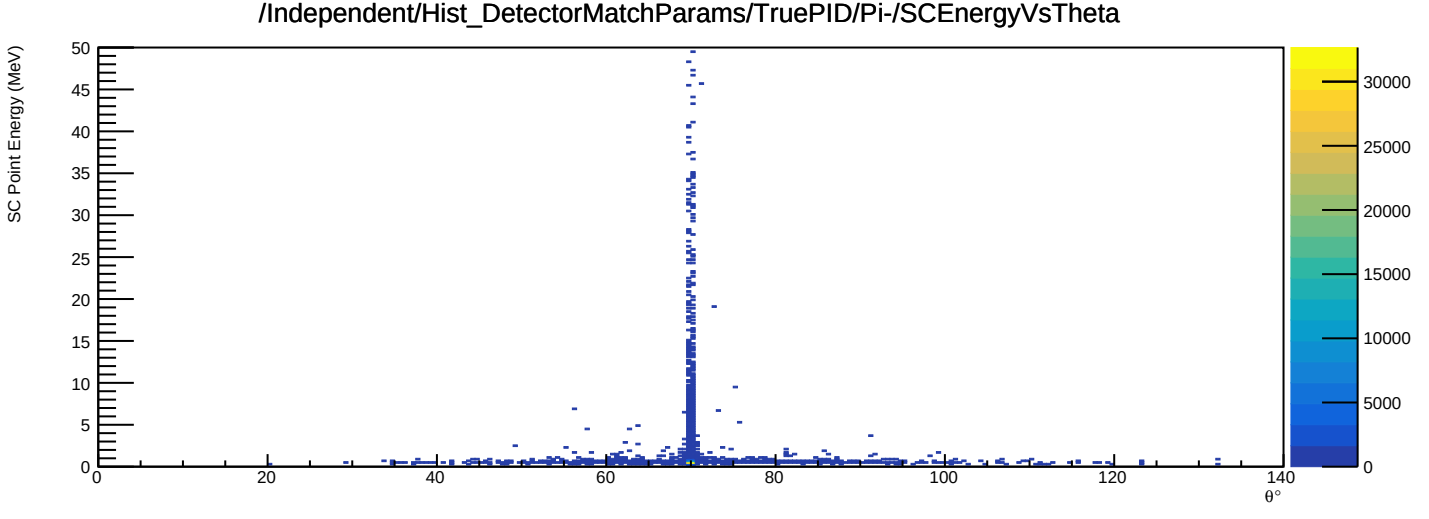
/Independent/Hist_DetectorMatchParams/TruePID/Pi-/FCALShowerTrackDepth

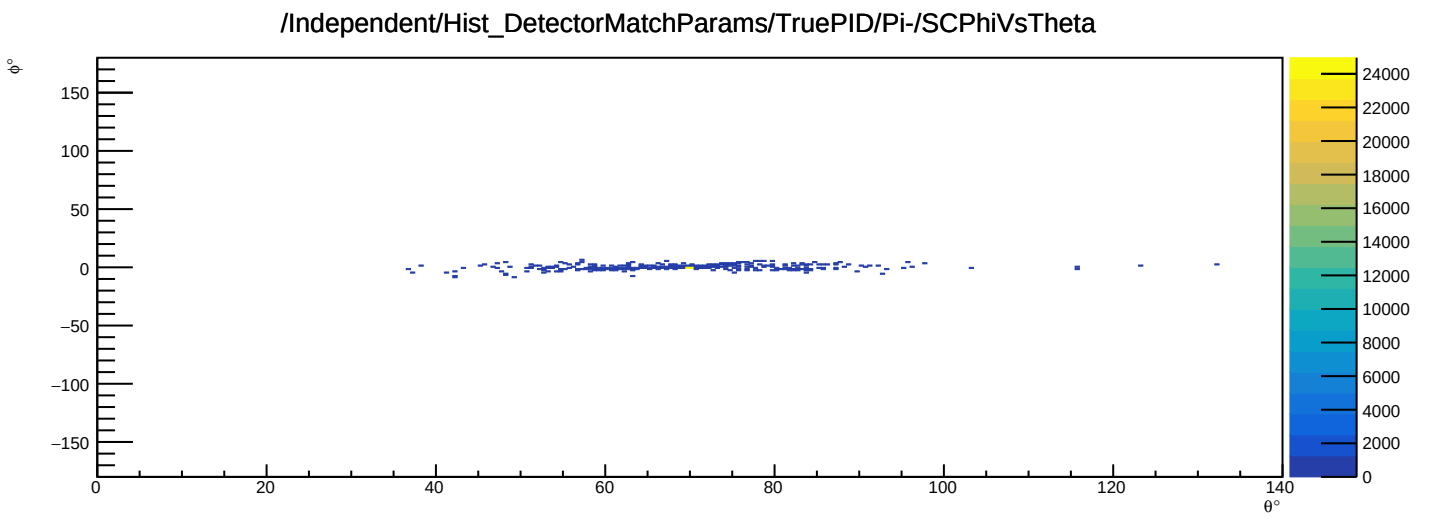


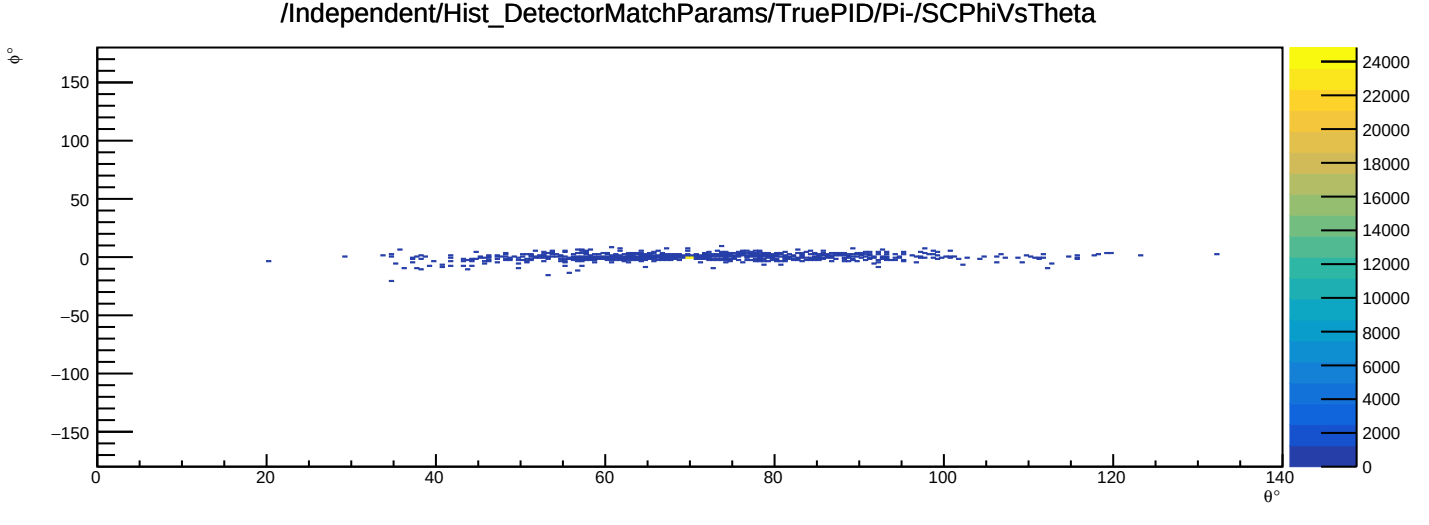

/Independent/Hist_DetectorMatchParams/TruePID/Pi-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)


/Independent/Hist_DetectorMatchParams/TruePID/Pi-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

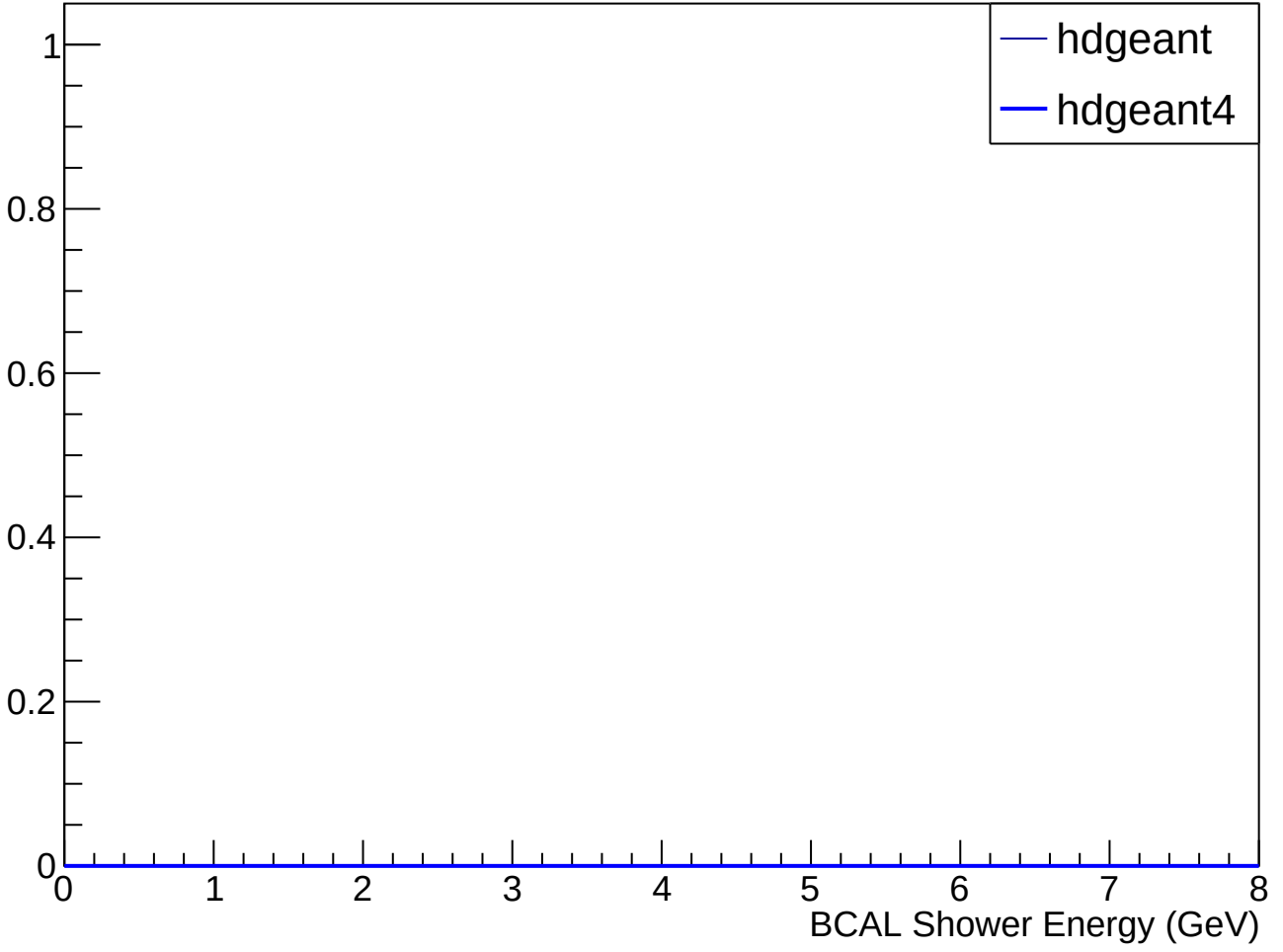

/Independent/Hist_DetectorMatchParams/TruePID/Pi-/SCEnergyVsTheta
SC Point Energy (MeV)
θ°


/Independent/Hist_DetectorMatchParams/TruePID/Pi-/SCEnergyVsTheta
SC Point Energy (MeV)
θ°

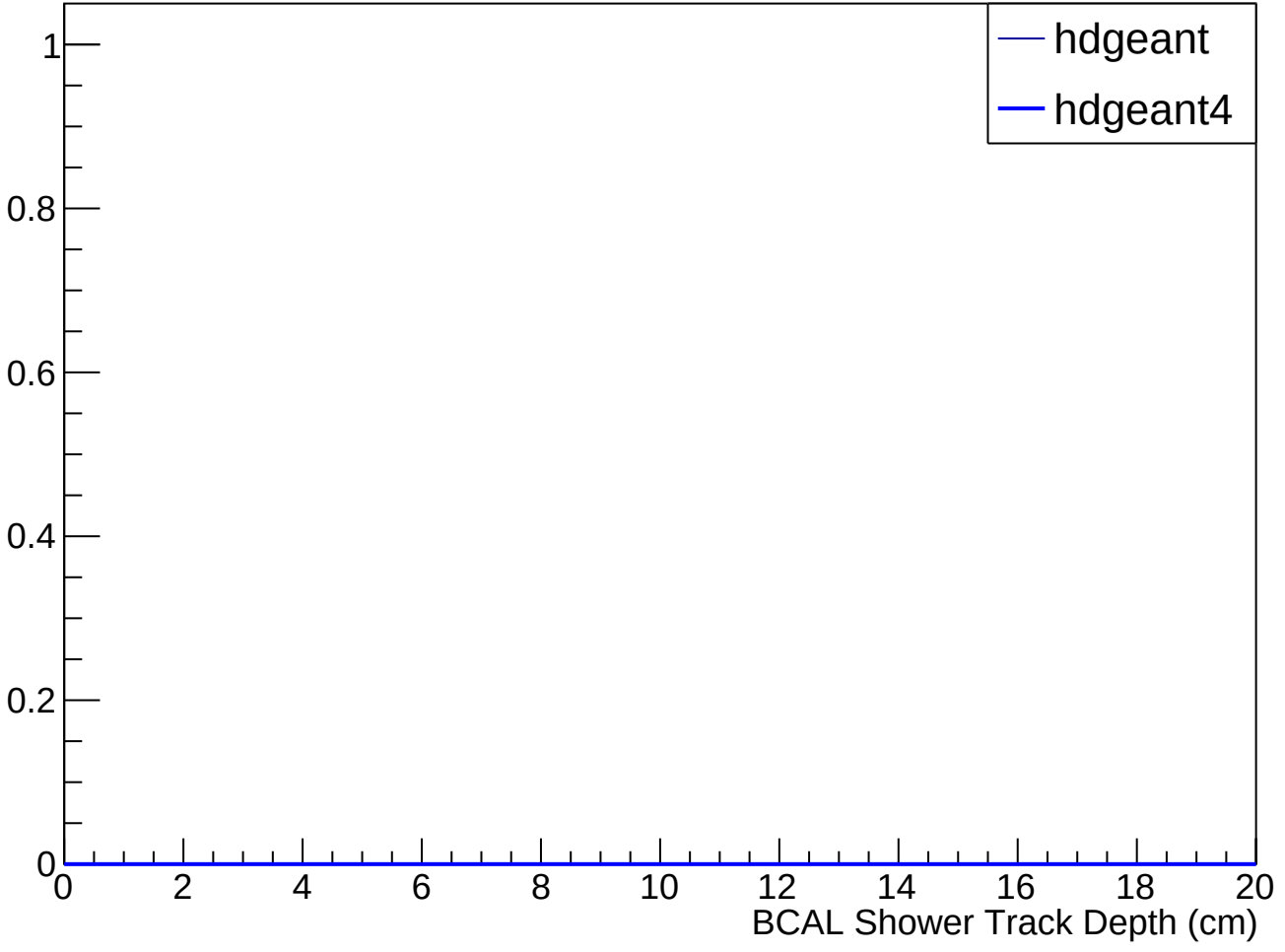

/Independent/Hist_DetectorMatchParams/TruePID/Pi-/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
24000
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0

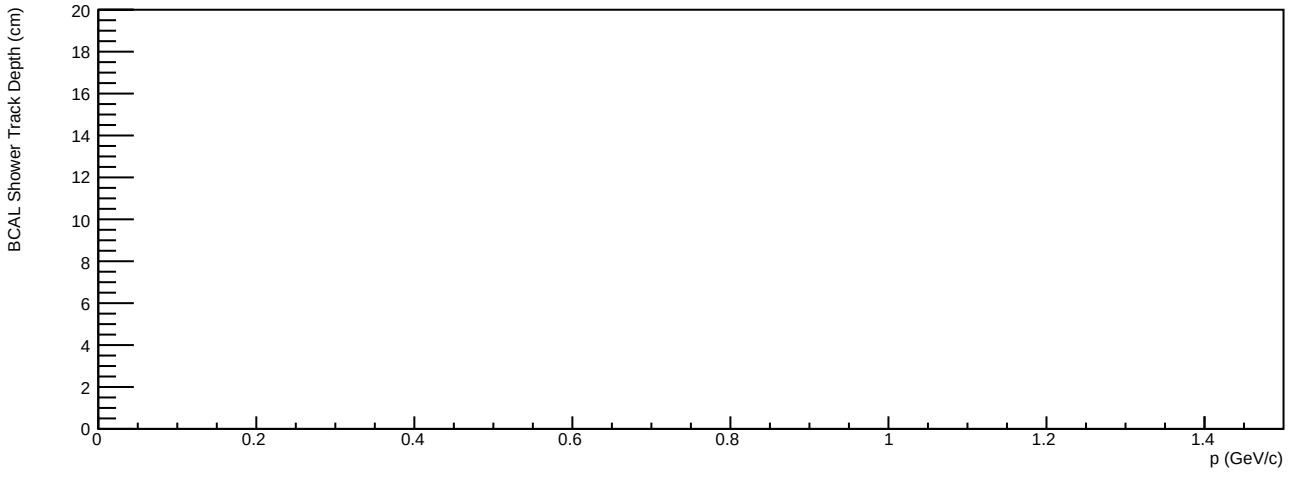

/Independent/Hist_DetectorMatchParams/TruePID/Pi-/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
24000
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0

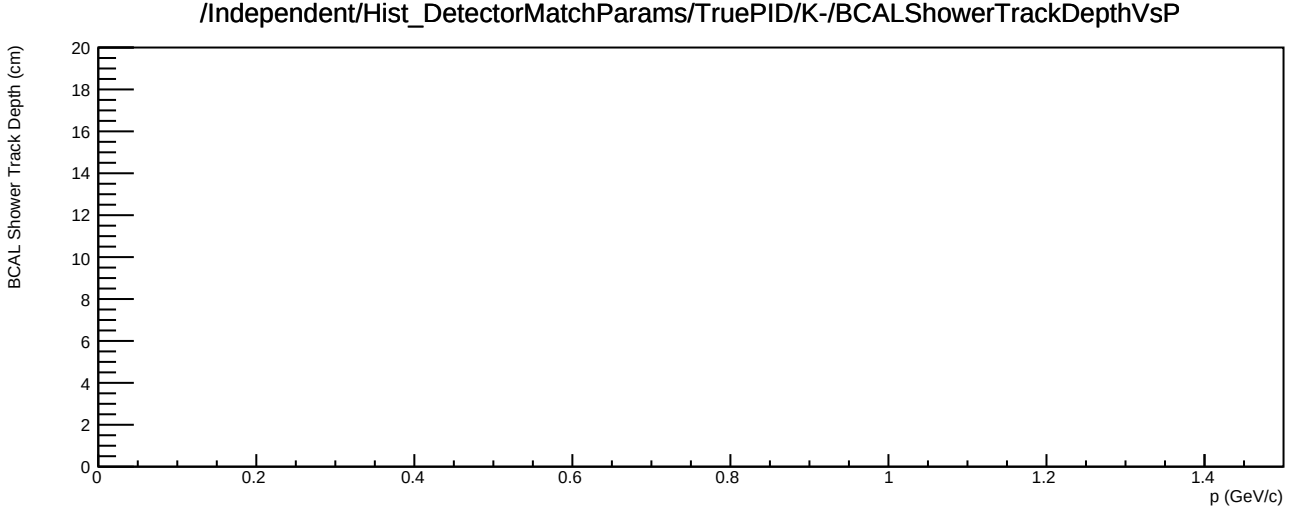
/Independent/Hist_DetectorMatchParams/TruePID/K-/BCALShowerEnergy



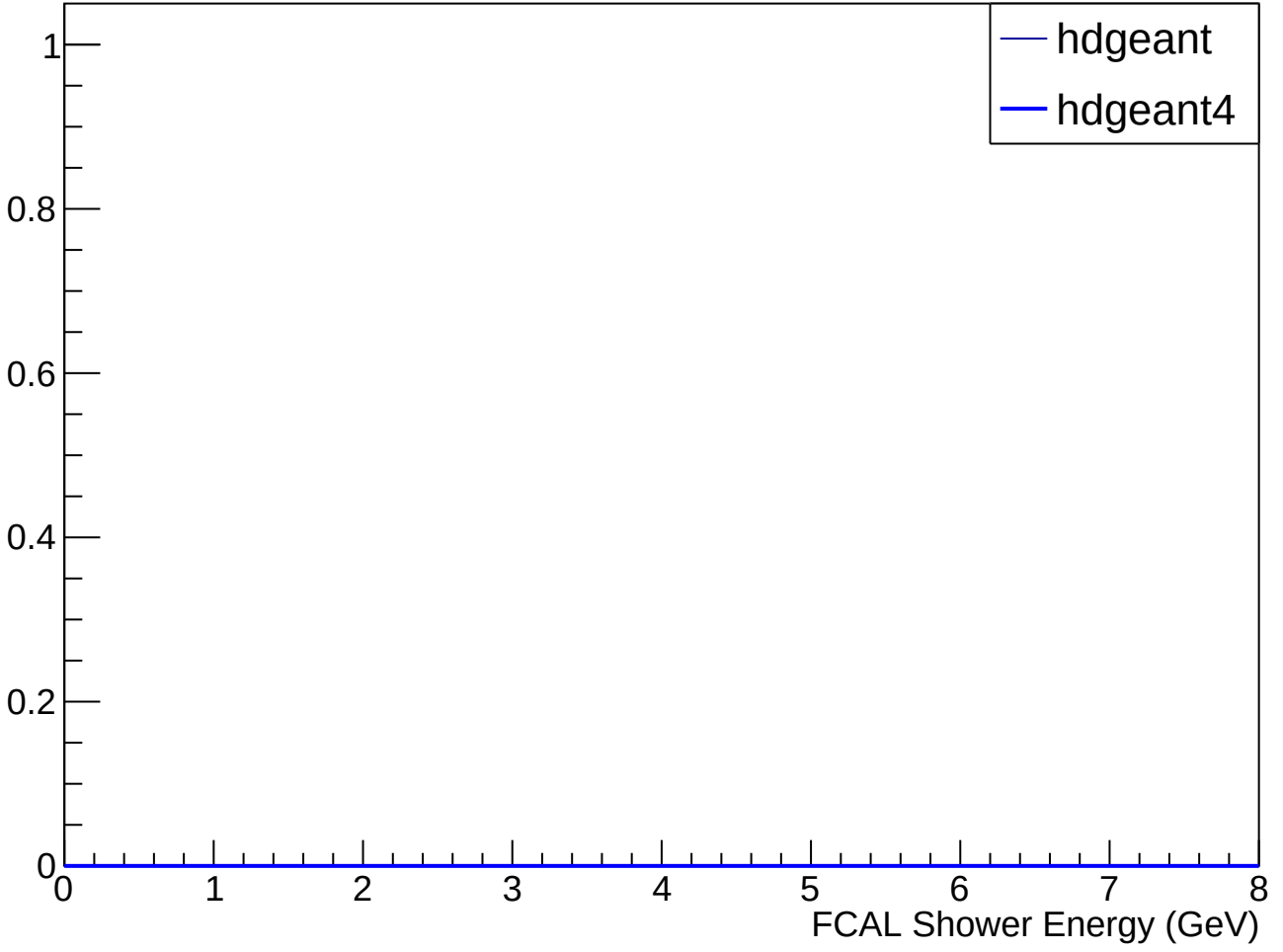
/Independent/Hist_DetectorMatchParams/TruePID/K-/BCALShowerTrackDepth



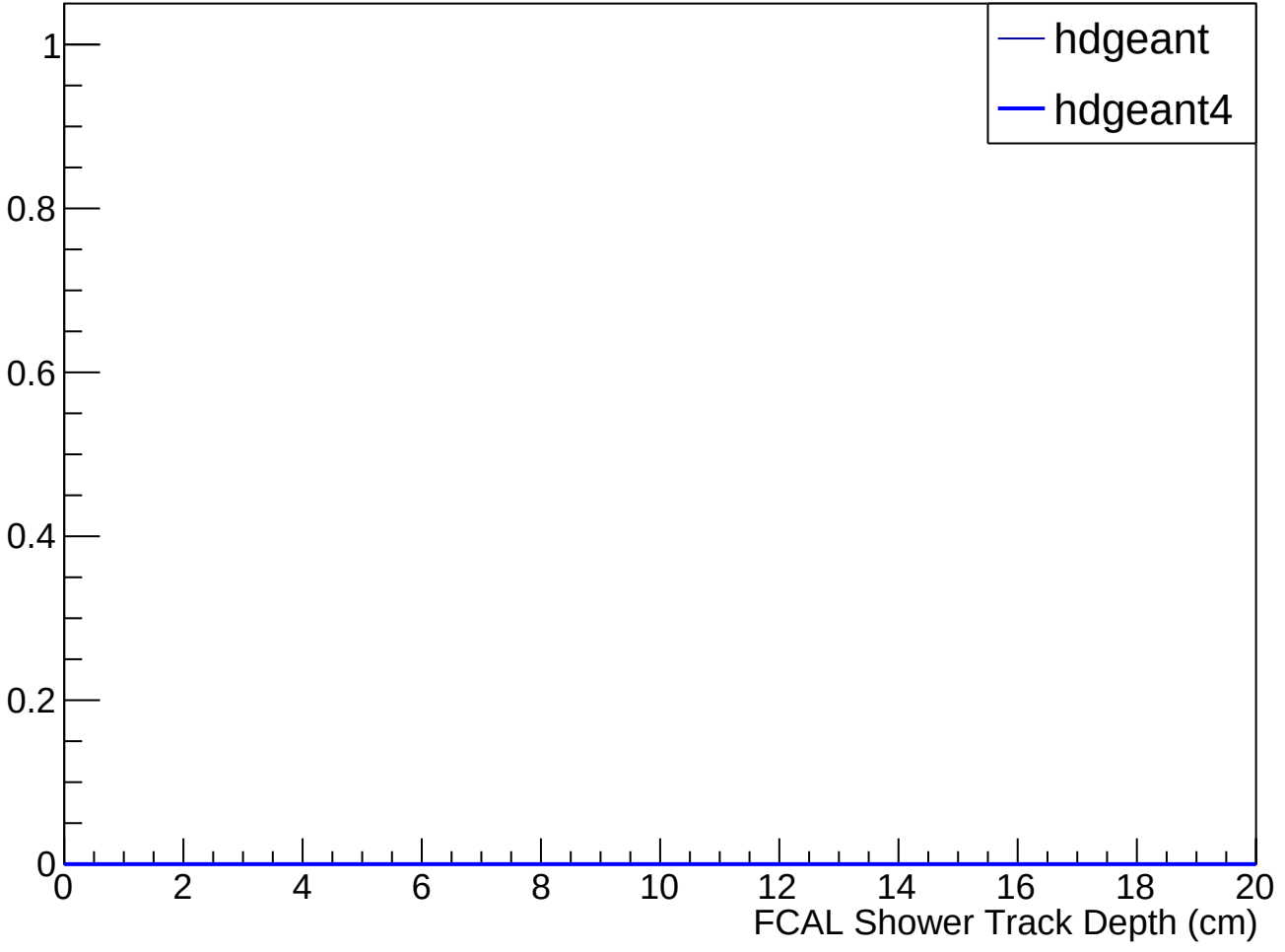

/Independent/Hist_DetectorMatchParams/TruePID/K-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

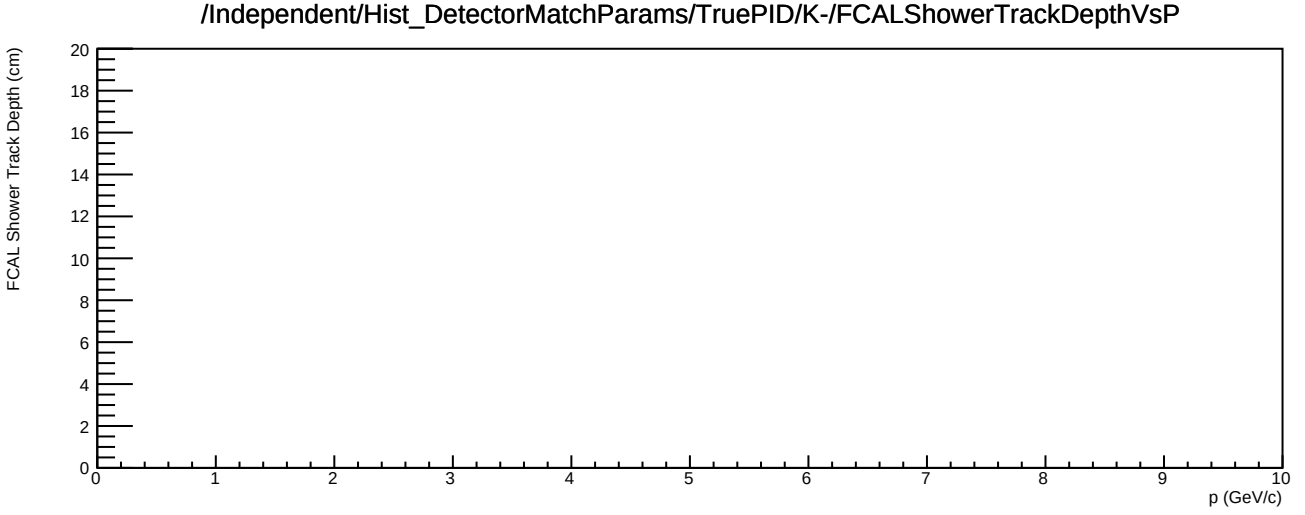

/Independent/Hist_DetectorMatchParams/TruePID/K-/BCALShowerTrackDepthVsP
BCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
p (GeV/c)

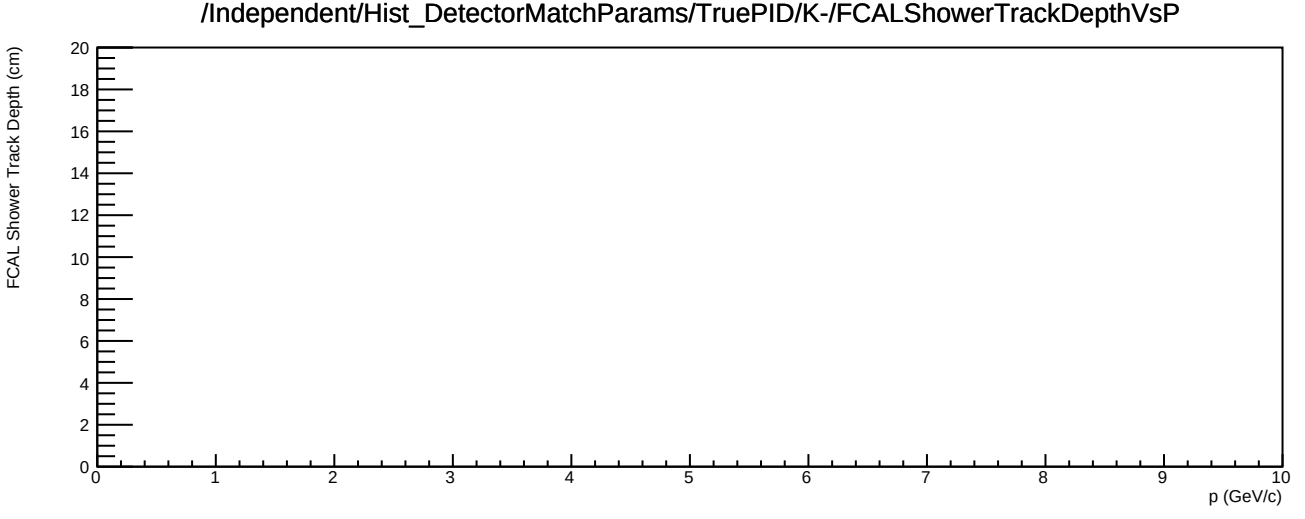
/Independent/Hist_DetectorMatchParams/TruePID/K-/FCALShowerEnergy

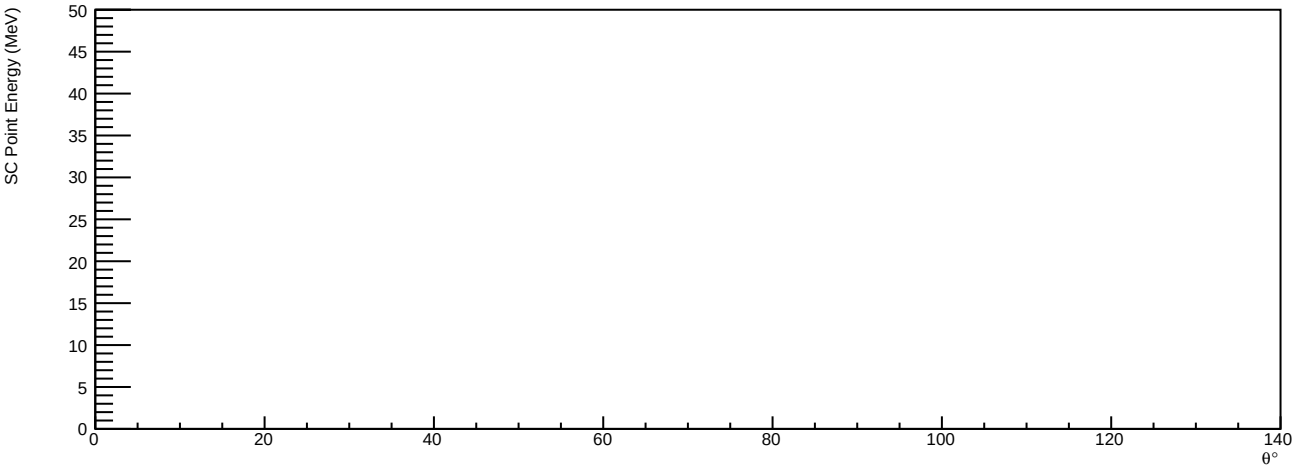


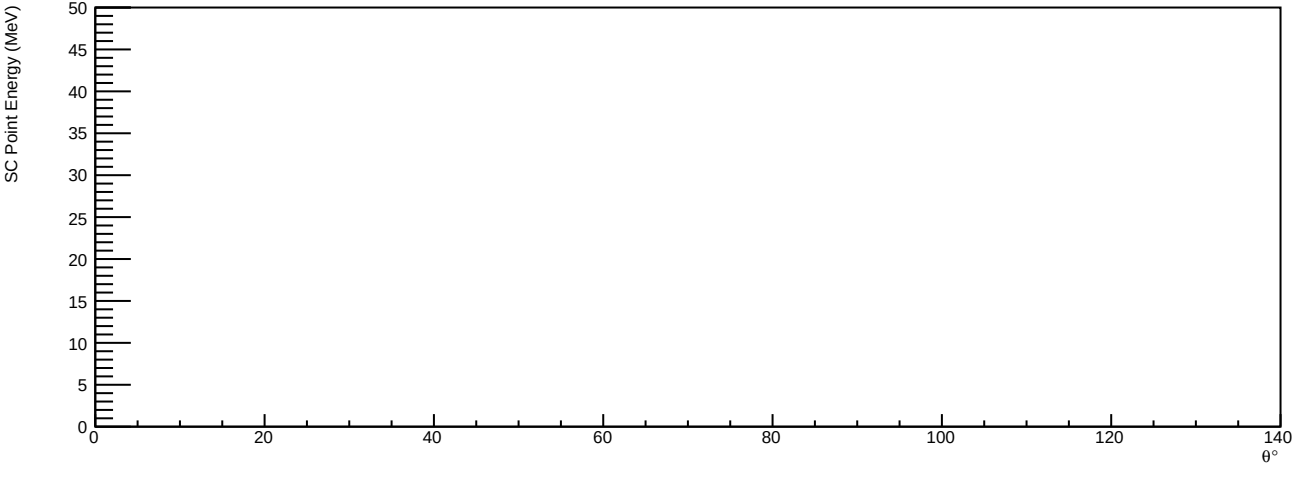
/Independent/Hist_DetectorMatchParams/TruePID/K-/FCALShowerTrackDepth

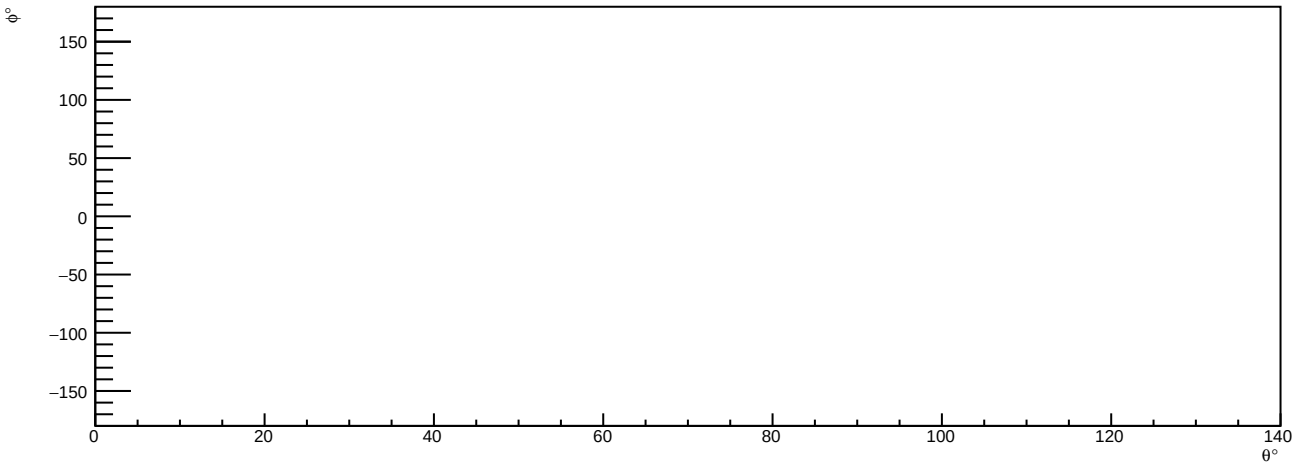


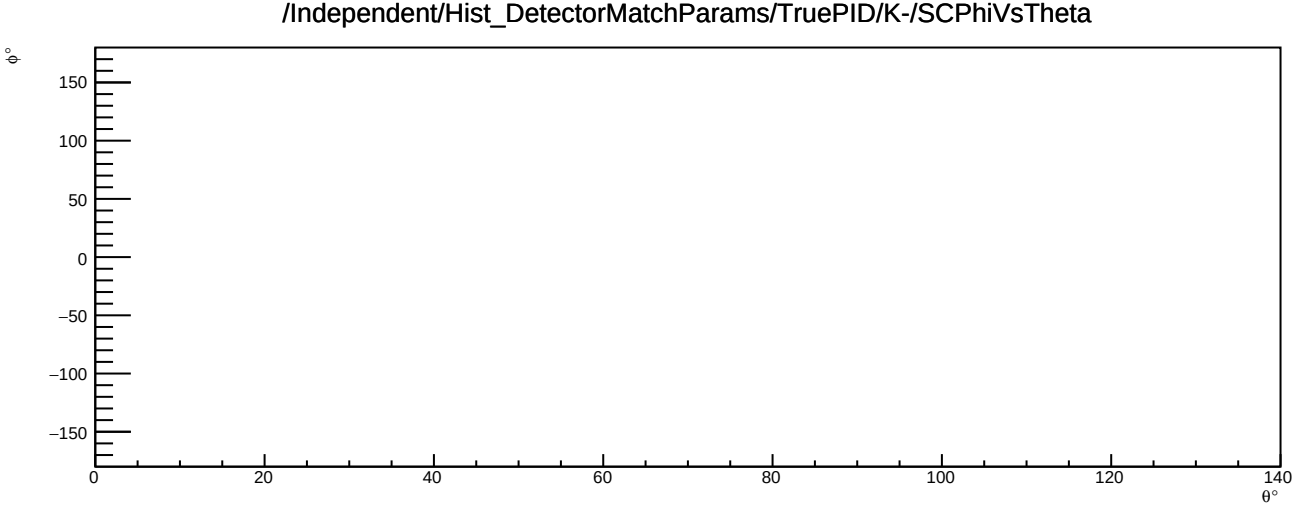

/Independent/Hist_DetectorMatchParams/TruePID/K-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

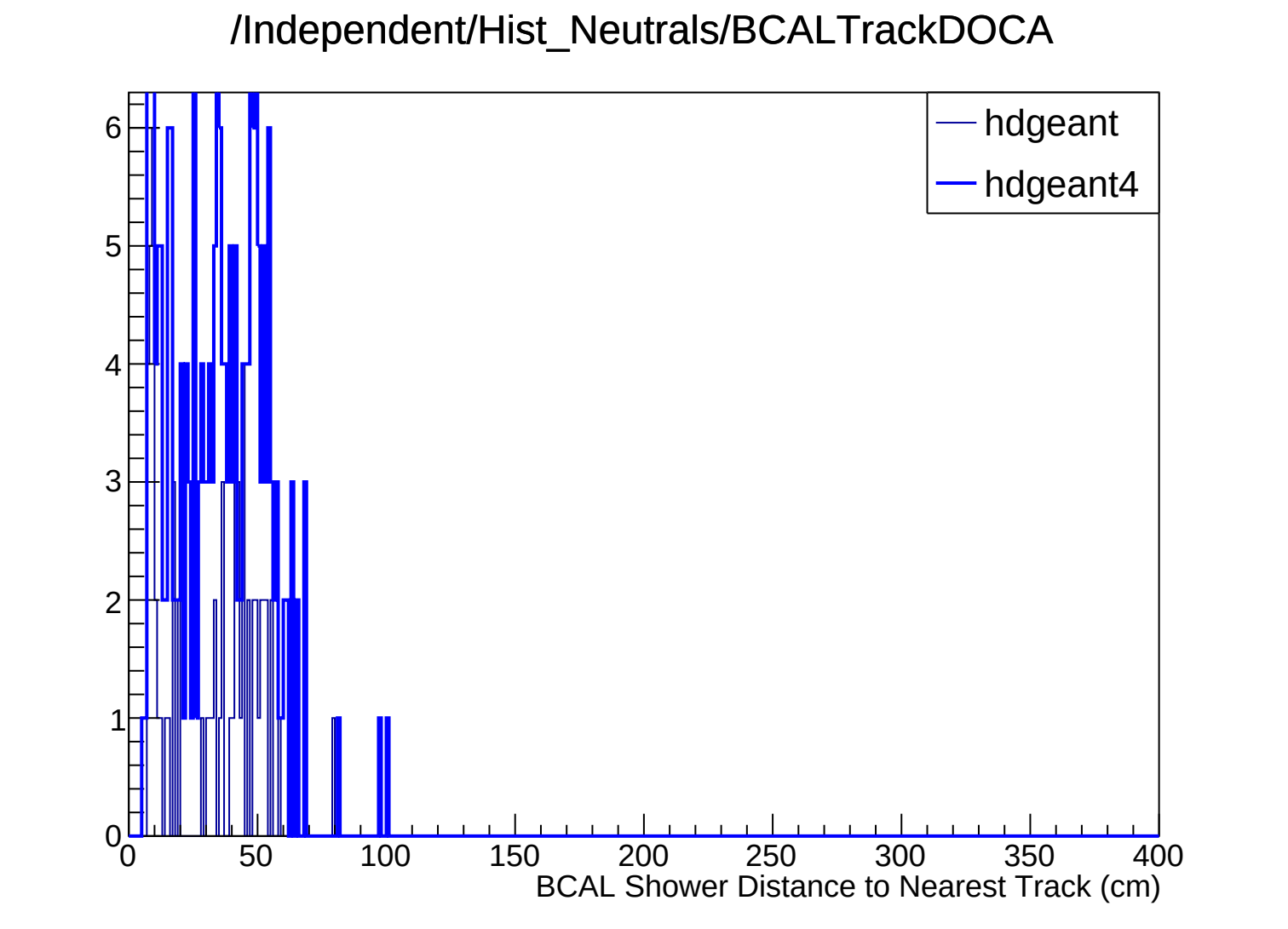

/Independent/Hist_DetectorMatchParams/TruePID/K-/FCALShowerTrackDepthVsP
FCAL Shower Track Depth (cm)
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

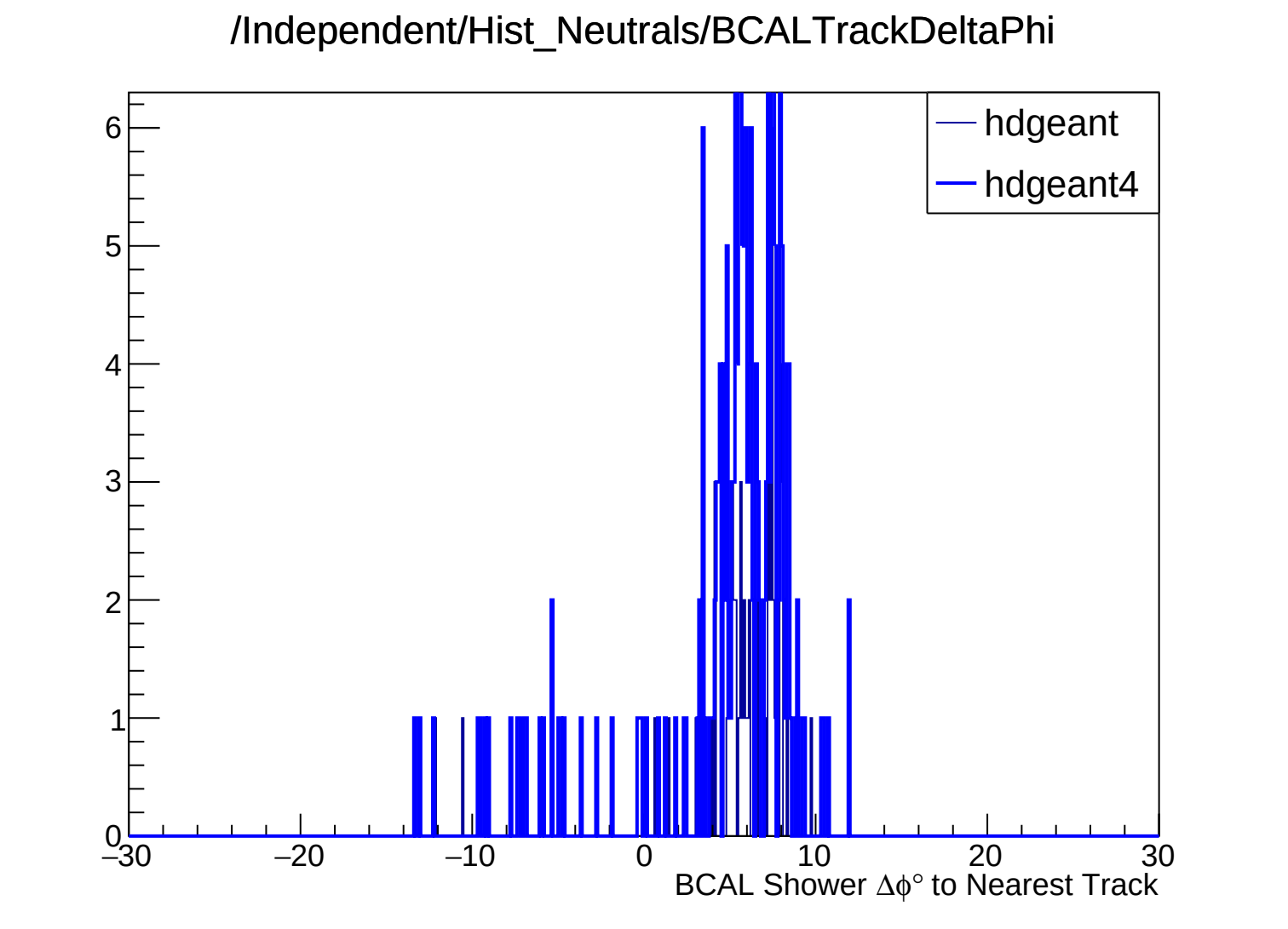

/Independent/Hist_DetectorMatchParams/TruePID/K-/SCEnergyVsTheta
SC Point Energy (MeV)
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100
120
140
θ°

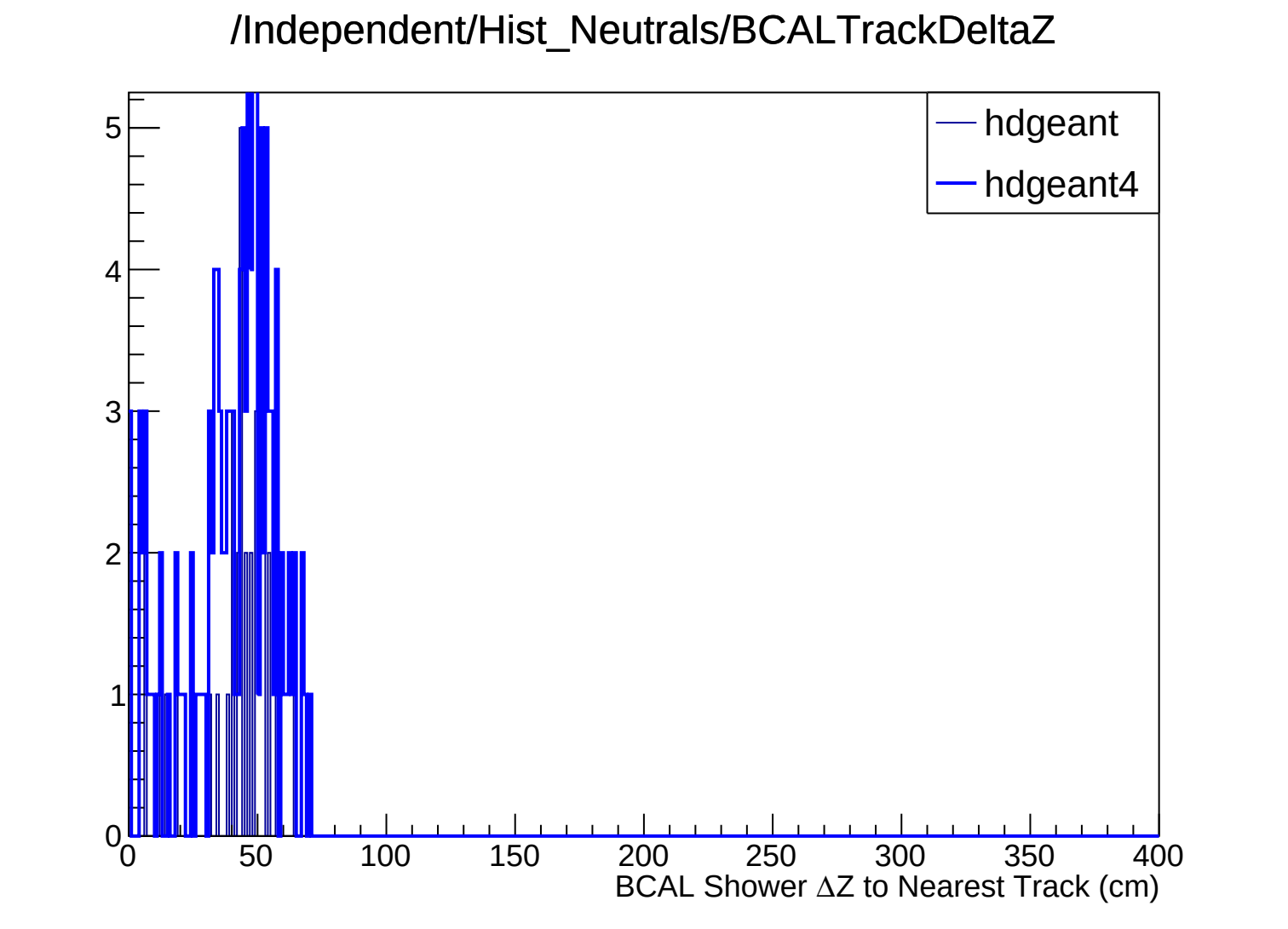

/Independent/Hist_DetectorMatchParams/TruePID/K-/SCEnergyVsTheta
SC Point Energy (MeV)
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_DetectorMatchParams/TruePID/K-/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

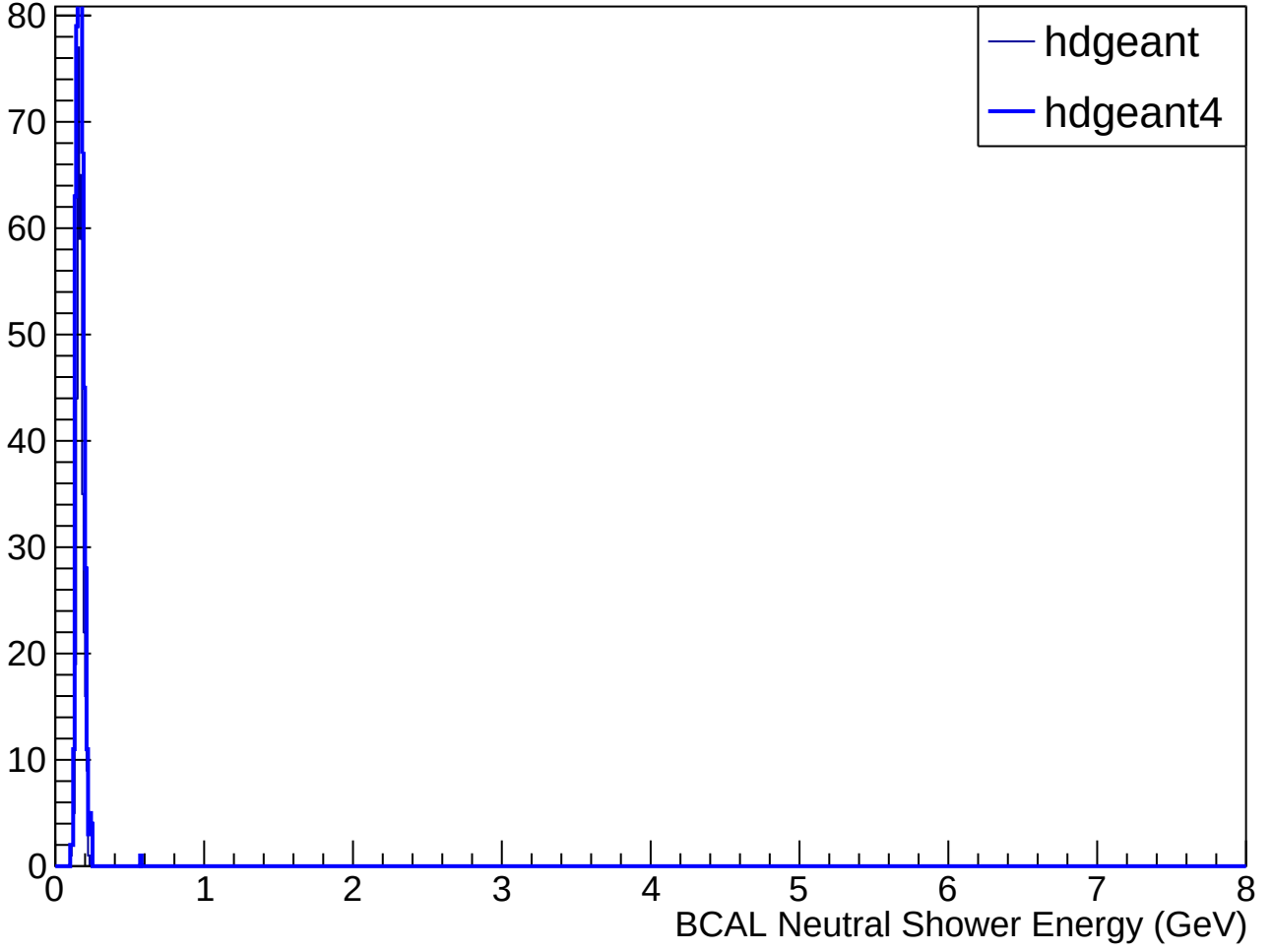

/Independent/Hist_DetectorMatchParams/TruePID/K-/SCPhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

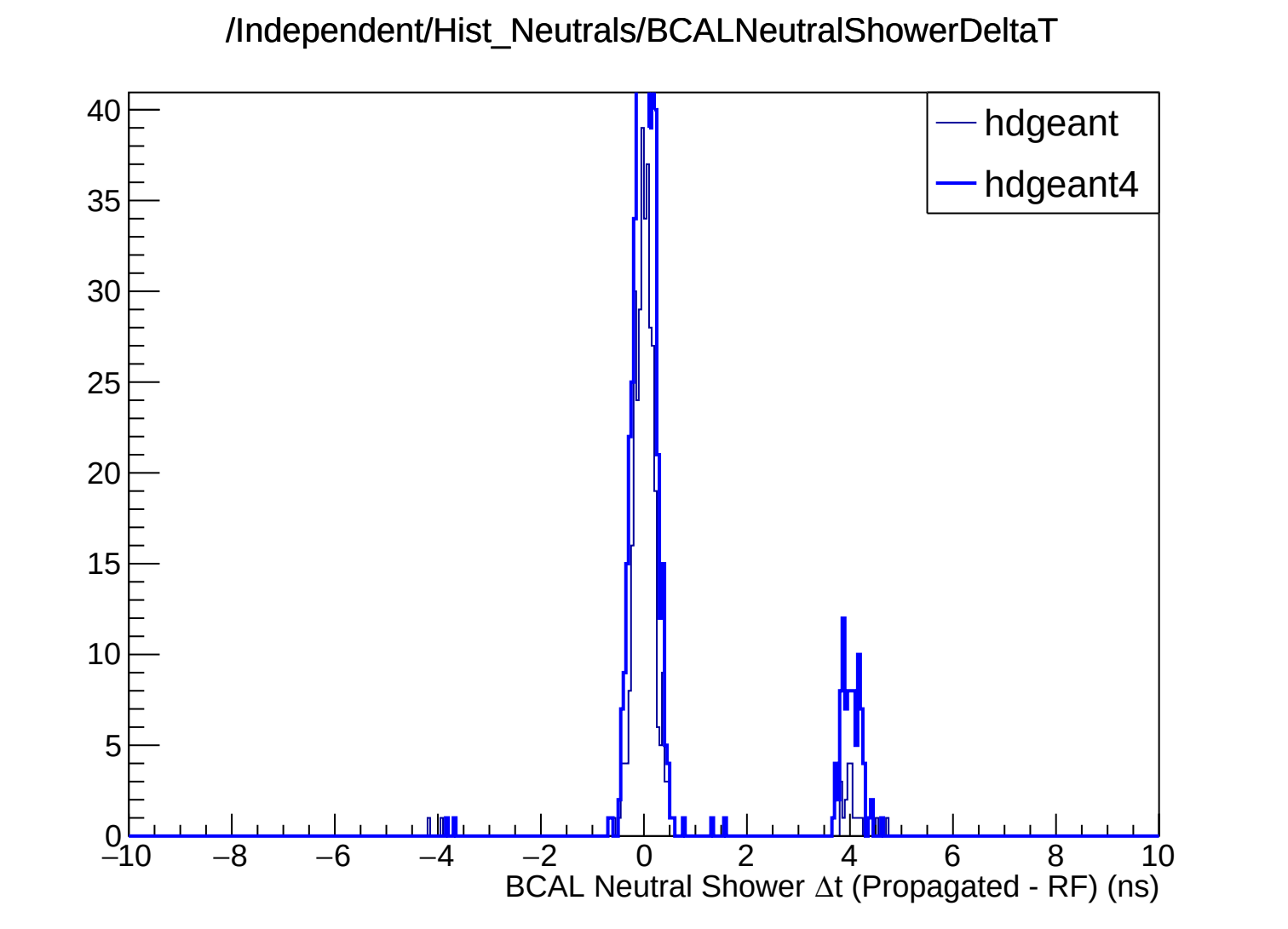

/Independent/Hist_Neutrals/BCALTrackDOCA
hdgeant
hdgeant4
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350
400
BCAL Shower Distance to Nearest Track (cm)

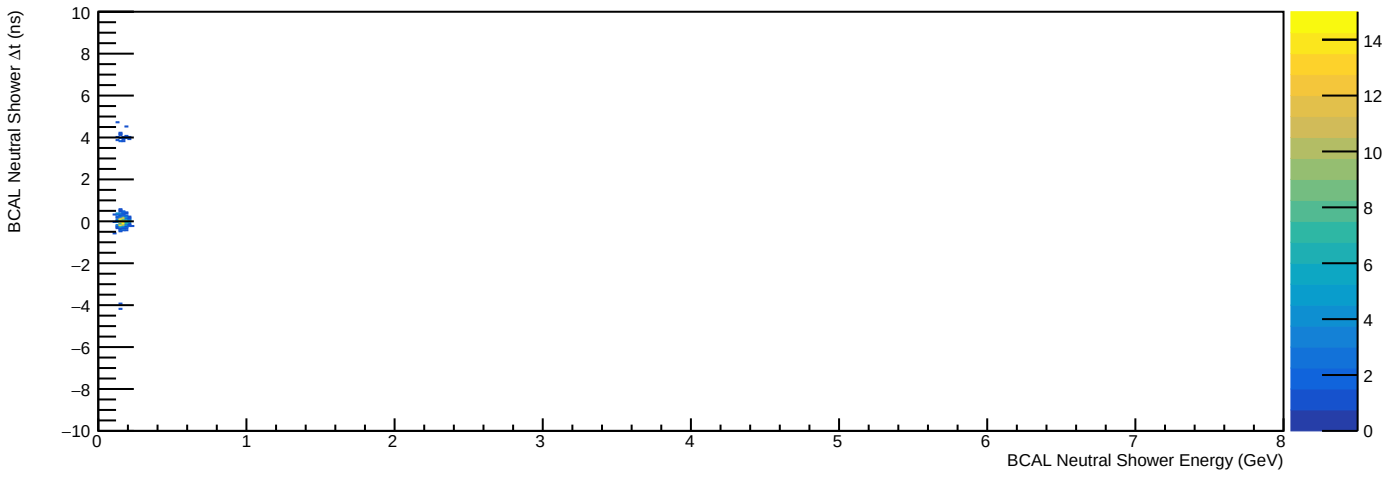

/Independent/Hist_Neutrals/BCALTrackDeltaPhi
hdgeant
hdgeant4
6
5
4
3
2
1
0
–30
–20
–10
0
10
20
30
BCAL Shower Δϕ° to Nearest Track

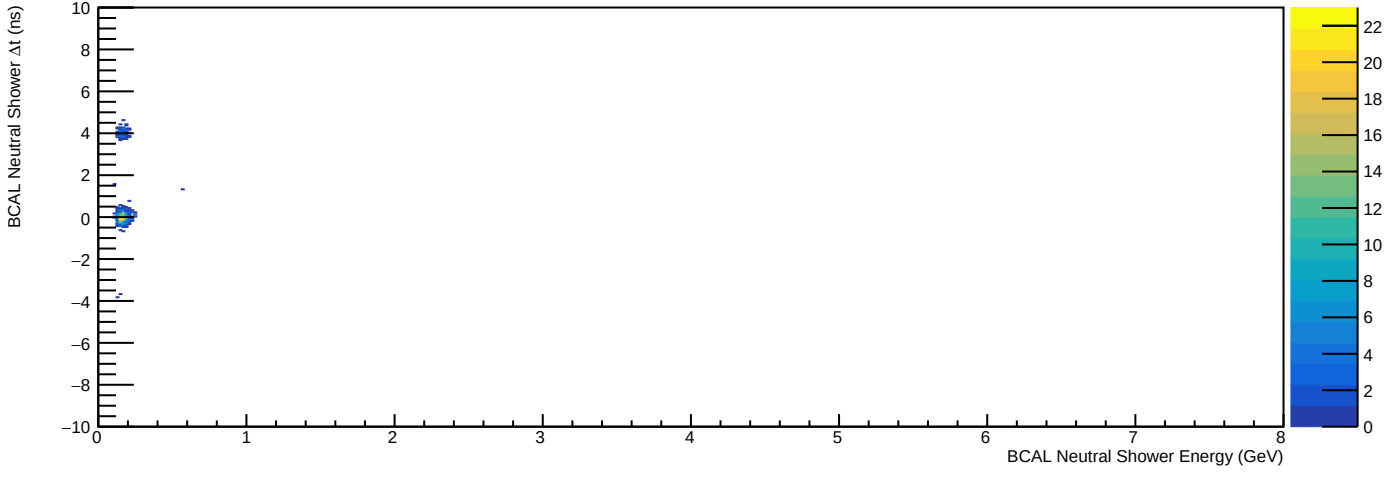

/Independent/Hist_Neutrals/BCALTrackDeltaZ
hdgeant
hdgeant4
0
1
2
3
4
5
0
50
100
150
200
250
300
350
400
BCAL Shower ΔZ to Nearest Track (cm)

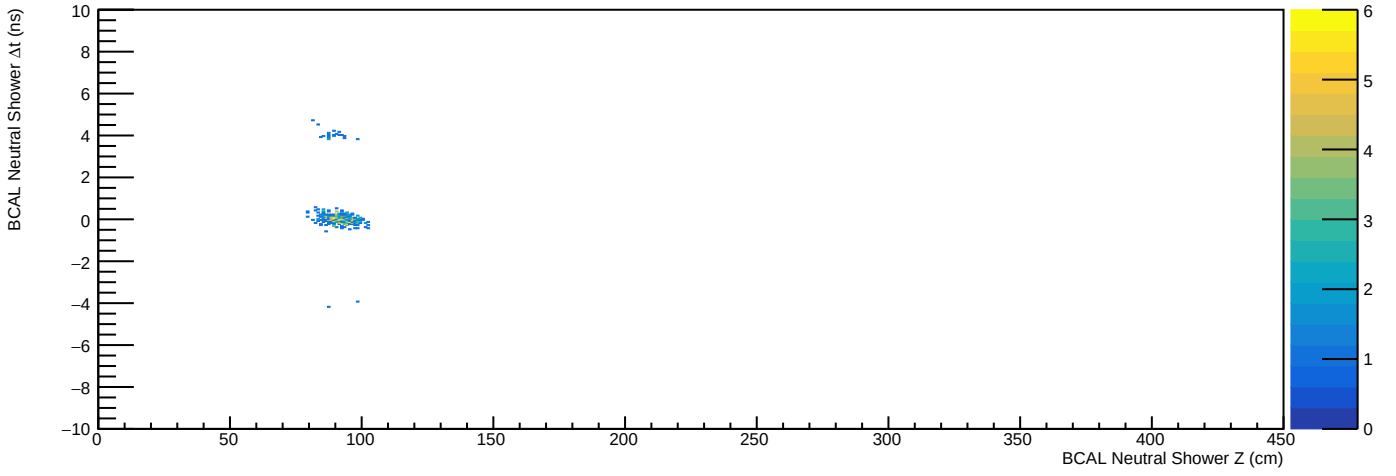
/Independent/Hist_Neutrals/BCALNeutralShowerEnergy

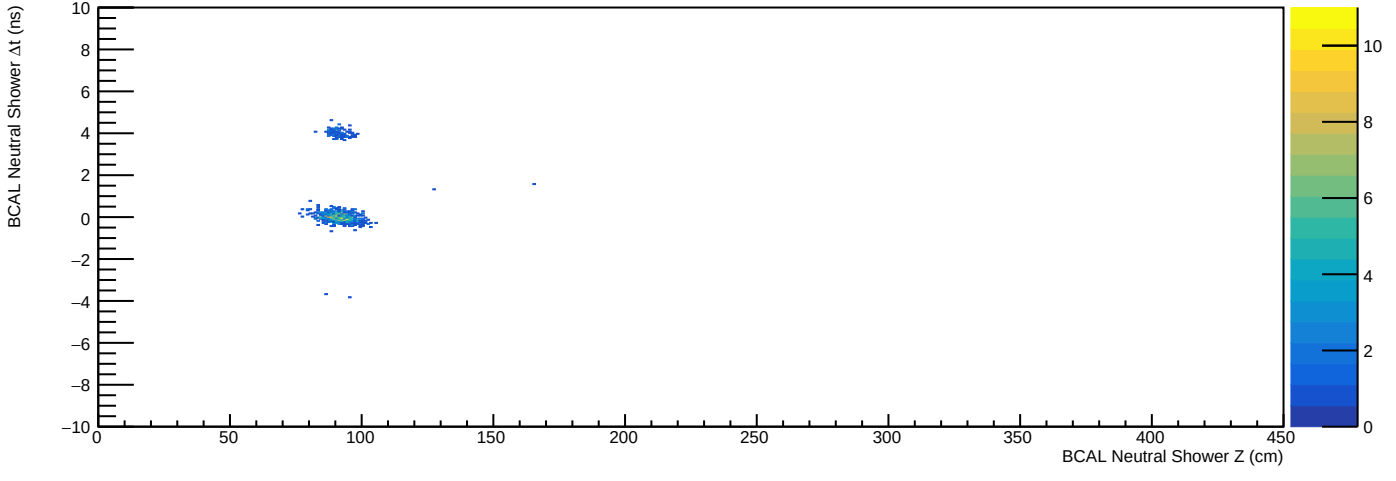


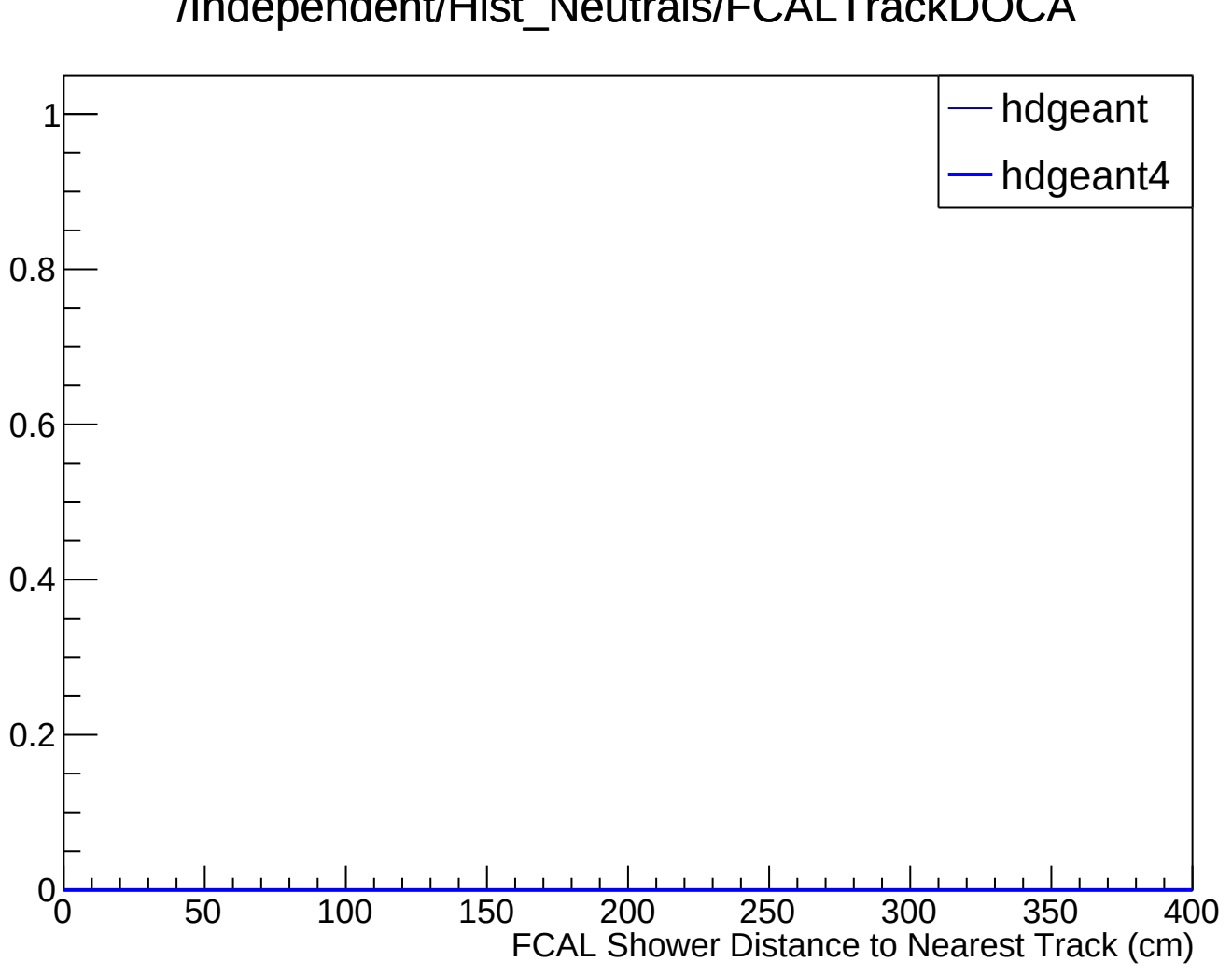

/Independent/Hist_Neutrals/BCALNeutralShowerDeltaT
hdgeant
hdgeant4
40
35
30
25
20
15
10
5
0
−10
−8
−6
−4
−2
0
2
4
6
8
10
BCAL Neutral Shower Δt (Propagated - RF) (ns)


/Independent/Hist_Neutrals/BCALNeutralShowerDeltaTVsE
BCAL Neutral Shower Δt (ns)
BCAL Neutral Shower Energy (GeV)

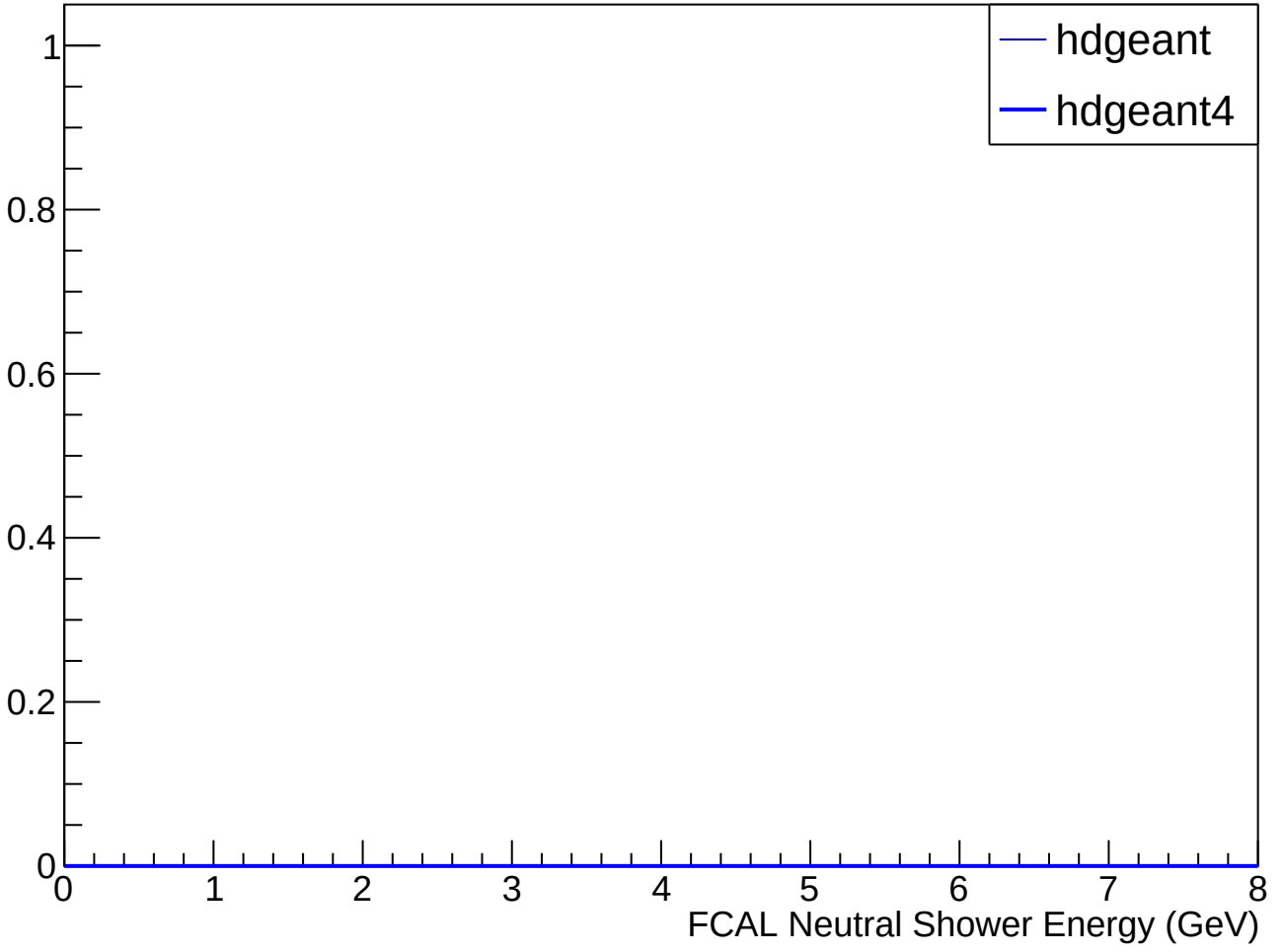

/Independent/Hist_Neutrals/BCALNeutralShowerDeltaTVsE
BCAL Neutral Shower Δt (ns)
BCAL Neutral Shower Energy (GeV)

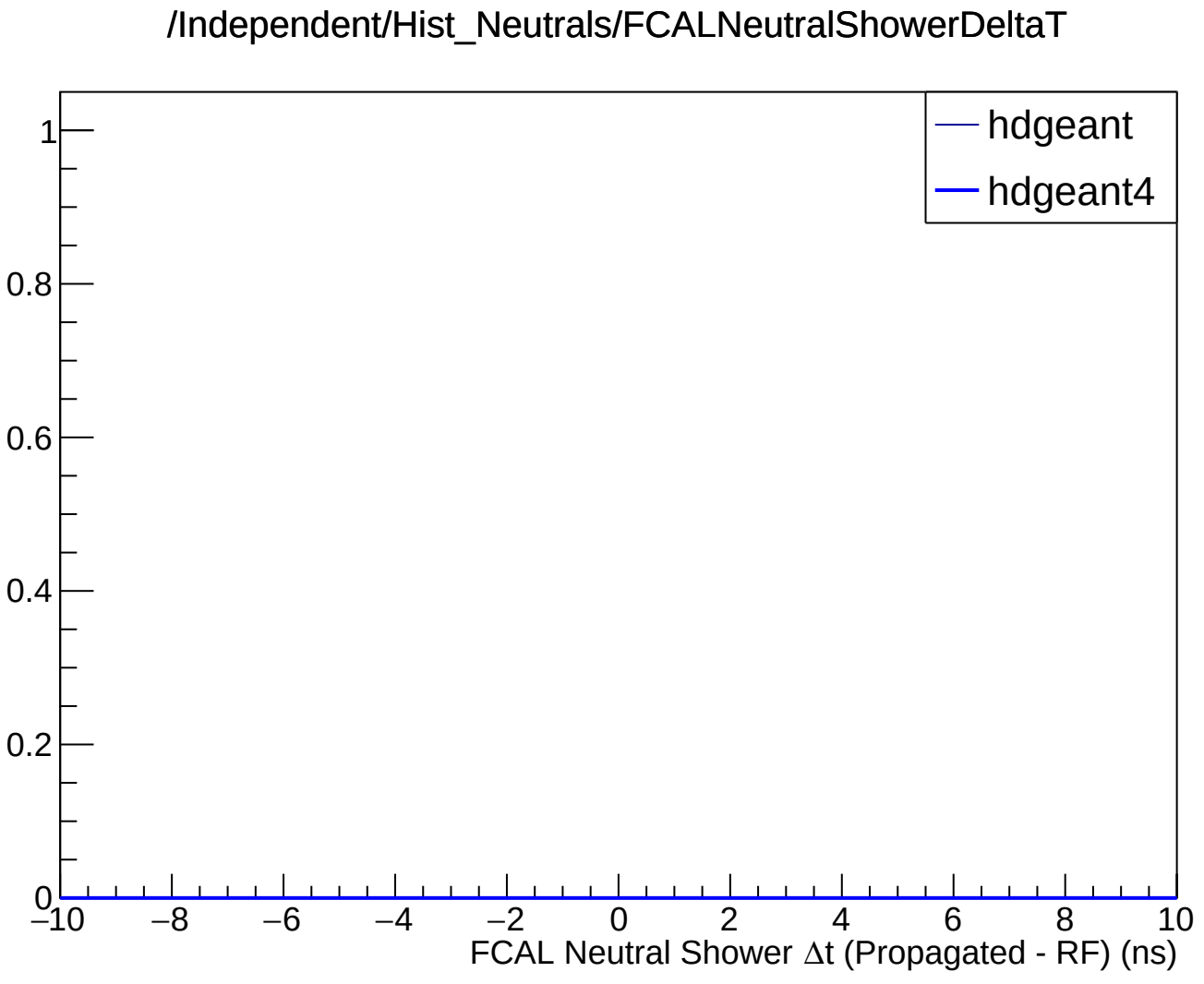

/Independent/Hist_Neutrals/BCALNeutralShowerDeltaTVsZ
BCAL Neutral Shower Δt (ns)
BCAL Neutral Shower Z (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
50
100
150
200
250
300
350
400
450
6
5
4
3
2
1
0

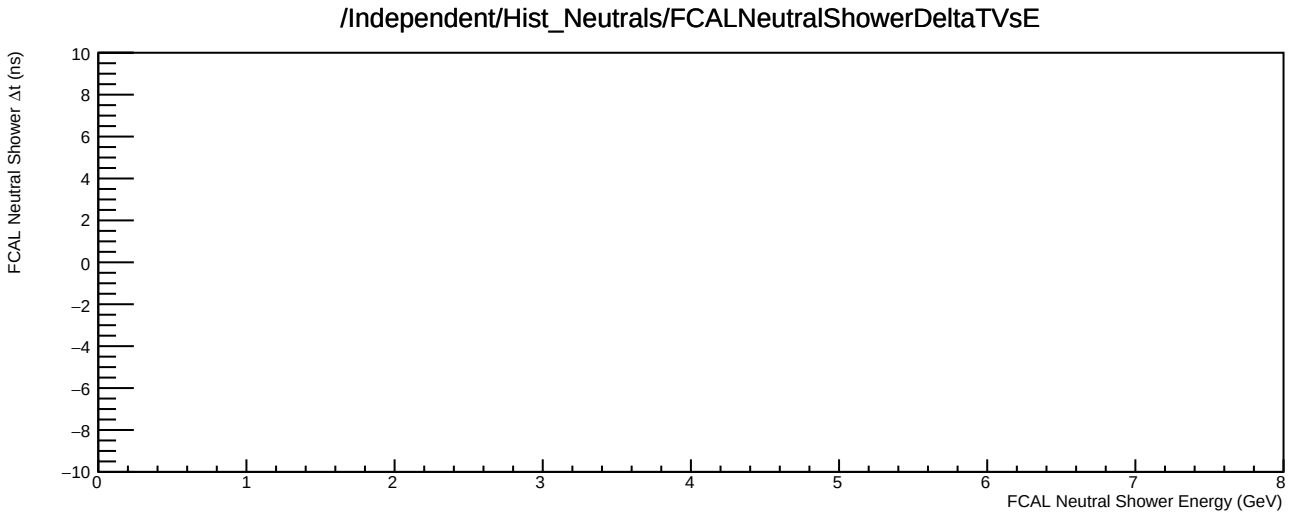

/Independent/Hist_Neutrals/BCALNeutralShowerDeltaTVsZ
BCAL Neutral Shower Δt (ns)
BCAL Neutral Shower Z (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
50
100
150
200
250
300
350
400
450
10
8
6
4
2
0

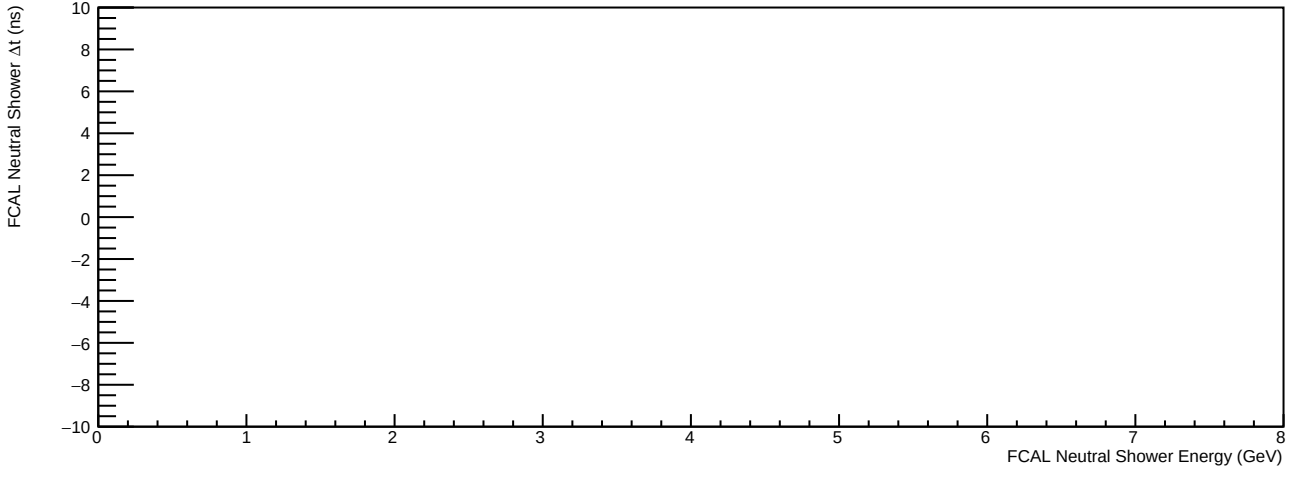

/Independent/Hist_Neutrals/FCALTrackDOCA
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
50
100
150
200
250
300
350
400
FCAL Shower Distance to Nearest Track (cm)

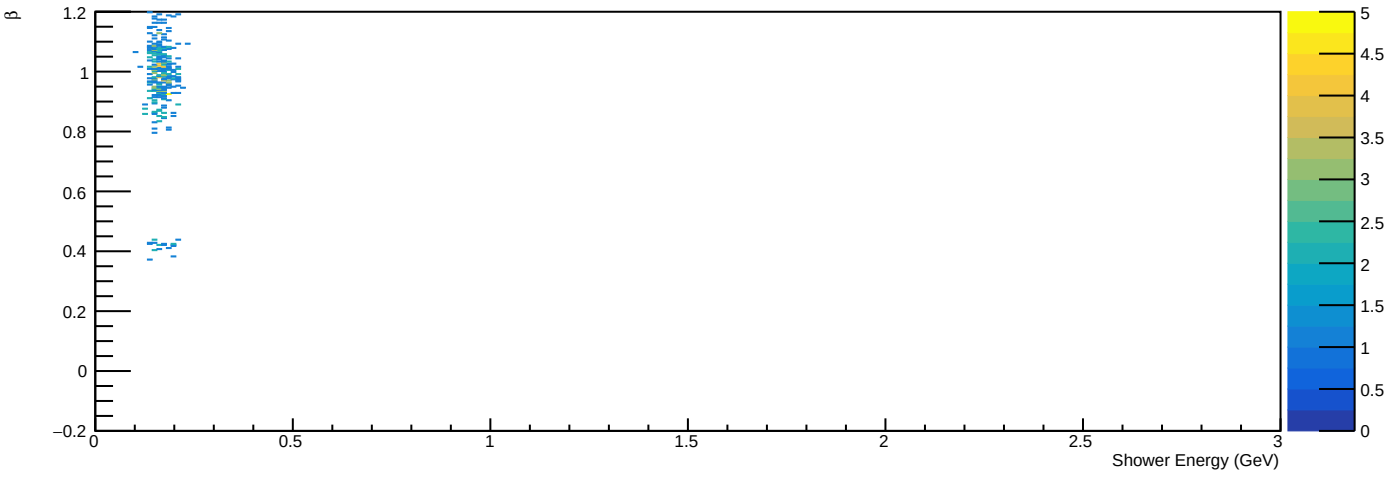
/Independent/Hist_Neutrals/FCALNeutralShowerEnergy

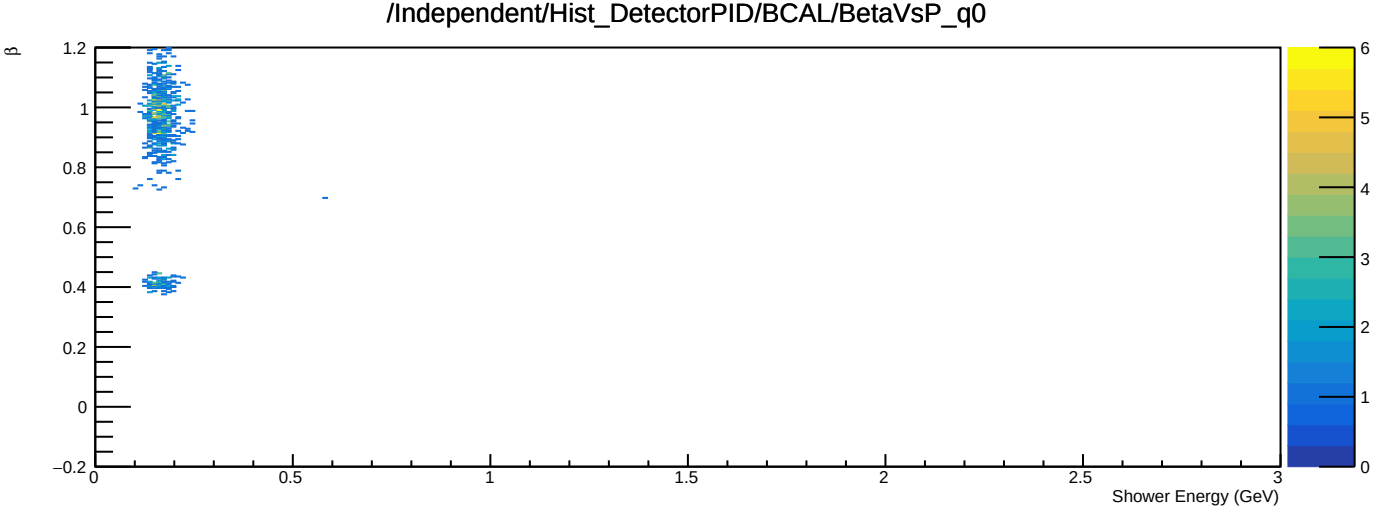


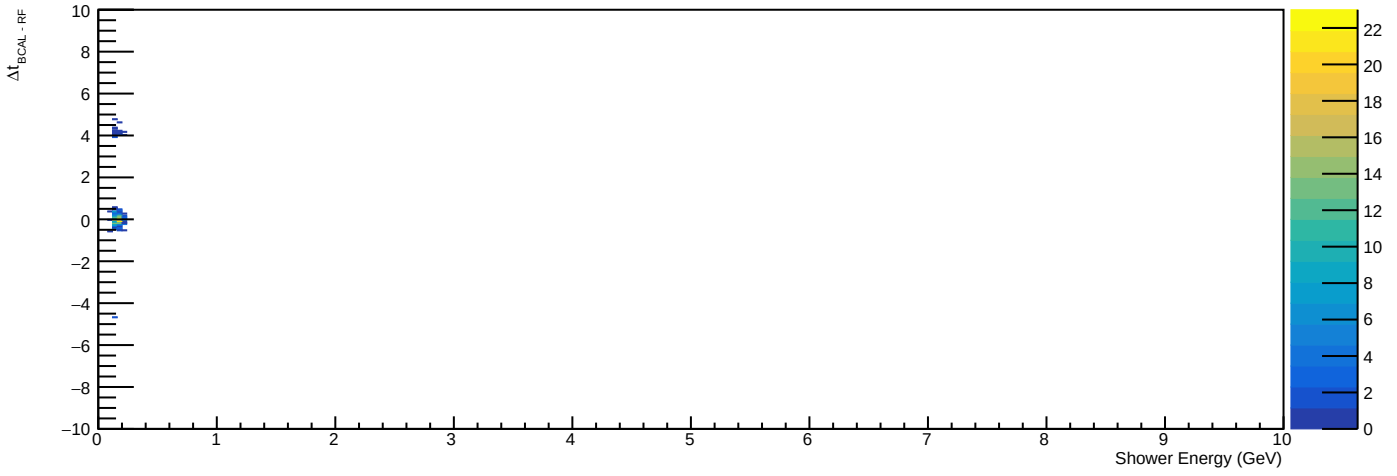

/Independent/Hist_Neutrals/FCALNeutralShowerDeltaT
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
−10
−8
−6
−4
−2
0
2
4
6
8
10
FCAL Neutral Shower Δt (Propagated - RF) (ns)

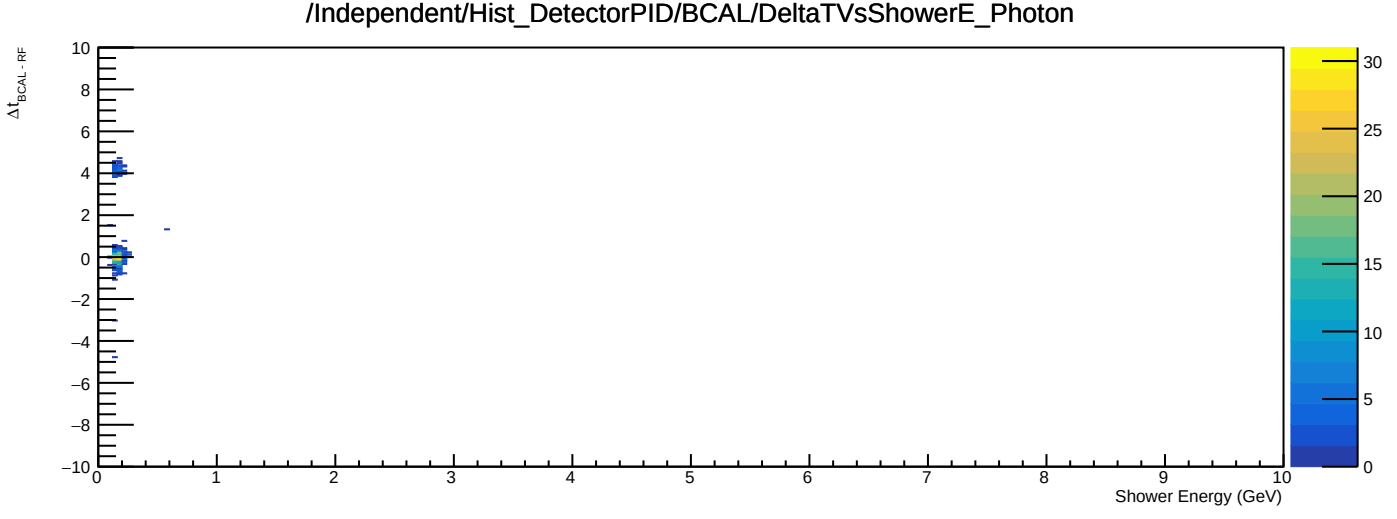

/Independent/Hist_Neutrals/FCALNeutralShowerDeltaTVsE
FCAL Neutral Shower Δt (ns)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
FCAL Neutral Shower Energy (GeV)

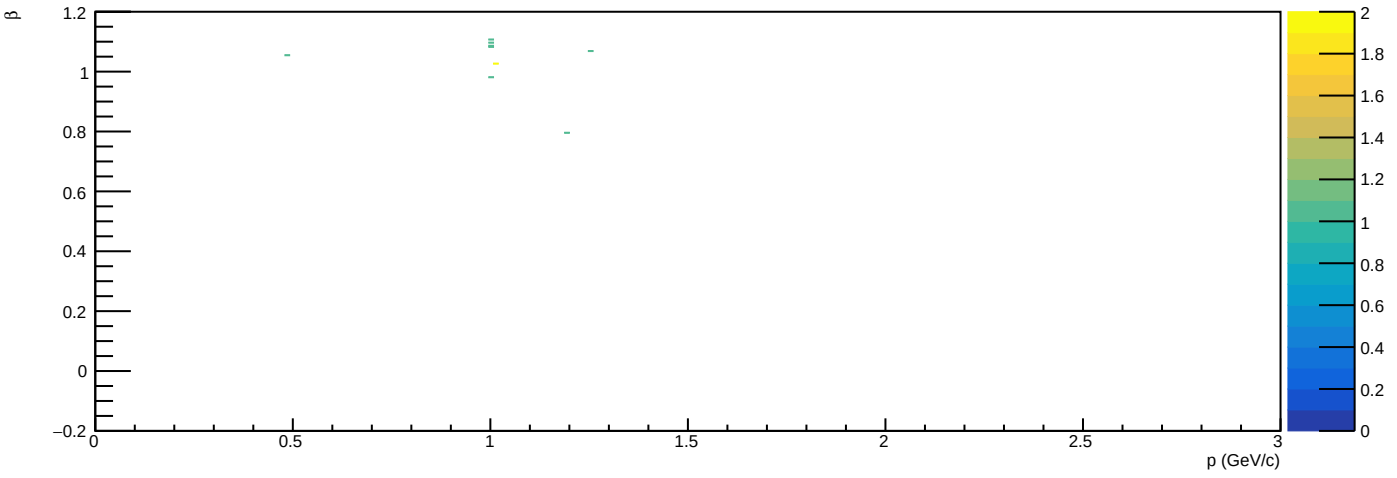

/Independent/Hist_Neutrals/FCALNeutralShowerDeltaTVsE
FCAL Neutral Shower Δt (ns)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
FCAL Neutral Shower Energy (GeV)

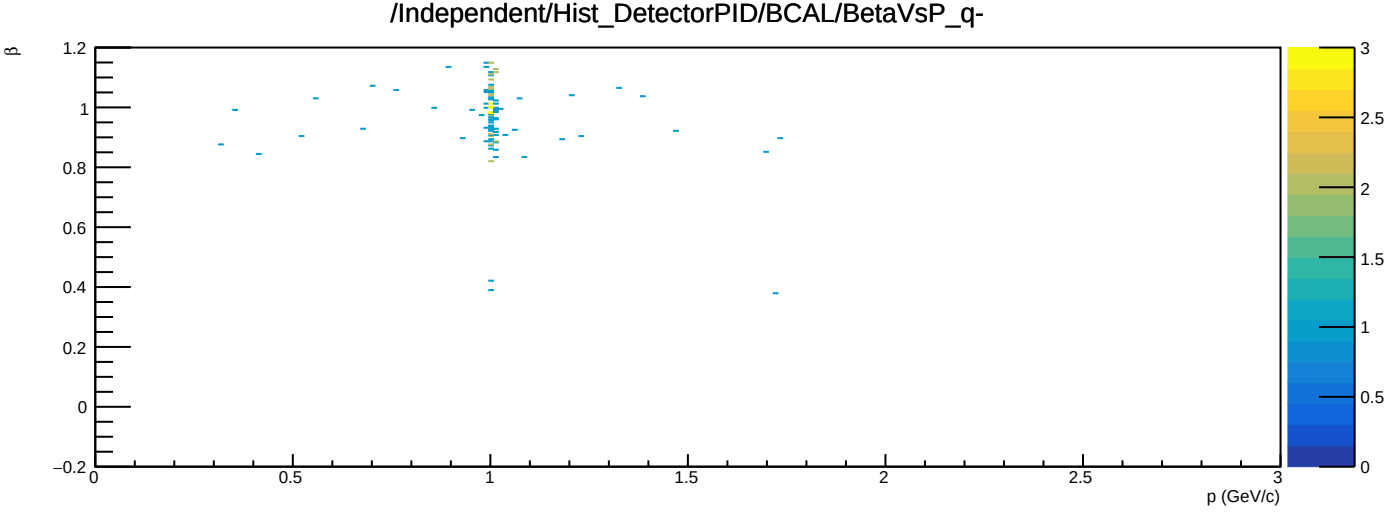

/Independent/Hist_DetectorPID/BCAL/BetaVsP_q0
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
0.5
1
1.5
2
2.5
3
Shower Energy (GeV)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0

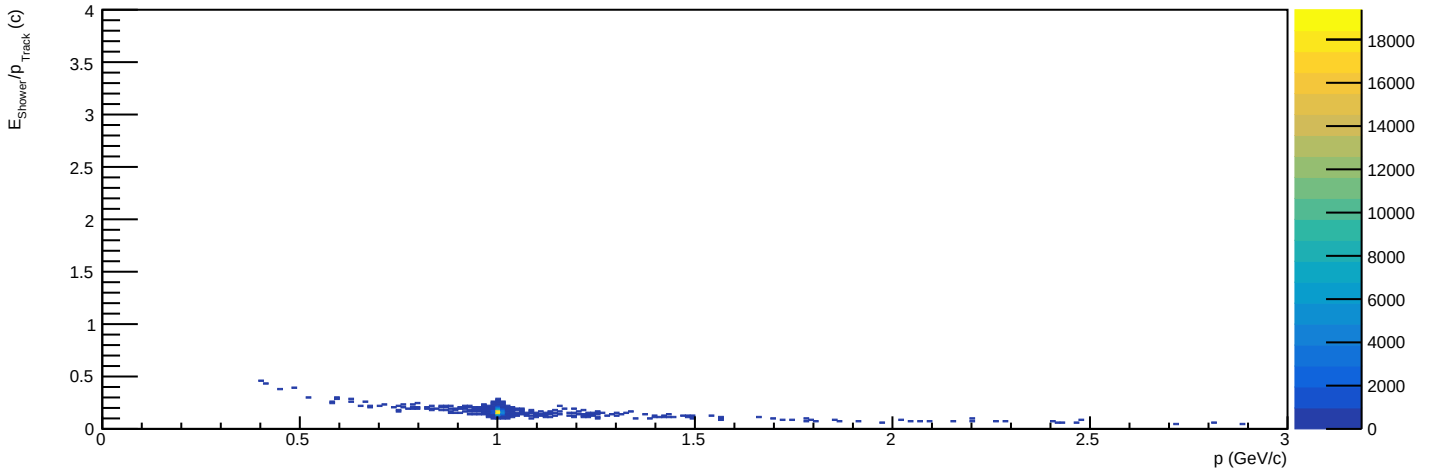

/Independent/Hist_DetectorPID/BCAL/BetaVsP_q0
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
0.5
1
1.5
2
2.5
3
Shower Energy (GeV)
6
5
4
3
2
1
0

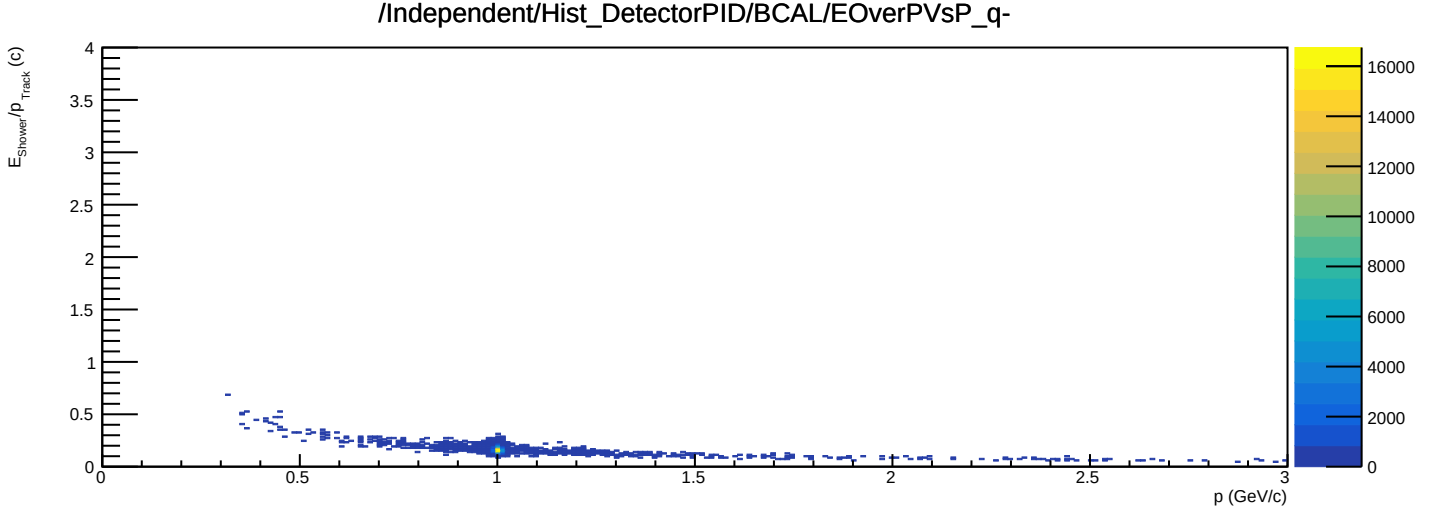

/Independent/Hist_DetectorPID/BCAL/DeltaTvsShowerE_Photon
Δt_BCAL - RF
Shower Energy (GeV)

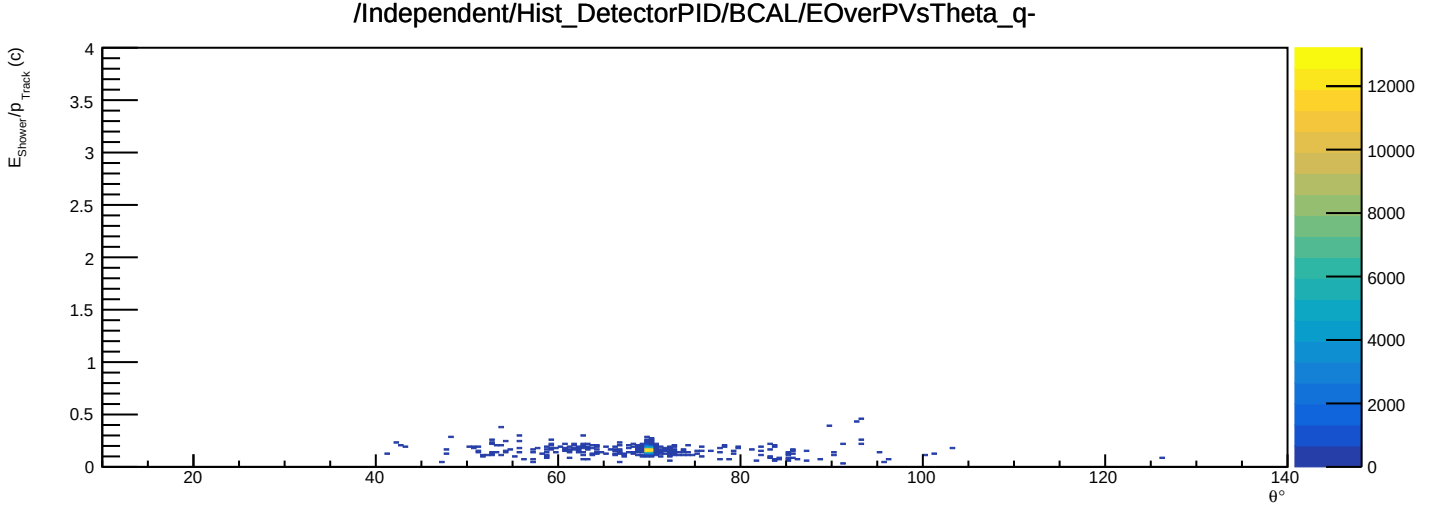

/Independent/Hist_DetectorPID/BCAL/DeltaTvsShowerE_Photon
Δt_BCAL - RF
Shower Energy (GeV)

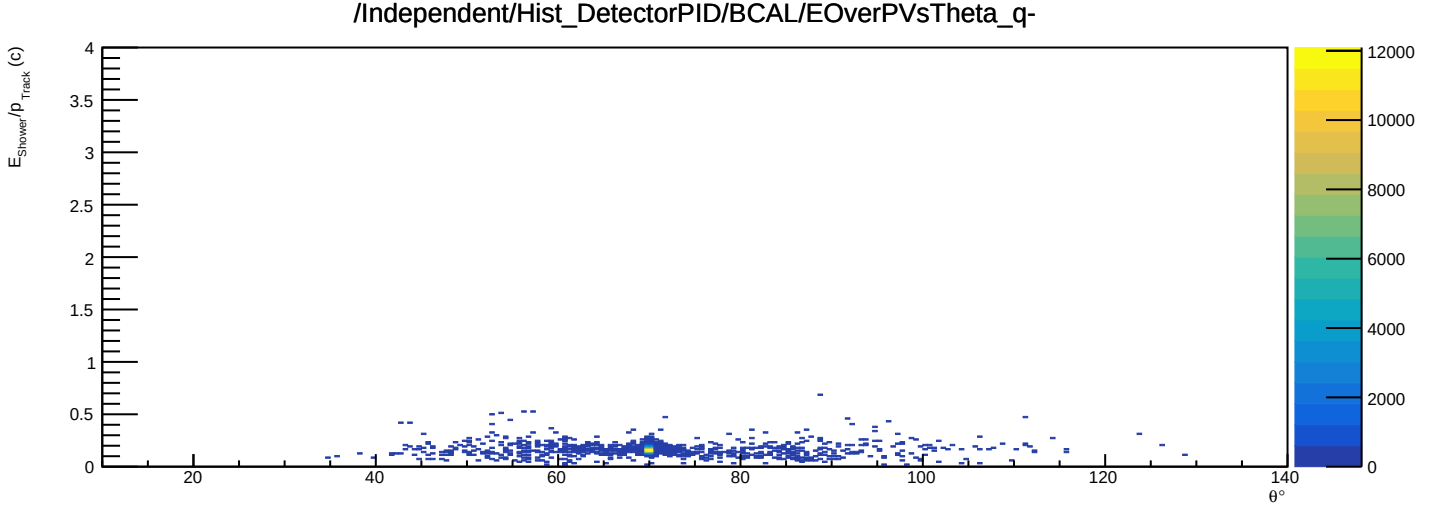

/Independent/Hist_DetectorPID/BCAL/BetaVsP_q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
0.5
1
1.5
2
2.5
3
p (GeV/c)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

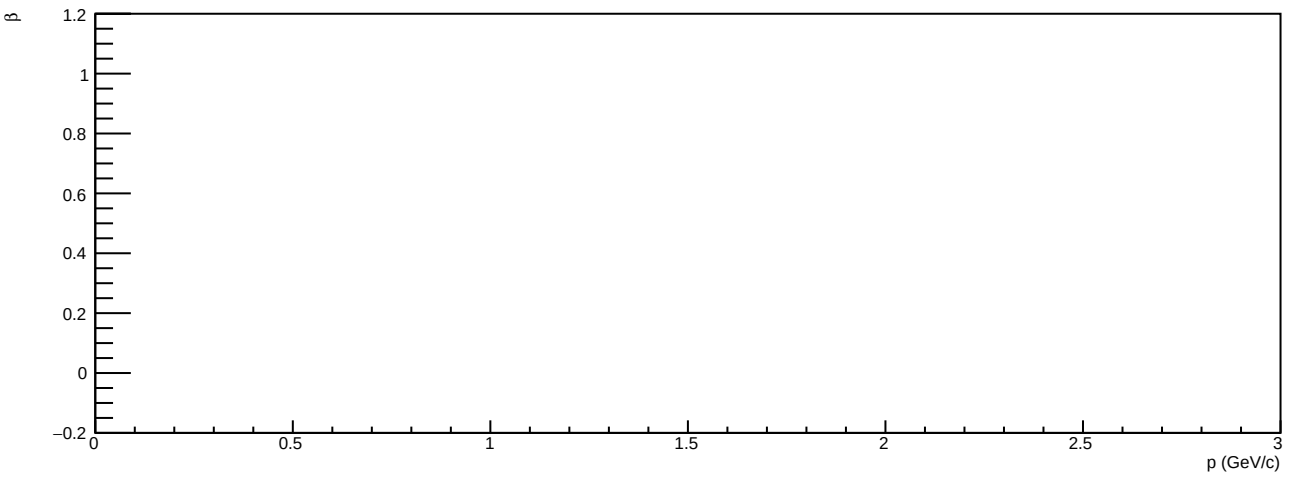

/Independent/Hist_DetectorPID/BCAL/BetaVsP_q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
0.5
1
1.5
2
2.5
3
p (GeV/c)
3
2.5
2
1.5
1
0.5
0

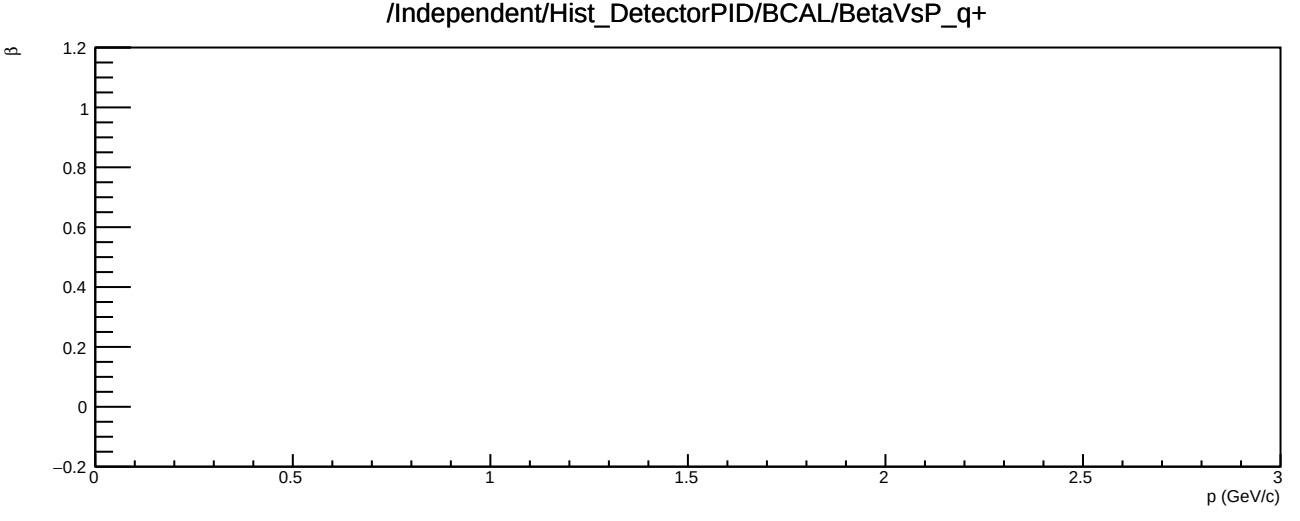

/Independent/Hist_DetectorPID/BCAL/EOverPVsP_q-
E_Shower/p_Track (c)
p (GeV/c)
0
0.5
1
1.5
2
2.5
3
3.5
4
0
2000
4000
6000
8000
10000
12000
14000
16000
18000

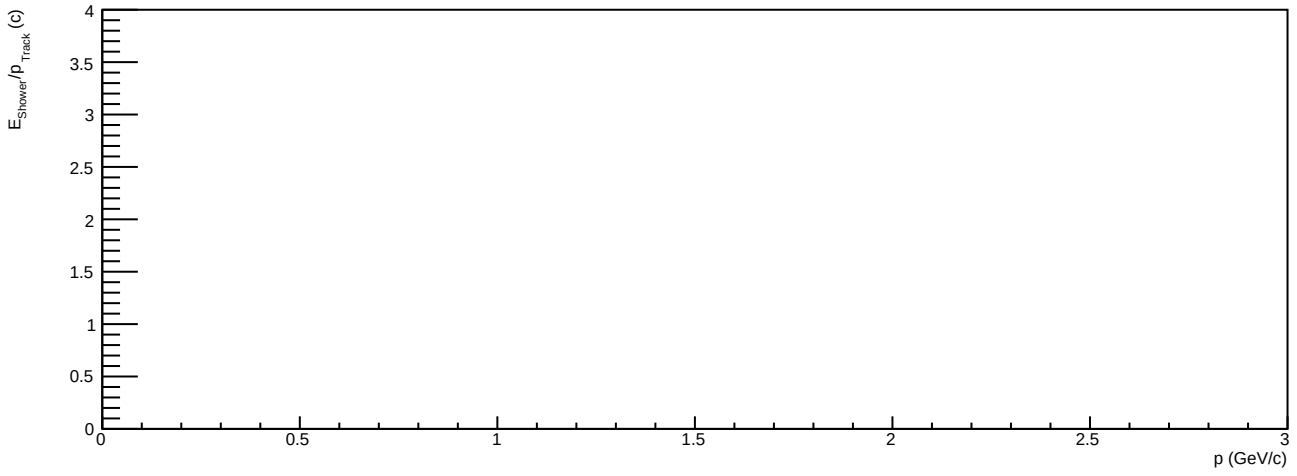

/Independent/Hist_DetectorPID/BCAL/EOverPVsP_q-
E_Shower/p_Track (c)
p (GeV/c)
0
0.5
1
1.5
2
2.5
3
3.5
4
0
2000
4000
6000
8000
10000
12000
14000
16000

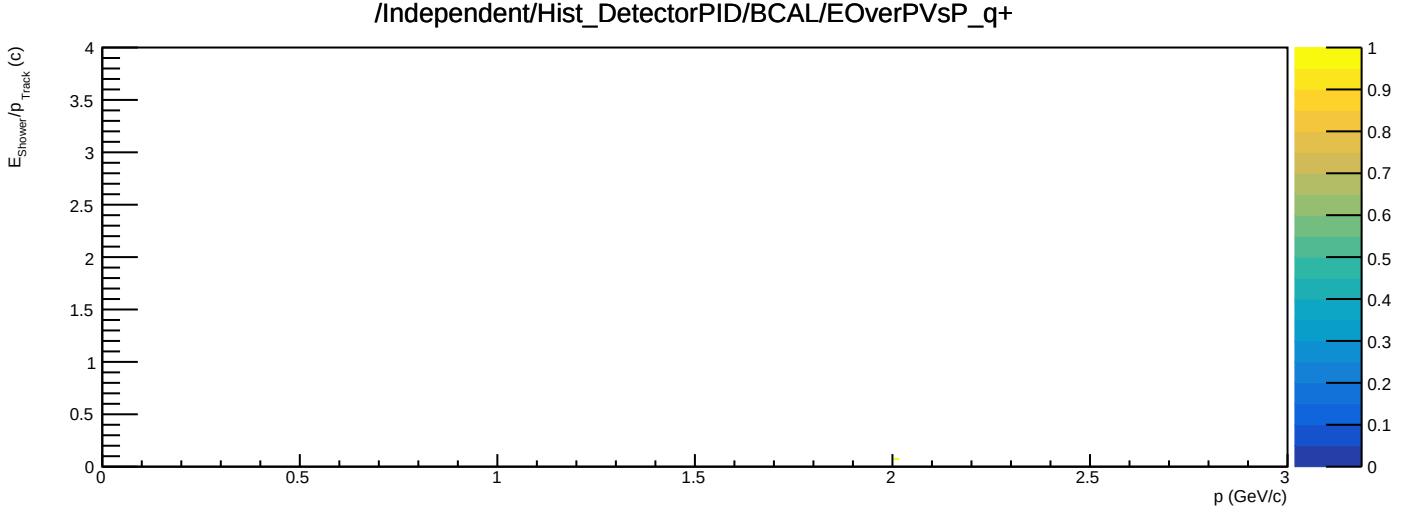

/Independent/Hist_DetectorPID/BCAL/EOverPVsTheta_q-
E_Shower/p_Track (c)
θ°

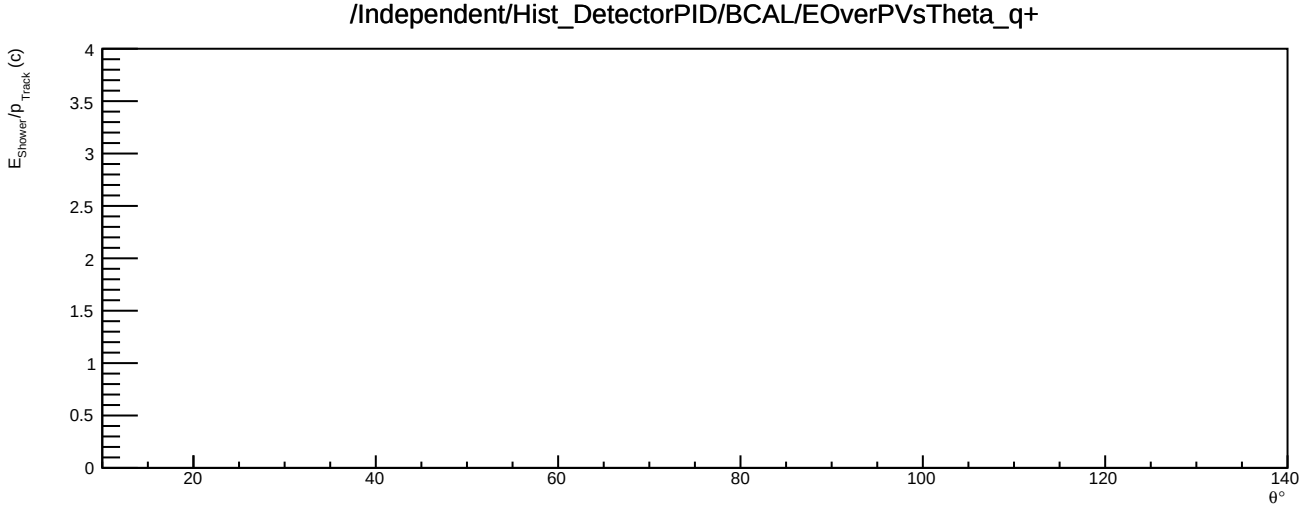

/Independent/Hist_DetectorPID/BCAL/EOverPVsTheta_q-
E_Shower/p_Track (c)
θ°

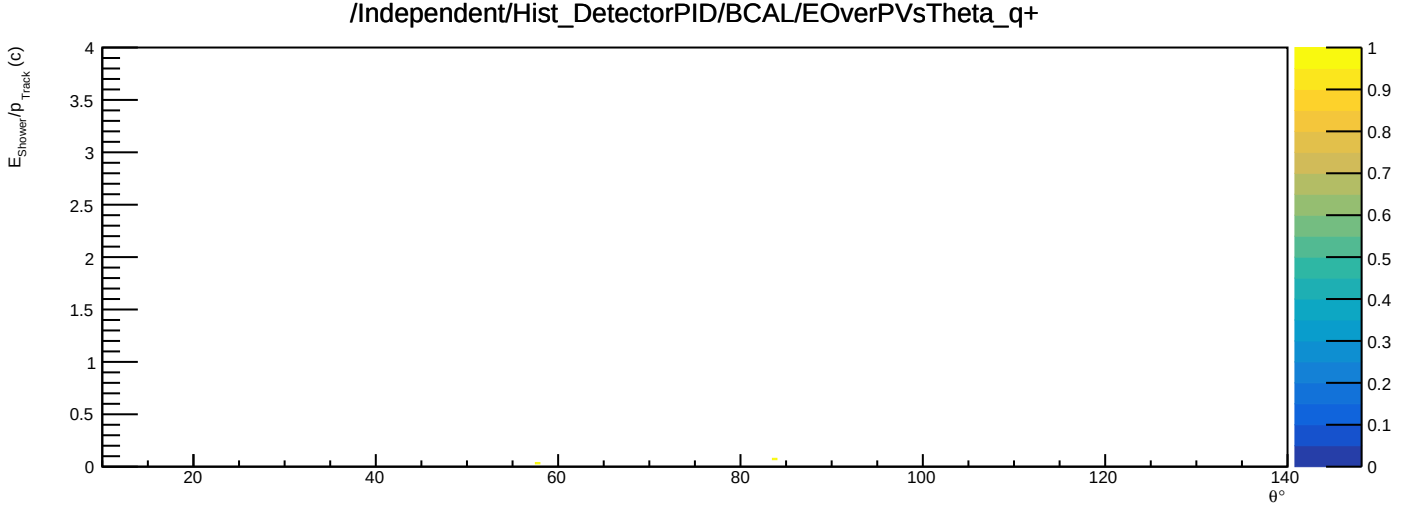

/Independent/Hist_DetectorPID/BCAL/BetaVsP_q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
0.5
1
1.5
2
2.5
3
p (GeV/c)

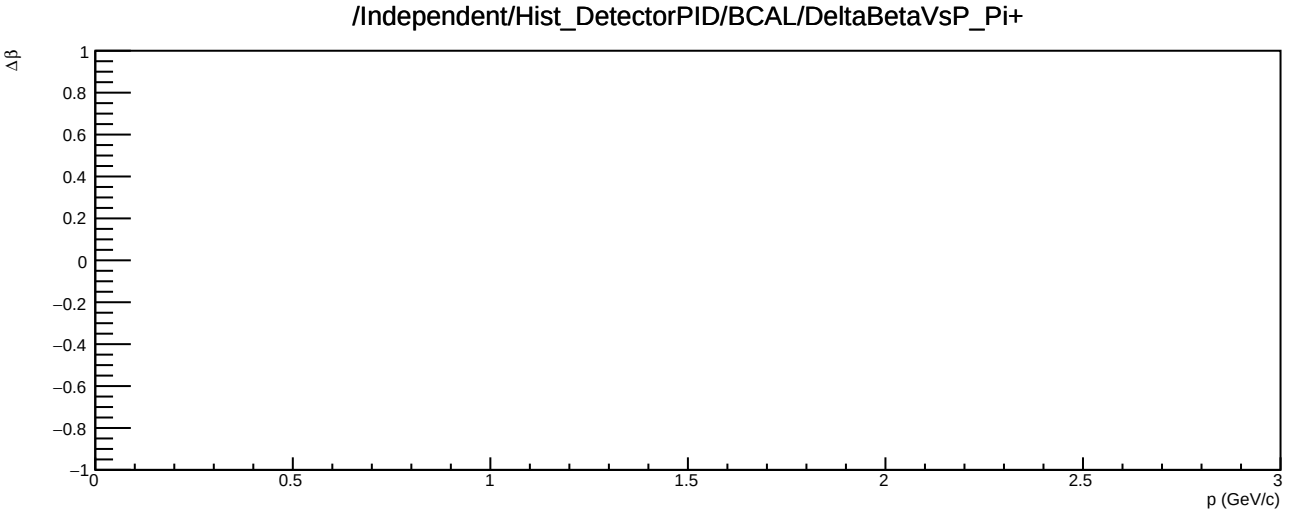

/Independent/Hist_DetectorPID/BCAL/BetaVsP_q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
0.5
1
1.5
2
2.5
3
p (GeV/c)

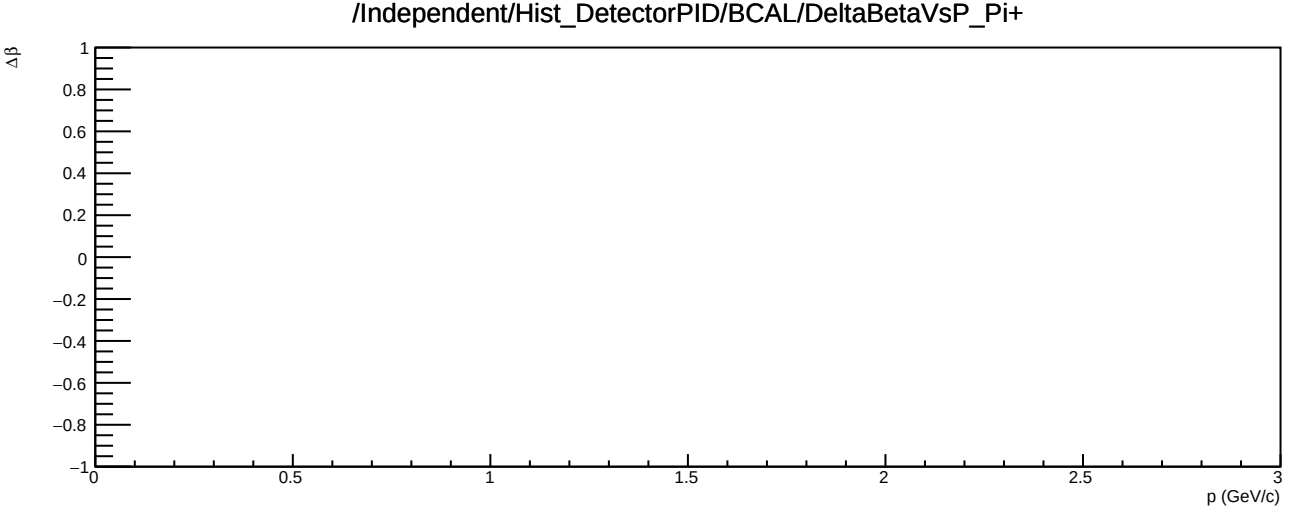

/Independent/Hist_DetectorPID/BCAL/EOverPVsP_q+
E_Shower/p_Track (c)
p (GeV/c)
0
0.5
1
1.5
2
2.5
3
3.5
4

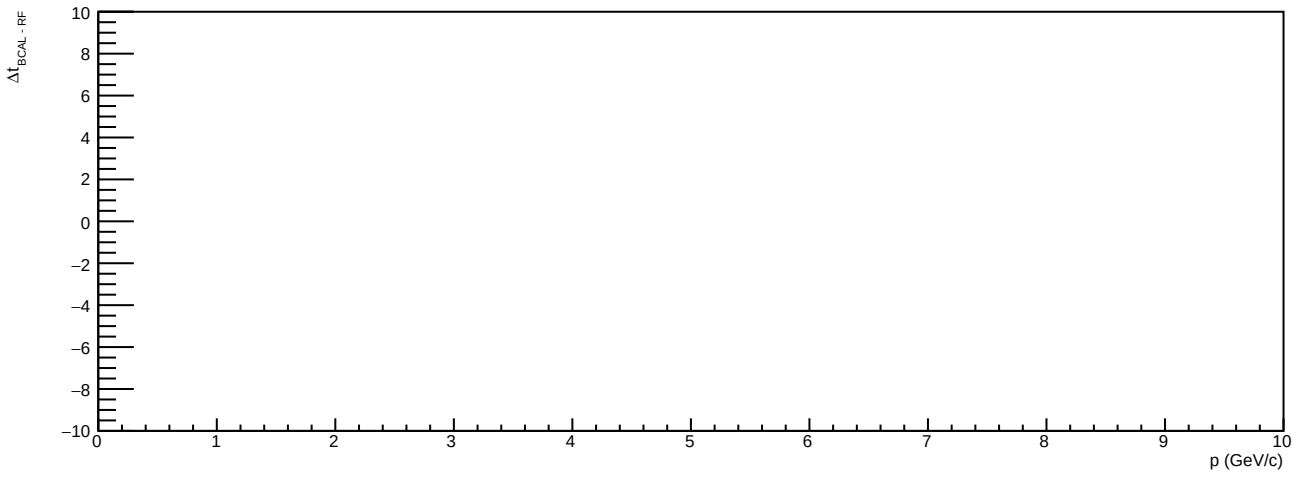

/Independent/Hist_DetectorPID/BCAL/EOverPVsP_q+
E_Shower/p_Track (c)
p (GeV/c)
0
0.5
1
1.5
2
2.5
3
3.5
4
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

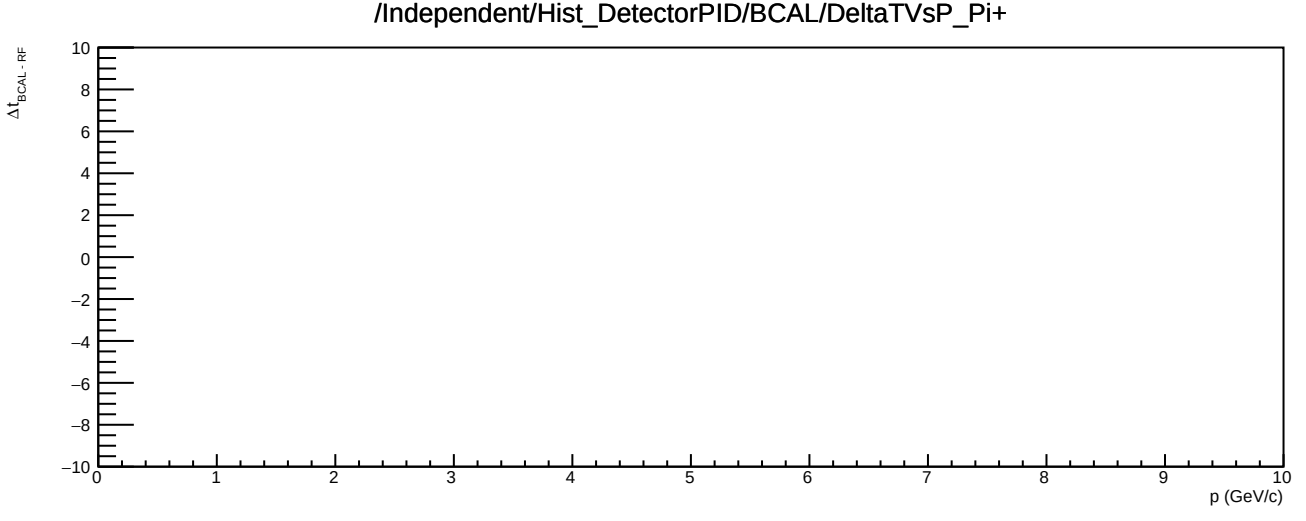

/Independent/Hist_DetectorPID/BCAL/EOverPVsTheta_q+
E_Shower/p_Track (c)
0
0.5
1
1.5
2
2.5
3
3.5
4
20
40
60
80
100
120
140
θ°

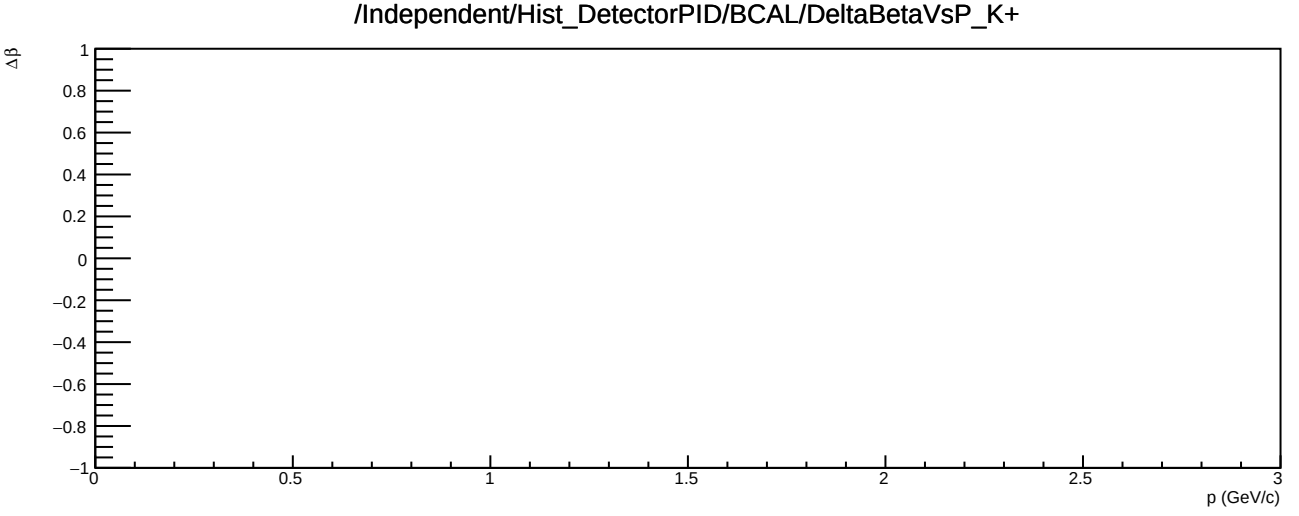

/Independent/Hist_DetectorPID/BCAL/EOverPVsTheta_q+
E_Shower/p_Track (c)
0
0.5
1
1.5
2
2.5
3
3.5
4
20
40
60
80
100
120
140
θ°
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

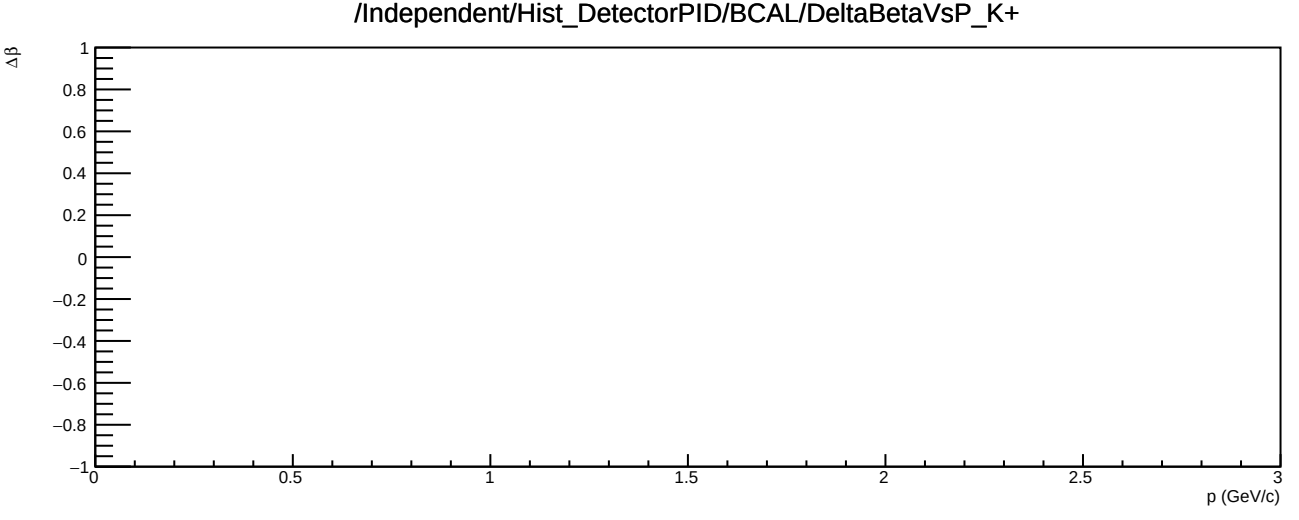

/Independent/Hist_DetectorPID/BCAL/DeltaBetaVsP_Pi+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
0.5
1
1.5
2
2.5
3
p (GeV/c)

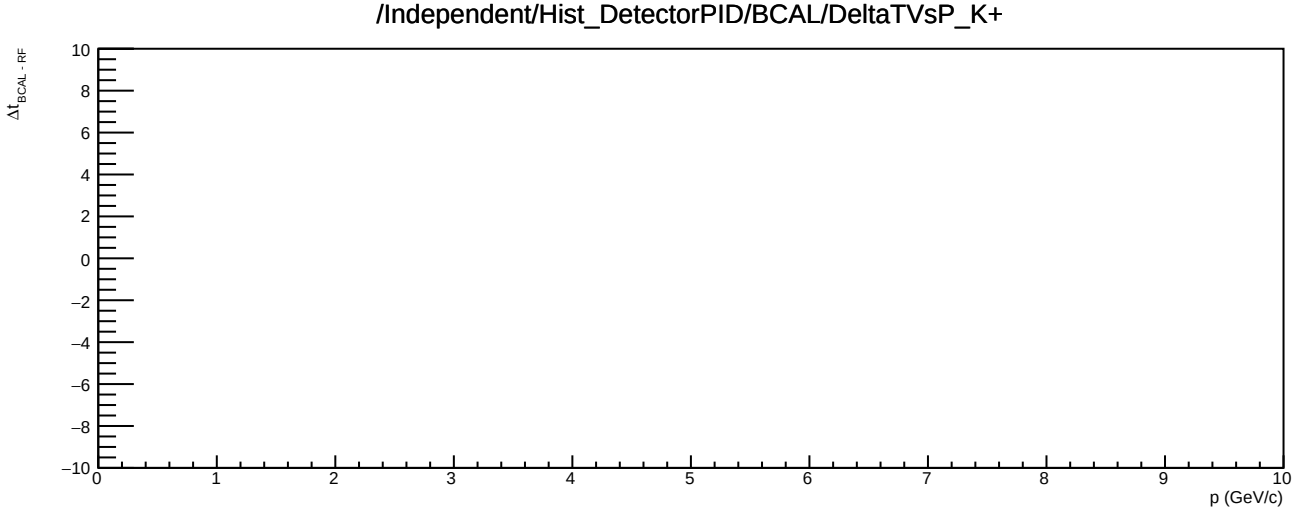

/Independent/Hist_DetectorPID/BCAL/DeltaBetaVsP_Pi+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
0.5
1
1.5
2
2.5
3
p (GeV/c)

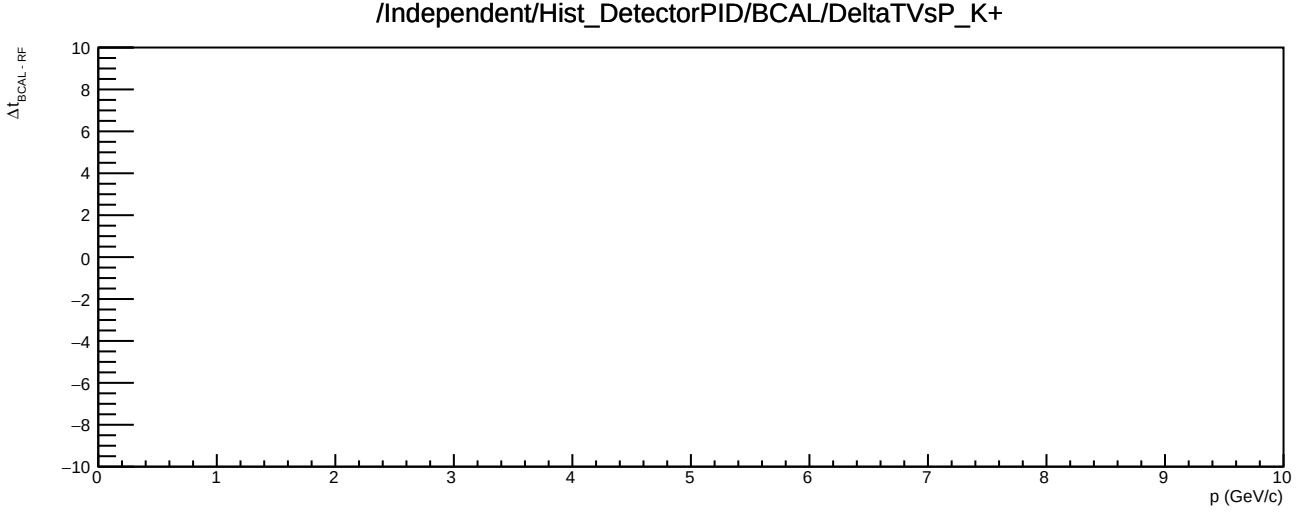

/Independent/Hist_DetectorPID/BCAL/DeltaTVsP_Pi+
$\Delta t_{BCAL - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

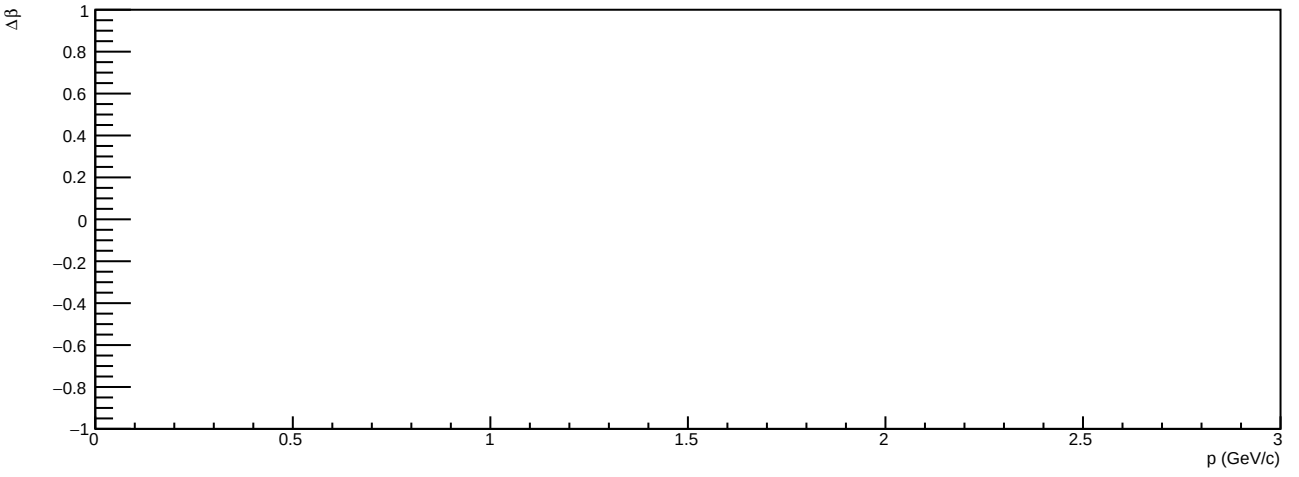

/Independent/Hist_DetectorPID/BCAL/DeltaTVsP_Pi+
$\Delta t_{BCAL - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

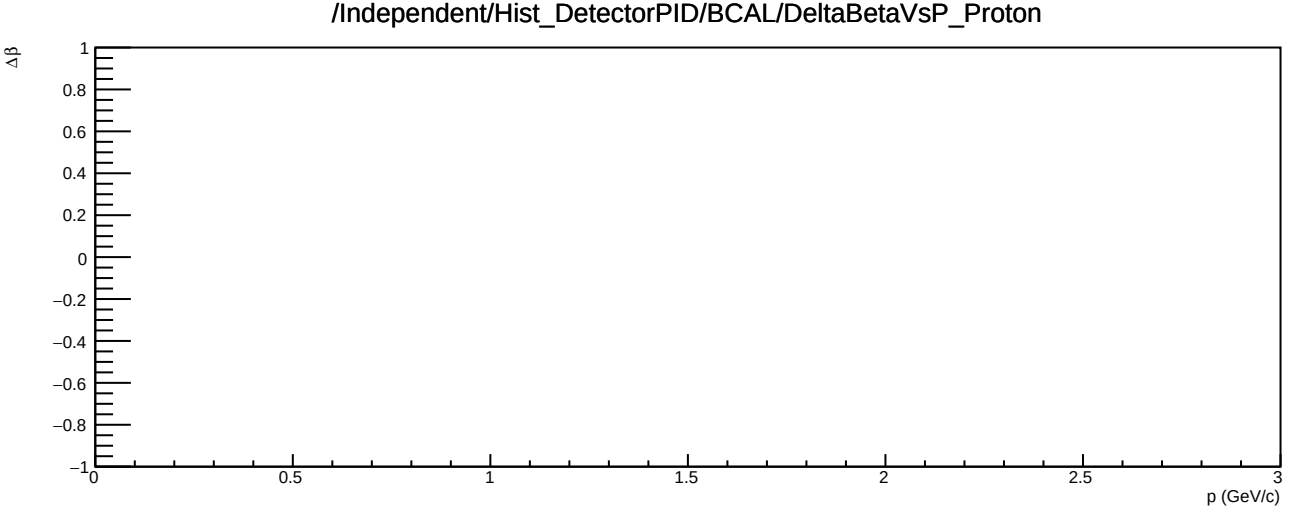

/Independent/Hist_DetectorPID/BCAL/DeltaBetaVsP_K+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
0.5
1
1.5
2
2.5
3
p (GeV/c)

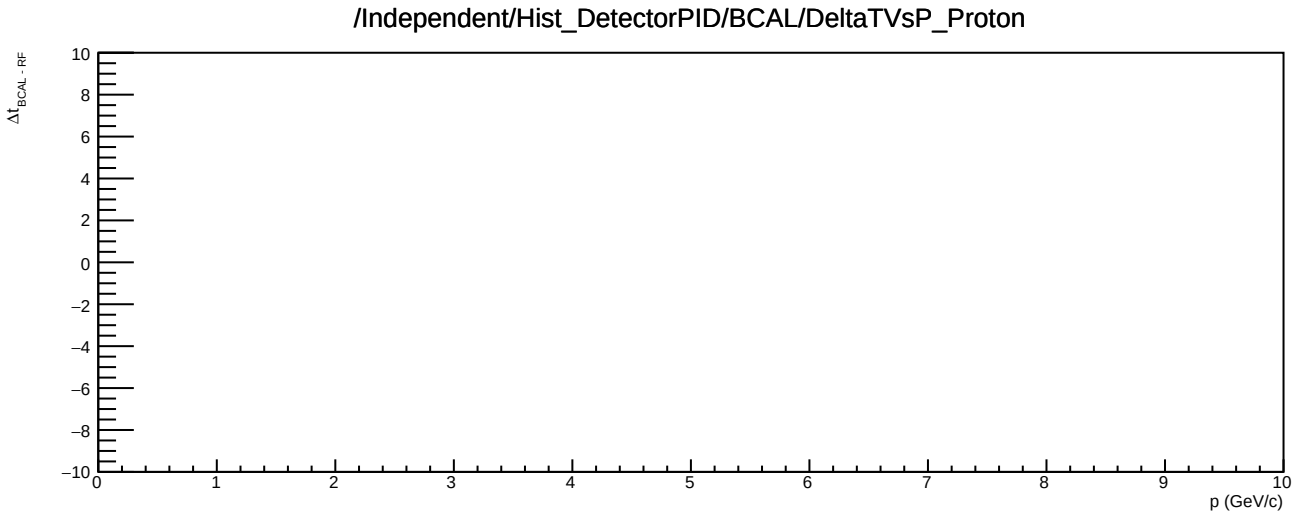

/Independent/Hist_DetectorPID/BCAL/DeltaBetaVsP_K+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
0.5
1
1.5
2
2.5
3
p (GeV/c)

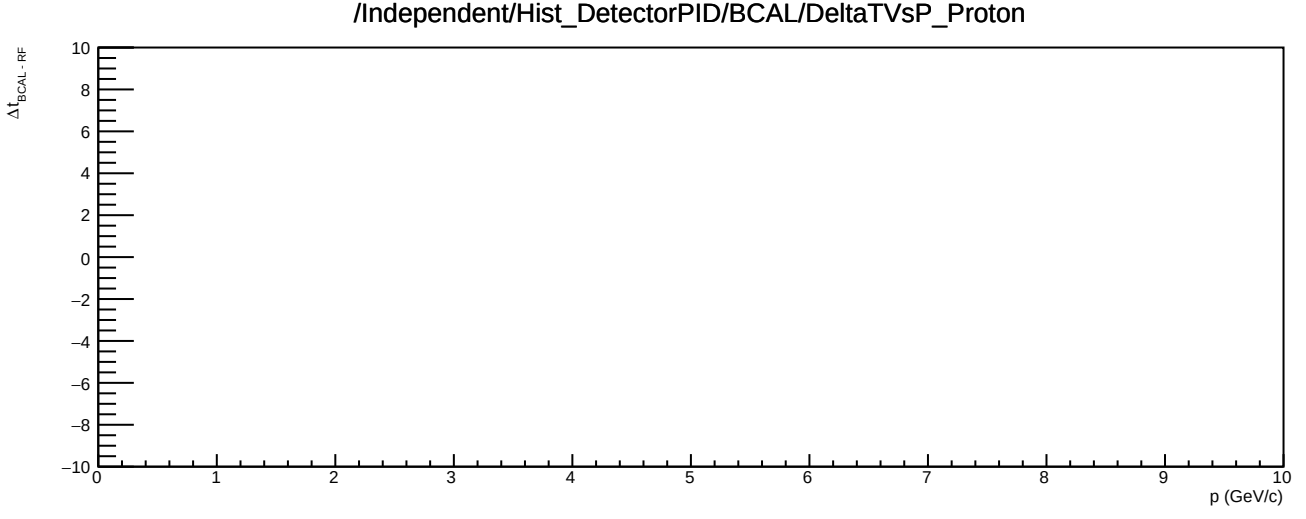

/Independent/Hist_DetectorPID/BCAL/DeltaTVsP_K+
Δt BCAL - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

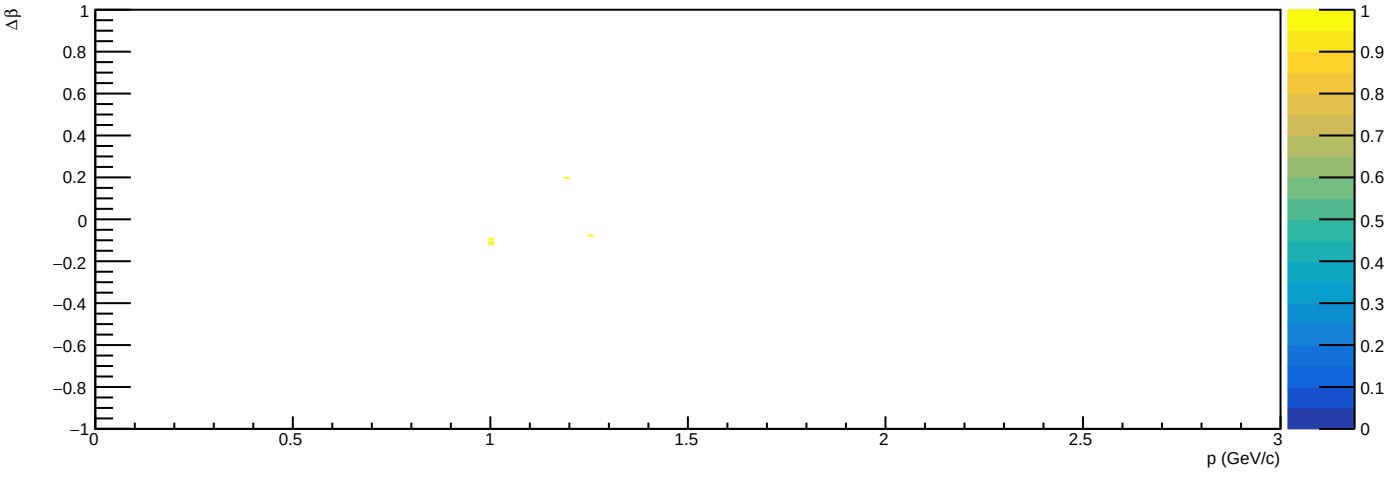

/Independent/Hist_DetectorPID/BCAL/DeltaTVsP_K+
Δt BCAL - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

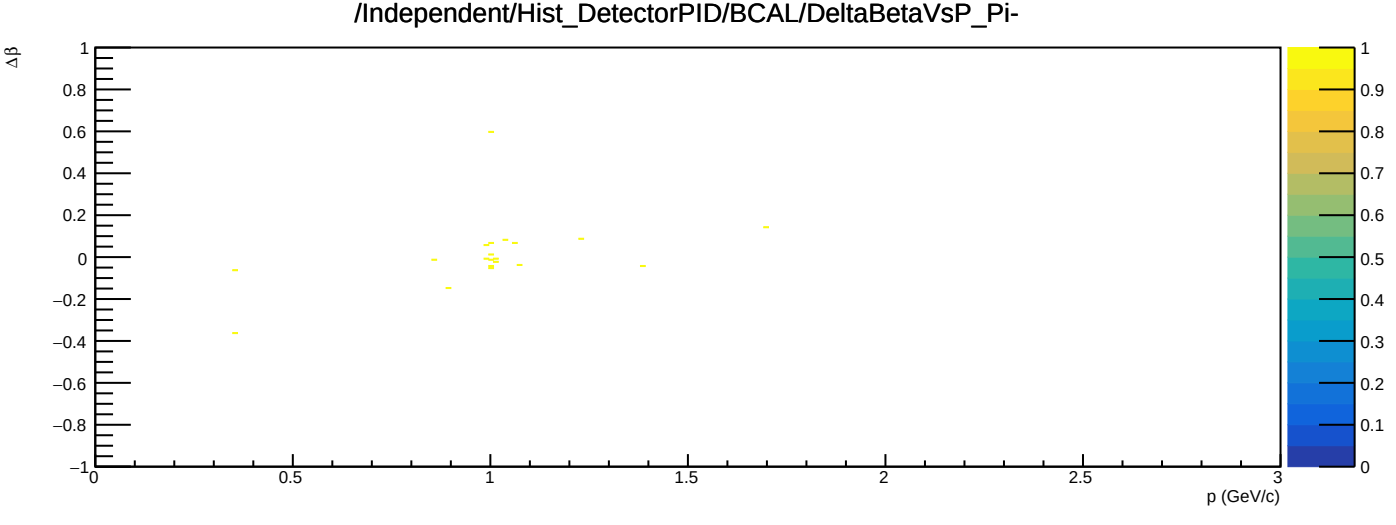

/Independent/Hist_DetectorPID/BCAL/DeltaBetaVsP_Proton
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
0.5
1
1.5
2
2.5
3
p (GeV/c)

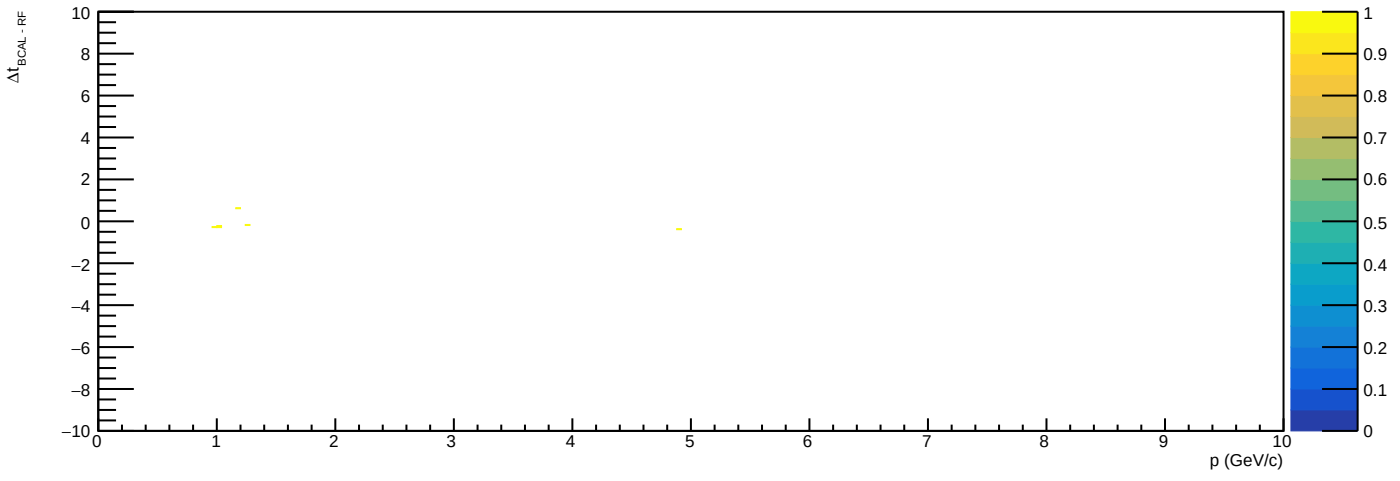

/Independent/Hist_DetectorPID/BCAL/DeltaBetaVsP_Proton
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
0.5
1
1.5
2
2.5
3
p (GeV/c)

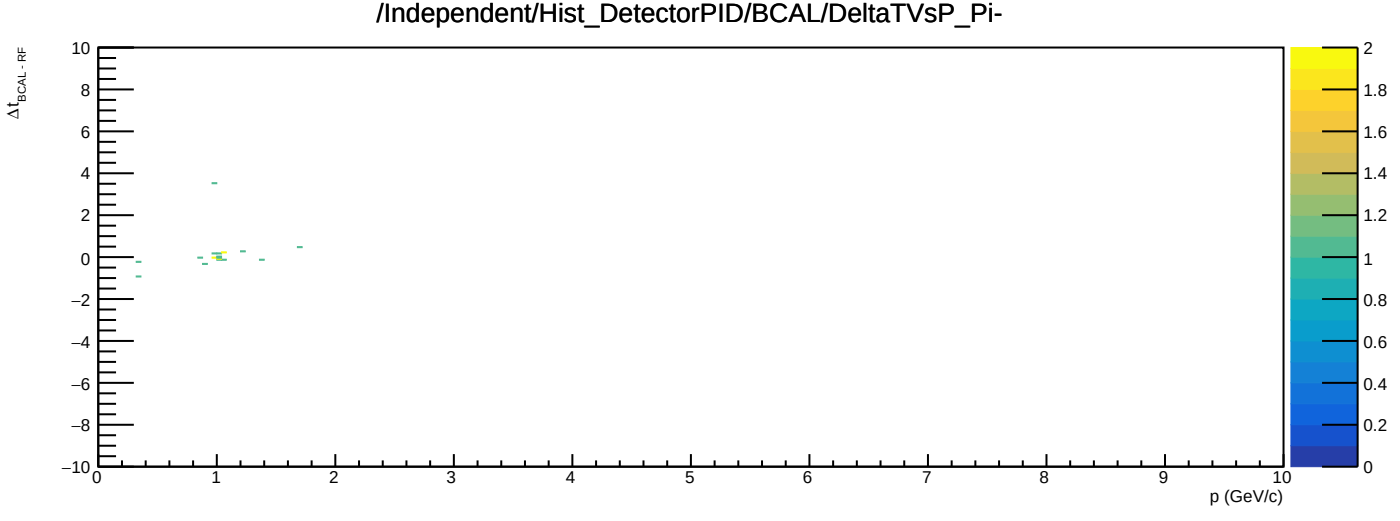

/Independent/Hist_DetectorPID/BCAL/DeltaTVsP_Proton
Δt BCAL - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

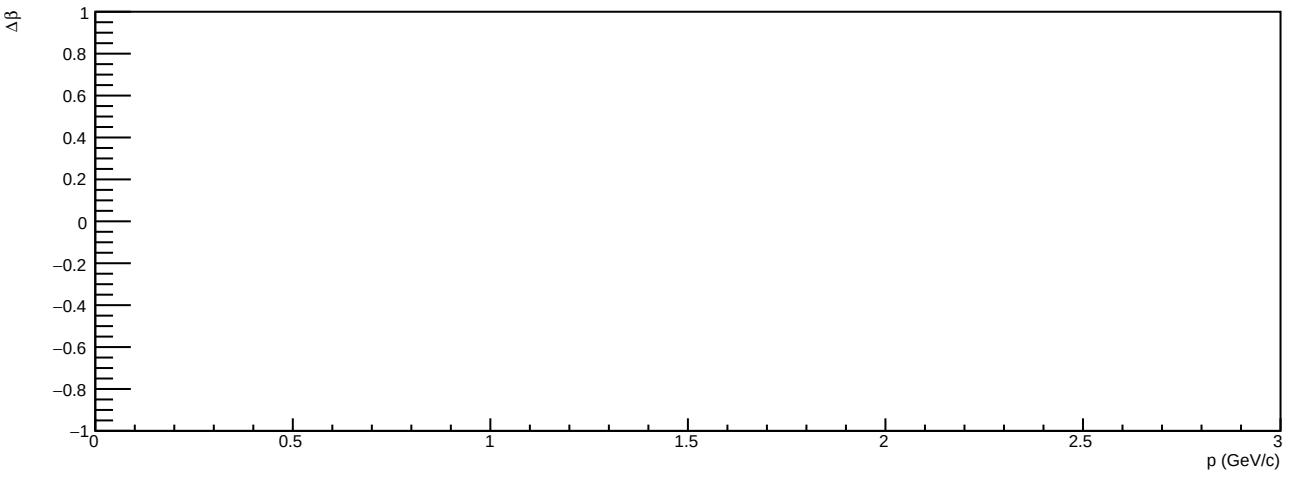

/Independent/Hist_DetectorPID/BCAL/DeltaTVsP_Proton
Δt BCAL - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

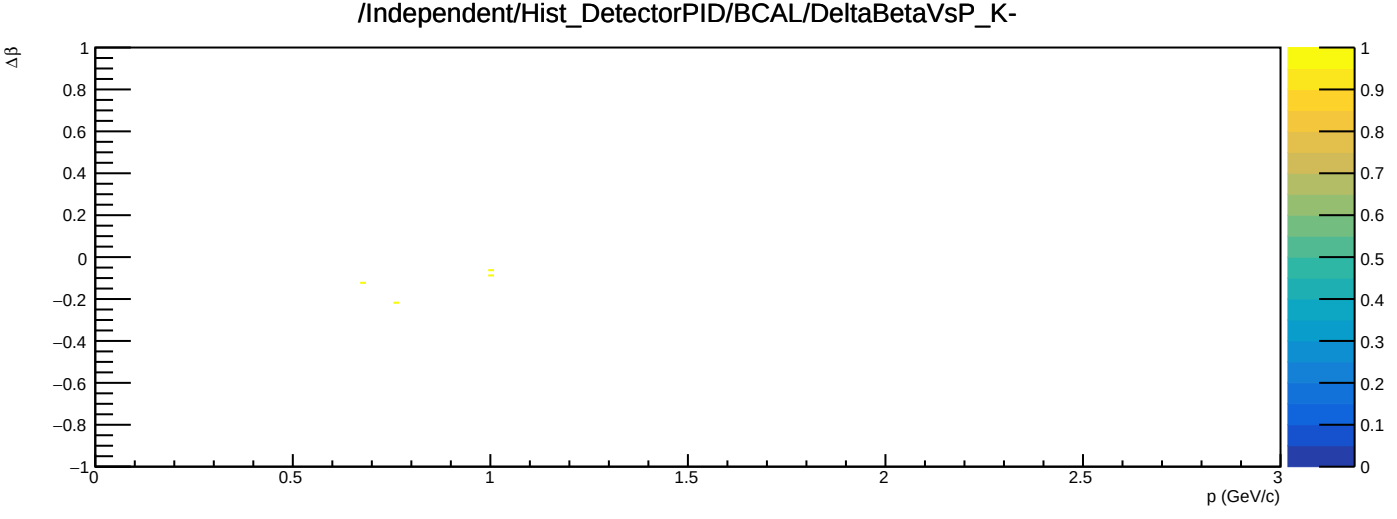

/Independent/Hist_DetectorPID/BCAL/DeltaBetaVsP_Pi-
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
0.5
1
1.5
2
2.5
3
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

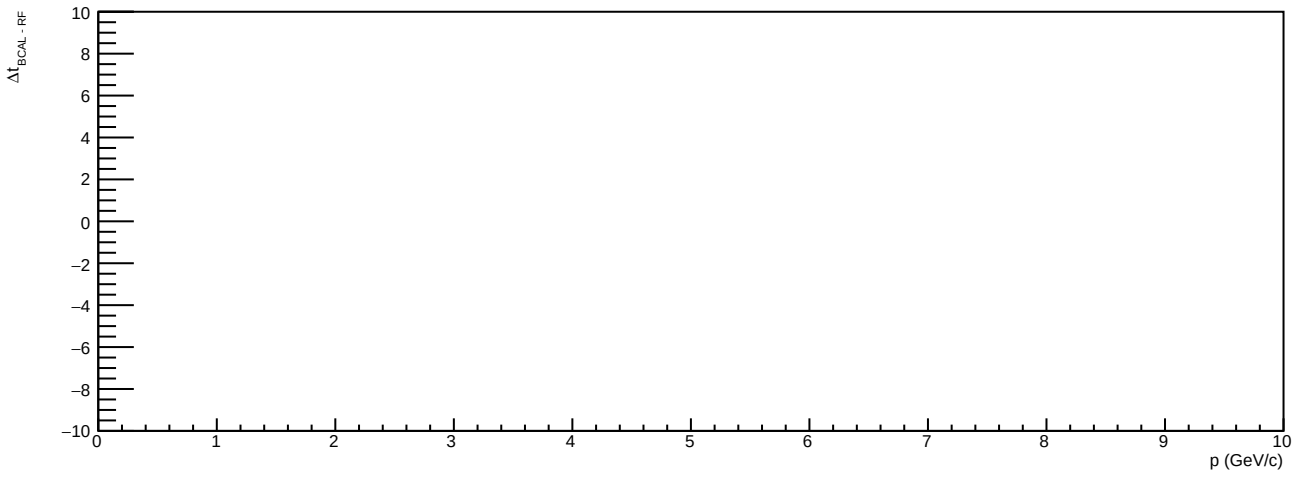

/Independent/Hist_DetectorPID/BCAL/DeltaBetaVsP_Pi-
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
0.5
1
1.5
2
2.5
3
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

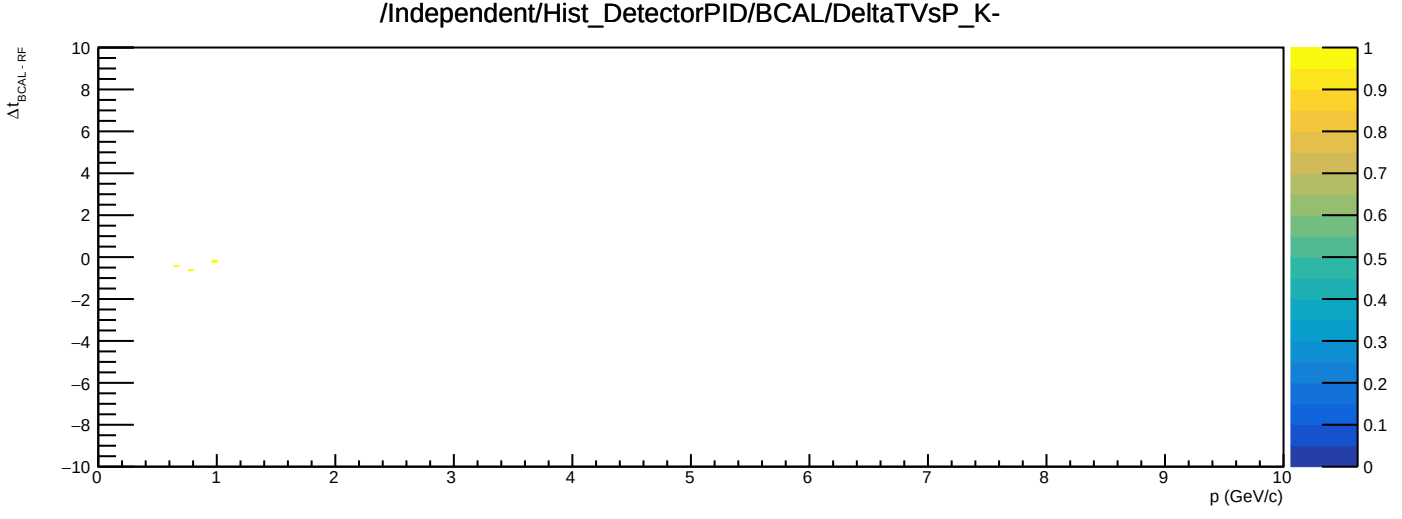

/Independent/Hist_DetectorPID/BCAL/DeltaTVsP_Pi-
Δt_BCAL - RF
p (GeV/c)

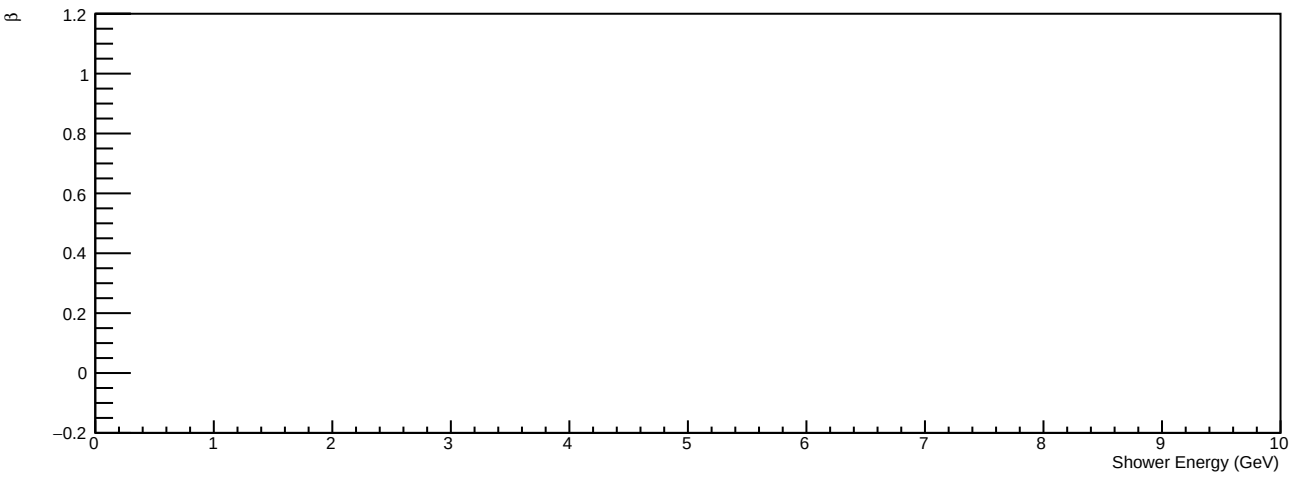

/Independent/Hist_DetectorPID/BCAL/DeltaTVsP_Pi-
Δt_BCAL - RF
p (GeV/c)

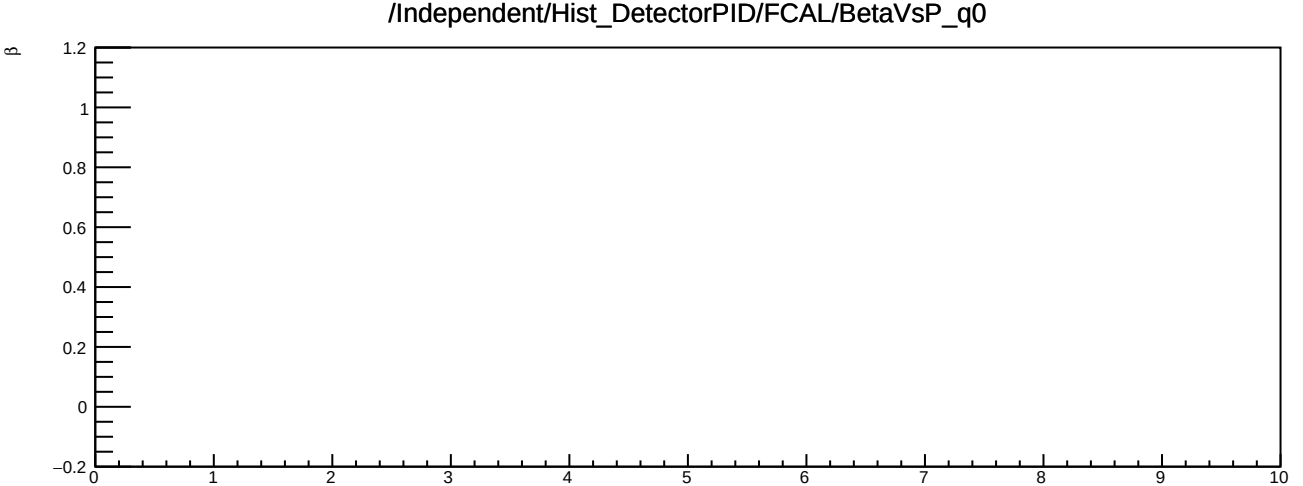

/Independent/Hist_DetectorPID/BCAL/DeltaBetaVsP_K-
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
0.5
1
1.5
2
2.5
3
p (GeV/c)

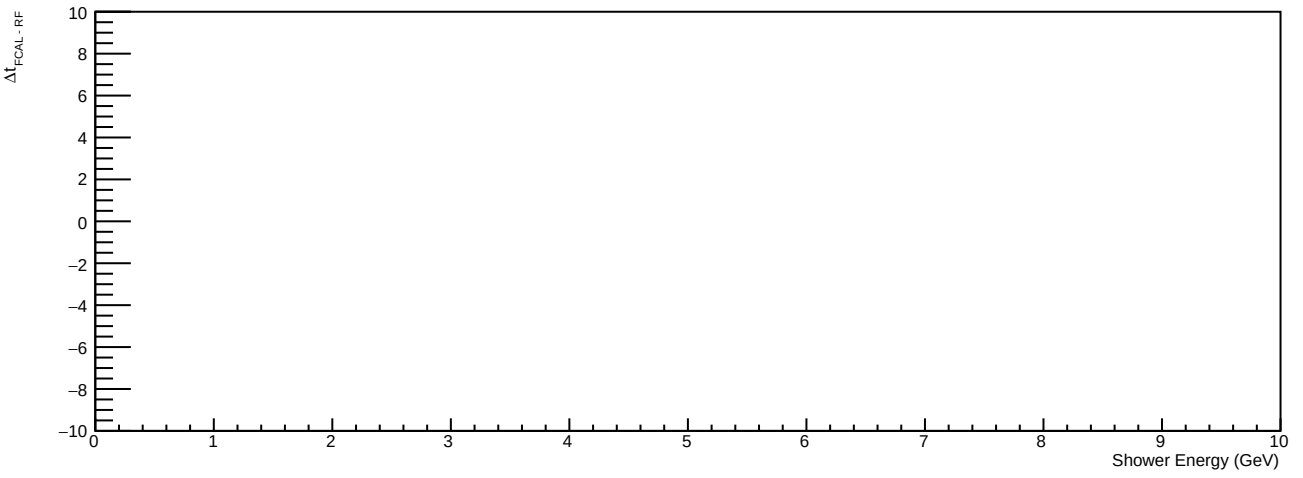

/Independent/Hist_DetectorPID/BCAL/DeltaBetaVsP_K-
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
0.5
1
1.5
2
2.5
3
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

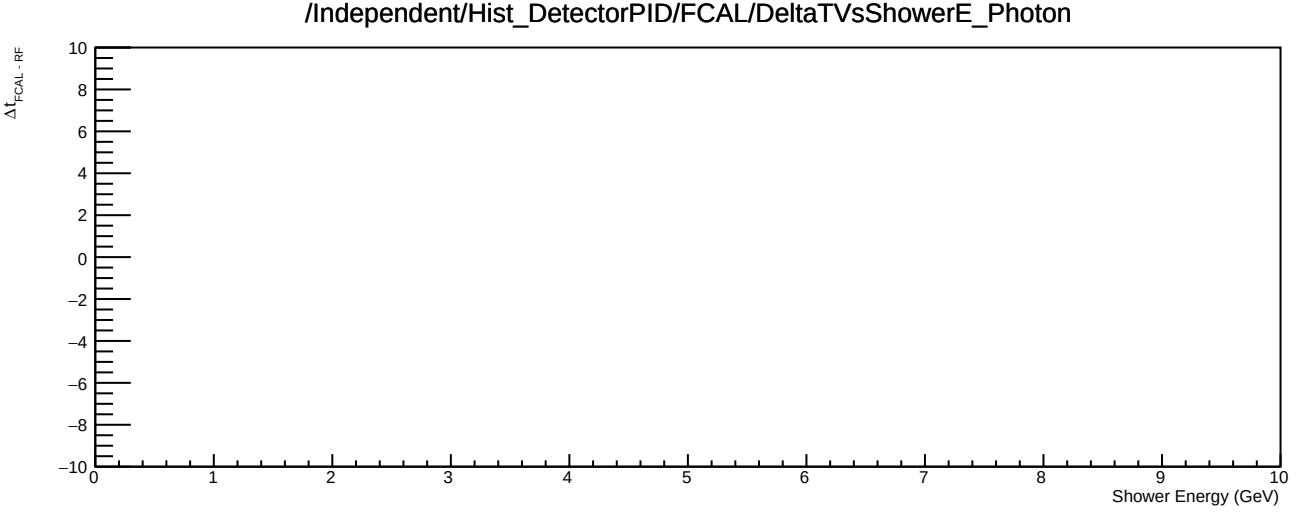

/Independent/Hist_DetectorPID/BCAL/DeltaTVsP_K-
Δt BCAL - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

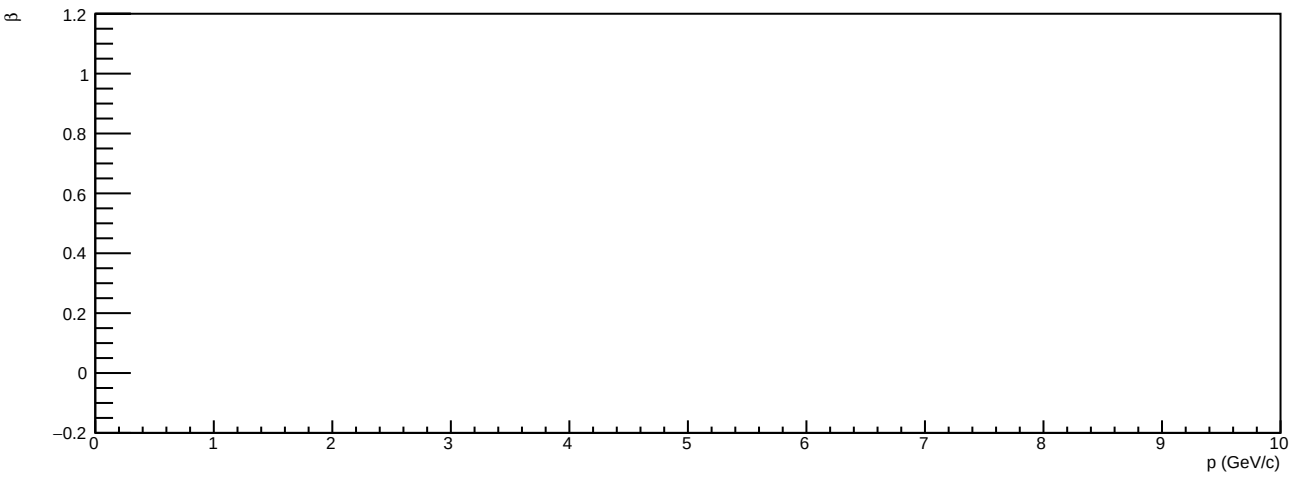

/Independent/Hist_DetectorPID/BCAL/DeltaTVsP_K-
Δt BCAL - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

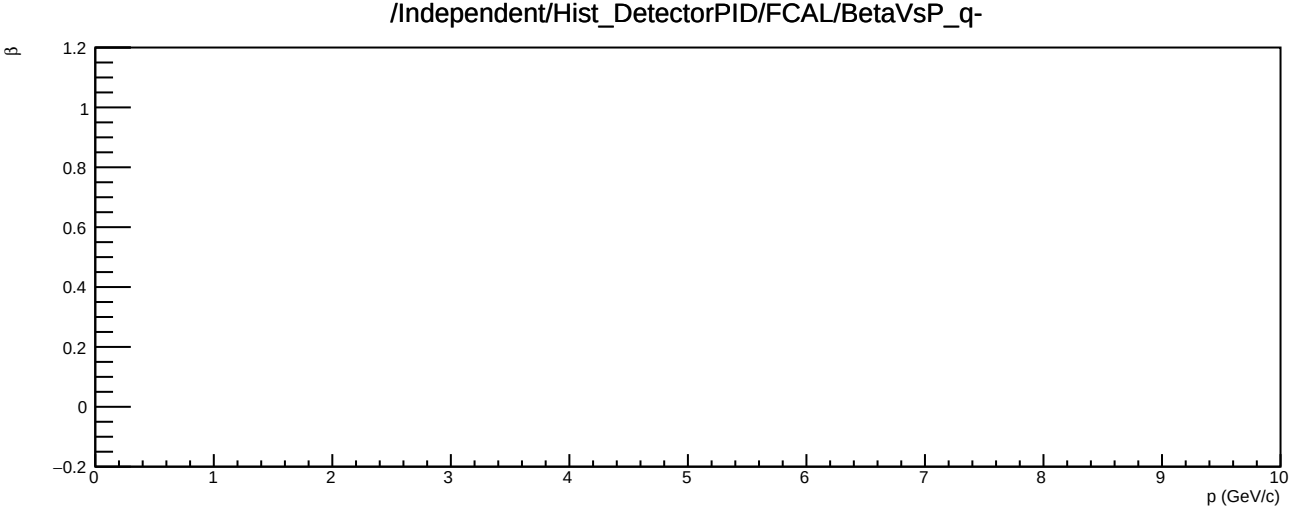

/Independent/Hist_DetectorPID/FCAL/BetaVsP_q0
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
Shower Energy (GeV)

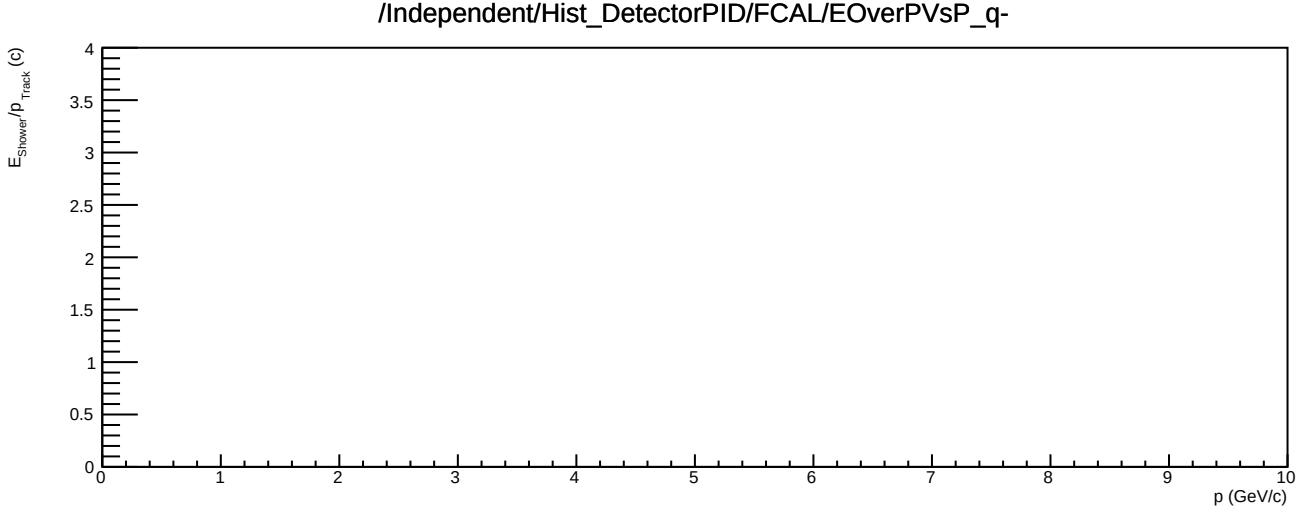

/Independent/Hist_DetectorPID/FCAL/BetaVsP_q0
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
Shower Energy (GeV)

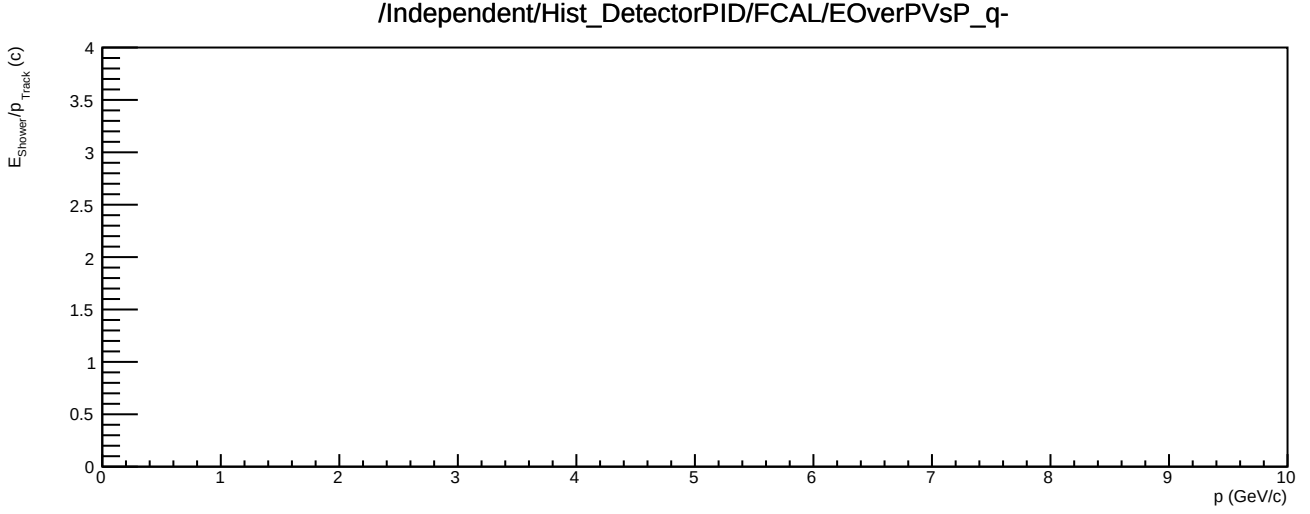

/Independent/Hist_DetectorPID/FCAL/DeltaTVsShowerE_Photon
$\Delta t_{FCAL - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
Shower Energy (GeV)

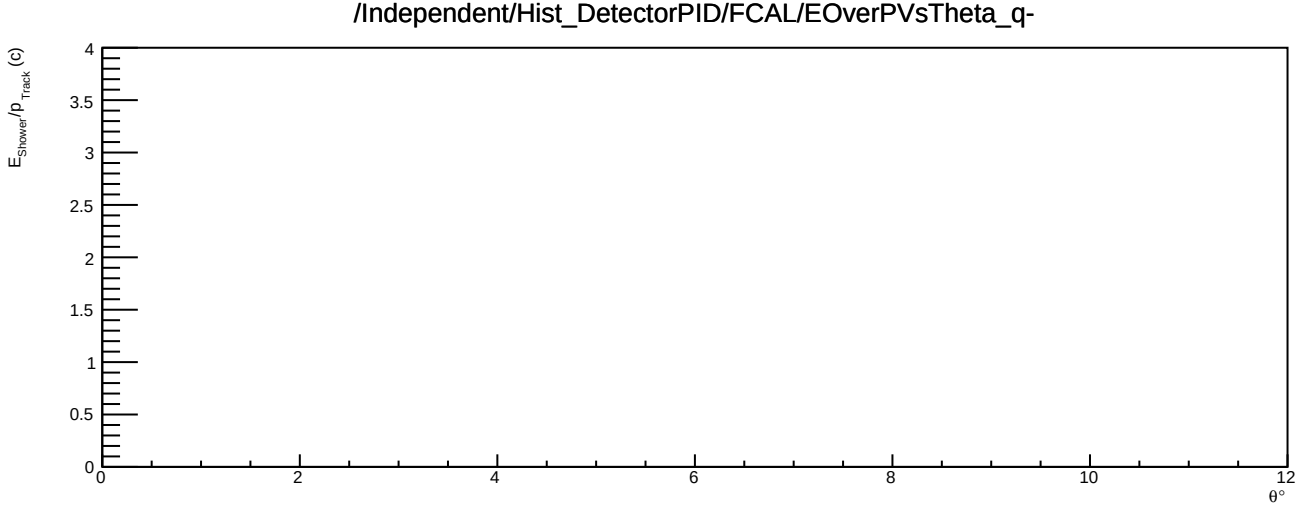

/Independent/Hist_DetectorPID/FCAL/DeltaTVsShowerE_Photon
$\Delta t_{FCAL - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
Shower Energy (GeV)

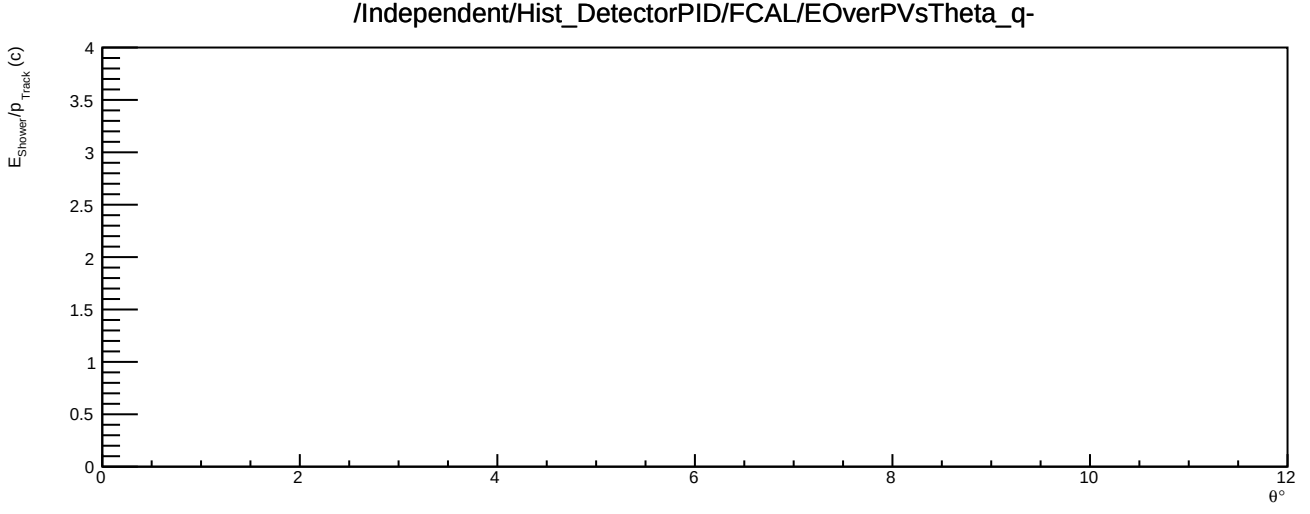

/Independent/Hist_DetectorPID/FCAL/BetaVsP_q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

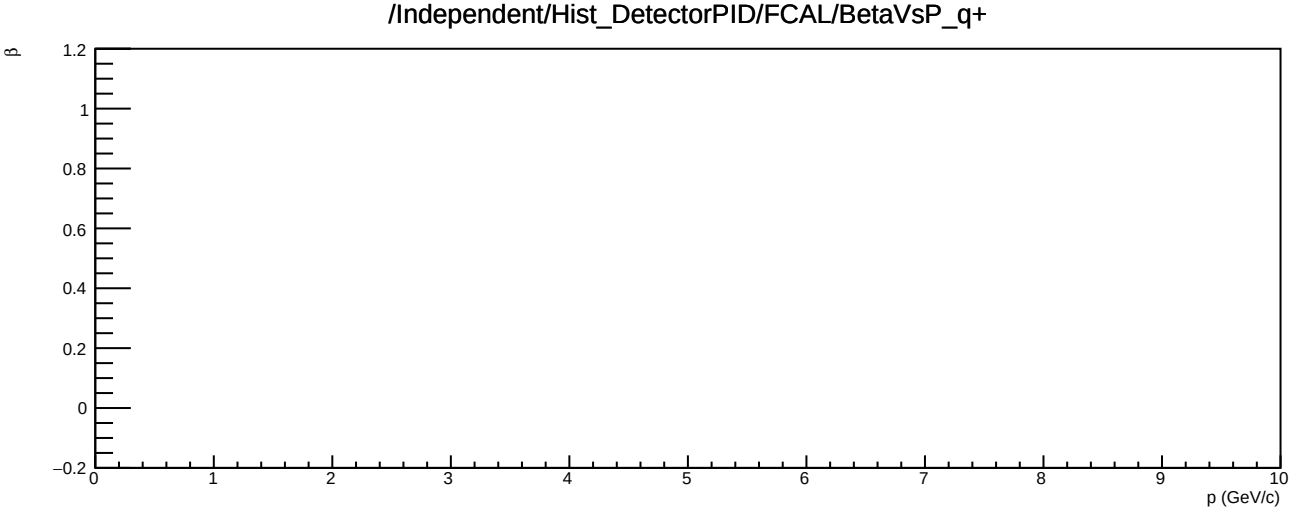

/Independent/Hist_DetectorPID/FCAL/BetaVsP_q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

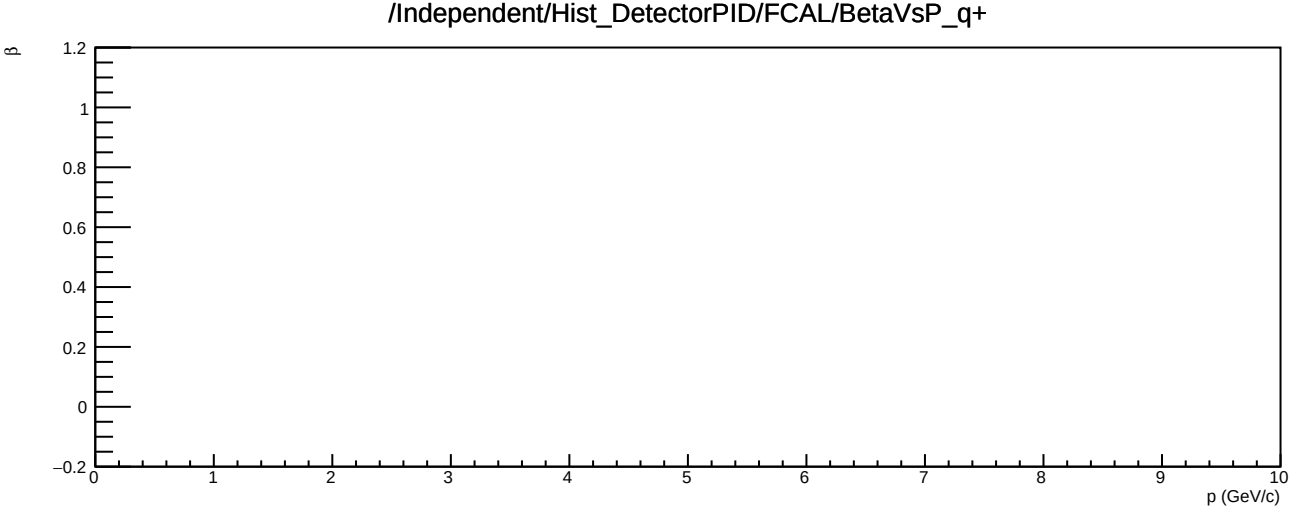

/Independent/Hist_DetectorPID/FCAL/EOverPVsP_q-
E_Shower/p_Track (c)
0
0.5
1
1.5
2
2.5
3
3.5
4
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

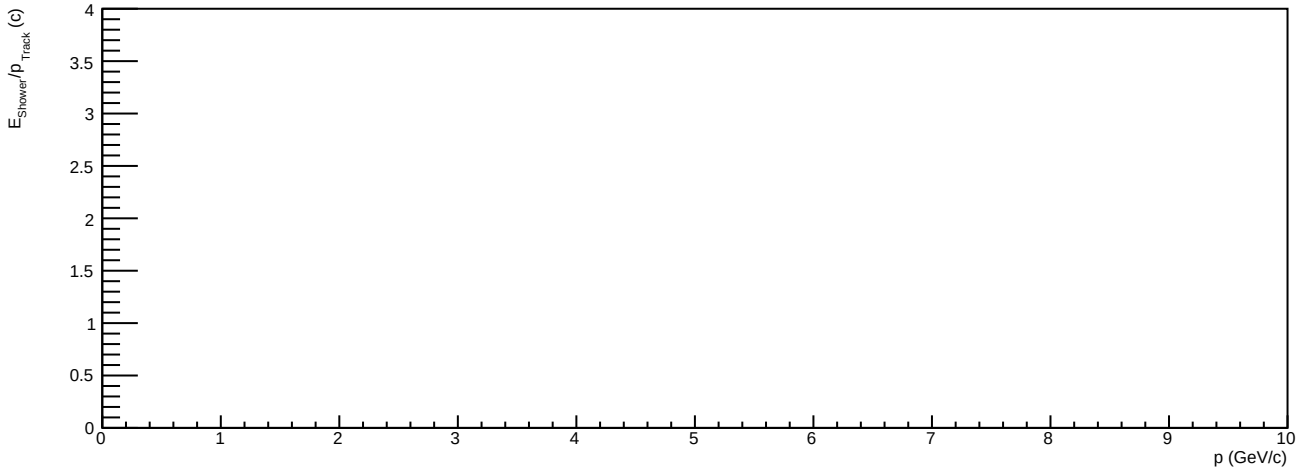

/Independent/Hist_DetectorPID/FCAL/EOverPVsP_q-
E_Shower/p_Track (c)
0
0.5
1
1.5
2
2.5
3
3.5
4
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

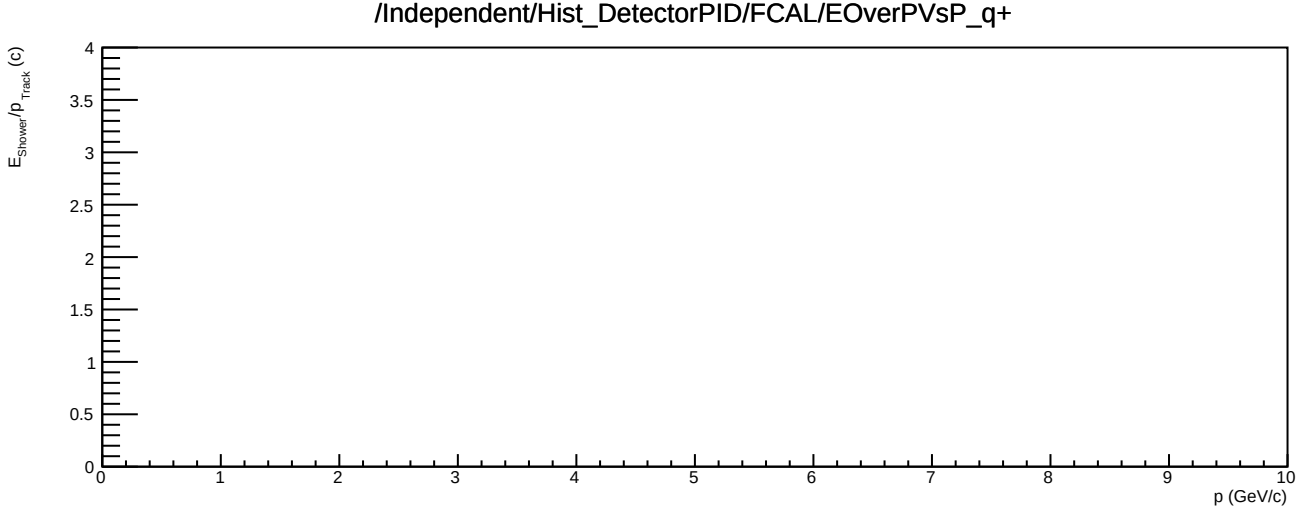

/Independent/Hist_DetectorPID/FCAL/EOverPVsTheta_q-
E_Shower/p_Track (c)
0
0.5
1
1.5
2
2.5
3
3.5
4
0
2
4
6
8
10
12
θ°

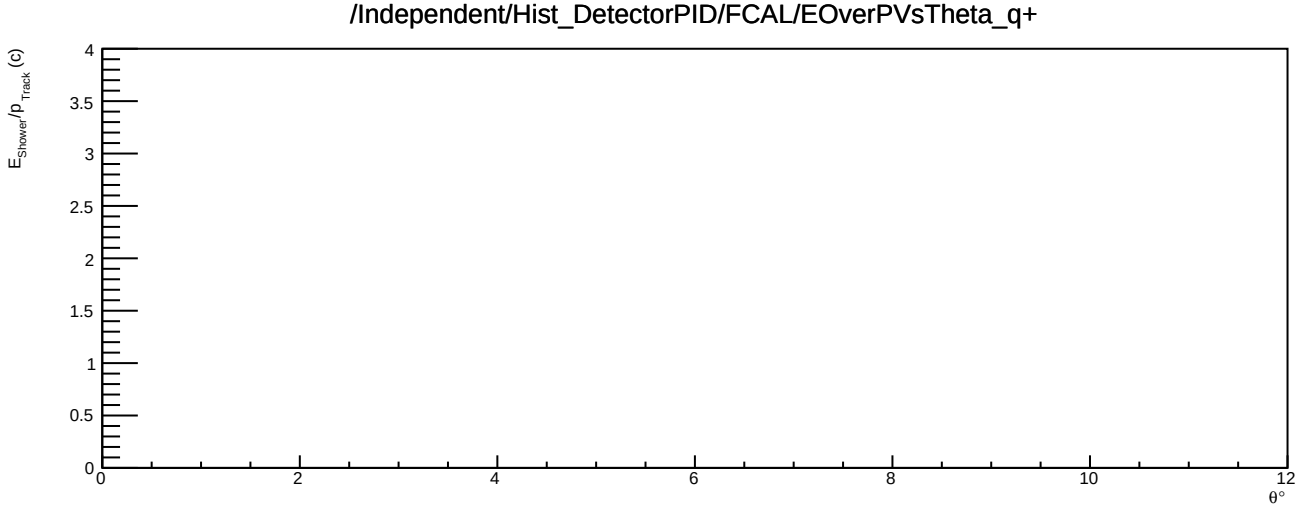

/Independent/Hist_DetectorPID/FCAL/EOverPVsTheta_q-
E_Shower/p_Track (c)
0
0.5
1
1.5
2
2.5
3
3.5
4
0
2
4
6
8
10
12
θ°

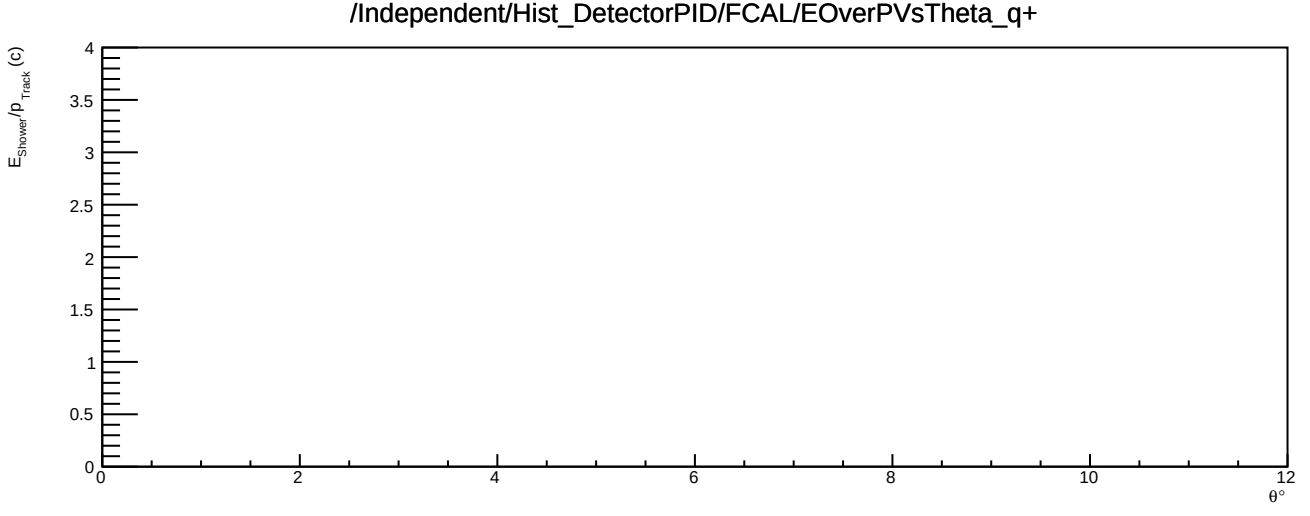

/Independent/Hist_DetectorPID/FCAL/BetaVsP_q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

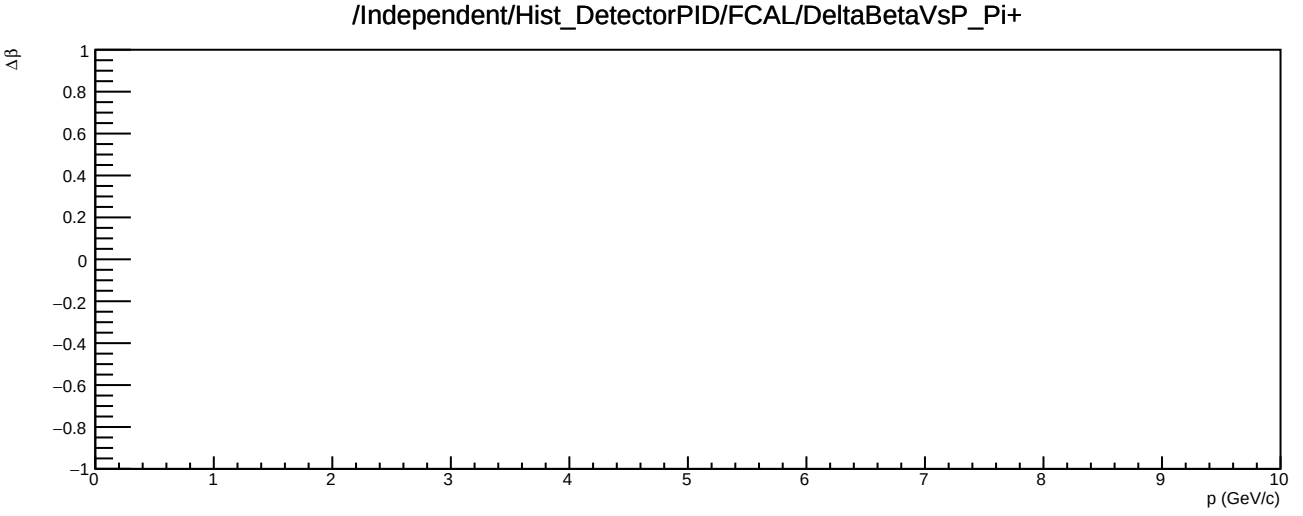

/Independent/Hist_DetectorPID/FCAL/BetaVsP_q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

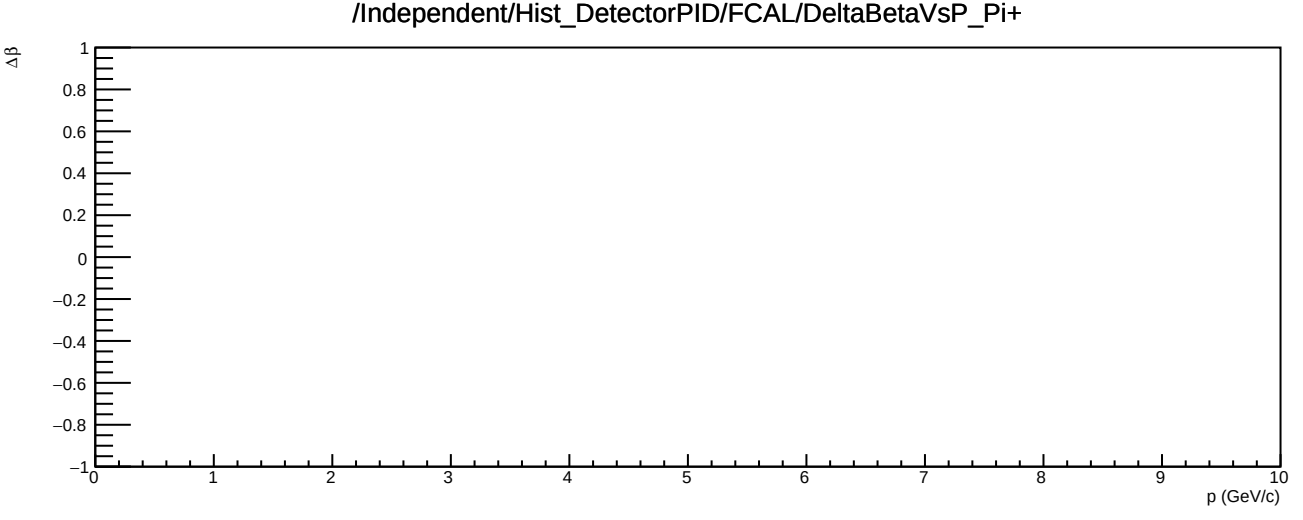

/Independent/Hist_DetectorPID/FCAL/EOverPVsP_q+
E_Shower/p_Track (c)
0
0.5
1
1.5
2
2.5
3
3.5
4
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

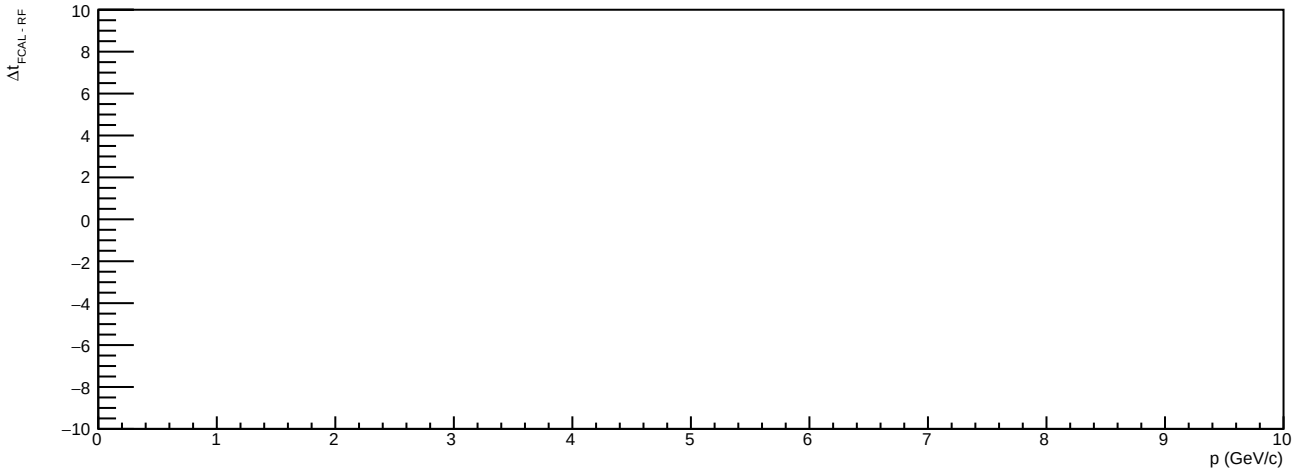

/Independent/Hist_DetectorPID/FCAL/EOverPVsP_q+
E_Shower/p_Track (c)
0
0.5
1
1.5
2
2.5
3
3.5
4
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

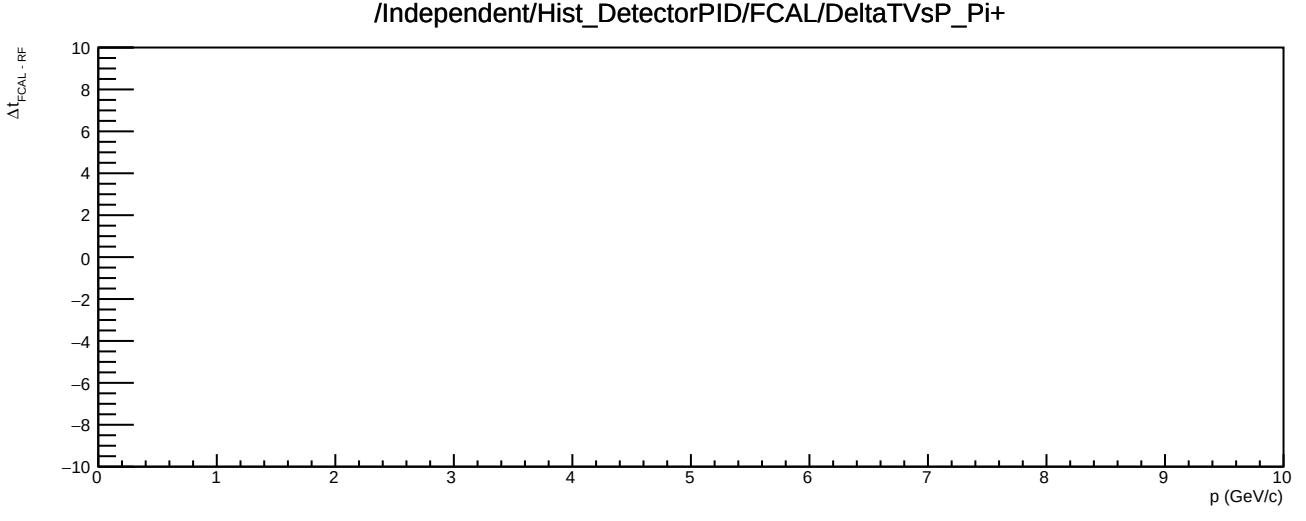

/Independent/Hist_DetectorPID/FCAL/EOverPVsTheta_q+
E_Shower/p_Track (c)
4
3.5
3
2.5
2
1.5
1
0.5
0
0
2
4
6
8
10
12
θ°

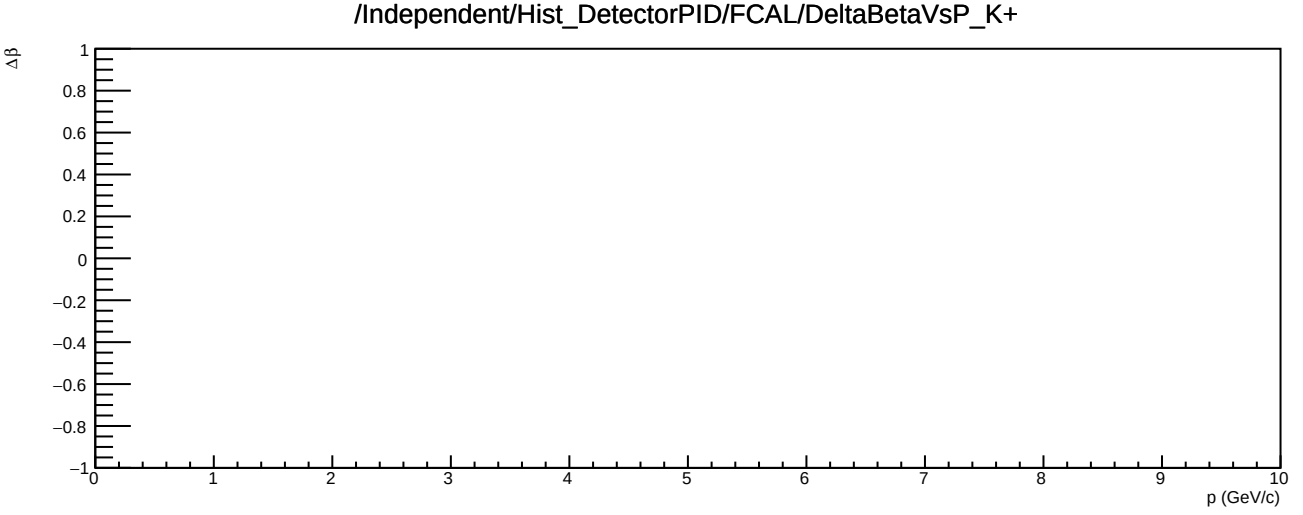

/Independent/Hist_DetectorPID/FCAL/EOverPVsTheta_q+
E_Shower/p_Track (c)
4
3.5
3
2.5
2
1.5
1
0.5
0
0
2
4
6
8
10
12
θ°

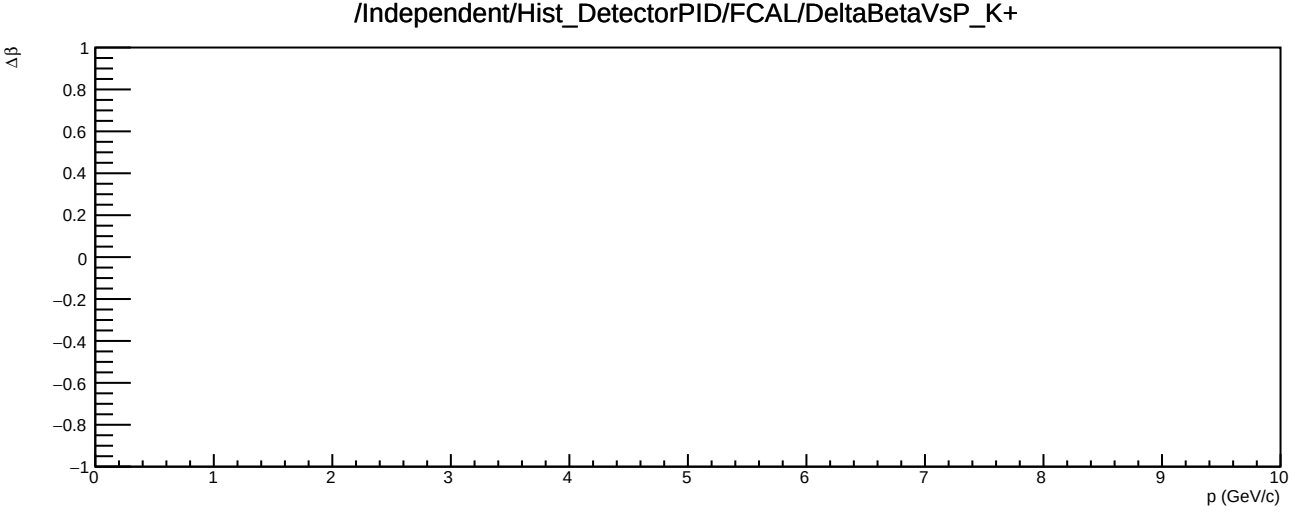

/Independent/Hist_DetectorPID/FCAL/DeltaBetaVsP_Pi+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

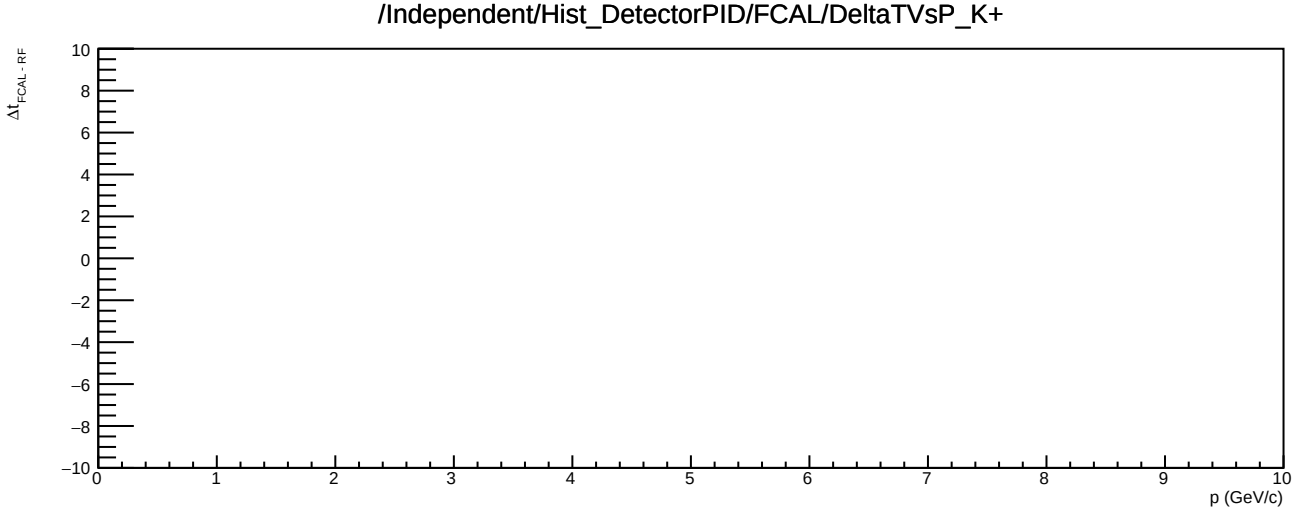

/Independent/Hist_DetectorPID/FCAL/DeltaBetaVsP_Pi+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

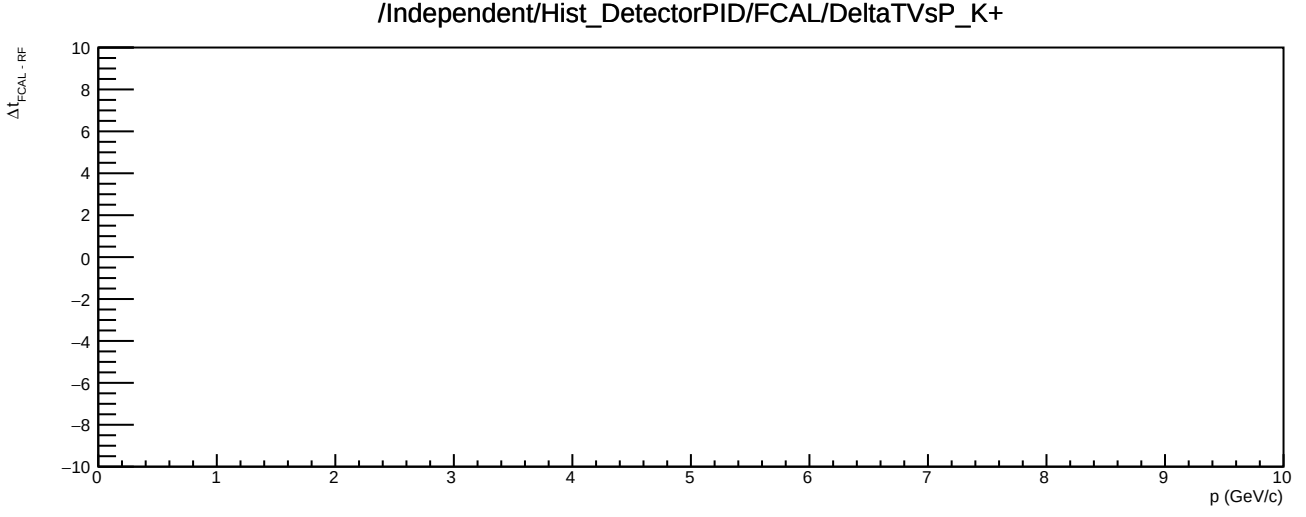

/Independent/Hist_DetectorPID/FCAL/DeltaTVsP_Pi+
$\Delta t_{FCAL - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

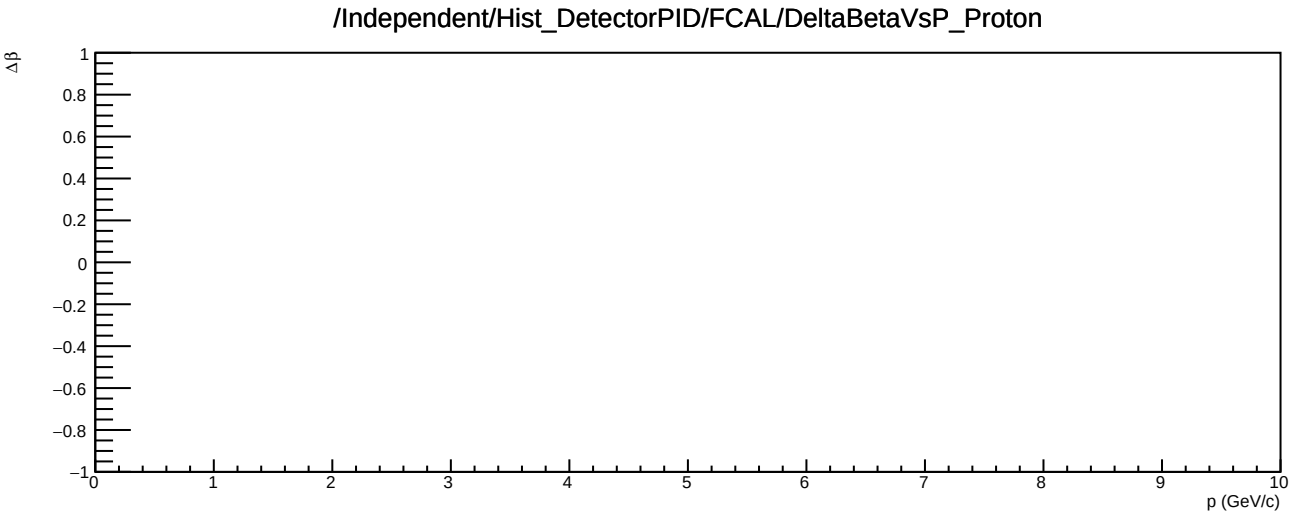

/Independent/Hist_DetectorPID/FCAL/DeltaTVsP_Pi+
$\Delta t_{FCAL - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

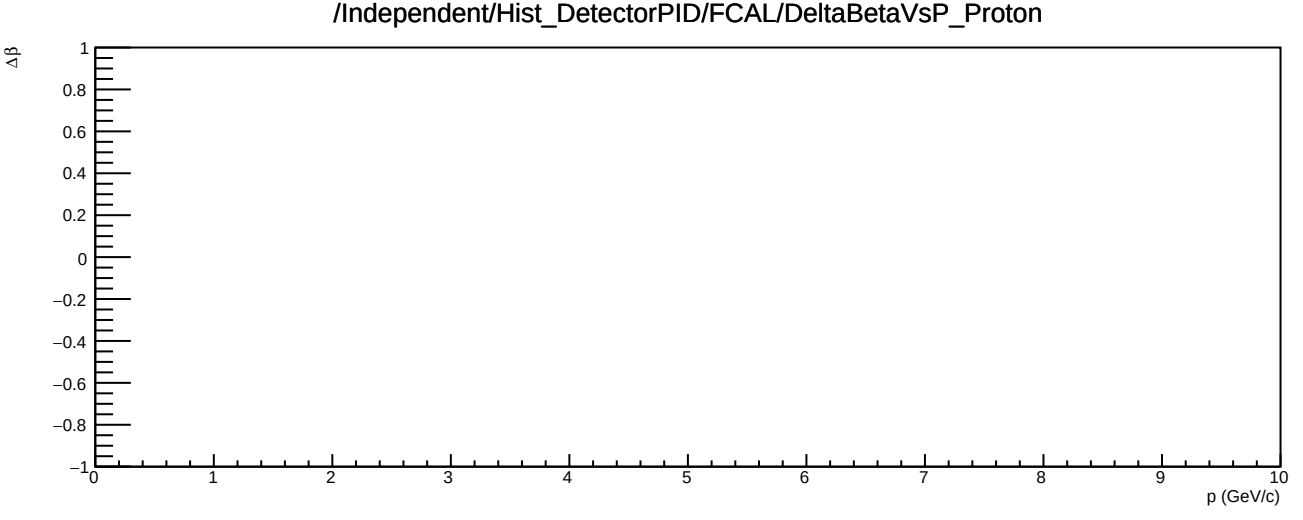

/Independent/Hist_DetectorPID/FCAL/DeltaBetaVsP_K+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

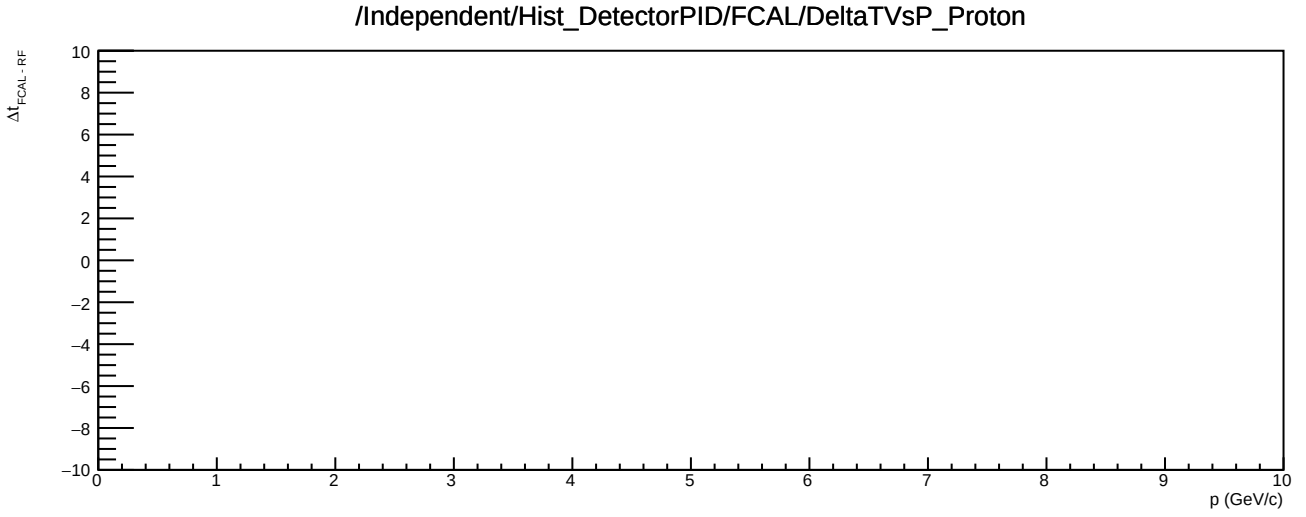

/Independent/Hist_DetectorPID/FCAL/DeltaBetaVsP_K+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

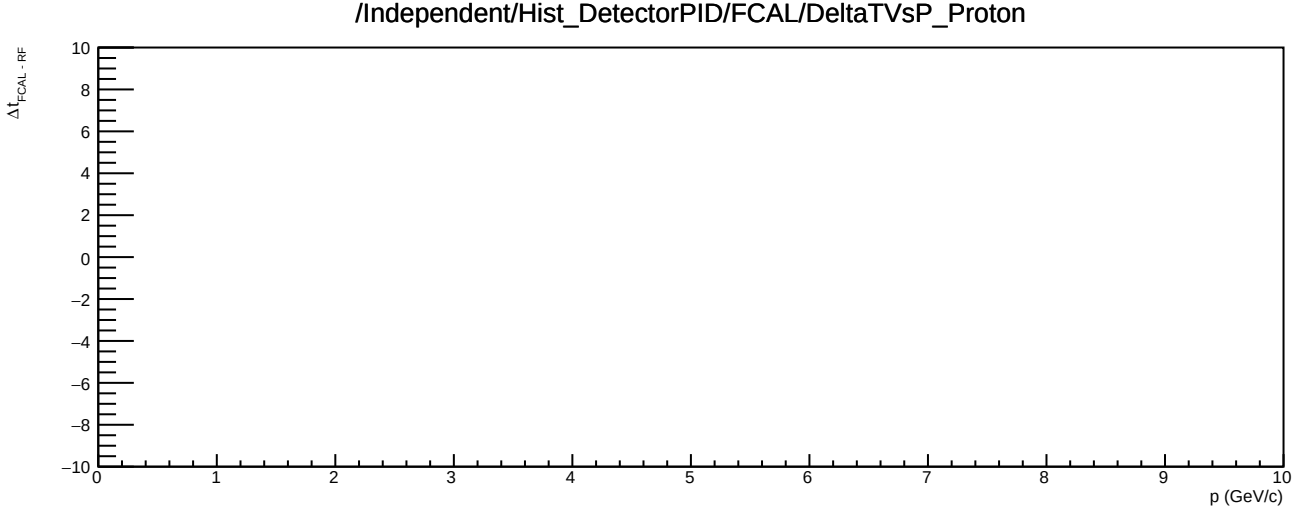

/Independent/Hist_DetectorPID/FCAL/DeltaTVsP_K+
$\Delta t_{FCAL - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

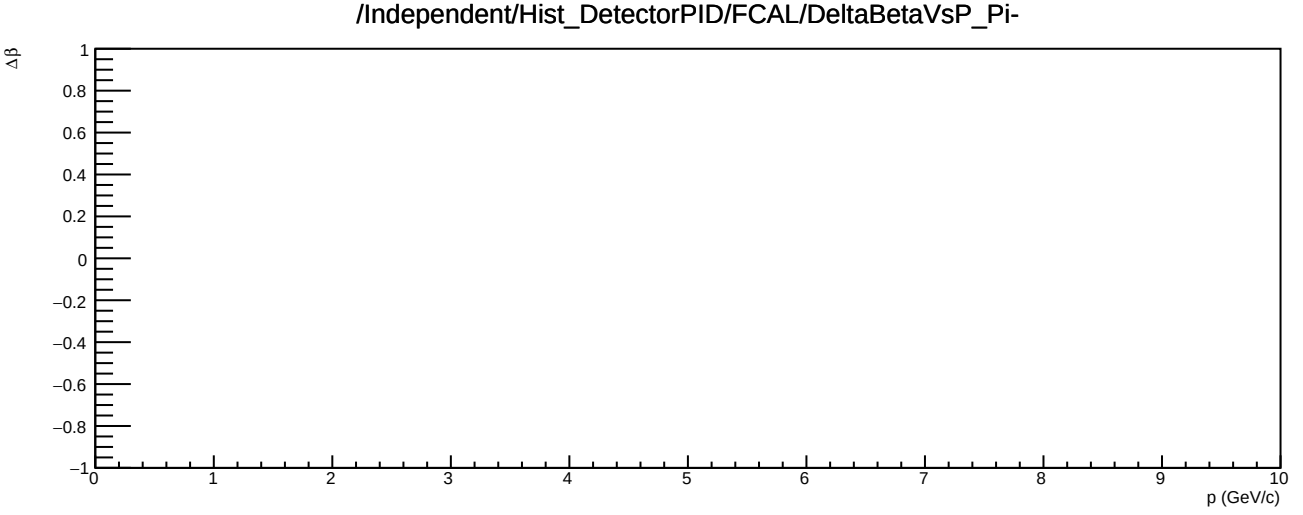

/Independent/Hist_DetectorPID/FCAL/DeltaTVsP_K+
$\Delta t_{FCAL - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

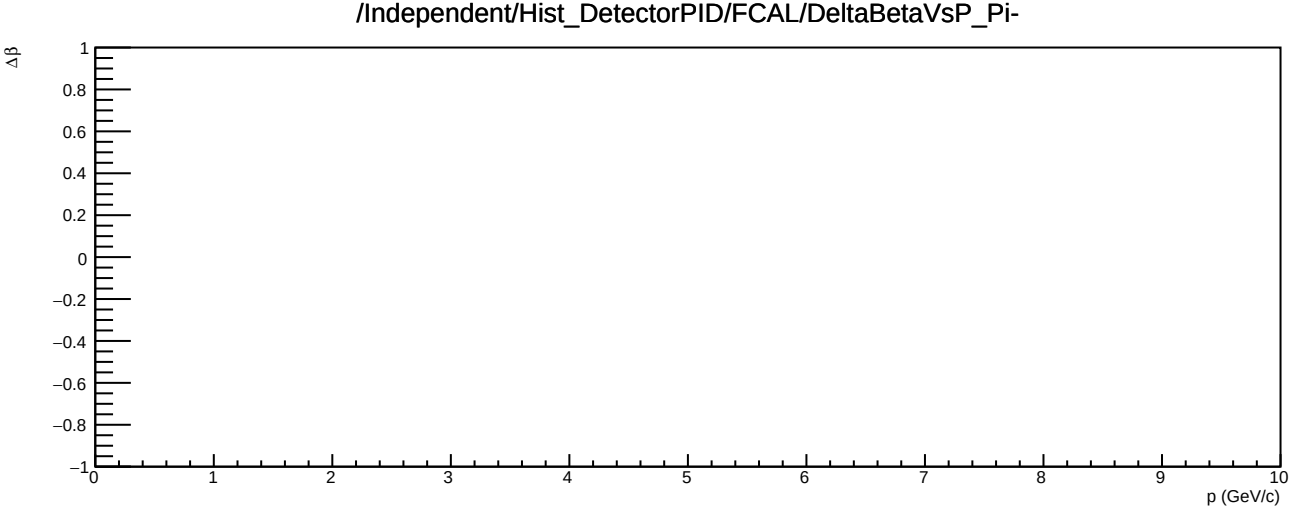

/Independent/Hist_DetectorPID/FCAL/DeltaBetaVsP_Proton
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

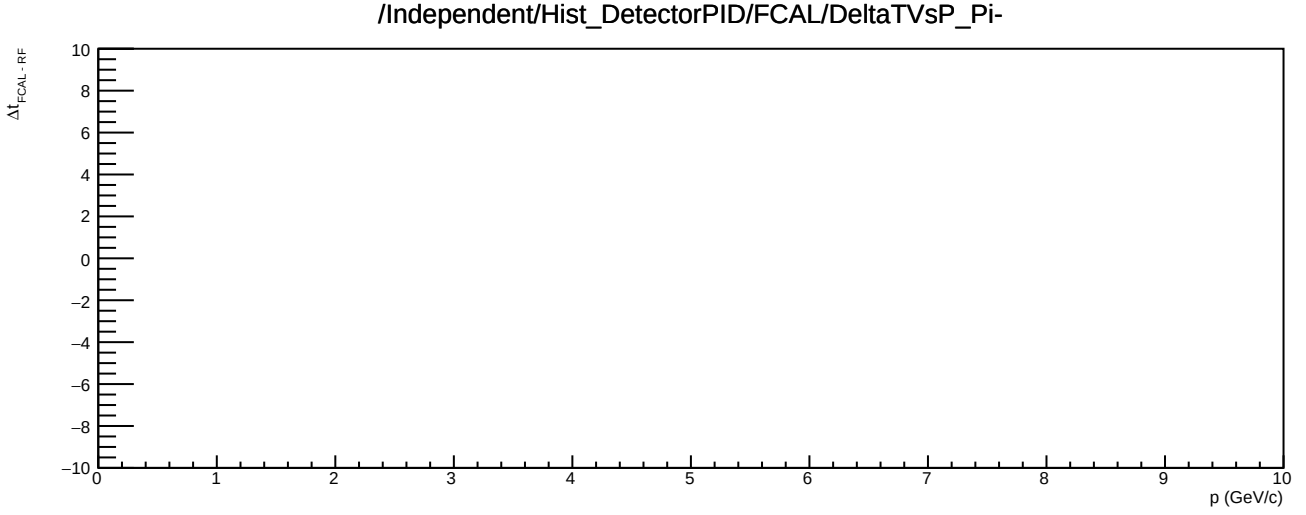

/Independent/Hist_DetectorPID/FCAL/DeltaBetaVsP_Proton
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

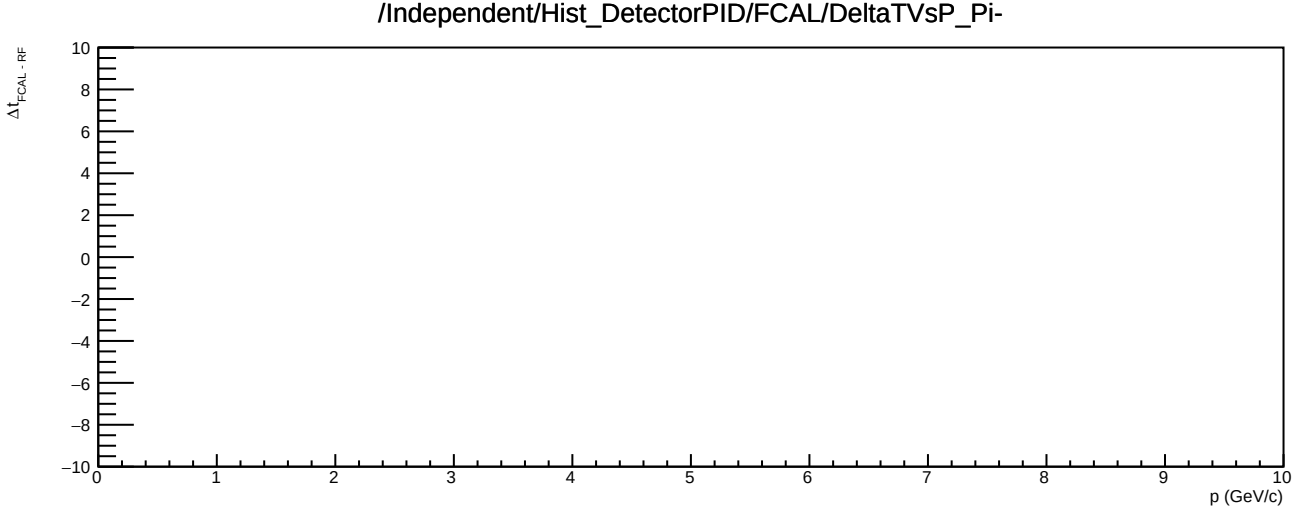

/Independent/Hist_DetectorPID/FCAL/DeltaTVsP_Proton
Δt FCAL - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

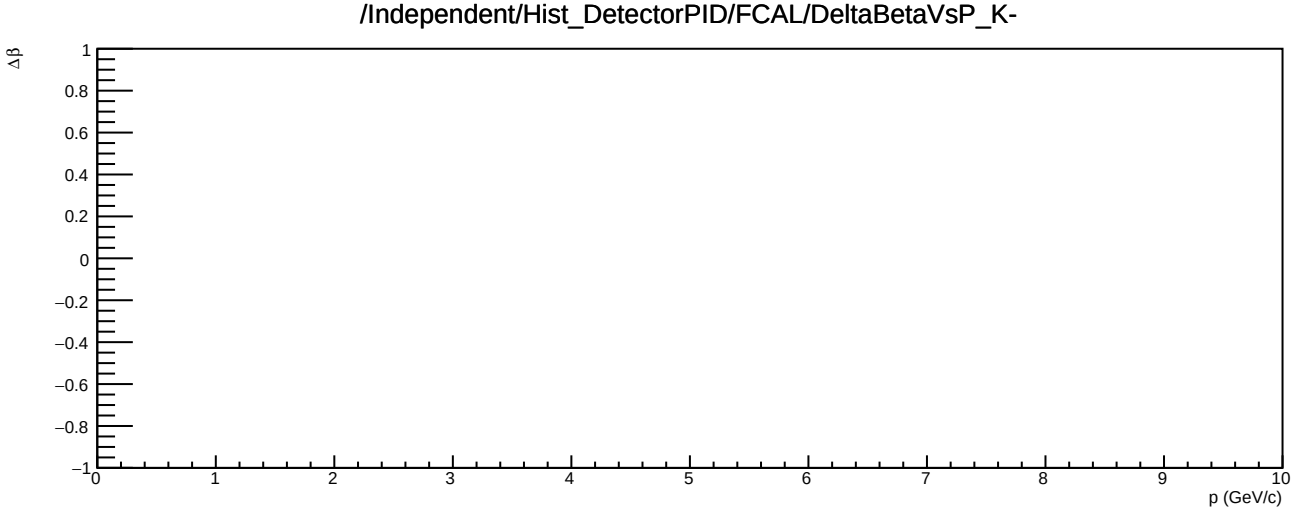

/Independent/Hist_DetectorPID/FCAL/DeltaTVsP_Proton
Δt FCAL - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

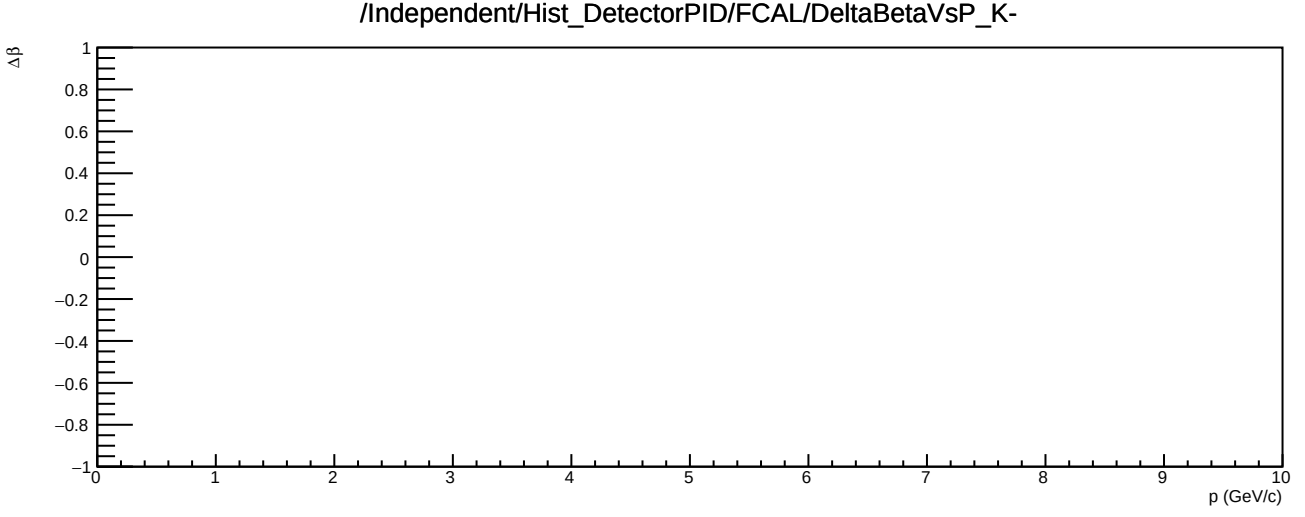

/Independent/Hist_DetectorPID/FCAL/DeltaBetaVsP_Pi-
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

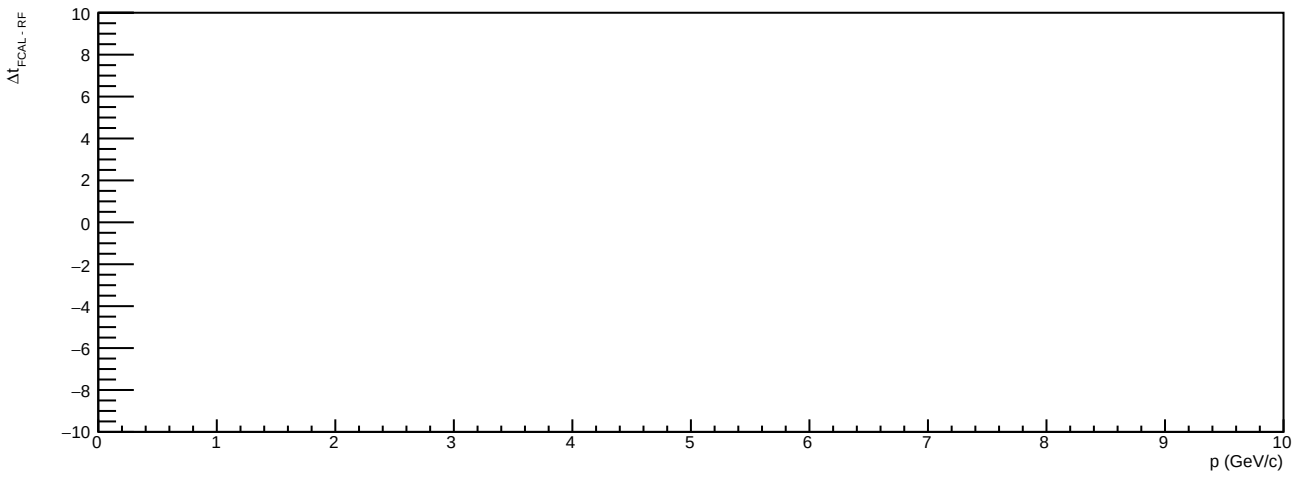

/Independent/Hist_DetectorPID/FCAL/DeltaBetaVsP_Pi-
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

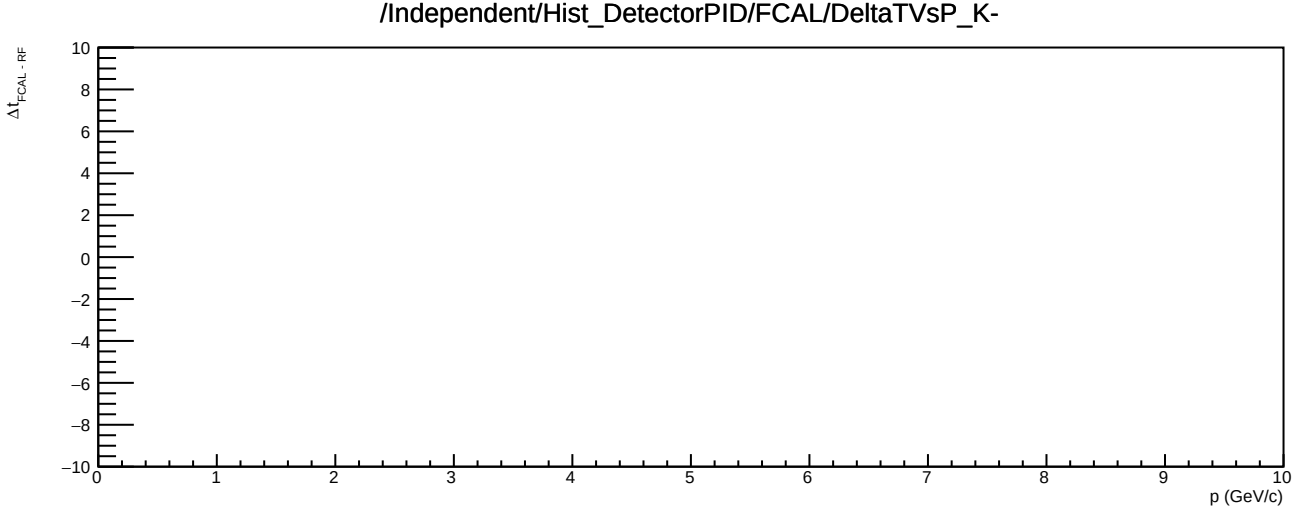

/Independent/Hist_DetectorPID/FCAL/DeltaTVsP_Pi-
$\Delta t_{FCAL - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

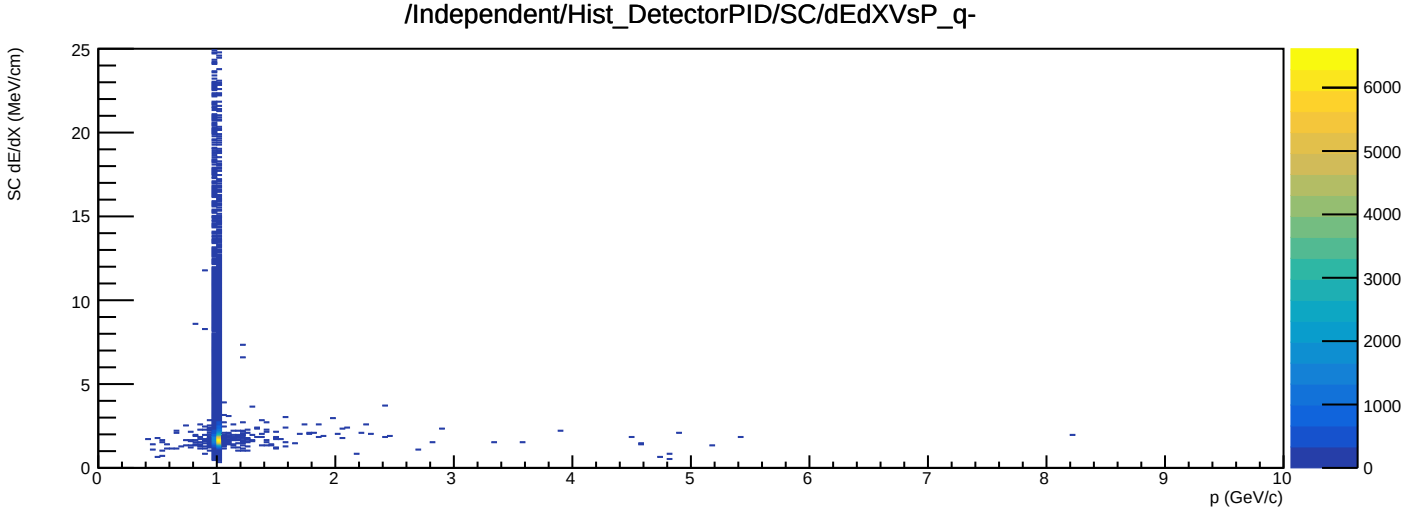

/Independent/Hist_DetectorPID/FCAL/DeltaTVsP_Pi-
$\Delta t_{FCAL - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

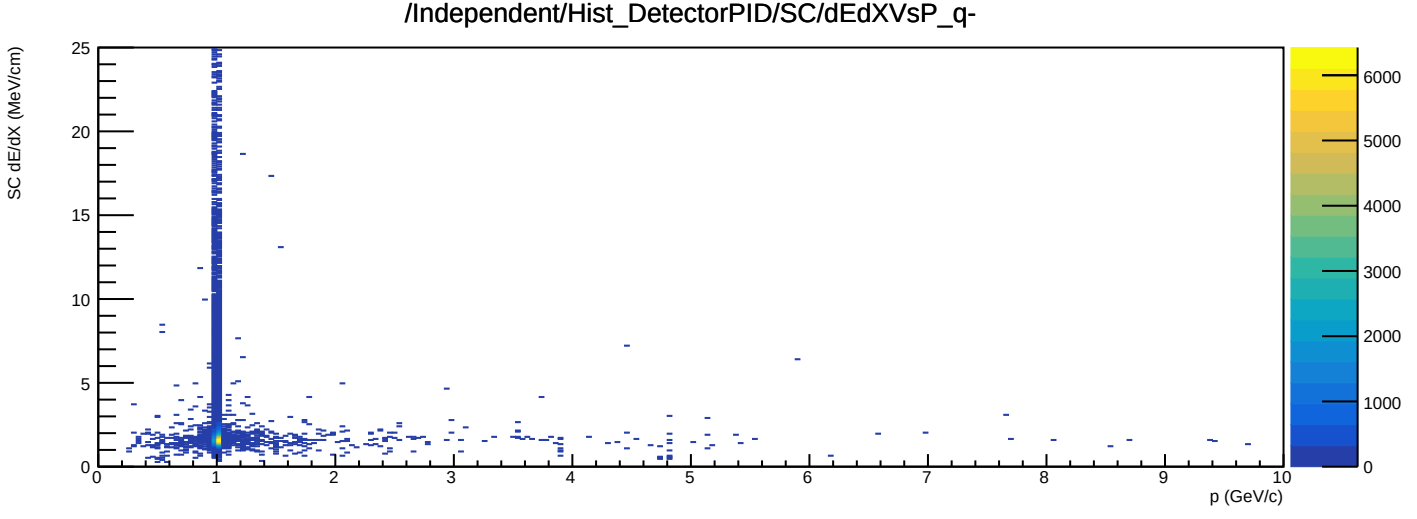

/Independent/Hist_DetectorPID/FCAL/DeltaBetaVsP_K-
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

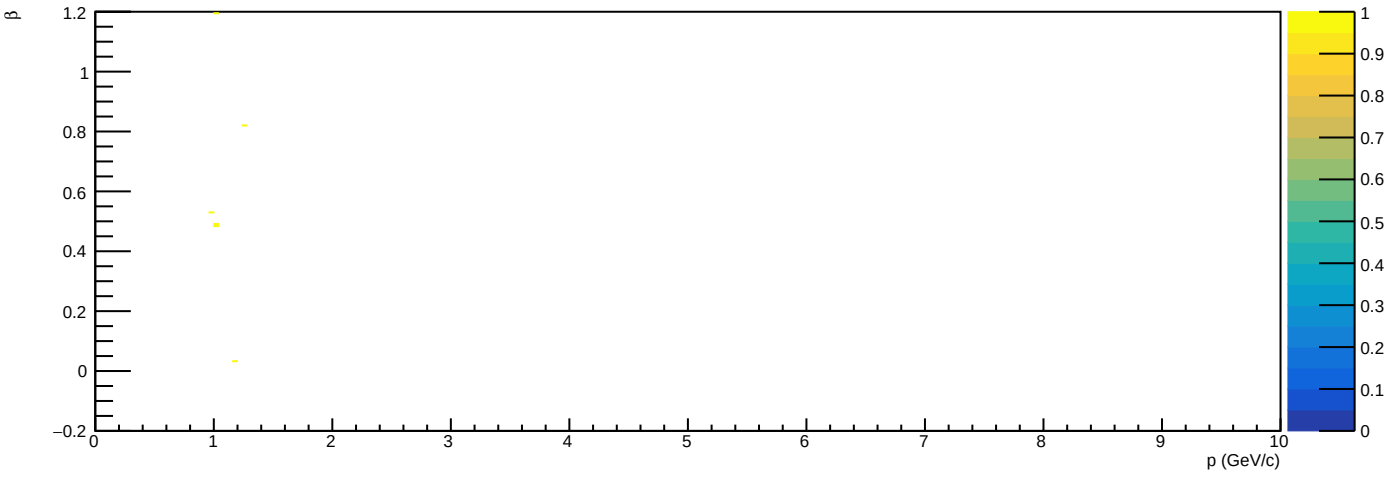

/Independent/Hist_DetectorPID/FCAL/DeltaBetaVsP_K-
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

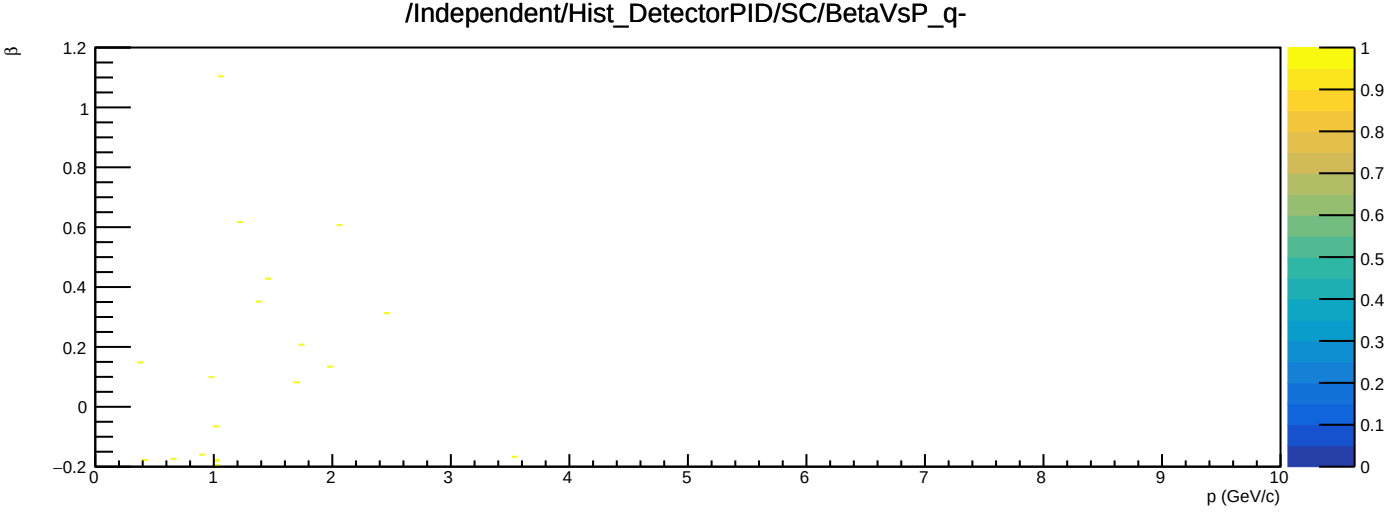

/Independent/Hist_DetectorPID/FCAL/DeltaTVsP_K-
Δt FCAL - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

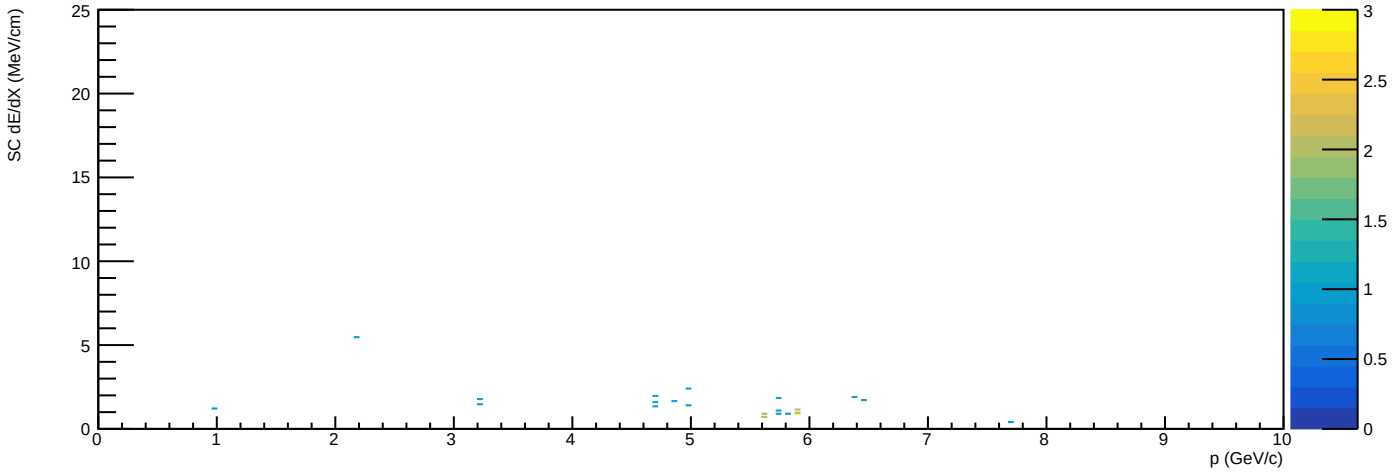

/Independent/Hist_DetectorPID/FCAL/DeltaTVsP_K-
Δt FCAL - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

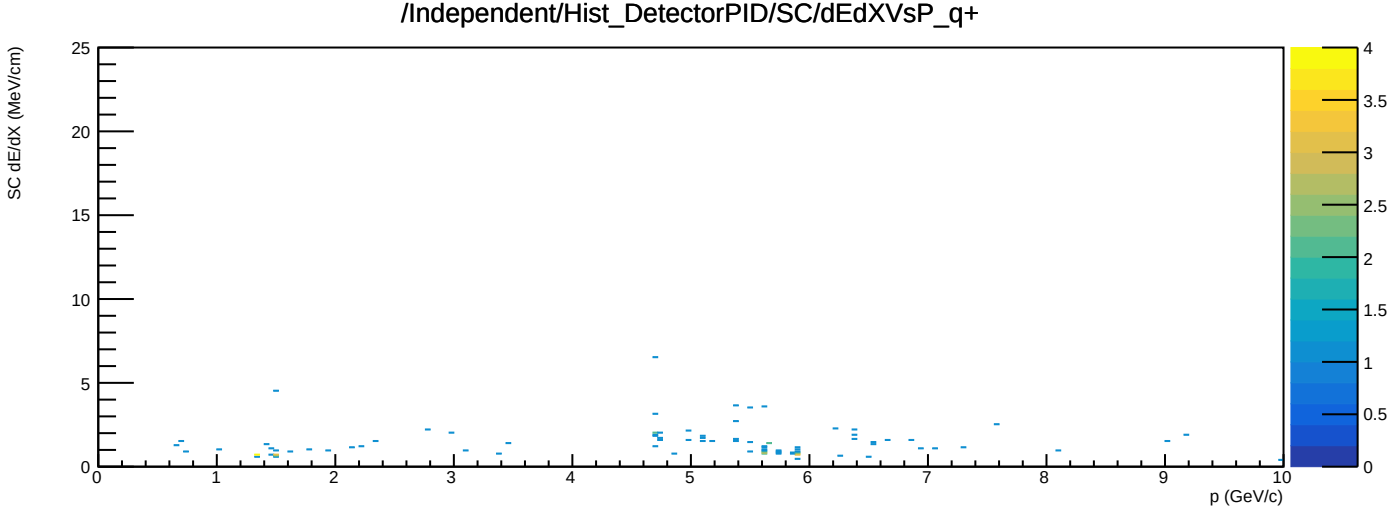

/Independent/Hist_DetectorPID/SC/dEdXVsP_q-
SC dE/dX (MeV/cm)
p (GeV/c)
0
5
10
15
20
25
1
2
3
4
6
7
8
9
1000
2000
3000
4000
5000
6000

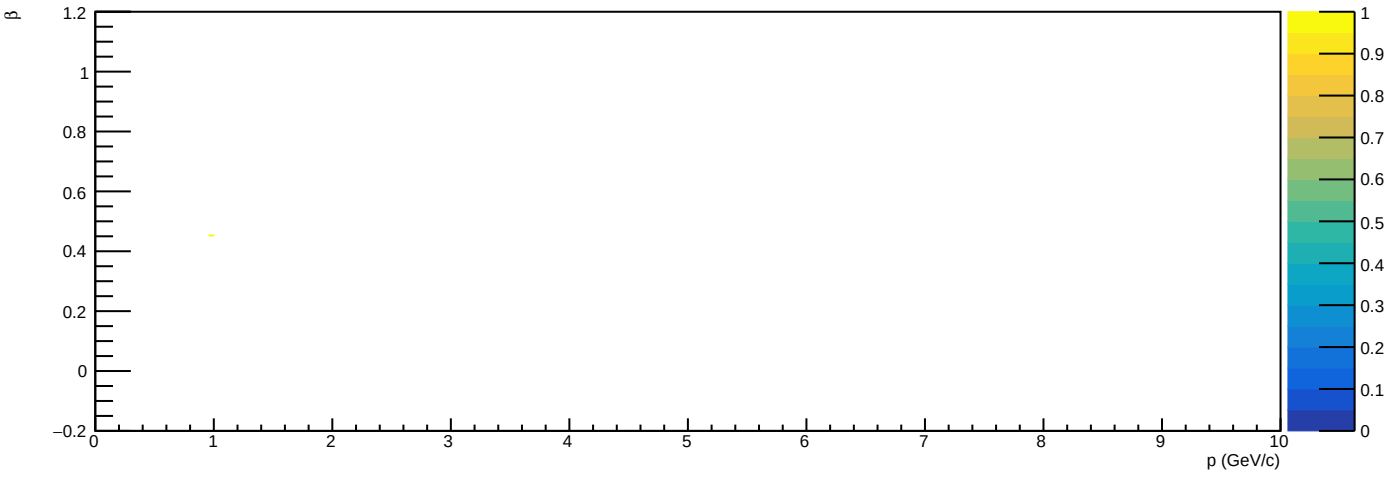

/Independent/Hist_DetectorPID/SC/dEdXVsP_q-
SC dE/dX (MeV/cm)
p (GeV/c)
0
5
10
15
20
25
1
2
3
4
6
7
8
9
1000
2000
3000
4000
5000
6000

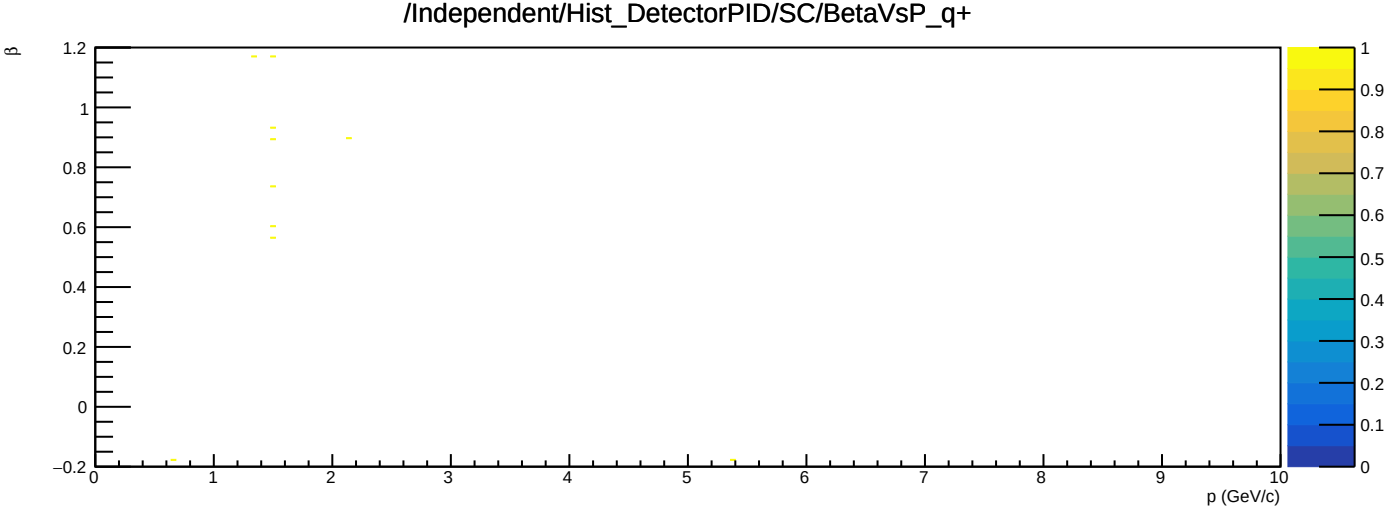

/Independent/Hist_DetectorPID/SC/BetaVsP_q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

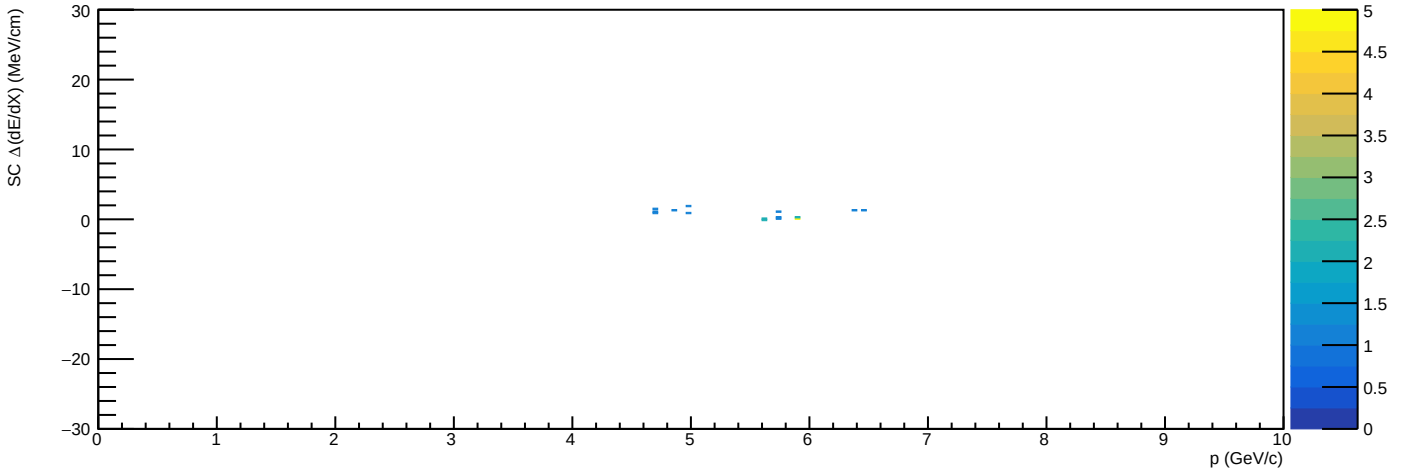

/Independent/Hist_DetectorPID/SC/BetaVsP_q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

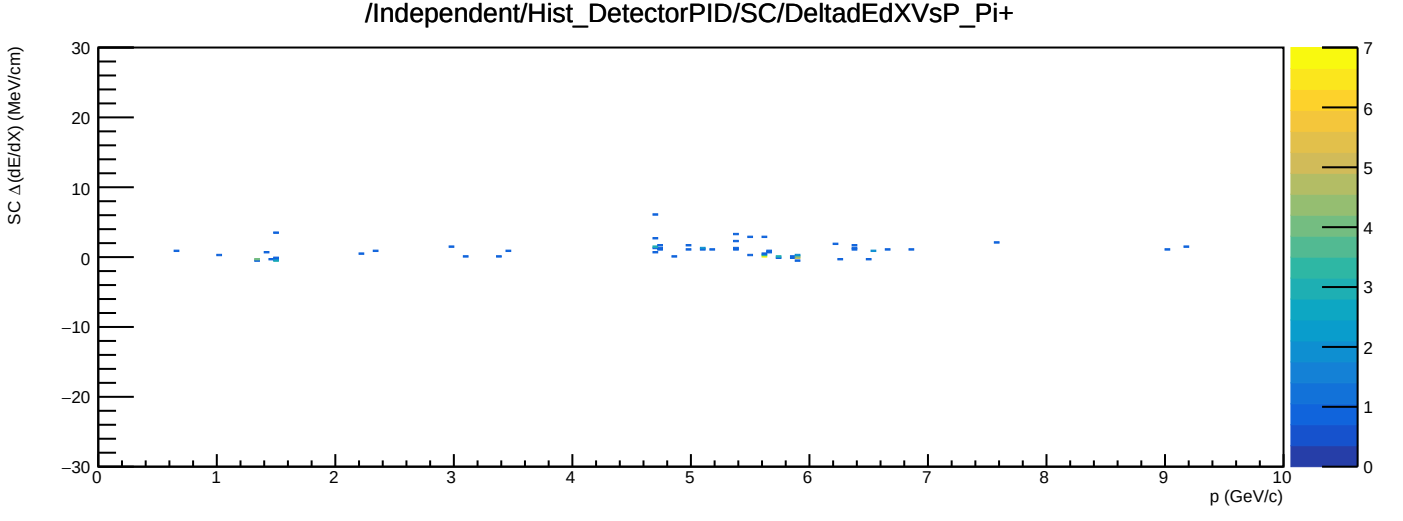

/Independent/Hist_DetectorPID/SC/dEdXVsP_q+
SC dE/dX (MeV/cm)
p (GeV/c)

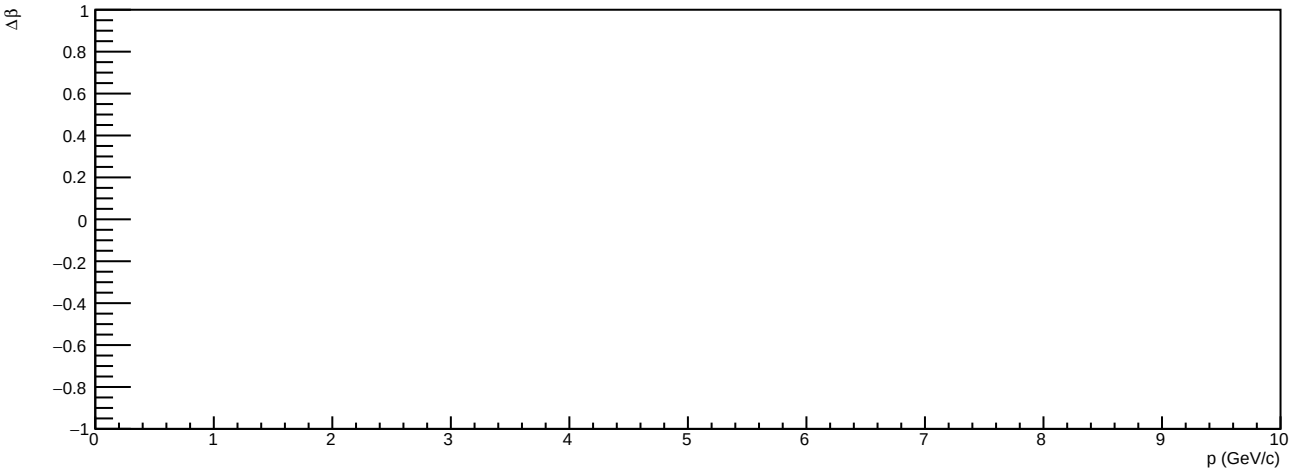

/Independent/Hist_DetectorPID/SC/dEdXVsP_q+
SC dE/dX (MeV/cm)
p (GeV/c)

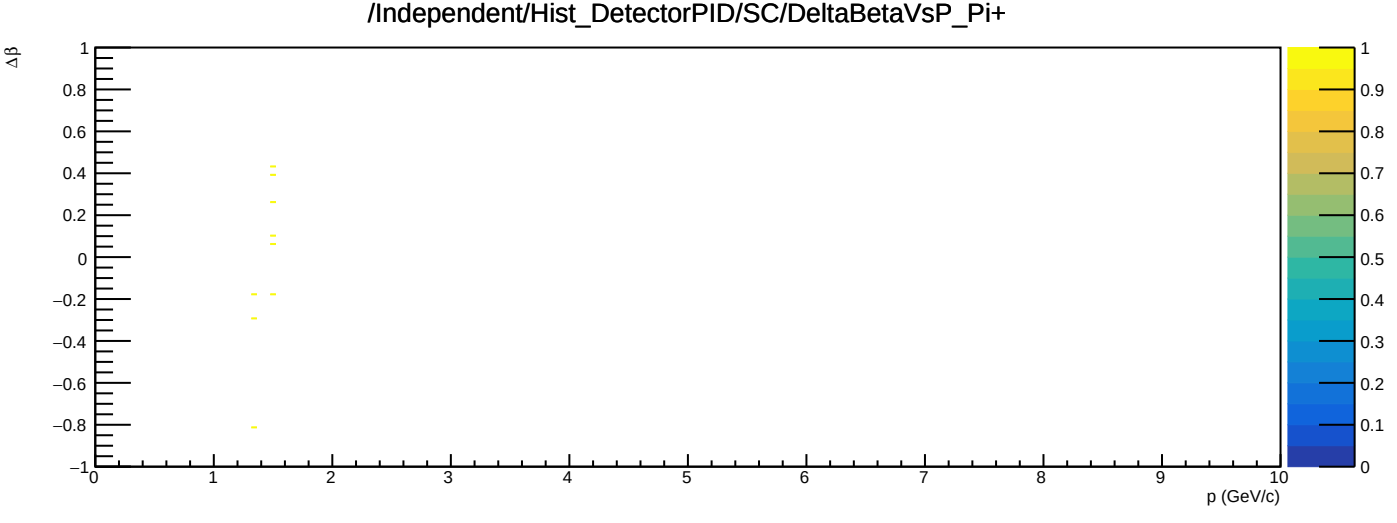

/Independent/Hist_DetectorPID/SC/BetaVsP_q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

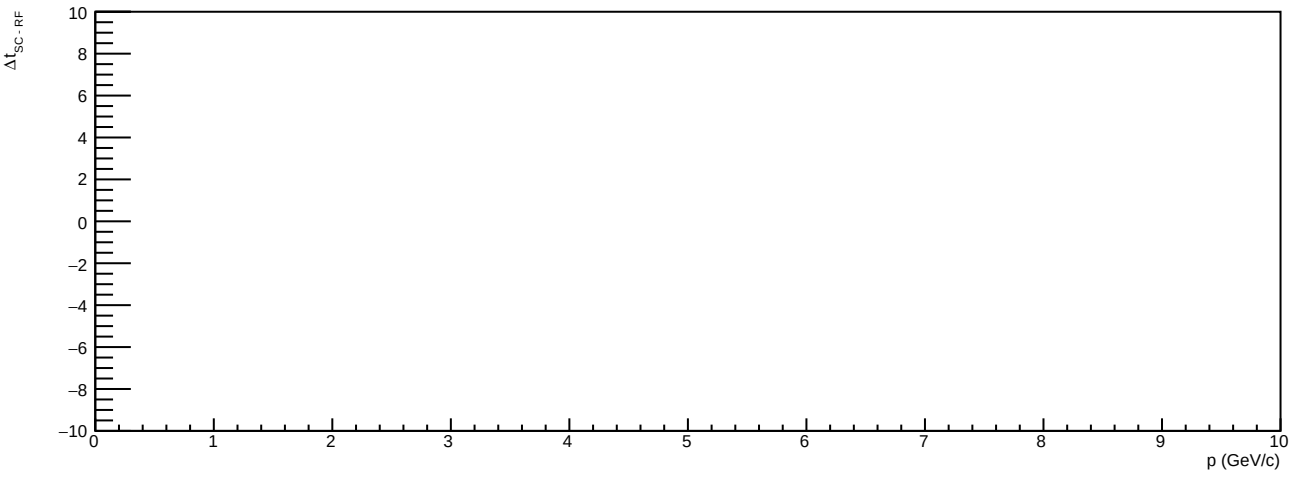

/Independent/Hist_DetectorPID/SC/BetaVsP_q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

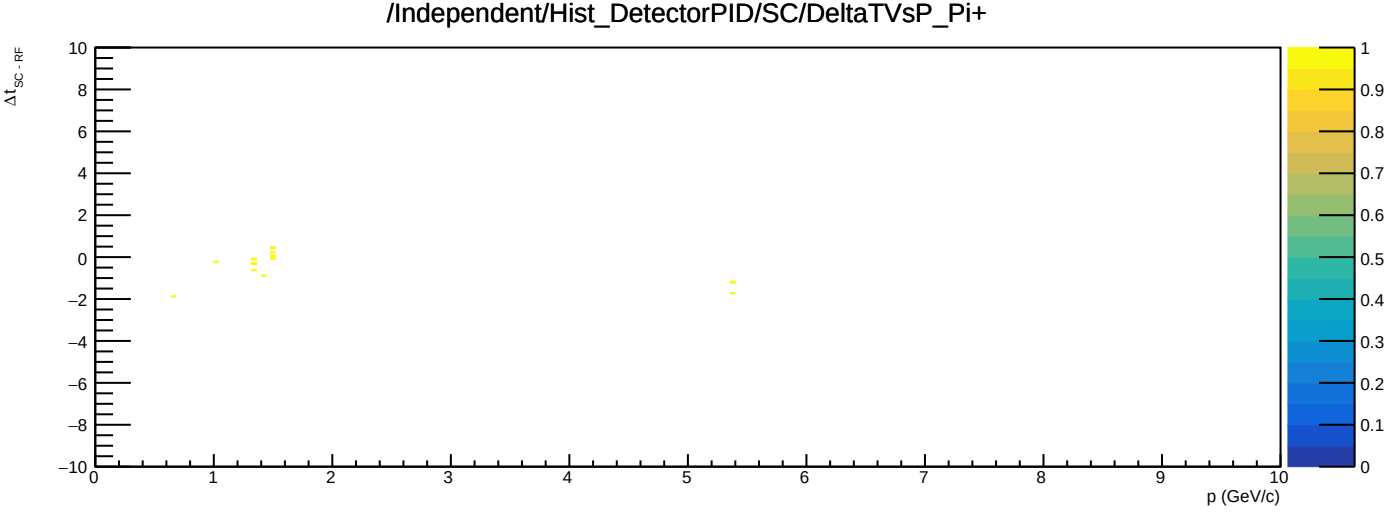

/Independent/Hist_DetectorPID/SC/DeltadEdXVsP_Pi+
SC Δ(dE/dX) (MeV/cm)
p (GeV/c)

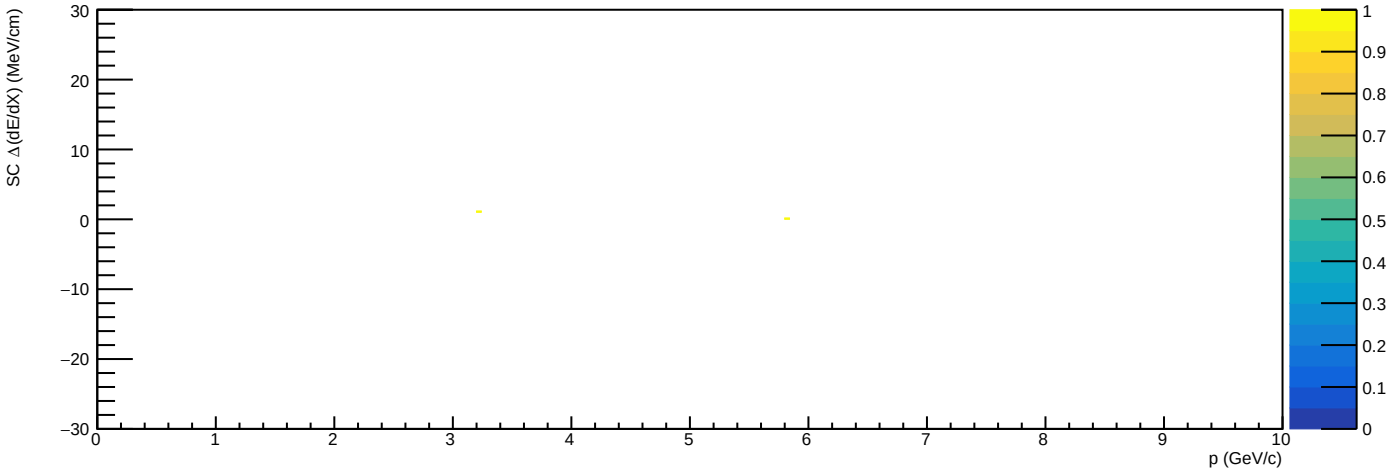

/Independent/Hist_DetectorPID/SC/DeltadEdXVsP_Pi+
SC Δ(dE/dX) (MeV/cm)
p (GeV/c)

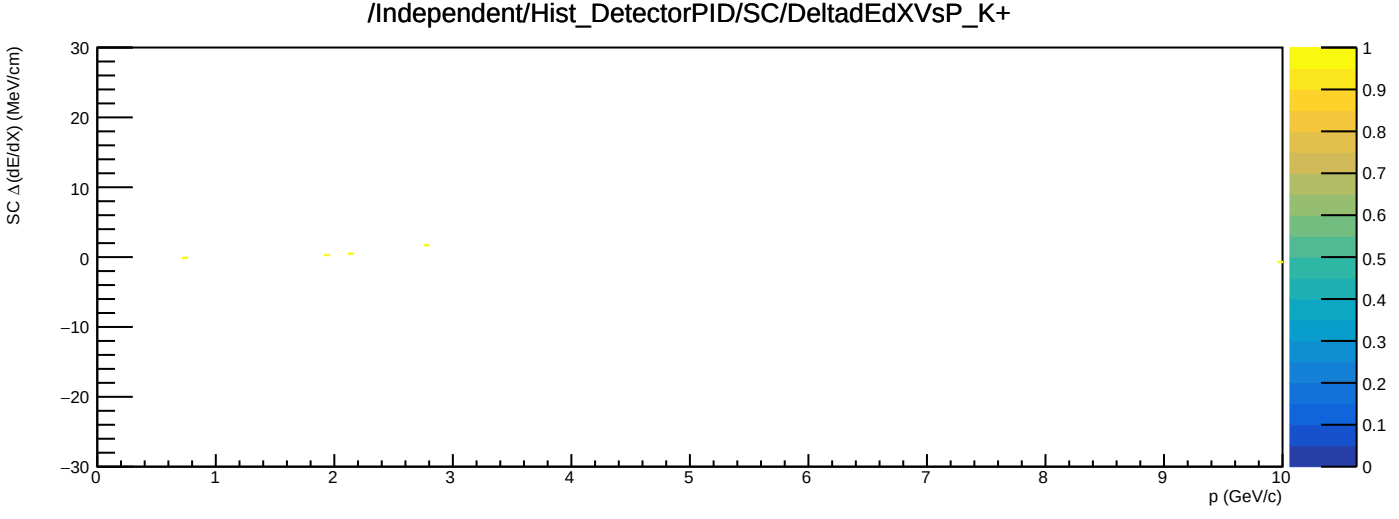

/Independent/Hist_DetectorPID/SC/DeltaBetaVsP_Pi+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

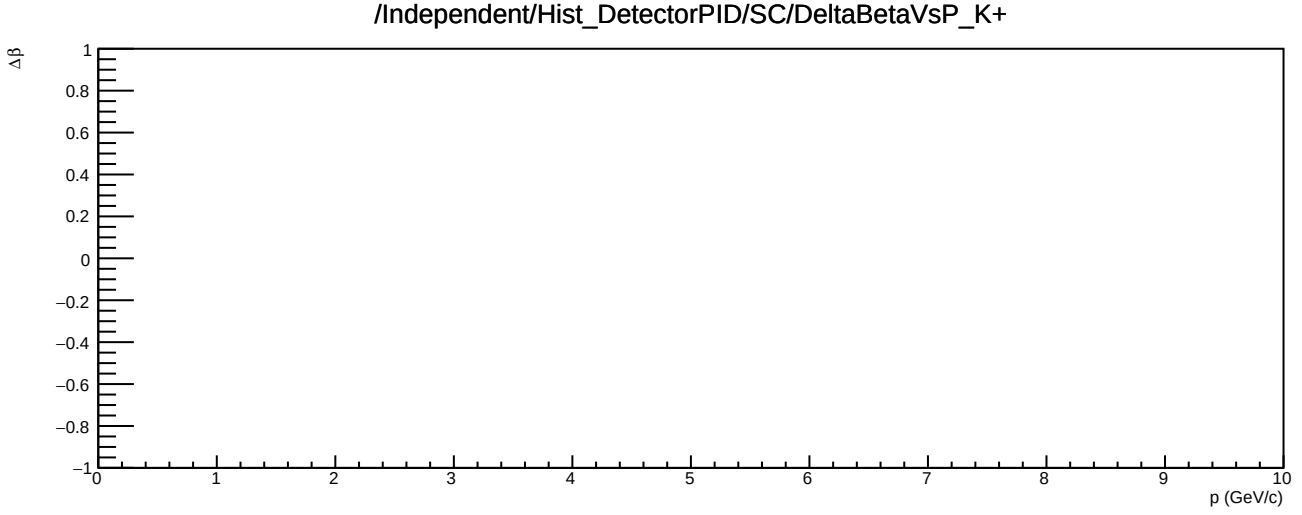

/Independent/Hist_DetectorPID/SC/DeltaBetaVsP_Pi+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

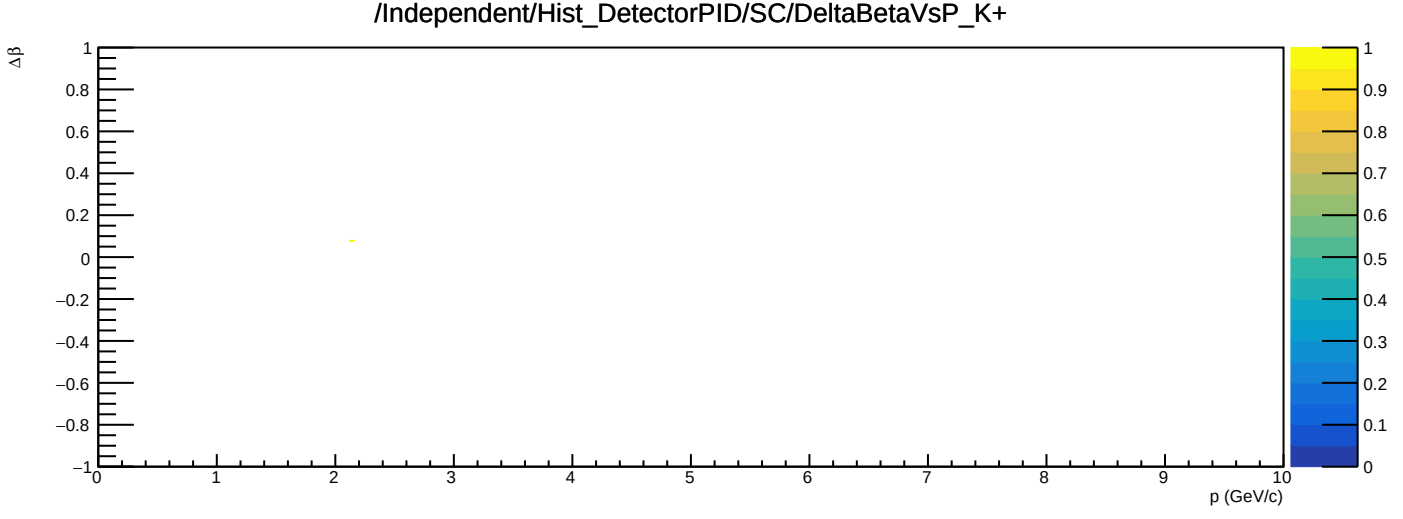

/Independent/Hist_DetectorPID/SC/DeltaTVsP_Pi+
Δt SC - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

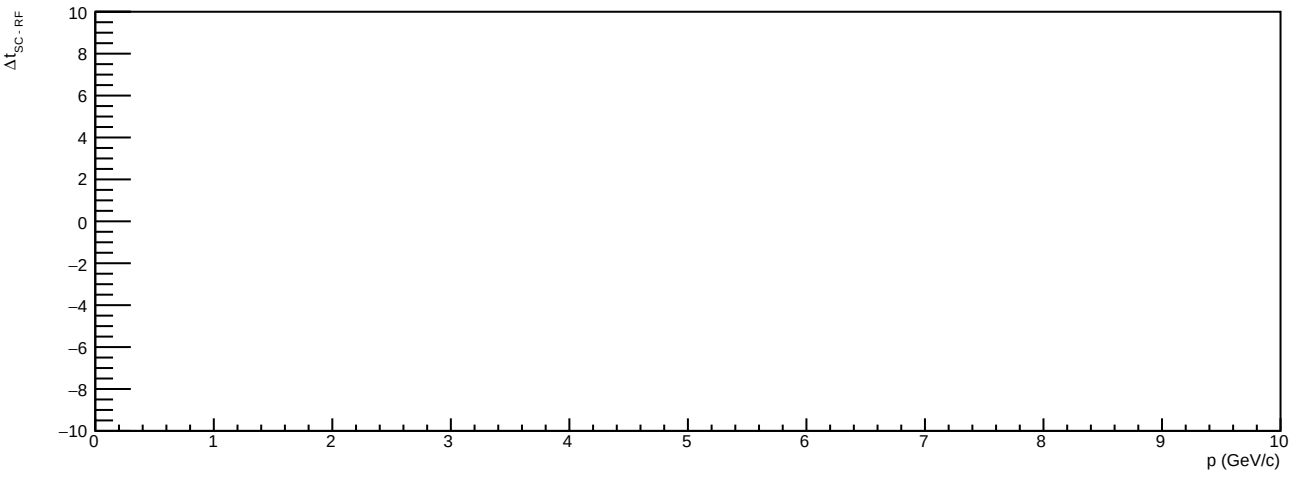

/Independent/Hist_DetectorPID/SC/DeltaTVsP_Pi+
Δt SC - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

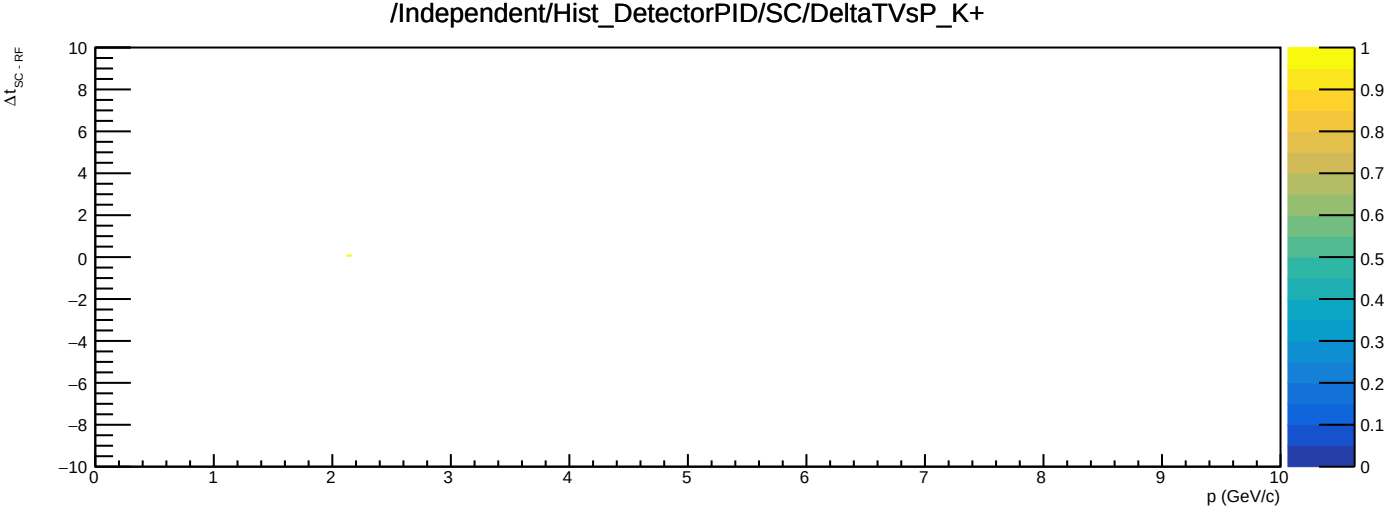

/Independent/Hist_DetectorPID/SC/DeltadEdXVsP_K+
SC Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

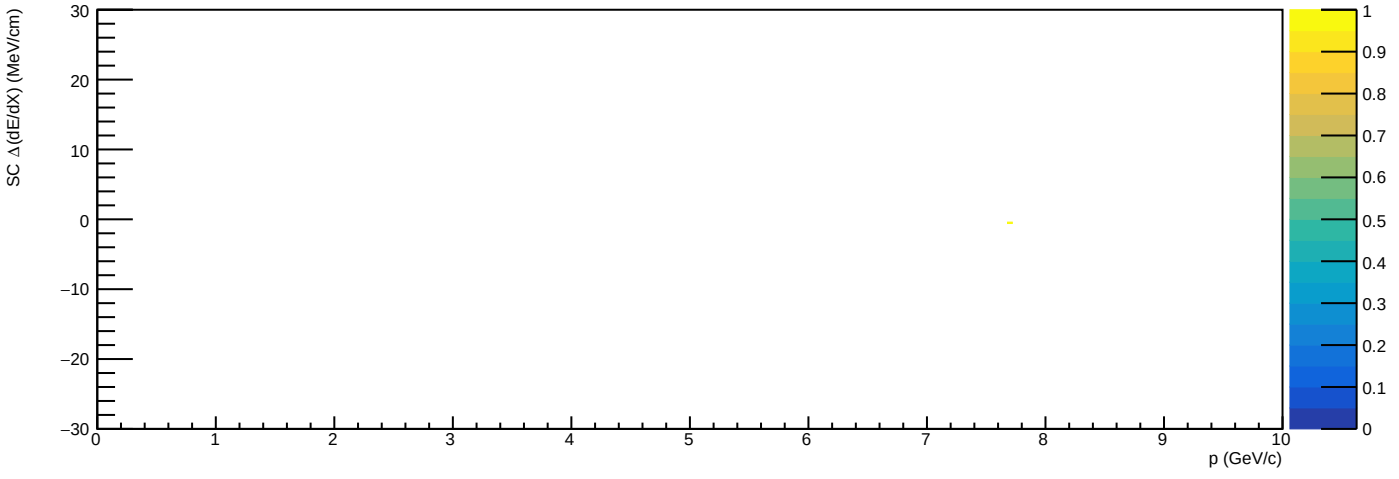

/Independent/Hist_DetectorPID/SC/DeltadEdXVsP_K+
SC Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

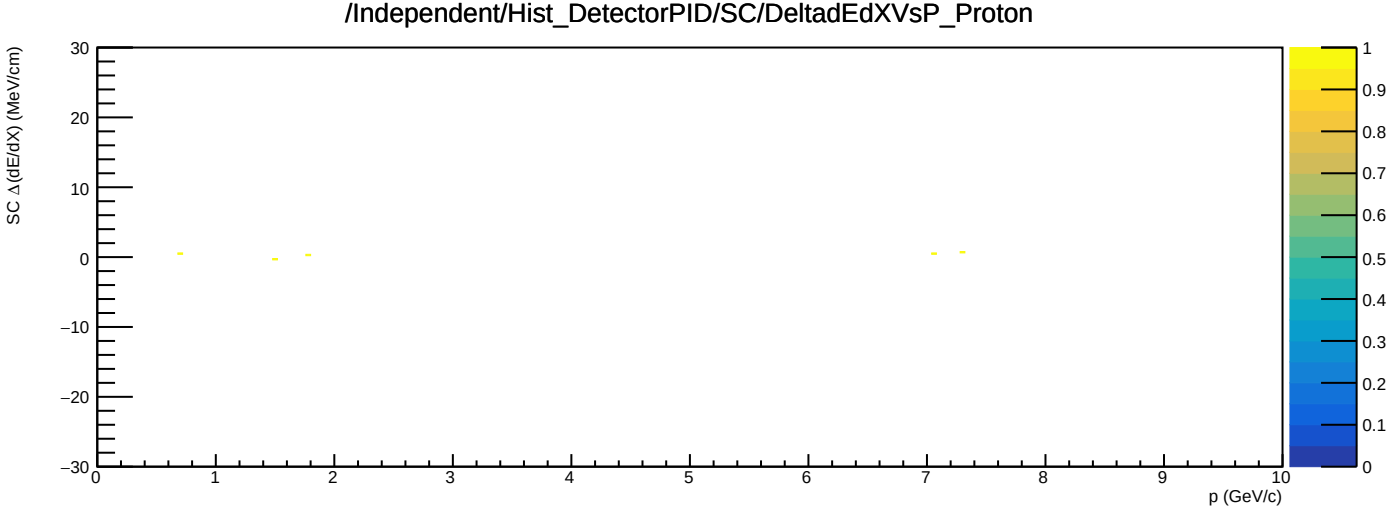

/Independent/Hist_DetectorPID/SC/DeltaBetaVsP_K+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

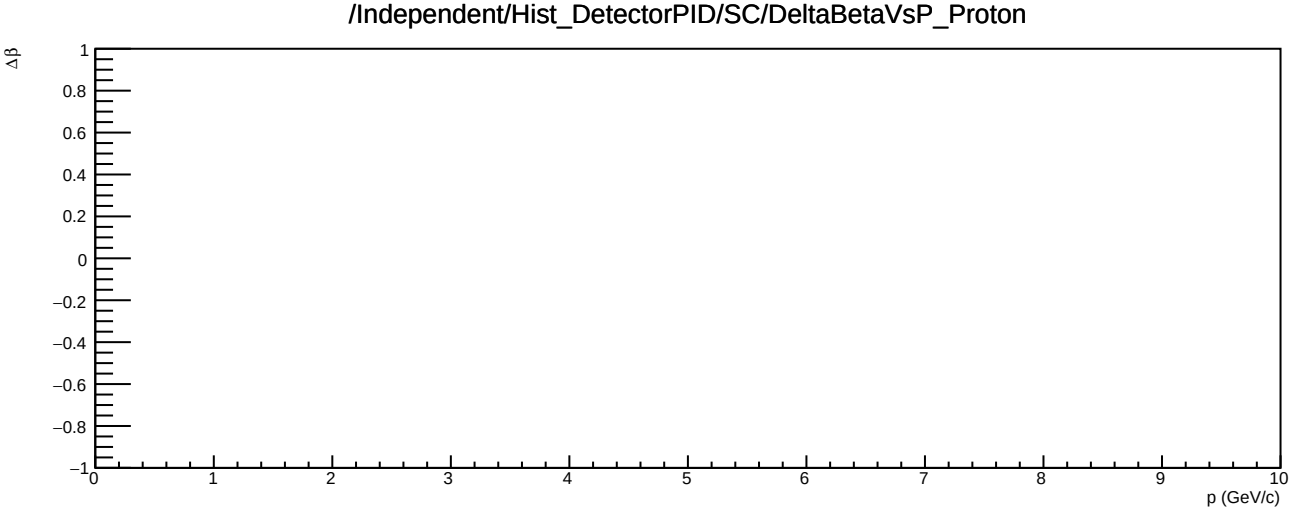

/Independent/Hist_DetectorPID/SC/DeltaBetaVsP_K+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

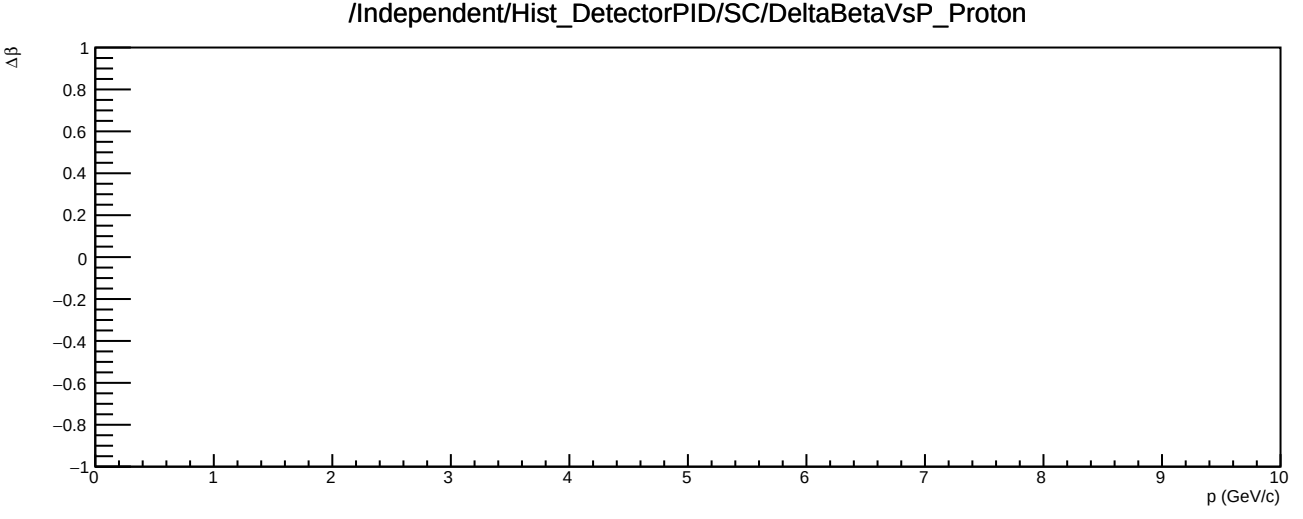

/Independent/Hist_DetectorPID/SC/DeltaTVsP_K+
Δt SC - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

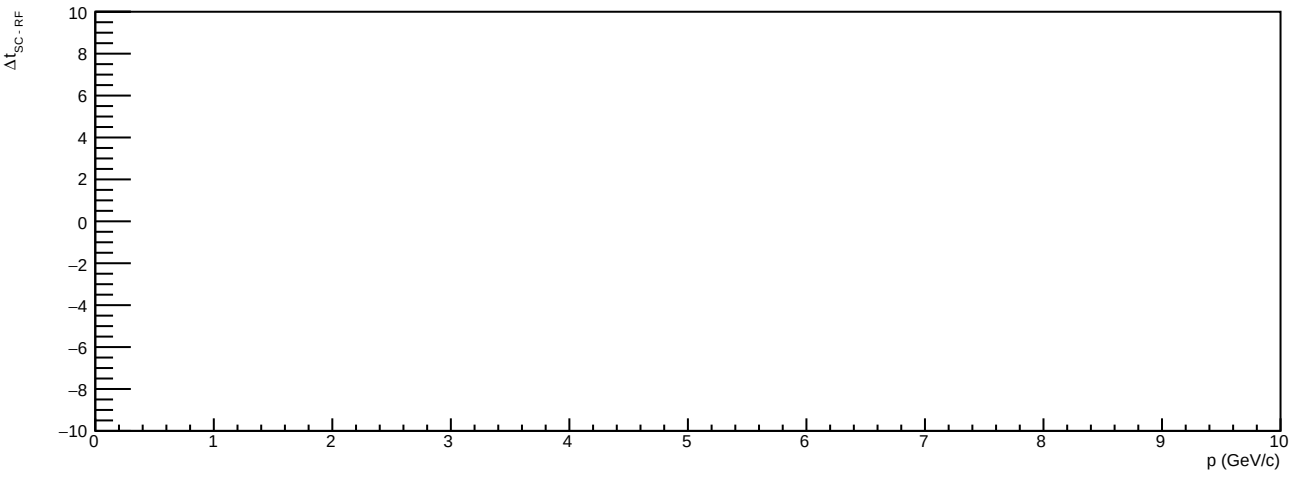

/Independent/Hist_DetectorPID/SC/DeltaTVsP_K+
Δt SC - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

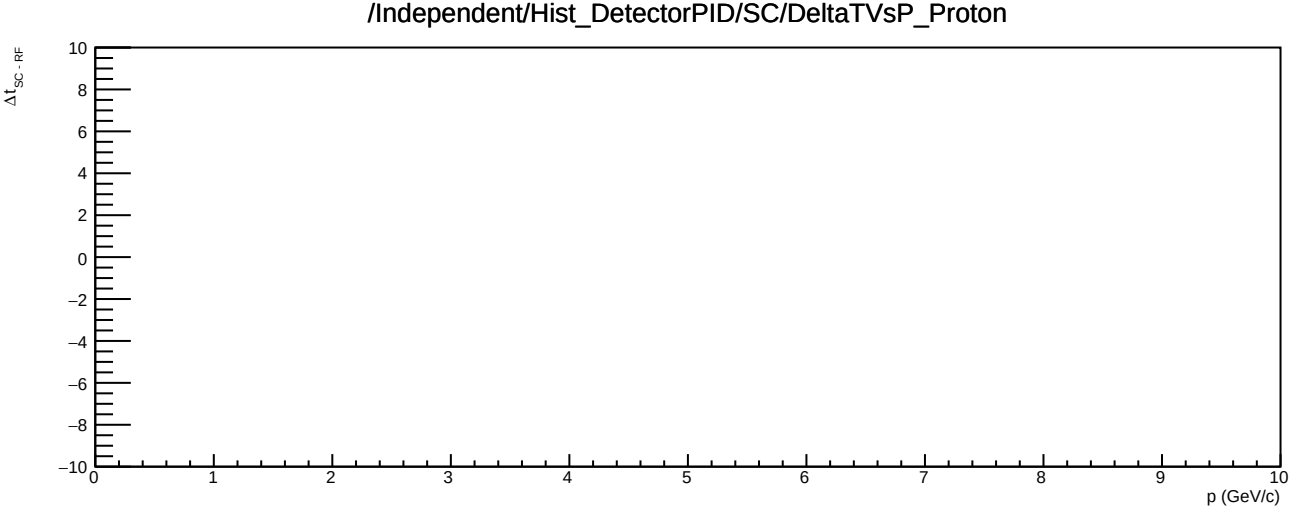

/Independent/Hist_DetectorPID/SC/DeltadEdXVsP_Proton
SC Δ(dE/dX) (MeV/cm)
p (GeV/c)

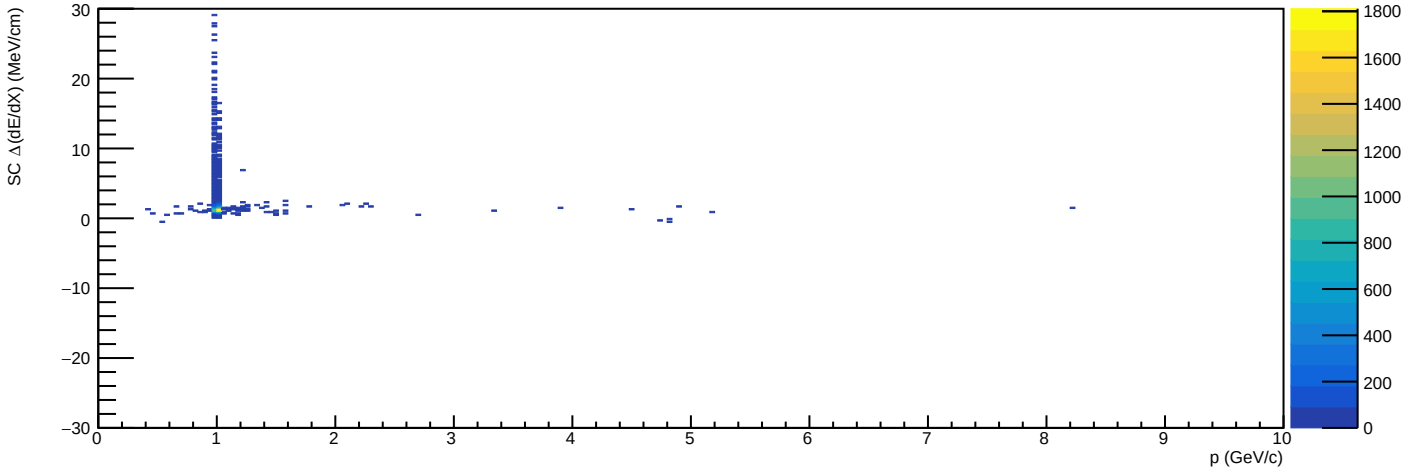

/Independent/Hist_DetectorPID/SC/DeltadEdXVsP_Proton
SC Δ(dE/dX) (MeV/cm)
p (GeV/c)

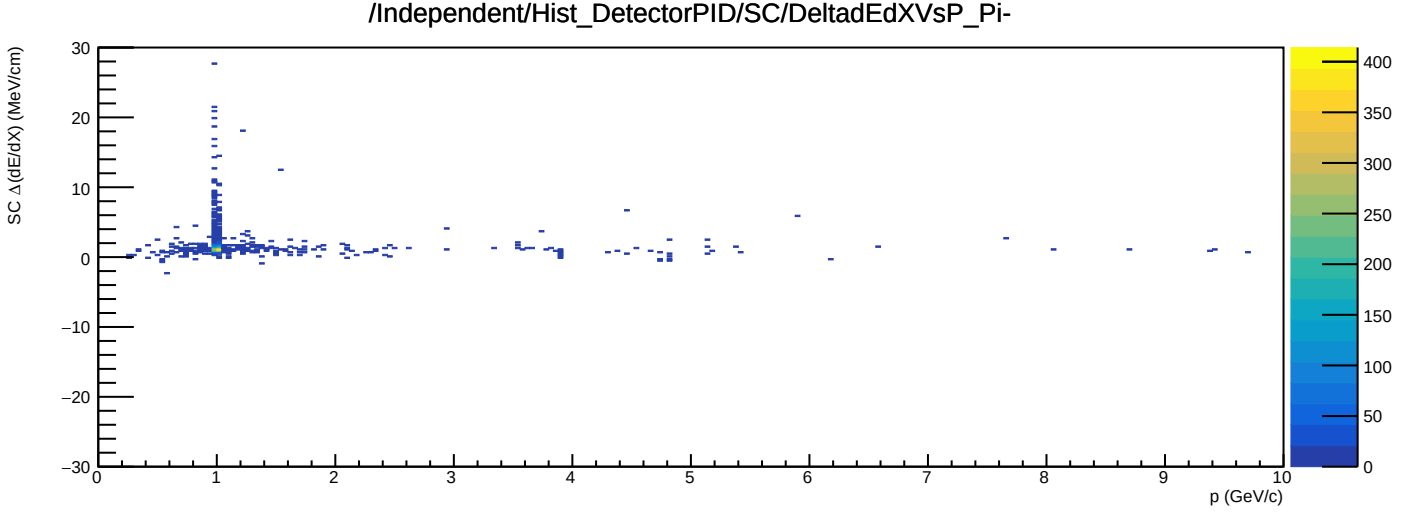

/Independent/Hist_DetectorPID/SC/DeltaBetaVsP_Proton
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

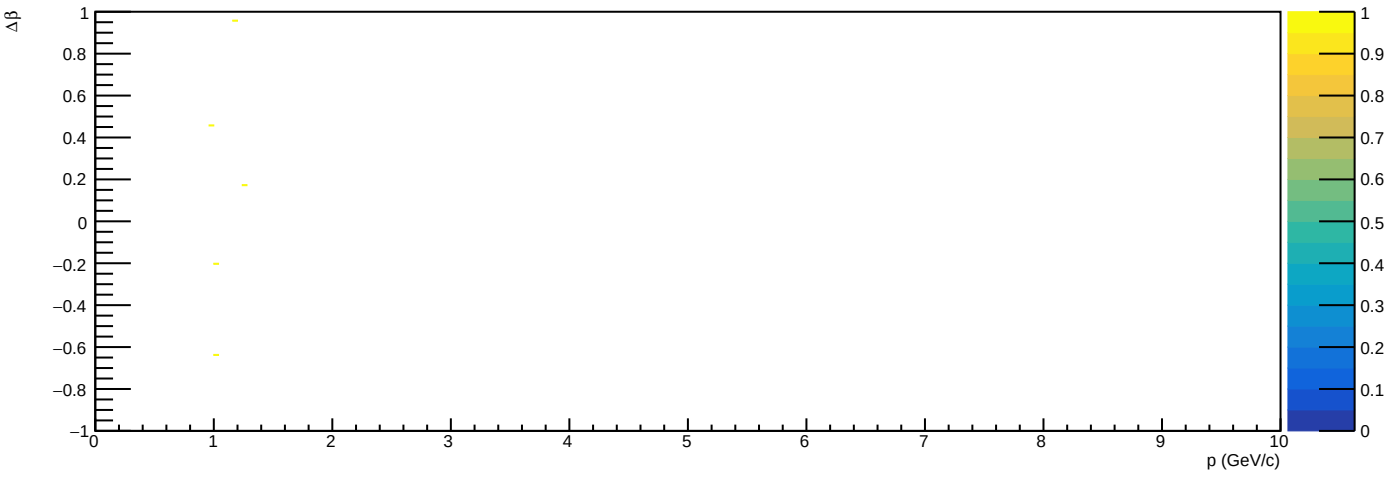

/Independent/Hist_DetectorPID/SC/DeltaBetaVsP_Proton
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

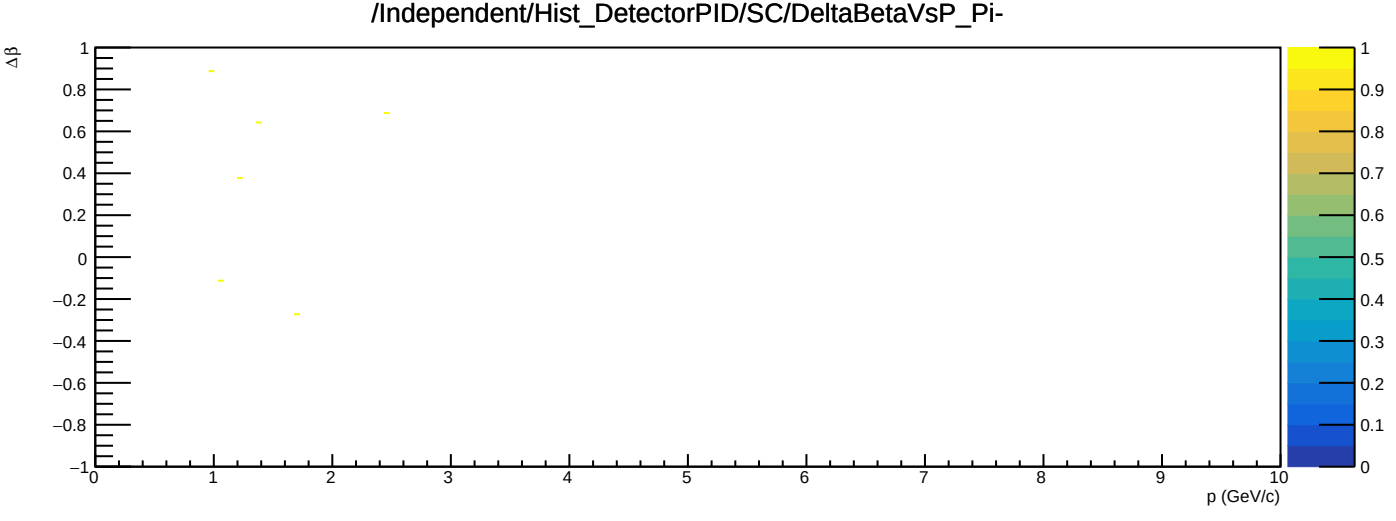

/Independent/Hist_DetectorPID/SC/DeltaTVsP_Proton
Δt SC - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

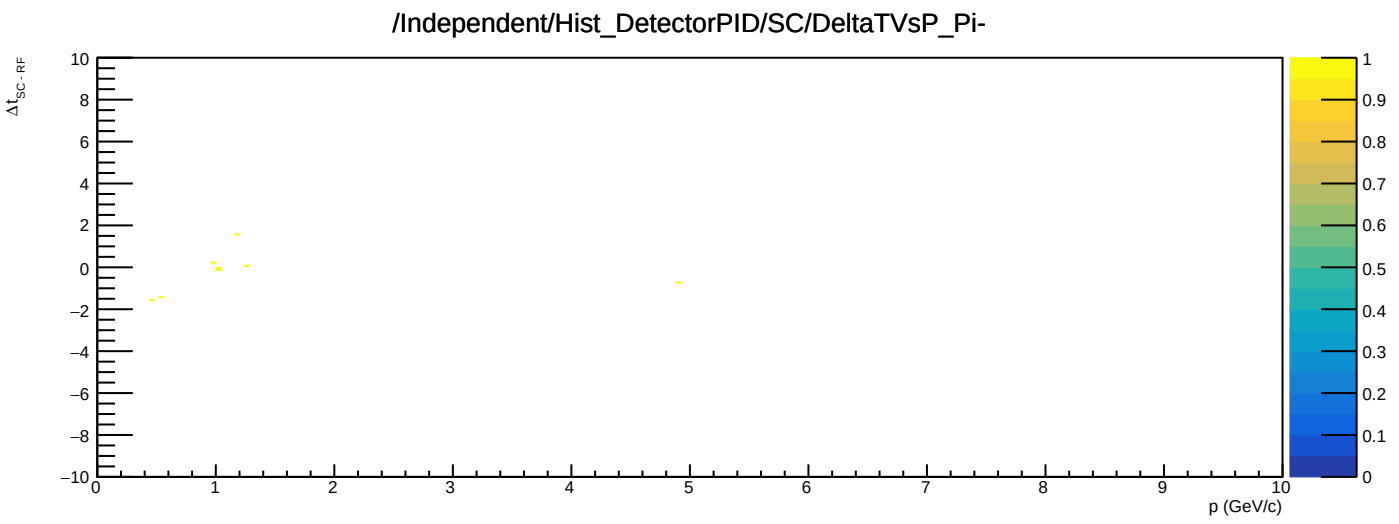

/Independent/Hist_DetectorPID/SC/DeltaTVsP_Proton
Δt SC - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

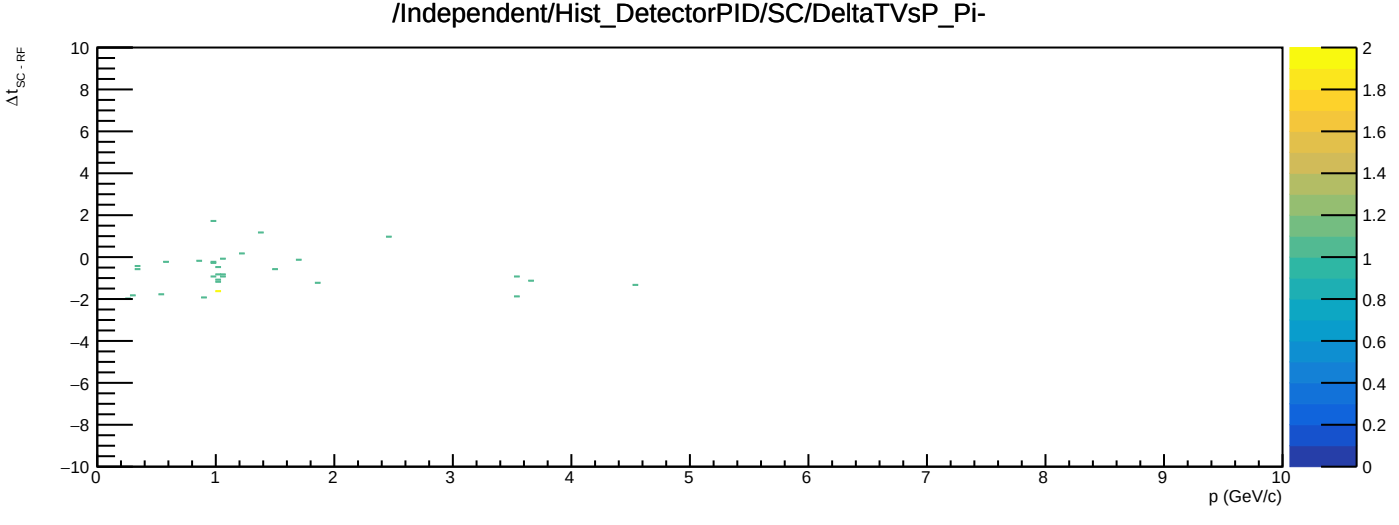

/Independent/Hist_DetectorPID/SC/DeltadEdXVsP_Pi-
SC Δ(dE/dX) (MeV/cm)
p (GeV/c)

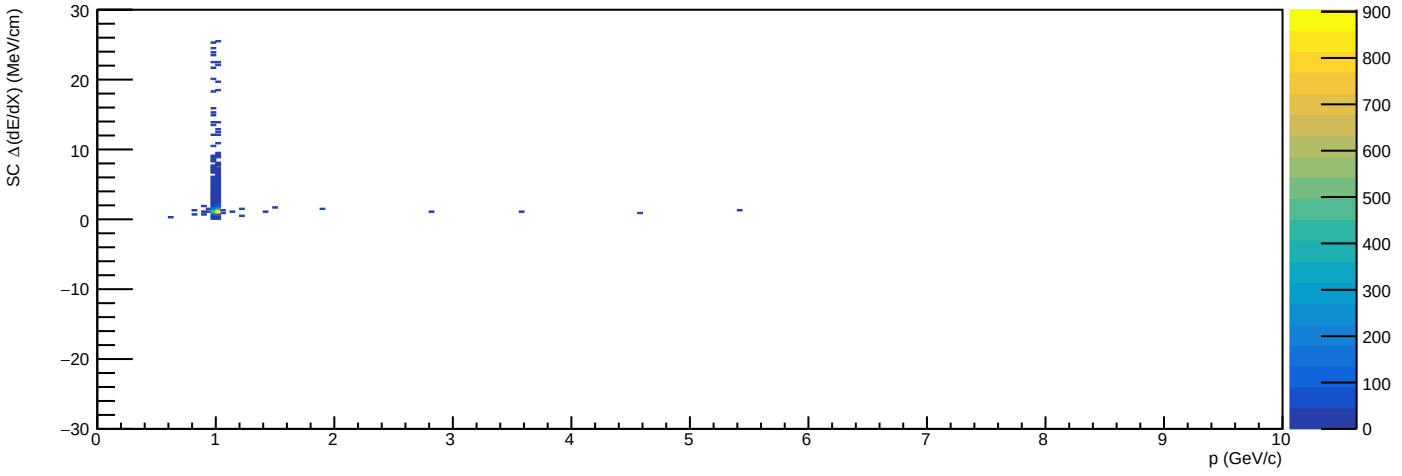

/Independent/Hist_DetectorPID/SC/DeltadEdXVsP_Pi-
SC Δ(dE/dX) (MeV/cm)
p (GeV/c)

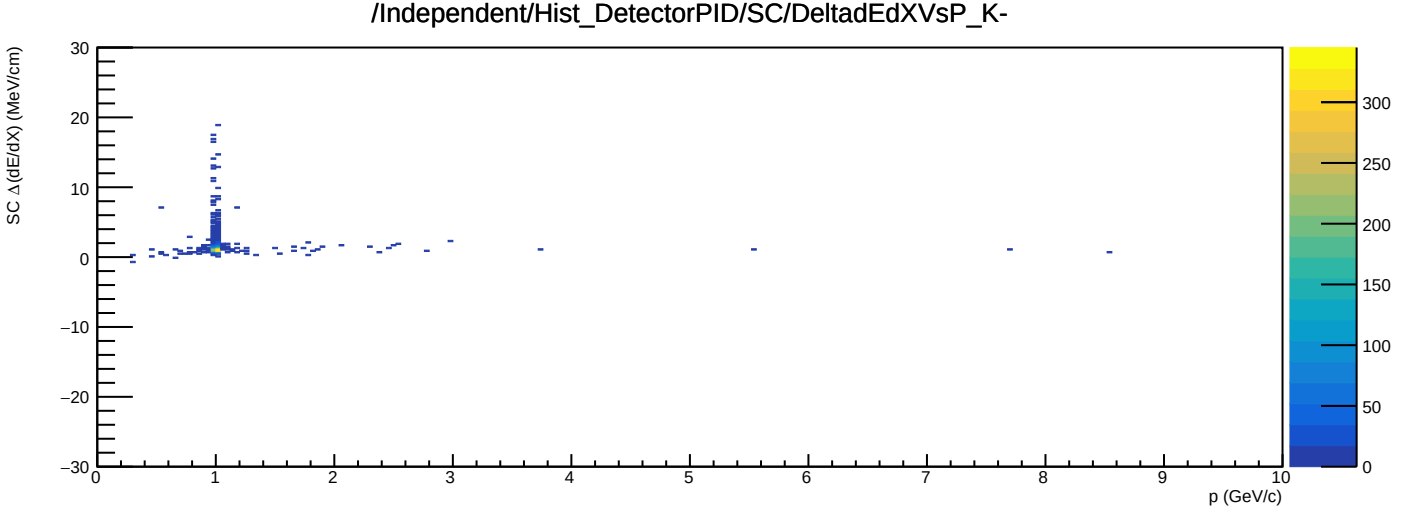

/Independent/Hist_DetectorPID/SC/DeltaBetaVsP_Pi-
Δβ
p (GeV/c)


/Independent/Hist_DetectorPID/SC/DeltaBetaVsP_Pi-
Δβ
p (GeV/c)

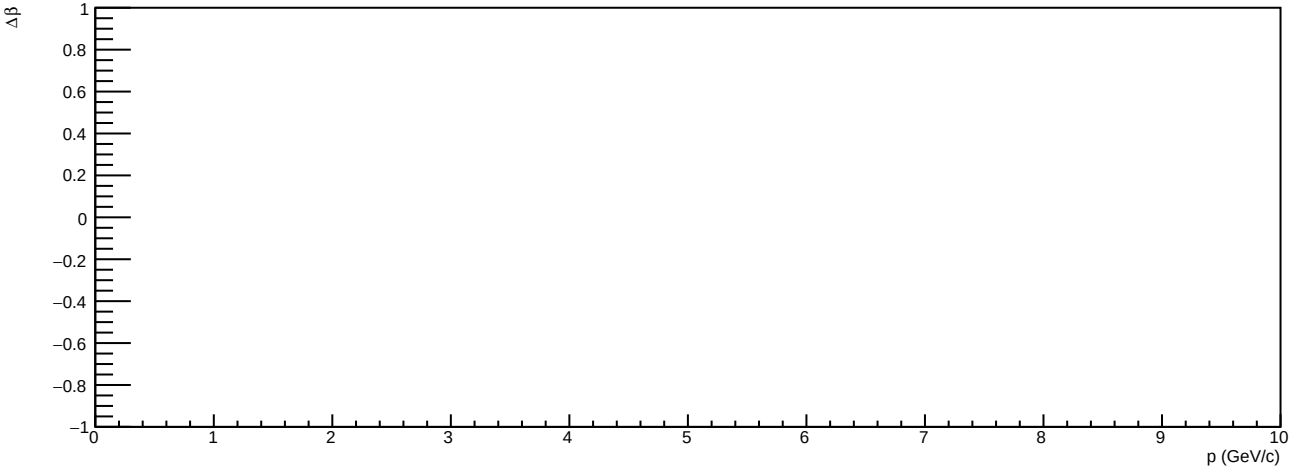

/Independent/Hist_DetectorPID/SC/DeltaTVsP_Pi-
Δt SC - RF
p (GeV/c)


/Independent/Hist_DetectorPID/SC/DeltaTVsP_Pi-
Δt SC - RF
p (GeV/c)

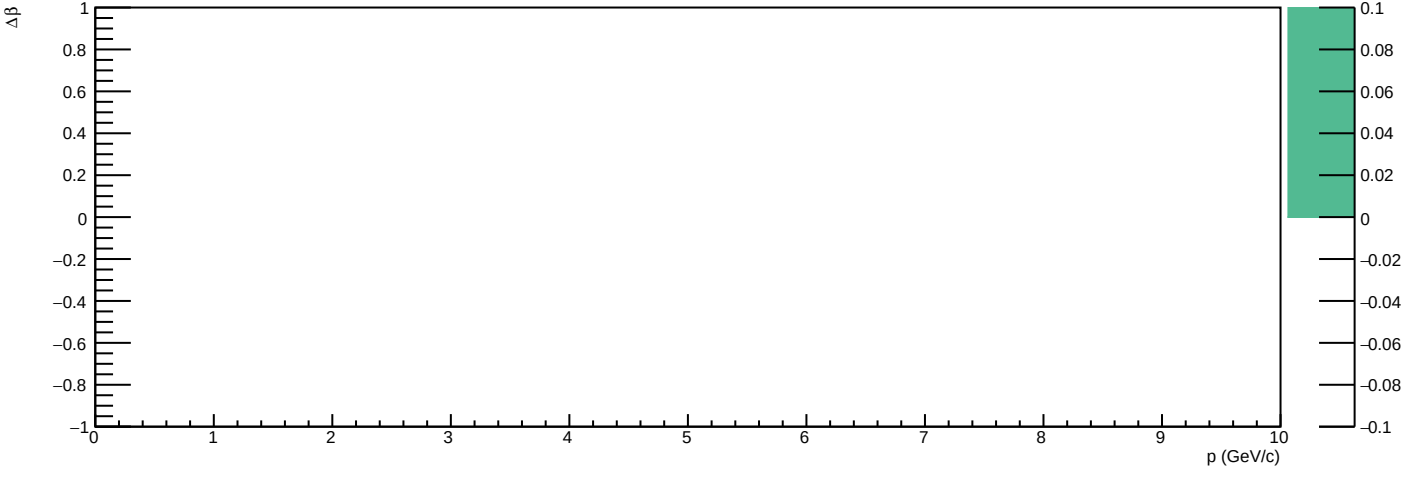

/Independent/Hist_DetectorPID/SC/DeltadEdXVsP_K-
SC Δ(dE/dX) (MeV/cm)
p (GeV/c)

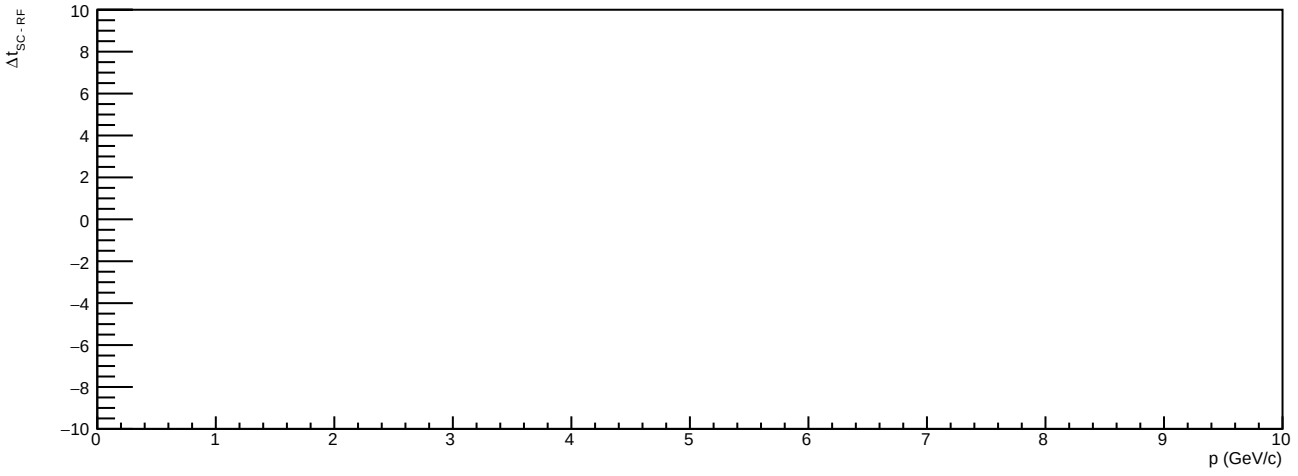

/Independent/Hist_DetectorPID/SC/DeltadEdXVsP_K-
SC Δ(dE/dX) (MeV/cm)
p (GeV/c)

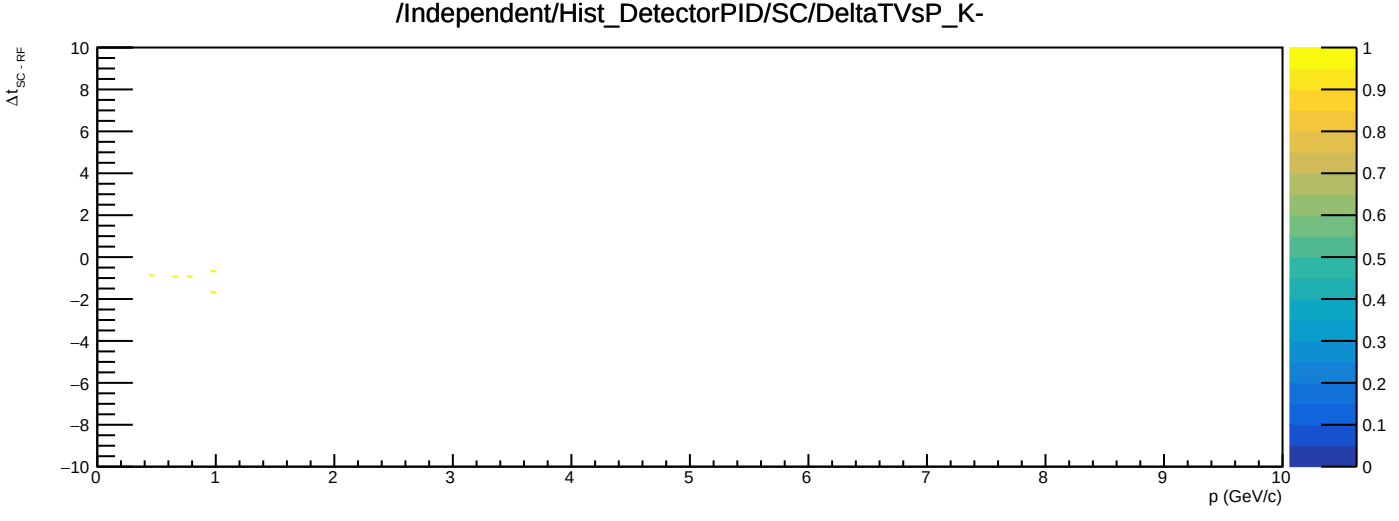
/Independent/Hist_DetectorPID/SC/DeltaBetaVsP_K-

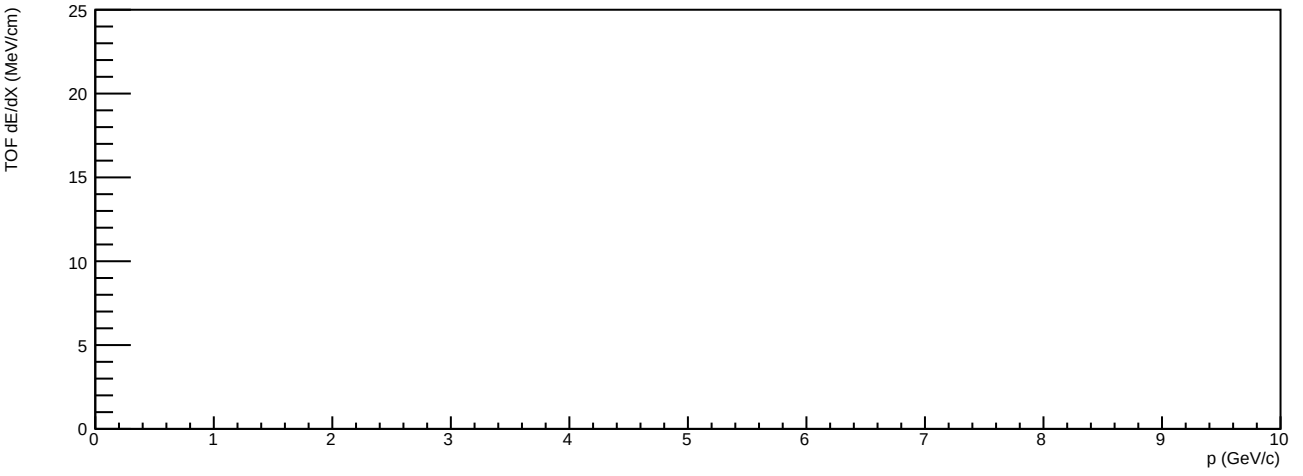


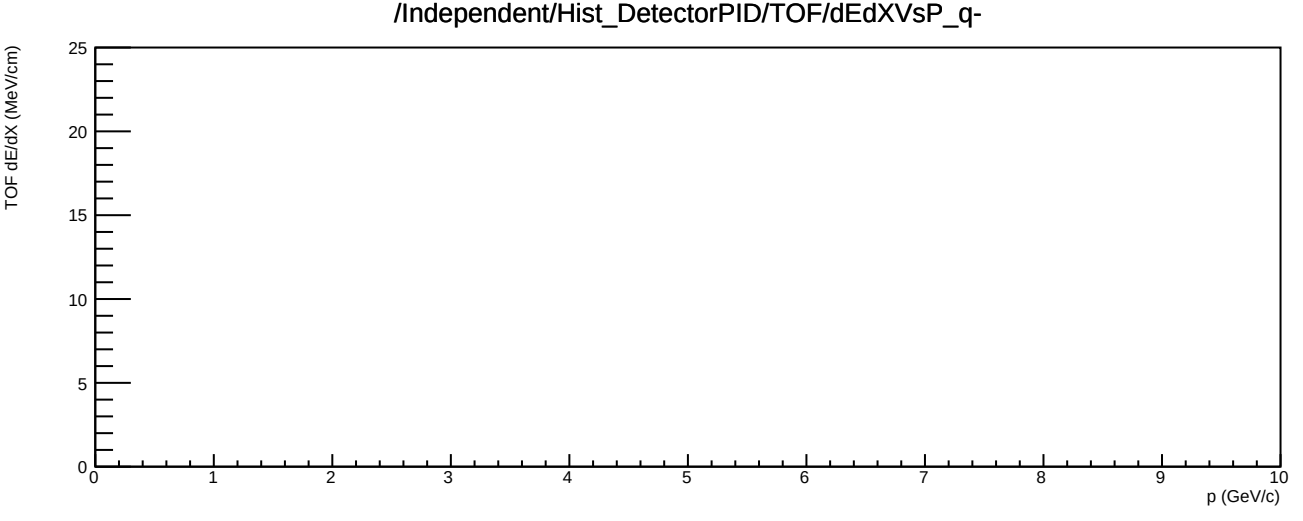
/Independent/Hist_DetectorPID/SC/DeltaBetaVsP_K-

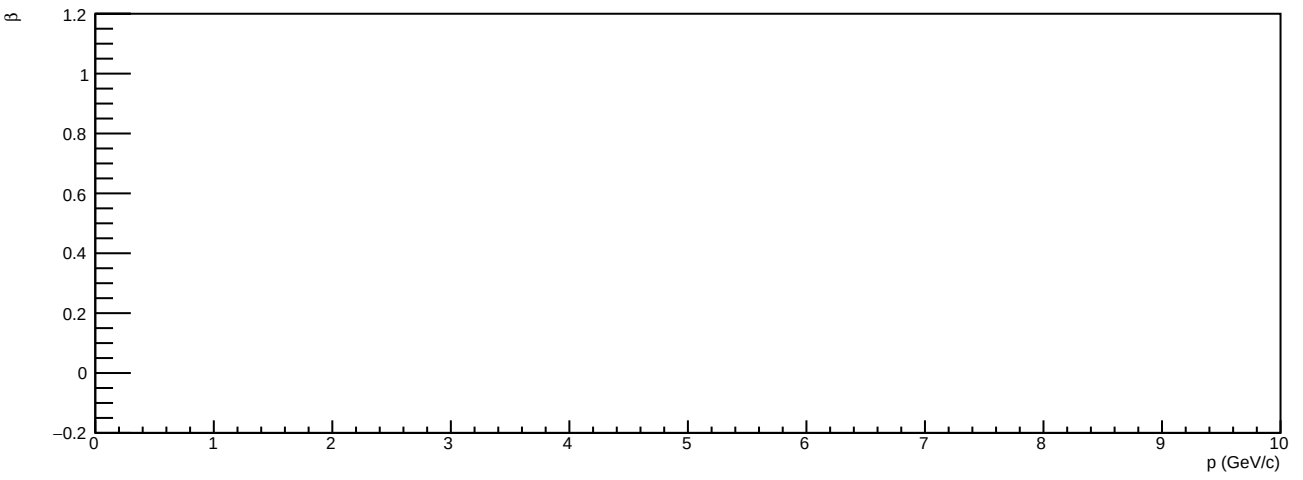


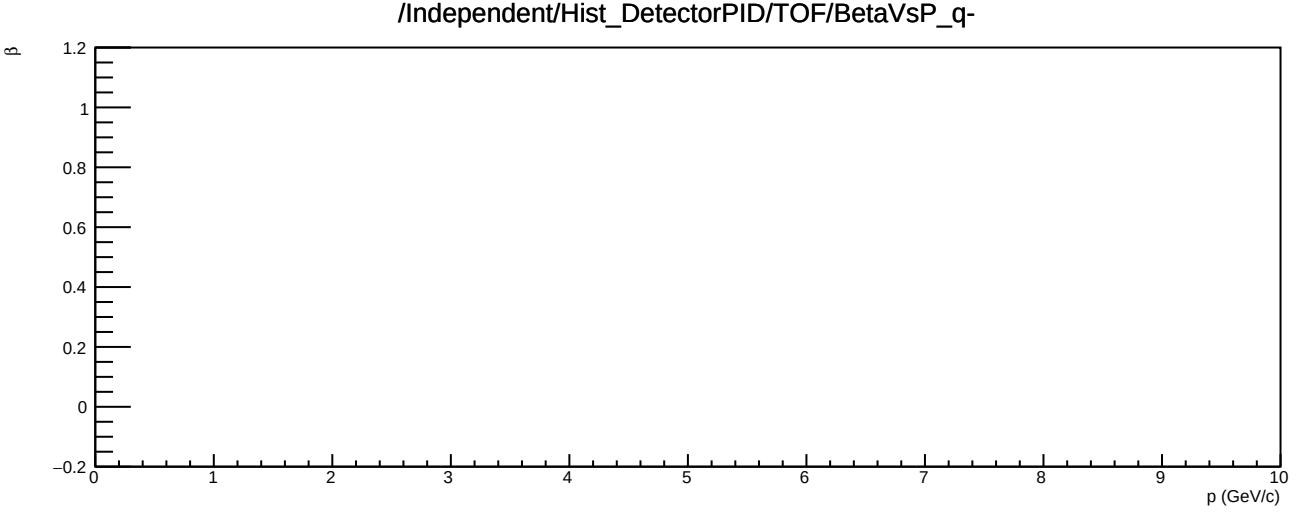

/Independent/Hist_DetectorPID/SC/DeltaTVsP_K-
Δt SC - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

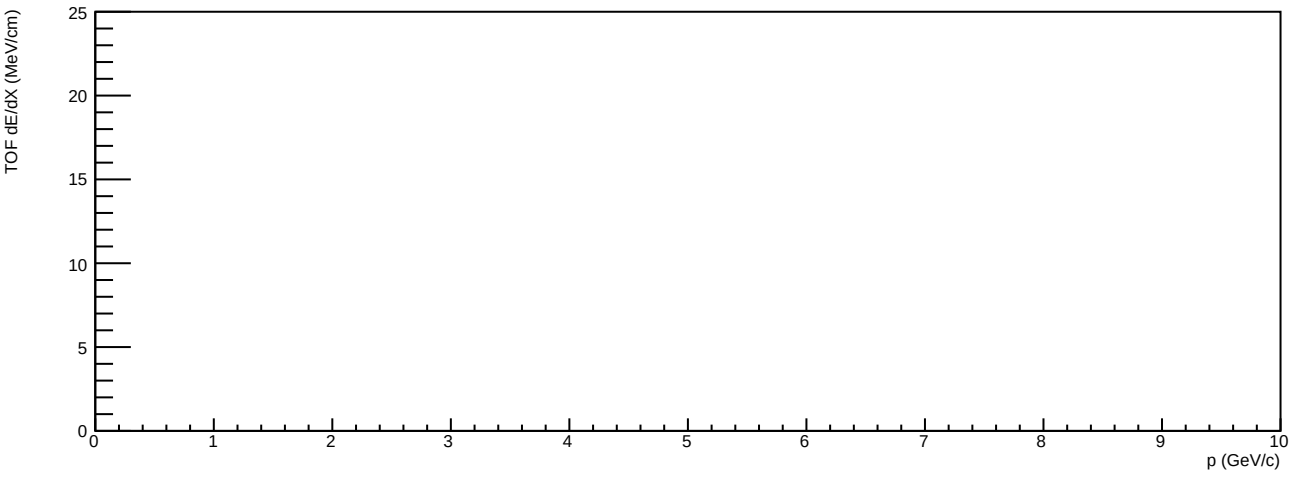

/Independent/Hist_DetectorPID/SC/DeltaTVsP_K-
Δt SC - RF
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

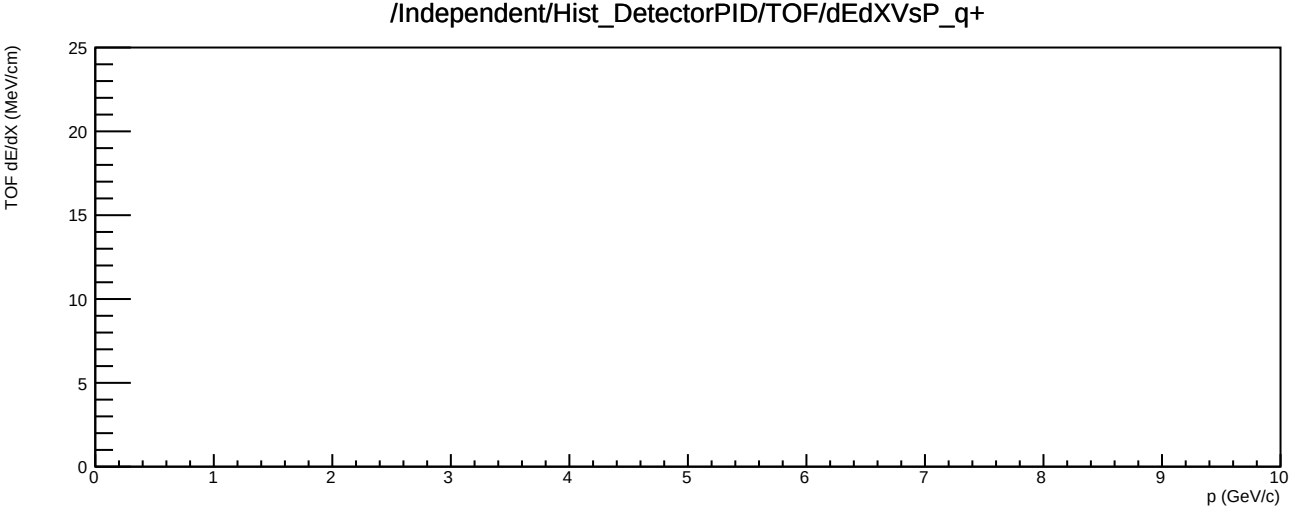

/Independent/Hist_DetectorPID/TOF/dEdXVsP_q-
TOF dE/dX (MeV/cm)
25
20
15
10
5
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

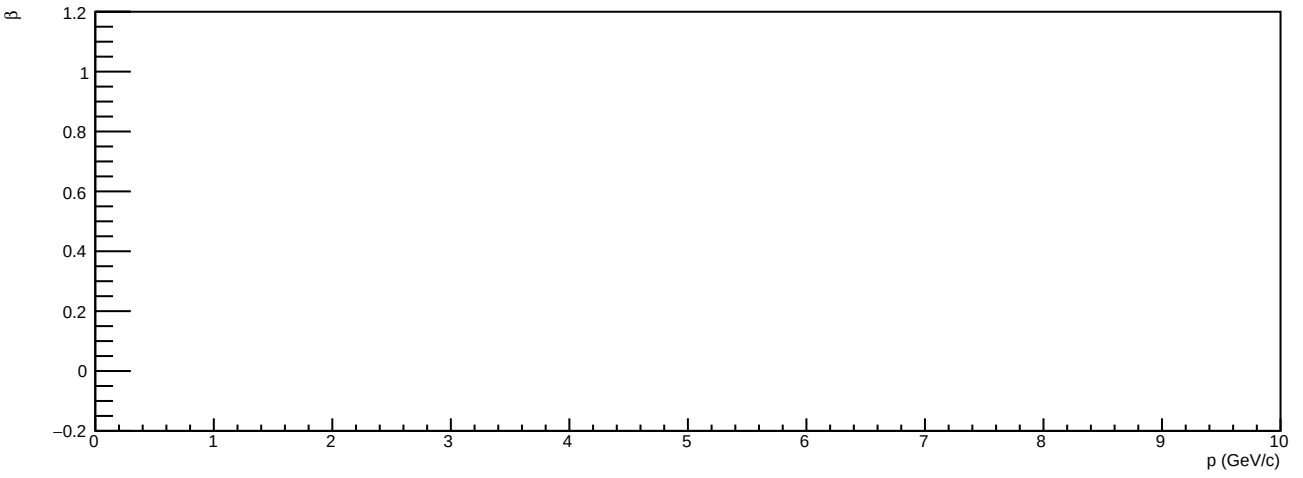

/Independent/Hist_DetectorPID/TOF/dEdXVsP_q-
TOF dE/dX (MeV/cm)
25
20
15
10
5
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

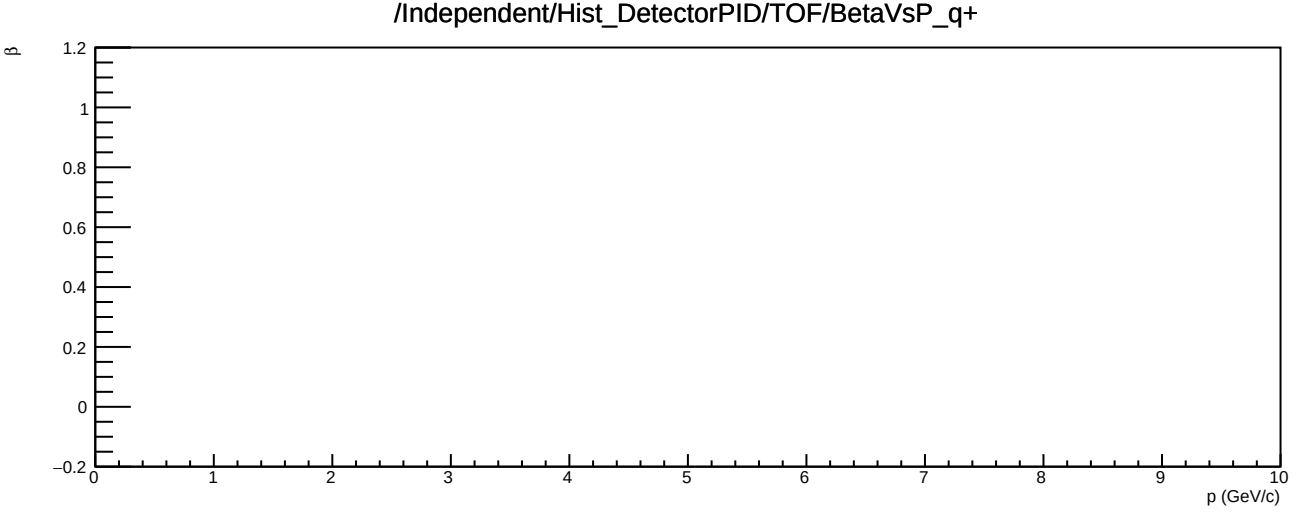

/Independent/Hist_DetectorPID/TOF/BetaVsP_q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

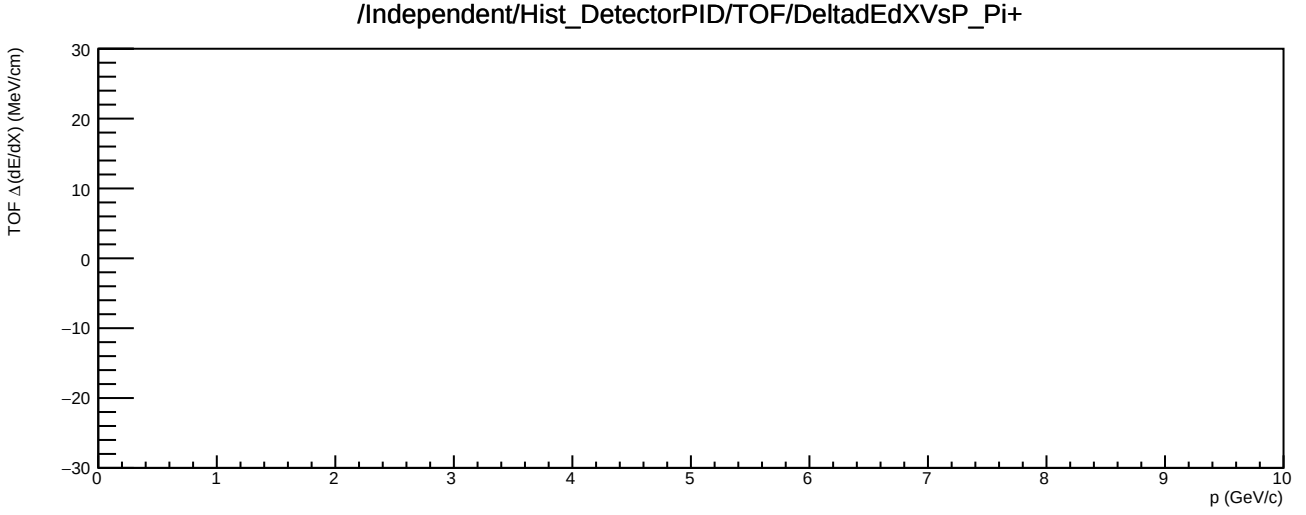

/Independent/Hist_DetectorPID/TOF/BetaVsP_q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

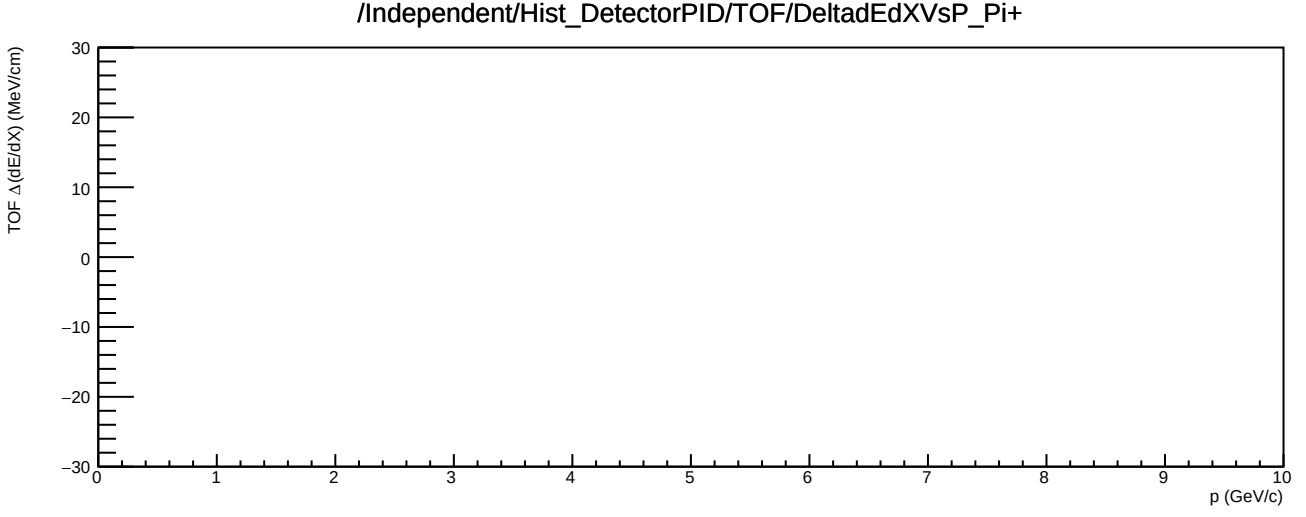

/Independent/Hist_DetectorPID/TOF/dEdXVsP_q+
TOF dE/dX (MeV/cm)
25
20
15
10
5
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

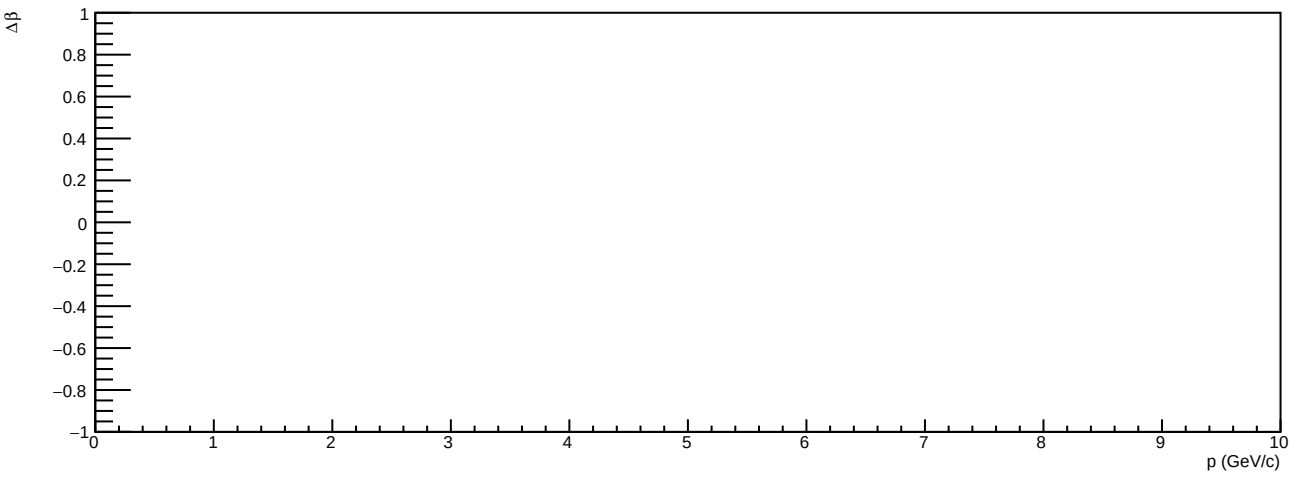

/Independent/Hist_DetectorPID/TOF/dEdXVsP_q+
TOF dE/dX (MeV/cm)
25
20
15
10
5
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

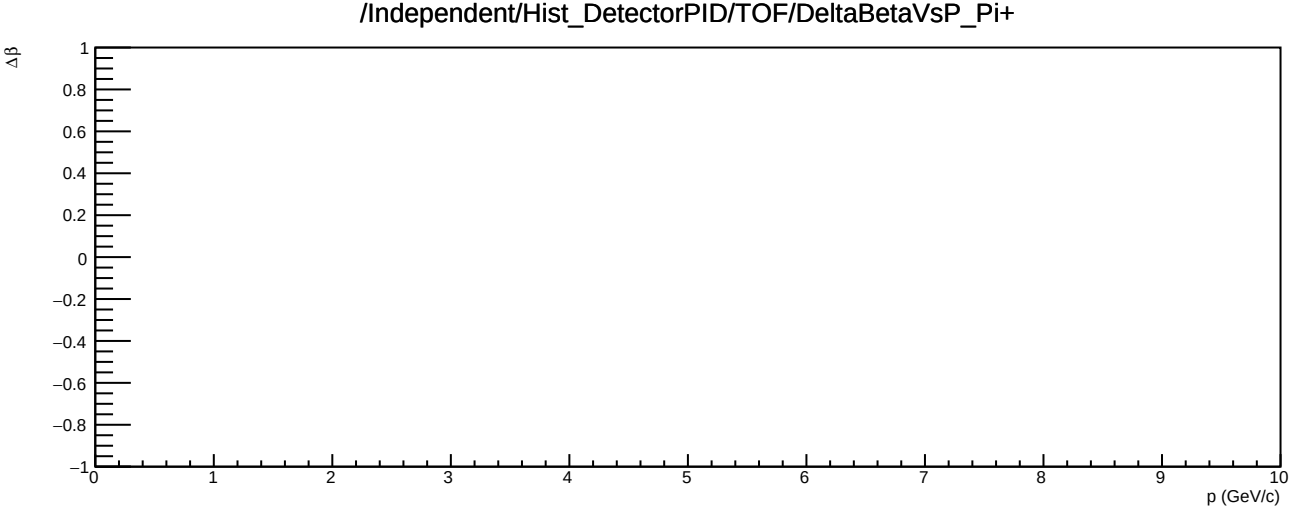

/Independent/Hist_DetectorPID/TOF/BetaVsP_q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

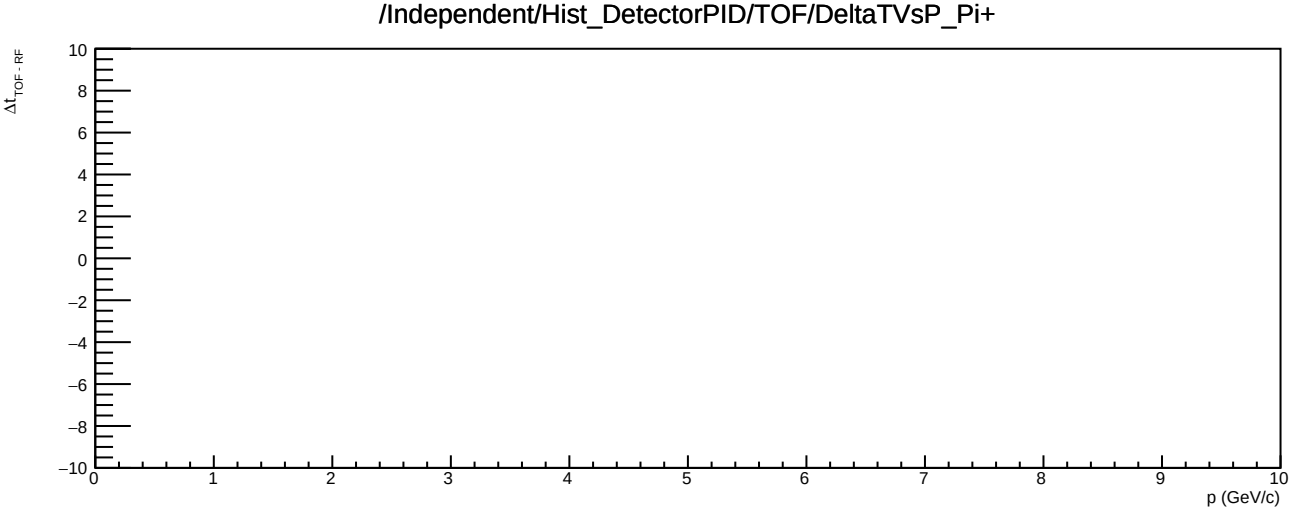

/Independent/Hist_DetectorPID/TOF/BetaVsP_q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

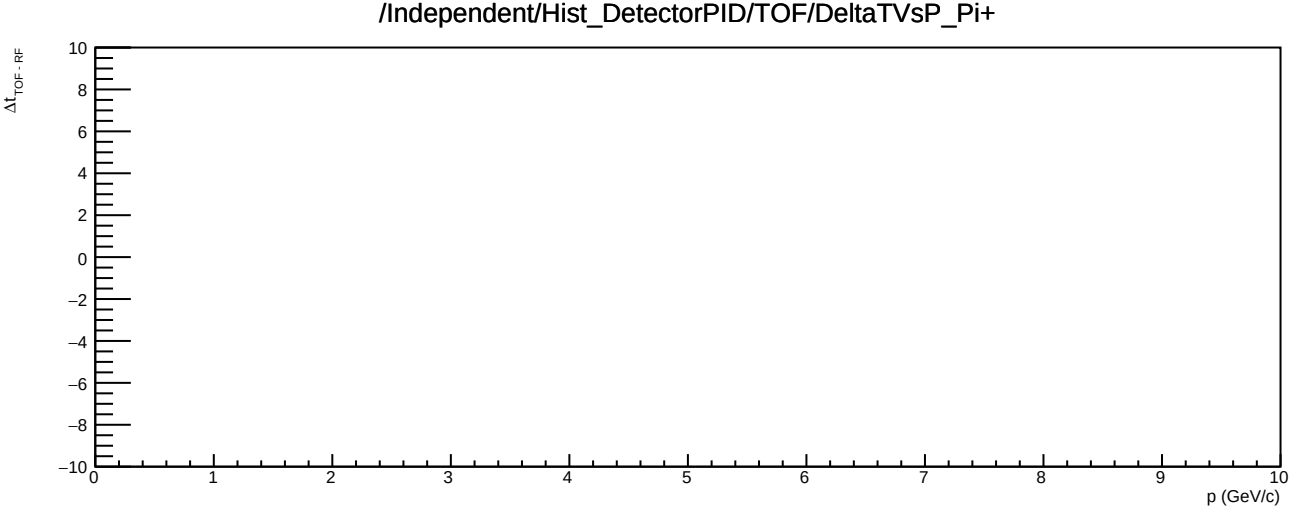

/Independent/Hist_DetectorPID/TOF/DeltadEdXVsP_Pi+
TOF Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

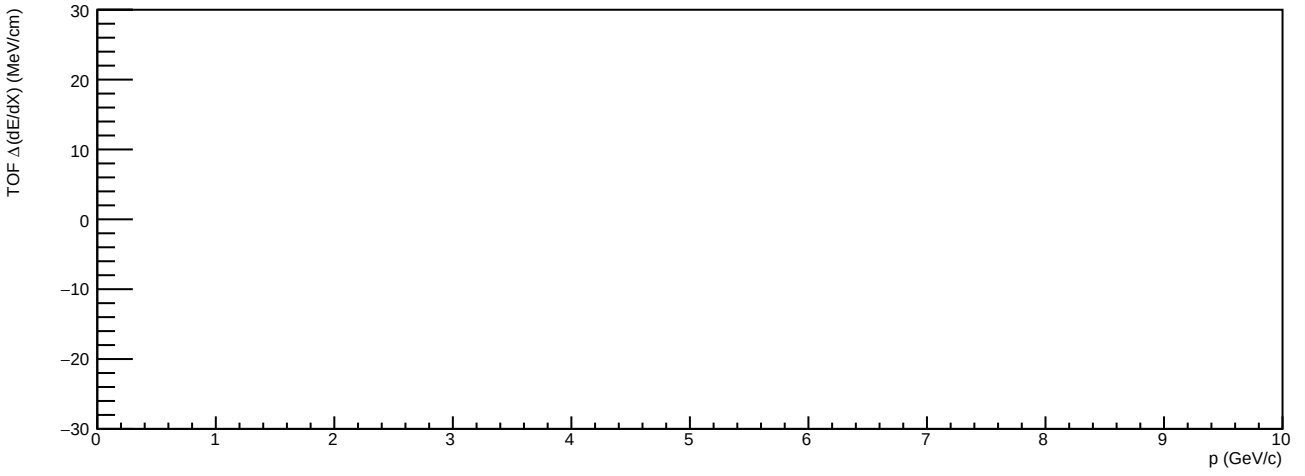

/Independent/Hist_DetectorPID/TOF/DeltadEdXVsP_Pi+
TOF Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

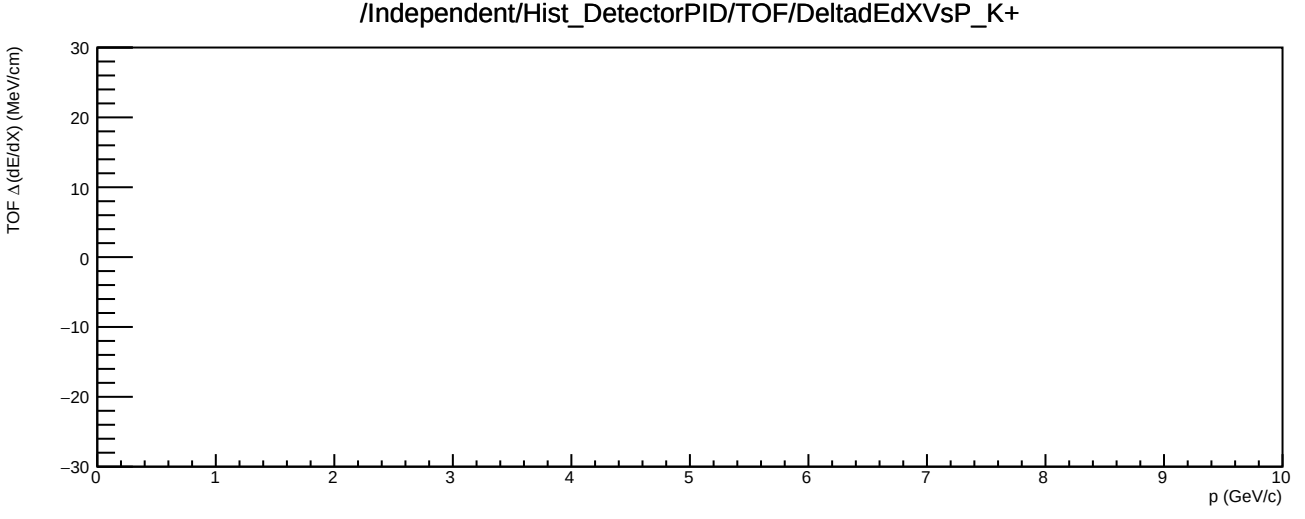

/Independent/Hist_DetectorPID/TOF/DeltaBetaVsP_Pi+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

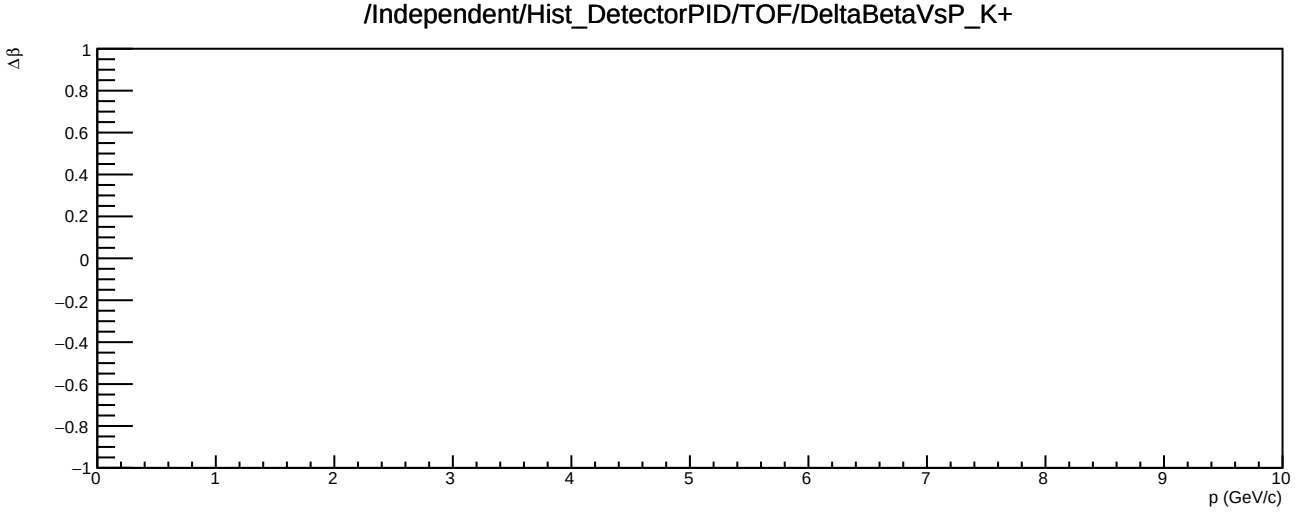

/Independent/Hist_DetectorPID/TOF/DeltaBetaVsP_Pi+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

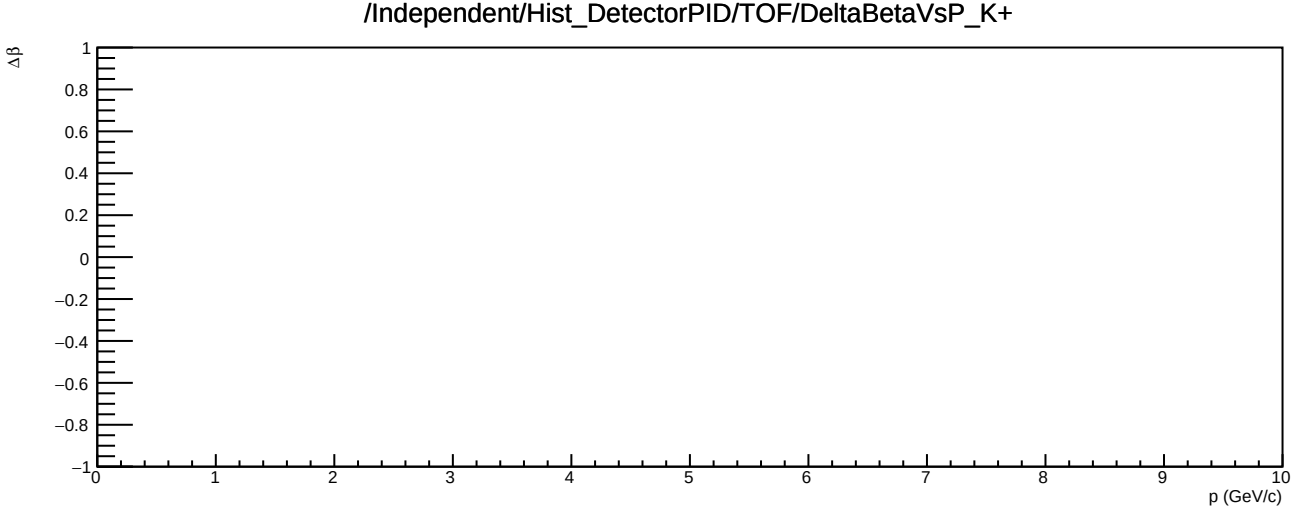

/Independent/Hist_DetectorPID/TOF/DeltaTVsP_Pi+
$\Delta t_{TOF - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

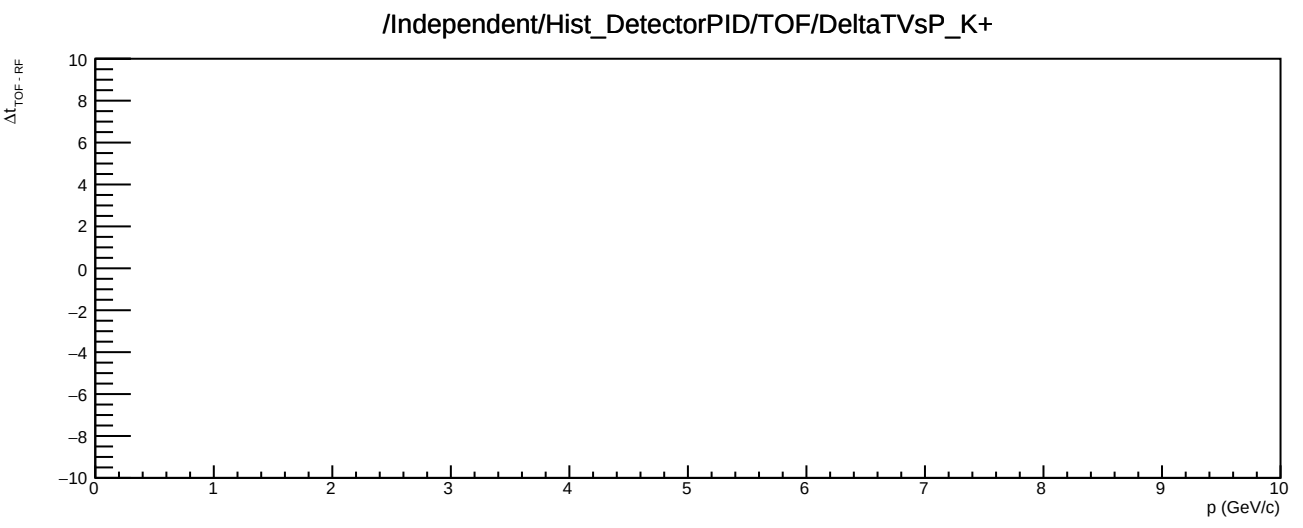

/Independent/Hist_DetectorPID/TOF/DeltaTVsP_Pi+
$\Delta t_{TOF - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

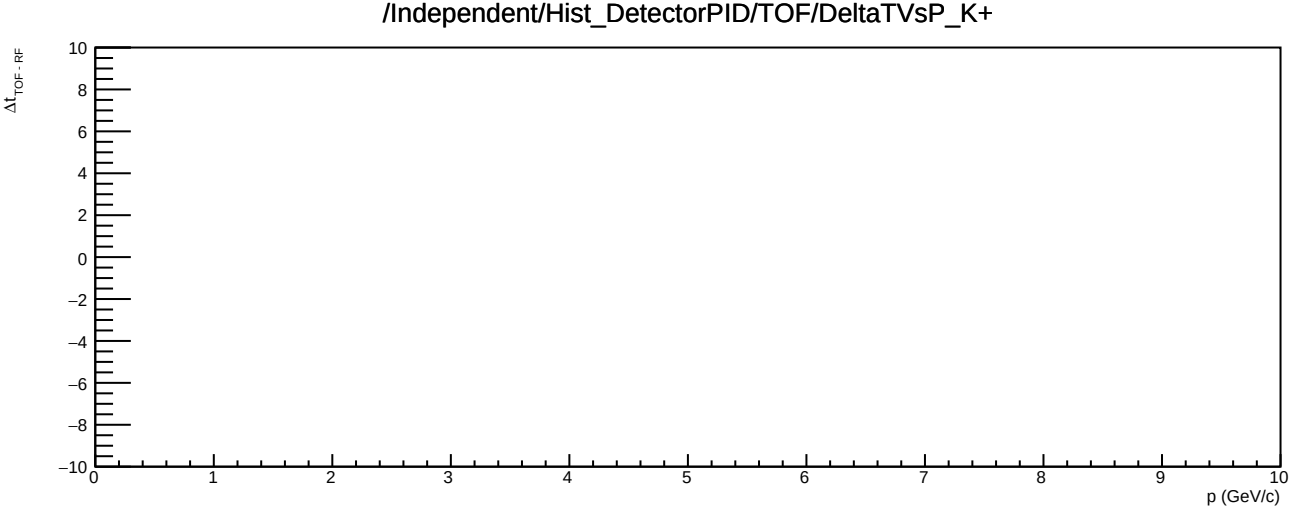

/Independent/Hist_DetectorPID/TOF/DeltadEdXVsP_K+
TOF Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

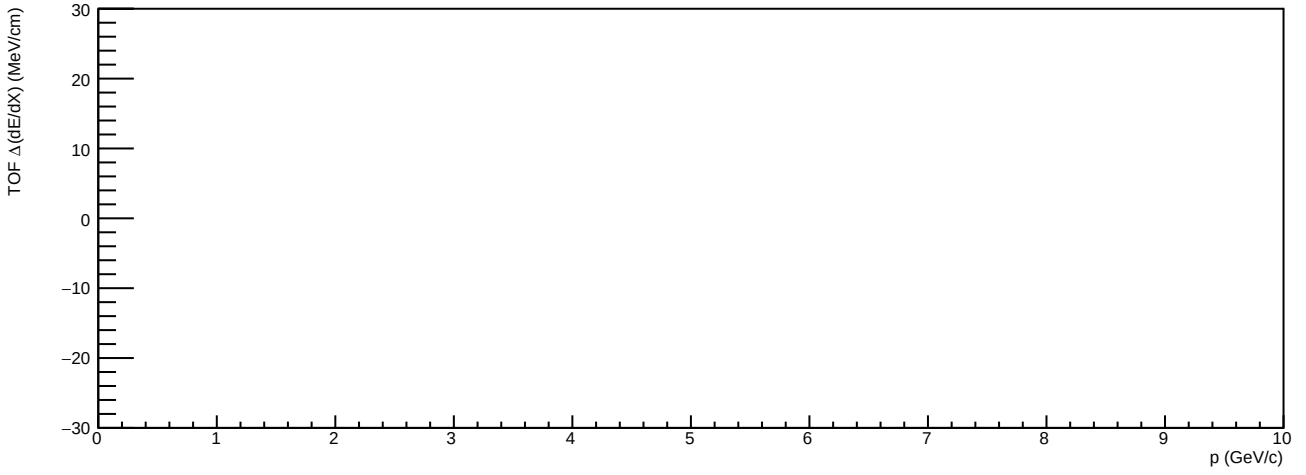

/Independent/Hist_DetectorPID/TOF/DeltadEdXVsP_K+
TOF Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

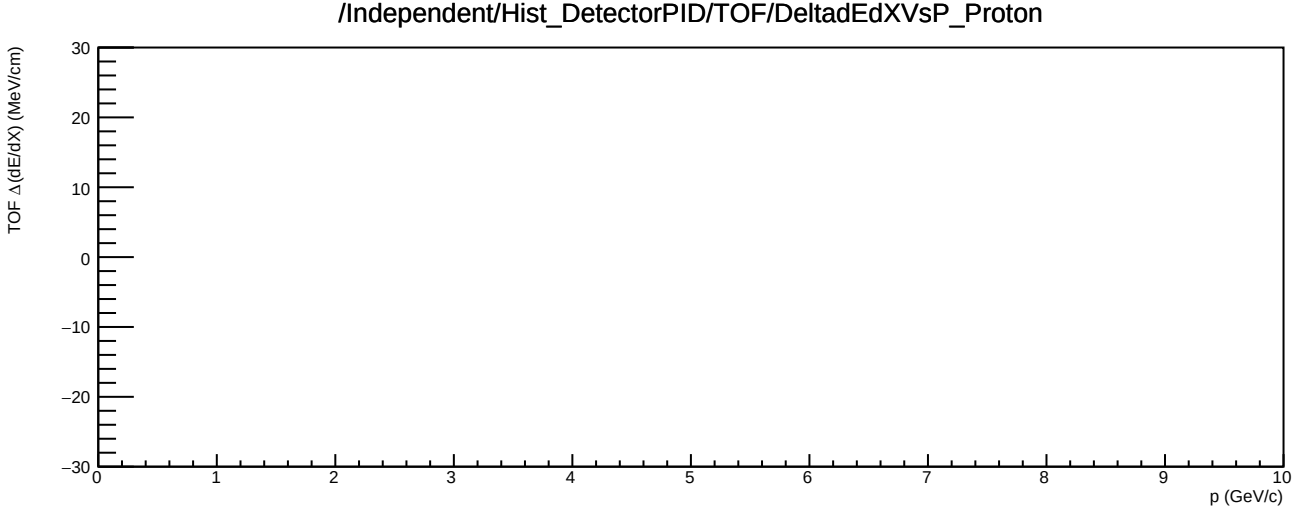

/Independent/Hist_DetectorPID/TOF/DeltaBetaVsP_K+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

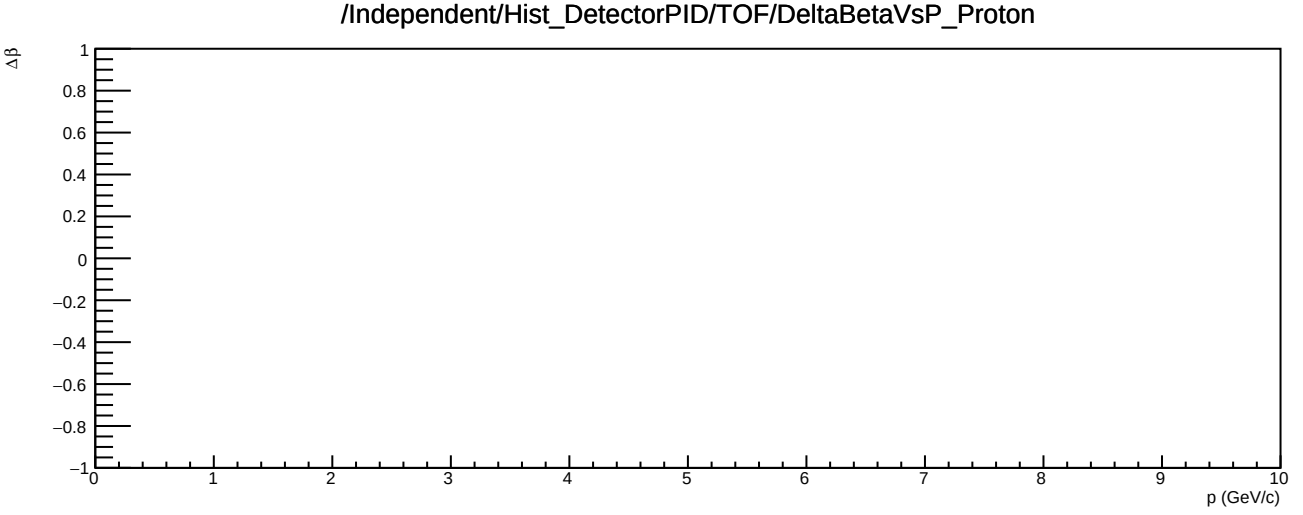

/Independent/Hist_DetectorPID/TOF/DeltaBetaVsP_K+
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

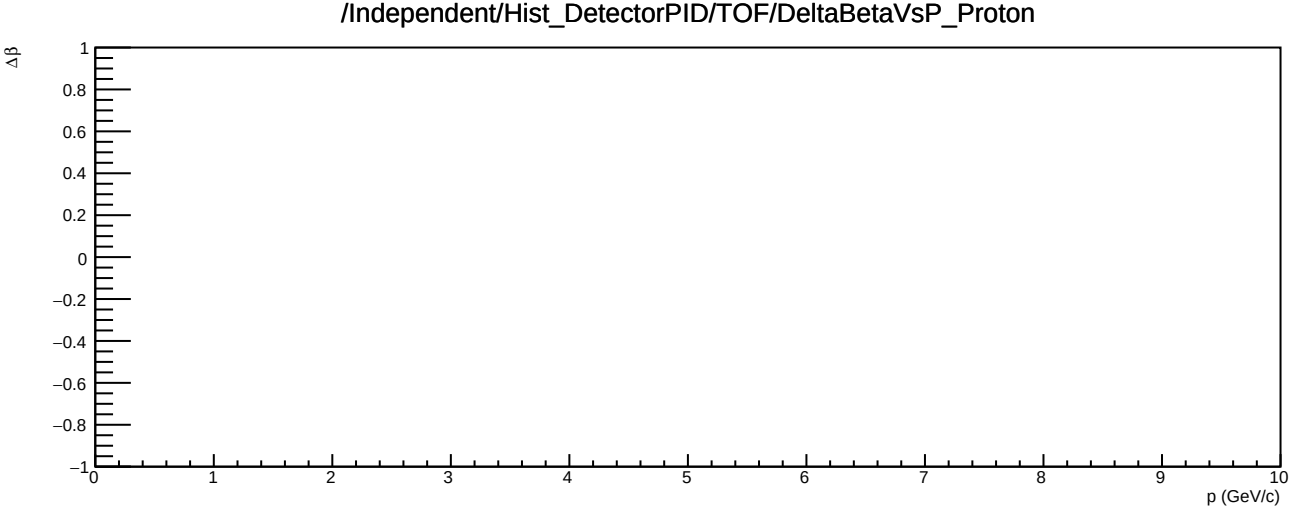

/Independent/Hist_DetectorPID/TOF/DeltaTVsP_K+
$\Delta t_{TOF - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

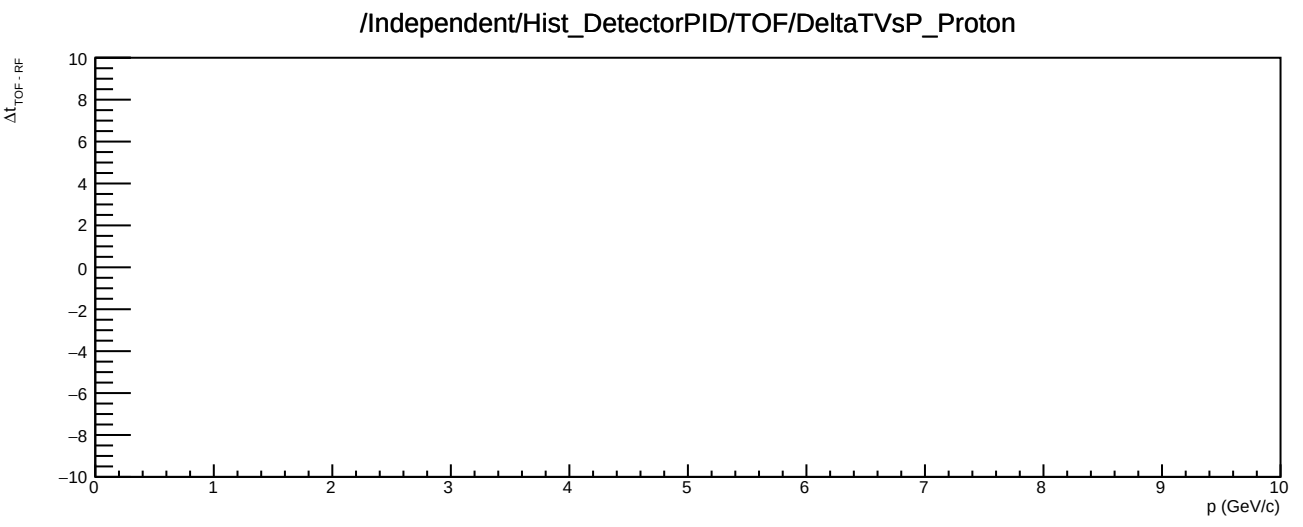

/Independent/Hist_DetectorPID/TOF/DeltaTVsP_K+
$\Delta t_{TOF - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

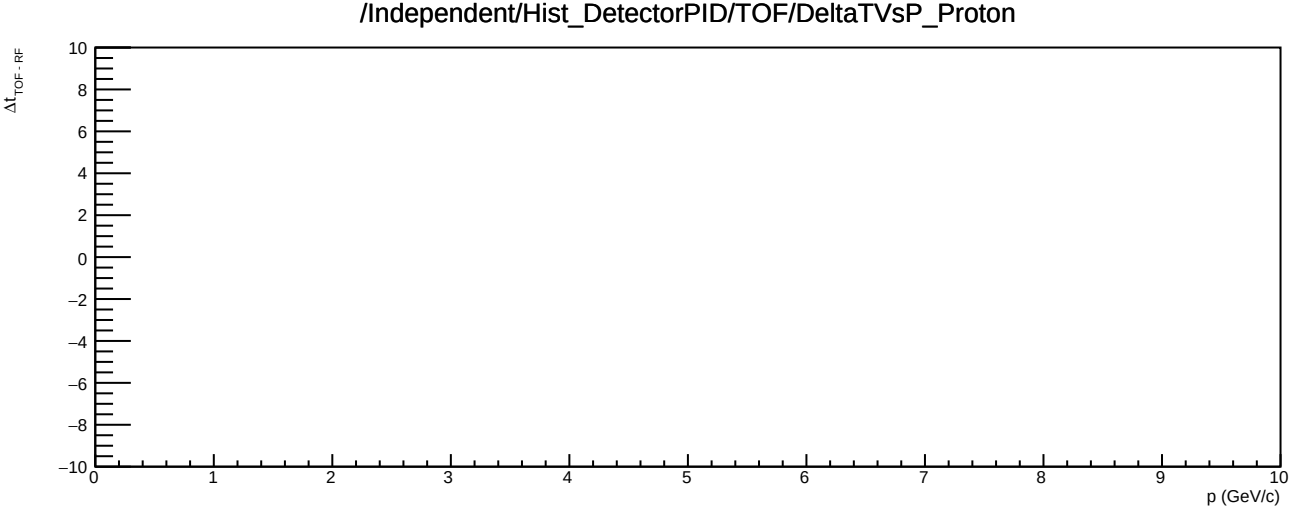

/Independent/Hist_DetectorPID/TOF/DeltadEdXVsP_Proton
TOF Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

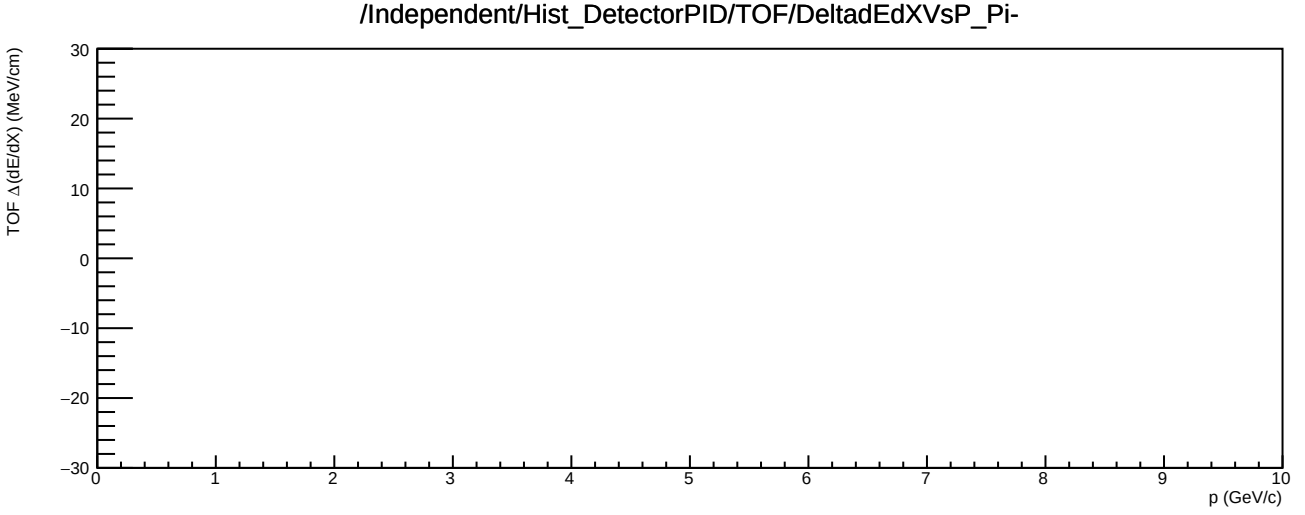

/Independent/Hist_DetectorPID/TOF/DeltadEdXVsP_Proton
TOF Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

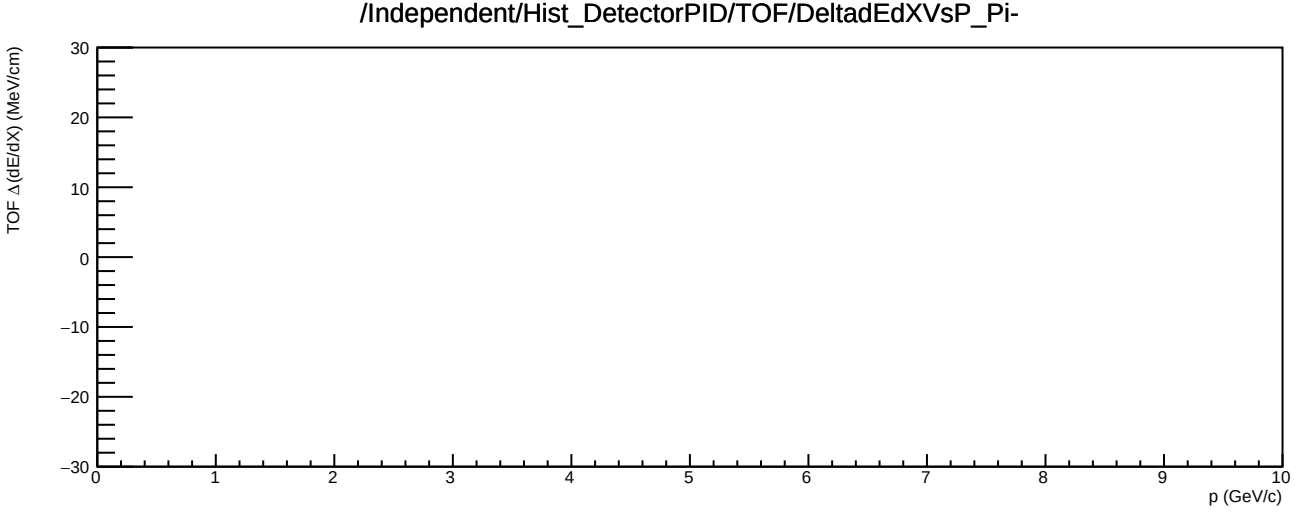

/Independent/Hist_DetectorPID/TOF/DeltaBetaVsP_Proton
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

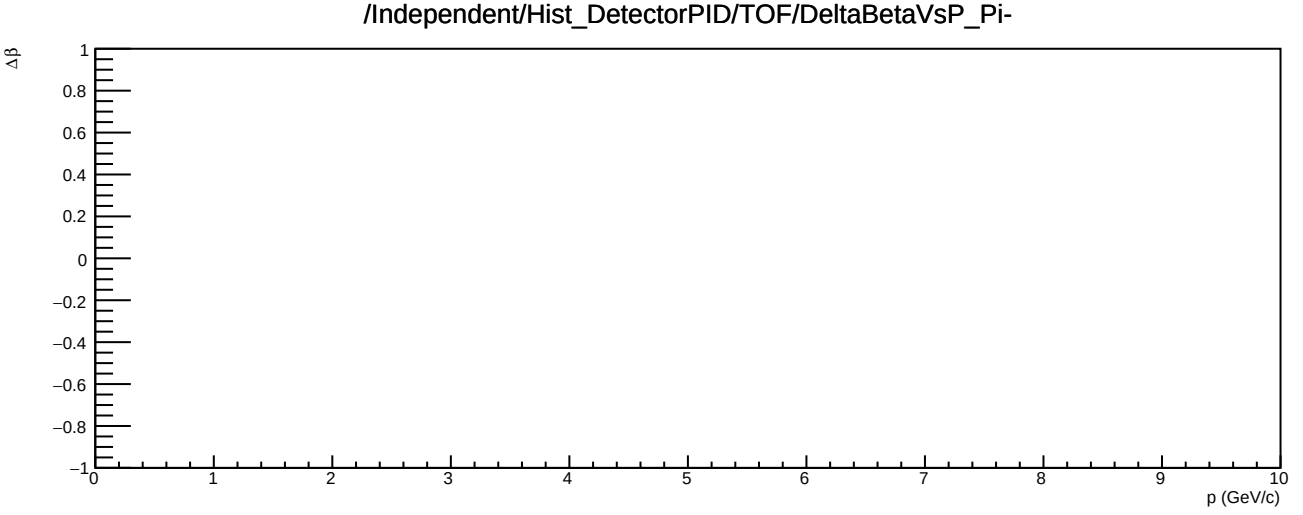

/Independent/Hist_DetectorPID/TOF/DeltaBetaVsP_Proton
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

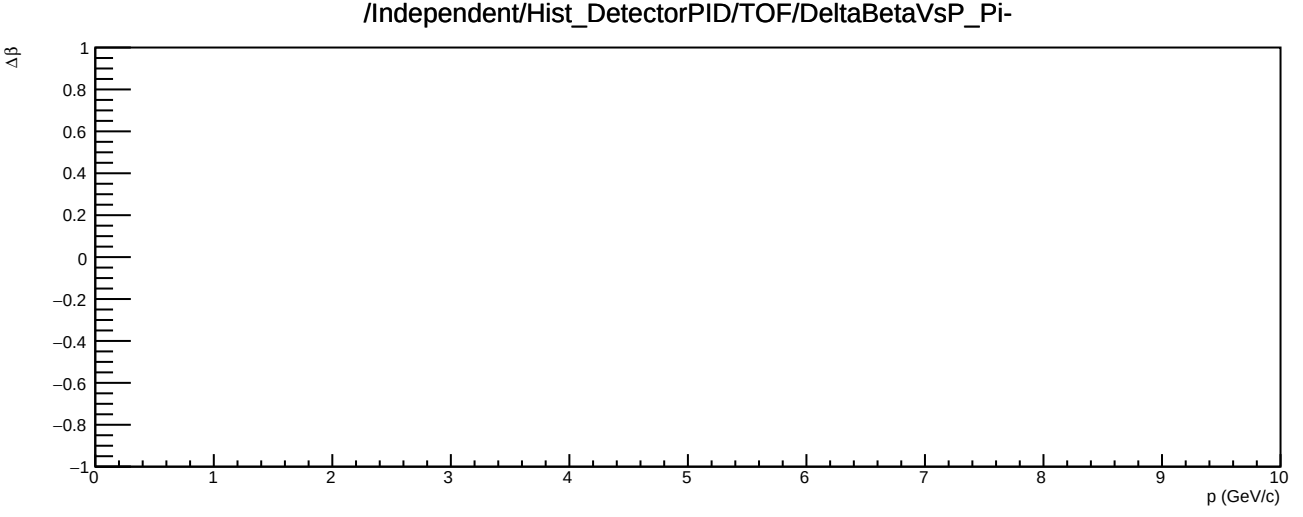

/Independent/Hist_DetectorPID/TOF/DeltaTVsP_Proton
$\Delta t_{TOF - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

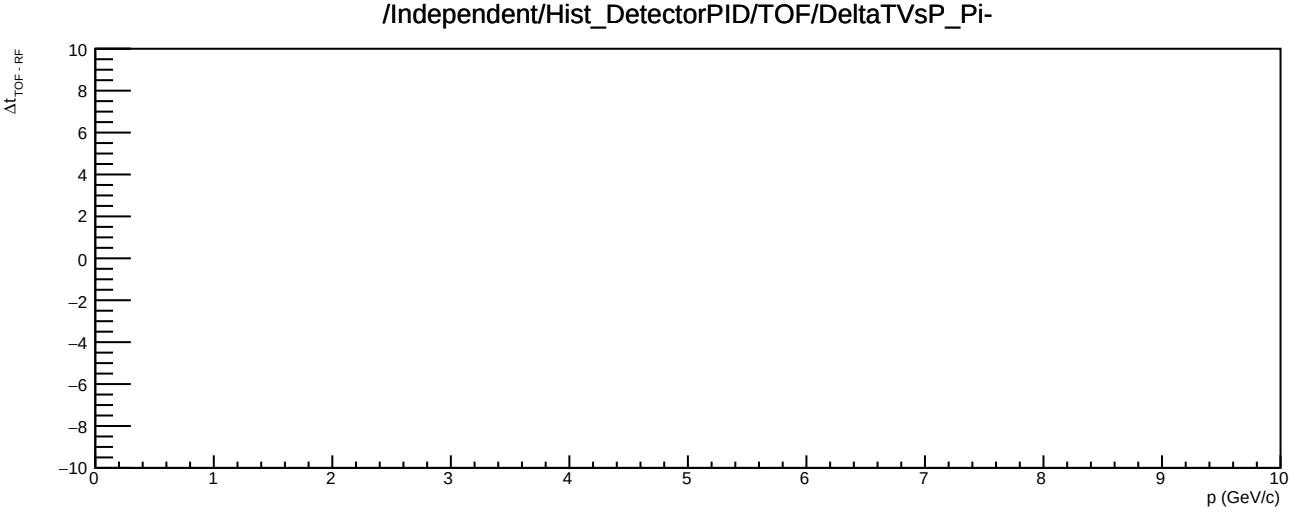

/Independent/Hist_DetectorPID/TOF/DeltaTVsP_Proton
$\Delta t_{TOF - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

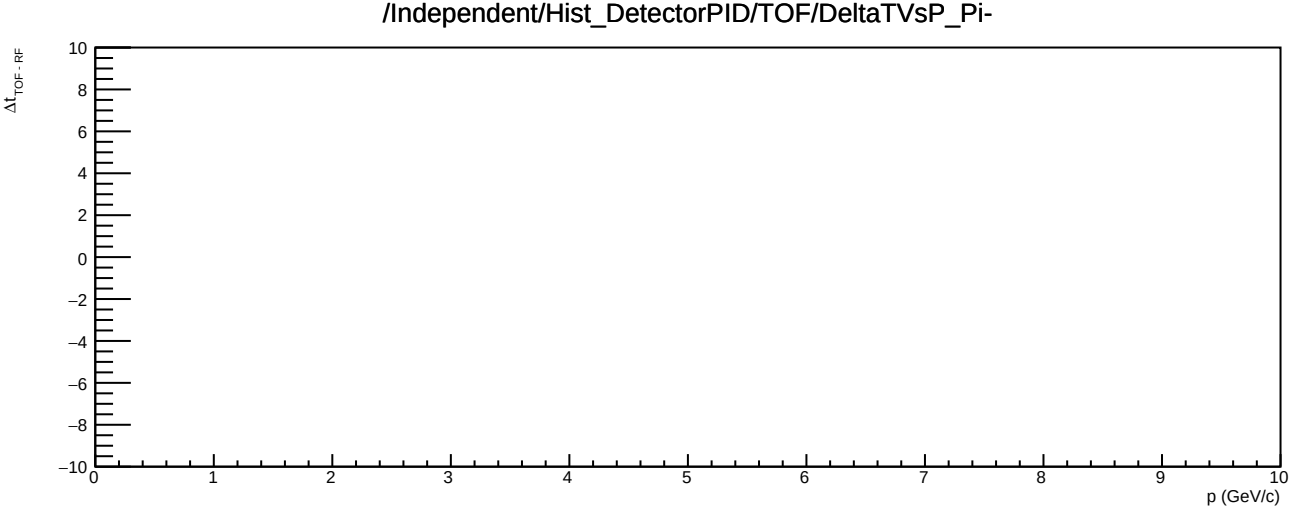

/Independent/Hist_DetectorPID/TOF/DeltadEdXVsP_Pi-
TOF Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

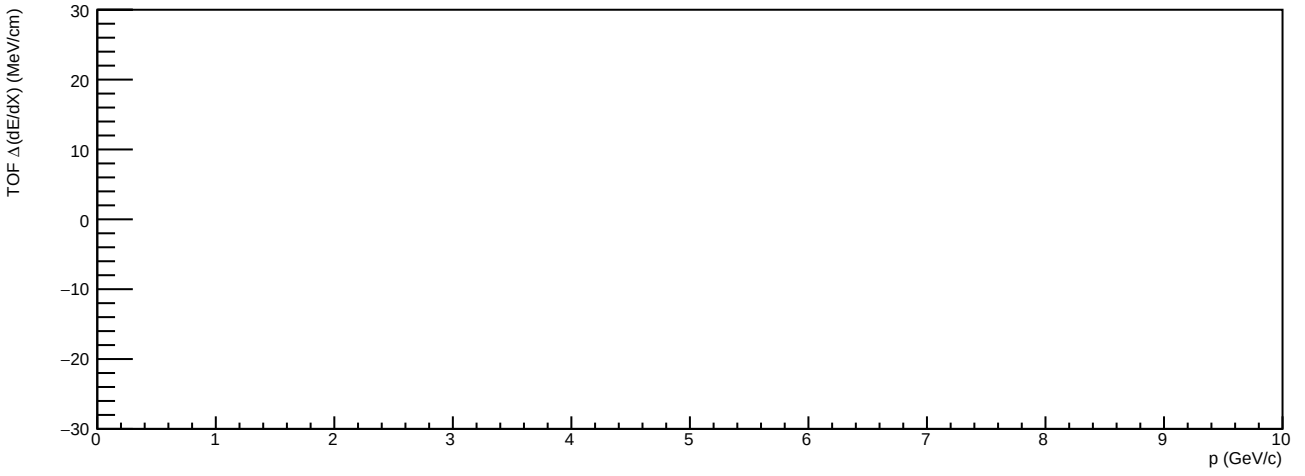

/Independent/Hist_DetectorPID/TOF/DeltadEdXVsP_Pi-
TOF Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

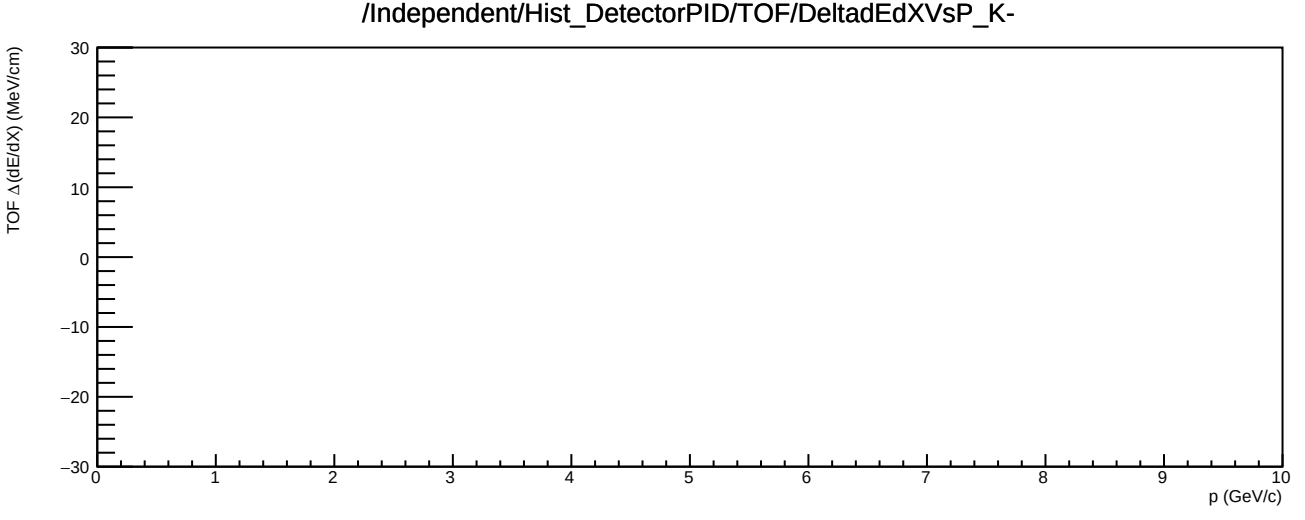

/Independent/Hist_DetectorPID/TOF/DeltaBetaVsP_Pi-
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

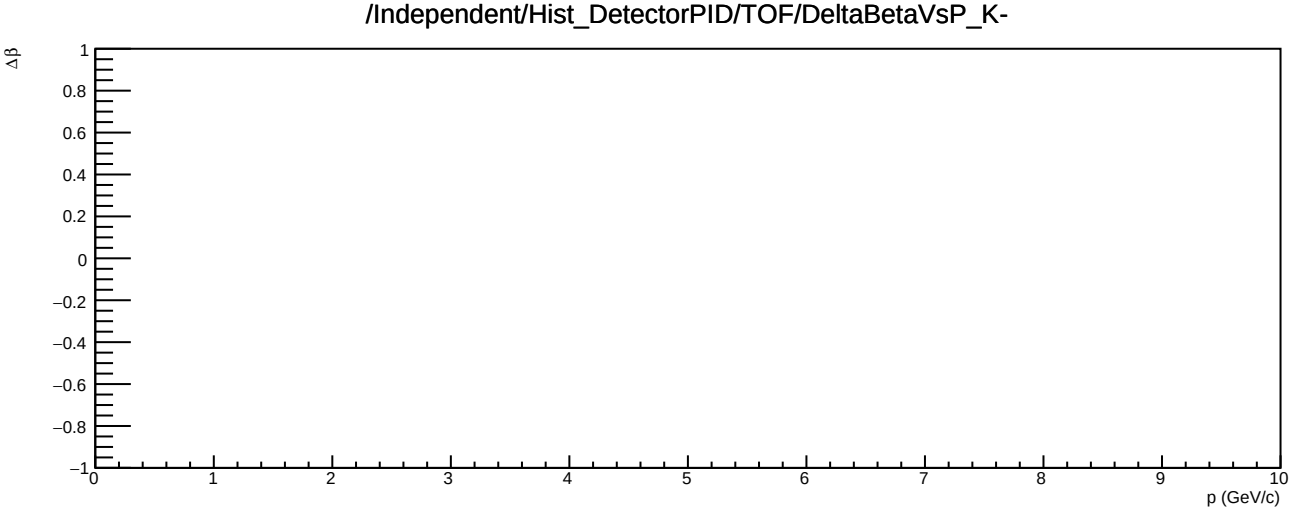

/Independent/Hist_DetectorPID/TOF/DeltaBetaVsP_Pi-
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

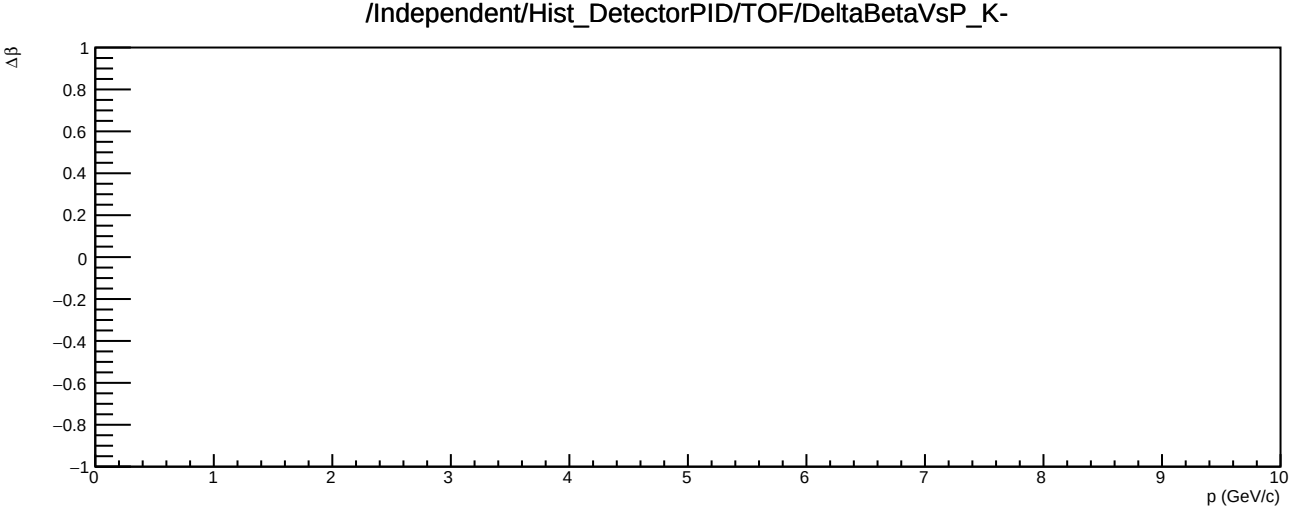

/Independent/Hist_DetectorPID/TOF/DeltaTVsP_Pi-
$\Delta t_{TOF - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

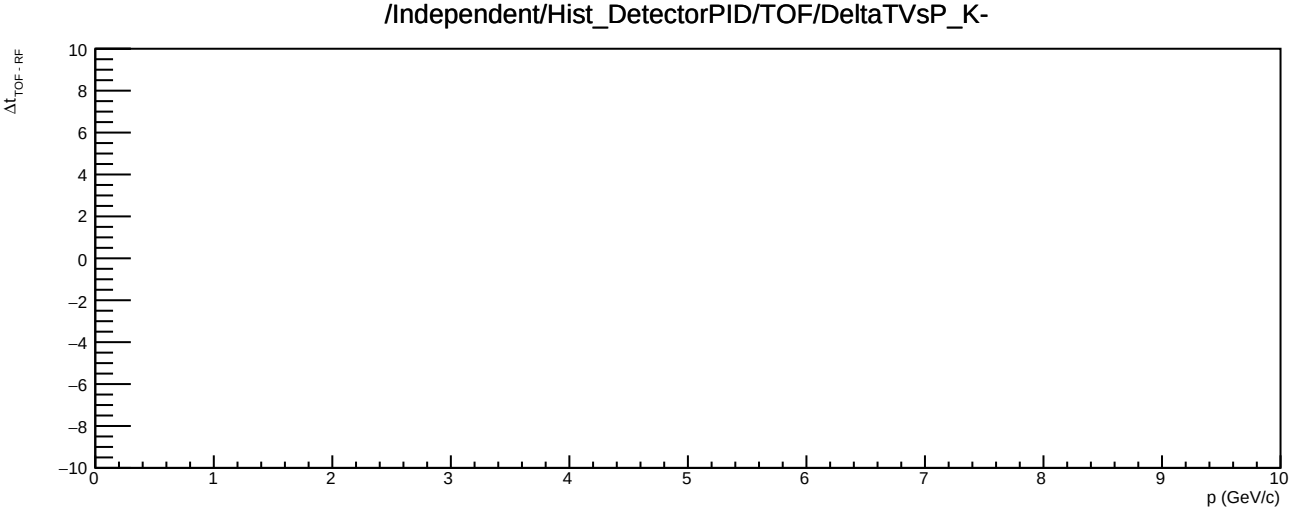

/Independent/Hist_DetectorPID/TOF/DeltaTVsP_Pi-
$\Delta t_{TOF - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

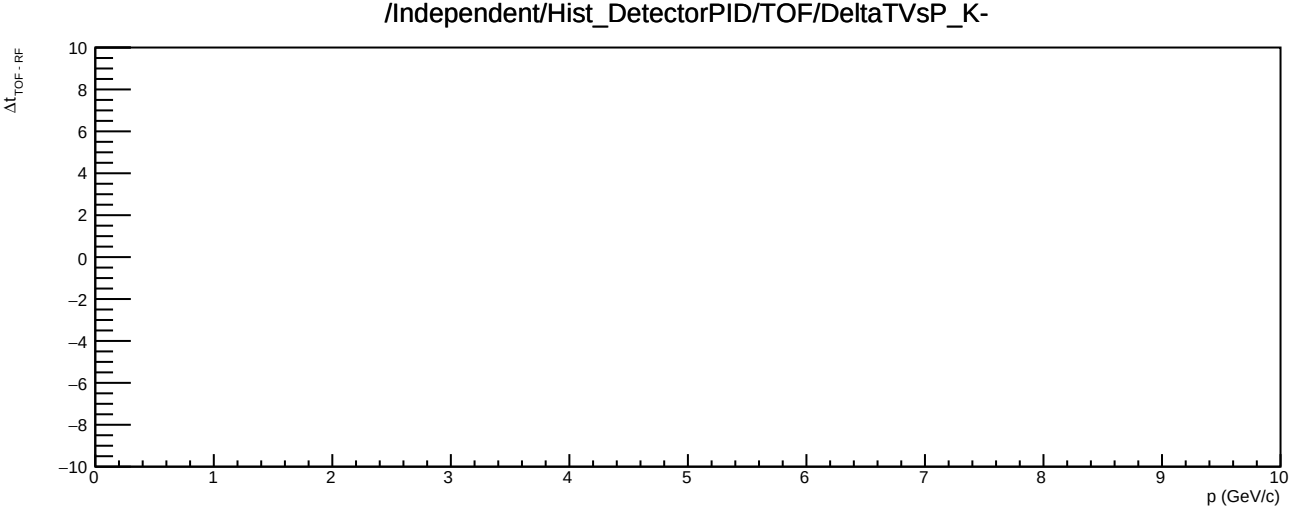

/Independent/Hist_DetectorPID/TOF/DeltadEdXVsP_K-
TOF Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

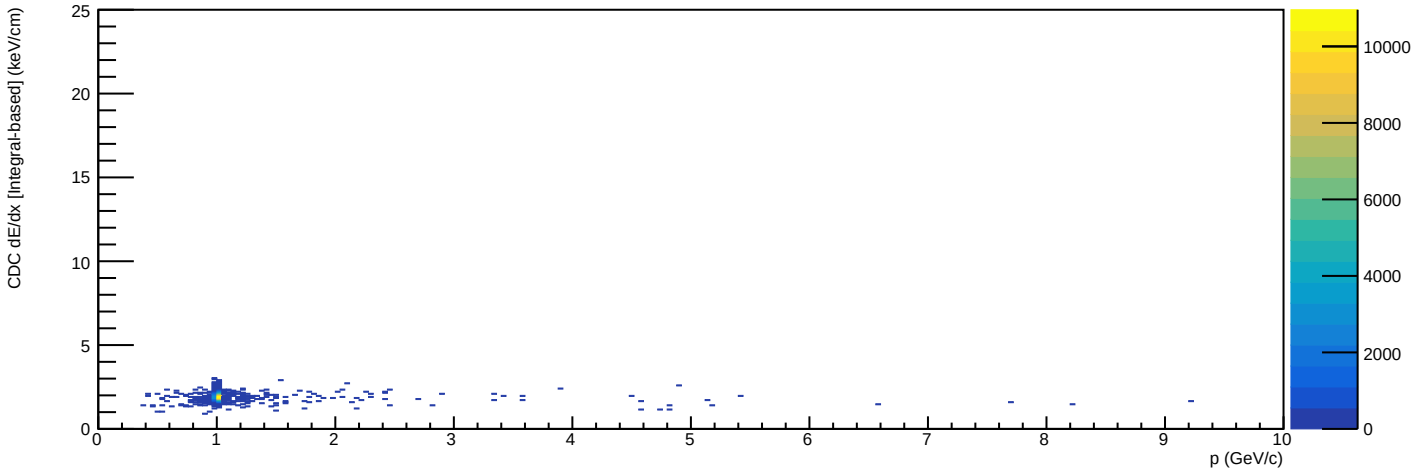

/Independent/Hist_DetectorPID/TOF/DeltadEdXVsP_K-
TOF Δ(dE/dX) (MeV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

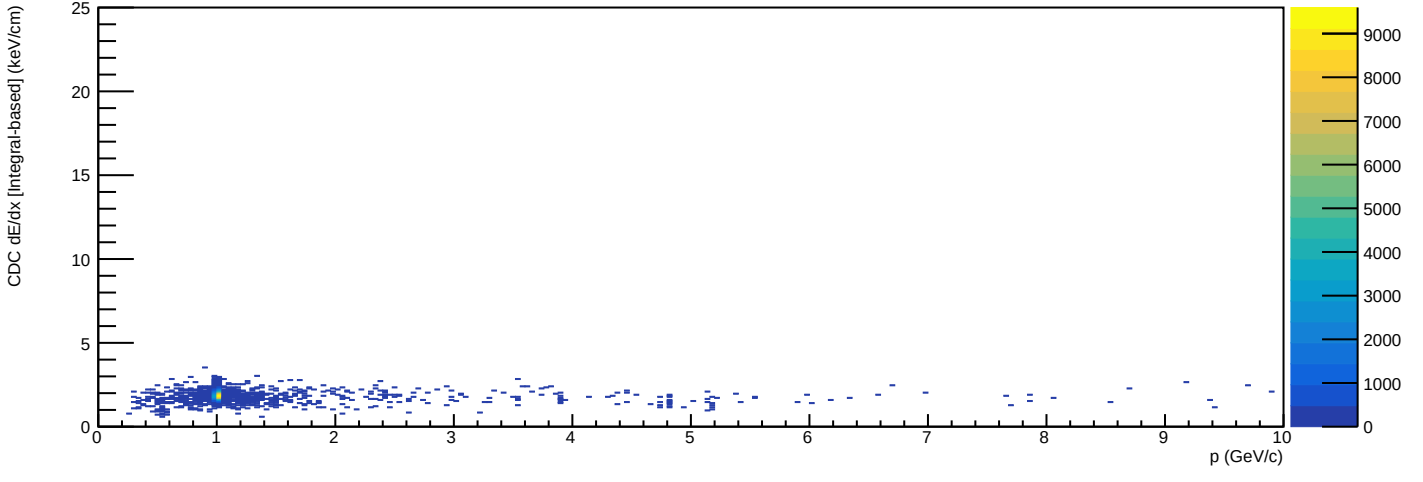

/Independent/Hist_DetectorPID/TOF/DeltaBetaVsP_K-
Δβ
1
0.8
0.6
0.4
0.2
0
–0.2
–0.4
–0.6
–0.8
–1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

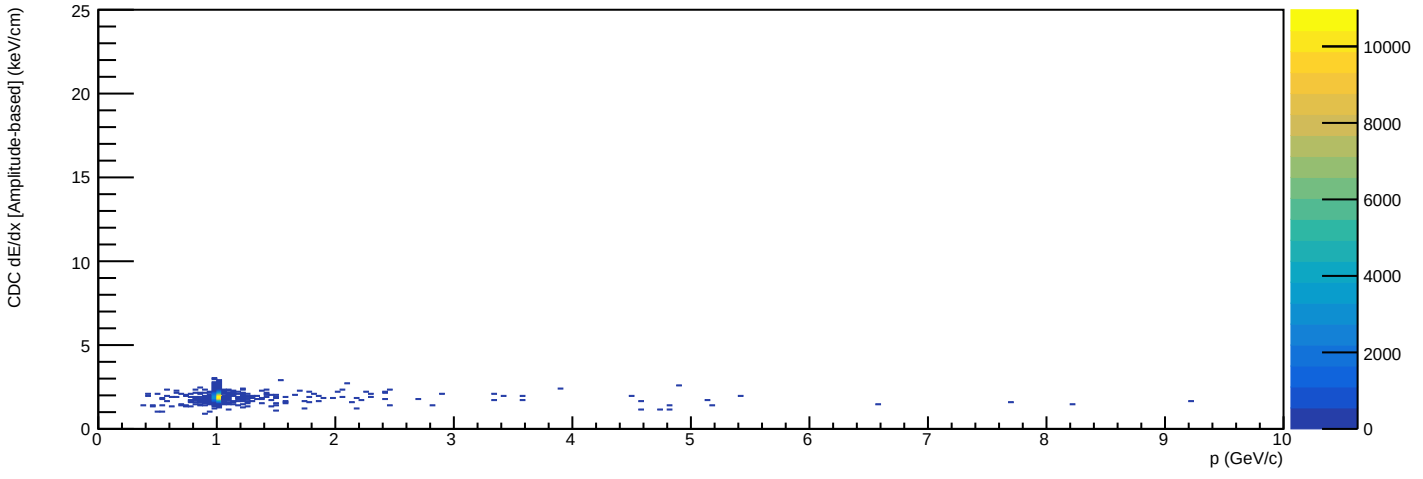

/Independent/Hist_DetectorPID/TOF/DeltaBetaVsP_K-
Δβ
1
0.8
0.6
0.4
0.2
0
–0.2
–0.4
–0.6
–0.8
–1
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

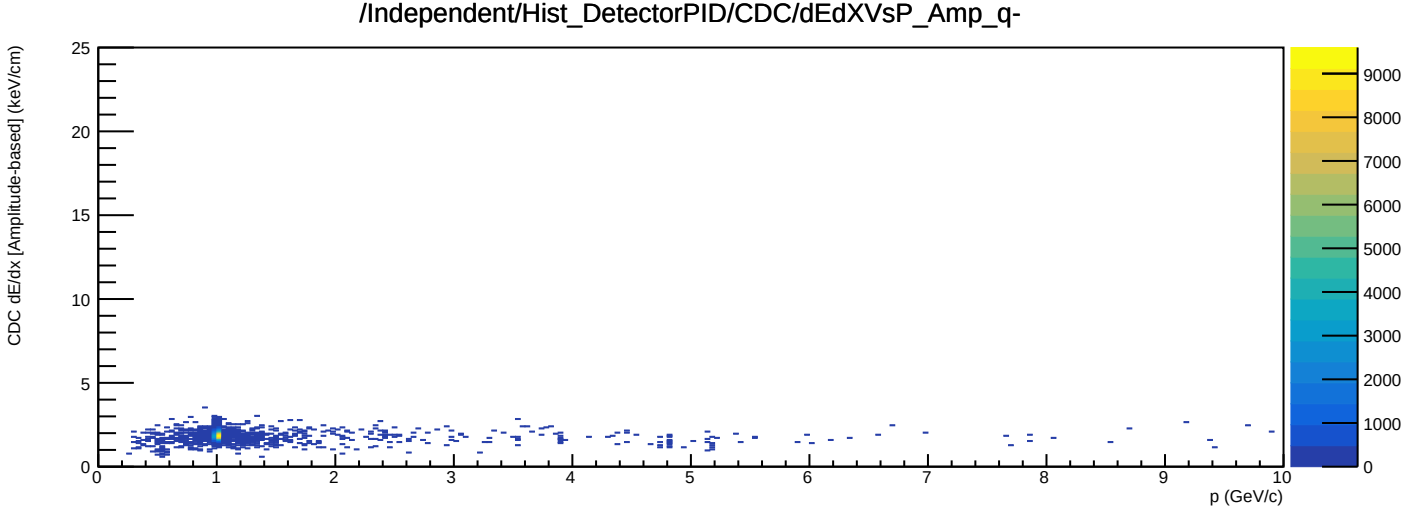

/Independent/Hist_DetectorPID/TOF/DeltaTVsP_K-
$\Delta t_{TOF - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

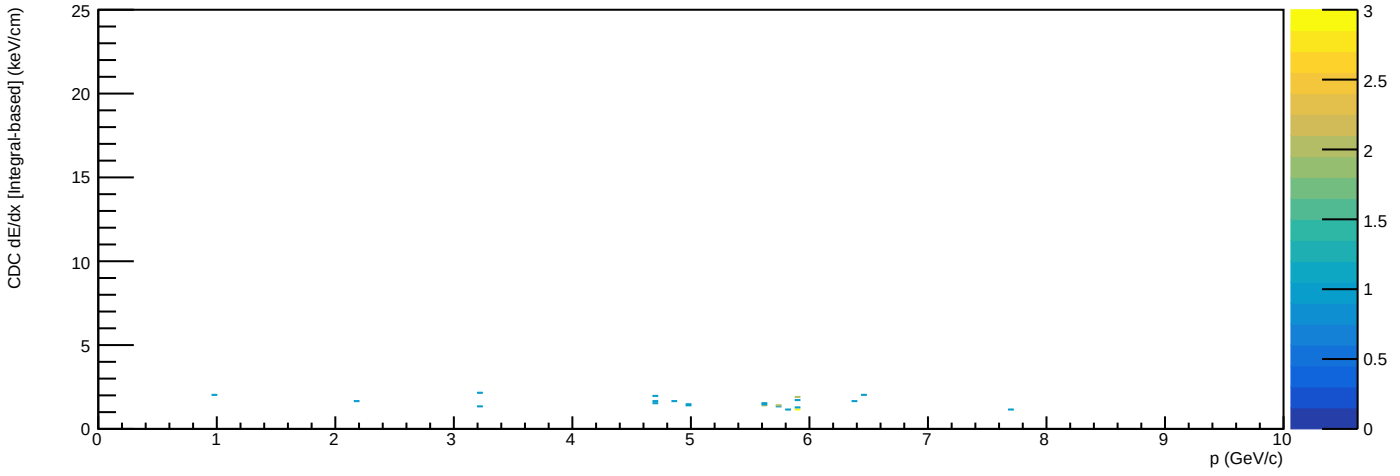

/Independent/Hist_DetectorPID/TOF/DeltaTVsP_K-
$\Delta t_{TOF - RF}$
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

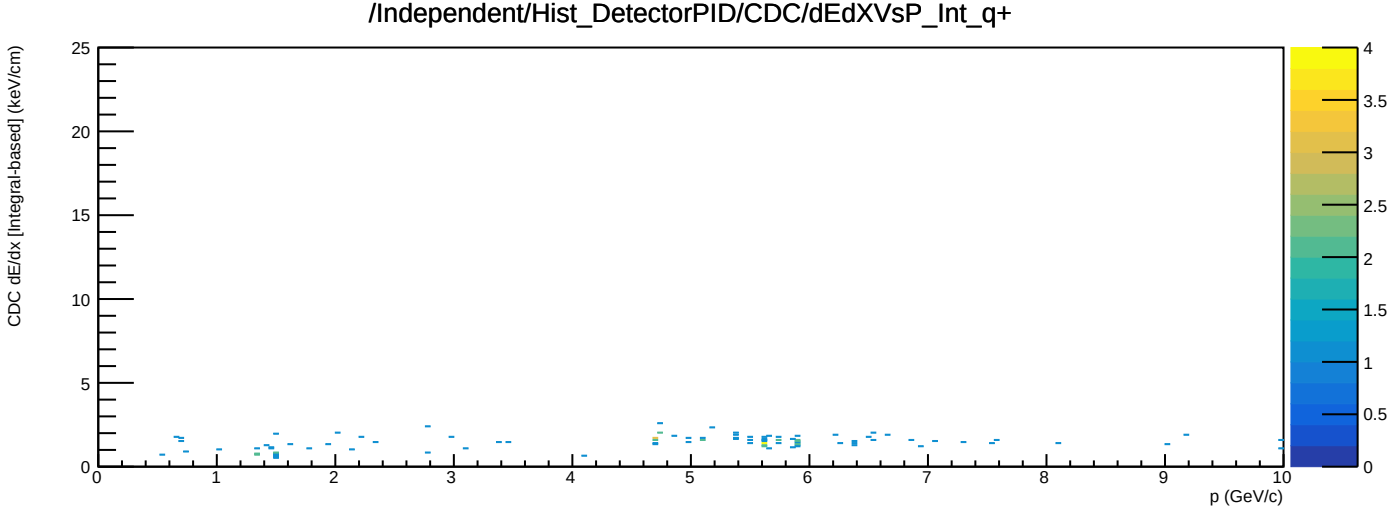

/Independent/Hist_DetectorPID/CDC/dEdXVsP_Int_q-
CDC dE/dx [Integral-based] (keV/cm)
p (GeV/c)
0
5
10
15
20
25
0
1
2
3
4
5
6
7
8
9
10
0
2000
4000
6000
8000
10000

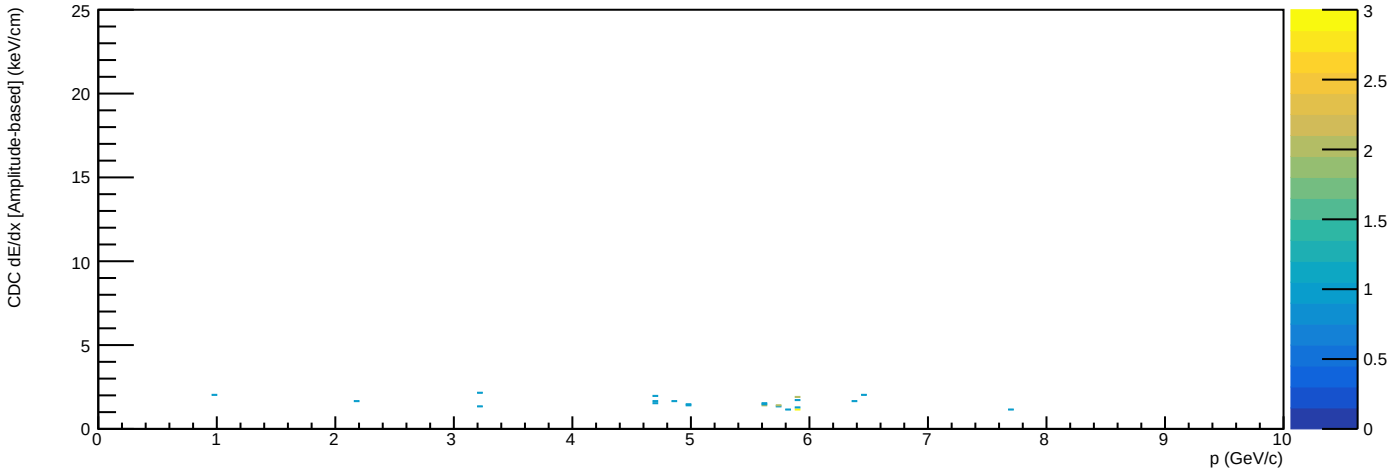

/Independent/Hist_DetectorPID/CDC/dEdXVsP_Int_q-
CDC dE/dx [Integral-based] (keV/cm)
p (GeV/c)
0
5
10
15
20
25
0
1
2
3
4
5
6
7
8
9
10
0
1000
2000
3000
4000
5000
6000
7000
8000
9000

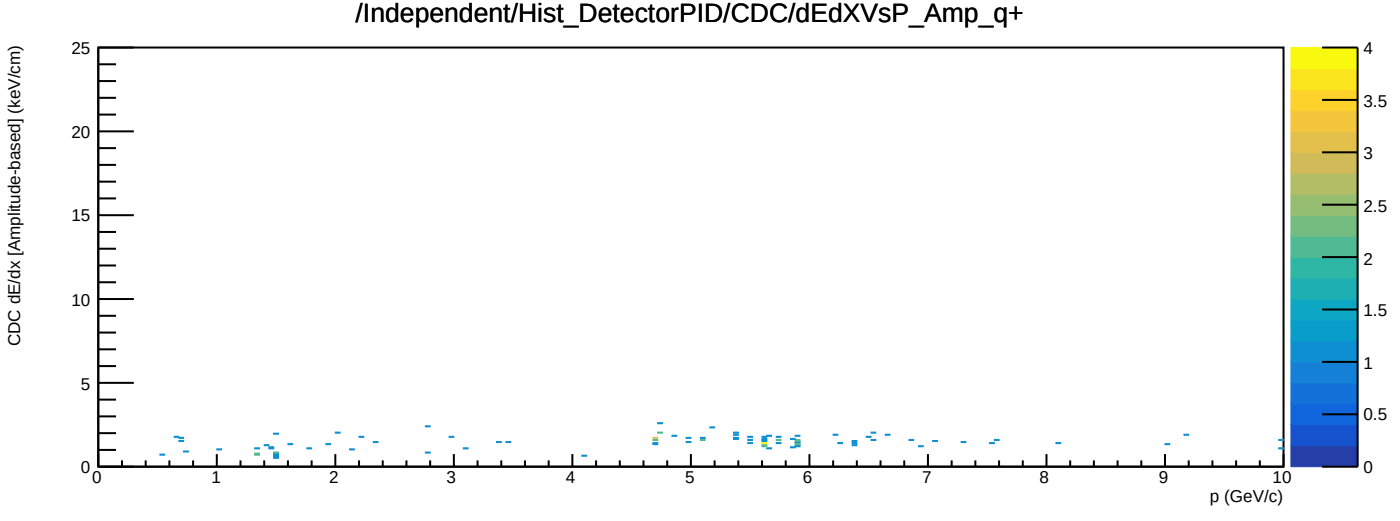

/Independent/Hist_DetectorPID/CDC/dEdXVsP_Amp_q-
CDC dE/dx [Amplitude-based] (keV/cm)
p (GeV/c)
0
5
10
15
20
25
1
2
3
4
6
7
8
9
2000
4000
6000
8000
10000

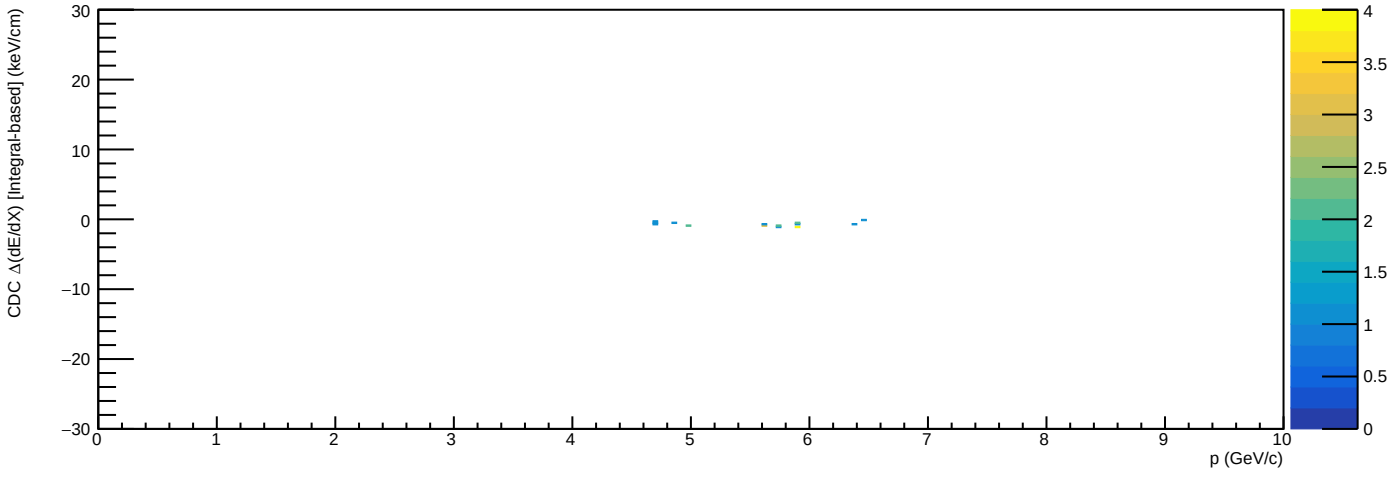

/Independent/Hist_DetectorPID/CDC/dEdXVsP_Amp_q-
CDC dE/dx [Amplitude-based] (keV/cm)
p (GeV/c)
0
5
10
15
20
25
1
2
3
4
6
7
8
9
1000
2000
3000
4000
5000
6000
7000
8000
9000

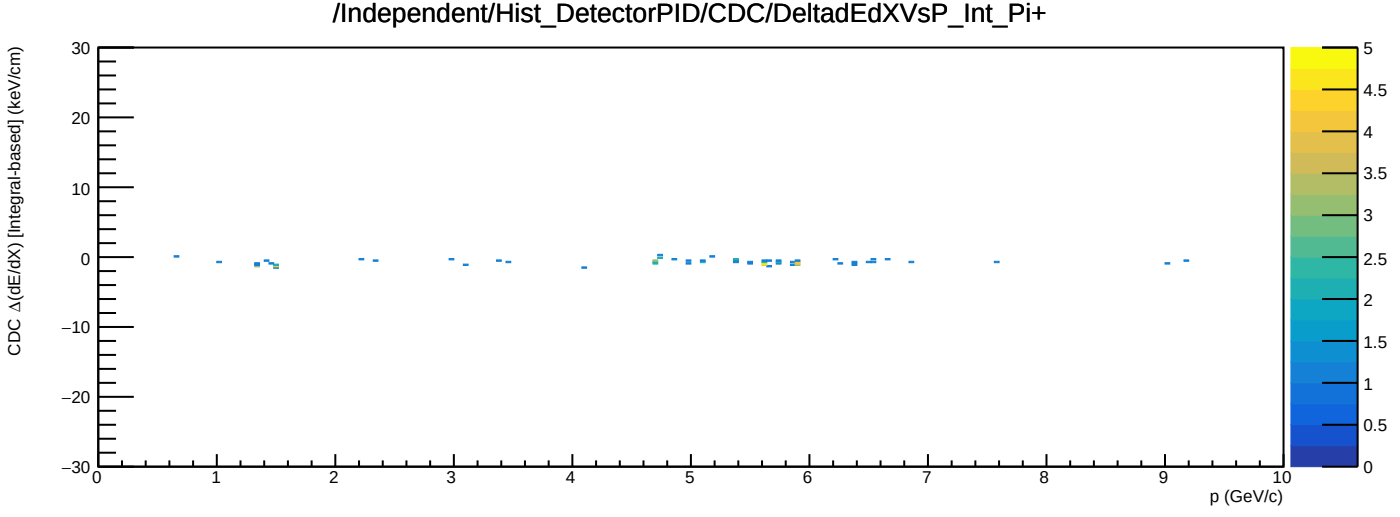

/Independent/Hist_DetectorPID/CDC/dEdXVsP_Int_q+
CDC dE/dx [Integral-based] (keV/cm)
p (GeV/c)
0
5
10
15
20
25
0
1
2
3
4
5
6
7
8
9
10
0
0.5
1
1.5
2
2.5
3

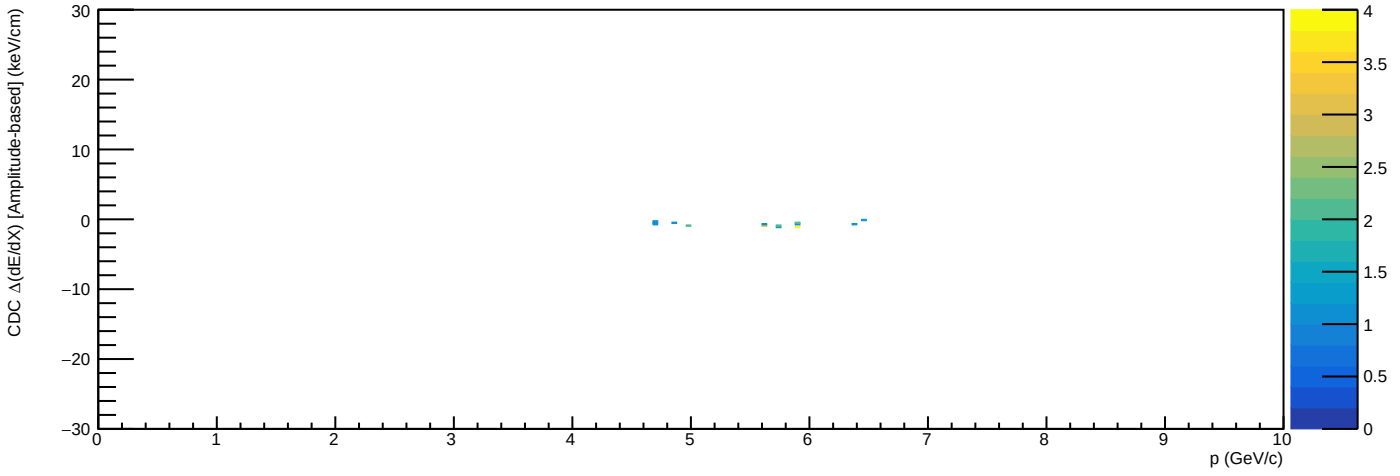

/Independent/Hist_DetectorPID/CDC/dEdXVsP_Int_q+
CDC dE/dx [Integral-based] (keV/cm)
p (GeV/c)
0
5
10
15
20
25
0
1
2
3
4
5
6
7
8
9
10
0
0.5
1
1.5
2
2.5
3
3.5
4

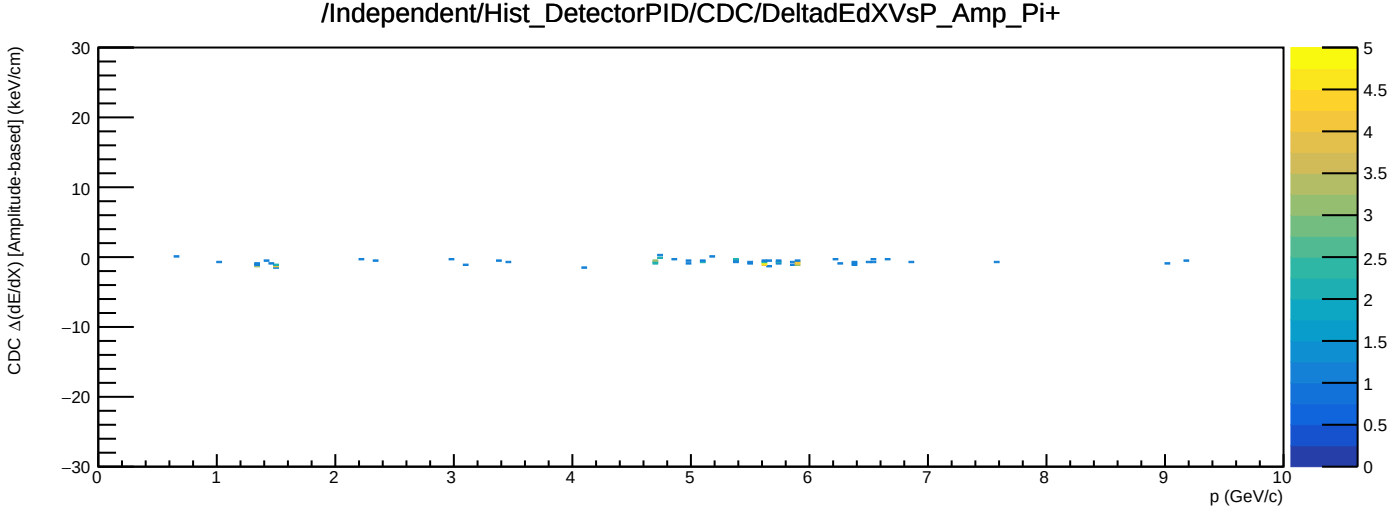

/Independent/Hist_DetectorPID/CDC/dEdXVsP_Amp_q+
CDC dE/dx [Amplitude-based] (keV/cm)
p (GeV/c)
0
5
10
15
20
25
0
1
2
3
4
5
6
7
8
9
10
0
0.5
1
1.5
2
2.5
3

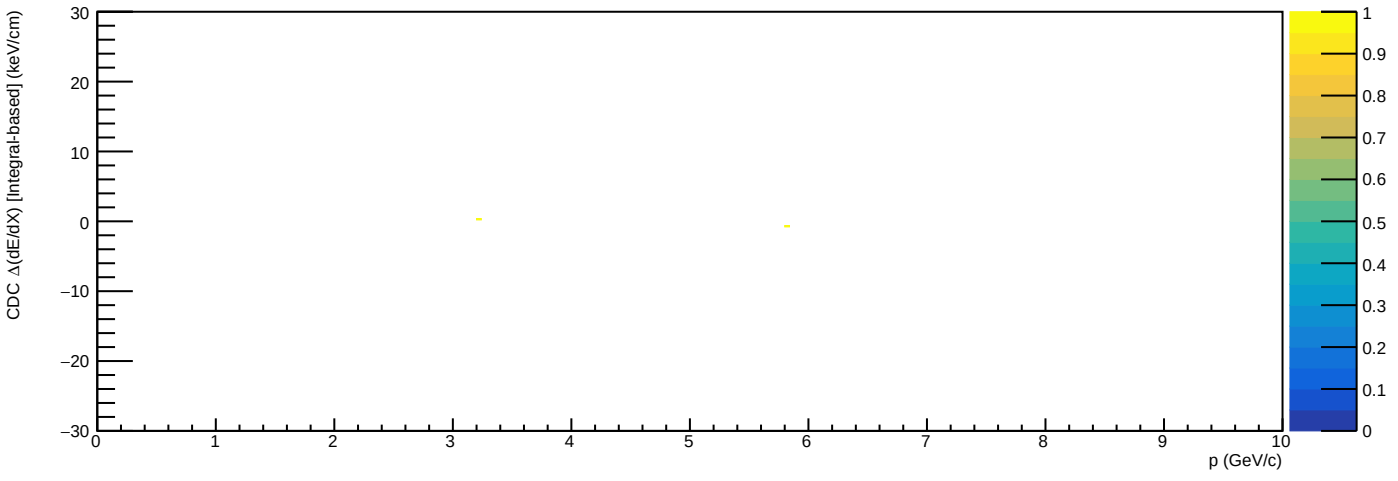

/Independent/Hist_DetectorPID/CDC/dEdXVsP_Amp_q+
CDC dE/dx [Amplitude-based] (keV/cm)
p (GeV/c)
0
5
10
15
20
25
0
1
2
3
4
5
6
7
8
9
10
0
0.5
1
1.5
2
2.5
3
3.5
4

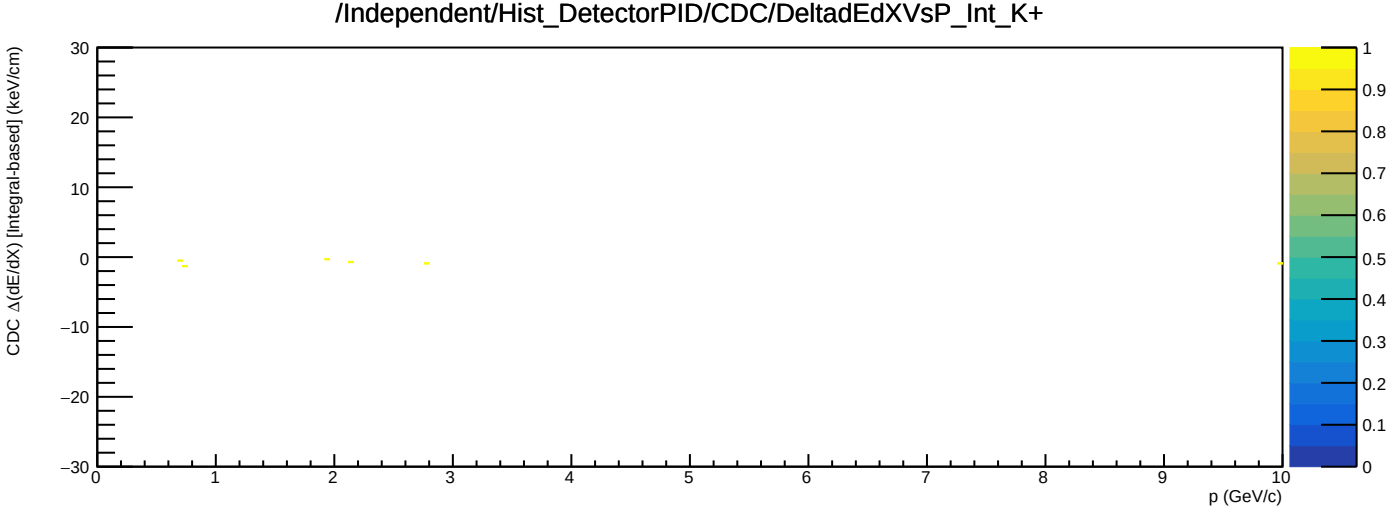

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Int_Pi+
CDC Δ(dE/dX) [Integral-based] (keV/cm)
p (GeV/c)

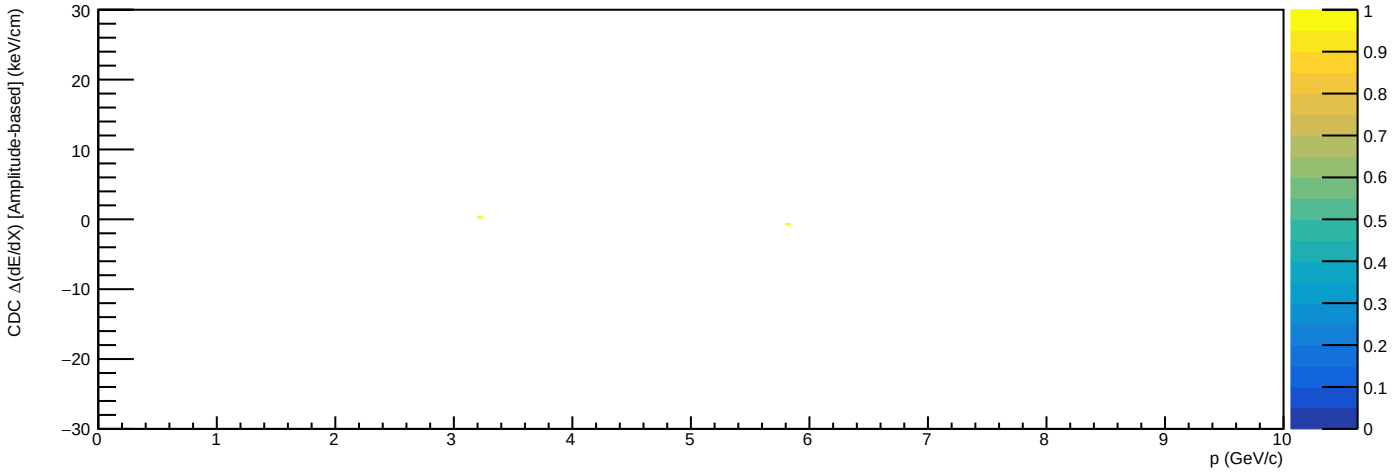

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Int_Pi+
CDC Δ(dE/dX) [Integral-based] (keV/cm)
p (GeV/c)

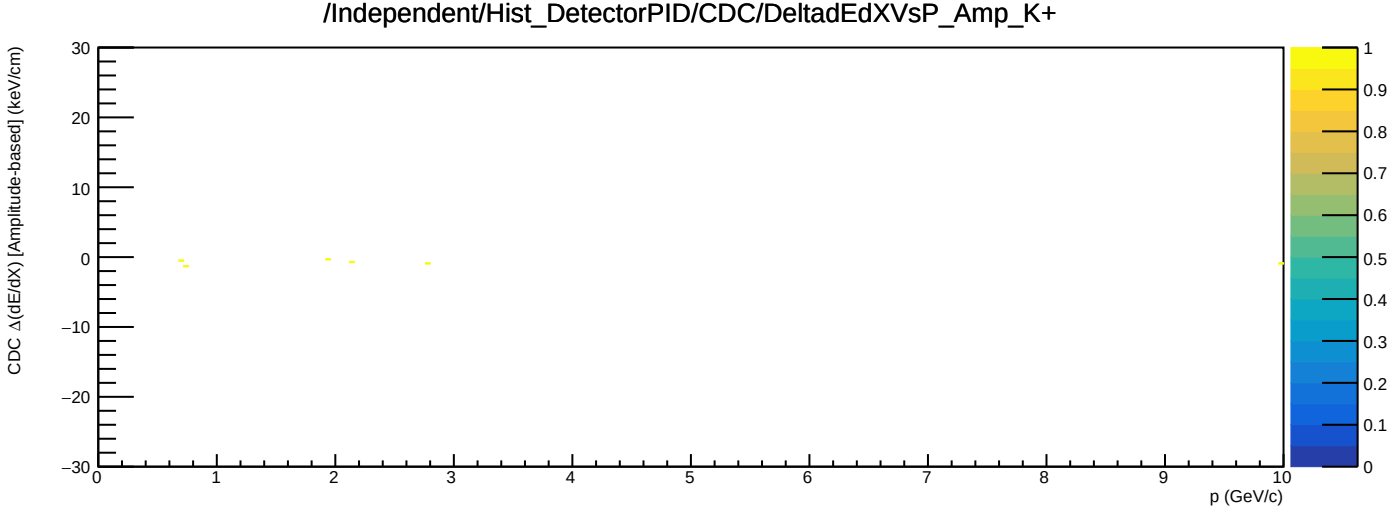

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Amp_Pi+
CDC Δ(dE/dX) [Amplitude-based] (keV/cm)
p (GeV/c)

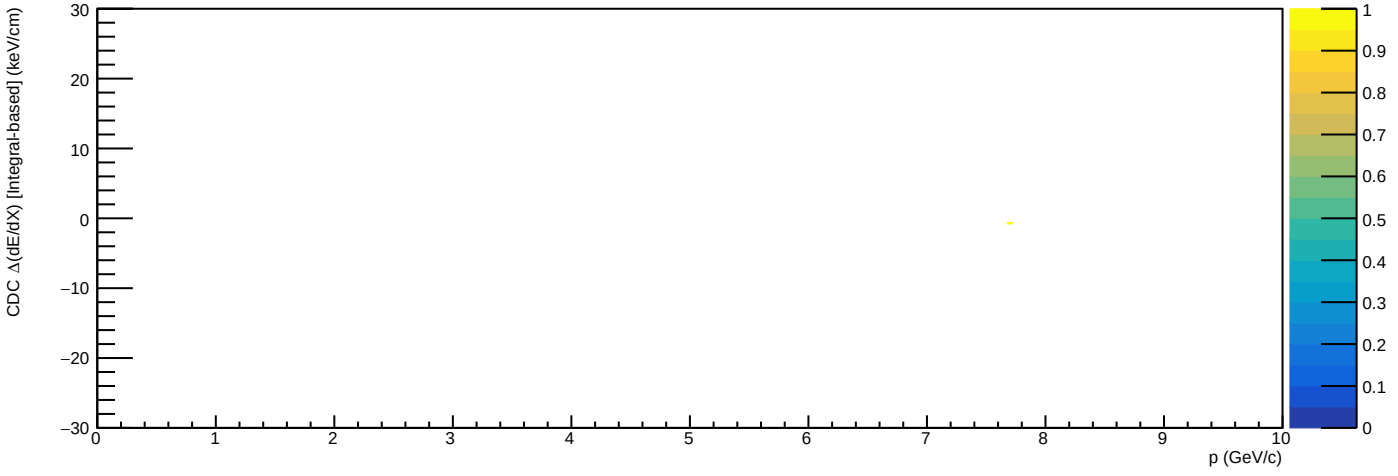

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Amp_Pi+
CDC Δ(dE/dX) [Amplitude-based] (keV/cm)
p (GeV/c)

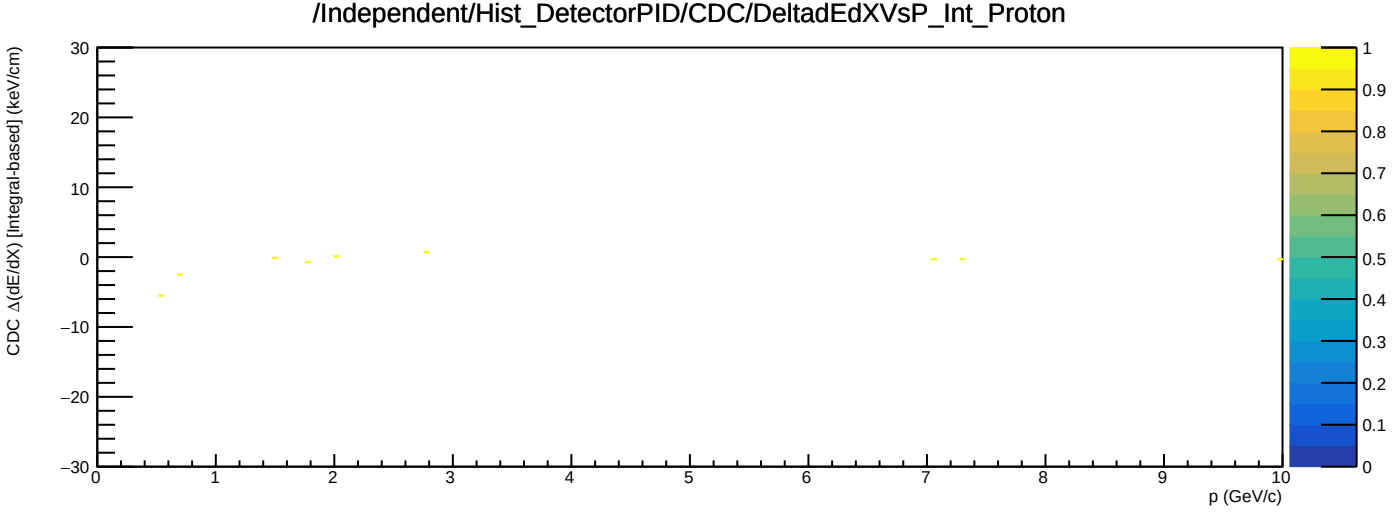

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Int_K+
CDC Δ(dE/dX) [Integral-based] (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

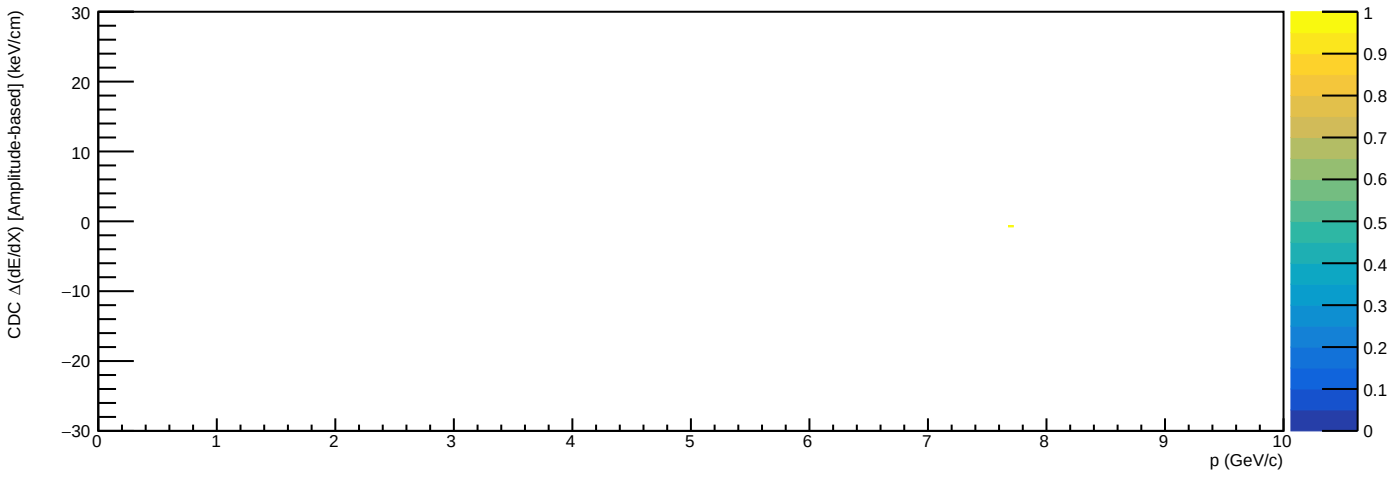

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Int_K+
CDC Δ(dE/dX) [Integral-based] (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

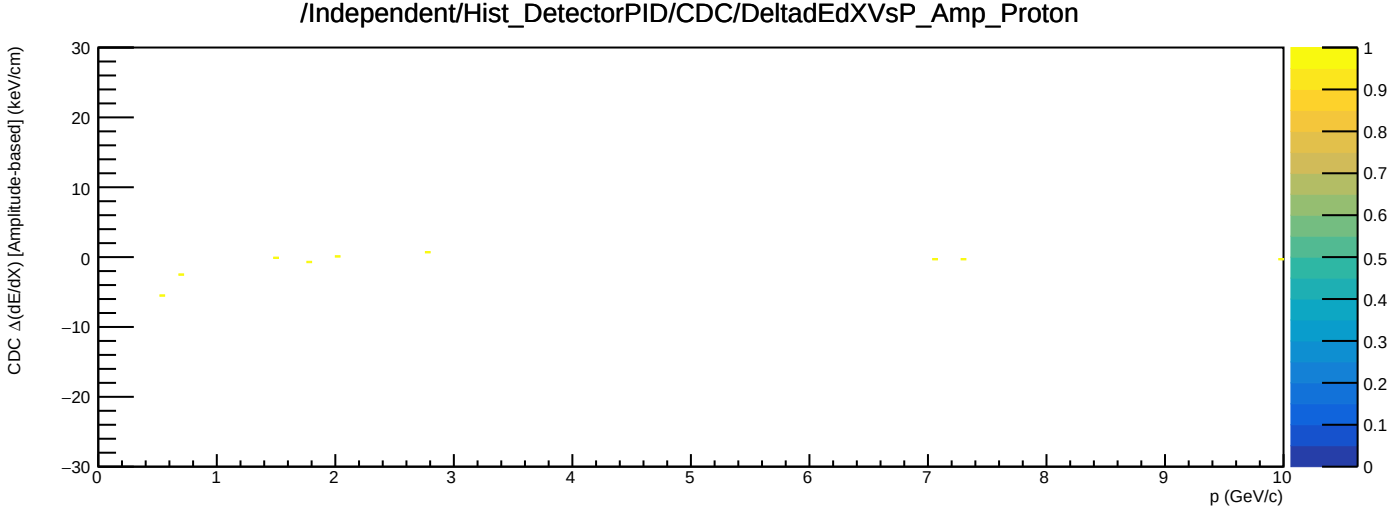

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Amp_K+
CDC Δ(dE/dX) [Amplitude-based] (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

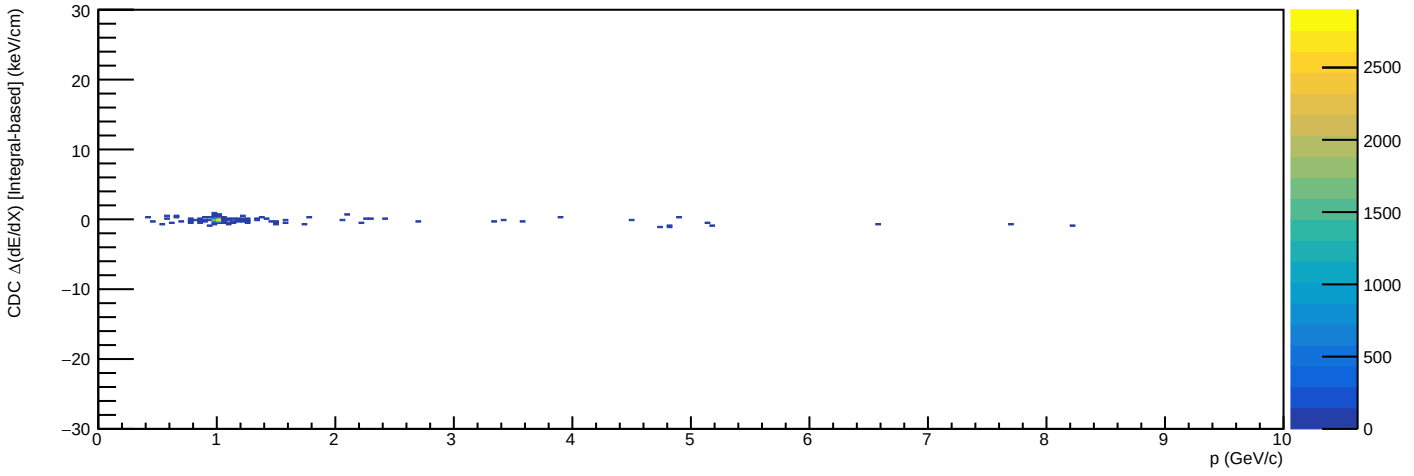

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Amp_K+
CDC Δ(dE/dX) [Amplitude-based] (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

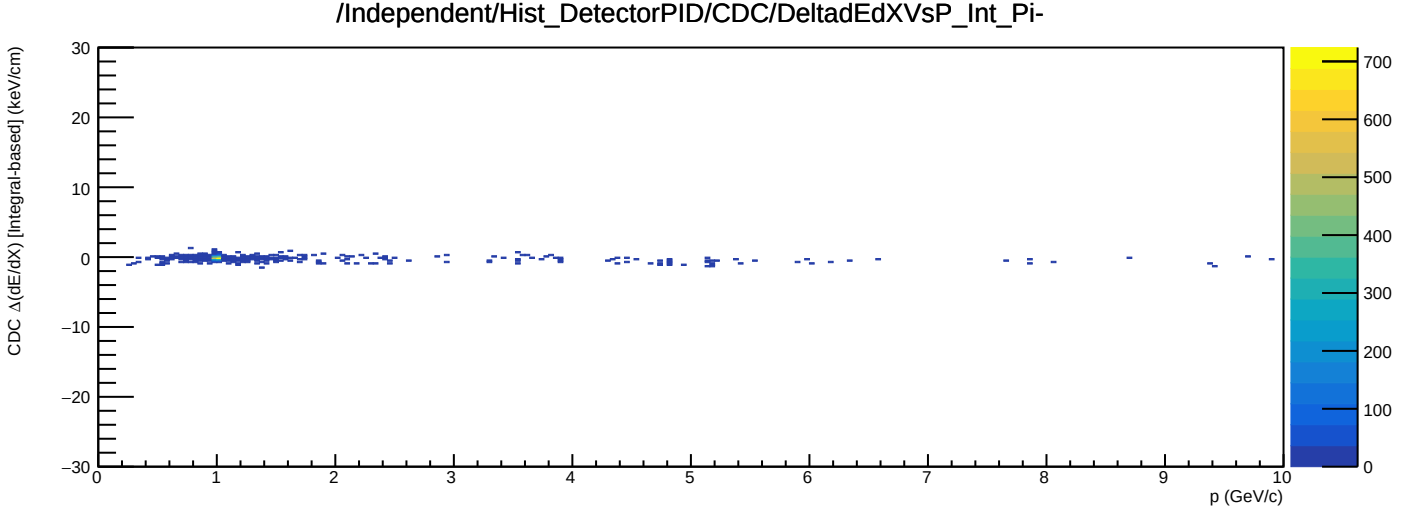

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Int_Proton
CDC Δ(dE/dX) [Integral-based] (keV/cm)
p (GeV/c)

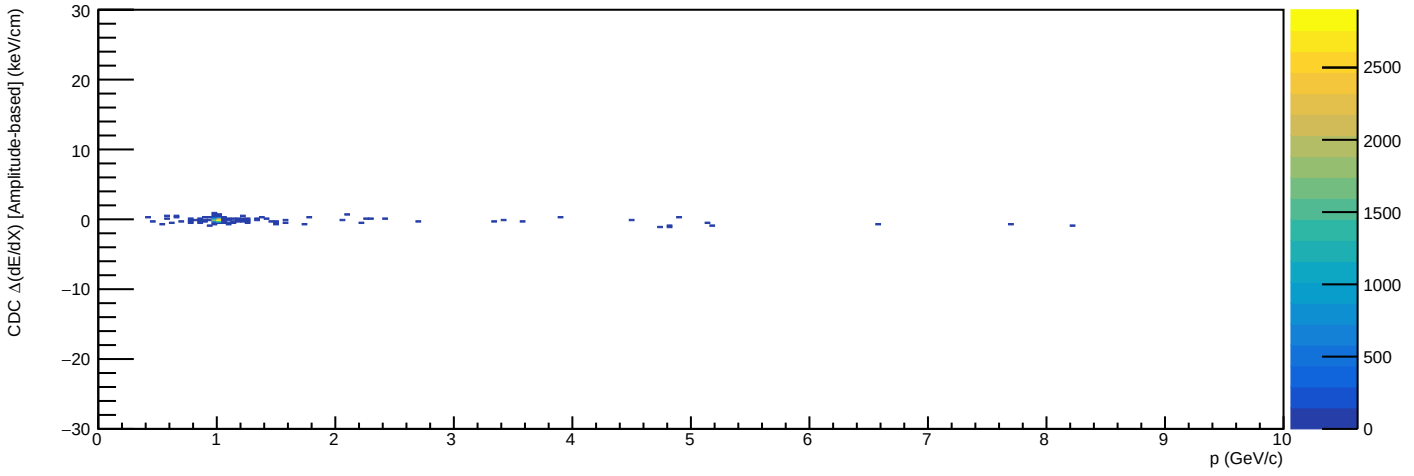

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Int_Proton
CDC Δ(dE/dX) [Integral-based] (keV/cm)
p (GeV/c)

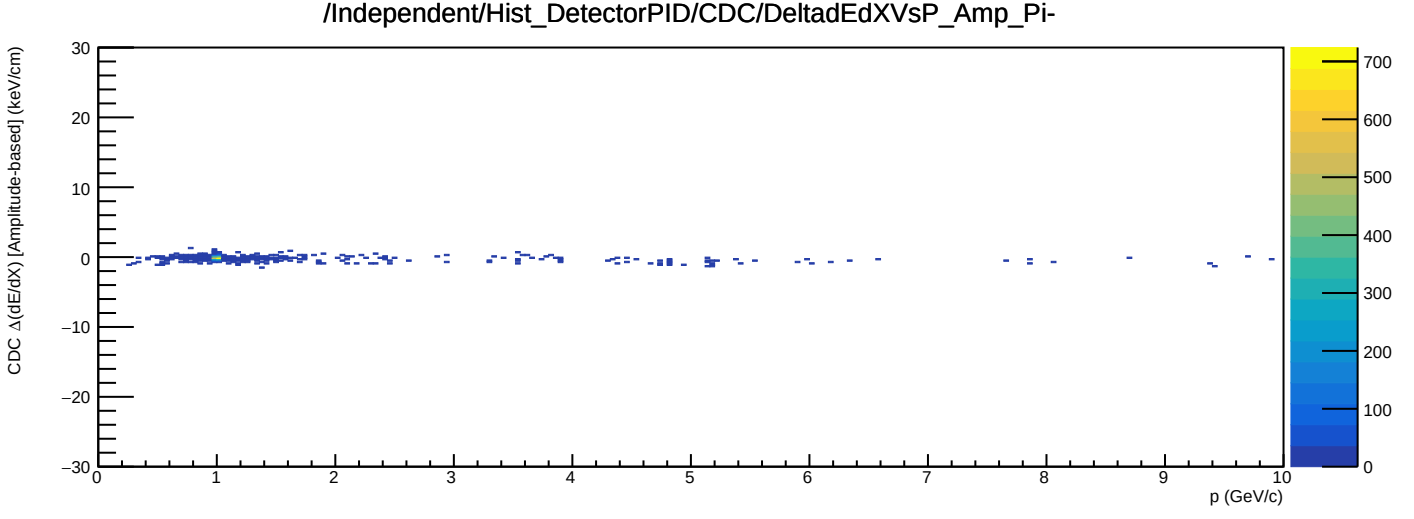

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Amp_Proton
CDC Δ(dE/dX) [Amplitude-based] (keV/cm)
p (GeV/c)

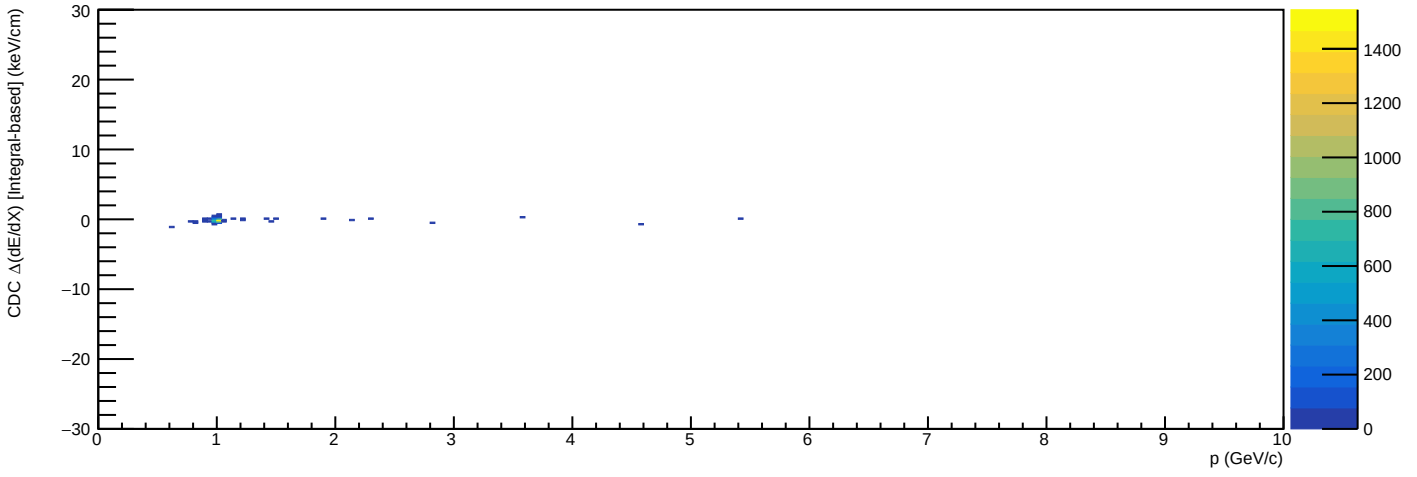

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Amp_Proton
CDC Δ(dE/dX) [Amplitude-based] (keV/cm)
p (GeV/c)

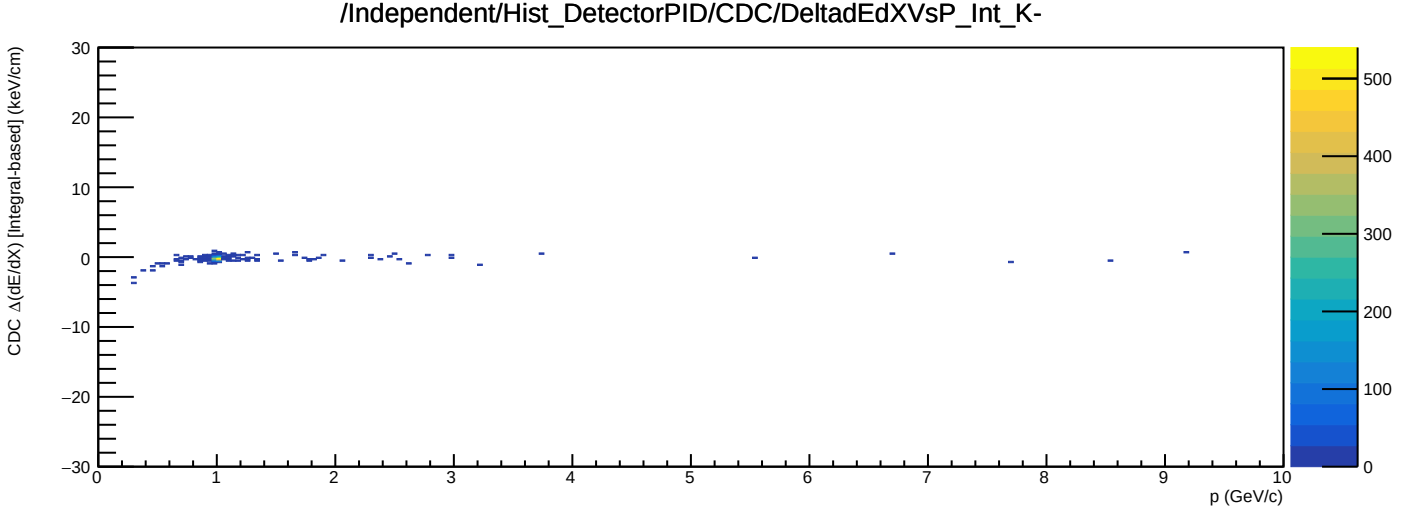

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Int_Pi-
CDC Δ(dE/dX) [Integral-based] (keV/cm)
p (GeV/c)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
2500
2000
1500
1000
500
0

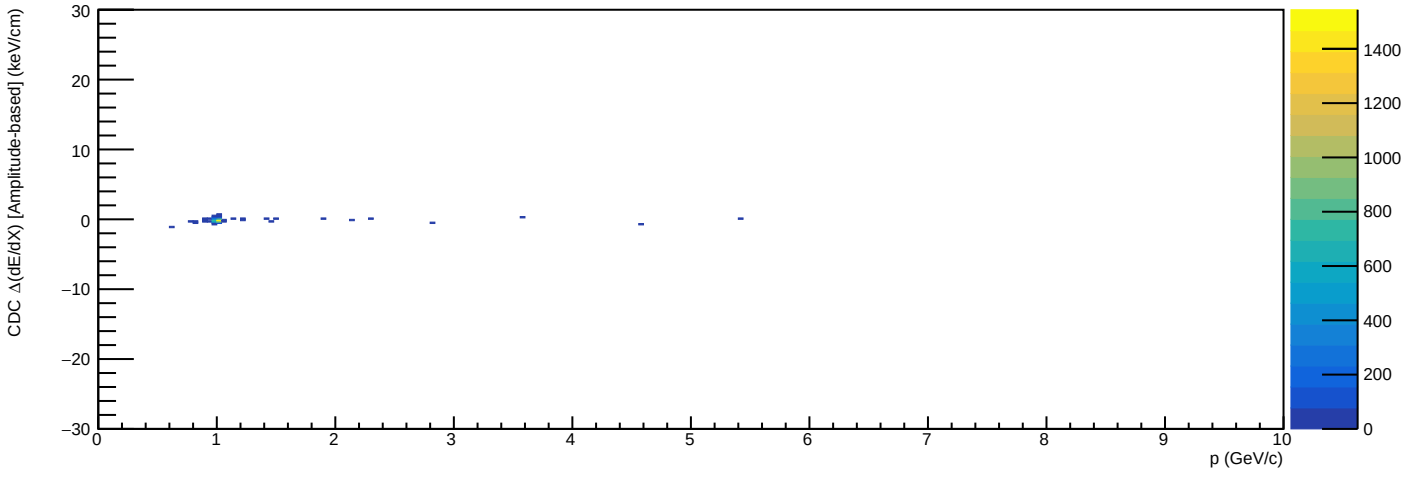

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Int_Pi-
CDC Δ(dE/dX) [Integral-based] (keV/cm)
p (GeV/c)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
700
600
500
400
300
200
100
0

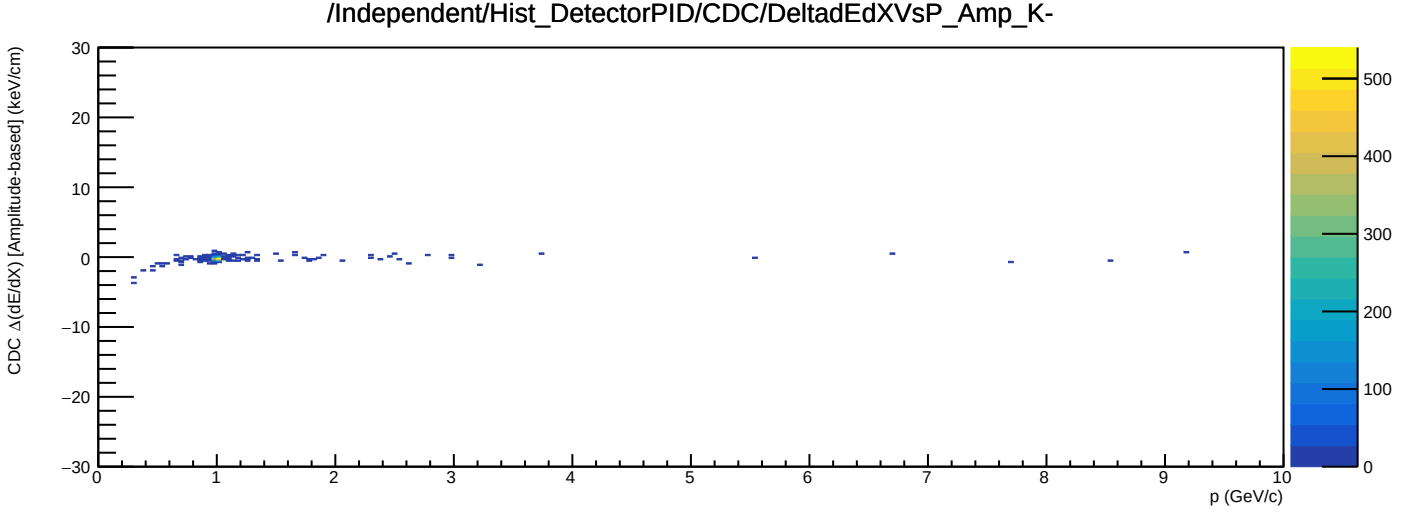

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Amp_Pi-
CDC Δ(dE/dX) [Amplitude-based] (keV/cm)
p (GeV/c)

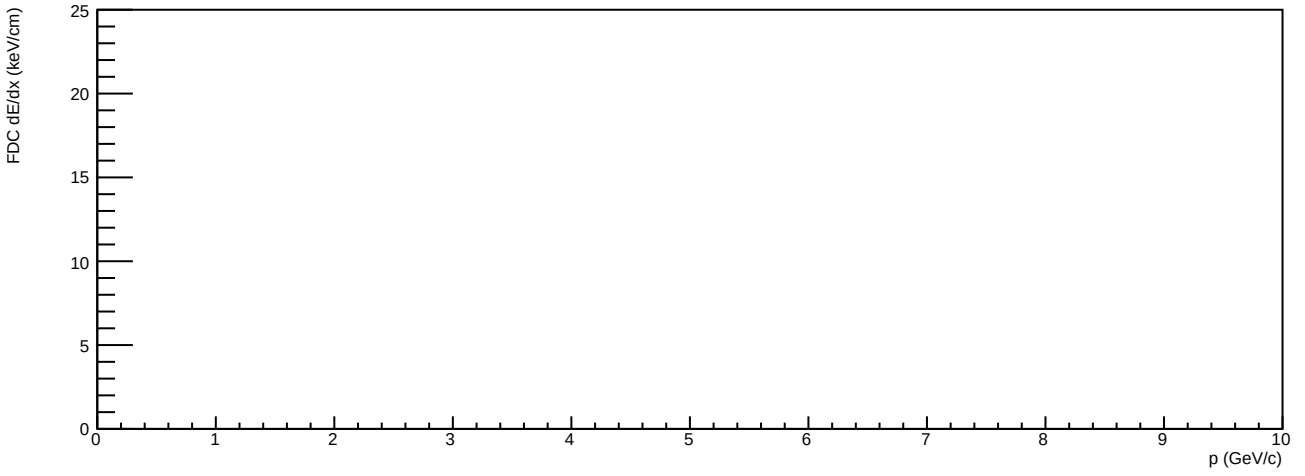

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Amp_Pi-
CDC Δ(dE/dX) [Amplitude-based] (keV/cm)
p (GeV/c)

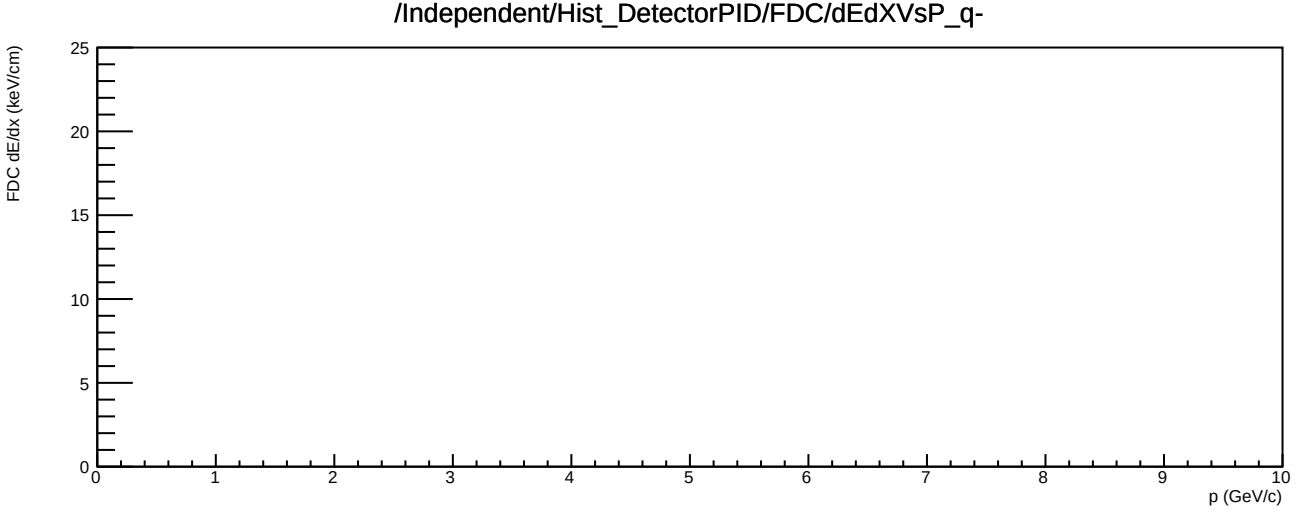

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Int_K-
CDC Δ(dE/dX) [Integral-based] (keV/cm)
p (GeV/c)

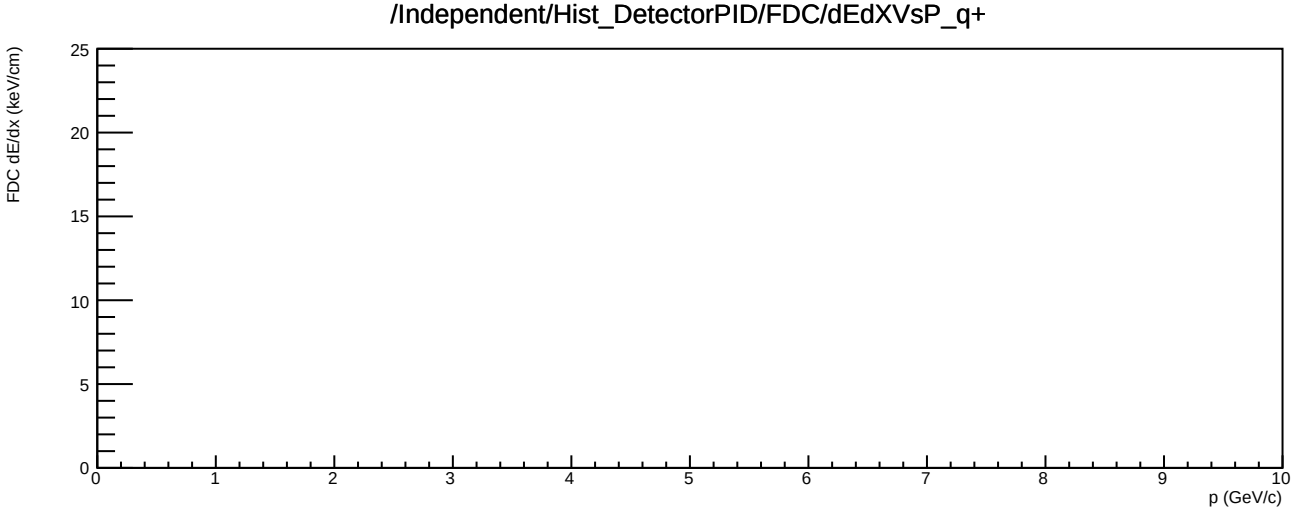

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Int_K-
CDC Δ(dE/dX) [Integral-based] (keV/cm)
p (GeV/c)

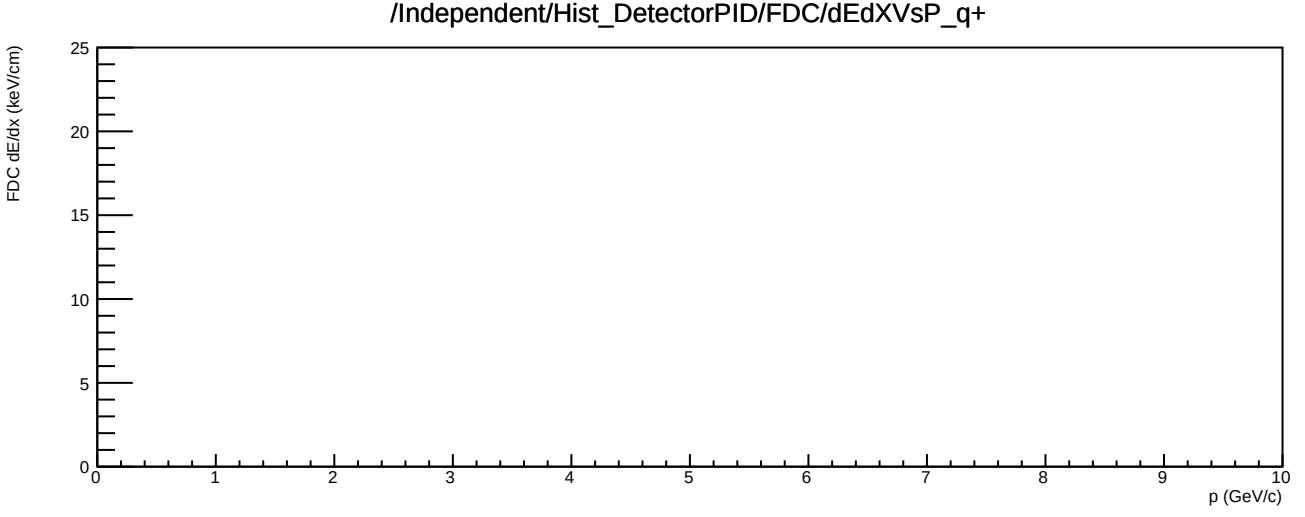

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Amp_K-
CDC Δ(dE/dX) [Amplitude-based] (keV/cm)
p (GeV/c)

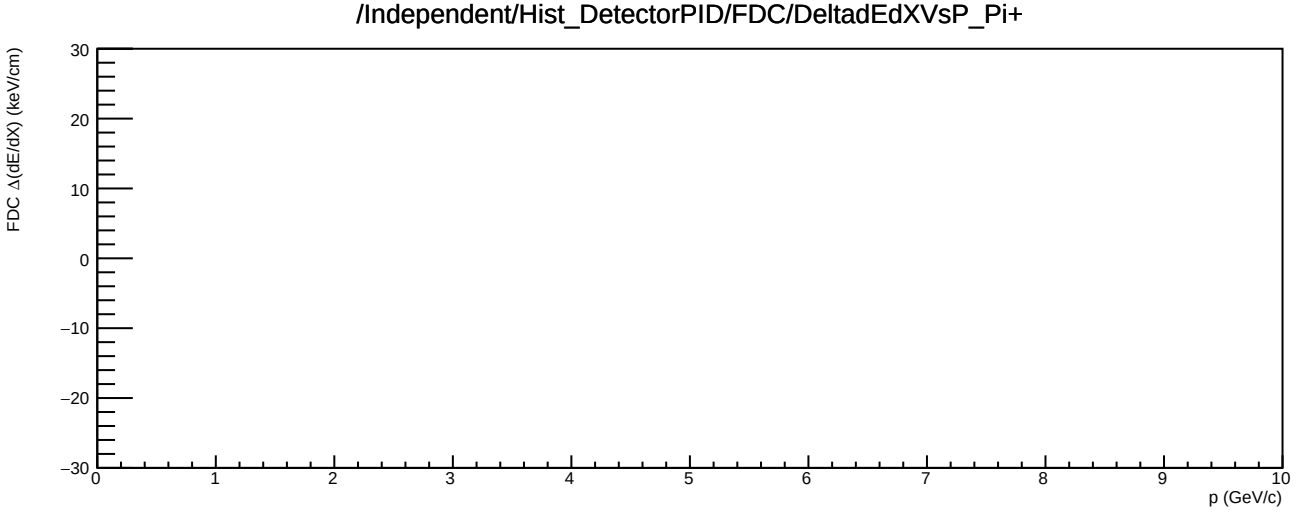

/Independent/Hist_DetectorPID/CDC/DeltadEdXVsP_Amp_K-
CDC Δ(dE/dX) [Amplitude-based] (keV/cm)
p (GeV/c)

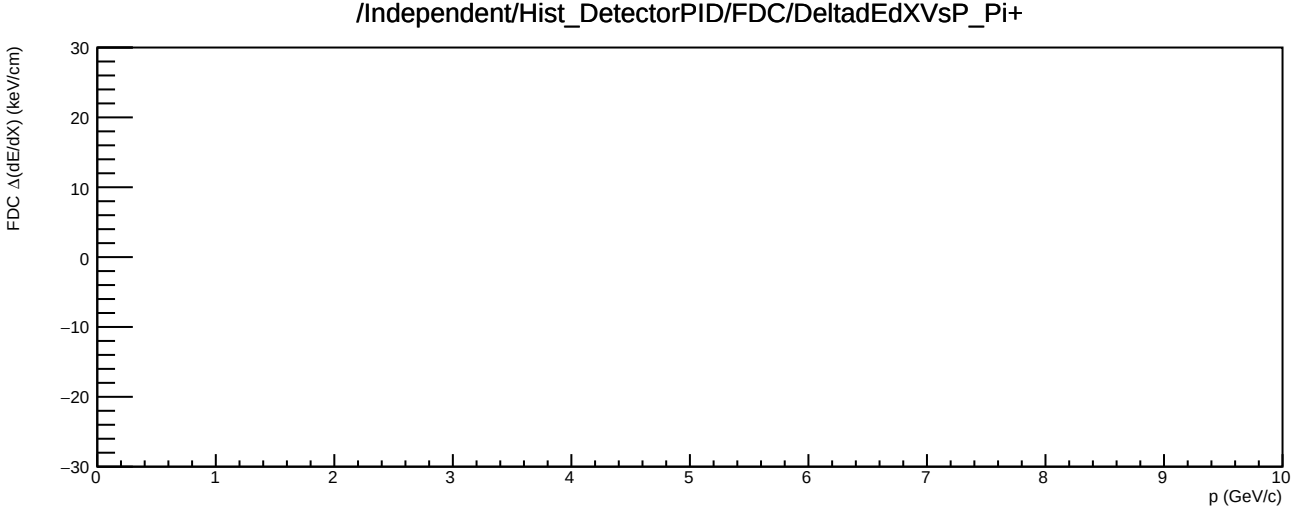

/Independent/Hist_DetectorPID/FDC/dEdXVsP_q-
FDC dE/dx (keV/cm)
25
20
15
10
5
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

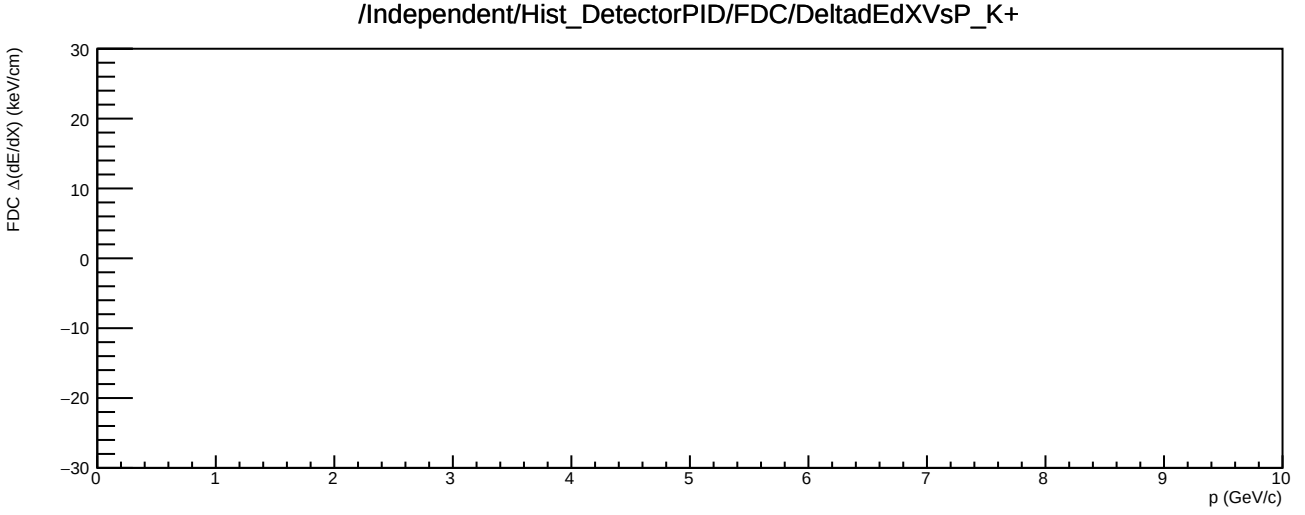

/Independent/Hist_DetectorPID/FDC/dEdXVsP_q-
FDC dE/dx (keV/cm)
25
20
15
10
5
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

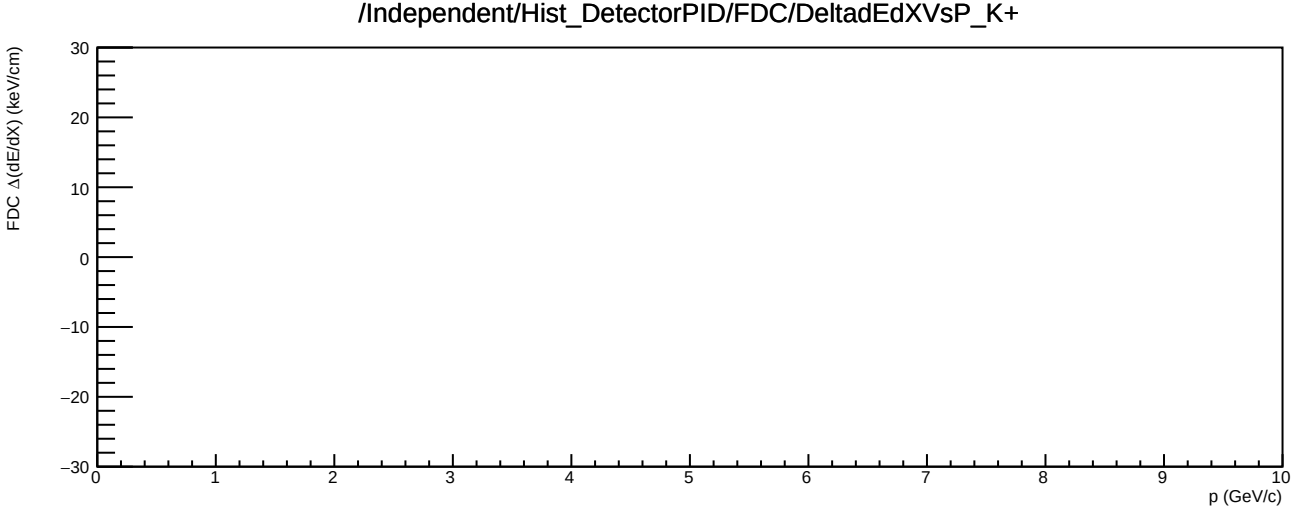

/Independent/Hist_DetectorPID/FDC/dEdXVsP_q+
FDC dE/dx (keV/cm)
25
20
15
10
5
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

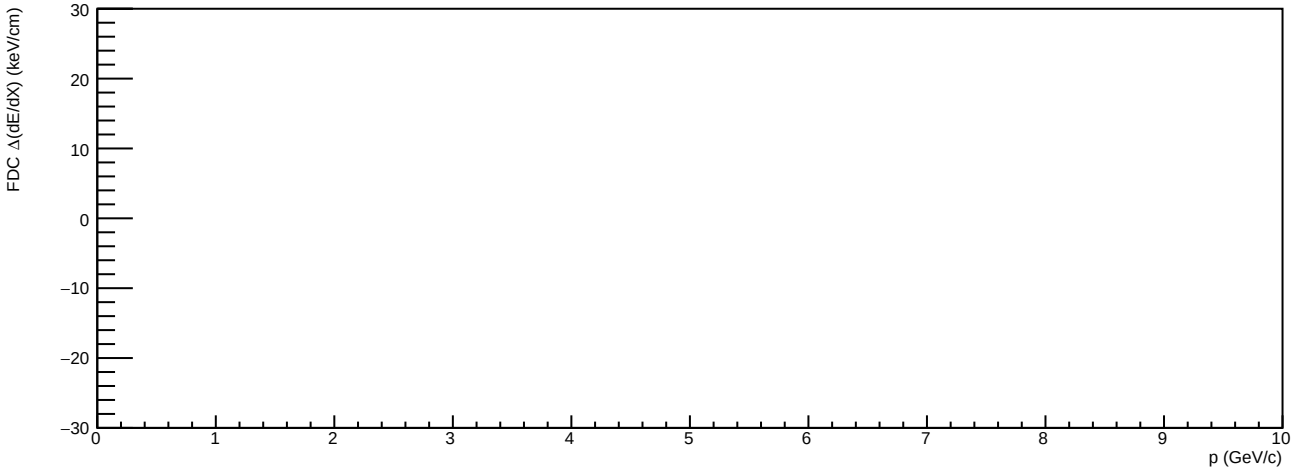

/Independent/Hist_DetectorPID/FDC/dEdXVsP_q+
FDC dE/dx (keV/cm)
25
20
15
10
5
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

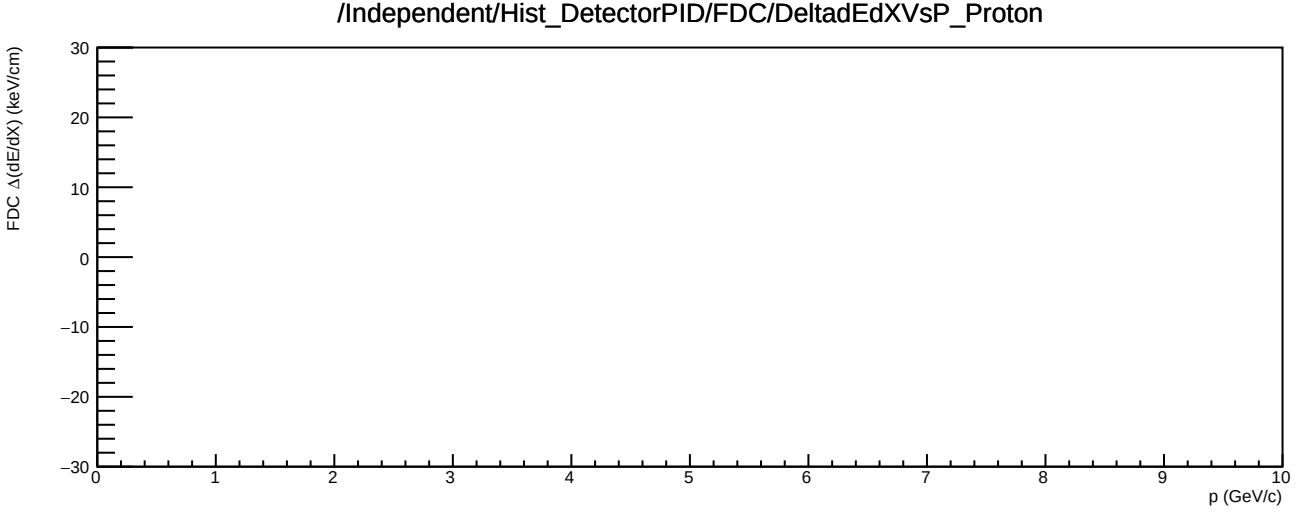

/Independent/Hist_DetectorPID/FDC/DeltadEdXVsP_Pi+
FDC Δ(dE/dX) (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

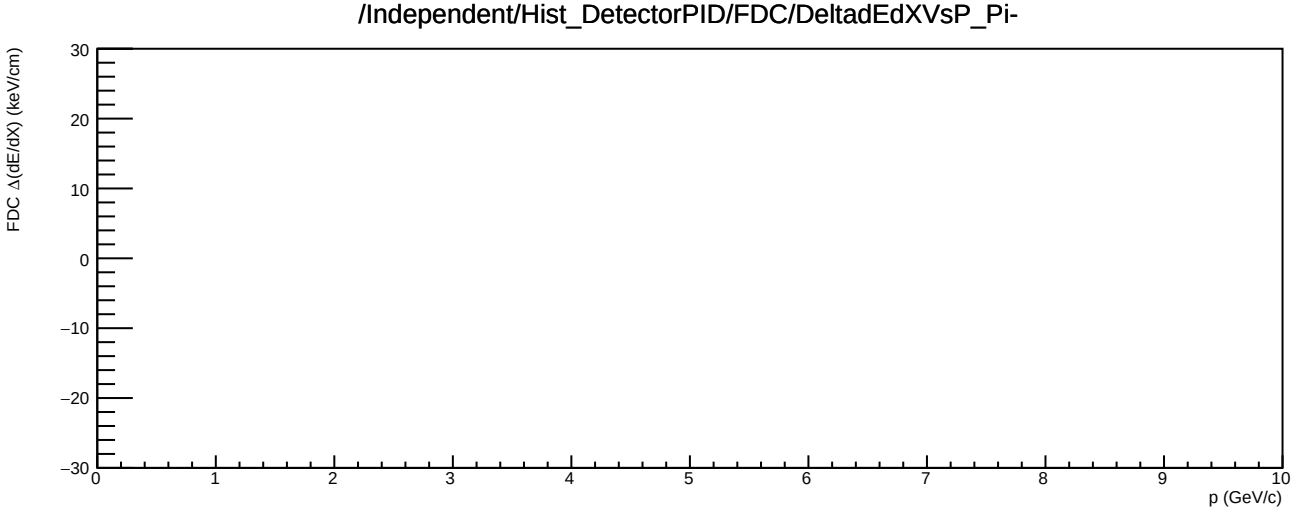

/Independent/Hist_DetectorPID/FDC/DeltadEdXVsP_Pi+
FDC Δ(dE/dX) (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

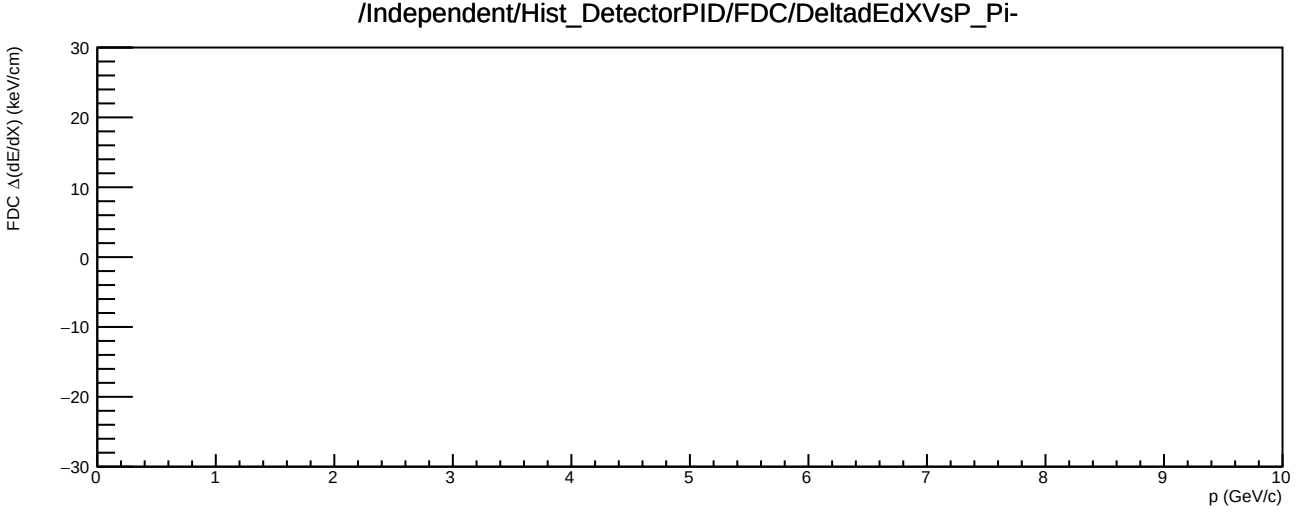

/Independent/Hist_DetectorPID/FDC/DeltadEdXVsP_K+
FDC Δ(dE/dX) (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

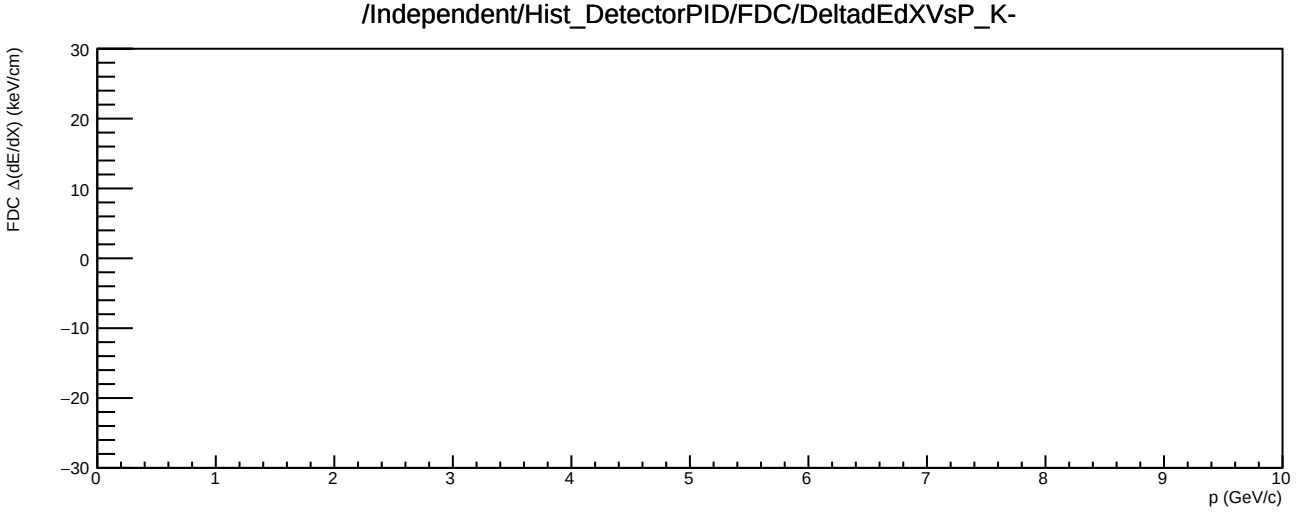

/Independent/Hist_DetectorPID/FDC/DeltadEdXVsP_K+
FDC Δ(dE/dX) (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

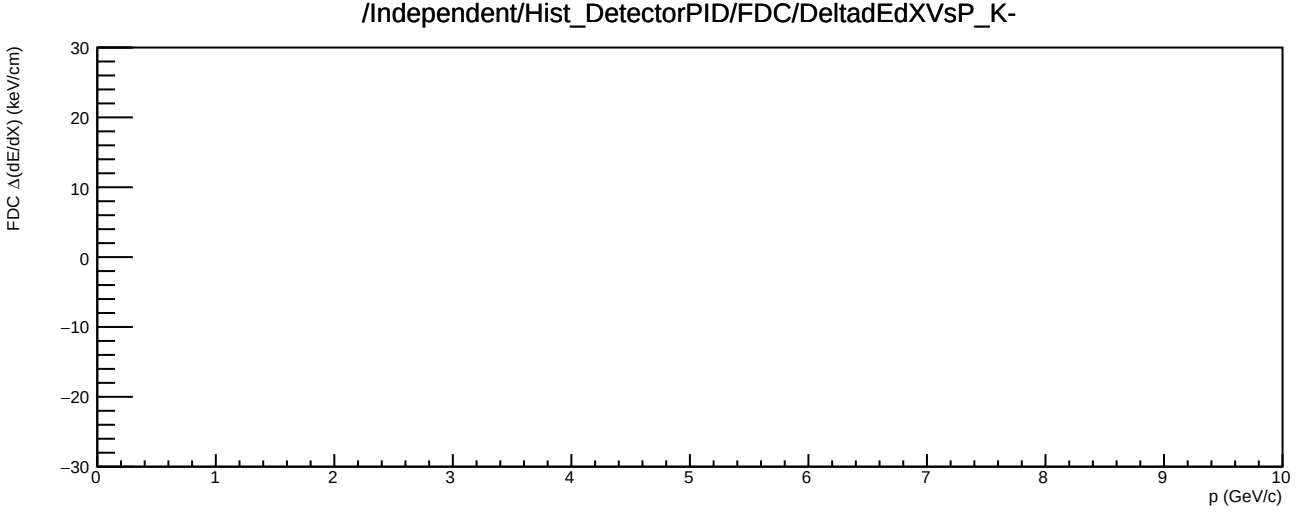

/Independent/Hist_DetectorPID/FDC/DeltadEdXVsP_Proton
FDC Δ(dE/dX) (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

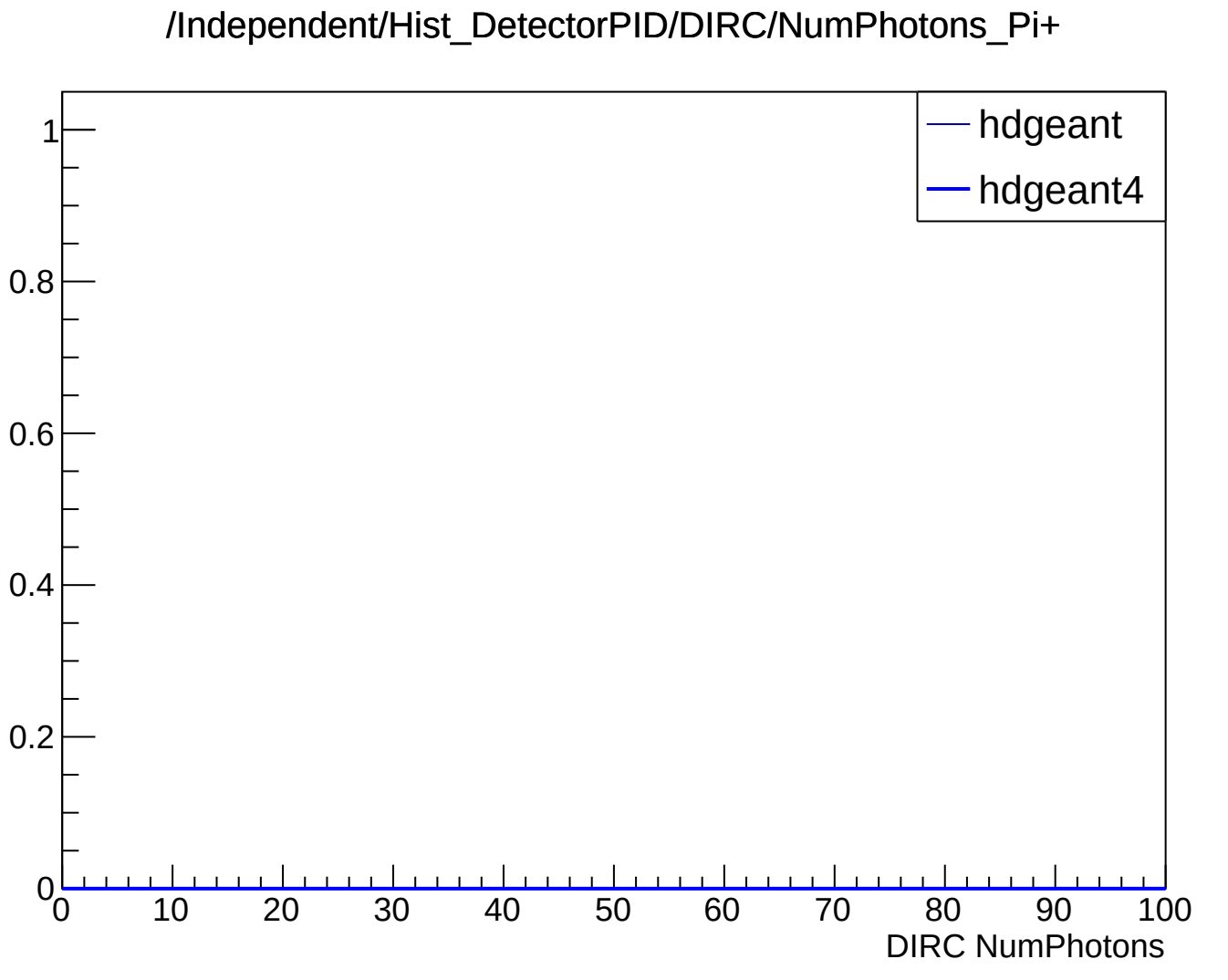

/Independent/Hist_DetectorPID/FDC/DeltadEdXVsP_Proton
FDC Δ(dE/dX) (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

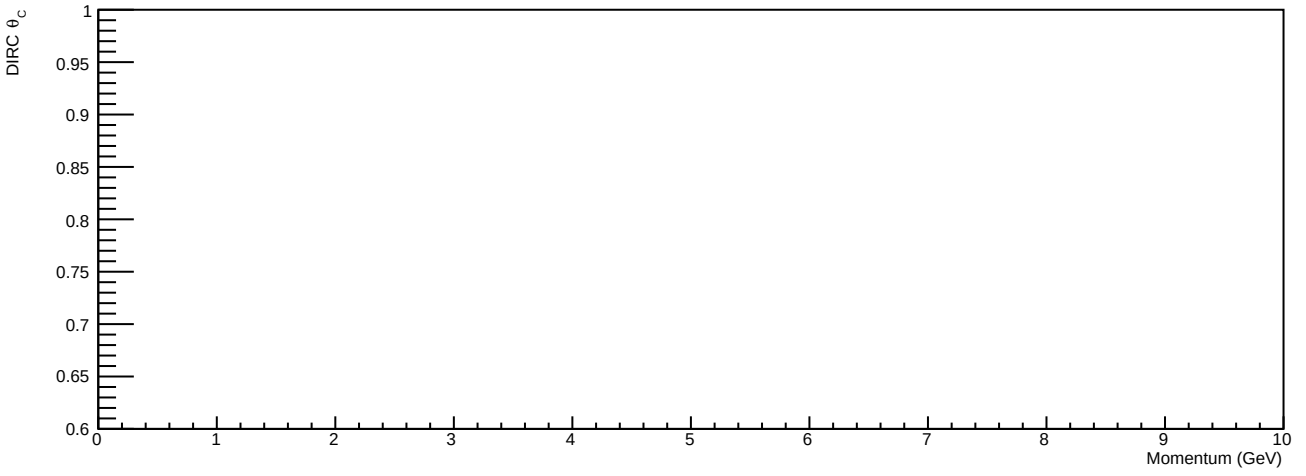

/Independent/Hist_DetectorPID/FDC/DeltadEdXVsP_Pi-
FDC Δ(dE/dX) (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

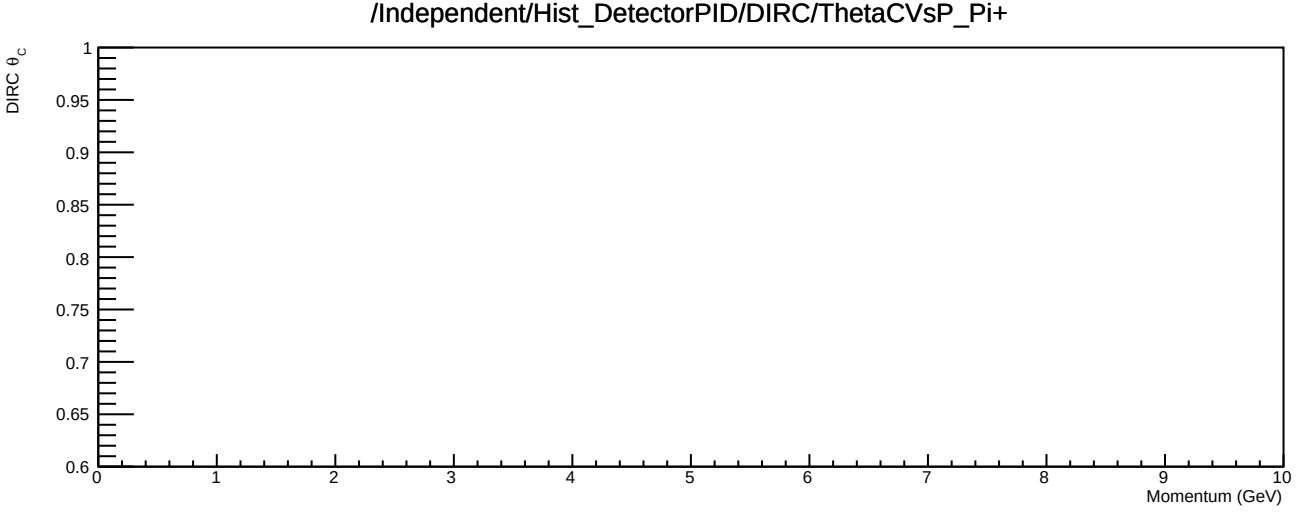

/Independent/Hist_DetectorPID/FDC/DeltadEdXVsP_Pi-
FDC Δ(dE/dX) (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

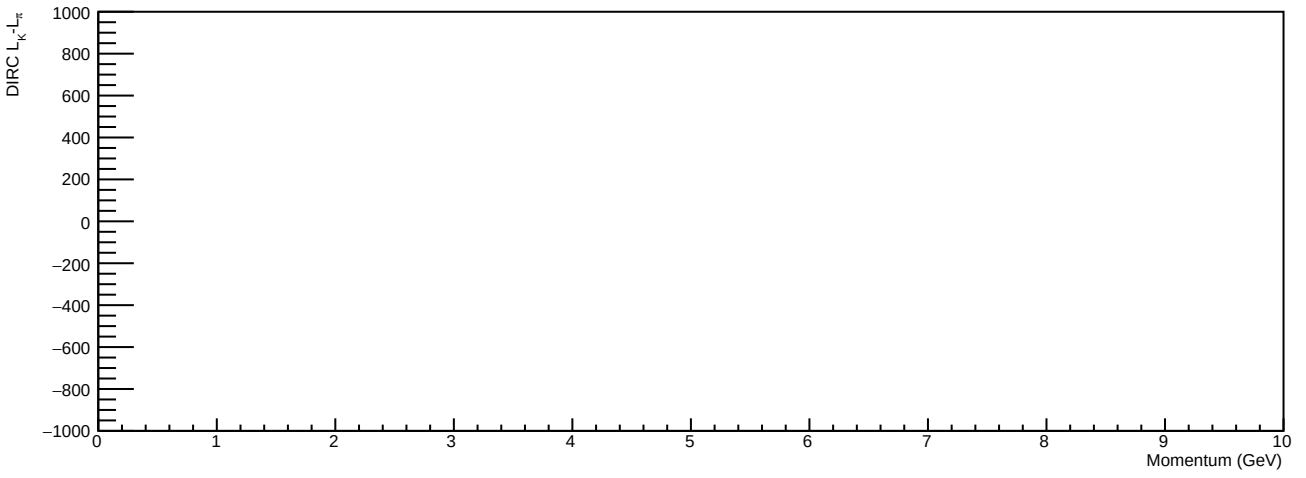

/Independent/Hist_DetectorPID/FDC/DeltadEdXVsP_K-
FDC Δ(dE/dX) (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

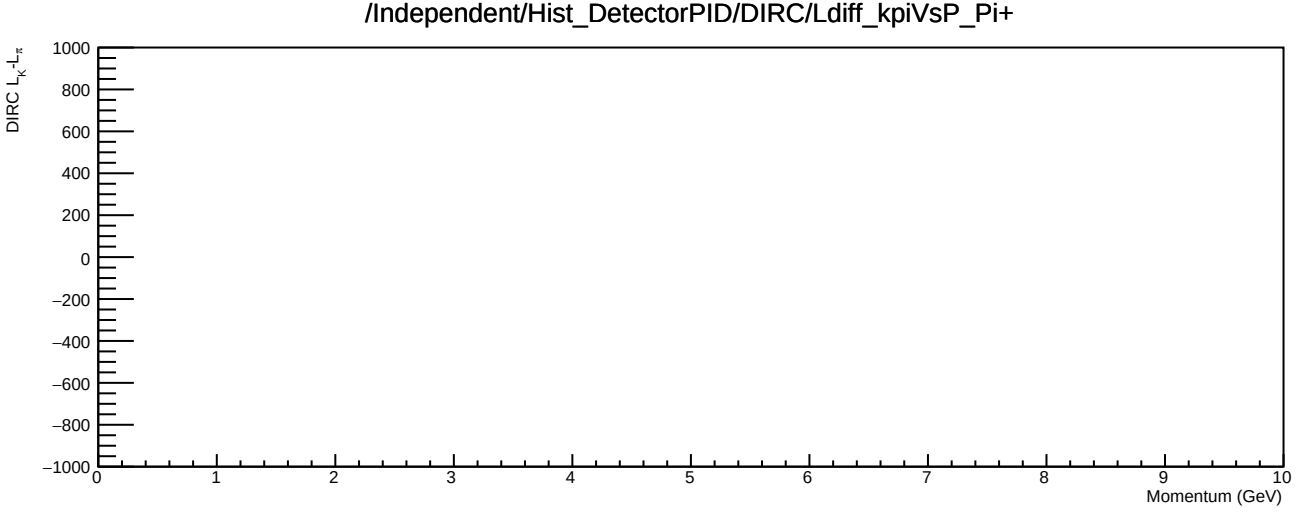

/Independent/Hist_DetectorPID/FDC/DeltadEdXVsP_K-
FDC Δ(dE/dX) (keV/cm)
30
20
10
0
−10
−20
−30
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

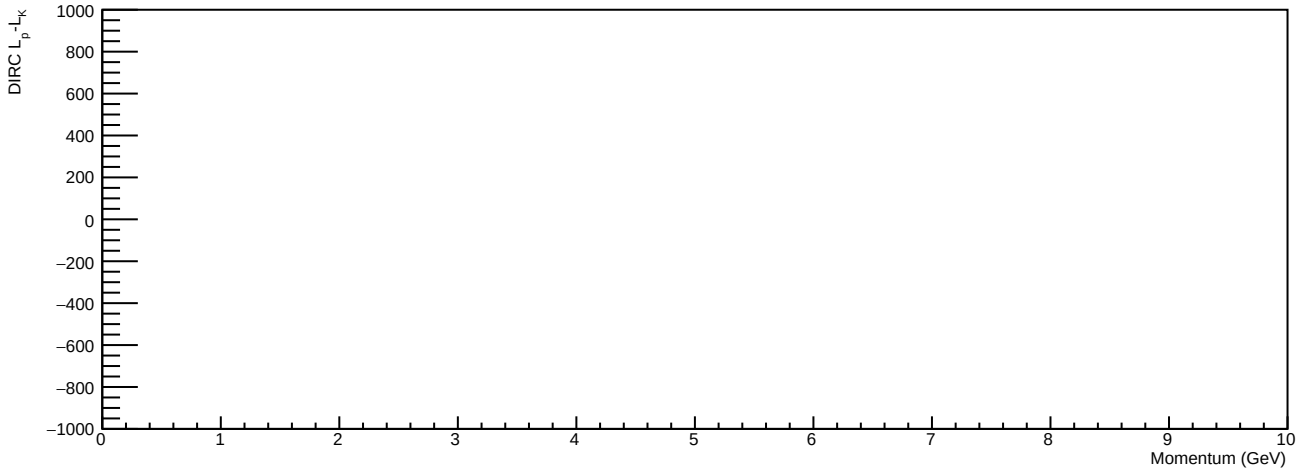

/Independent/Hist_DetectorPID/DIRC/NumPhotons_Pi+
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
100
DIRC NumPhotons

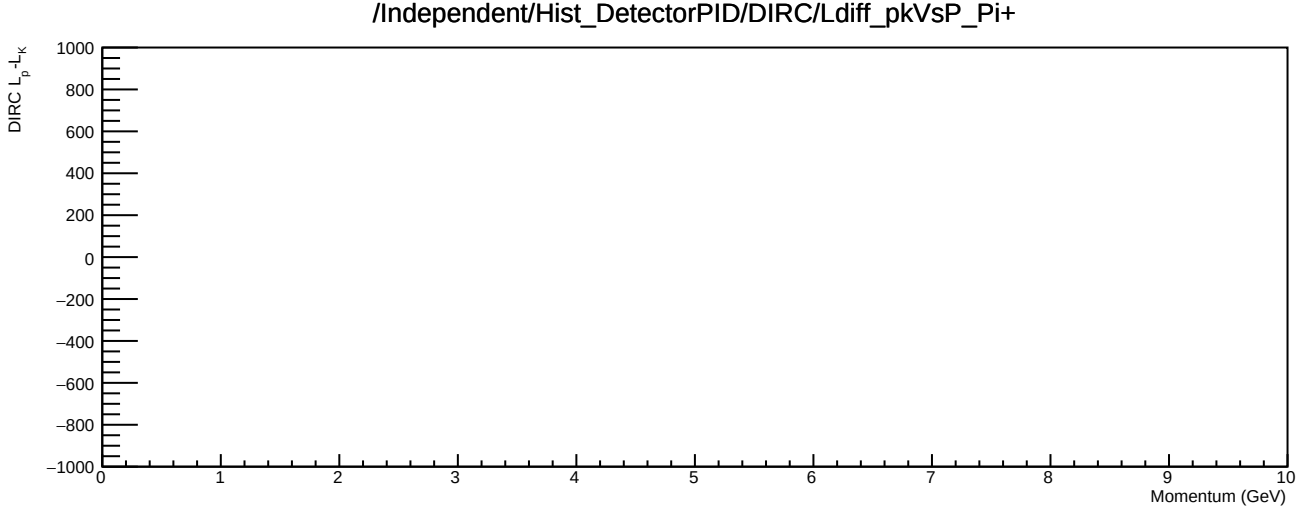

/Independent/Hist_DetectorPID/DIRC/ThetaCVsP_Pi+
DIRC θc
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

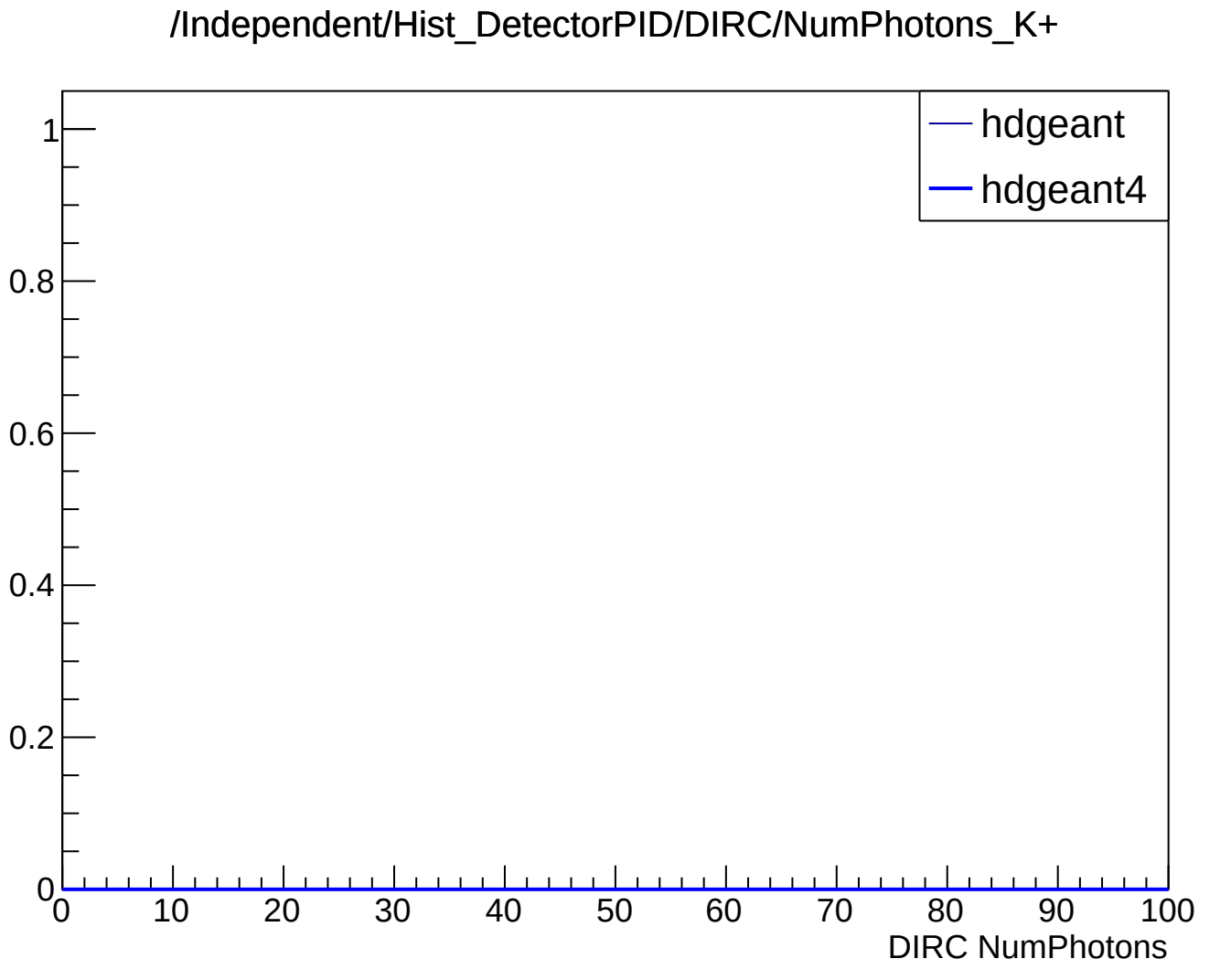

/Independent/Hist_DetectorPID/DIRC/ThetaCVsP_Pi+
DIRC θc
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

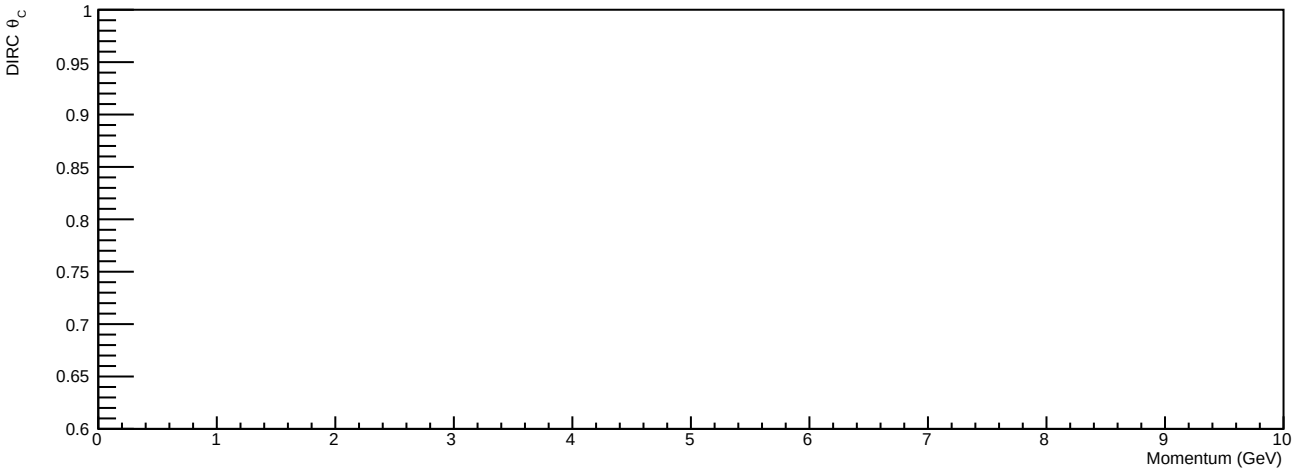

/Independent/Hist_DetectorPID/DIRC/Ldiff_kpiVsP_Pi+
DIRC L_K-L_π
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

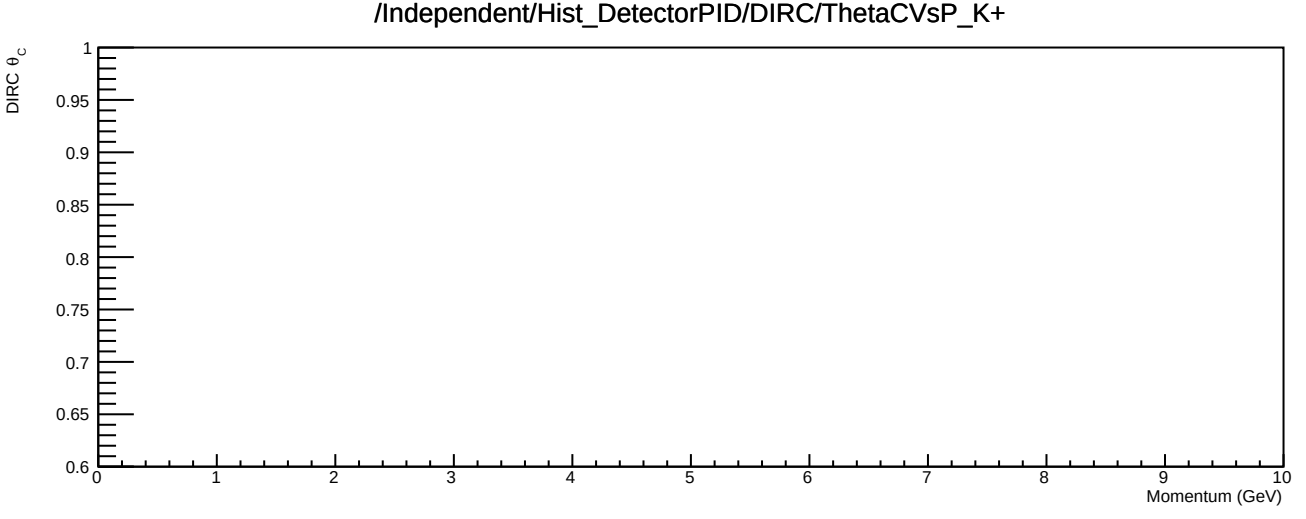

/Independent/Hist_DetectorPID/DIRC/Ldiff_kpiVsP_Pi+
DIRC L_K-L_π
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

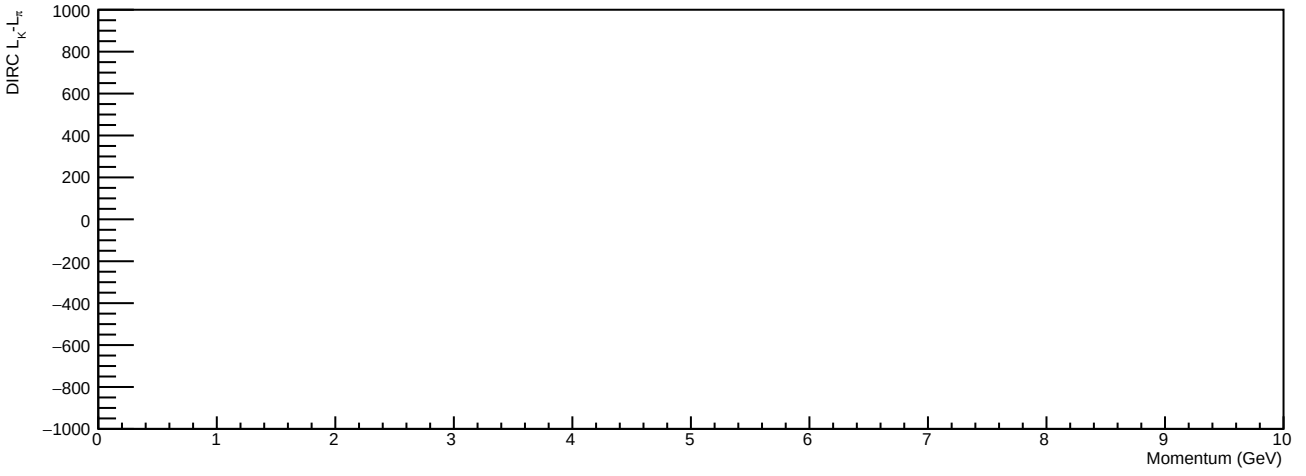

/Independent/Hist_DetectorPID/DIRC/Ldiff_pkVsP_Pi+
DIRC L_p-L_K
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

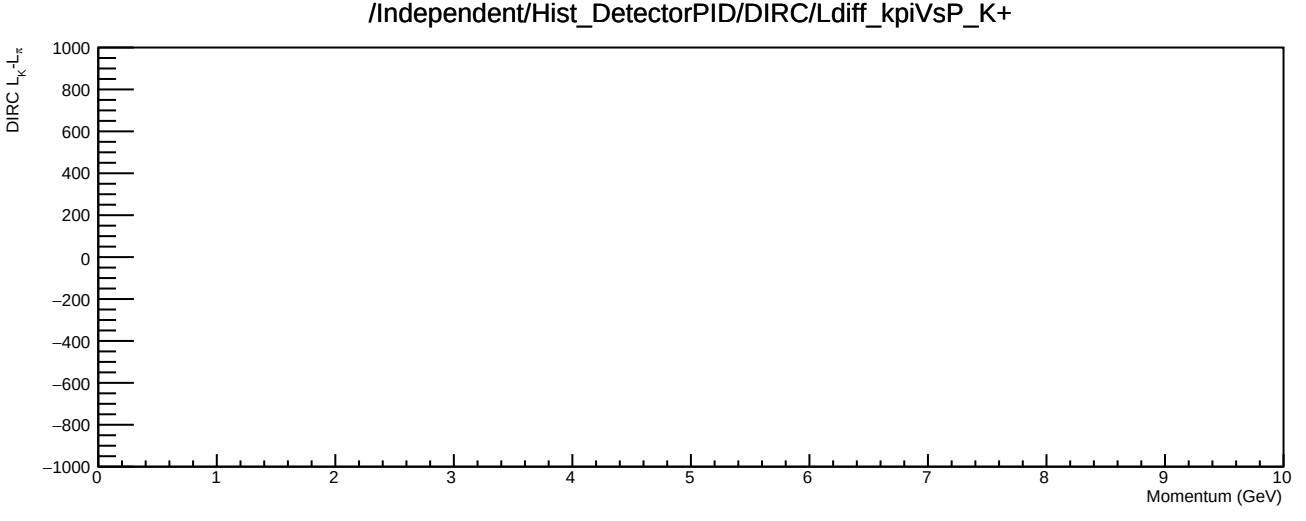

/Independent/Hist_DetectorPID/DIRC/Ldiff_pkVsP_Pi+
DIRC L_p-L_K
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

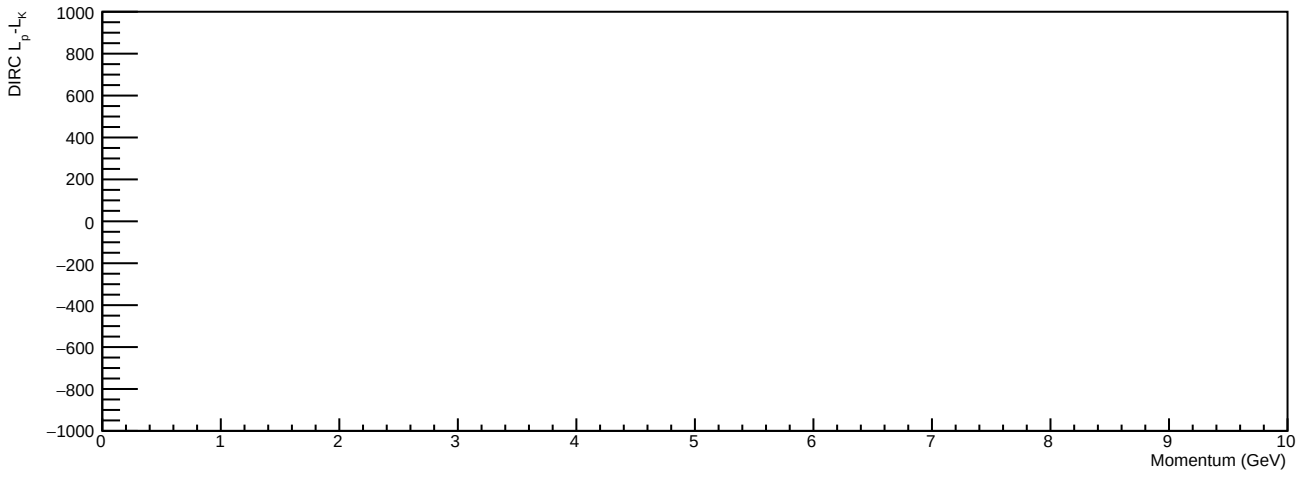

/Independent/Hist_DetectorPID/DIRC/NumPhotons_K+
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
100
DIRC NumPhotons

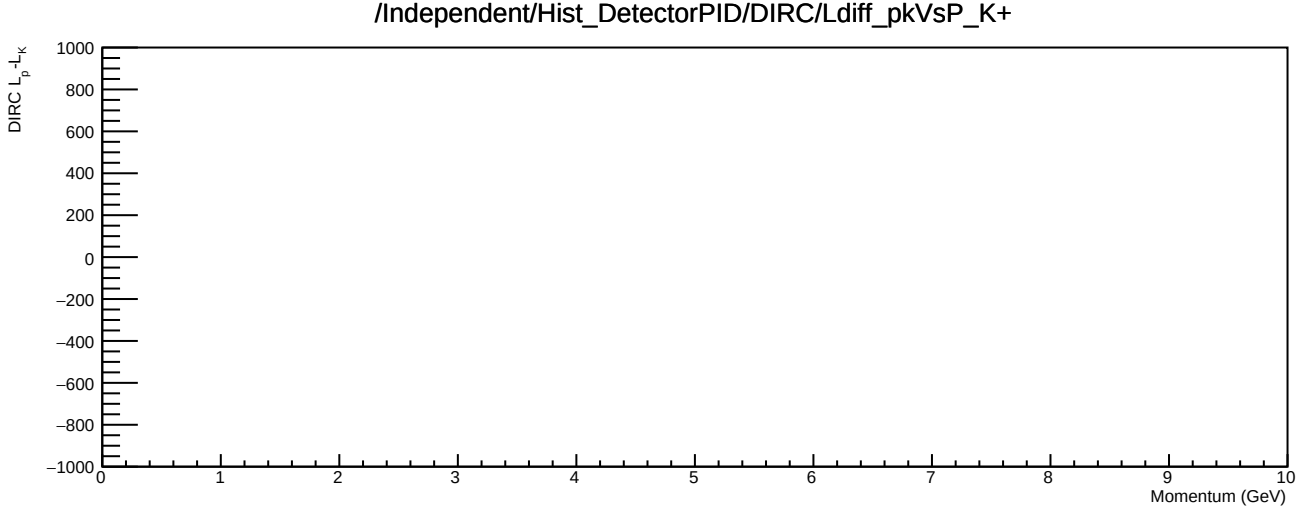

/Independent/Hist_DetectorPID/DIRC/ThetaCVsP_K+
DIRC θ_C
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

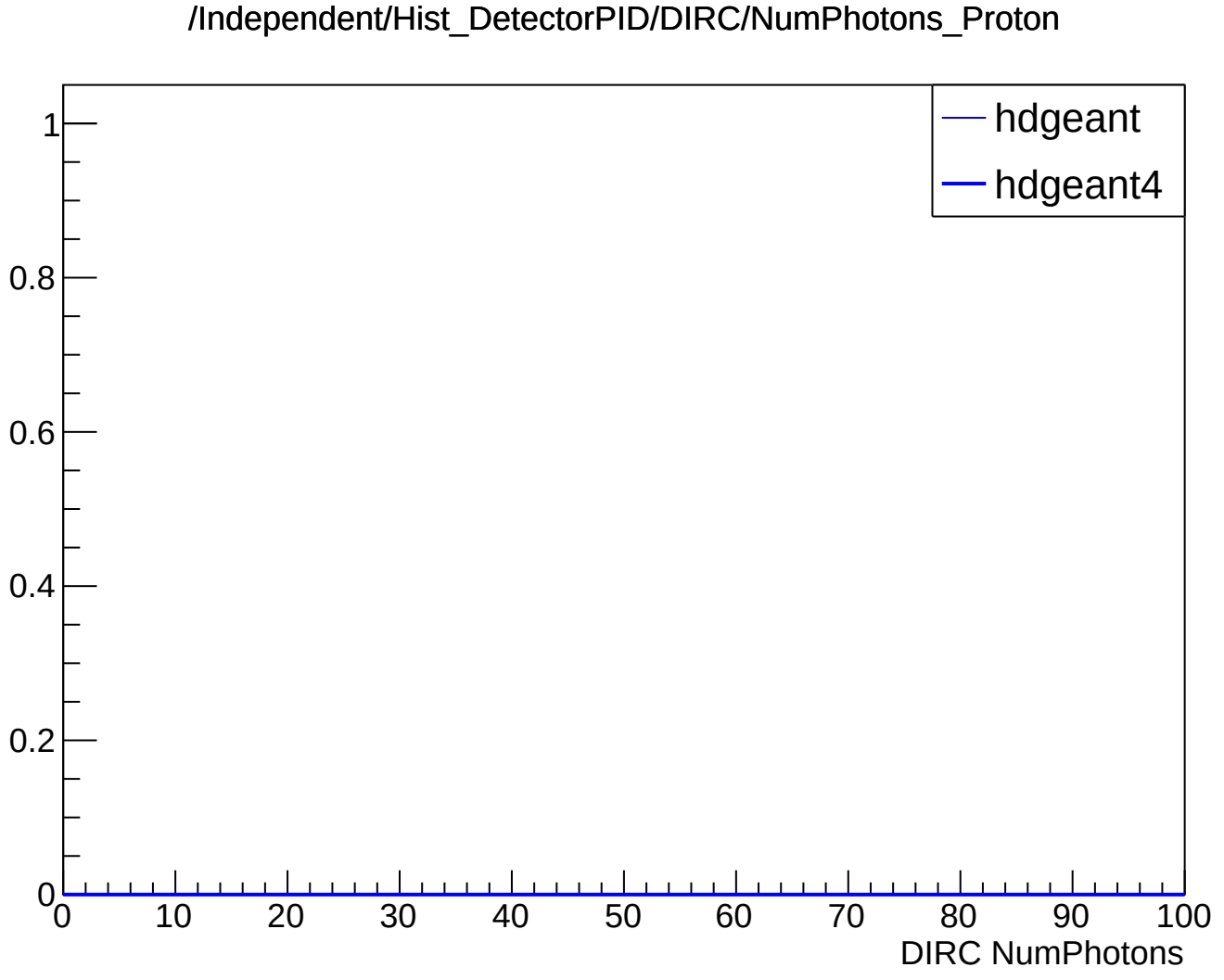

/Independent/Hist_DetectorPID/DIRC/ThetaCVsP_K+
DIRC θ_C
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

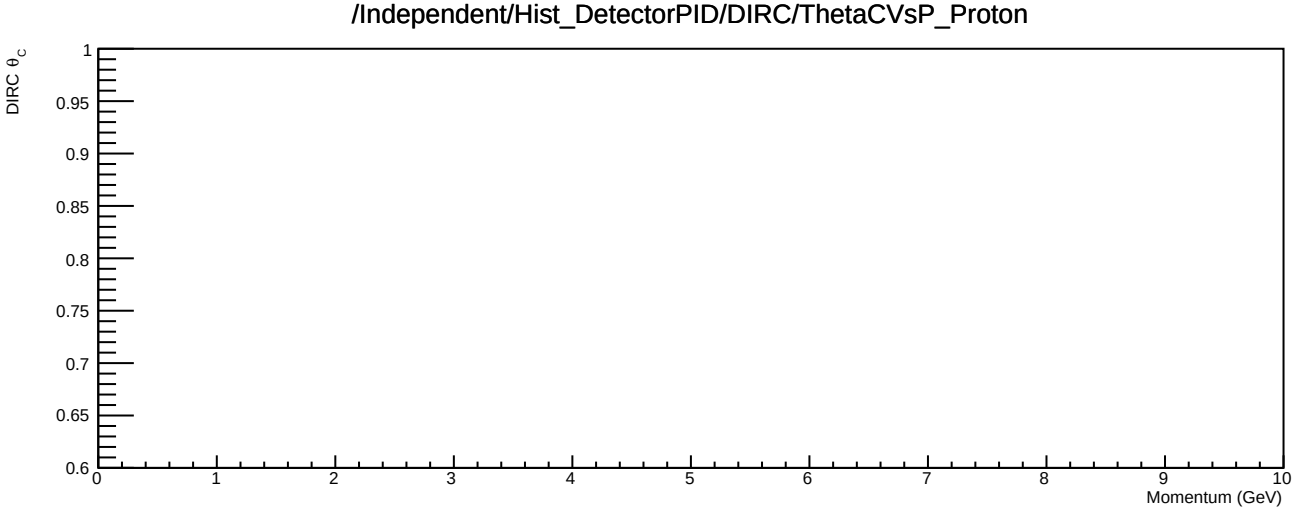

/Independent/Hist_DetectorPID/DIRC/Ldiff_kpiVsP_K+
DIRC L_K-L_π
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

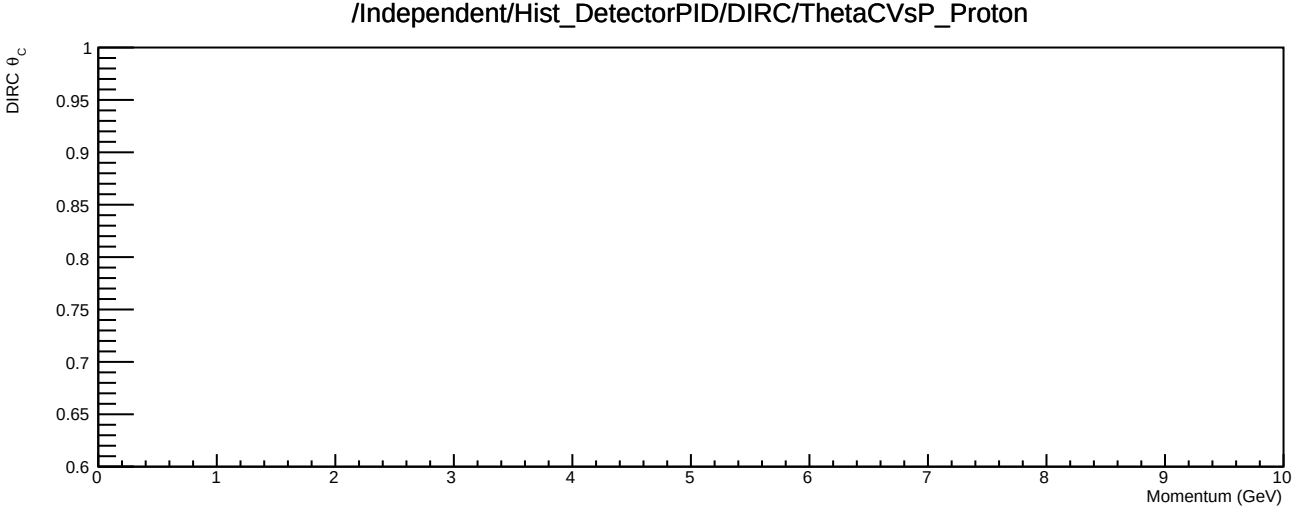

/Independent/Hist_DetectorPID/DIRC/Ldiff_kpiVsP_K+
DIRC L_K-L_π
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

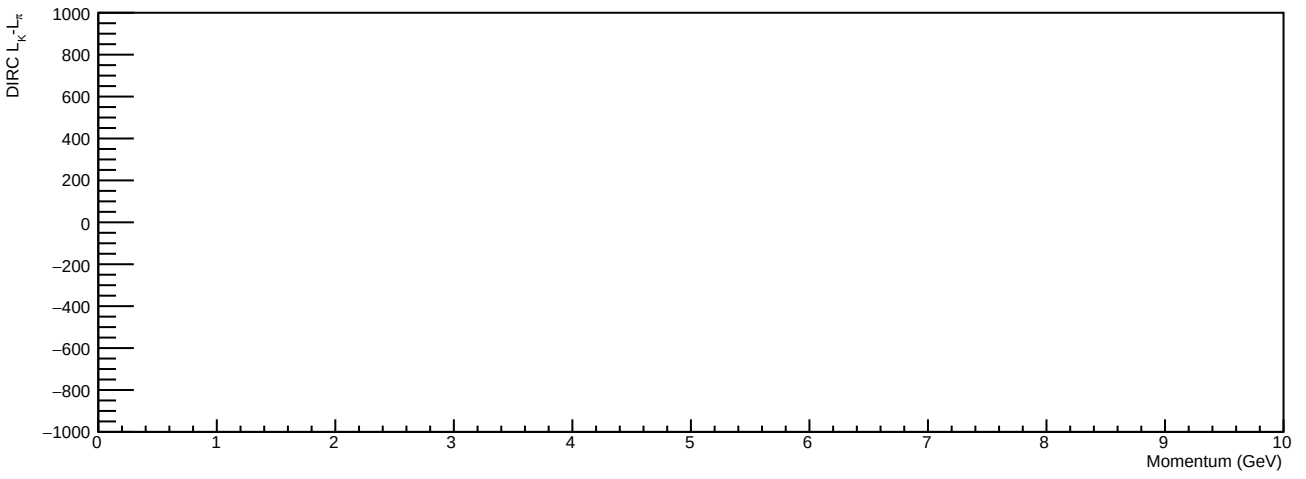

/Independent/Hist_DetectorPID/DIRC/Ldiff_pkVsP_K+
DIRC L_p-L_K
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

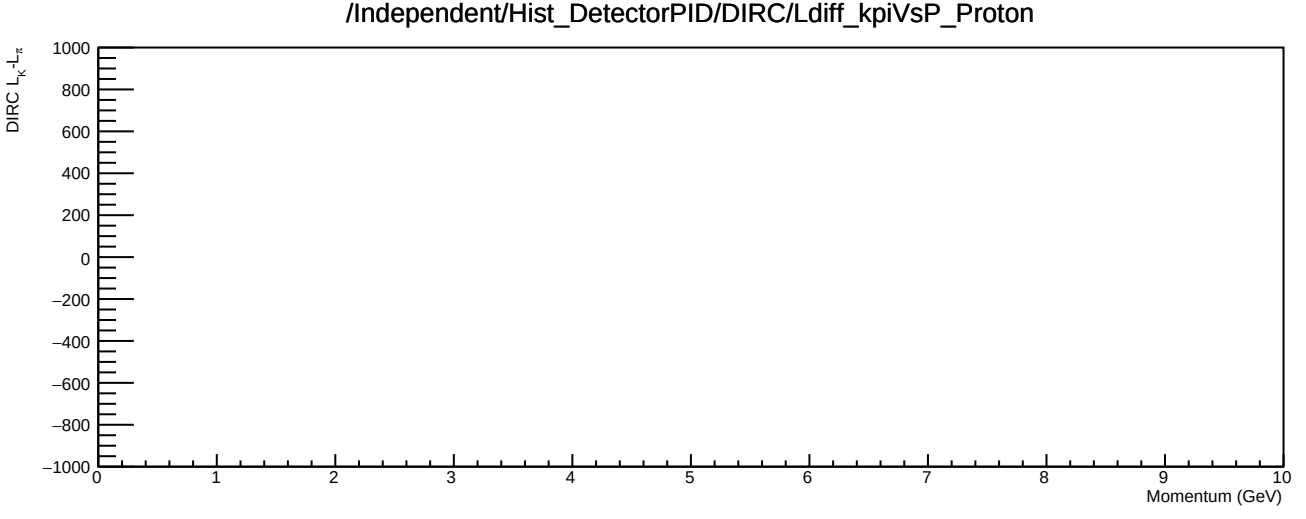

/Independent/Hist_DetectorPID/DIRC/Ldiff_pkVsP_K+
DIRC L_p-L_K
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

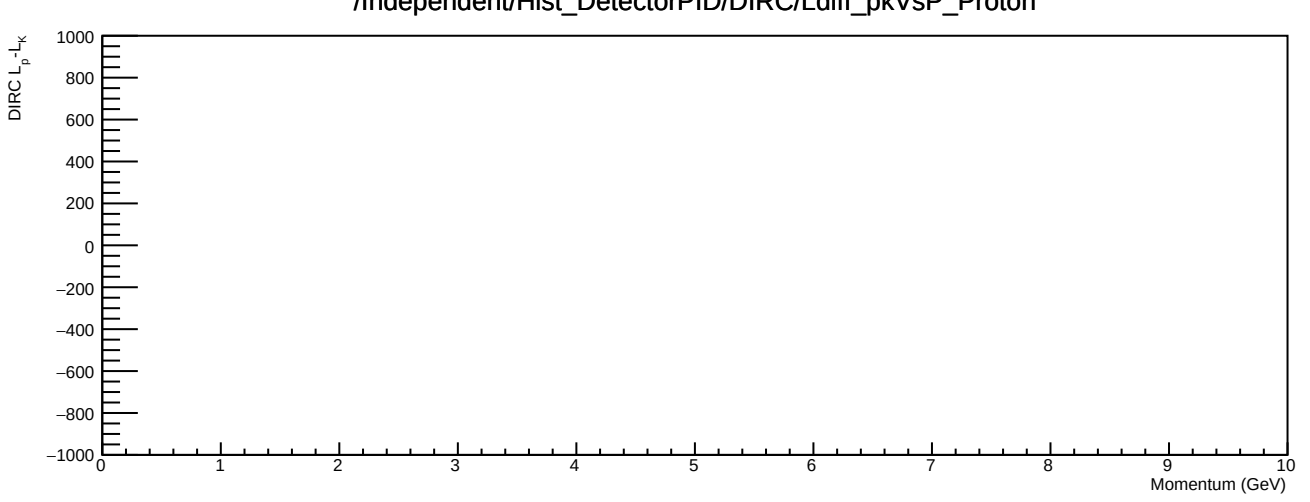

/Independent/Hist_DetectorPID/DIRC/NumPhotons_Proton
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
100
DIRC NumPhotons

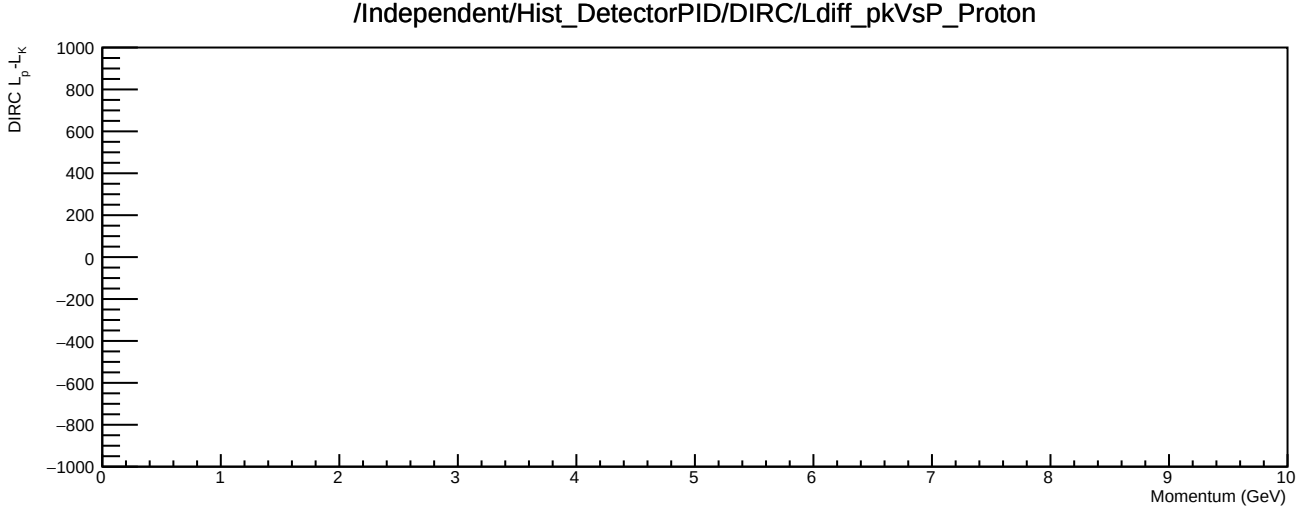

/Independent/Hist_DetectorPID/DIRC/ThetaCVsP_Proton
DIRC θc
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

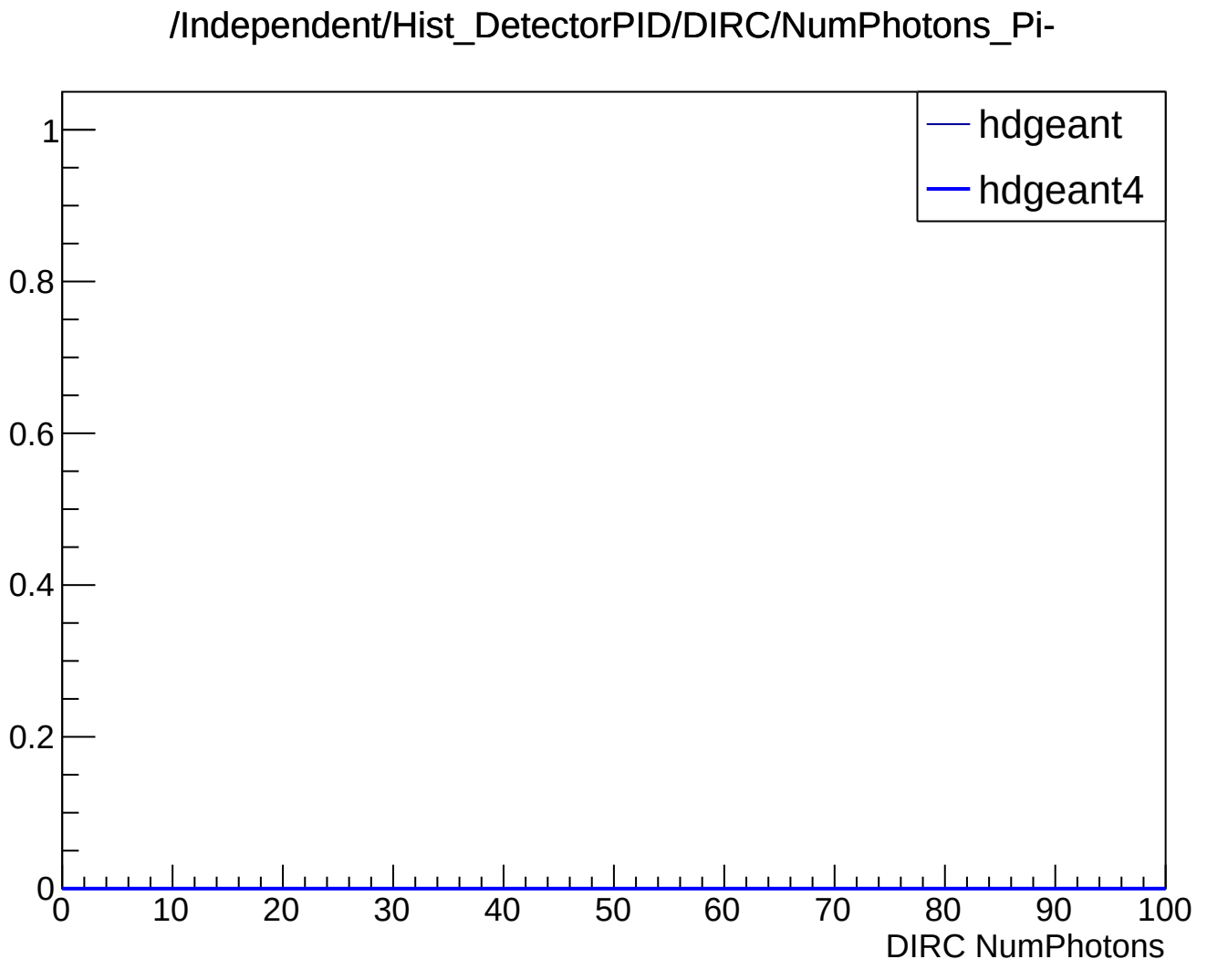

/Independent/Hist_DetectorPID/DIRC/ThetaCVsP_Proton
DIRC θc
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

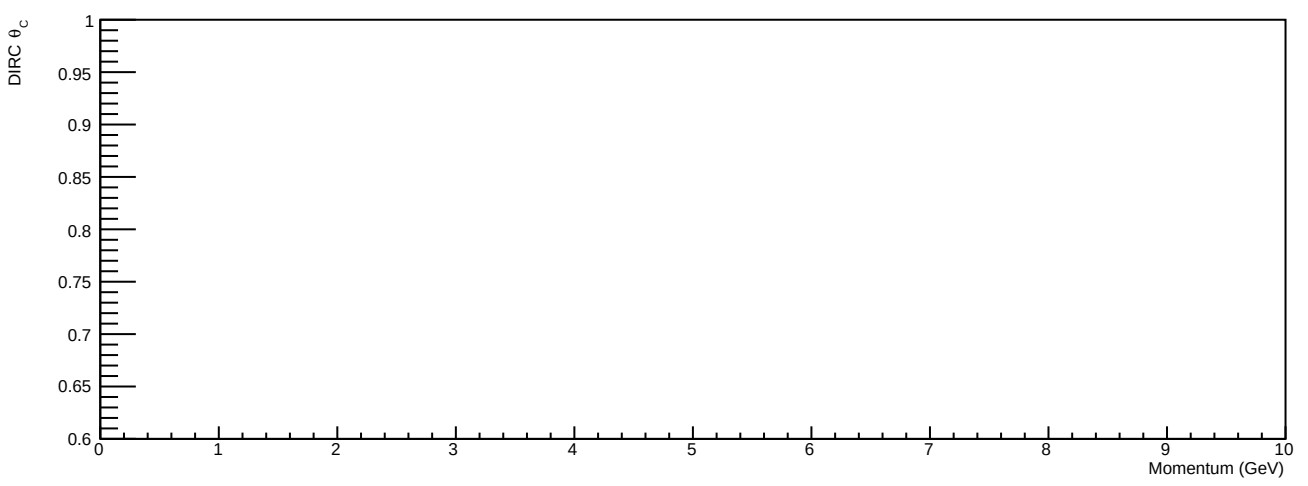

/Independent/Hist_DetectorPID/DIRC/Ldiff_kpiVsP_Proton
DIRC L_K-L_π
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

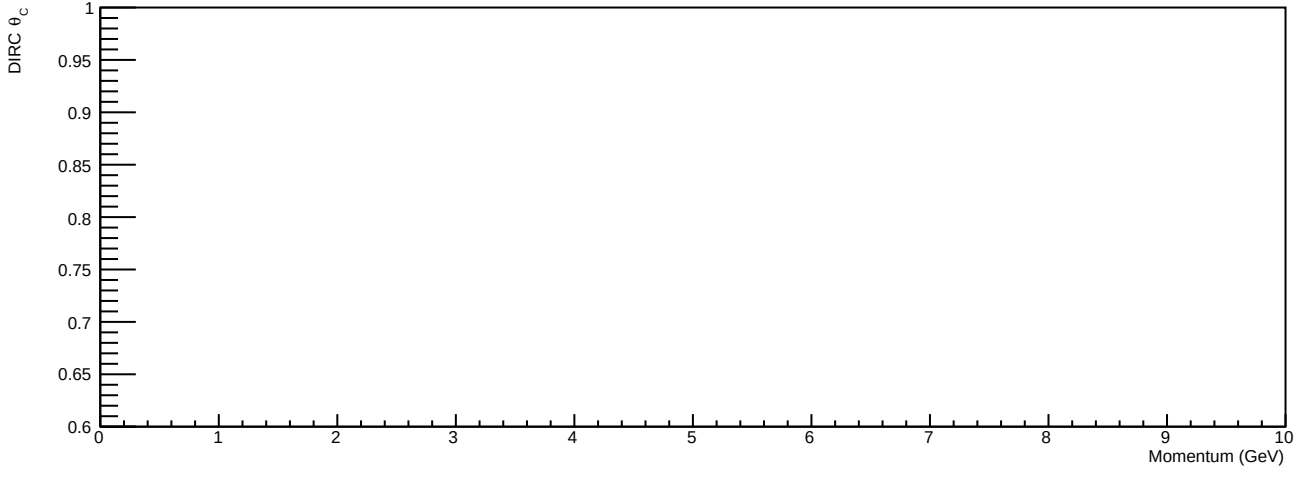

/Independent/Hist_DetectorPID/DIRC/Ldiff_kpiVsP_Proton
DIRC L_K-L_π
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

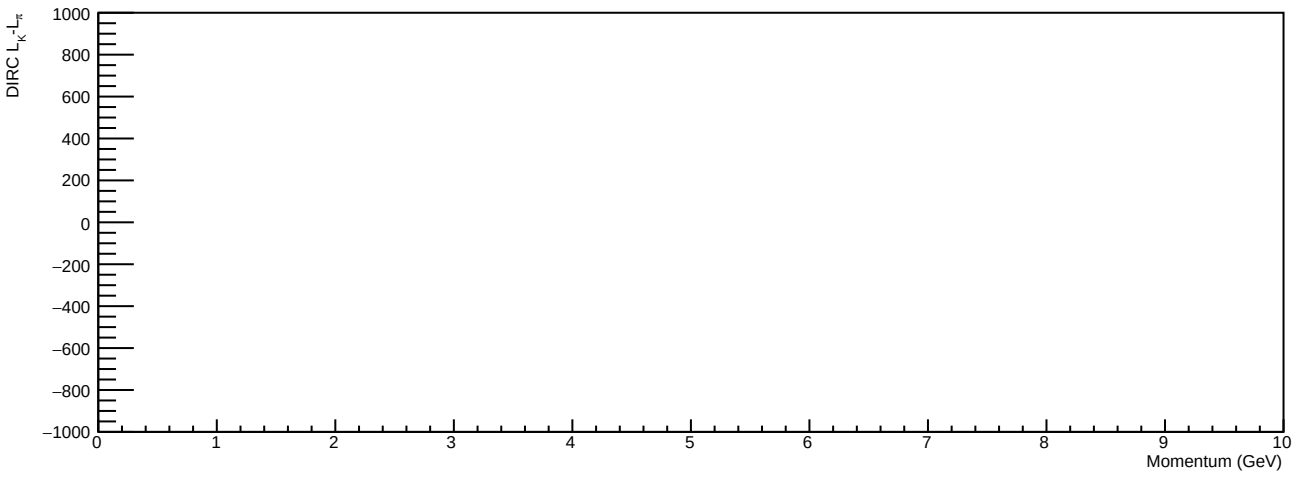

/Independent/Hist_DetectorPID/DIRC/Ldiff_pkVsP_Proton
DIRC L_p-L_K
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

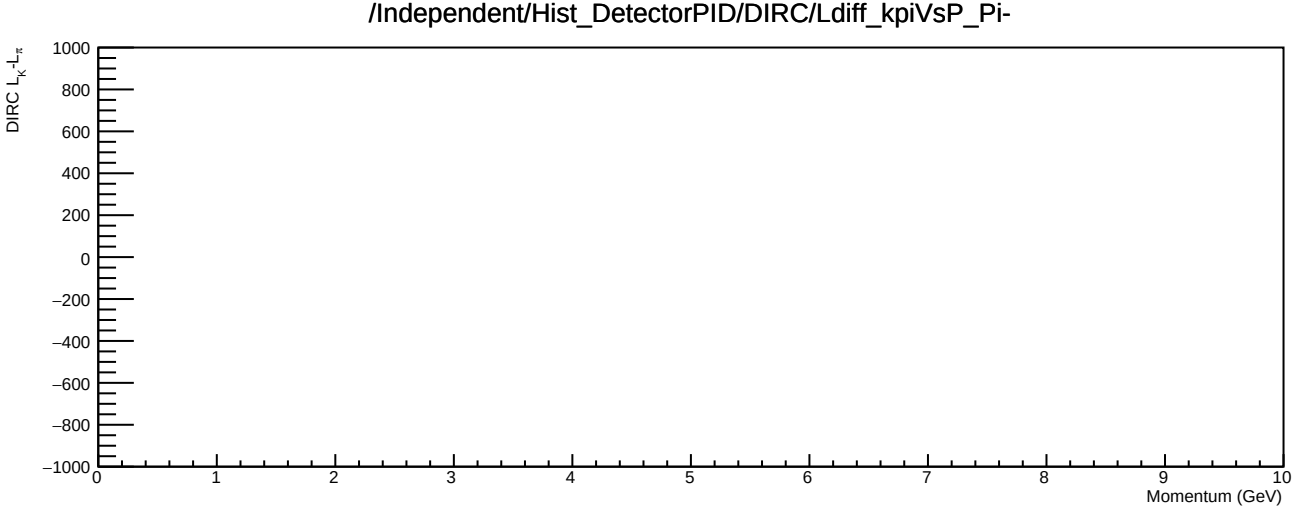

/Independent/Hist_DetectorPID/DIRC/Ldiff_pkVsP_Proton
DIRC L_p-L_K
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

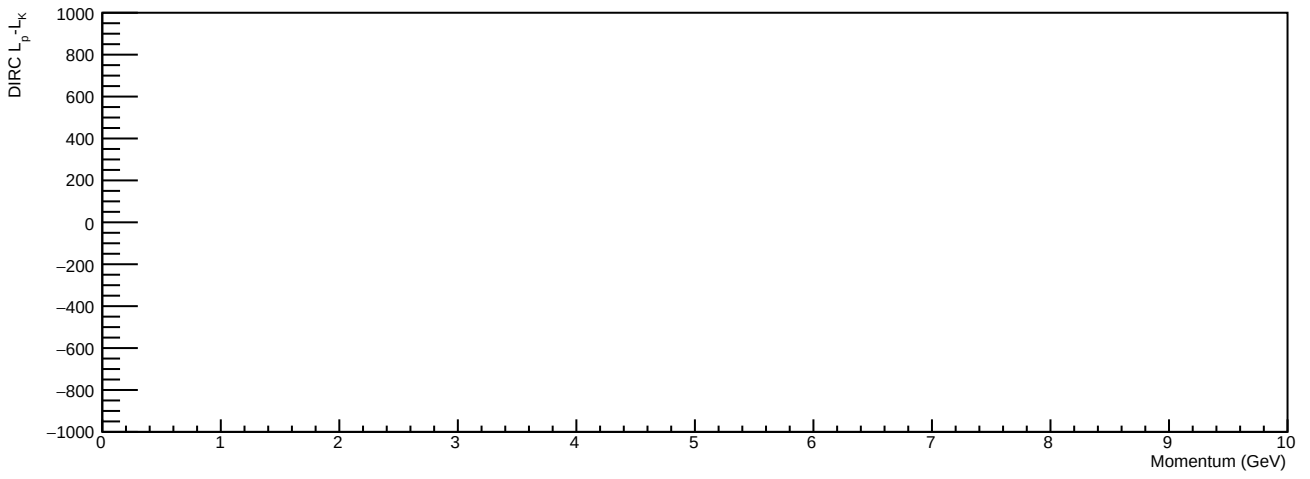

/Independent/Hist_DetectorPID/DIRC/NumPhotons_Pi-
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
100
DIRC NumPhotons

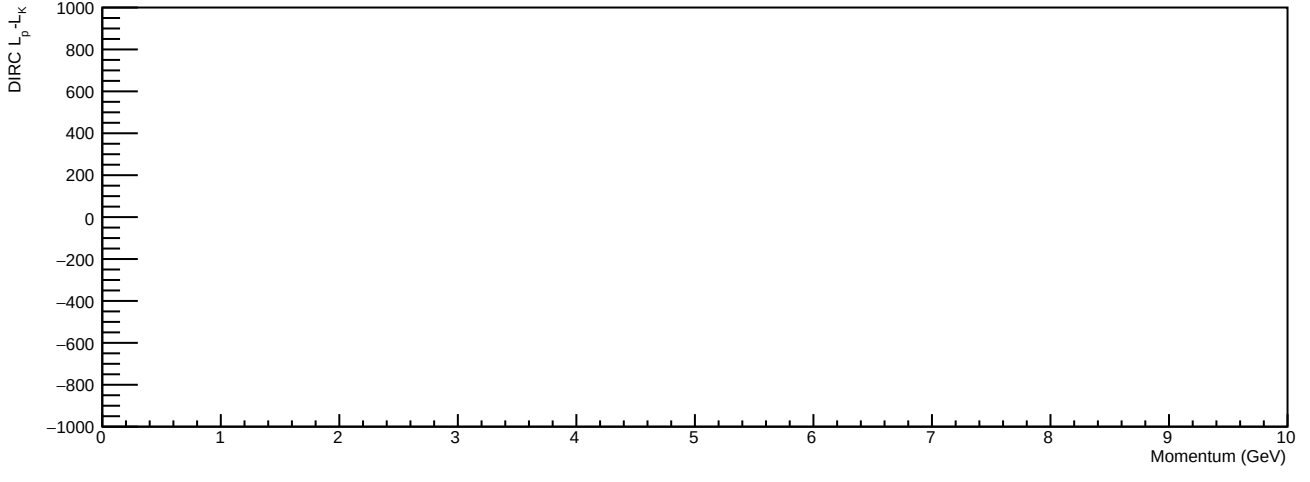

/Independent/Hist_DetectorPID/DIRC/ThetaCVsP_Pi-
DIRC θ_C
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

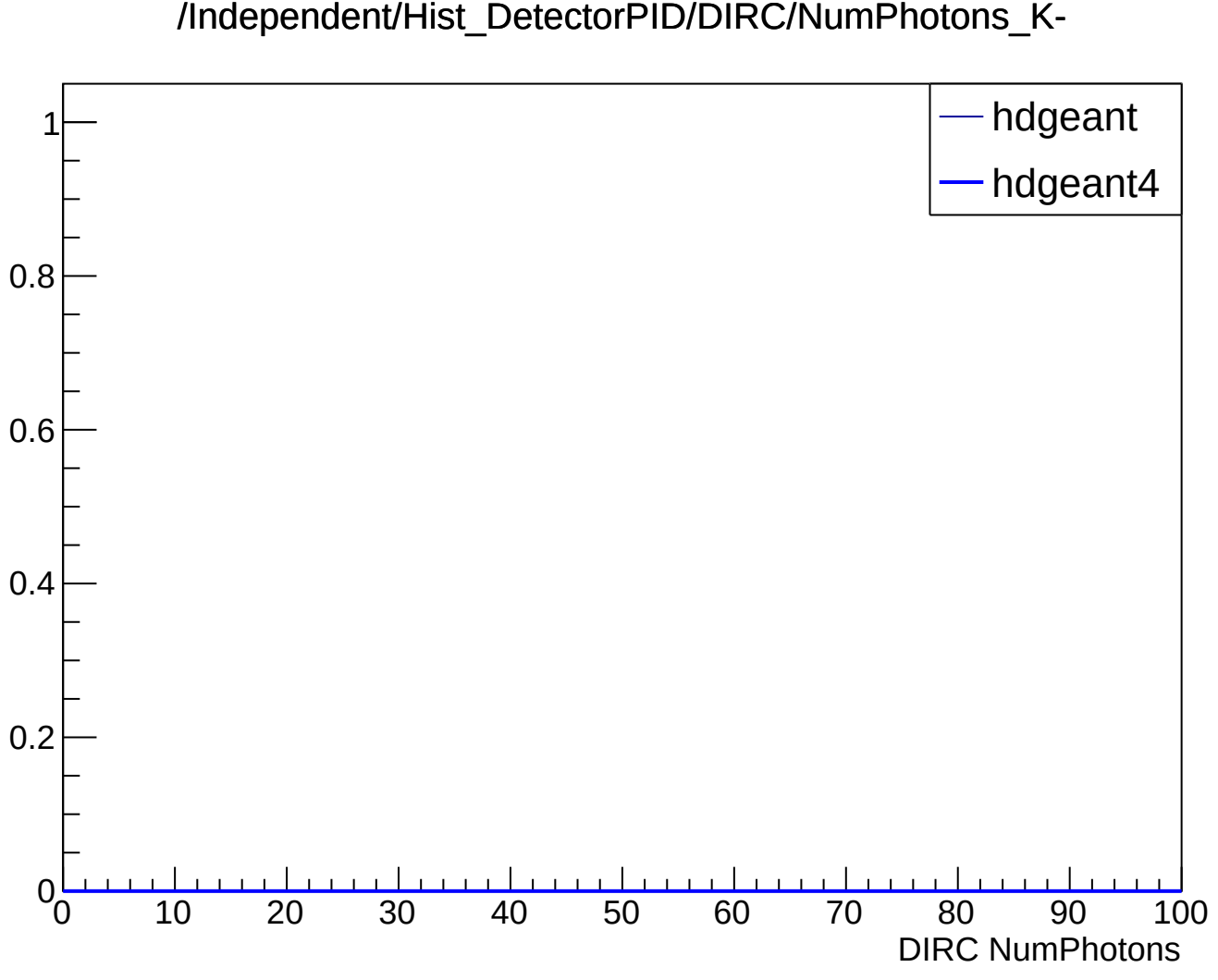

/Independent/Hist_DetectorPID/DIRC/ThetaCVsP_Pi-
DIRC θ_C
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

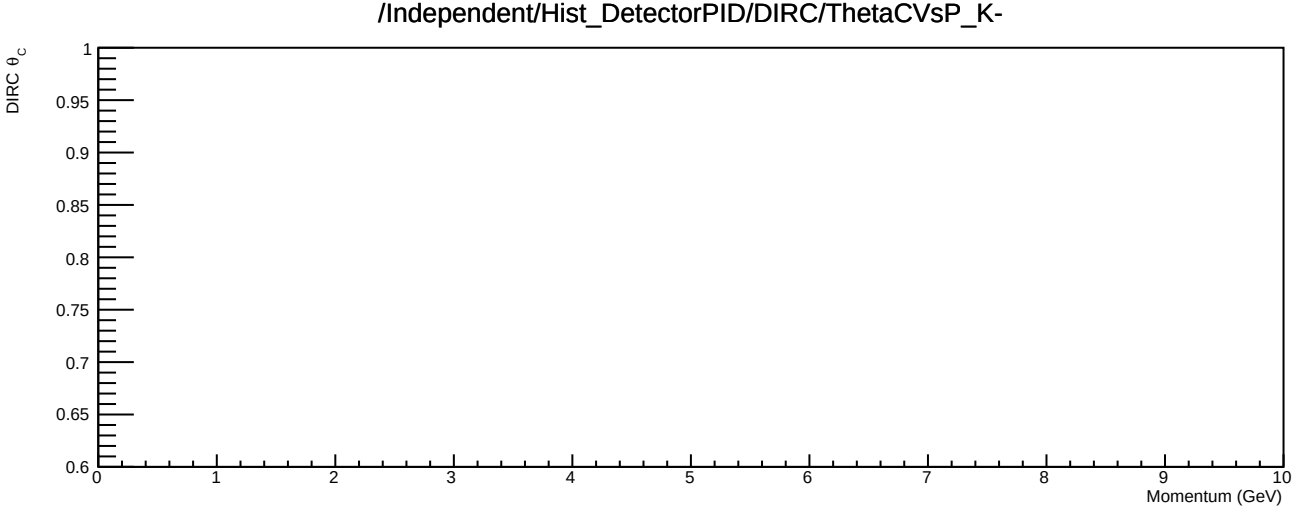

/Independent/Hist_DetectorPID/DIRC/Ldiff_kpiVsP_Pi-
DIRC L_K-L_π
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

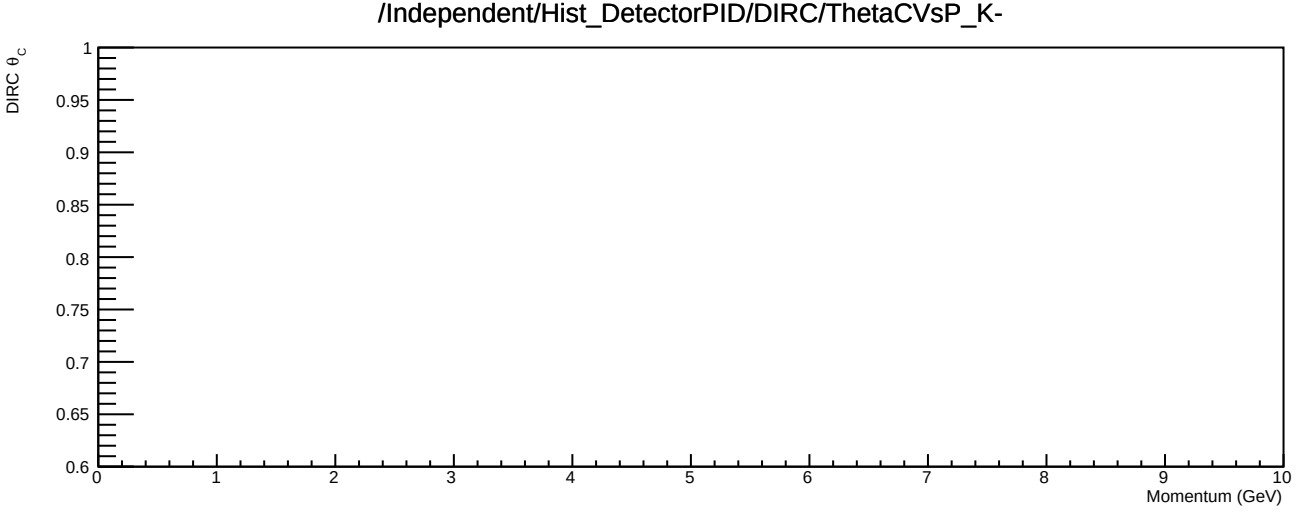

/Independent/Hist_DetectorPID/DIRC/Ldiff_kpiVsP_Pi-
DIRC L_K-L_π
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

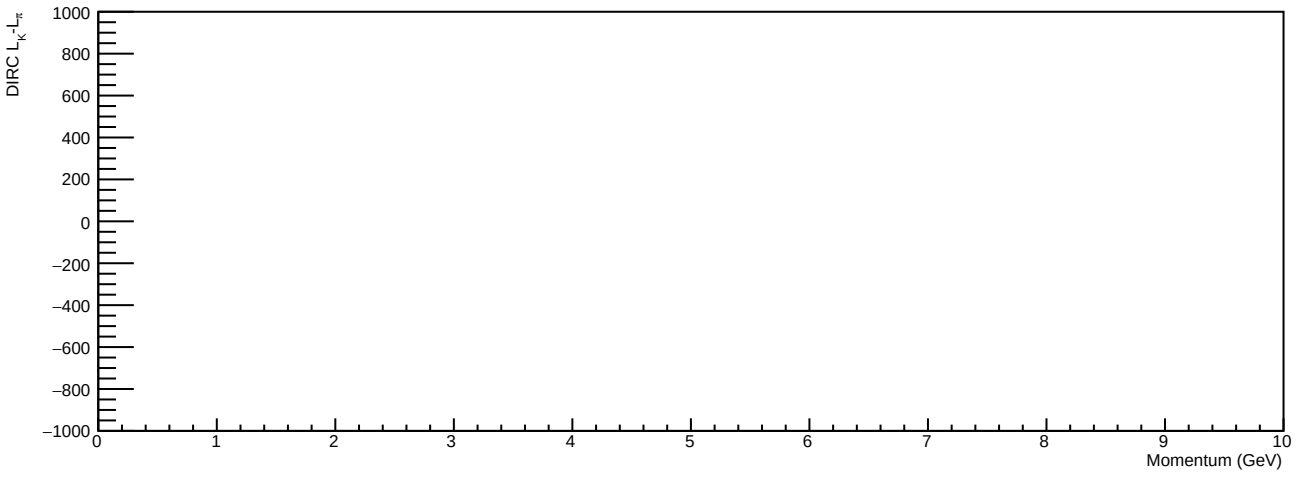

/Independent/Hist_DetectorPID/DIRC/Ldiff_pkVsP_Pi-
DIRC L_p-L_K
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

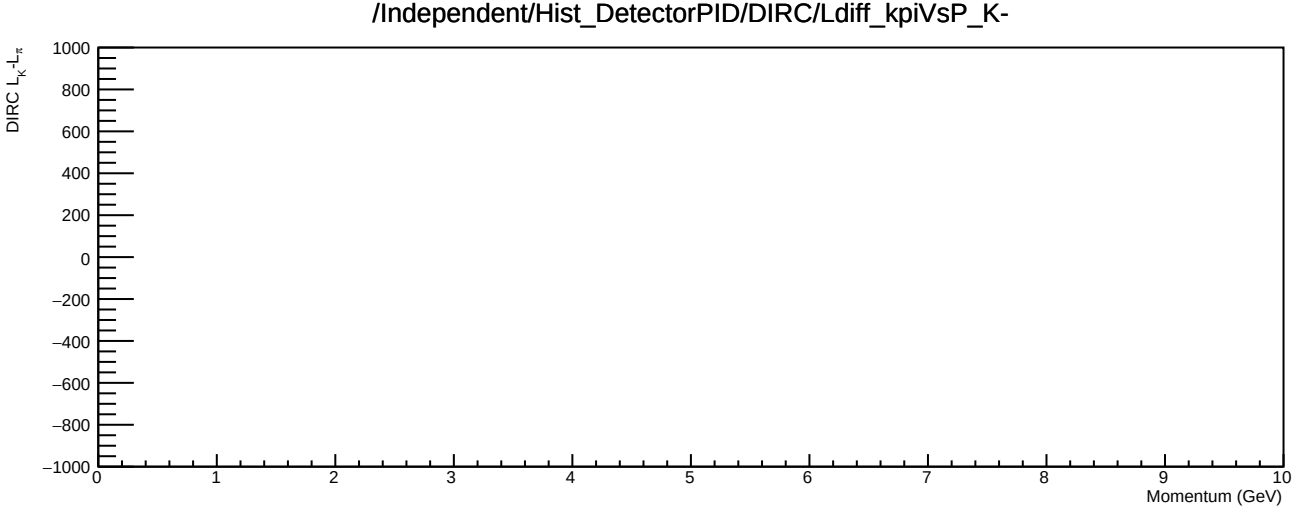

/Independent/Hist_DetectorPID/DIRC/Ldiff_pkVsP_Pi-
DIRC L_p-L_K
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

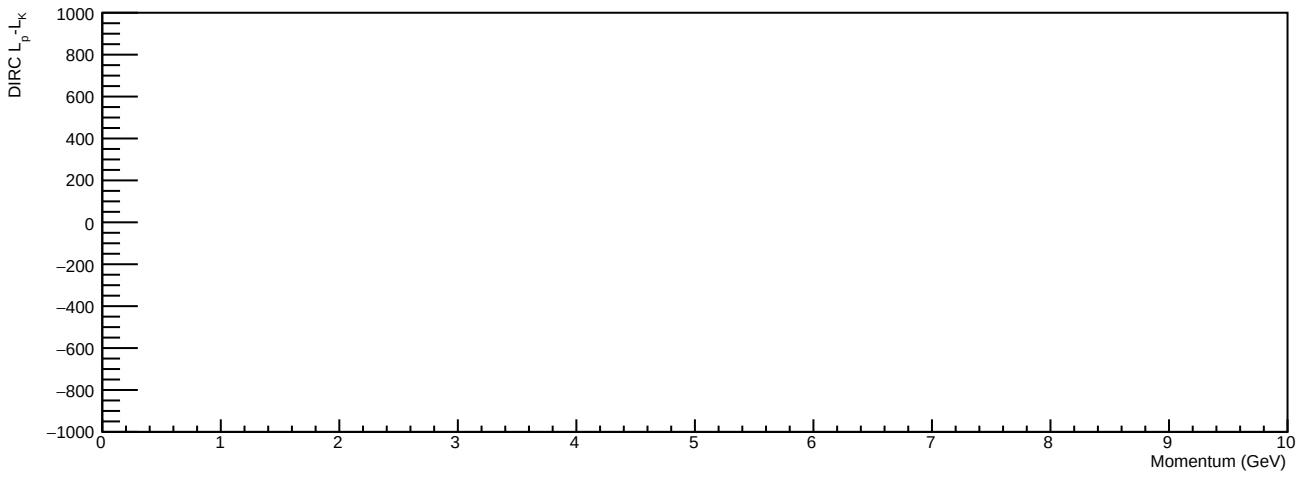

/Independent/Hist_DetectorPID/DIRC/NumPhotons_K-
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
100
DIRC NumPhotons

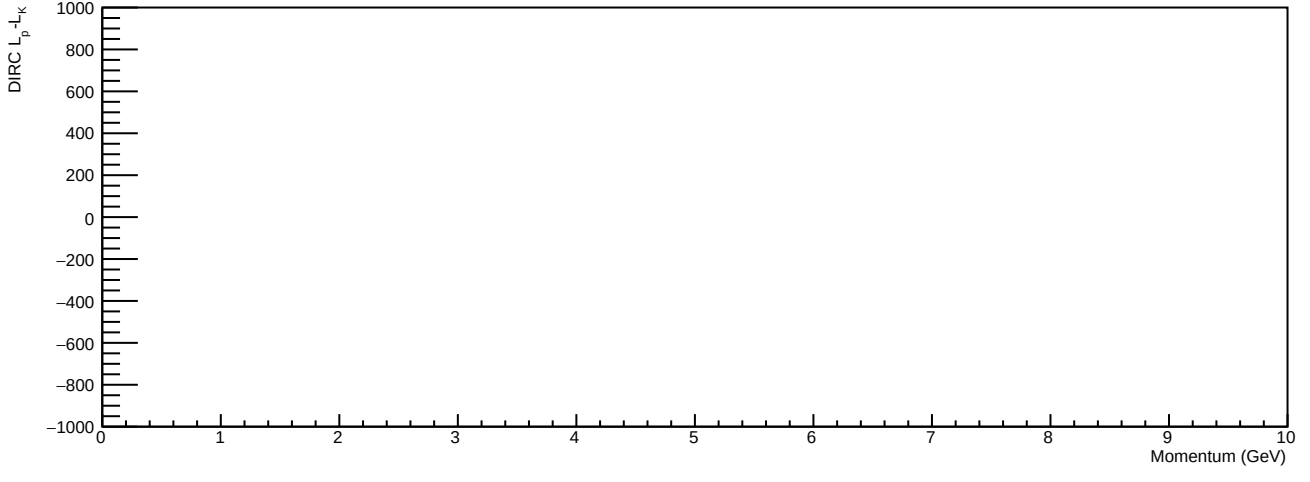

/Independent/Hist_DetectorPID/DIRC/ThetaCVsP_K-
DIRC θ_C
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

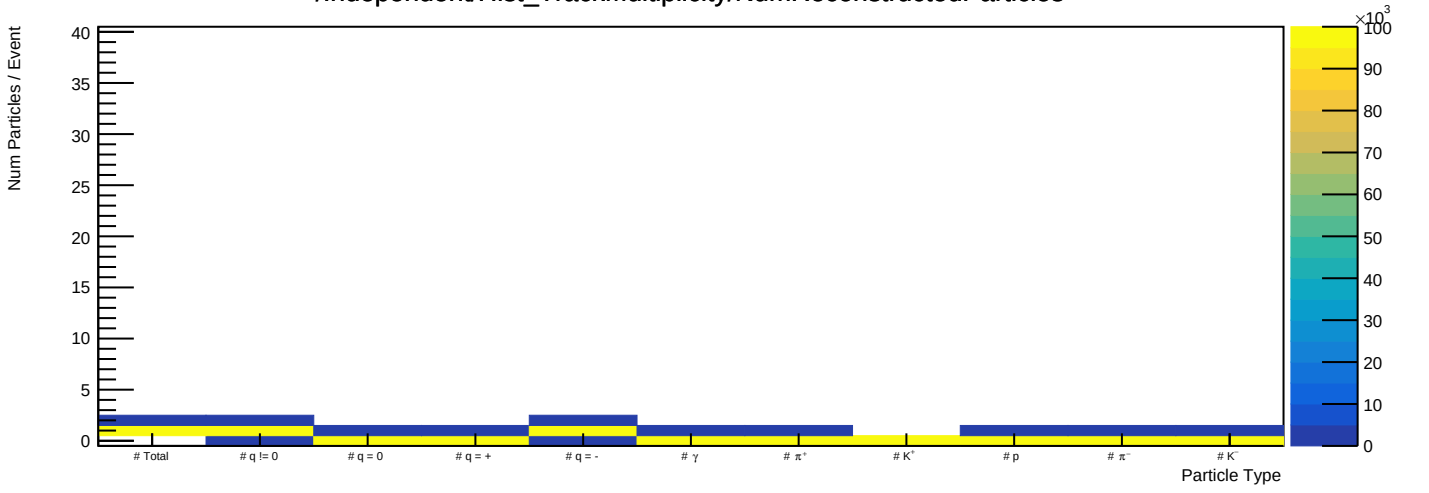

/Independent/Hist_DetectorPID/DIRC/ThetaCVsP_K-
DIRC θ_C
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

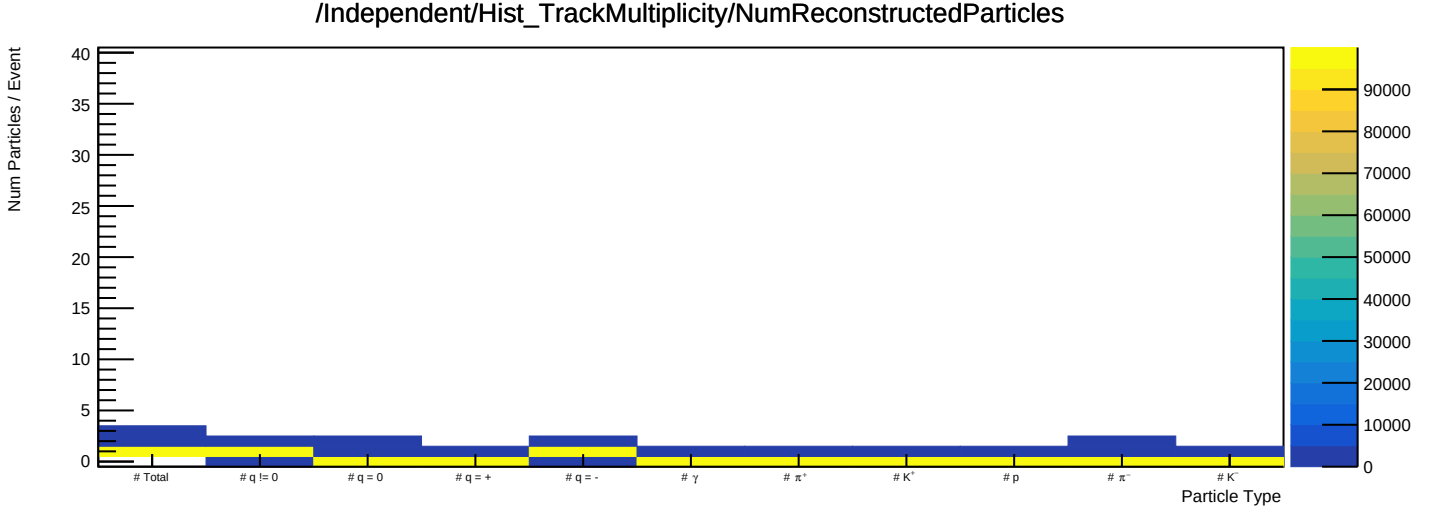

/Independent/Hist_DetectorPID/DIRC/Ldiff_kpiVsP_K-
DIRC L_K-L_π
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

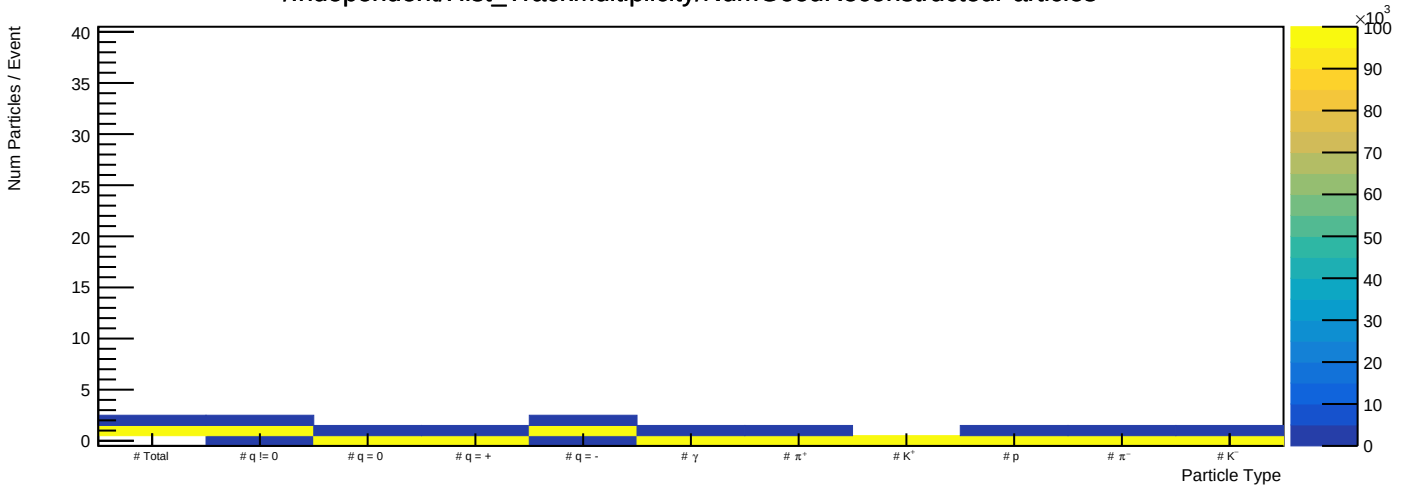

/Independent/Hist_DetectorPID/DIRC/Ldiff_kpiVsP_K-
DIRC L_K-L_π
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

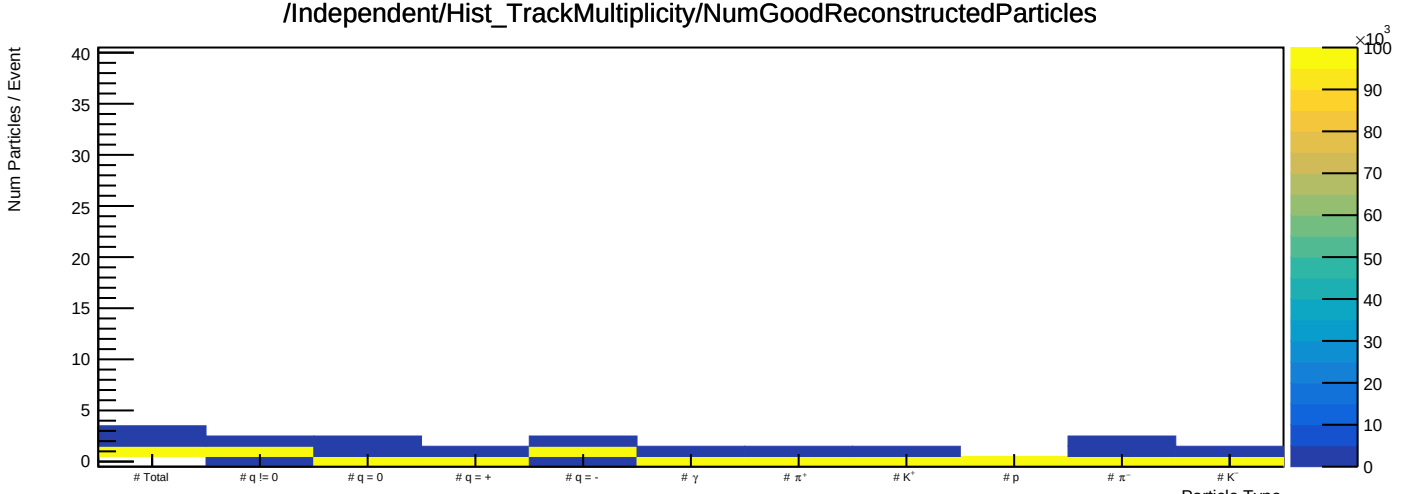

/Independent/Hist_DetectorPID/DIRC/Ldiff_pkVsP_K-
DIRC L_p-L_K
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)


/Independent/Hist_DetectorPID/DIRC/Ldiff_pkVsP_K-
DIRC L_p-L_K
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
0
1
2
3
4
5
6
7
8
9
10
Momentum (GeV)

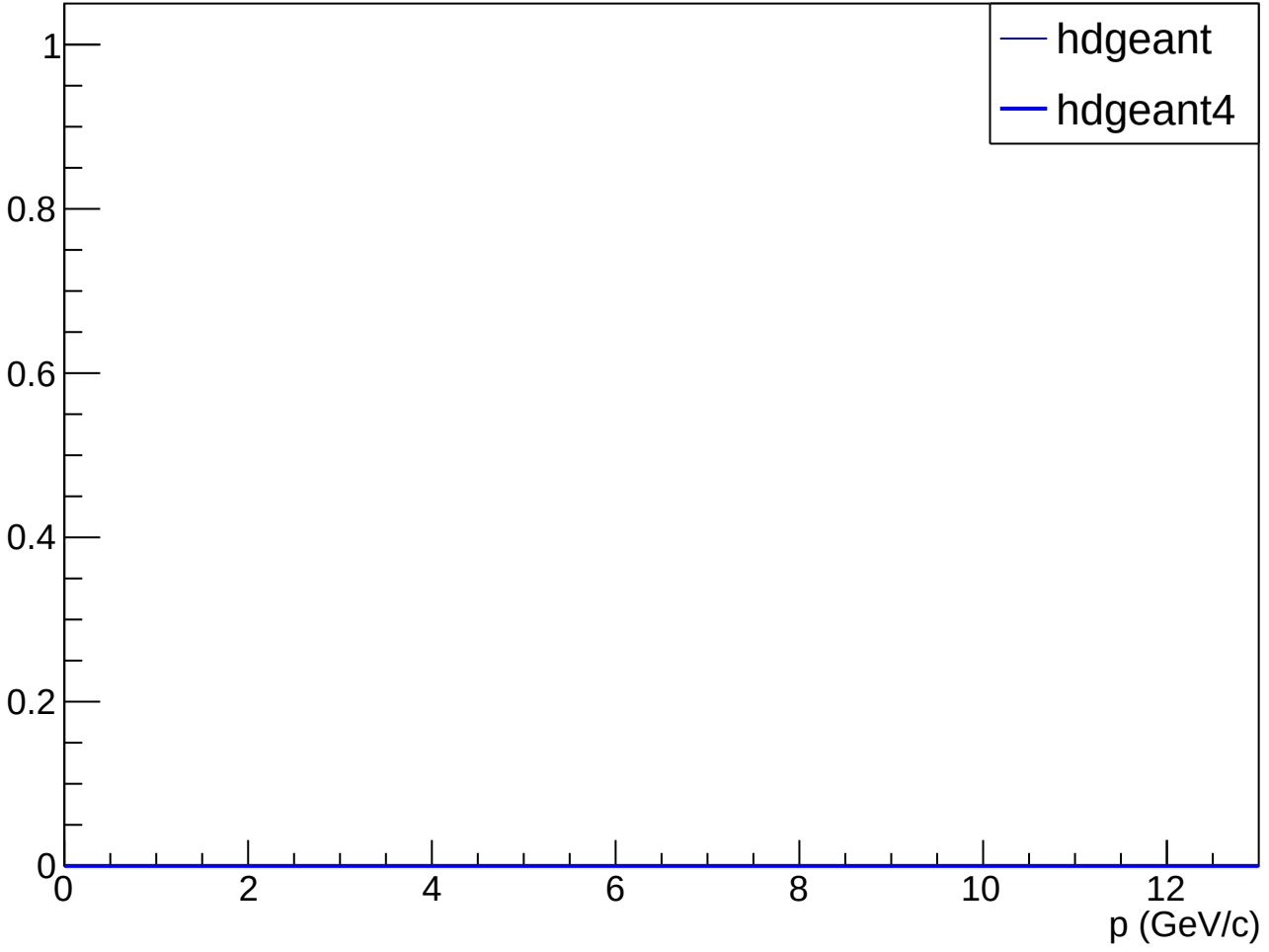

/Independent/Hist_TrackMultiplicity/NumReconstructedParticles
Num Particles / Event
Particle Type
Total
q != 0
q = 0
q = +
q = -
γ
π⁺
K⁺
p
π⁻
K⁻
×10³

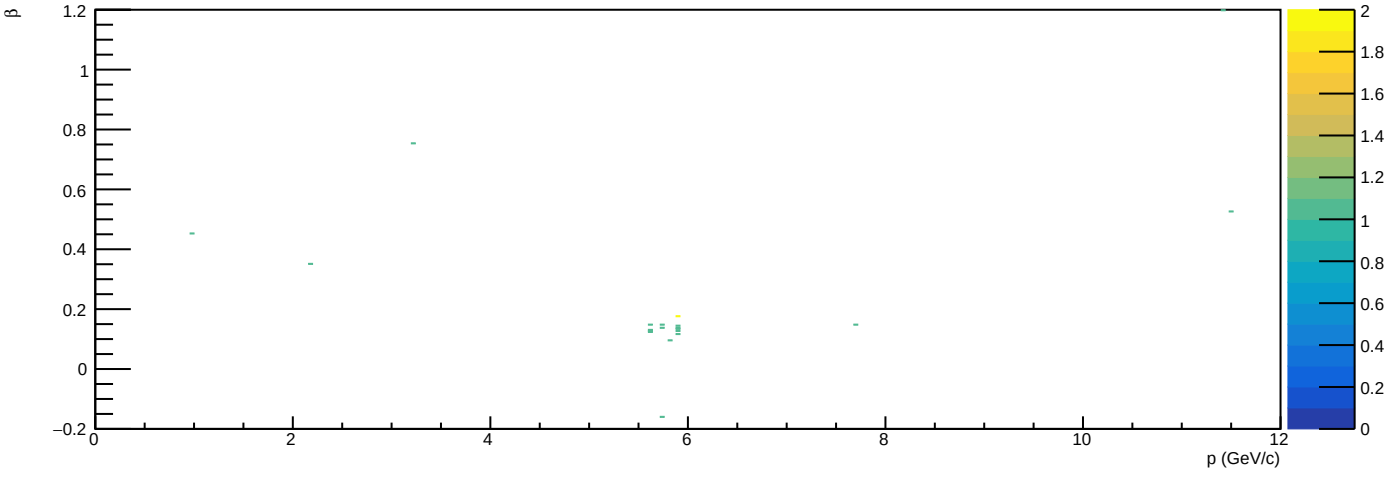

/Independent/Hist_TrackMultiplicity/NumReconstructedParticles
Num Particles / Event
Particle Type
Total
q != 0
q = 0
q = +
q = -
γ
π⁺
K⁺
p
π⁻
K⁻

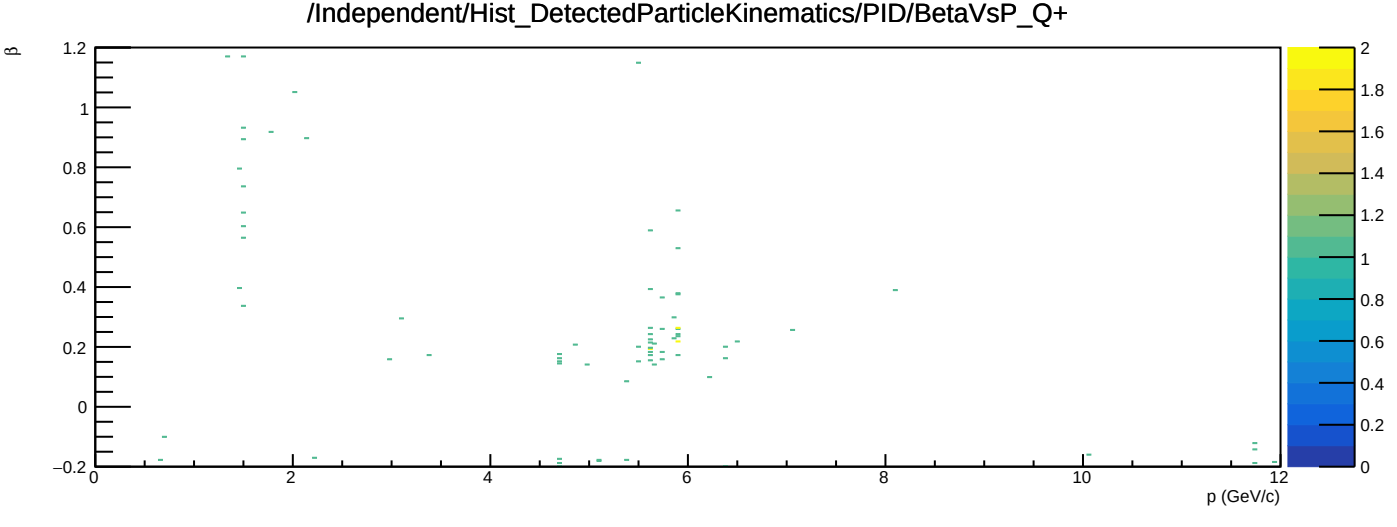

/Independent/Hist_TrackMultiplicity/NumGoodReconstructedParticles
Num Particles / Event
Particle Type
Total
q != 0
q = 0
q = +
q = -
γ
π⁺
K⁺
p
π⁻
K⁻
×10³

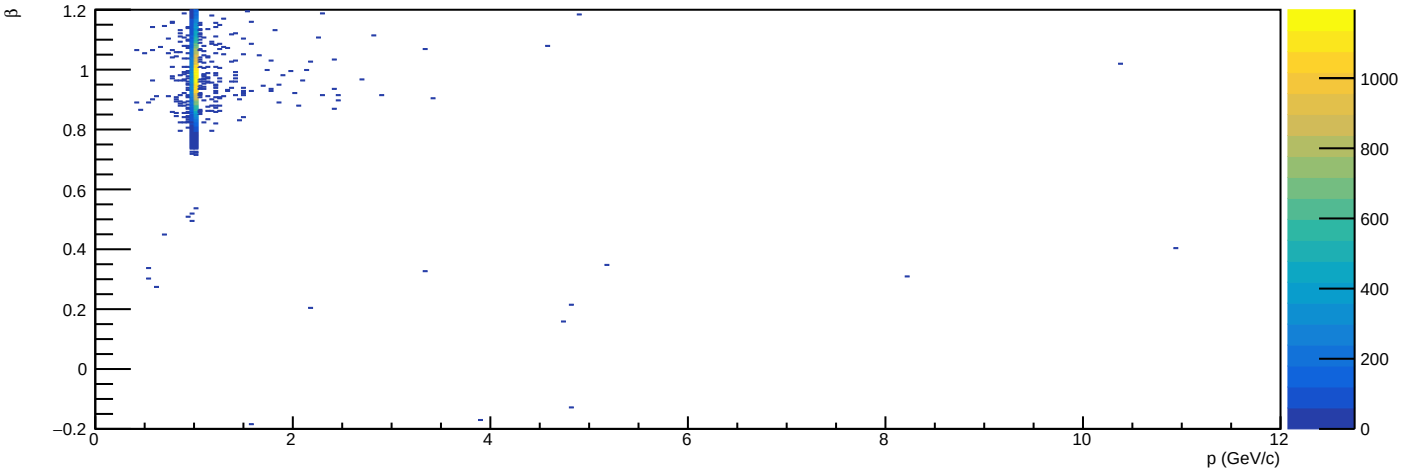

/Independent/Hist_TrackMultiplicity/NumGoodReconstructedParticles
Num Particles / Event
Particle Type
Total
q != 0
q = 0
q = +
q = -
γ
π⁺
K⁺
p
π⁻
K⁻
×10³

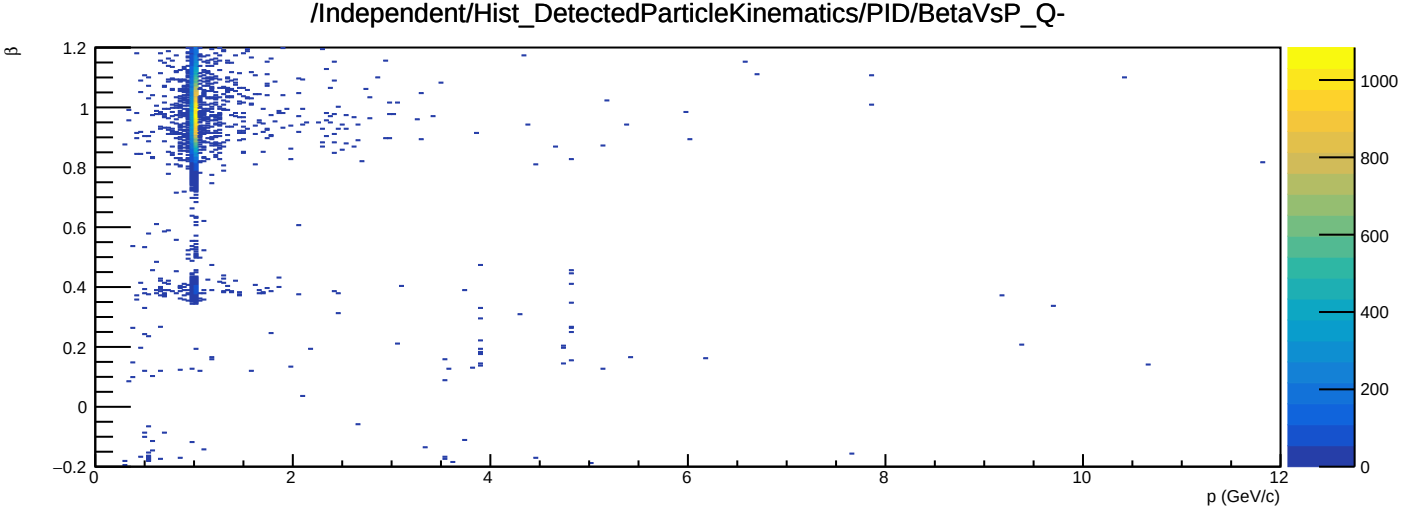
/Independent/Hist_DetectedParticleKinematics/Beam_Photon/Momentum



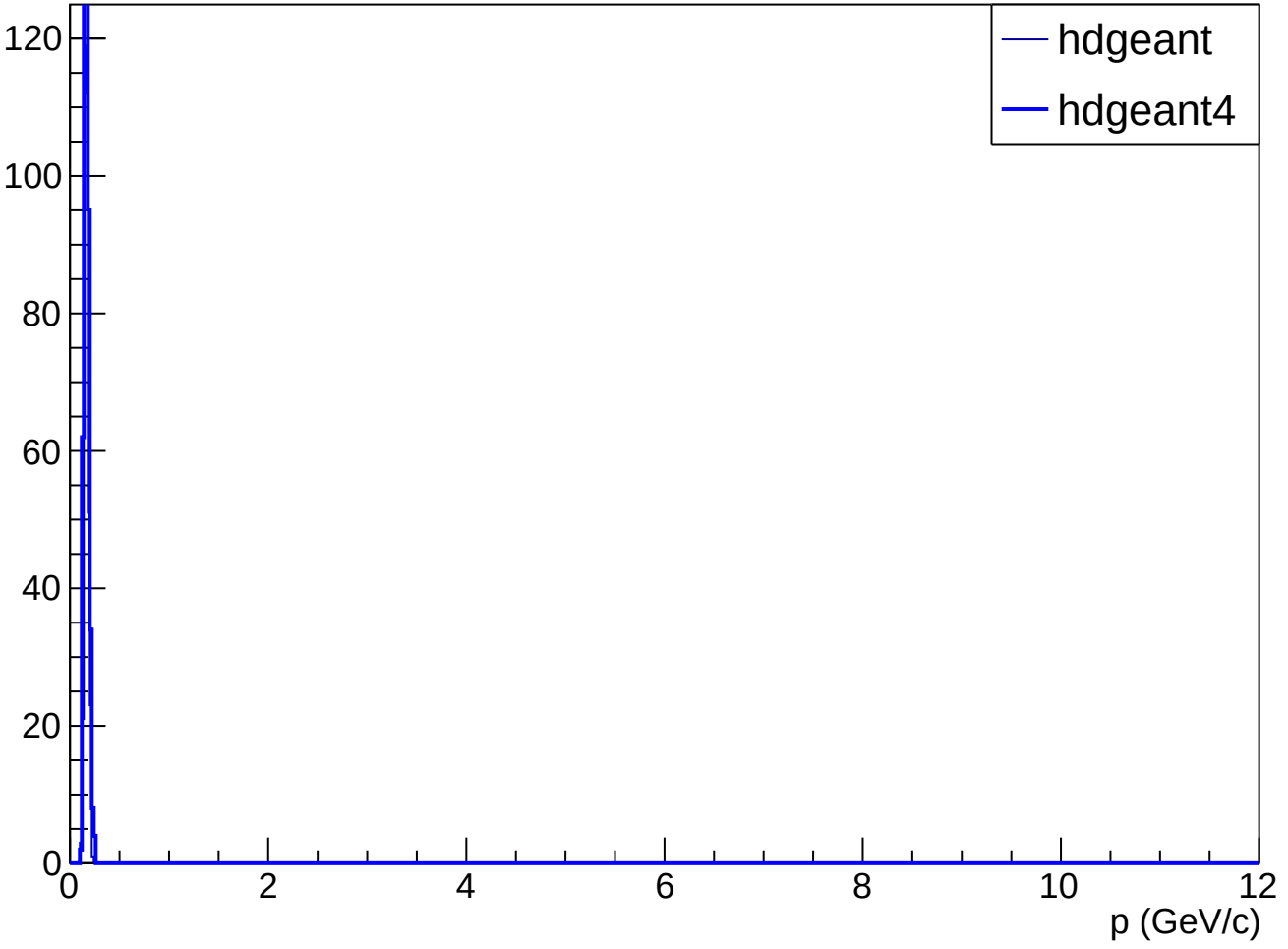

/Independent/Hist_DetectedParticleKinematics/PID/BetaVsP_Q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

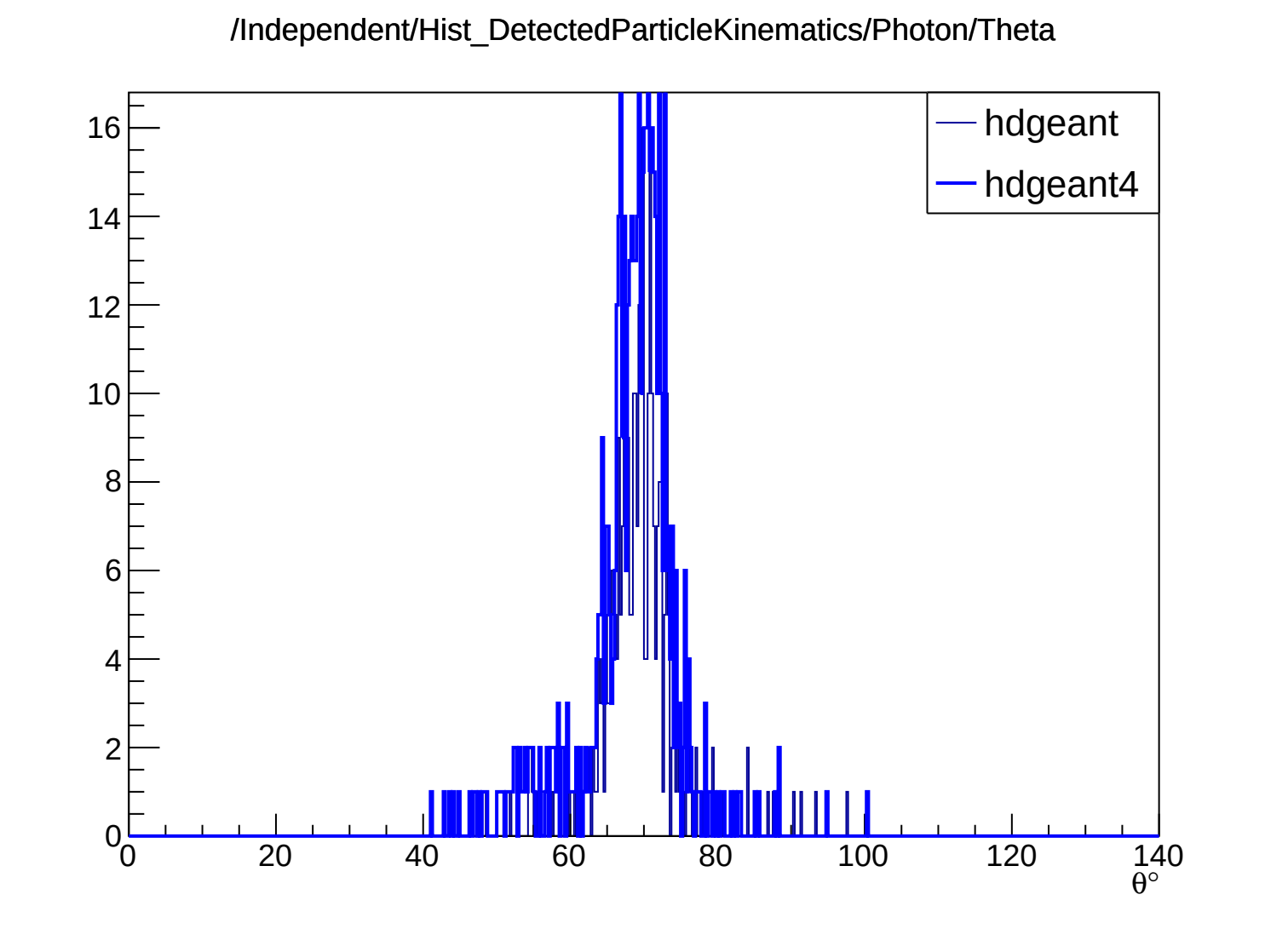

/Independent/Hist_DetectedParticleKinematics/PID/BetaVsP_Q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

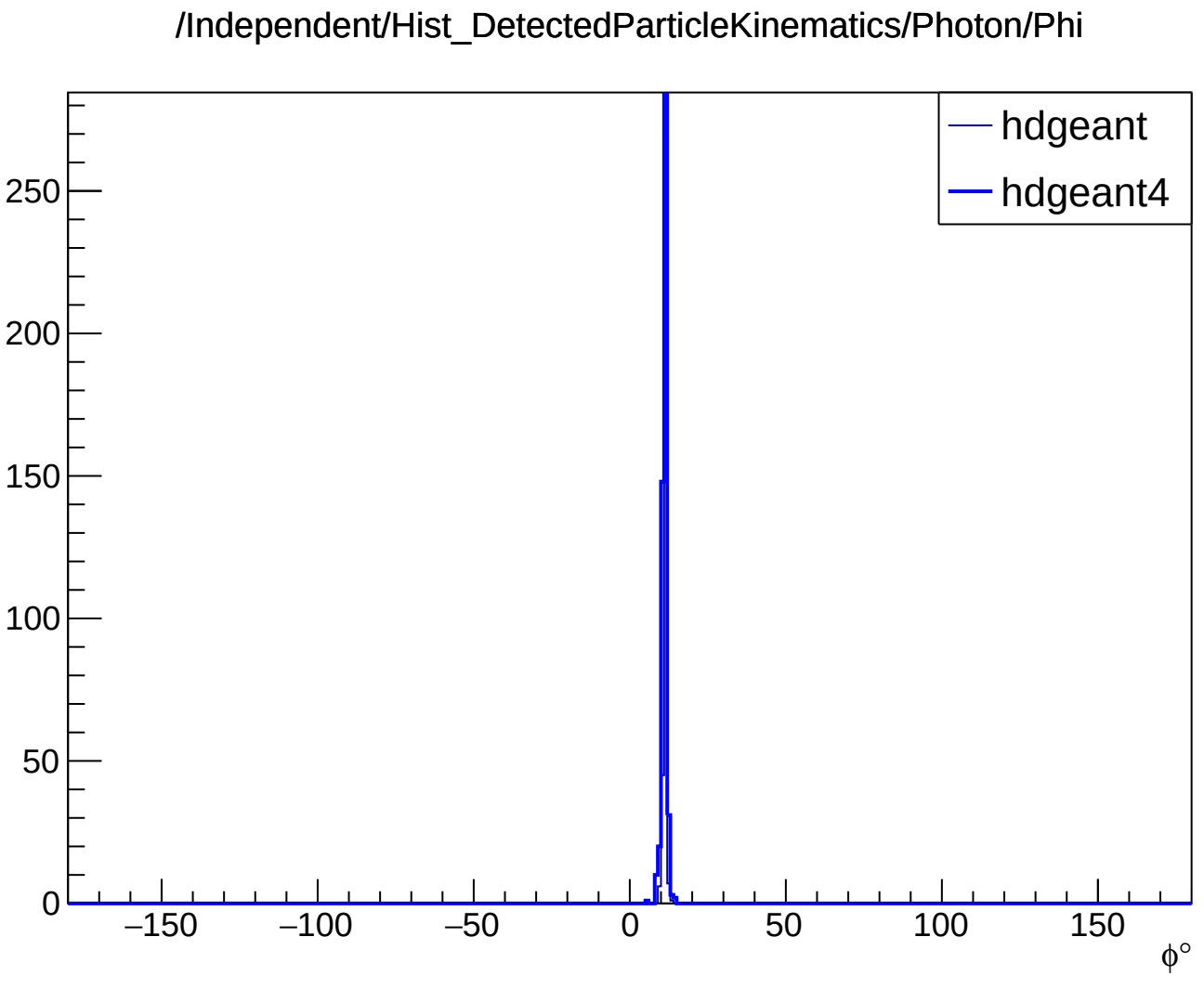

/Independent/Hist_DetectedParticleKinematics/PID/BetaVsP_Q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
1000
800
600
400
200
0

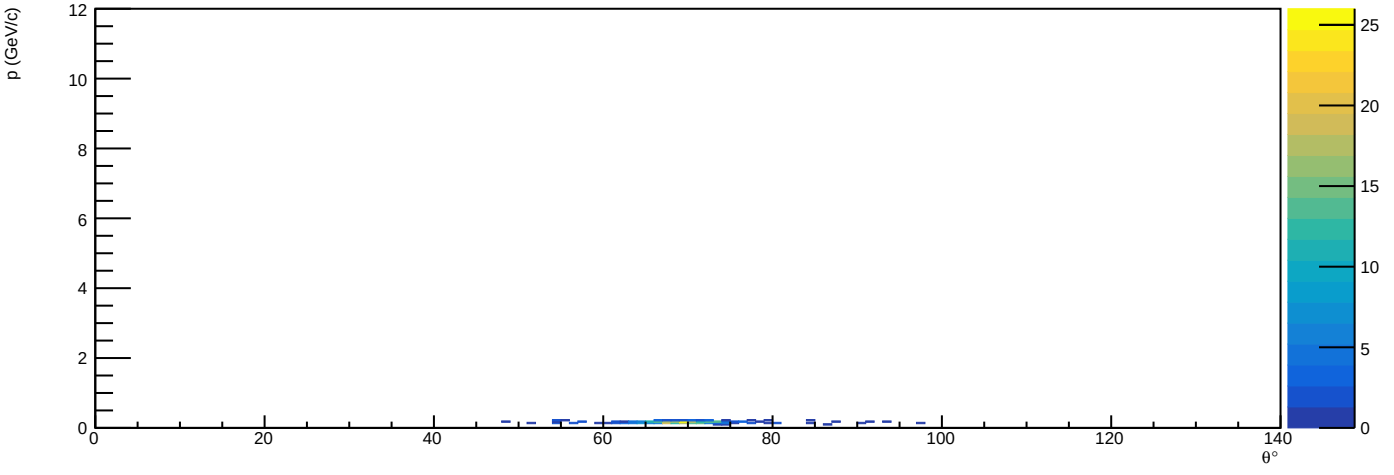

/Independent/Hist_DetectedParticleKinematics/PID/BetaVsP_Q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
1000
800
600
400
200
0

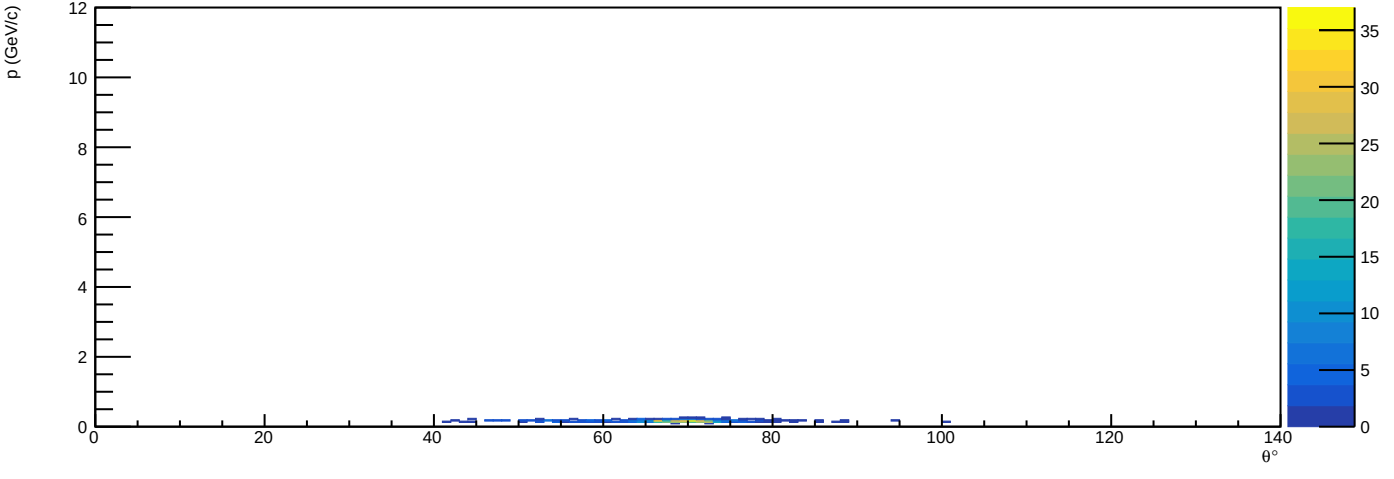
/Independent/Hist_DetectedParticleKinematics/Photon/Momentum

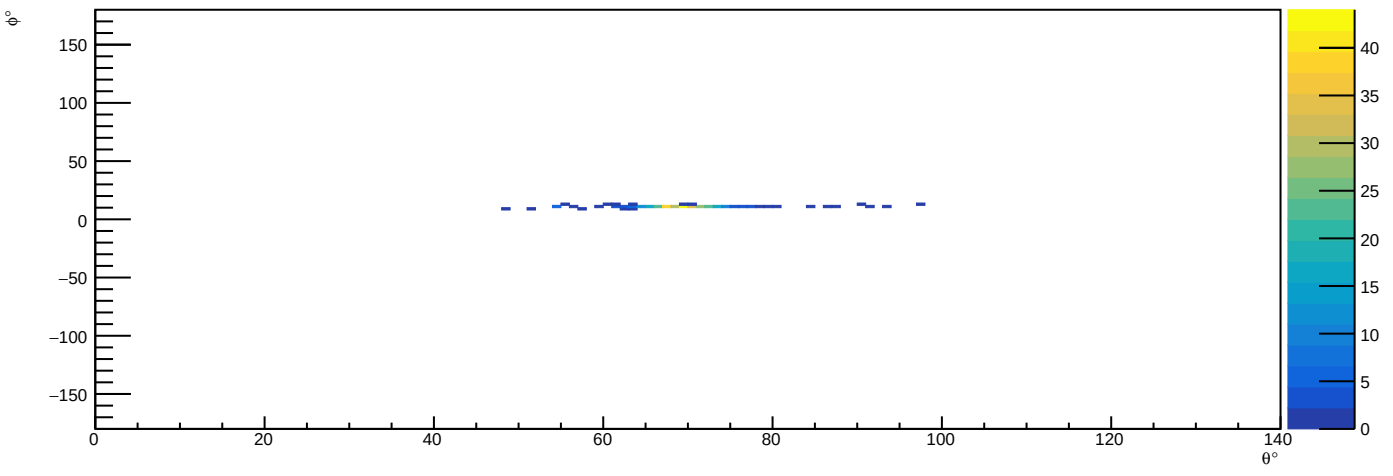


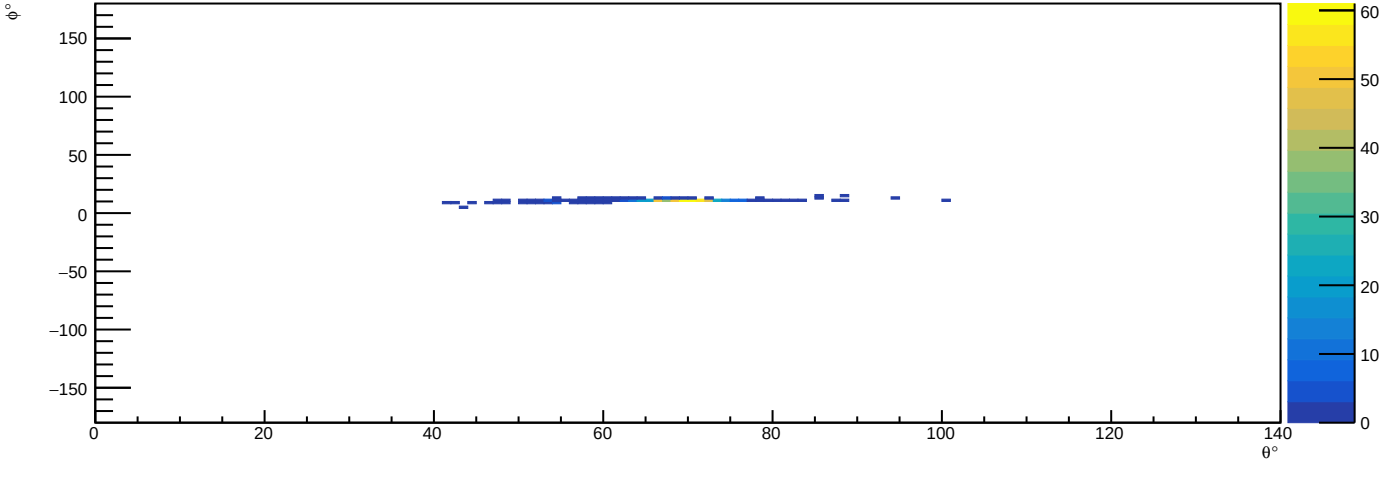

/Independent/Hist_DetectedParticleKinematics/Photon/Theta
hdgeant
hdgeant4
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
θ°

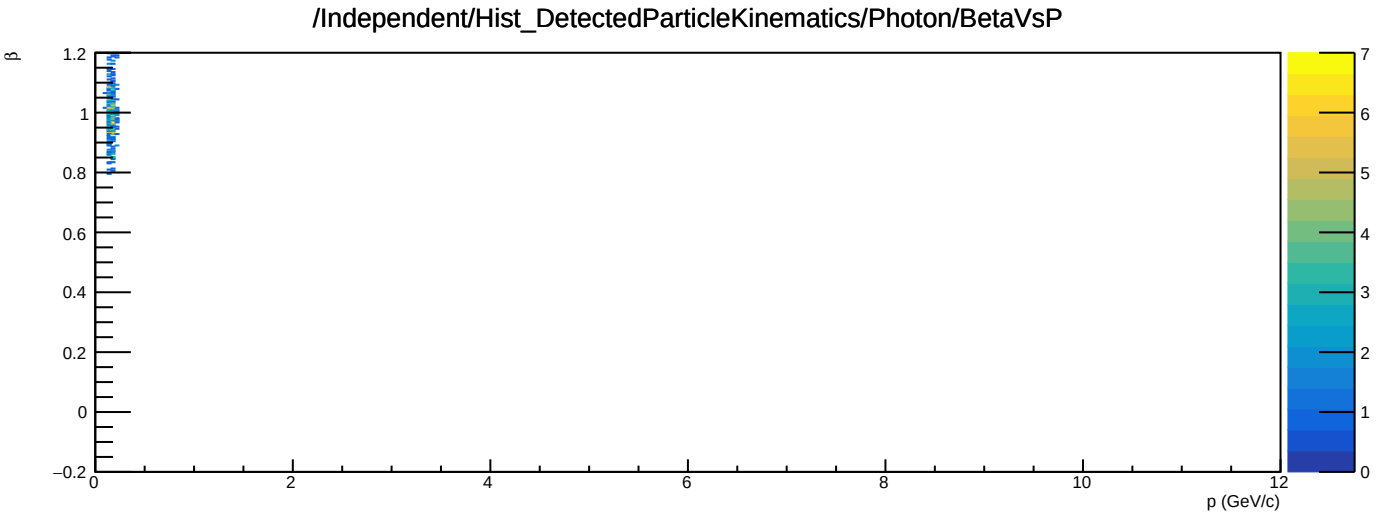

/Independent/Hist_DetectedParticleKinematics/Photon/Phi
hdgeant
hdgeant4
250
200
150
100
50
0
–150
–100
–50
0
50
100
150
ϕ°

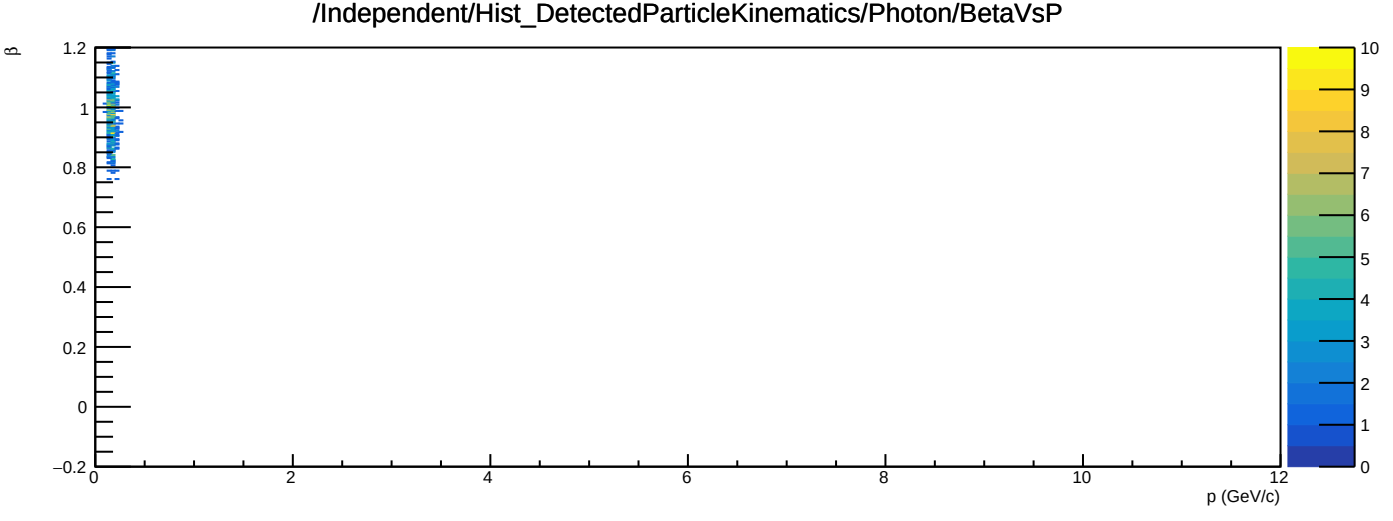

/Independent/Hist_DetectedParticleKinematics/Photon/PVsTheta
p (GeV/c)
θ°
0
2
4
6
8
10
12
0
20
40
60
80
100
120
140
0
5
10
15
20
25

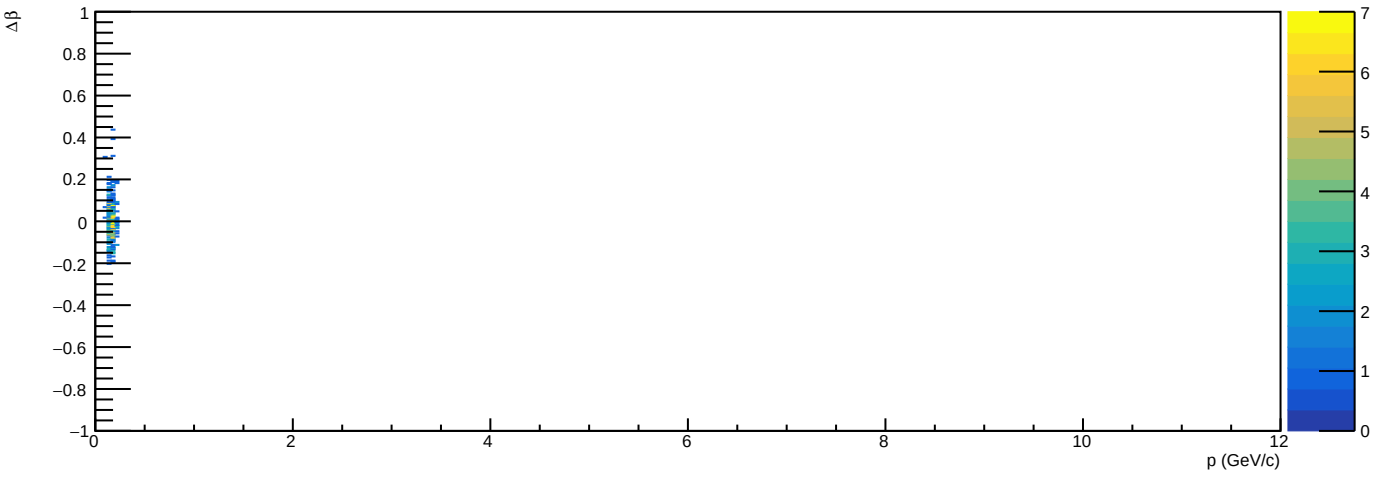

/Independent/Hist_DetectedParticleKinematics/Photon/PVsTheta
p (GeV/c)
θ°
0
2
4
6
8
10
12
0
20
40
60
80
100
120
140
0
5
10
15
20
25
30
35

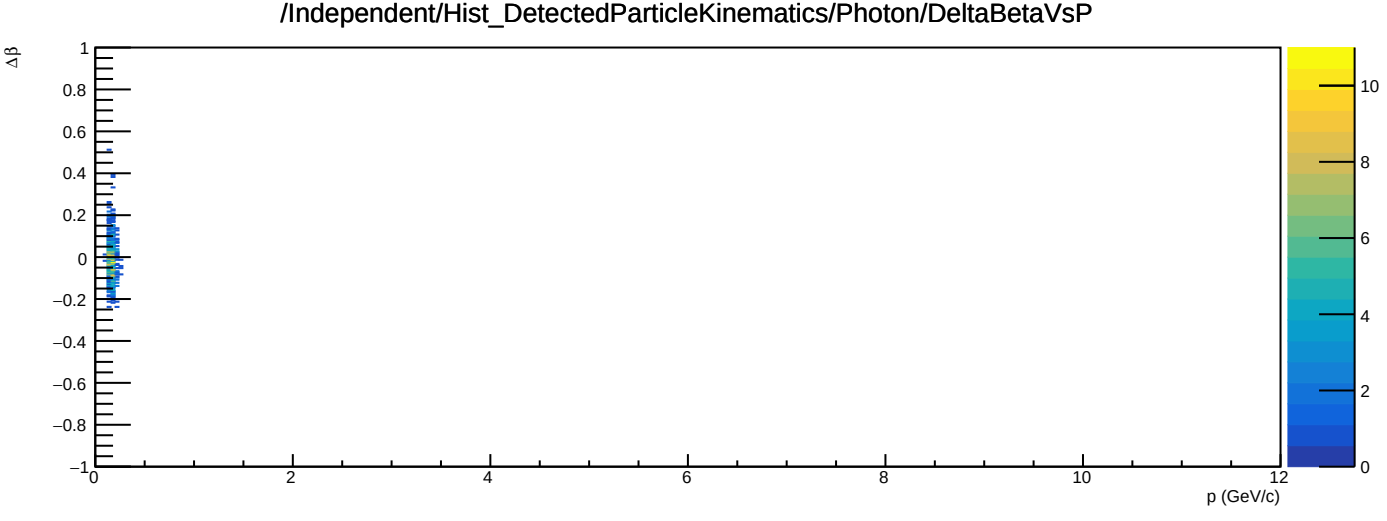

/Independent/Hist_DetectedParticleKinematics/Photon/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
40
35
30
25
20
15
10
5
0

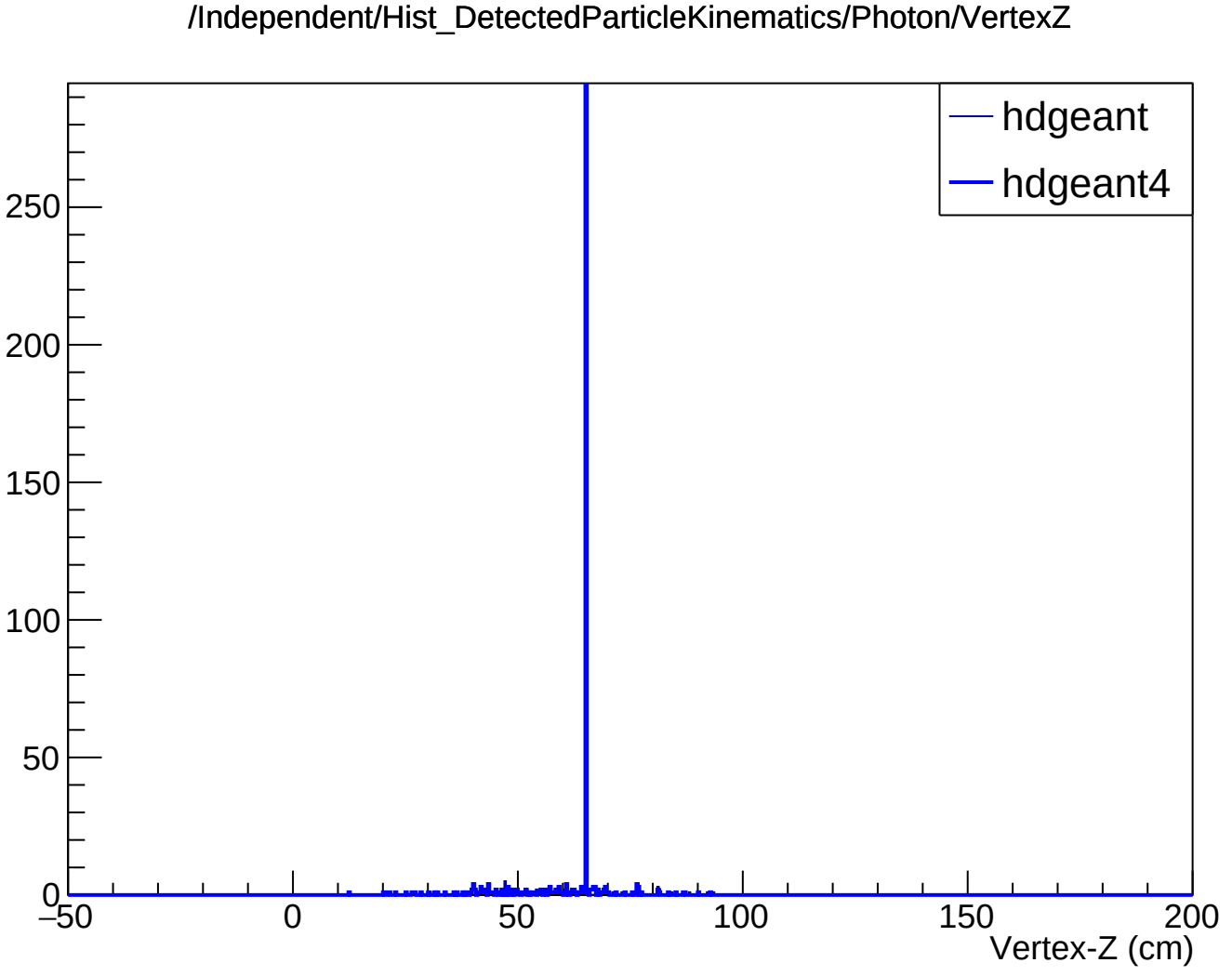

/Independent/Hist_DetectedParticleKinematics/Photon/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
60
50
40
30
20
10
0

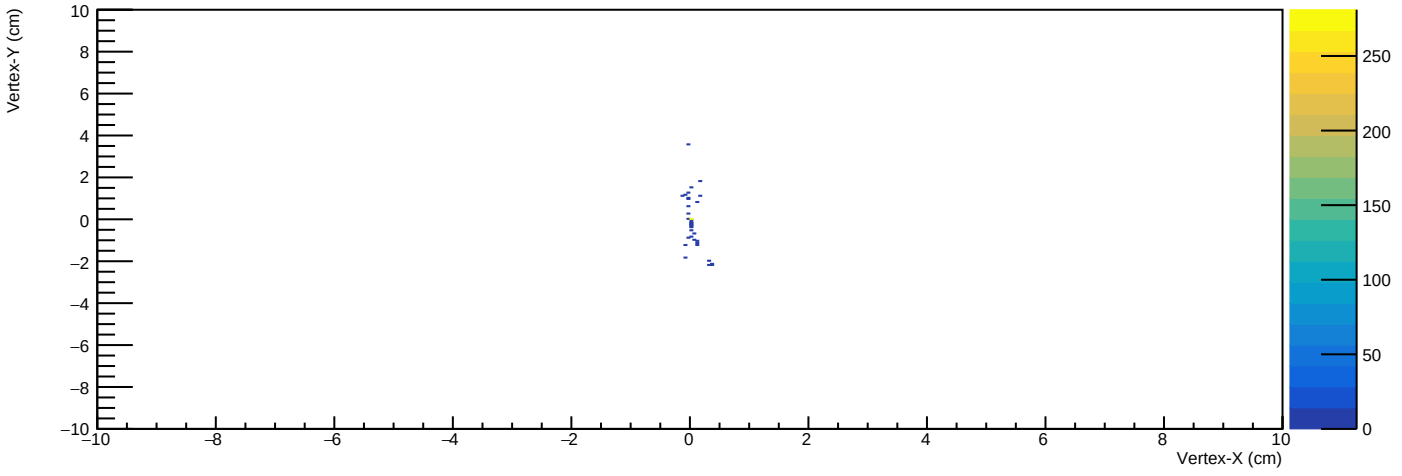

/Independent/Hist_DetectedParticleKinematics/Photon/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
7
6
5
4
3
2
1
0

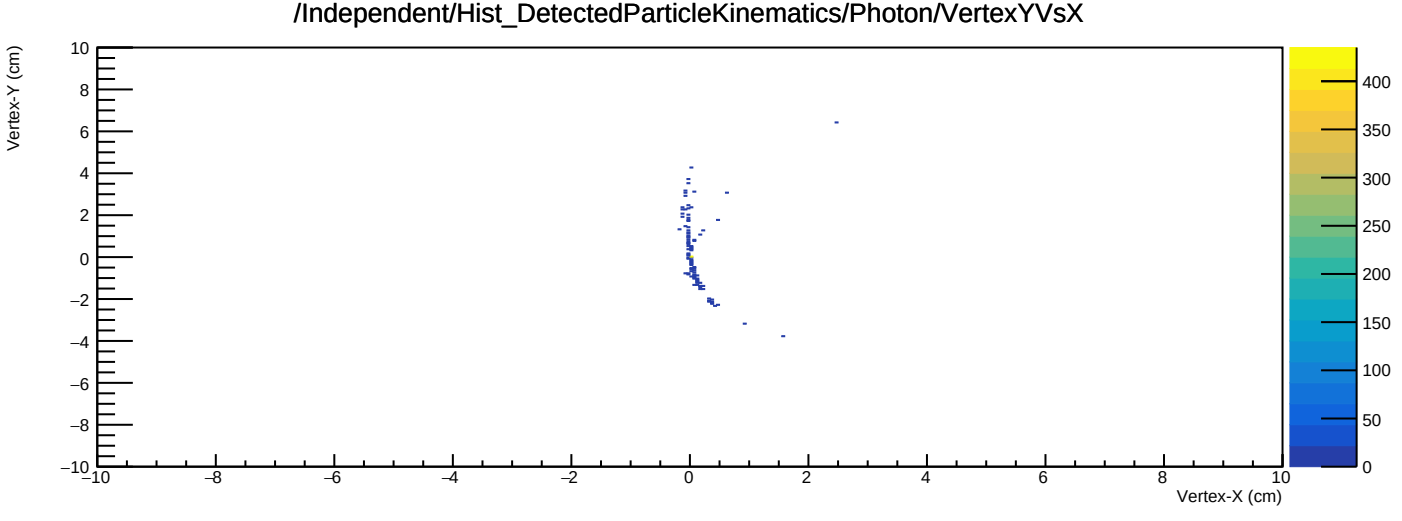

/Independent/Hist_DetectedParticleKinematics/Photon/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
10
9
8
7
6
5
4
3
2
1
0

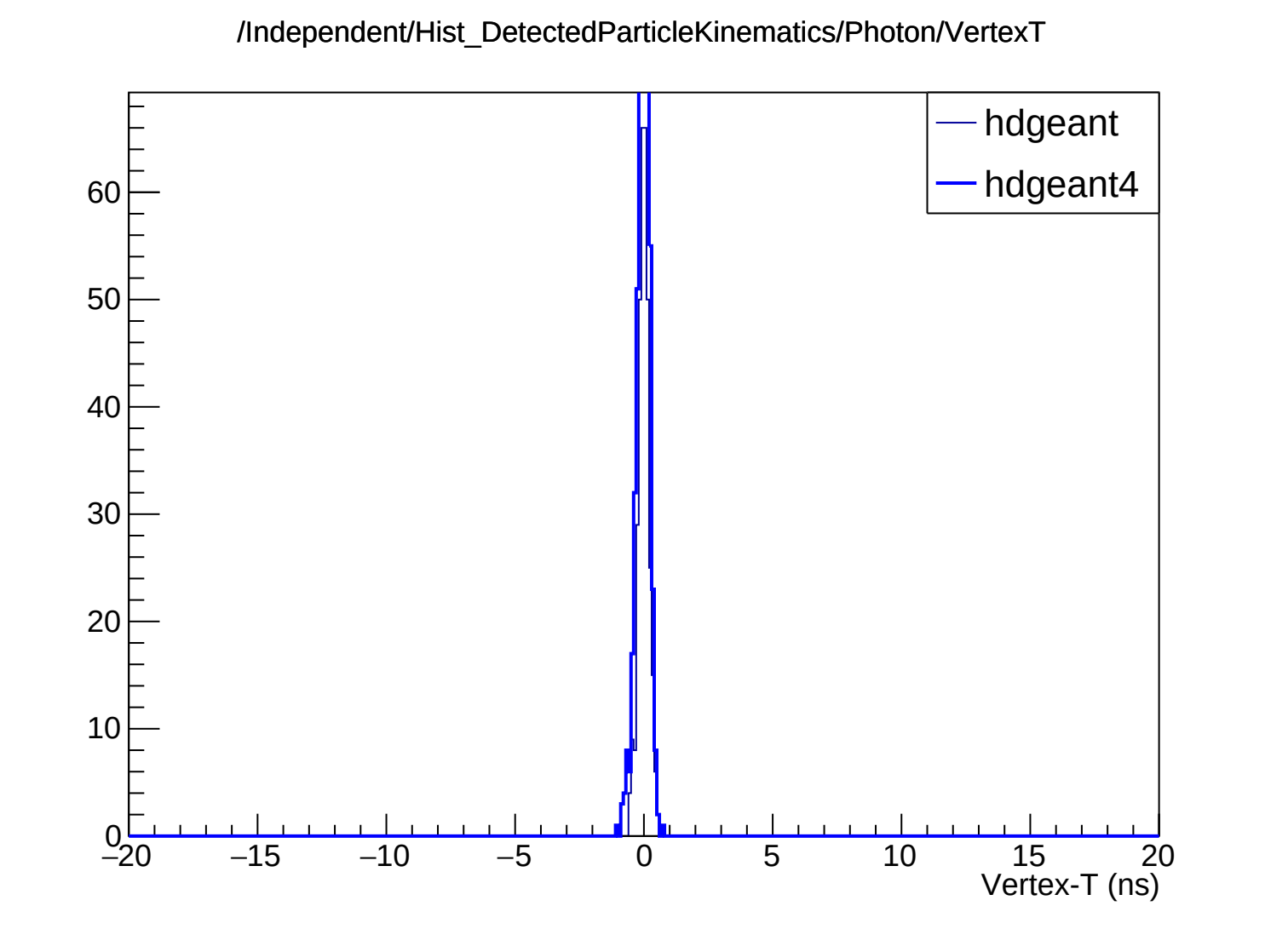

/Independent/Hist_DetectedParticleKinematics/Photon/DeltaBetaVsP
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)
7
6
5
4
3
2
1
0


/Independent/Hist_DetectedParticleKinematics/Photon/DeltaBetaVsP
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)
10
8
6
4
2
0

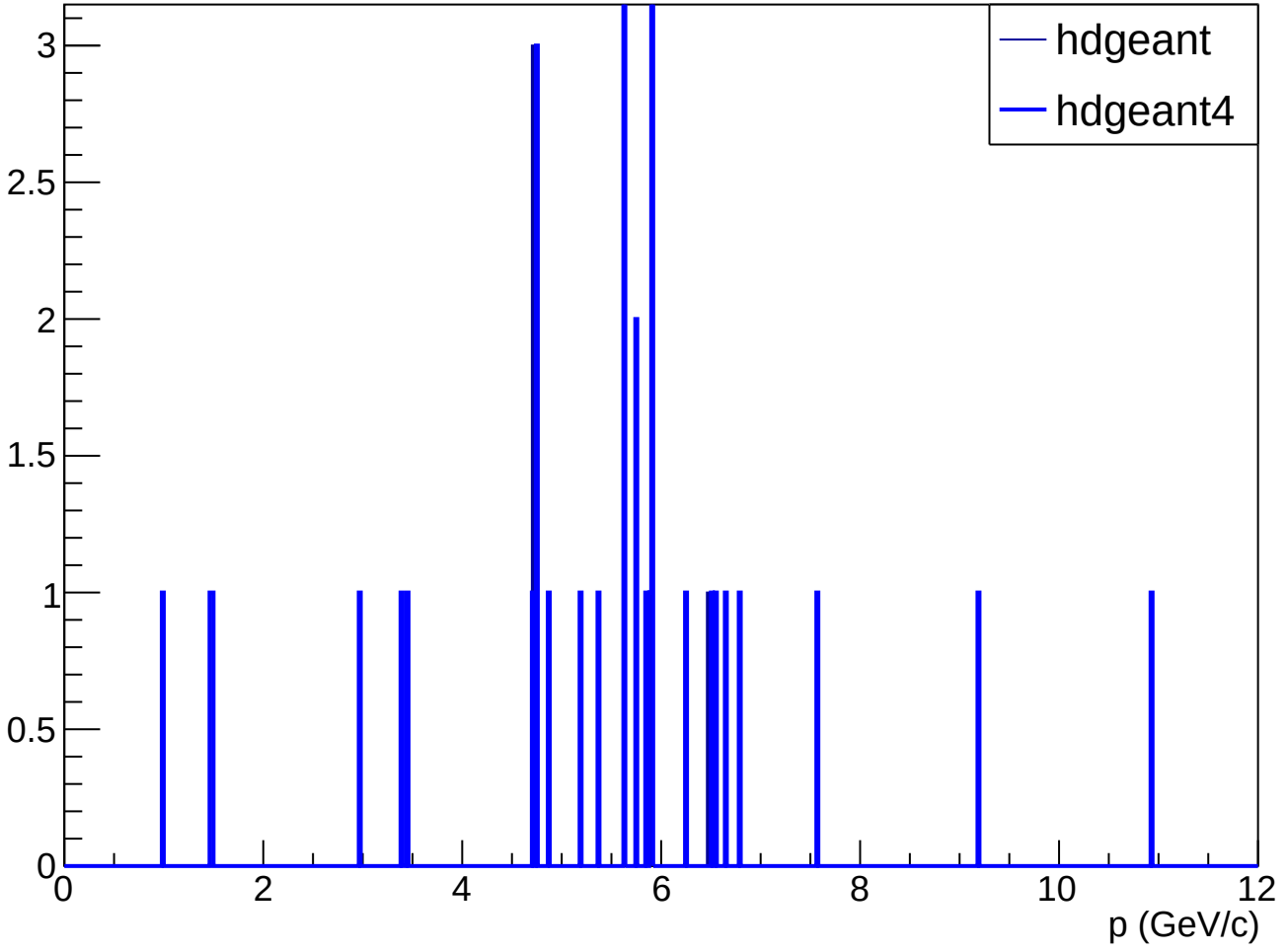

/Independent/Hist_DetectedParticleKinematics/Photon/VertexZ
hdgeant
hdgeant4
250
200
150
100
50
0
–50
0
50
100
150
200
Vertex-Z (cm)

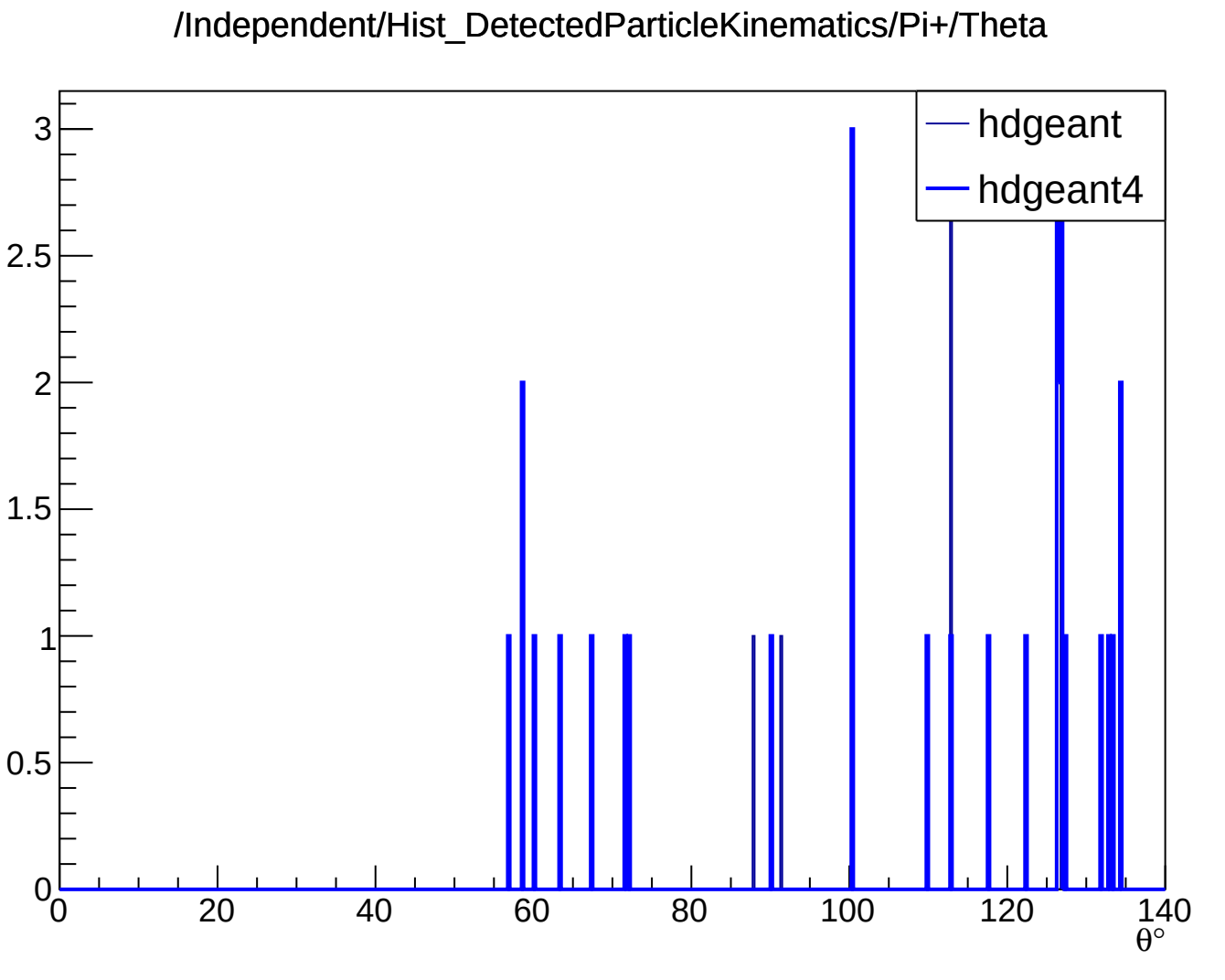

/Independent/Hist_DetectedParticleKinematics/Photon/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
250
200
150
100
50
0

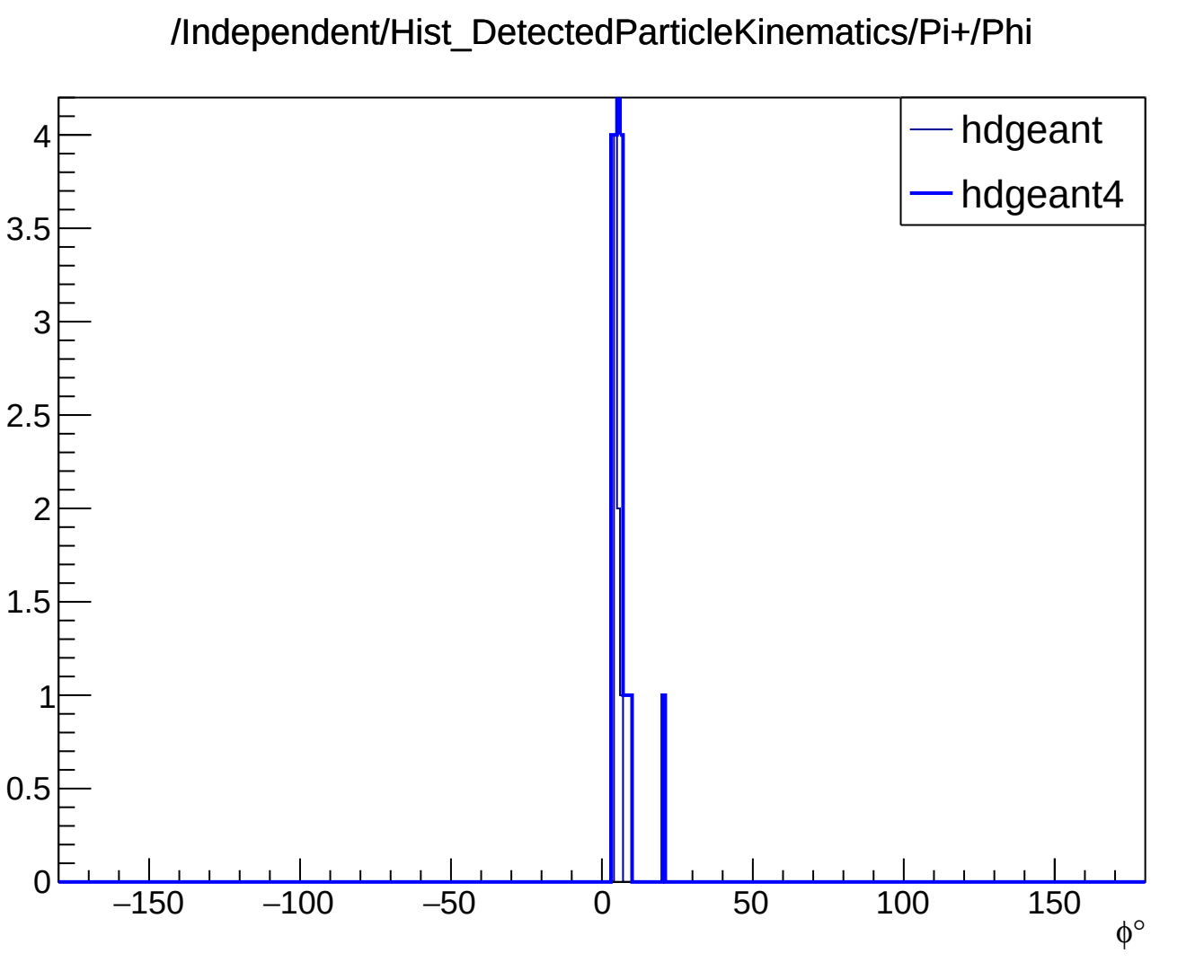

/Independent/Hist_DetectedParticleKinematics/Photon/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
400
350
300
250
200
150
100
50
0

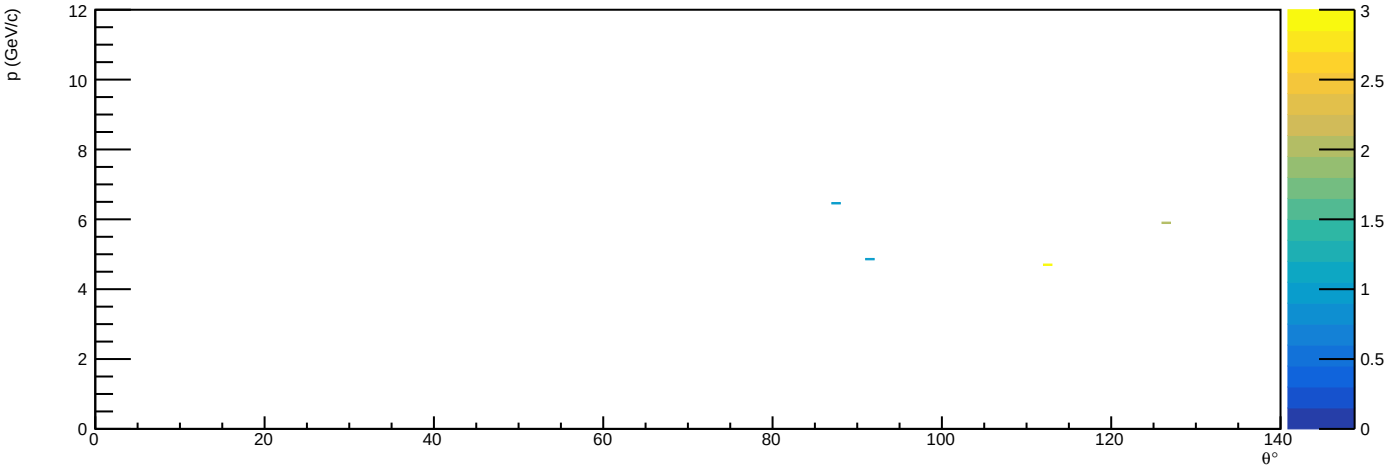

/Independent/Hist_DetectedParticleKinematics/Photon/VertexT
hdgeant
hdgeant4
60
50
40
30
20
10
0
–20
–15
–10
–5
0
5
10
15
20
Vertex-T (ns)

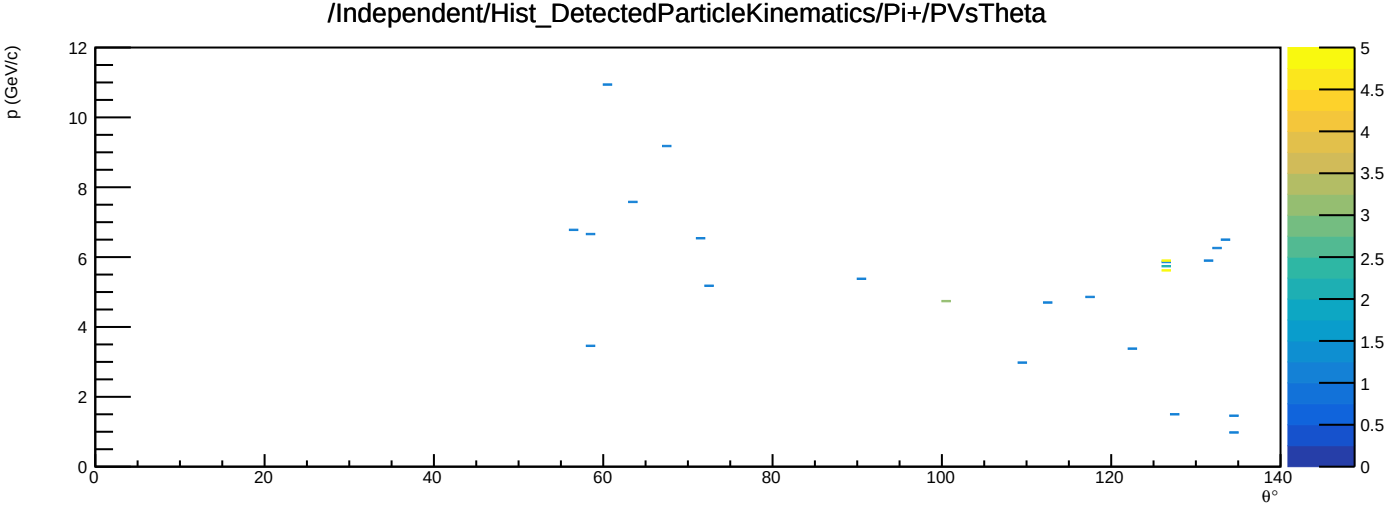
/Independent/Hist_DetectedParticleKinematics/Pi+/Momentum

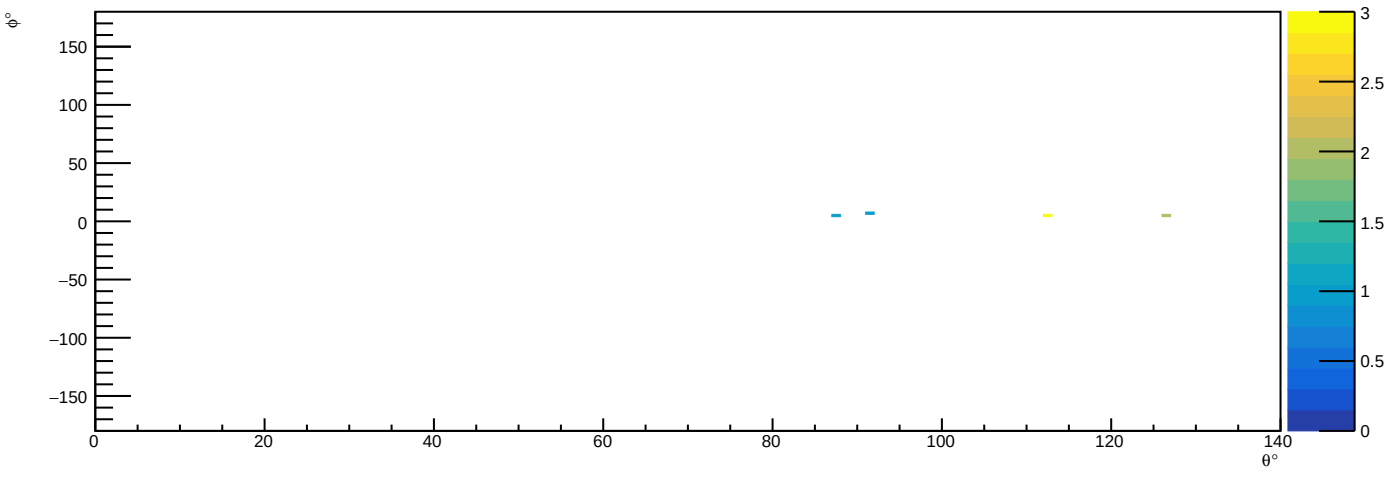


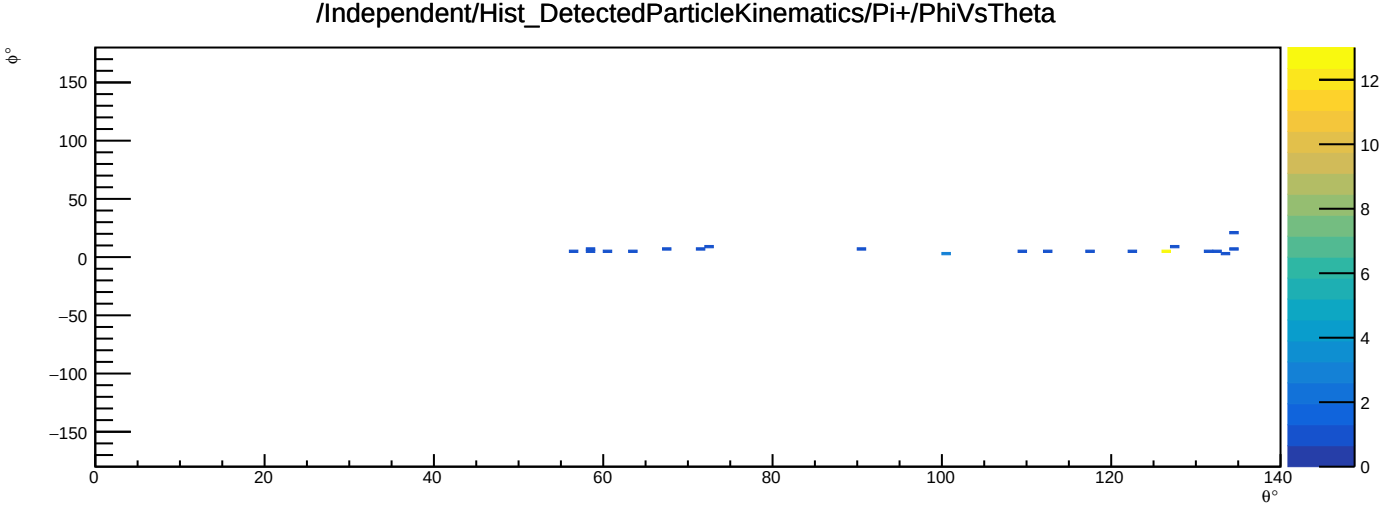

/Independent/Hist_DetectedParticleKinematics/Pi+/Theta
hdgeant
hdgeant4
3
2.5
2
1.5
1
0.5
0
0
20
40
60
80
100
120
140
θ°

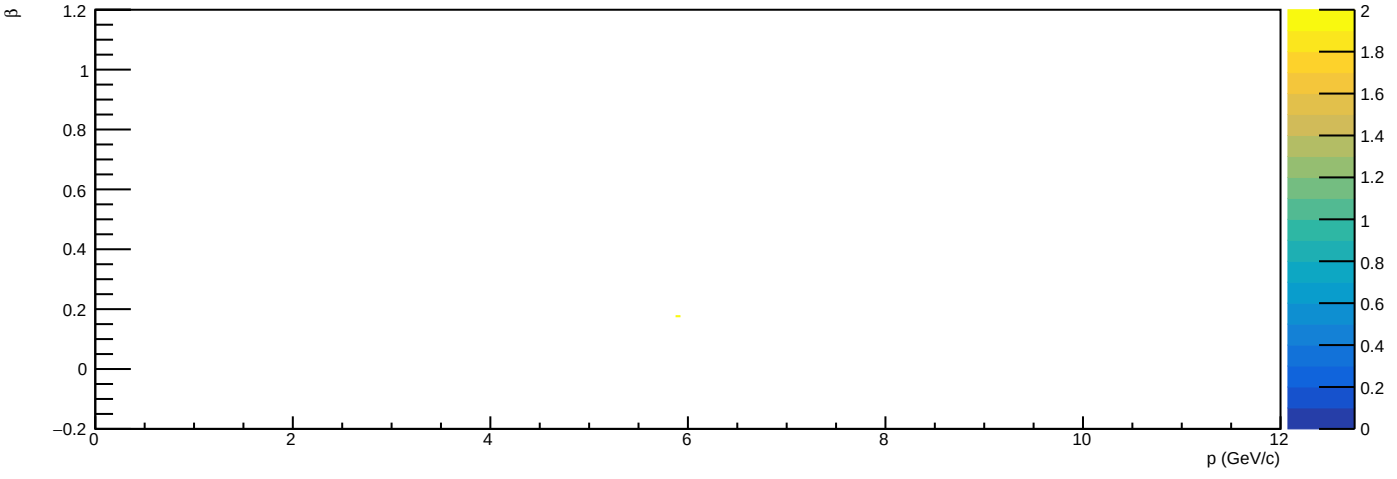

/Independent/Hist_DetectedParticleKinematics/Pi+/Phi
hdgeant
hdgeant4
4
3.5
3
2.5
2
1.5
1
0.5
0
–150
–100
–50
0
50
100
150
ϕ°

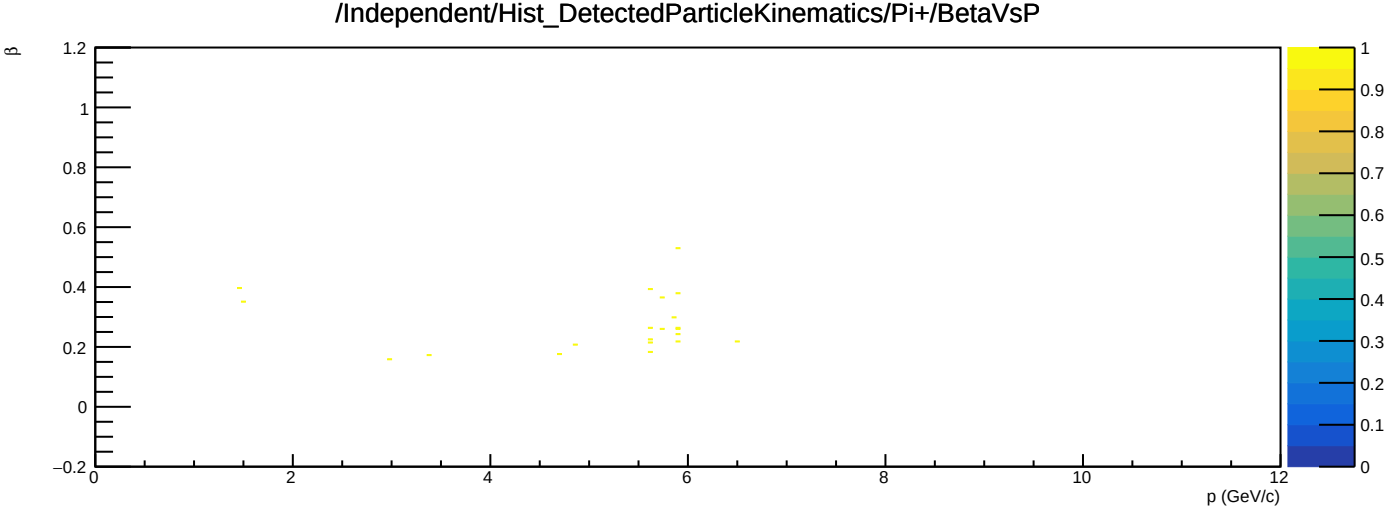

/Independent/Hist_DetectedParticleKinematics/Pi+/PVsTheta
p (GeV/c)
θ°

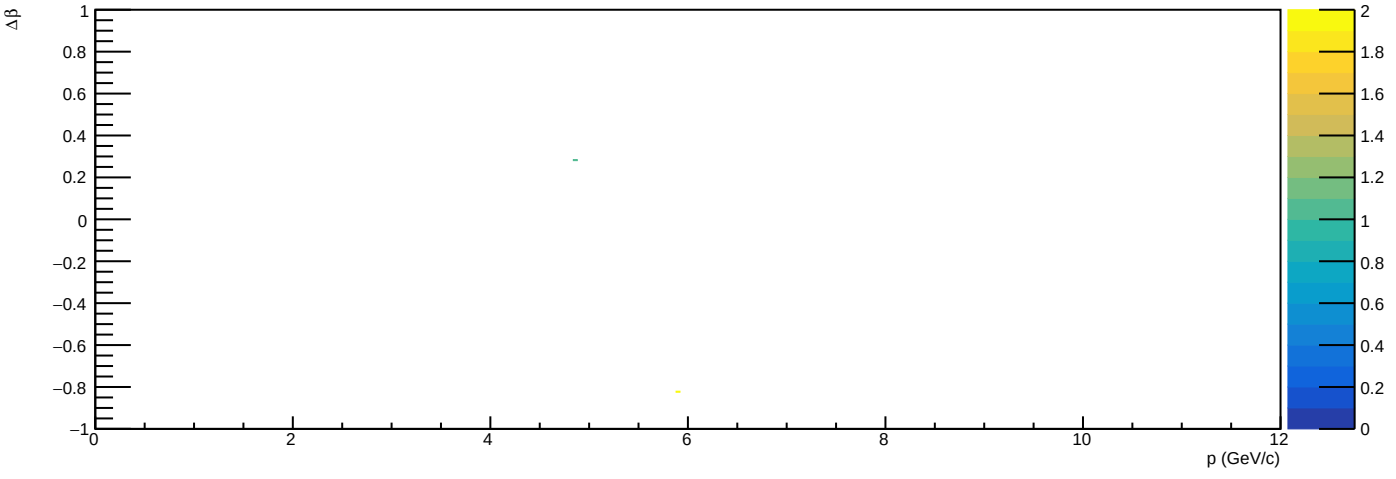

/Independent/Hist_DetectedParticleKinematics/Pi+/PVsTheta
p (GeV/c)
θ°

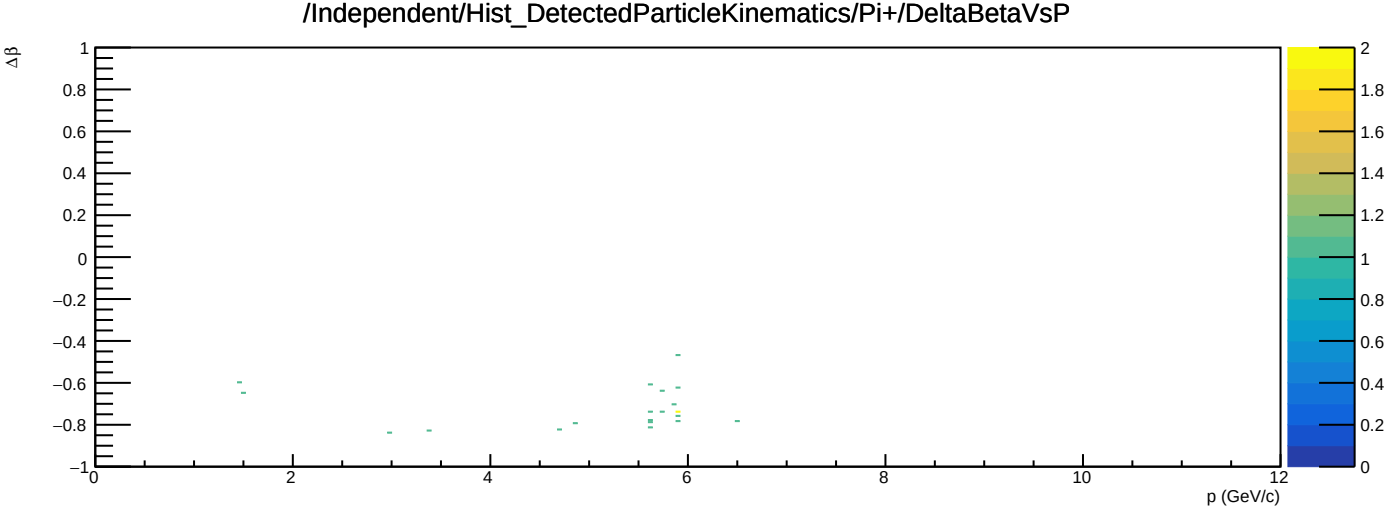

/Independent/Hist_DetectedParticleKinematics/Pi+/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
3
2.5
2
1.5
1
0.5
0

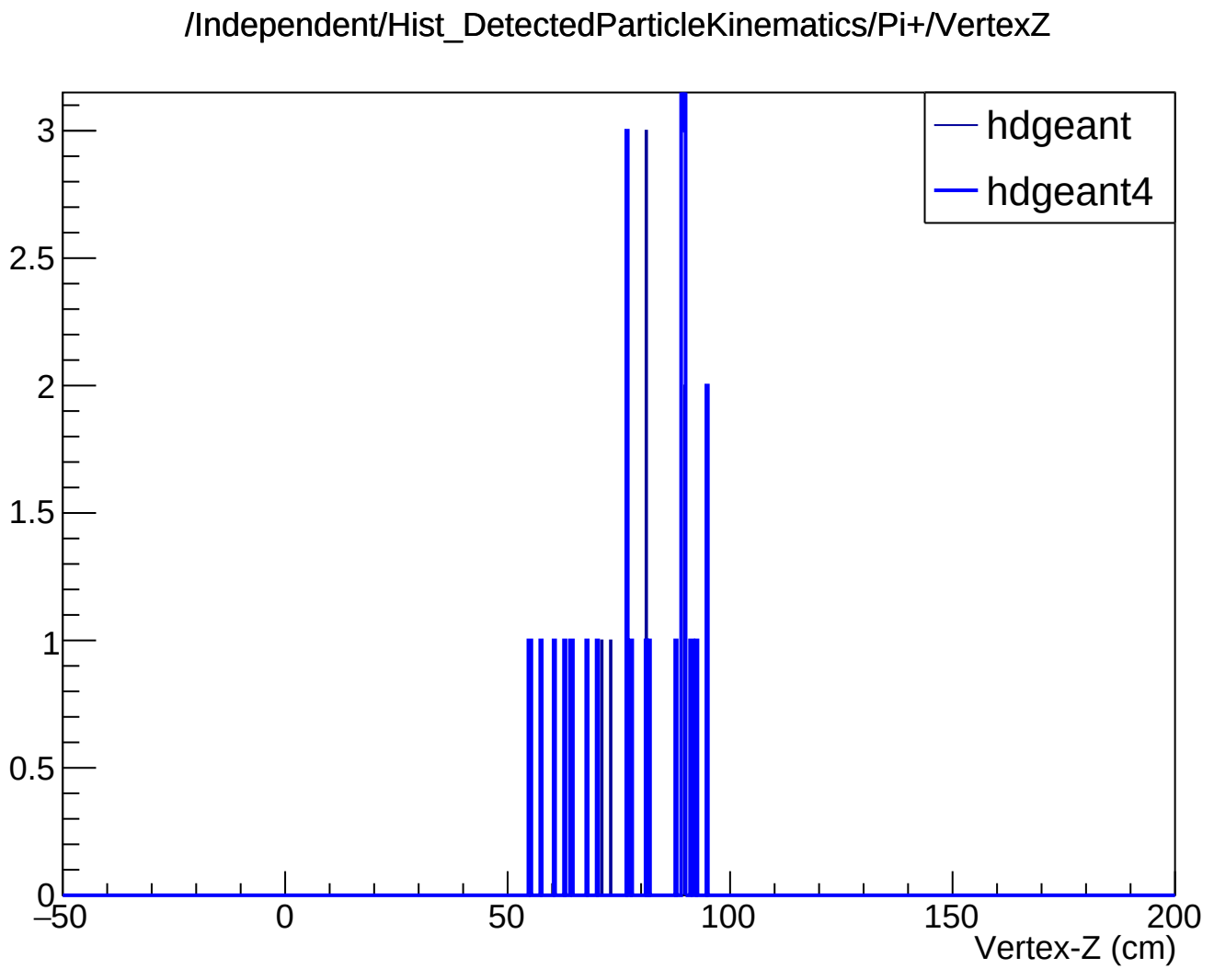

/Independent/Hist_DetectedParticleKinematics/Pi+/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
12
10
8
6
4
2
0

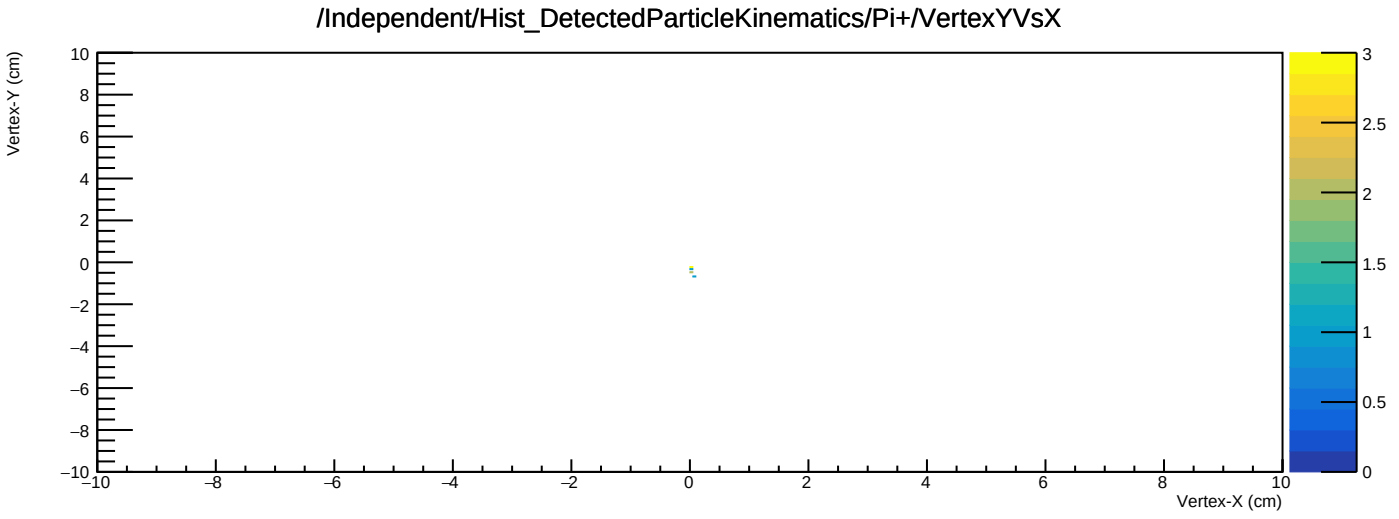

/Independent/Hist_DetectedParticleKinematics/Pi+/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

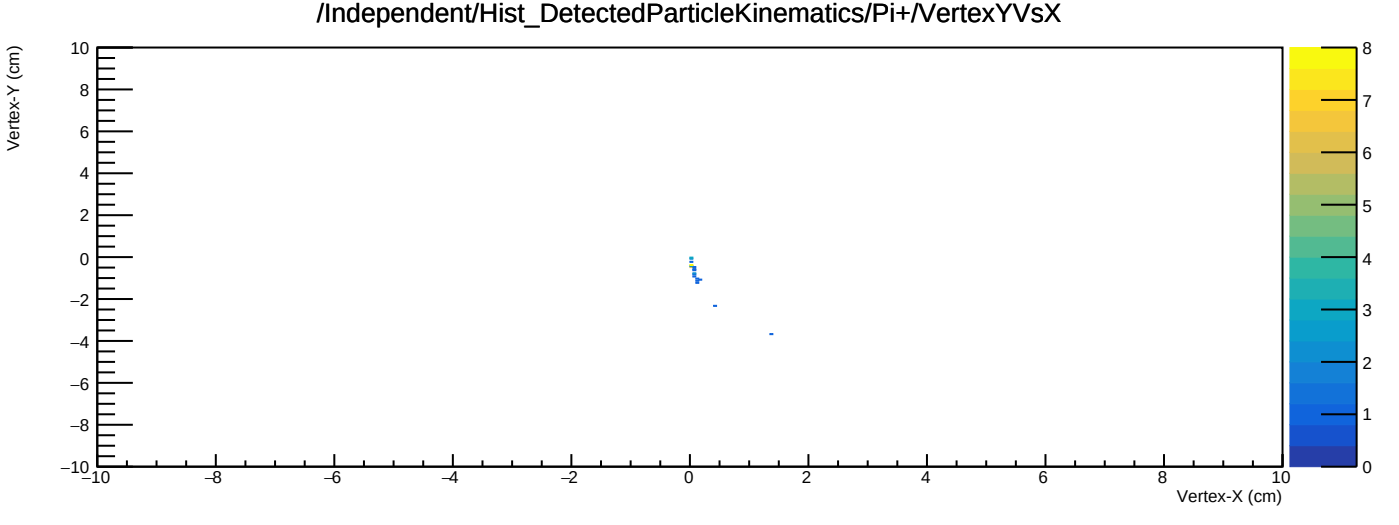

/Independent/Hist_DetectedParticleKinematics/Pi+/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

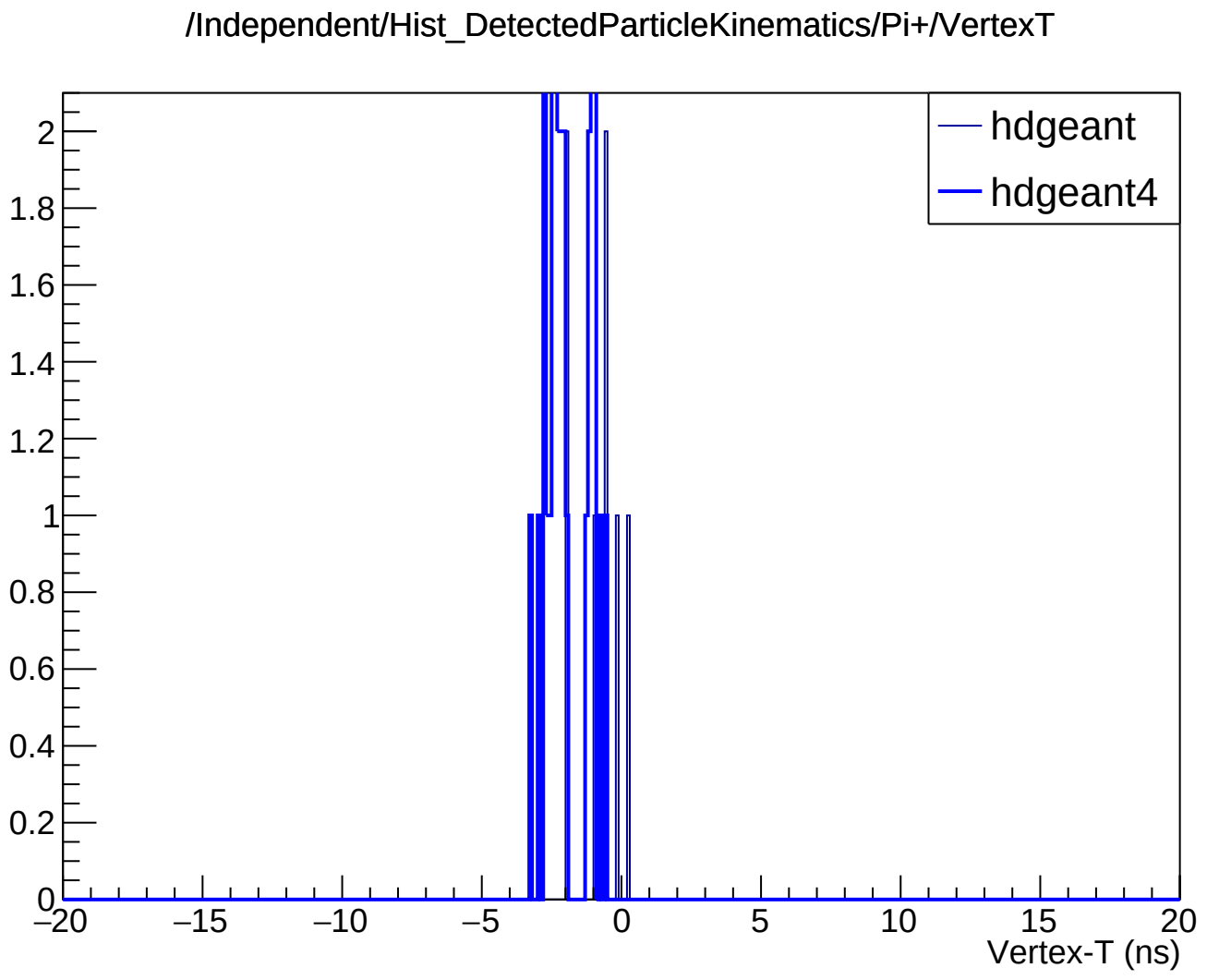

/Independent/Hist_DetectedParticleKinematics/Pi+/DeltaBetaVsP
Δβ
p (GeV/c)

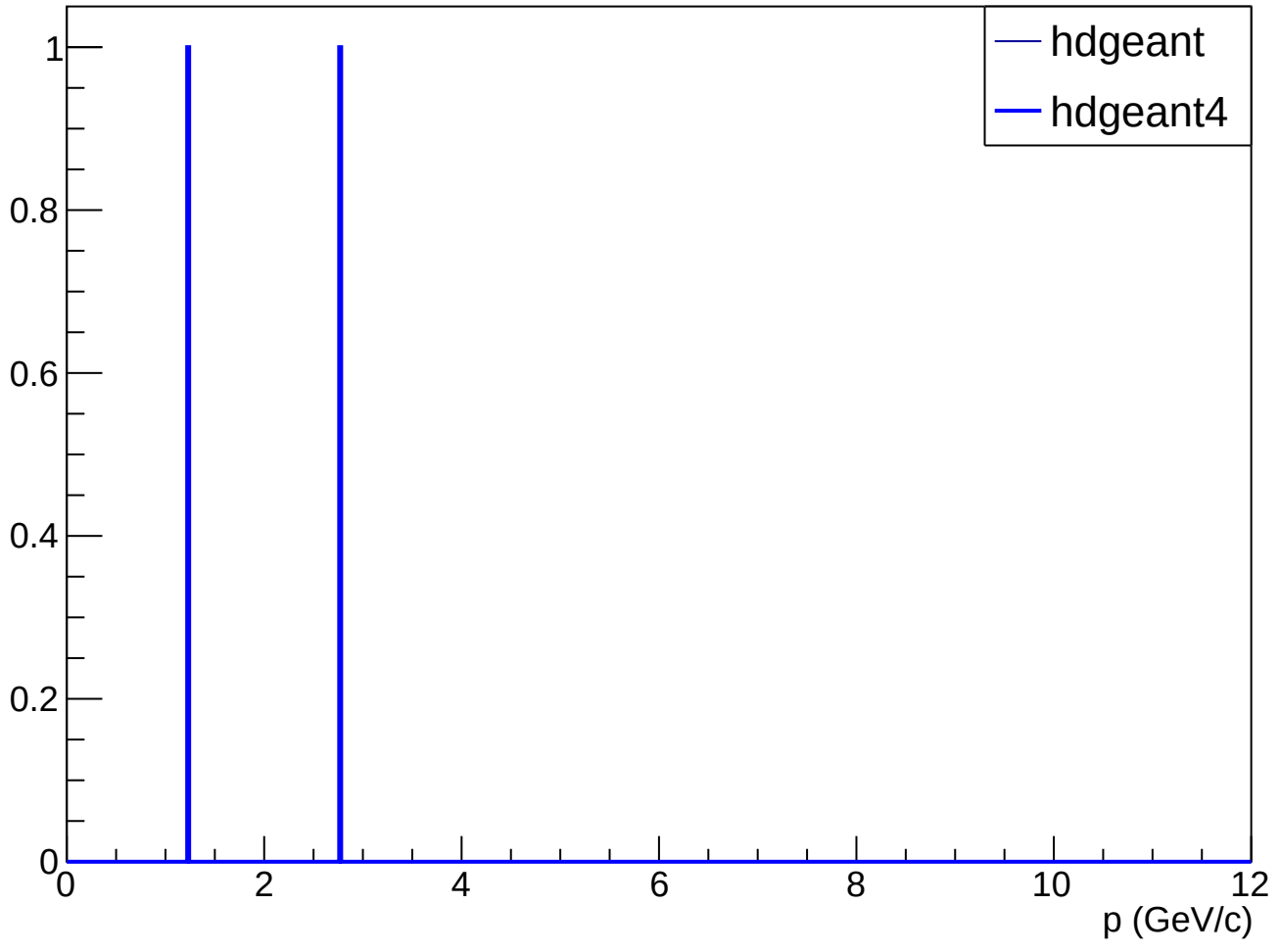

/Independent/Hist_DetectedParticleKinematics/Pi+/DeltaBetaVsP
Δβ
p (GeV/c)

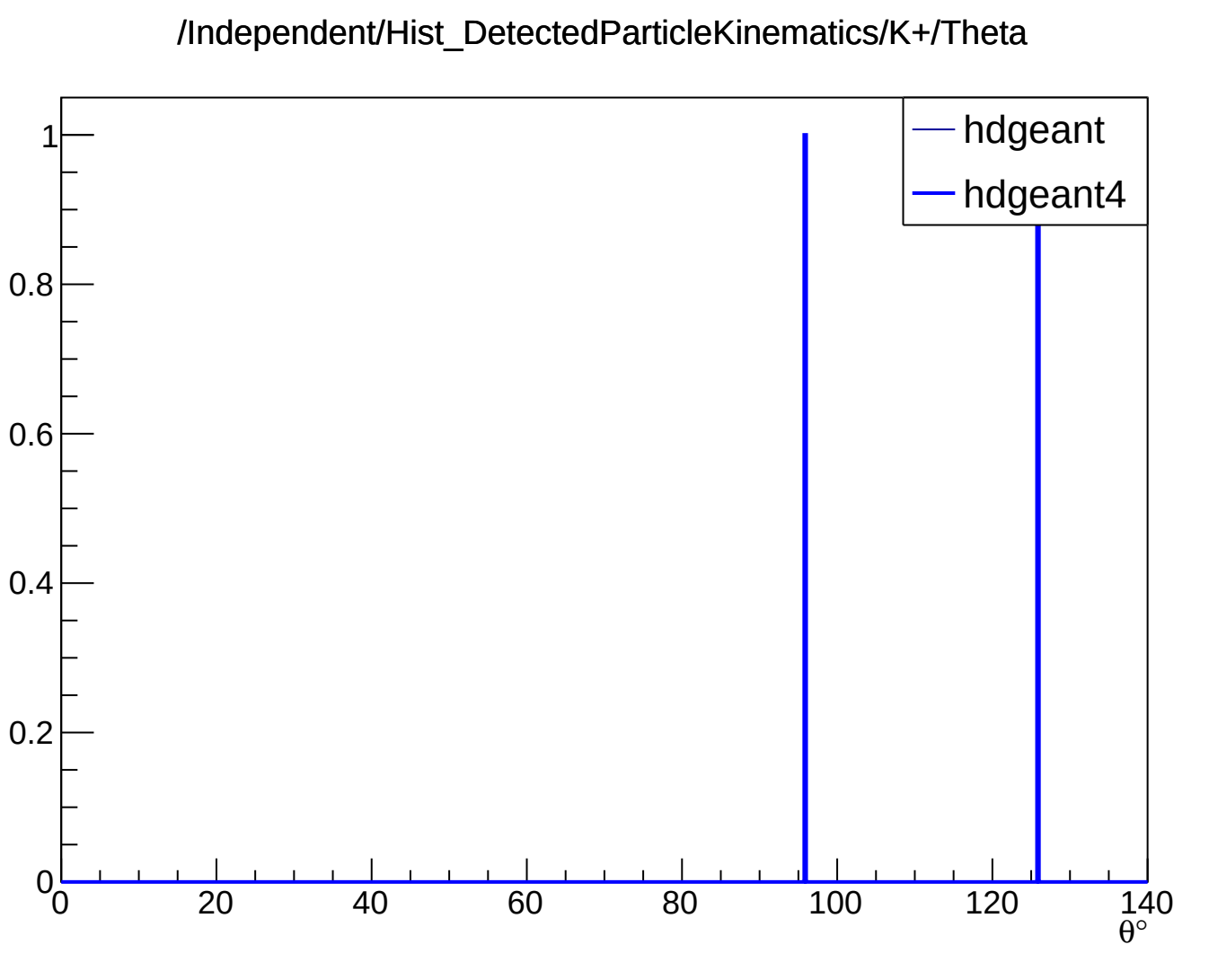

/Independent/Hist_DetectedParticleKinematics/Pi+/VertexZ
hdgeant
hdgeant4
3
2.5
2
1.5
1
0.5
0
–50
0
50
100
150
200
Vertex-Z (cm)

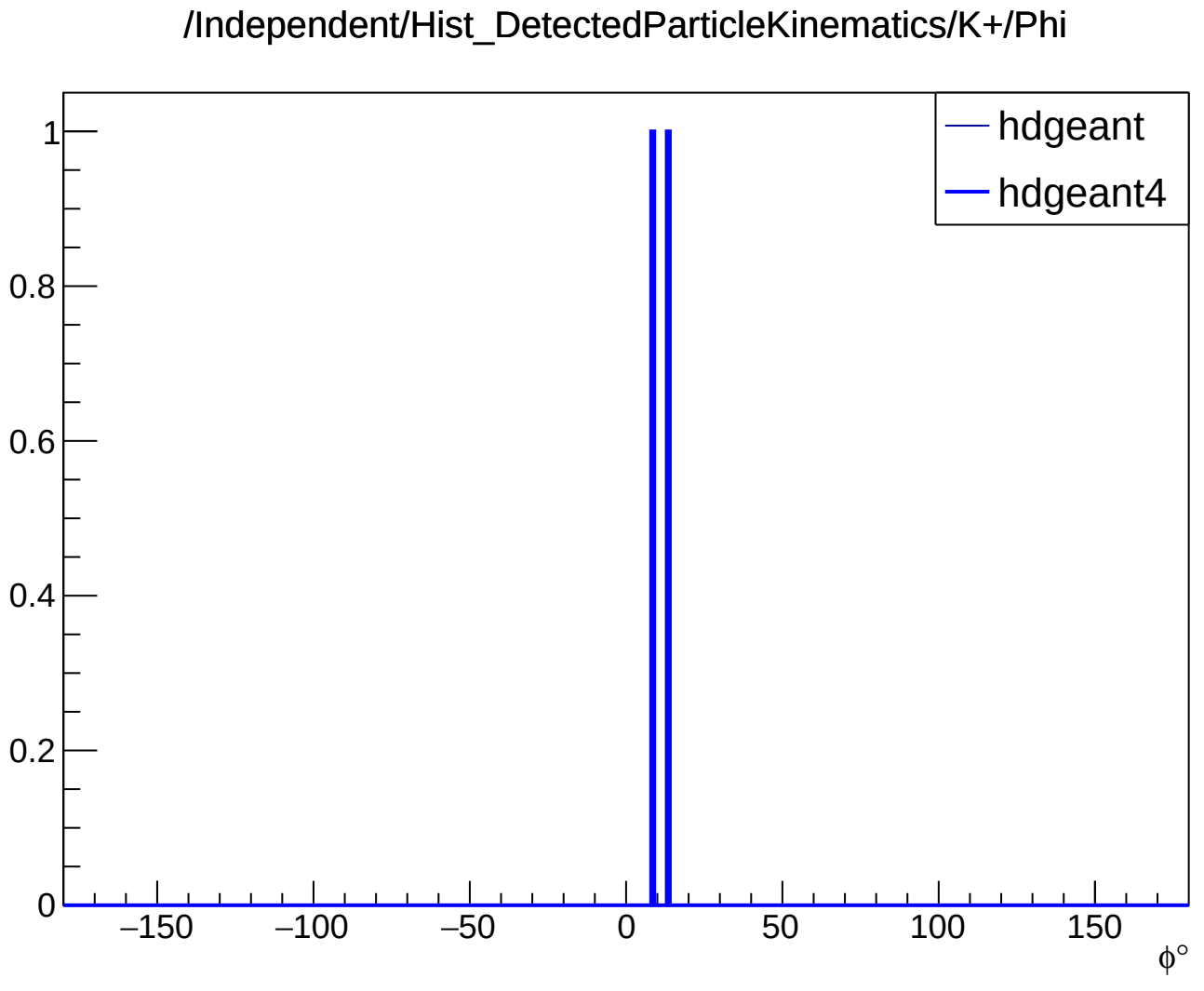

/Independent/Hist_DetectedParticleKinematics/Pi+/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
3
2.5
2
1.5
1
0.5
0

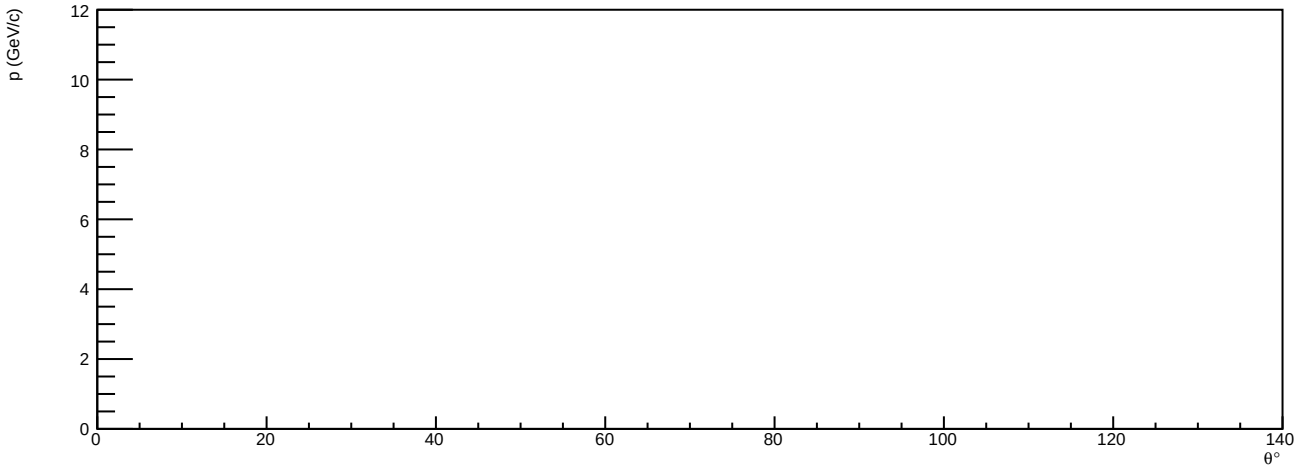

/Independent/Hist_DetectedParticleKinematics/Pi+/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
8
7
6
5
4
3
2
1
0

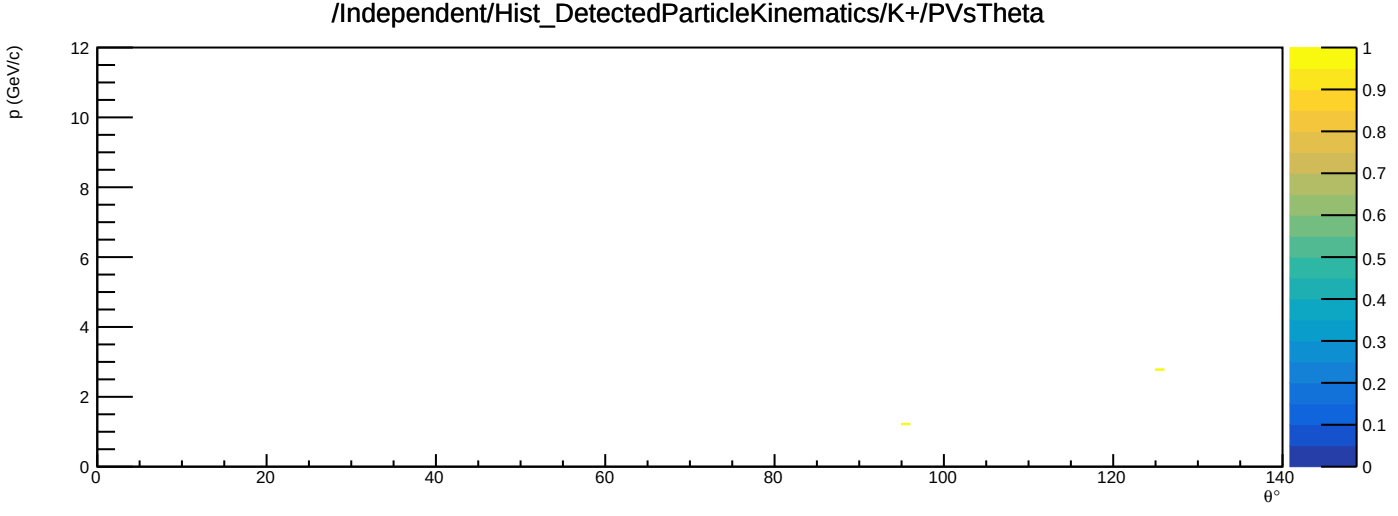

/Independent/Hist_DetectedParticleKinematics/Pi+/VertexT
hdgeant
hdgeant4
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–20
–15
–10
–5
0
5
10
15
20
Vertex-T (ns)

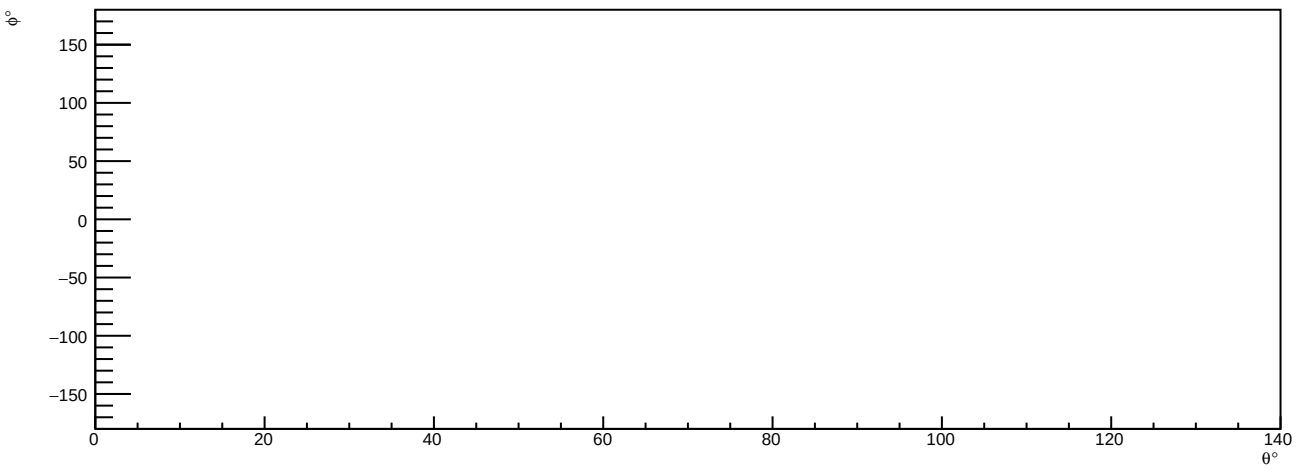

/Independent/Hist_DetectedParticleKinematics/K+/Momentum
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
p (GeV/c)

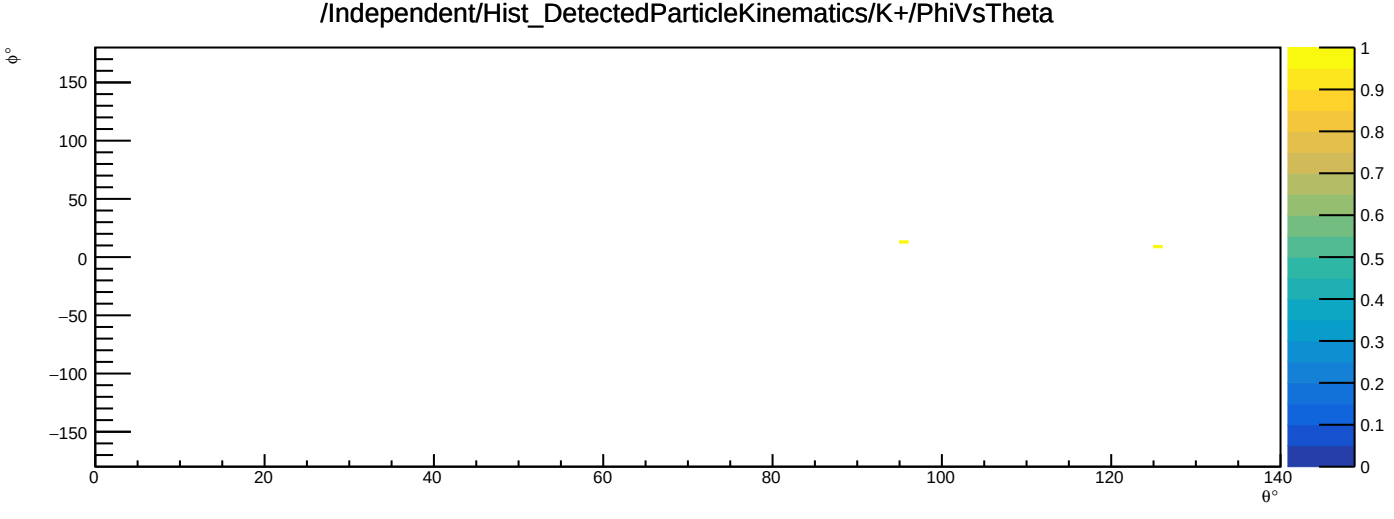

/Independent/Hist_DetectedParticleKinematics/K+/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°

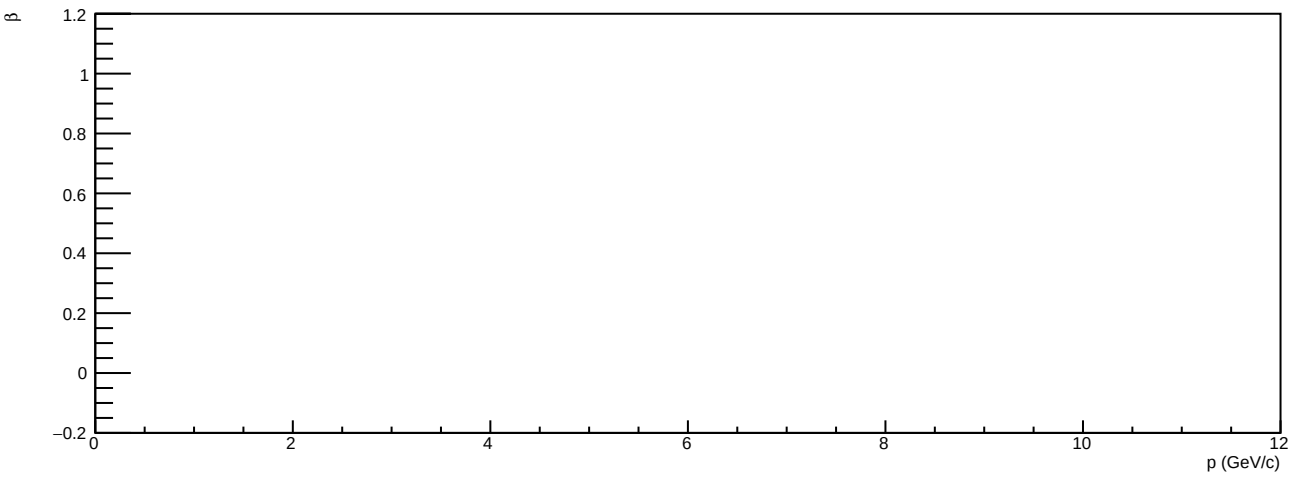

/Independent/Hist_DetectedParticleKinematics/K+/Phi
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

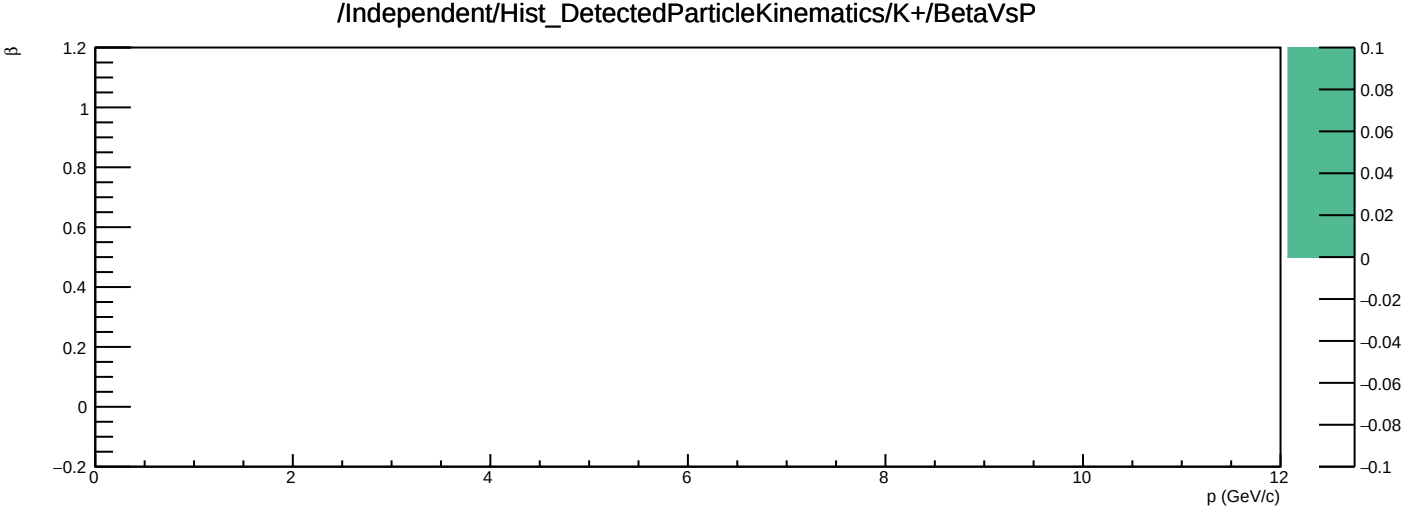

/Independent/Hist_DetectedParticleKinematics/K+/PVsTheta
p (GeV/c)
θ°

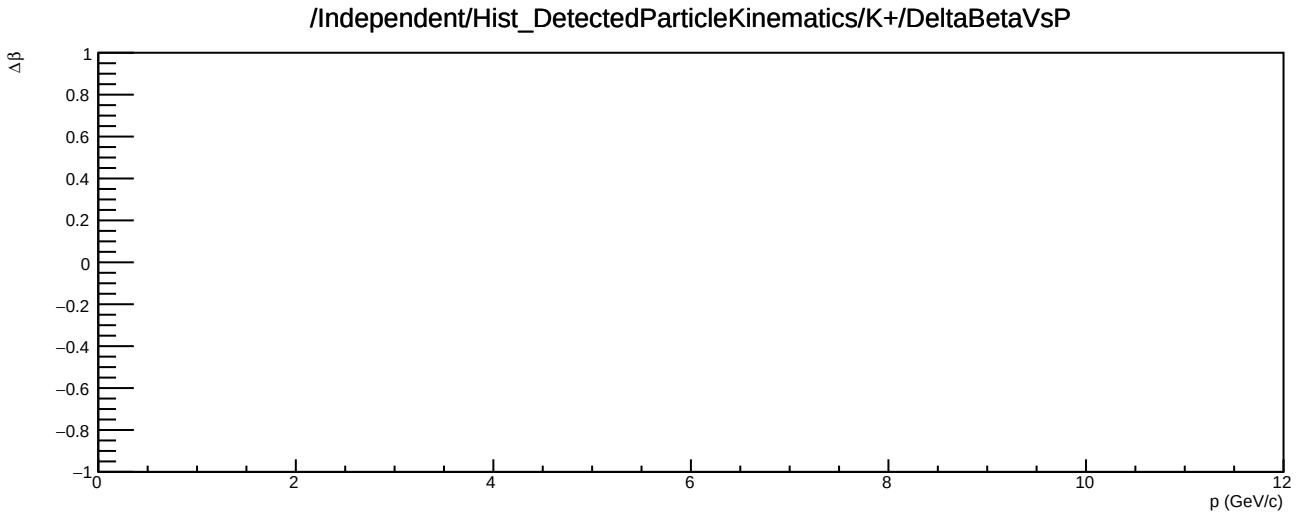

/Independent/Hist_DetectedParticleKinematics/K+/PVsTheta
p (GeV/c)
θ°

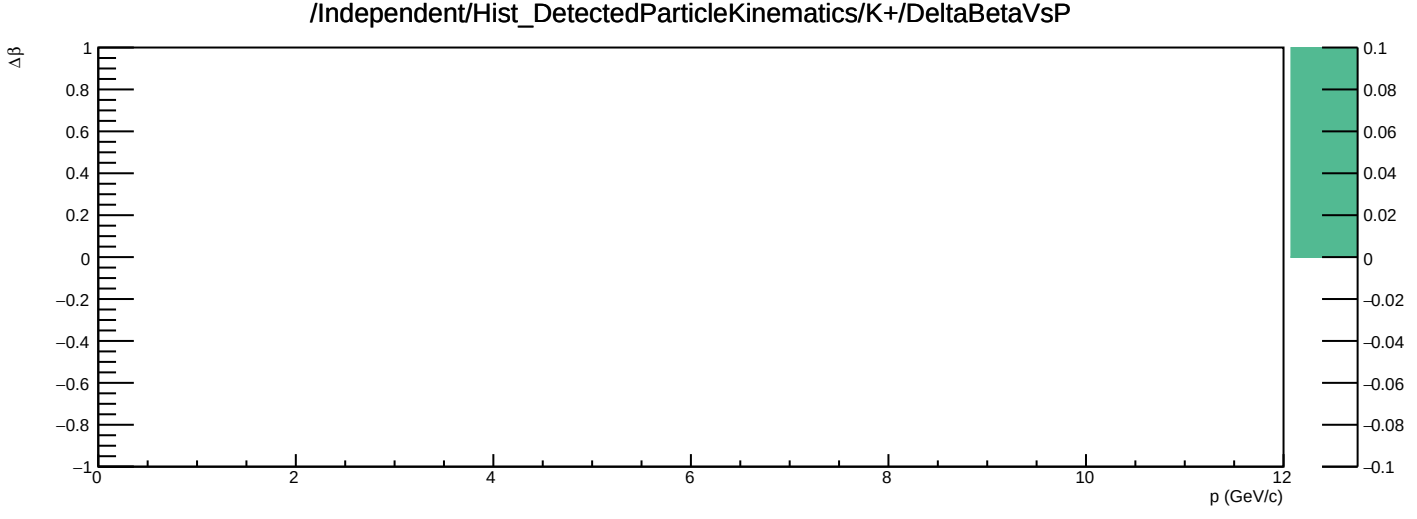

/Independent/Hist_DetectedParticleKinematics/K+/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

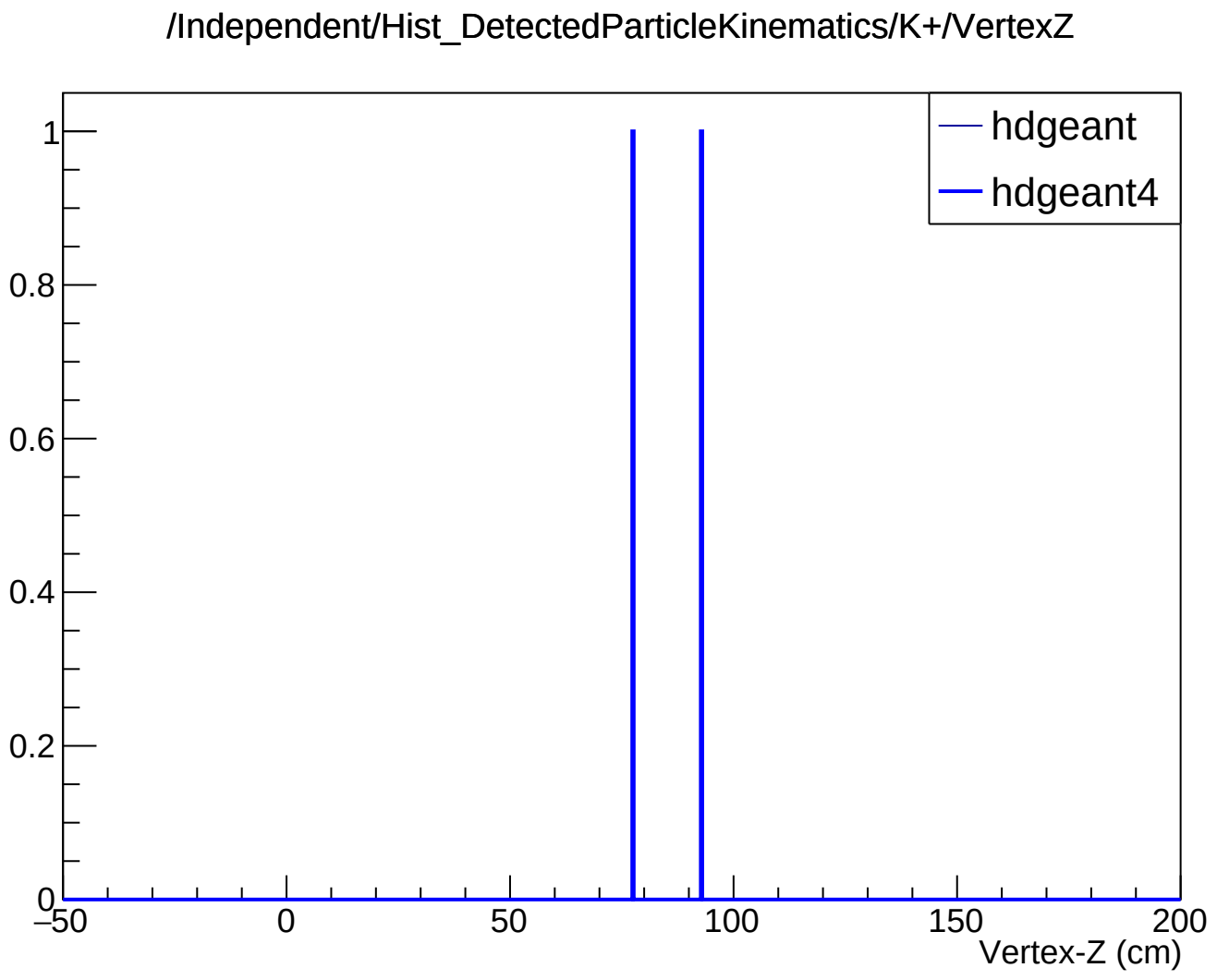

/Independent/Hist_DetectedParticleKinematics/K+/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

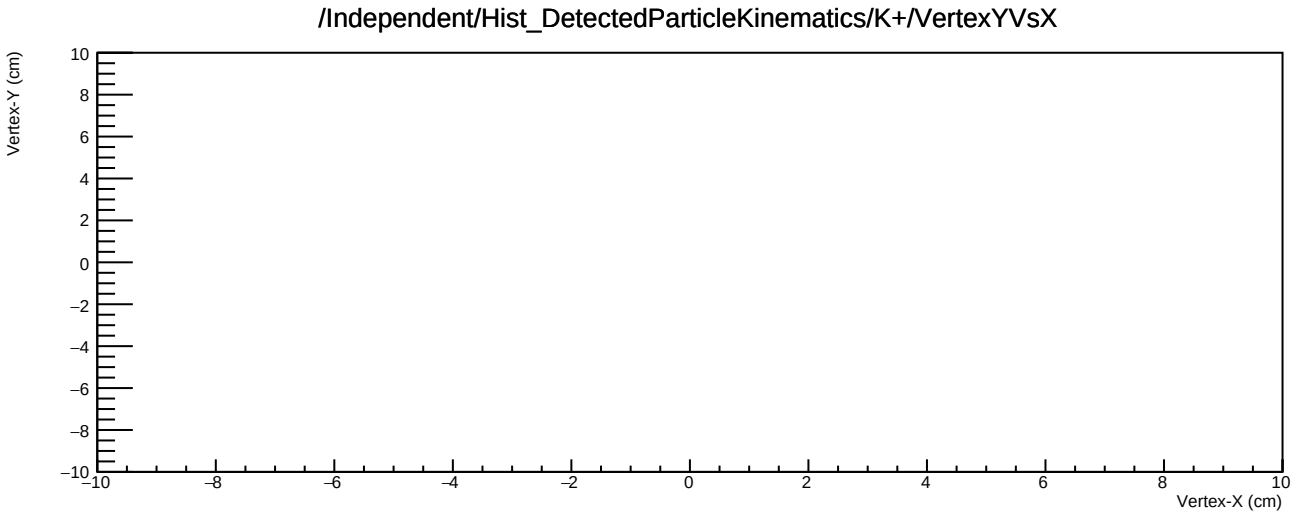

/Independent/Hist_DetectedParticleKinematics/K+/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)

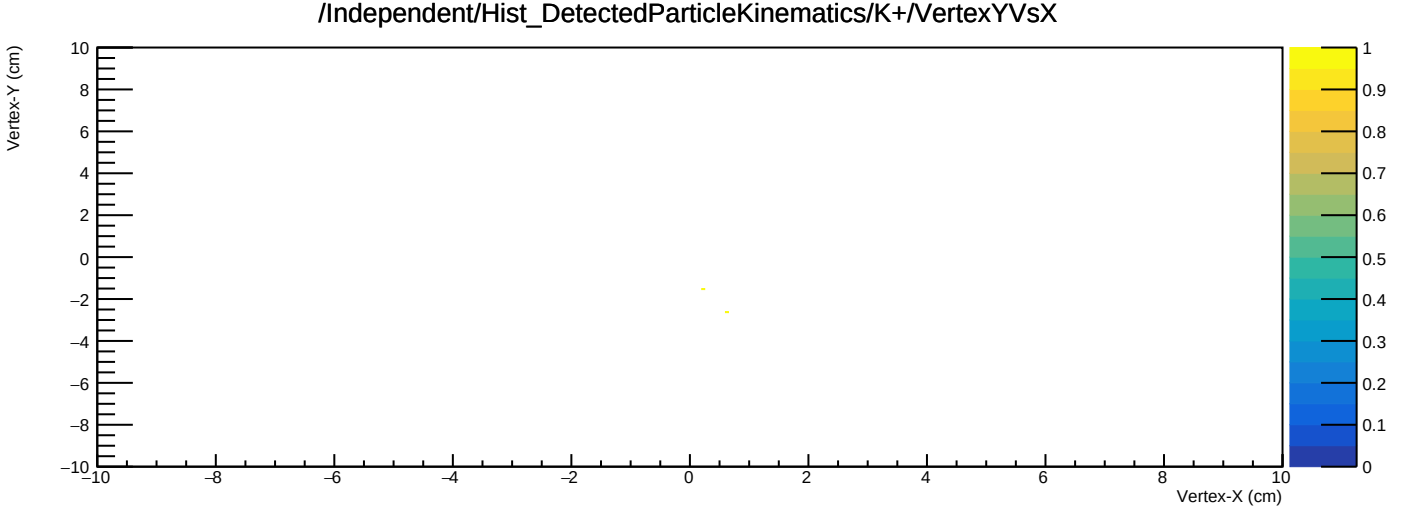

/Independent/Hist_DetectedParticleKinematics/K+/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

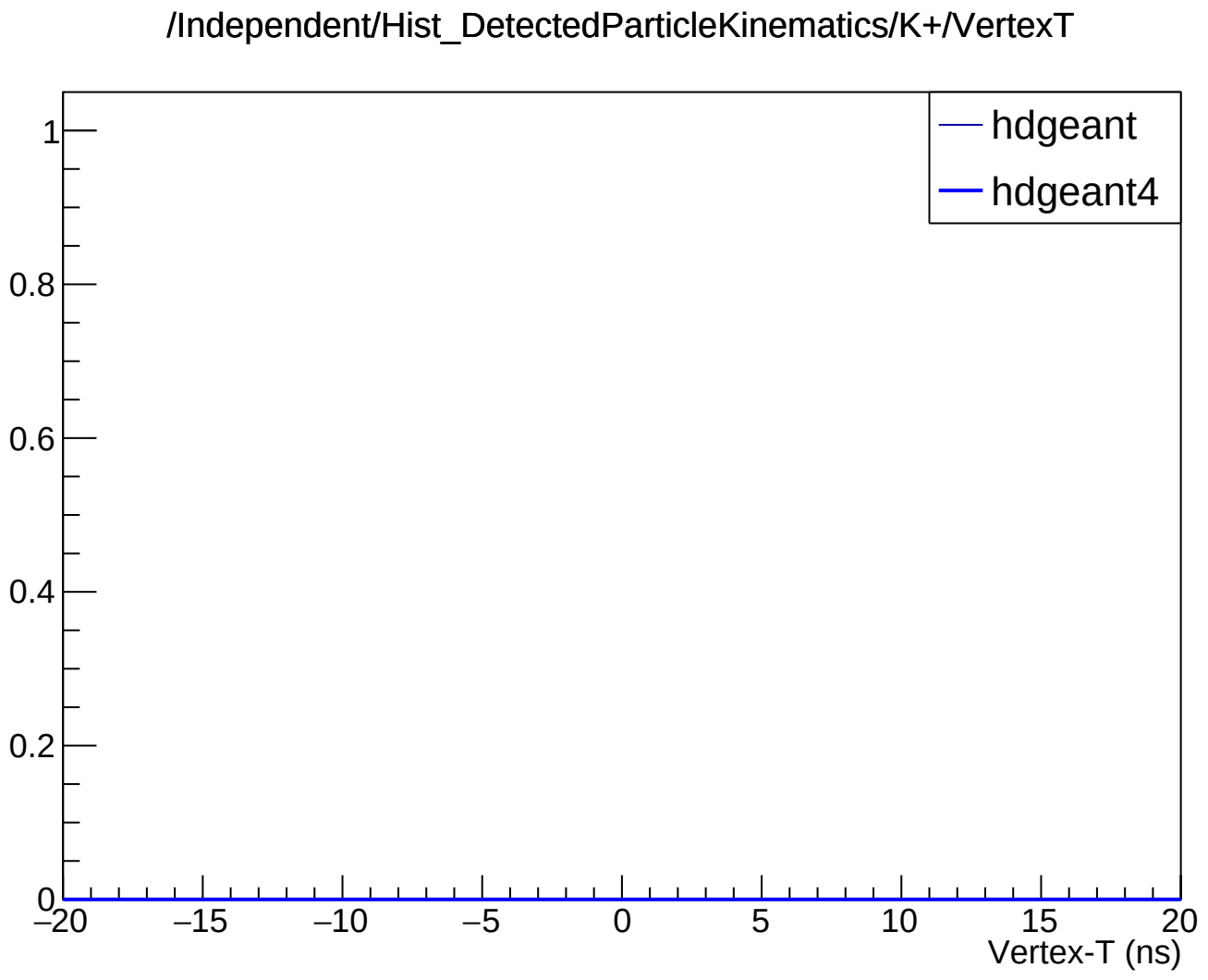

/Independent/Hist_DetectedParticleKinematics/K+/DeltaBetaVsP
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_DetectedParticleKinematics/K+/DeltaBetaVsP
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

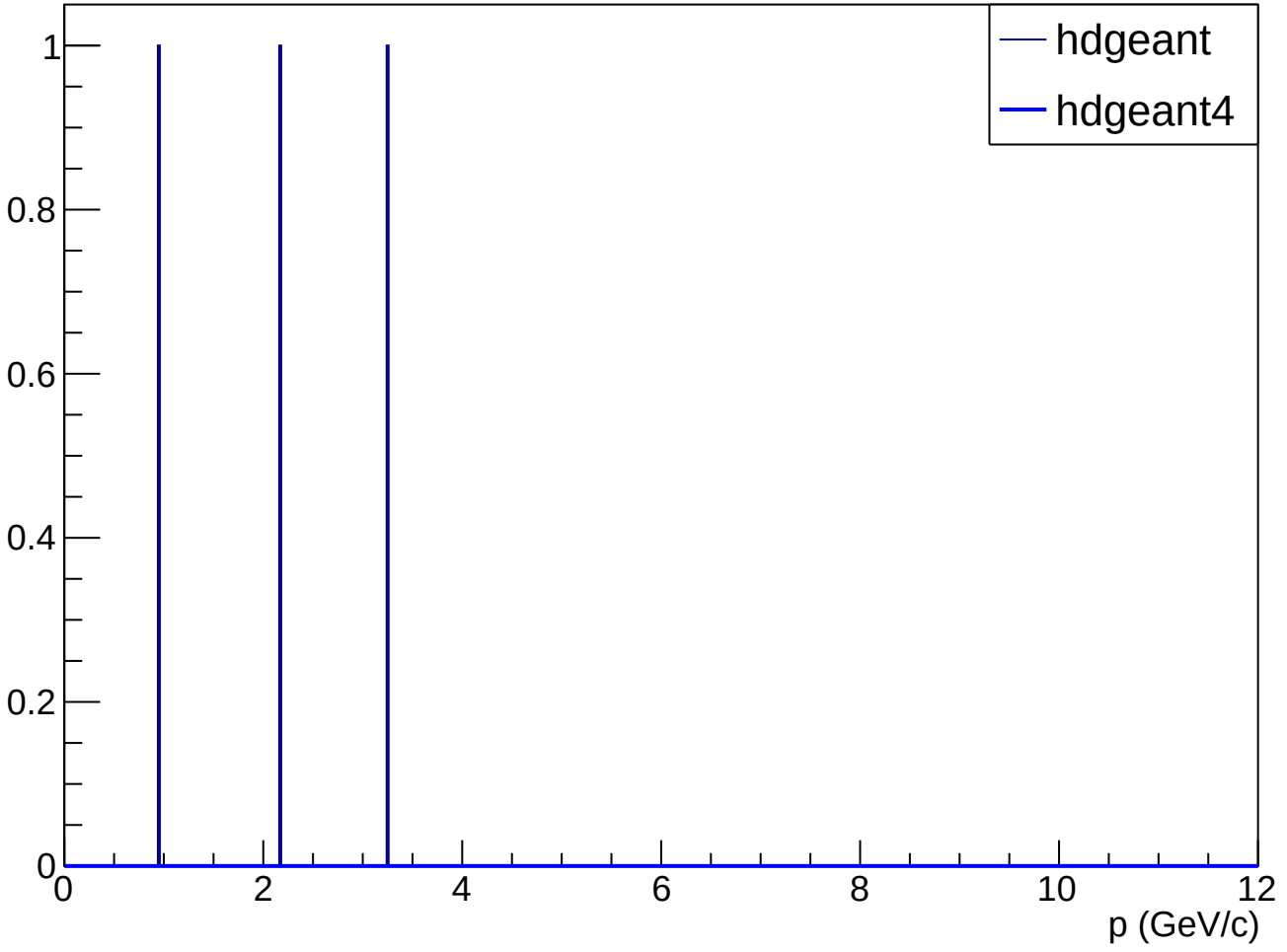

/Independent/Hist_DetectedParticleKinematics/K+/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)

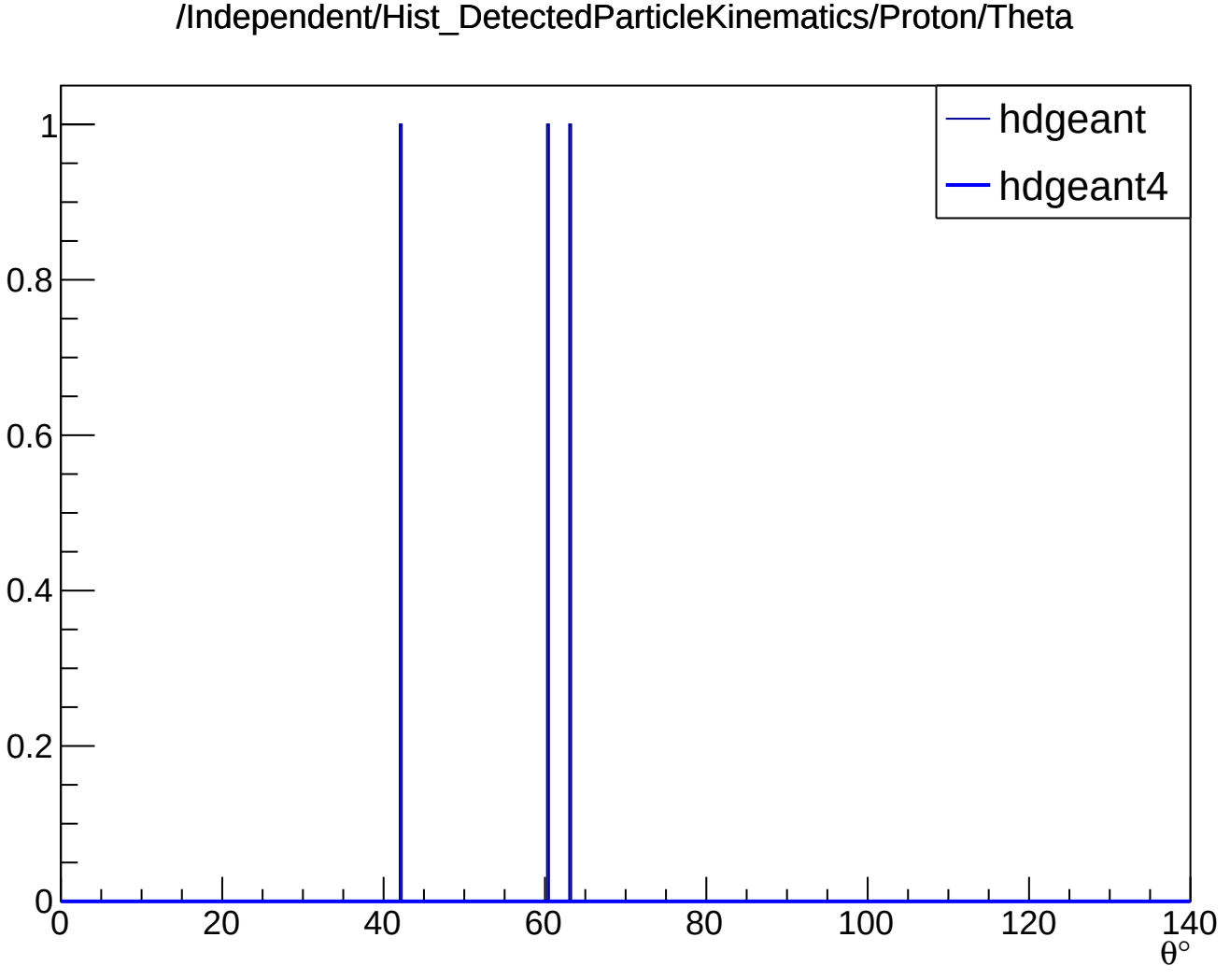

/Independent/Hist_DetectedParticleKinematics/K+/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

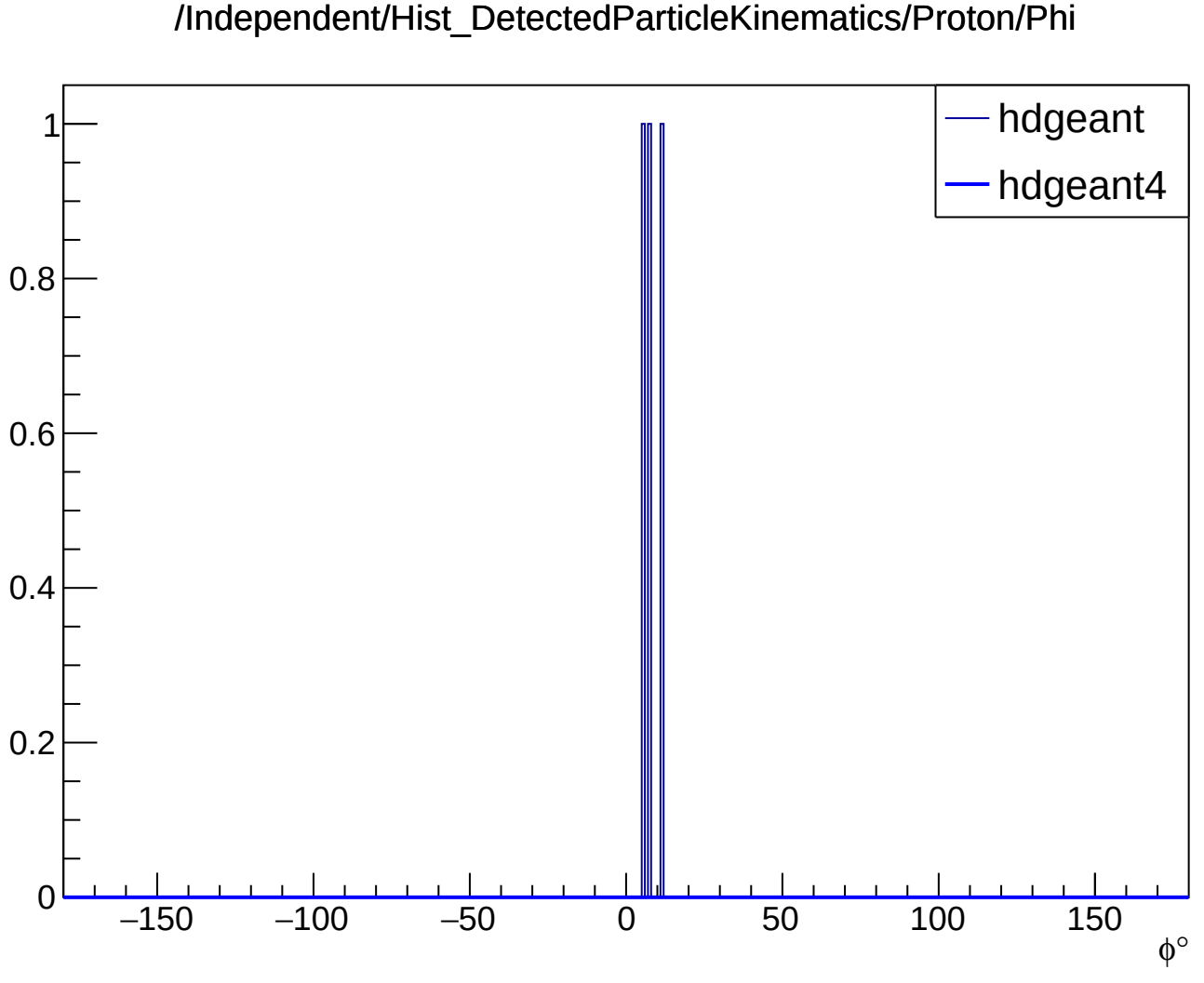

/Independent/Hist_DetectedParticleKinematics/K+/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

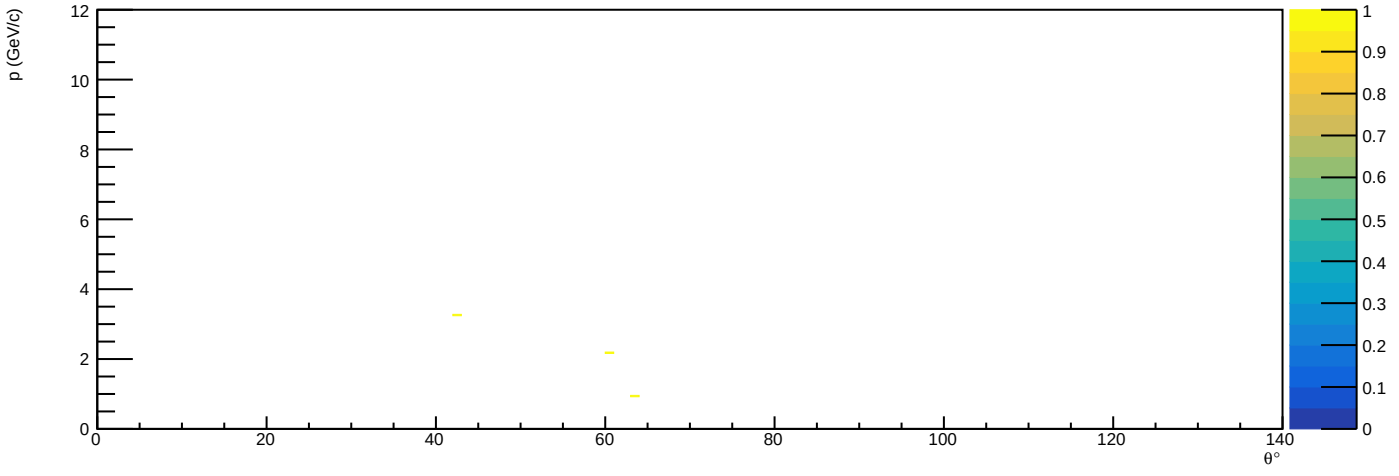

/Independent/Hist_DetectedParticleKinematics/K+/VertexT
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–20
–15
–10
–5
0
5
10
15
20
Vertex-T (ns)

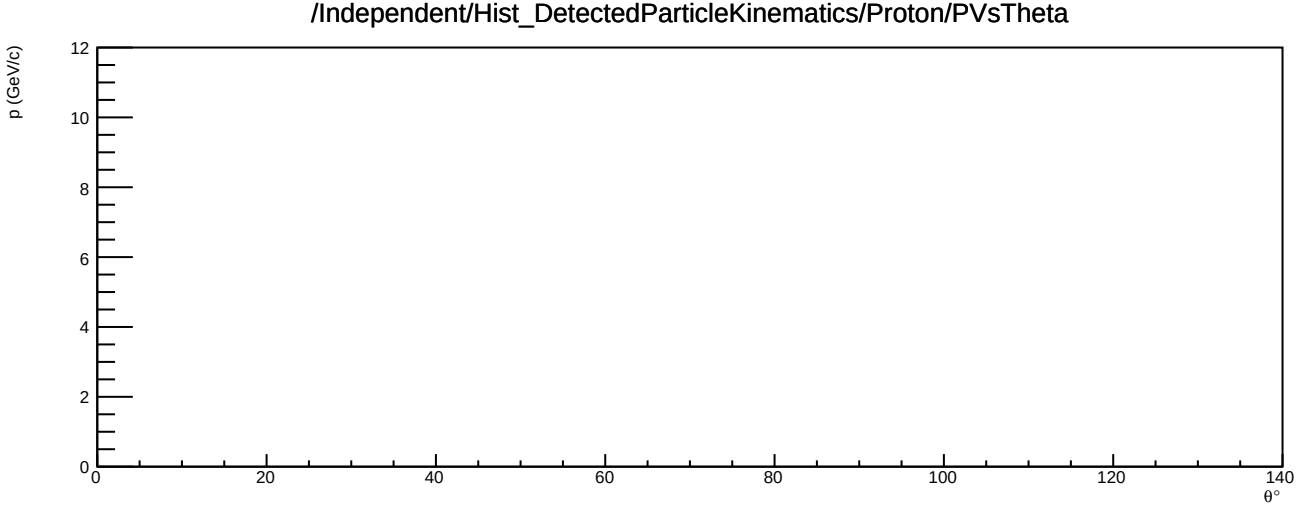
/Independent/Hist_DetectedParticleKinematics/Proton/Momentum

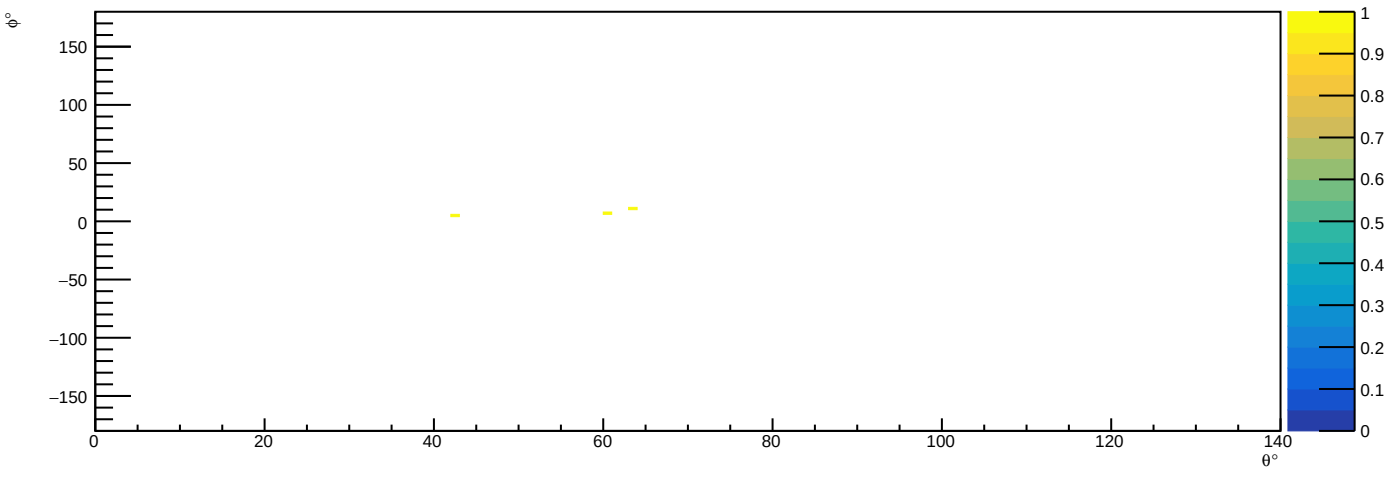


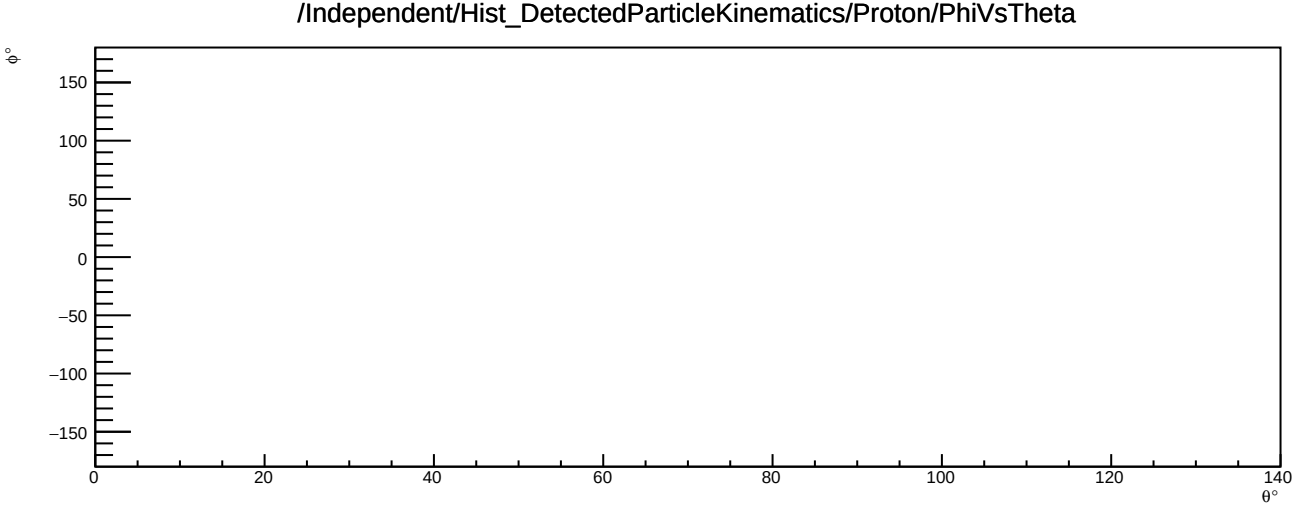

/Independent/Hist_DetectedParticleKinematics/Proton/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°

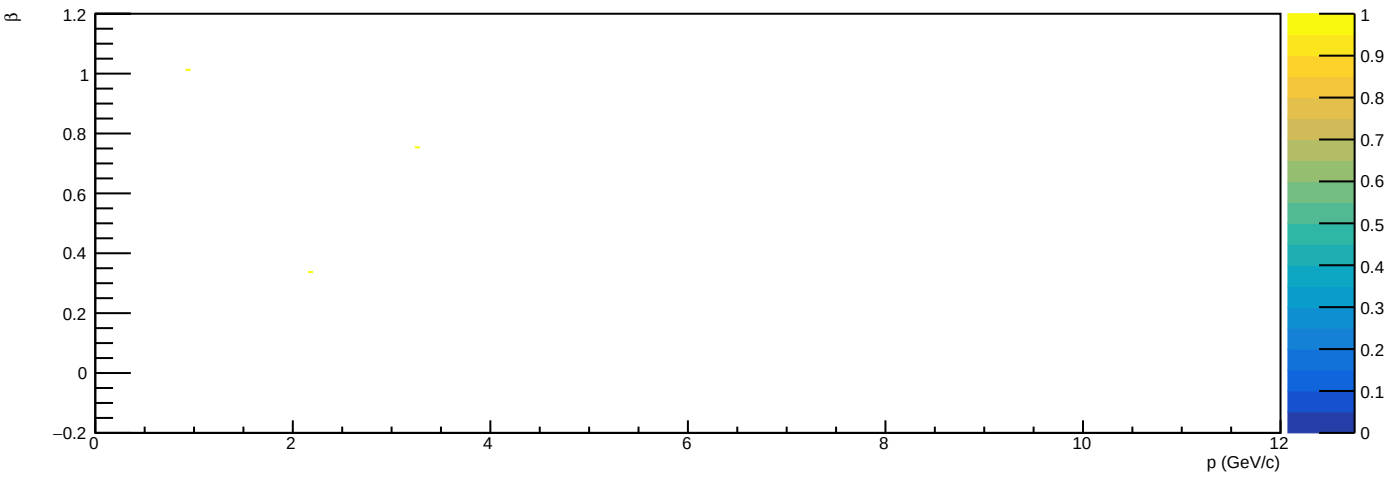

/Independent/Hist_DetectedParticleKinematics/Proton/Phi
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

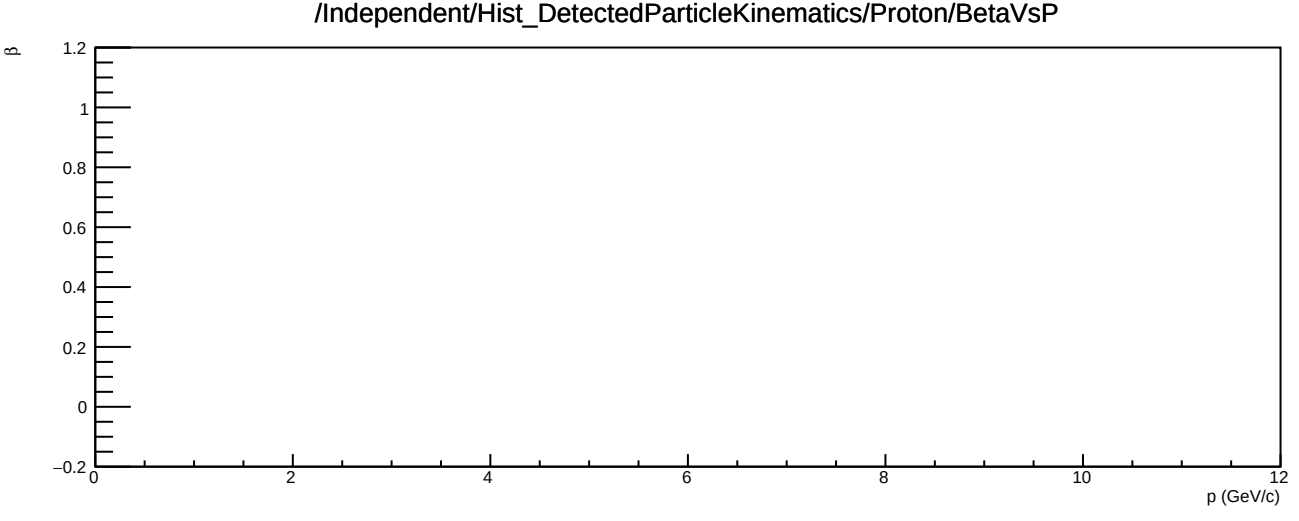

/Independent/Hist_DetectedParticleKinematics/Proton/PVsTheta
p (GeV/c)
θ°
0
2
4
6
8
10
12
0
20
40
60
80
100
120
140
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

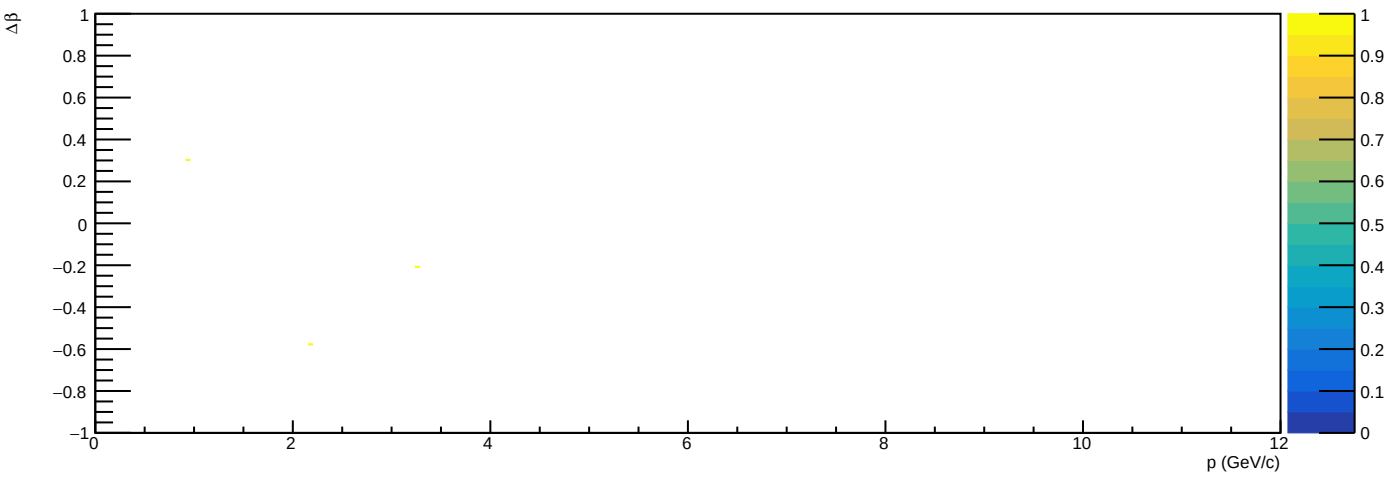

/Independent/Hist_DetectedParticleKinematics/Proton/PVsTheta
p (GeV/c)
θ°
0
2
4
6
8
10
12
0
20
40
60
80
100
120
140

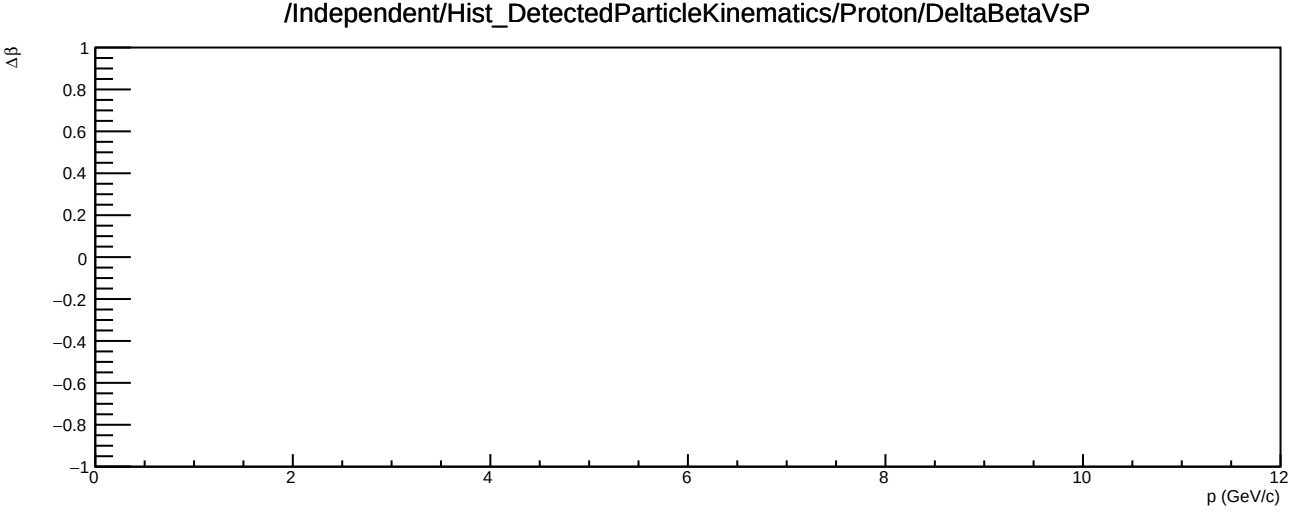

/Independent/Hist_DetectedParticleKinematics/Proton/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0


/Independent/Hist_DetectedParticleKinematics/Proton/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

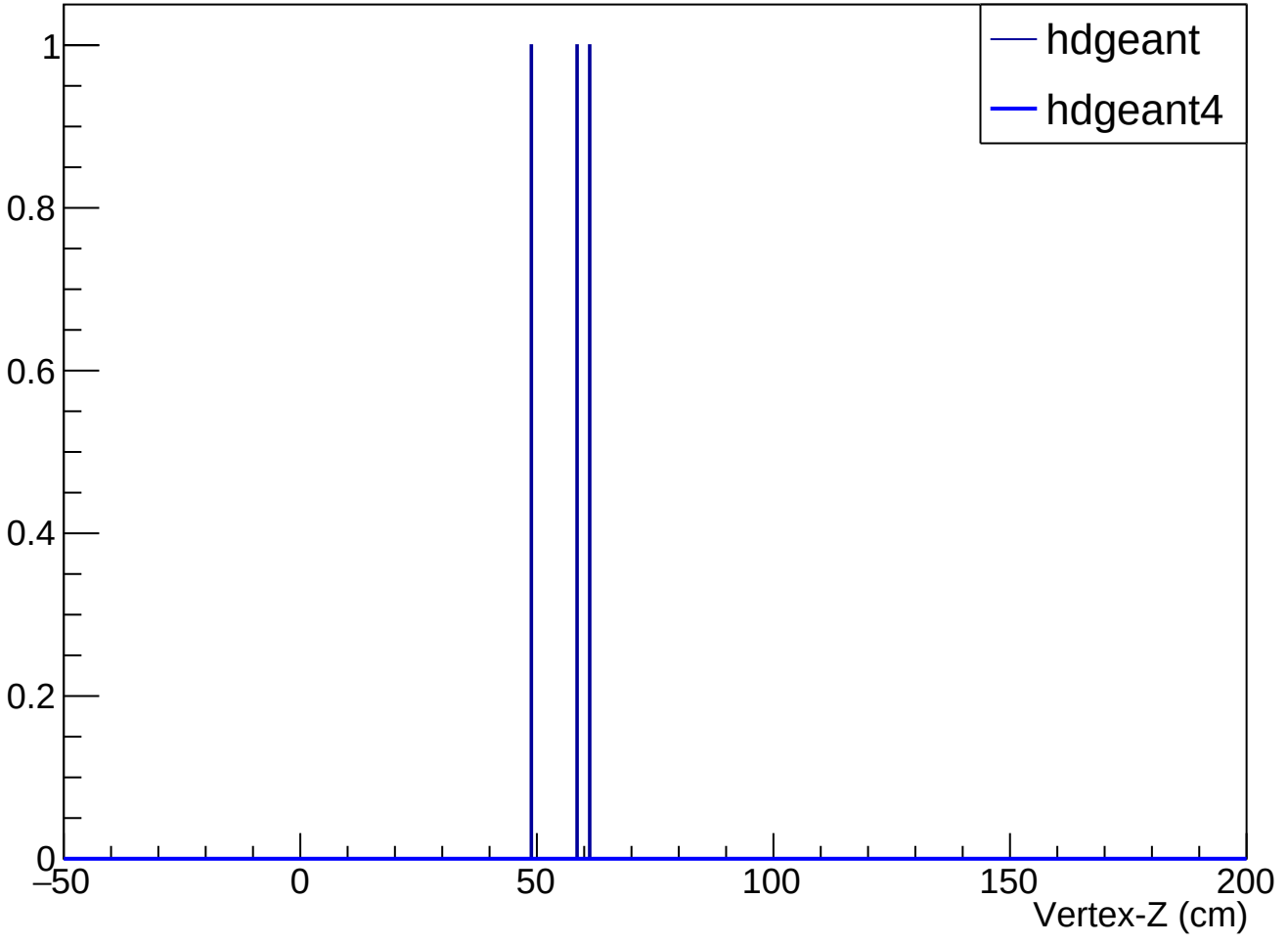

/Independent/Hist_DetectedParticleKinematics/Proton/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

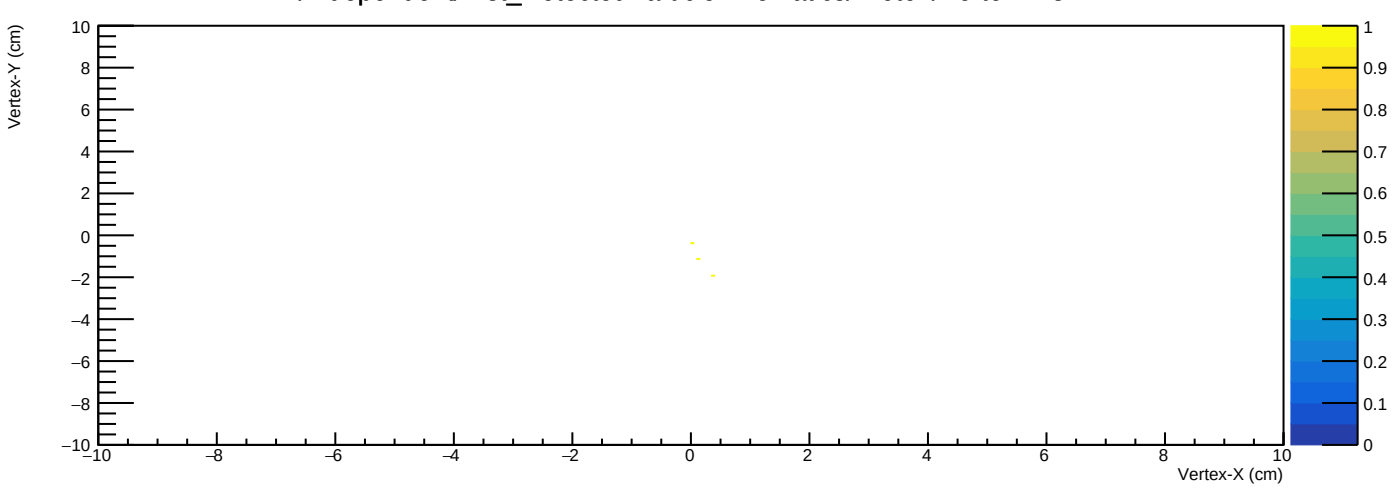

/Independent/Hist_DetectedParticleKinematics/Proton/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)

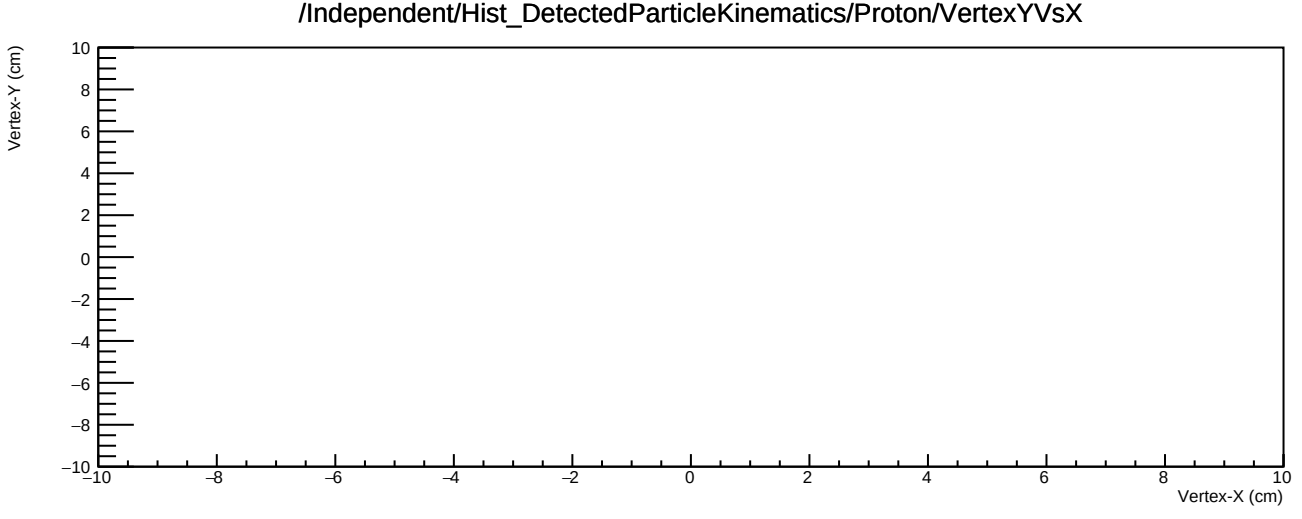

/Independent/Hist_DetectedParticleKinematics/Proton/DeltaBetaVsP
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

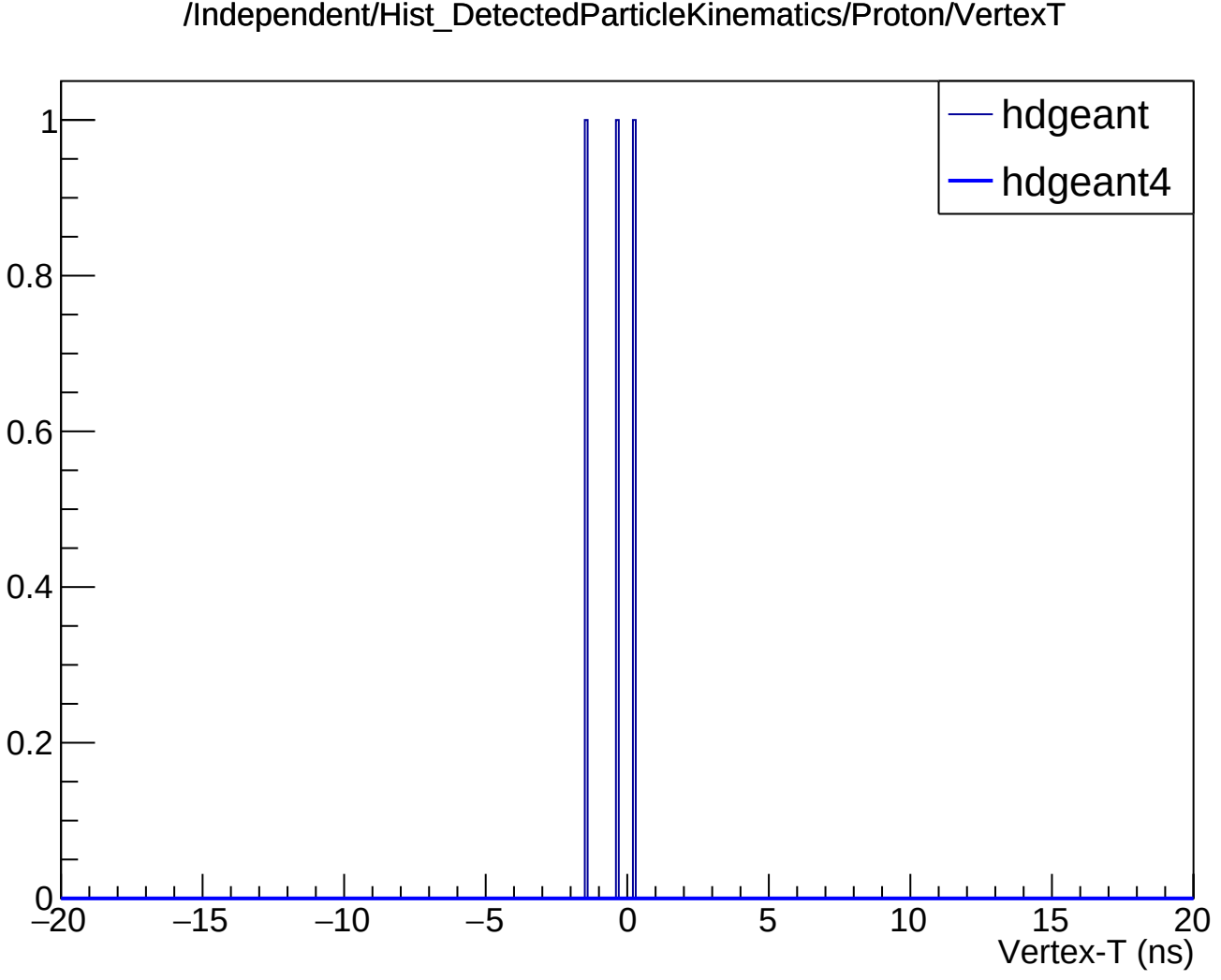

/Independent/Hist_DetectedParticleKinematics/Proton/DeltaBetaVsP
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

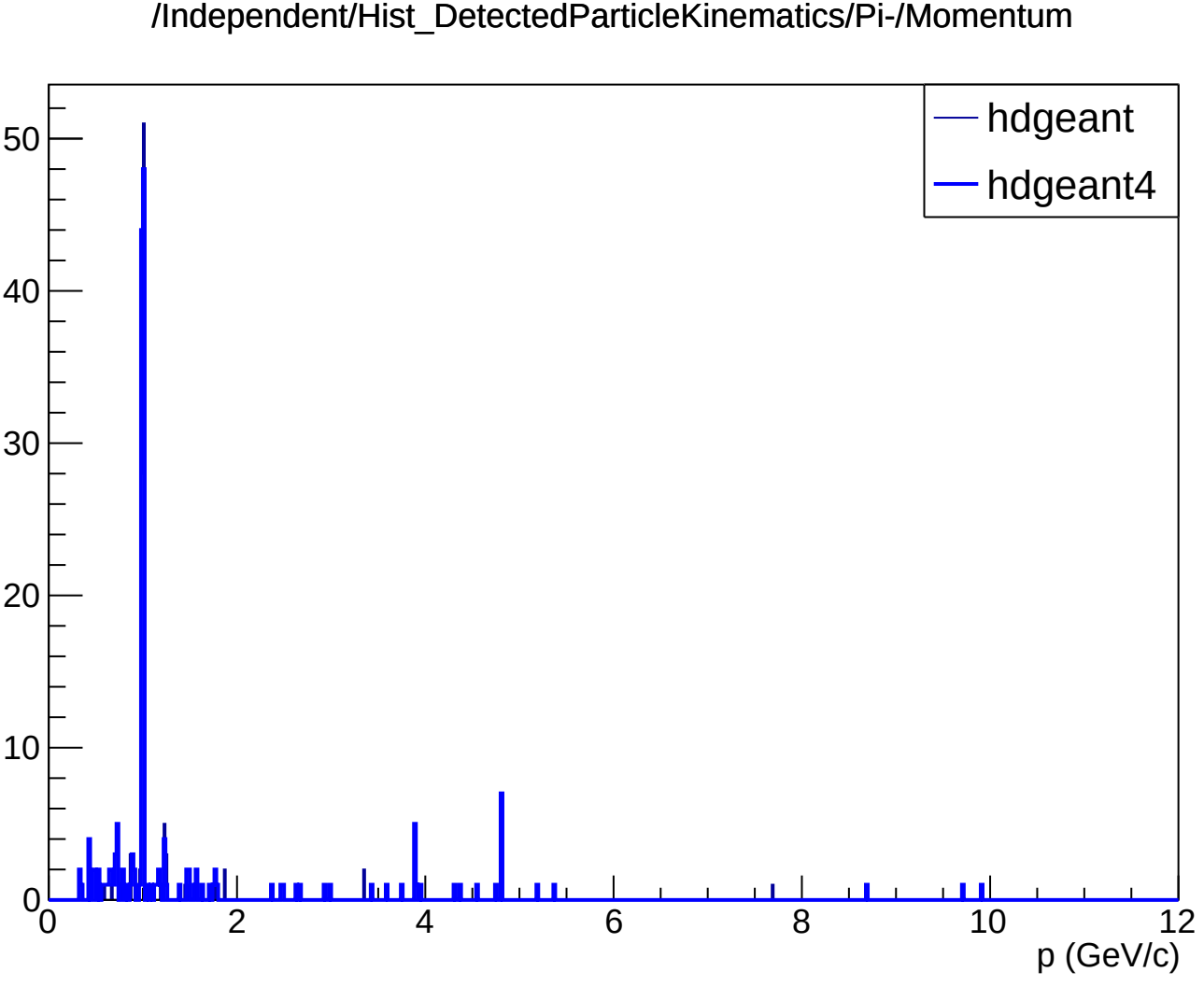
/Independent/Hist_DetectedParticleKinematics/Proton/VertexZ

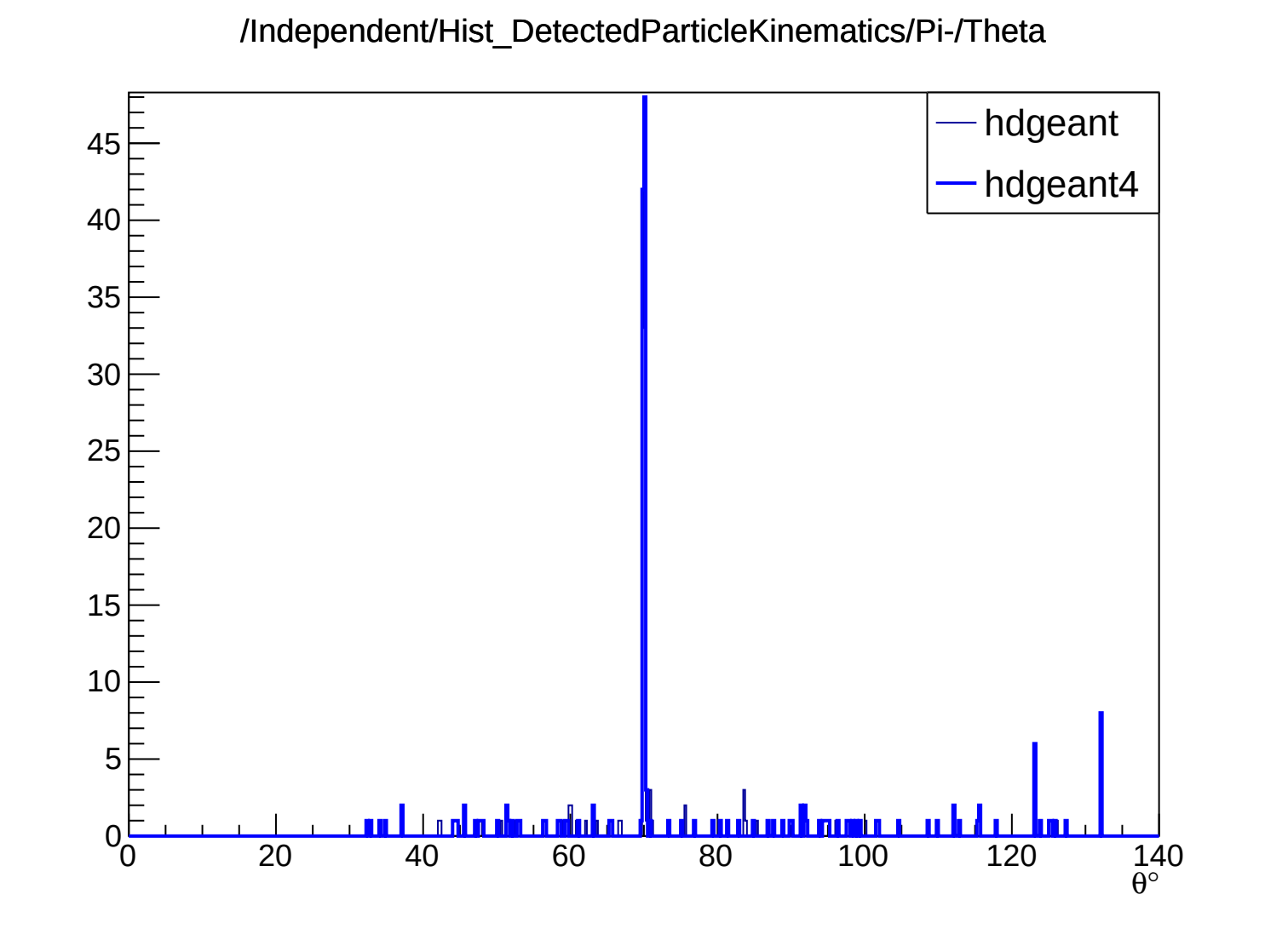


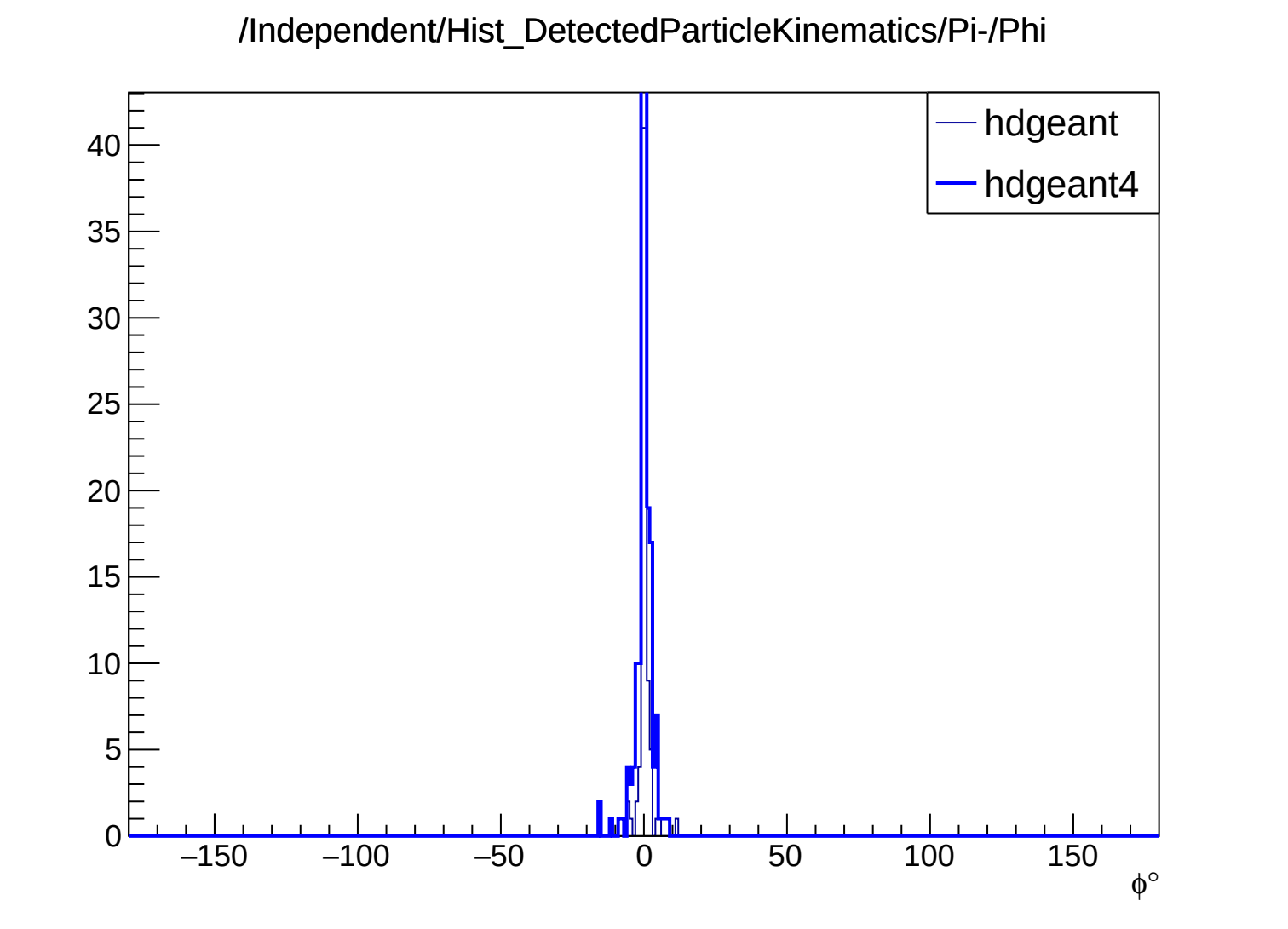

/Independent/Hist_DetectedParticleKinematics/Proton/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

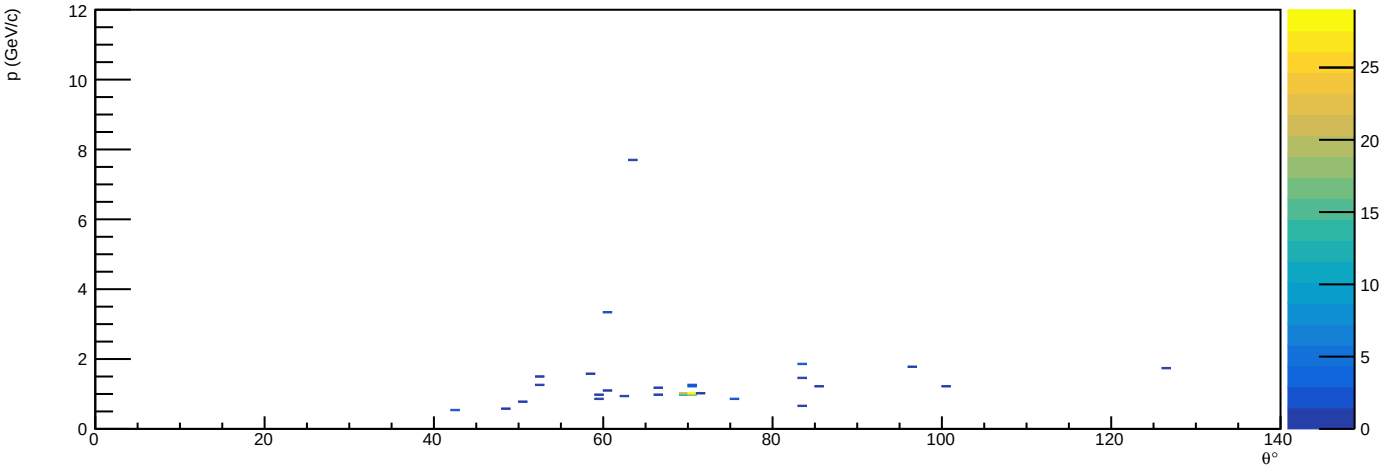

/Independent/Hist_DetectedParticleKinematics/Proton/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10

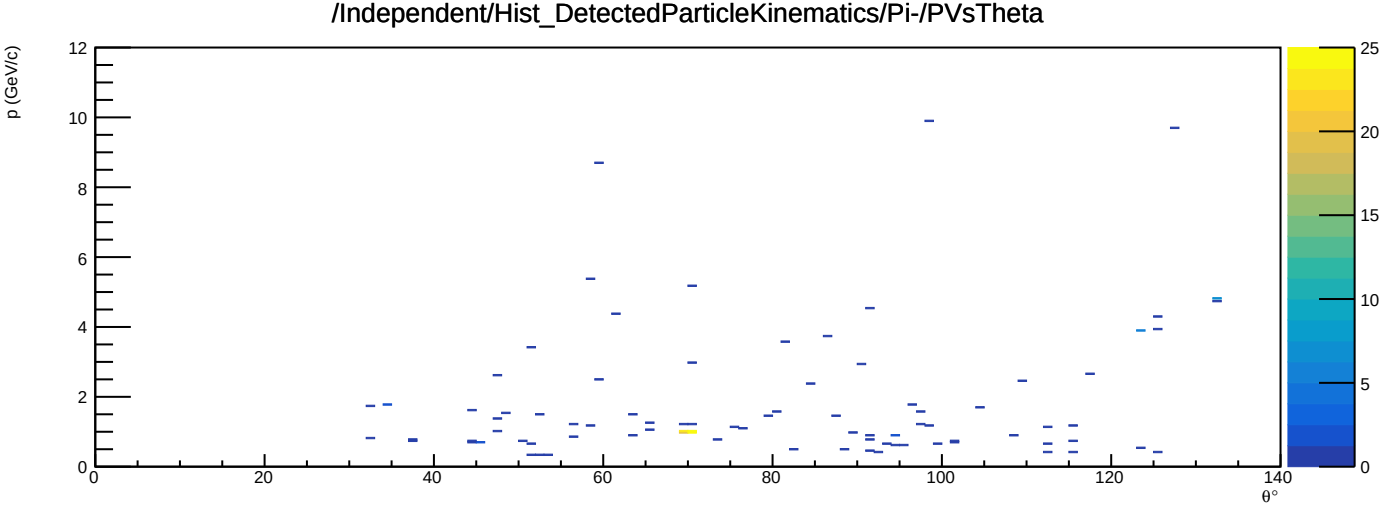

/Independent/Hist_DetectedParticleKinematics/Proton/VertexT
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–20
–15
–10
–5
0
5
10
15
20
Vertex-T (ns)

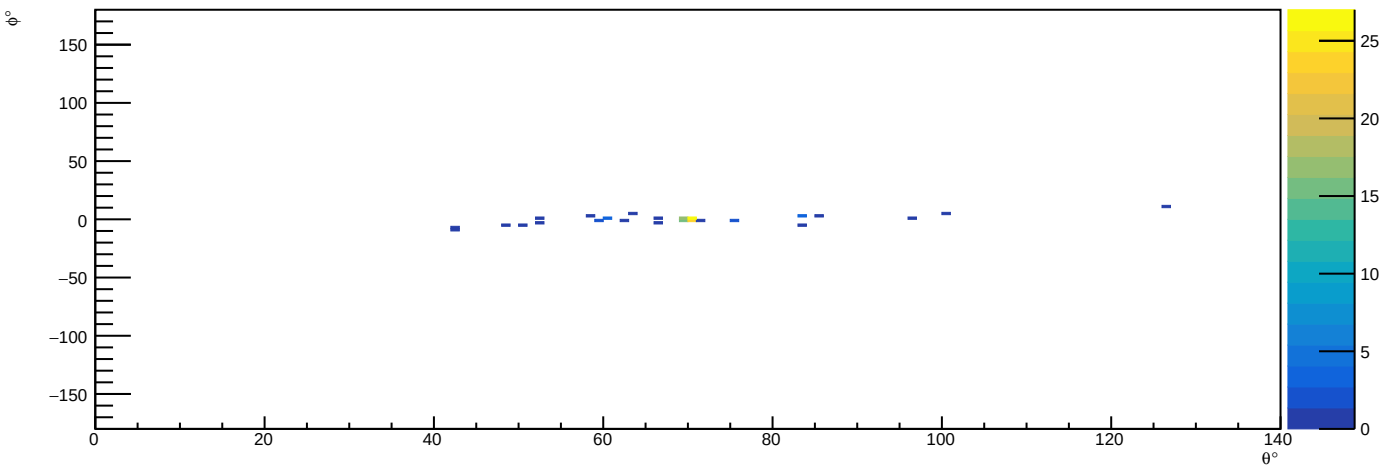

/Independent/Hist_DetectedParticleKinematics/Pi-/Momentum
hdgeant
hdgeant4
50
40
30
20
10
0
0
2
4
6
8
10
12
p (GeV/c)

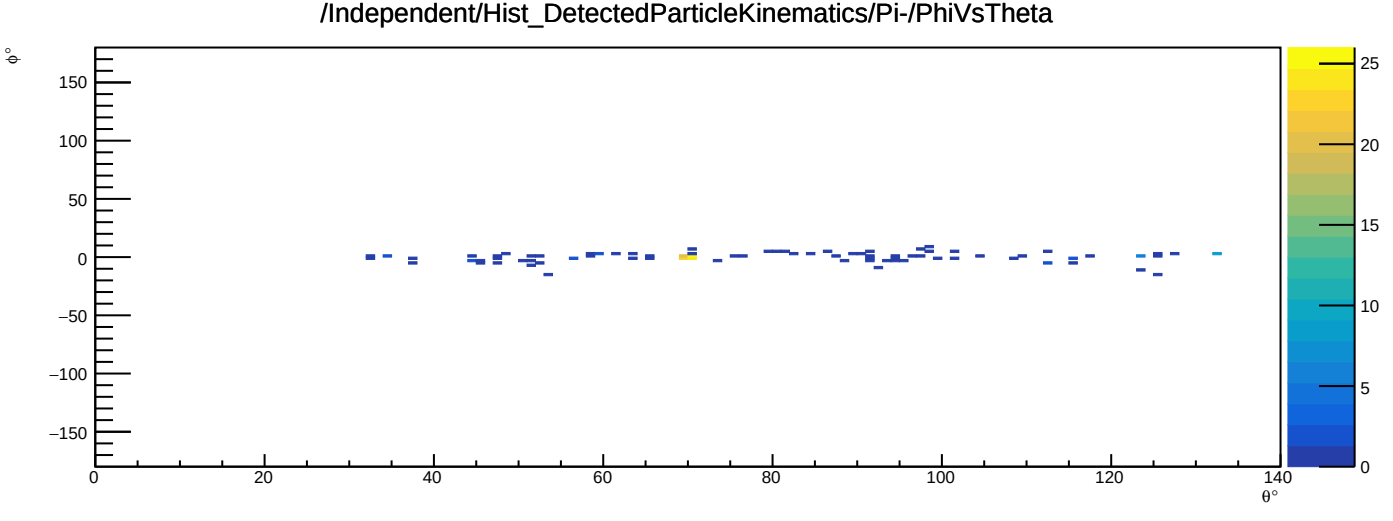

/Independent/Hist_DetectedParticleKinematics/Pi-/Theta
hdgeant
hdgeant4
45
40
35
30
25
20
15
10
5
0
0
20
40
60
80
100
120
140
θ°

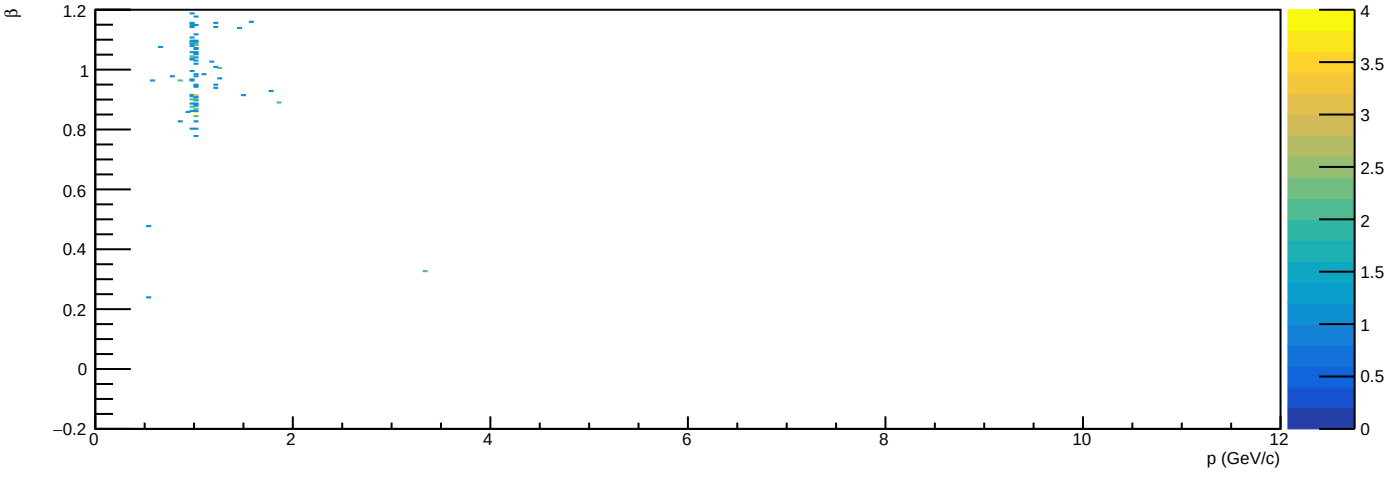

/Independent/Hist_DetectedParticleKinematics/Pi-/Phi
hdgeant
hdgeant4
40
35
30
25
20
15
10
5
0
–150
–100
–50
0
50
100
150
ϕ°

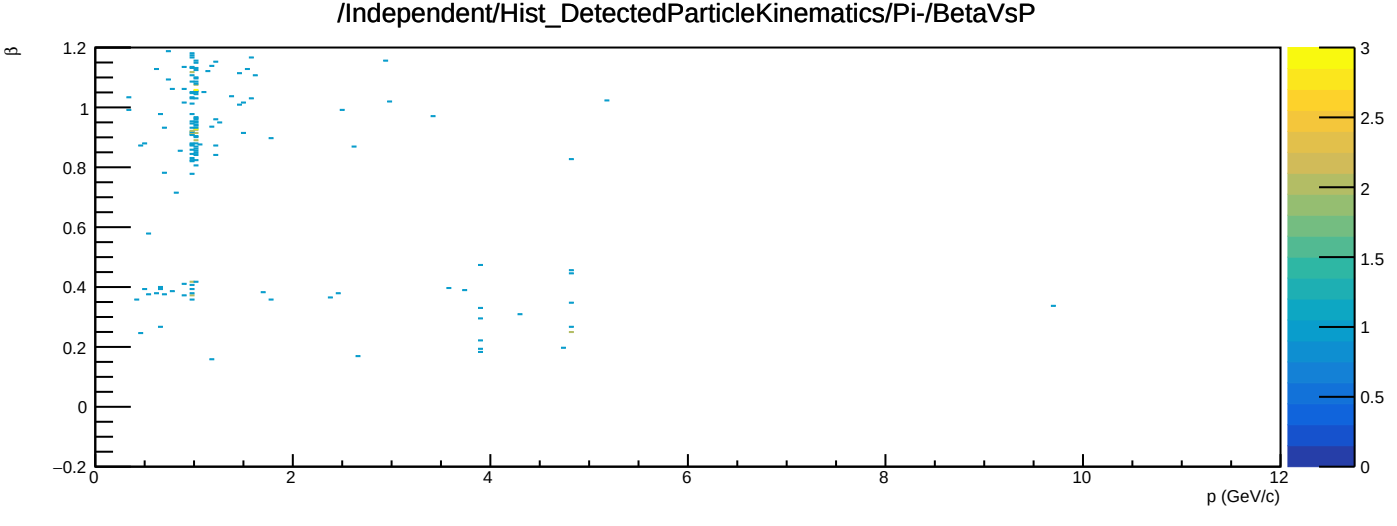

/Independent/Hist_DetectedParticleKinematics/Pi-/PVsTheta
p (GeV/c)
θ°

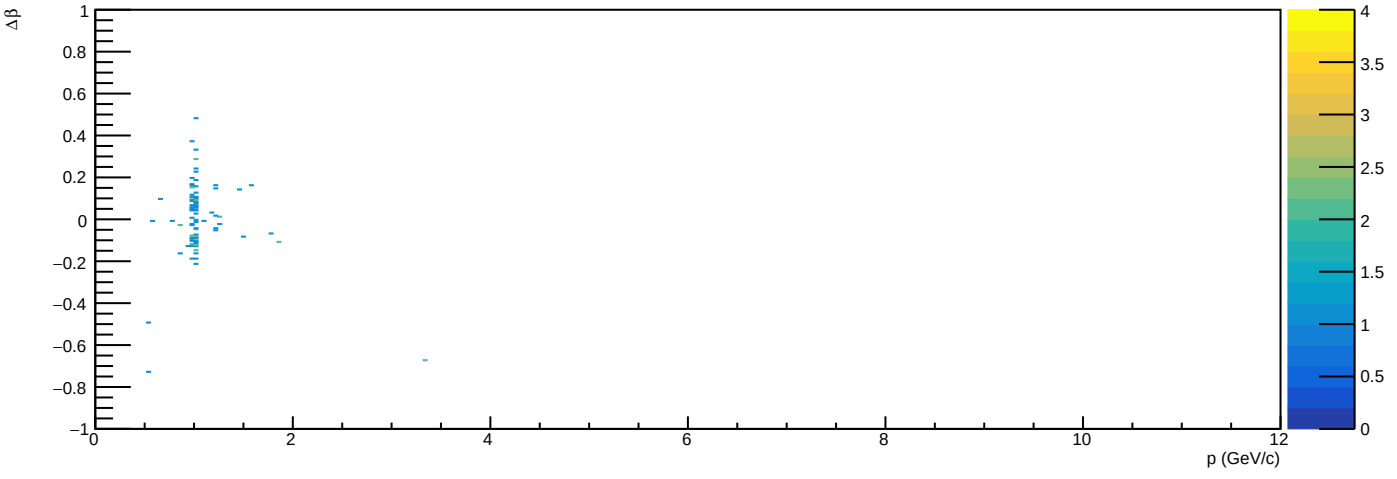

/Independent/Hist_DetectedParticleKinematics/Pi-/PVsTheta
p (GeV/c)
θ°

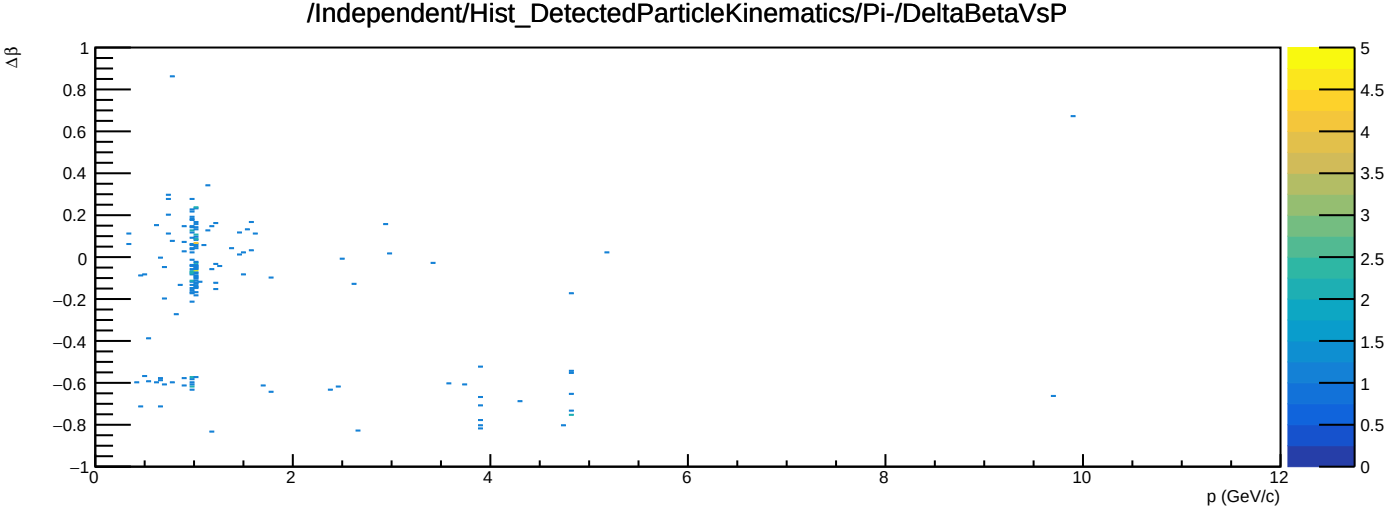

/Independent/Hist_DetectedParticleKinematics/Pi-/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25
20
15
10
5
0

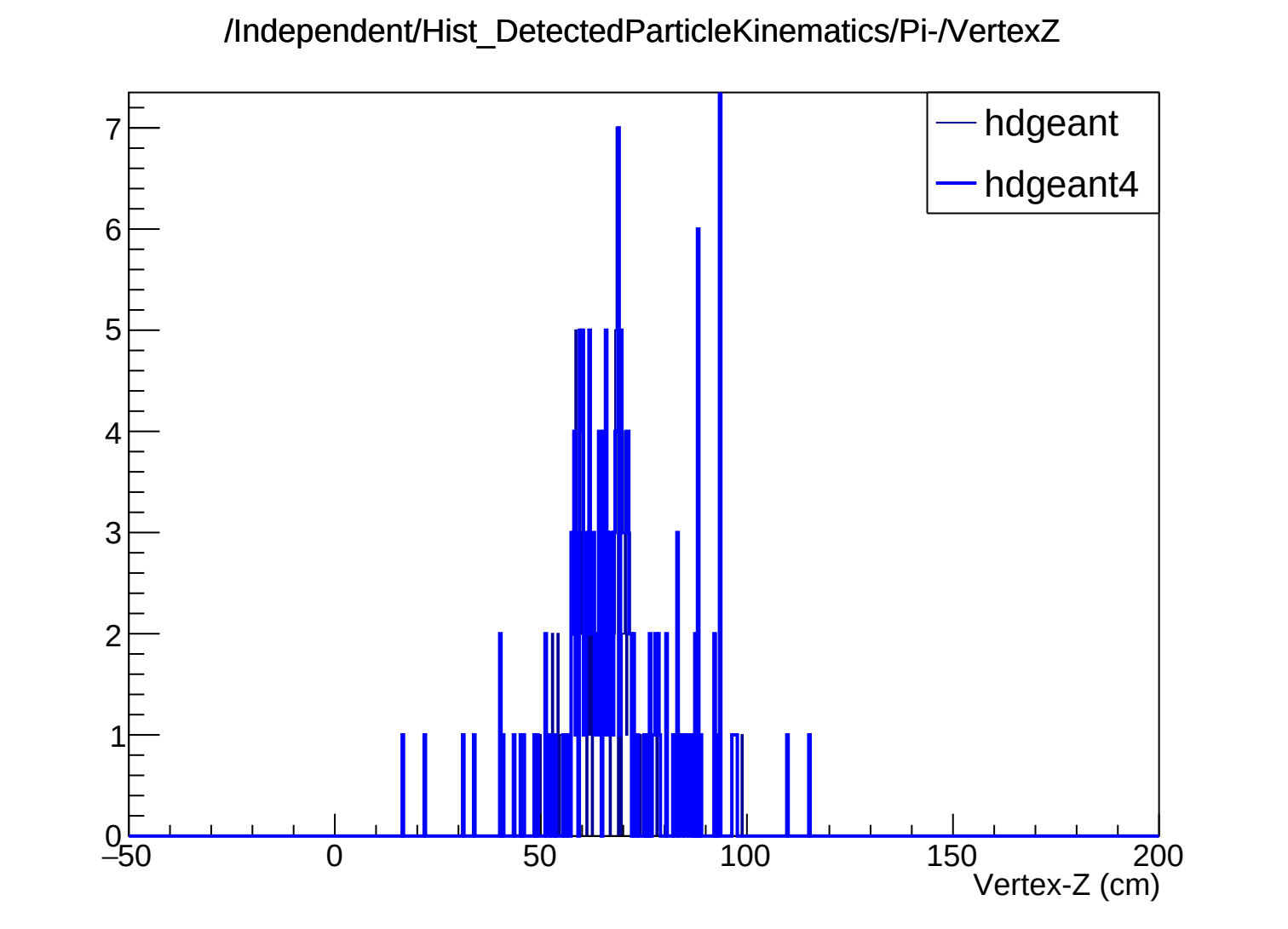

/Independent/Hist_DetectedParticleKinematics/Pi-/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25
20
15
10
5
0

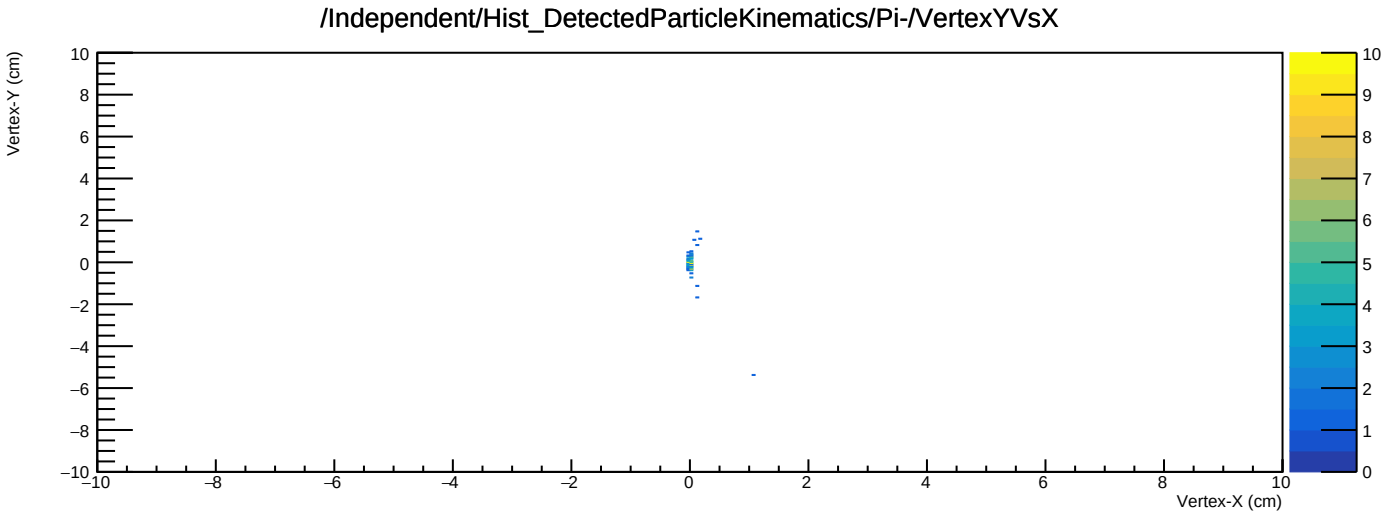

/Independent/Hist_DetectedParticleKinematics/Pi-/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
4
3.5
3
2.5
2
1.5
1
0.5
0

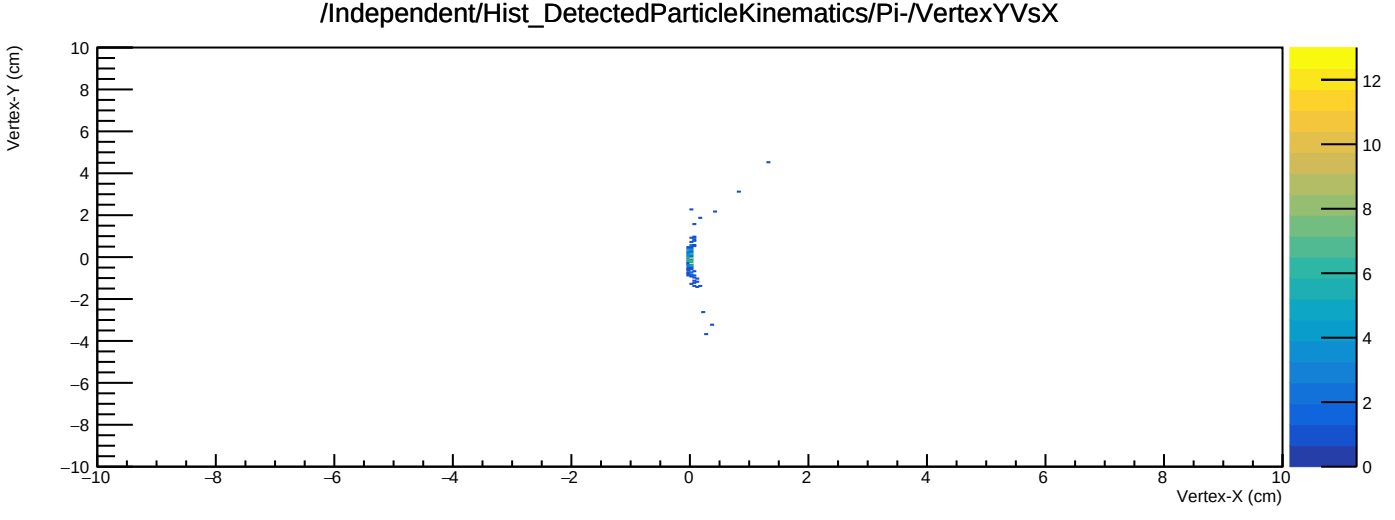

/Independent/Hist_DetectedParticleKinematics/Pi-/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
3
2.5
2
1.5
1
0.5
0

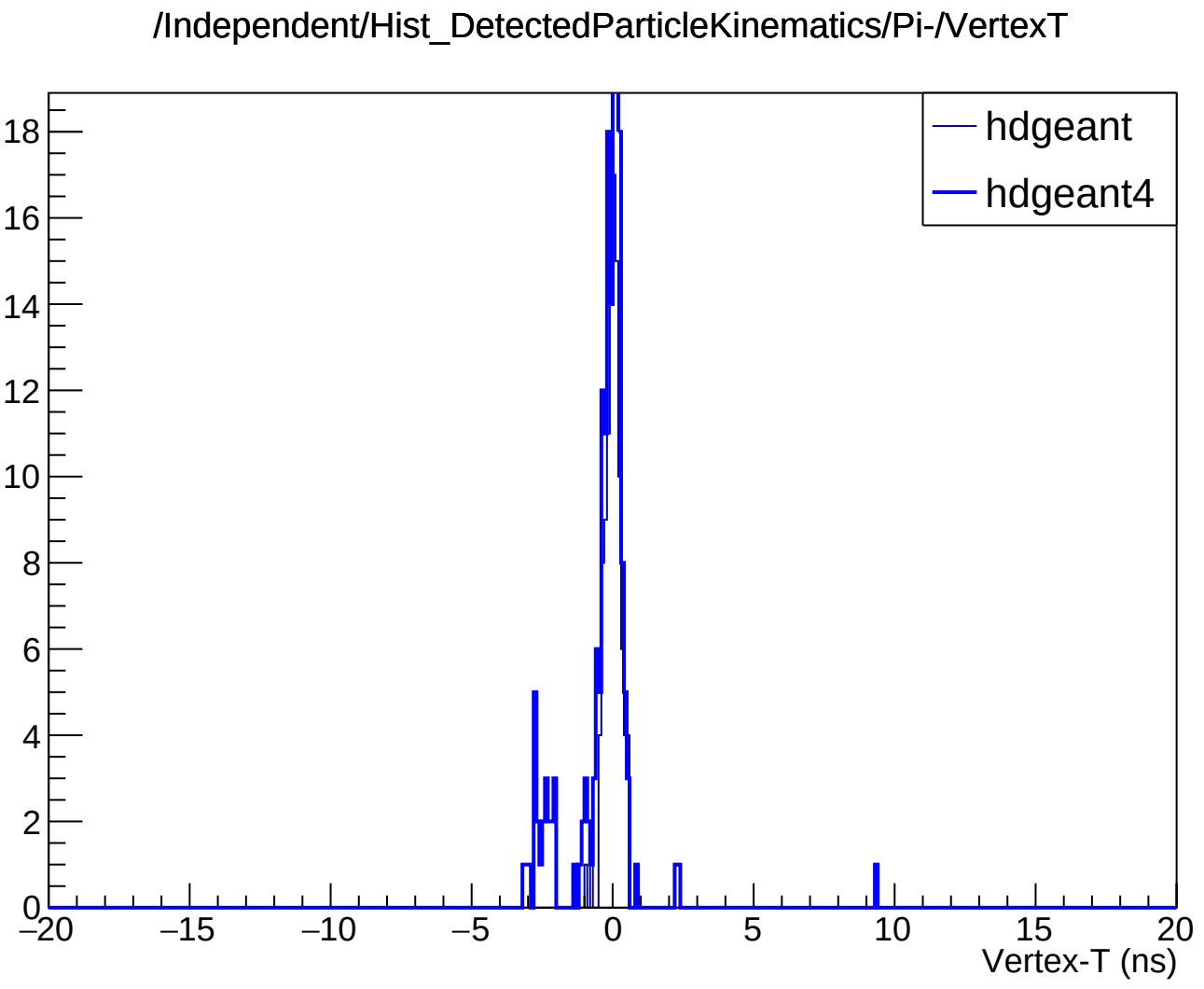

/Independent/Hist_DetectedParticleKinematics/Pi-/DeltaBetaVsP
Δβ
p (GeV/c)

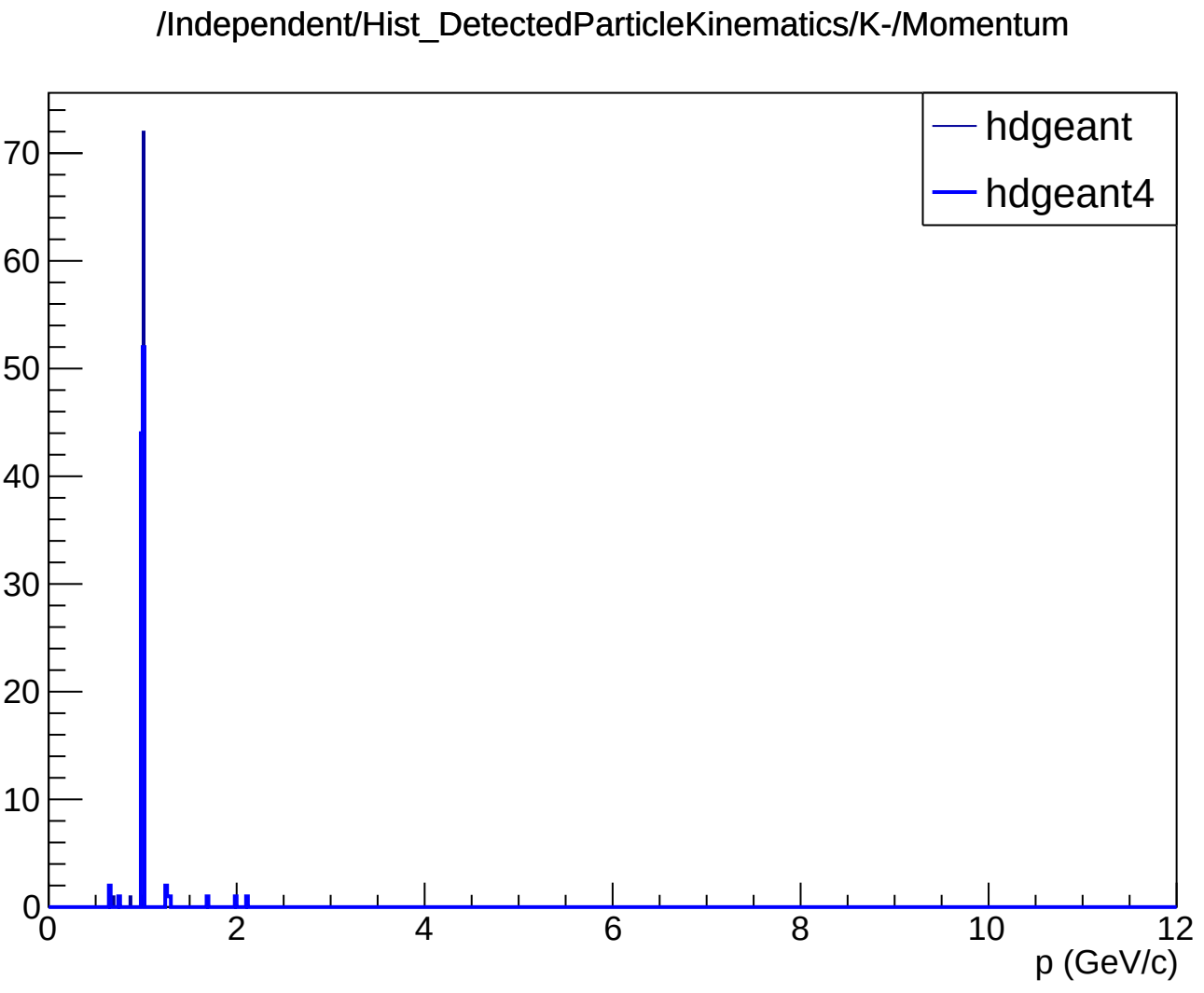

/Independent/Hist_DetectedParticleKinematics/Pi-/DeltaBetaVsP
Δβ
p (GeV/c)

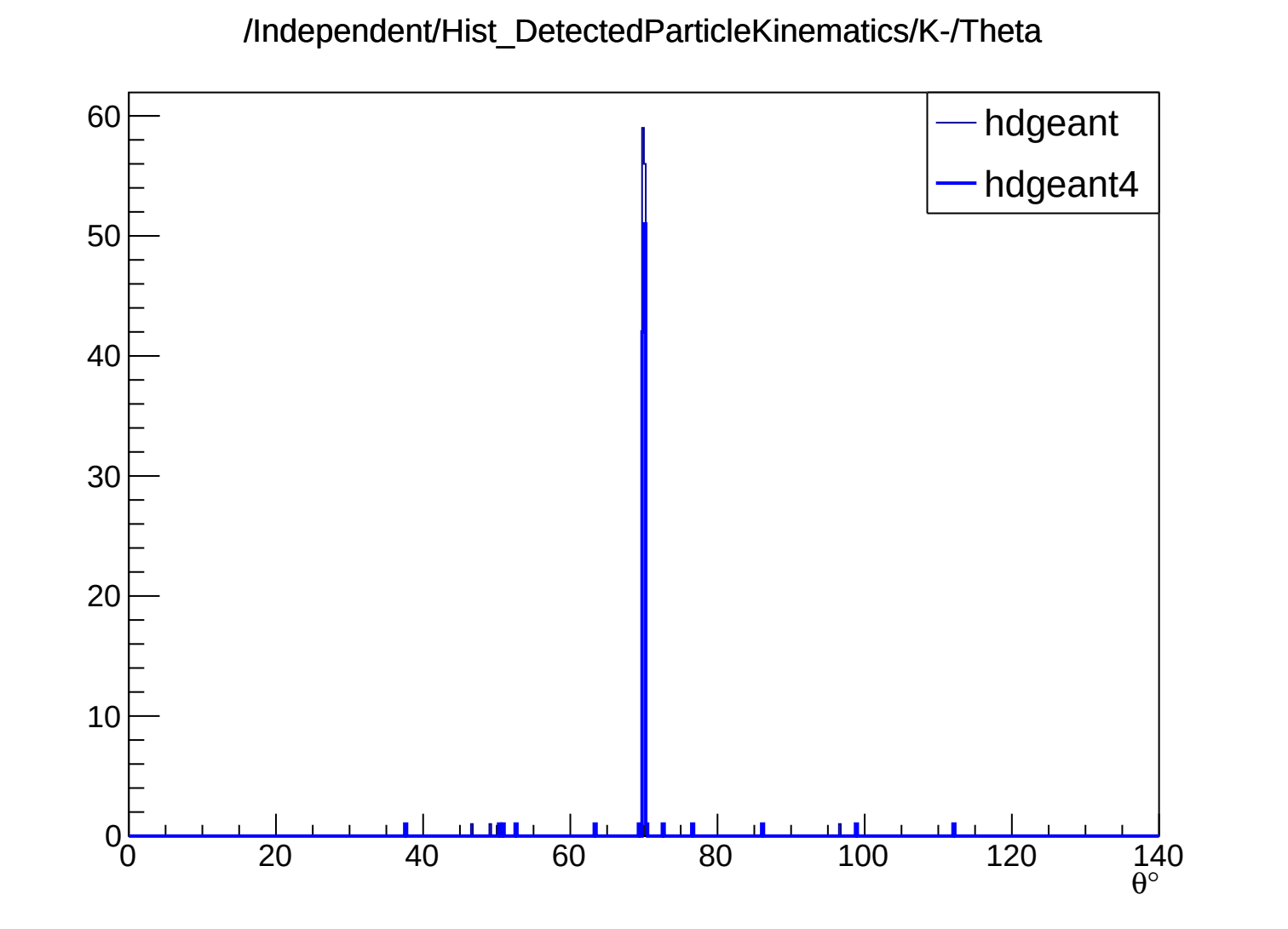

/Independent/Hist_DetectedParticleKinematics/Pi-/VertexZ
hdgeant
hdgeant4
0
1
2
3
4
5
6
7
–50
0
50
100
150
200
Vertex-Z (cm)

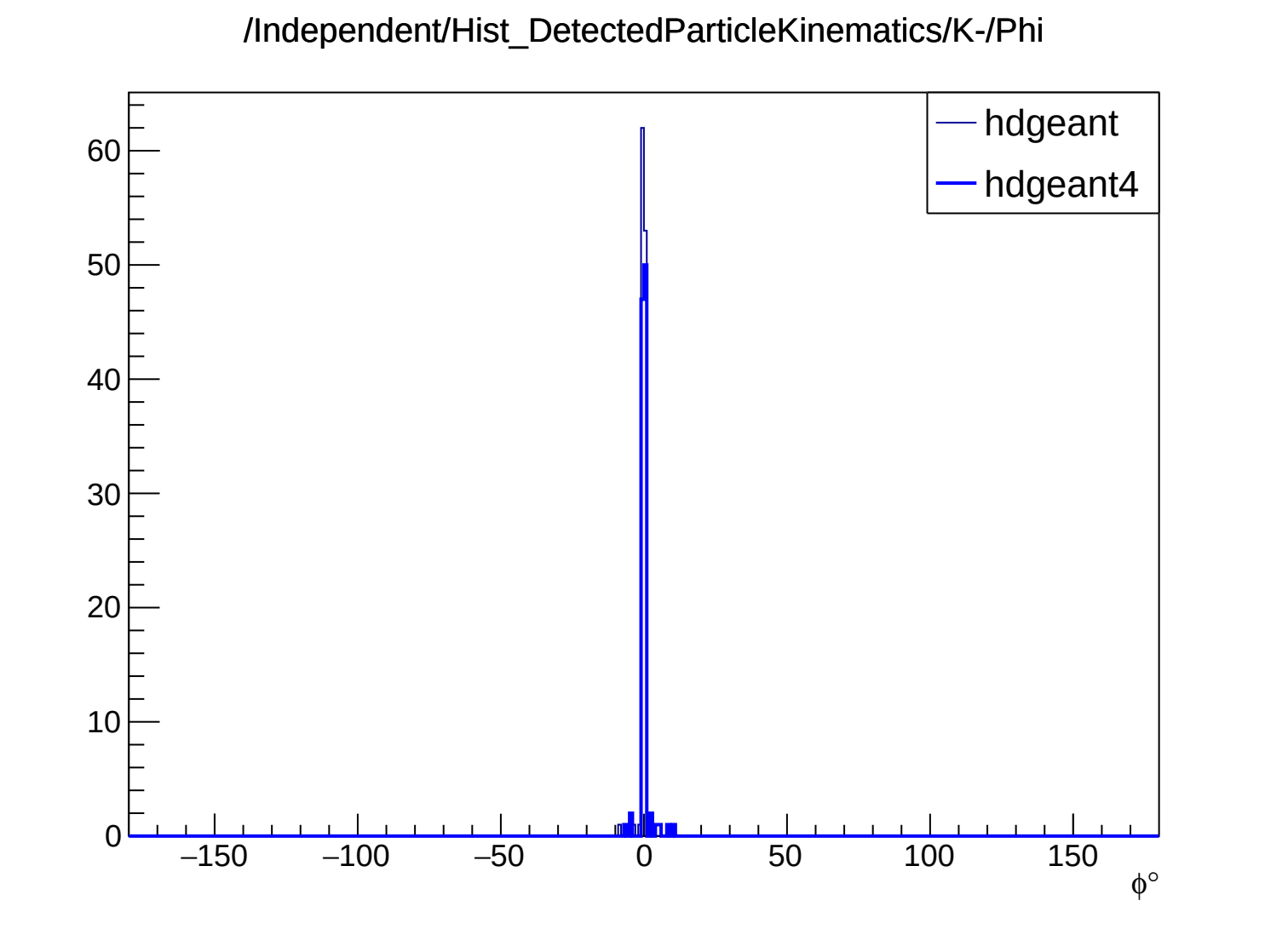

/Independent/Hist_DetectedParticleKinematics/Pi-/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
0
1
2
3
4
5
6
7
8
9
10

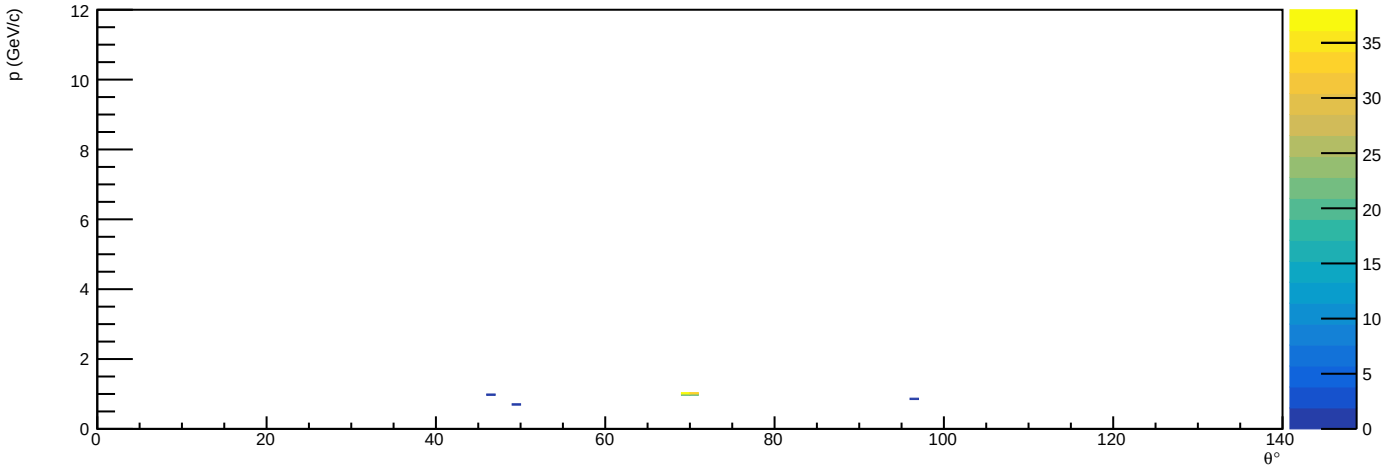

/Independent/Hist_DetectedParticleKinematics/Pi-/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
0
2
4
6
8
10
12

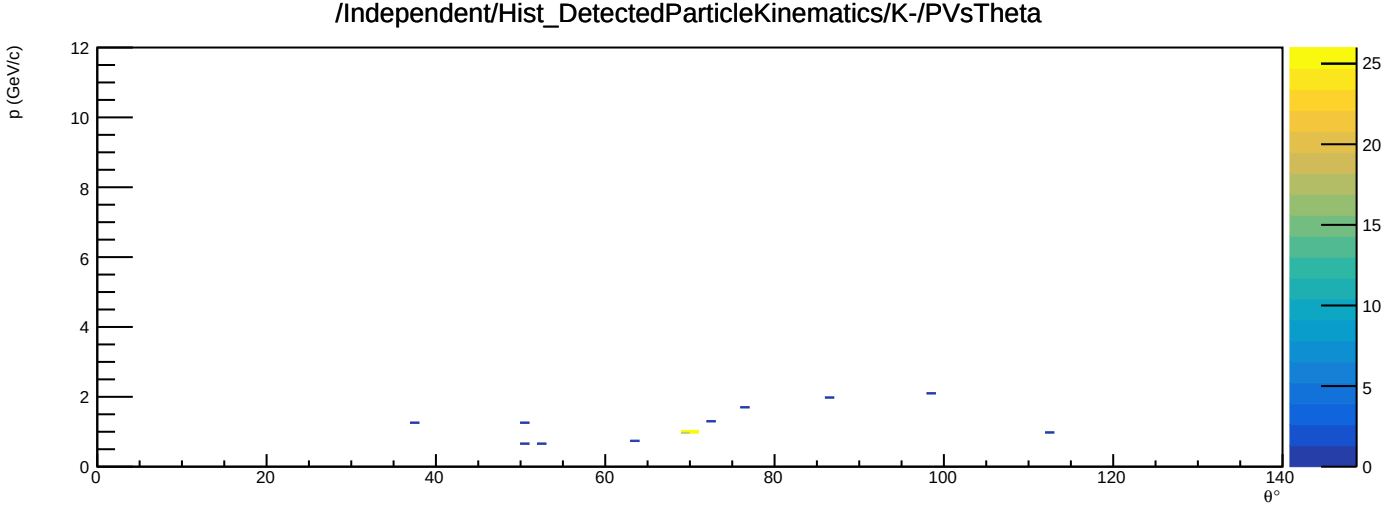

/Independent/Hist_DetectedParticleKinematics/Pi-/VertexT
hdgeant
hdgeant4
18
16
14
12
10
8
6
4
2
0
–20
–15
–10
–5
0
5
10
15
20
Vertex-T (ns)

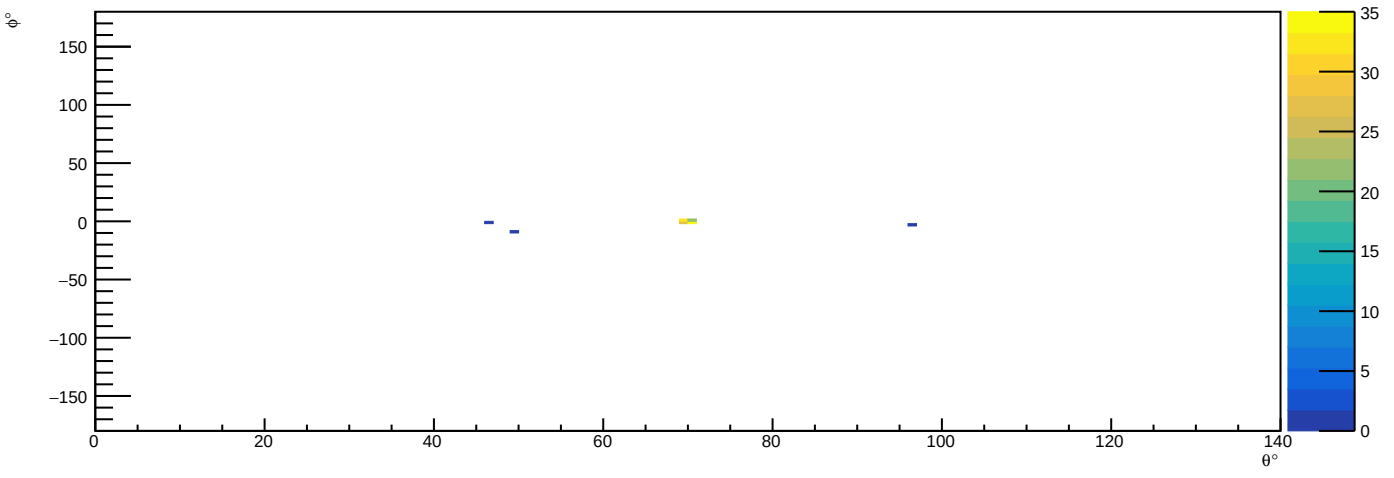

/Independent/Hist_DetectedParticleKinematics/K-/Momentum
hdgeant
hdgeant4
70
60
50
40
30
20
10
0
0
2
4
6
8
10
12
p (GeV/c)

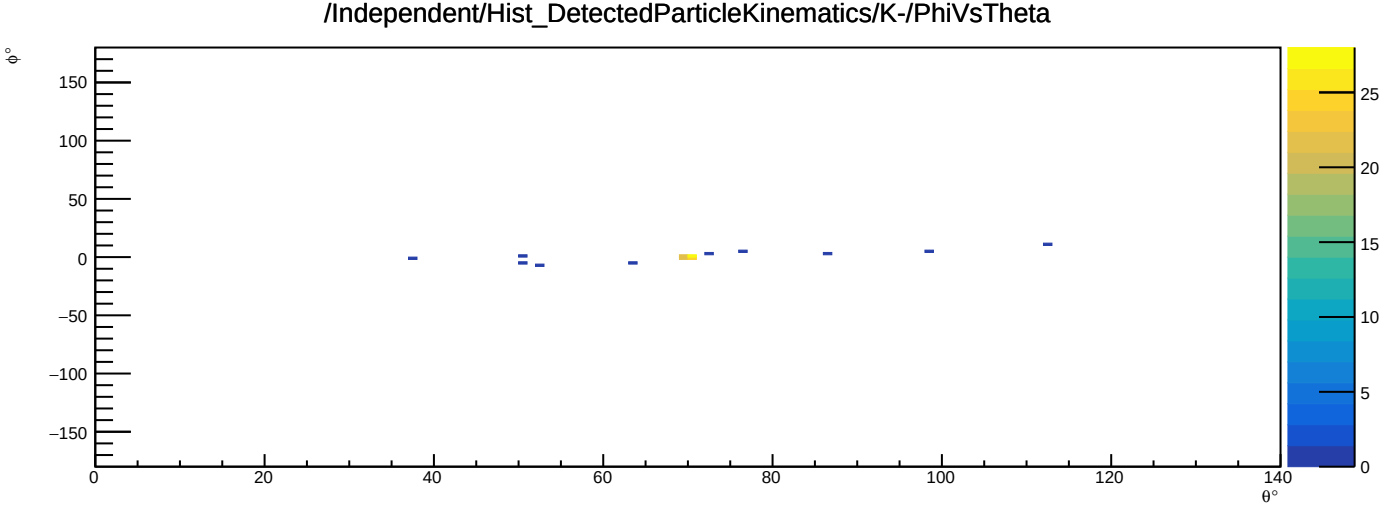

/Independent/Hist_DetectedParticleKinematics/K-/Theta
hdgeant
hdgeant4
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
θ°

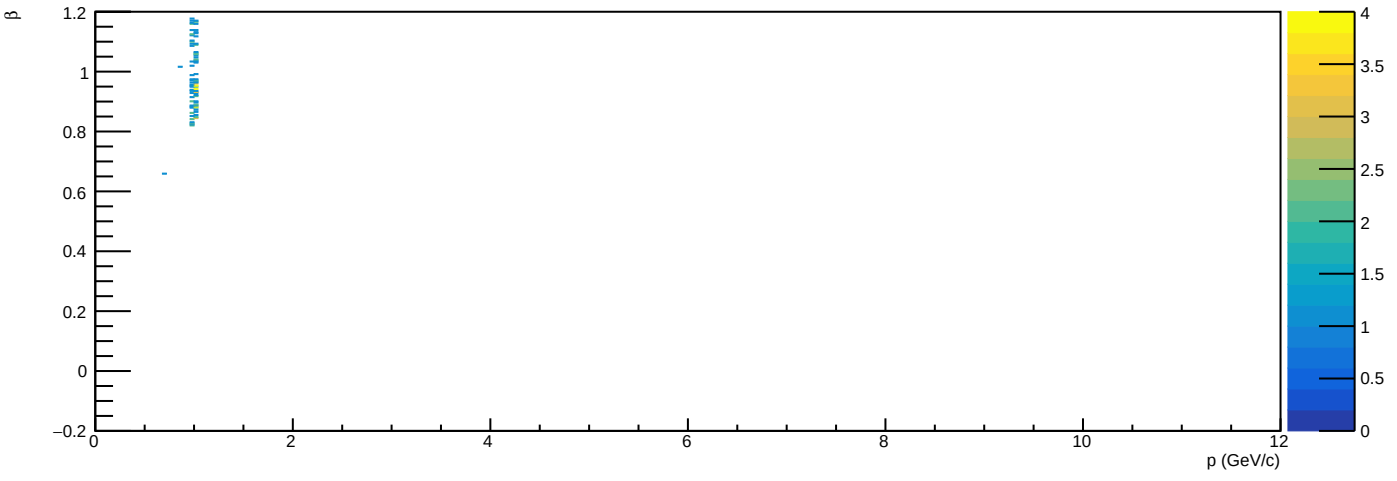

/Independent/Hist_DetectedParticleKinematics/K-/Phi
hdgeant
hdgeant4
60
50
40
30
20
10
0
–150
–100
–50
0
50
100
150
ϕ°

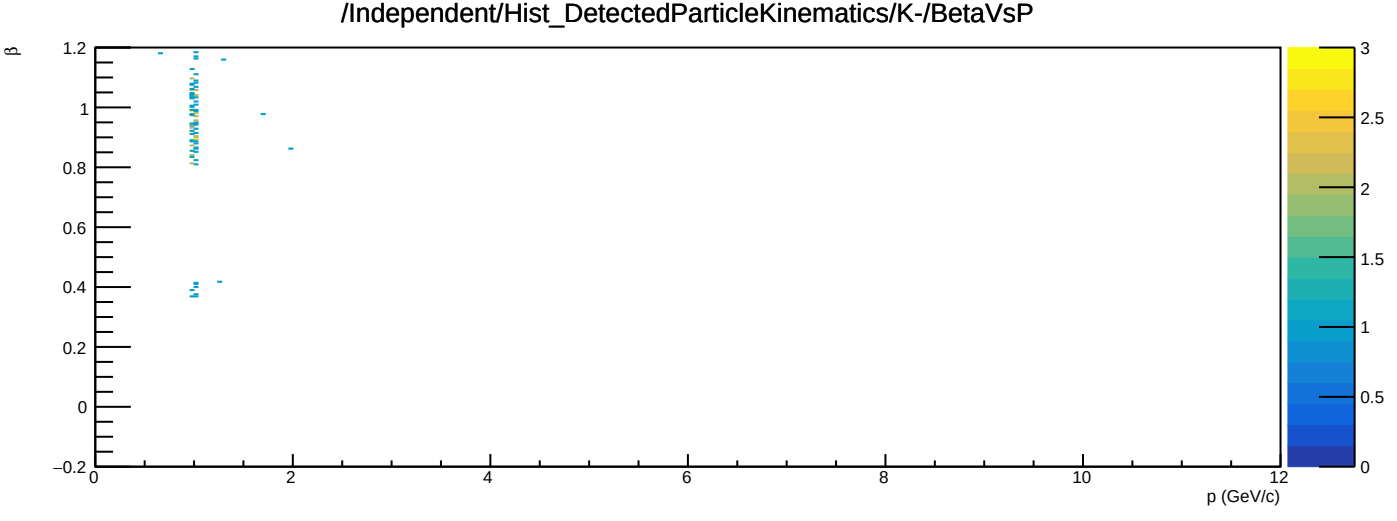

/Independent/Hist_DetectedParticleKinematics/K-/PVsTheta
p (GeV/c)
θ°

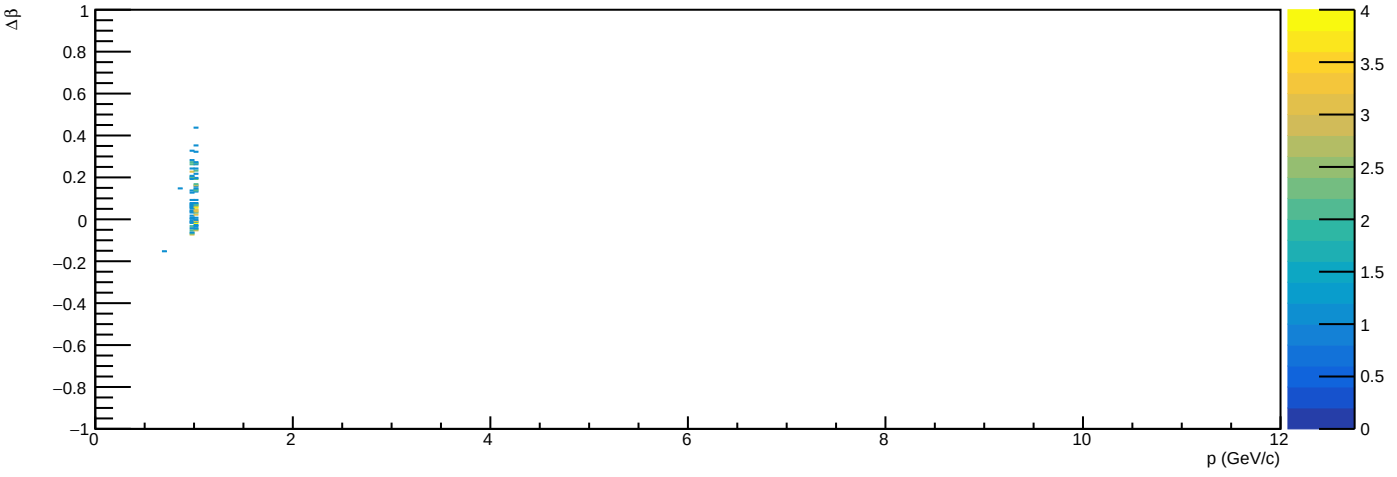

/Independent/Hist_DetectedParticleKinematics/K-/PVsTheta
p (GeV/c)
θ°

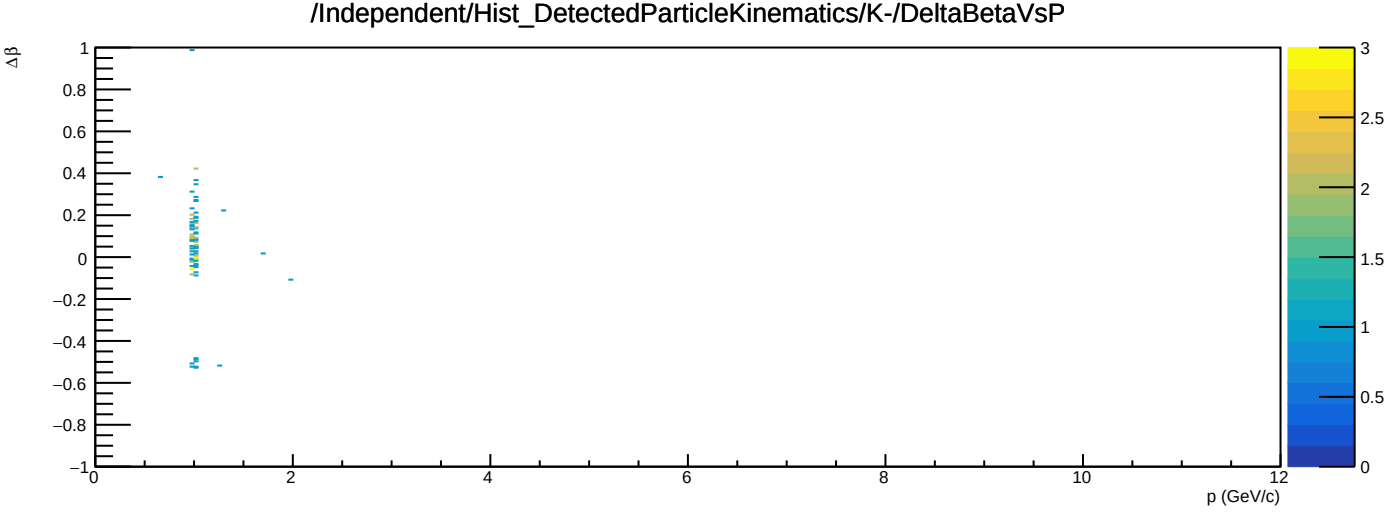

/Independent/Hist_DetectedParticleKinematics/K-/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
35
30
25
20
15
10
5
0

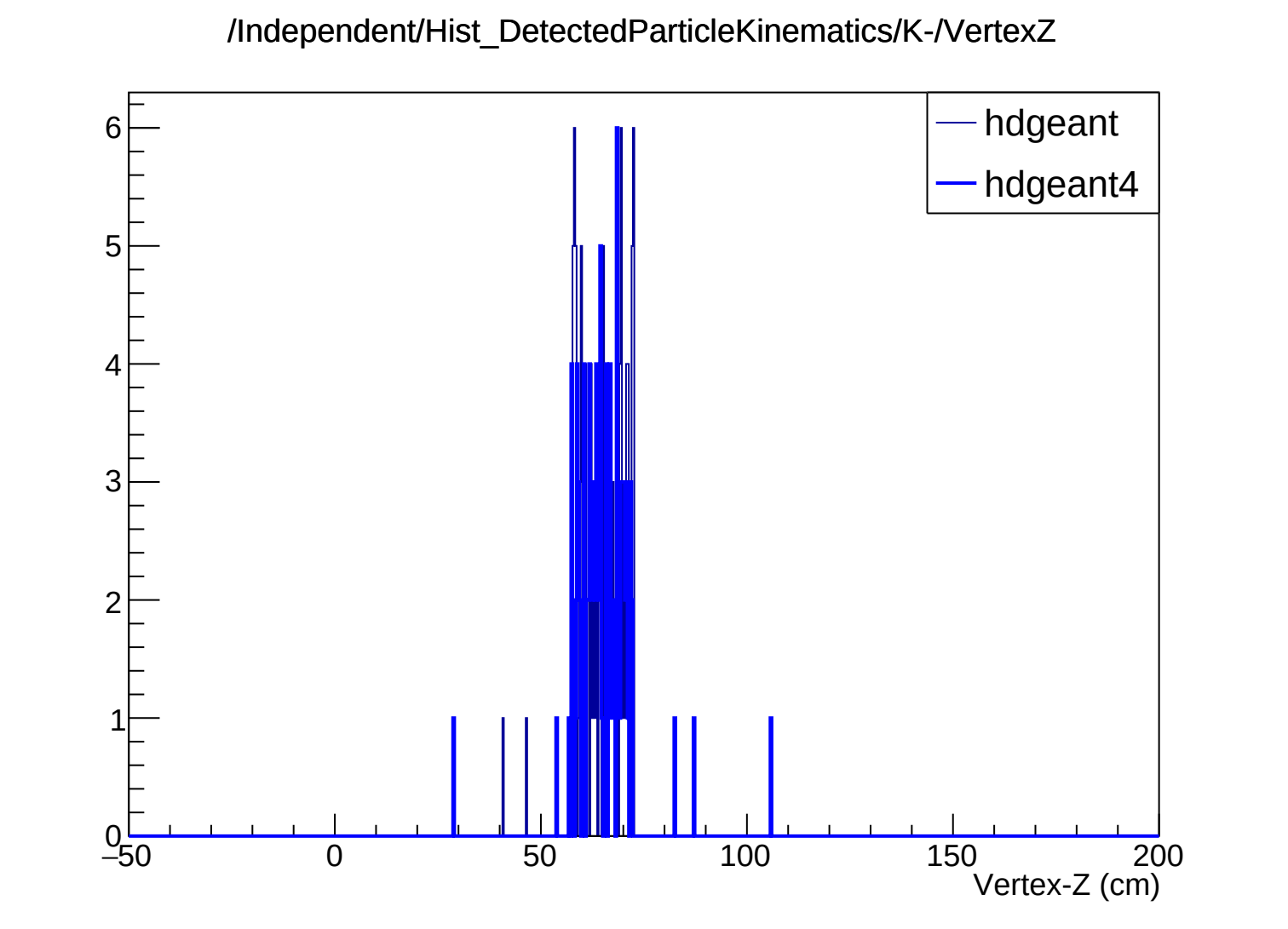

/Independent/Hist_DetectedParticleKinematics/K-/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
25
20
15
10
5
0

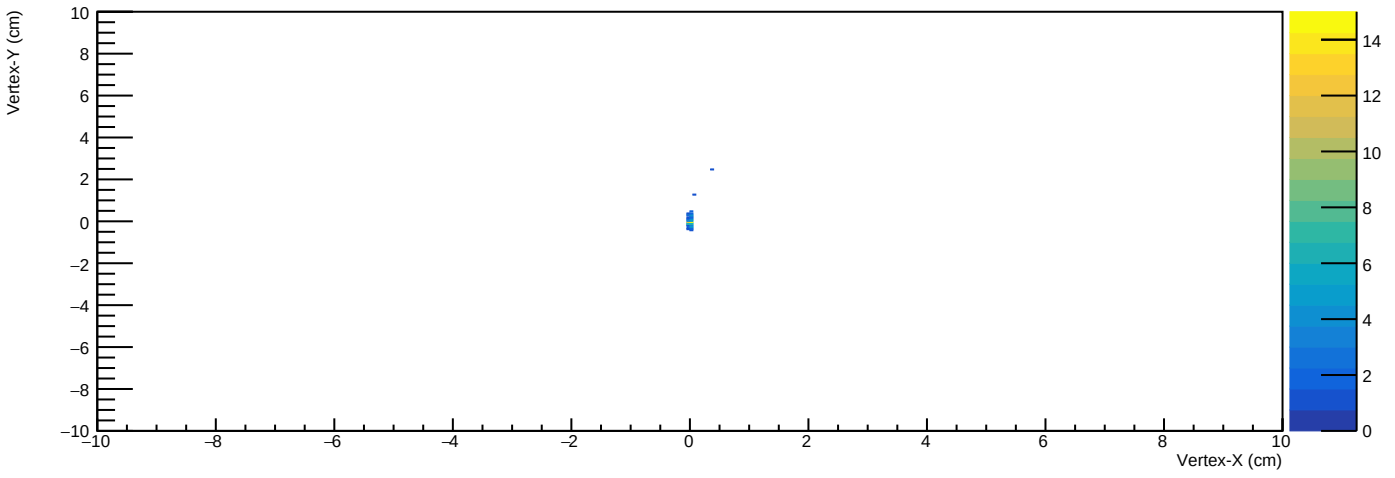

/Independent/Hist_DetectedParticleKinematics/K-/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
4
3.5
3
2.5
2
1.5
1
0.5
0

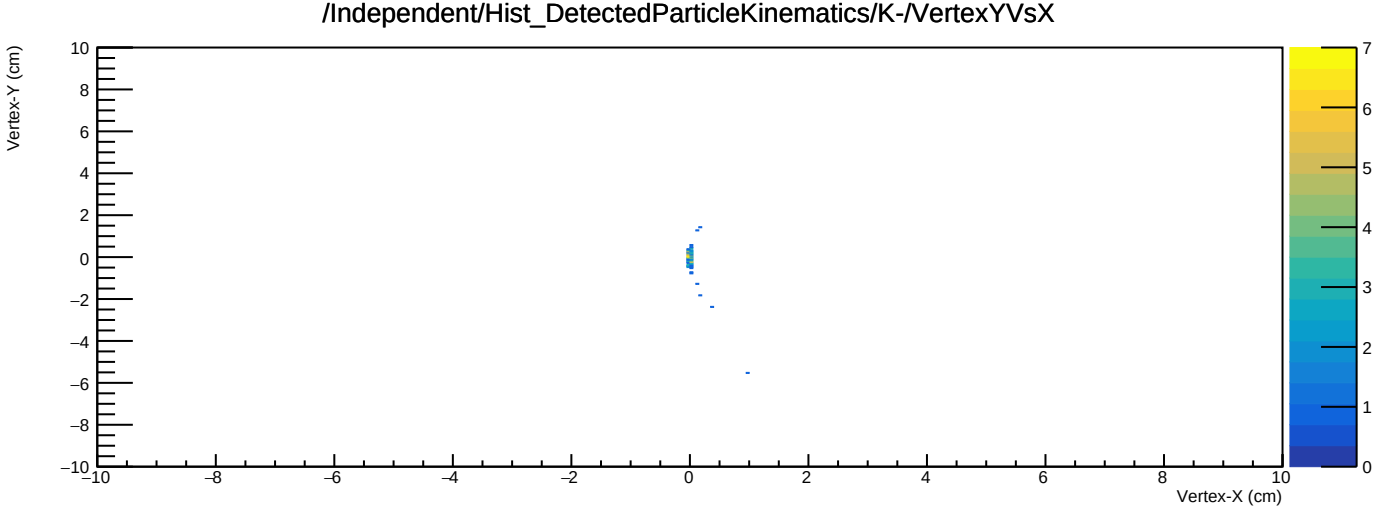

/Independent/Hist_DetectedParticleKinematics/K-/BetaVsP
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
3
2.5
2
1.5
1
0.5
0

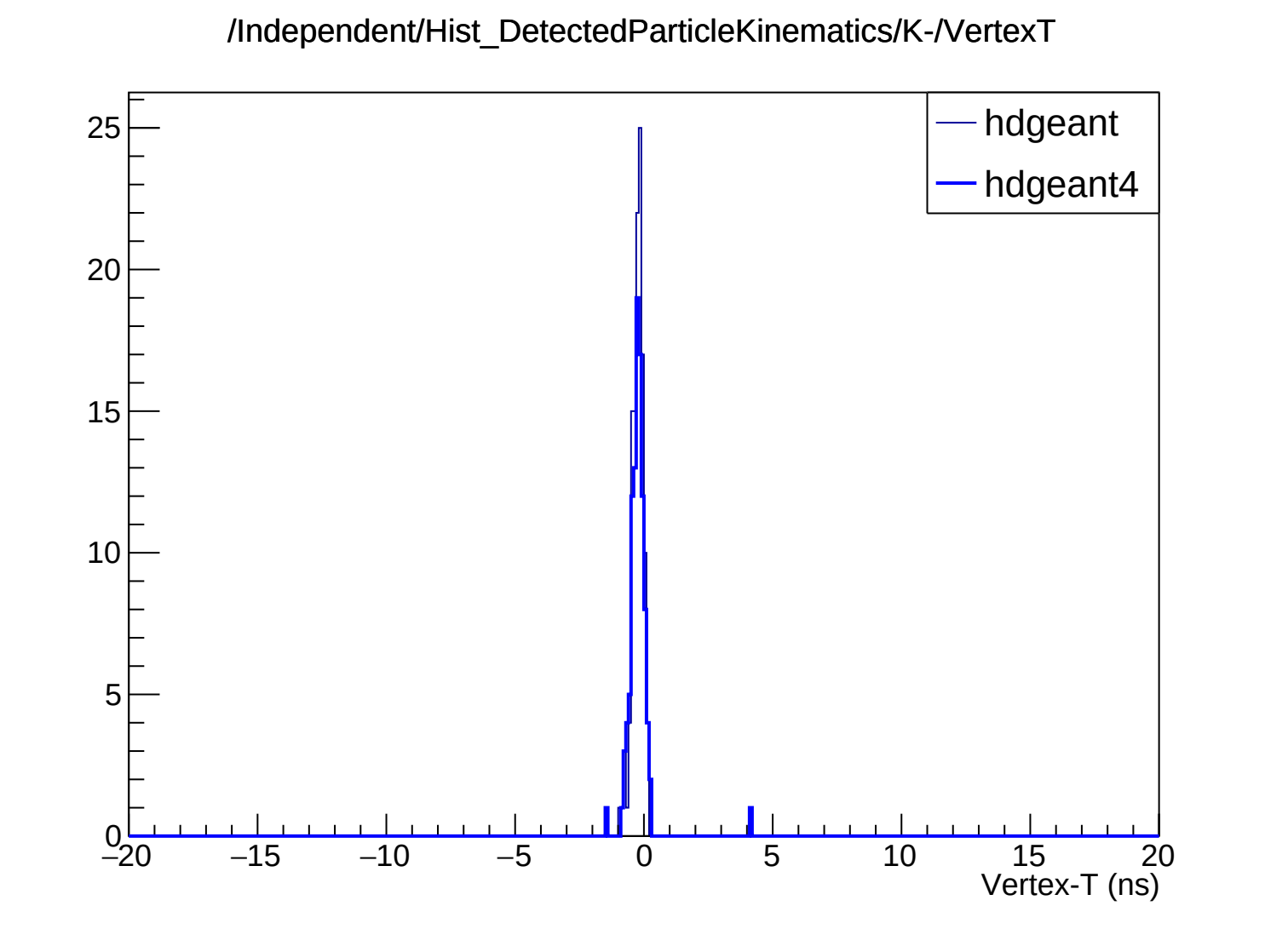

/Independent/Hist_DetectedParticleKinematics/K-/DeltaBetaVsP
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)
4
3.5
3
2.5
2
1.5
1
0.5
0

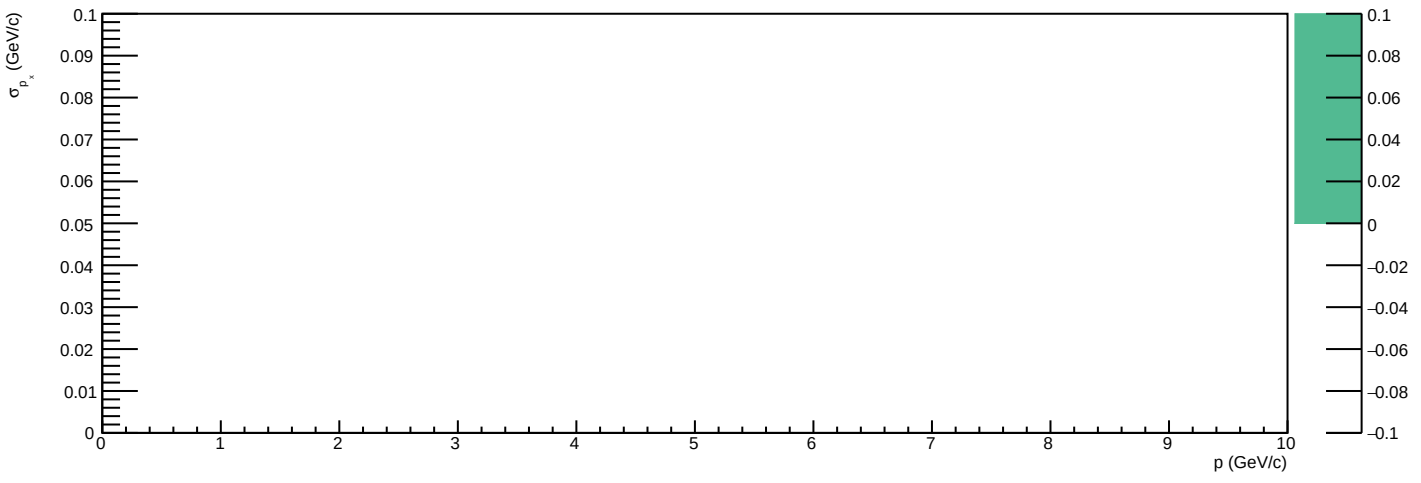

/Independent/Hist_DetectedParticleKinematics/K-/DeltaBetaVsP
Δβ
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)
3
2.5
2
1.5
1
0.5
0

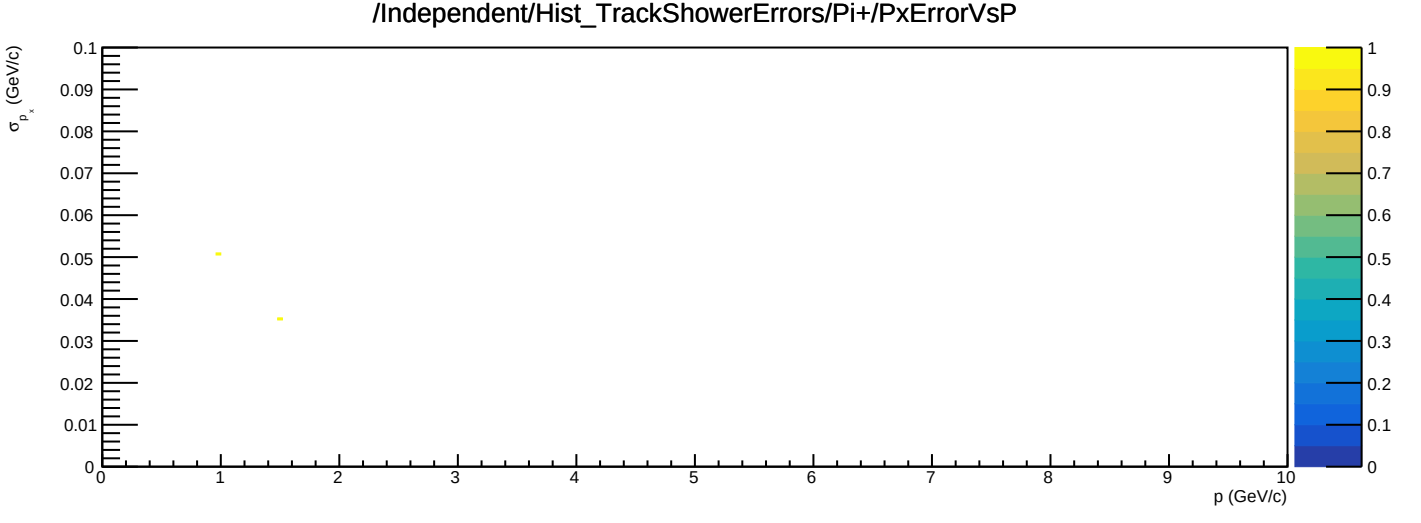

/Independent/Hist_DetectedParticleKinematics/K-/VertexZ
hdgeant
hdgeant4
6
5
4
3
2
1
0
–50
0
50
100
150
200
Vertex-Z (cm)

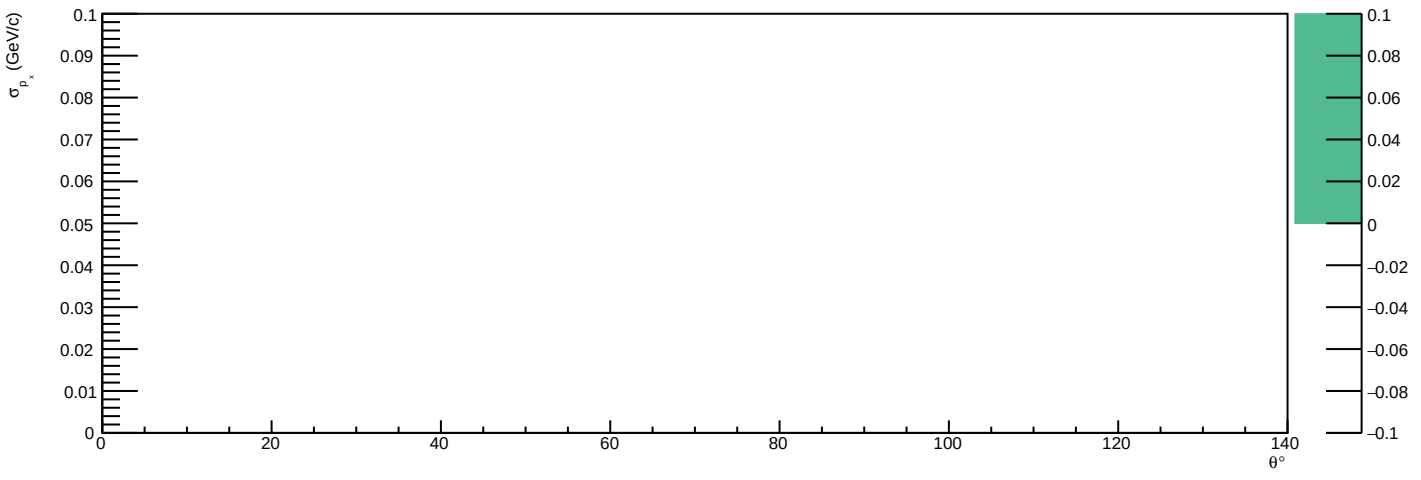

/Independent/Hist_DetectedParticleKinematics/K-/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)

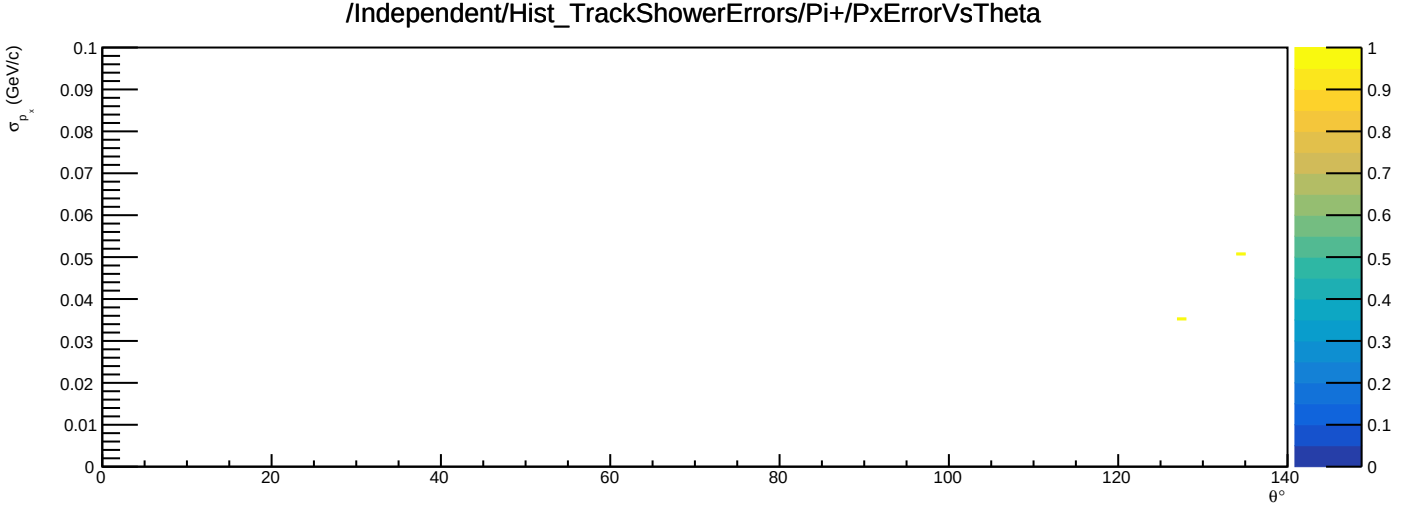

/Independent/Hist_DetectedParticleKinematics/K-/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)

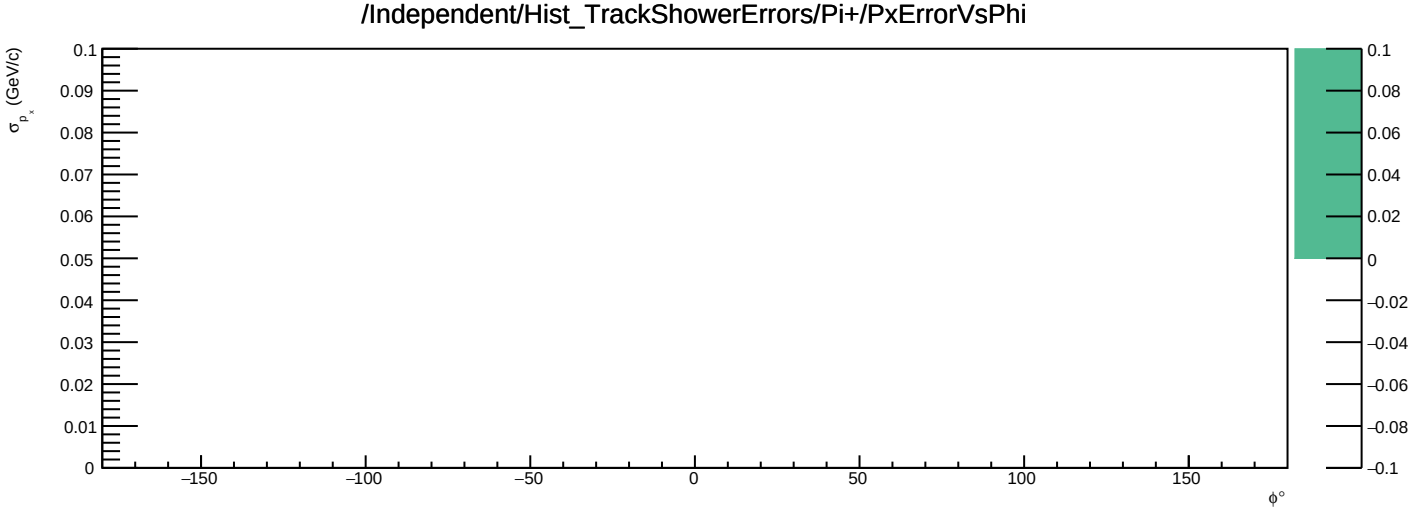

/Independent/Hist_DetectedParticleKinematics/K-/VertexT
hdgeant
hdgeant4
25
20
15
10
5
0
–20
–15
–10
–5
0
5
10
15
20
Vertex-T (ns)

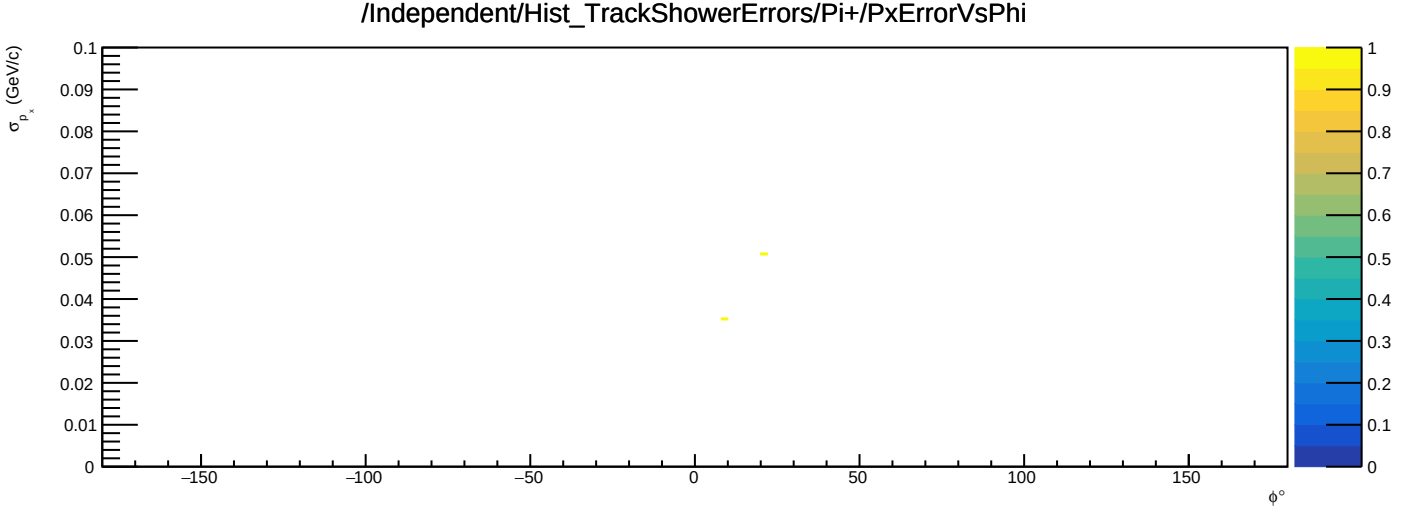

/Independent/Hist_TrackShowerErrors/Pi+/PxErrorVsP
σ p_x (GeV/c)
p (GeV/c)

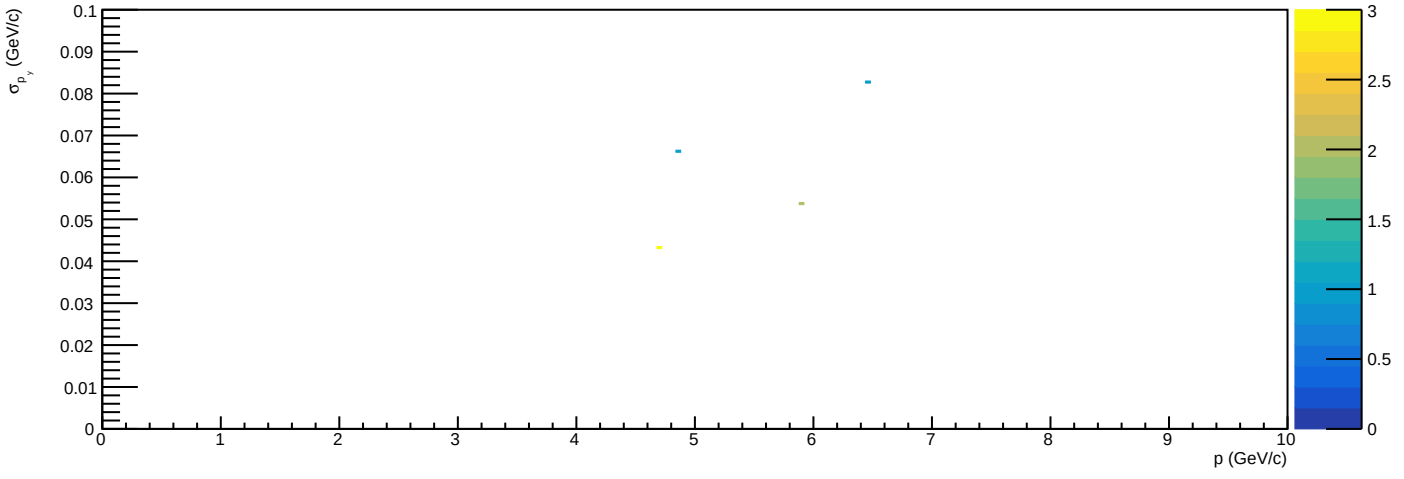

/Independent/Hist_TrackShowerErrors/Pi+/PxErrorVsP
σ p_x (GeV/c)
p (GeV/c)

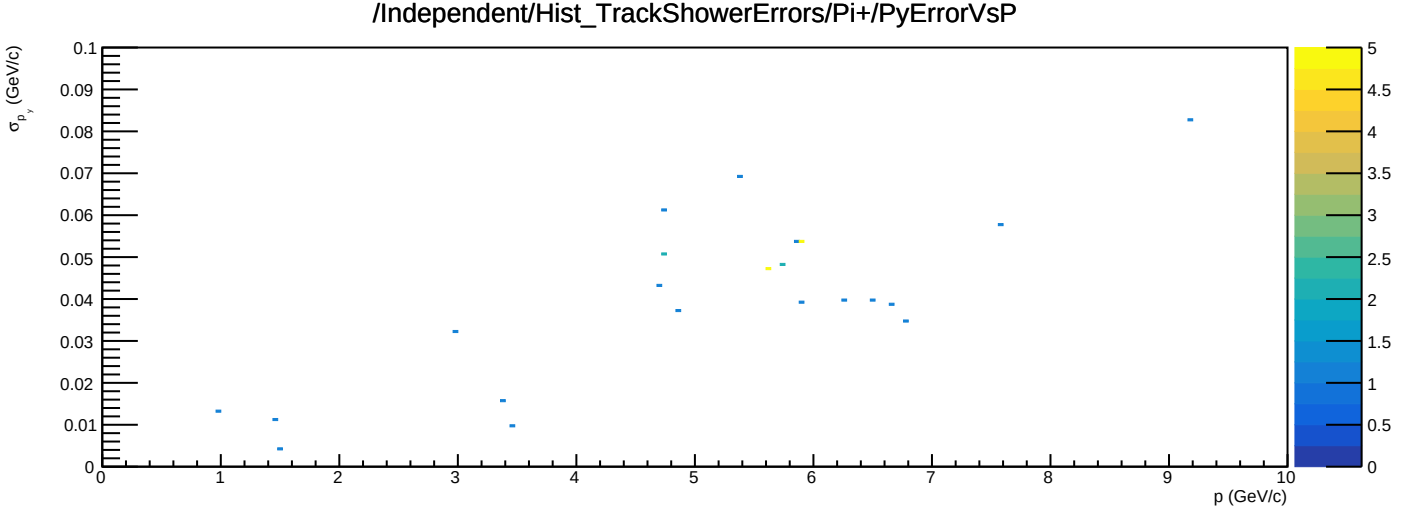

/Independent/Hist_TrackShowerErrors/Pi+/PxErrorVsTheta
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
20
40
60
80
100
120
140
θ°
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

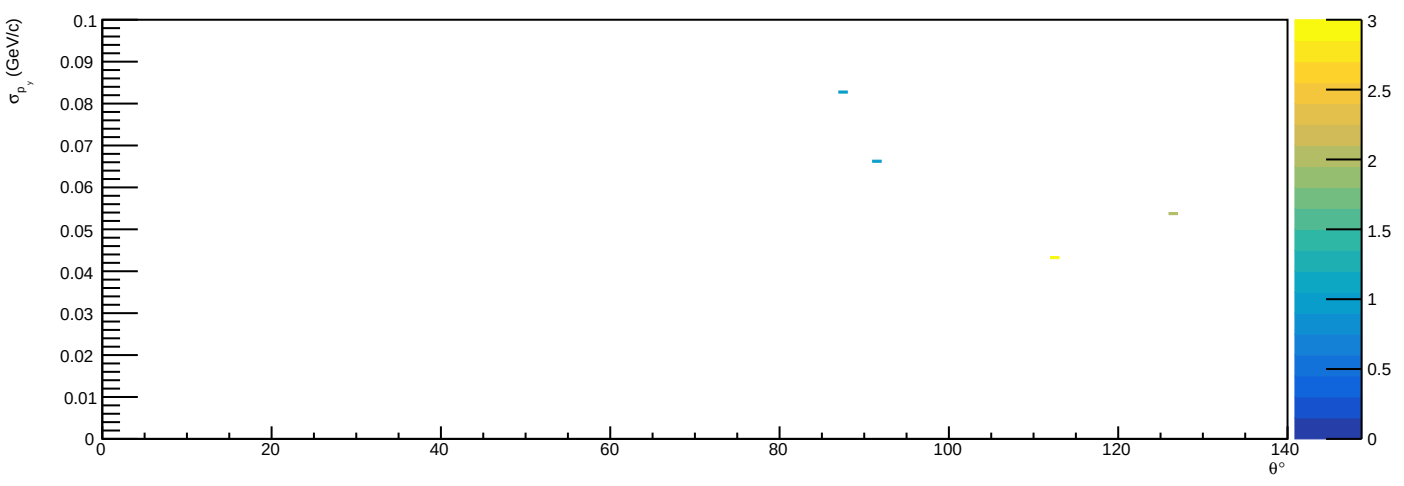

/Independent/Hist_TrackShowerErrors/Pi+/PxErrorVsTheta
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
20
40
60
80
100
120
140
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

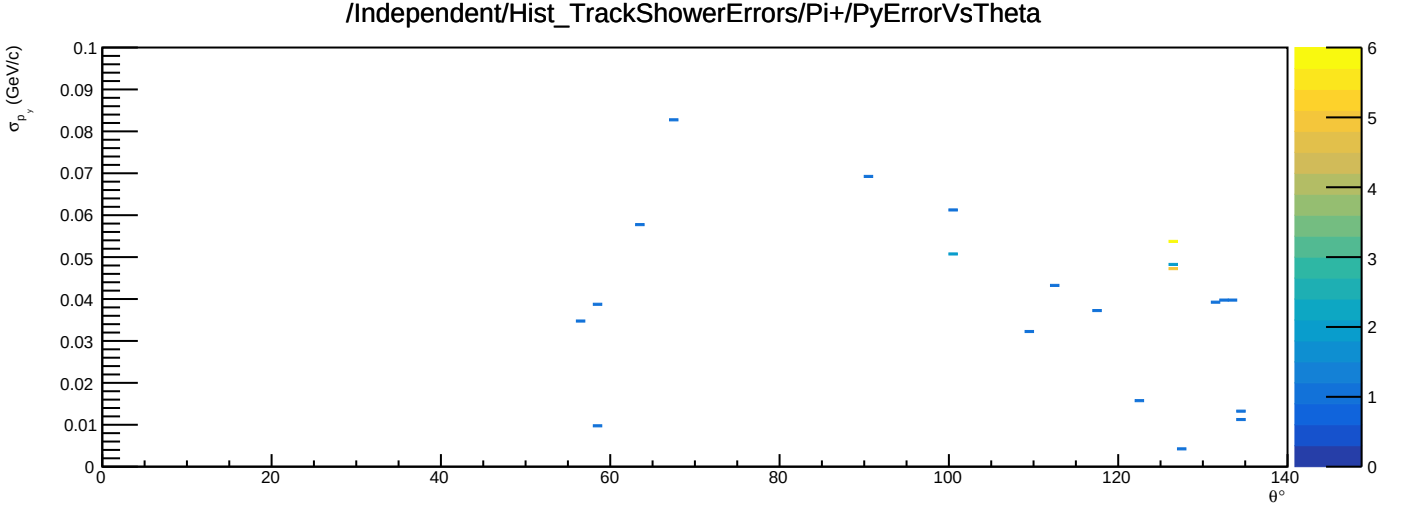

/Independent/Hist_TrackShowerErrors/Pi+/PxErrorVsPhi
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°
0.1
0.08
0.06
0.04
0.02
0
–0.02
–0.04
–0.06
–0.08
–0.1

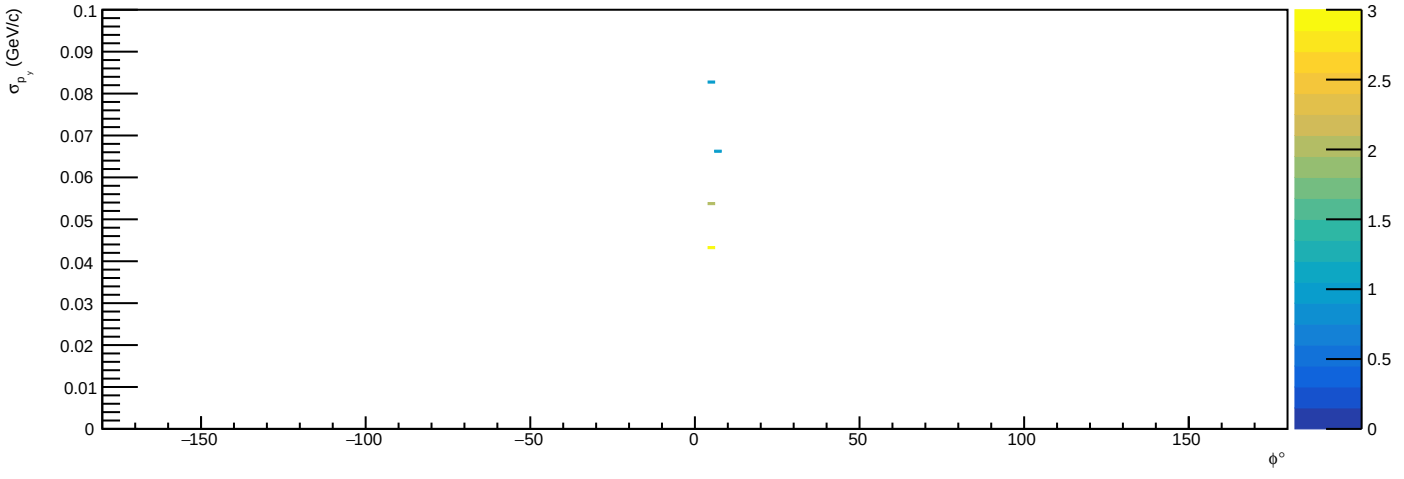

/Independent/Hist_TrackShowerErrors/Pi+/PxErrorVsPhi
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

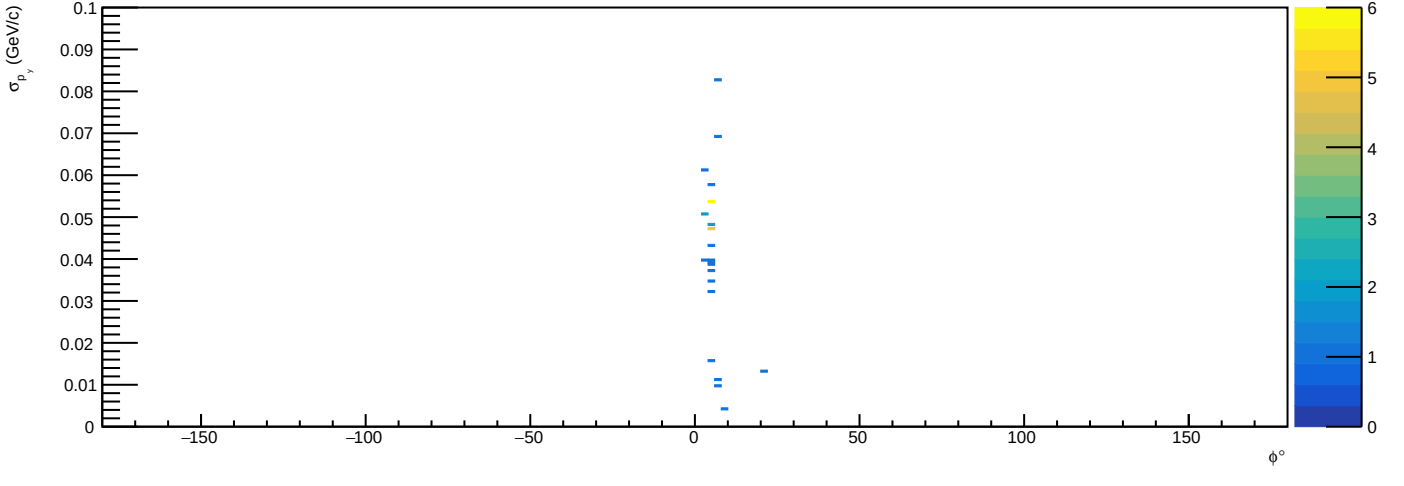

/Independent/Hist_TrackShowerErrors/Pi+/PyErrorVsP
σ p_y (GeV/c)
p (GeV/c)

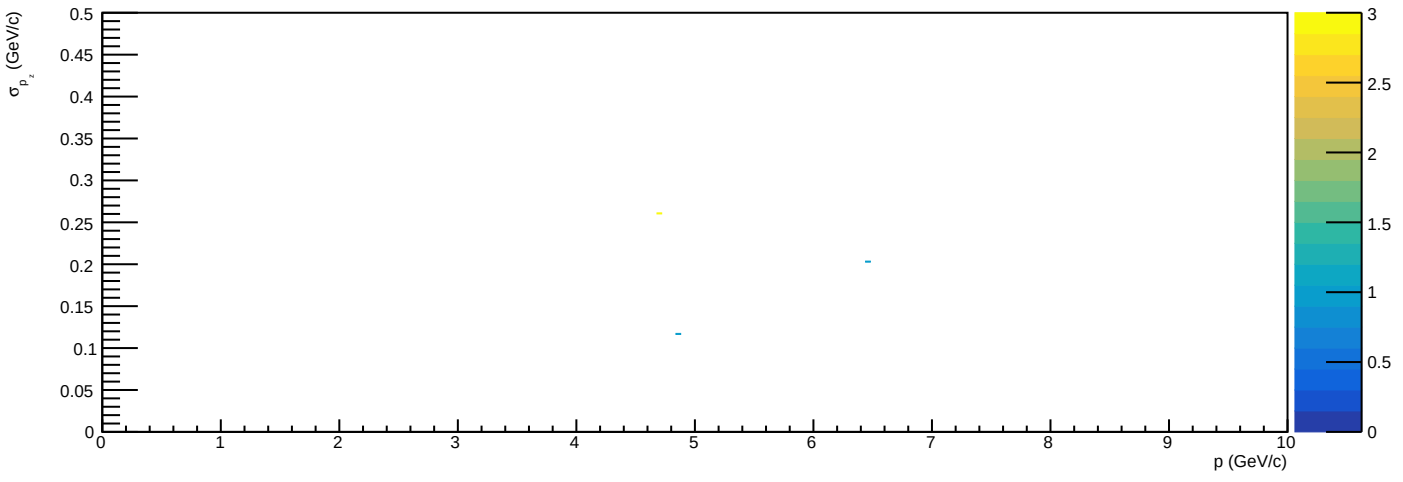

/Independent/Hist_TrackShowerErrors/Pi+/PyErrorVsP
σ p_y (GeV/c)
p (GeV/c)

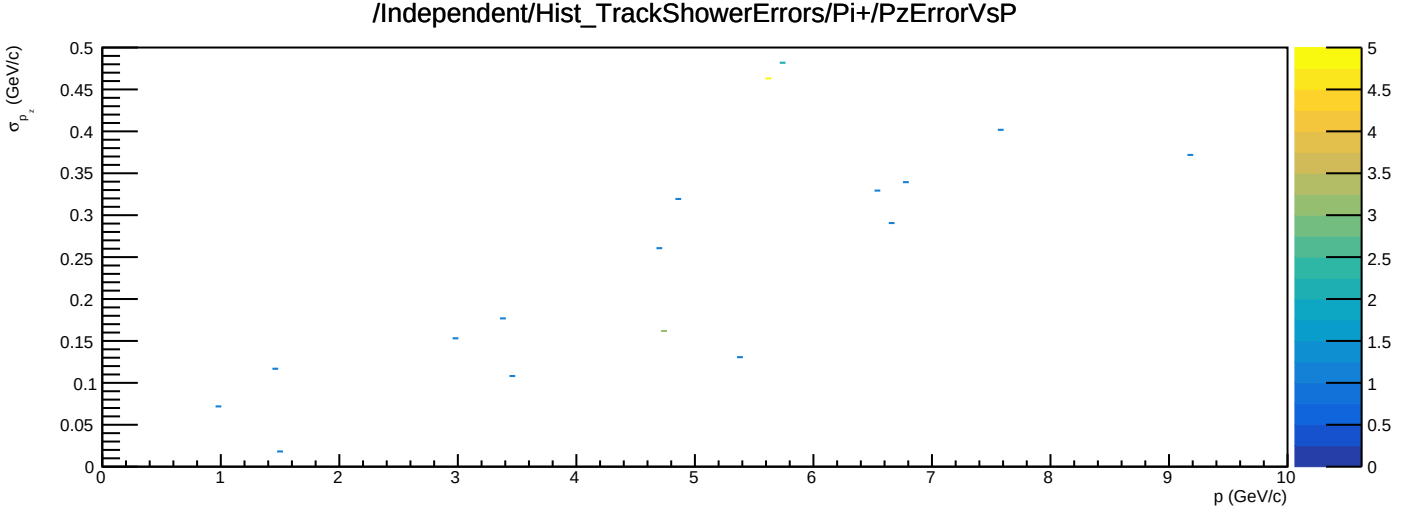

/Independent/Hist_TrackShowerErrors/Pi+/PyErrorVsTheta
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
20
40
60
80
100
120
140
θ°
3
2.5
2
1.5
1
0.5
0

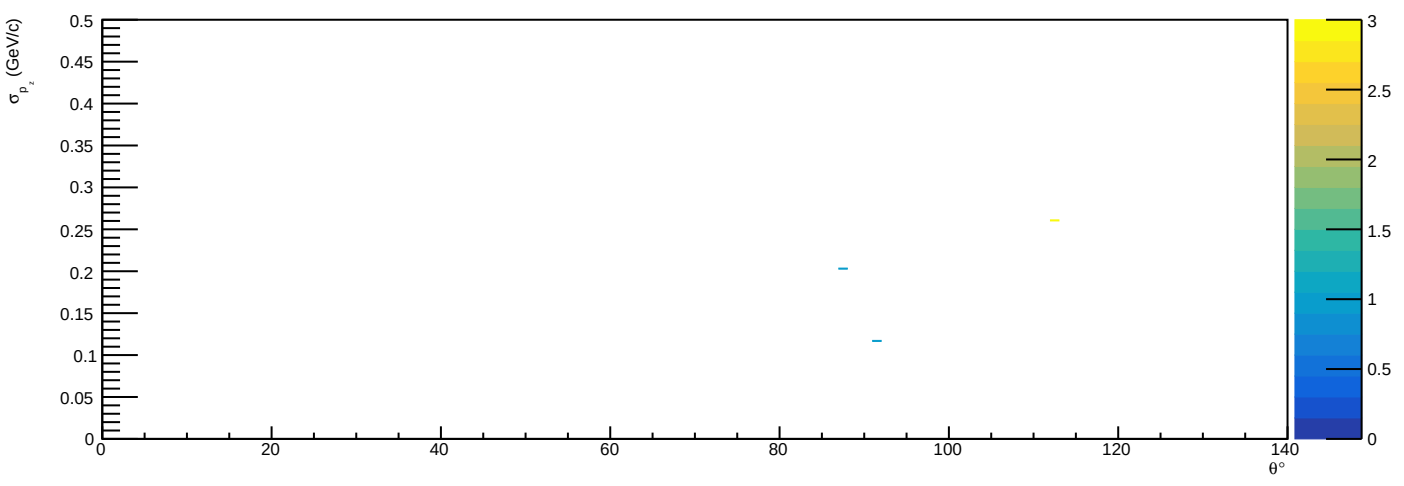

/Independent/Hist_TrackShowerErrors/Pi+/PyErrorVsTheta
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
20
40
60
80
100
120
140
θ°
6
5
4
3
2
1
0

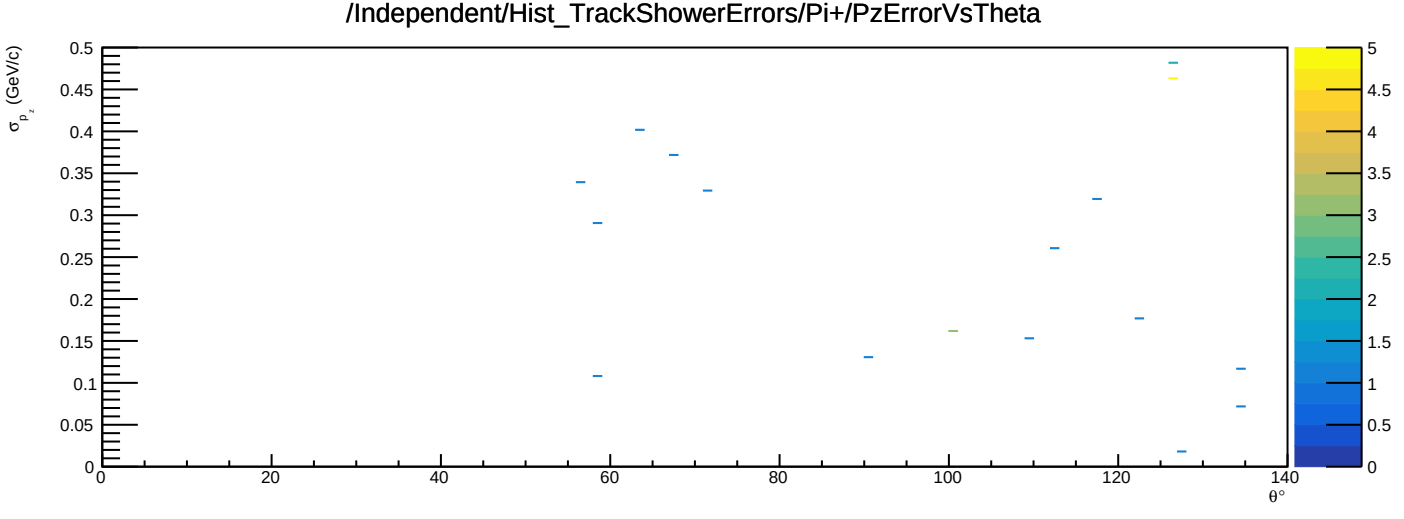

/Independent/Hist_TrackShowerErrors/Pi+/PyErrorVsPhi
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°
3
2.5
2
1.5
1
0.5
0

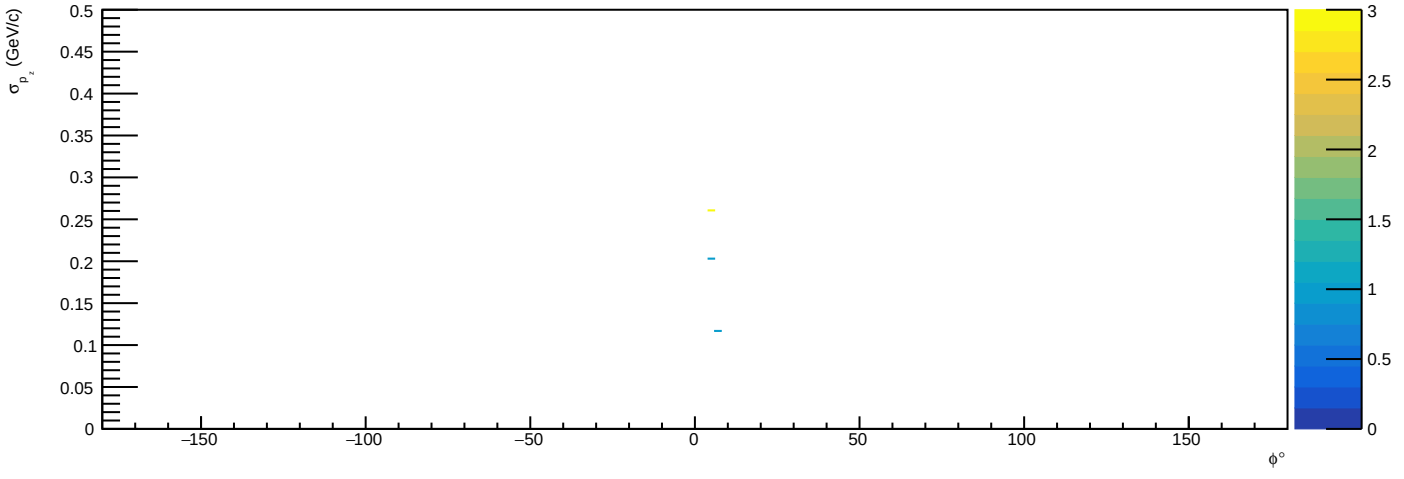

/Independent/Hist_TrackShowerErrors/Pi+/PyErrorVsPhi
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°
6
5
4
3
2
1
0

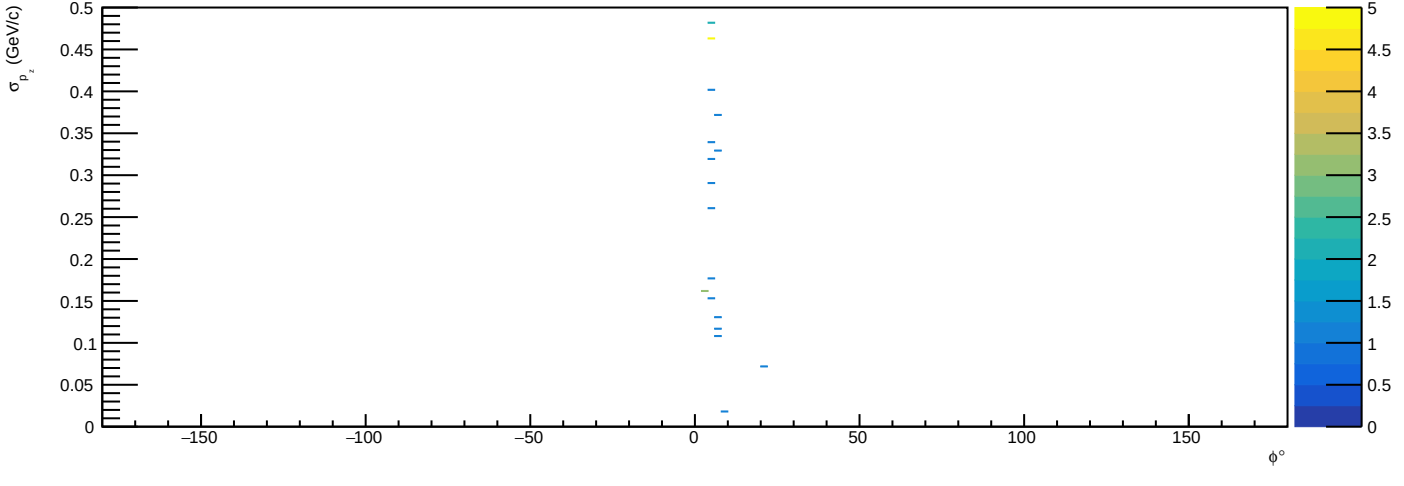

/Independent/Hist_TrackShowerErrors/Pi+/PzErrorVsP
σ p_z (GeV/c)
p (GeV/c)

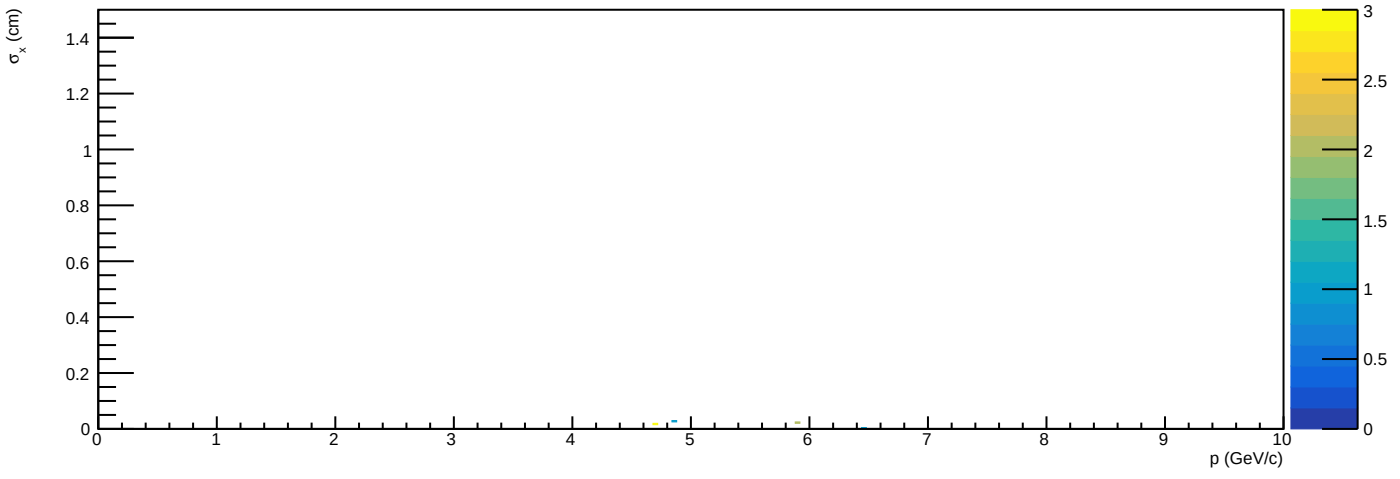

/Independent/Hist_TrackShowerErrors/Pi+/PzErrorVsP
σ p_z (GeV/c)
p (GeV/c)

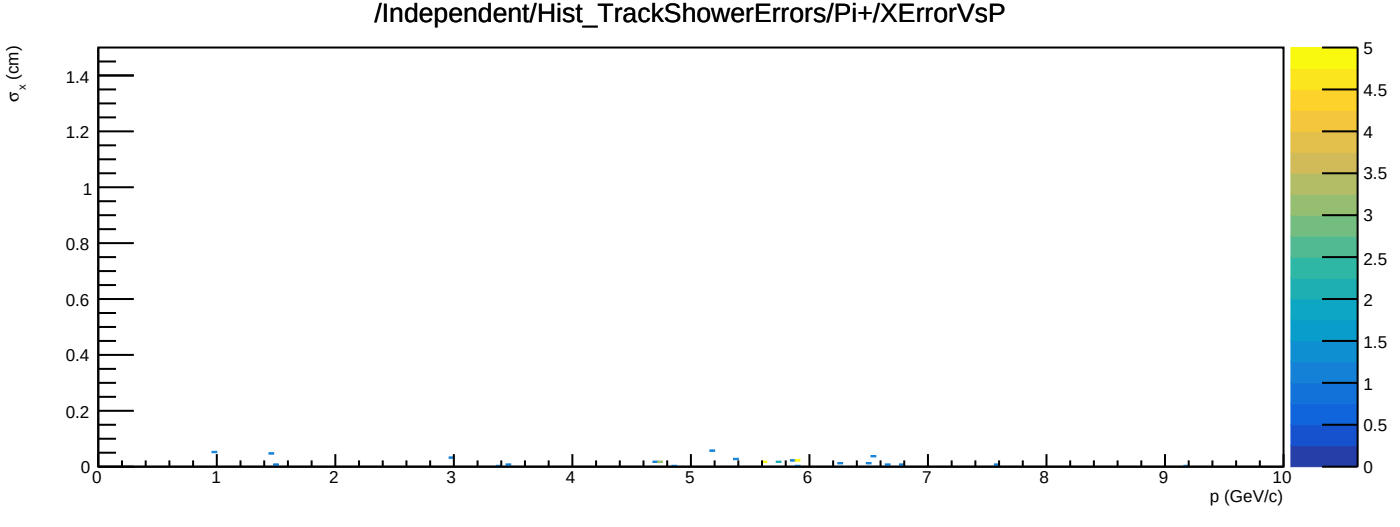

/Independent/Hist_TrackShowerErrors/Pi+/PzErrorVsTheta
σ p_z (GeV/c)
θ°

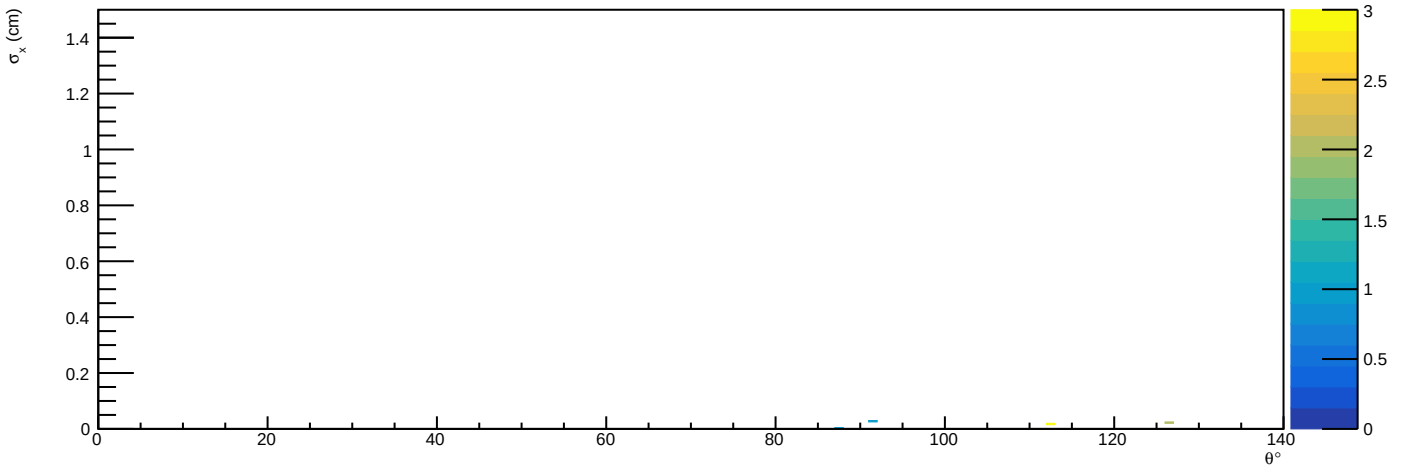

/Independent/Hist_TrackShowerErrors/Pi+/PzErrorVsTheta
σ p_z (GeV/c)
θ°

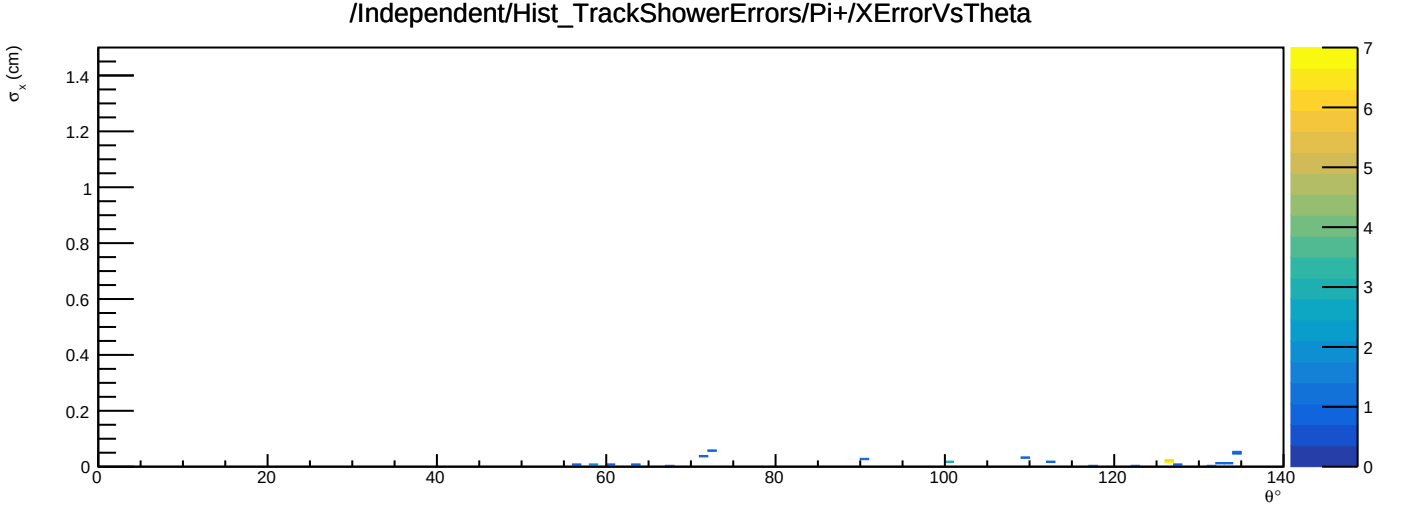

/Independent/Hist_TrackShowerErrors/Pi+/PzErrorVsPhi
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
–150
–100
–50
0
50
100
150
ϕ°
3
2.5
2
1.5
1
0.5
0

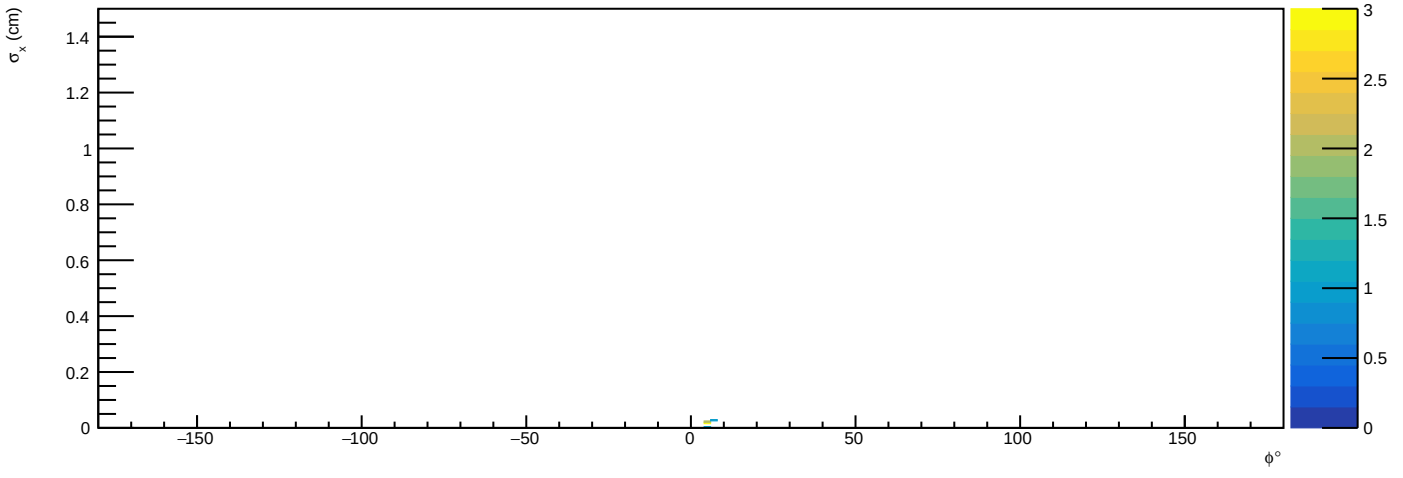

/Independent/Hist_TrackShowerErrors/Pi+/PzErrorVsPhi
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
–150
–100
–50
0
50
100
150
ϕ°
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0

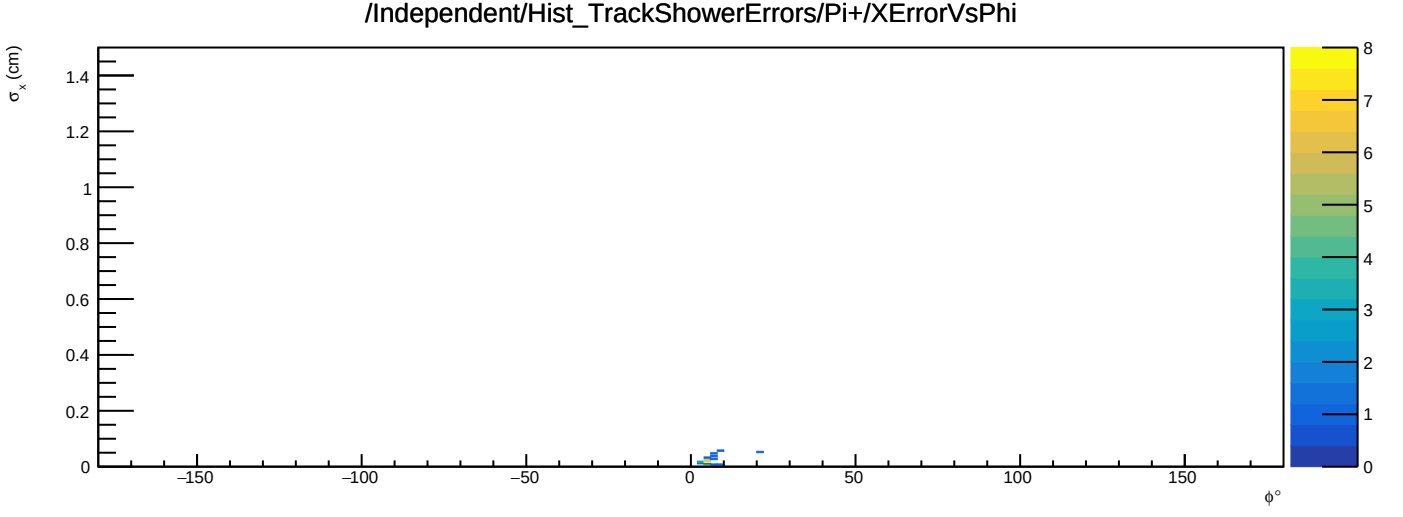

/Independent/Hist_TrackShowerErrors/Pi+/XErrorVsP
σx (cm)
p (GeV/c)

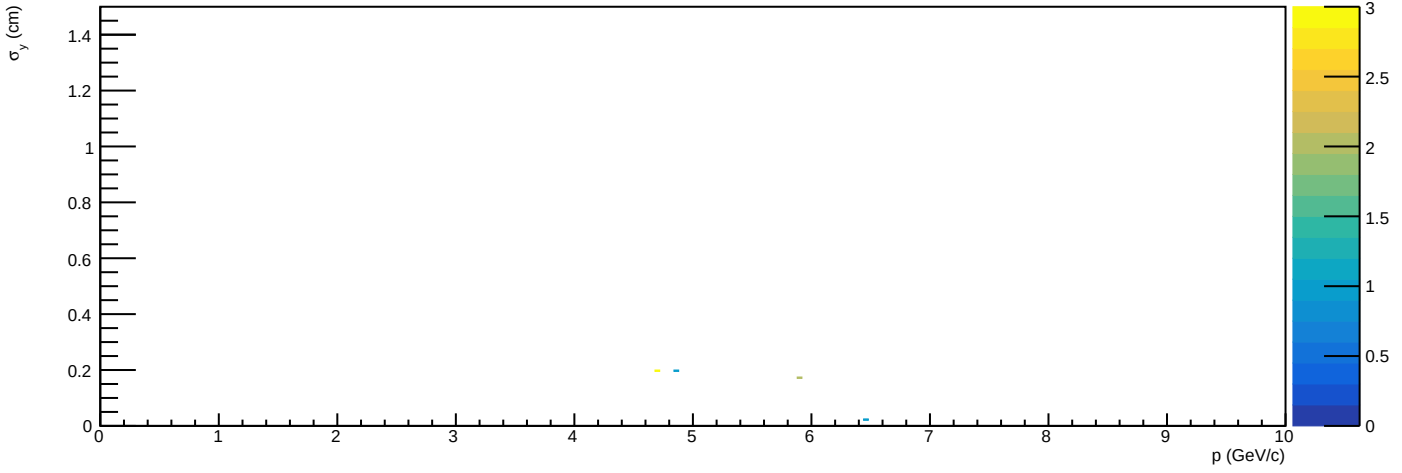

/Independent/Hist_TrackShowerErrors/Pi+/XErrorVsP
σx (cm)
p (GeV/c)

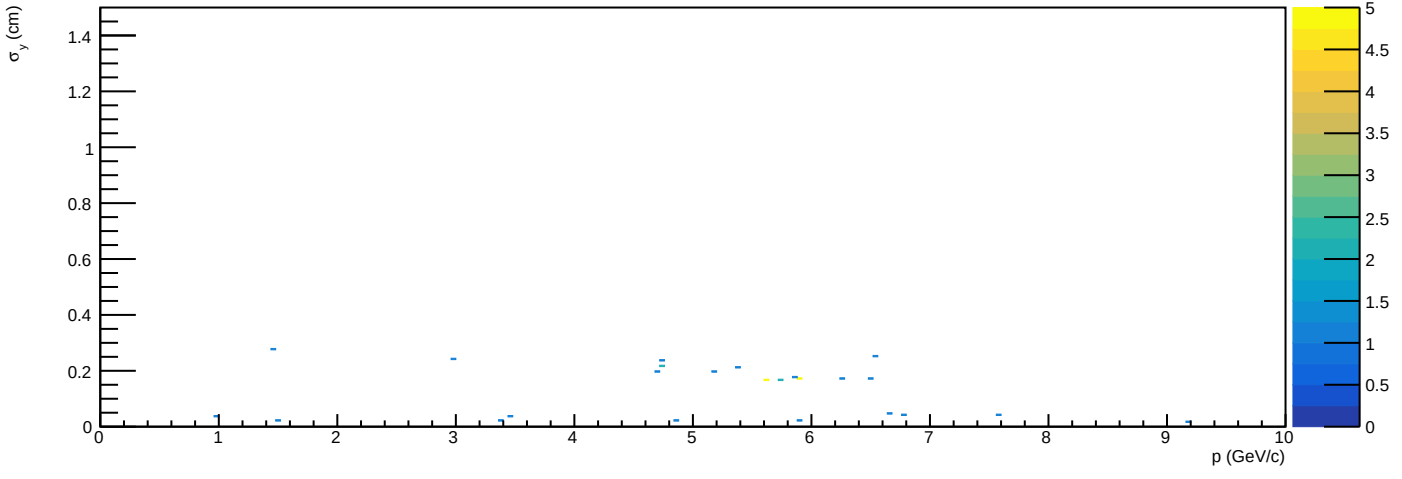

/Independent/Hist_TrackShowerErrors/Pi+/XErrorVsTheta
σx (cm)
θ°

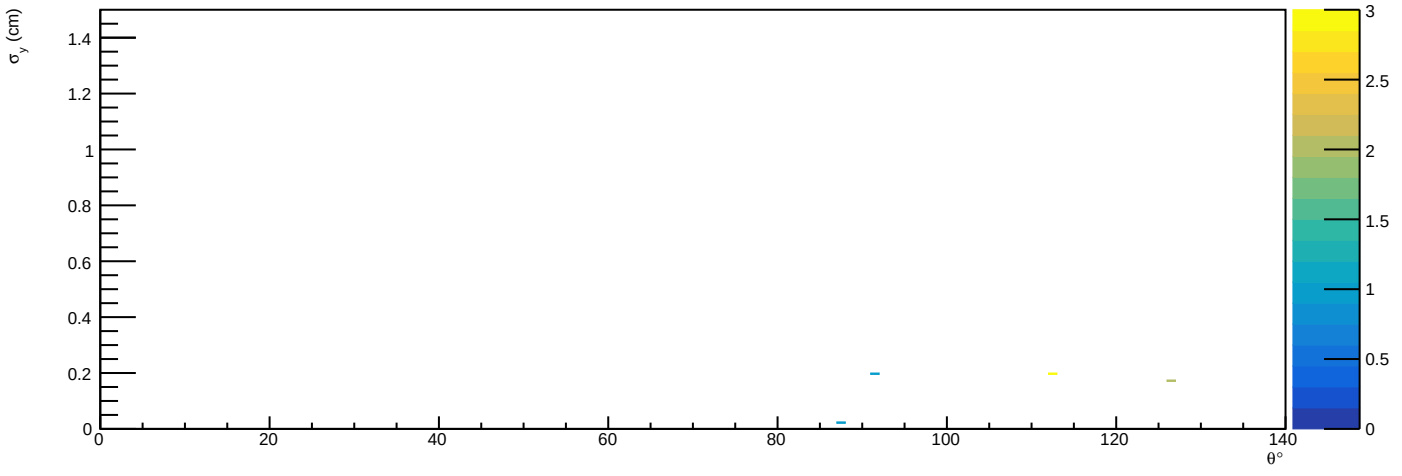

/Independent/Hist_TrackShowerErrors/Pi+/XErrorVsTheta
σx (cm)
θ°

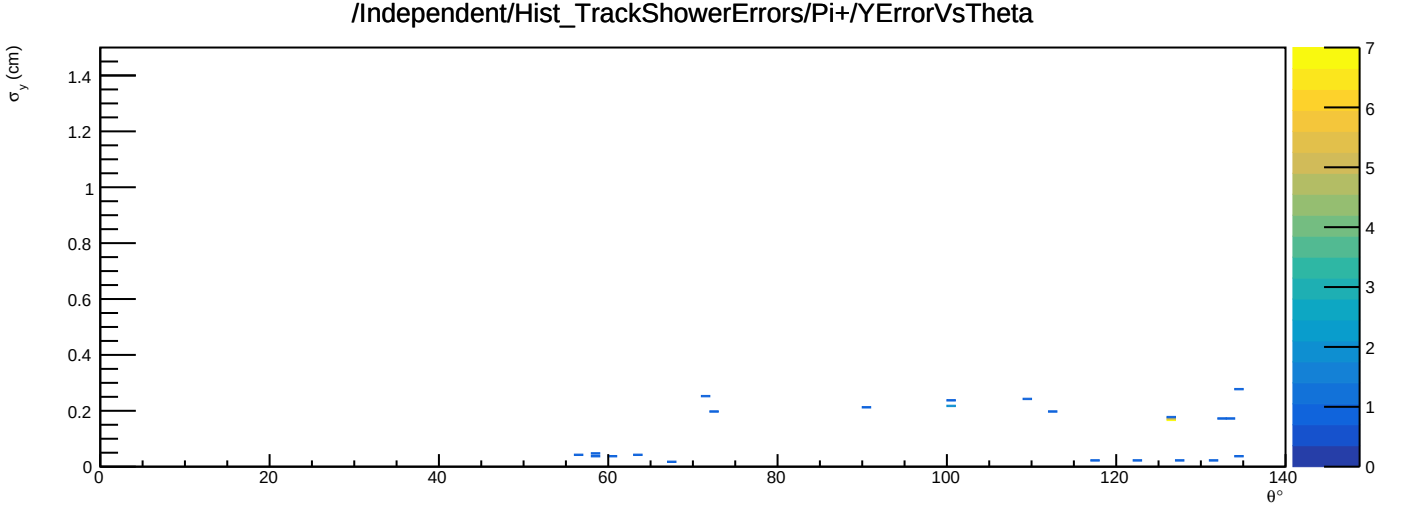

/Independent/Hist_TrackShowerErrors/Pi+/XErrorVsPhi
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
3
2.5
2
1.5
1
0.5
0

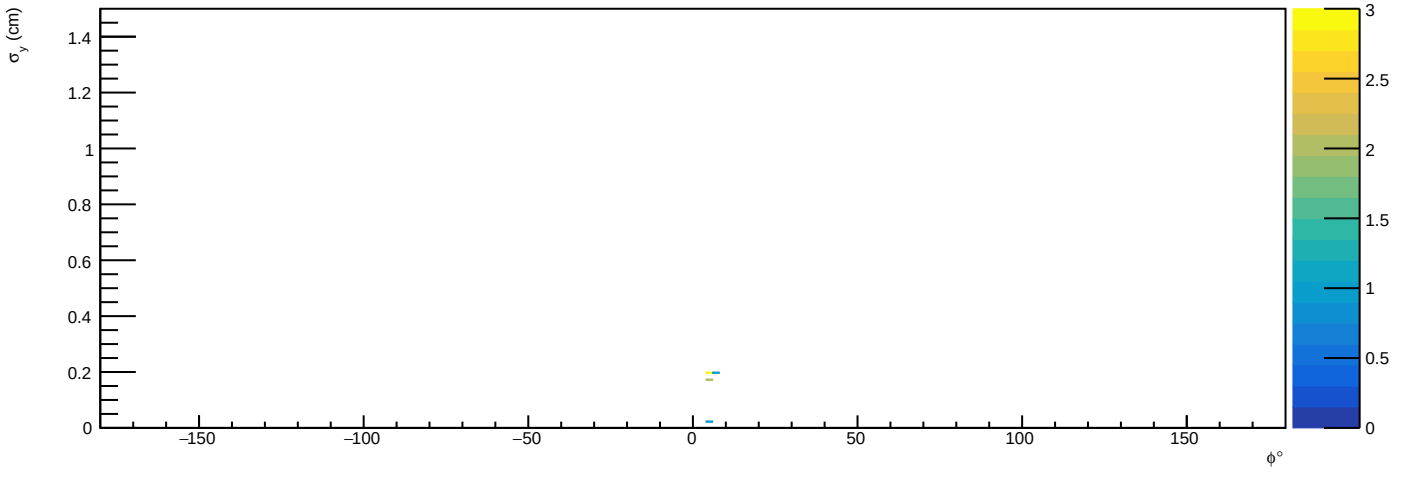

/Independent/Hist_TrackShowerErrors/Pi+/XErrorVsPhi
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
8
7
6
5
4
3
2
1
0

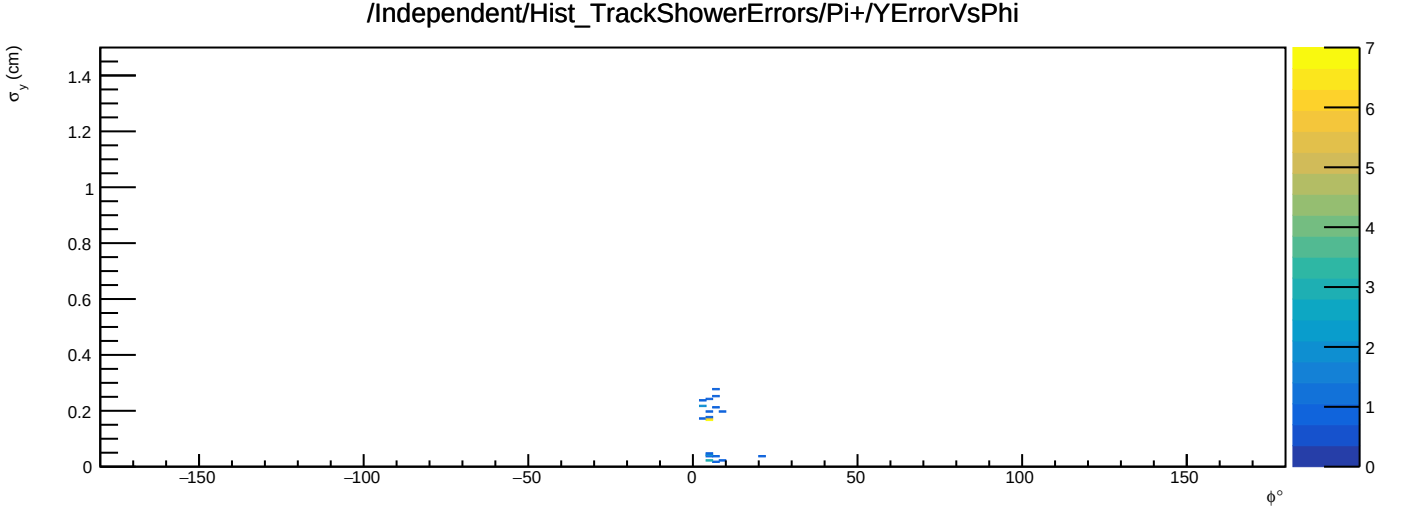

/Independent/Hist_TrackShowerErrors/Pi+/YErrorVsP
σ_y (cm)
p (GeV/c)

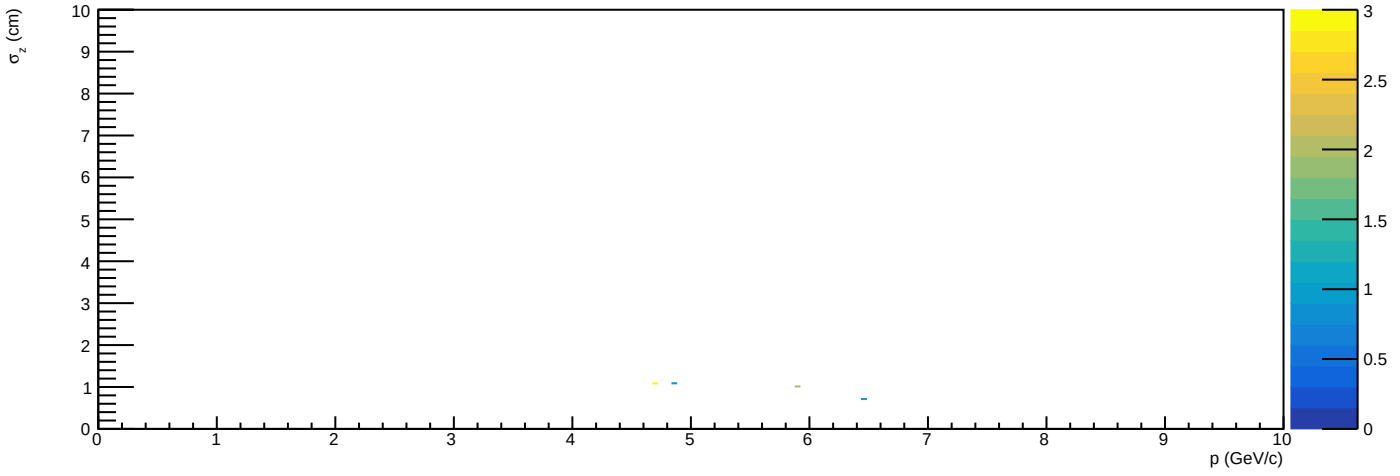

/Independent/Hist_TrackShowerErrors/Pi+/YErrorVsP
σ_y (cm)
p (GeV/c)

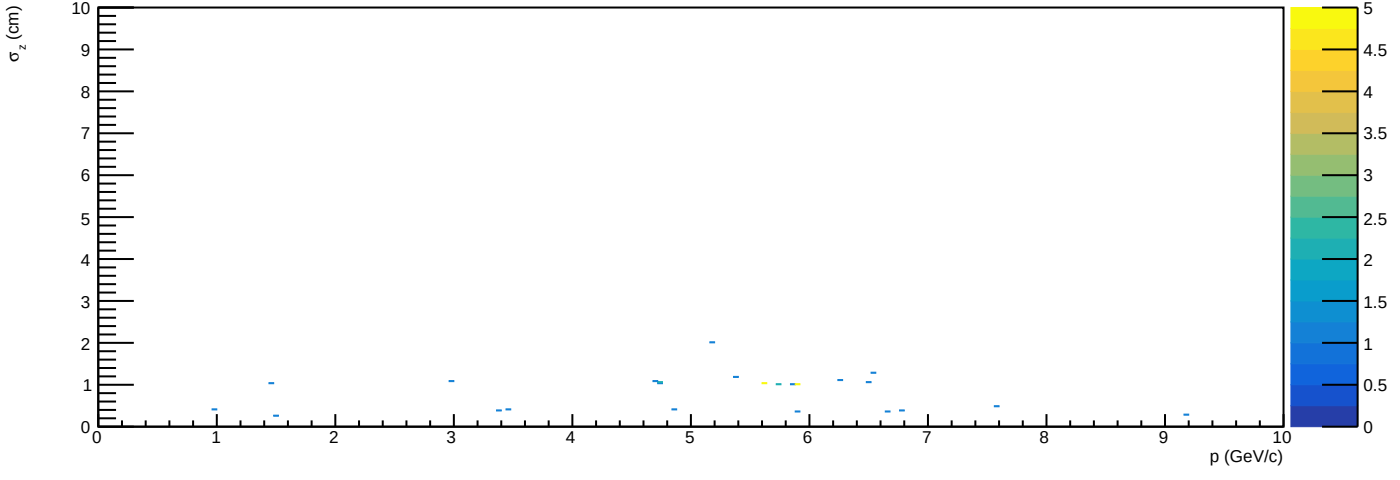

/Independent/Hist_TrackShowerErrors/Pi+/YErrorVsTheta
σ_y (cm)
θ°

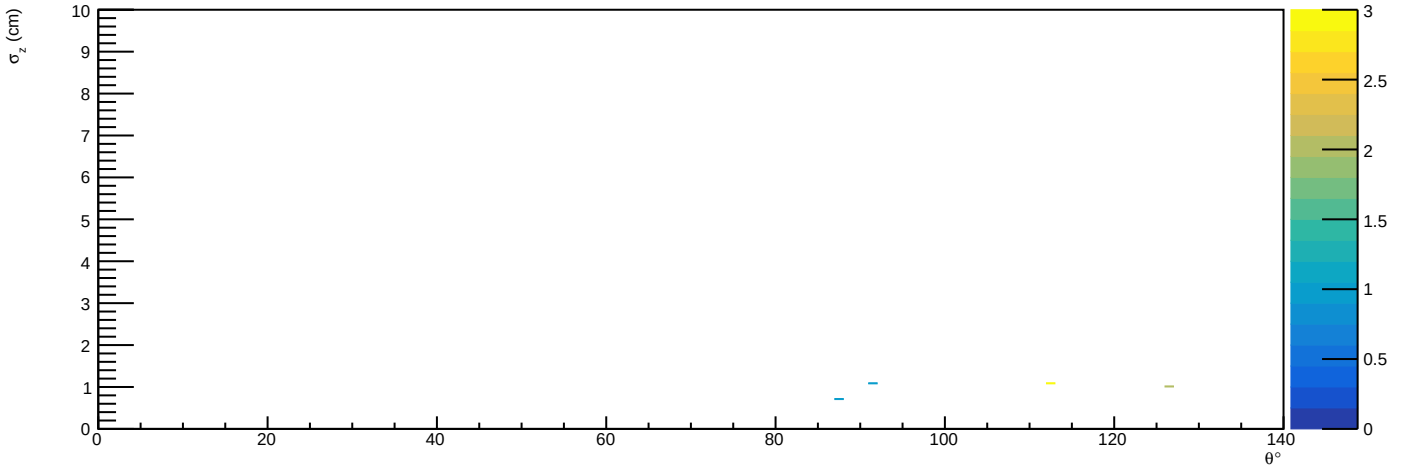

/Independent/Hist_TrackShowerErrors/Pi+/YErrorVsTheta
σ_y (cm)
θ°

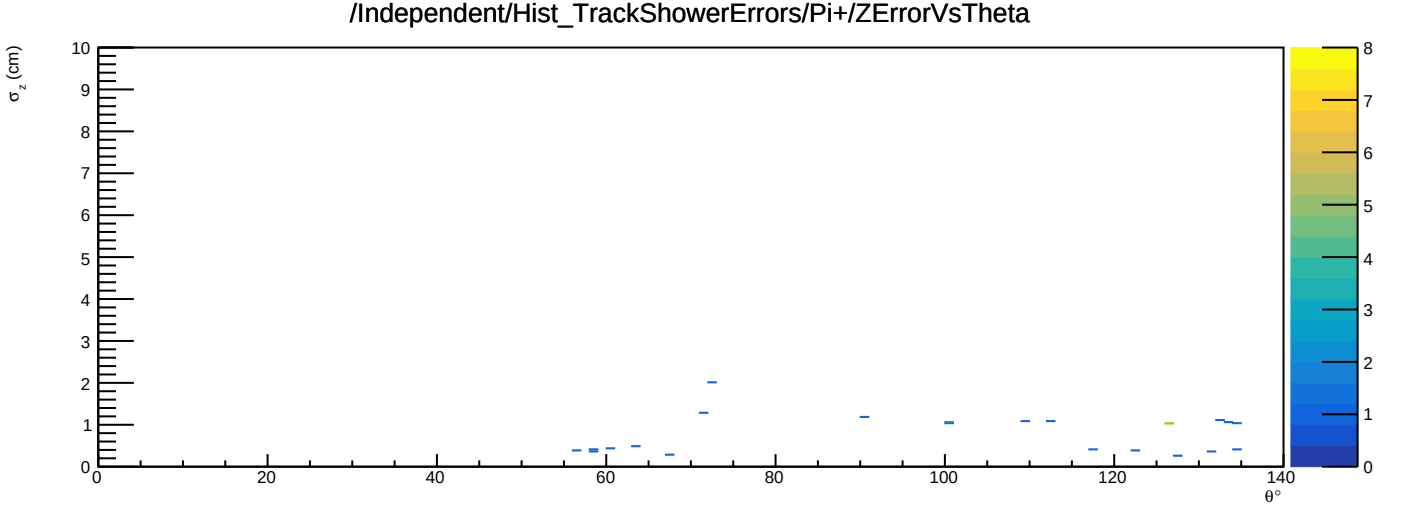

/Independent/Hist_TrackShowerErrors/Pi+/YErrorVsPhi
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
3
2.5
2
1.5
1
0.5
0

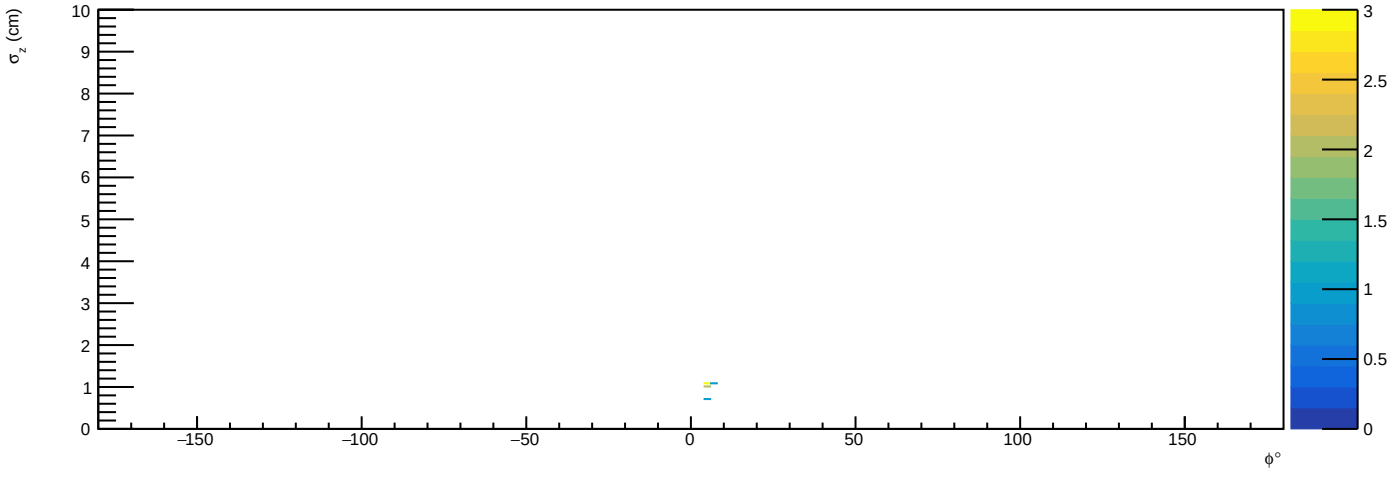

/Independent/Hist_TrackShowerErrors/Pi+/YErrorVsPhi
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
7
6
5
4
3
2
1
0

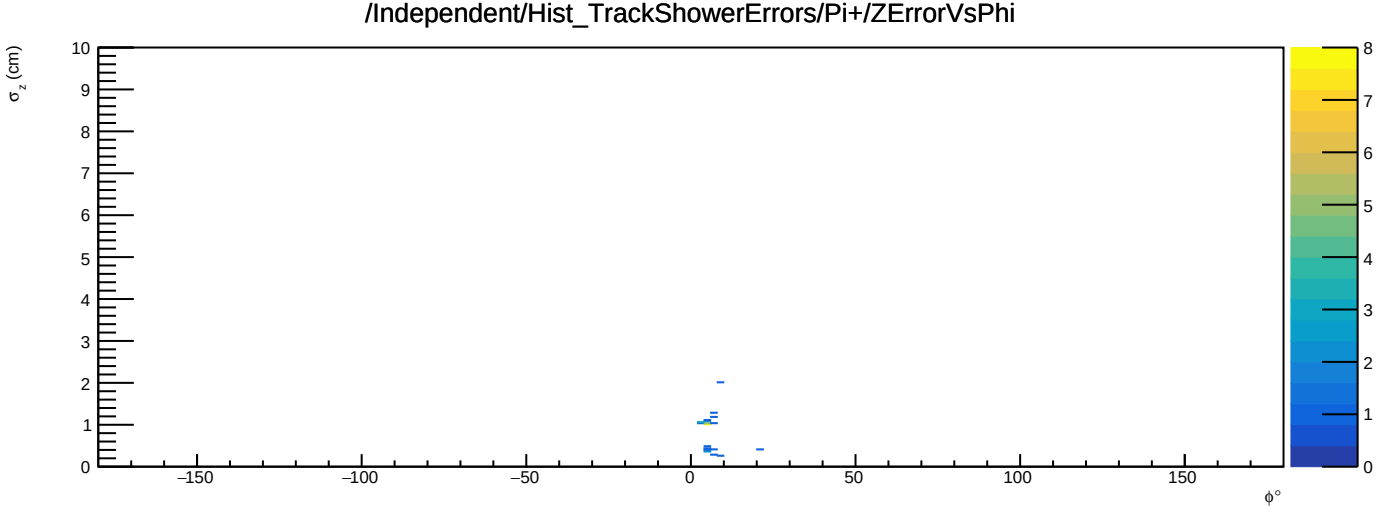

/Independent/Hist_TrackShowerErrors/Pi+/ZErrorVsP
σz (cm)
p (GeV/c)

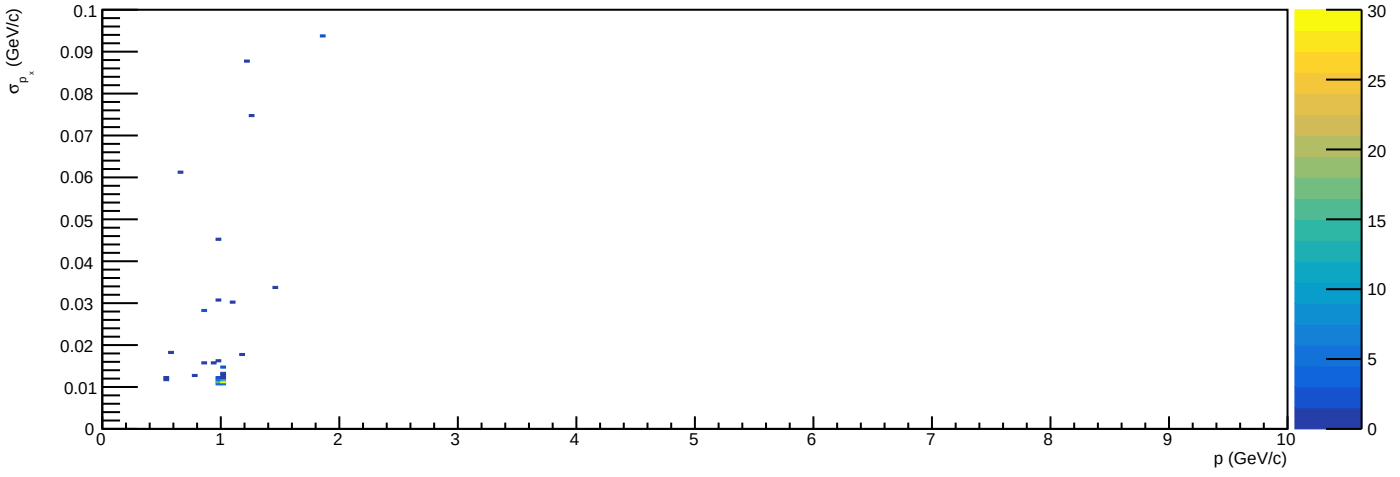

/Independent/Hist_TrackShowerErrors/Pi+/ZErrorVsP
σz (cm)
p (GeV/c)

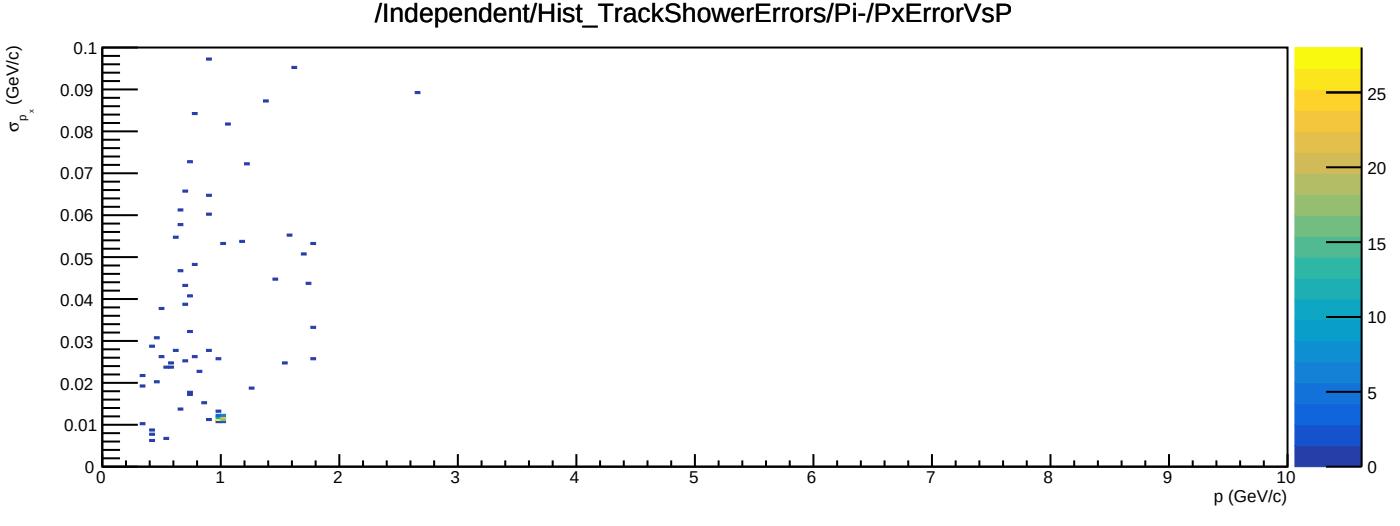

/Independent/Hist_TrackShowerErrors/Pi+/ZErrorVsTheta
σz (cm)
θ°

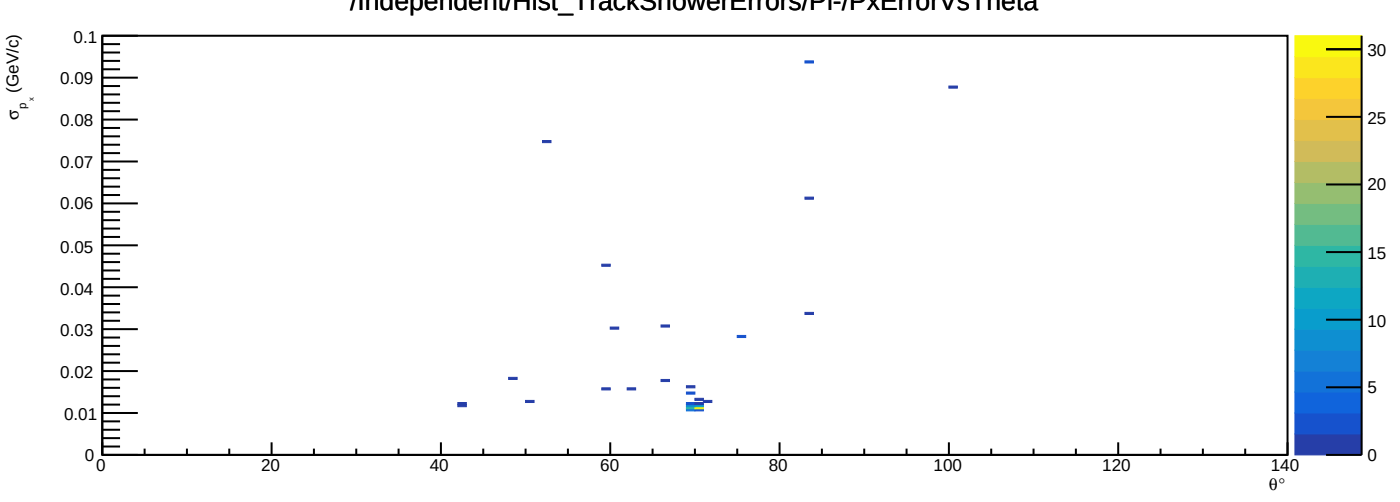

/Independent/Hist_TrackShowerErrors/Pi+/ZErrorVsTheta
σz (cm)
θ°

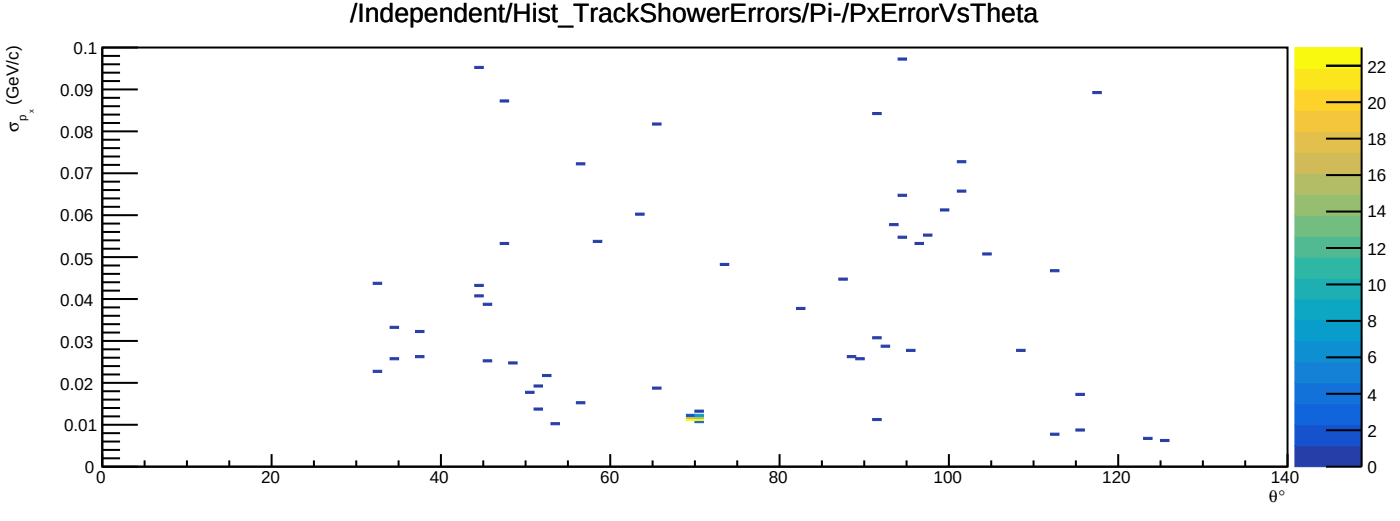

/Independent/Hist_TrackShowerErrors/Pi+/ZErrorVsPhi
σz (cm)
10
9
8
7
6
5
4
3
2
1
0
–150
–100
–50
0
50
100
150
ϕ°
3
2.5
2
1.5
1
0.5
0

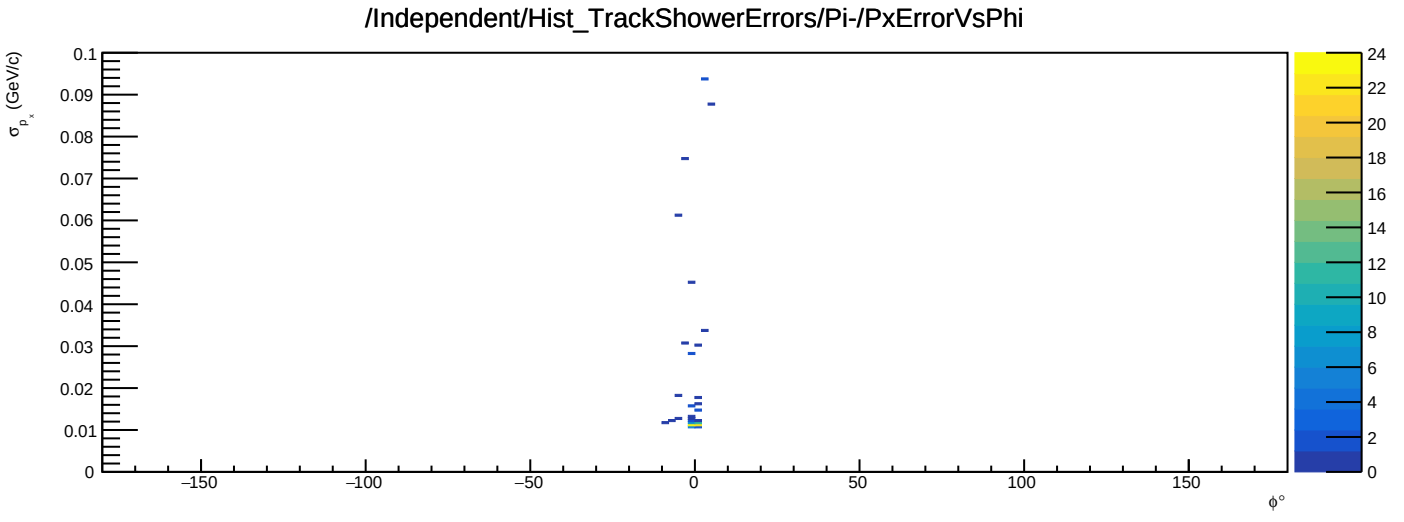

/Independent/Hist_TrackShowerErrors/Pi+/ZErrorVsPhi
σz (cm)
10
9
8
7
6
5
4
3
2
1
0
–150
–100
–50
0
50
100
150
ϕ°
8
7
6
5
4
3
2
1
0

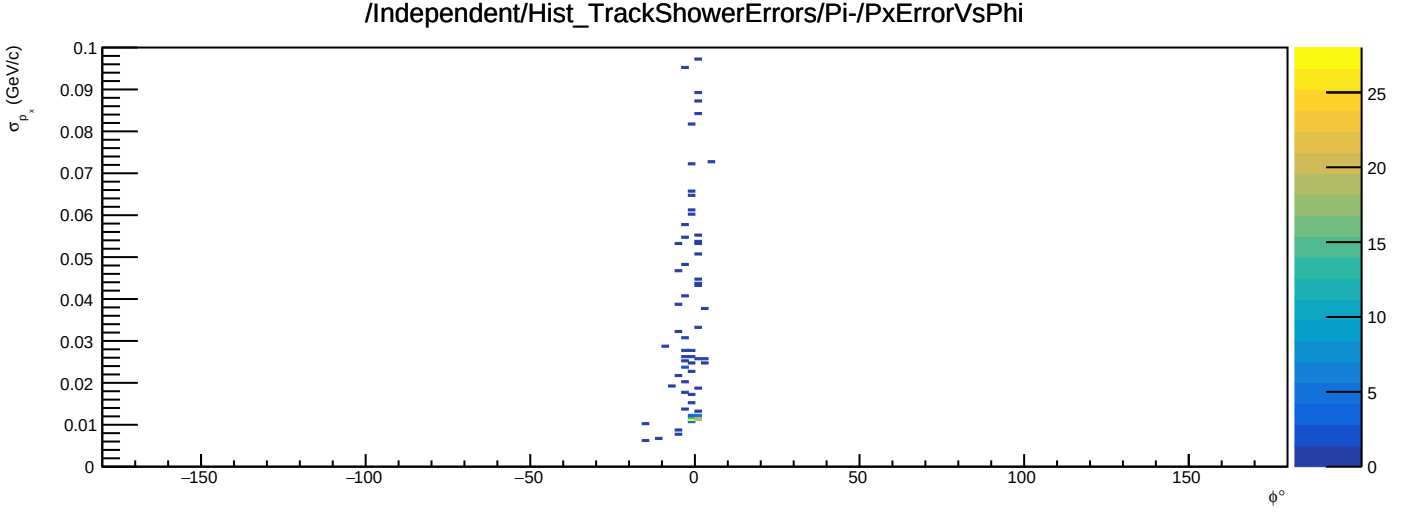

/Independent/Hist_TrackShowerErrors/Pi-/PxErrorVsP
σ p_x (GeV/c)
p (GeV/c)

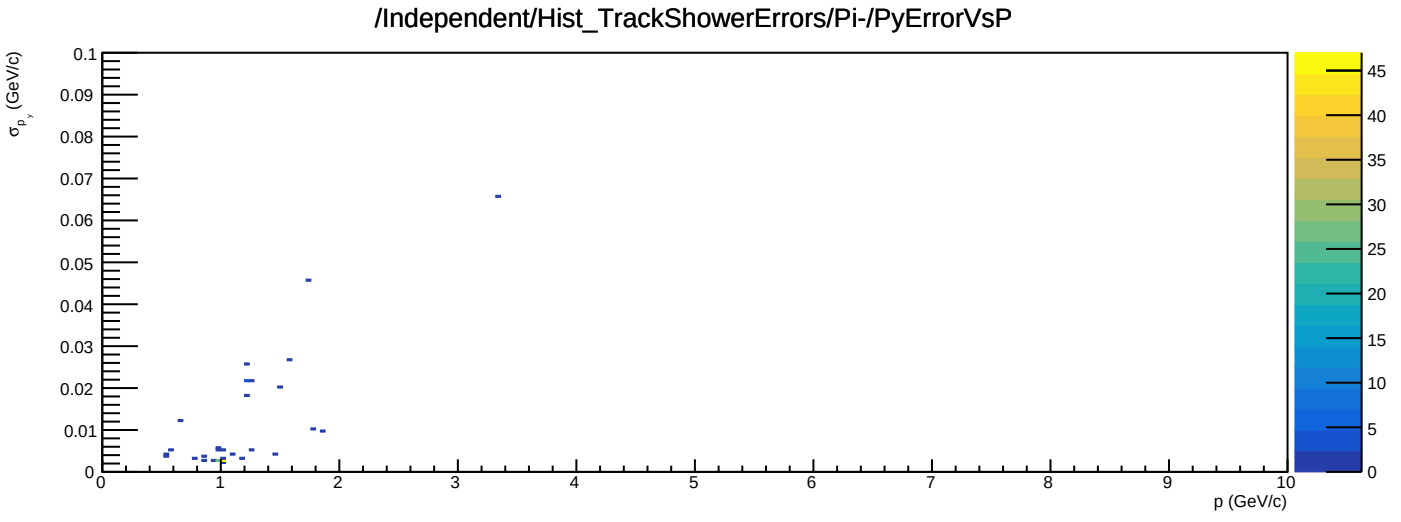

/Independent/Hist_TrackShowerErrors/Pi-/PxErrorVsP
σ p_x (GeV/c)
p (GeV/c)

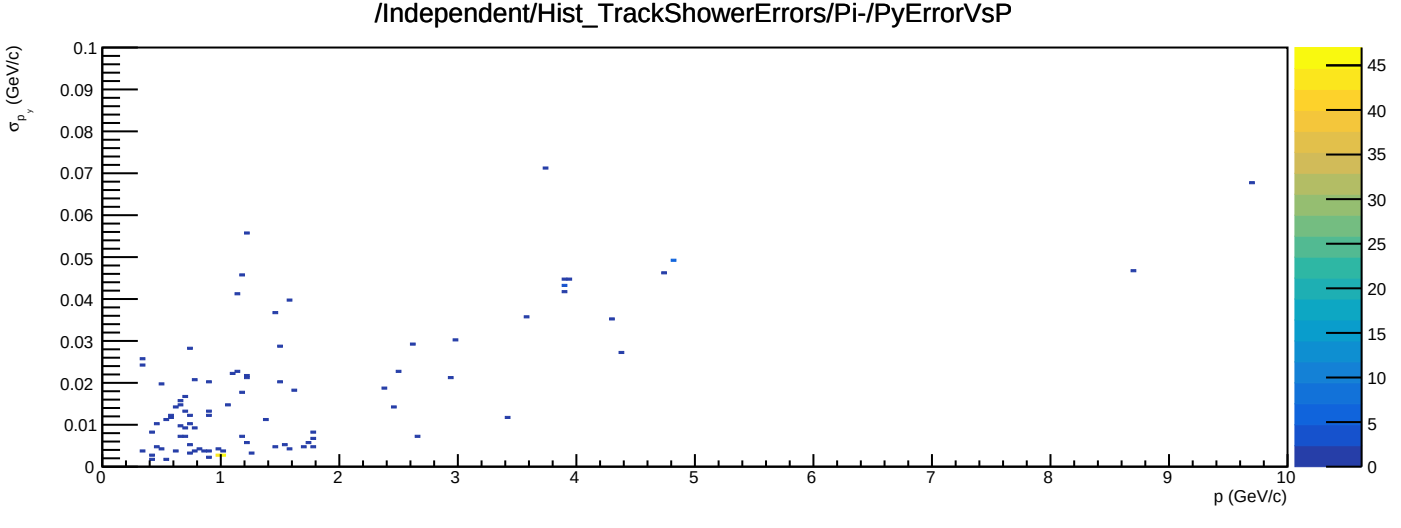

/Independent/Hist_TrackShowerErrors/Pi-/PxErrorVsTheta
σ p_x (GeV/c)
θ°

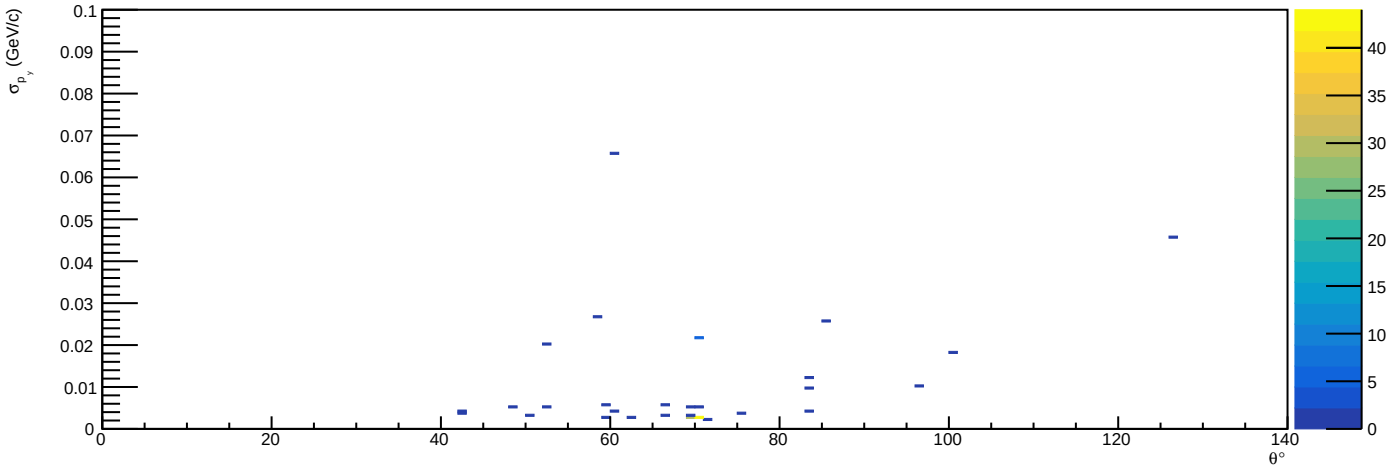

/Independent/Hist_TrackShowerErrors/Pi-/PxErrorVsTheta
σ p_x (GeV/c)
θ°

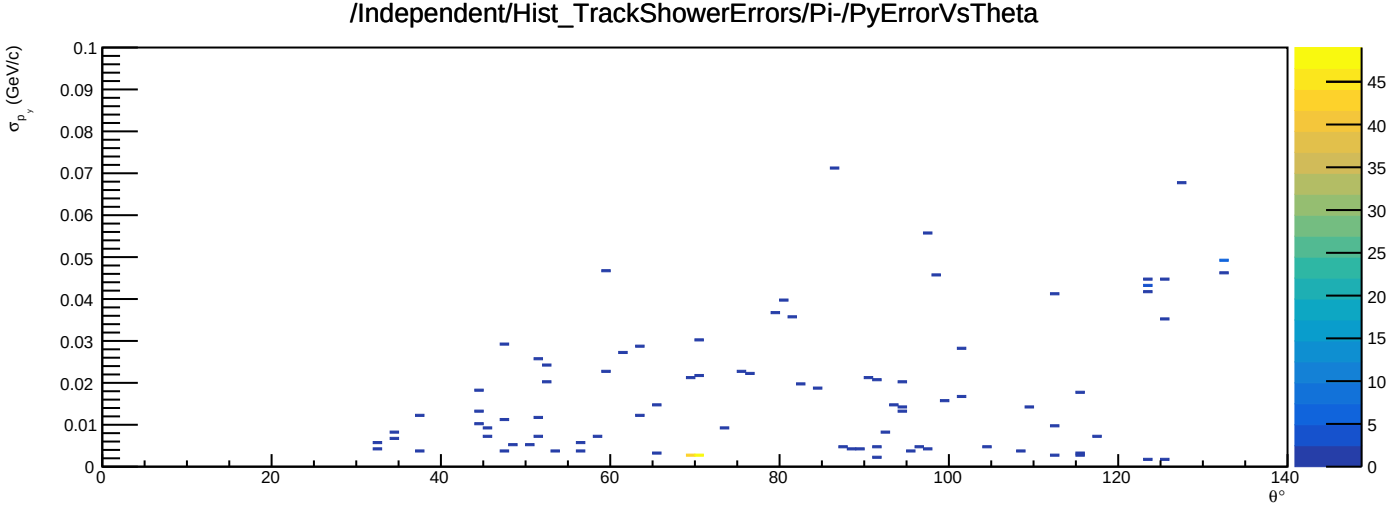

/Independent/Hist_TrackShowerErrors/Pi-/PxErrorVsPhi
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°
24
22
20
18
16
14
12
10
8
6
4
2
0

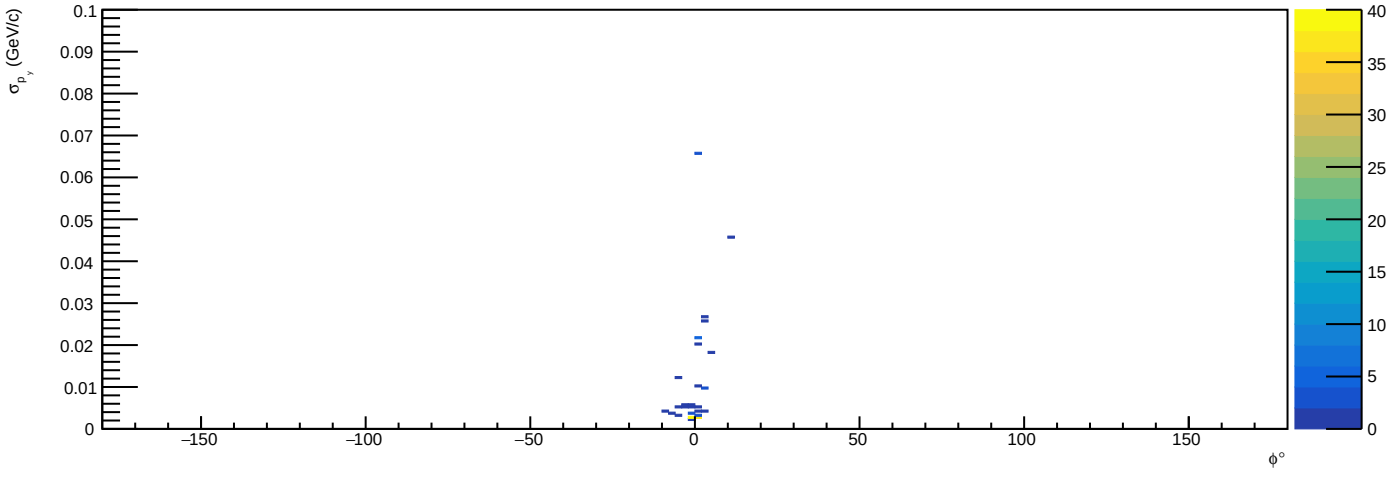

/Independent/Hist_TrackShowerErrors/Pi-/PxErrorVsPhi
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°
25
20
15
10
5
0

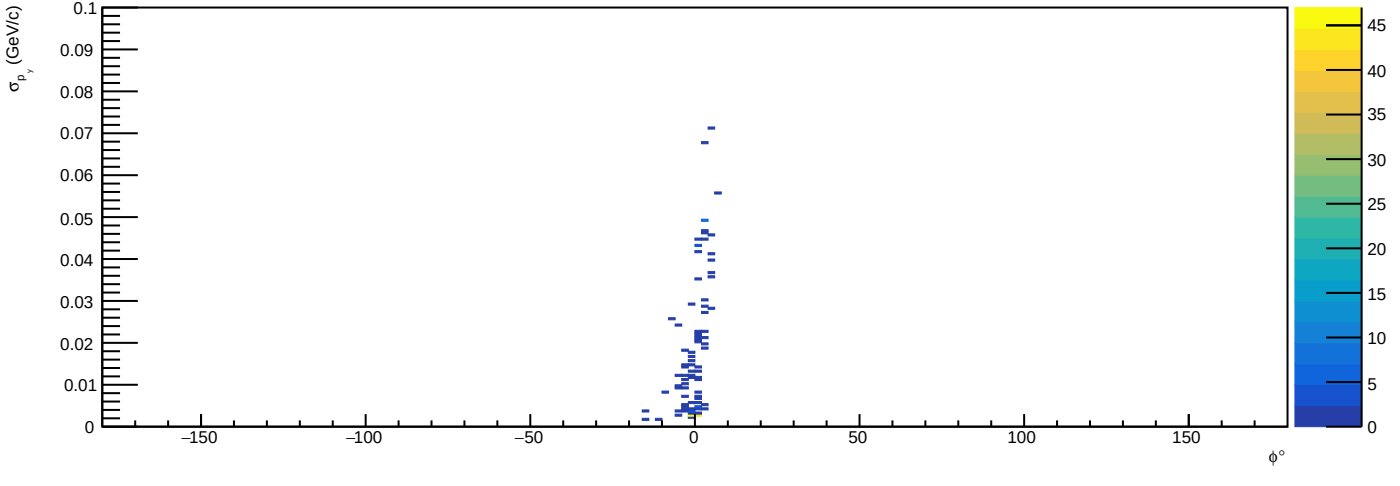

/Independent/Hist_TrackShowerErrors/Pi-/PyErrorVsP
σ p_y (GeV/c)
p (GeV/c)

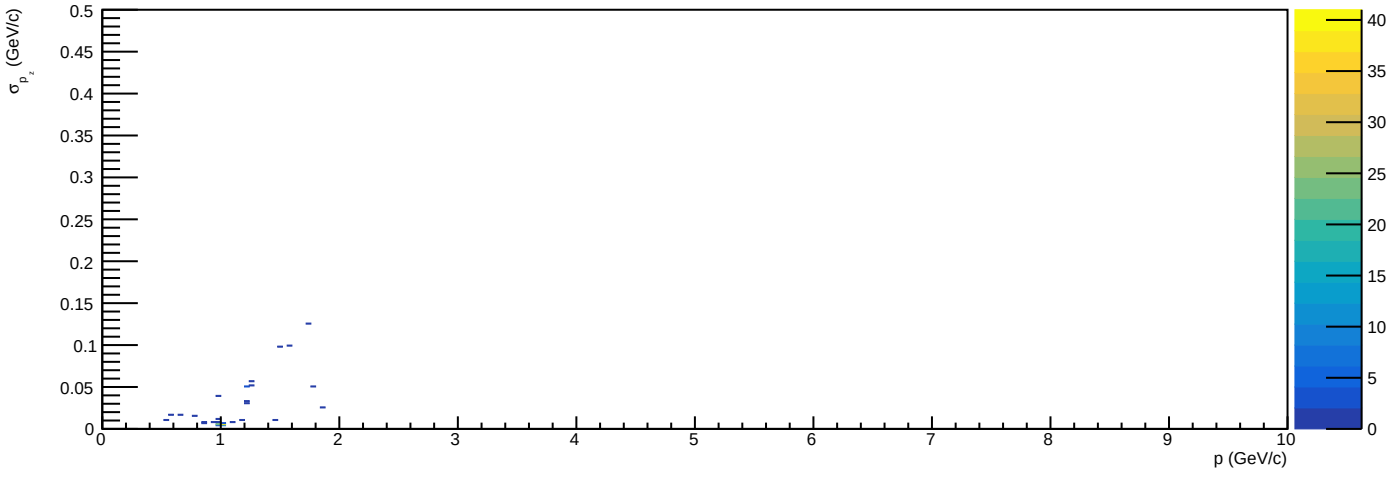

/Independent/Hist_TrackShowerErrors/Pi-/PyErrorVsP
σ p_y (GeV/c)
p (GeV/c)

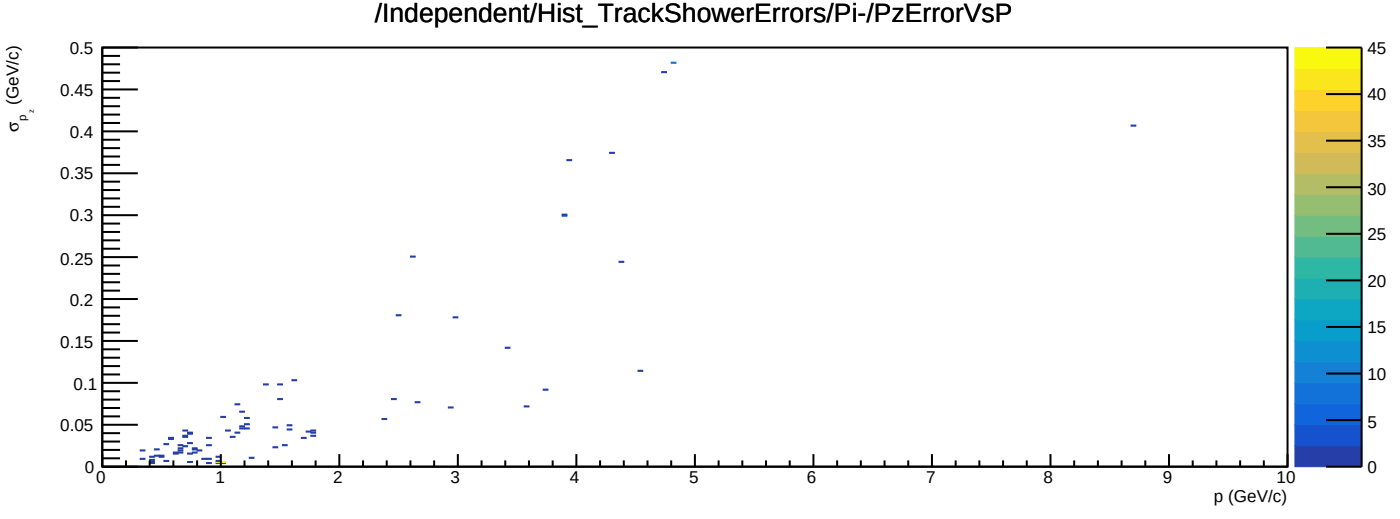

/Independent/Hist_TrackShowerErrors/Pi-/PyErrorVsTheta
σ p_y (GeV/c)
θ°

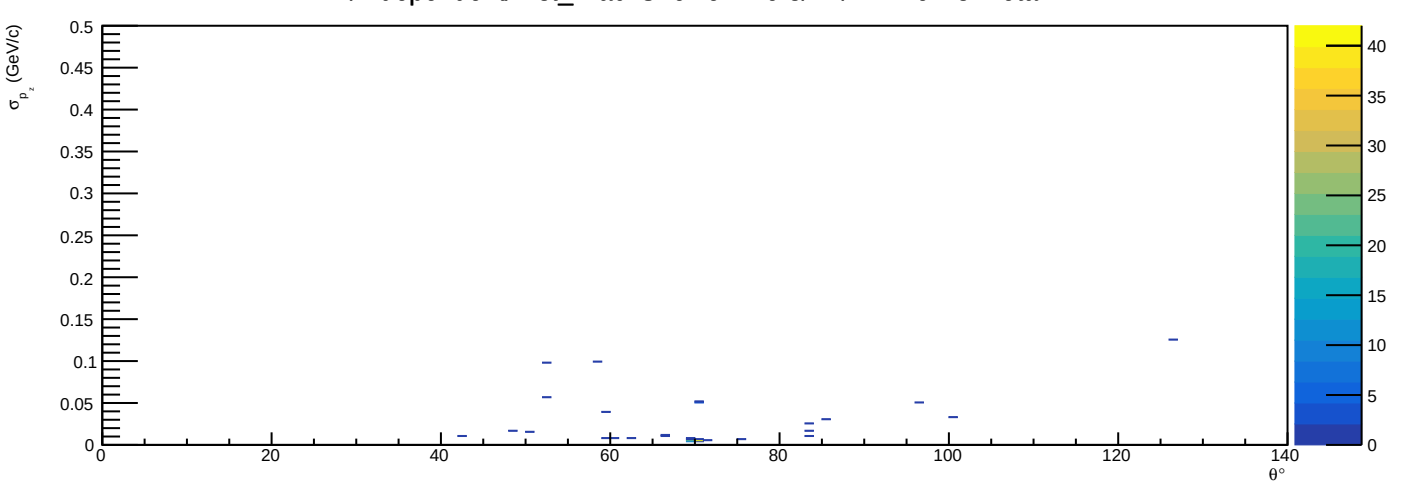

/Independent/Hist_TrackShowerErrors/Pi-/PyErrorVsTheta
σ p_y (GeV/c)
θ°

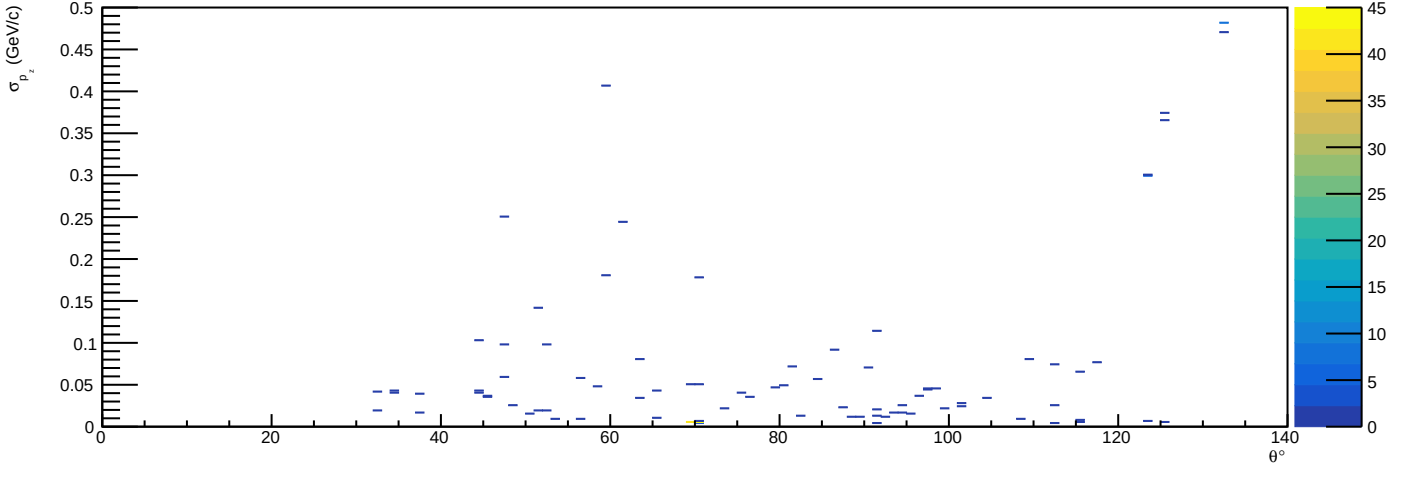

/Independent/Hist_TrackShowerErrors/Pi-/PyErrorVsPhi
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°
40
35
30
25
20
15
10
5
0

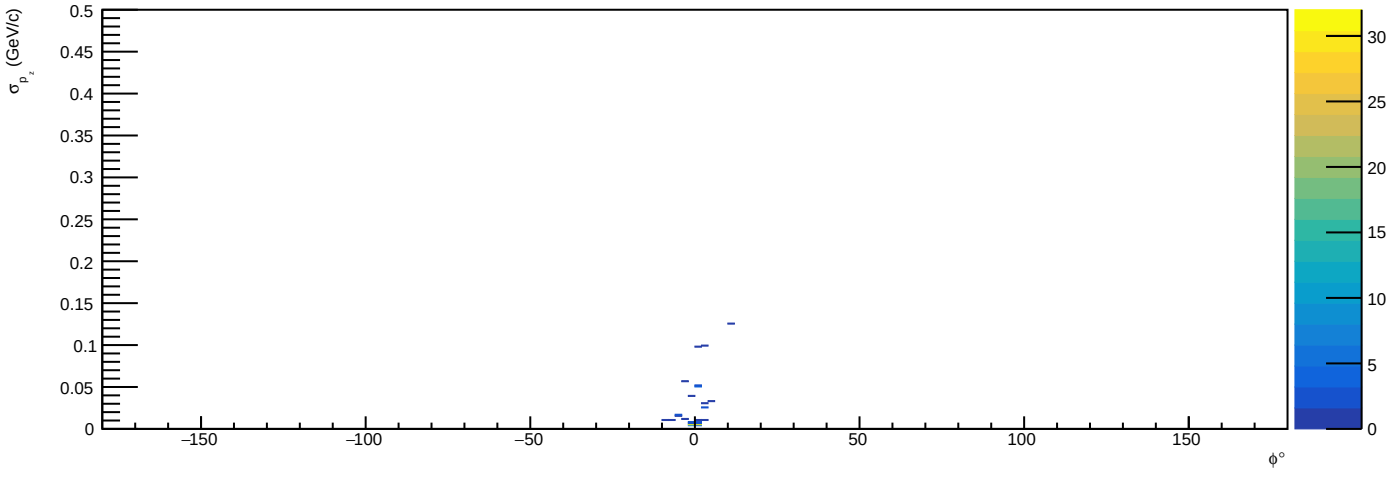

/Independent/Hist_TrackShowerErrors/Pi-/PyErrorVsPhi
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°
45
40
35
30
25
20
15
10
5
0

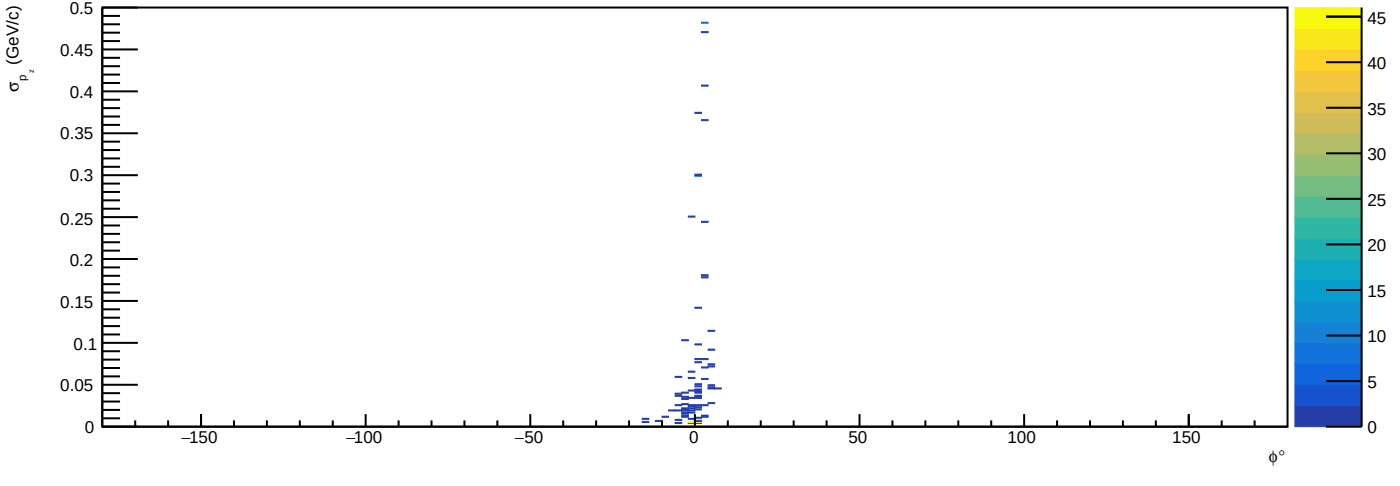

/Independent/Hist_TrackShowerErrors/Pi-/PzErrorVsP
σ p_z (GeV/c)
p (GeV/c)

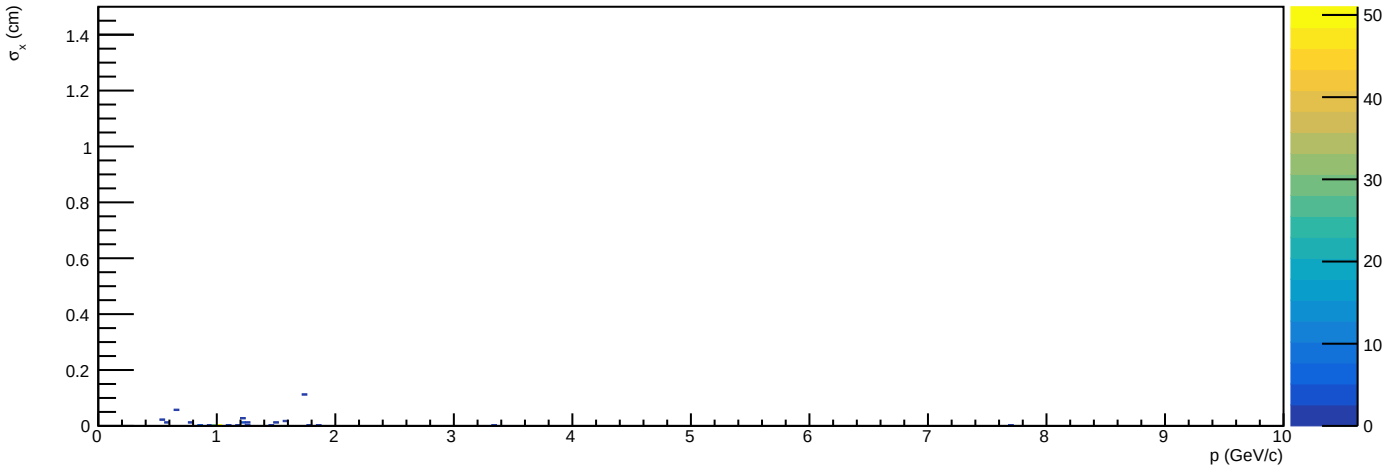

/Independent/Hist_TrackShowerErrors/Pi-/PzErrorVsP
σ p_z (GeV/c)
p (GeV/c)

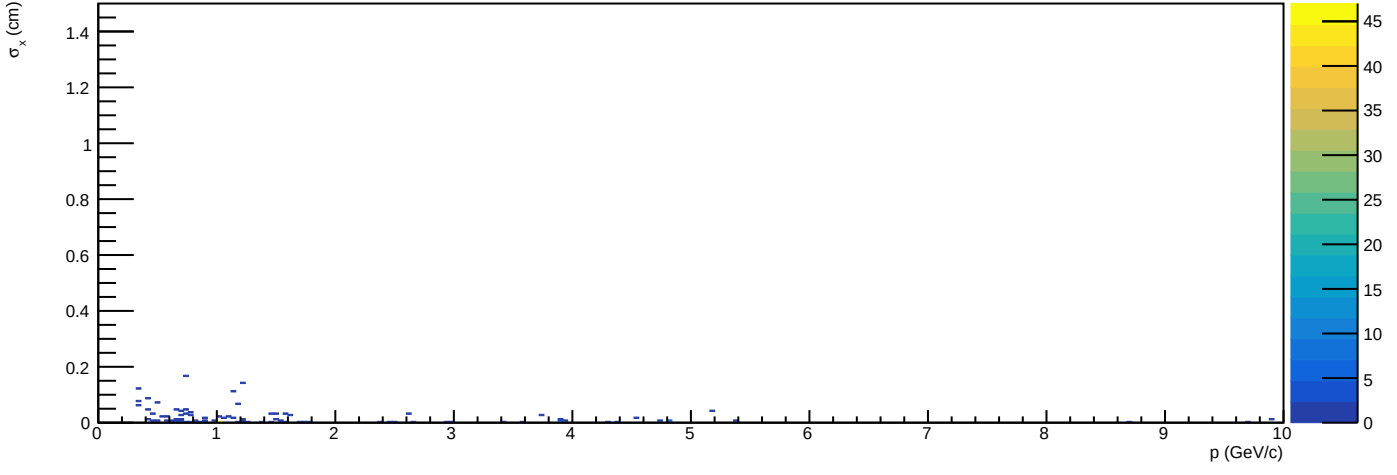

/Independent/Hist_TrackShowerErrors/Pi-/PzErrorVsTheta
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
20
40
60
80
100
120
140
θ°
40
35
30
25
20
15
10
5
0

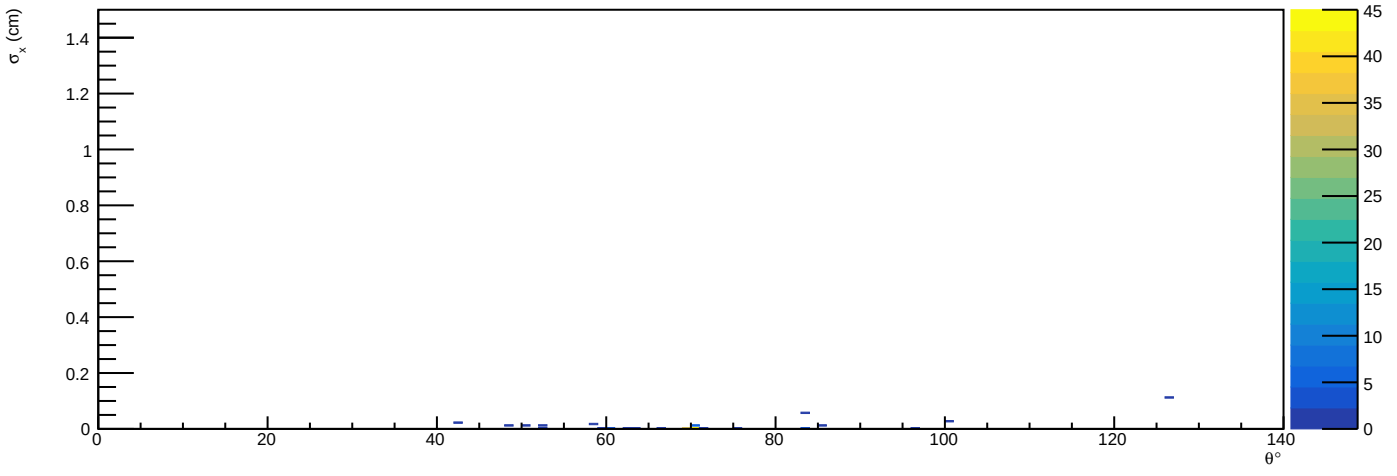

/Independent/Hist_TrackShowerErrors/Pi-/PzErrorVsTheta
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
20
40
60
80
100
120
140
θ°
45
40
35
30
25
20
15
10
5
0

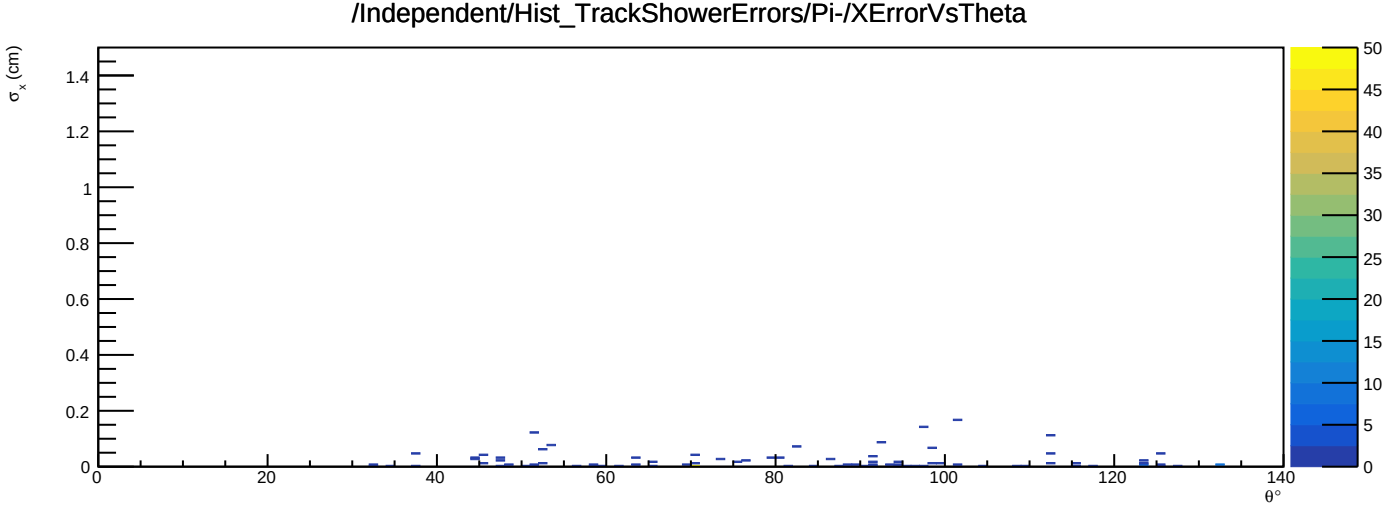

/Independent/Hist_TrackShowerErrors/Pi-/PzErrorVsPhi
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
–150
–100
–50
0
50
100
150
ϕ°
30
25
20
15
10
5
0

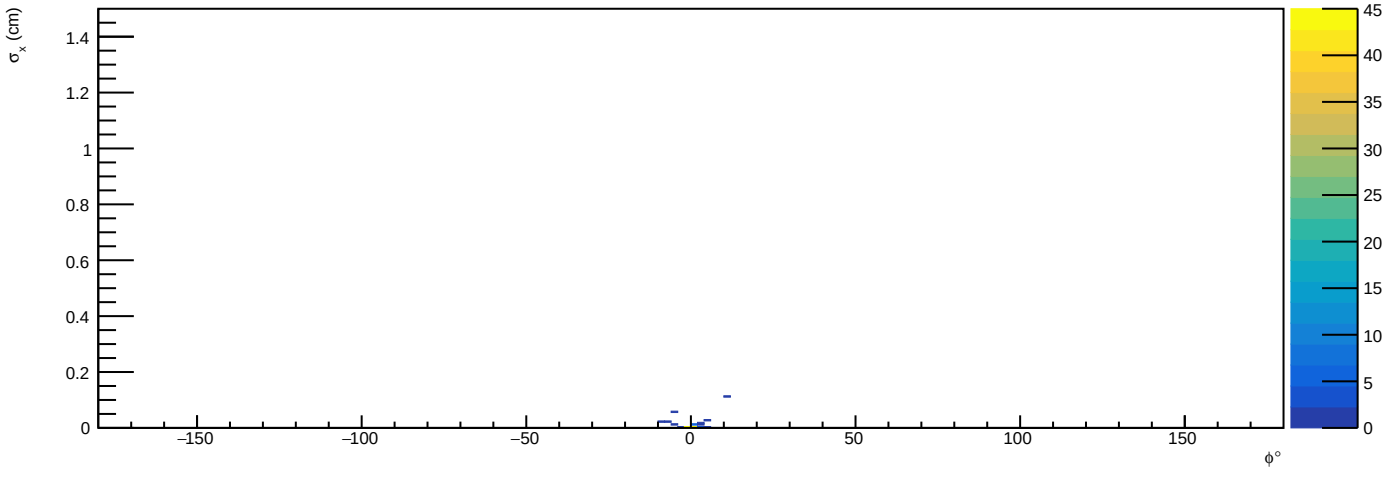

/Independent/Hist_TrackShowerErrors/Pi-/PzErrorVsPhi
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
–150
–100
–50
0
50
100
150
ϕ°
45
40
35
30
25
20
15
10
5
0

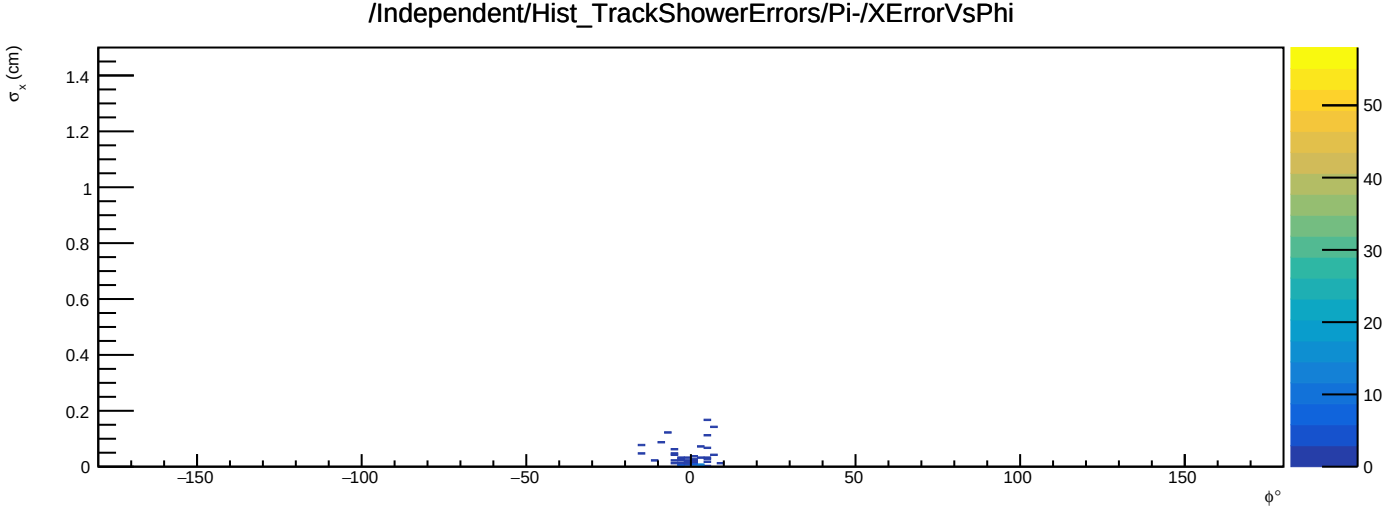

/Independent/Hist_TrackShowerErrors/Pi-/XErrorVsP
σx (cm)
p (GeV/c)

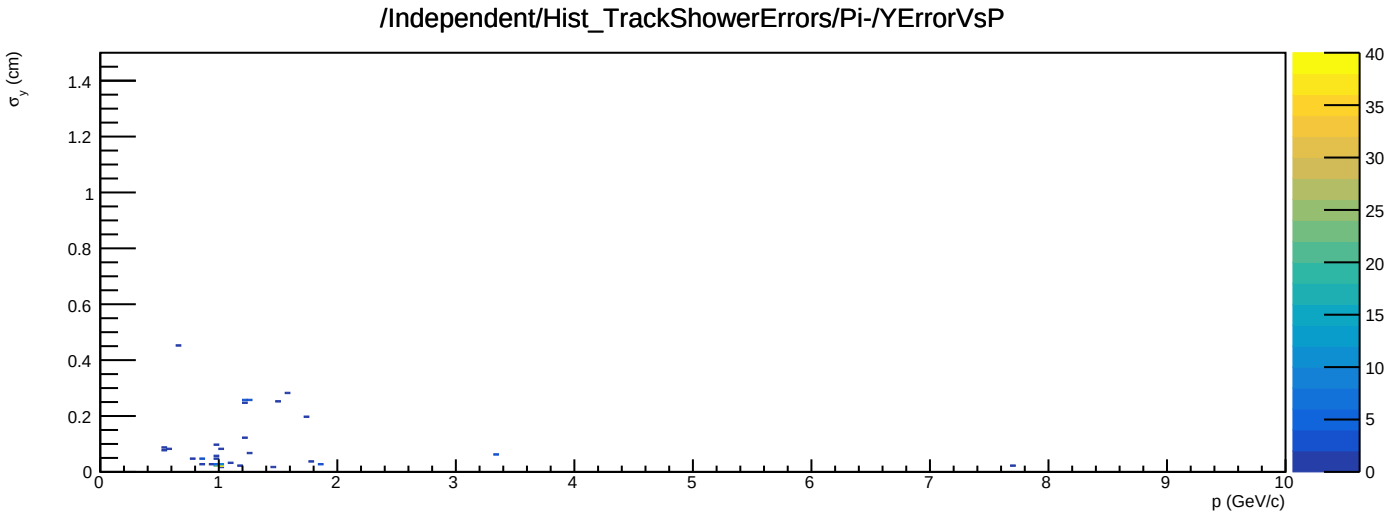

/Independent/Hist_TrackShowerErrors/Pi-/XErrorVsP
σx (cm)
p (GeV/c)

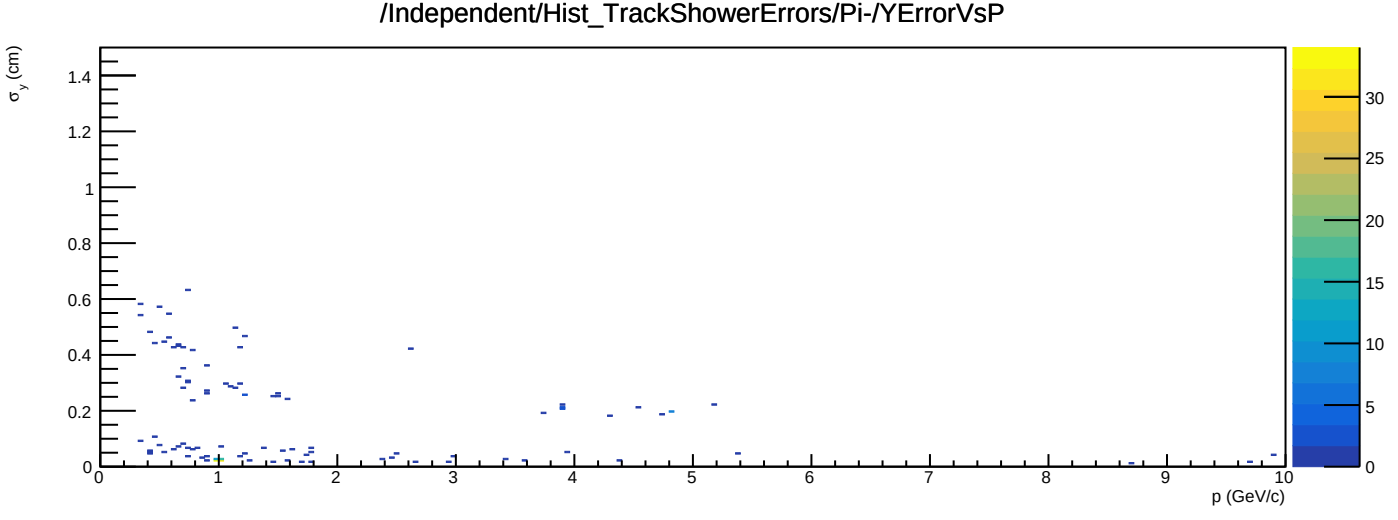

/Independent/Hist_TrackShowerErrors/Pi-/XErrorVsTheta
σx (cm)
θ°

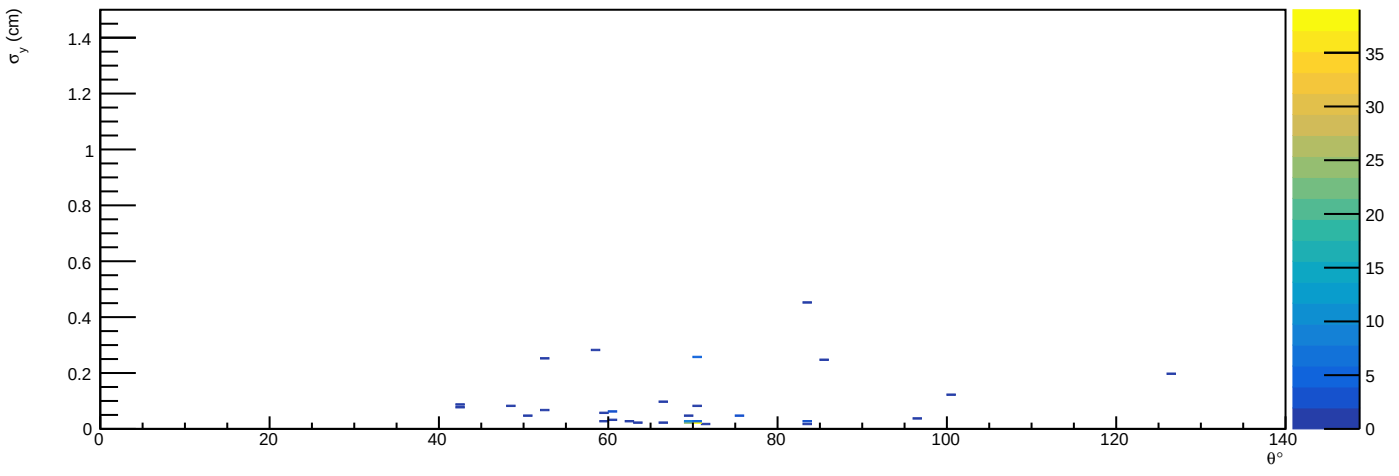

/Independent/Hist_TrackShowerErrors/Pi-/XErrorVsTheta
σx (cm)
θ°

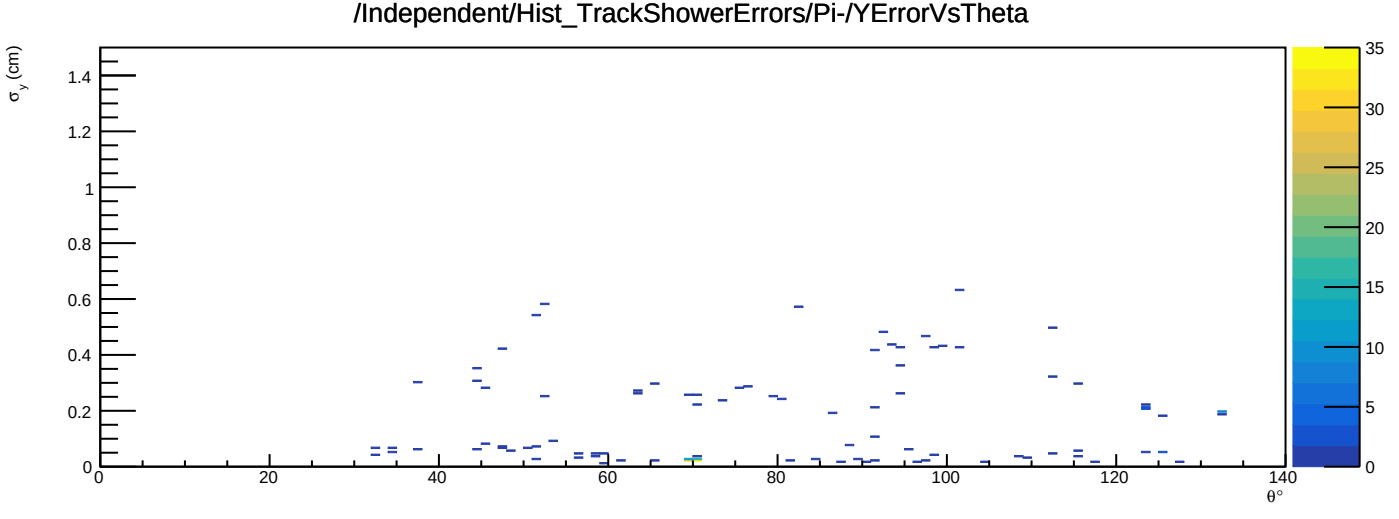

/Independent/Hist_TrackShowerErrors/Pi-/XErrorVsPhi
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
45
40
35
30
25
20
15
10
5
0

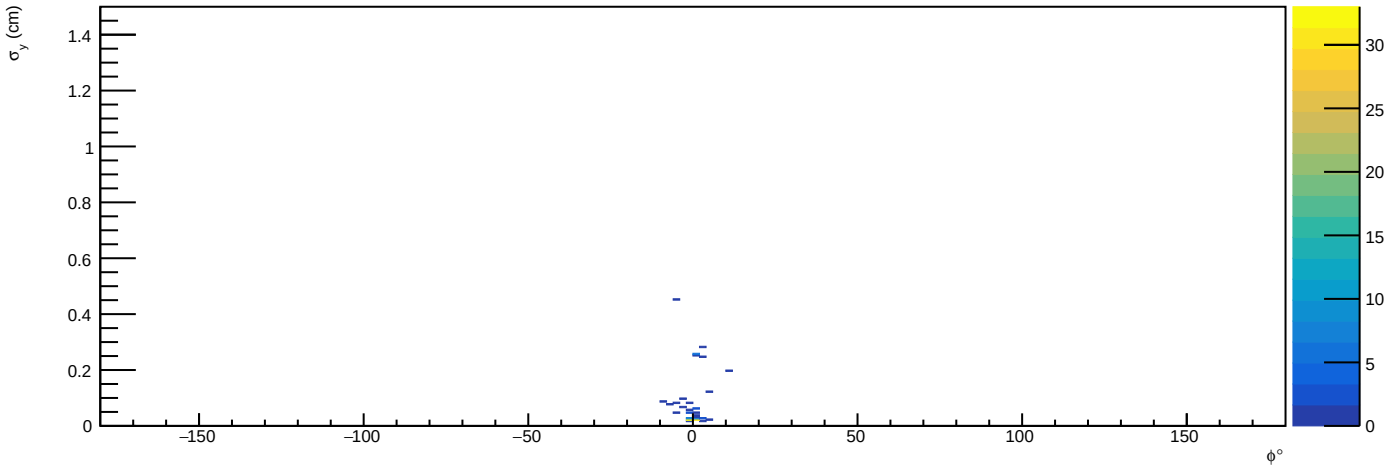

/Independent/Hist_TrackShowerErrors/Pi-/XErrorVsPhi
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
50
40
30
20
10
0

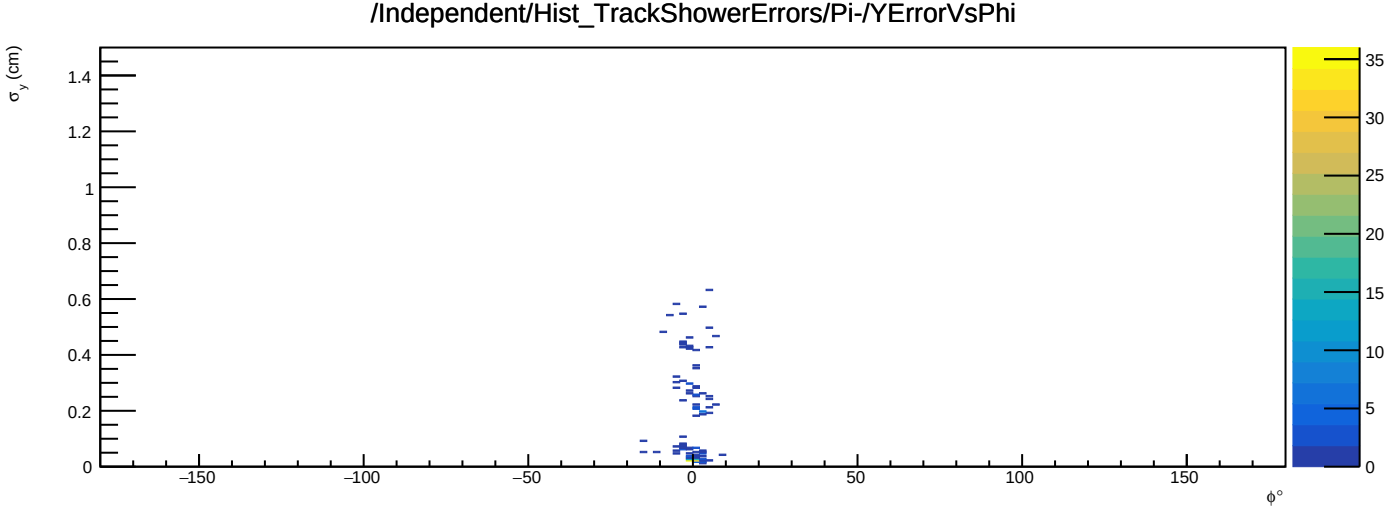

/Independent/Hist_TrackShowerErrors/Pi-/YErrorVsP
σ_y (cm)
p (GeV/c)

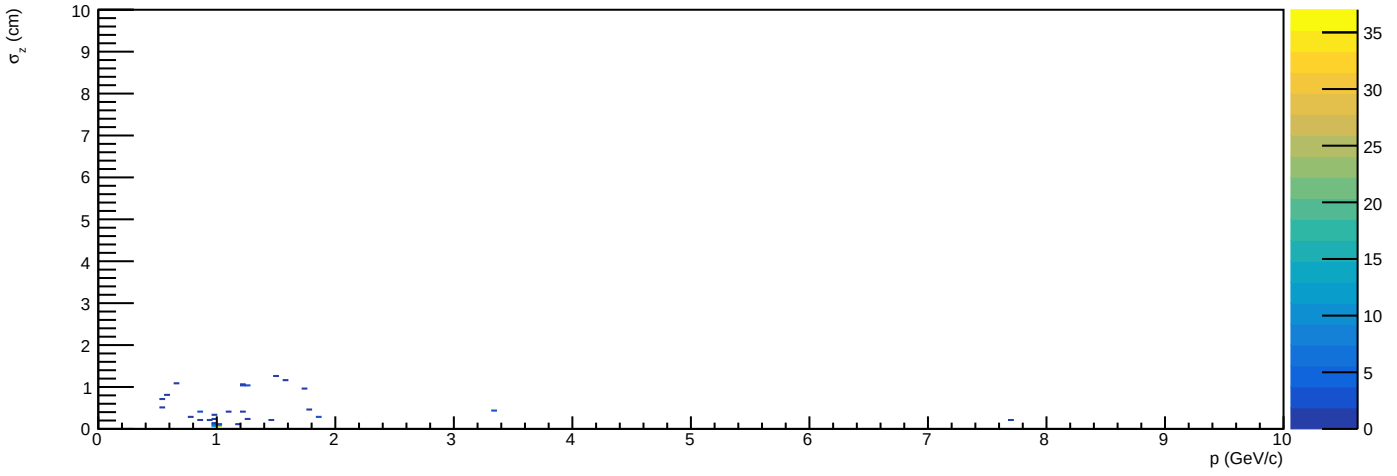

/Independent/Hist_TrackShowerErrors/Pi-/YErrorVsP
σ_y (cm)
p (GeV/c)

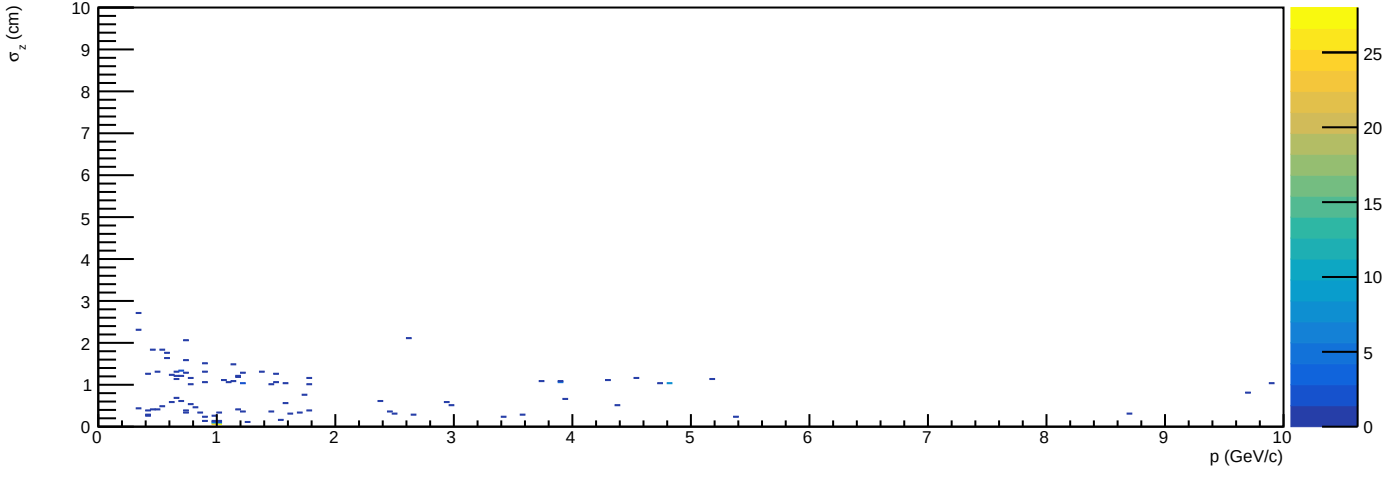

/Independent/Hist_TrackShowerErrors/Pi-/YErrorVsTheta
σ_y (cm)
θ°

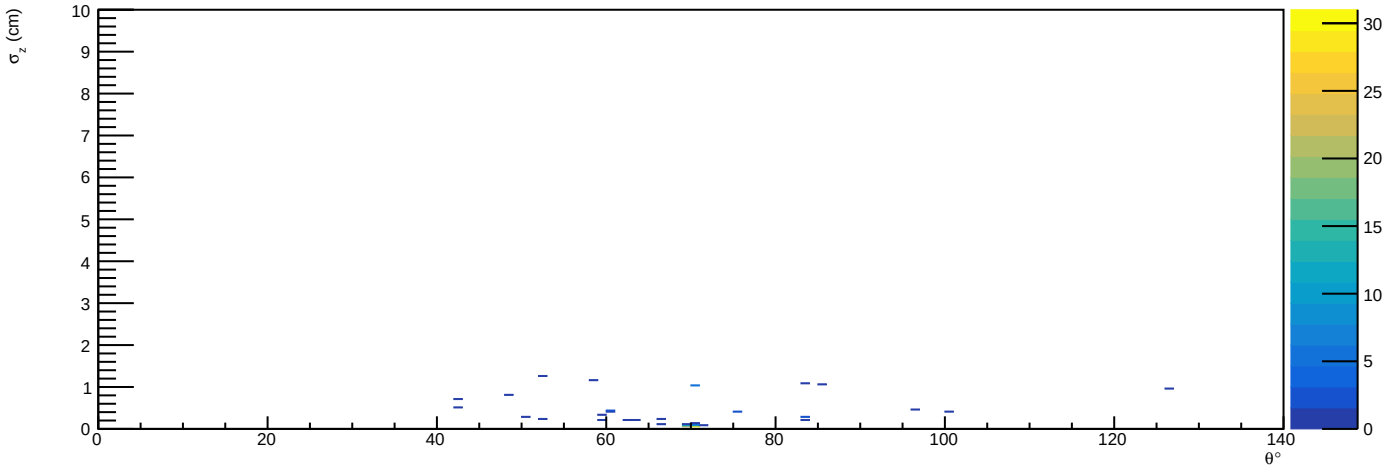

/Independent/Hist_TrackShowerErrors/Pi-/YErrorVsTheta
σ_y (cm)
θ°

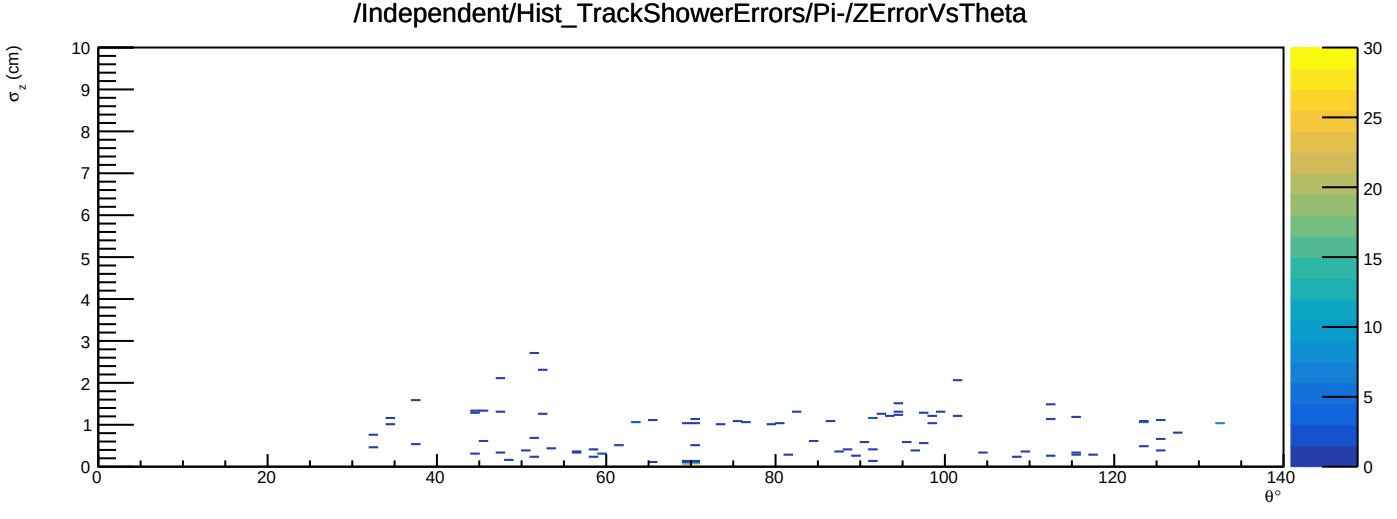

/Independent/Hist_TrackShowerErrors/Pi-/YErrorVsPhi
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
30
25
20
15
10
5
0

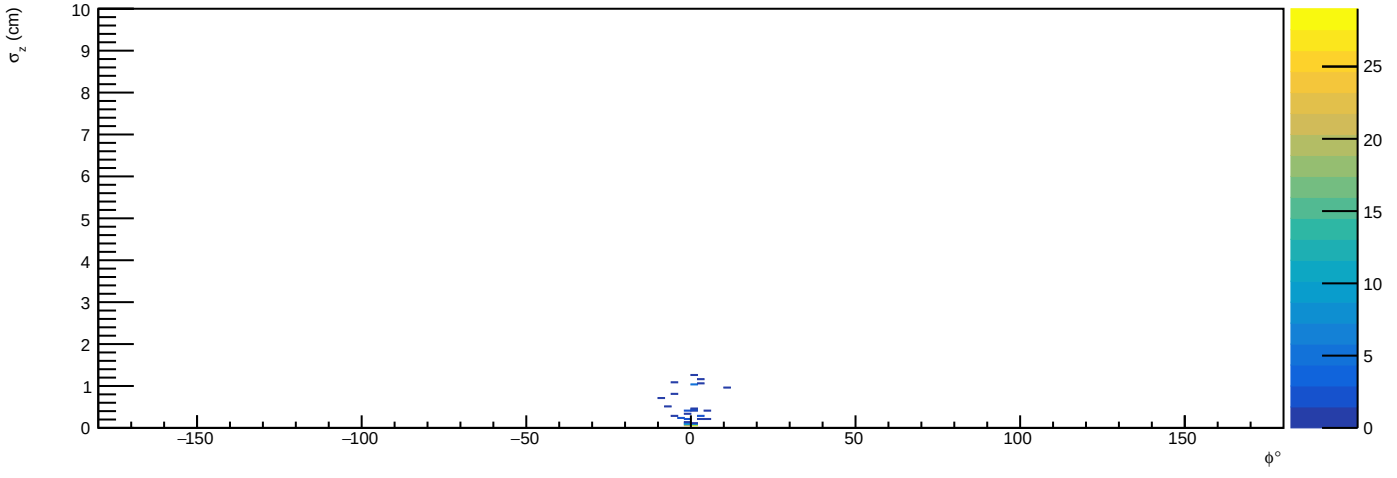

/Independent/Hist_TrackShowerErrors/Pi-/YErrorVsPhi
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
35
30
25
20
15
10
5
0

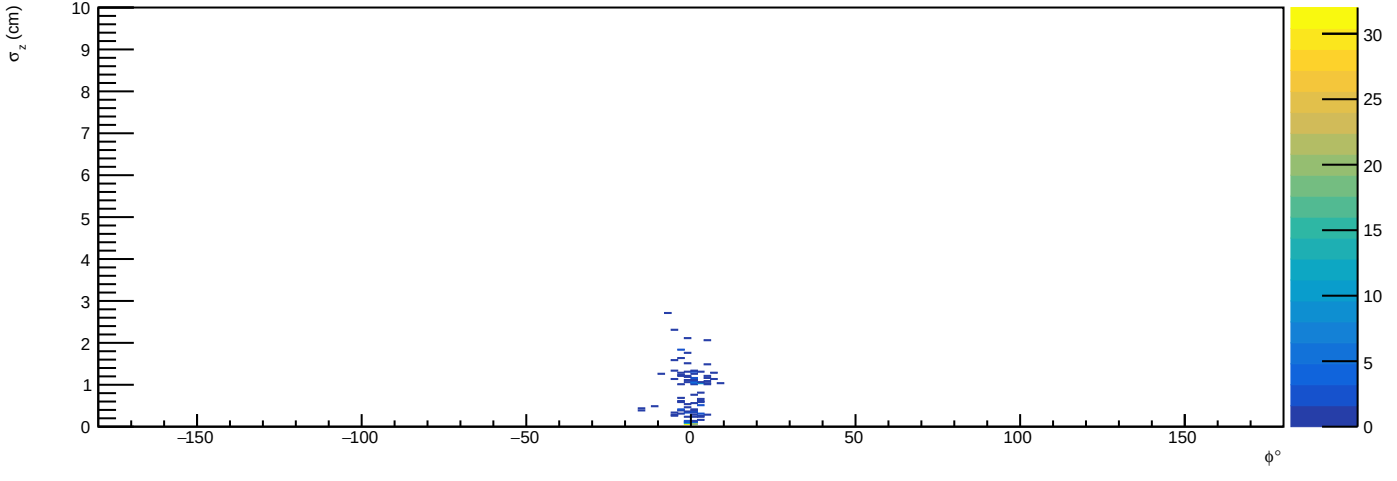

/Independent/Hist_TrackShowerErrors/Pi-/ZErrorVsP
σz (cm)
p (GeV/c)

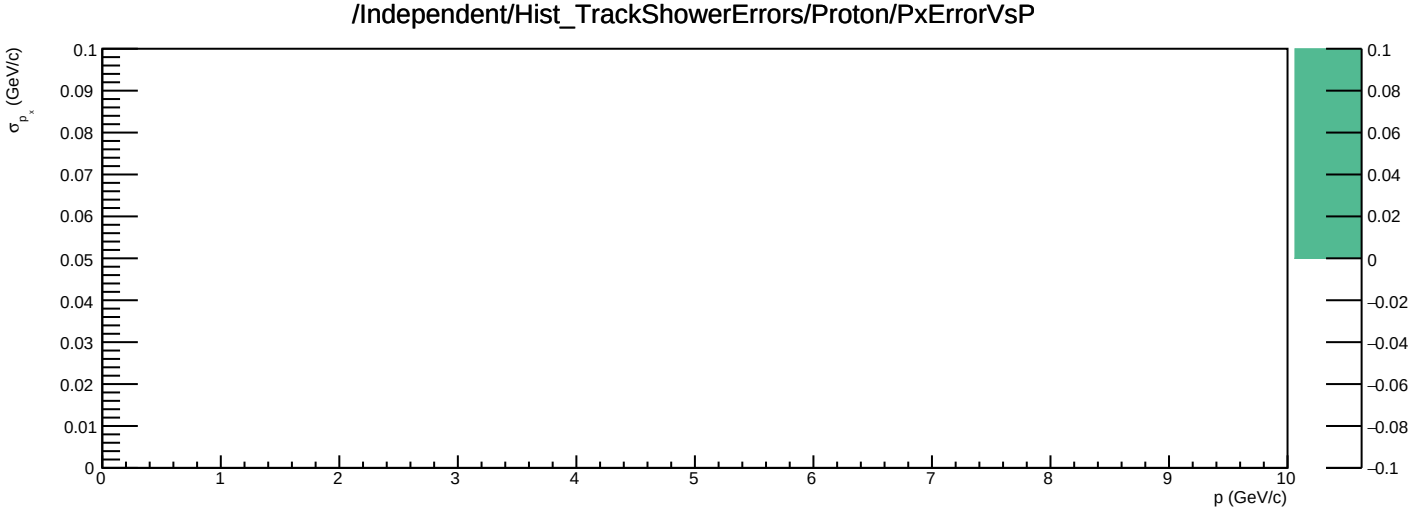

/Independent/Hist_TrackShowerErrors/Pi-/ZErrorVsP
σz (cm)
p (GeV/c)

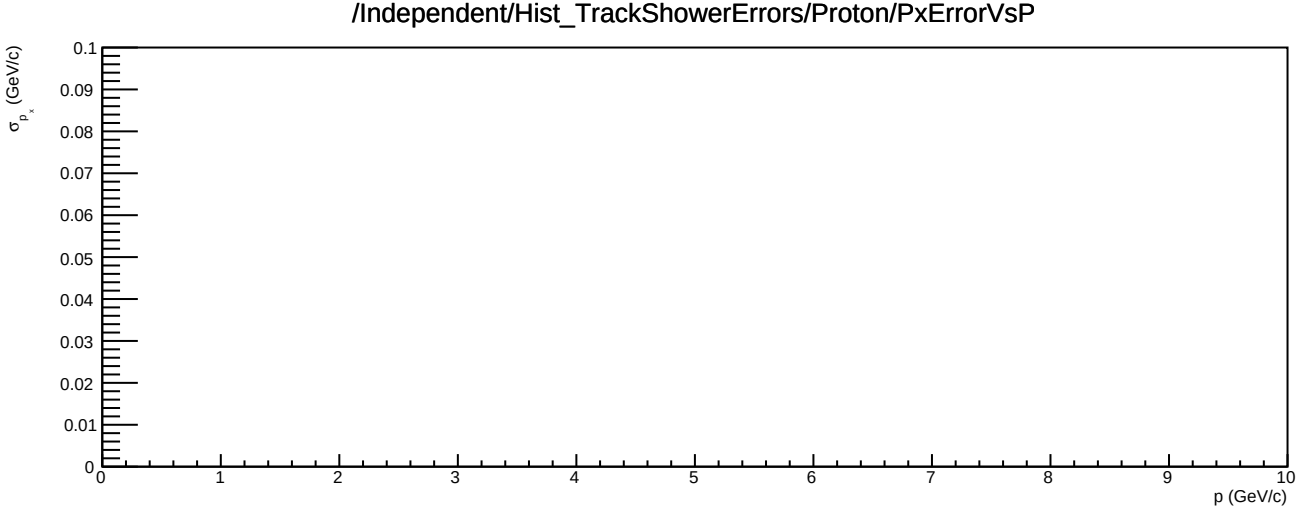

/Independent/Hist_TrackShowerErrors/Pi-/ZErrorVsTheta
σz (cm)
θ°

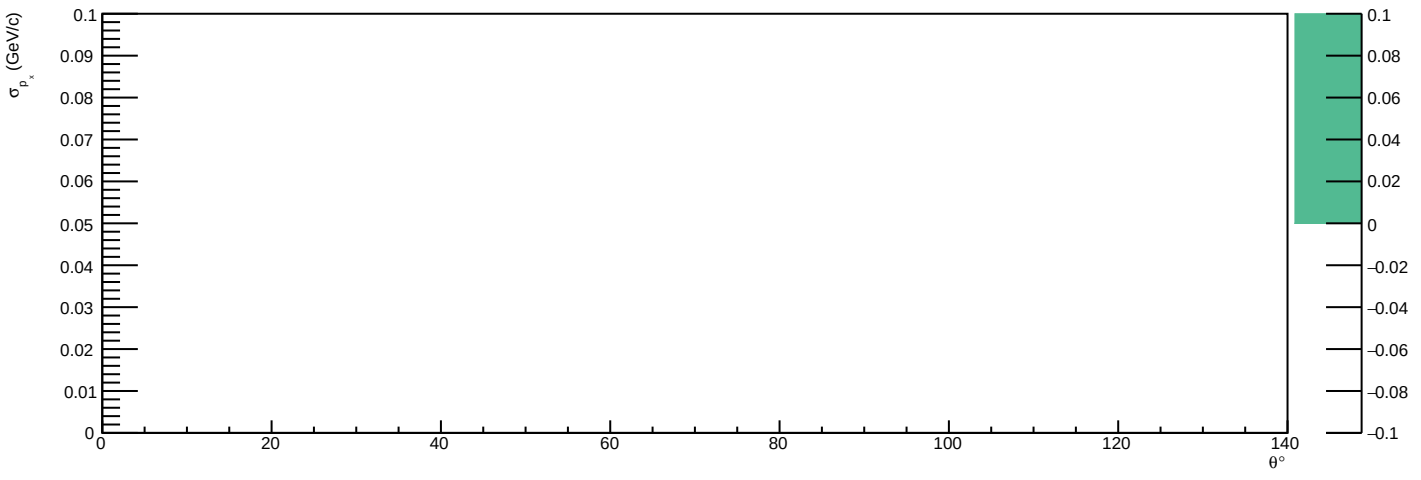

/Independent/Hist_TrackShowerErrors/Pi-/ZErrorVsTheta
σz (cm)
θ°

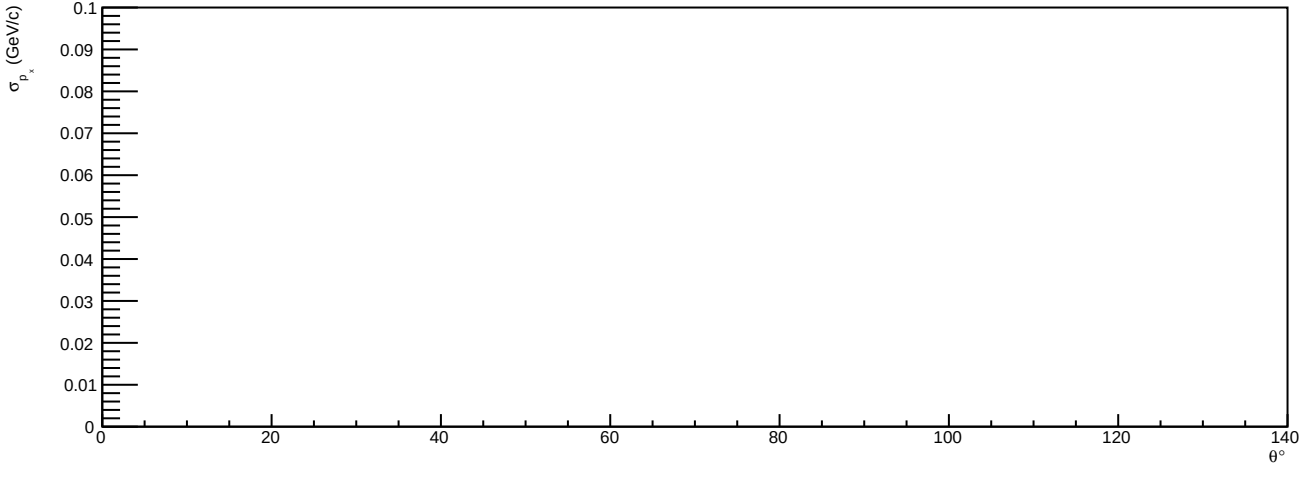

/Independent/Hist_TrackShowerErrors/Pi-/ZErrorVsPhi
σz (cm)
10
9
8
7
6
5
4
3
2
1
0
–150
–100
–50
0
50
100
150
ϕ°
25
20
15
10
5
0

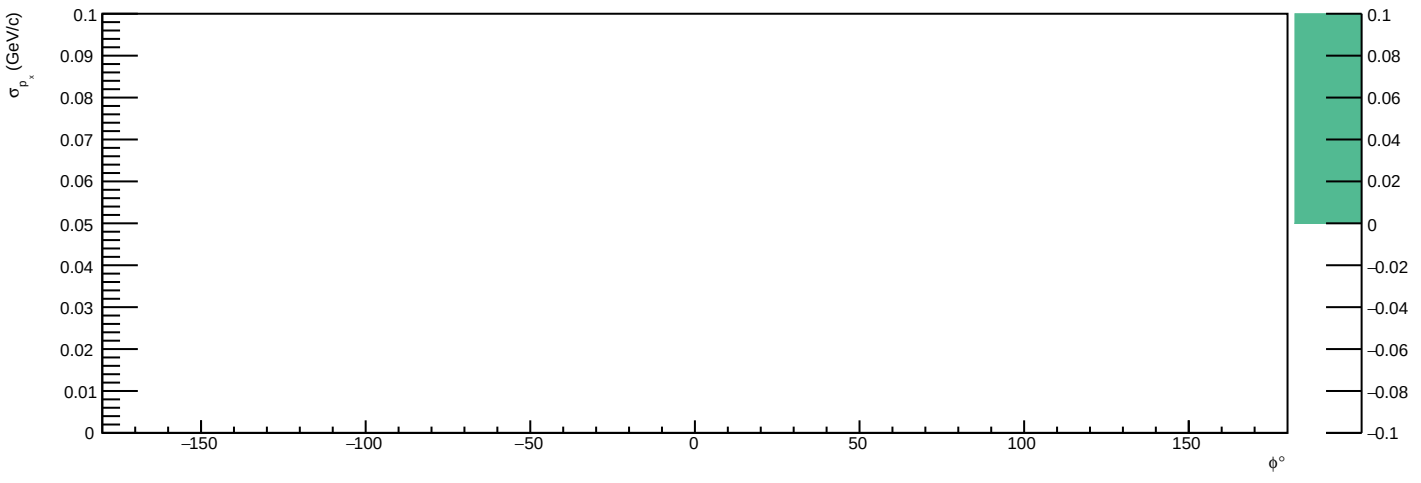

/Independent/Hist_TrackShowerErrors/Pi-/ZErrorVsPhi
σz (cm)
10
9
8
7
6
5
4
3
2
1
0
–150
–100
–50
0
50
100
150
ϕ°
30
25
20
15
10
5
0

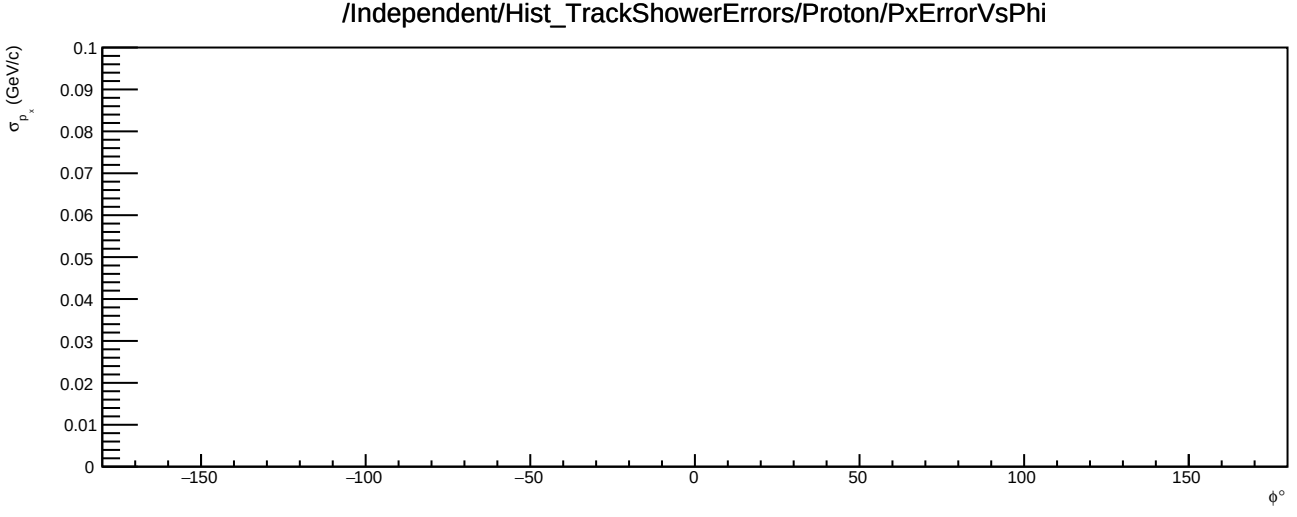

/Independent/Hist_TrackShowerErrors/Proton/PxErrorVsP
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0 1 2 3 4 5 6 7 8 9 10
p (GeV/c)
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

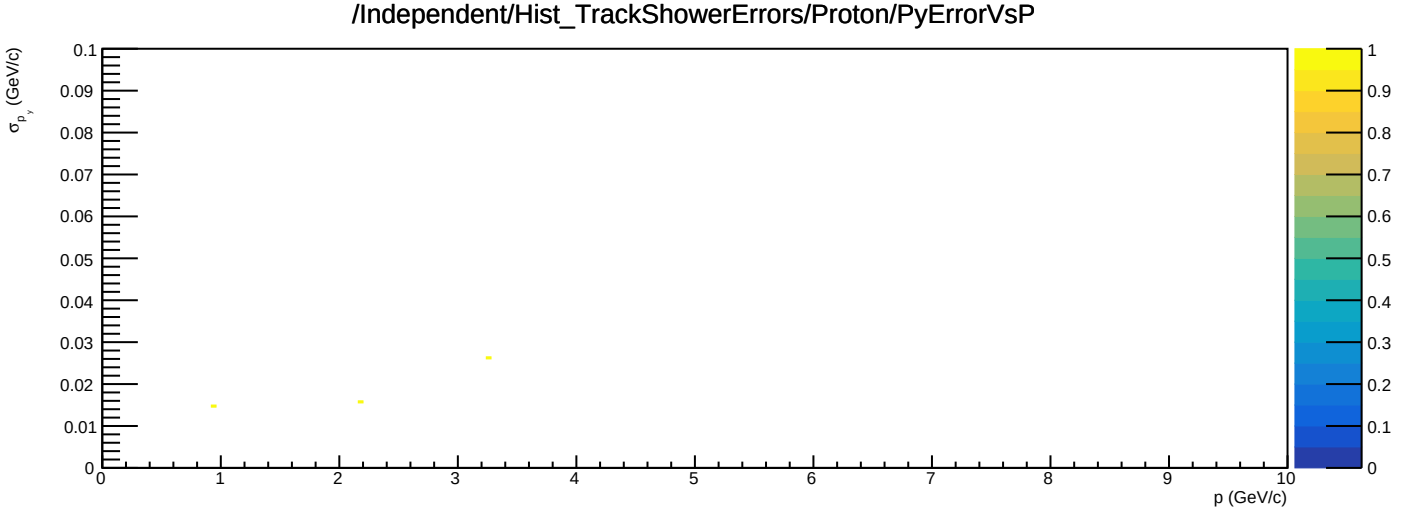

/Independent/Hist_TrackShowerErrors/Proton/PxErrorVsP
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0 1 2 3 4 5 6 7 8 9 10
p (GeV/c)

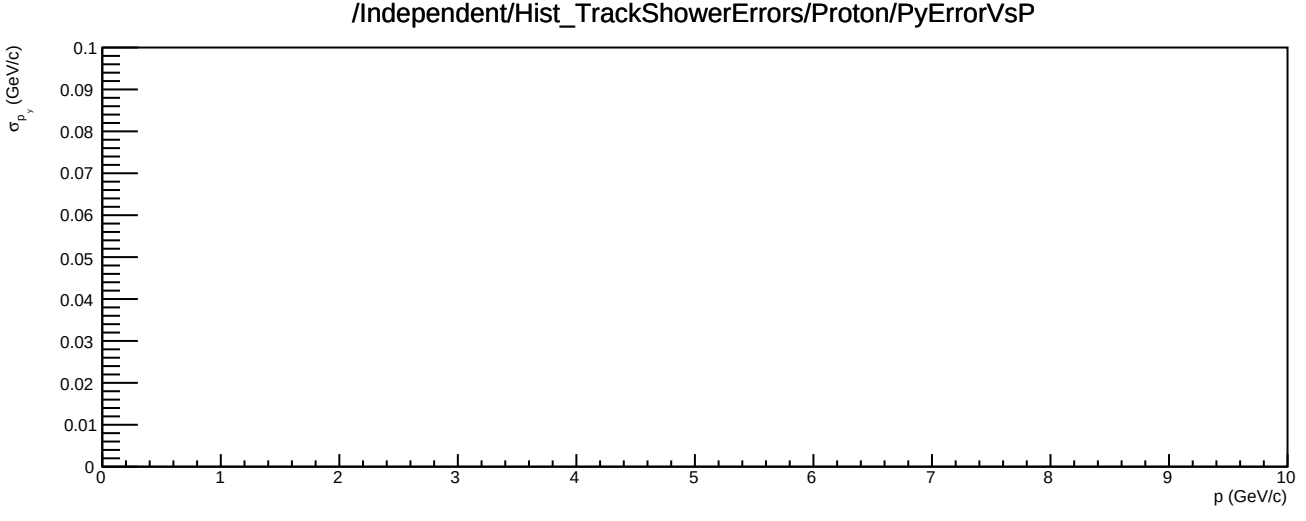

/Independent/Hist_TrackShowerErrors/Proton/PxErrorVsTheta
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
20
40
60
80
100
120
140
θ°
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

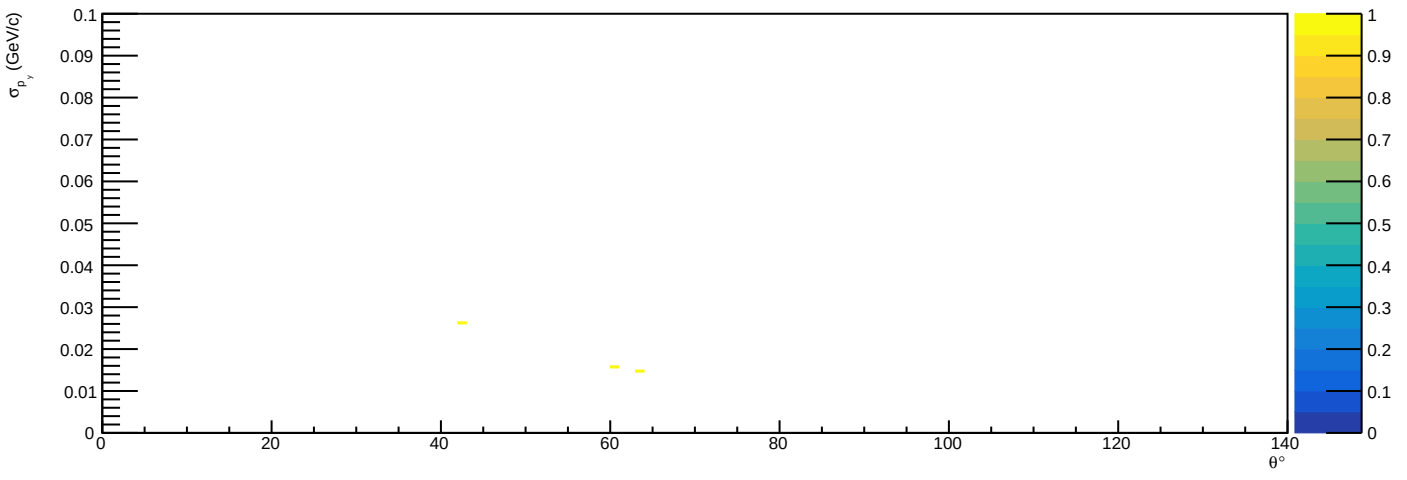

/Independent/Hist_TrackShowerErrors/Proton/PxErrorVsTheta
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
20
40
60
80
100
120
140
θ°

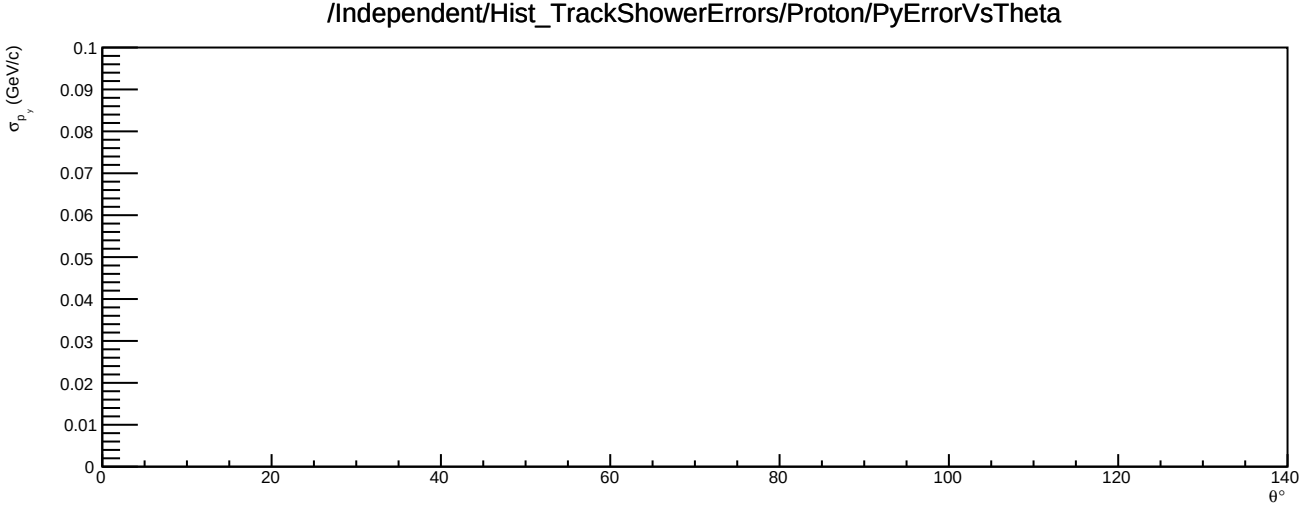

/Independent/Hist_TrackShowerErrors/Proton/PxErrorVsPhi
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°
0.1
0.08
0.06
0.04
0.02
0
–0.02
–0.04
–0.06
–0.08
–0.1

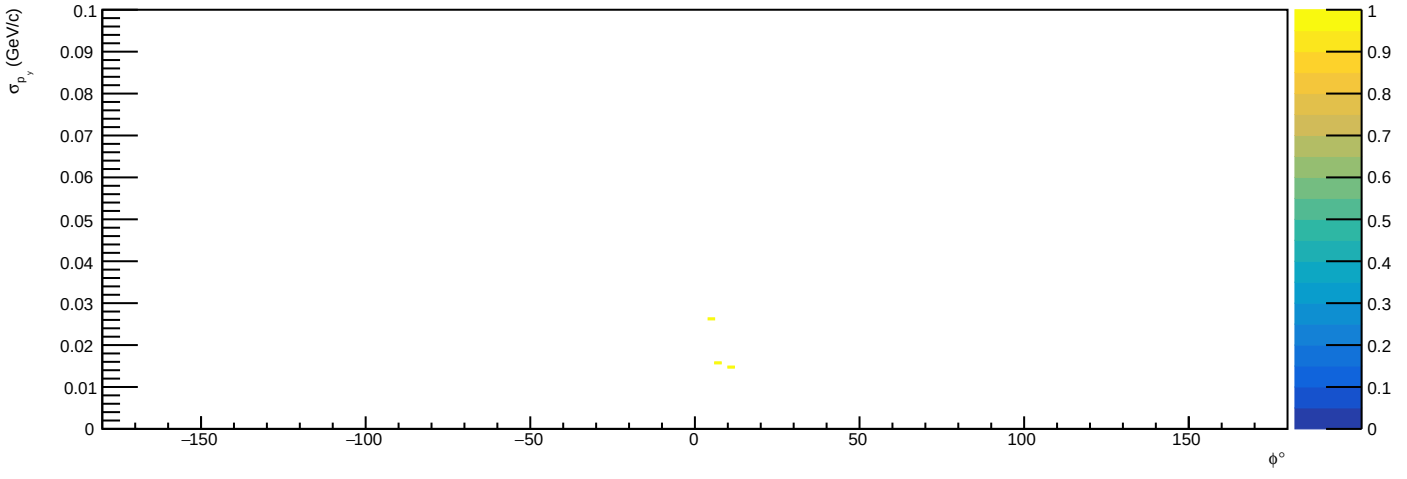

/Independent/Hist_TrackShowerErrors/Proton/PxErrorVsPhi
σ p_x (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°

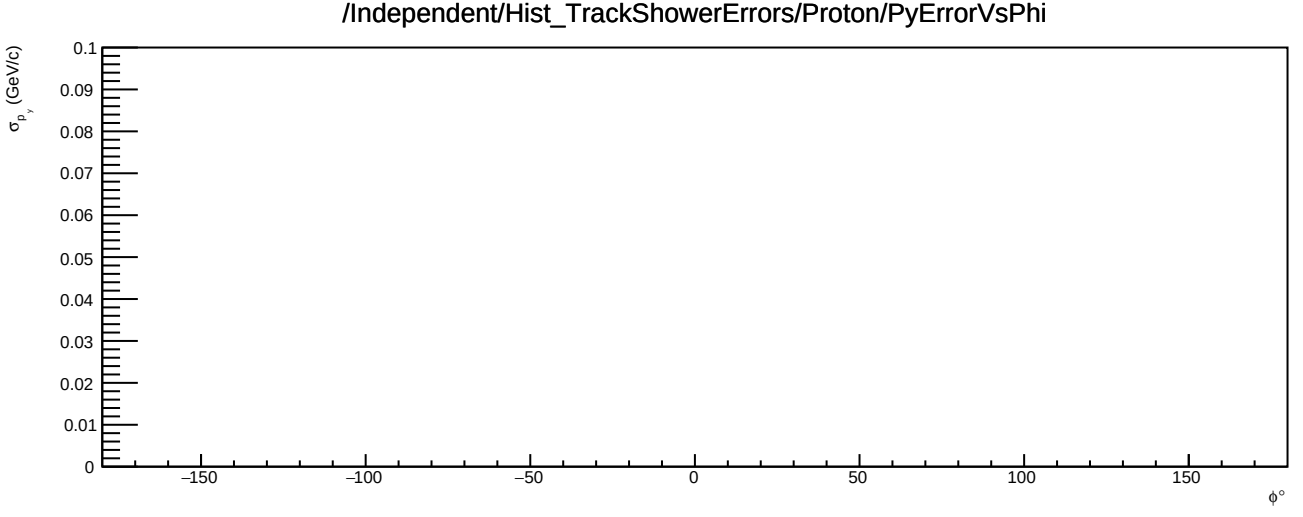

/Independent/Hist_TrackShowerErrors/Proton/PyErrorVsP
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

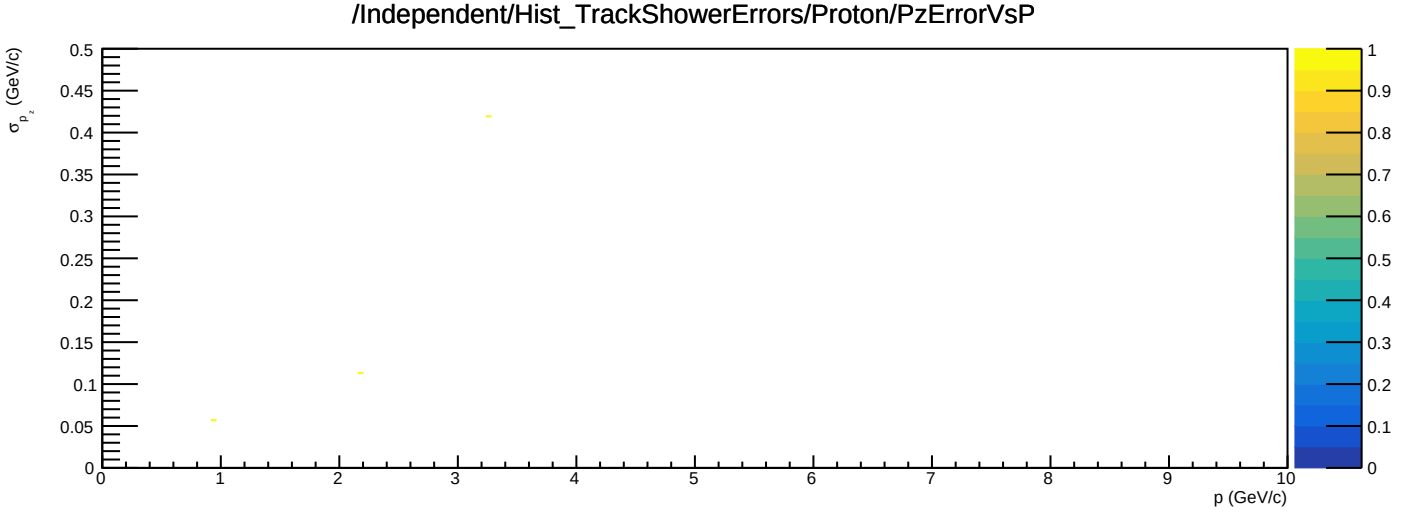

/Independent/Hist_TrackShowerErrors/Proton/PyErrorVsP
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

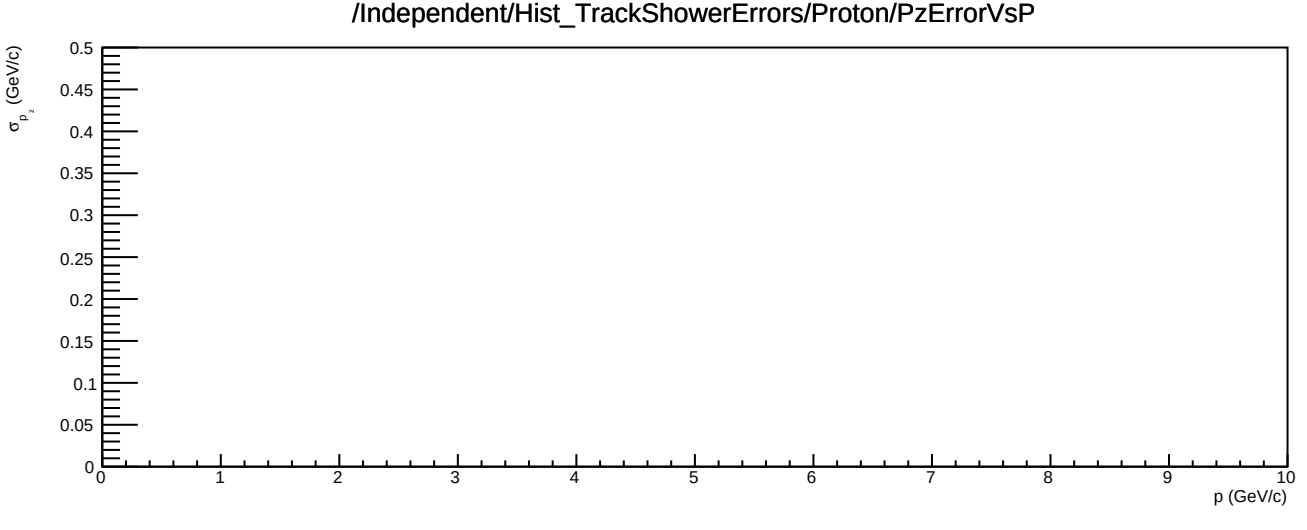

/Independent/Hist_TrackShowerErrors/Proton/PyErrorVsTheta
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
20
40
60
80
100
120
140
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

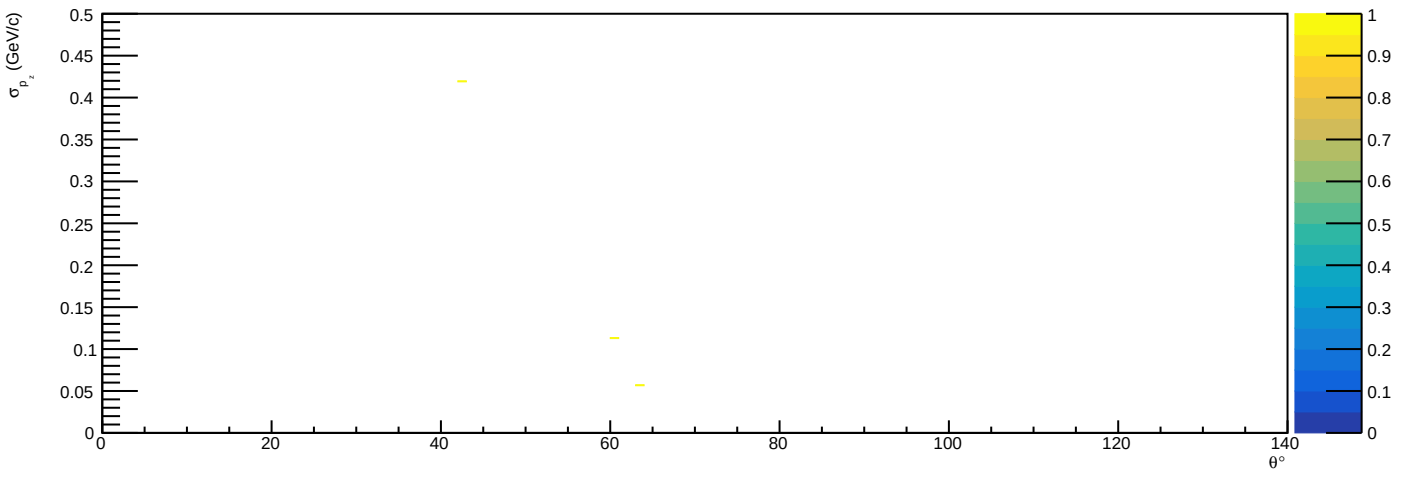

/Independent/Hist_TrackShowerErrors/Proton/PyErrorVsTheta
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
20
40
60
80
100
120
140
θ°

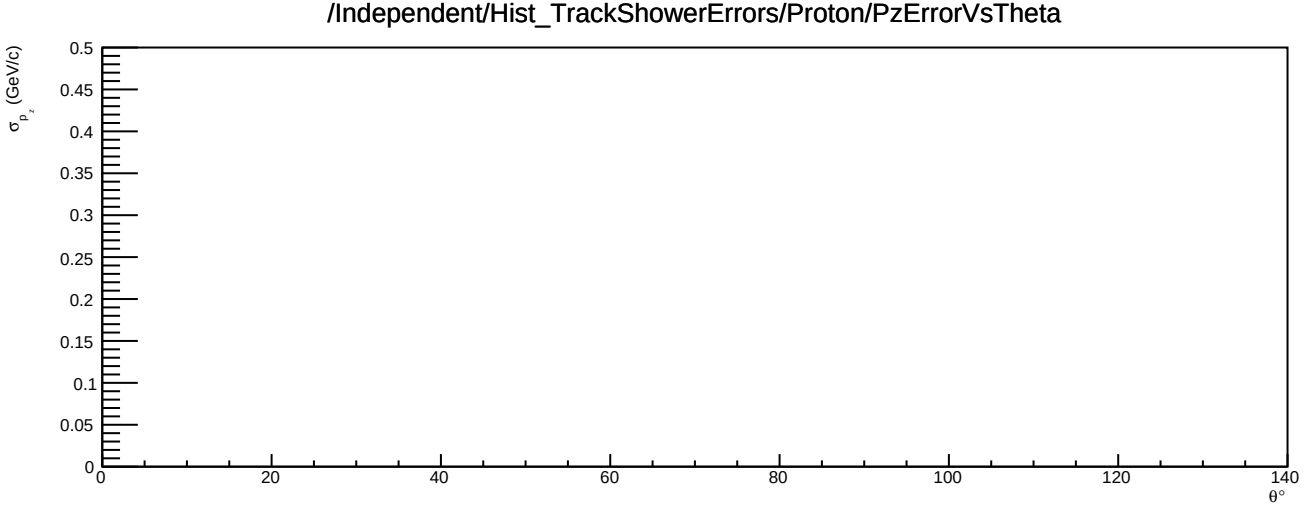

/Independent/Hist_TrackShowerErrors/Proton/PyErrorVsPhi
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

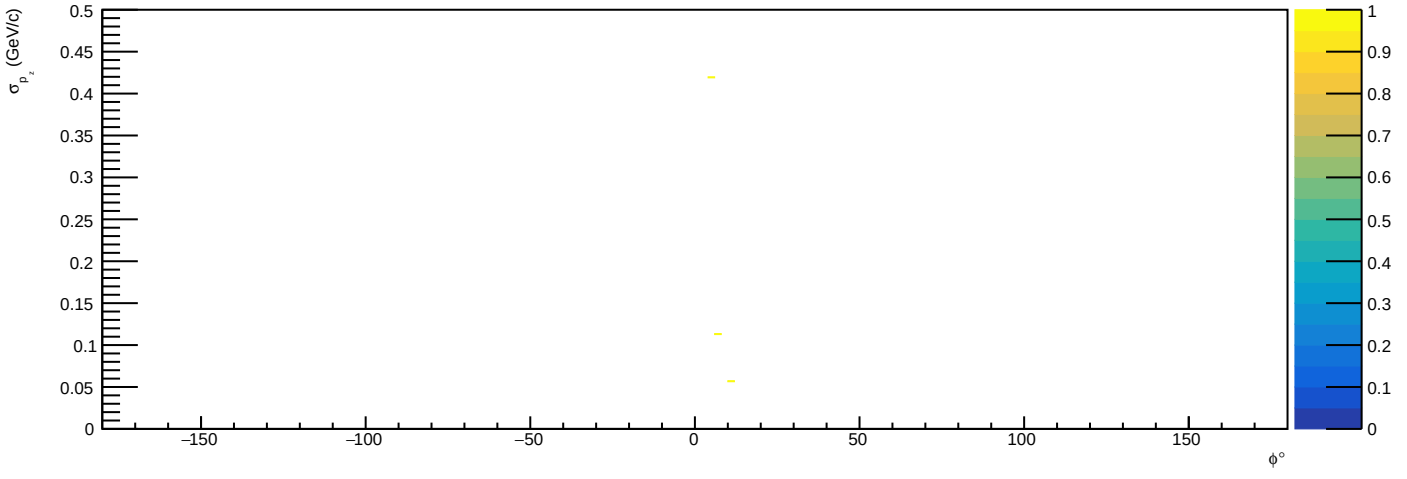

/Independent/Hist_TrackShowerErrors/Proton/PyErrorVsPhi
σ p_y (GeV/c)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
–150
–100
–50
0
50
100
150
ϕ°

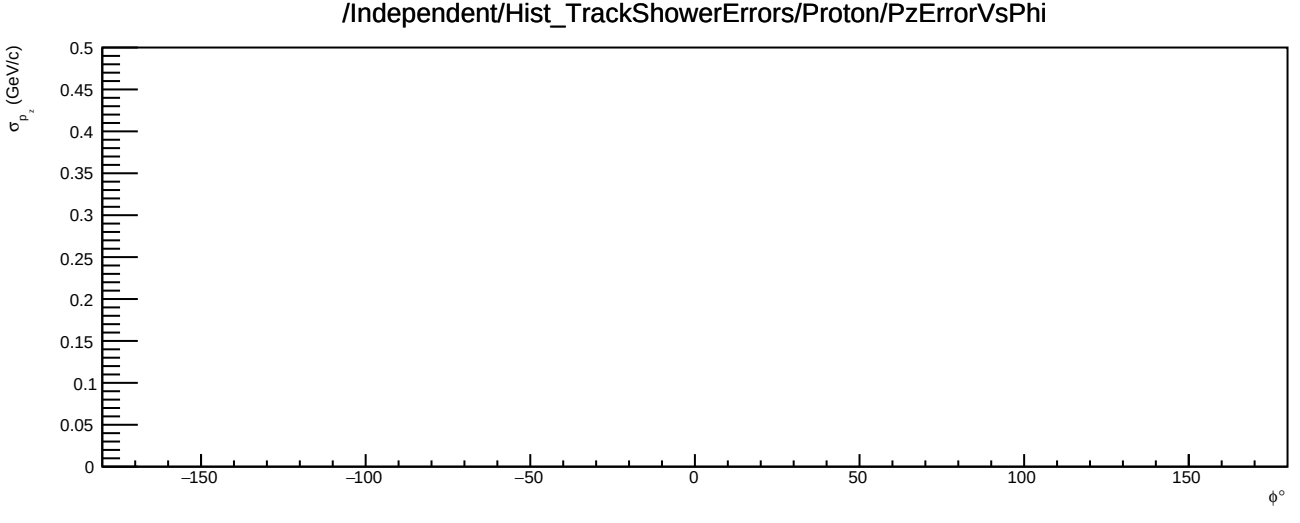

/Independent/Hist_TrackShowerErrors/Proton/PzErrorVsP
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0 1 2 3 4 5 6 7 8 9 10
p (GeV/c)
1 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0

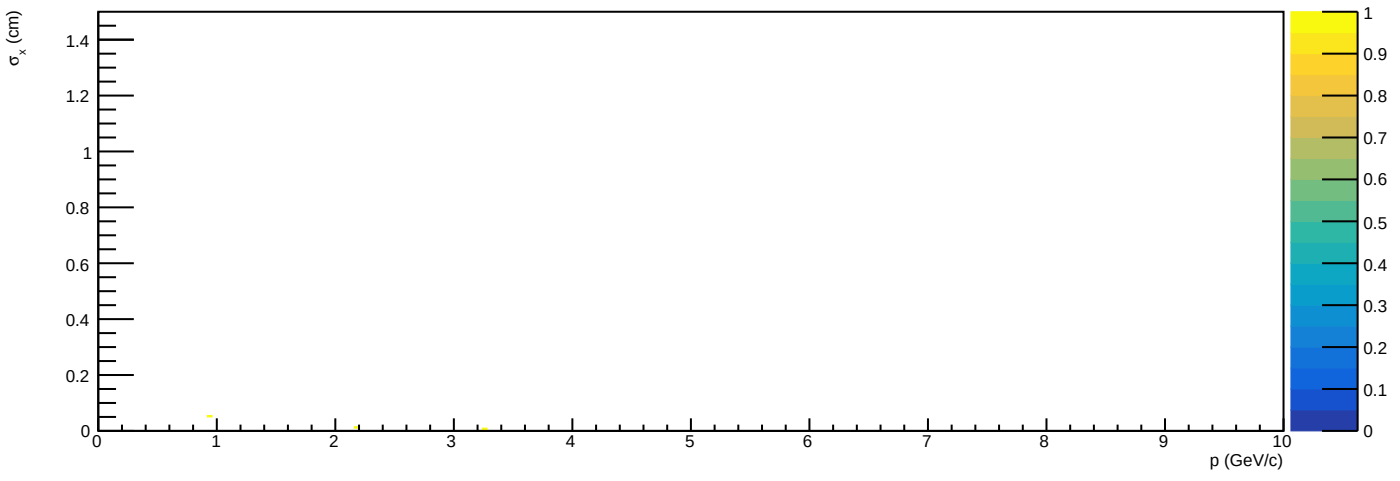

/Independent/Hist_TrackShowerErrors/Proton/PzErrorVsP
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0 1 2 3 4 5 6 7 8 9 10
p (GeV/c)

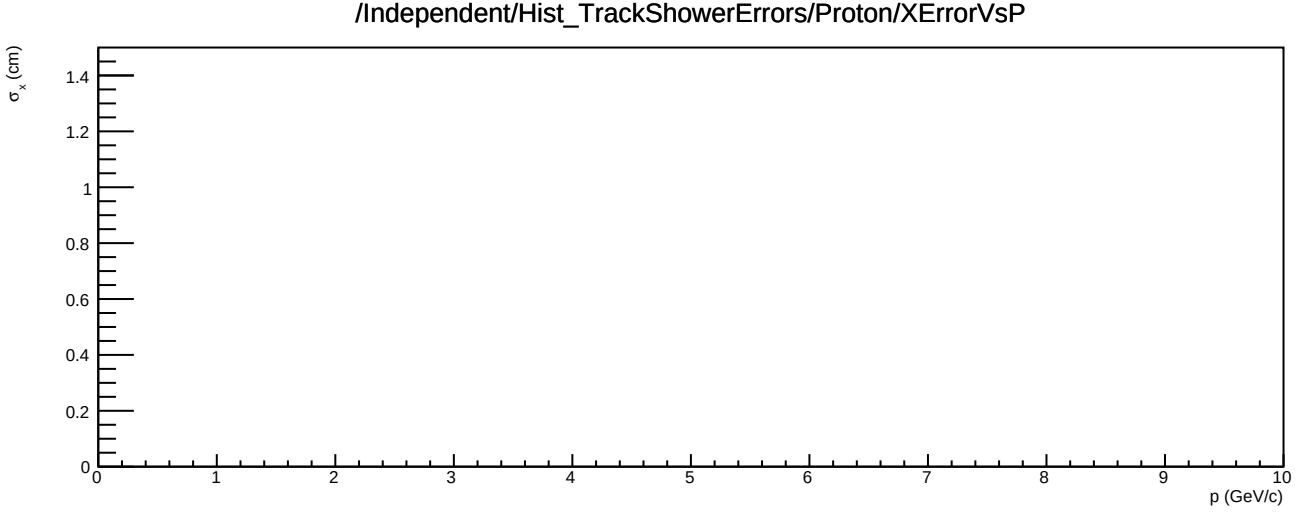

/Independent/Hist_TrackShowerErrors/Proton/PzErrorVsTheta
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
20
40
60
80
100
120
140
θ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

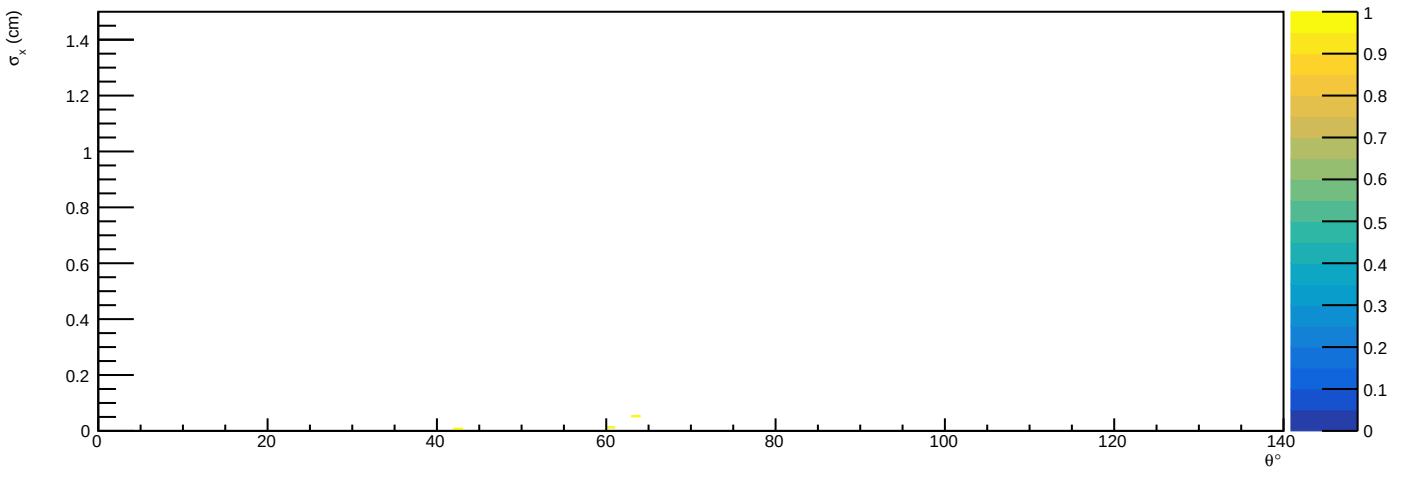

/Independent/Hist_TrackShowerErrors/Proton/PzErrorVsTheta
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
20
40
60
80
100
120
140
θ°

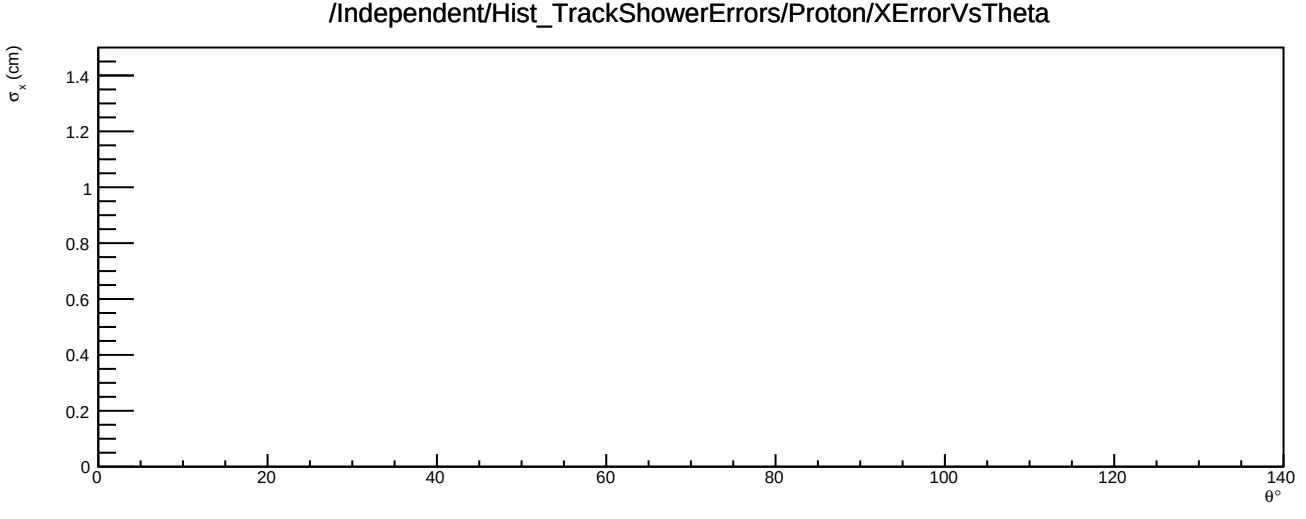

/Independent/Hist_TrackShowerErrors/Proton/PzErrorVsPhi
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
–150
–100
–50
0
50
100
150
ϕ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

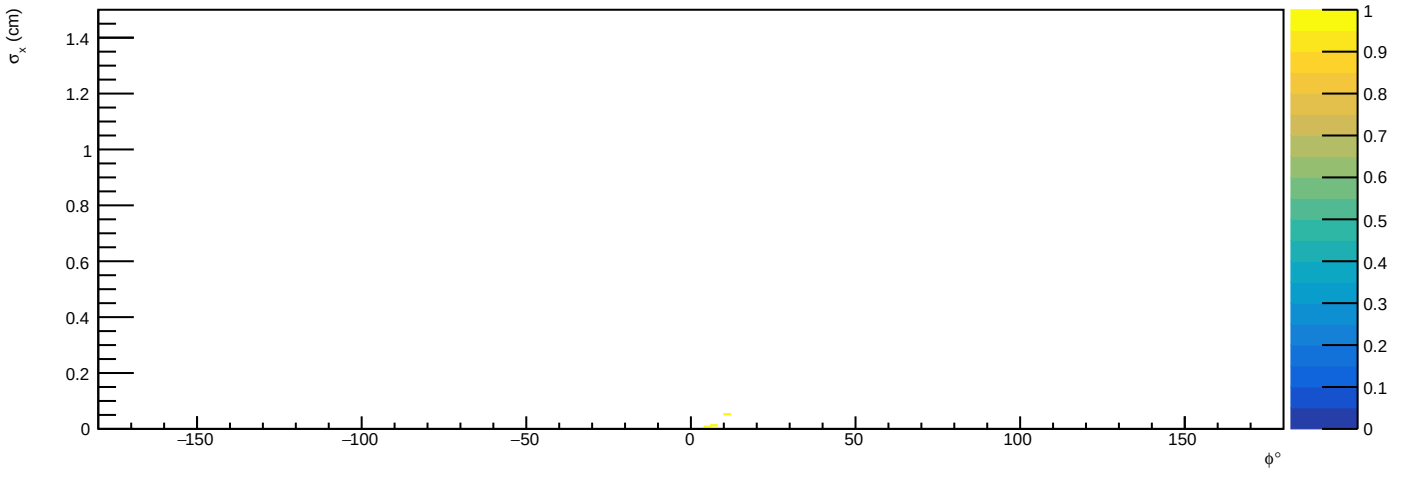

/Independent/Hist_TrackShowerErrors/Proton/PzErrorVsPhi
σ p_z (GeV/c)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
–150
–100
–50
0
50
100
150
ϕ°

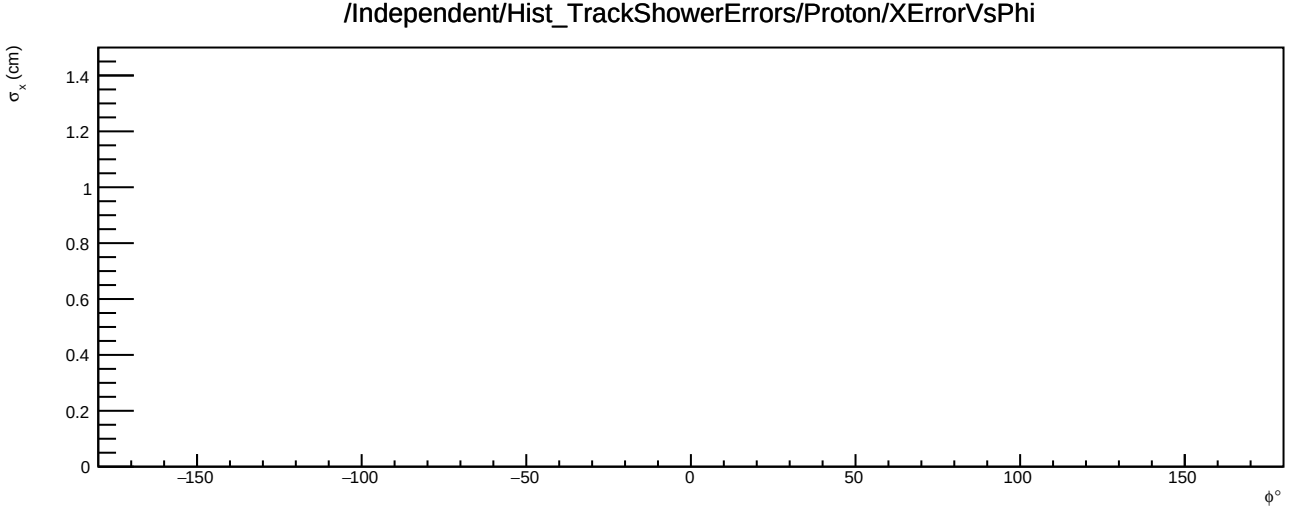

/Independent/Hist_TrackShowerErrors/Proton/XErrorVsP
σx (cm)
p (GeV/c)

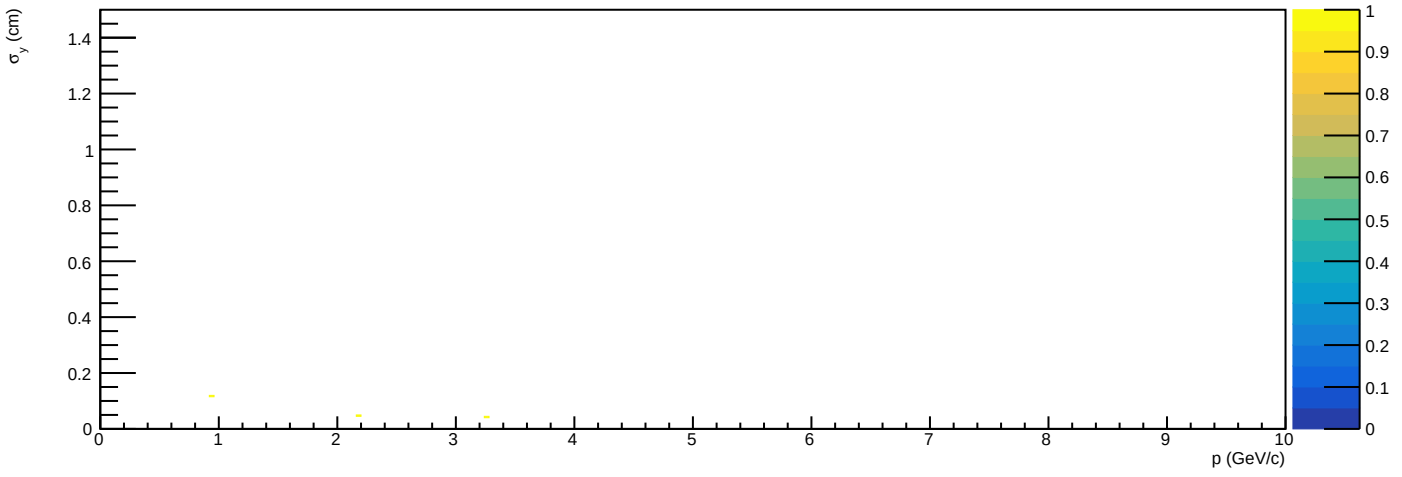

/Independent/Hist_TrackShowerErrors/Proton/XErrorVsP
σx (cm)
p (GeV/c)

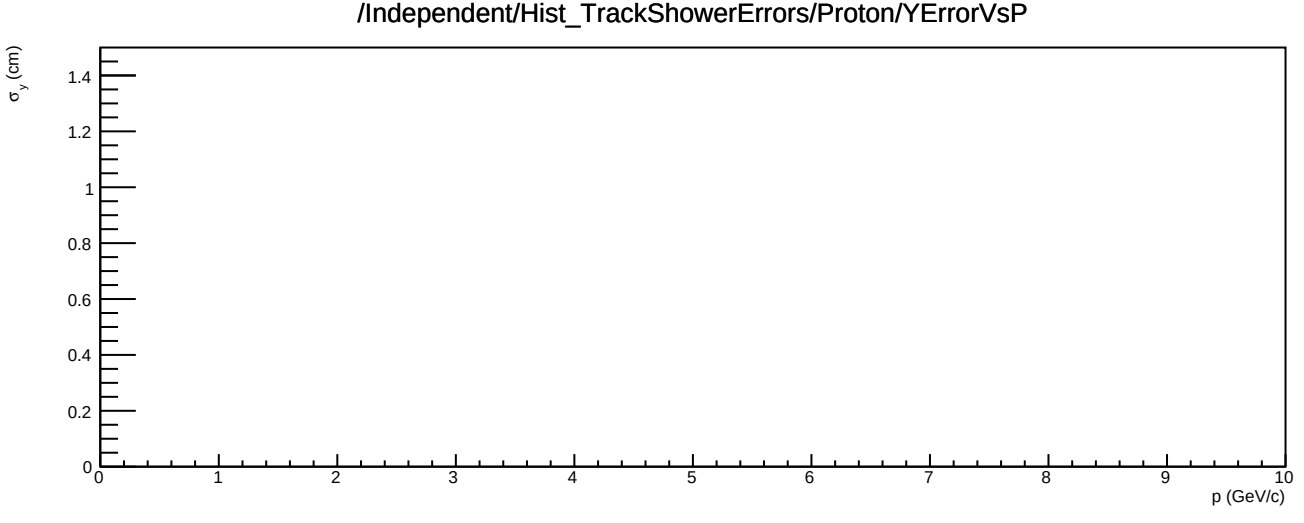

/Independent/Hist_TrackShowerErrors/Proton/XErrorVsTheta
σx (cm)
θ°
0
20
40
60
80
100
120
140
0.2
0.4
0.6
0.8
1
1.2
1.4
0.1
0.3
0.5
0.7
0.9

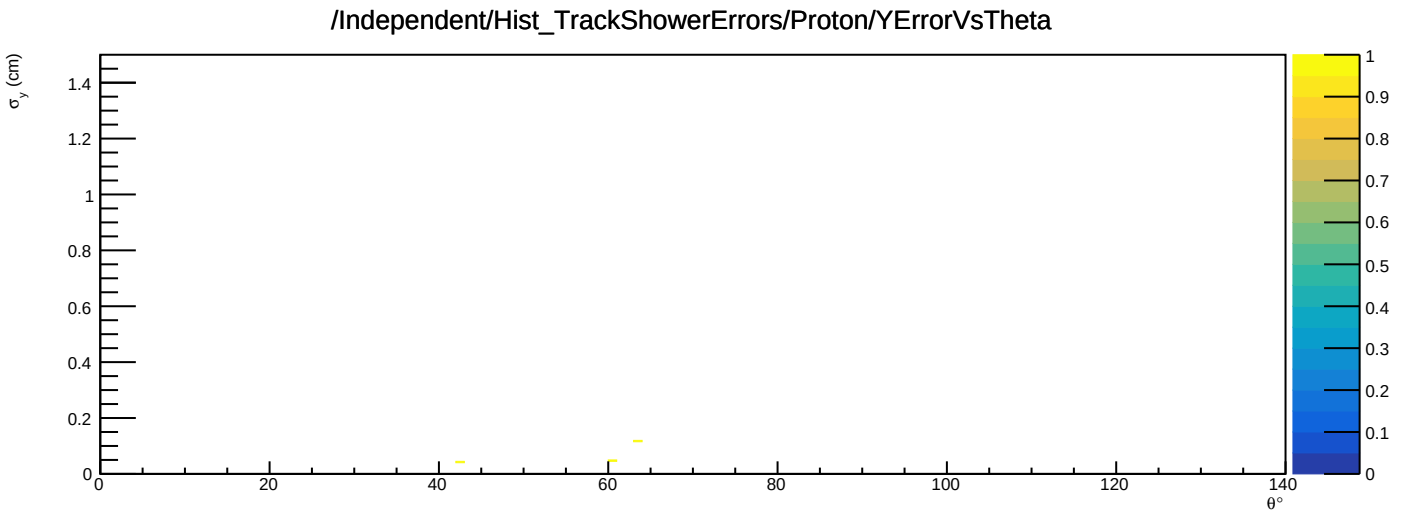

/Independent/Hist_TrackShowerErrors/Proton/XErrorVsTheta
σx (cm)
θ°
0
20
40
60
80
100
120
140
0.2
0.4
0.6
0.8
1
1.2
1.4

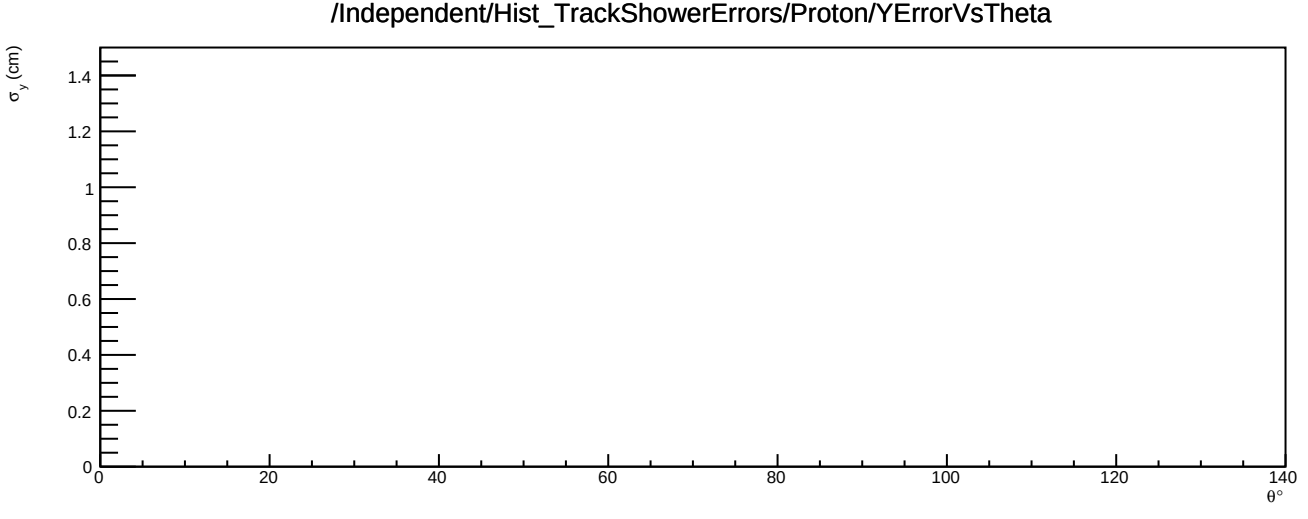

/Independent/Hist_TrackShowerErrors/Proton/XErrorVsPhi
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

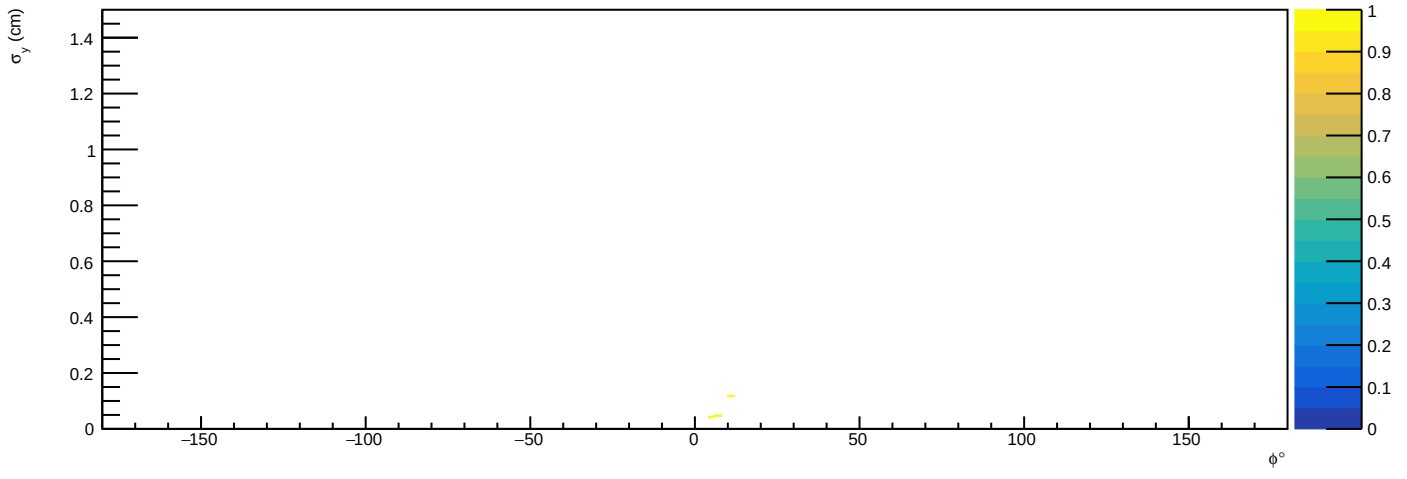

/Independent/Hist_TrackShowerErrors/Proton/XErrorVsPhi
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

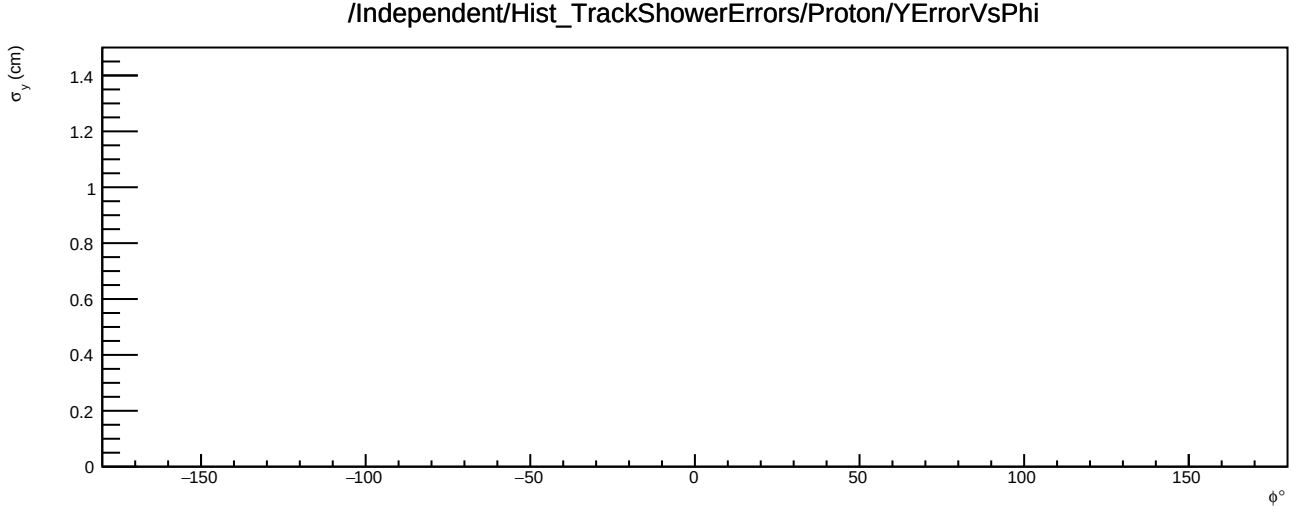

/Independent/Hist_TrackShowerErrors/Proton/YErrorVsP
σ_y (cm)
p (GeV/c)

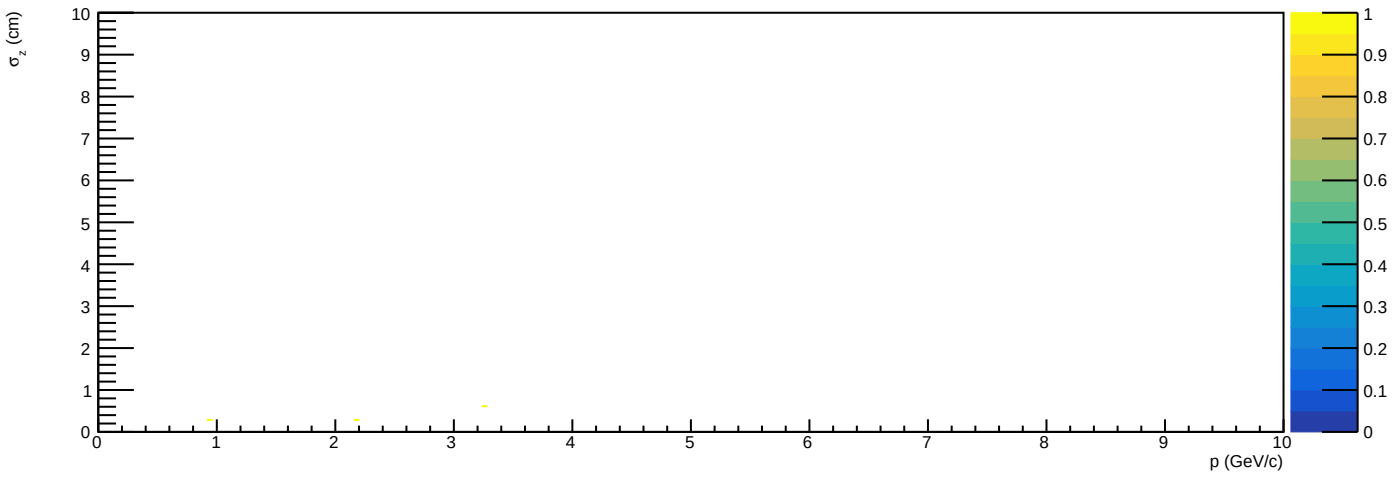

/Independent/Hist_TrackShowerErrors/Proton/YErrorVsP
σ_y (cm)
p (GeV/c)

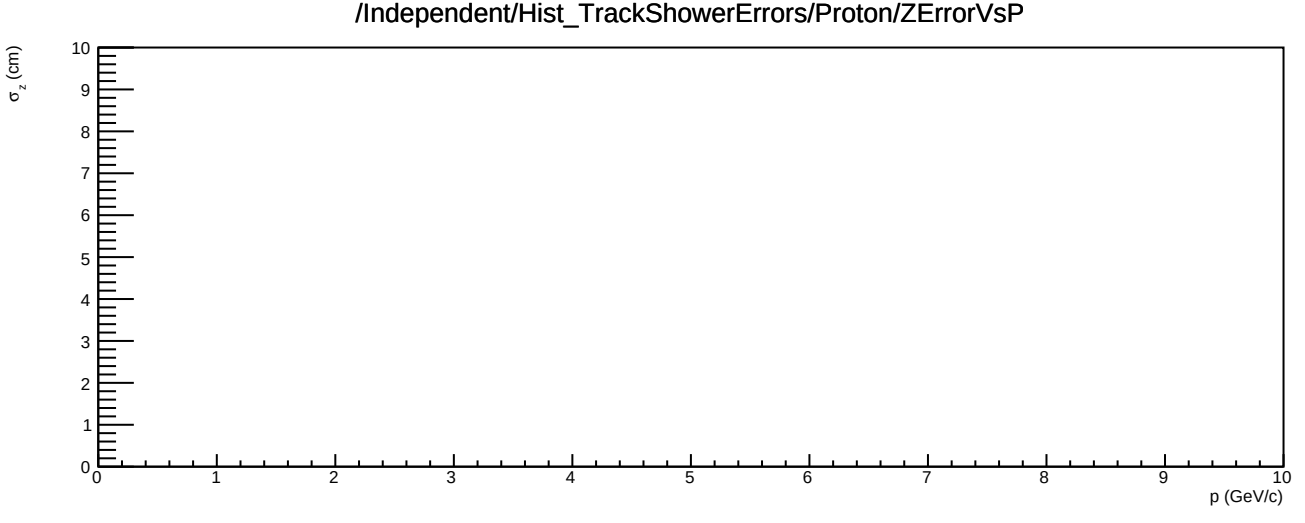

/Independent/Hist_TrackShowerErrors/Proton/YErrorVsTheta
σ_y (cm)
θ°

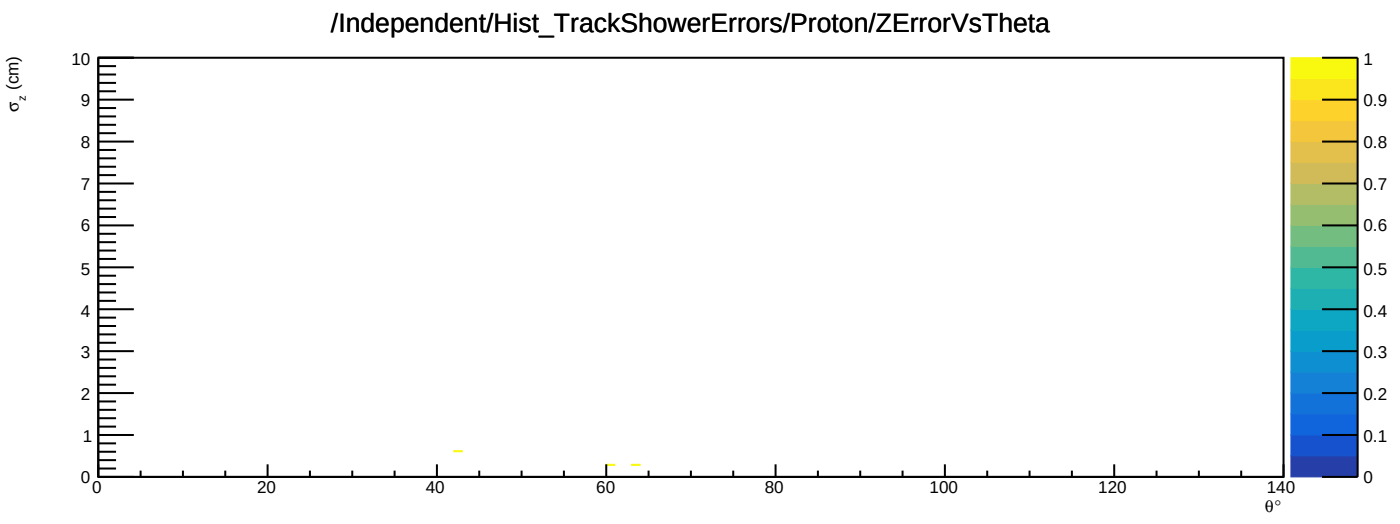

/Independent/Hist_TrackShowerErrors/Proton/YErrorVsTheta
σ_y (cm)
θ°

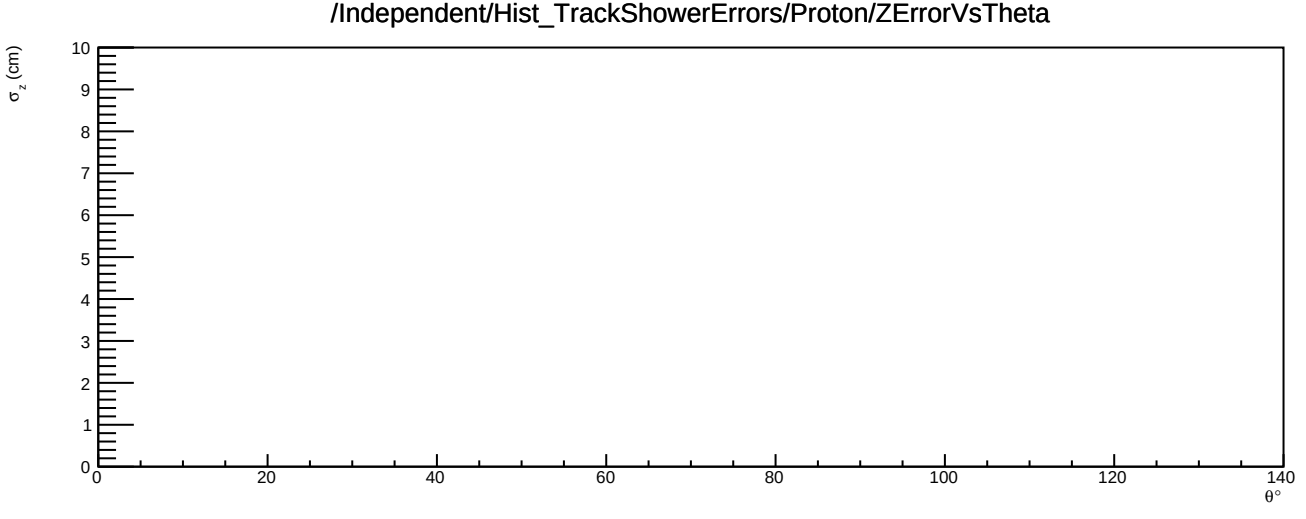

/Independent/Hist_TrackShowerErrors/Proton/YErrorVsPhi
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

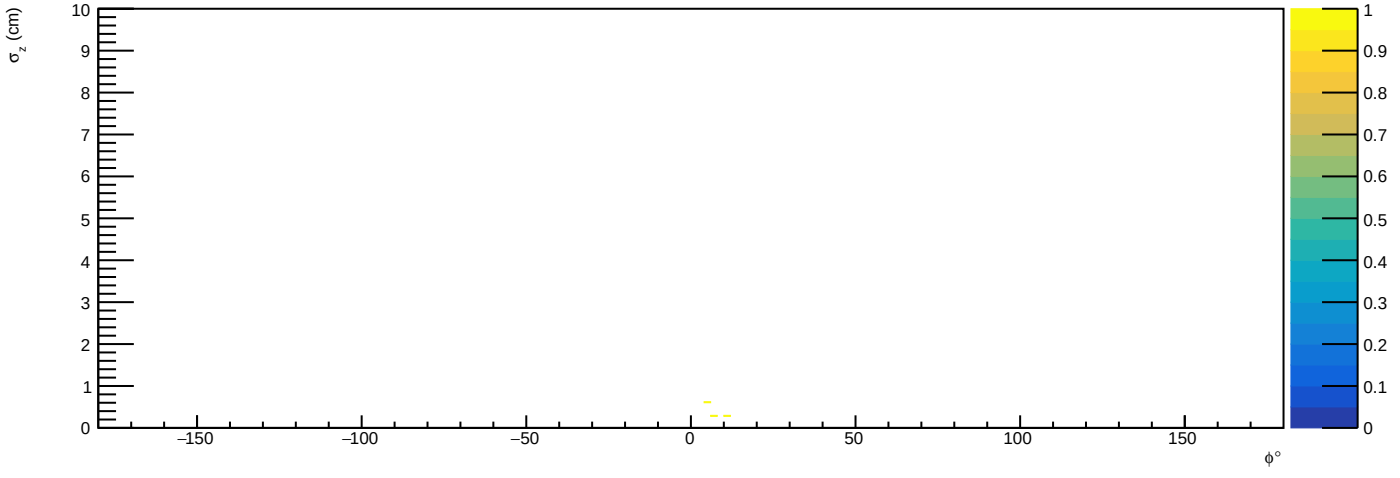

/Independent/Hist_TrackShowerErrors/Proton/YErrorVsPhi
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

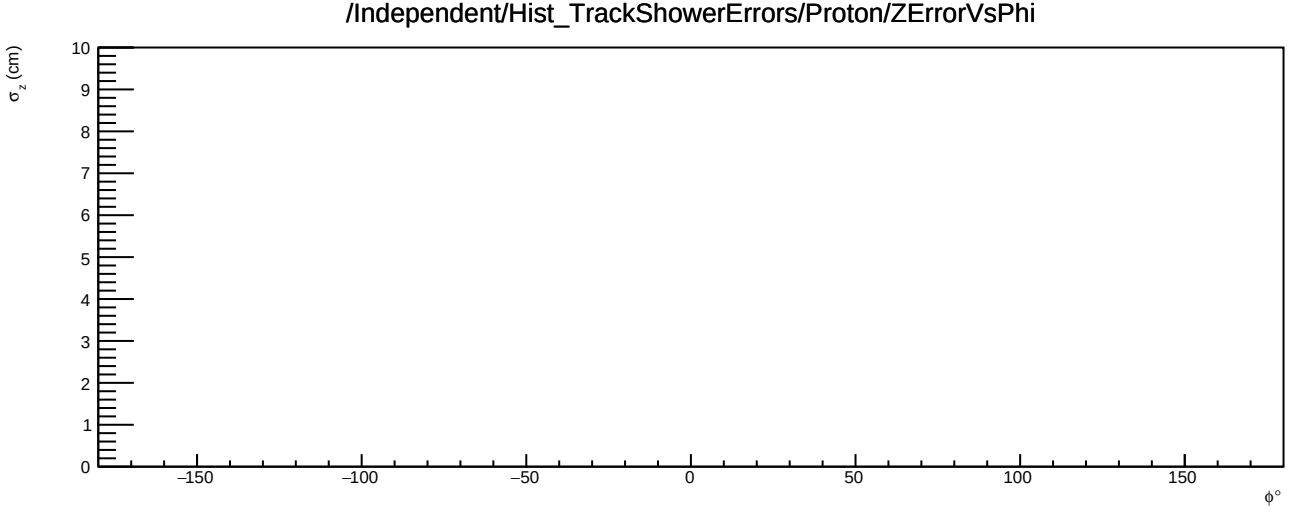

/Independent/Hist_TrackShowerErrors/Proton/ZErrorVsP
σz (cm)
p (GeV/c)
0
1
2
3
4
5
6
7
8
9
10
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9

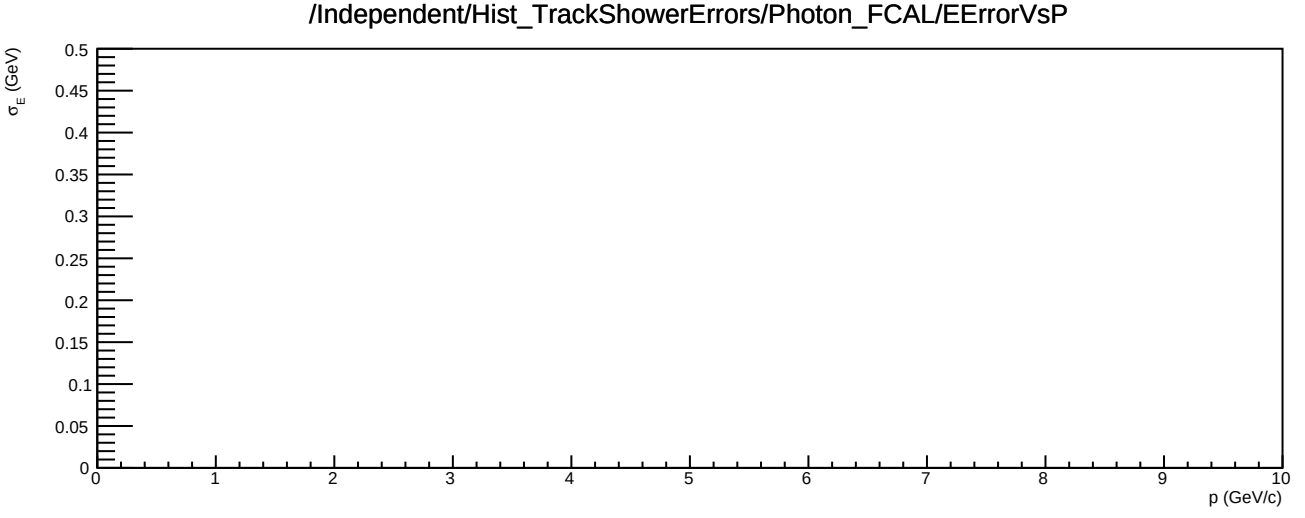

/Independent/Hist_TrackShowerErrors/Proton/ZErrorVsP
σz (cm)
p (GeV/c)
0
1
2
3
4
5
6
7
8
9
10

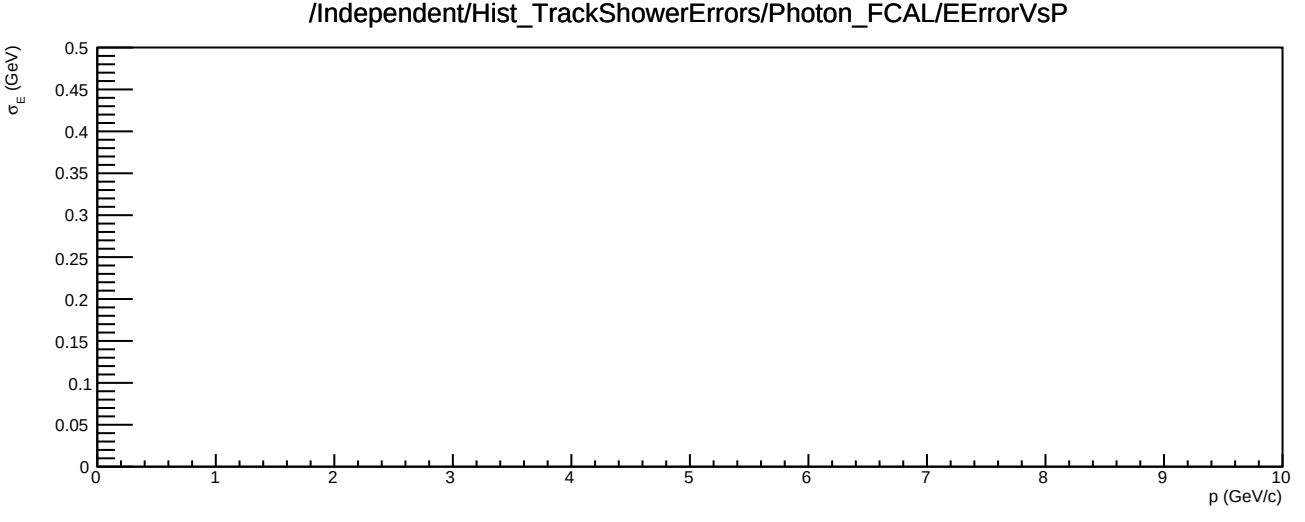

/Independent/Hist_TrackShowerErrors/Proton/ZErrorVsTheta
σz (cm)
θ°
0
20
40
60
80
100
120
140
1
2
3
4
5
6
7
8
9
10
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9

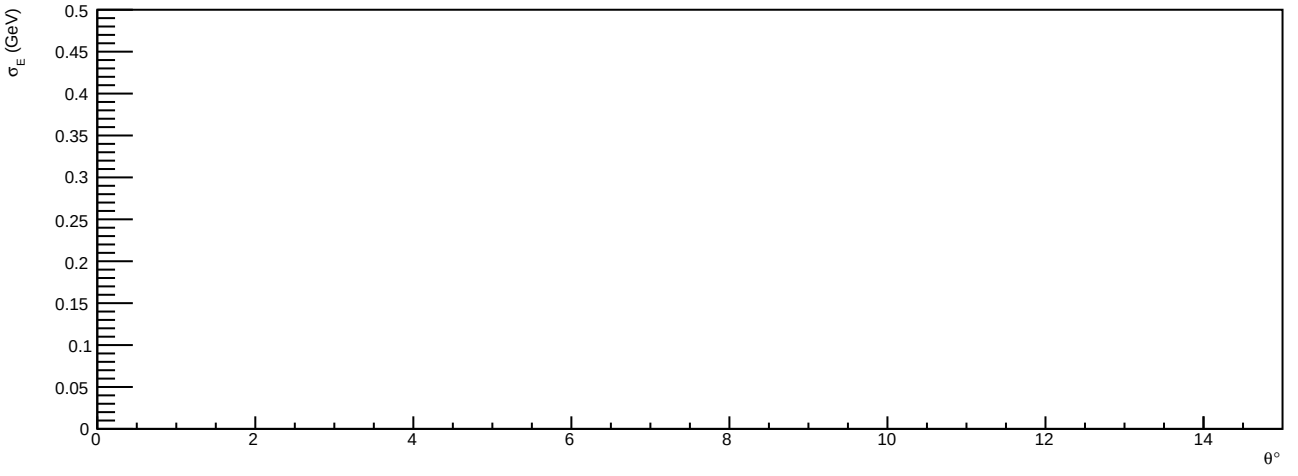

/Independent/Hist_TrackShowerErrors/Proton/ZErrorVsTheta
σz (cm)
θ°
0
20
40
60
80
100
120
140
1
2
3
4
5
6
7
8
9
10

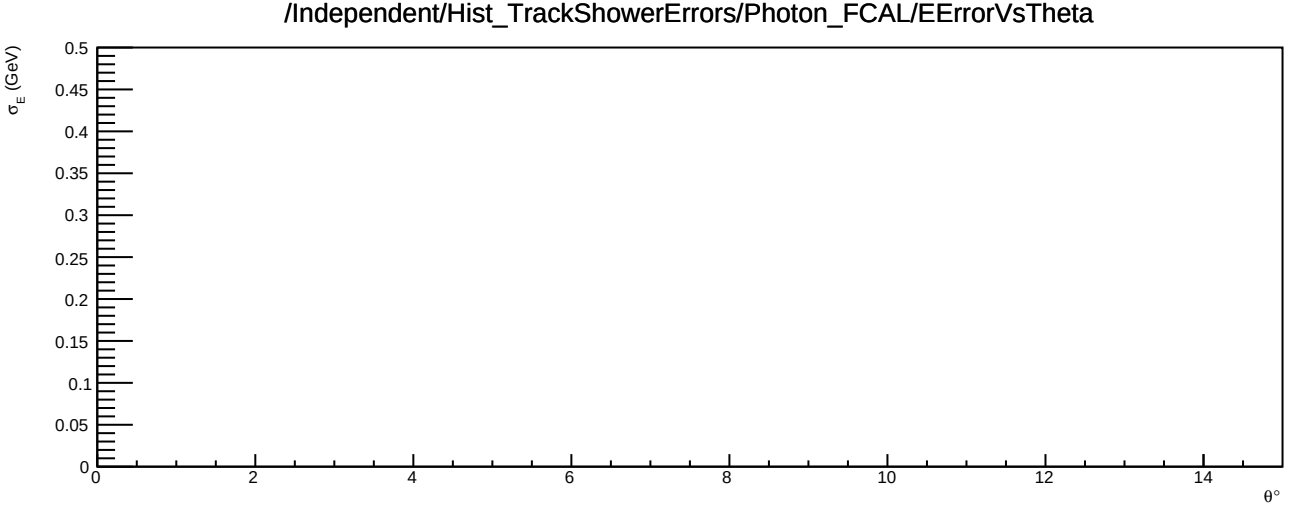

/Independent/Hist_TrackShowerErrors/Proton/ZErrorVsPhi
σz (cm)
10
9
8
7
6
5
4
3
2
1
0
–150
–100
–50
0
50
100
150
ϕ°
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

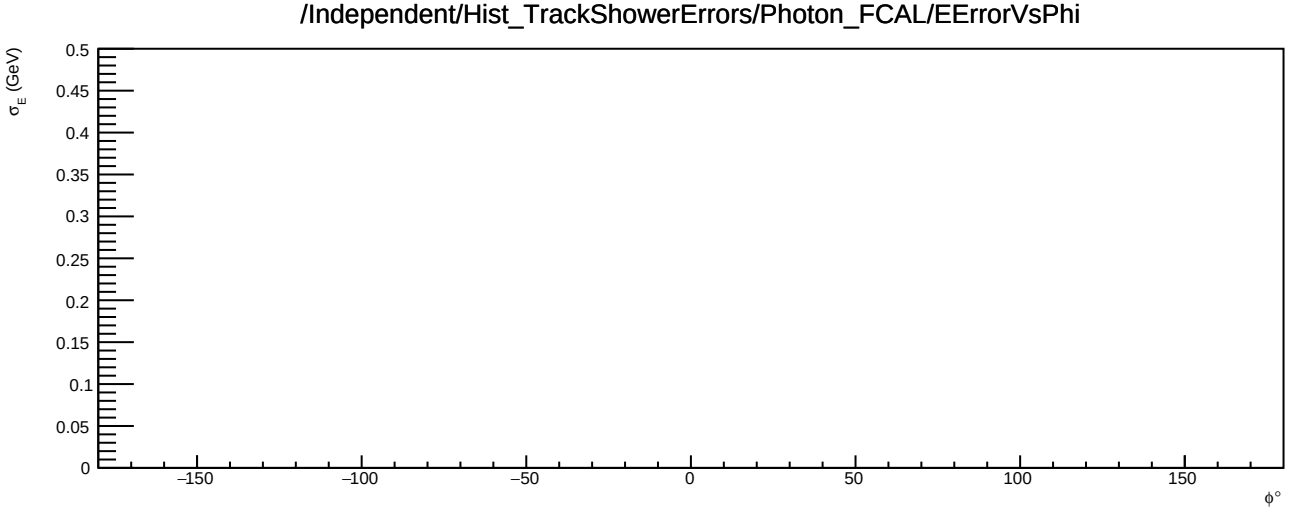

/Independent/Hist_TrackShowerErrors/Proton/ZErrorVsPhi
σz (cm)
10
9
8
7
6
5
4
3
2
1
0
–150
–100
–50
0
50
100
150
ϕ°

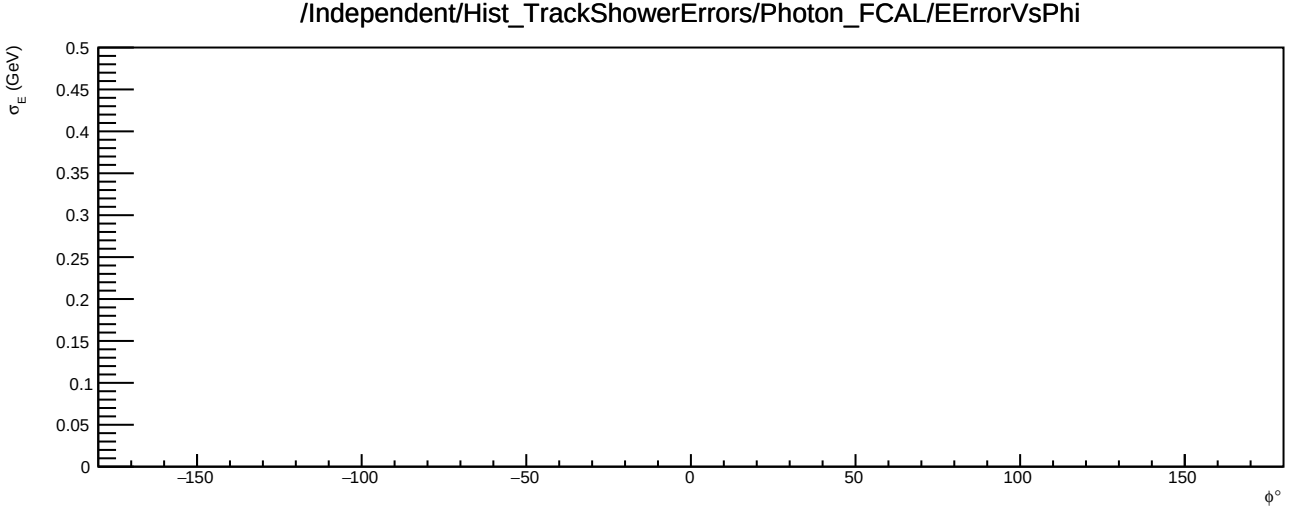

/Independent/Hist_TrackShowerErrors/Photon_FCAL/EErrorVsP
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

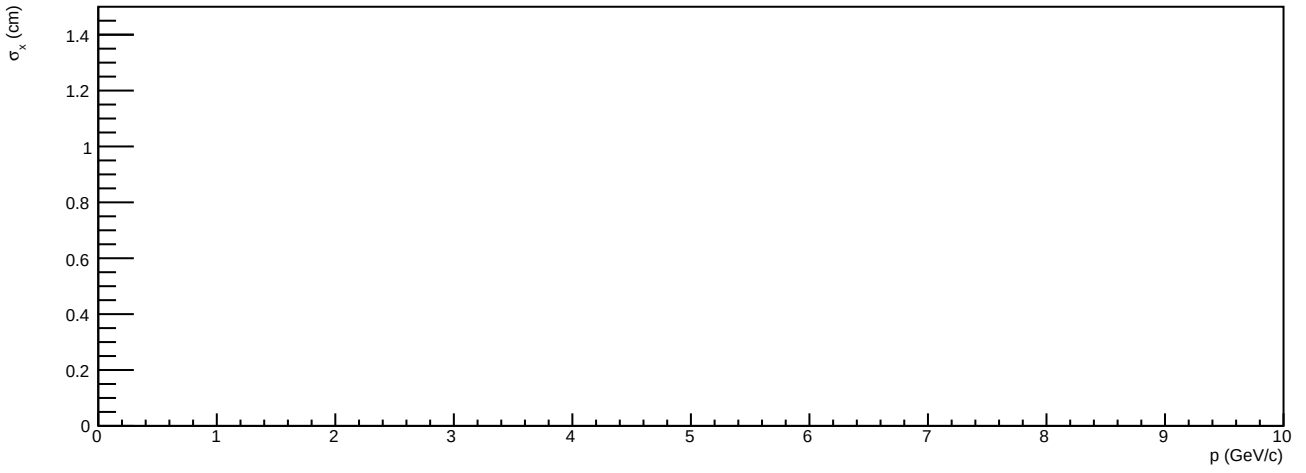

/Independent/Hist_TrackShowerErrors/Photon_FCAL/EErrorVsP
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

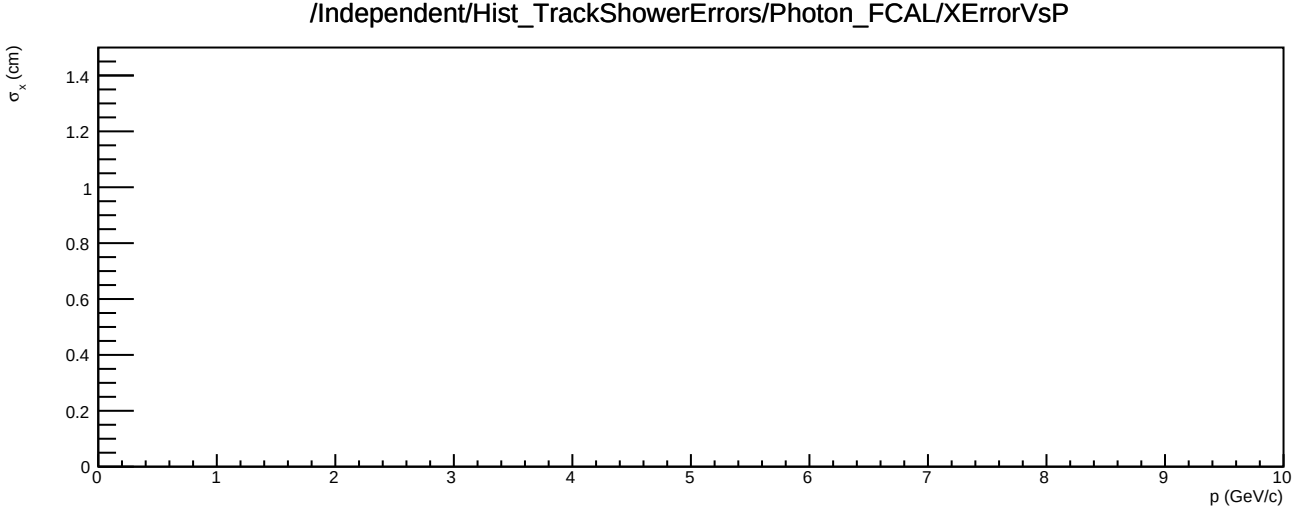

/Independent/Hist_TrackShowerErrors/Photon_FCAL/EErrorVsTheta
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
2
4
6
8
10
12
14
θ°

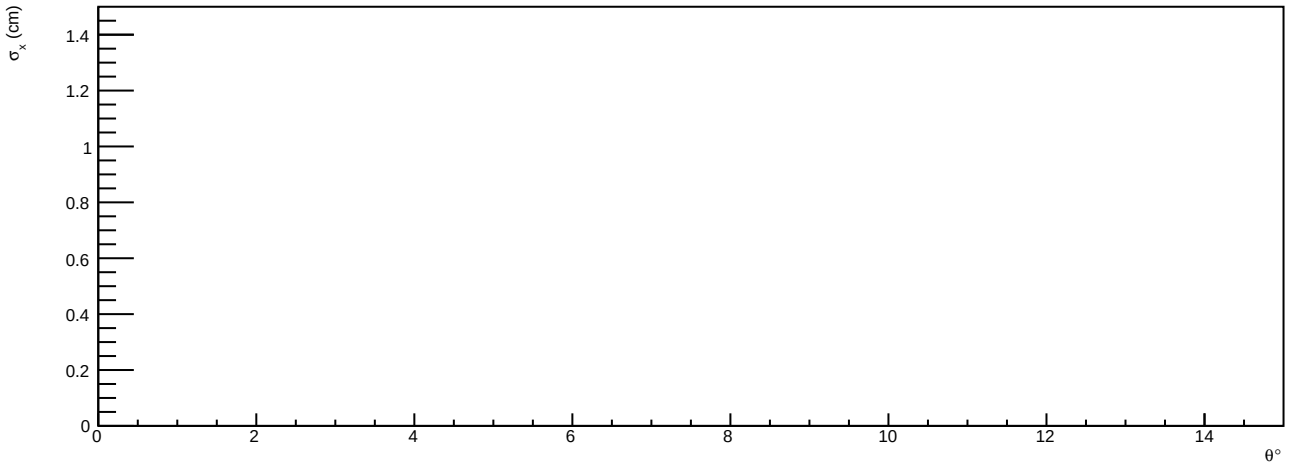

/Independent/Hist_TrackShowerErrors/Photon_FCAL/EErrorVsTheta
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
2
4
6
8
10
12
14
θ°

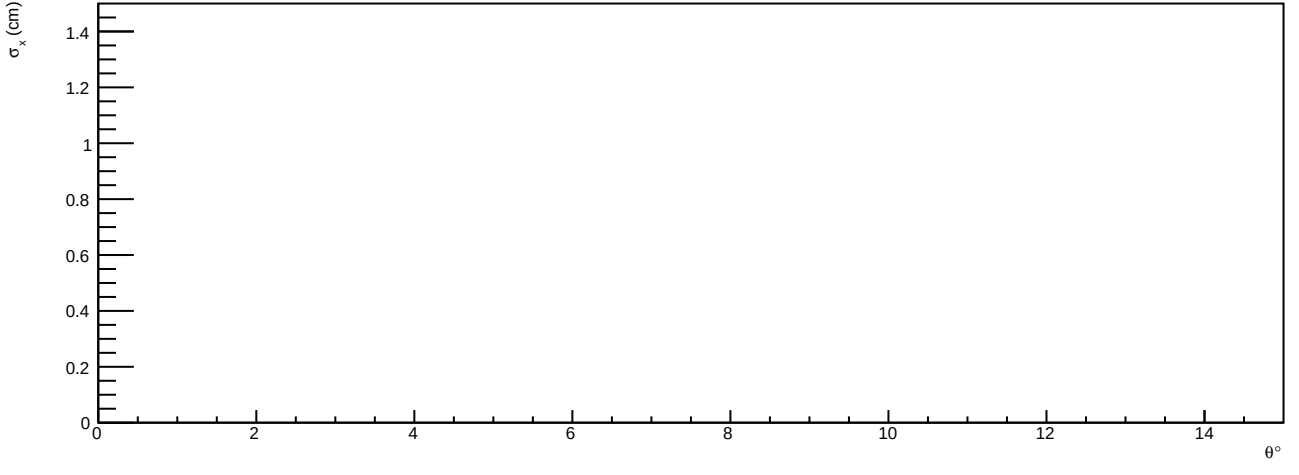

/Independent/Hist_TrackShowerErrors/Photon_FCAL/EErrorVsPhi
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
–150
–100
–50
0
50
100
150
ϕ°

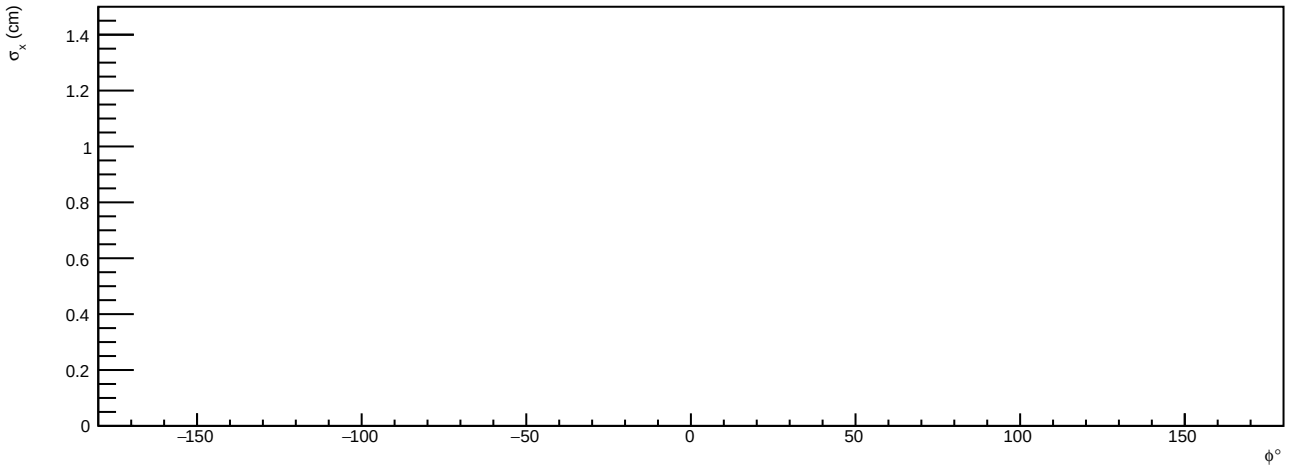

/Independent/Hist_TrackShowerErrors/Photon_FCAL/EErrorVsPhi
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
–150
–100
–50
0
50
100
150
ϕ°

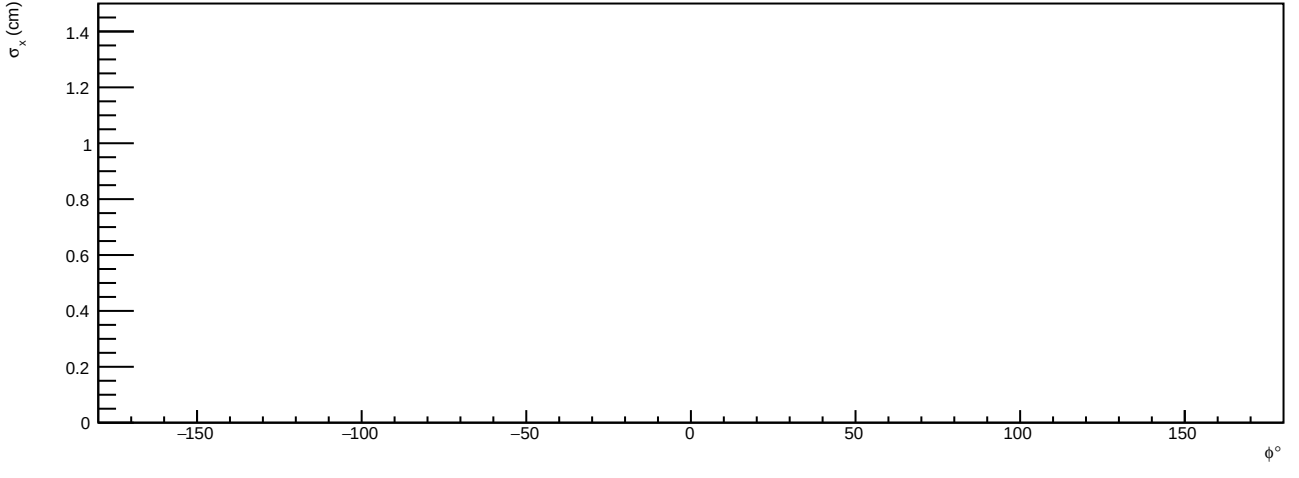

/Independent/Hist_TrackShowerErrors/Photon_FCAL/XErrorVsP
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

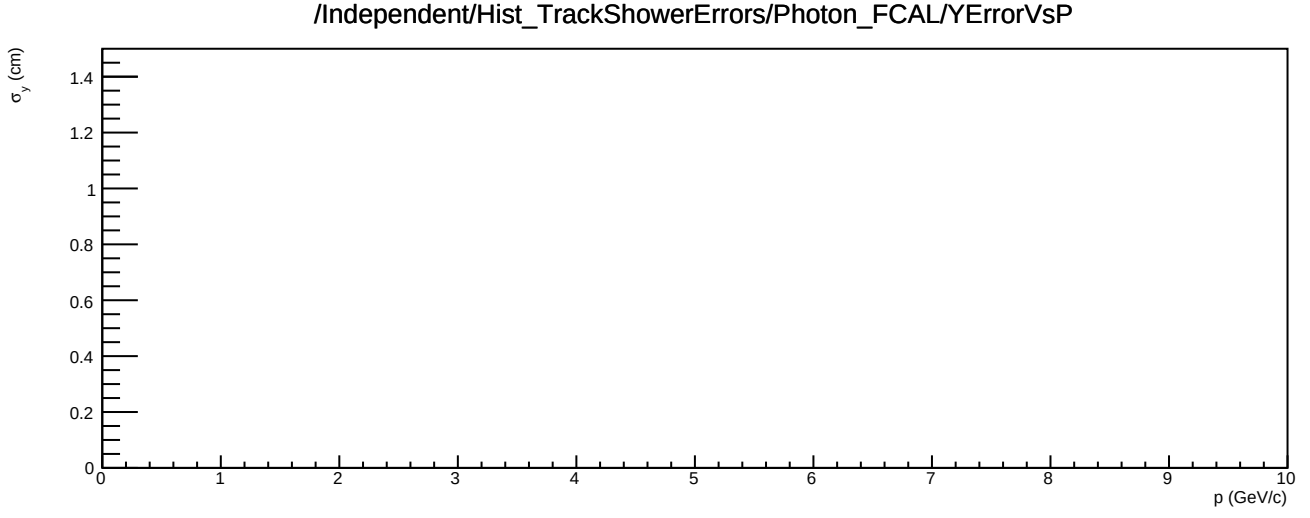

/Independent/Hist_TrackShowerErrors/Photon_FCAL/XErrorVsP
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

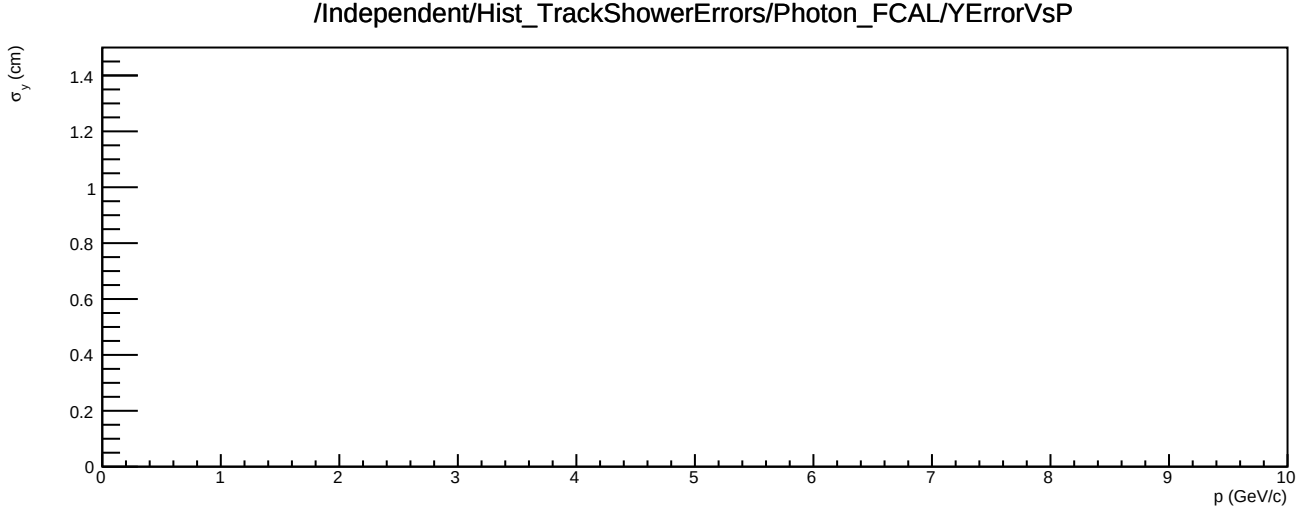

/Independent/Hist_TrackShowerErrors/Photon_FCAL/XErrorVsTheta
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
14
θ°

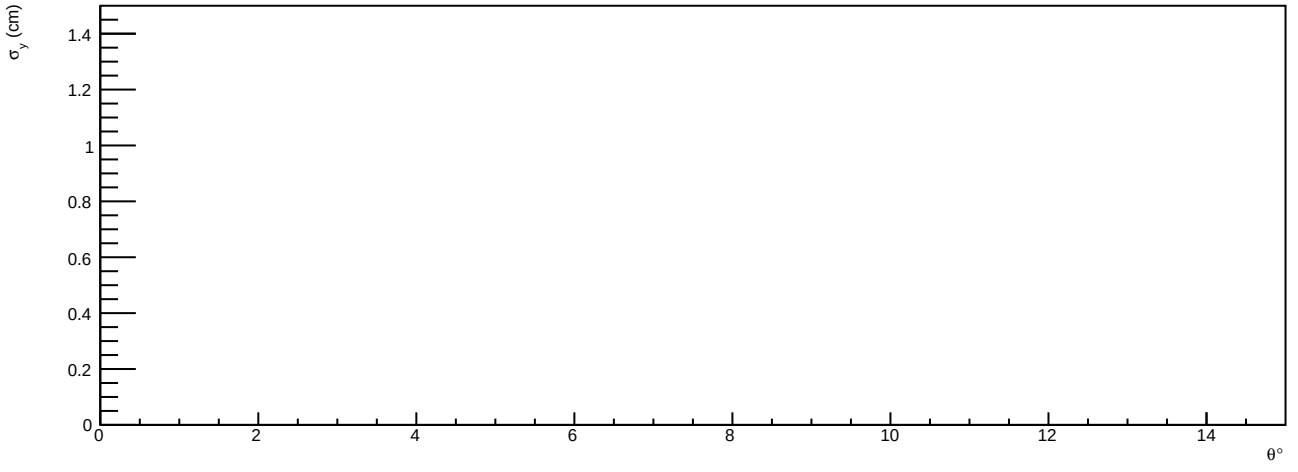

/Independent/Hist_TrackShowerErrors/Photon_FCAL/XErrorVsTheta
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
14
θ°

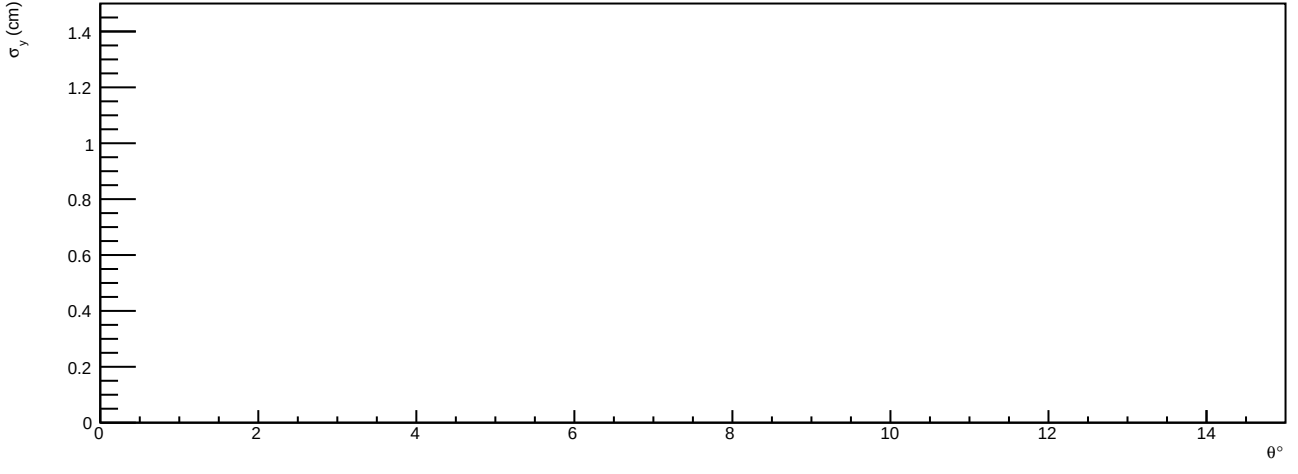

/Independent/Hist_TrackShowerErrors/Photon_FCAL/XErrorVsPhi
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

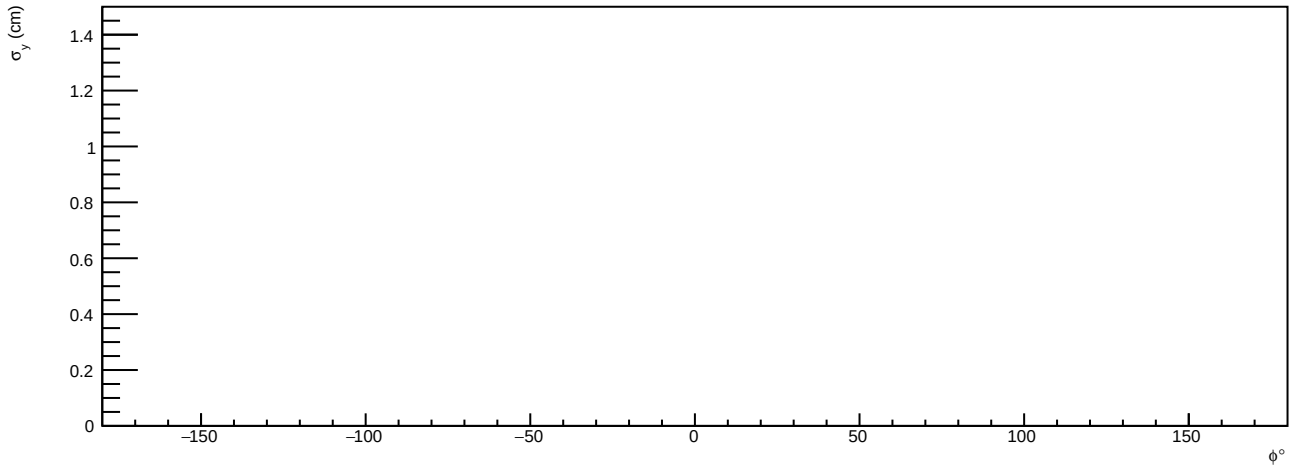

/Independent/Hist_TrackShowerErrors/Photon_FCAL/XErrorVsPhi
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

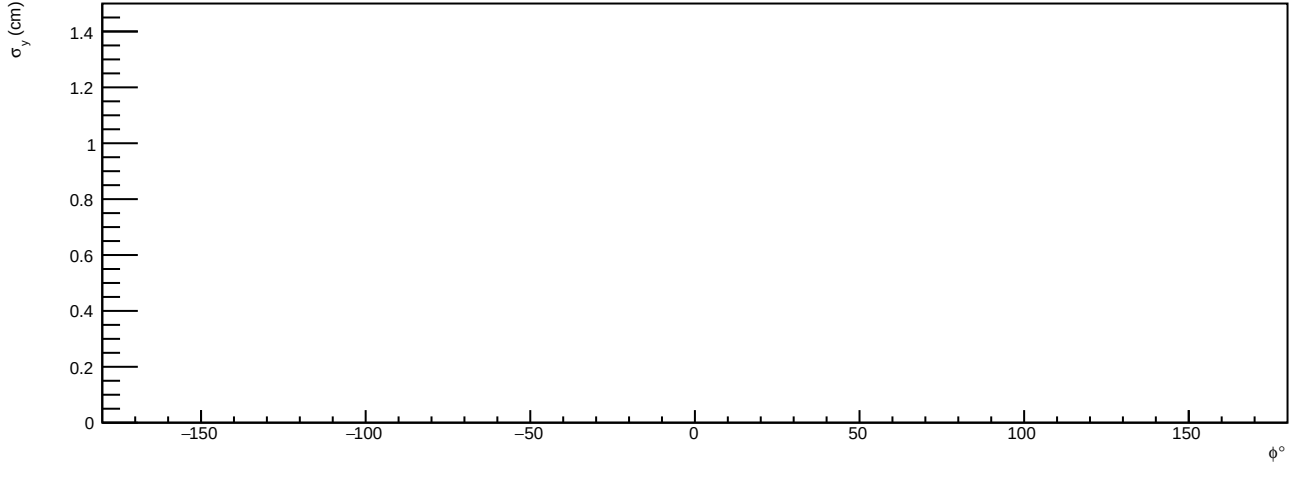

/Independent/Hist_TrackShowerErrors/Photon_FCAL/YErrorVsP
σ_y (cm)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

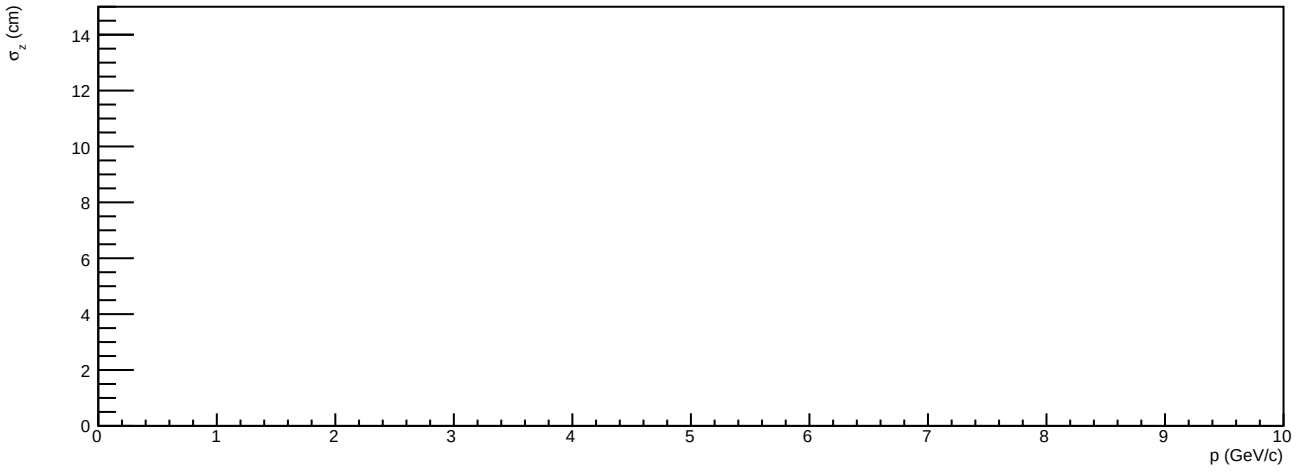

/Independent/Hist_TrackShowerErrors/Photon_FCAL/YErrorVsP
σ_y (cm)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

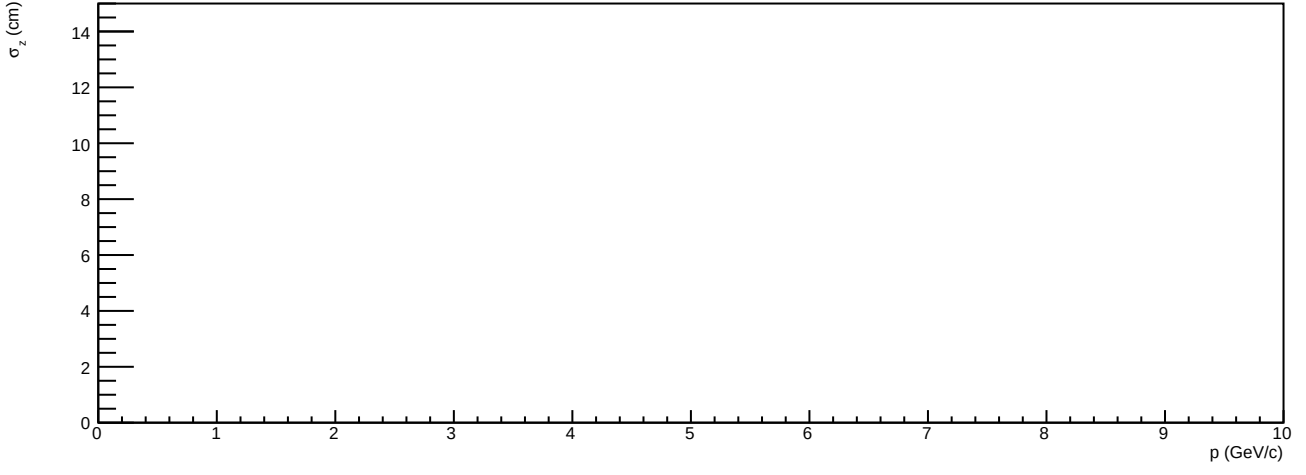

/Independent/Hist_TrackShowerErrors/Photon_FCAL/YErrorVsTheta
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
14
θ°

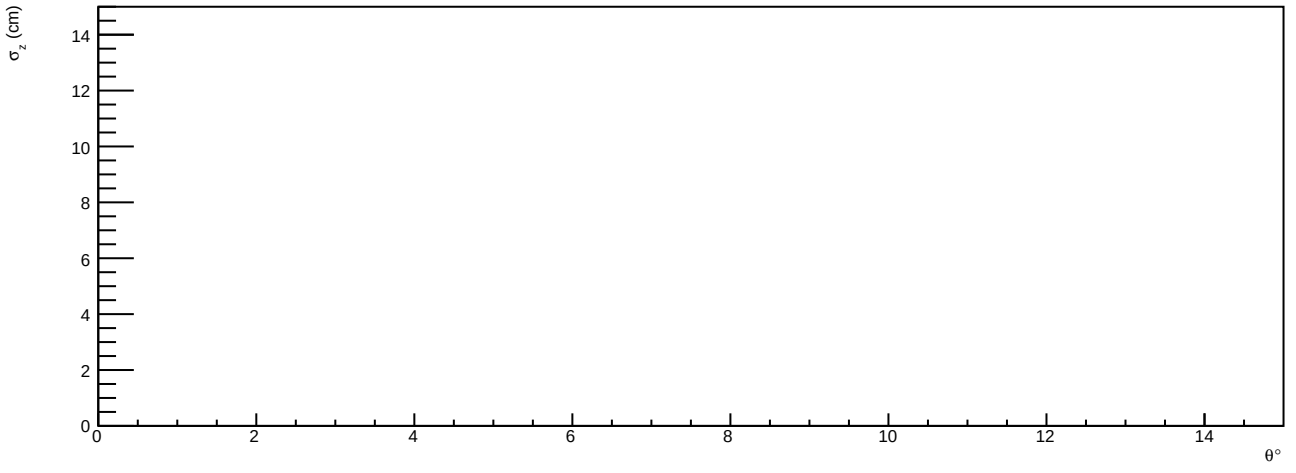

/Independent/Hist_TrackShowerErrors/Photon_FCAL/YErrorVsTheta
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
14
θ°

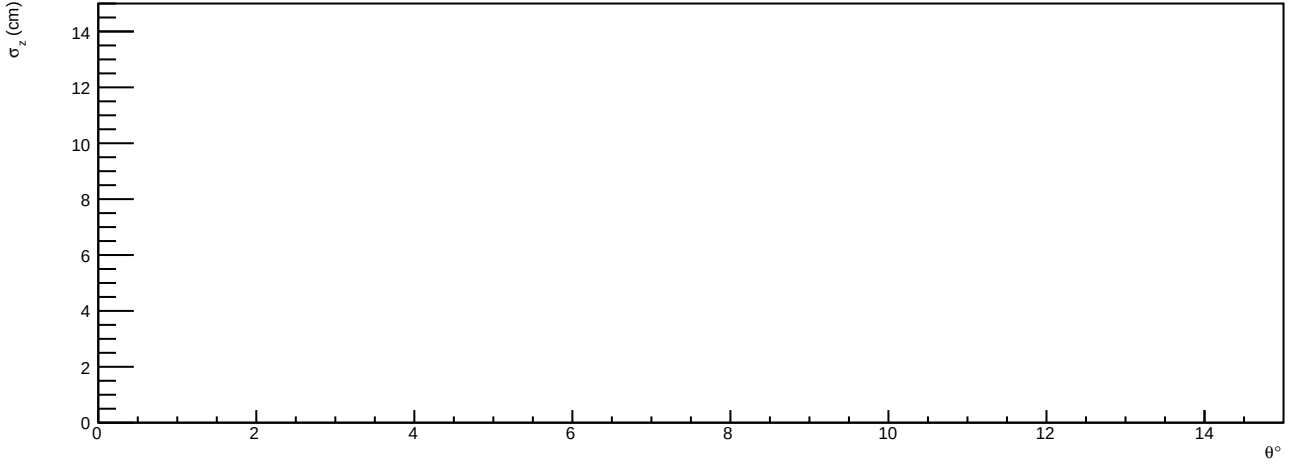

/Independent/Hist_TrackShowerErrors/Photon_FCAL/YErrorVsPhi
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

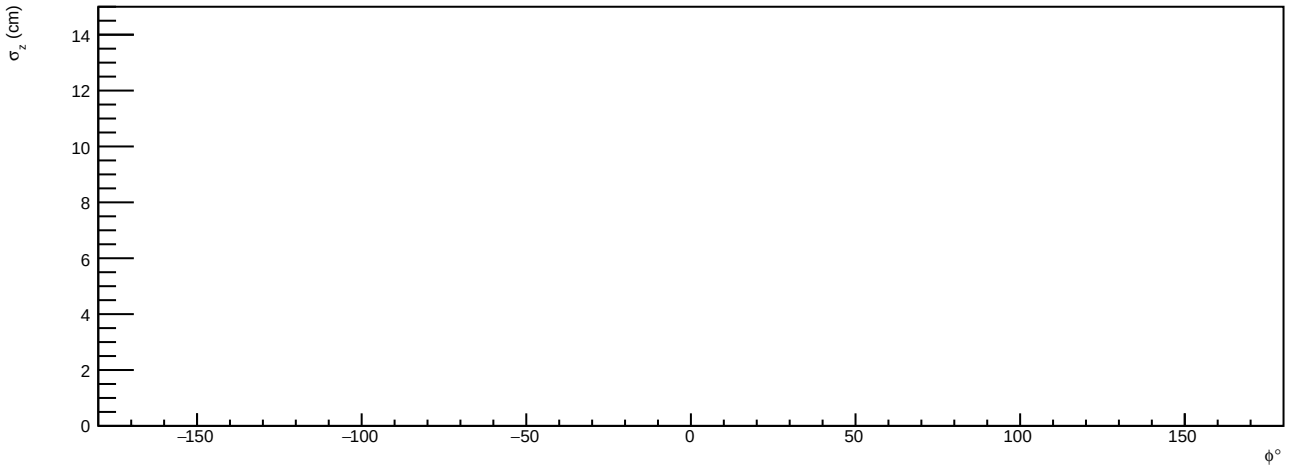

/Independent/Hist_TrackShowerErrors/Photon_FCAL/YErrorVsPhi
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

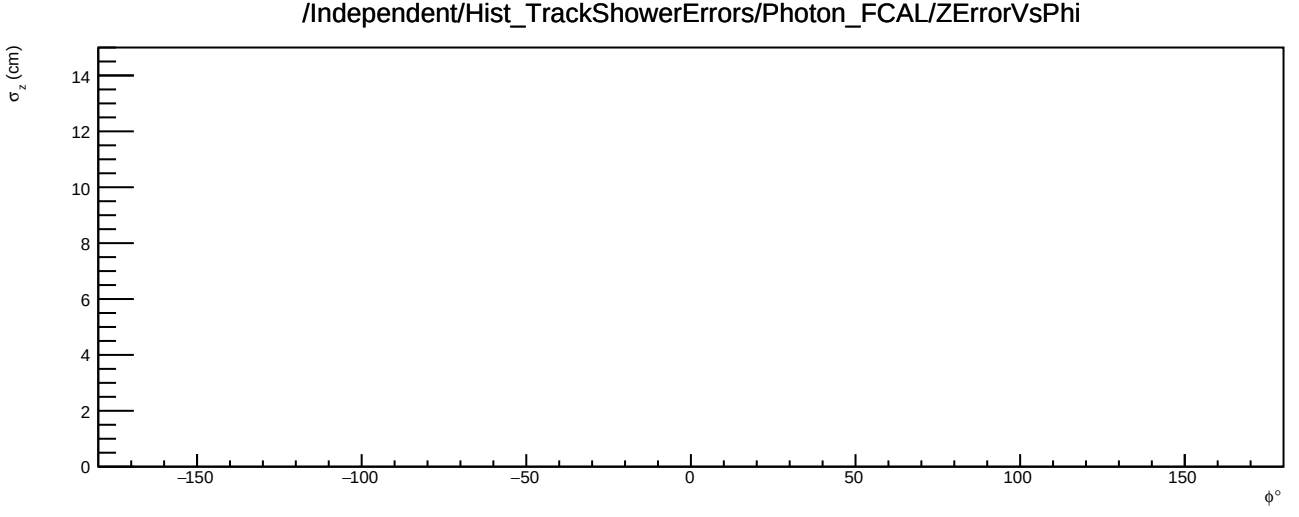

/Independent/Hist_TrackShowerErrors/Photon_FCAL/ZErrorVsP
σz (cm)
0
2
4
6
8
10
12
14
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

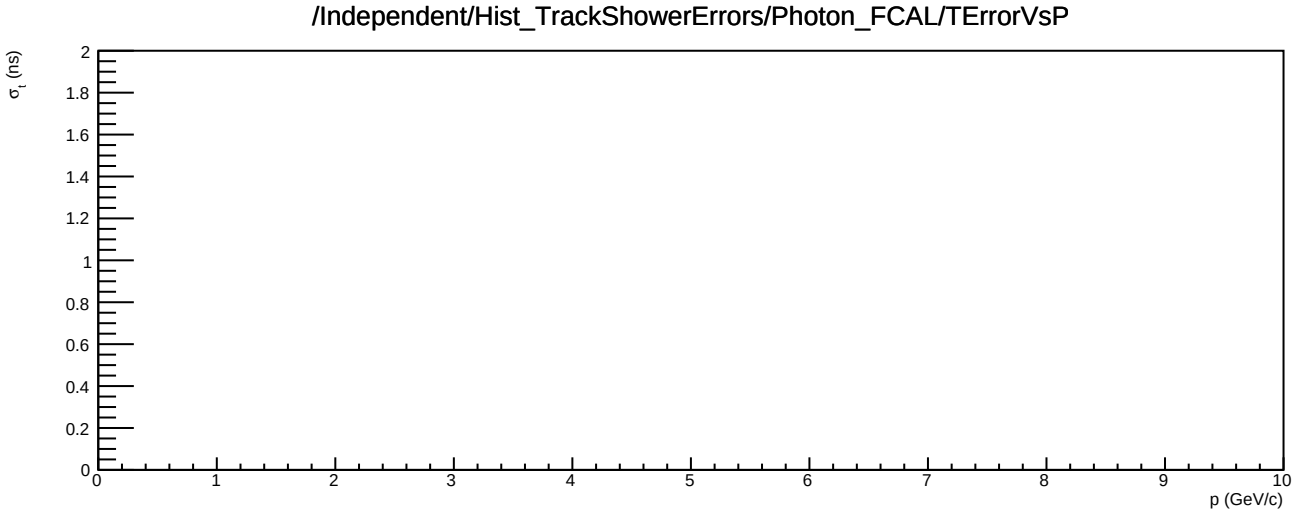

/Independent/Hist_TrackShowerErrors/Photon_FCAL/ZErrorVsP
σz (cm)
0
2
4
6
8
10
12
14
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

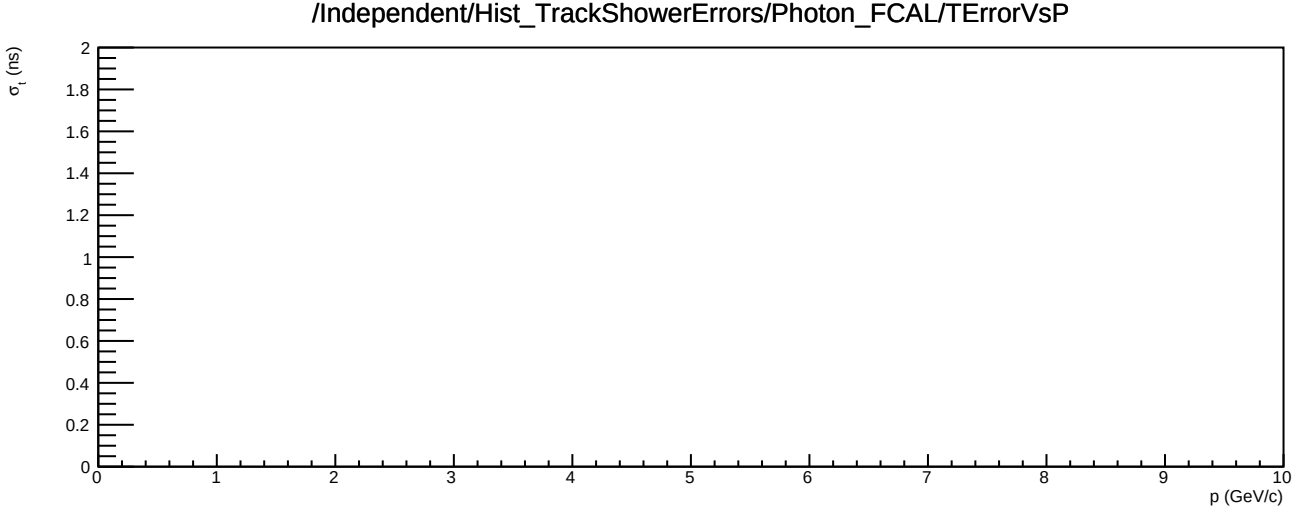

/Independent/Hist_TrackShowerErrors/Photon_FCAL/ZErrorVsTheta
σz (cm)
0
2
4
6
8
10
12
14
θ°

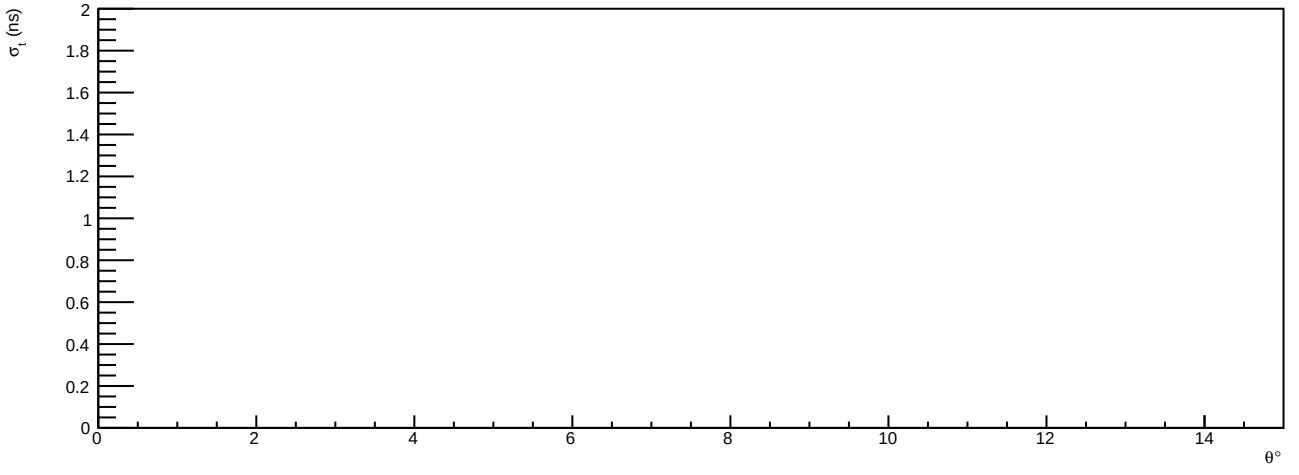

/Independent/Hist_TrackShowerErrors/Photon_FCAL/ZErrorVsTheta
σz (cm)
0
2
4
6
8
10
12
14
θ°

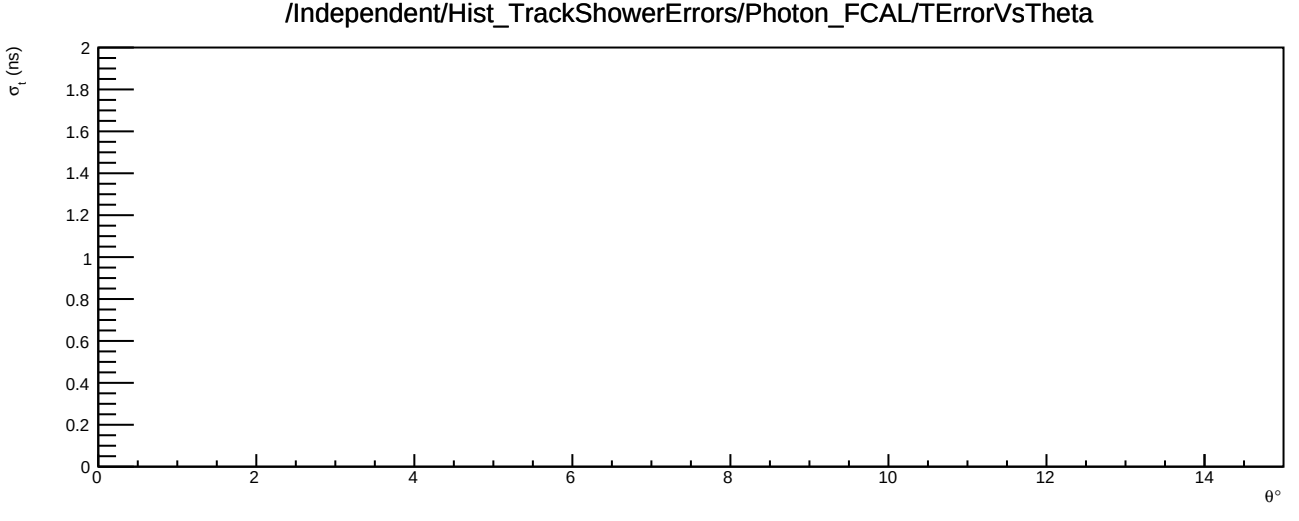

/Independent/Hist_TrackShowerErrors/Photon_FCAL/ZErrorVsPhi
σz (cm)
14
12
10
8
6
4
2
0
–150
–100
–50
0
50
100
150
ϕ°

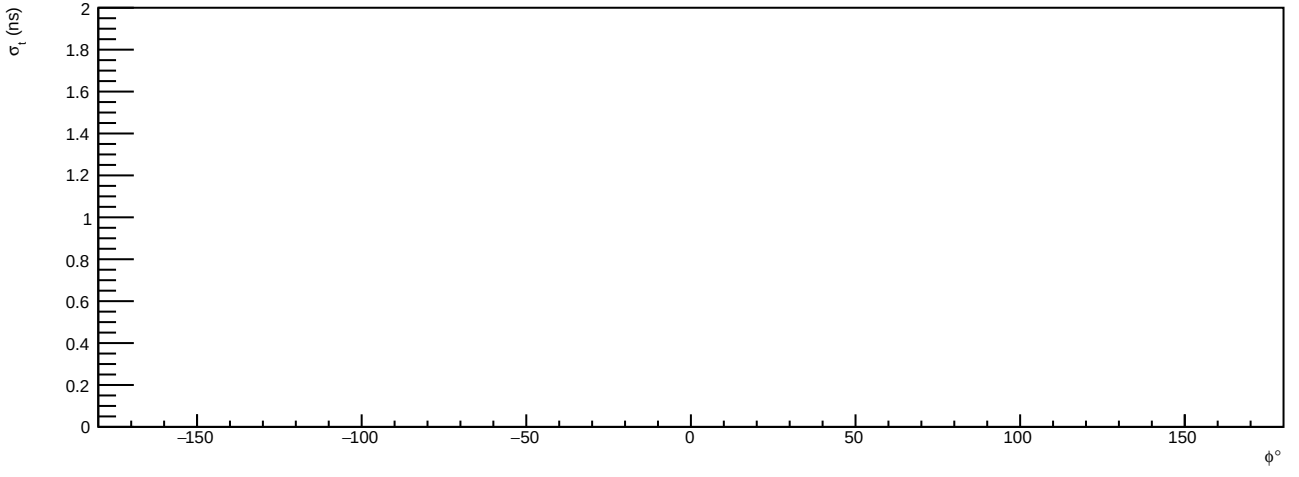

/Independent/Hist_TrackShowerErrors/Photon_FCAL/ZErrorVsPhi
σz (cm)
14
12
10
8
6
4
2
0
–150
–100
–50
0
50
100
150
ϕ°

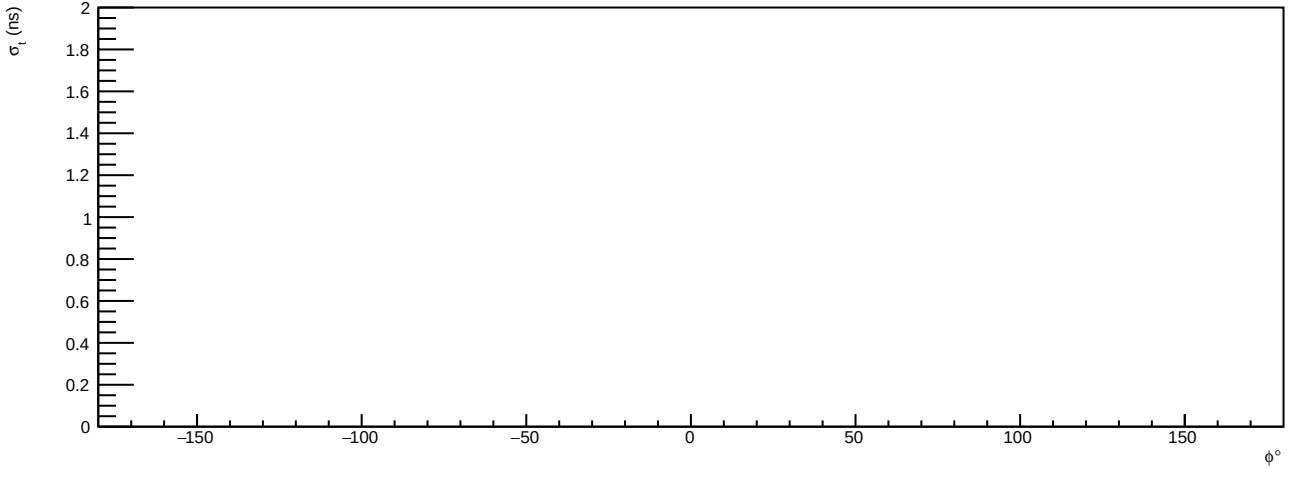

/Independent/Hist_TrackShowerErrors/Photon_FCAL/TErrorVsP
σt (ns)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

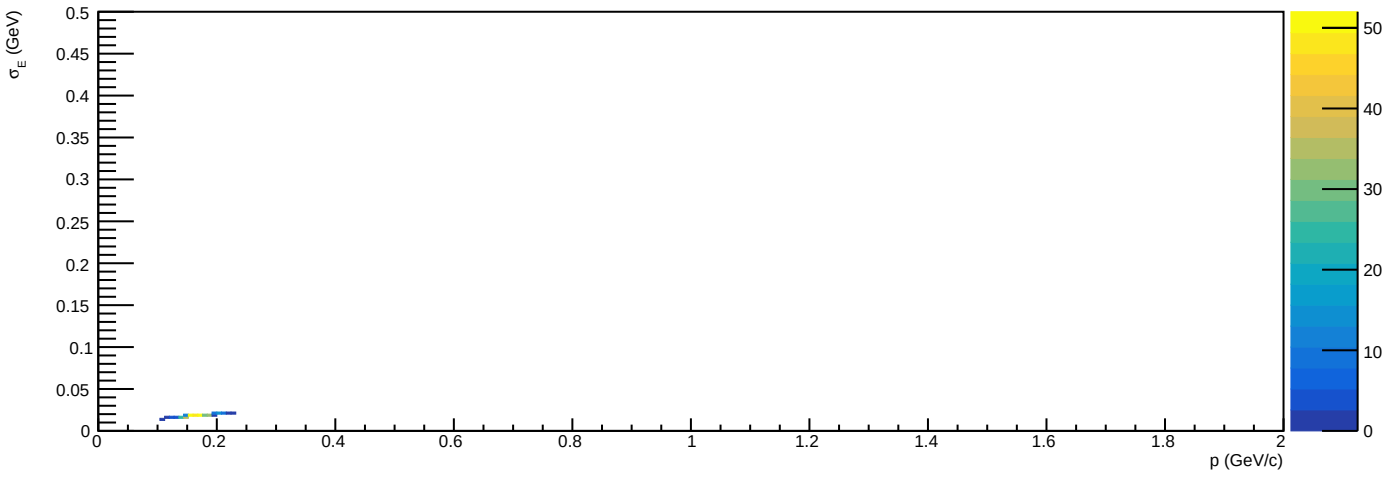

/Independent/Hist_TrackShowerErrors/Photon_FCAL/TErrorVsP
σt (ns)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
0
1
2
3
4
5
6
7
8
9
10
p (GeV/c)

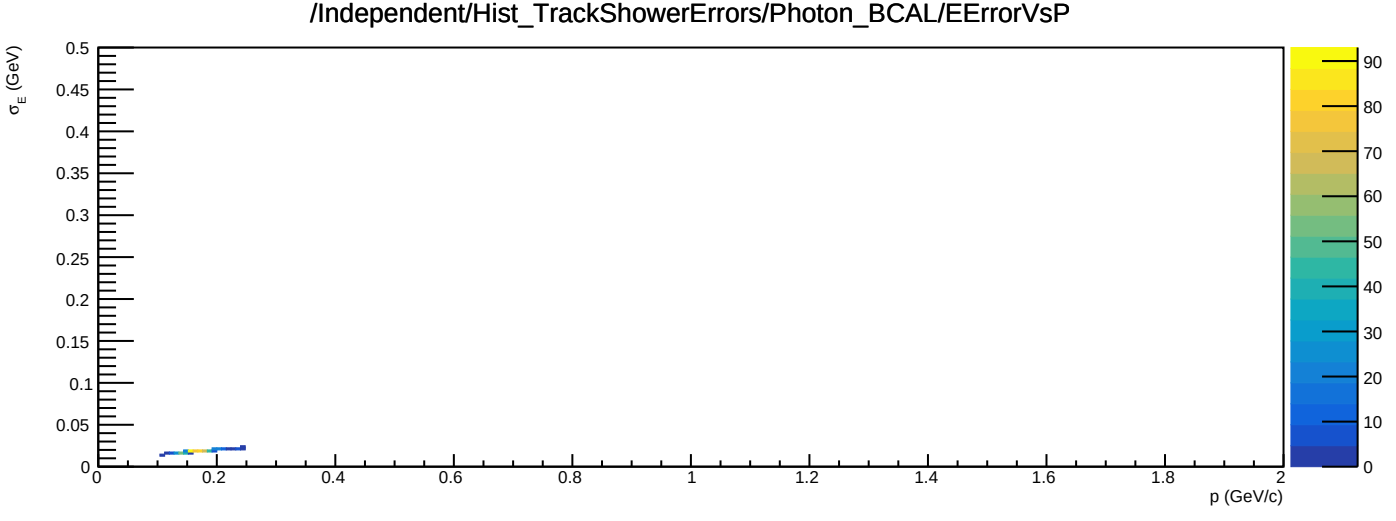

/Independent/Hist_TrackShowerErrors/Photon_FCAL/TErrorVsTheta
σt (ns)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
14
θ°

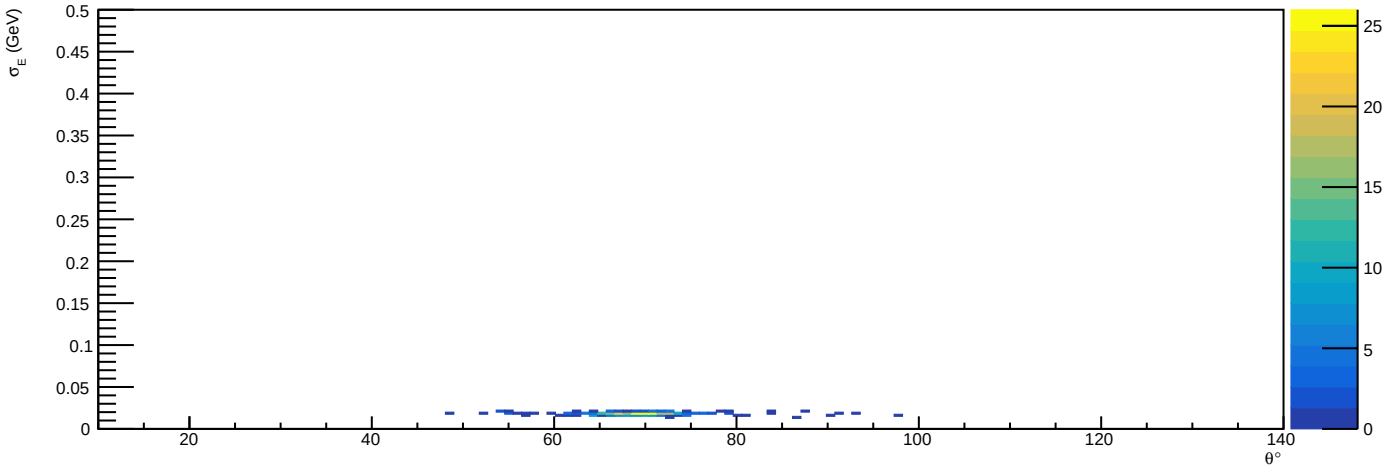

/Independent/Hist_TrackShowerErrors/Photon_FCAL/TErrorVsTheta
σt (ns)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
14
θ°

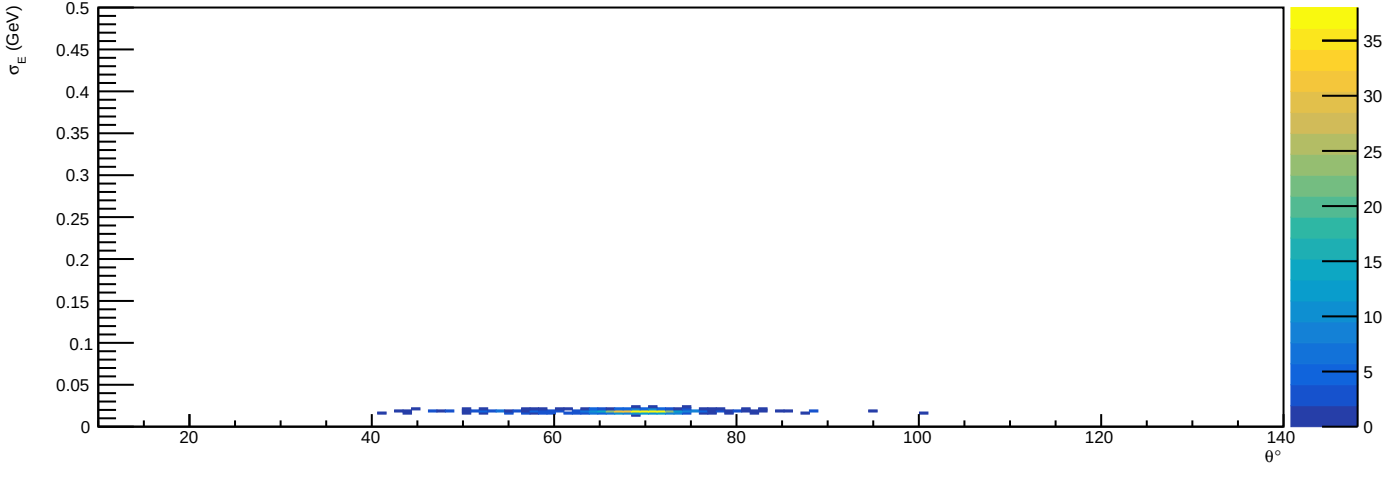

/Independent/Hist_TrackShowerErrors/Photon_FCAL/TErrorVsPhi
σt (ns)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

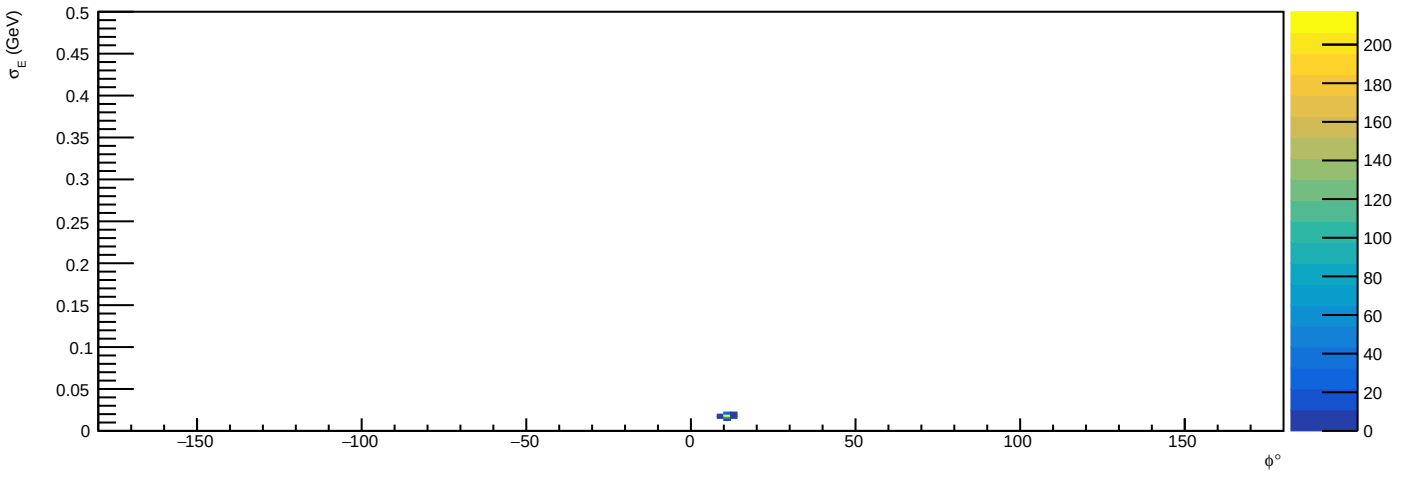

/Independent/Hist_TrackShowerErrors/Photon_FCAL/TErrorVsPhi
σt (ns)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

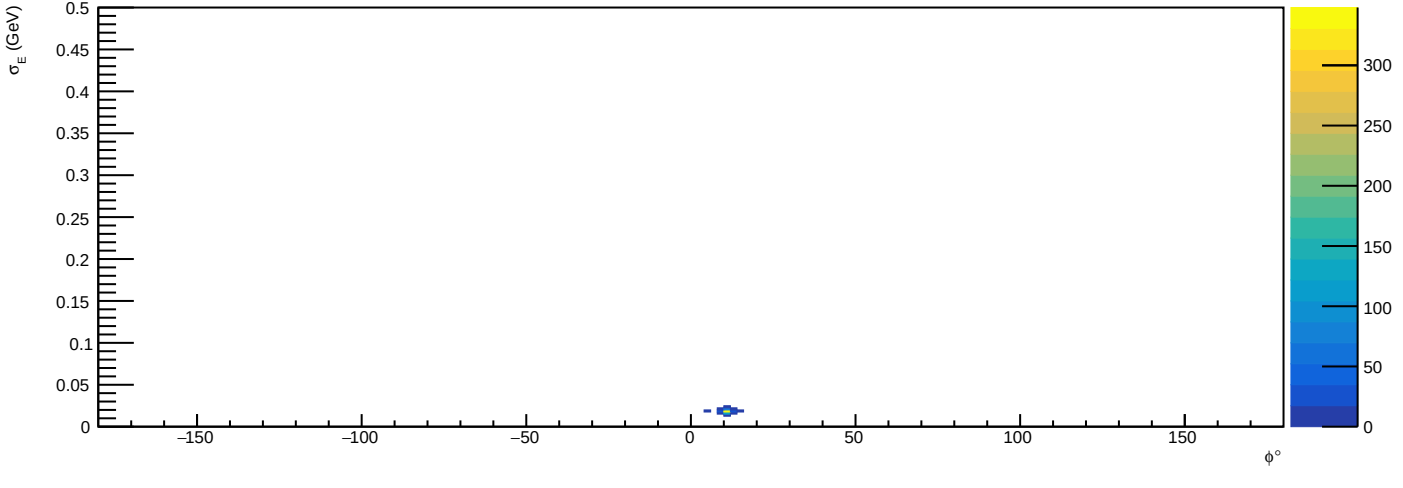

/Independent/Hist_TrackShowerErrors/Photon_BCAL/EErrorVsP
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
p (GeV/c)
50
40
30
20
10
0

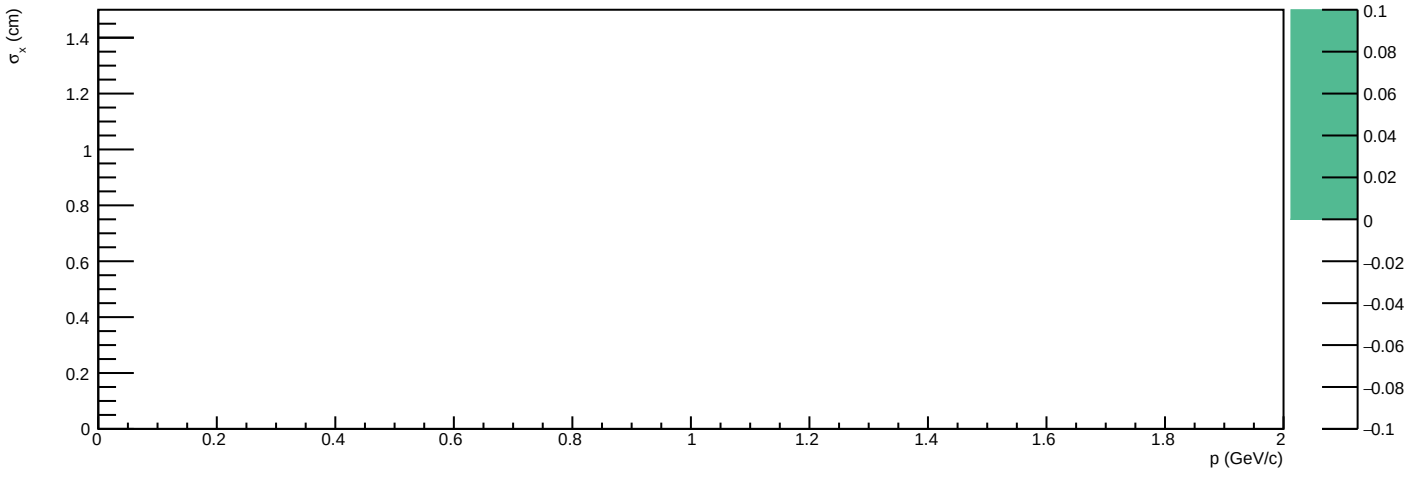

/Independent/Hist_TrackShowerErrors/Photon_BCAL/EErrorVsP
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
p (GeV/c)
90
80
70
60
50
40
30
20
10
0

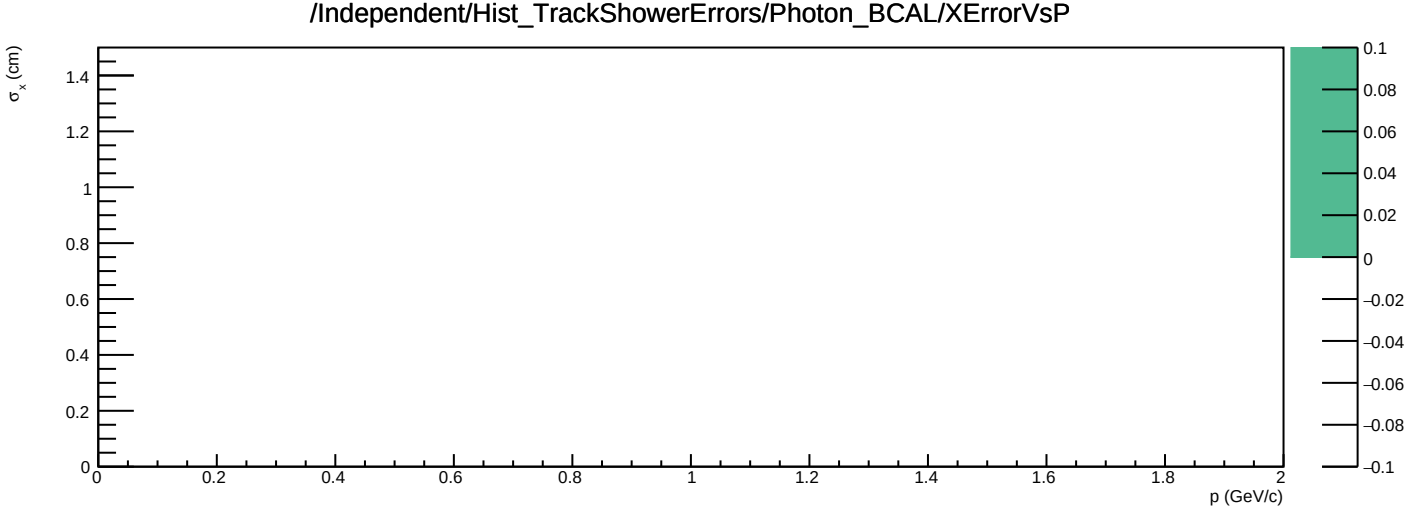

/Independent/Hist_TrackShowerErrors/Photon_BCAL/EErrorVsTheta
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
20
40
60
80
100
120
140
θ°
25
20
15
10
5
0

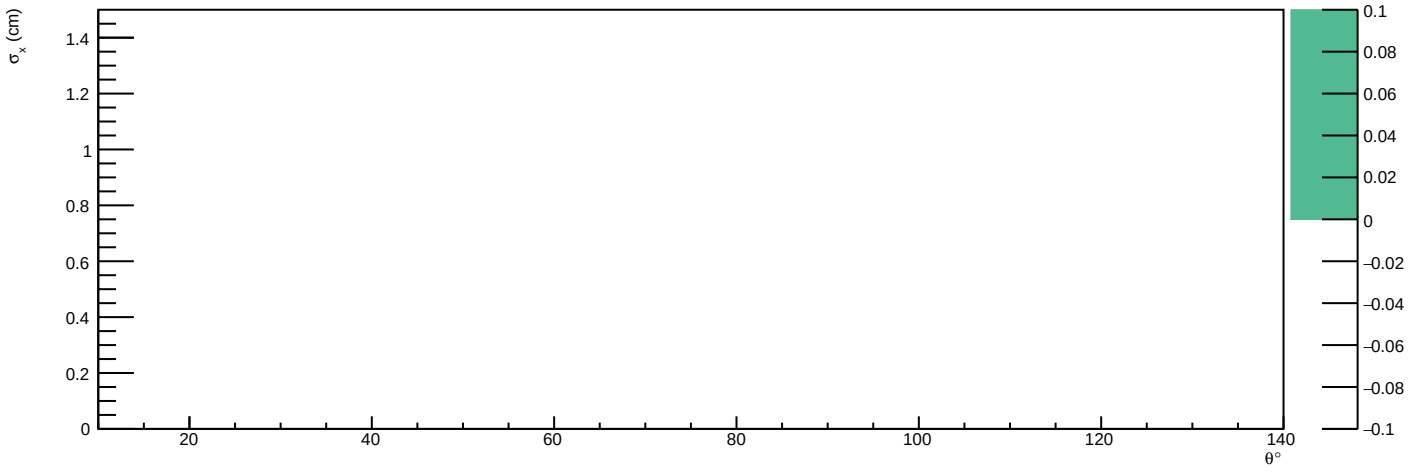

/Independent/Hist_TrackShowerErrors/Photon_BCAL/EErrorVsTheta
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
20
40
60
80
100
120
140
θ°
35
30
25
20
15
10
5
0

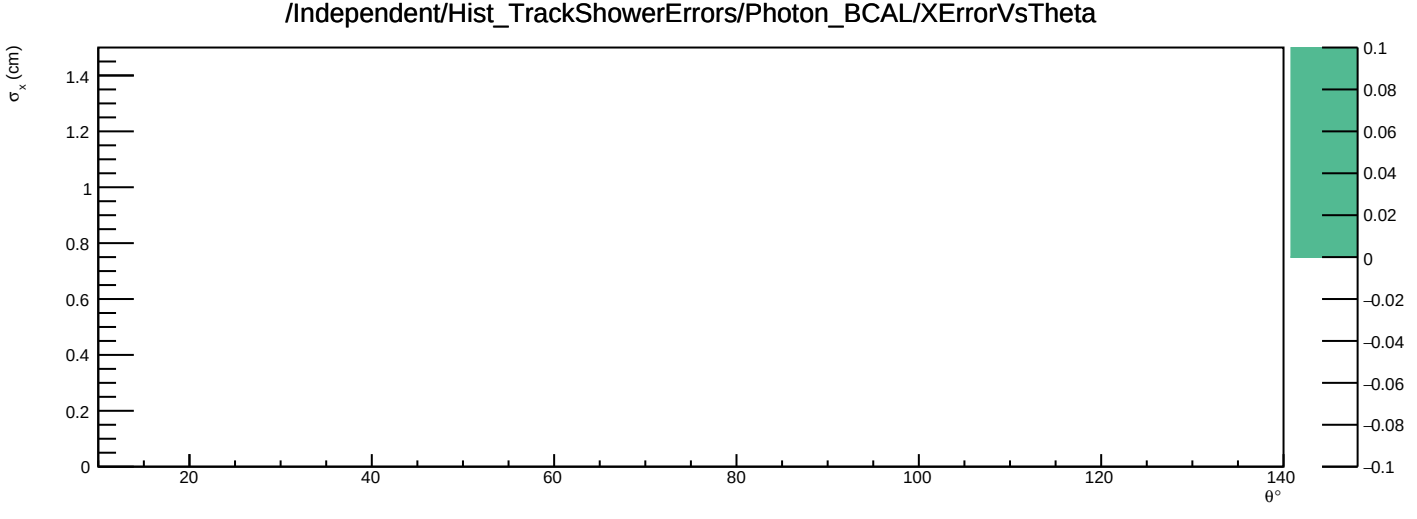

/Independent/Hist_TrackShowerErrors/Photon_BCAL/EErrorVsPhi
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
–150
–100
–50
0
50
100
150
ϕ°
200
180
160
140
120
100
80
60
40
20
0

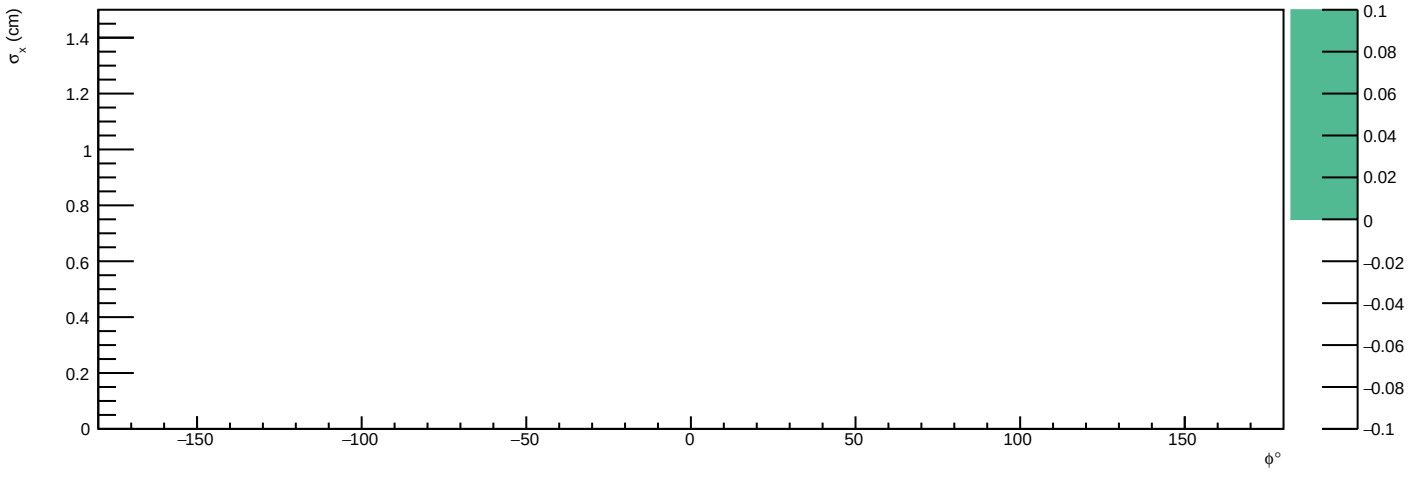

/Independent/Hist_TrackShowerErrors/Photon_BCAL/EErrorVsPhi
σ_E (GeV)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
–150
–100
–50
0
50
100
150
ϕ°
300
250
200
150
100
50
0

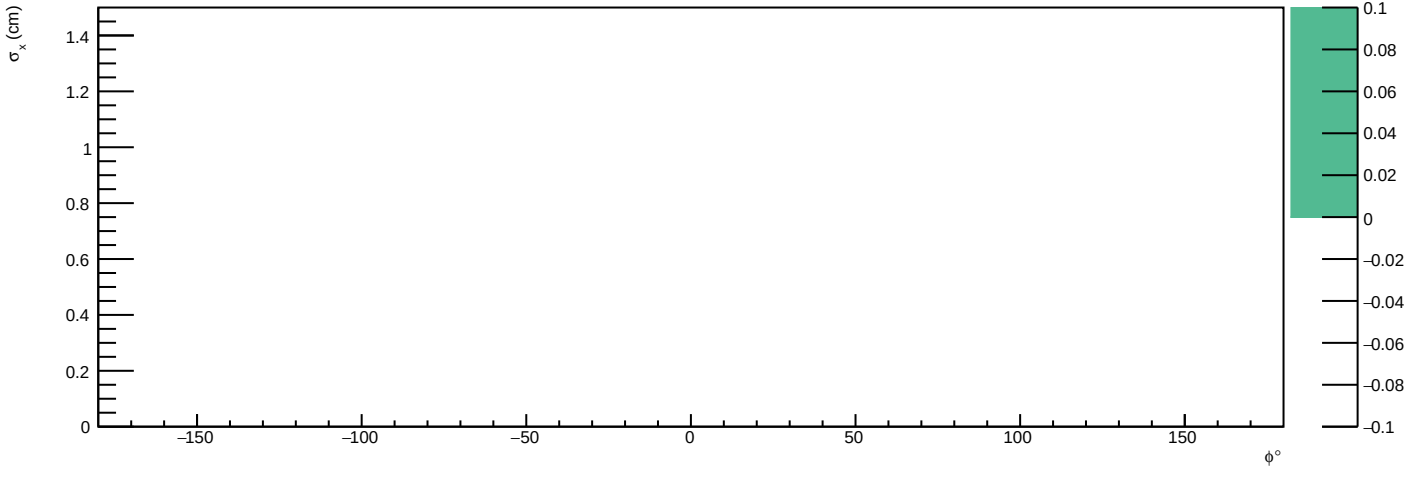

/Independent/Hist_TrackShowerErrors/Photon_BCAL/XErrorVsP
σx (cm)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
p (GeV/c)
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

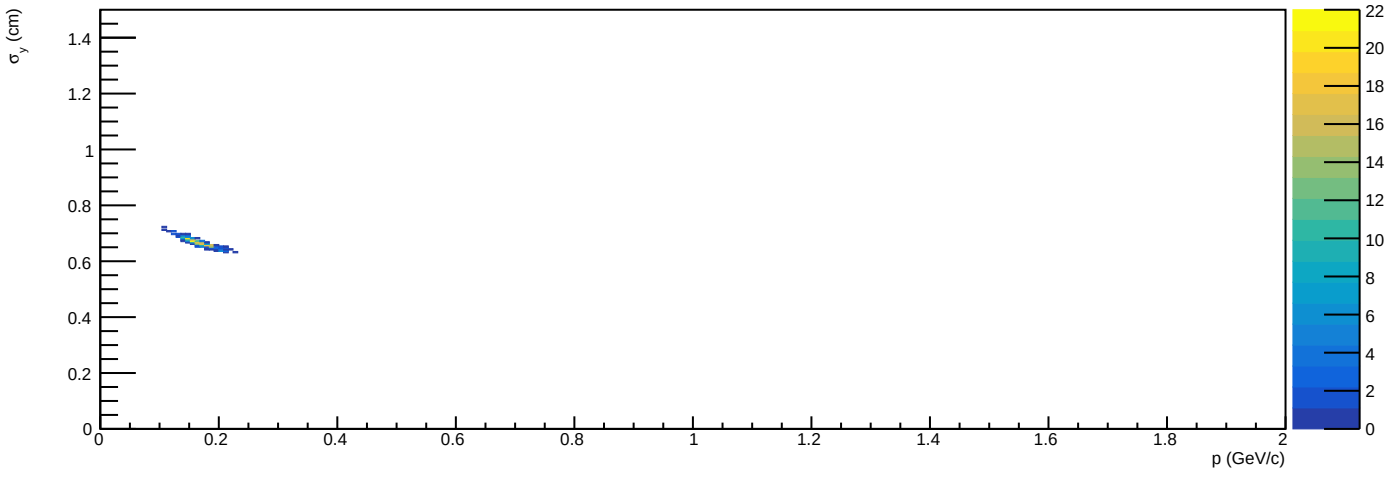

/Independent/Hist_TrackShowerErrors/Photon_BCAL/XErrorVsP
σx (cm)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
p (GeV/c)
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

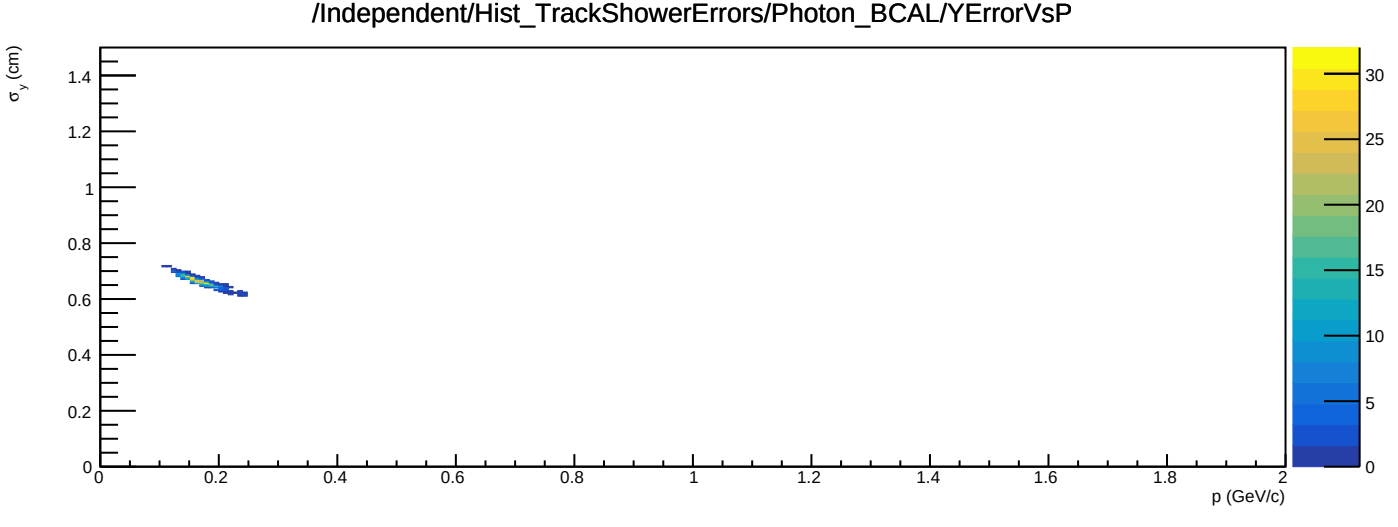

/Independent/Hist_TrackShowerErrors/Photon_BCAL/XErrorVsTheta
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
20
40
60
80
100
120
140
θ°
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

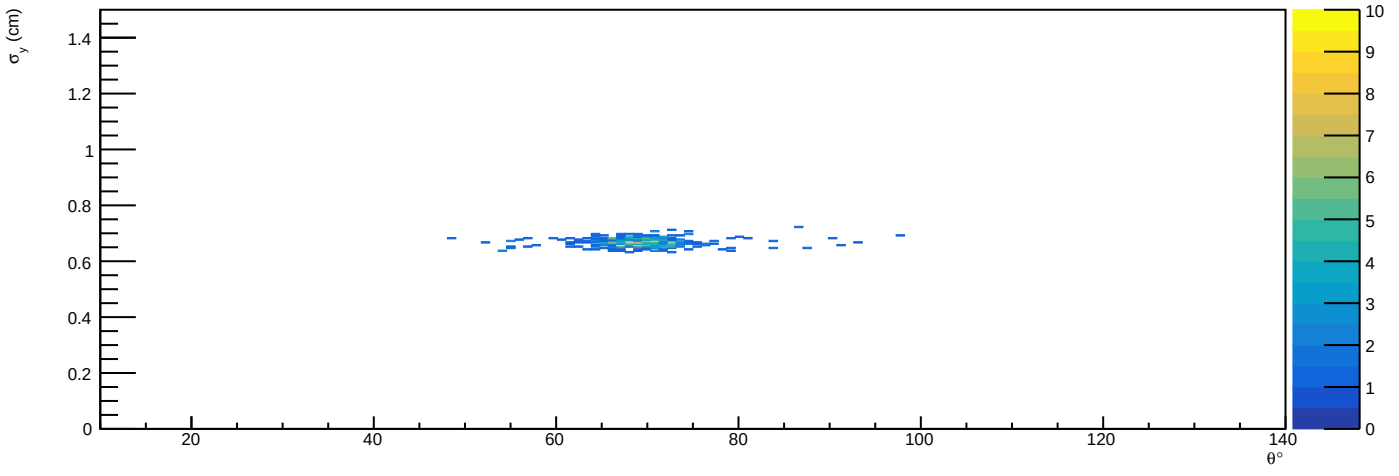

/Independent/Hist_TrackShowerErrors/Photon_BCAL/XErrorVsTheta
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
20
40
60
80
100
120
140
θ°
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
−0.1

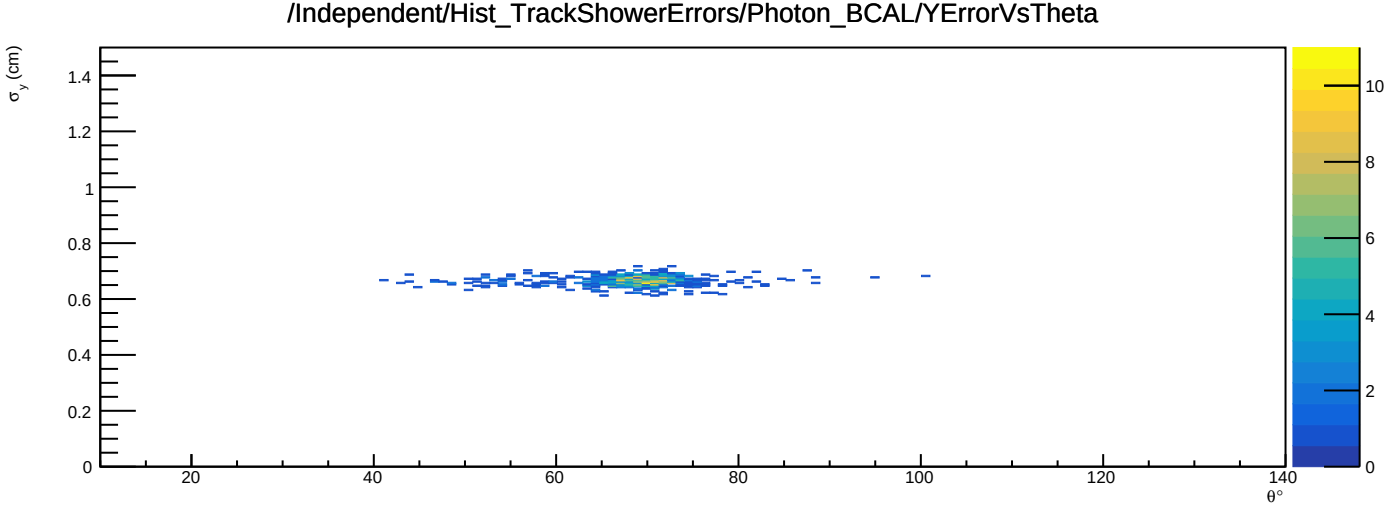

/Independent/Hist_TrackShowerErrors/Photon_BCAL/XErrorVsPhi
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
0.1
0.08
0.06
0.04
0.02
0
–0.02
–0.04
–0.06
–0.08
–0.1

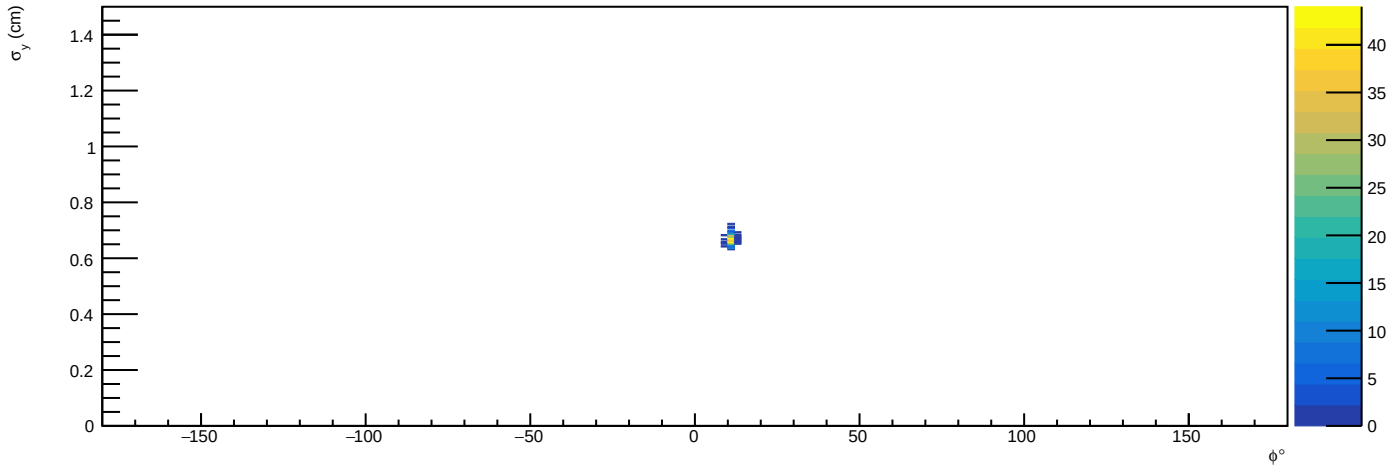

/Independent/Hist_TrackShowerErrors/Photon_BCAL/XErrorVsPhi
σx (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
0.1
0.08
0.06
0.04
0.02
0
–0.02
–0.04
–0.06
–0.08
–0.1

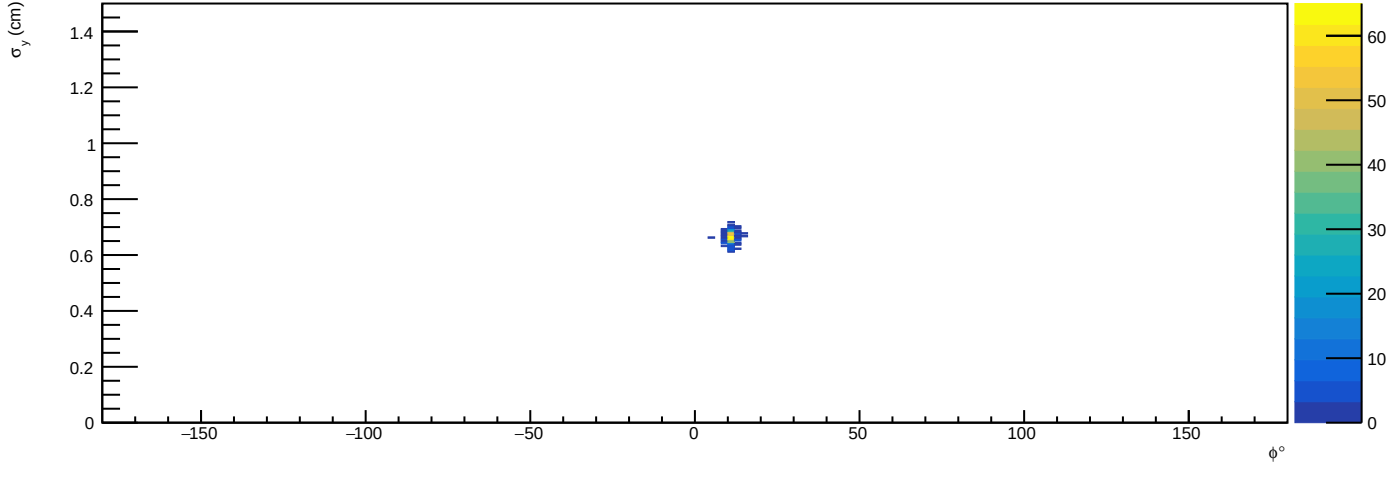

/Independent/Hist_TrackShowerErrors/Photon_BCAL/YErrorVsP
σ_y (cm)
p (GeV/c)

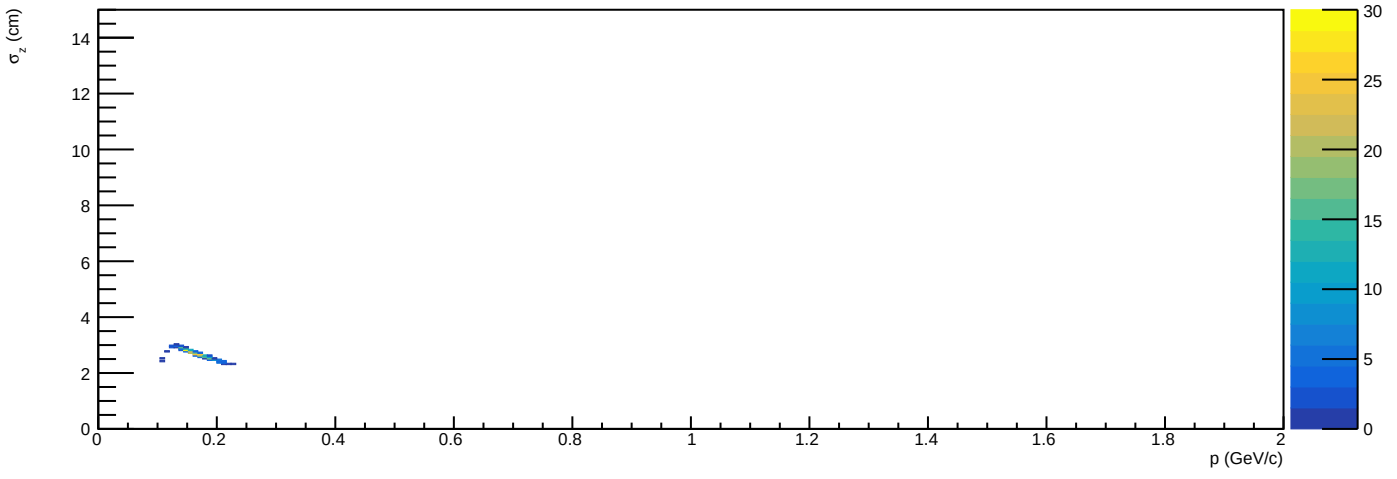

/Independent/Hist_TrackShowerErrors/Photon_BCAL/YErrorVsP
σ_y (cm)
p (GeV/c)

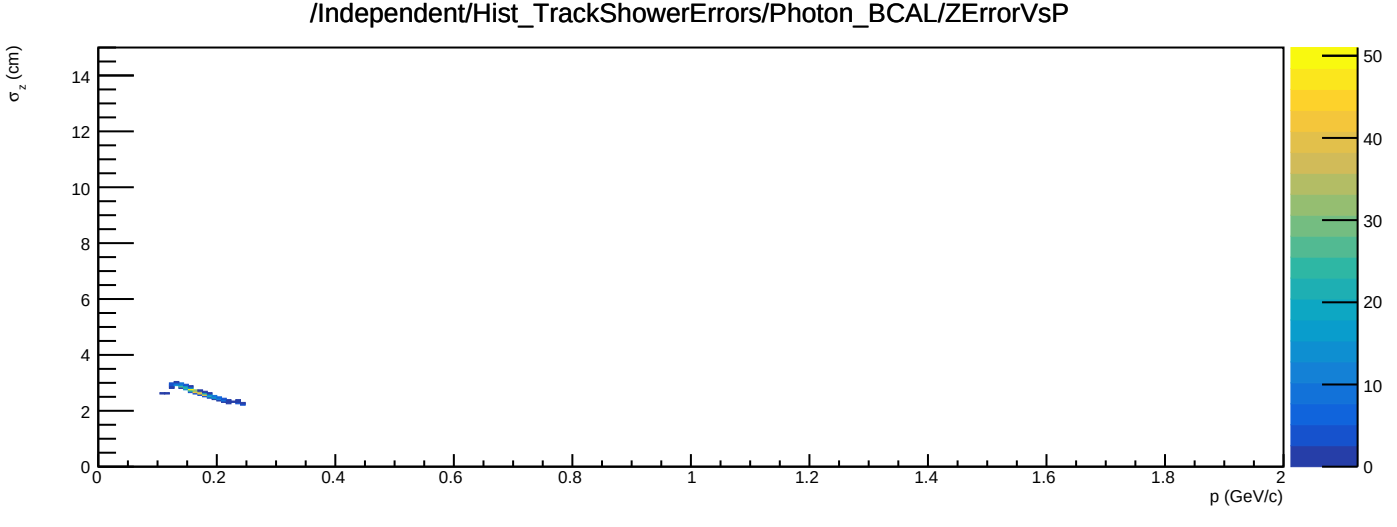

/Independent/Hist_TrackShowerErrors/Photon_BCAL/YErrorVsTheta
σ_y (cm)
θ°

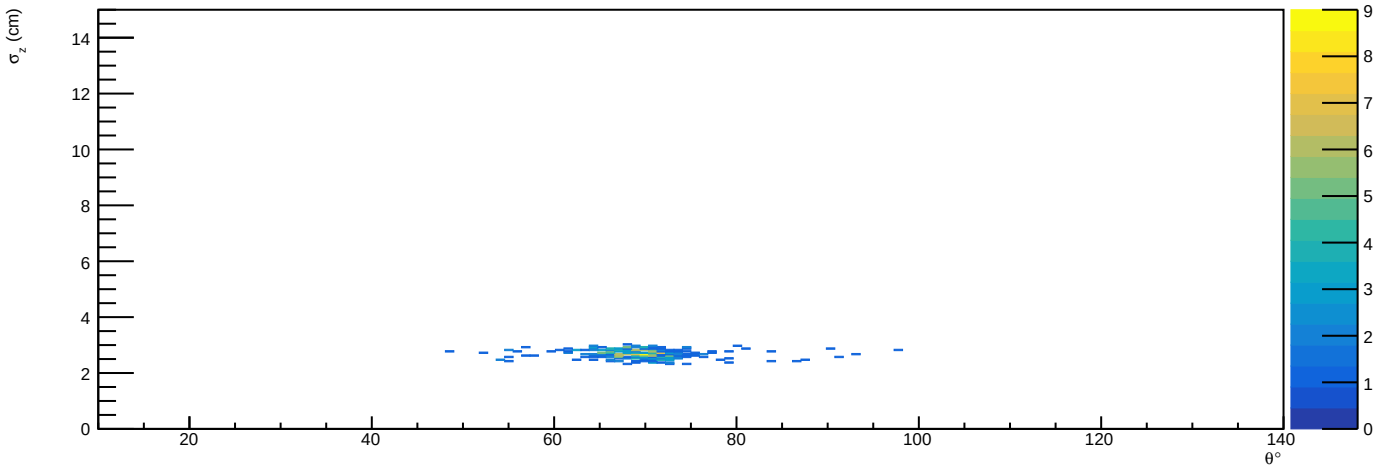

/Independent/Hist_TrackShowerErrors/Photon_BCAL/YErrorVsTheta
σ_y (cm)
θ°

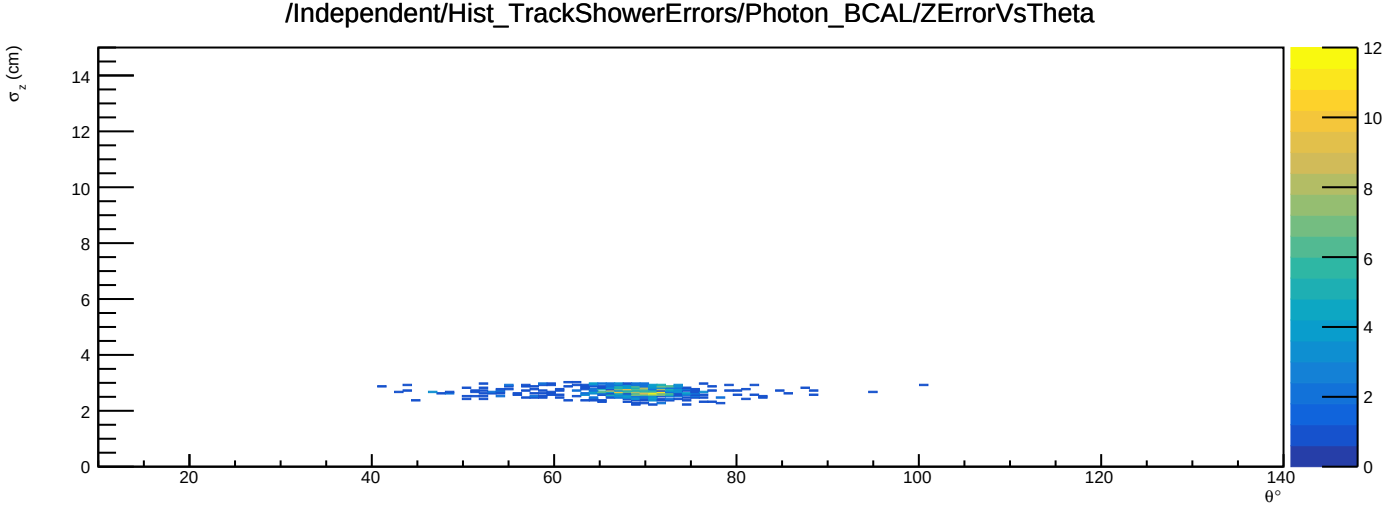

/Independent/Hist_TrackShowerErrors/Photon_BCAL/YErrorVsPhi
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
40
35
30
25
20
15
10
5
0

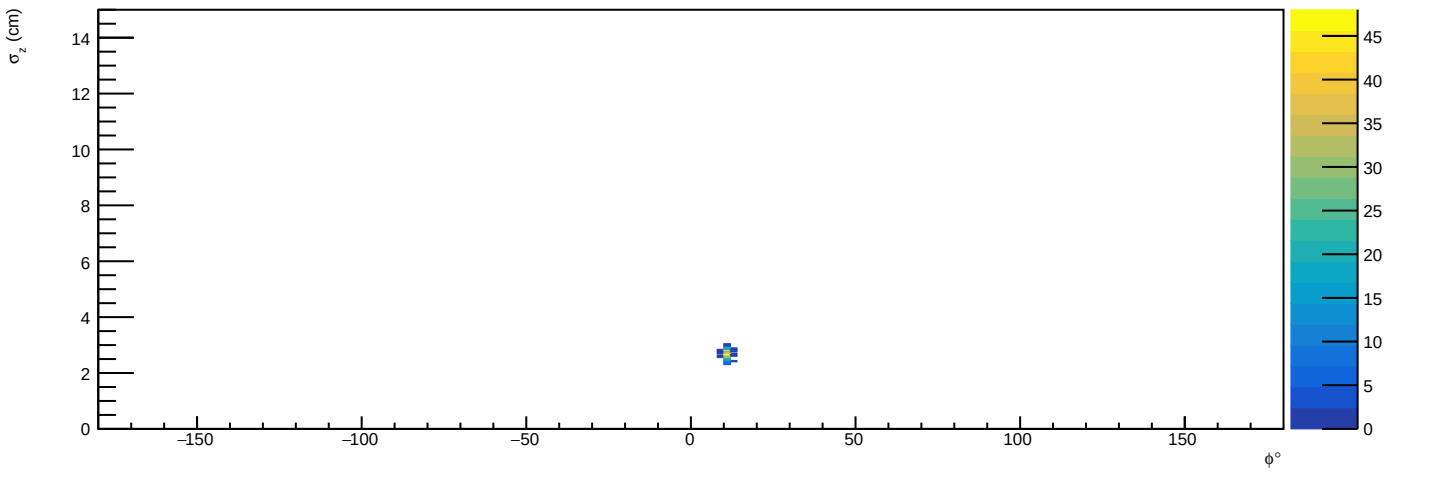

/Independent/Hist_TrackShowerErrors/Photon_BCAL/YErrorVsPhi
σ_y (cm)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
60
50
40
30
20
10
0

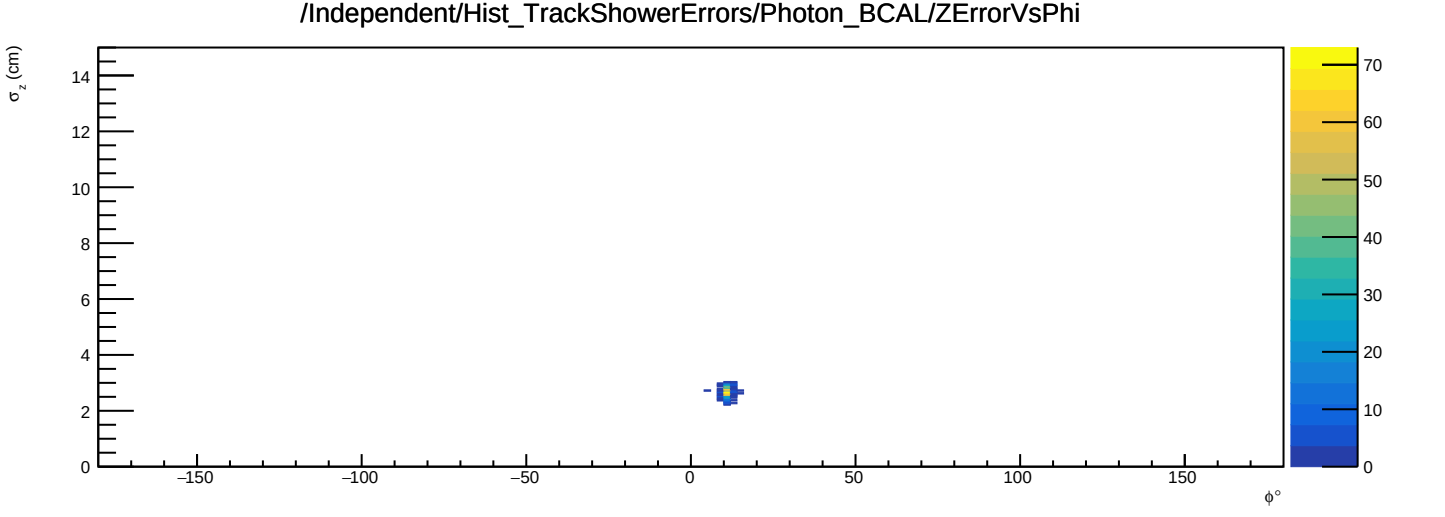

/Independent/Hist_TrackShowerErrors/Photon_BCAL/ZErrorVsP
σz (cm)
0
2
4
6
8
10
12
14
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
p (GeV/c)
0
5
10
15
20
25
30

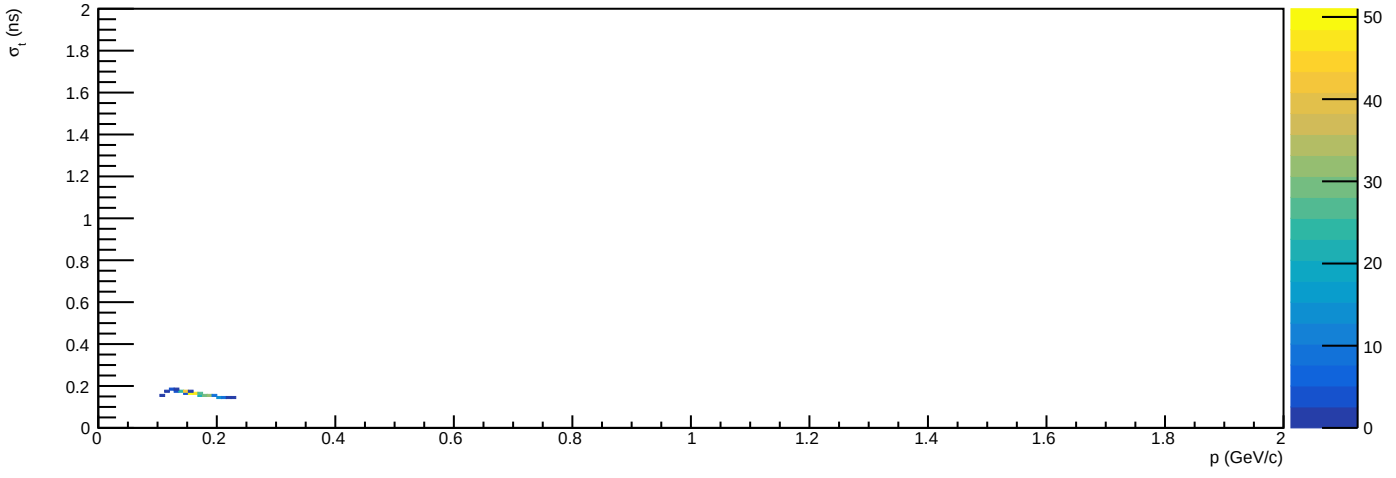

/Independent/Hist_TrackShowerErrors/Photon_BCAL/ZErrorVsP
σz (cm)
0
2
4
6
8
10
12
14
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
p (GeV/c)
0
10
20
30
40
50

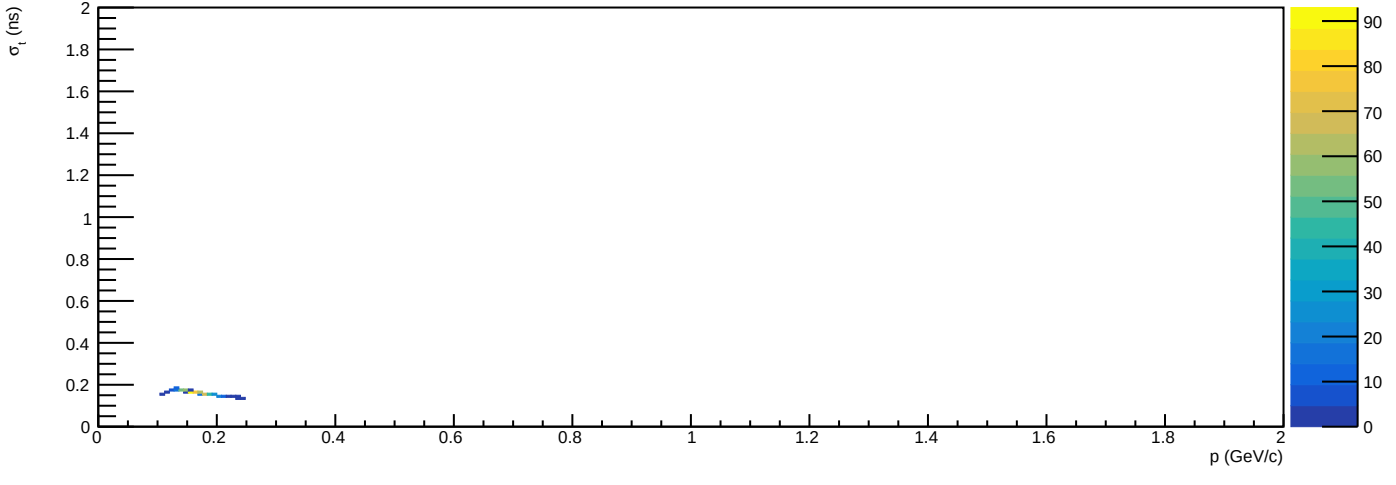

/Independent/Hist_TrackShowerErrors/Photon_BCAL/ZErrorVsTheta
σz (cm)
θ°

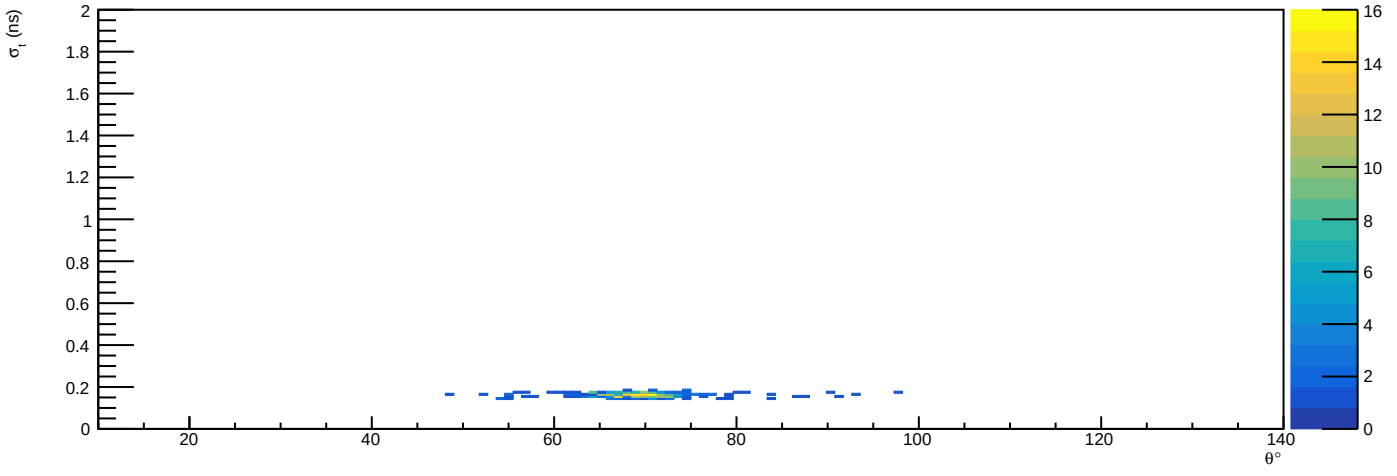

/Independent/Hist_TrackShowerErrors/Photon_BCAL/ZErrorVsTheta
σz (cm)
θ°

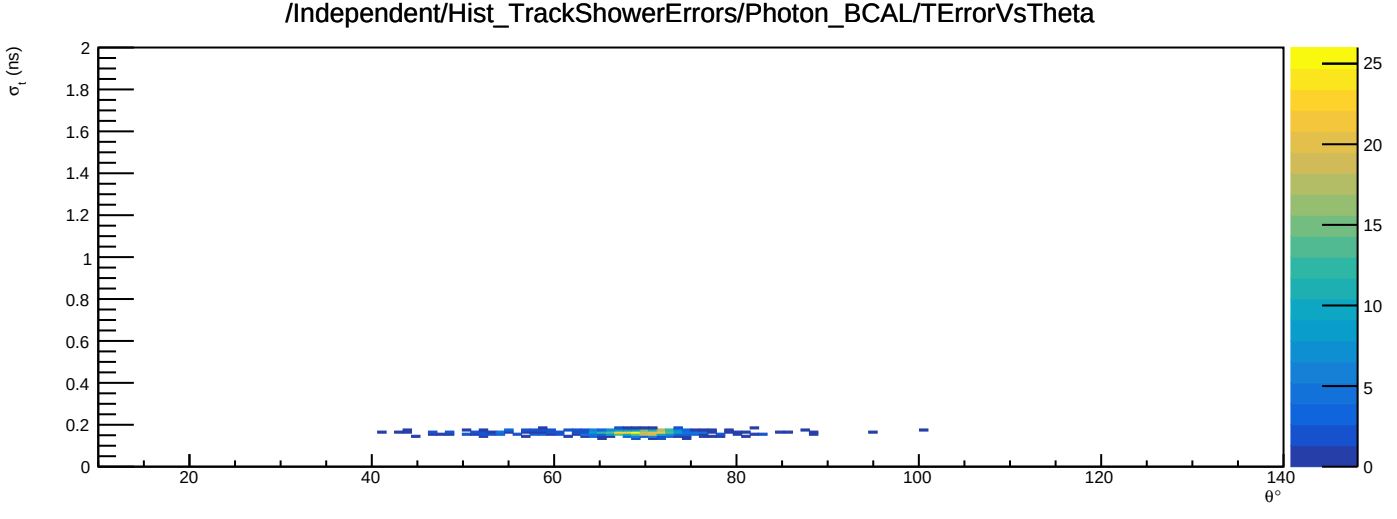

/Independent/Hist_TrackShowerErrors/Photon_BCAL/ZErrorVsPhi
σz (cm)
14
12
10
8
6
4
2
0
–150
–100
–50
0
50
100
150
ϕ°
45
40
35
30
25
20
15
10
5
0

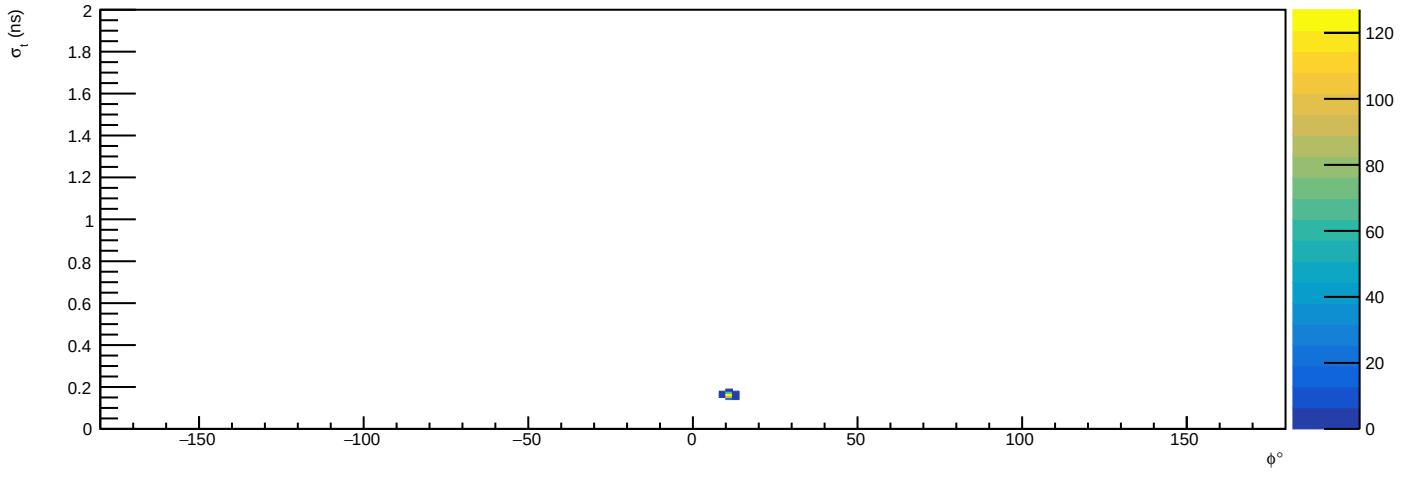

/Independent/Hist_TrackShowerErrors/Photon_BCAL/ZErrorVsPhi
σz (cm)
14
12
10
8
6
4
2
0
–150
–100
–50
0
50
100
150
ϕ°
70
60
50
40
30
20
10
0

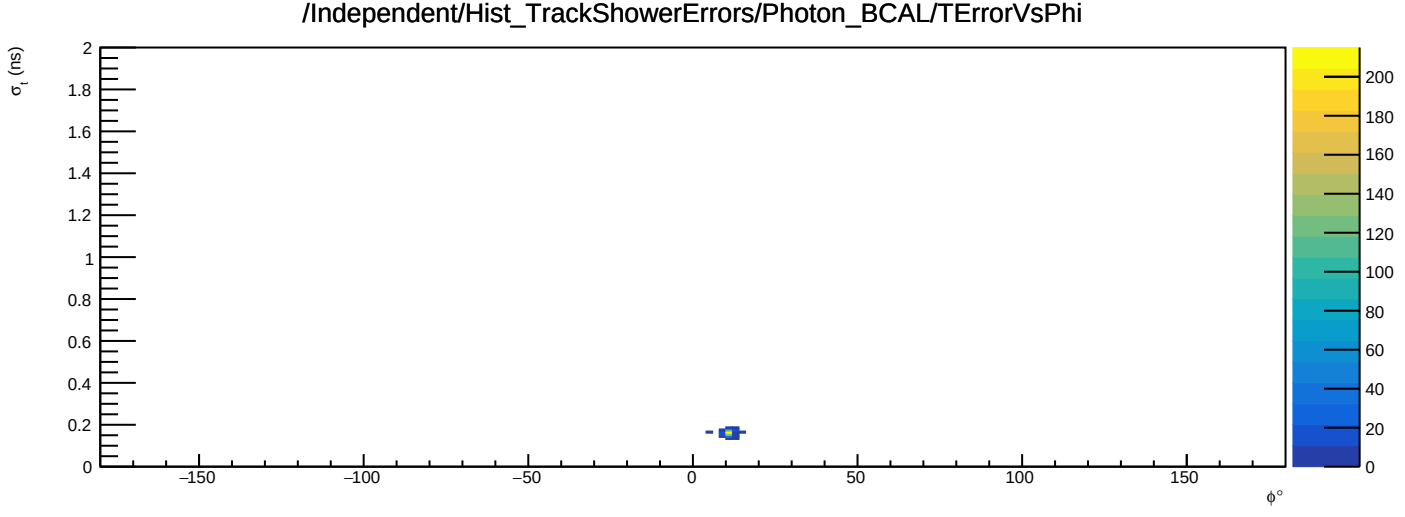

/Independent/Hist_TrackShowerErrors/Photon_BCAL/TErrorVsP
σt (ns)
p (GeV/c)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
0
10
20
30
40
50


/Independent/Hist_TrackShowerErrors/Photon_BCAL/TErrorVsP
σt (ns)
p (GeV/c)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
0
10
20
30
40
50
60
70
80
90

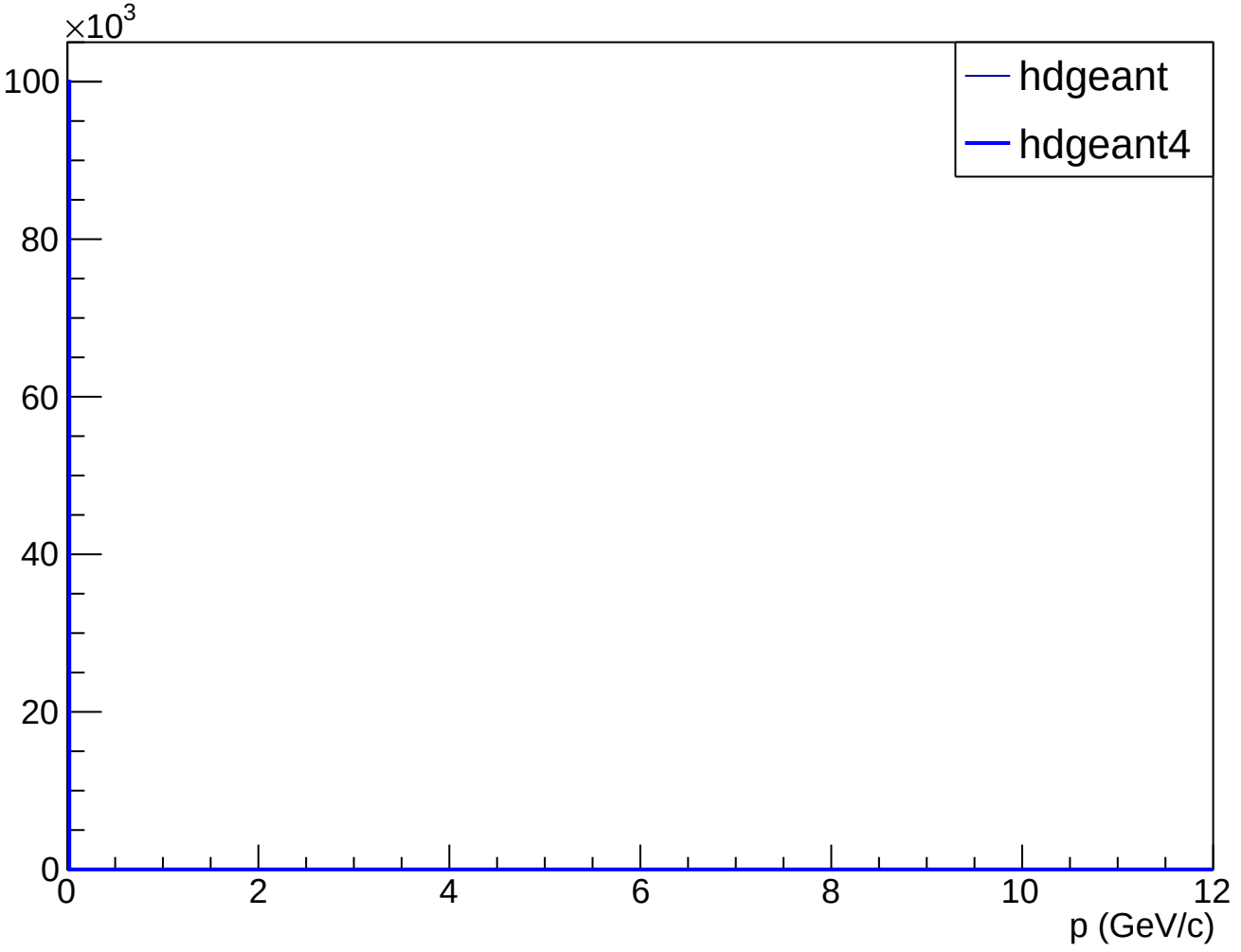

/Independent/Hist_TrackShowerErrors/Photon_BCAL/TErrorVsTheta
σt (ns)
θ°

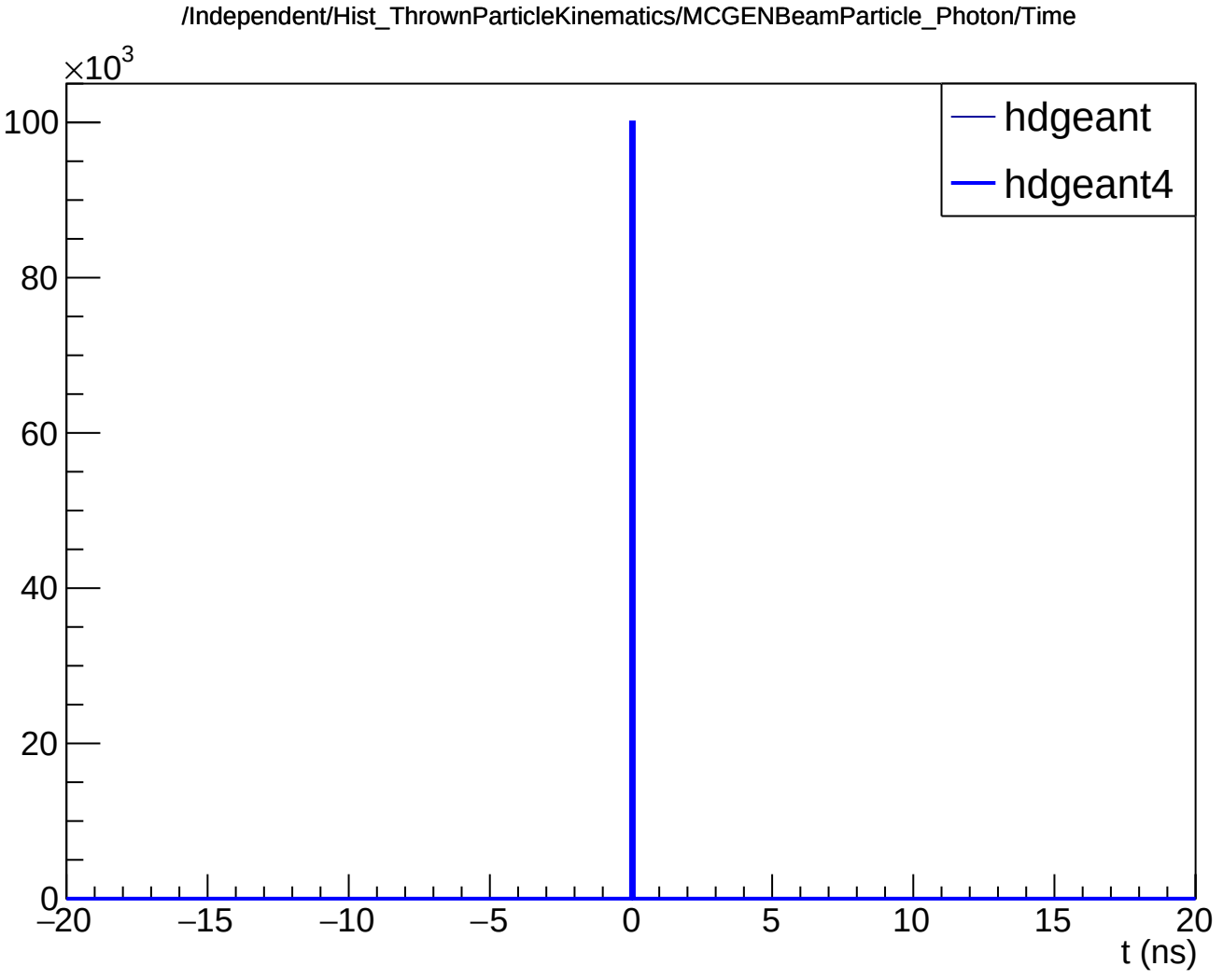

/Independent/Hist_TrackShowerErrors/Photon_BCAL/TErrorVsTheta
σt (ns)
θ°


/Independent/Hist_TrackShowerErrors/Photon_BCAL/TErrorVsPhi
σt (ns)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
120
100
80
60
40
20
0

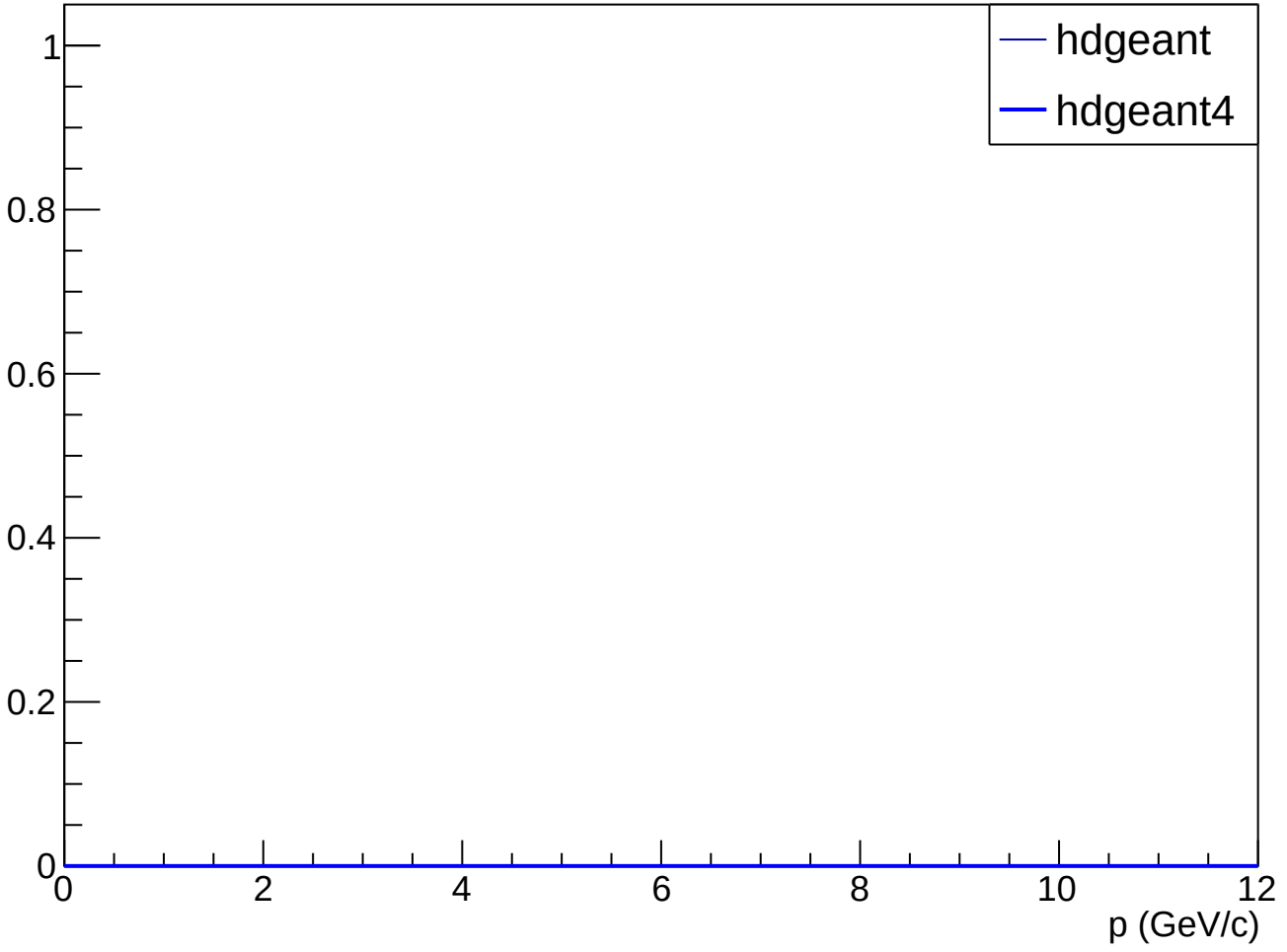

/Independent/Hist_TrackShowerErrors/Photon_BCAL/TErrorVsPhi
σt (ns)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°
200
180
160
140
120
100
80
60
40
20
0

/Independent/Hist_ThrownParticleKinematics/MCGENBeamParticle_Photon/Momentum

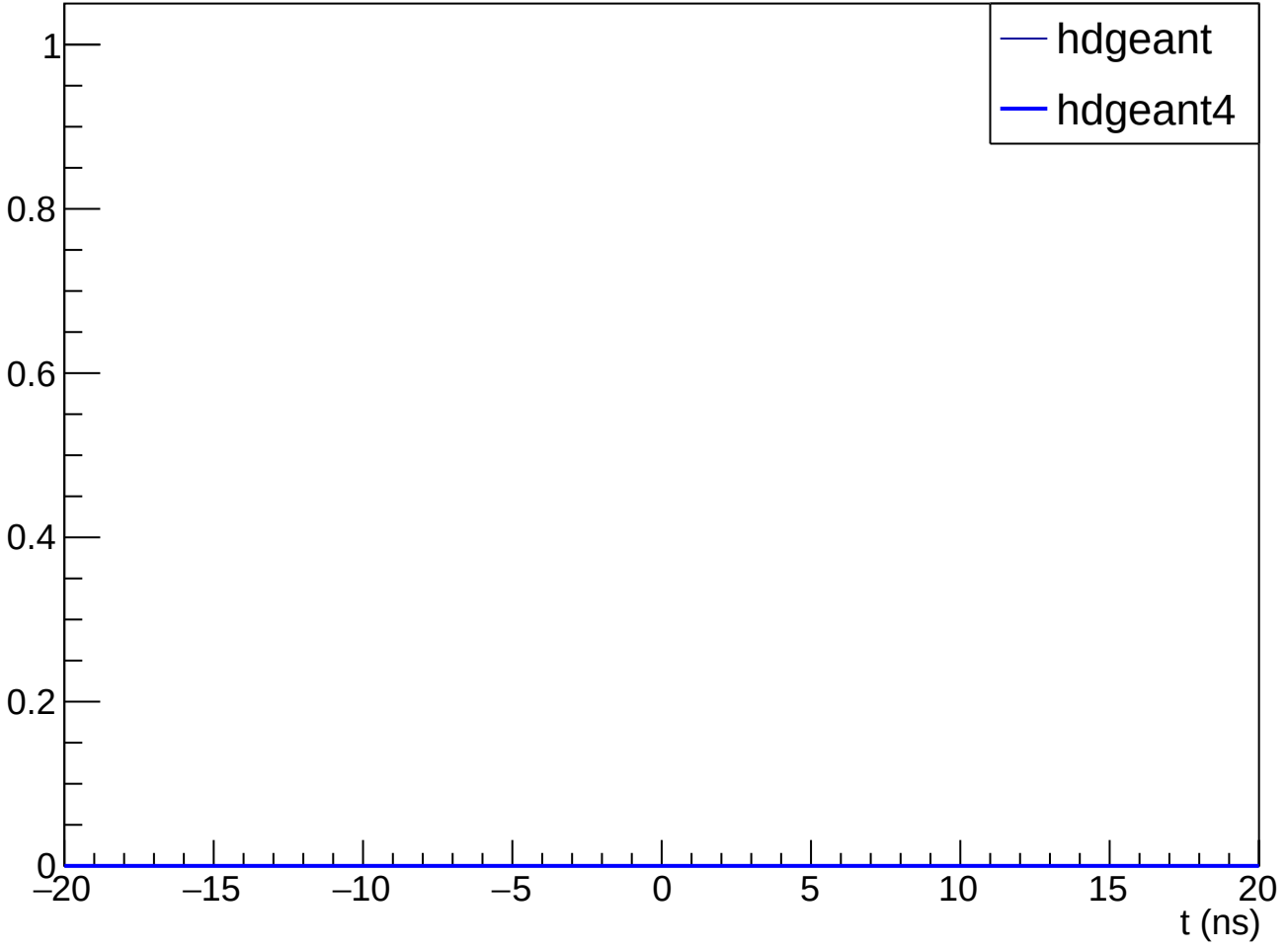



/Independent/Hist_ThrownParticleKinematics/MCGENBeamParticle_Photon/Time
×10^3
100
80
60
40
20
0
–20
–15
–10
–5
0
5
10
15
20
t (ns)
hdgeant
hdgeant4

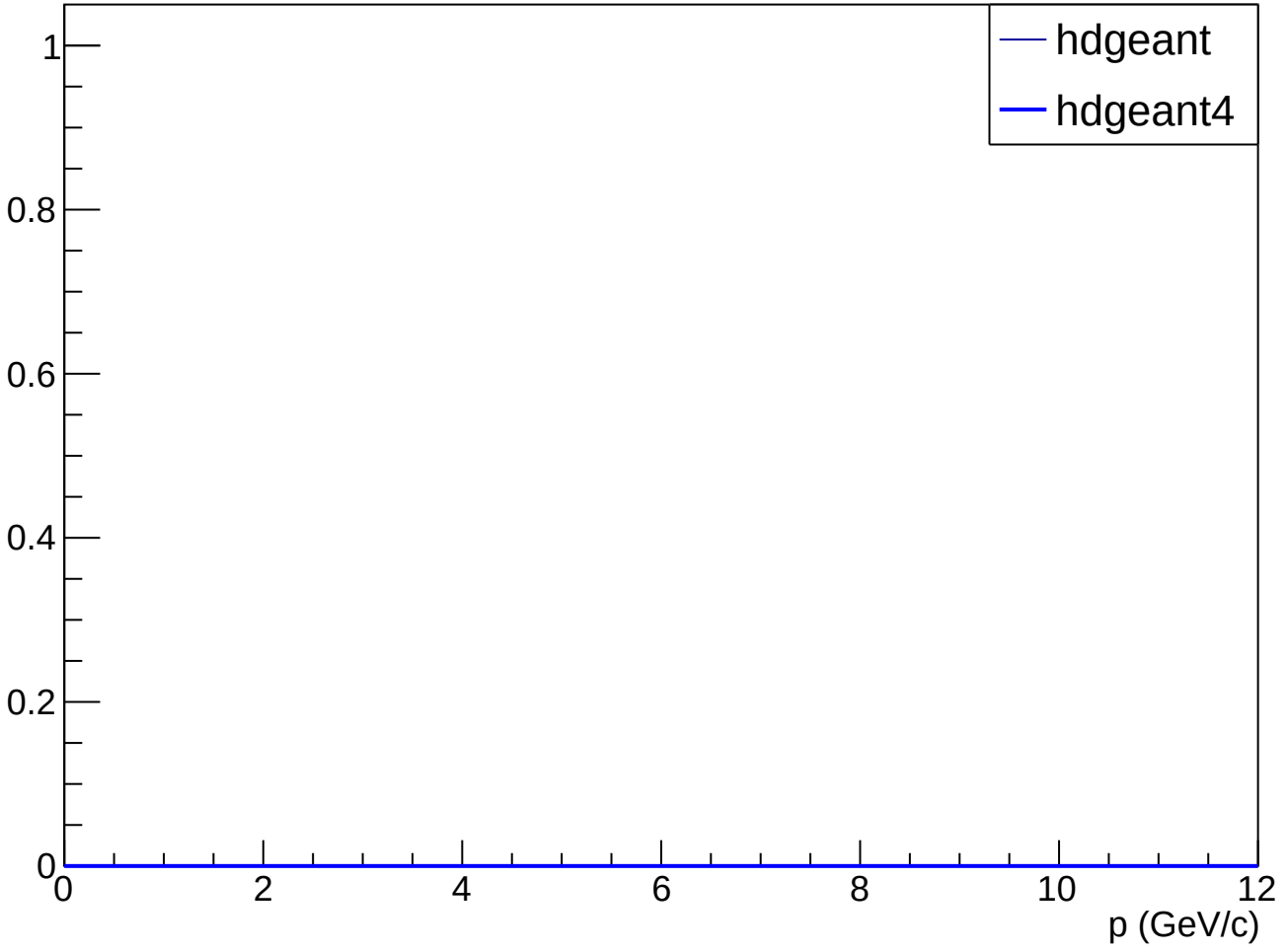
/Independent/Hist_ThrownParticleKinematics/TRUTHBeamParticles_Photon/Momentum

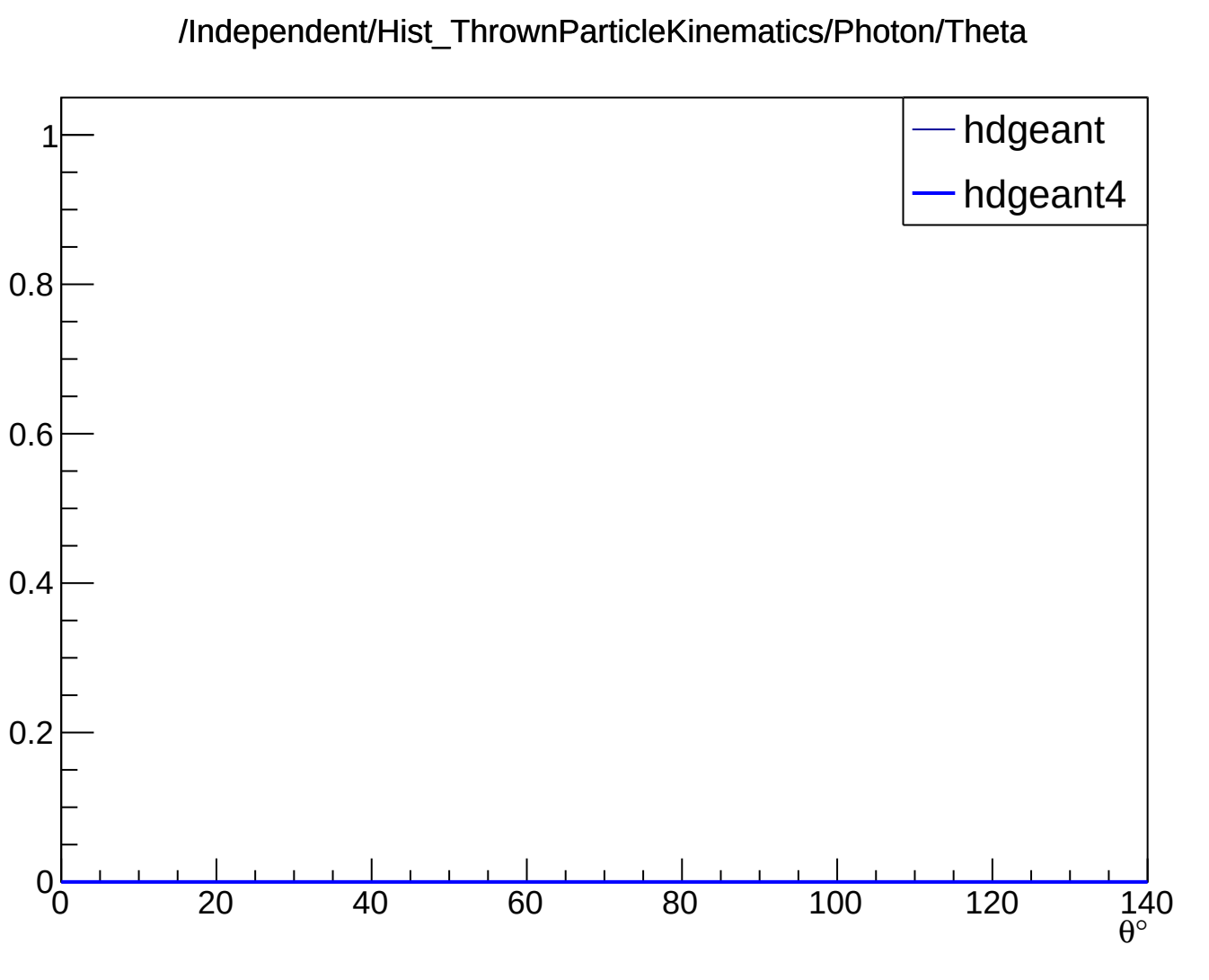


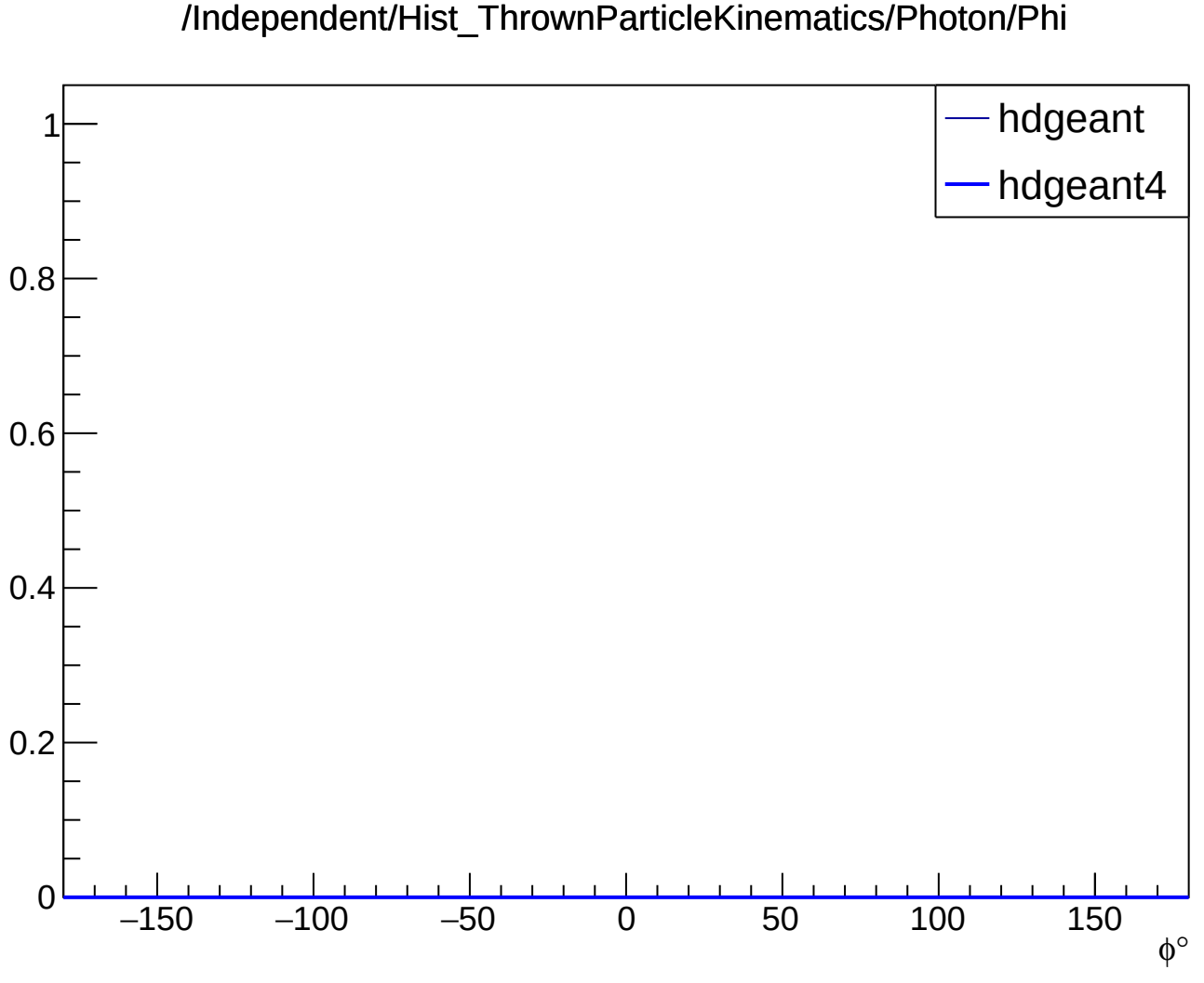
/Independent/Hist_ThrownParticleKinematics/TRUTHBeamParticles_Photon/Time

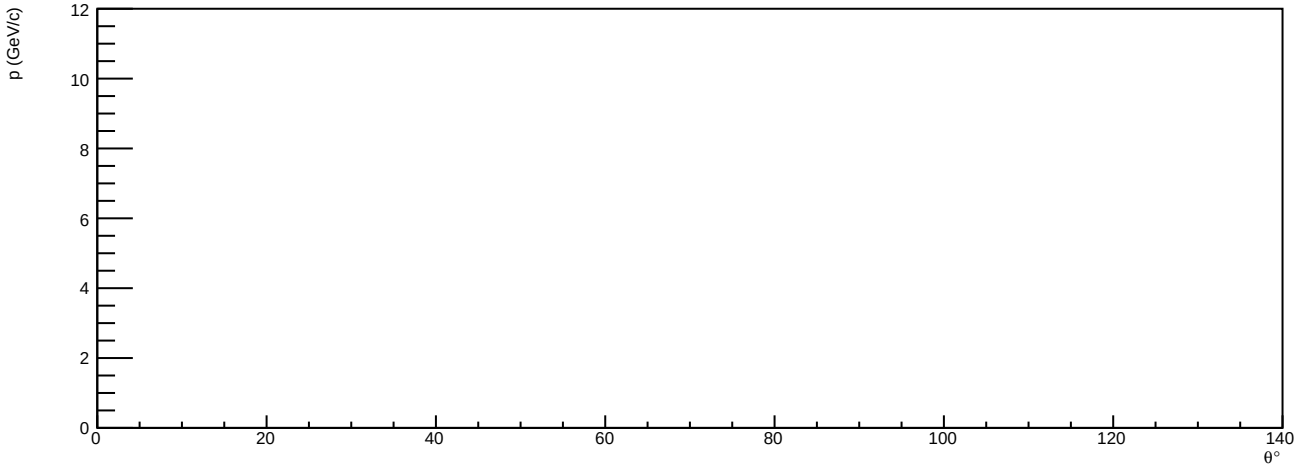


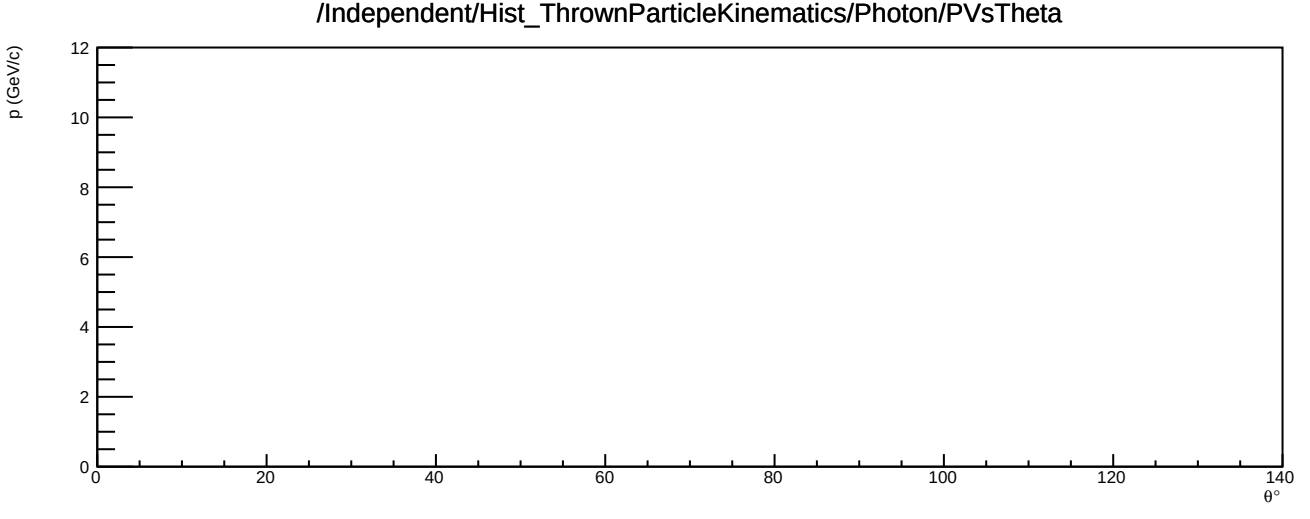
/Independent/Hist_ThrownParticleKinematics/Photon/Momentum

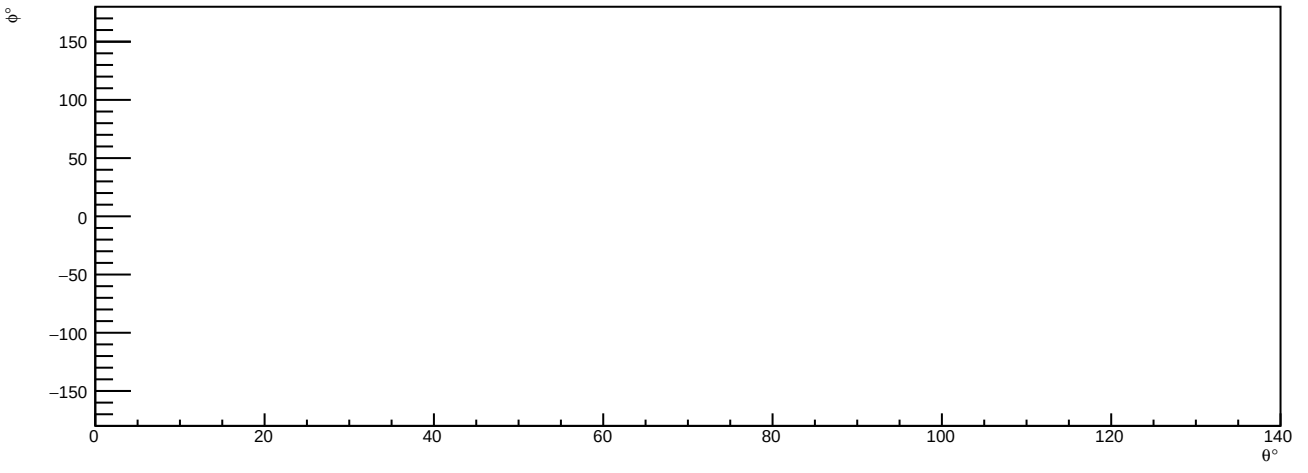


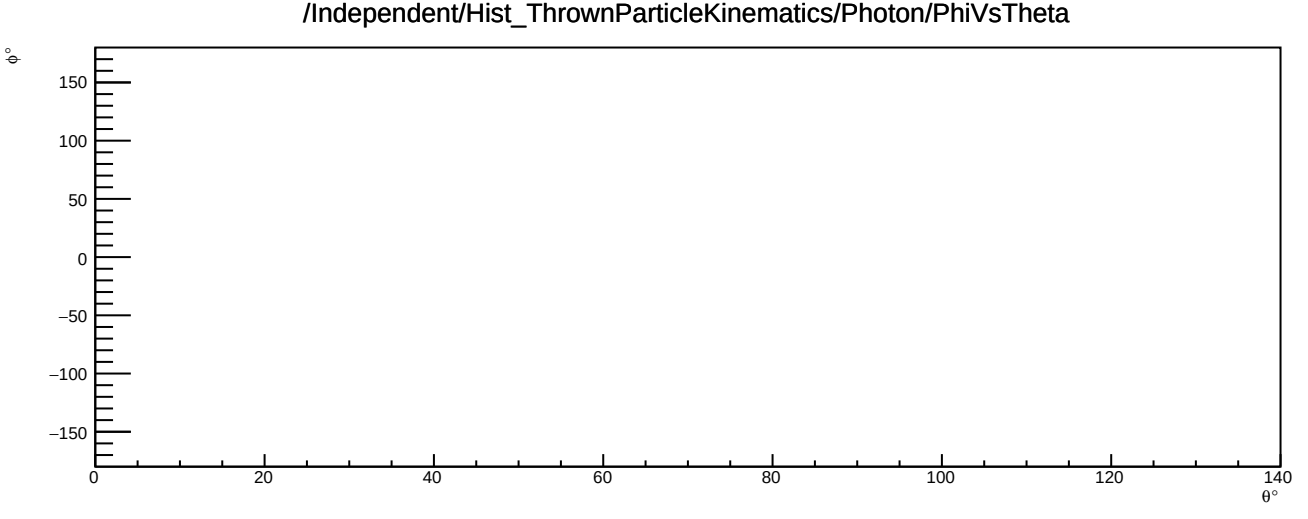

/Independent/Hist_ThrownParticleKinematics/Photon/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°

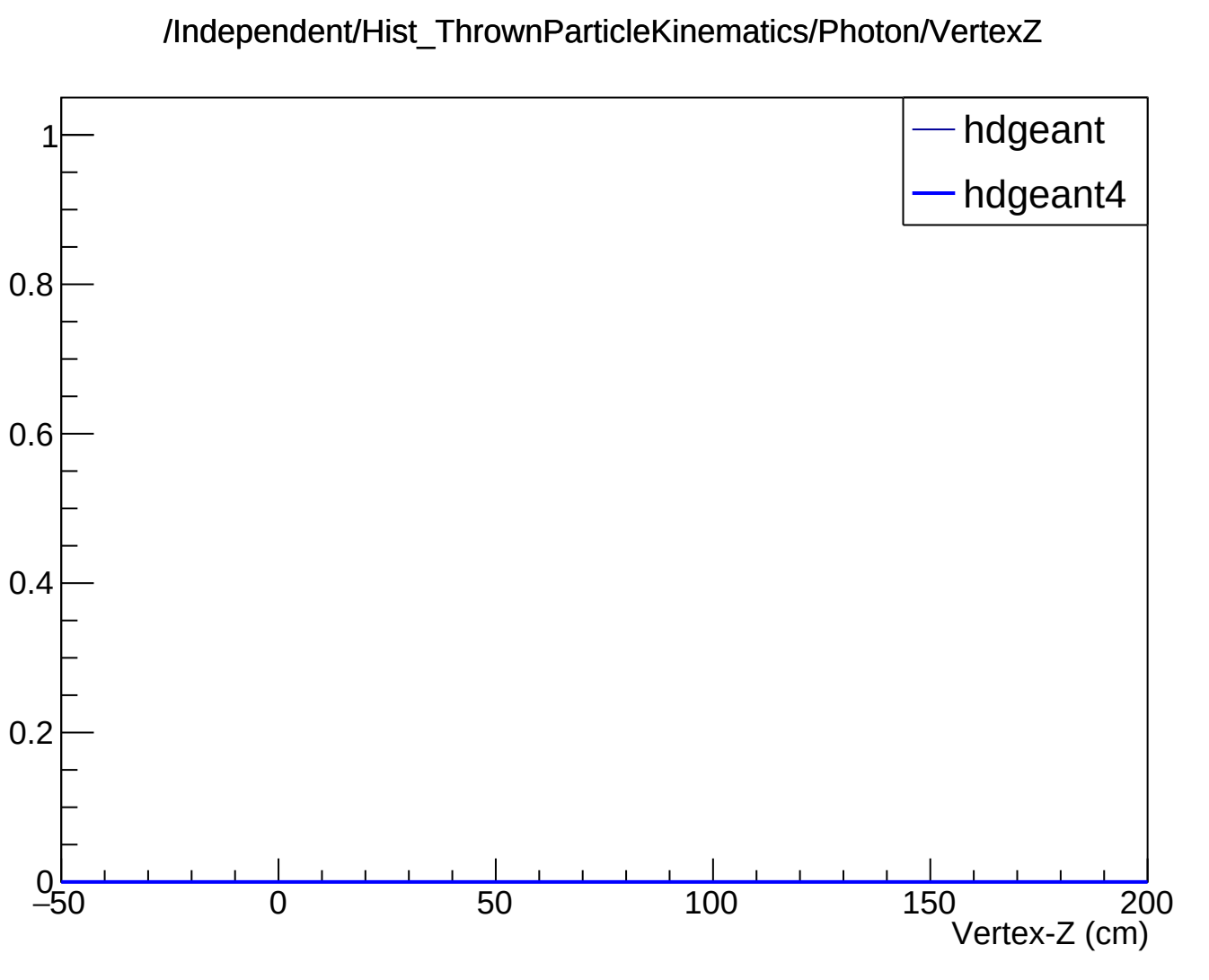

/Independent/Hist_ThrownParticleKinematics/Photon/Phi
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

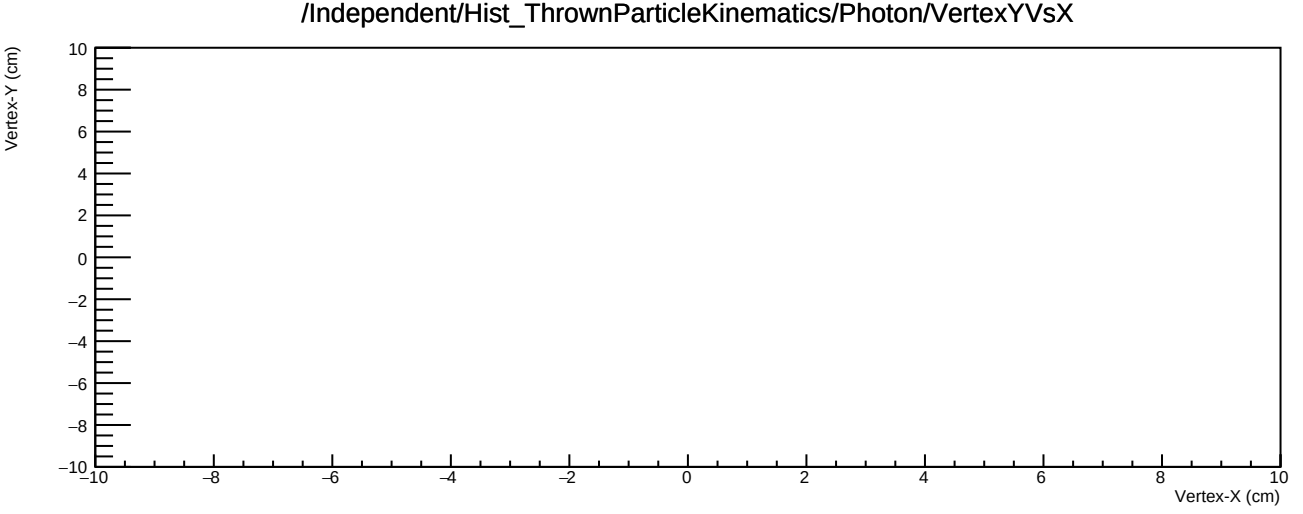

/Independent/Hist_ThrownParticleKinematics/Photon/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

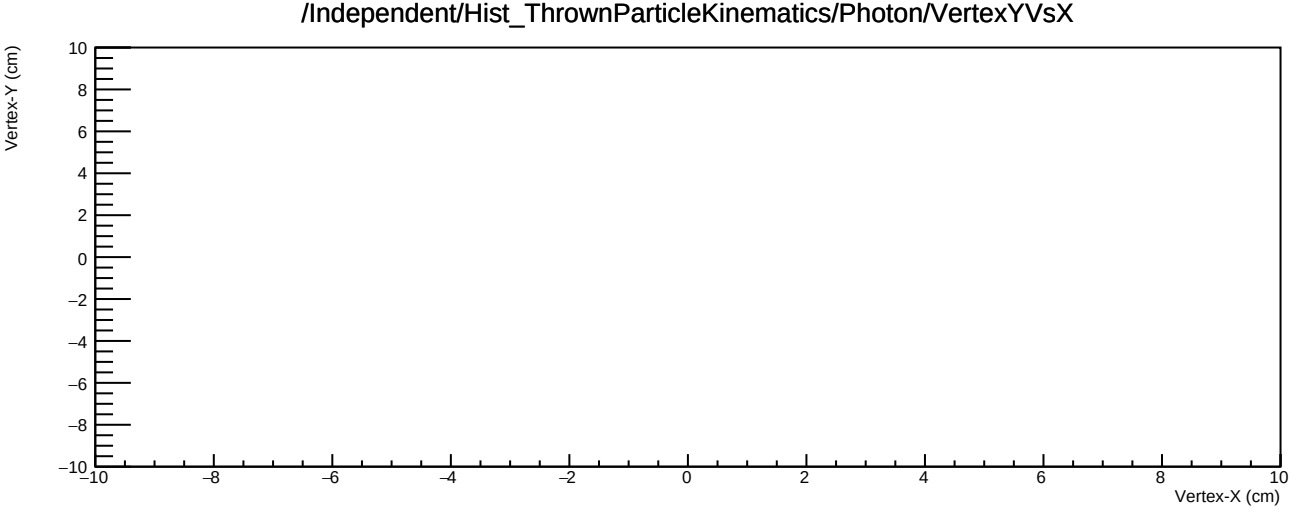

/Independent/Hist_ThrownParticleKinematics/Photon/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

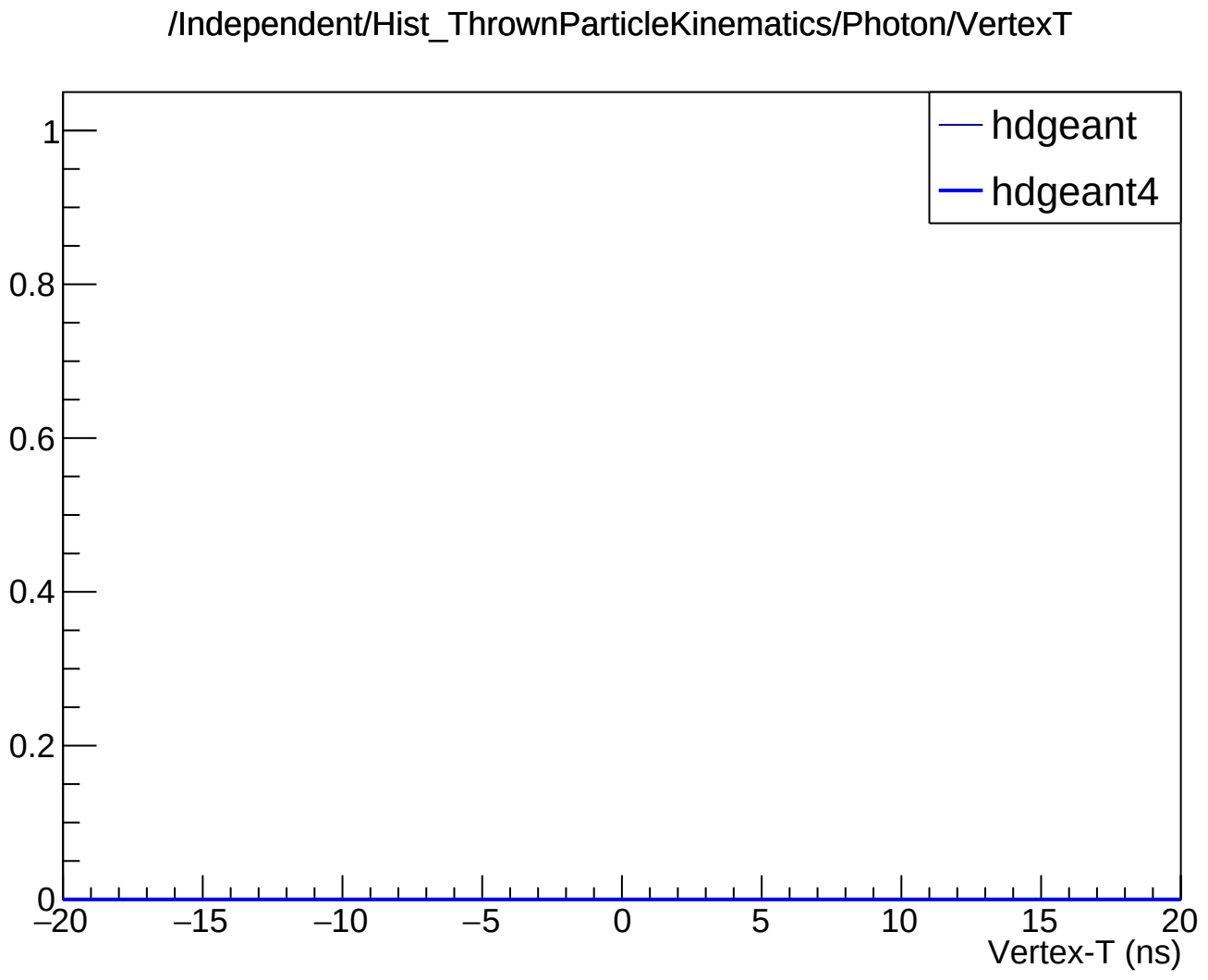

/Independent/Hist_ThrownParticleKinematics/Photon/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ThrownParticleKinematics/Photon/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

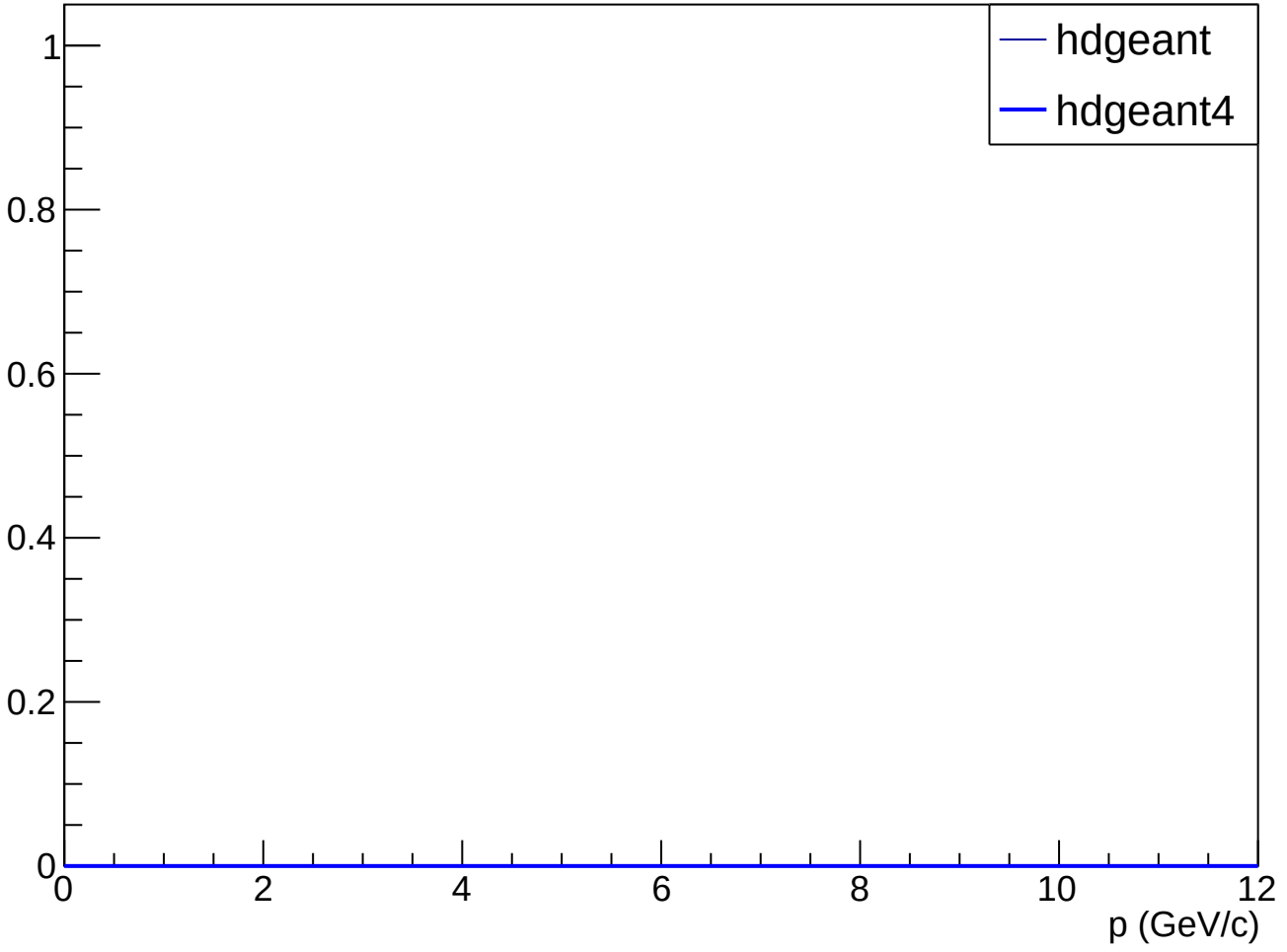

/Independent/Hist_ThrownParticleKinematics/Photon/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)


/Independent/Hist_ThrownParticleKinematics/Photon/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

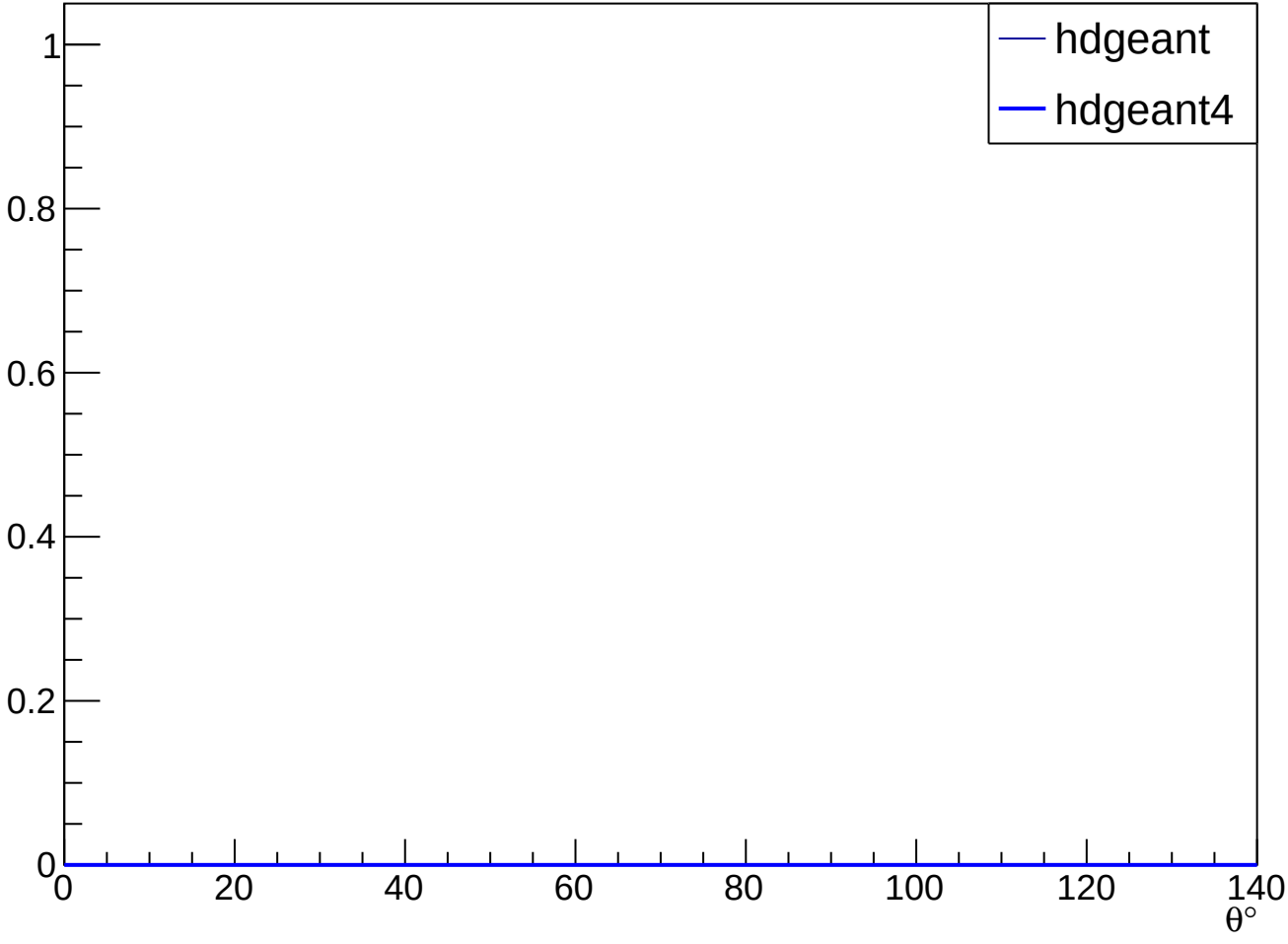

/Independent/Hist_ThrownParticleKinematics/Photon/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

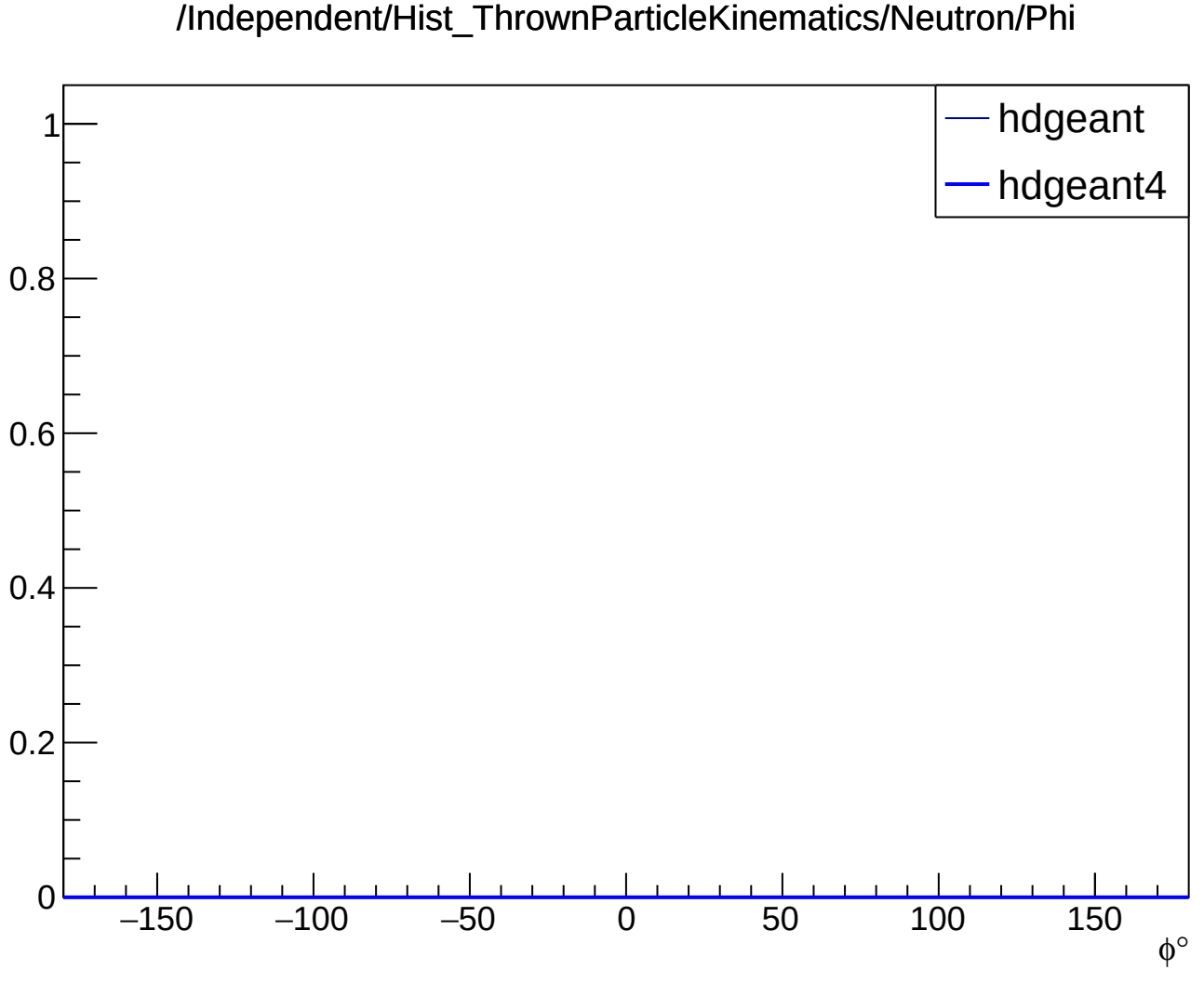

/Independent/Hist_ThrownParticleKinematics/Photon/VertexT
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–20
–15
–10
–5
0
5
10
15
20
Vertex-T (ns)

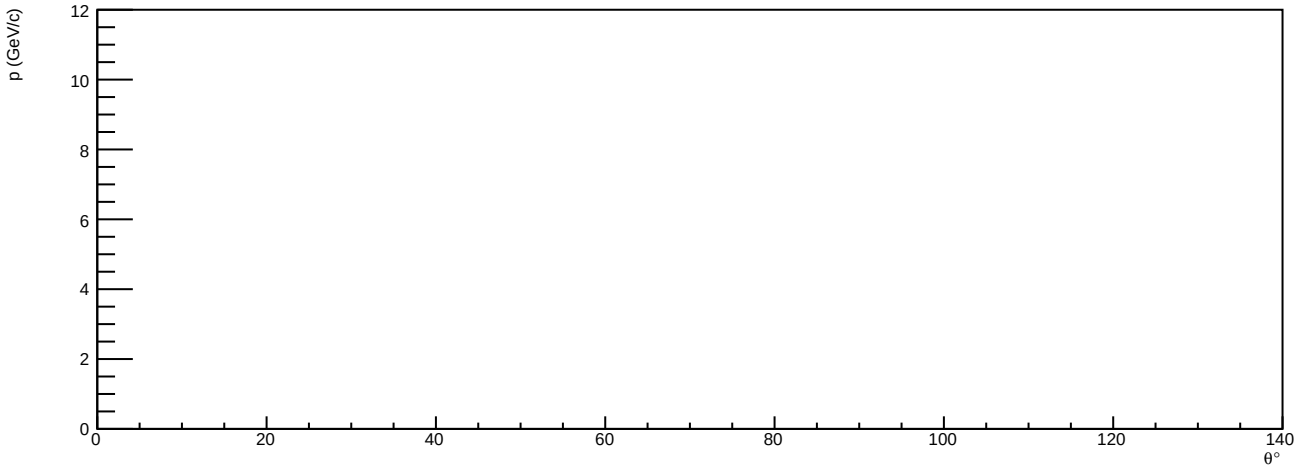
/Independent/Hist_ThrownParticleKinematics/Neutron/Momentum

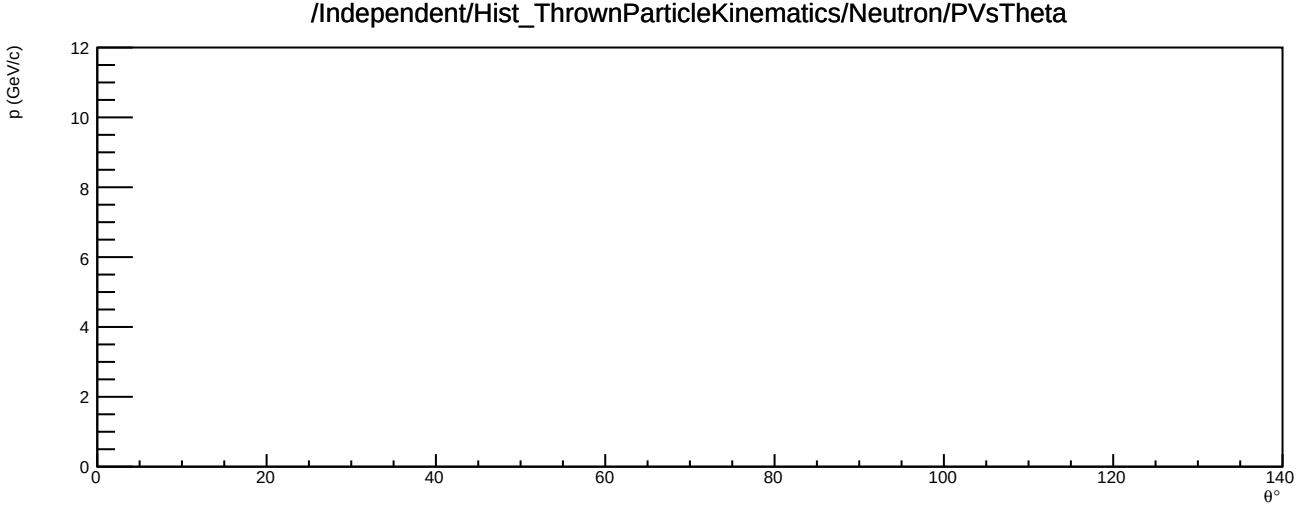


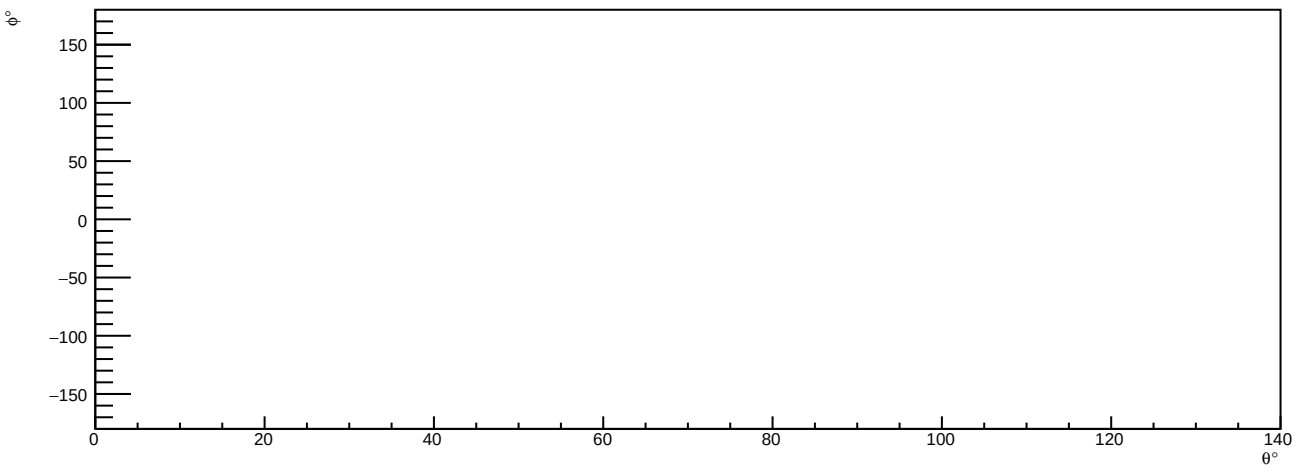
/Independent/Hist_ThrownParticleKinematics/Neutron/Theta

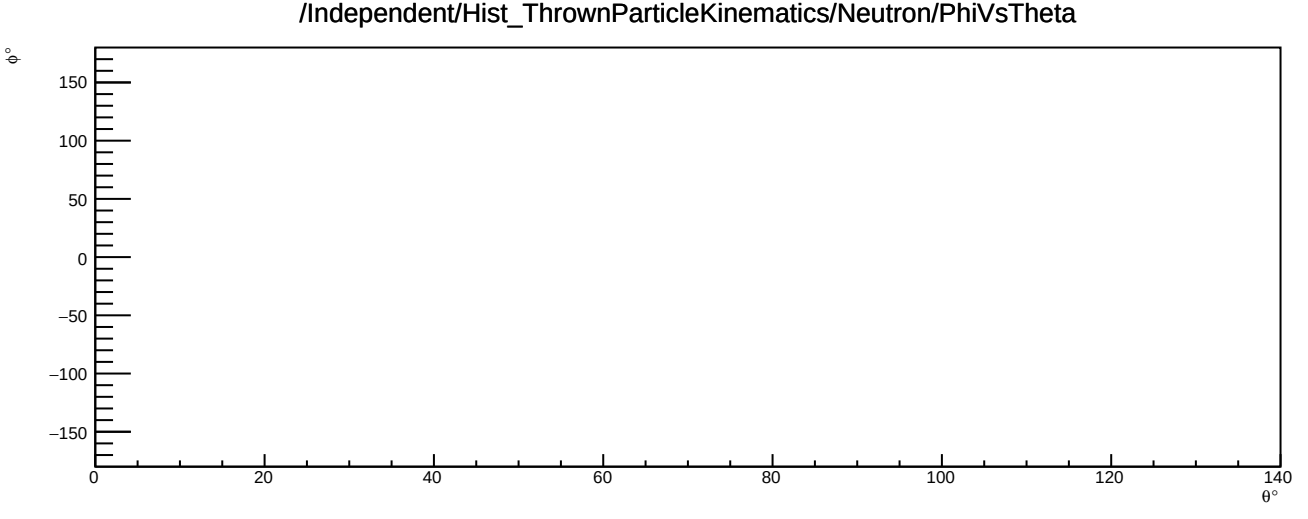


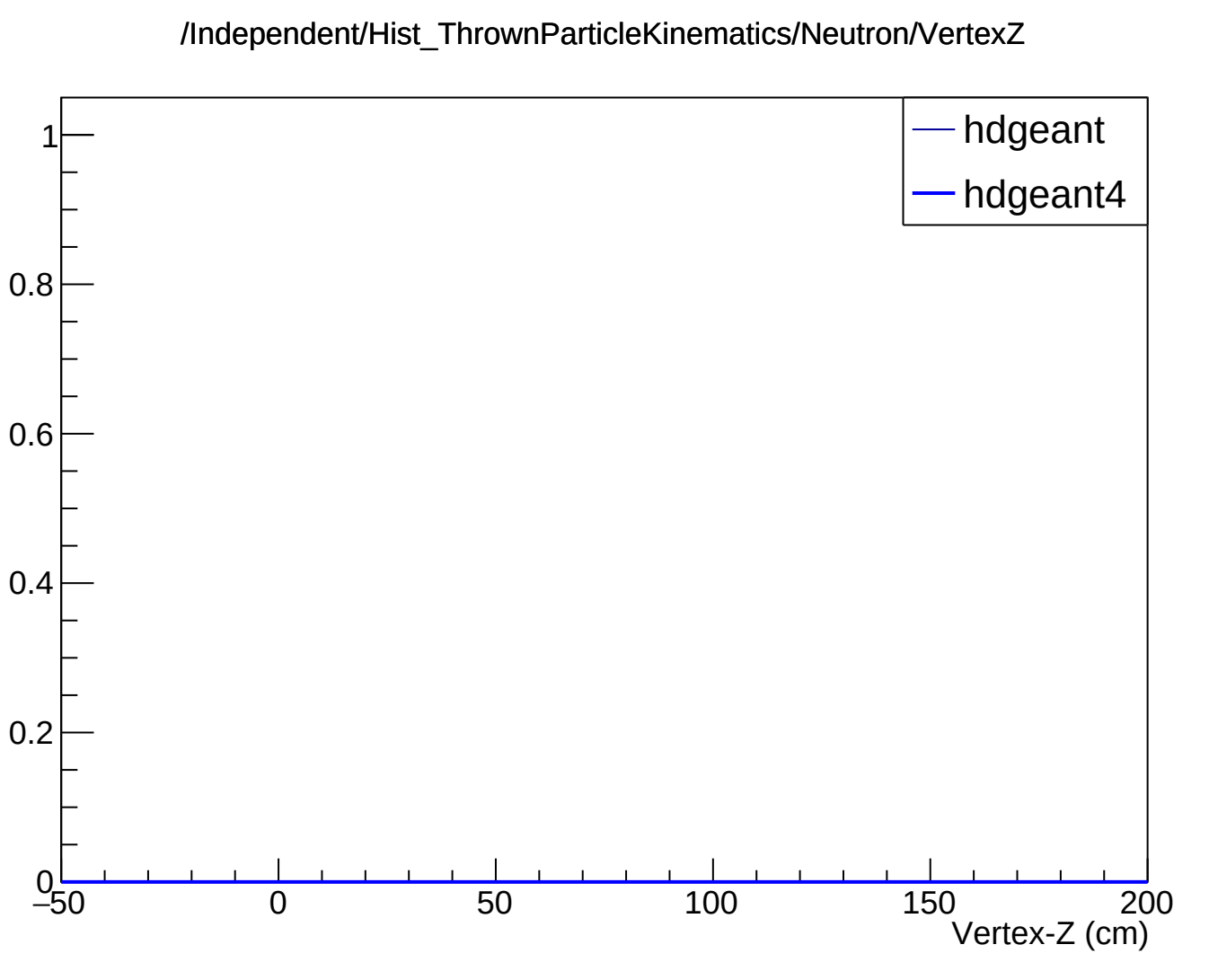

/Independent/Hist_ThrownParticleKinematics/Neutron/Phi
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

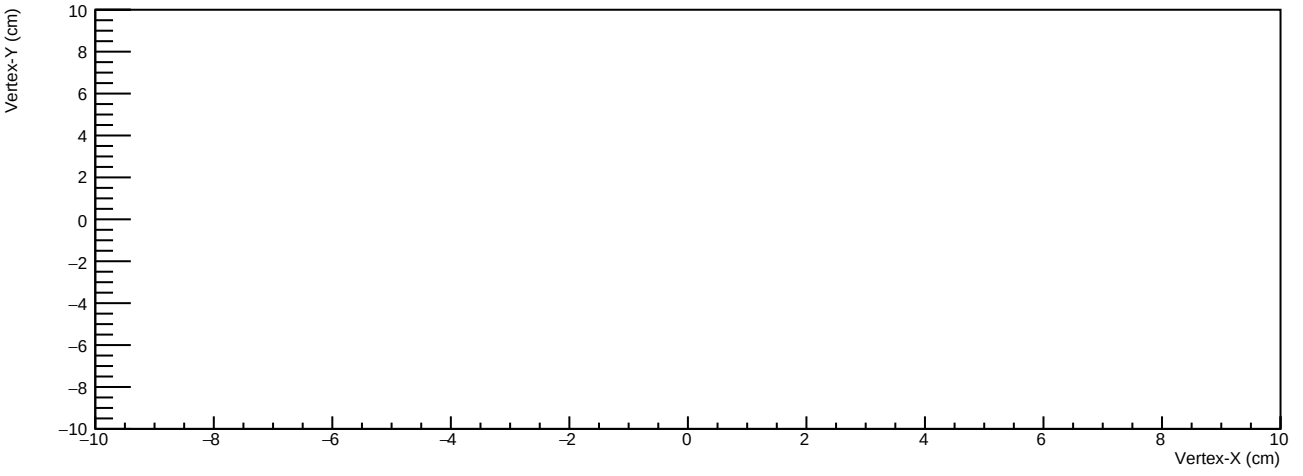

/Independent/Hist_ThrownParticleKinematics/Neutron/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

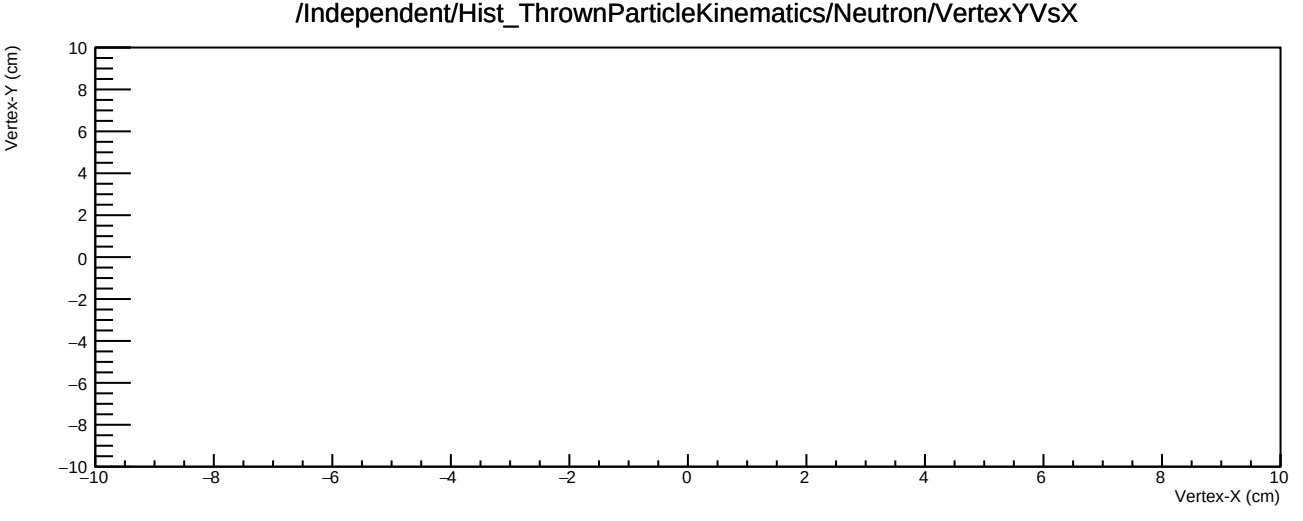

/Independent/Hist_ThrownParticleKinematics/Neutron/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ThrownParticleKinematics/Neutron/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

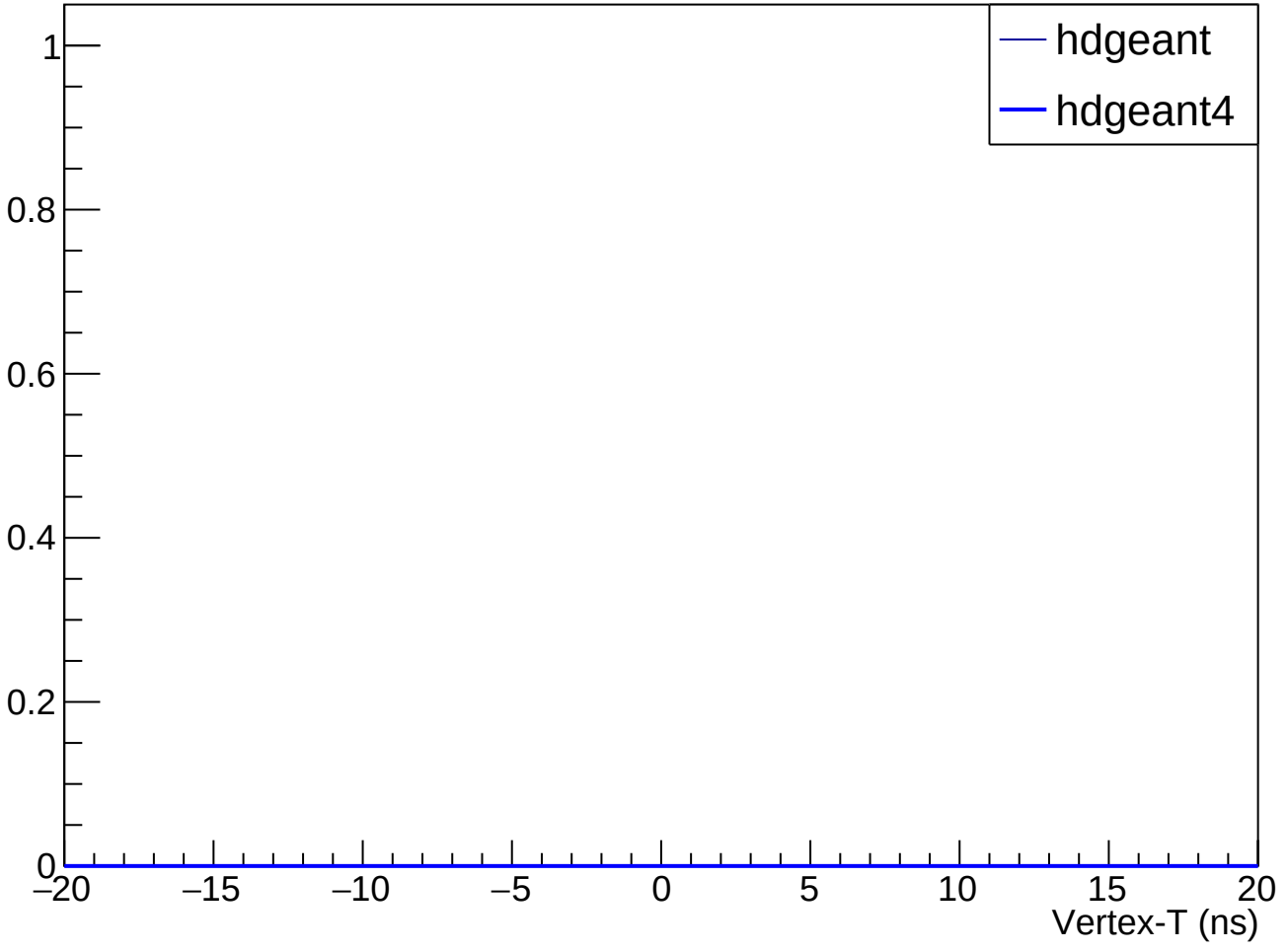

/Independent/Hist_ThrownParticleKinematics/Neutron/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

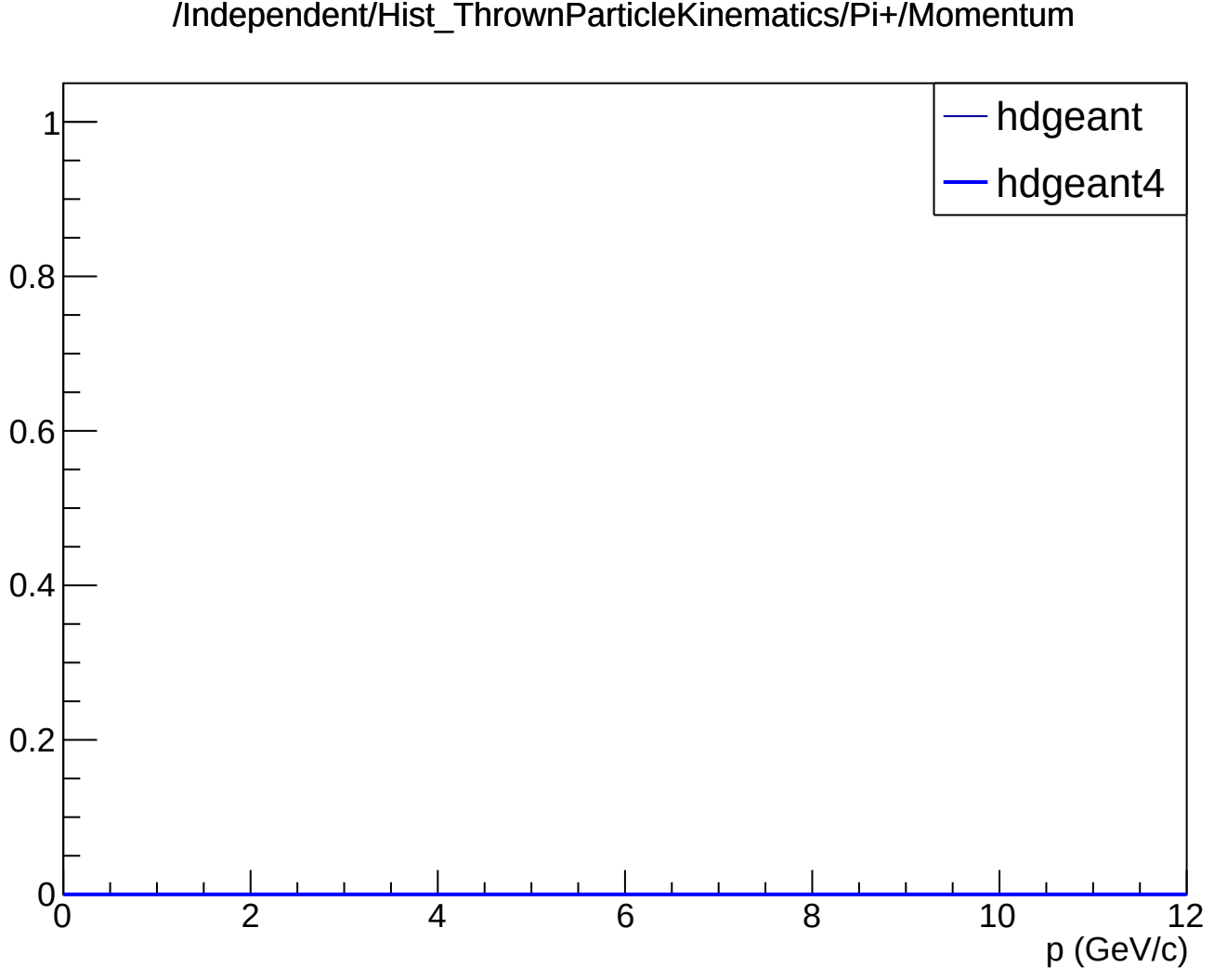

/Independent/Hist_ThrownParticleKinematics/Neutron/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)

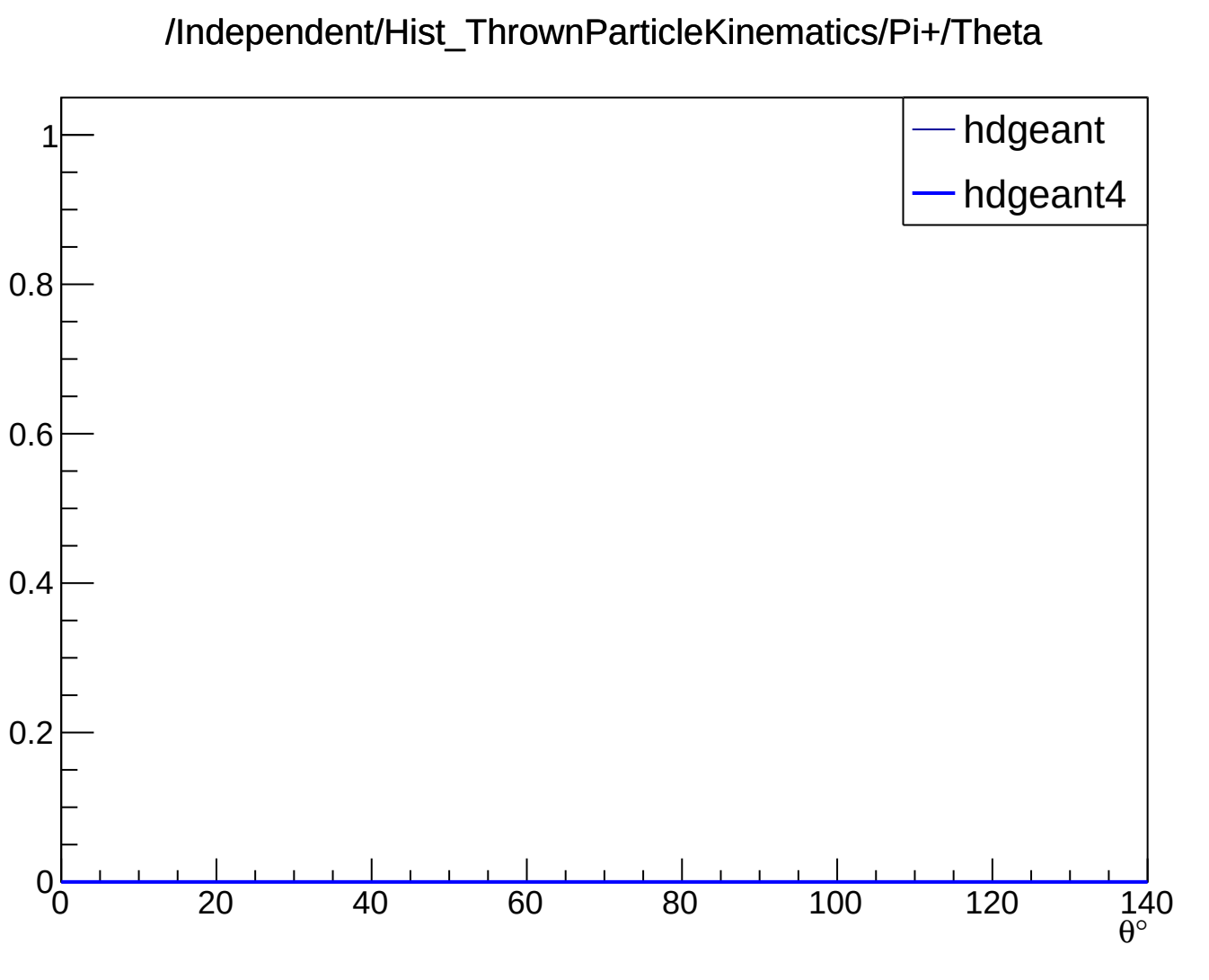

/Independent/Hist_ThrownParticleKinematics/Neutron/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

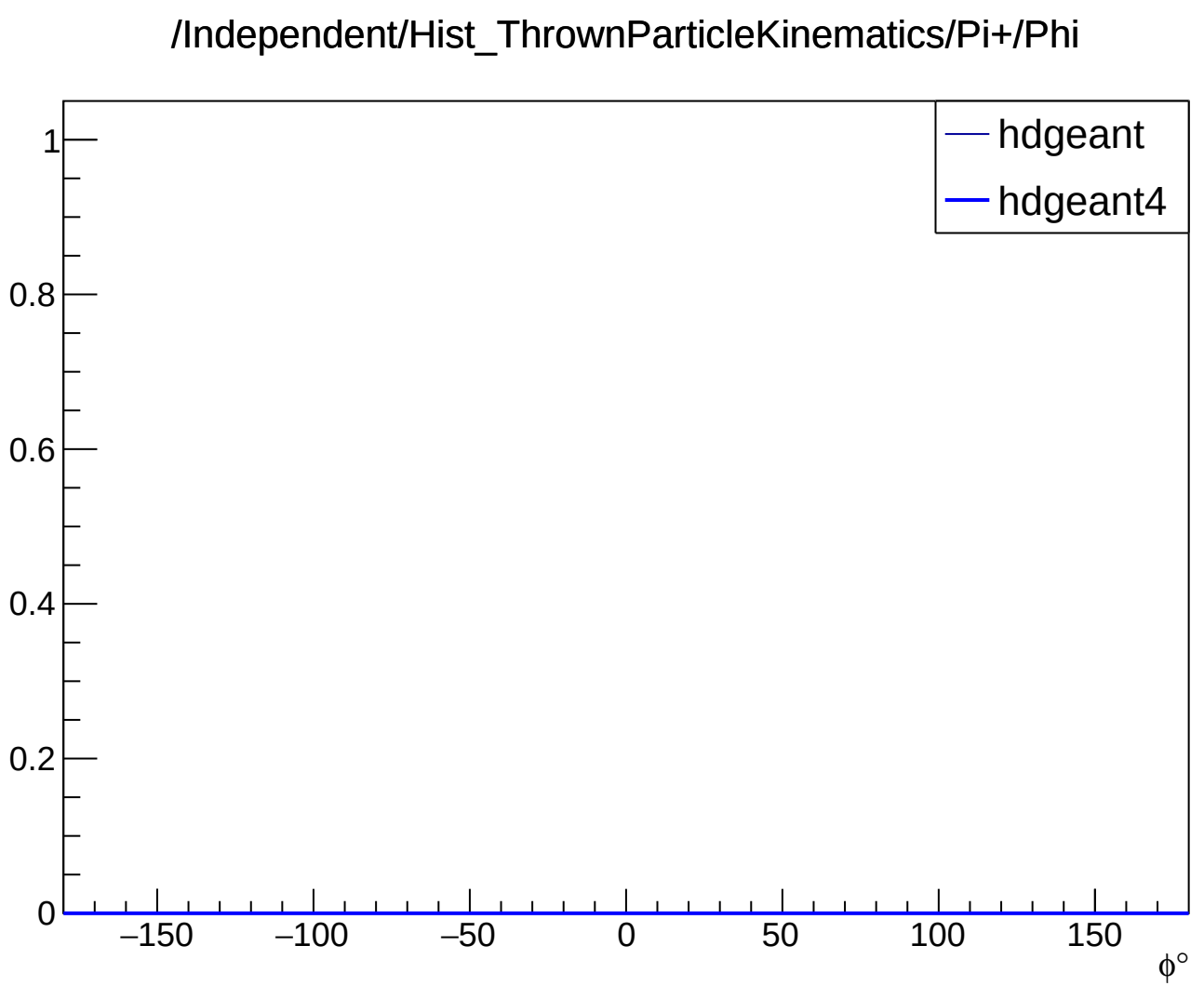

/Independent/Hist_ThrownParticleKinematics/Neutron/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

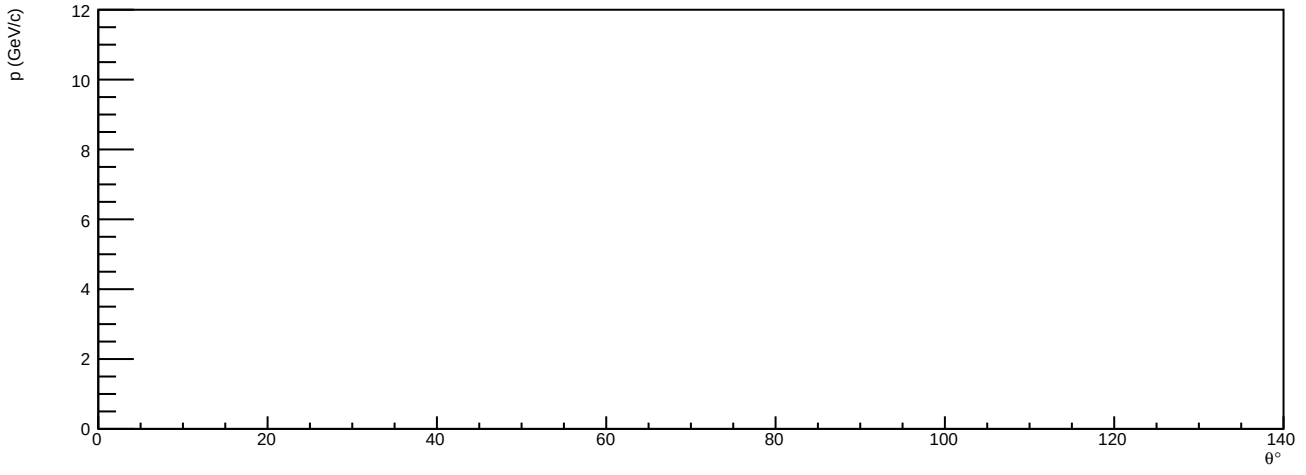
/Independent/Hist_ThrownParticleKinematics/Neutron/VertexT

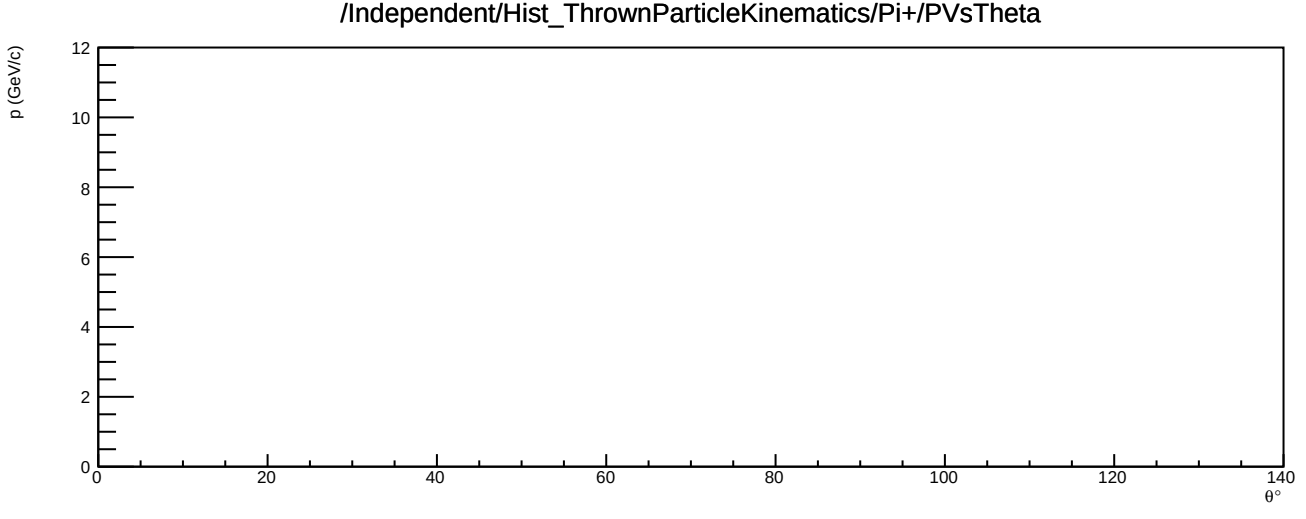


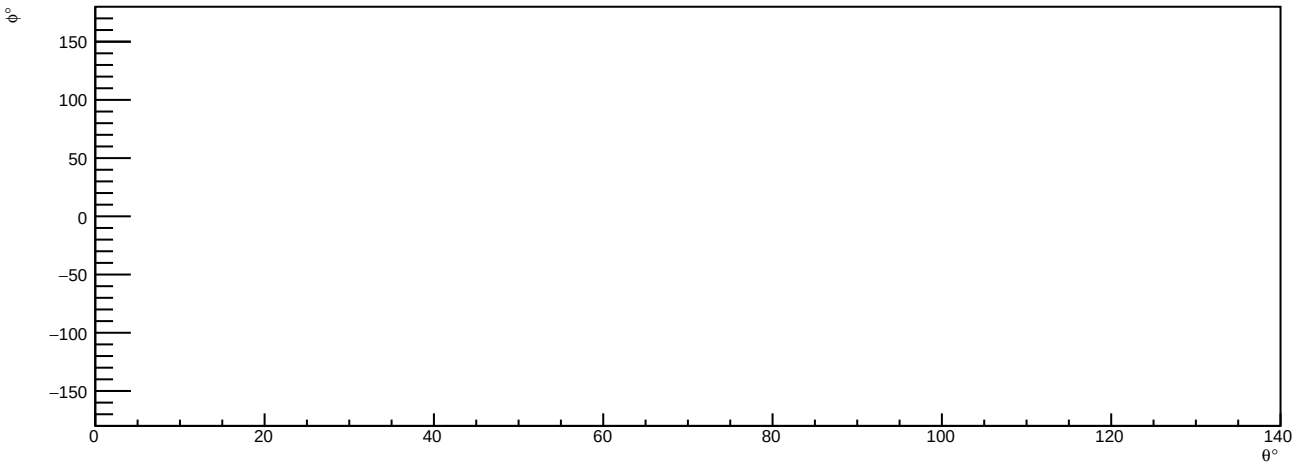

/Independent/Hist_ThrownParticleKinematics/Pi+/Momentum
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
p (GeV/c)

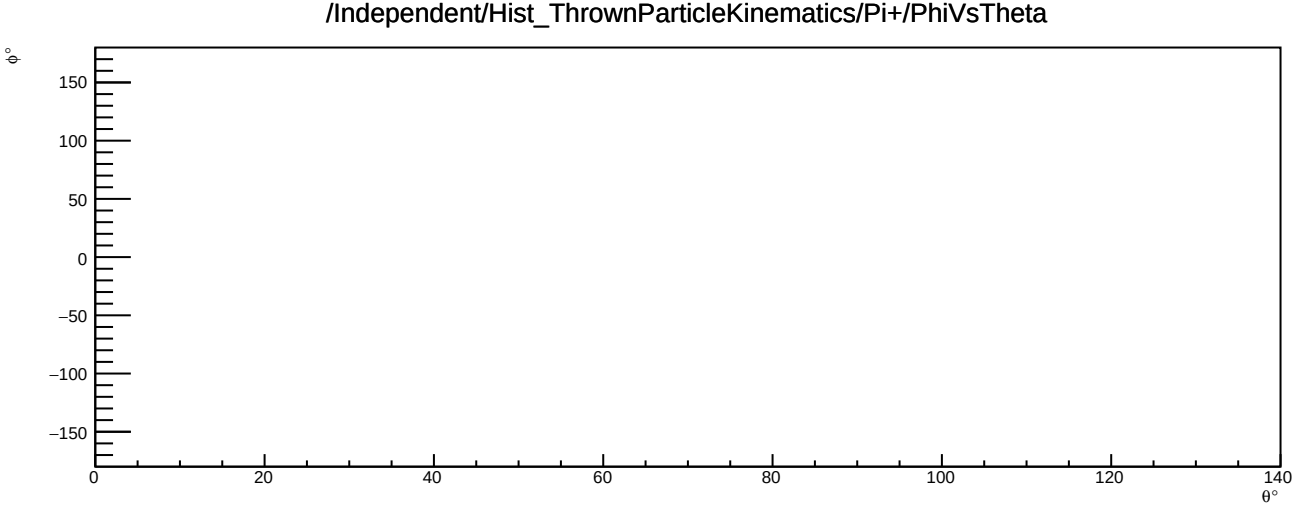

/Independent/Hist_ThrownParticleKinematics/Pi+/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°

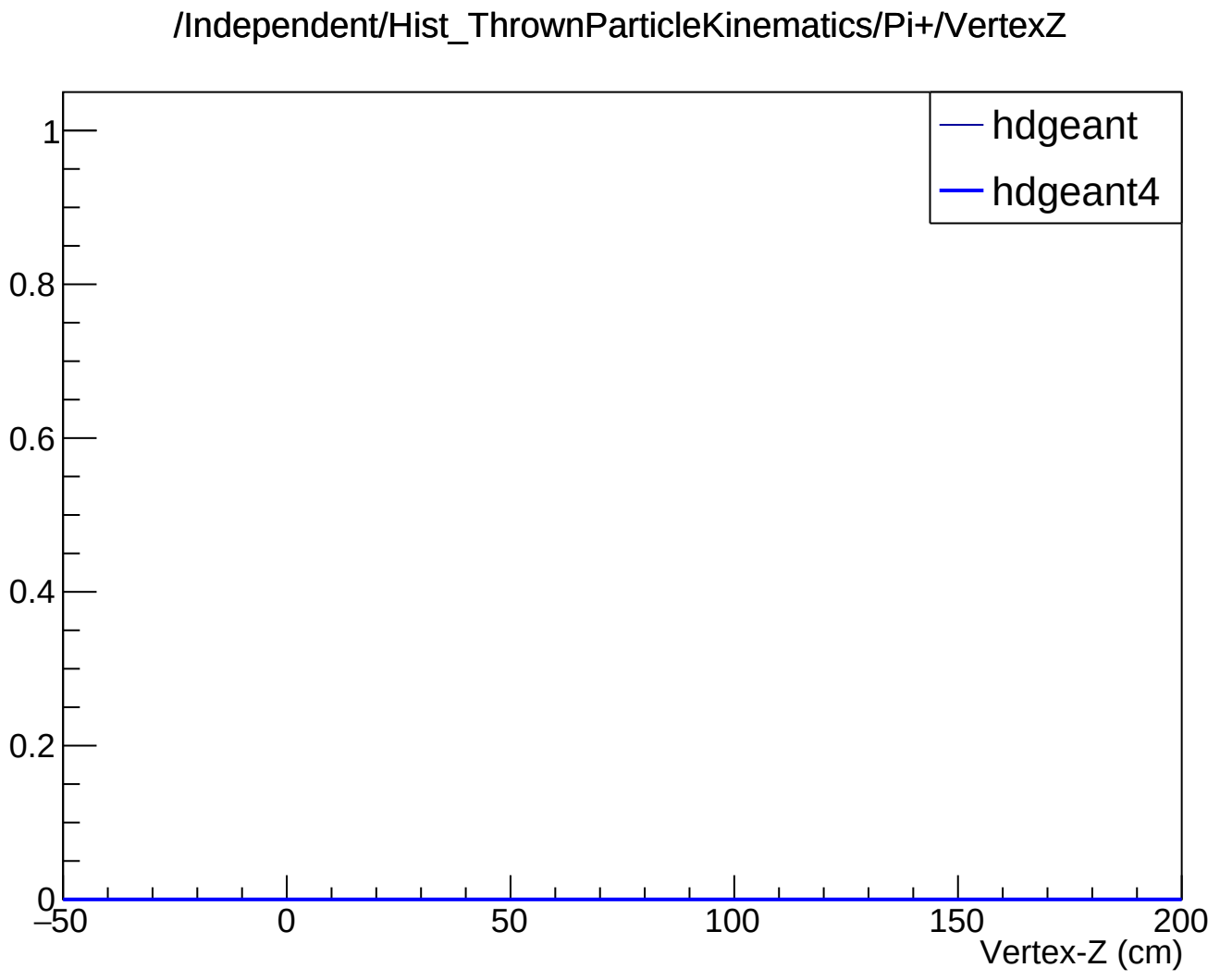

/Independent/Hist_ThrownParticleKinematics/Pi+/Phi
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

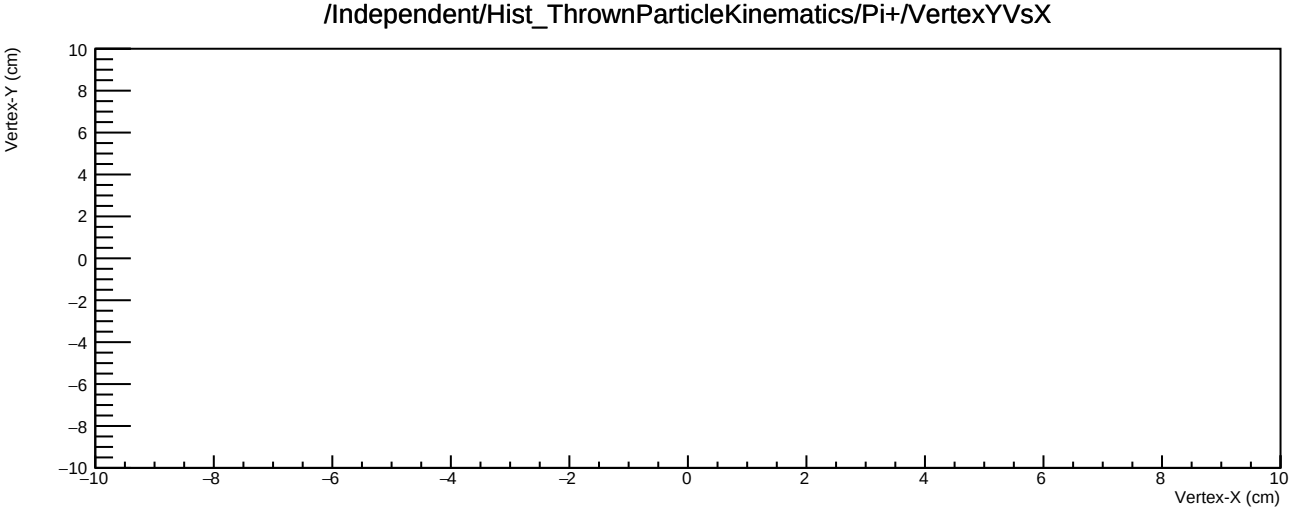

/Independent/Hist_ThrownParticleKinematics/Pi+/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

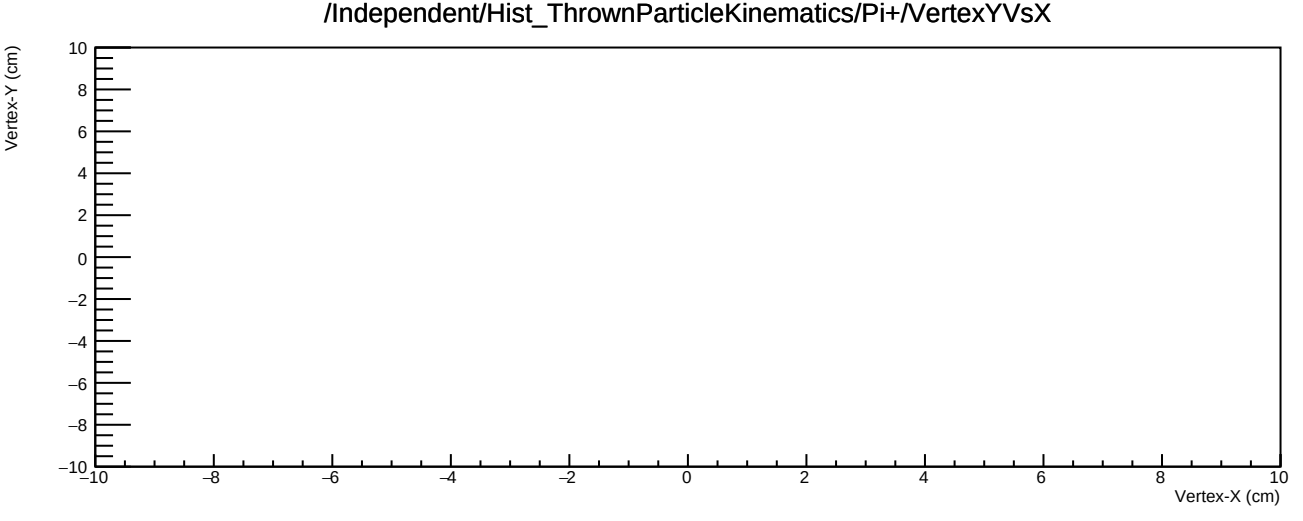

/Independent/Hist_ThrownParticleKinematics/Pi+/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ThrownParticleKinematics/Pi+/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

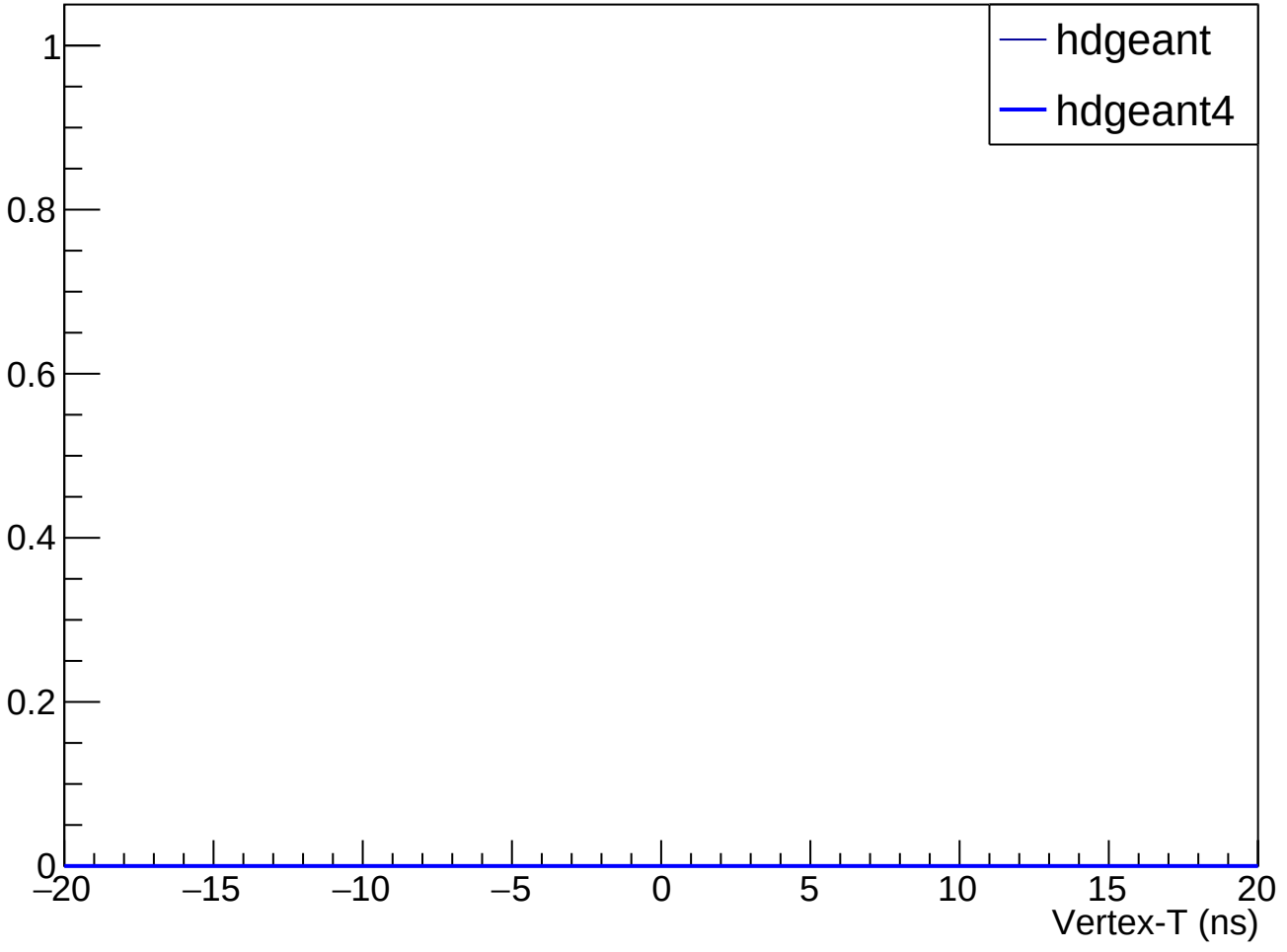

/Independent/Hist_ThrownParticleKinematics/Pi+/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ThrownParticleKinematics/Pi+/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)

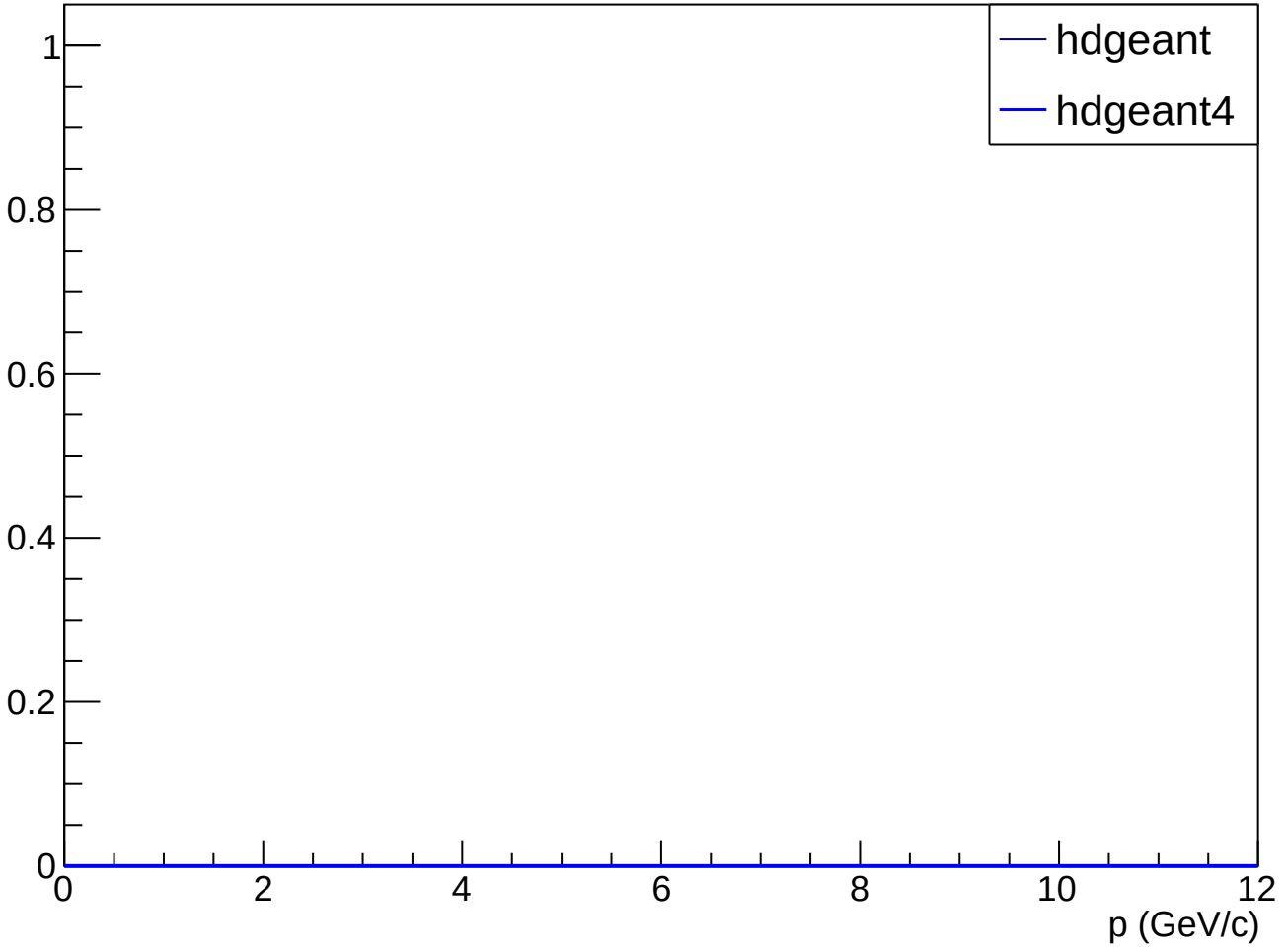

/Independent/Hist_ThrownParticleKinematics/Pi+/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

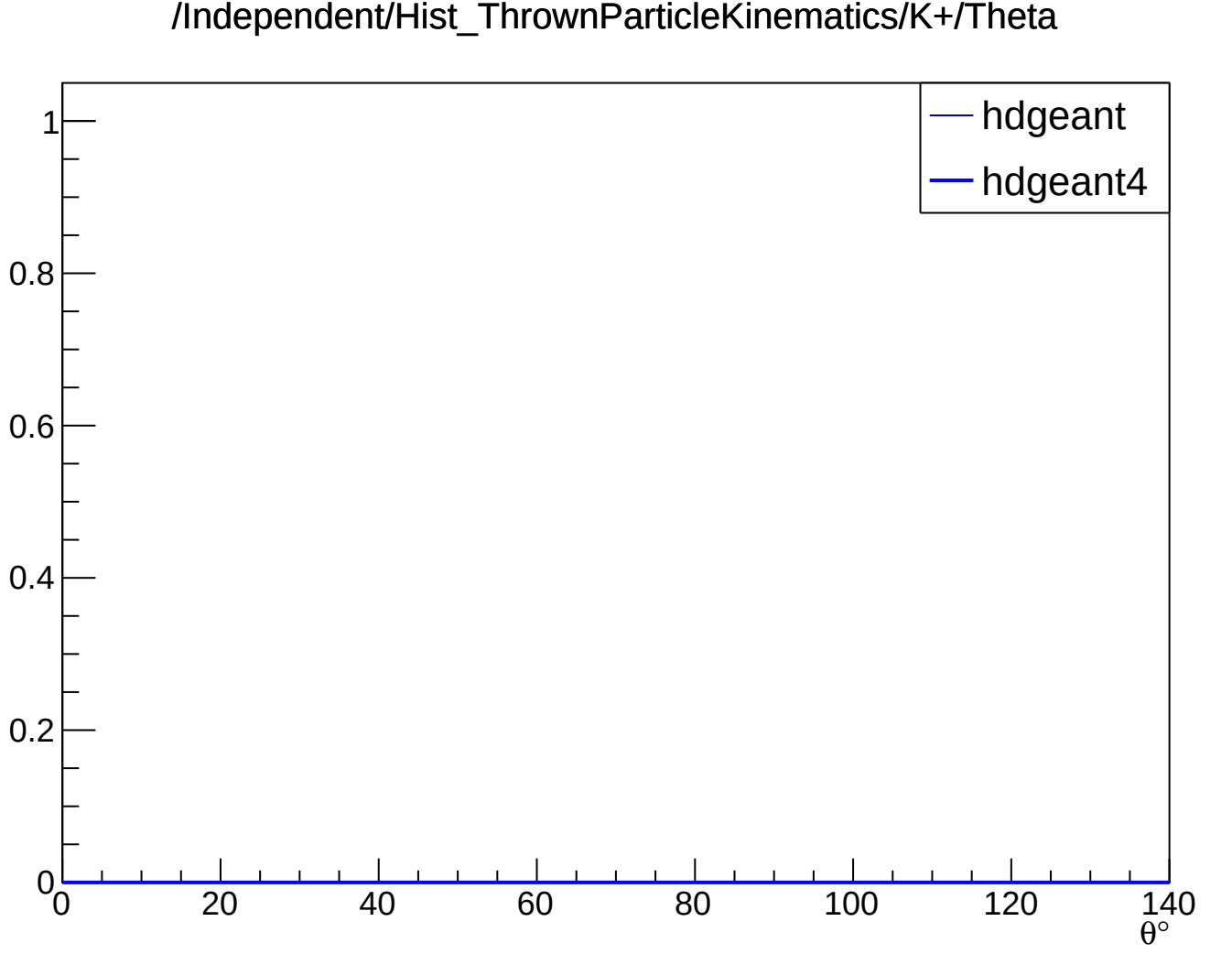

/Independent/Hist_ThrownParticleKinematics/Pi+/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

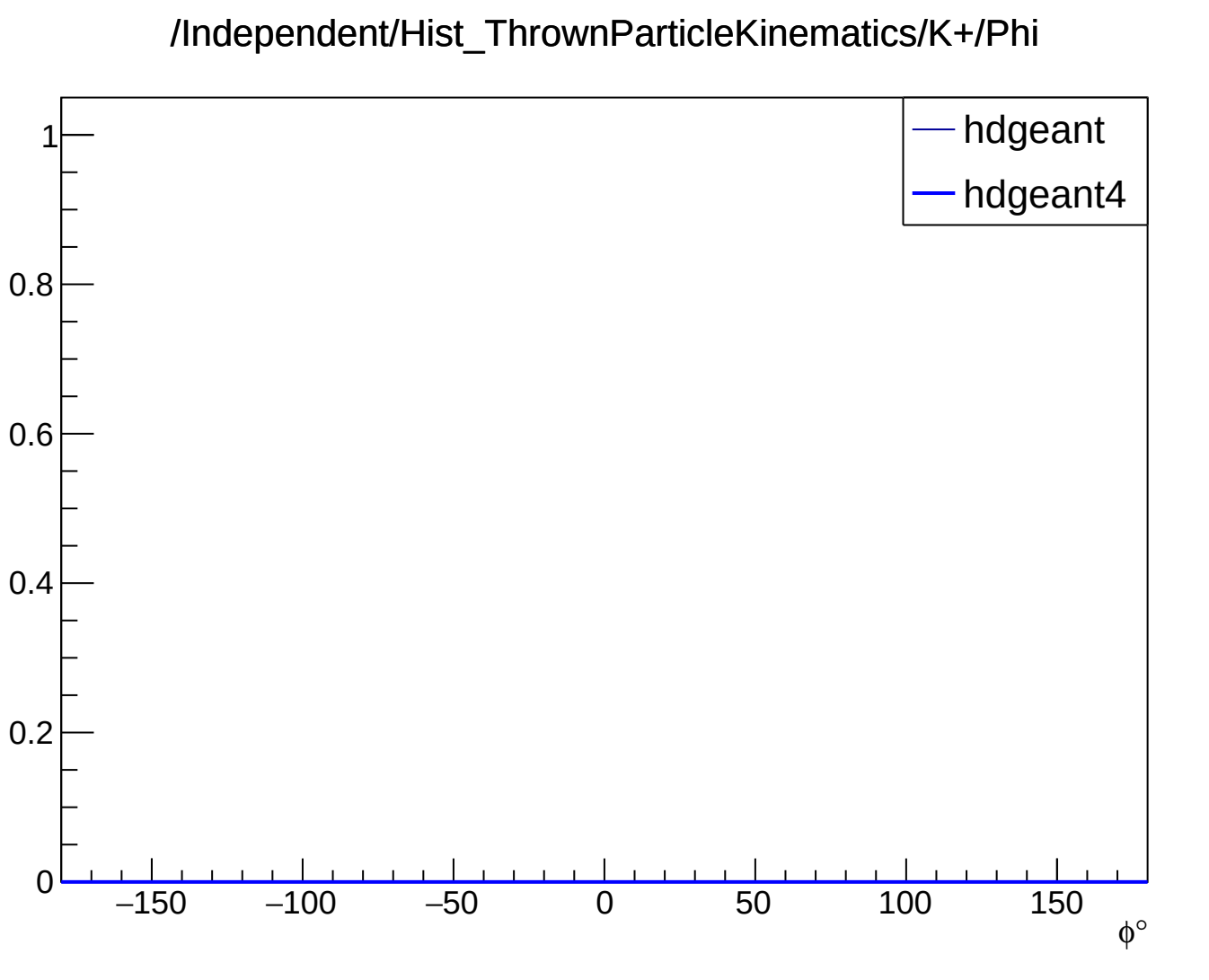
/Independent/Hist_ThrownParticleKinematics/Pi+/VertexT

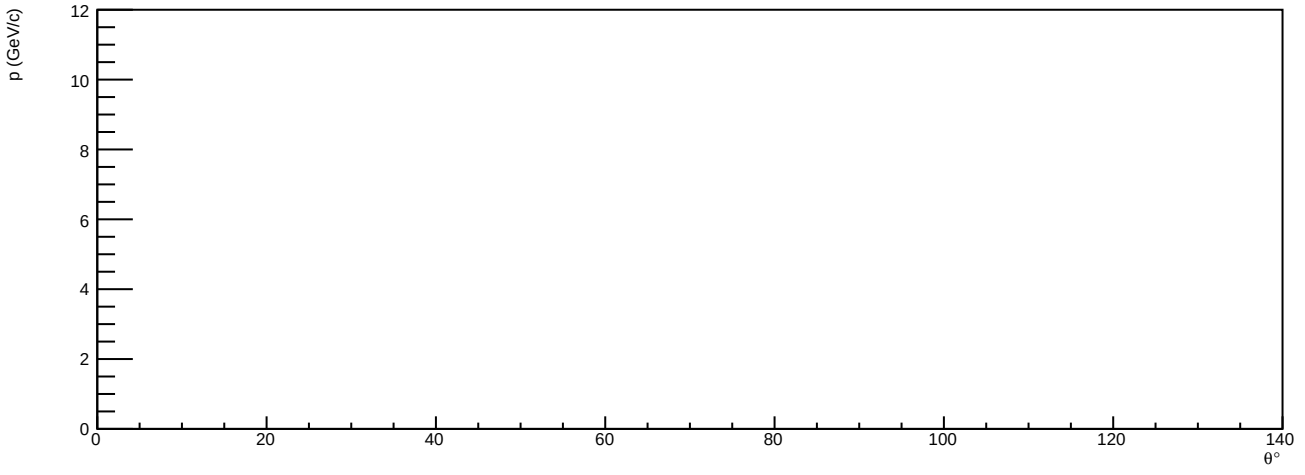


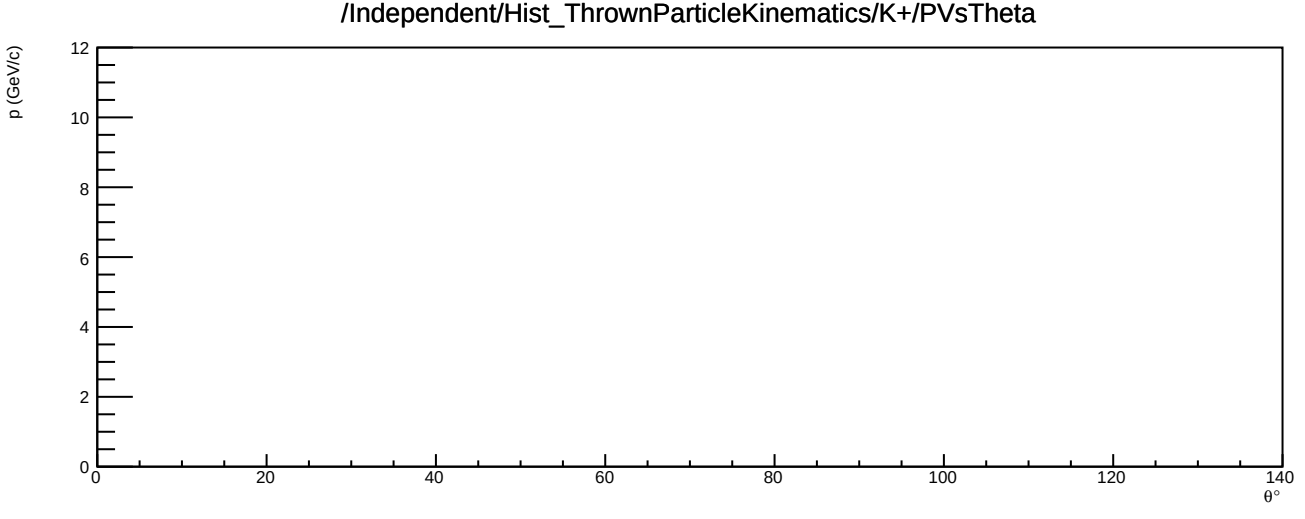
/Independent/Hist_ThrownParticleKinematics/K+/Momentum

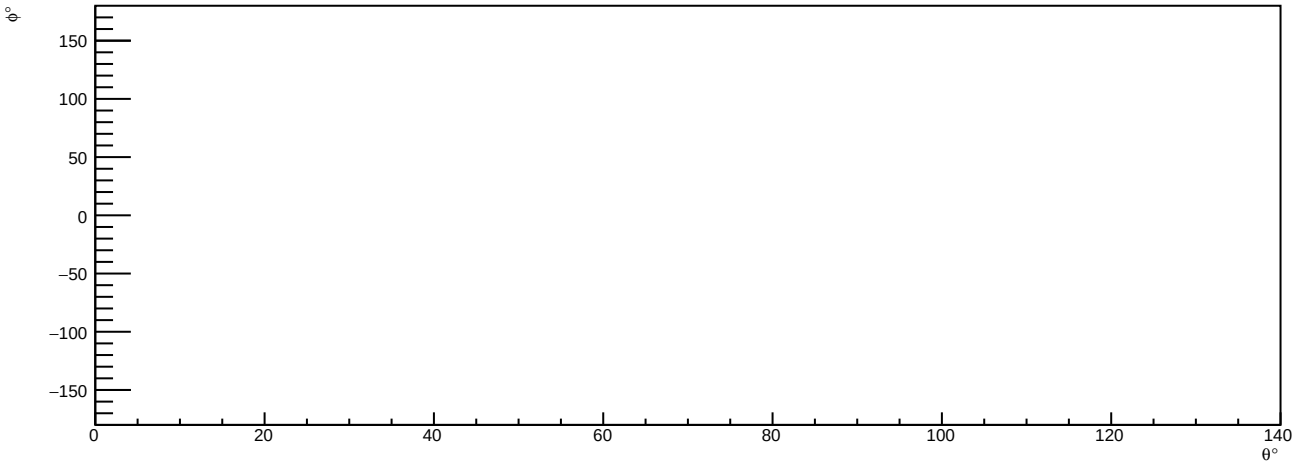


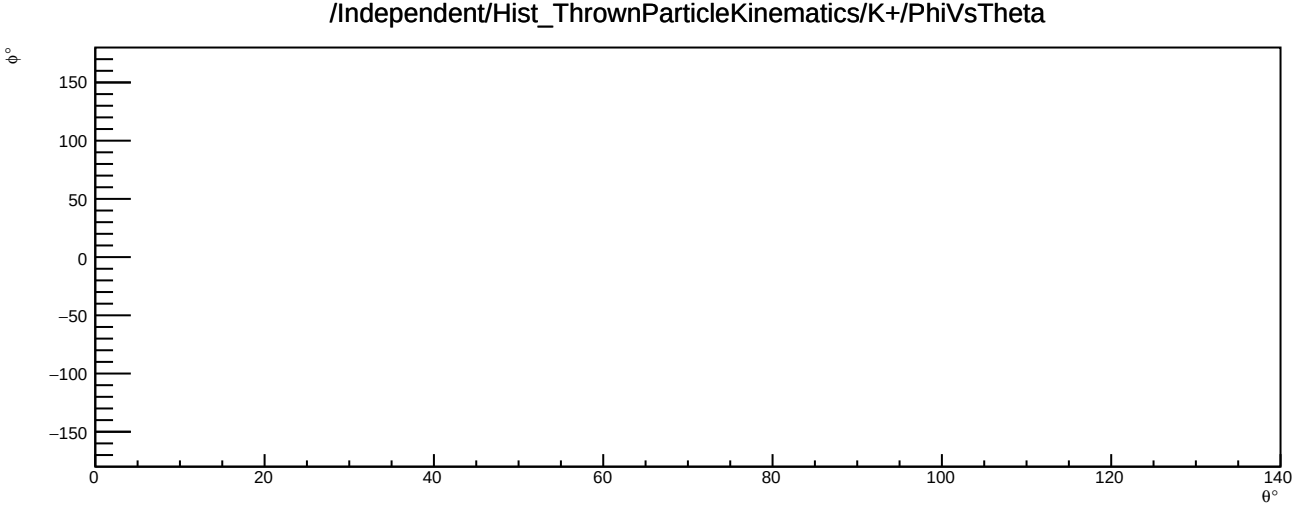

/Independent/Hist_ThrownParticleKinematics/K+/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°

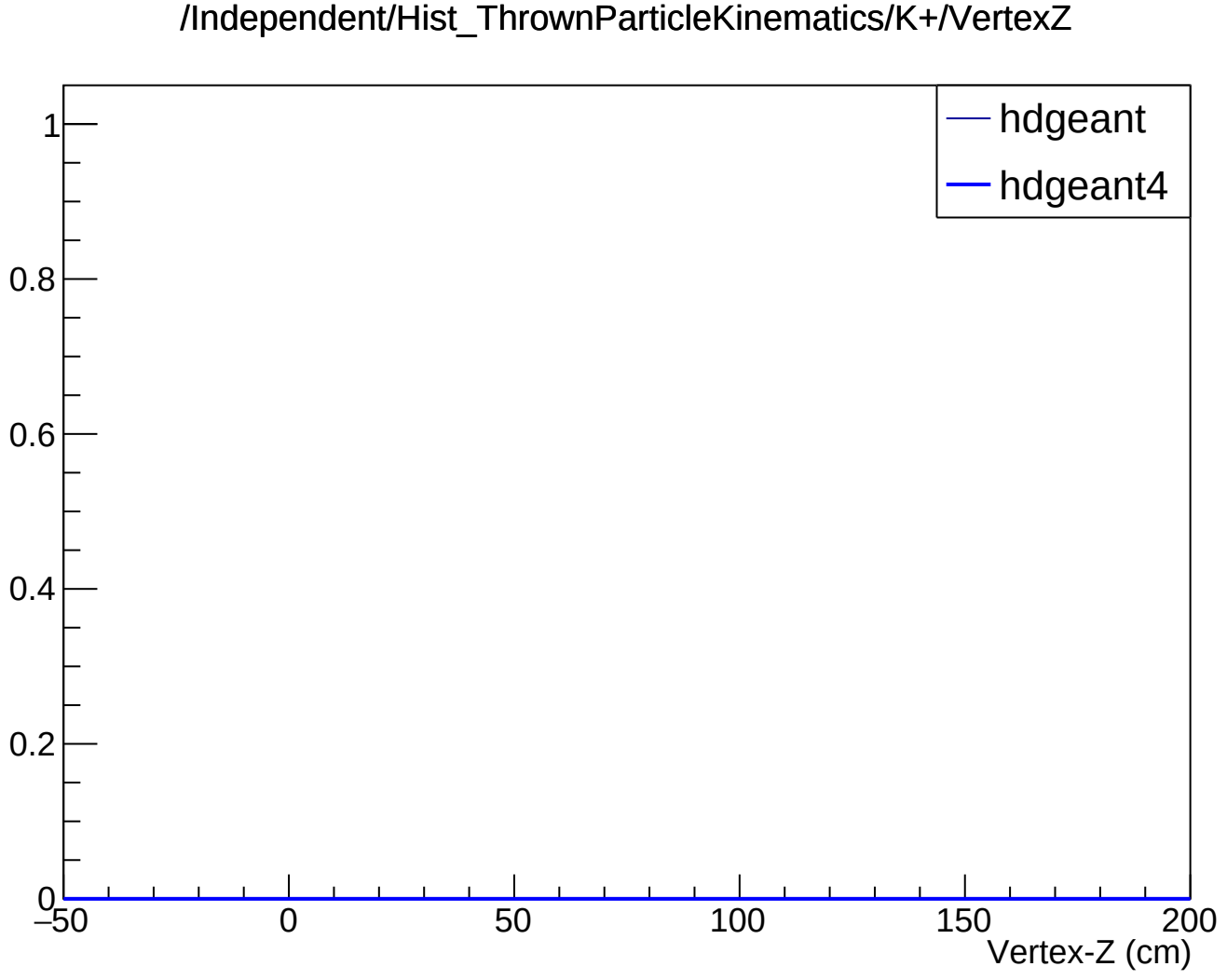

/Independent/Hist_ThrownParticleKinematics/K+/Phi
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

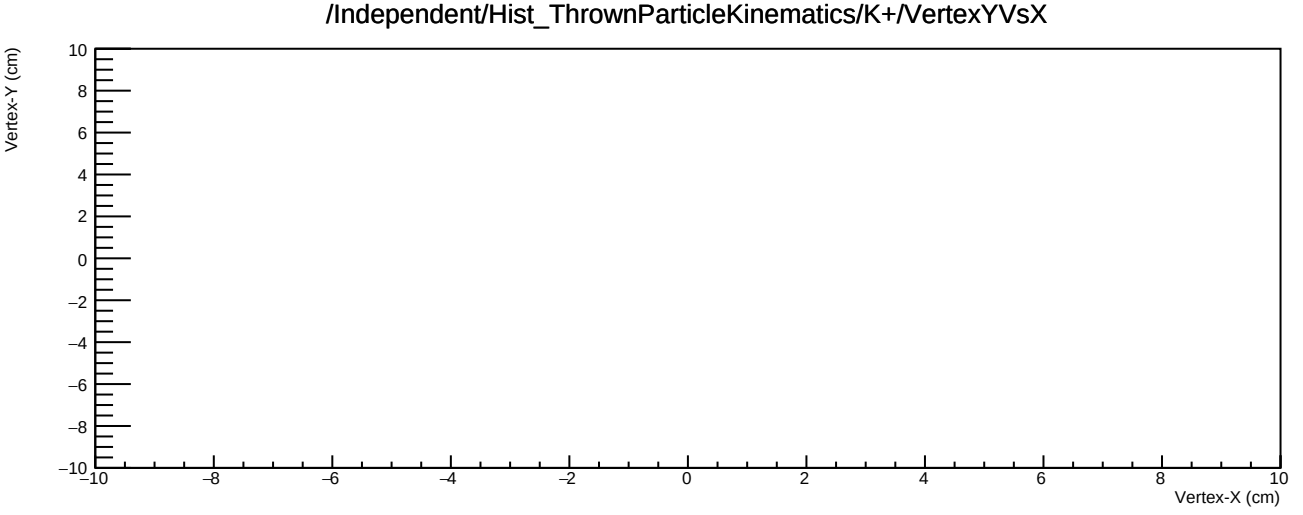

/Independent/Hist_ThrownParticleKinematics/K+/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

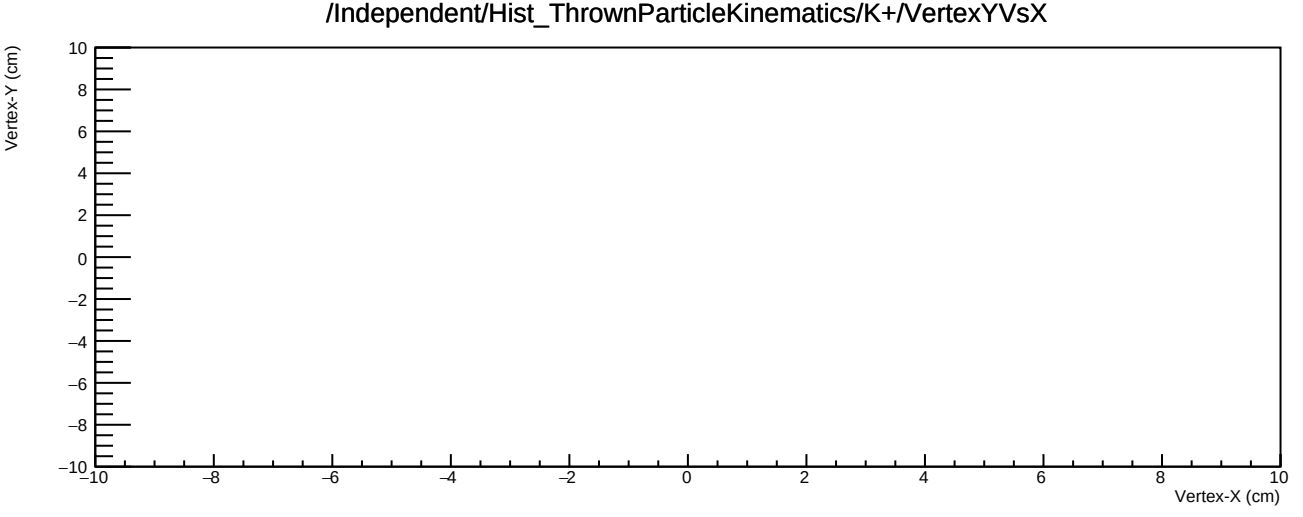

/Independent/Hist_ThrownParticleKinematics/K+/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

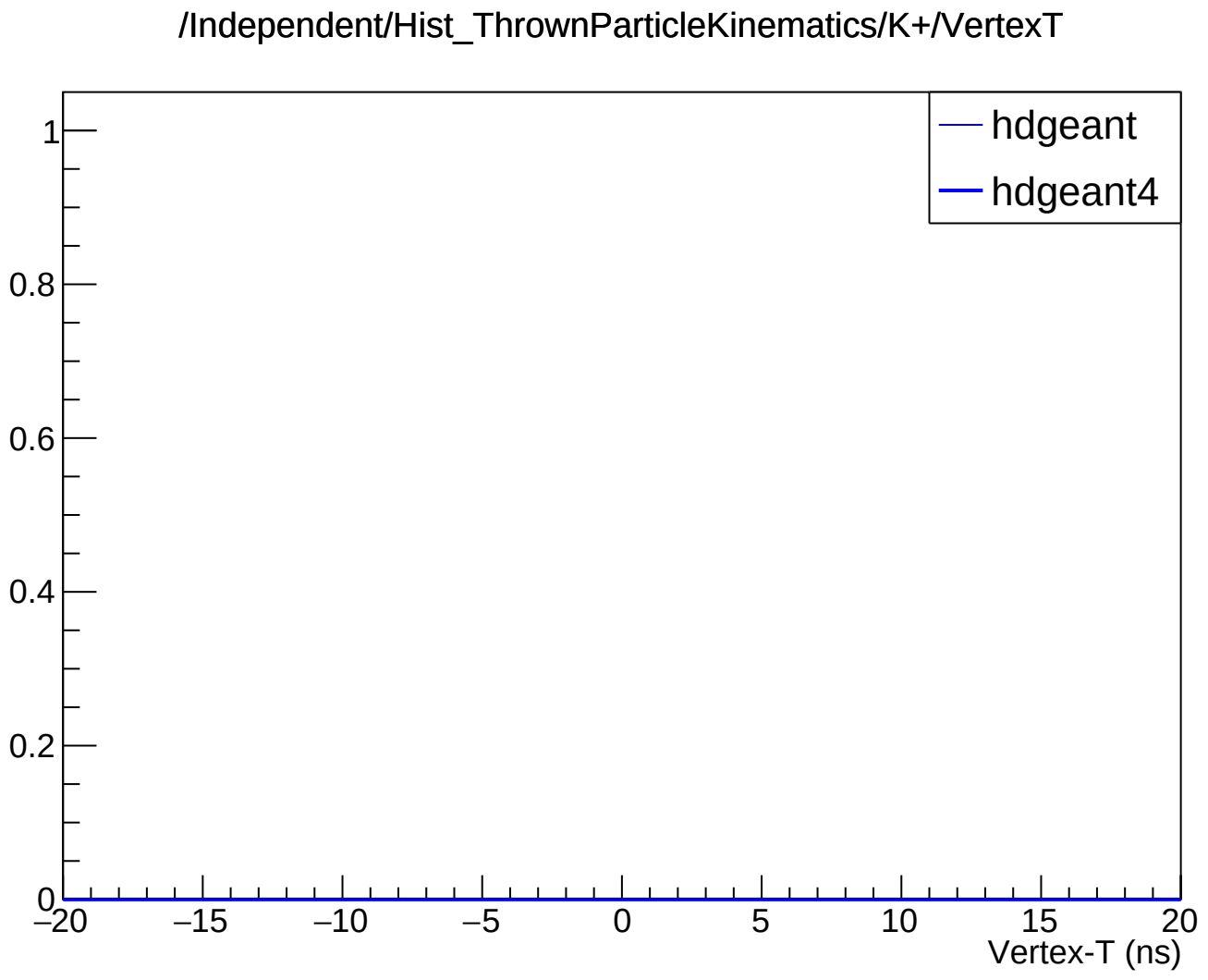

/Independent/Hist_ThrownParticleKinematics/K+/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ThrownParticleKinematics/K+/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

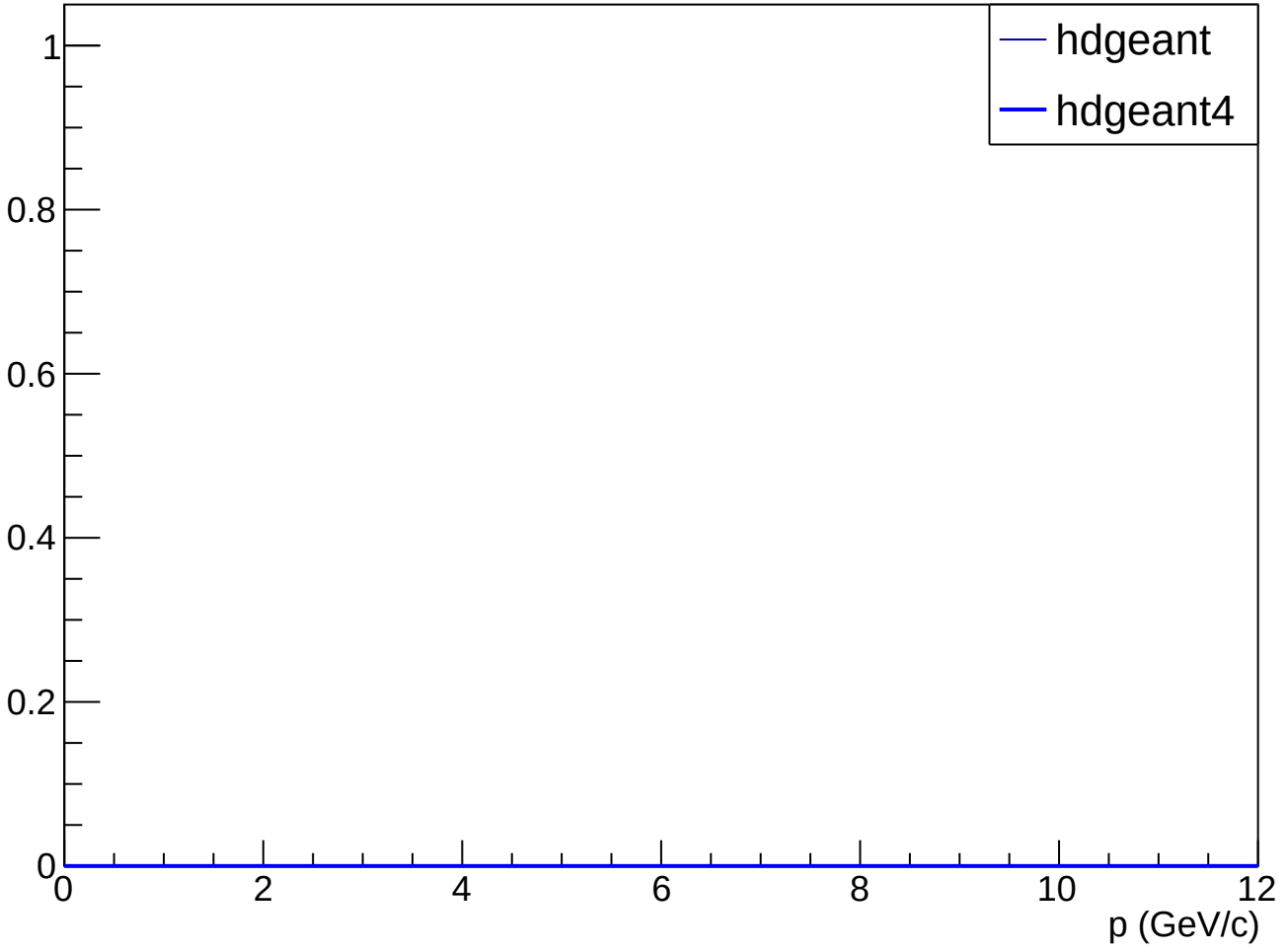

/Independent/Hist_ThrownParticleKinematics/K+/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)


/Independent/Hist_ThrownParticleKinematics/K+/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

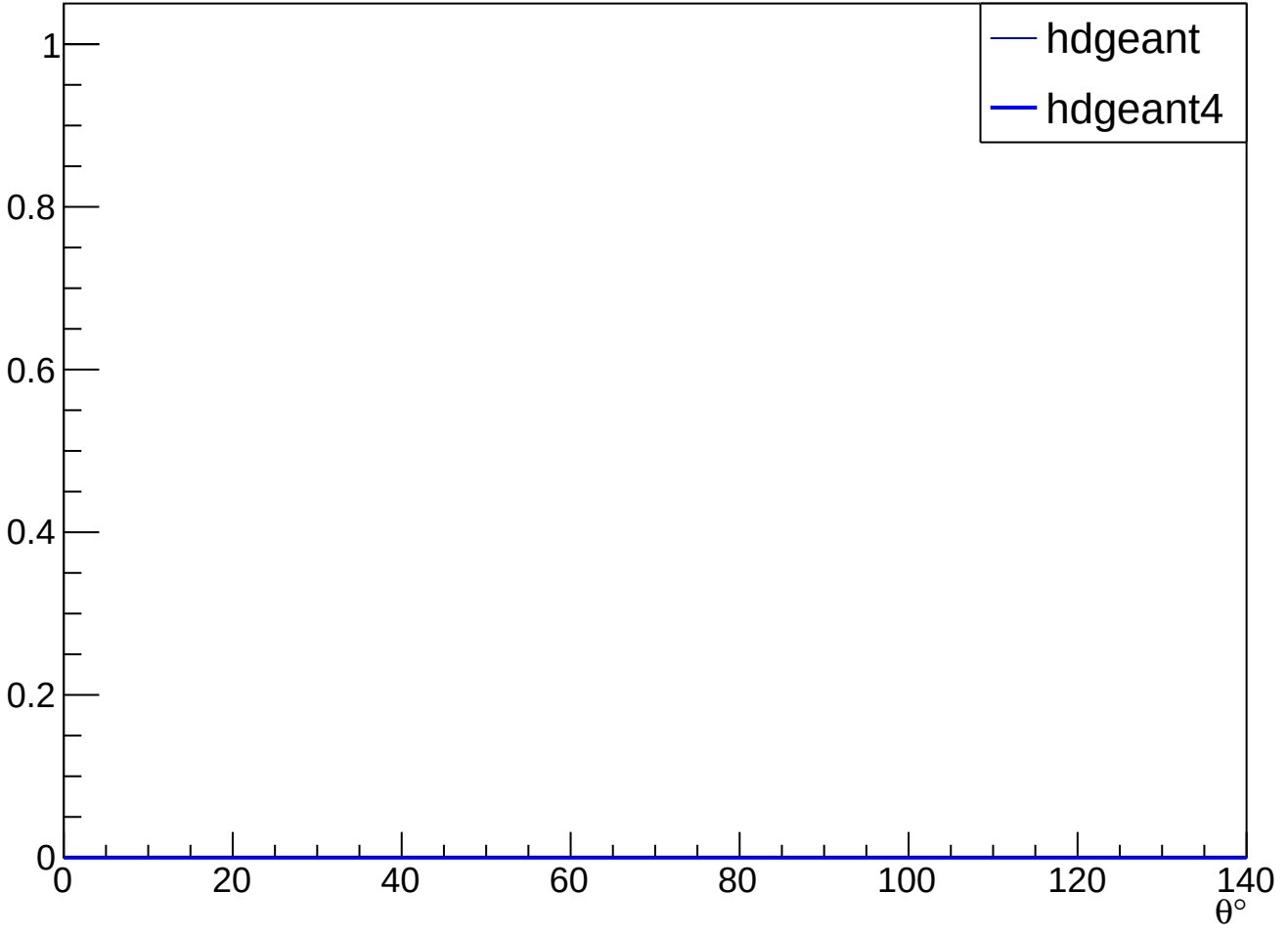

/Independent/Hist_ThrownParticleKinematics/K+/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)


/Independent/Hist_ThrownParticleKinematics/K+/VertexT
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–20
–15
–10
–5
0
5
10
15
20
Vertex-T (ns)

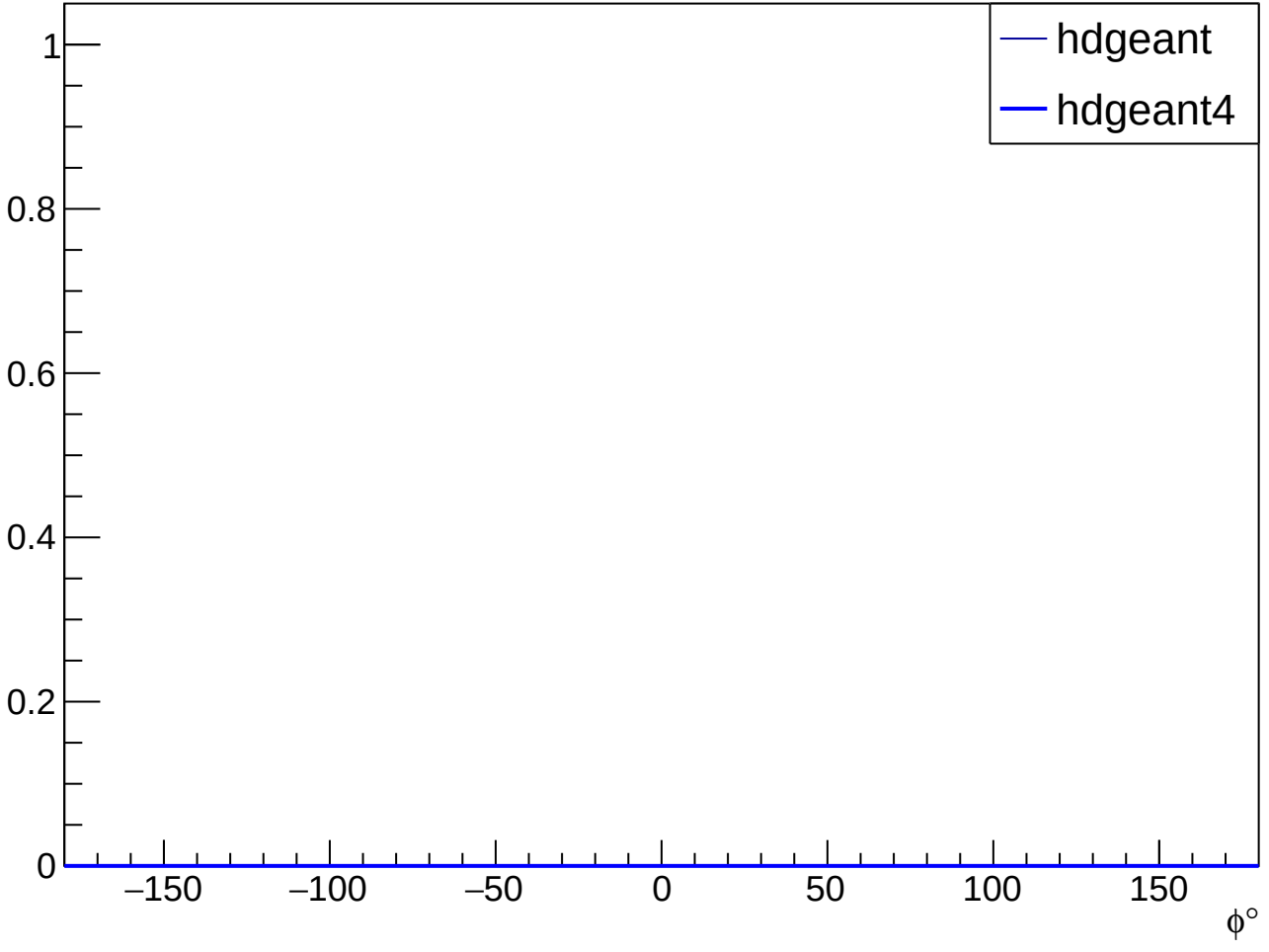
/Independent/Hist_ThrownParticleKinematics/Proton/Momentum

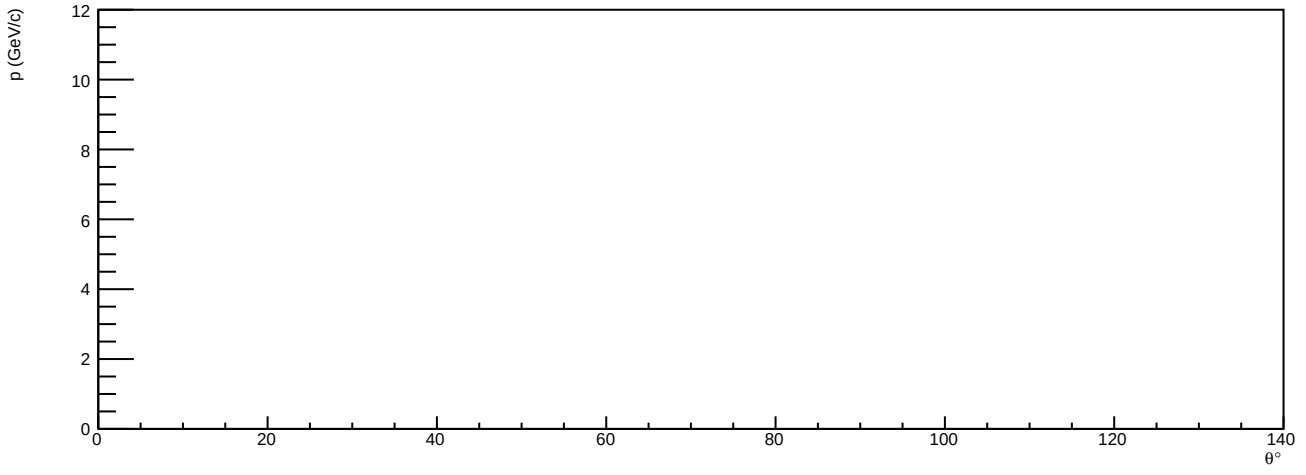


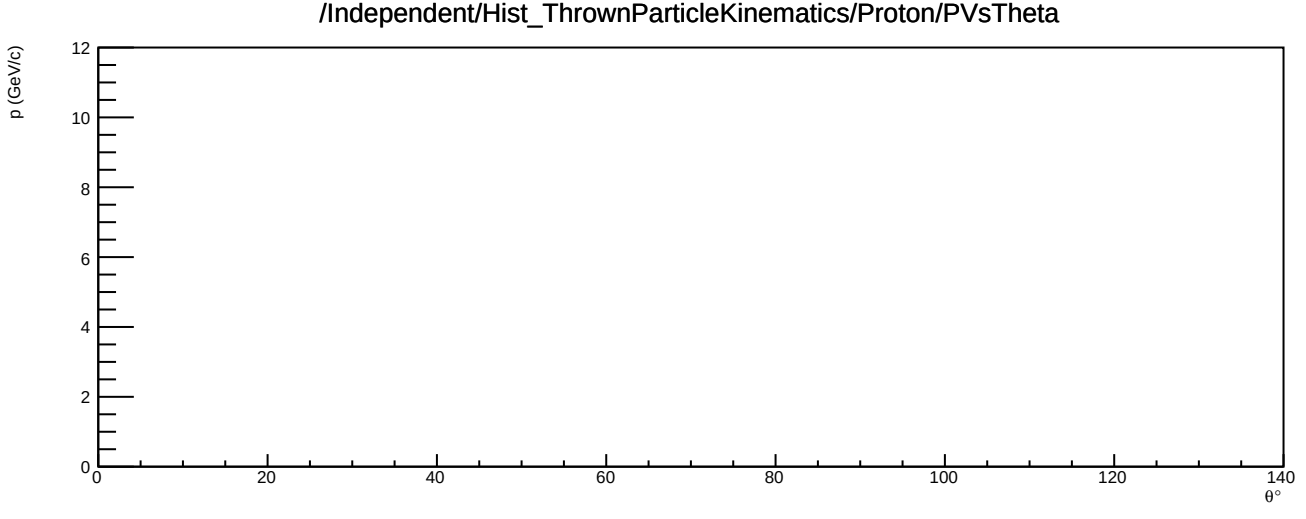
/Independent/Hist_ThrownParticleKinematics/Proton/Theta

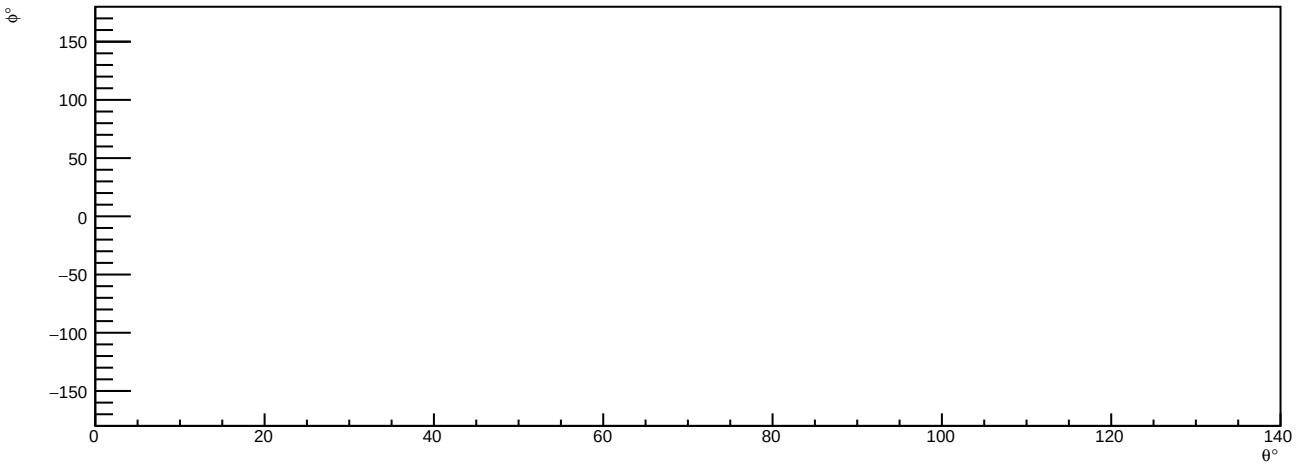


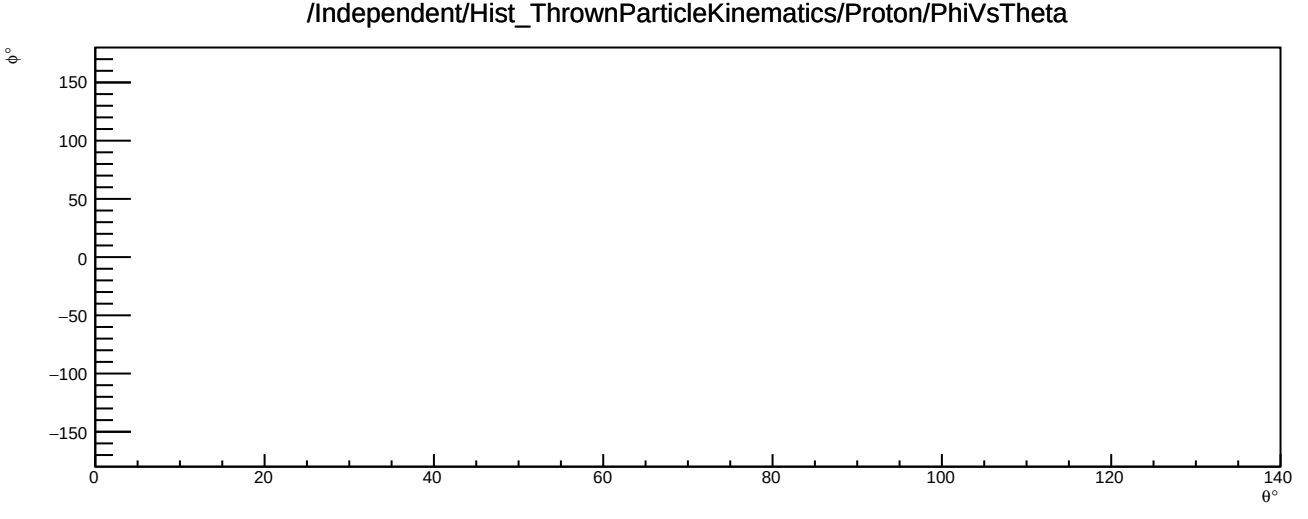
/Independent/Hist_ThrownParticleKinematics/Proton/Phi

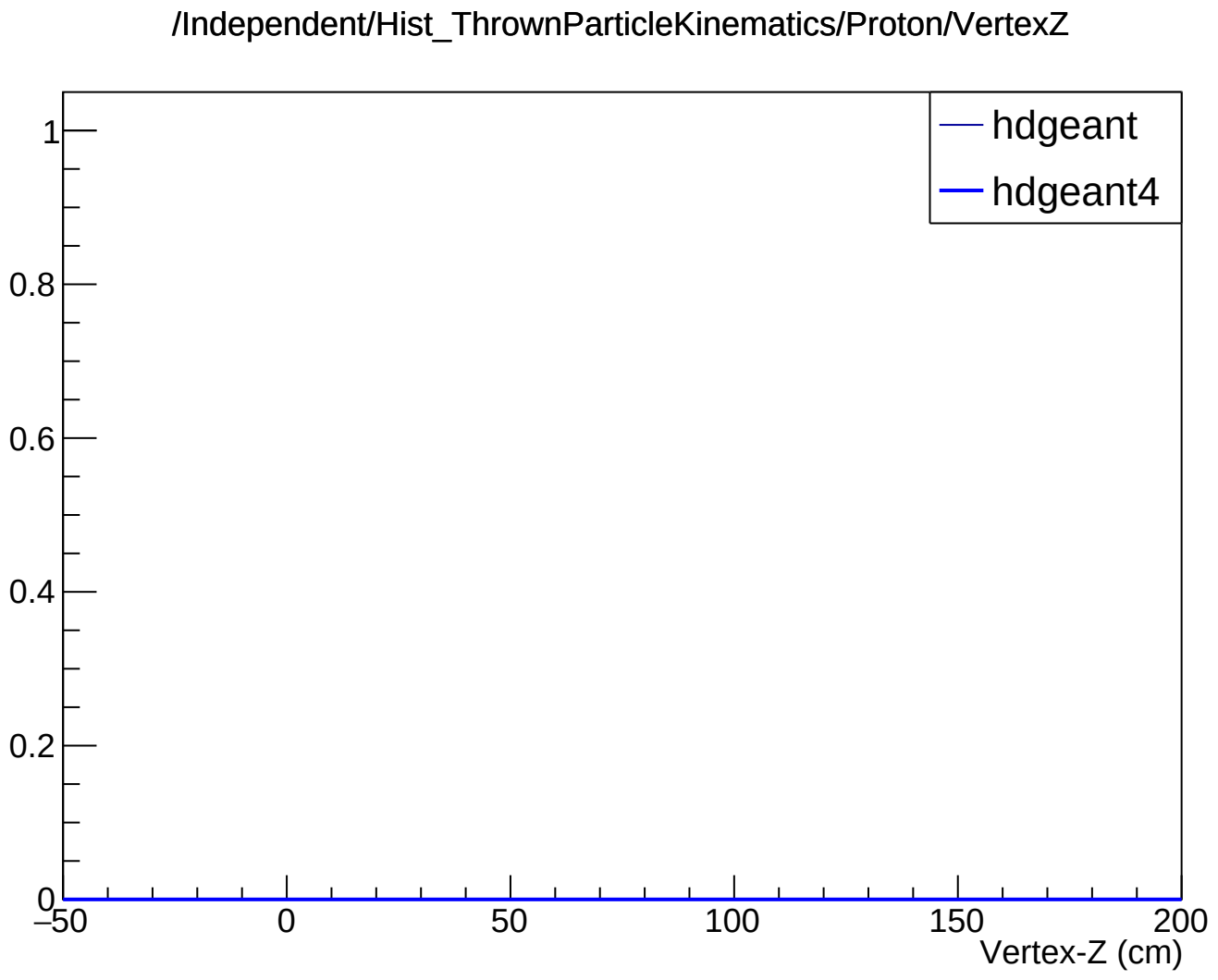


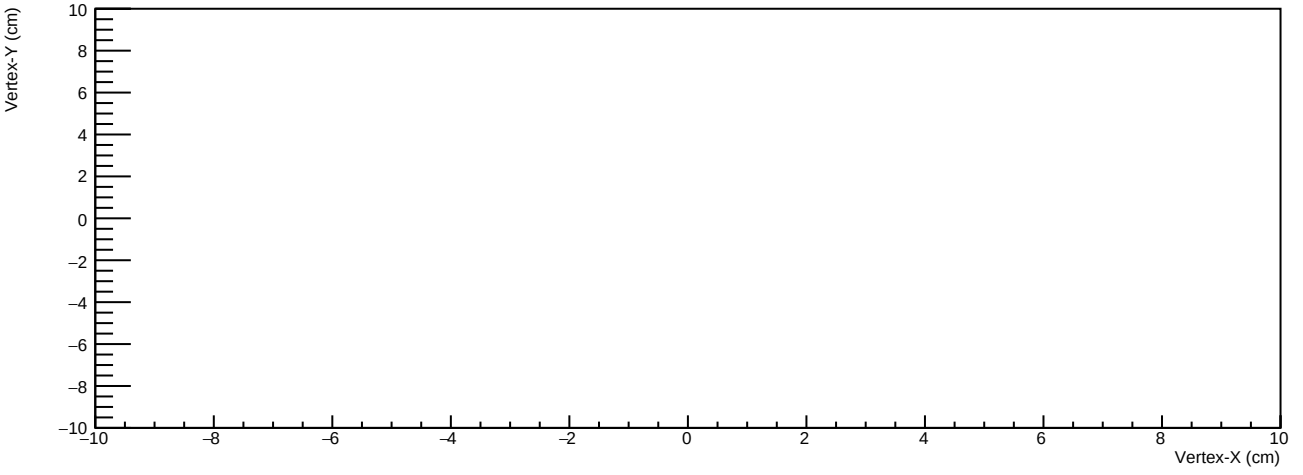

/Independent/Hist_ThrownParticleKinematics/Proton/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

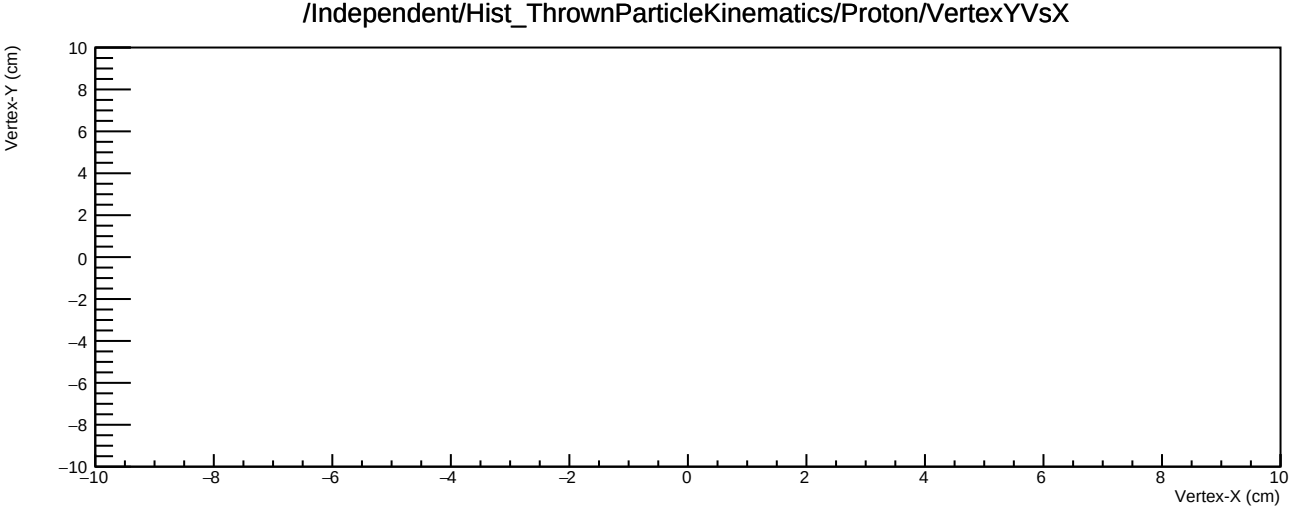

/Independent/Hist_ThrownParticleKinematics/Proton/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ThrownParticleKinematics/Proton/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

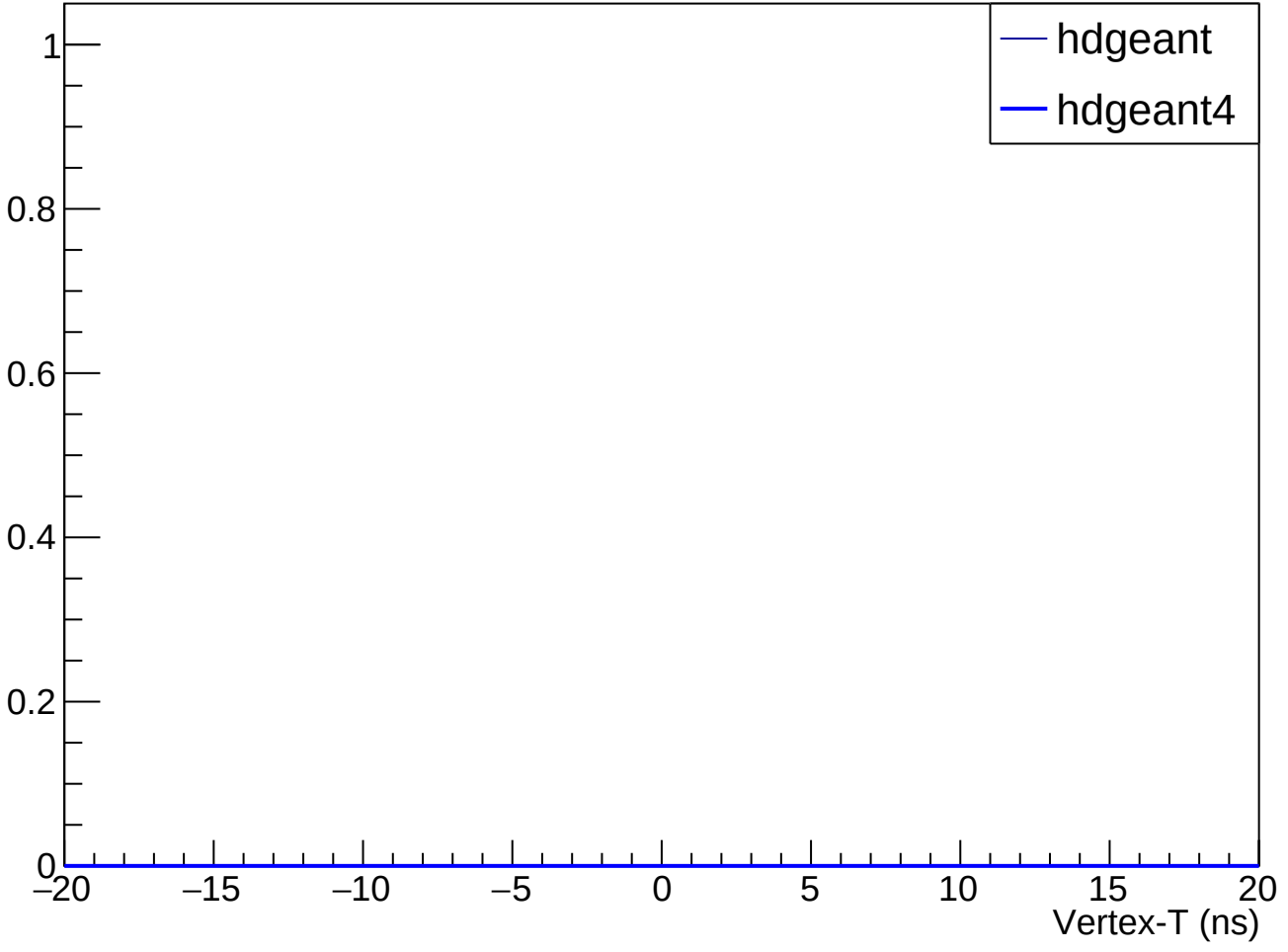

/Independent/Hist_ThrownParticleKinematics/Proton/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

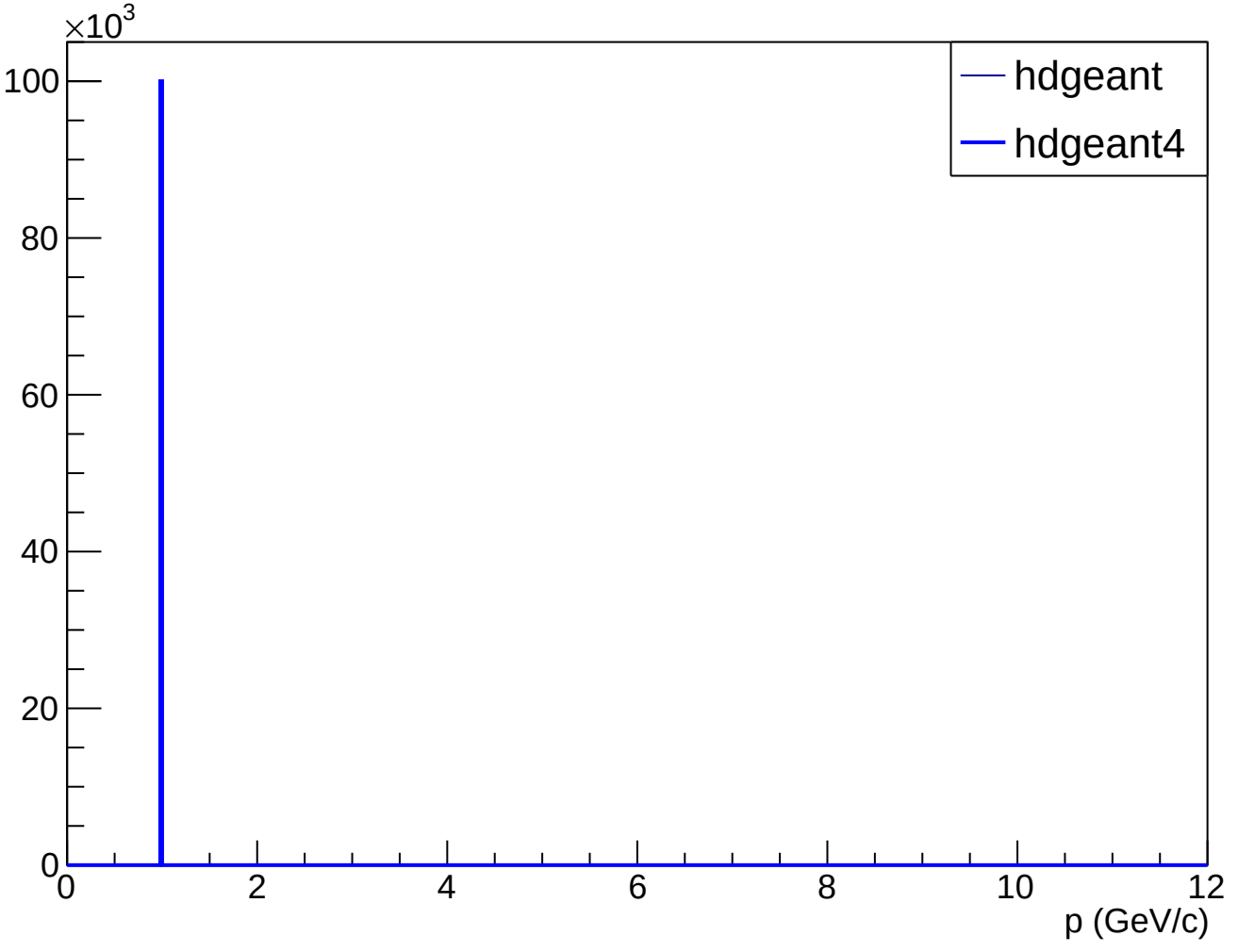

/Independent/Hist_ThrownParticleKinematics/Proton/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)

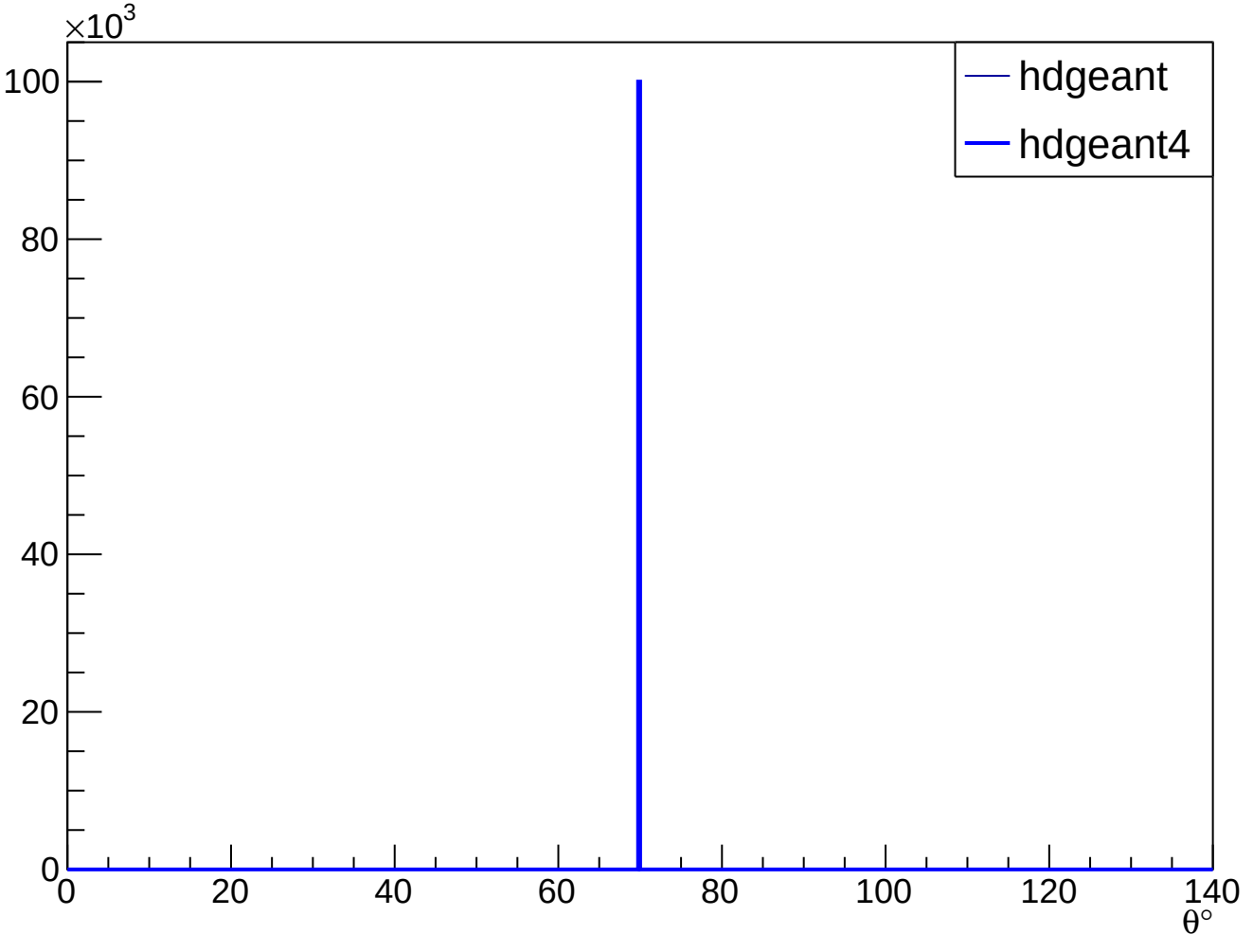

/Independent/Hist_ThrownParticleKinematics/Proton/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

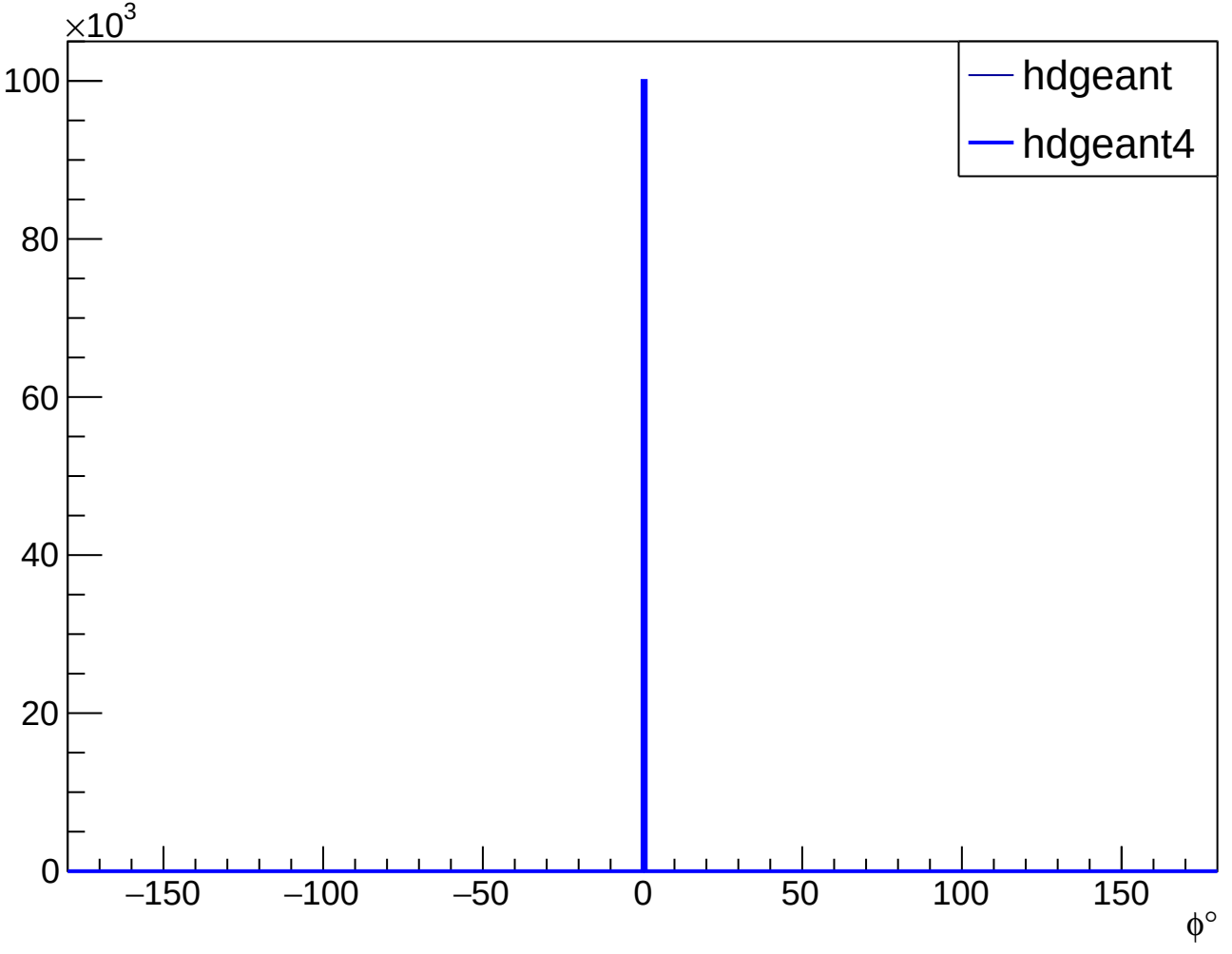

/Independent/Hist_ThrownParticleKinematics/Proton/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

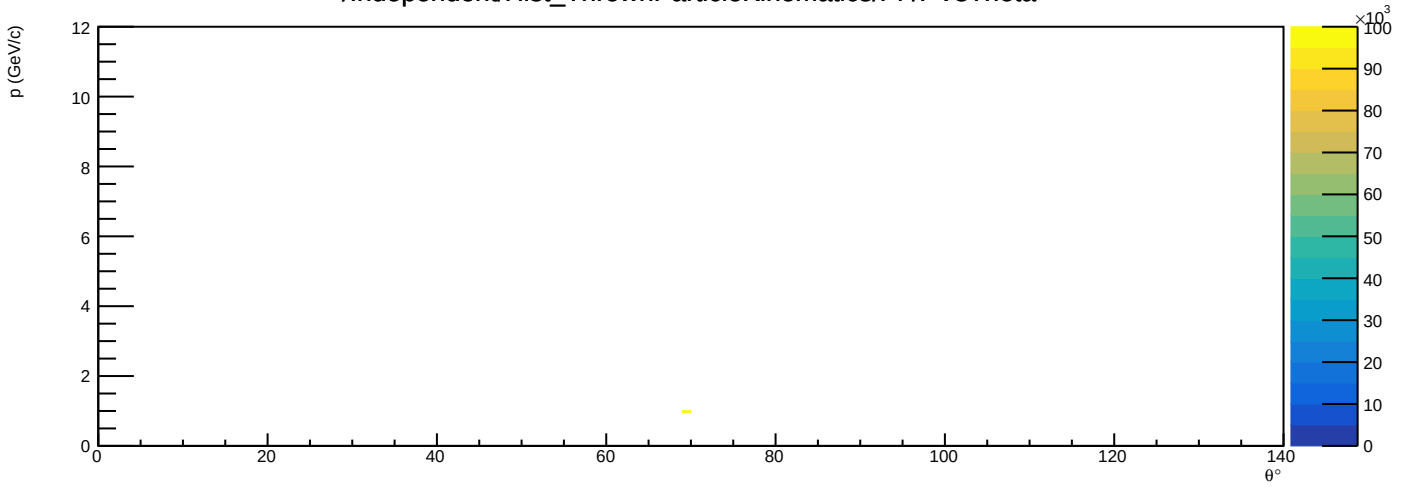
/Independent/Hist_ThrownParticleKinematics/Proton/VertexT

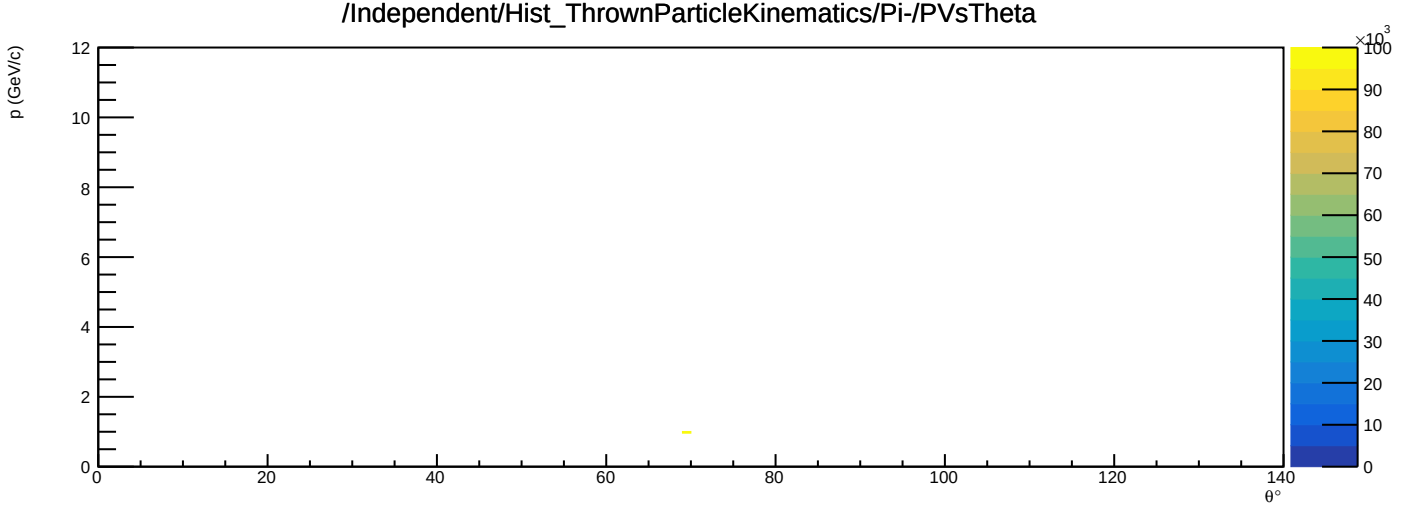


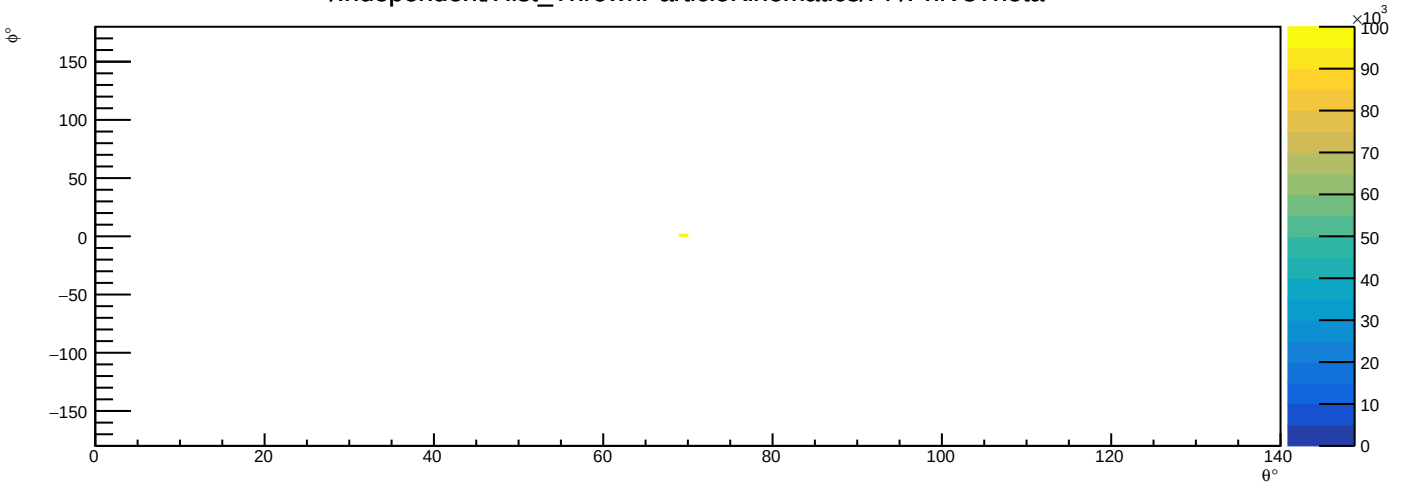

/Independent/Hist_ThrownParticleKinematics/Pi-/Momentum
×10^3
100
80
60
40
20
0
0
2
4
6
8
10
12
p (GeV/c)
hdgeant
hdgeant4

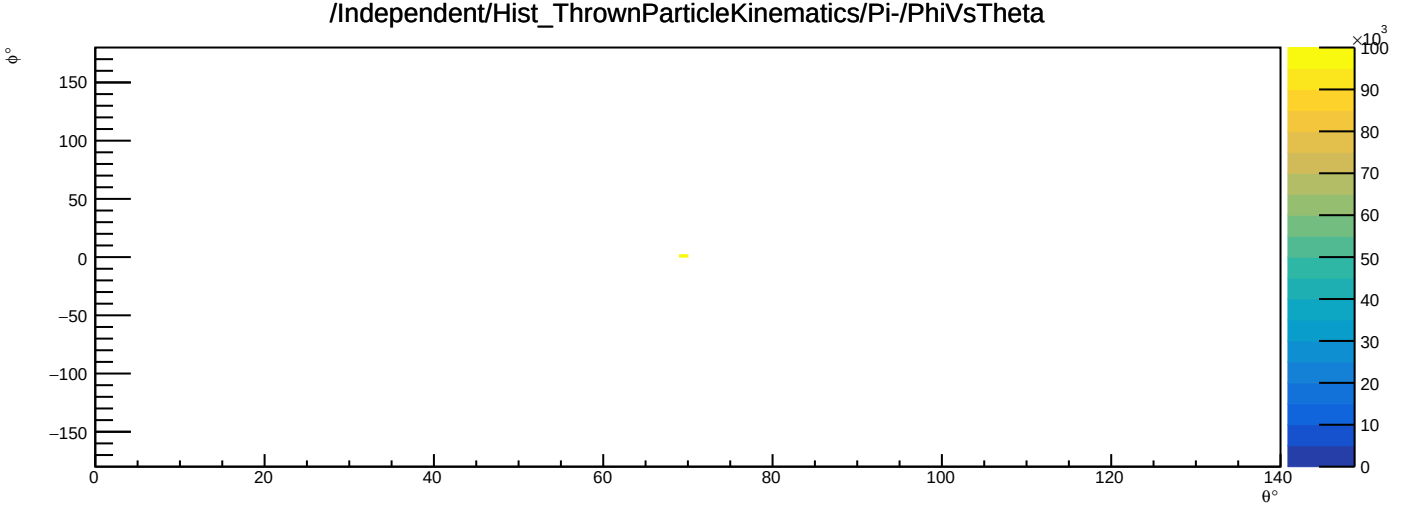

/Independent/Hist_ThrownParticleKinematics/Pi-/Theta
×10^3
100
80
60
40
20
0
0
20
40
60
80
100
120
140
θ°
hdgeant
hdgeant4

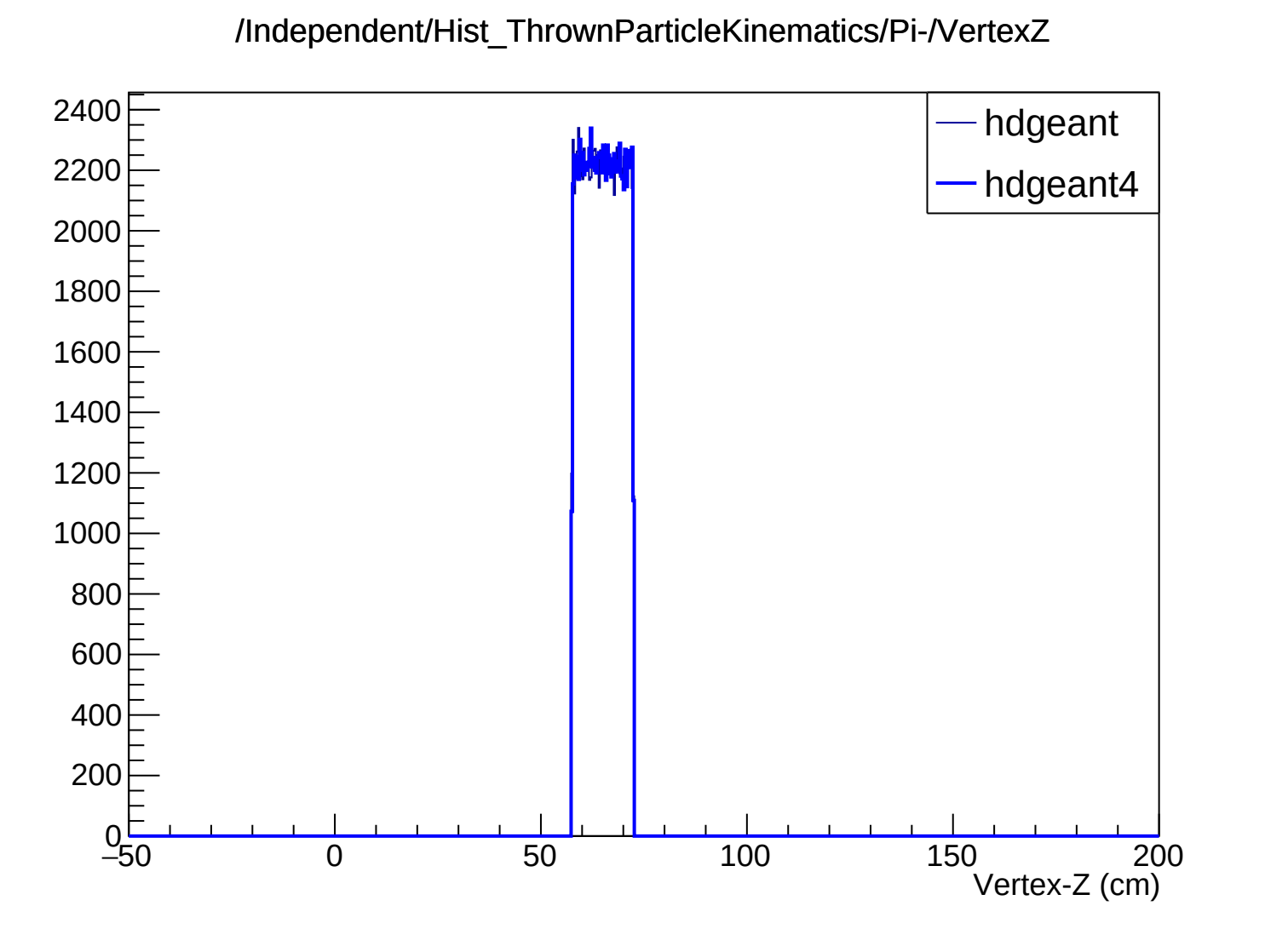

/Independent/Hist_ThrownParticleKinematics/Pi-/Phi
×10^3
100
80
60
40
20
0
–150
–100
–50
0
50
100
150
ϕ°
hdgeant
hdgeant4

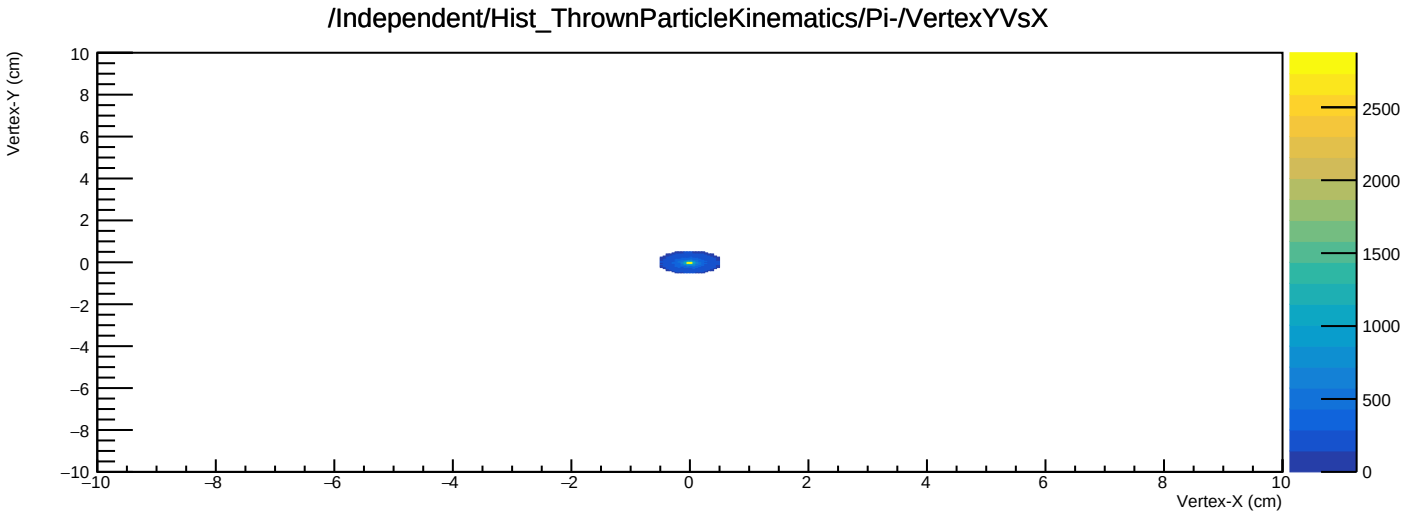

/Independent/Hist_ThrownParticleKinematics/Pi-/PVsTheta
p (GeV/c)
θ°
×10^3

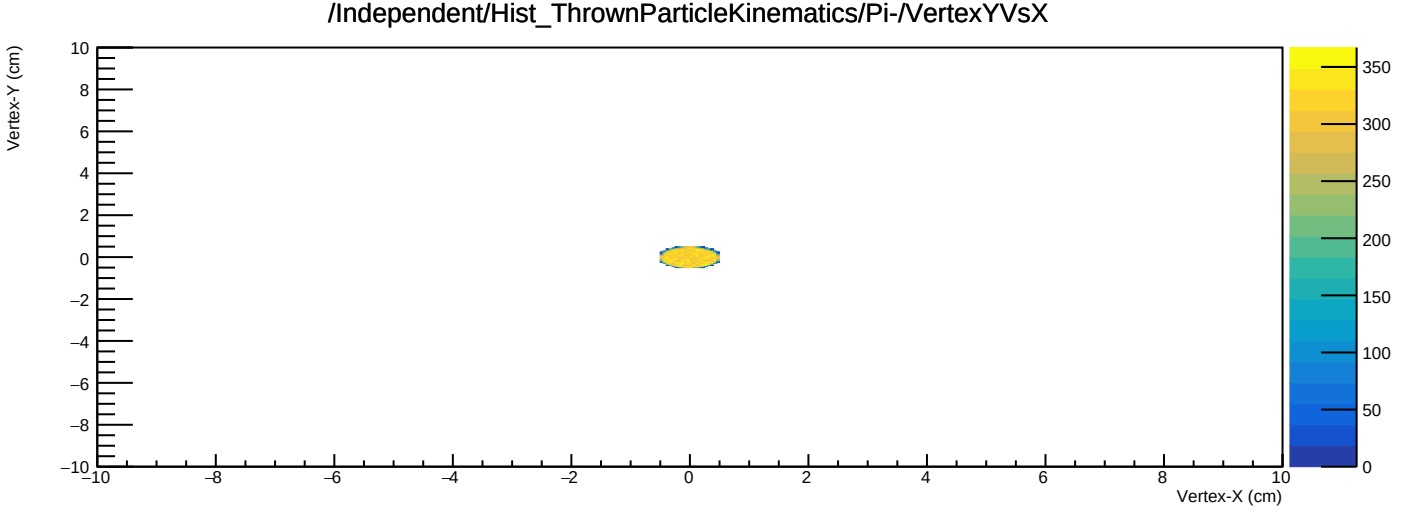

/Independent/Hist_ThrownParticleKinematics/Pi-/PVsTheta
p (GeV/c)
θ°
×10^3

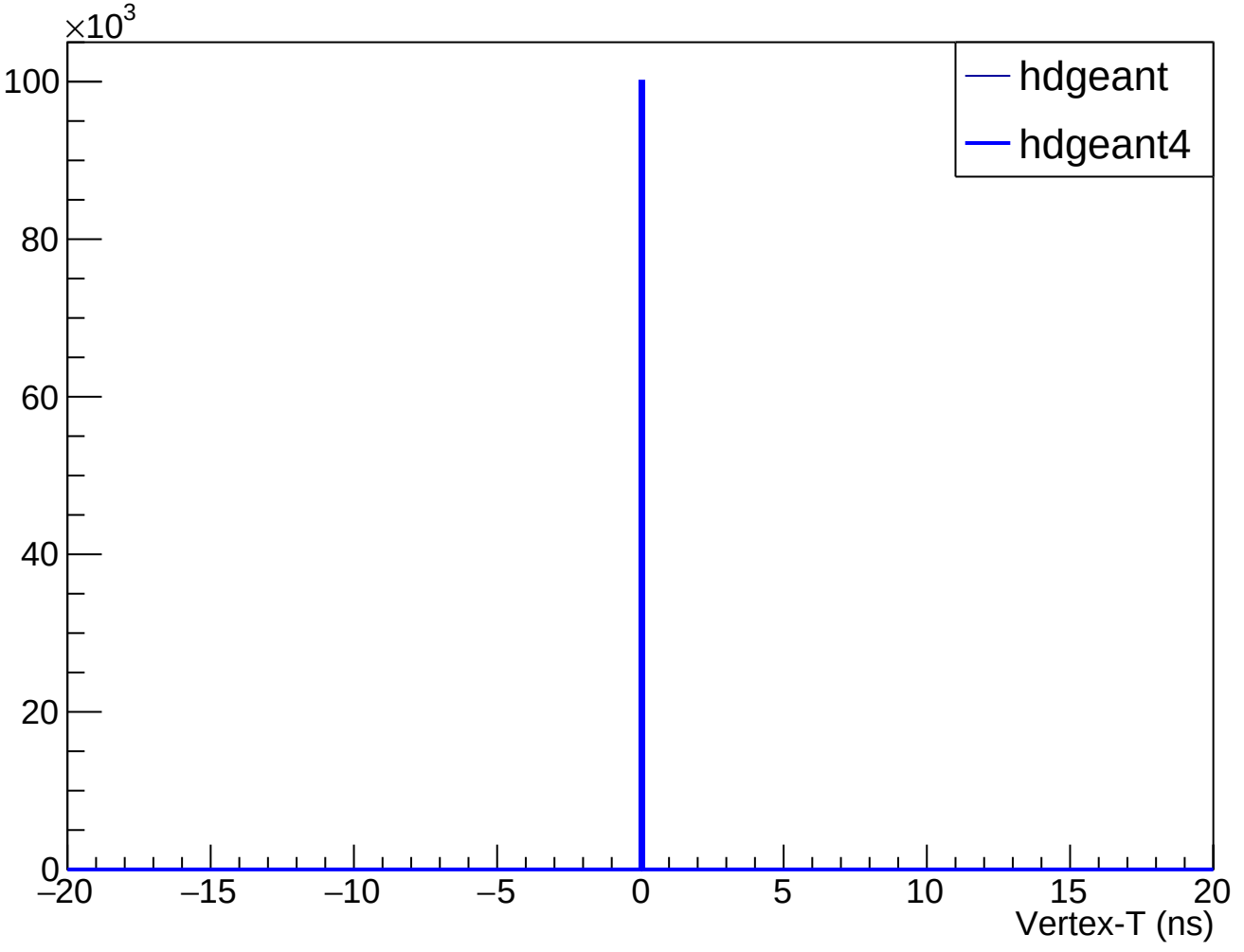

/Independent/Hist_ThrownParticleKinematics/Pi-/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
×10^3
100
90
80
70
60
50
40
30
20
10
0


/Independent/Hist_ThrownParticleKinematics/Pi-/PhiVsTheta
ϕ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
×10^3
100
90
80
70
60
50
40
30
20
10
0

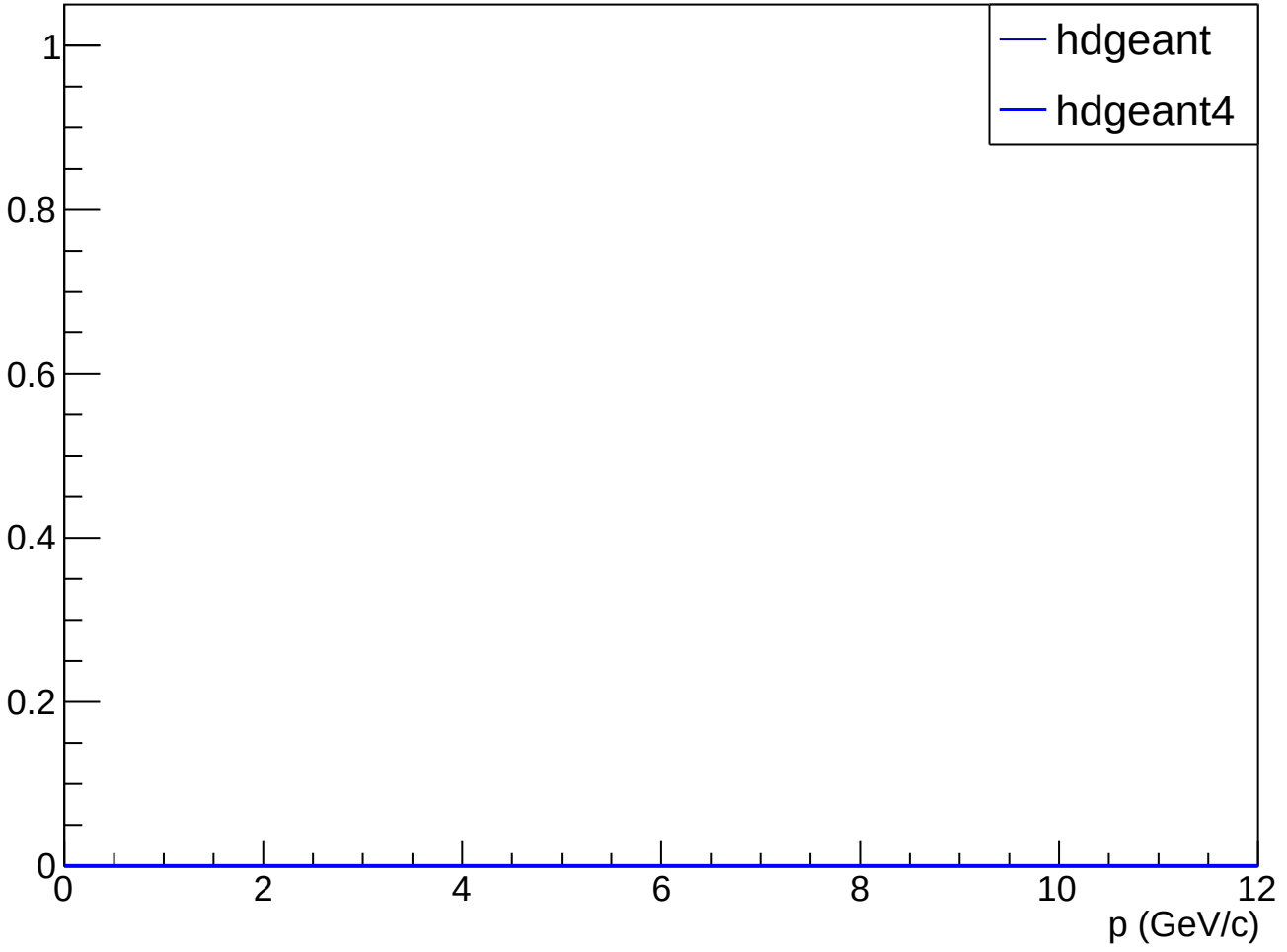

/Independent/Hist_ThrownParticleKinematics/Pi-/VertexZ
hdgeant
hdgeant4
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
–50
0
50
100
150
200
Vertex-Z (cm)

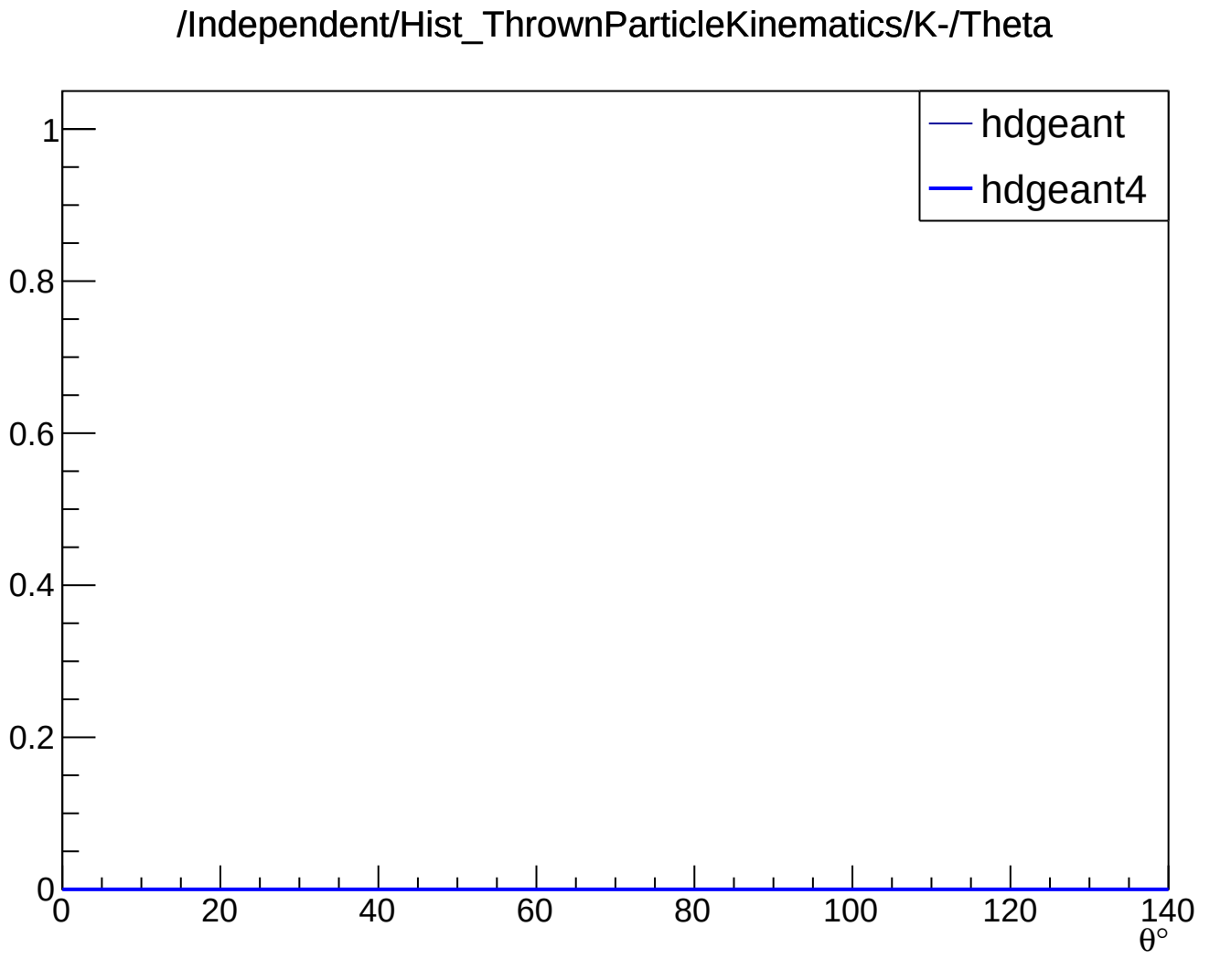

/Independent/Hist_ThrownParticleKinematics/Pi-/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
2500
2000
1500
1000
500
0


/Independent/Hist_ThrownParticleKinematics/Pi-/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
350
300
250
200
150
100
50
0

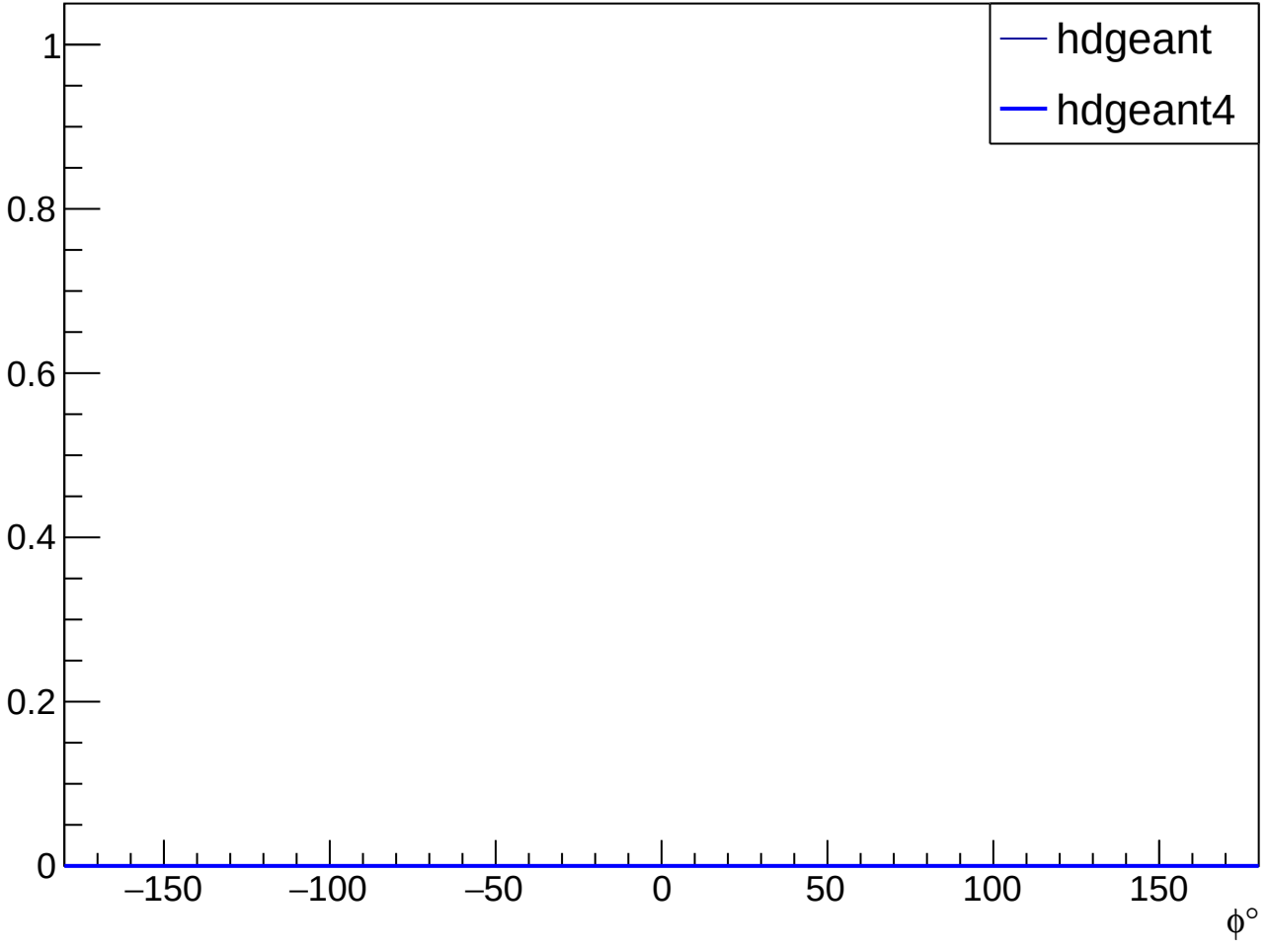

/Independent/Hist_ThrownParticleKinematics/Pi-/VertexT
×10^3
100
80
60
40
20
0
–20
–15
–10
–5
0
5
10
15
20
Vertex-T (ns)
hdgeant
hdgeant4

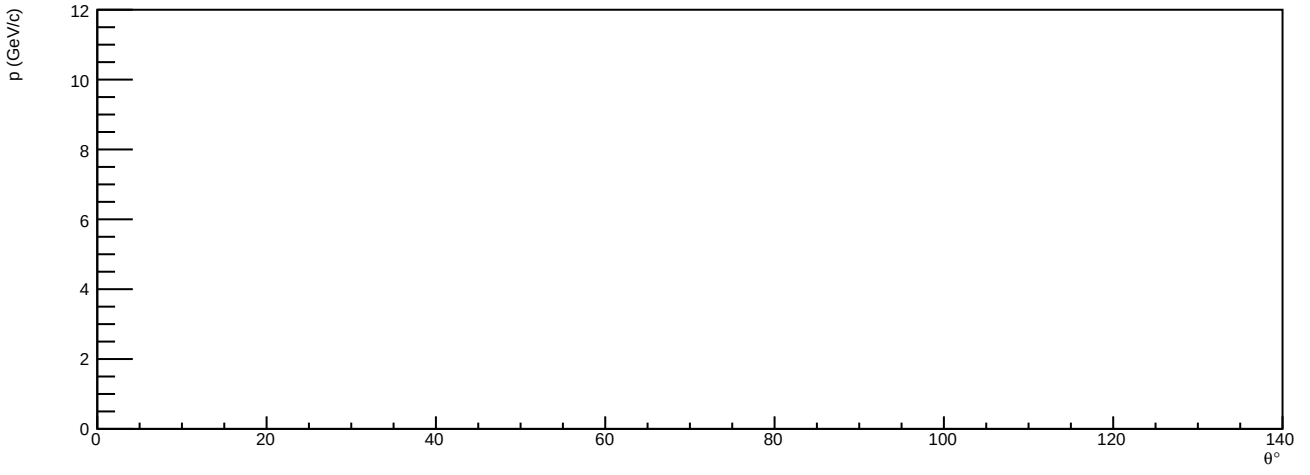
/Independent/Hist_ThrownParticleKinematics/K-/Momentum

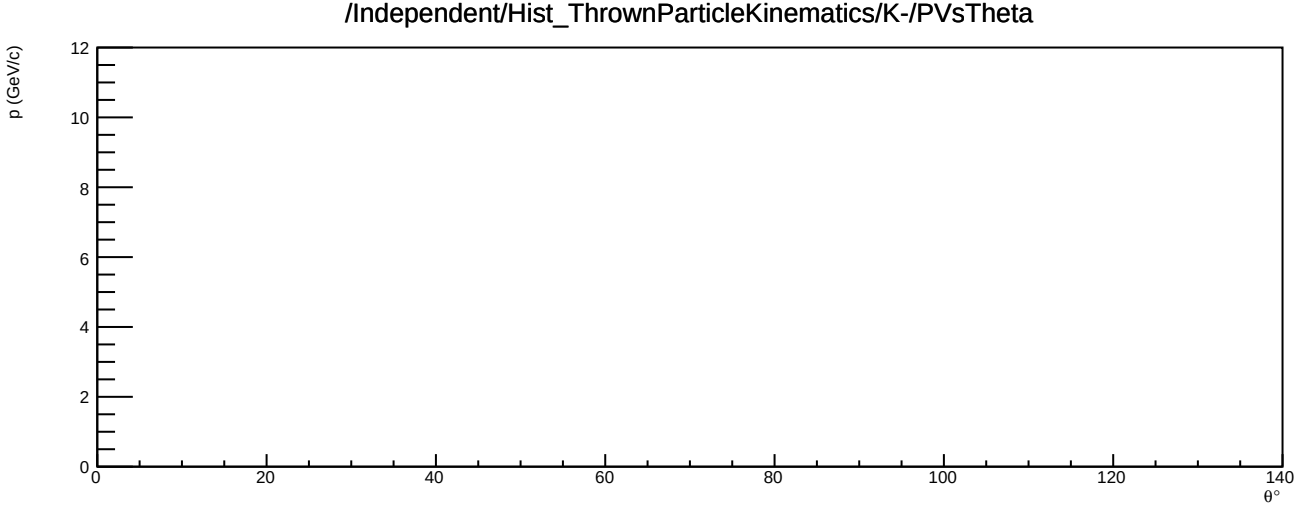


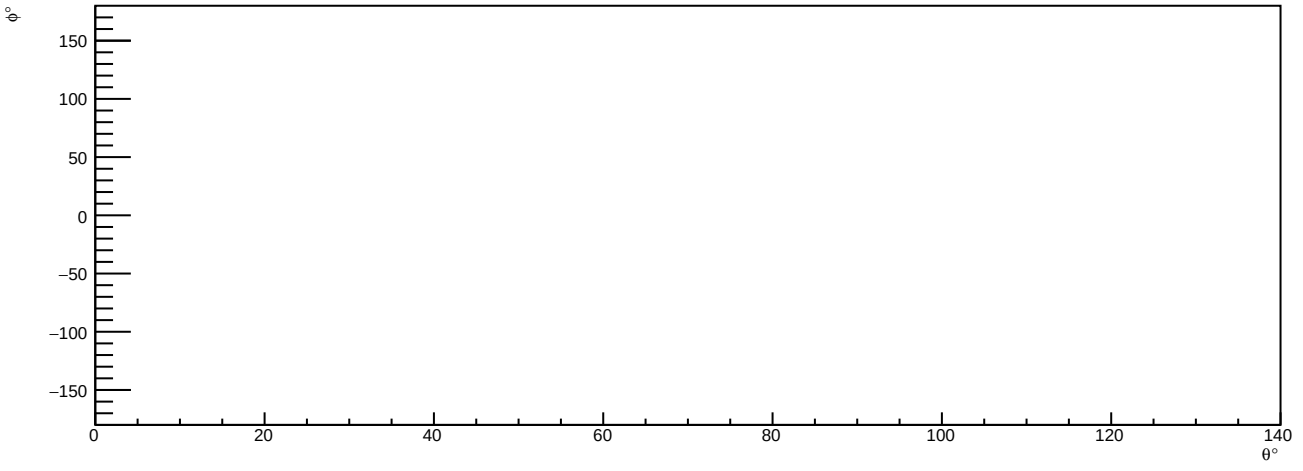

/Independent/Hist_ThrownParticleKinematics/K-/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°

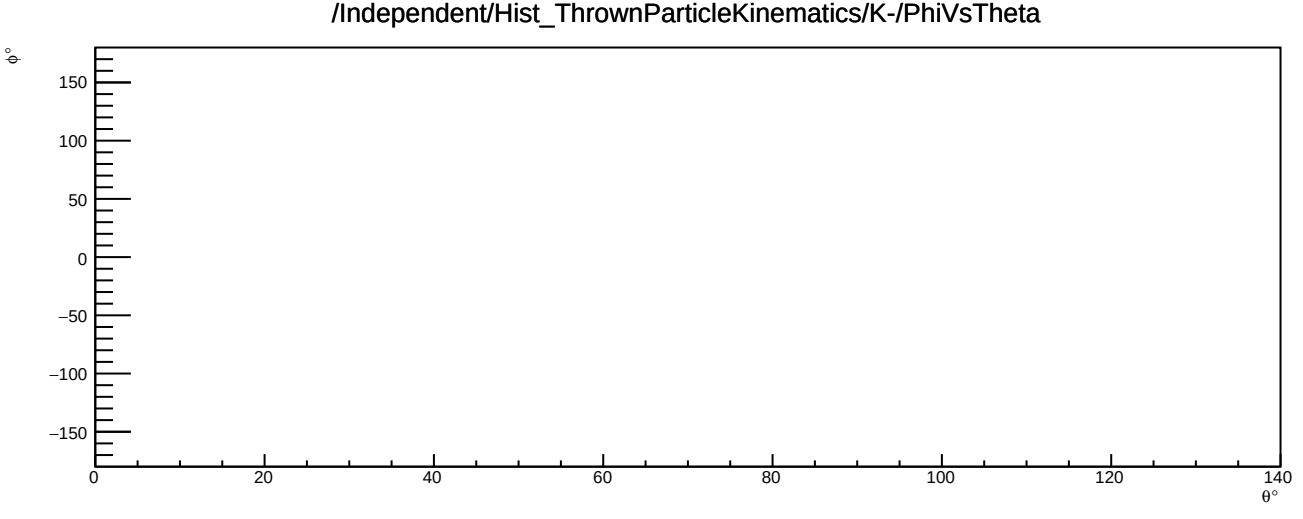
/Independent/Hist_ThrownParticleKinematics/K-/Phi

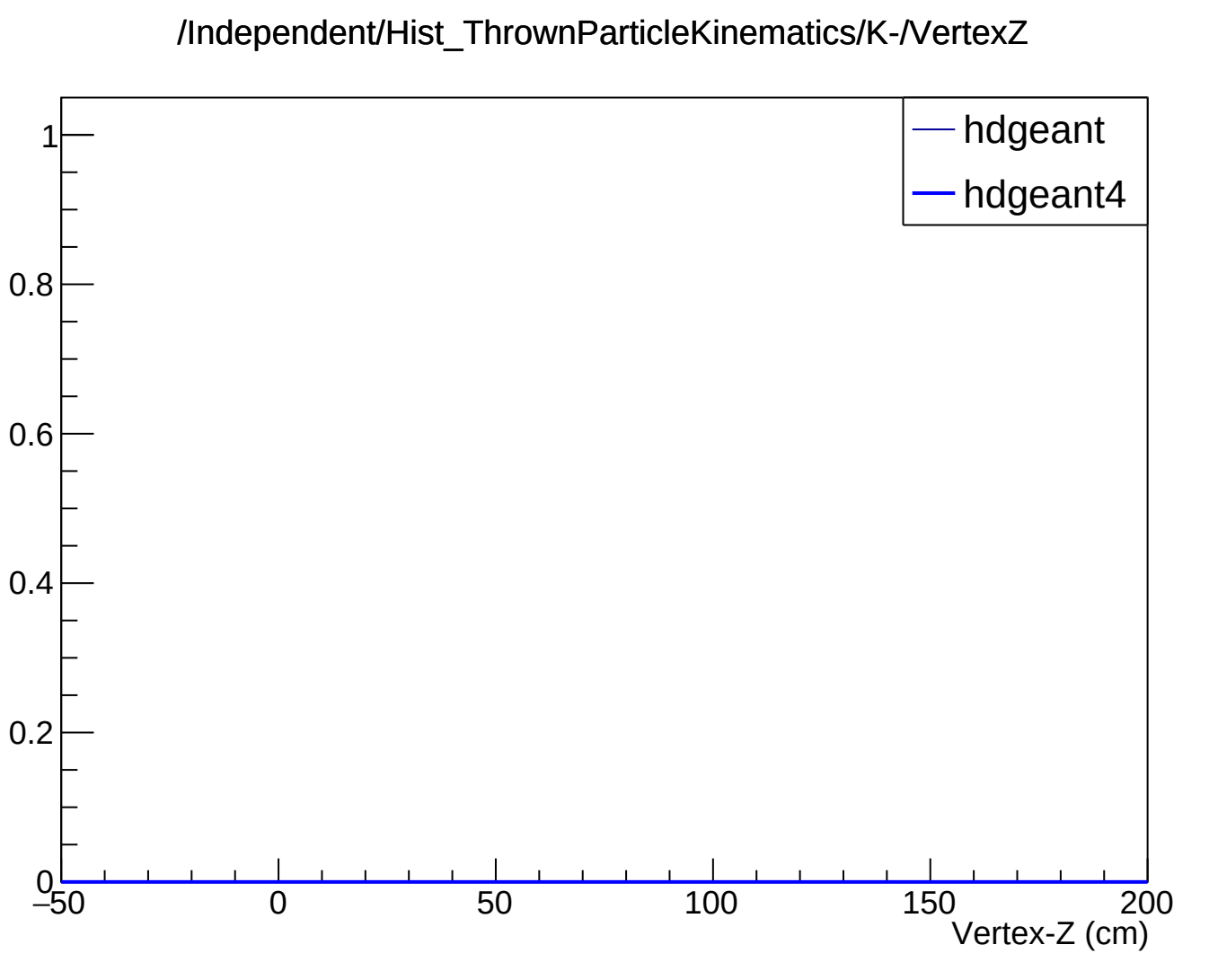


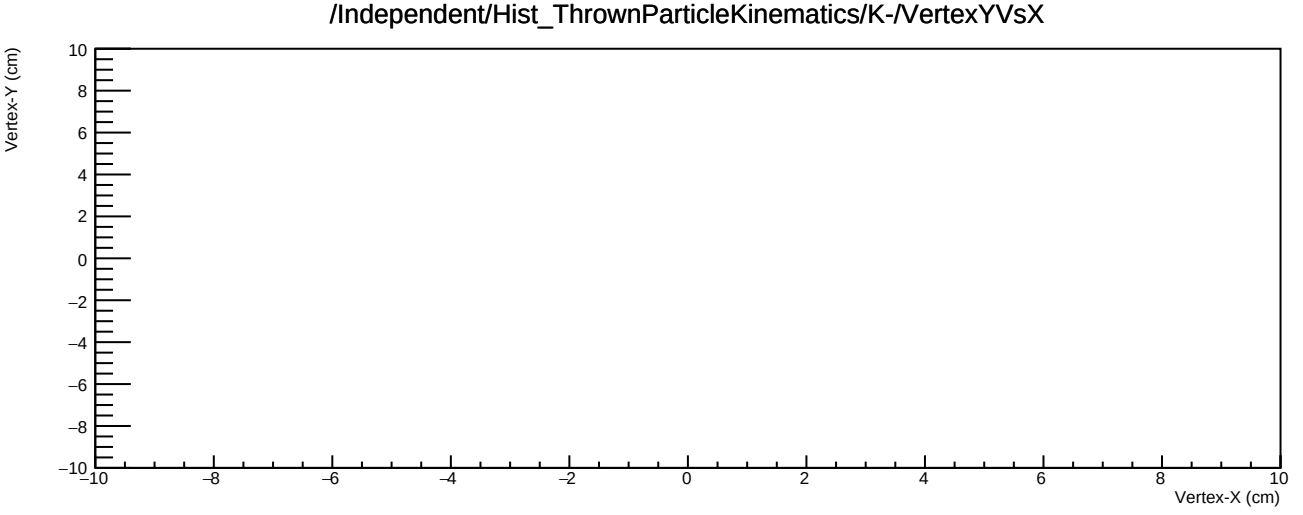

/Independent/Hist_ThrownParticleKinematics/K-/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

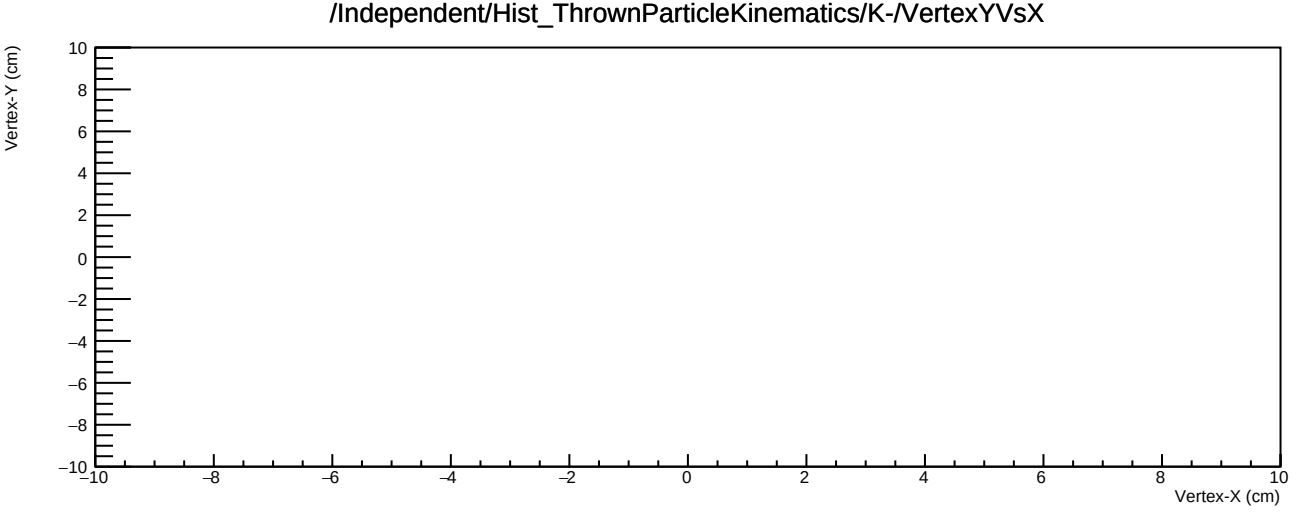

/Independent/Hist_ThrownParticleKinematics/K-/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ThrownParticleKinematics/K-/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

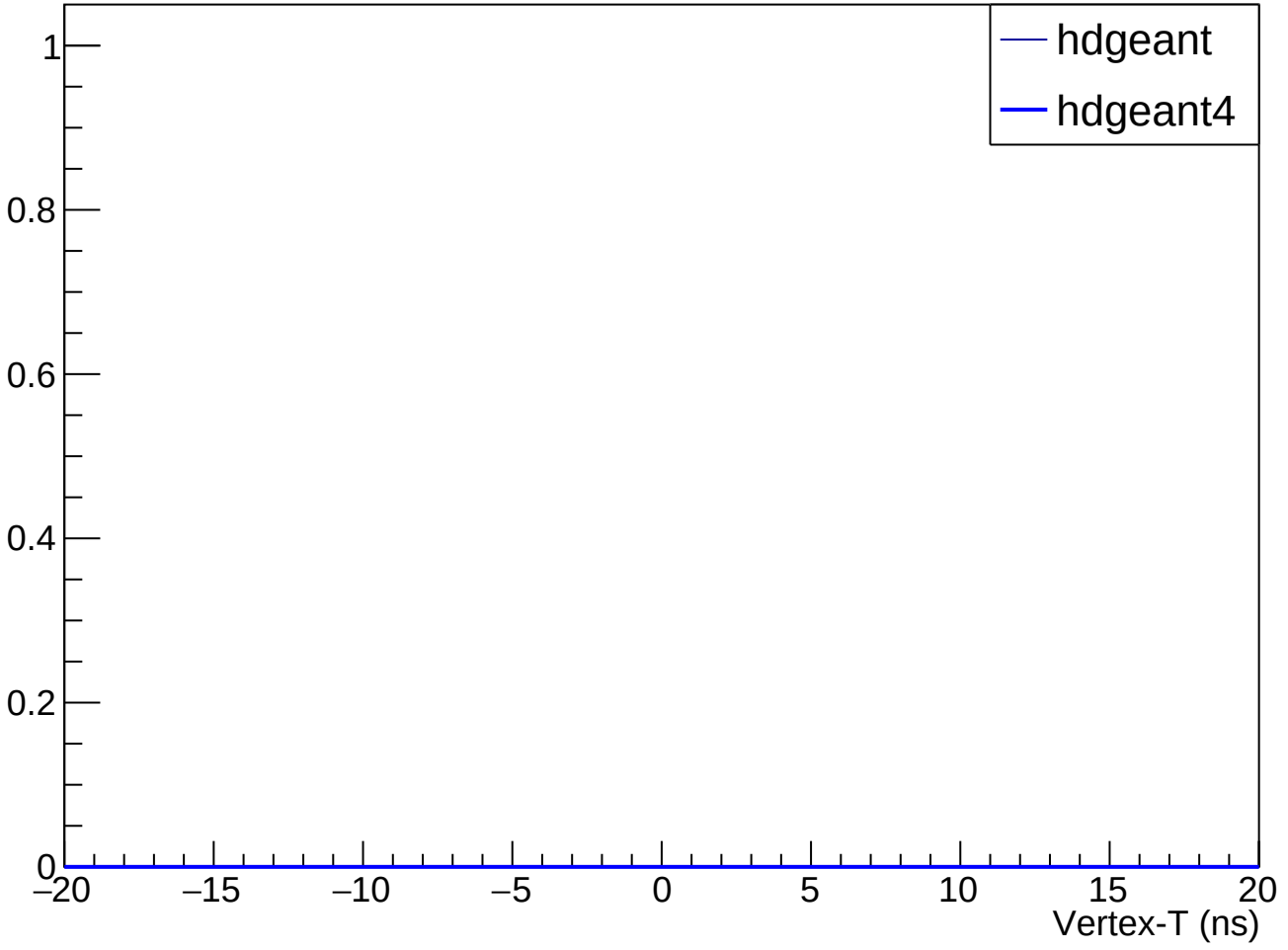

/Independent/Hist_ThrownParticleKinematics/K-/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ThrownParticleKinematics/K-/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)

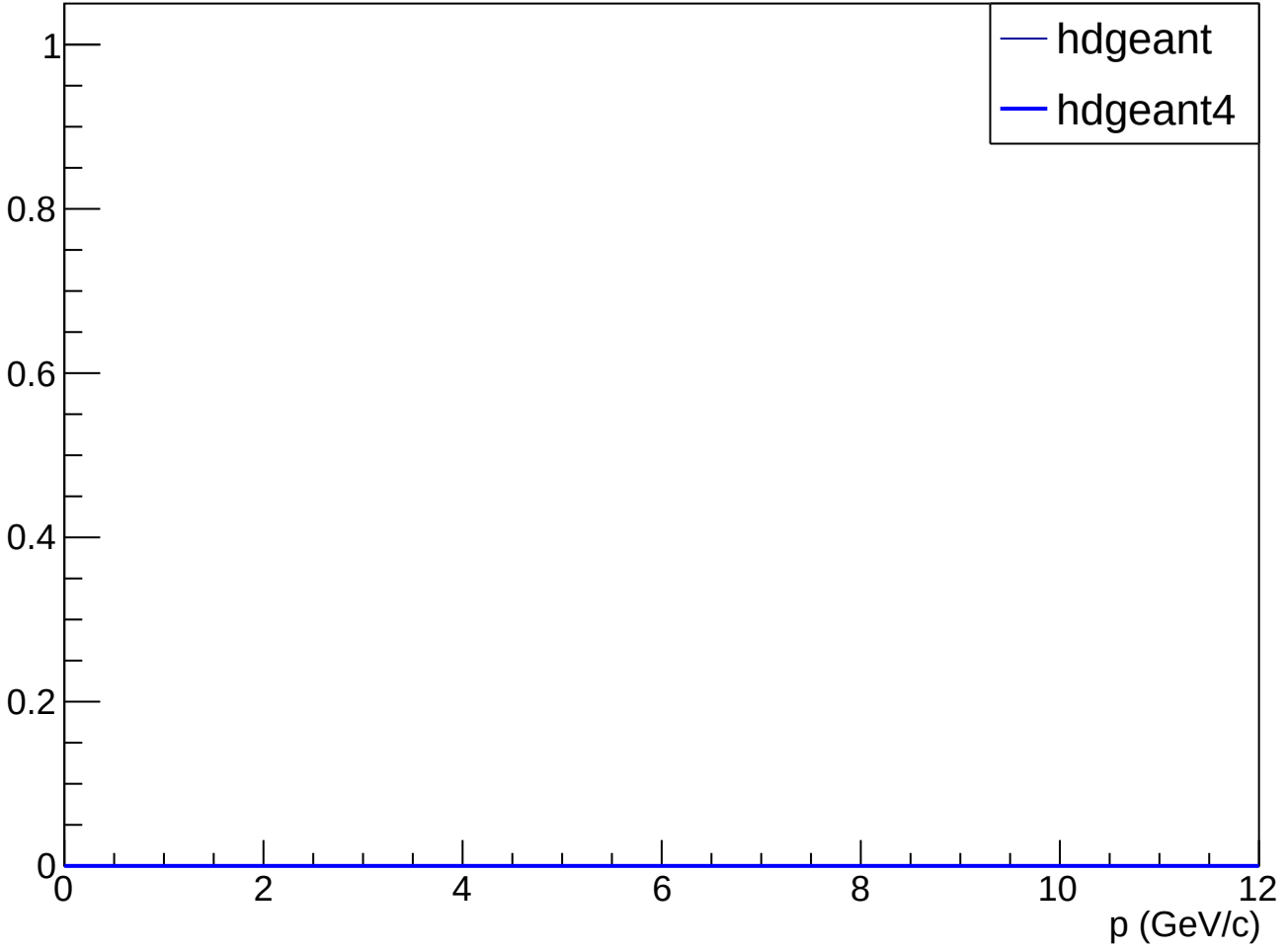

/Independent/Hist_ThrownParticleKinematics/K-/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

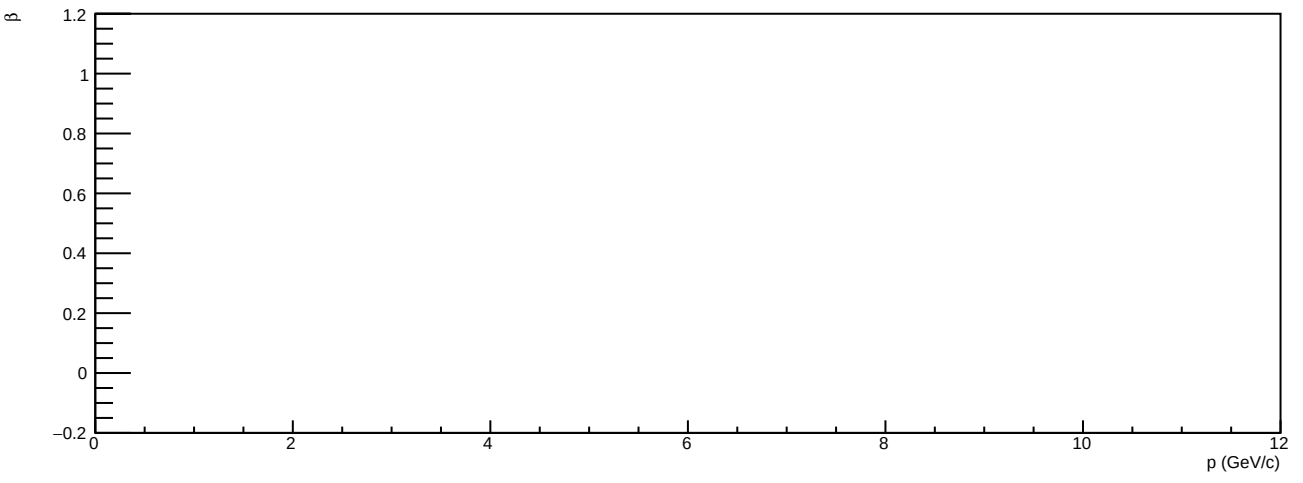

/Independent/Hist_ThrownParticleKinematics/K-/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

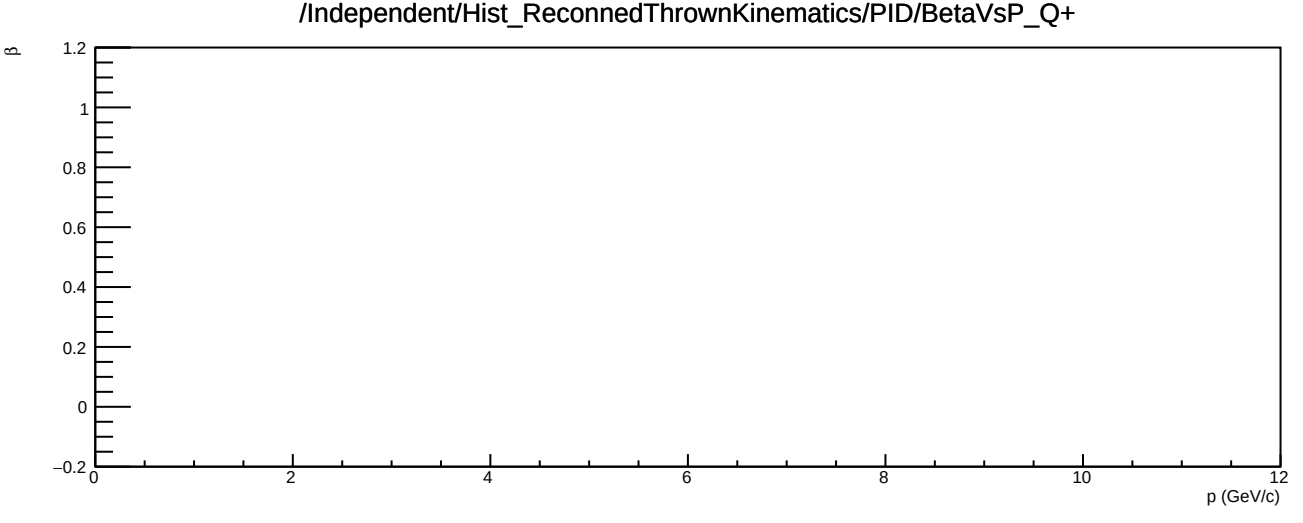
/Independent/Hist_ThrownParticleKinematics/K-/VertexT

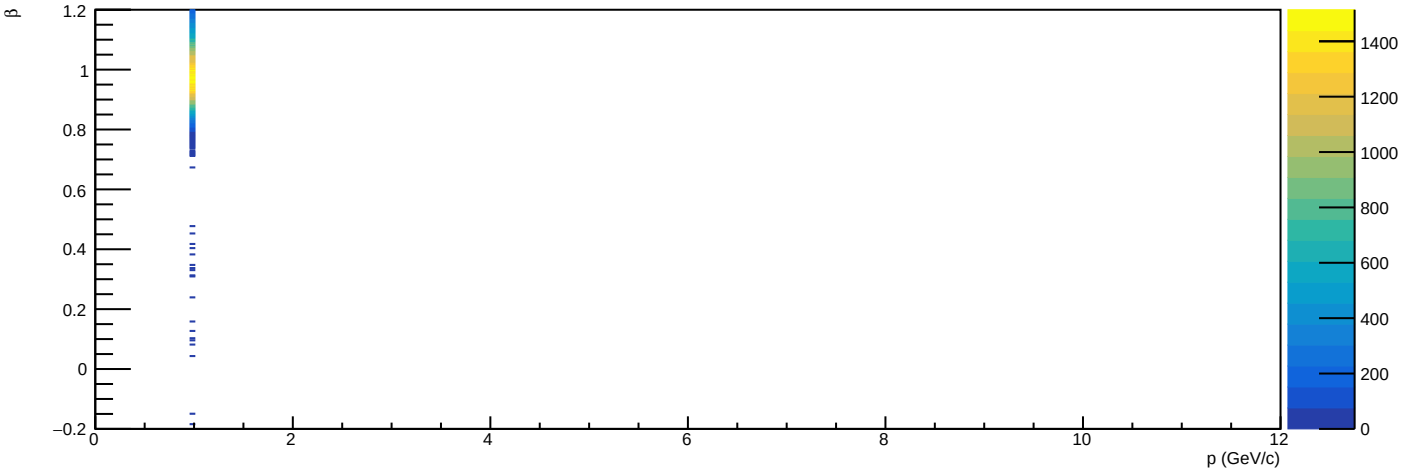


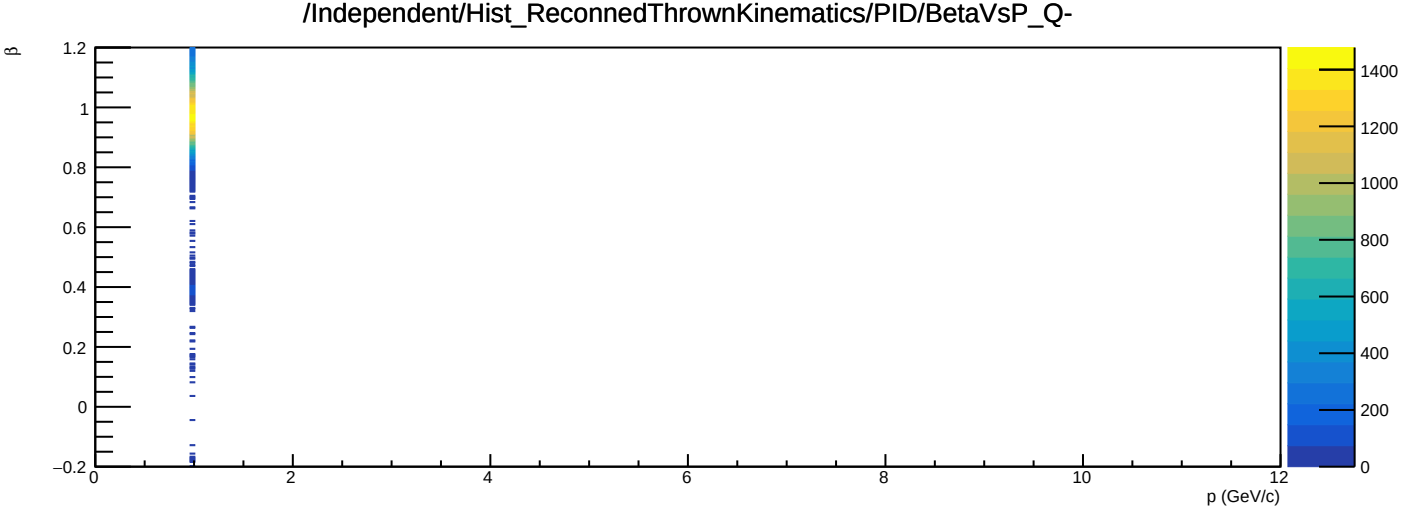
/Independent/Hist_ReconnedThrownKinematics/Beam_Photon/Momentum



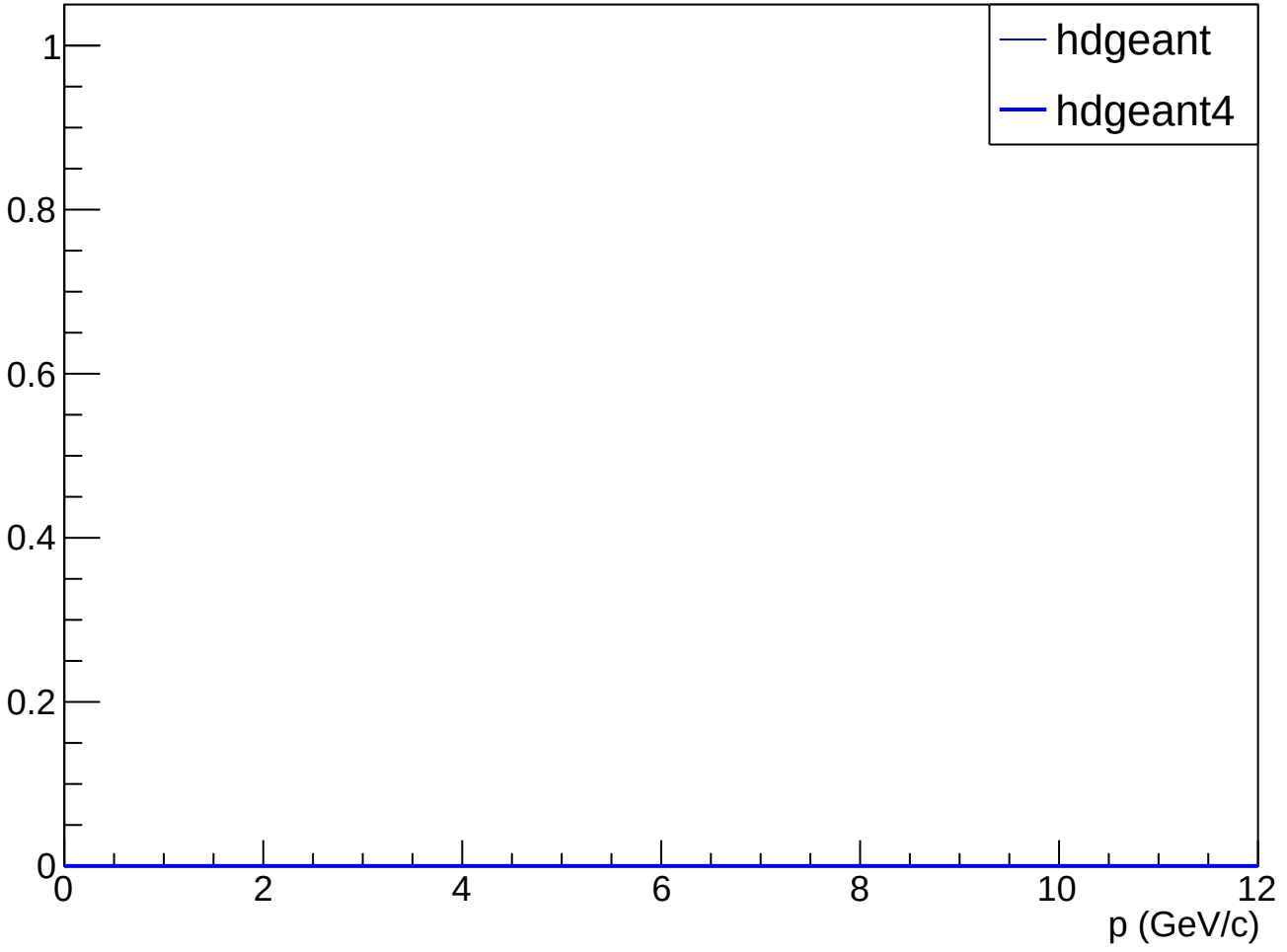

/Independent/Hist_ReconnedThrownKinematics/PID/BetaVsP_Q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_ReconnedThrownKinematics/PID/BetaVsP_Q+
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)

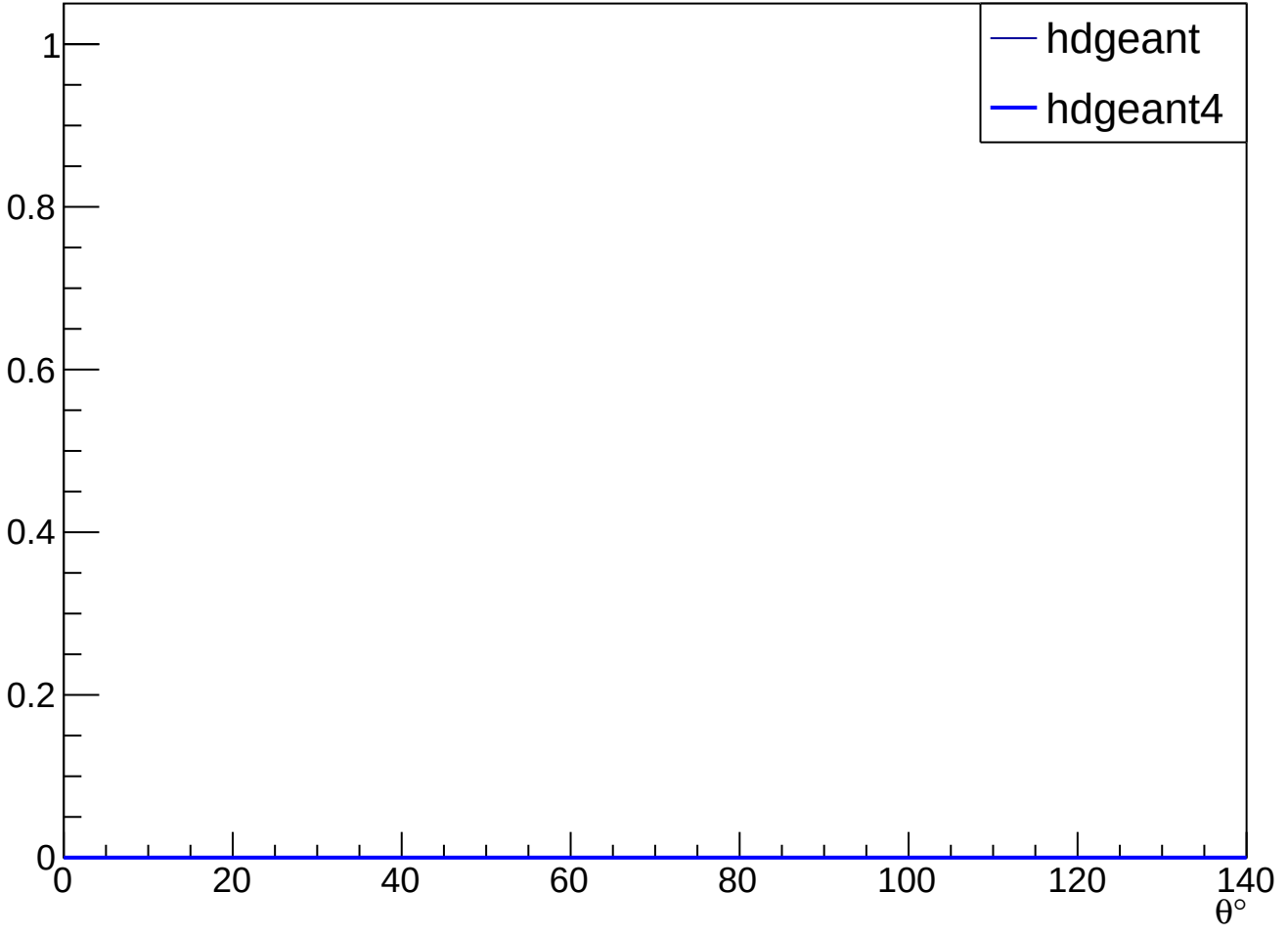

/Independent/Hist_ReconnedThrownKinematics/PID/BetaVsP_Q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
1400
1200
1000
800
600
400
200
0


/Independent/Hist_ReconnedThrownKinematics/PID/BetaVsP_Q-
β
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0
2
4
6
8
10
12
p (GeV/c)
1400
1200
1000
800
600
400
200
0

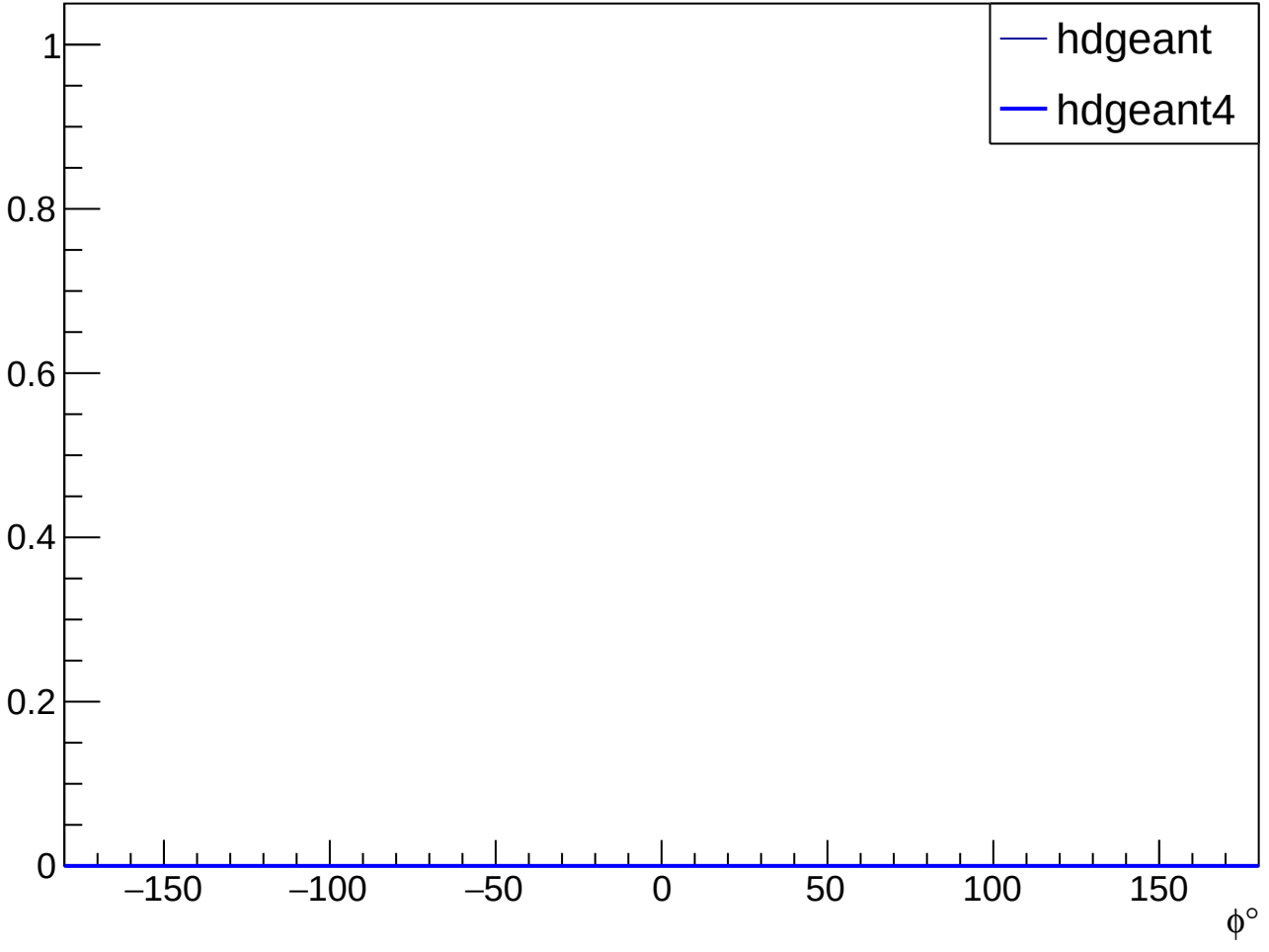
/Independent/Hist_ReconnedThrownKinematics/Photon/Momentum

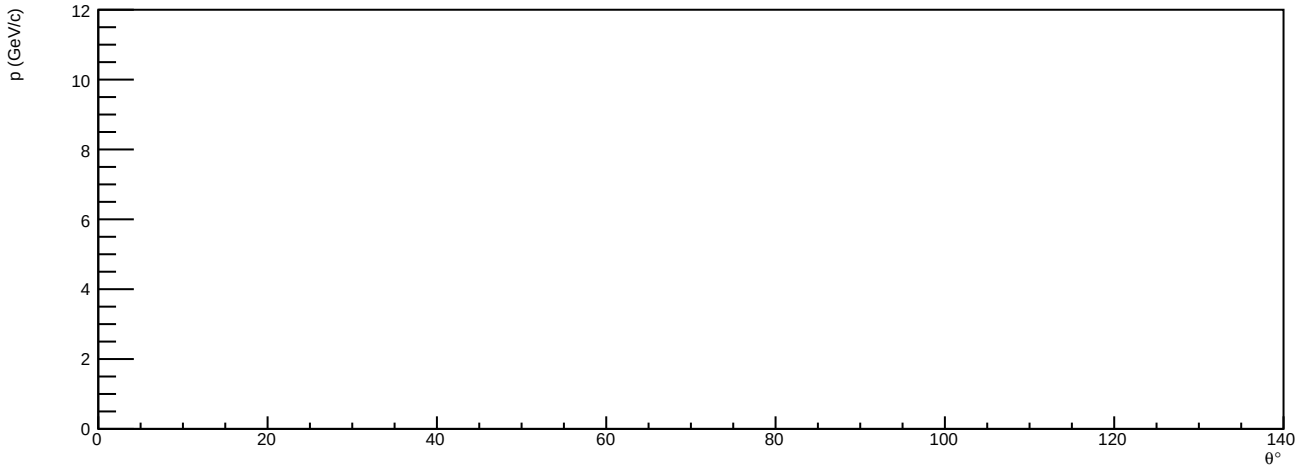


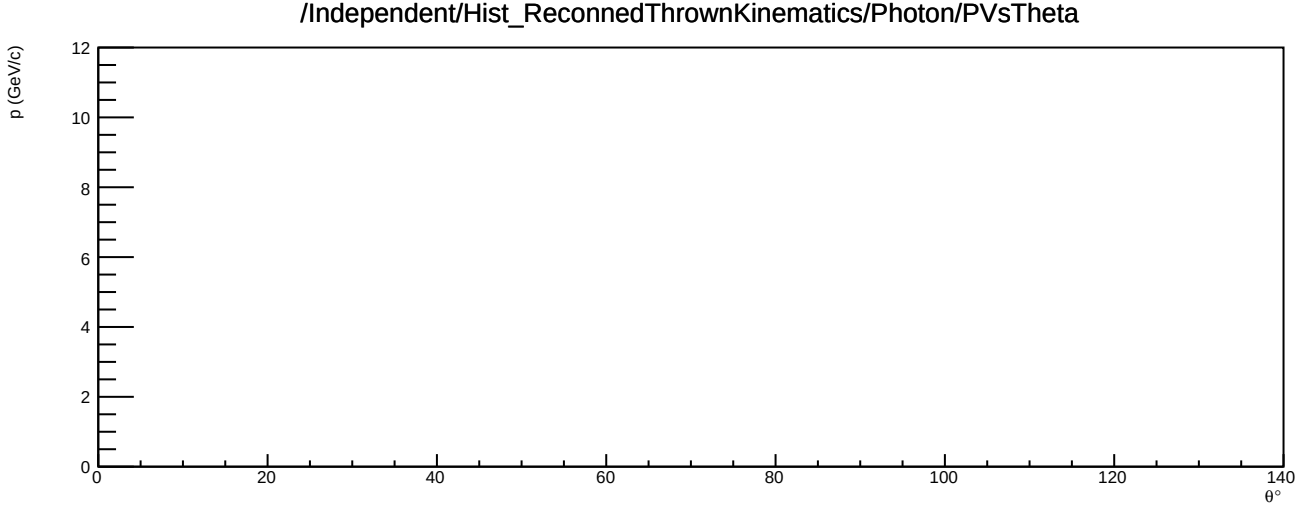
/Independent/Hist_ReconnedThrownKinematics/Photon/Theta

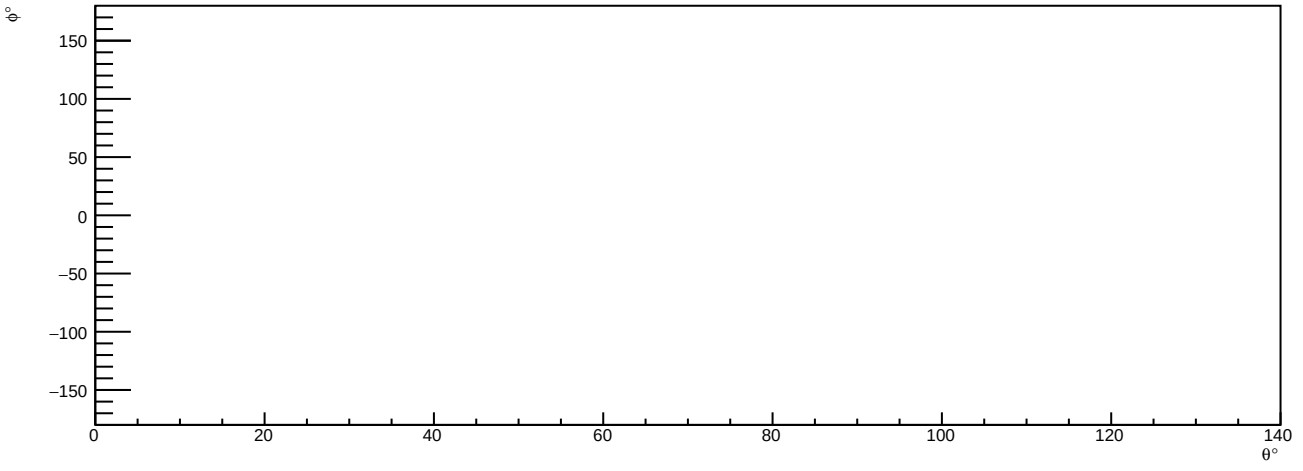


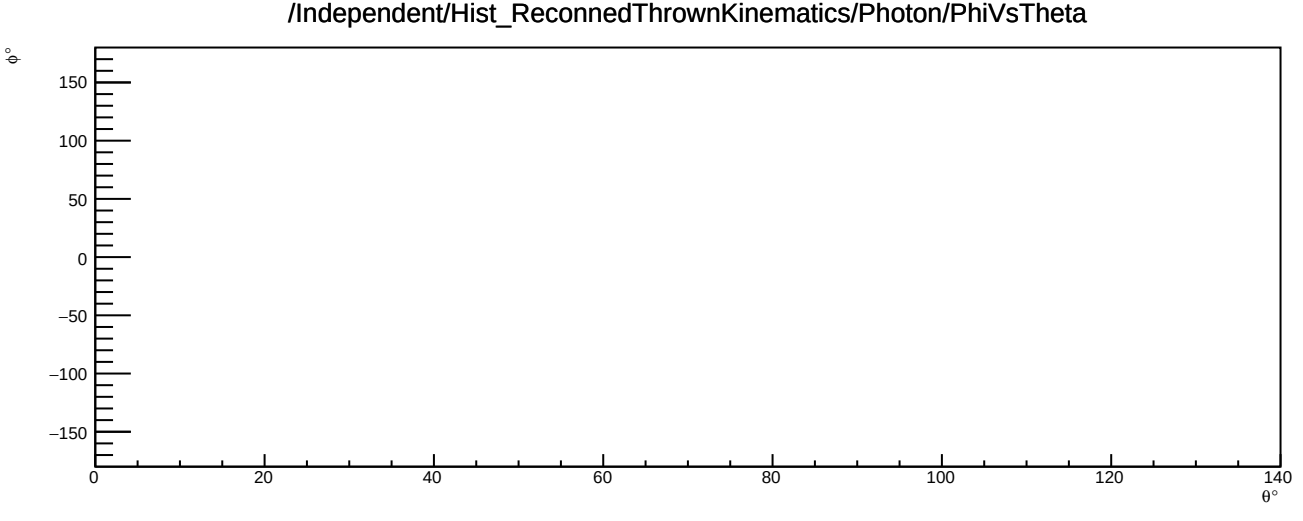
/Independent/Hist_ReconnedThrownKinematics/Photon/Phi

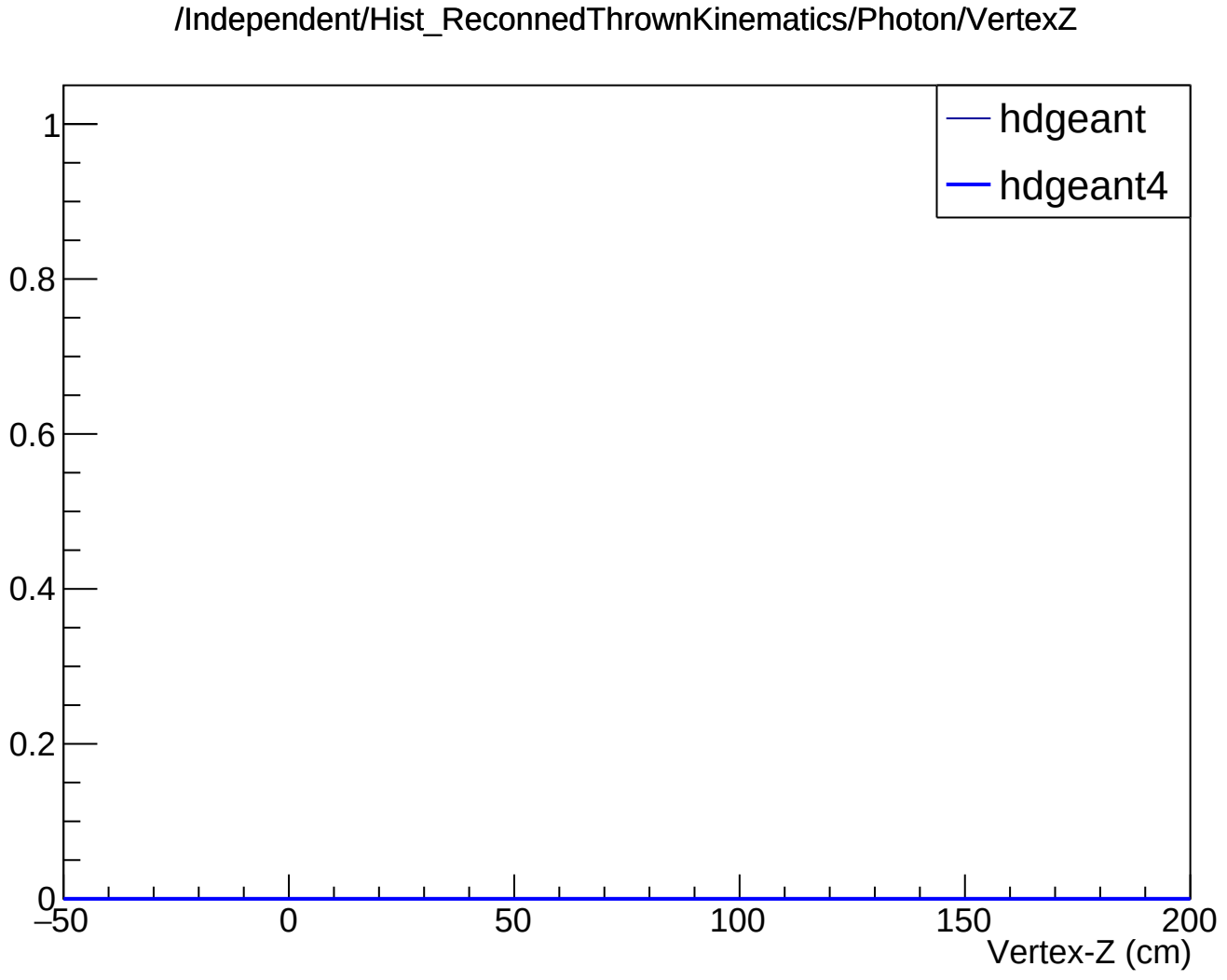


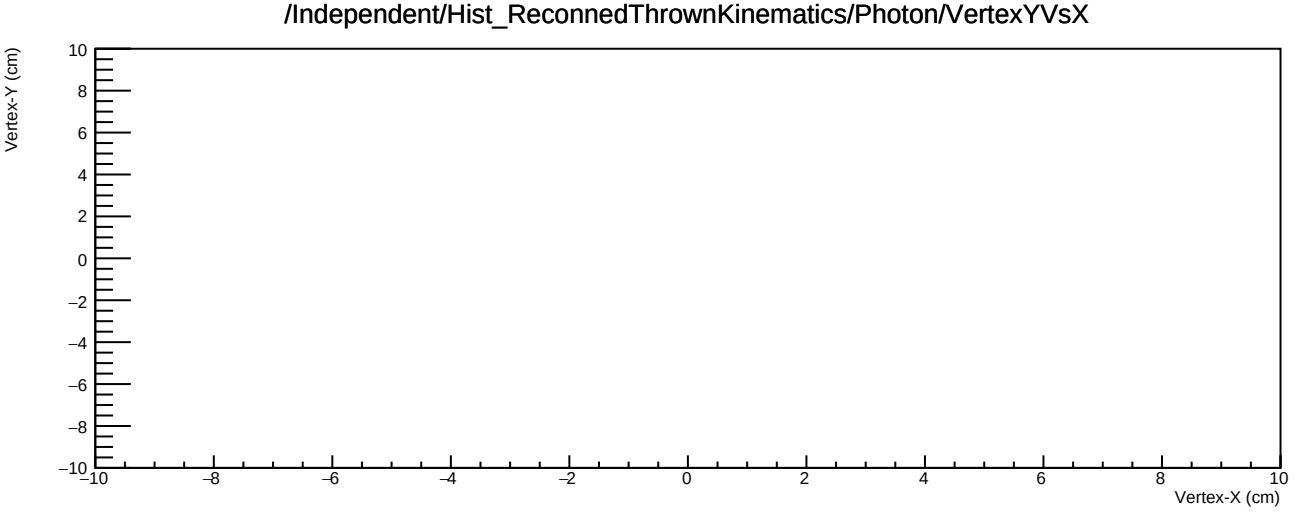

/Independent/Hist_ReconnedThrownKinematics/Photon/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

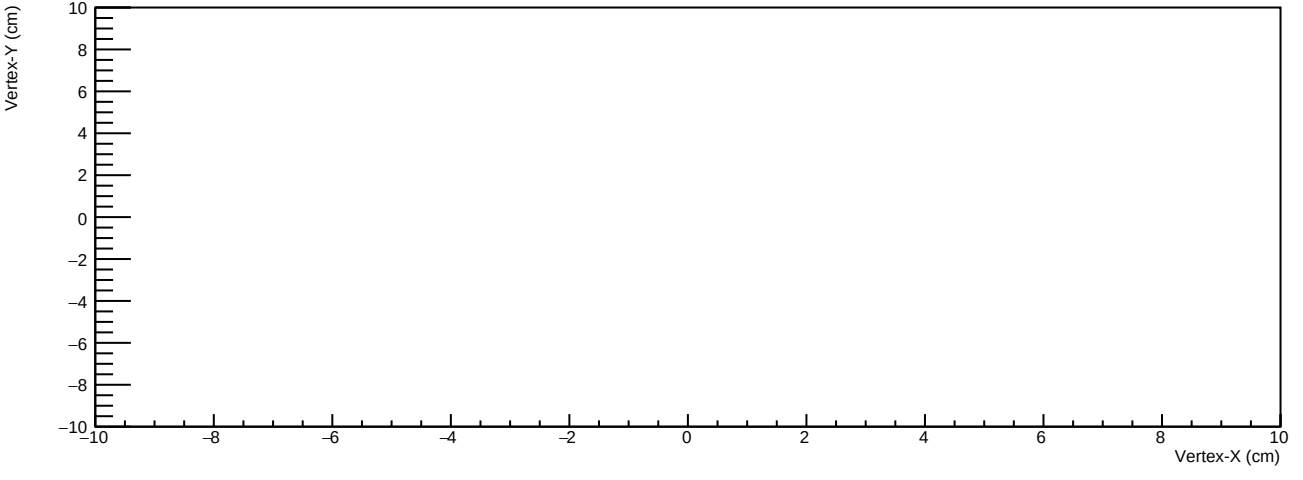

/Independent/Hist_ReconnedThrownKinematics/Photon/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ReconnedThrownKinematics/Photon/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

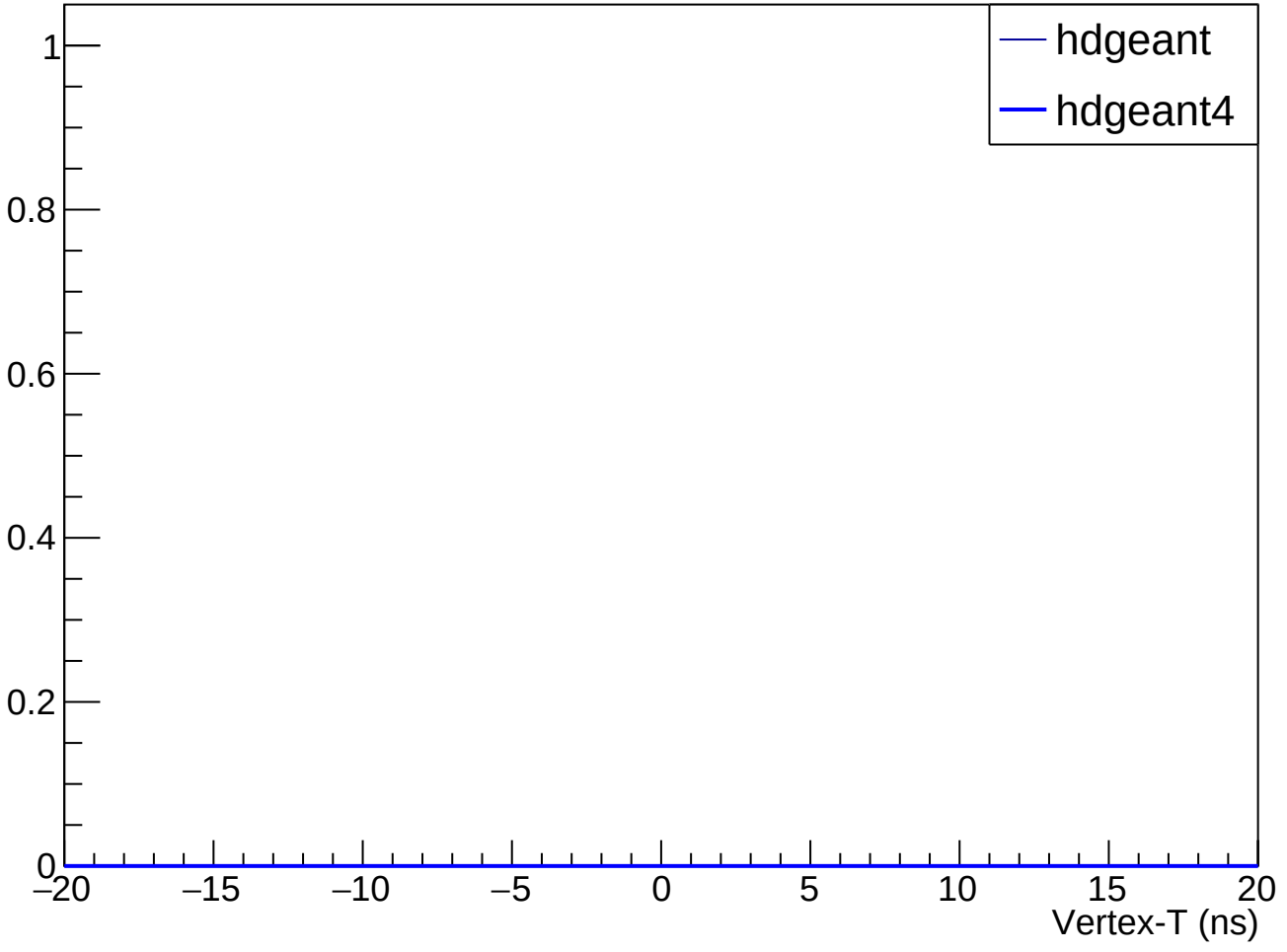

/Independent/Hist_ReconnedThrownKinematics/Photon/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ReconnedThrownKinematics/Photon/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)

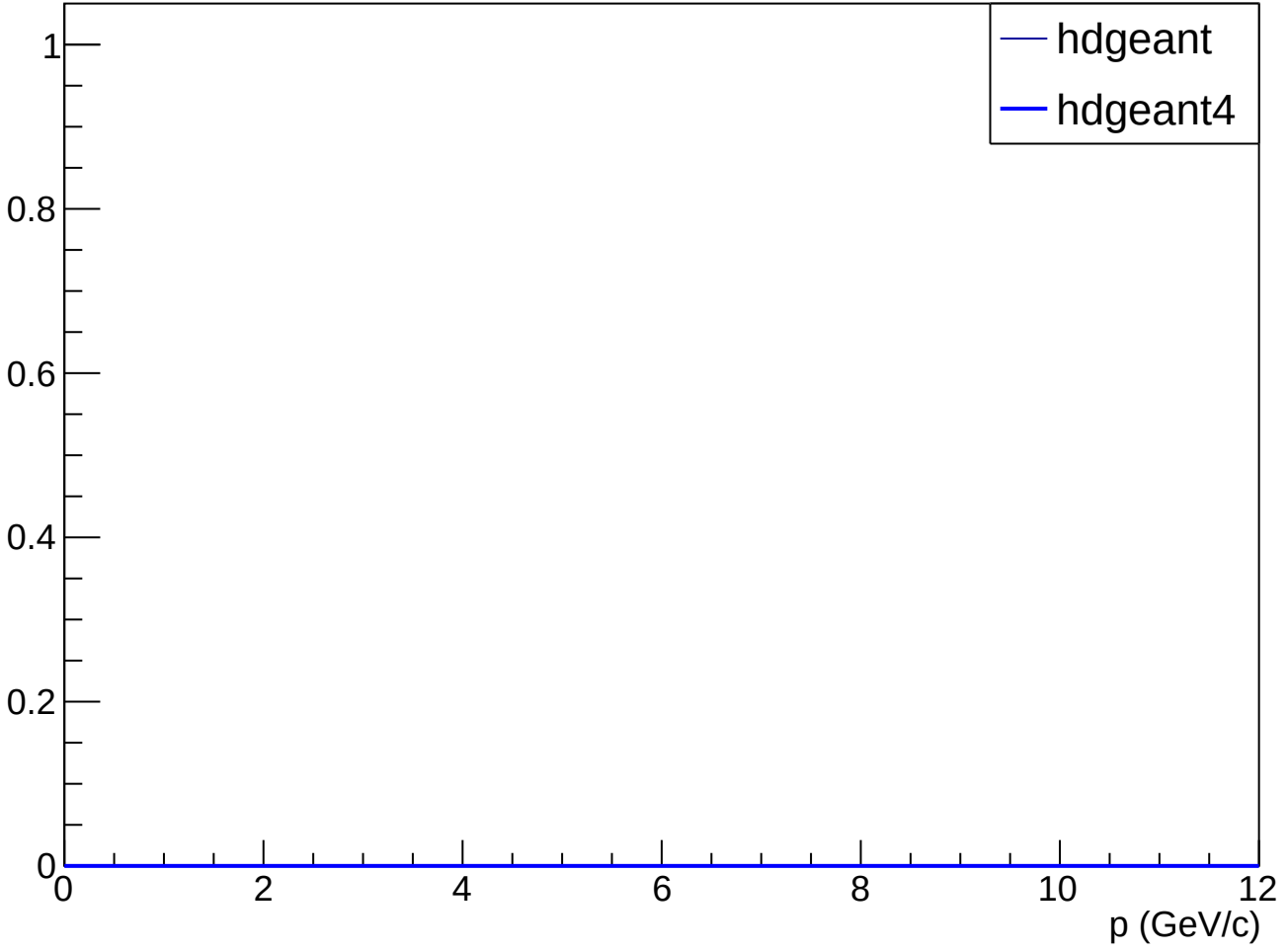

/Independent/Hist_ReconnedThrownKinematics/Photon/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

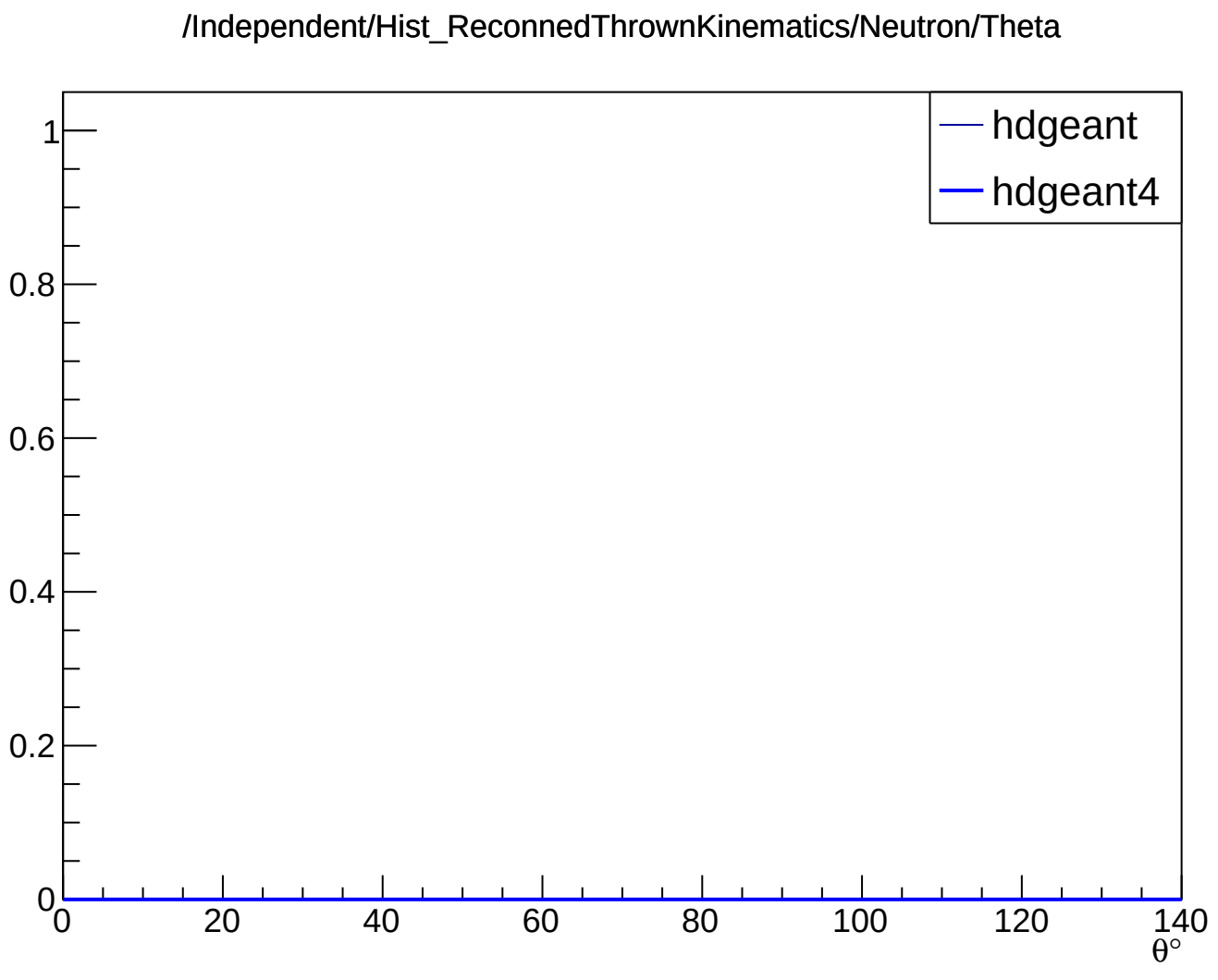

/Independent/Hist_ReconnedThrownKinematics/Photon/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

/Independent/Hist_ReconnedThrownKinematics/Photon/VertexT

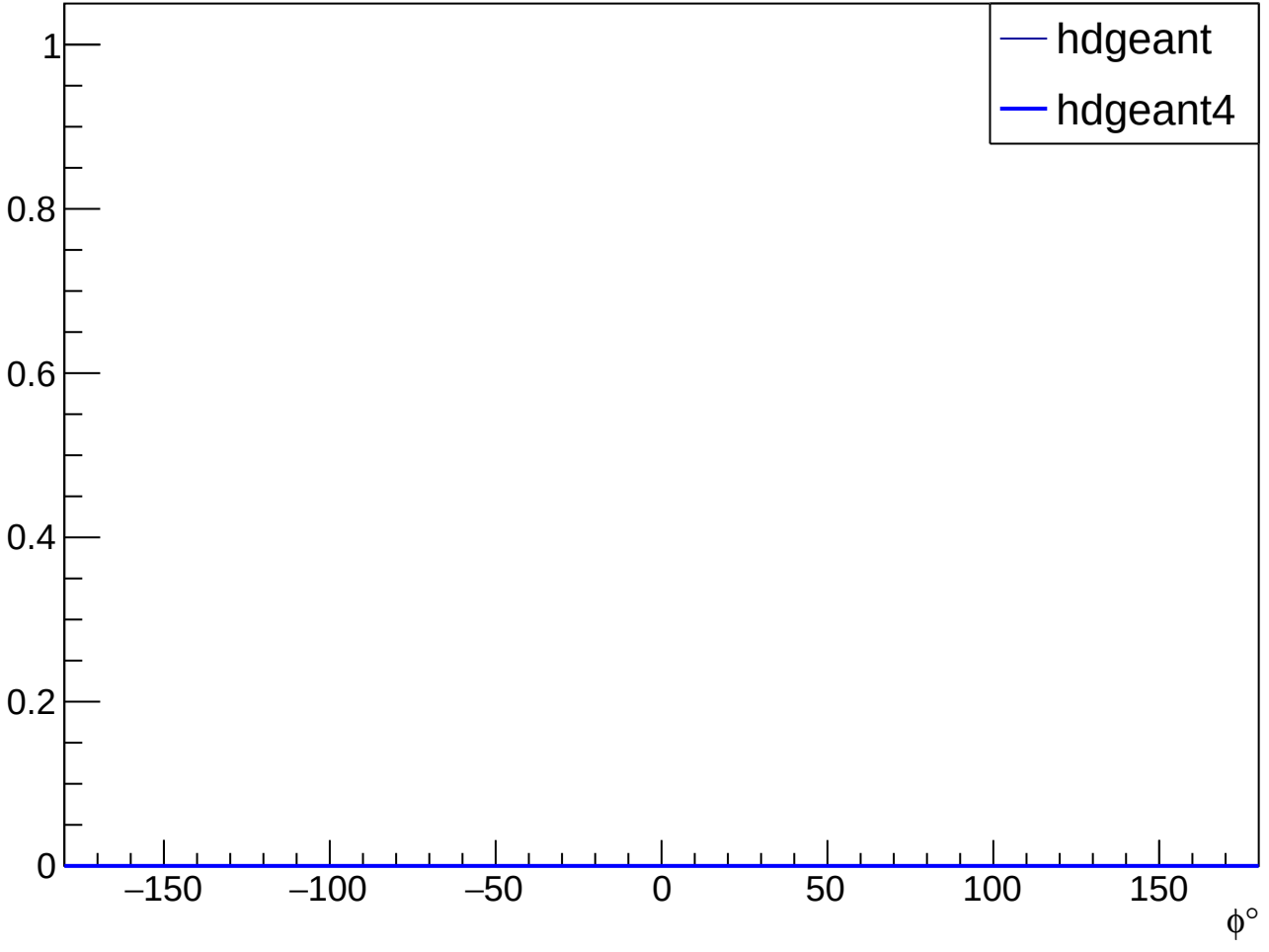


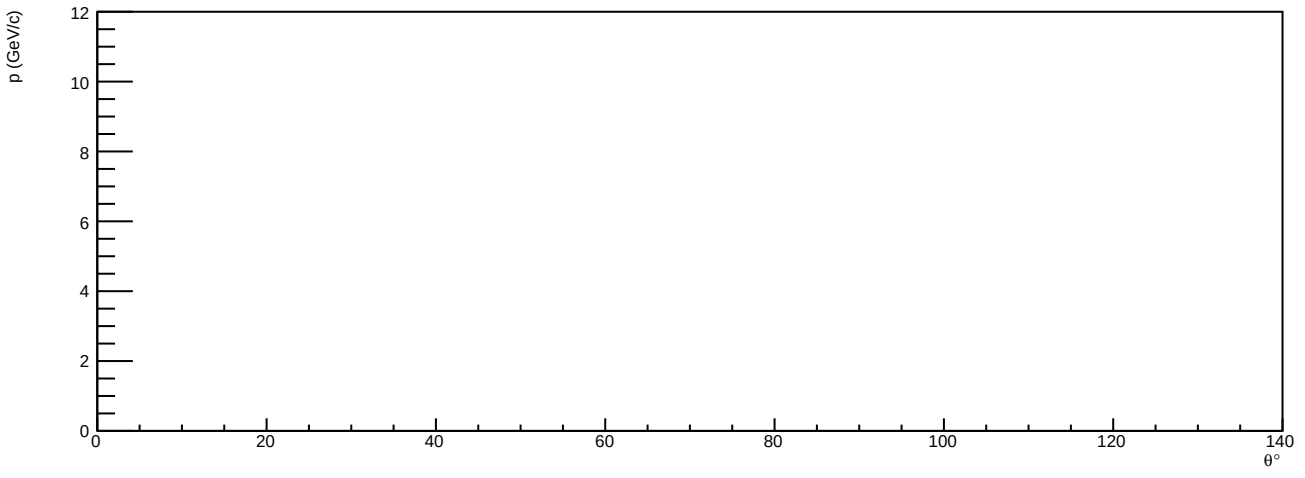
/Independent/Hist_ReconnedThrownKinematics/Neutron/Momentum

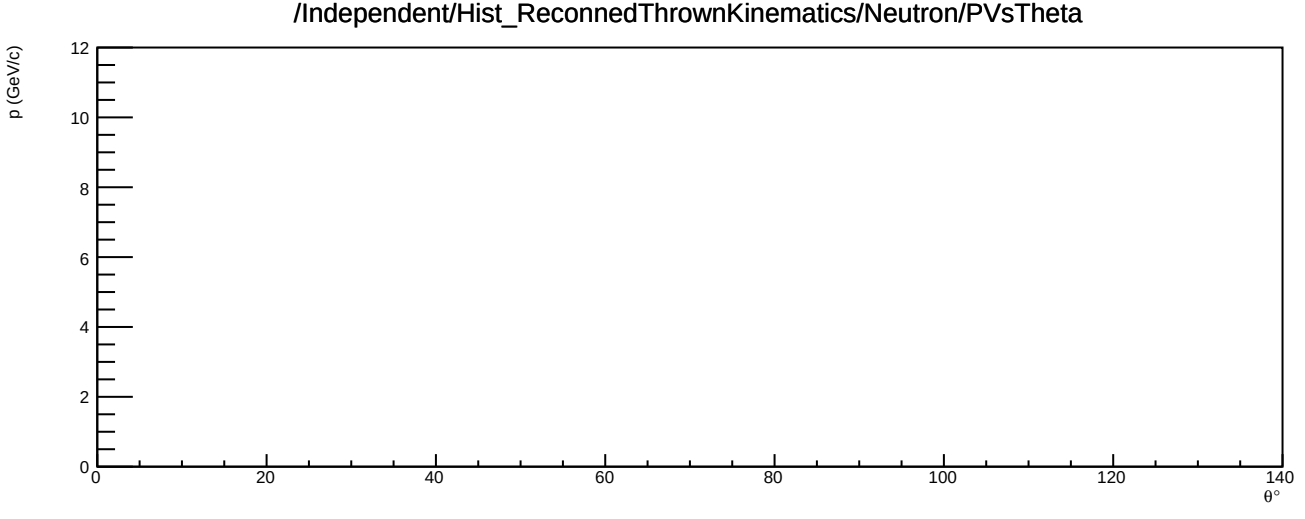


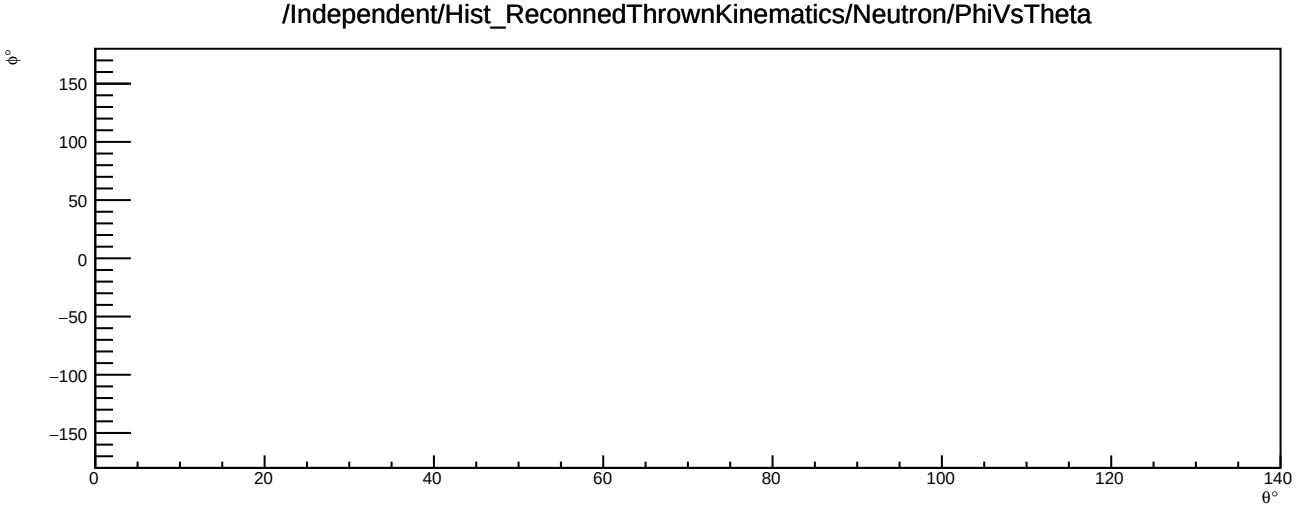

/Independent/Hist_ReconnedThrownKinematics/Neutron/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°

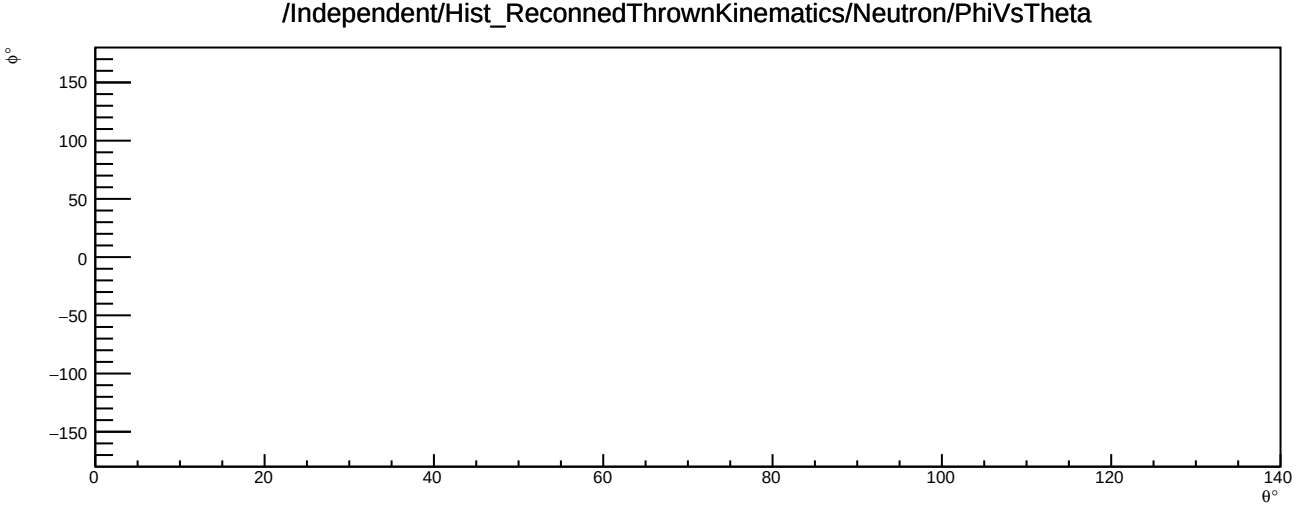
/Independent/Hist_ReconnedThrownKinematics/Neutron/Phi

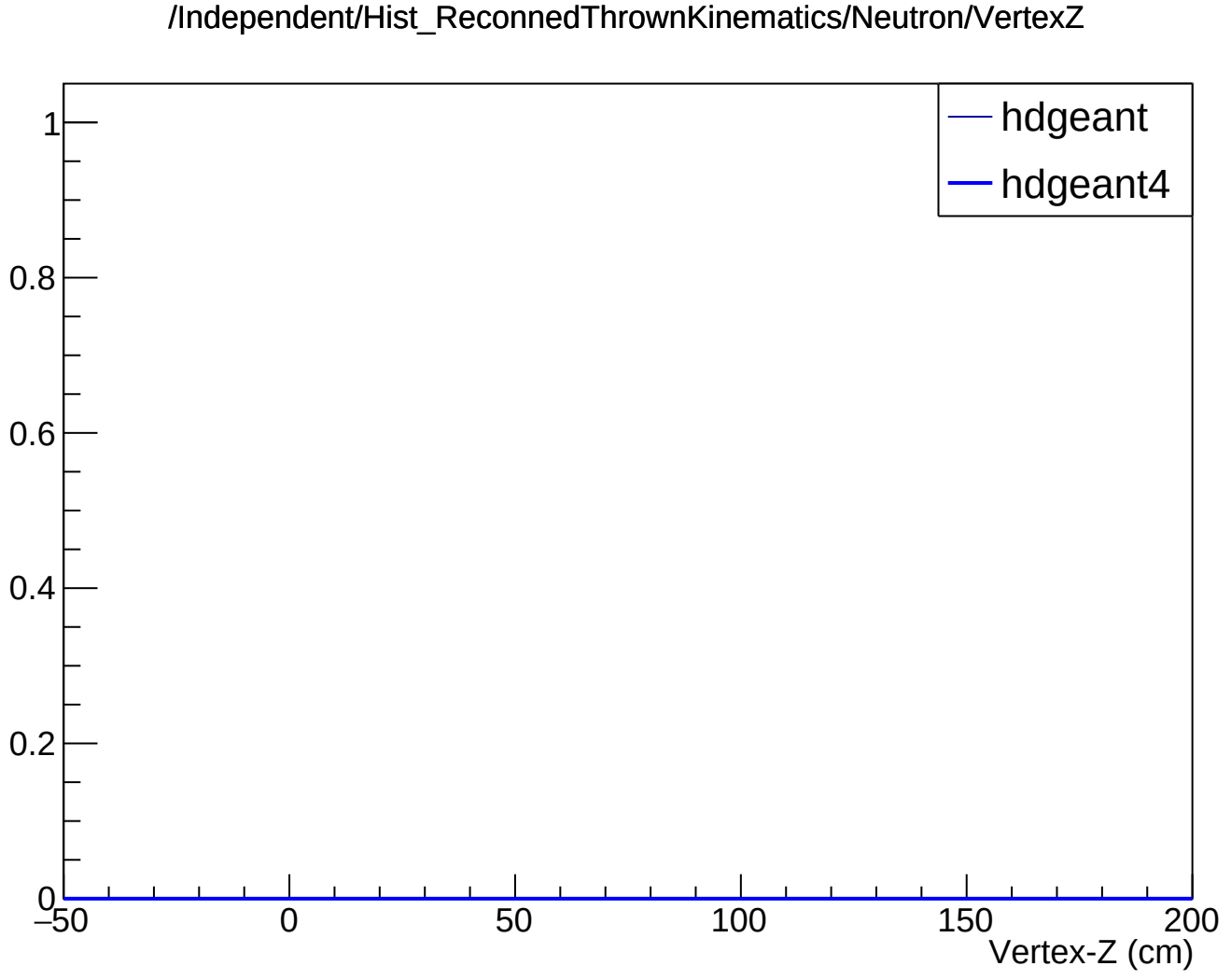


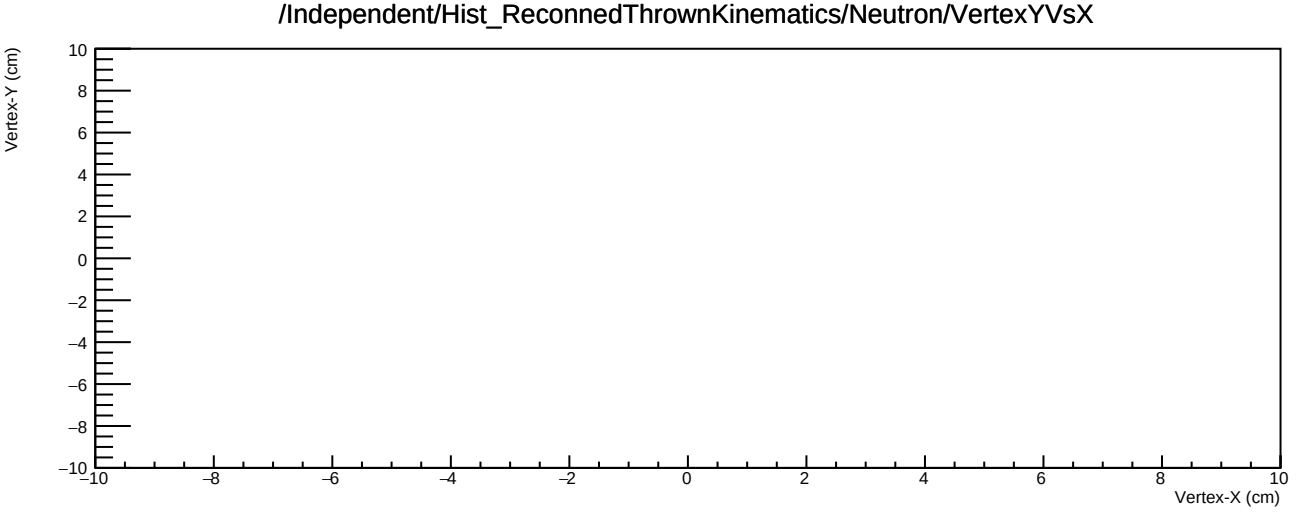

/Independent/Hist_ReconnedThrownKinematics/Neutron/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

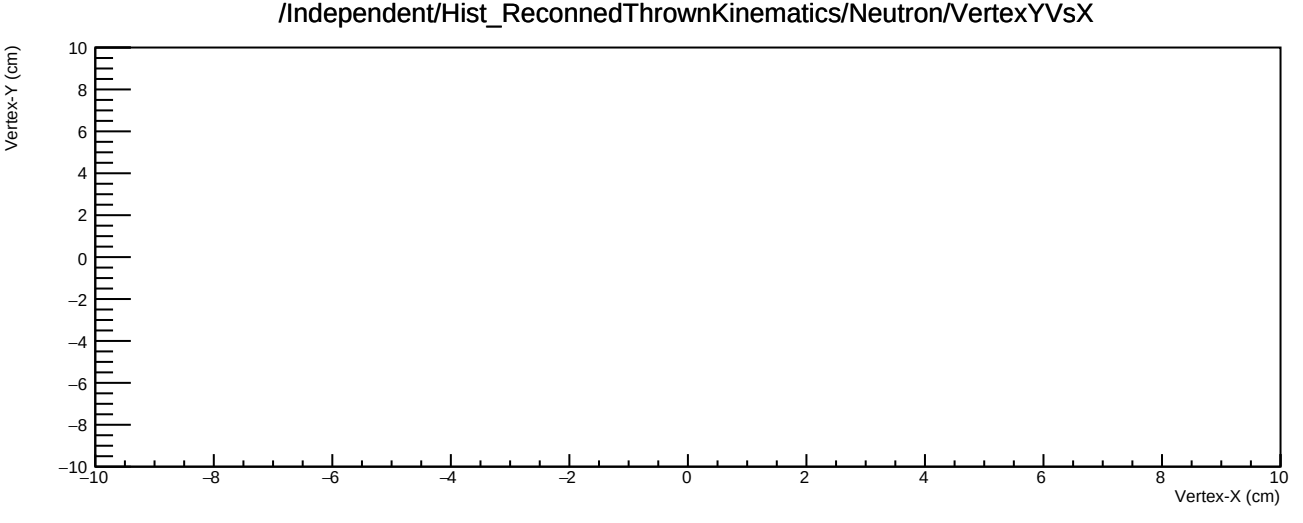

/Independent/Hist_ReconnedThrownKinematics/Neutron/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ReconnedThrownKinematics/Neutron/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

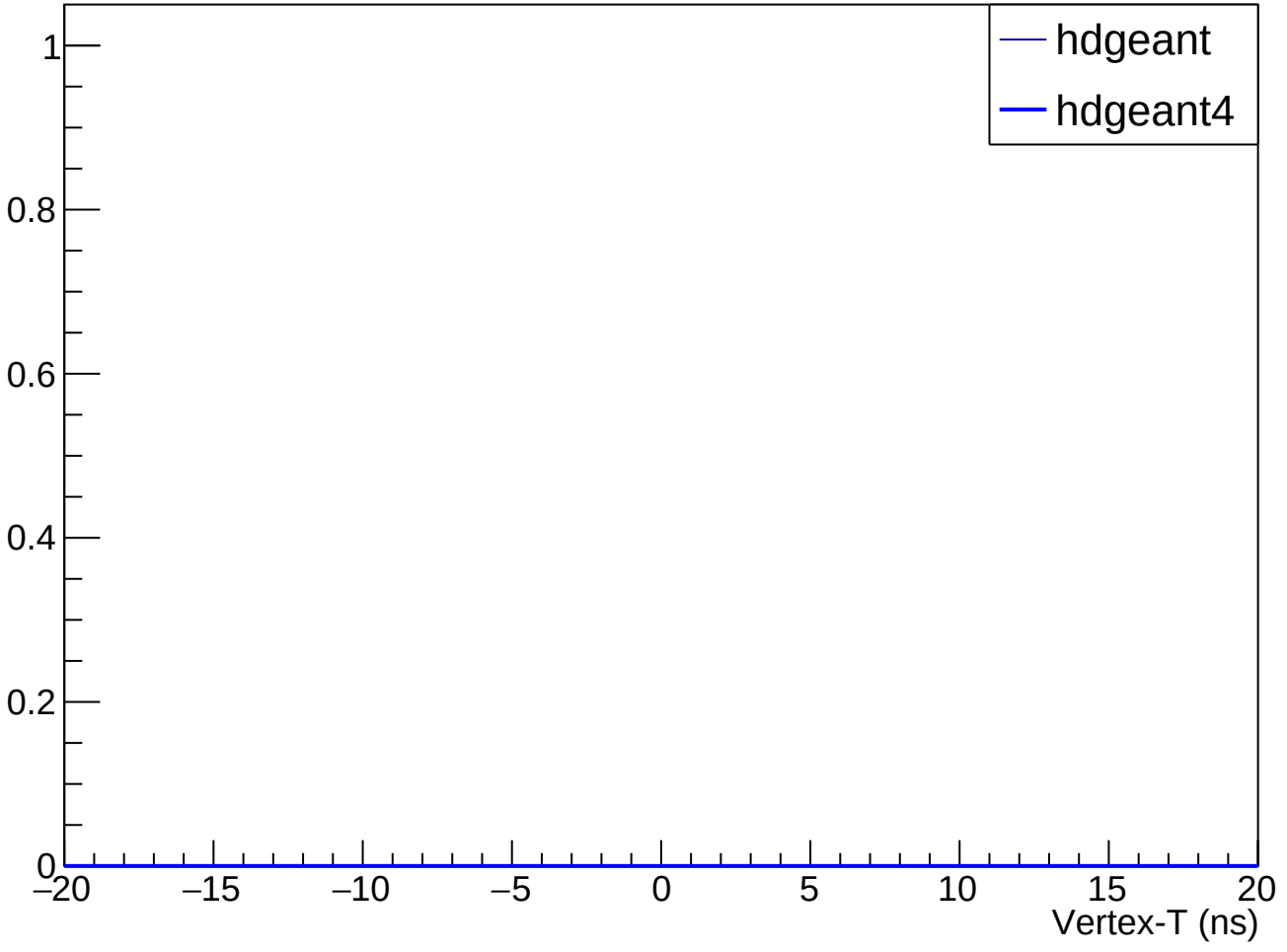

/Independent/Hist_ReconnedThrownKinematics/Neutron/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ReconnedThrownKinematics/Neutron/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)

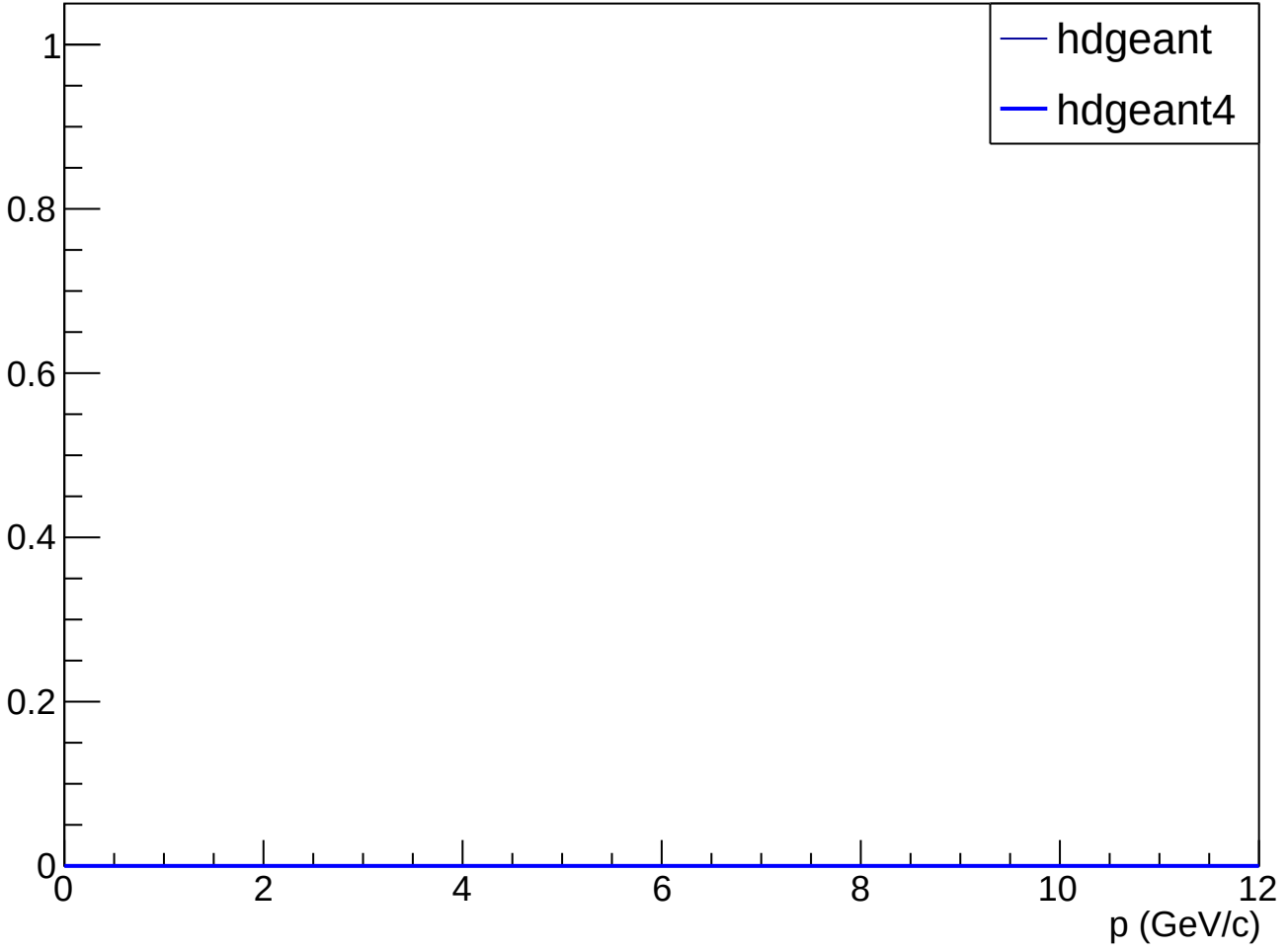

/Independent/Hist_ReconnedThrownKinematics/Neutron/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
–2
–4
–6
–8
–10
–10
–8
–6
–4
–2
0
2
4
6
8
10
Vertex-X (cm)

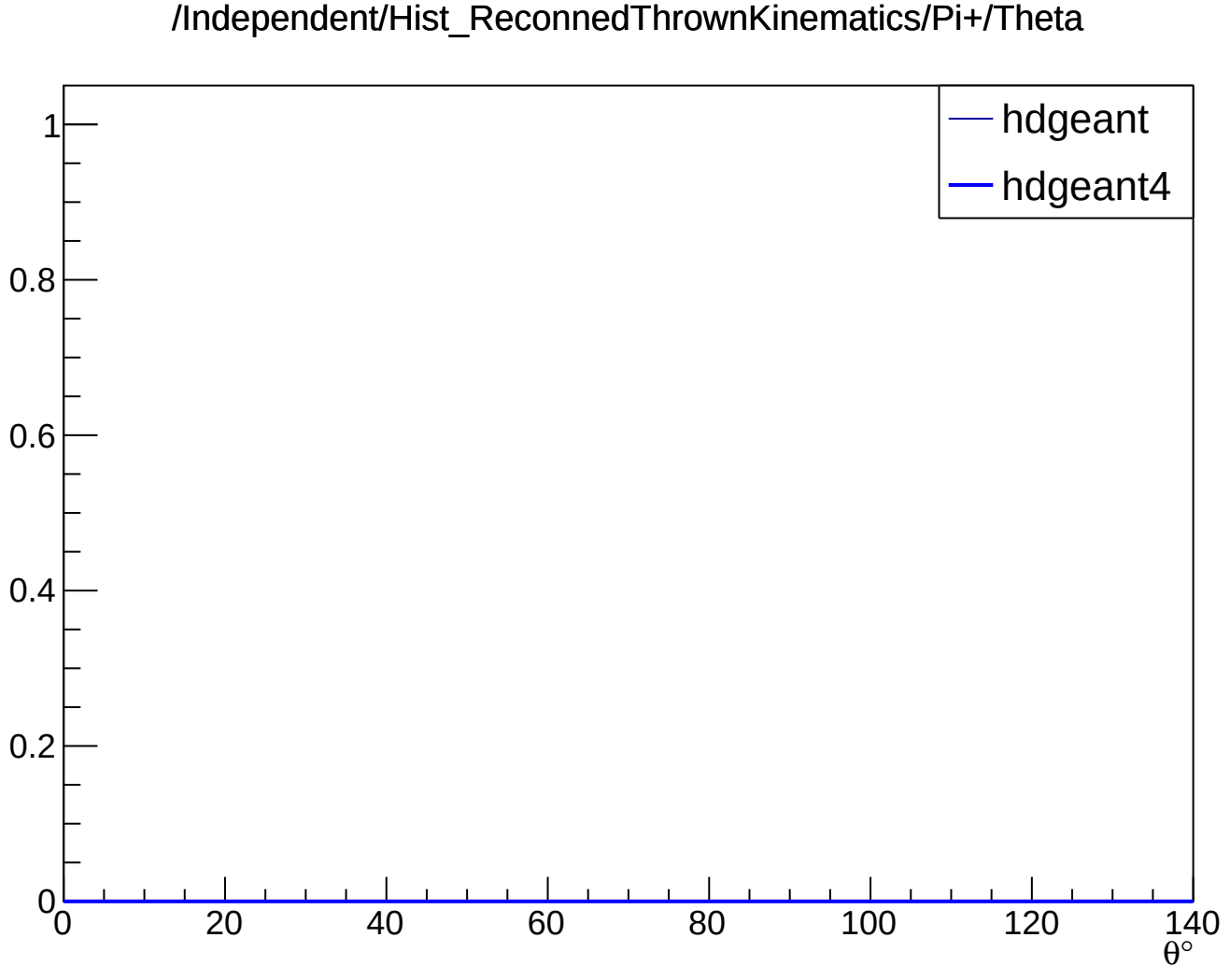

/Independent/Hist_ReconnedThrownKinematics/Neutron/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
–2
–4
–6
–8
–10
–10
–8
–6
–4
–2
0
2
4
6
8
10
Vertex-X (cm)

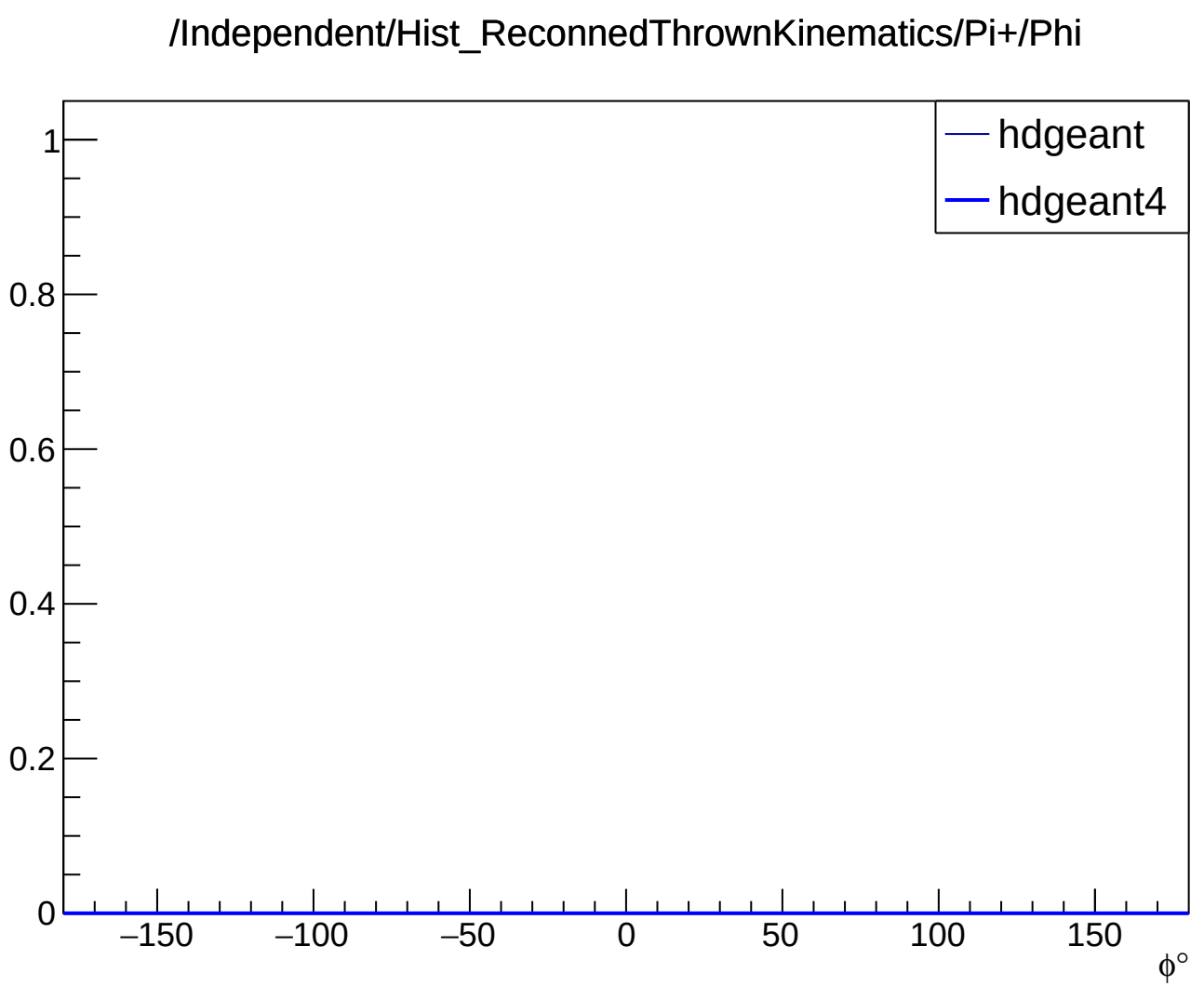
/Independent/Hist_ReconnedThrownKinematics/Neutron/VertexT

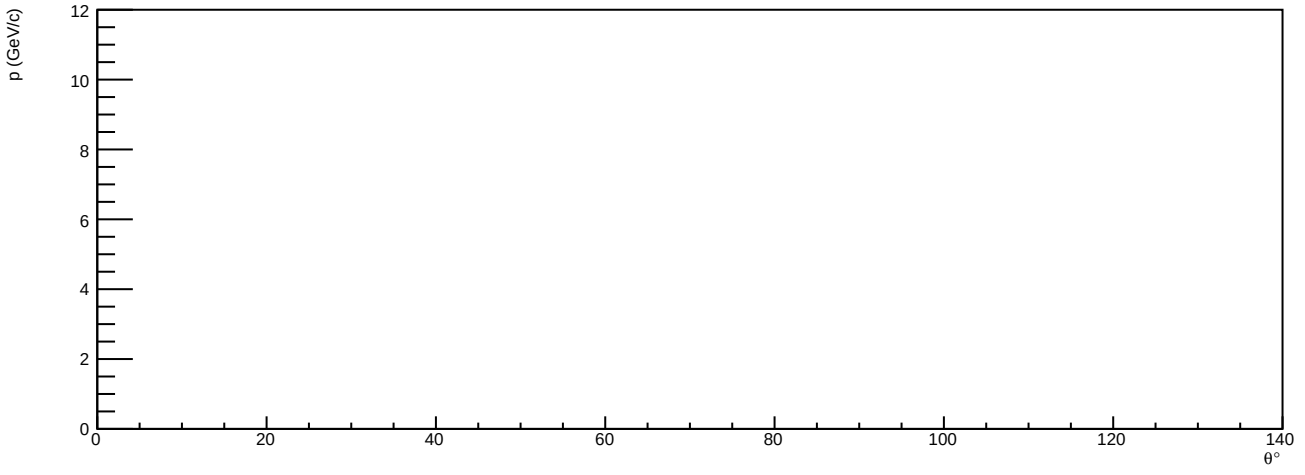


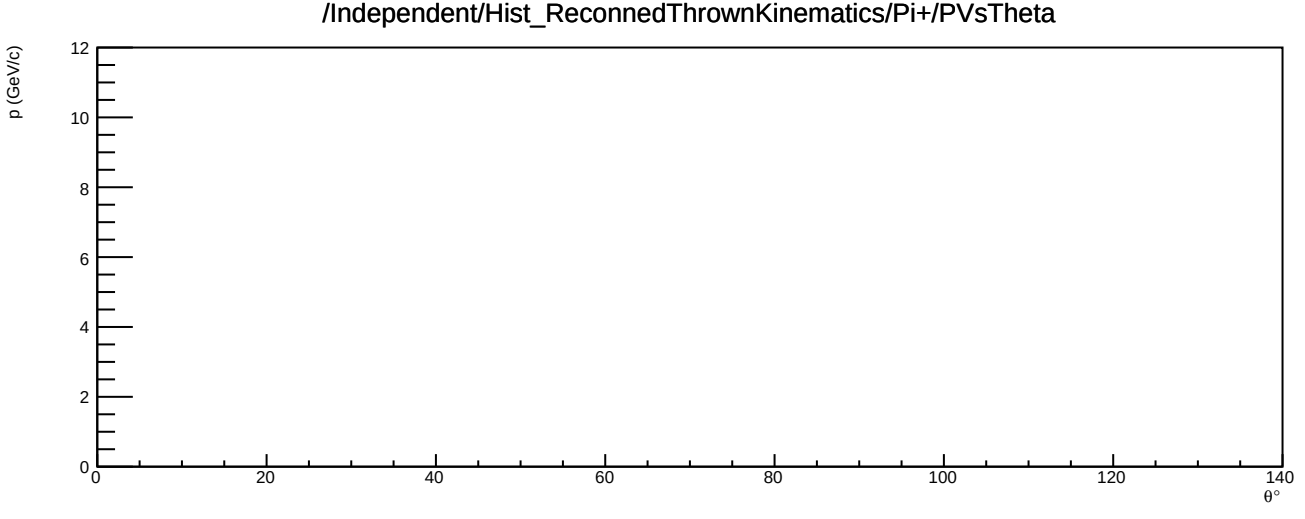
/Independent/Hist_ReconnedThrownKinematics/Pi+/Momentum

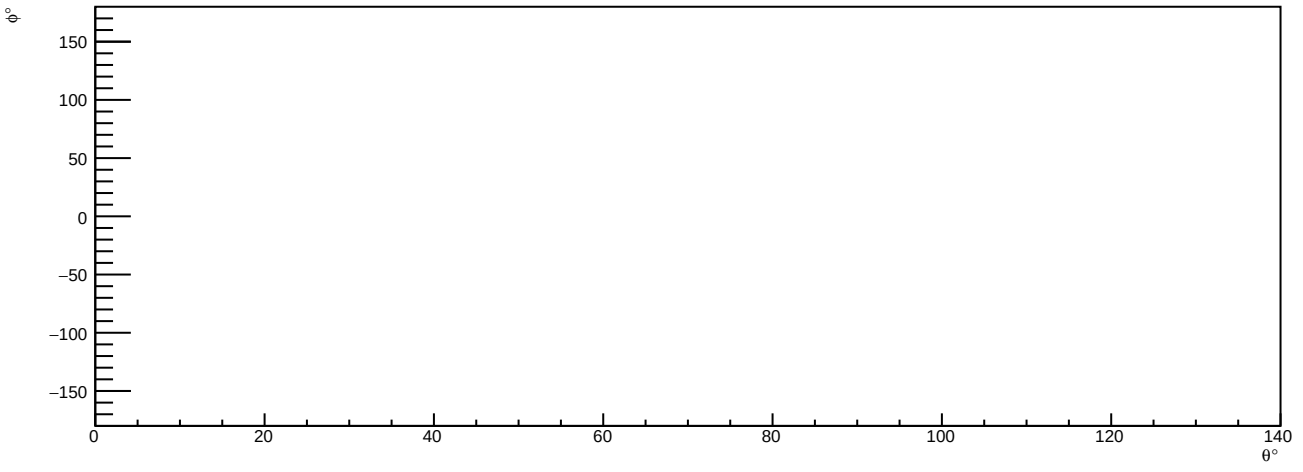


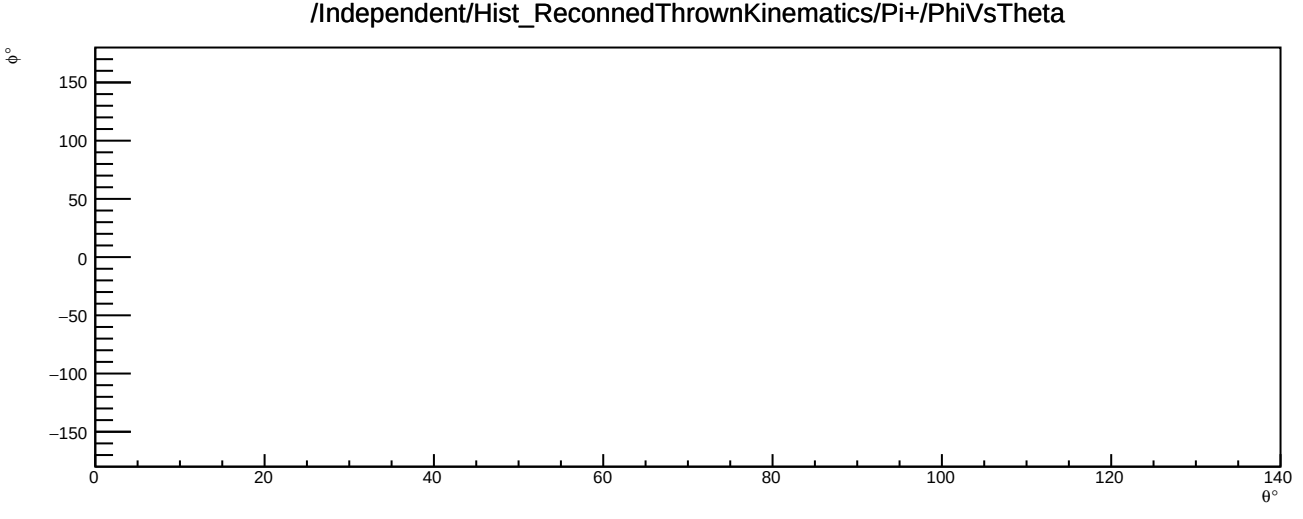

/Independent/Hist_ReconnedThrownKinematics/Pi+/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°

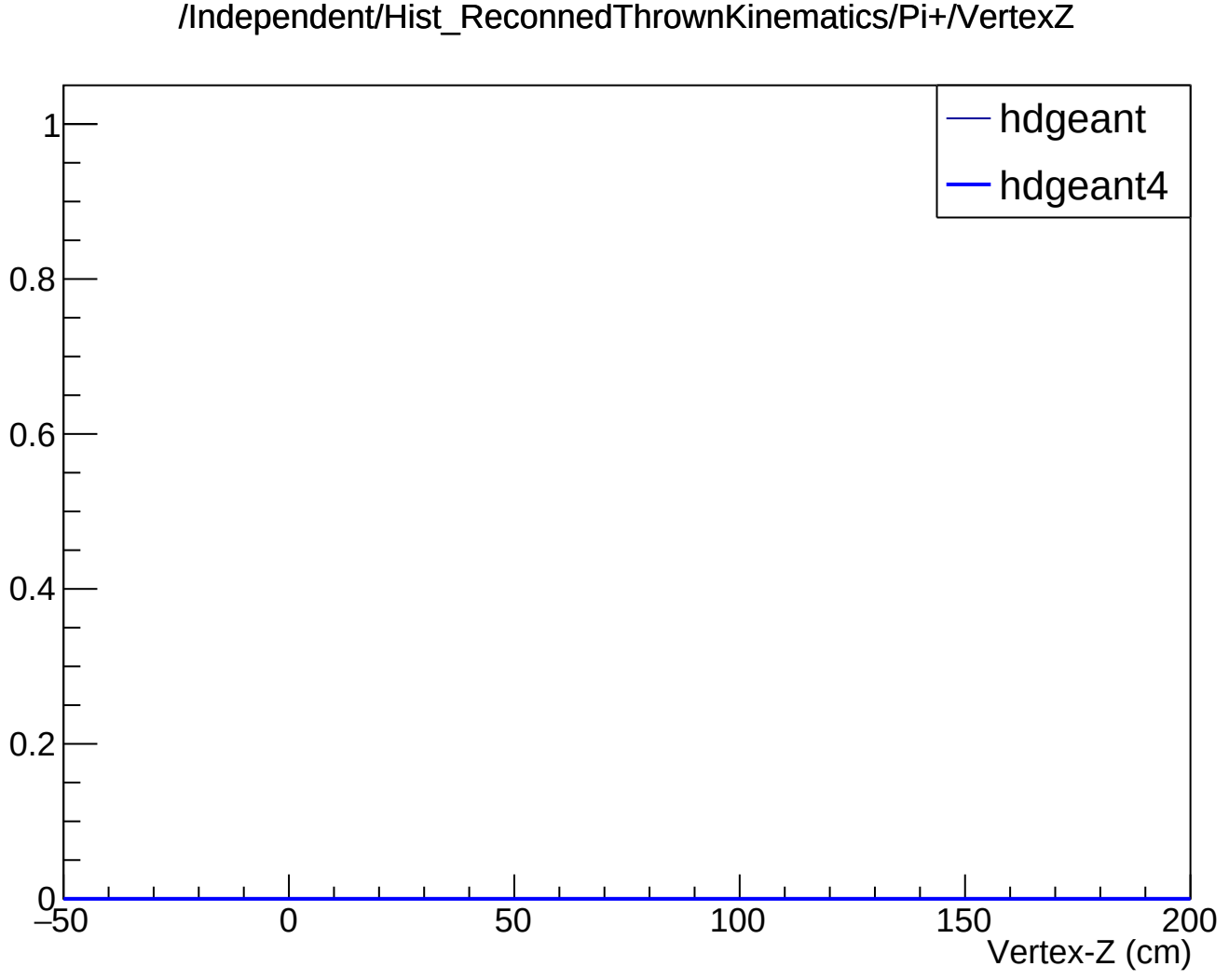

/Independent/Hist_ReconnedThrownKinematics/Pi+/Phi
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

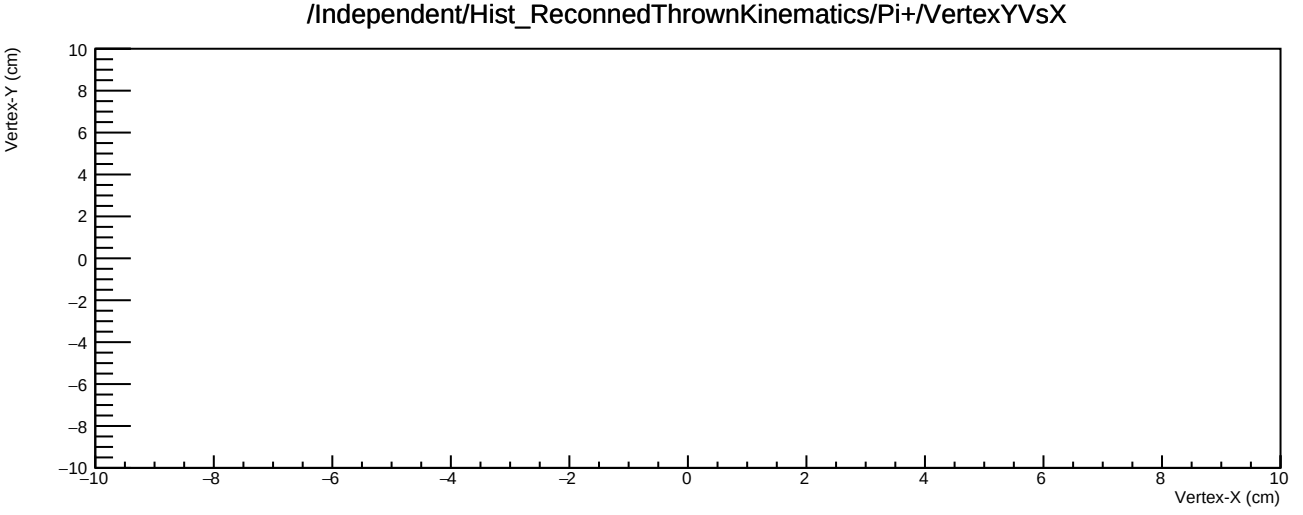

/Independent/Hist_ReconnedThrownKinematics/Pi+/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

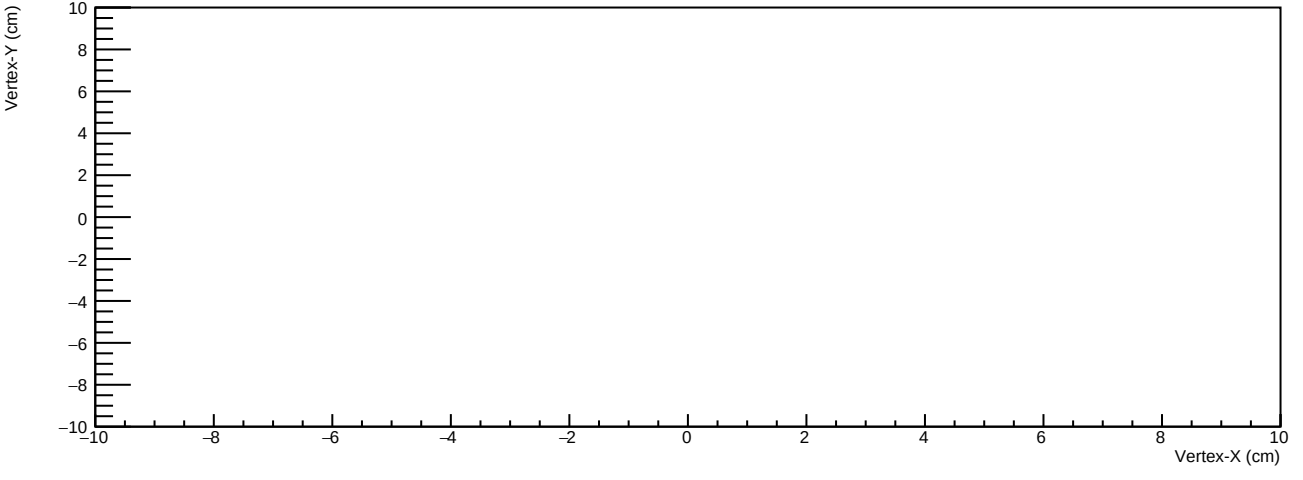

/Independent/Hist_ReconnedThrownKinematics/Pi+/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ReconnedThrownKinematics/Pi+/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

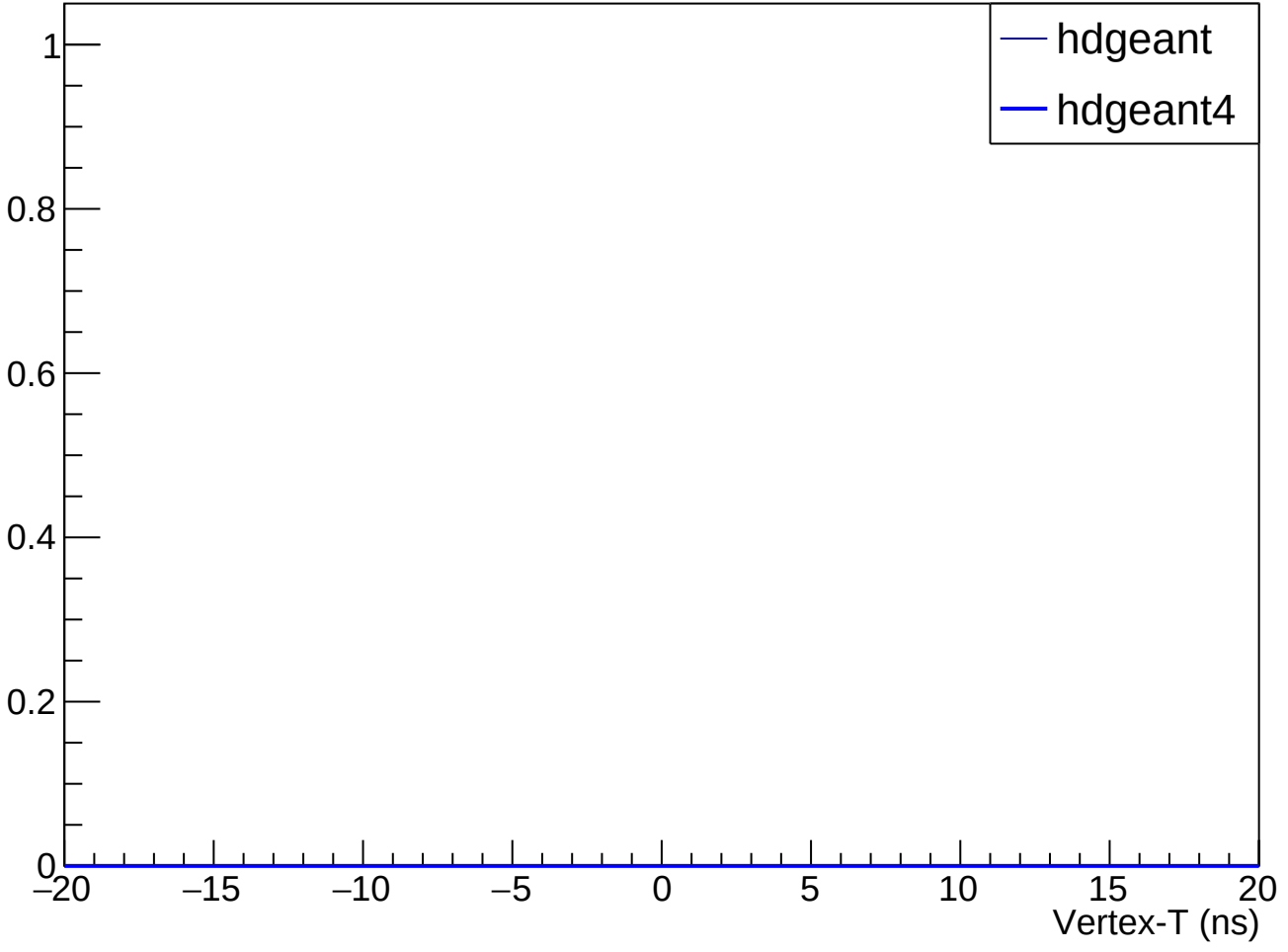

/Independent/Hist_ReconnedThrownKinematics/Pi+/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

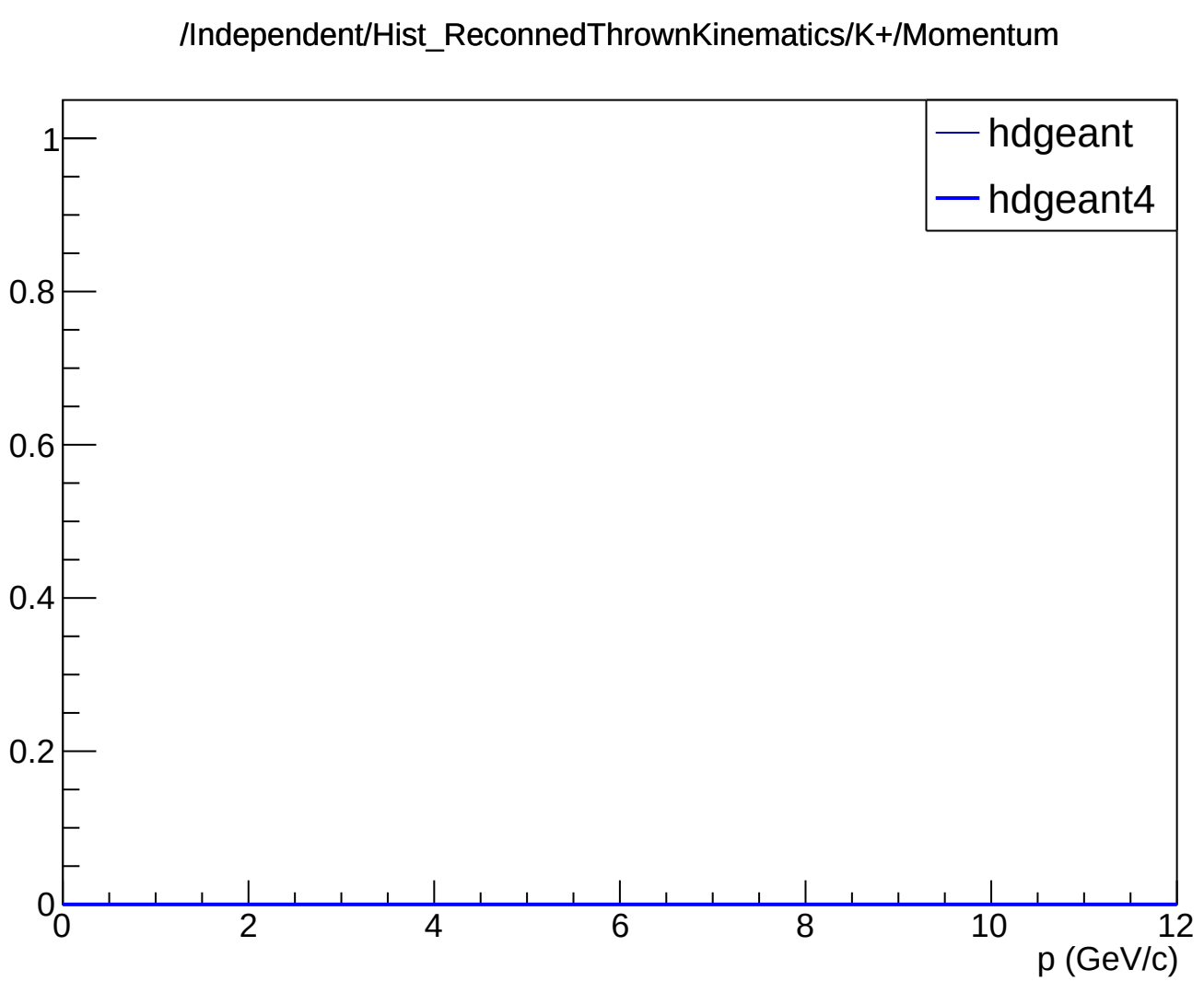

/Independent/Hist_ReconnedThrownKinematics/Pi+/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)

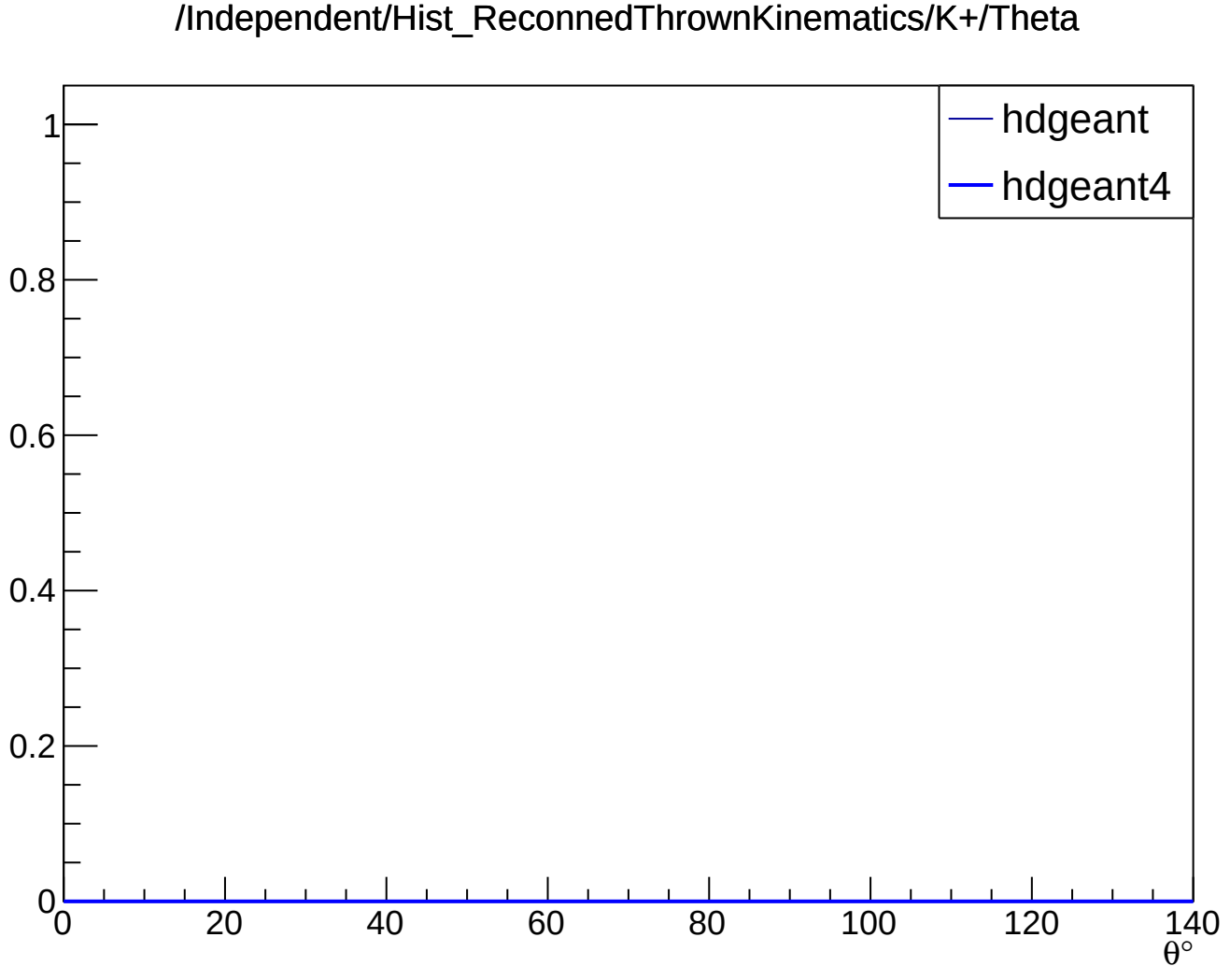

/Independent/Hist_ReconnedThrownKinematics/Pi+/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

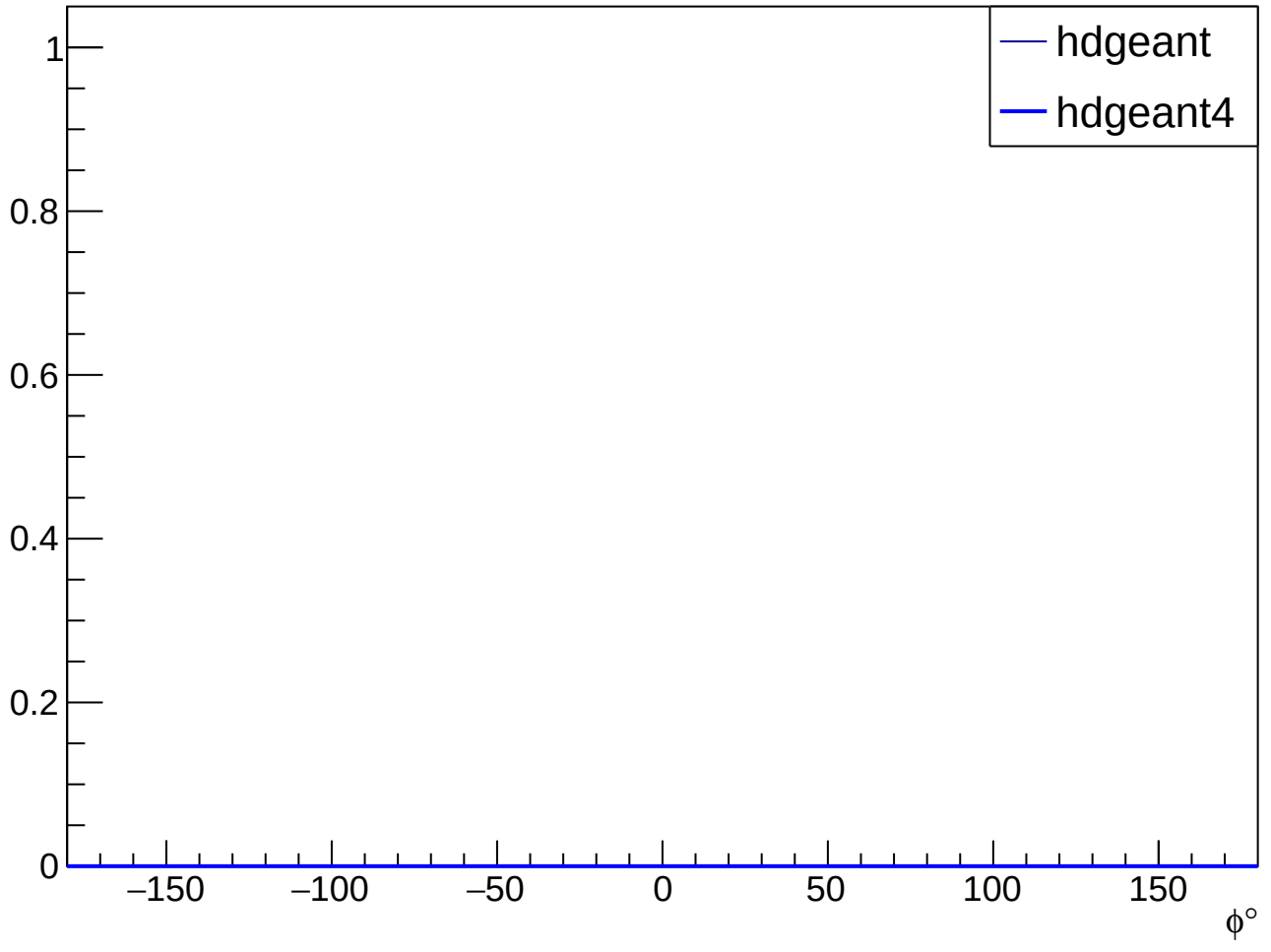

/Independent/Hist_ReconnedThrownKinematics/Pi+/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

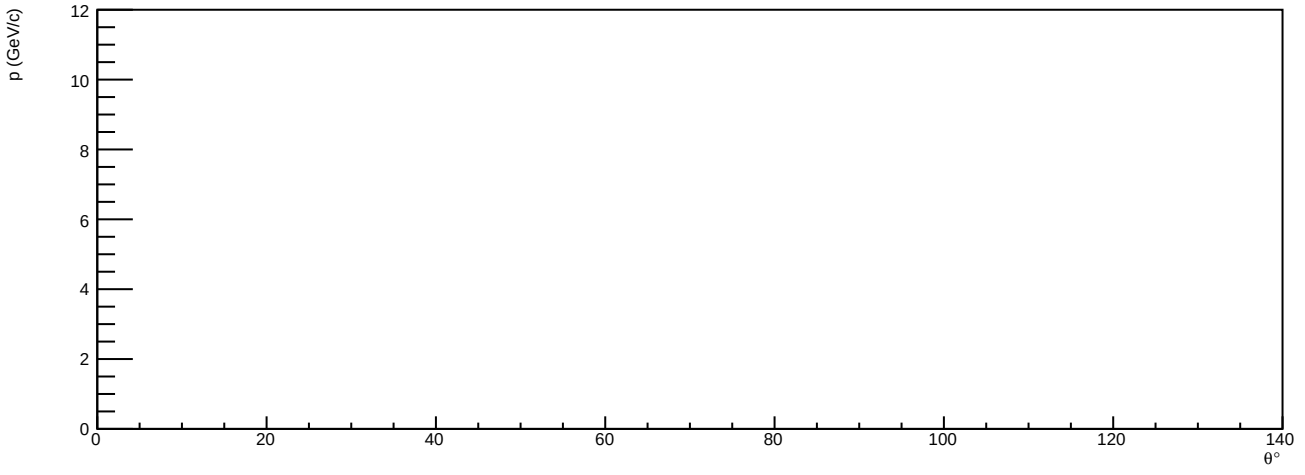
/Independent/Hist_ReconnedThrownKinematics/Pi+/VertexT

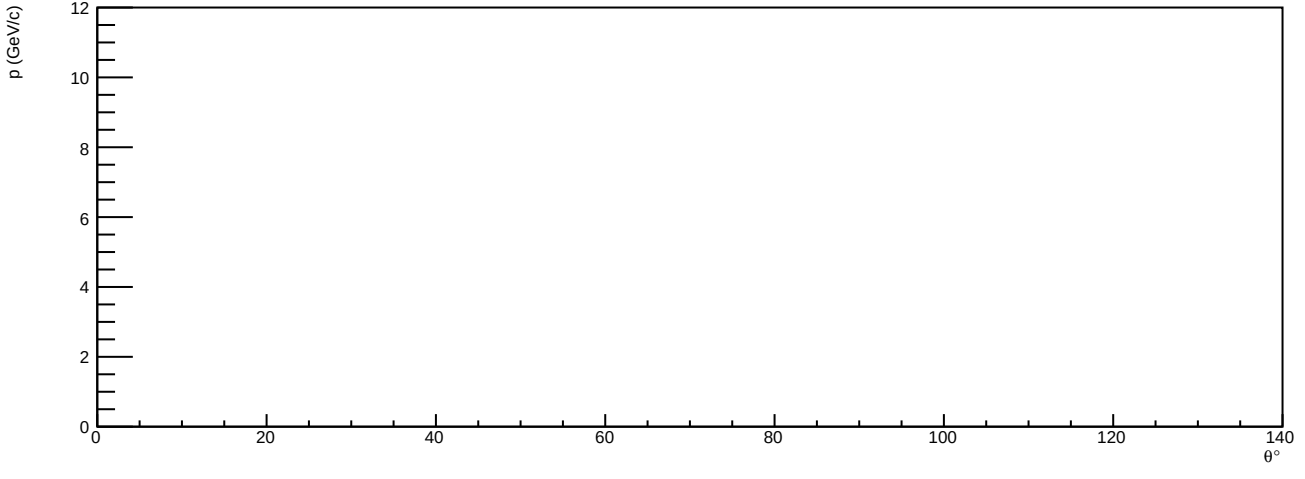


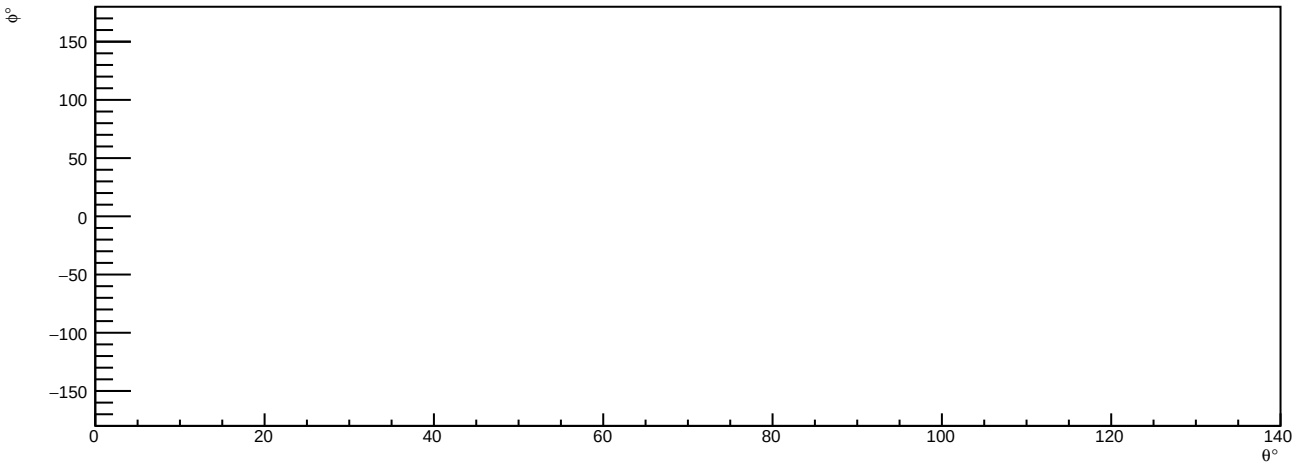

/Independent/Hist_ReconnedThrownKinematics/K+/Momentum
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
p (GeV/c)

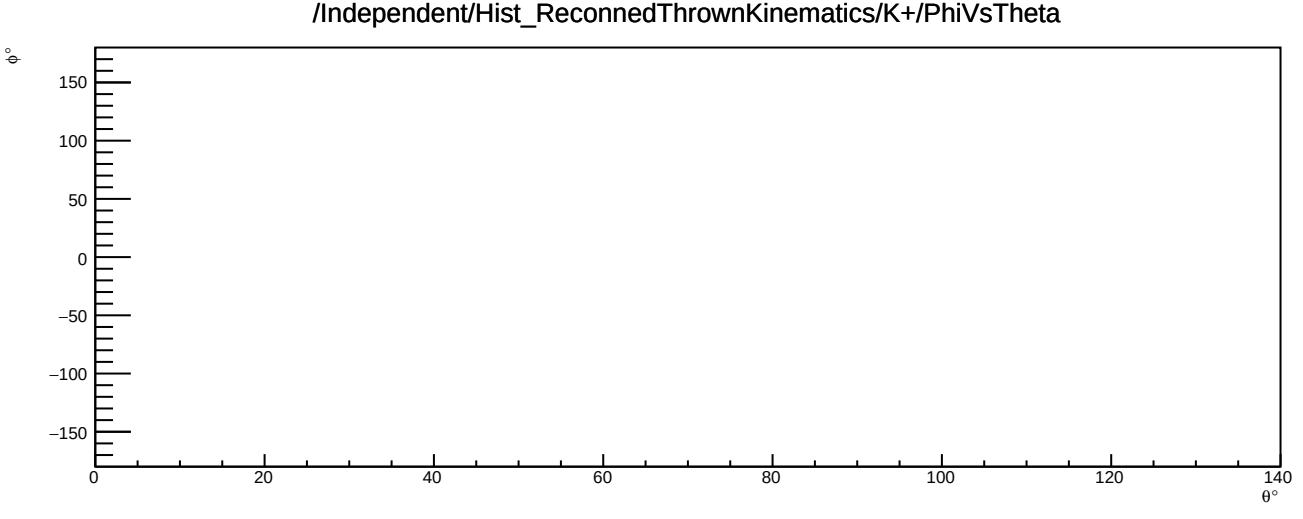

/Independent/Hist_ReconnedThrownKinematics/K+/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ReconnedThrownKinematics/K+/Phi
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

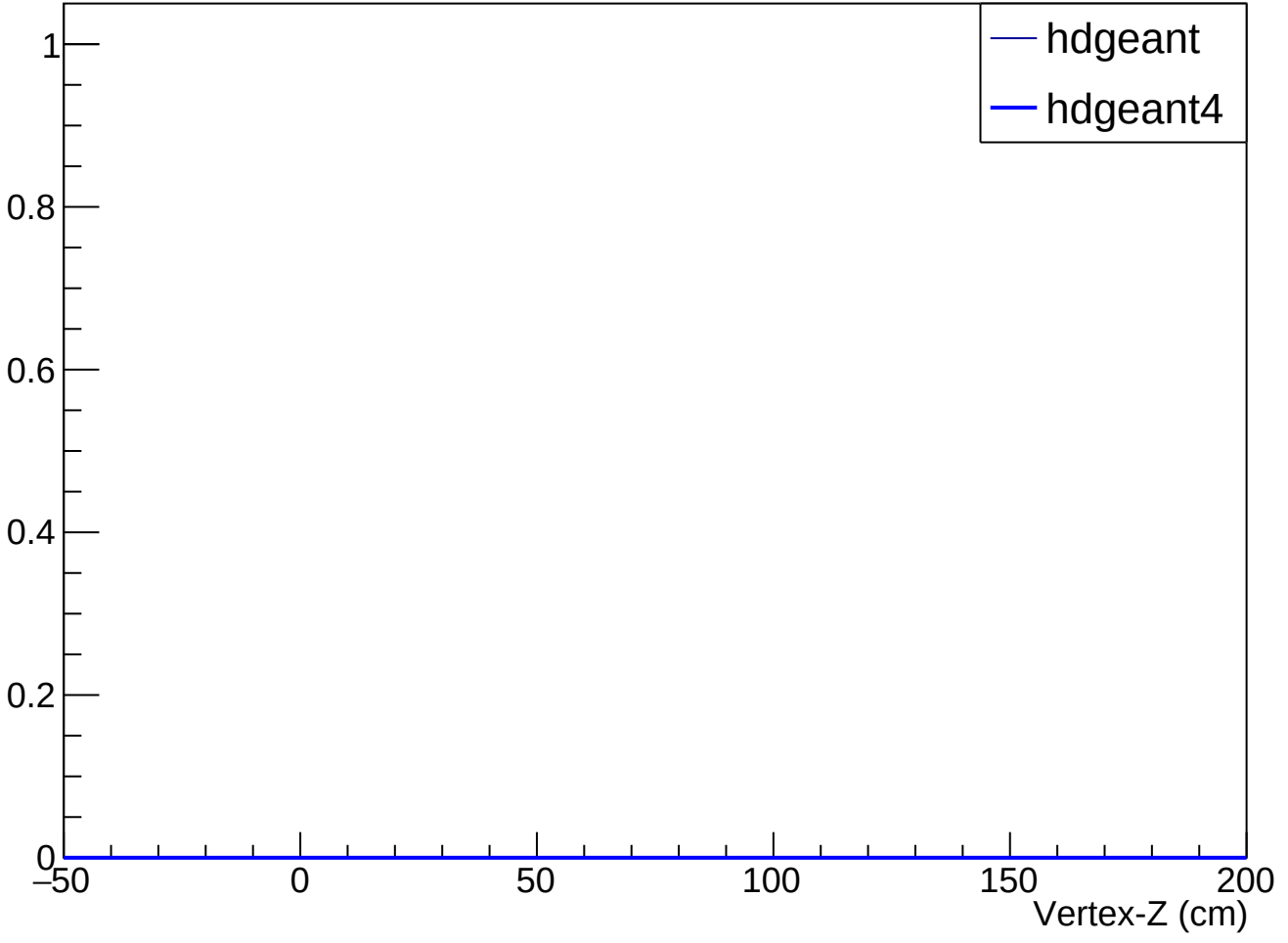

/Independent/Hist_ReconnedThrownKinematics/K+/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

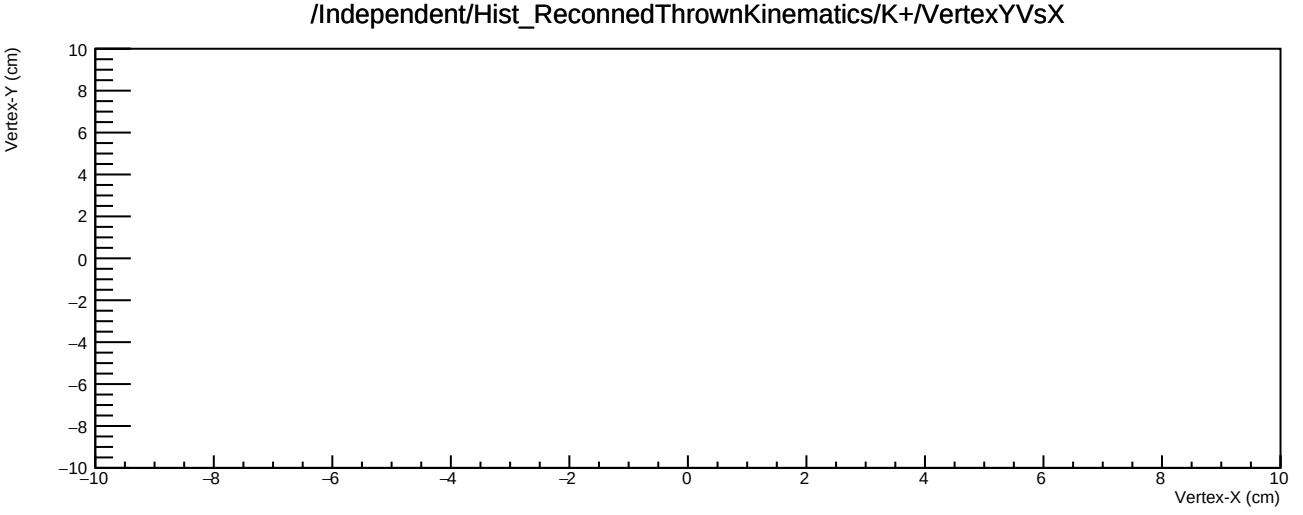

/Independent/Hist_ReconnedThrownKinematics/K+/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

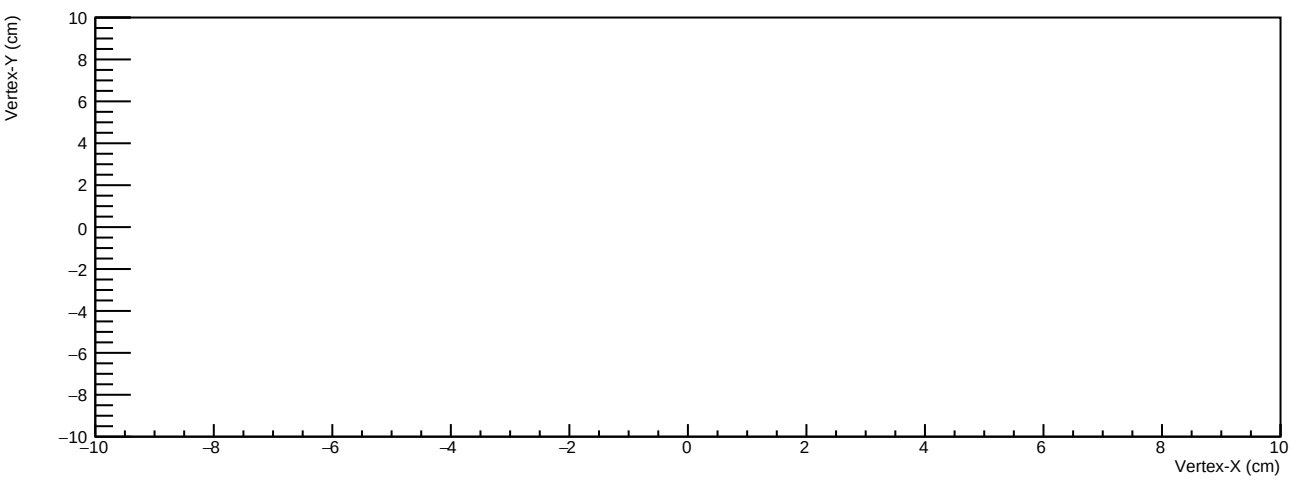

/Independent/Hist_ReconnedThrownKinematics/K+/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ReconnedThrownKinematics/K+/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

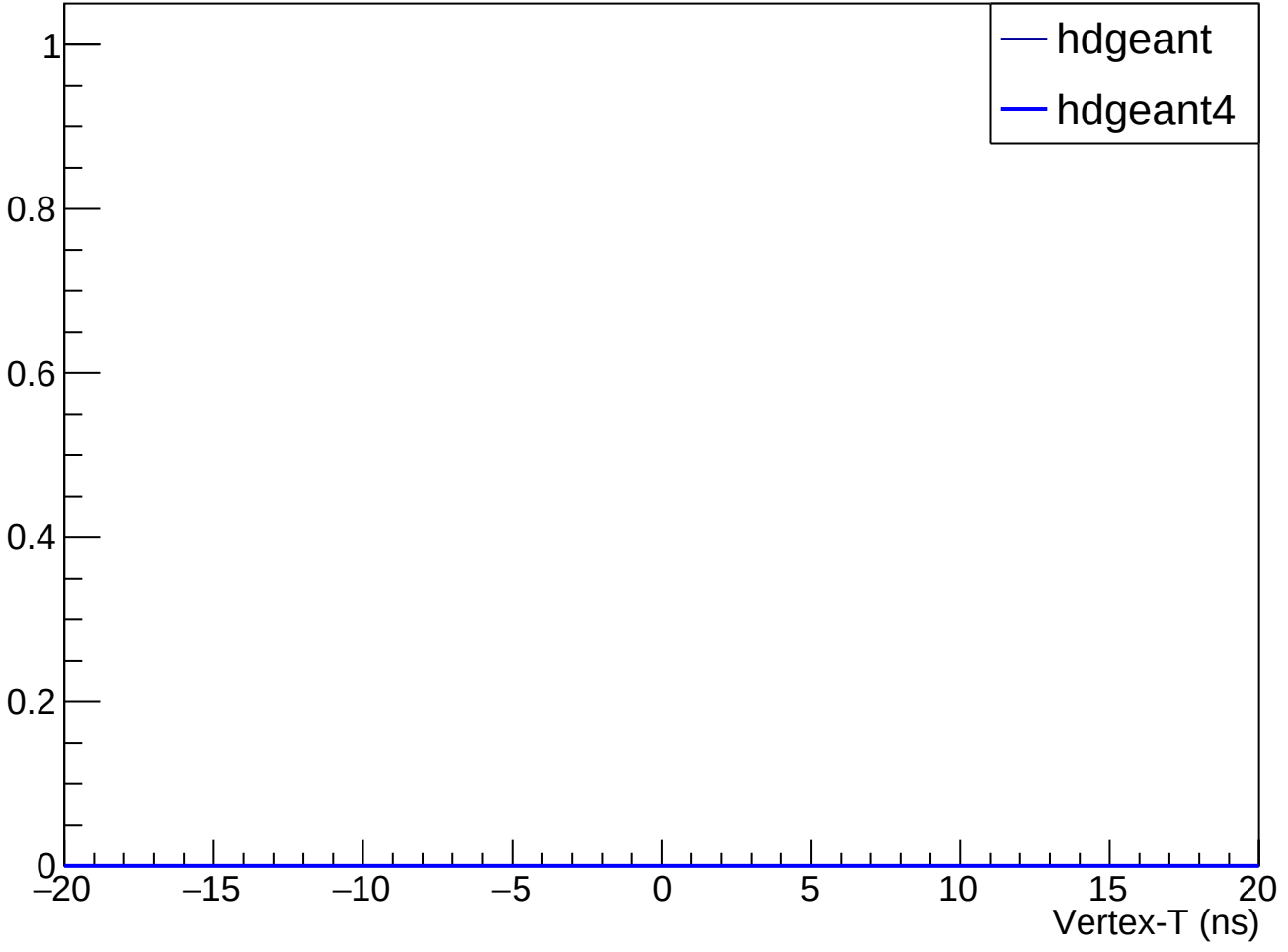
/Independent/Hist_ReconnedThrownKinematics/K+/VertexZ



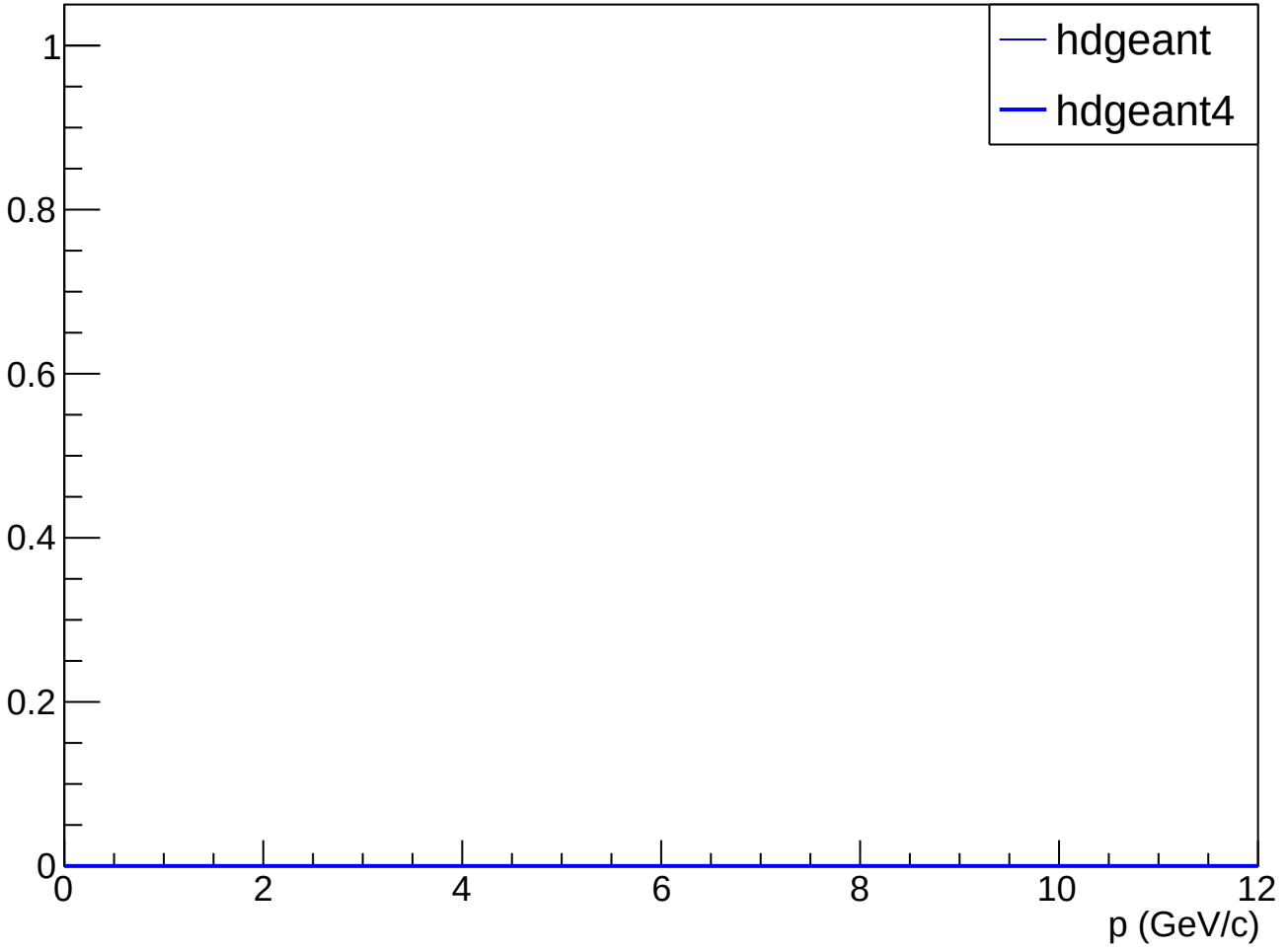

/Independent/Hist_ReconnedThrownKinematics/K+/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

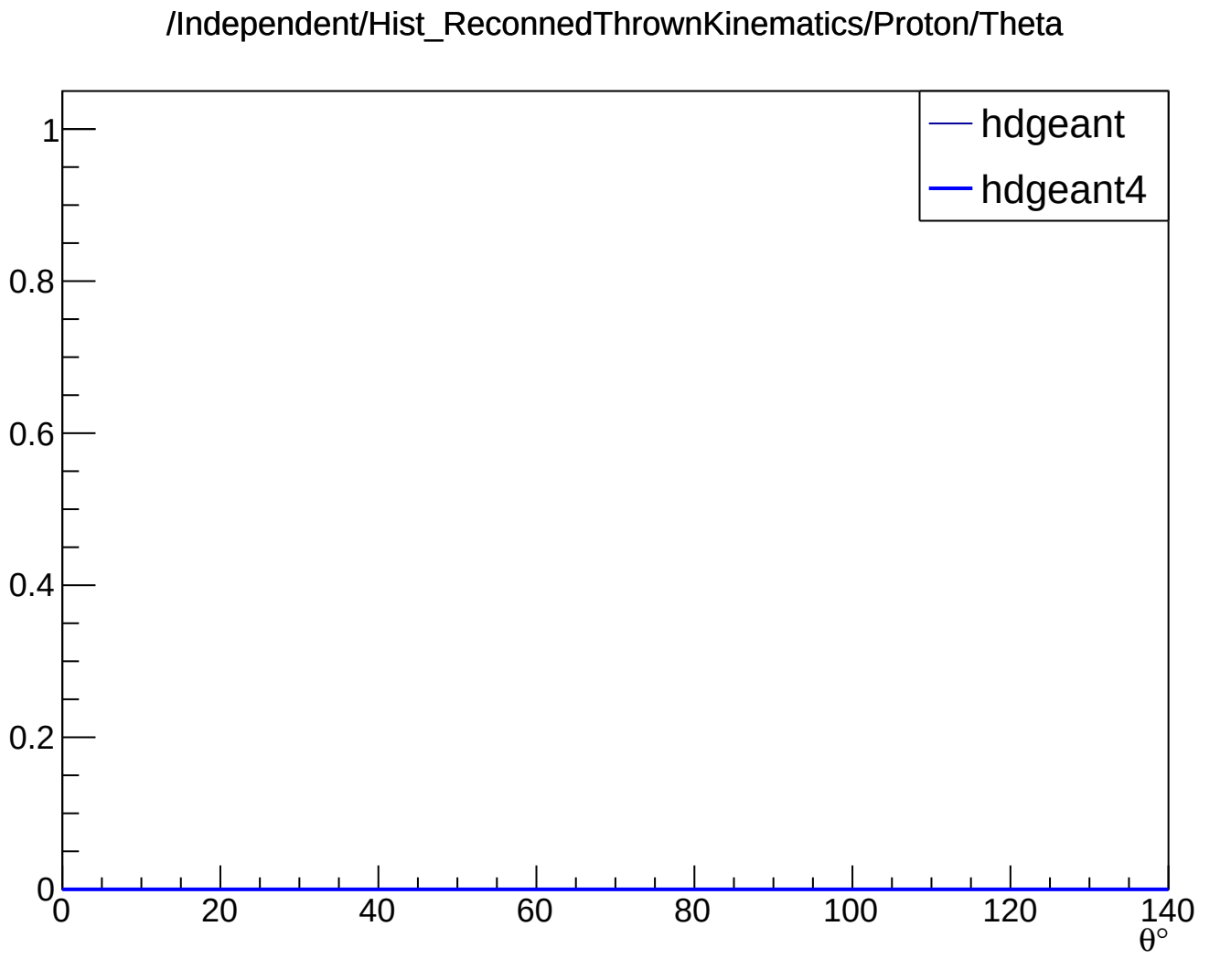

/Independent/Hist_ReconnedThrownKinematics/K+/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

/Independent/Hist_ReconnedThrownKinematics/K+/VertexT

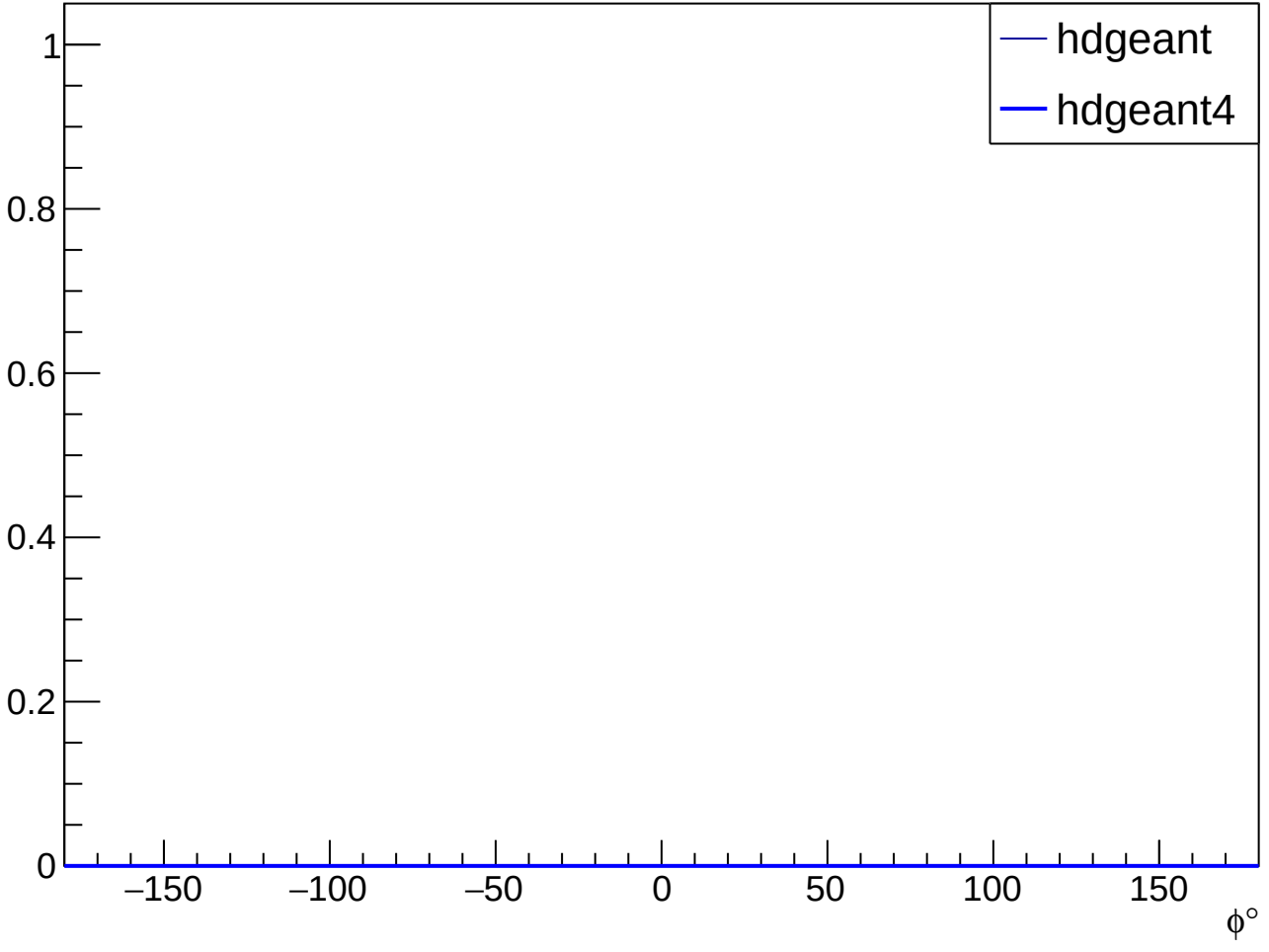


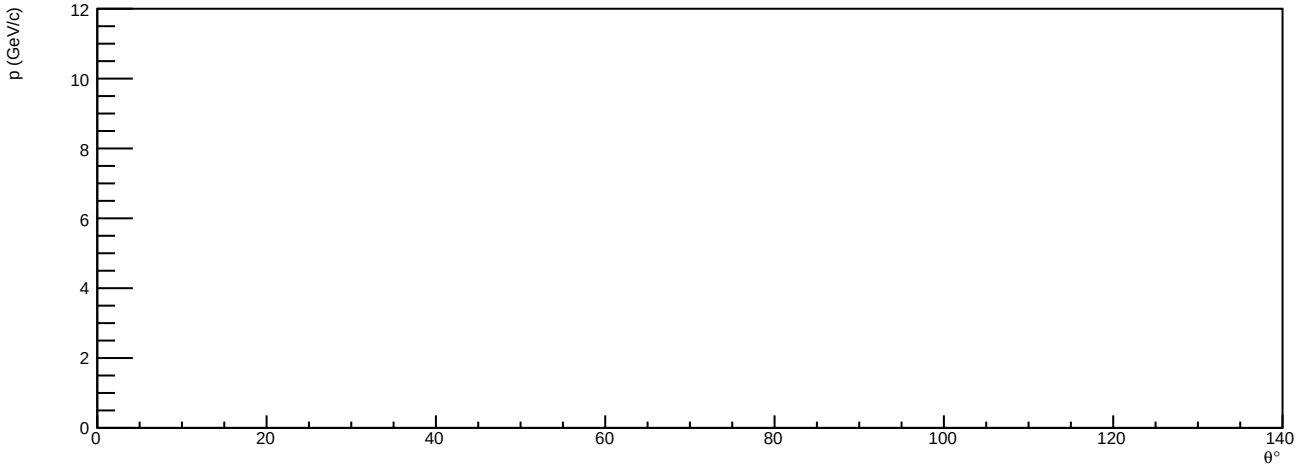
/Independent/Hist_ReconnedThrownKinematics/Proton/Momentum

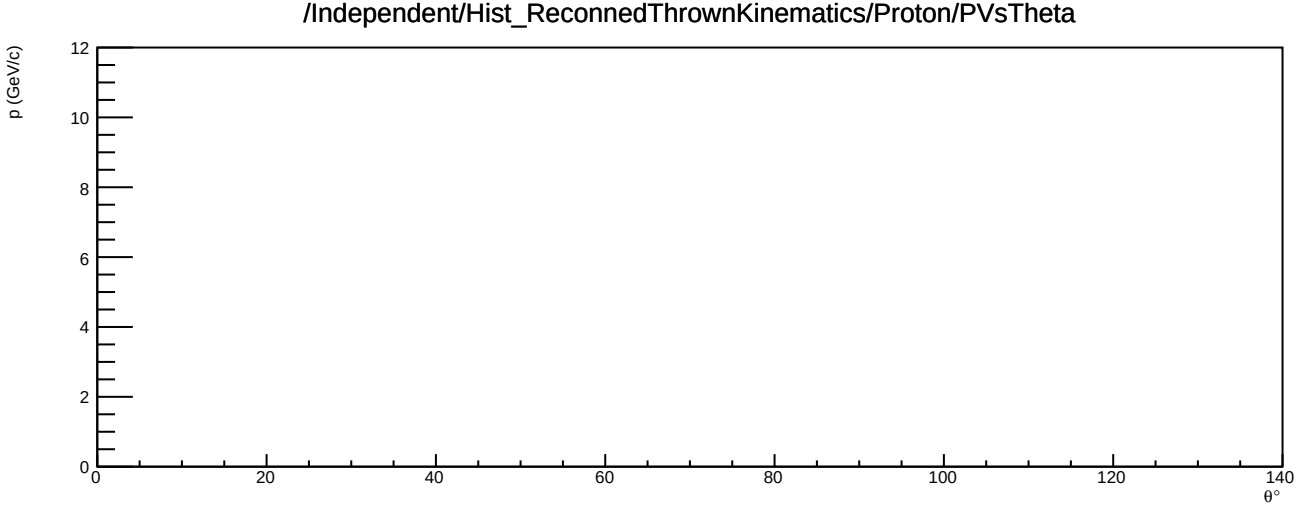


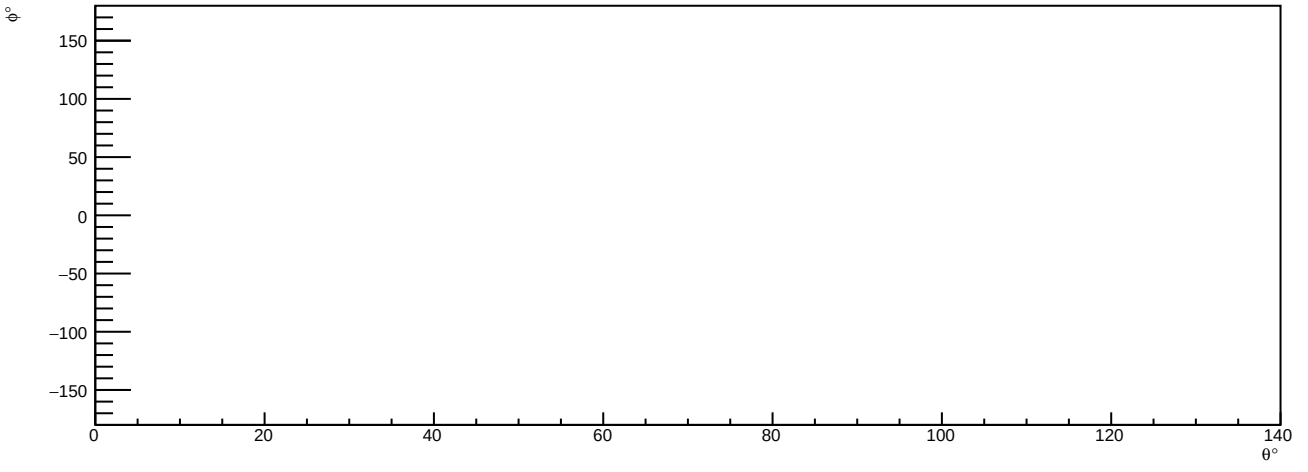

/Independent/Hist_ReconnedThrownKinematics/Proton/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°

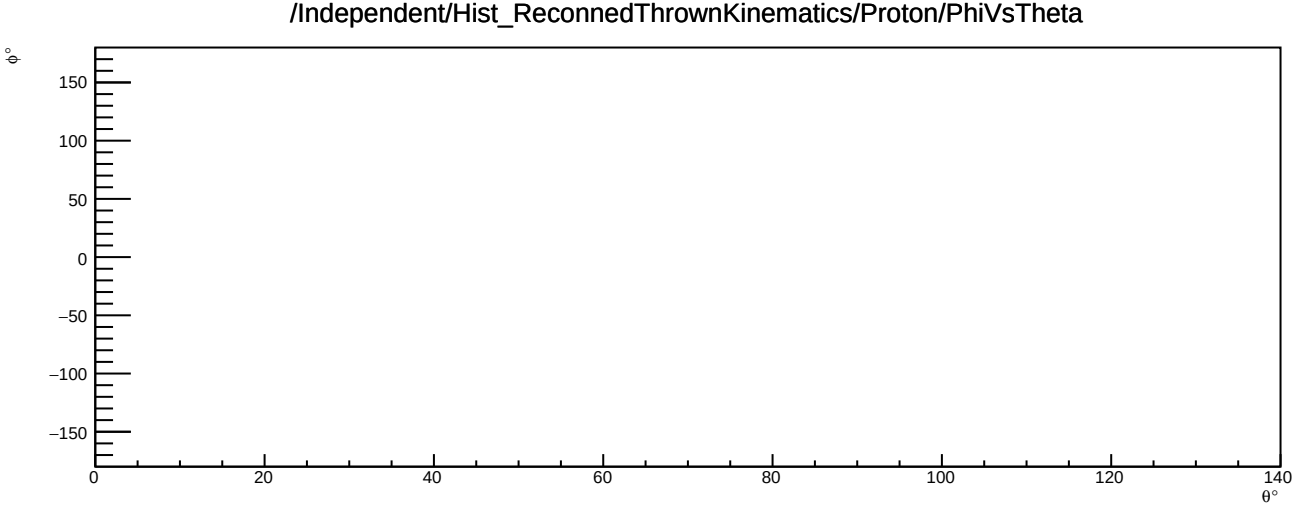
/Independent/Hist_ReconnedThrownKinematics/Proton/Phi

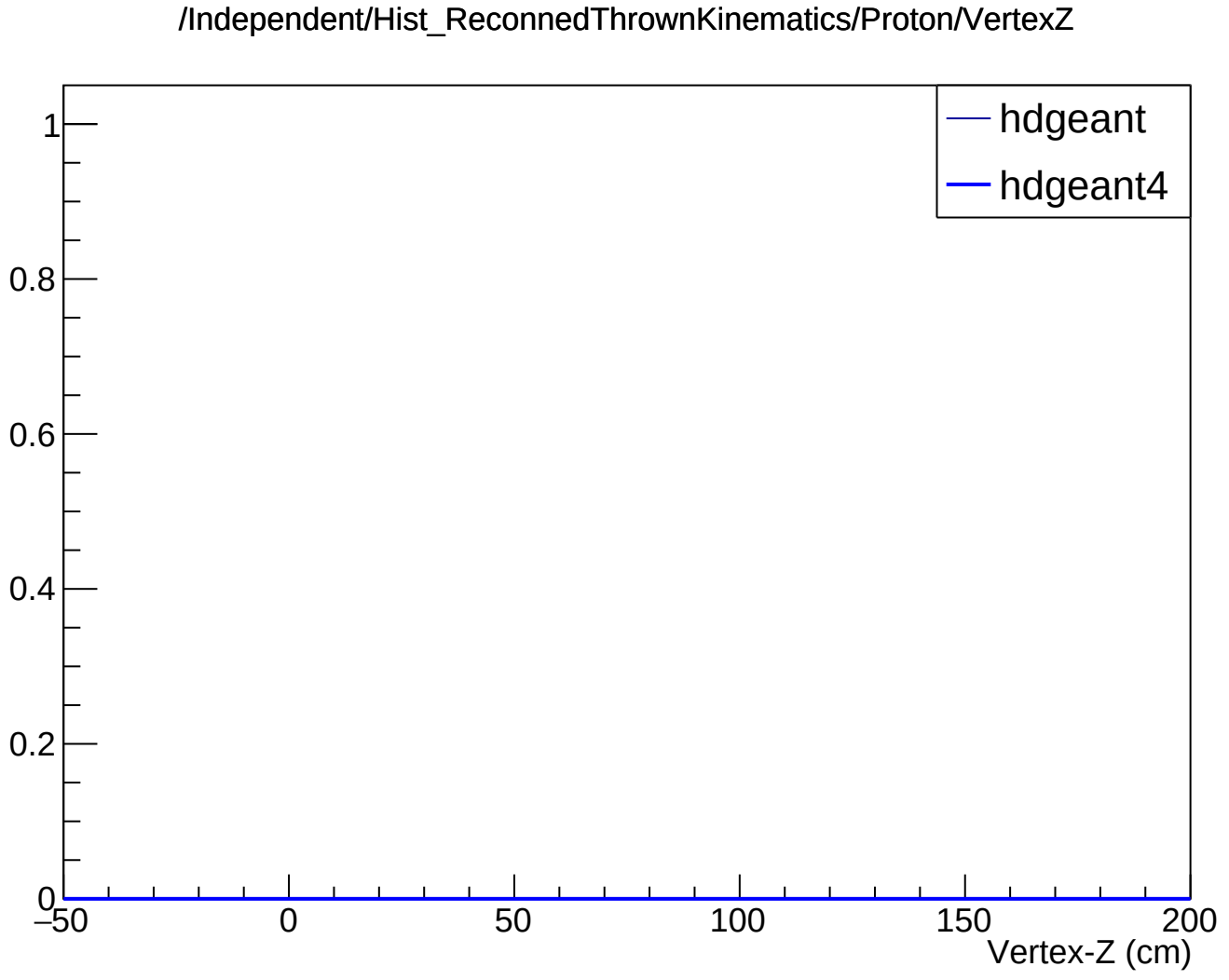


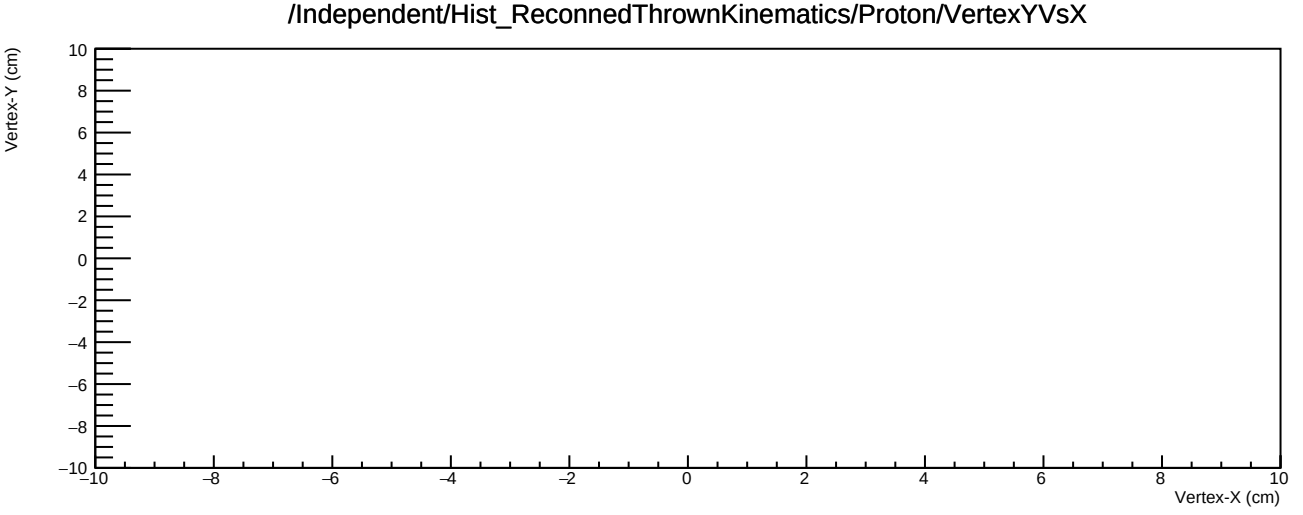

/Independent/Hist_ReconnedThrownKinematics/Proton/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

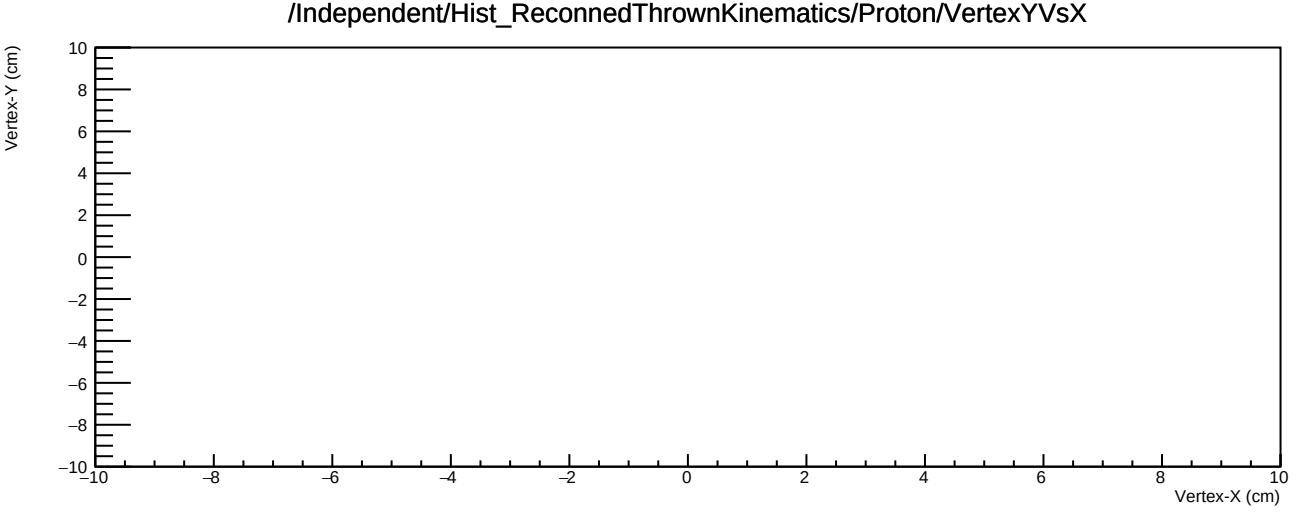

/Independent/Hist_ReconnedThrownKinematics/Proton/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ReconnedThrownKinematics/Proton/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

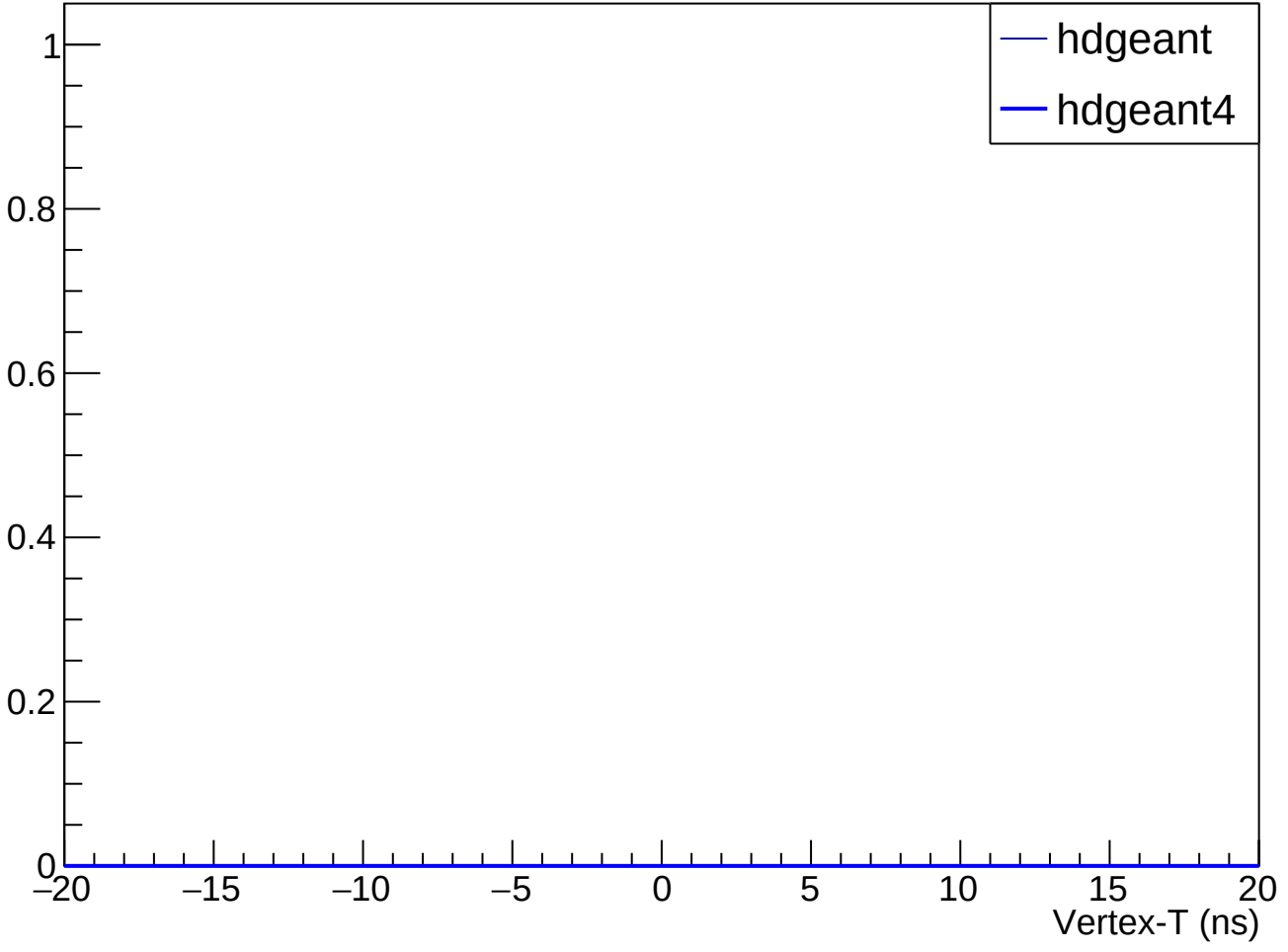

/Independent/Hist_ReconnedThrownKinematics/Proton/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

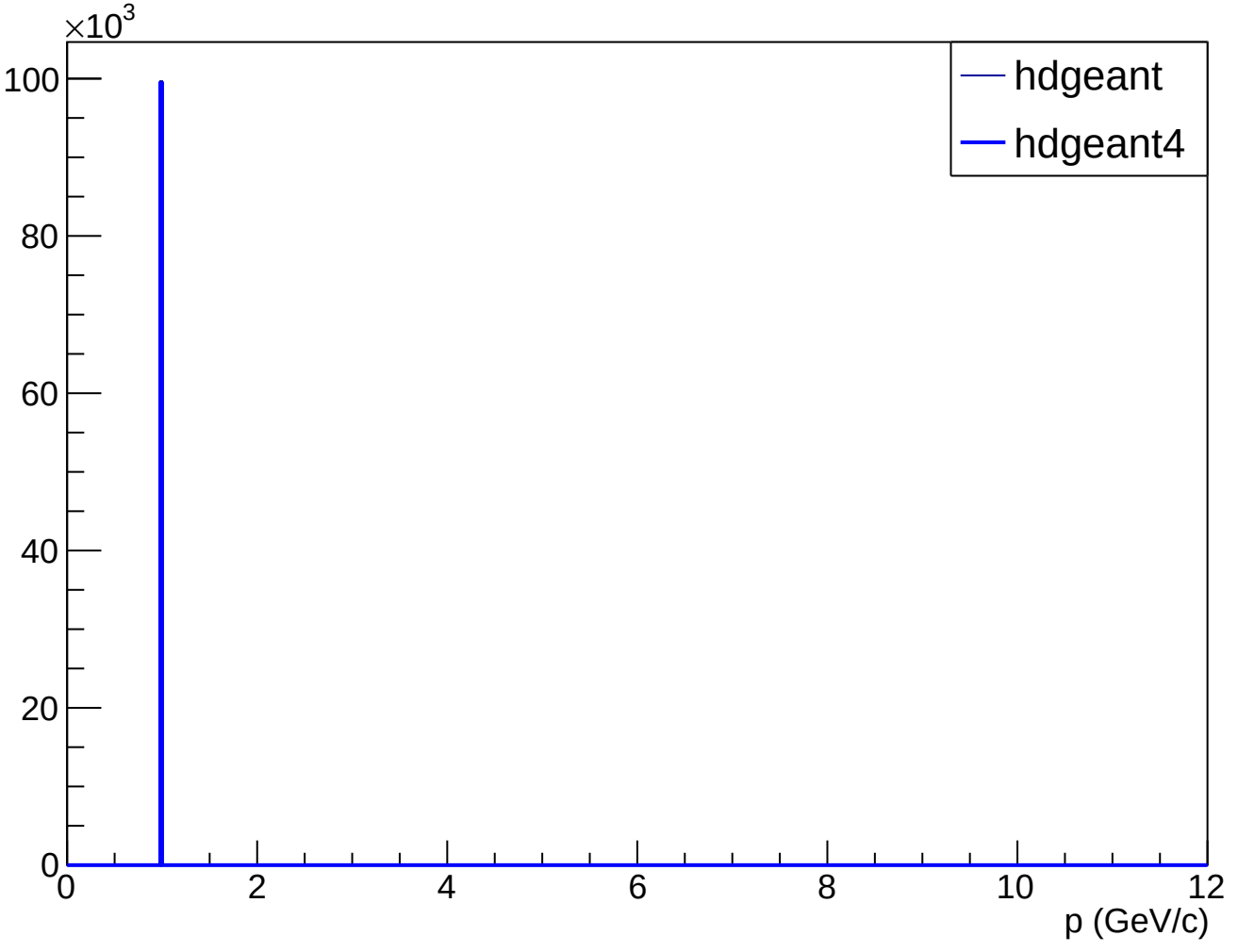

/Independent/Hist_ReconnedThrownKinematics/Proton/VertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–50
0
50
100
150
200
Vertex-Z (cm)

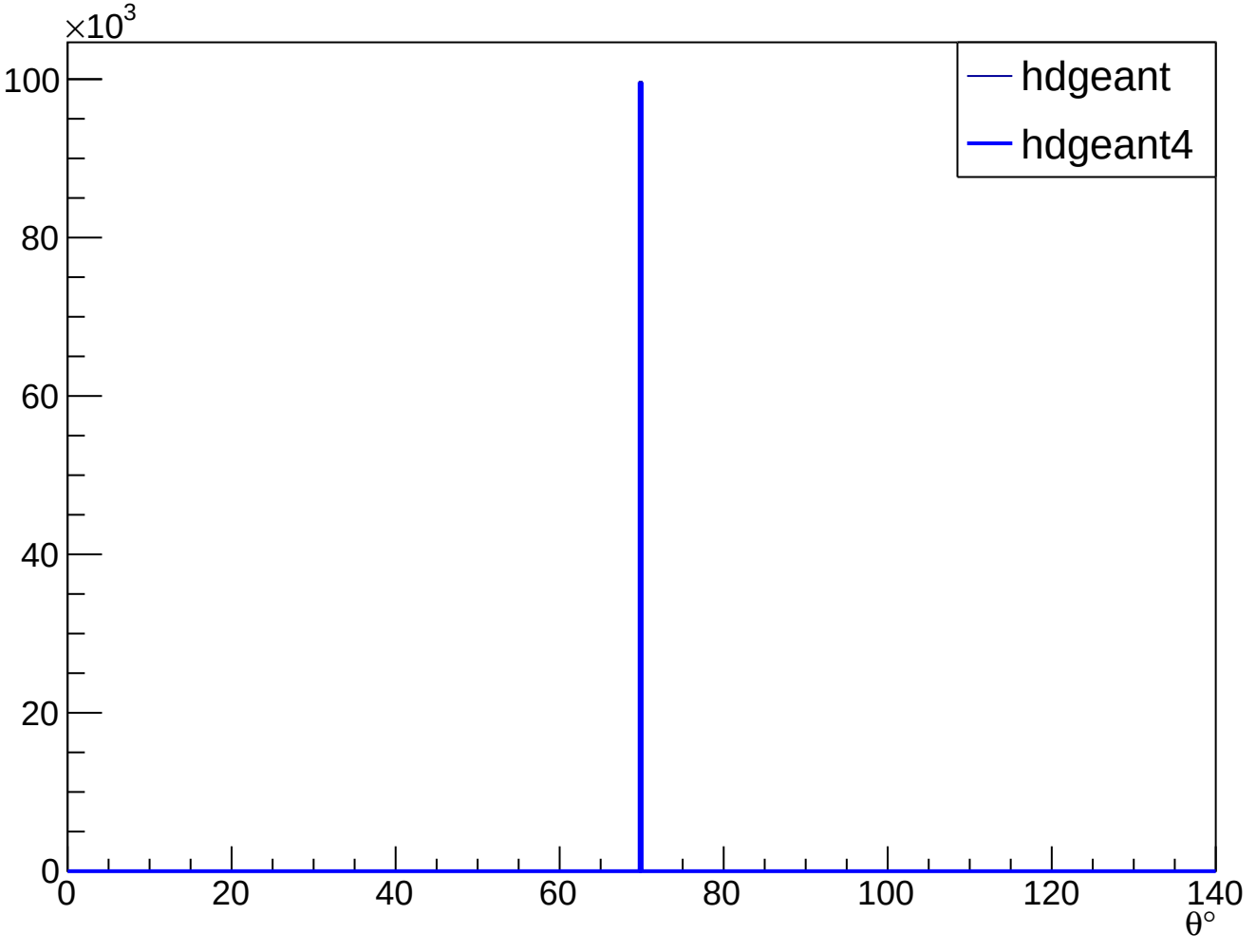

/Independent/Hist_ReconnedThrownKinematics/Proton/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

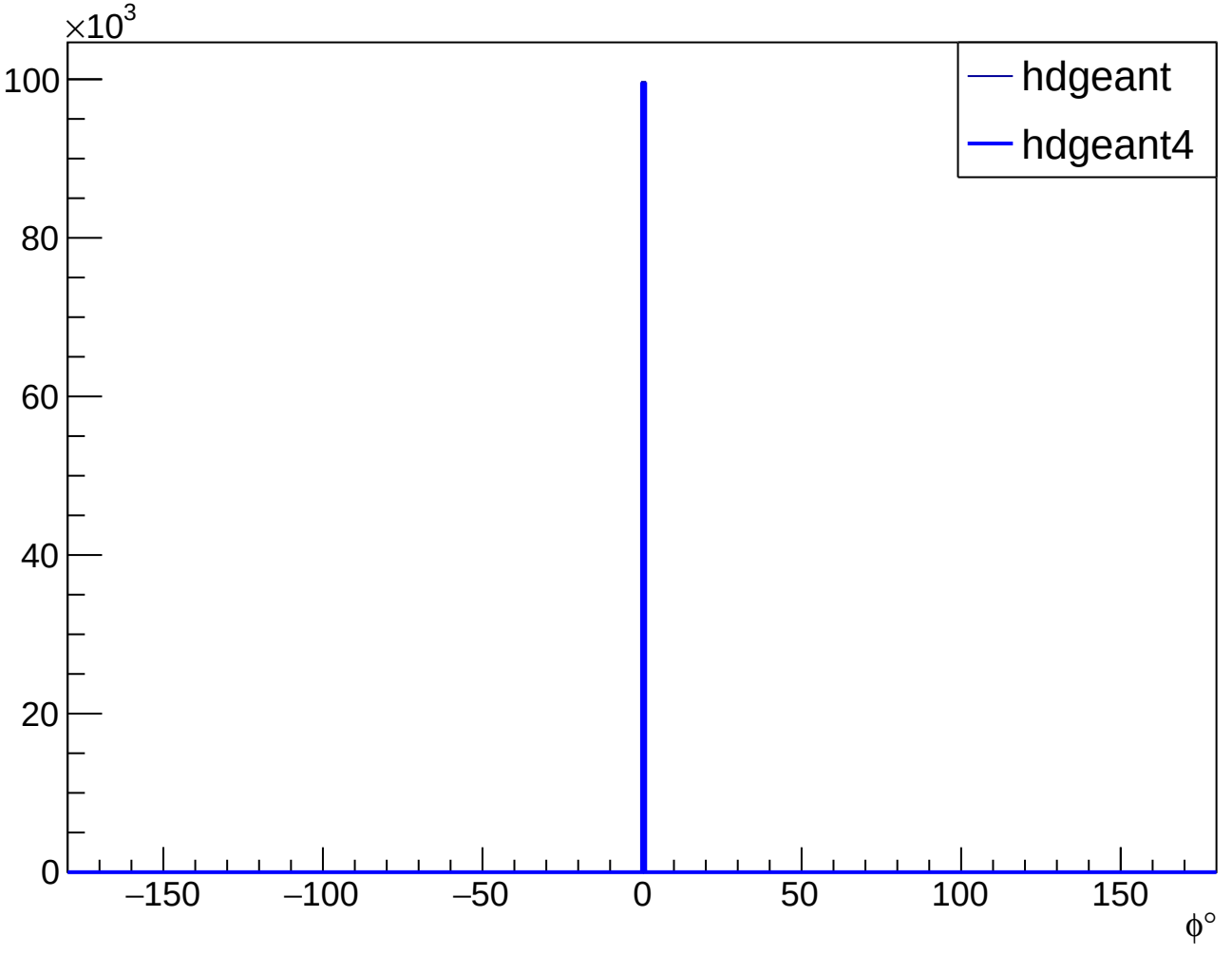

/Independent/Hist_ReconnedThrownKinematics/Proton/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
Vertex-X (cm)

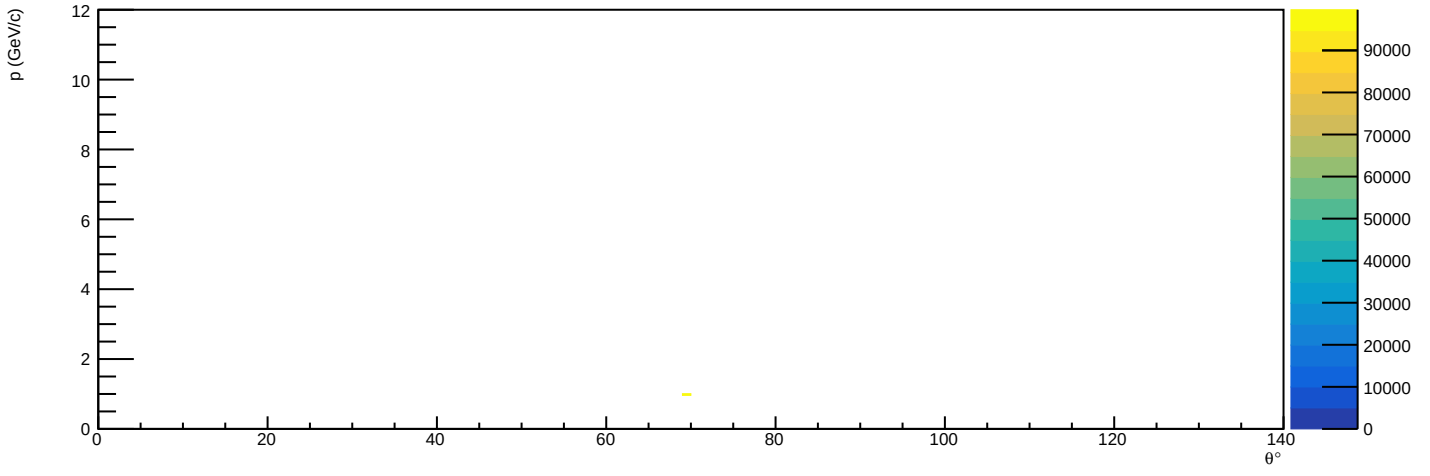
/Independent/Hist_ReconnedThrownKinematics/Proton/VertexT

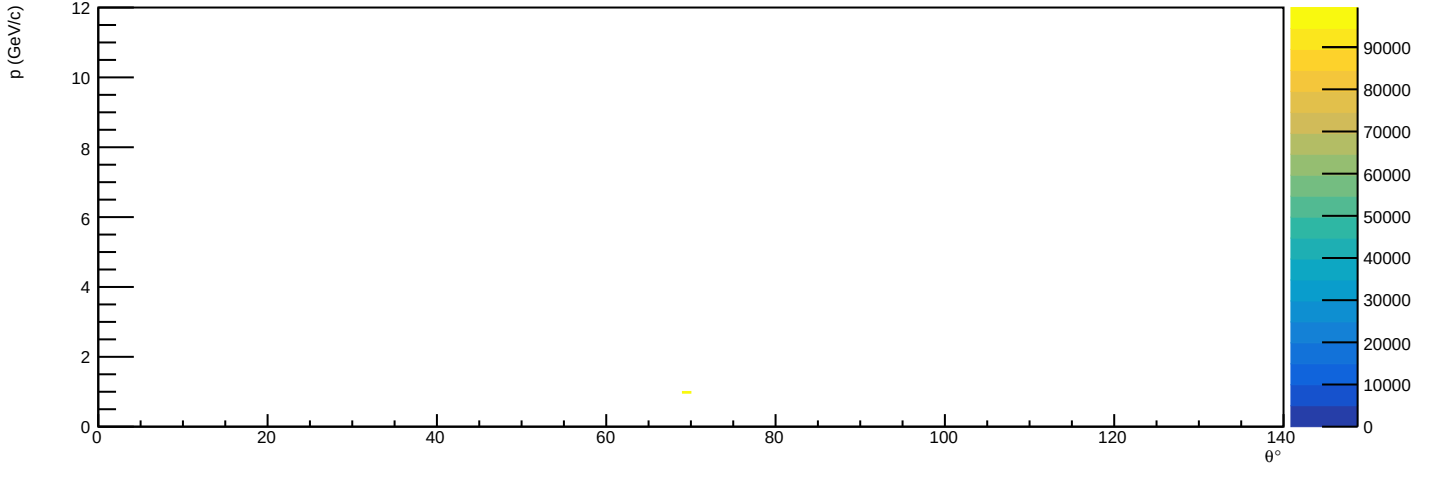


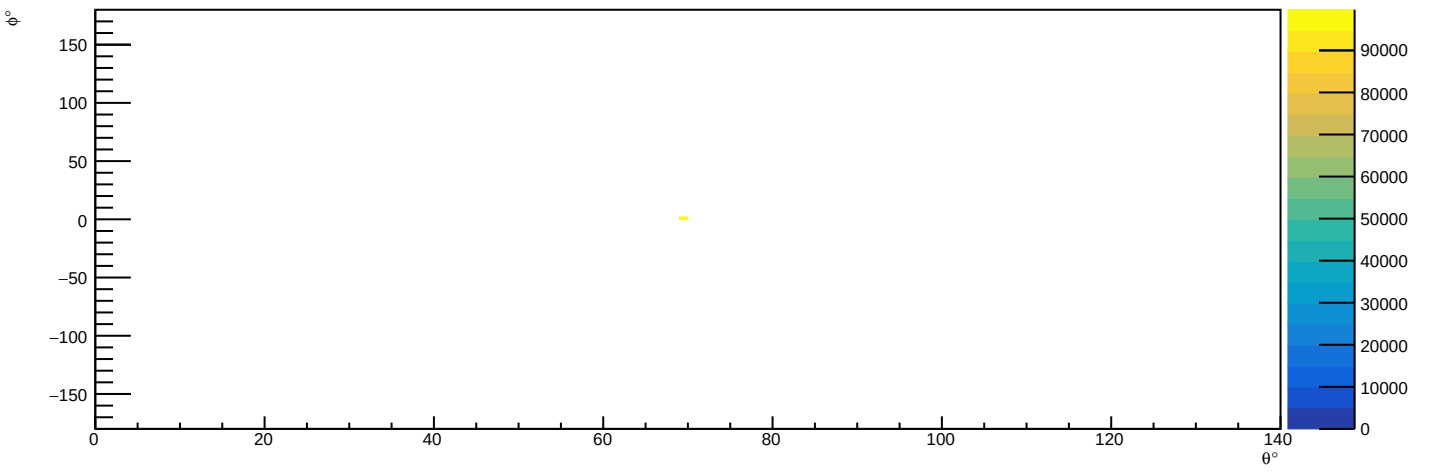

/Independent/Hist_ReconnedThrownKinematics/Pi-/Momentum
×10^3
100
80
60
40
20
0
0
2
4
6
8
10
12
p (GeV/c)
hdgeant
hdgeant4

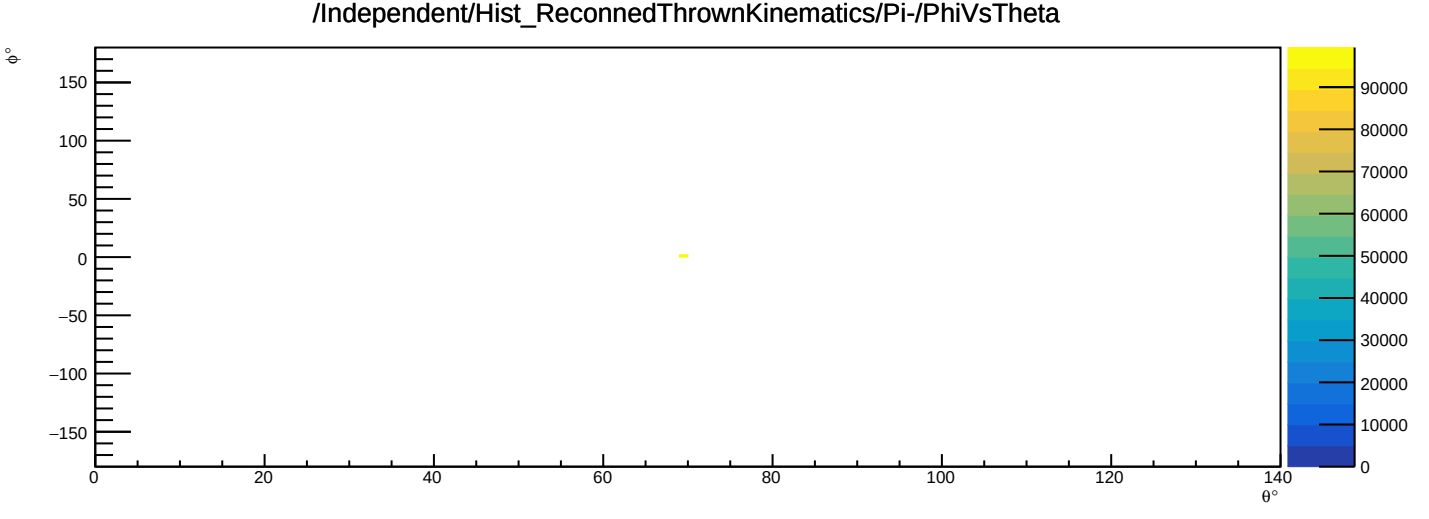

/Independent/Hist_ReconnedThrownKinematics/Pi-/Theta
×10^3
100
80
60
40
20
0
0
20
40
60
80
100
120
140
θ°
hdgeant
hdgeant4


/Independent/Hist_ReconnedThrownKinematics/Pi-/Phi
×10^3
100
80
60
40
20
0
–150
–100
–50
0
50
100
150
ϕ°
hdgeant
hdgeant4

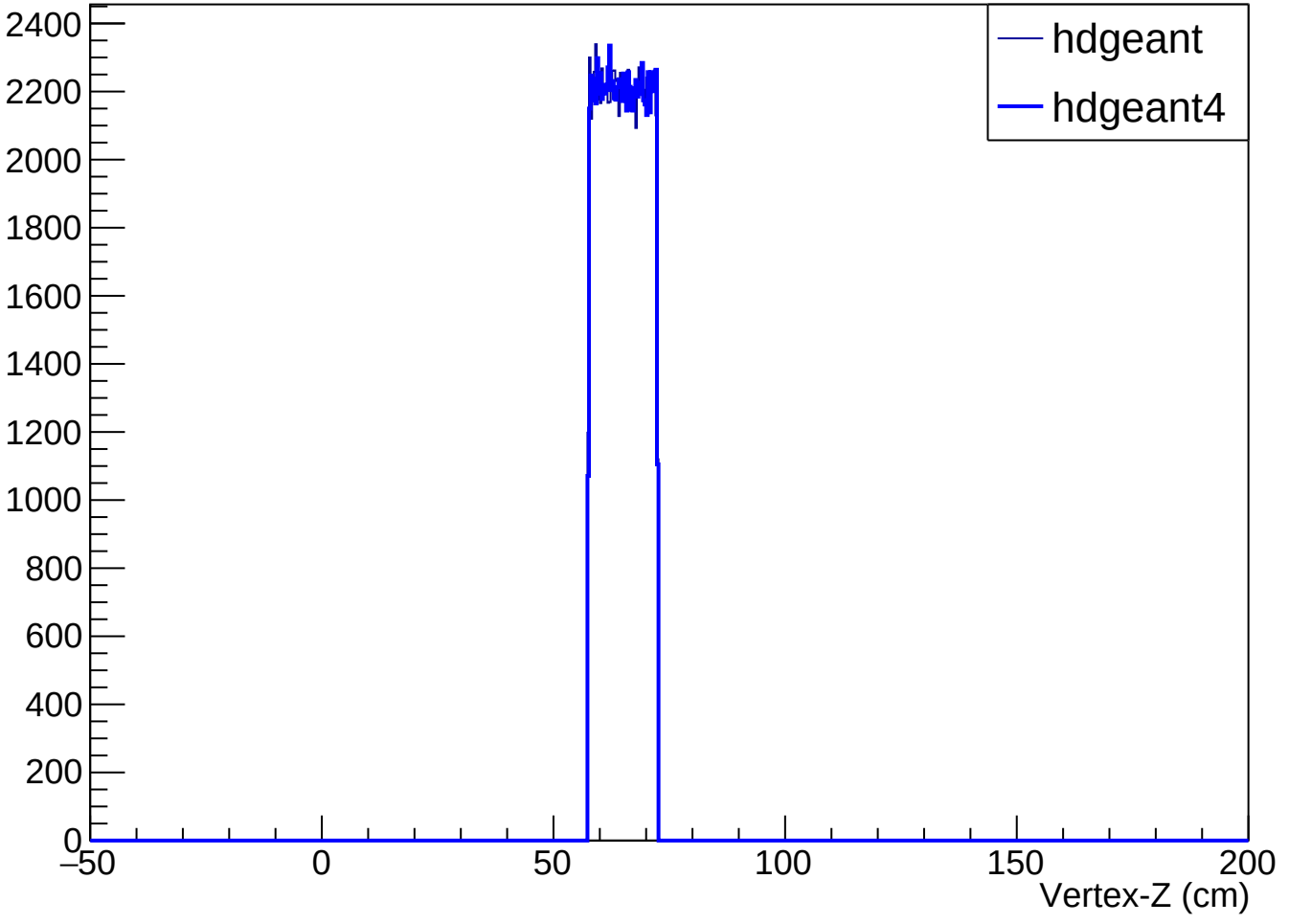

/Independent/Hist_ReconnedThrownKinematics/Pi-/PVsTheta
p (GeV/c)
θ°
0
2
4
6
8
10
12
0
20
40
60
80
100
120
140
0
10000
20000
30000
40000
50000
60000
70000
80000
90000

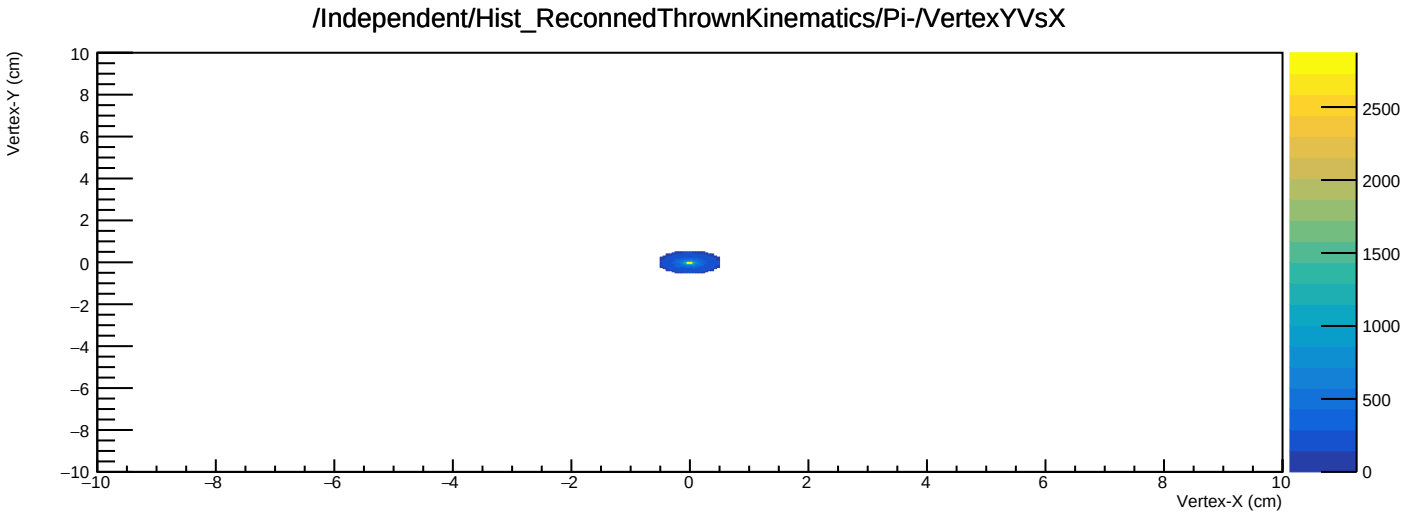

/Independent/Hist_ReconnedThrownKinematics/Pi-/PVsTheta
p (GeV/c)
θ°
0
2
4
6
8
10
12
0
20
40
60
80
100
120
140
0
10000
20000
30000
40000
50000
60000
70000
80000
90000

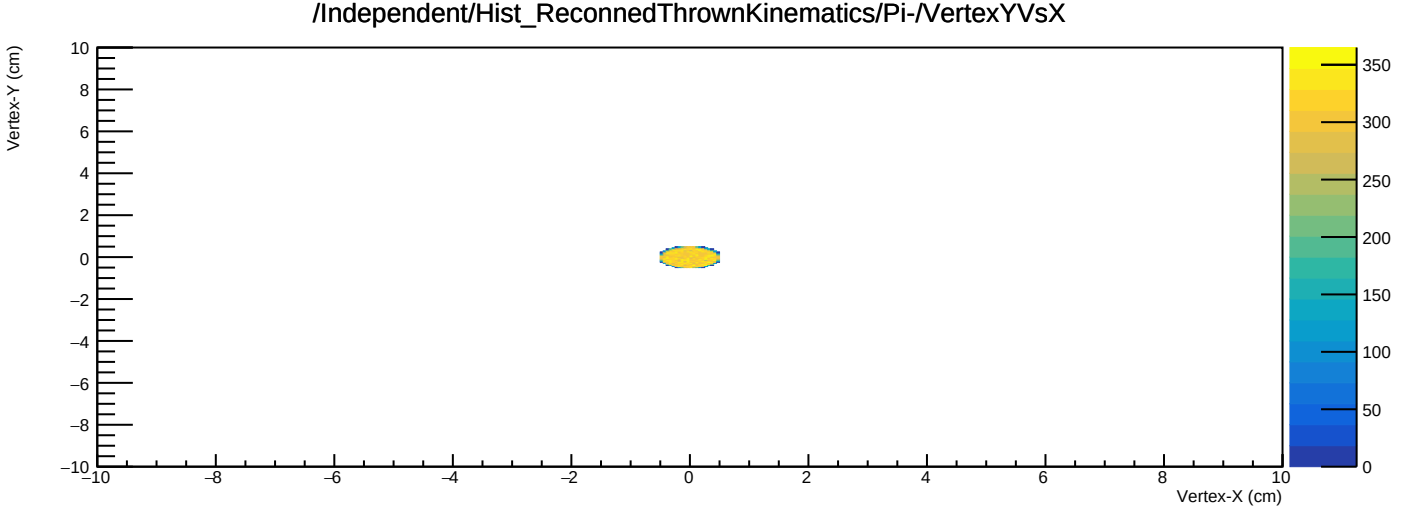

/Independent/Hist_ReconnedThrownKinematics/Pi-/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
90000
80000
70000
60000
50000
40000
30000
20000
10000
0

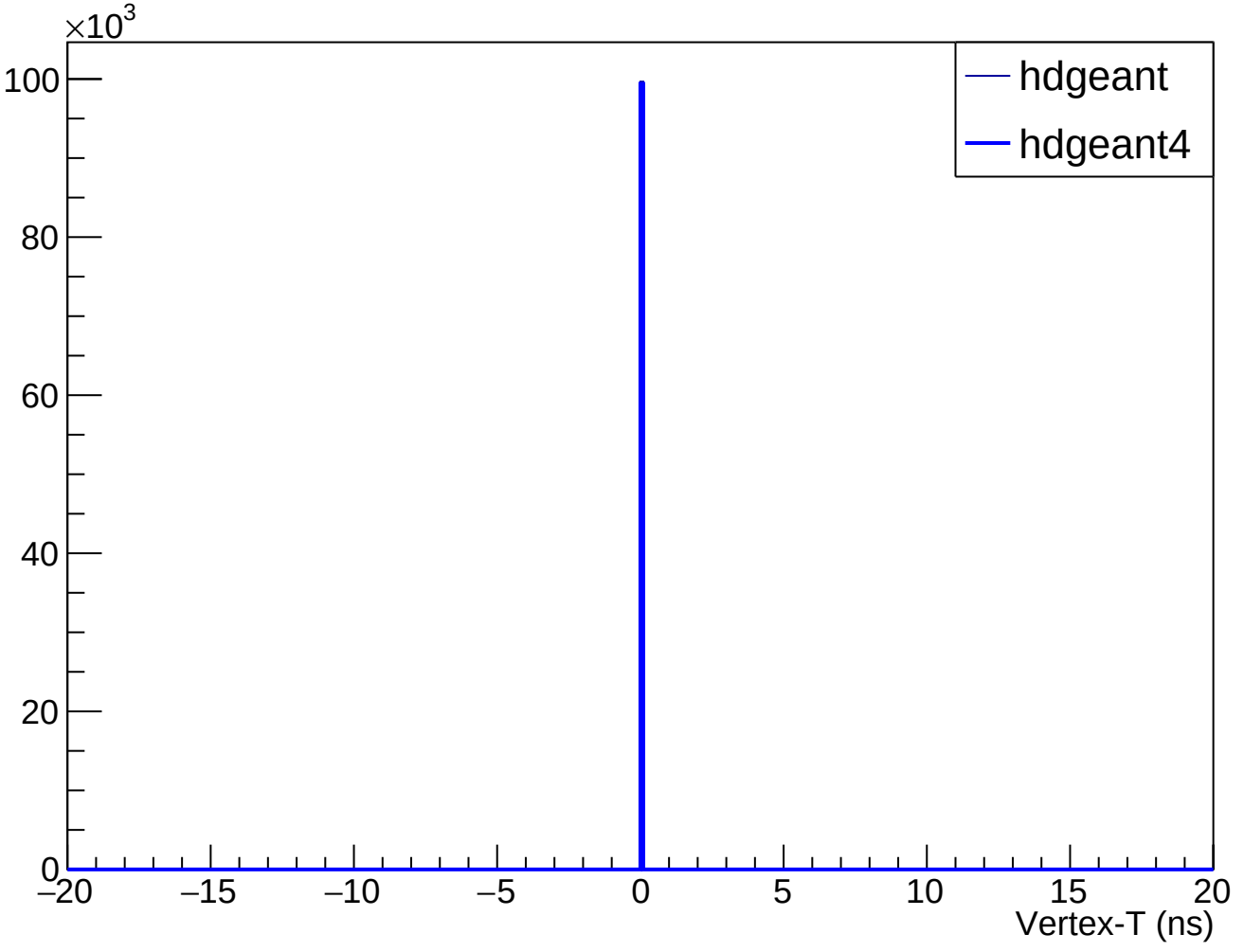

/Independent/Hist_ReconnedThrownKinematics/Pi-/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°
90000
80000
70000
60000
50000
40000
30000
20000
10000
0

/Independent/Hist_ReconnedThrownKinematics/Pi-/VertexZ

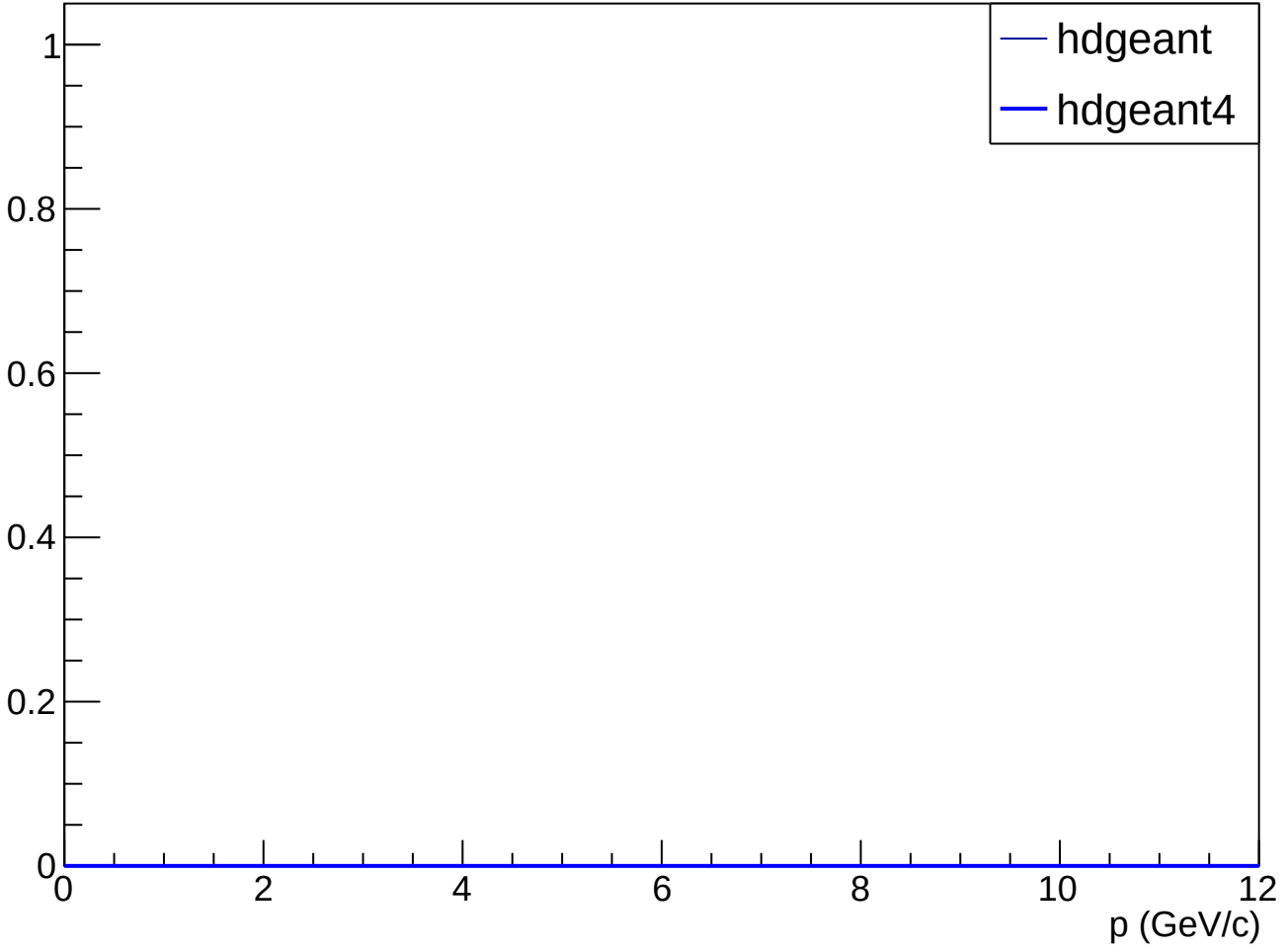


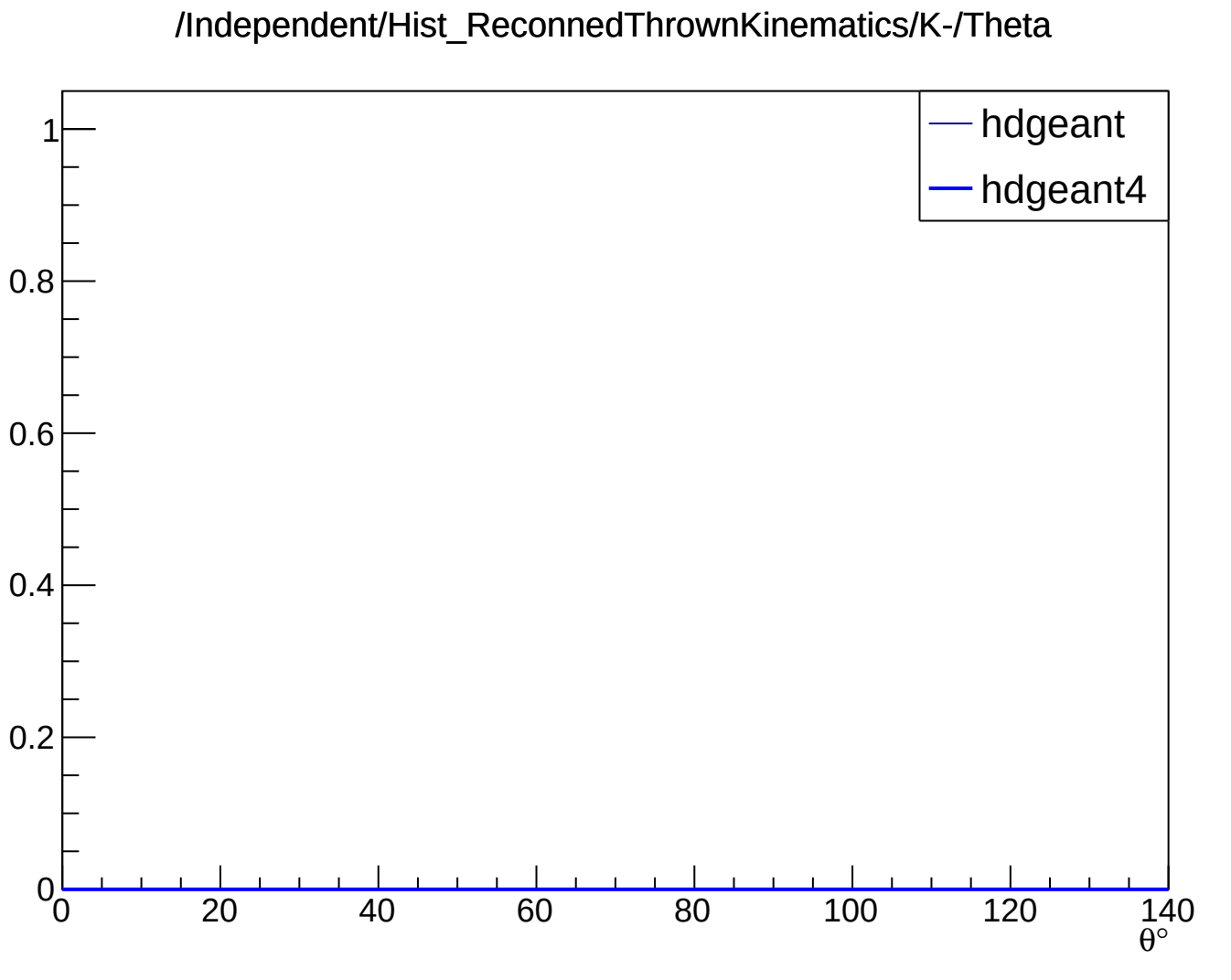

/Independent/Hist_ReconnedThrownKinematics/Pi-/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
2500
2000
1500
1000
500
0

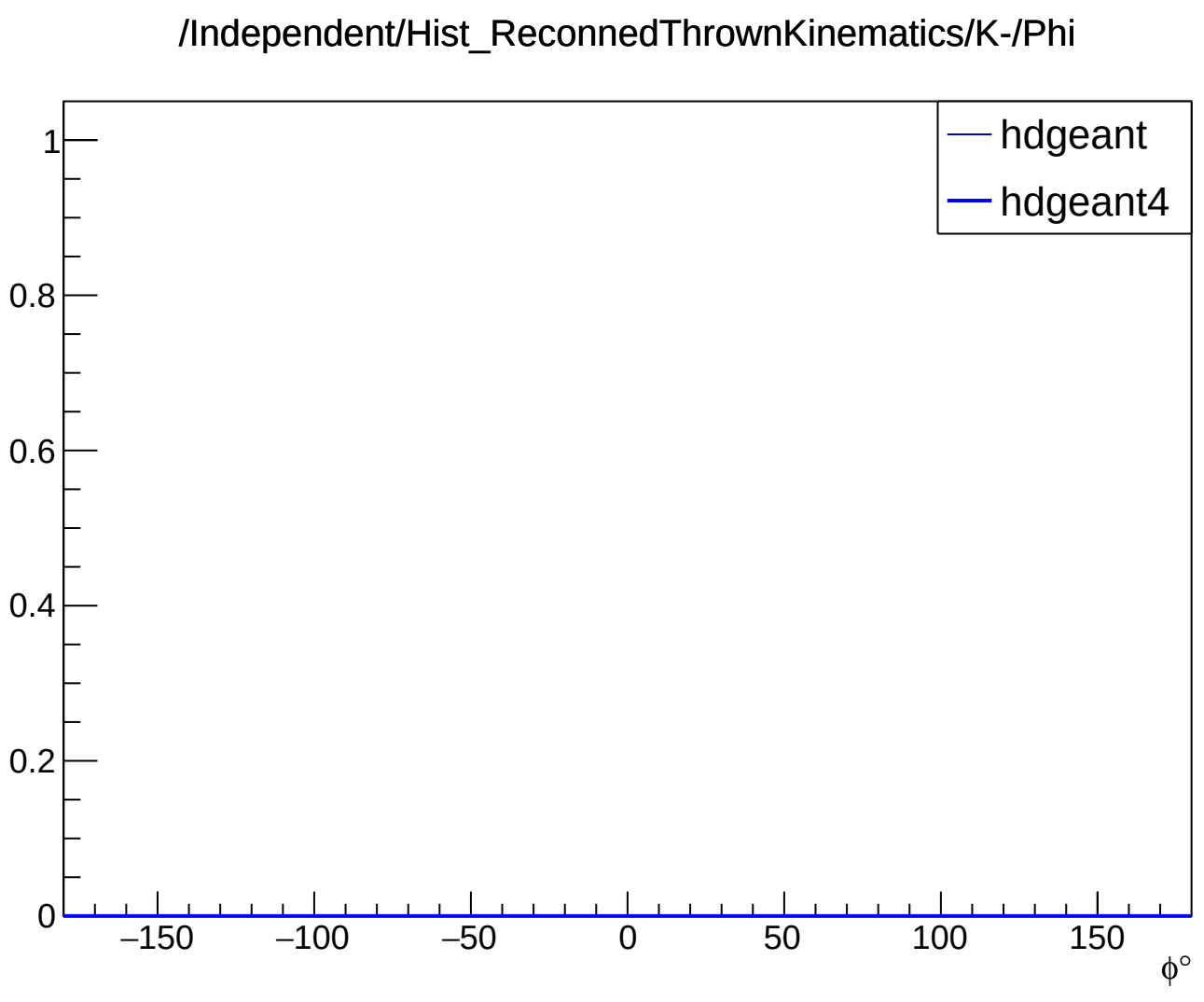

/Independent/Hist_ReconnedThrownKinematics/Pi-/VertexYVsX
Vertex-Y (cm)
Vertex-X (cm)
10
8
6
4
2
0
−2
−4
−6
−8
−10
−10
−8
−6
−4
−2
0
2
4
6
8
10
350
300
250
200
150
100
50
0

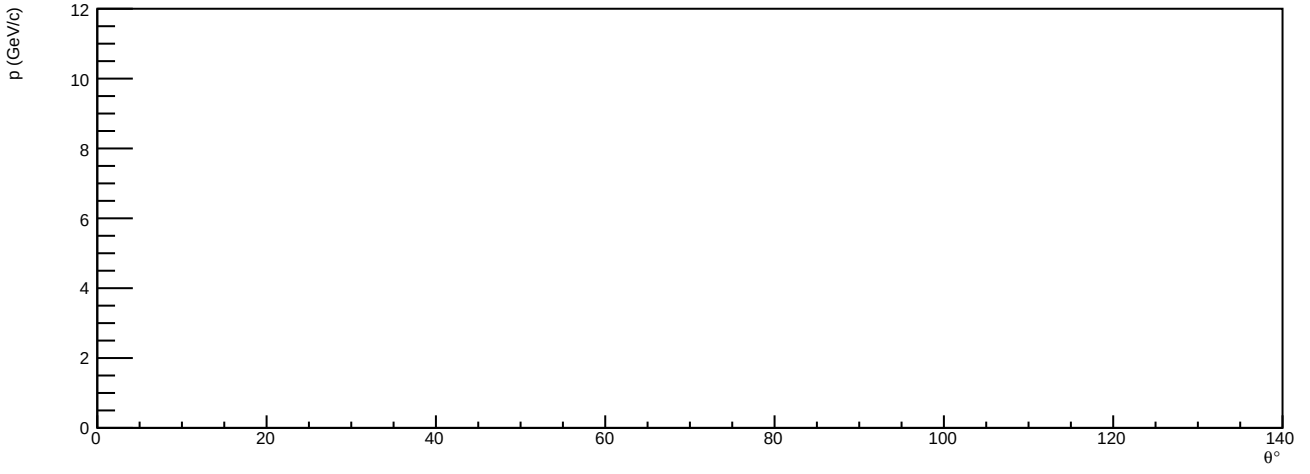

/Independent/Hist_ReconnedThrownKinematics/Pi-/VertexT
×10^3
100
80
60
40
20
0
–20
–15
–10
–5
0
5
10
15
20
Vertex-T (ns)
hdgeant
hdgeant4

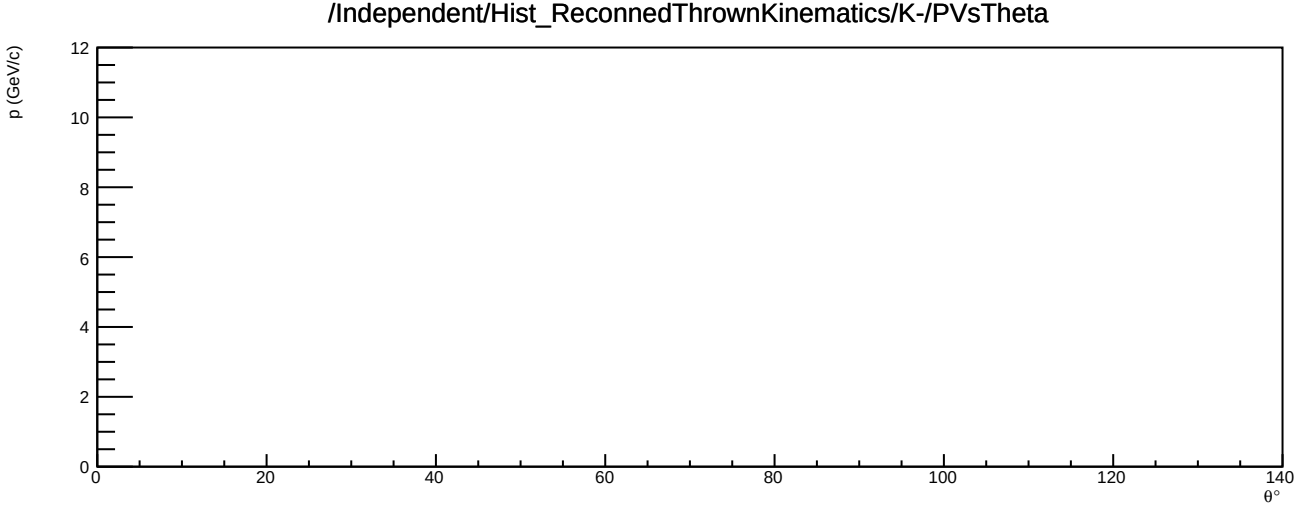
/Independent/Hist_ReconnedThrownKinematics/K-/Momentum

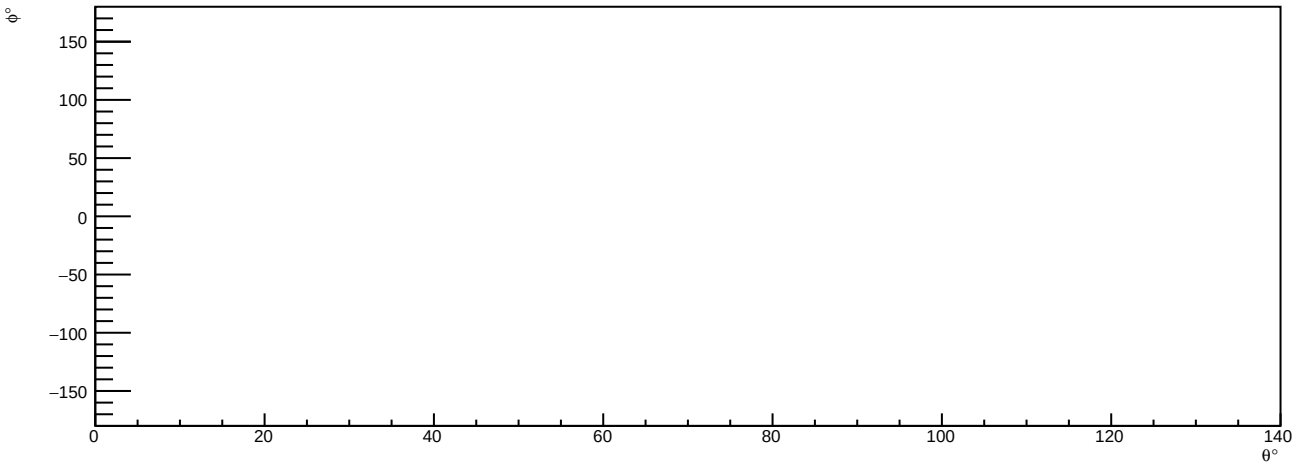


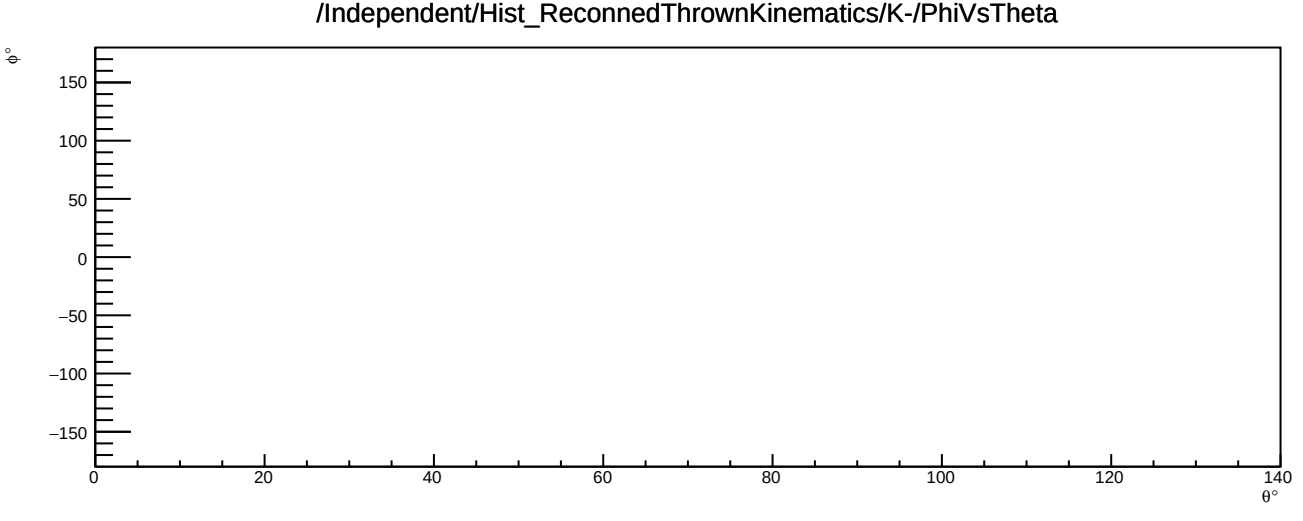

/Independent/Hist_ReconnedThrownKinematics/K-/Theta
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ReconnedThrownKinematics/K-/Phi
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–150
–100
–50
0
50
100
150
ϕ°

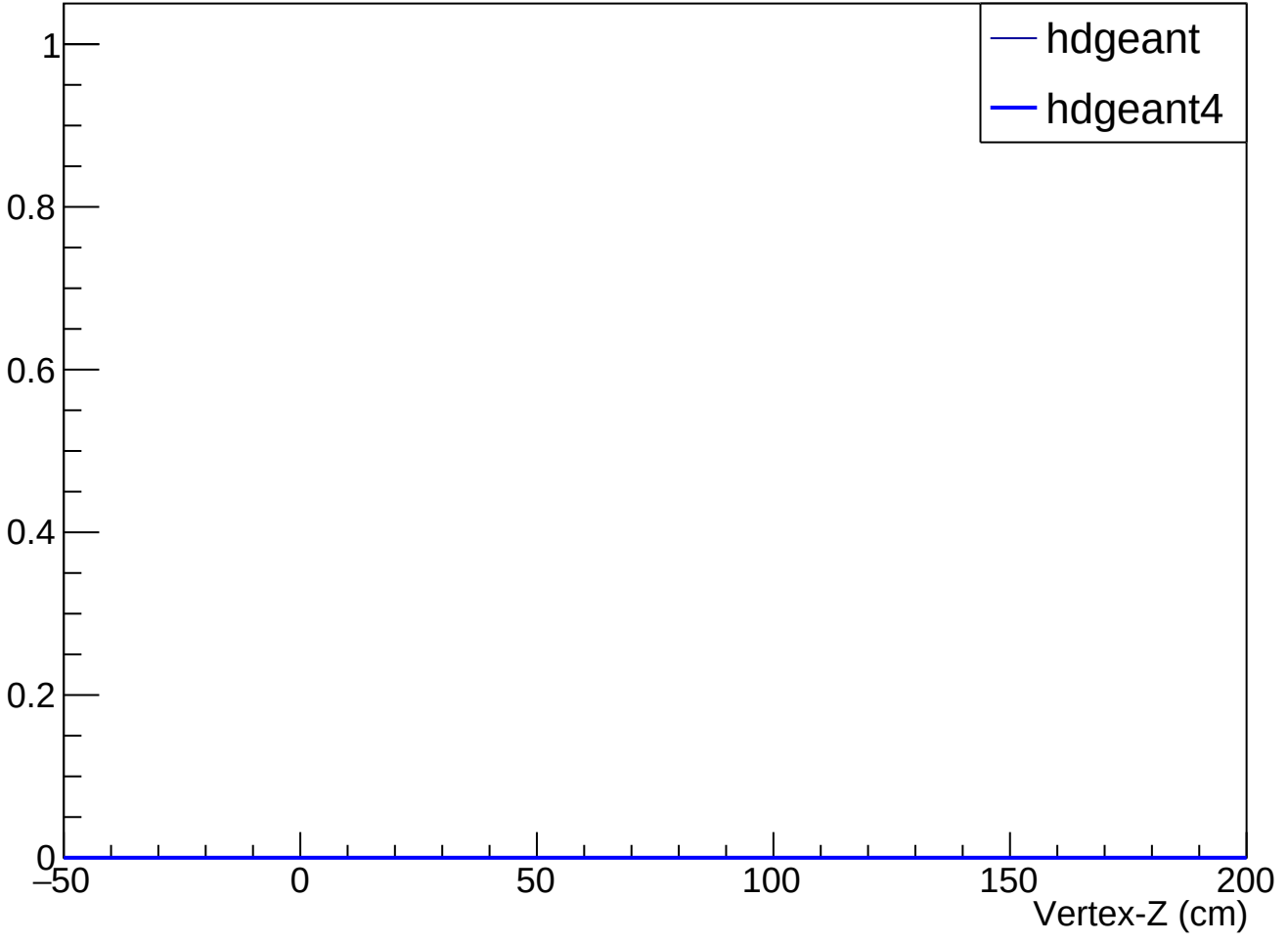

/Independent/Hist_ReconnedThrownKinematics/K-/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

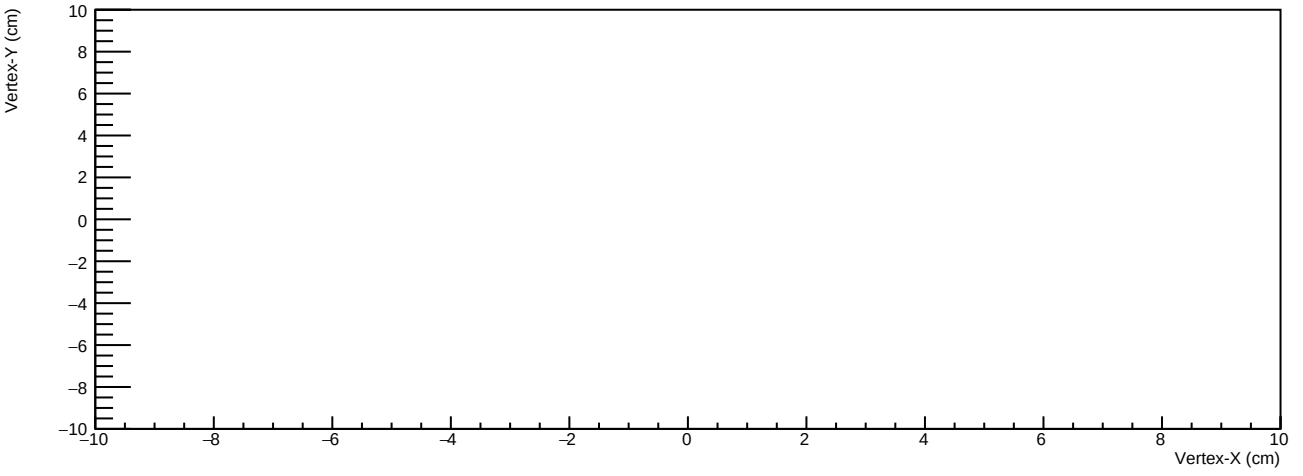

/Independent/Hist_ReconnedThrownKinematics/K-/PVsTheta
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

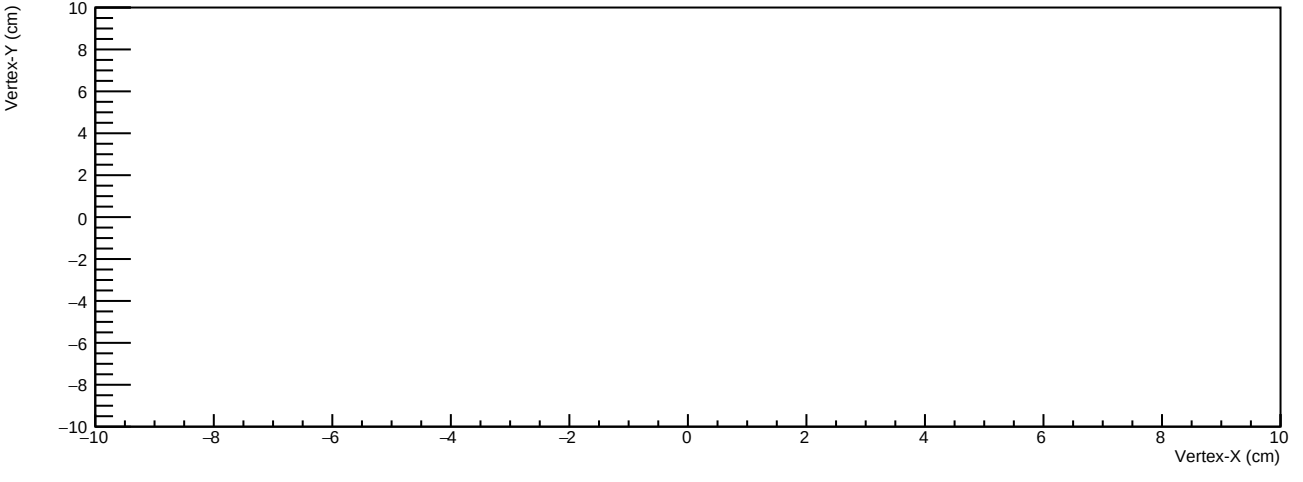

/Independent/Hist_ReconnedThrownKinematics/K-/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_ReconnedThrownKinematics/K-/PhiVsTheta
φ°
150
100
50
0
−50
−100
−150
0
20
40
60
80
100
120
140
θ°

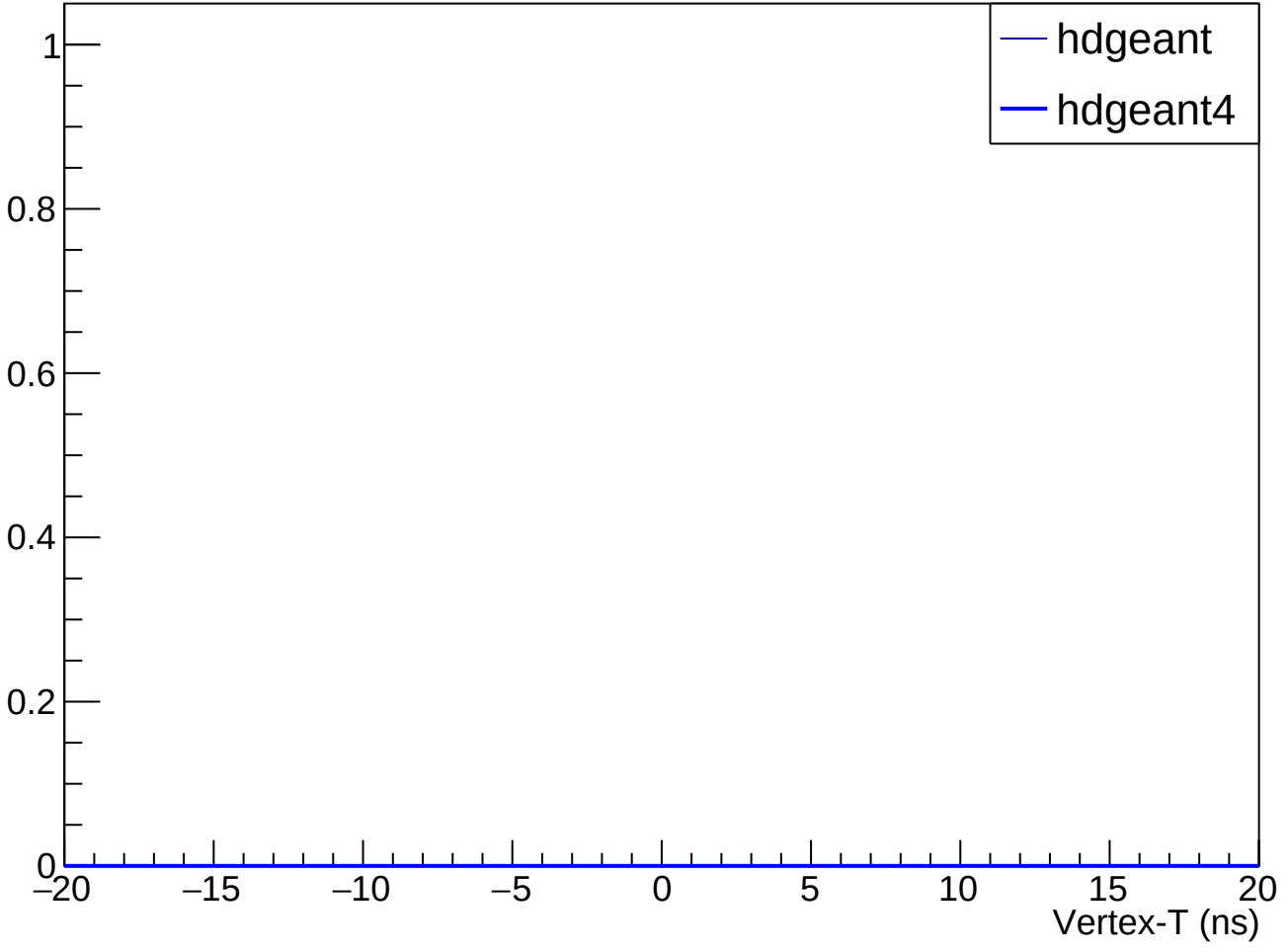
/Independent/Hist_ReconnedThrownKinematics/K-/VertexZ



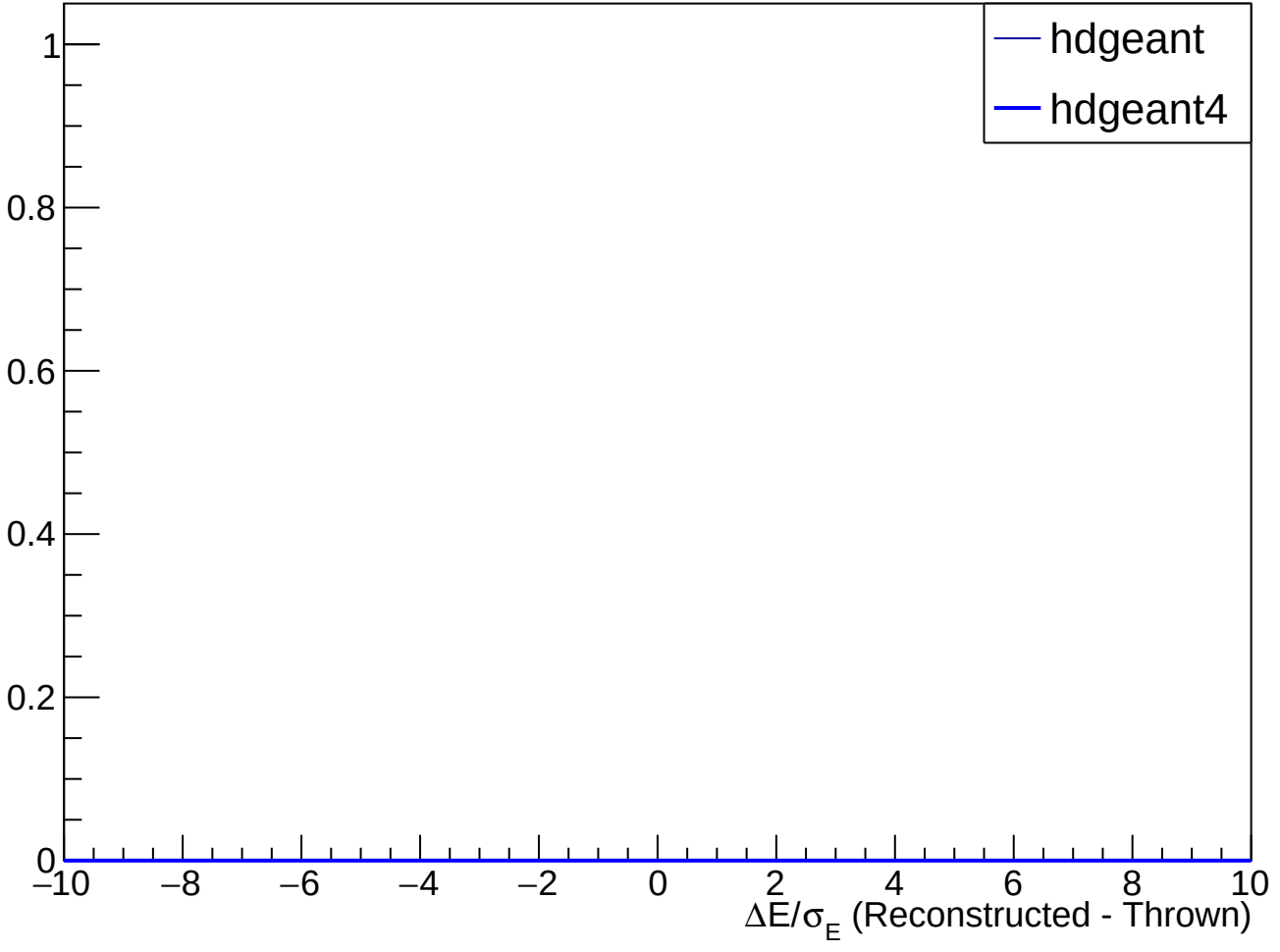

/Independent/Hist_ReconnedThrownKinematics/K-/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
–2
–4
–6
–8
–10
–10
–8
–6
–4
–2
0
2
4
6
8
10
Vertex-X (cm)

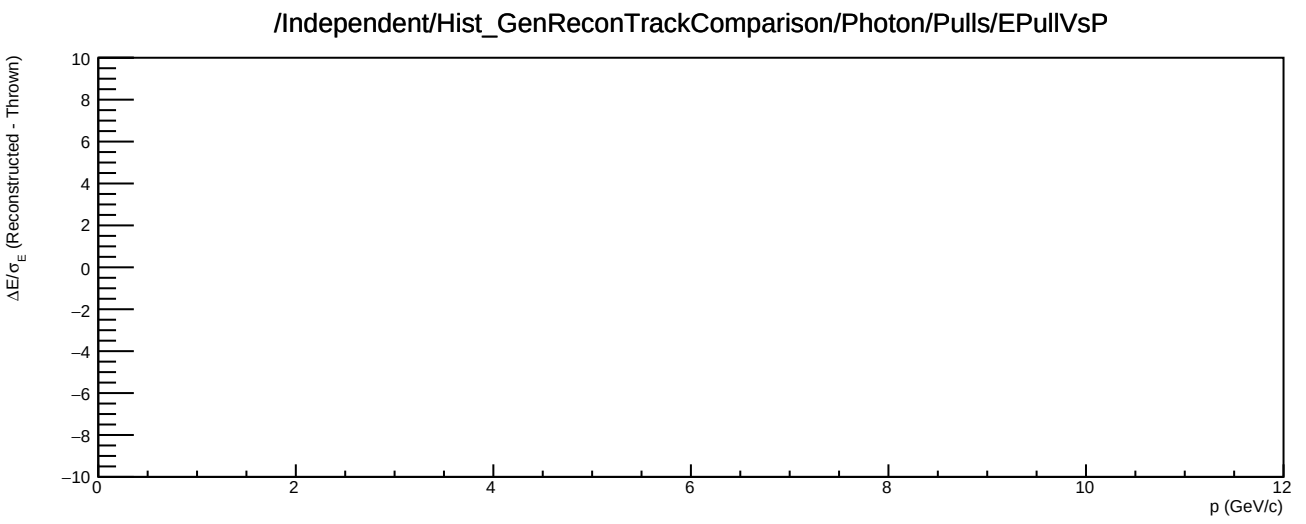

/Independent/Hist_ReconnedThrownKinematics/K-/VertexYVsX
Vertex-Y (cm)
10
8
6
4
2
0
–2
–4
–6
–8
–10
–10
–8
–6
–4
–2
0
2
4
6
8
10
Vertex-X (cm)

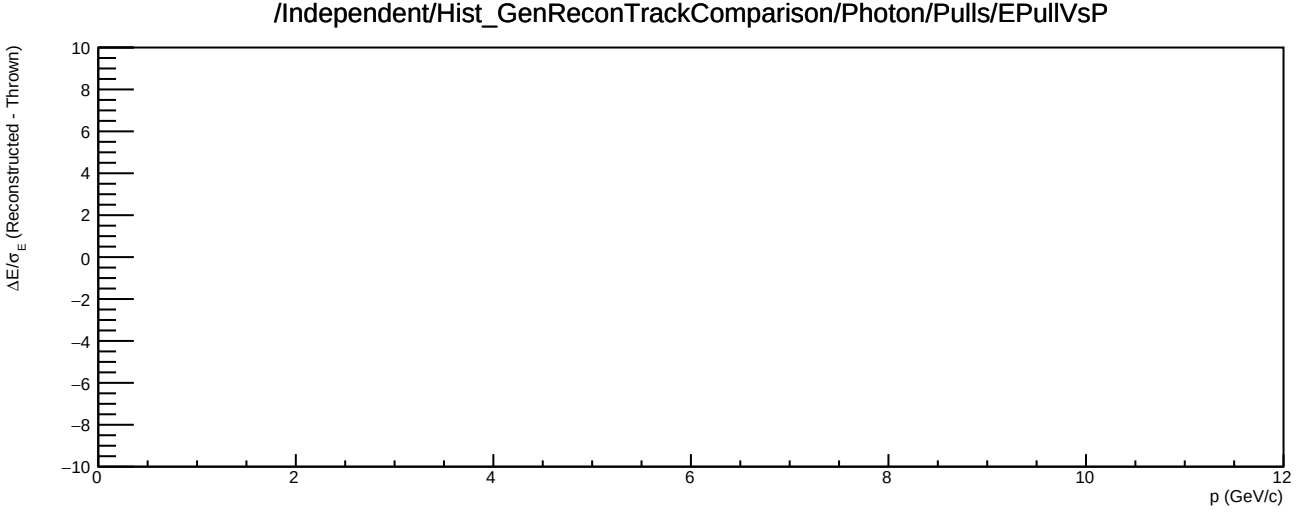
/Independent/Hist_ReconnedThrownKinematics/K-/VertexT

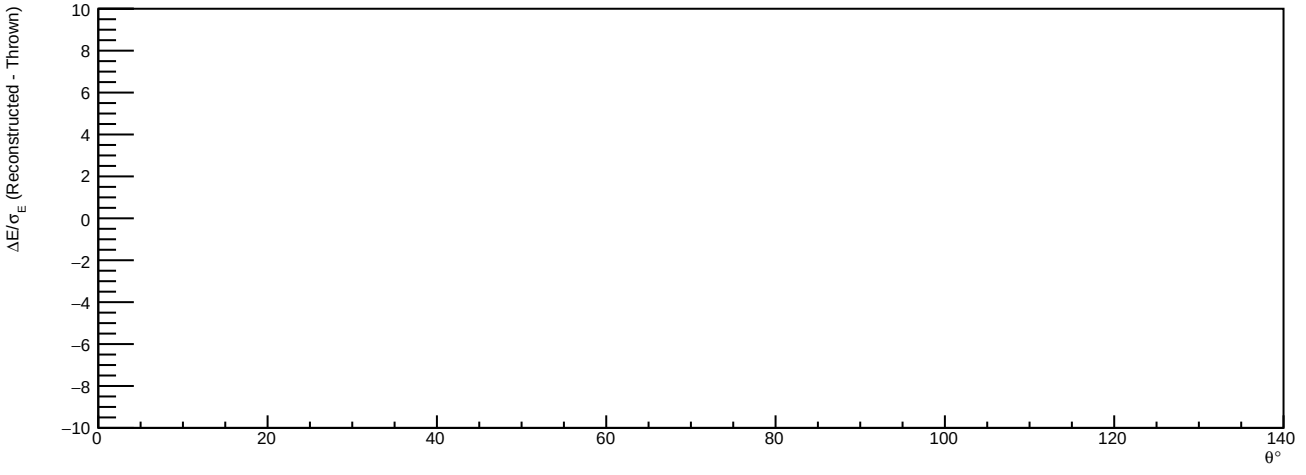


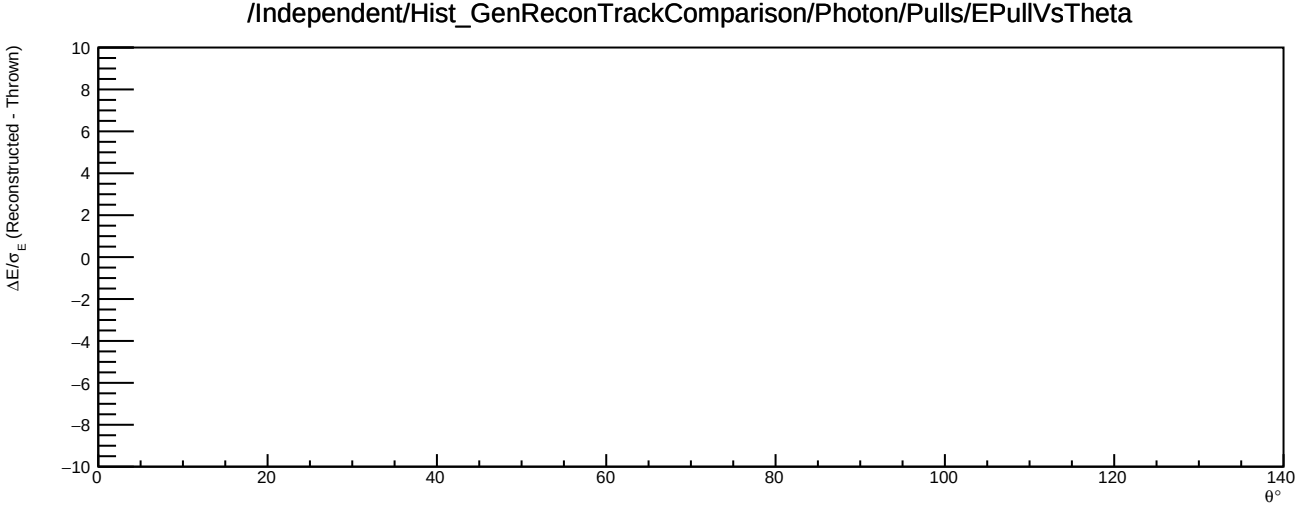
/Independent/Hist_GenReconTrackComparison/Photon/Pulls/EPull



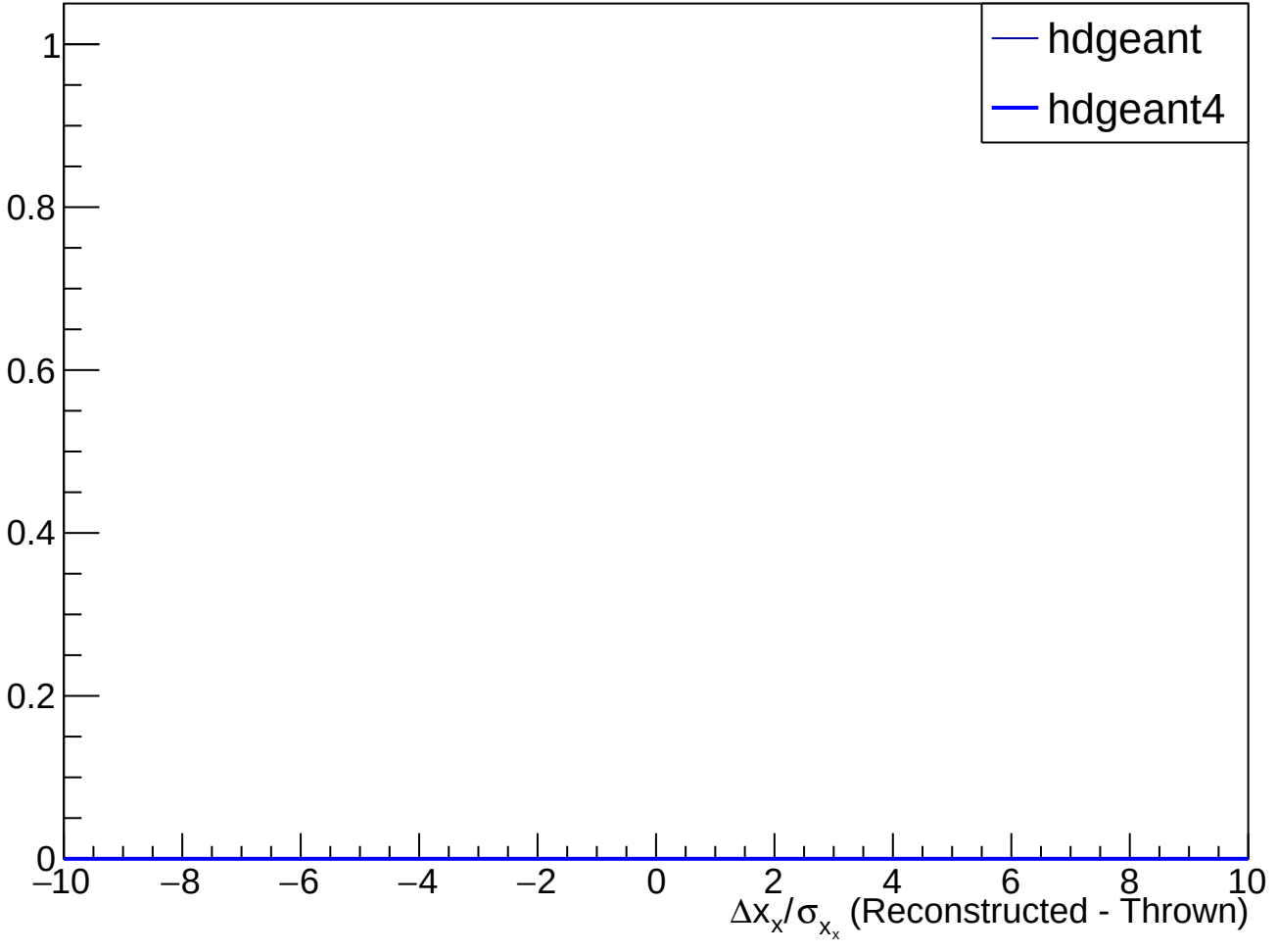

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/EPullVsP
ΔE/σ_E (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

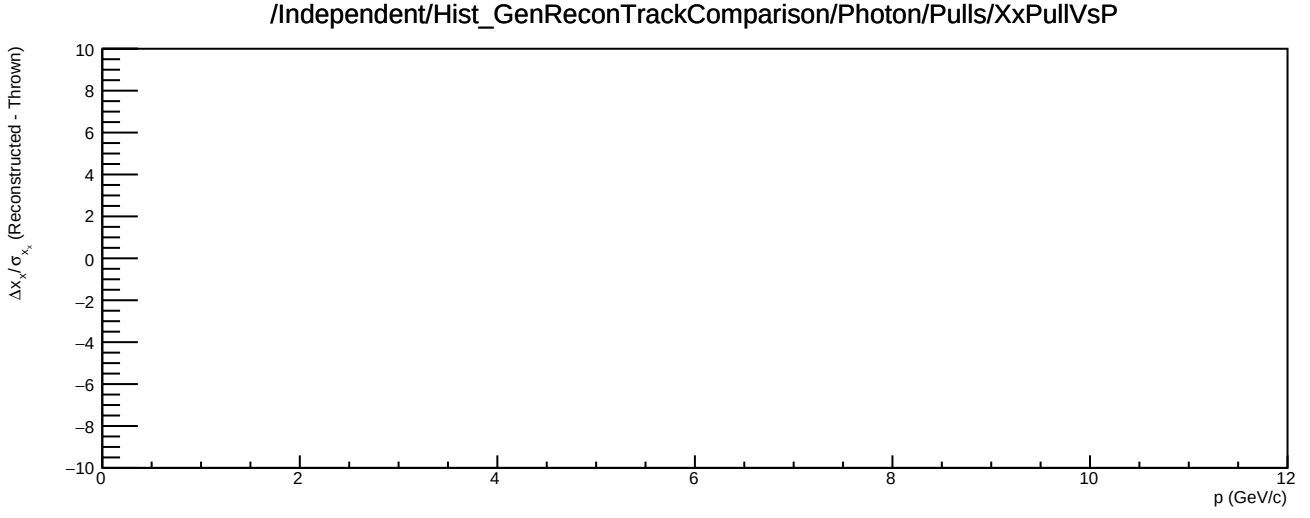

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/EPullVsP
ΔE/σ_E (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

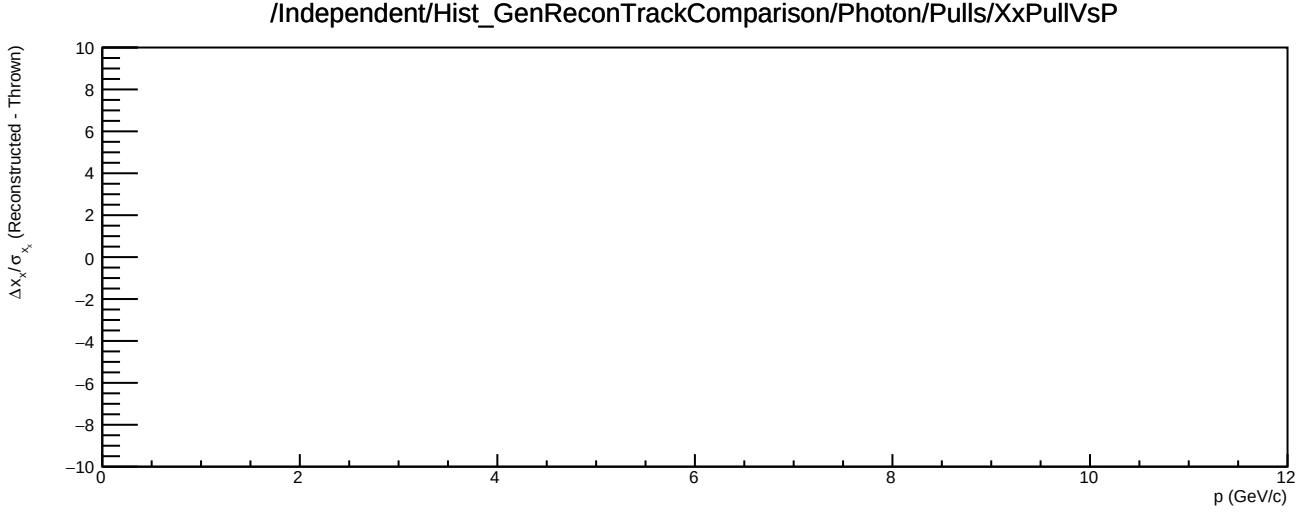

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/EPullVsTheta
ΔE/σ_E (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

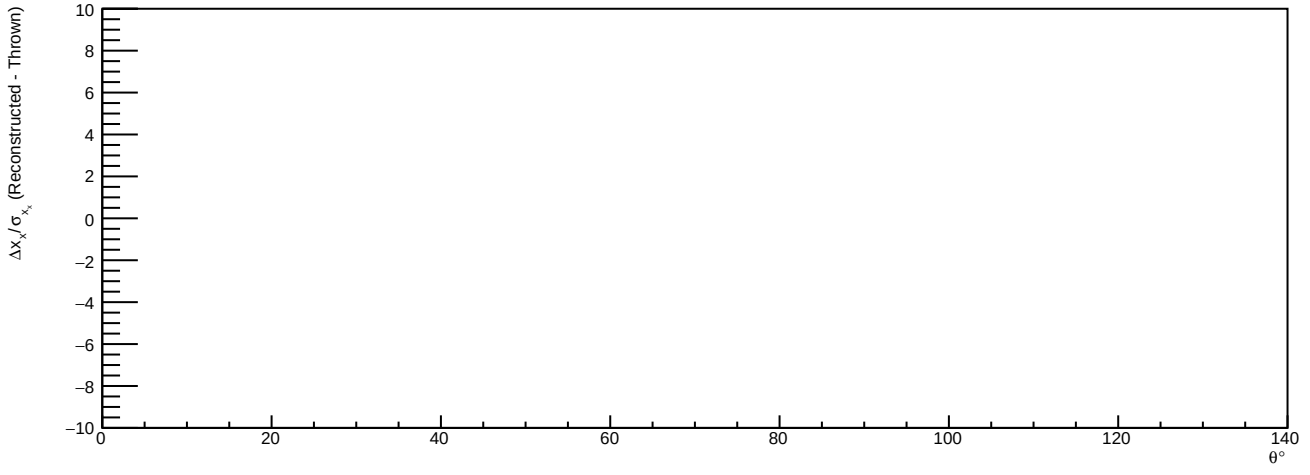

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/EPullVsTheta
ΔE/σ_E (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

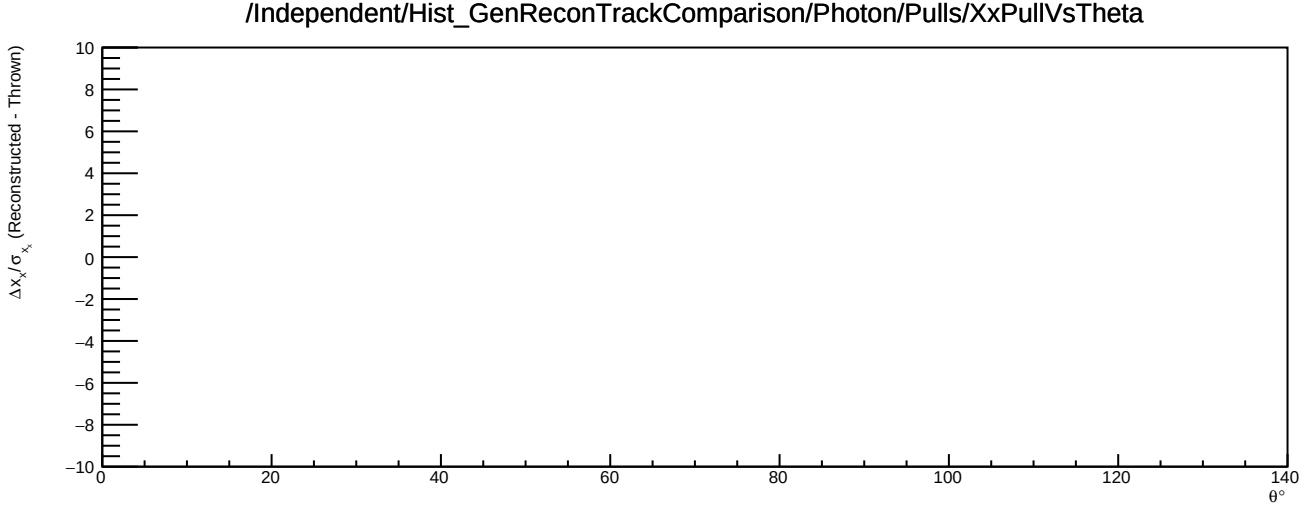
/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XxPull



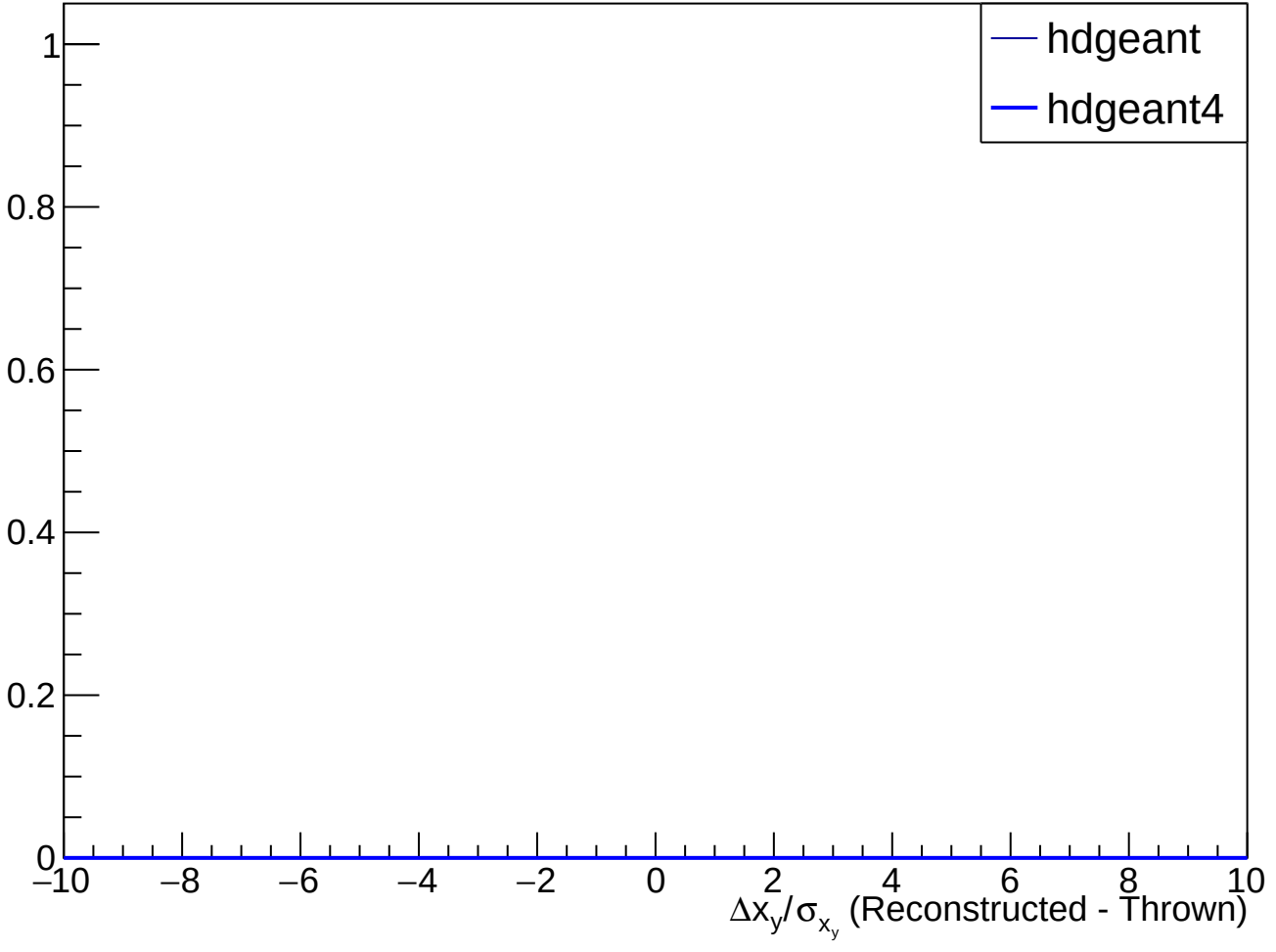

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XxPullVsP
Δx_x / σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

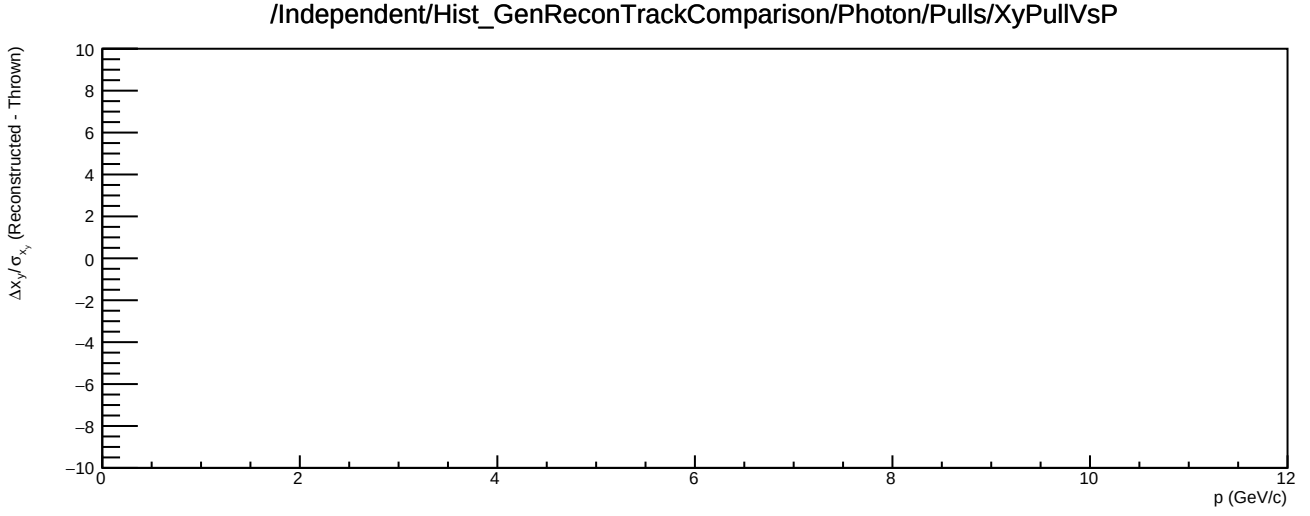

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XxPullVsP
Δx_x / σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

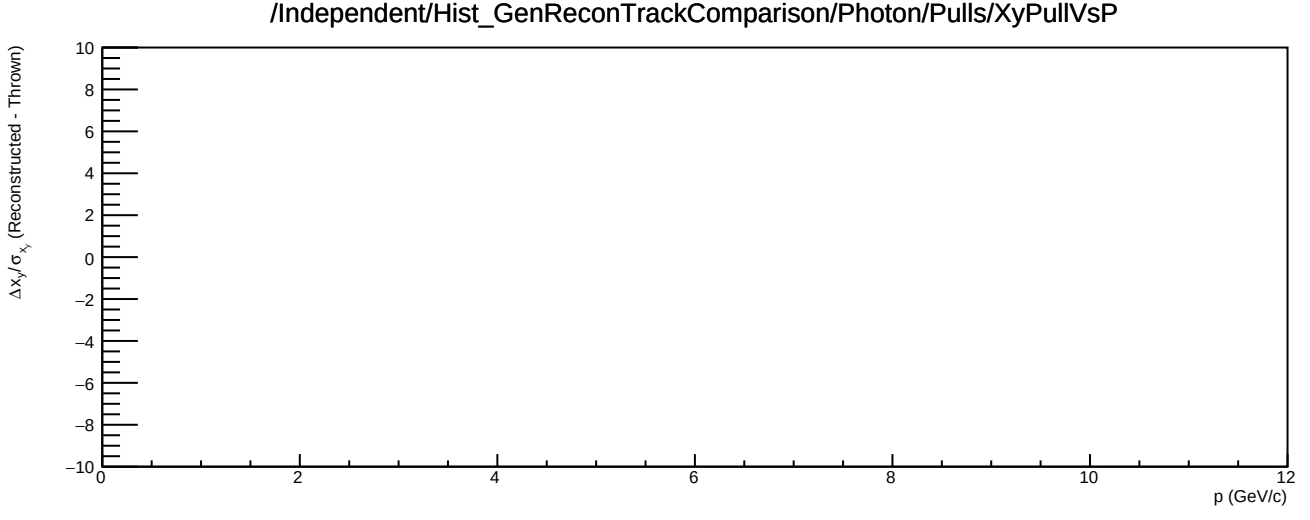

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

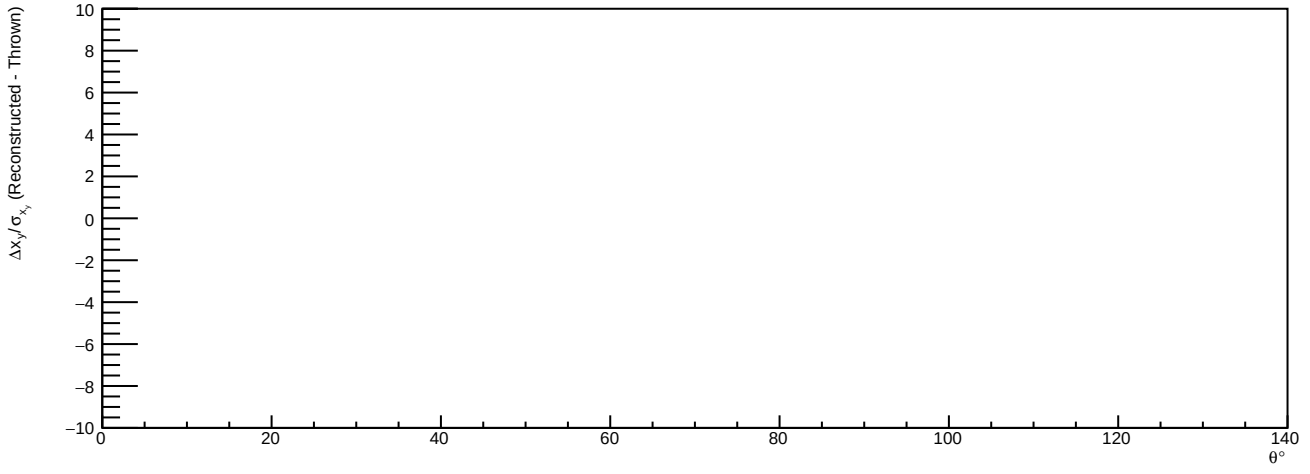

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

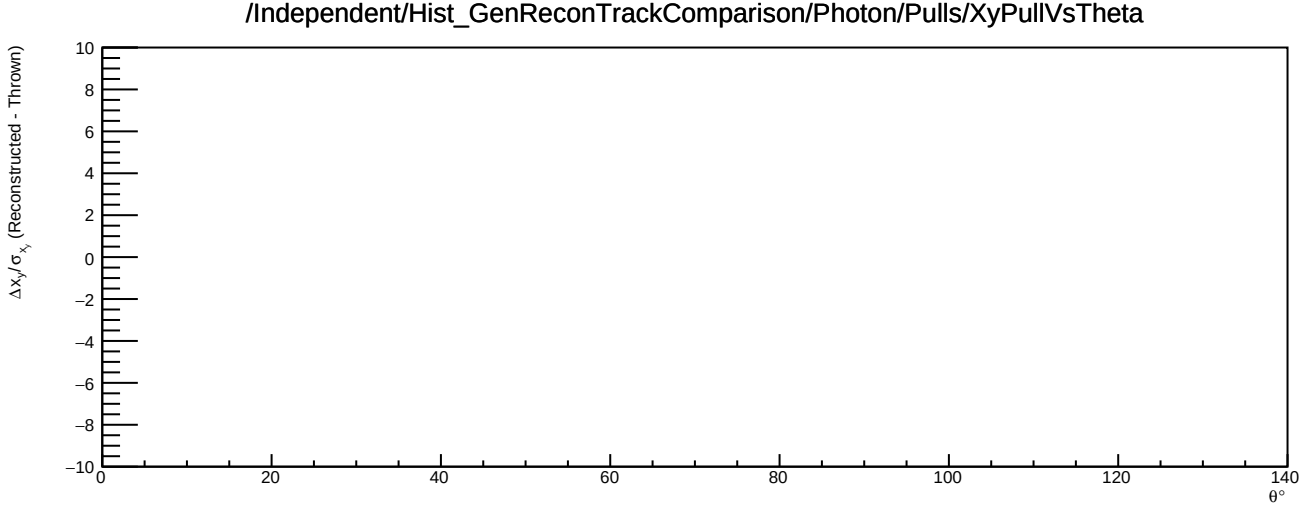
/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XyPull



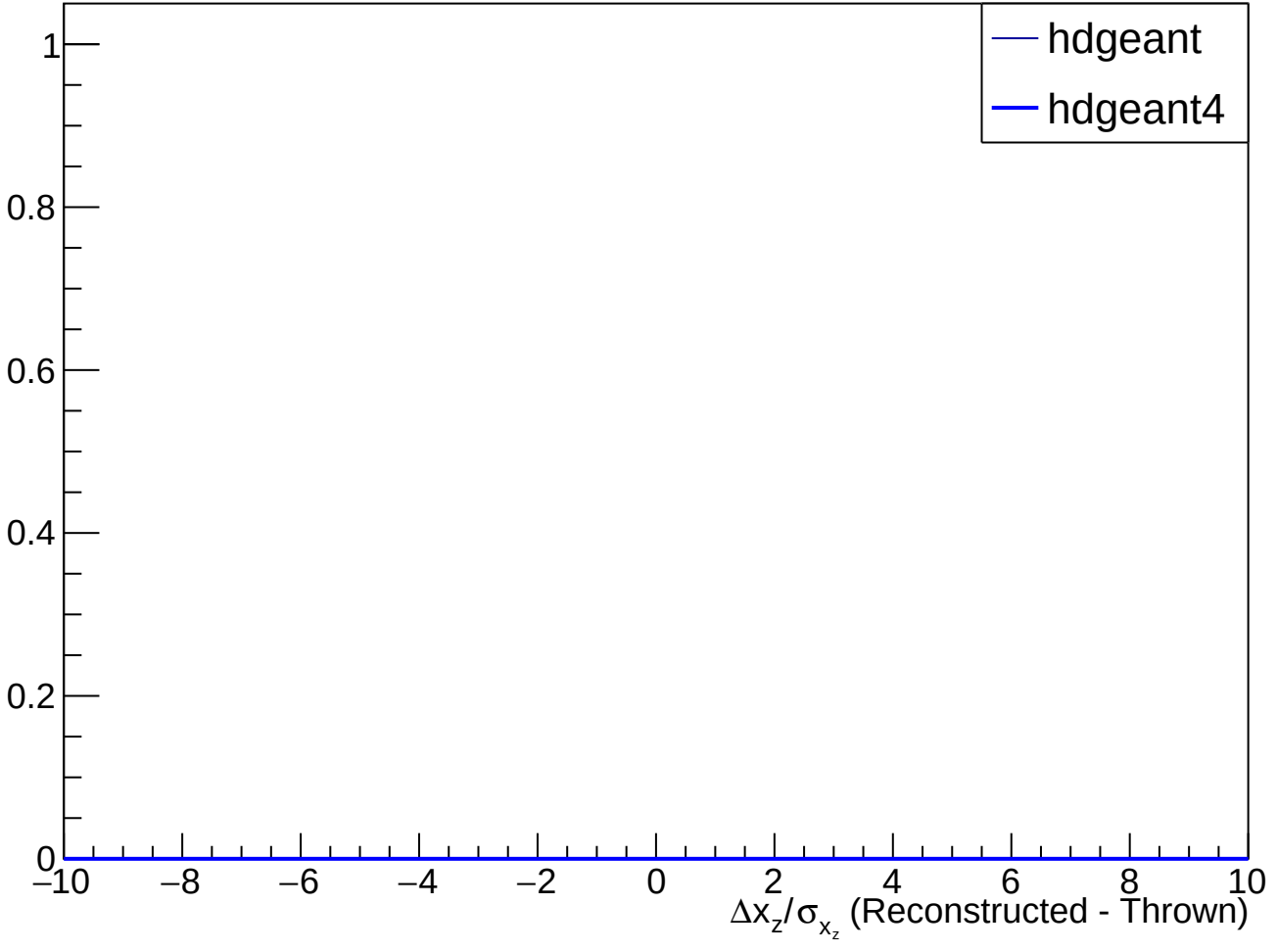

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XyPullVsP
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

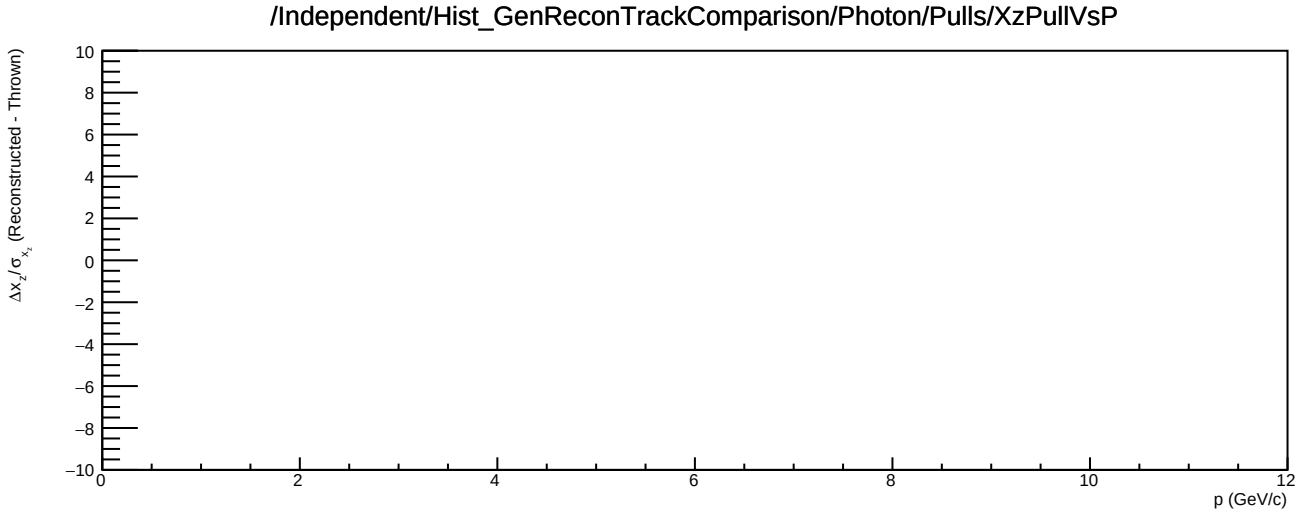

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XyPullVsP
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

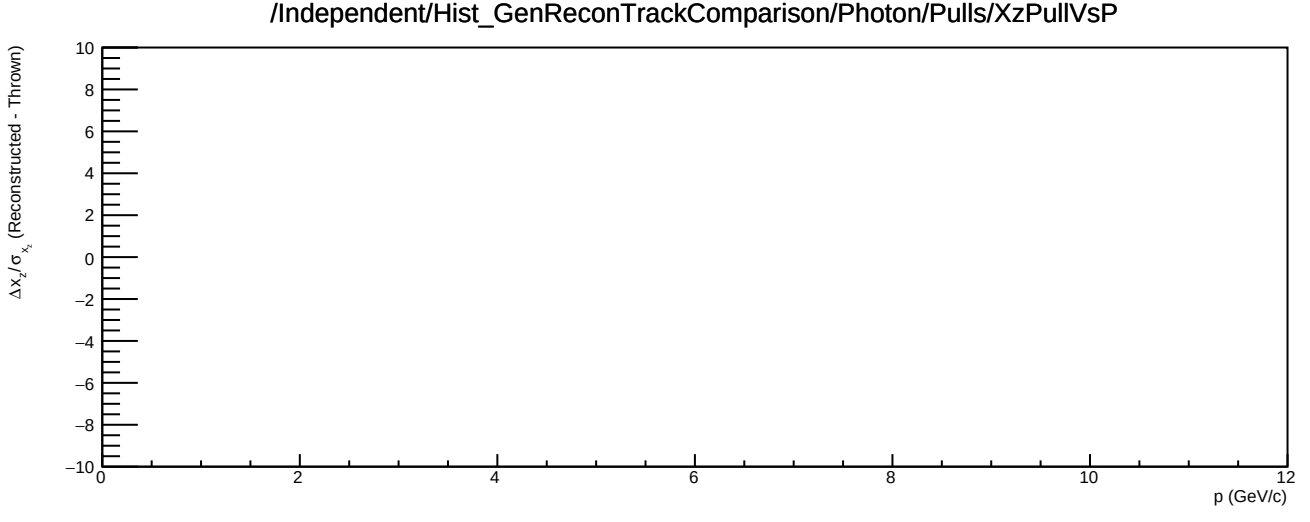

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XyPullVsTheta
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

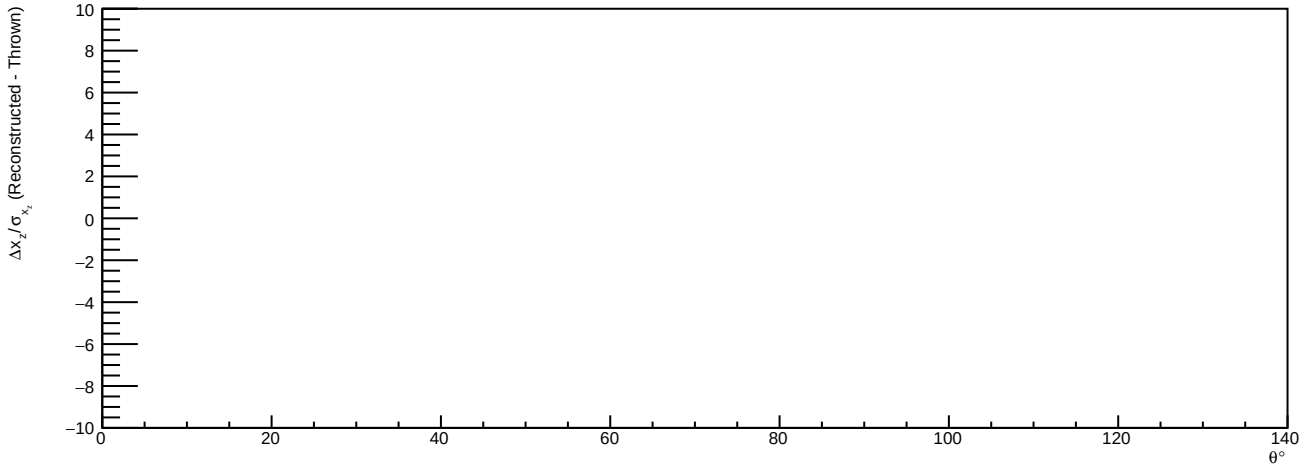

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XyPullVsTheta
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

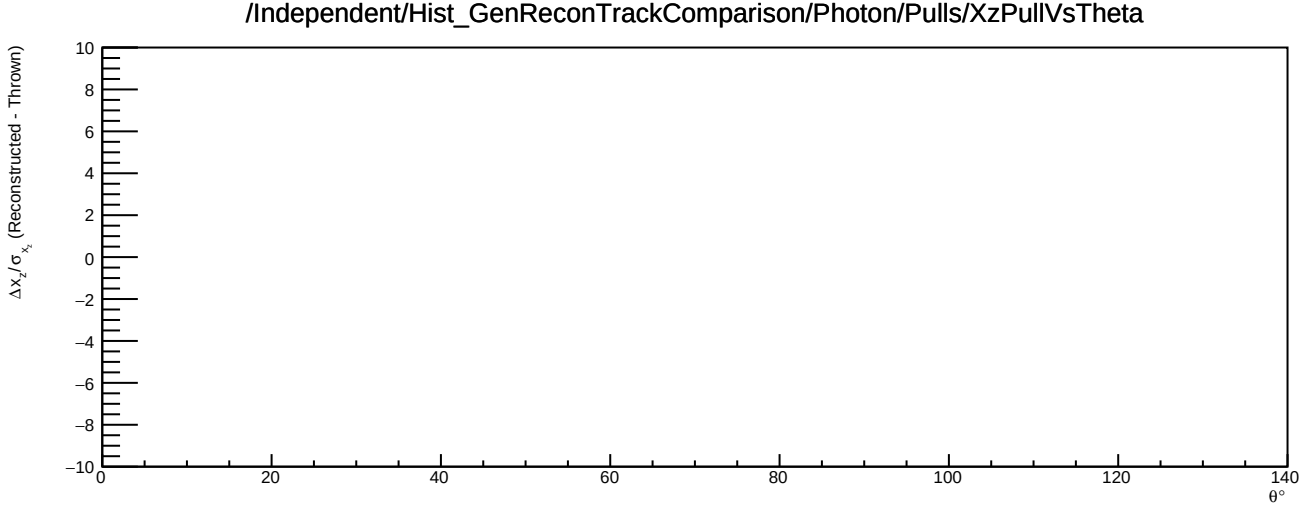
/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XzPull



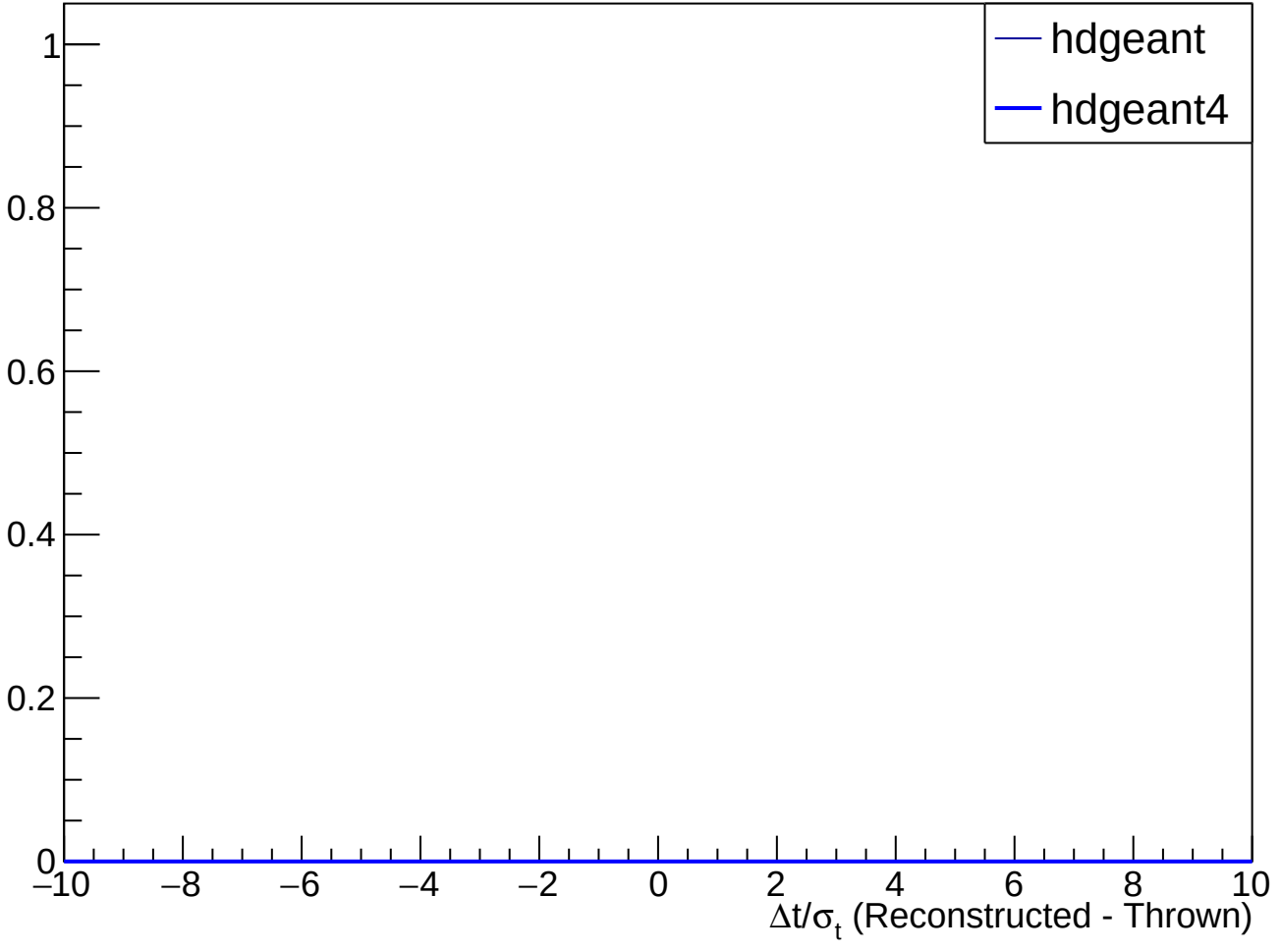

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

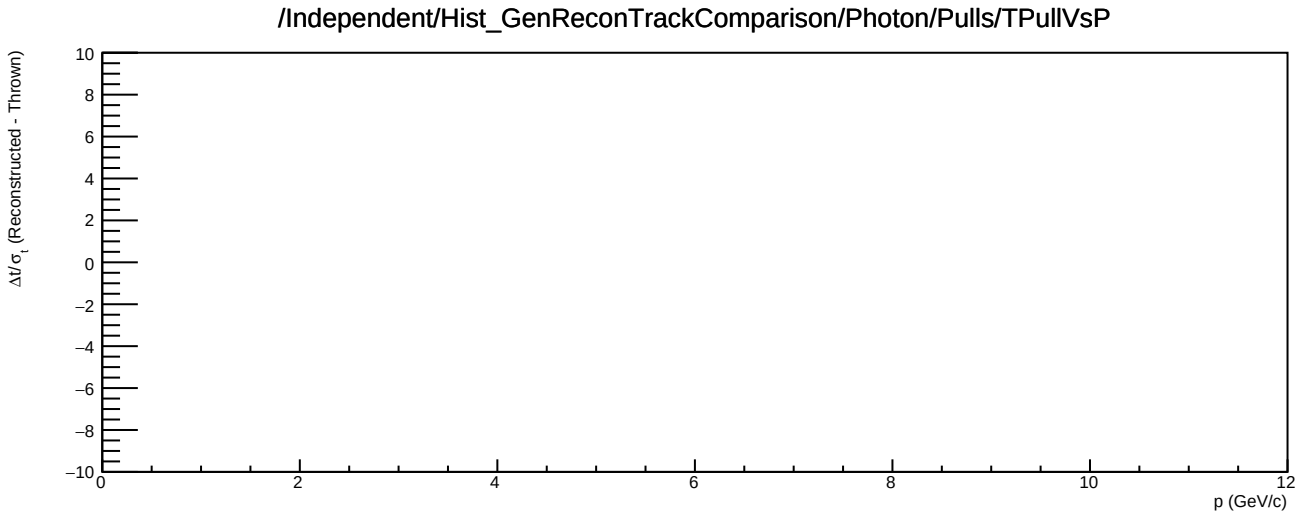

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

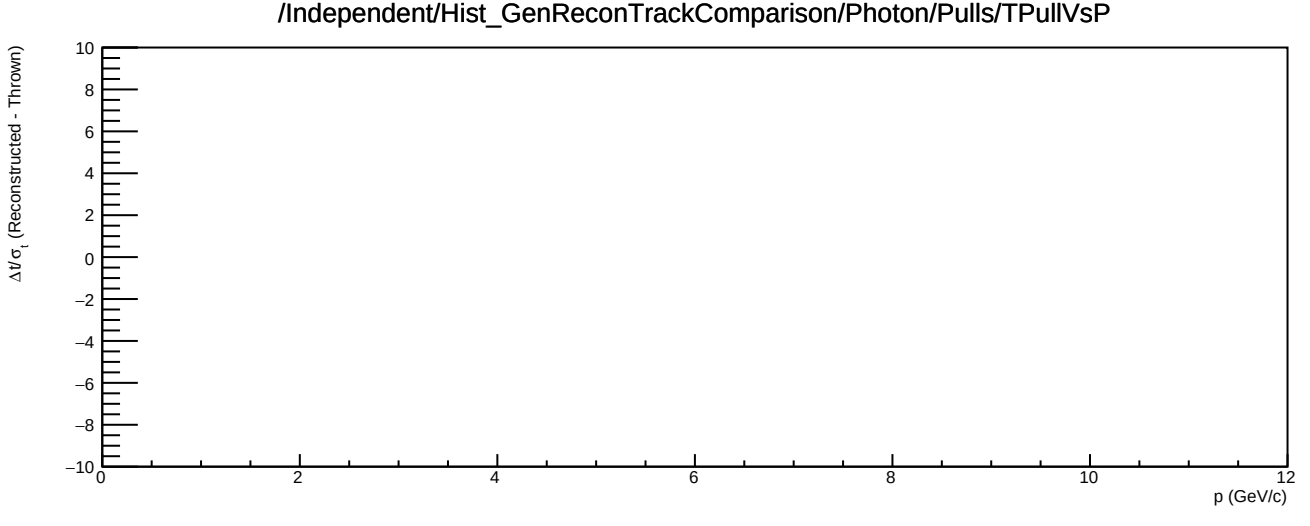

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

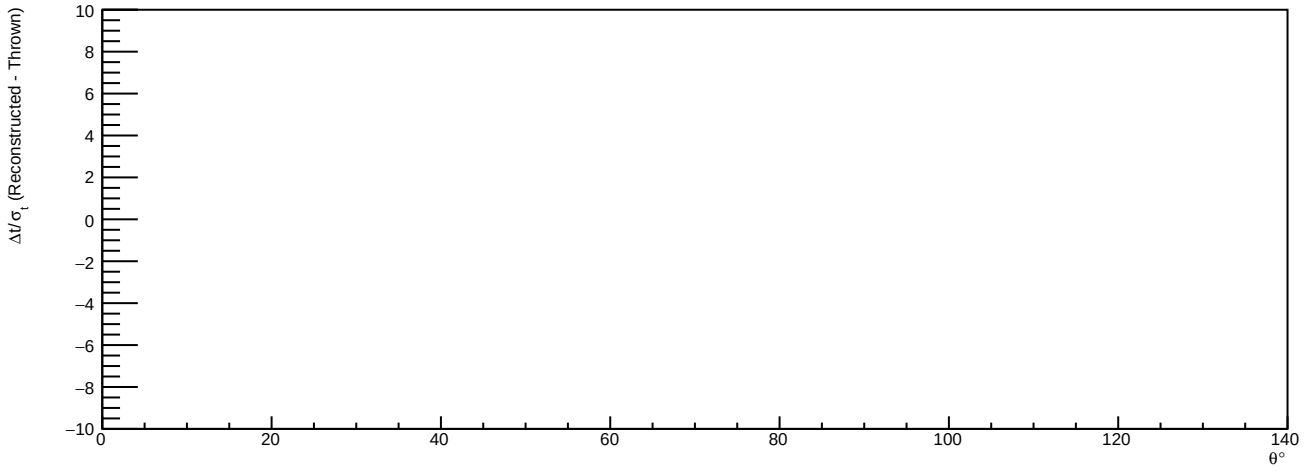

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

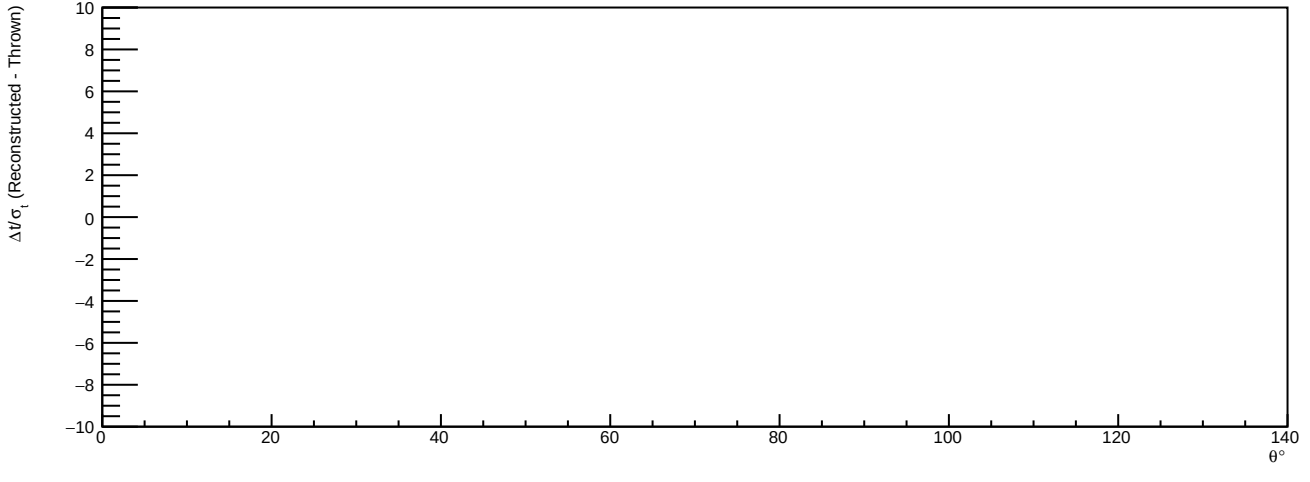
/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TPull



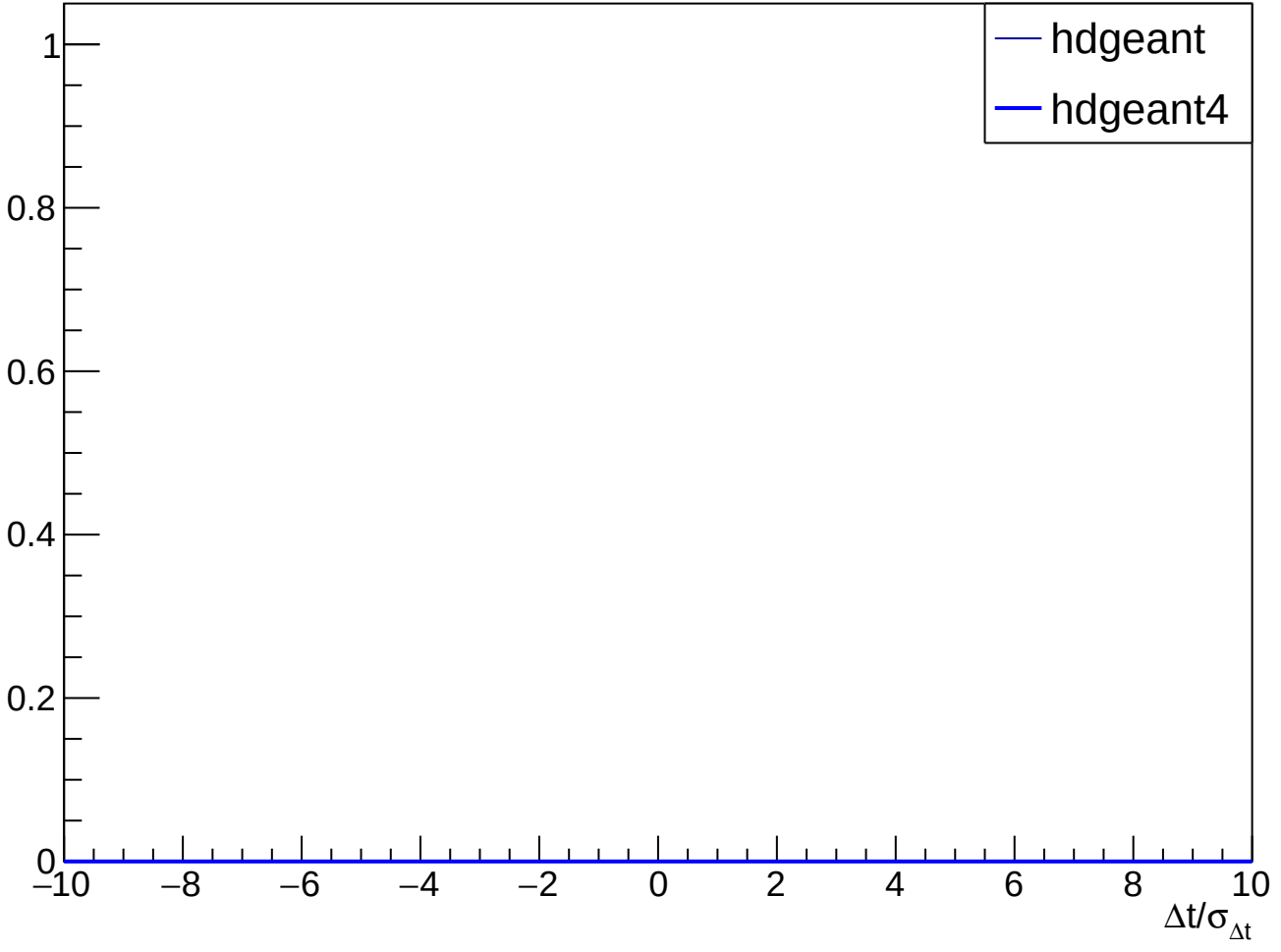

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

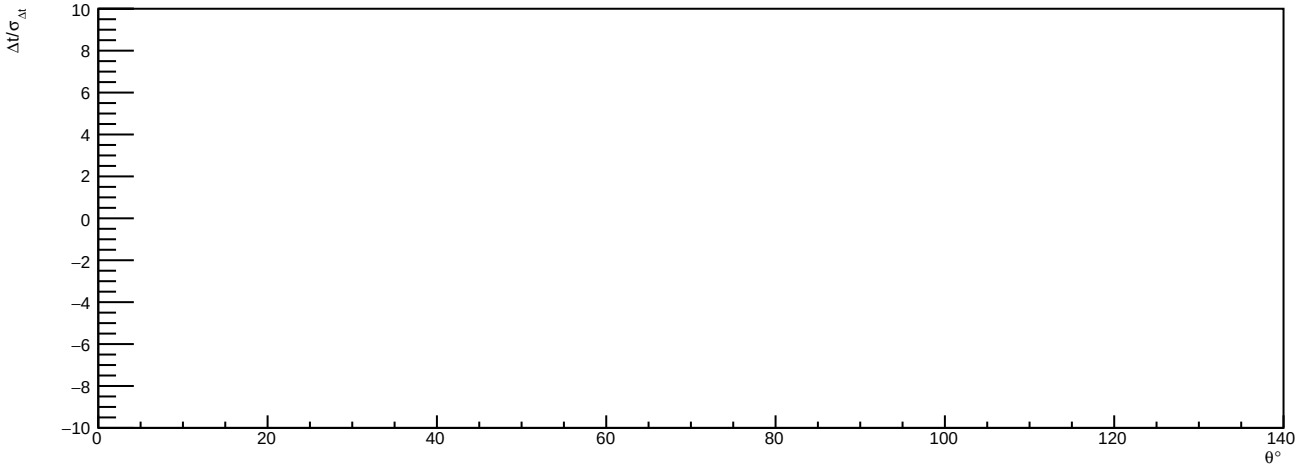

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

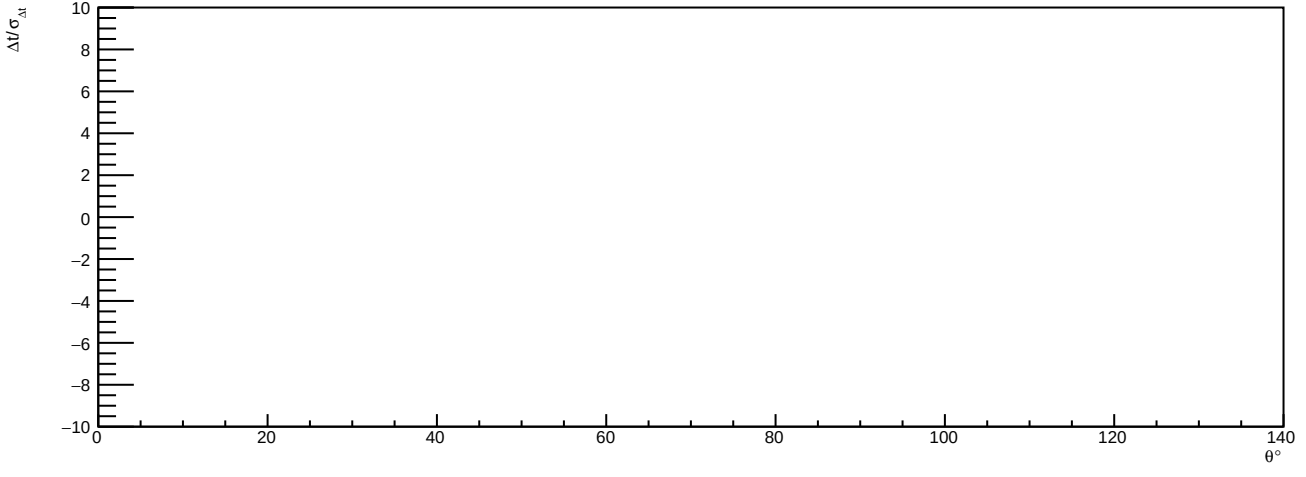

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

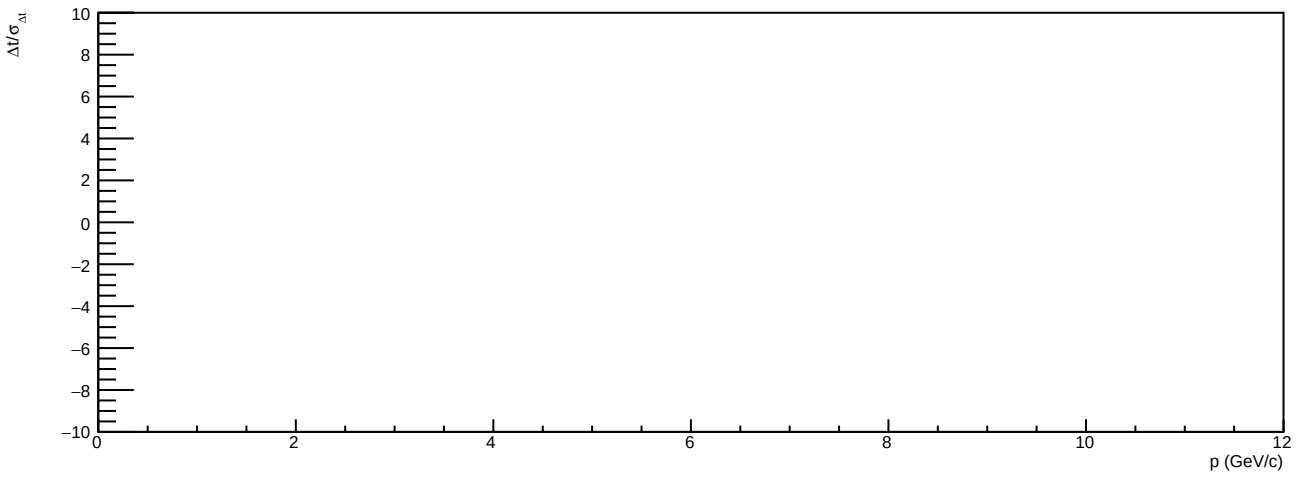

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

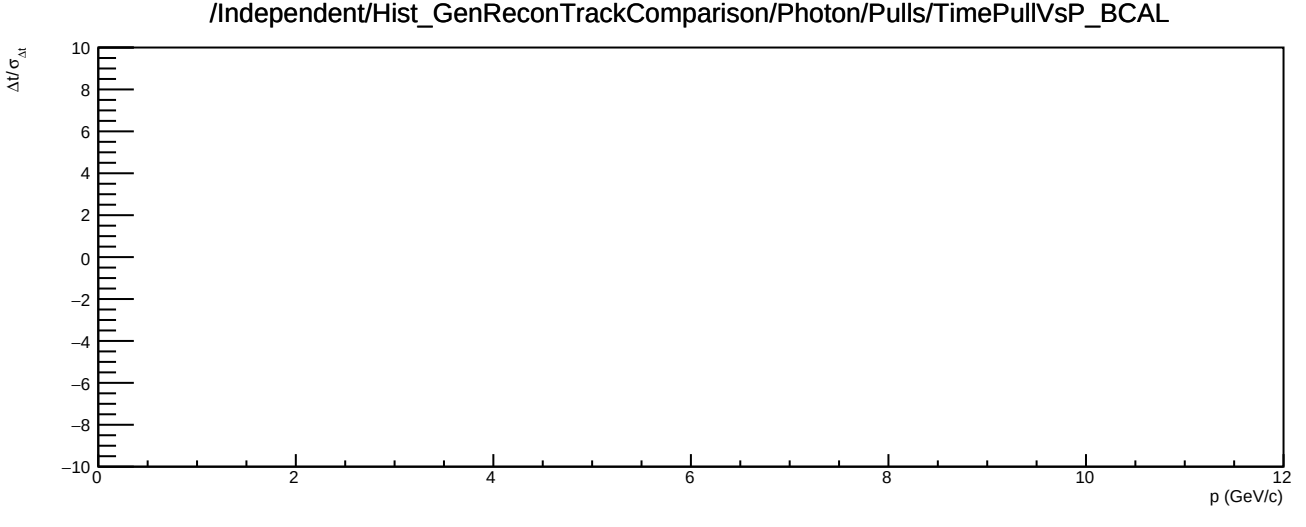
/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TimePull_BCAL



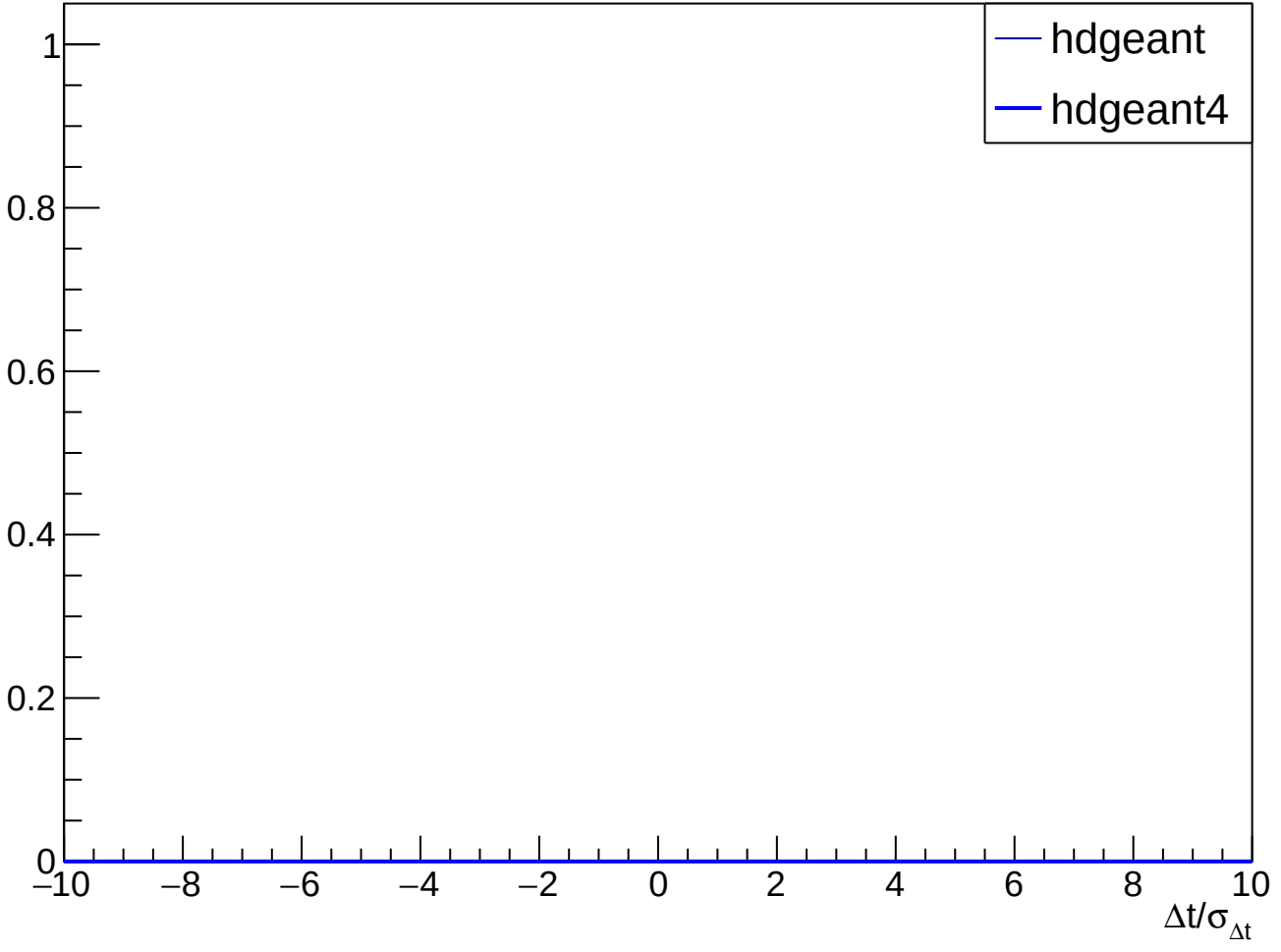

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TimePullVsTheta_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

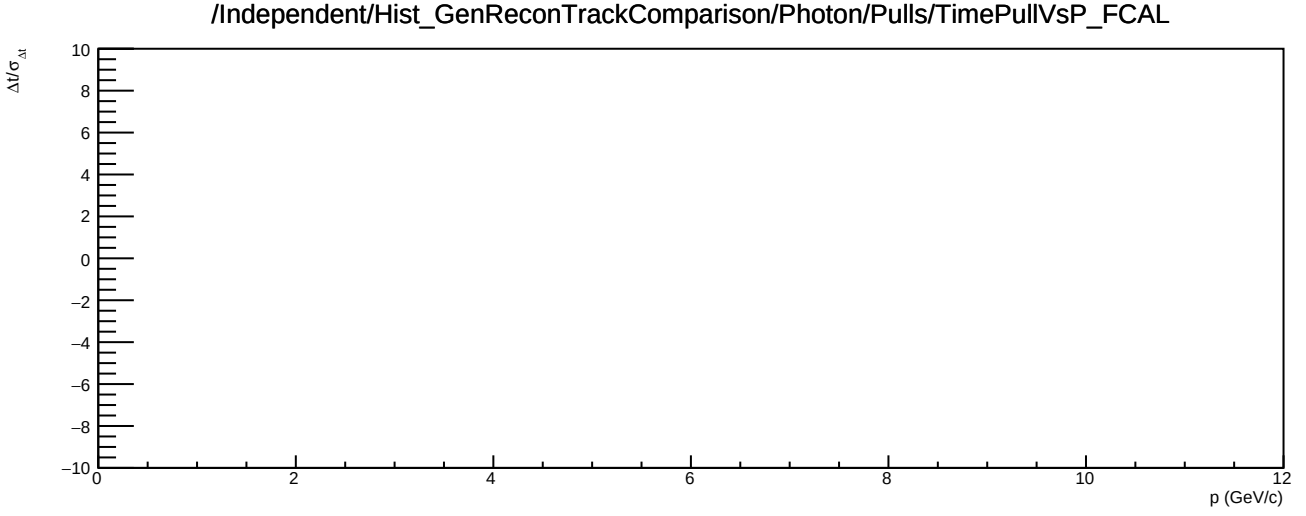

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TimePullVsTheta_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

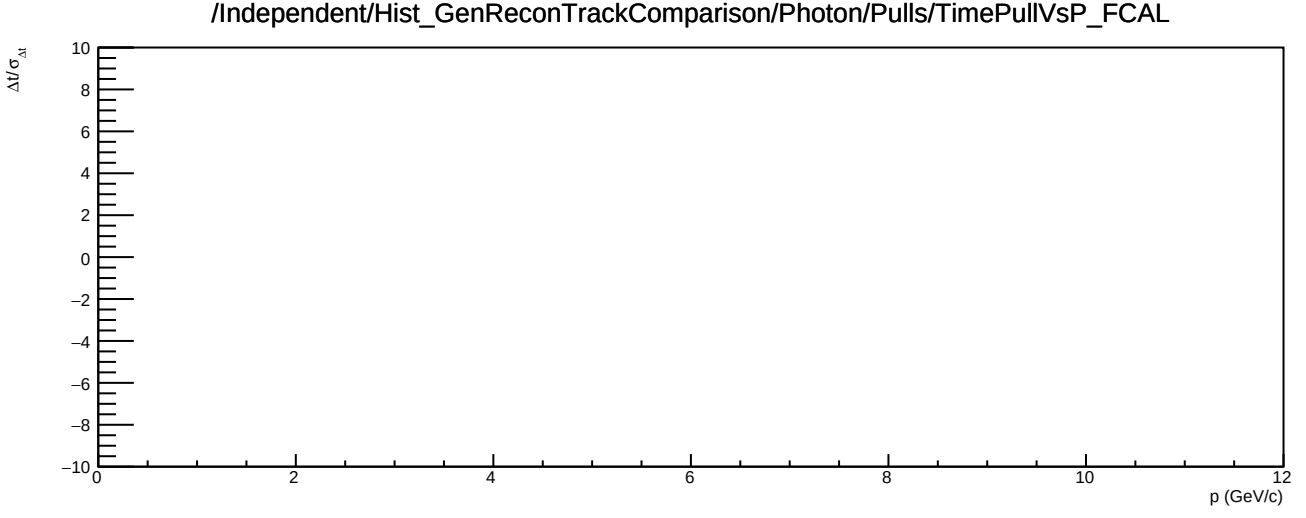

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

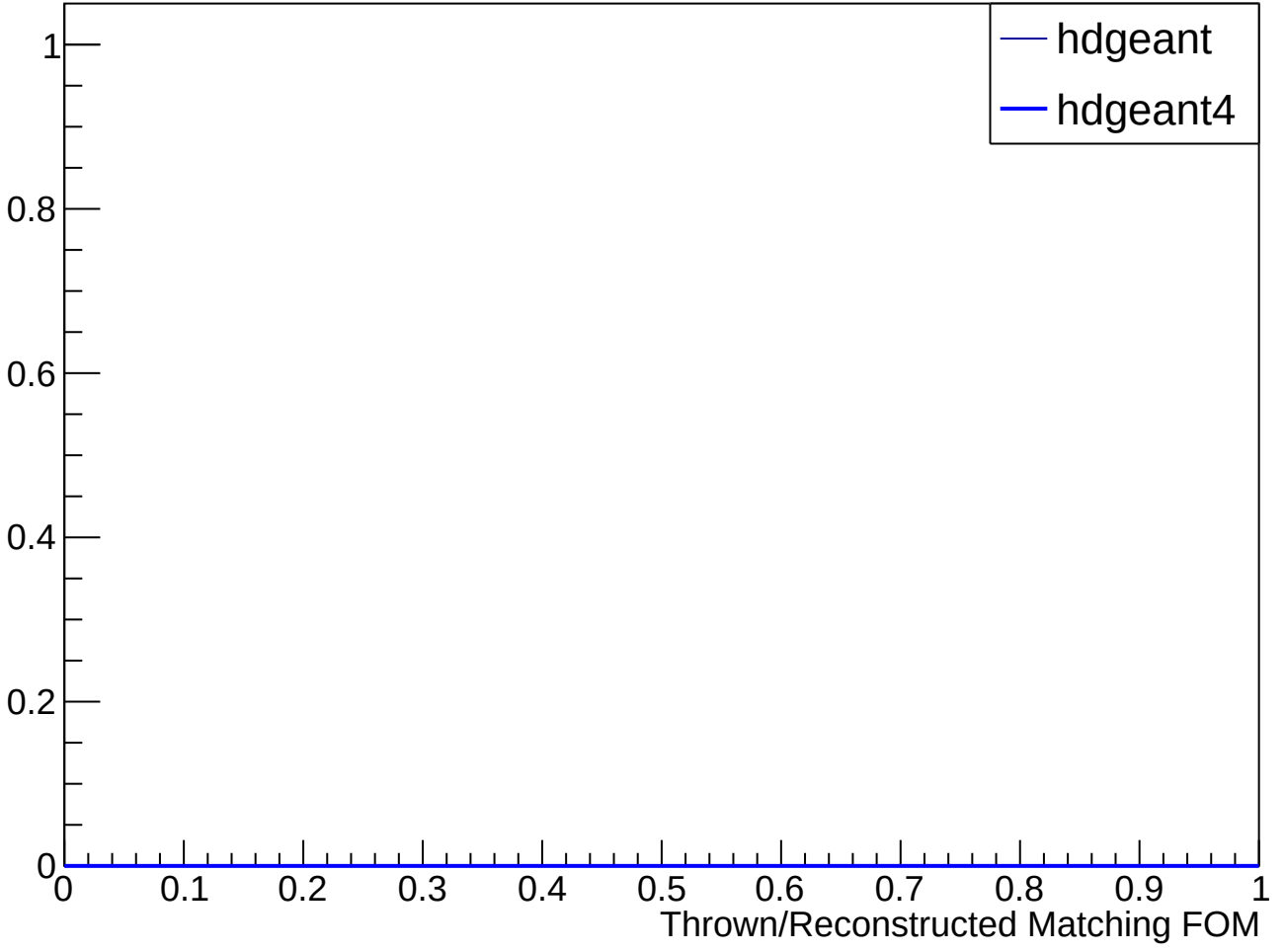
/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TimePull_FCAL



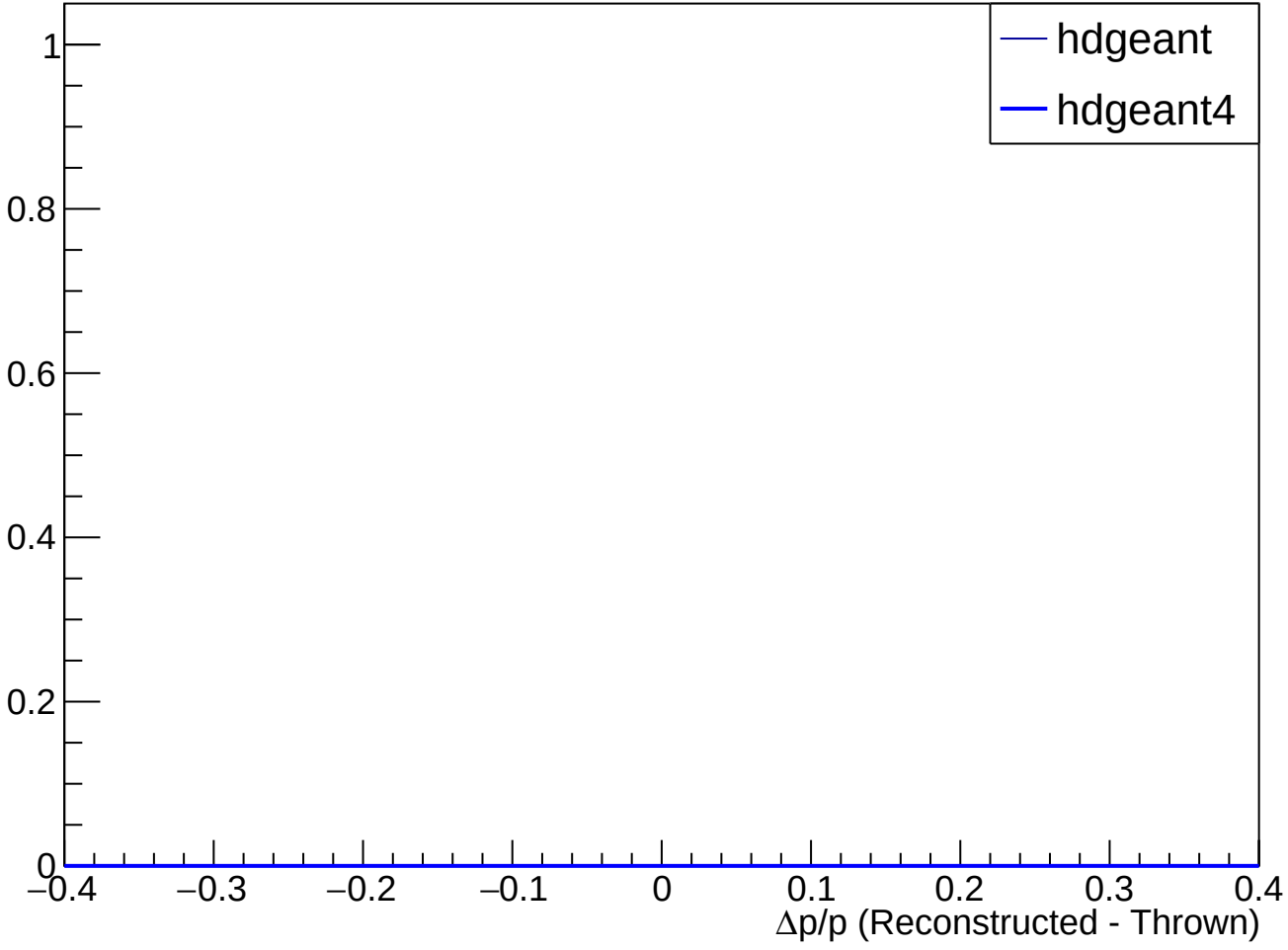

/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Photon/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

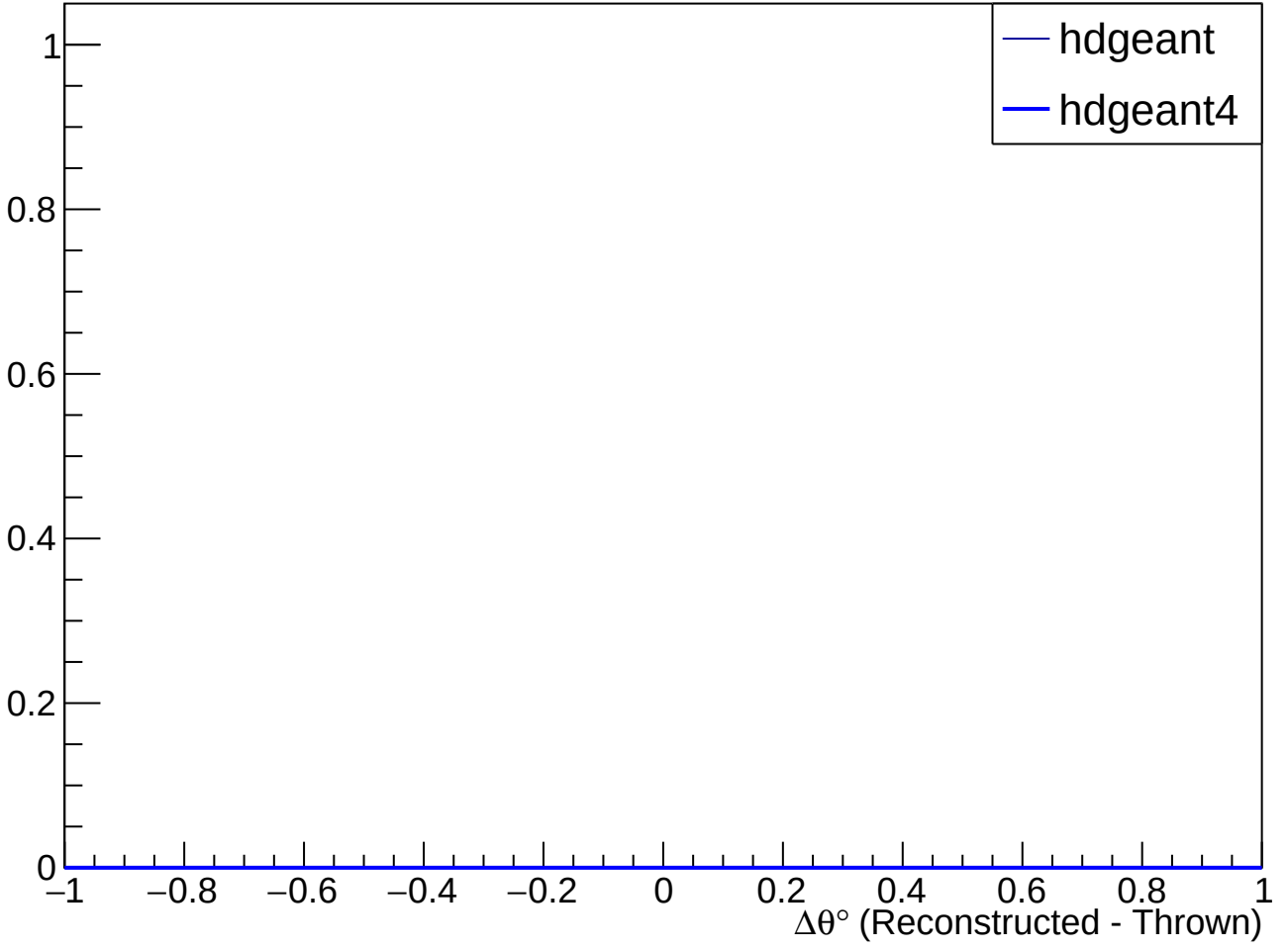
/Independent/Hist_GenReconTrackComparison/Photon/MatchFOM



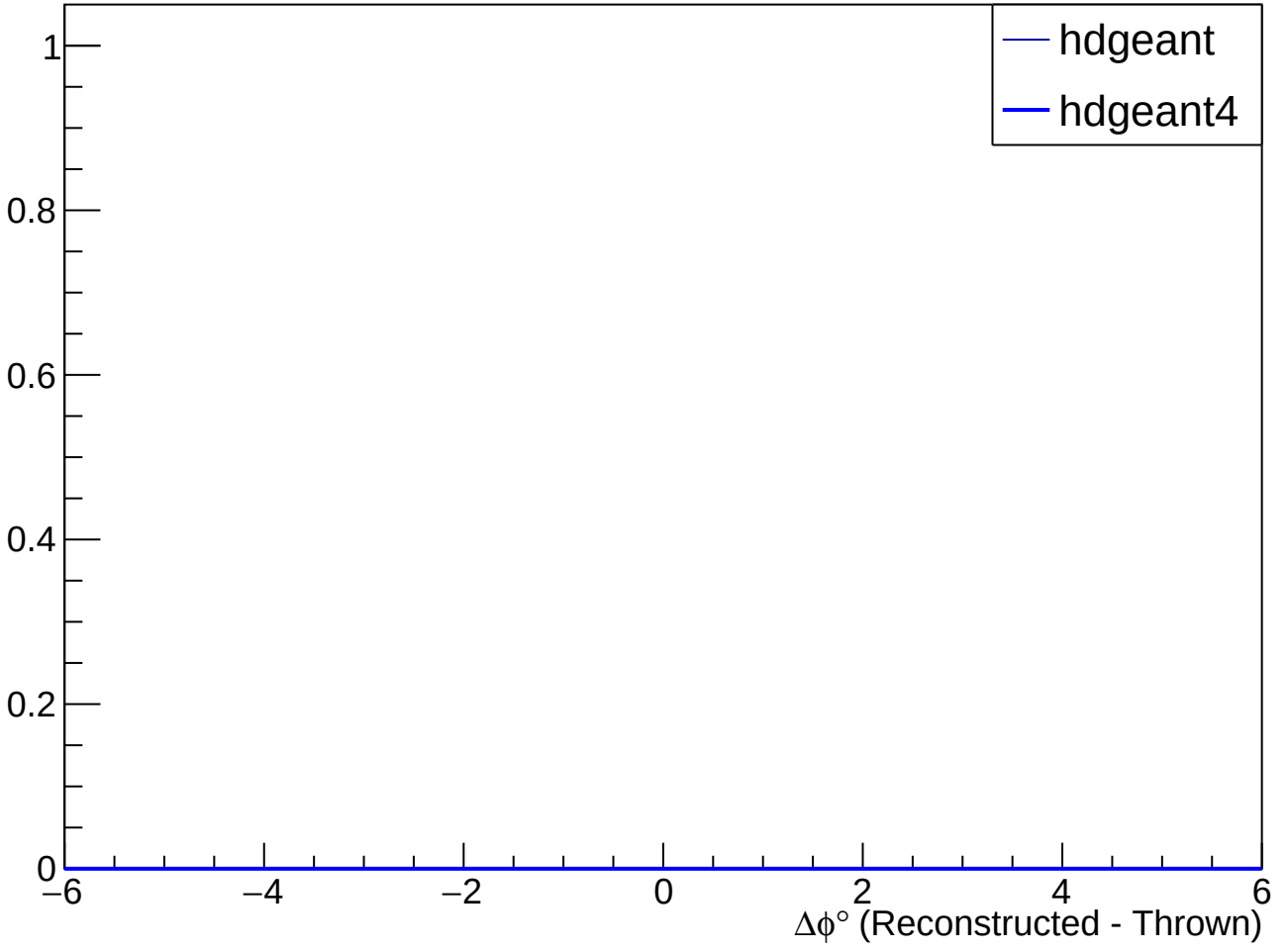
/Independent/Hist_GenReconTrackComparison/Photon/DeltaPOverP



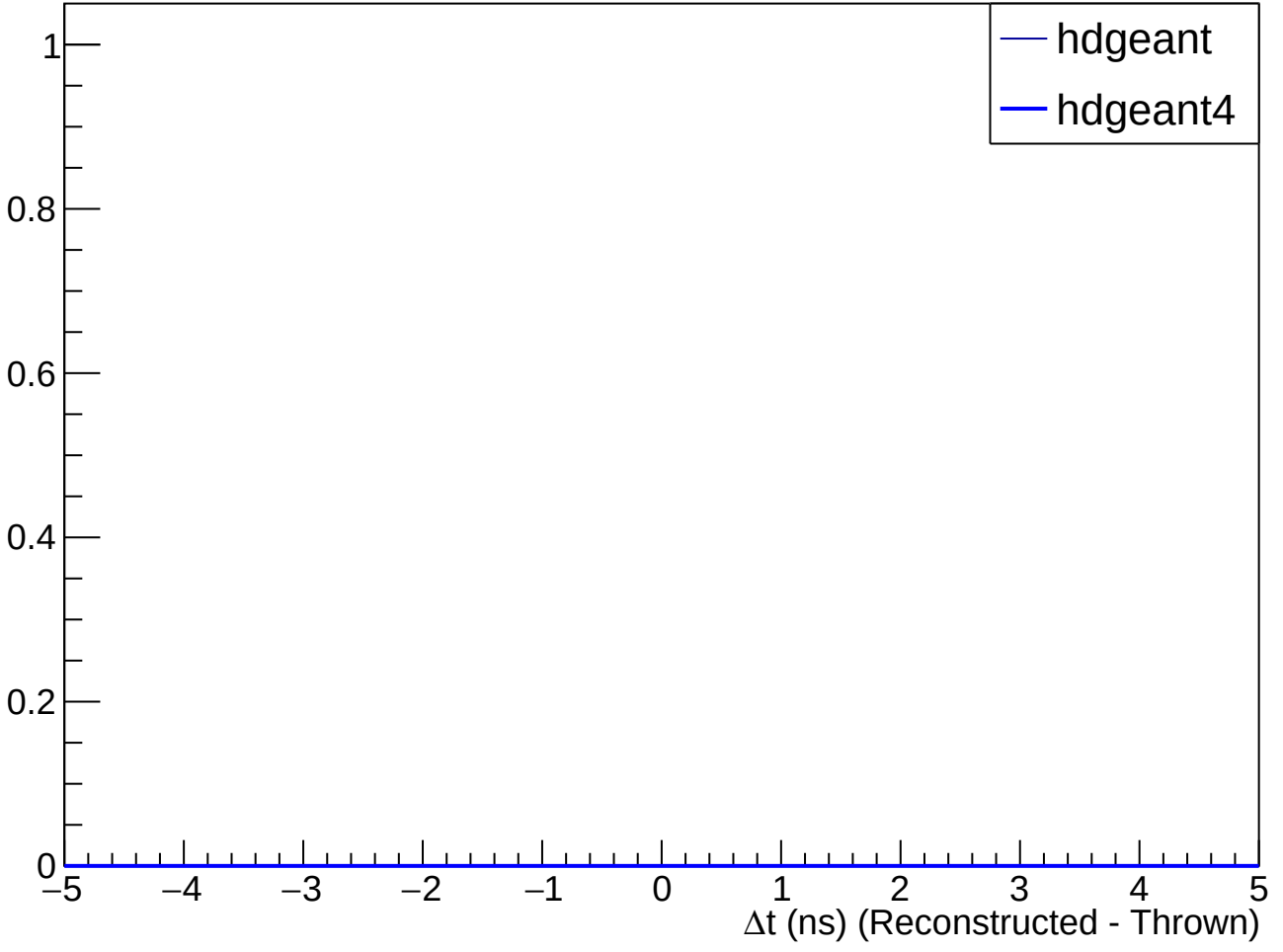
/Independent/Hist_GenReconTrackComparison/Photon/DeltaTheta



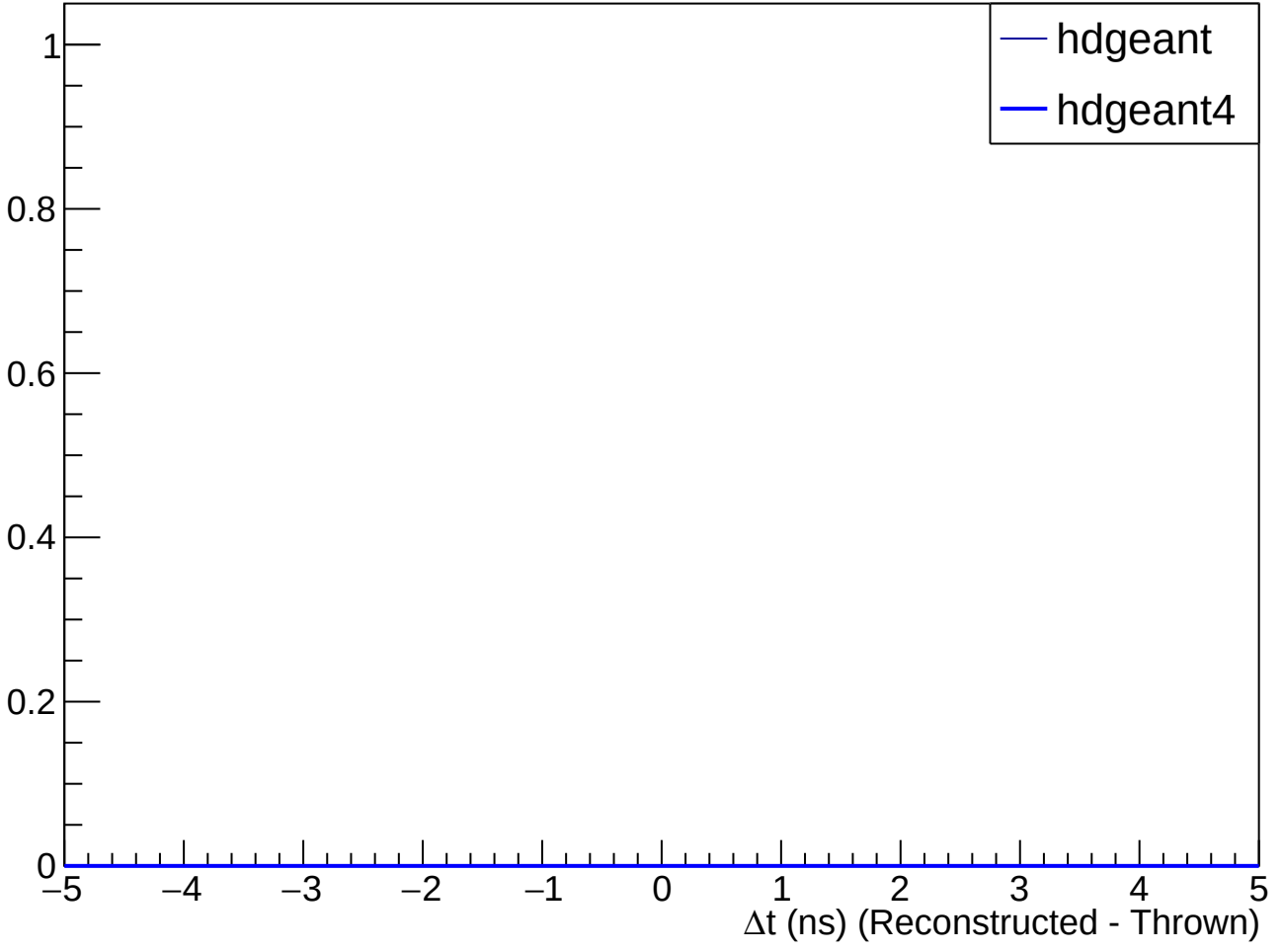
/Independent/Hist_GenReconTrackComparison/Photon/DeltaPhi



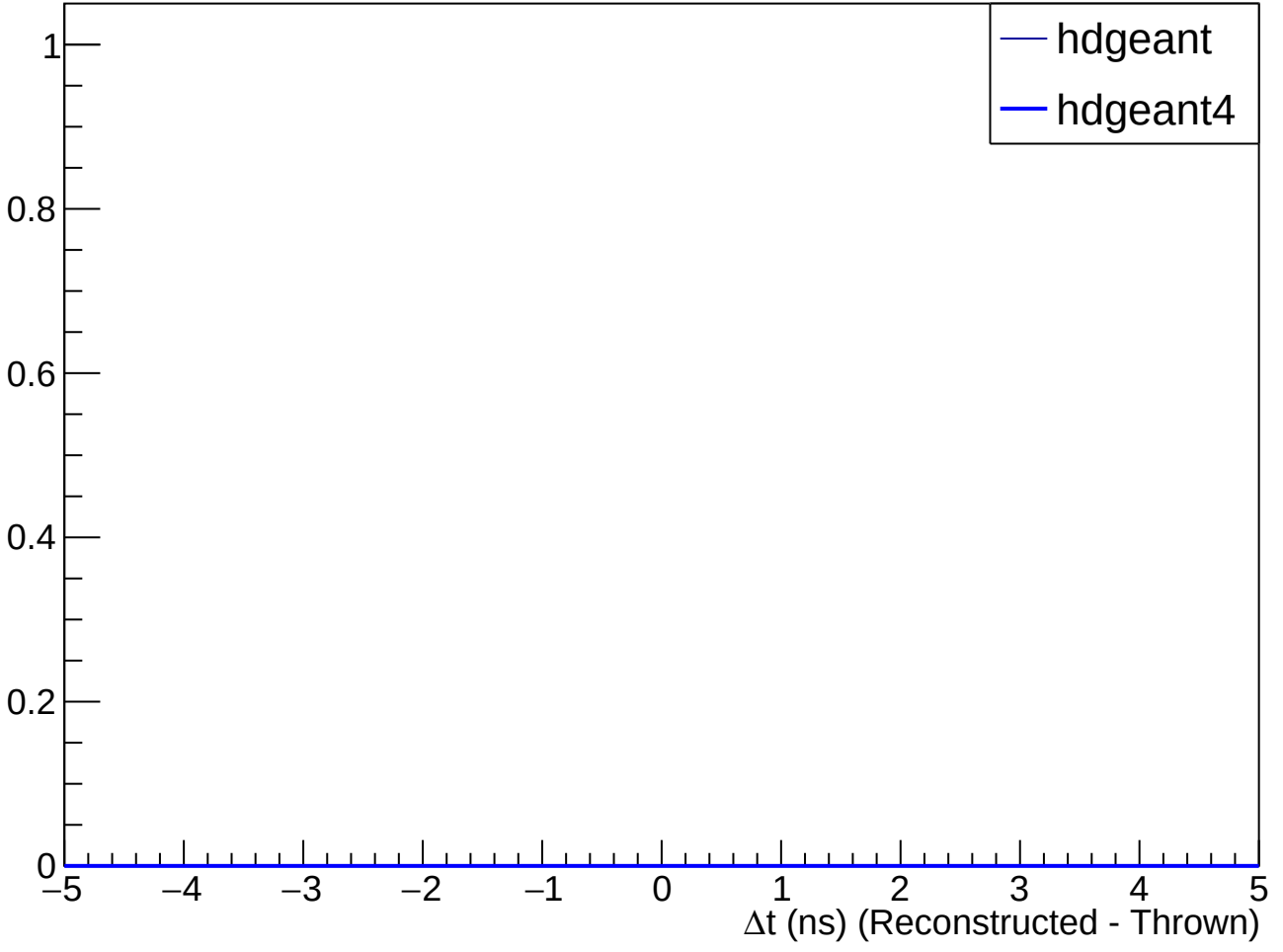
/Independent/Hist_GenReconTrackComparison/Photon/DeltaT



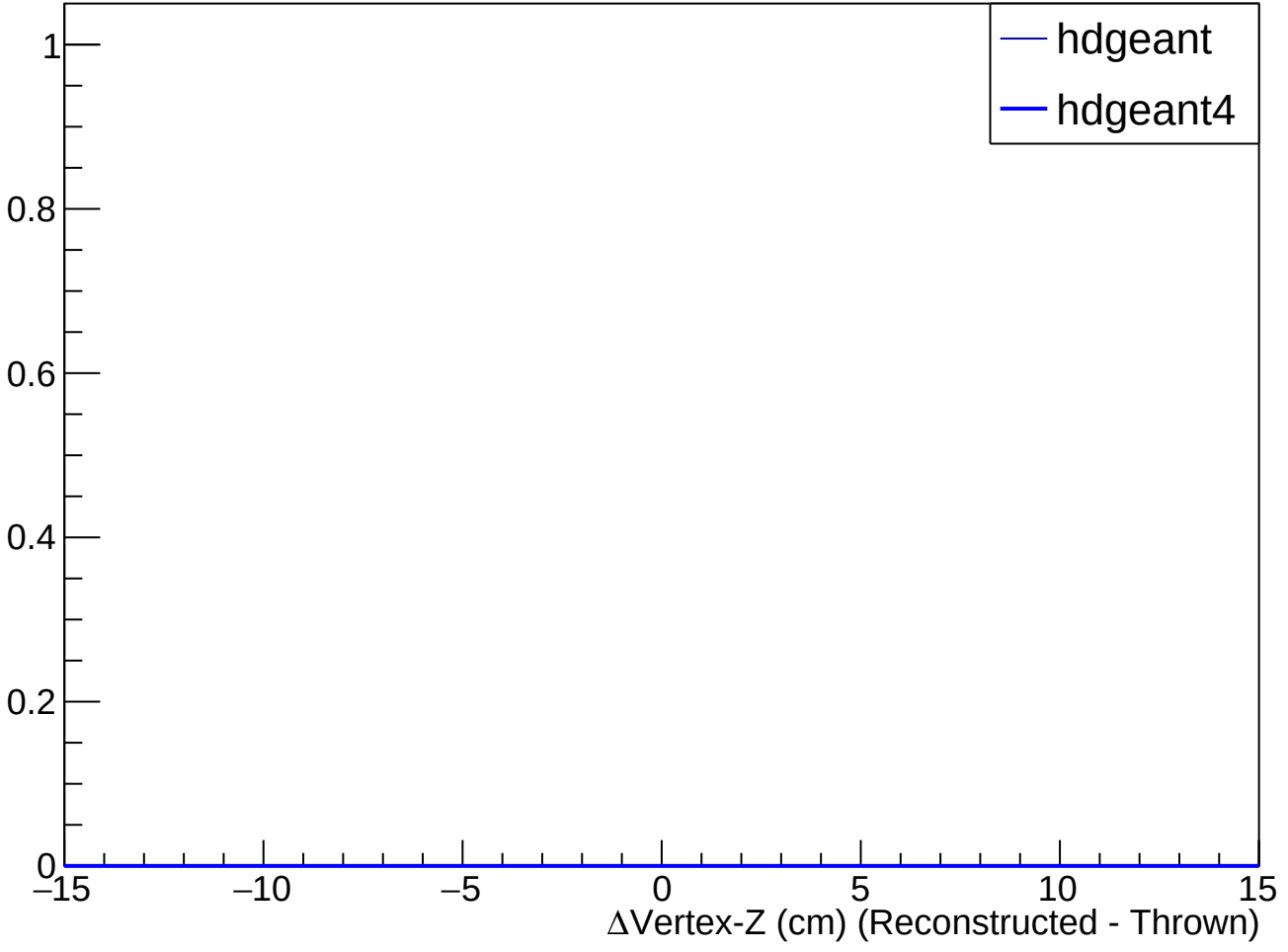
/Independent/Hist_GenReconTrackComparison/Photon/DeltaT_BCAL

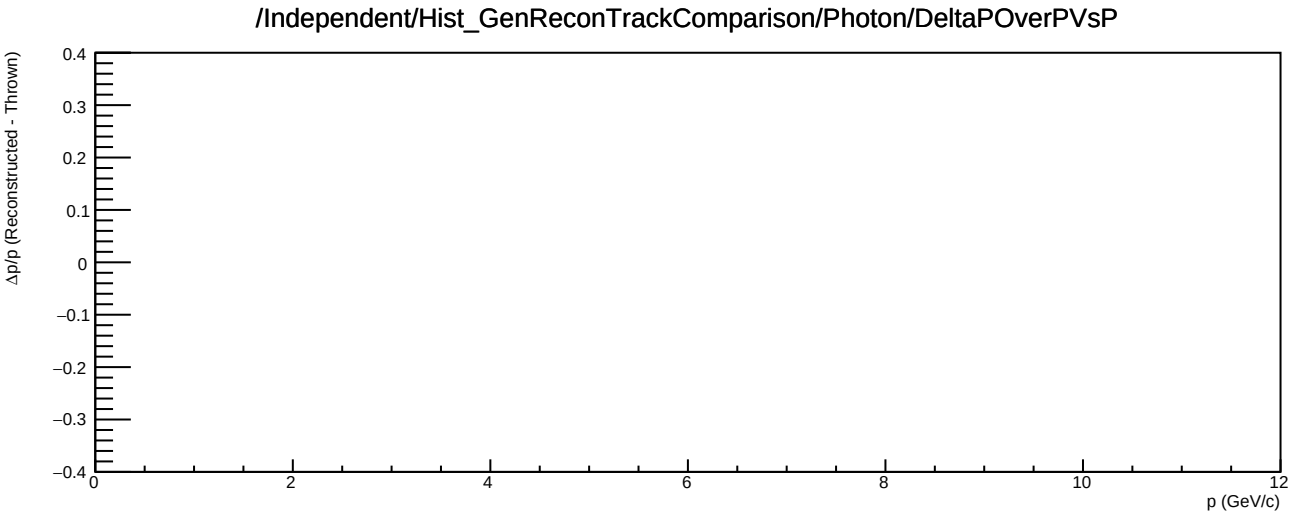


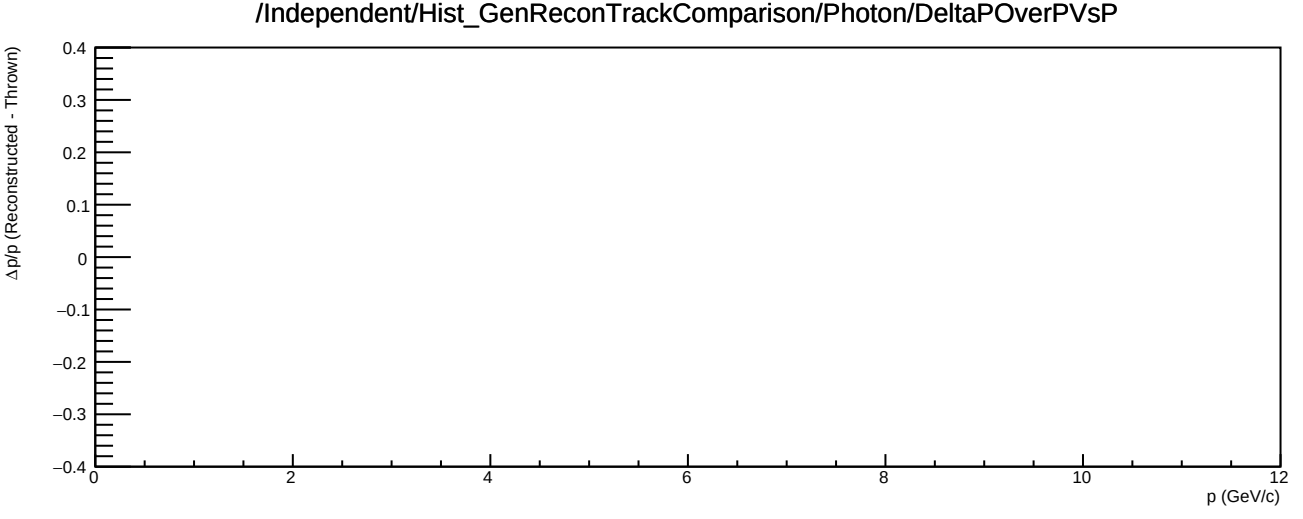
/Independent/Hist_GenReconTrackComparison/Photon/DeltaT_FCAL

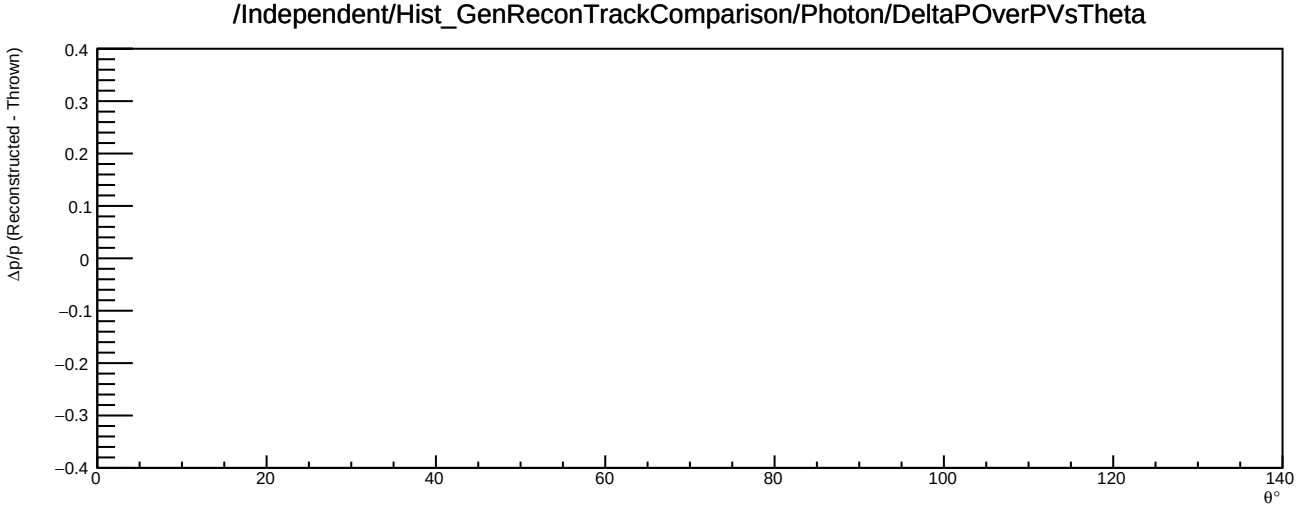


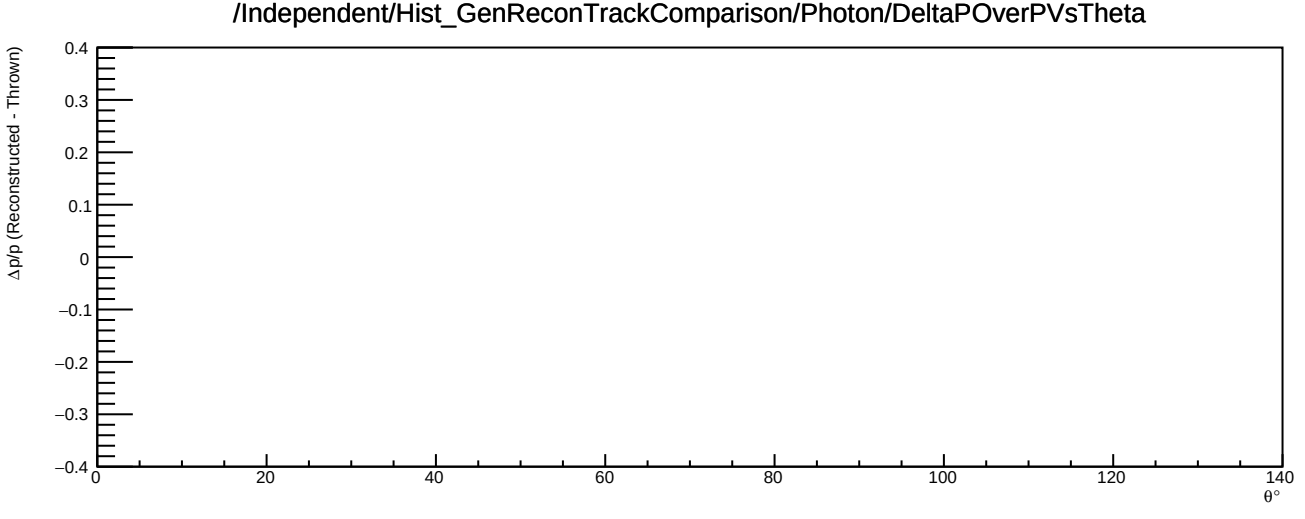
/Independent/Hist_GenReconTrackComparison/Photon/DeltaVertexZ

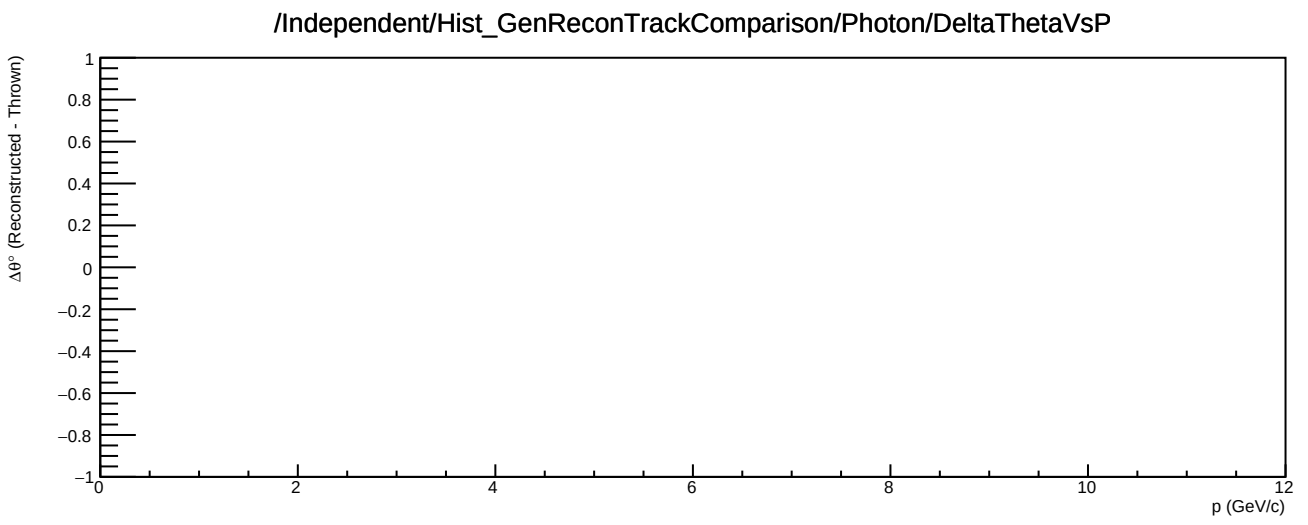


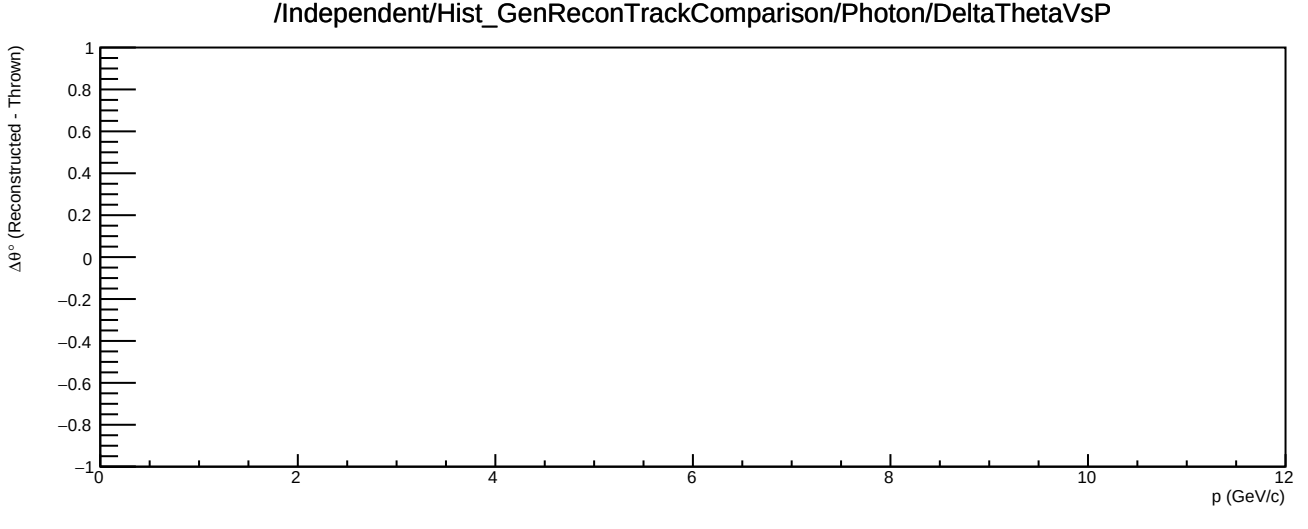

/Independent/Hist_GenReconTrackComparison/Photon/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

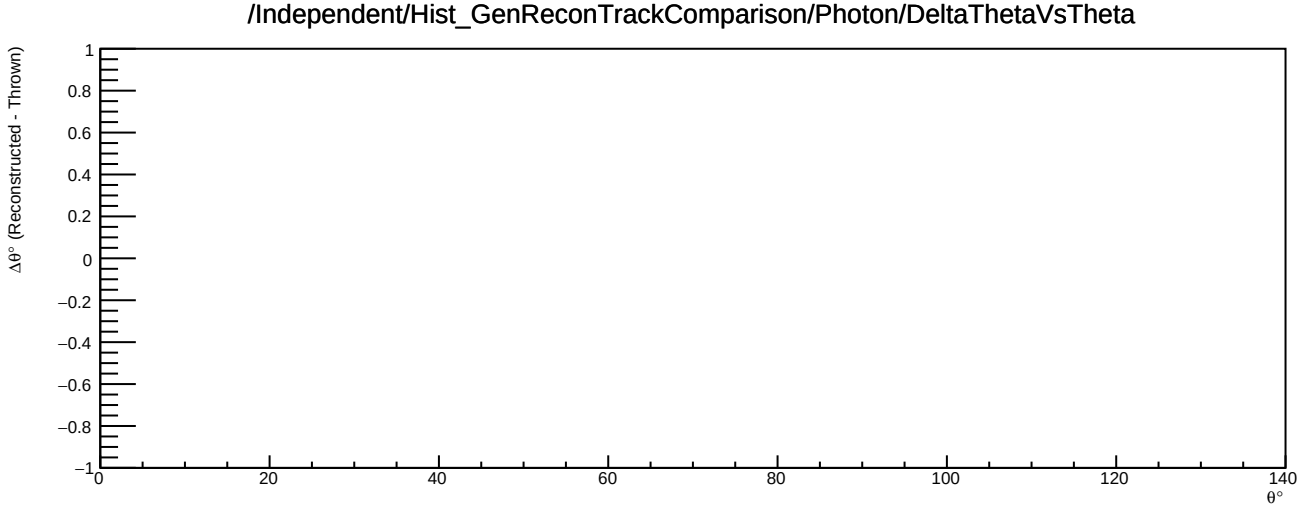

/Independent/Hist_GenReconTrackComparison/Photon/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

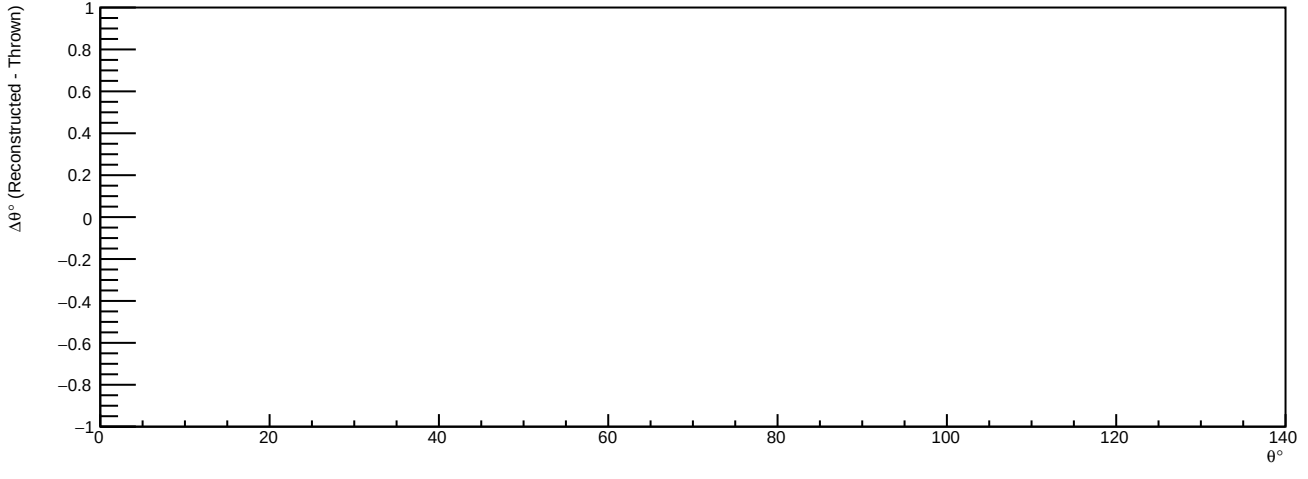

/Independent/Hist_GenReconTrackComparison/Photon/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

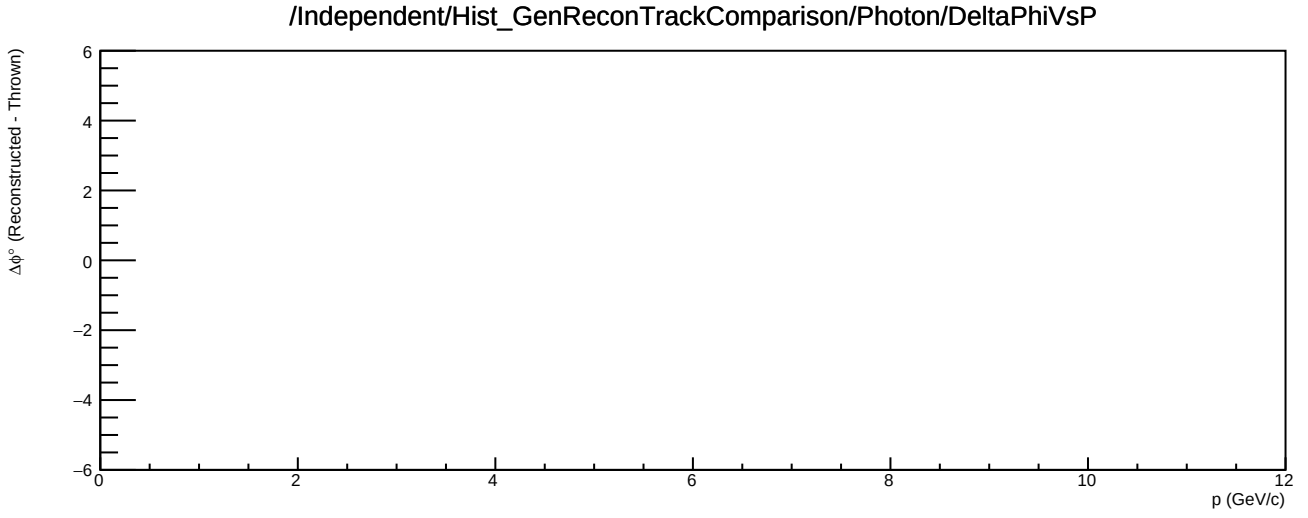

/Independent/Hist_GenReconTrackComparison/Photon/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

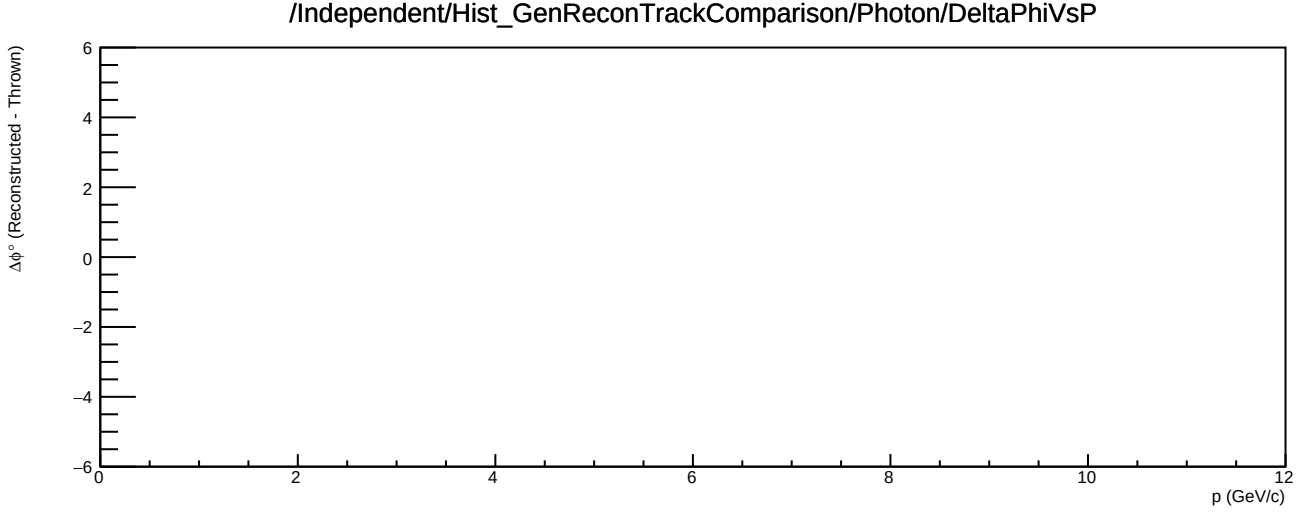

/Independent/Hist_GenReconTrackComparison/Photon/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

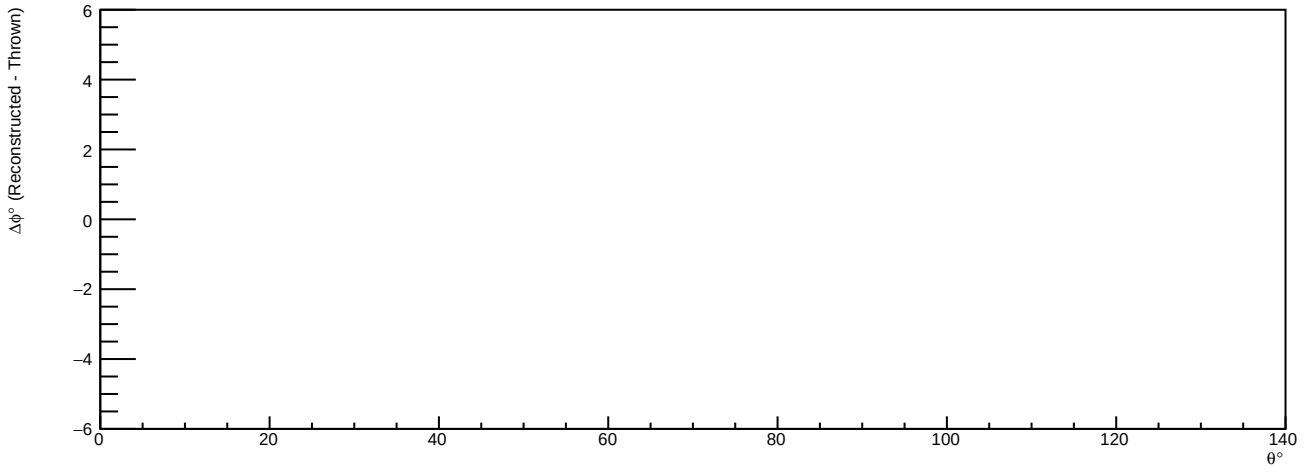

/Independent/Hist_GenReconTrackComparison/Photon/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

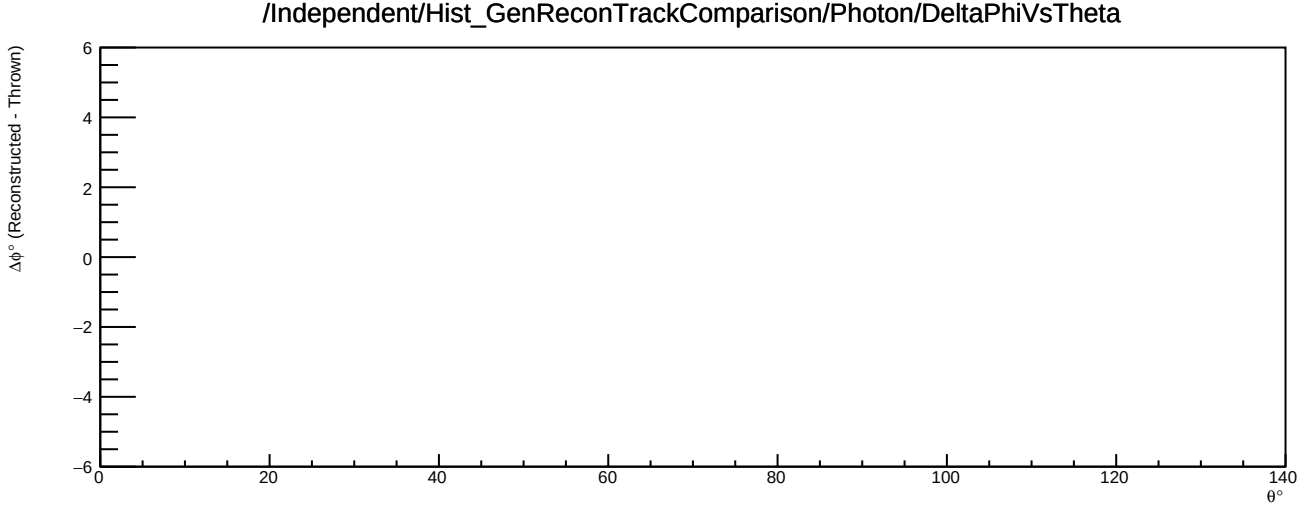

/Independent/Hist_GenReconTrackComparison/Photon/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

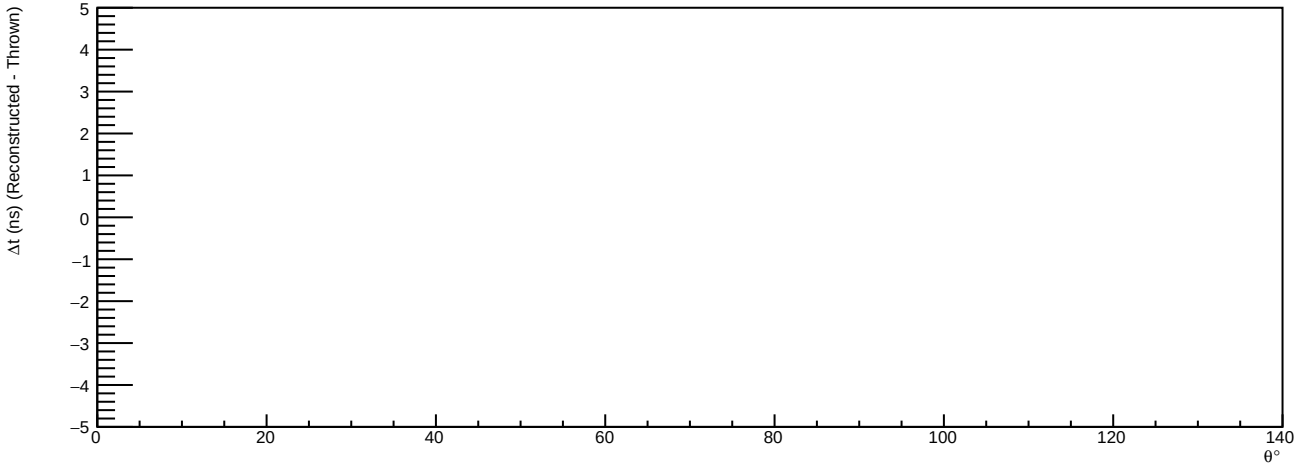

/Independent/Hist_GenReconTrackComparison/Photon/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

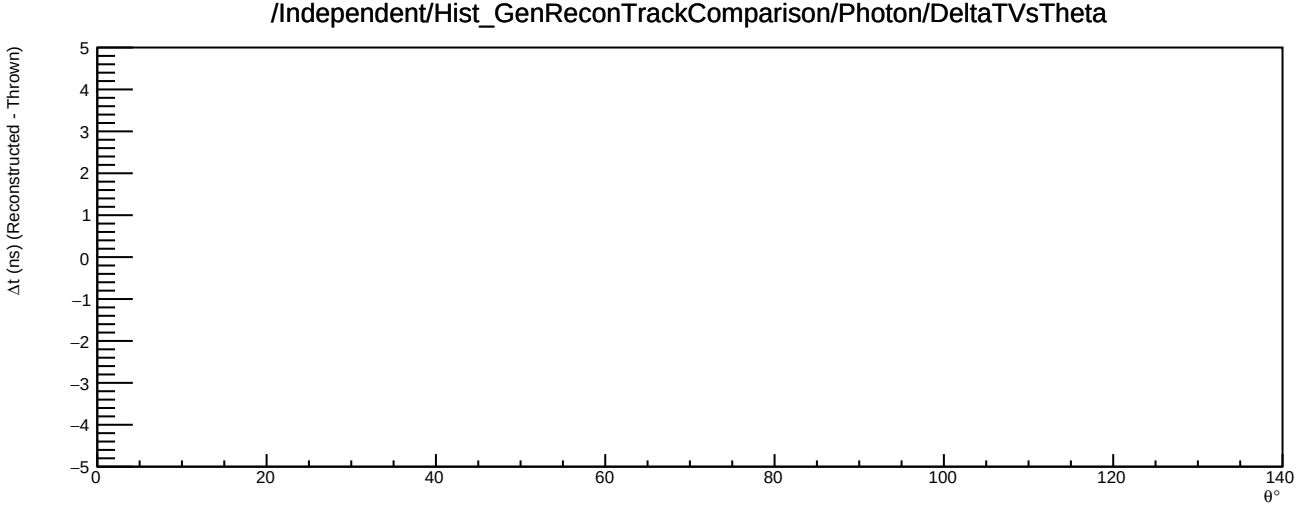

/Independent/Hist_GenReconTrackComparison/Photon/DeltaPhiVsP
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

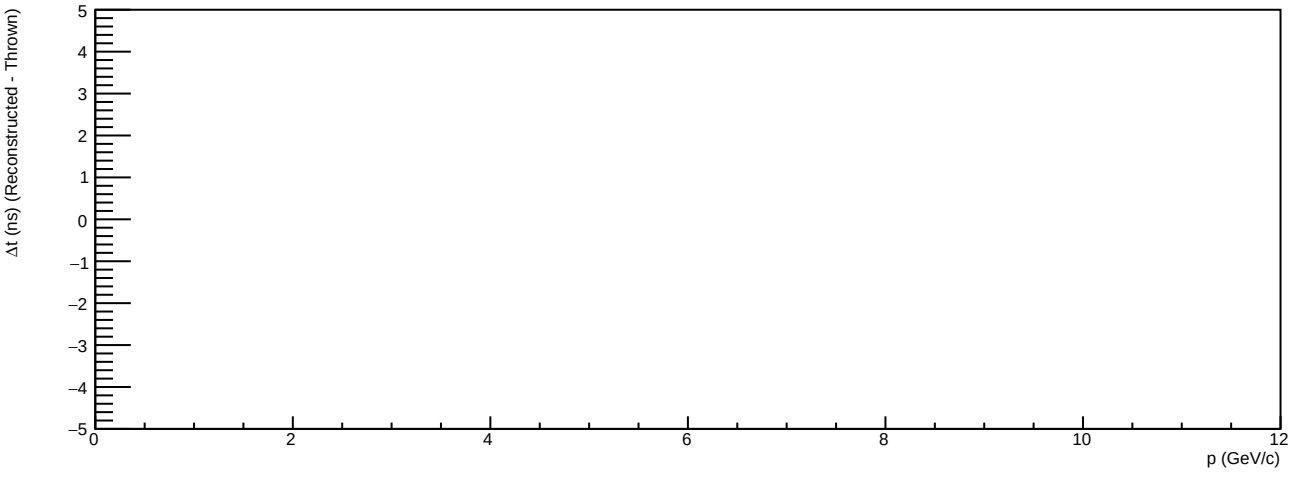

/Independent/Hist_GenReconTrackComparison/Photon/DeltaPhiVsP
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

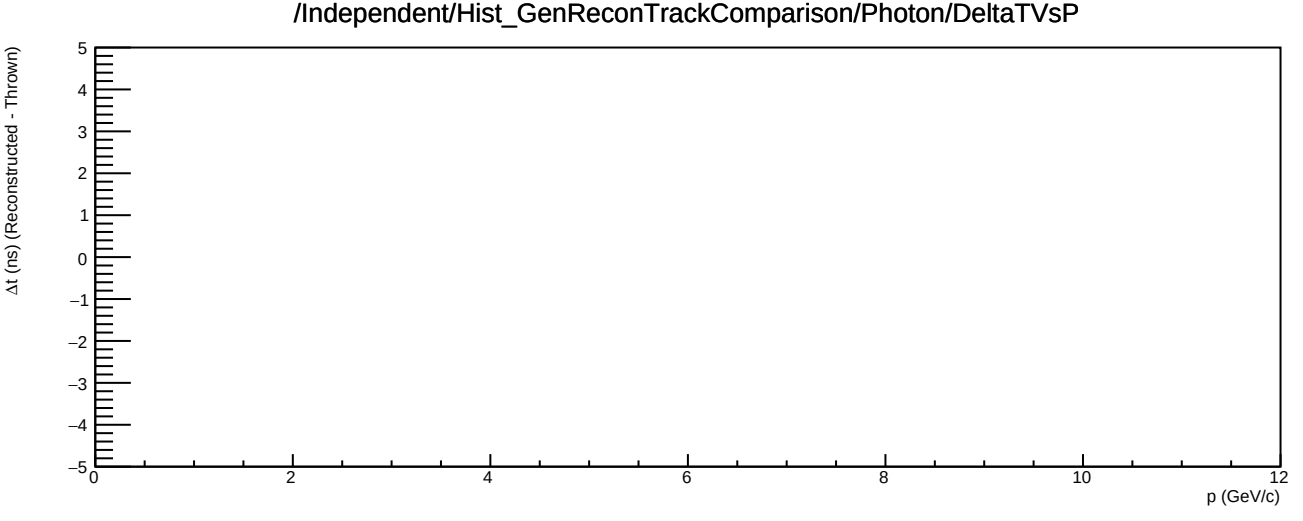

/Independent/Hist_GenReconTrackComparison/Photon/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

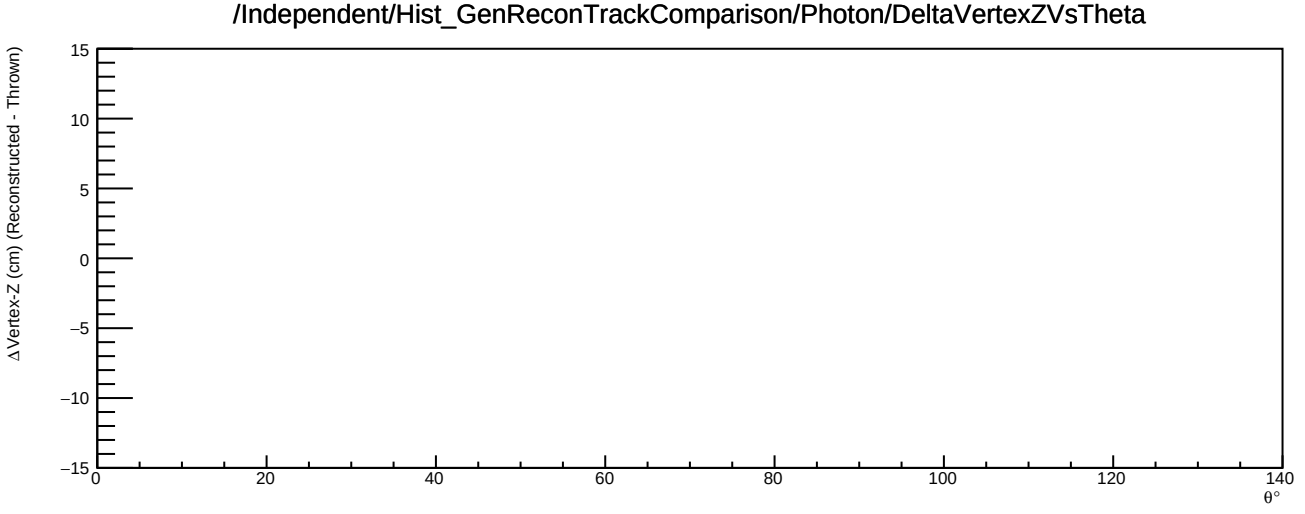

/Independent/Hist_GenReconTrackComparison/Photon/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

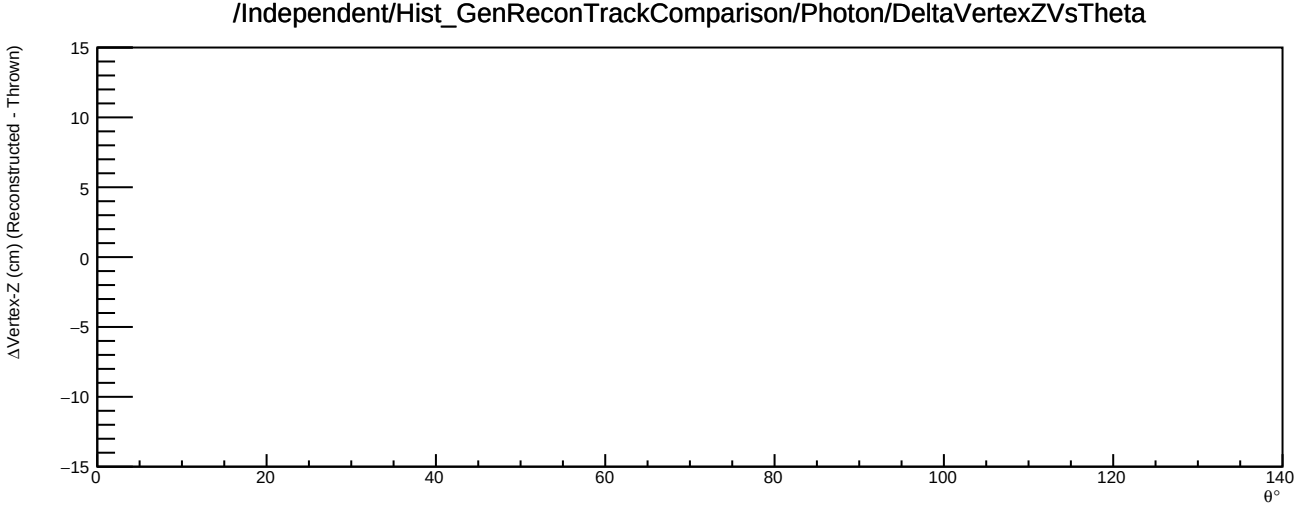

/Independent/Hist_GenReconTrackComparison/Photon/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
20
40
60
80
100
120
140
θ°

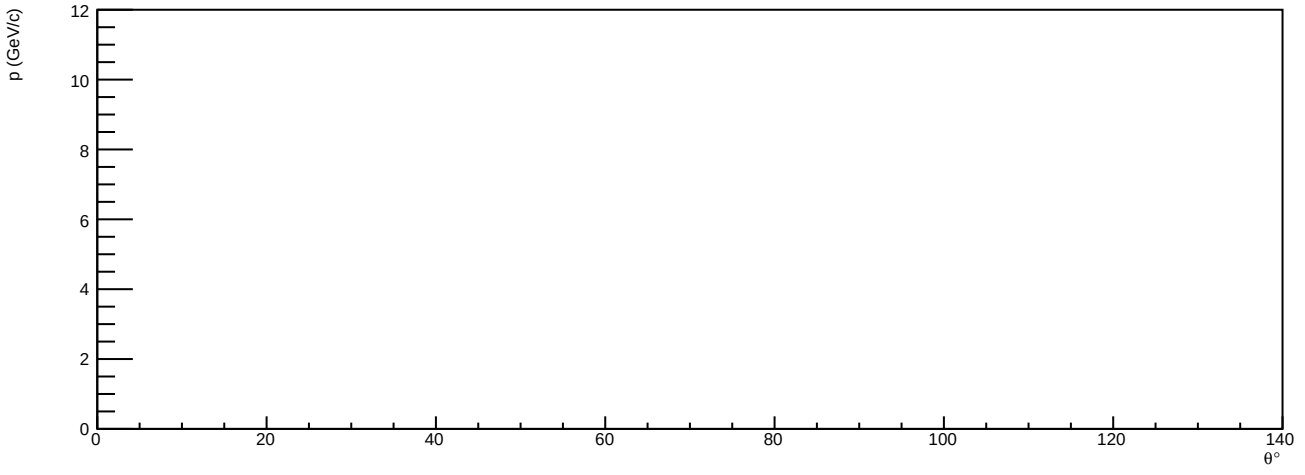

/Independent/Hist_GenReconTrackComparison/Photon/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
20
40
60
80
100
120
140
θ°

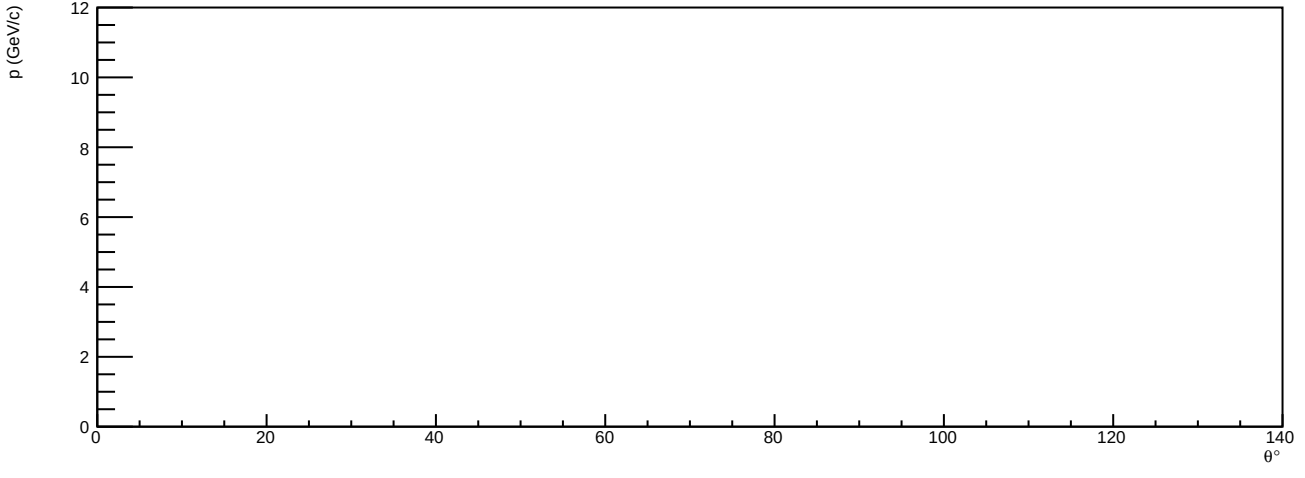

/Independent/Hist_GenReconTrackComparison/Photon/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Photon/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
2
4
6
8
10
12
p (GeV/c)

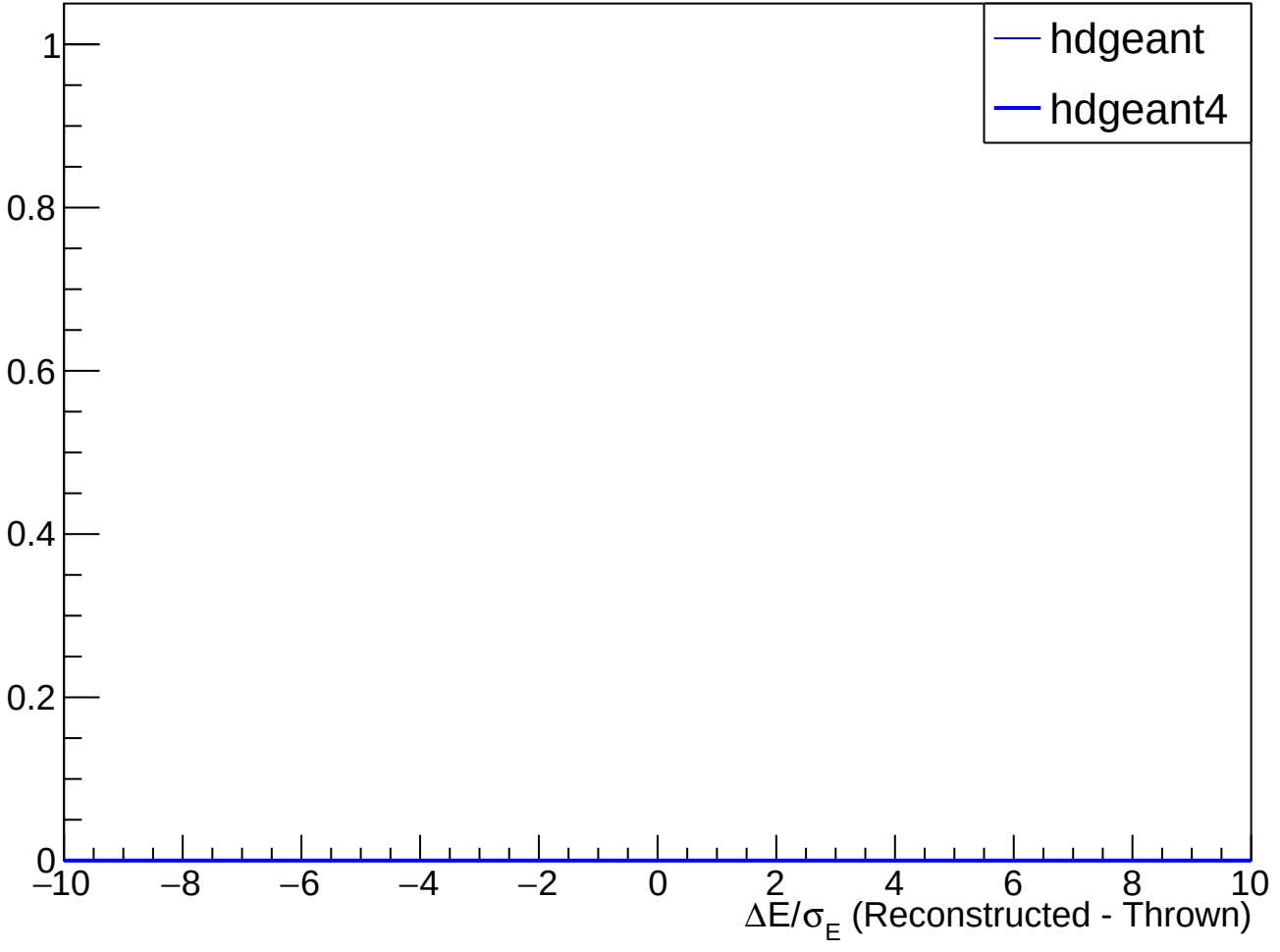

/Independent/Hist_GenReconTrackComparison/Photon/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

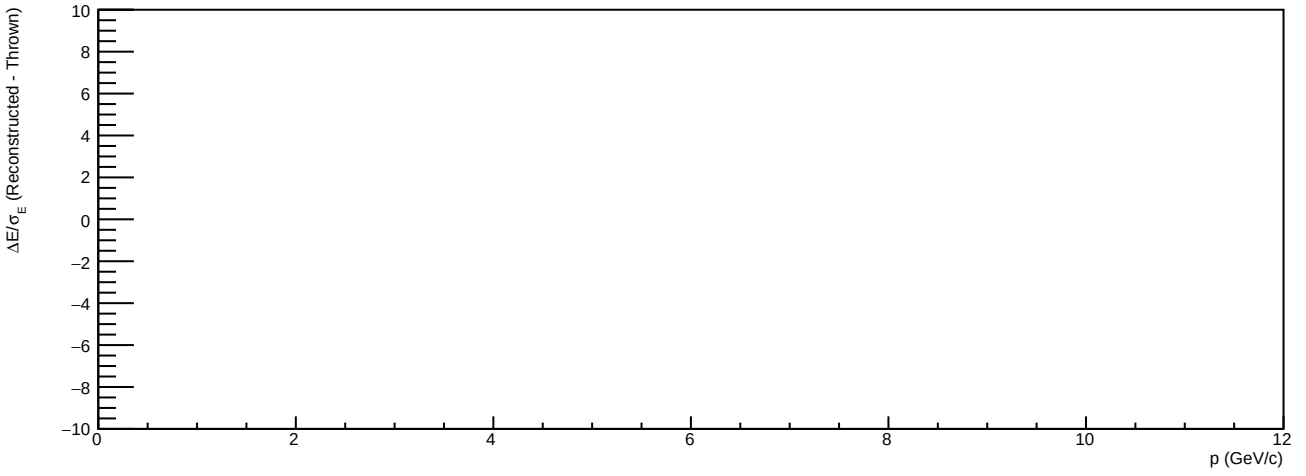

/Independent/Hist_GenReconTrackComparison/Photon/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

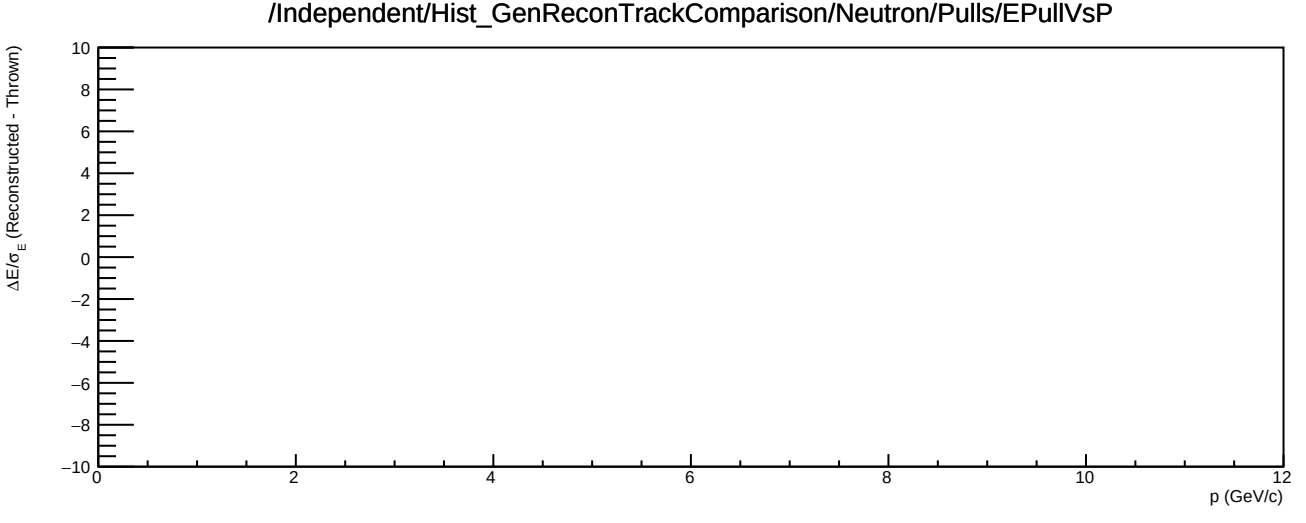

/Independent/Hist_GenReconTrackComparison/Photon/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

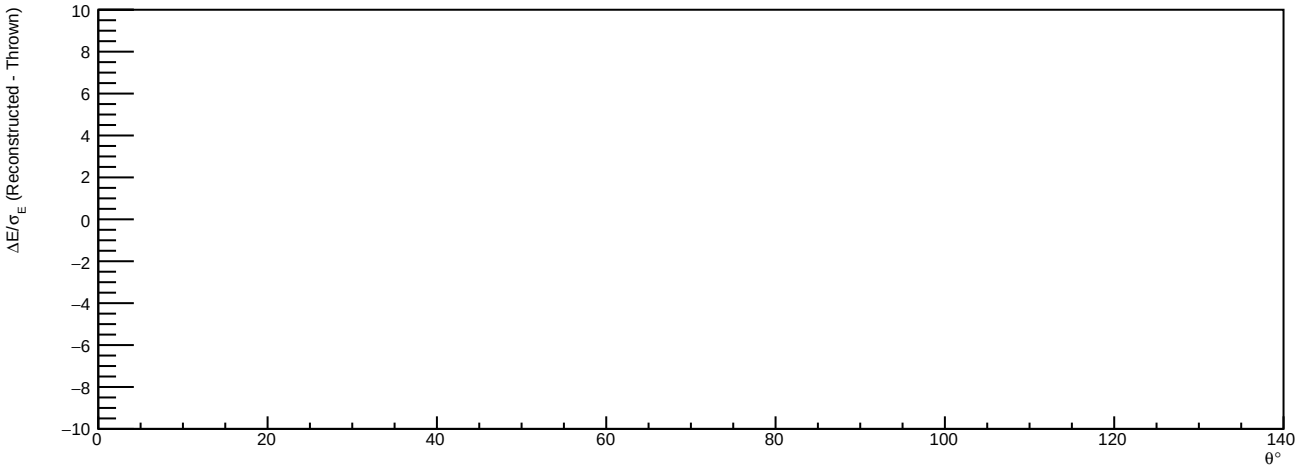

/Independent/Hist_GenReconTrackComparison/Photon/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

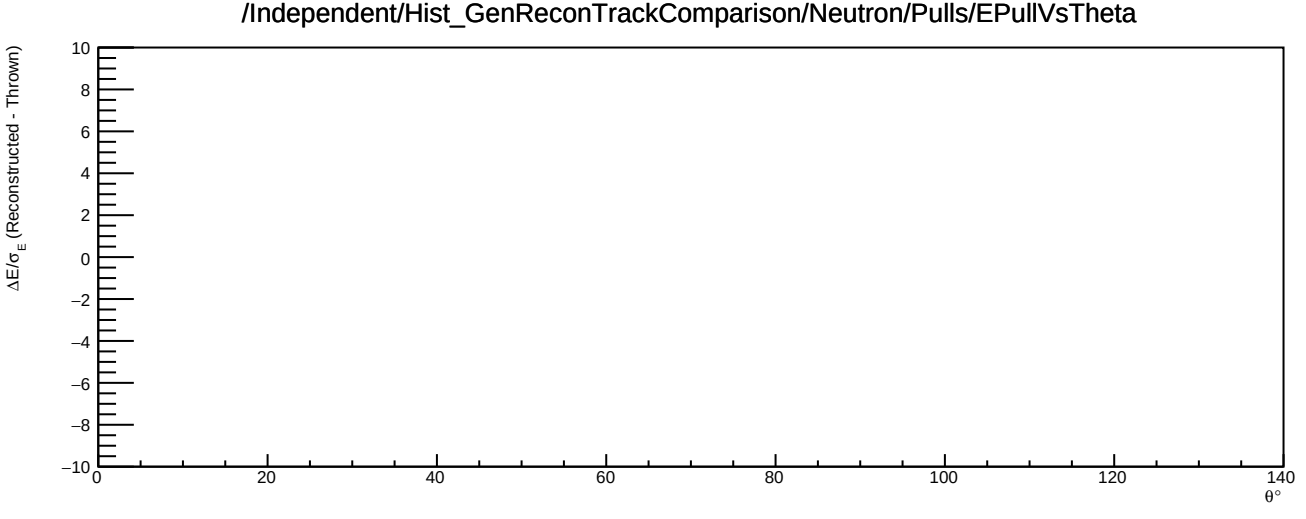
/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/EPull



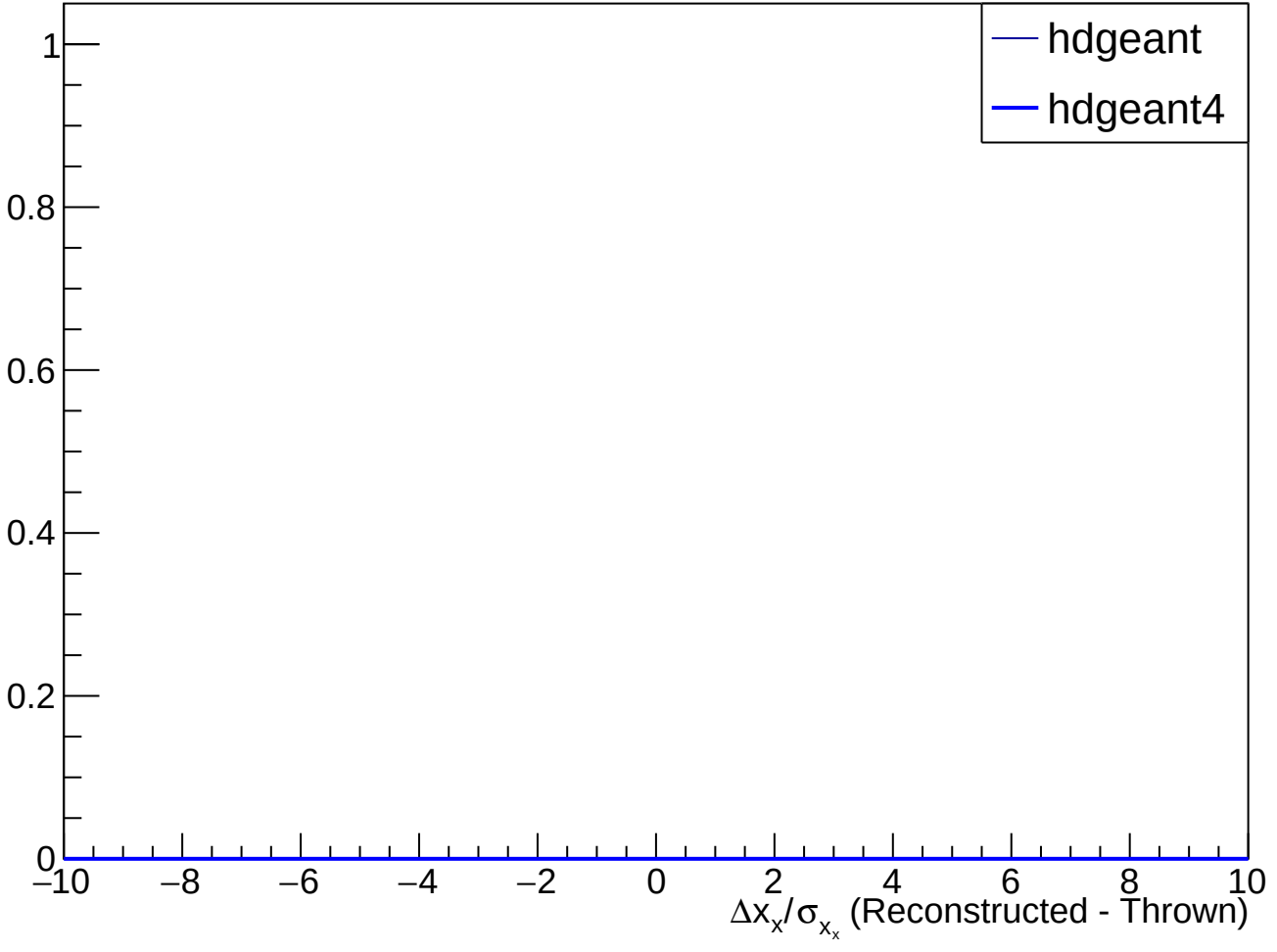

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/EPullVsP
ΔE/σ_E (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

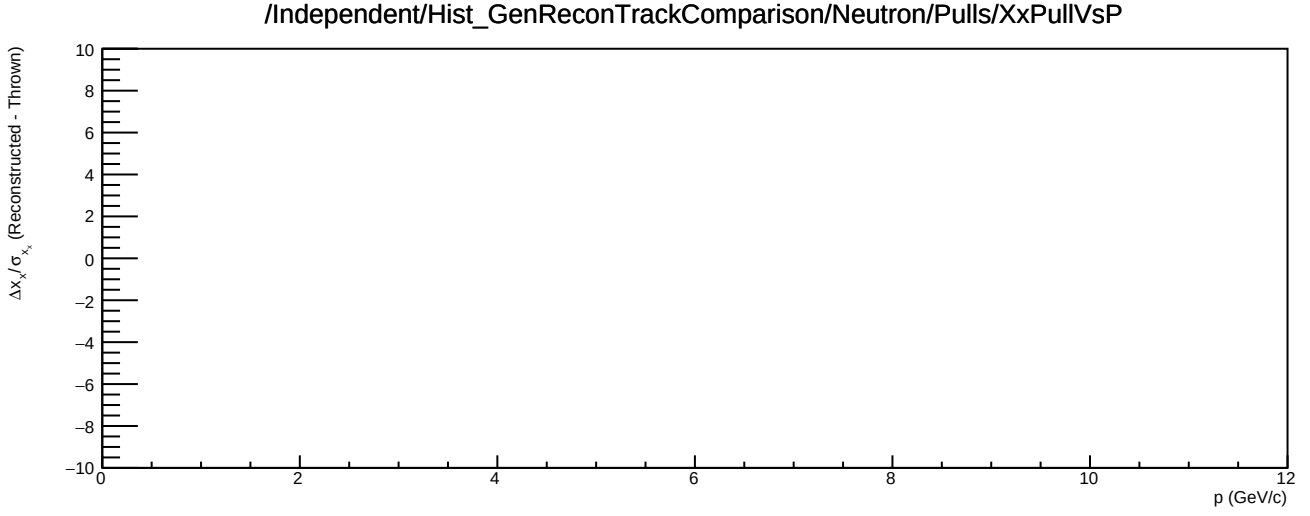

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/EPullVsP
ΔE/σ_E (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

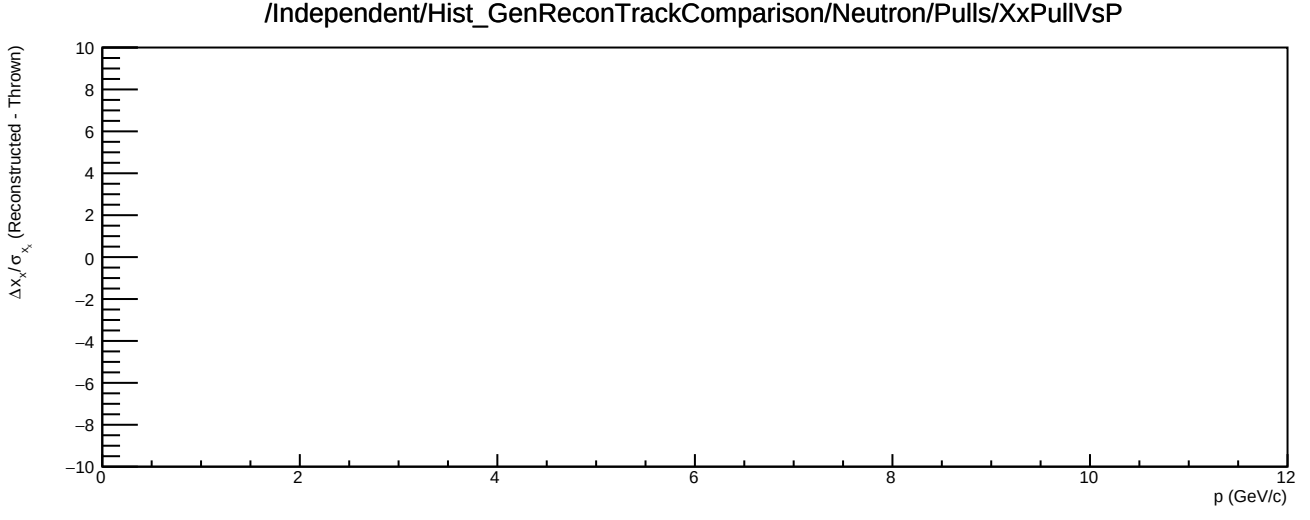

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/EPullVsTheta
ΔE/σ_E (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

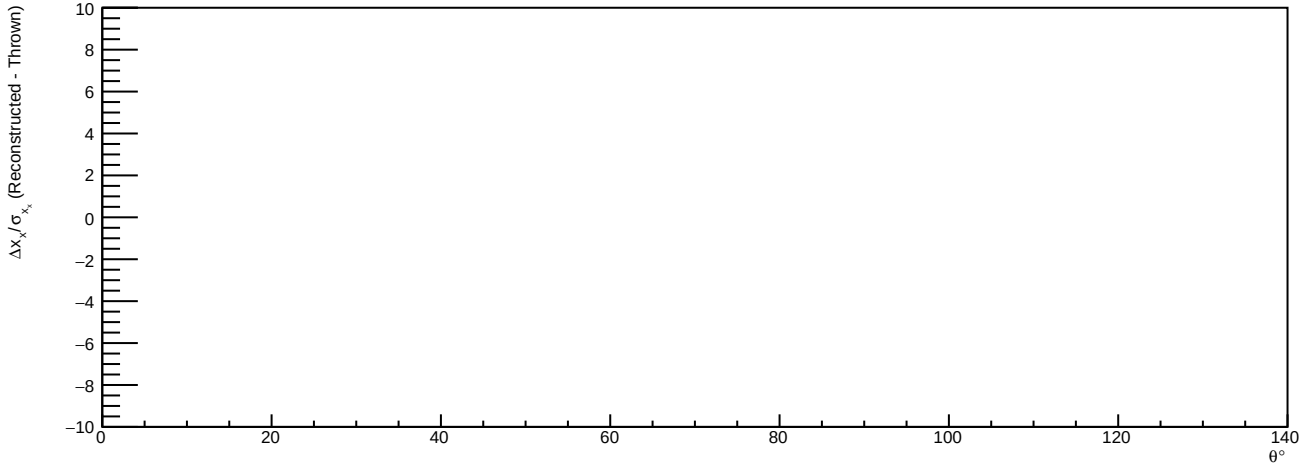

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/EPullVsTheta
ΔE/σ_E (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

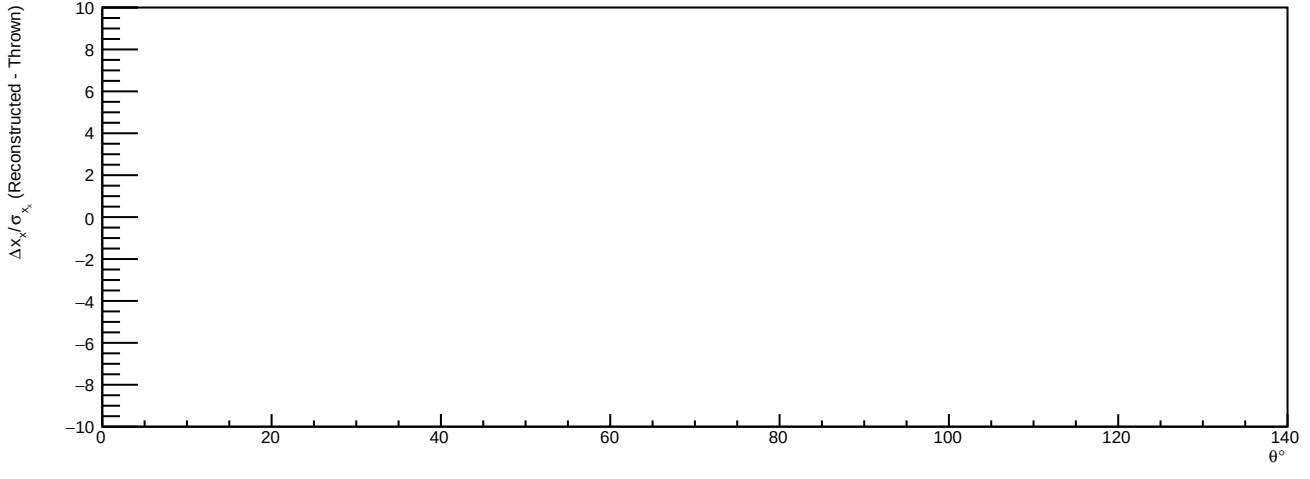
/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XxPull



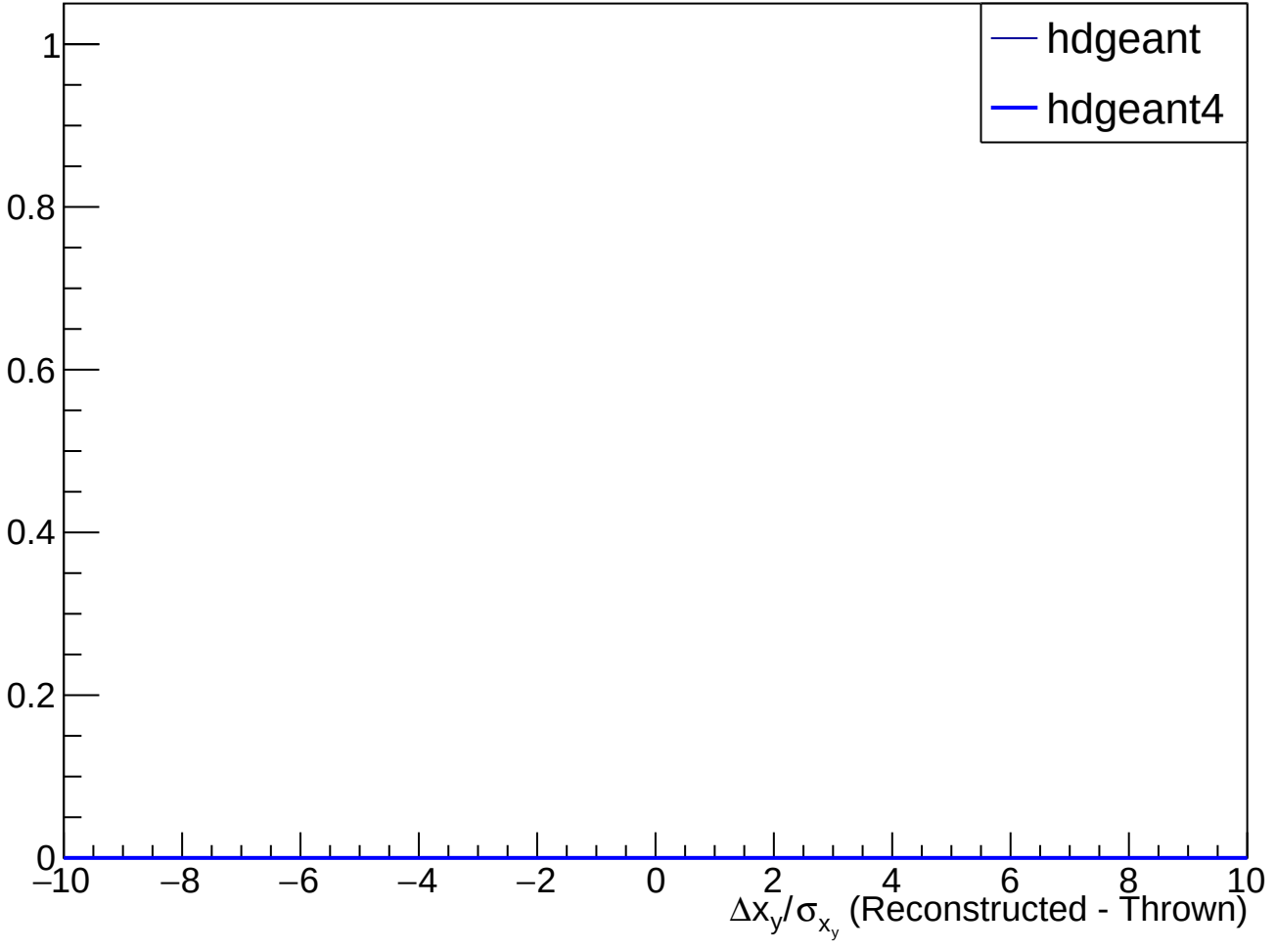

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XxPullVsP
Δx_x/σ_x_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

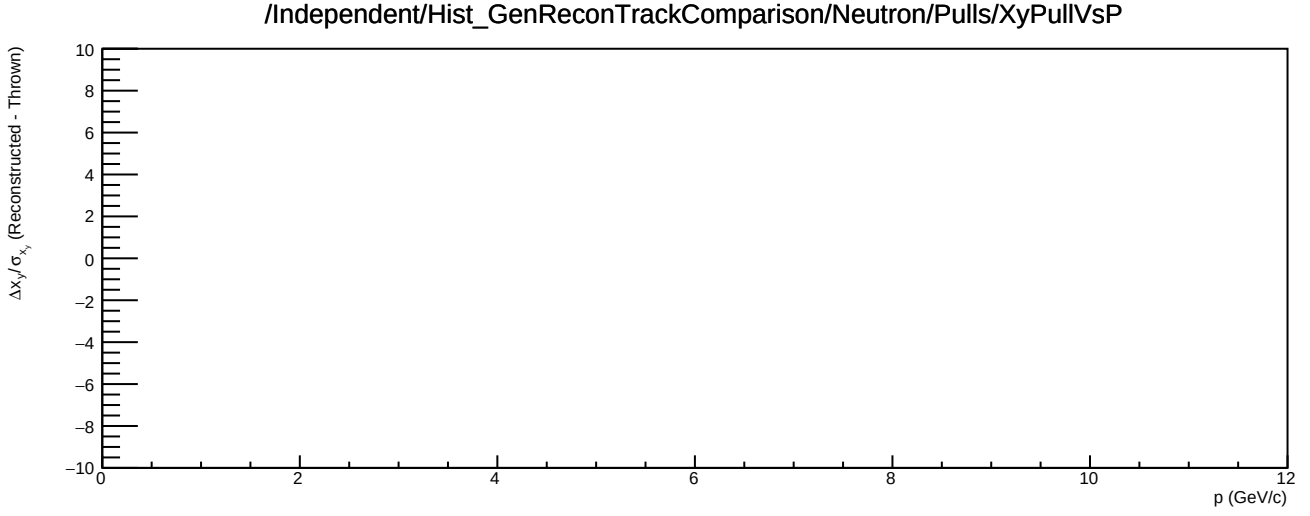

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XxPullVsP
Δx_x/σ_x_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

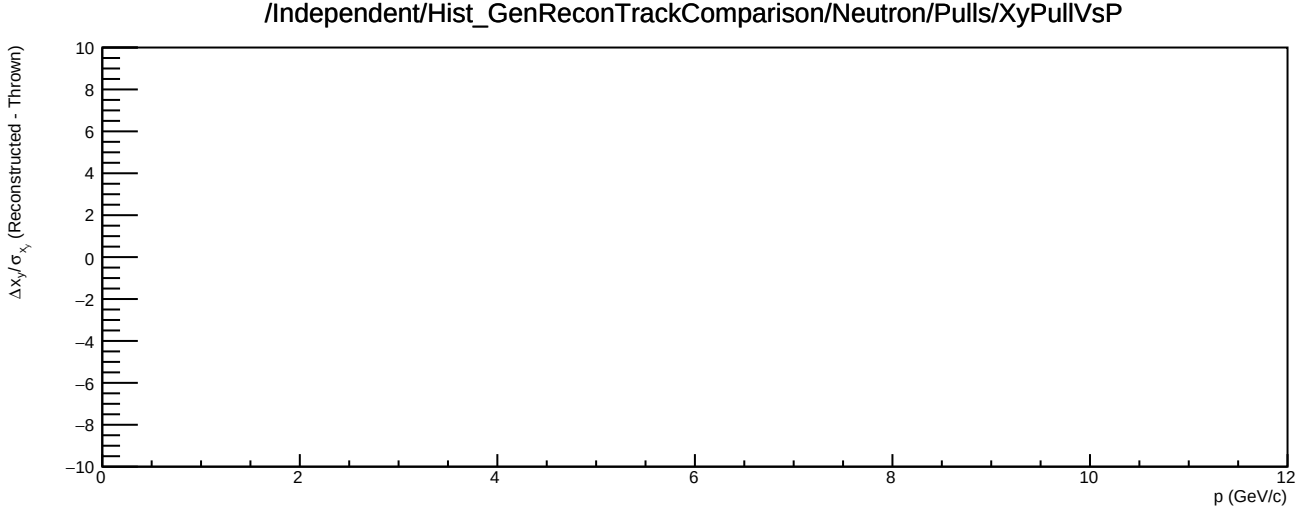

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

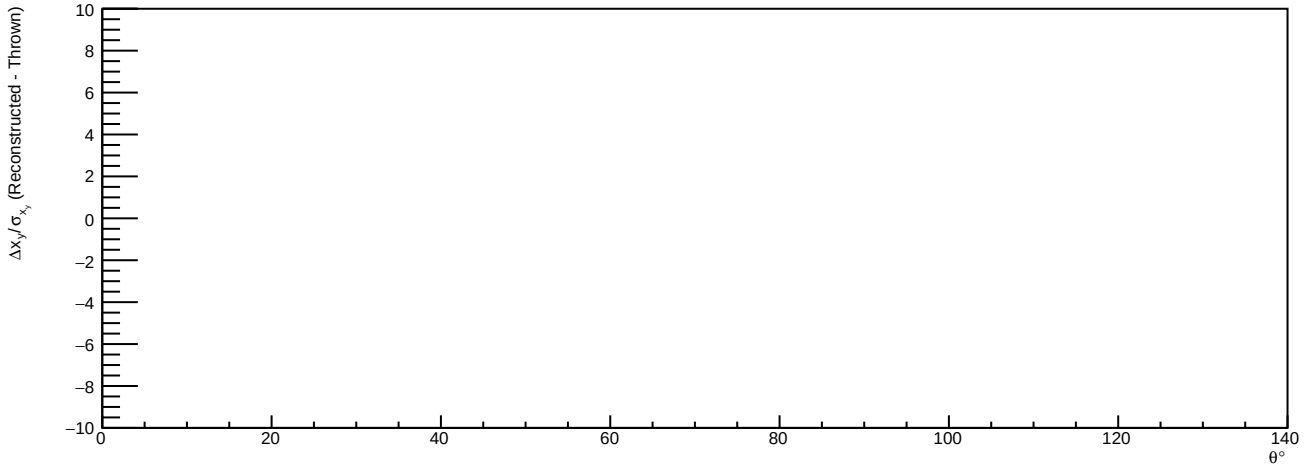

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

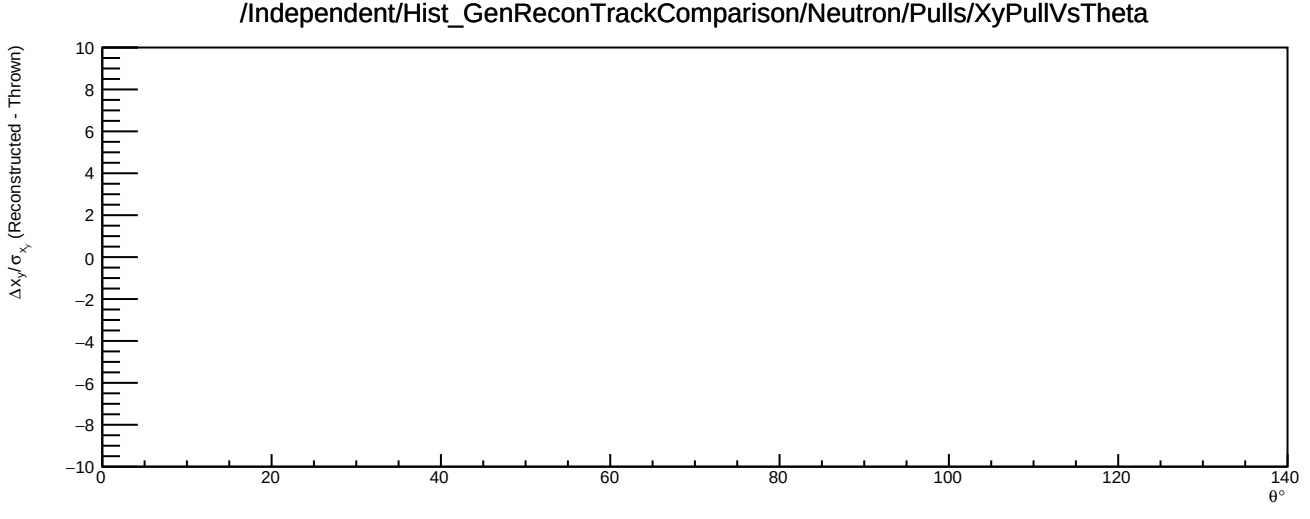
/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XyPull



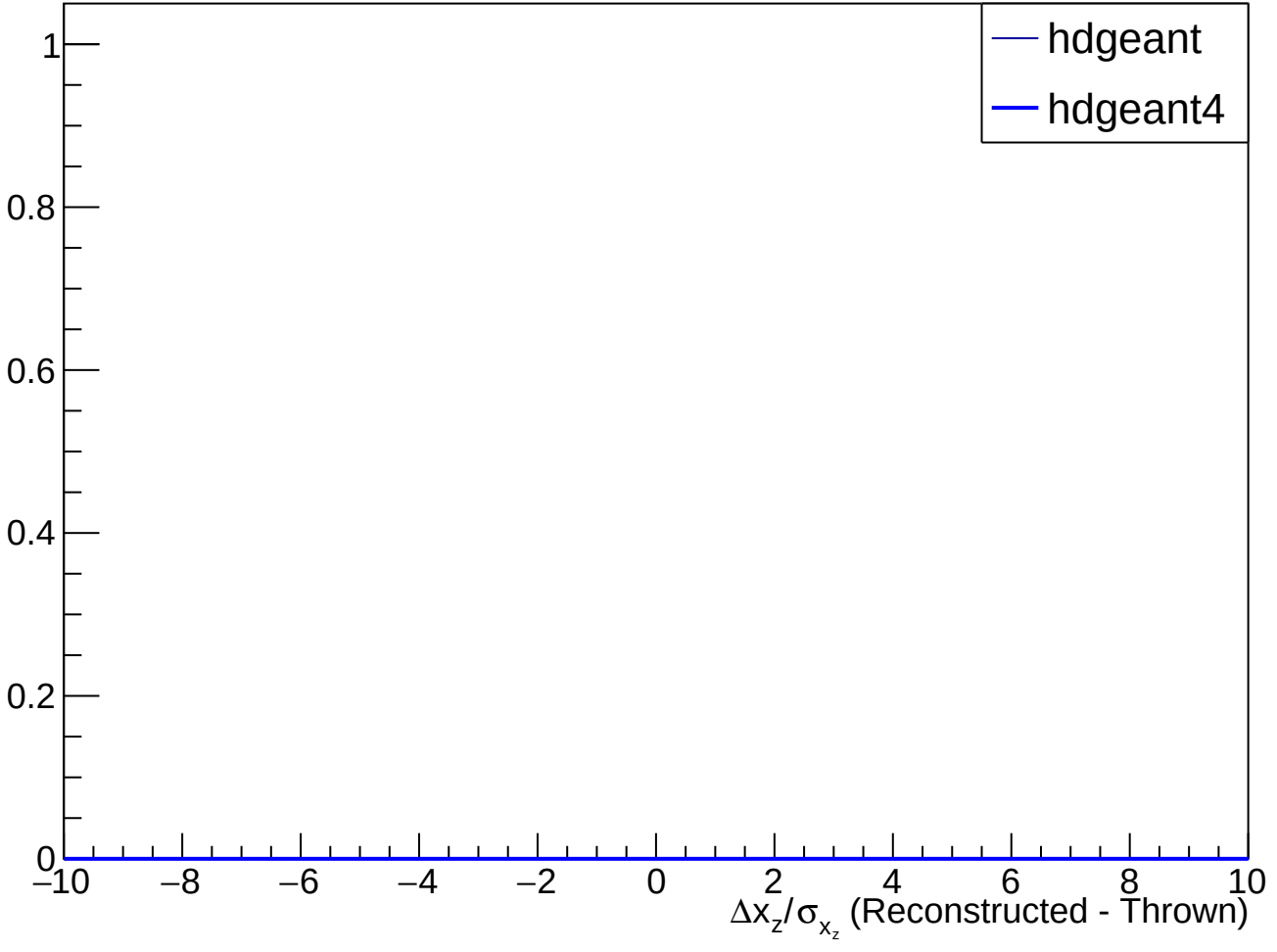

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XyPullVsP
$\Delta x_y/\sigma_{x_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

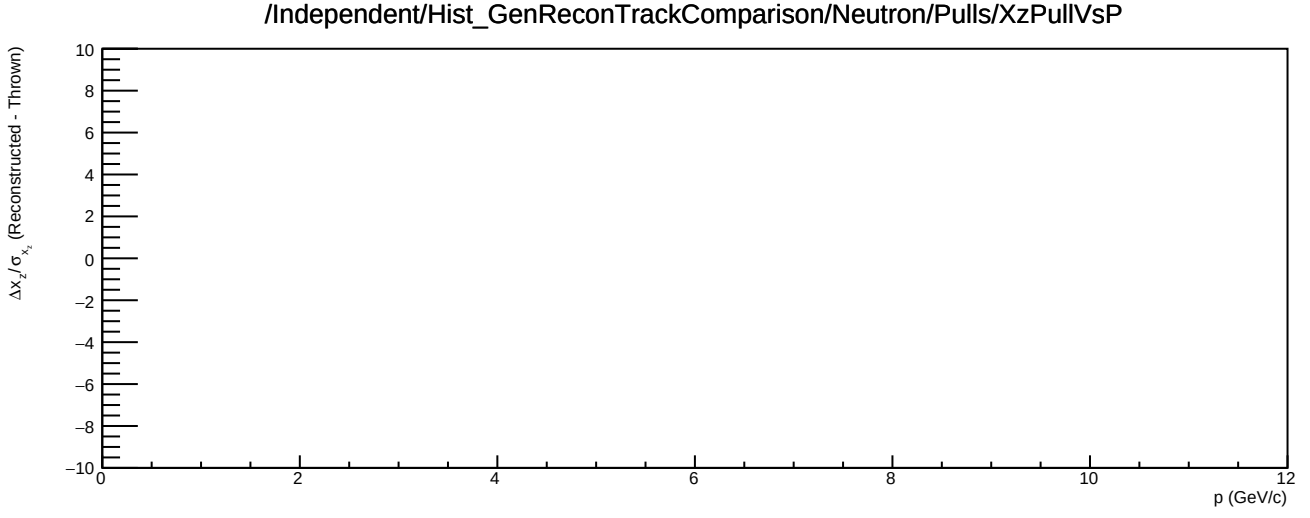

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XyPullVsP
$\Delta x_y/\sigma_{x_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

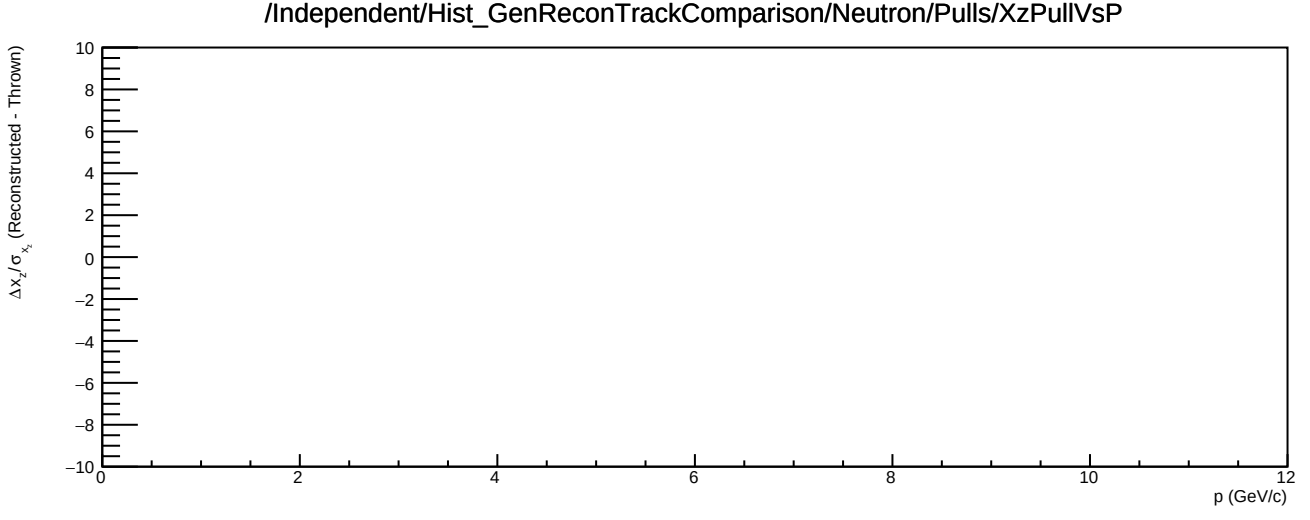

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XyPullVsTheta
Δx_y/σ_x_y (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

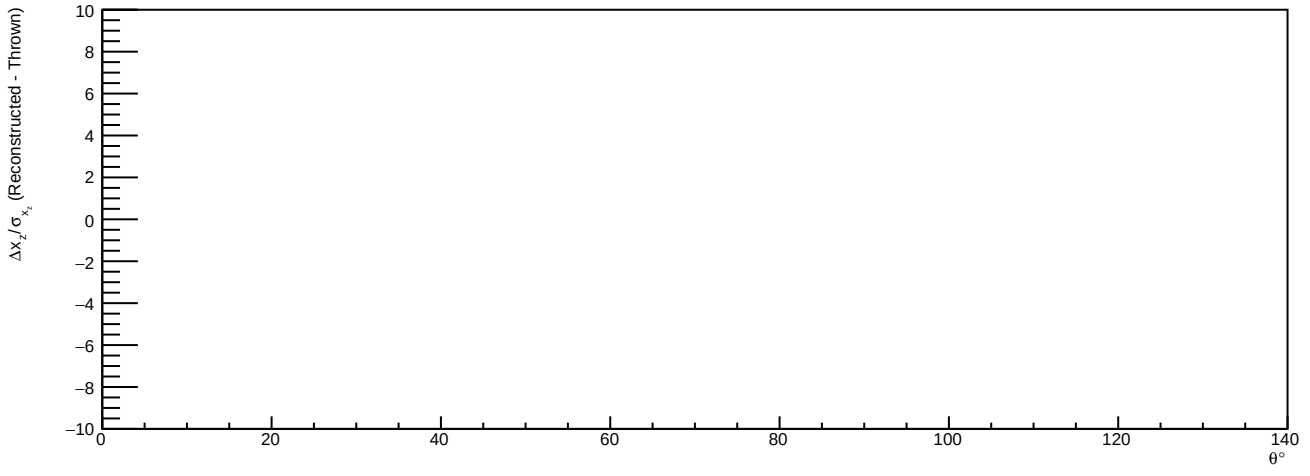

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XyPullVsTheta
Δx_y/σ_x_y (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

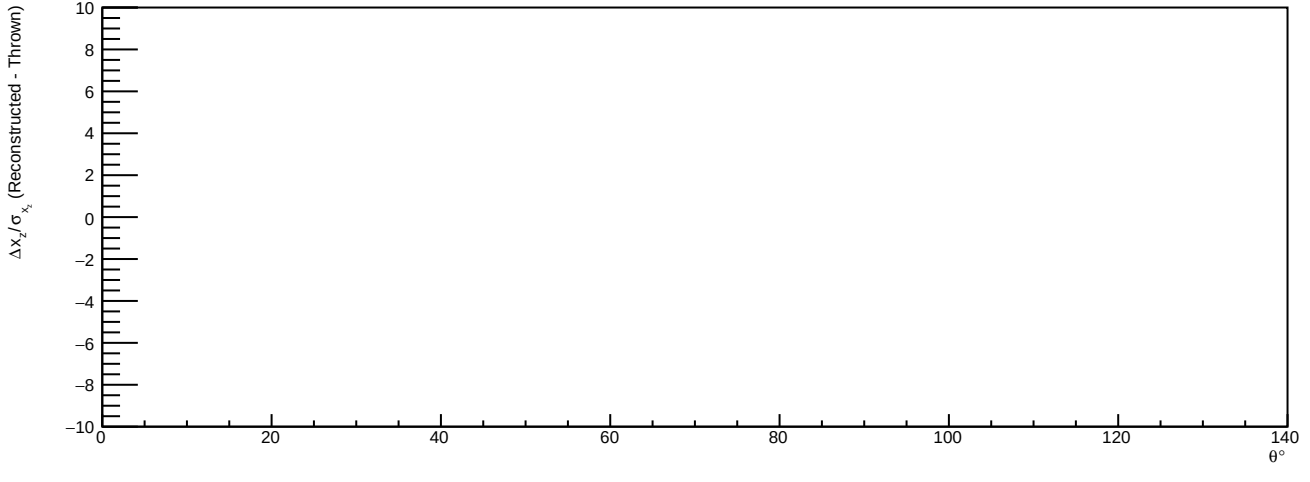
/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XzPull



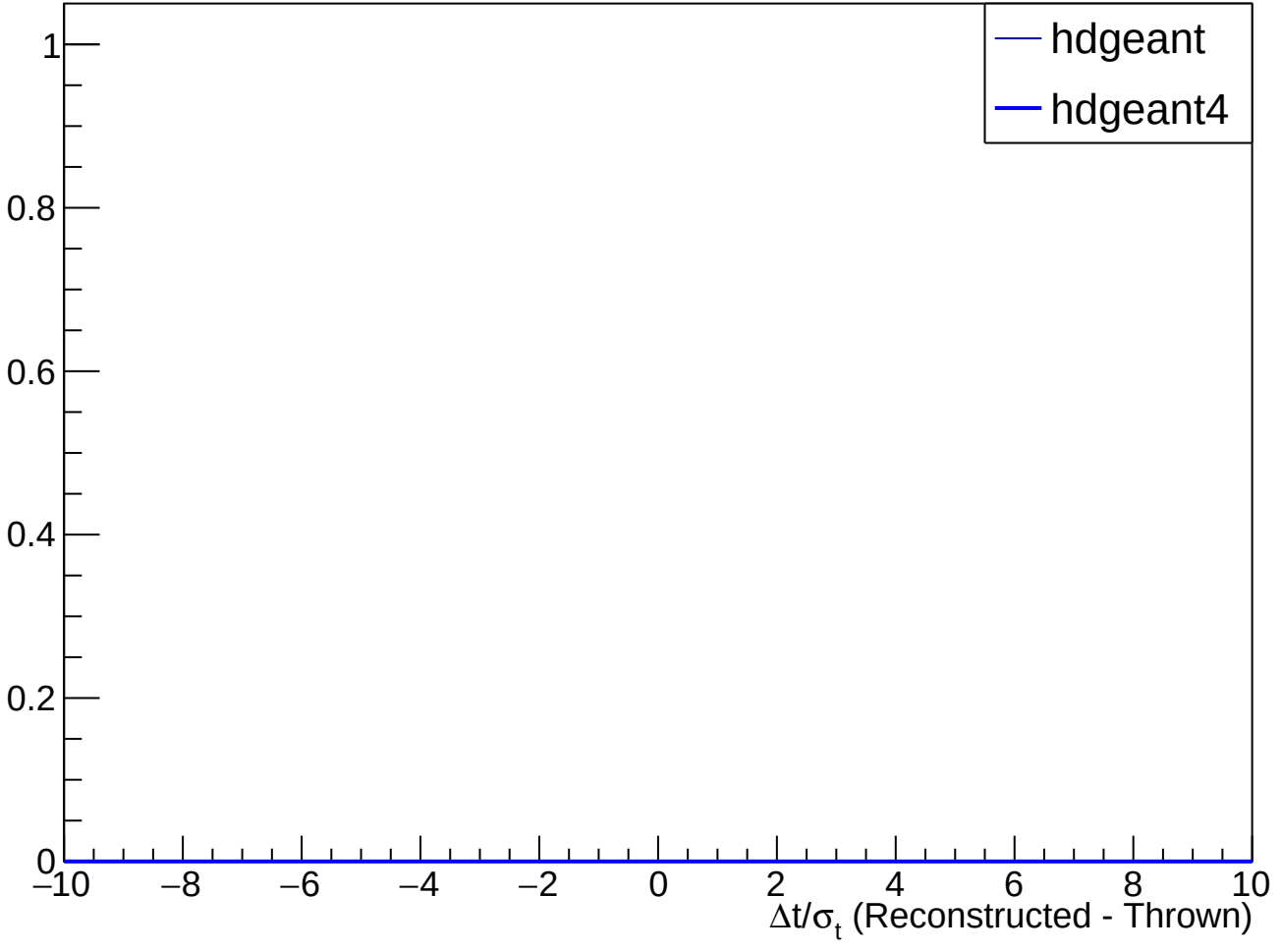

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

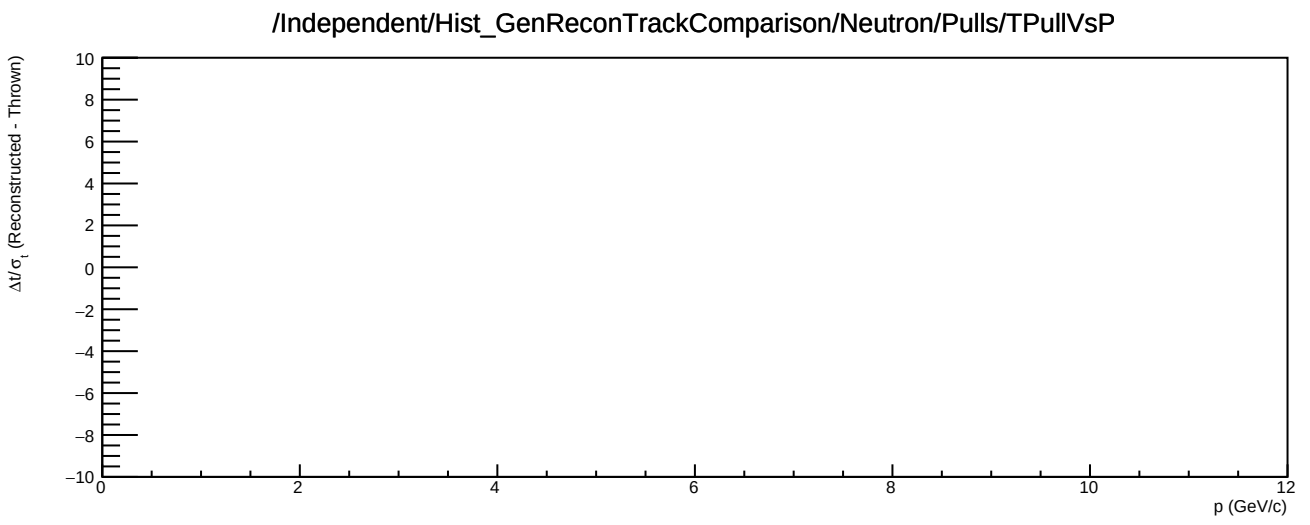

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

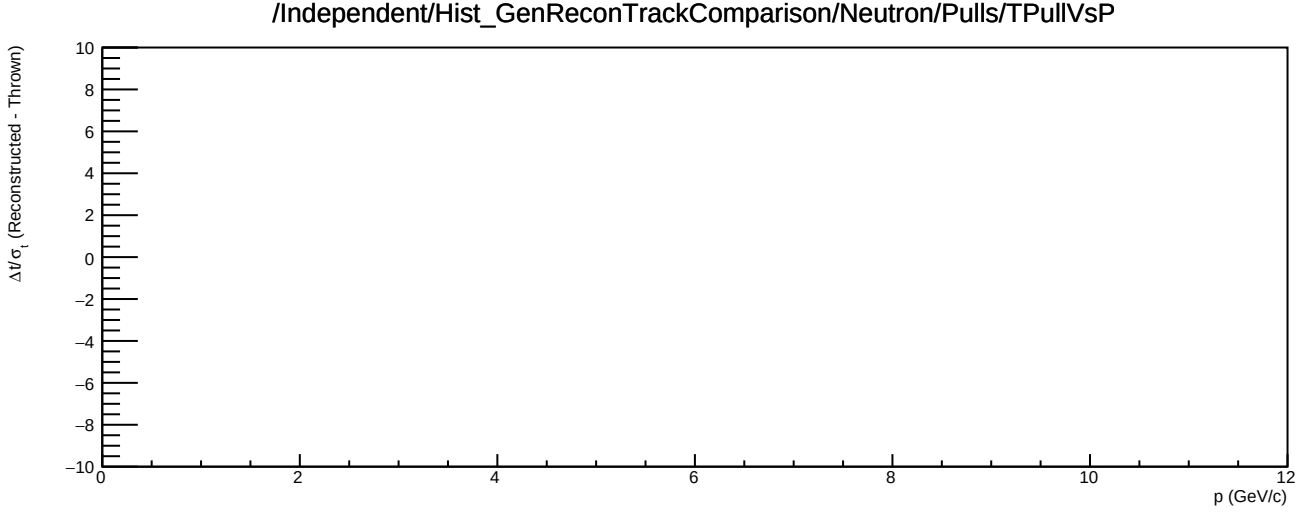

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

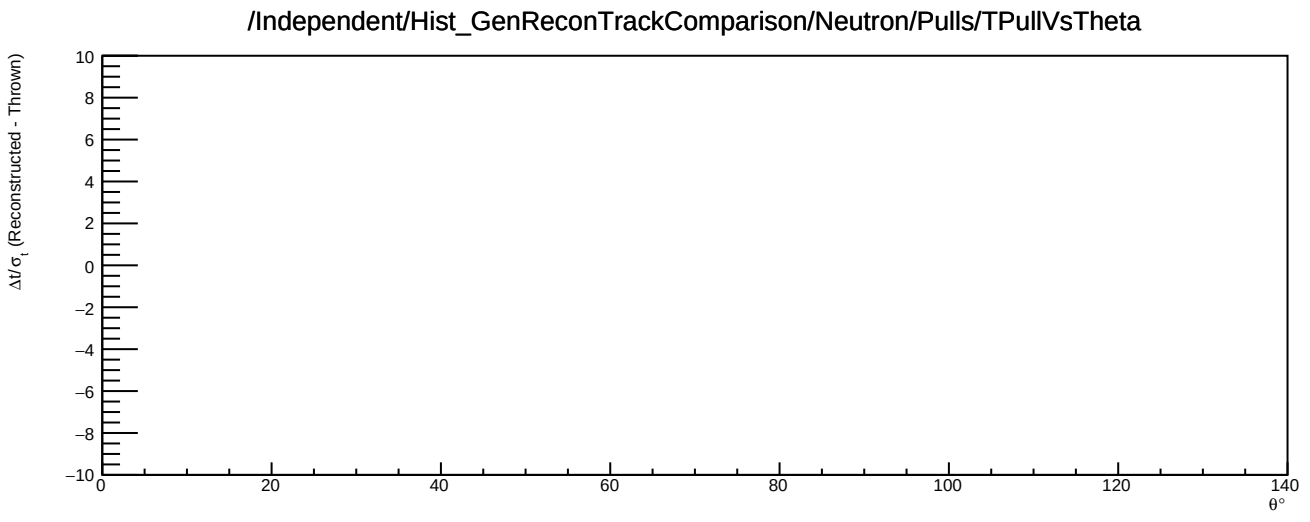

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

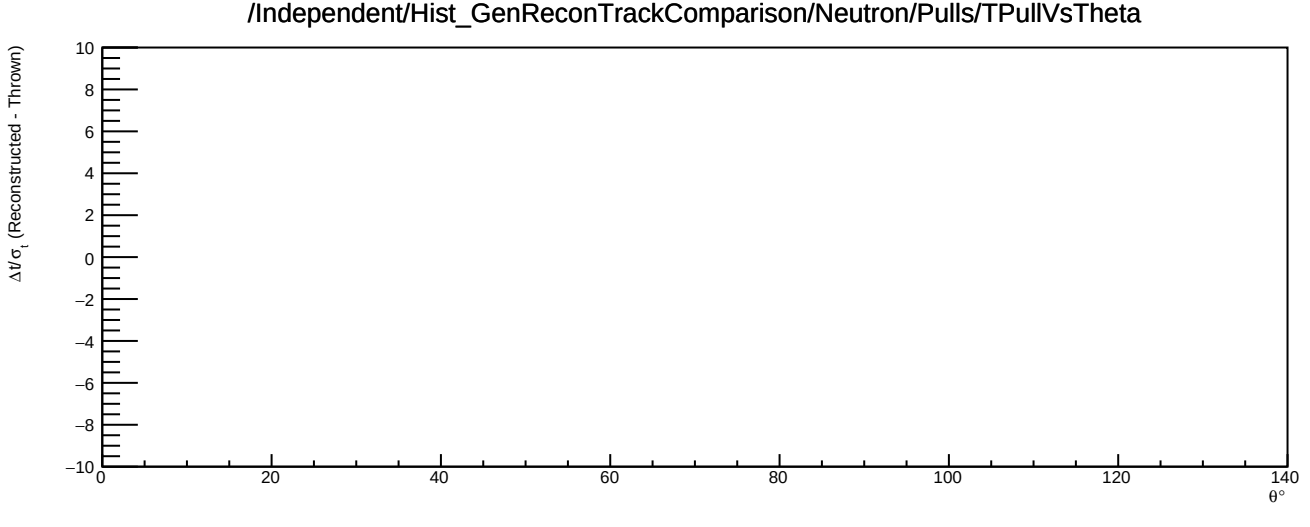
/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TPull



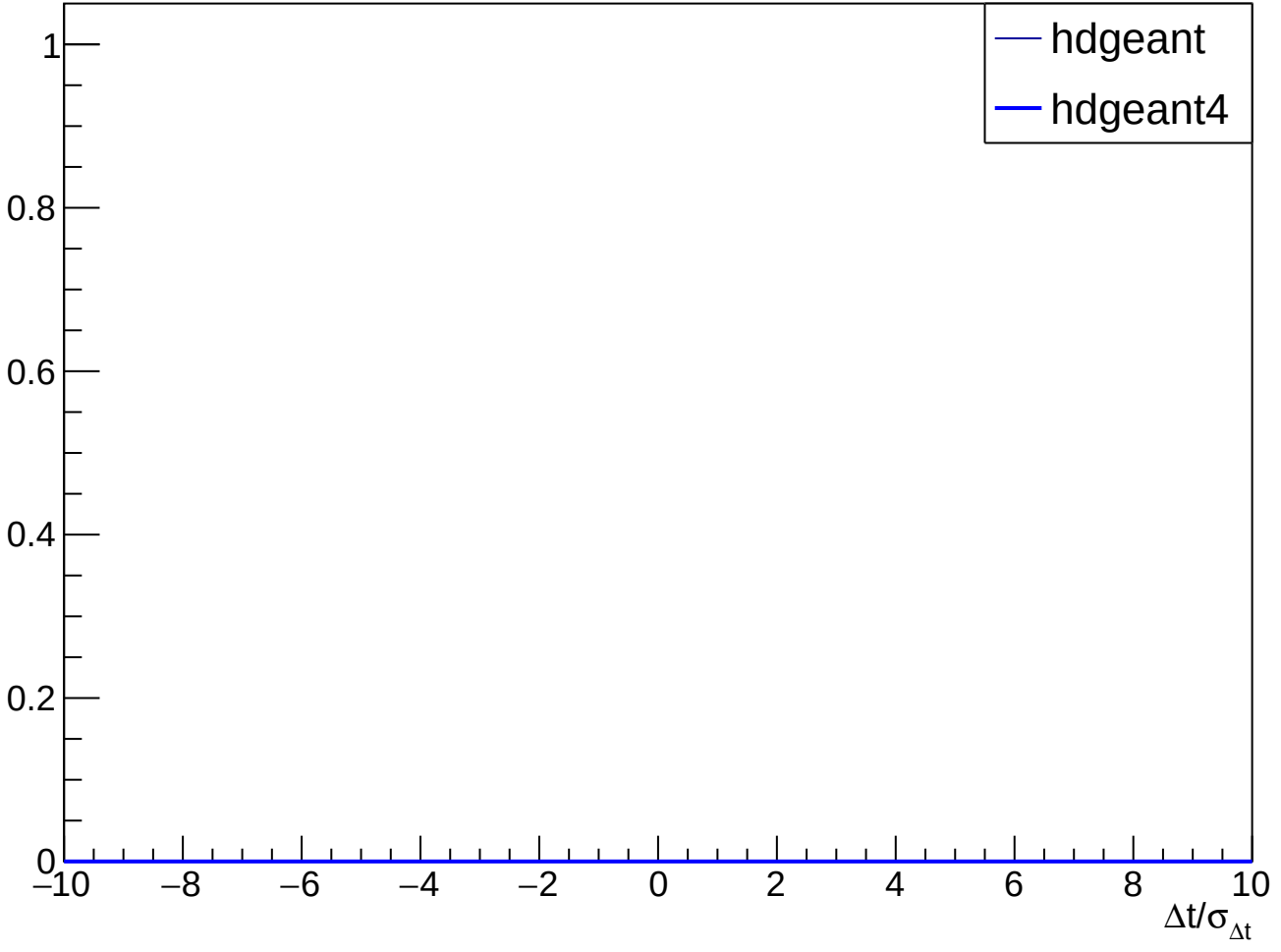

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

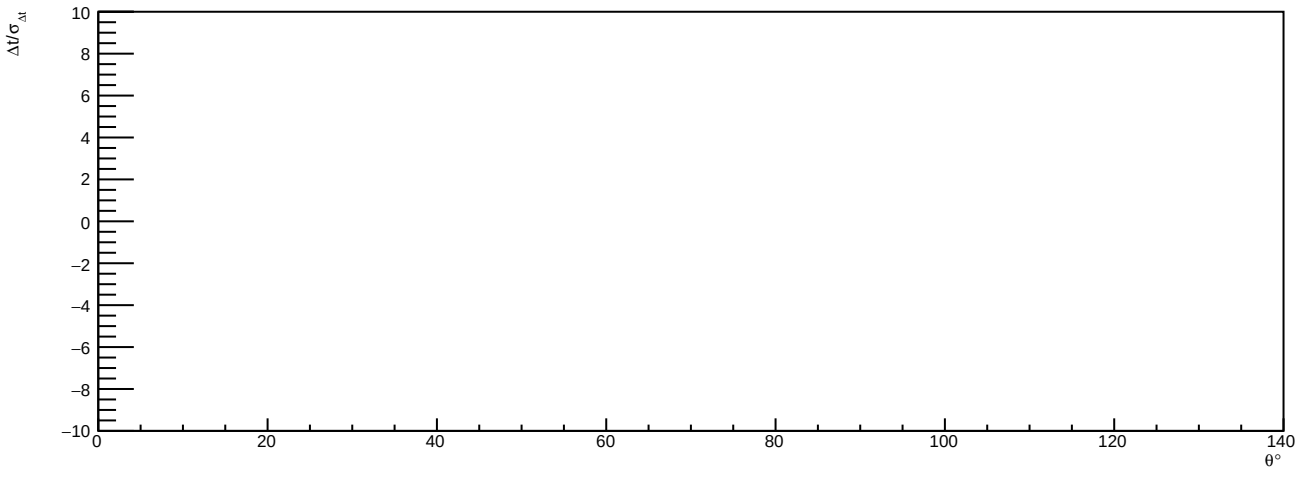

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

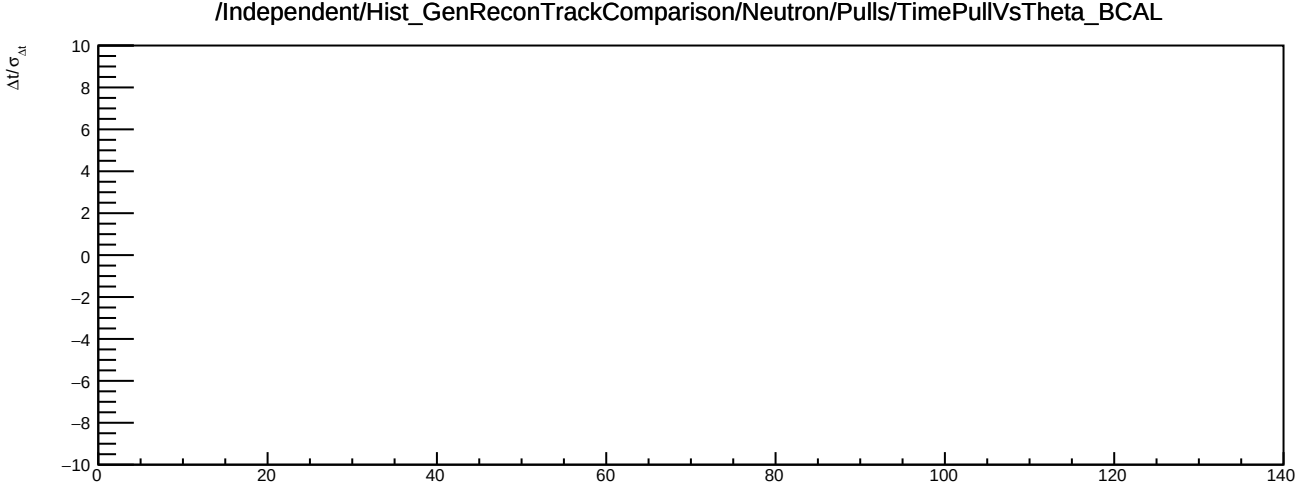

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

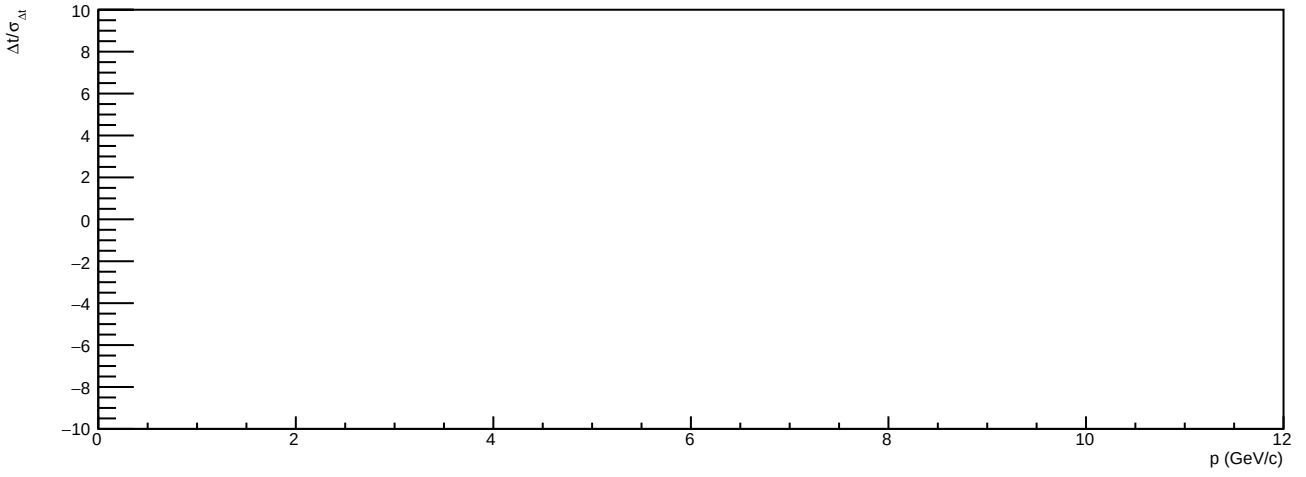

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

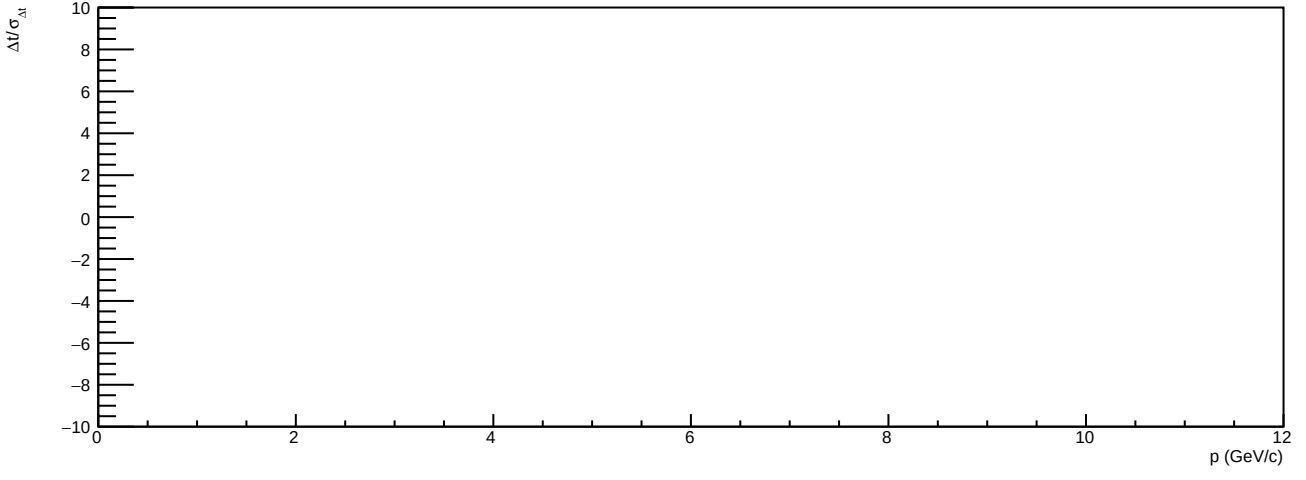
/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TimePull_BCAL



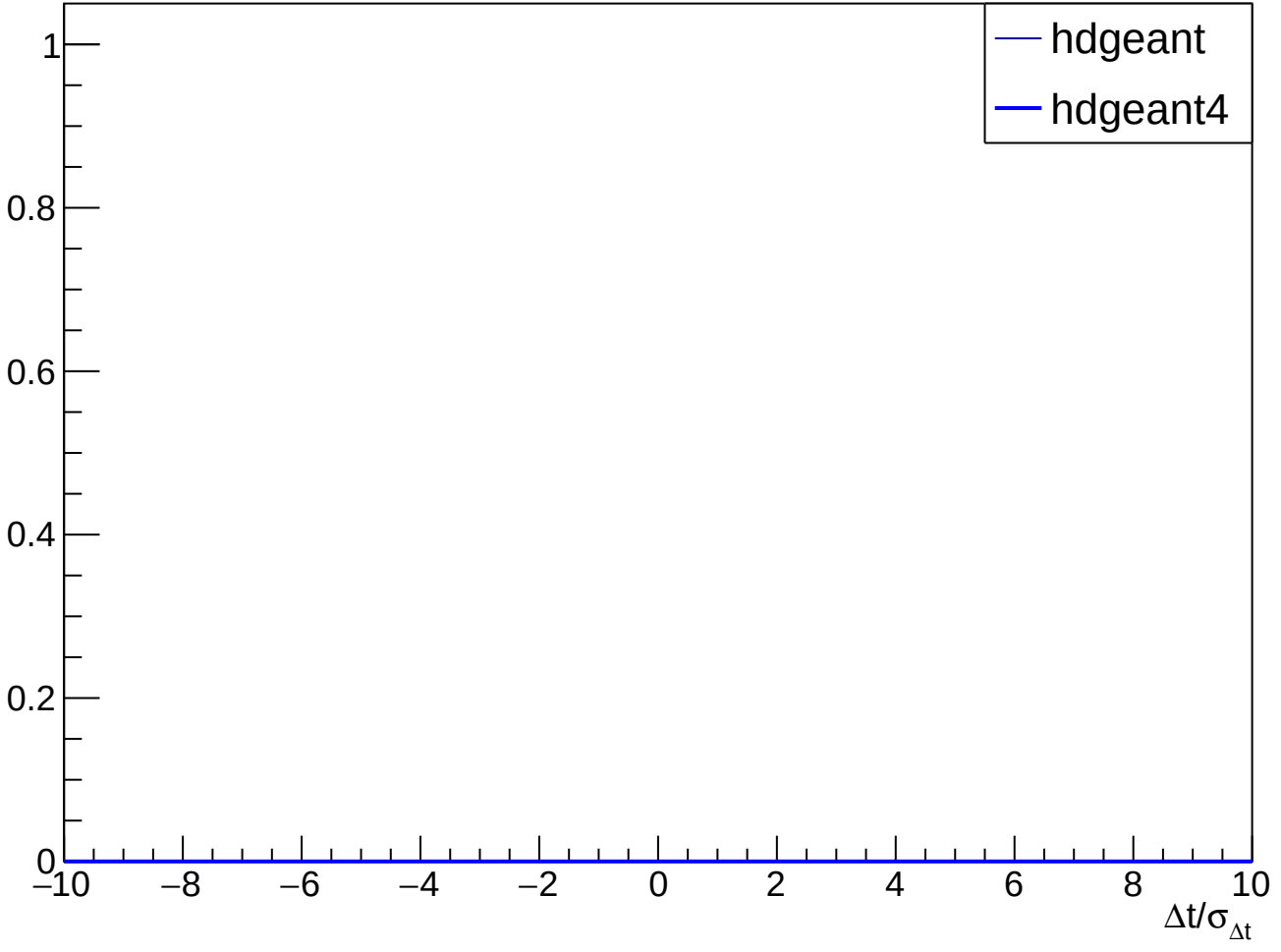

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TimePullVsTheta_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

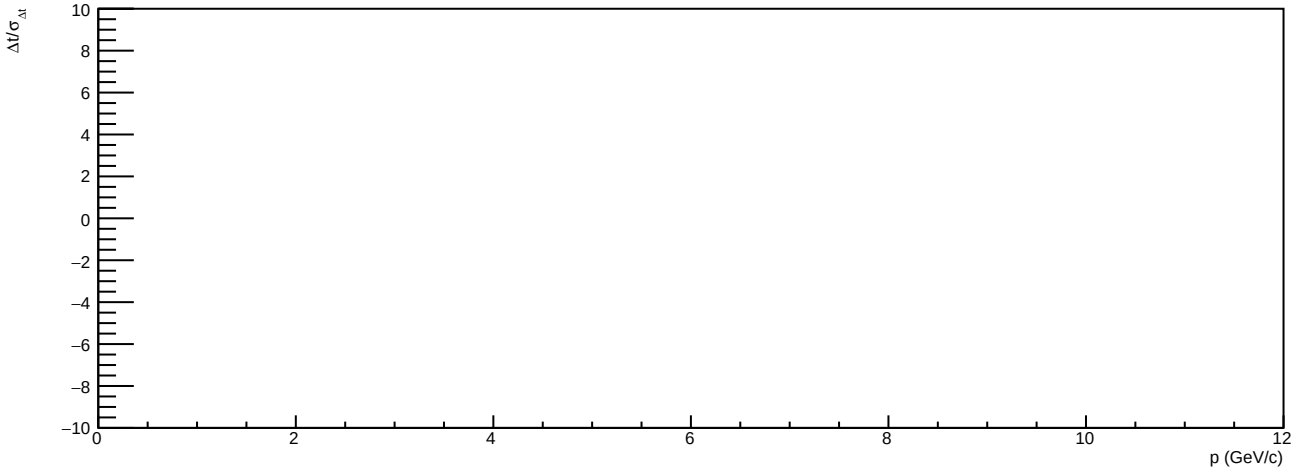

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TimePullVsTheta_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

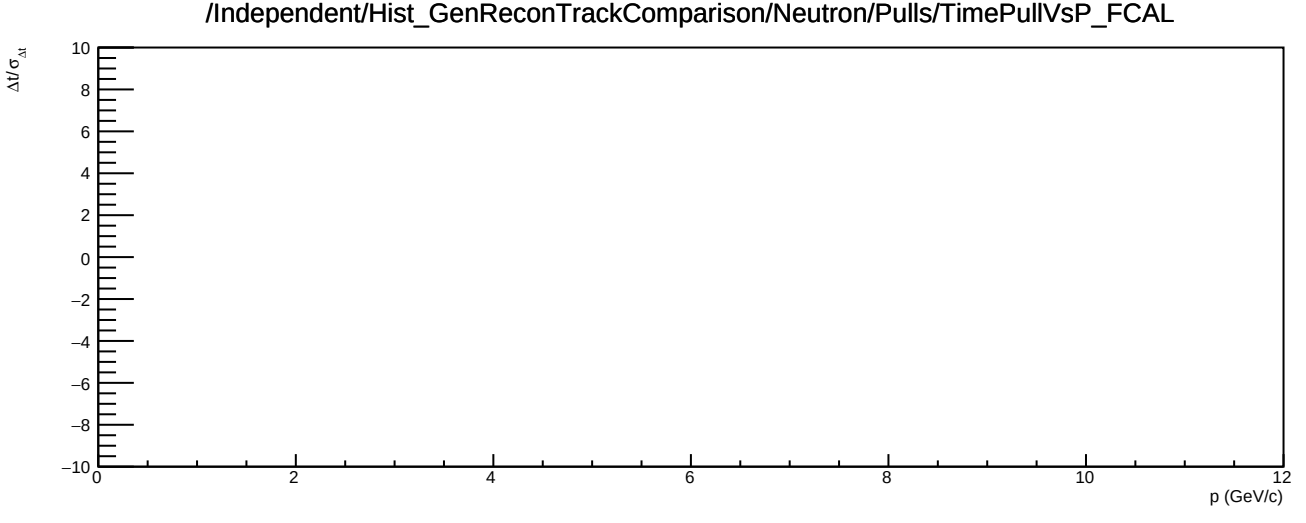

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

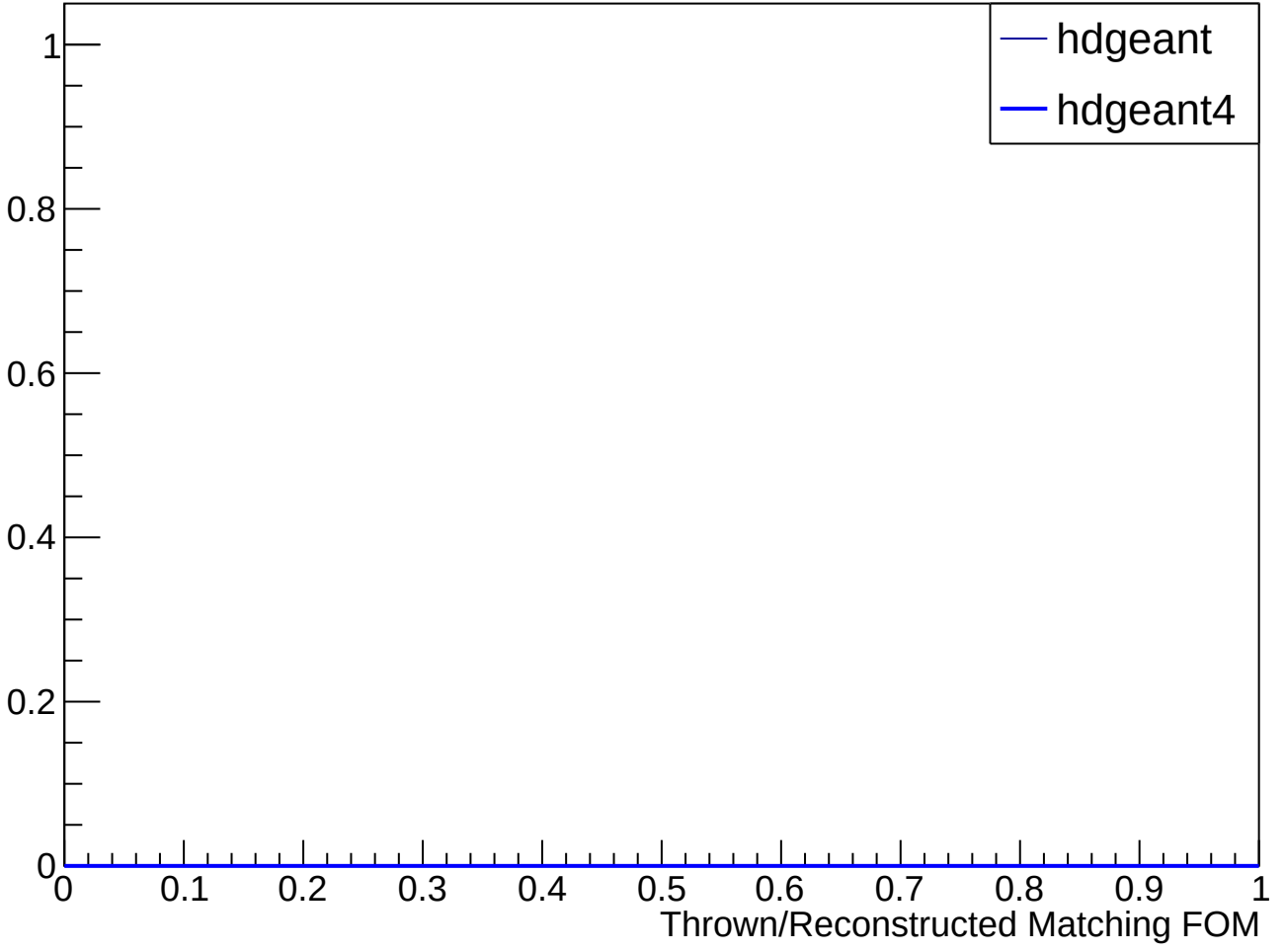
/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TimePull_FCAL



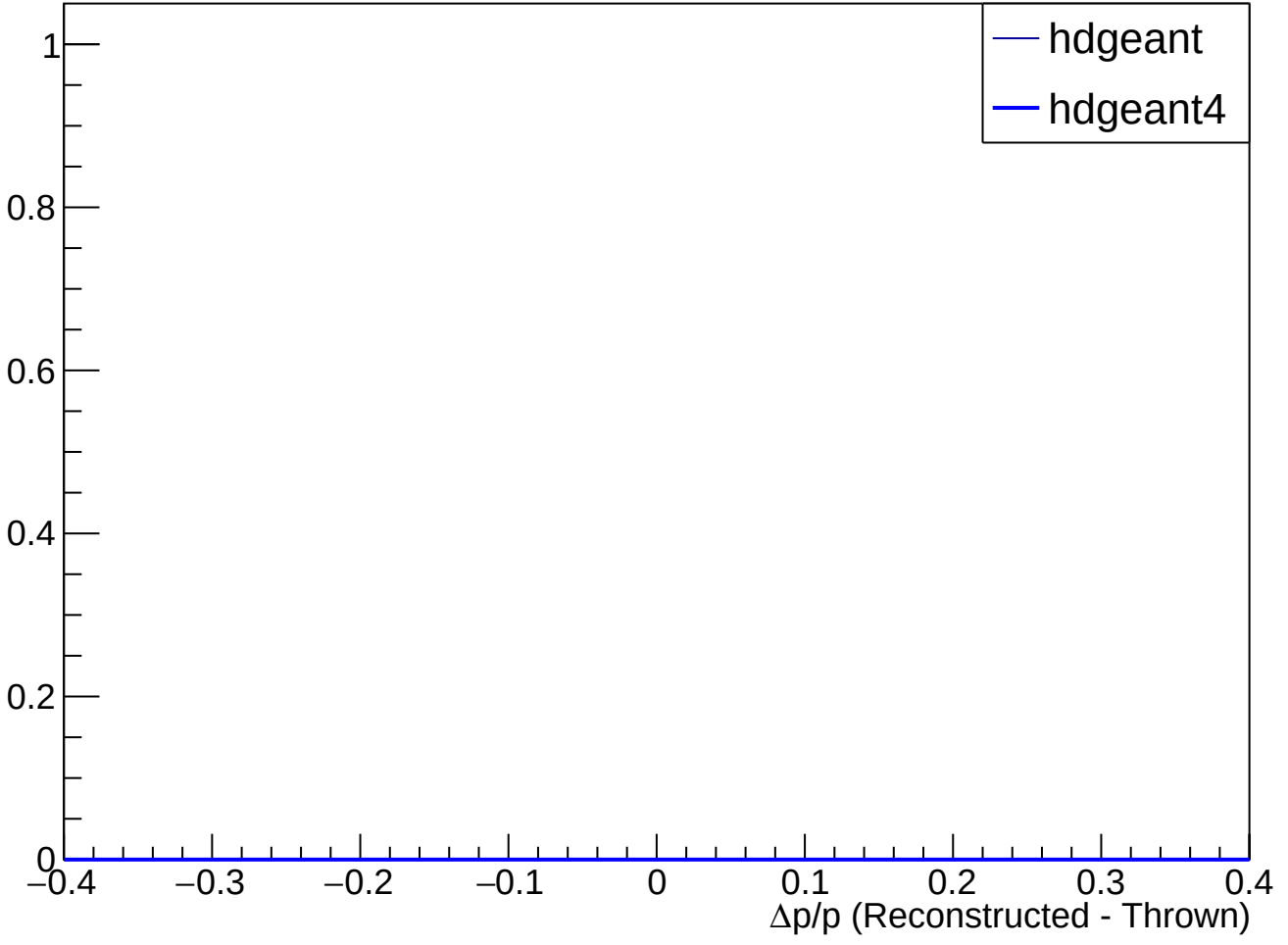

/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Neutron/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

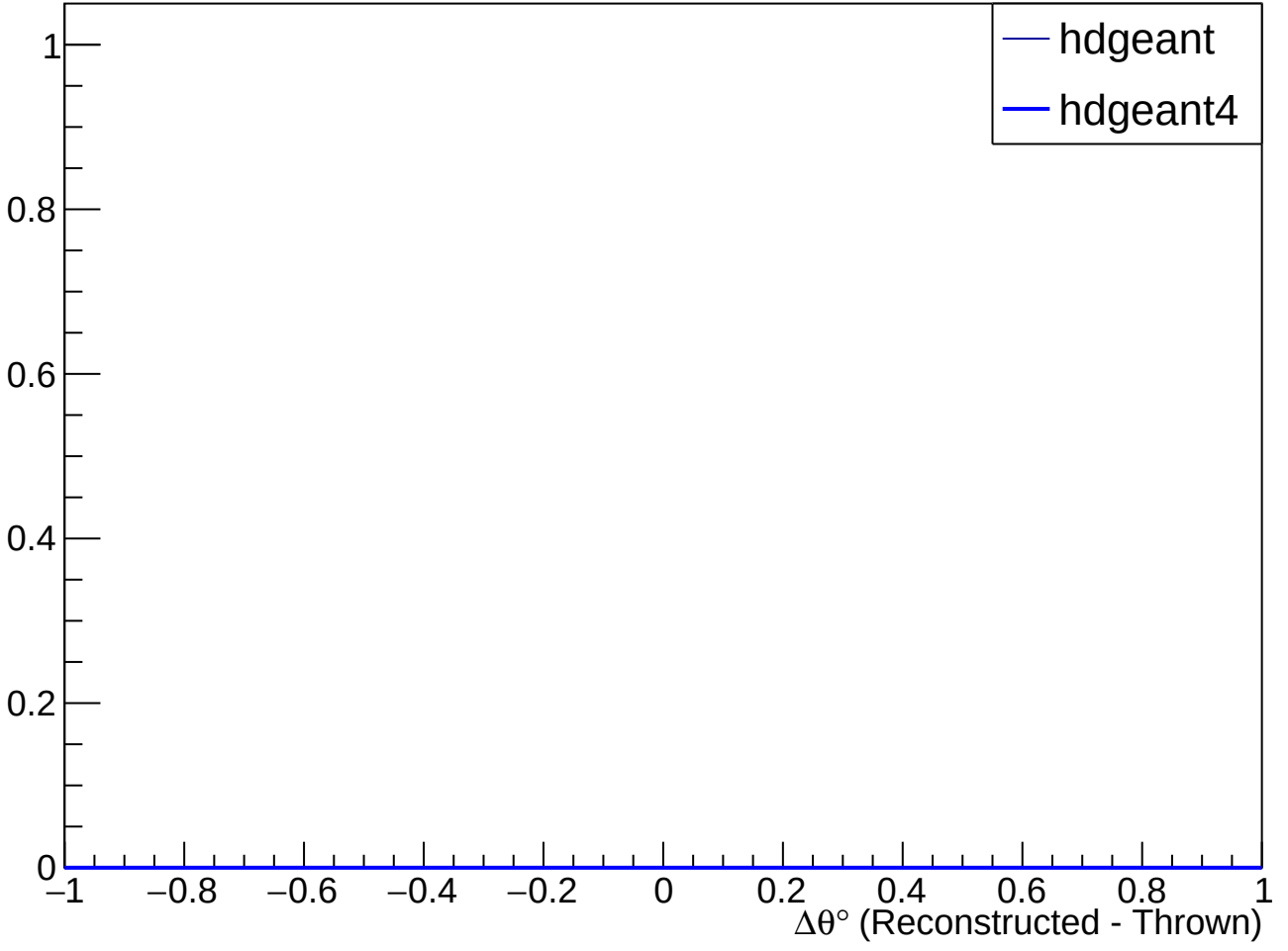
/Independent/Hist_GenReconTrackComparison/Neutron/MatchFOM



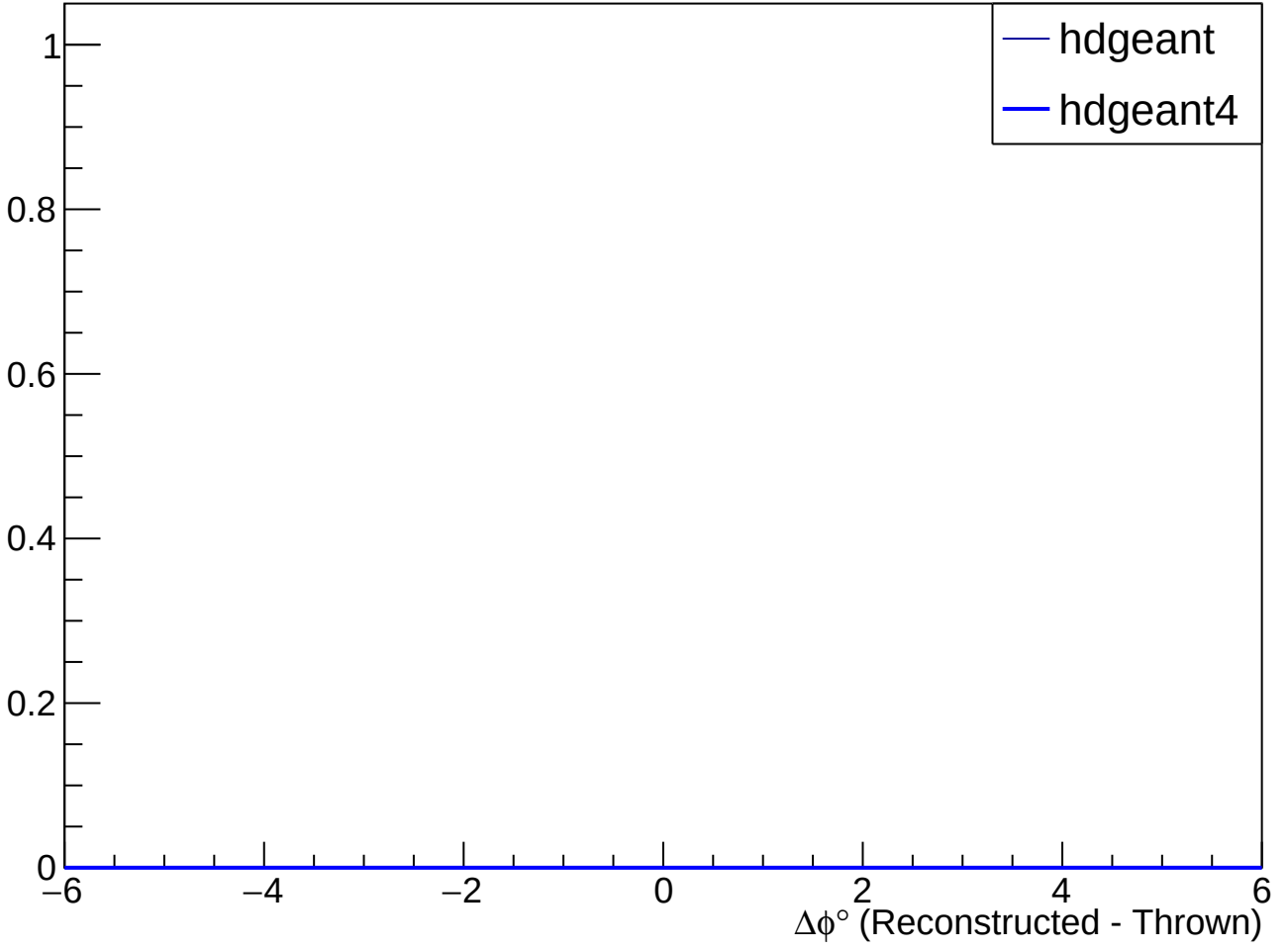
/Independent/Hist_GenReconTrackComparison/Neutron/DeltaPOverP



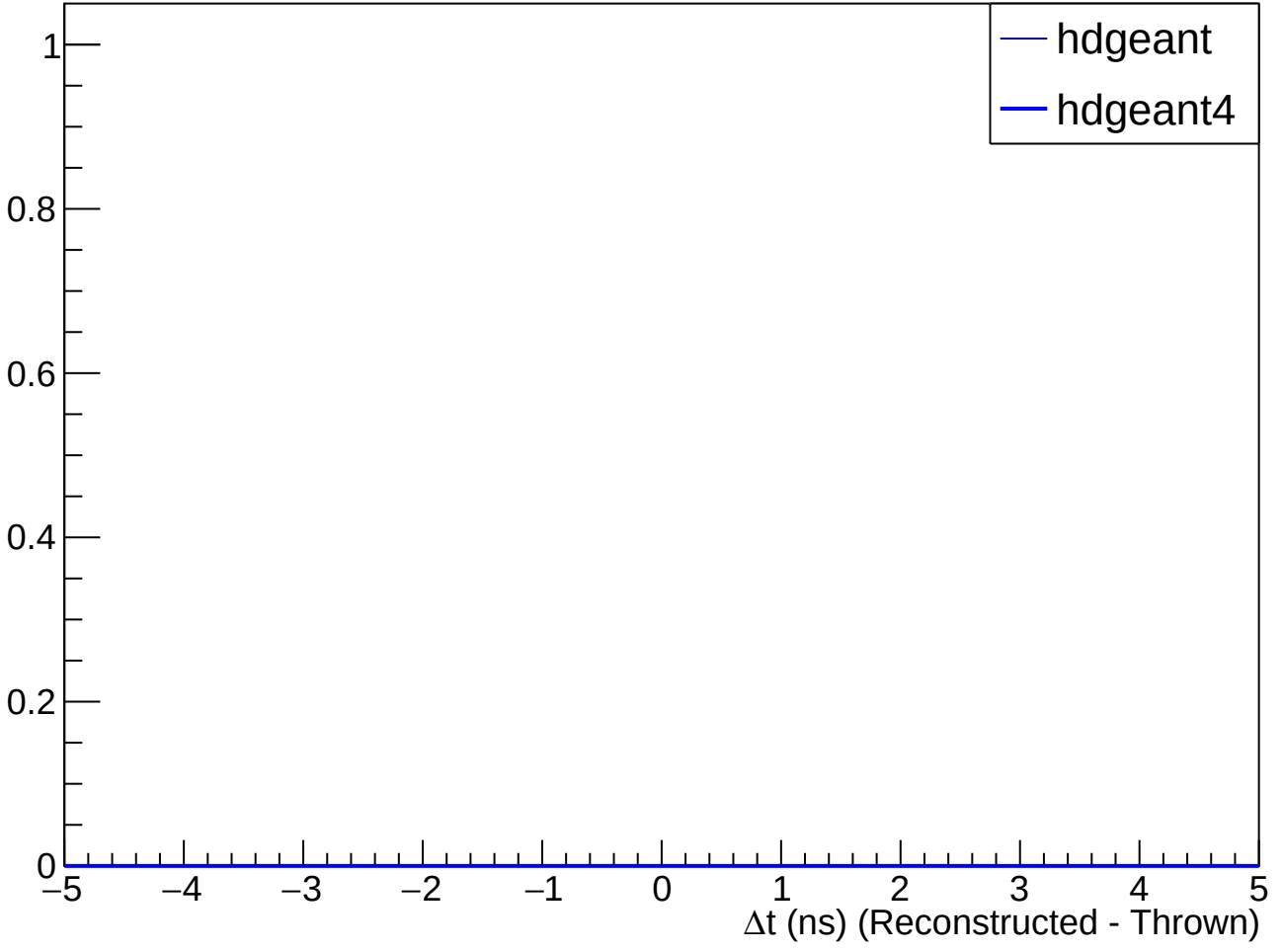
/Independent/Hist_GenReconTrackComparison/Neutron/DeltaTheta



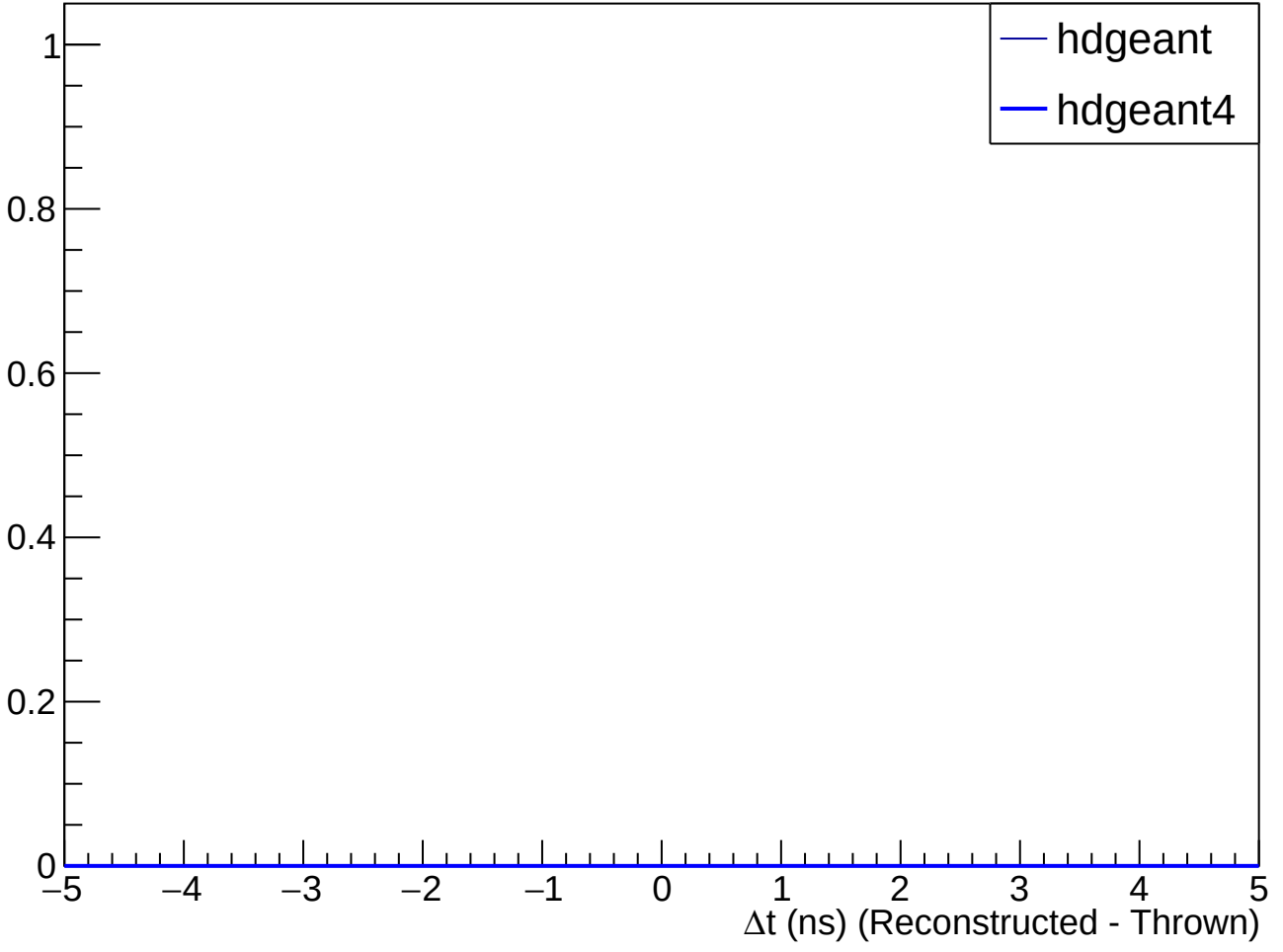
/Independent/Hist_GenReconTrackComparison/Neutron/DeltaPhi



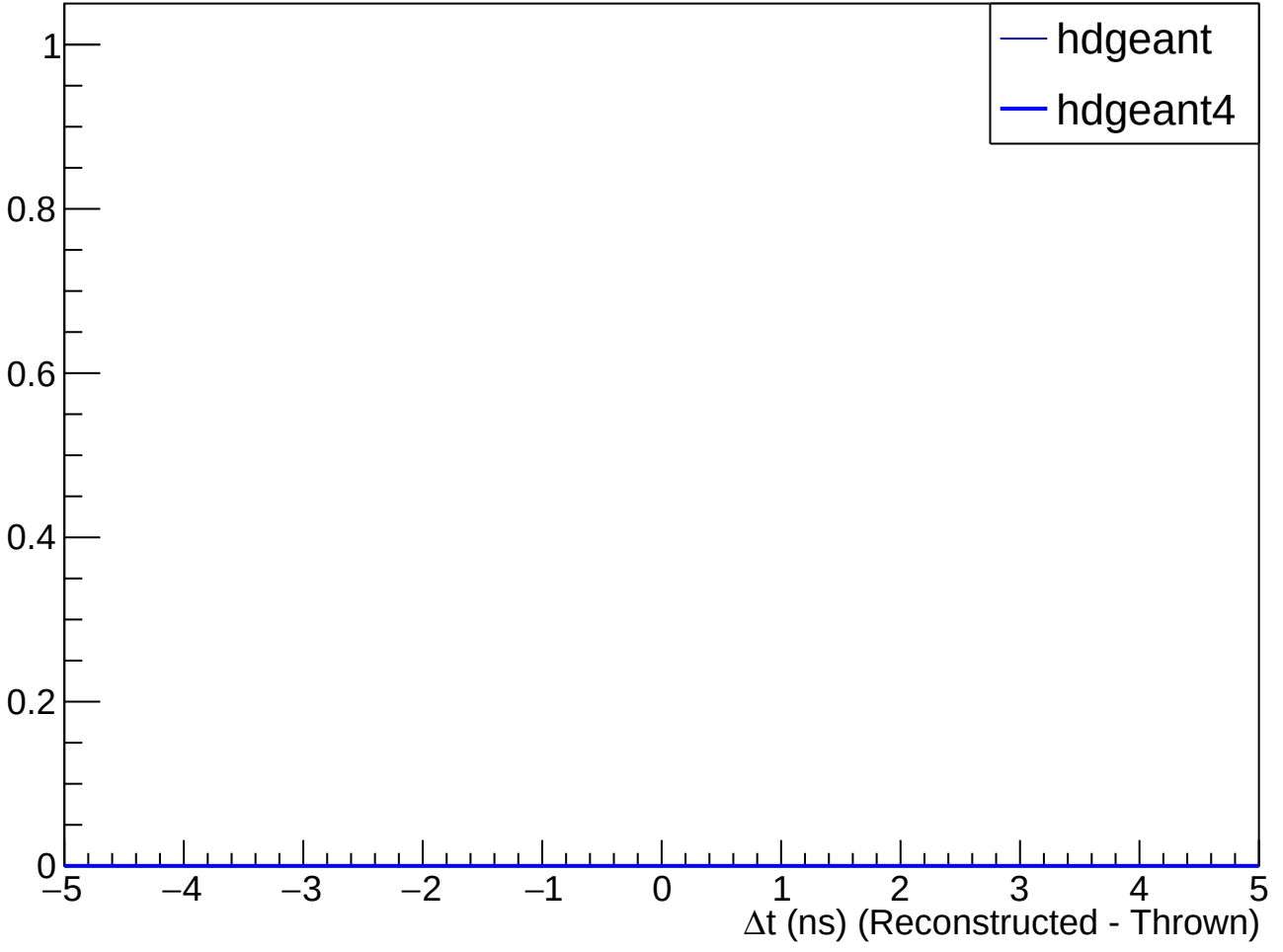
/Independent/Hist_GenReconTrackComparison/Neutron/DeltaT



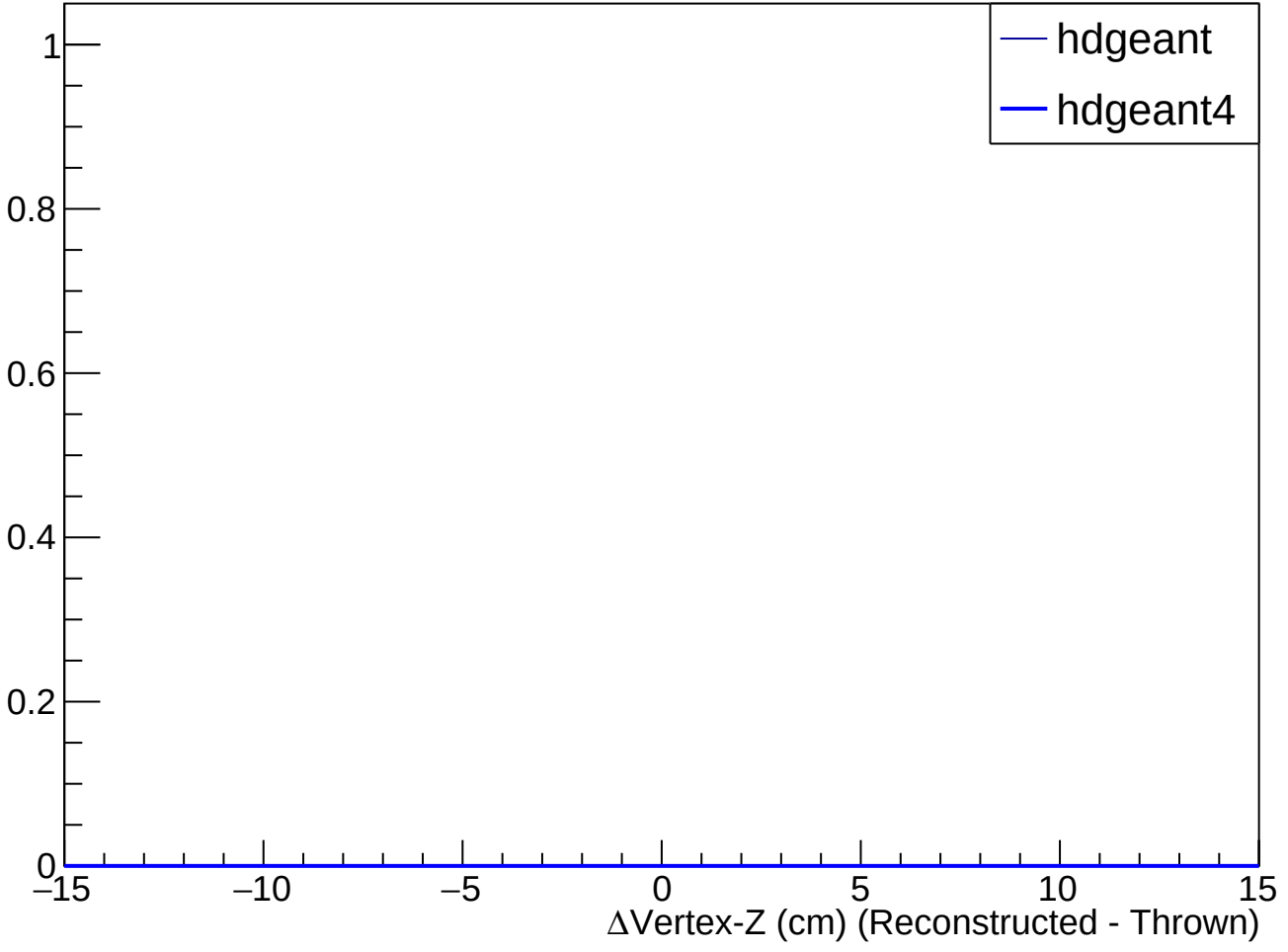
/Independent/Hist_GenReconTrackComparison/Neutron/DeltaT_BCAL

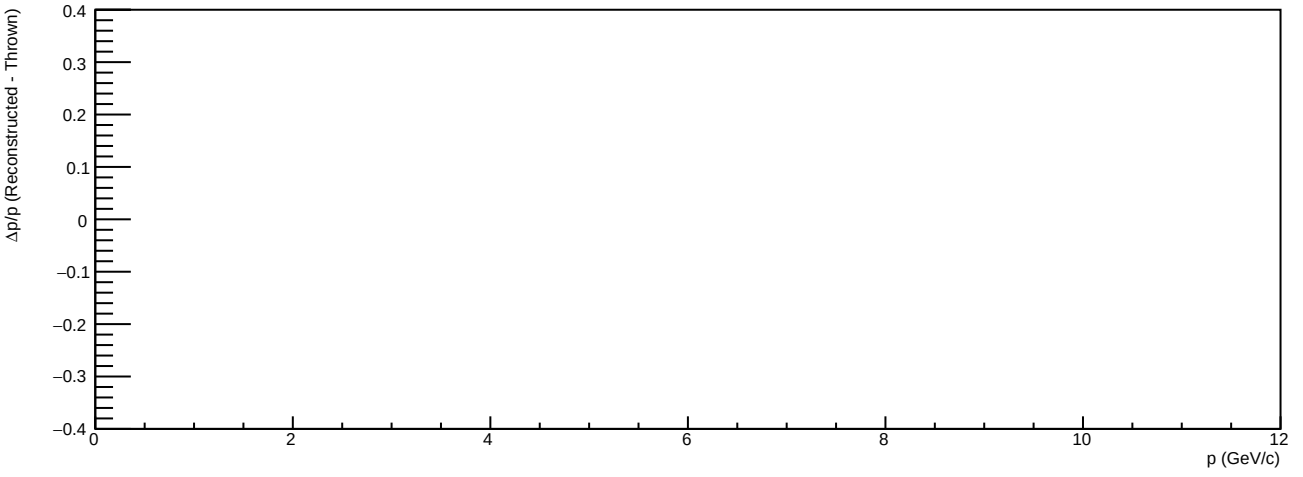


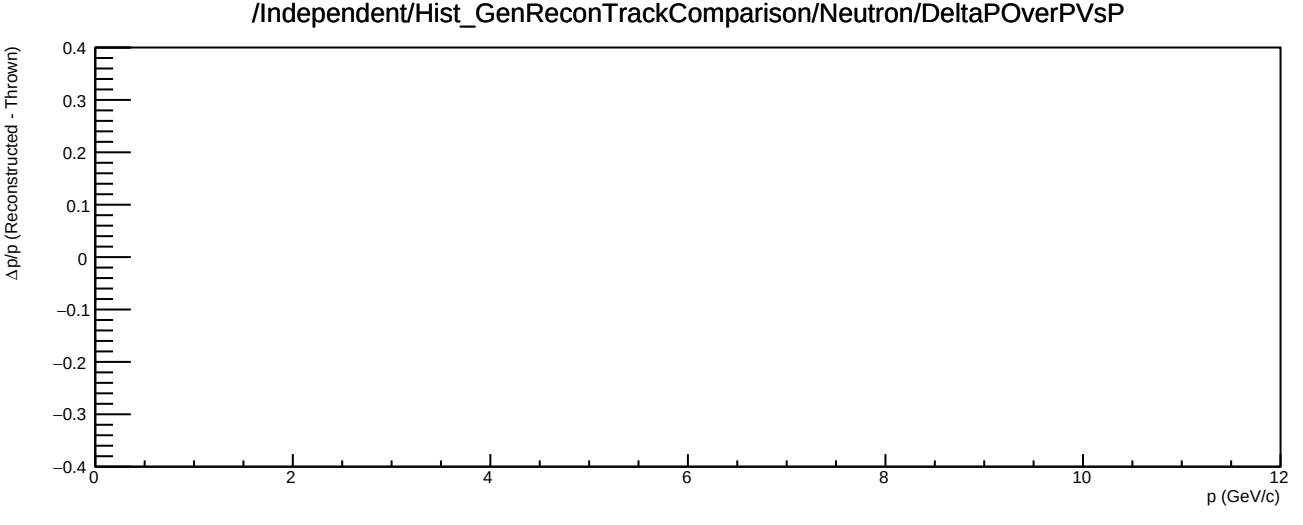
/Independent/Hist_GenReconTrackComparison/Neutron/DeltaT_FCAL

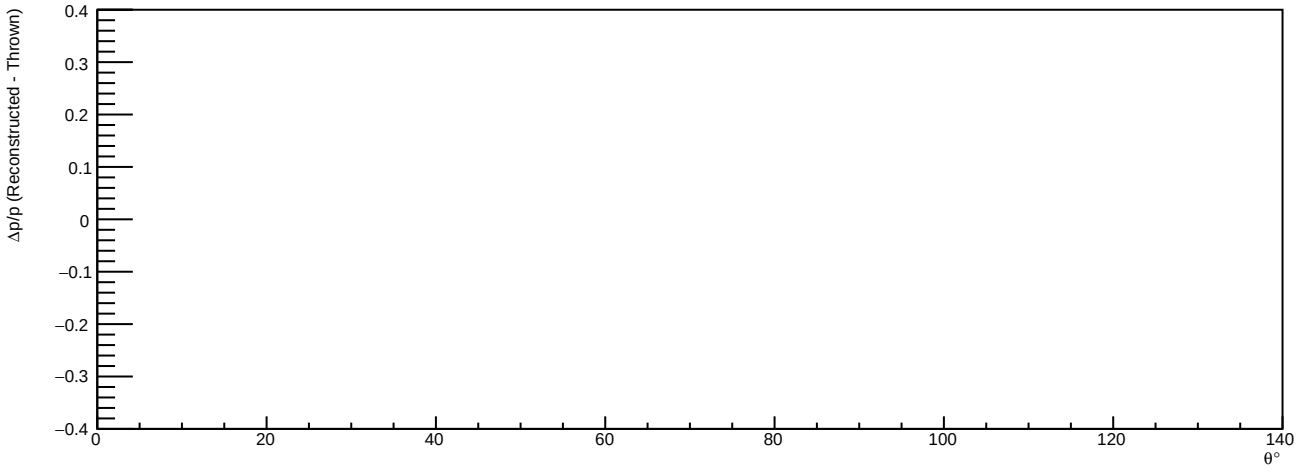


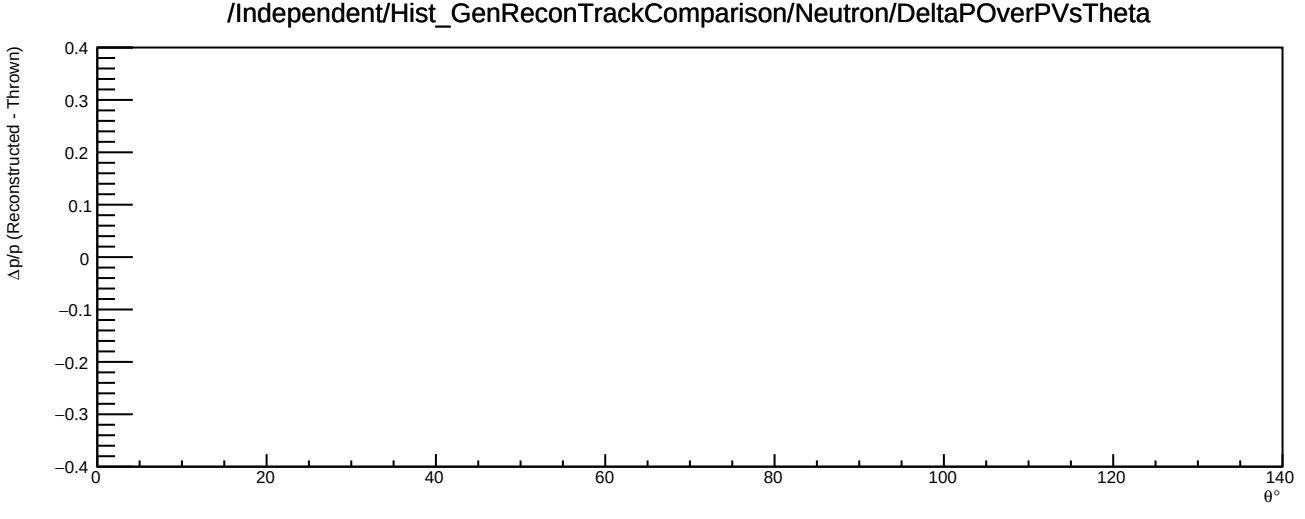
/Independent/Hist_GenReconTrackComparison/Neutron/DeltaVertexZ

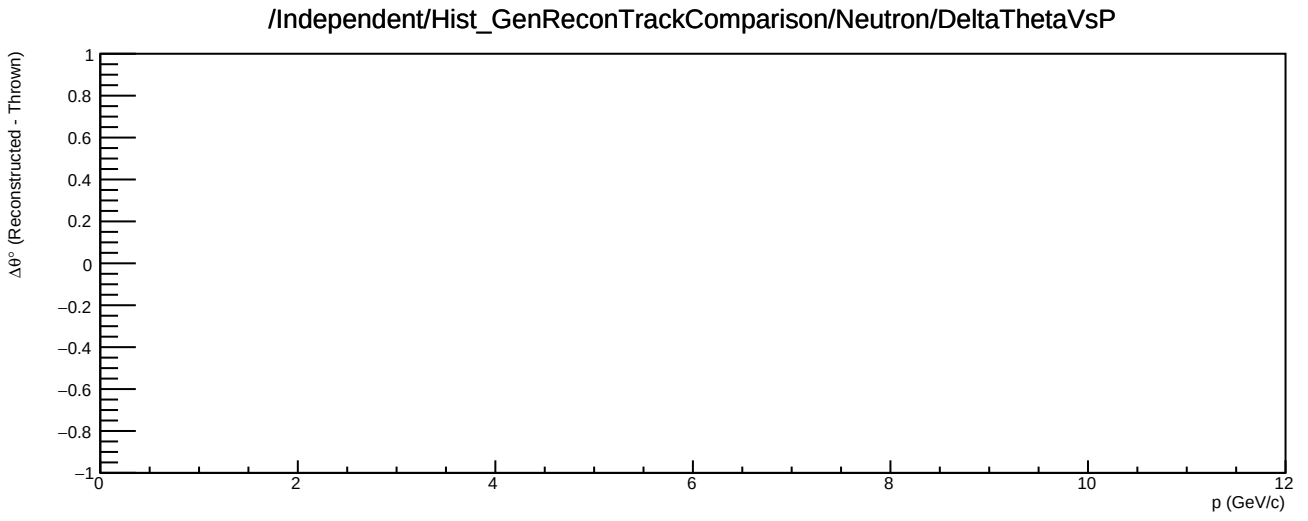


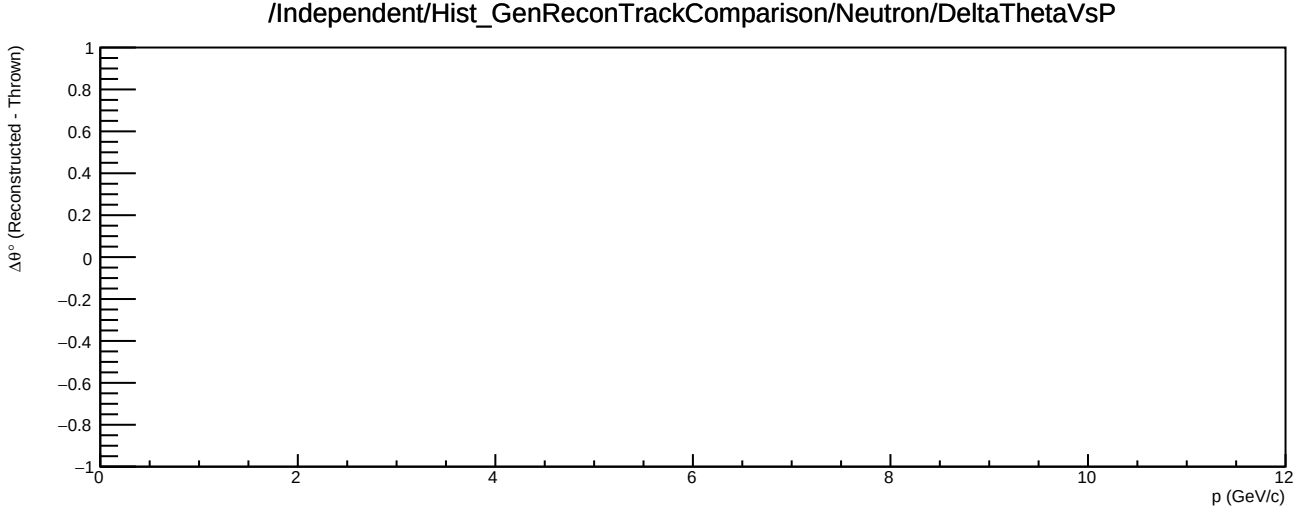

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

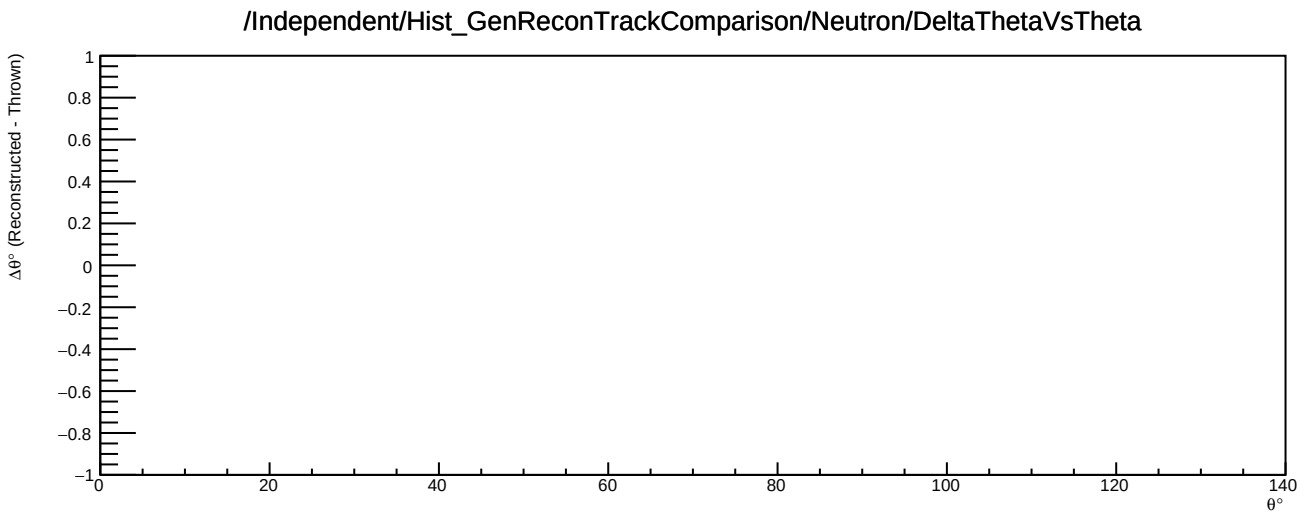

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

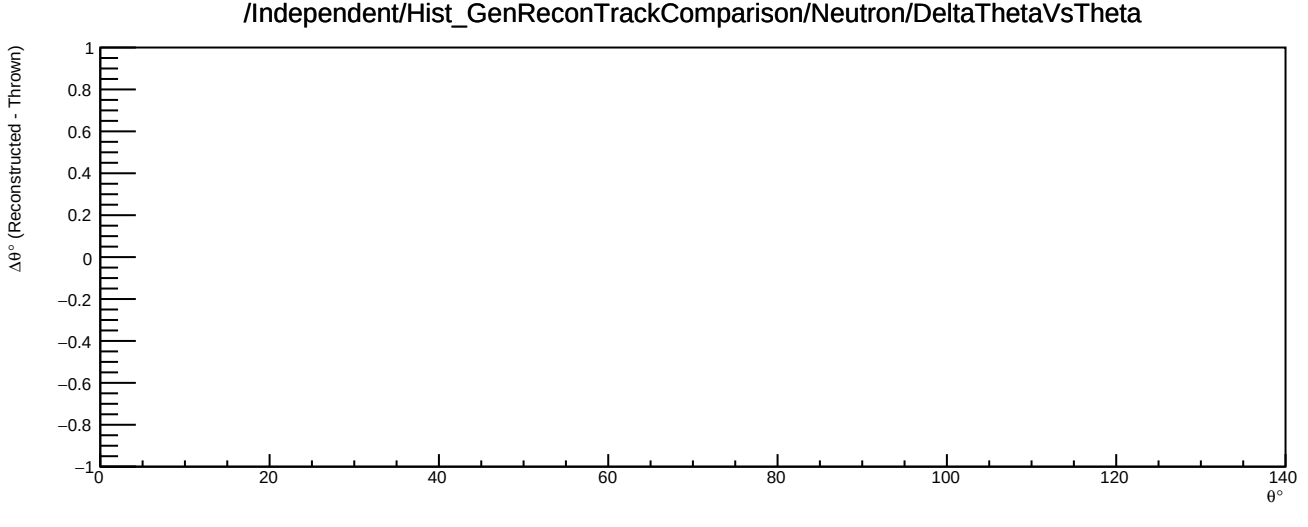

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

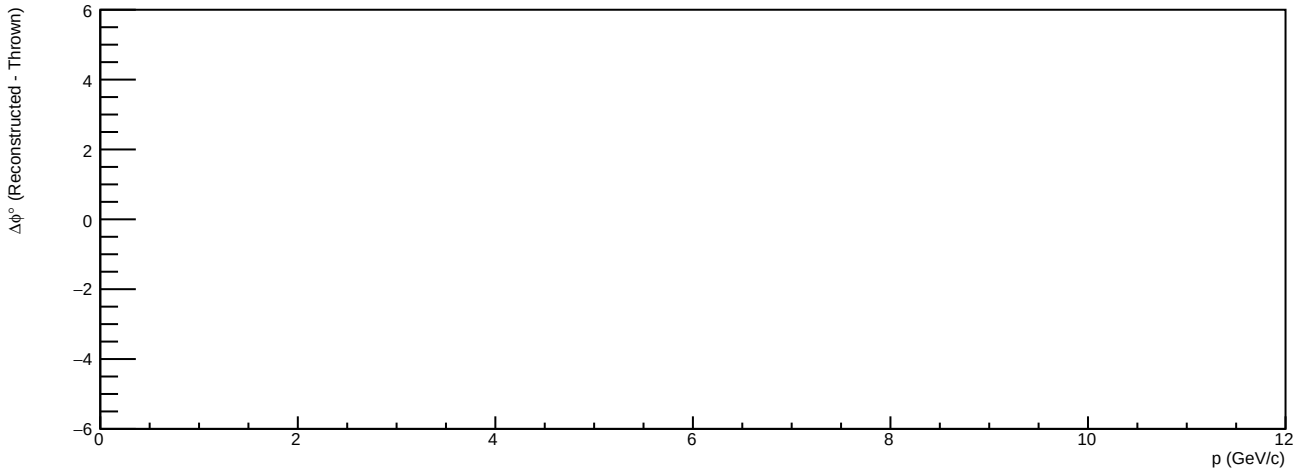

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

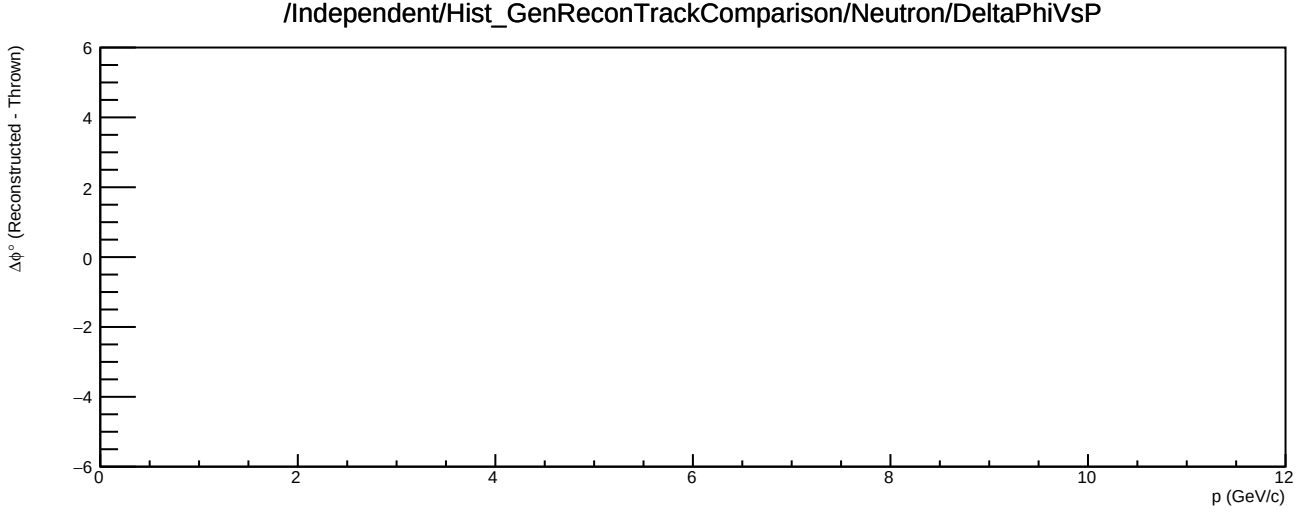

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

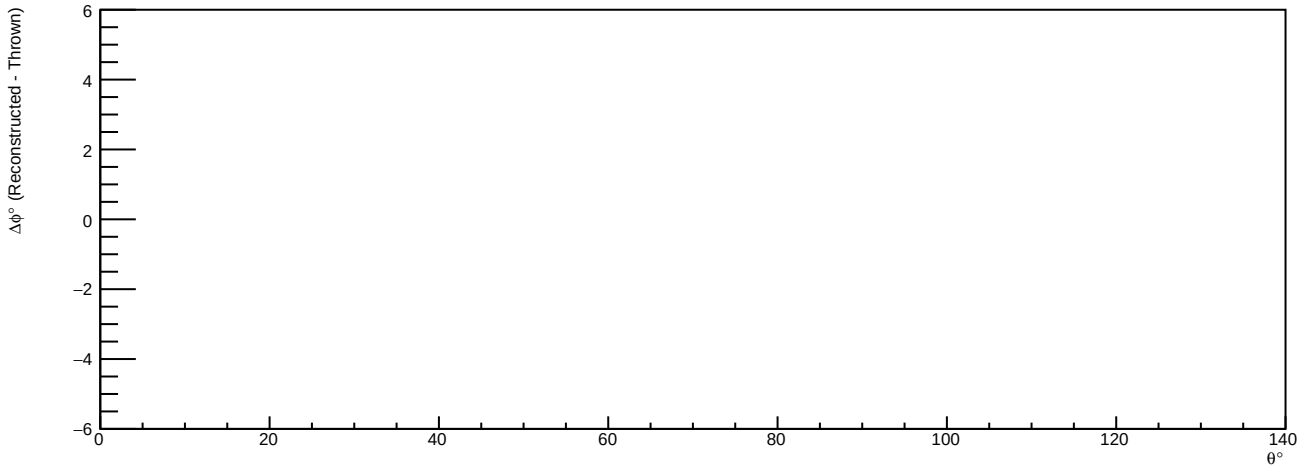

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

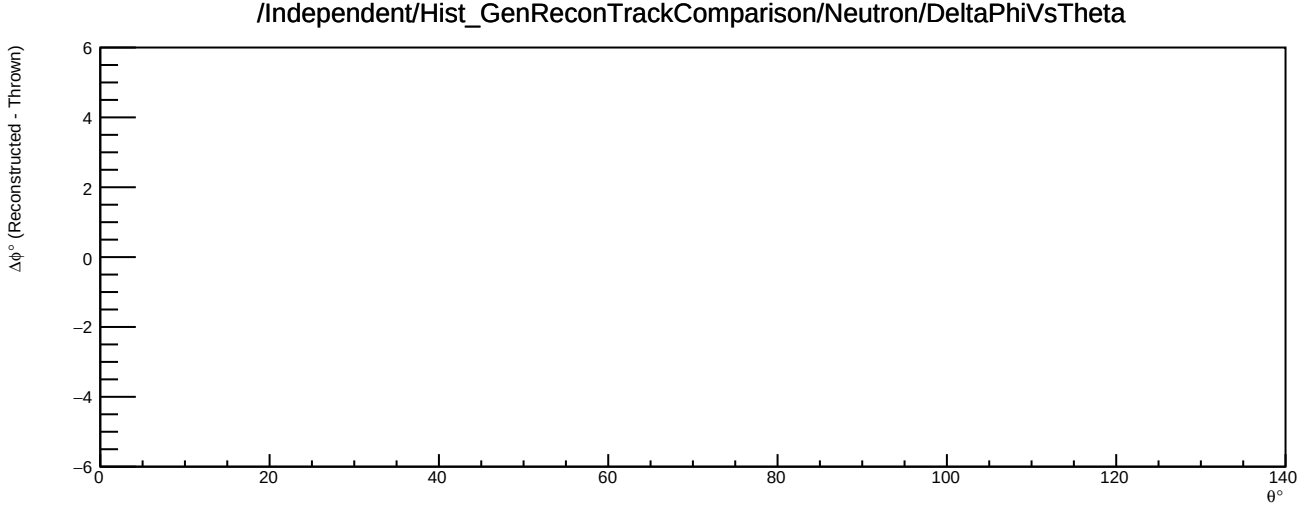

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

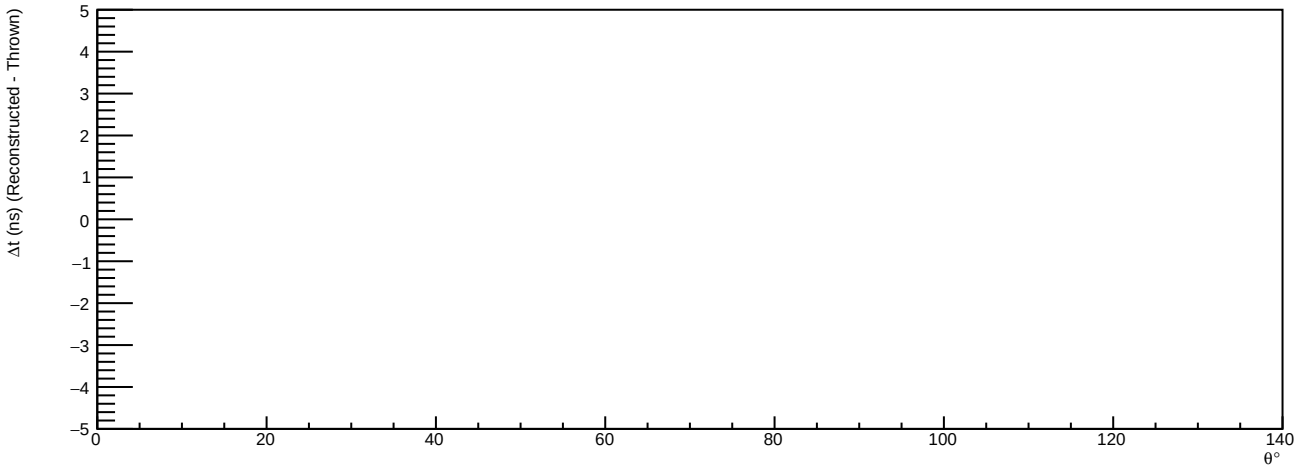

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

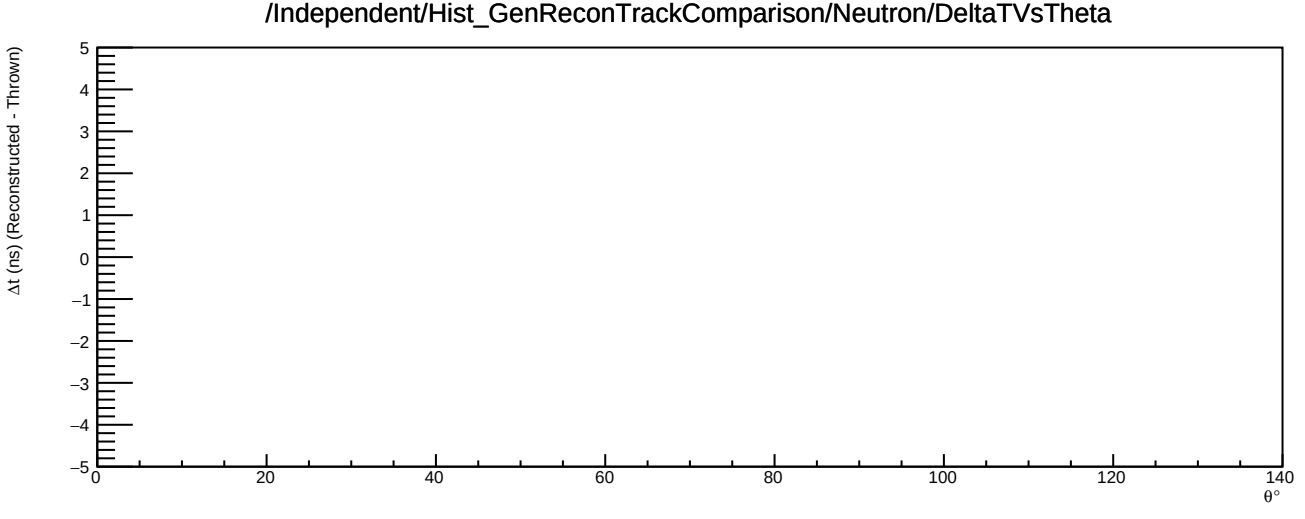

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaPhiVsP
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

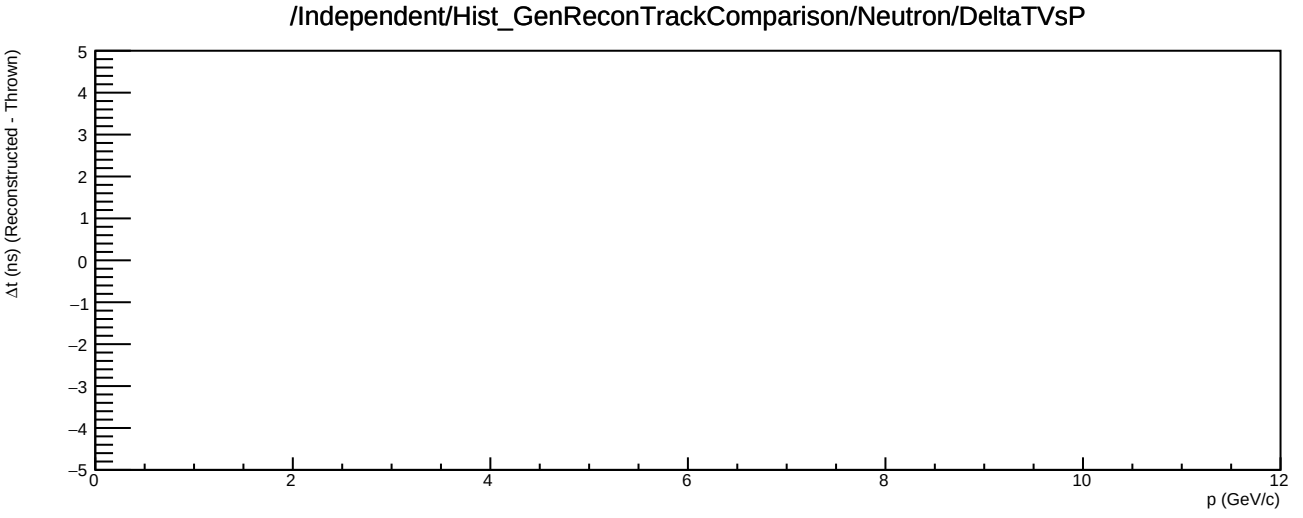

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaPhiVsP
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

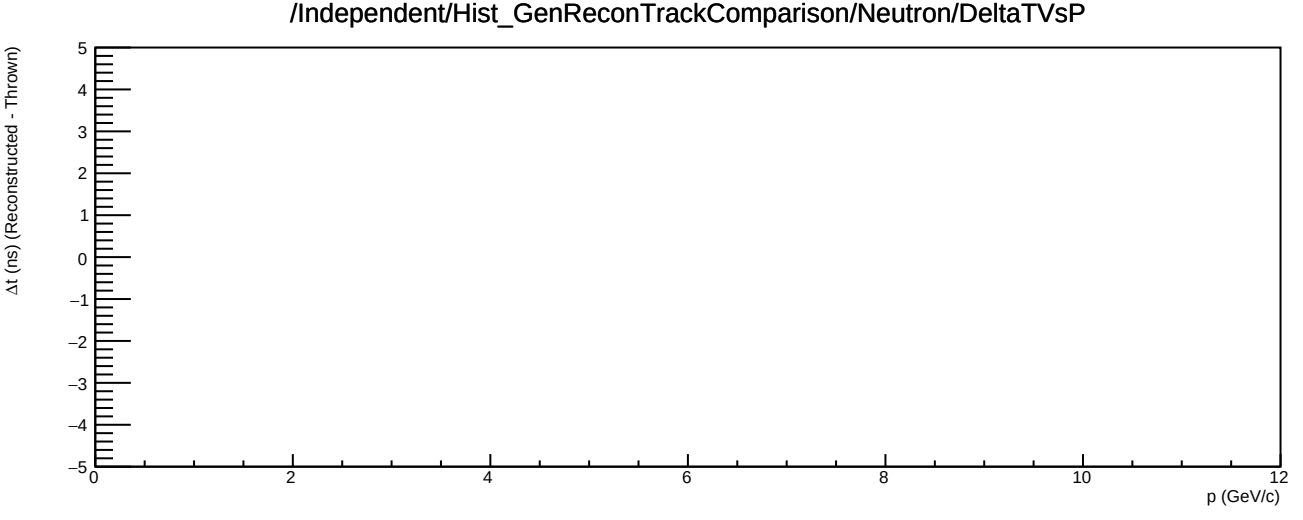

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

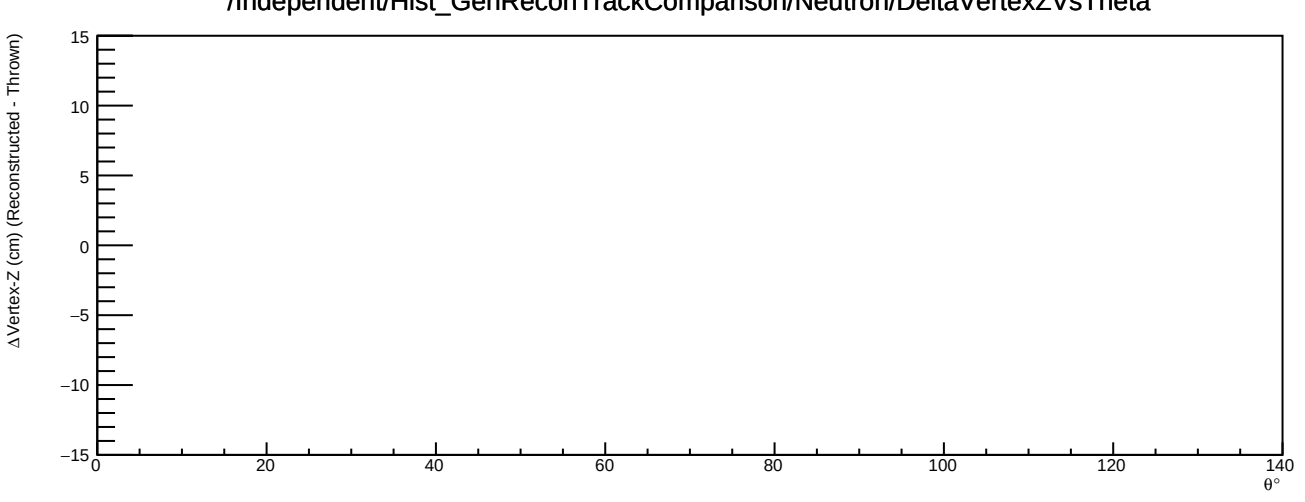

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

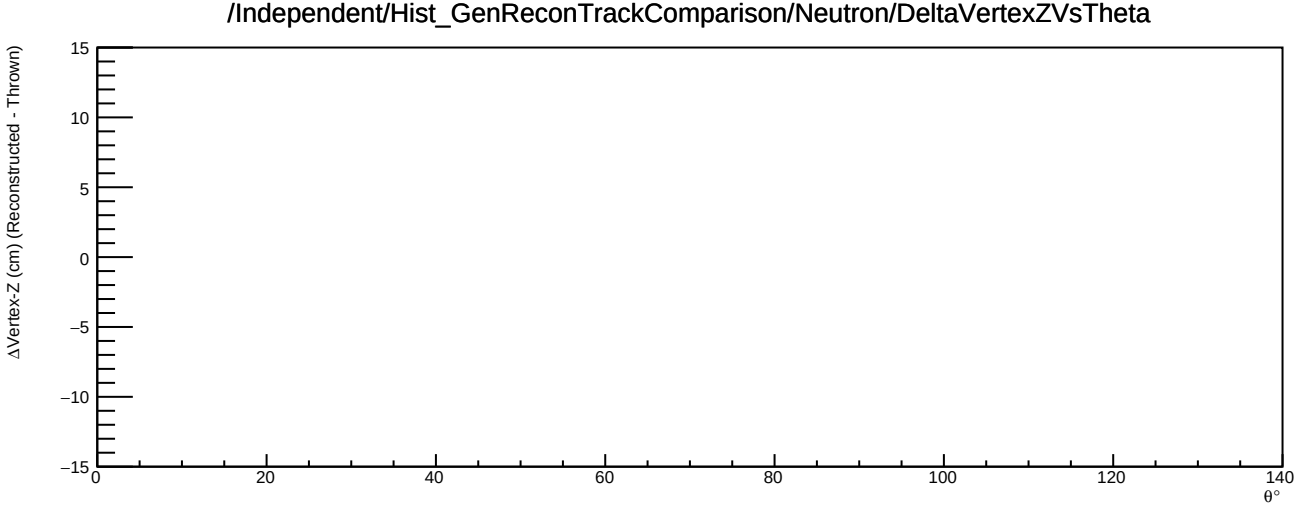

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
20
40
60
80
100
120
140
θ°

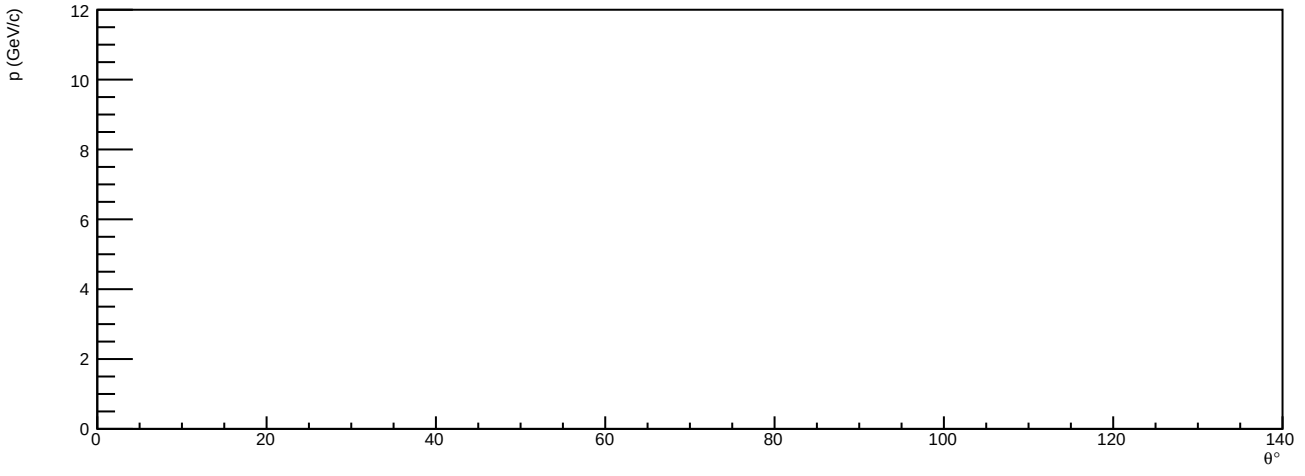

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
20
40
60
80
100
120
140
θ°

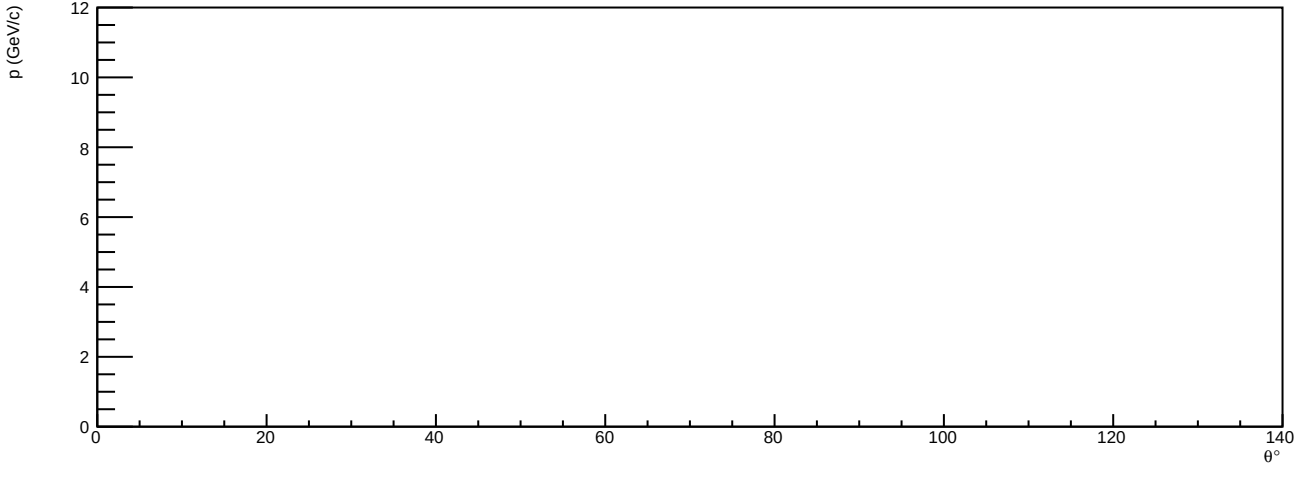

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Neutron/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
2
4
6
8
10
12
p (GeV/c)

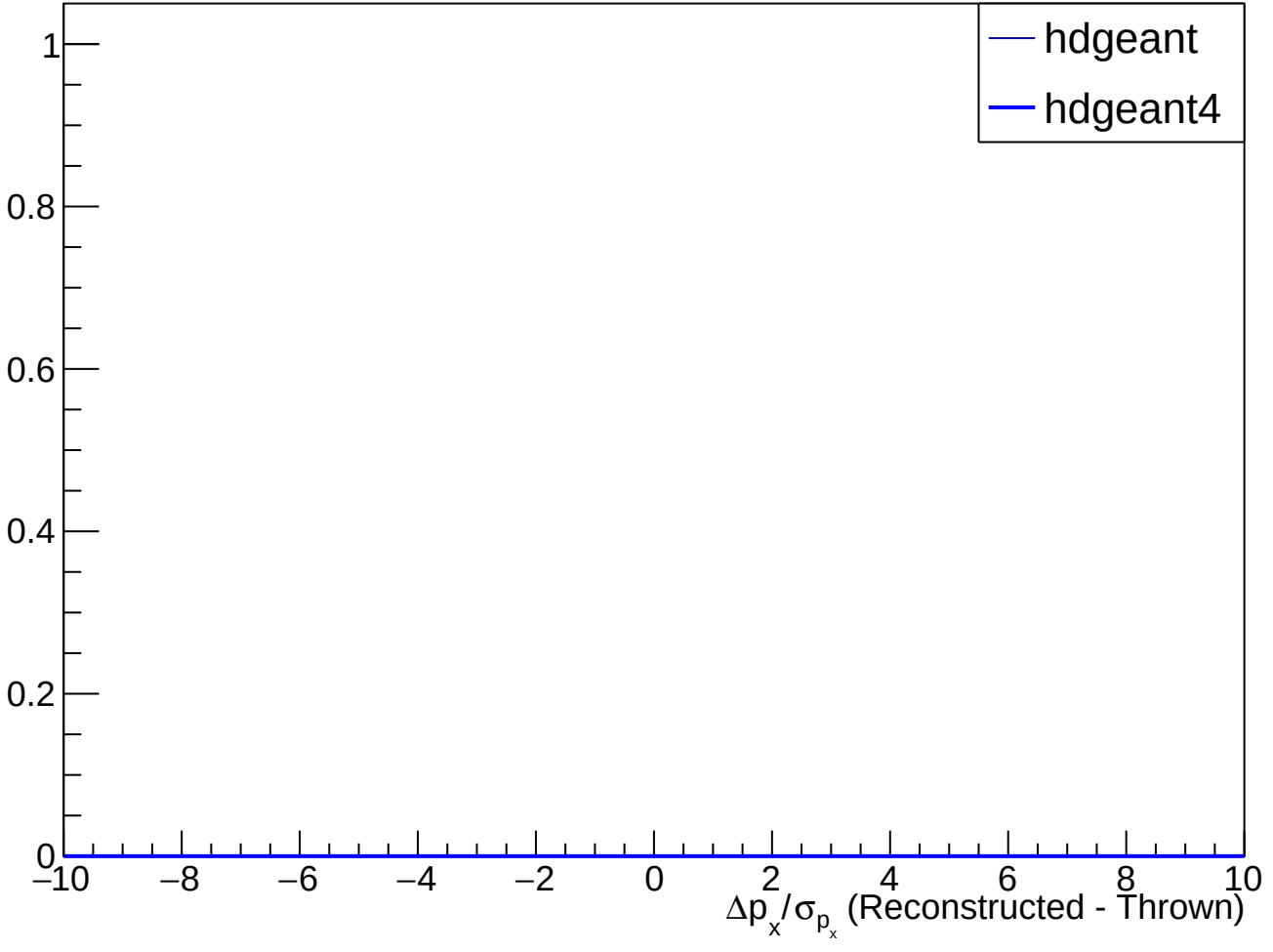

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

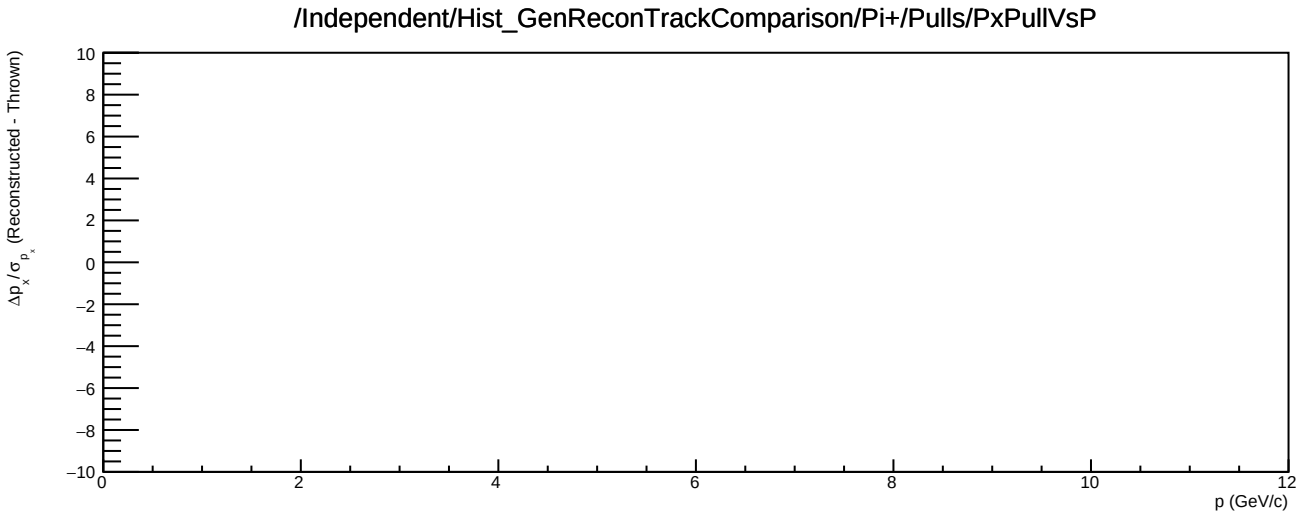

/Independent/Hist_GenReconTrackComparison/Neutron/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

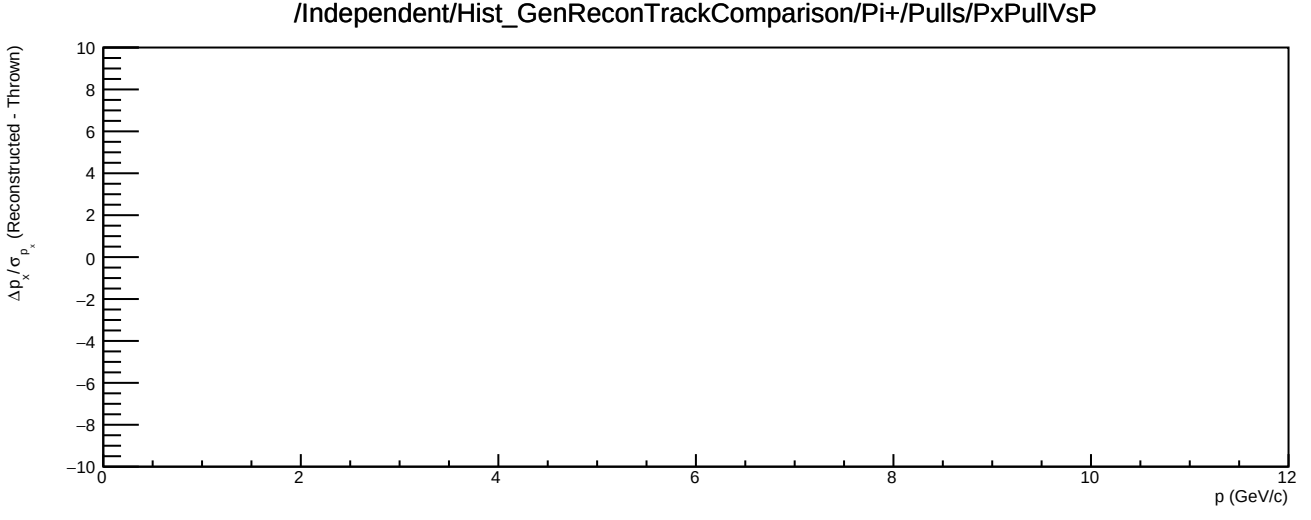

/Independent/Hist_GenReconTrackComparison/Neutron/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

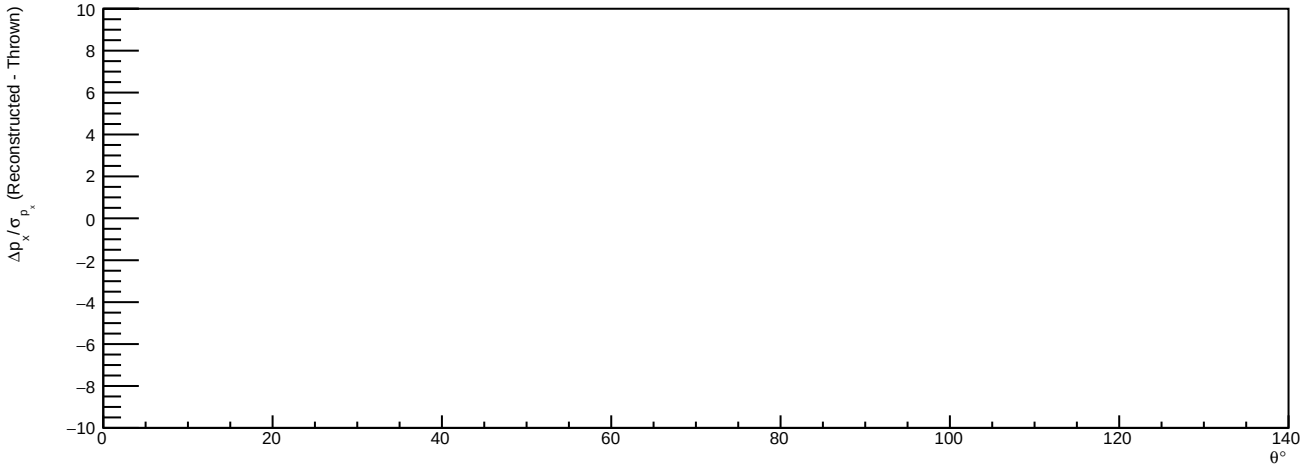

/Independent/Hist_GenReconTrackComparison/Neutron/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

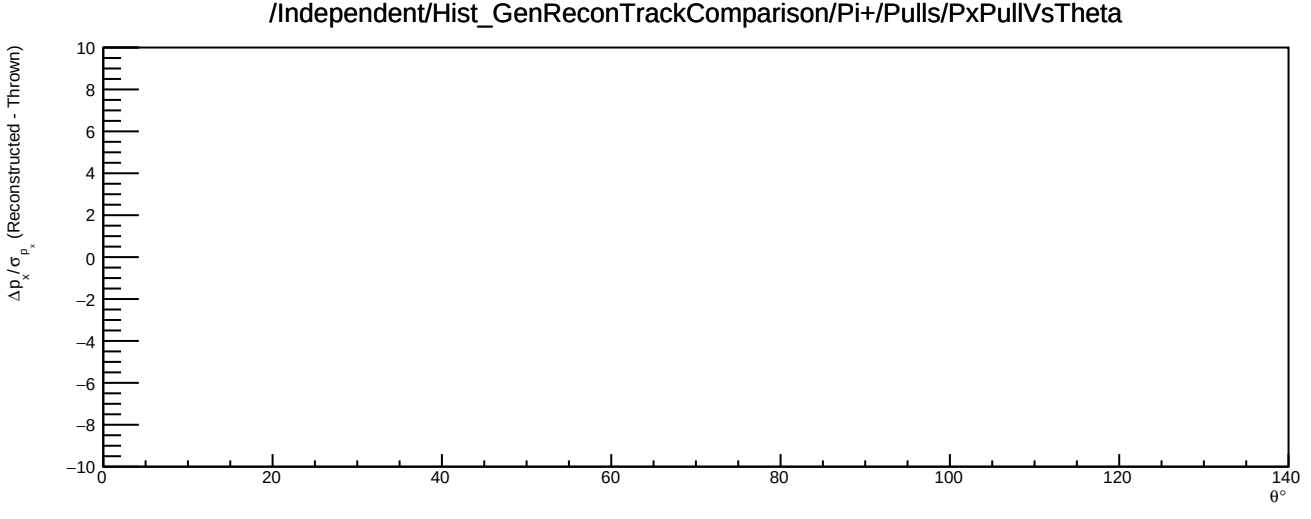
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PxPull



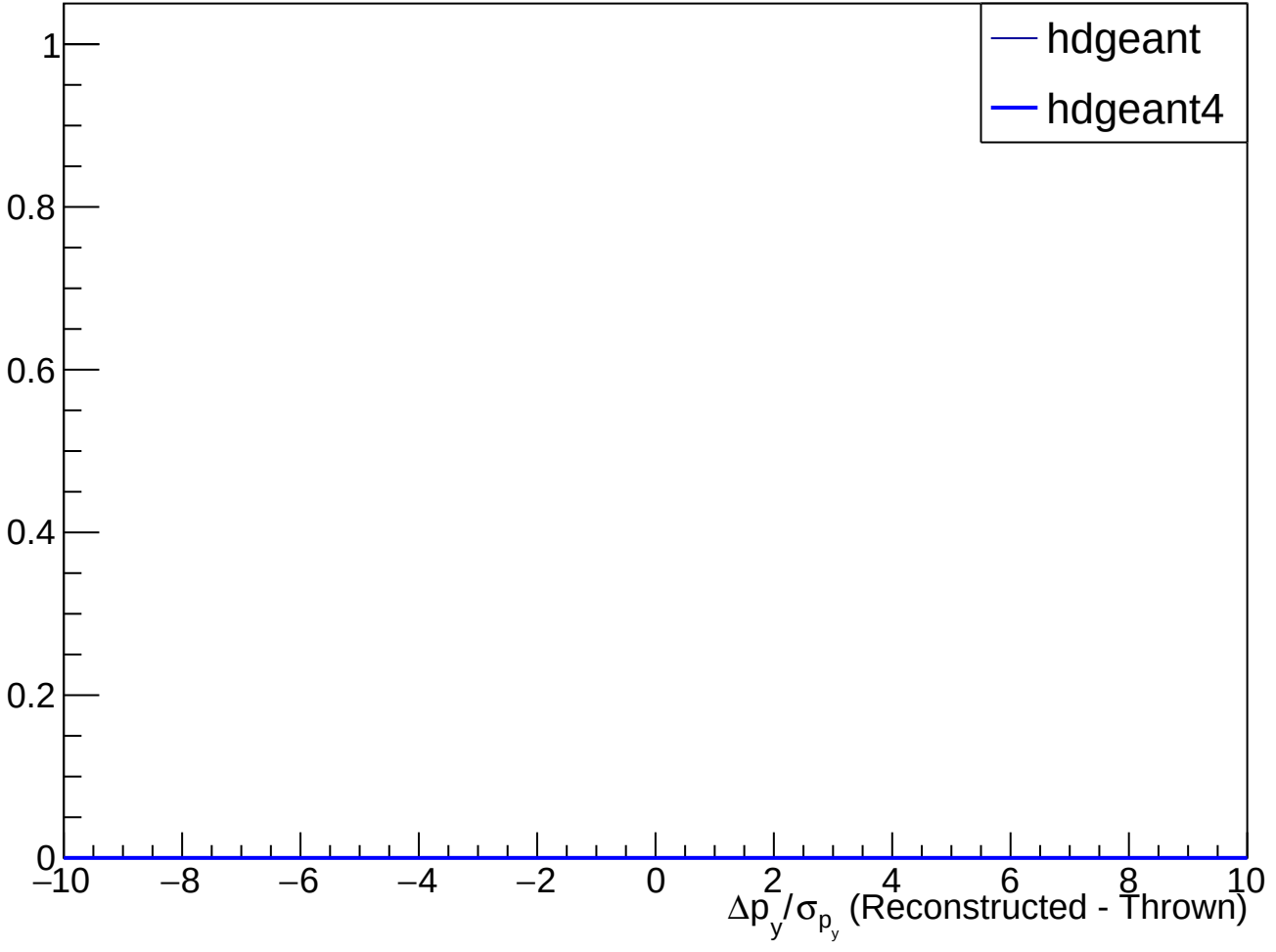

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PxPullVsP
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

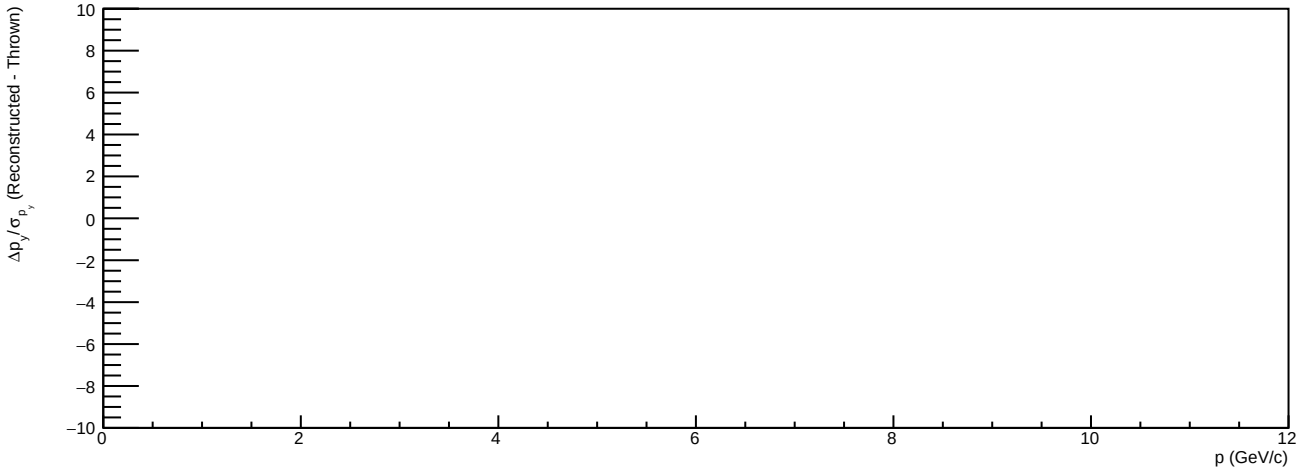

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PxPullVsP
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

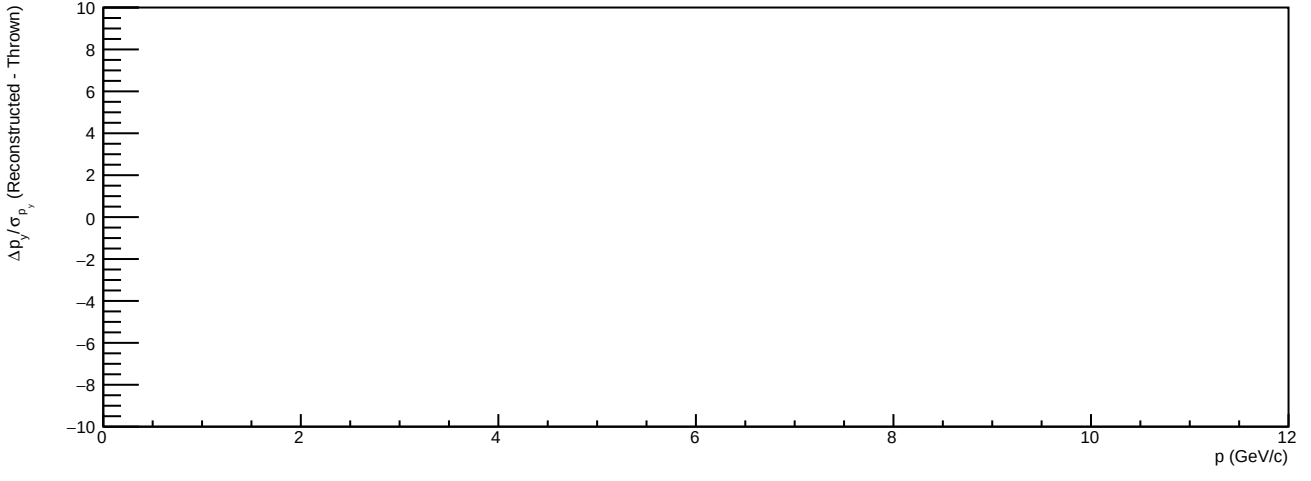

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PxPullVsTheta
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

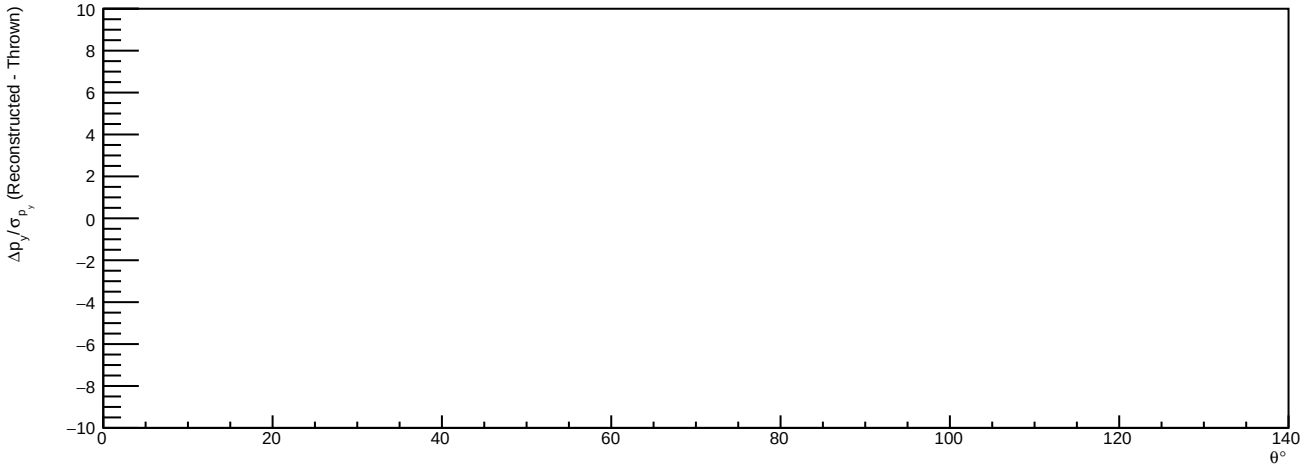

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PxPullVsTheta
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

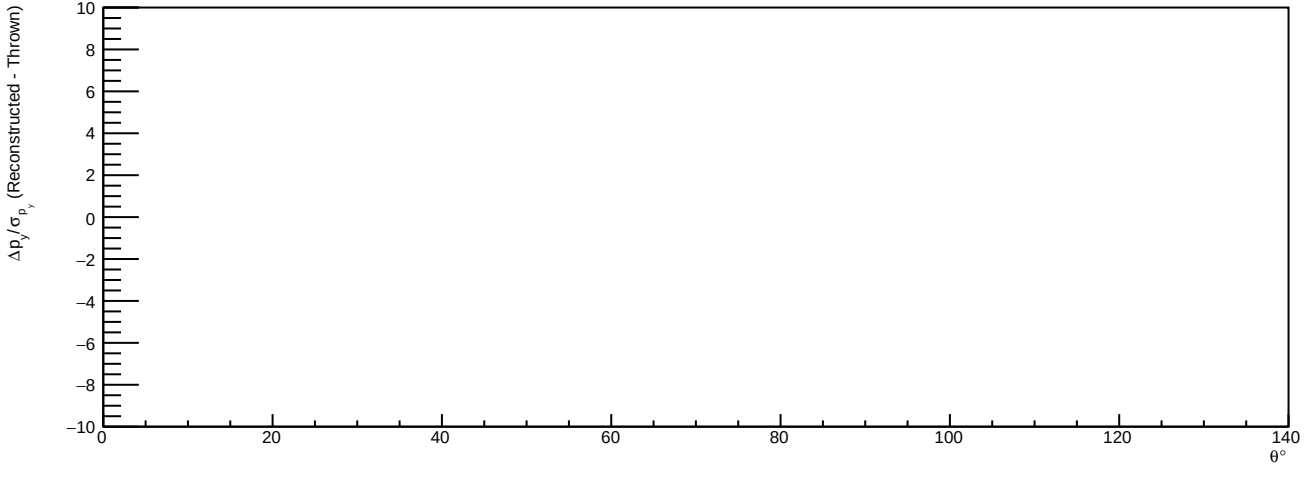
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PyPull



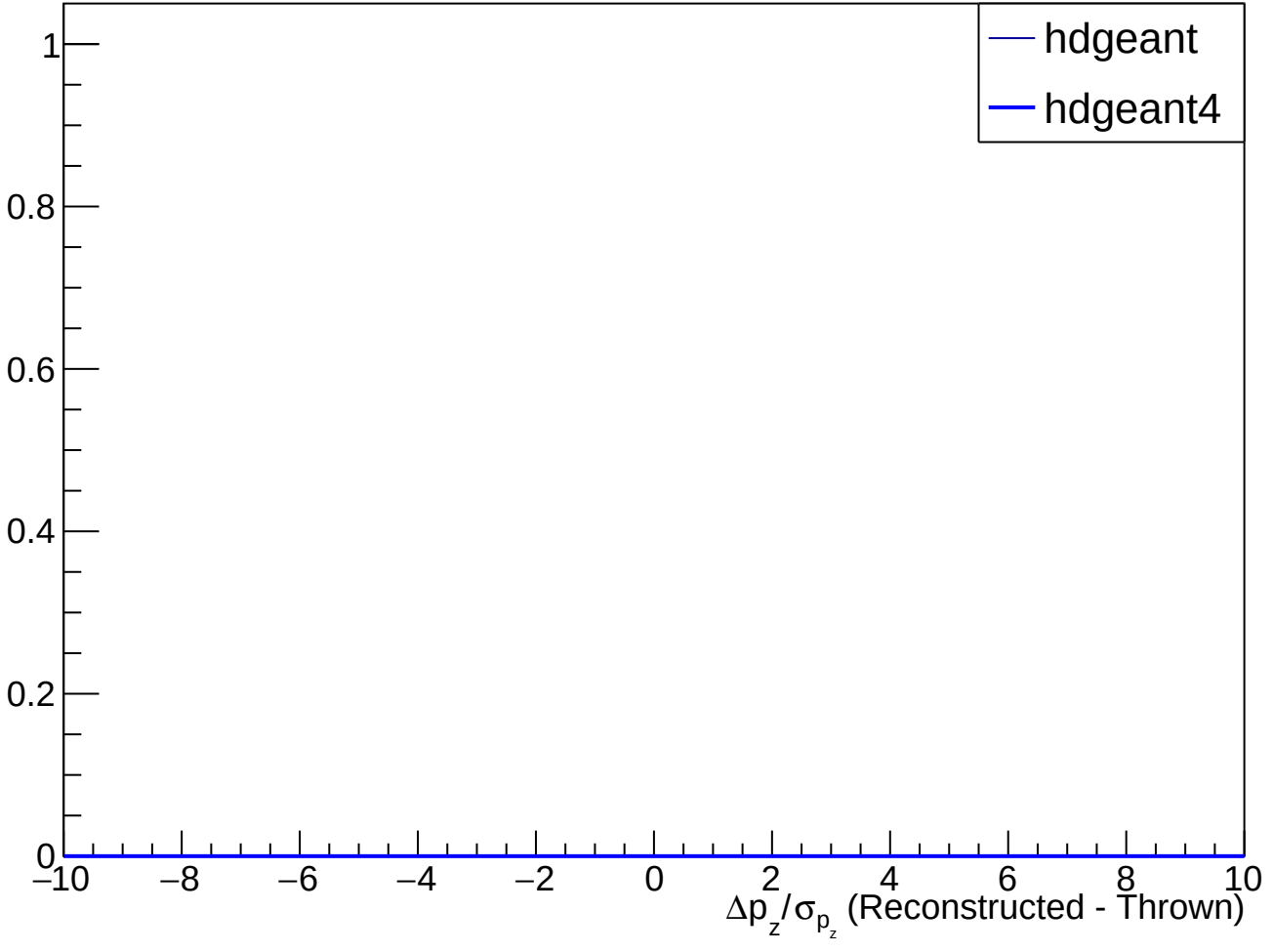

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PyPullVsP
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)
Δp_y/σ_p_y (Reconstructed - Thrown)

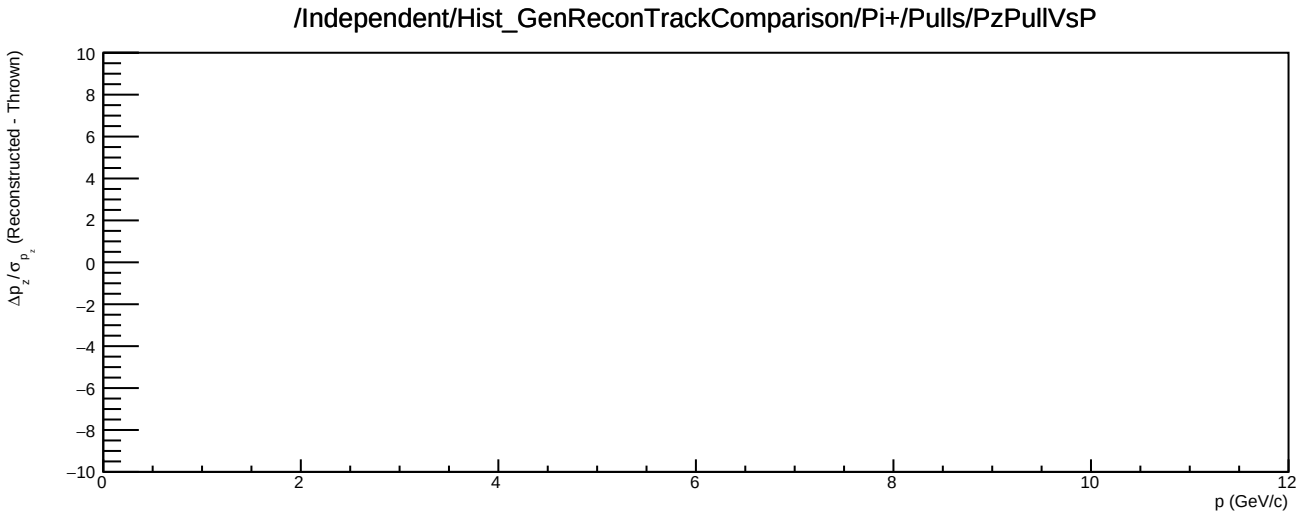

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PyPullVsP
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)
Δp_y/σ_p_y (Reconstructed - Thrown)

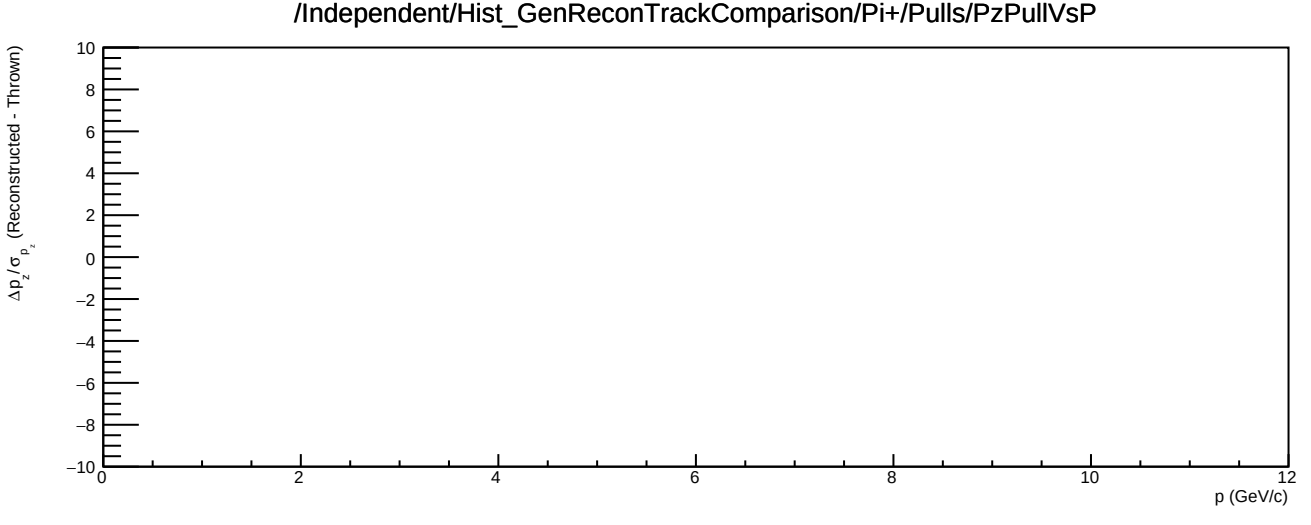

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PyPullVsTheta
$\Delta p_y / \sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

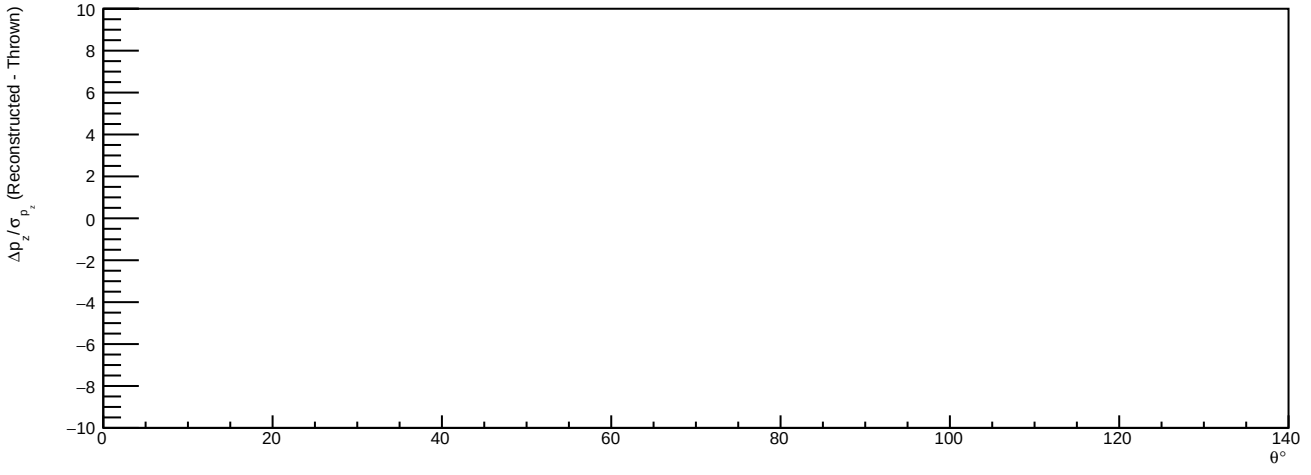

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PyPullVsTheta
$\Delta p_y / \sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

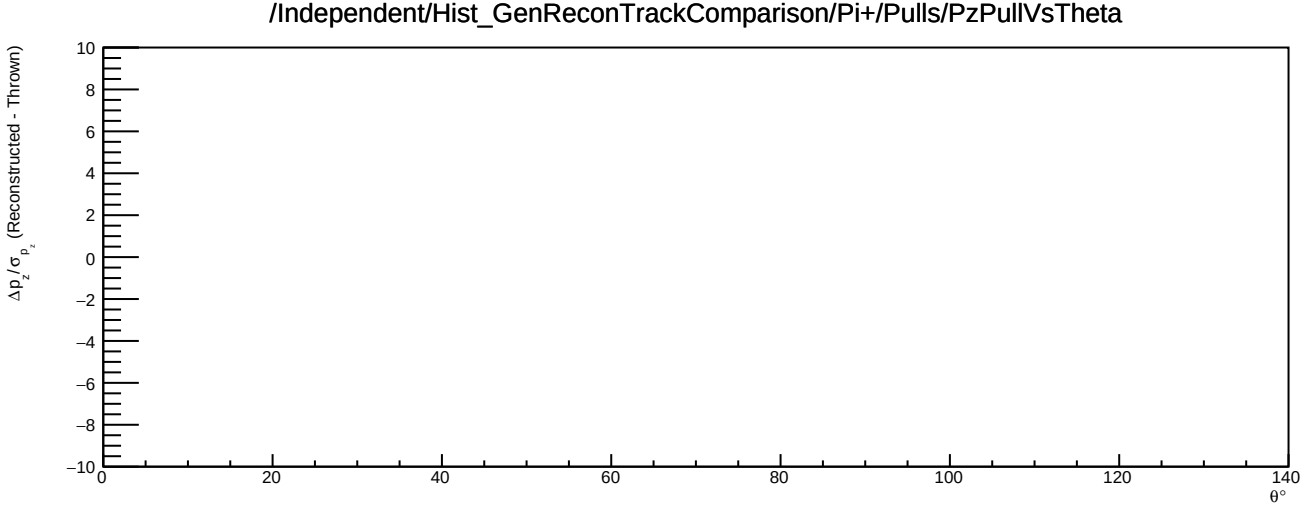
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PzPull



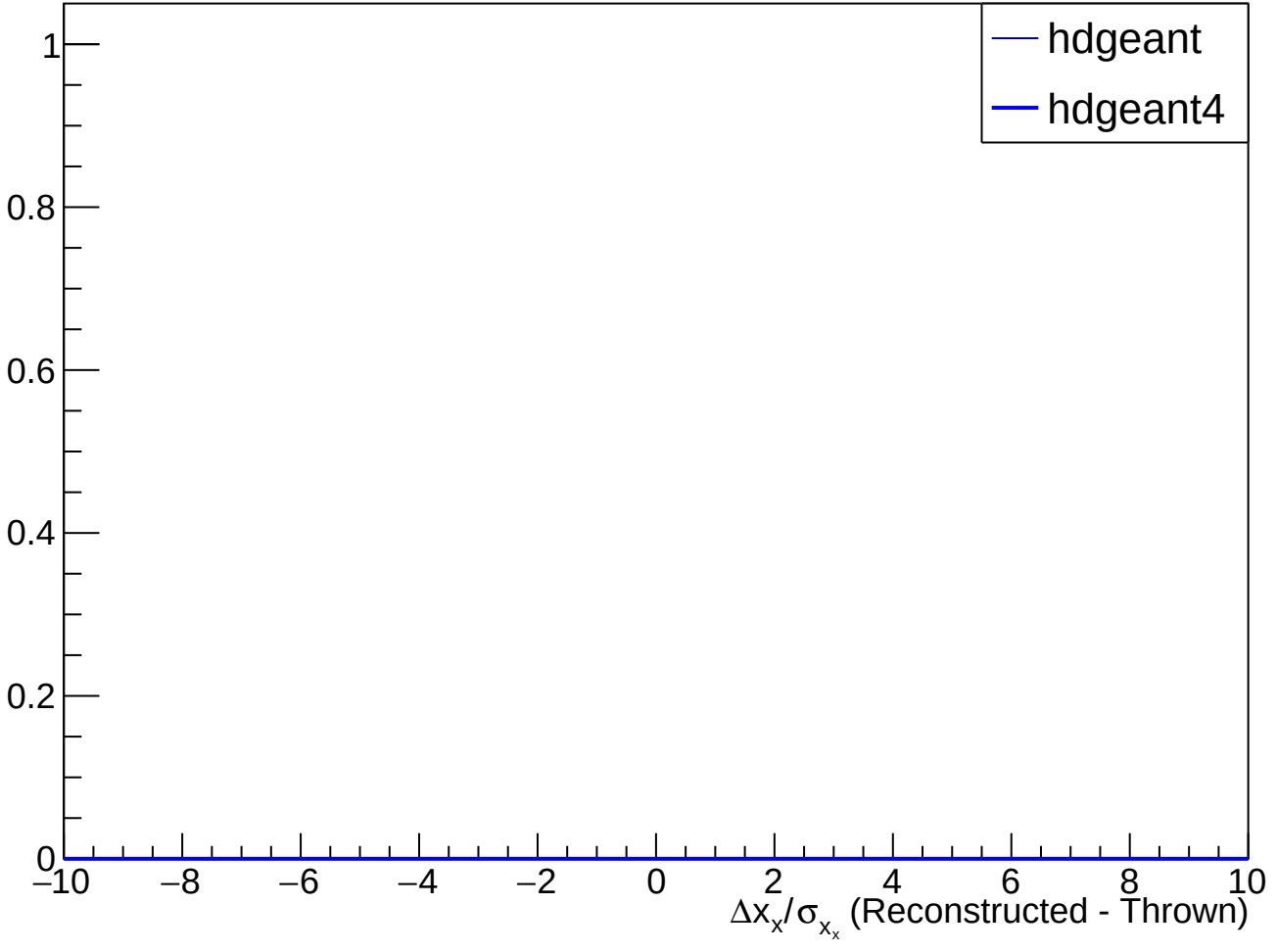

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PzPullVsP
Δp_z / σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

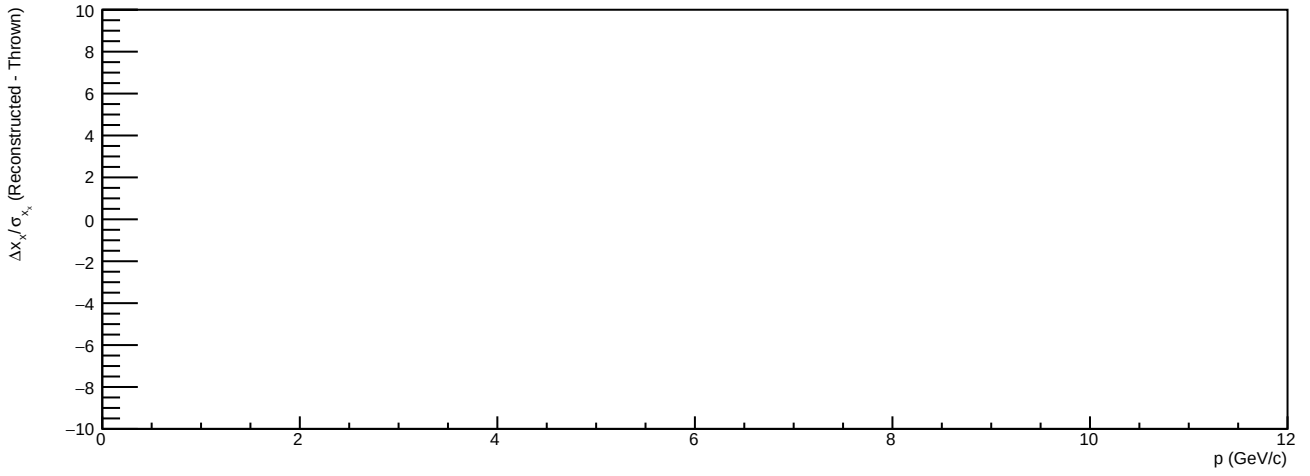

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PzPullVsP
Δp_z / σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

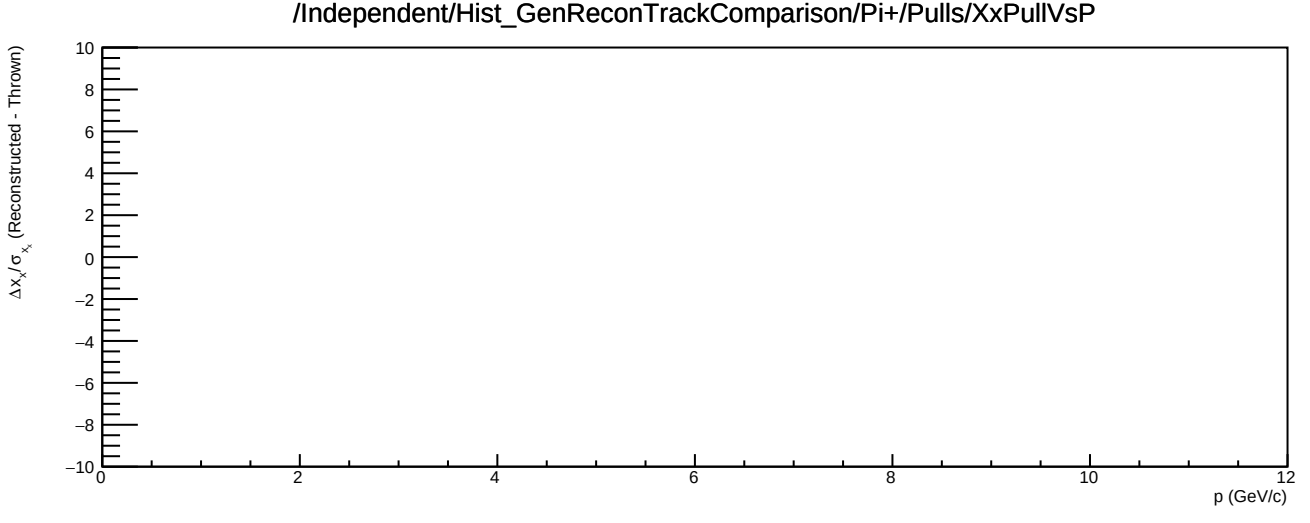

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PzPullVsTheta
Δp_z/σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

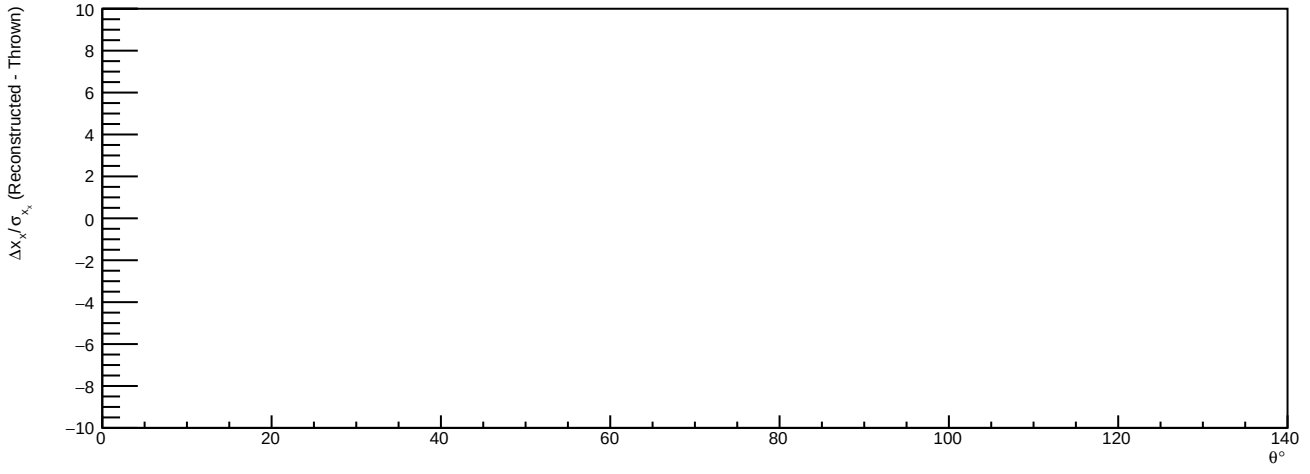

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/PzPullVsTheta
Δp_z/σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

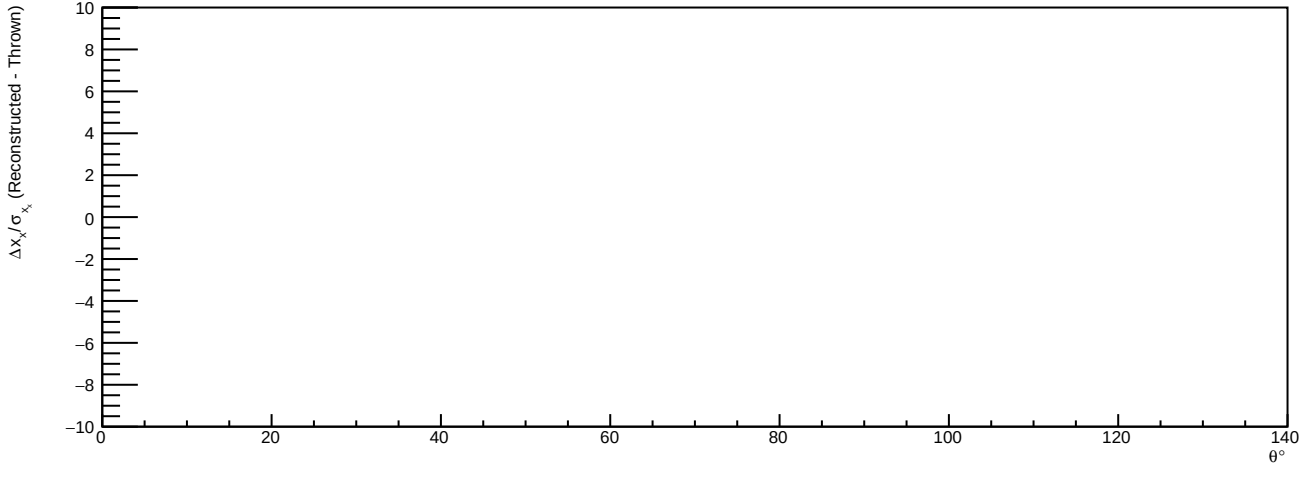
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XxPull



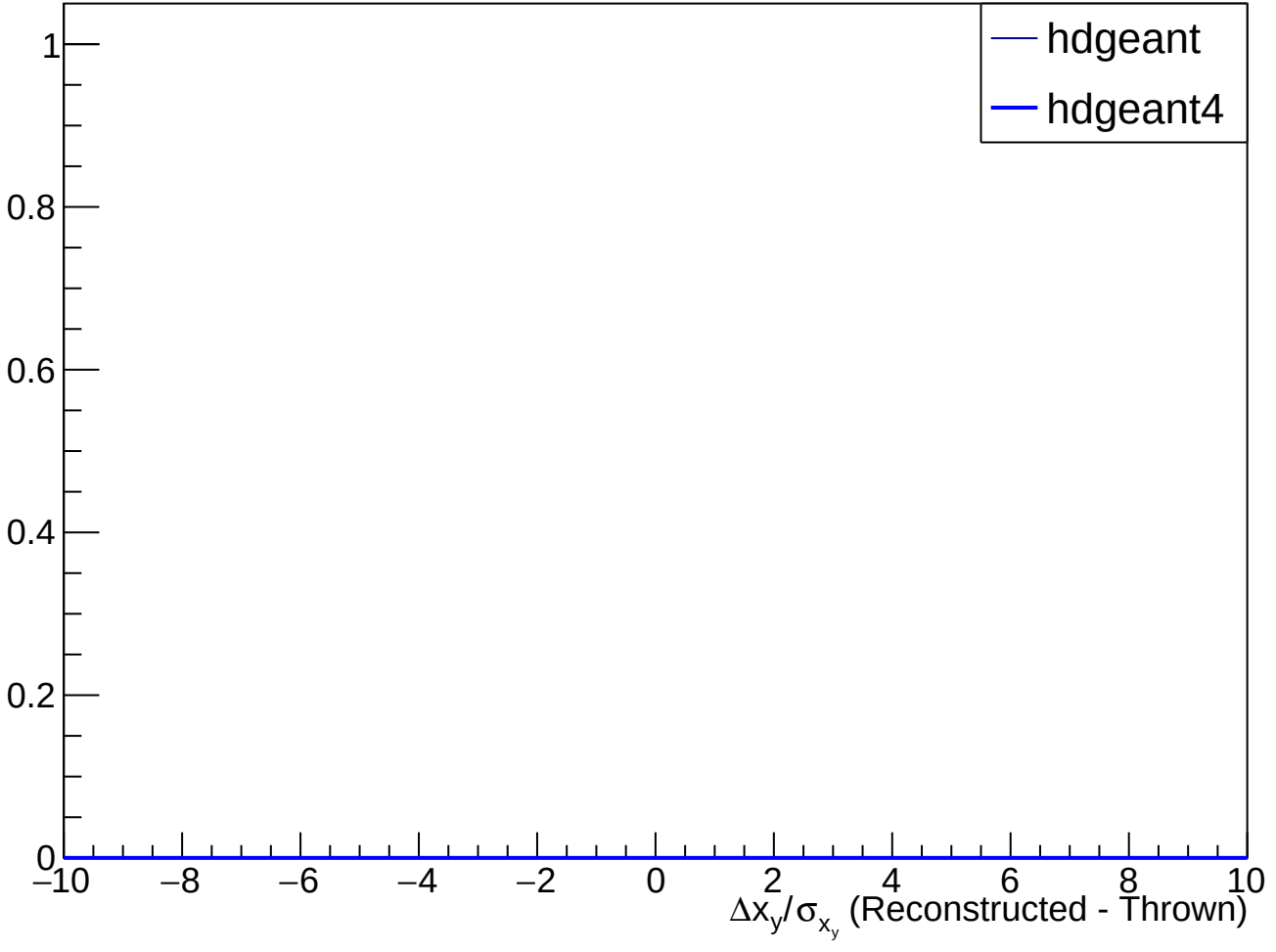

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XxPullVsP
Δx_x/σ_x_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

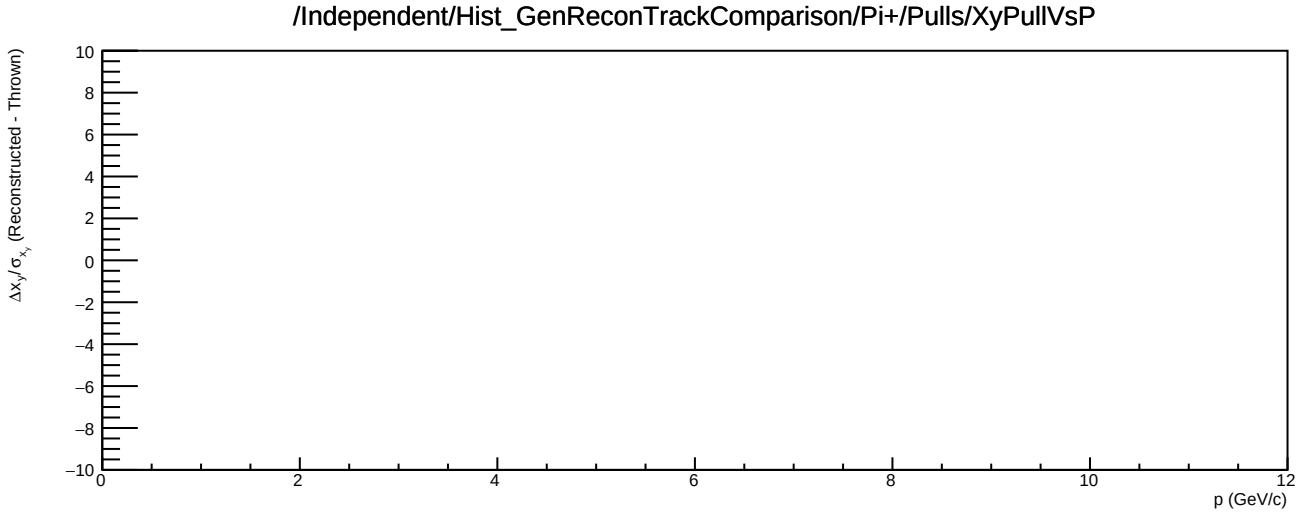

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XxPullVsP
Δx_x/σ_x_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

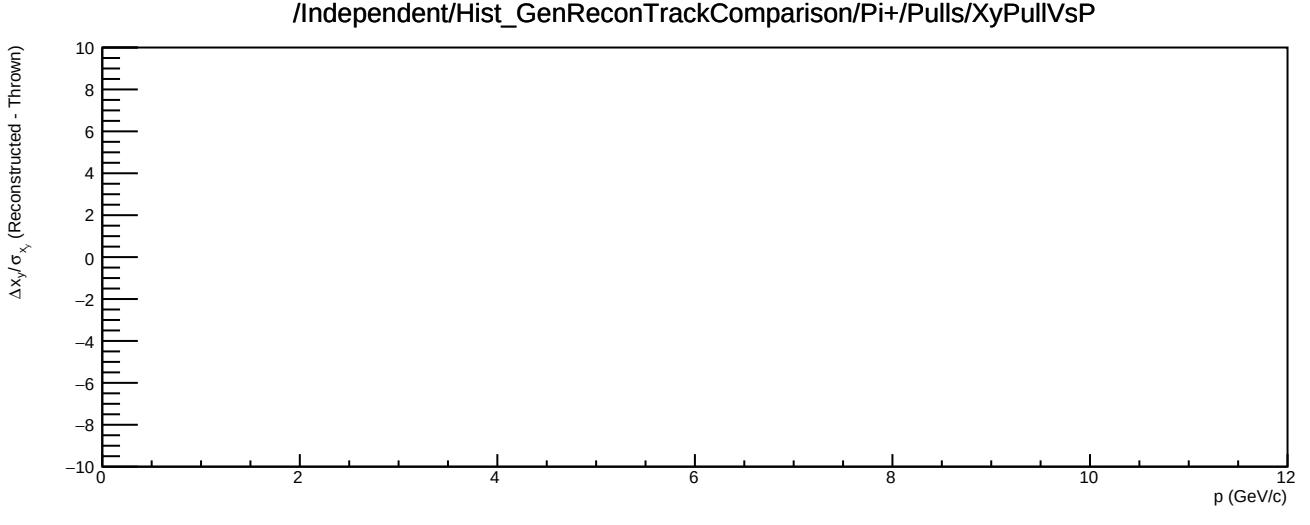

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

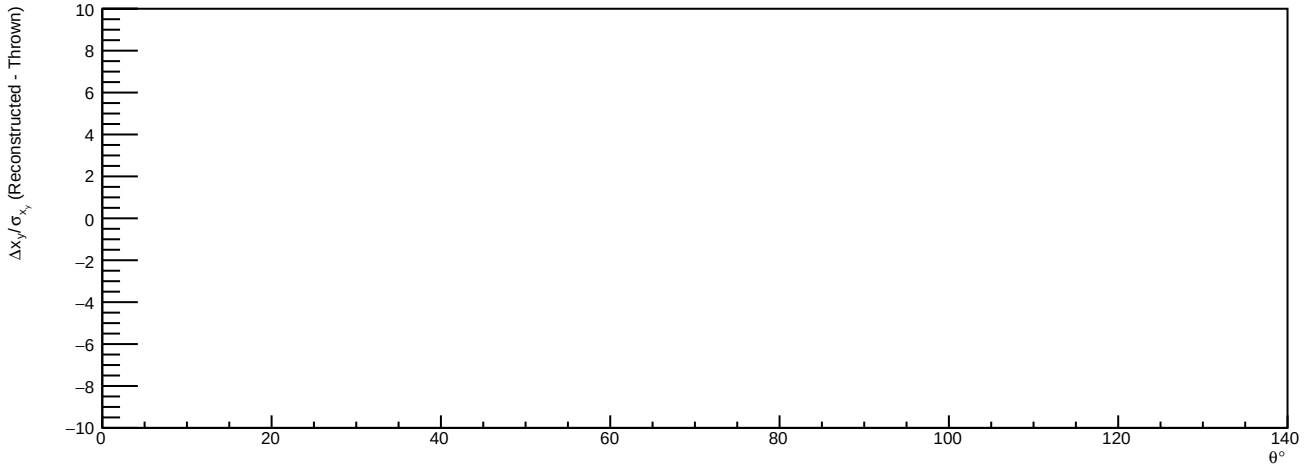

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

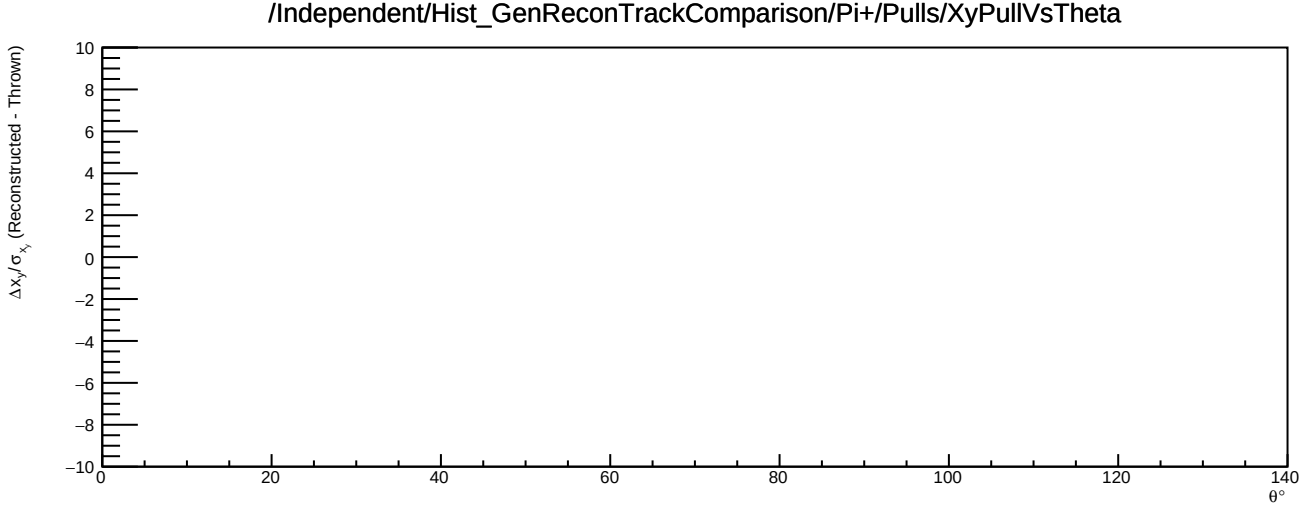
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XyPull



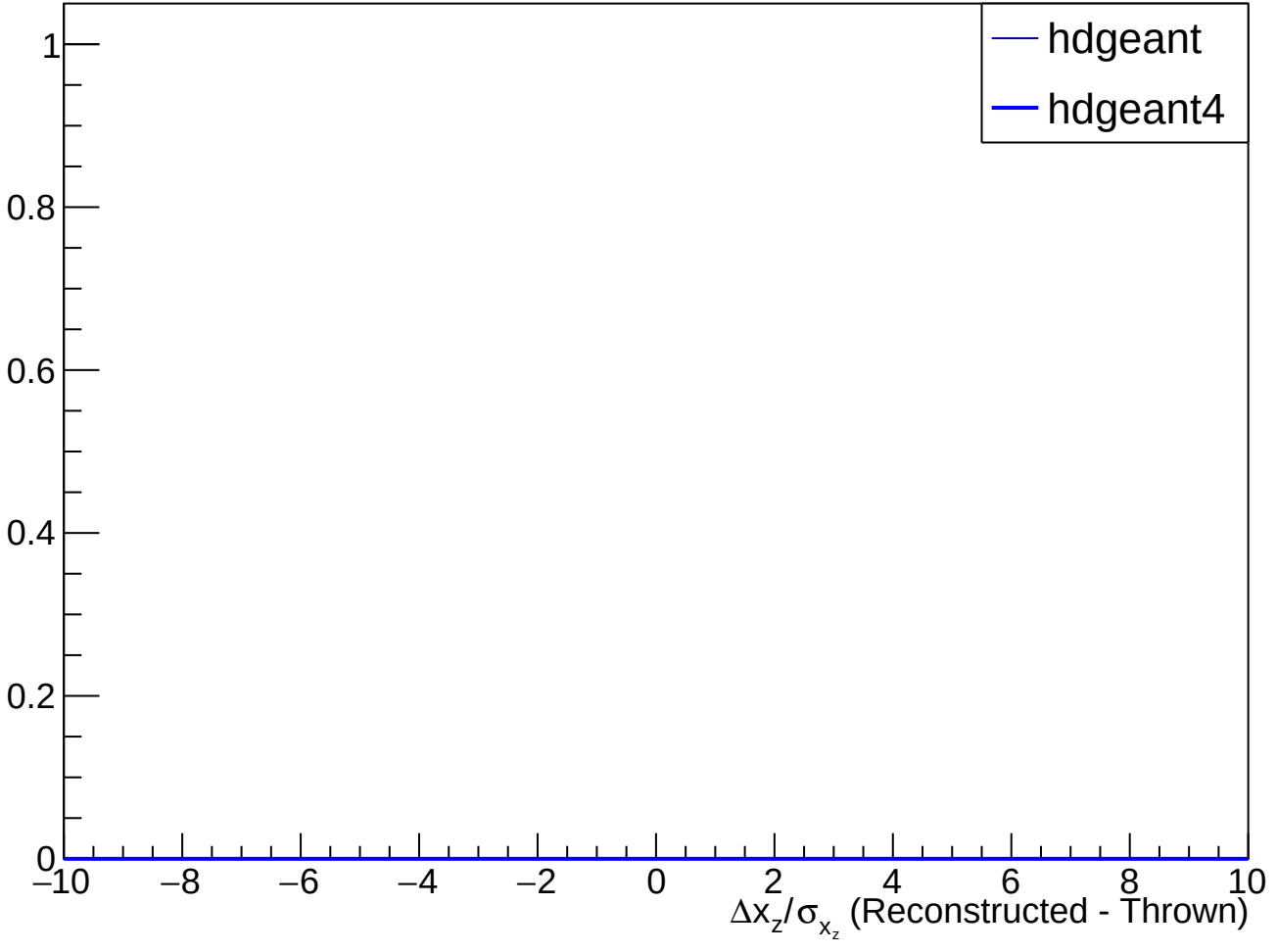

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XyPullVsP
$\Delta x_y/\sigma_{x_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

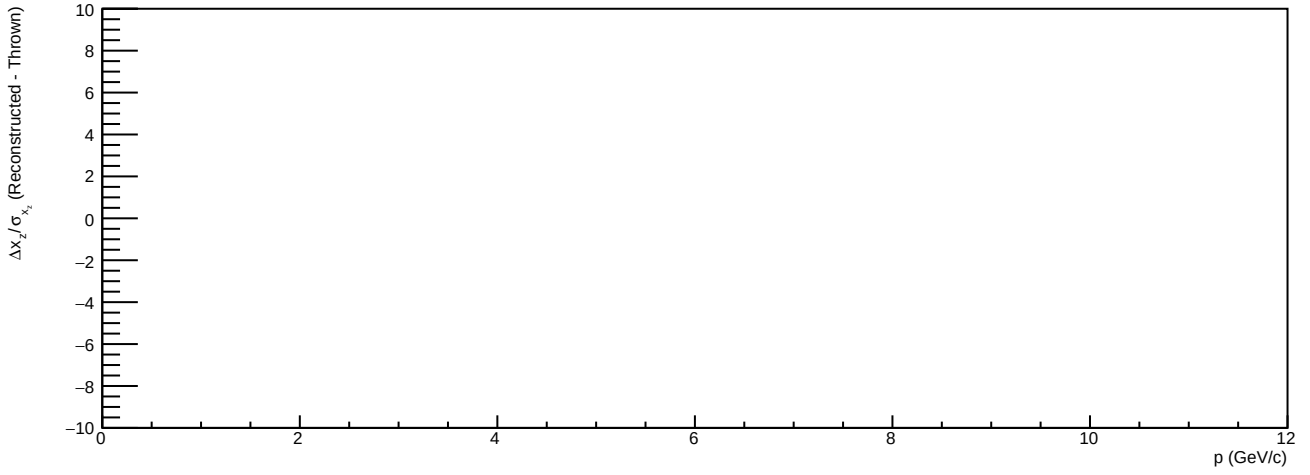

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XyPullVsP
$\Delta x_y/\sigma_{x_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

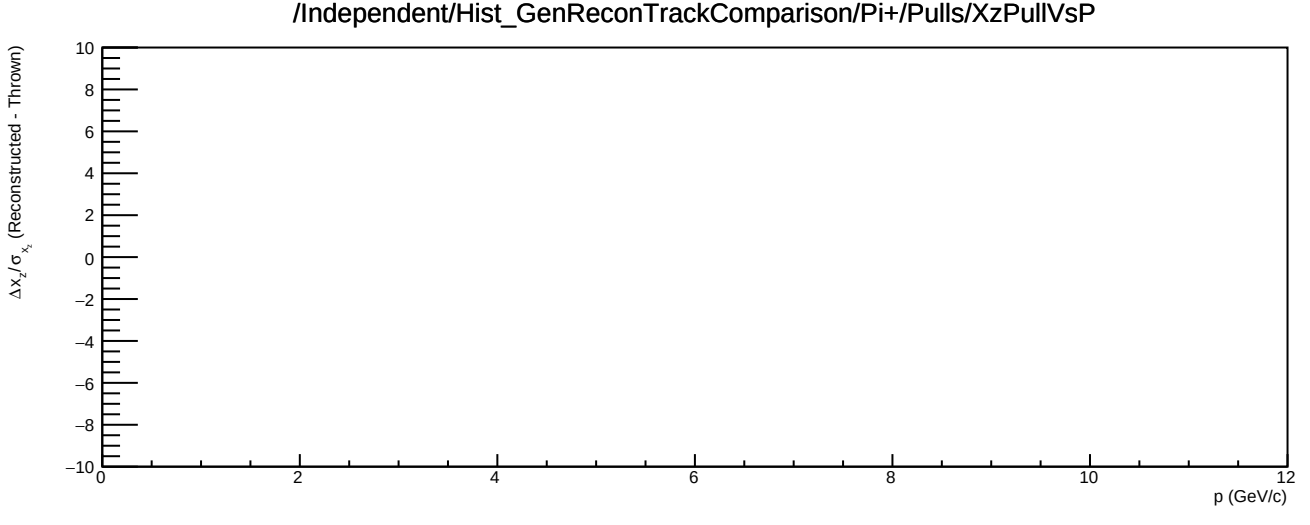

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XyPullVsTheta
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

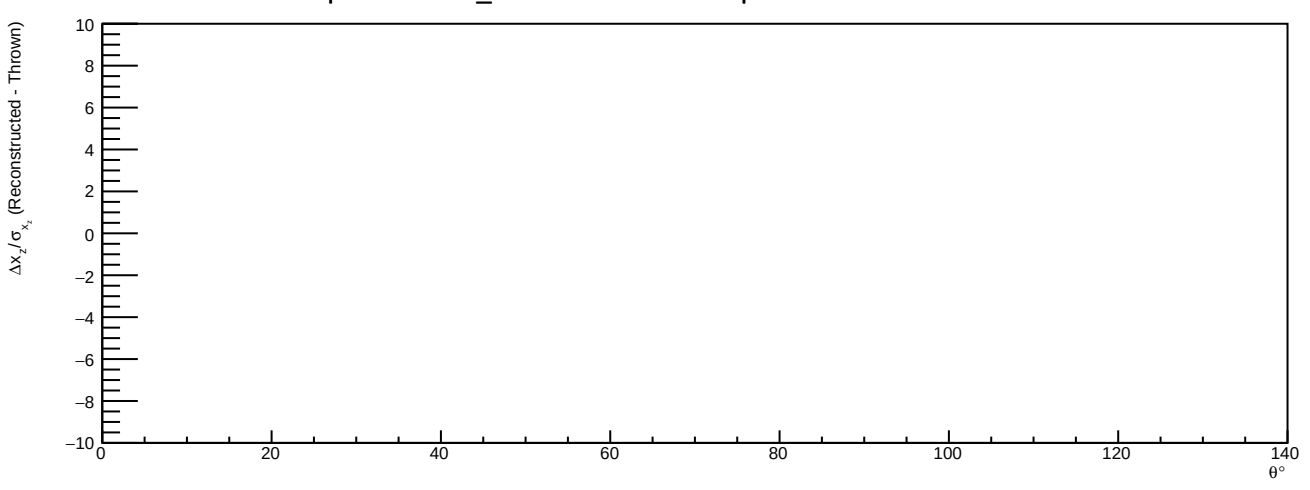

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XyPullVsTheta
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

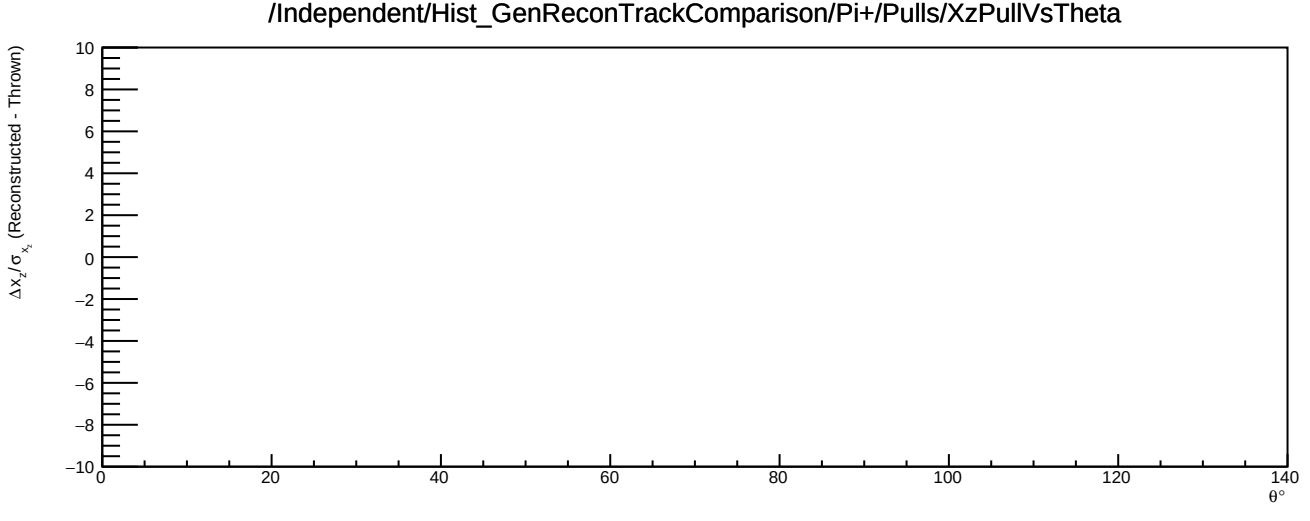
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XzPull



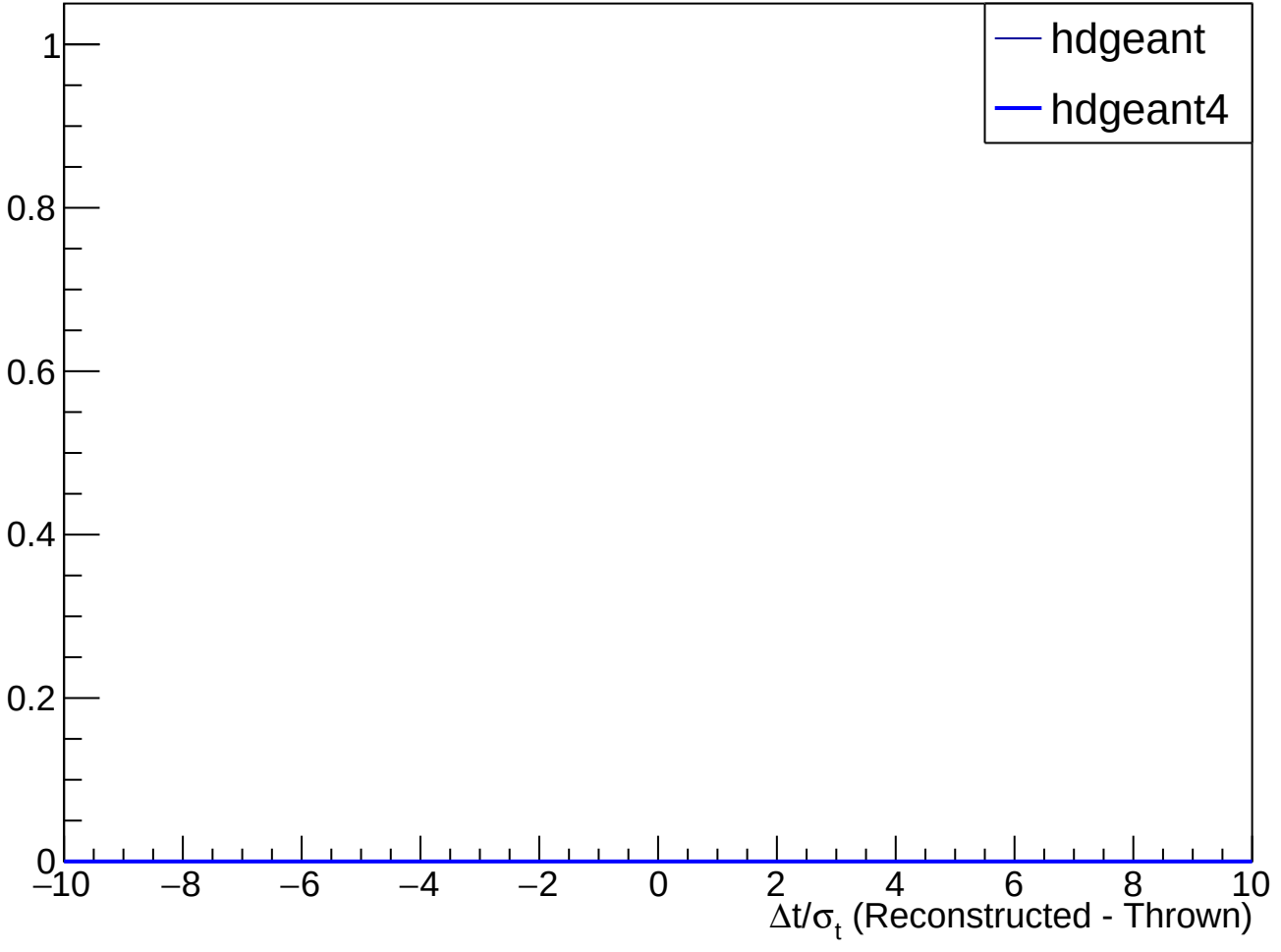

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

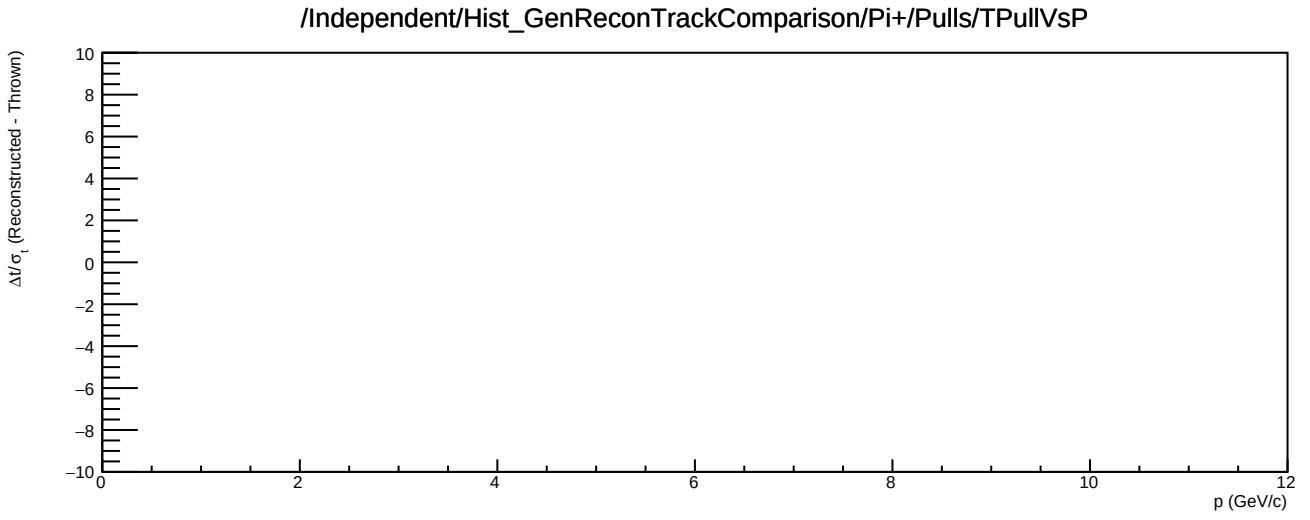

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

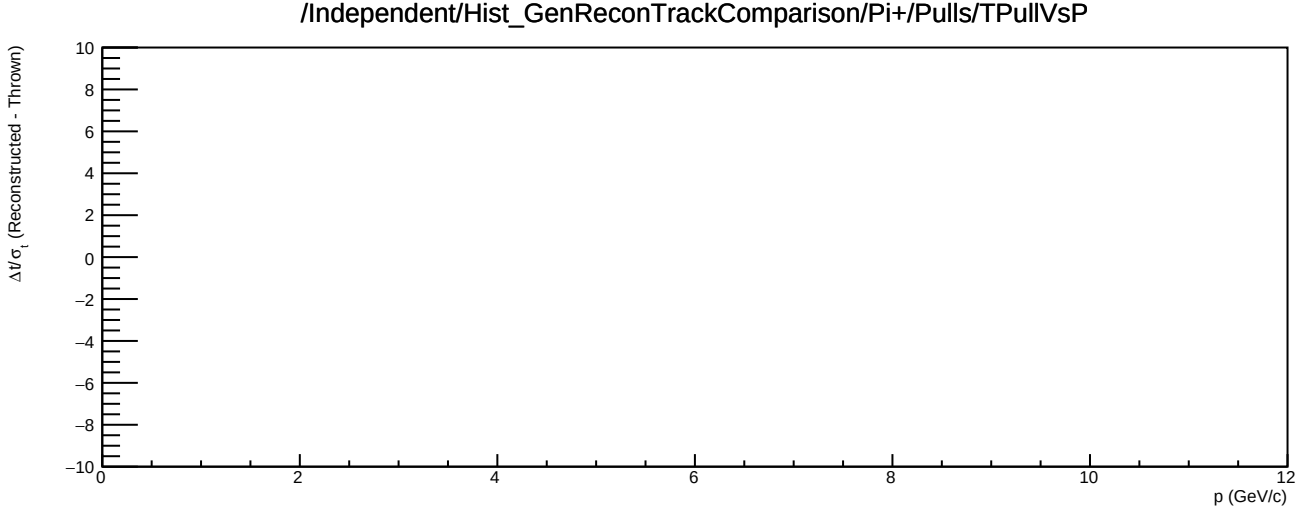

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

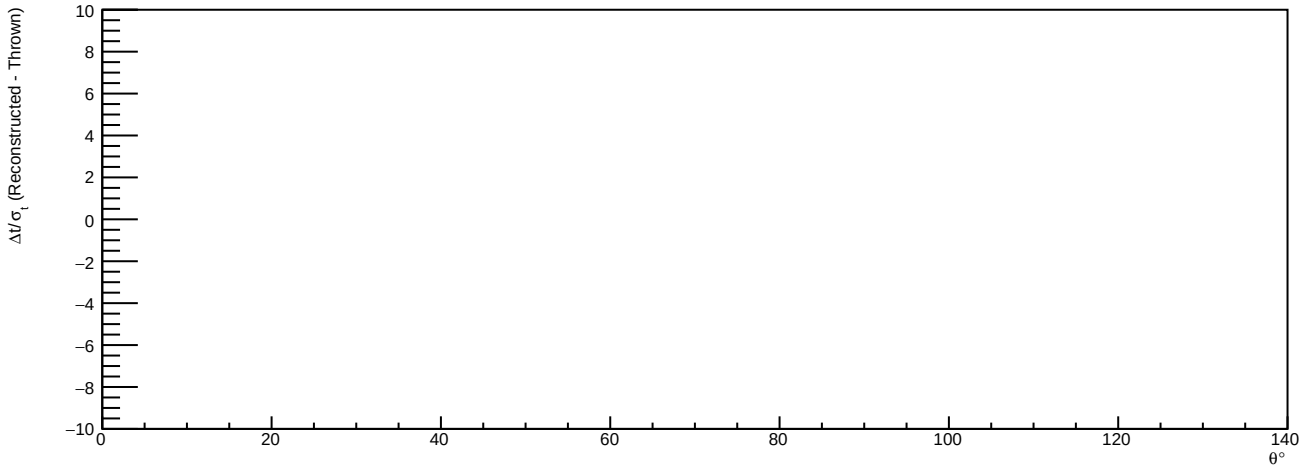

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

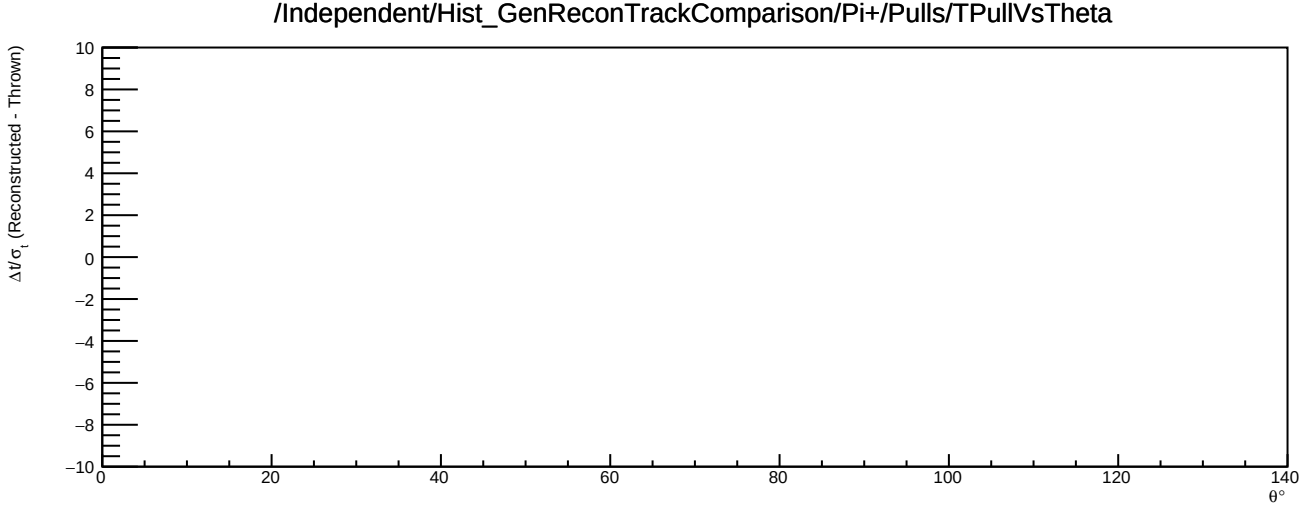
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TPull



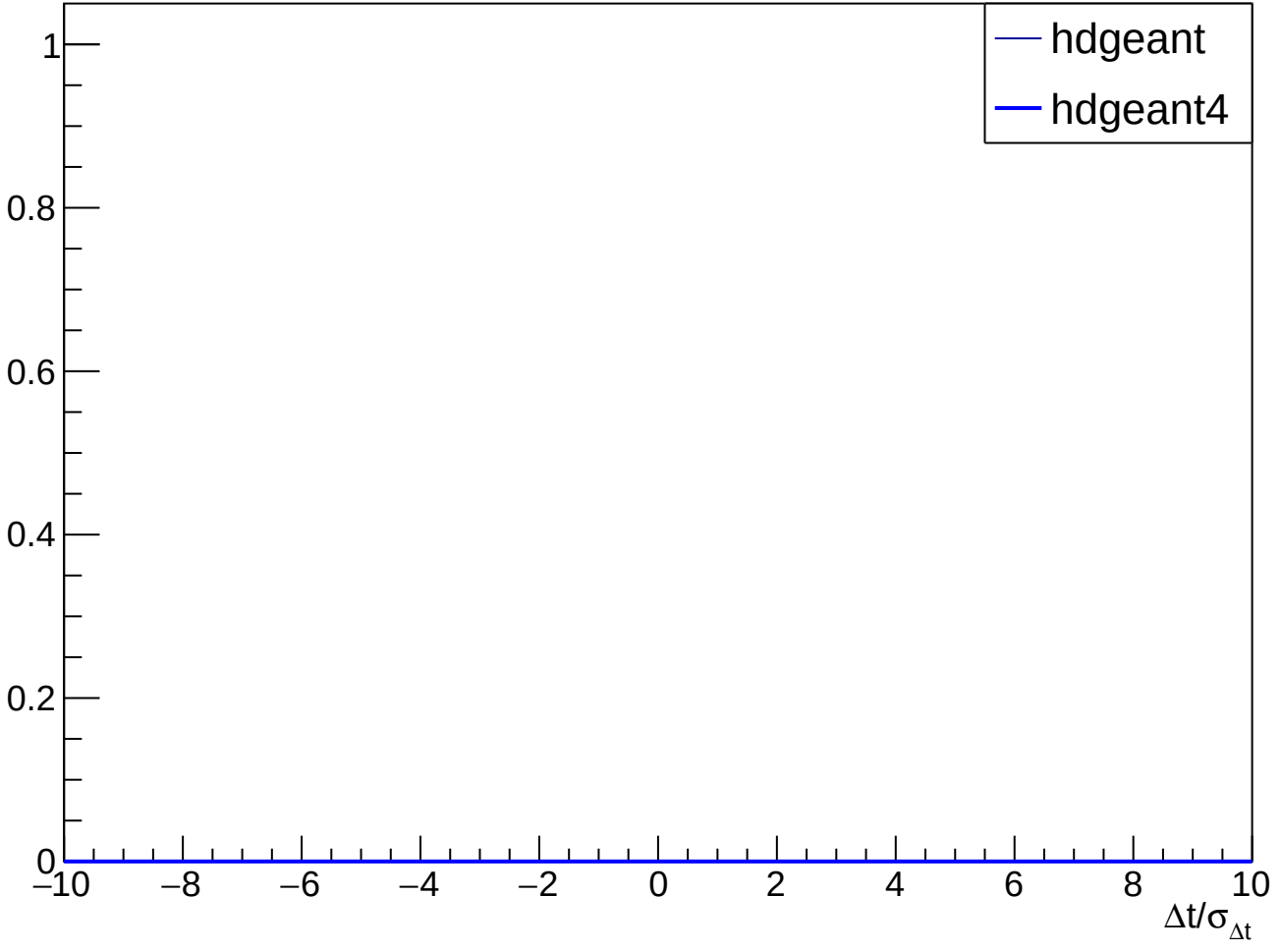

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

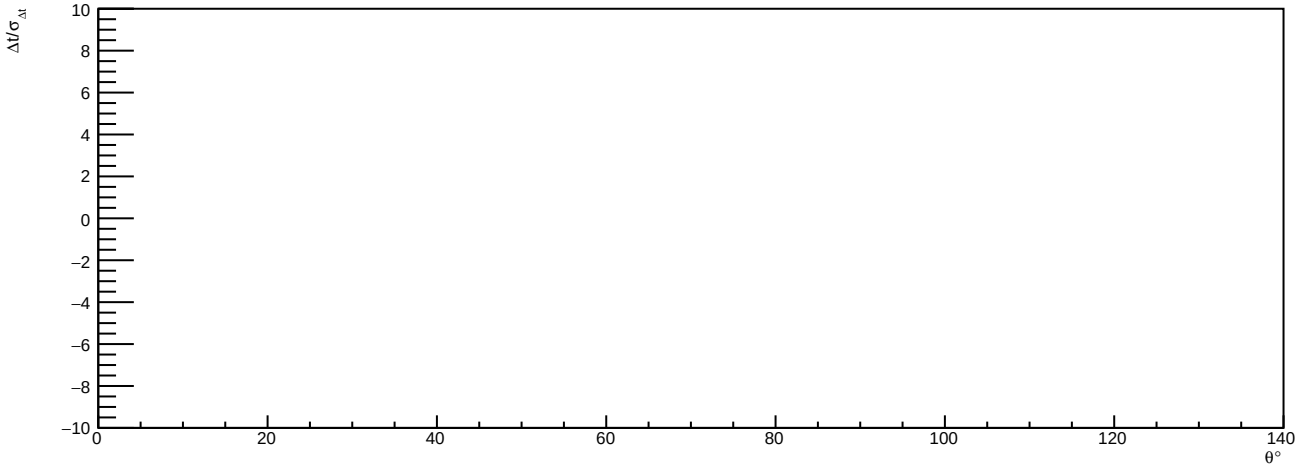

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

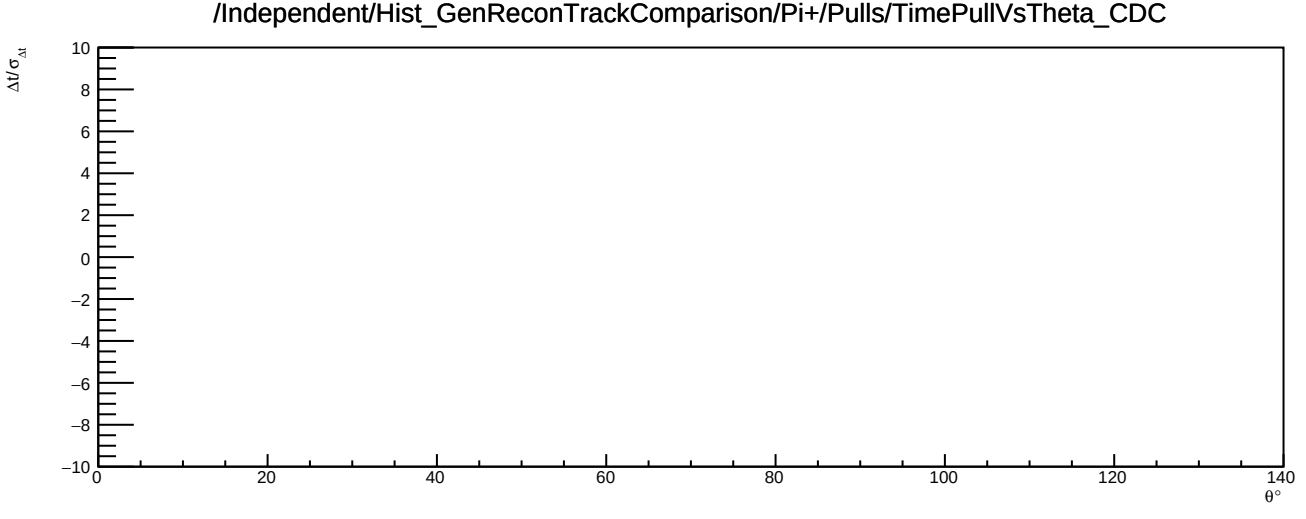

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

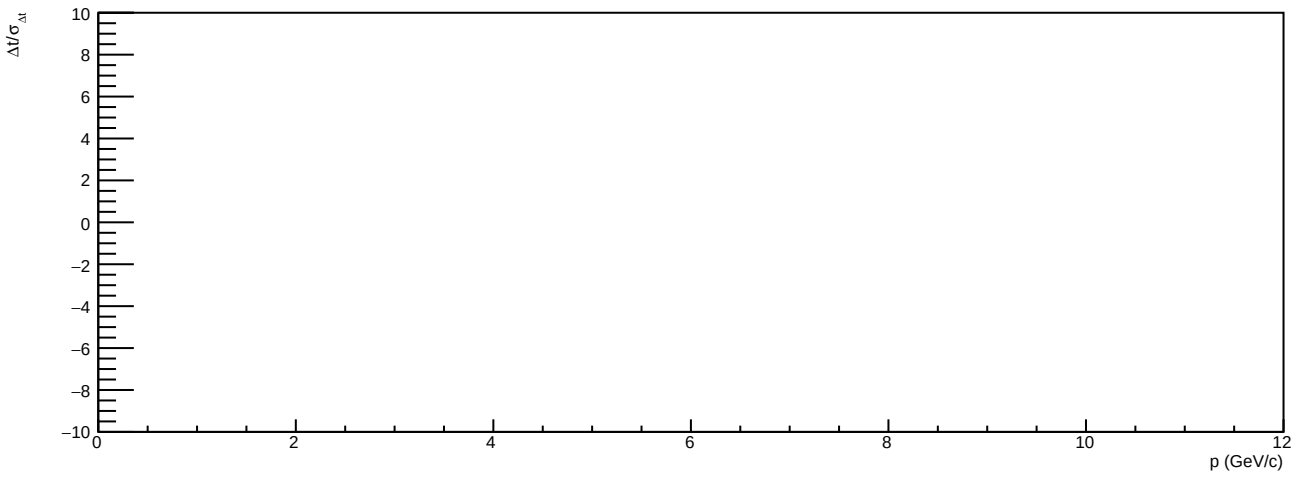

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

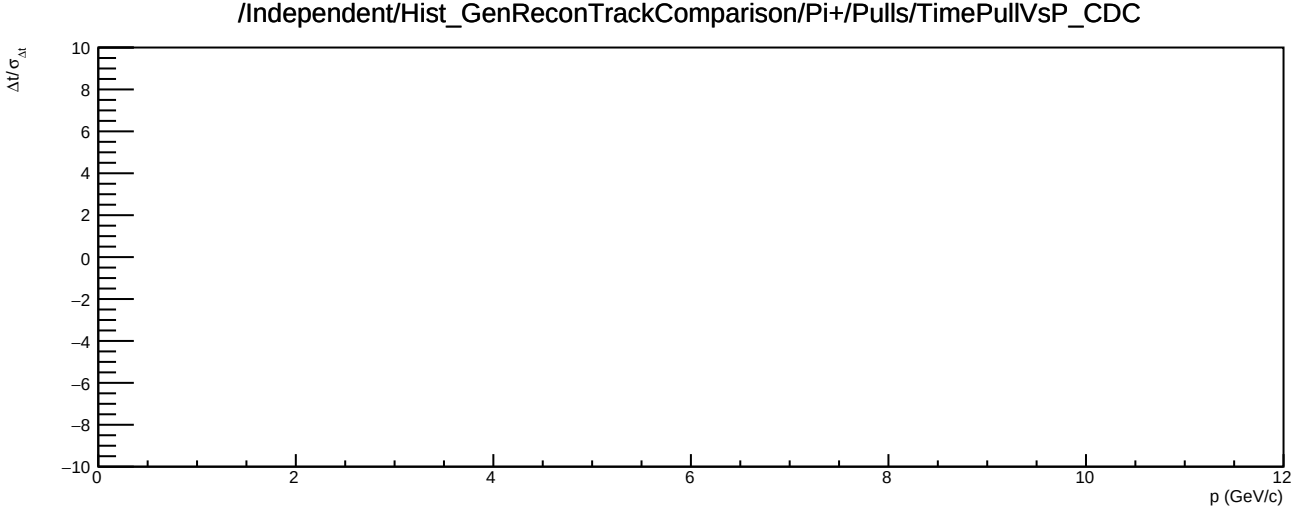
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePull_CDC



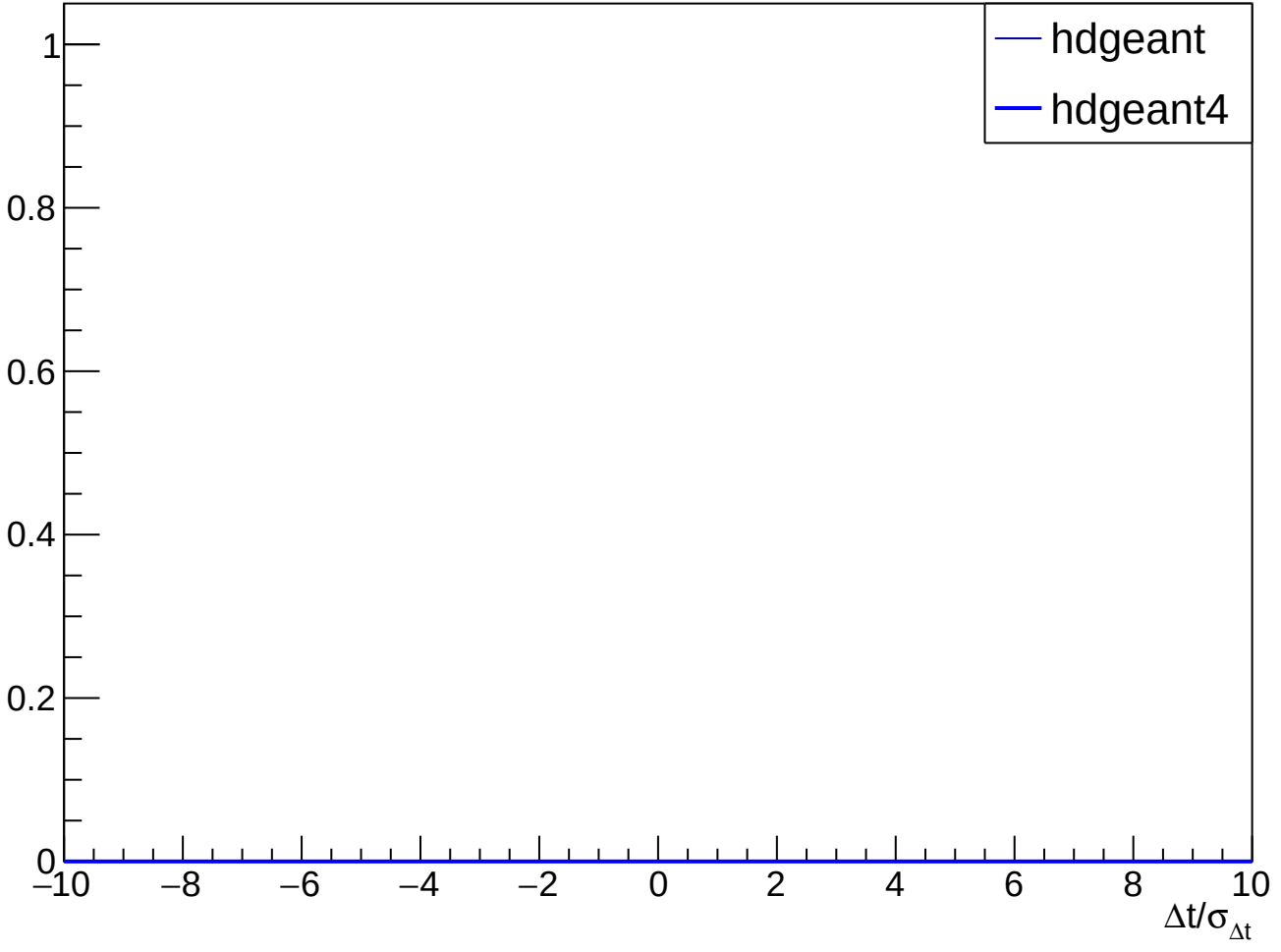

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsTheta_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

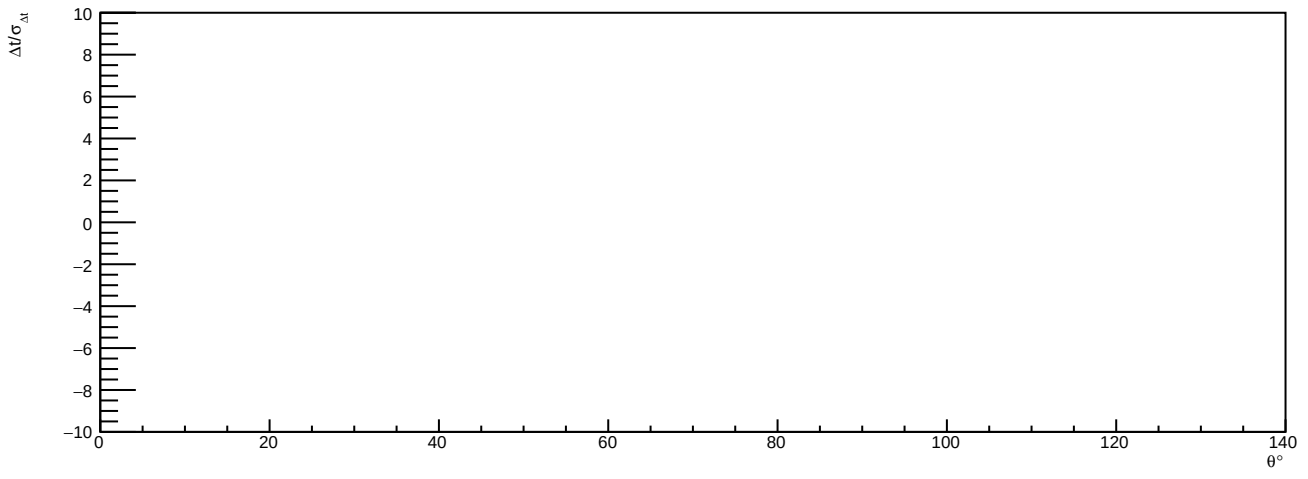

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsTheta_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

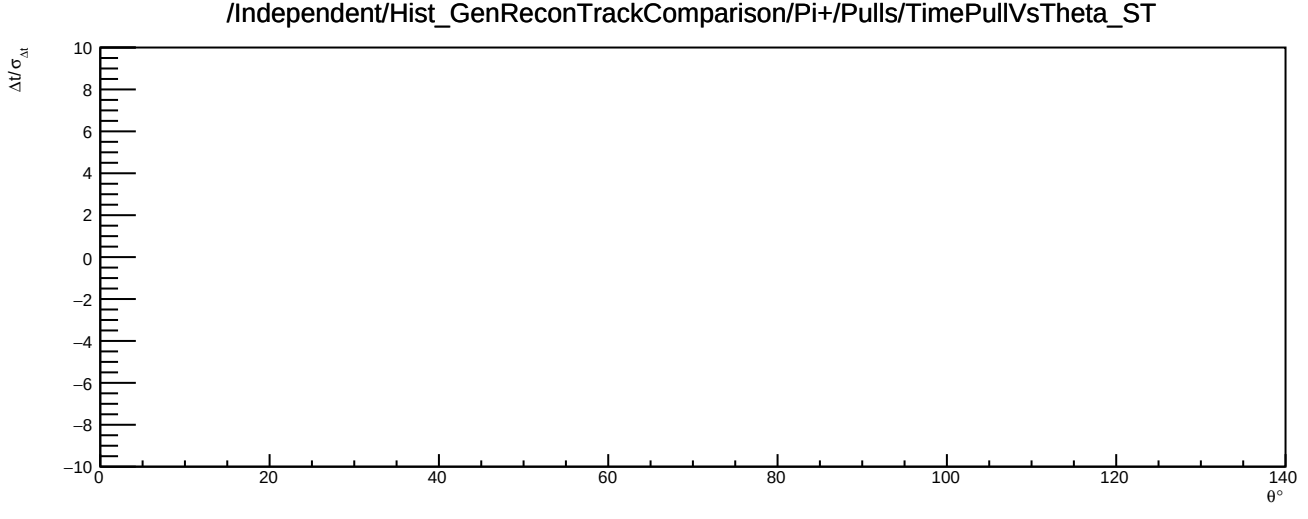

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsP_CDC
Δt/σΔt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

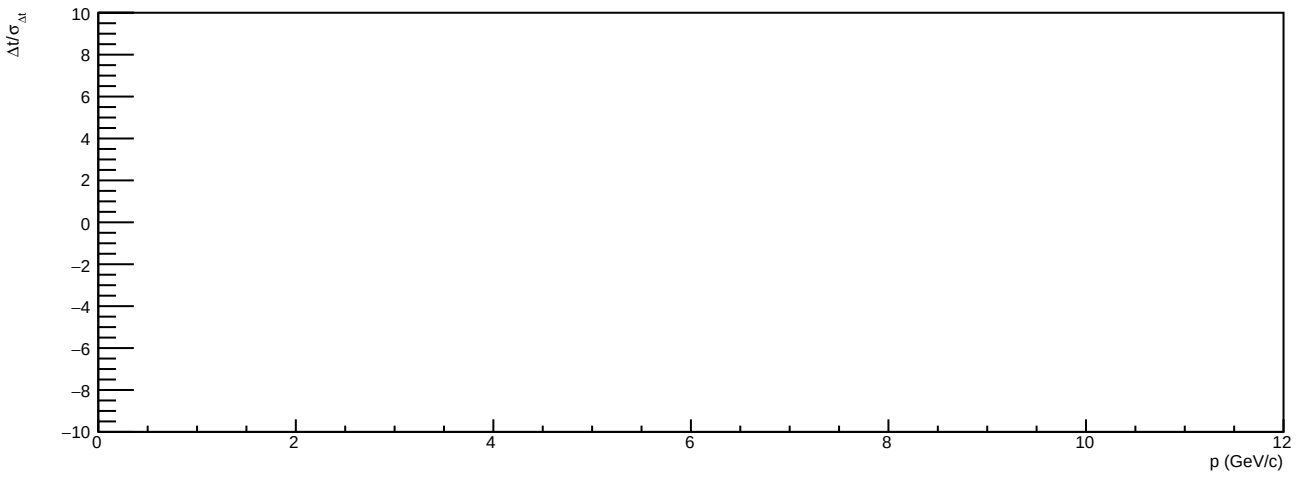

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsP_CDC
Δt/σΔt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

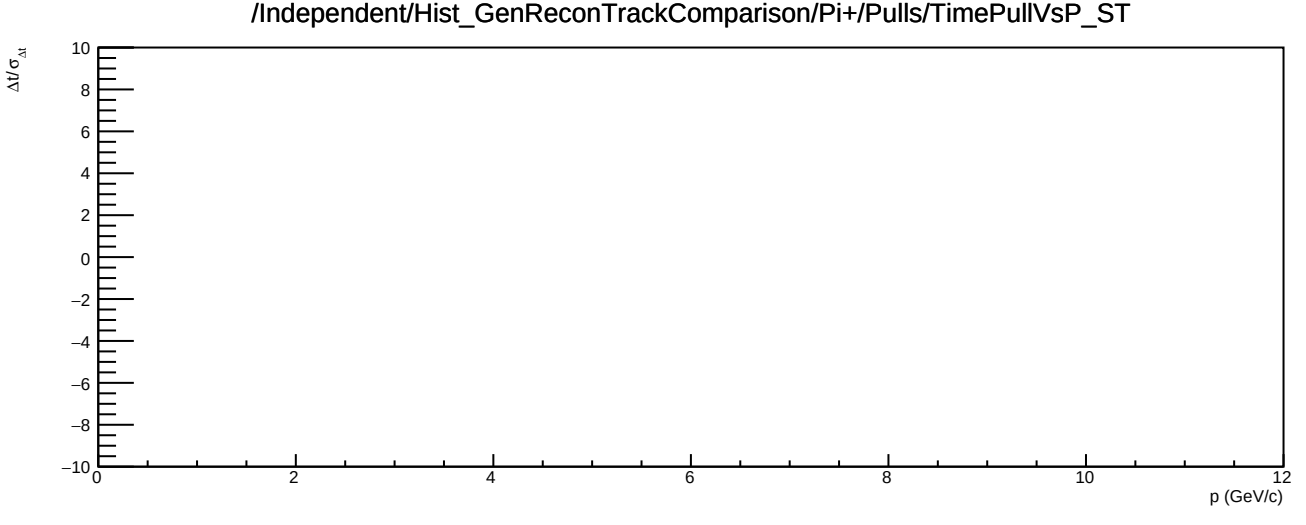
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePull_ST



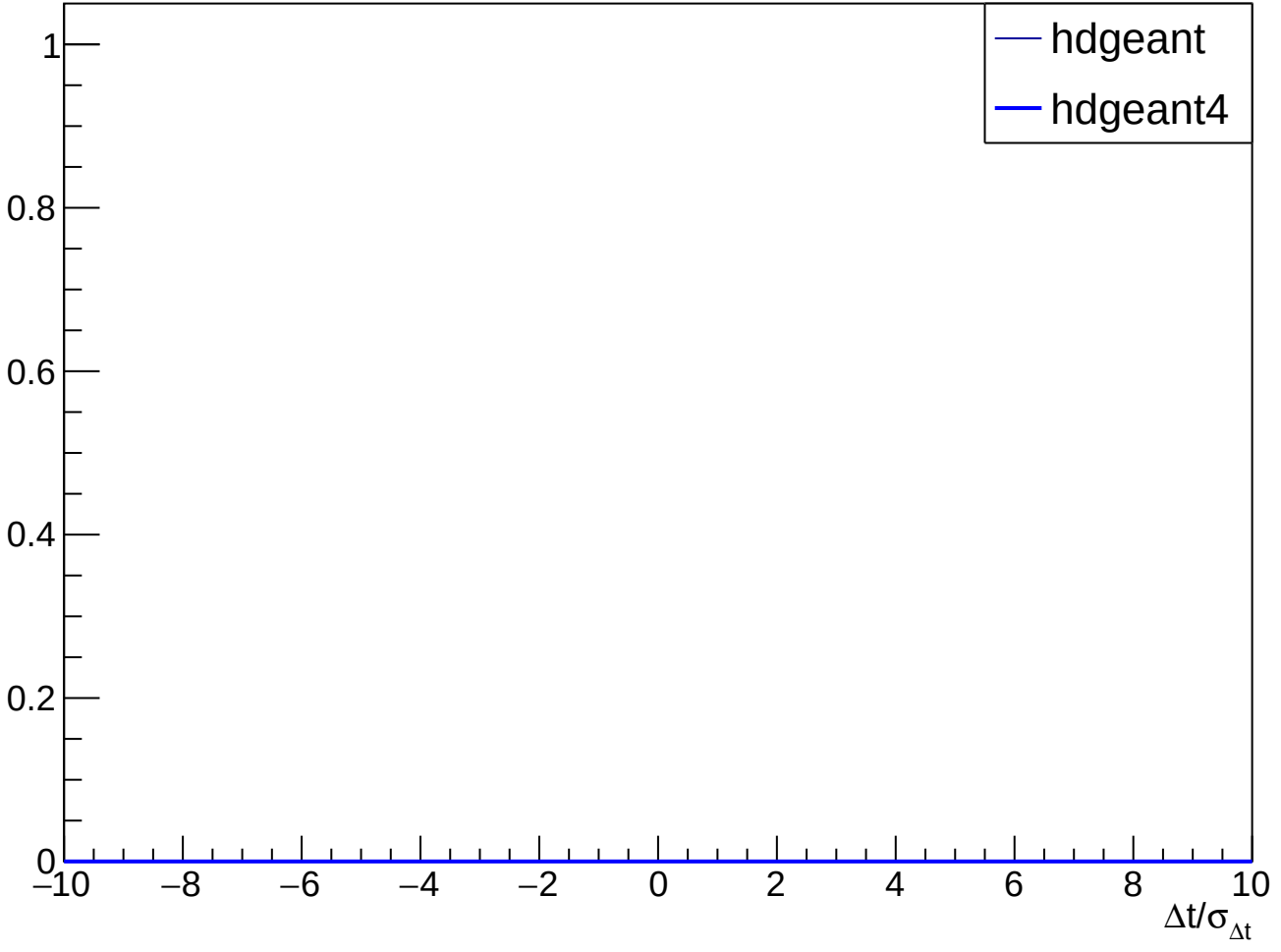

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsTheta_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

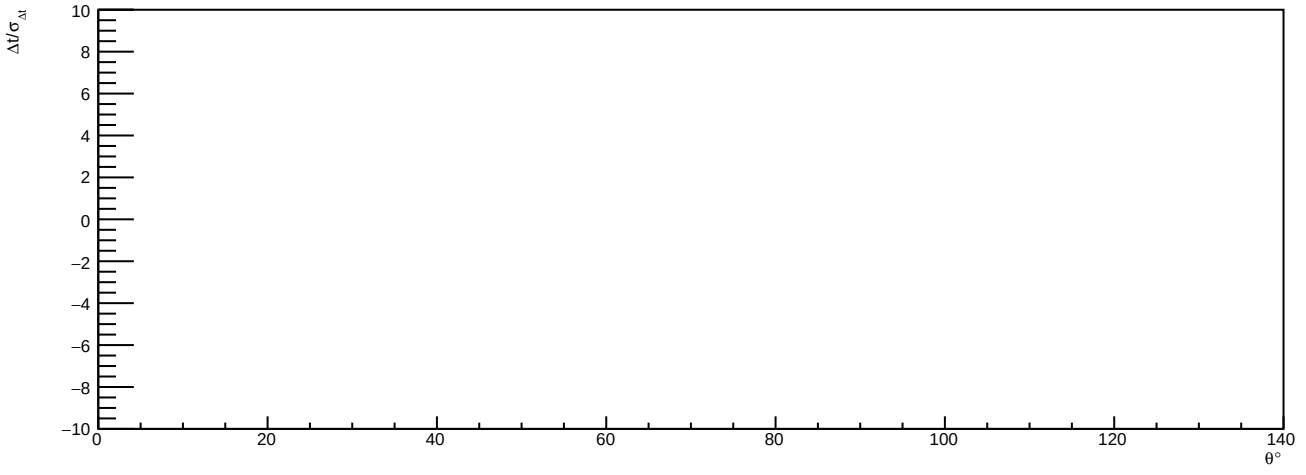

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsTheta_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

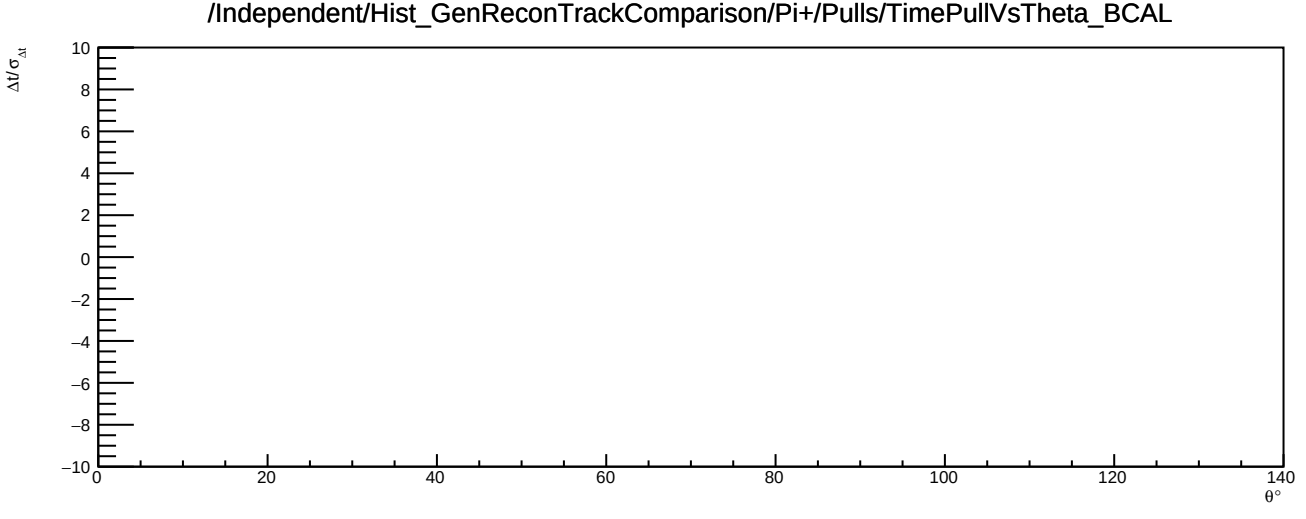

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsP_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

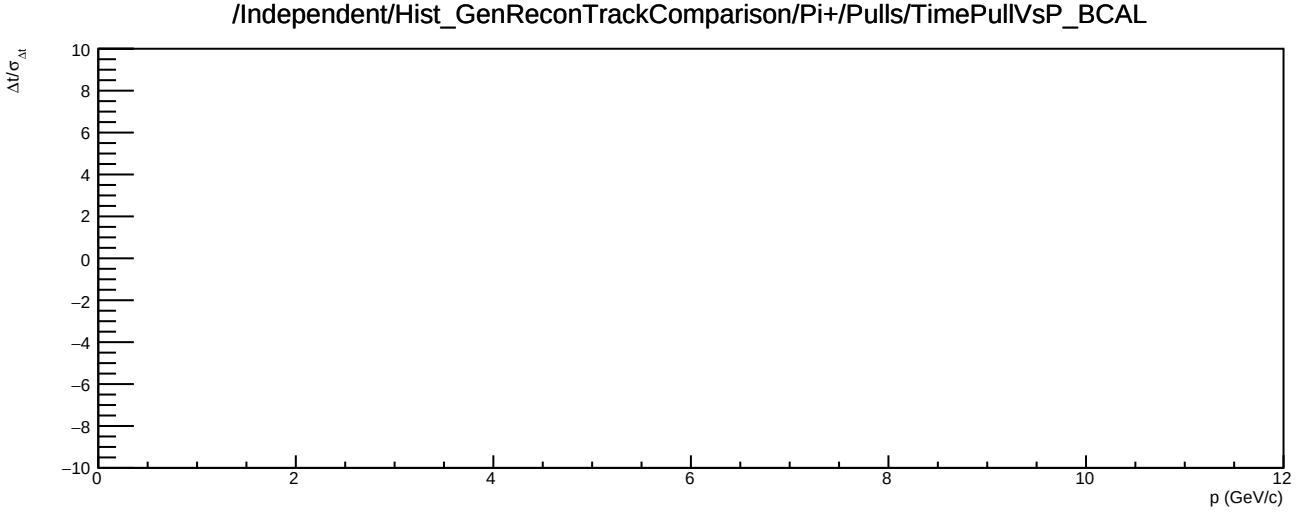

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsP_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

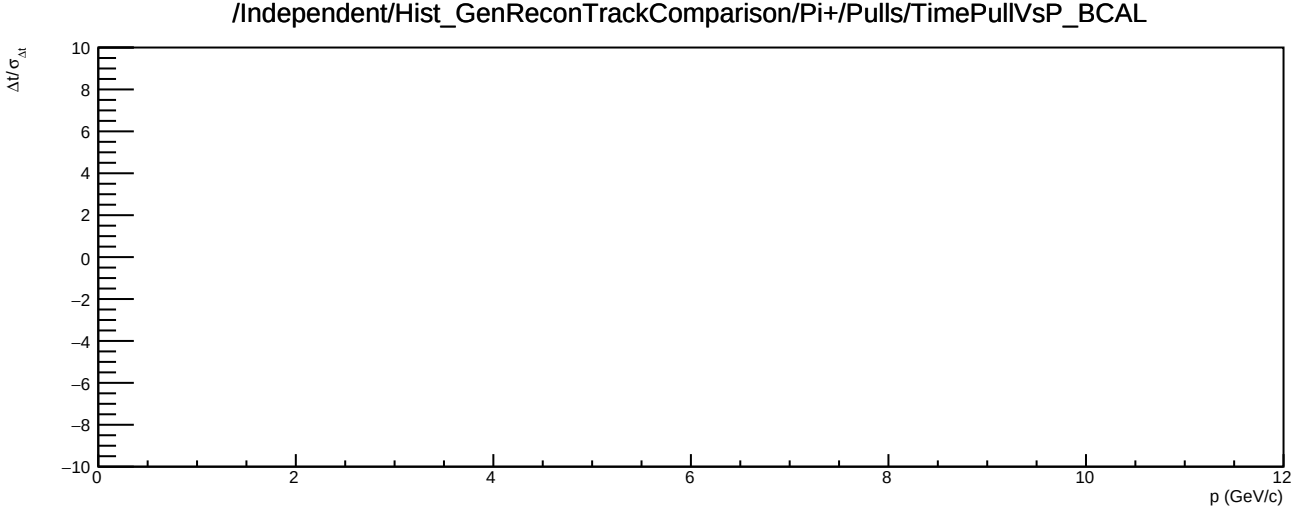
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePull_BCAL



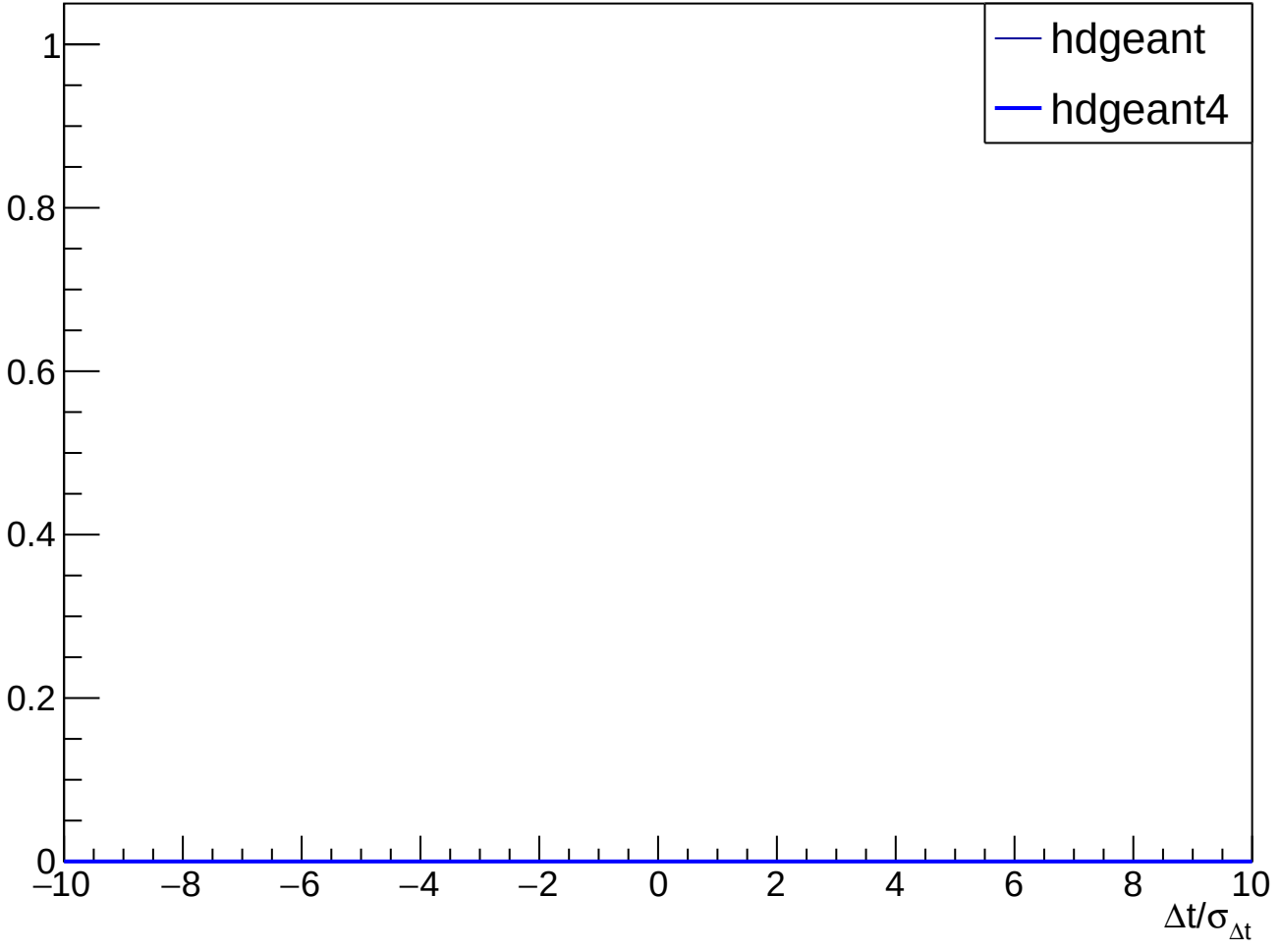

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsTheta_BCAL
Δt/σΔt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

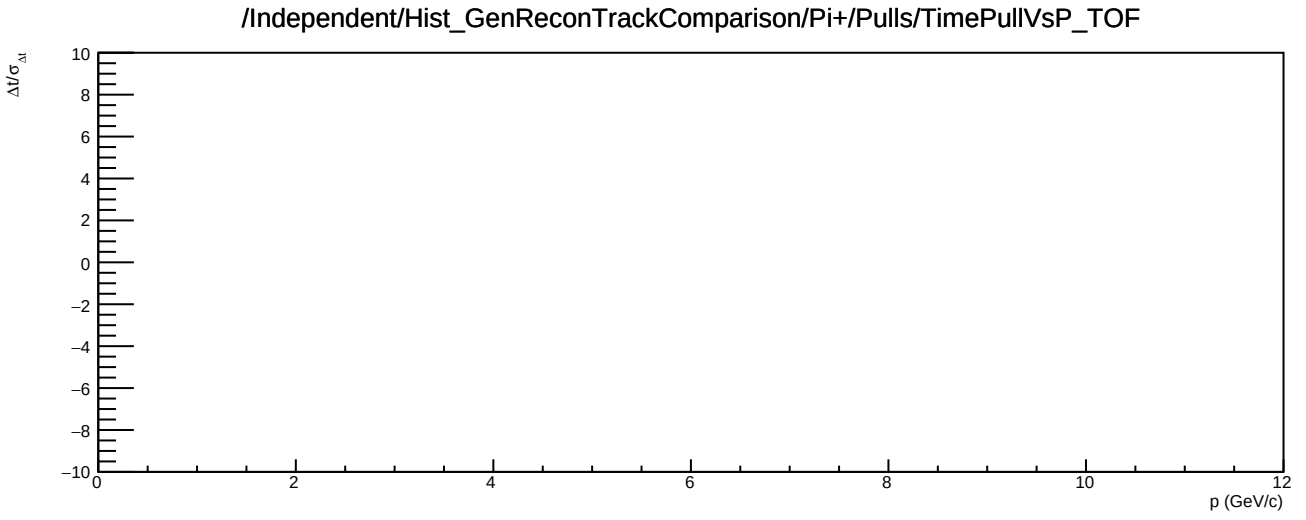

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsTheta_BCAL
Δt/σΔt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

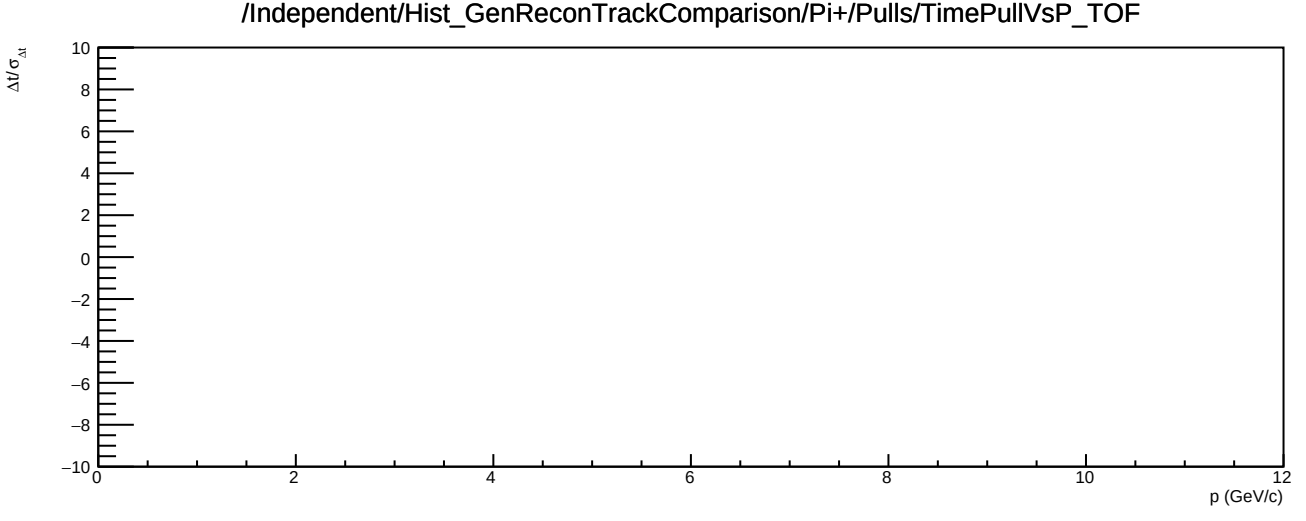

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

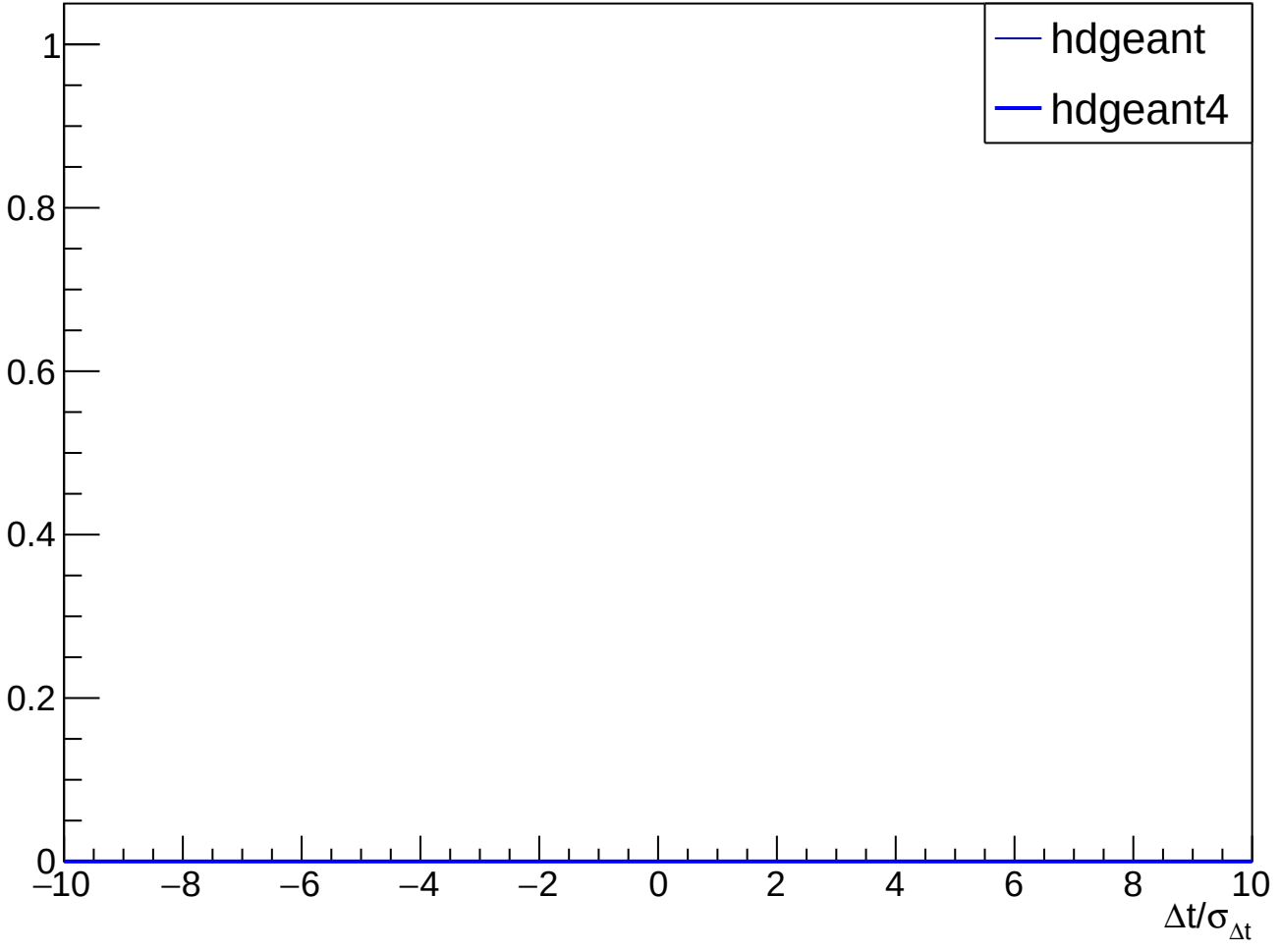
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePull_TOF

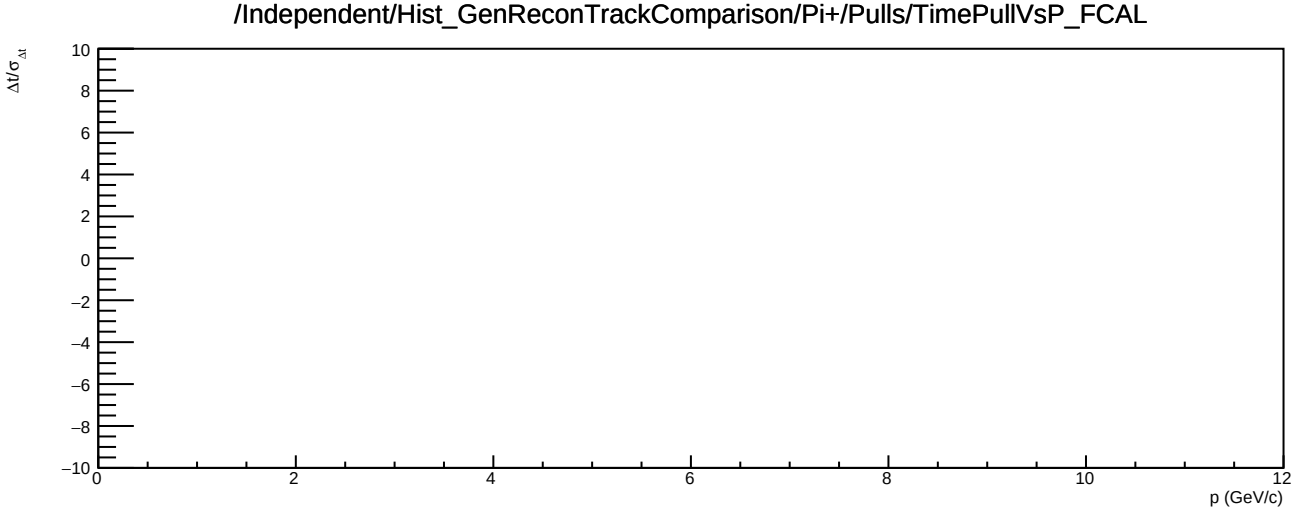


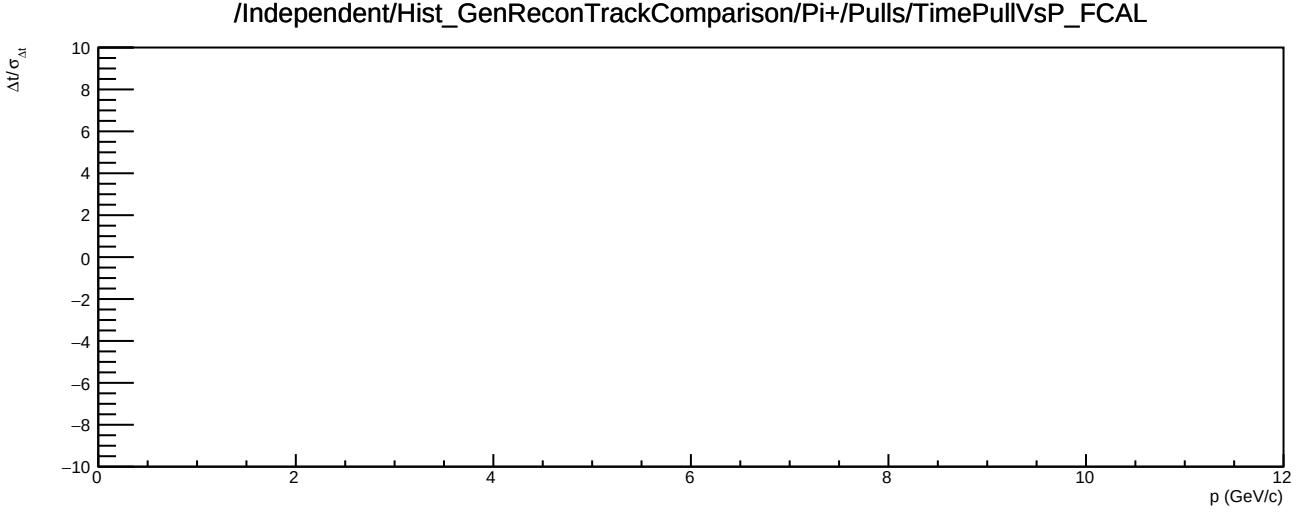

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsP_TOF
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsP_TOF
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

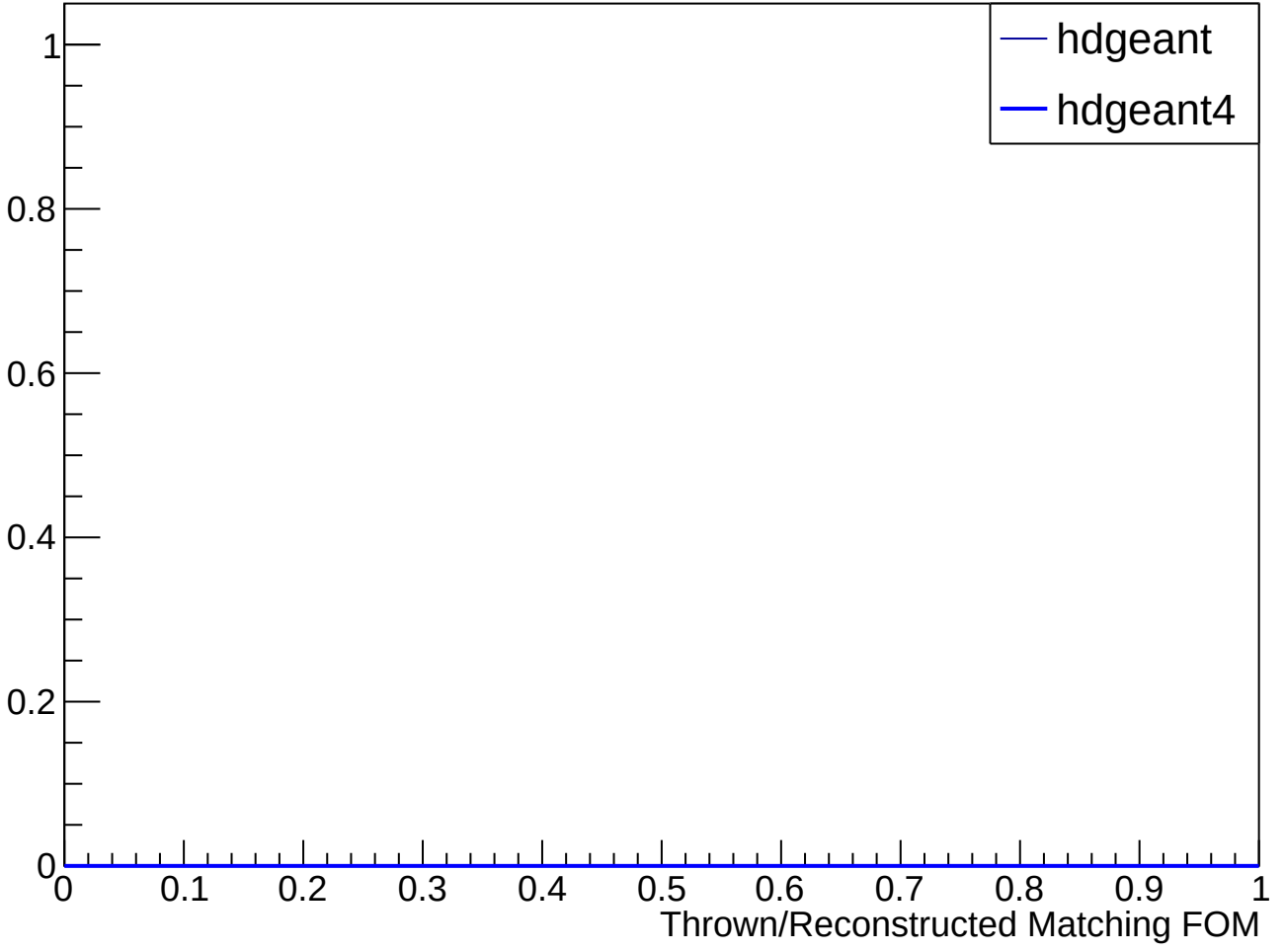
/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePull_FCAL



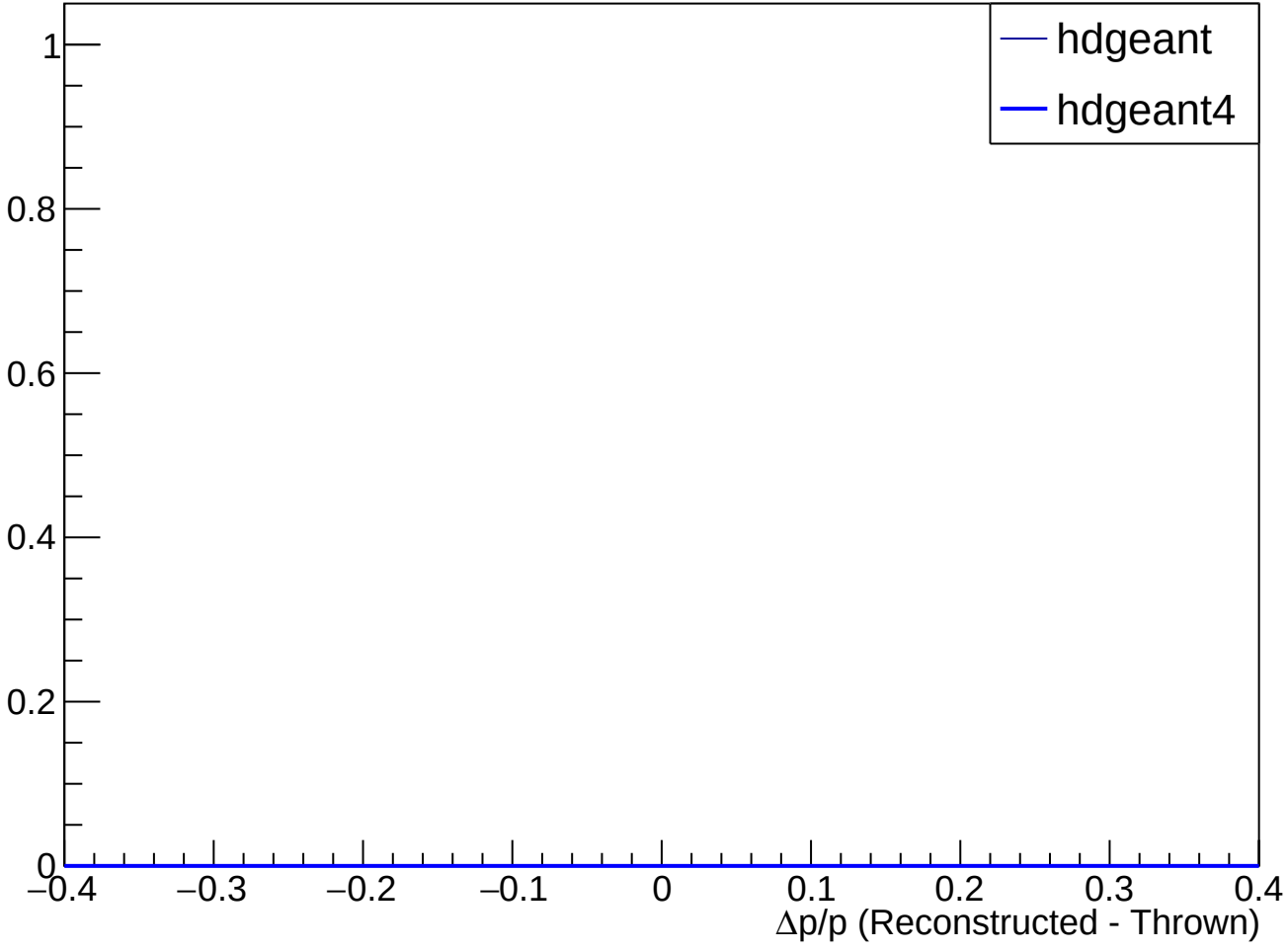

/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Pi+/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

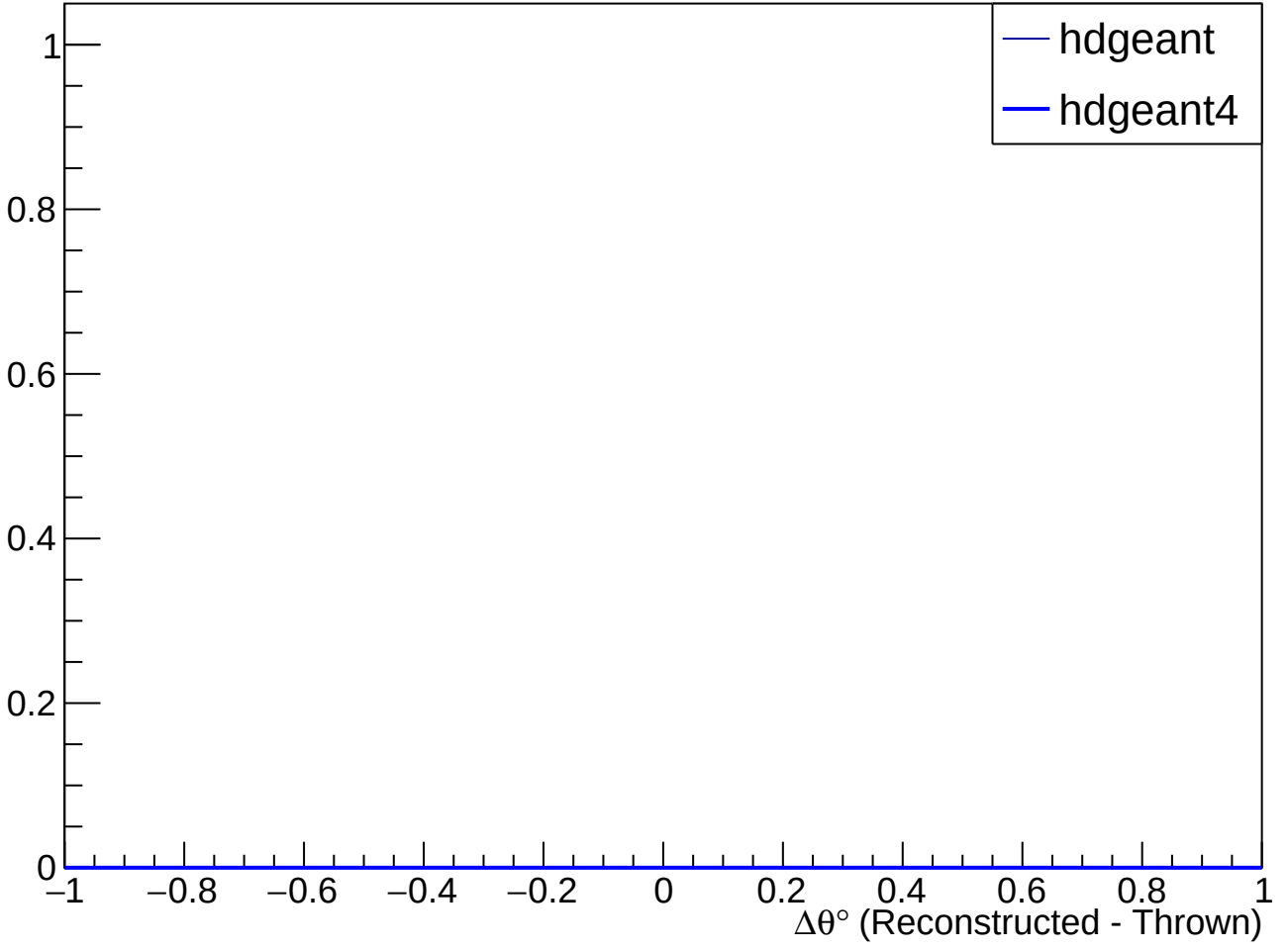
/Independent/Hist_GenReconTrackComparison/Pi+/MatchFOM



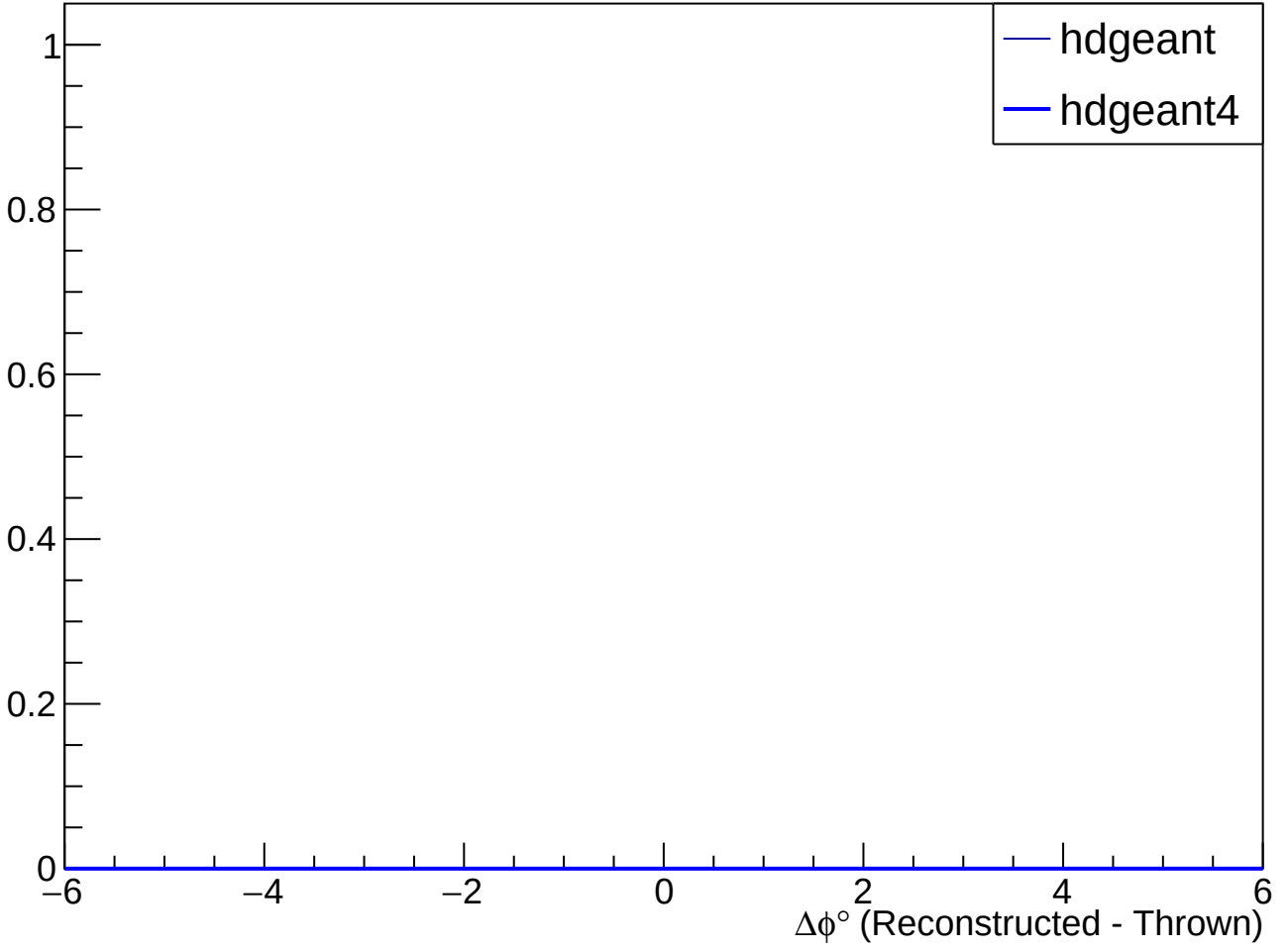
/Independent/Hist_GenReconTrackComparison/Pi+/DeltaPOverP

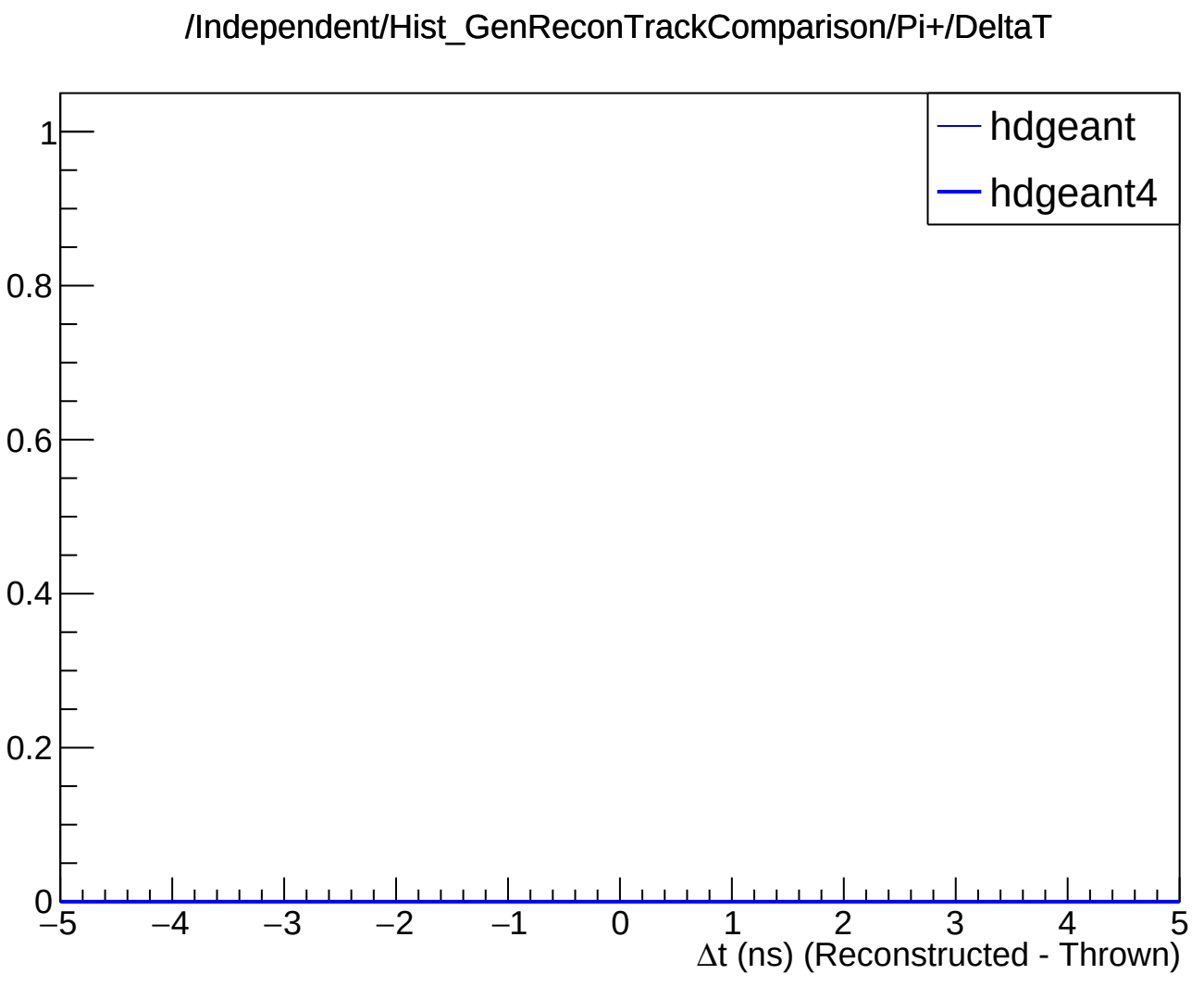


/Independent/Hist_GenReconTrackComparison/Pi+/DeltaTheta

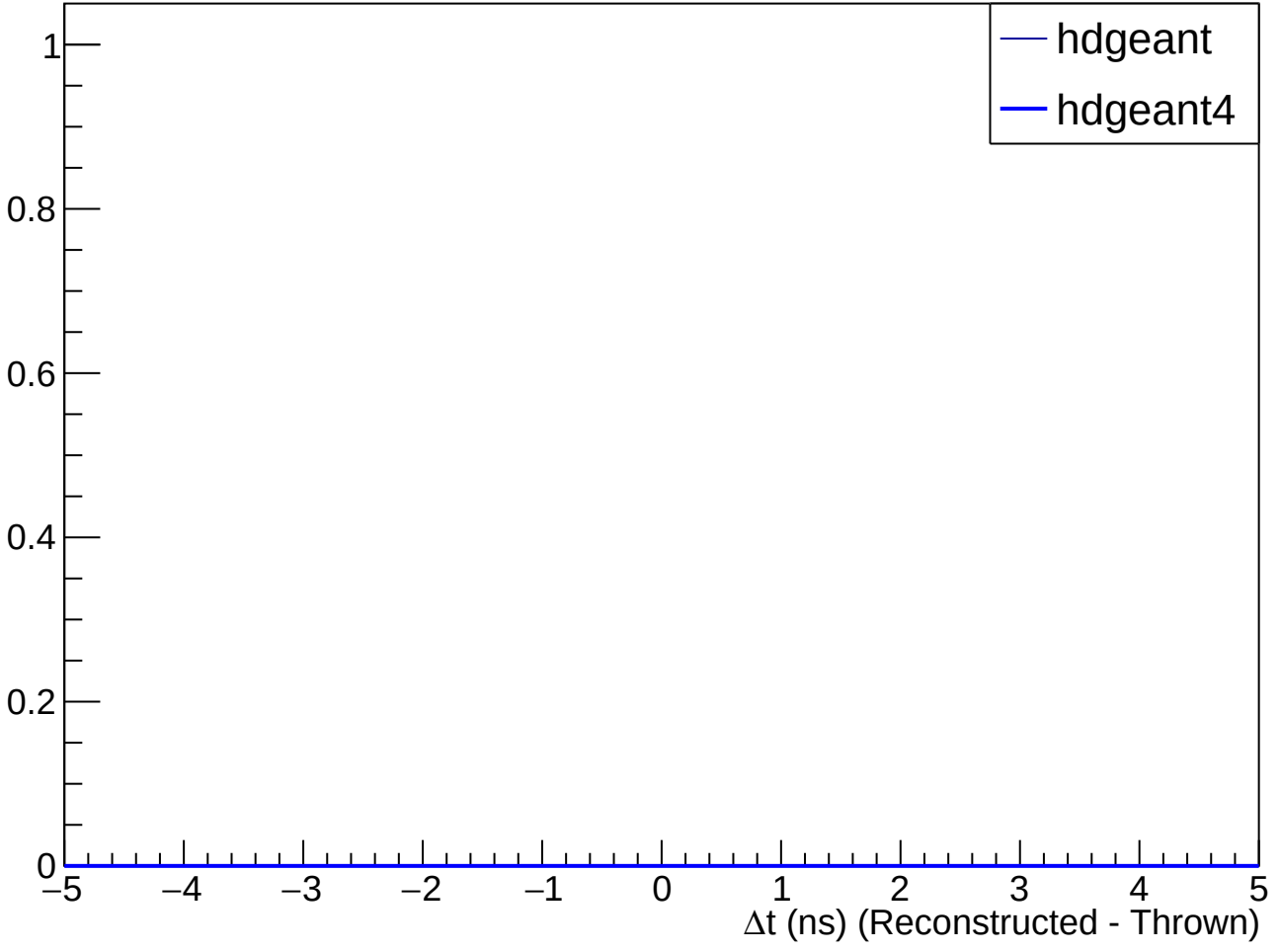


/Independent/Hist_GenReconTrackComparison/Pi+/DeltaPhi

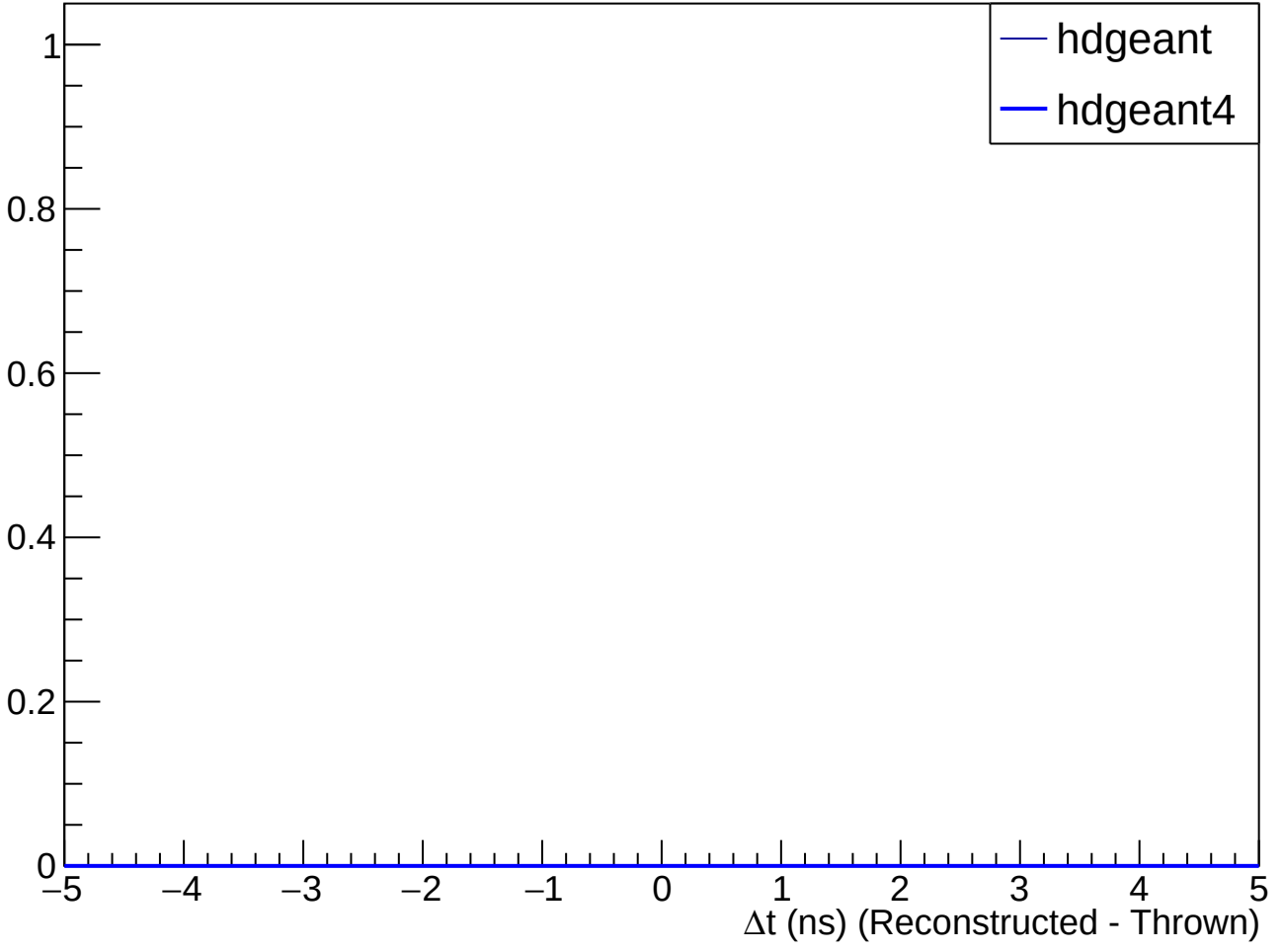



/Independent/Hist_GenReconTrackComparison/Pi+/DeltaT
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
−5
−4
−3
−2
−1
0
1
2
3
4
5
Δt (ns) (Reconstructed - Thrown)

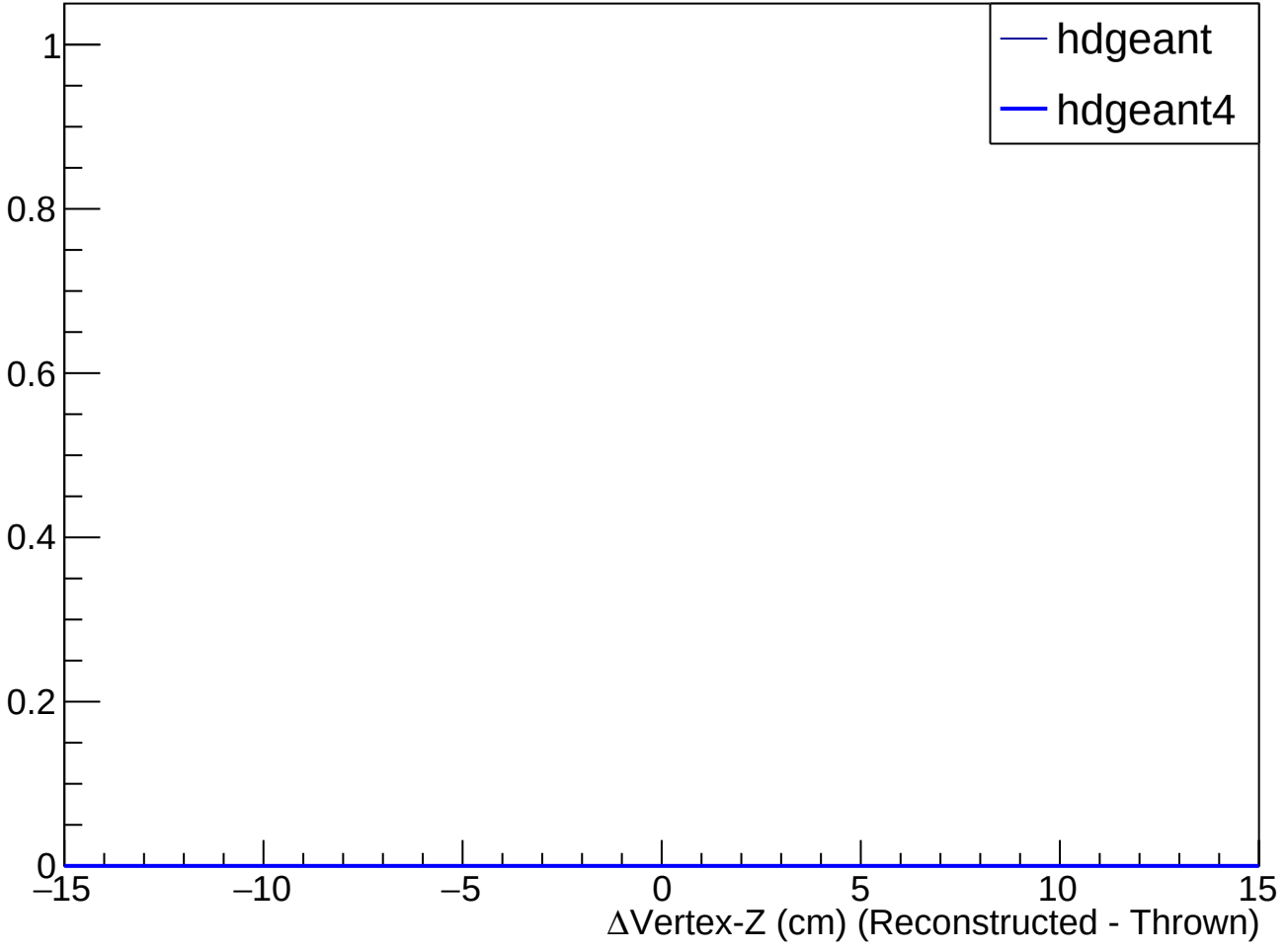
/Independent/Hist_GenReconTrackComparison/Pi+/DeltaT_BCAL

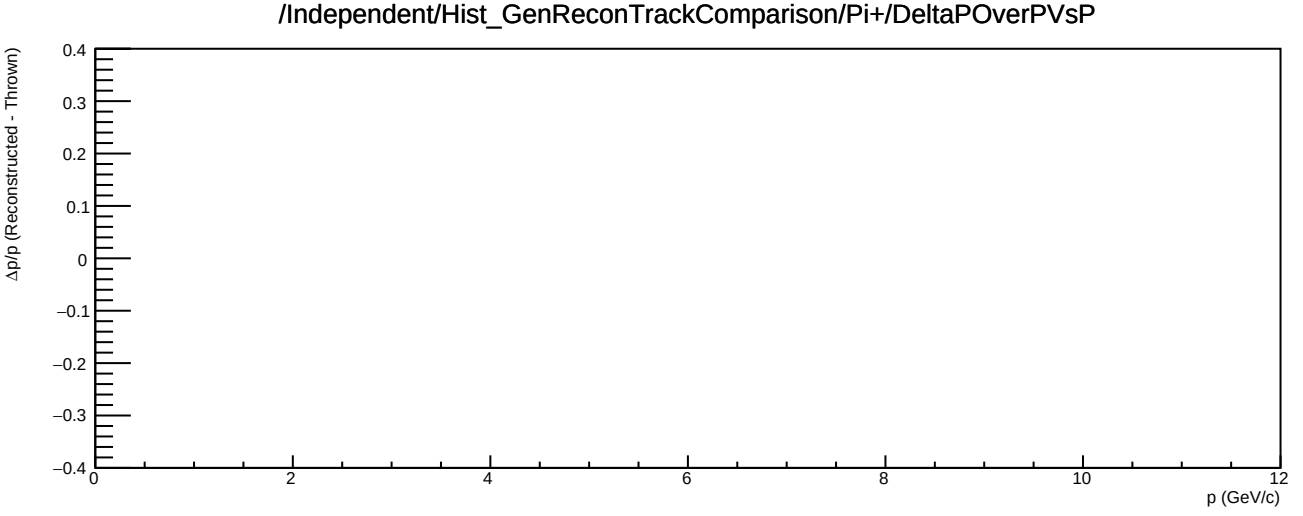


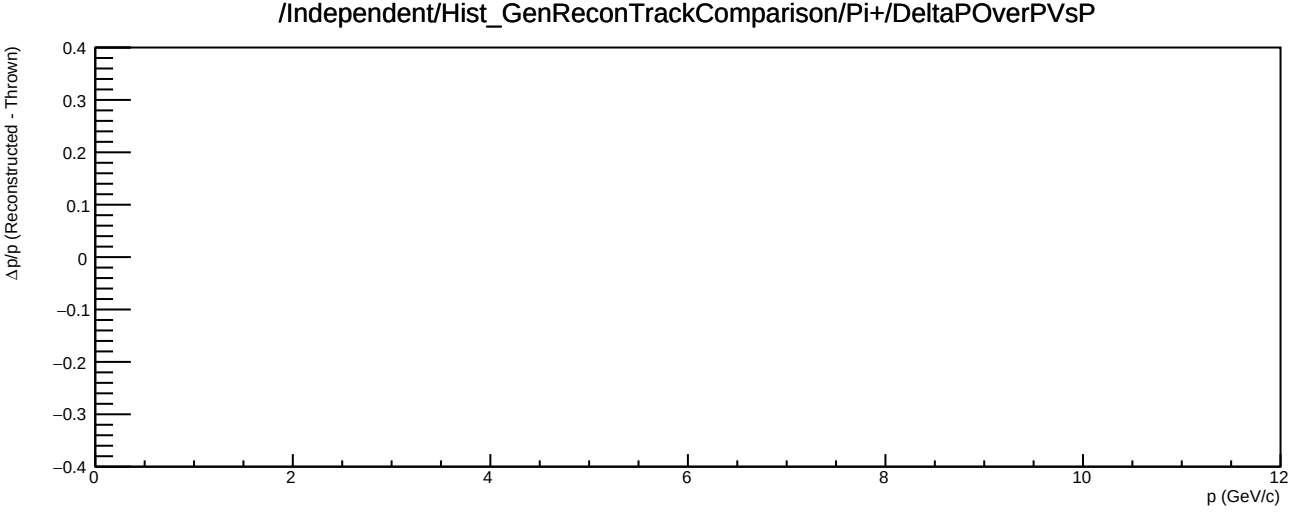
/Independent/Hist_GenReconTrackComparison/Pi+/DeltaT_TOF

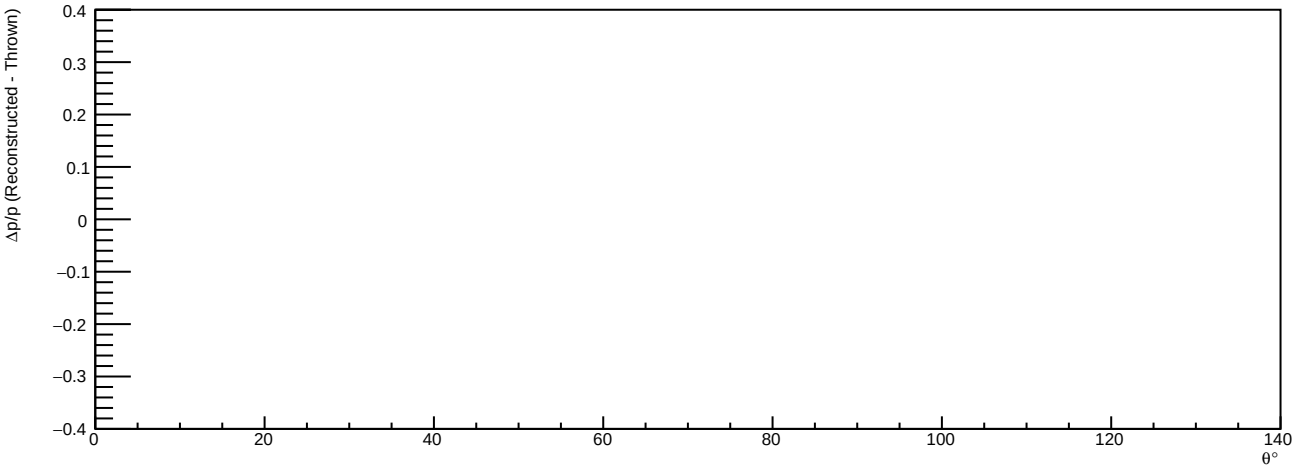


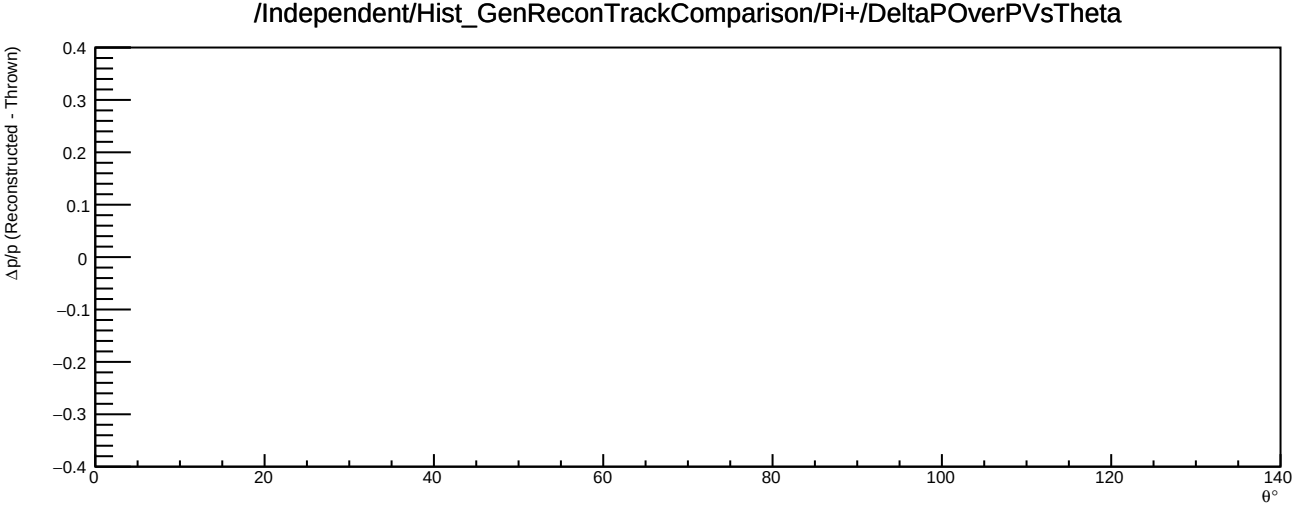
/Independent/Hist_GenReconTrackComparison/Pi+/DeltaVertexZ

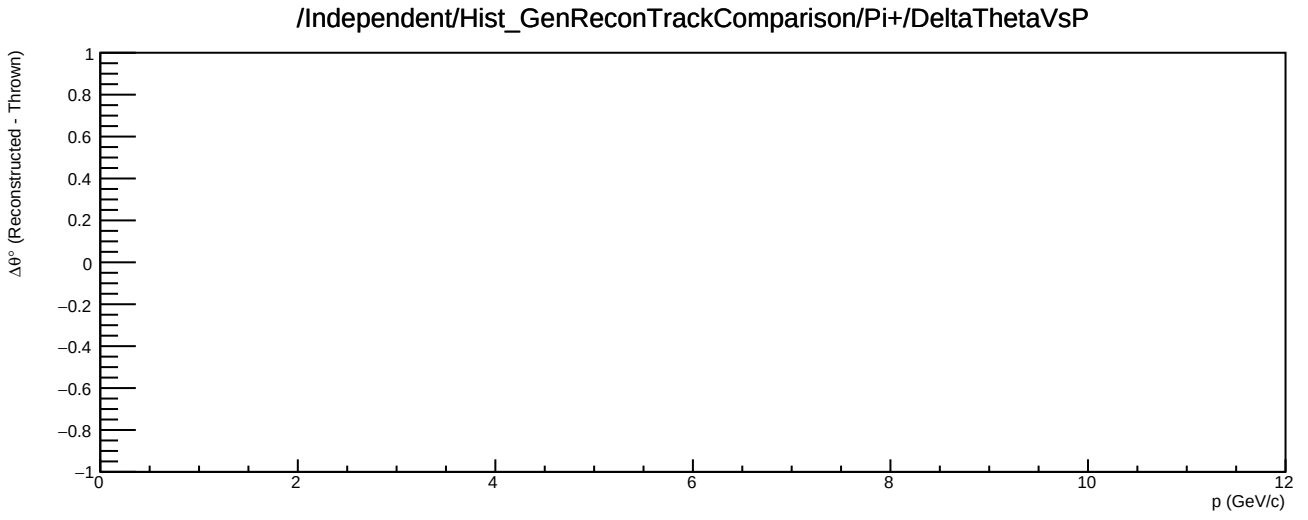


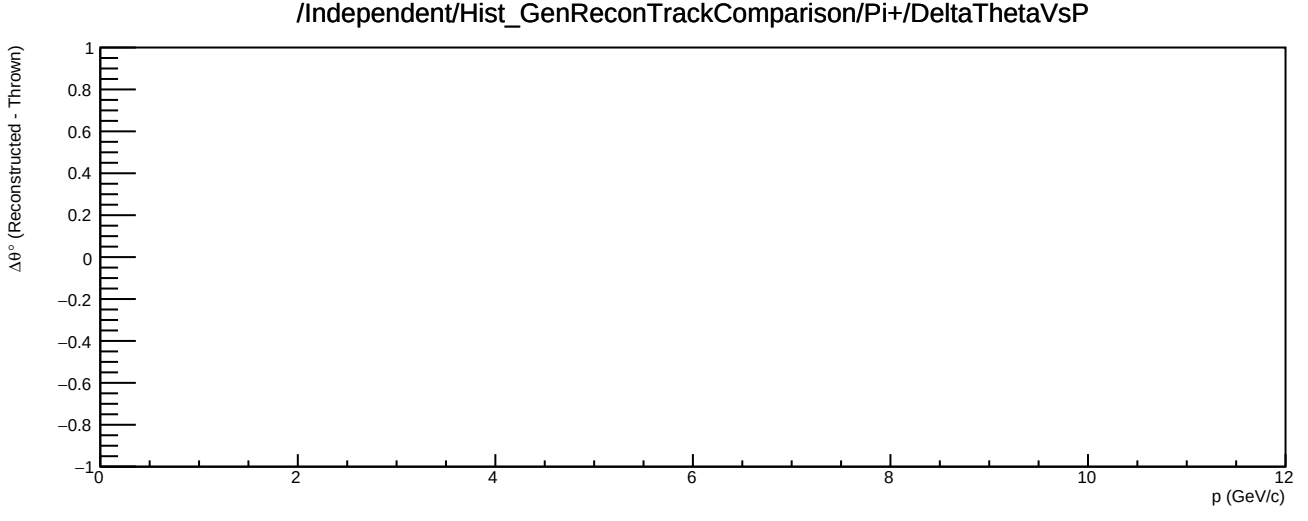

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

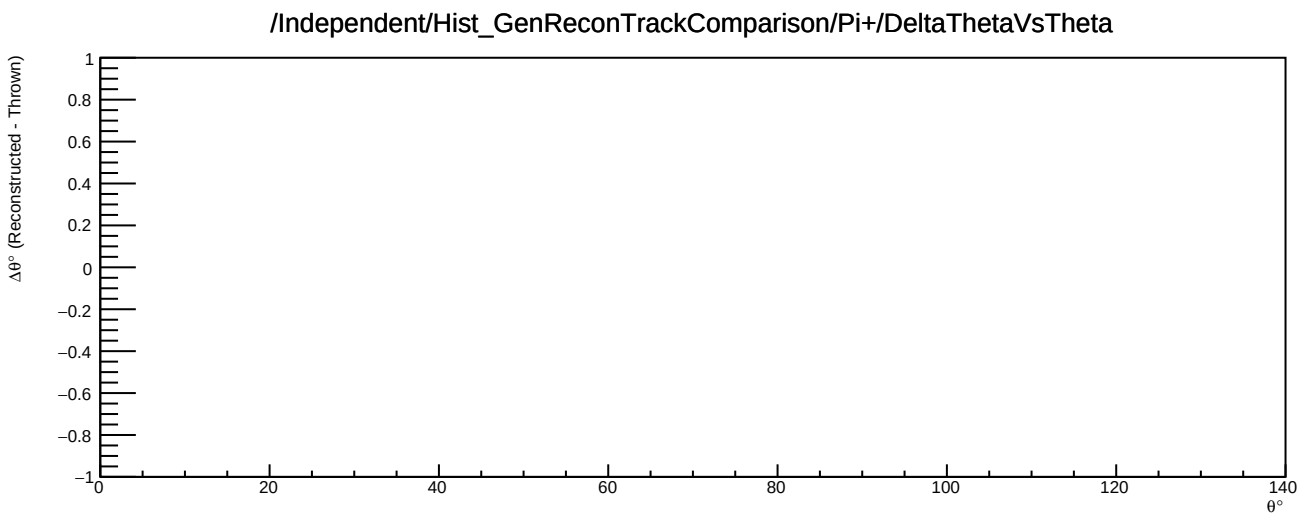

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

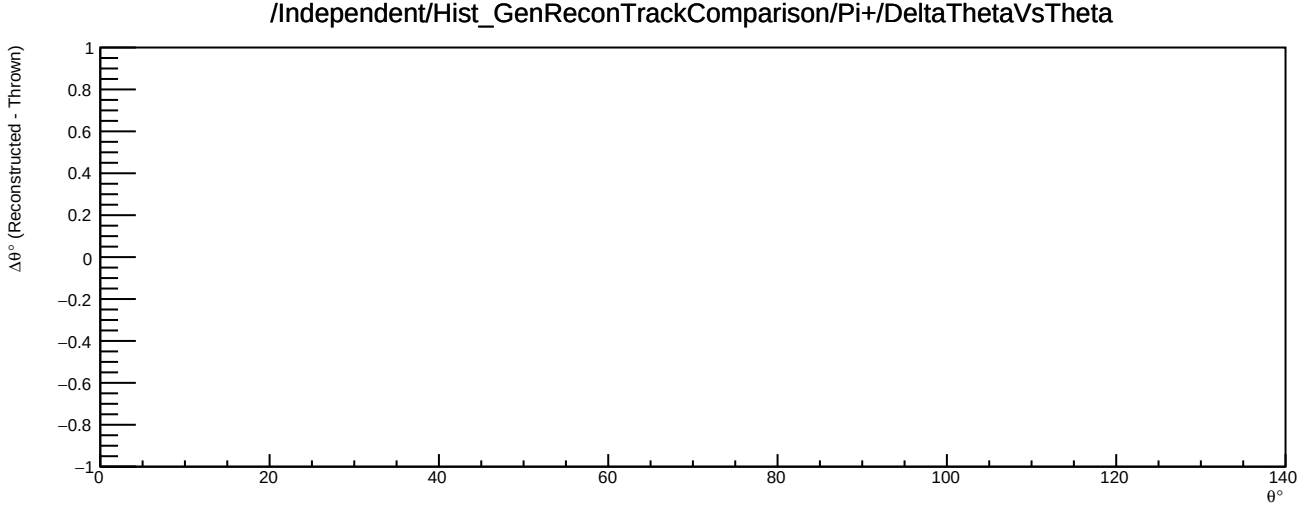

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

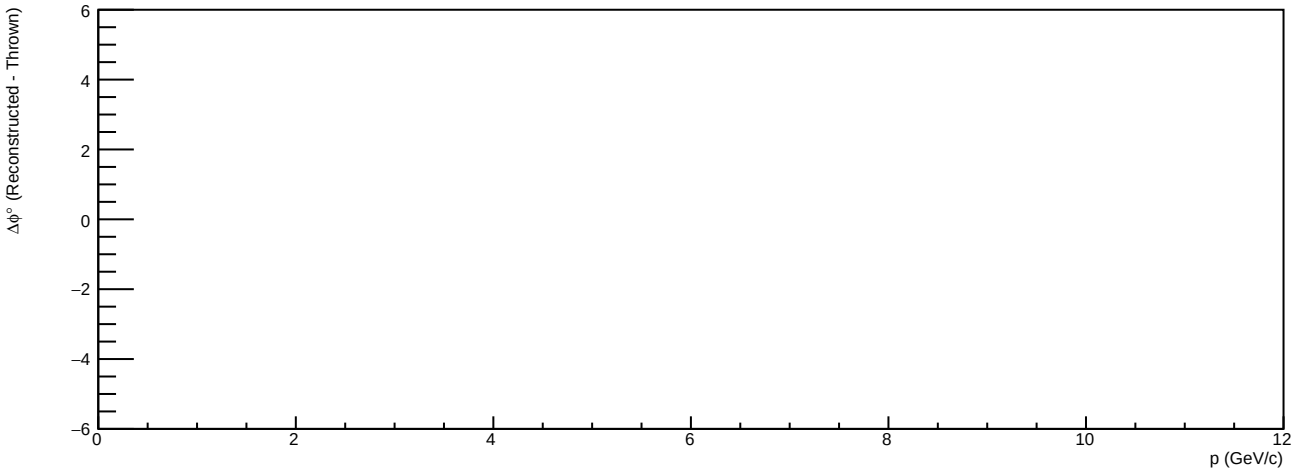

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

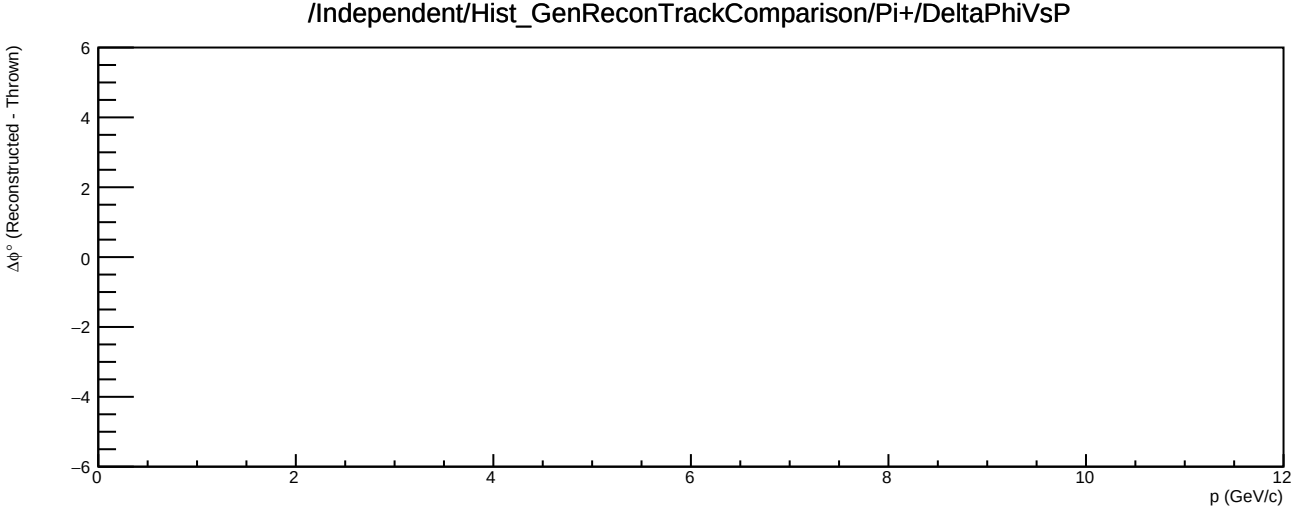

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

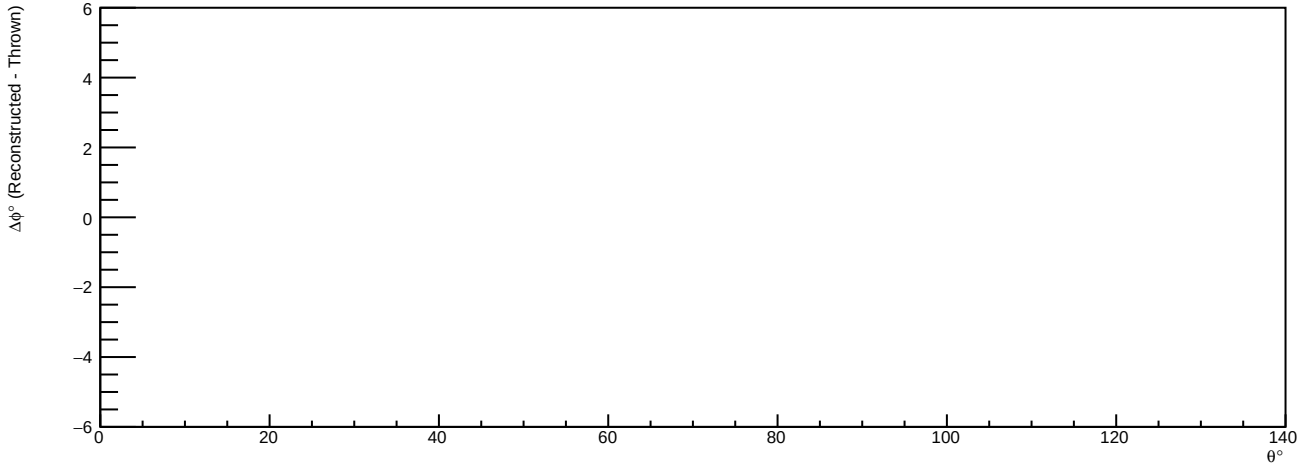

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

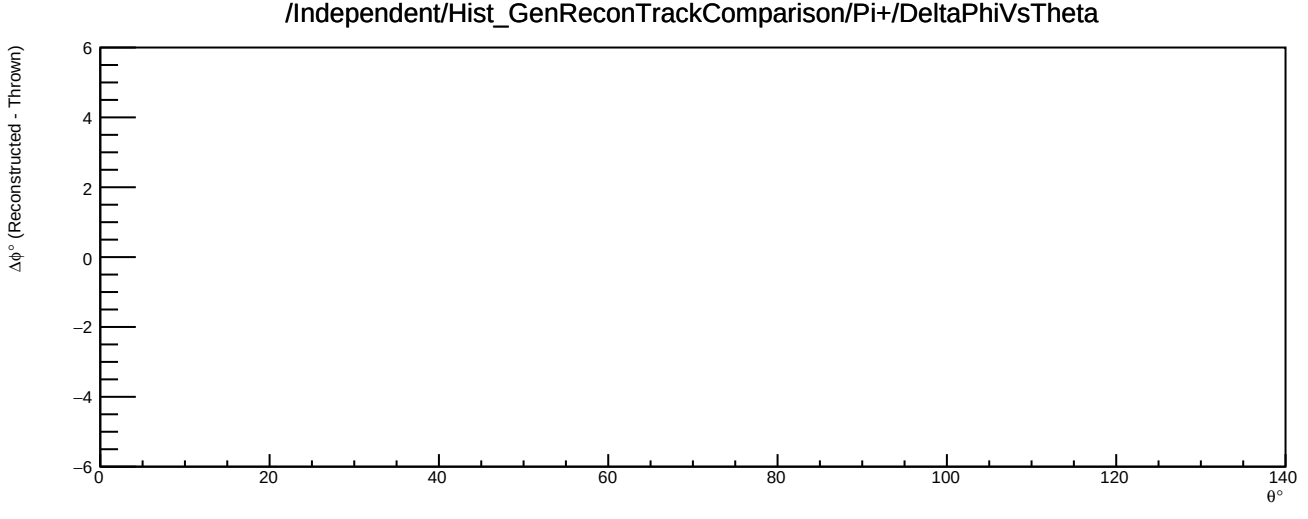

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

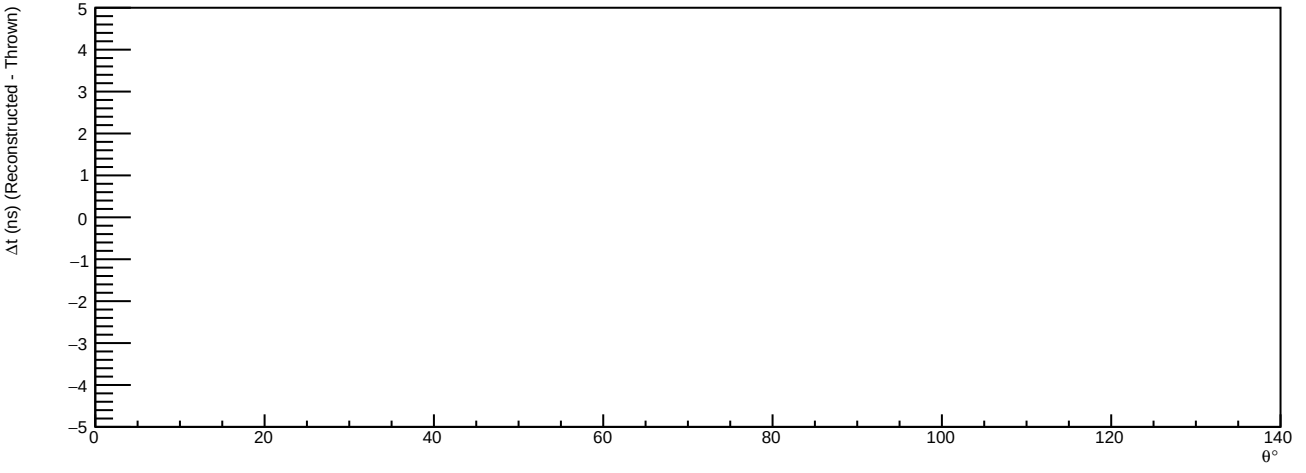

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

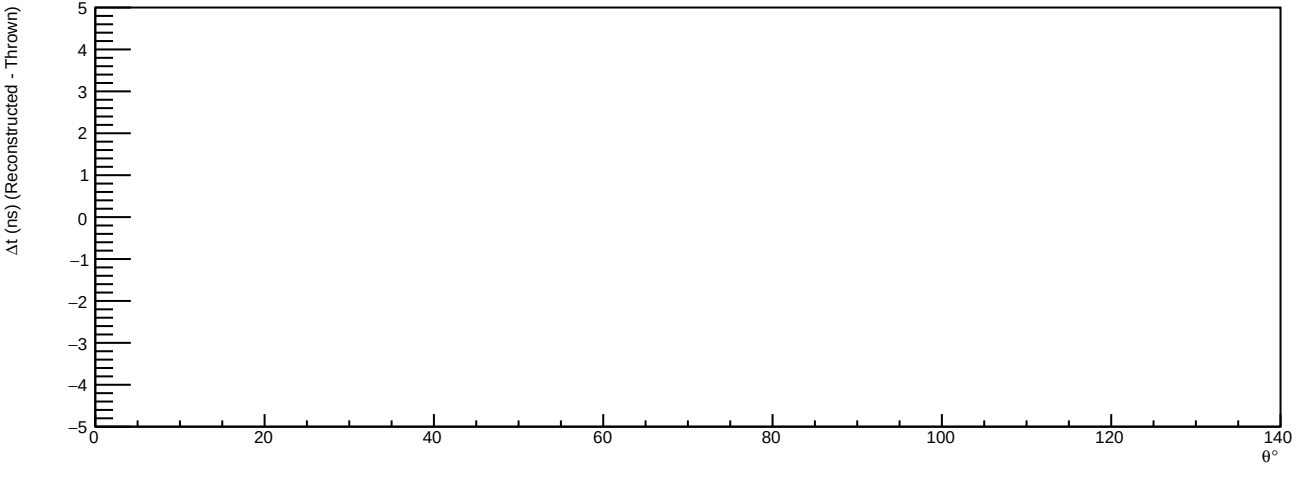

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaPhiVsP
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

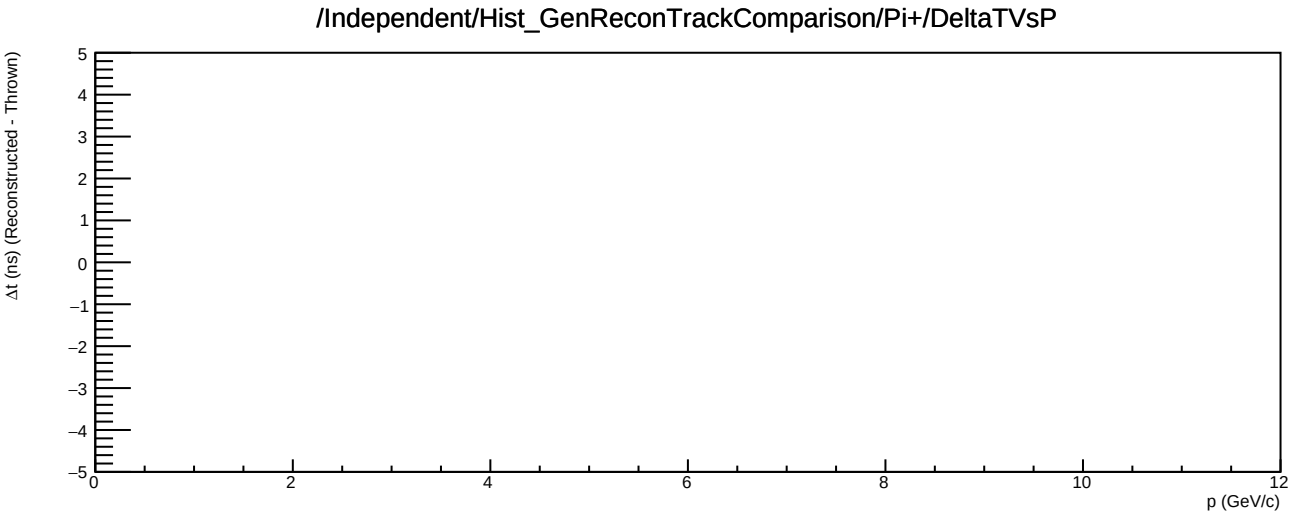

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaPhiVsP
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

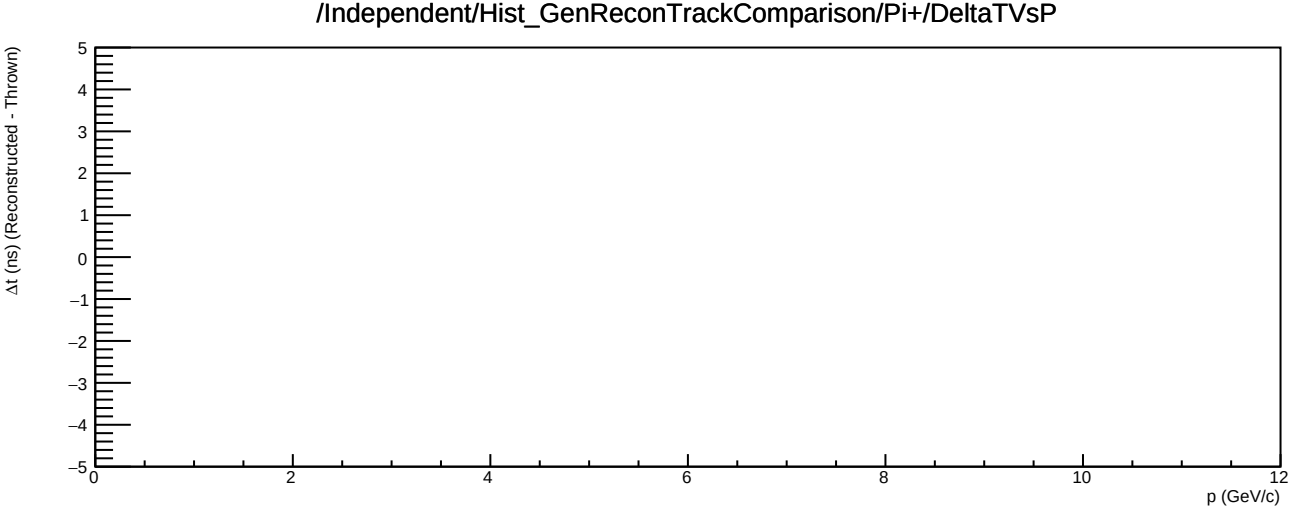

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaPhiVsTheta
Δφ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

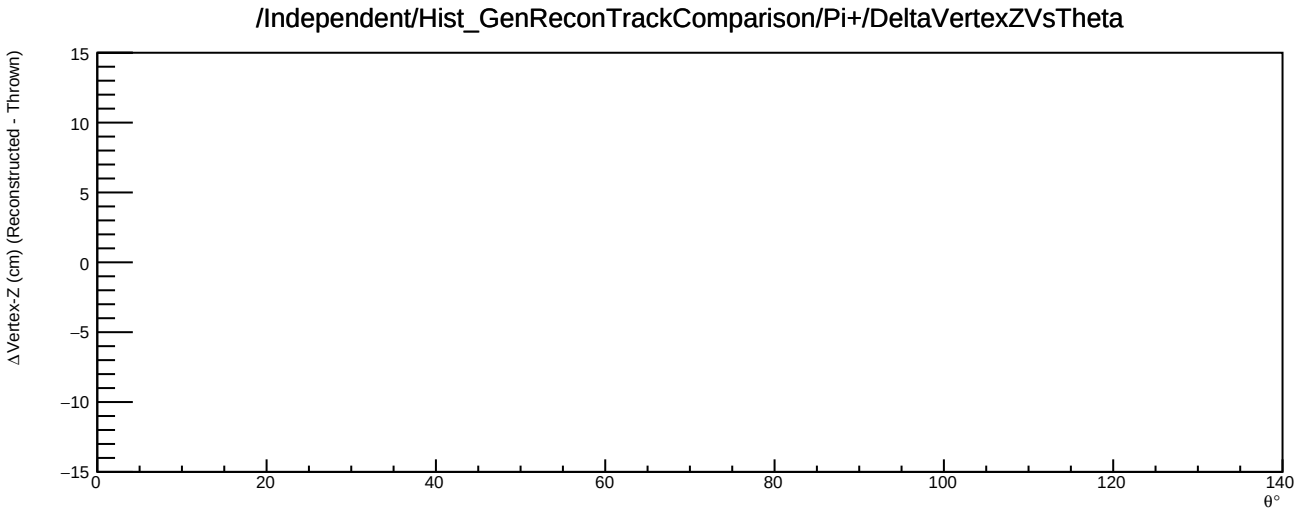

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaPhiVsTheta
Δφ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

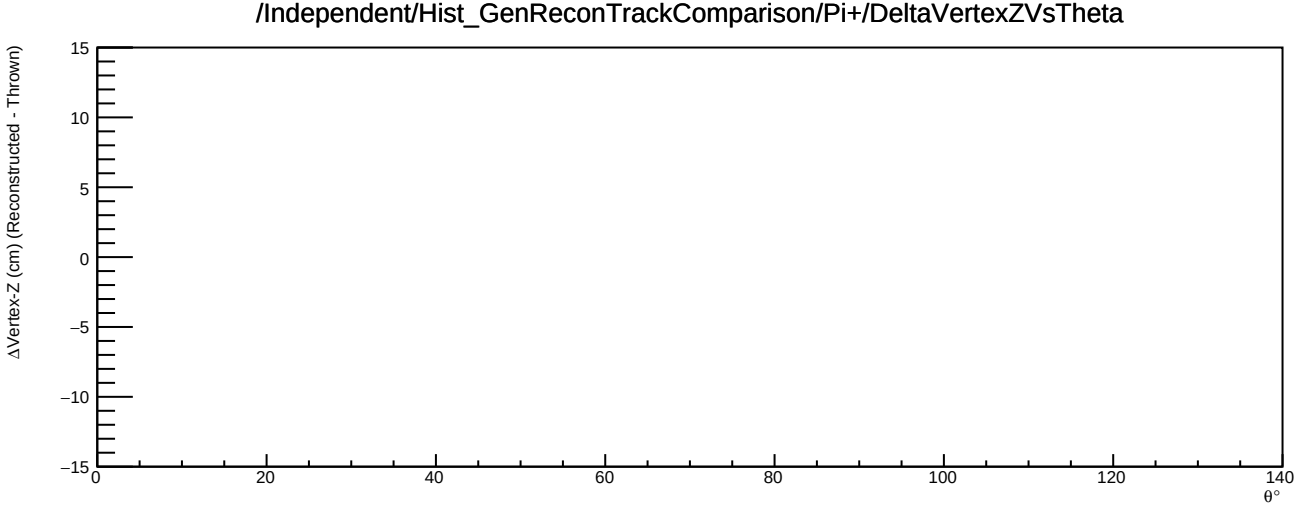

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
20
40
60
80
100
120
140
θ°

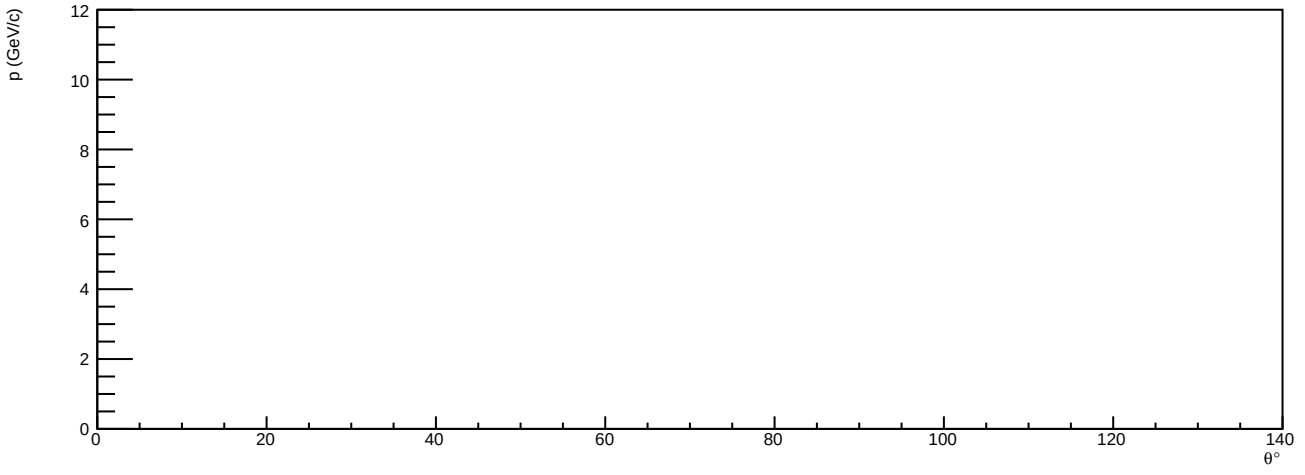

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
20
40
60
80
100
120
140
θ°

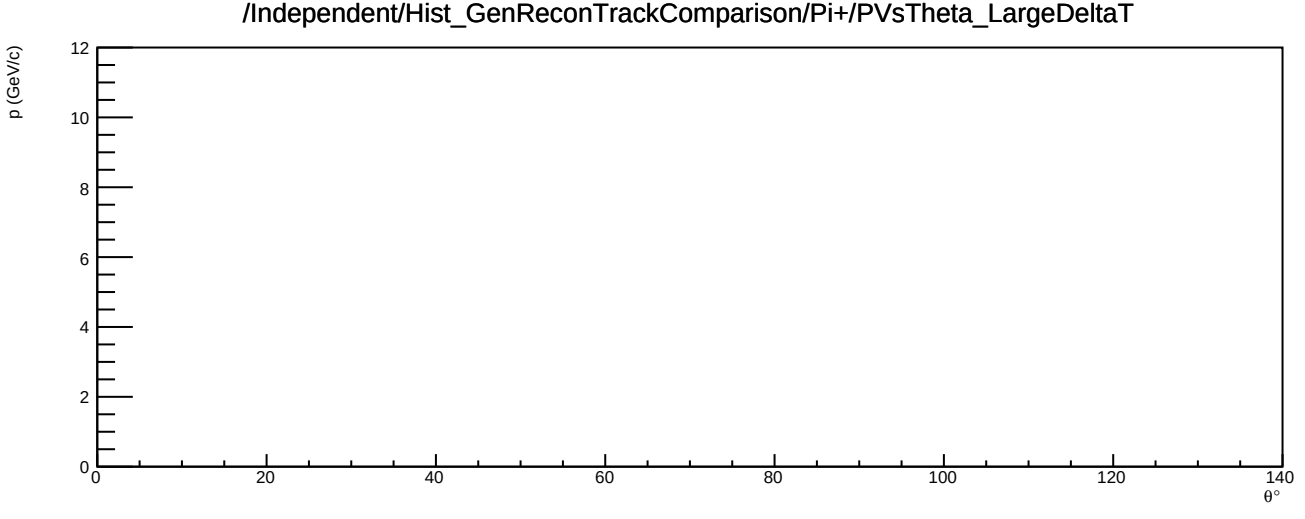

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Pi+/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
2
4
6
8
10
12
p (GeV/c)

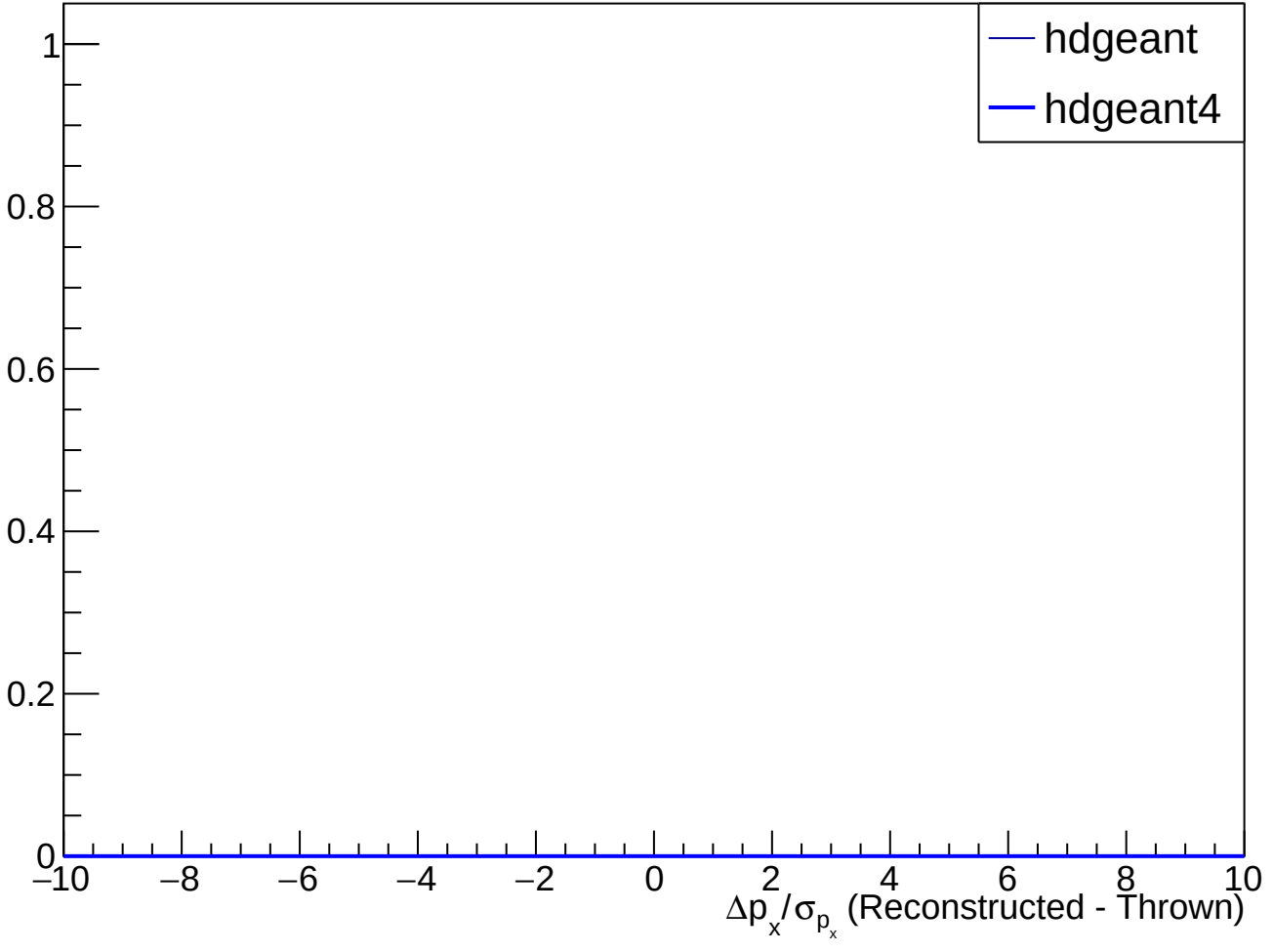

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

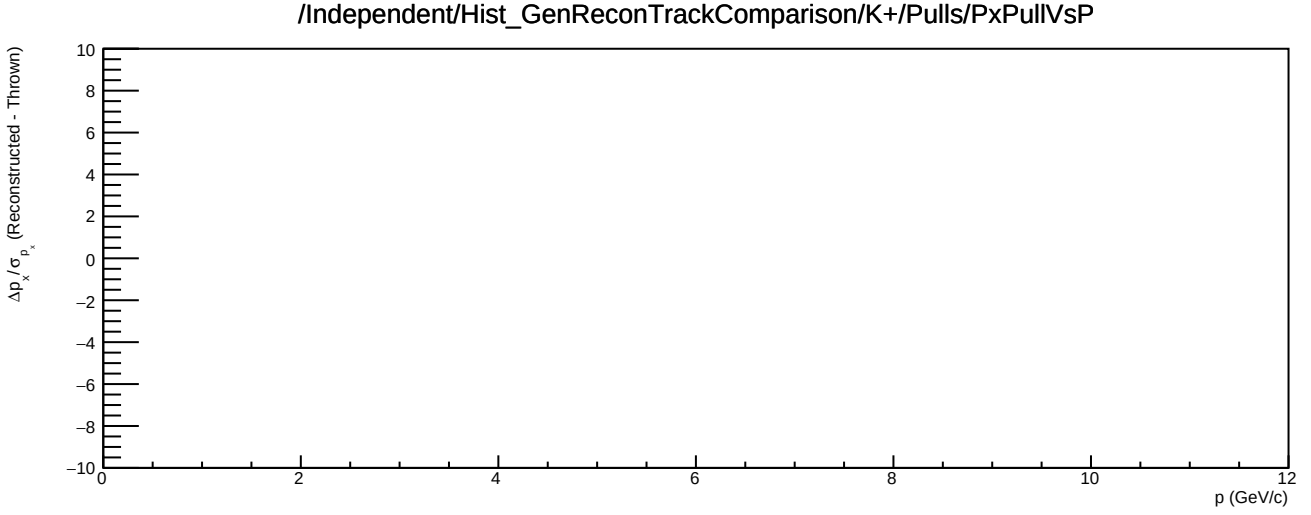

/Independent/Hist_GenReconTrackComparison/Pi+/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

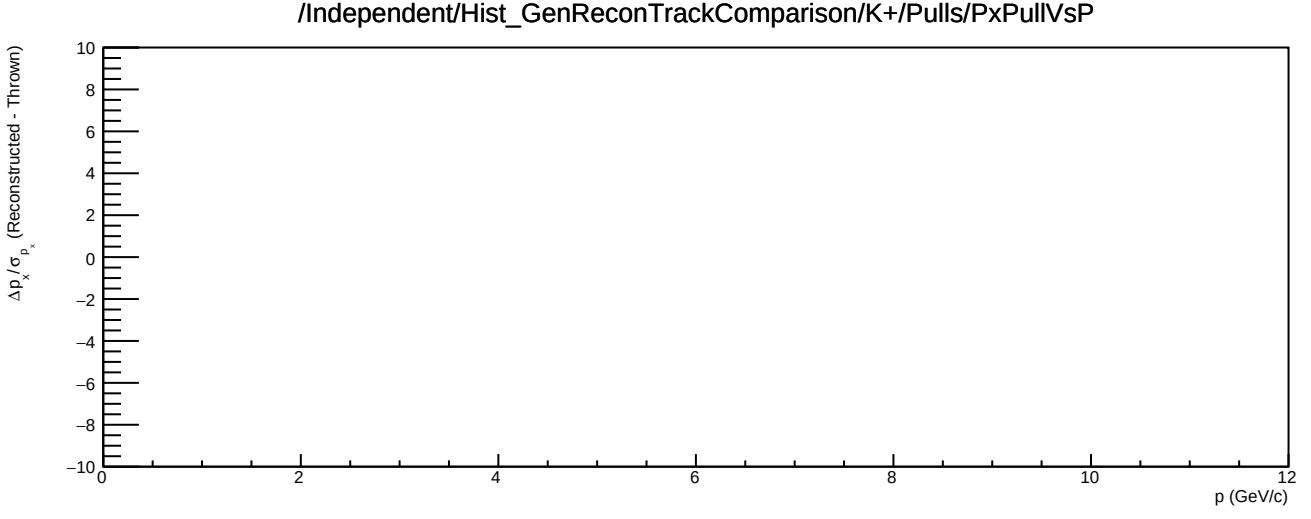

/Independent/Hist_GenReconTrackComparison/Pi+/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

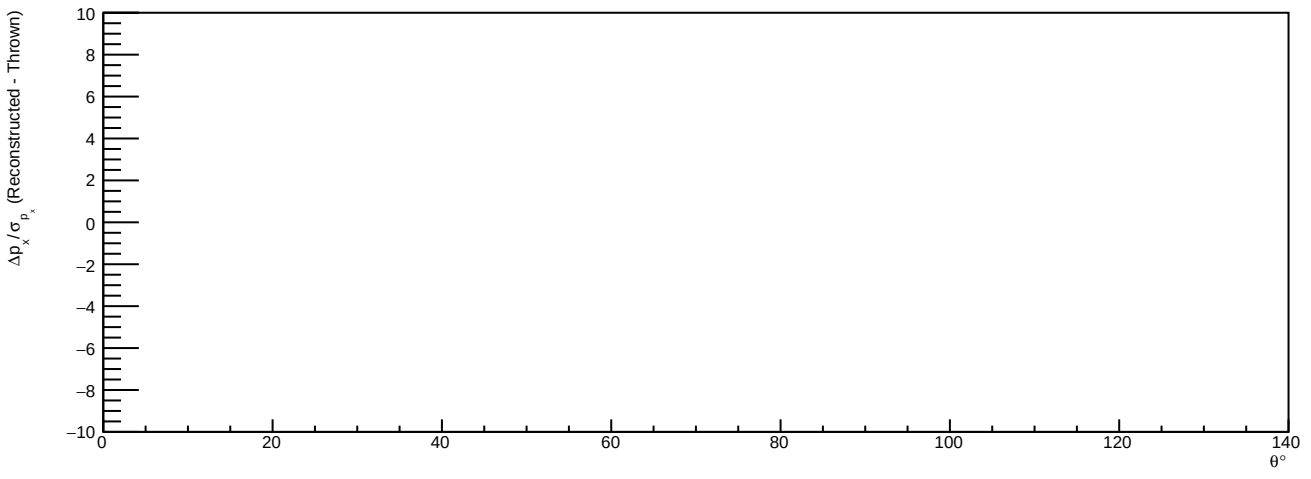

/Independent/Hist_GenReconTrackComparison/Pi+/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

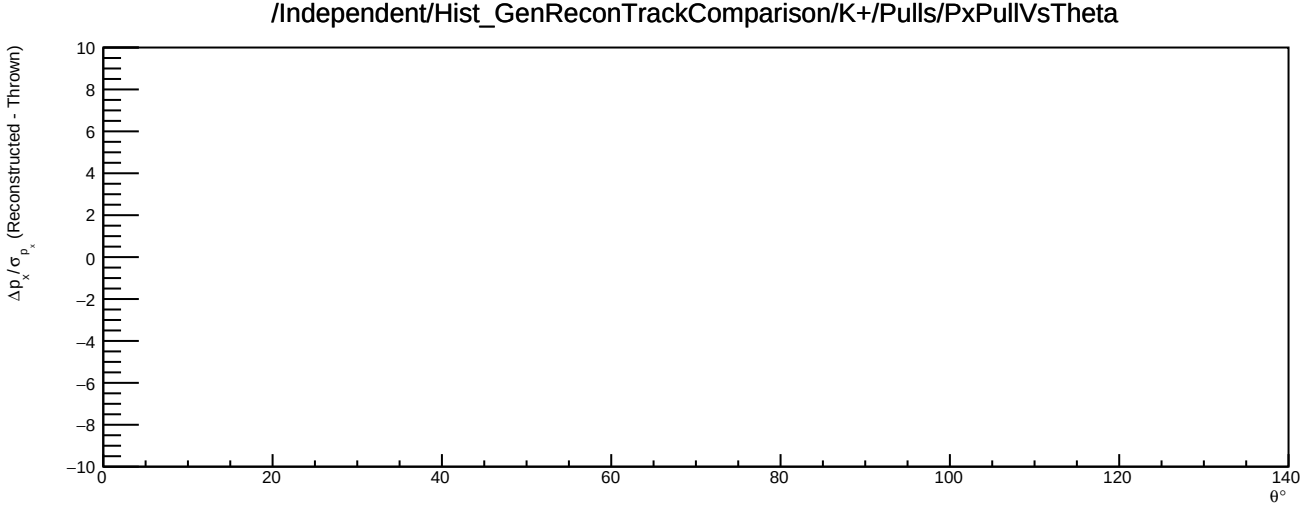
/Independent/Hist_GenReconTrackComparison/K+/Pulls/PxPull



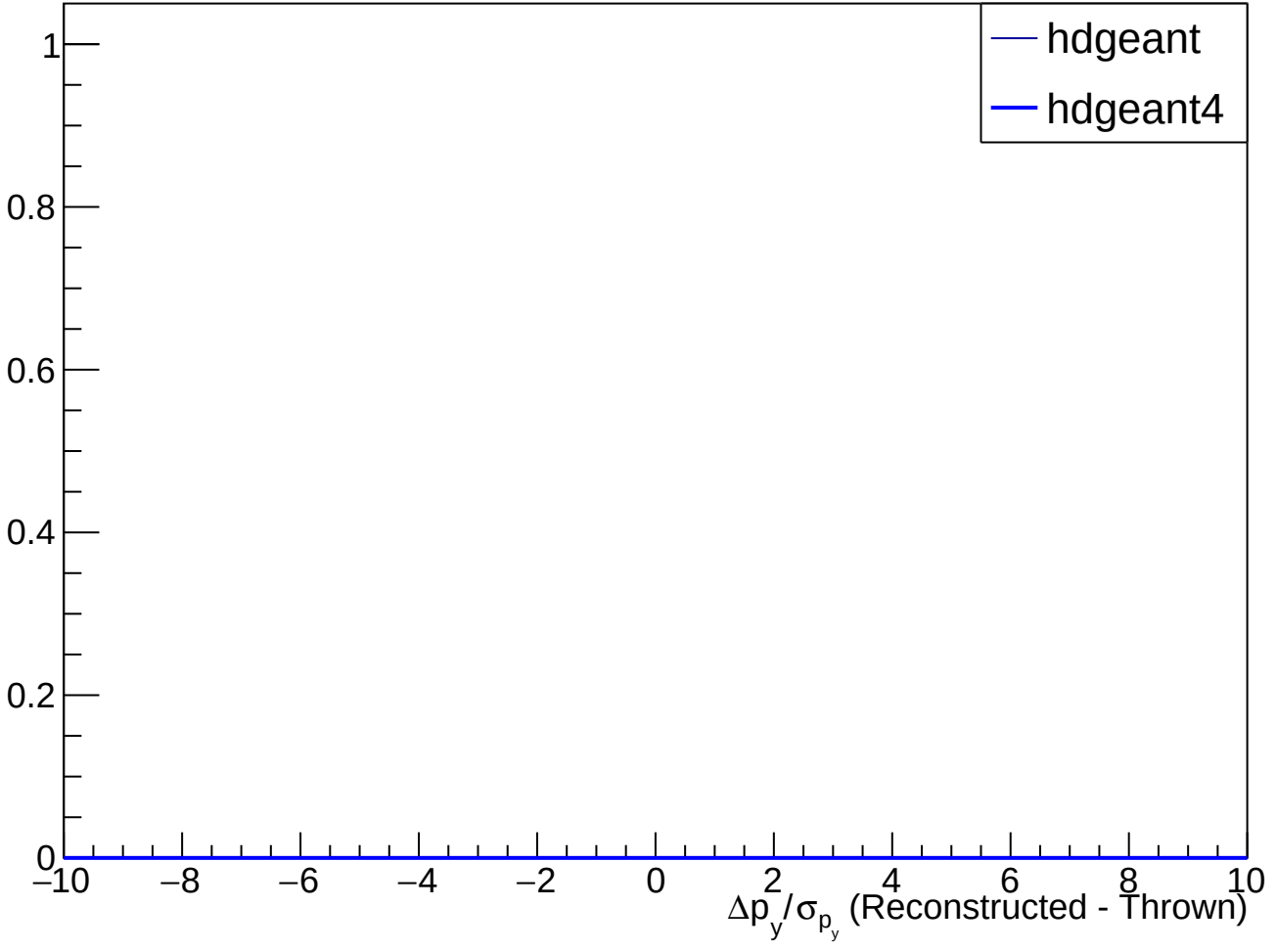

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PxPullVsP
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

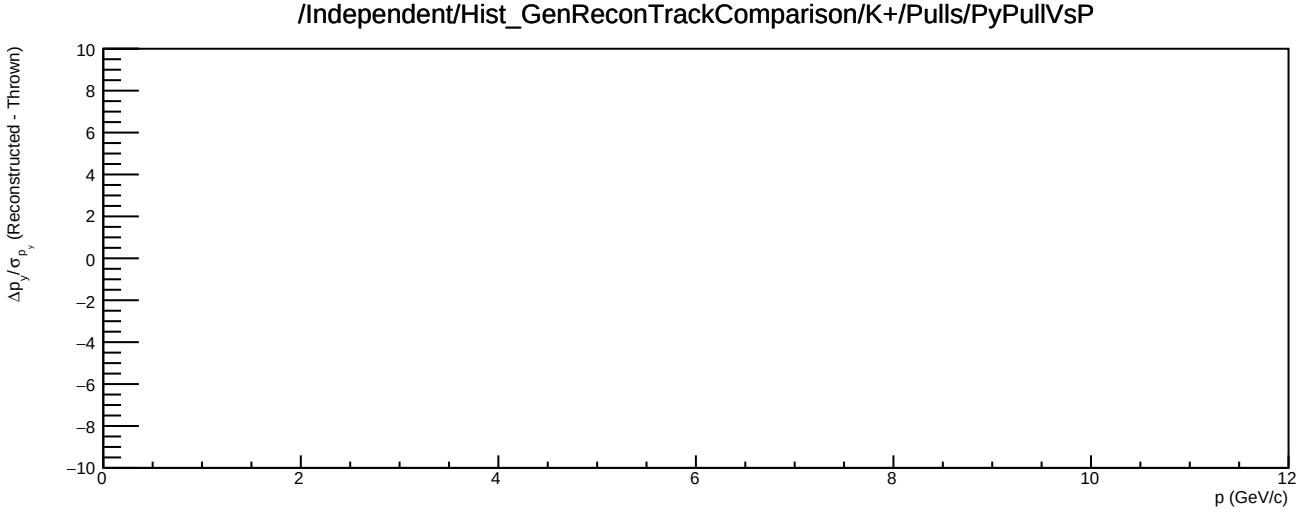

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PxPullVsP
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

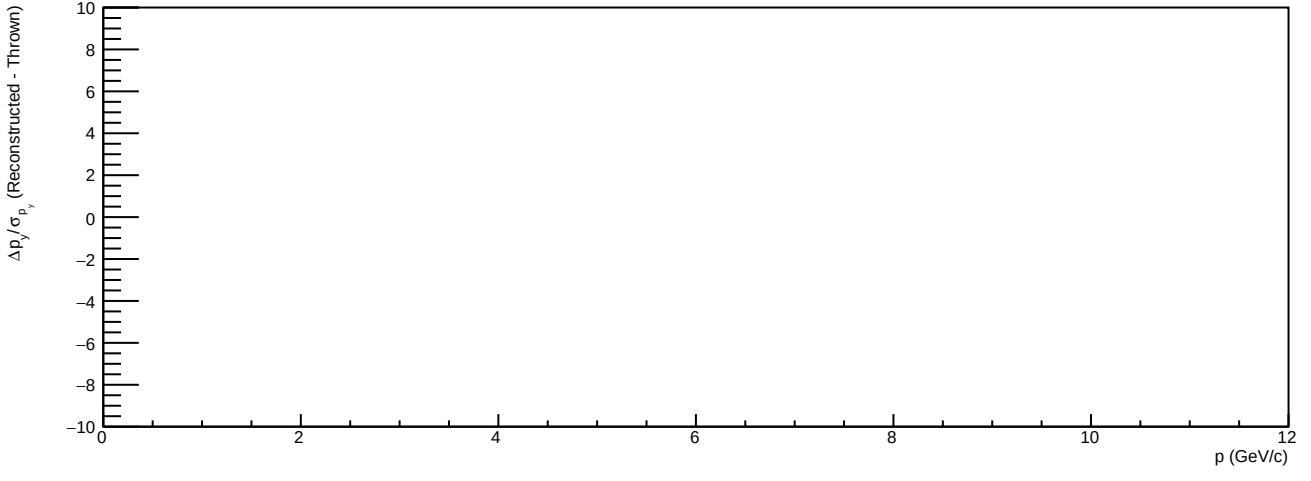

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PxPullVsTheta
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

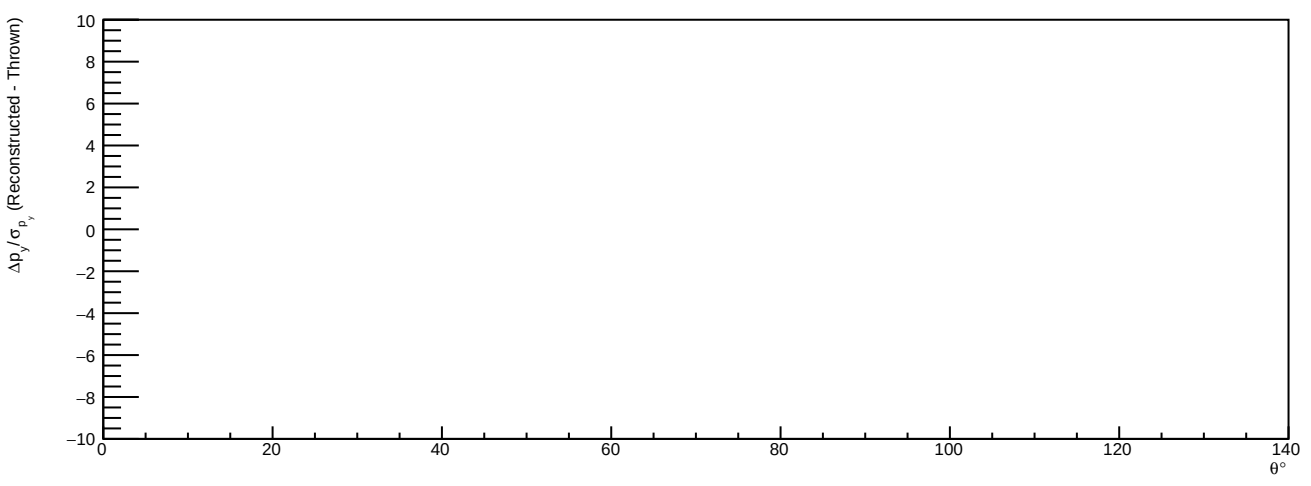

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PxPullVsTheta
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

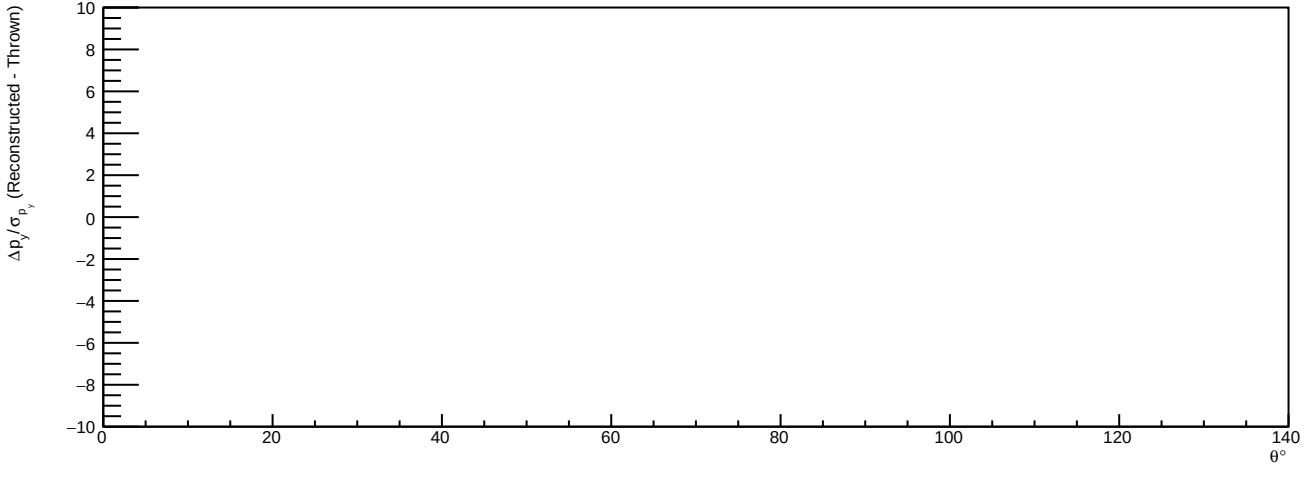
/Independent/Hist_GenReconTrackComparison/K+/Pulls/PyPull



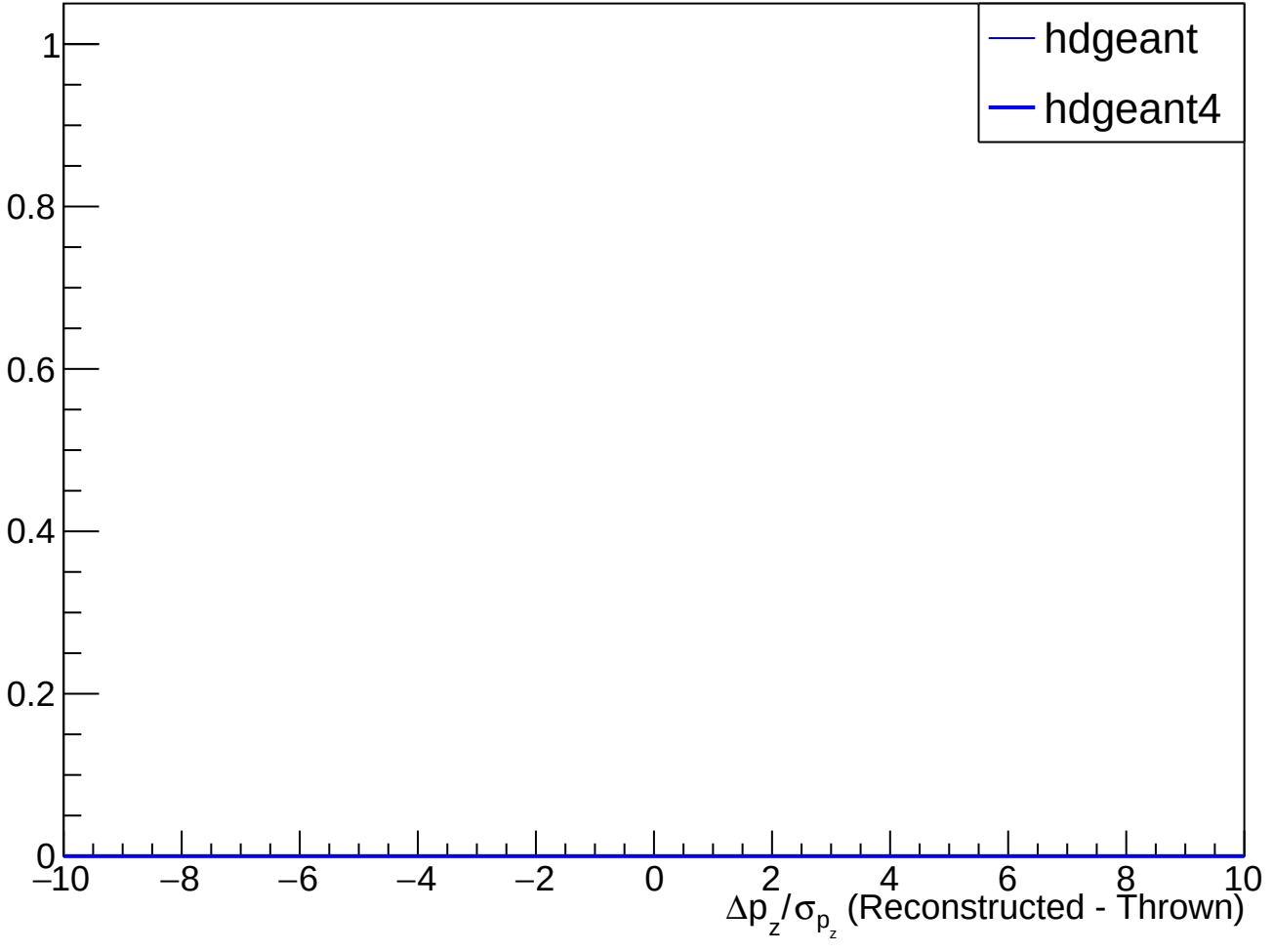

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PyPullVsP
$\Delta p_y / \sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

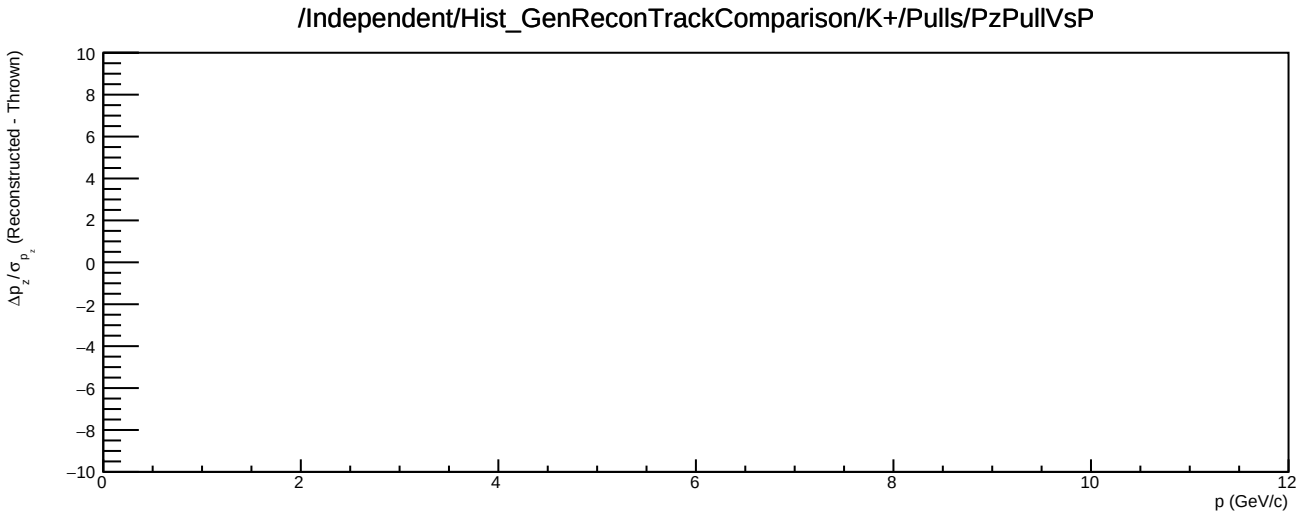

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PyPullVsP
$\Delta p_y / \sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

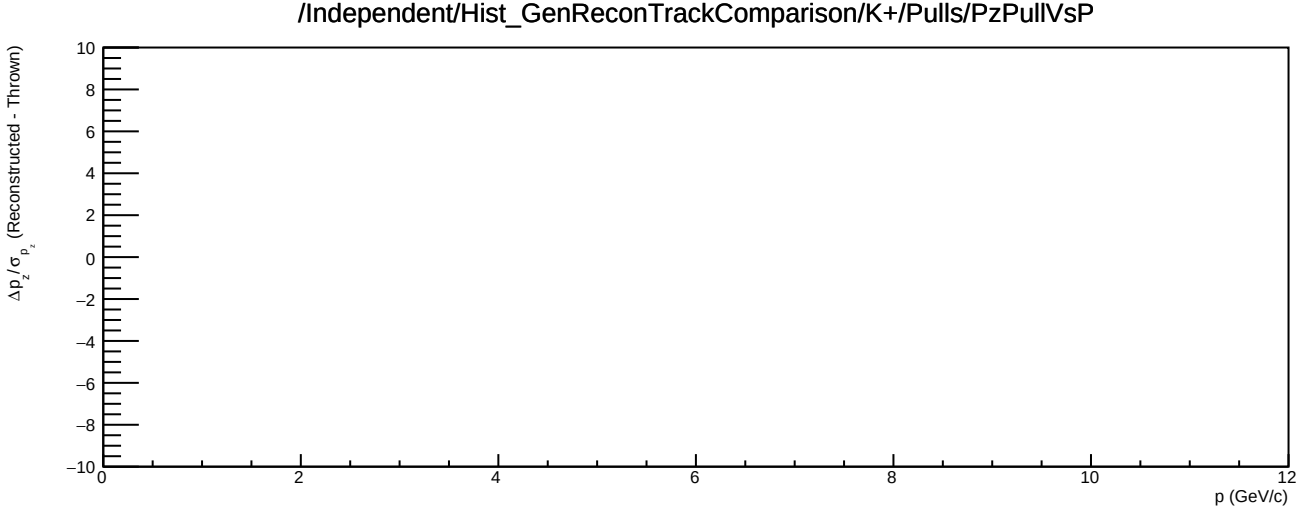

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PyPullVsTheta
$\Delta p_y / \sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

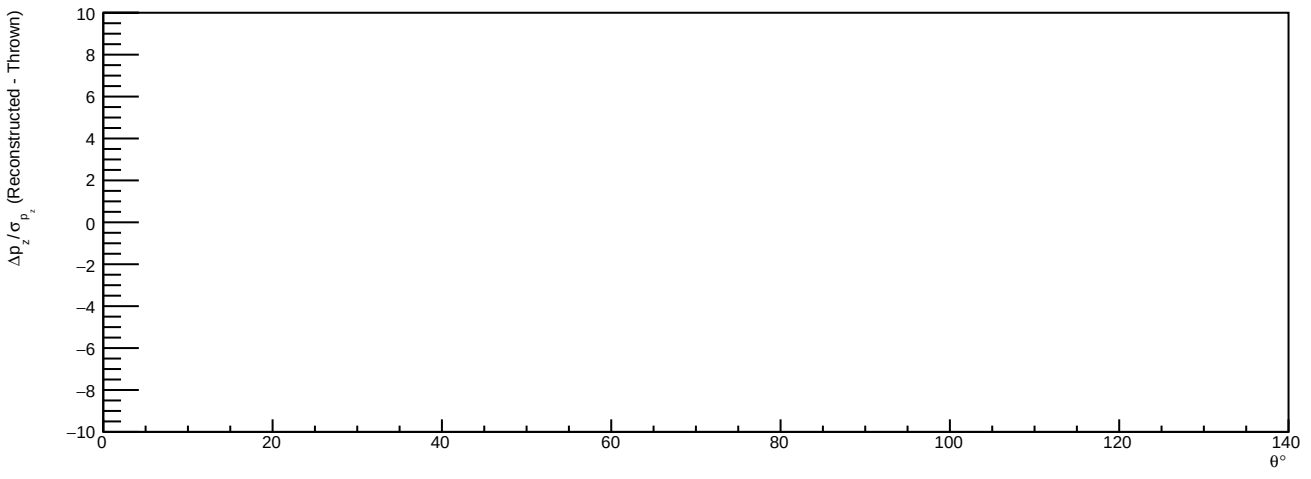

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PyPullVsTheta
$\Delta p_y / \sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

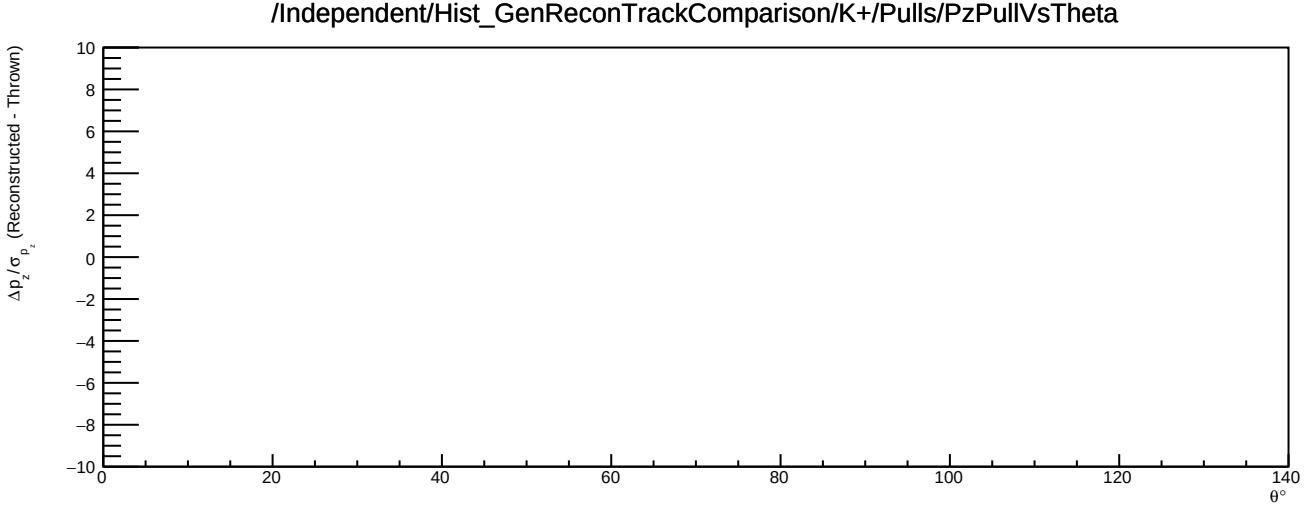
/Independent/Hist_GenReconTrackComparison/K+/Pulls/PzPull



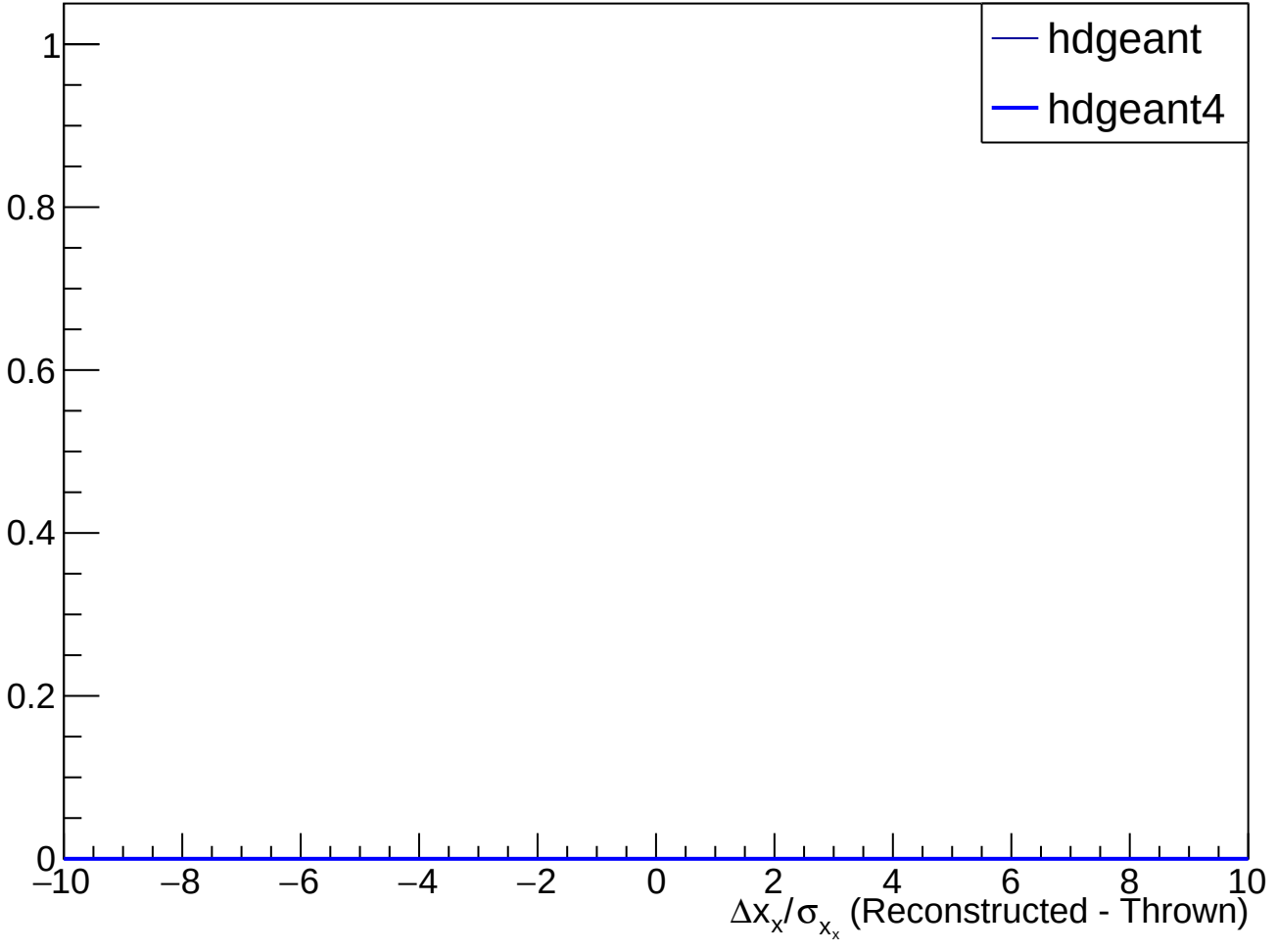

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PzPullVsP
Δp_z / σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

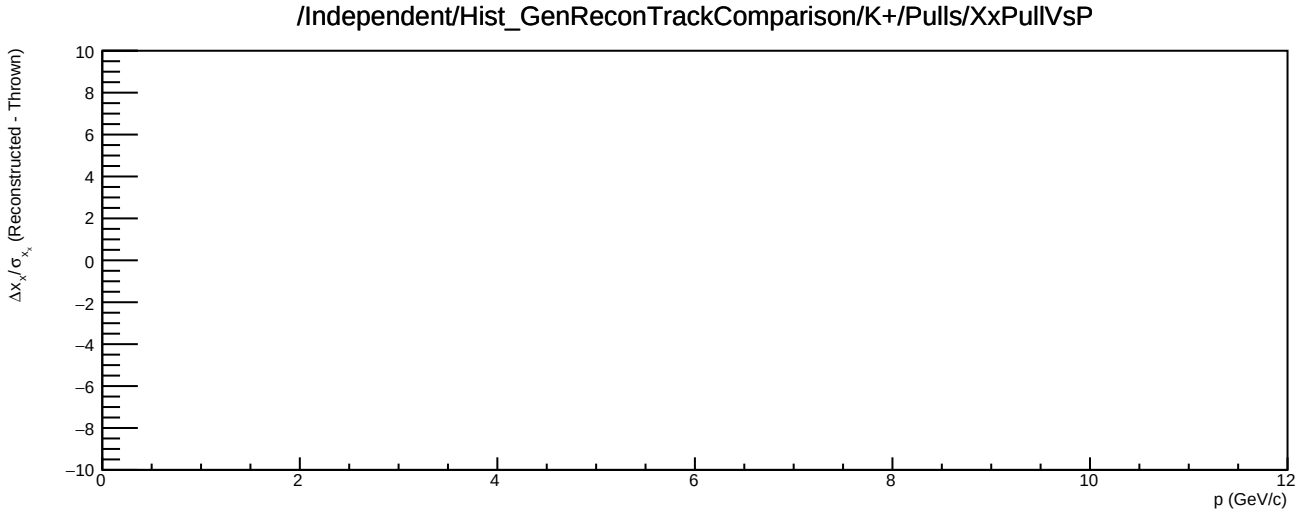

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PzPullVsP
Δp_z / σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

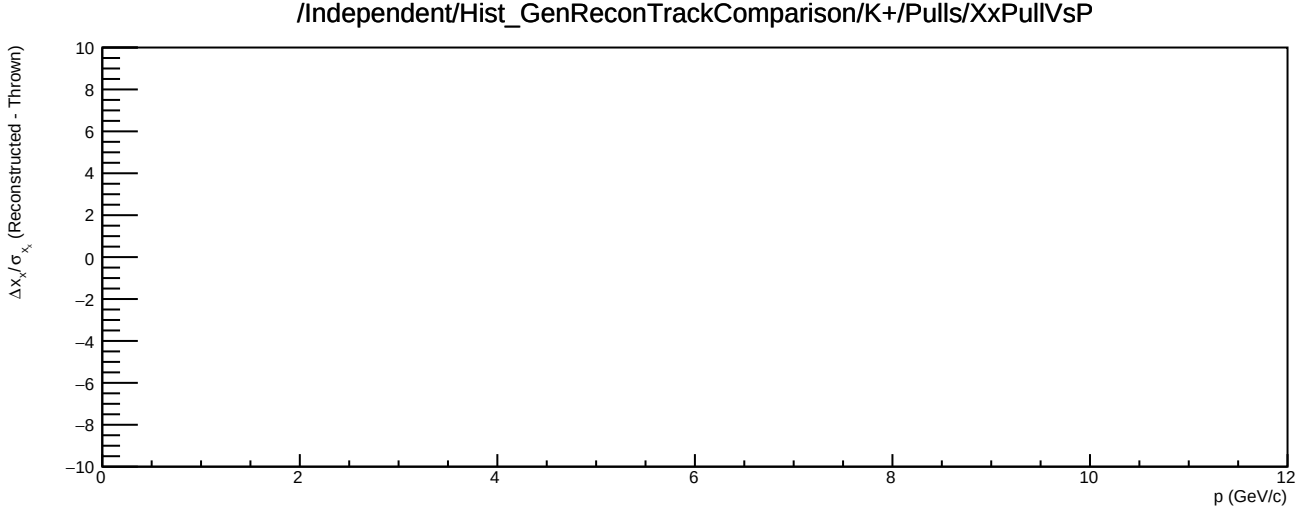

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PzPullVsTheta
Δp_z / σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

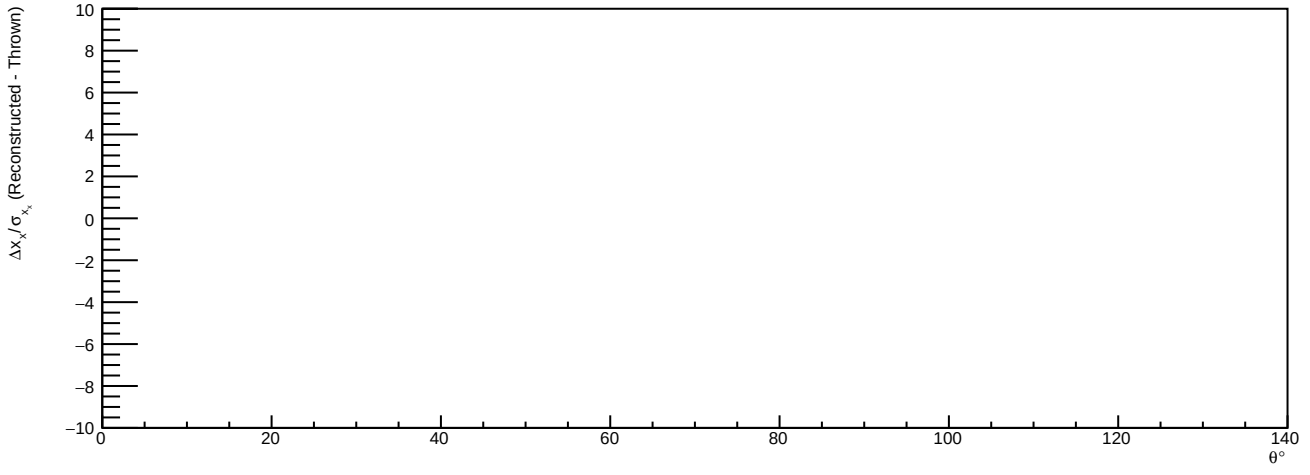

/Independent/Hist_GenReconTrackComparison/K+/Pulls/PzPullVsTheta
Δp_z / σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

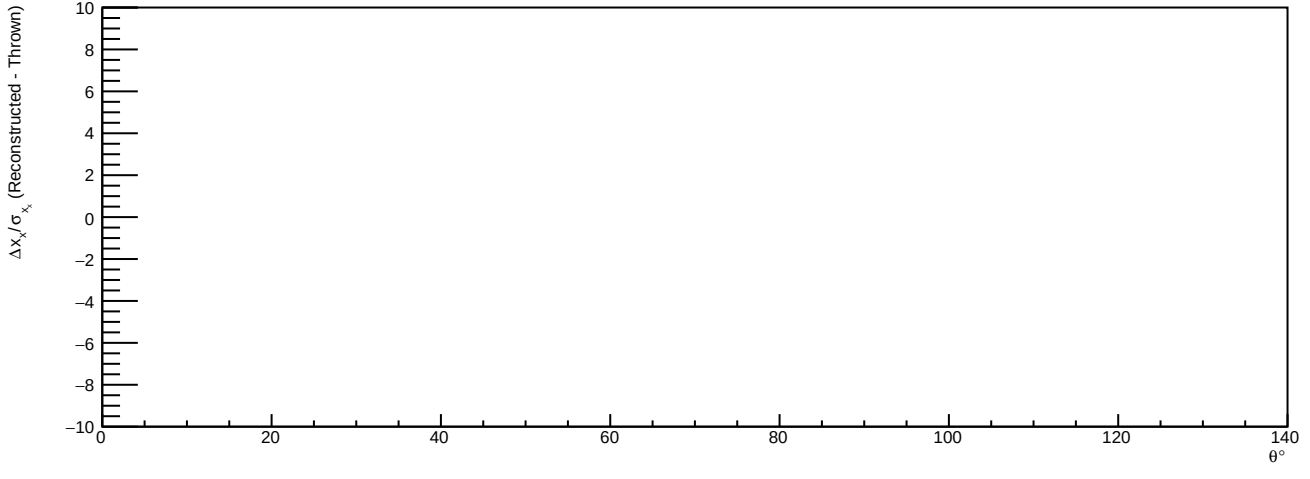
/Independent/Hist_GenReconTrackComparison/K+/Pulls/XxPull



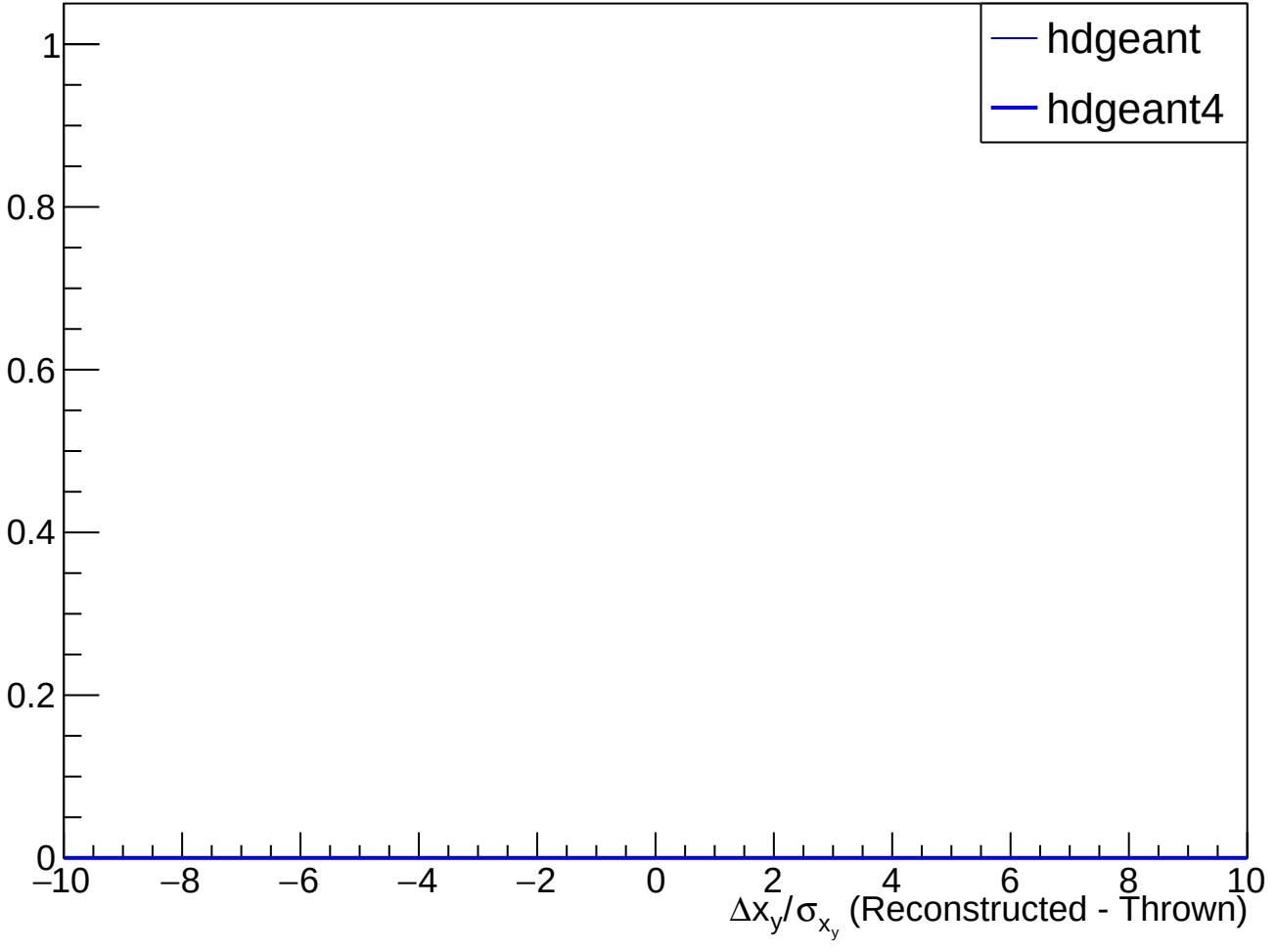

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XxPullVsP
Δx_x / σ_x_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

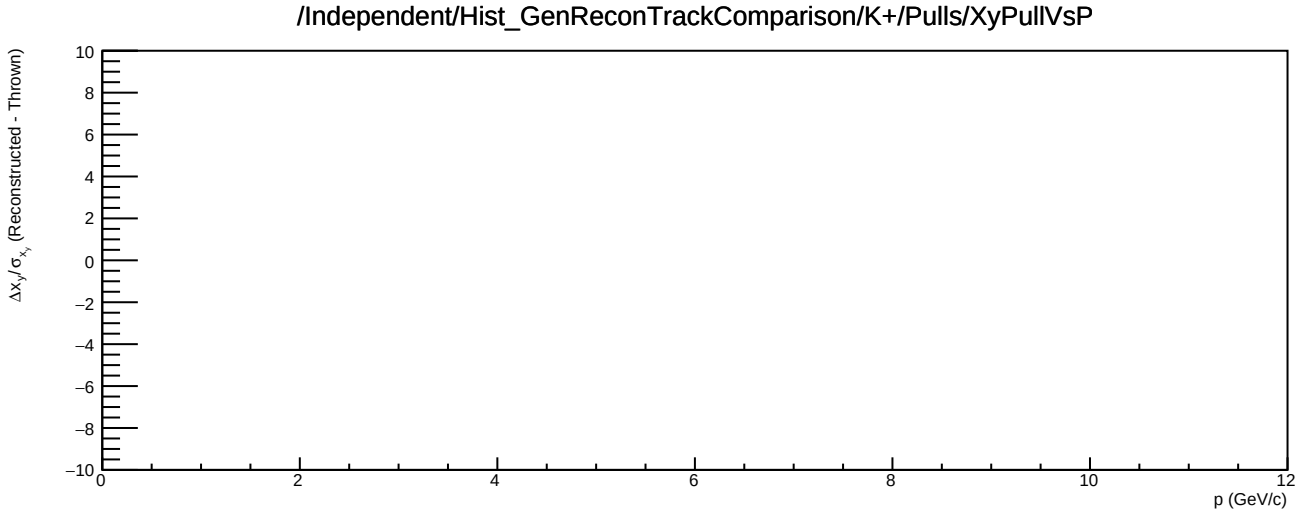

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XxPullVsP
Δx_x / σ_x_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

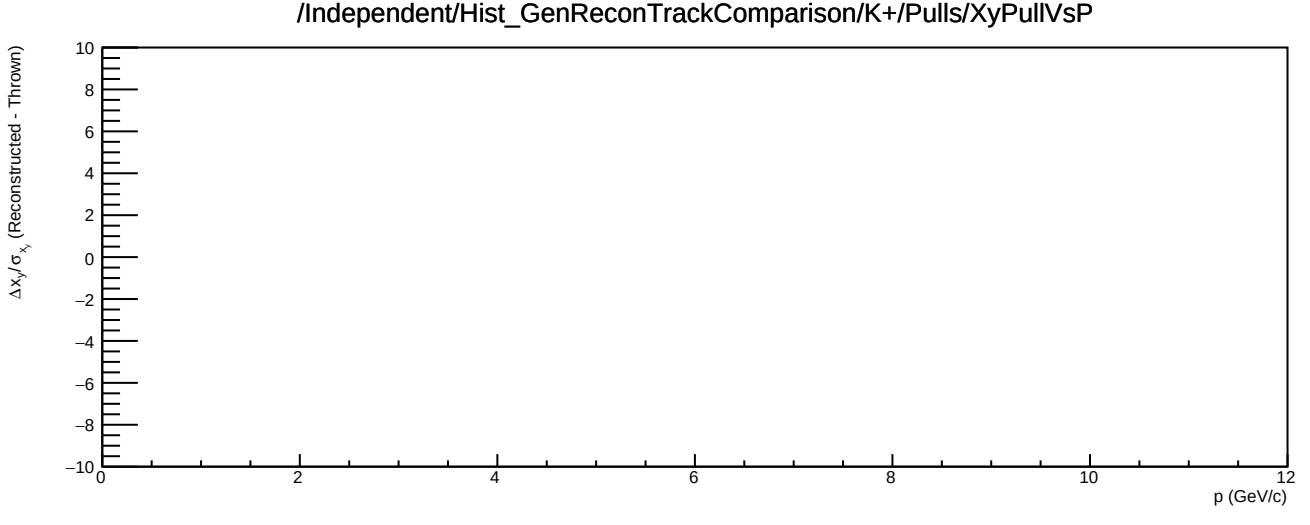

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

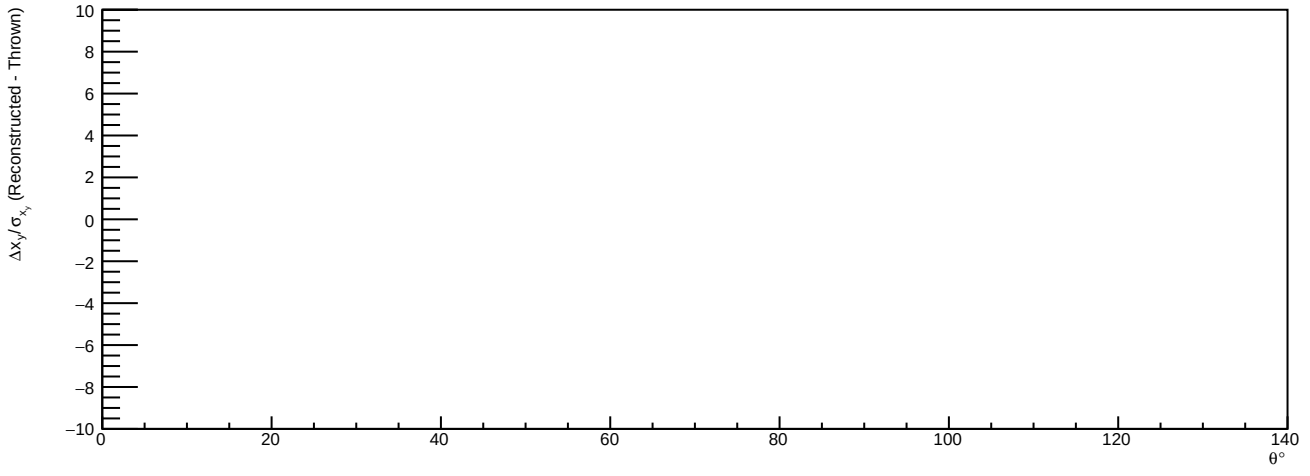

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

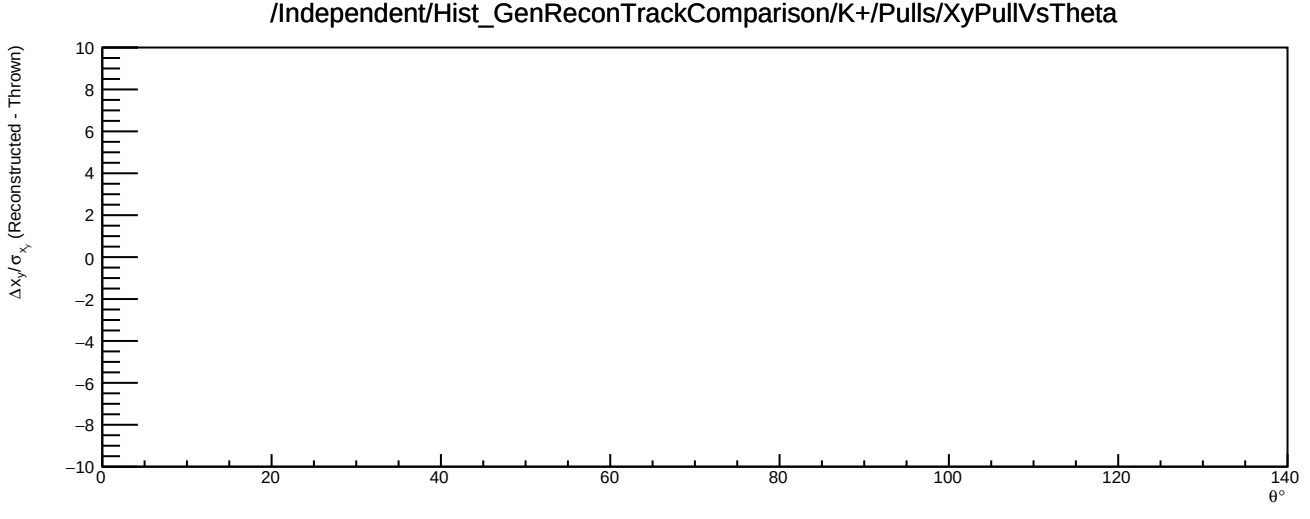
/Independent/Hist_GenReconTrackComparison/K+/Pulls/XyPull



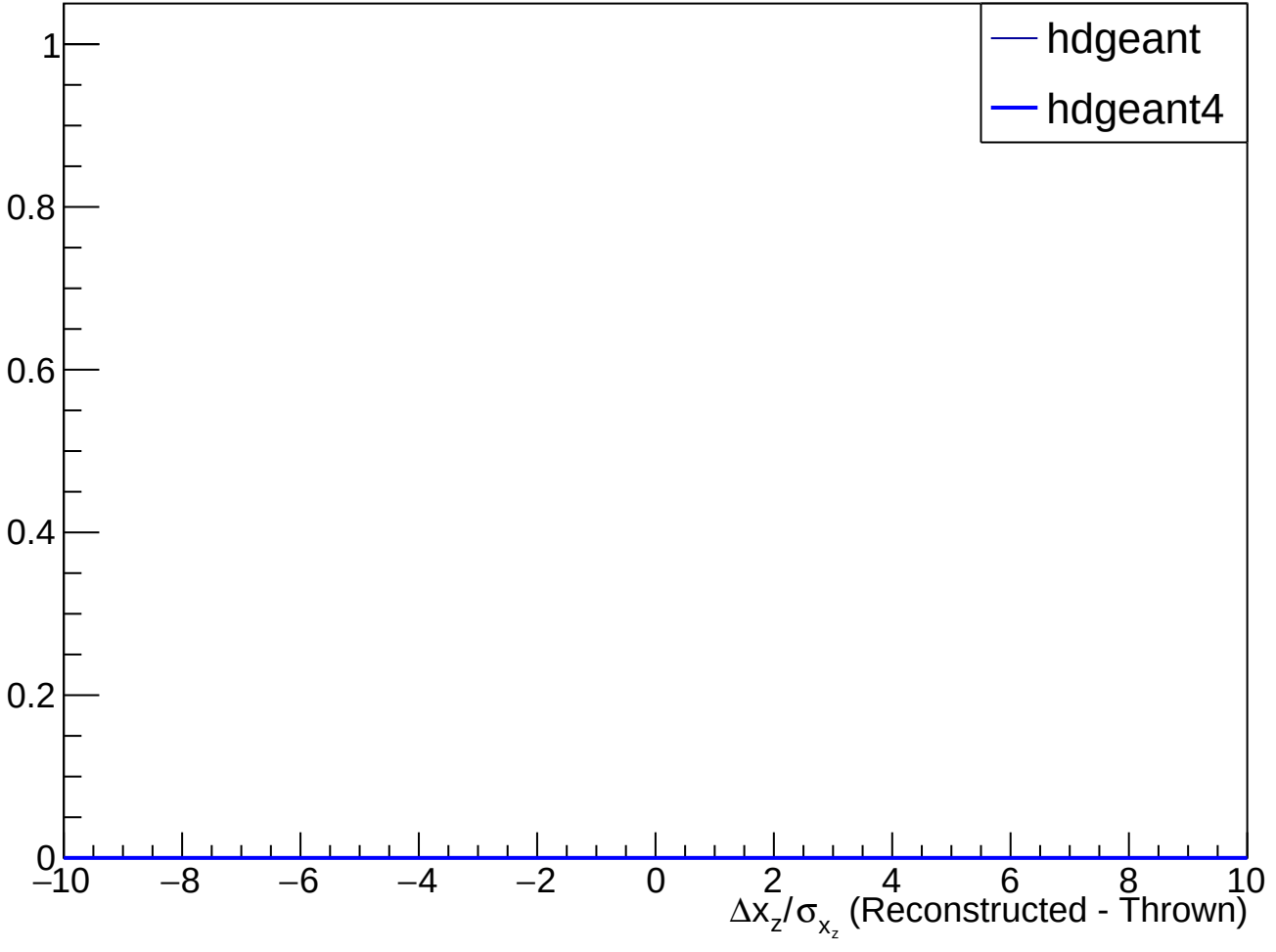

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XyPullVsP
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

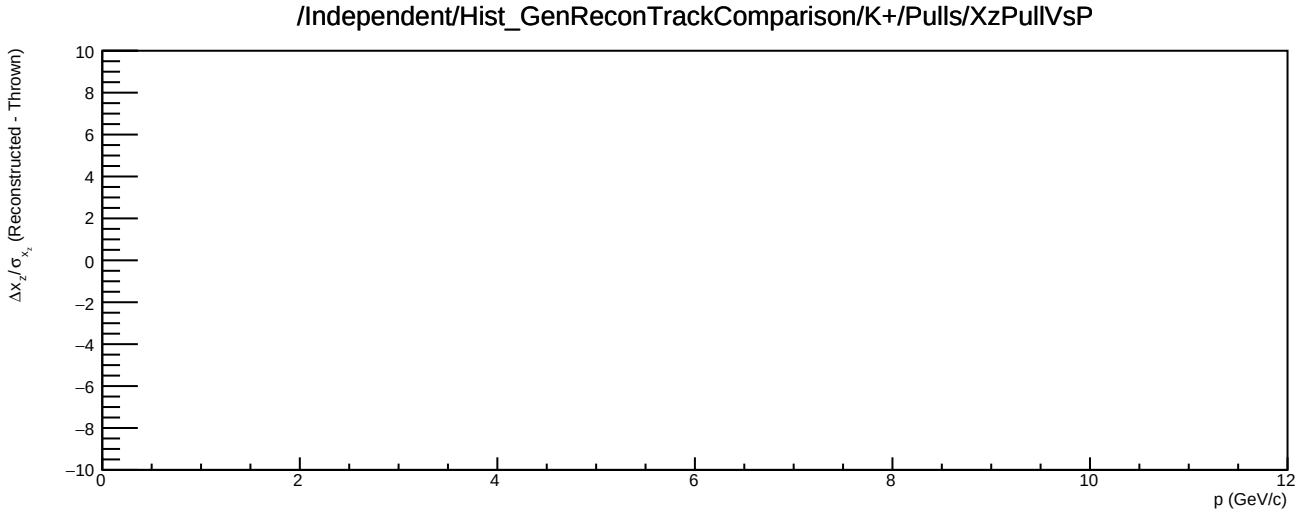

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XyPullVsP
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

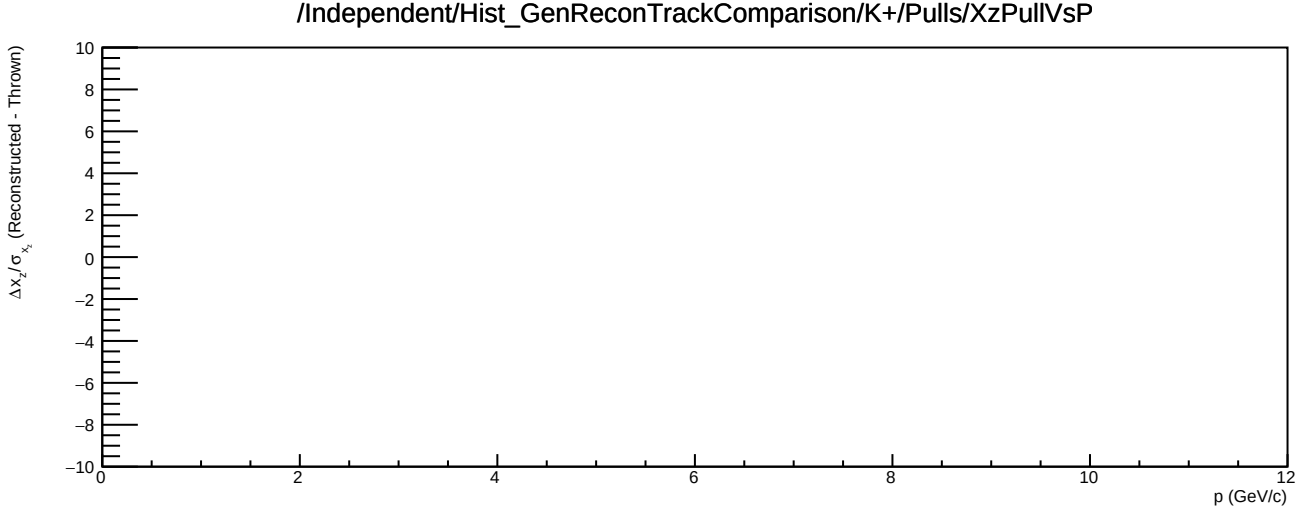

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XyPullVsTheta
$\Delta x_y/\sigma_{x_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

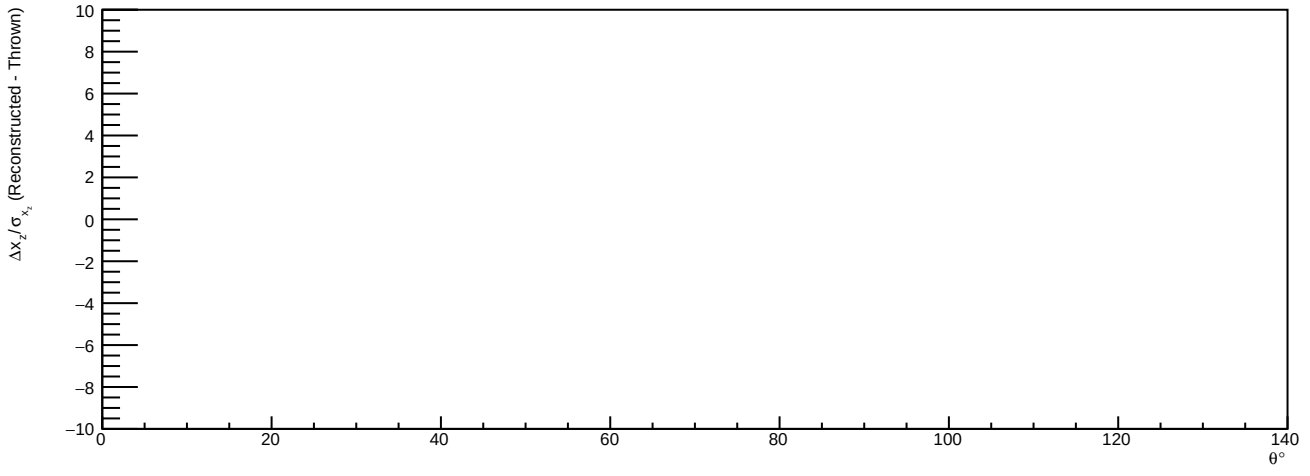

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XyPullVsTheta
$\Delta x_y/\sigma_{x_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

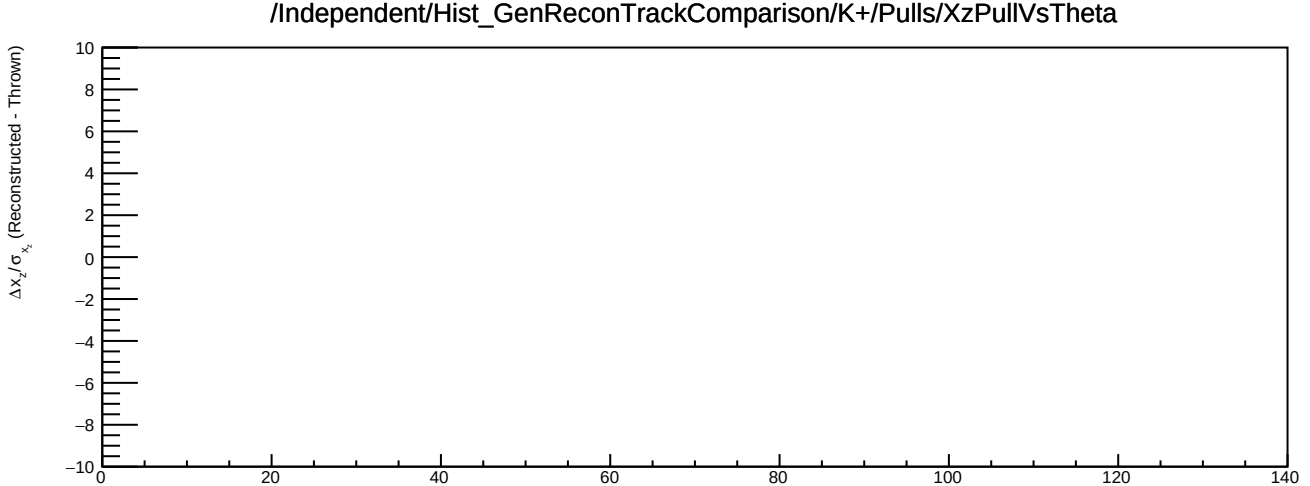
/Independent/Hist_GenReconTrackComparison/K+/Pulls/XzPull



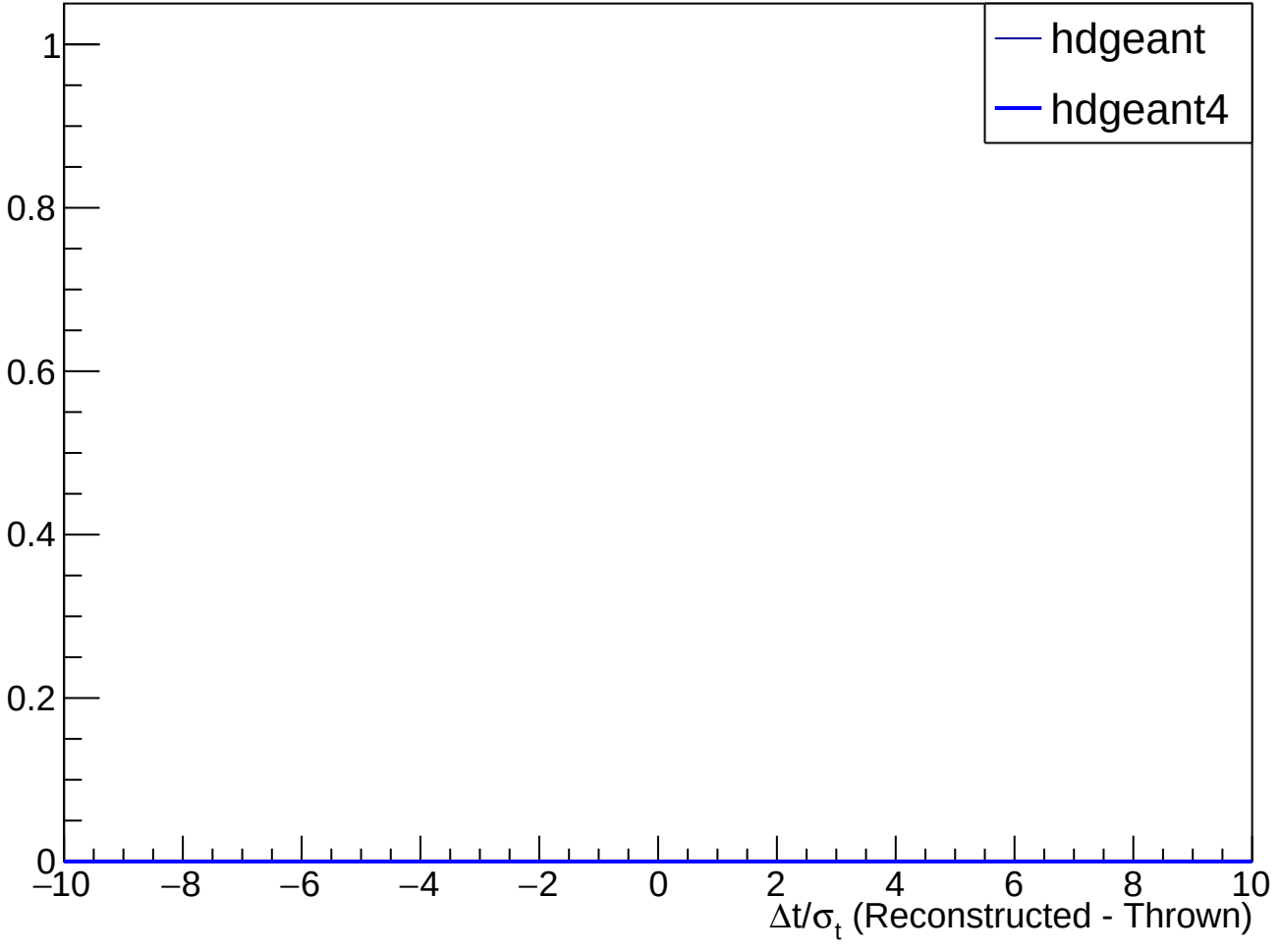

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

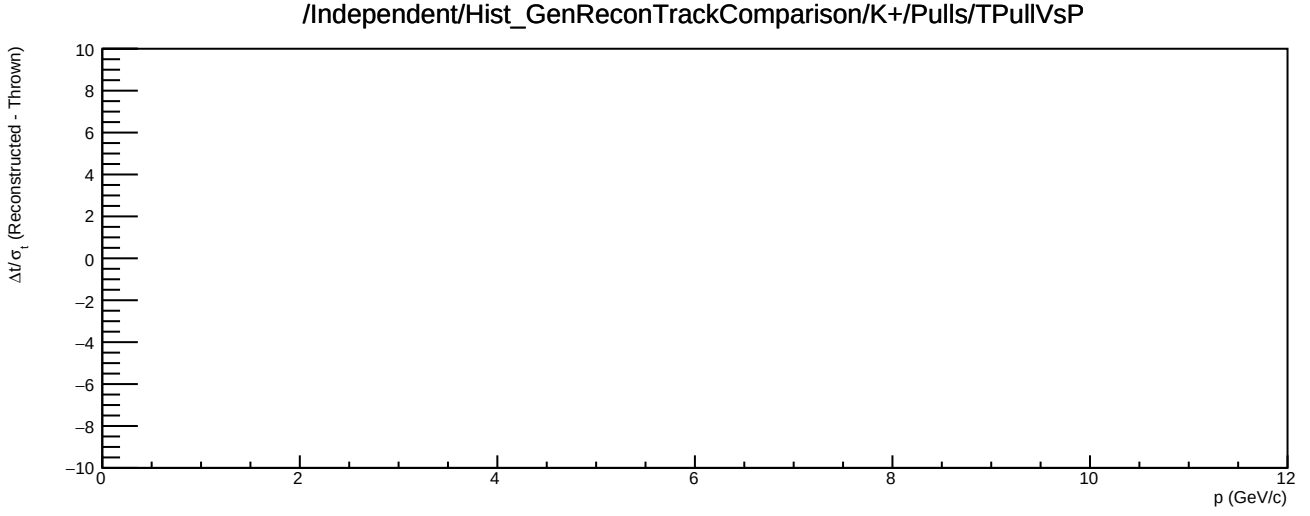

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

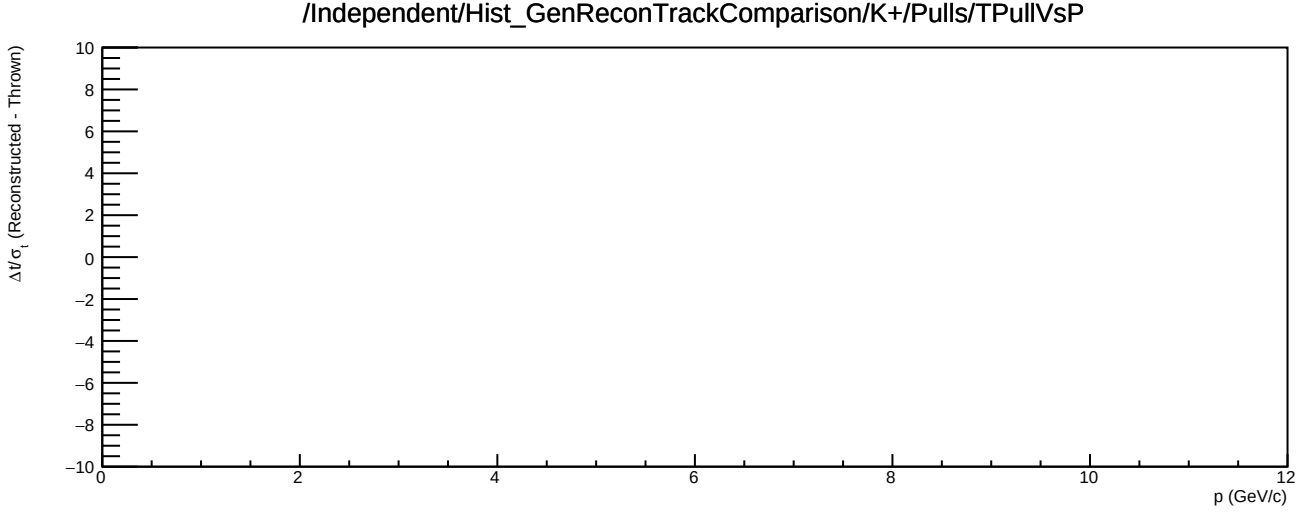

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

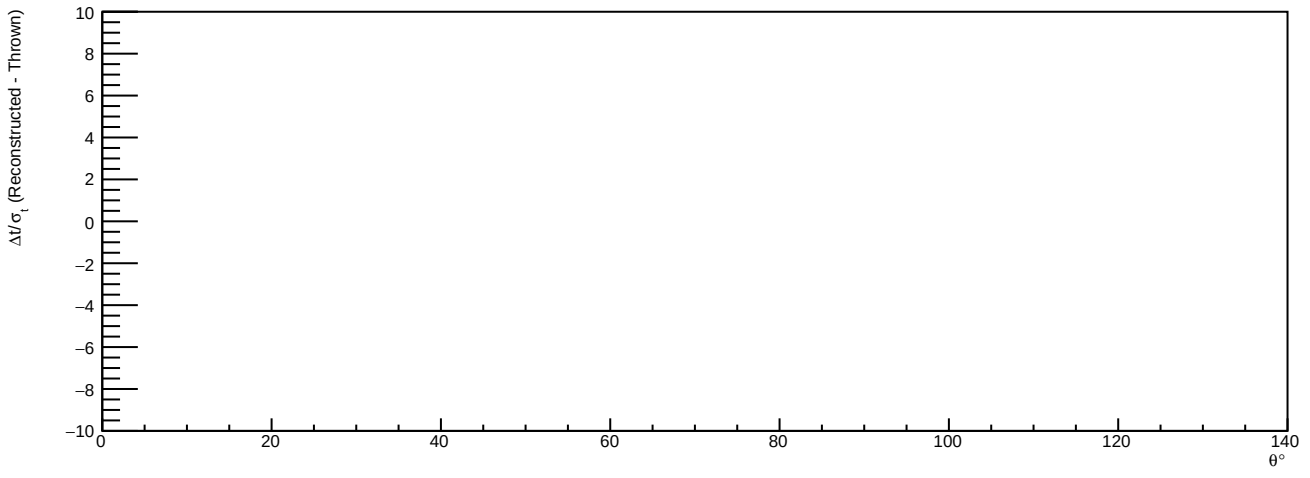

/Independent/Hist_GenReconTrackComparison/K+/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

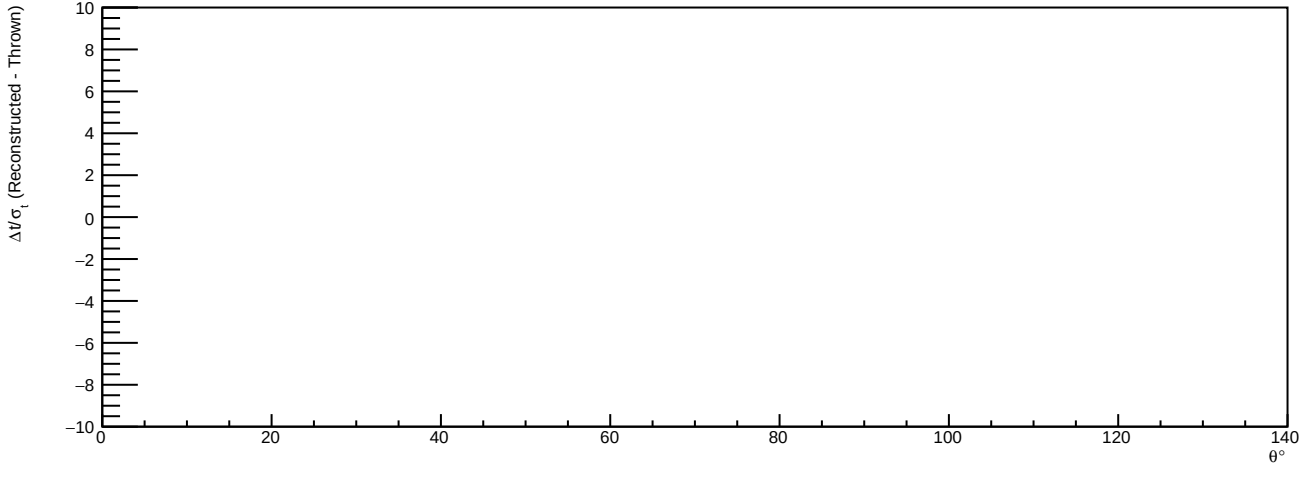
/Independent/Hist_GenReconTrackComparison/K+/Pulls/TPull



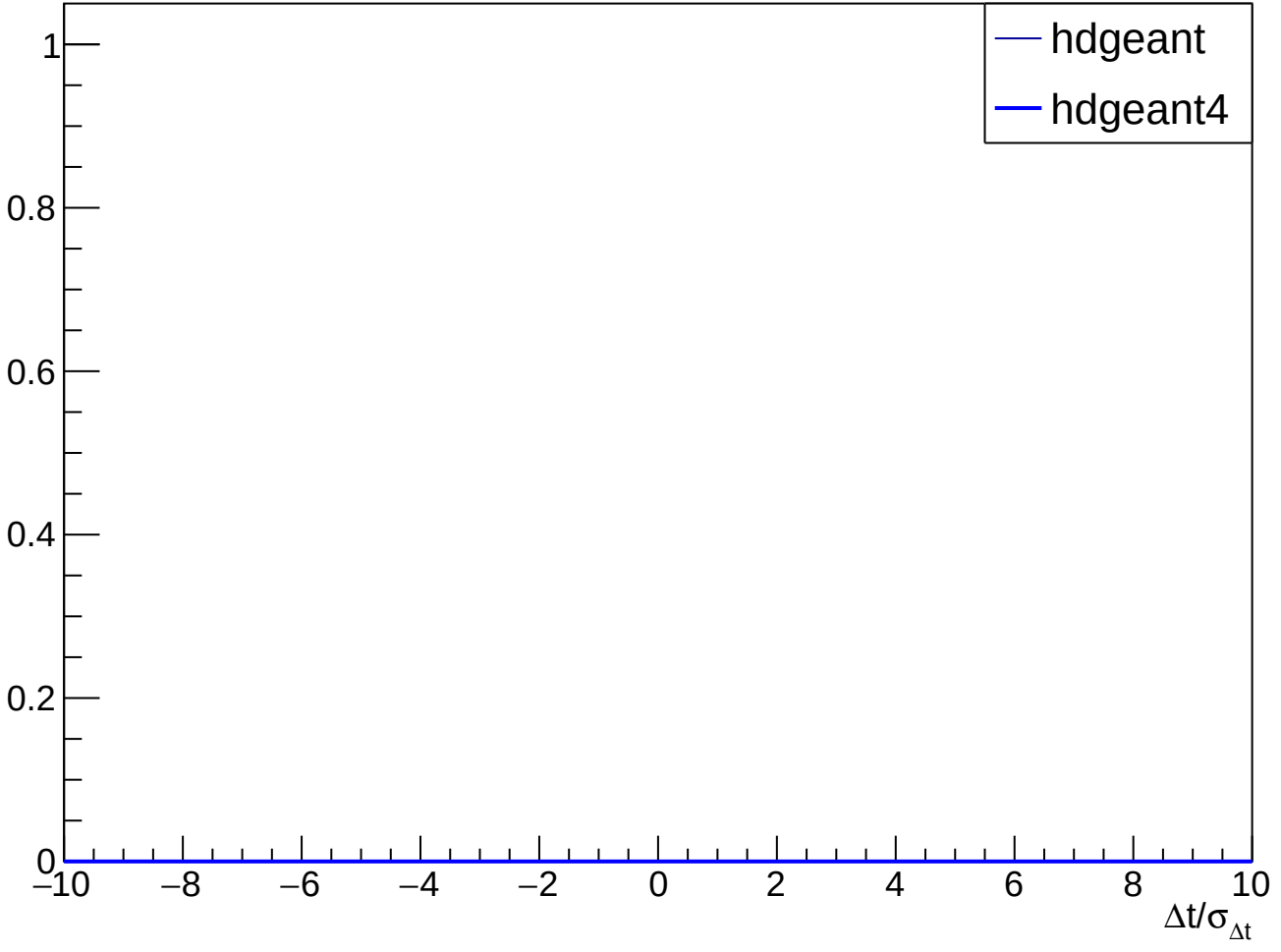

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

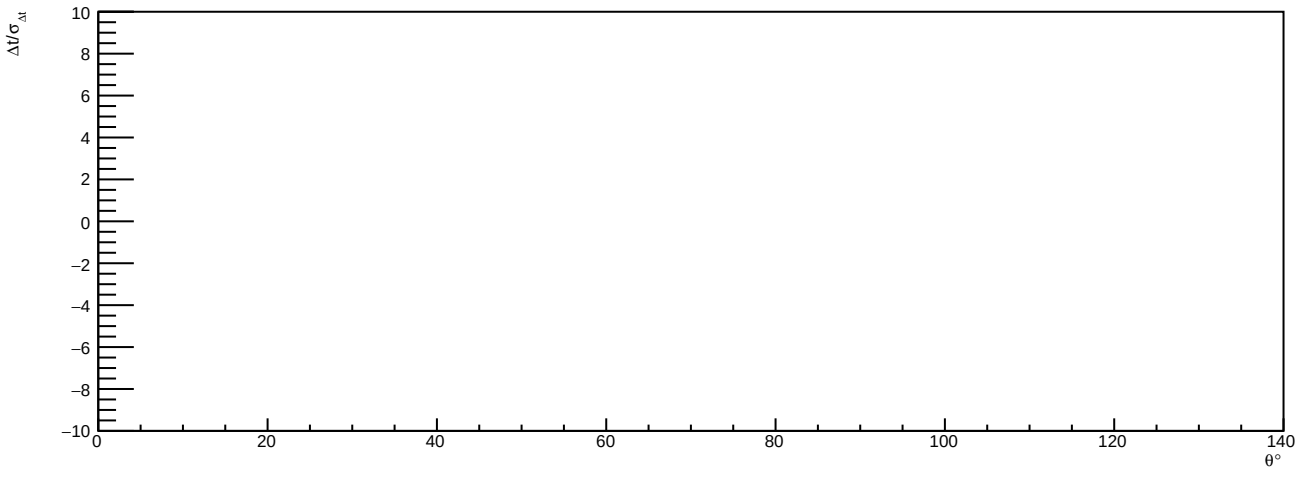

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

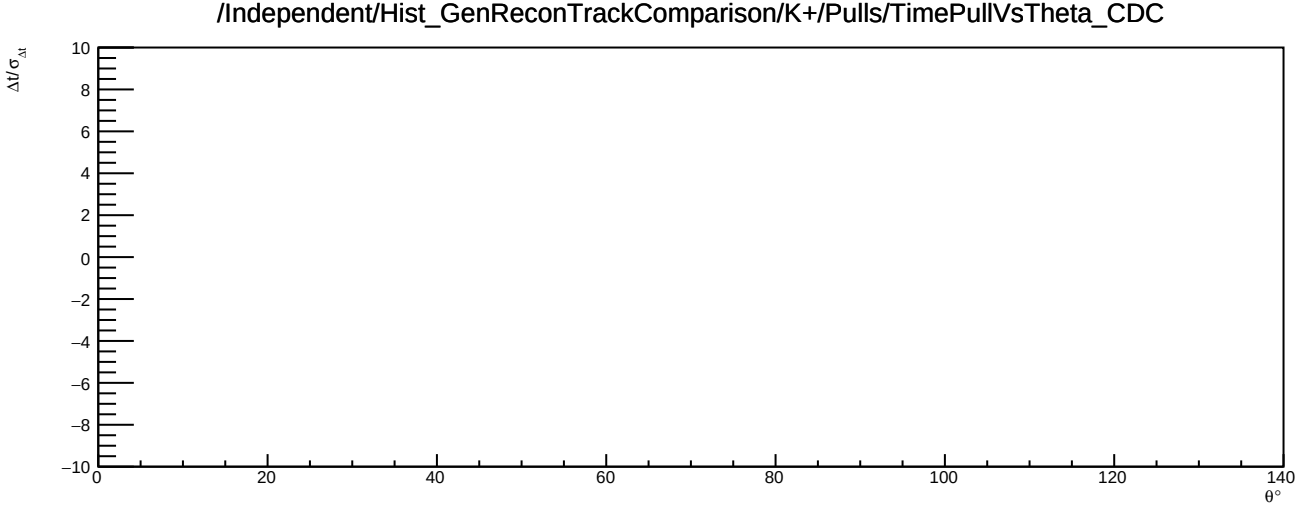

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

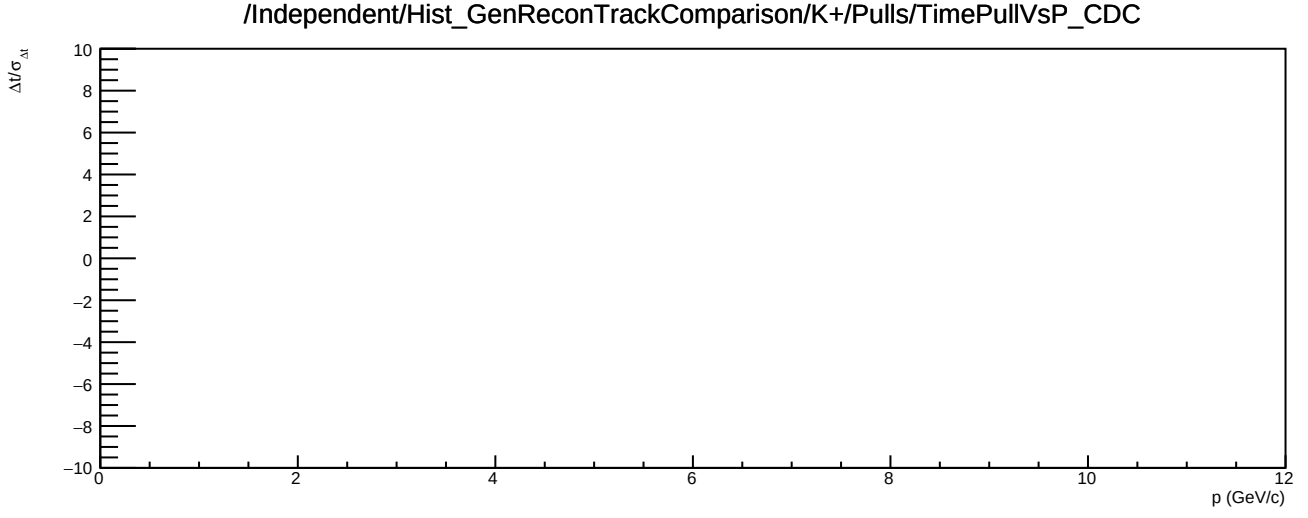

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

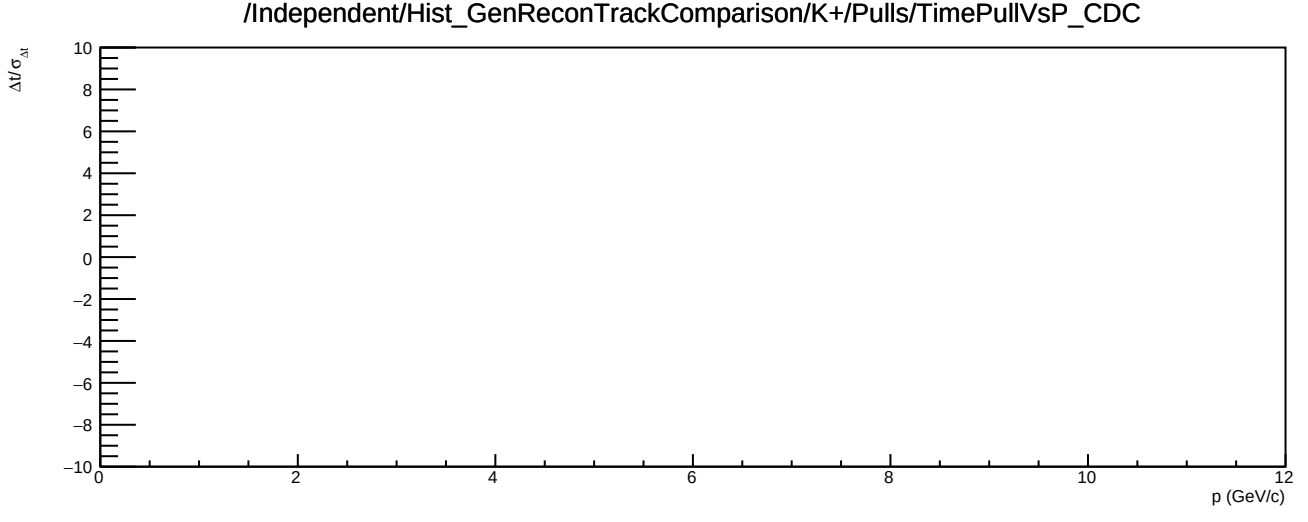
/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePull_CDC



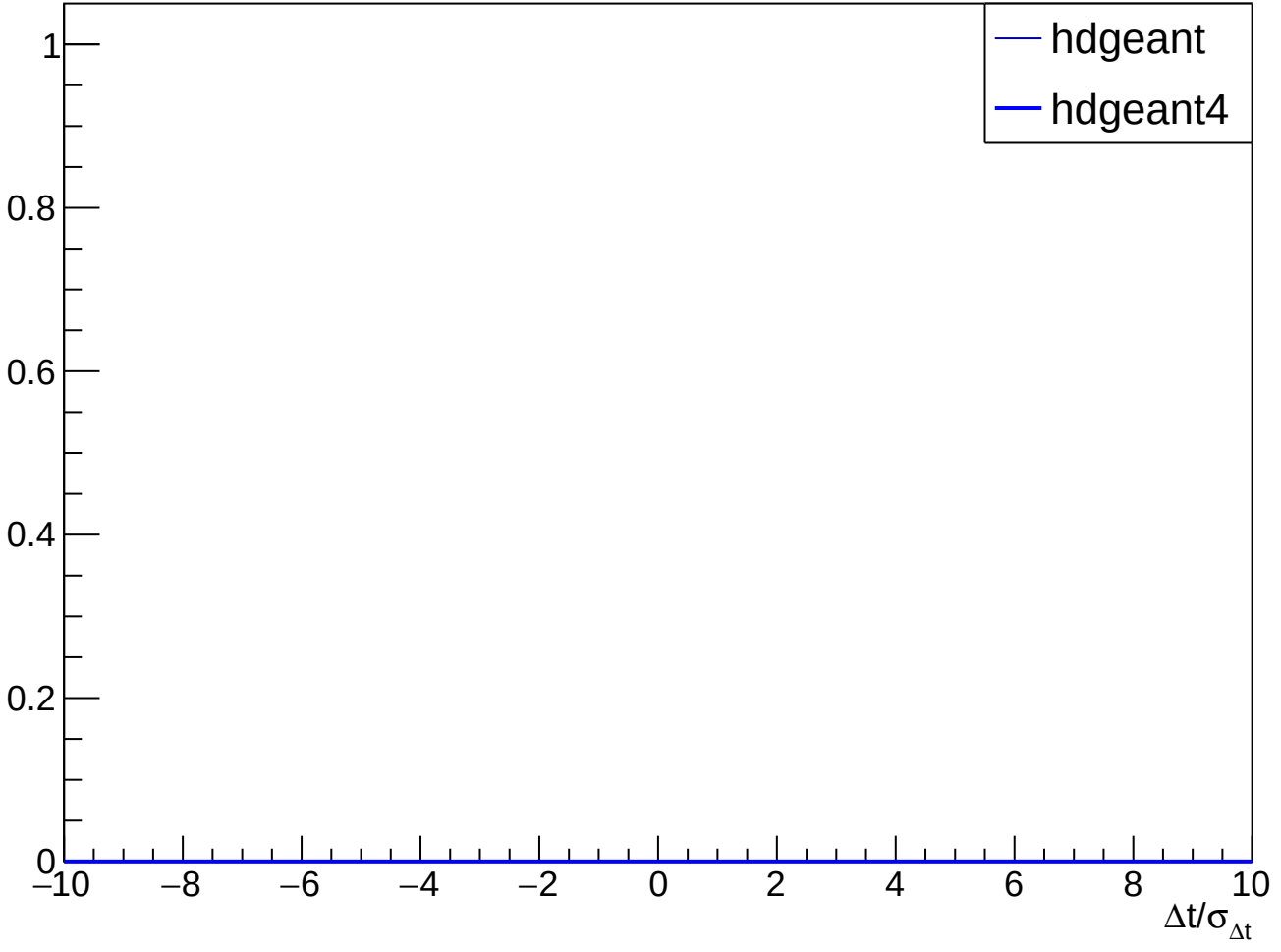

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsTheta_CDC
Δt/σΔt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

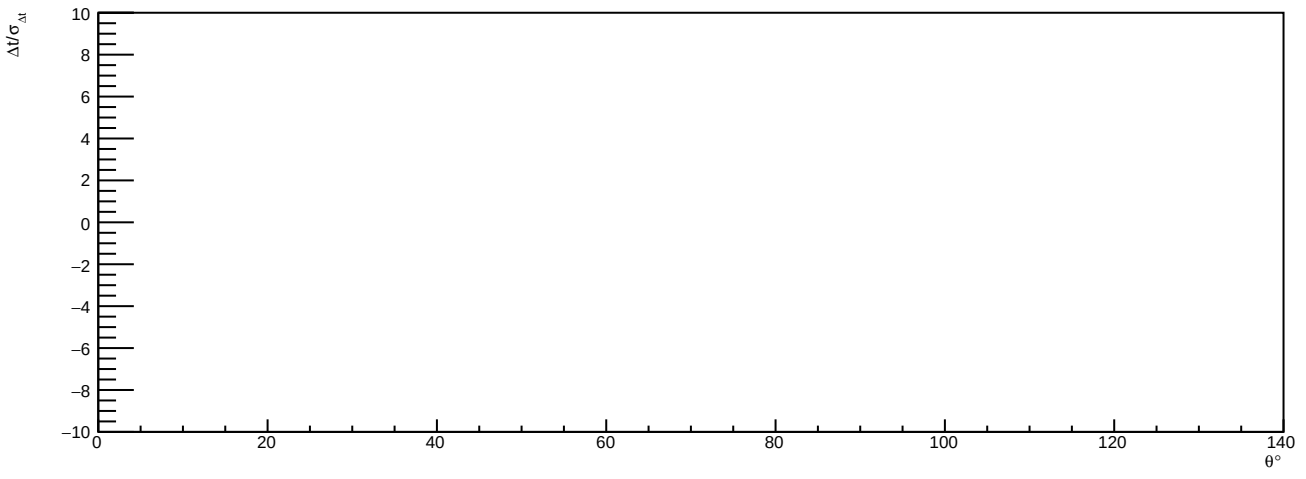

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsTheta_CDC
Δt/σΔt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

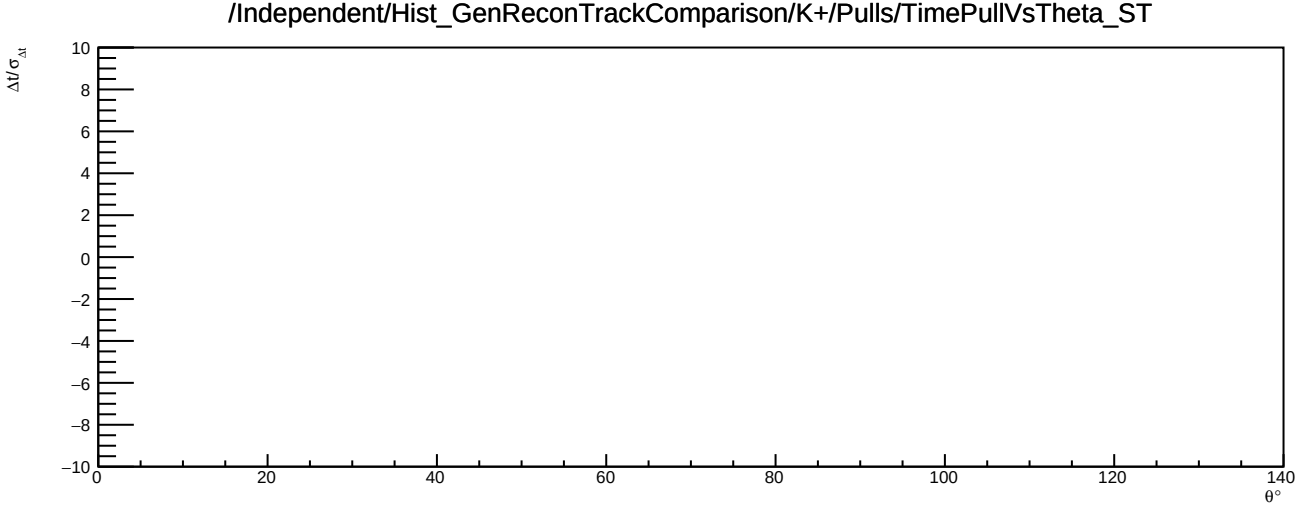

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsP_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

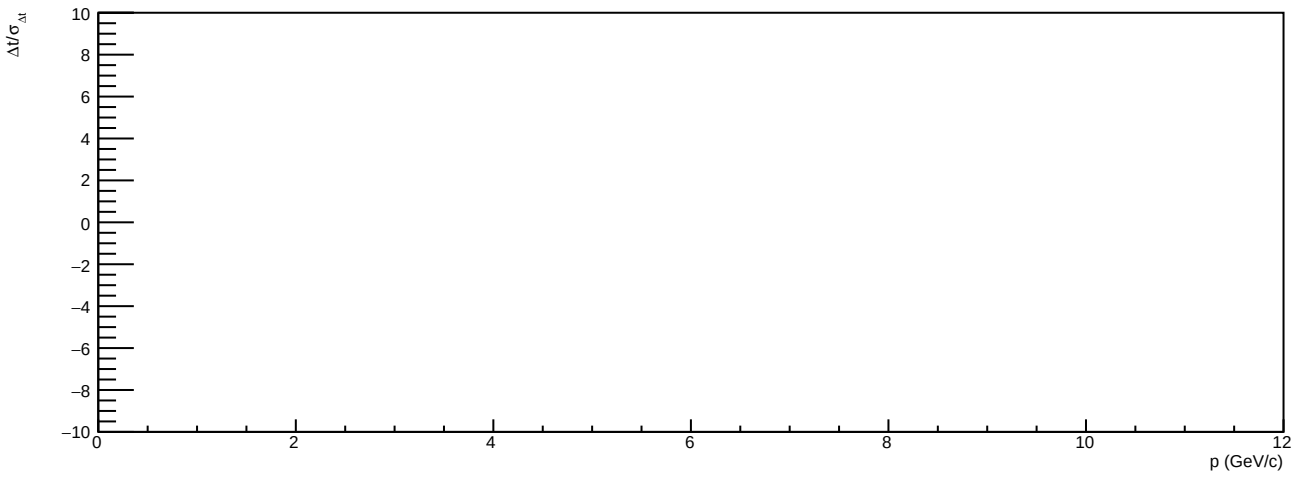

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsP_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

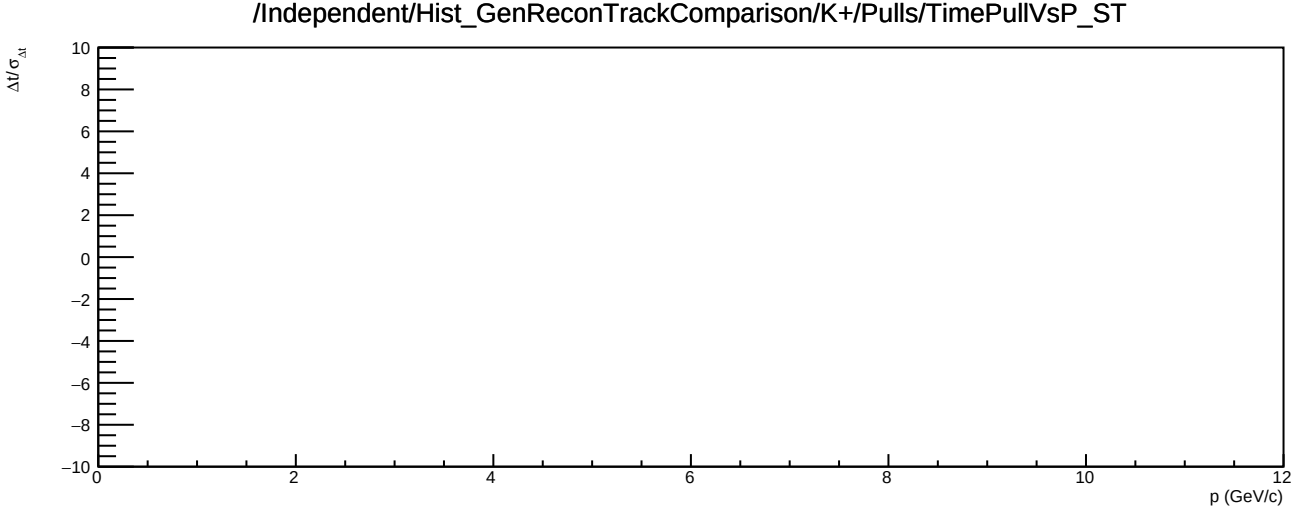
/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePull_ST



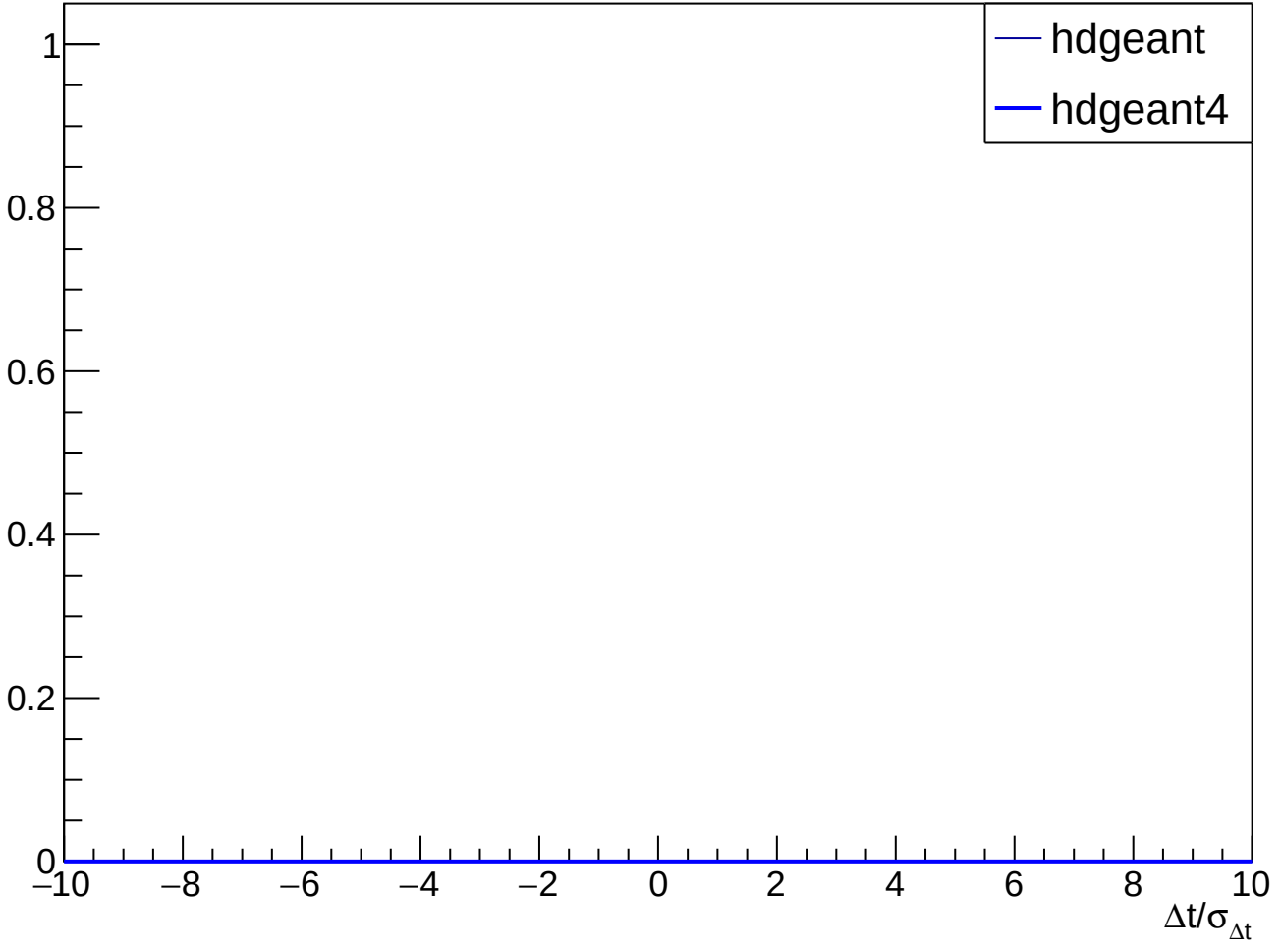

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsTheta_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

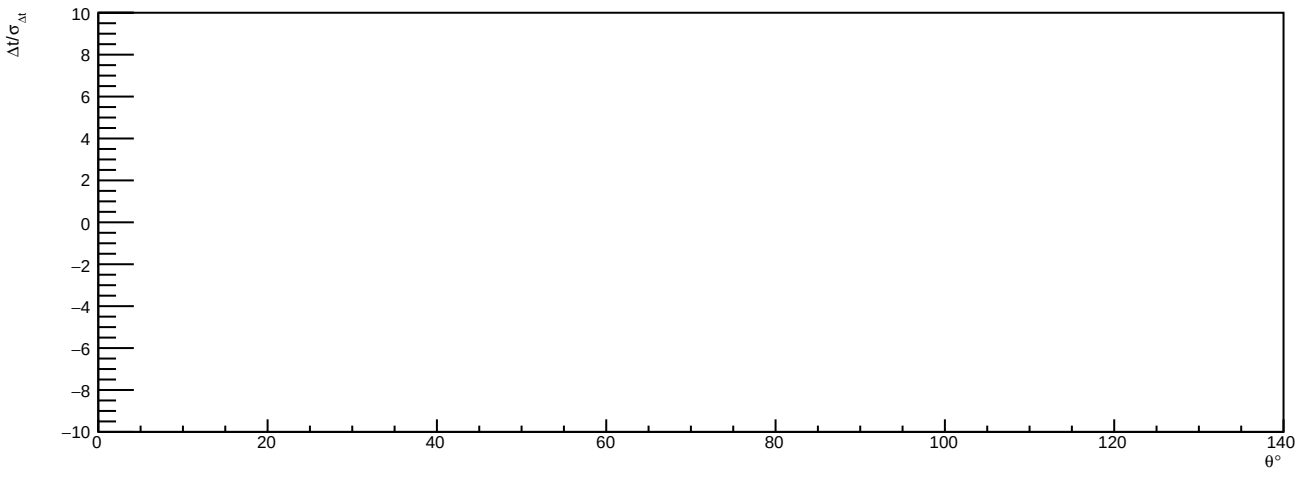

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsTheta_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

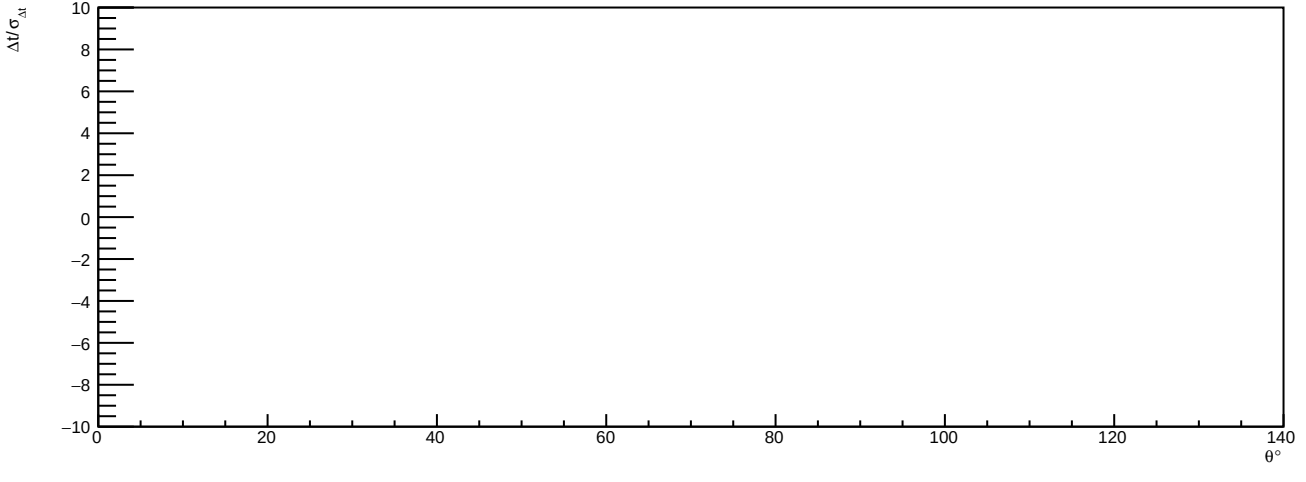

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsP_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

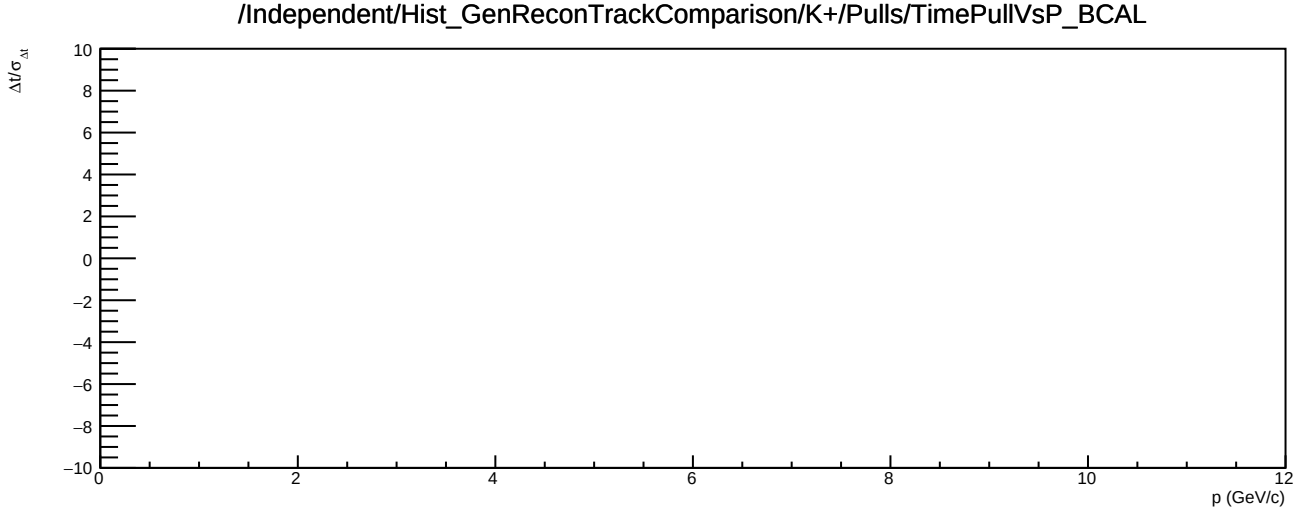

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsP_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

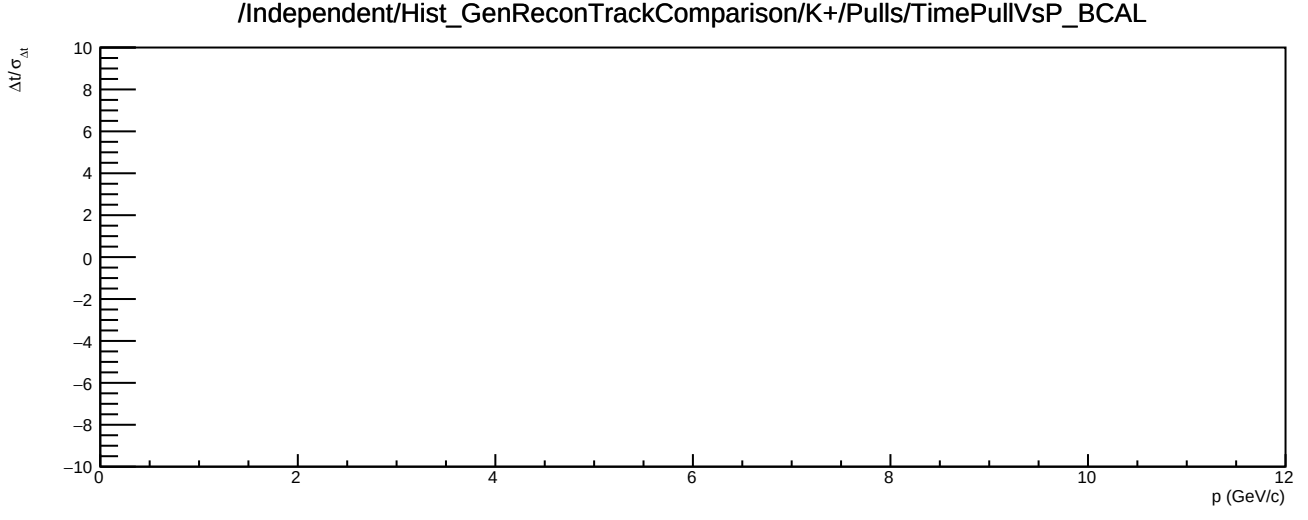
/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePull_BCAL



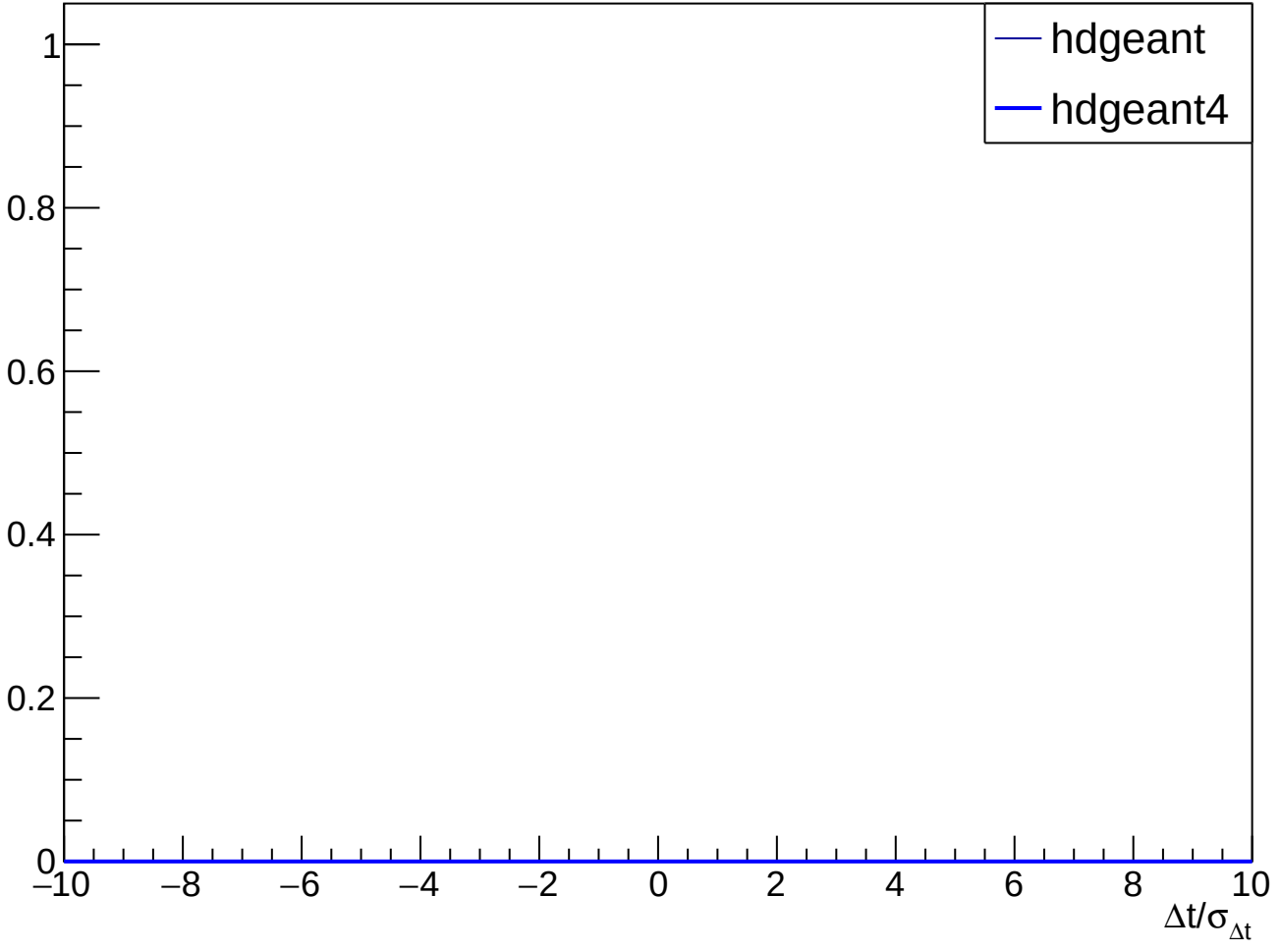

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsTheta_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

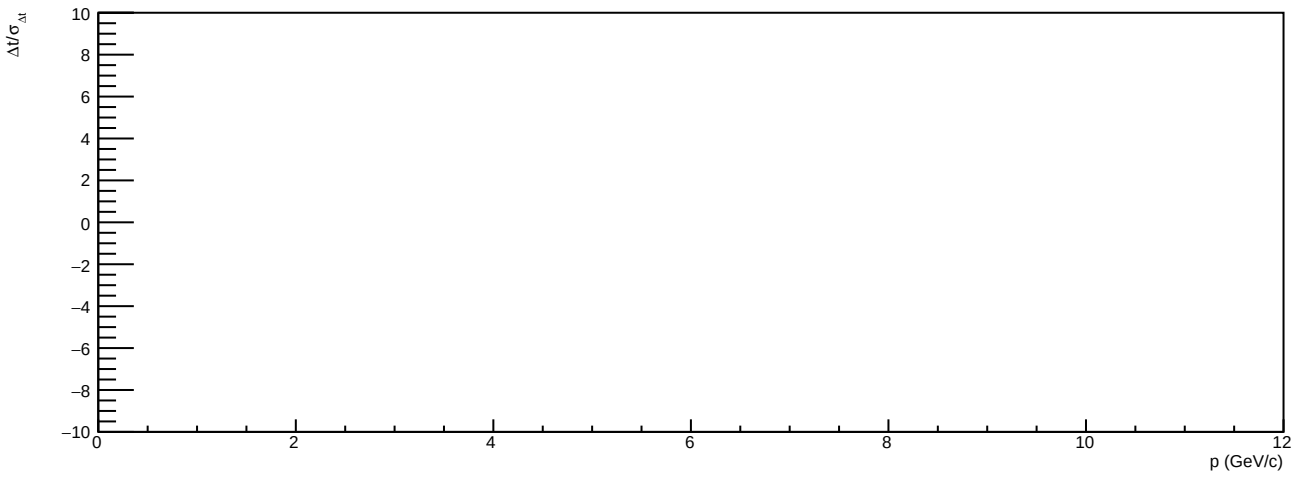

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsTheta_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

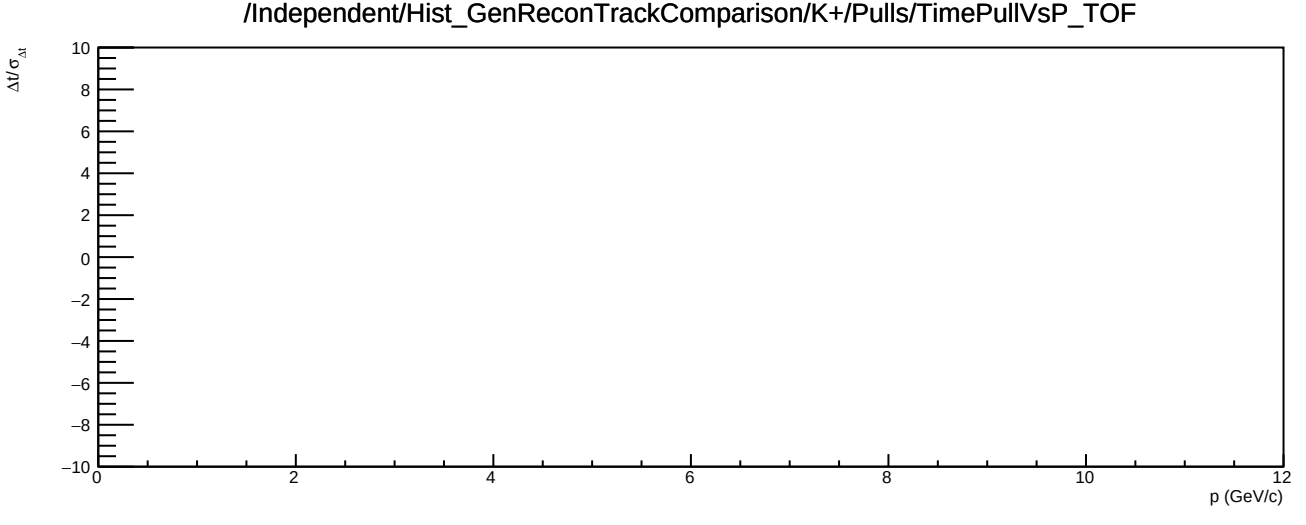

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

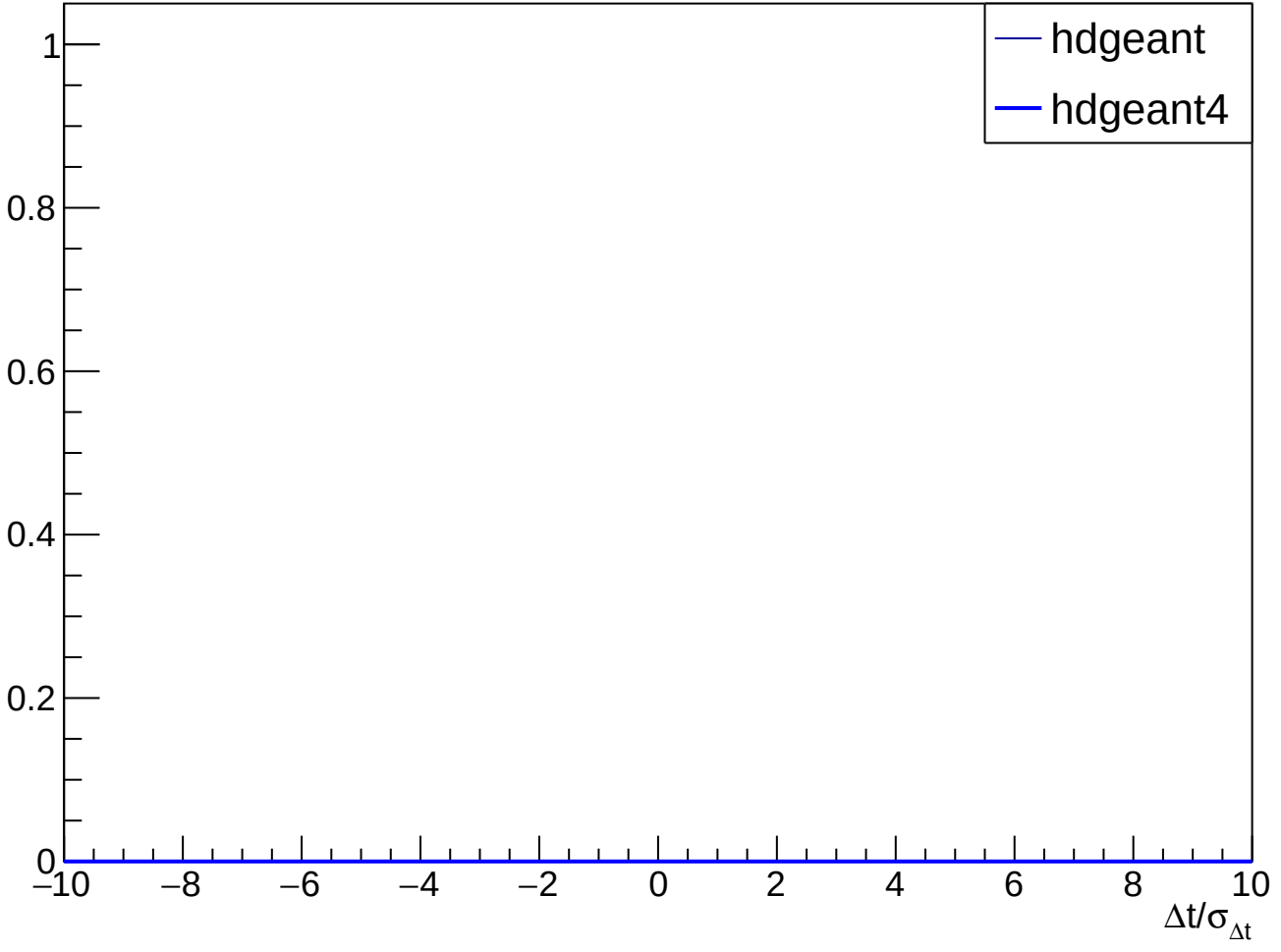
/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePull_TOF

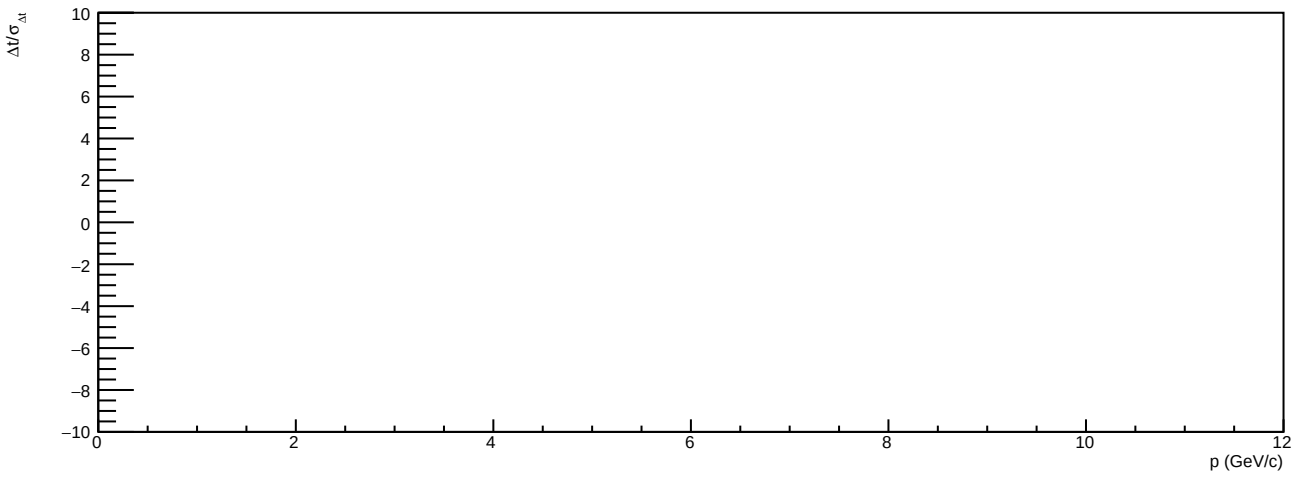


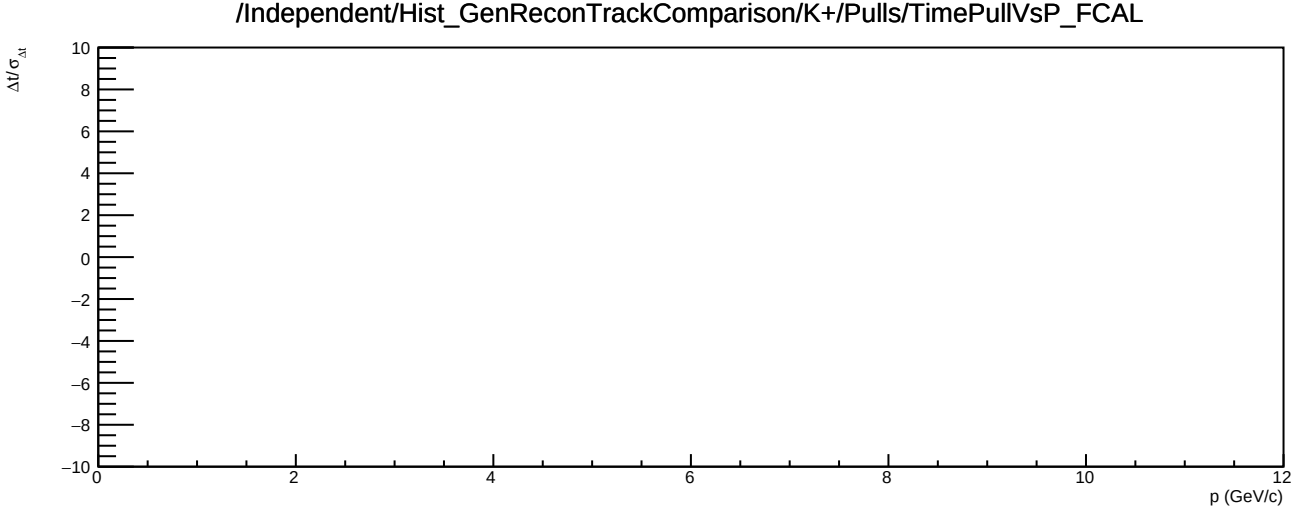

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsP_TOF
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsP_TOF
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

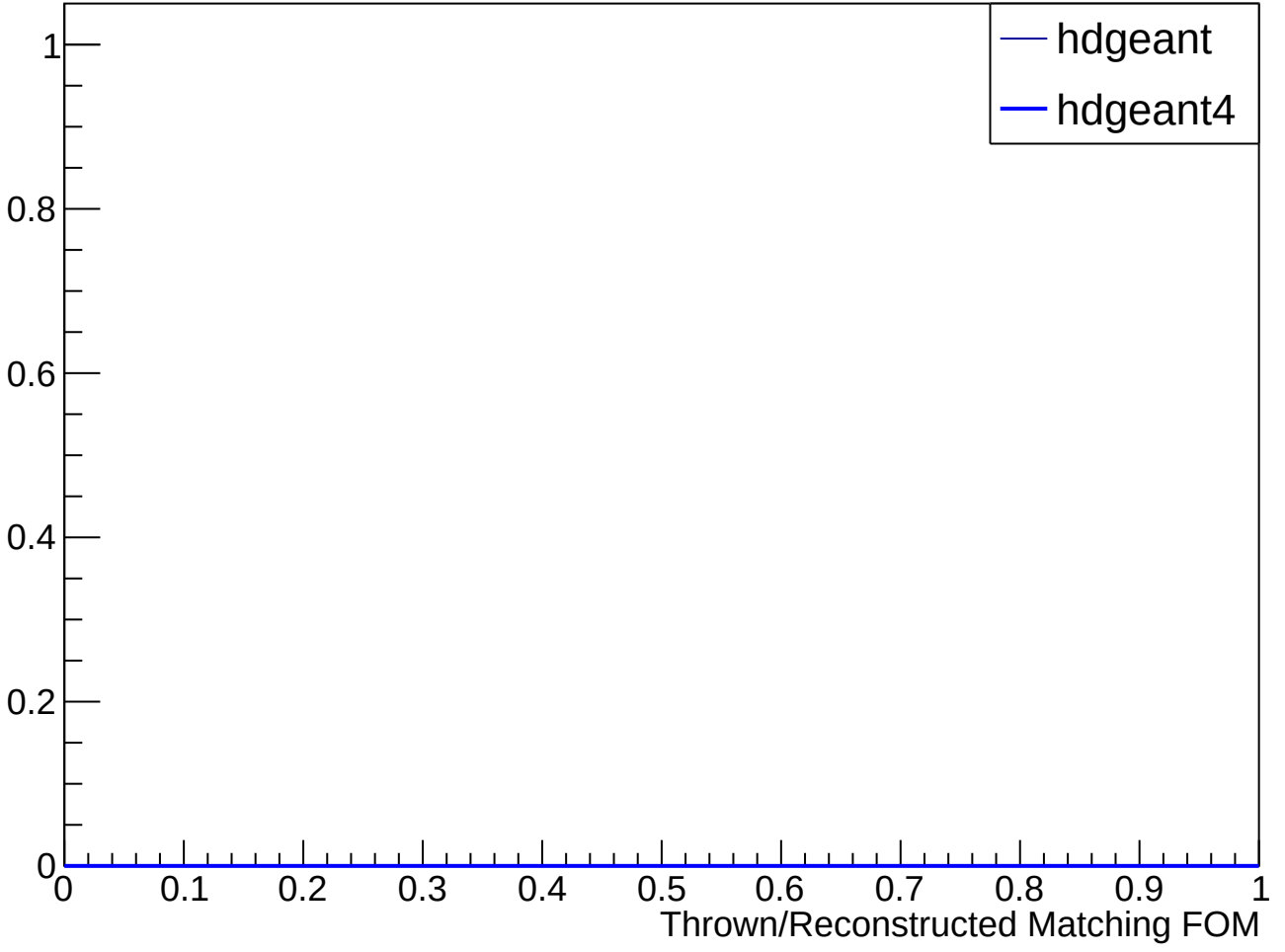
/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePull_FCAL



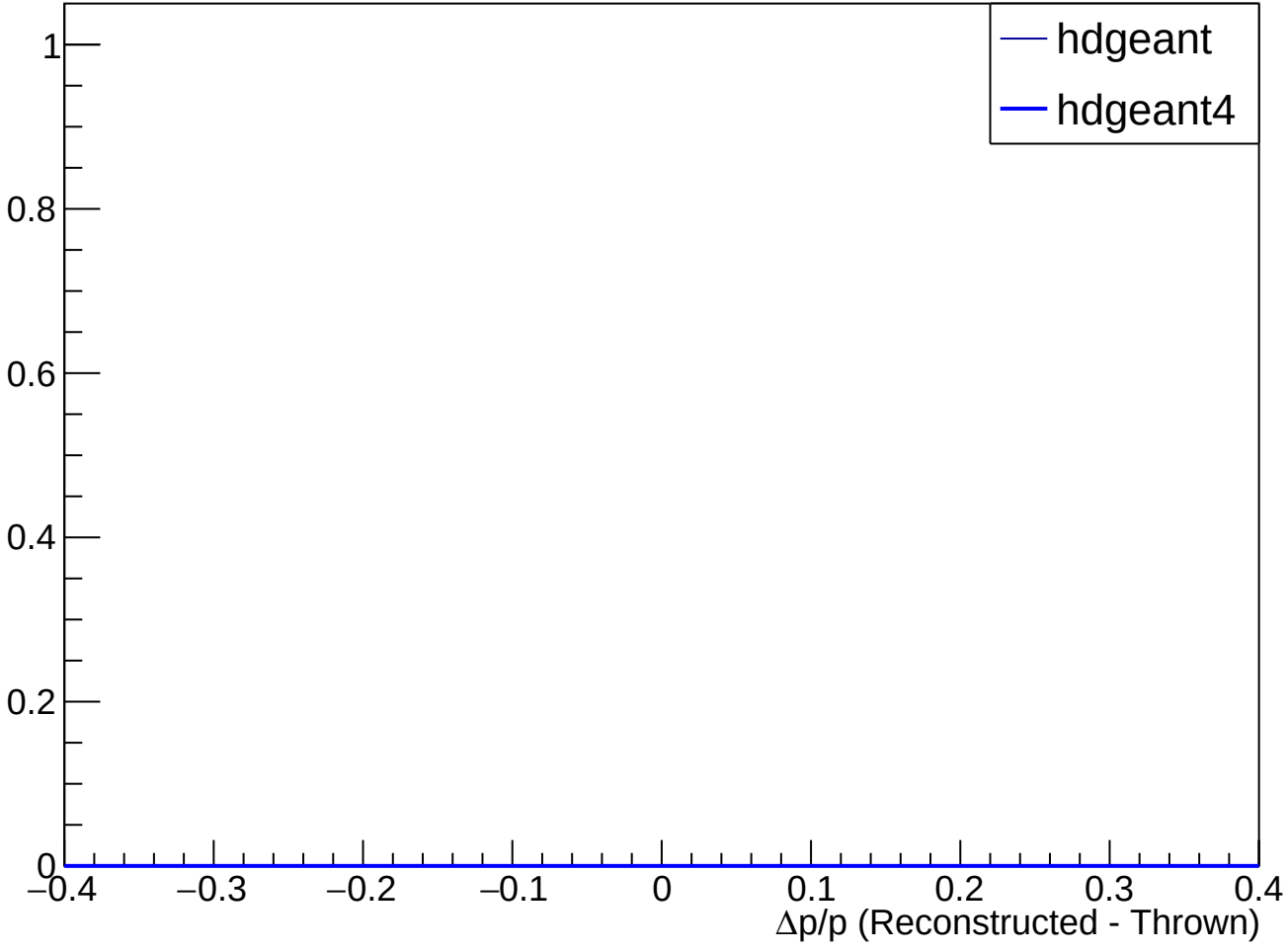

/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/K+/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

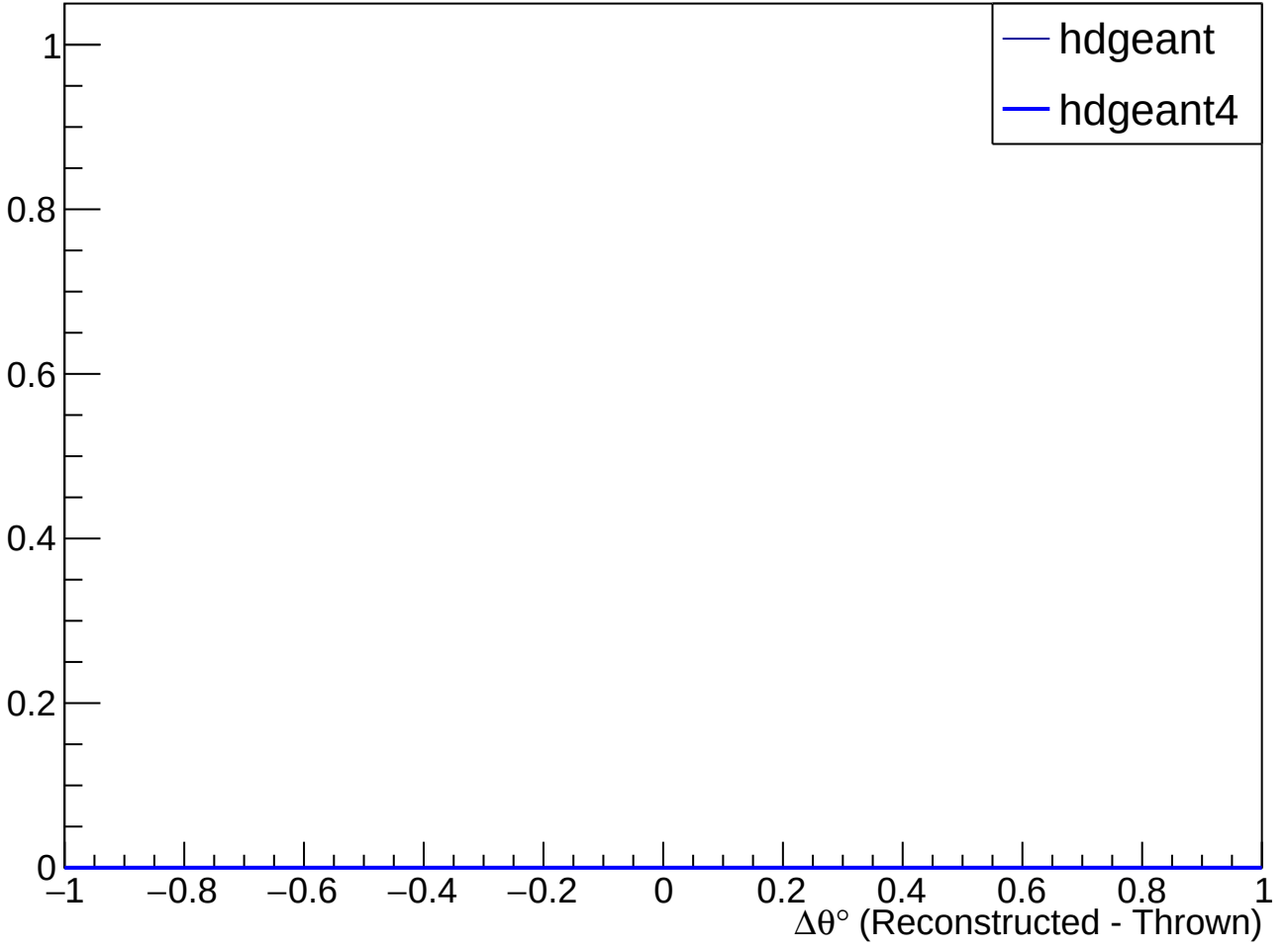
/Independent/Hist_GenReconTrackComparison/K+/MatchFOM

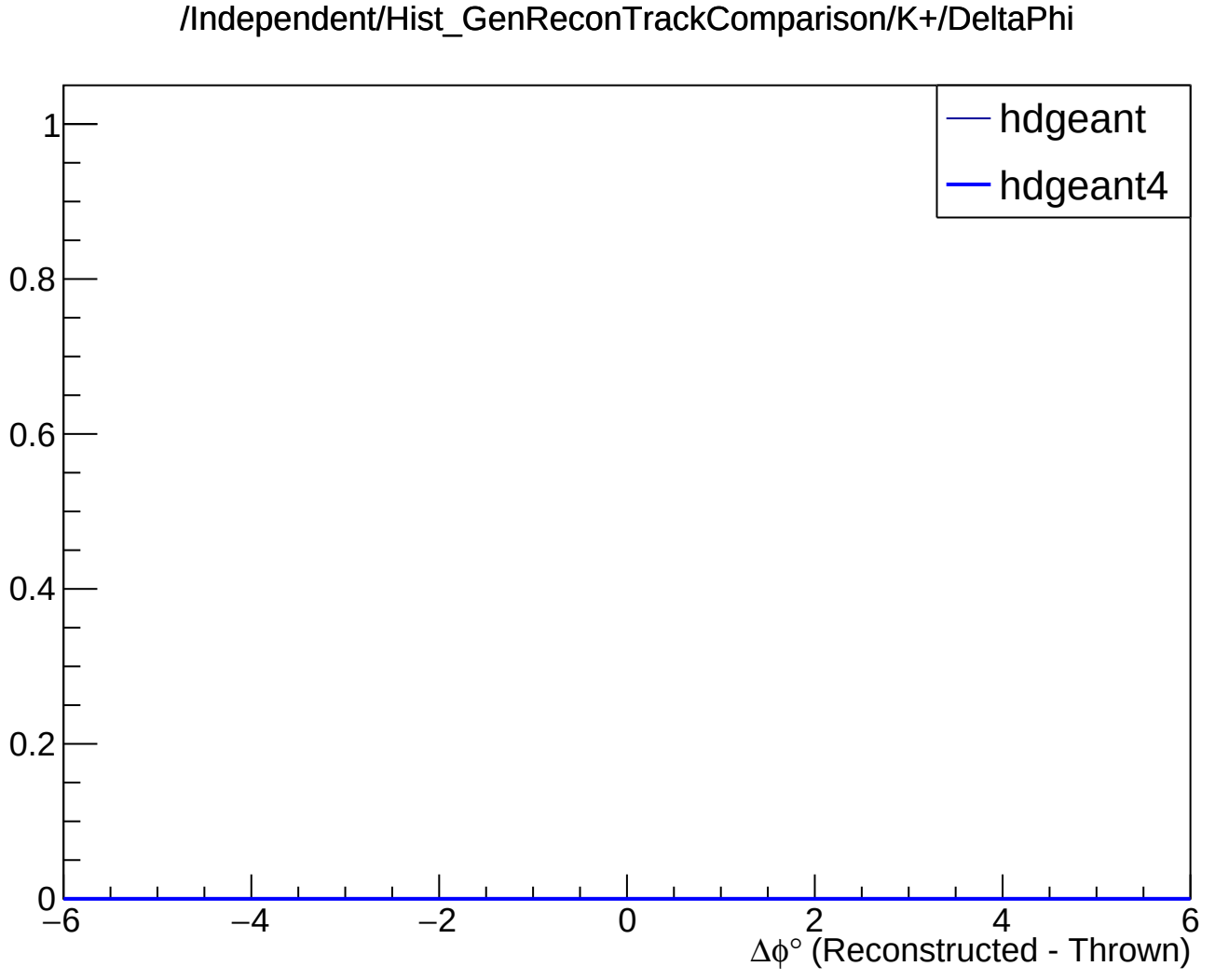


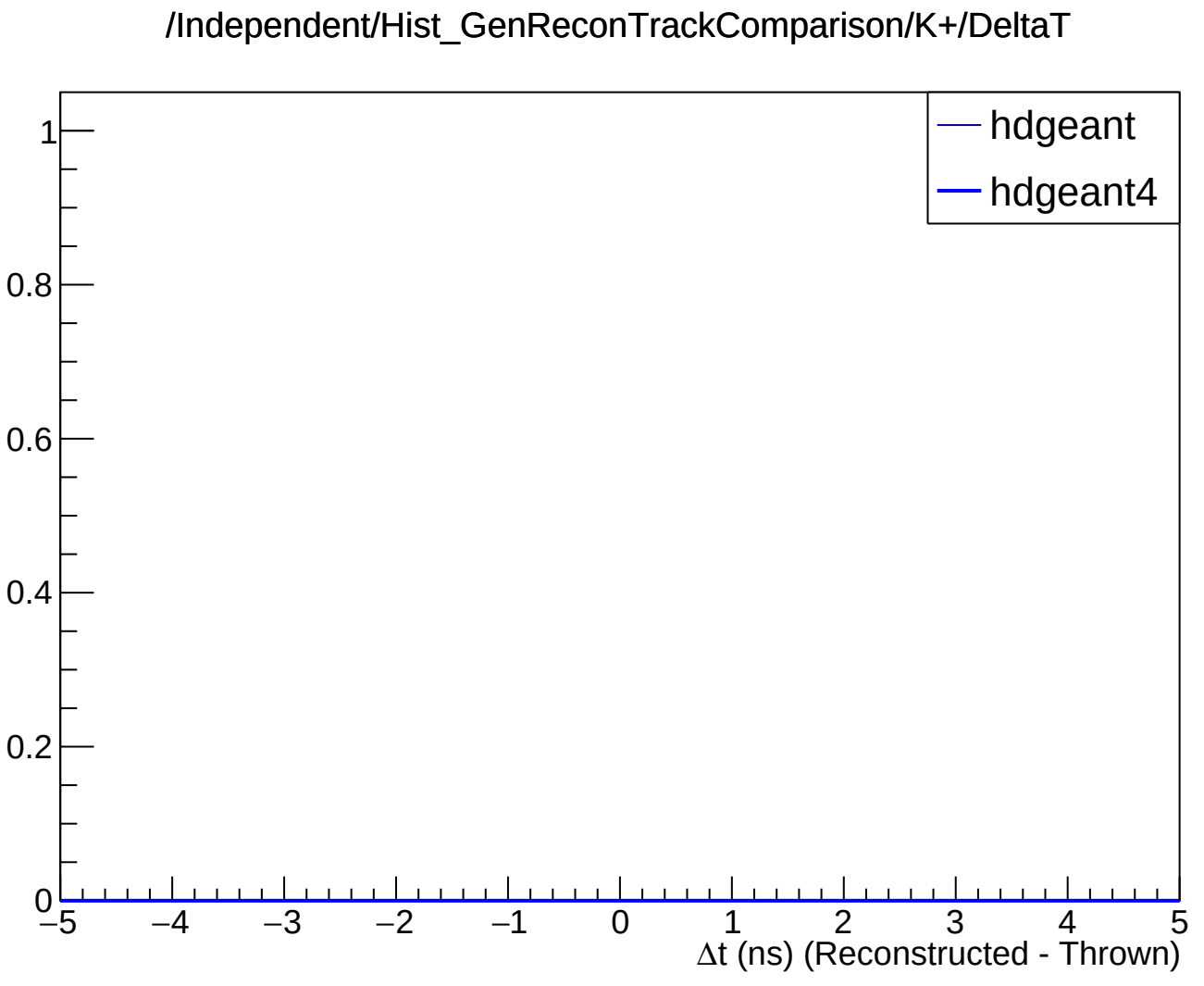
/Independent/Hist_GenReconTrackComparison/K+/DeltaPOverP



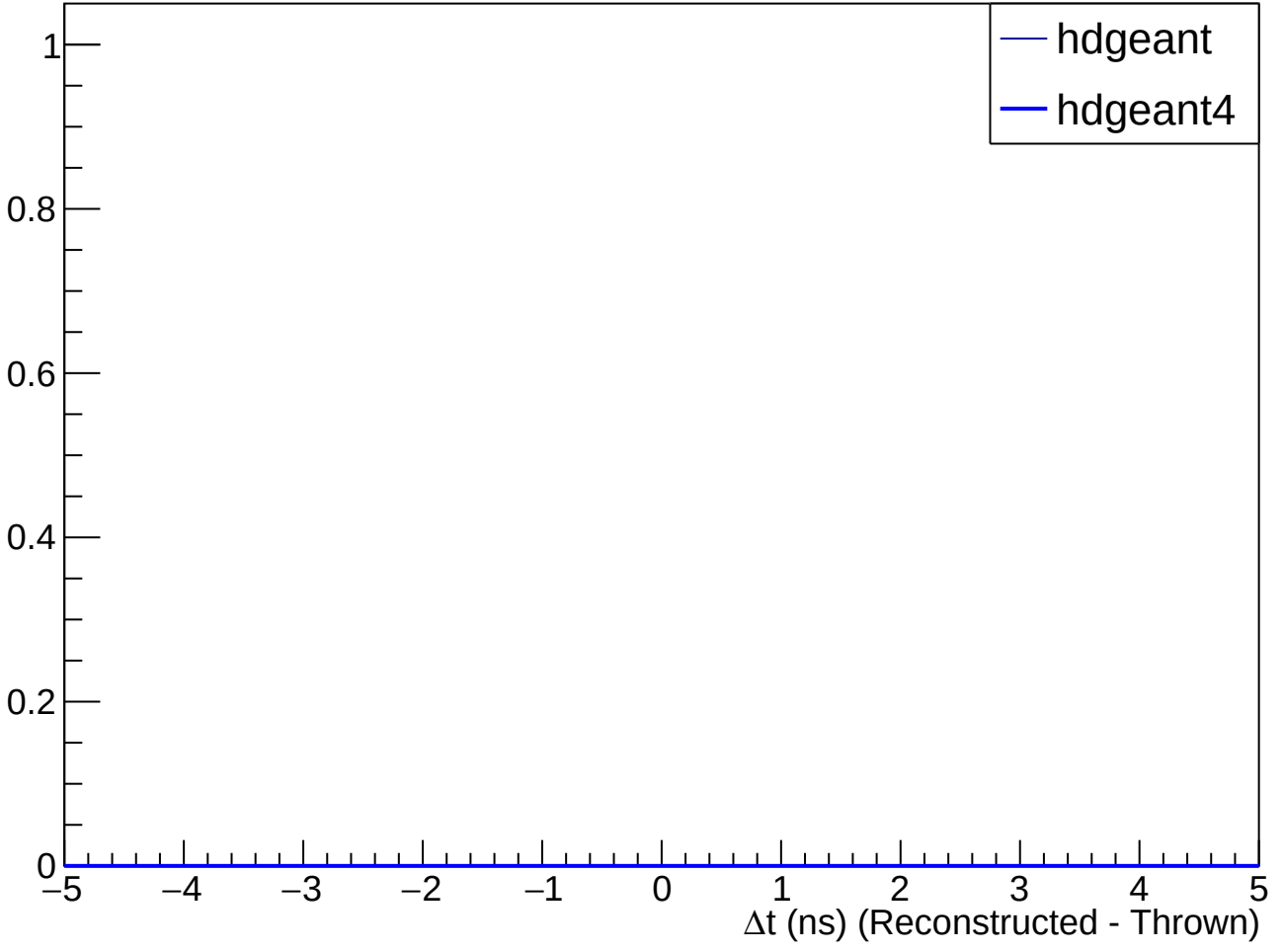
/Independent/Hist_GenReconTrackComparison/K+/DeltaTheta



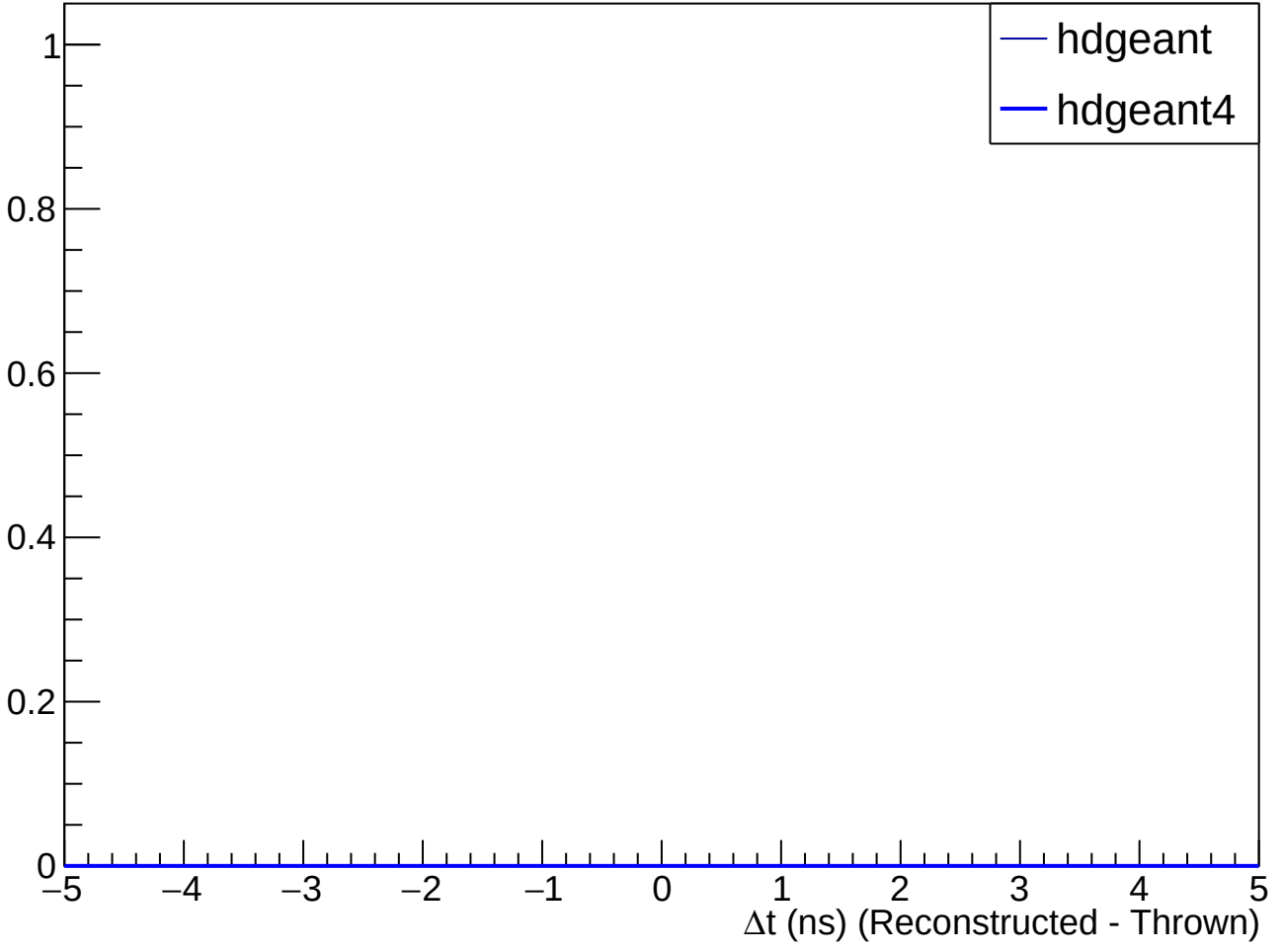

/Independent/Hist_GenReconTrackComparison/K+/DeltaPhi
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
−6
−4
−2
0
2
4
6
Δϕ° (Reconstructed - Thrown)


/Independent/Hist_GenReconTrackComparison/K+/DeltaT
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
−5
−4
−3
−2
−1
0
1
2
3
4
5
Δt (ns) (Reconstructed - Thrown)

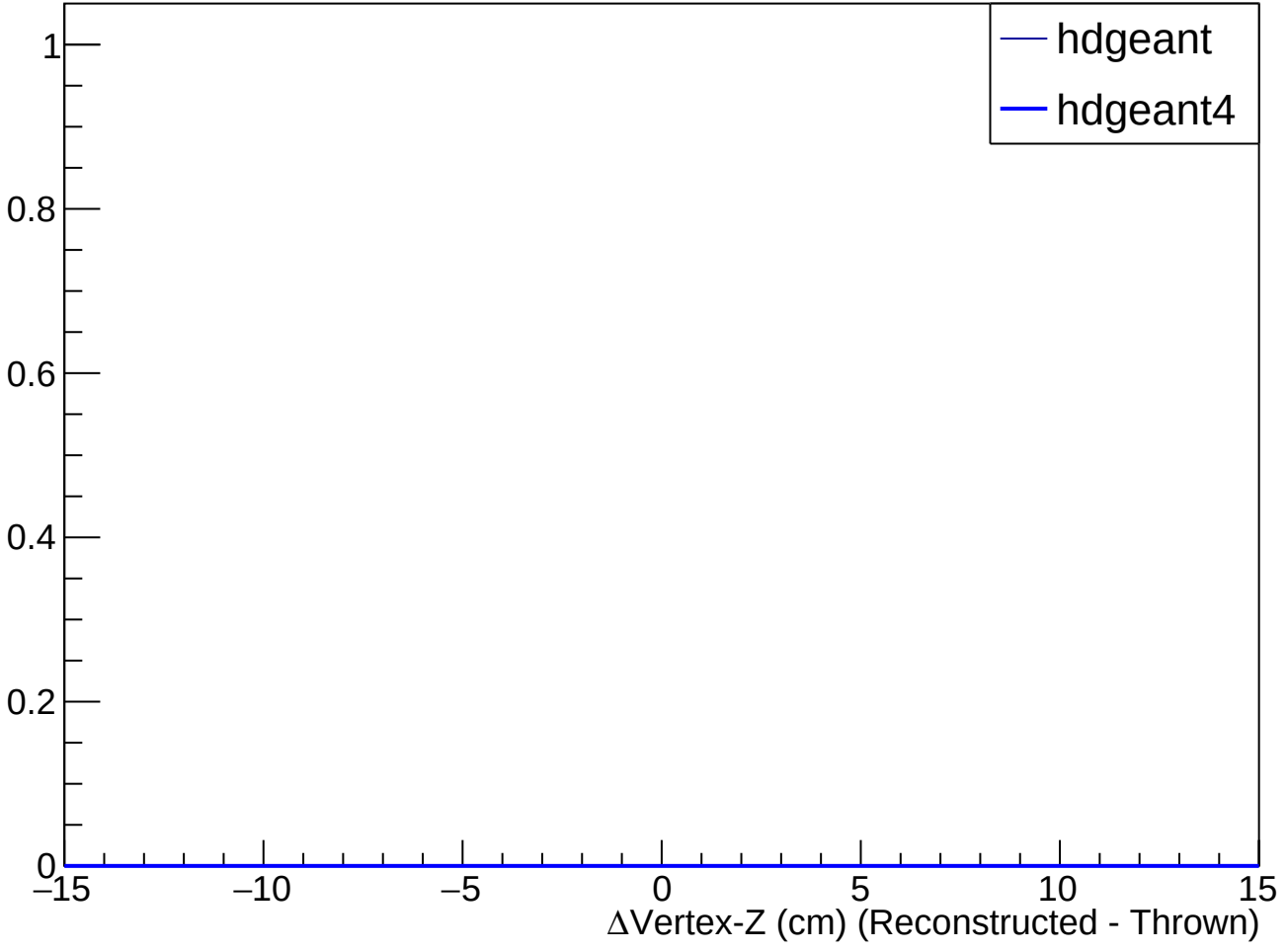
/Independent/Hist_GenReconTrackComparison/K+/DeltaT_BCAL

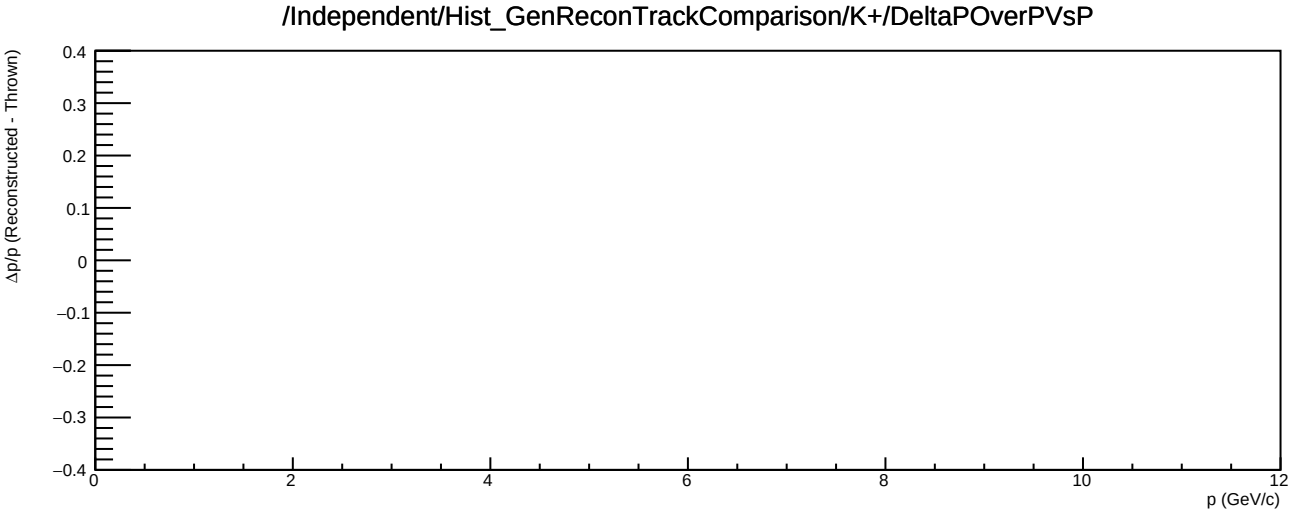


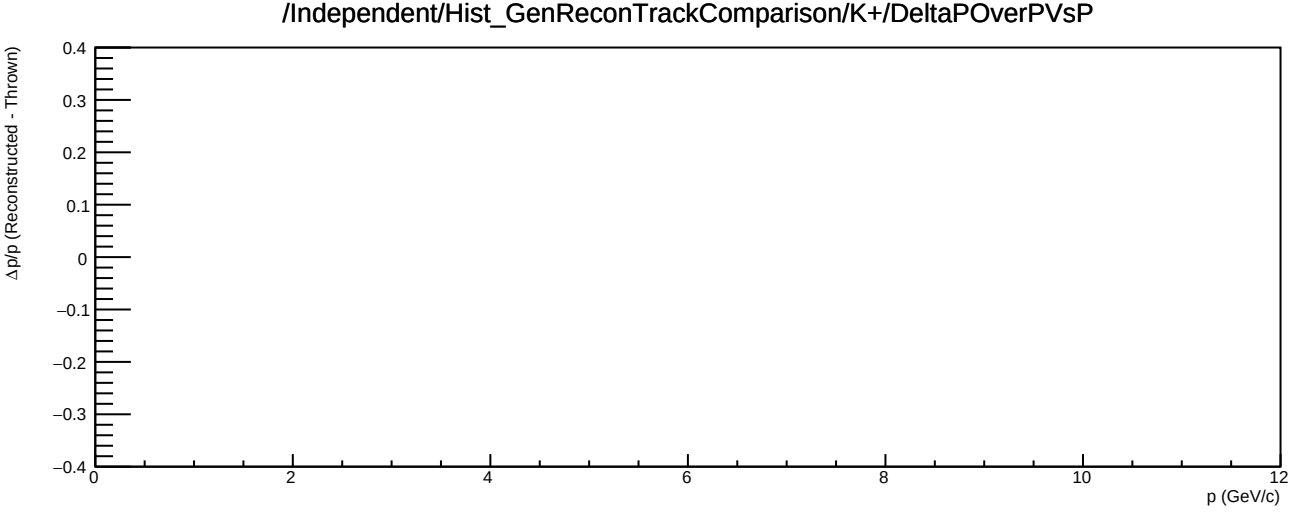
/Independent/Hist_GenReconTrackComparison/K+/DeltaT_TOF

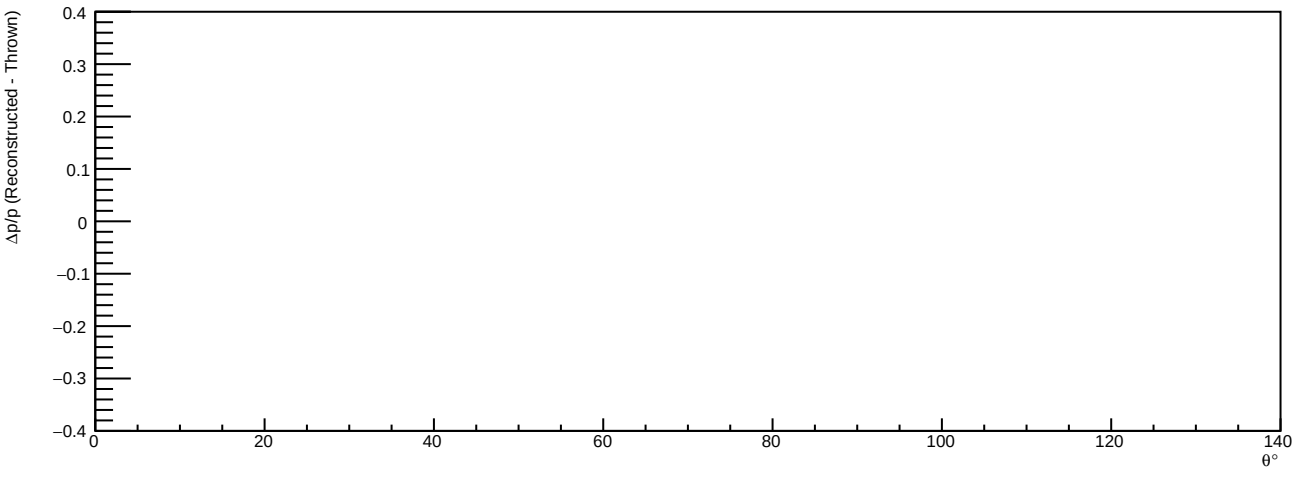


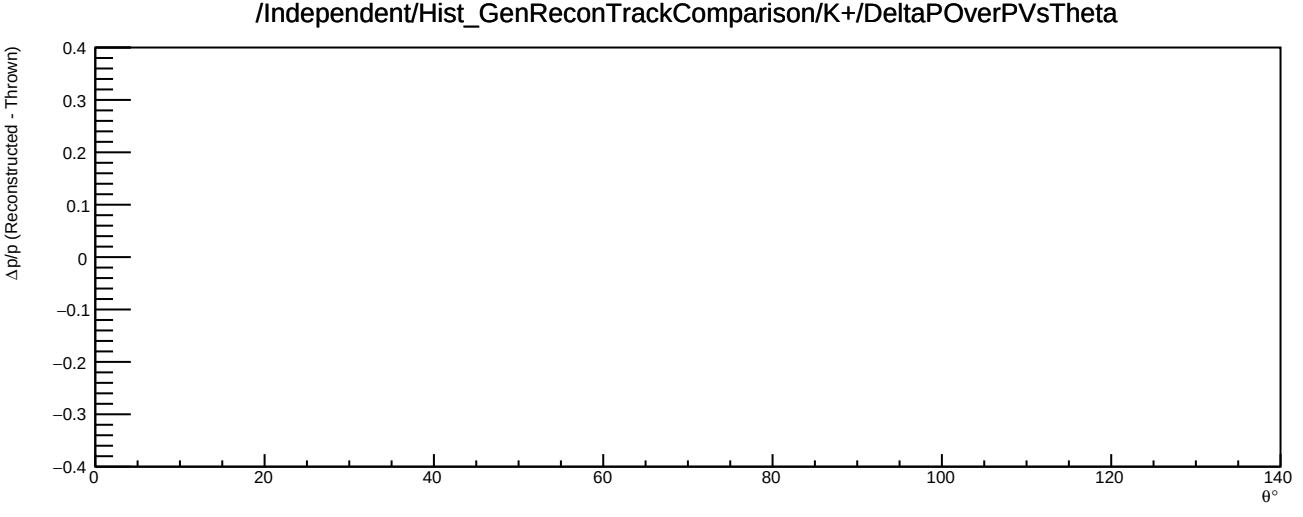
/Independent/Hist_GenReconTrackComparison/K+/DeltaVertexZ

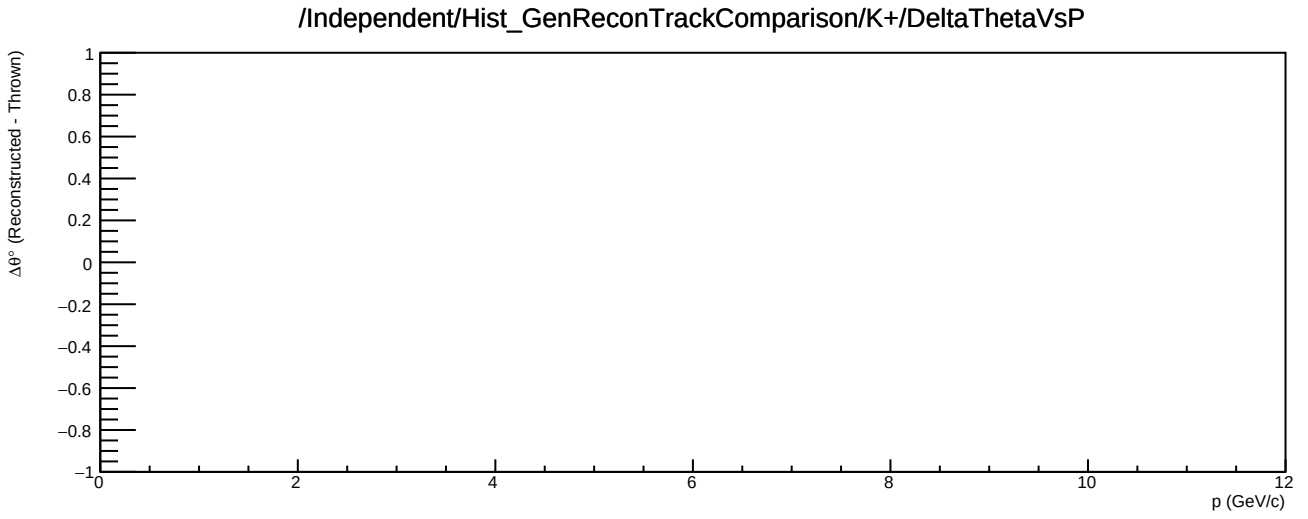


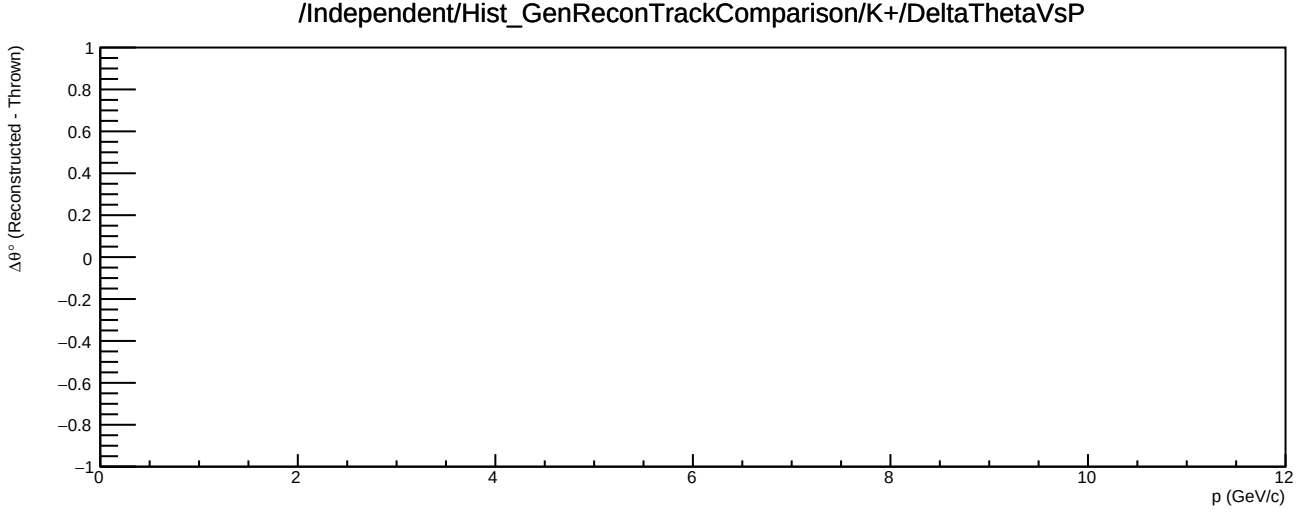

/Independent/Hist_GenReconTrackComparison/K+/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

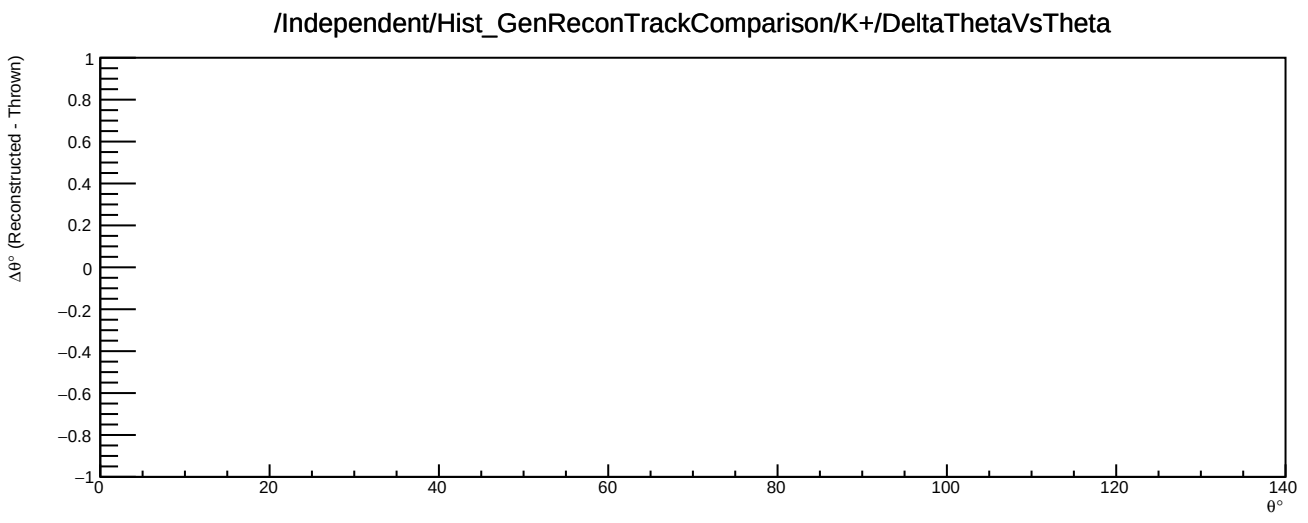

/Independent/Hist_GenReconTrackComparison/K+/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

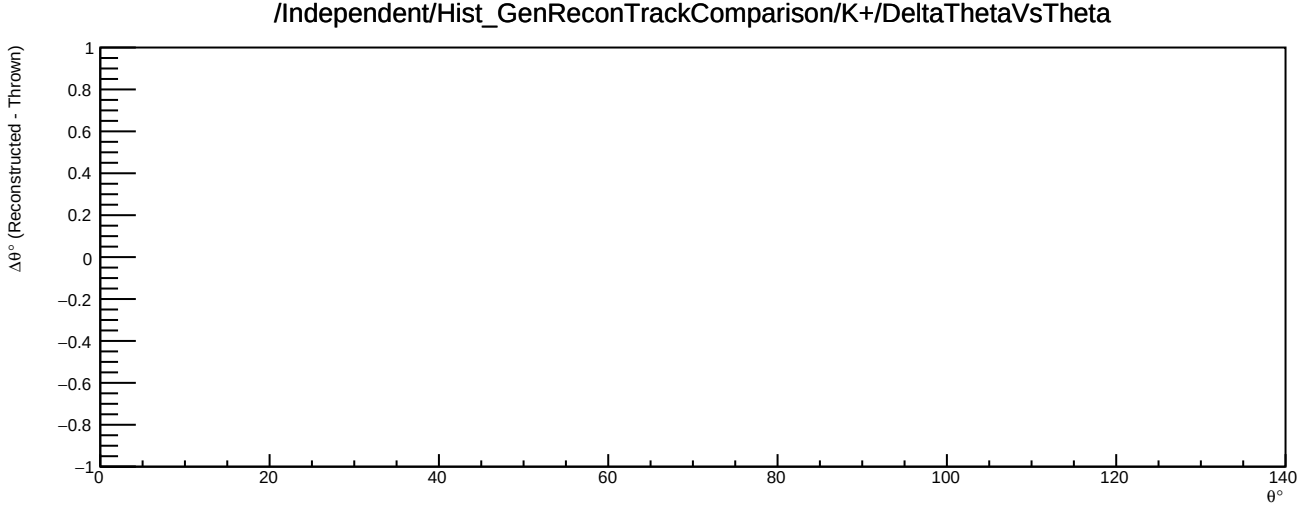

/Independent/Hist_GenReconTrackComparison/K+/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

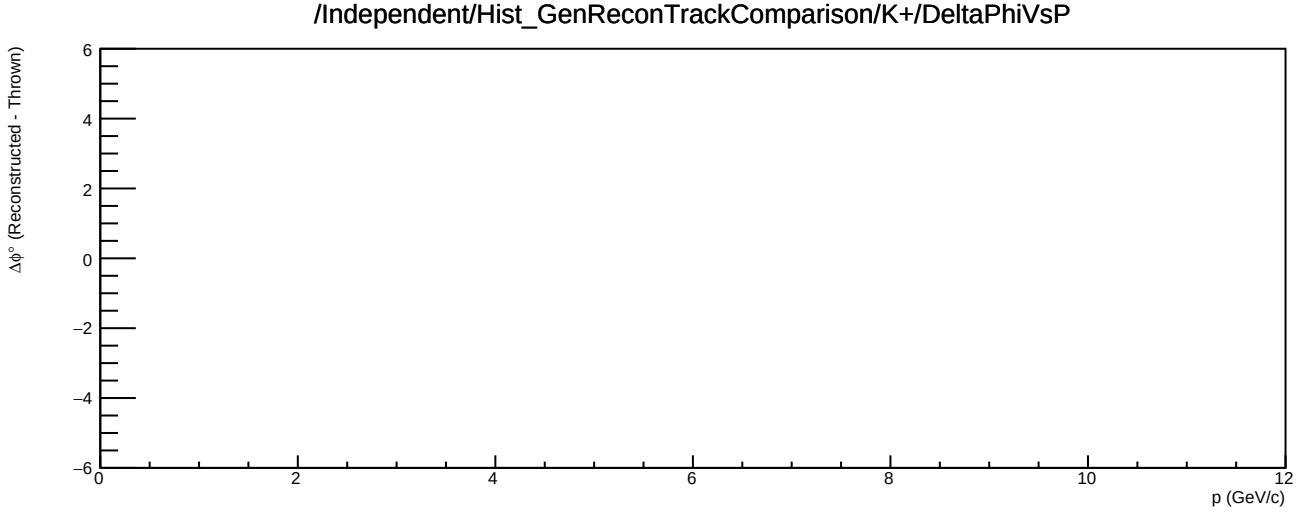

/Independent/Hist_GenReconTrackComparison/K+/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

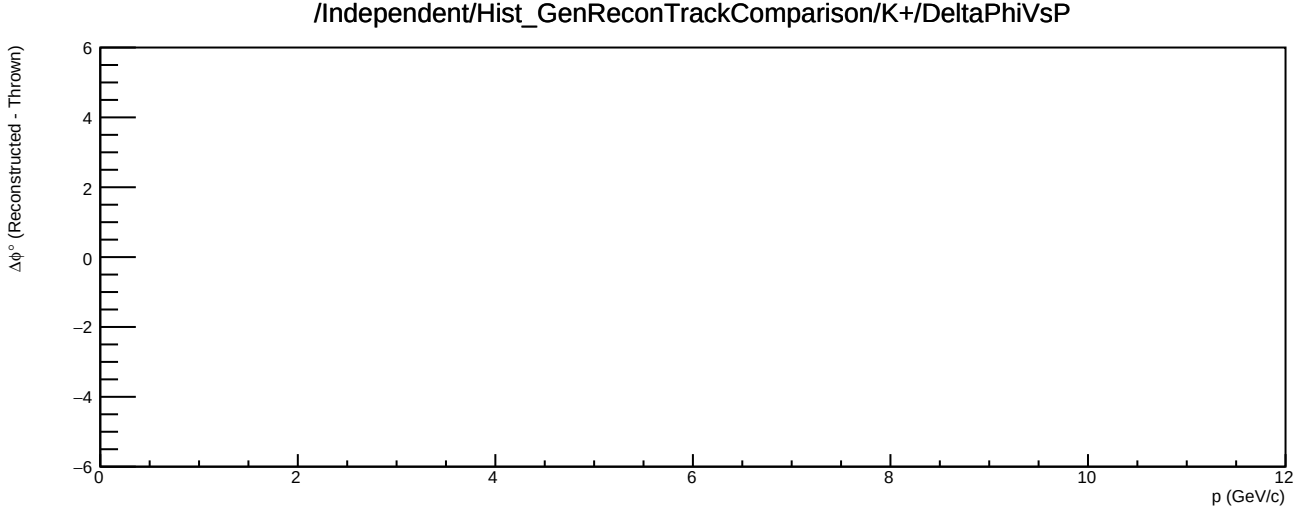

/Independent/Hist_GenReconTrackComparison/K+/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

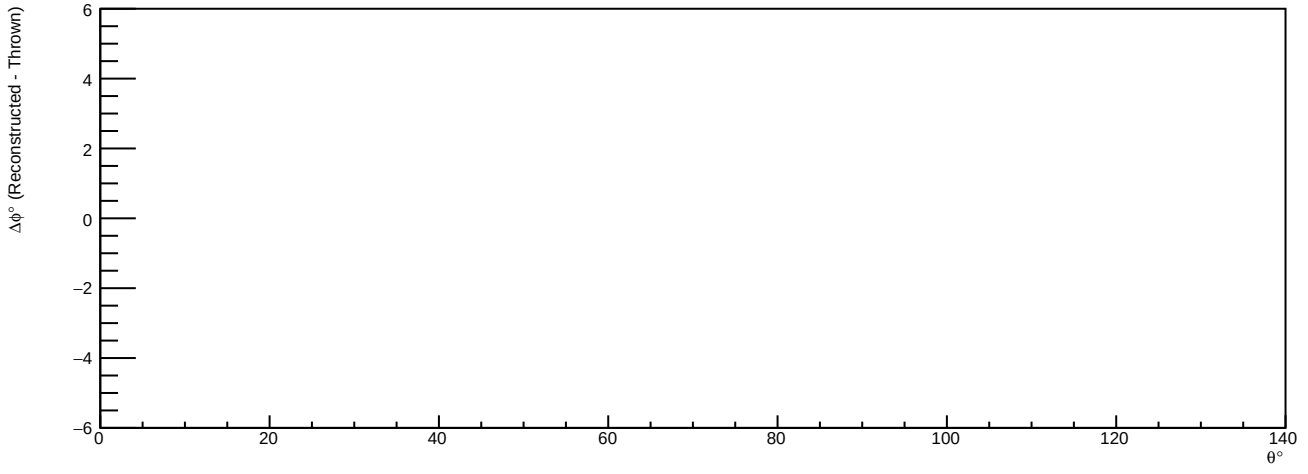

/Independent/Hist_GenReconTrackComparison/K+/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

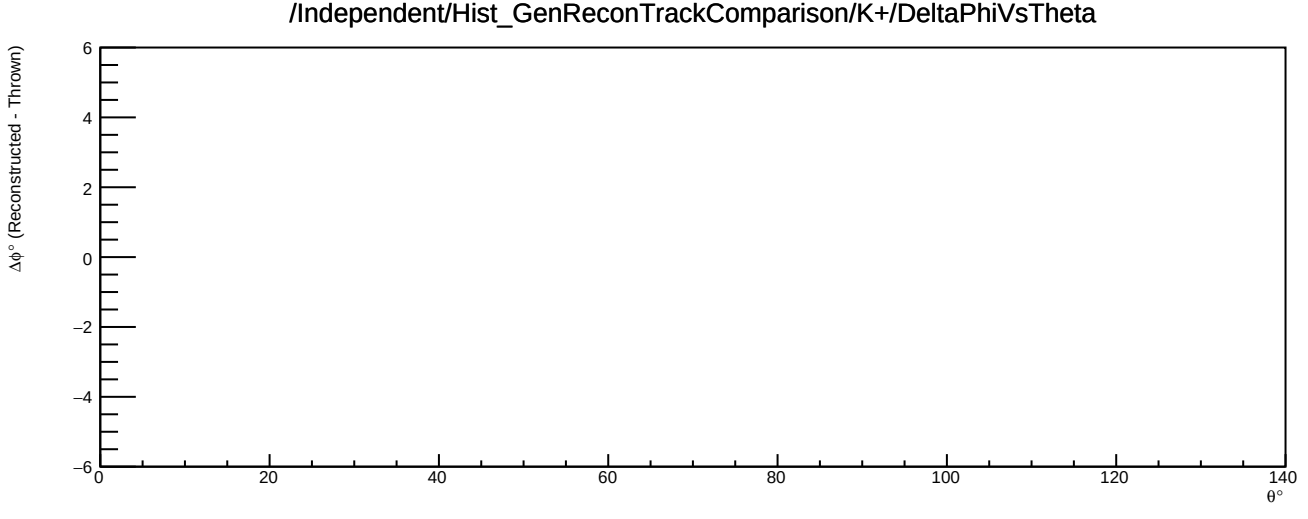

/Independent/Hist_GenReconTrackComparison/K+/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

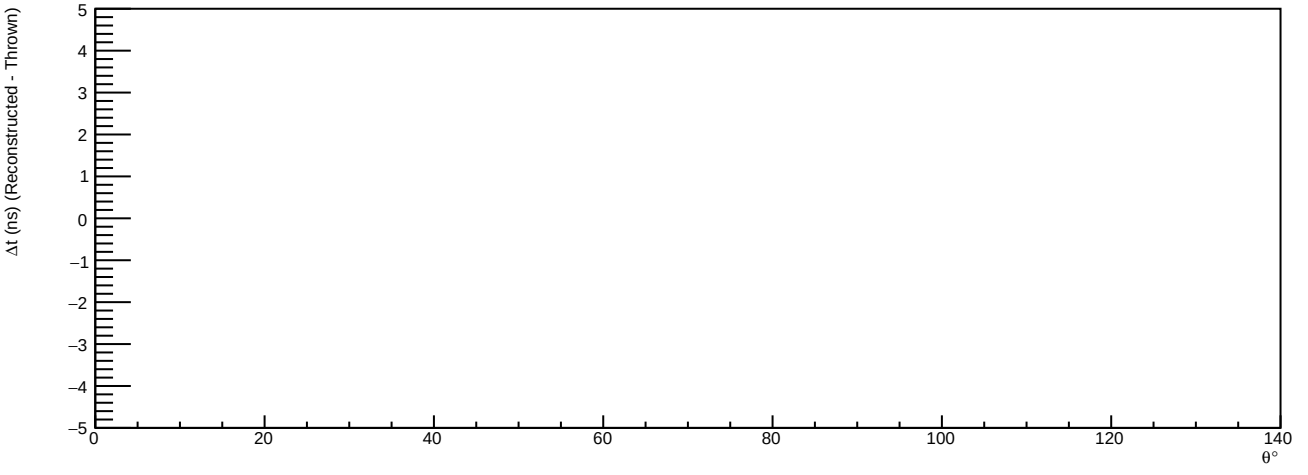

/Independent/Hist_GenReconTrackComparison/K+/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

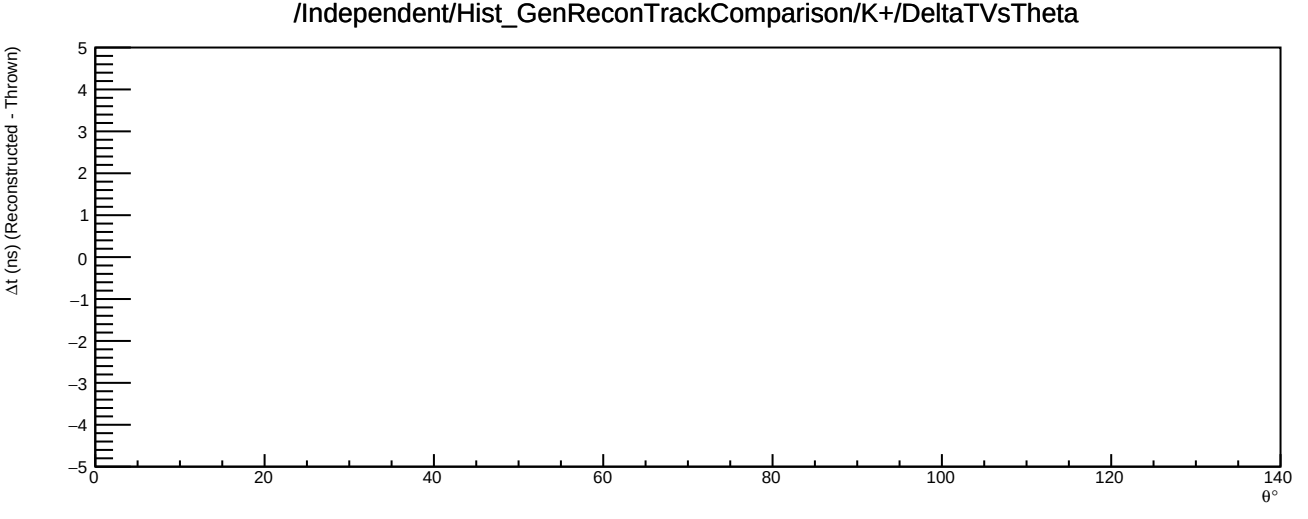

/Independent/Hist_GenReconTrackComparison/K+/DeltaPhiVsP
Δφ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

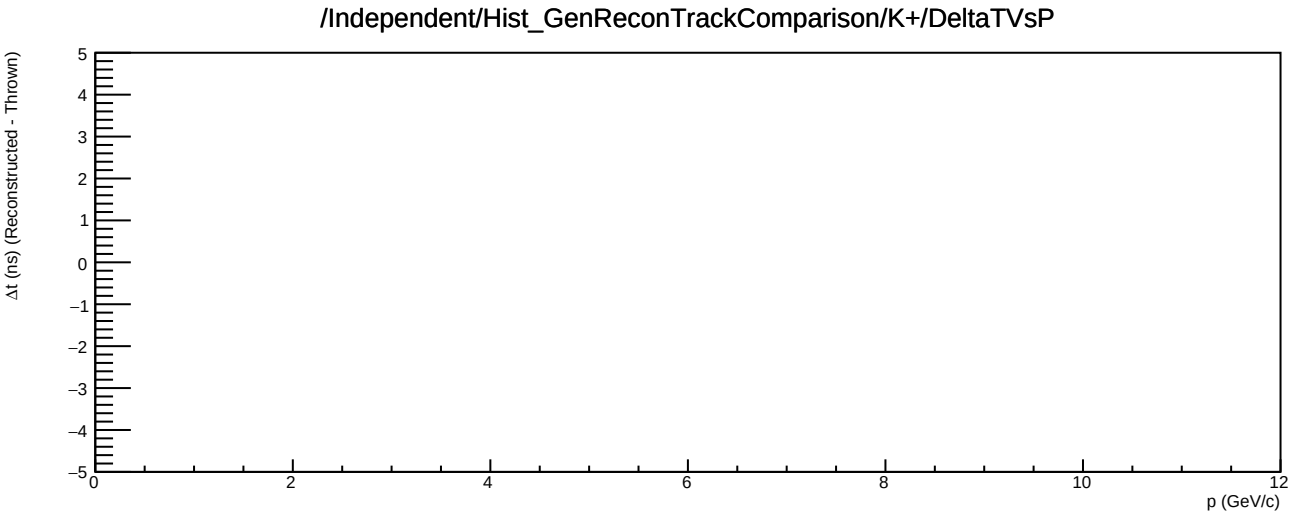

/Independent/Hist_GenReconTrackComparison/K+/DeltaPhiVsP
Δφ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

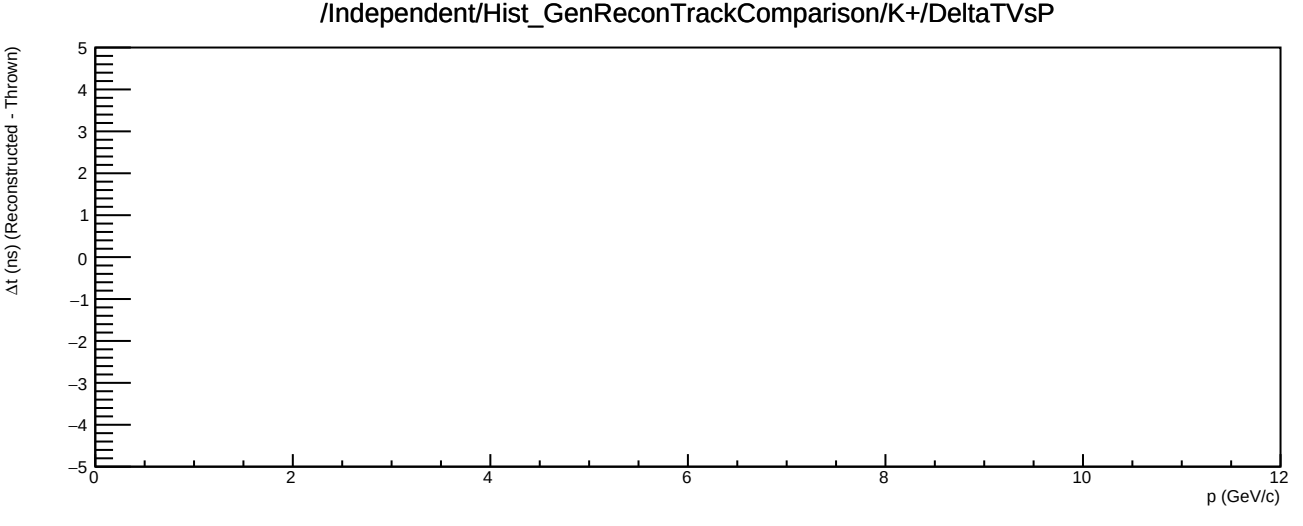

/Independent/Hist_GenReconTrackComparison/K+/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

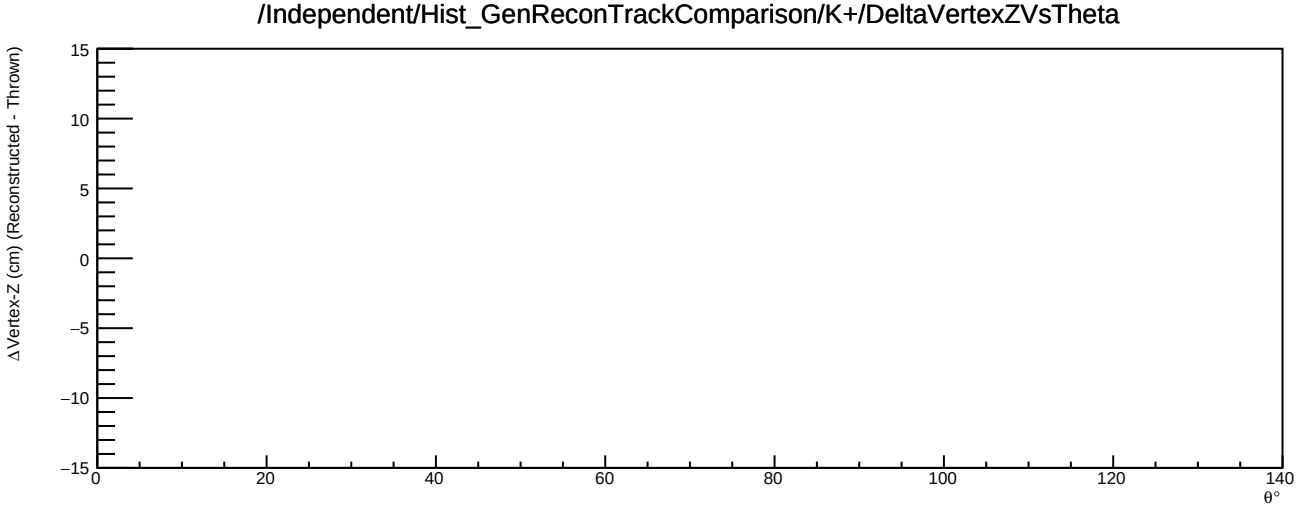

/Independent/Hist_GenReconTrackComparison/K+/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

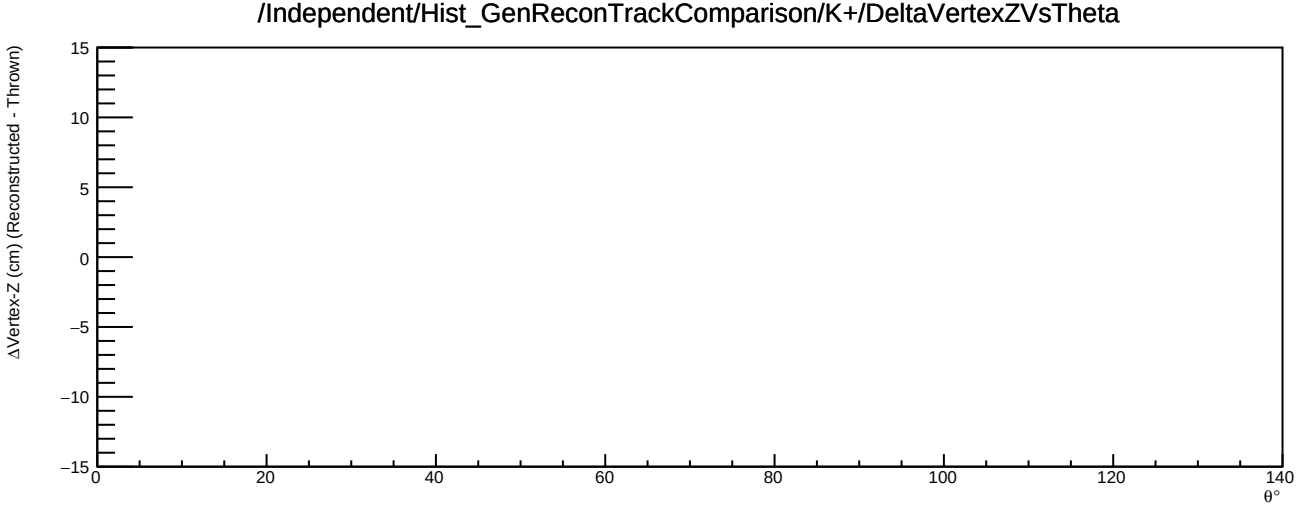

/Independent/Hist_GenReconTrackComparison/K+/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
20
40
60
80
100
120
140
θ°

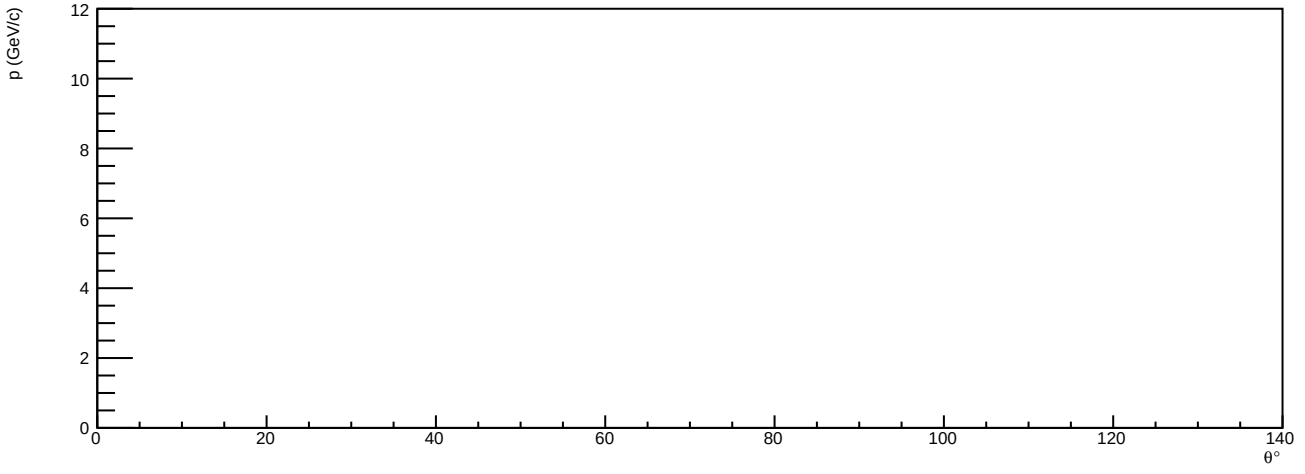

/Independent/Hist_GenReconTrackComparison/K+/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
20
40
60
80
100
120
140
θ°

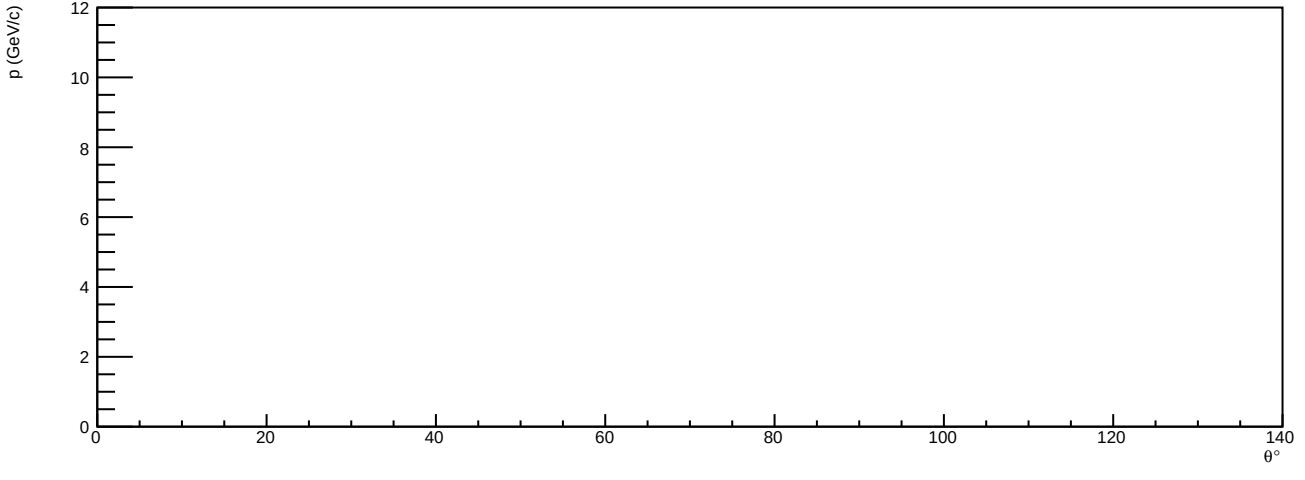

/Independent/Hist_GenReconTrackComparison/K+/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/K+/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
2
4
6
8
10
12
p (GeV/c)

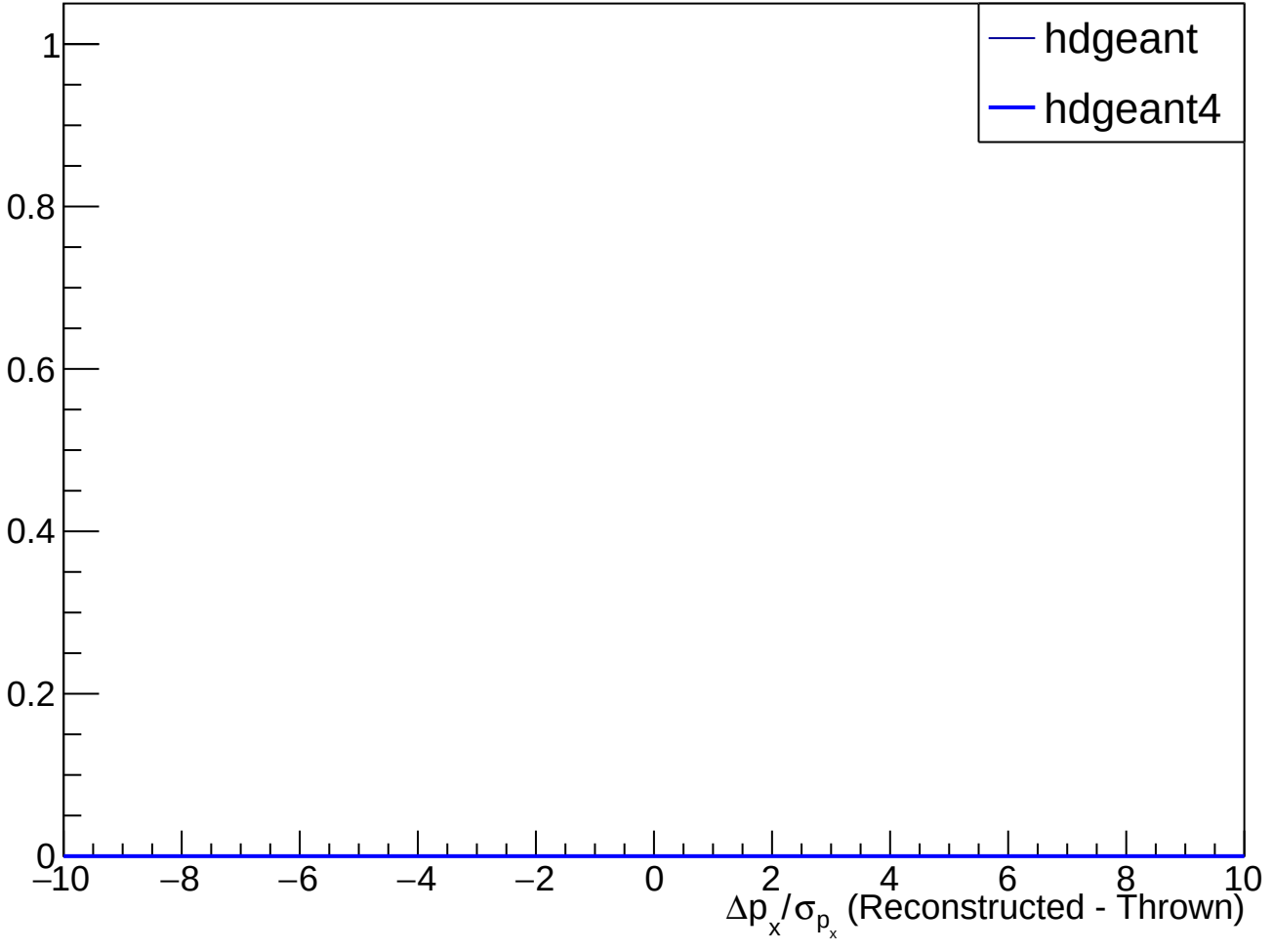

/Independent/Hist_GenReconTrackComparison/K+/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

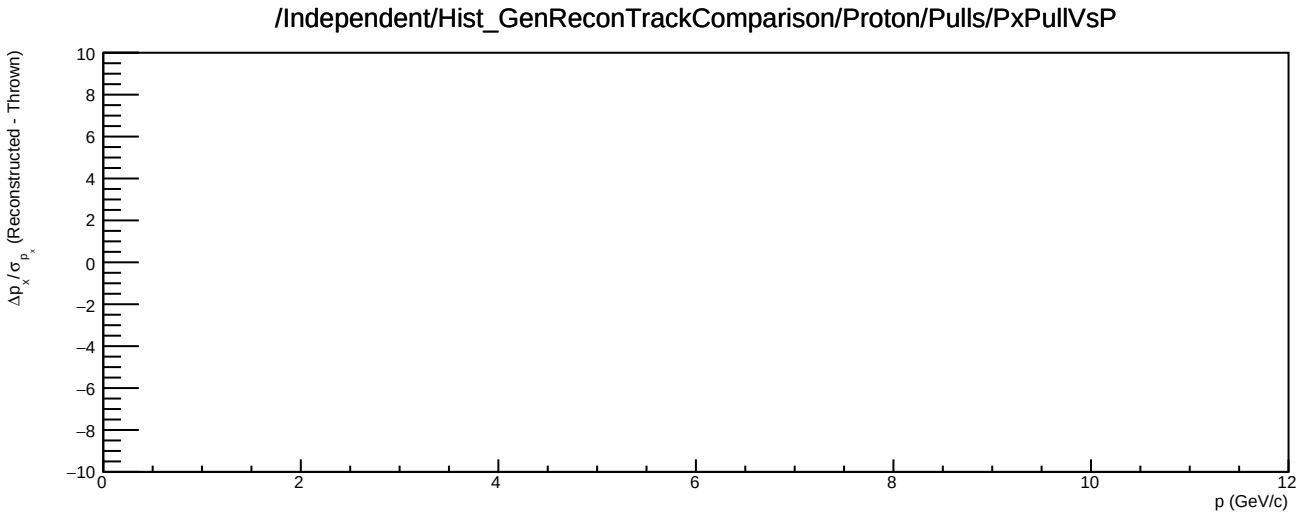

/Independent/Hist_GenReconTrackComparison/K+/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

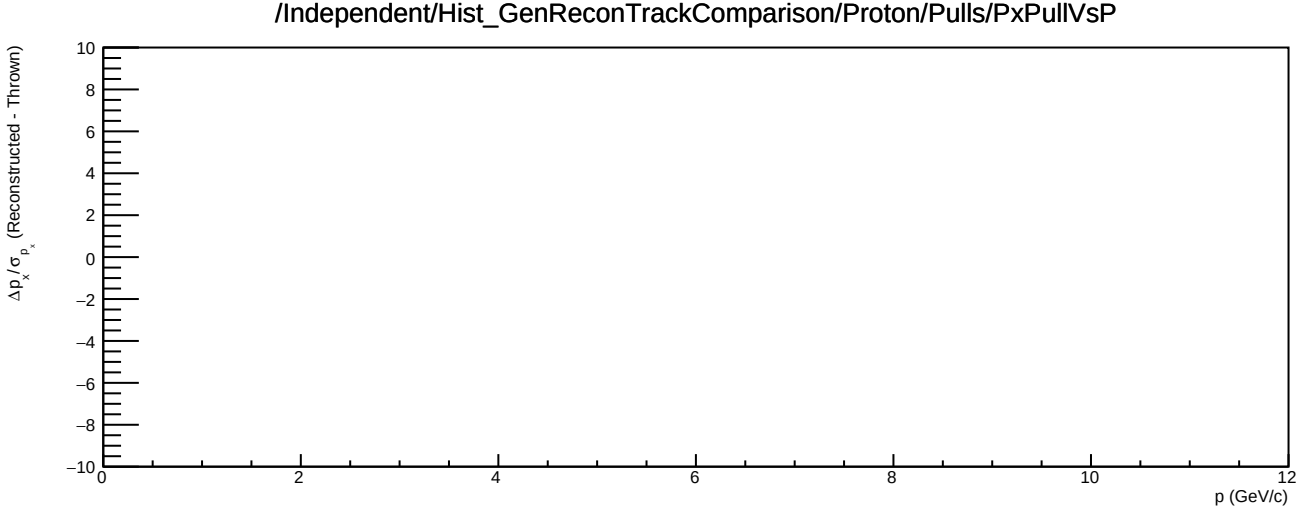

/Independent/Hist_GenReconTrackComparison/K+/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

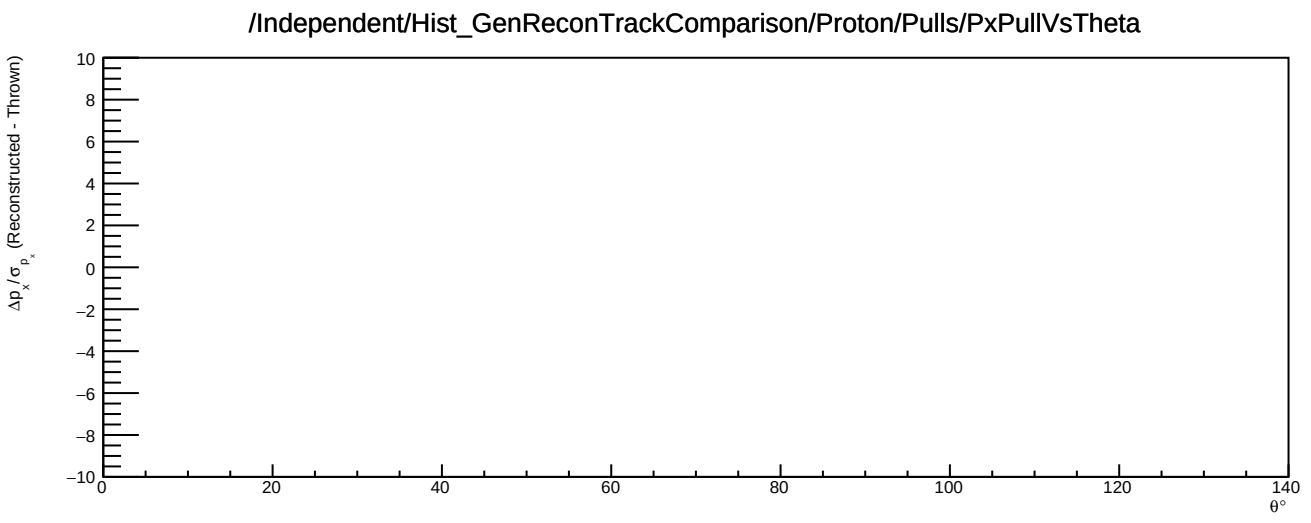

/Independent/Hist_GenReconTrackComparison/K+/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

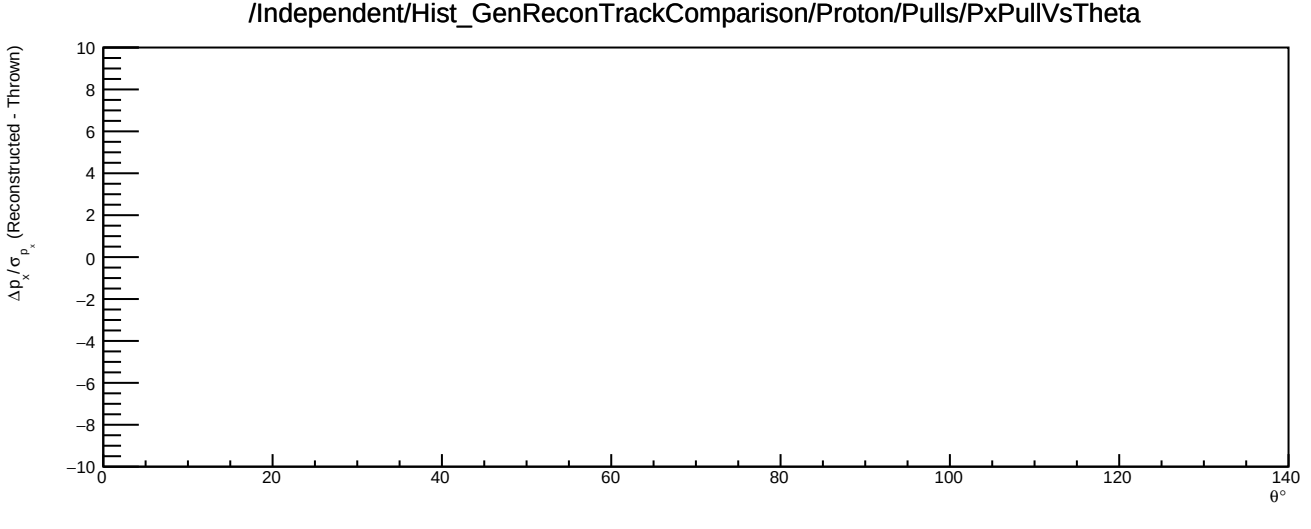
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PxPull



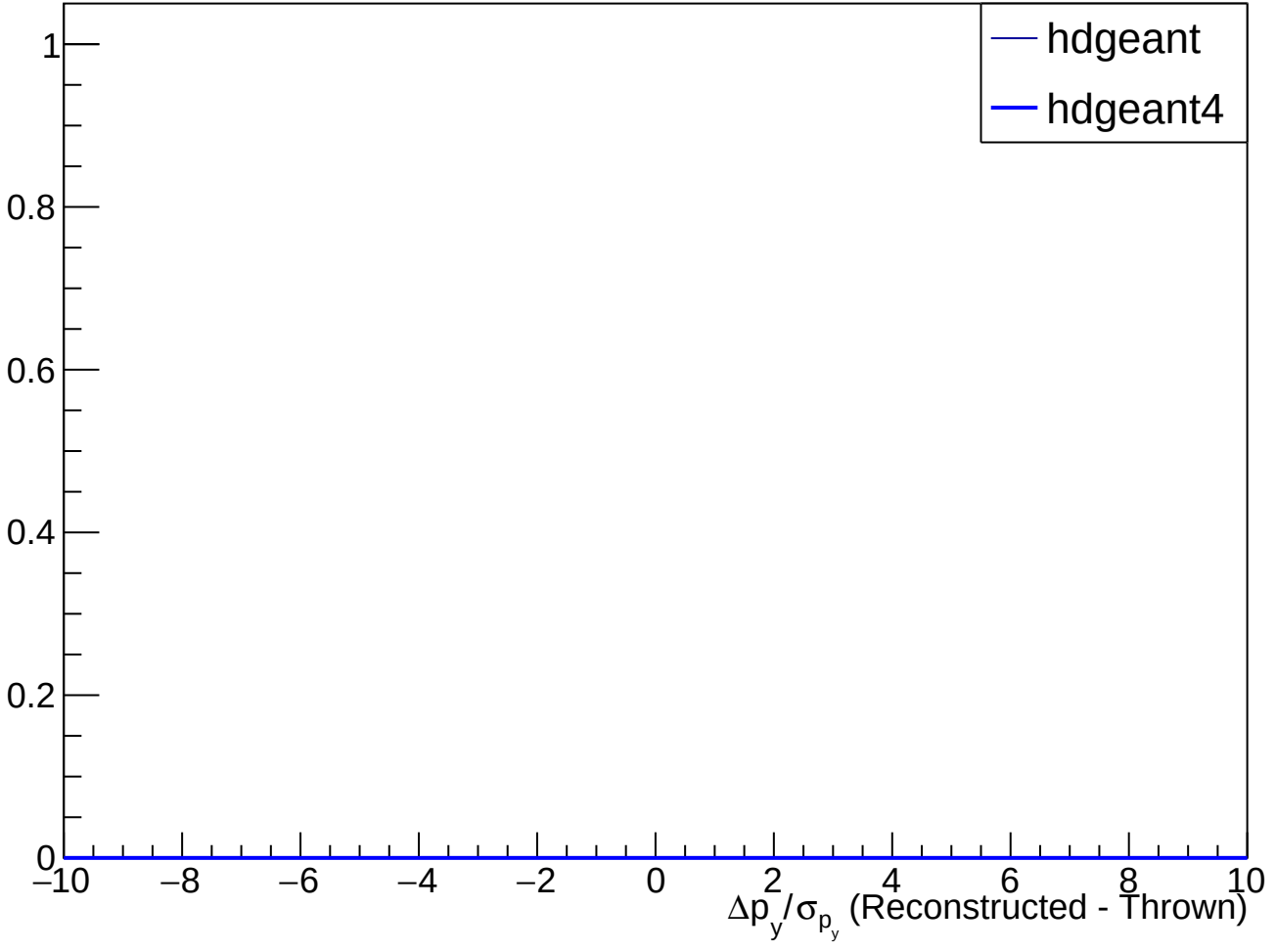

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PxPullVsP
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

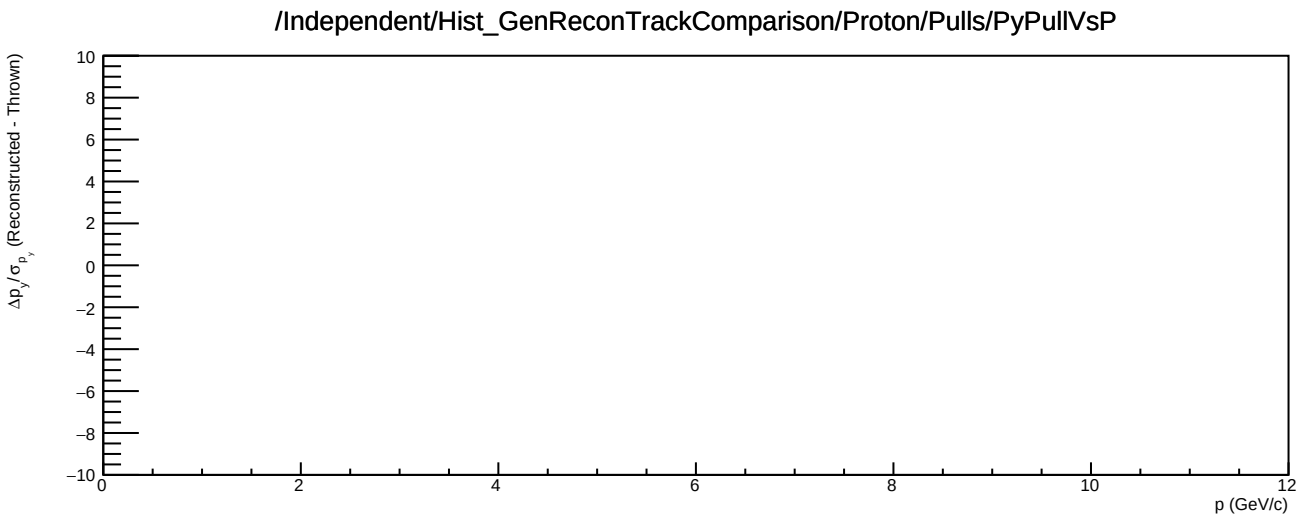

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PxPullVsP
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

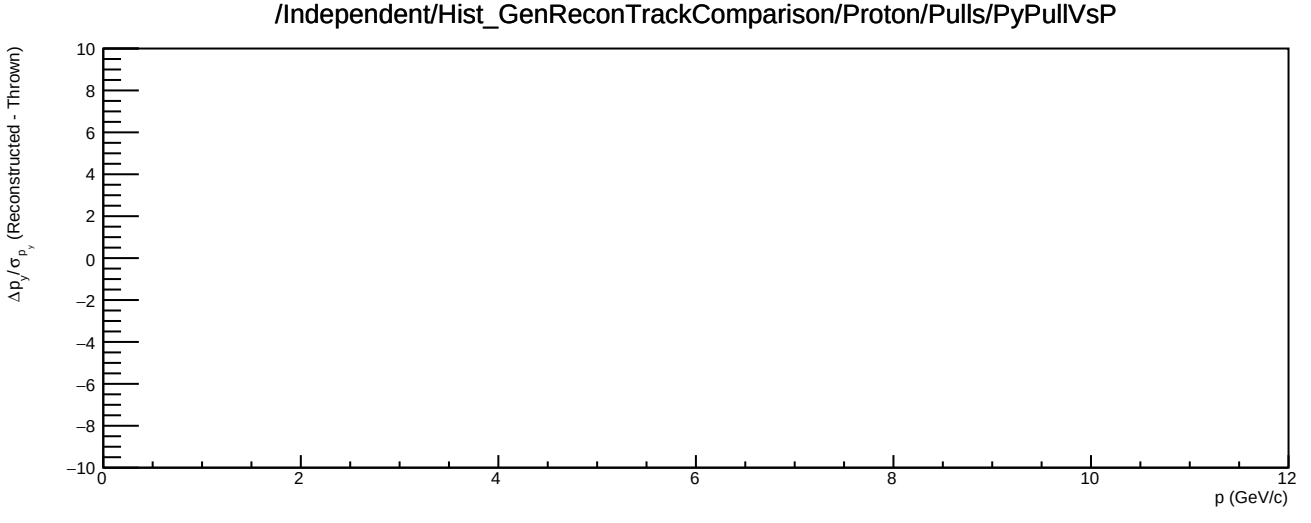

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PxPullVsTheta
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

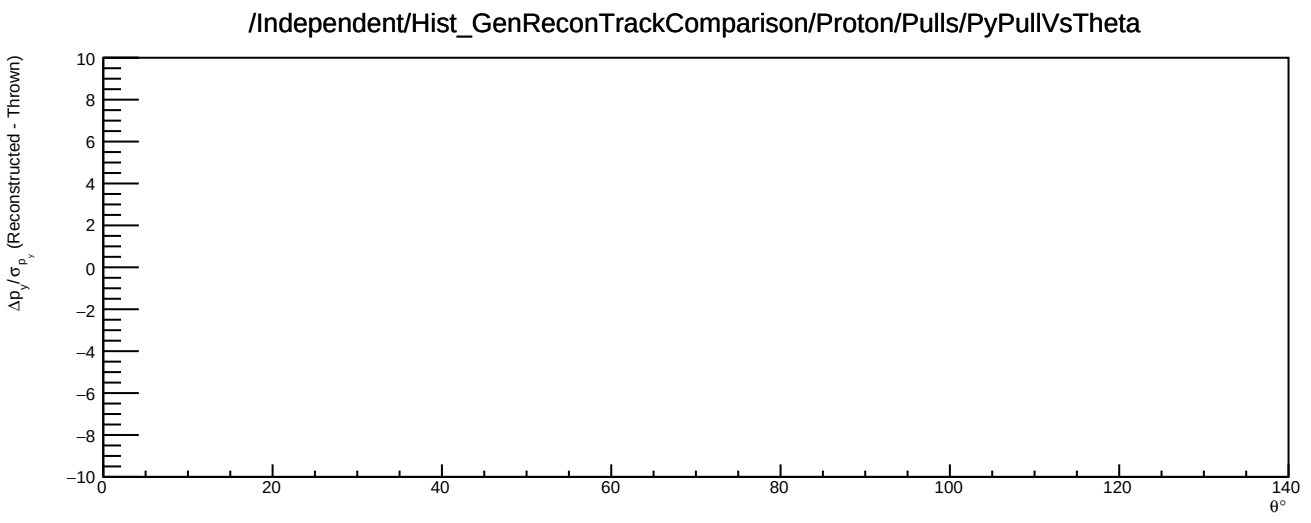

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PxPullVsTheta
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

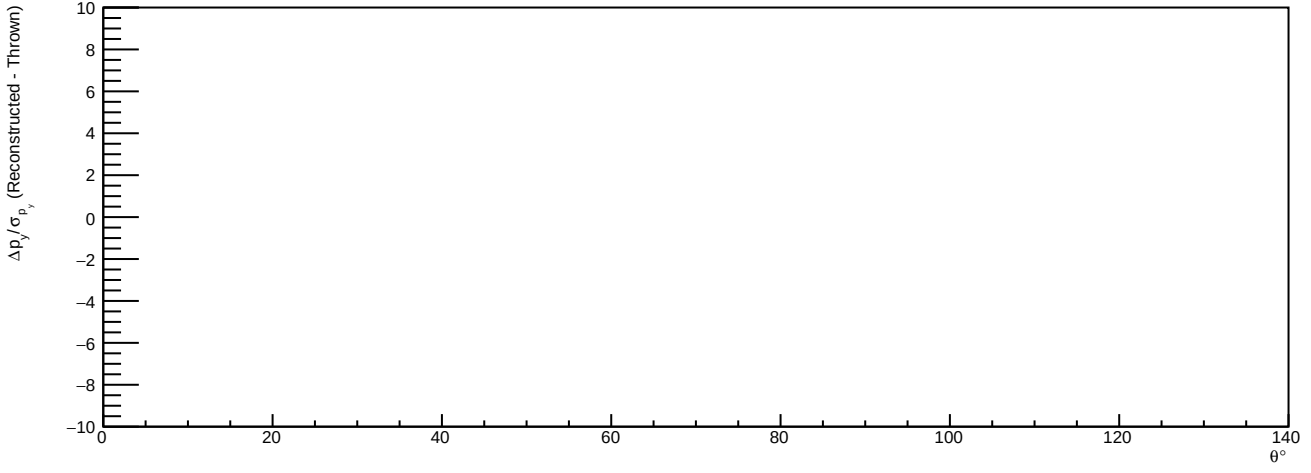
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PyPull



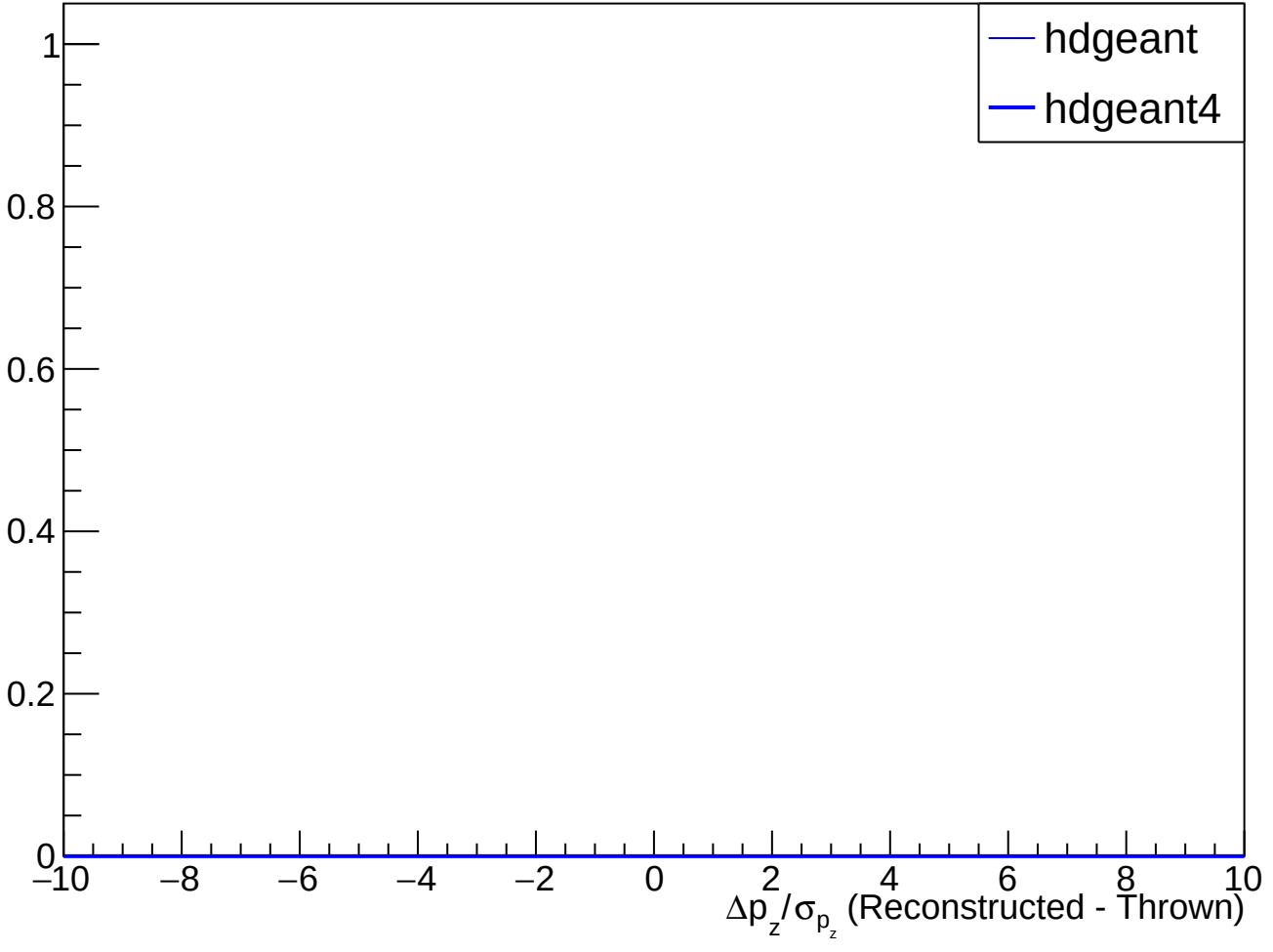

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PyPullVsP
$\Delta p_y / \sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

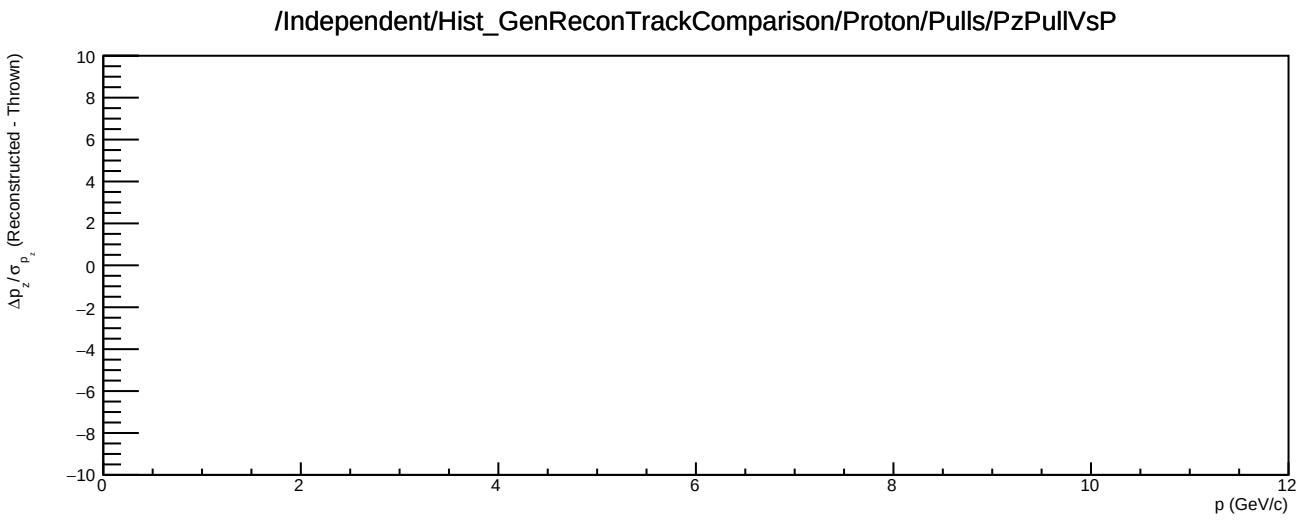

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PyPullVsP
$\Delta p_y / \sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

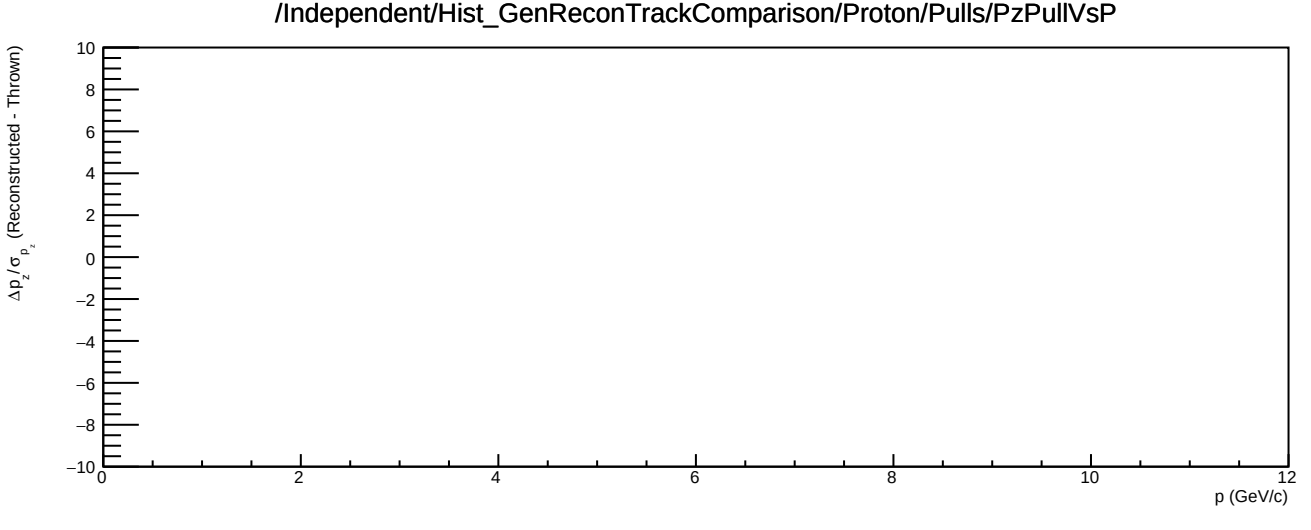

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PyPullVsTheta
$\Delta p_y/\sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

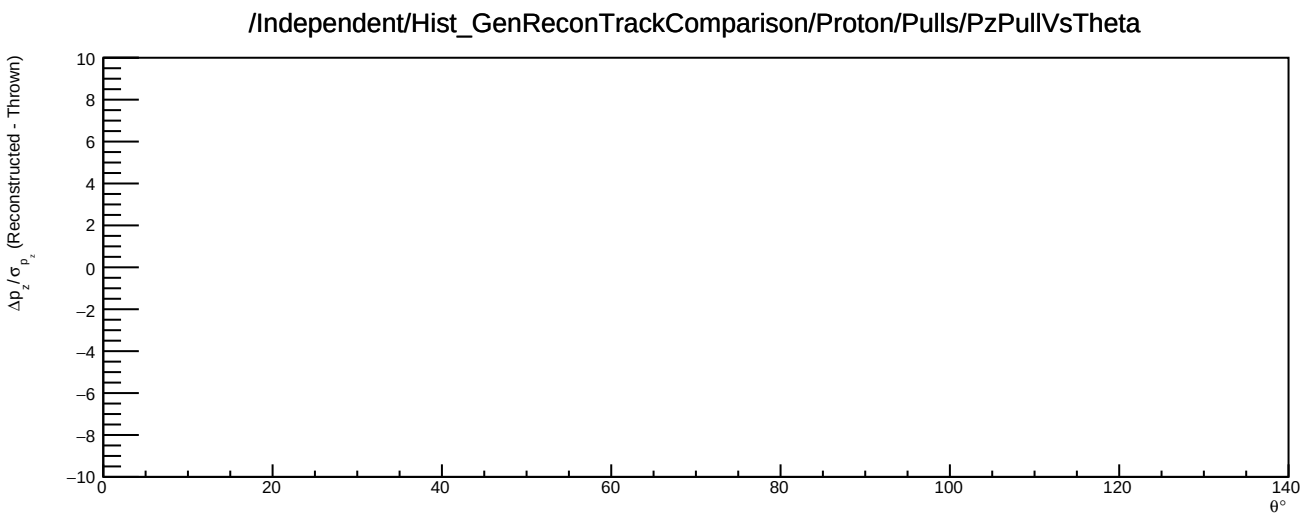

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PyPullVsTheta
$\Delta p_y/\sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

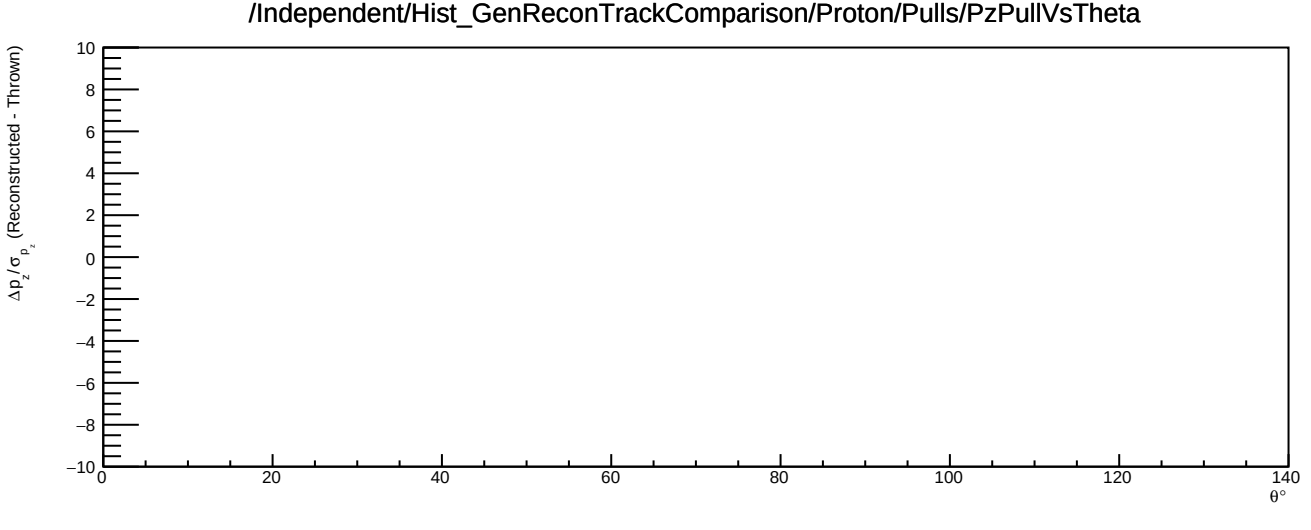
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PzPull



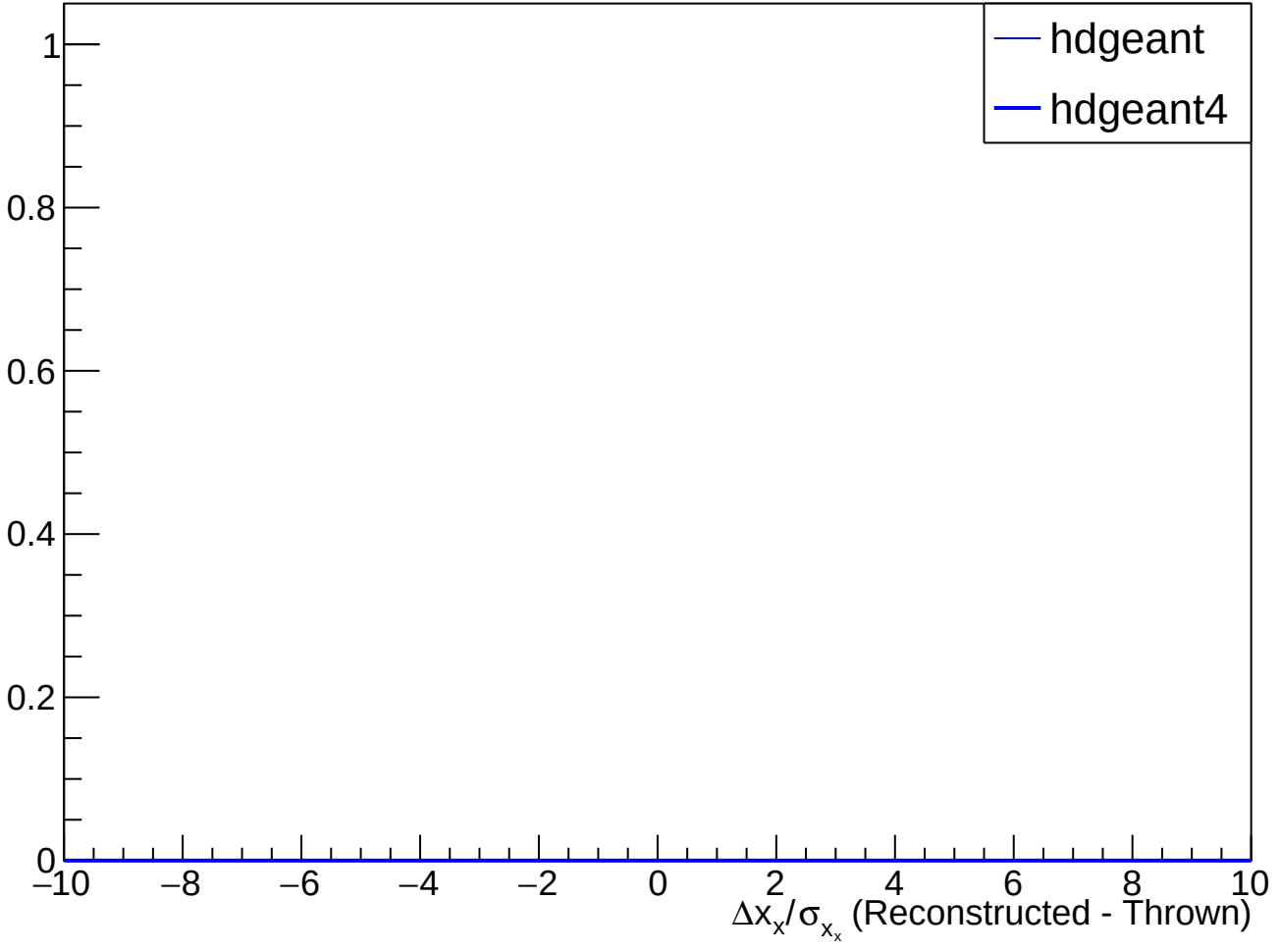

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PzPullVsP
Δp_z / σ_p_z (Reconstructed - Thrown)
p (GeV/c)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12

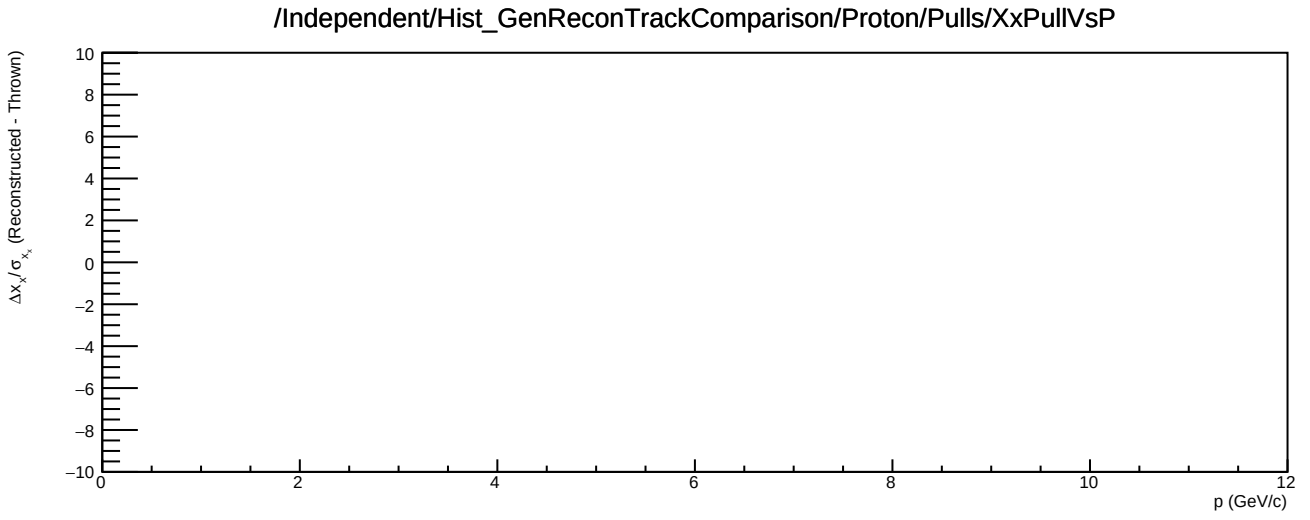

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PzPullVsP
Δp_z / σ_p_z (Reconstructed - Thrown)
p (GeV/c)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12

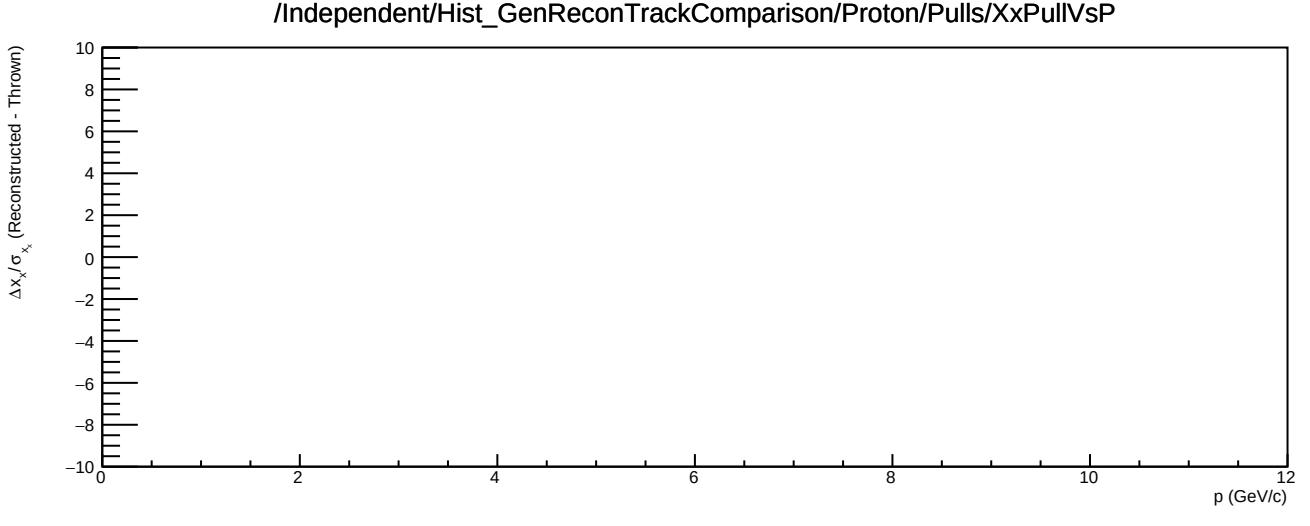

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PzPullVsTheta
Δp_z/σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

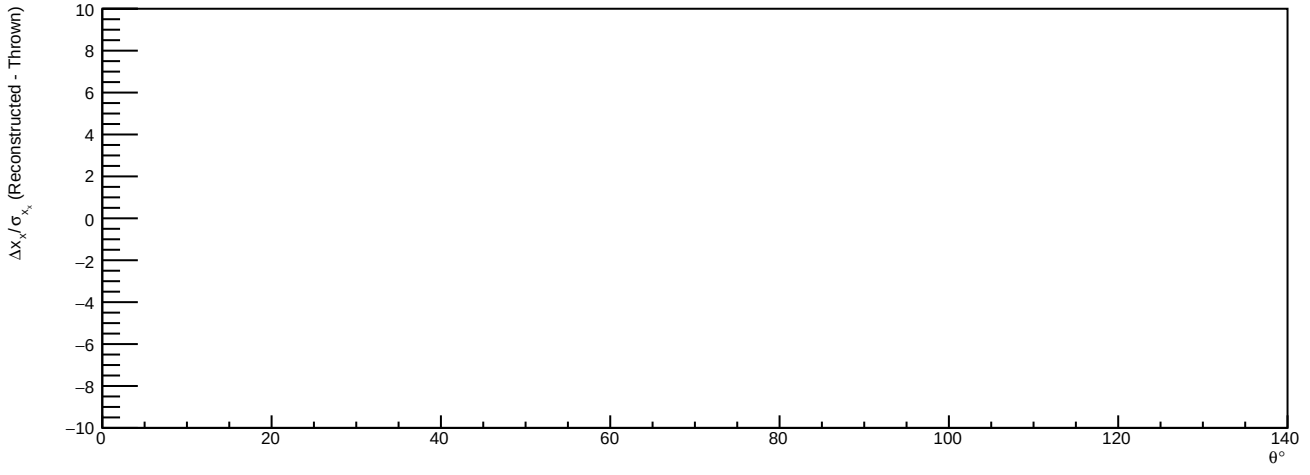

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/PzPullVsTheta
Δp_z/σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

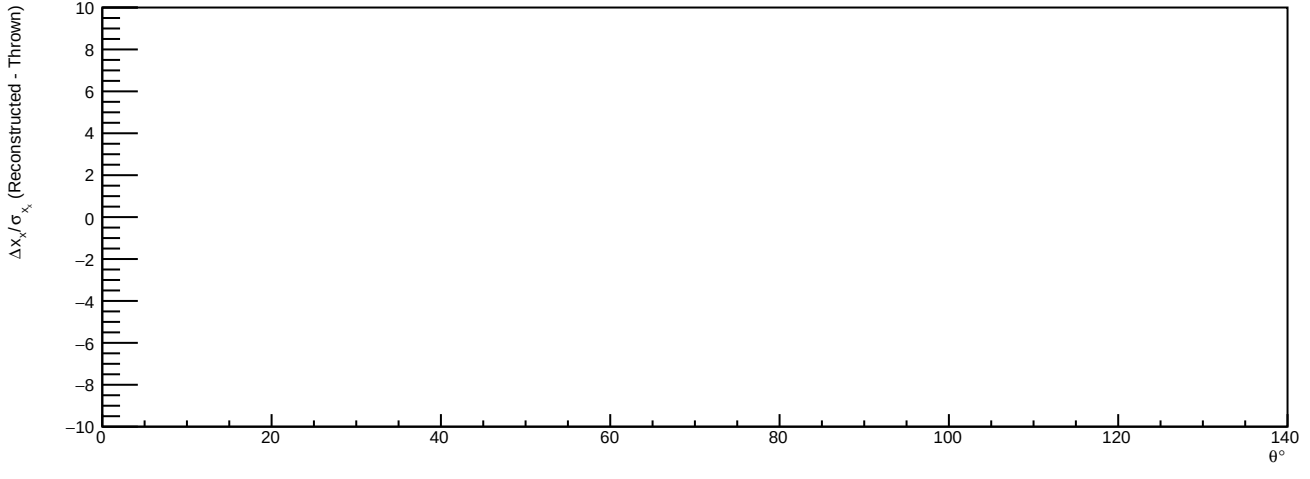
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XxPull



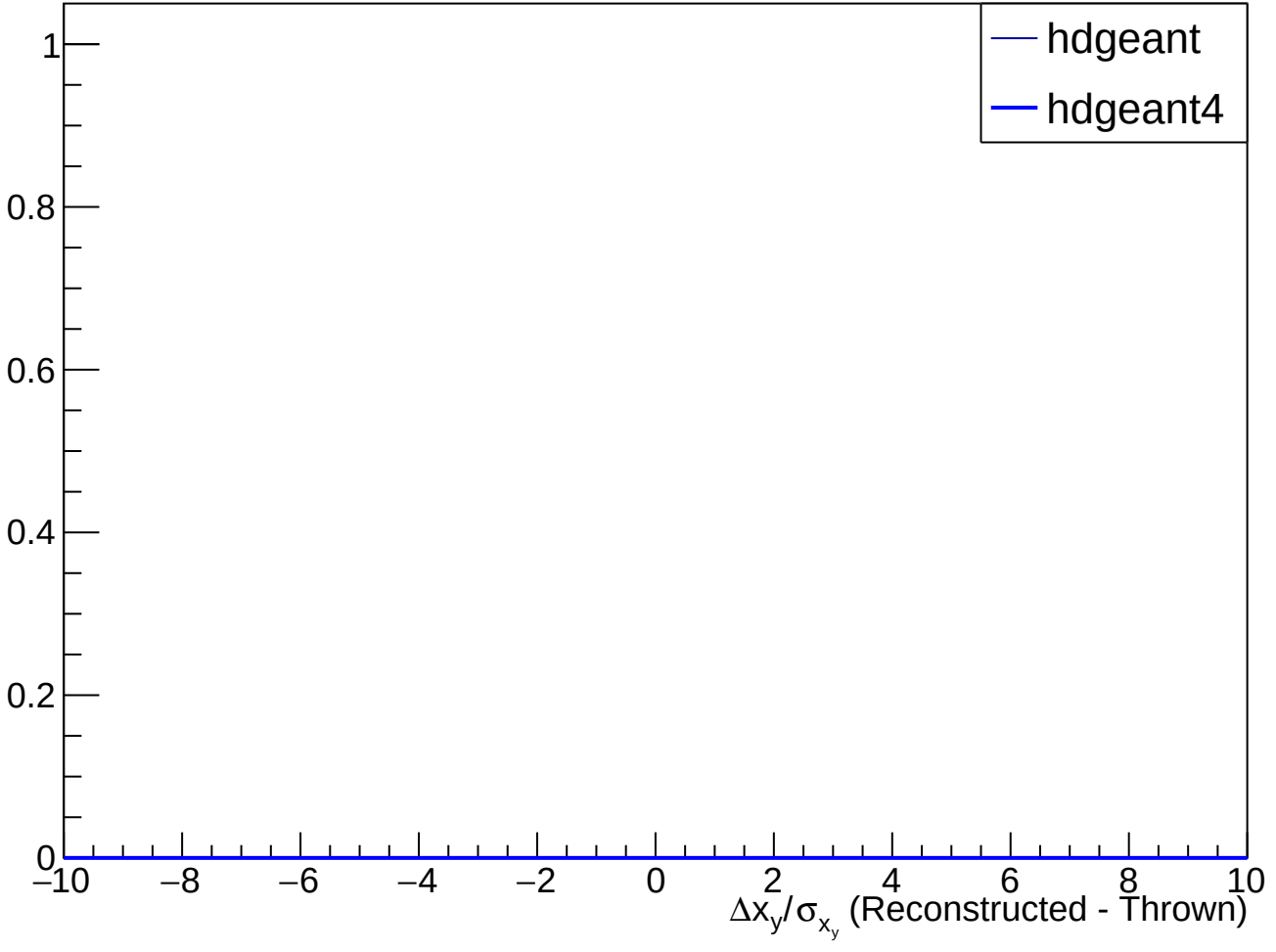

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XxPullVsP
Δx_x / σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

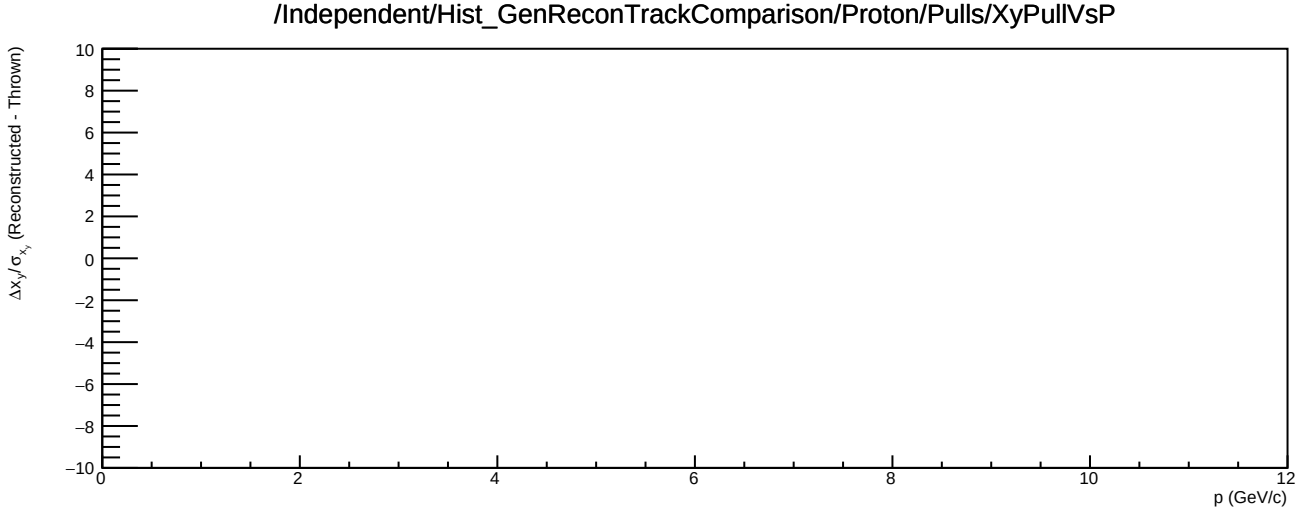

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XxPullVsP
Δx_x / σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

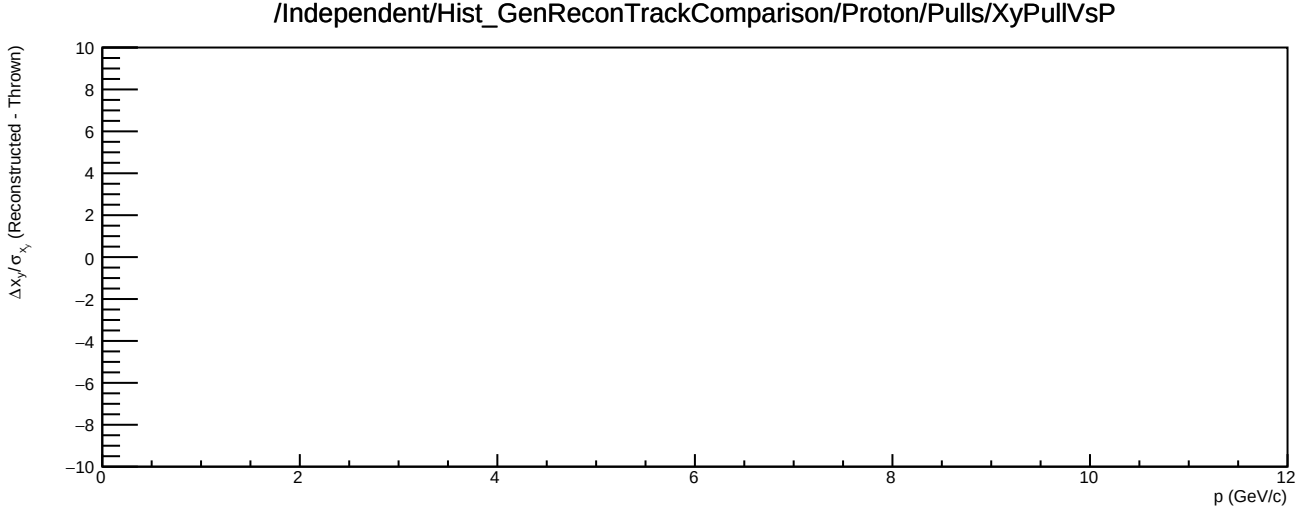

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XxPullVsTheta
Δx_x/σ_x_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

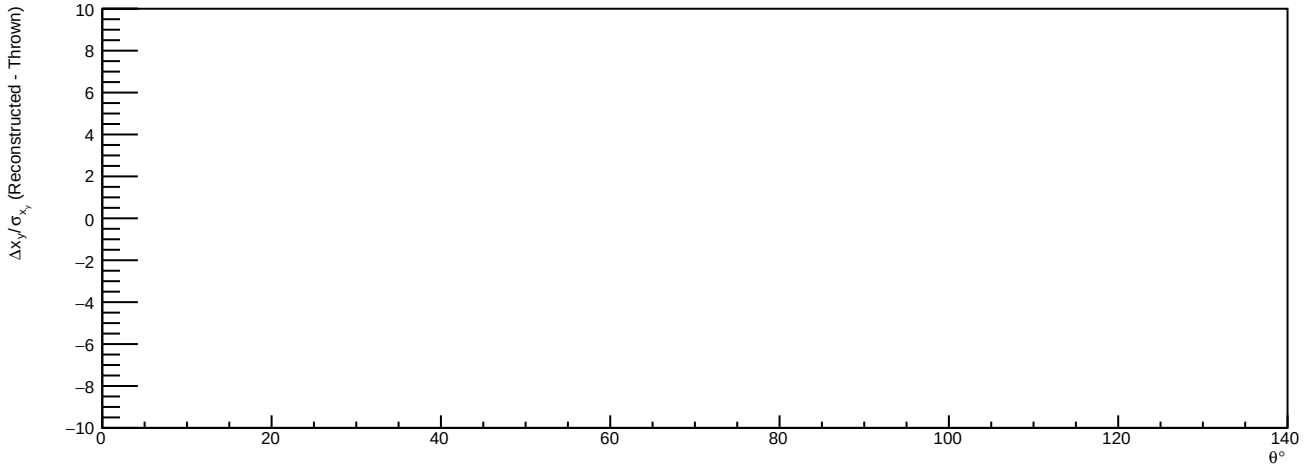

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XxPullVsTheta
Δx_x/σ_x_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

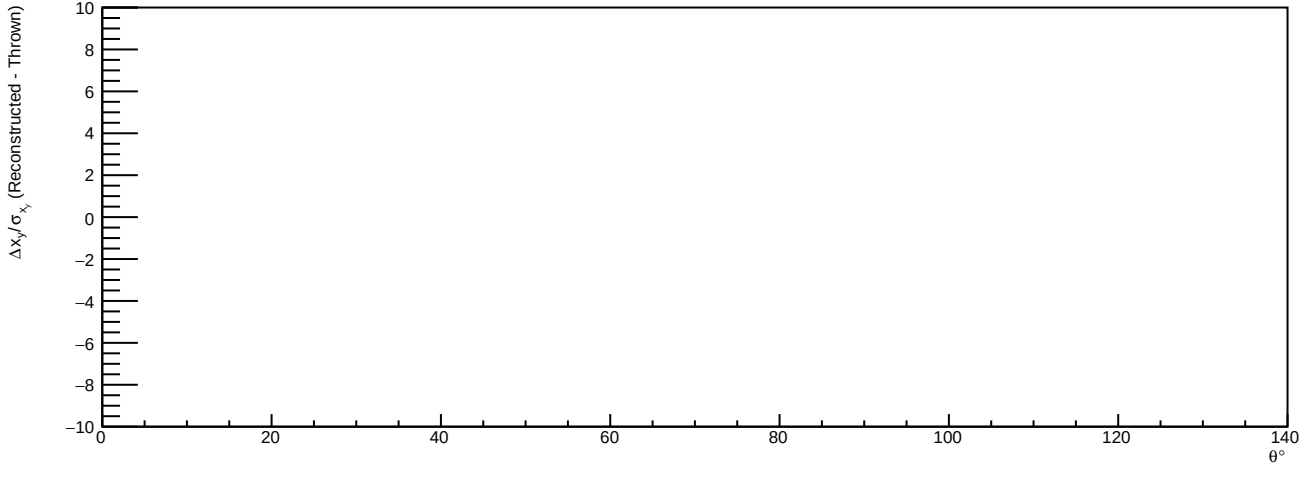
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XyPull



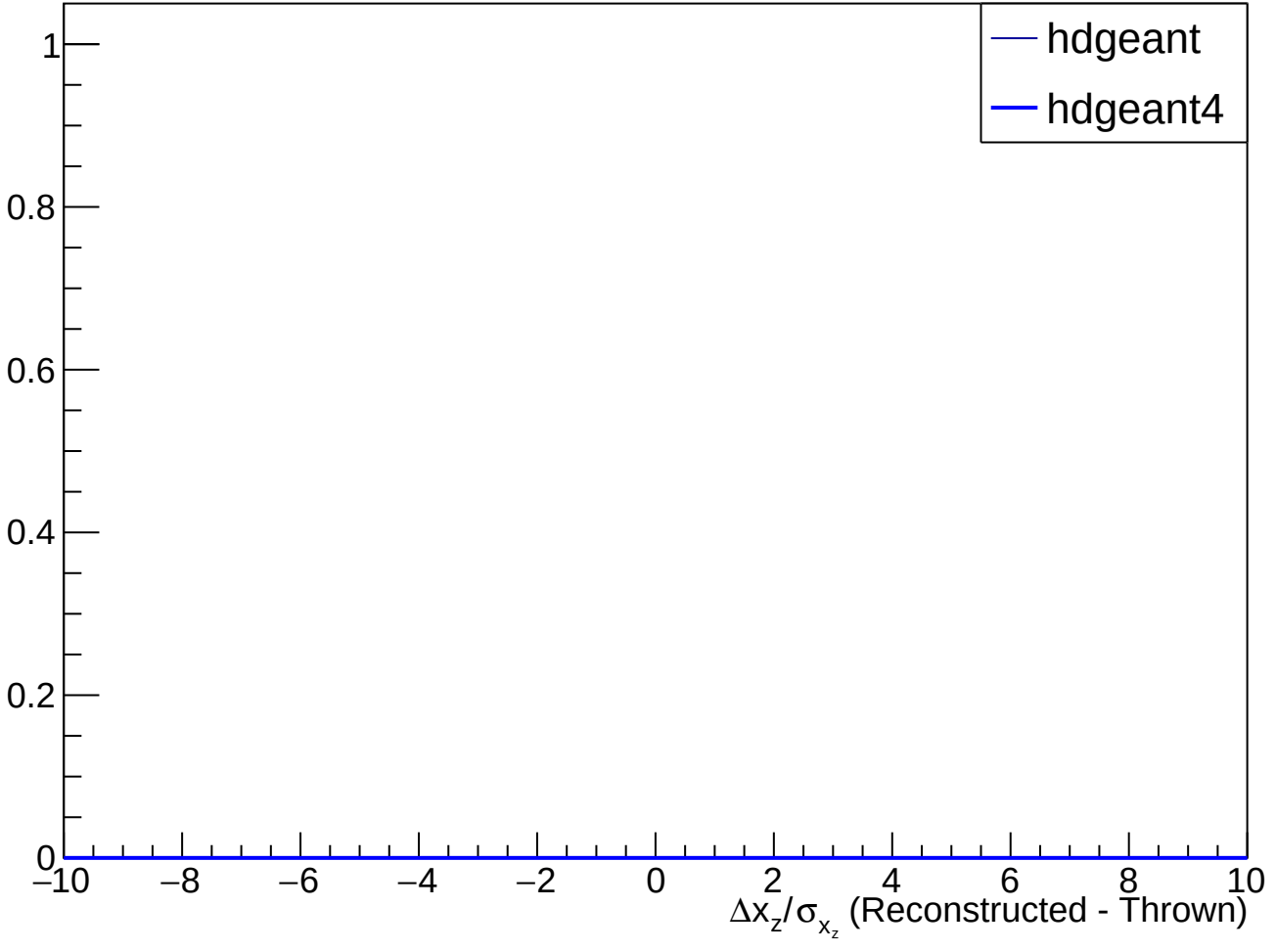

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XyPullVsP
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

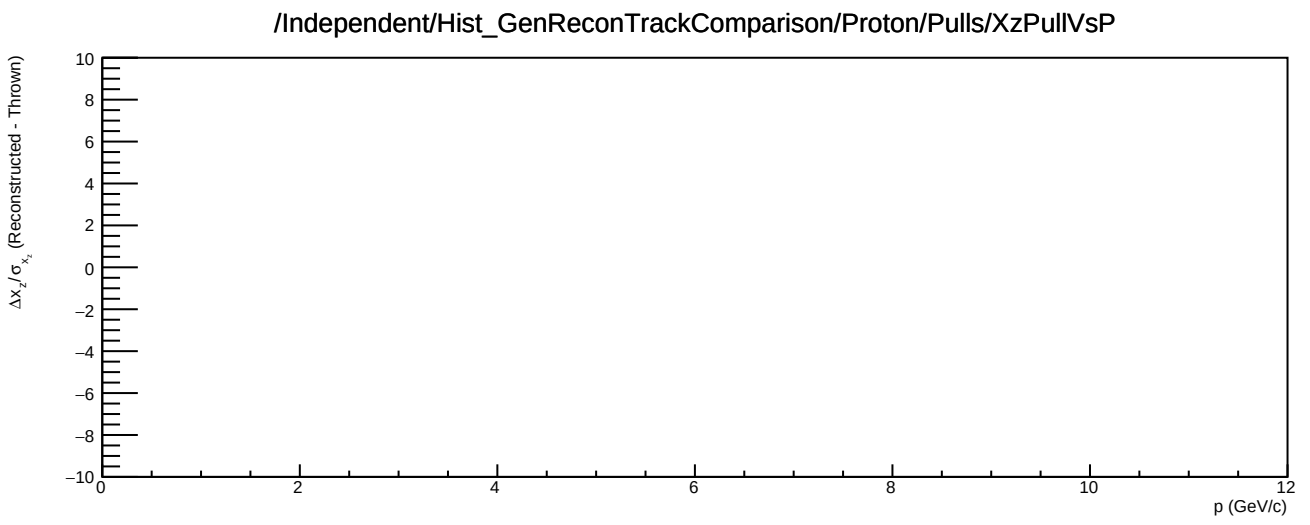

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XyPullVsP
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

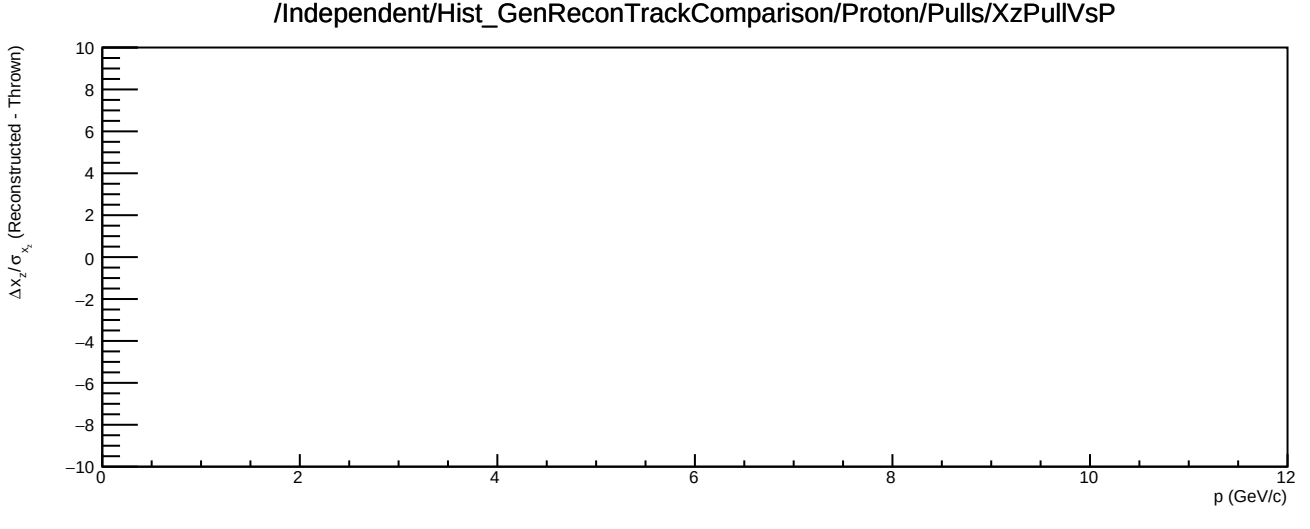

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XyPullVsTheta
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

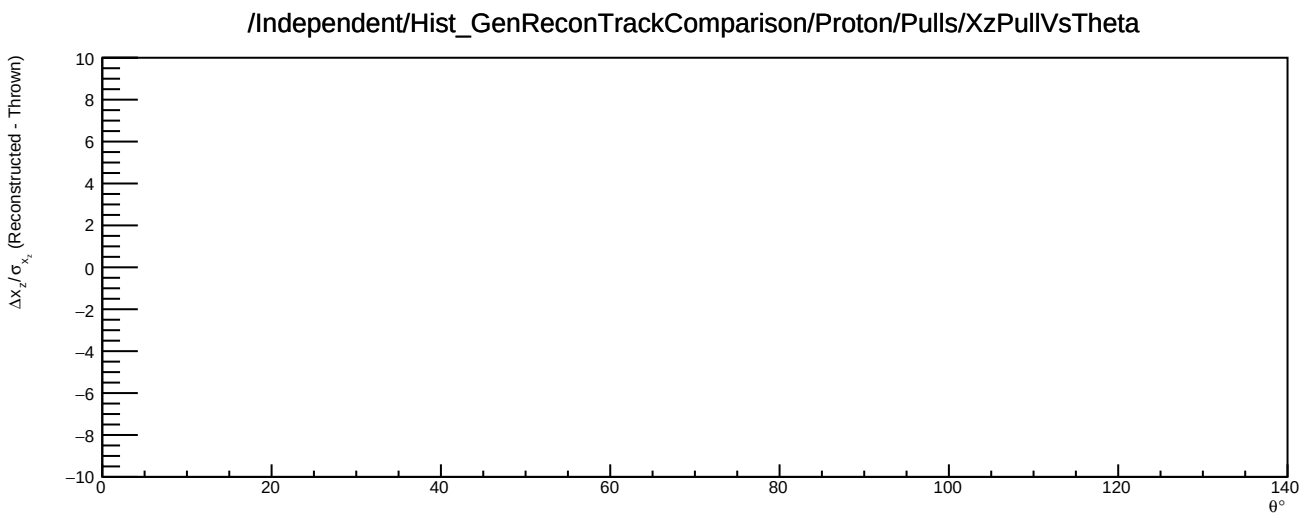

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XyPullVsTheta
Δx_y/σ_xy (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

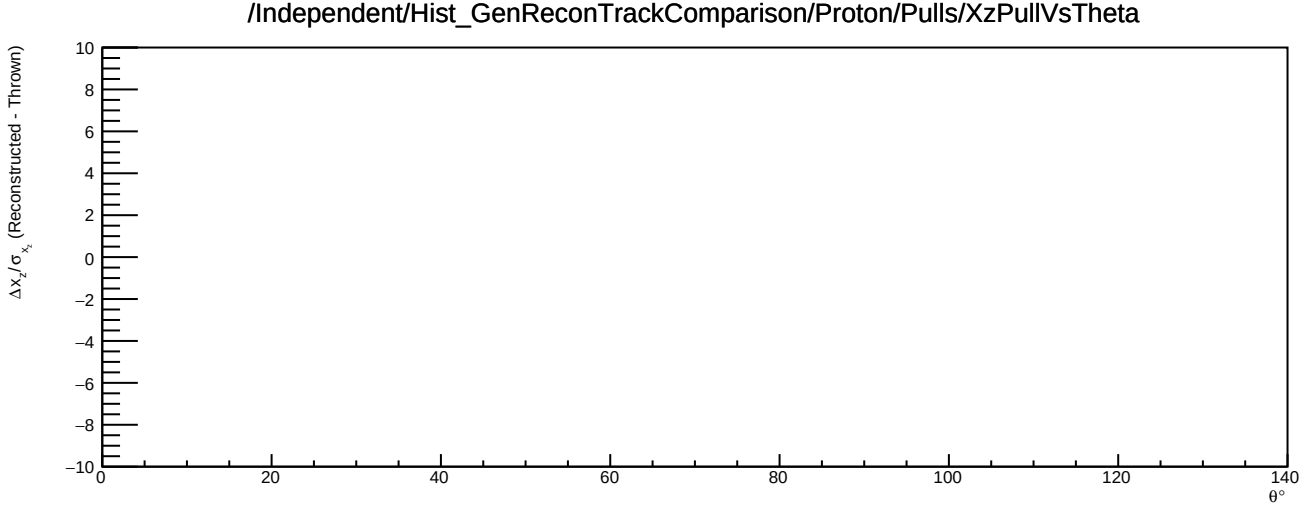
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XzPull



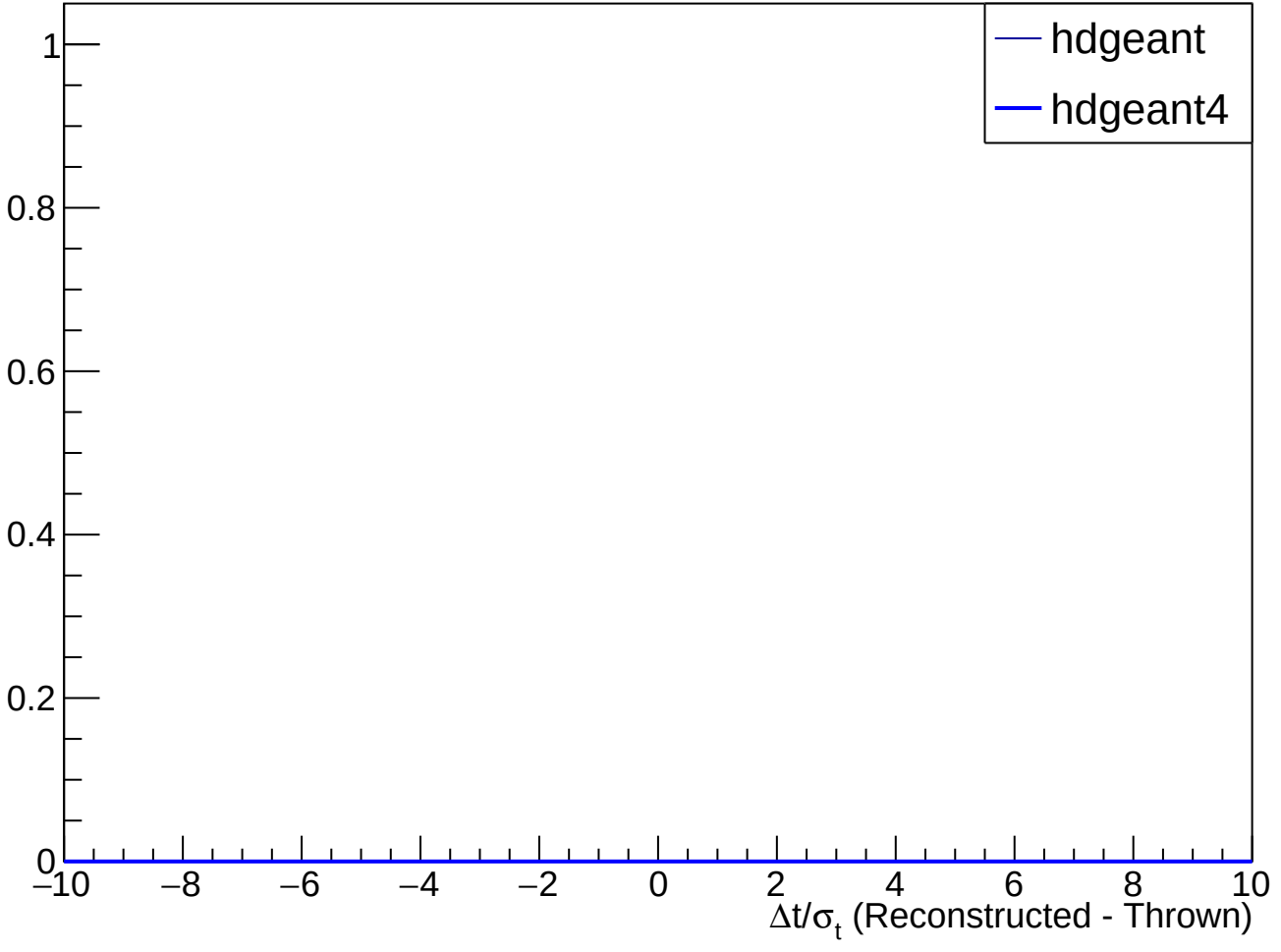

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

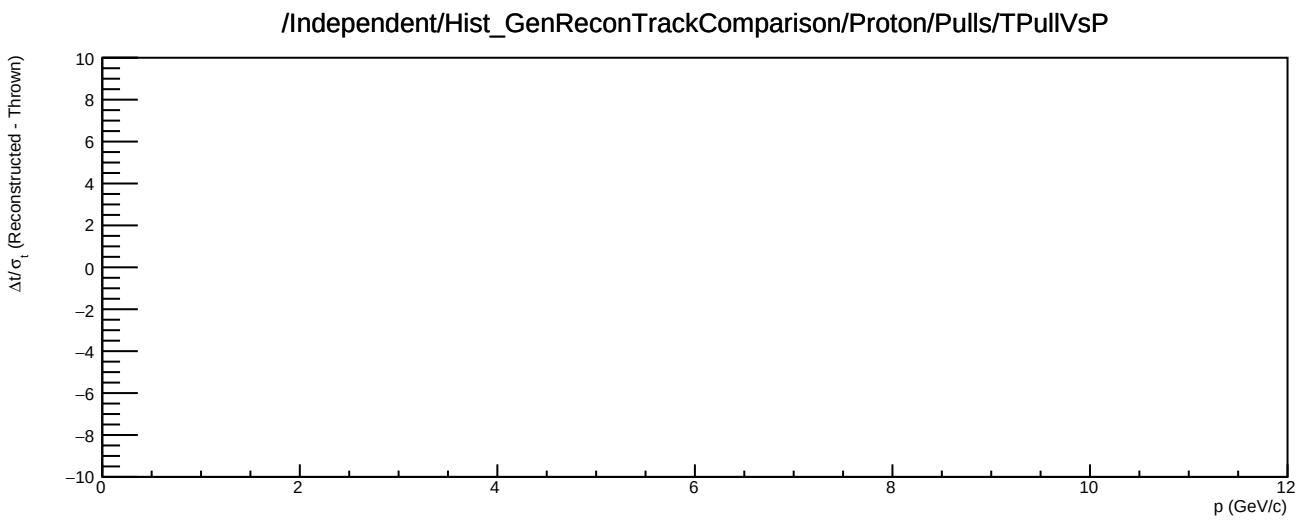

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

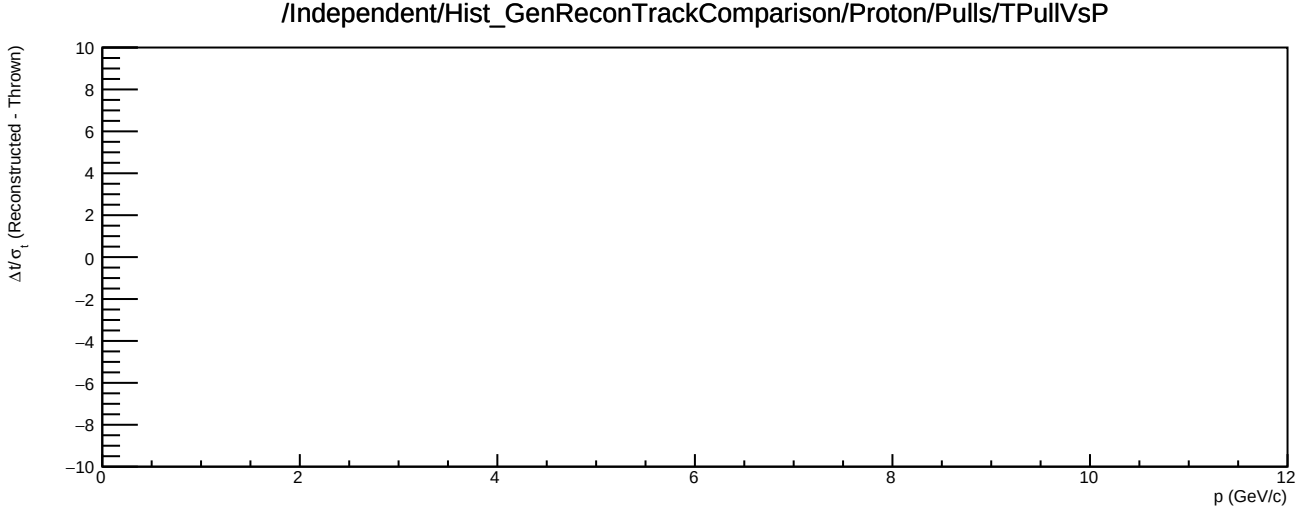

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

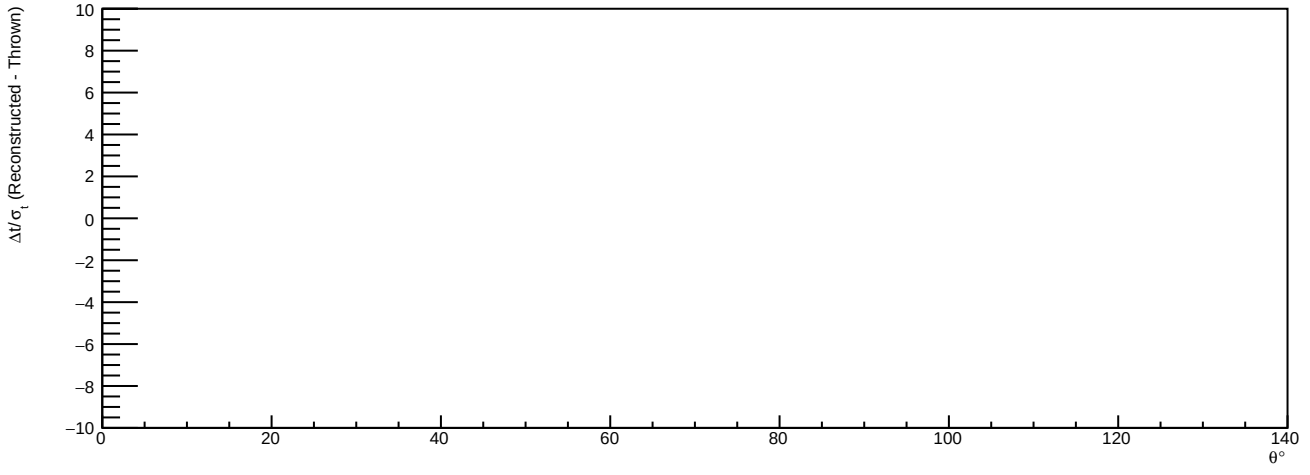

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

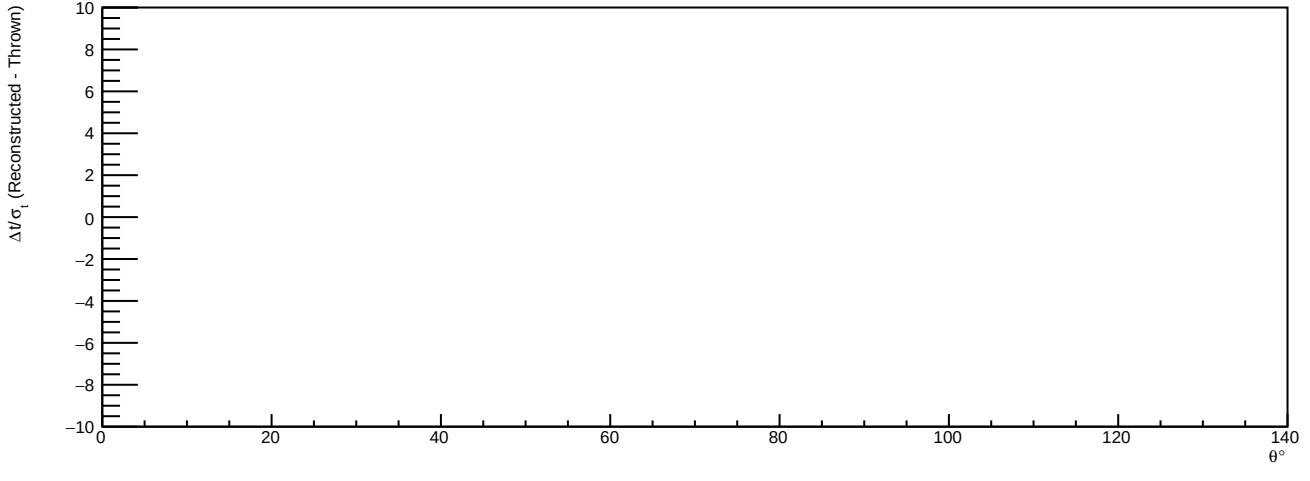
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TPull



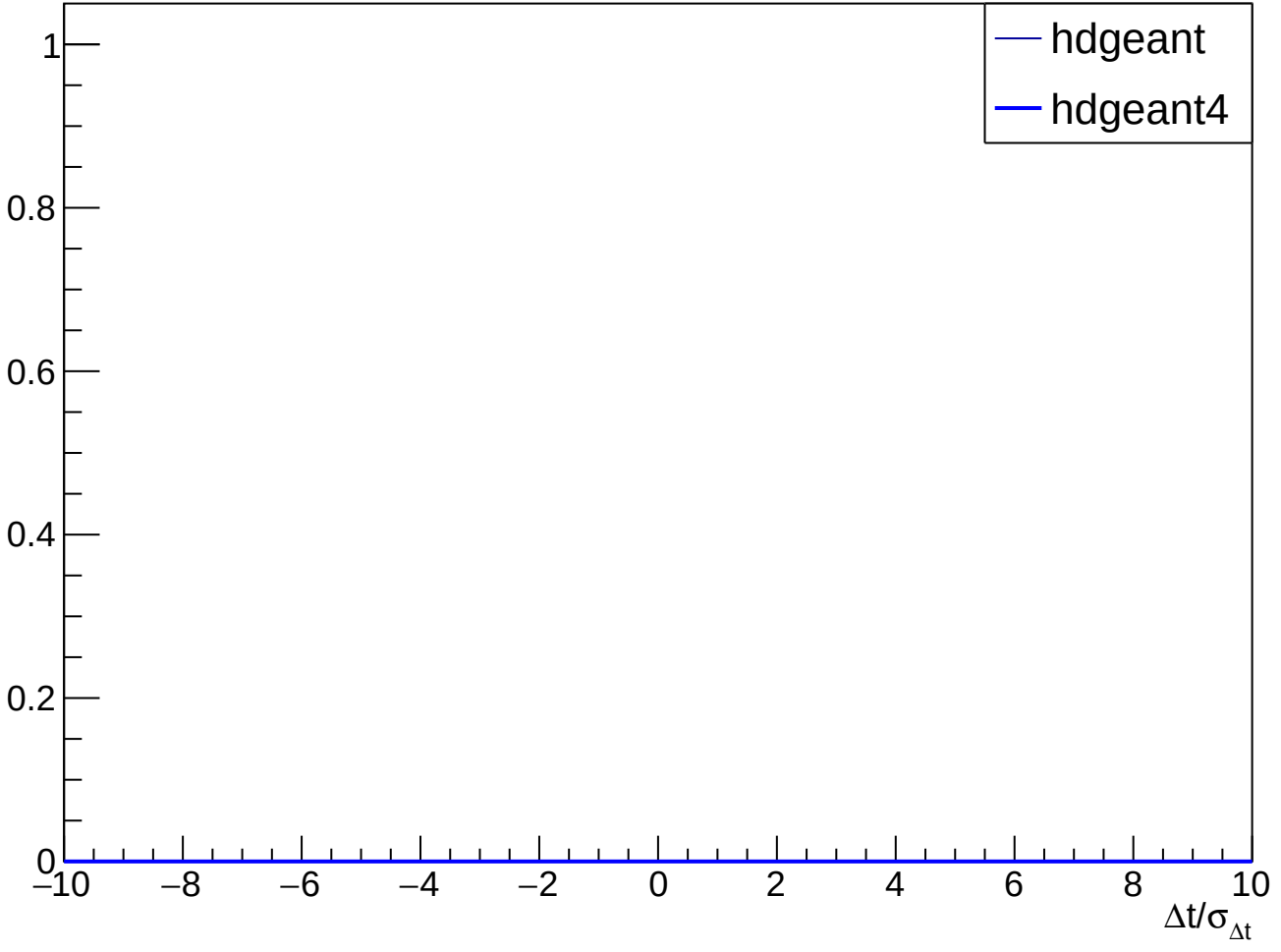

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

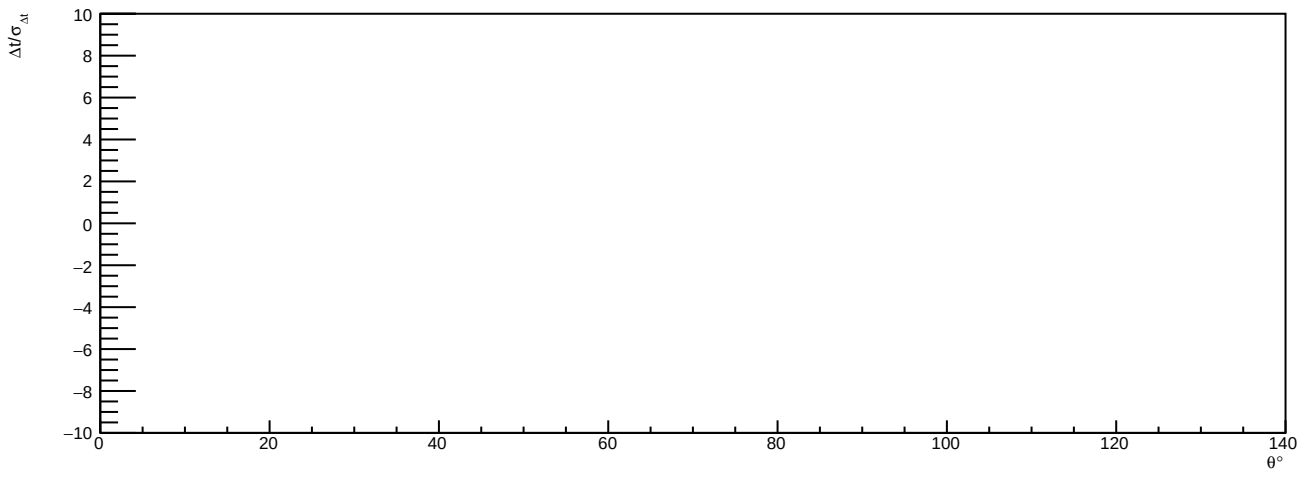

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

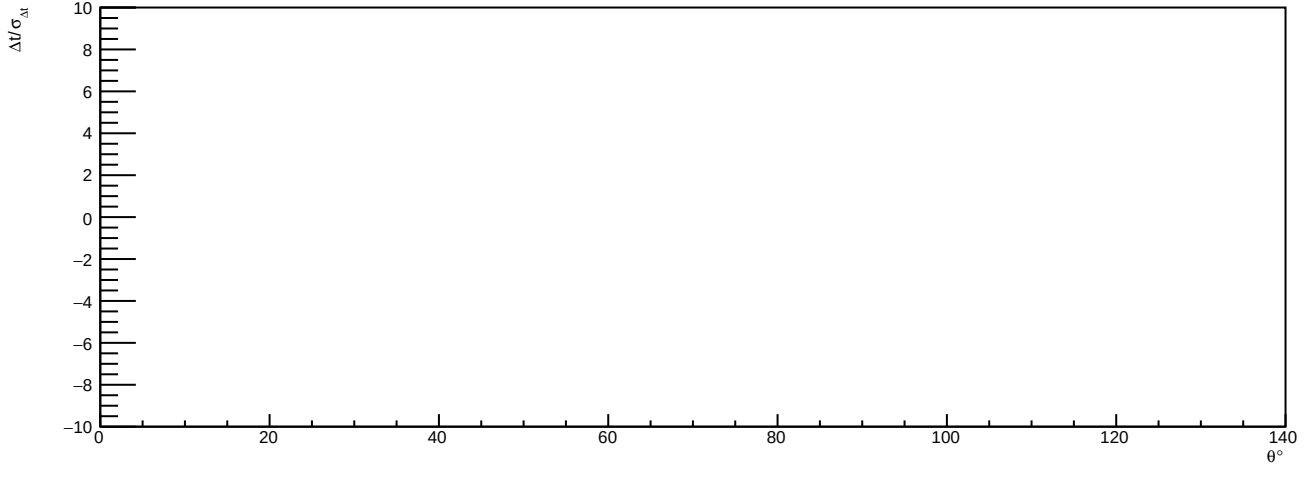

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

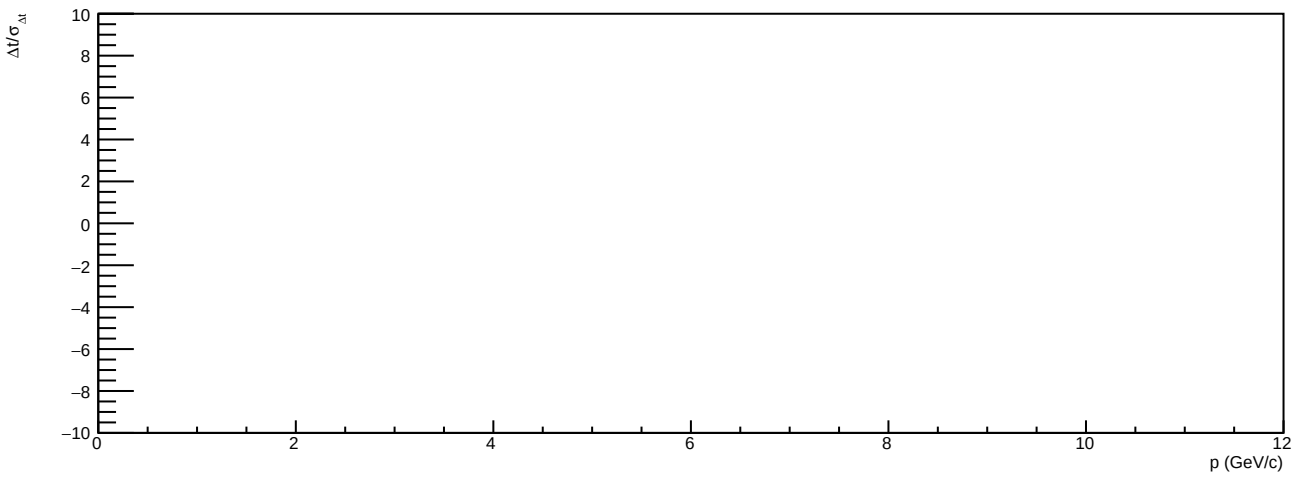

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

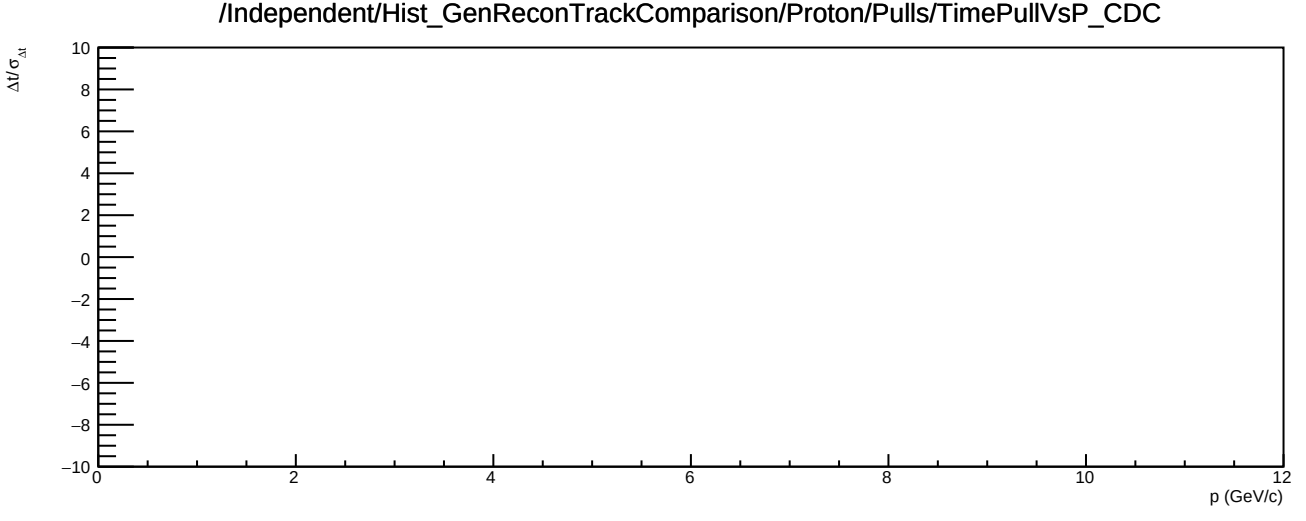
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePull_CDC



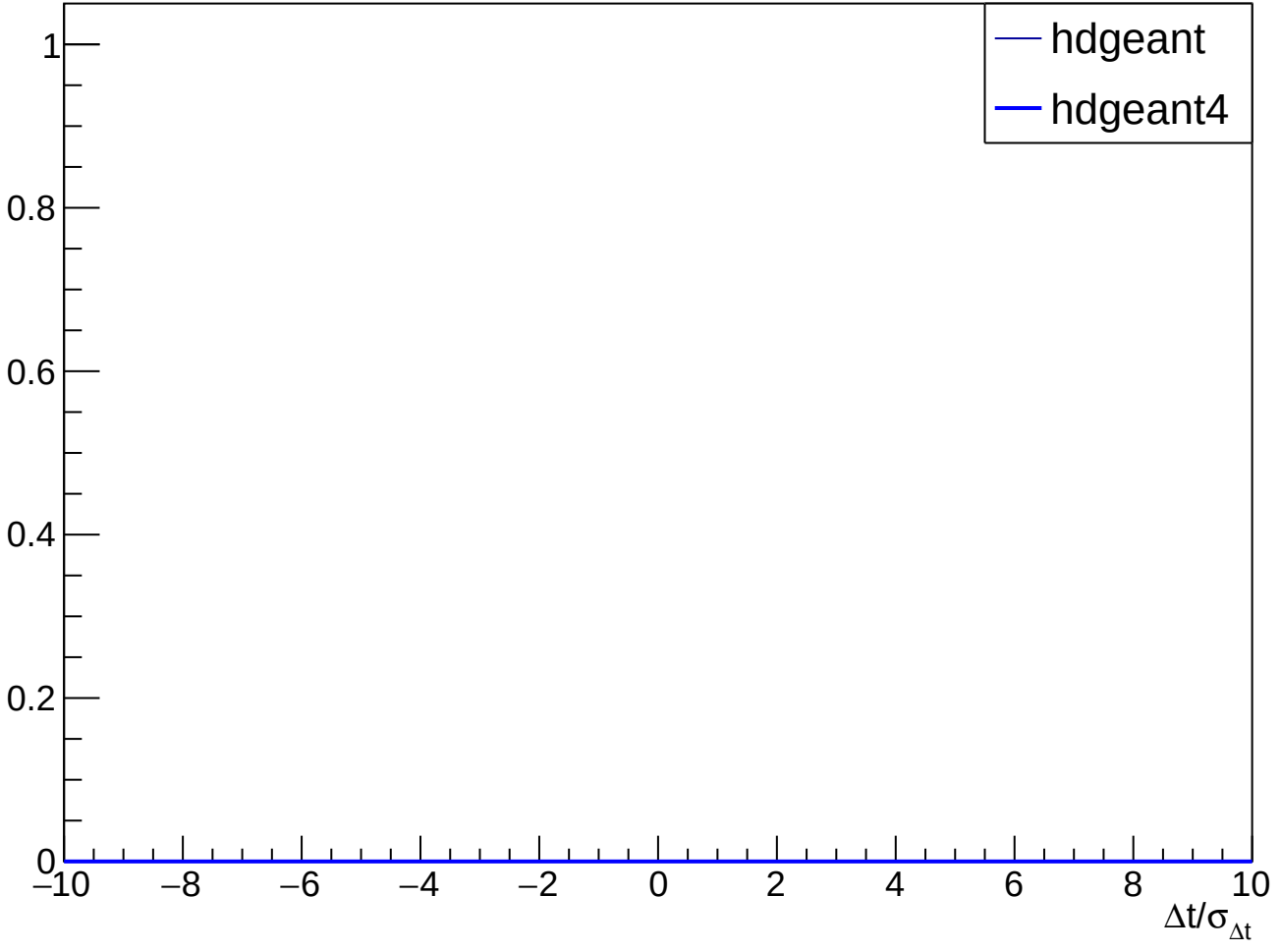

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsTheta_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

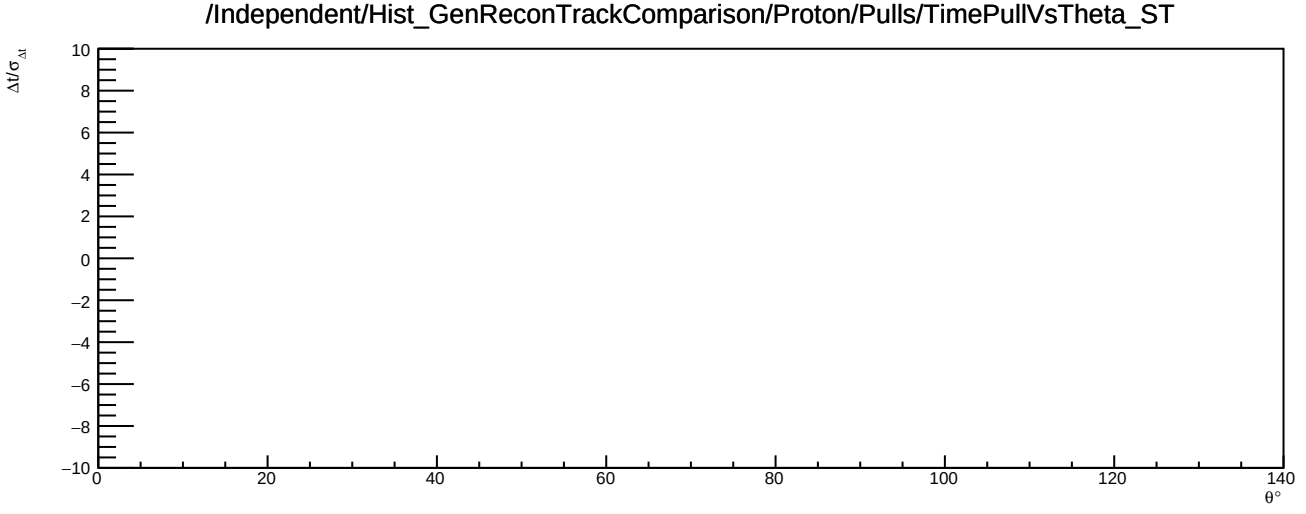

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsTheta_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

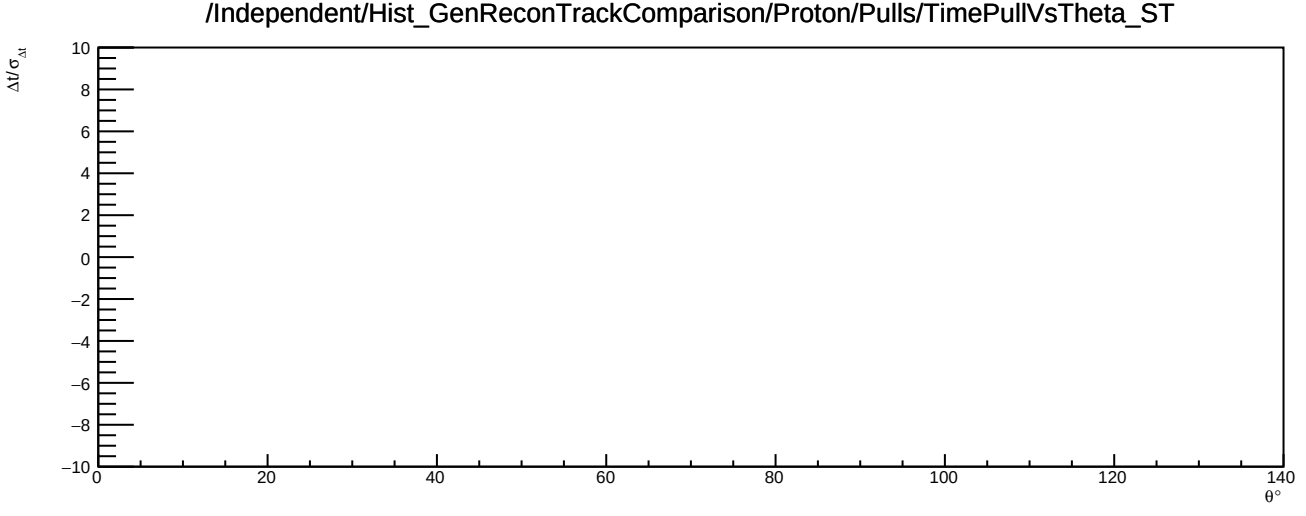

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsP_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

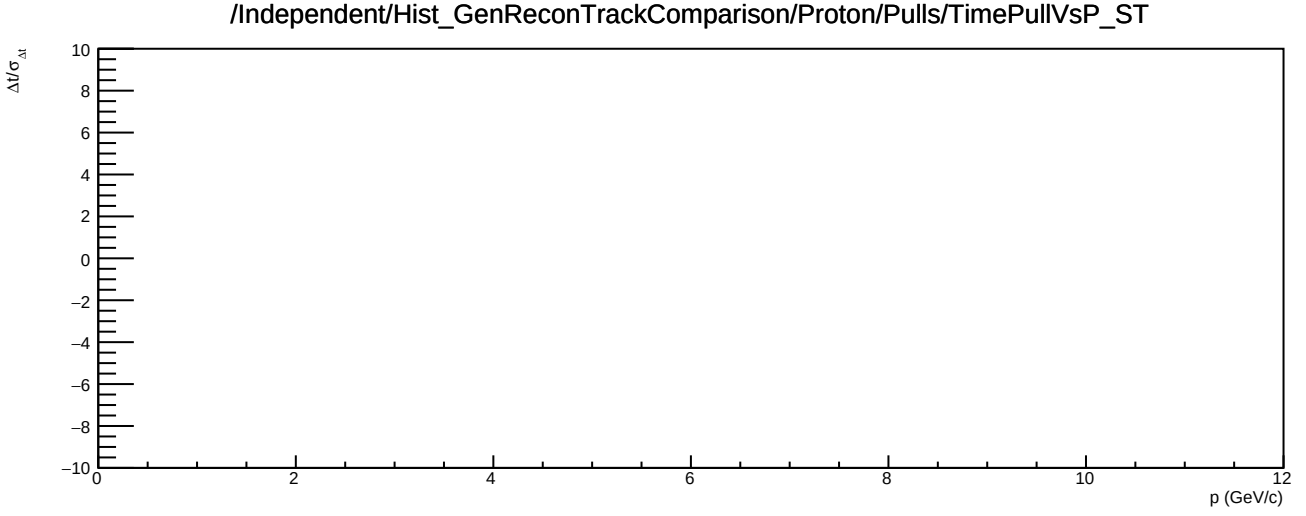

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsP_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

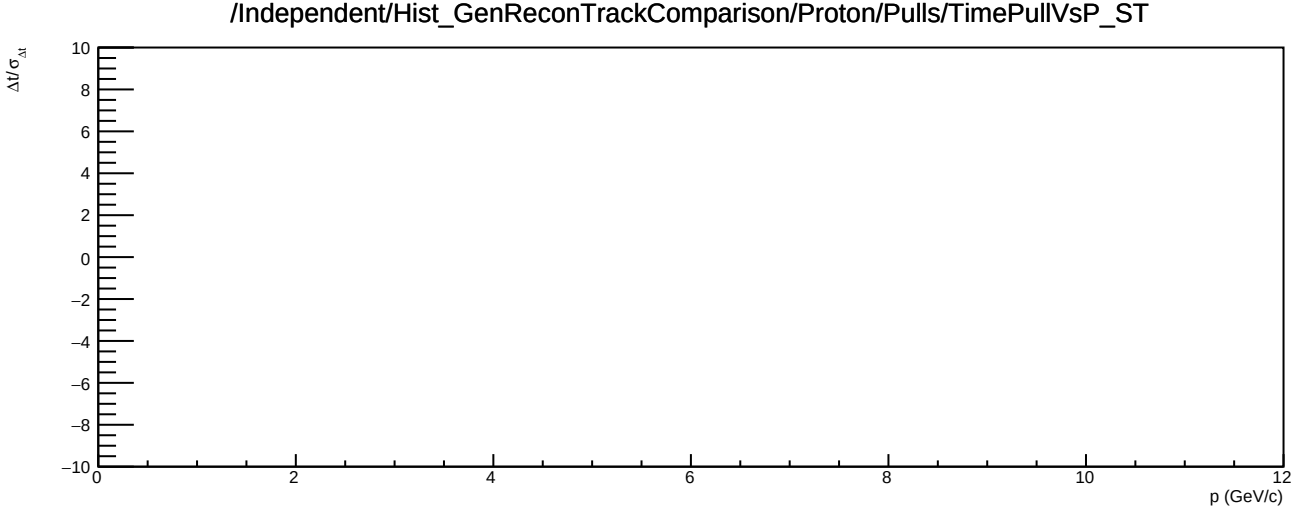
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePull_ST



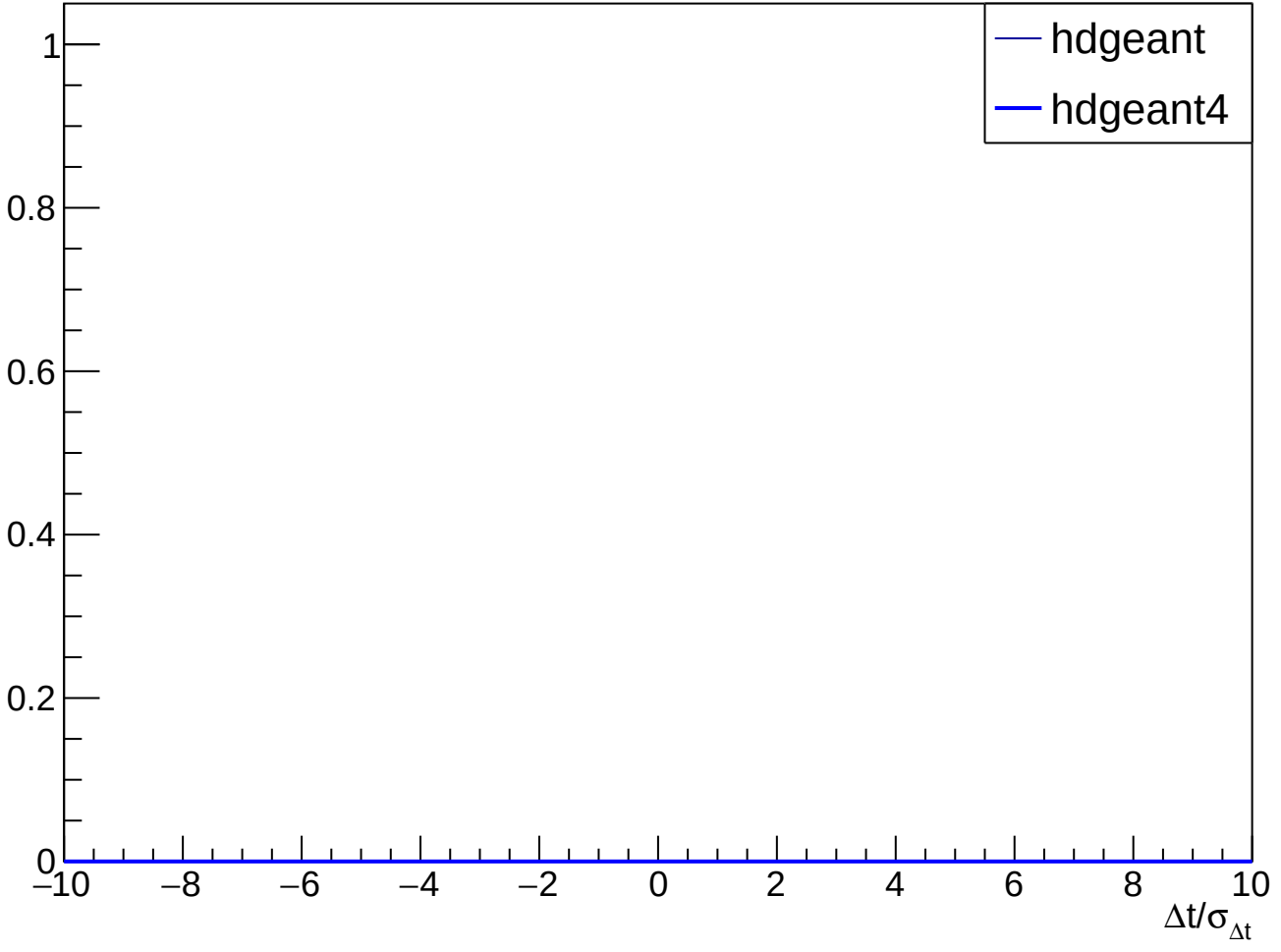

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsTheta_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

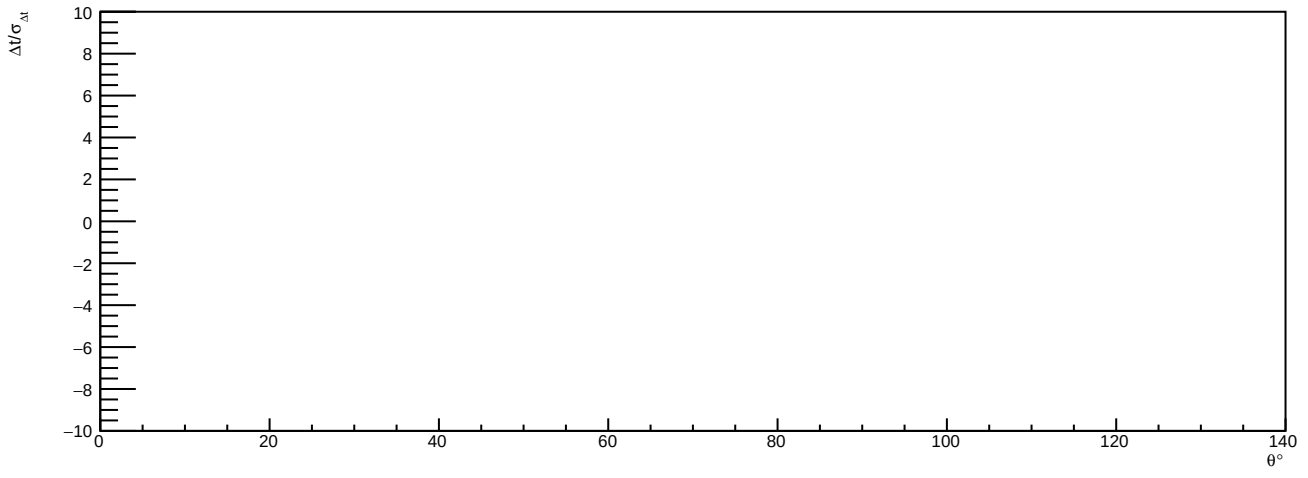

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsTheta_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

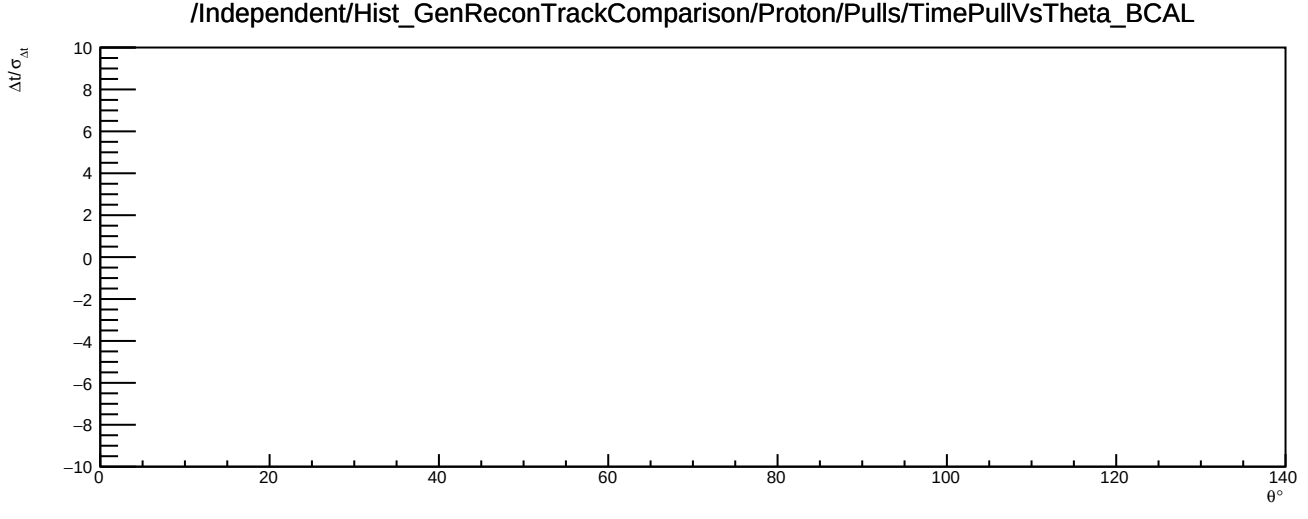

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsP_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

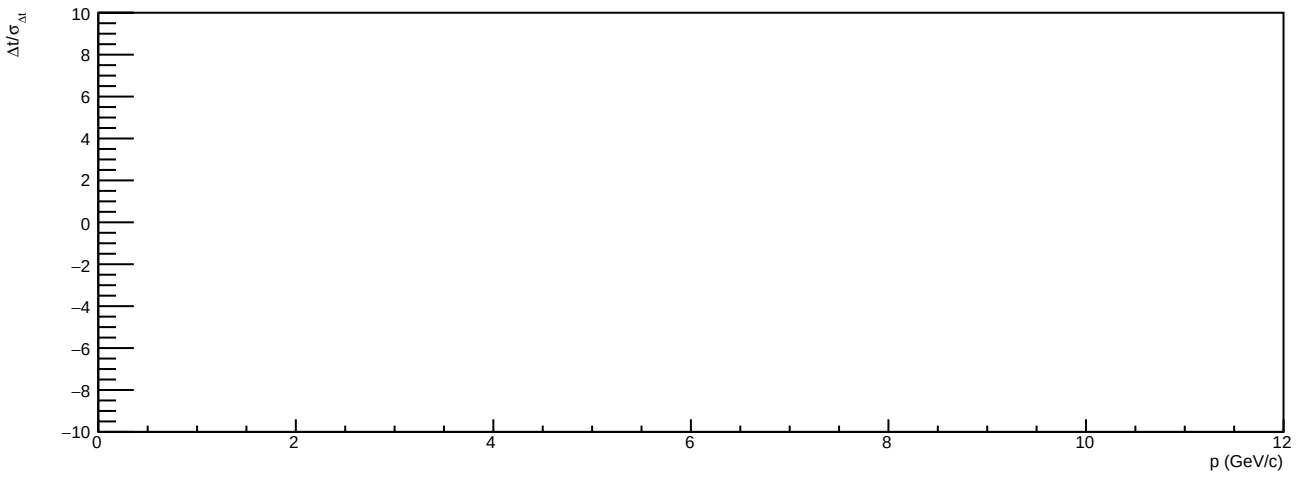

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsP_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

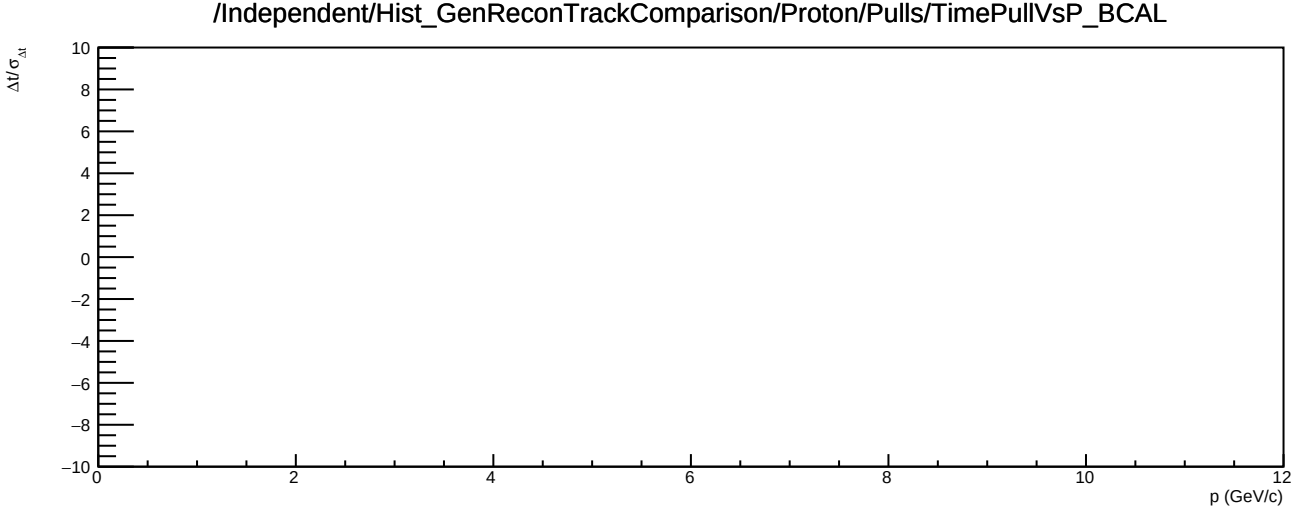
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePull_BCAL



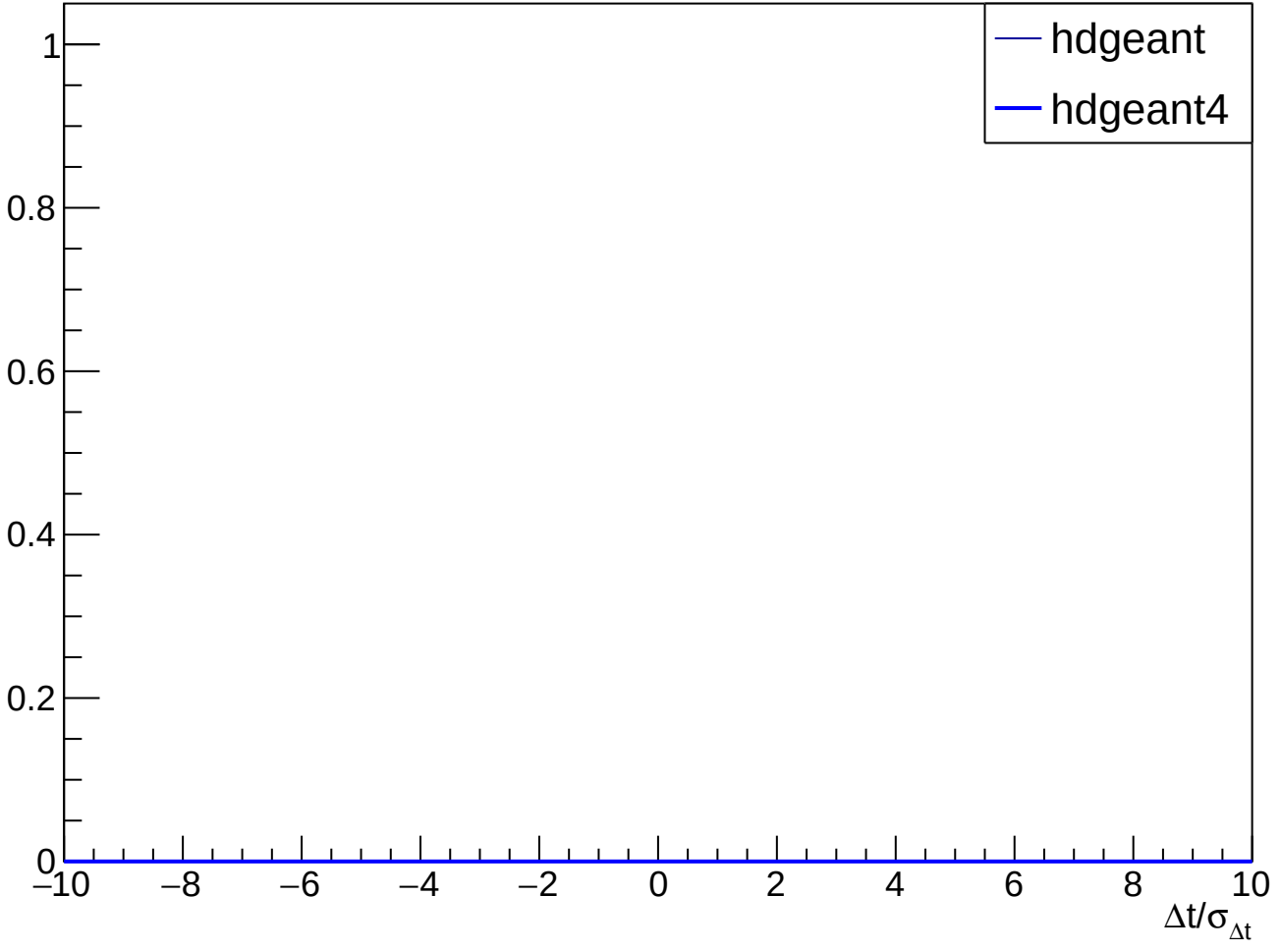

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsTheta_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

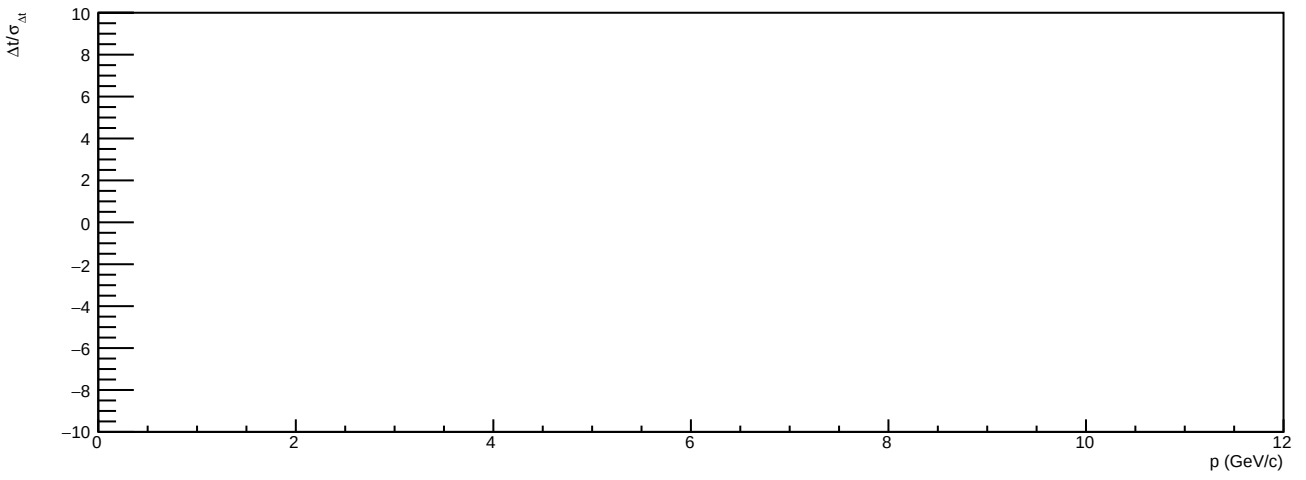

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsTheta_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

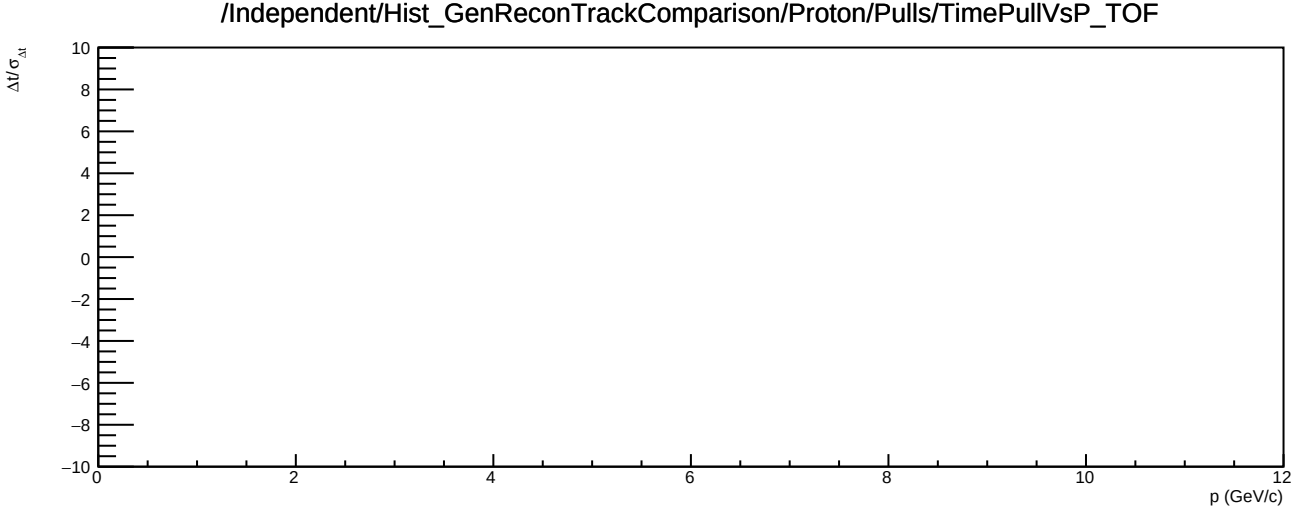

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

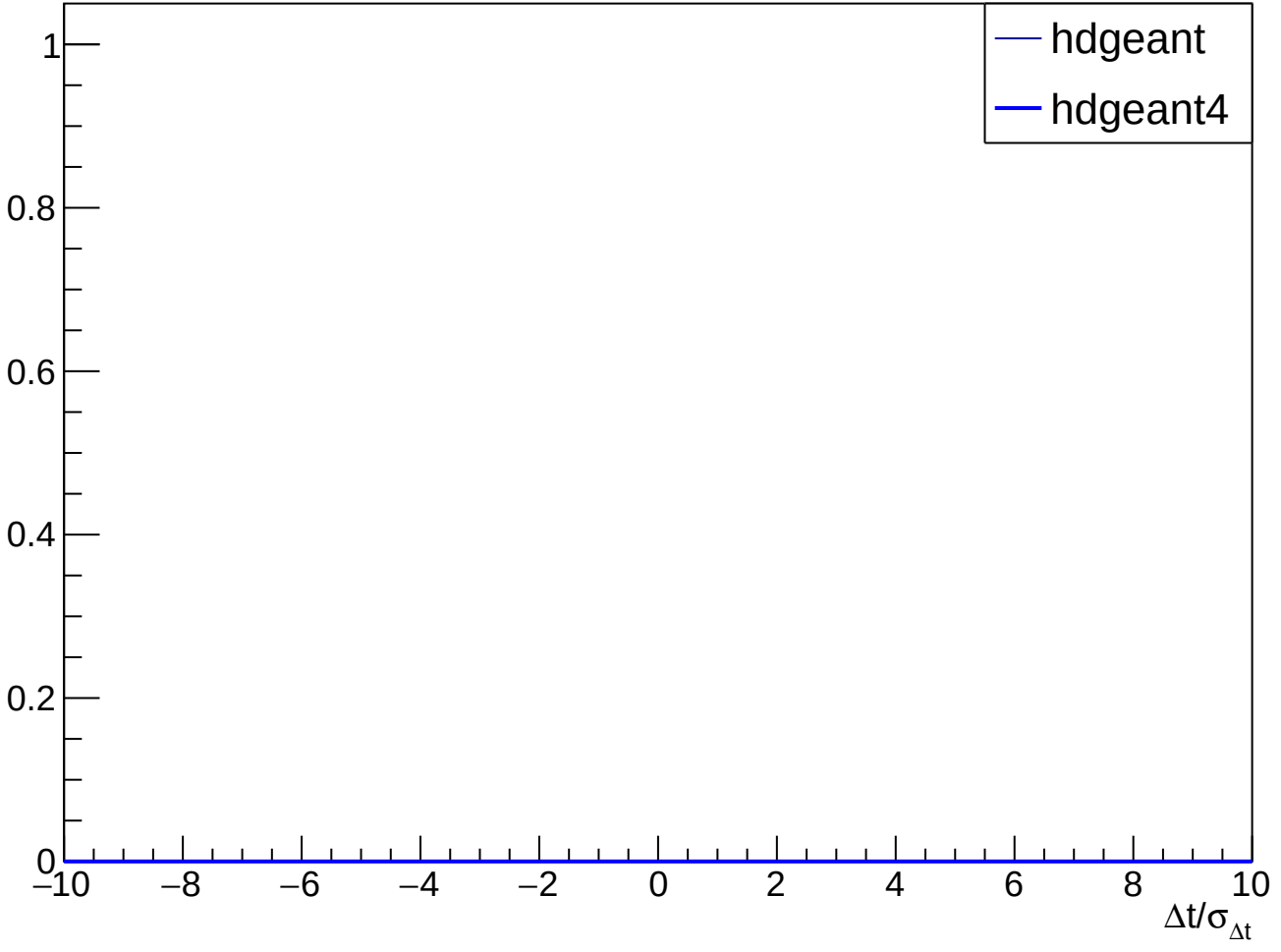
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePull_TOF

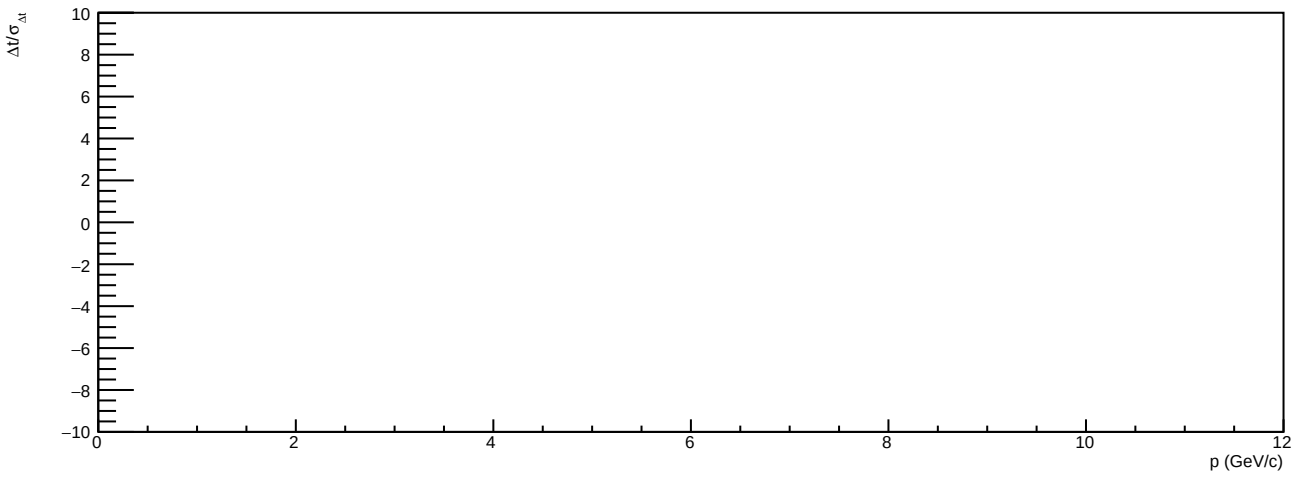


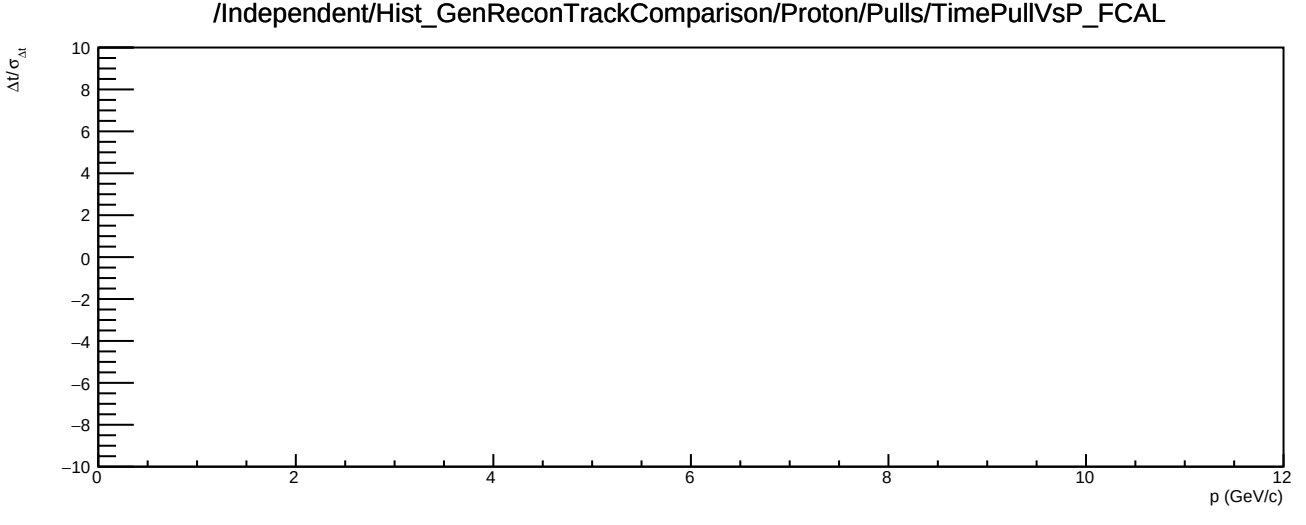

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsP_TOF
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsP_TOF
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

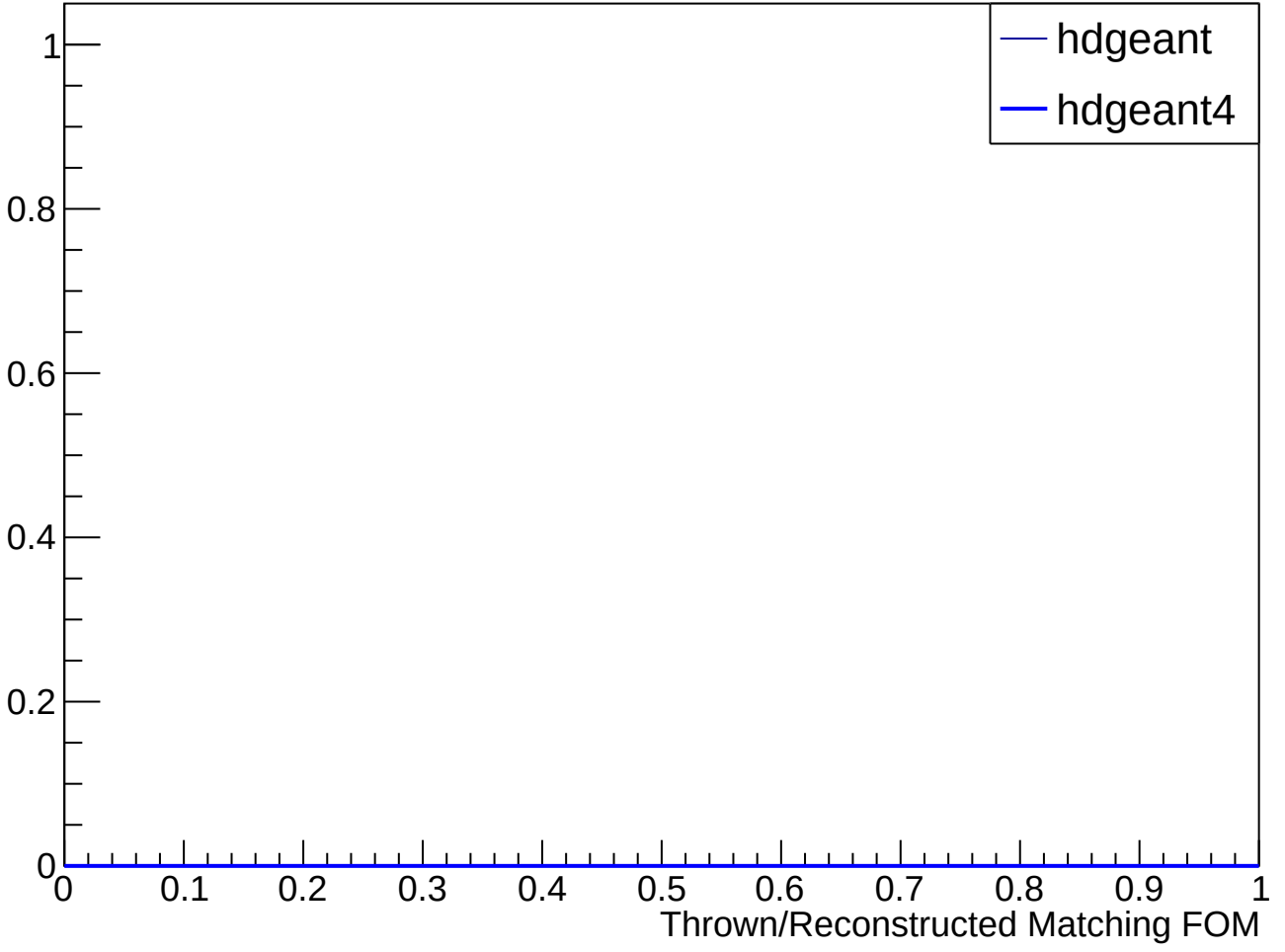
/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePull_FCAL



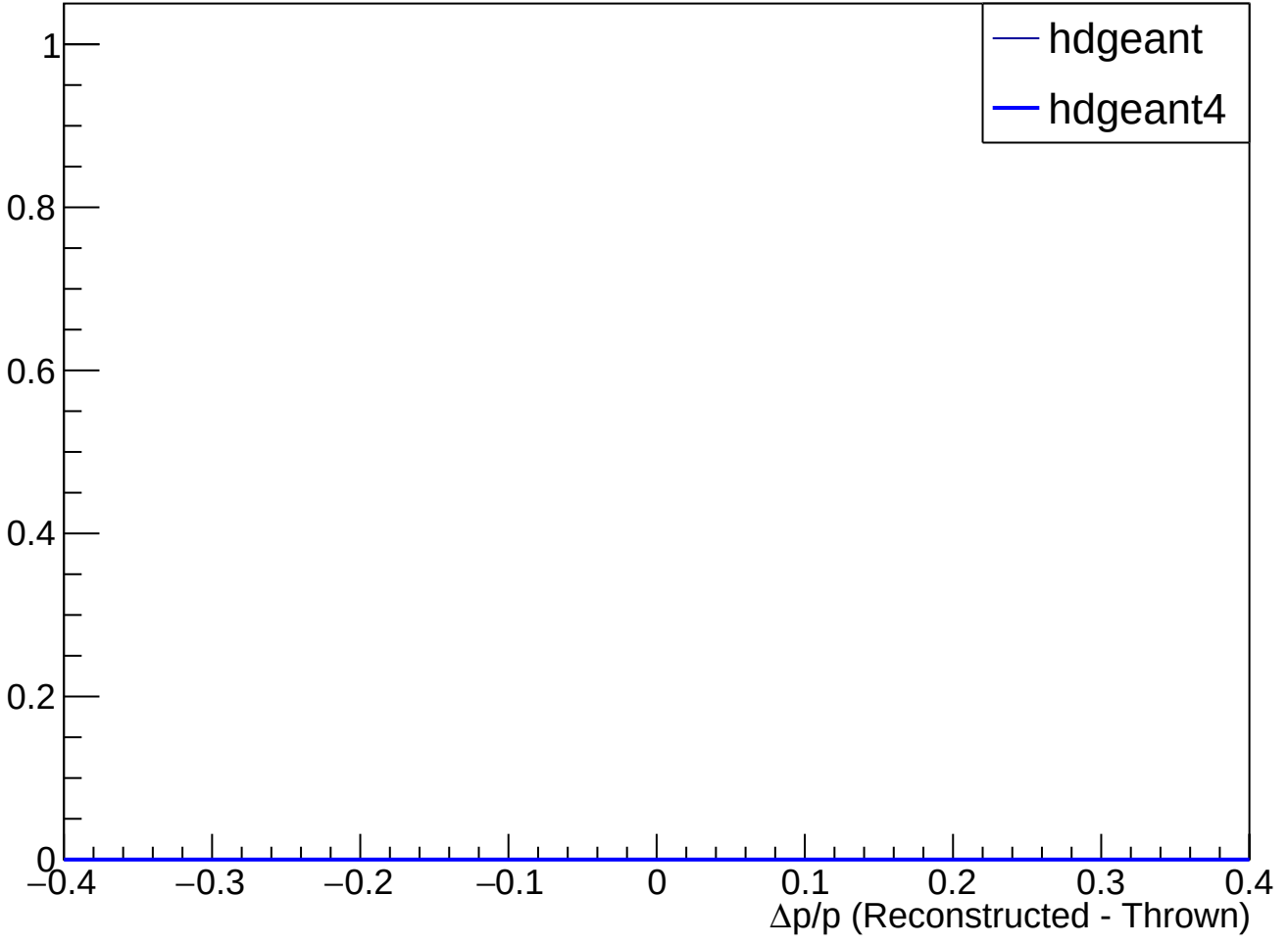

/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Proton/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

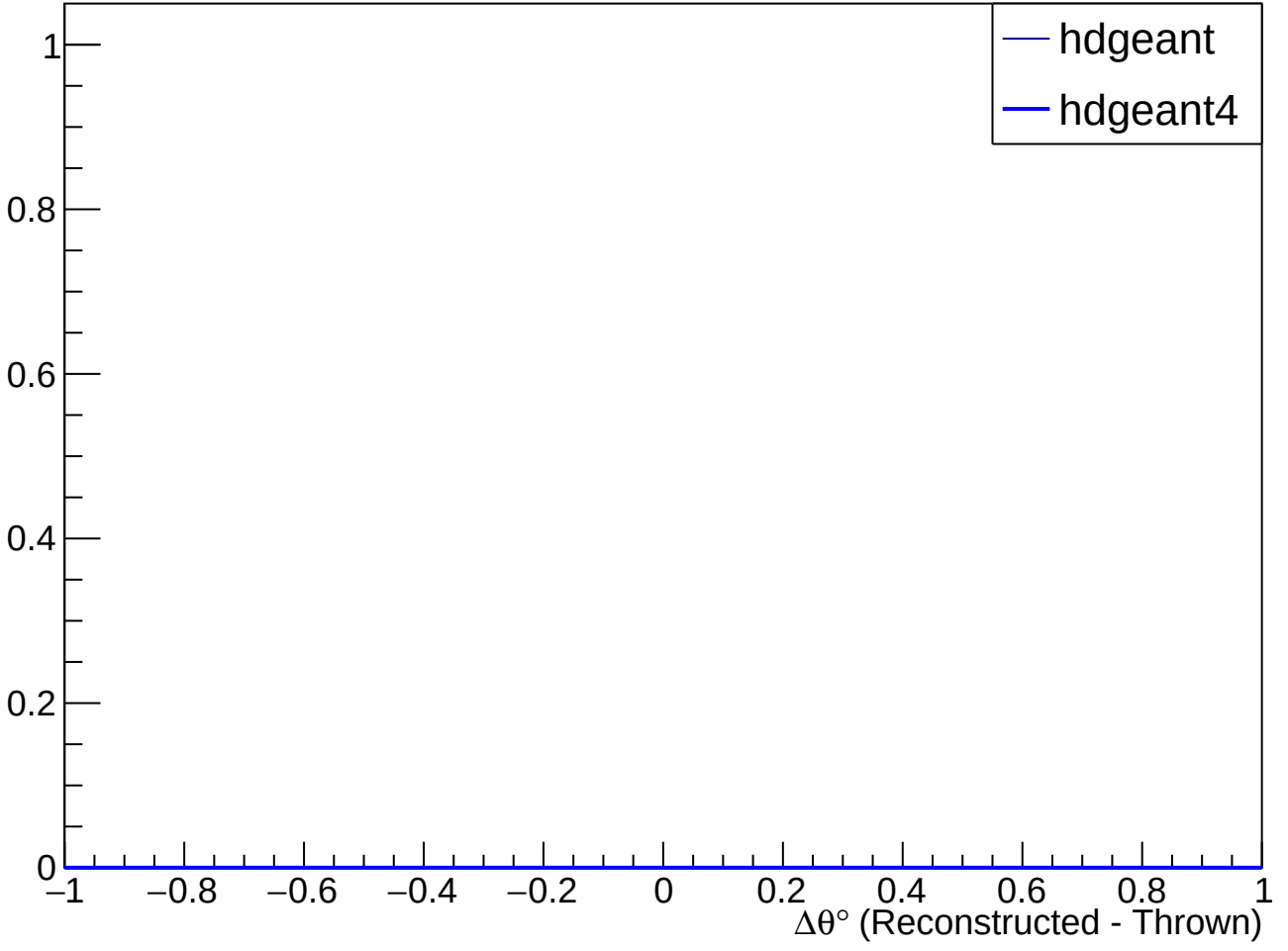
/Independent/Hist_GenReconTrackComparison/Proton/MatchFOM



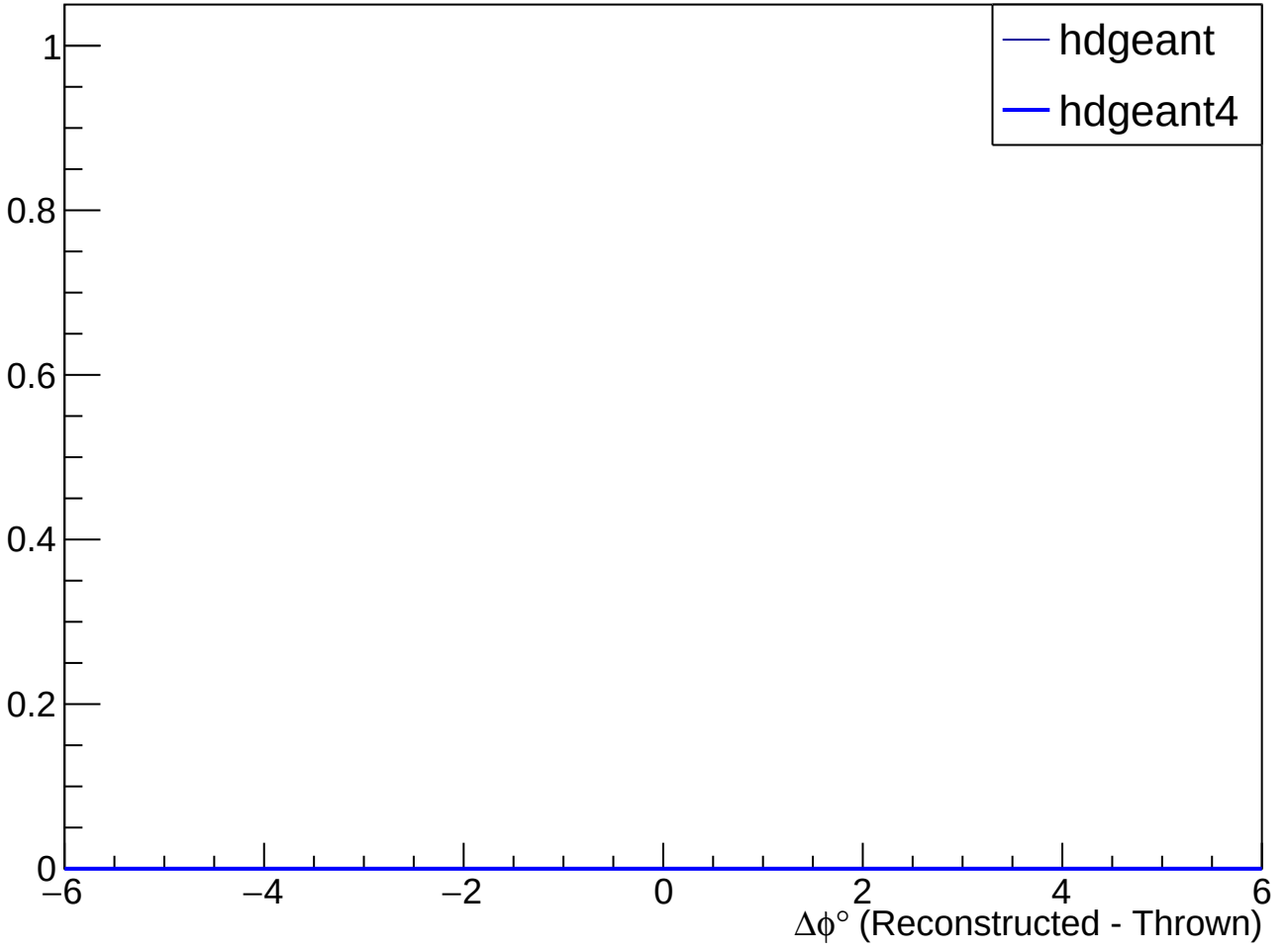
/Independent/Hist_GenReconTrackComparison/Proton/DeltaPOverP



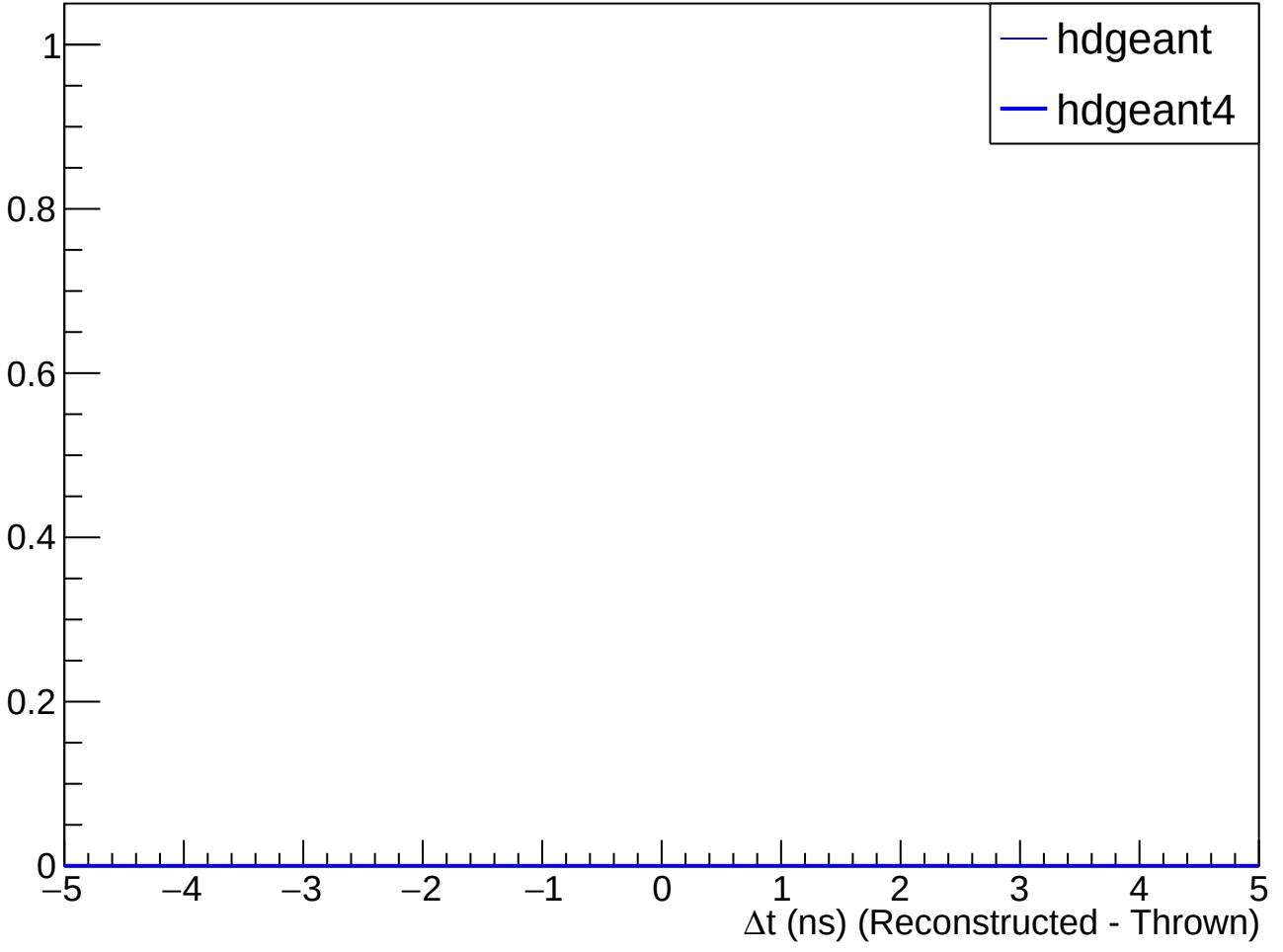
/Independent/Hist_GenReconTrackComparison/Proton/DeltaTheta



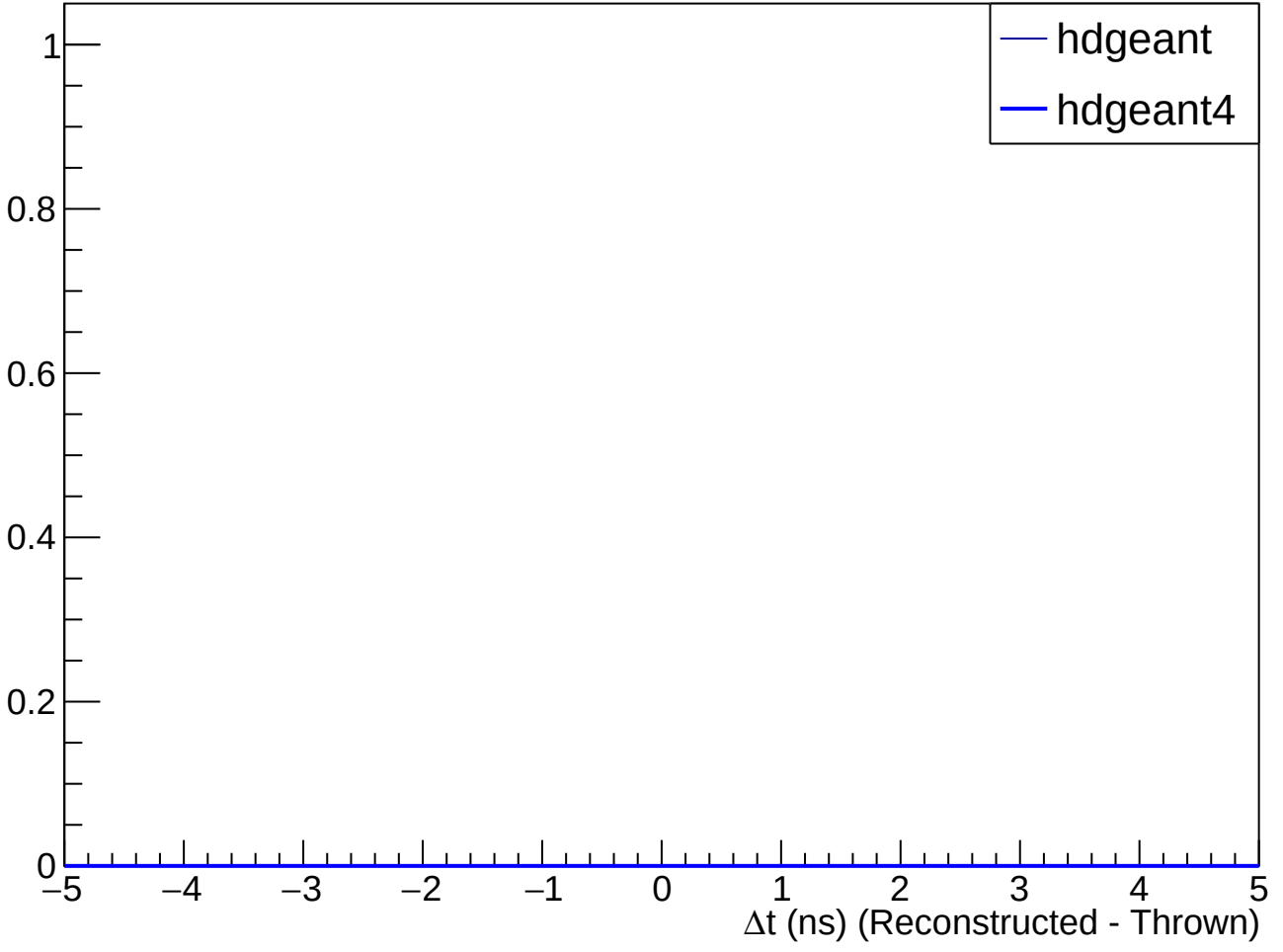
/Independent/Hist_GenReconTrackComparison/Proton/DeltaPhi



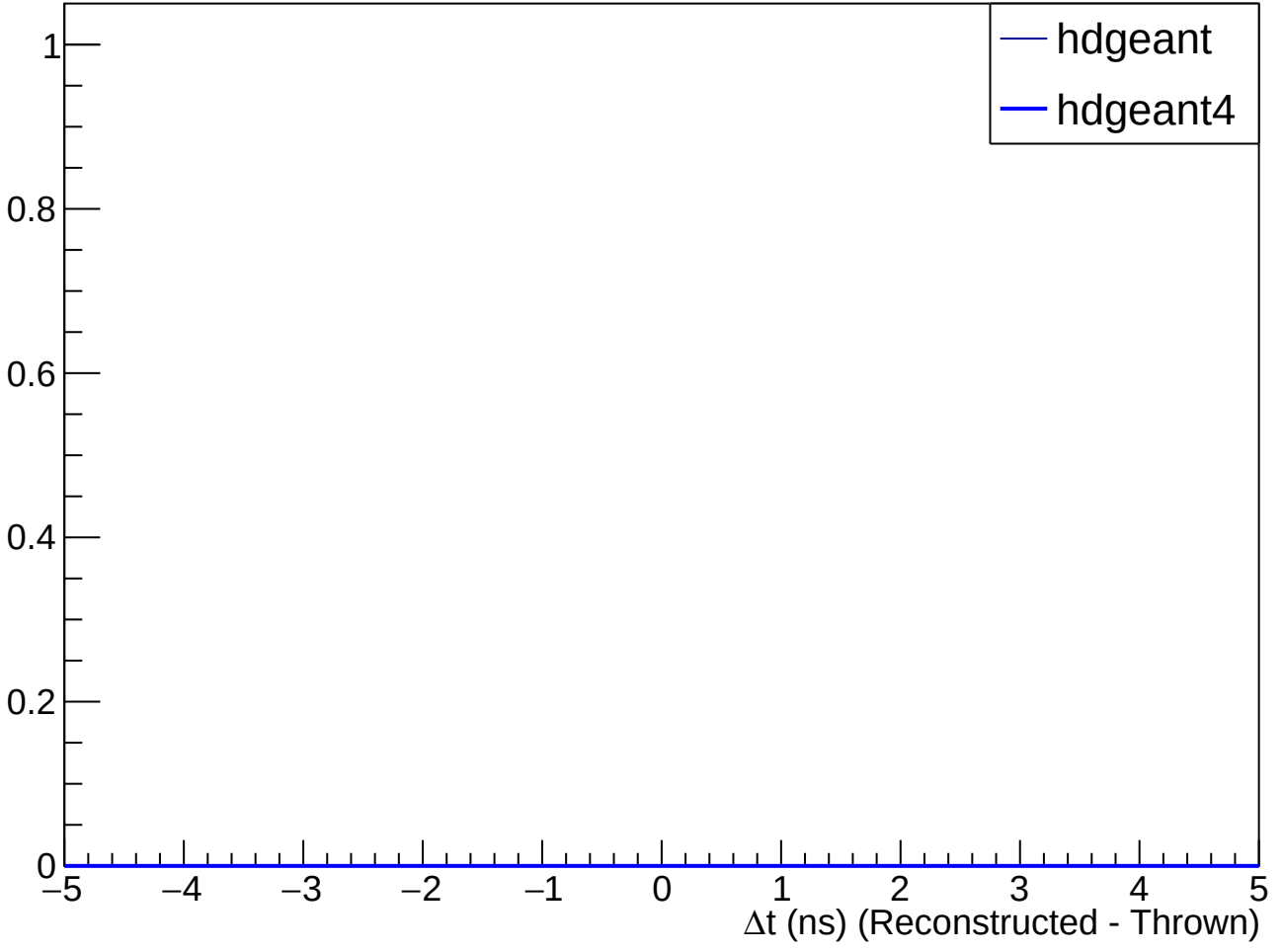
/Independent/Hist_GenReconTrackComparison/Proton/DeltaT



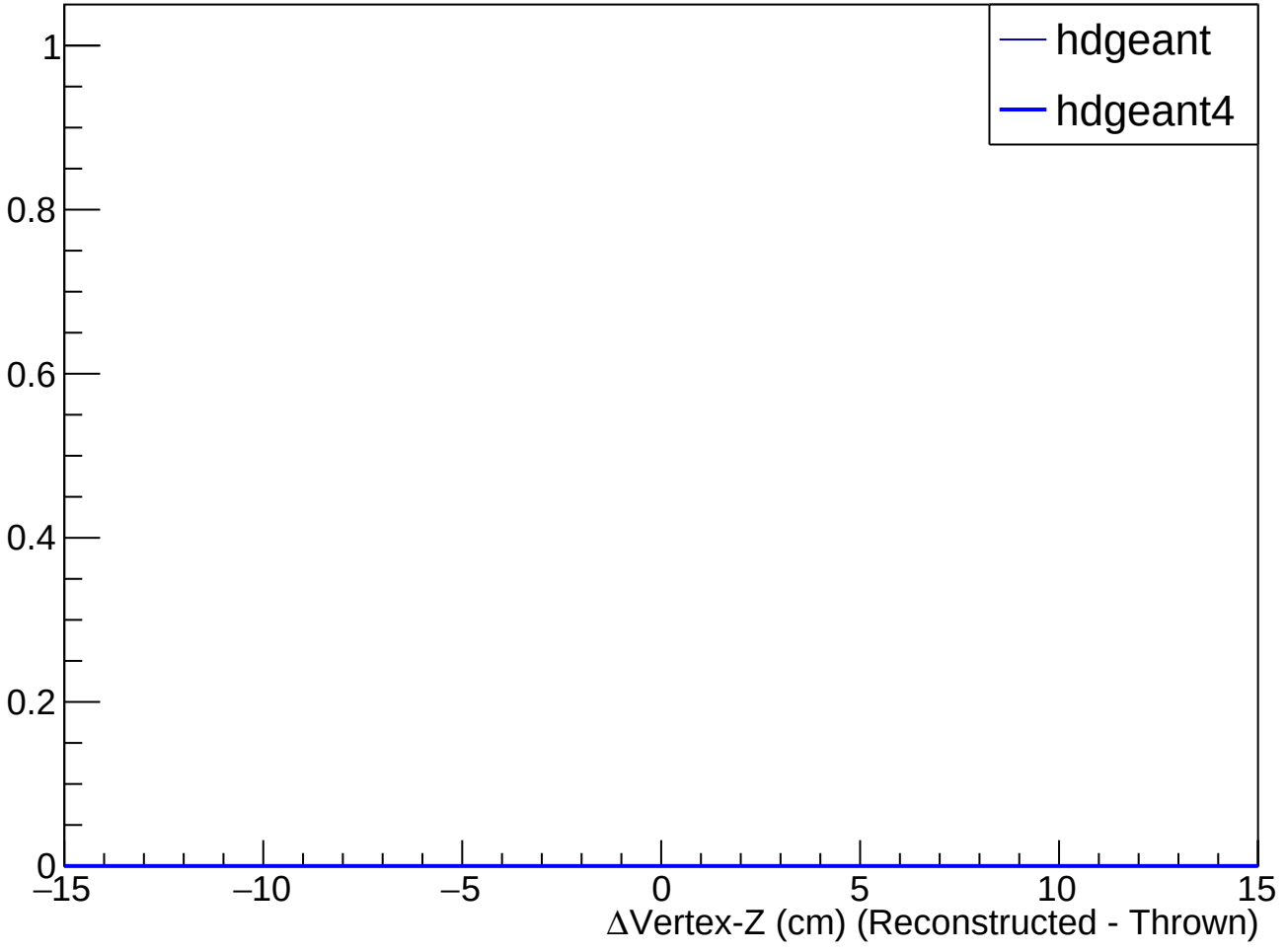
/Independent/Hist_GenReconTrackComparison/Proton/DeltaT_BCAL

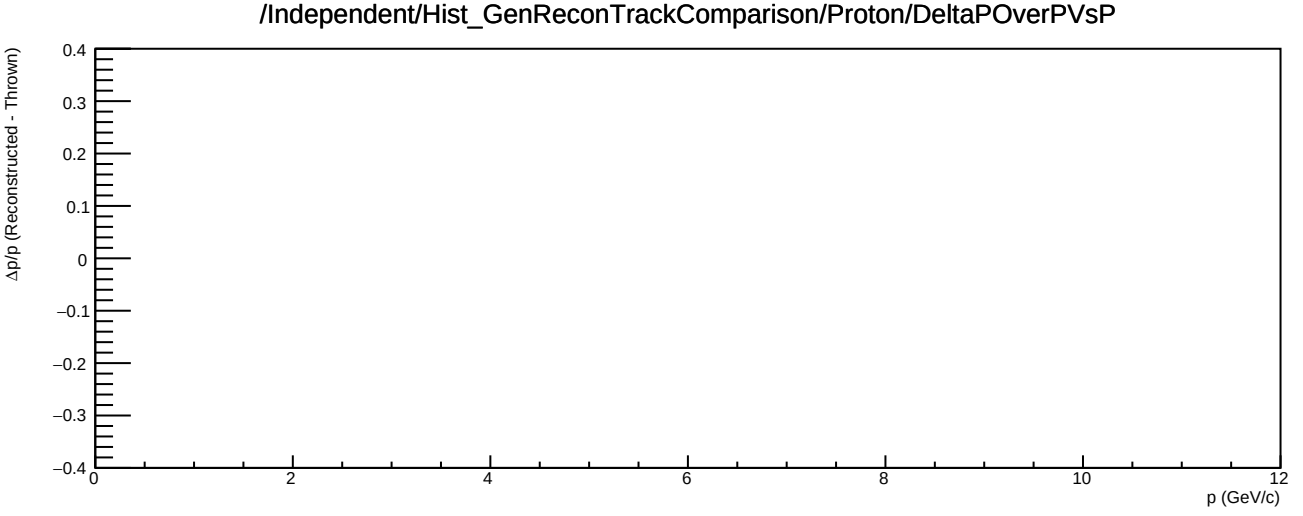


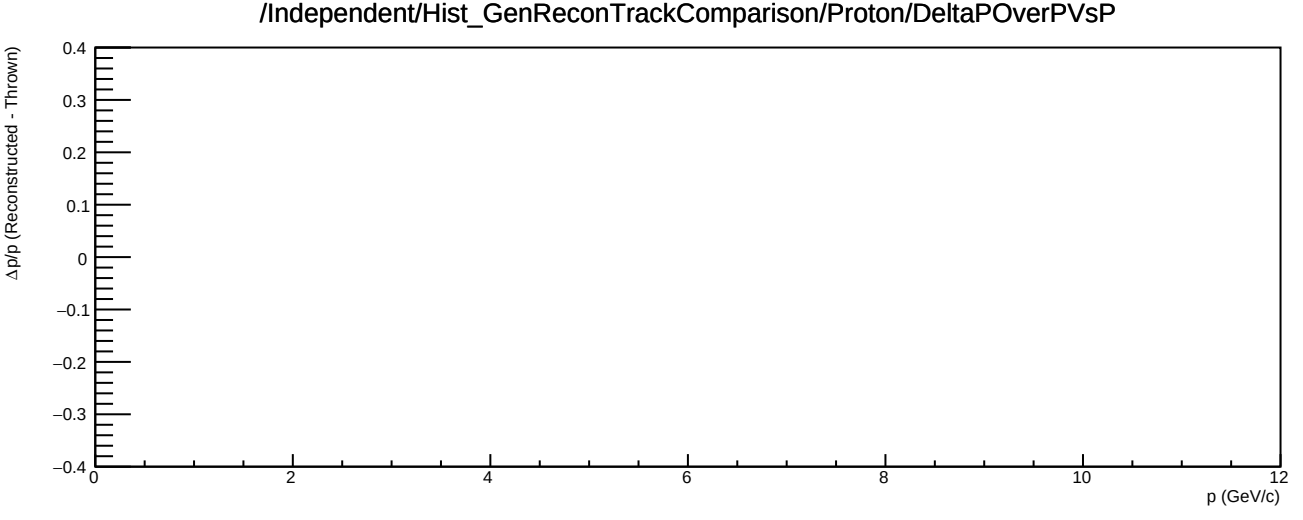
/Independent/Hist_GenReconTrackComparison/Proton/DeltaT_TOF

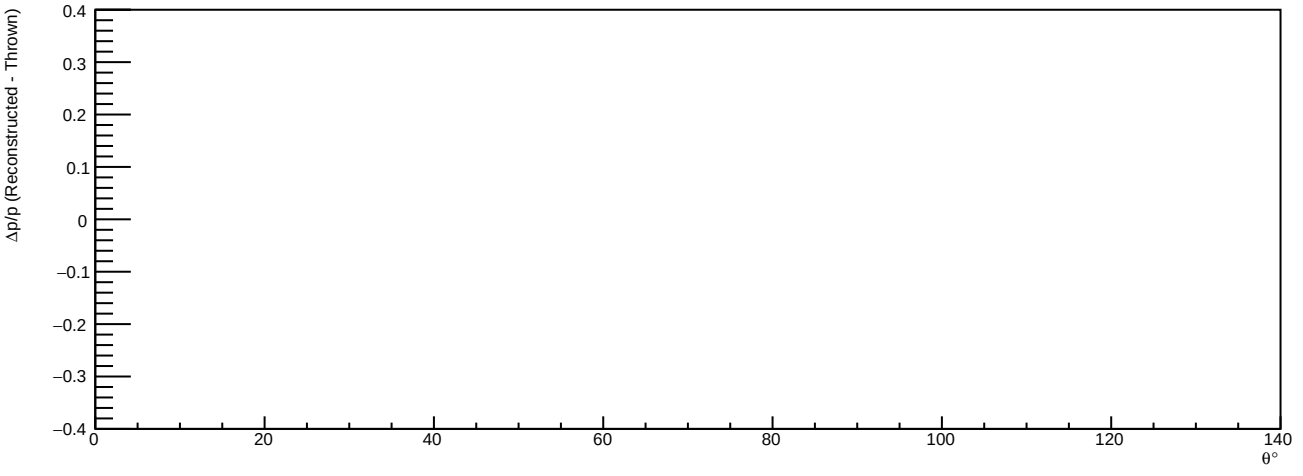


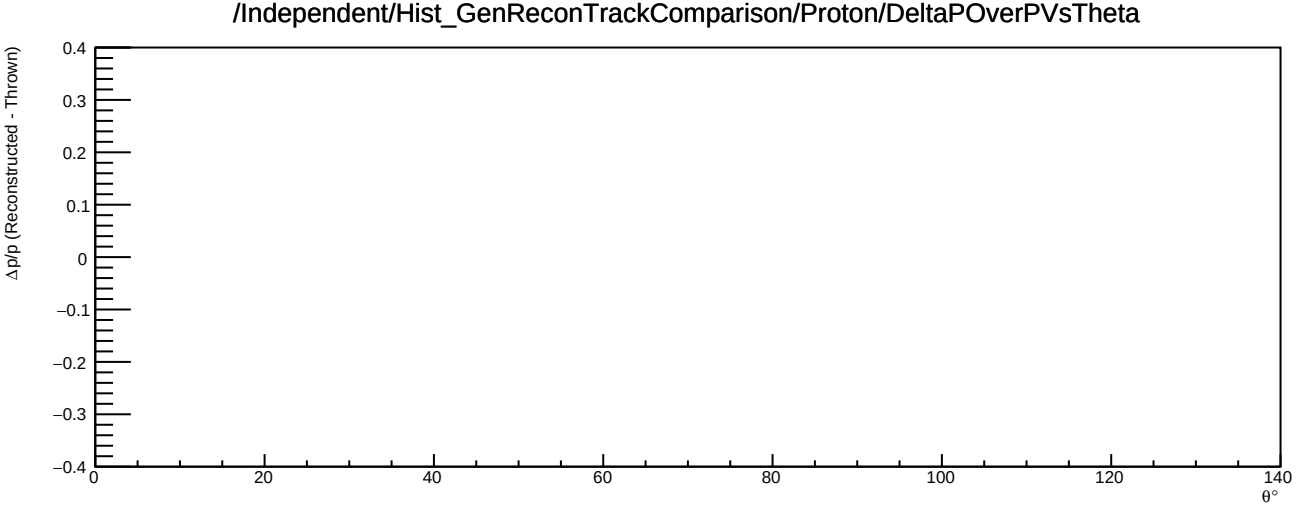
/Independent/Hist_GenReconTrackComparison/Proton/DeltaVertexZ

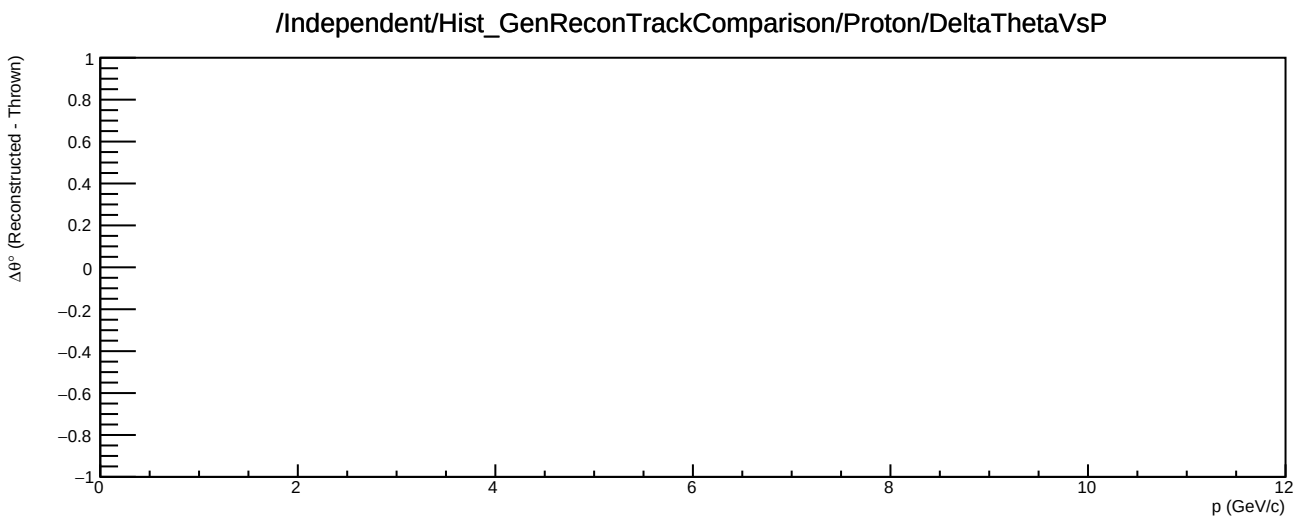


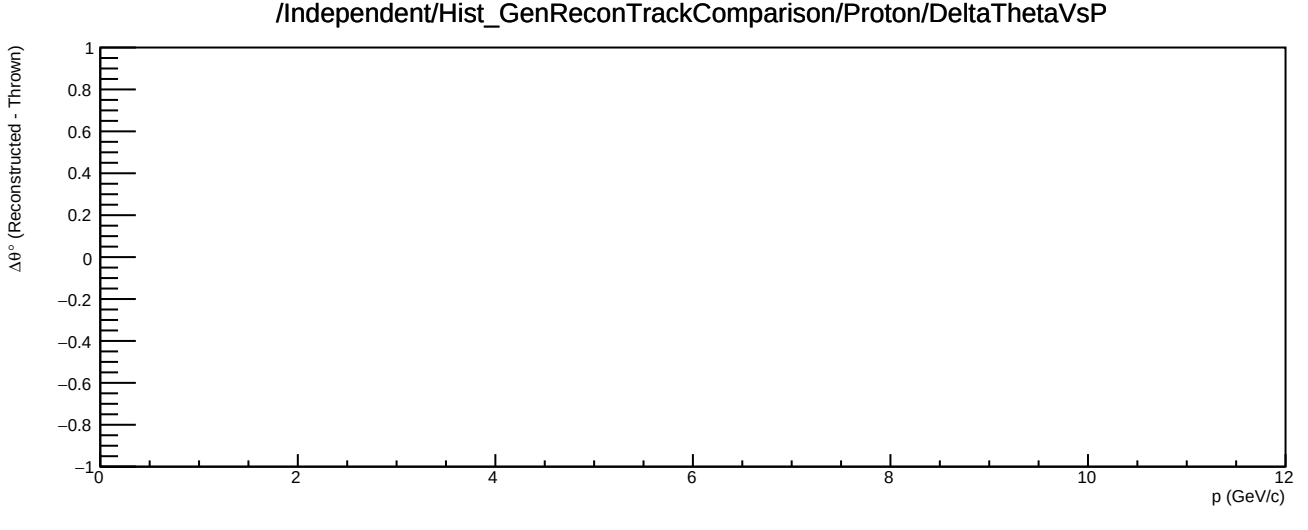

/Independent/Hist_GenReconTrackComparison/Proton/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

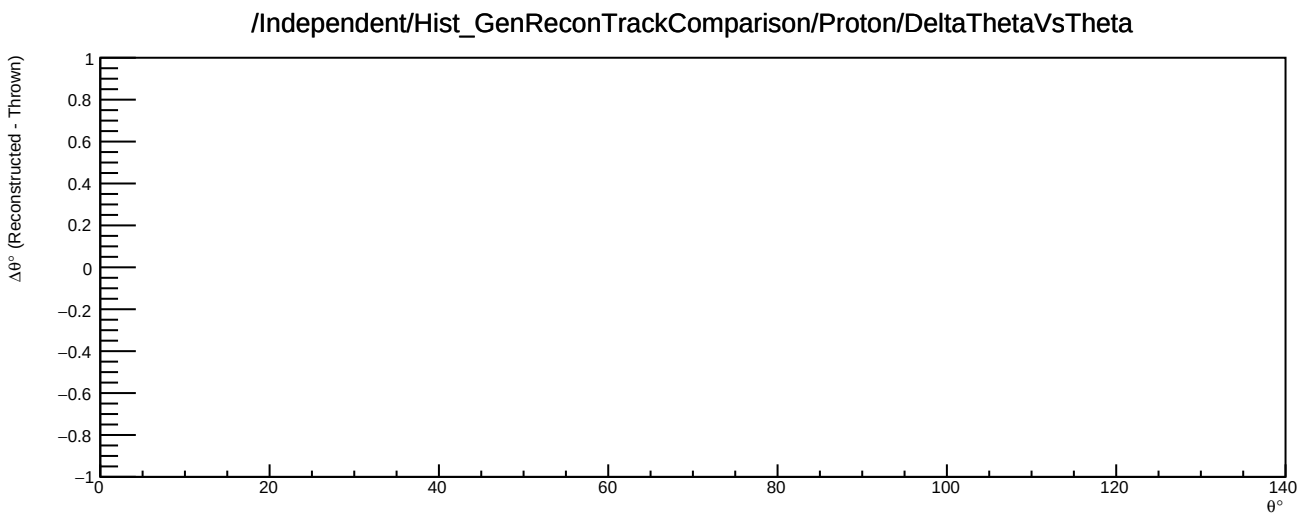

/Independent/Hist_GenReconTrackComparison/Proton/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

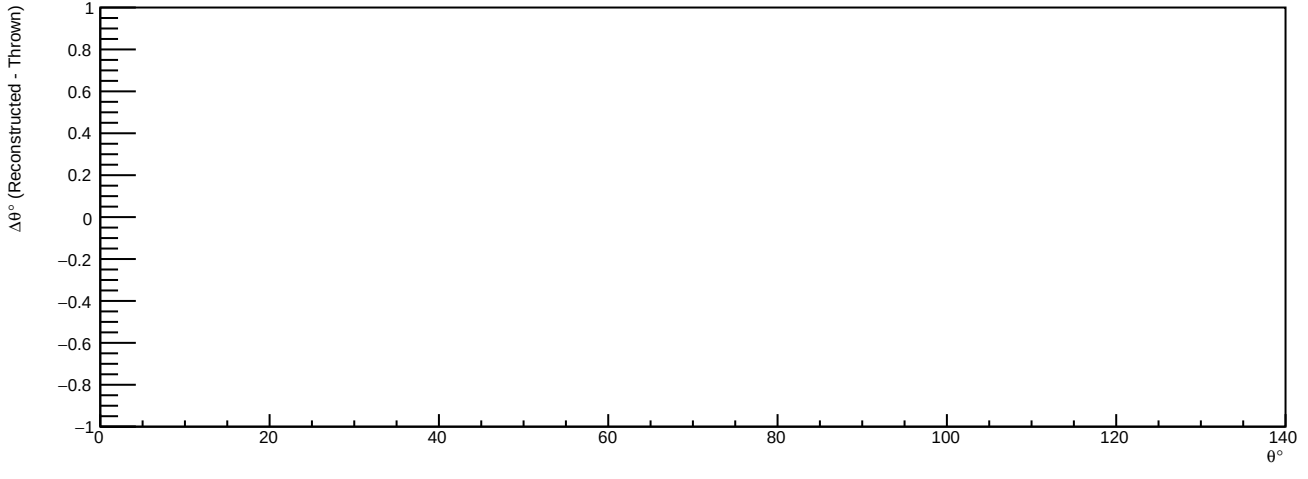

/Independent/Hist_GenReconTrackComparison/Proton/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

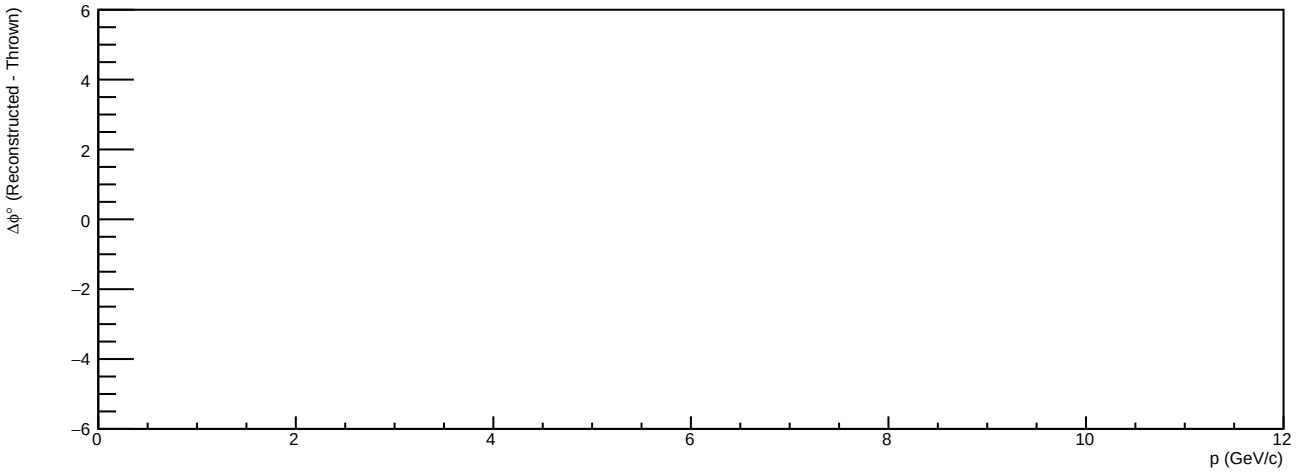

/Independent/Hist_GenReconTrackComparison/Proton/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

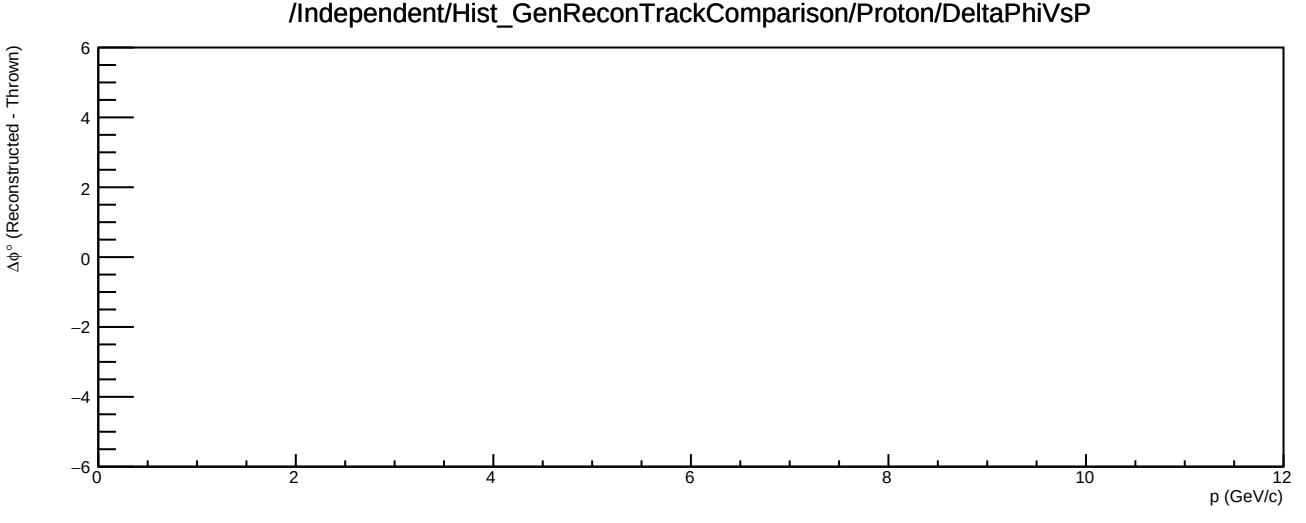

/Independent/Hist_GenReconTrackComparison/Proton/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

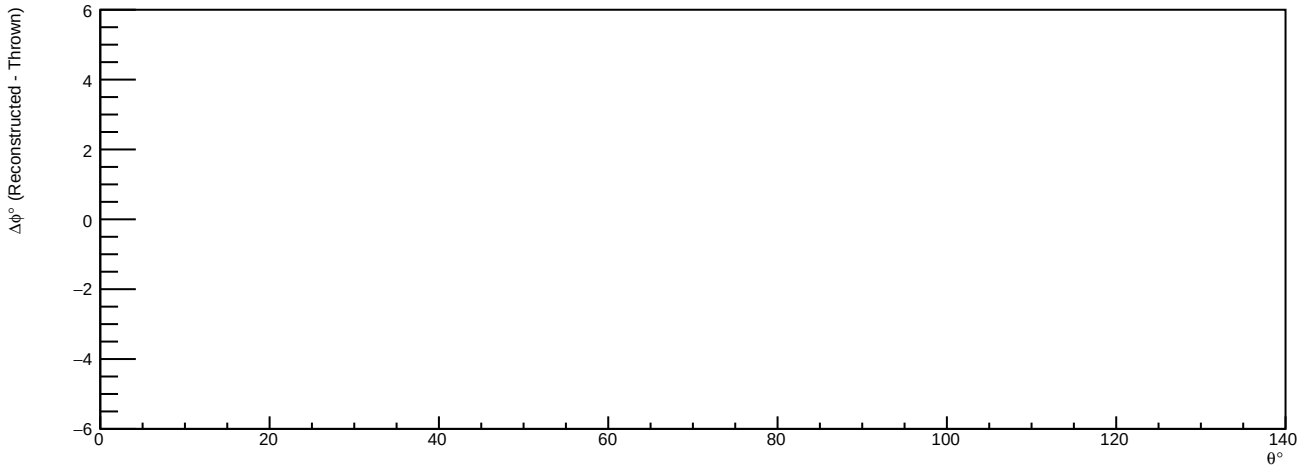

/Independent/Hist_GenReconTrackComparison/Proton/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
2
4
6
8
10
12
p (GeV/c)

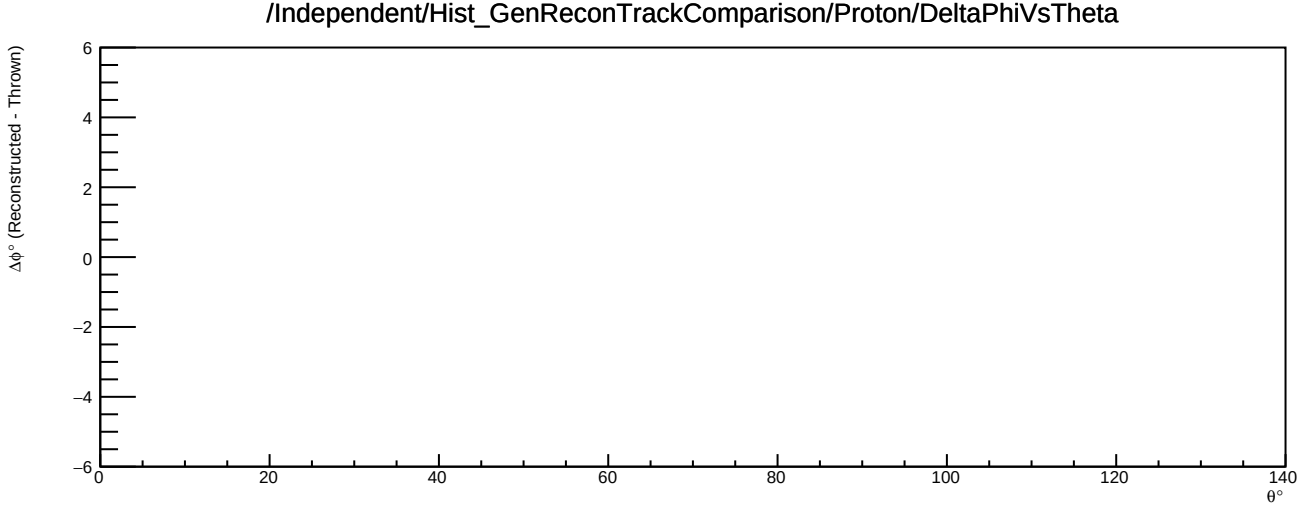

/Independent/Hist_GenReconTrackComparison/Proton/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

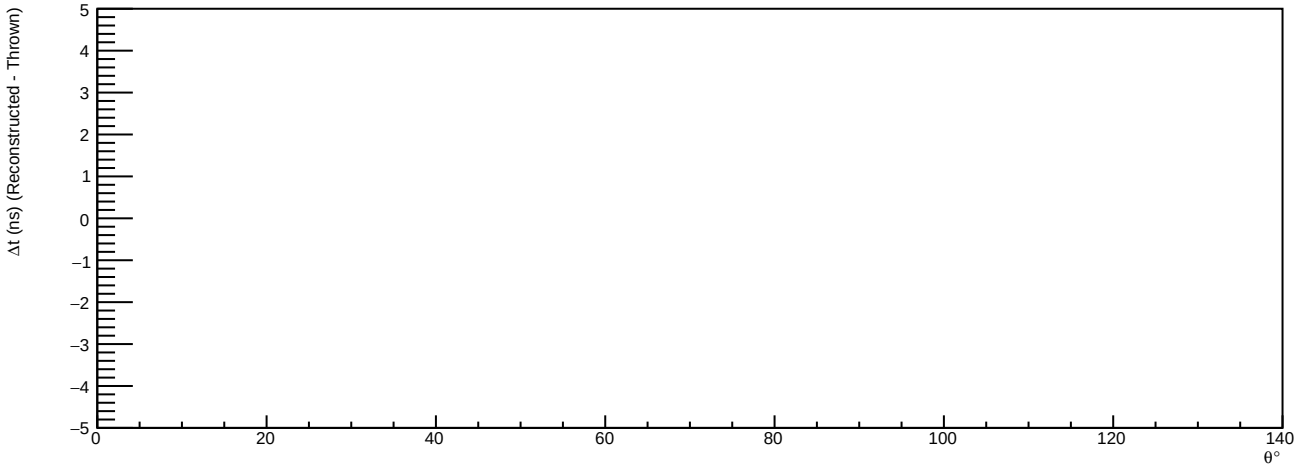

/Independent/Hist_GenReconTrackComparison/Proton/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

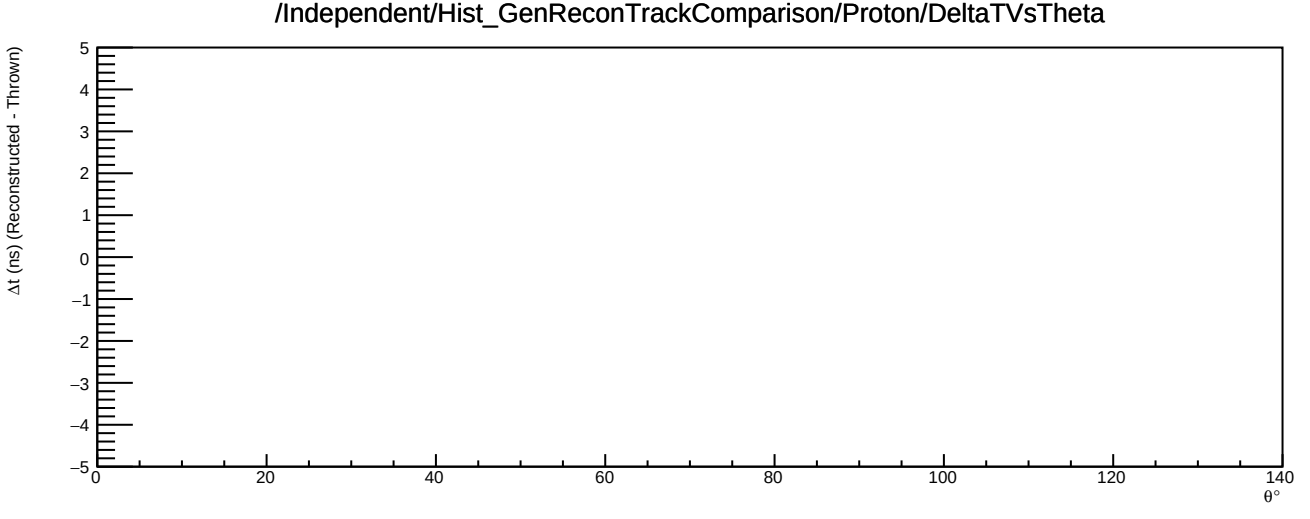

/Independent/Hist_GenReconTrackComparison/Proton/DeltaPhiVsP
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

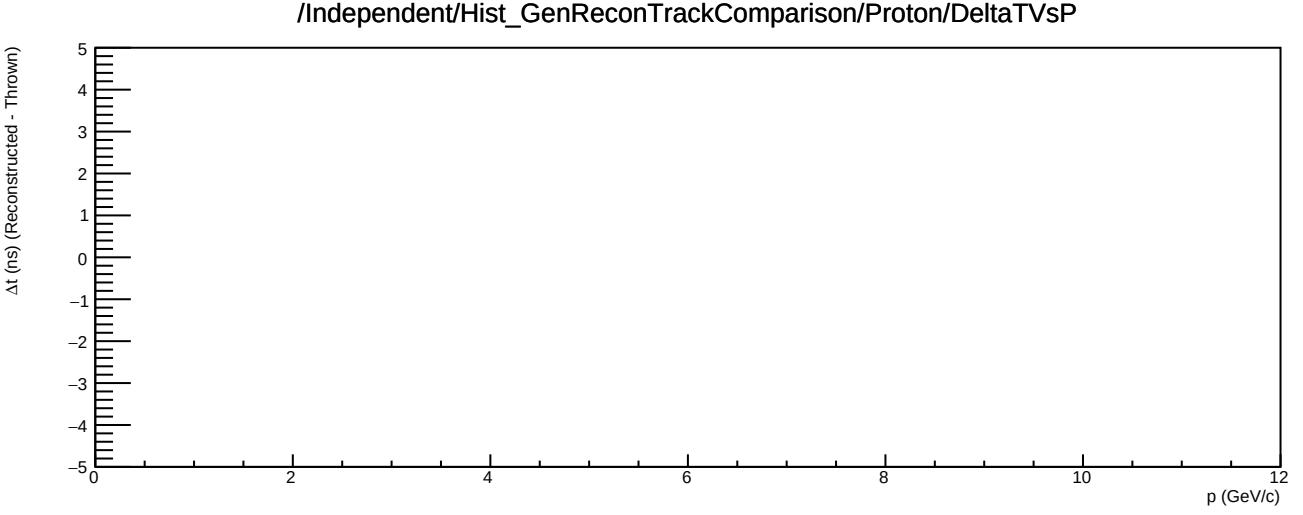

/Independent/Hist_GenReconTrackComparison/Proton/DeltaPhiVsP
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

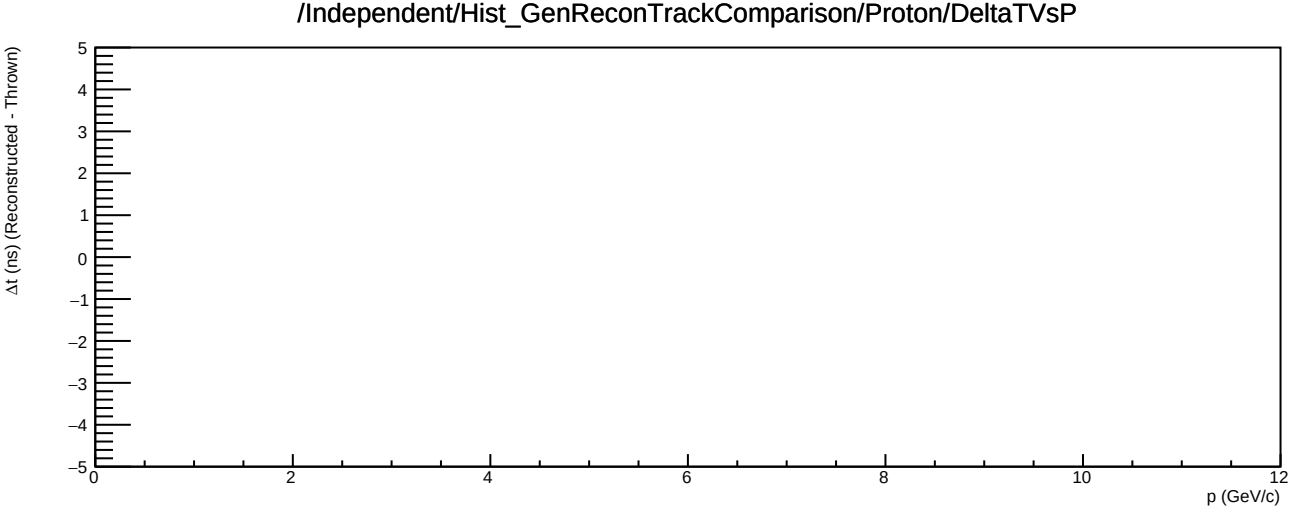

/Independent/Hist_GenReconTrackComparison/Proton/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

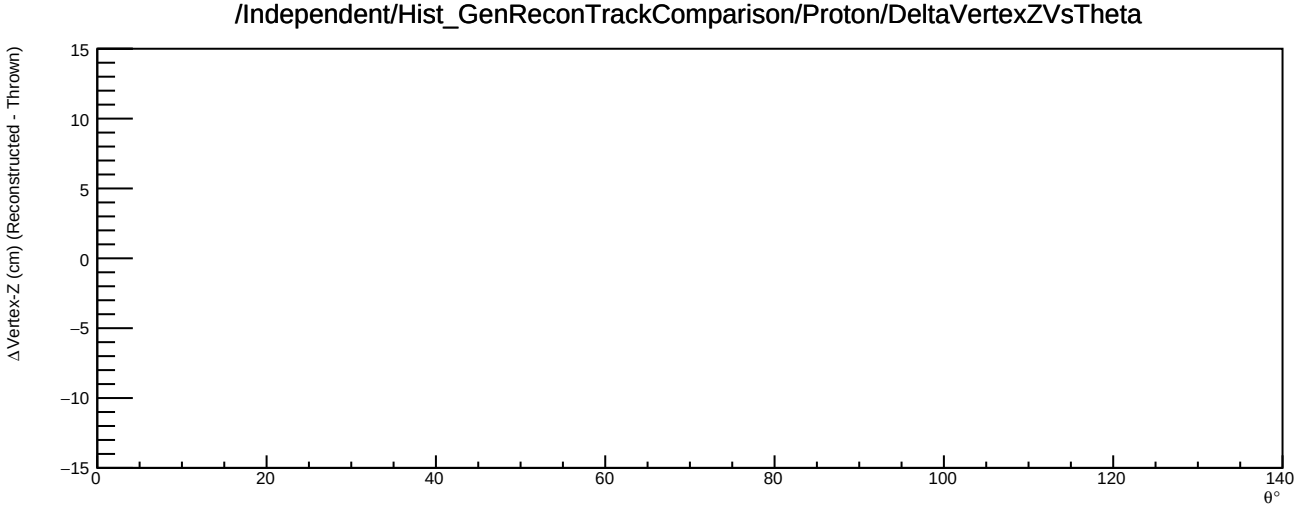

/Independent/Hist_GenReconTrackComparison/Proton/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

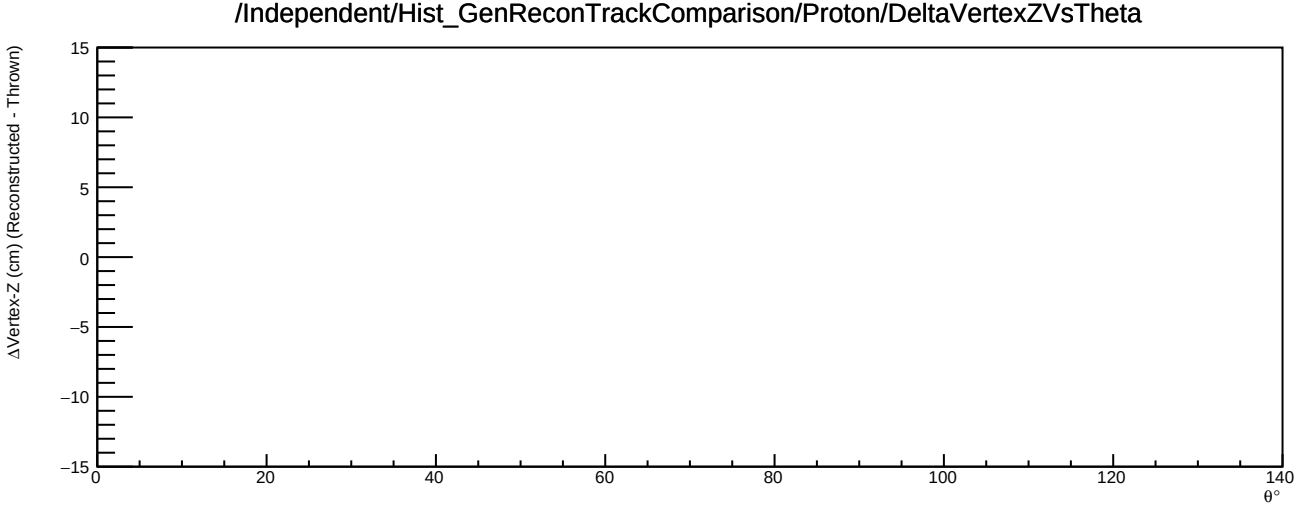

/Independent/Hist_GenReconTrackComparison/Proton/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
20
40
60
80
100
120
140
θ°

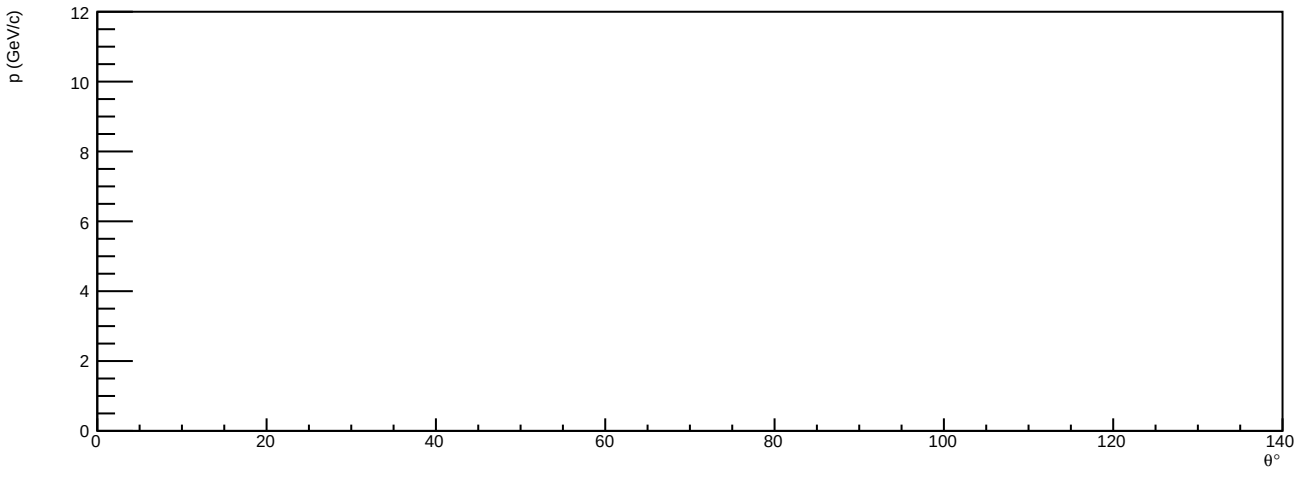

/Independent/Hist_GenReconTrackComparison/Proton/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
20
40
60
80
100
120
140
θ°

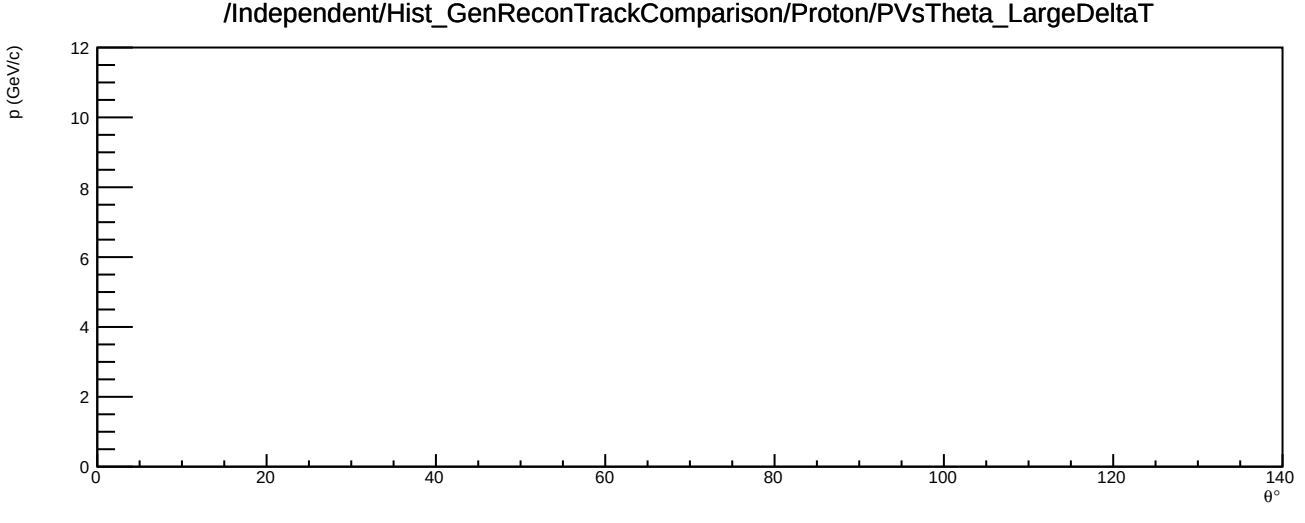

/Independent/Hist_GenReconTrackComparison/Proton/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
2
4
6
8
10
12
p (GeV/c)

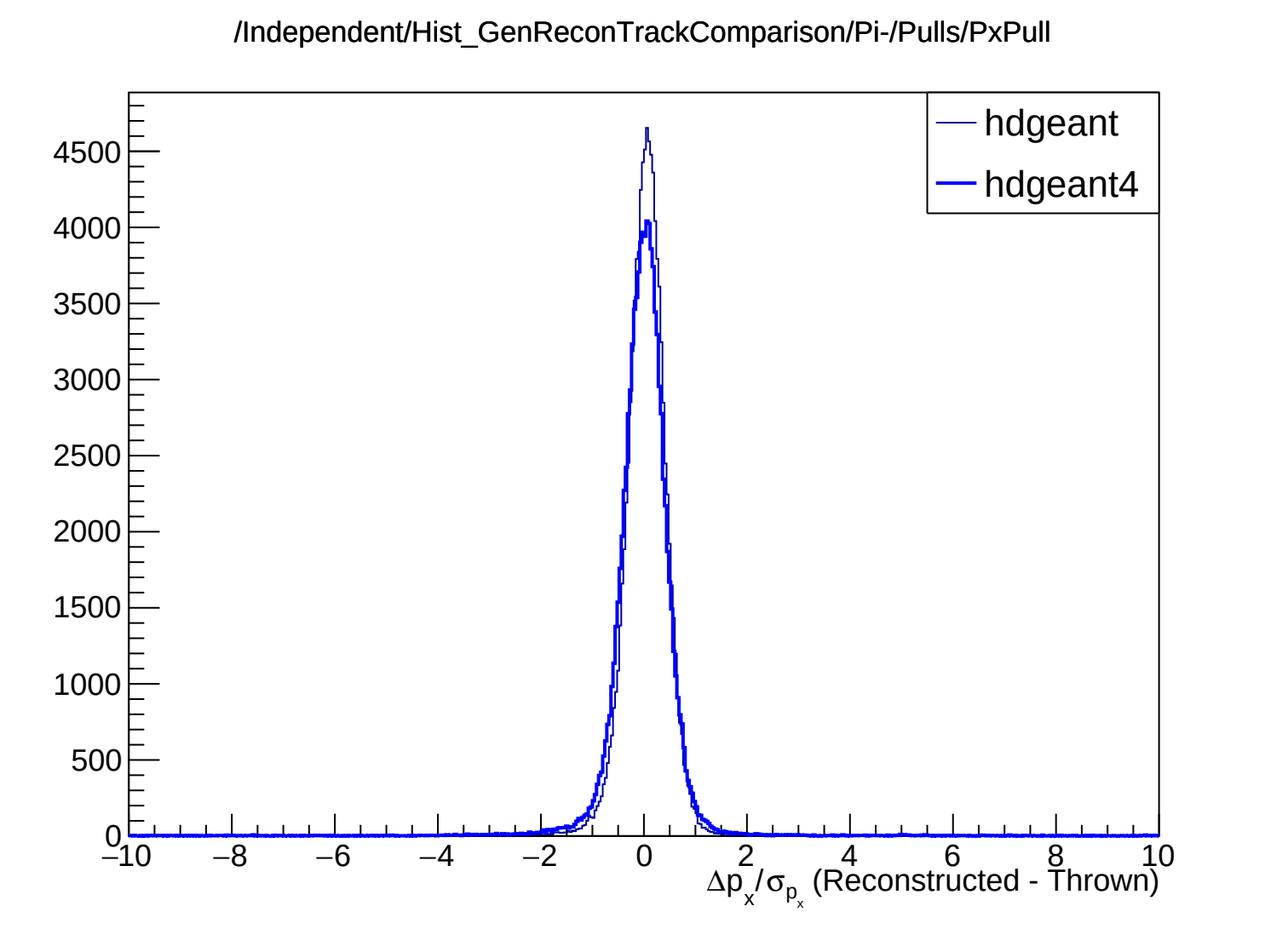

/Independent/Hist_GenReconTrackComparison/Proton/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
2
4
6
8
10
12
p (GeV/c)

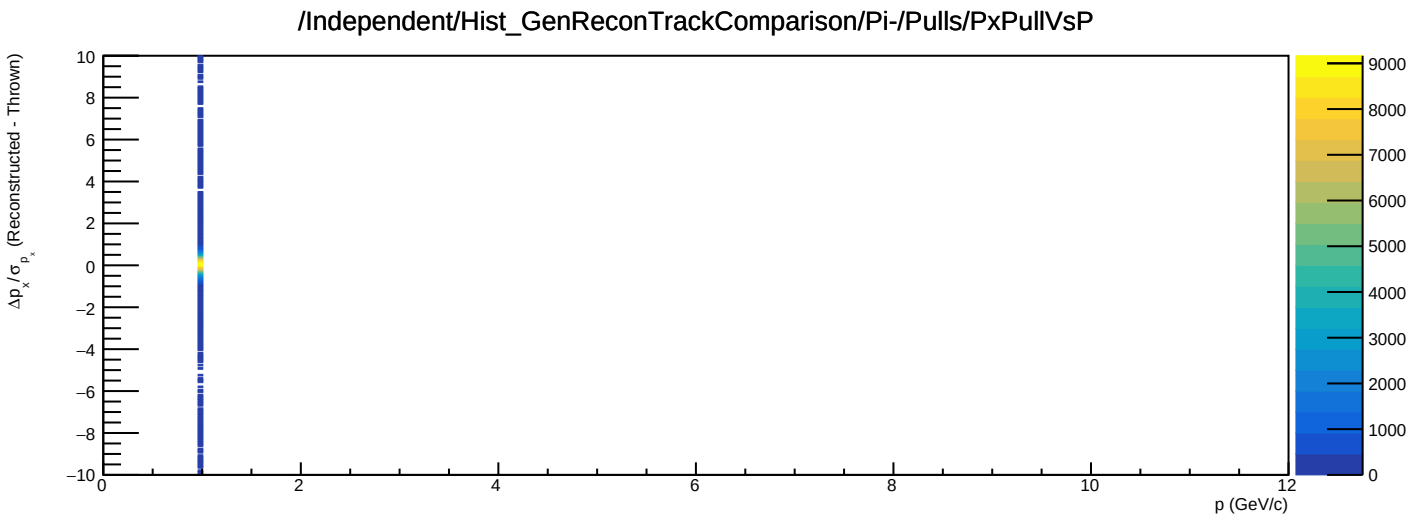

/Independent/Hist_GenReconTrackComparison/Proton/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

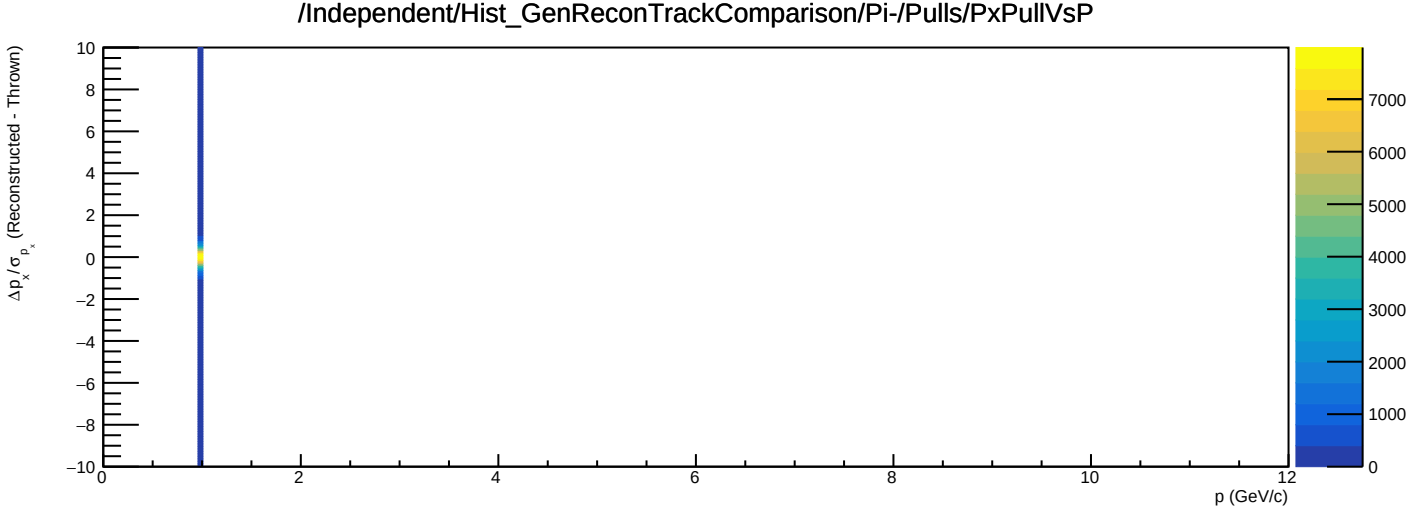

/Independent/Hist_GenReconTrackComparison/Proton/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

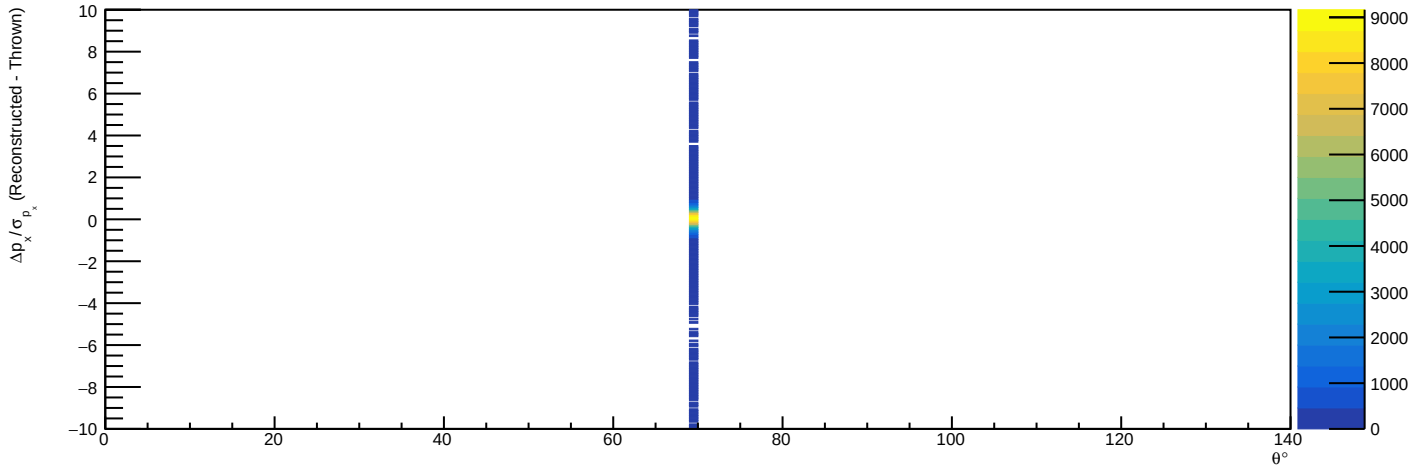

/Independent/Hist_GenReconTrackComparison/Proton/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

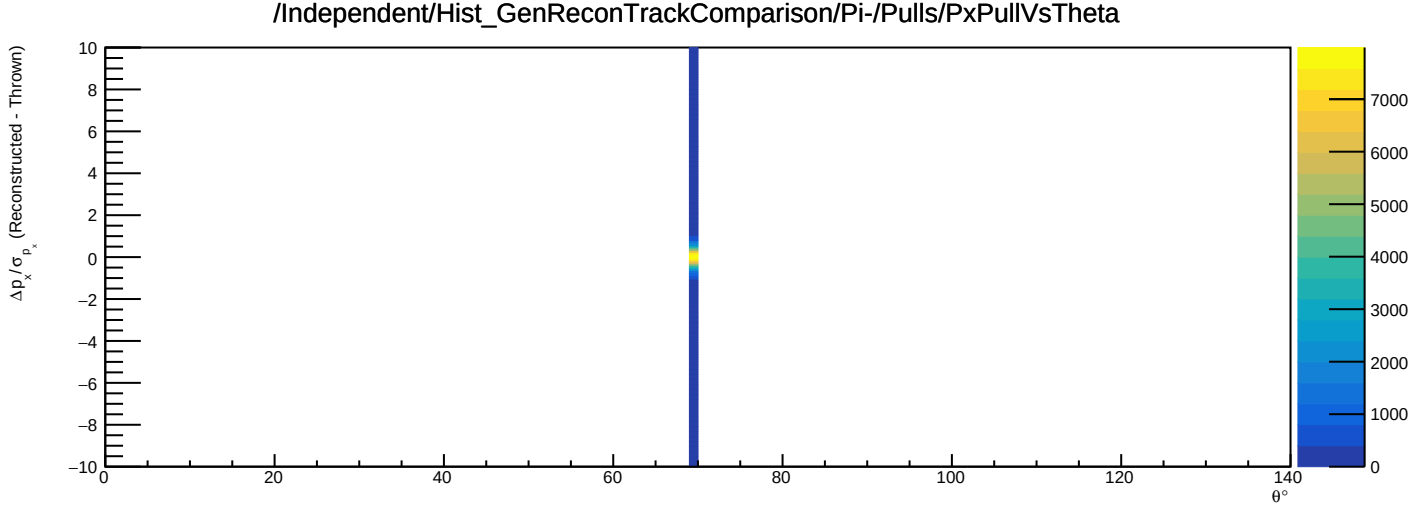

/Independent/Hist_GenReconTrackComparison/Proton/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°

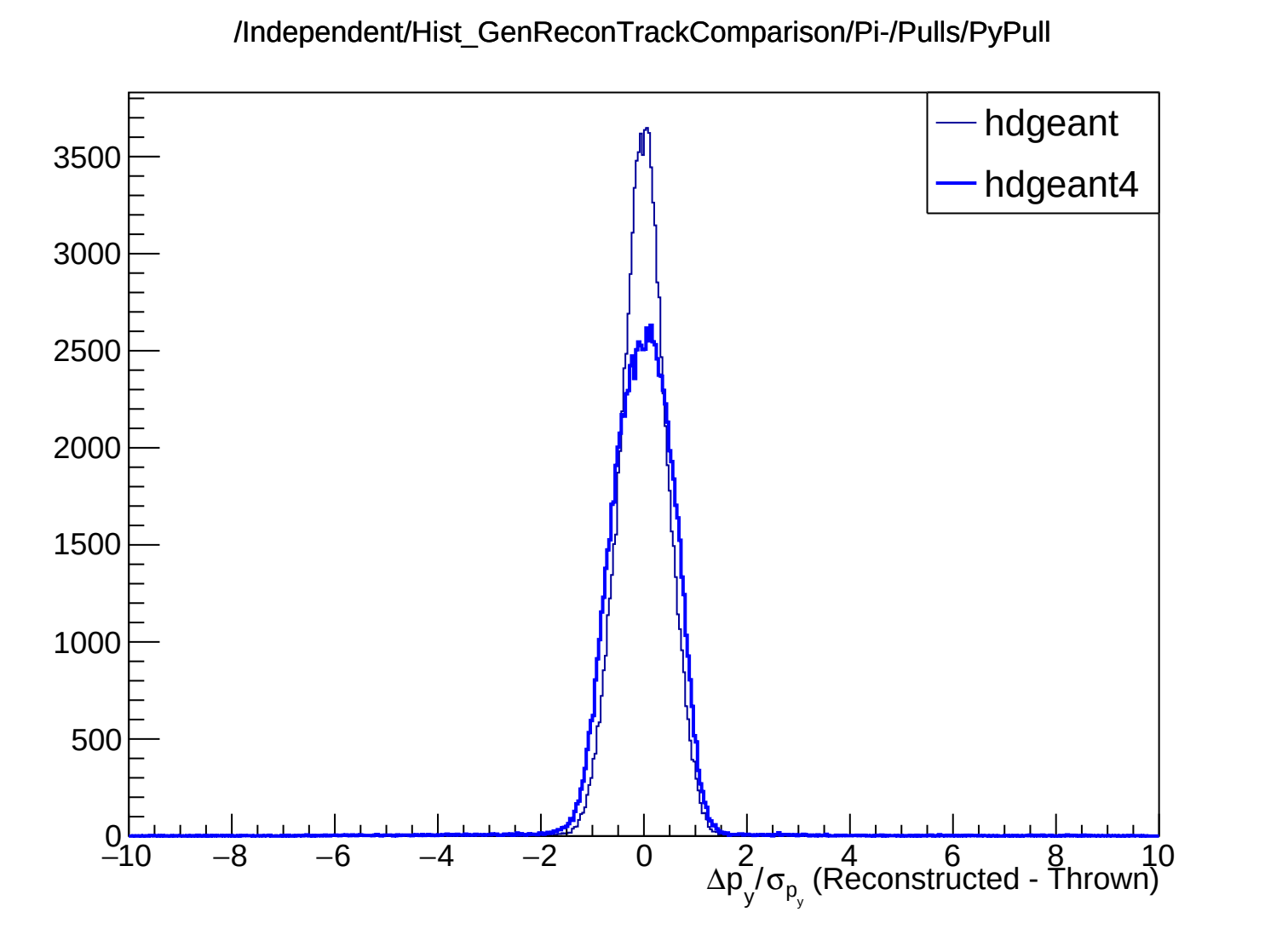

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PxPull
hdgeant
hdgeant4
4500
4000
3500
3000
2500
2000
1500
1000
500
0
−10
−8
−6
−4
−2
0
2
4
6
8
10
Δp_x/σ_p_x (Reconstructed - Thrown)

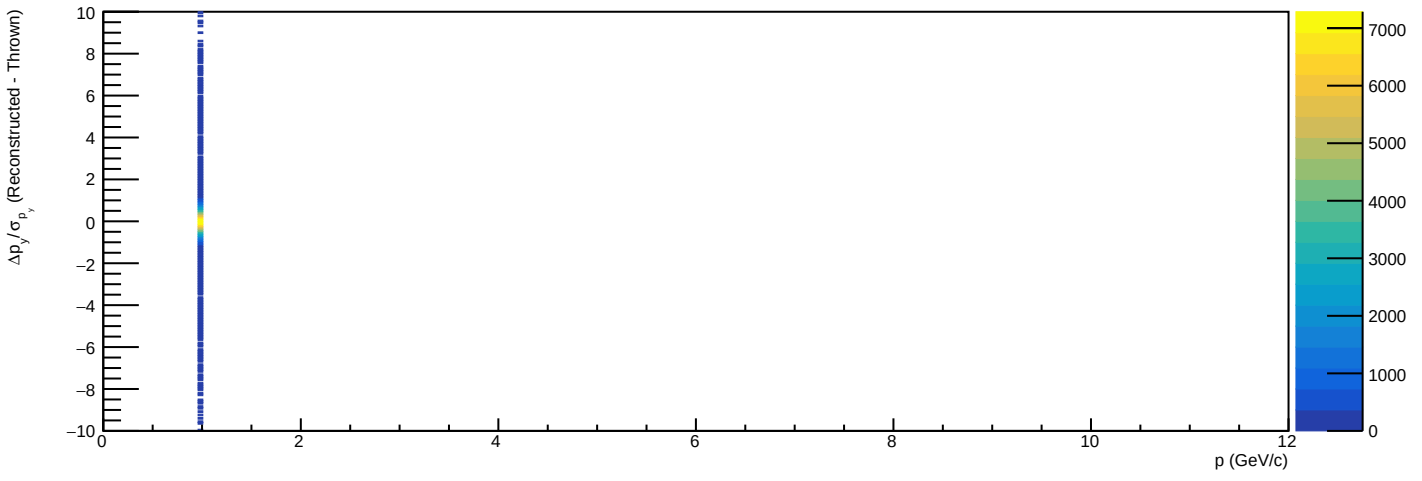

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PxPullVsP
Δp_x / σ_p_x (Reconstructed - Thrown)
p (GeV/c)

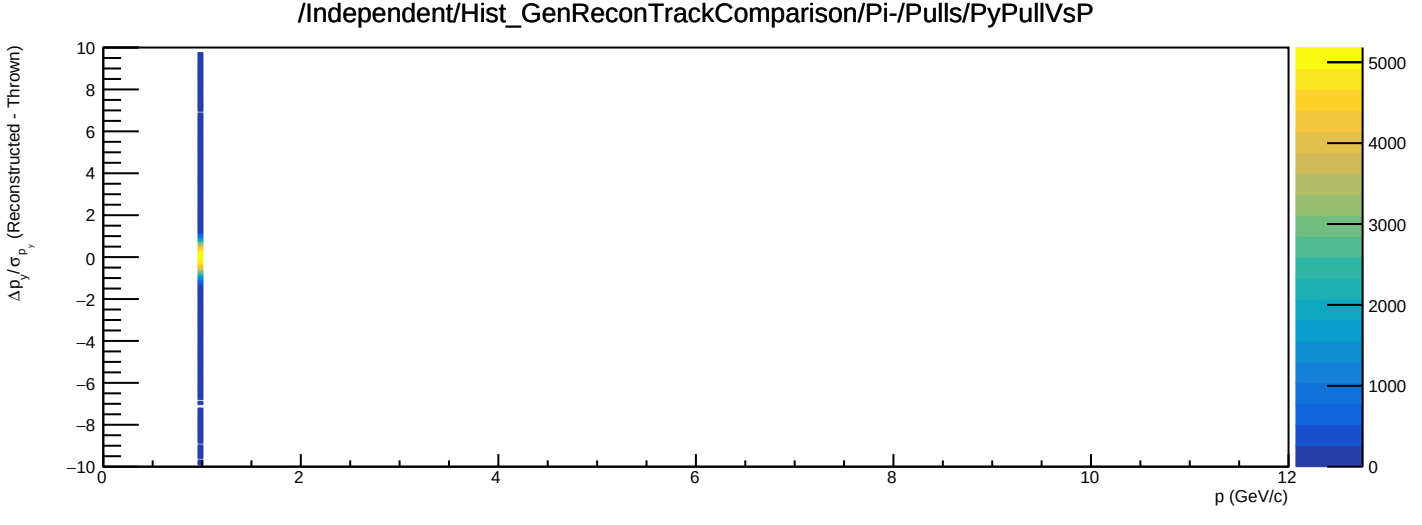

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PxPullVsP
Δp_x / σ_p_x (Reconstructed - Thrown)
p (GeV/c)

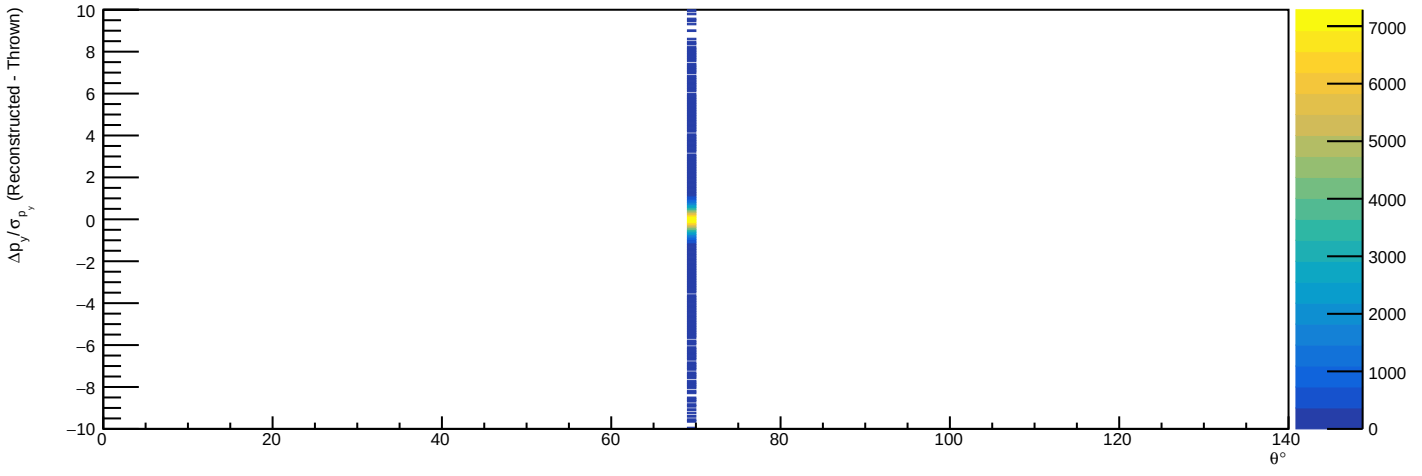

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PxPullVsTheta
Δp_x / σ_p_x (Reconstructed - Thrown)
θ°

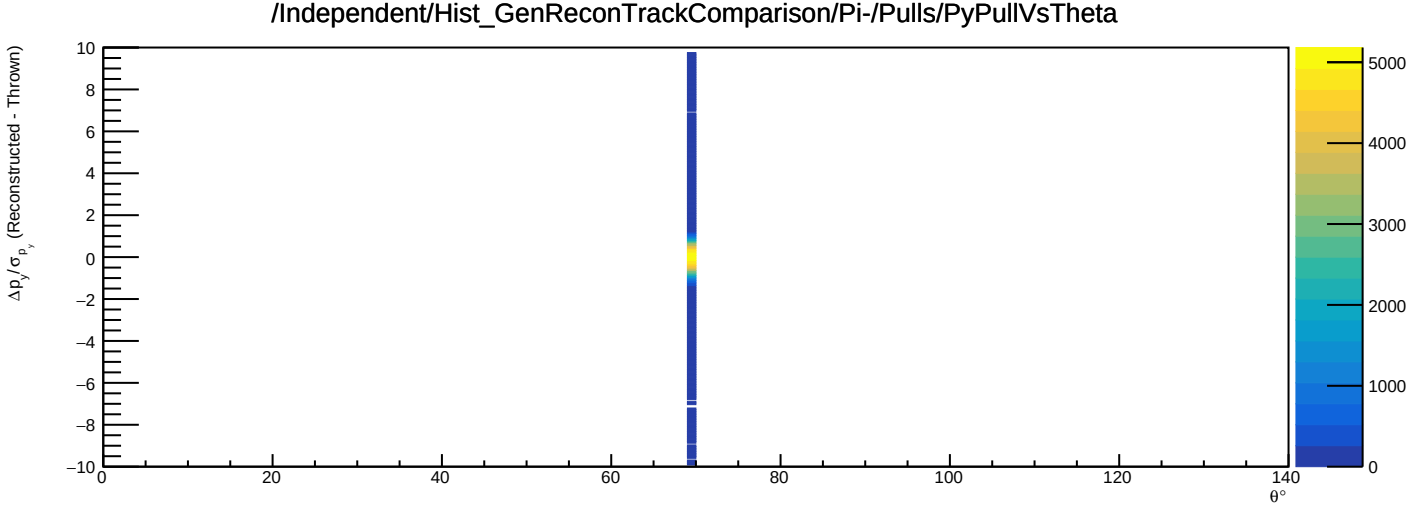

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PxPullVsTheta
Δp_x / σ_p_x (Reconstructed - Thrown)
θ°


/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PyPull
hdgeant
hdgeant4
3500
3000
2500
2000
1500
1000
500
0
−10
−8
−6
−4
−2
0
2
4
6
8
10
Δp_y/σ_p_y (Reconstructed - Thrown)

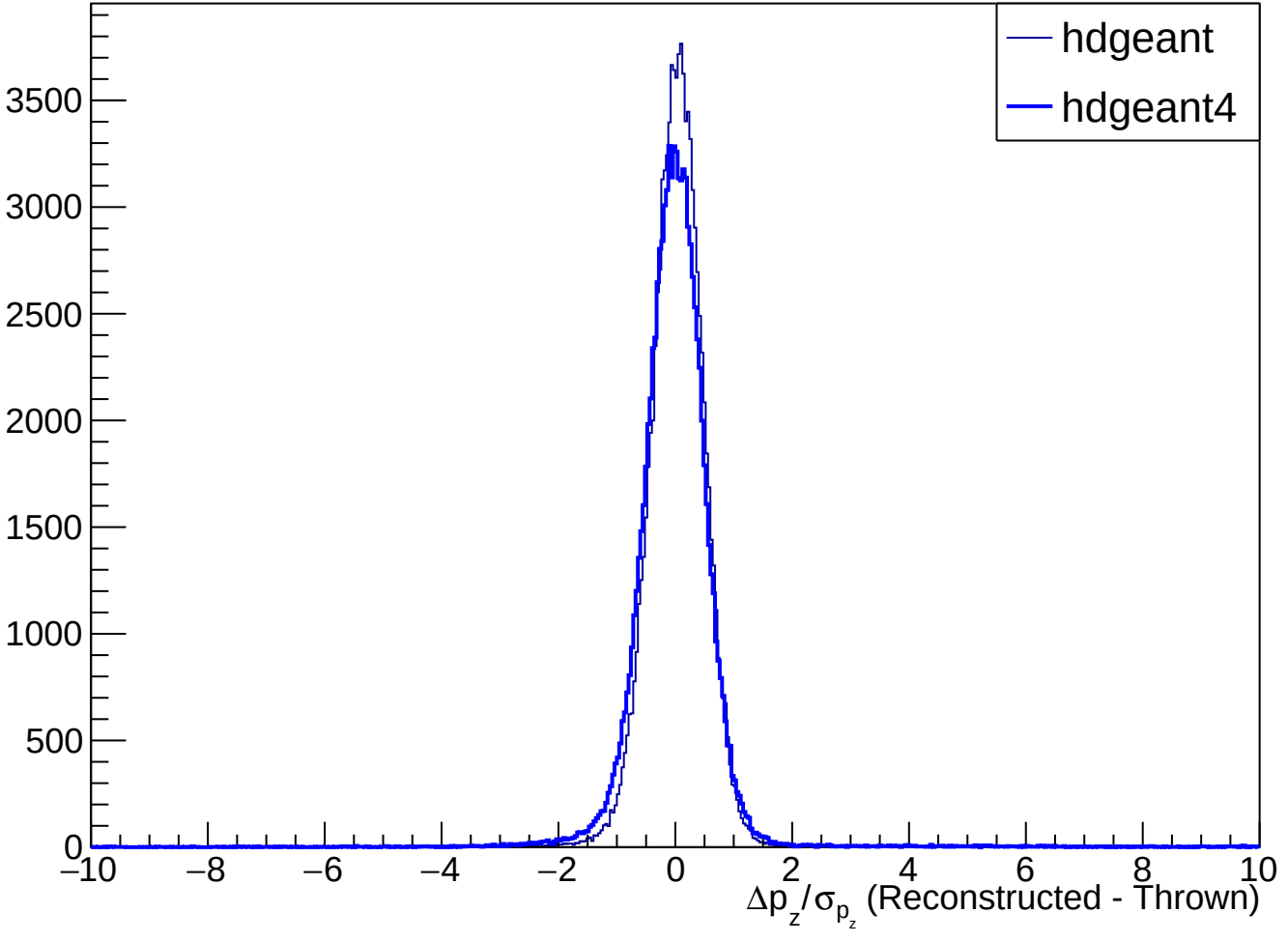

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PyPullVsP
Δp_y/σ_p_y (Reconstructed - Thrown)
p (GeV/c)

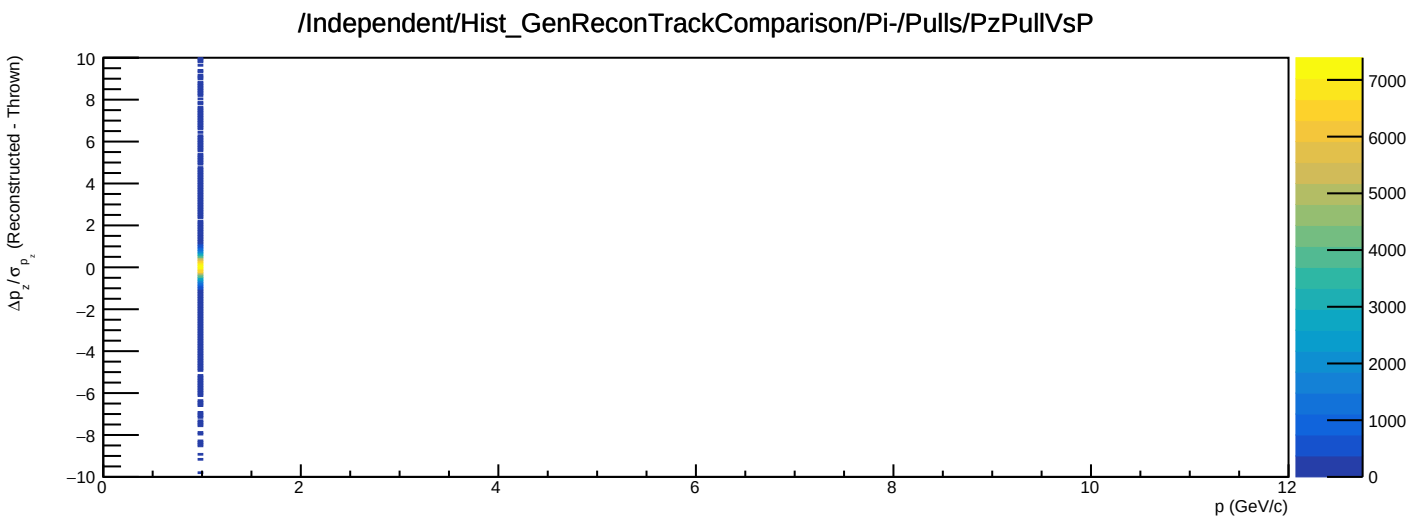

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PyPullVsP
Δp_y/σ_p_y (Reconstructed - Thrown)
p (GeV/c)

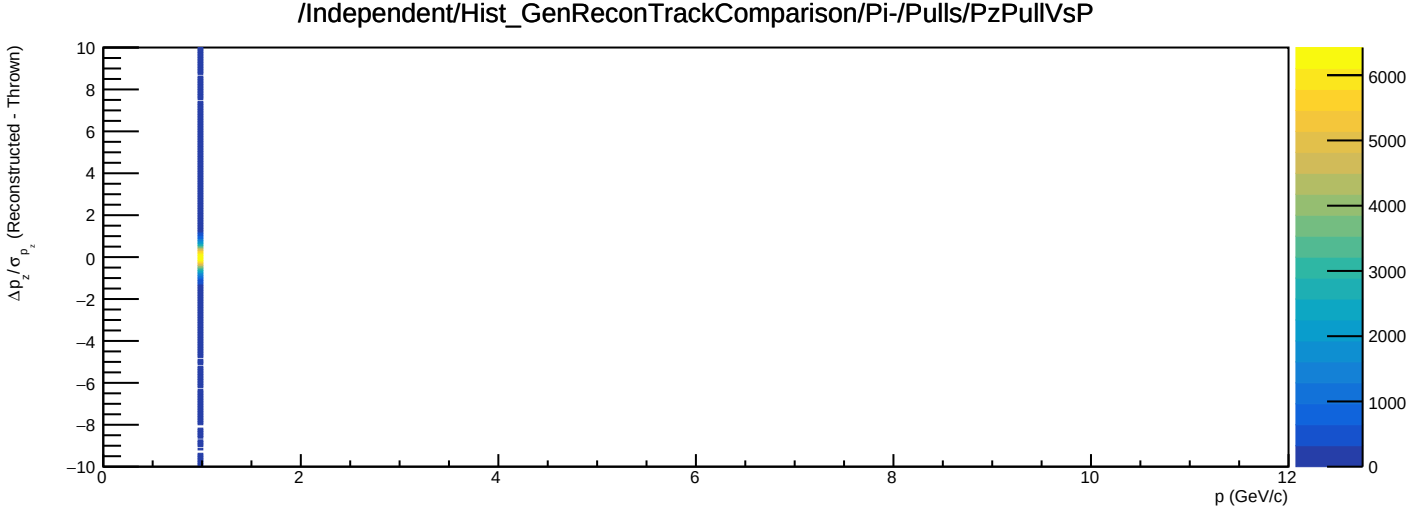

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PyPullVsTheta
Δp_y/σ_p_y (Reconstructed - Thrown)
θ°

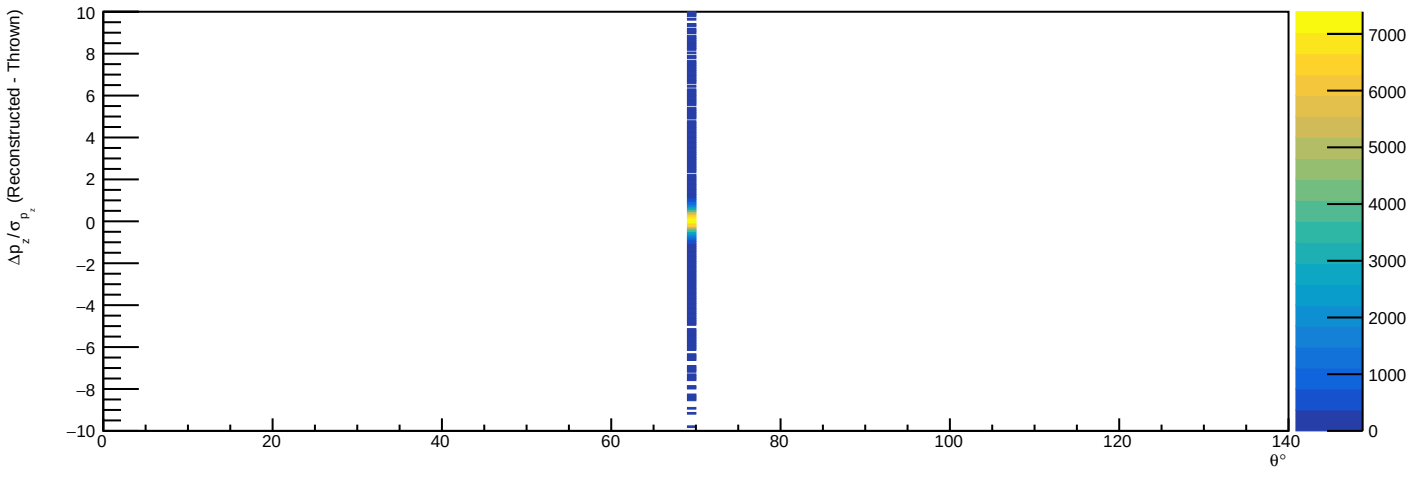

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PyPullVsTheta
Δp_y/σ_p_y (Reconstructed - Thrown)
θ°

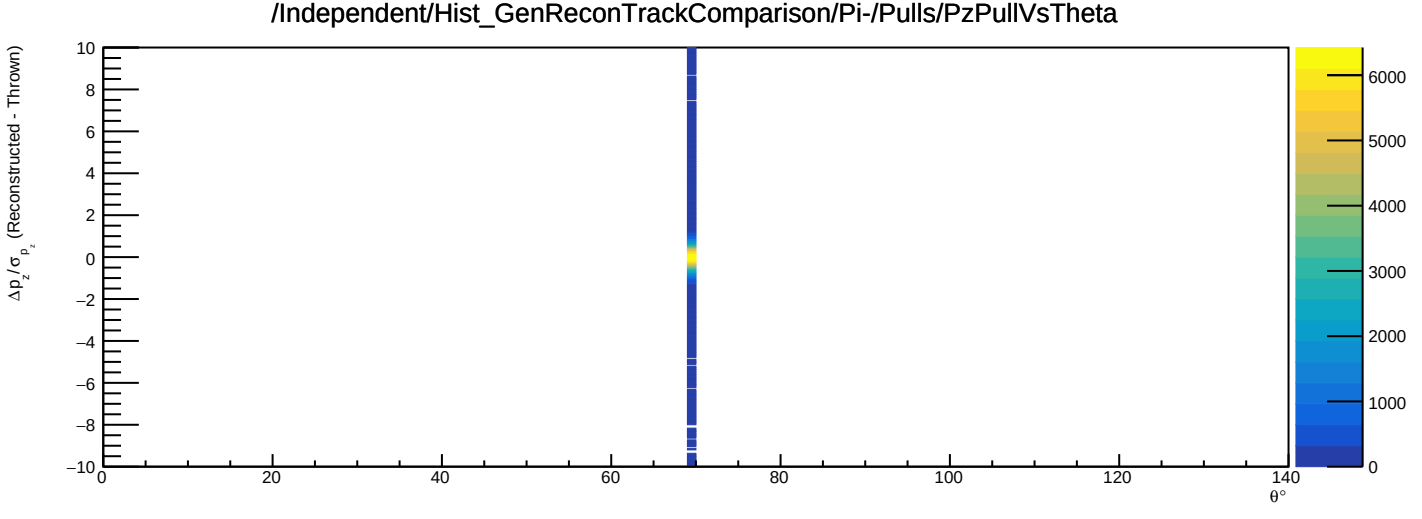
/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PzPull

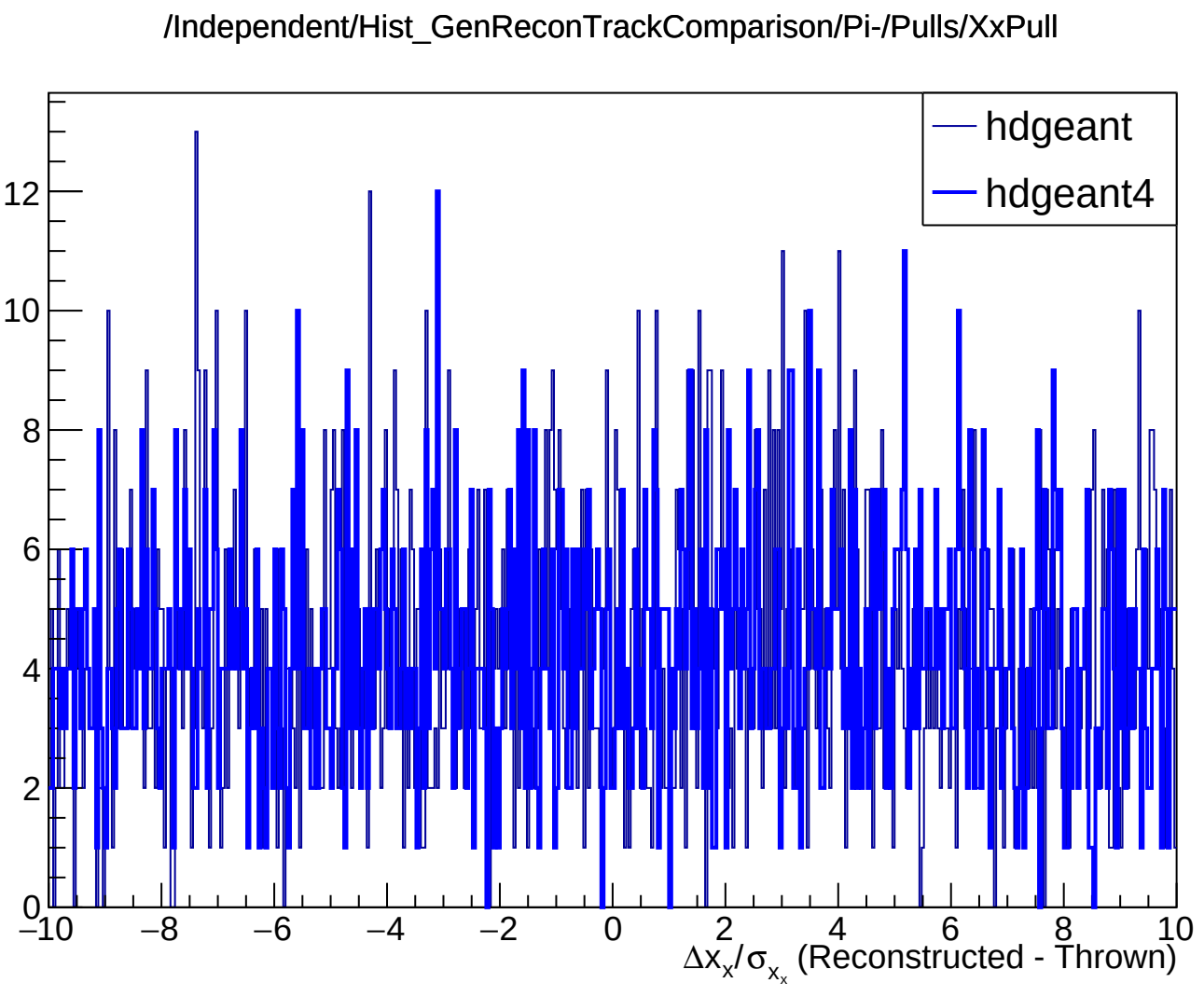


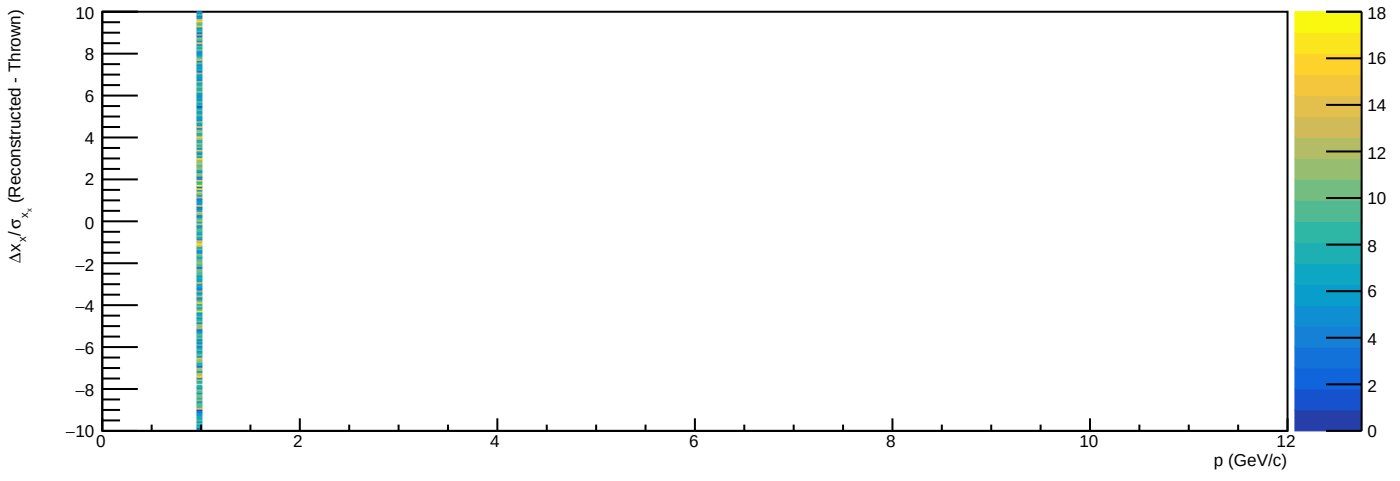

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PzPullVsP
Δp_z / σ_p_z (Reconstructed - Thrown)
p (GeV/c)

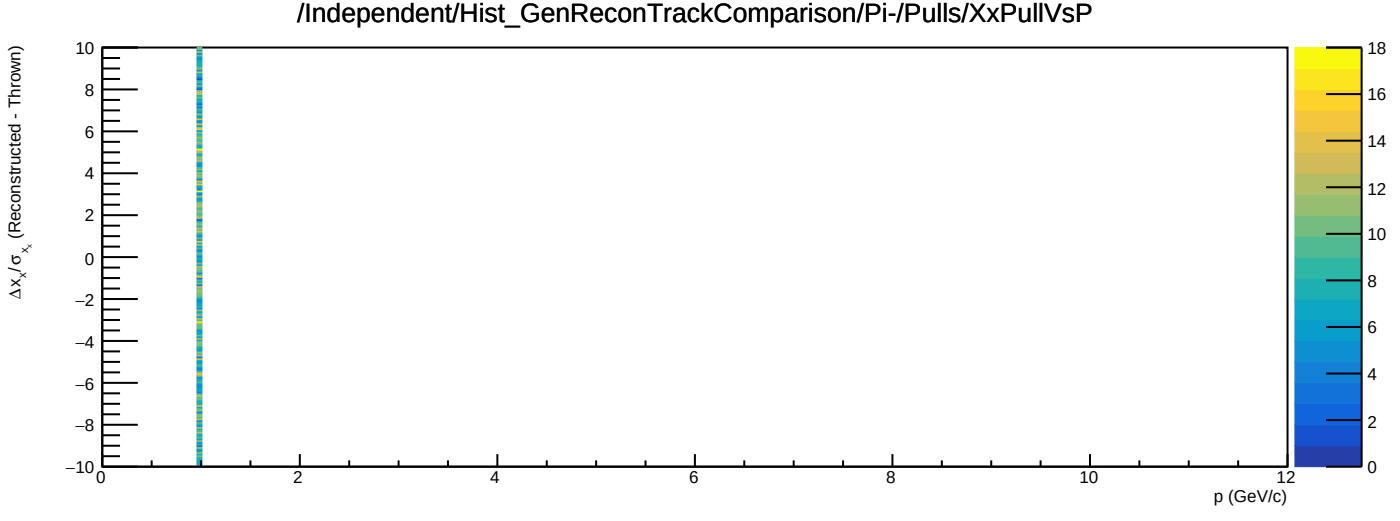

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PzPullVsP
Δp_z / σ_p_z (Reconstructed - Thrown)
p (GeV/c)

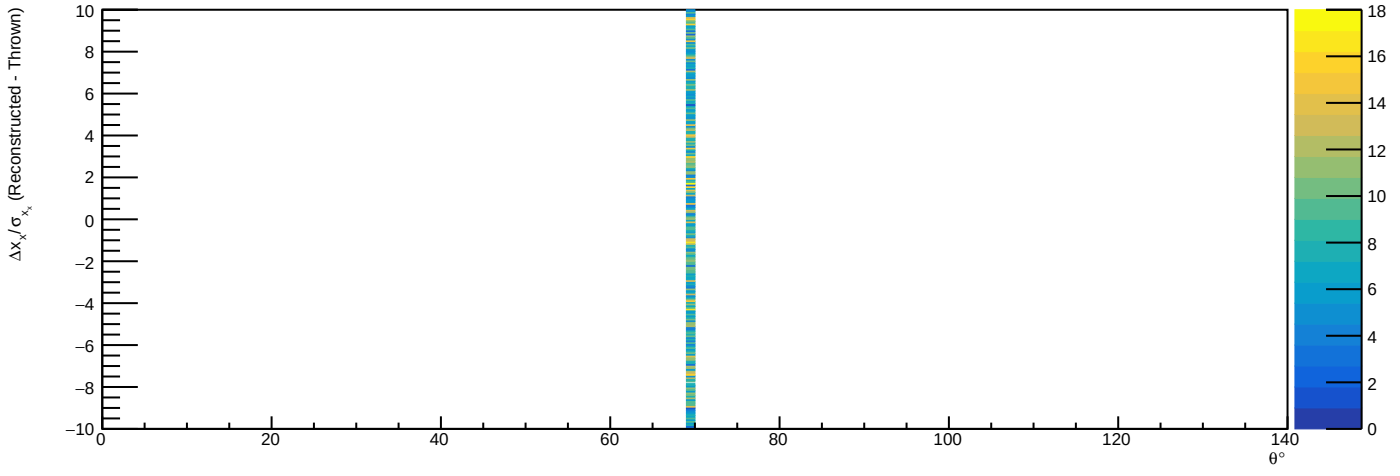

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PzPullVsTheta
Δp_z/σ_p_z (Reconstructed - Thrown)
θ°

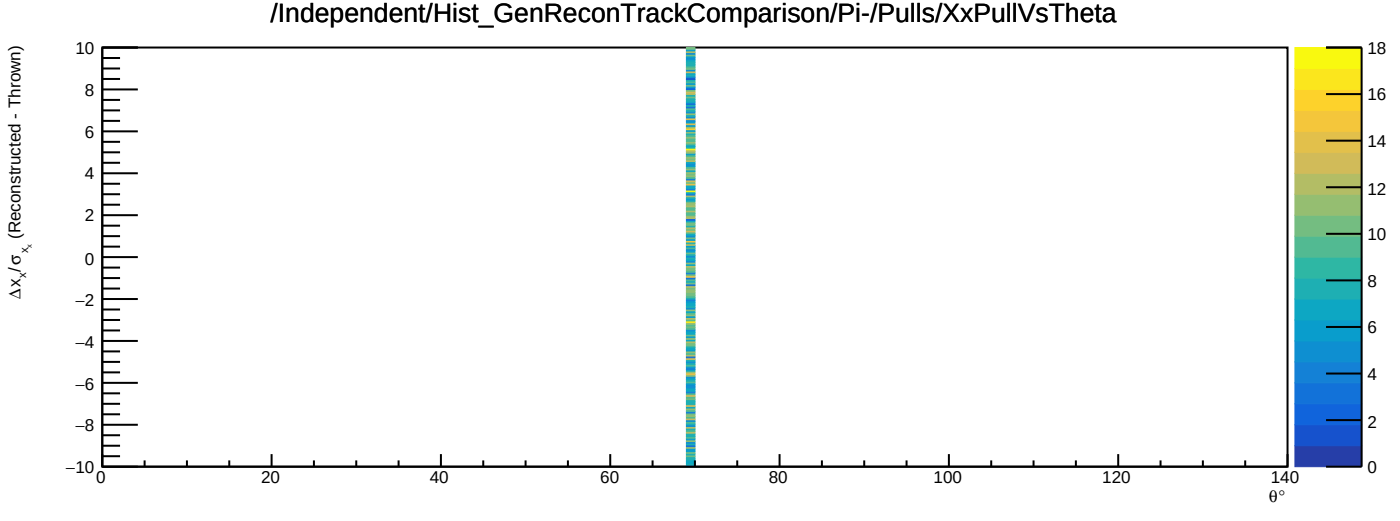

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/PzPullVsTheta
Δp_z/σ_p_z (Reconstructed - Thrown)
θ°

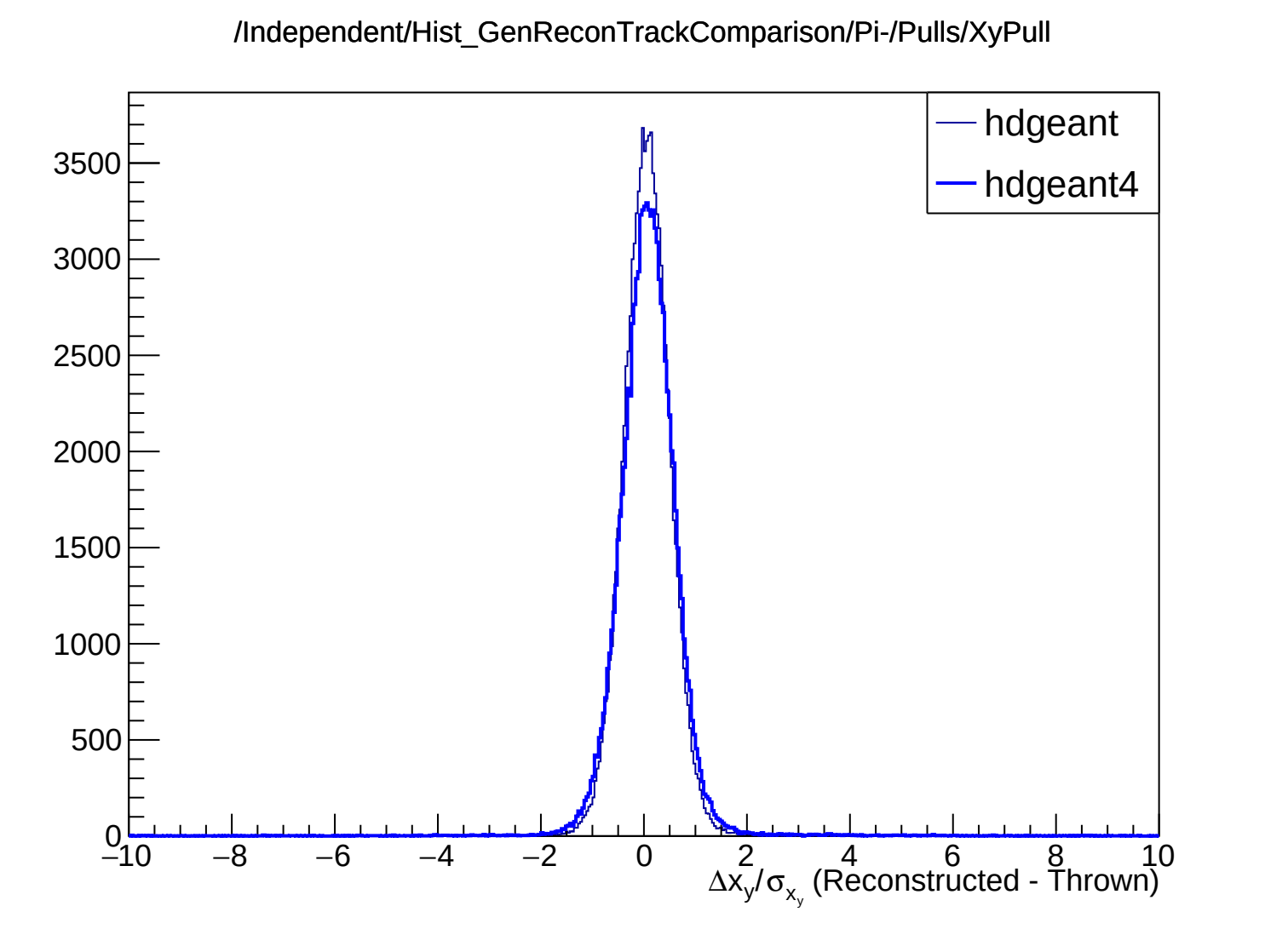

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XxPull
hdgeant
hdgeant4
0
2
4
6
8
10
12
−10
−8
−6
−4
−2
0
2
4
6
8
10
Δx_x/σ_x_x (Reconstructed - Thrown)

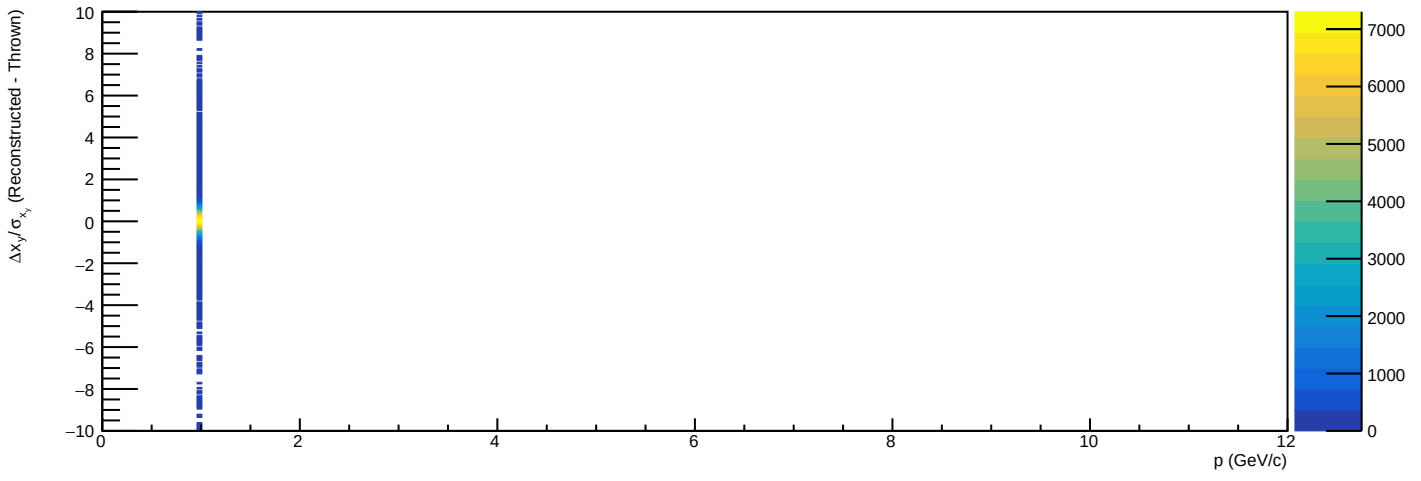

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XxPullVsP
Δx_x / σ_x_x (Reconstructed - Thrown)
p (GeV/c)

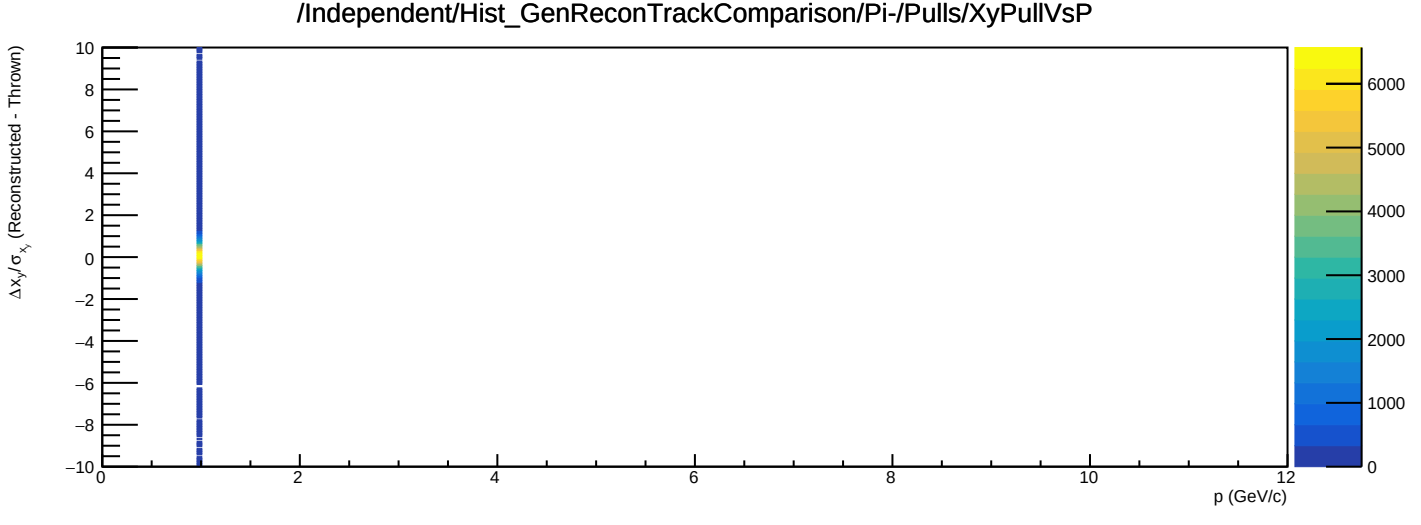

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XxPullVsP
Δx_x / σ_x_x (Reconstructed - Thrown)
p (GeV/c)

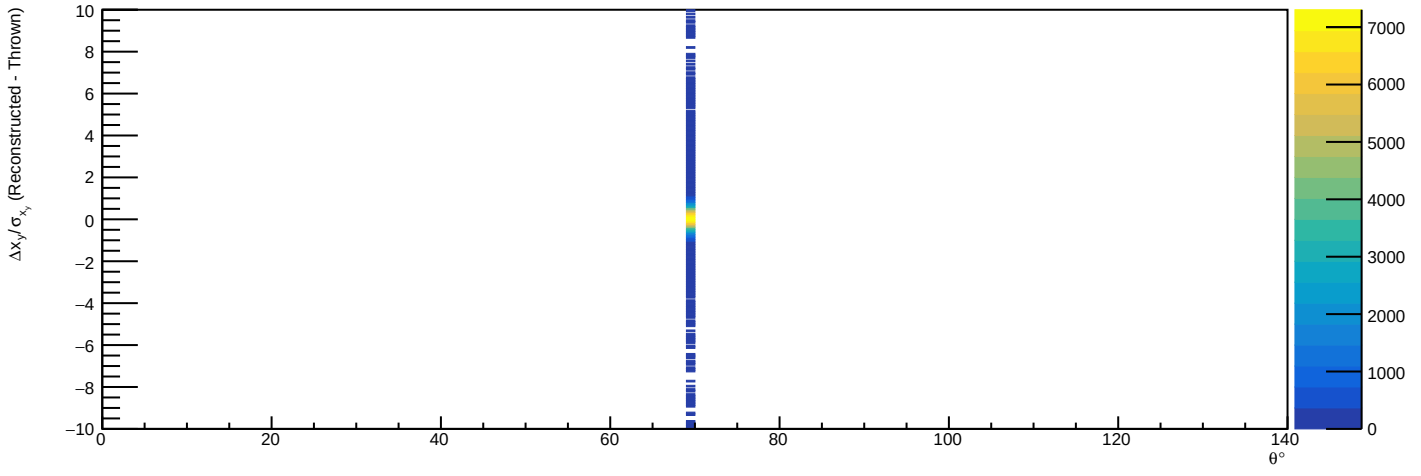

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
θ°

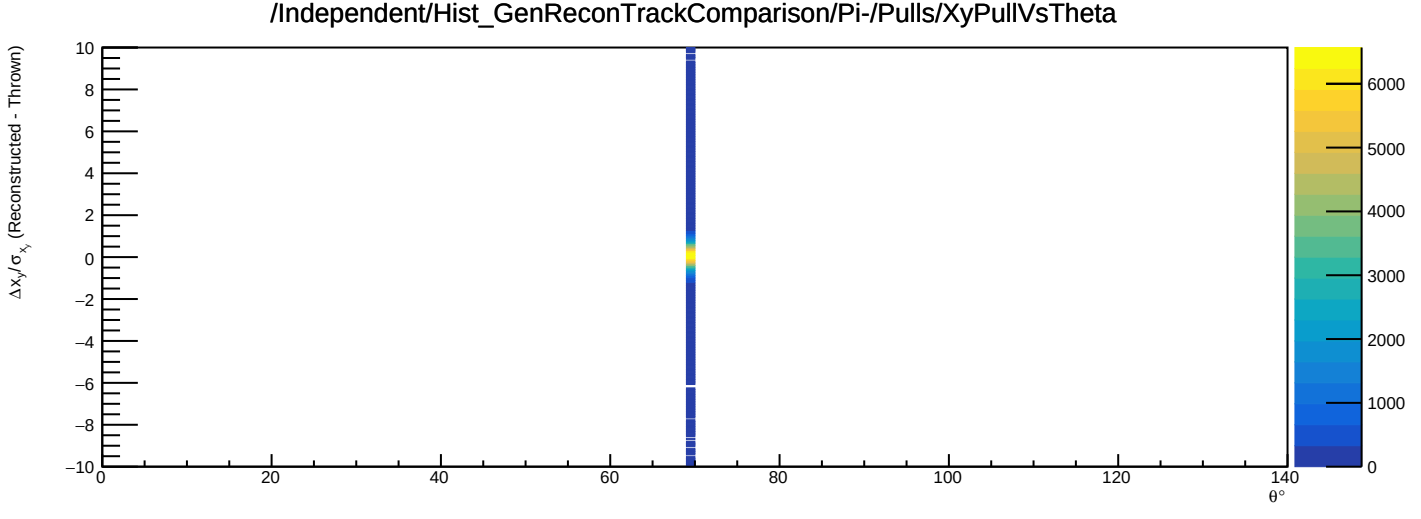

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
θ°


/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XyPull
hdgeant
hdgeant4
3500
3000
2500
2000
1500
1000
500
0
−10
−8
−6
−4
−2
0
2
4
6
8
10
Δx_y/σ_x_y (Reconstructed - Thrown)

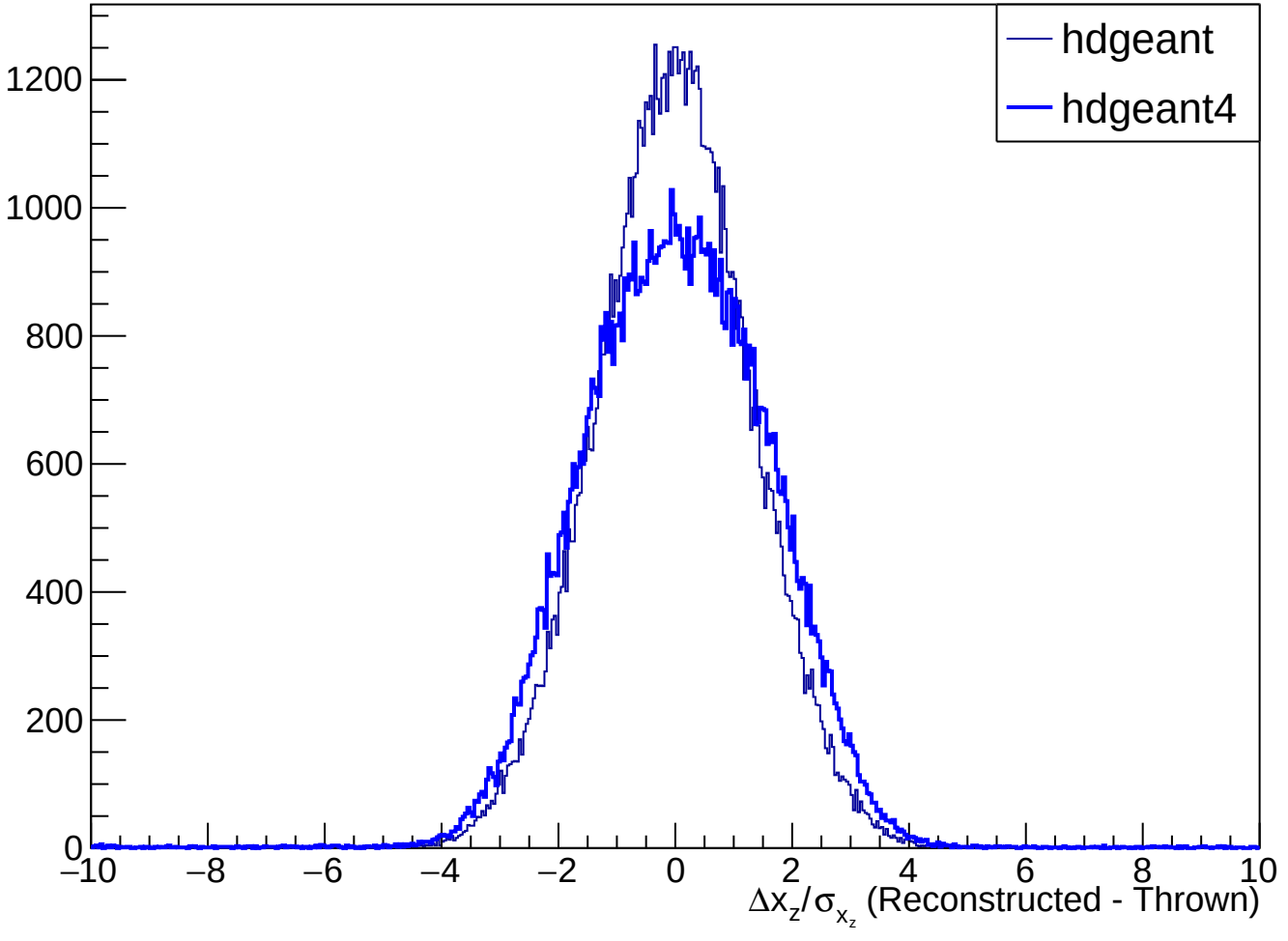

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XyPullVsP
Δx_y/σ_xy (Reconstructed - Thrown)
p (GeV/c)

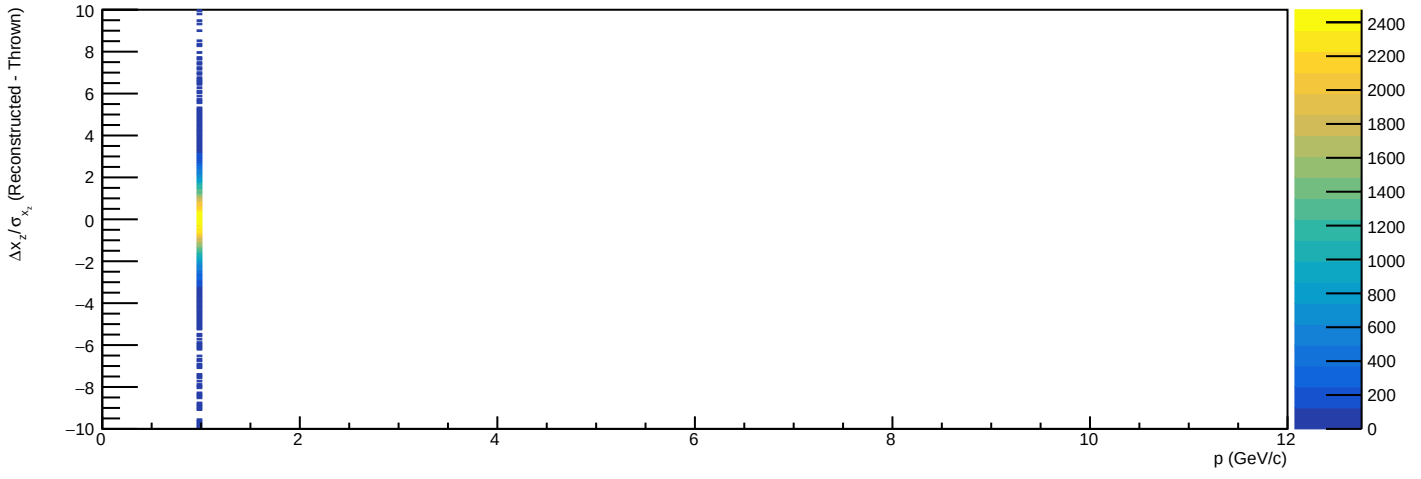

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XyPullVsP
Δx_y/σ_xy (Reconstructed - Thrown)
p (GeV/c)

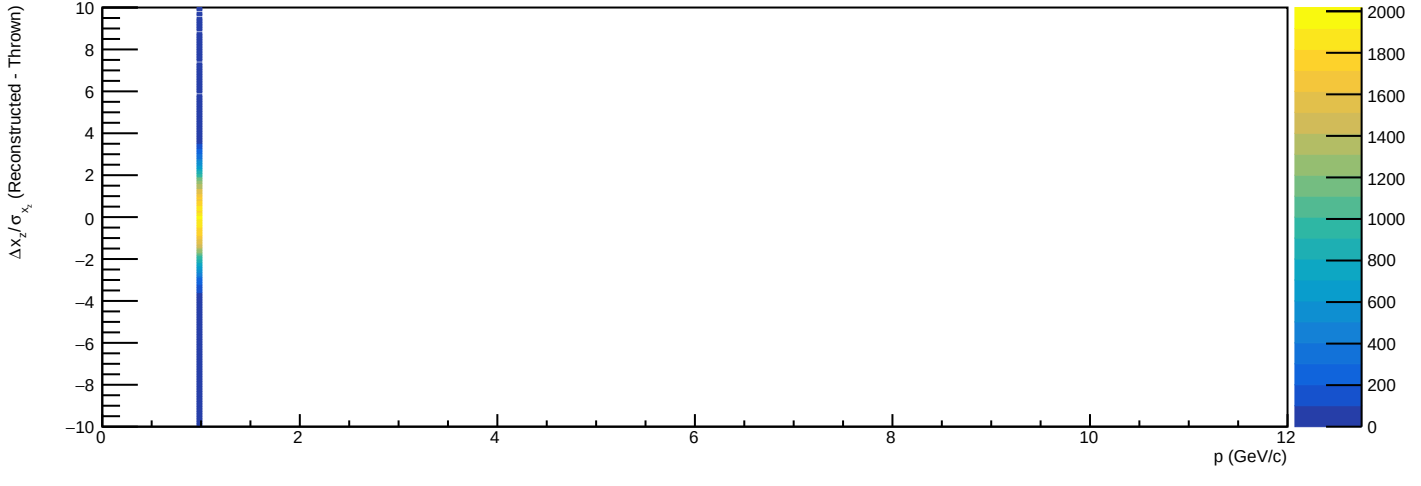

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XyPullVsTheta
Δx_y/σ_xy (Reconstructed - Thrown)
θ°

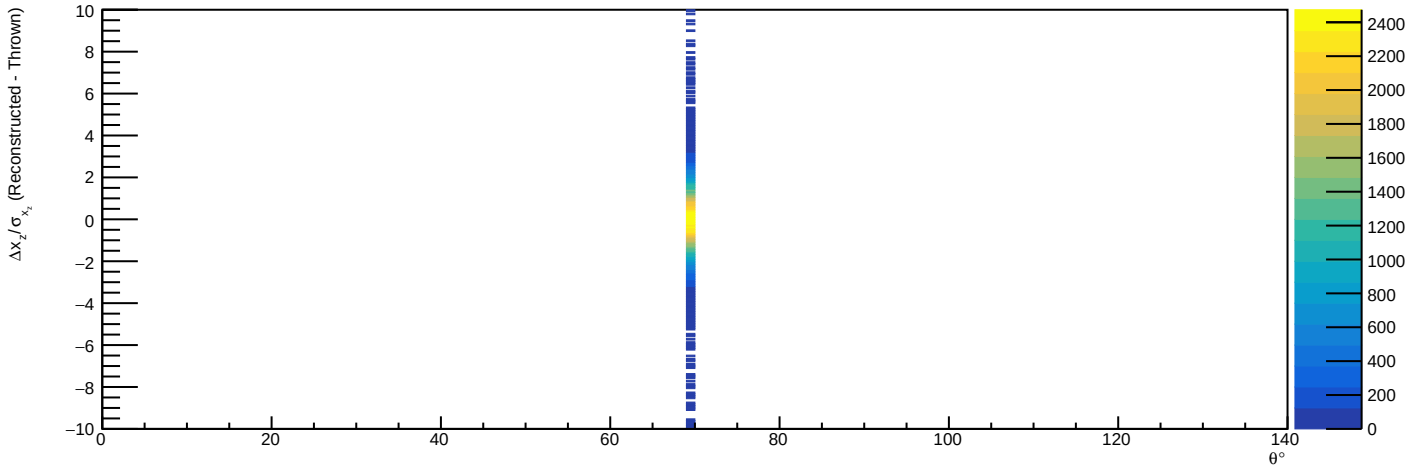

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XyPullVsTheta
Δx_y/σ_xy (Reconstructed - Thrown)
θ°

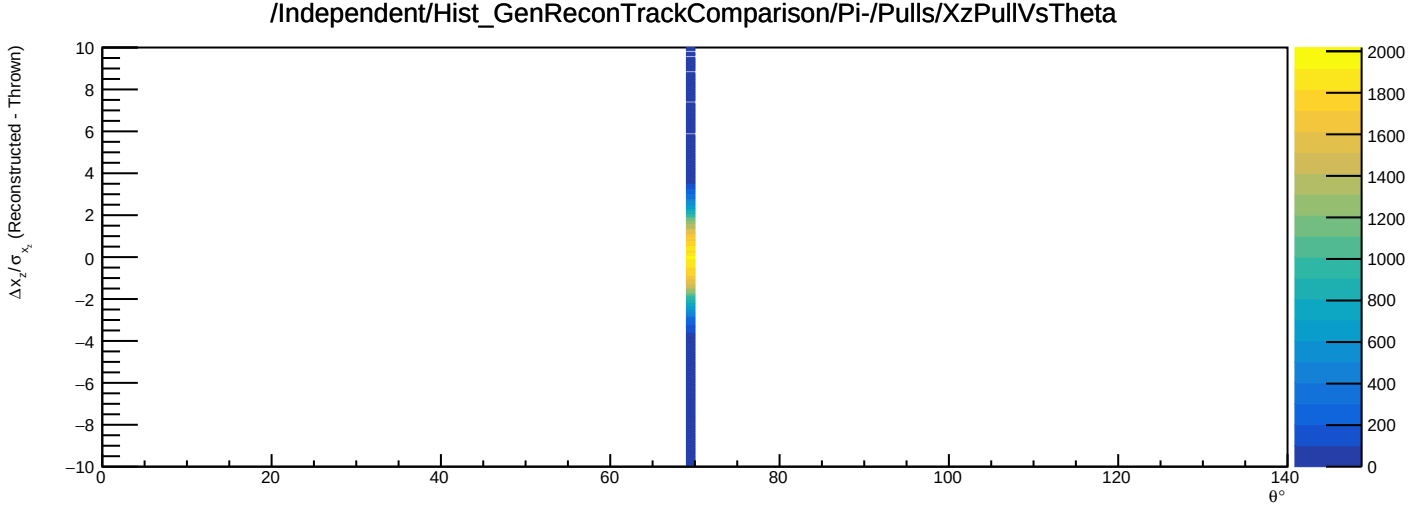
/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XzPull

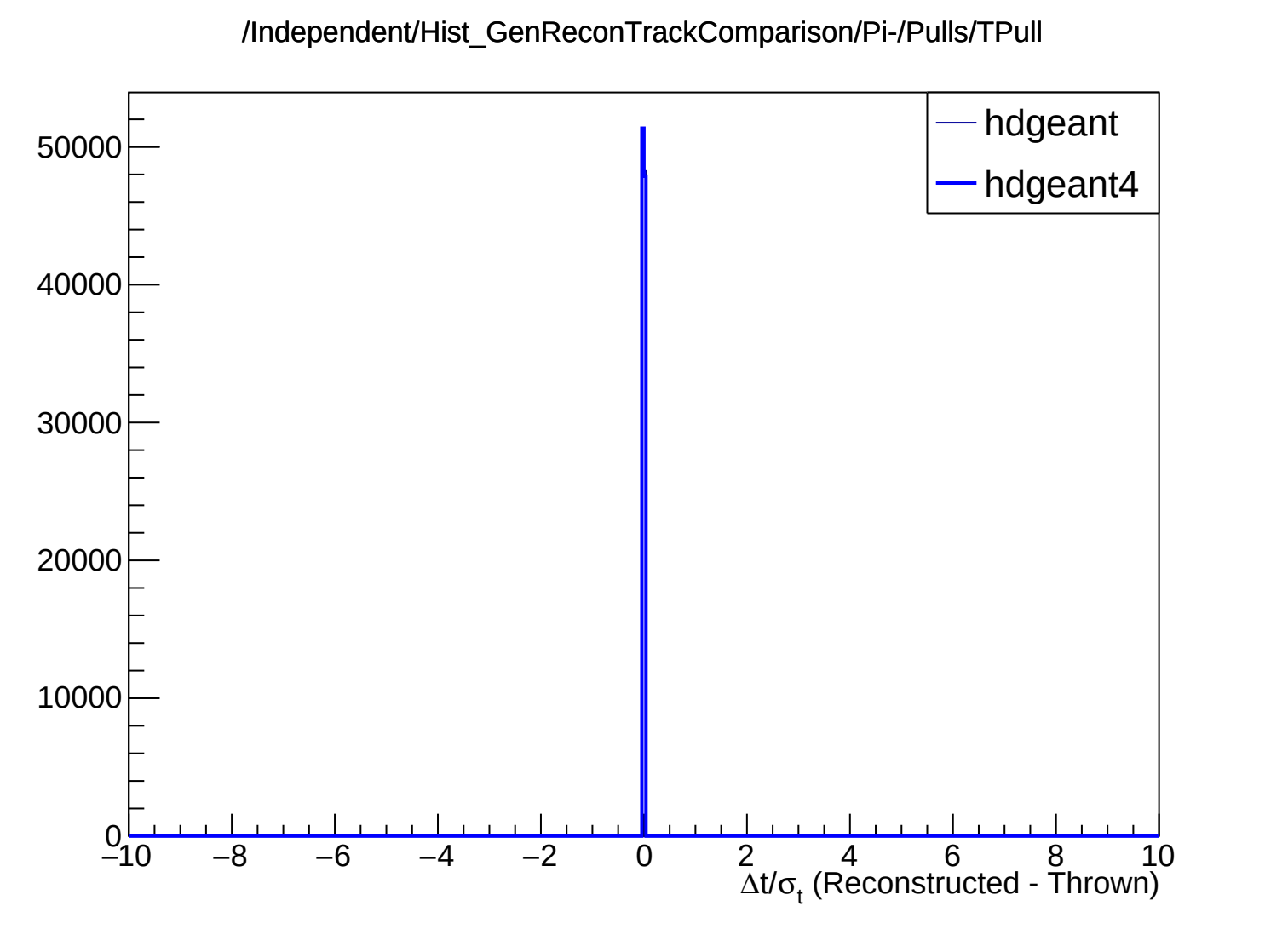


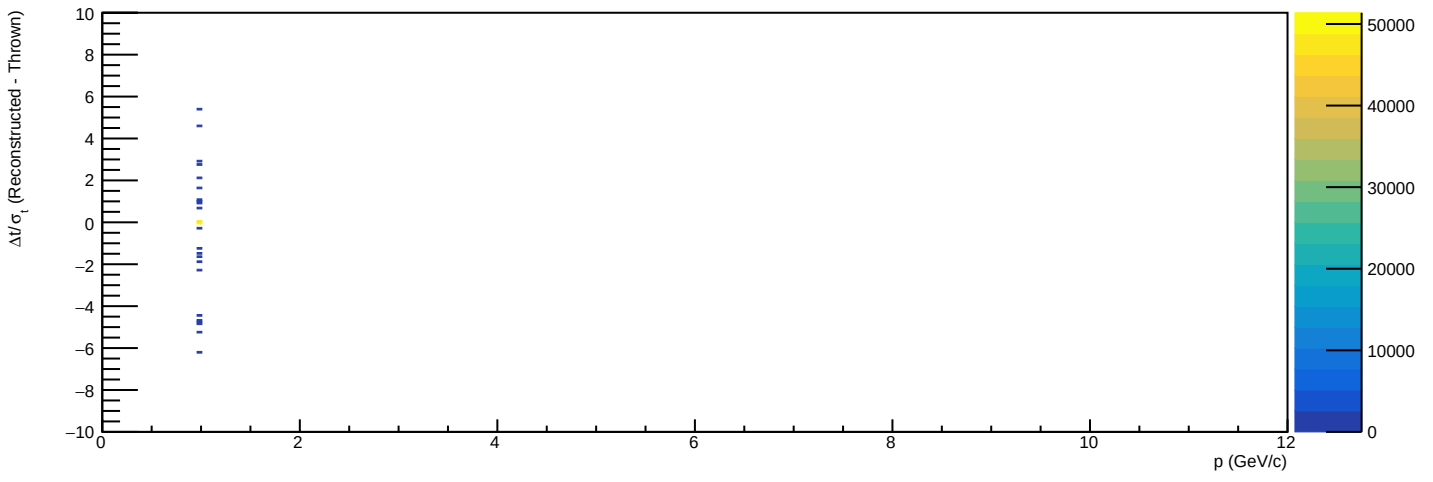

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
p (GeV/c)

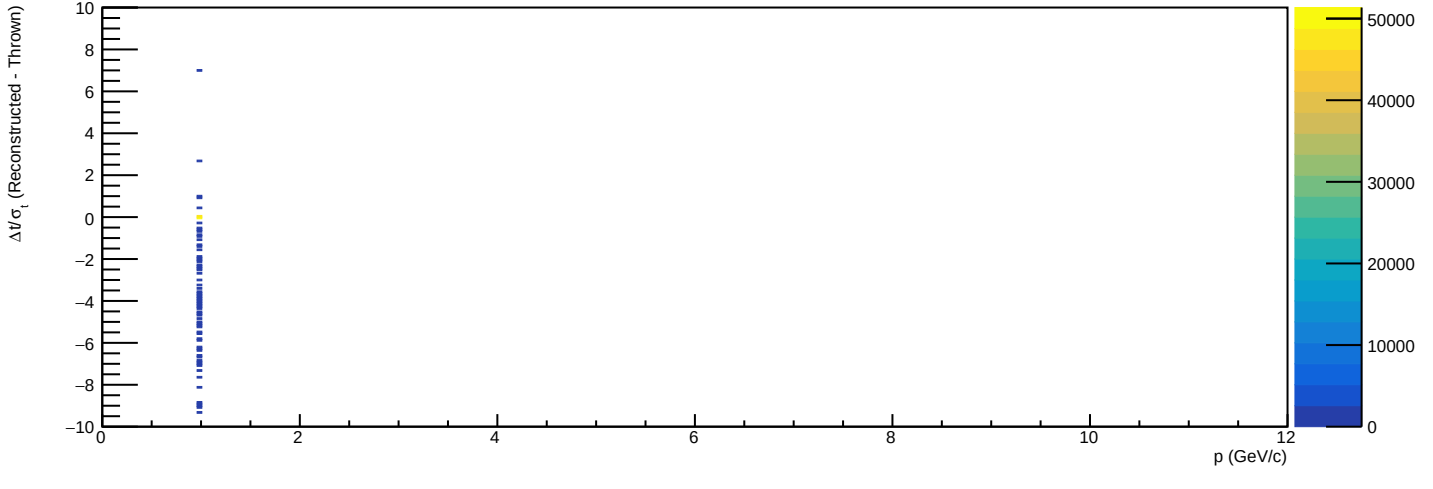

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
p (GeV/c)

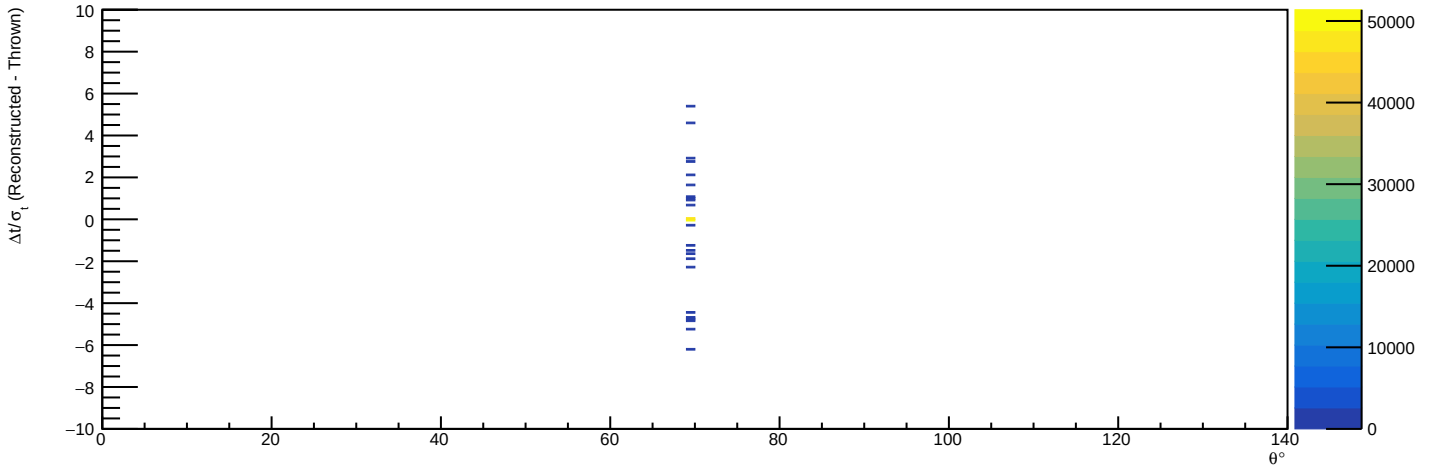

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
θ°

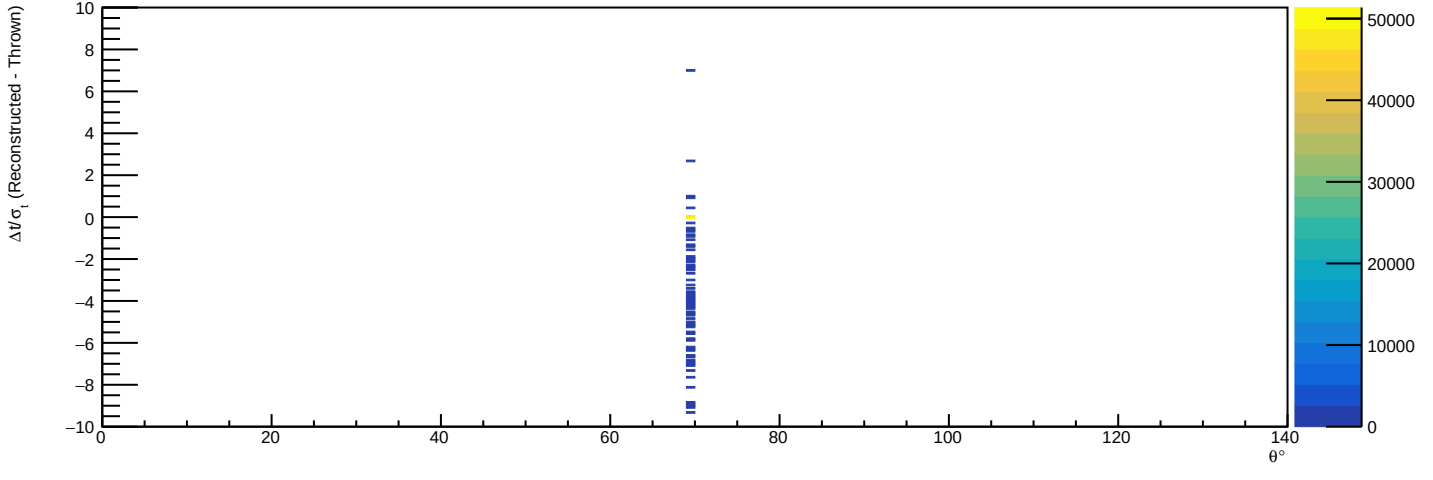

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
θ°


/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TPull
hdgeant
hdgeant4
50000
40000
30000
20000
10000
0
−10
−8
−6
−4
−2
0
2
4
6
8
10
Δt/σt (Reconstructed - Thrown)

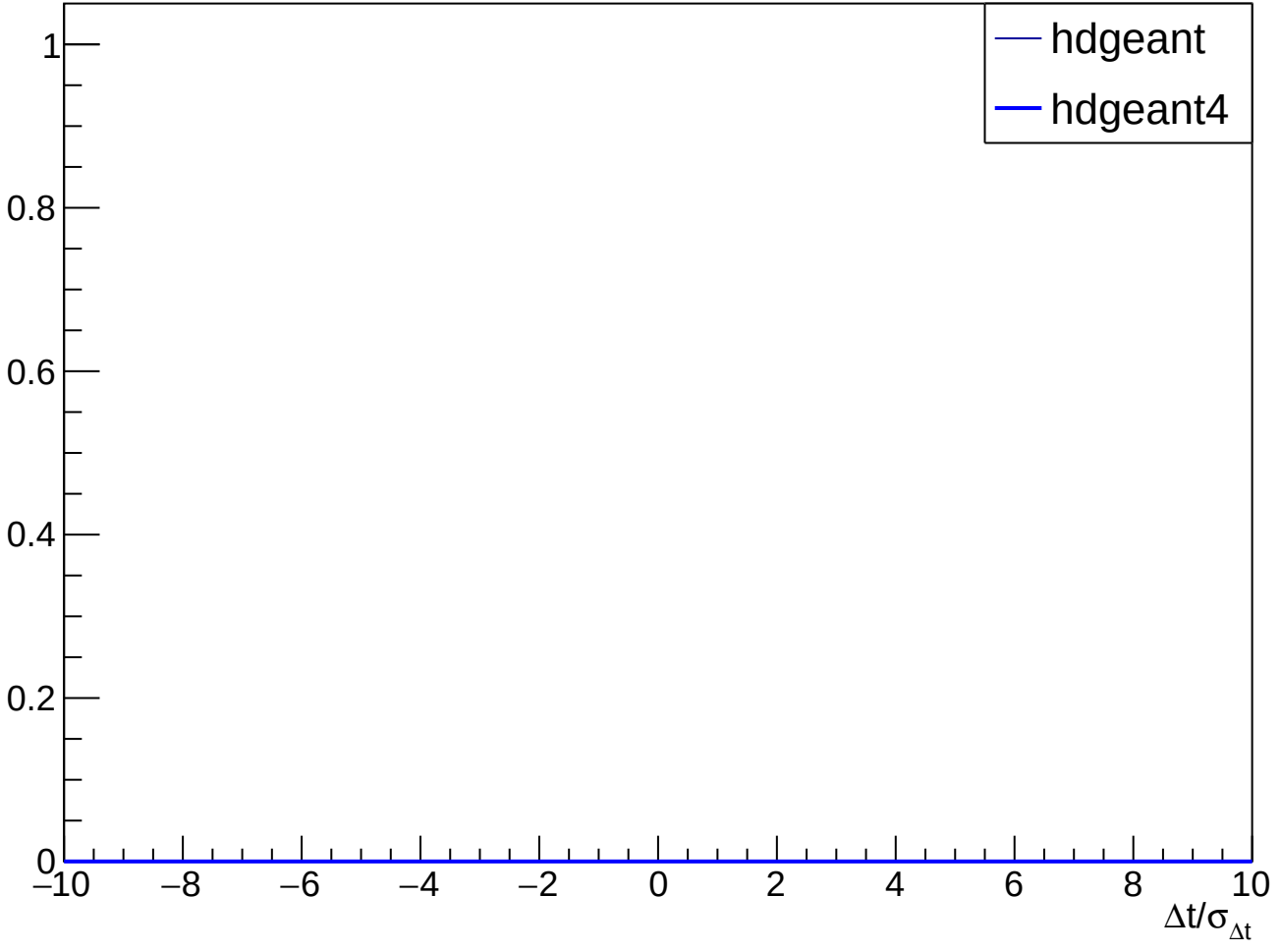

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
p (GeV/c)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
50000
40000
30000
20000
10000
0

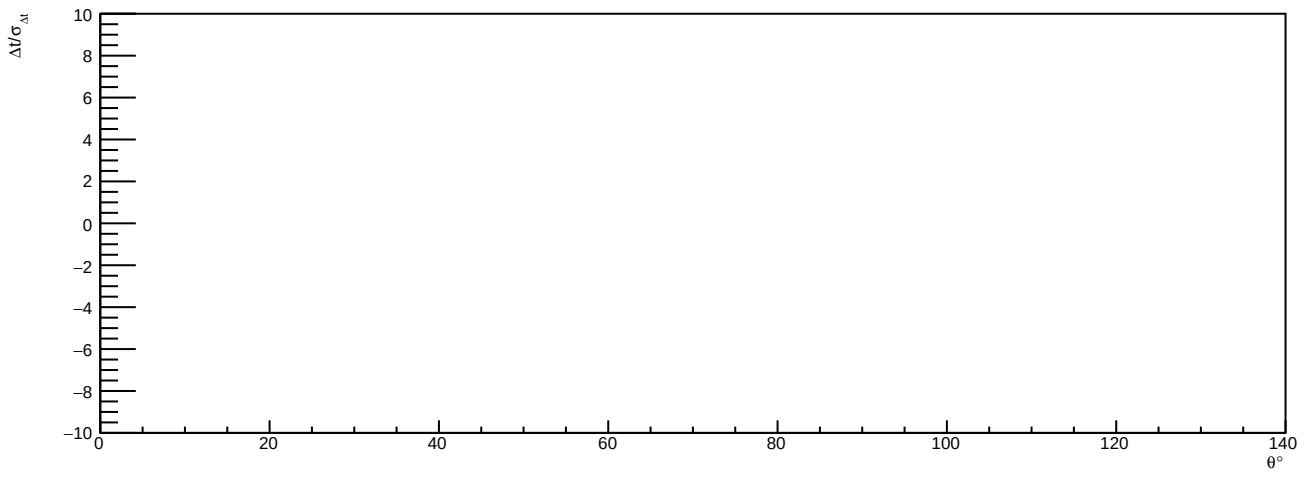

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
p (GeV/c)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
50000
40000
30000
20000
10000
0

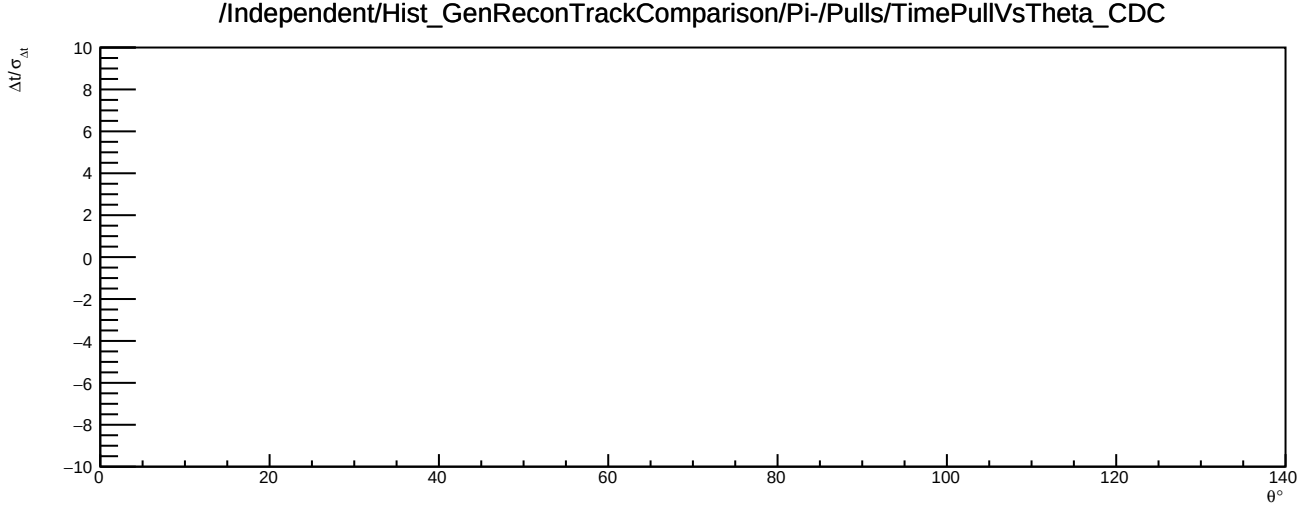

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
θ°

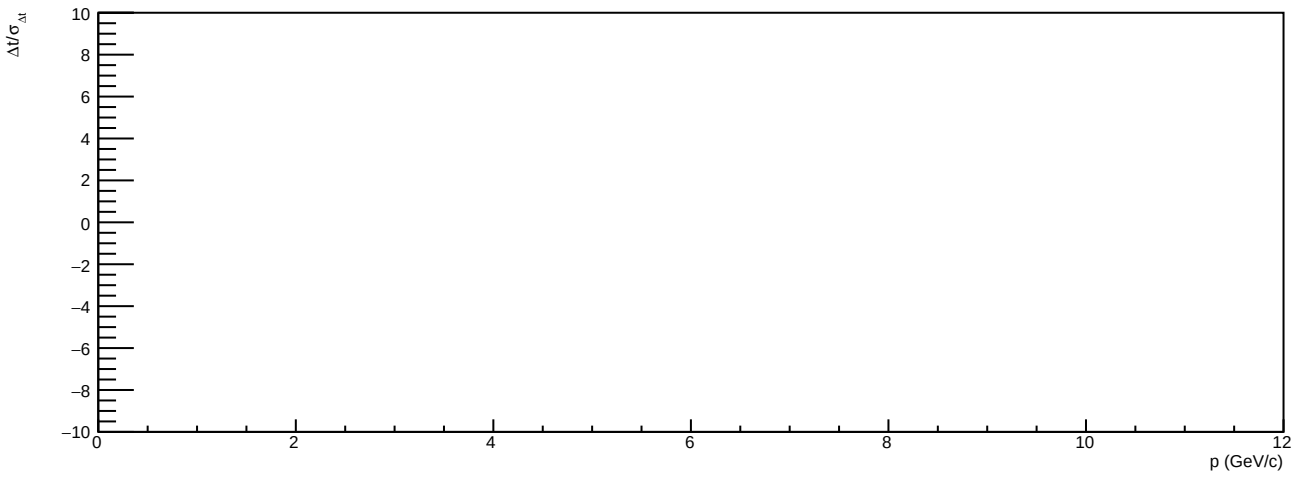

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
θ°

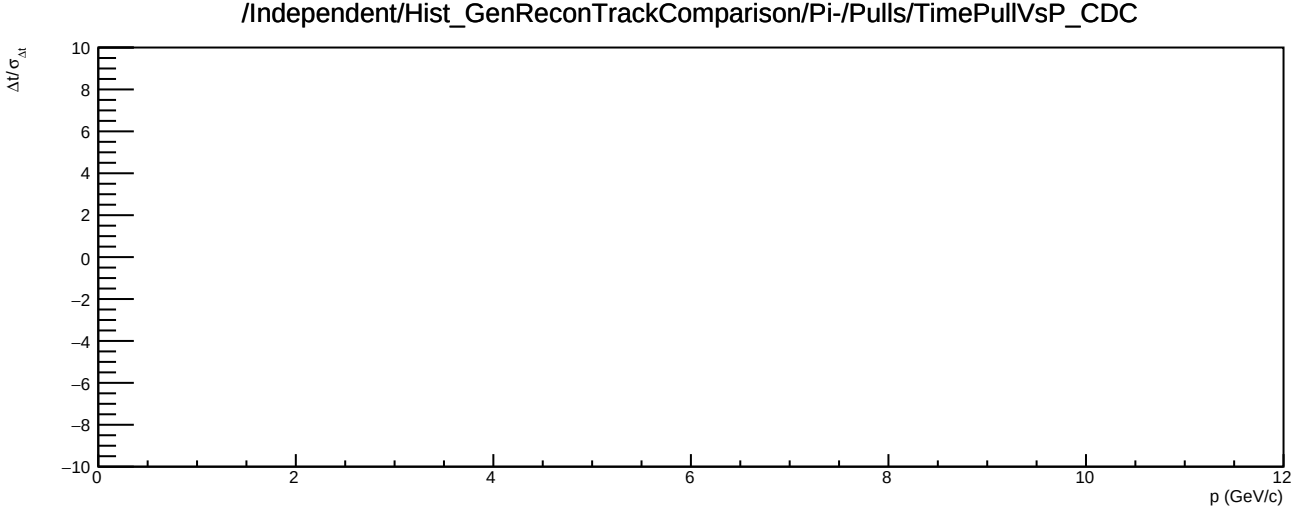
/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePull_CDC



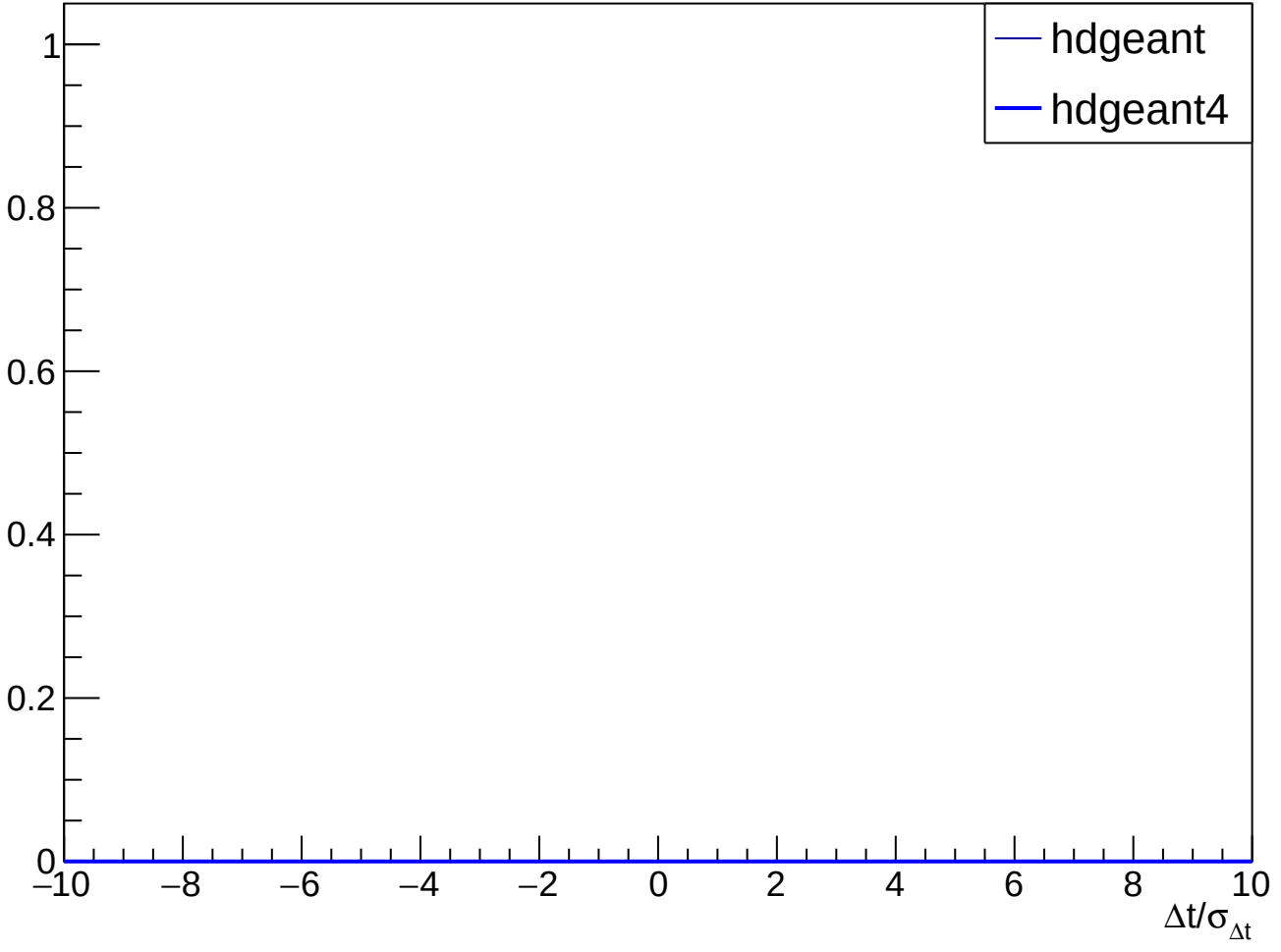

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsTheta_CDC
Δt/σΔt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

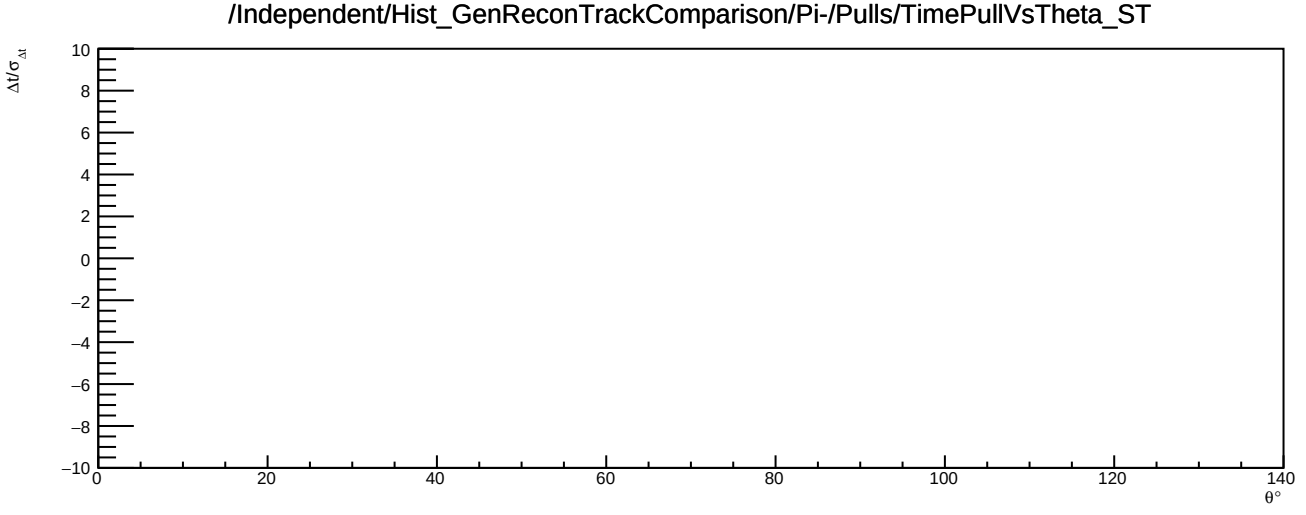

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsTheta_CDC
Δt/σΔt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

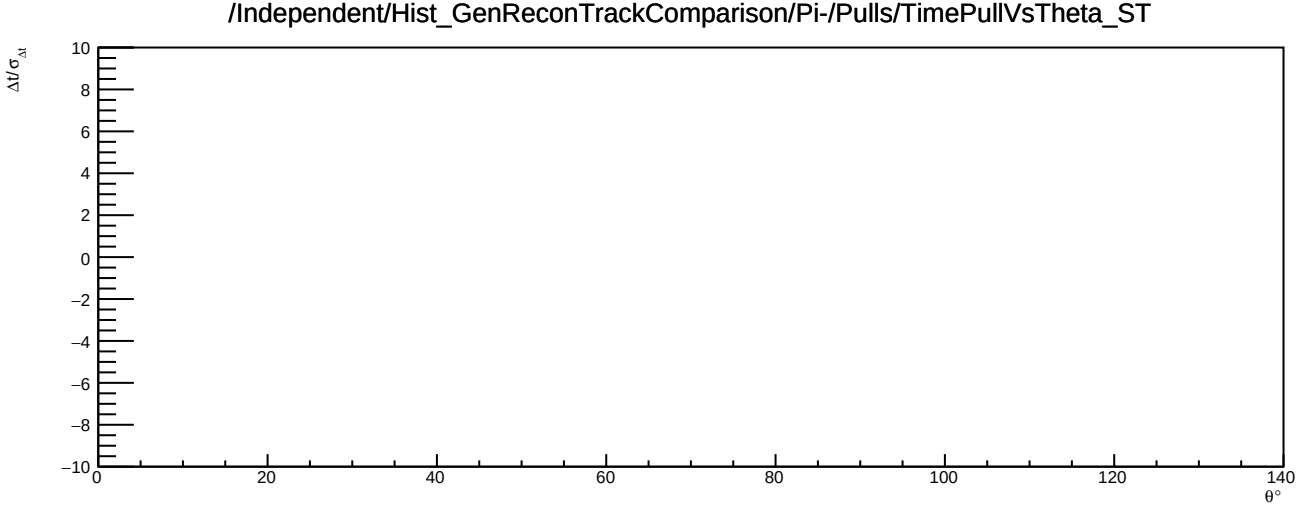

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsP_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

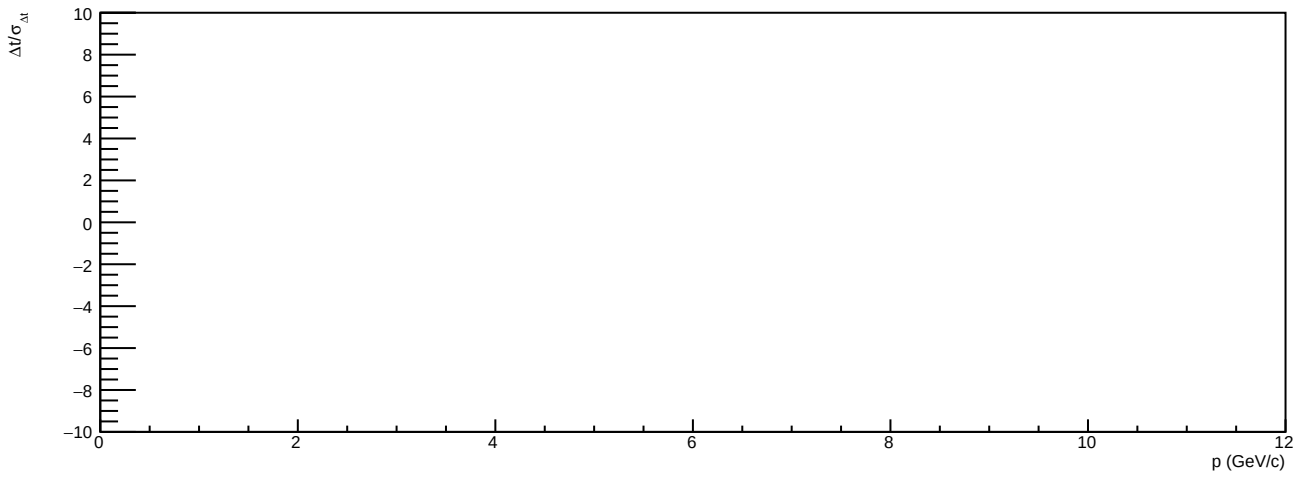

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsP_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

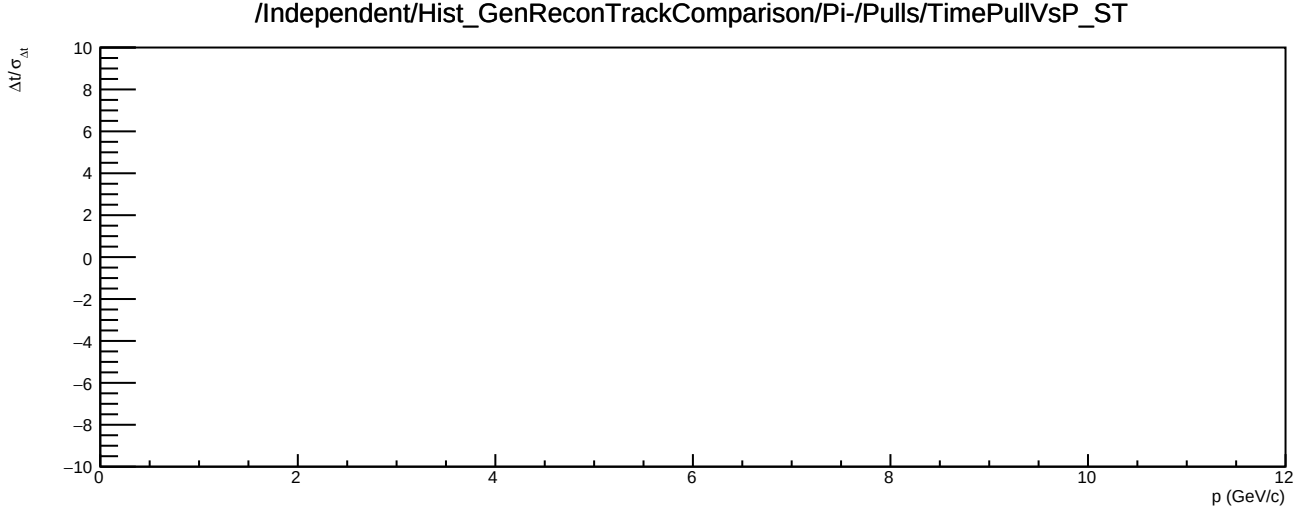
/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePull_ST



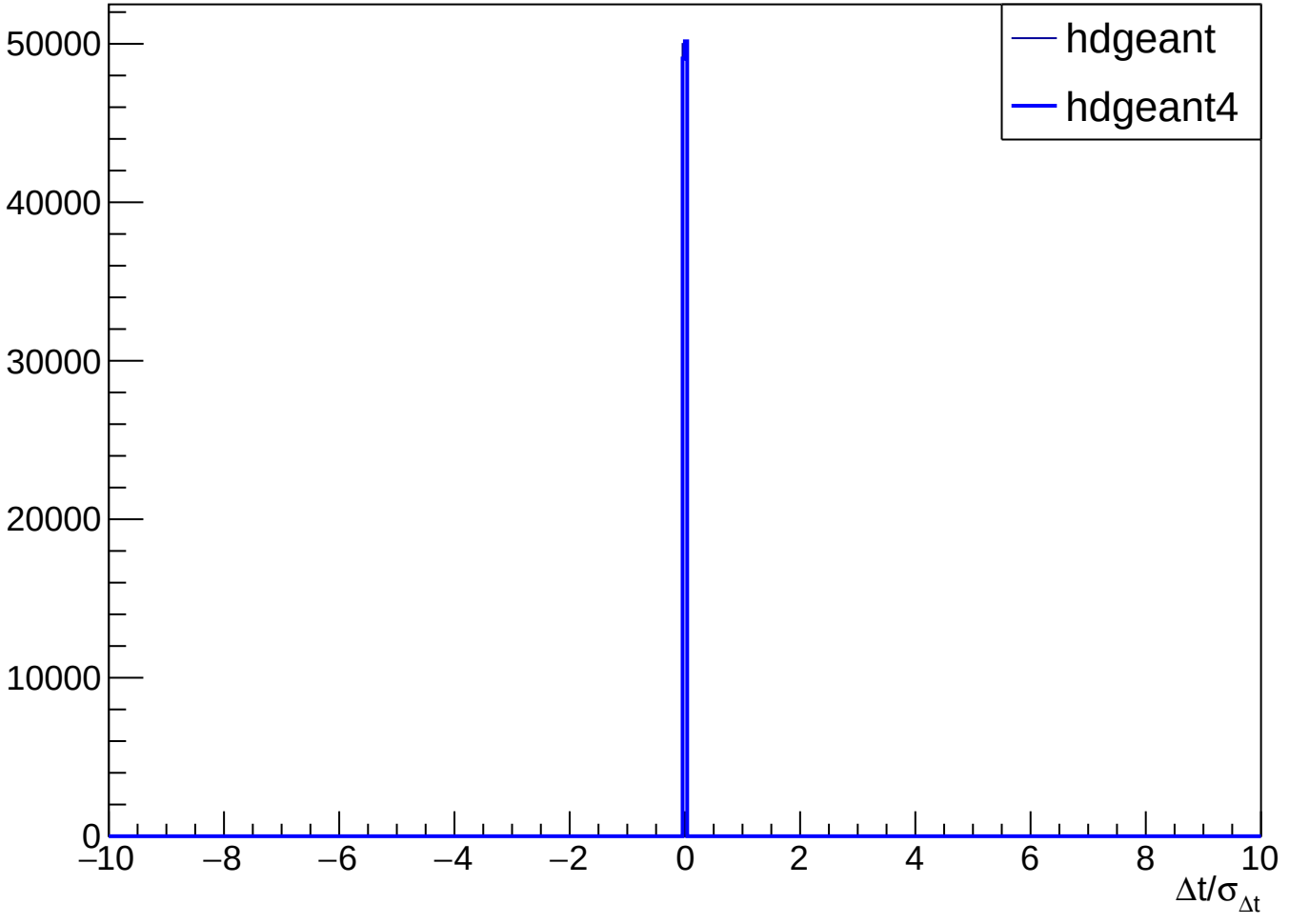

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsTheta_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

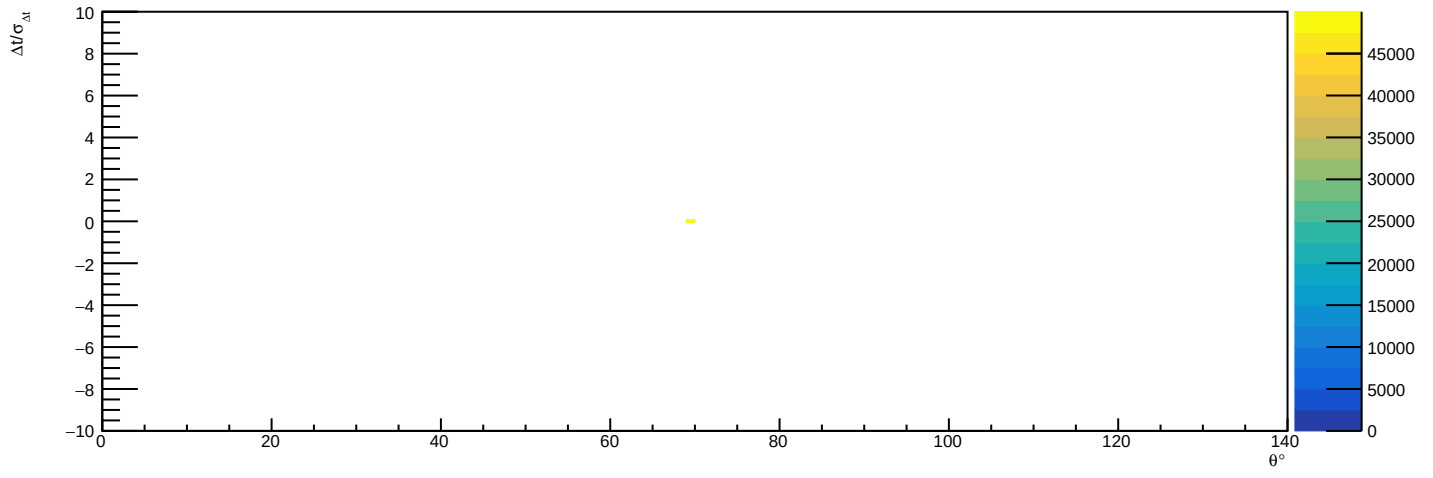

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsTheta_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

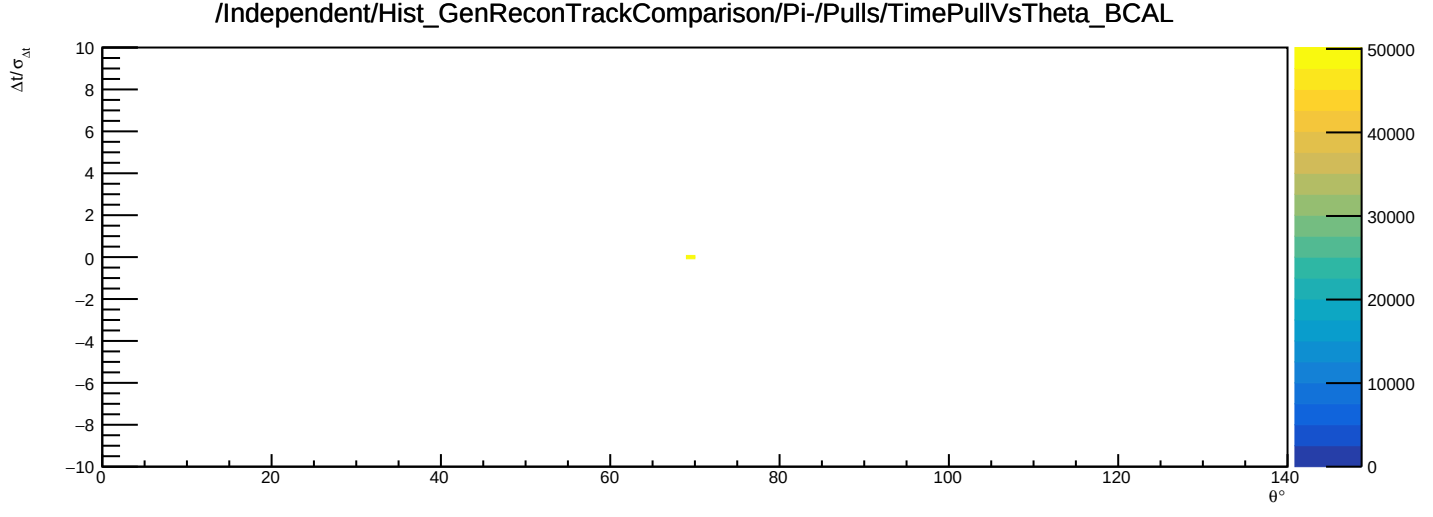

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsP_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

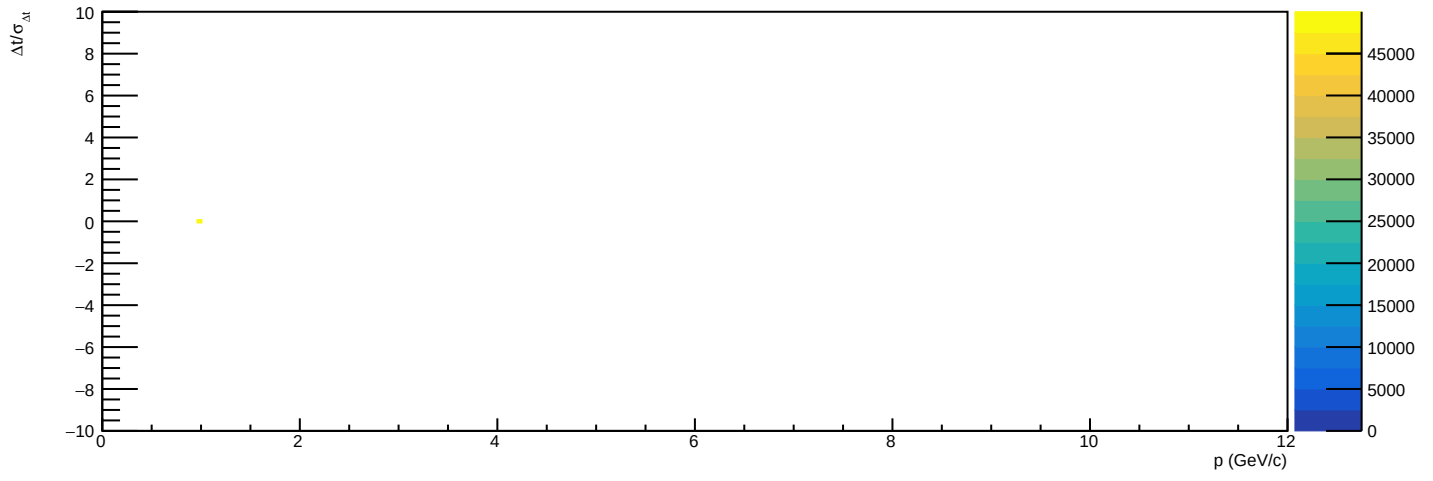

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsP_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

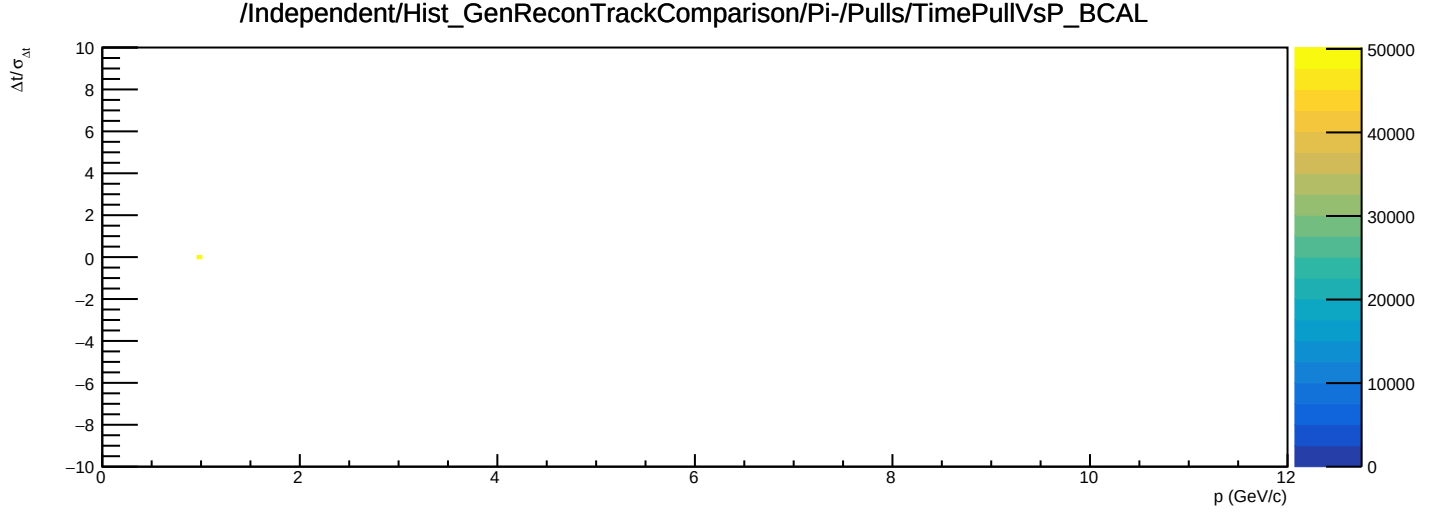
/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePull_BCAL



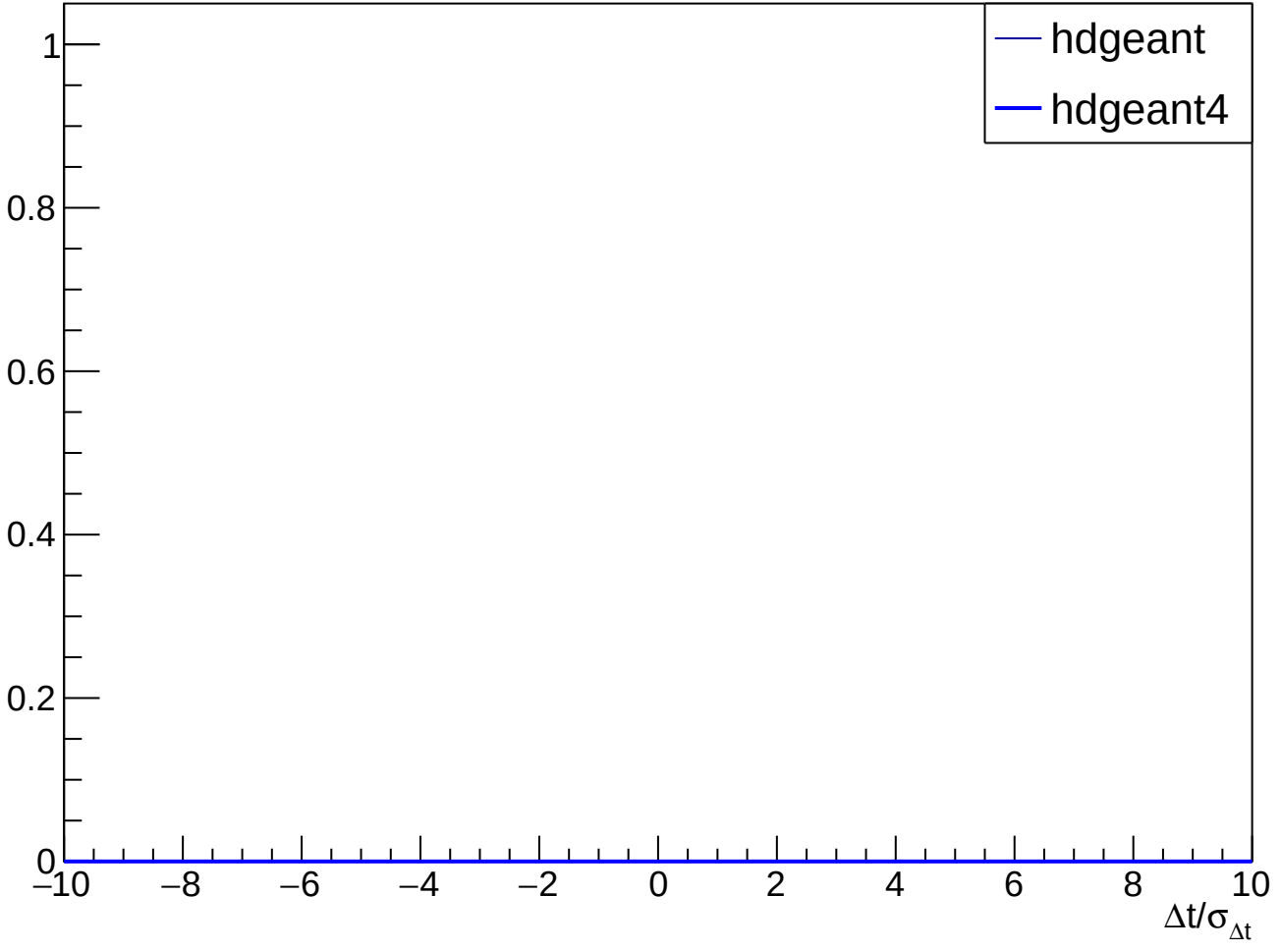

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsTheta_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°
45000
40000
35000
30000
25000
20000
15000
10000
5000
0

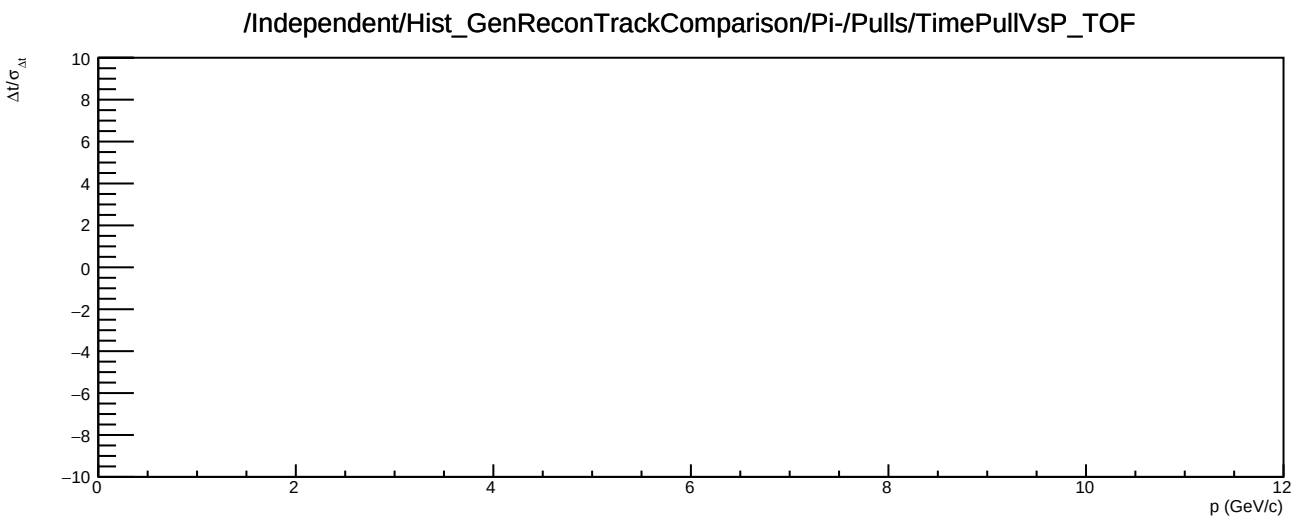

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsTheta_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°
50000
40000
30000
20000
10000
0

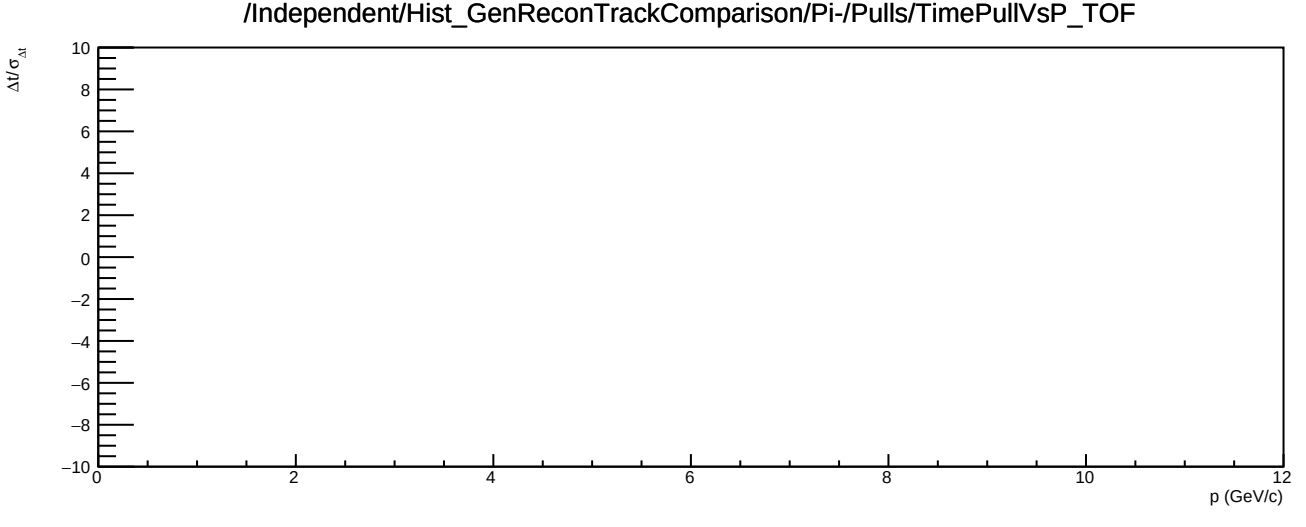

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
p (GeV/c)

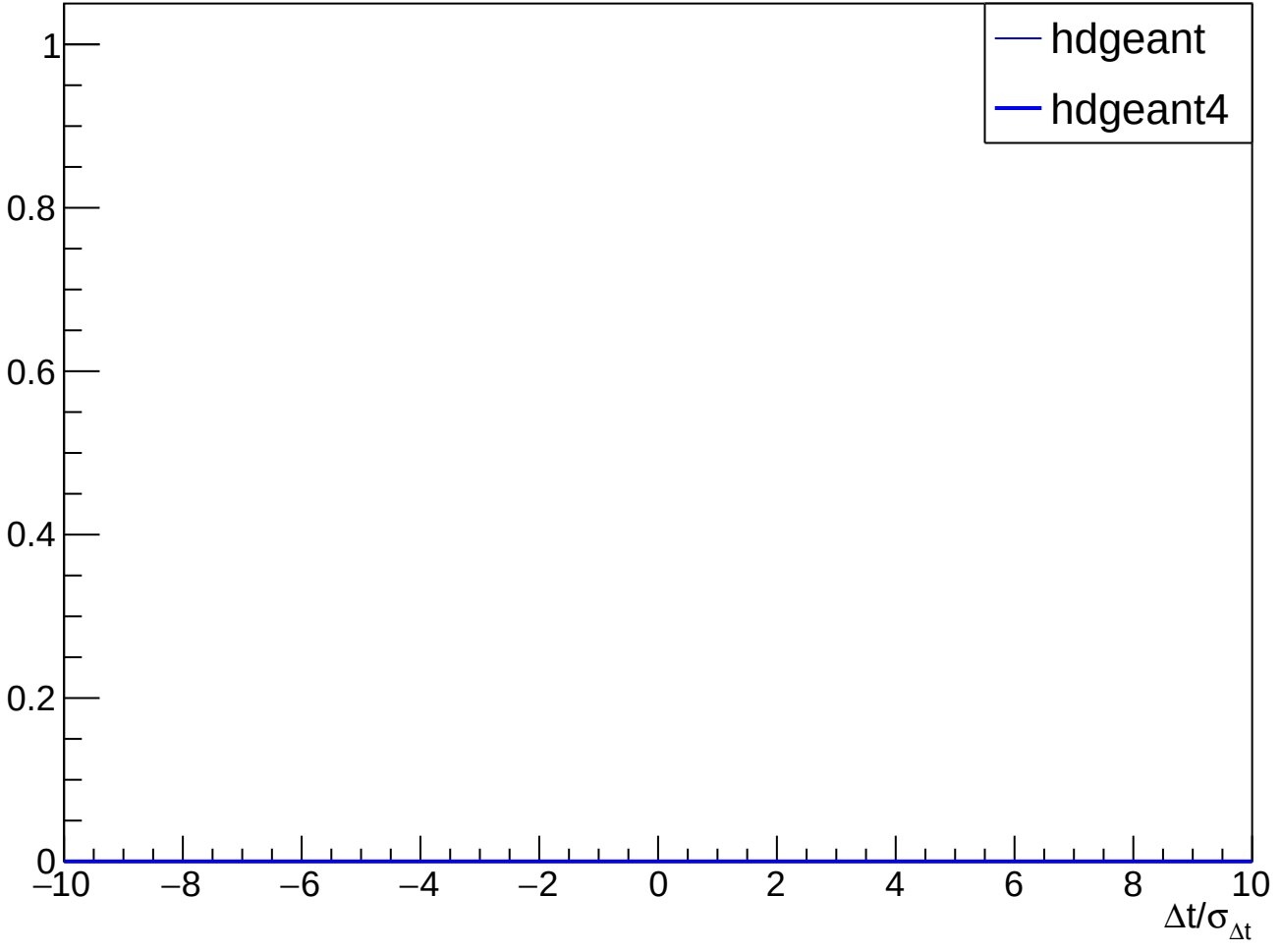
/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePull_TOF

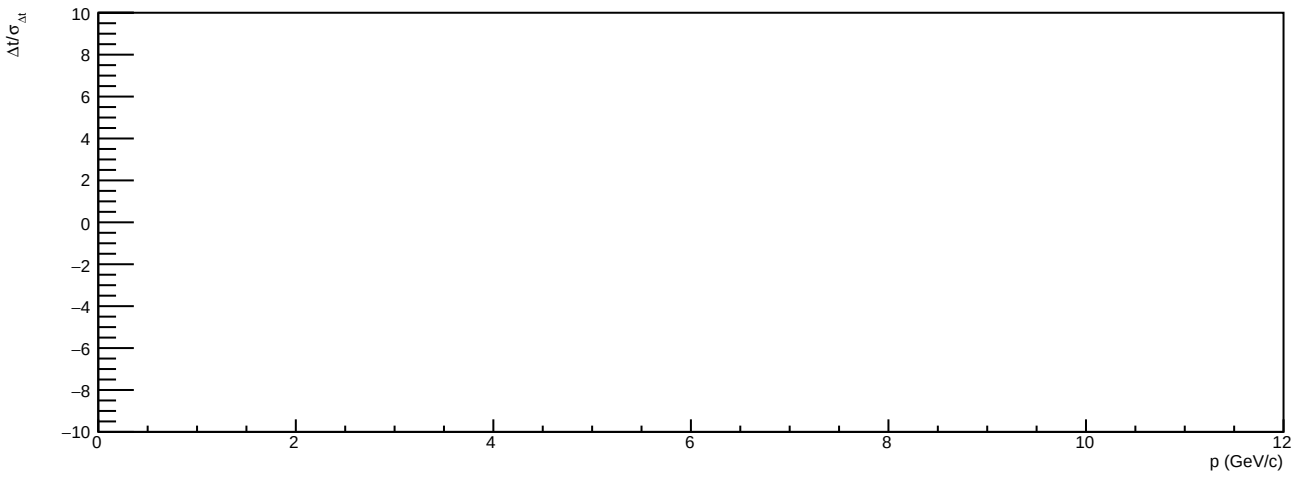


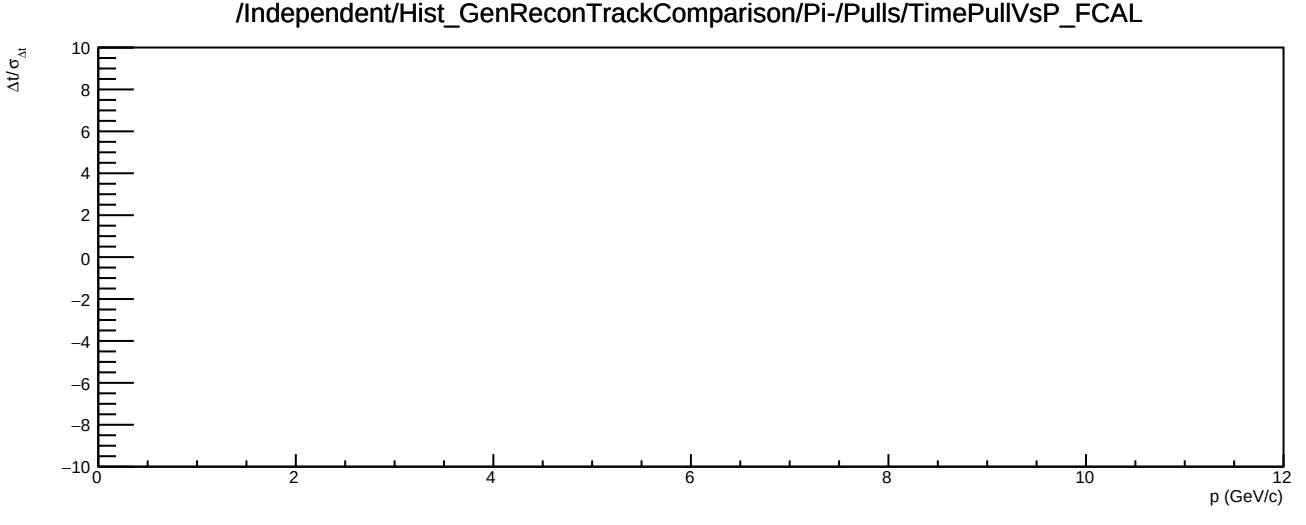

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsP_TOF
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsP_TOF
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

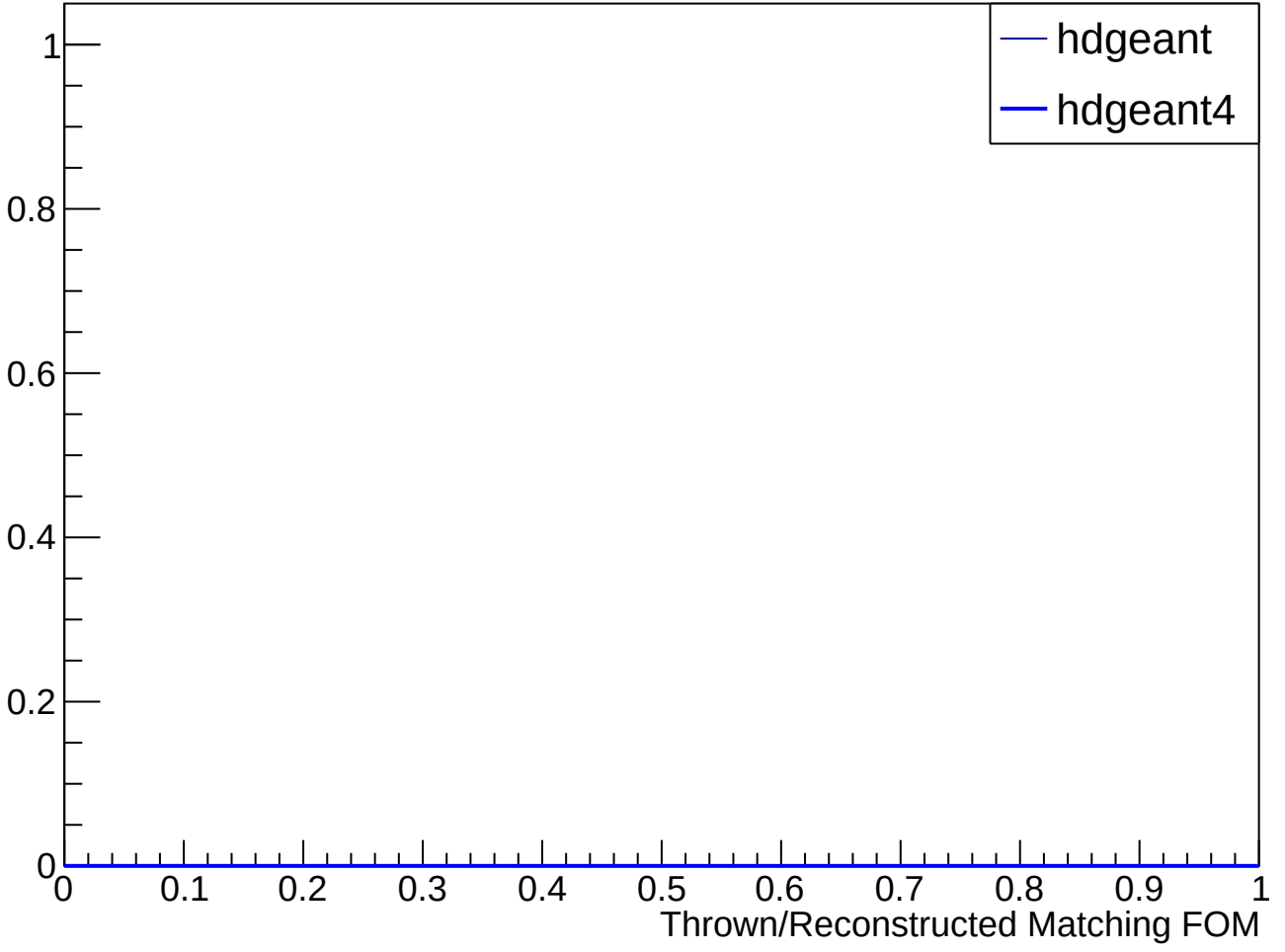
/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePull_FCAL

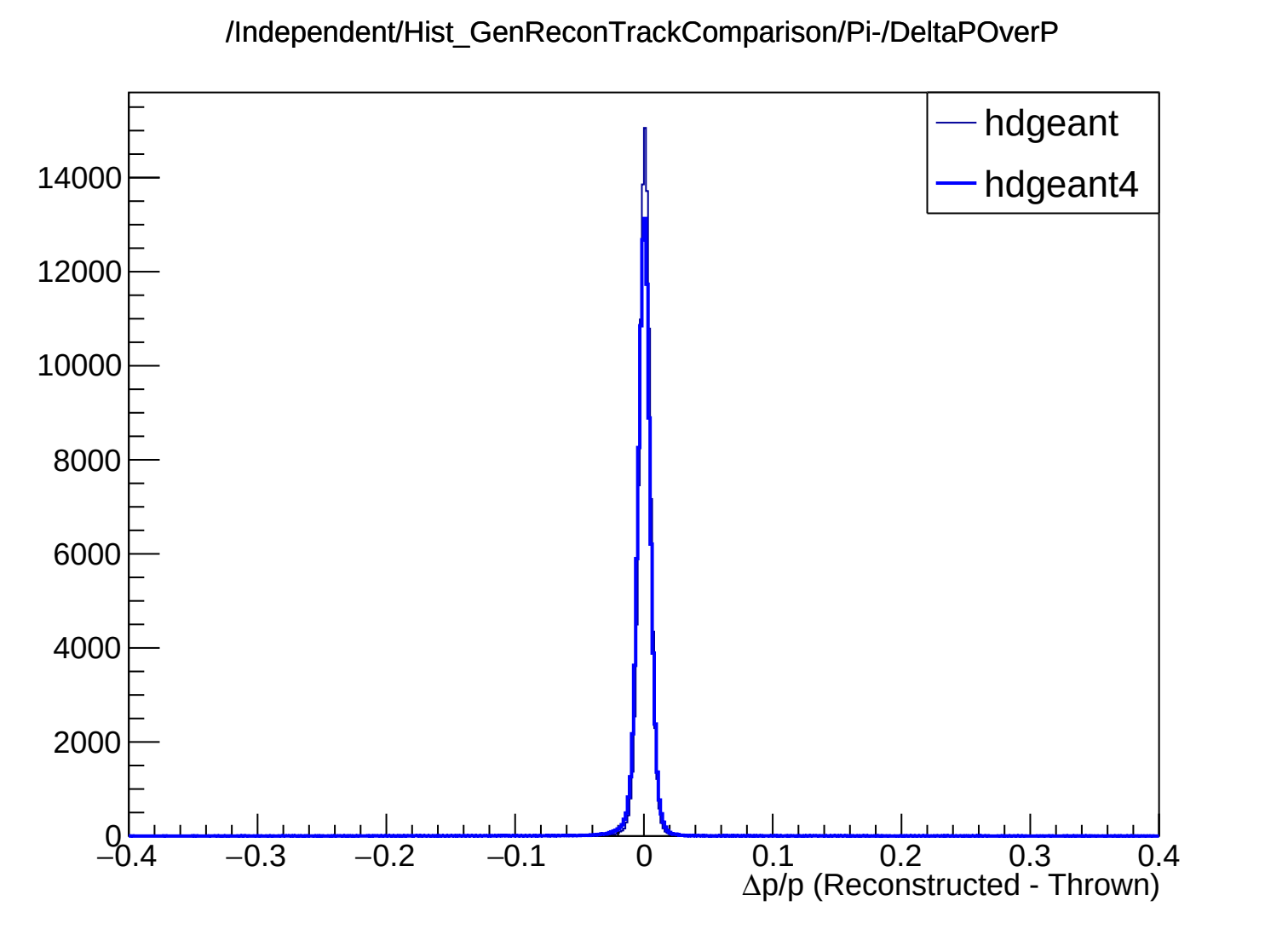


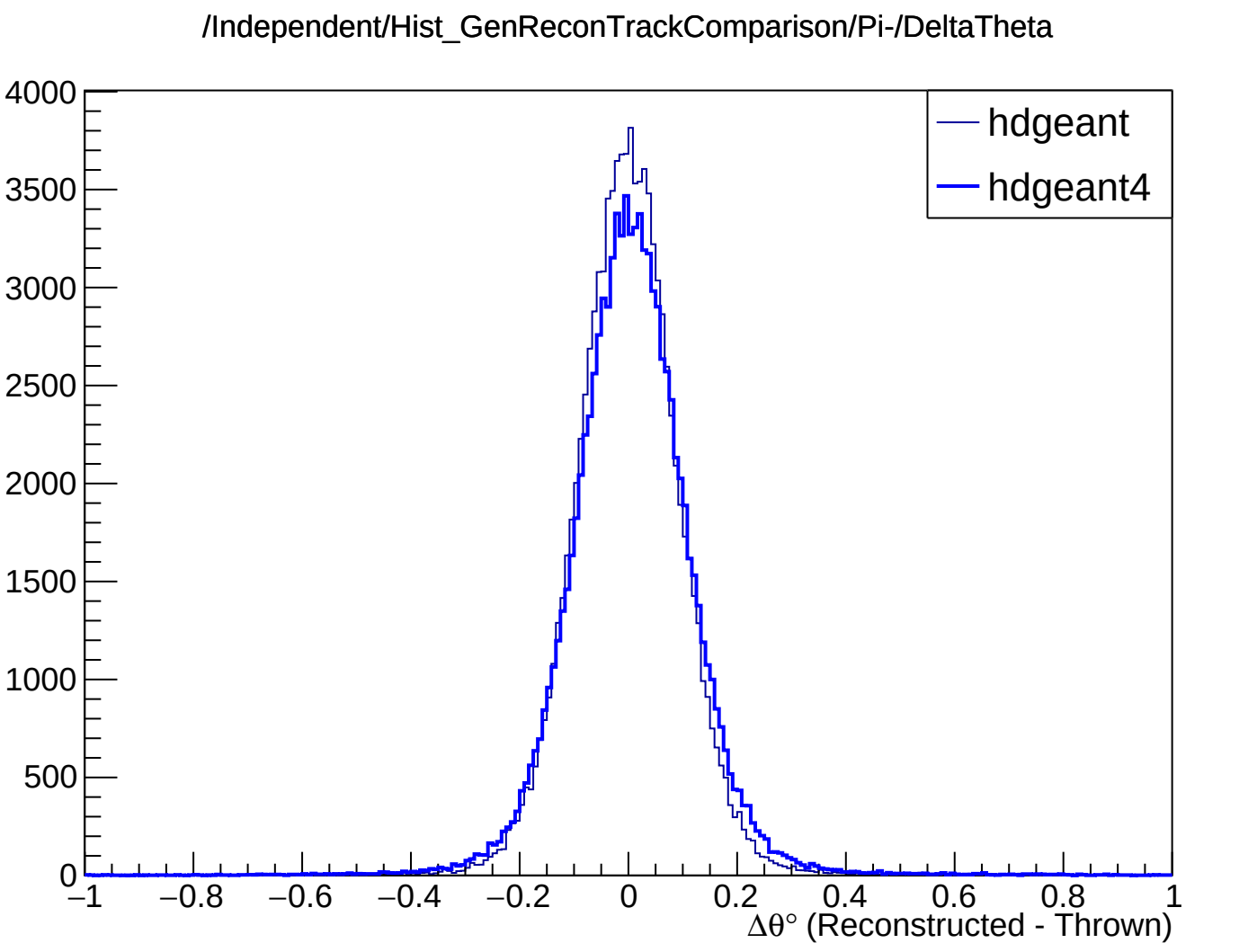

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

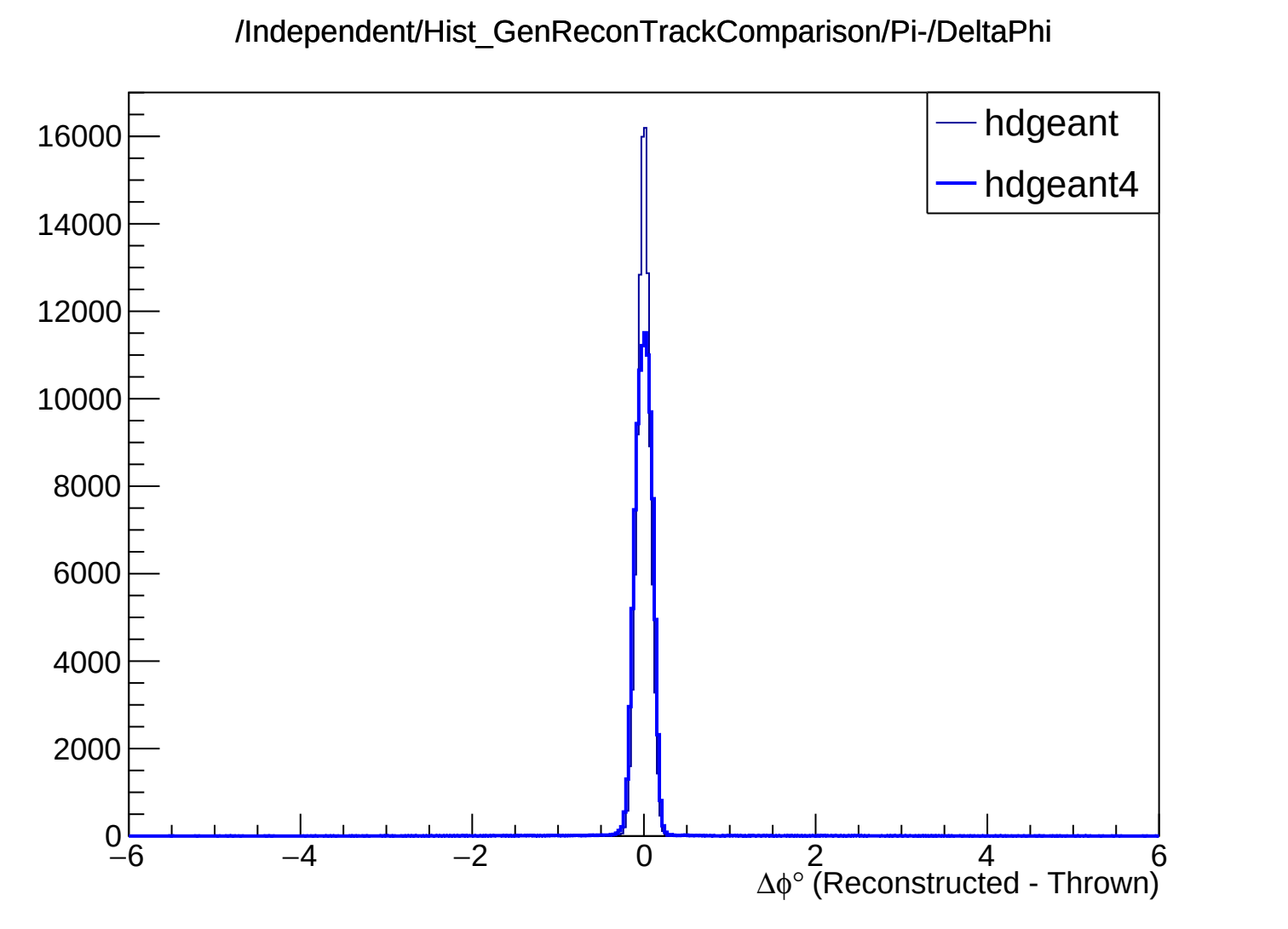

/Independent/Hist_GenReconTrackComparison/Pi-/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

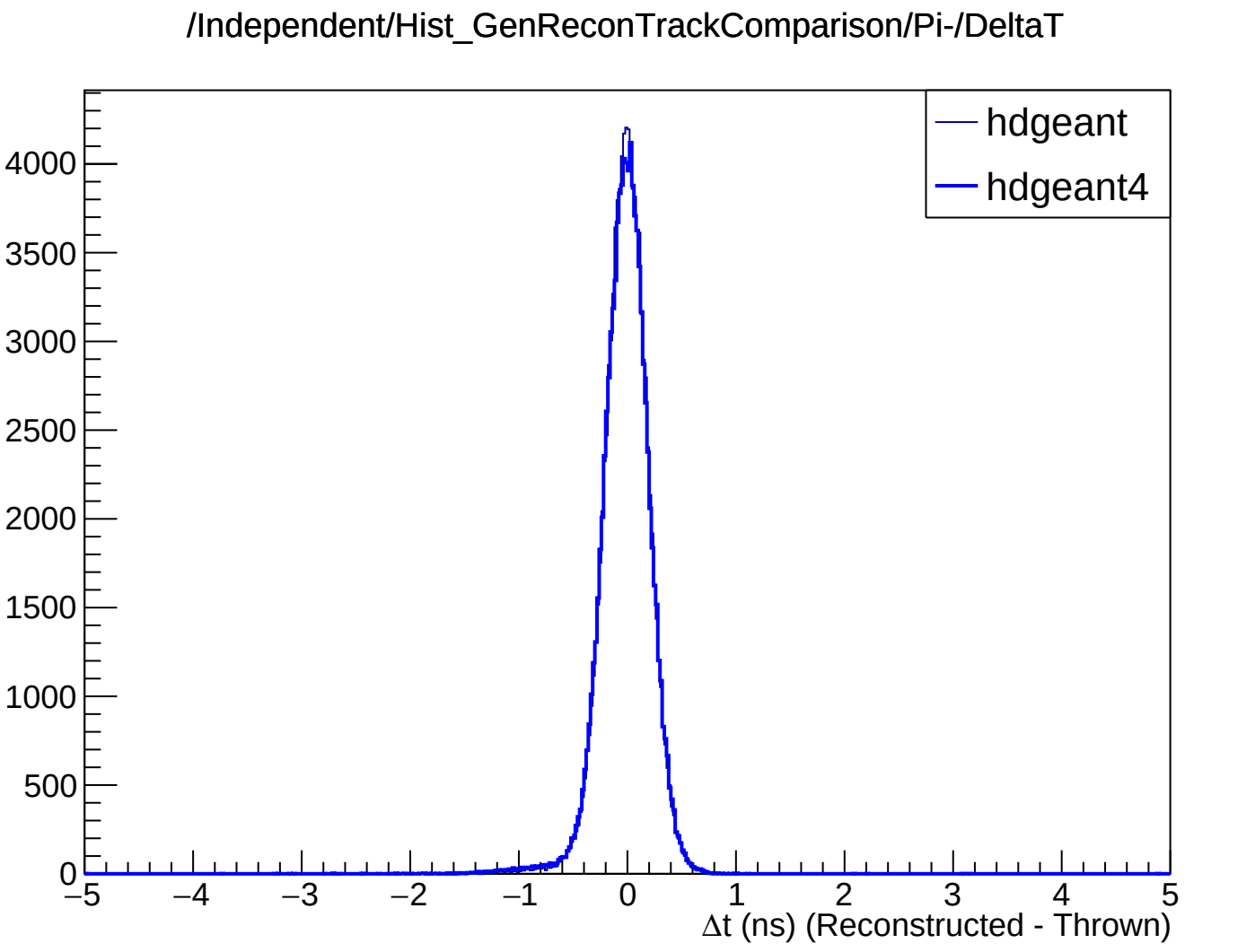
/Independent/Hist_GenReconTrackComparison/Pi-/MatchFOM



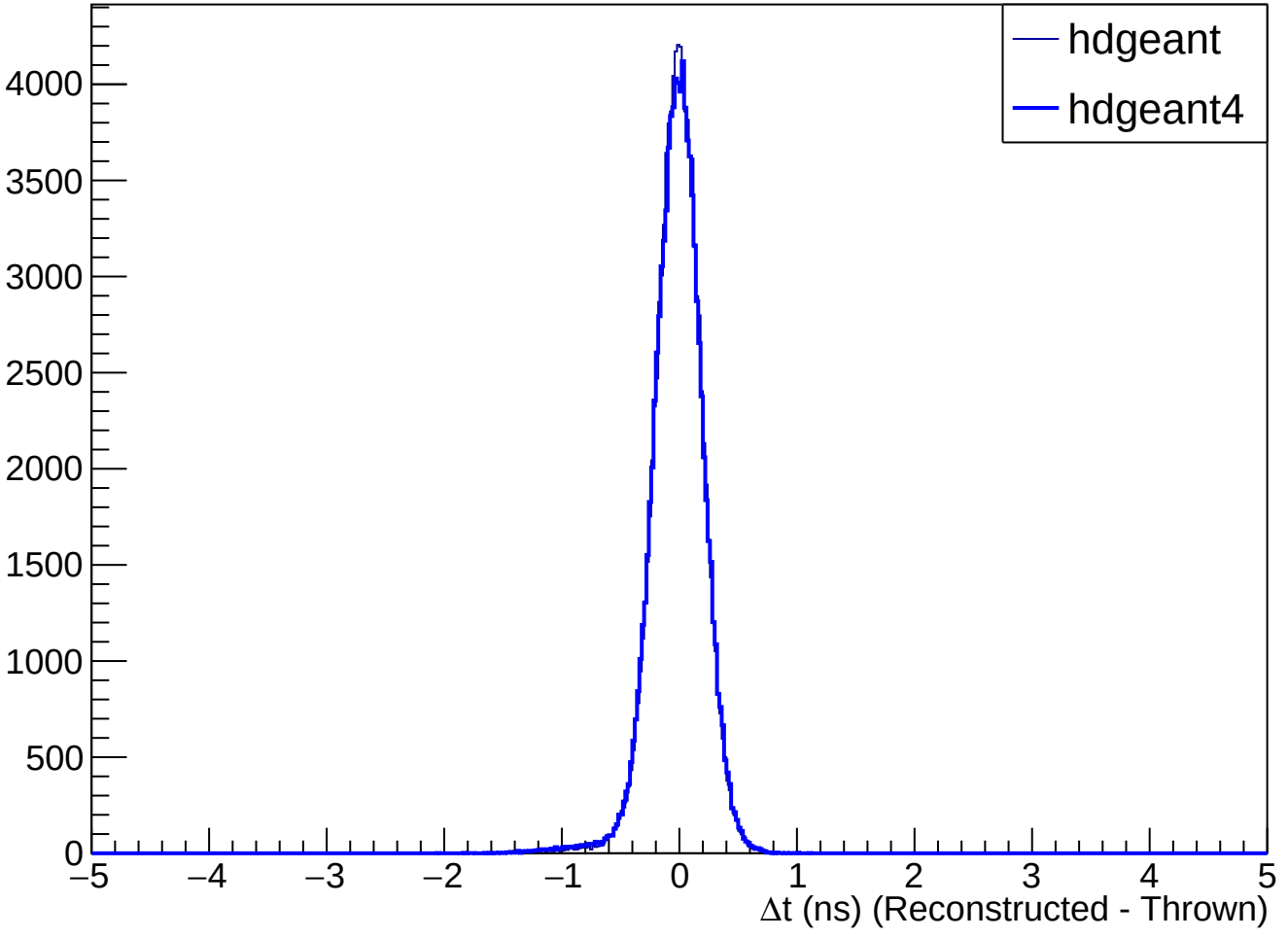

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaPOverP
hdgeant
hdgeant4
14000
12000
10000
8000
6000
4000
2000
0
–0.4
–0.3
–0.2
–0.1
0
0.1
0.2
0.3
0.4
Δp/p (Reconstructed - Thrown)


/Independent/Hist_GenReconTrackComparison/Pi-/DeltaTheta
hdgeant
hdgeant4
4000
3500
3000
2500
2000
1500
1000
500
0
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1
Δθ° (Reconstructed - Thrown)

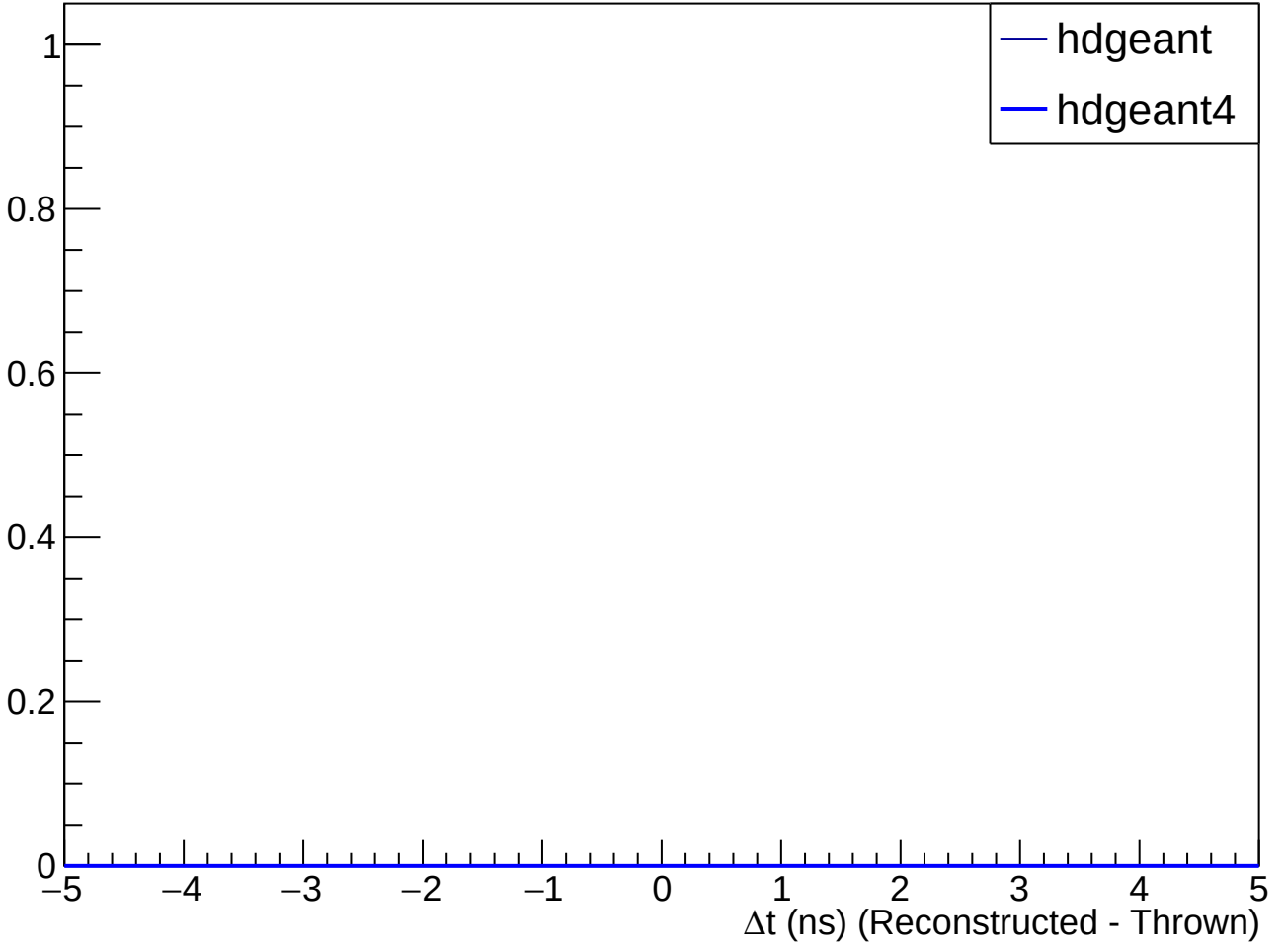

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaPhi
hdgeant
hdgeant4
16000
14000
12000
10000
8000
6000
4000
2000
0
−6
−4
−2
0
2
4
6
Δϕ° (Reconstructed - Thrown)

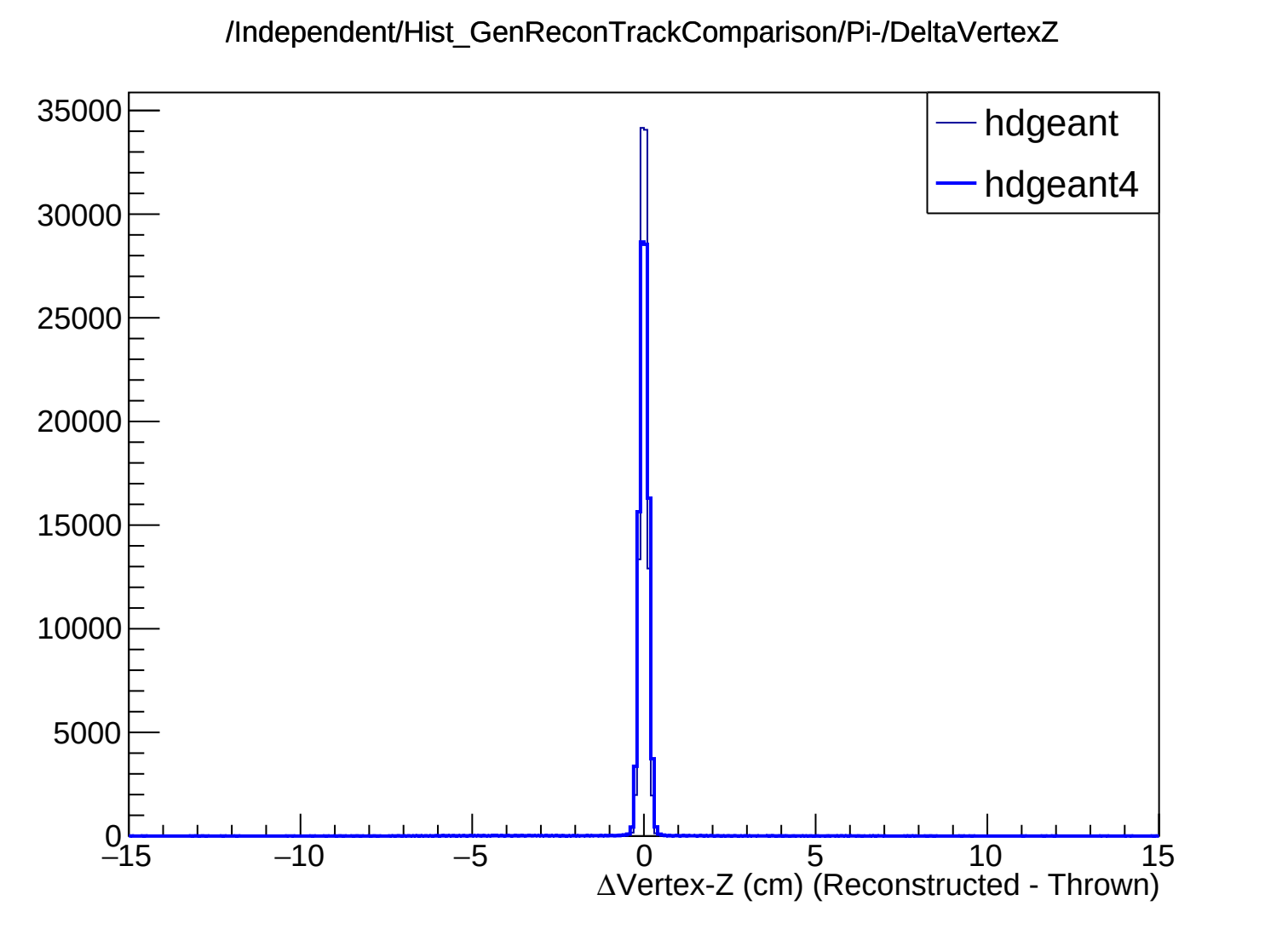

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaT
hdgeant
hdgeant4
4000
3500
3000
2500
2000
1500
1000
500
0
−5
−4
−3
−2
−1
0
1
2
3
4
5
Δt (ns) (Reconstructed - Thrown)

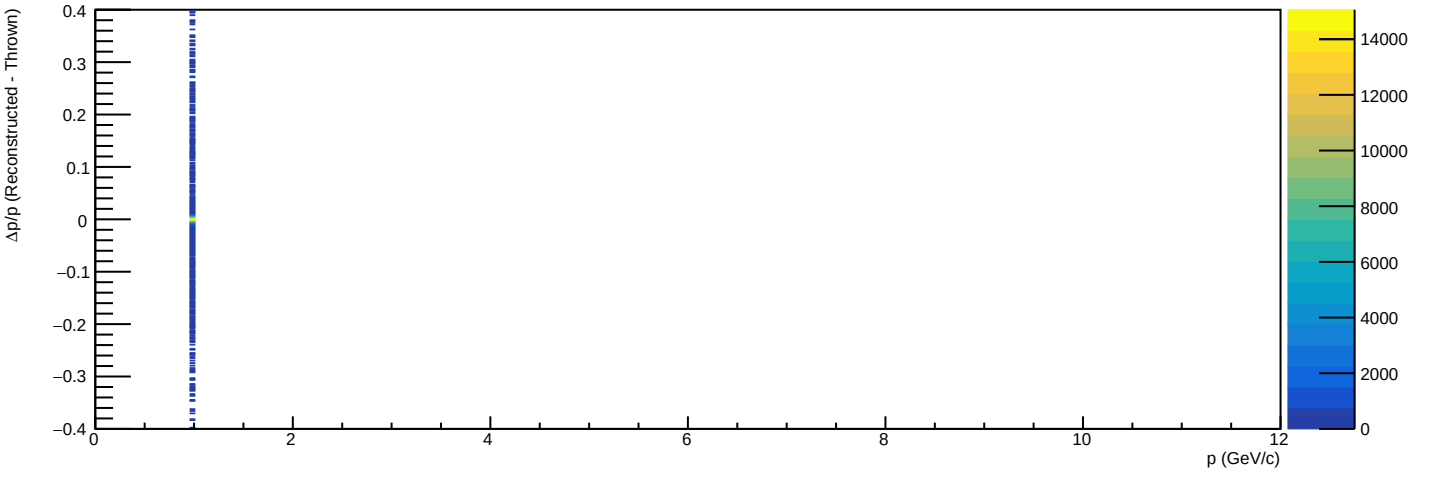
/Independent/Hist_GenReconTrackComparison/Pi-/DeltaT_BCAL

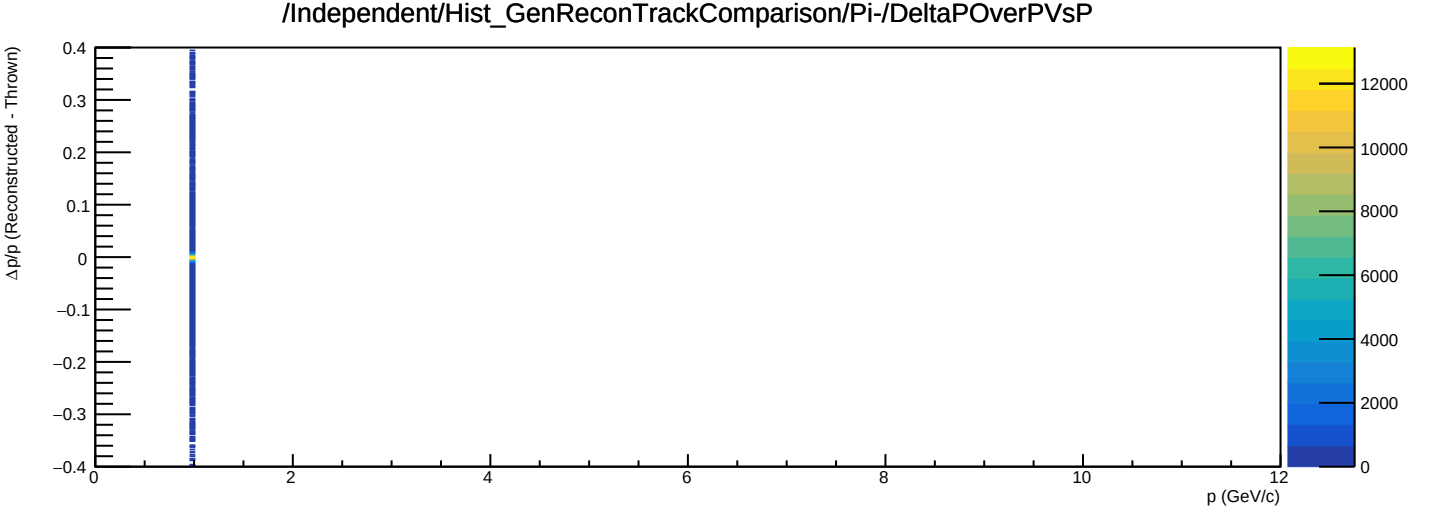


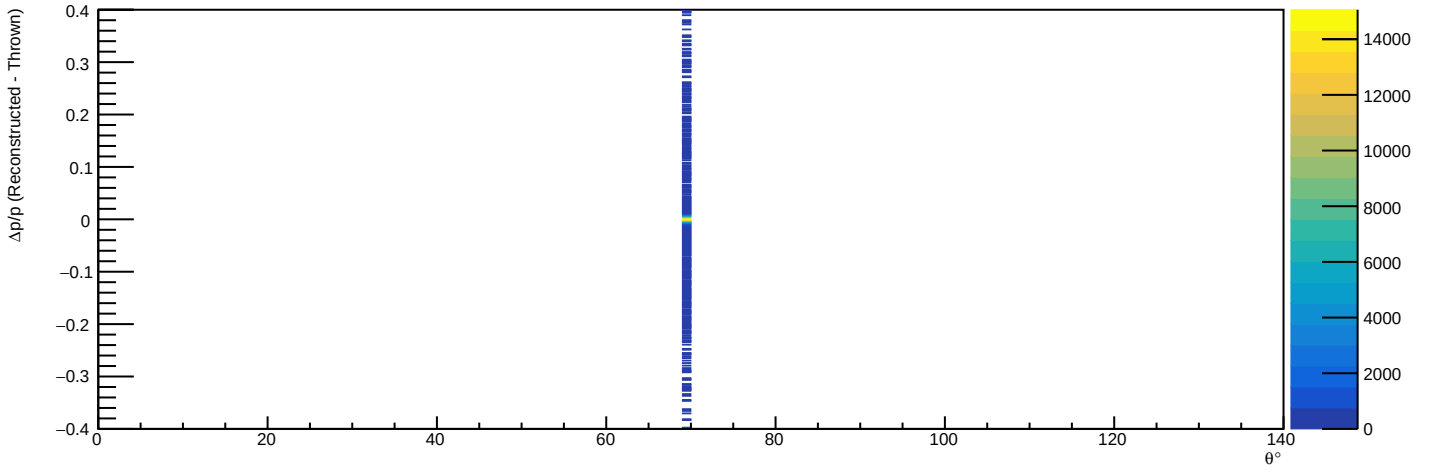
/Independent/Hist_GenReconTrackComparison/Pi-/DeltaT_TOF

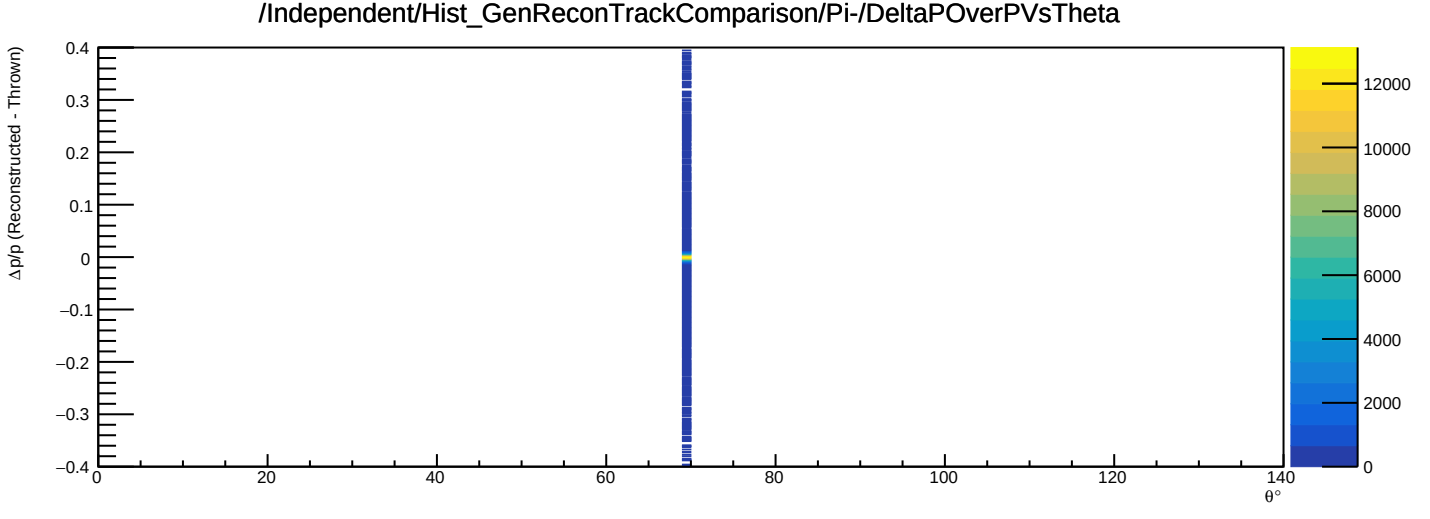


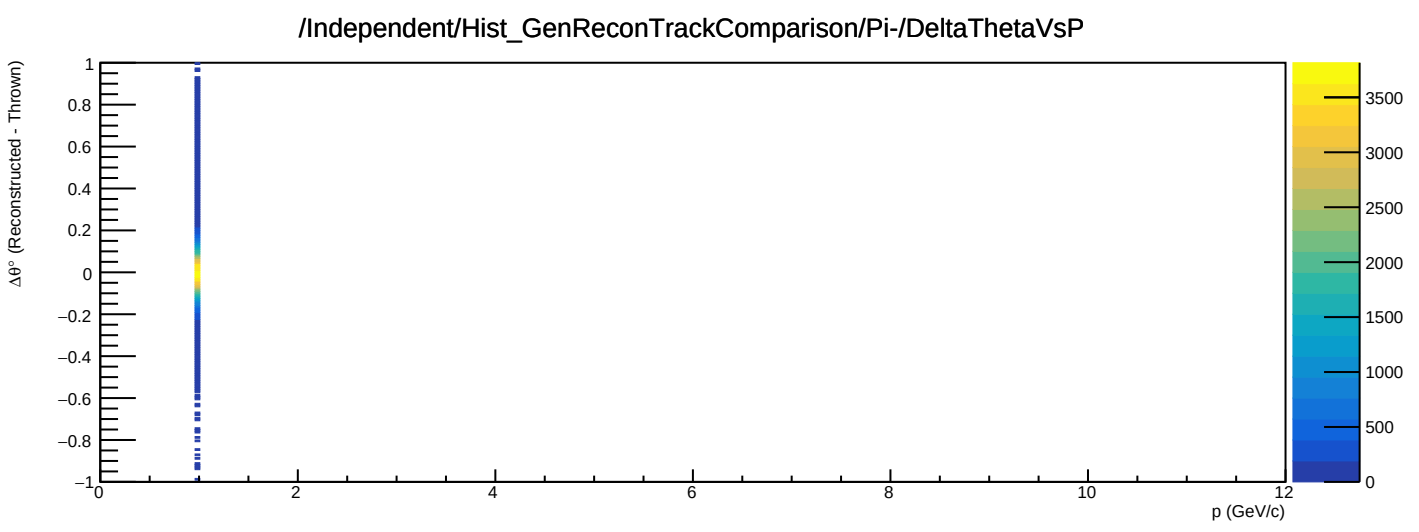

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaVertexZ
hdgeant
hdgeant4
35000
30000
25000
20000
15000
10000
5000
0
–15
–10
–5
0
5
10
15
ΔVertex-Z (cm) (Reconstructed - Thrown)

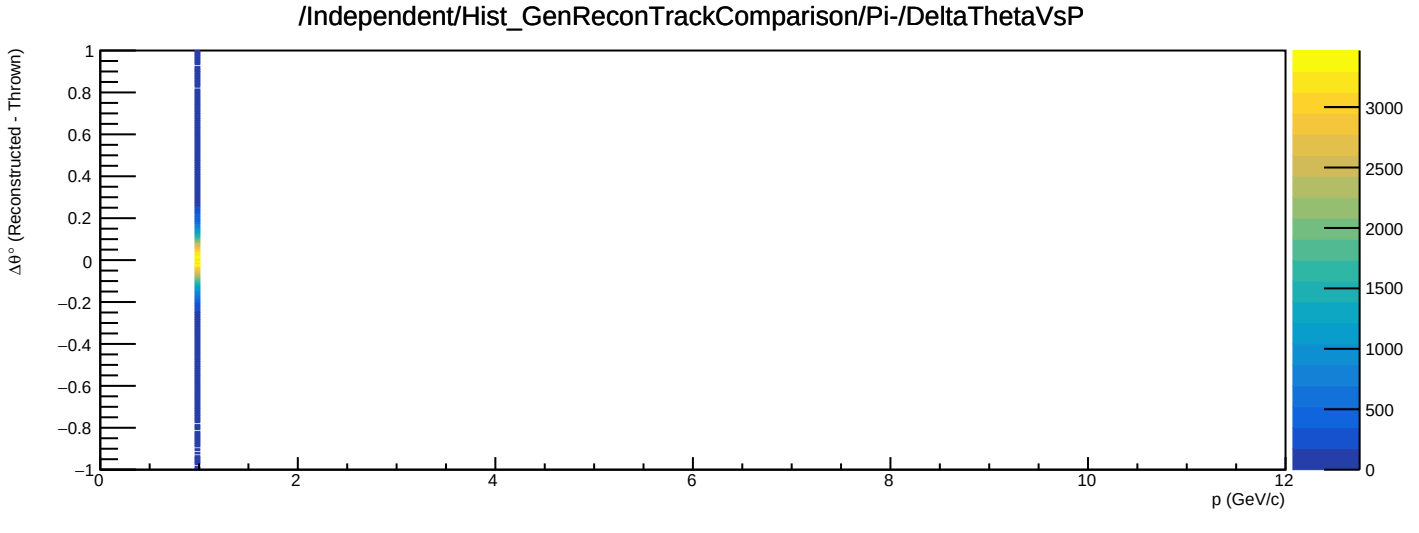

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)
14000
12000
10000
8000
6000
4000
2000
0

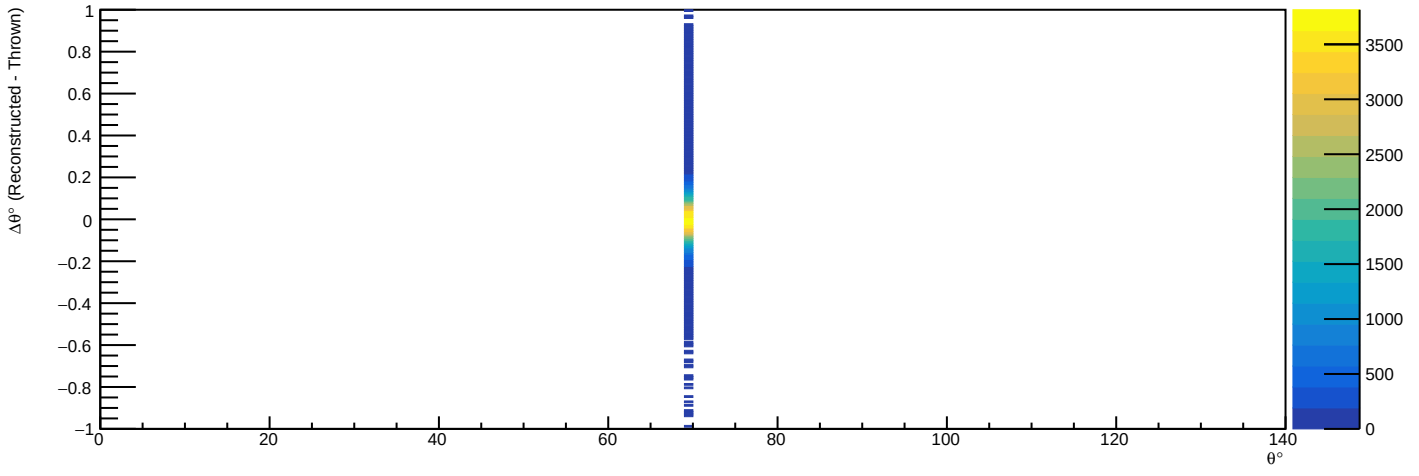

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)
12000
10000
8000
6000
4000
2000
0

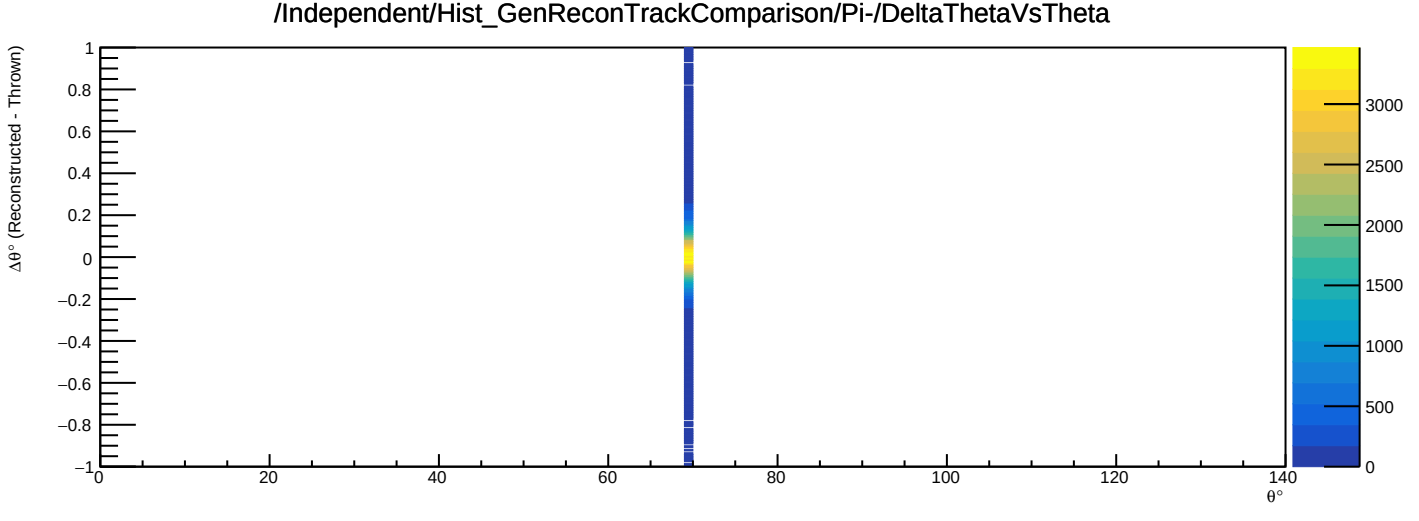

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°
14000
12000
10000
8000
6000
4000
2000
0

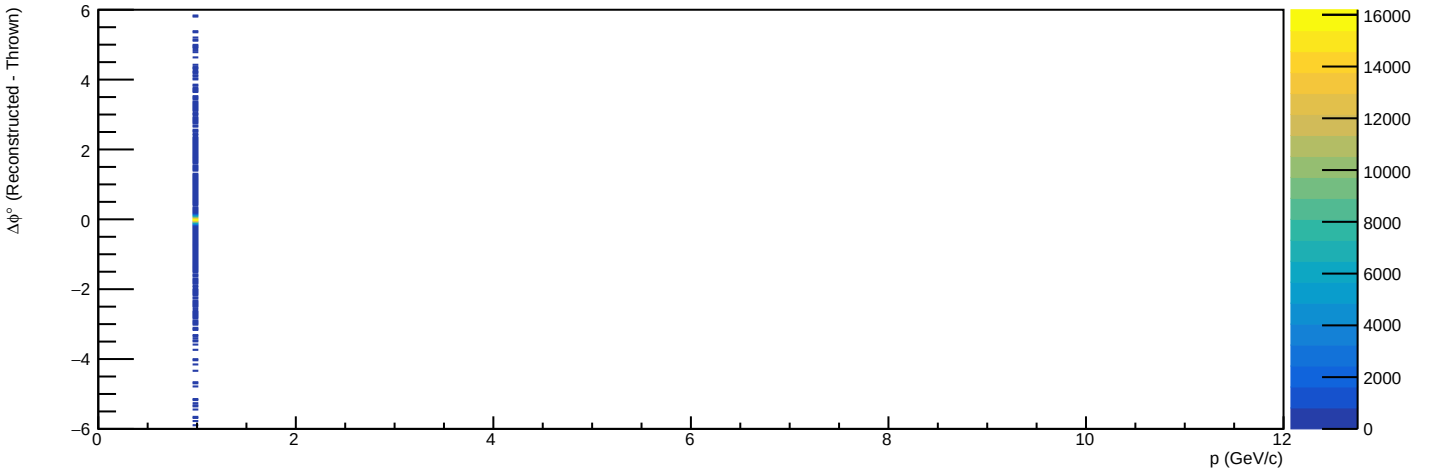

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°
12000
10000
8000
6000
4000
2000
0

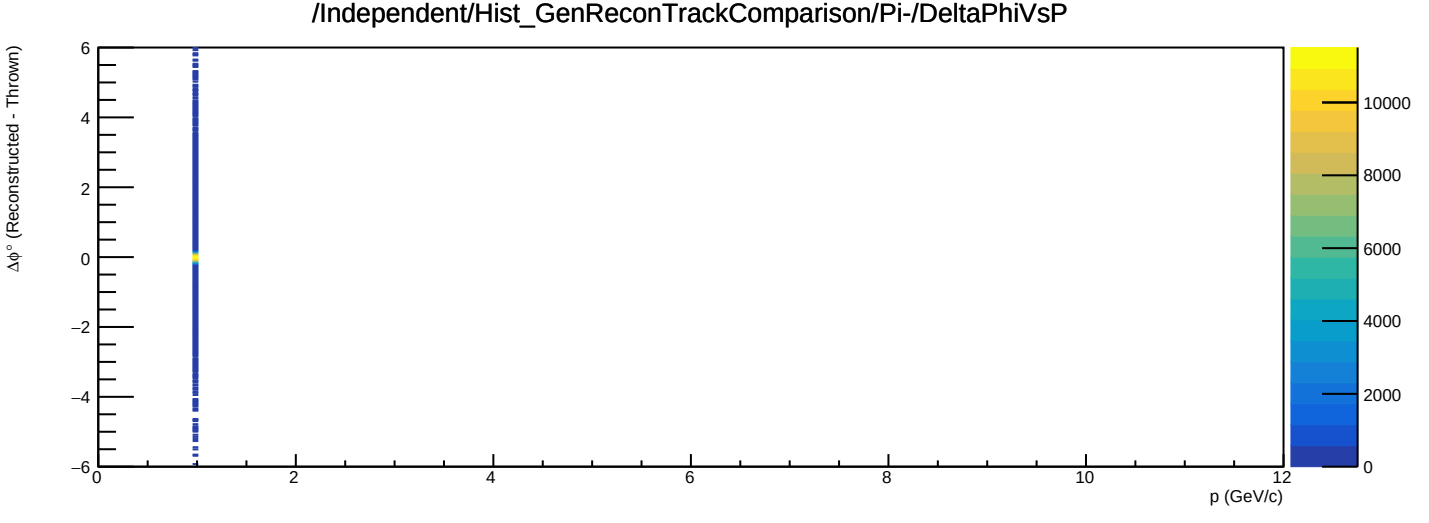

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
p (GeV/c)

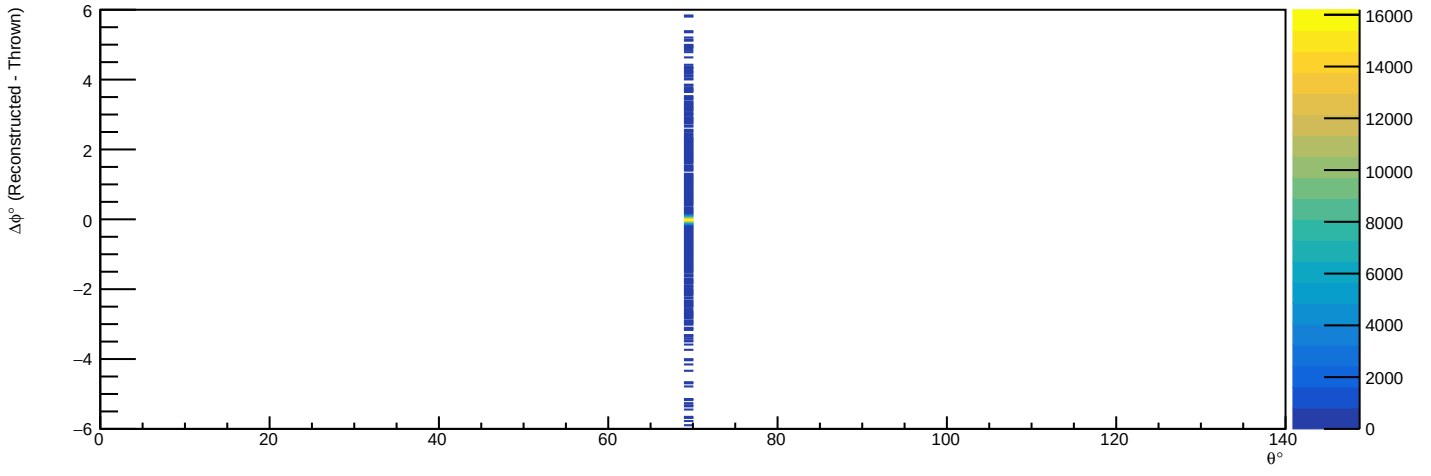

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
p (GeV/c)

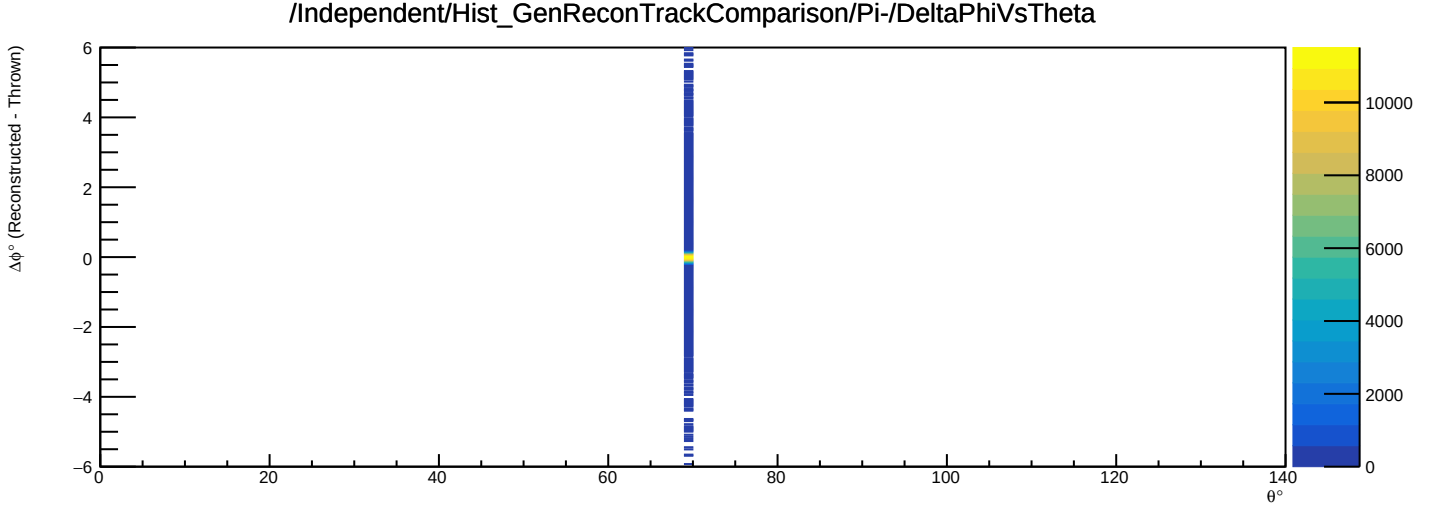

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
θ°

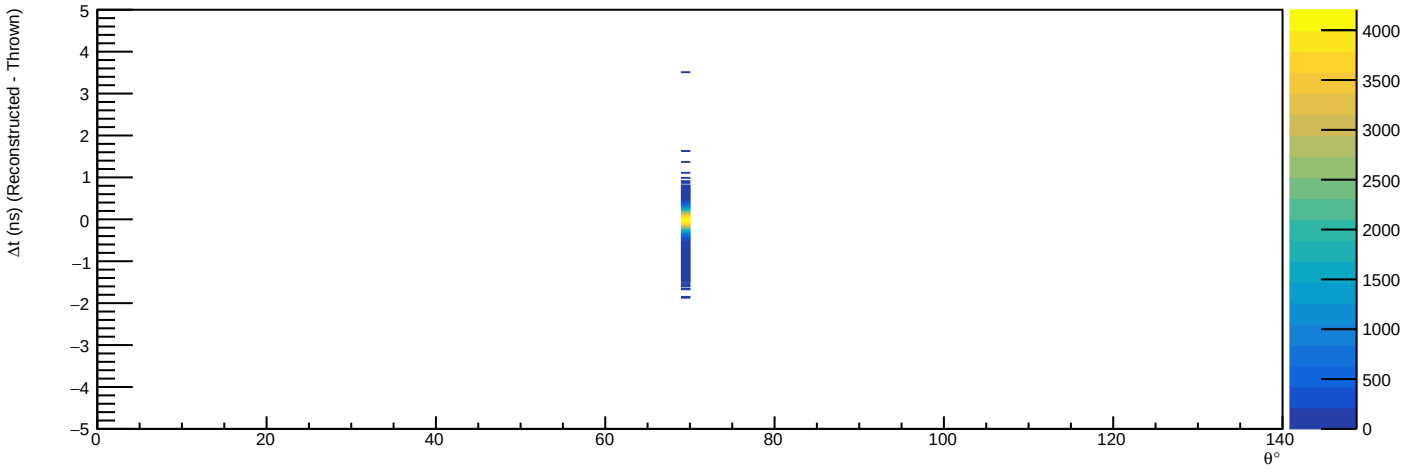

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
θ°

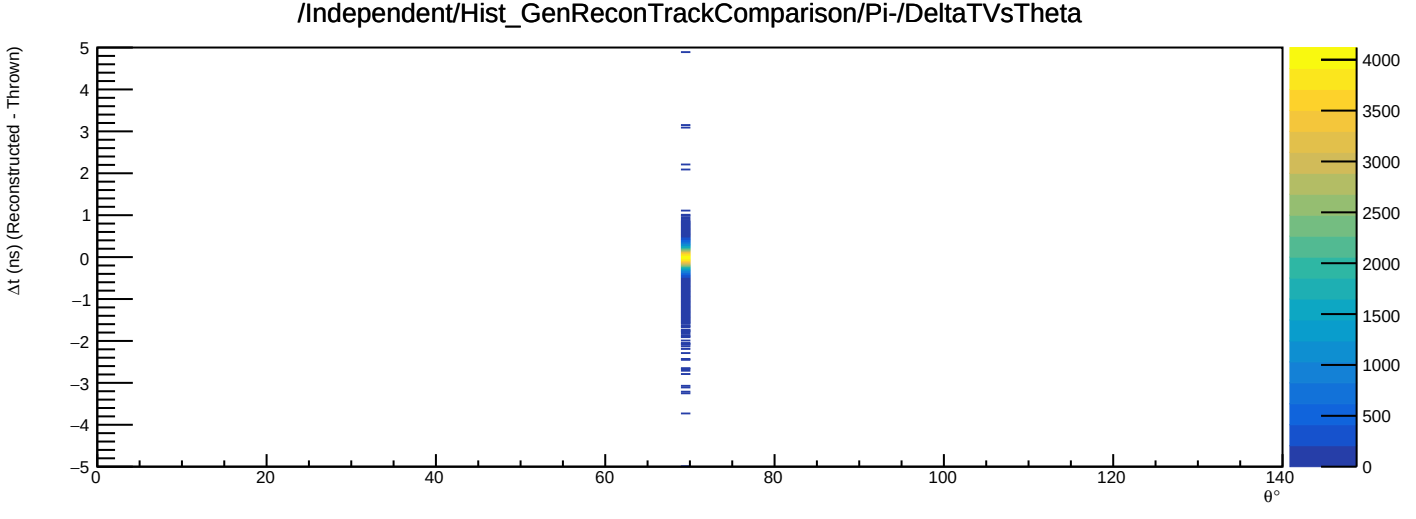

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaPhiVsP
Δϕ° (Reconstructed - Thrown)
p (GeV/c)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
16000
14000
12000
10000
8000
6000
4000
2000
0

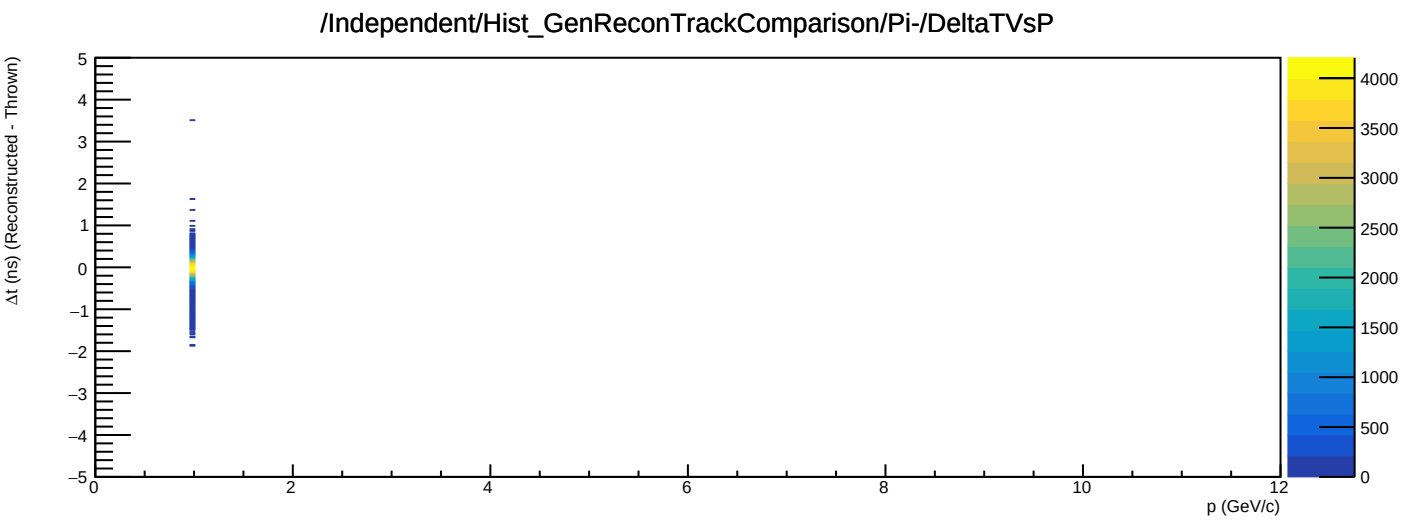

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaPhiVsP
Δϕ° (Reconstructed - Thrown)
p (GeV/c)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
10000
8000
6000
4000
2000
0

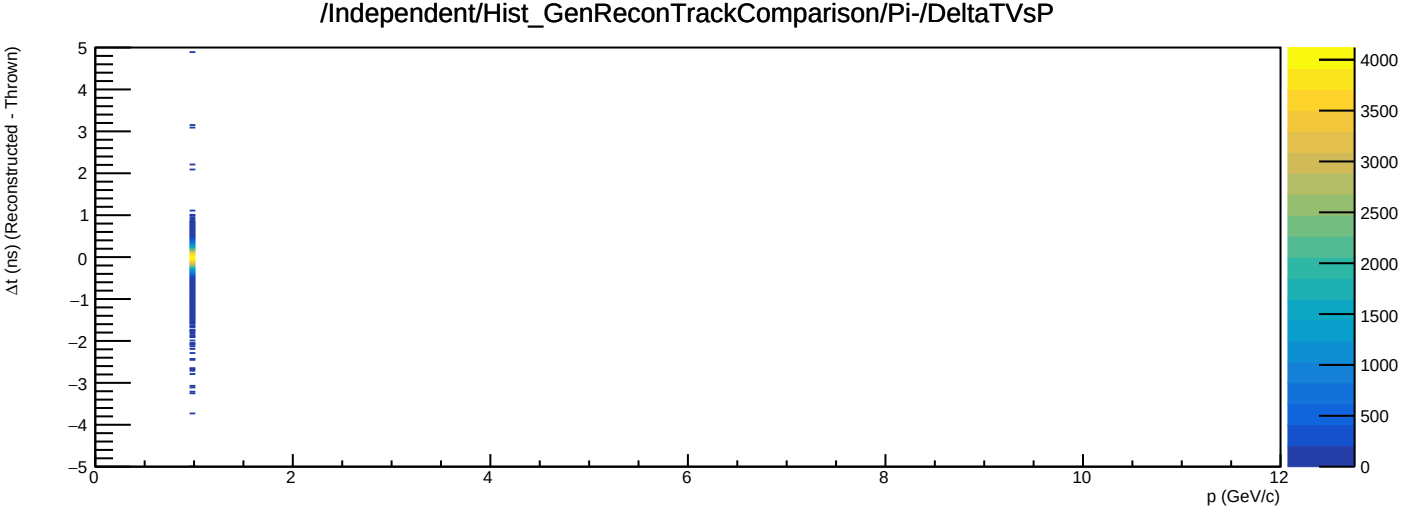

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
θ°
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
16000
14000
12000
10000
8000
6000
4000
2000
0

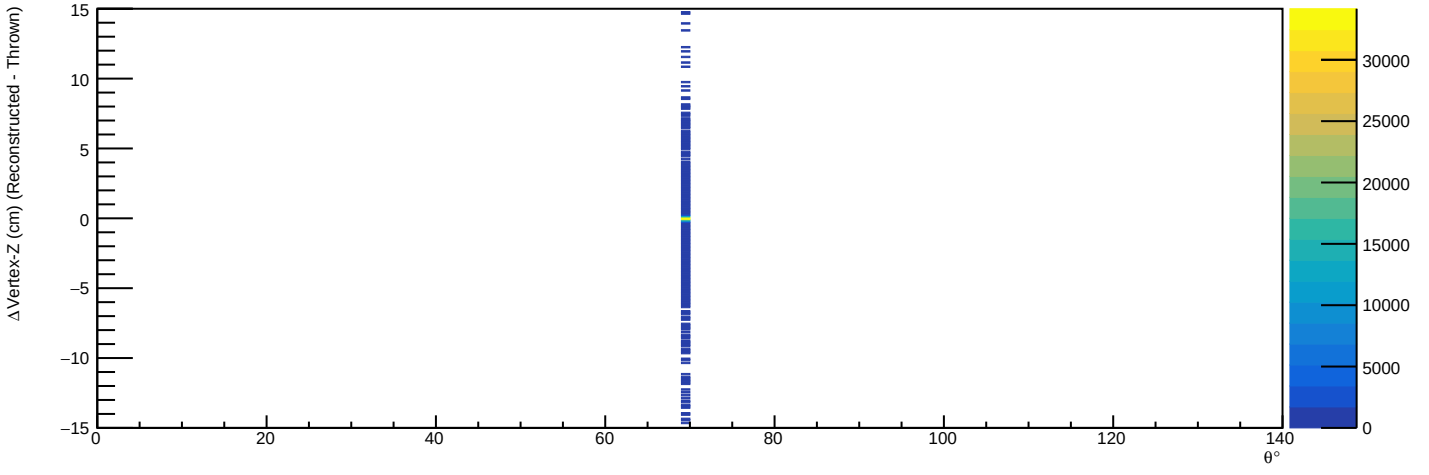

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
θ°
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
10000
8000
6000
4000
2000
0

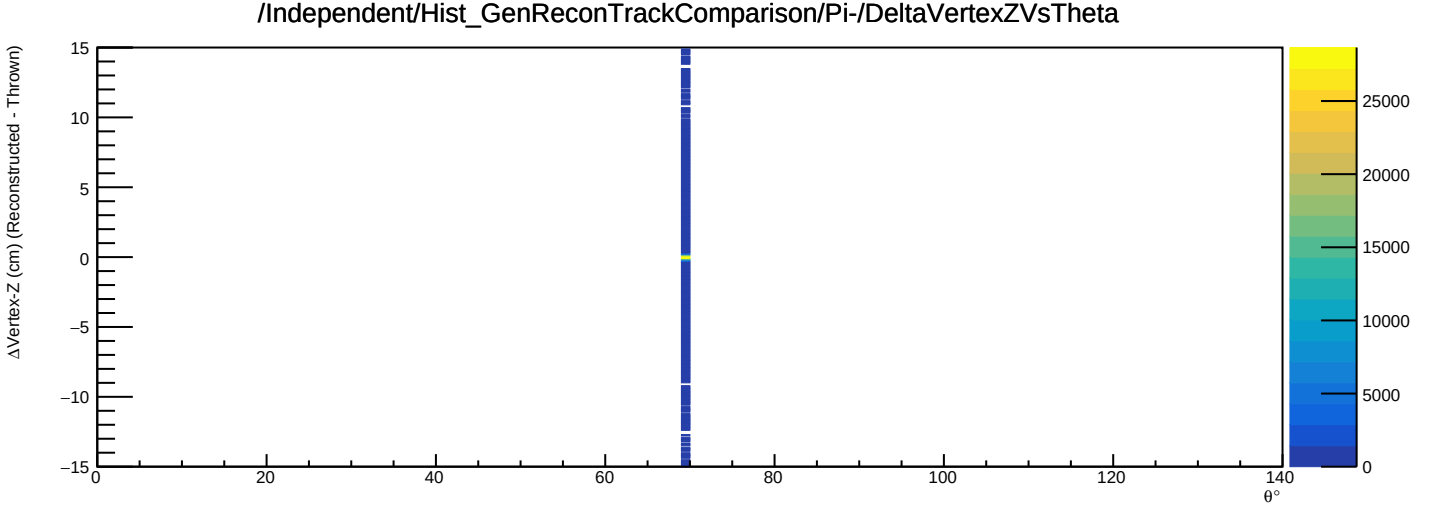

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
θ°

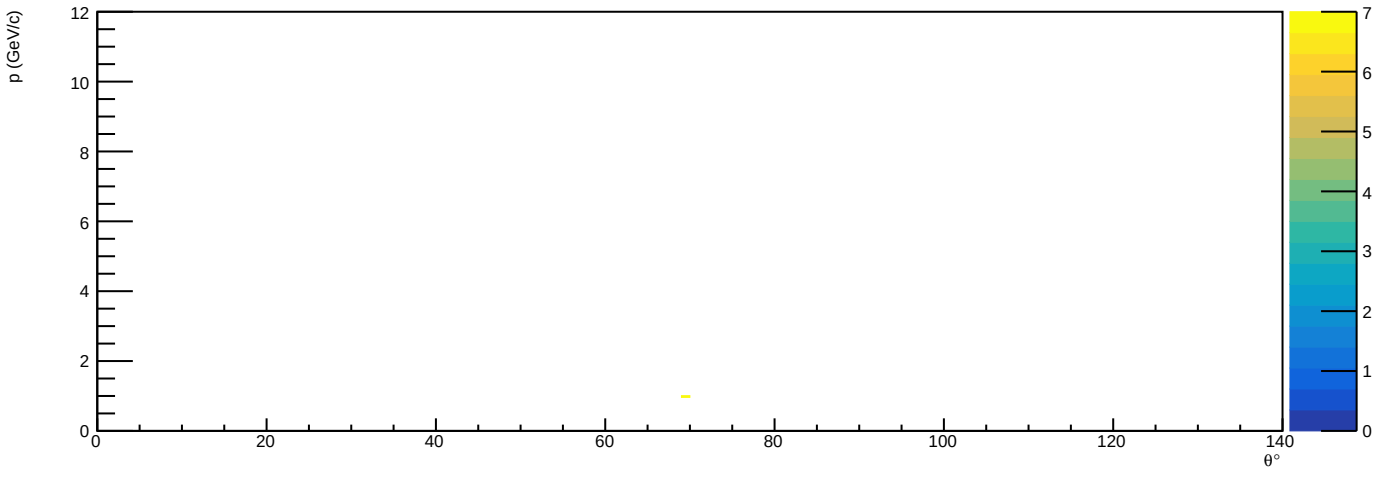

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
θ°

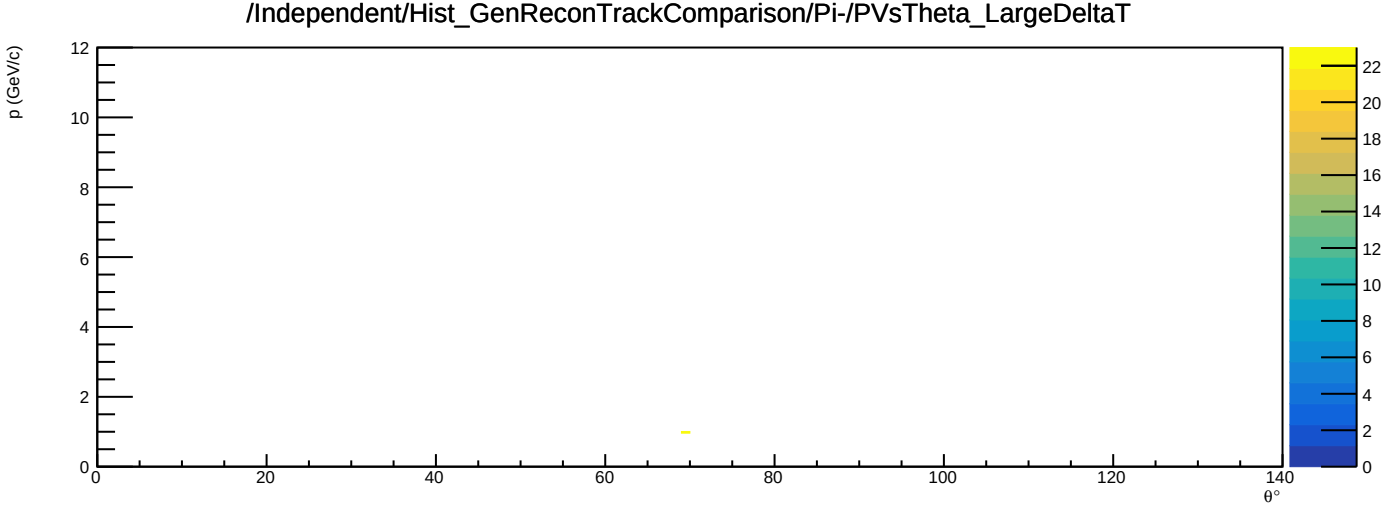

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/Pi-/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
p (GeV/c)

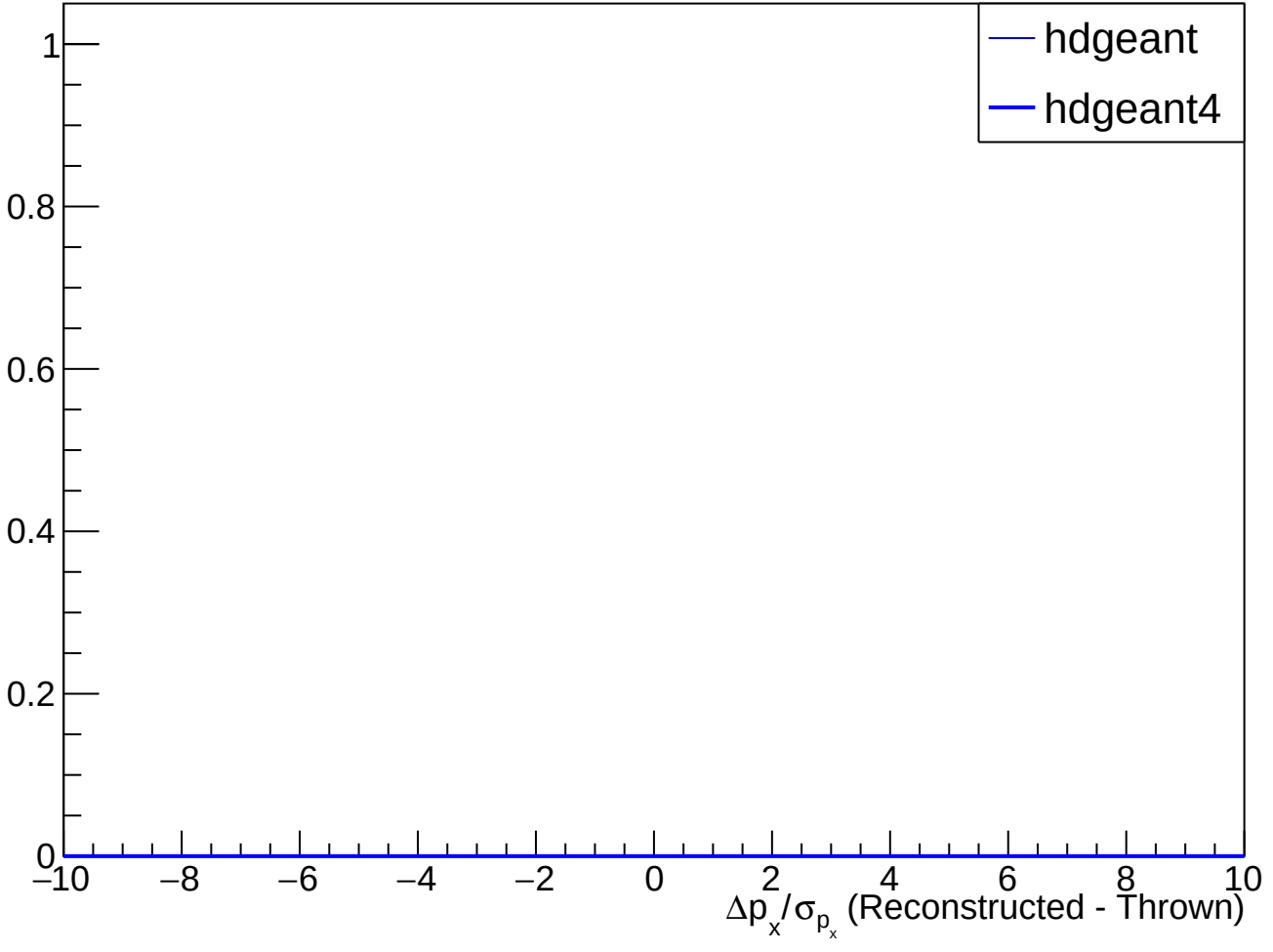

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°
30000
25000
20000
15000
10000
5000
0

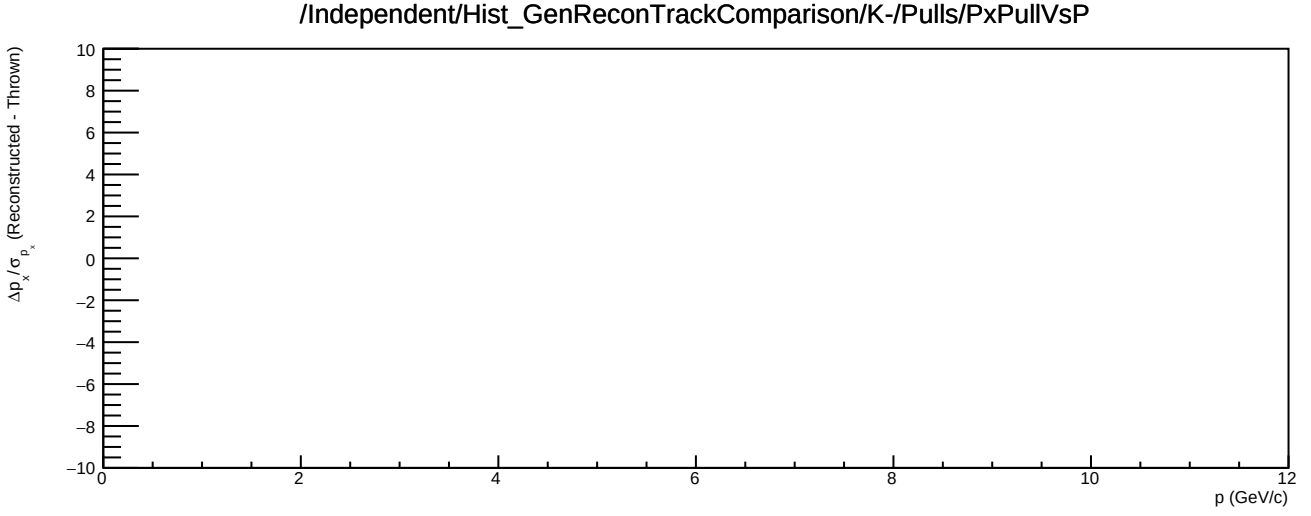

/Independent/Hist_GenReconTrackComparison/Pi-/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°
25000
20000
15000
10000
5000
0

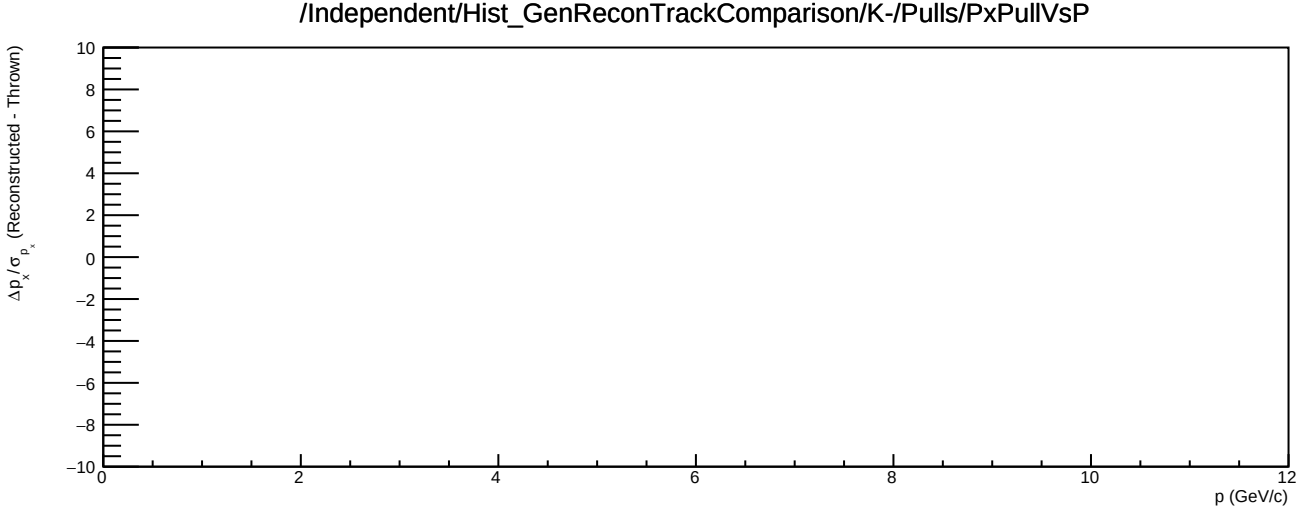

/Independent/Hist_GenReconTrackComparison/Pi-/PVsTheta_LargeDeltaT
p (GeV/c)
θ°

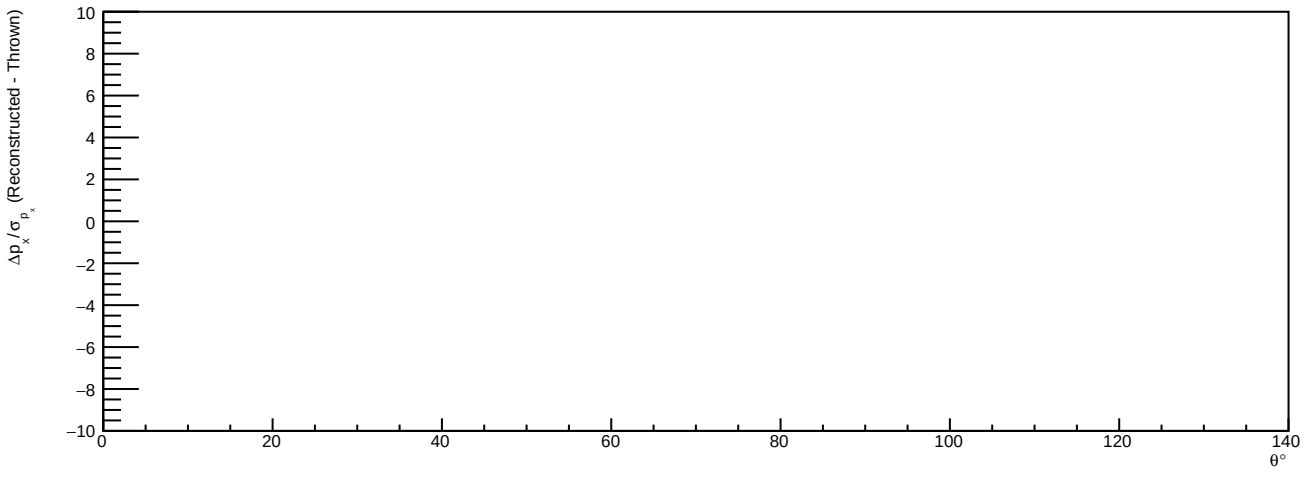

/Independent/Hist_GenReconTrackComparison/Pi-/PVsTheta_LargeDeltaT
p (GeV/c)
θ°

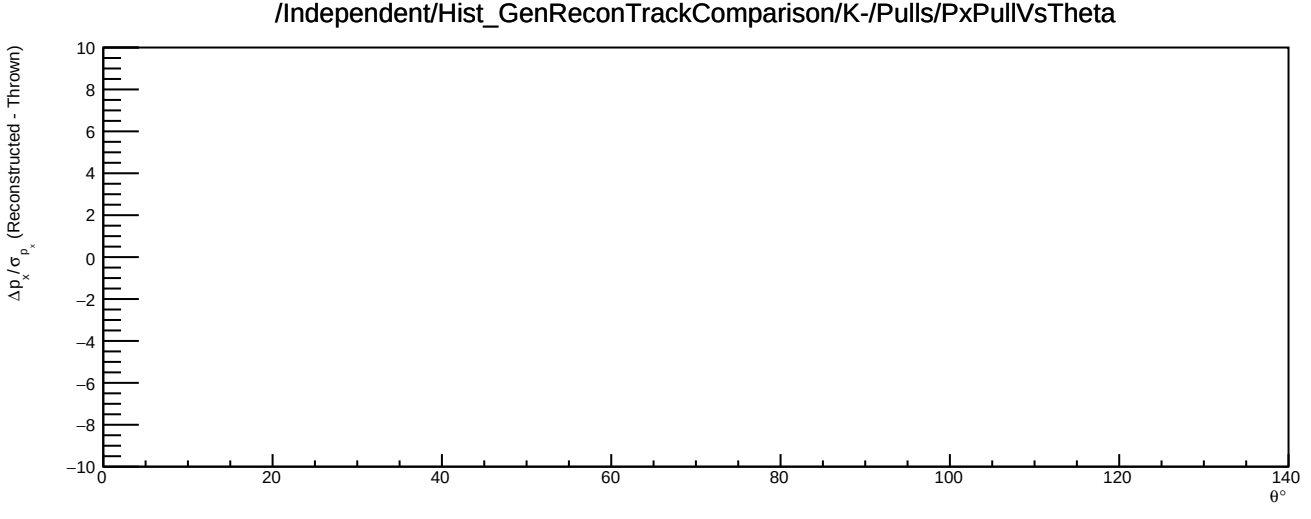
/Independent/Hist_GenReconTrackComparison/K-/Pulls/PxPull



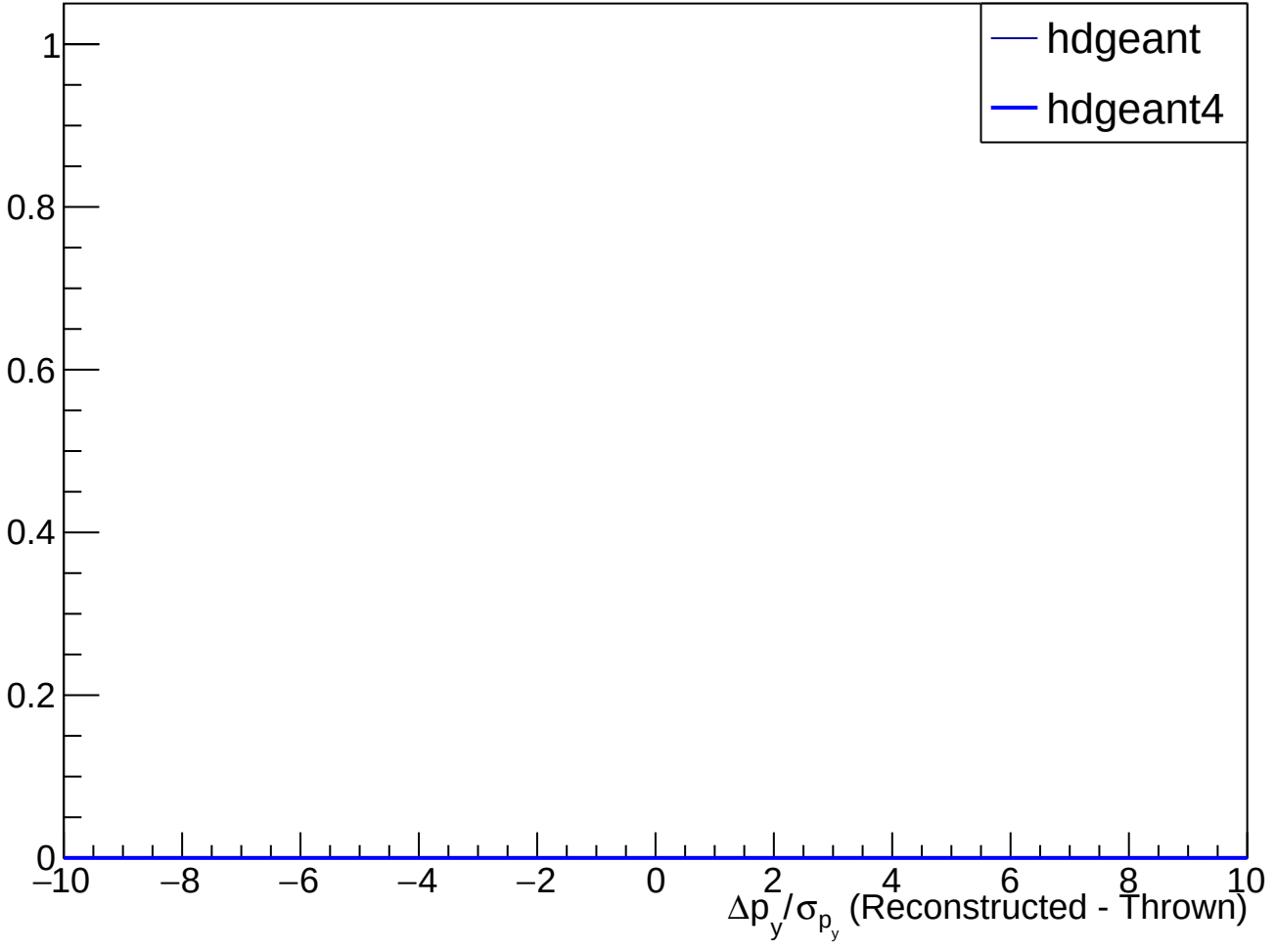

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PxPullVsP
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

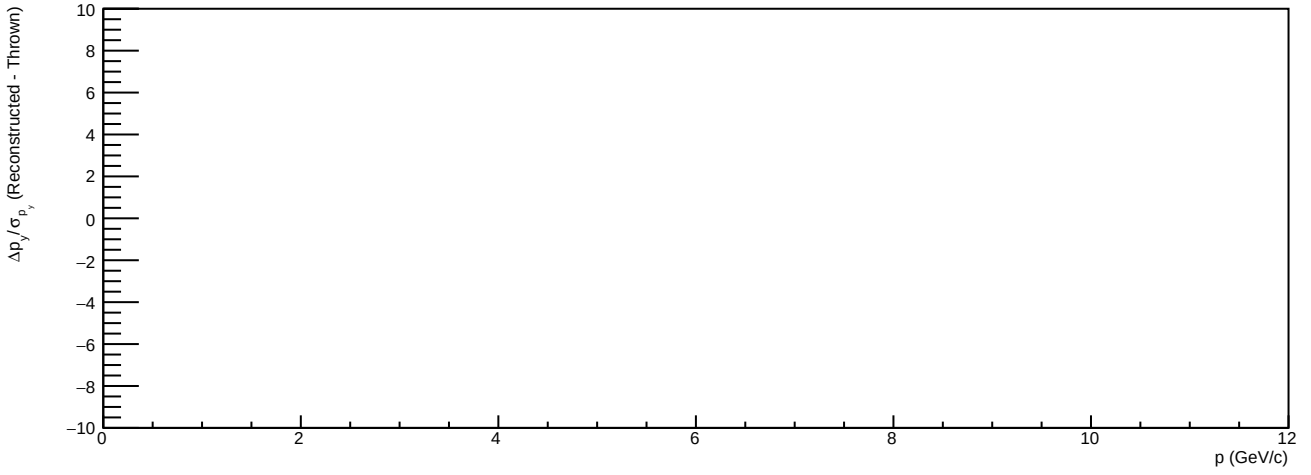

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PxPullVsP
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

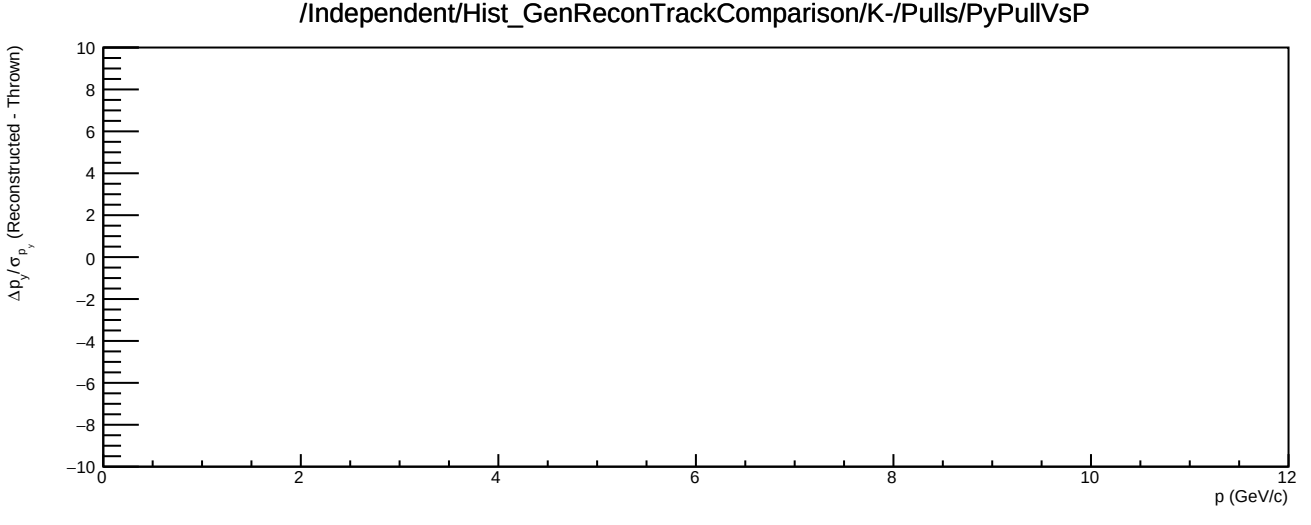

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PxPullVsTheta
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

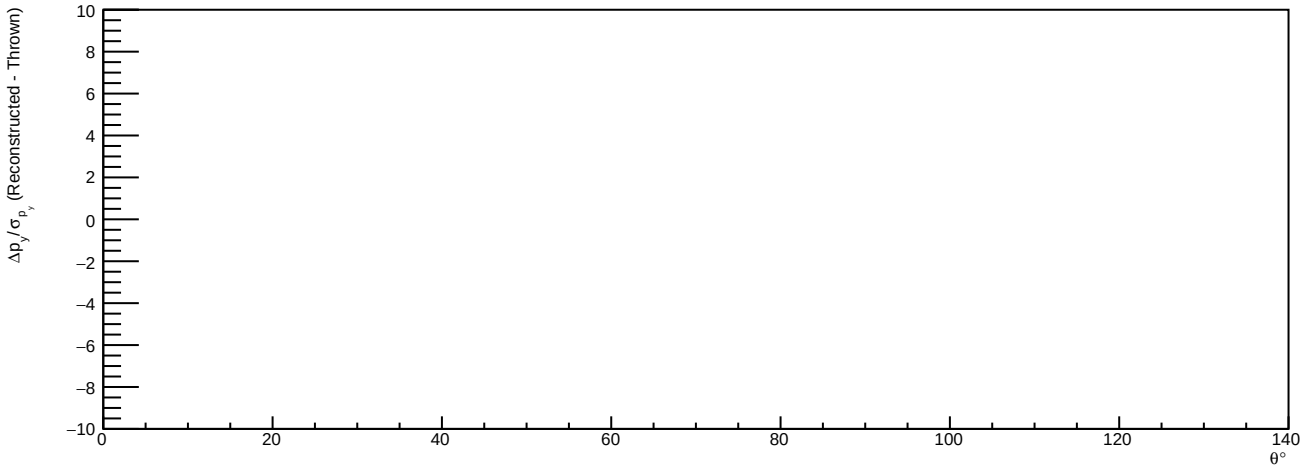

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PxPullVsTheta
Δp_x / σ_p_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

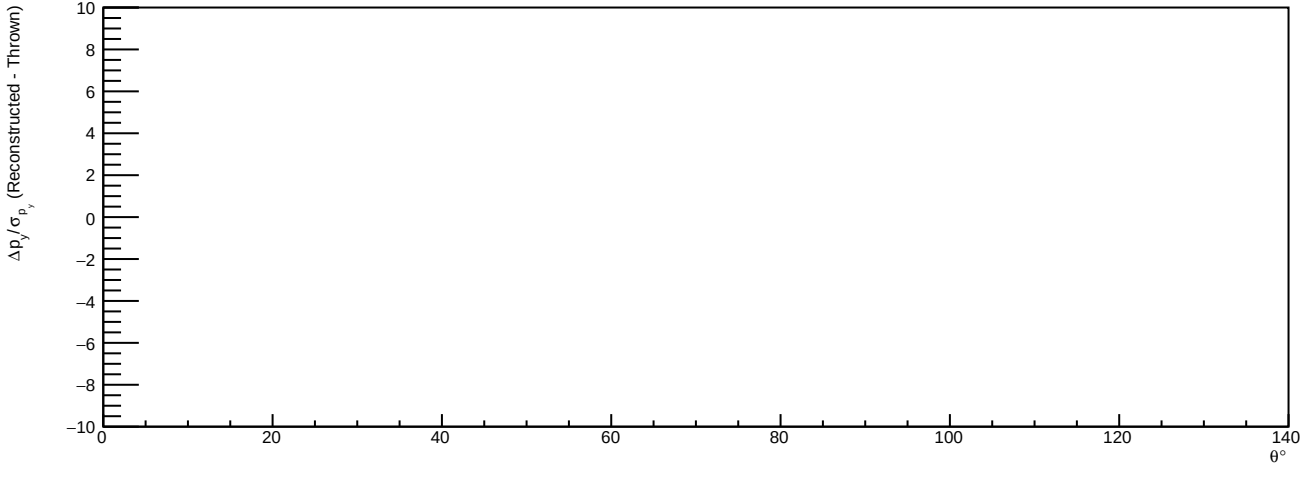
/Independent/Hist_GenReconTrackComparison/K-/Pulls/PyPull



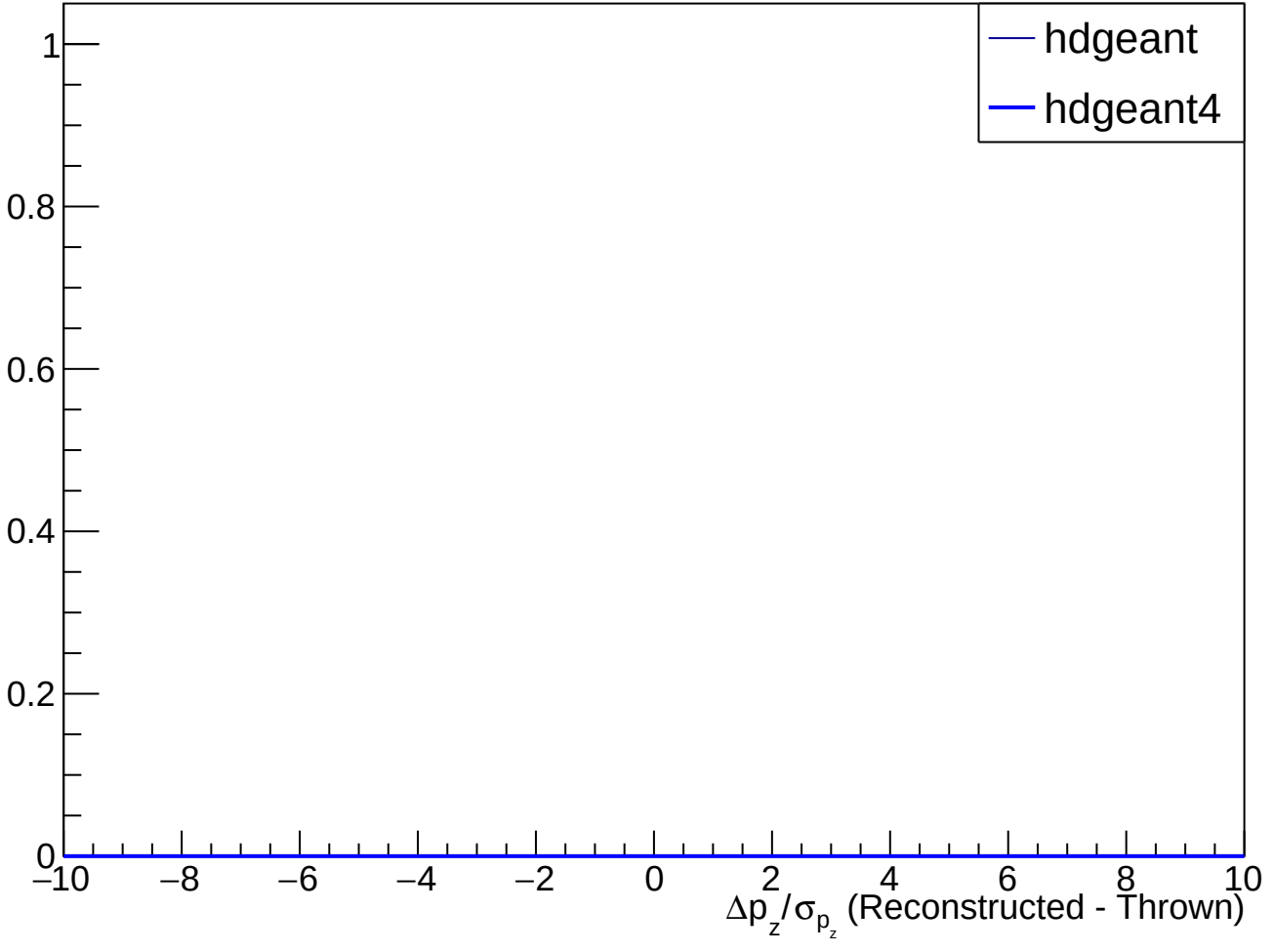

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PyPullVsP
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)
Δp_y/σ_p_y (Reconstructed - Thrown)

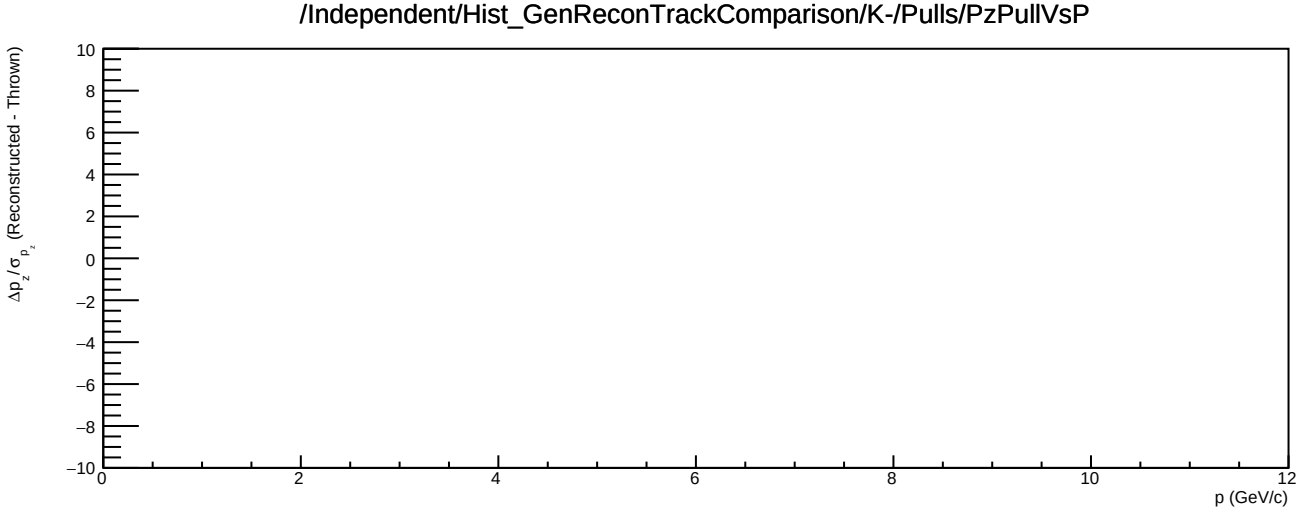

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PyPullVsP
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)
Δp_y/σ_p_y (Reconstructed - Thrown)

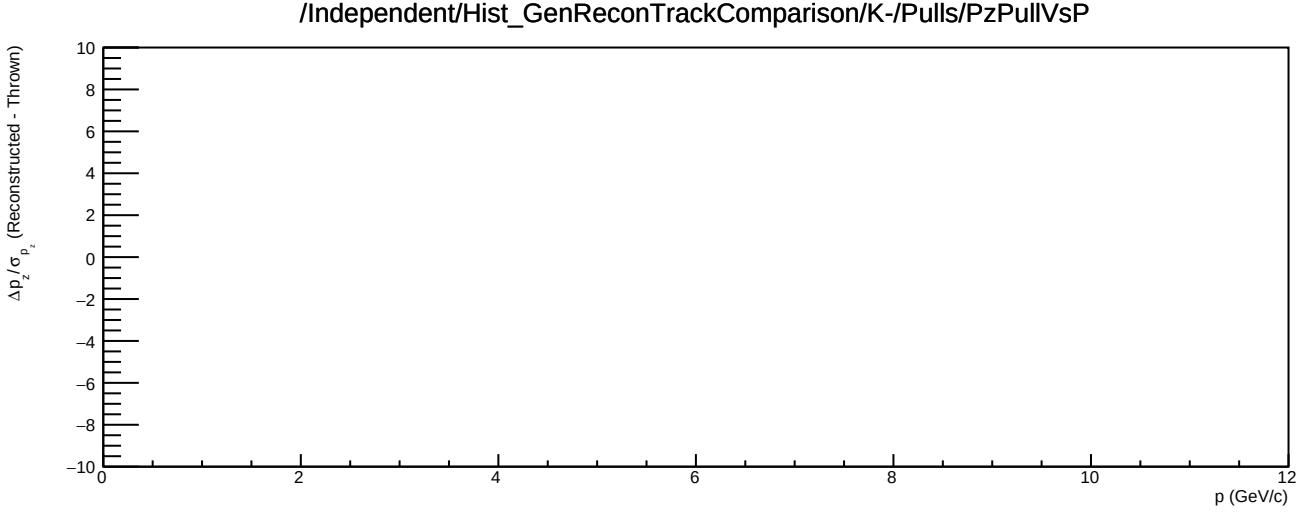

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PyPullVsTheta
$\Delta p_y / \sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

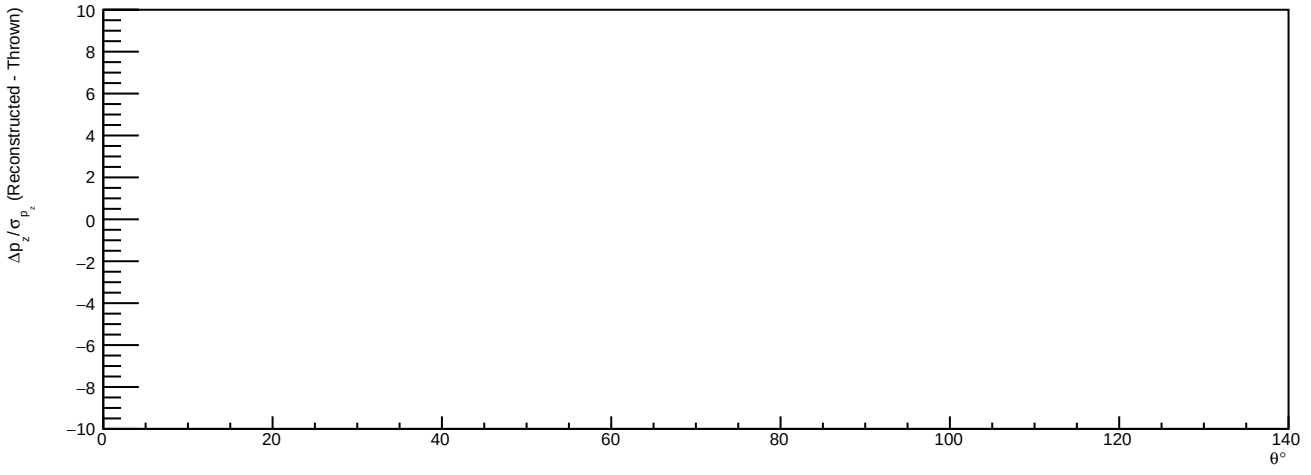

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PyPullVsTheta
$\Delta p_y / \sigma_{p_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

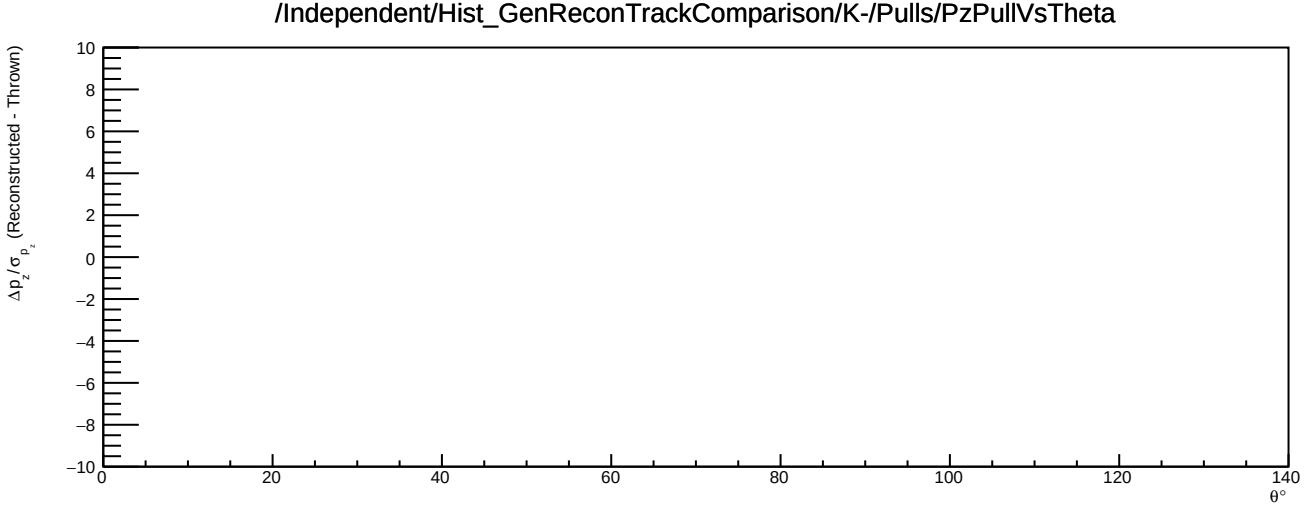
/Independent/Hist_GenReconTrackComparison/K-/Pulls/PzPull



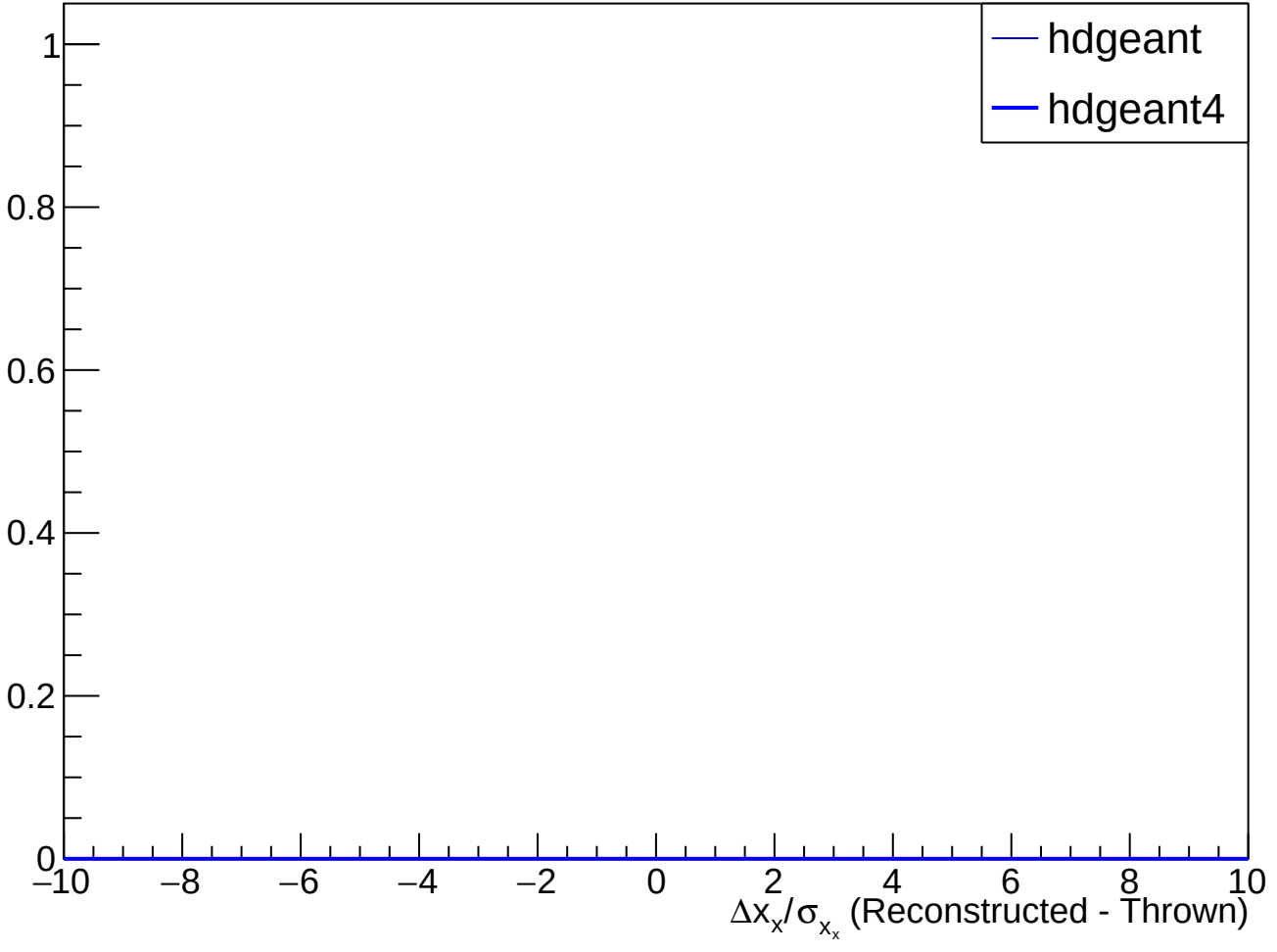

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PzPullVsP
Δp_z / σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

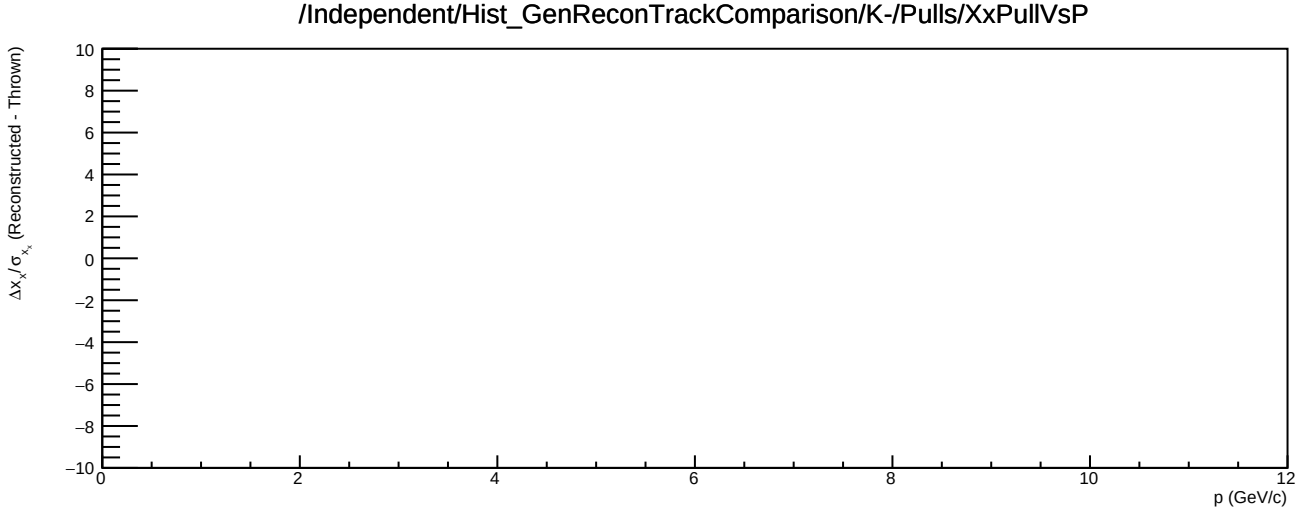

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PzPullVsP
Δp_z / σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

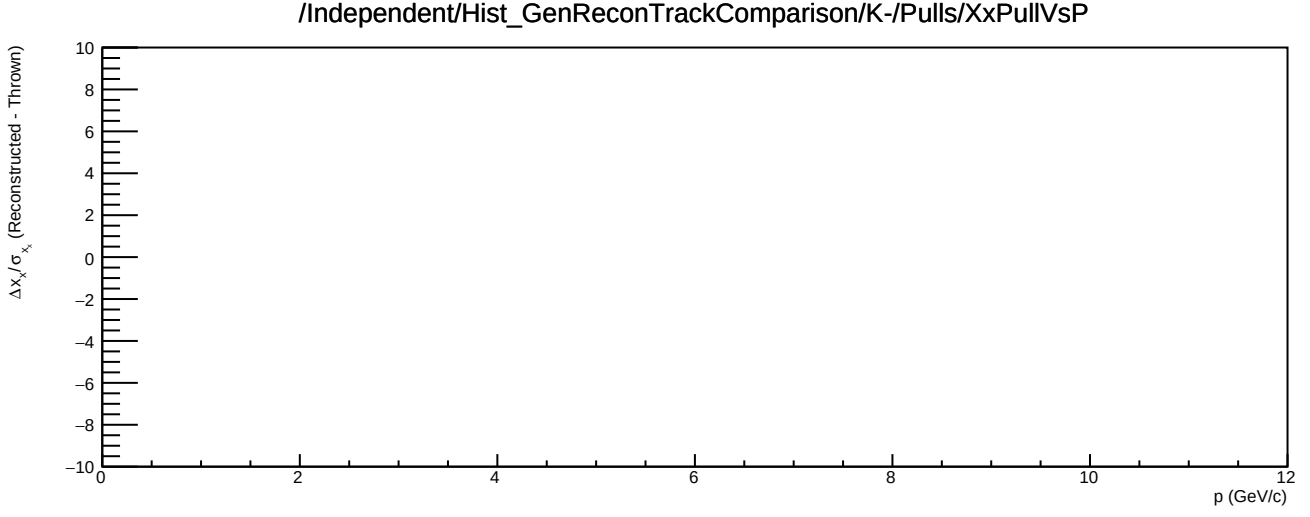

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PzPullVsTheta
Δp_z / σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

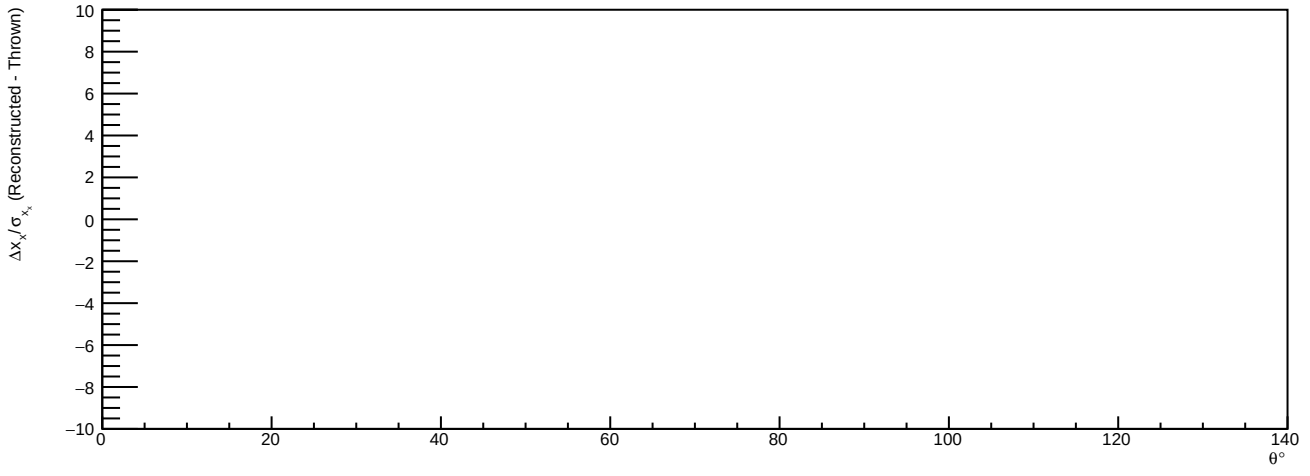

/Independent/Hist_GenReconTrackComparison/K-/Pulls/PzPullVsTheta
Δp_z / σ_p_z (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

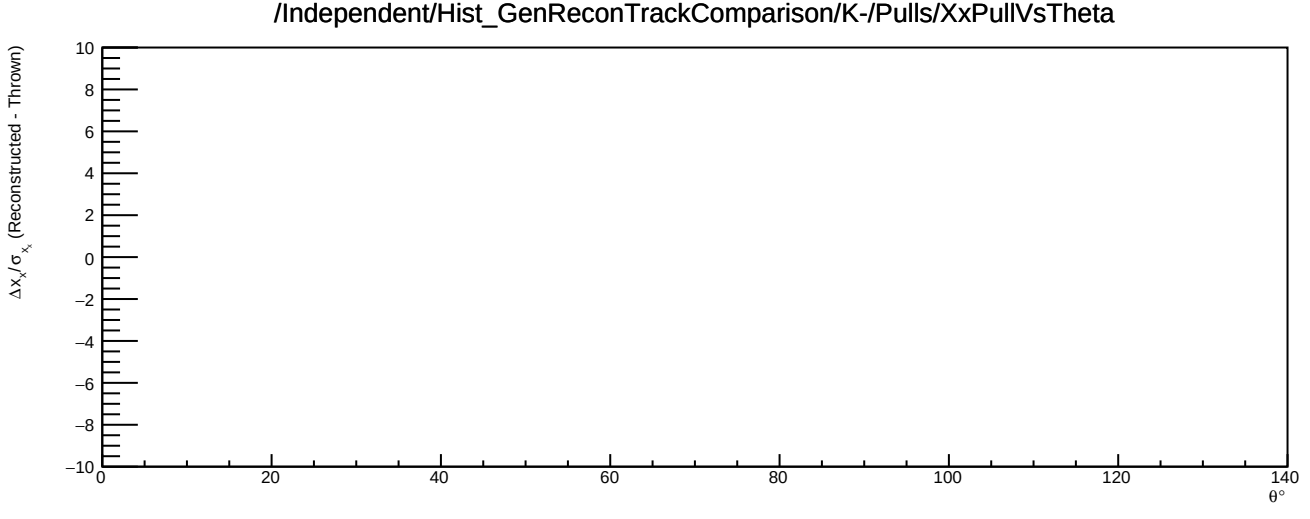
/Independent/Hist_GenReconTrackComparison/K-/Pulls/XxPull



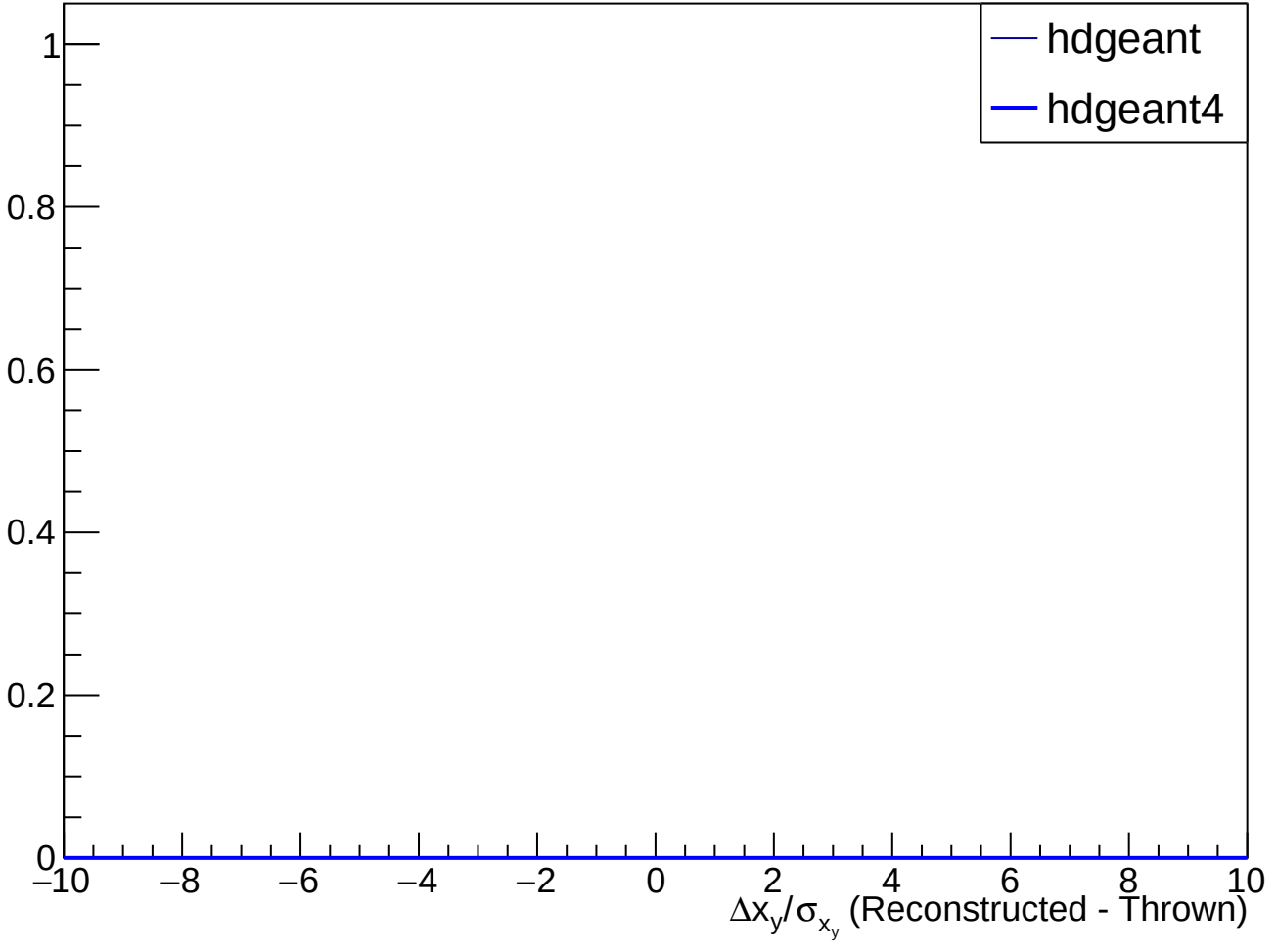

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XxPullVsP
$\Delta x_x / \sigma_{x_x}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

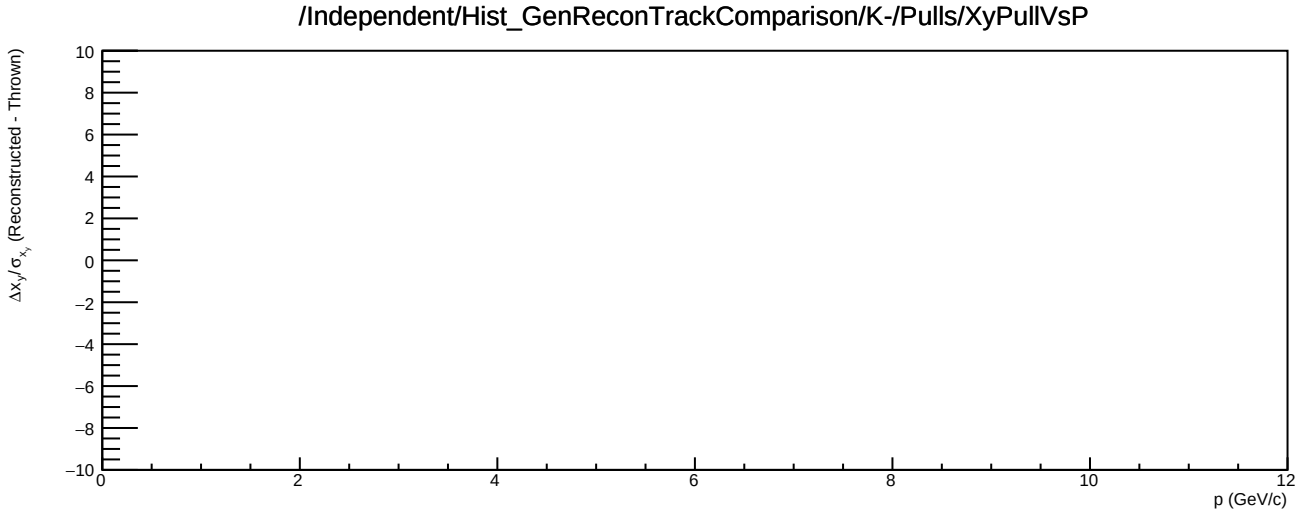

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XxPullVsP
$\Delta x_x / \sigma_{x_x}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

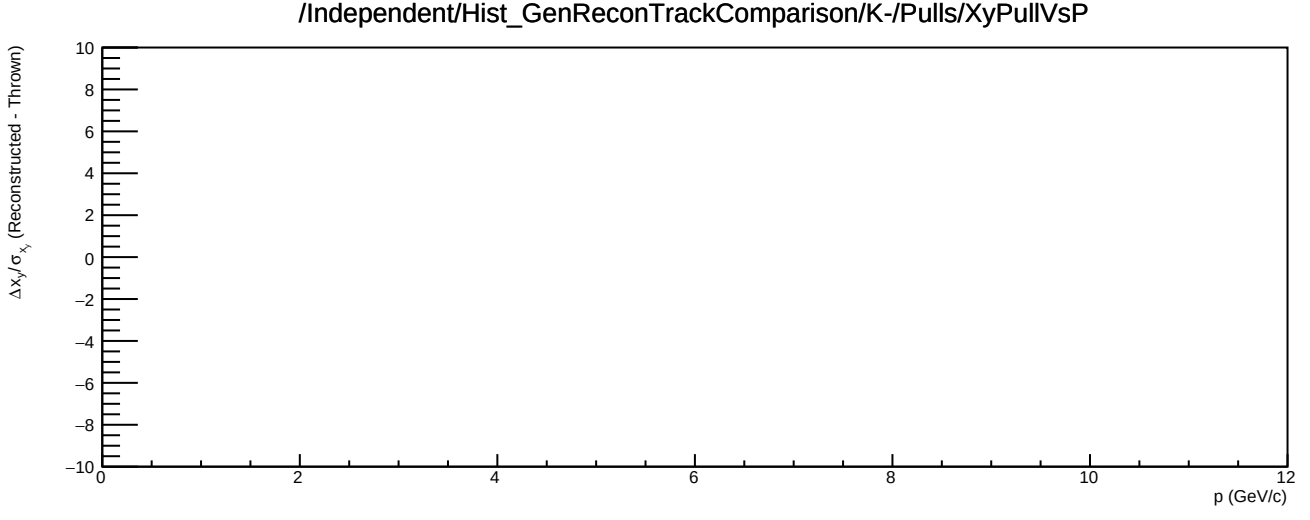

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

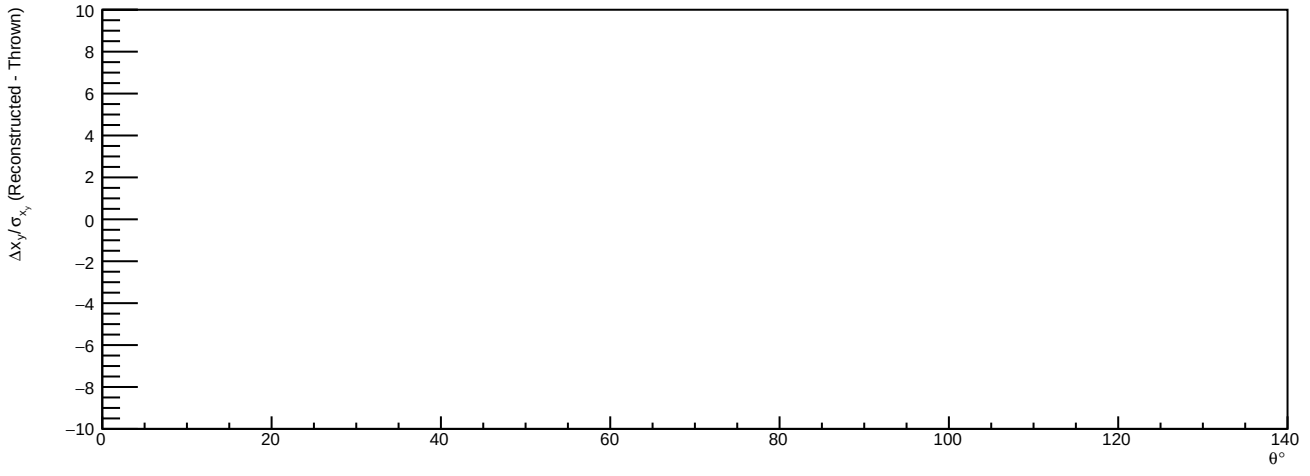

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XxPullVsTheta
Δx_x/σ_x (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

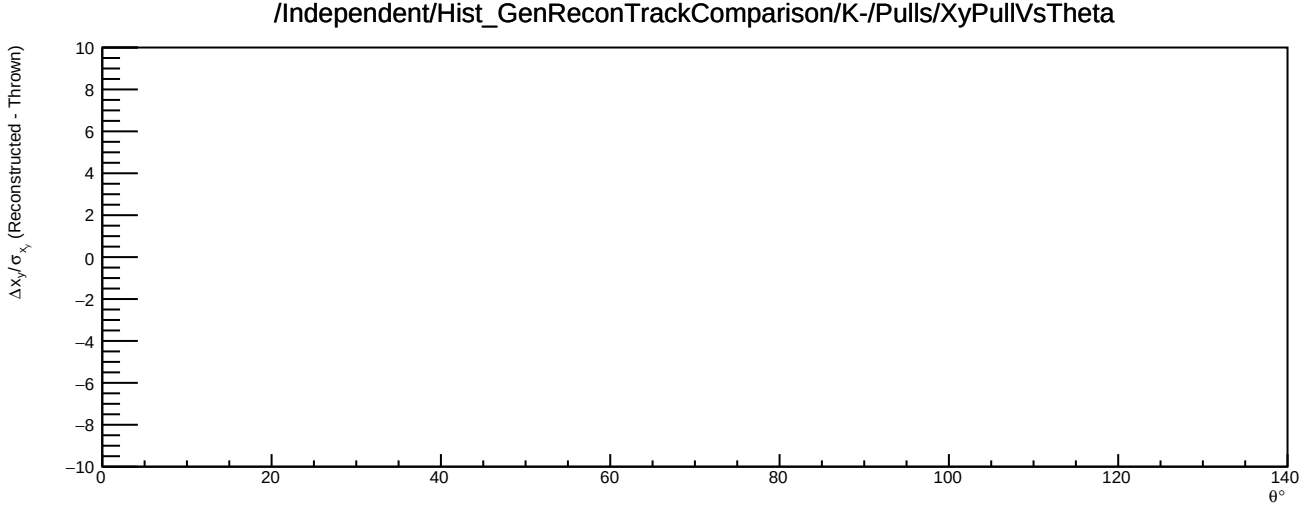
/Independent/Hist_GenReconTrackComparison/K-/Pulls/XyPull



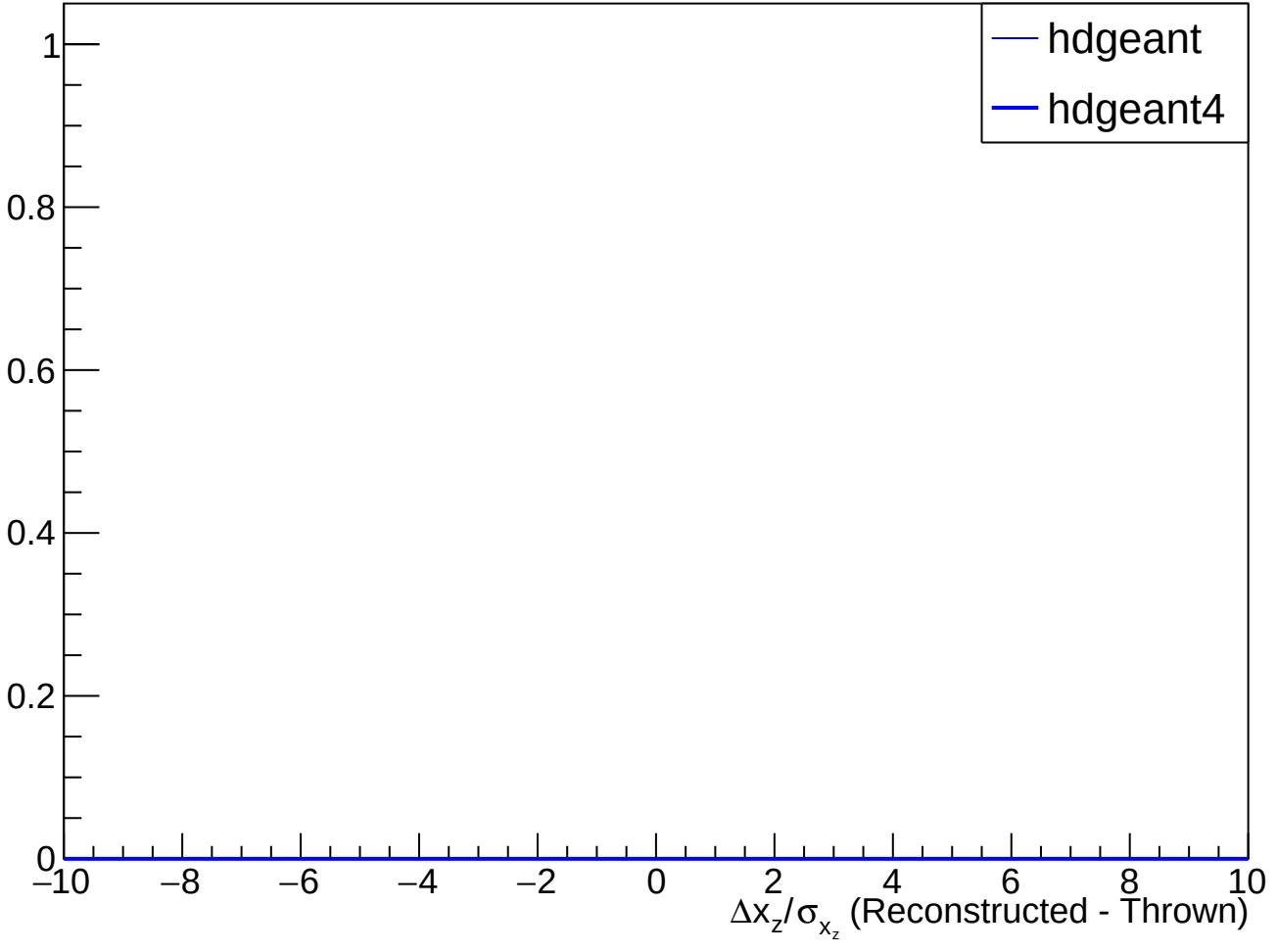

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XyPullVsP
$\Delta x_y/\sigma_{x_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

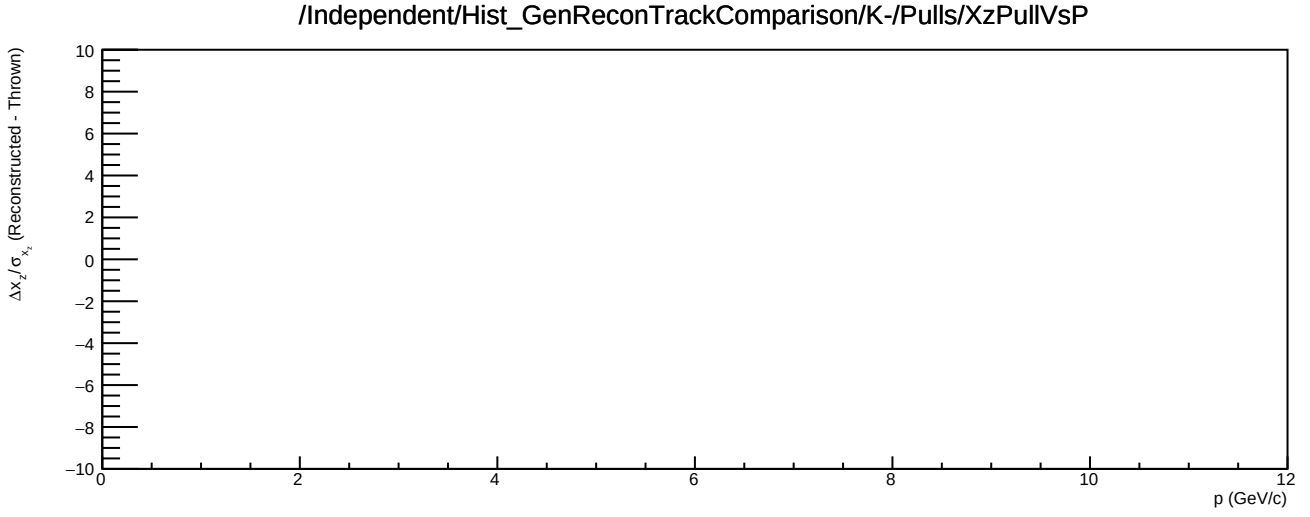

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XyPullVsP
$\Delta x_y/\sigma_{x_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

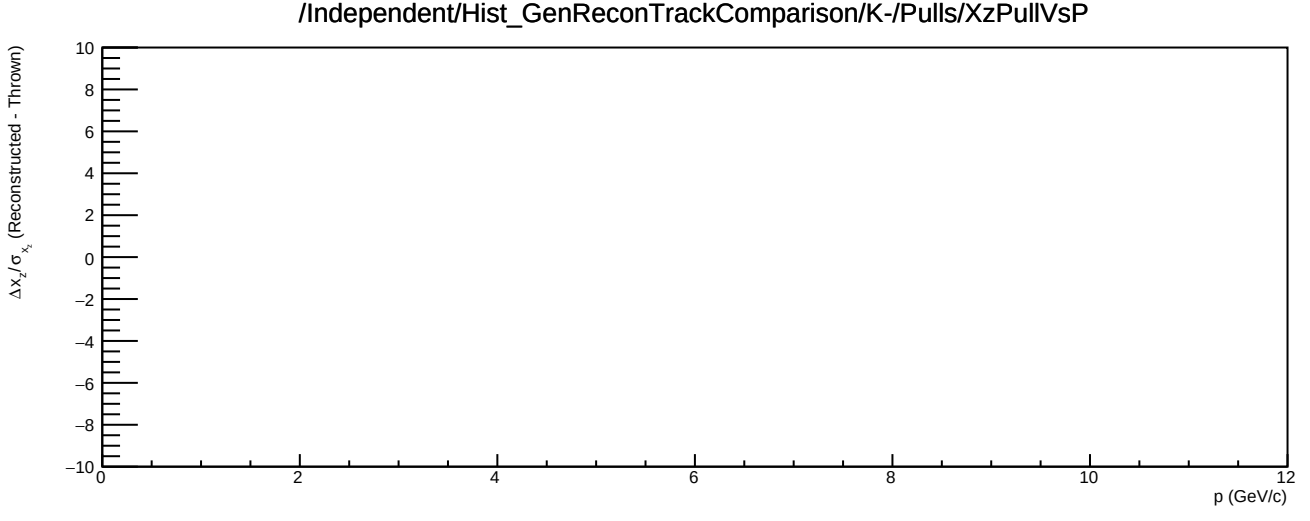

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XyPullVsTheta
$\Delta x_y/\sigma_{x_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

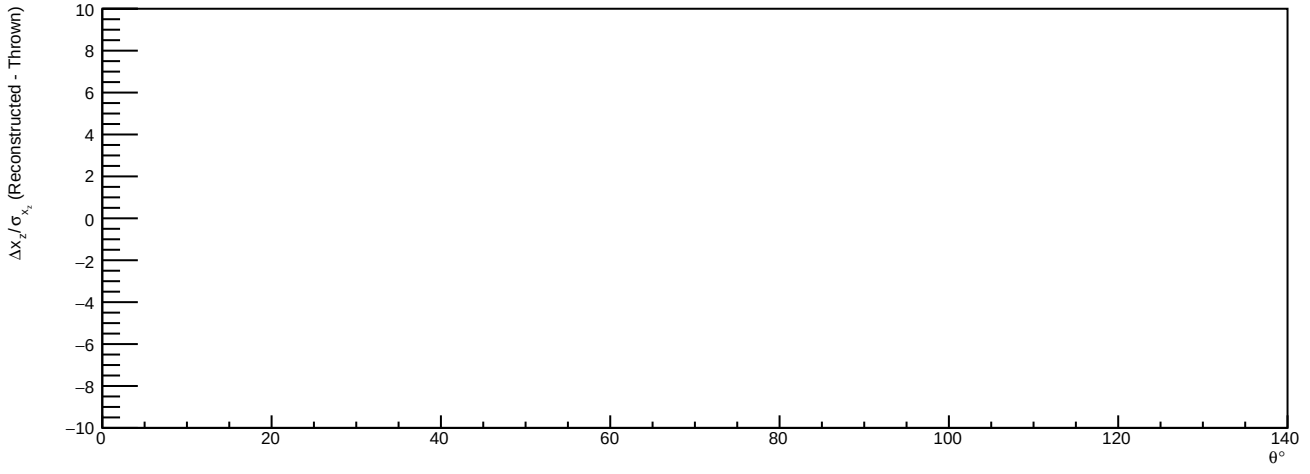

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XyPullVsTheta
$\Delta x_y/\sigma_{x_y}$ (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

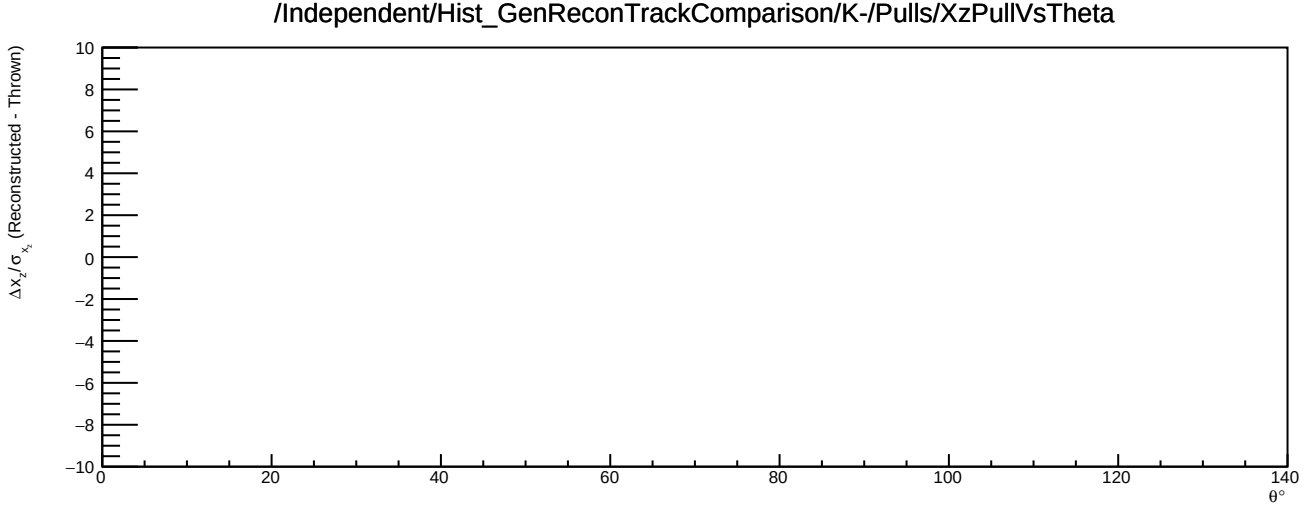
/Independent/Hist_GenReconTrackComparison/K-/Pulls/XzPull



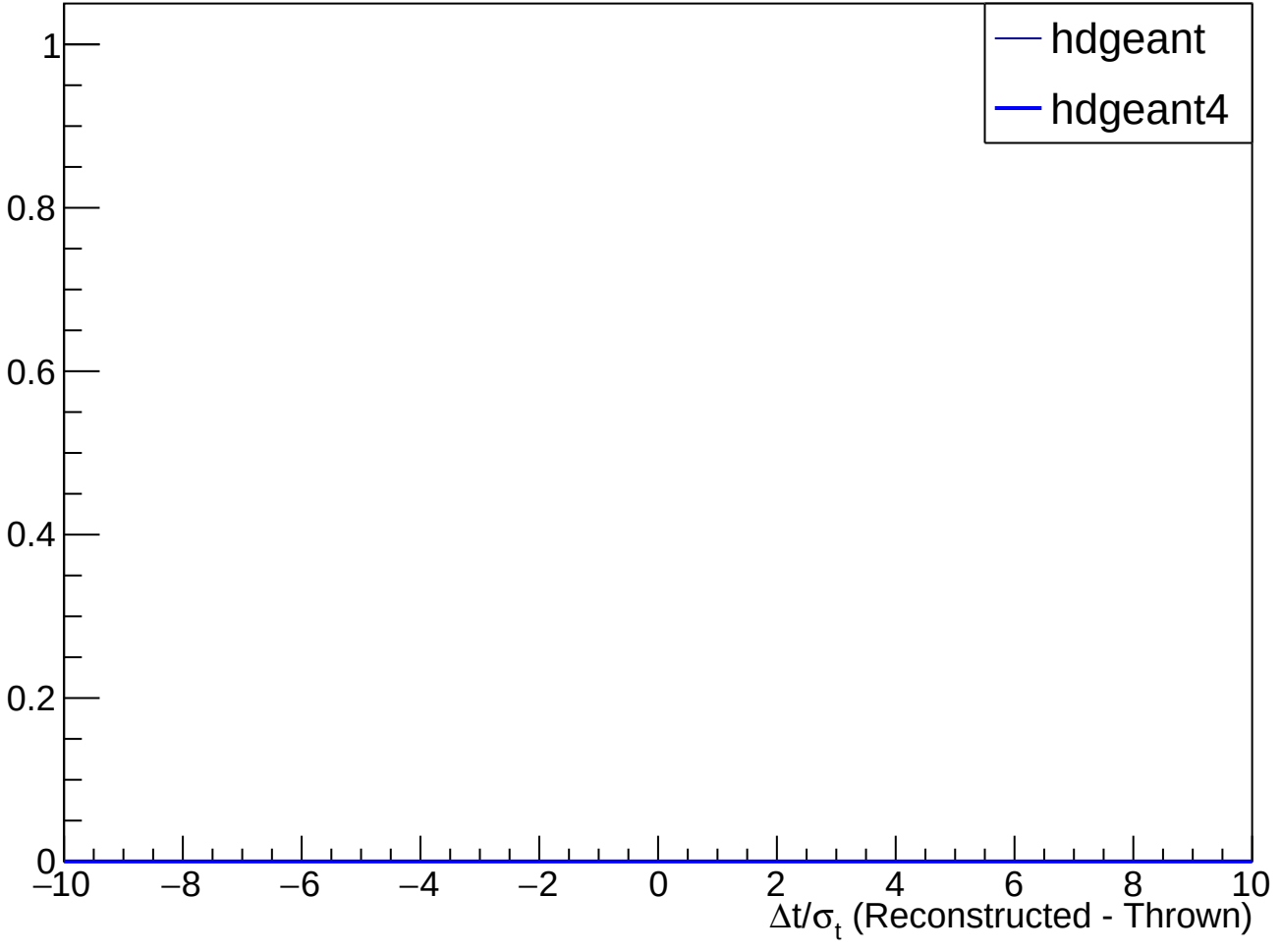

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

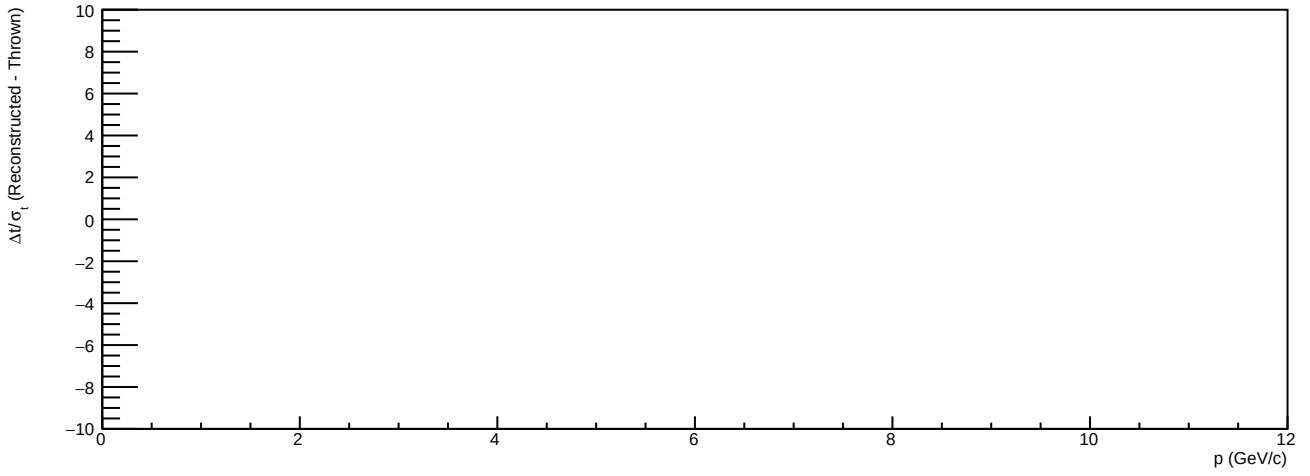

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XzPullVsP
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

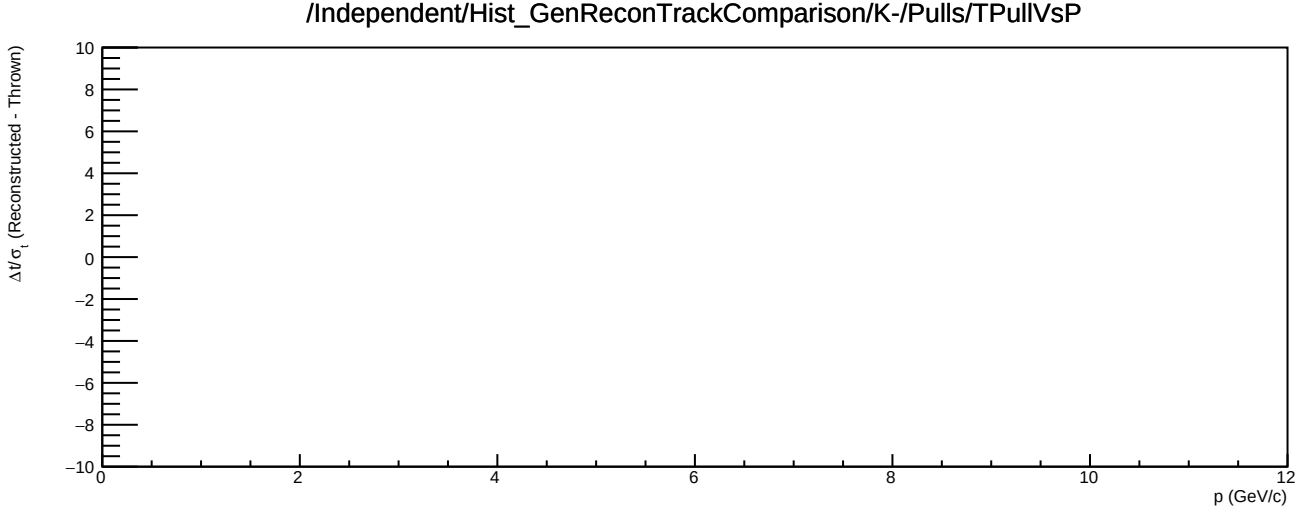

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

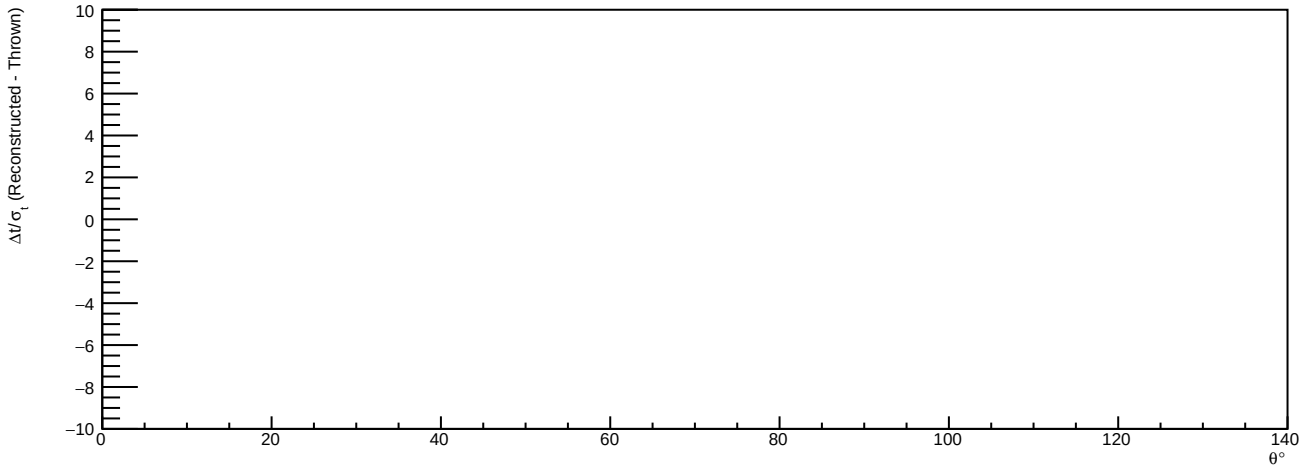

/Independent/Hist_GenReconTrackComparison/K-/Pulls/XzPullVsTheta
Δx_z/σ_{x_z} (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

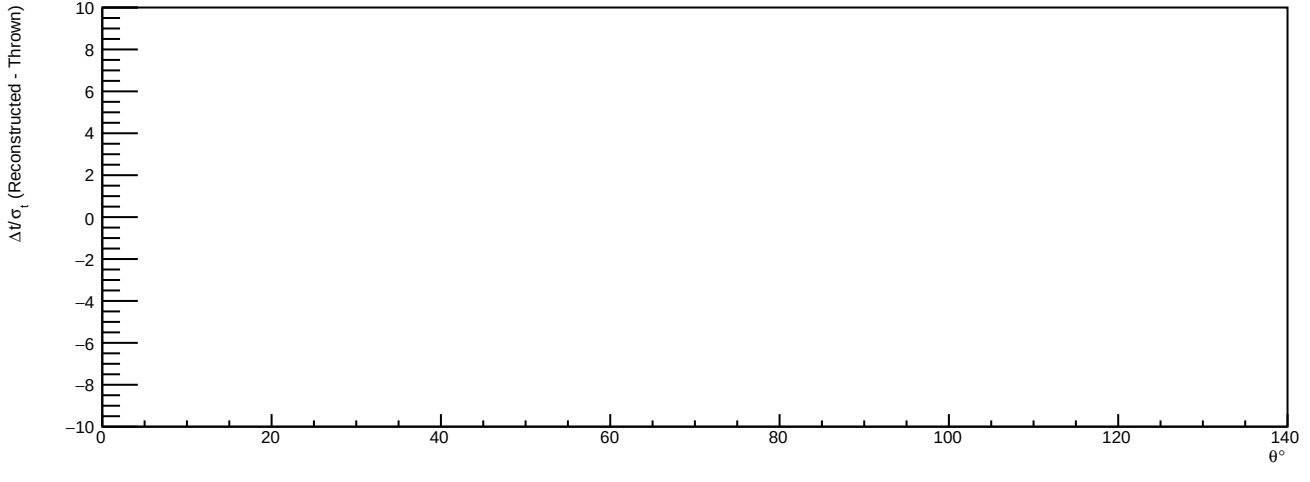
/Independent/Hist_GenReconTrackComparison/K-/Pulls/TPull



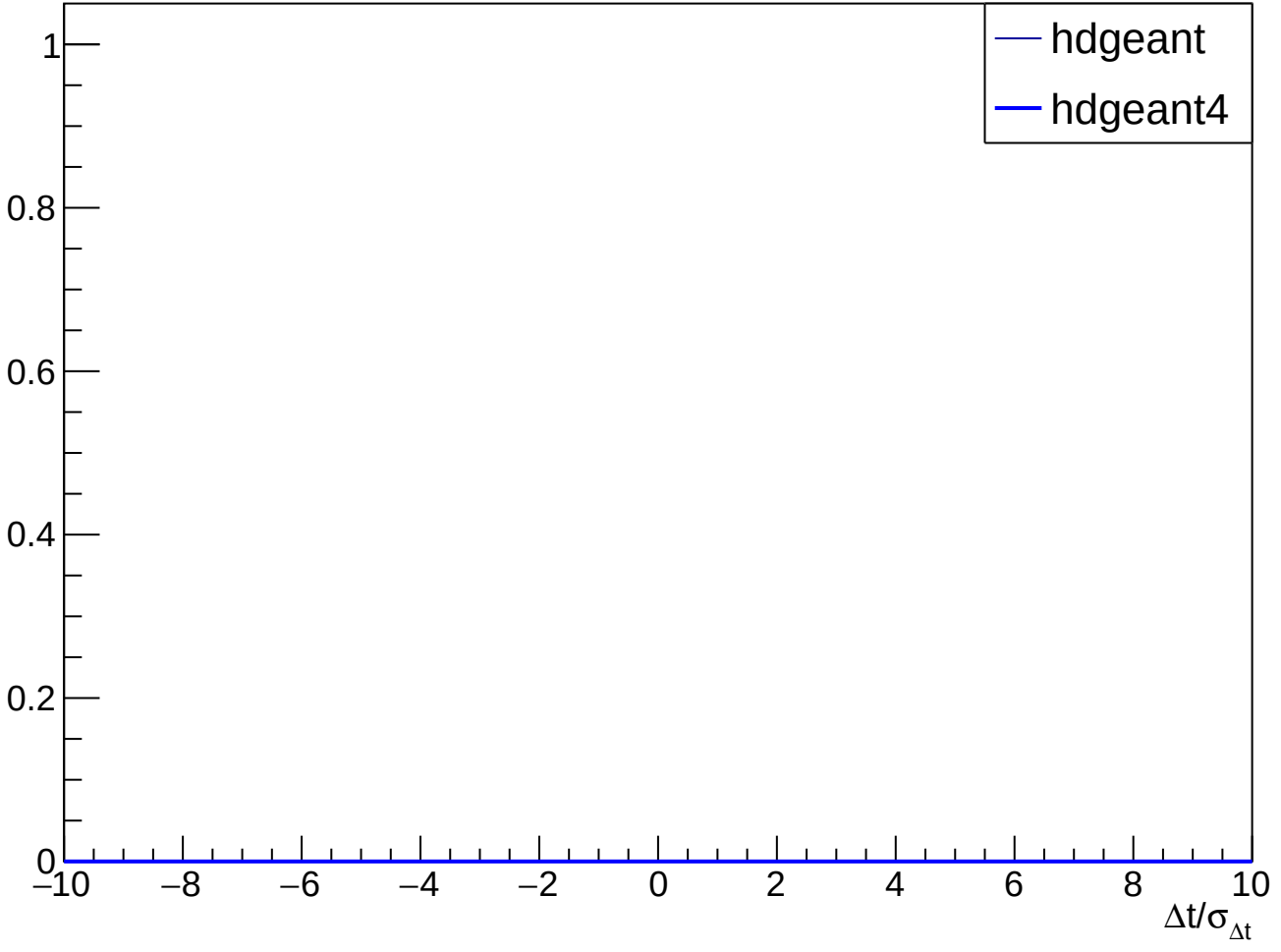

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

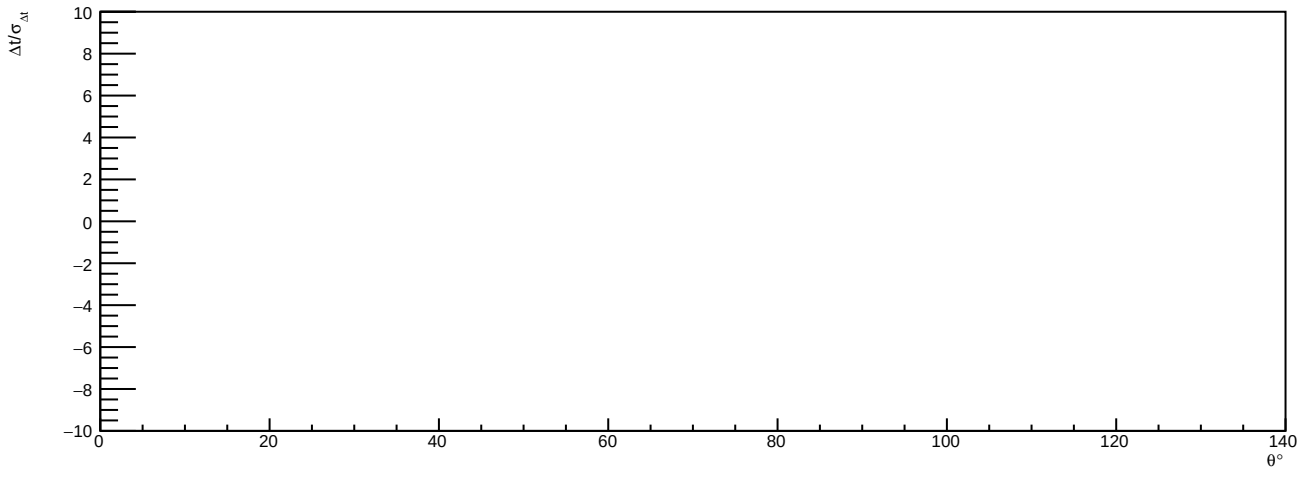

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TPullVsP
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

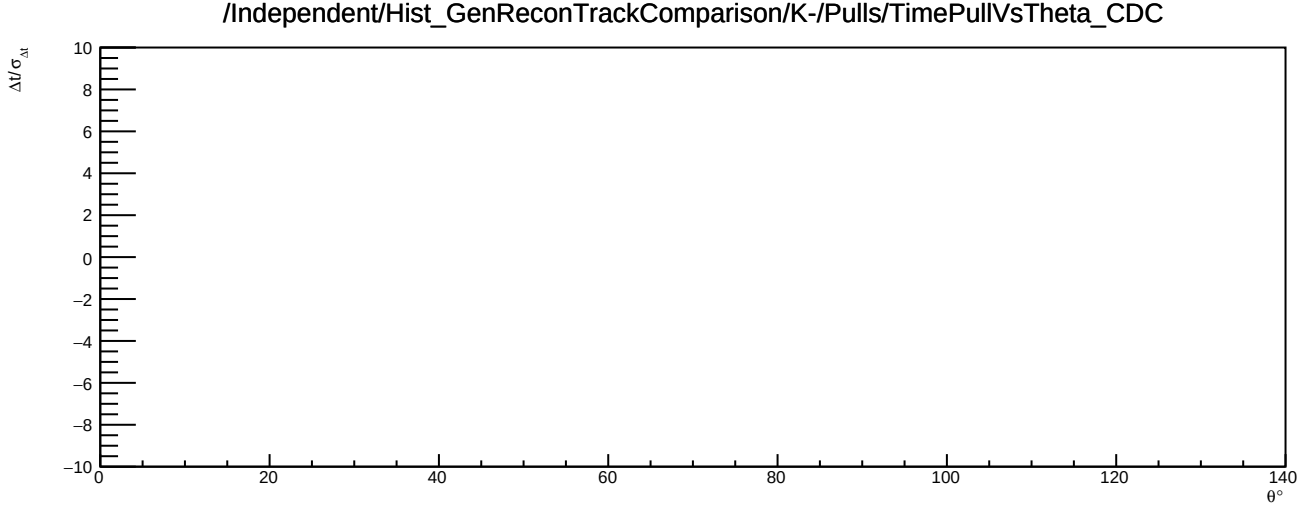

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

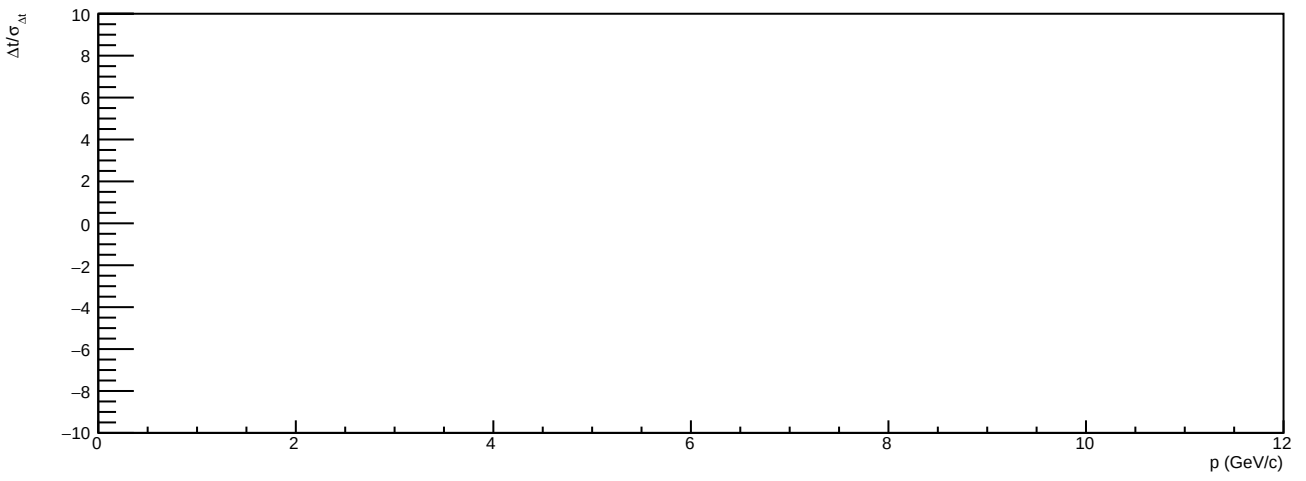

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TPullVsTheta
Δt/σ_t (Reconstructed - Thrown)
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

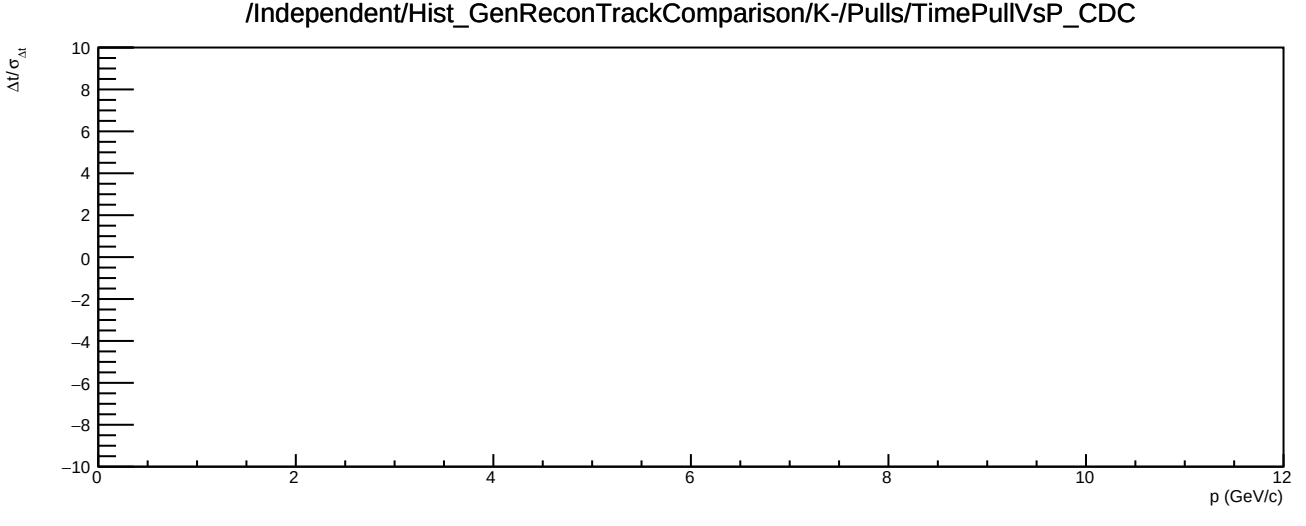
/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePull_CDC



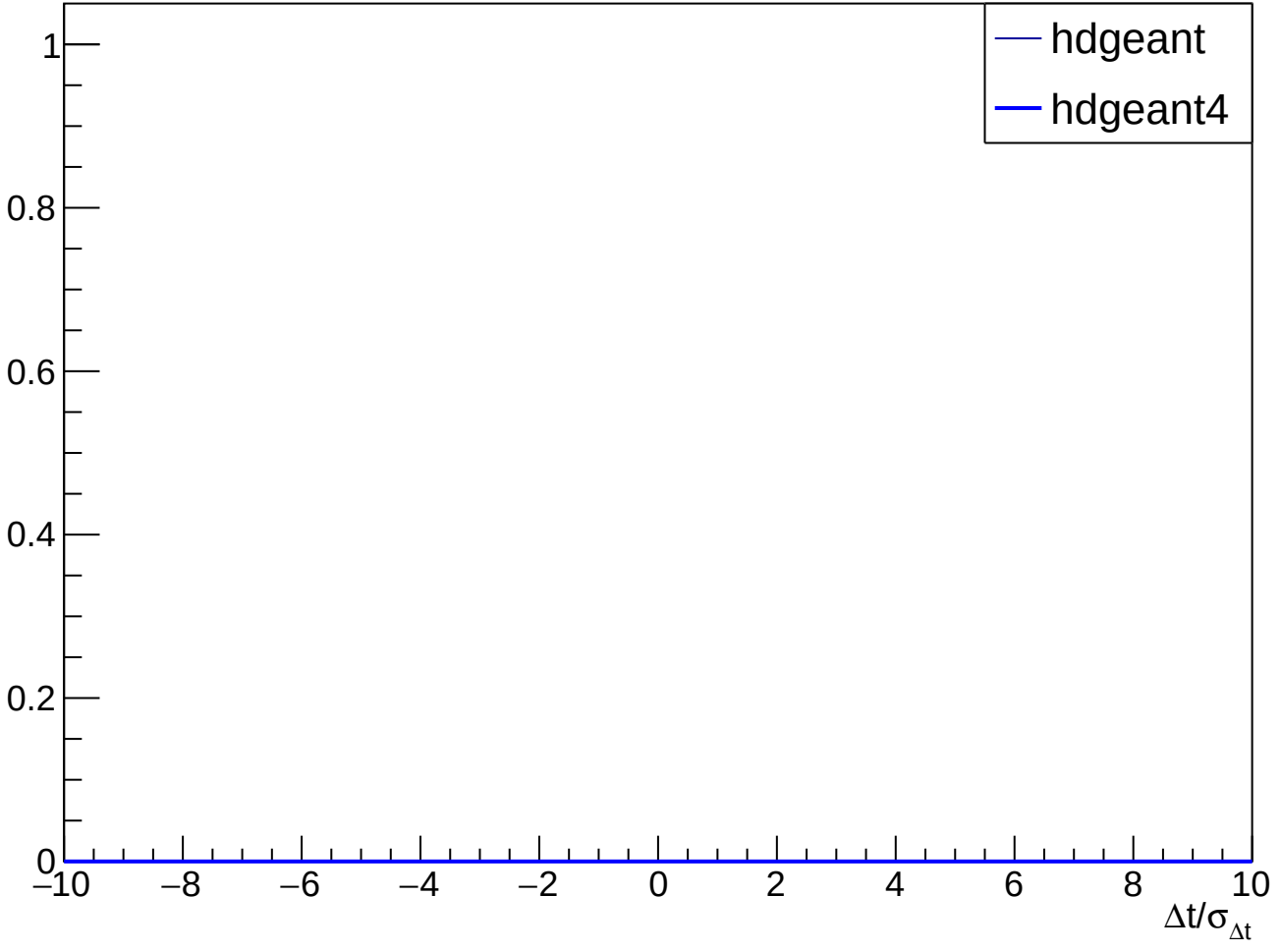

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsTheta_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

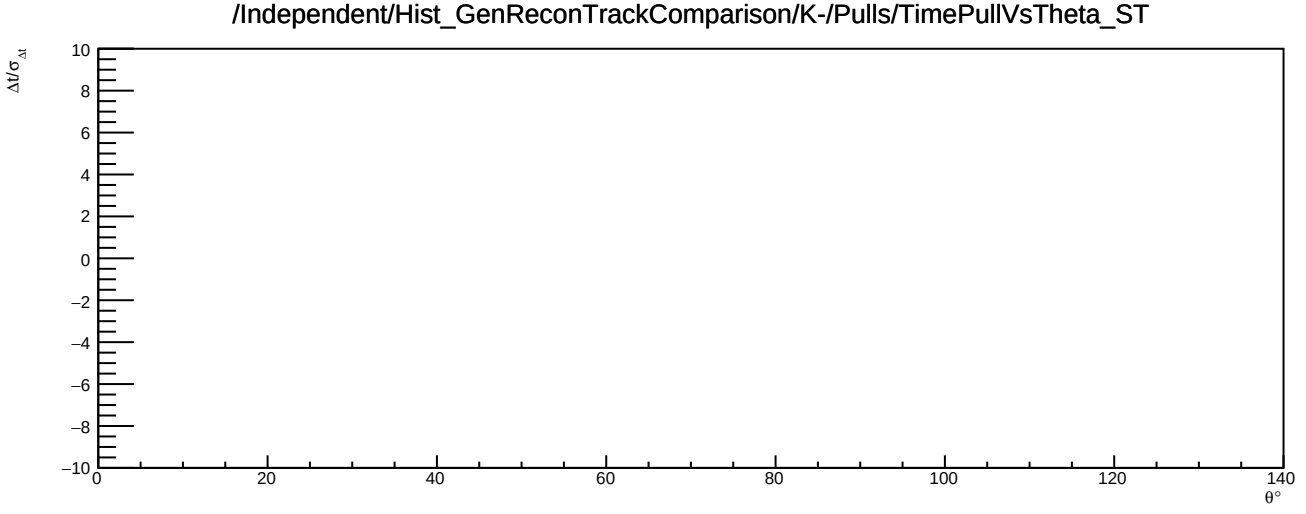

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsTheta_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

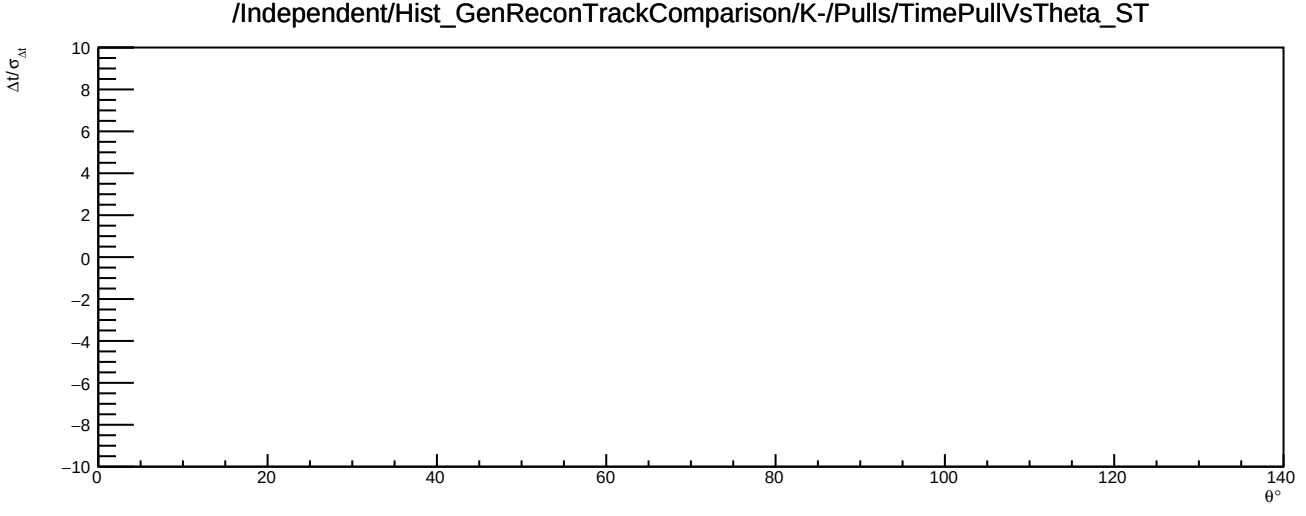

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsP_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

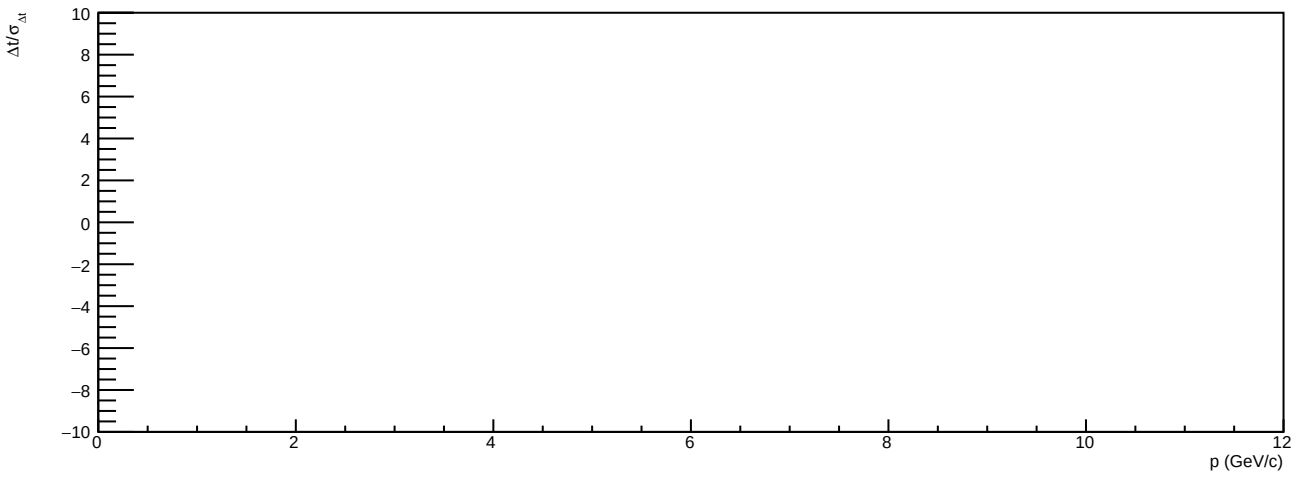

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsP_CDC
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

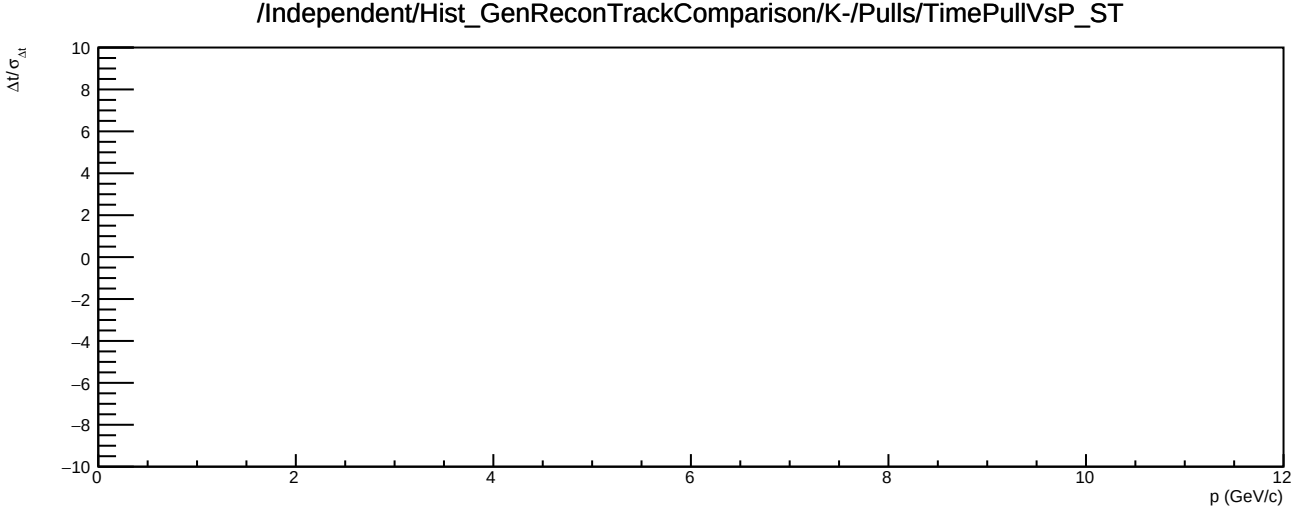
/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePull_ST



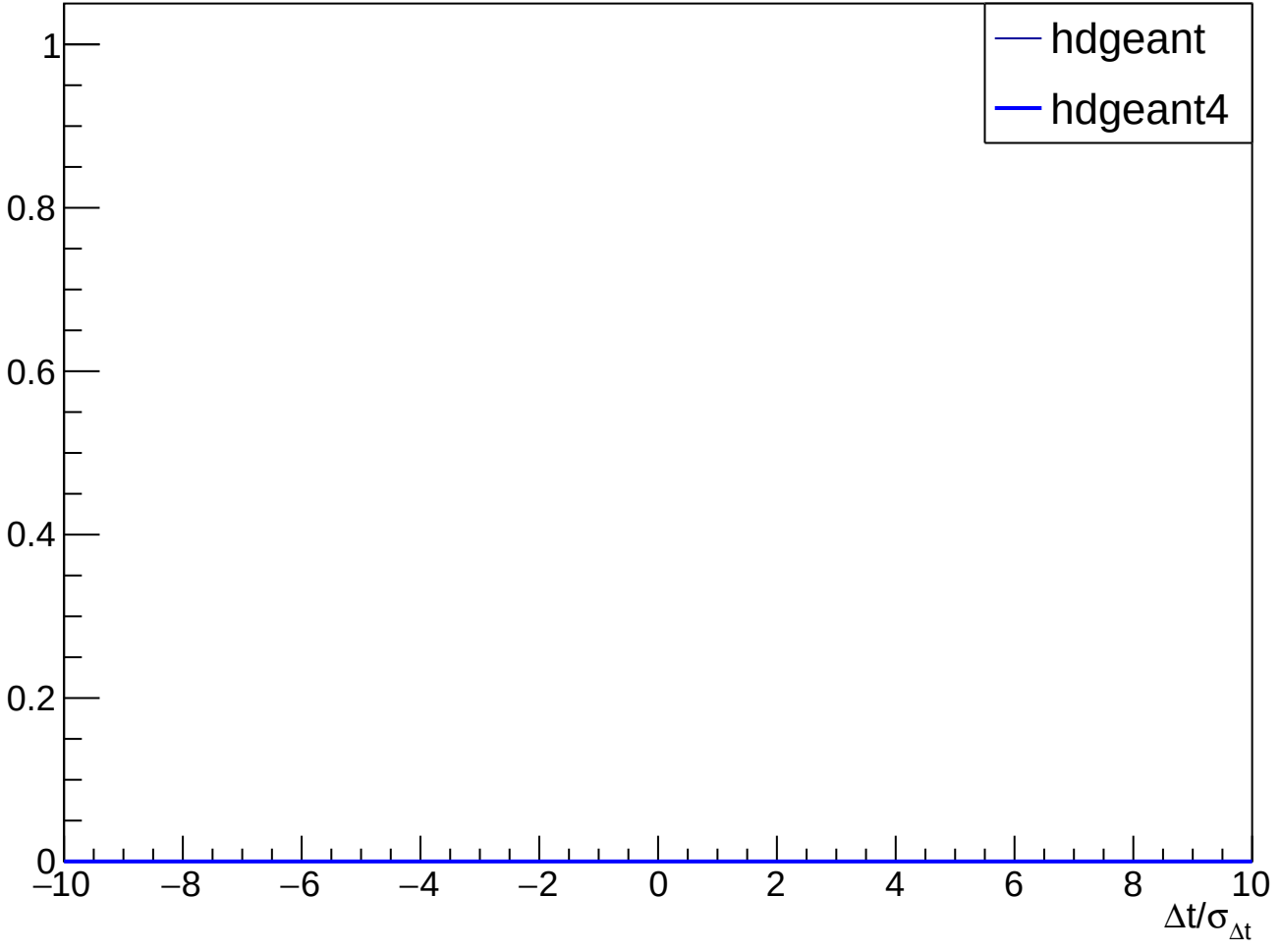

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsTheta_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

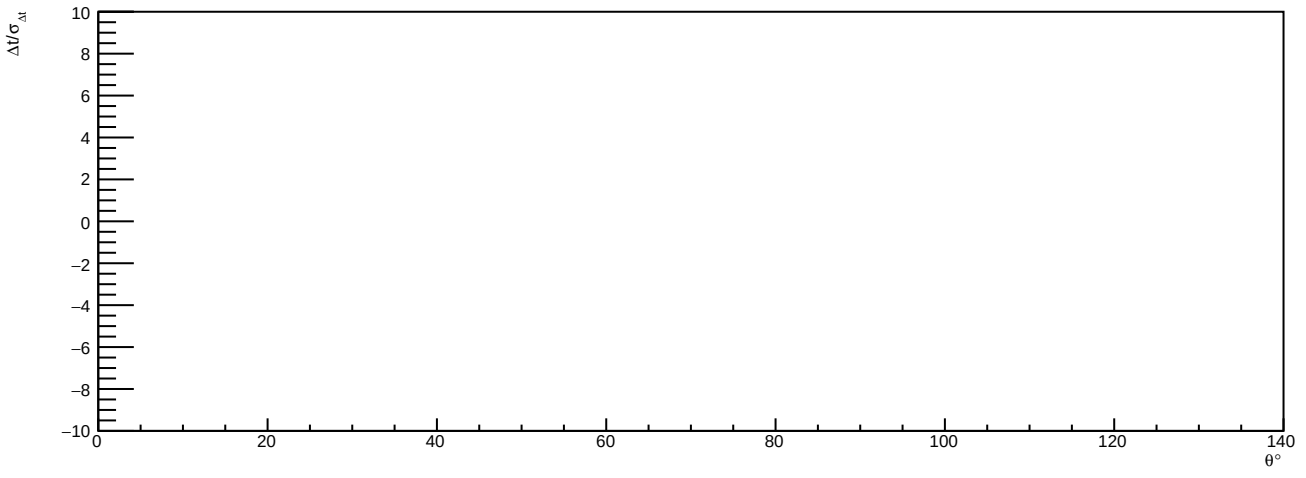

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsTheta_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

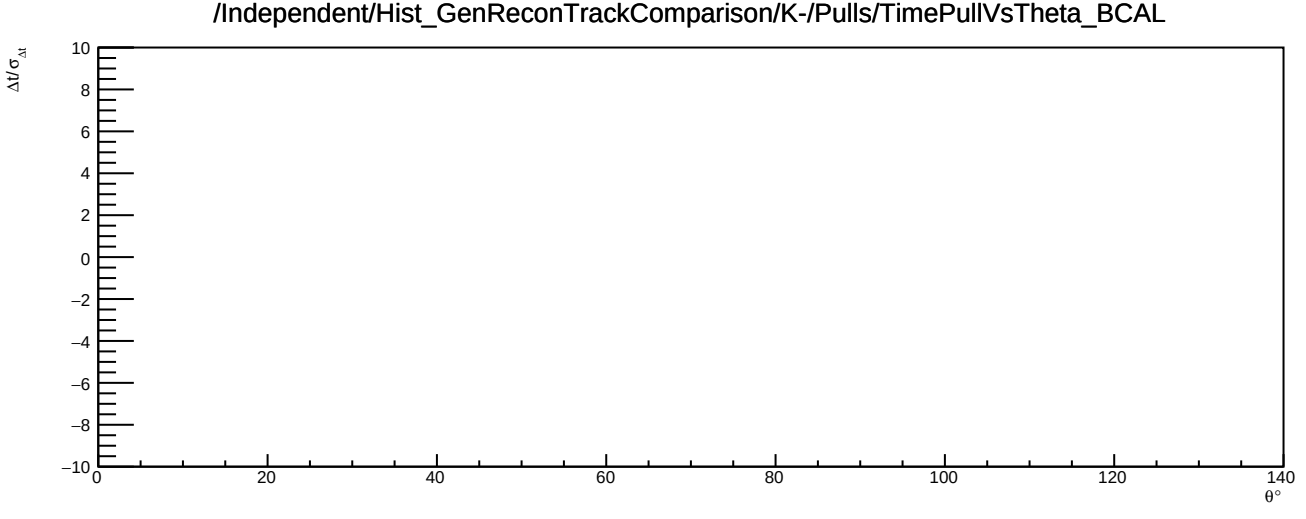

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsP_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

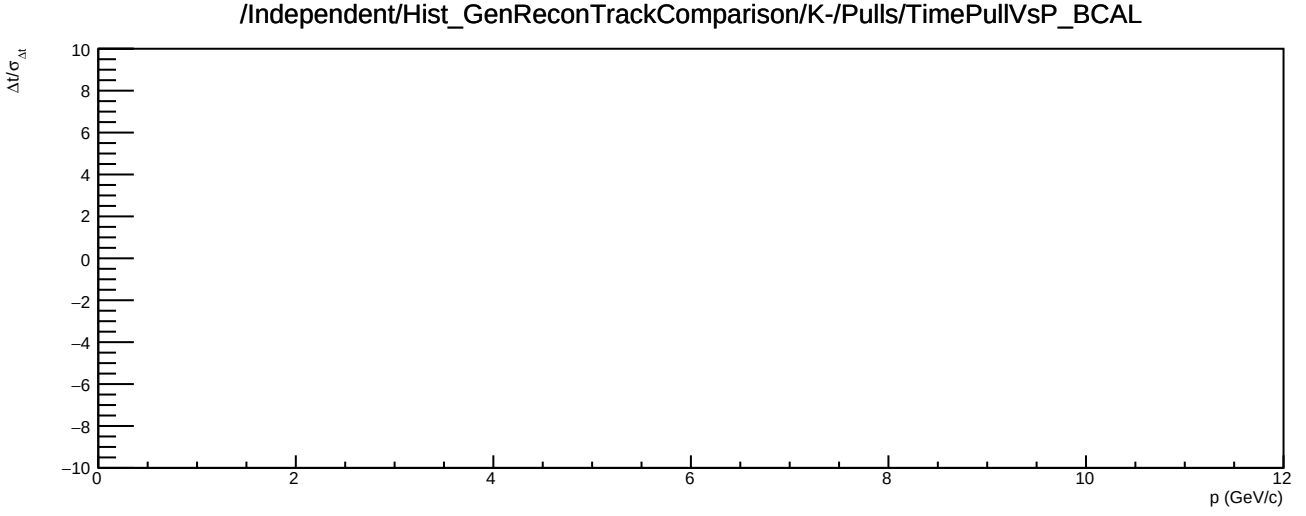

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsP_ST
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

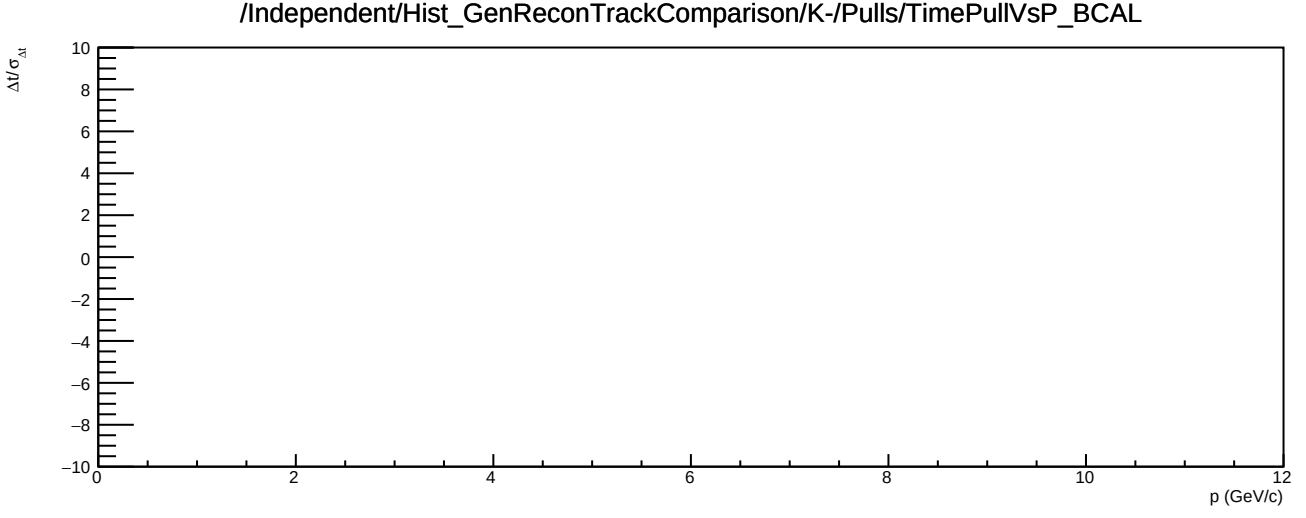
/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePull_BCAL



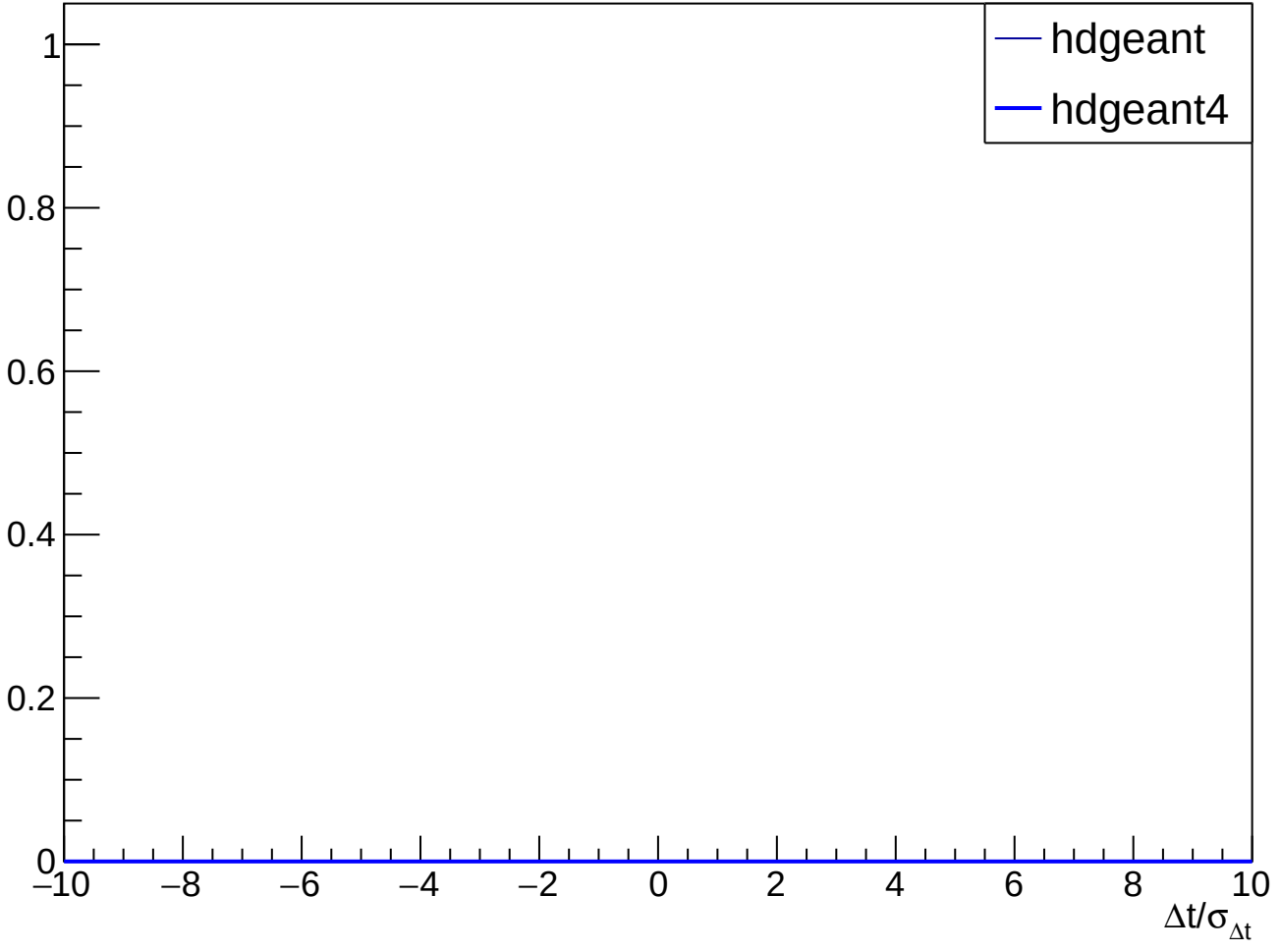

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsTheta_BCAL
Δt/σΔt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

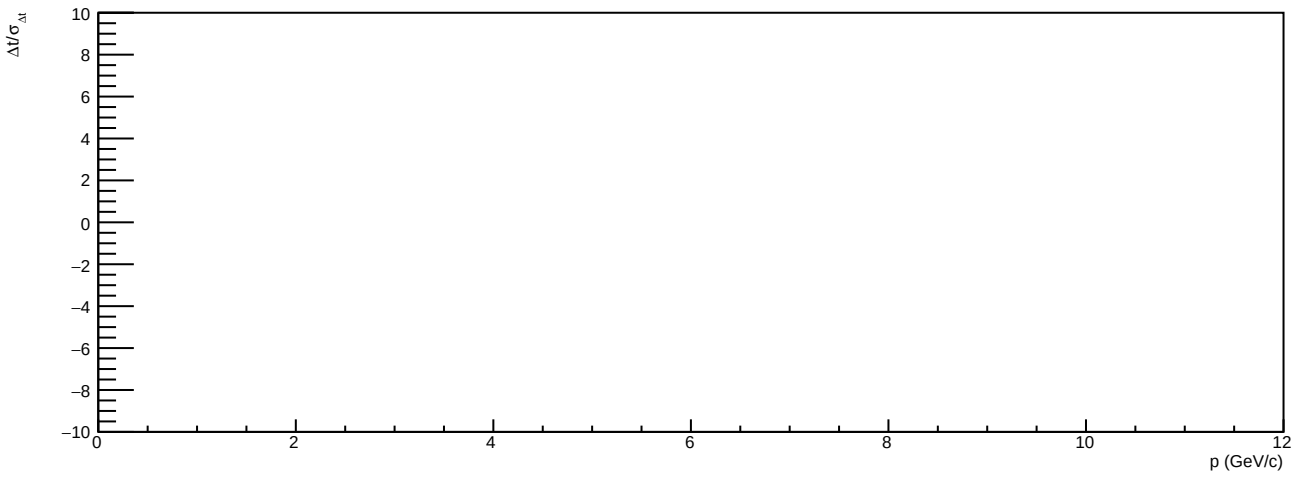

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsTheta_BCAL
Δt/σΔt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
20
40
60
80
100
120
140
θ°

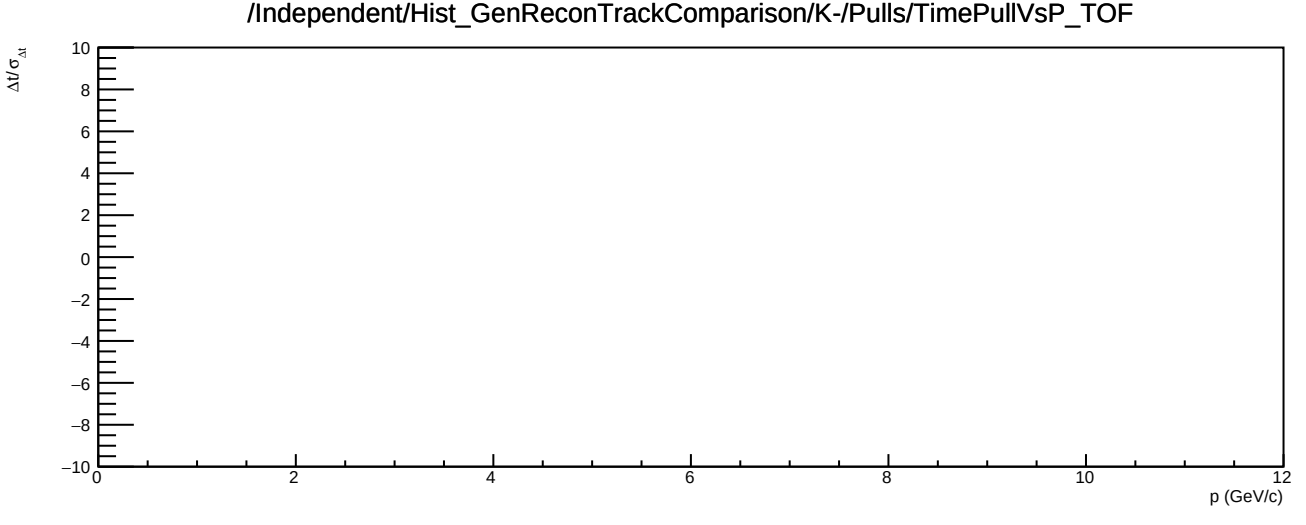

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsP_BCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

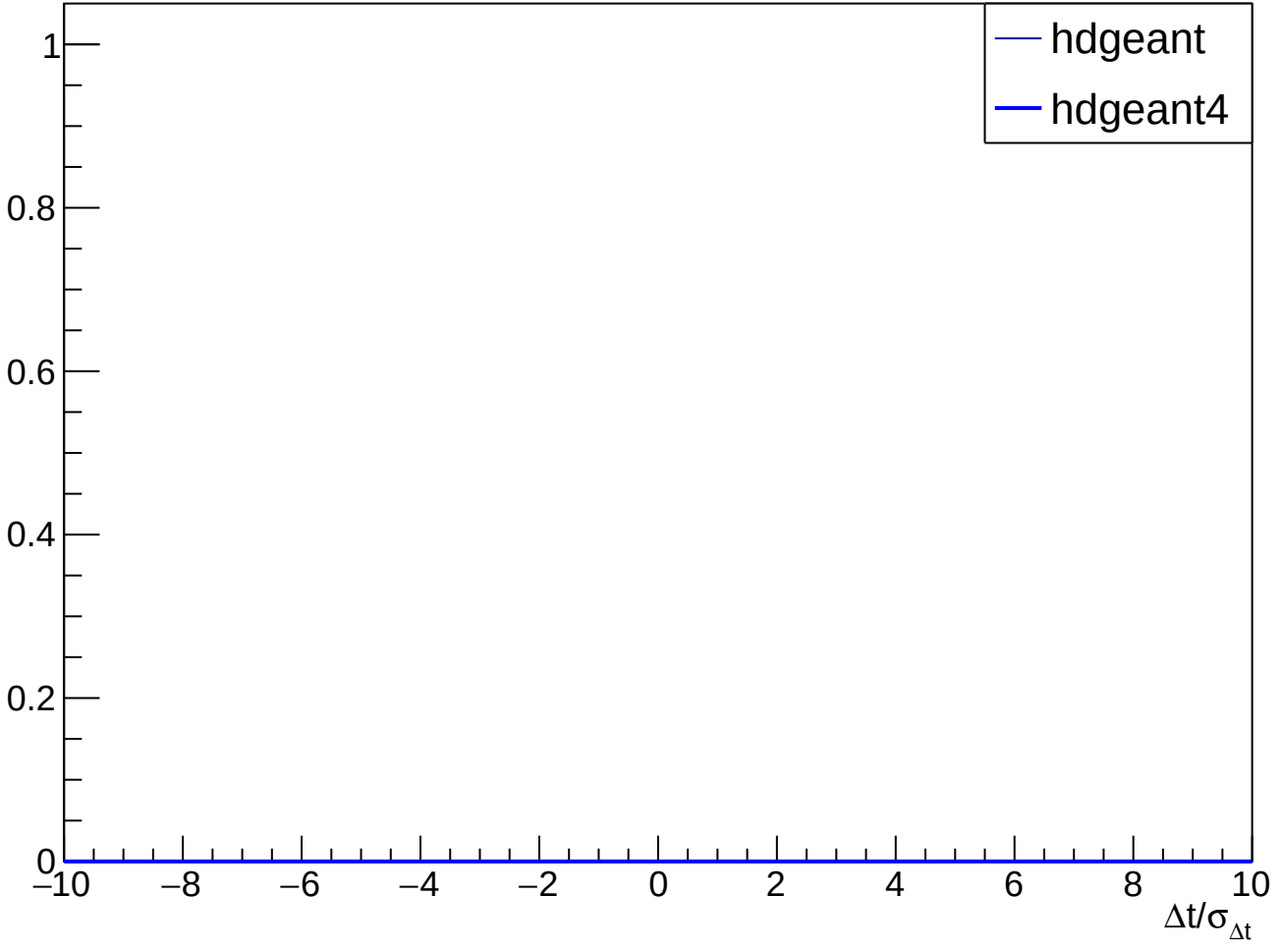
/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePull_TOF

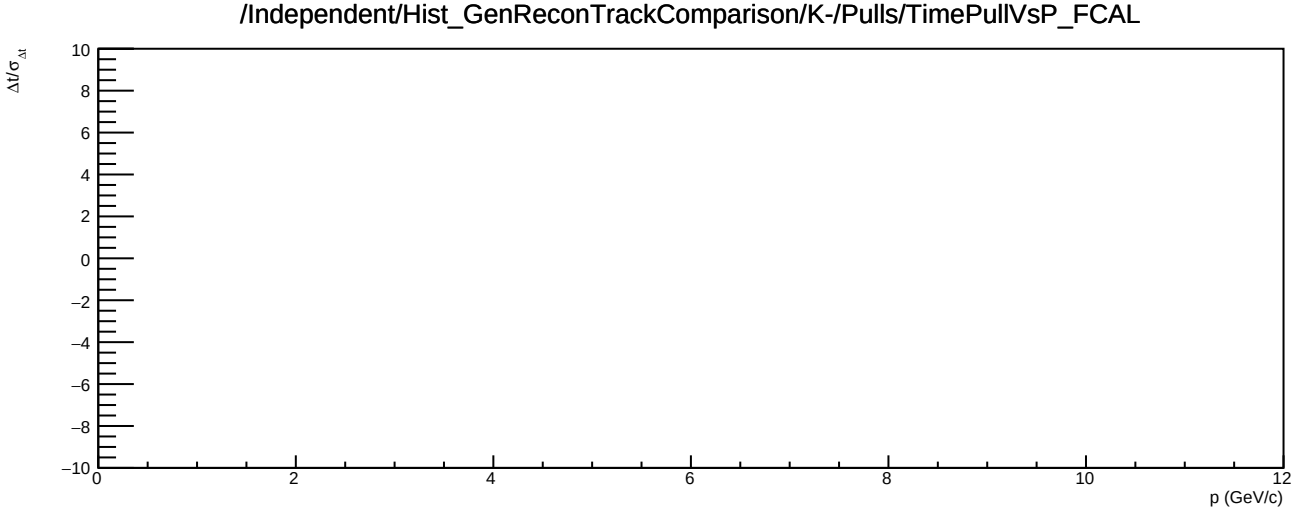


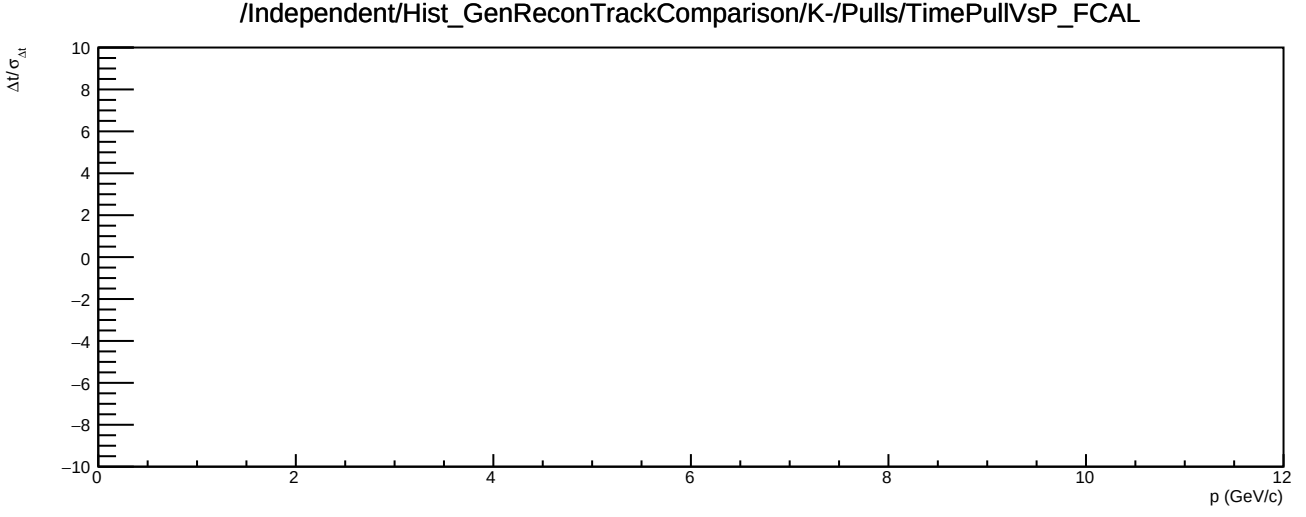

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsP_TOF
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsP_TOF
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

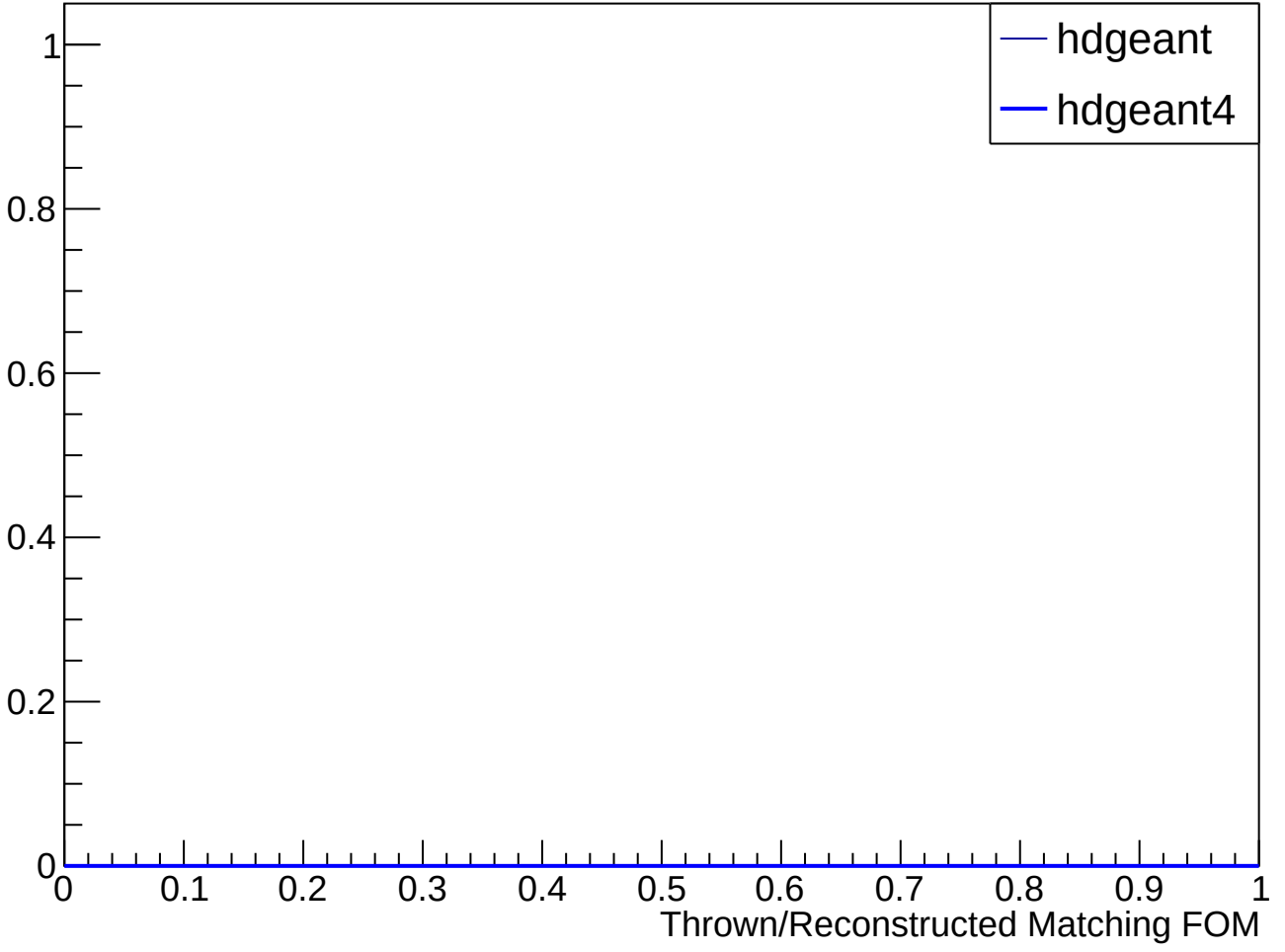
/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePull_FCAL



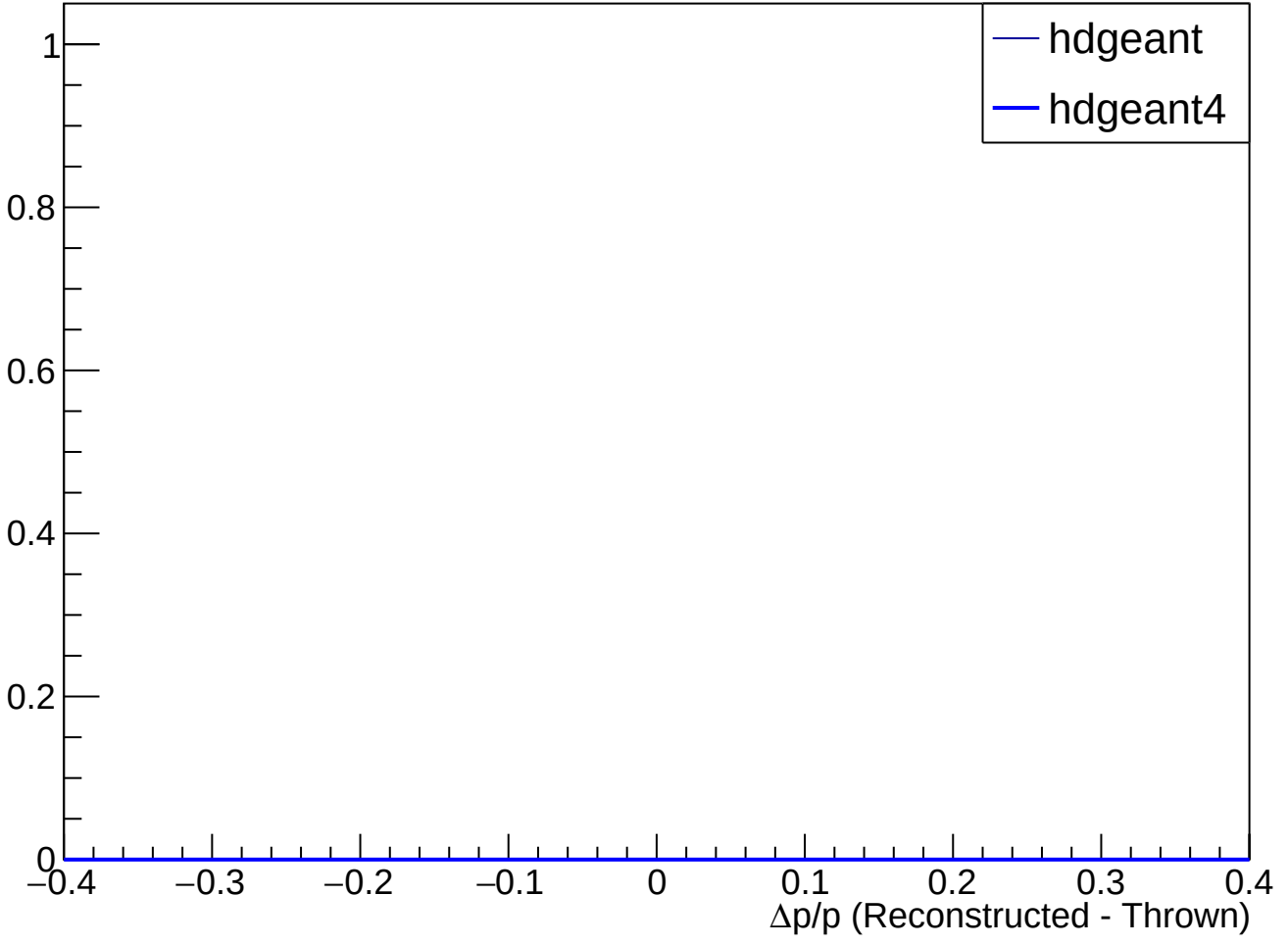

/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)


/Independent/Hist_GenReconTrackComparison/K-/Pulls/TimePullVsP_FCAL
Δt/σ_Δt
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
2
4
6
8
10
12
p (GeV/c)

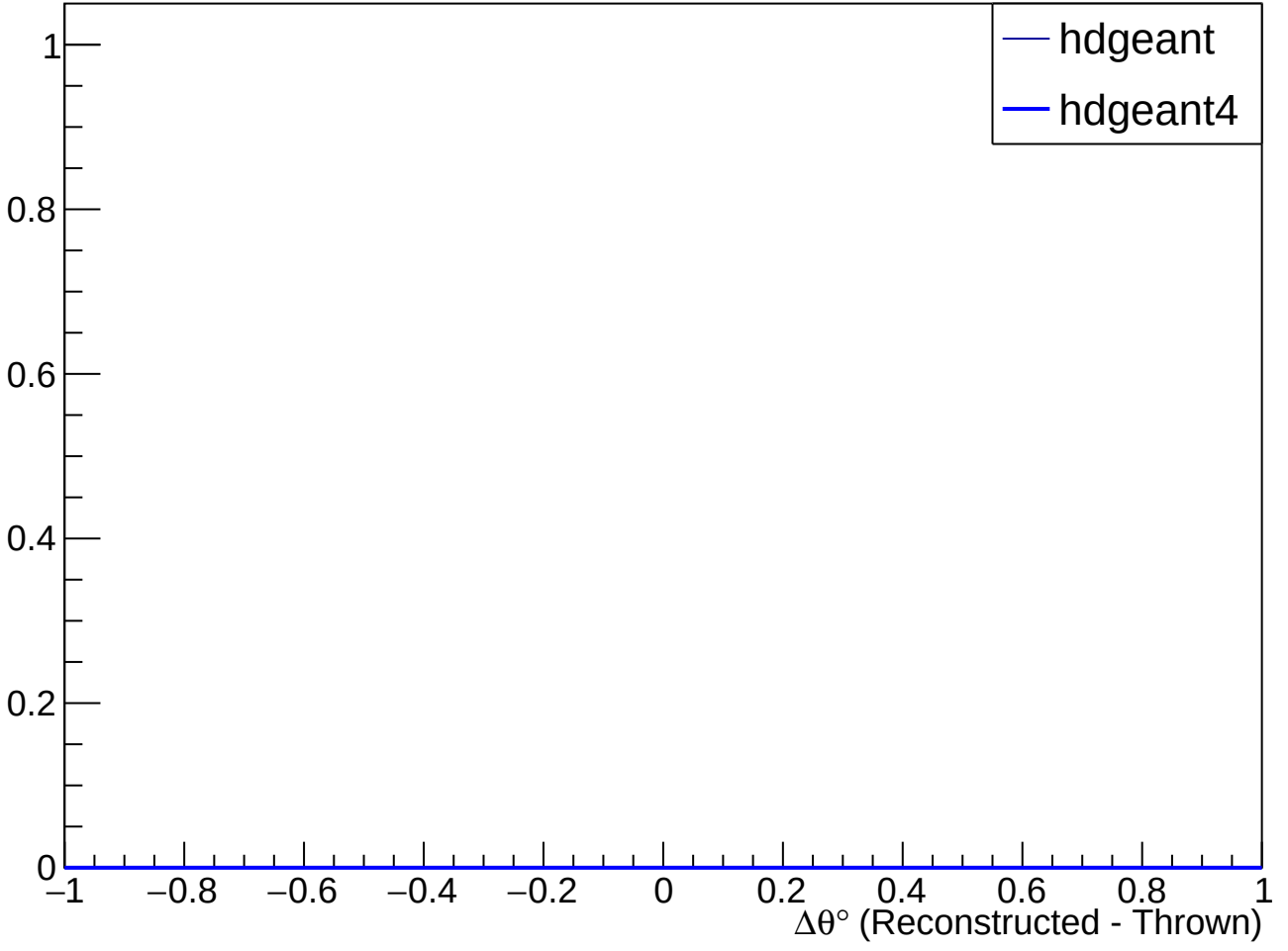
/Independent/Hist_GenReconTrackComparison/K-/MatchFOM



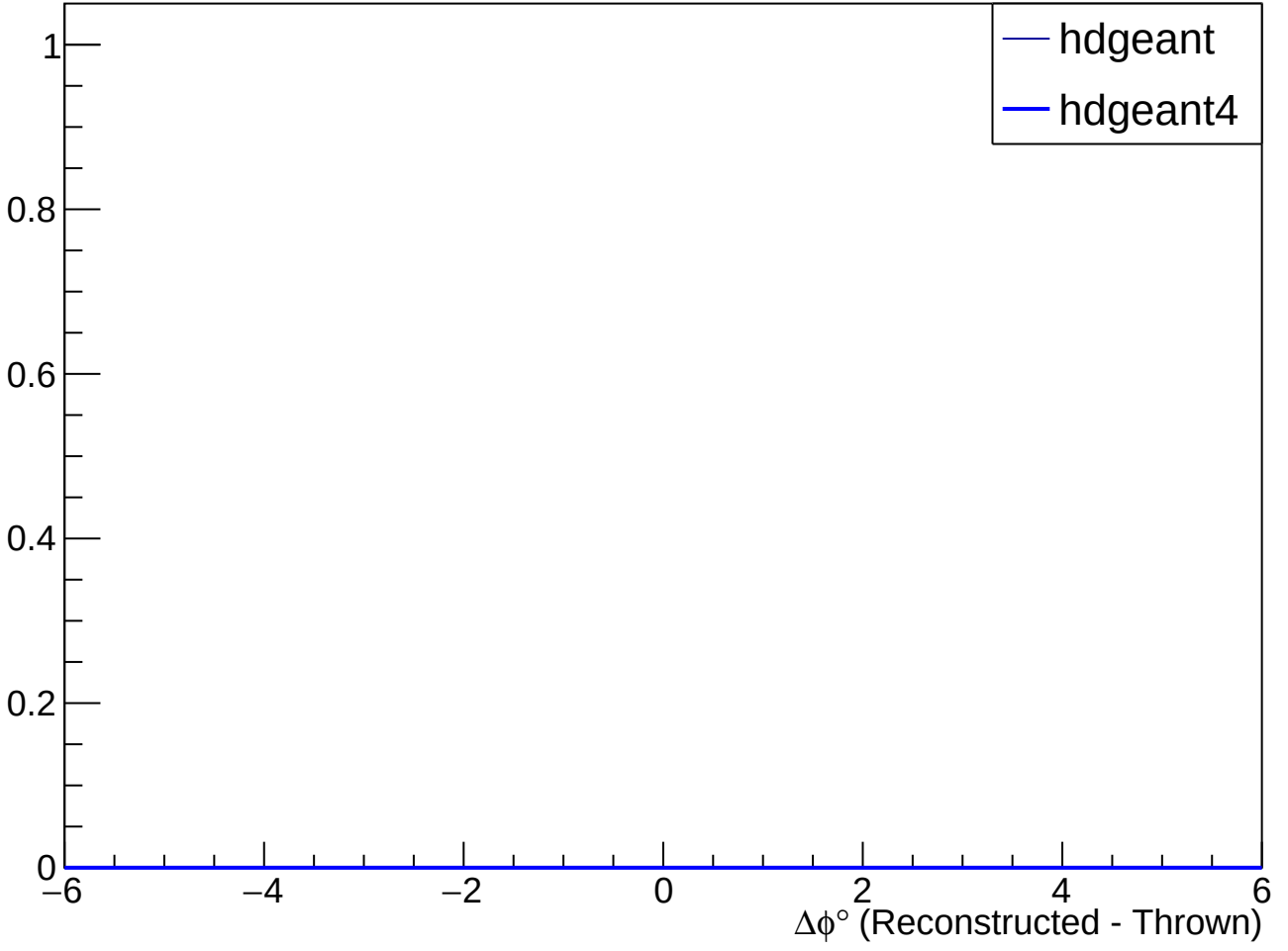
/Independent/Hist_GenReconTrackComparison/K-/DeltaPOverP

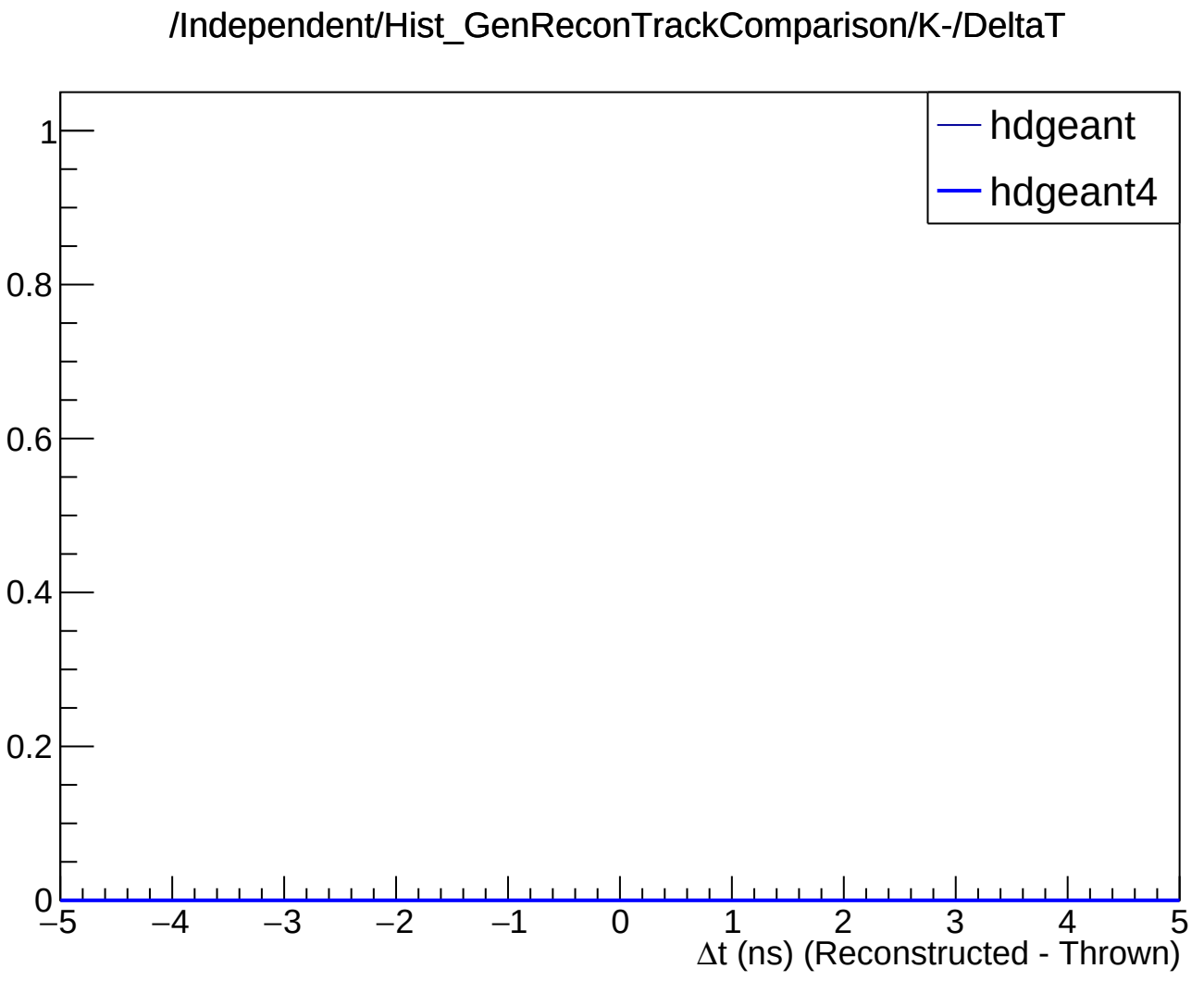


/Independent/Hist_GenReconTrackComparison/K-/DeltaTheta

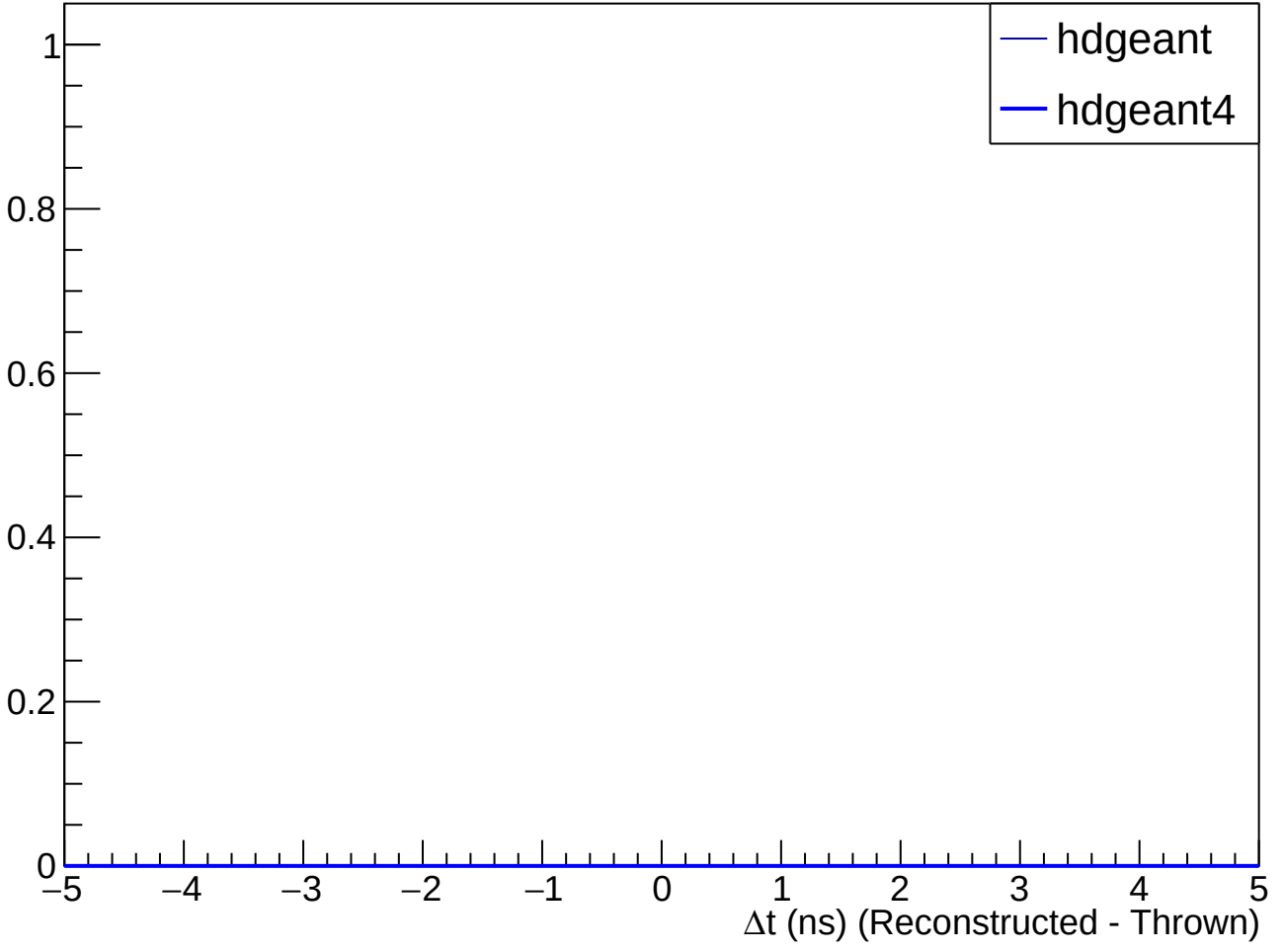


/Independent/Hist_GenReconTrackComparison/K-/DeltaPhi

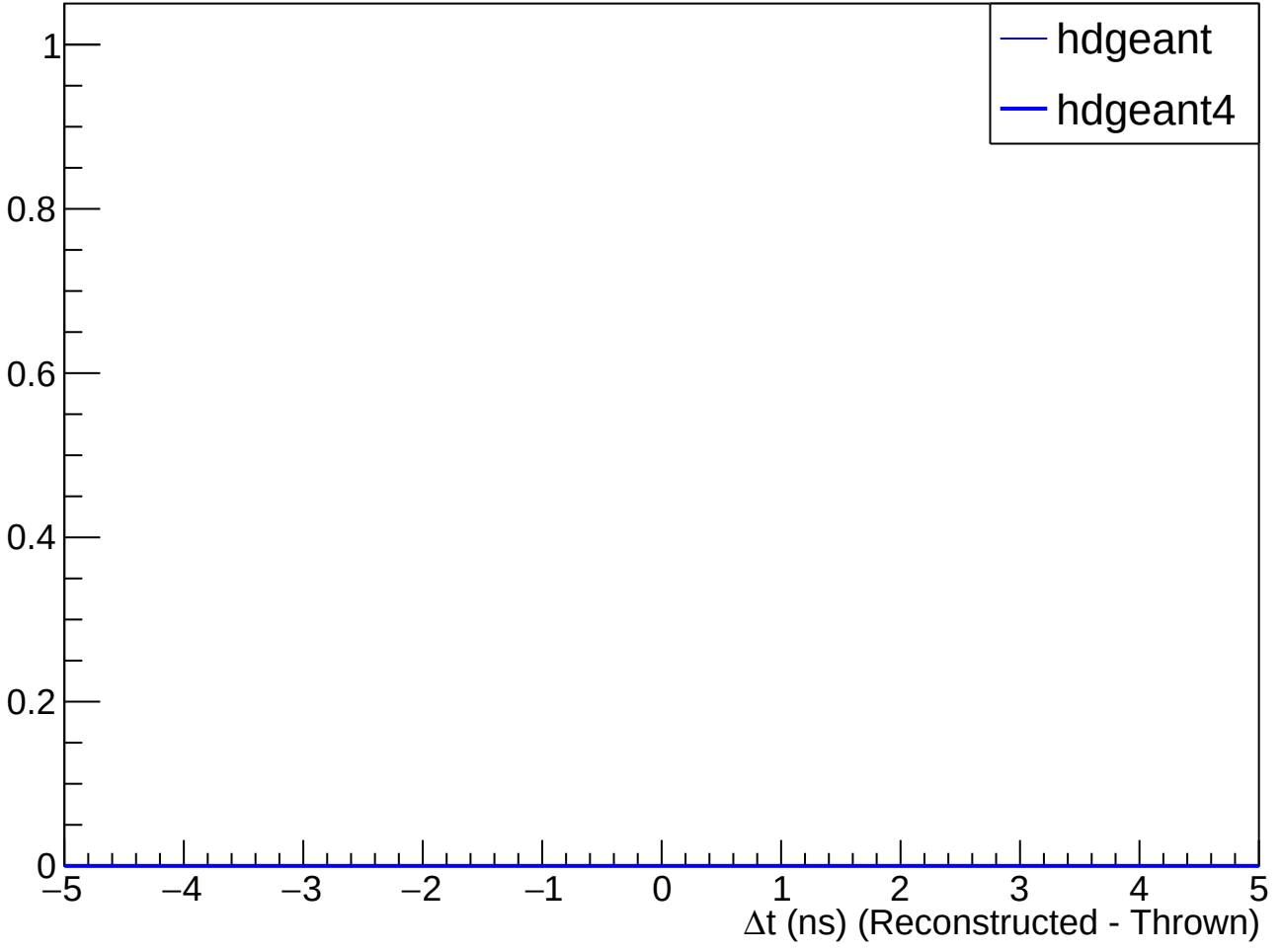


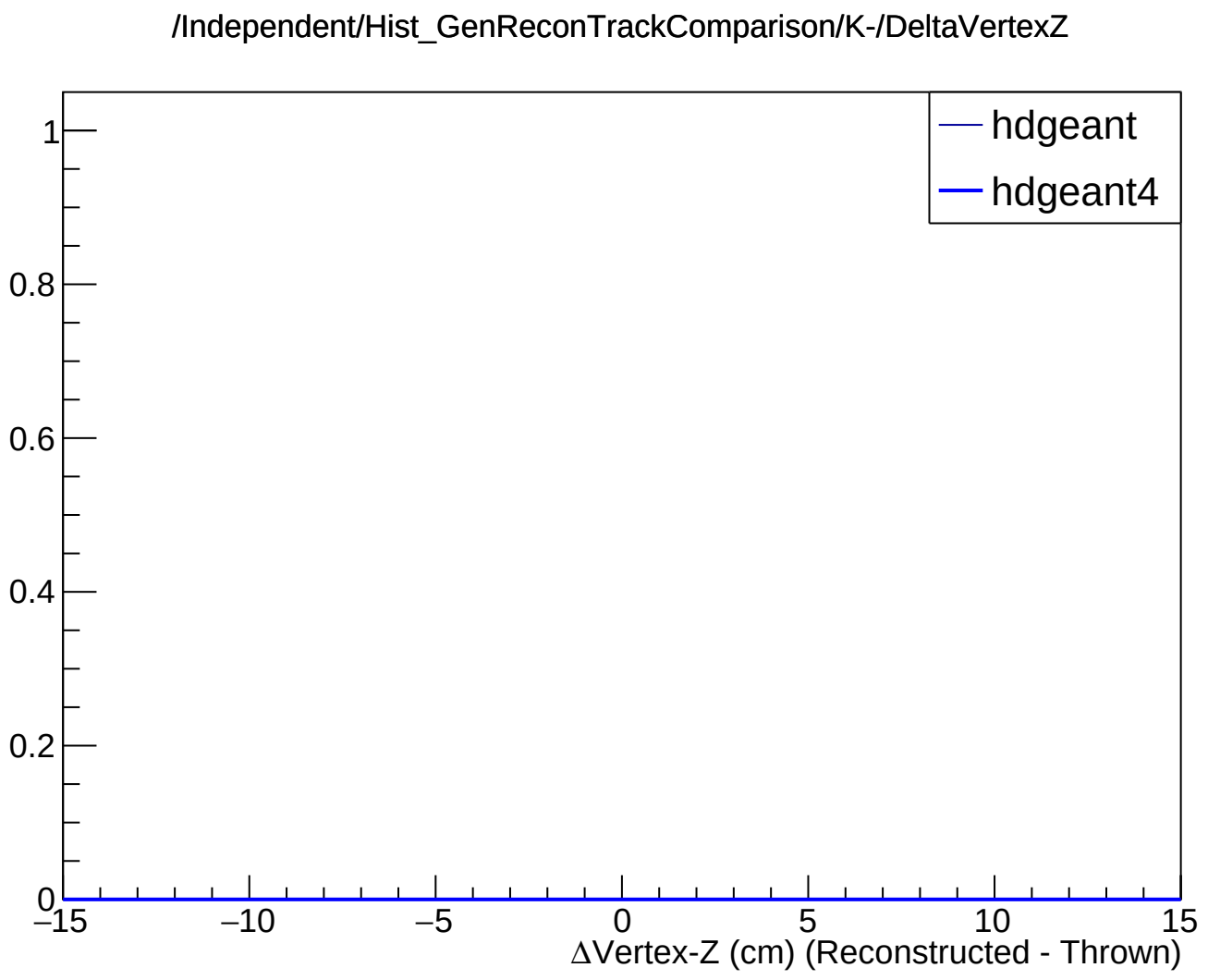

/Independent/Hist_GenReconTrackComparison/K-/DeltaT
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
−5
−4
−3
−2
−1
0
1
2
3
4
5
Δt (ns) (Reconstructed - Thrown)

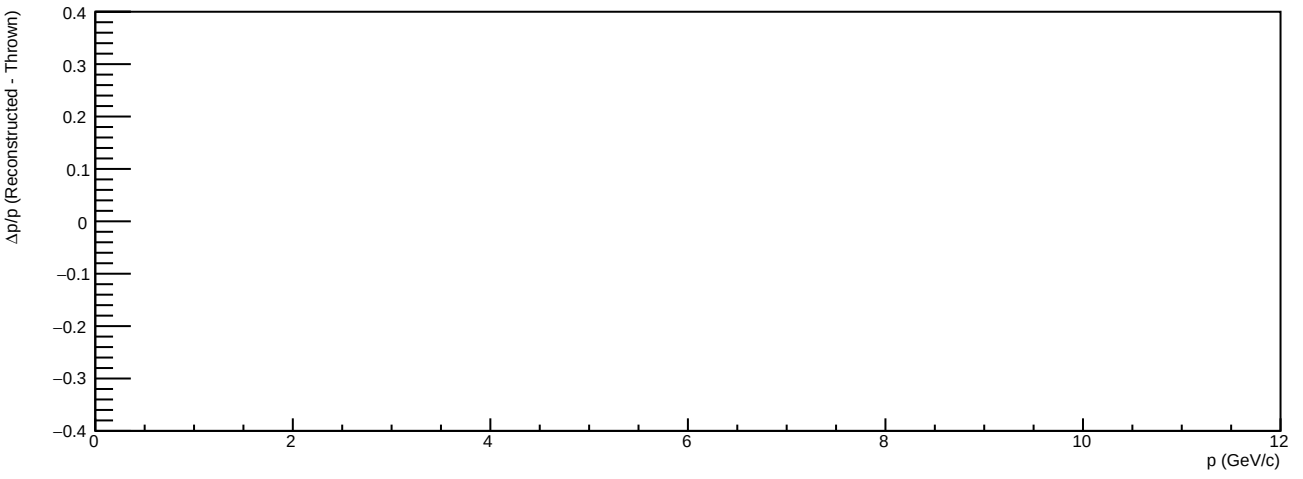
/Independent/Hist_GenReconTrackComparison/K-/DeltaT_BCAL

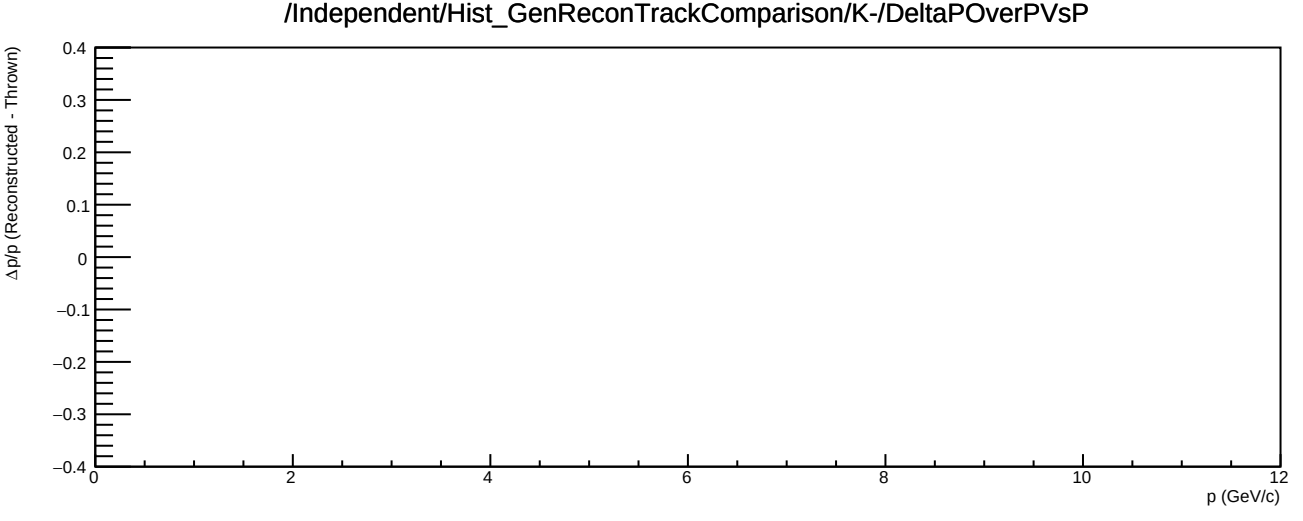


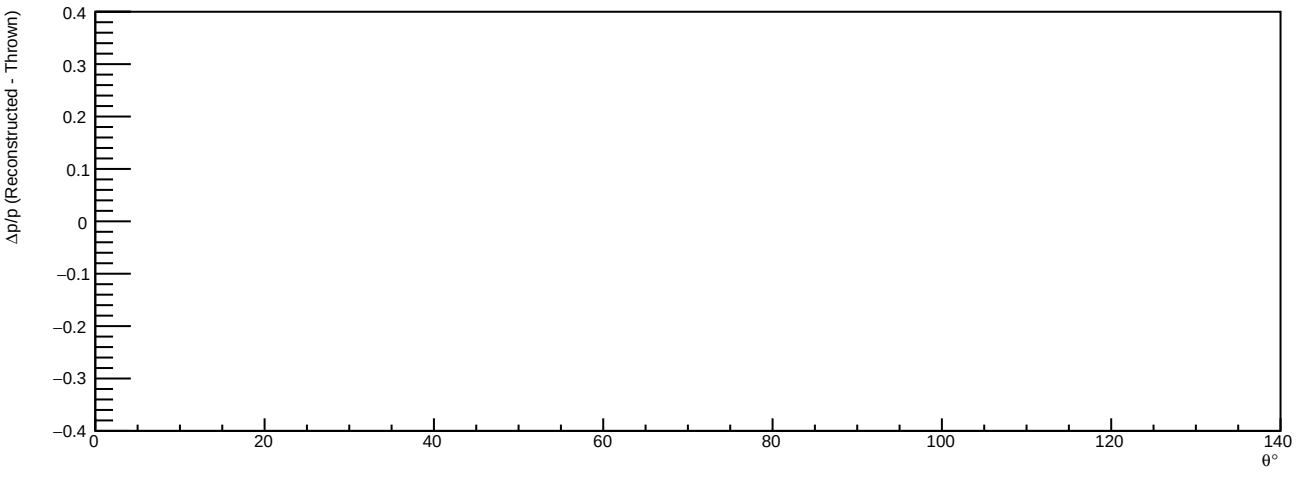
/Independent/Hist_GenReconTrackComparison/K-/DeltaT_TOF

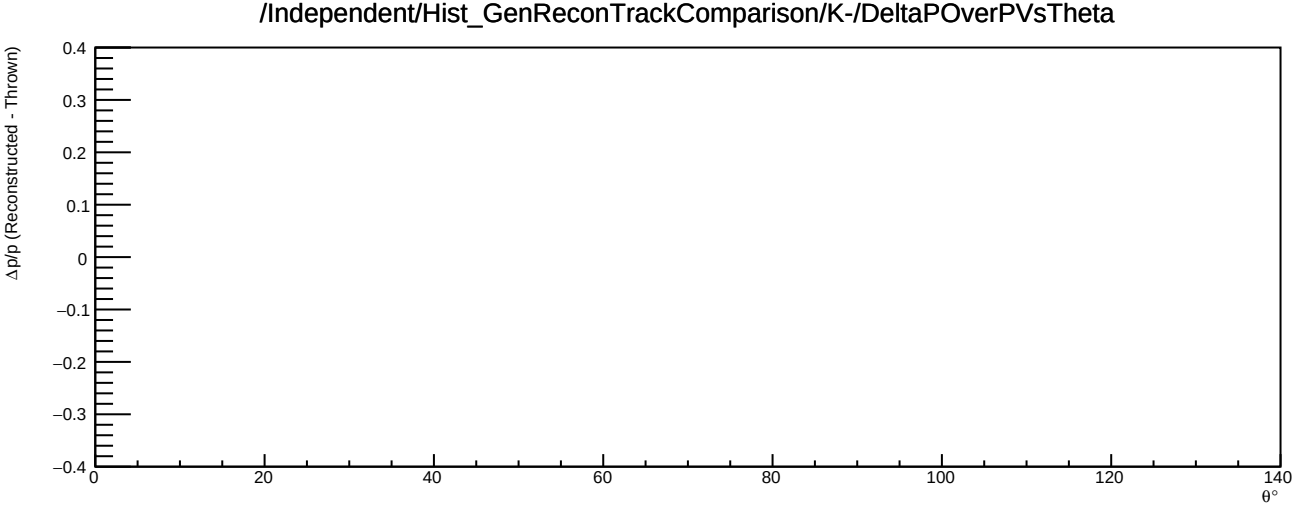


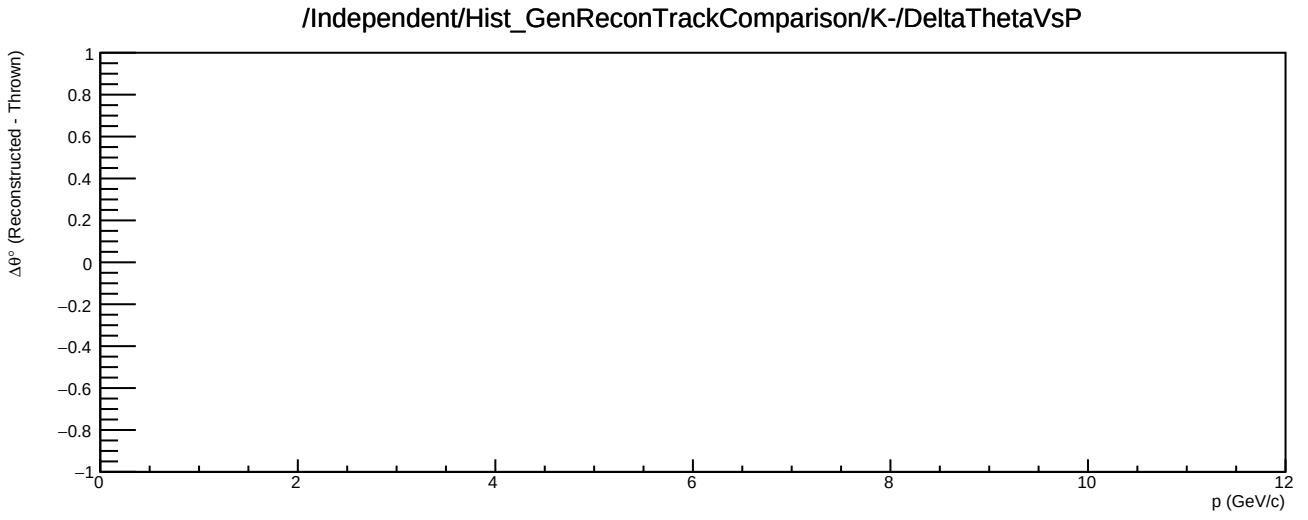

/Independent/Hist_GenReconTrackComparison/K-/DeltaVertexZ
hdgeant
hdgeant4
1
0.8
0.6
0.4
0.2
0
–15
–10
–5
0
5
10
15
ΔVertex-Z (cm) (Reconstructed - Thrown)

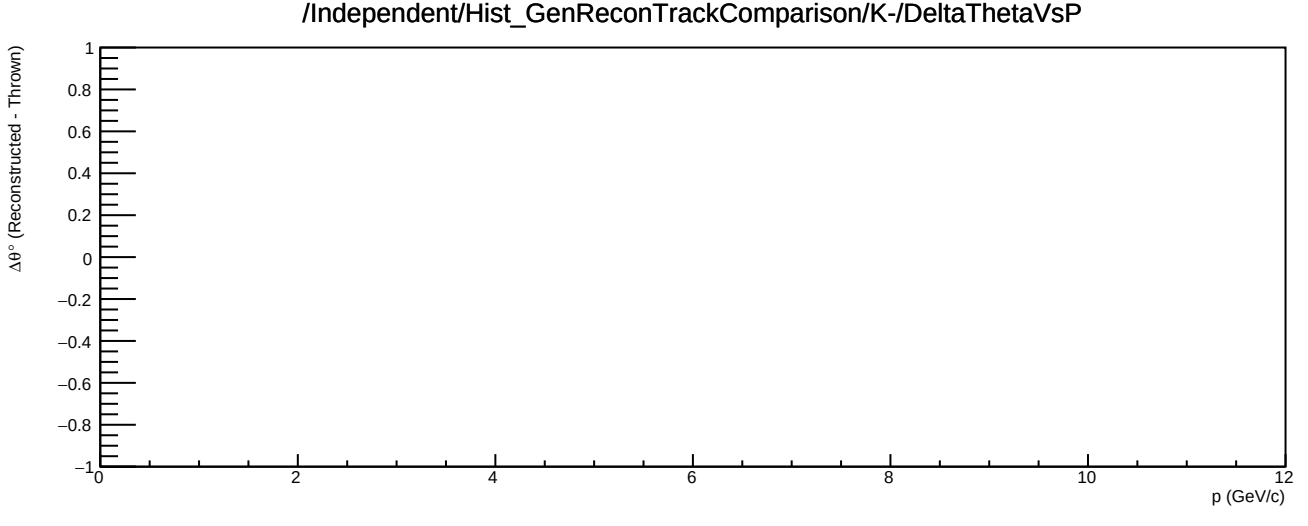

/Independent/Hist_GenReconTrackComparison/K-/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

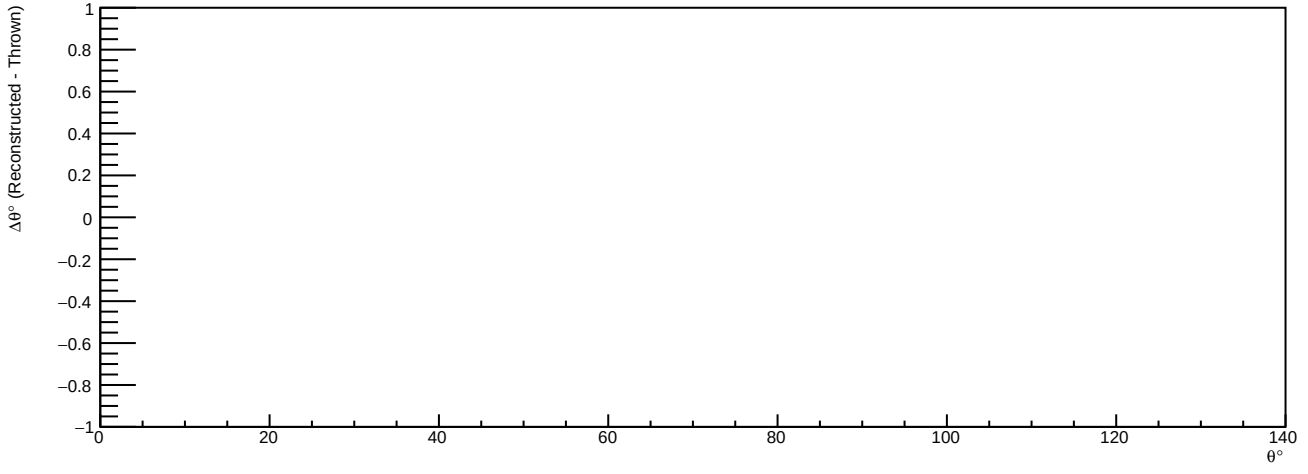

/Independent/Hist_GenReconTrackComparison/K-/DeltaPOverPVsP
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
2
4
6
8
10
12
p (GeV/c)

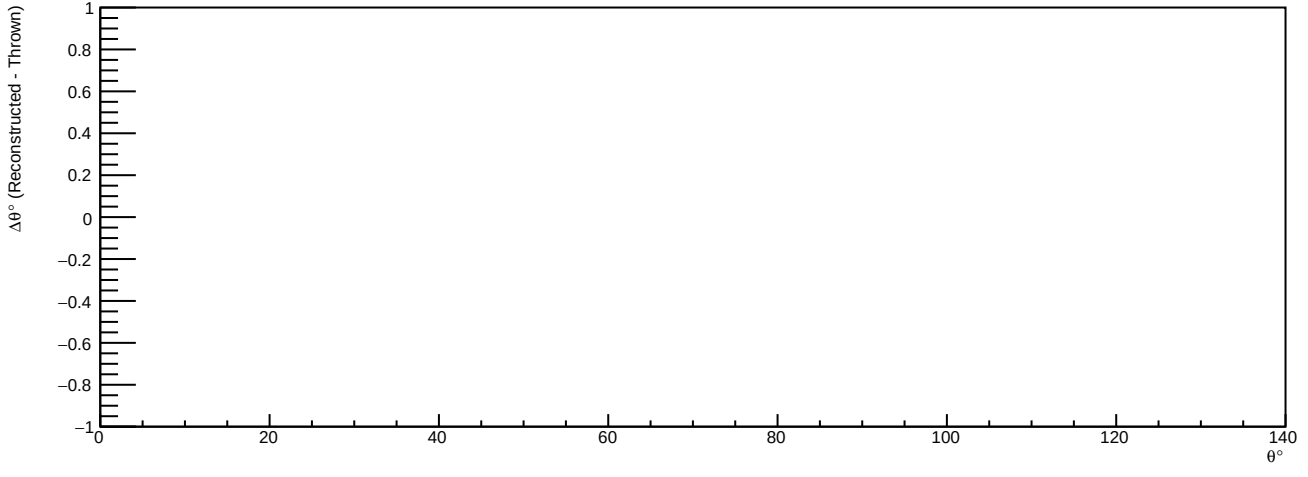

/Independent/Hist_GenReconTrackComparison/K-/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

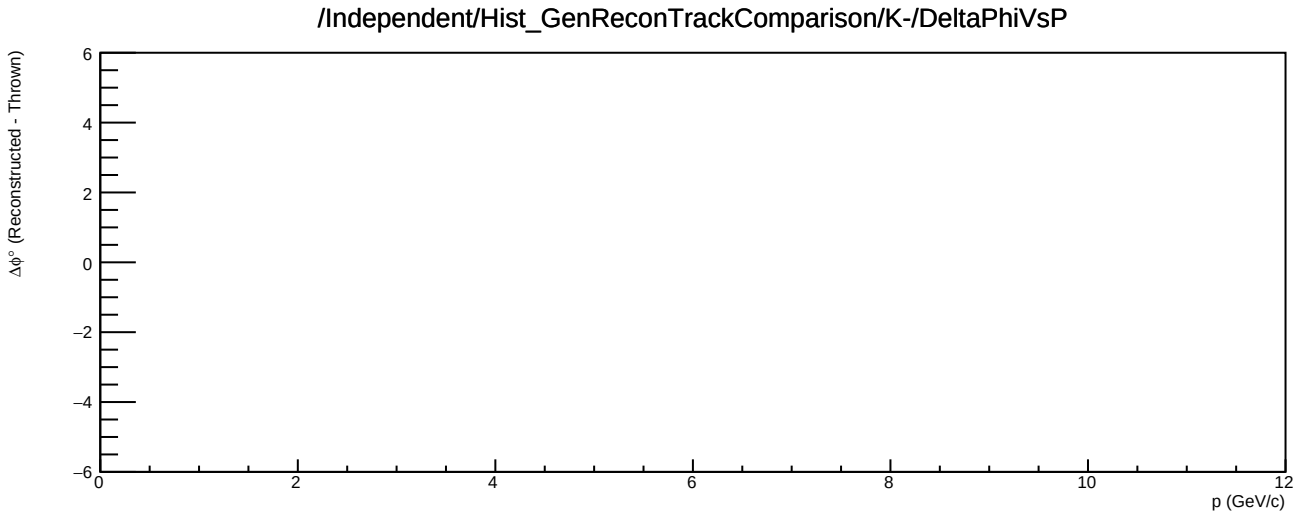

/Independent/Hist_GenReconTrackComparison/K-/DeltaPOverPVsTheta
Δp/p (Reconstructed - Thrown)
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
0
20
40
60
80
100
120
140
θ°

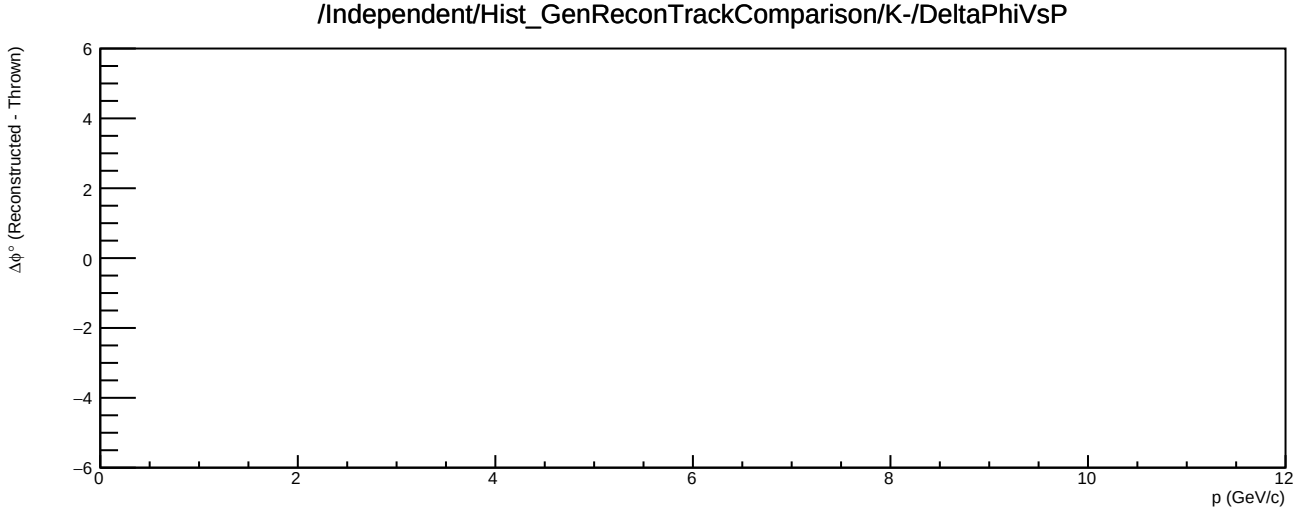

/Independent/Hist_GenReconTrackComparison/K-/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
–0.2
–0.4
–0.6
–0.8
–1
0
2
4
6
8
10
12
p (GeV/c)

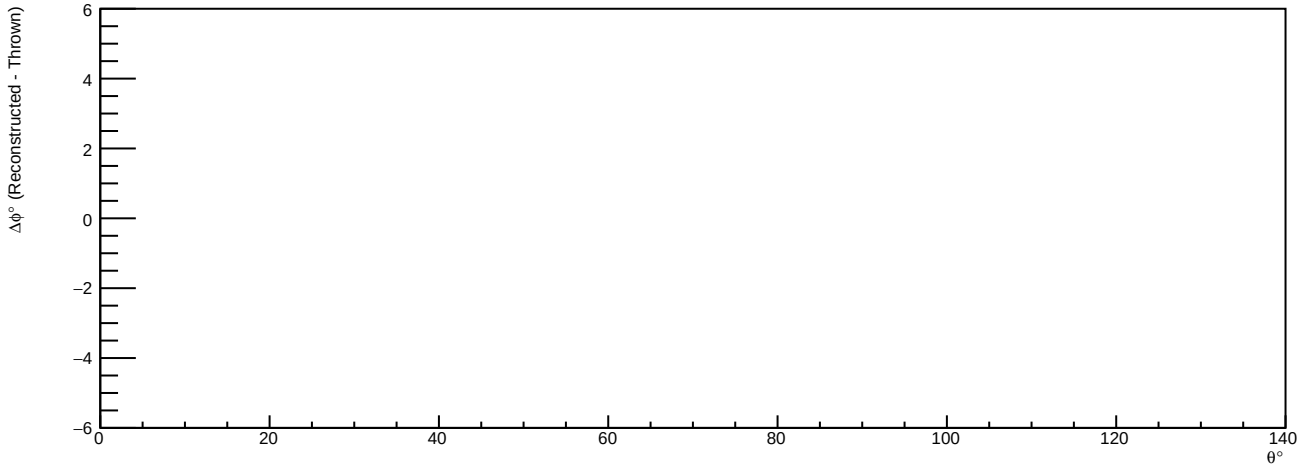

/Independent/Hist_GenReconTrackComparison/K-/DeltaThetaVsP
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
–0.2
–0.4
–0.6
–0.8
–1
0
2
4
6
8
10
12
p (GeV/c)

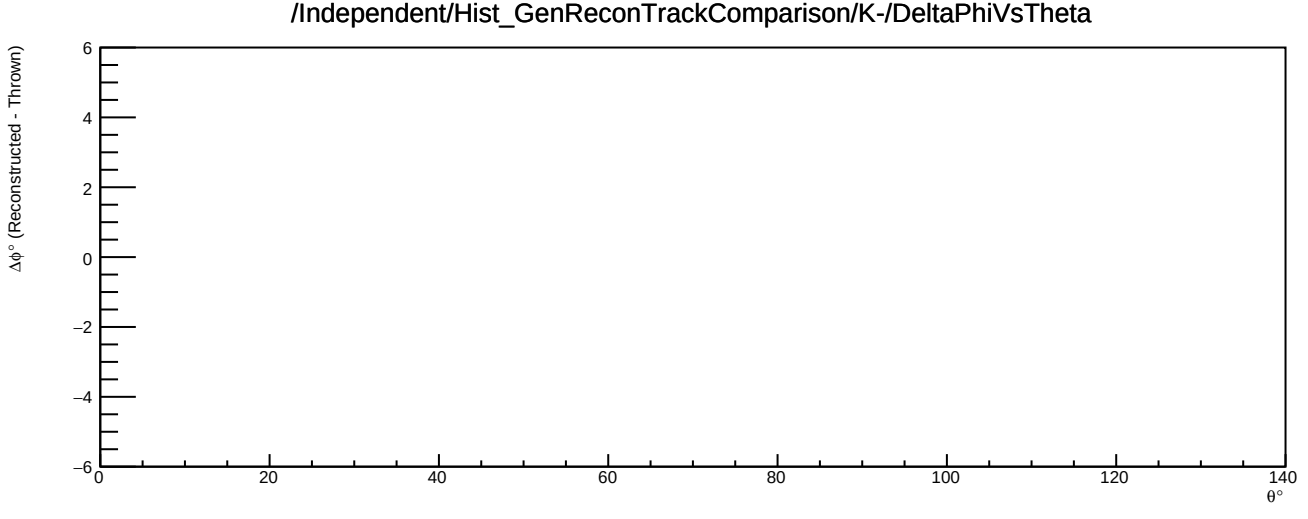

/Independent/Hist_GenReconTrackComparison/K-/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

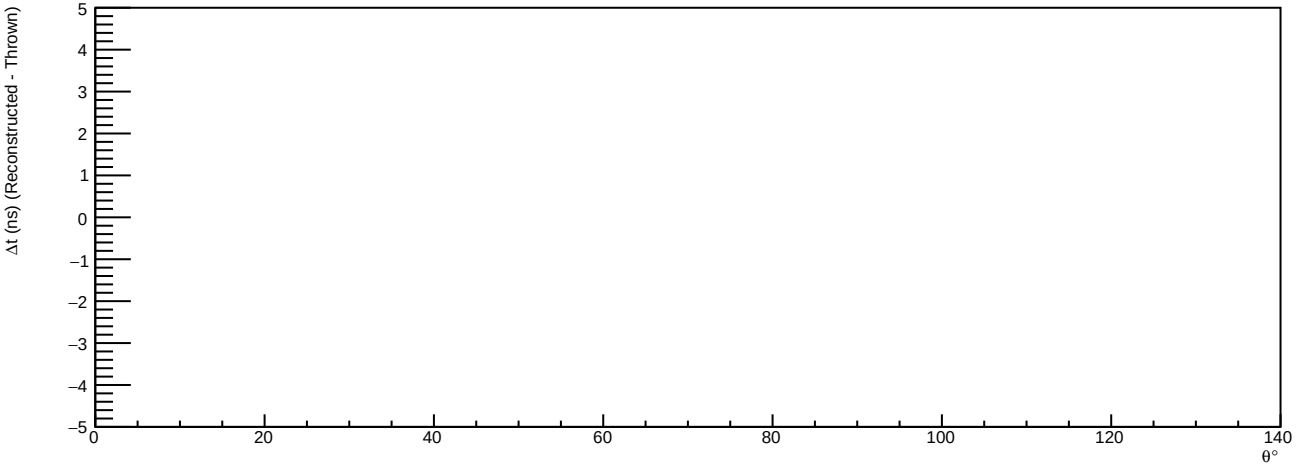

/Independent/Hist_GenReconTrackComparison/K-/DeltaThetaVsTheta
Δθ° (Reconstructed - Thrown)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
0
20
40
60
80
100
120
140
θ°

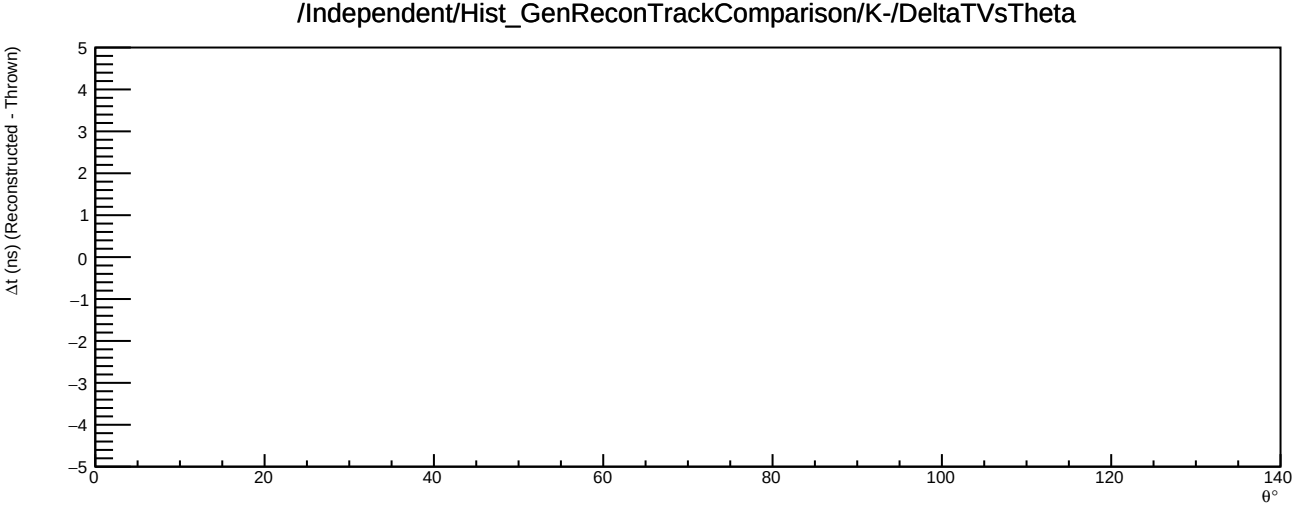

/Independent/Hist_GenReconTrackComparison/K-/DeltaPhiVsP
Δφ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

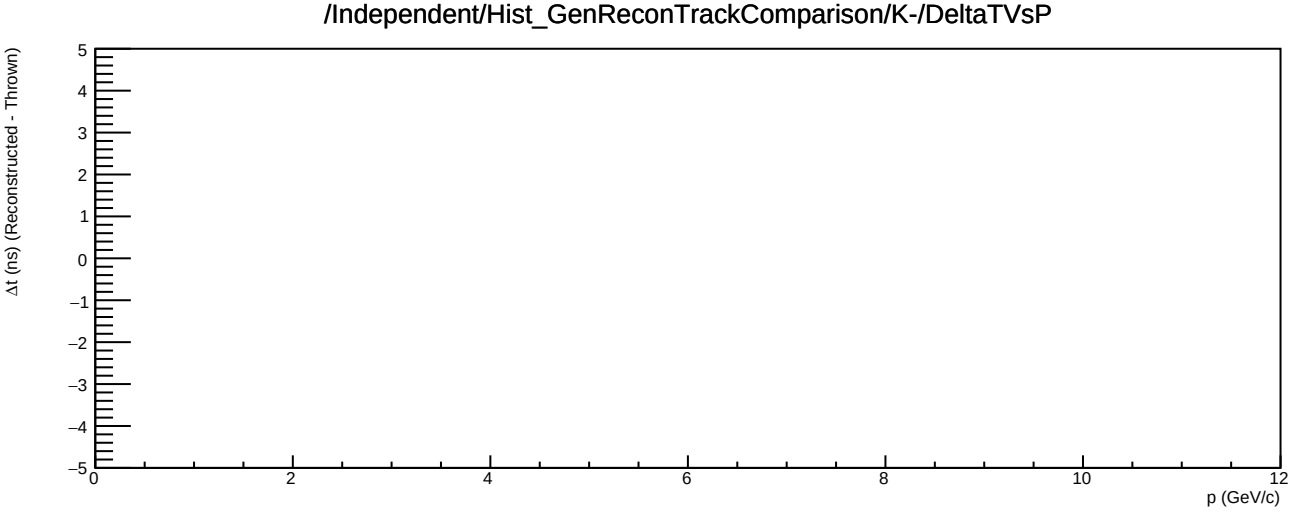

/Independent/Hist_GenReconTrackComparison/K-/DeltaPhiVsP
Δφ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
2
4
6
8
10
12
p (GeV/c)

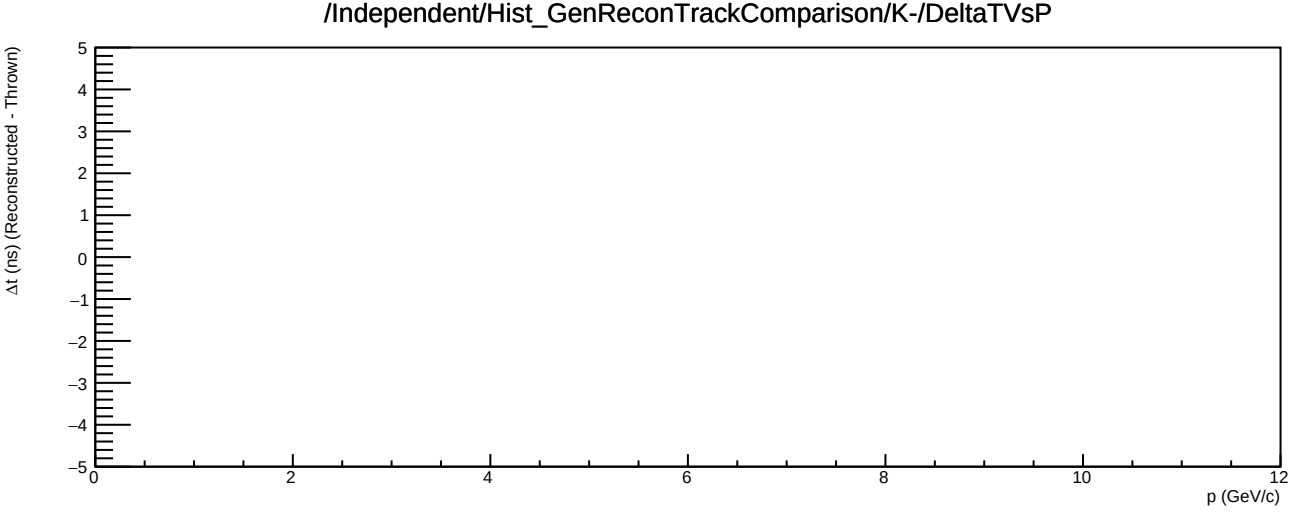

/Independent/Hist_GenReconTrackComparison/K-/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

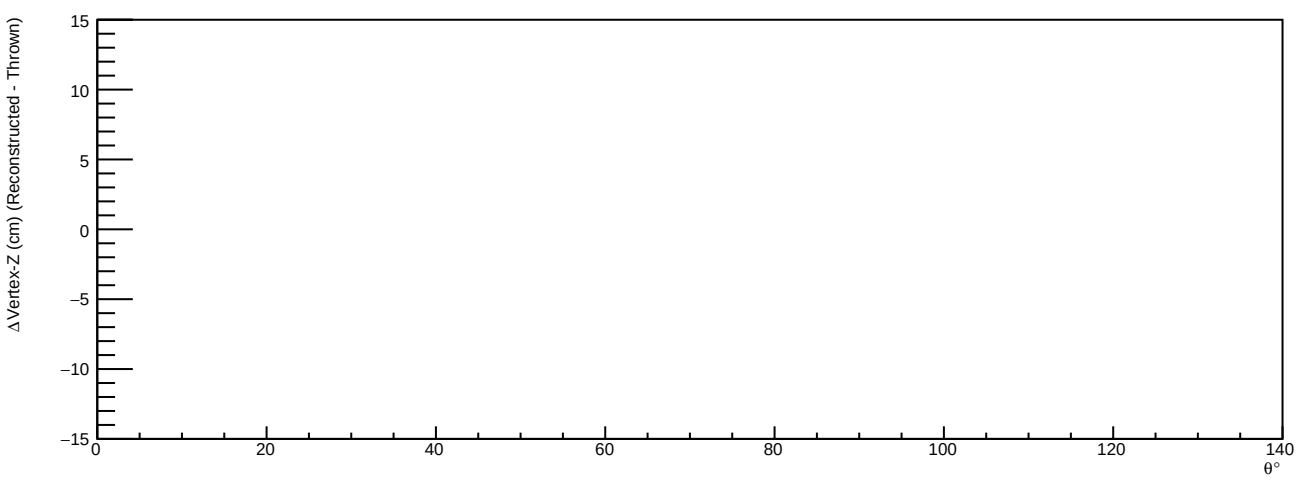

/Independent/Hist_GenReconTrackComparison/K-/DeltaPhiVsTheta
Δϕ° (Reconstructed - Thrown)
6
4
2
0
−2
−4
−6
0
20
40
60
80
100
120
140
θ°

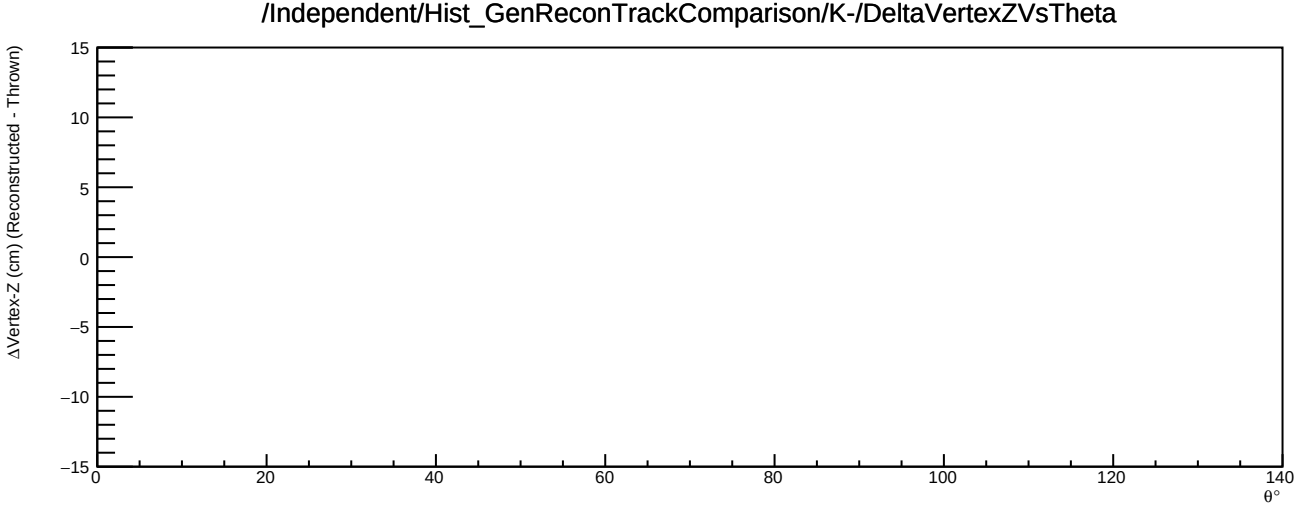

/Independent/Hist_GenReconTrackComparison/K-/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
20
40
60
80
100
120
140
θ°

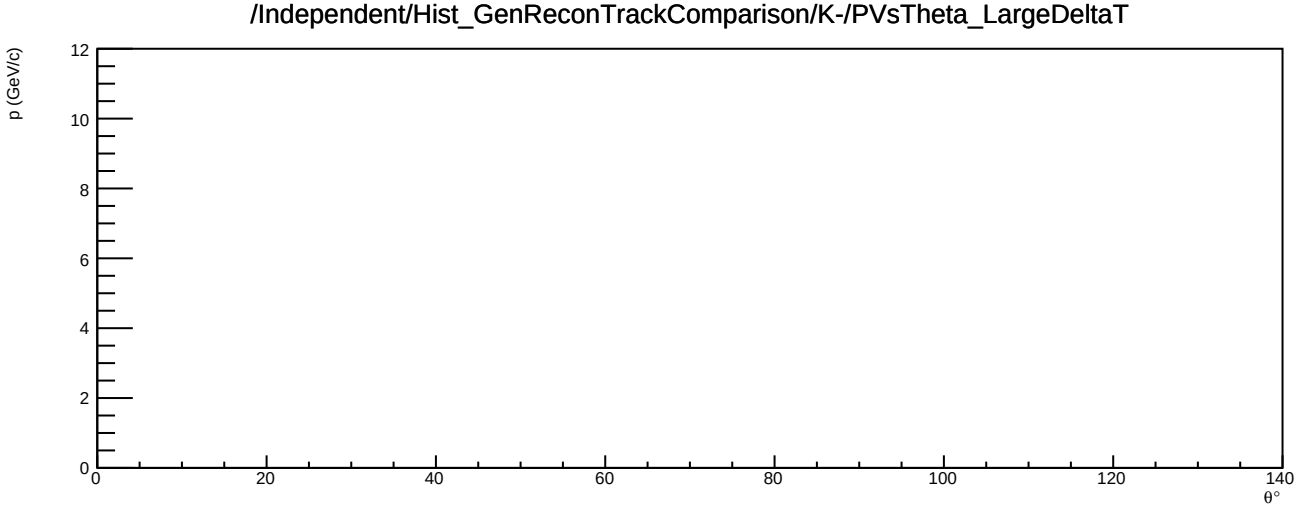

/Independent/Hist_GenReconTrackComparison/K-/DeltaTVsTheta
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
20
40
60
80
100
120
140
θ°

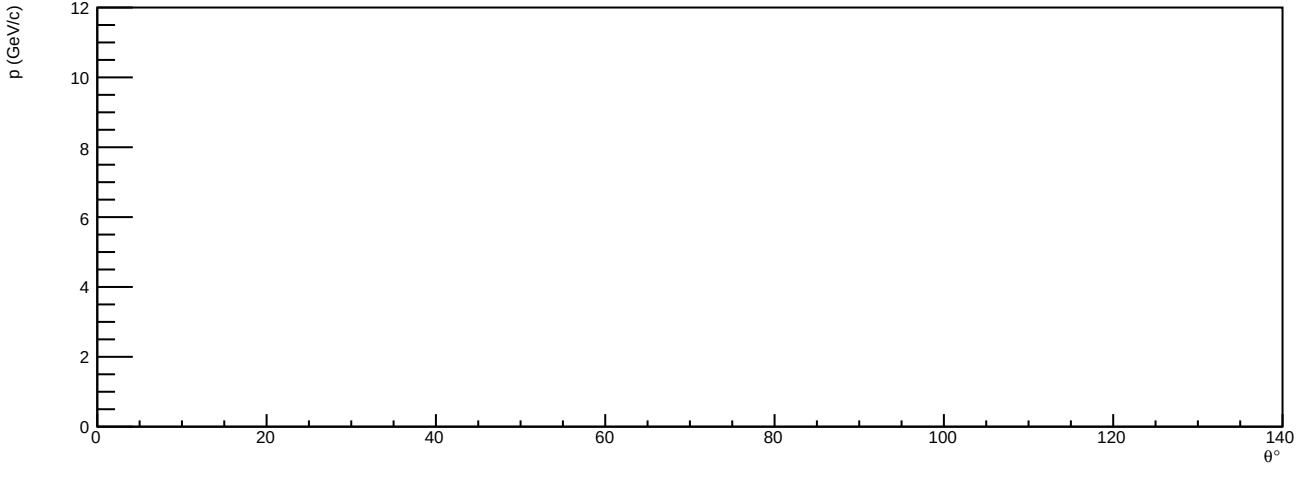

/Independent/Hist_GenReconTrackComparison/K-/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
2
4
6
8
10
12
p (GeV/c)

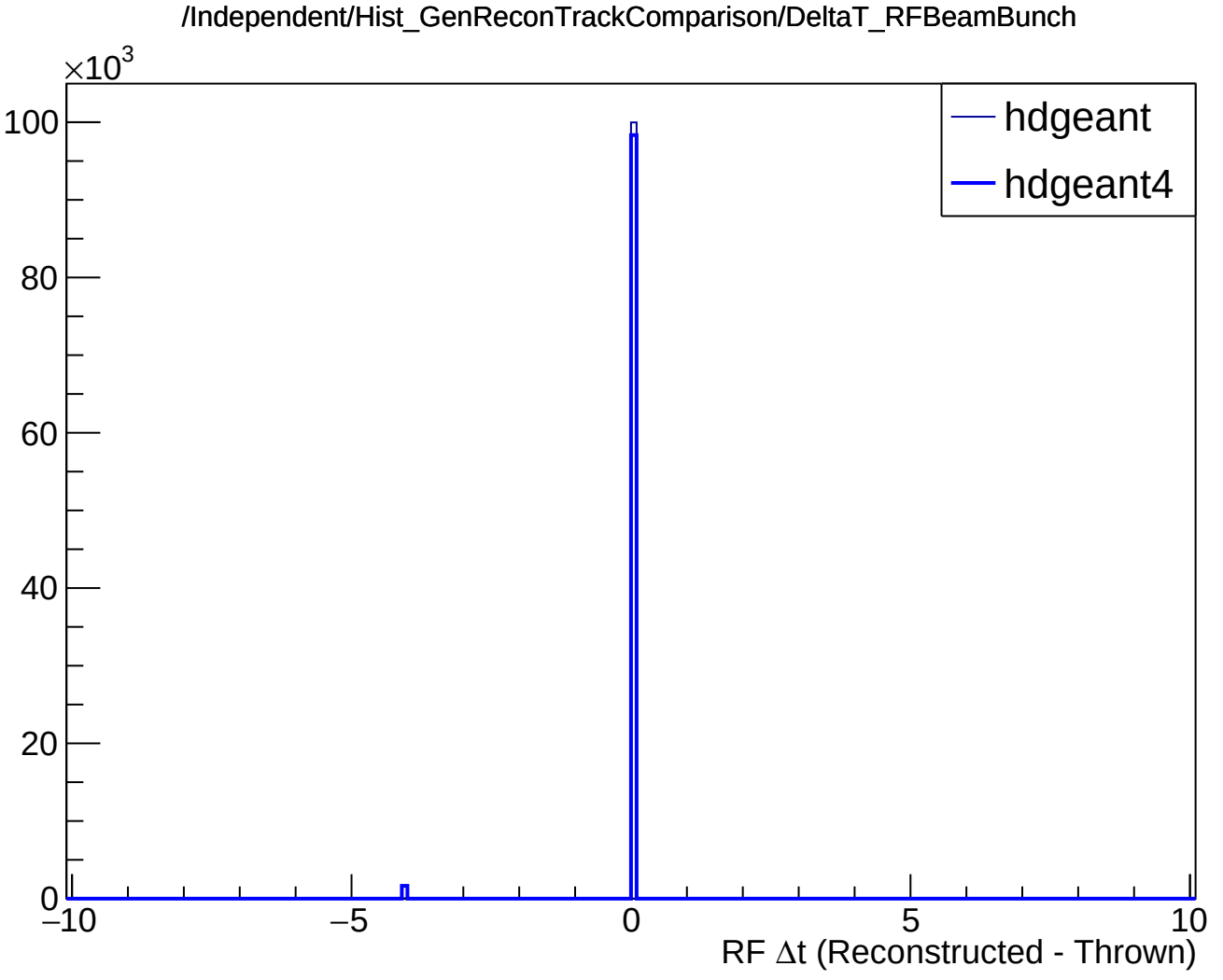

/Independent/Hist_GenReconTrackComparison/K-/DeltaTVsP
Δt (ns) (Reconstructed - Thrown)
5
4
3
2
1
0
–1
–2
–3
–4
–5
0
2
4
6
8
10
12
p (GeV/c)

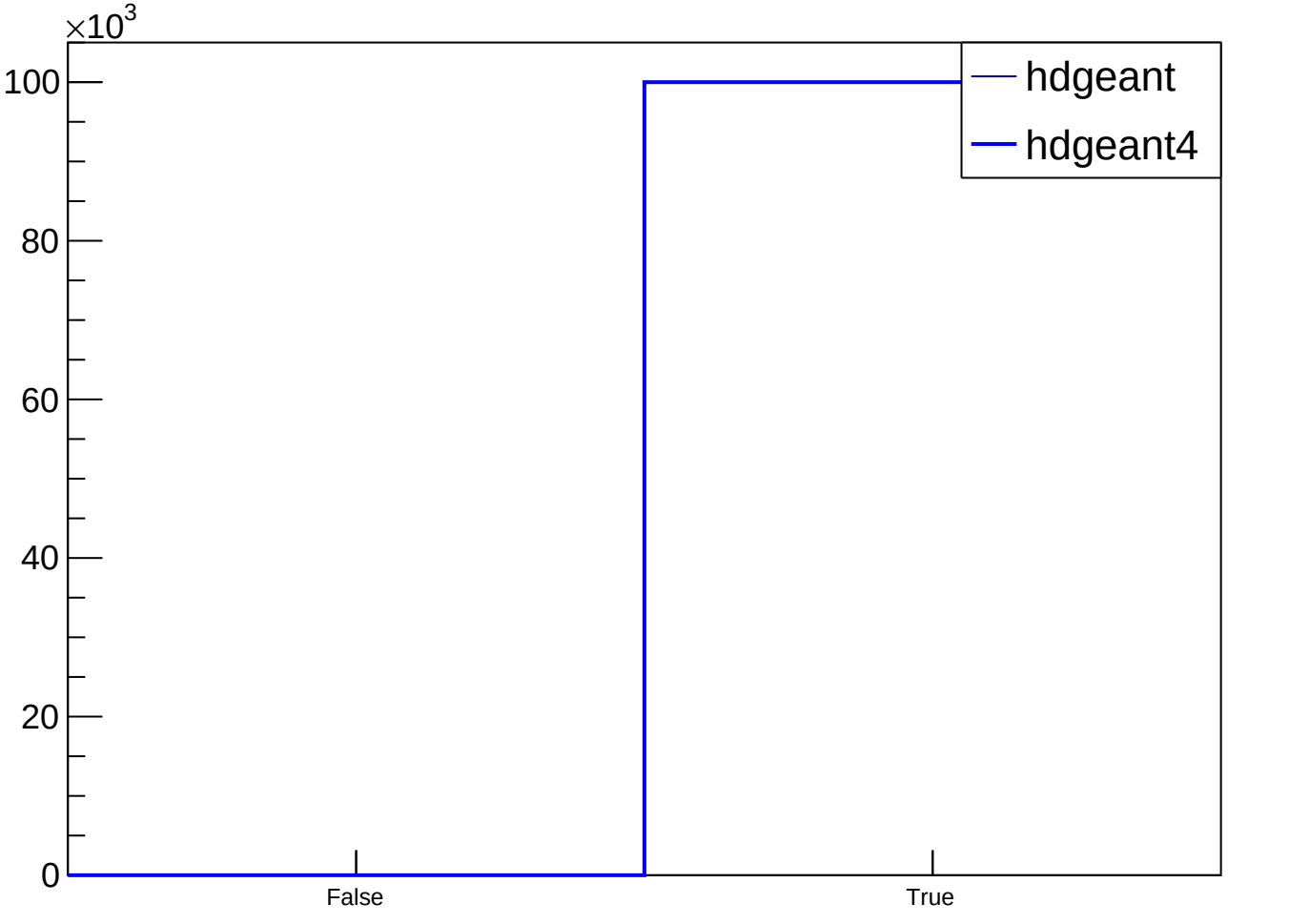

/Independent/Hist_GenReconTrackComparison/K-/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°

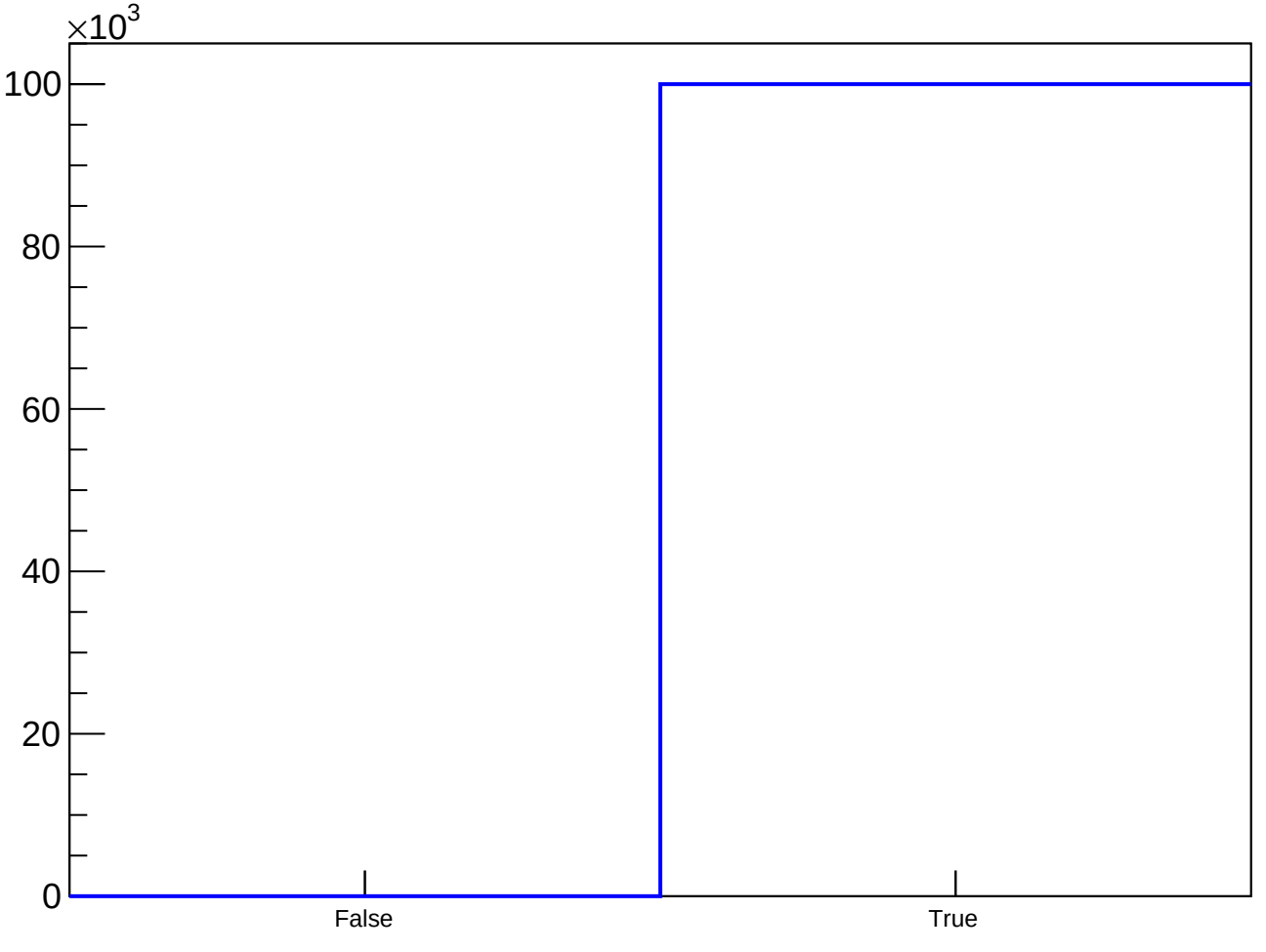

/Independent/Hist_GenReconTrackComparison/K-/DeltaVertexZVsTheta
ΔVertex-Z (cm) (Reconstructed - Thrown)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_GenReconTrackComparison/K-/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_GenReconTrackComparison/K-/PVsTheta_LargeDeltaT
p (GeV/c)
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
θ°


/Independent/Hist_GenReconTrackComparison/DeltaT_RFBeamBunch
×10^3
100
80
60
40
20
0
−10
−5
0
5
10
RF Δt (Reconstructed - Thrown)
hdgeant
hdgeant4


/Independent/IsEvent
×10^3
100
80
60
40
20
0
False
True
hdgeant
hdgeant4


/Independent/IsEvent
×10^3
100
80
60
40
20
0
False
True