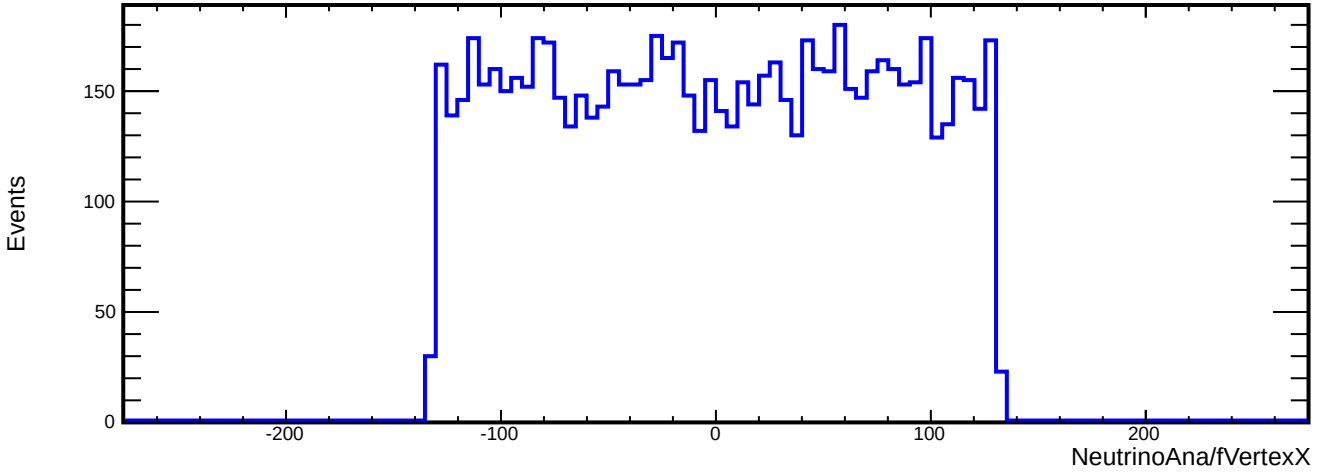
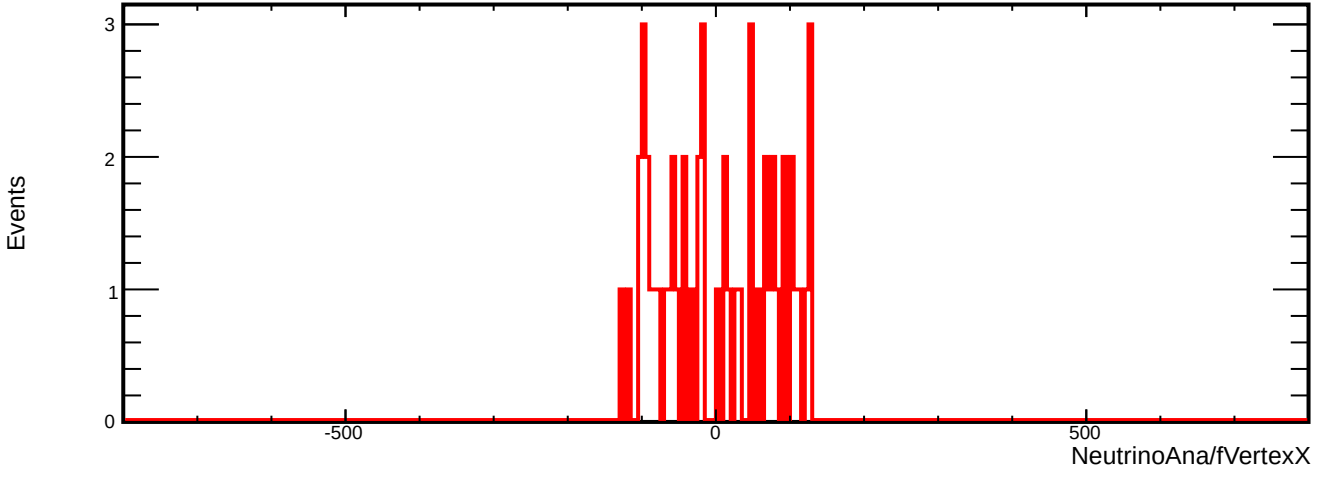
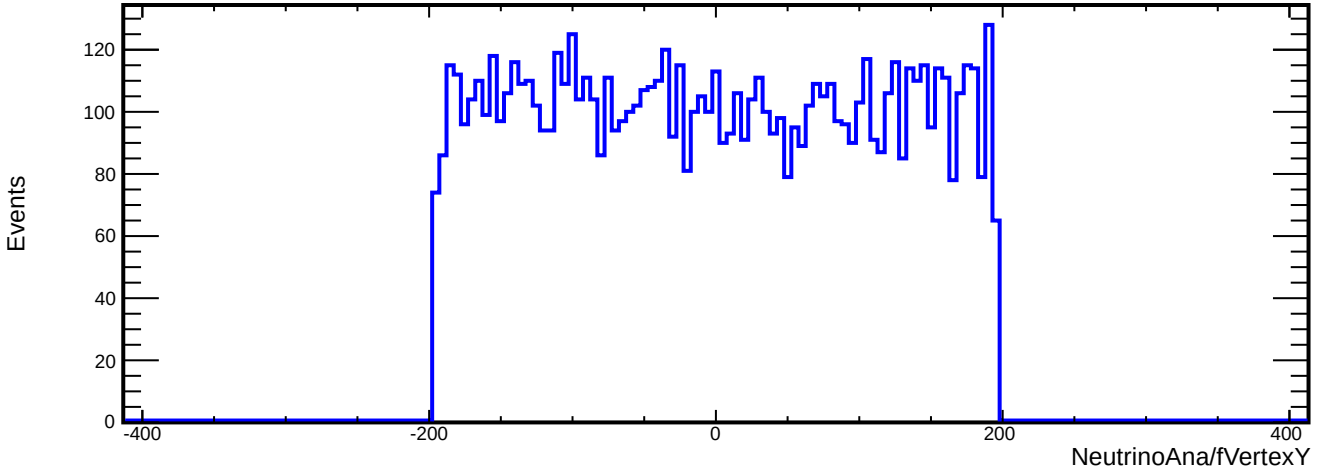
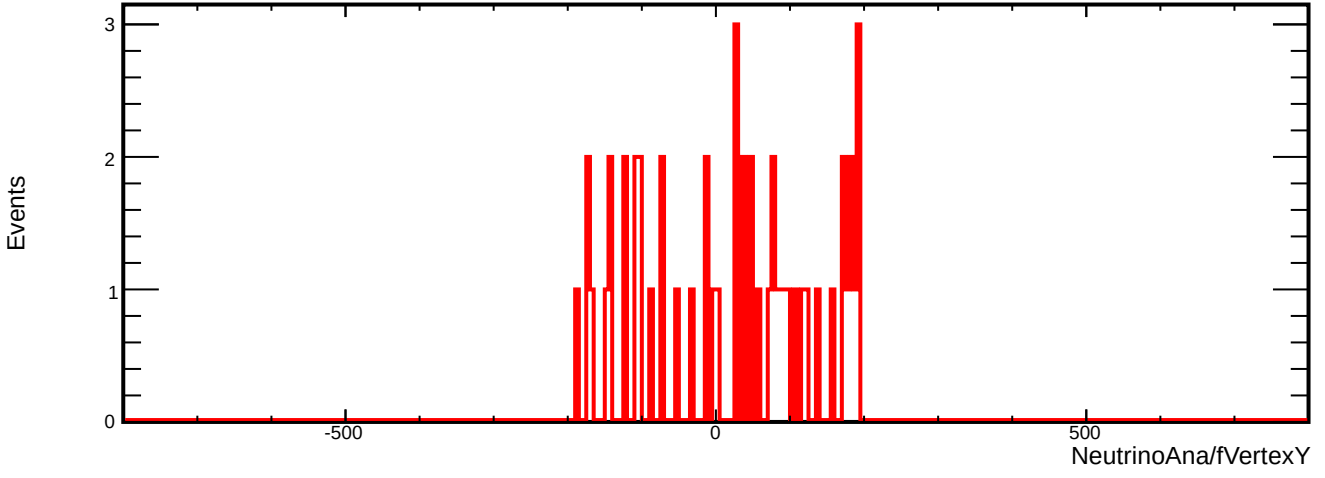
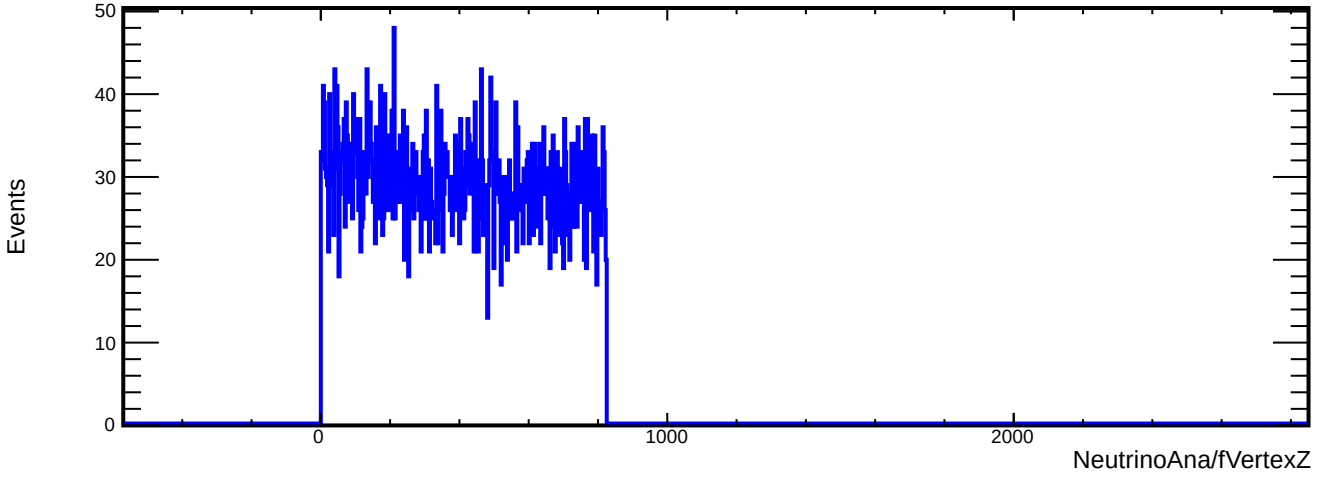
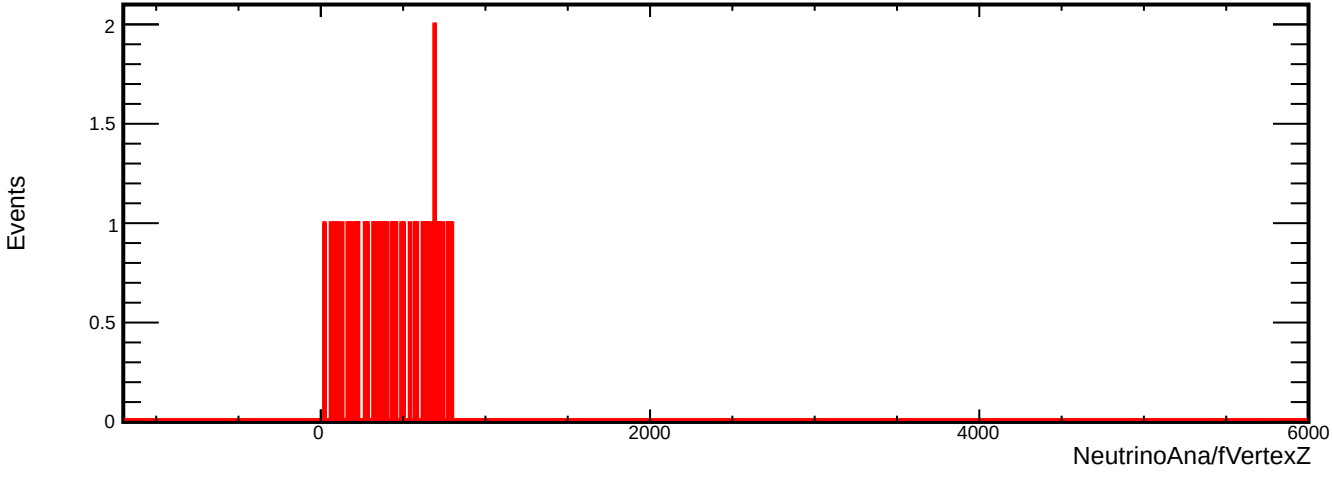

Events
150
100
50
0
-200
-100
0
100
200
NeutrinoAna/fVertexX

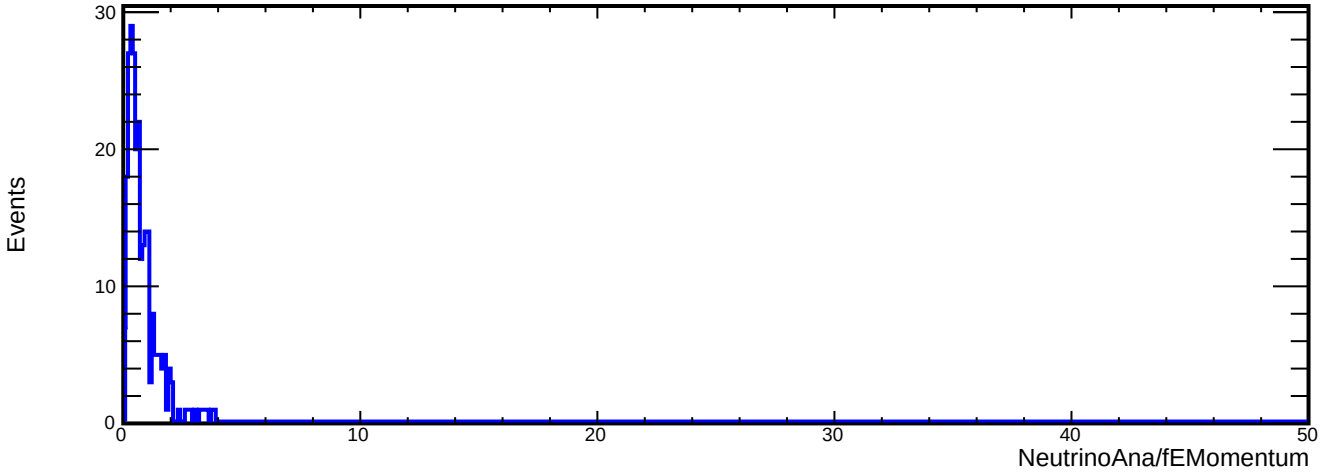

Events
3
2
1
0
-500
0
500
NeutrinoAna/fVertexX

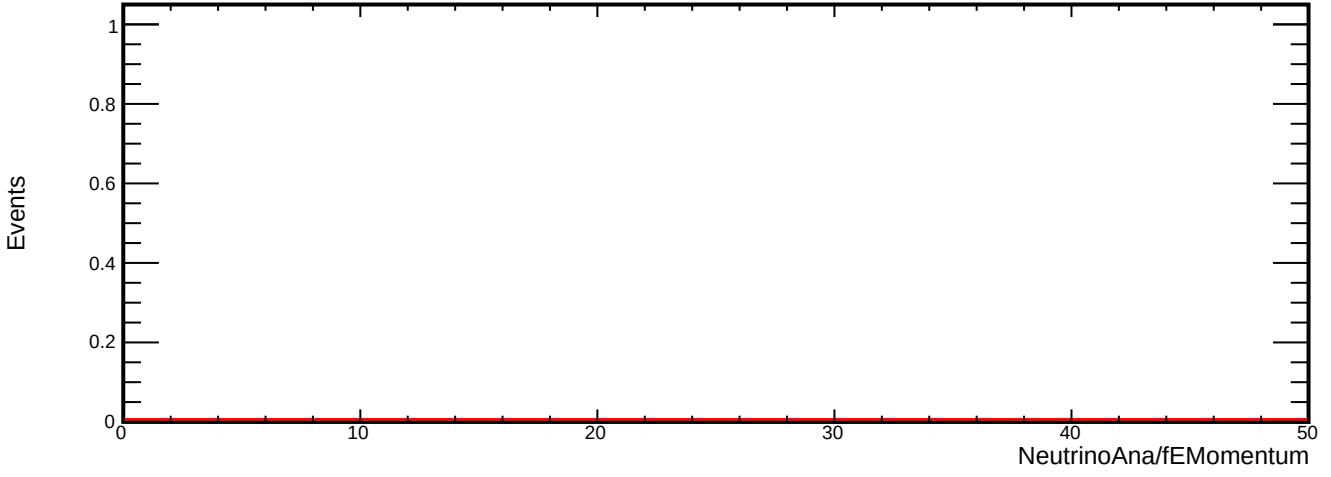

Events
120
100
80
60
40
20
0
-400
-200
0
200
400
NeutrinoAna/fVertexY

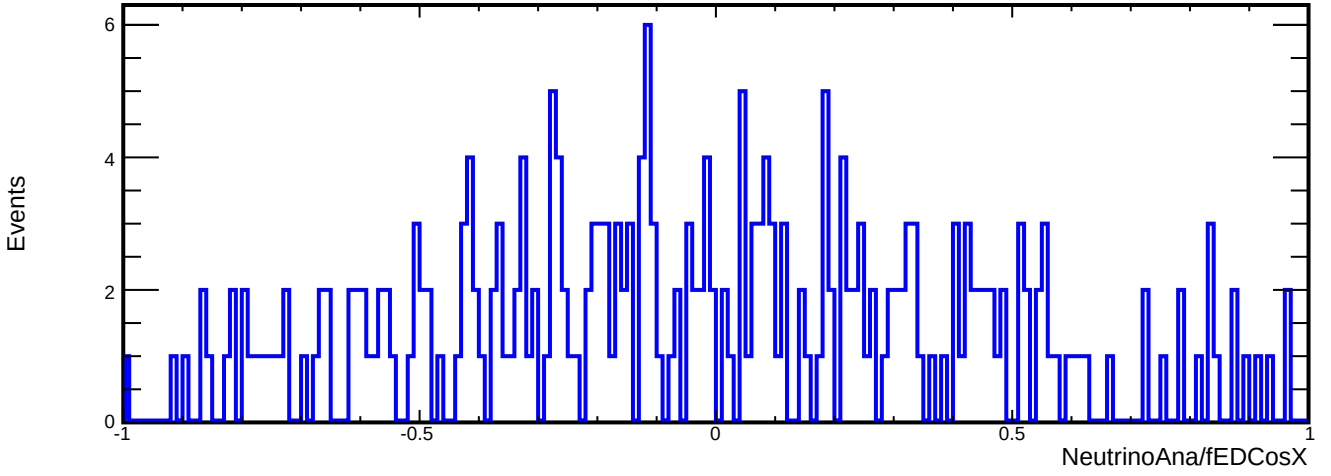

Events
3
2
1
0
-500
0
500
NeutrinoAna/fVertexY

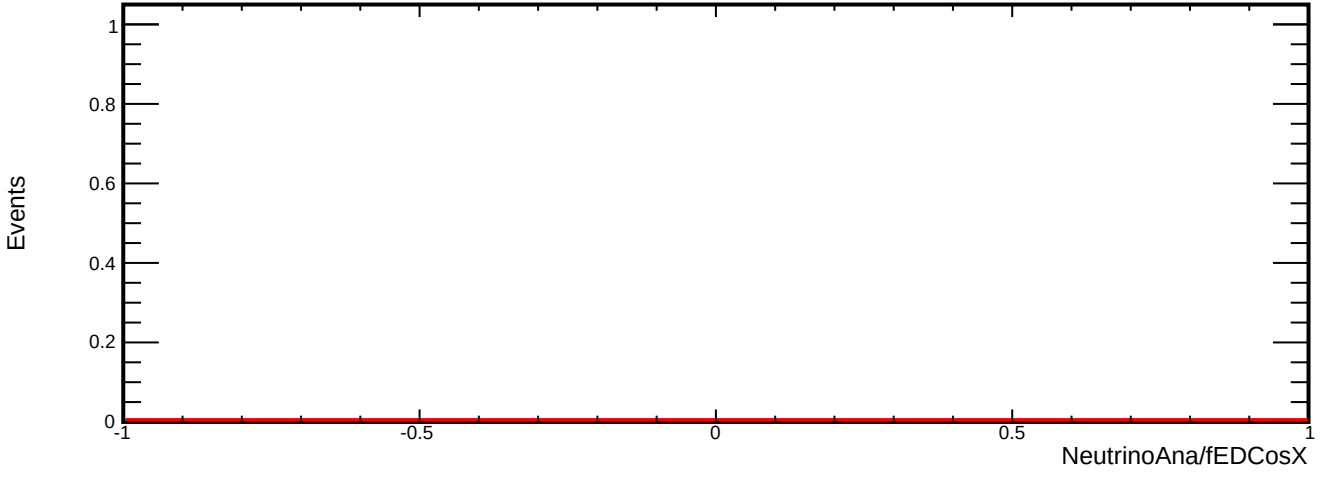

Events
50
40
30
20
10
0
0
1000
2000
NeutrinoAna/fVertexZ

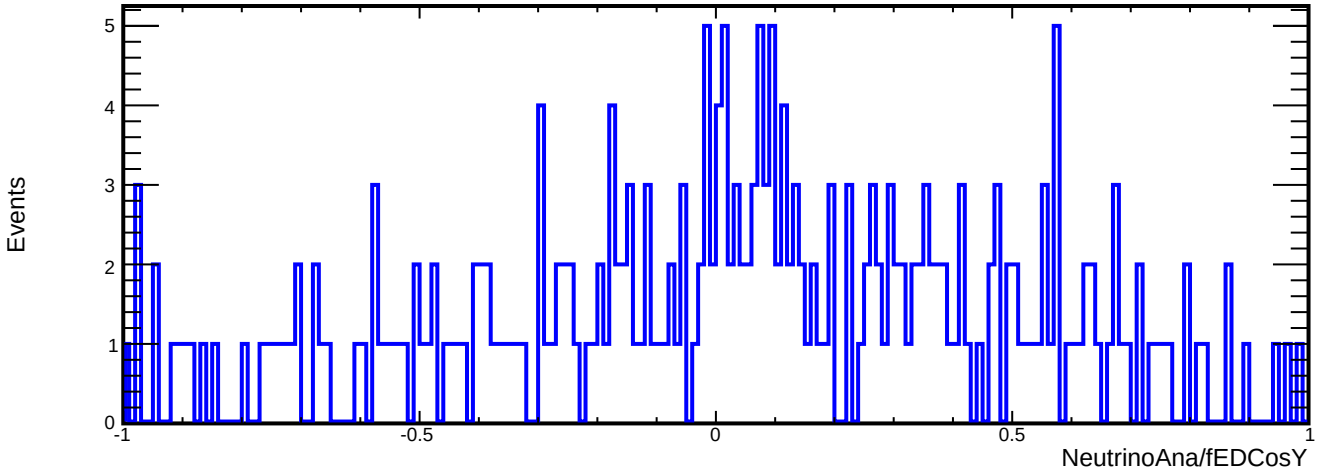

Events
2
1.5
1
0.5
0
0
2000
4000
6000
NeutrinoAna/fVertexZ

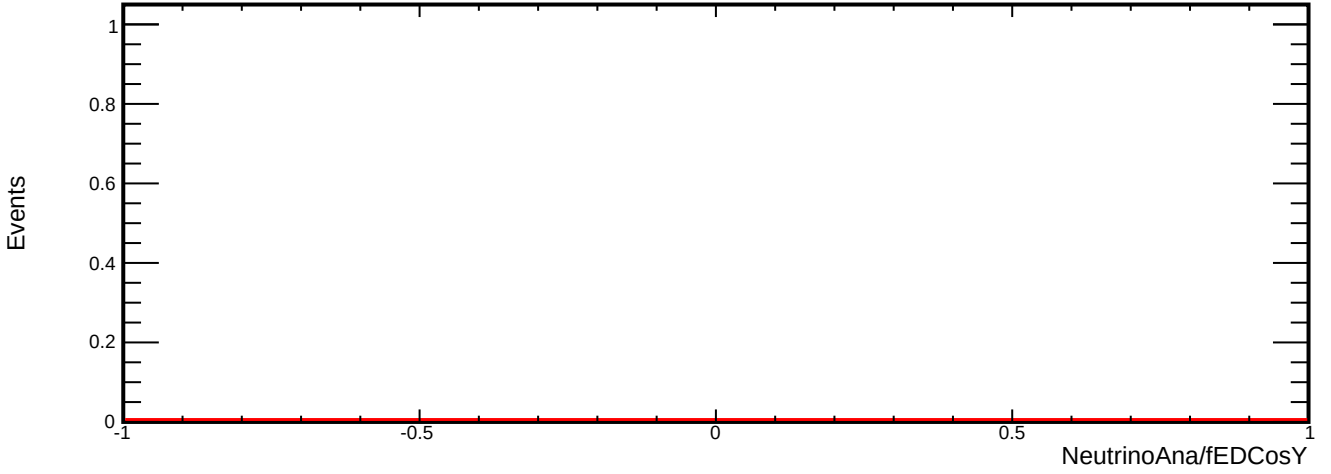

Events
30
20
10
0
0
10
20
30
40
50
NeutrinoAna/fEMomentum

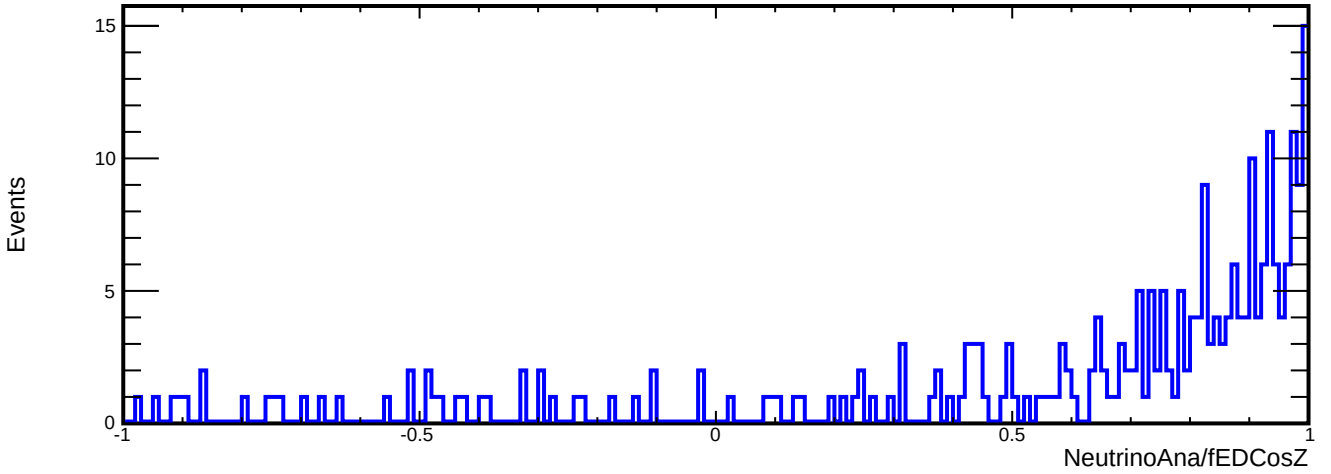

Events
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
NeutrinoAna/fEMomentum

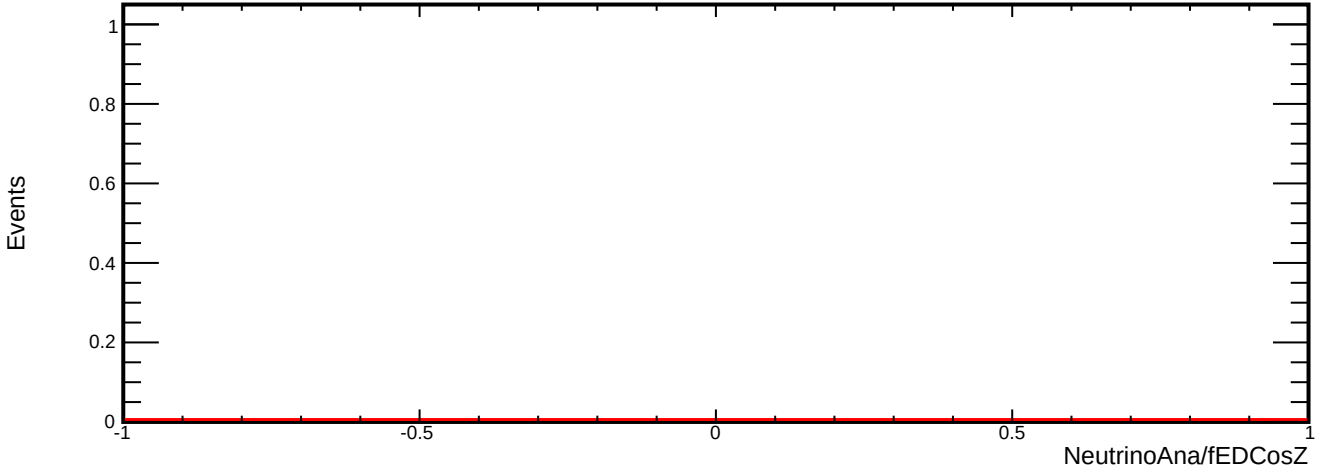

Events
6
4
2
0
-1
-0.5
0
0.5
1
NeutrinoAna/fEDCosX

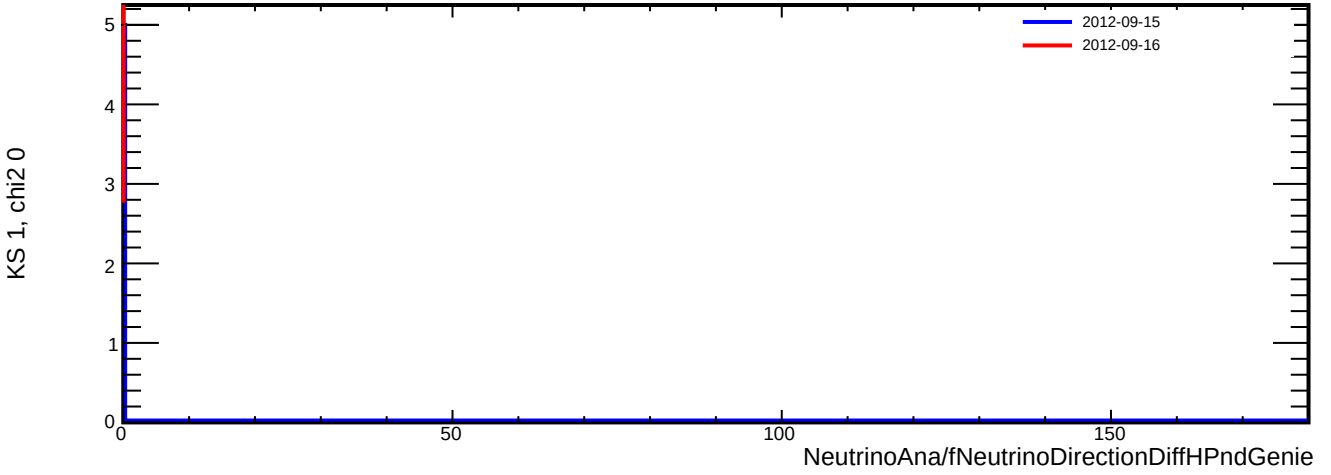

Events
1
0.8
0.6
0.4
0.2
0
-1
-0.5
0
0.5
1
NeutrinoAna/fEDCosX

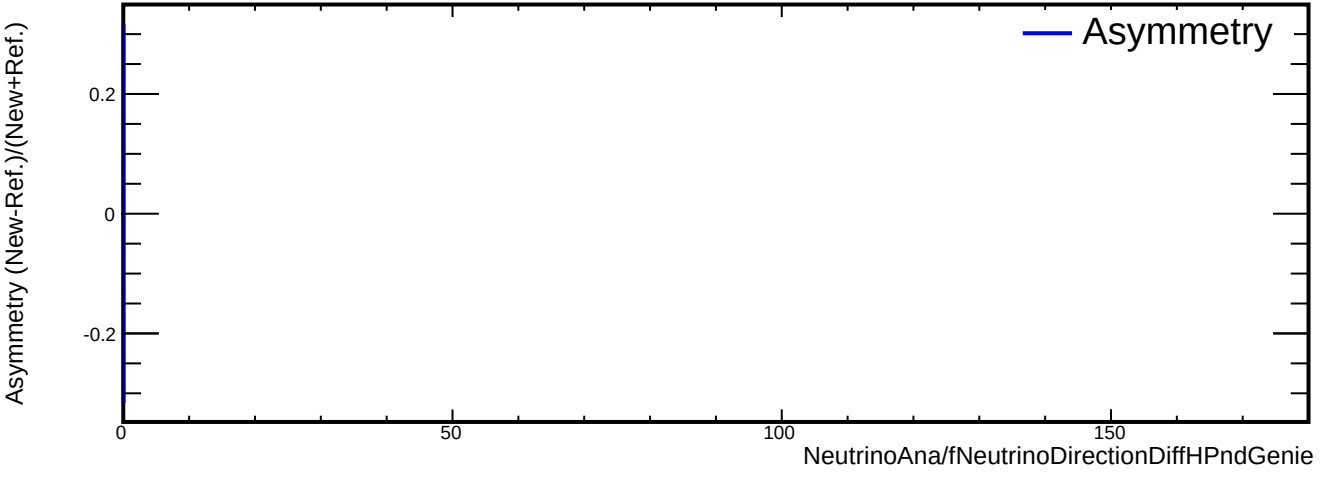

Events
0
1
2
3
4
5
-1
-0.5
0
0.5
1
NeutrinoAna/fEDCosY

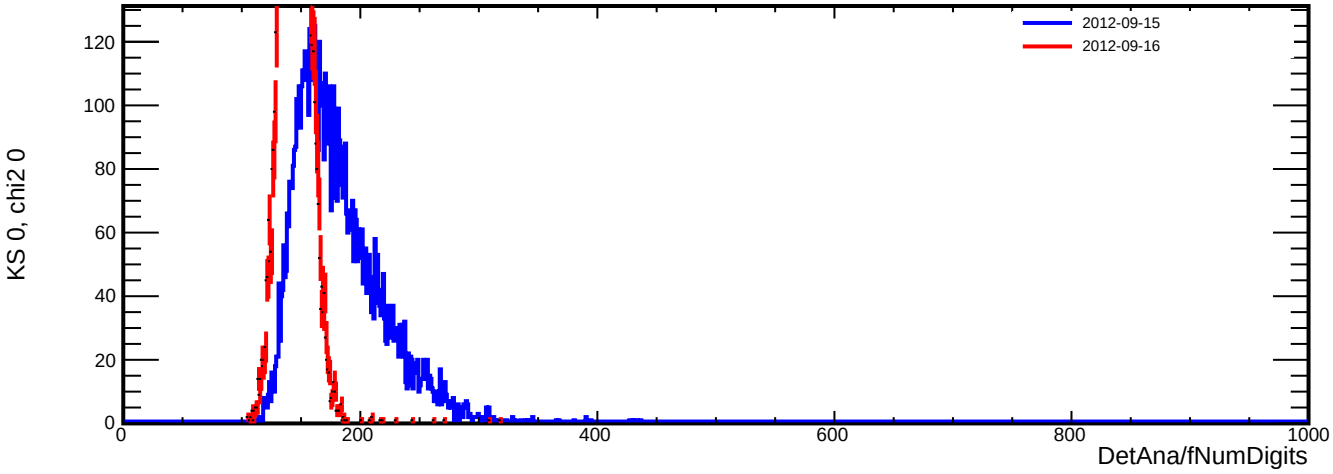

Events
0
0.2
0.4
0.6
0.8
1
-1
-0.5
0
0.5
1
NeutrinoAna/fEDCosY

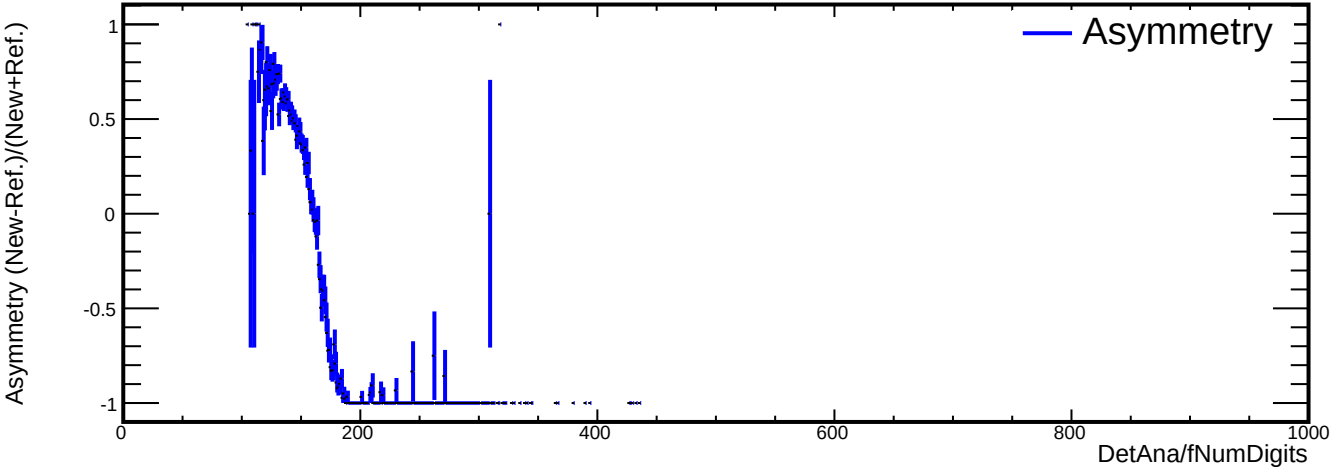

Events
15
10
5
0
-1
-0.5
0
0.5
1
NeutrinoAna/fEDCosZ

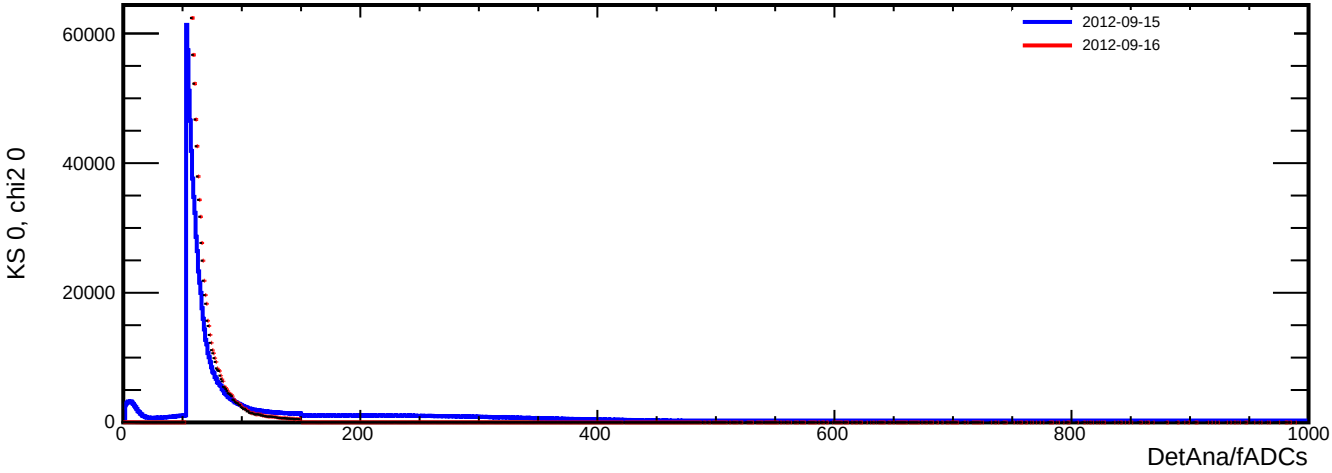

Events
1
0.8
0.6
0.4
0.2
0
-1
-0.5
0
0.5
1
NeutrinoAna/fEDCosZ

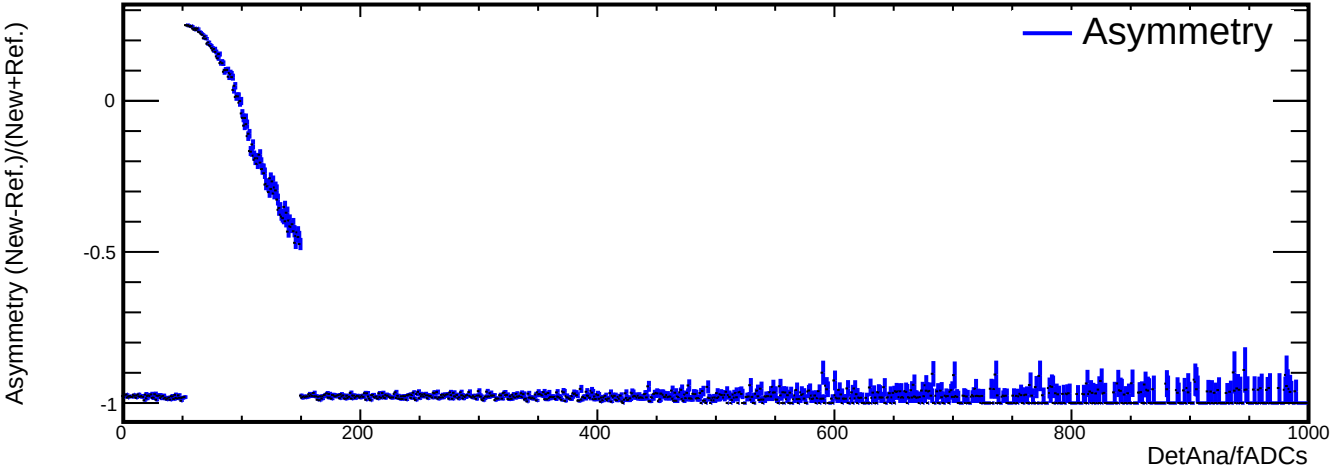

2012-09-15
2012-09-16
KS 1, chi2 0
0
1
2
3
4
5
0
50
100
150
NeutrinoAna/fNeutrinoDirectionDiffHPndGenie

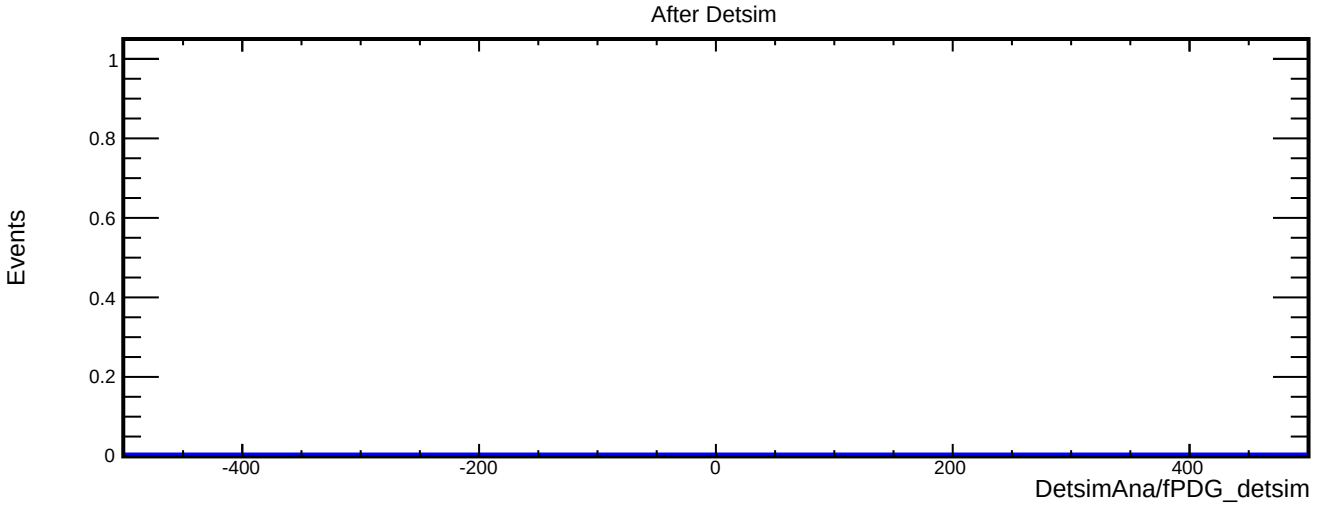

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
0.2
0
-0.2
0
50
100
150
NeutrinoAna/fNeutrinoDirectionDiffHPndGenie

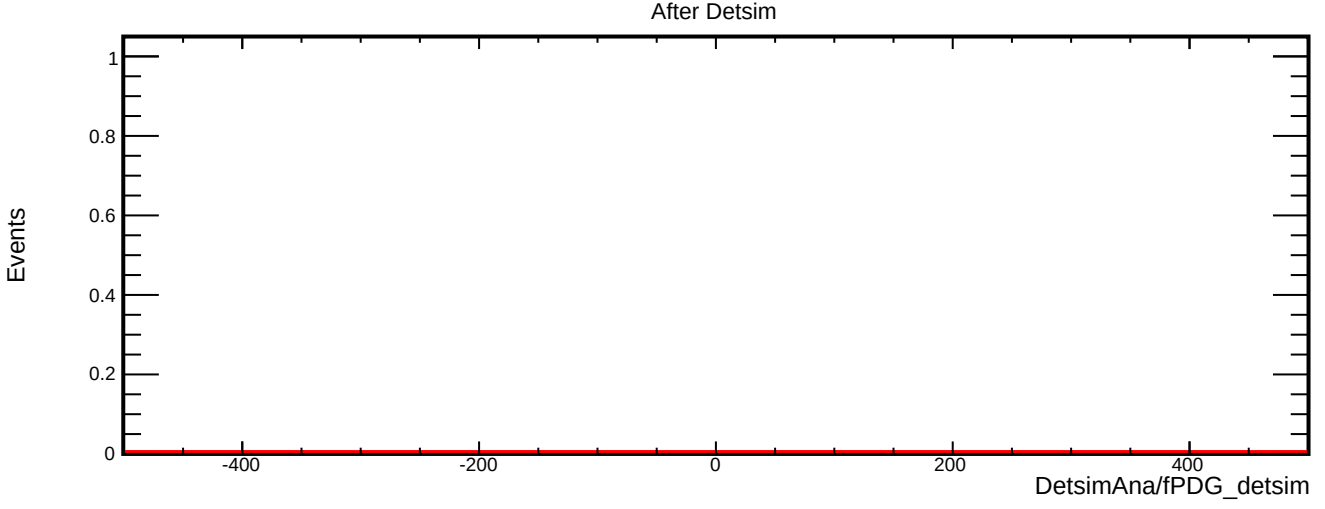

2012-09-15
2012-09-16
KS 0, chi2 0
DetAna/fNumDigits
0
20
40
60
80
100
120
0
200
400
600
800
1000

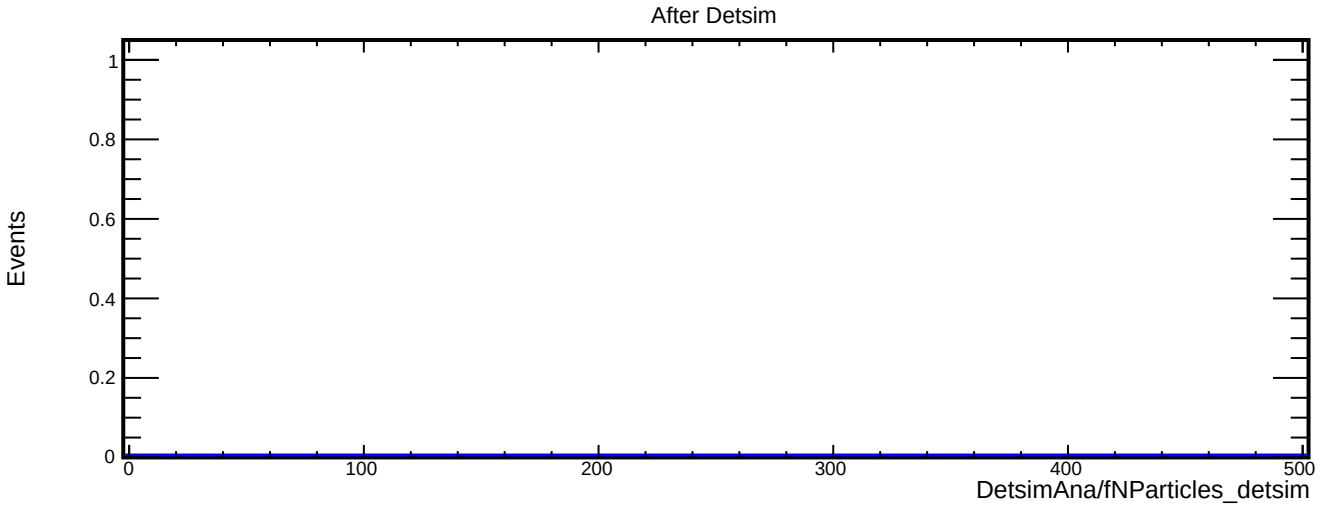

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
DetAna/fNumDigits
1
0.5
0
-0.5
-1
0
200
400
600
800
1000

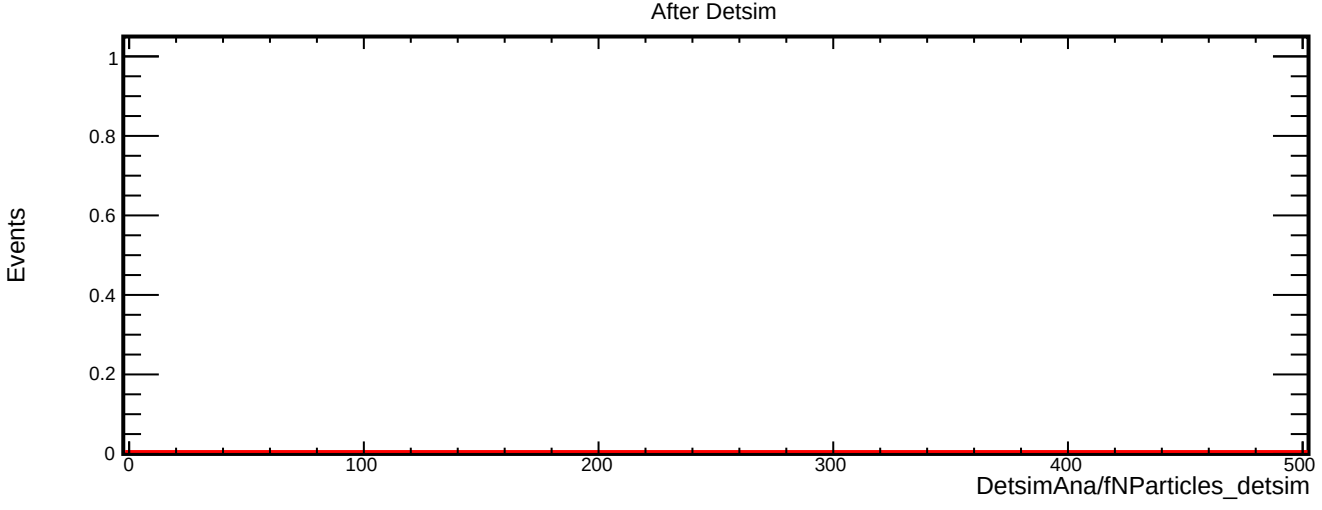

2012-09-15
2012-09-16
KS 0, chi2 0
60000
40000
20000
0
0
200
400
600
800
1000
DetAna/fADCs

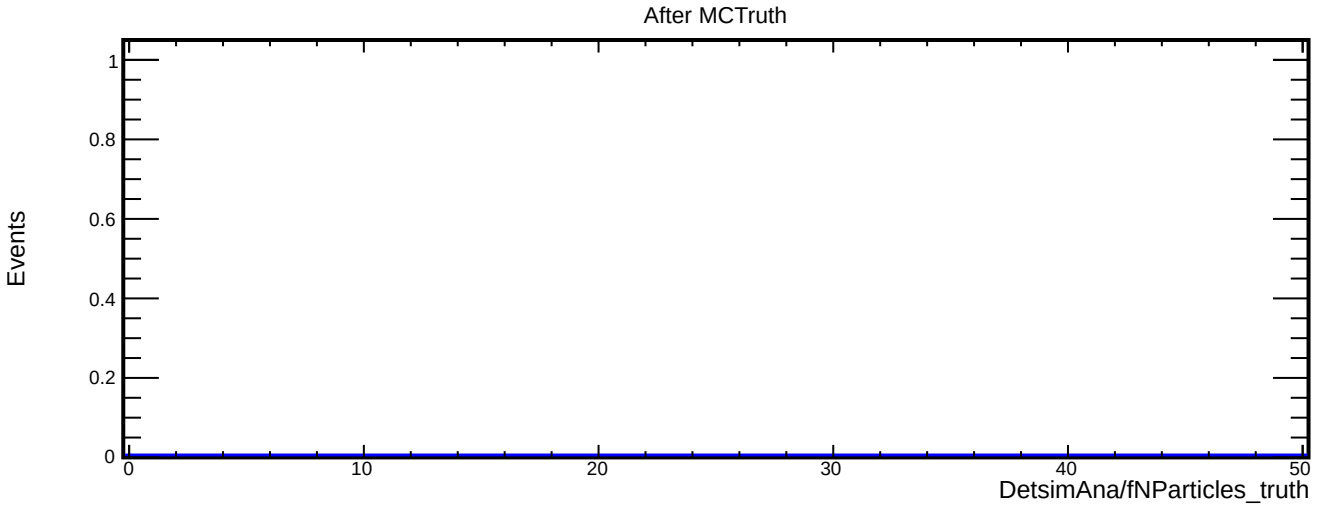

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
0
-0.5
-1
0
200
400
600
800
1000
DetAna/fADCs

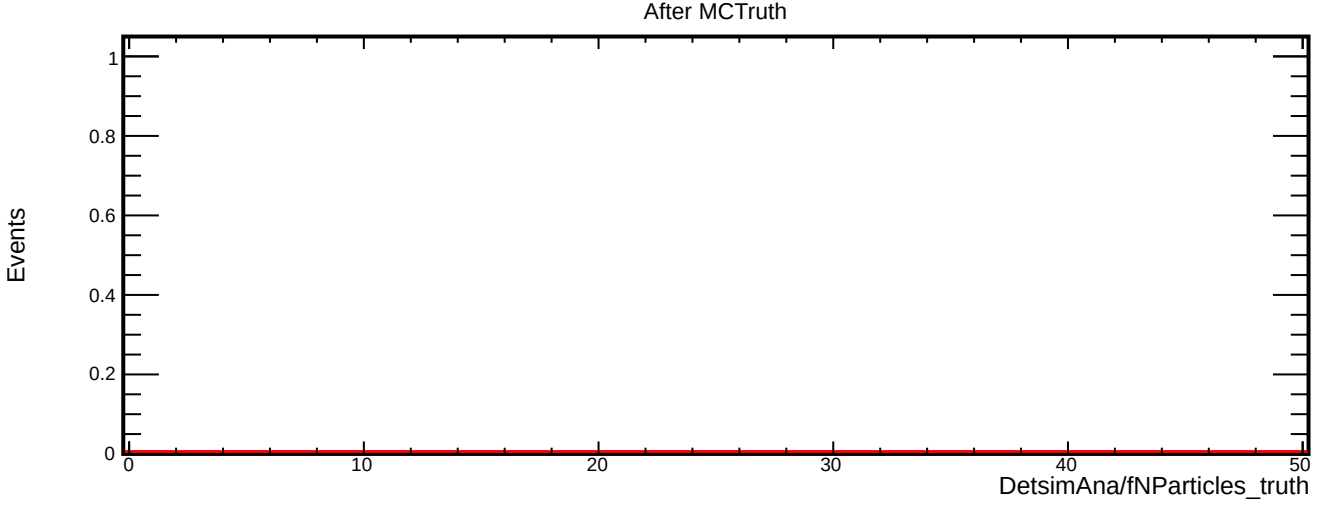

After Detsim
Events
1
0.8
0.6
0.4
0.2
0
-400
-200
0
200
400
DetsimAna/fPDG_detsim

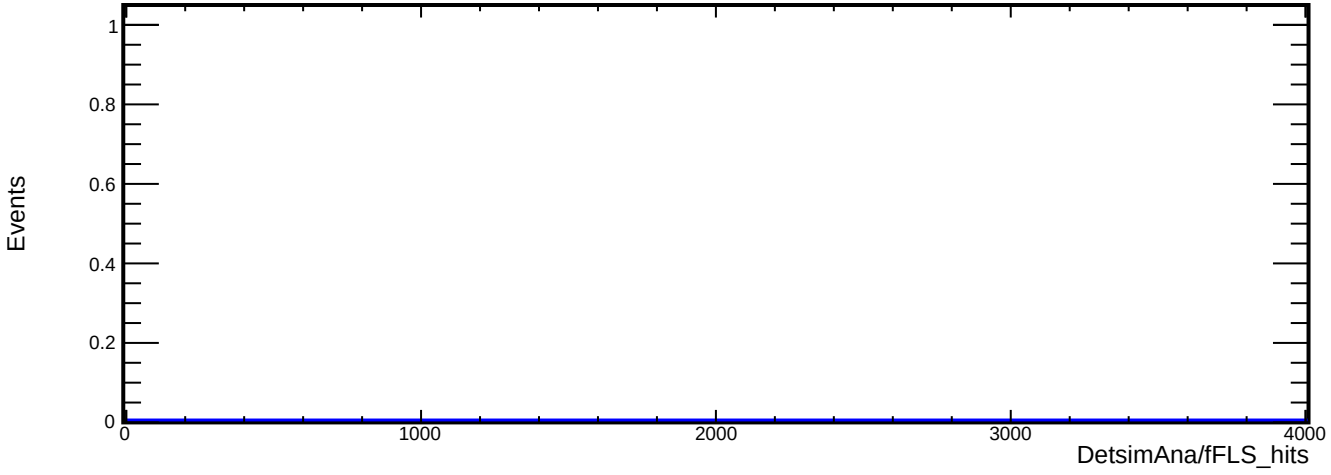

After Detsim
Events
1
0.8
0.6
0.4
0.2
0
-400
-200
0
200
400
DetsimAna/fPDG_detsim

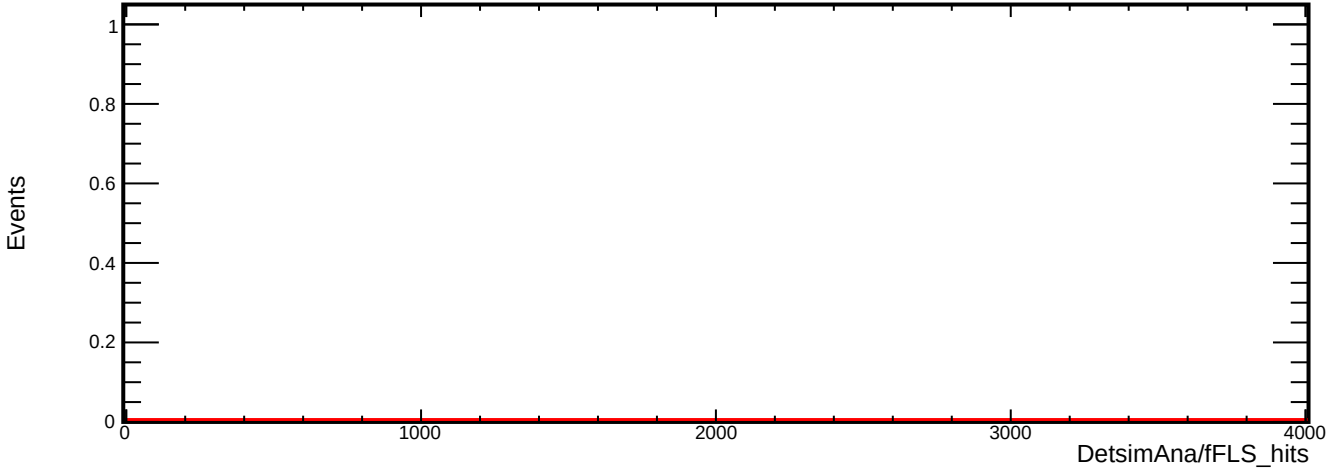

After Detsim
Events
1
0.8
0.6
0.4
0.2
0
0
100
200
300
400
500
DetsimAna/fNParticles_detsim

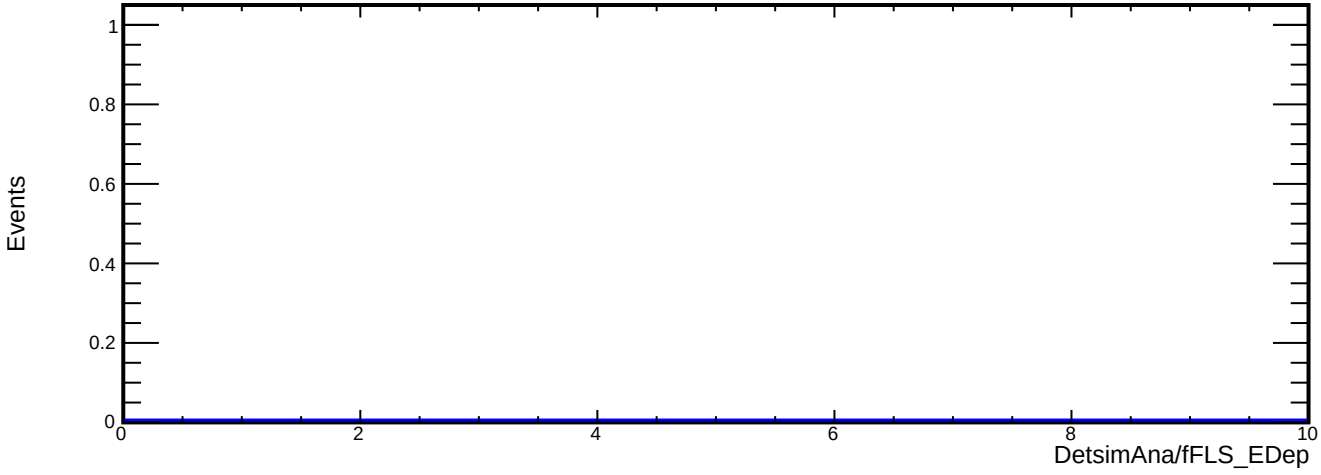

After Detsim
Events
1
0.8
0.6
0.4
0.2
0
0
100
200
300
400
500
DetsimAna/fNParticles_detsim

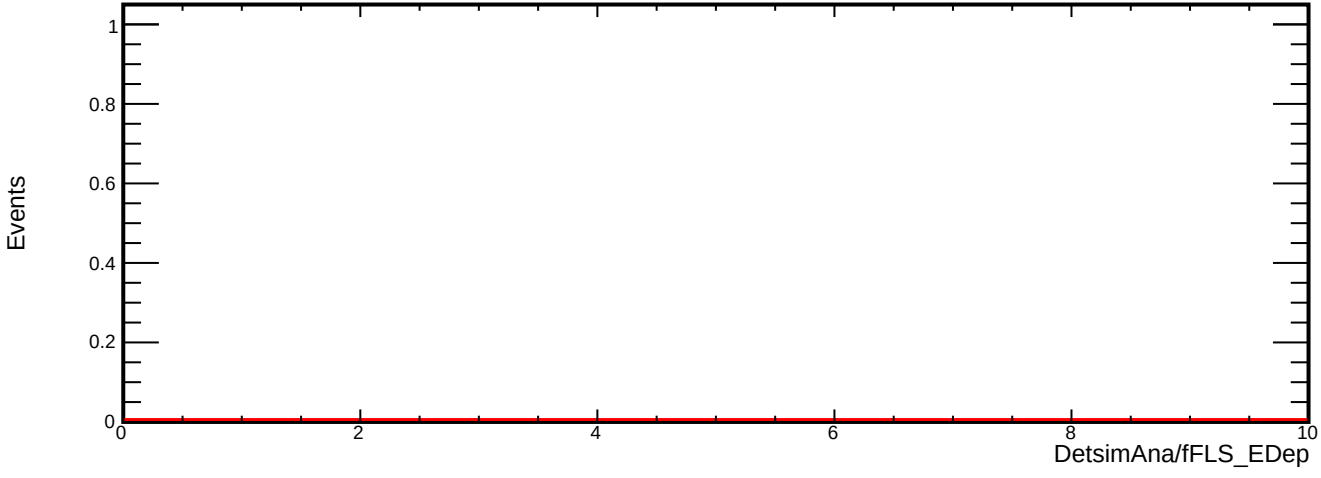

After MCTruth
Events
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
DetsimAna/fNParticles_truth

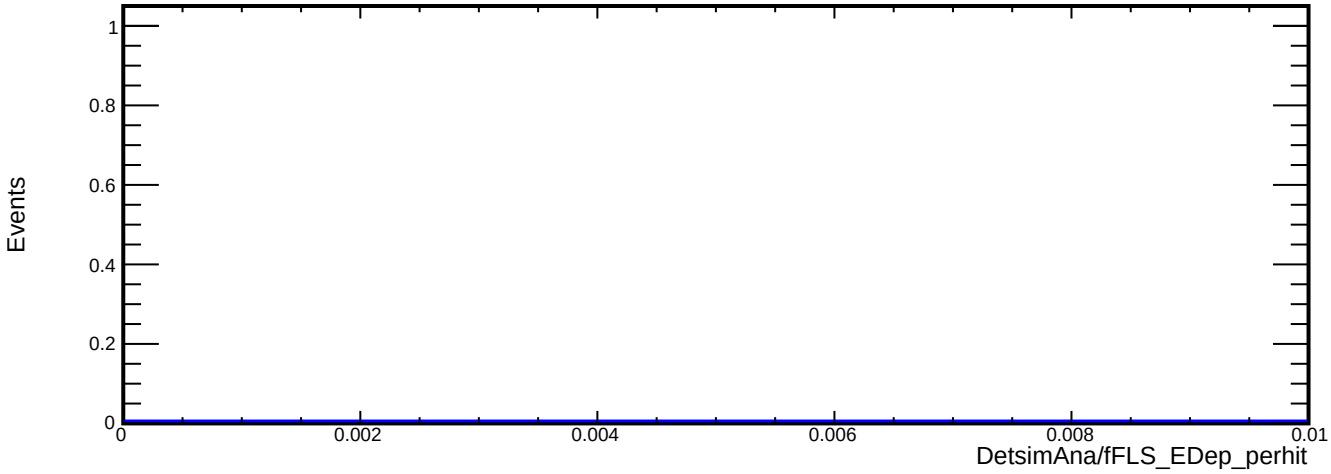

After MCTruth
Events
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
DetsimAna/fNParticles_truth

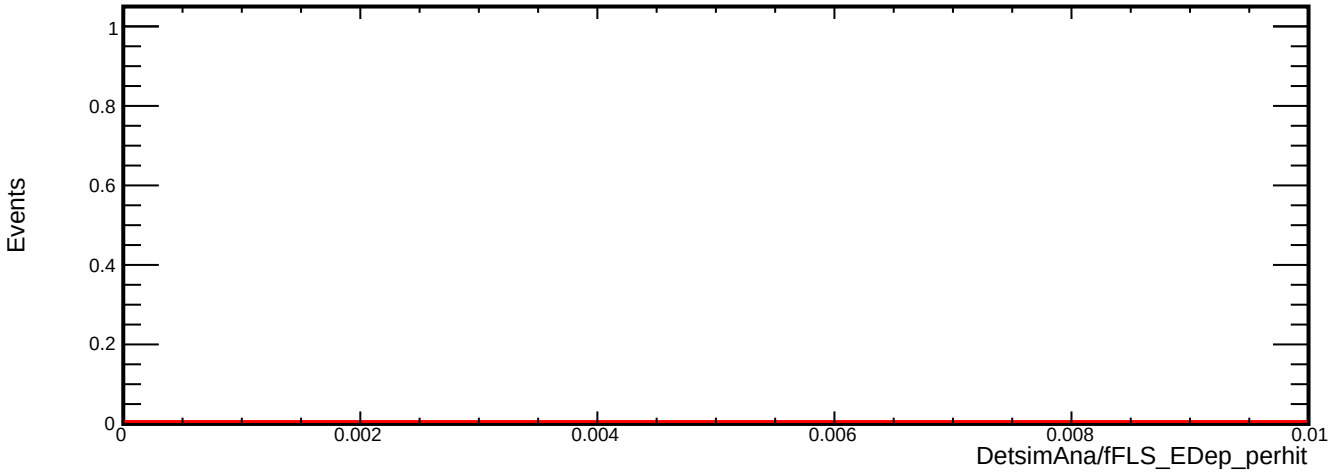

Events
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
DetsimAna/fFLS_hits

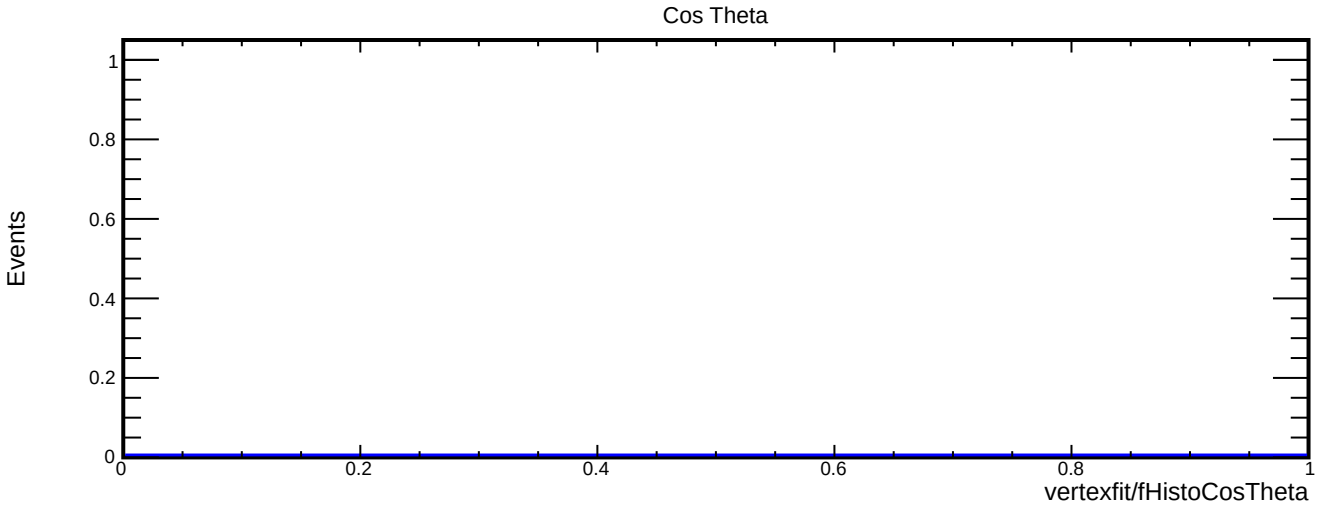

Events
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
DetsimAna/fFLS_hits

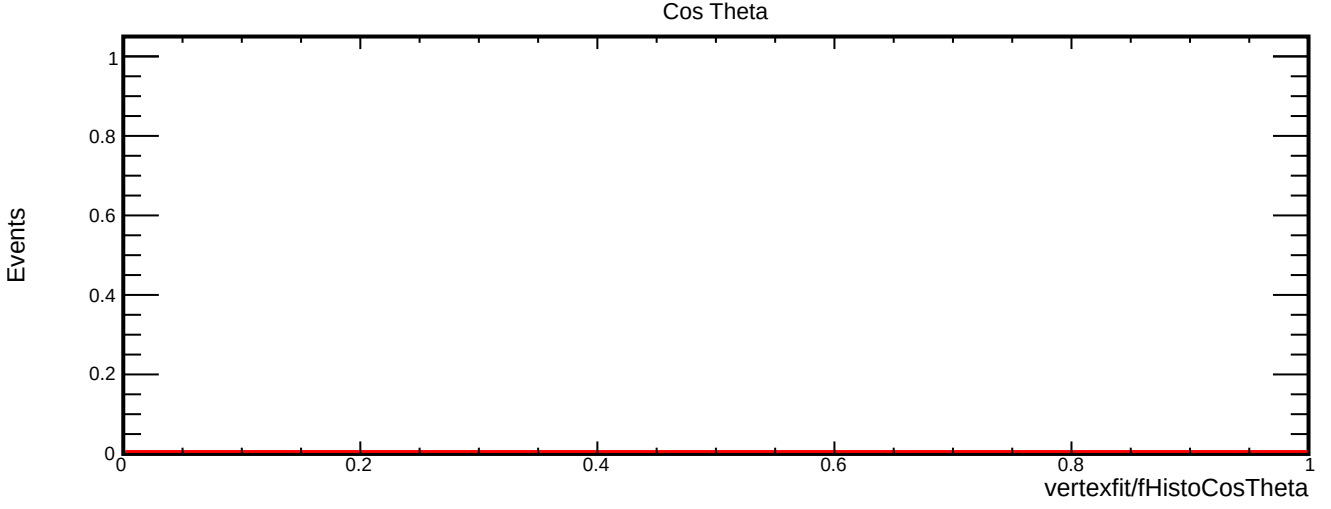

Events
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
DetsimAna/fFLS_EDep

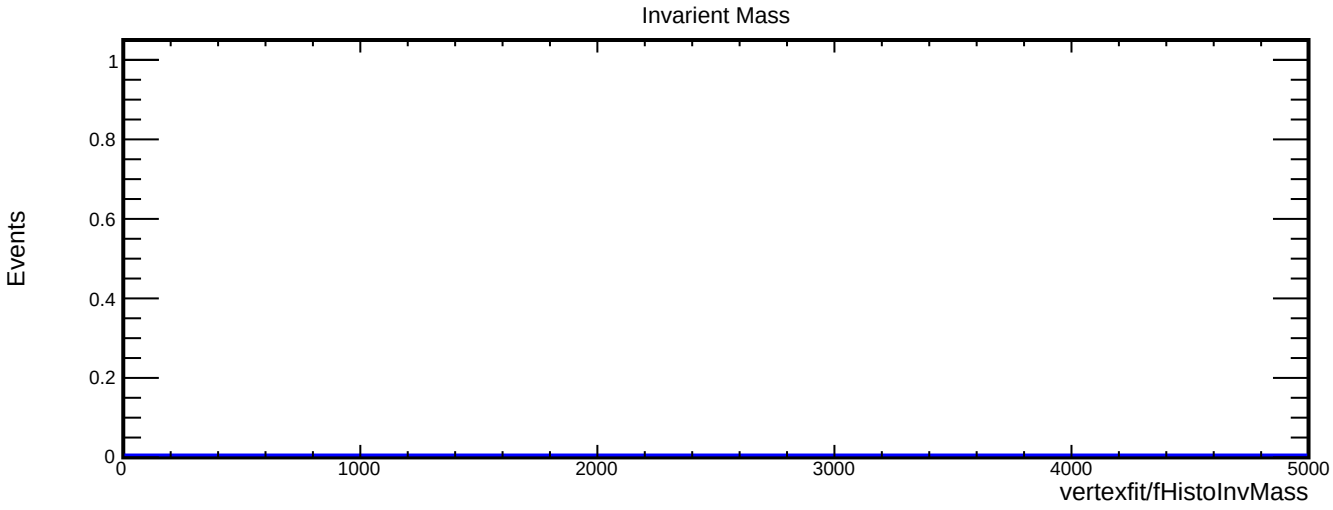

Events
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
DetsimAna/fFLS_EDep

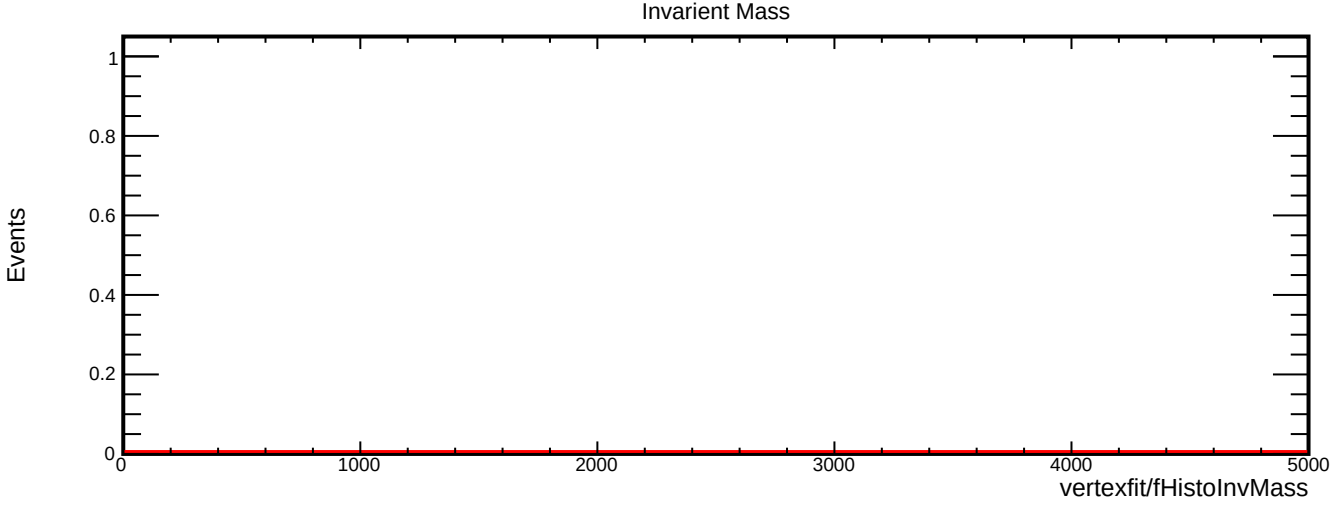

Events
1
0.8
0.6
0.4
0.2
0
0
0.002
0.004
0.006
0.008
0.01
DetsimAna/fFLS_EDep_perhit

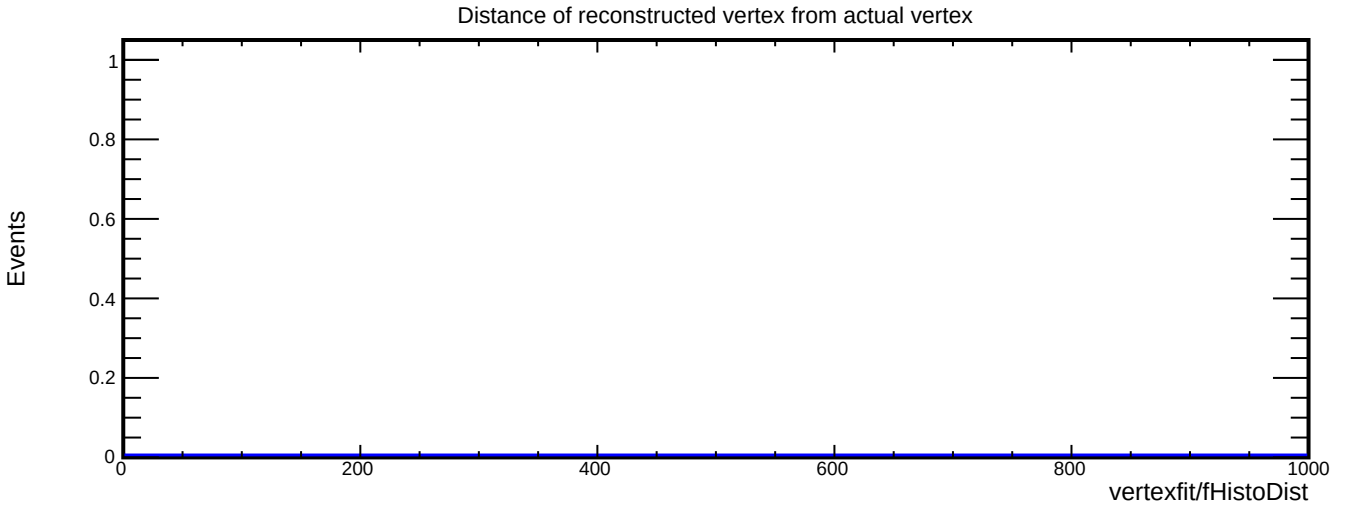

Events
1
0.8
0.6
0.4
0.2
0
0
0.002
0.004
0.006
0.008
0.01
DetsimAna/fFLS_EDep_perhit

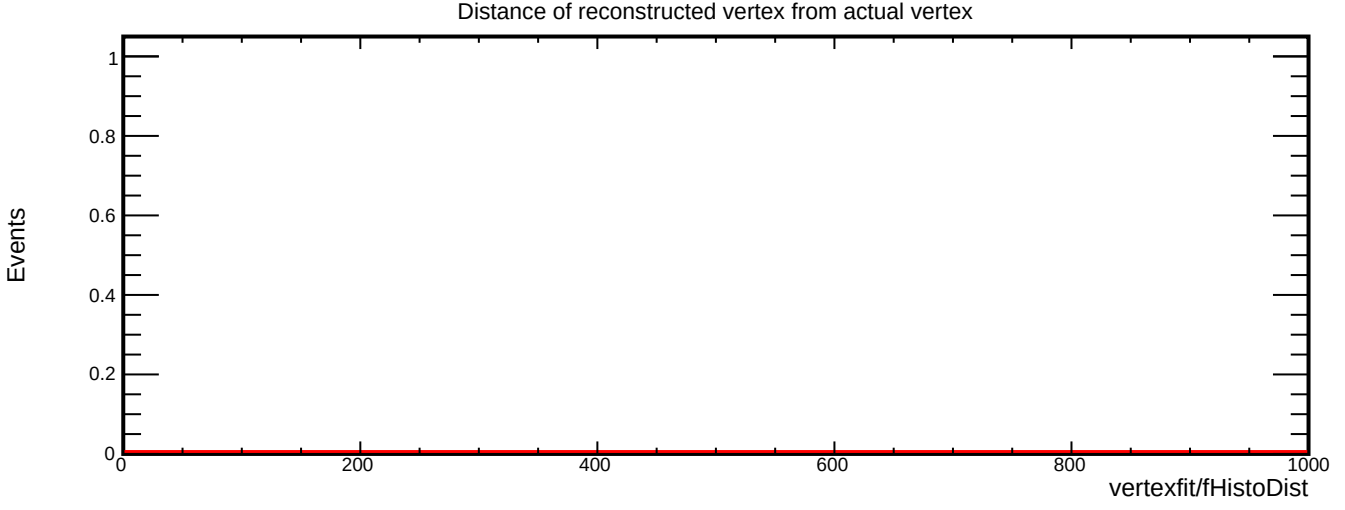

Cos Theta
Events
1
0.8
0.6
0.4
0.2
0
0
0.2
0.4
0.6
0.8
1
vertexfit/fHistoCosTheta

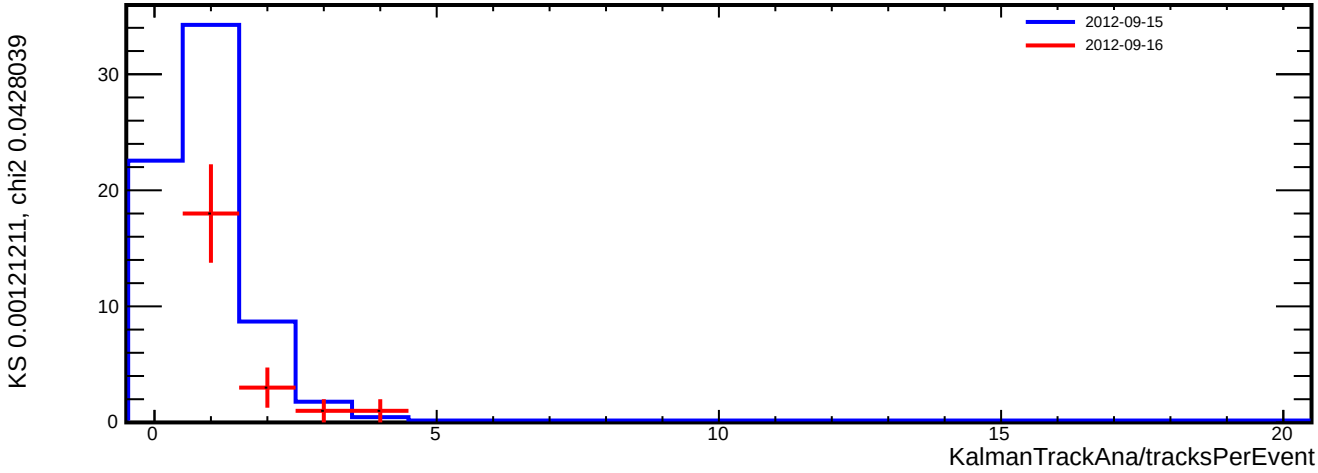

Cos Theta
Events
1
0.8
0.6
0.4
0.2
0
0
0.2
0.4
0.6
0.8
1
vertexfit/fHistoCosTheta

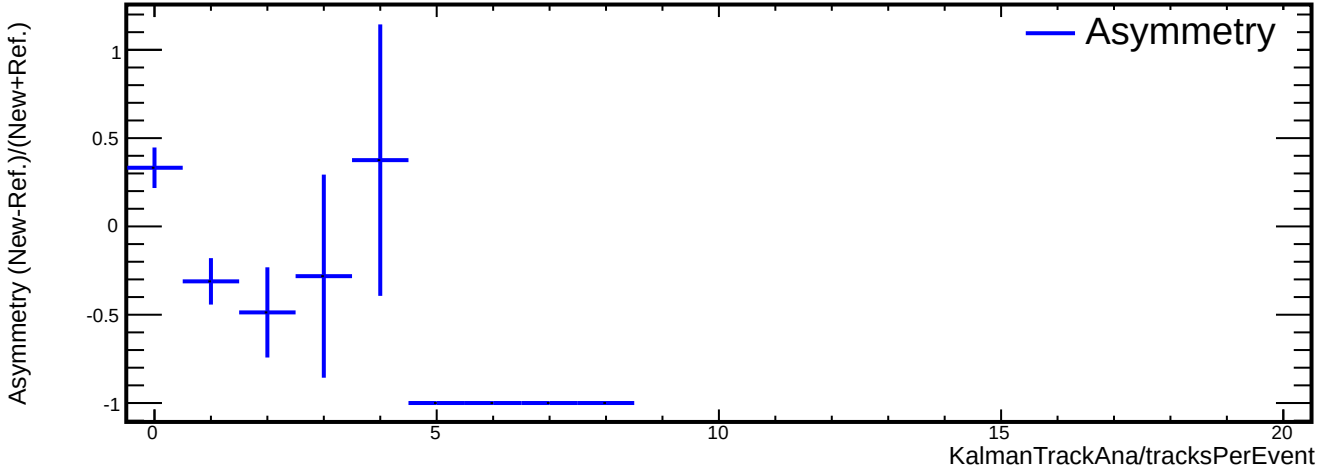

Invarient Mass
Events
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
vertexfit/fHistoInvMass

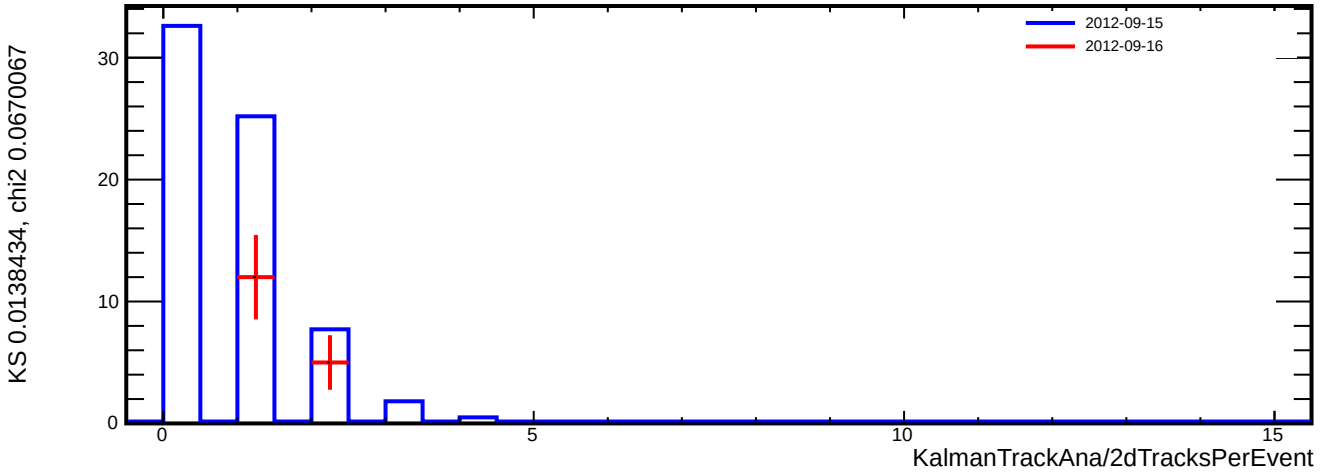

Invarient Mass
Events
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
vertexfit/fHistoInvMass

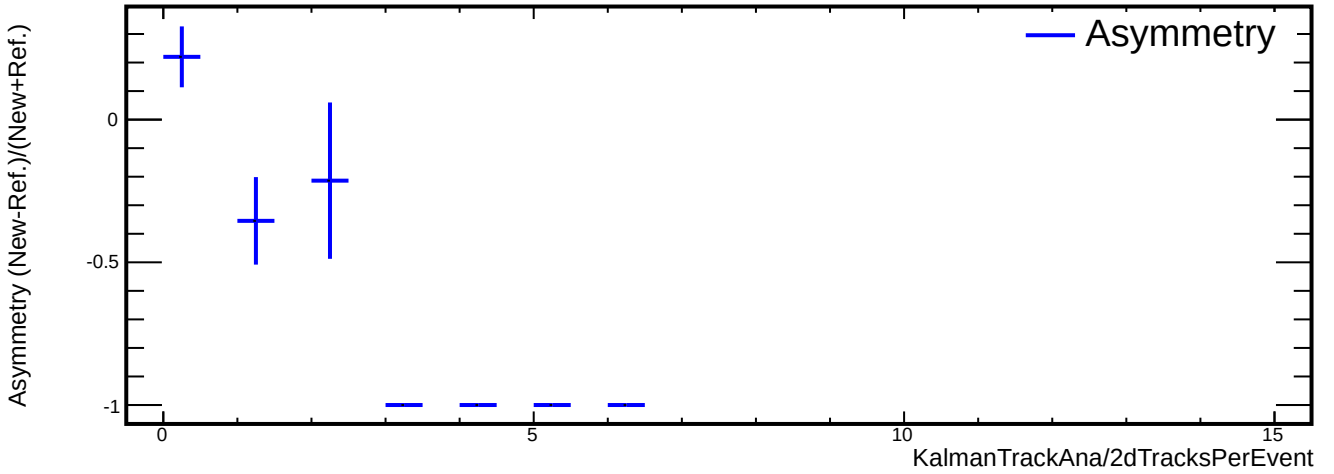

Distance of reconstructed vertex from actual vertex
Events
1
0.8
0.6
0.4
0.2
0
0
200
400
600
800
1000
vertexfit/fHistoDist

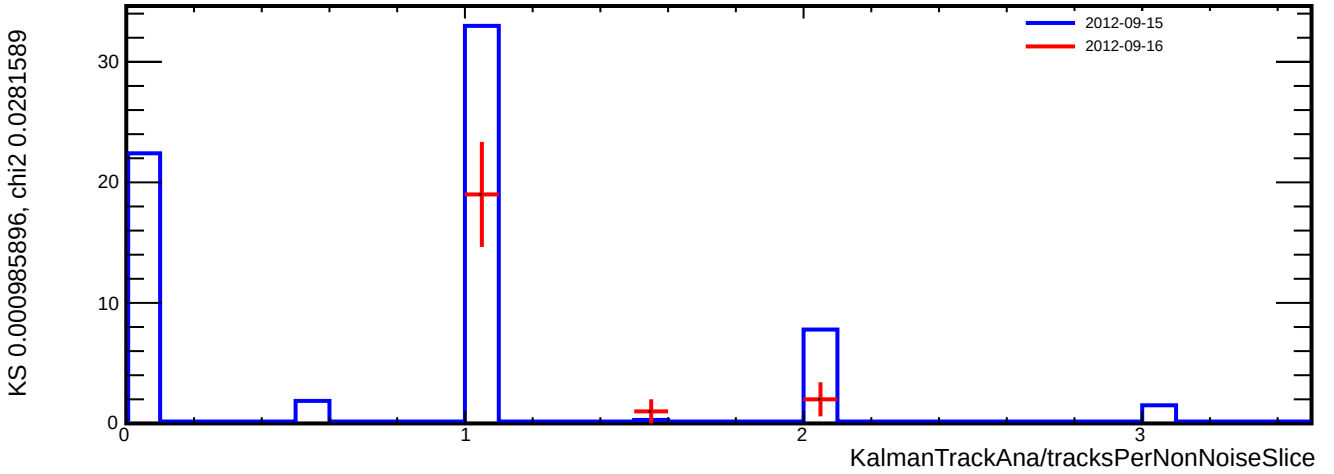

Distance of reconstructed vertex from actual vertex
Events
1
0.8
0.6
0.4
0.2
0
0
200
400
600
800
1000
vertexfit/fHistoDist

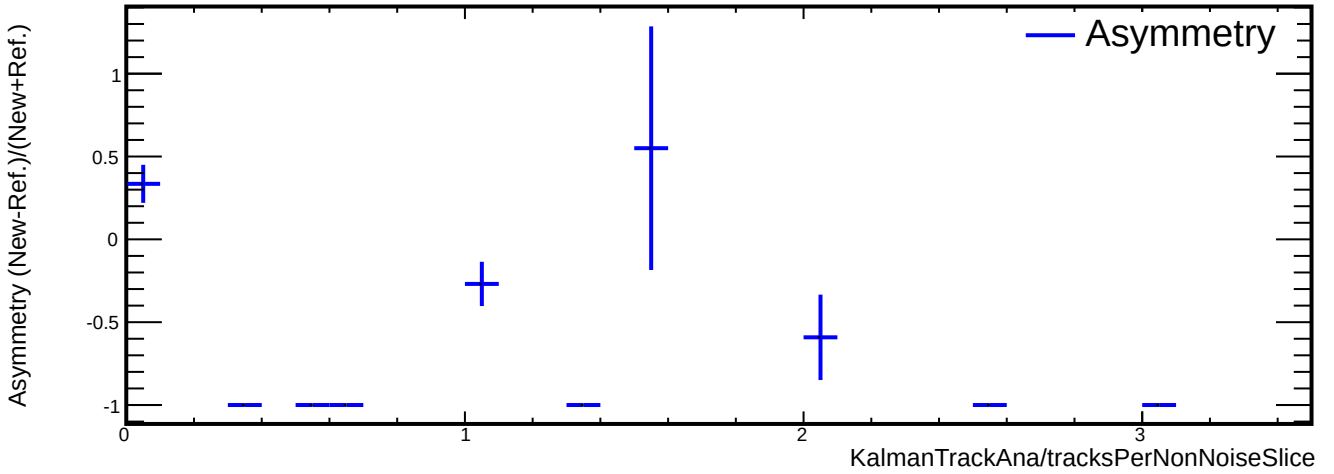

KS 0.00121211, chi2 0.0428039
2012-09-15
2012-09-16
30
20
10
0
0
5
10
15
20
KalmanTrackAna/tracksPerEvent

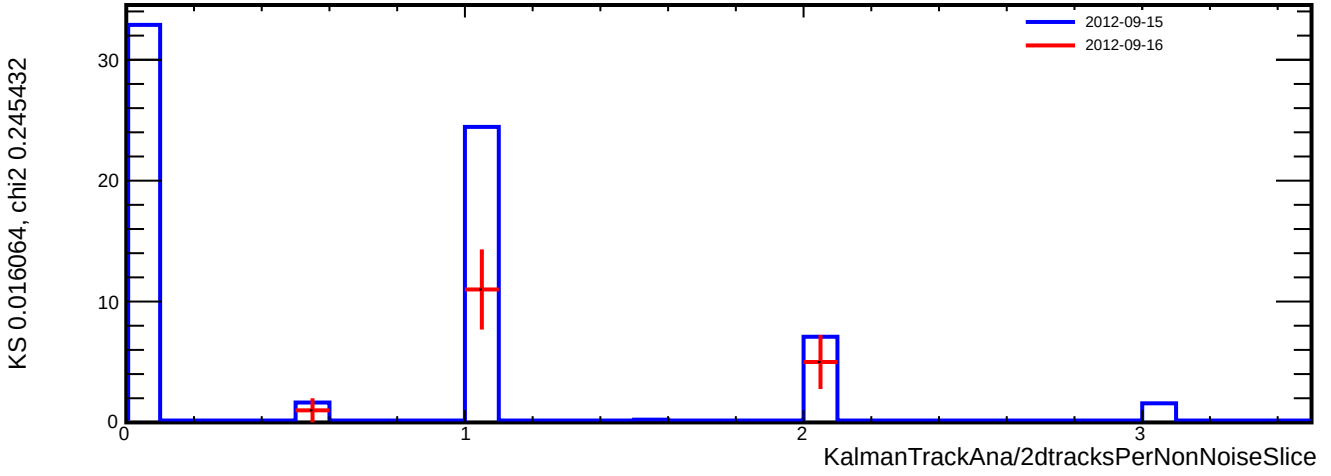

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
5
10
15
20
KalmanTrackAna/tracksPerEvent

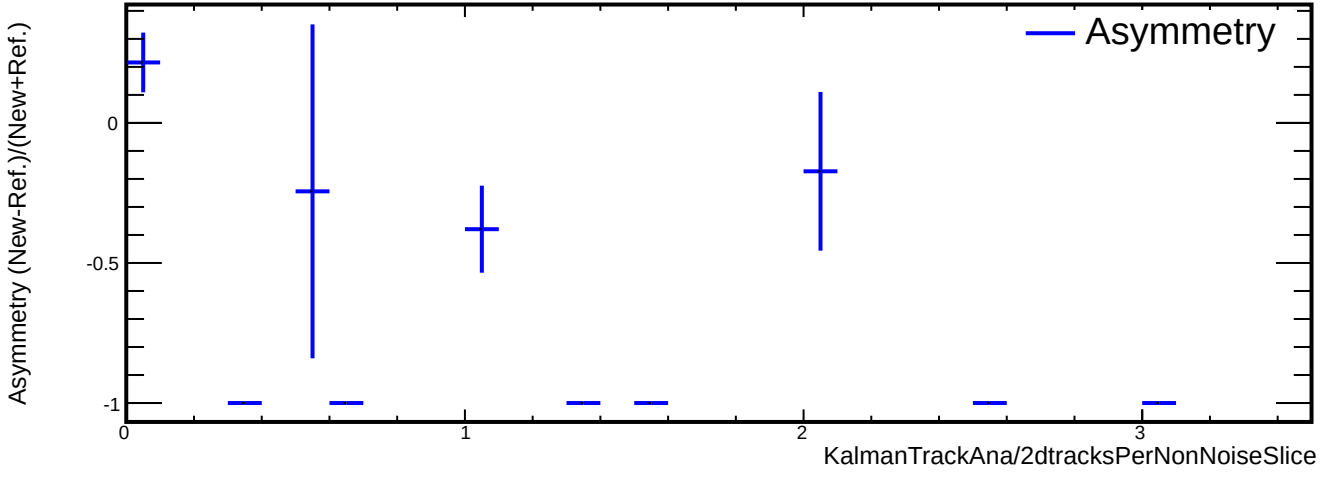

KS 0.0138434, chi2 0.0670067
2012-09-15
2012-09-16
30
20
10
0
0
5
10
15
KalmanTrackAna/2dTracksPerEvent

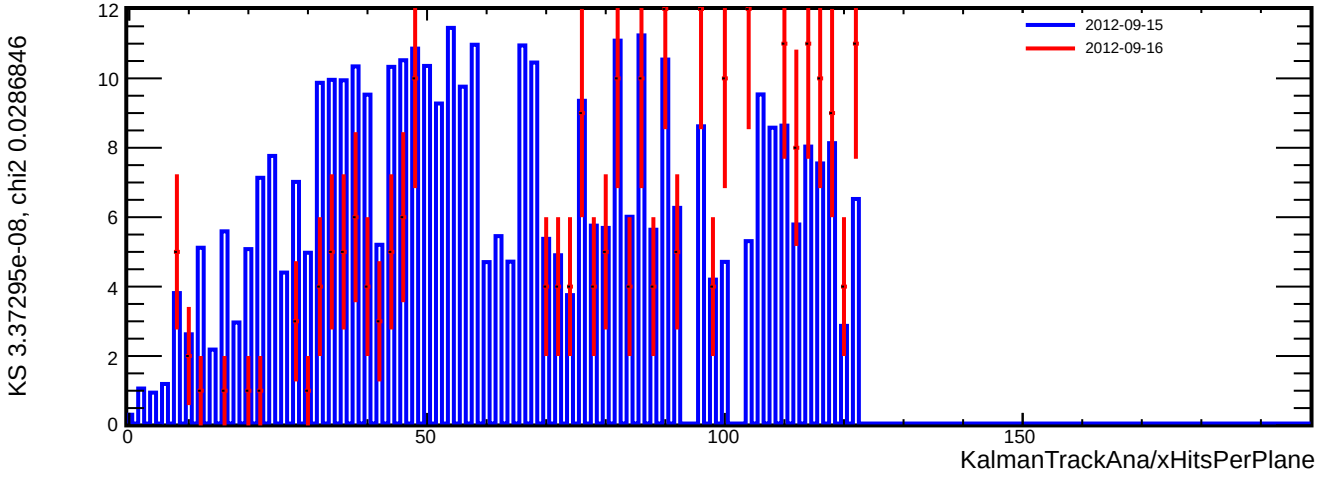

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0
-0.5
-1
0
5
10
15
KalmanTrackAna/2dTracksPerEvent

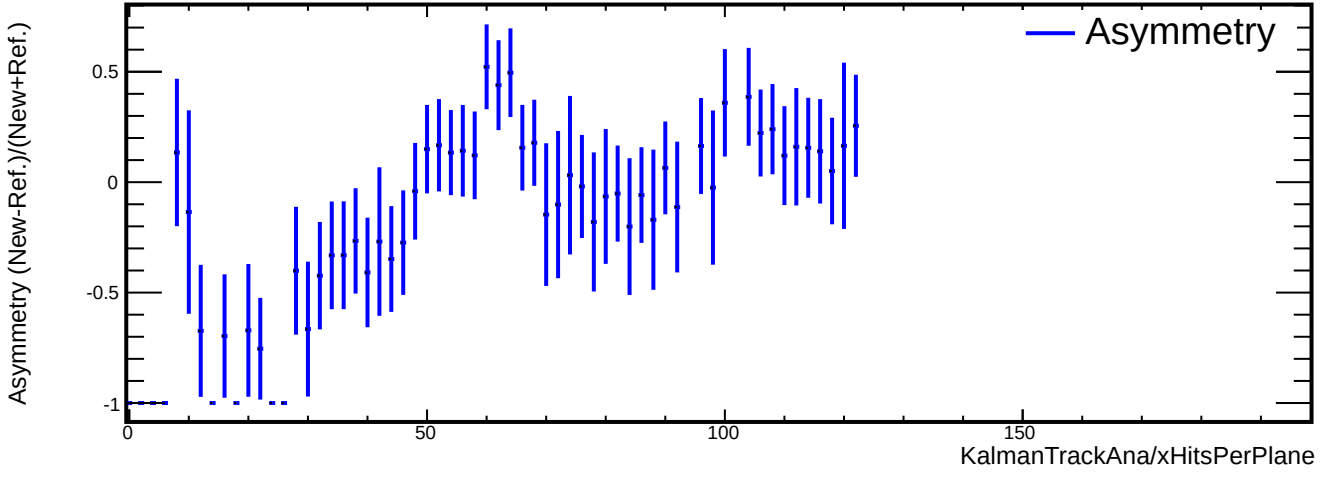

KS 0.000985896, chi2 0.0281589
2012-09-15
2012-09-16
30
20
10
0
0
1
2
3
KalmanTrackAna/tracksPerNonNoiseSlice

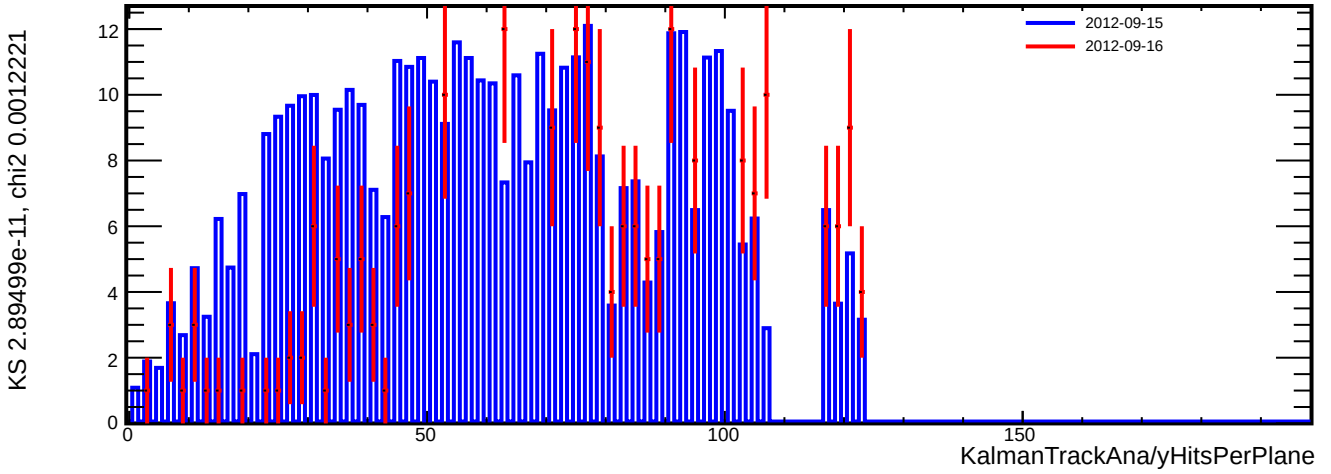

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
1
2
3
KalmanTrackAna/tracksPerNonNoiseSlice

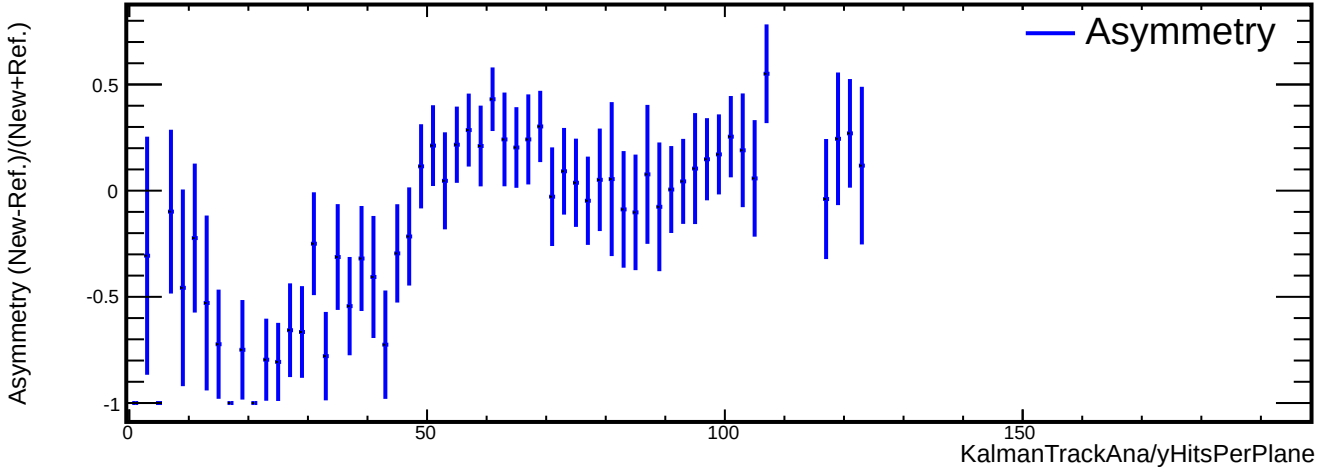

KS 0.016064, chi2 0.245432
2012-09-15
2012-09-16
30
20
10
0
0
1
2
3
KalmanTrackAna/2dtracksPerNonNoiseSlice

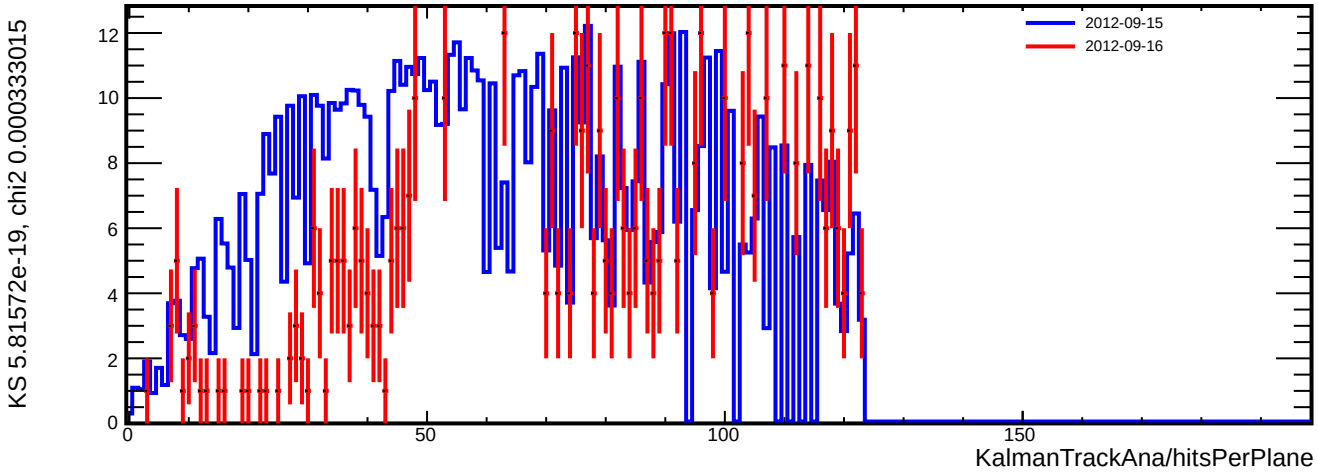

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0
-0.5
-1
0
1
2
3
KalmanTrackAna/2dtracksPerNonNoiseSlice

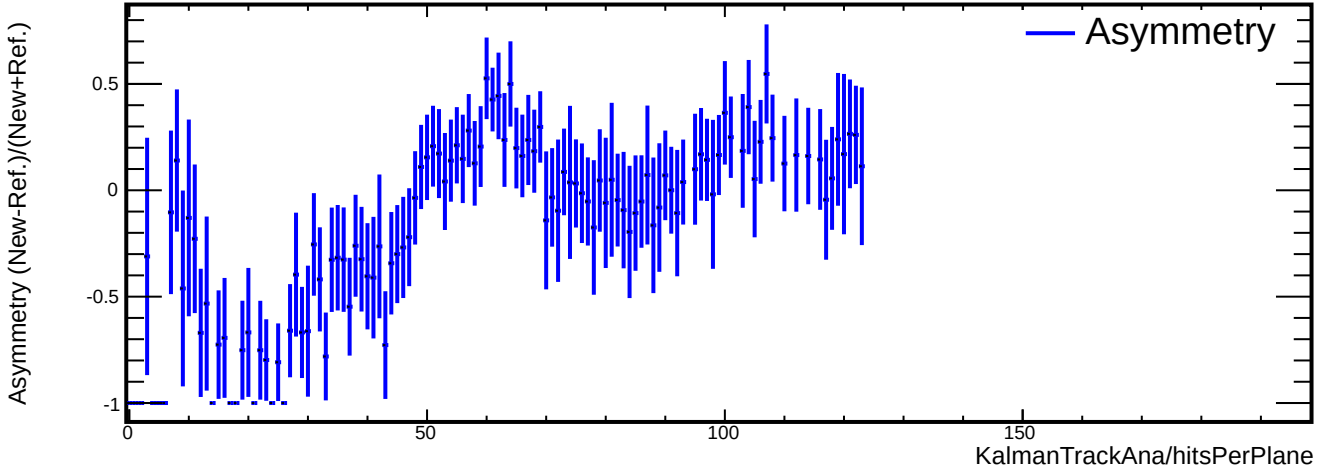

KS 3.37295e-08, chi2 0.0286846
2012-09-15
2012-09-16
KalmanTrackAna/xHitsPerPlane

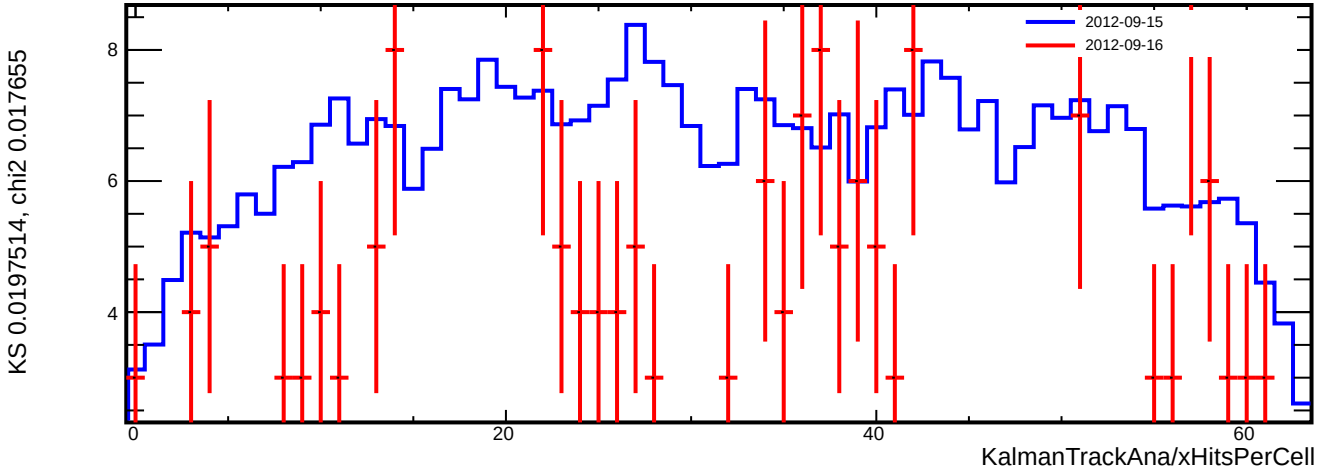

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
KalmanTrackAna/xHitsPerPlane

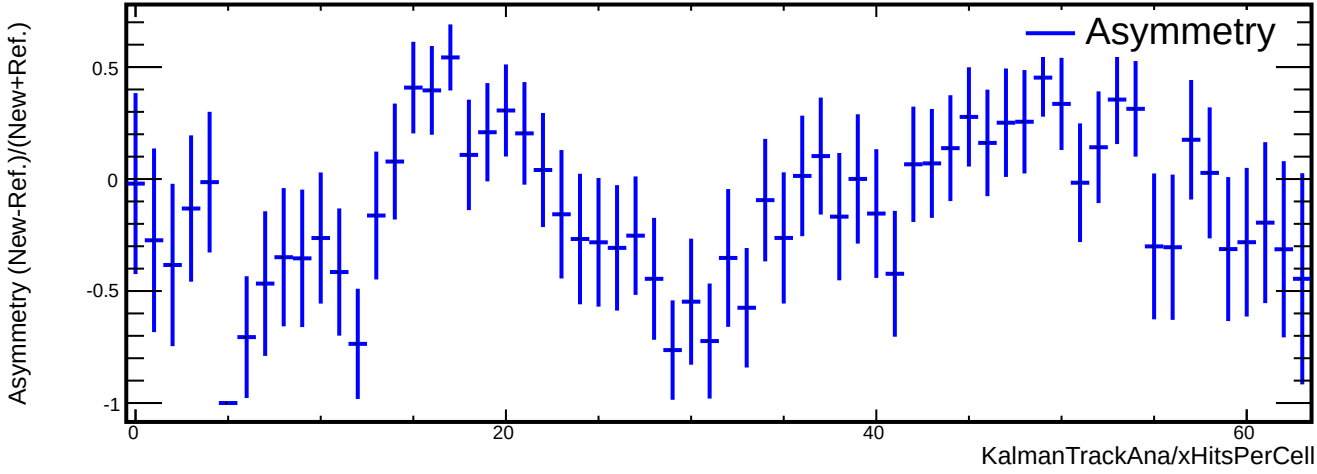

KS 2.89499e-11, chi2 0.0012221
2012-09-15
2012-09-16
KalmanTrackAna/yHitsPerPlane

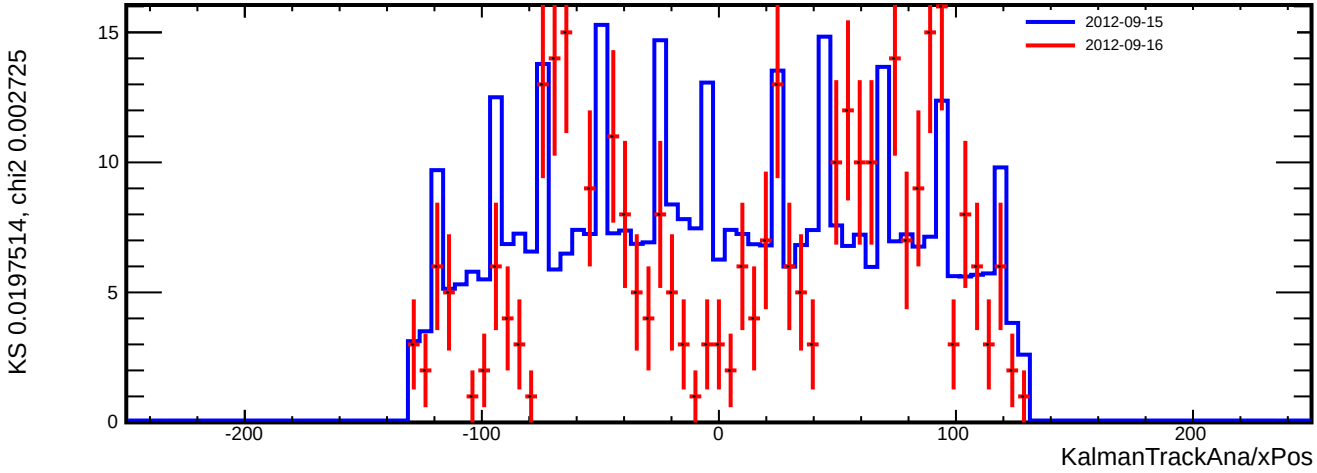

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
KalmanTrackAna/yHitsPerPlane

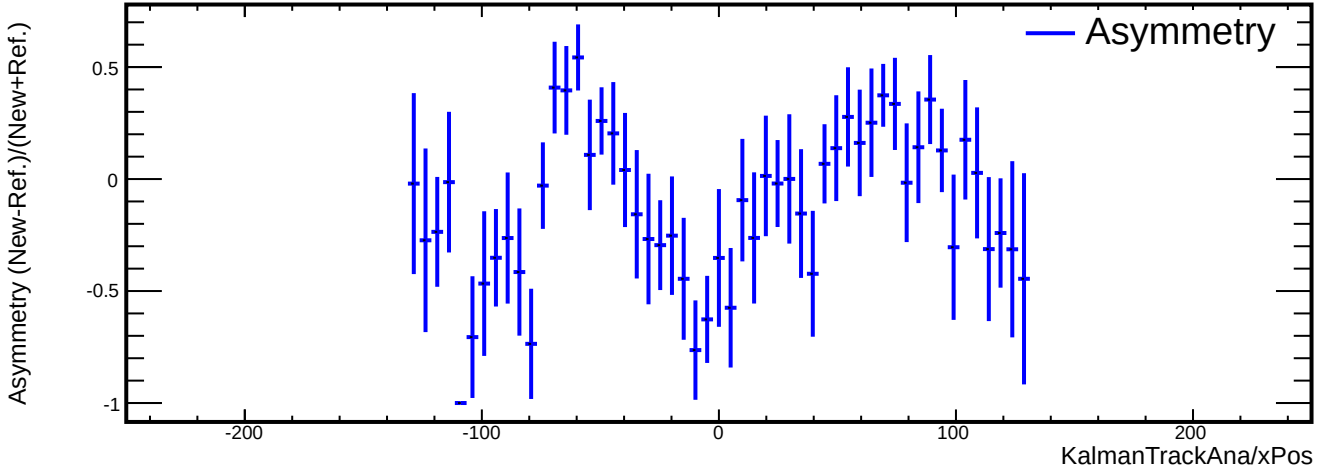

KS 5.81572e-19, chi2 0.000333015
2012-09-15
2012-09-16
0
2
4
6
8
10
12
0
50
100
150
KalmanTrackAna/hitsPerPlane

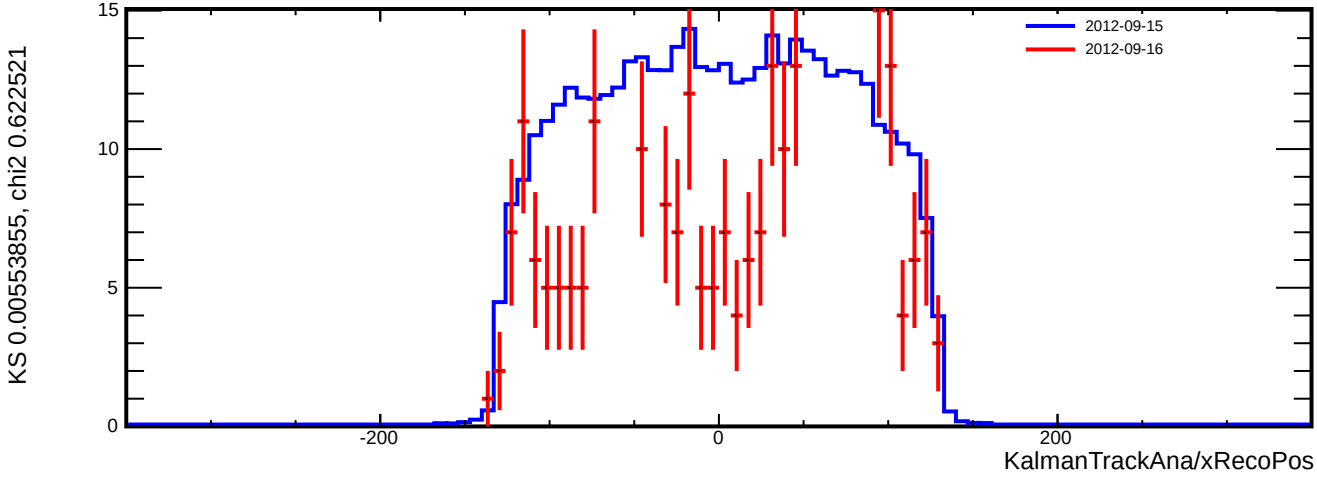

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
-1
-0.5
0
0.5
0
50
100
150
KalmanTrackAna/hitsPerPlane

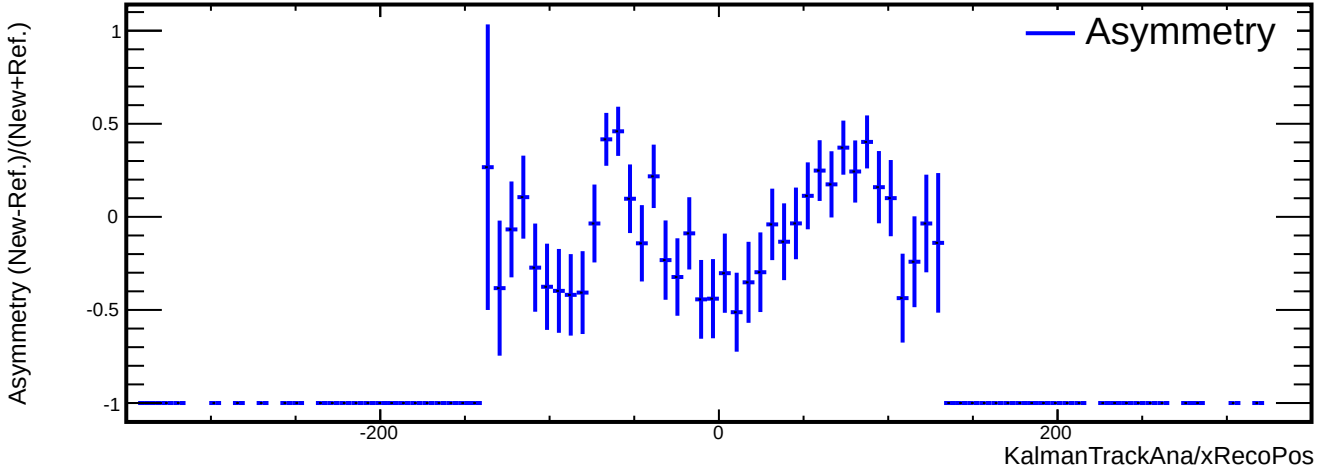

KS 0.0197514, chi2 0.017655
2012-09-15
2012-09-16
8
6
4
0
20
40
60
KalmanTrackAna/xHitsPerCell

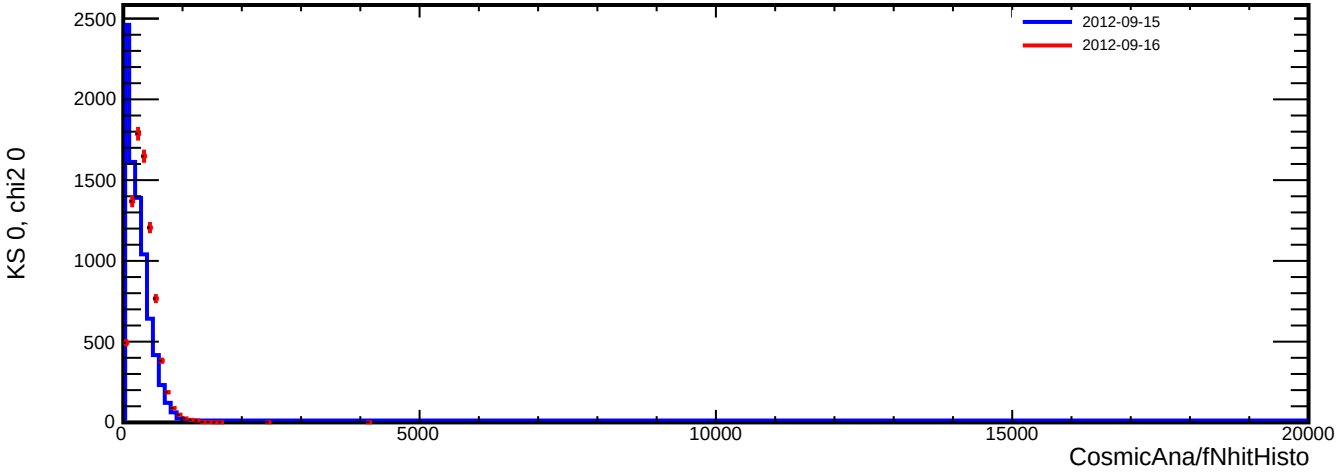

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.5
0
-0.5
-1
0
20
40
60
KalmanTrackAna/xHitsPerCell

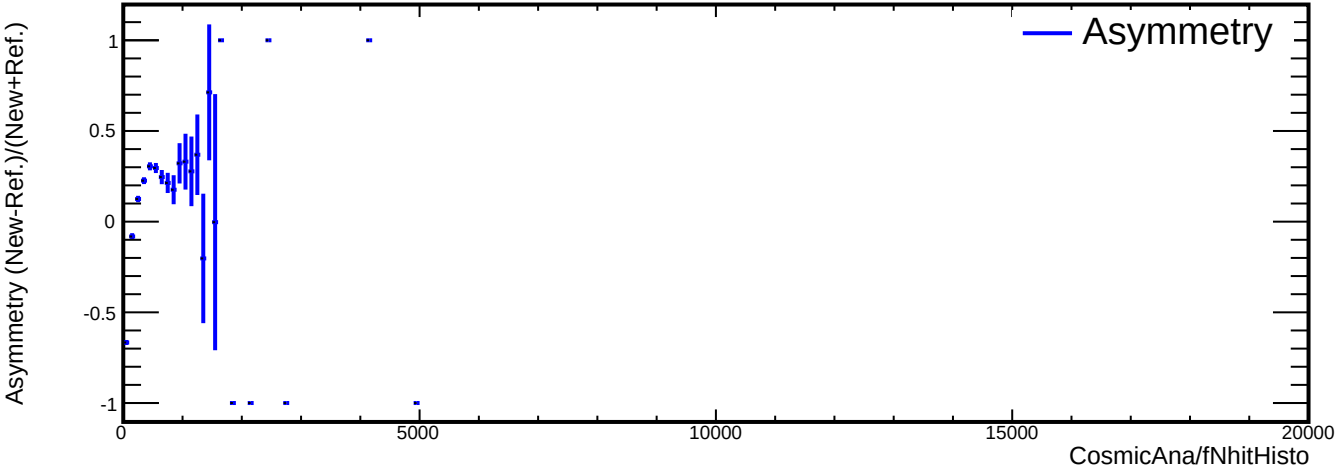

KS 0.0197514, chi2 0.002725
2012-09-15
2012-09-16
15
10
5
0
-200
-100
0
100
200
KalmanTrackAna/xPos

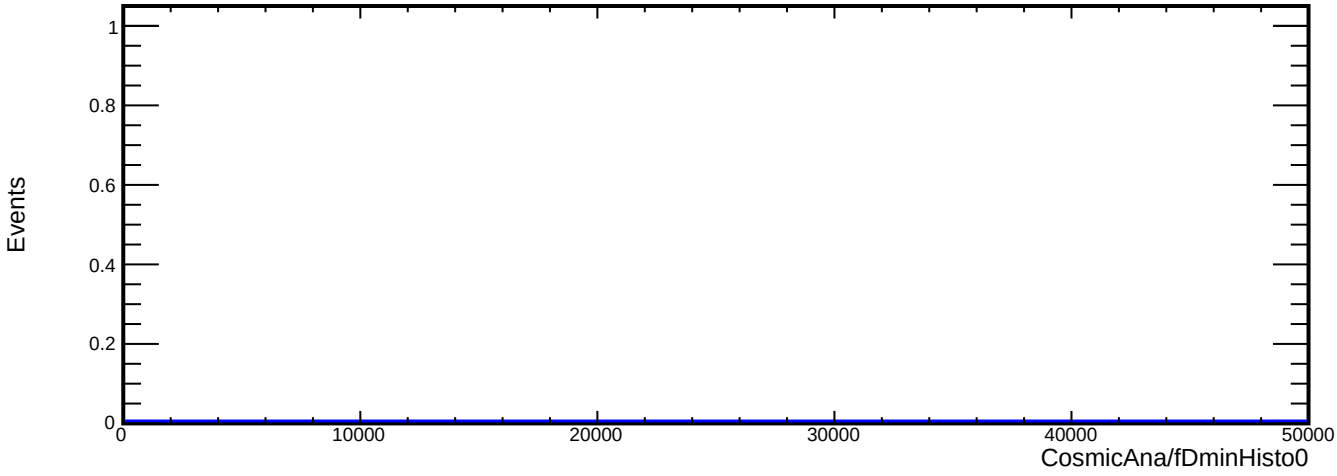

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.5
0
-0.5
-1
-200
-100
0
100
200
KalmanTrackAna/xPos

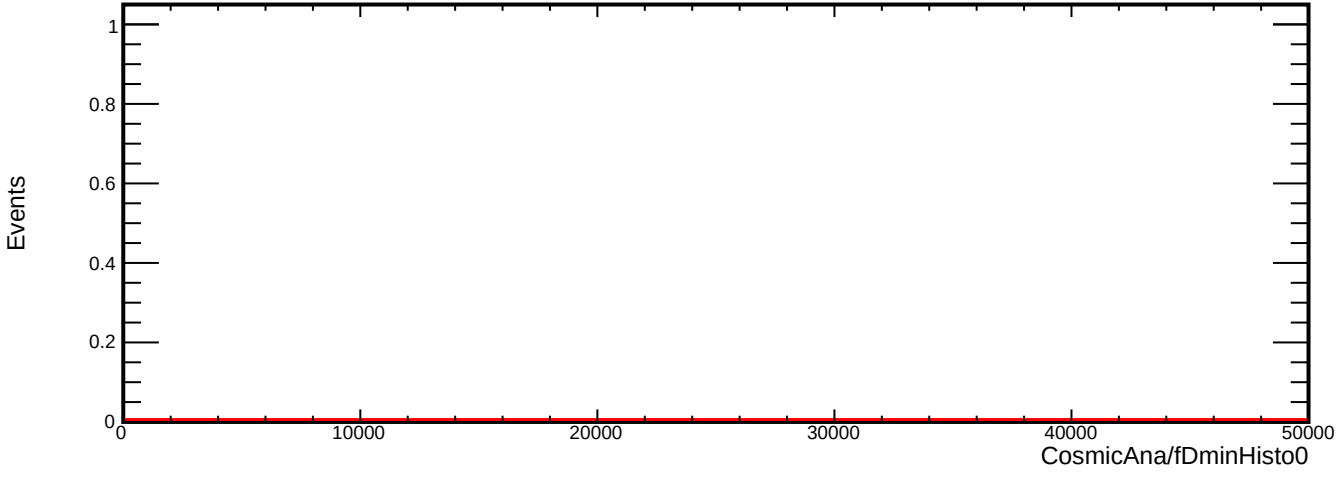

KS 0.00553855, chi2 0.622521
15
10
5
0
-200
0
200
KalmanTrackAna/xRecoPos
2012-09-15
2012-09-16

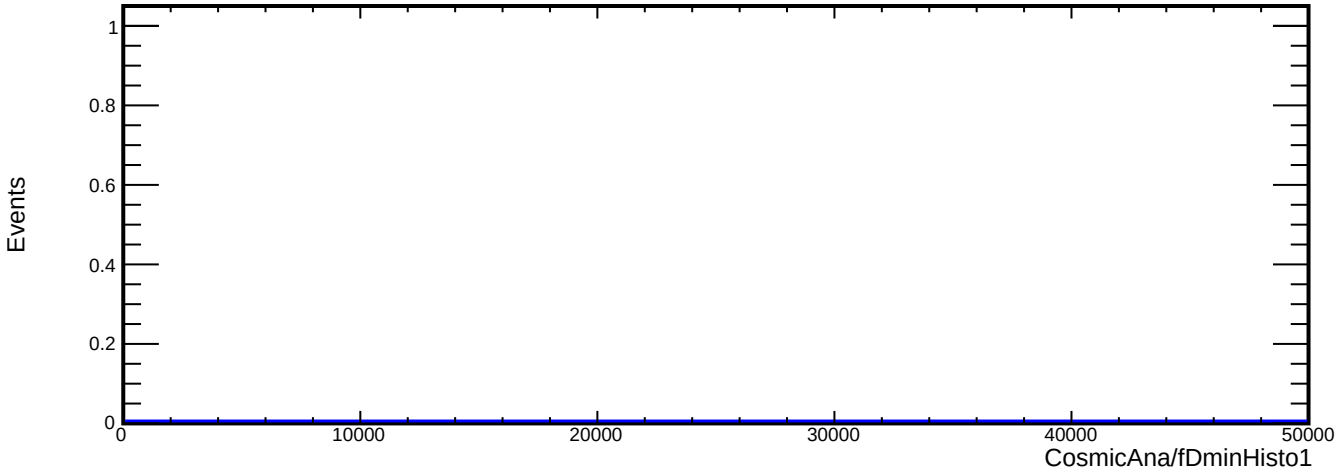

Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
-200
0
200
KalmanTrackAna/xRecoPos
Asymmetry

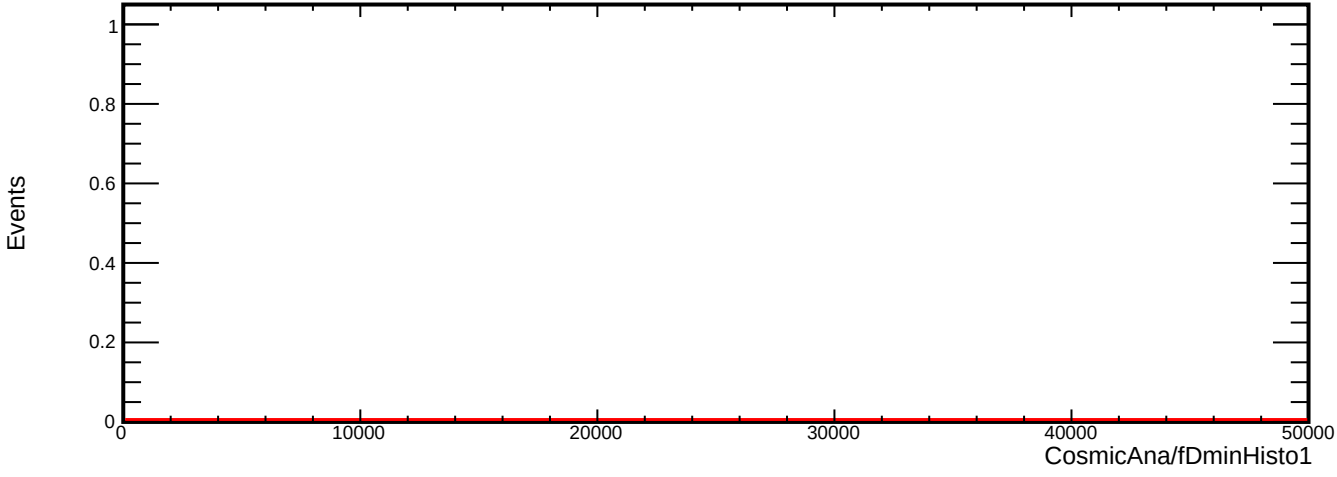

2012-09-15
2012-09-16
KS 0, chi2 0
2500
2000
1500
1000
500
0
0
5000
10000
15000
20000
CosmicAna/fNhitHisto

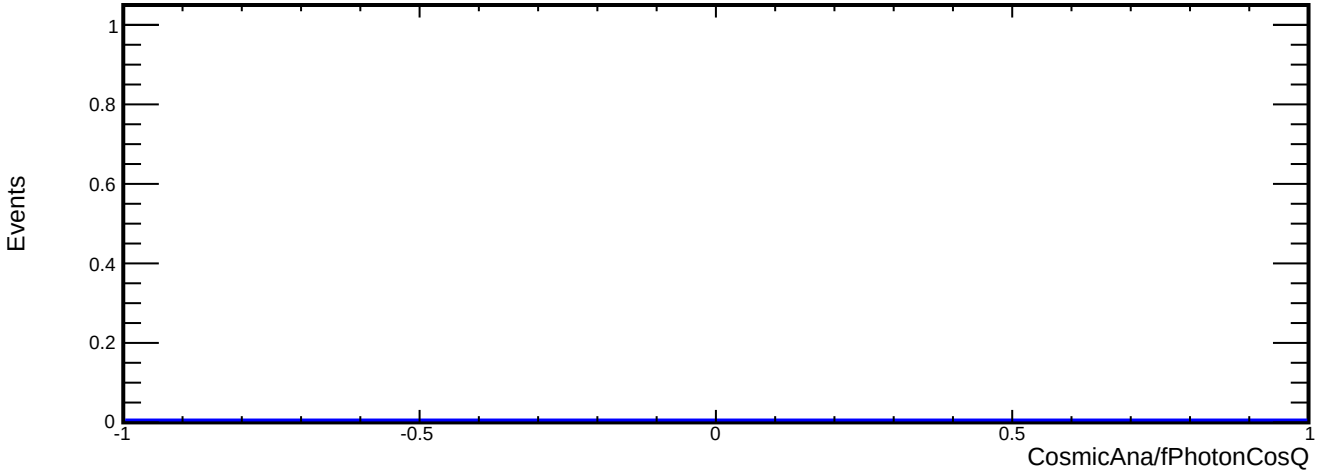

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
5000
10000
15000
20000
CosmicAna/fNhitHisto

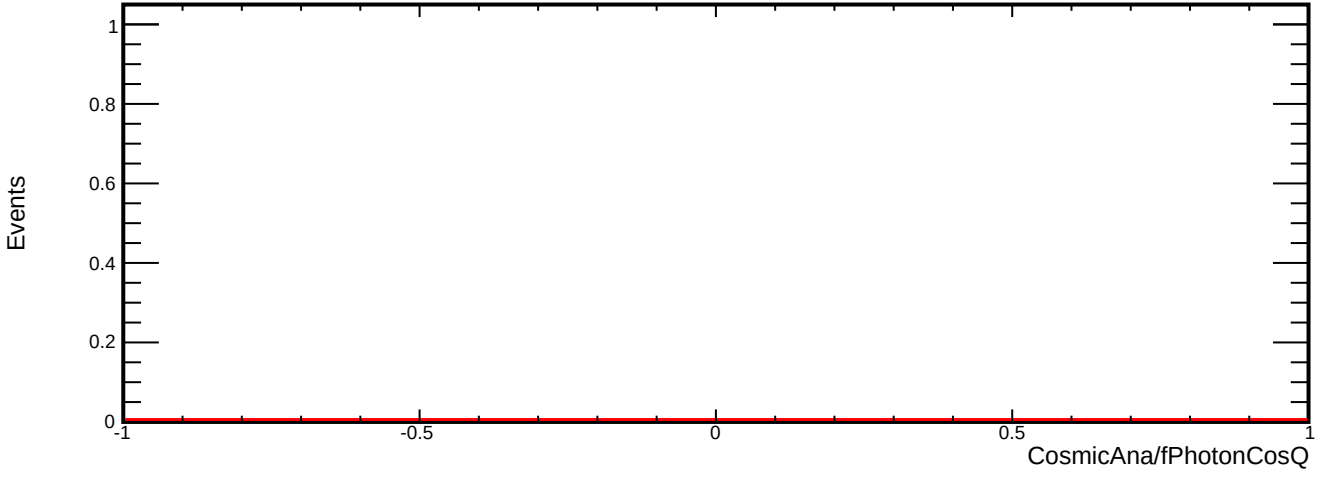

Events
1
0.8
0.6
0.4
0.2
0
0
10000
20000
30000
40000
50000
CosmicAna/fDminHisto0

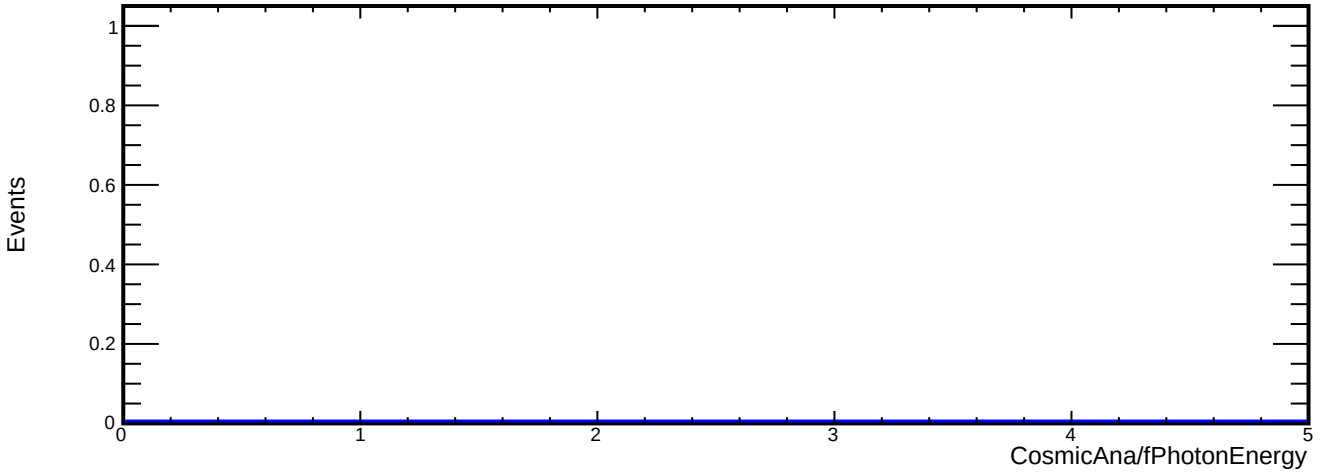

Events
1
0.8
0.6
0.4
0.2
0
0
10000
20000
30000
40000
50000
CosmicAna/fDminHisto0

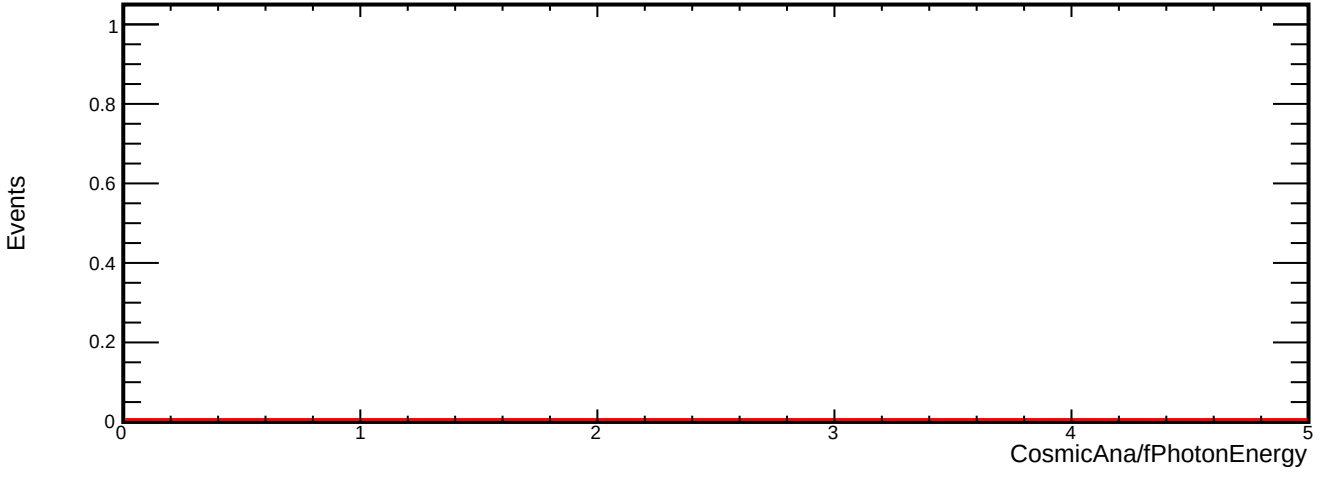

Events
1
0.8
0.6
0.4
0.2
0
0
10000
20000
30000
40000
50000
CosmicAna/fDminHisto1

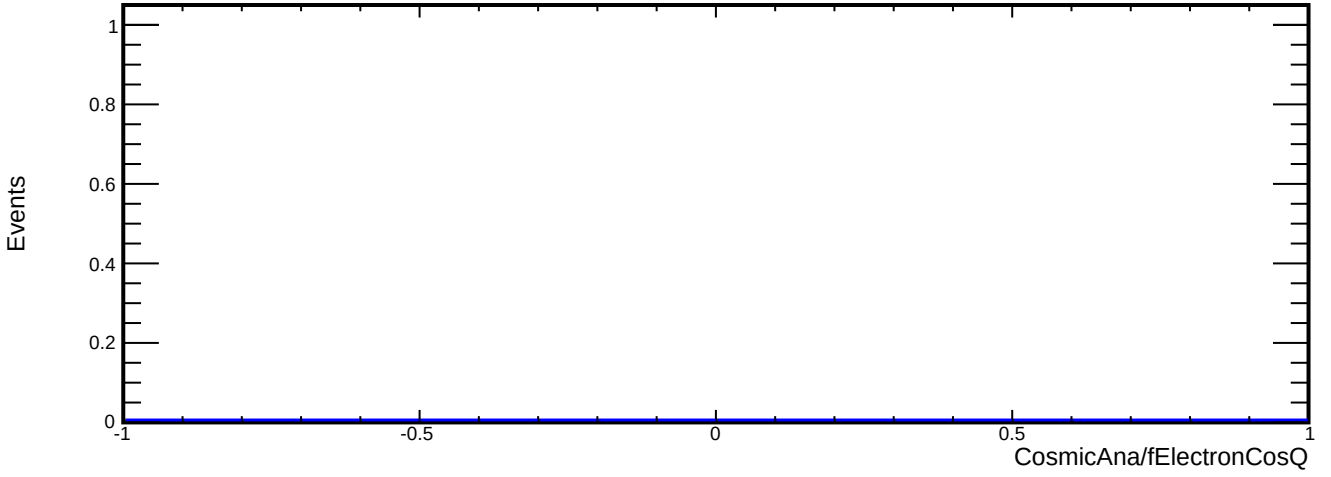

Events
1
0.8
0.6
0.4
0.2
0
0
10000
20000
30000
40000
50000
CosmicAna/fDminHisto1

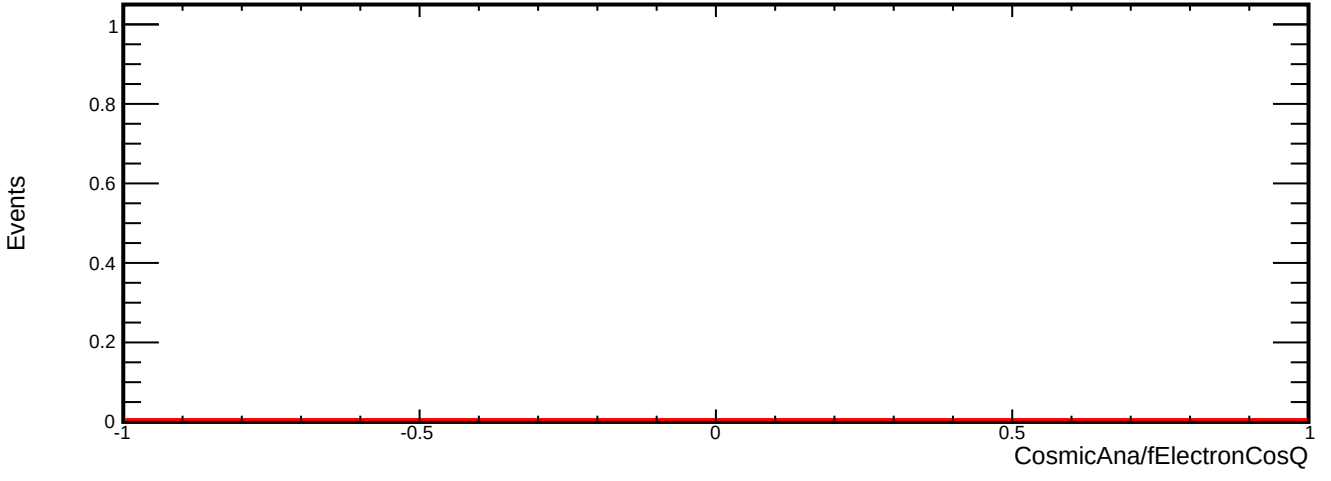

Events
1
0.8
0.6
0.4
0.2
0
-1
-0.5
0
0.5
1
CosmicAna/fPhotonCosQ

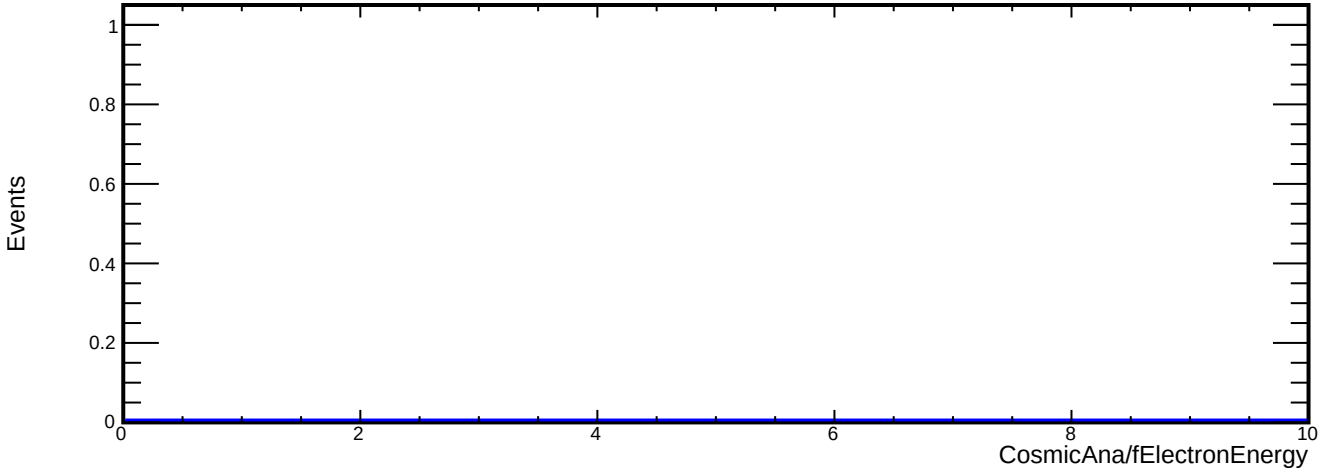

Events
1
0.8
0.6
0.4
0.2
0
-1
-0.5
0
0.5
1
CosmicAna/fPhotonCosQ

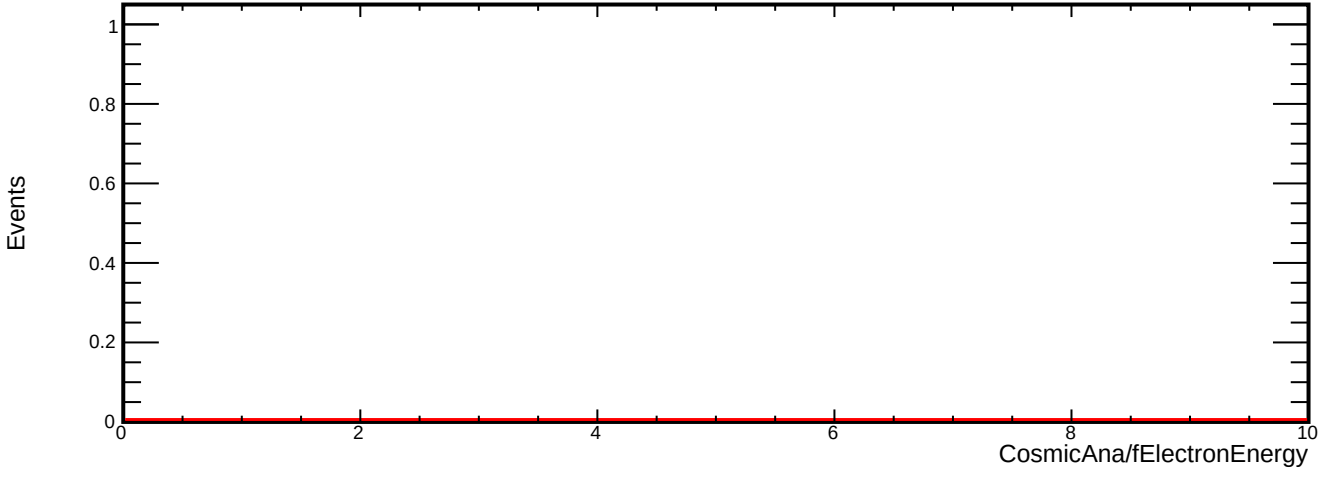

Events
1
0.8
0.6
0.4
0.2
0
0
1
2
3
4
5
CosmicAna/fPhotonEnergy

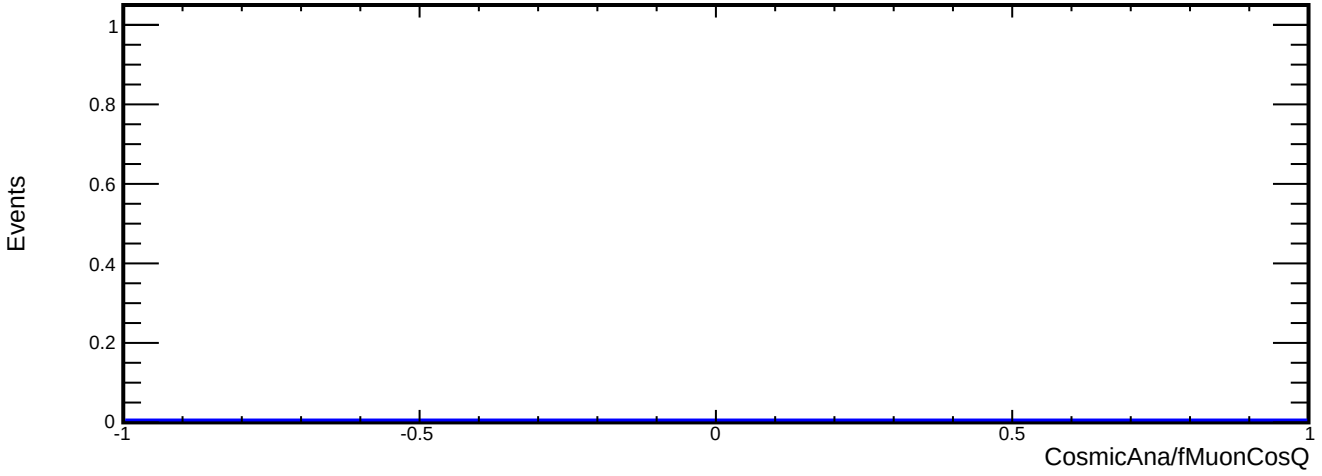

Events
1
0.8
0.6
0.4
0.2
0
0
1
2
3
4
5
CosmicAna/fPhotonEnergy

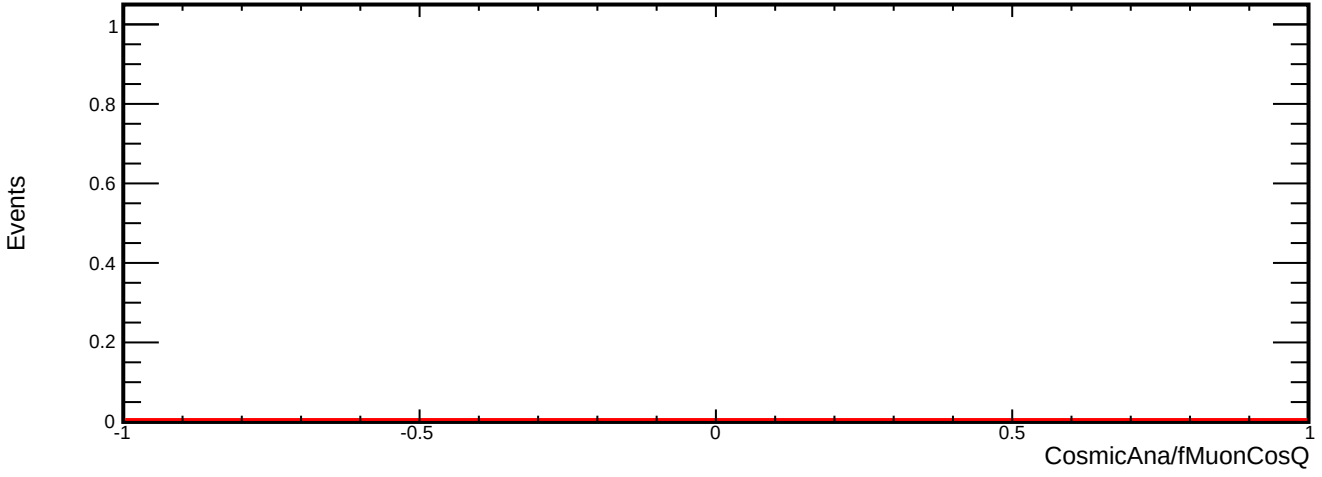

Events
1
0.8
0.6
0.4
0.2
0
-1
-0.5
0
0.5
1
CosmicAna/fElectronCosQ

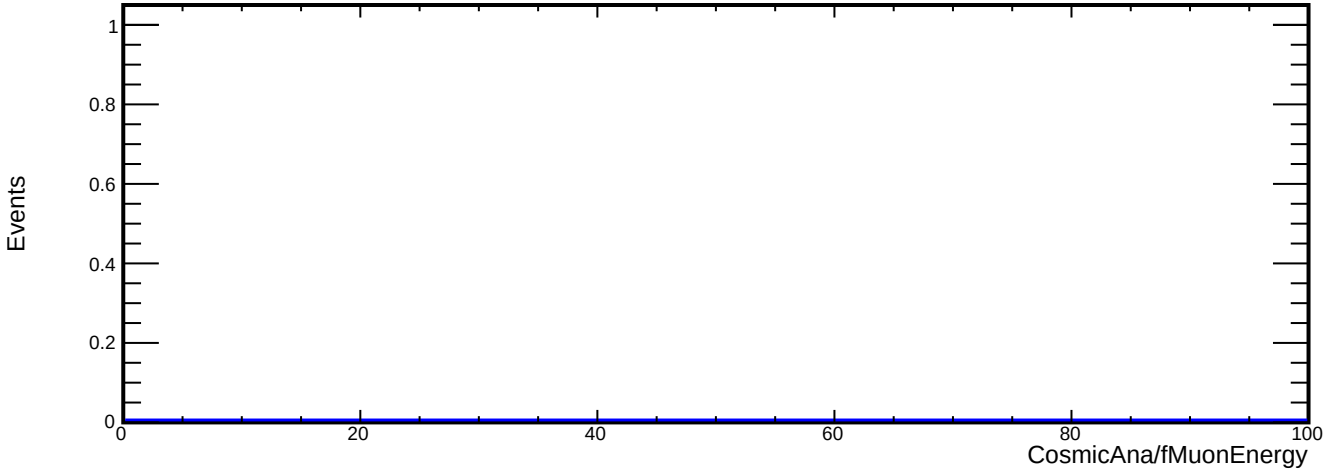

Events
1
0.8
0.6
0.4
0.2
0
-1
-0.5
0
0.5
1
CosmicAna/fElectronCosQ

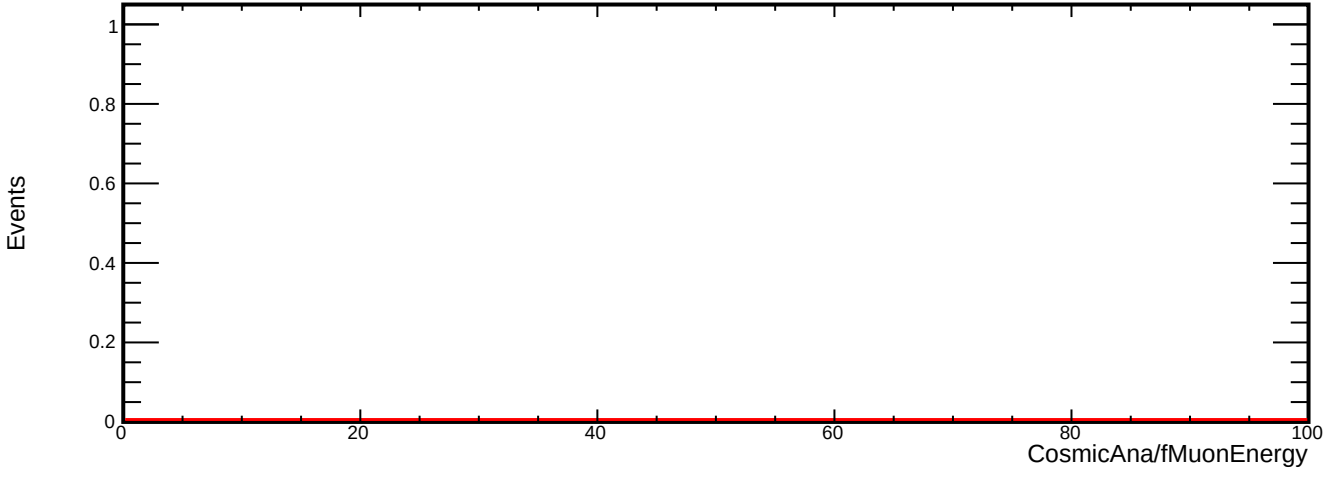

Events
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
CosmicAna/fElectronEnergy

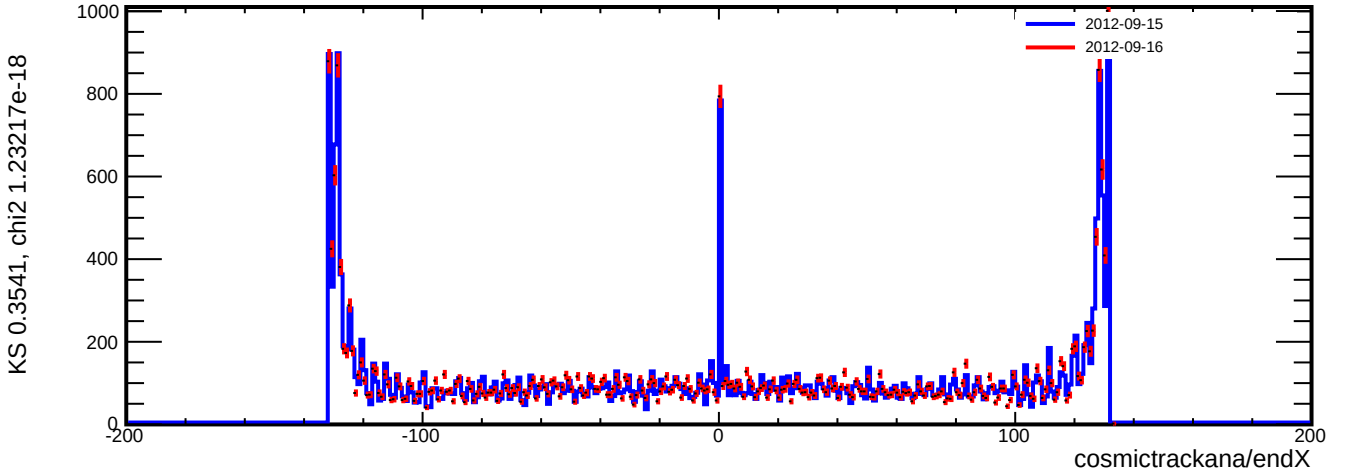

Events
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
CosmicAna/fElectronEnergy

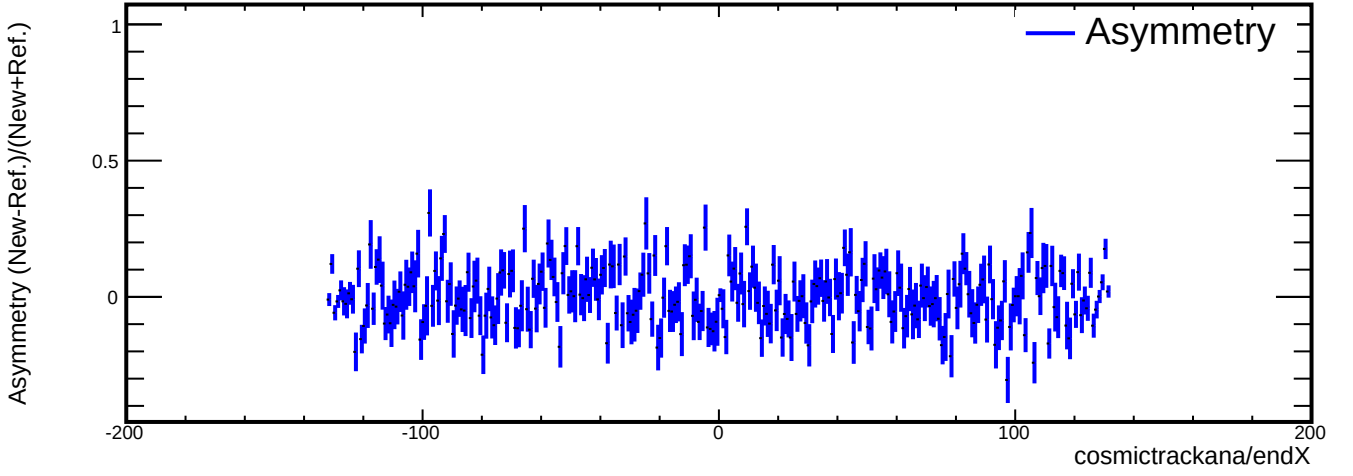

Events
1
0.8
0.6
0.4
0.2
0
-1
-0.5
0
0.5
1
CosmicAna/fMuonCosQ

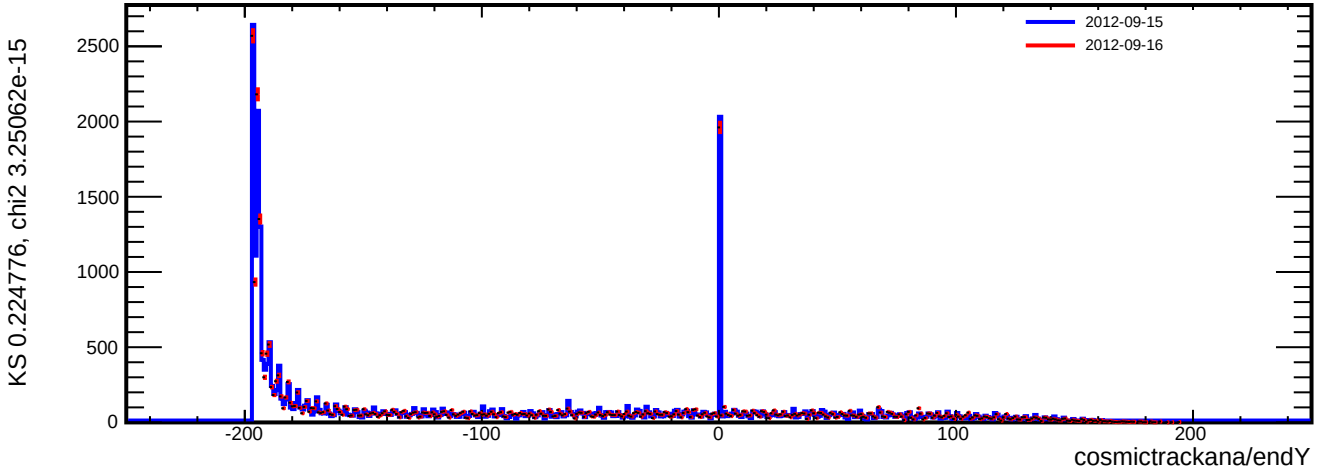

Events
1
0.8
0.6
0.4
0.2
0
-1
-0.5
0
0.5
1
CosmicAna/fMuonCosQ

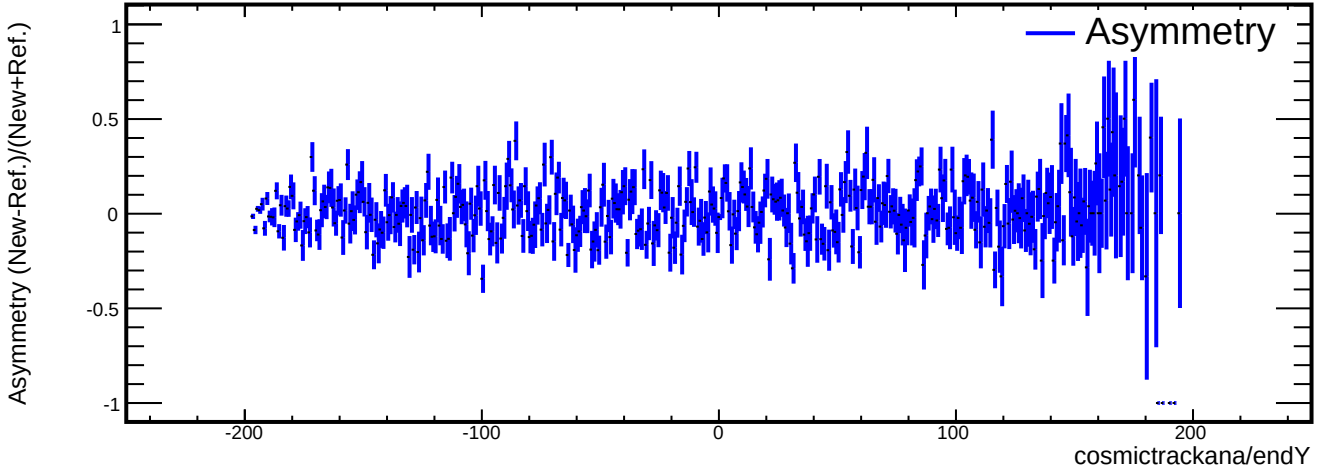

Events
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
CosmicAna/fMuonEnergy

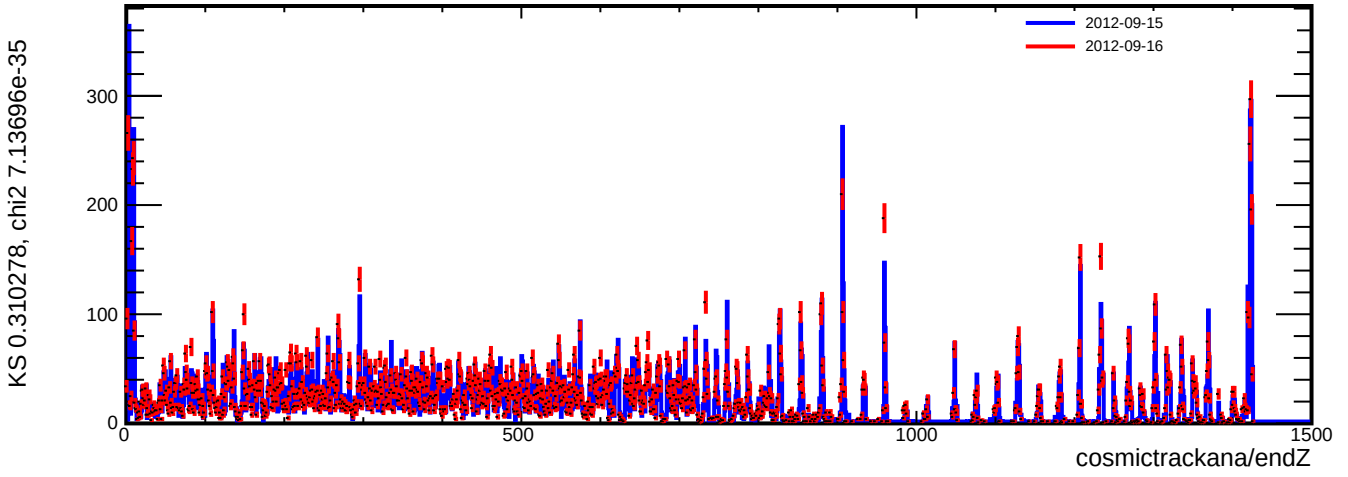

Events
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
CosmicAna/fMuonEnergy

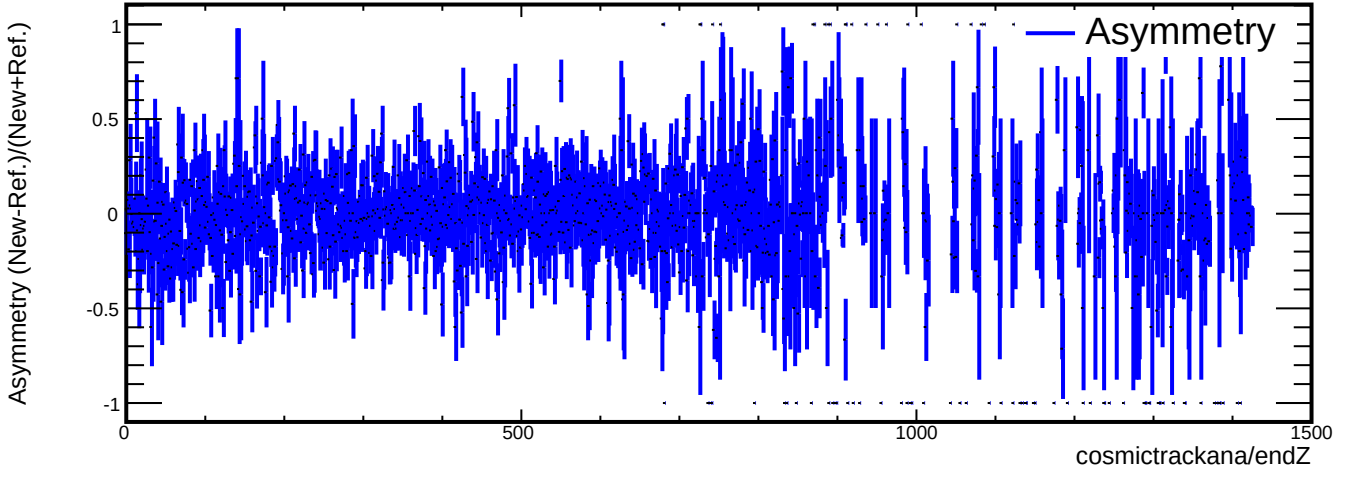

KS 0.3541, chi2 1.23217e-18
1000
800
600
400
200
0
-200
-100
0
100
200
cosmictrackana/endX
2012-09-15
2012-09-16

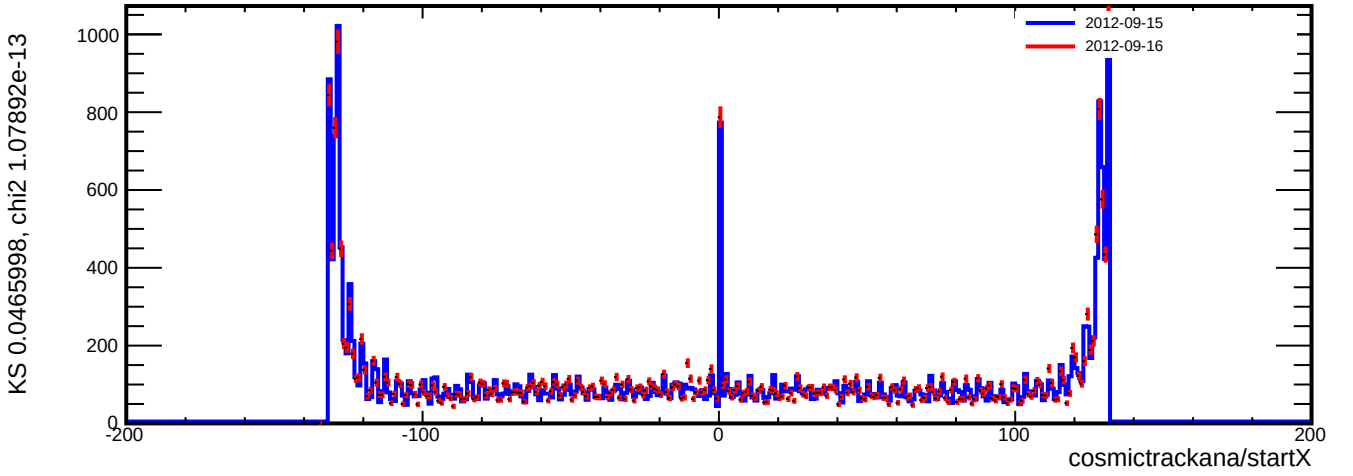

Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-200
-100
0
100
200
cosmictrackana/endX
Asymmetry

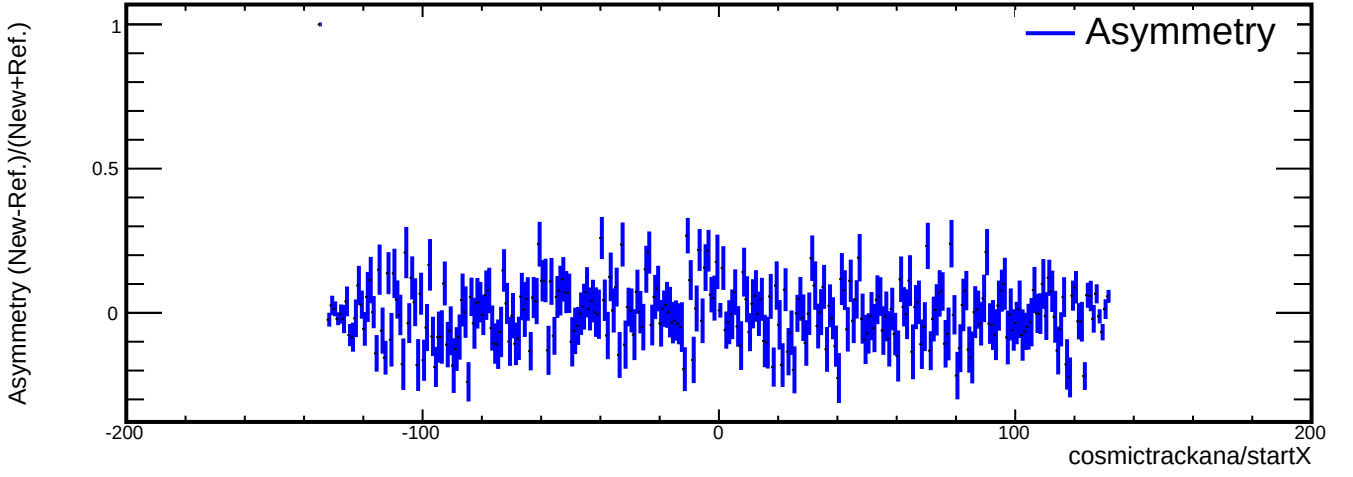

KS 0.224776, chi2 3.25062e-15
2012-09-15
2012-09-16
2500
2000
1500
1000
500
0
-200
-100
0
100
200
cosmictrackana/endY

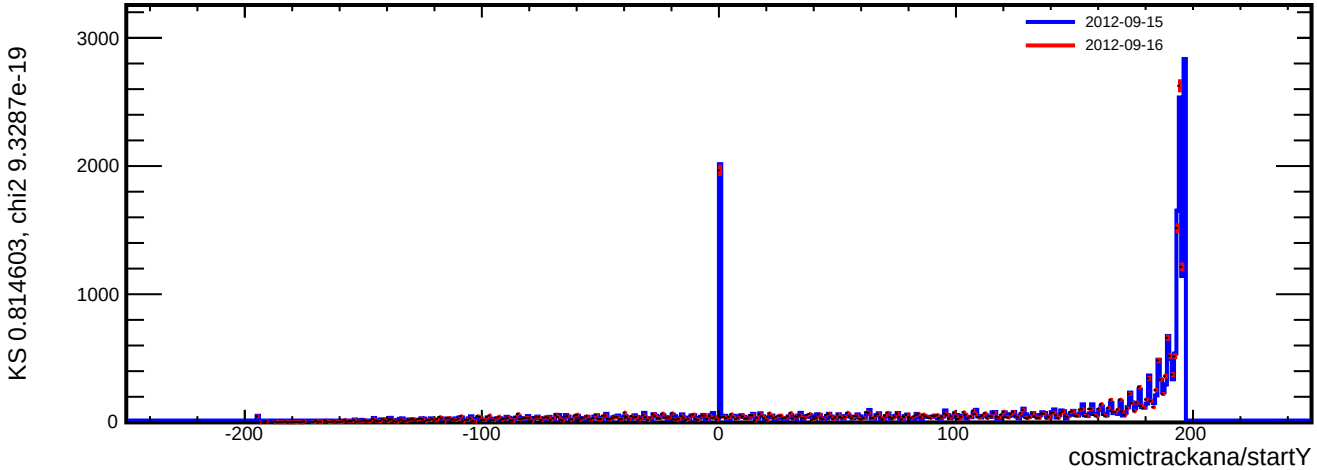

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-200
-100
0
100
200
cosmictrackana/endY

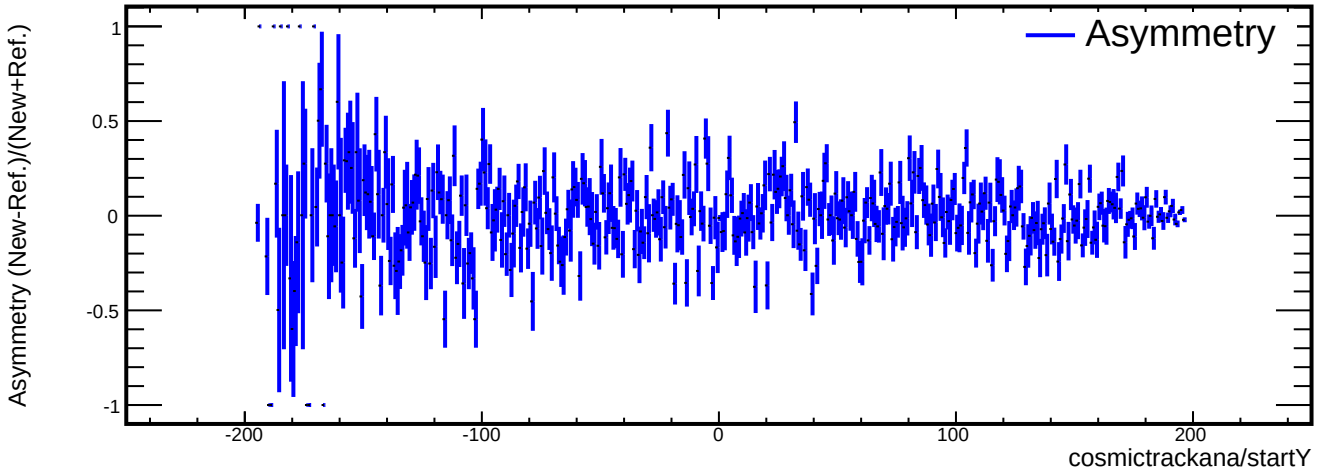

KS 0.310278, chi2 7.13696e-35
2012-09-15
2012-09-16
300
200
100
0
0
500
1000
1500
cosmictrackana/endZ

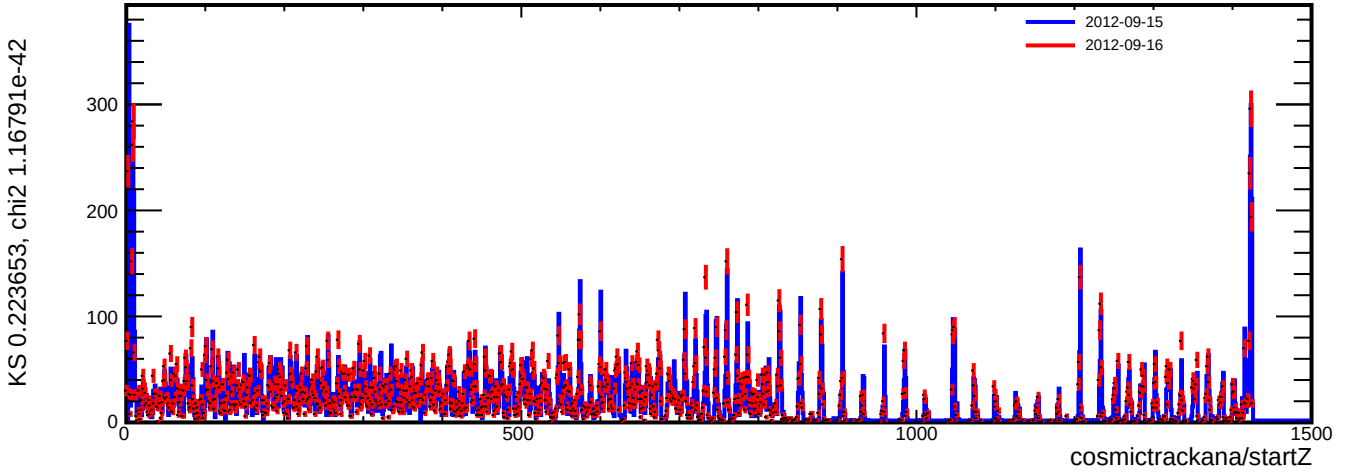

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
500
1000
1500
cosmictrackana/endZ

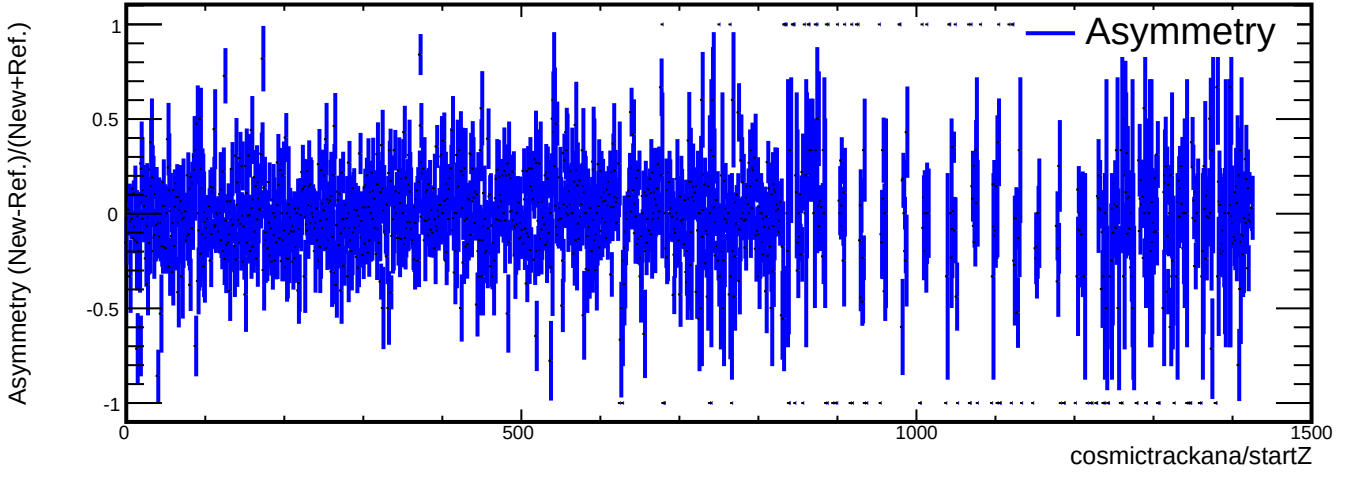

KS 0.0465998, chi2 1.07892e-13
2012-09-15
2012-09-16
1000
800
600
400
200
0
-200
-100
0
100
200
cosmictrackana/startX

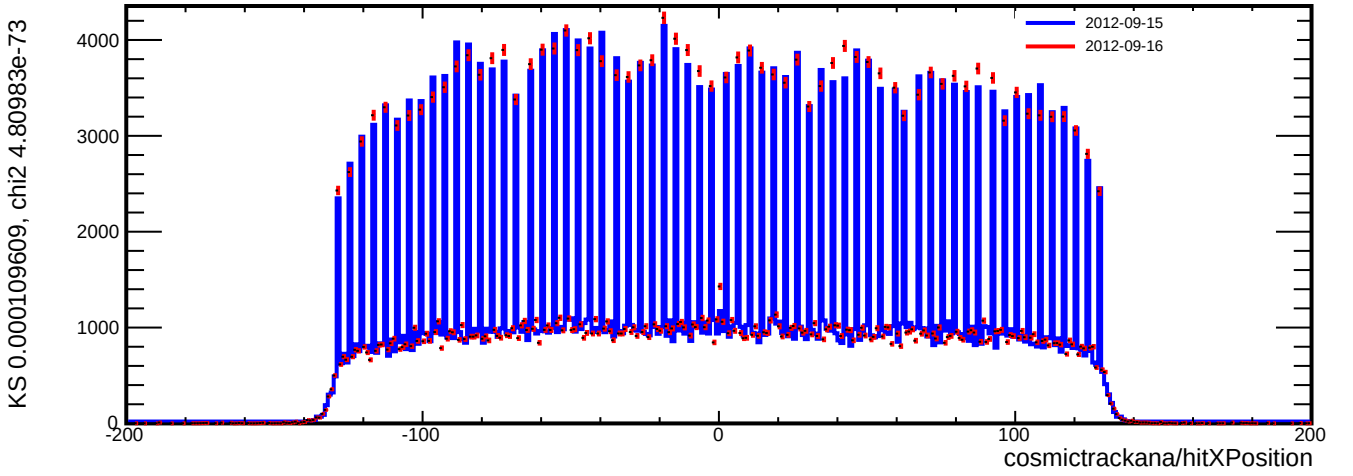

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-200
-100
0
100
200
cosmictrackana/startX

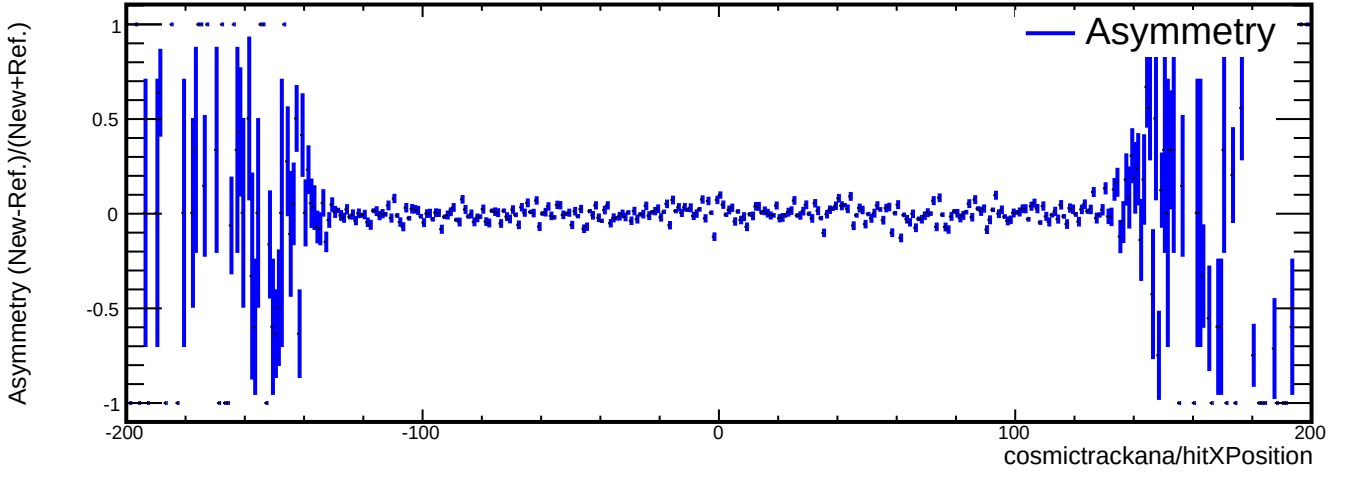

KS 0.814603, chi2 9.3287e-19
2012-09-15
2012-09-16
3000
2000
1000
0
-200
-100
0
100
200
cosmictrackana/startY

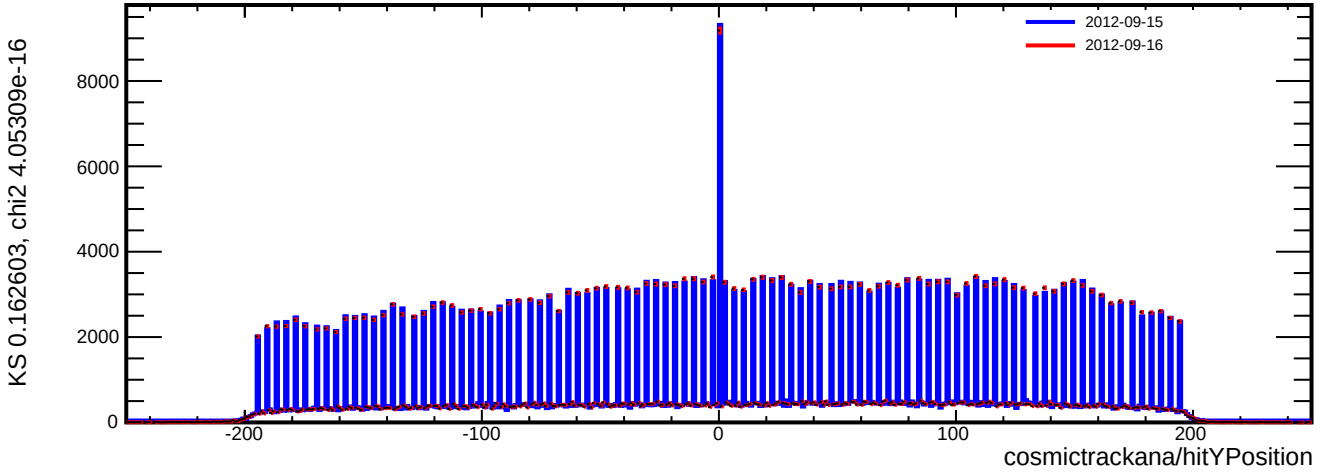

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-200
-100
0
100
200
cosmictrackana/startY

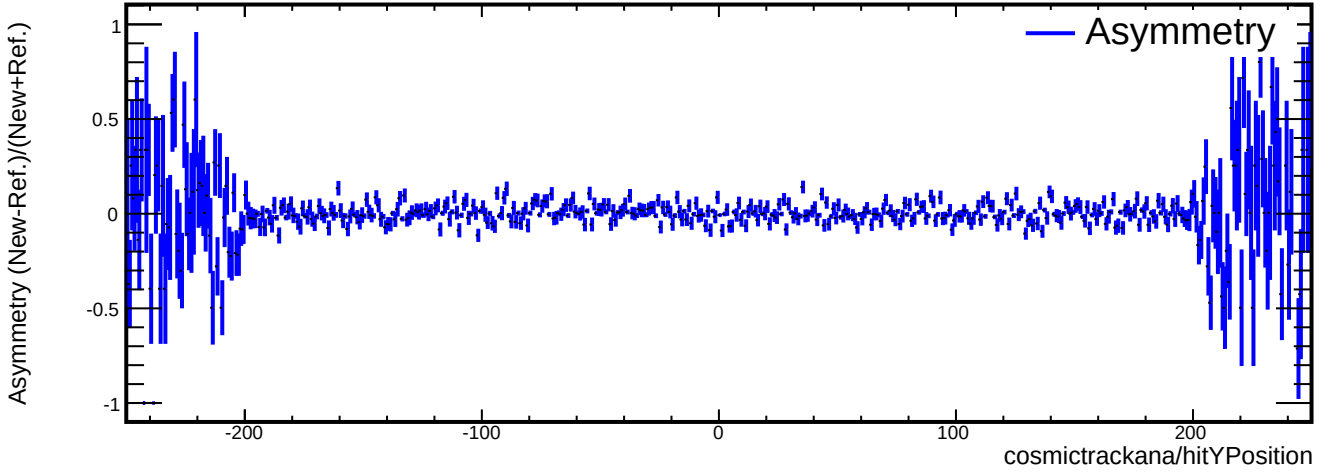

KS 0.223653, chi2 1.16791e-42
2012-09-15
2012-09-16
300
200
100
0
0
500
1000
1500
cosmictrackana/startZ

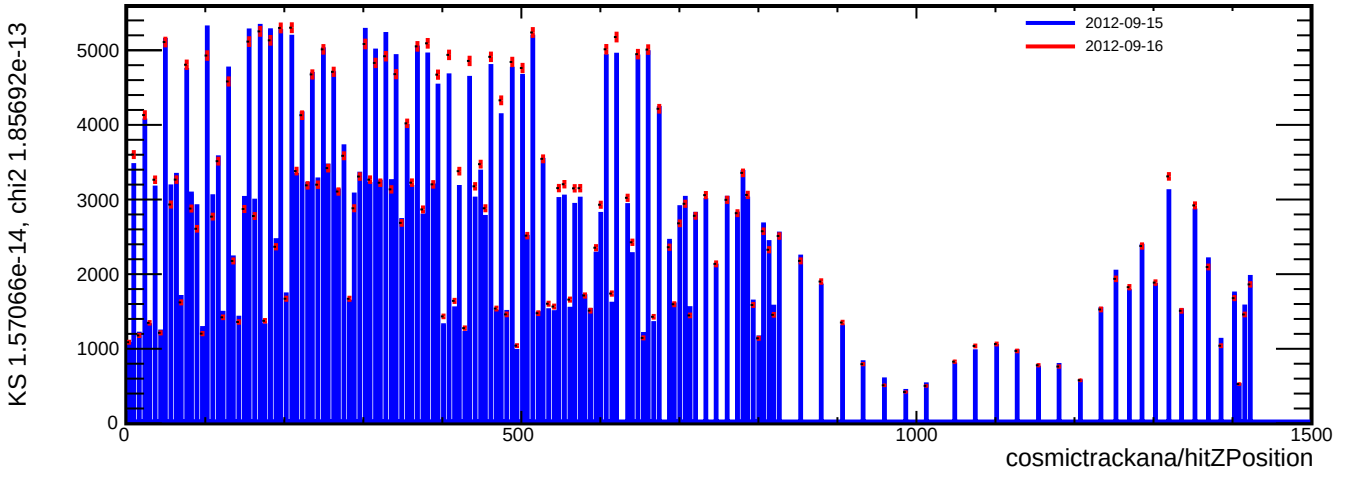

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
500
1000
1500
cosmictrackana/startZ

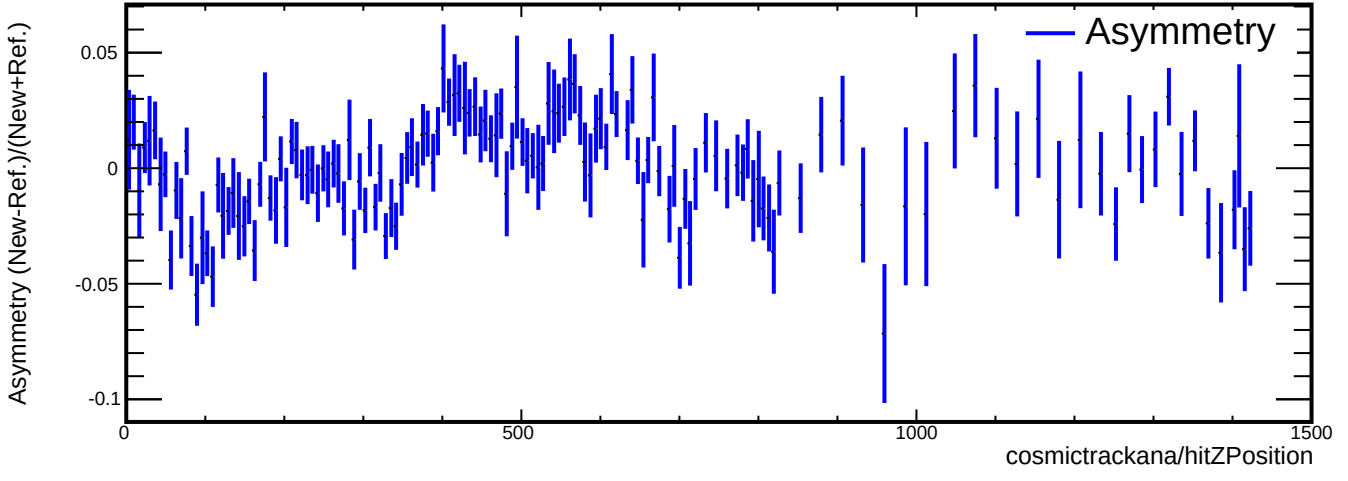

KS 0.000109609, chi2 4.80983e-73
2012-09-15
2012-09-16
4000
3000
2000
1000
0
-200
-100
0
100
200
cosmictrackana/hitXPosition

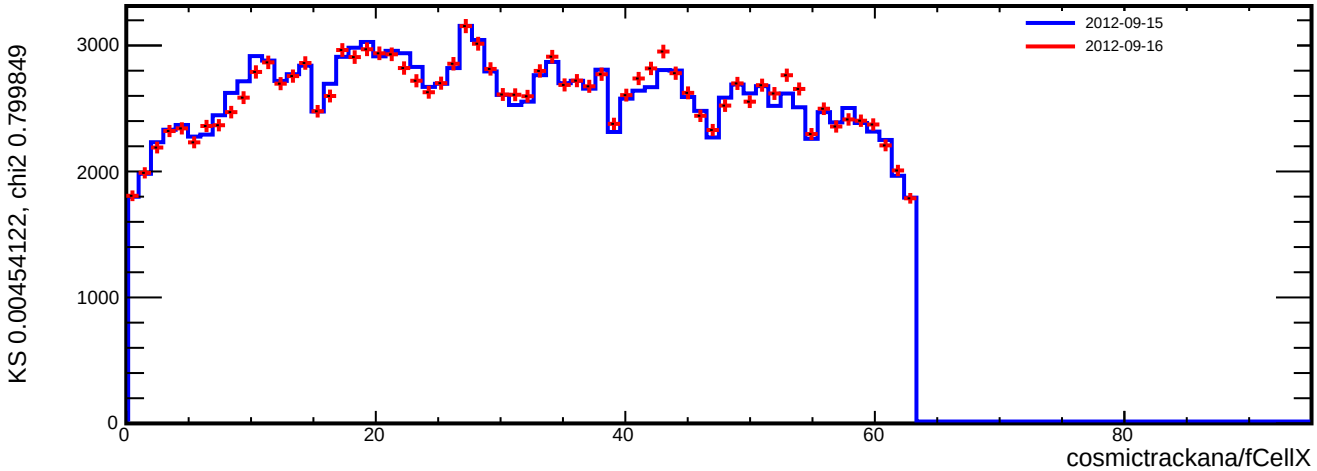

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-200
-100
0
100
200
cosmictrackana/hitXPosition

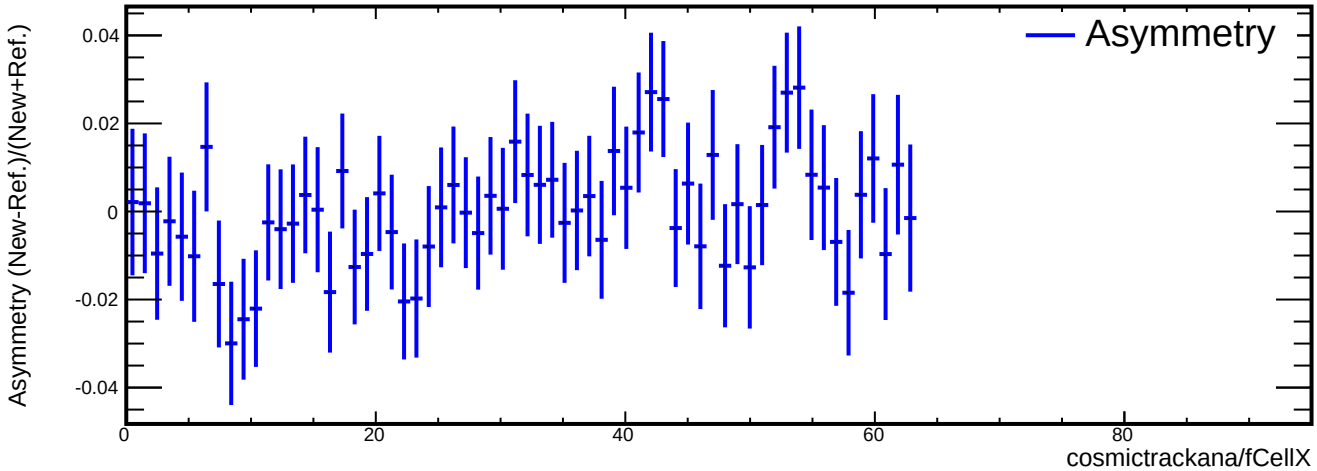

KS 0.162603, chi2 4.05309e-16
2012-09-15
2012-09-16
8000
6000
4000
2000
0
-200
-100
0
100
200
cosmictrackana/hitYPosition

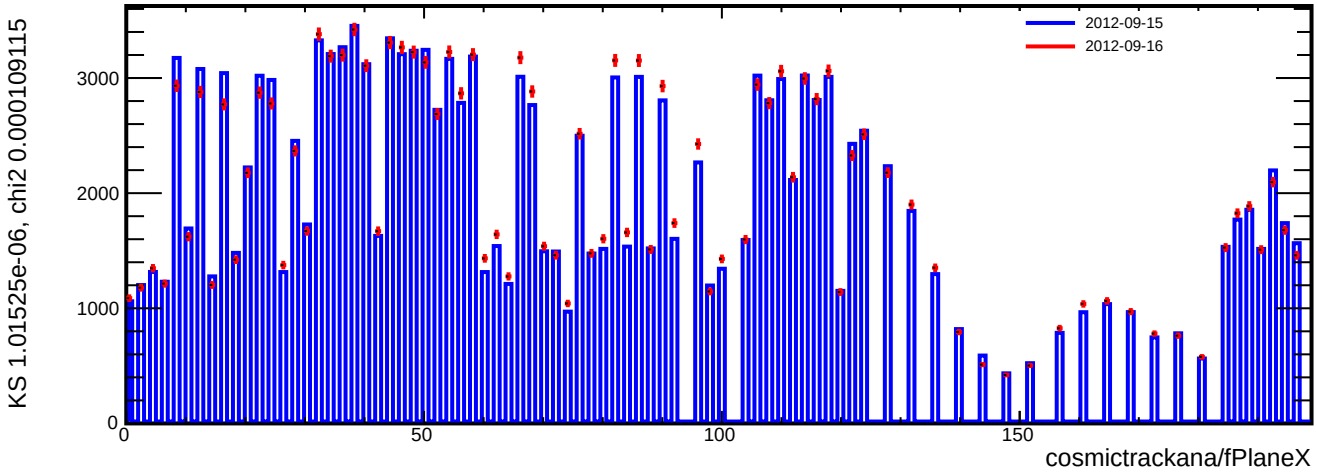

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-200
-100
0
100
200
cosmictrackana/hitYPosition

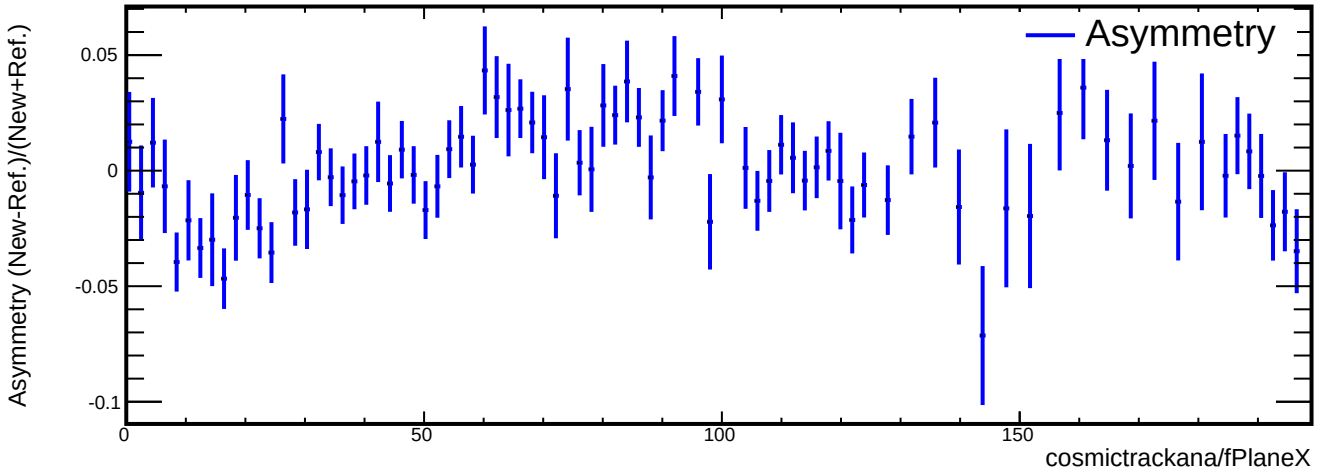

KS 1.57066e-14, chi2 1.85692e-13
2012-09-15
2012-09-16
0
1000
2000
3000
4000
5000
0
500
1000
1500
cosmictrackana/hitZPosition

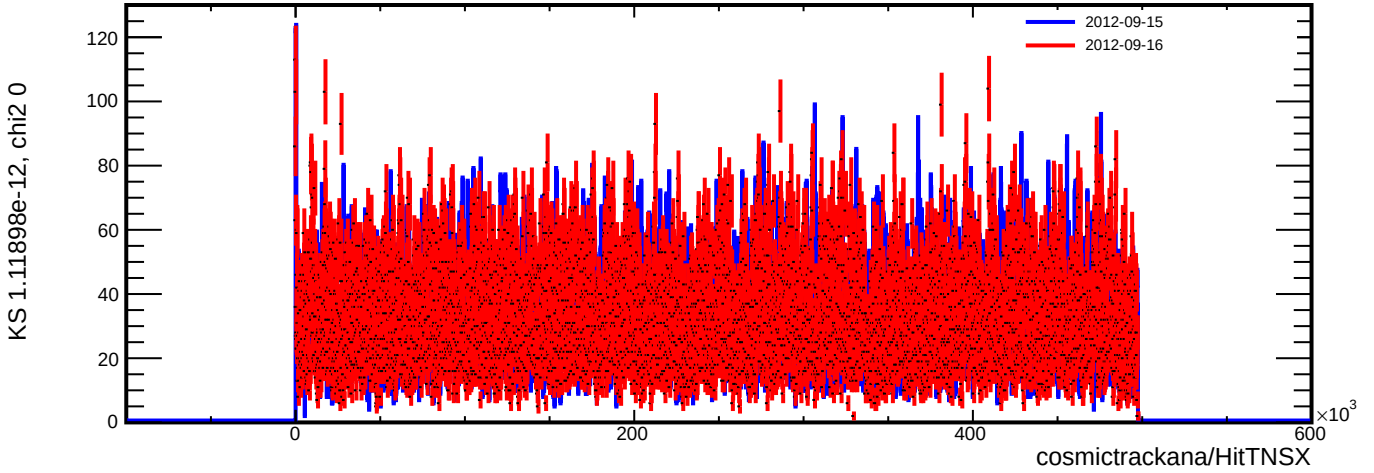

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.05
0
-0.05
-0.1
0
500
1000
1500
cosmictrackana/hitZPosition

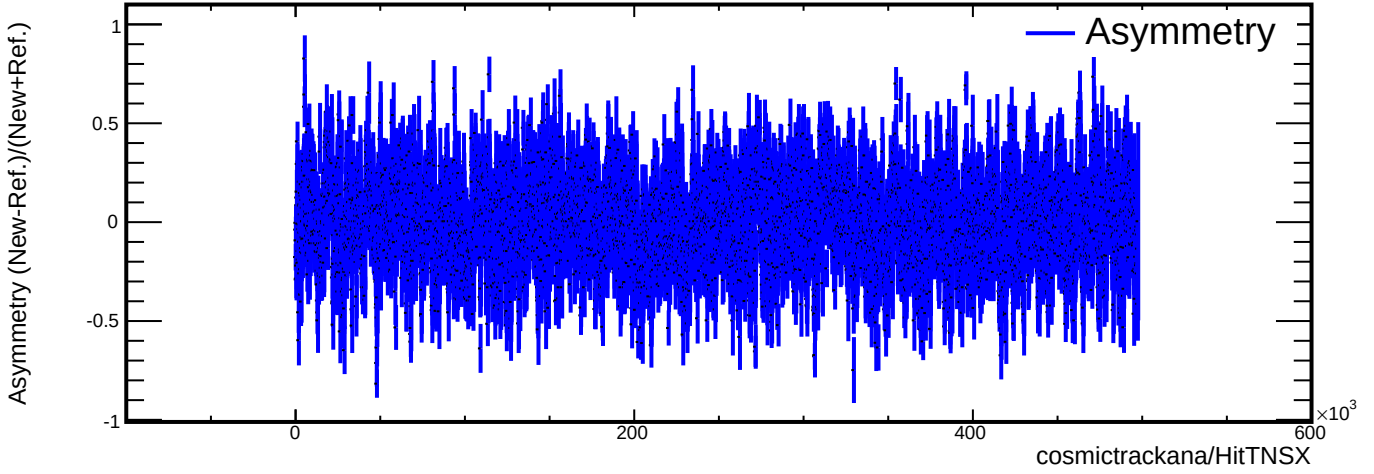

KS 0.00454122, chi2 0.799849
3000
2000
1000
0
0
20
40
60
80
cosmictrackana/fCellX
2012-09-15
2012-09-16

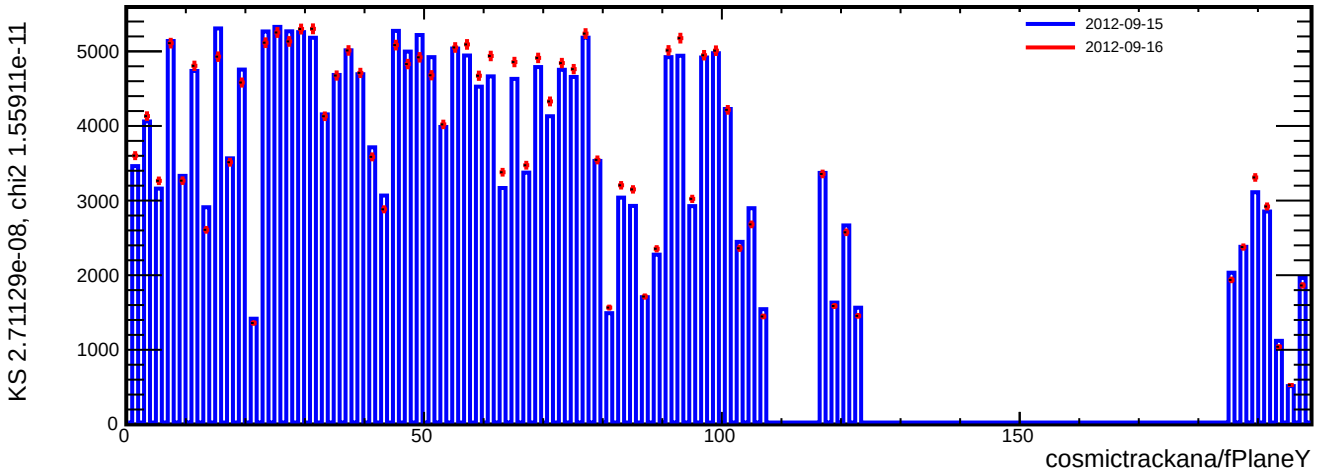

Asymmetry (New-Ref.)/(New+Ref.)
0.04
0.02
0
-0.02
-0.04
0
20
40
60
80
cosmictrackana/fCellX
Asymmetry

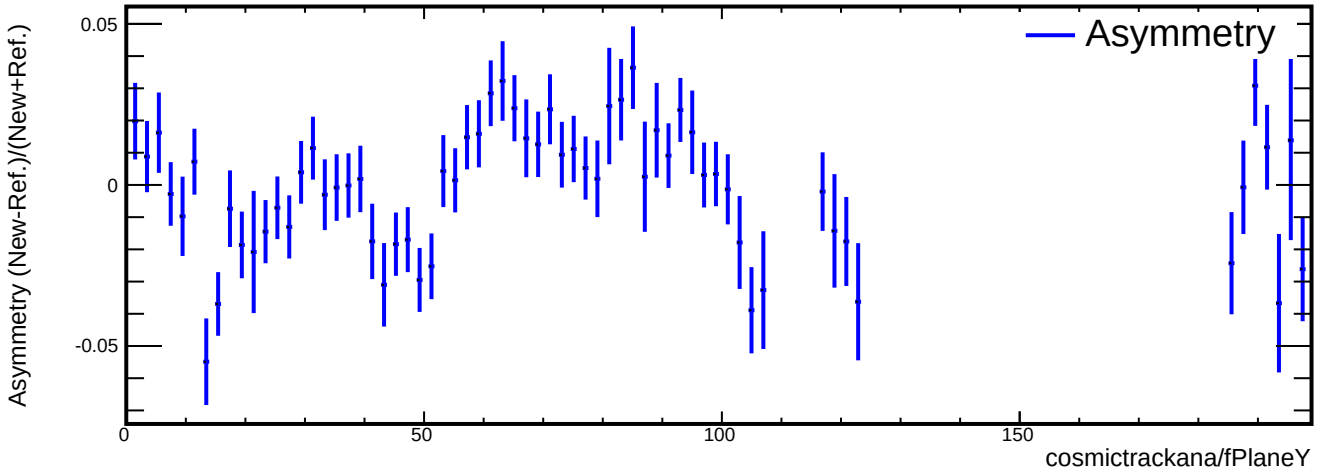

KS 1.01525e-06, chi2 0.000109115
2012-09-15
2012-09-16
0
1000
2000
3000
0
50
100
150
cosmictrackana/fPlaneX

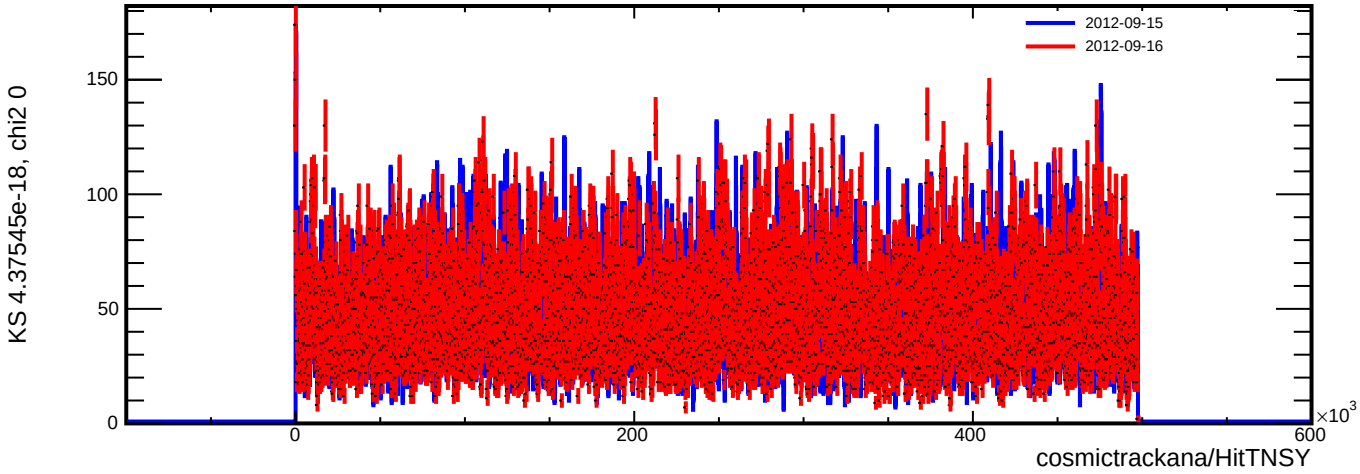

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.05
0
-0.05
-0.1
0
50
100
150
cosmictrackana/fPlaneX

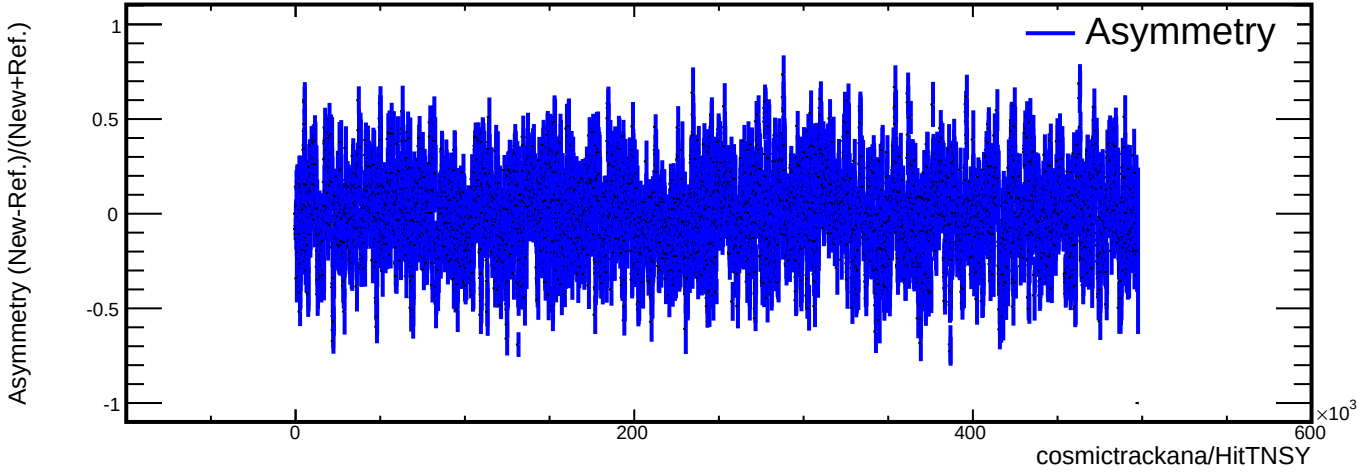

KS 1.11898e-12, chi2 0
2012-09-15
2012-09-16
120
100
80
60
40
20
0
0
200
400
600
×10^3
cosmictrackana/HitTNSX


Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
200
400
600
×10^3
cosmictrackana/HitTNSX


KS 2.71129e-08, chi2 1.55911e-11
2012-09-15
2012-09-16
cosmictrackana/fPlaneY


Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
cosmictrackana/fPlaneY


2012-09-15
2012-09-16
KS 4.37545e-18, chi2 0
150
100
50
0
0
200
400
600
×10^3
cosmictrackana/HitTNSY


Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
200
400
600
×10^3
cosmictrackana/HitTNSY