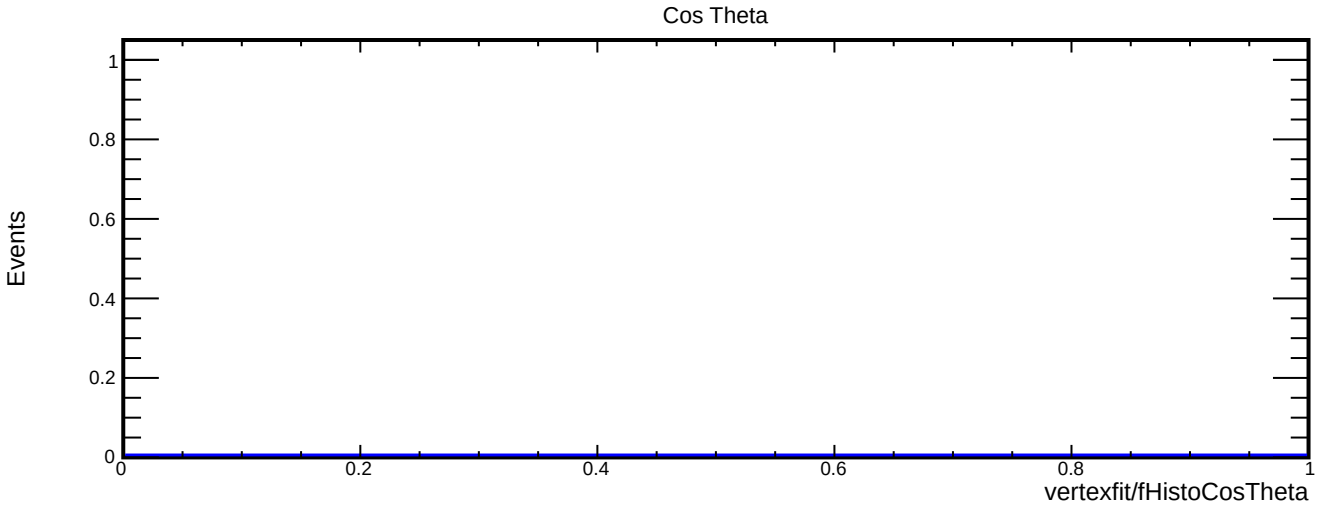
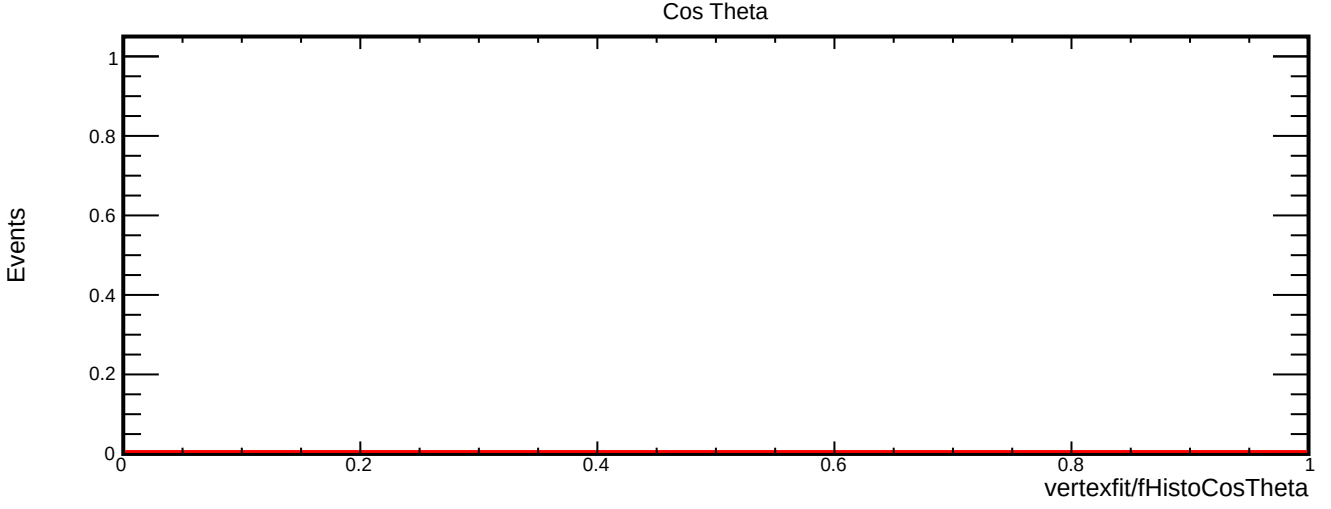
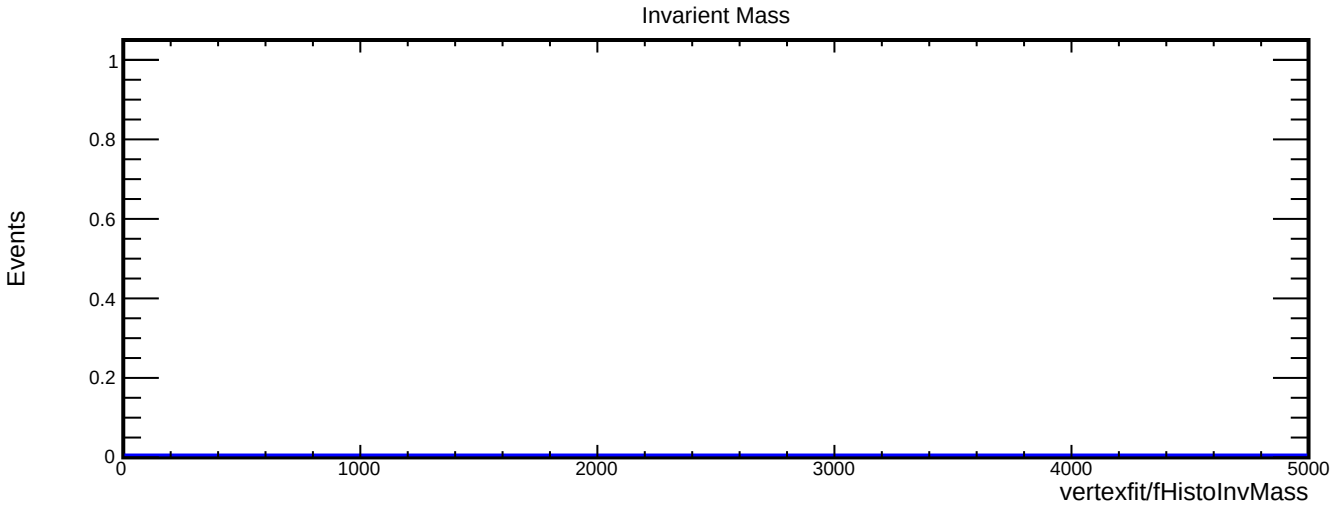
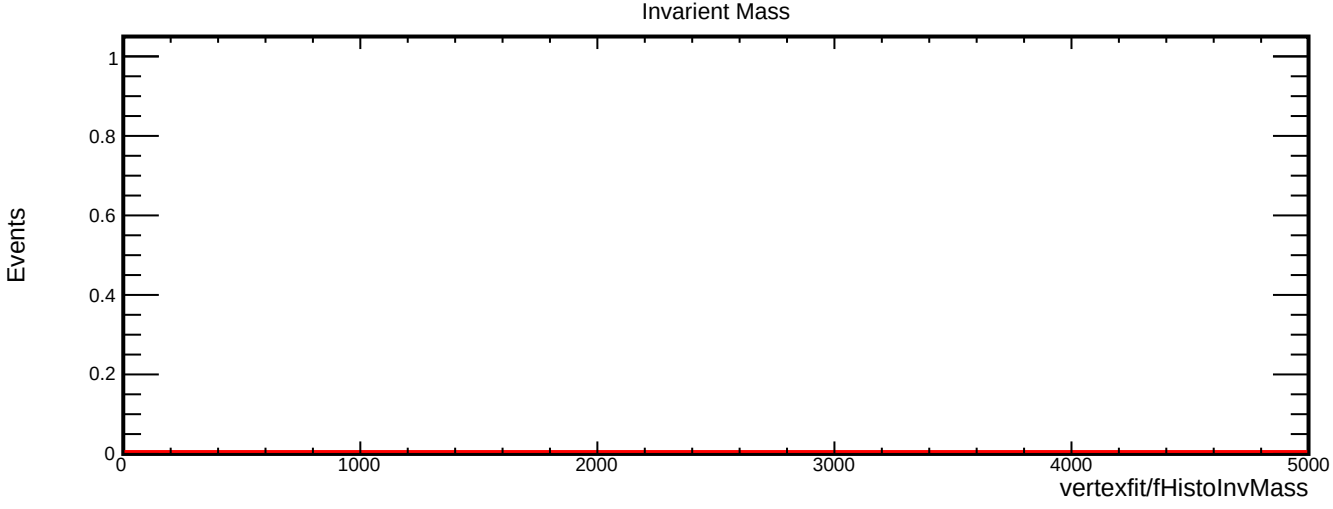
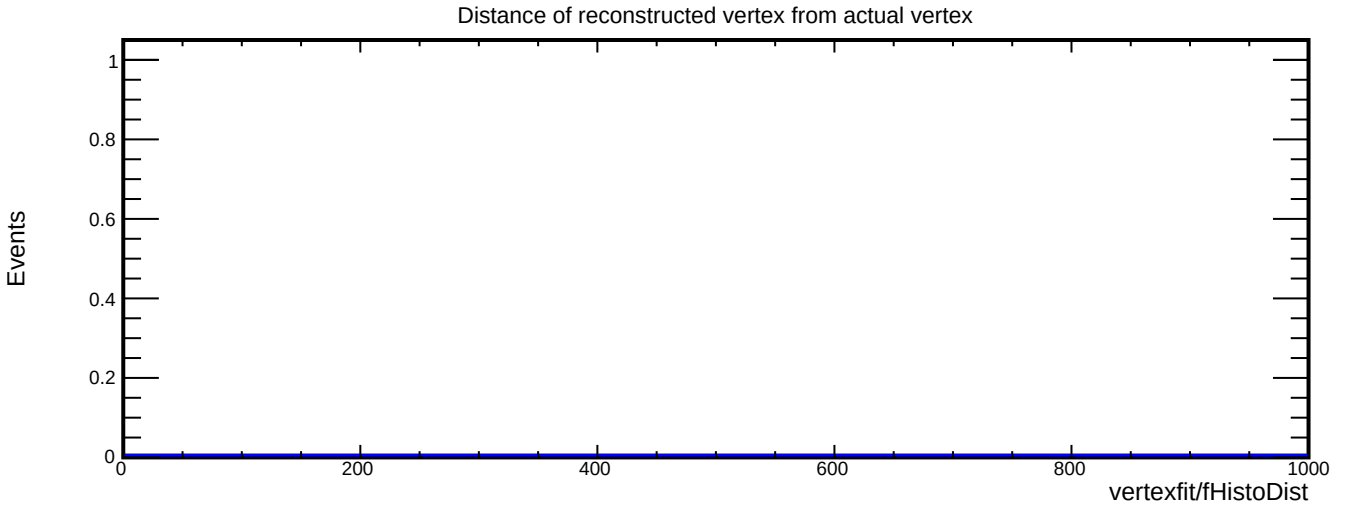
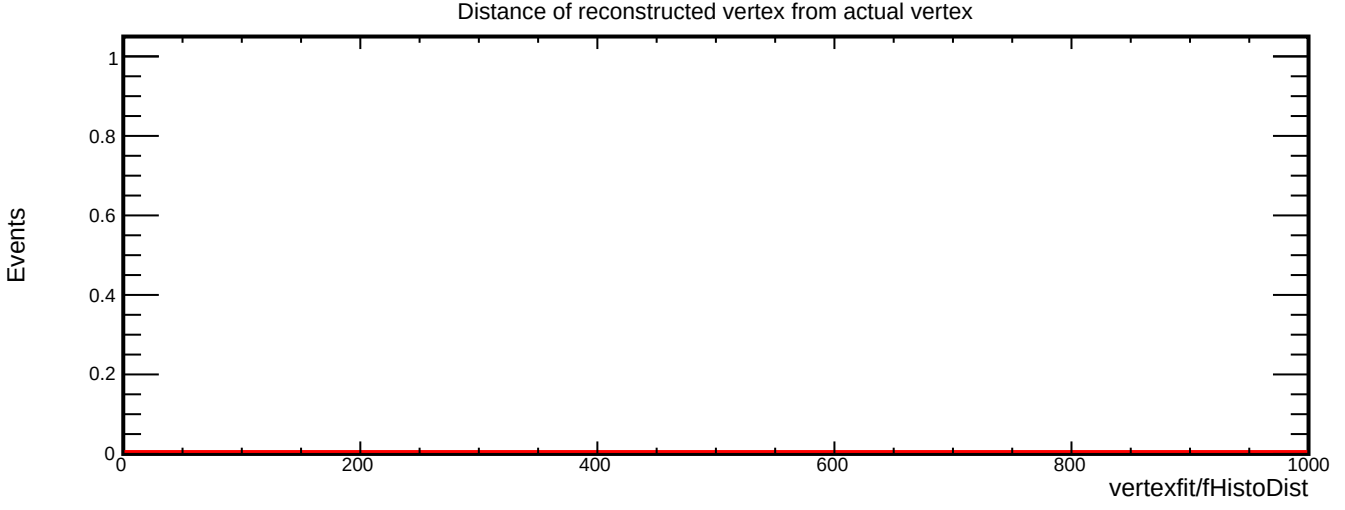

Cos Theta
Events
1
0.8
0.6
0.4
0.2
0
0
0.2
0.4
0.6
0.8
1
vertexfit/fHistoCosTheta

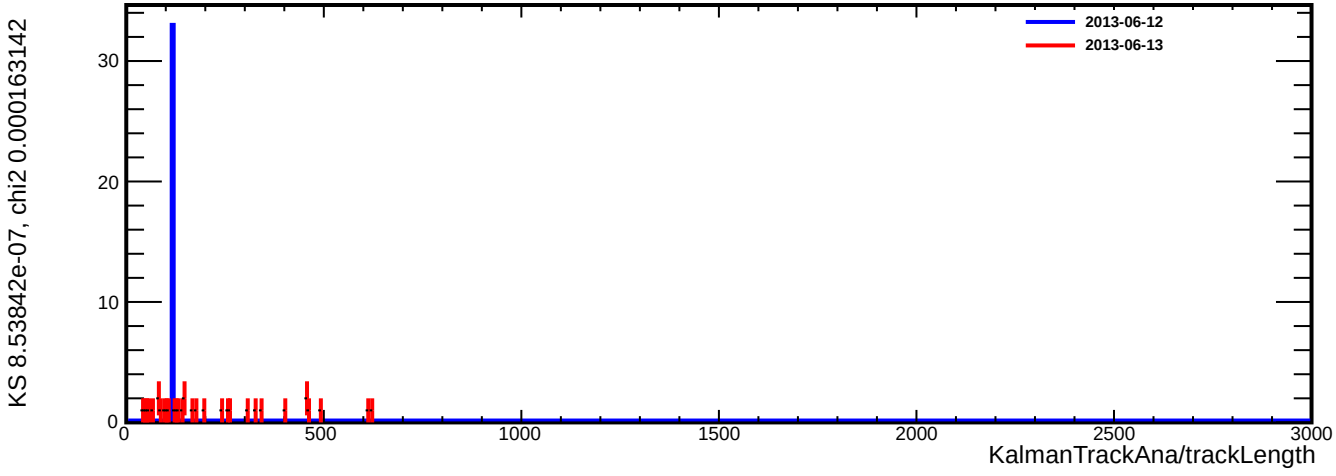

Cos Theta
Events
1
0.8
0.6
0.4
0.2
0
0
0.2
0.4
0.6
0.8
1
vertexfit/fHistoCosTheta

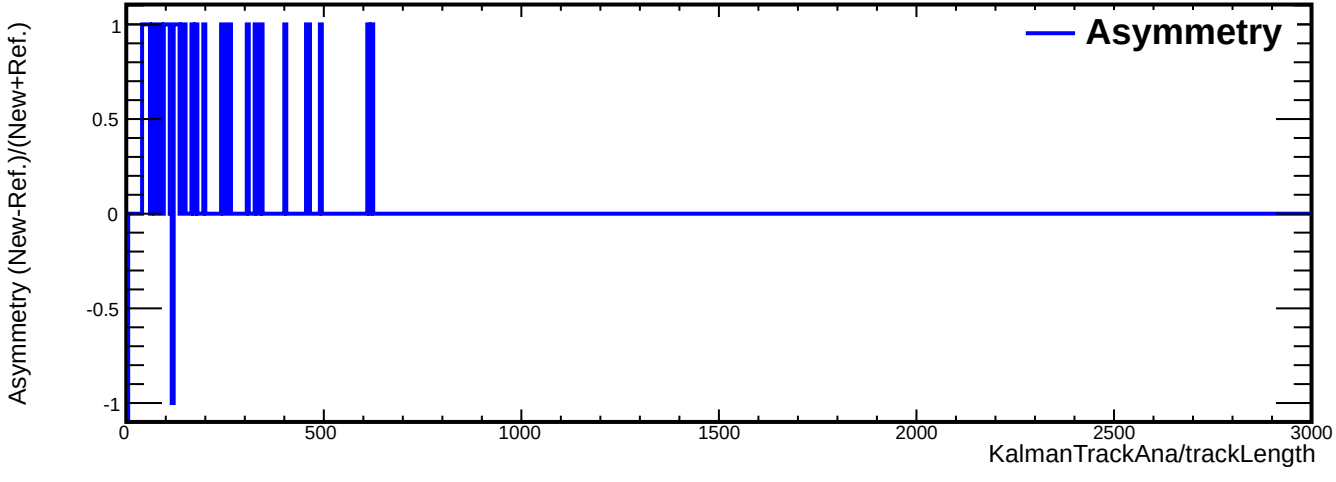

Invarient Mass
Events
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
vertexfit/fHistoInvMass

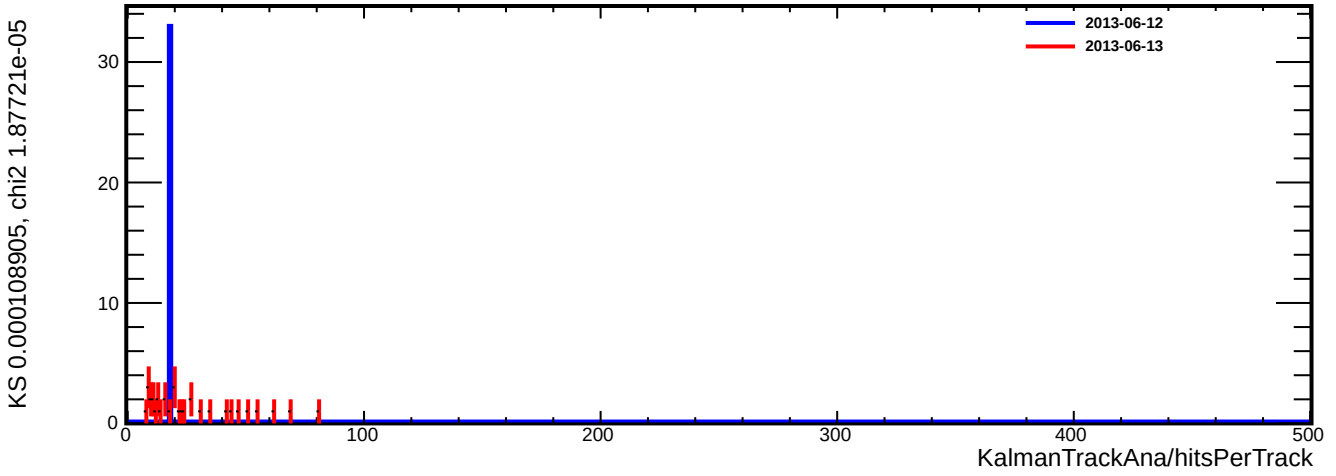

Invarient Mass
Events
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
vertexfit/fHistoInvMass

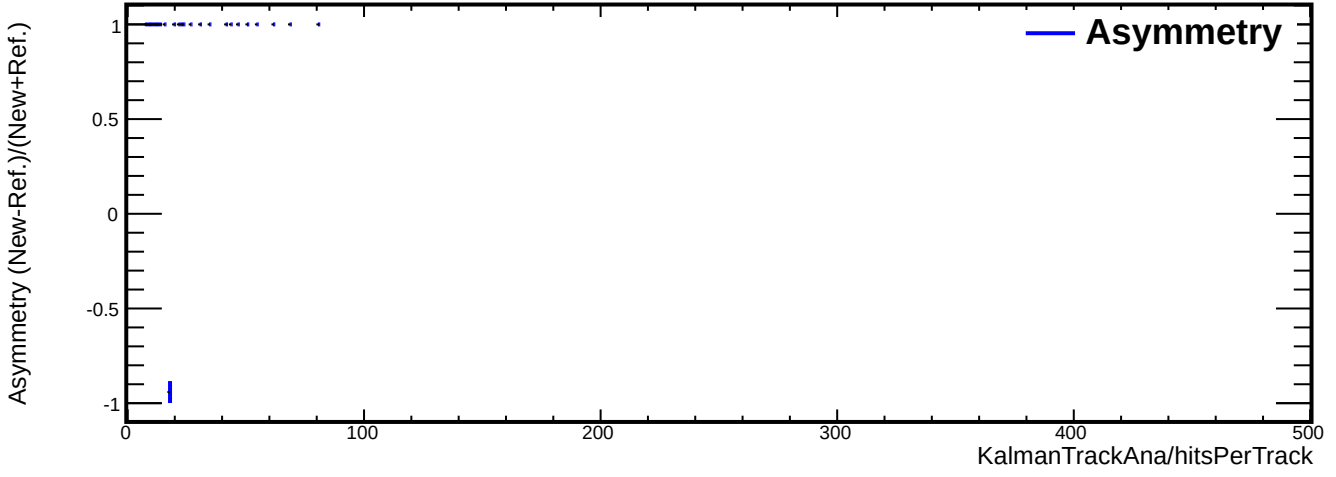

Distance of reconstructed vertex from actual vertex
Events
1
0.8
0.6
0.4
0.2
0
0
200
400
600
800
1000
vertexfit/fHistoDist

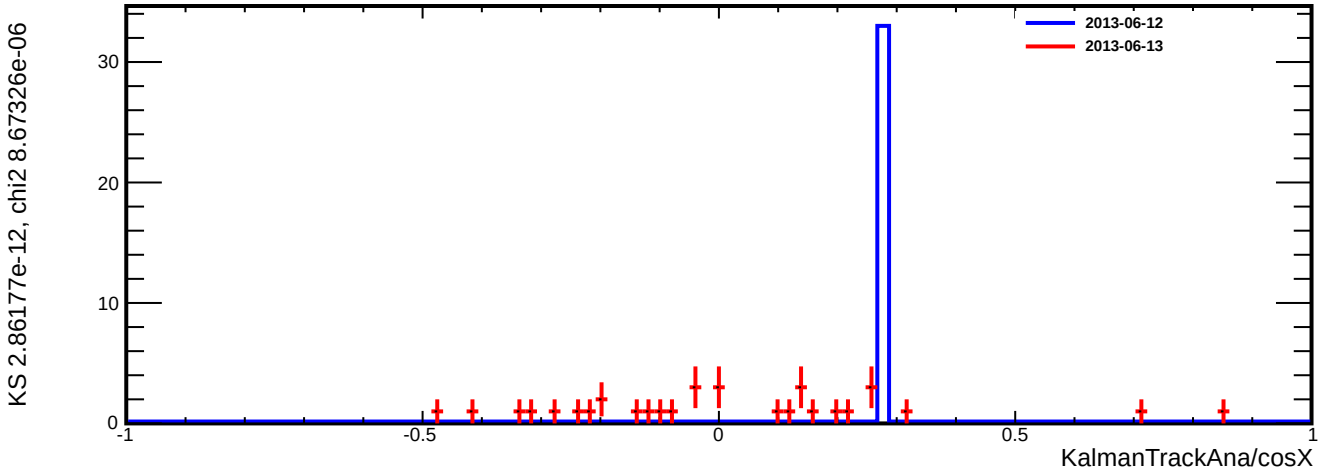

Distance of reconstructed vertex from actual vertex
Events
1
0.8
0.6
0.4
0.2
0
0
200
400
600
800
1000
vertexfit/fHistoDist

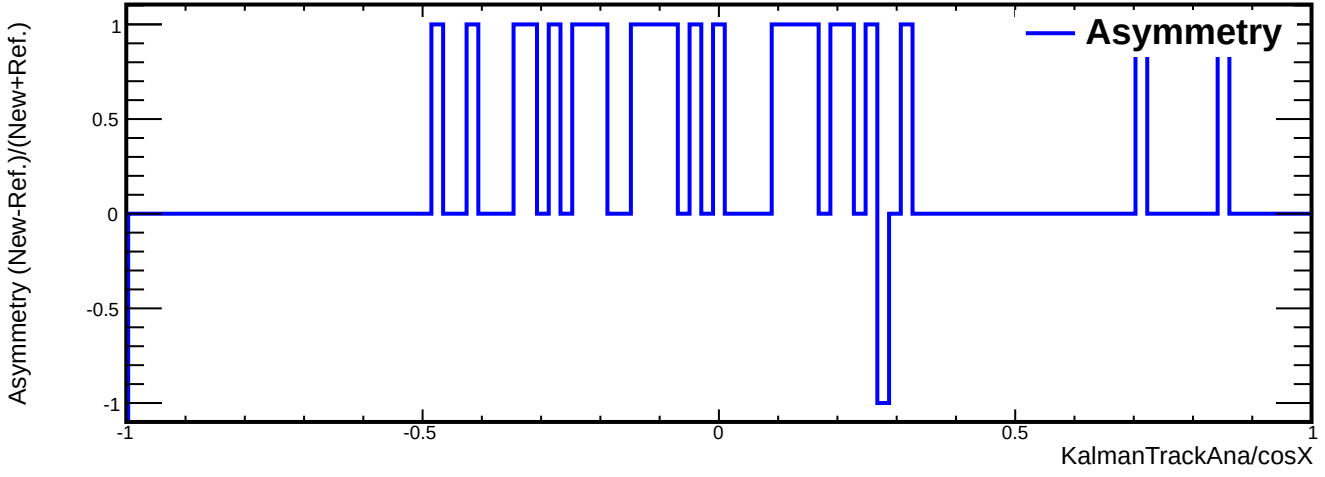

KS 8.53842e-07, chi2 0.000163142
2013-06-12
2013-06-13
0
10
20
30
0
500
1000
1500
2000
2500
3000
KalmanTrackAna/trackLength

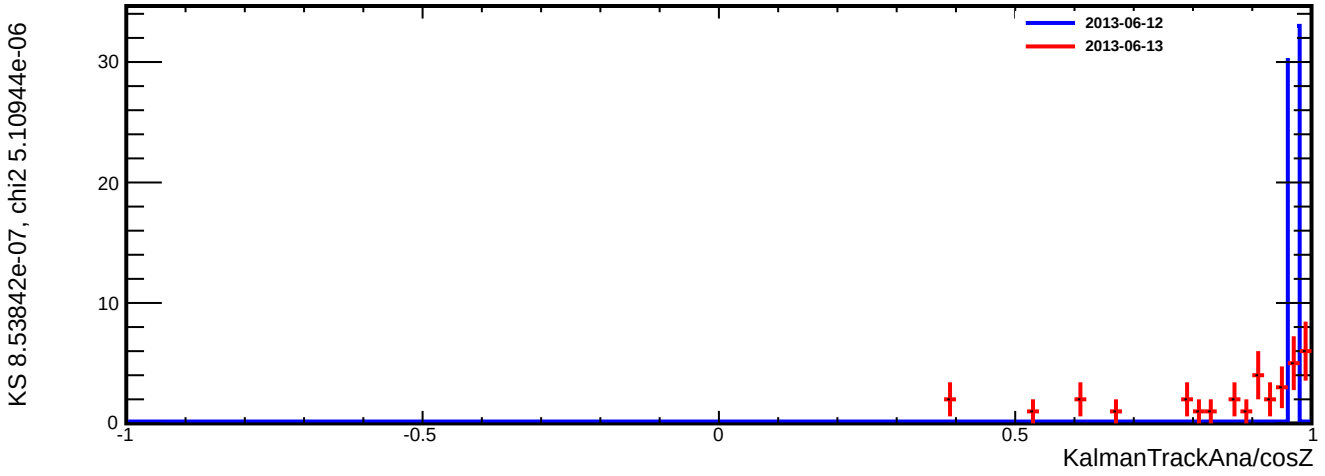

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
500
1000
1500
2000
2500
3000
KalmanTrackAna/trackLength

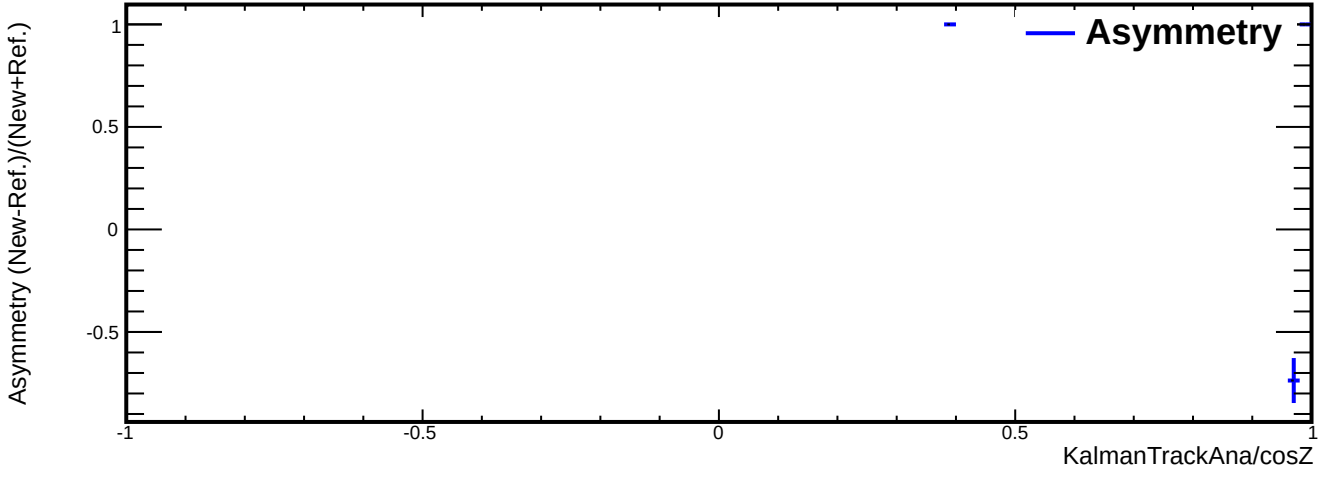

KS 0.000108905, chi2 1.87721e-05
2013-06-12
2013-06-13
0
10
20
30
0
100
200
300
400
500
KalmanTrackAna/hitsPerTrack

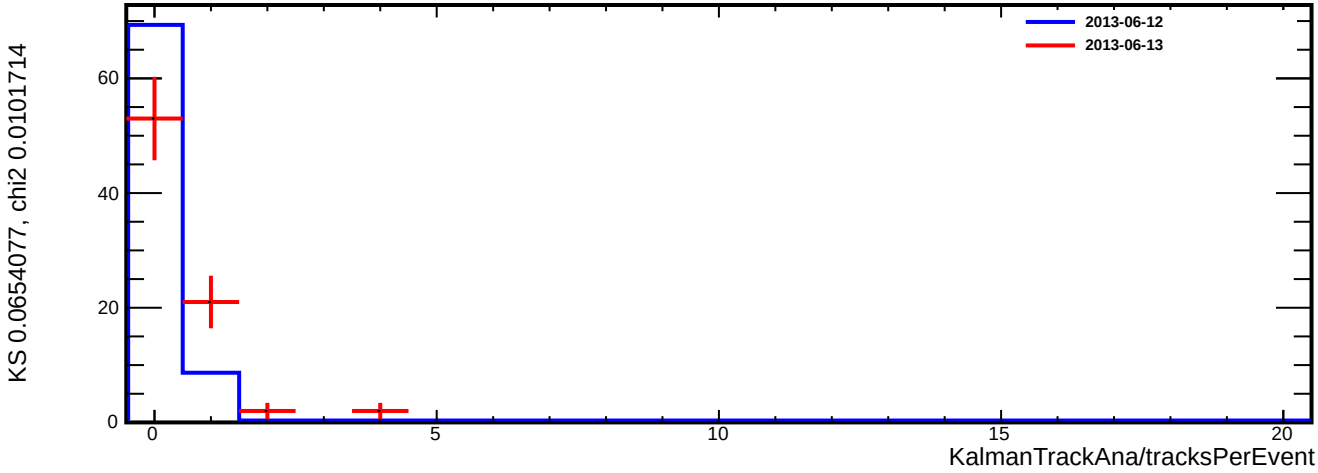

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
100
200
300
400
500
KalmanTrackAna/hitsPerTrack

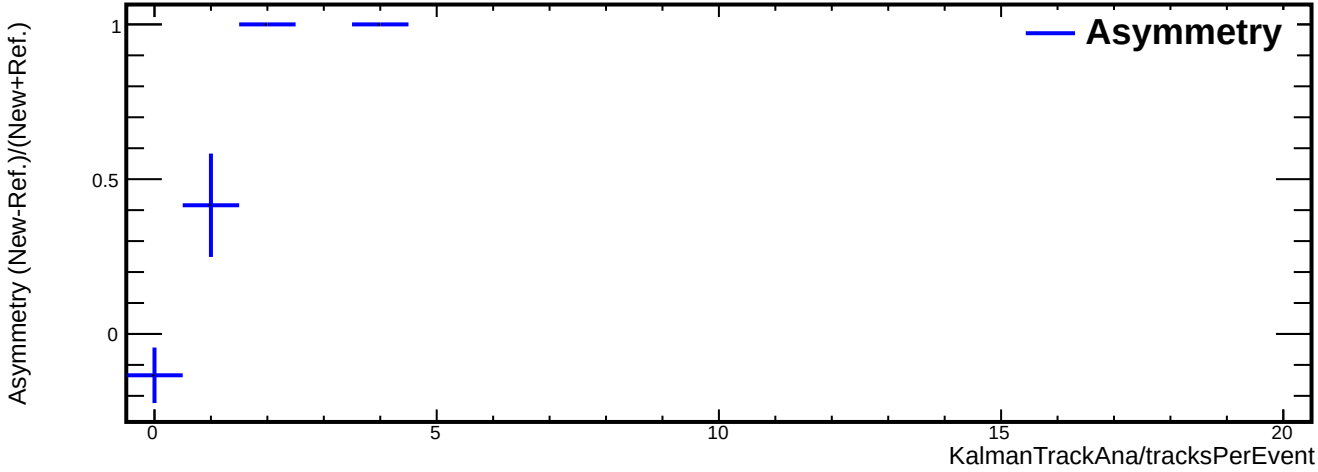

KS 2.86177e-12, chi2 8.67326e-06
2013-06-12
2013-06-13
30
20
10
0
-1
-0.5
0
0.5
1
KalmanTrackAna/cosX

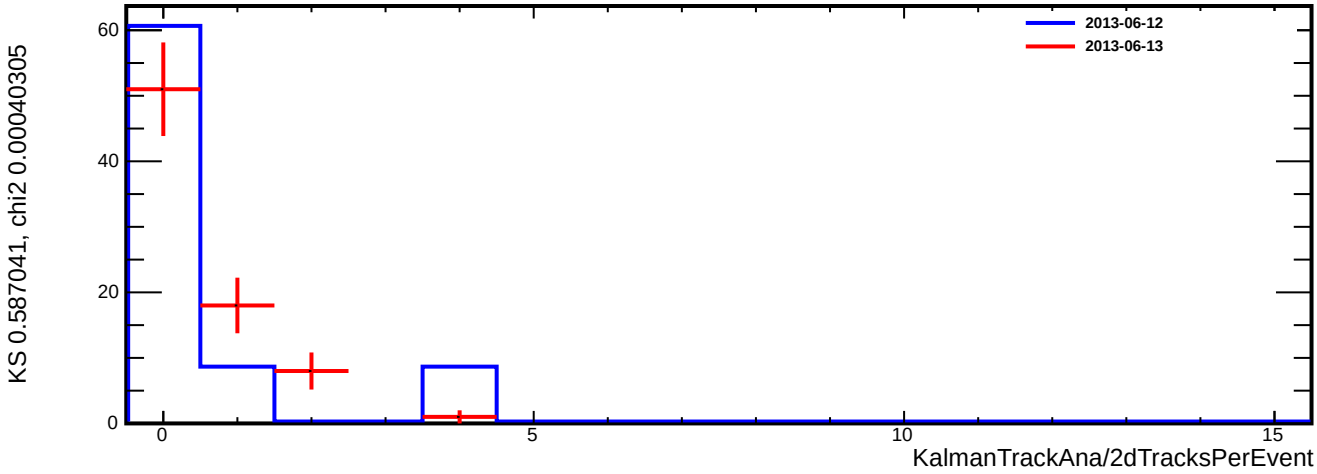

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-1
-0.5
0
0.5
1
KalmanTrackAna/cosX

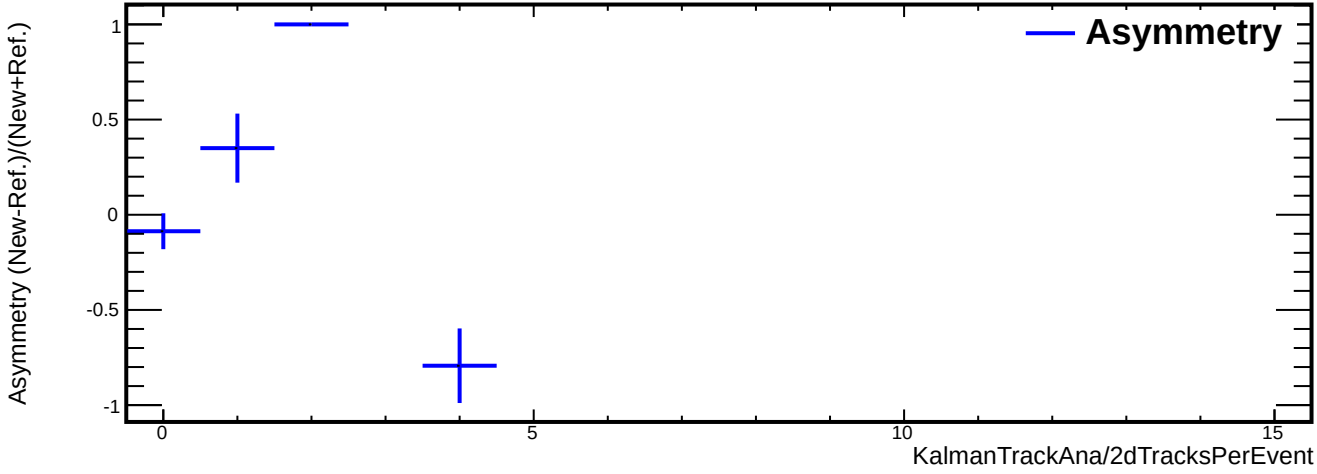

KS 8.53842e-07, chi2 5.10944e-06
2013-06-12
2013-06-13
30
20
10
0
-1
-0.5
0
0.5
1
KalmanTrackAna/cosZ

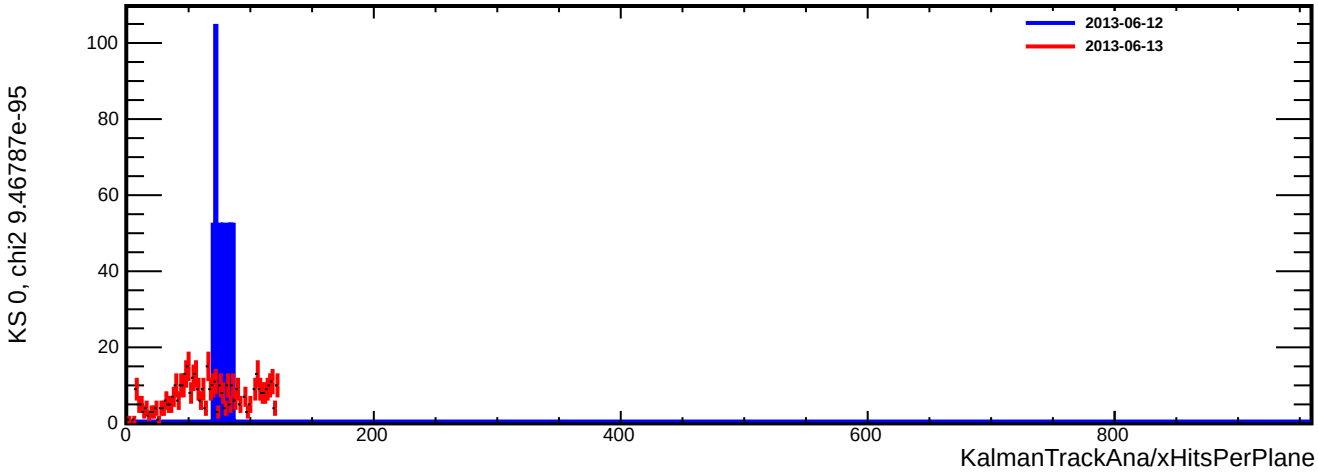

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-0.5
0
0.5
1
KalmanTrackAna/cosZ

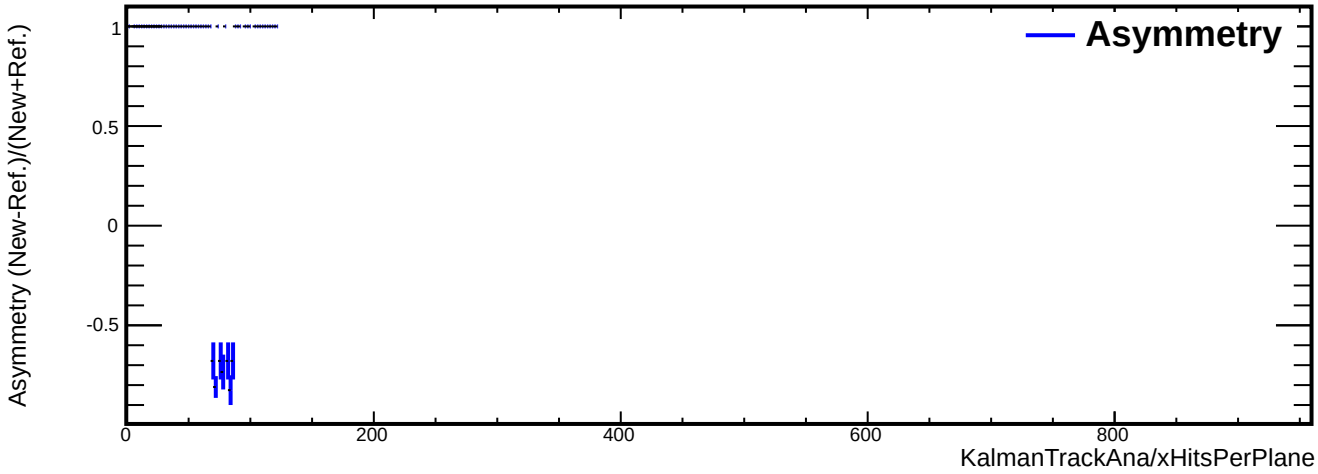

KS 0.0654077, chi2 0.0101714
2013-06-12
2013-06-13
0
20
40
60
0
5
10
15
20
KalmanTrackAna/tracksPerEvent

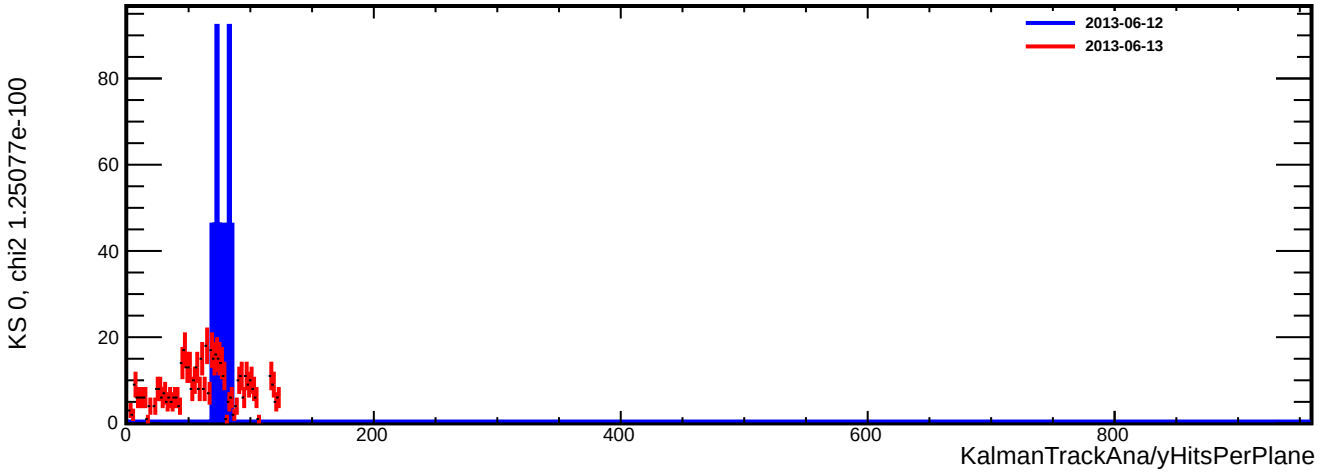

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0
0.5
1
0
5
10
15
20
KalmanTrackAna/tracksPerEvent

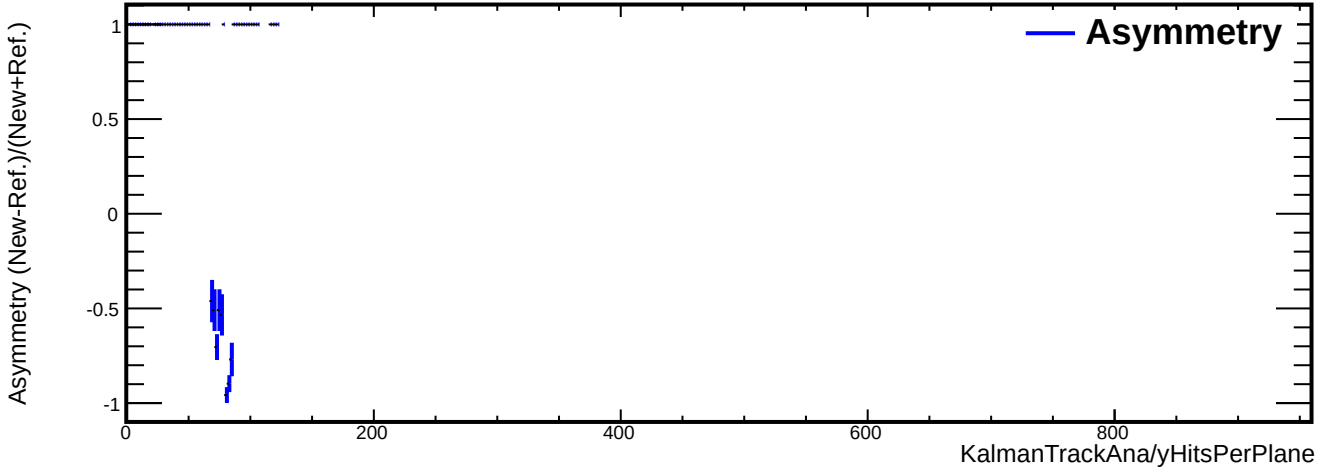

KS 0.587041, chi2 0.00040305
60
40
20
0
0
5
10
15
KalmanTrackAna/2dTracksPerEvent
2013-06-12
2013-06-13

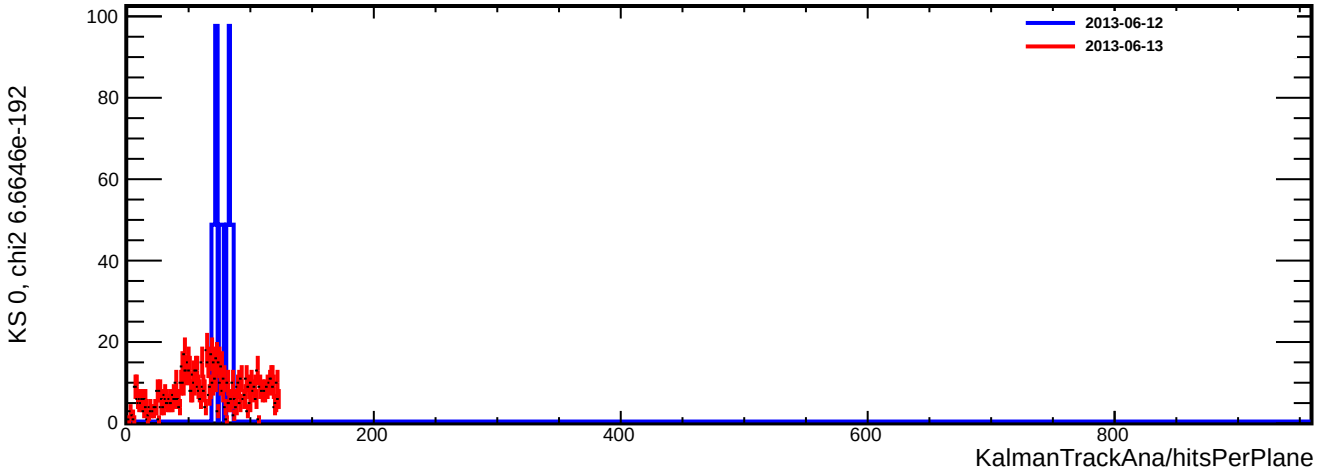

Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
5
10
15
KalmanTrackAna/2dTracksPerEvent
Asymmetry

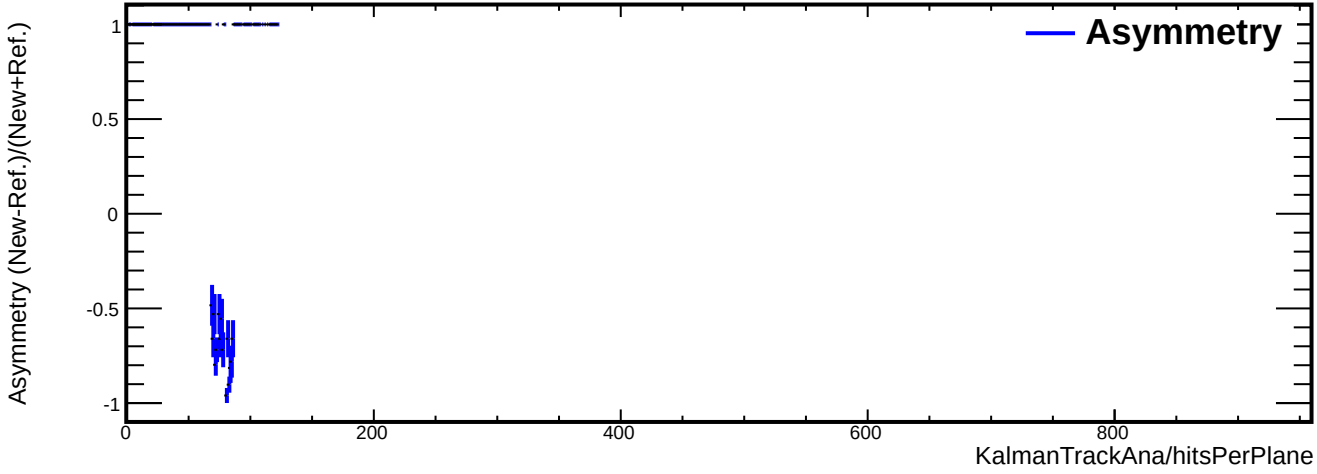

2013-06-12
2013-06-13
KS 0, chi2 9.46787e-95
100
80
60
40
20
0
0
200
400
600
800
KalmanTrackAna/xHitsPerPlane

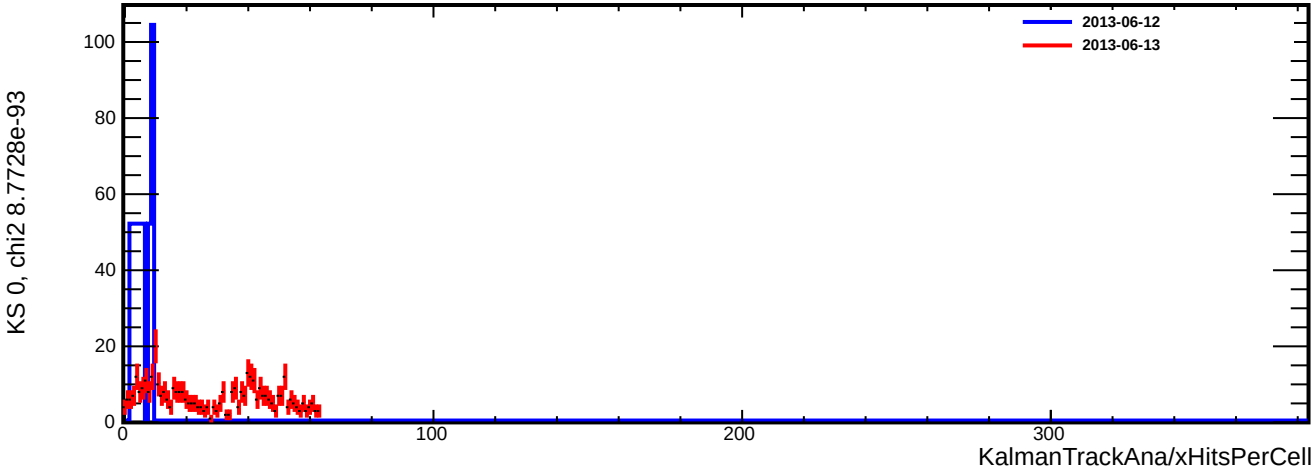

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
0
200
400
600
800
KalmanTrackAna/xHitsPerPlane

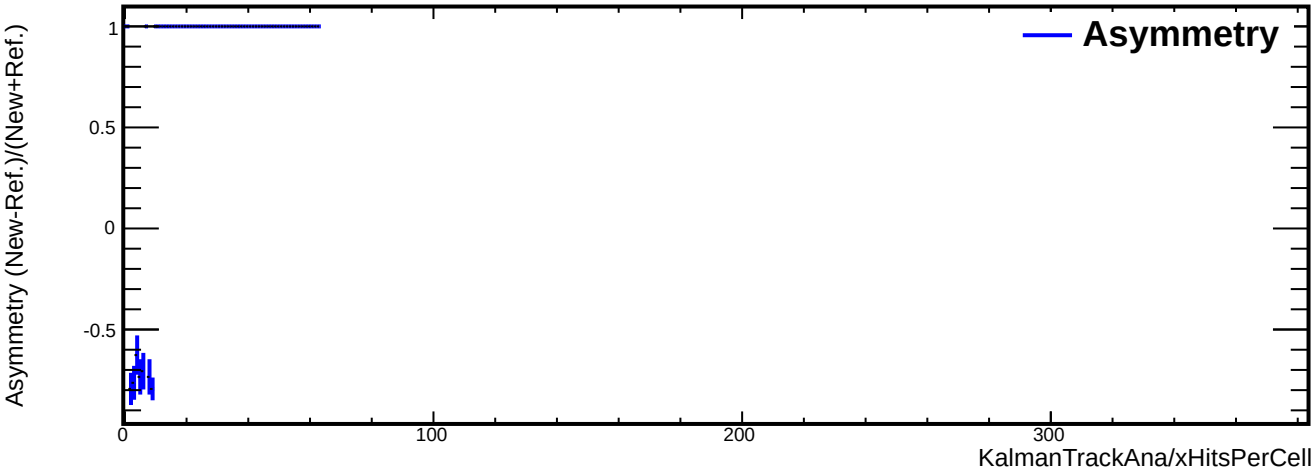

2013-06-12
2013-06-13
KS 0, chi2 1.25077e-100
0
20
40
60
80
0
200
400
600
800
KalmanTrackAna/yHitsPerPlane

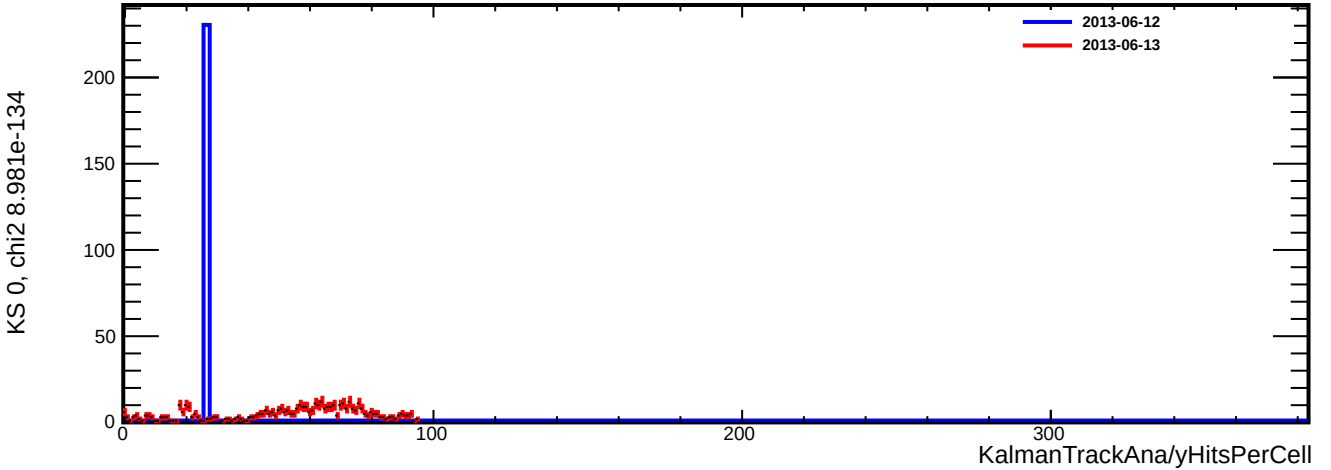

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
200
400
600
800
KalmanTrackAna/yHitsPerPlane

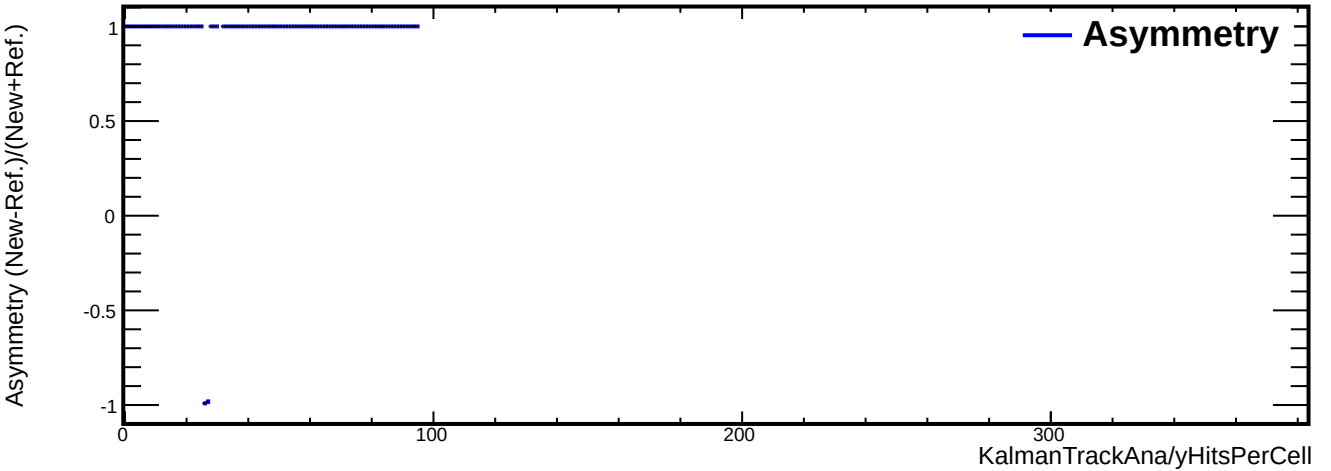

KS 0, chi2 6.6646e-192
100
80
60
40
20
0
0
200
400
600
800
KalmanTrackAna/hitsPerPlane
2013-06-12
2013-06-13

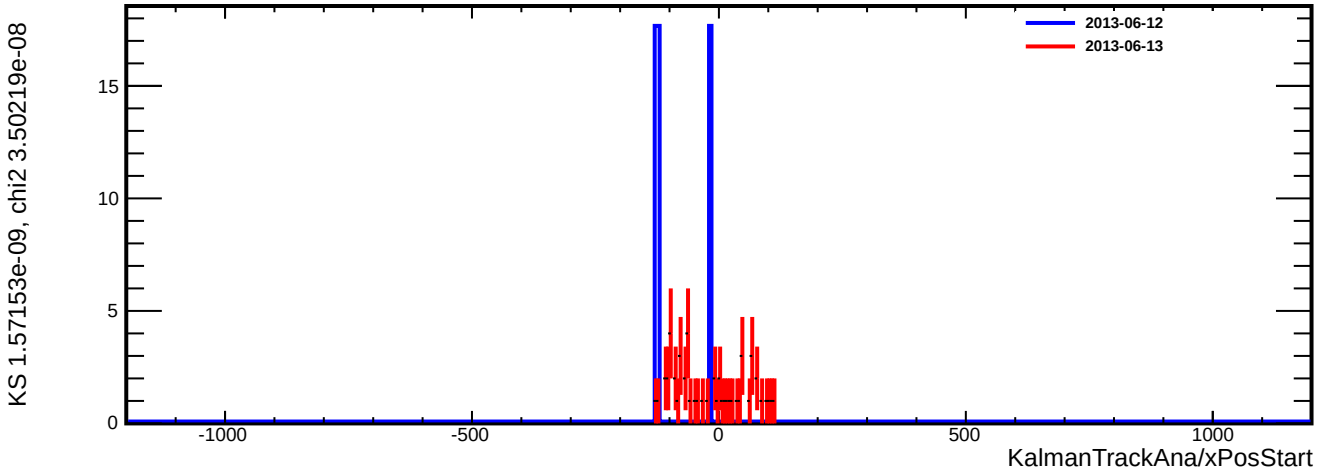

Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
200
400
600
800
KalmanTrackAna/hitsPerPlane
Asymmetry

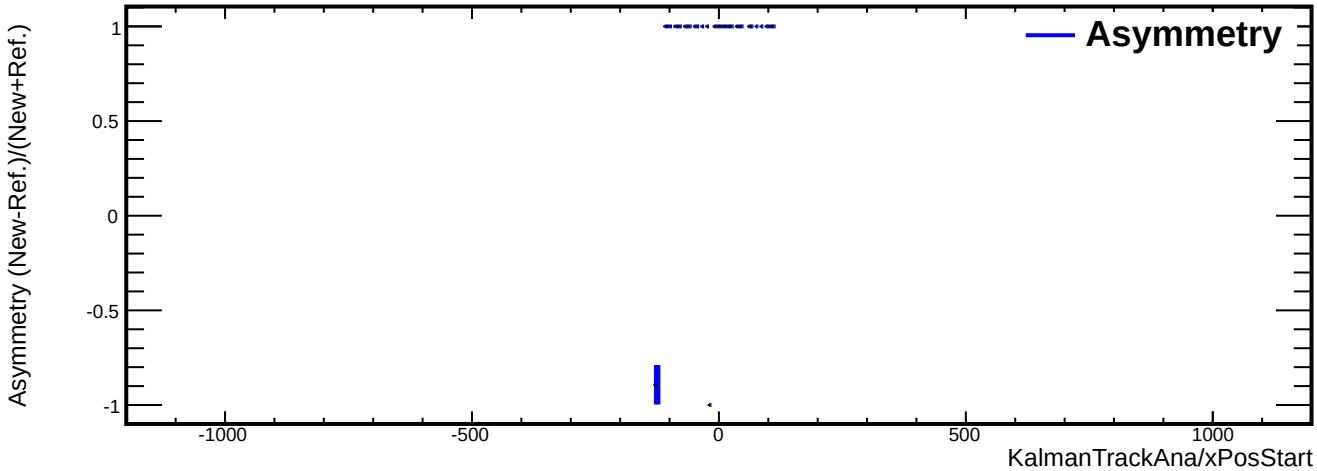

2013-06-12
2013-06-13
KS 0, chi2 8.7728e-93
100
80
60
40
20
0
0
100
200
300
KalmanTrackAna/xHitsPerCell

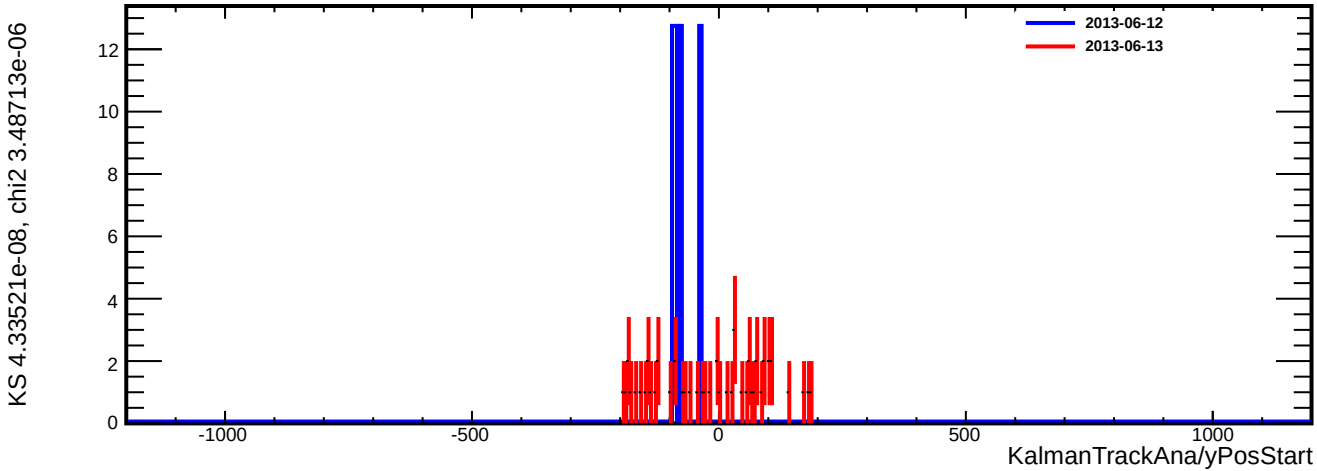

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
0
100
200
300
KalmanTrackAna/xHitsPerCell

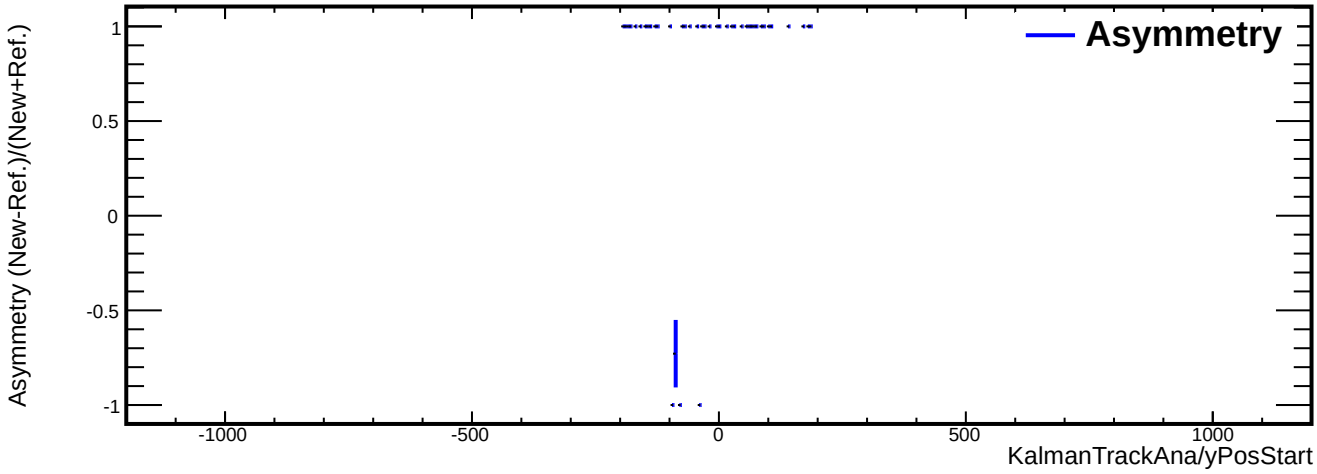

2013-06-12
2013-06-13
KS 0, chi2 8.981e-134
0
50
100
150
200
0
100
200
300
KalmanTrackAna/yHitsPerCell

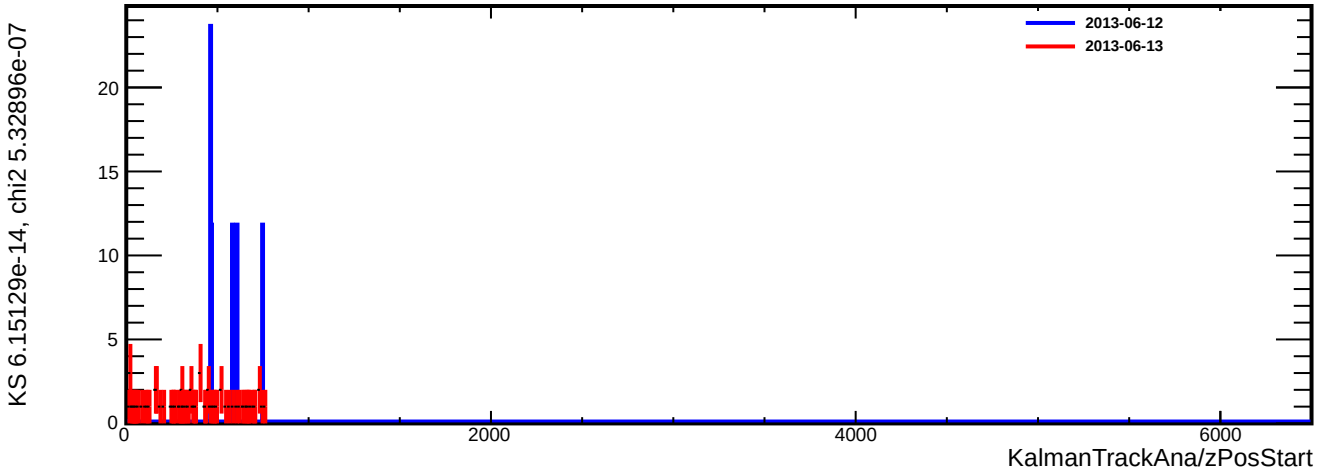

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
100
200
300
KalmanTrackAna/yHitsPerCell

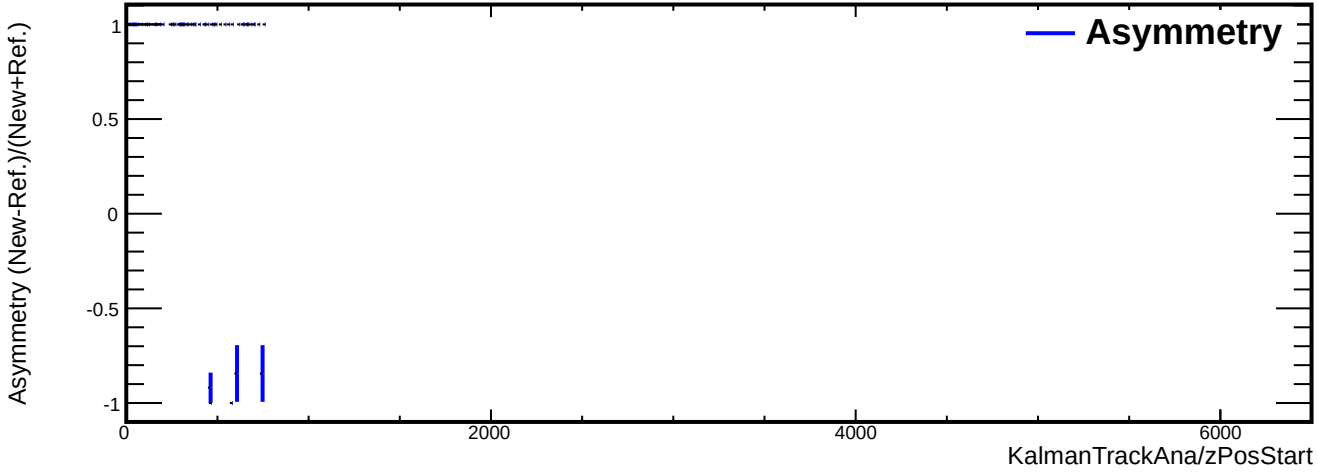

KS 1.57153e-09, chi2 3.50219e-08
2013-06-12
2013-06-13
15
10
5
0
-1000
-500
0
500
1000
KalmanTrackAna/xPosStart

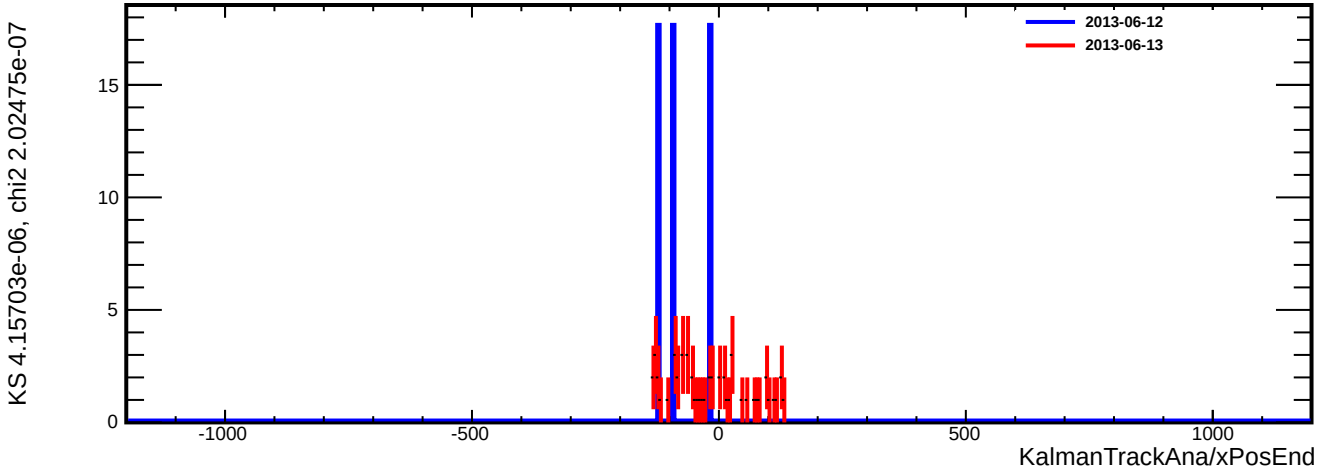

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-1000
-500
0
500
1000
KalmanTrackAna/xPosStart

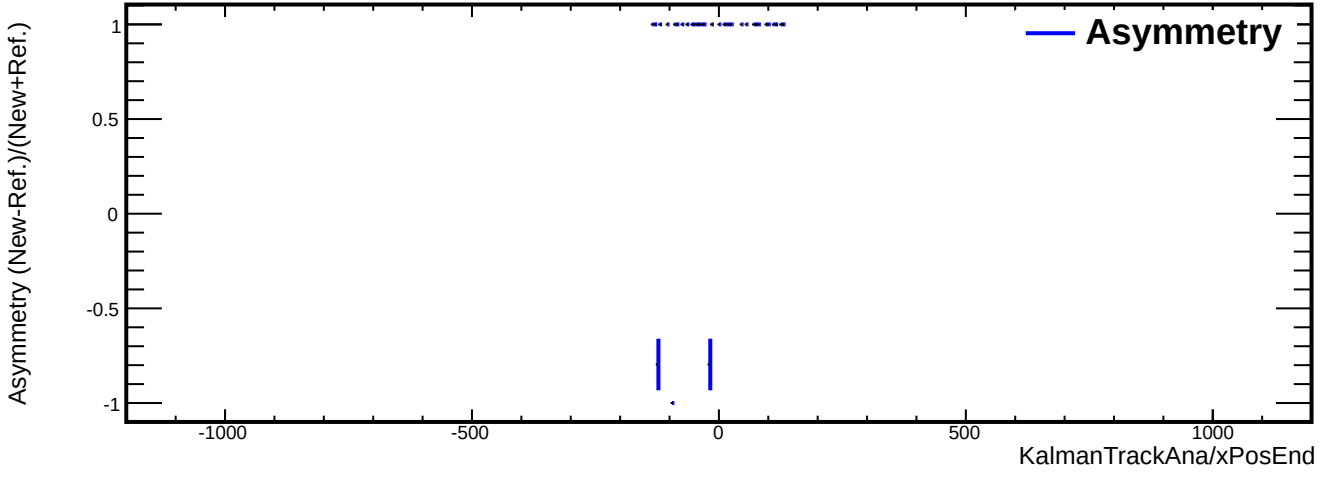

KS 4.33521e-08, chi2 3.48713e-06
2013-06-12
2013-06-13
KalmanTrackAna/yPosStart

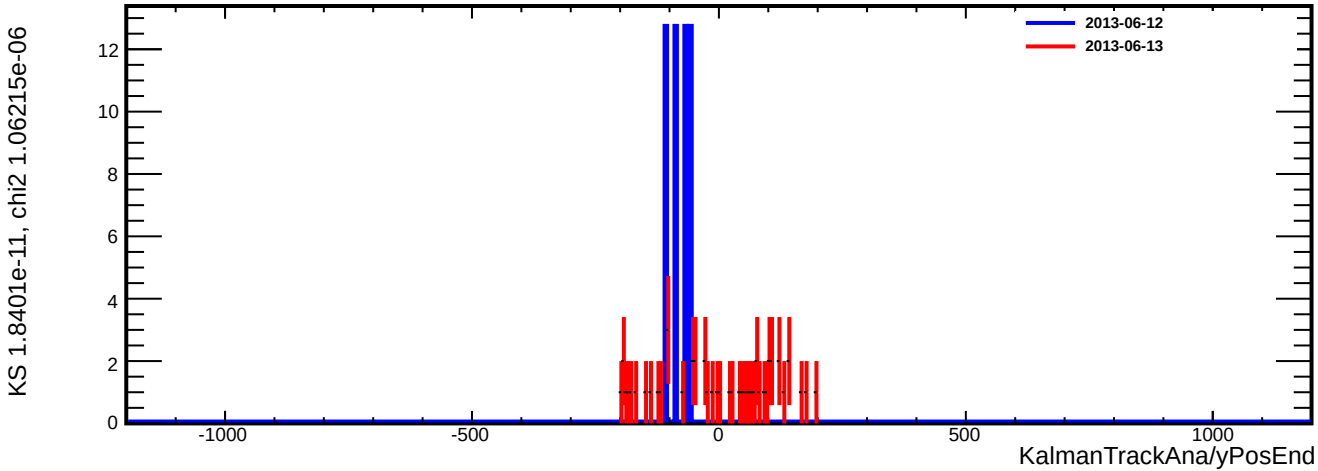

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
KalmanTrackAna/yPosStart

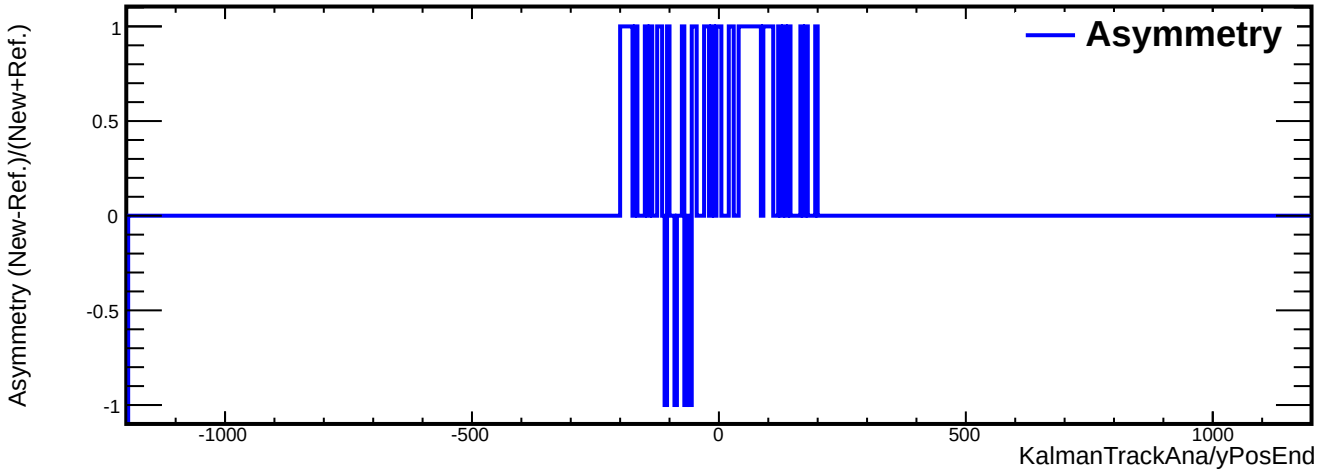

KS 6.15129e-14, chi2 5.32896e-07
2013-06-12
2013-06-13
0
5
10
15
20
0
2000
4000
6000
KalmanTrackAna/zPosStart

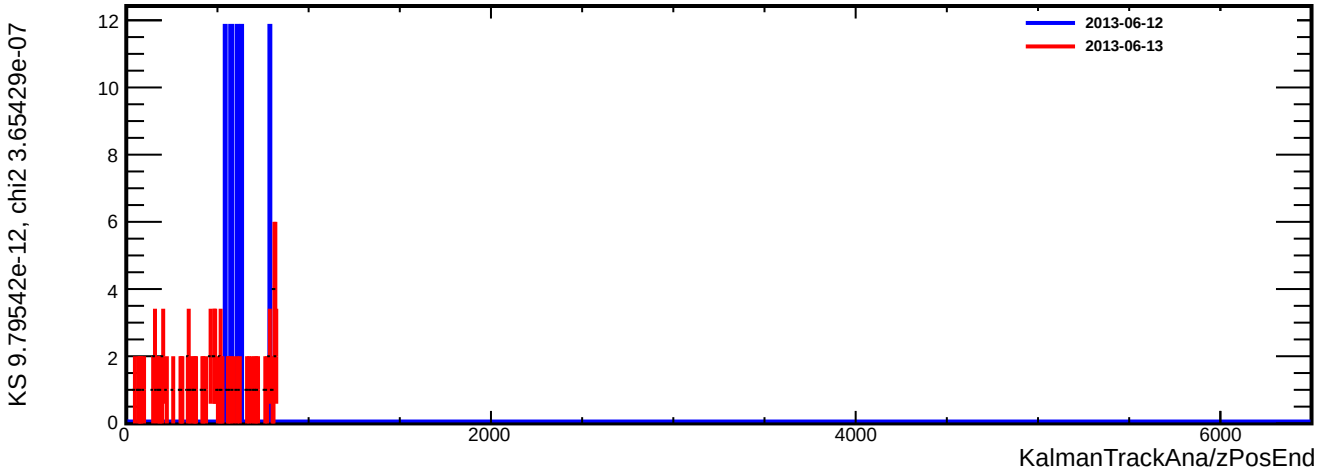

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
2000
4000
6000
KalmanTrackAna/zPosStart

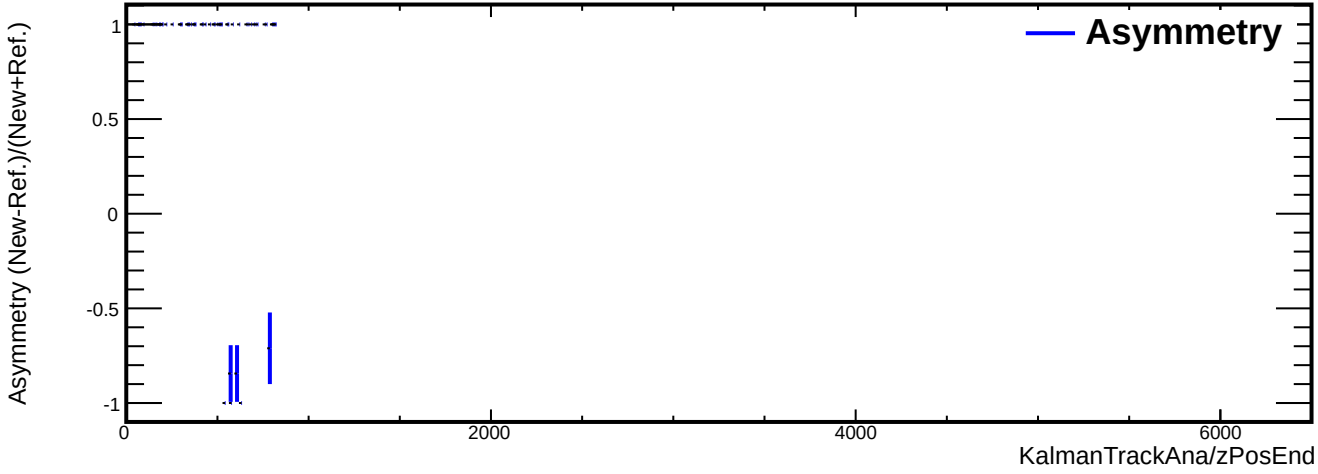

KS 4.15703e-06, chi2 2.02475e-07
2013-06-12
2013-06-13
15
10
5
0
-1000
-500
0
500
1000
KalmanTrackAna/xPosEnd

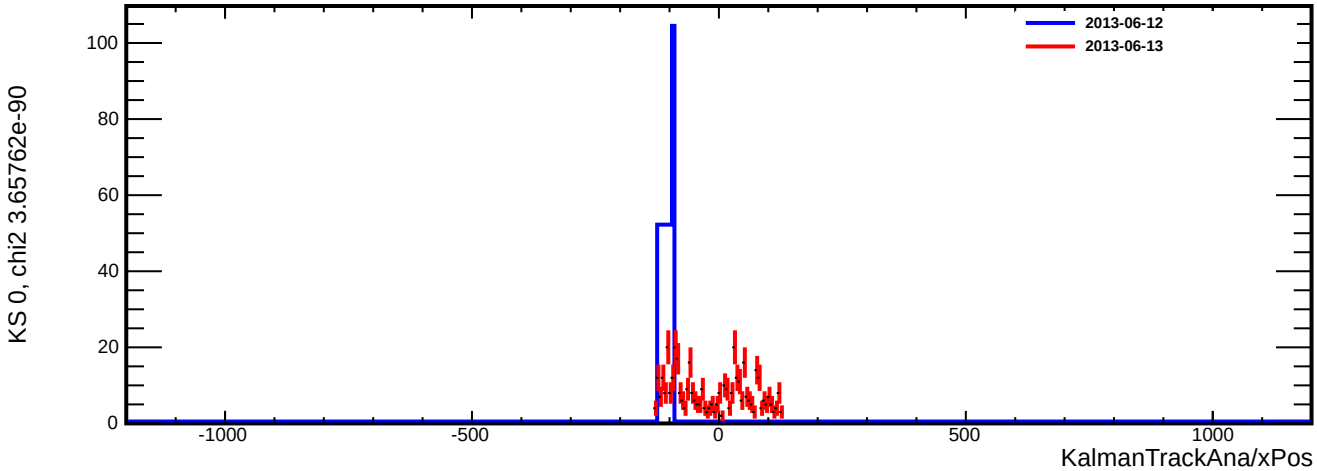

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-1000
-500
0
500
1000
KalmanTrackAna/xPosEnd

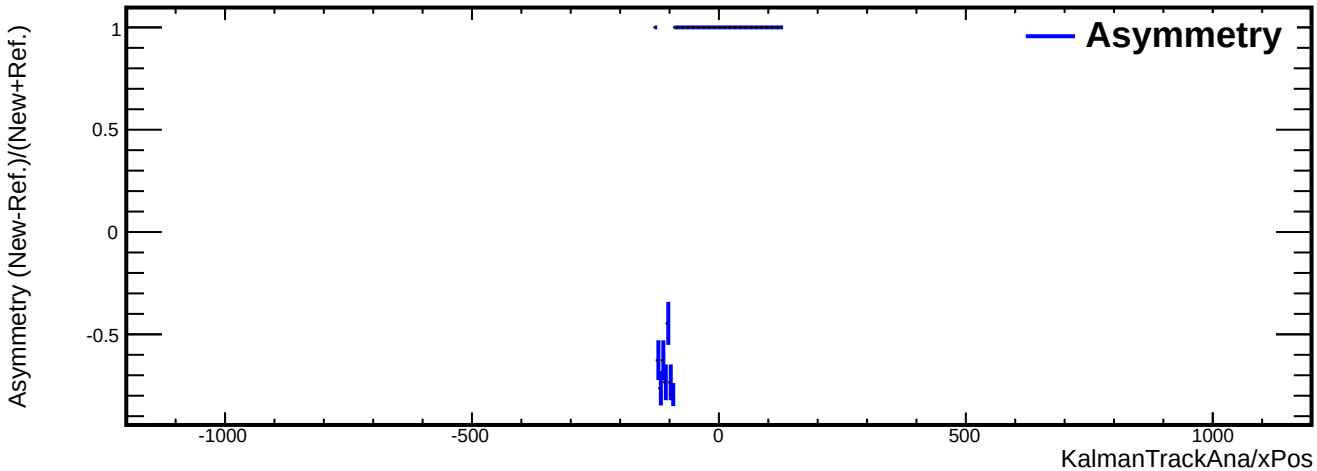

KS 1.8401e-11, chi2 1.06215e-06
2013-06-12
2013-06-13
0
2
4
6
8
10
12
-1000
-500
0
500
1000
KalmanTrackAna/yPosEnd

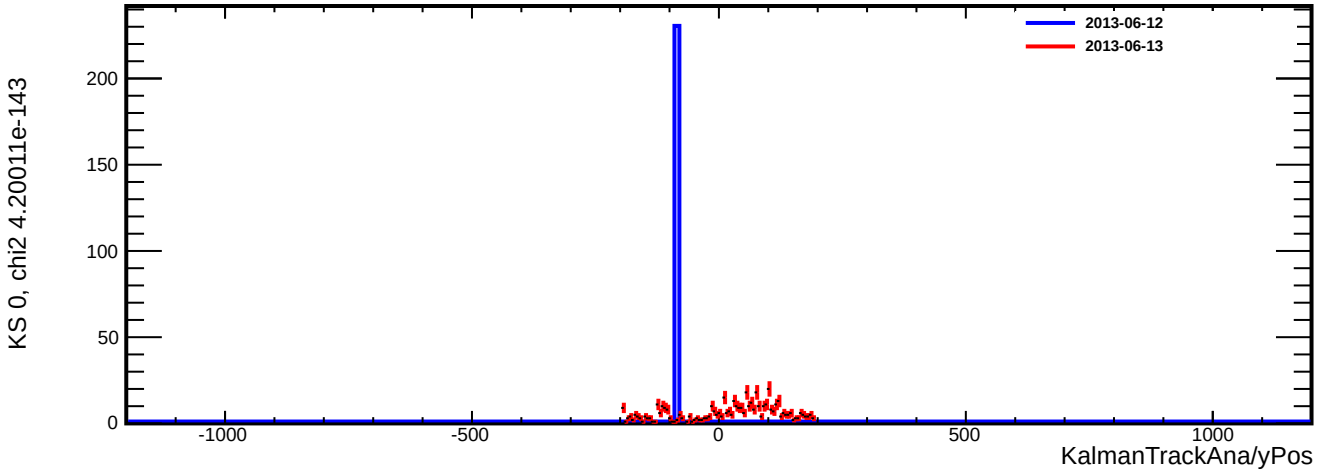

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-1000
-500
0
500
1000
KalmanTrackAna/yPosEnd

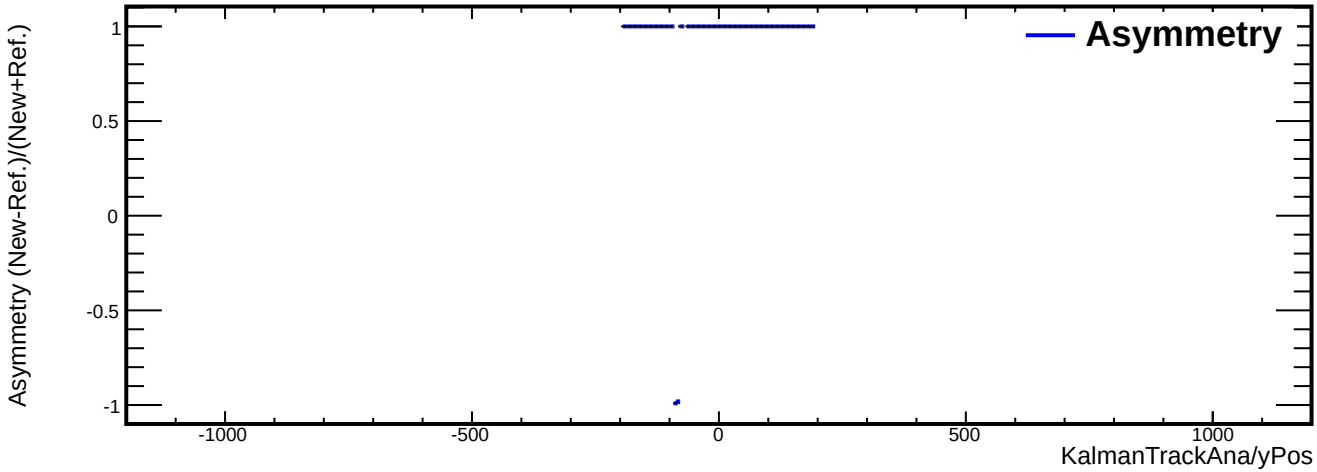

KS 9.79542e-12, chi2 3.65429e-07
2013-06-12
2013-06-13
0
2
4
6
8
10
12
0
2000
4000
6000
KalmanTrackAna/zPosEnd

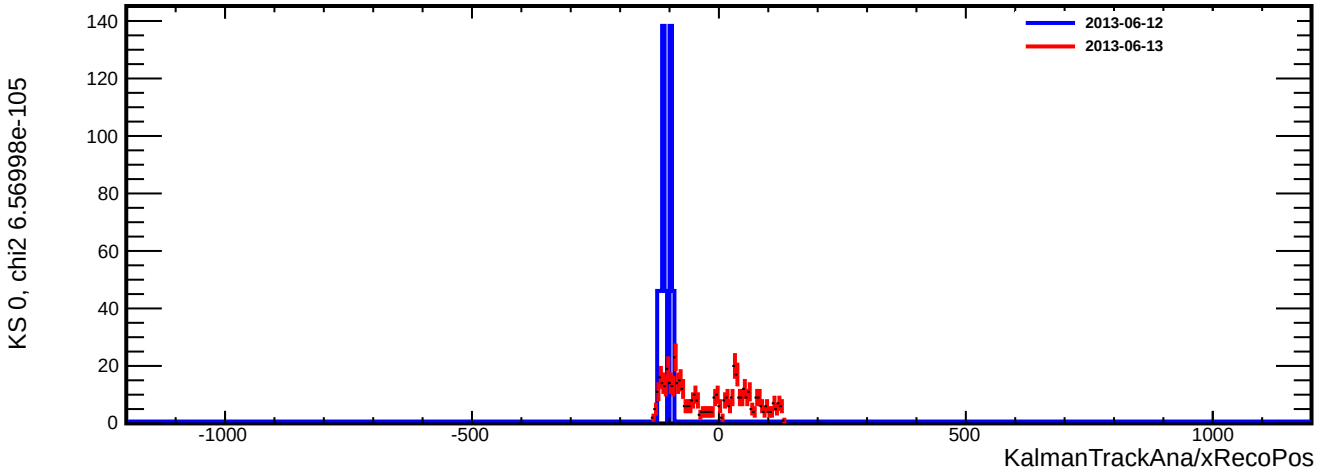

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
2000
4000
6000
KalmanTrackAna/zPosEnd

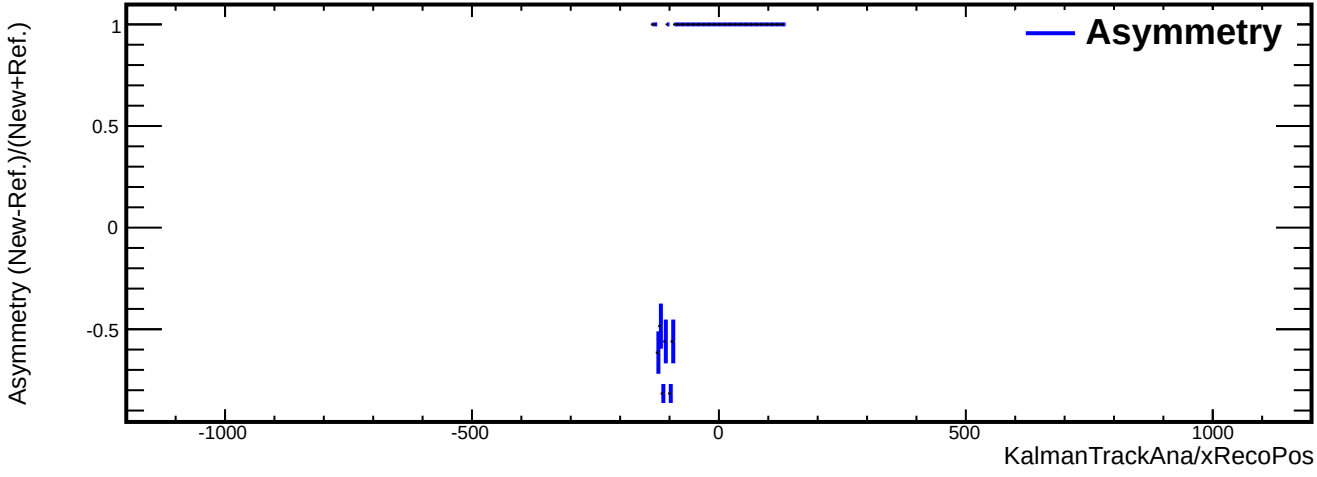

2013-06-12
2013-06-13
KS 0, chi2 3.65762e-90
100
80
60
40
20
0
-1000
-500
0
500
1000
KalmanTrackAna/xPos

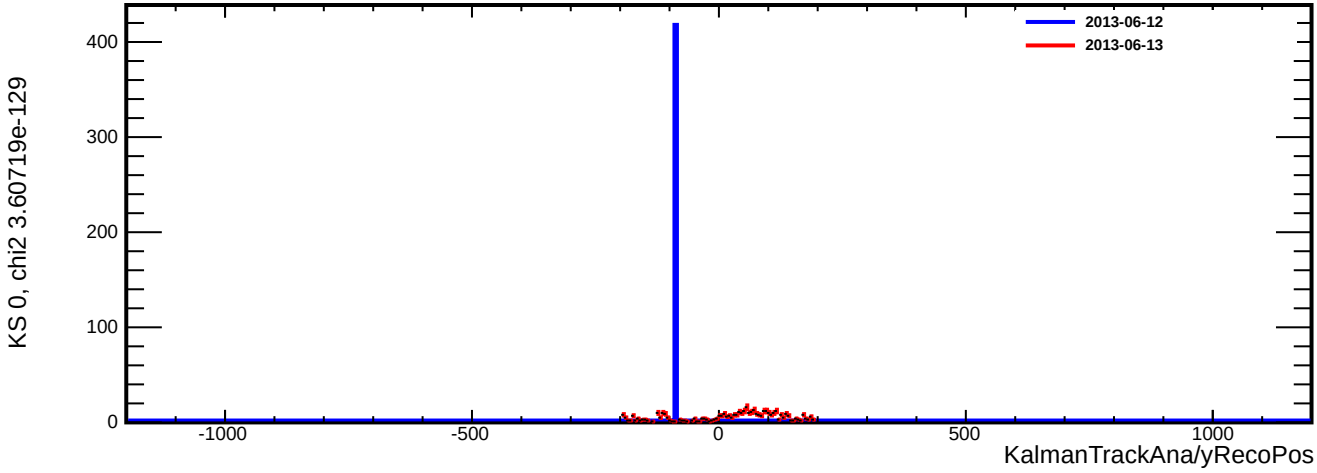

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1000
-500
0
500
1000
KalmanTrackAna/xPos

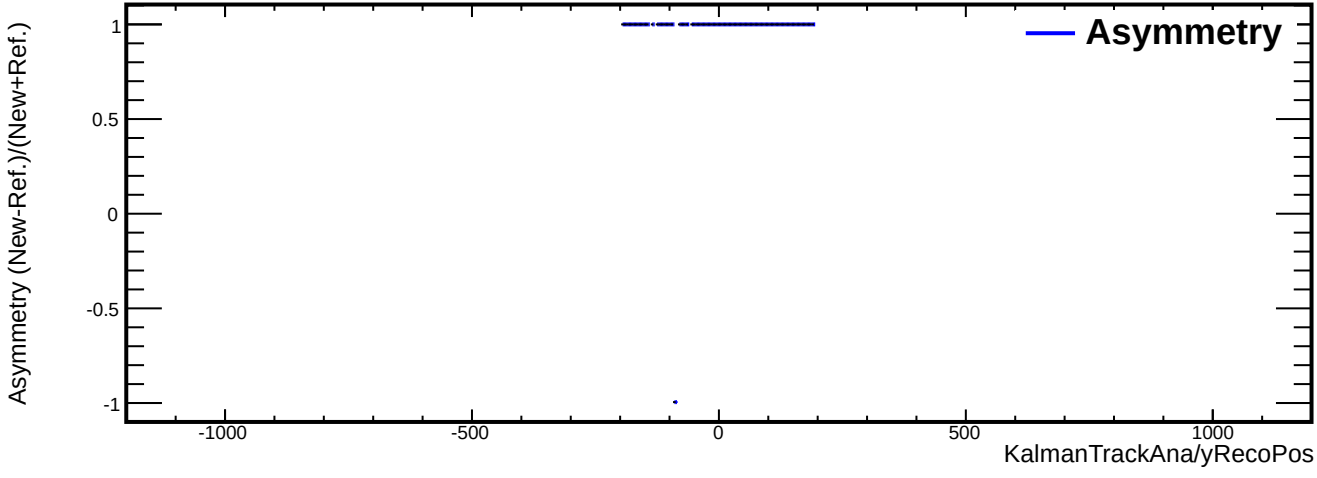

2013-06-12
2013-06-13
KS 0, chi2 4.20011e-143
200
150
100
50
0
-1000
-500
0
500
1000
KalmanTrackAna/yPos

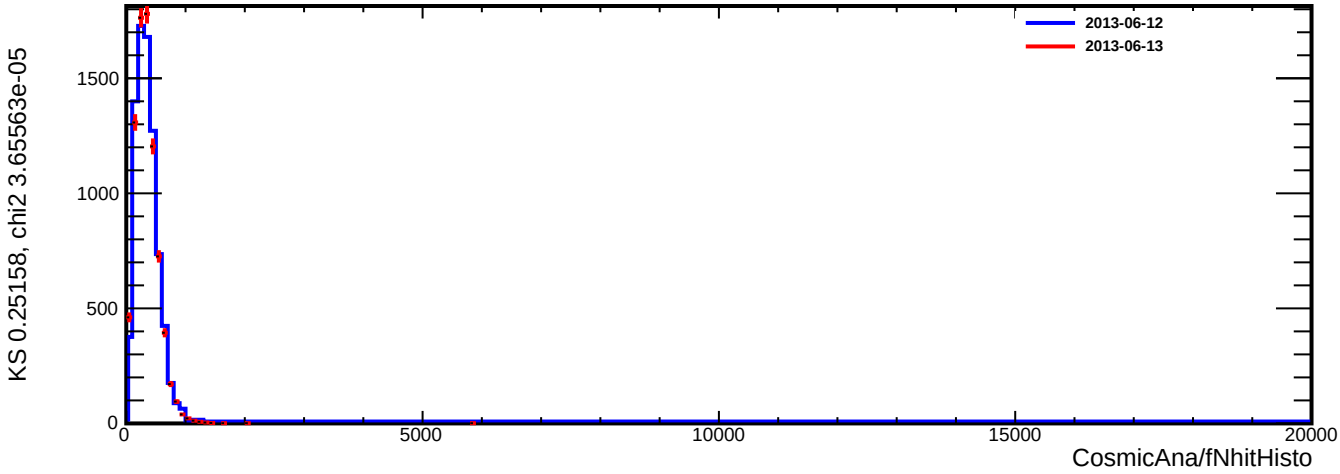

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
-1000
-500
0
500
1000
KalmanTrackAna/yPos

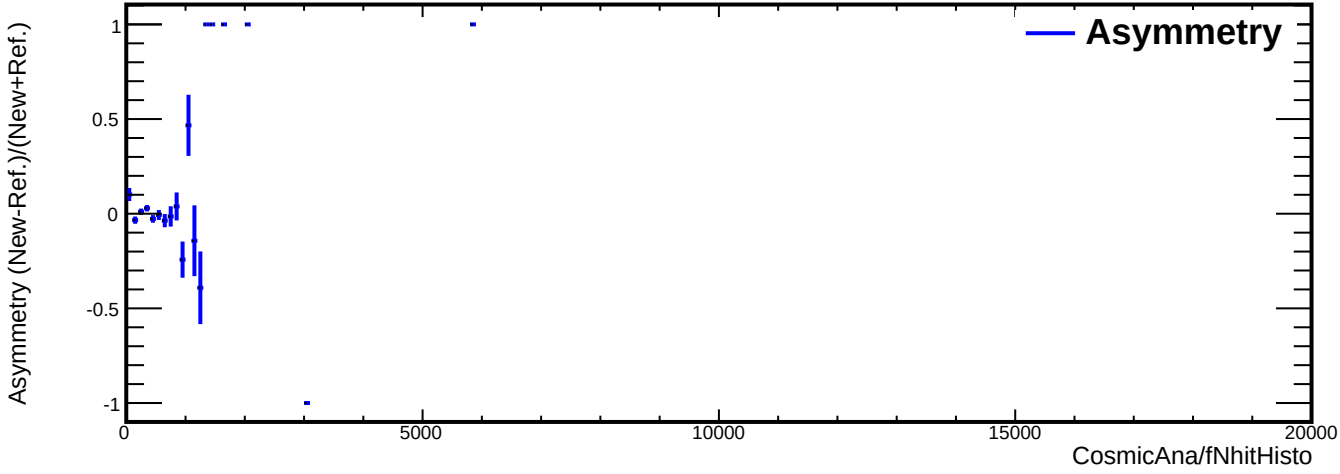

KS 0, chi2 6.56998e-105
140
120
100
80
60
40
20
0
-1000
-500
0
500
1000
KalmanTrackAna/xRecoPos
2013-06-12
2013-06-13

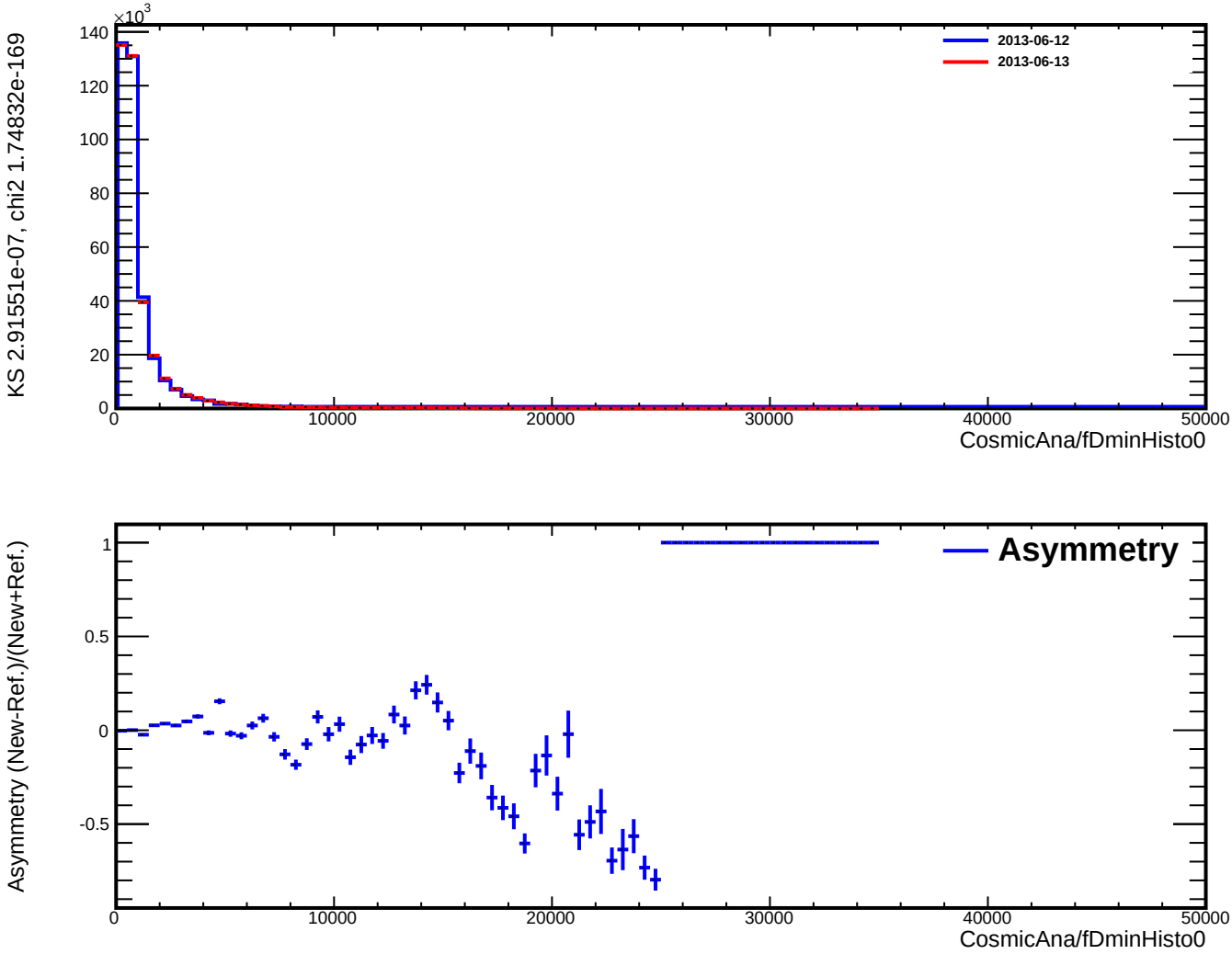

Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1000
-500
0
500
1000
KalmanTrackAna/xRecoPos
Asymmetry

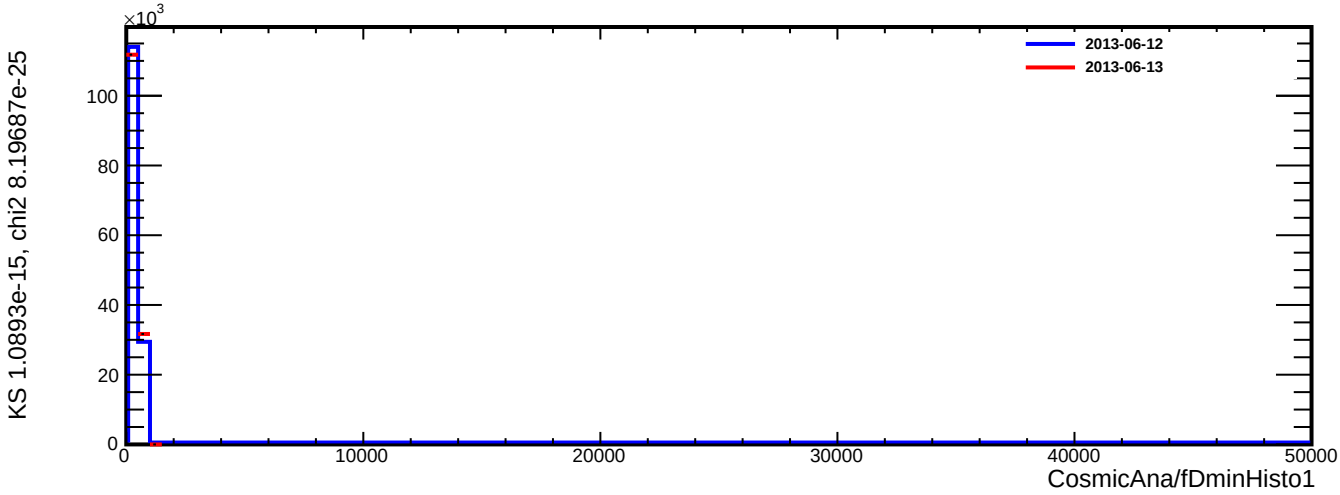

KS 0, chi2 3.60719e-129
400
300
200
100
0
-1000
-500
0
500
1000
KalmanTrackAna/yRecoPos
2013-06-12
2013-06-13

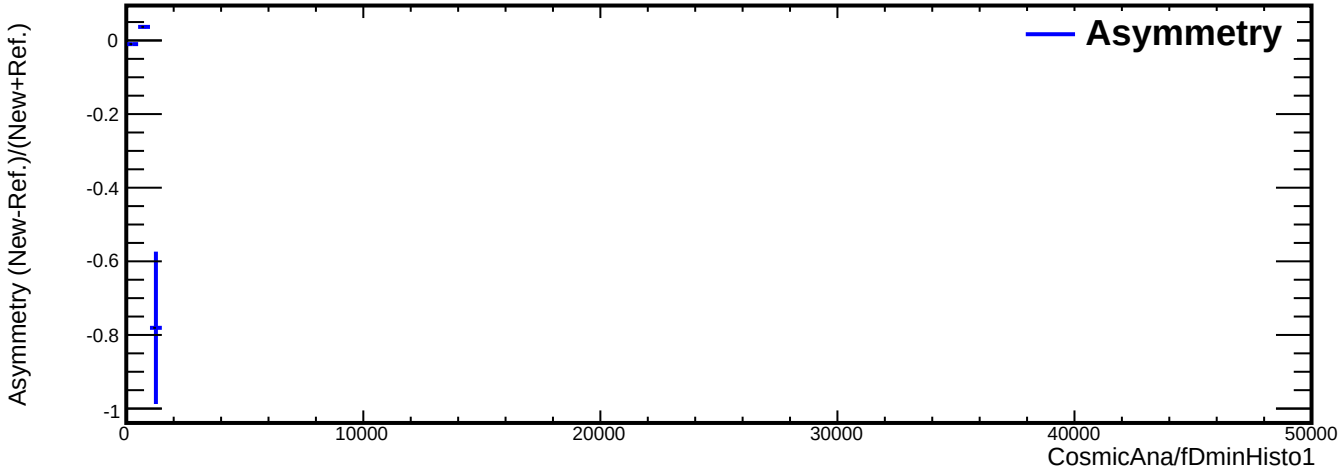

Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
-1000
-500
0
500
1000
KalmanTrackAna/yRecoPos
Asymmetry

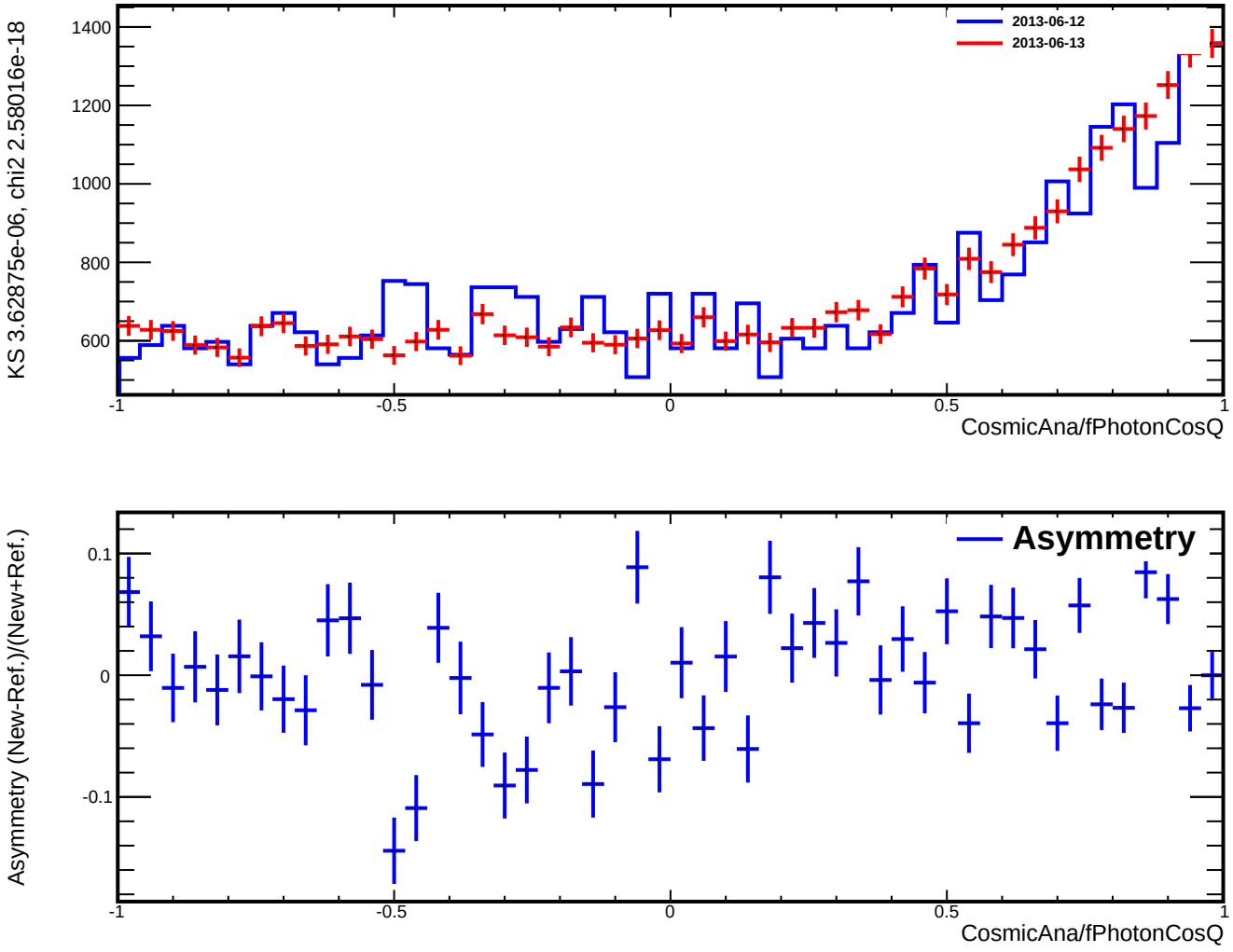

KS 0.25158, chi2 3.65563e-05
2013-06-12
2013-06-13
1500
1000
500
0
0
5000
10000
15000
20000
CosmicAna/fNhitHisto

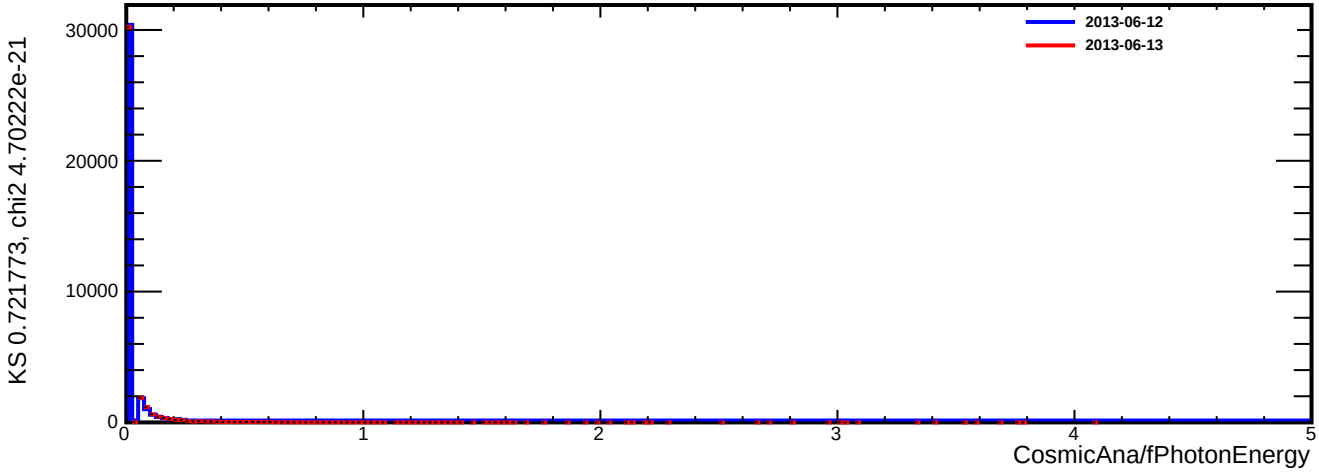

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
5000
10000
15000
20000
CosmicAna/fNhitHisto

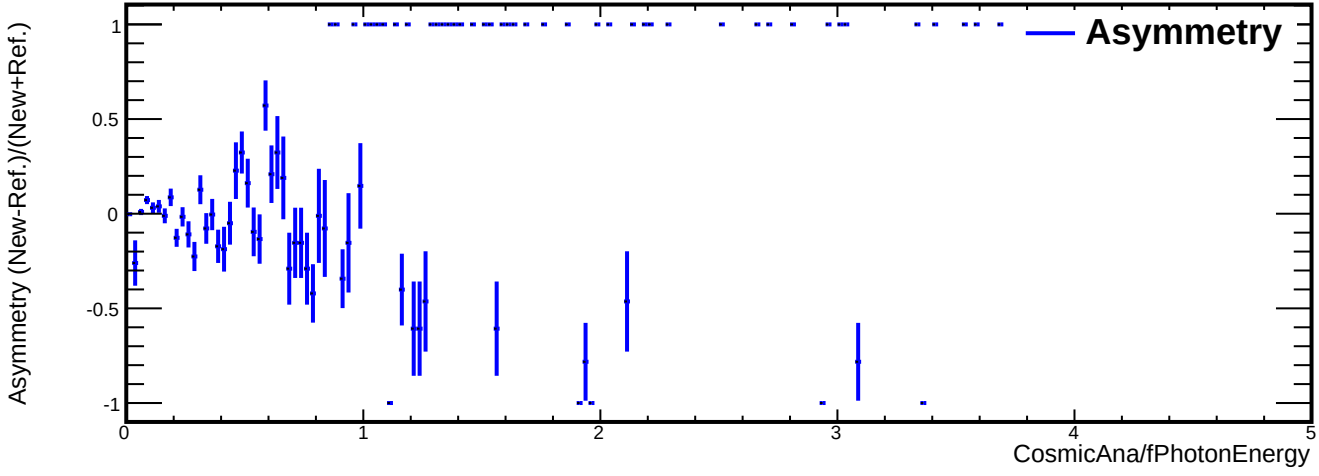

KS 2.91551e-07, chi2 1.74832e-169
×10^3
140
120
100
80
60
40
20
0
0
10000
20000
30000
40000
50000
CosmicAna/fDminHisto0
2013-06-12
2013-06-13
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
Asymmetry
CosmicAna/fDminHisto0

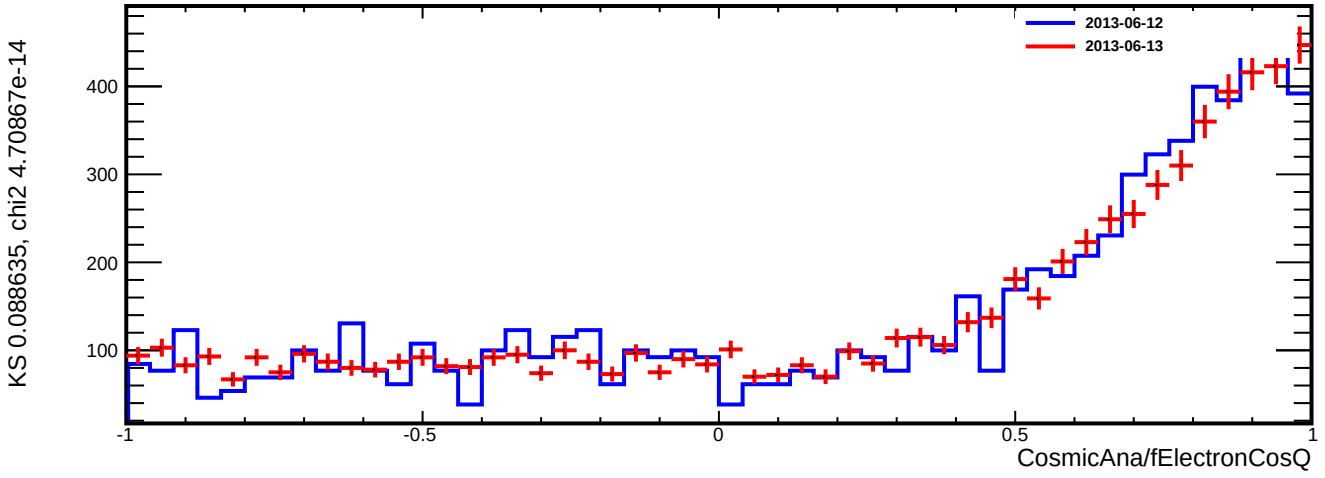

×10^3
100
80
60
40
20
0
0
10000
20000
30000
40000
50000
CosmicAna/fDminHisto1
KS 1.0893e-15, chi2 8.19687e-25
2013-06-12
2013-06-13

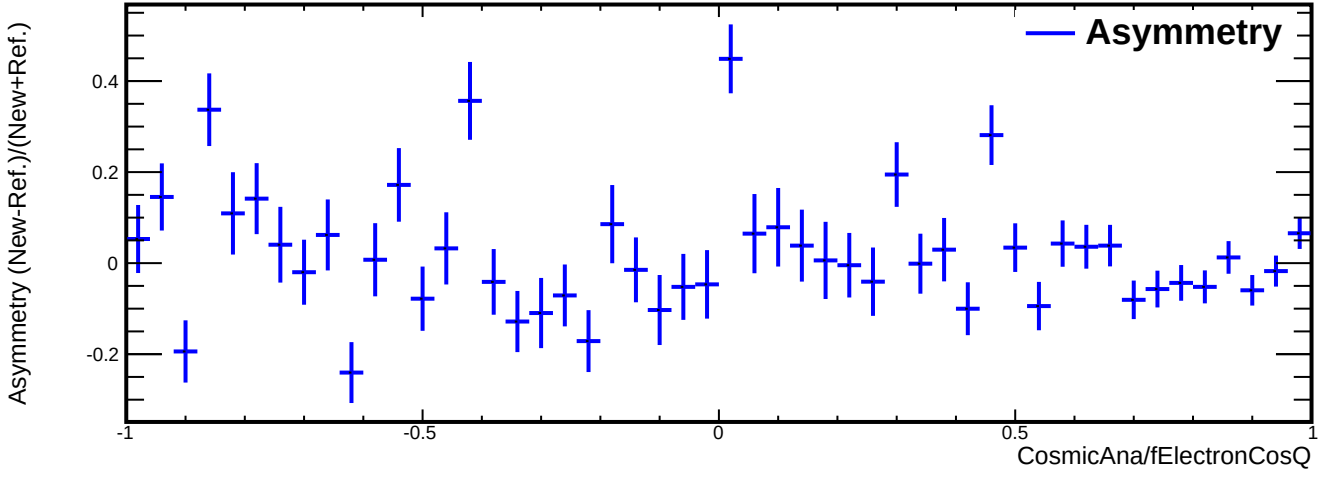

0
-0.2
-0.4
-0.6
-0.8
-1
0
10000
20000
30000
40000
50000
CosmicAna/fDminHisto1
Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry

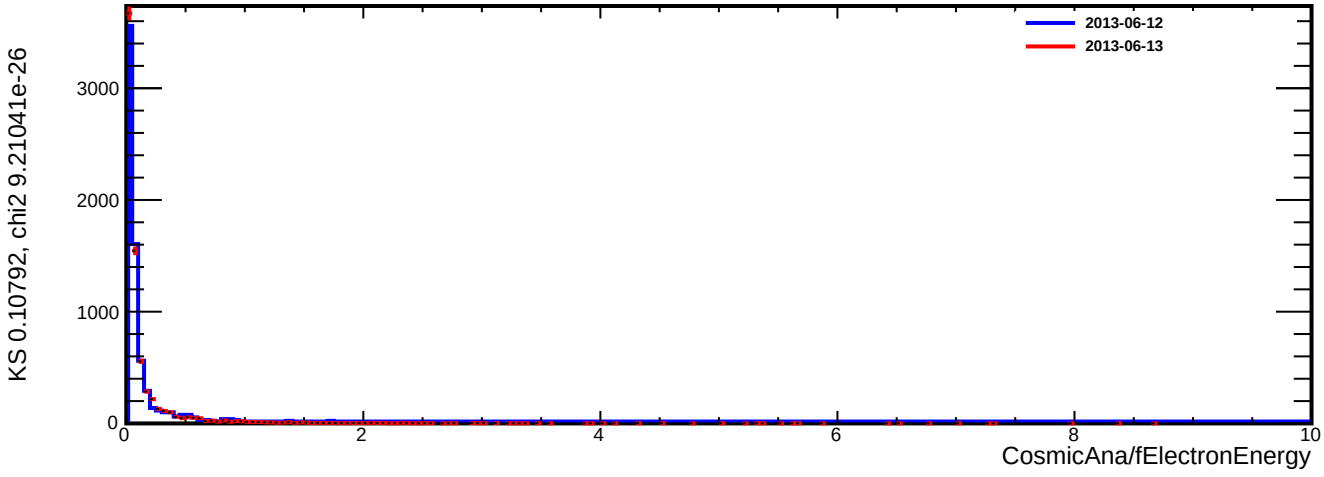

KS 3.62875e-06, chi2 2.58016e-18
1400
1200
1000
800
600
-1
-0.5
0
0.5
1
CosmicAna/fPhotonCosQ
2013-06-12
2013-06-13
Asymmetry (New-Ref.)/(New+Ref.)
0.1
0
-0.1
-1
-0.5
0
0.5
1
CosmicAna/fPhotonCosQ
Asymmetry

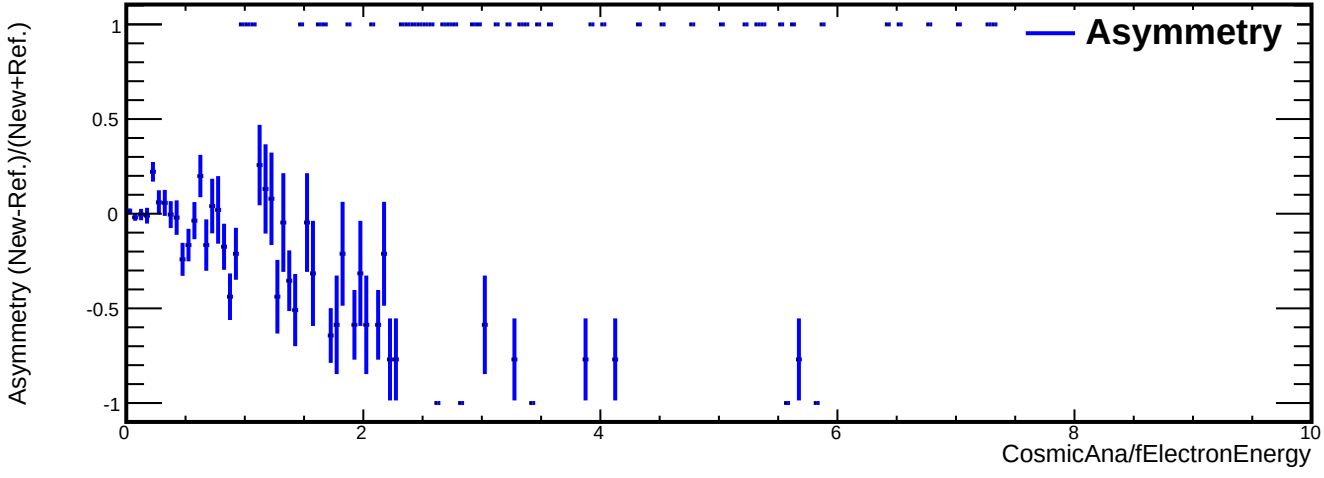

KS 0.721773, chi2 4.70222e-21
30000
20000
10000
0
0
1
2
3
4
5
CosmicAna/fPhotonEnergy
2013-06-12
2013-06-13

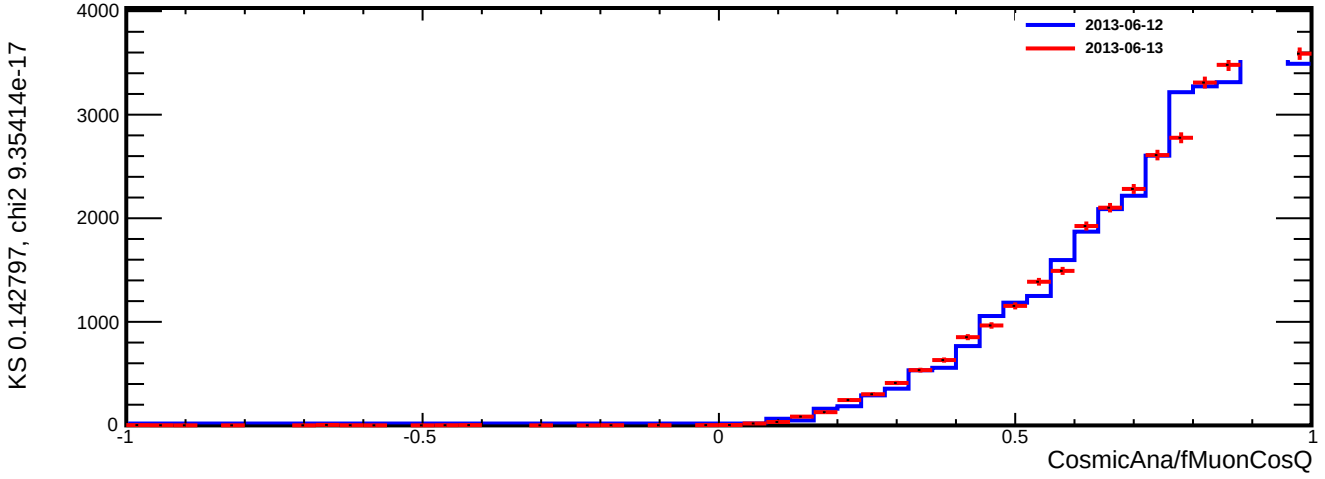

Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
1
2
3
4
5
CosmicAna/fPhotonEnergy
Asymmetry

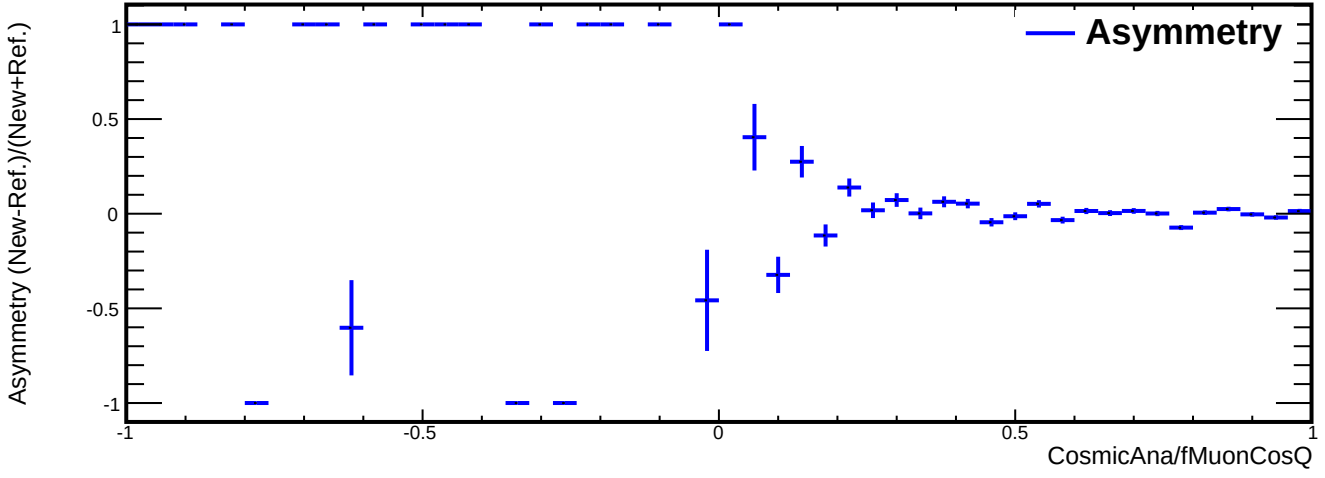

KS 0.088635, chi2 4.70867e-14
2013-06-12
2013-06-13
400
300
200
100
-1
-0.5
0
0.5
1
CosmicAna/fElectronCosQ

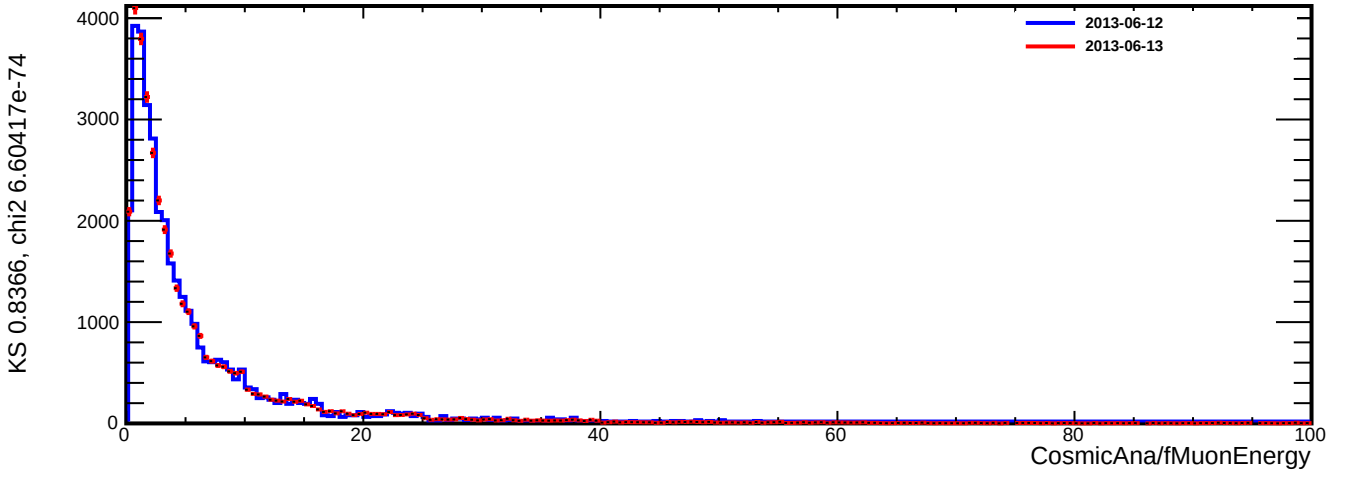

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.4
0.2
0
-0.2
-1
-0.5
0
0.5
1
CosmicAna/fElectronCosQ

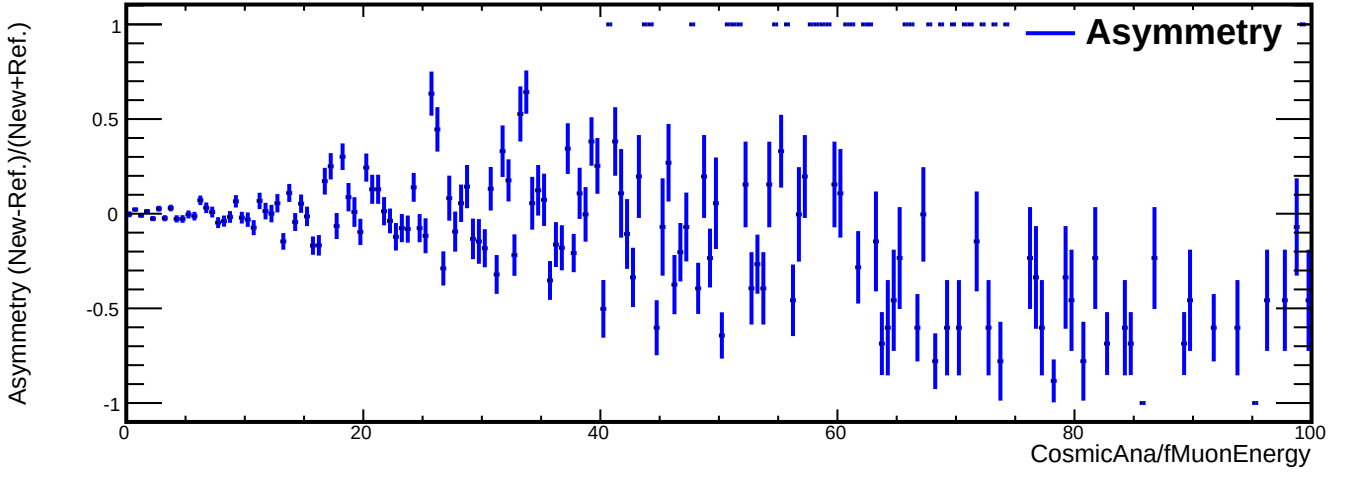

KS 0.10792, chi2 9.21041e-26
2013-06-12
2013-06-13
3000
2000
1000
0
0
2
4
6
8
10
CosmicAna/fElectronEnergy

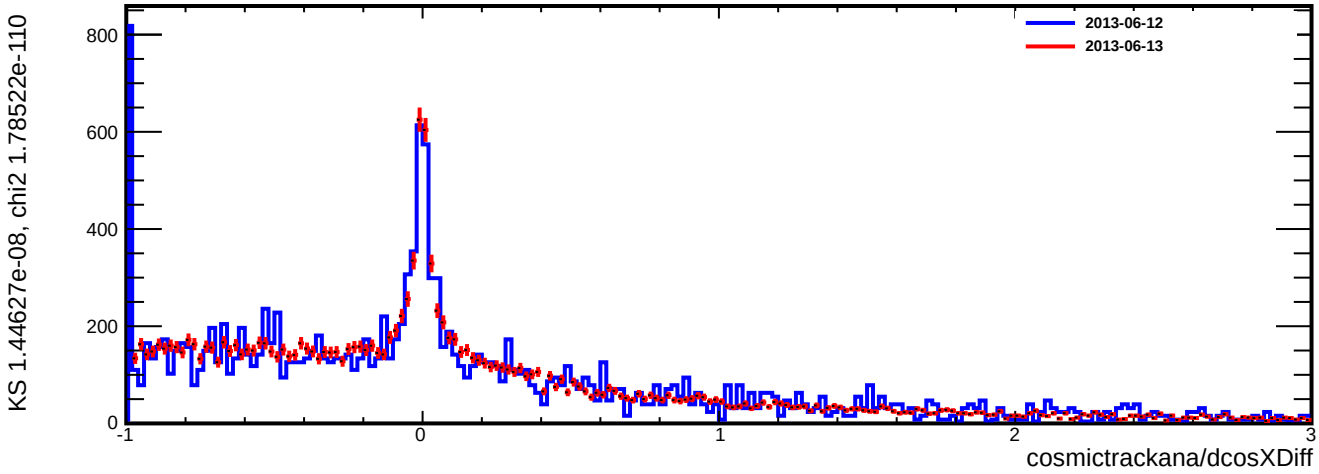

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
2
4
6
8
10
CosmicAna/fElectronEnergy

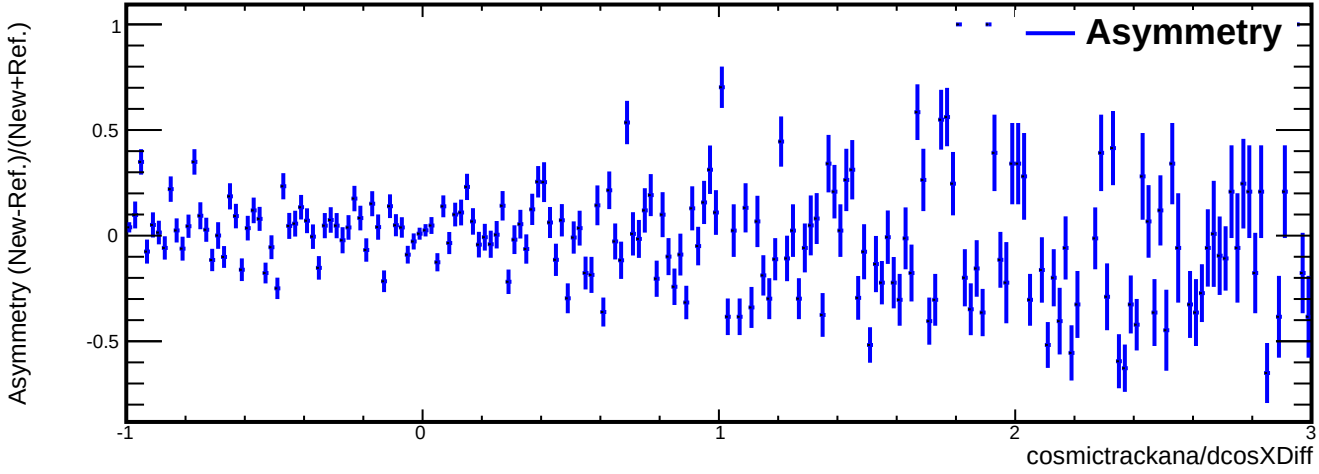

KS 0.142797, chi2 9.35414e-17
2013-06-12
2013-06-13
CosmicAna/fMuonCosQ

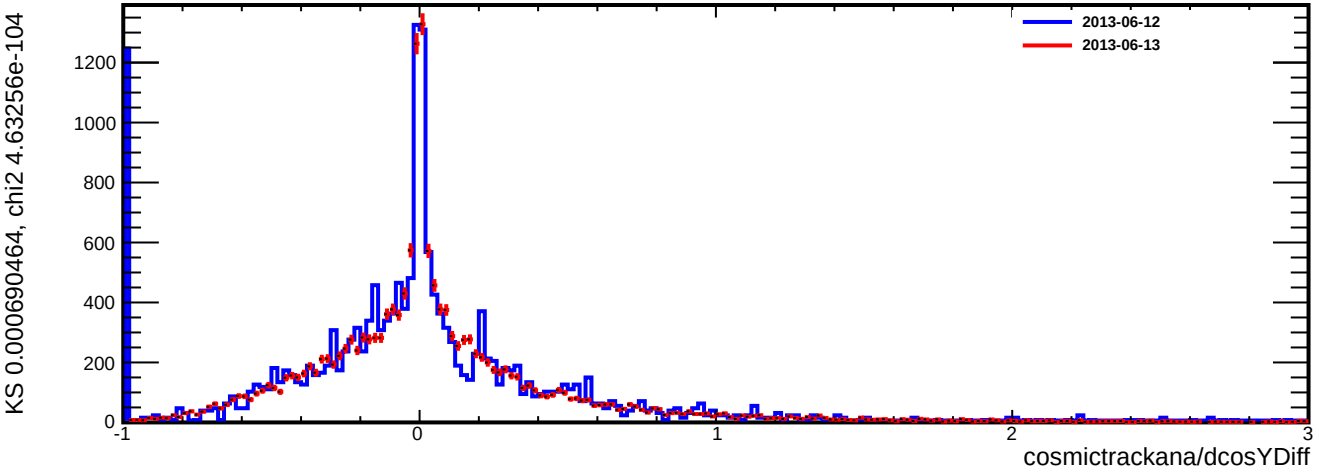

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
CosmicAna/fMuonCosQ

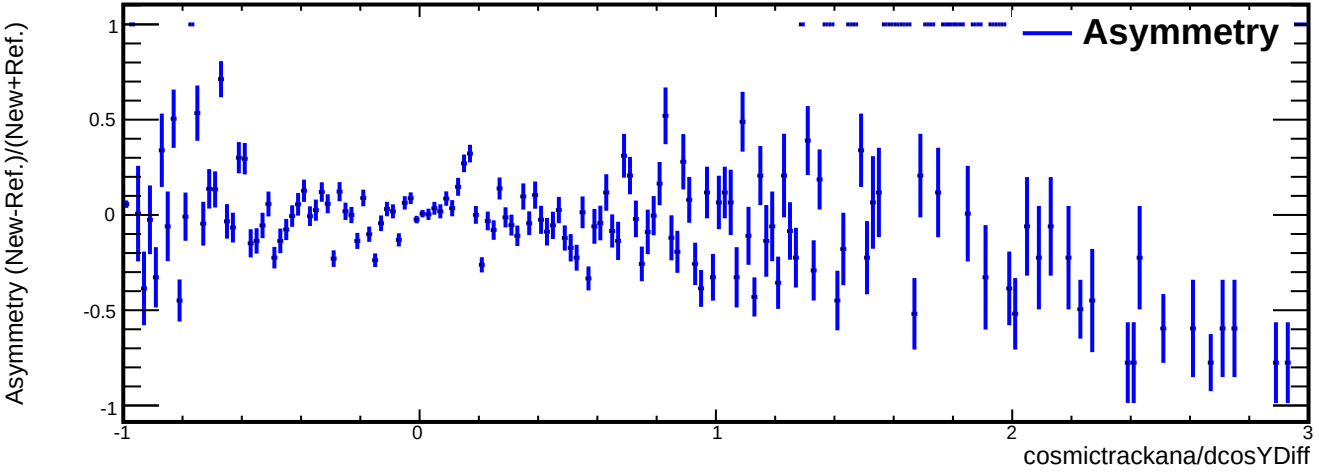

KS 0.8366, chi2 6.60417e-74
2013-06-12
2013-06-13
CosmicAna/fMuonEnergy

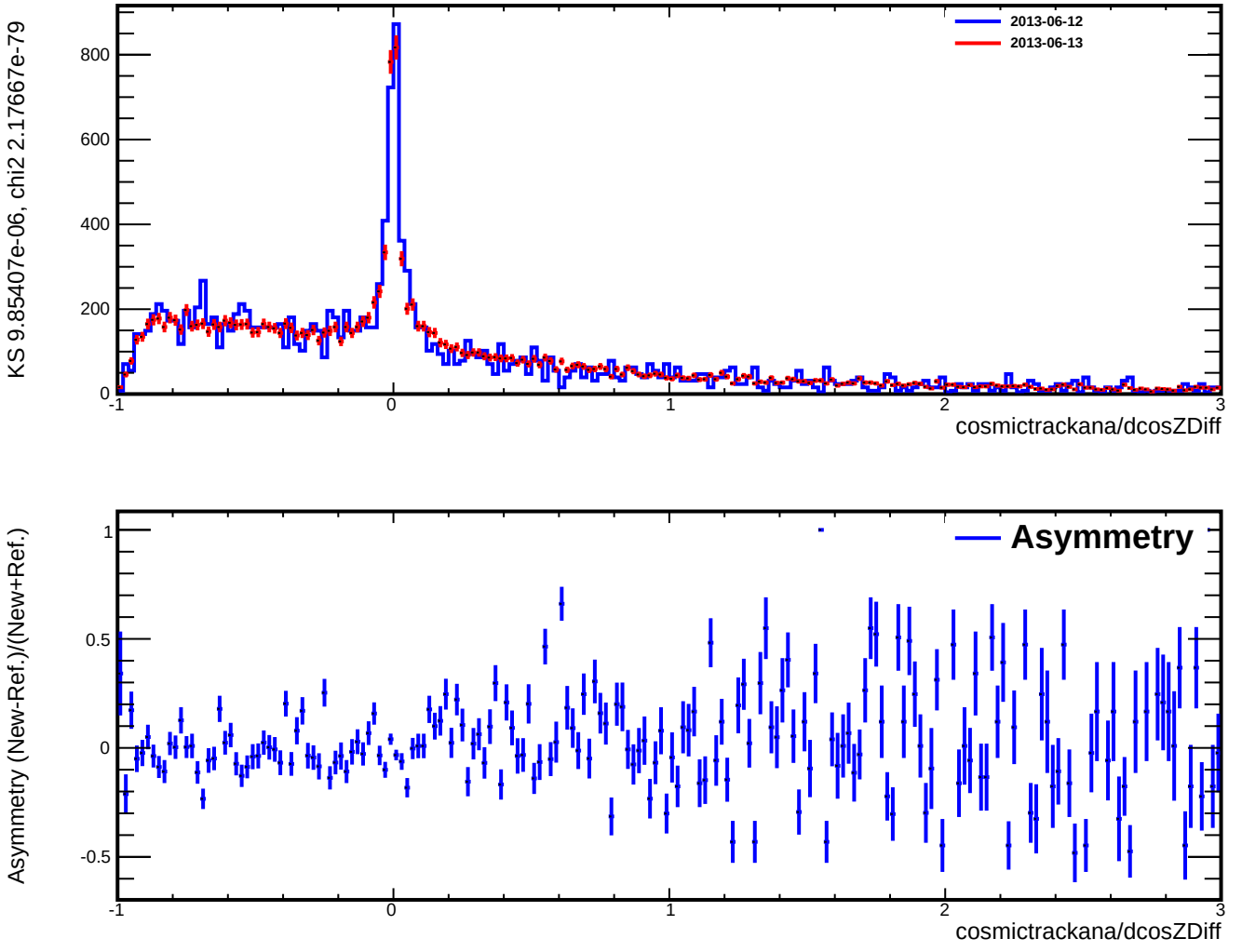

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
CosmicAna/fMuonEnergy

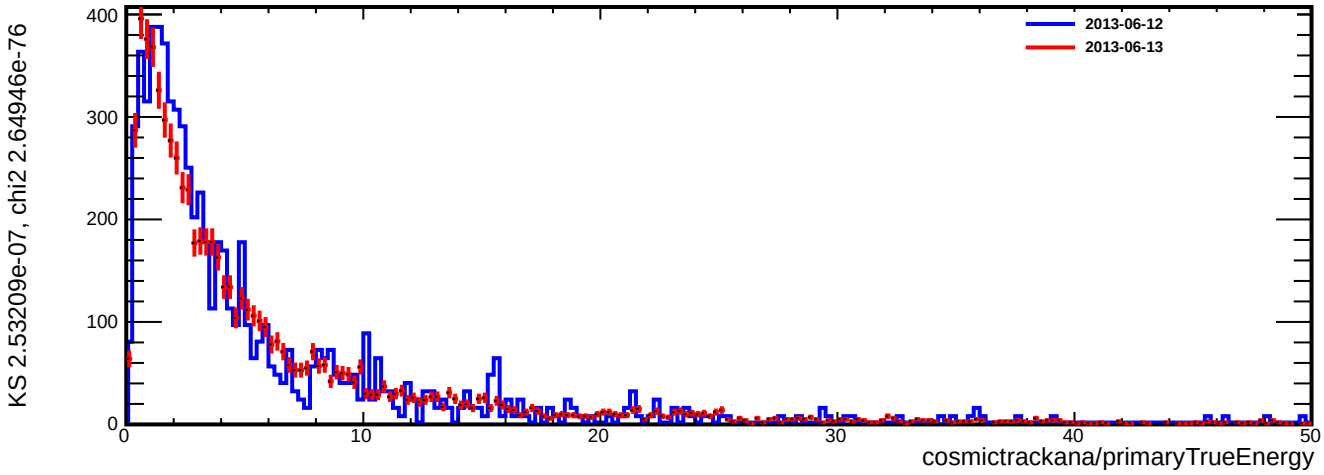

KS 1.44627e-08, chi2 1.78522e-110
2013-06-12
2013-06-13
800
600
400
200
0
-1
0
1
2
3
cosmictrackana/dcosXDiff

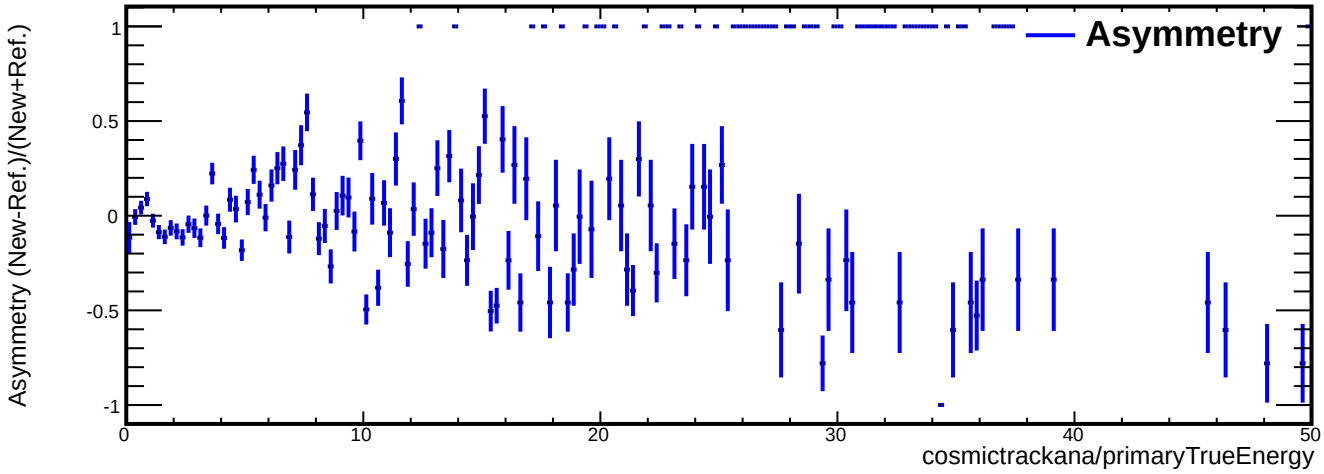

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
1
2
3
cosmictrackana/dcosXDiff

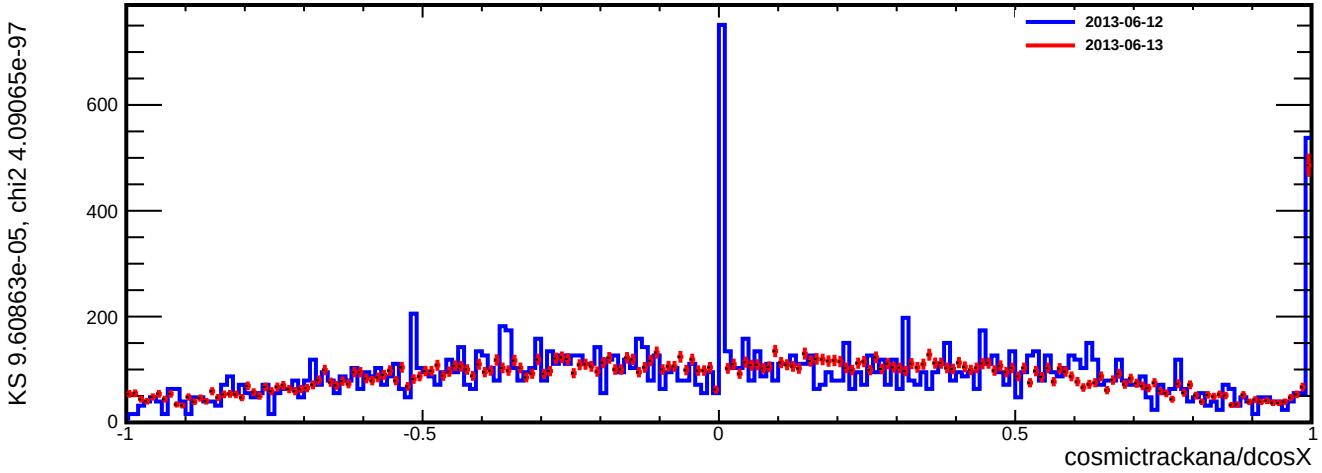

KS 0.000690464, chi2 4.63256e-104
2013-06-12
2013-06-13
1200
1000
800
600
400
200
0
-1
0
1
2
3
cosmictrackana/dcosYDiff

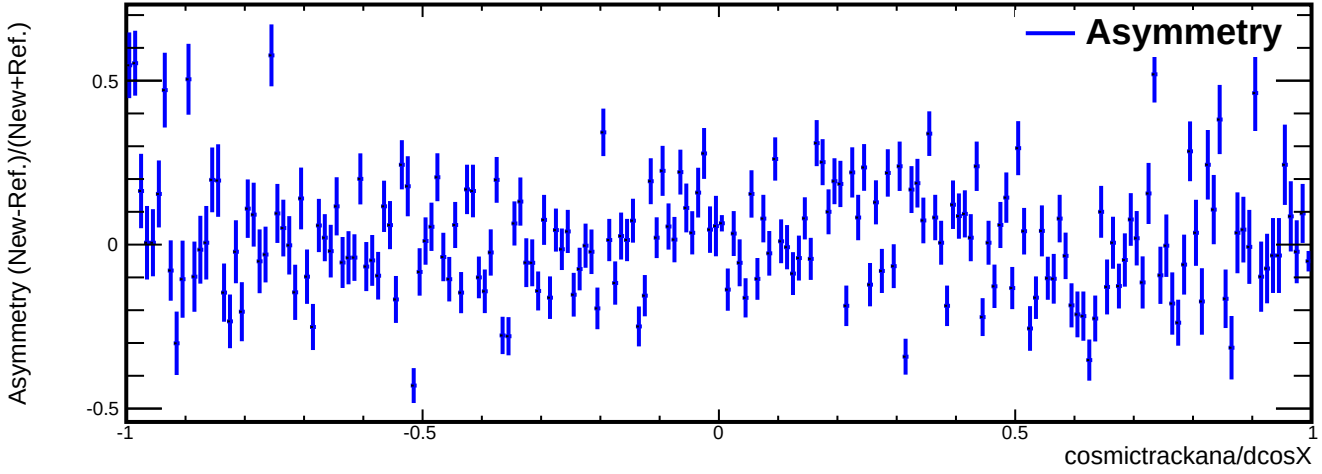

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-1
0
1
2
3
cosmictrackana/dcosYDiff

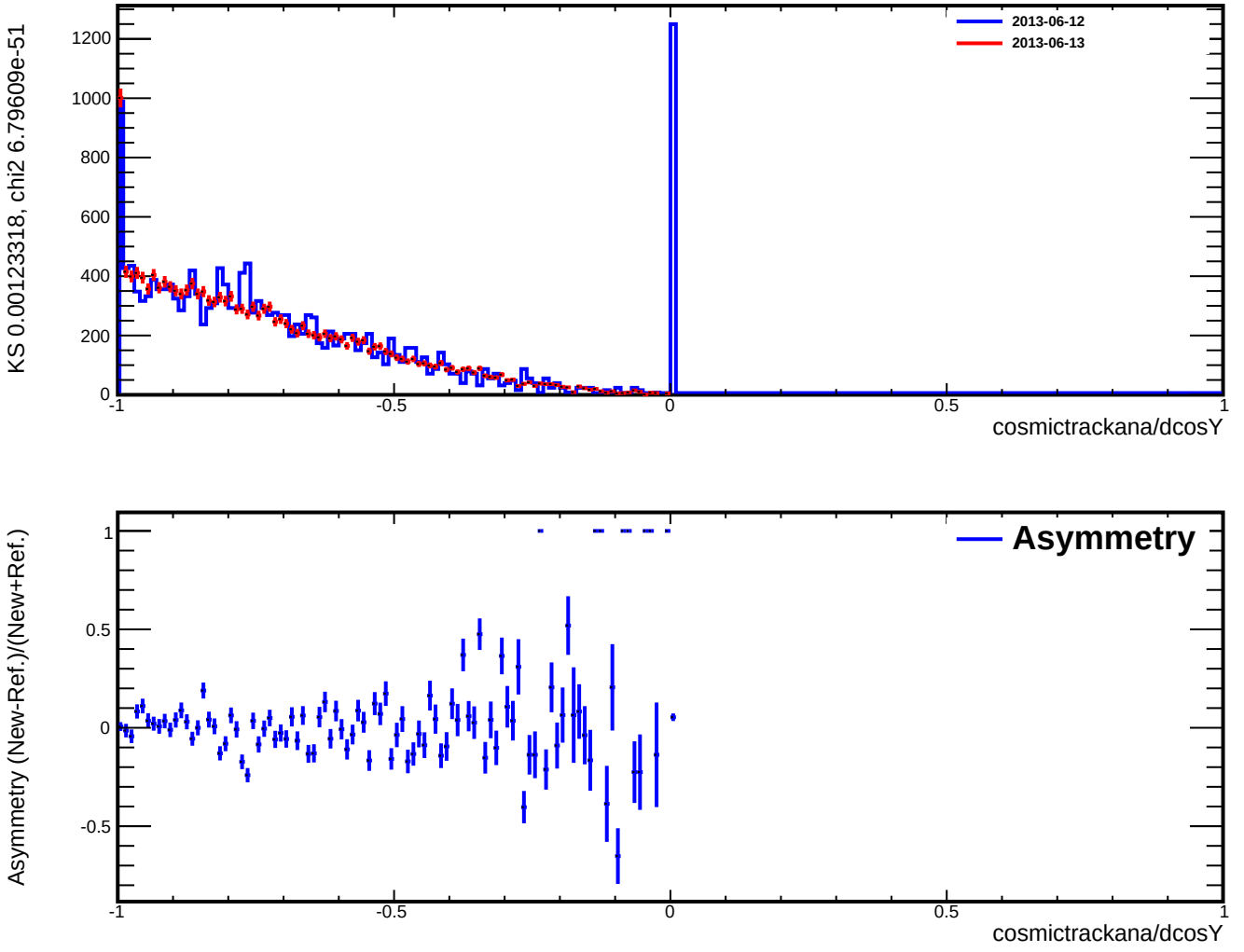

KS 9.85407e-06, chi2 2.17667e-79
2013-06-12
2013-06-13
cosmictrackana/dcosZDiff
Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
cosmictrackana/dcosZDiff

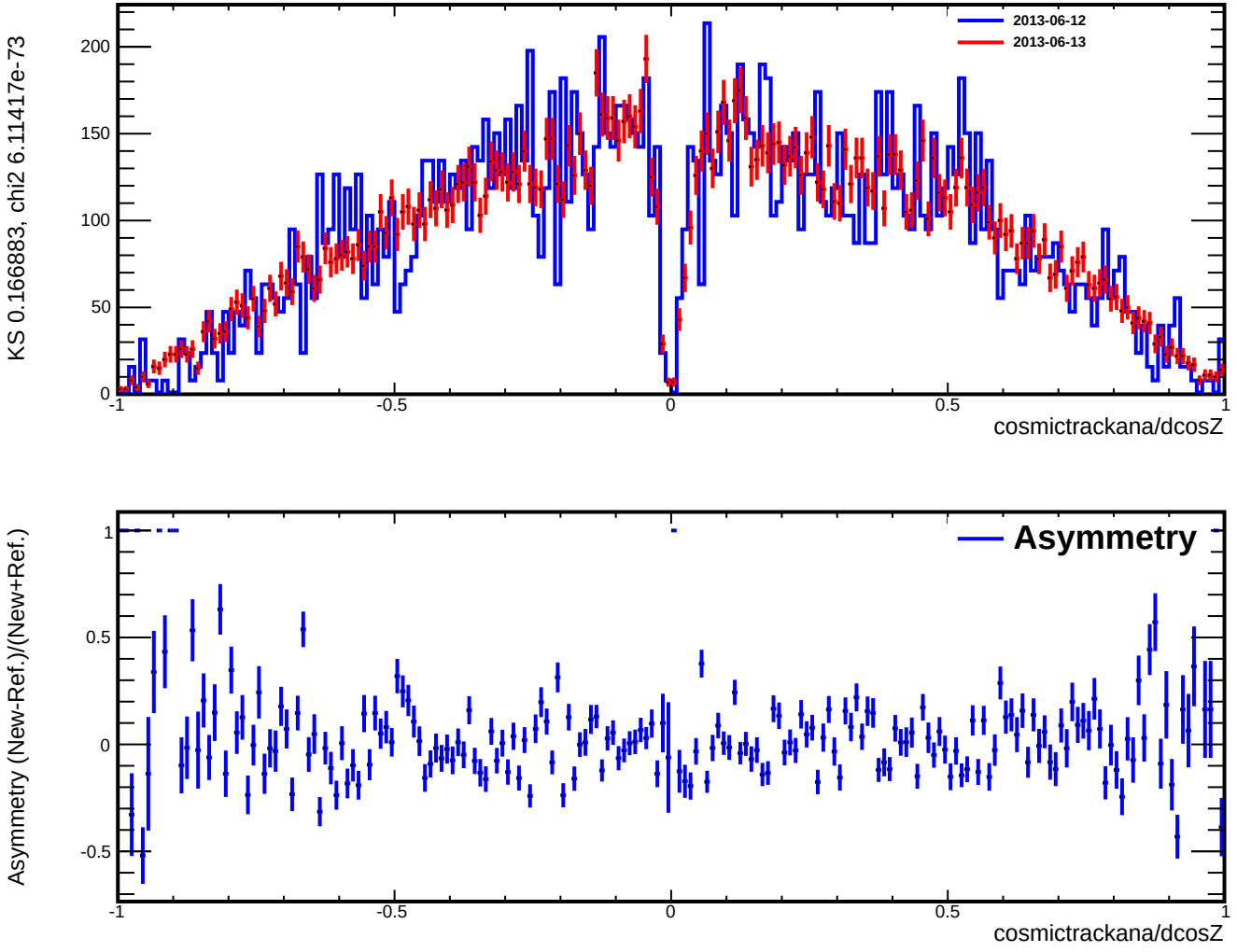

KS 2.53209e-07, chi2 2.64946e-76
2013-06-12
2013-06-13
cosmictrackana/primaryTrueEnergy

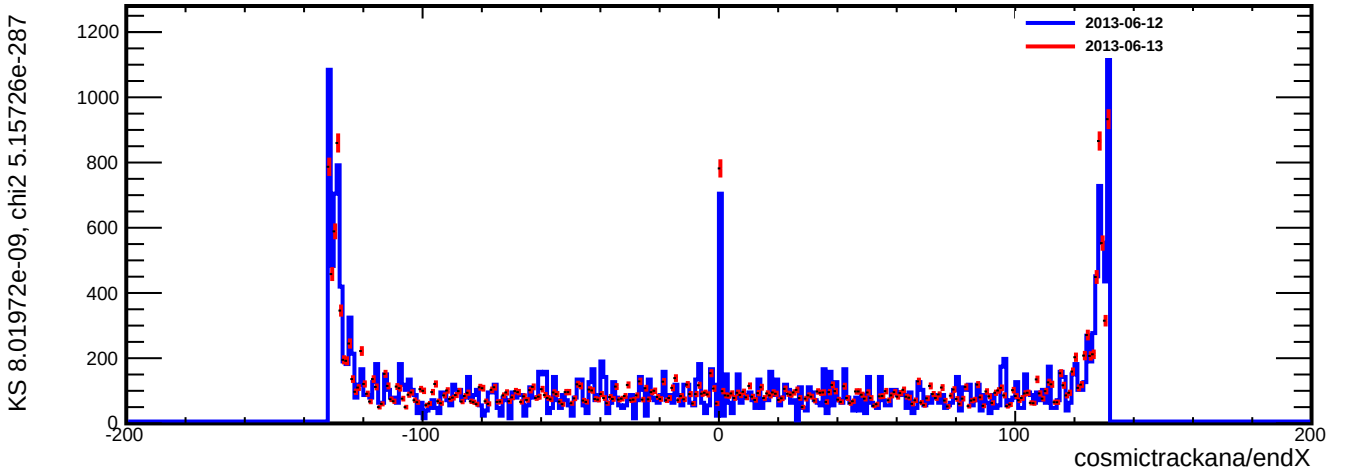

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
cosmictrackana/primaryTrueEnergy

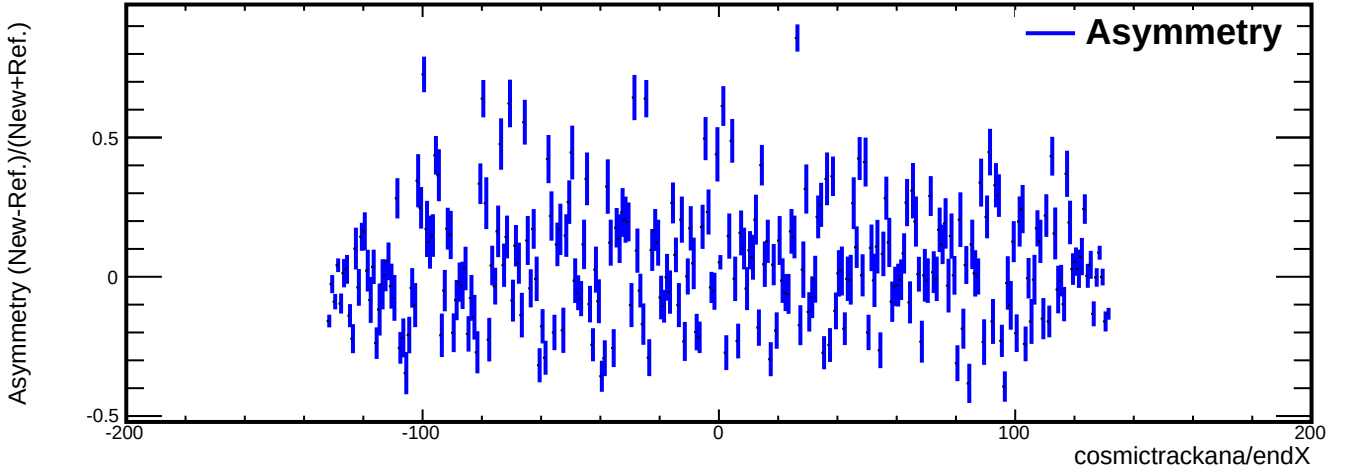

KS 9.60863e-05, chi2 4.09065e-97
2013-06-12
2013-06-13
600
400
200
0
-1
-0.5
0
0.5
1
cosmictrackana/dcosX

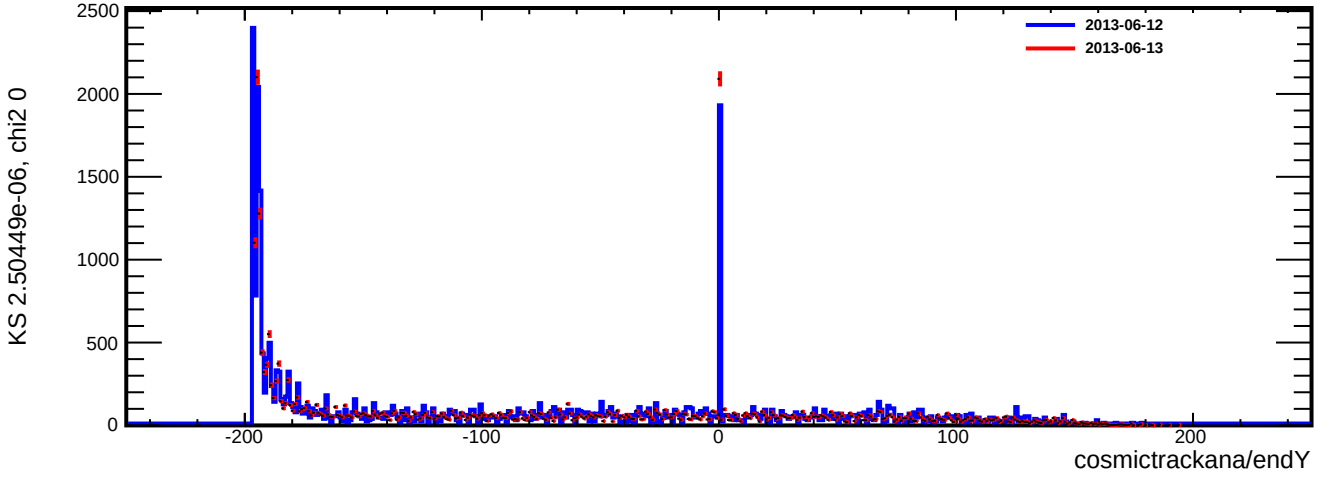

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.5
0
-0.5
-1
-0.5
0
0.5
1
cosmictrackana/dcosX

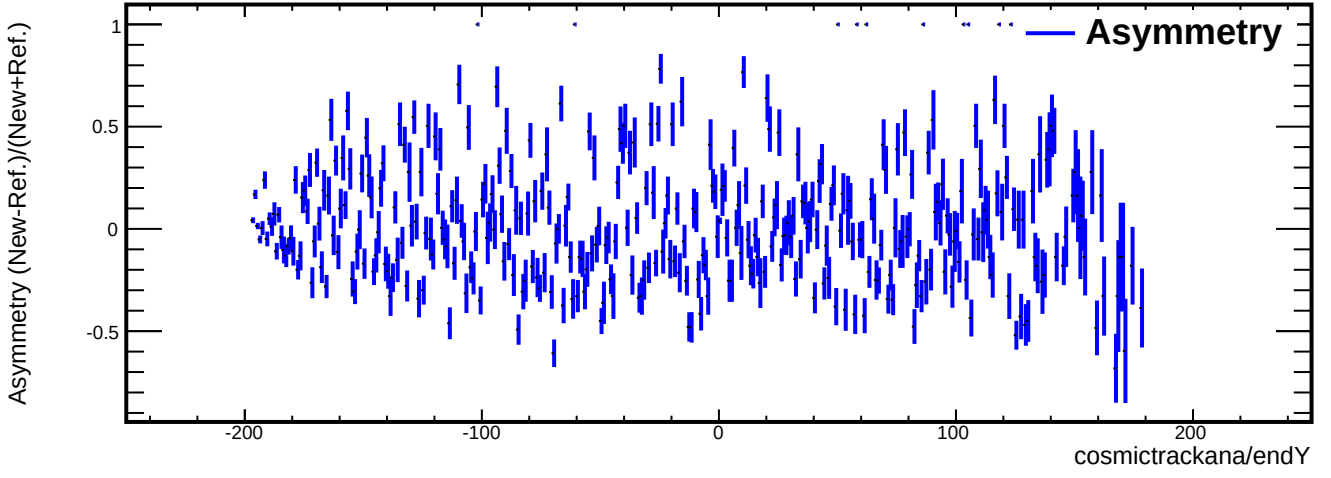

KS 0.00123318, chi2 6.79609e-51
2013-06-12
2013-06-13
cosmictrackana/dcosY
Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
cosmictrackana/dcosY

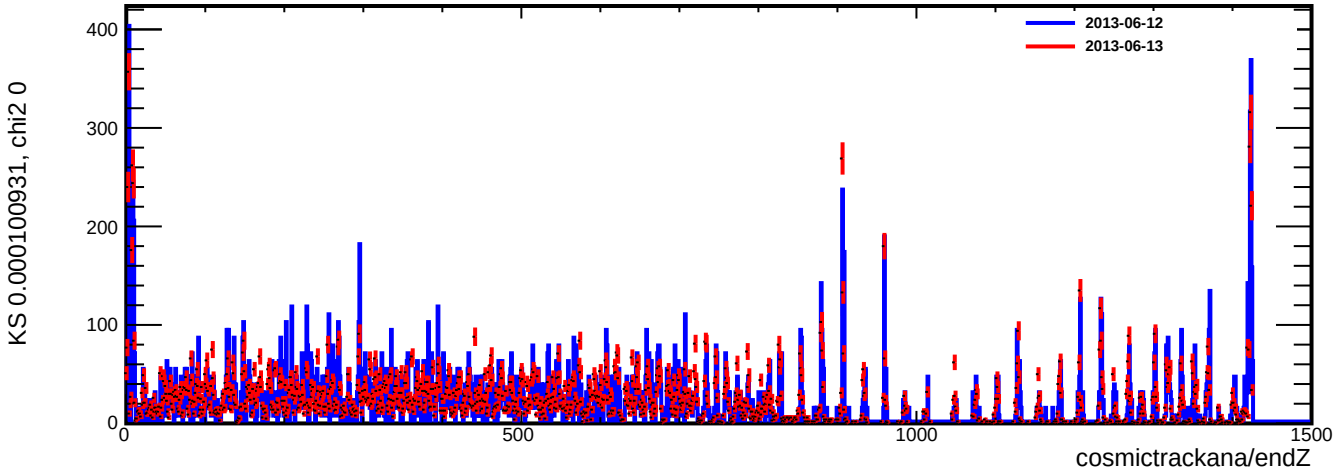

KS 0.166883, chi2 6.11417e-73
2013-06-12
2013-06-13
cosmictrackana/dcosZ
Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
cosmictrackana/dcosZ

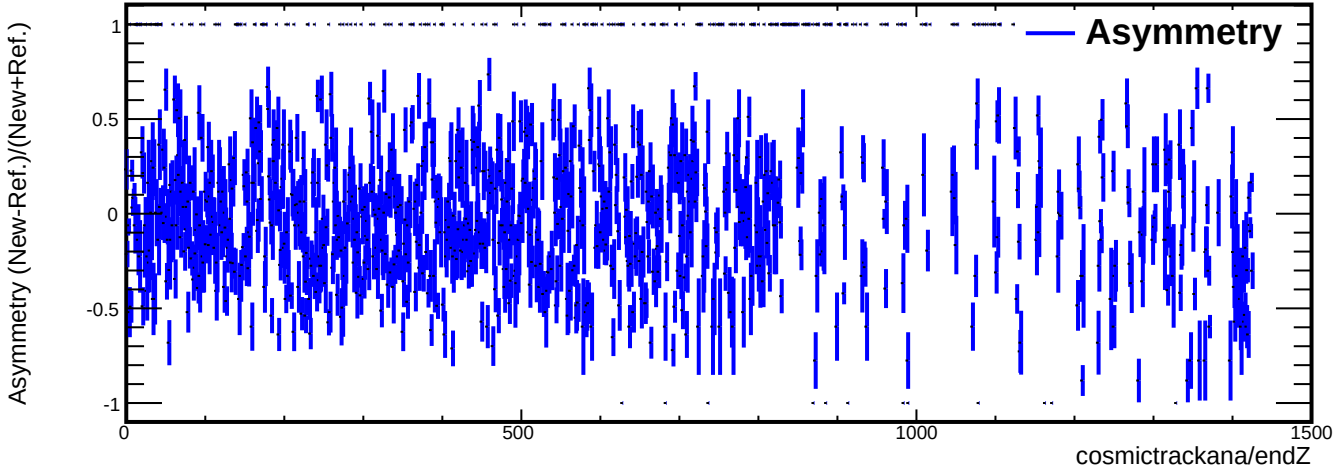

KS 8.01972e-09, chi2 5.15726e-287
2013-06-12
2013-06-13
1200
1000
800
600
400
200
0
-200
-100
0
100
200
cosmictrackana/endX

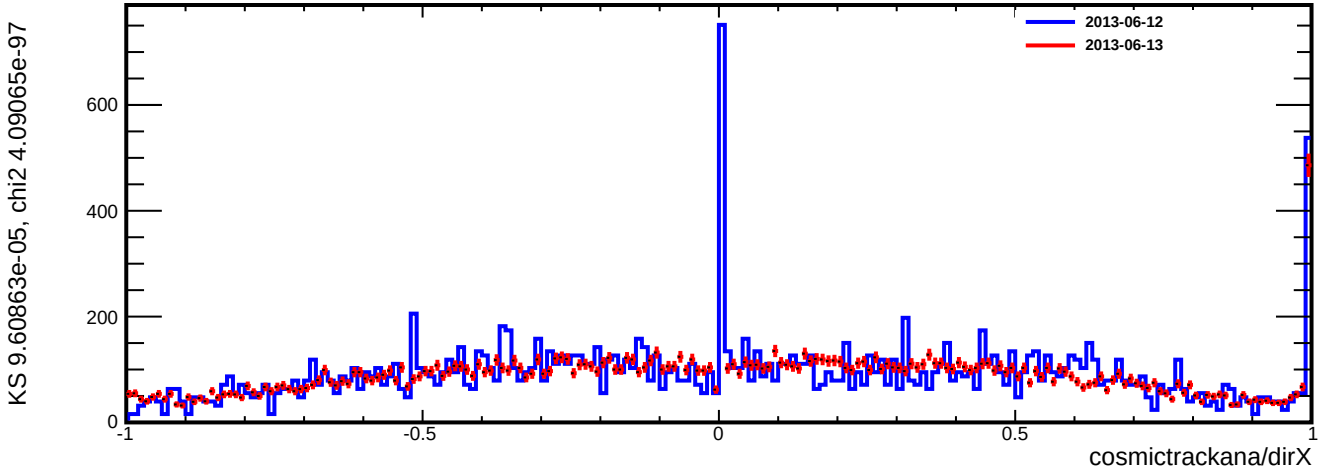

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.5
0
-0.5
-200
-100
0
100
200
cosmictrackana/endX

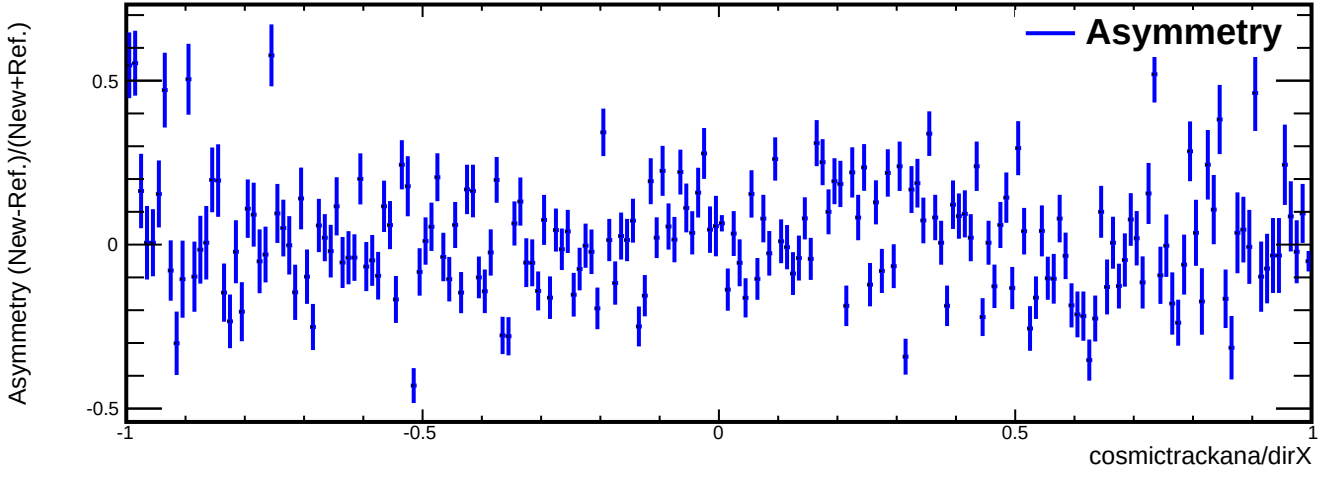

KS 2.50449e-06, chi2 0
2013-06-12
2013-06-13
2500
2000
1500
1000
500
0
-200
-100
0
100
200
cosmictrackana/endY

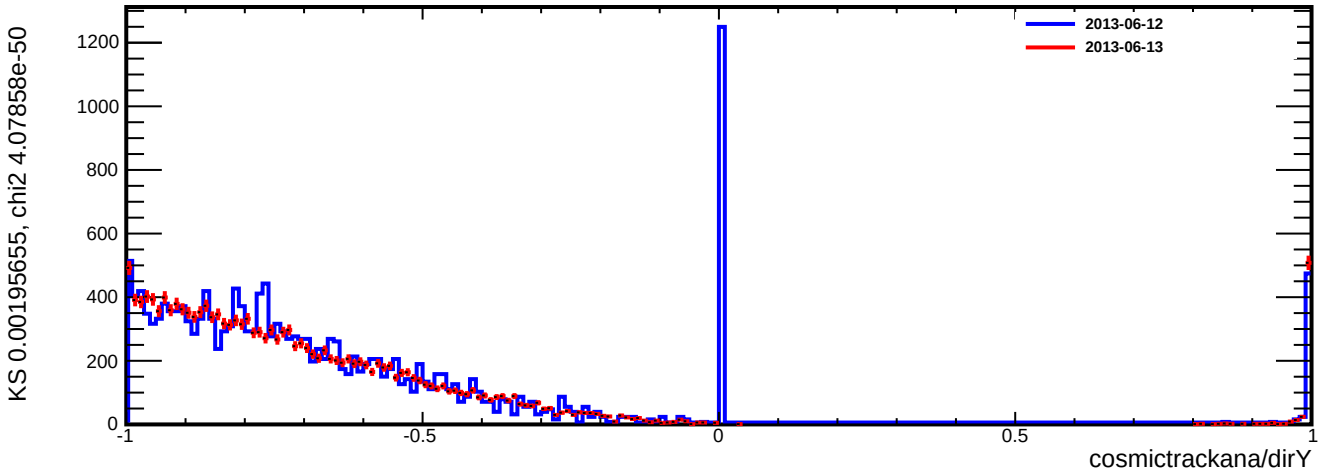

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-200
-100
0
100
200
cosmictrackana/endY

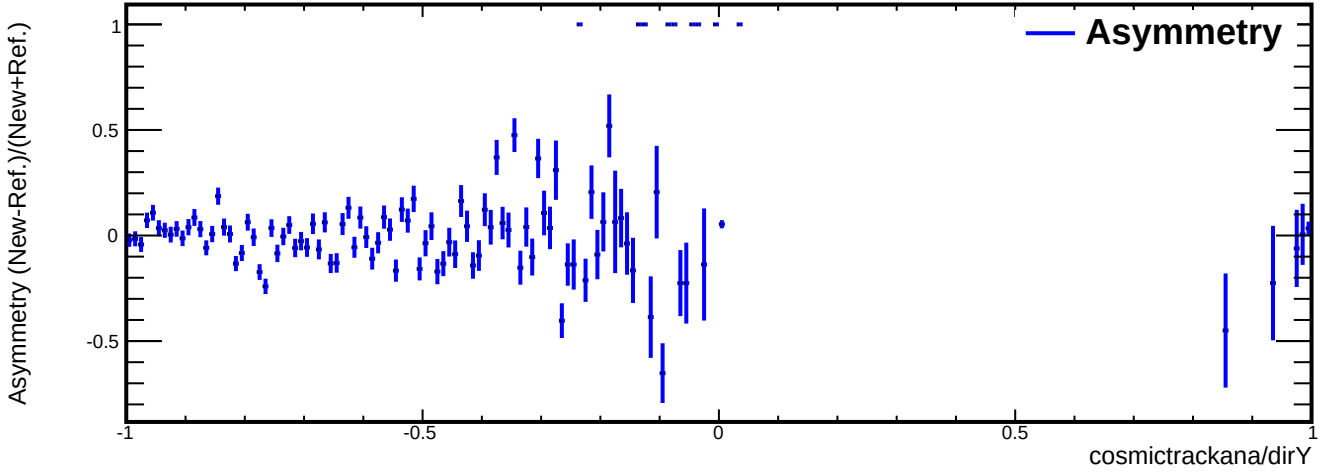

KS 0.000100931, chi2 0
400
300
200
100
0
0
500
1000
1500
cosmictrackana/endZ
2013-06-12
2013-06-13

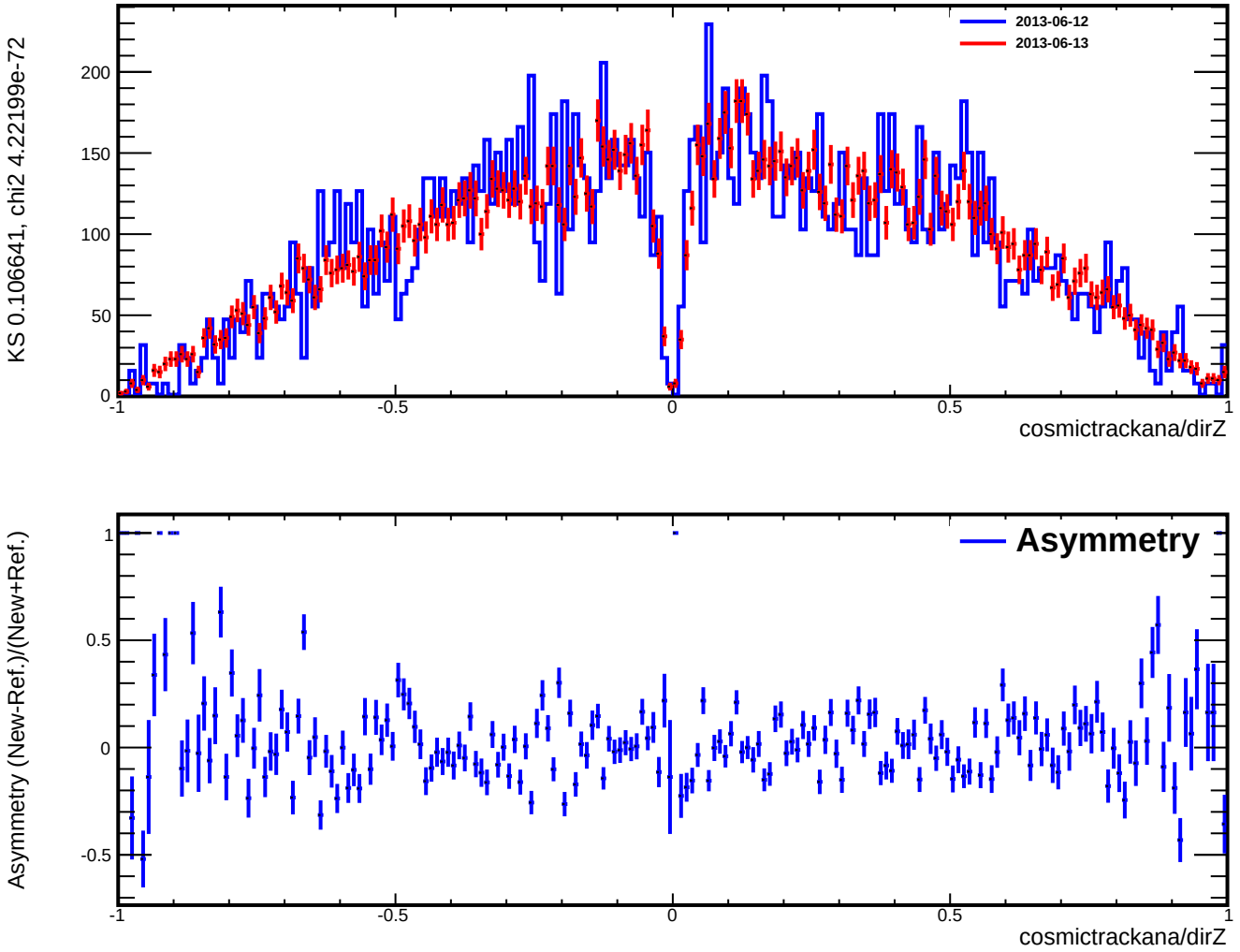

Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
500
1000
1500
cosmictrackana/endZ
Asymmetry

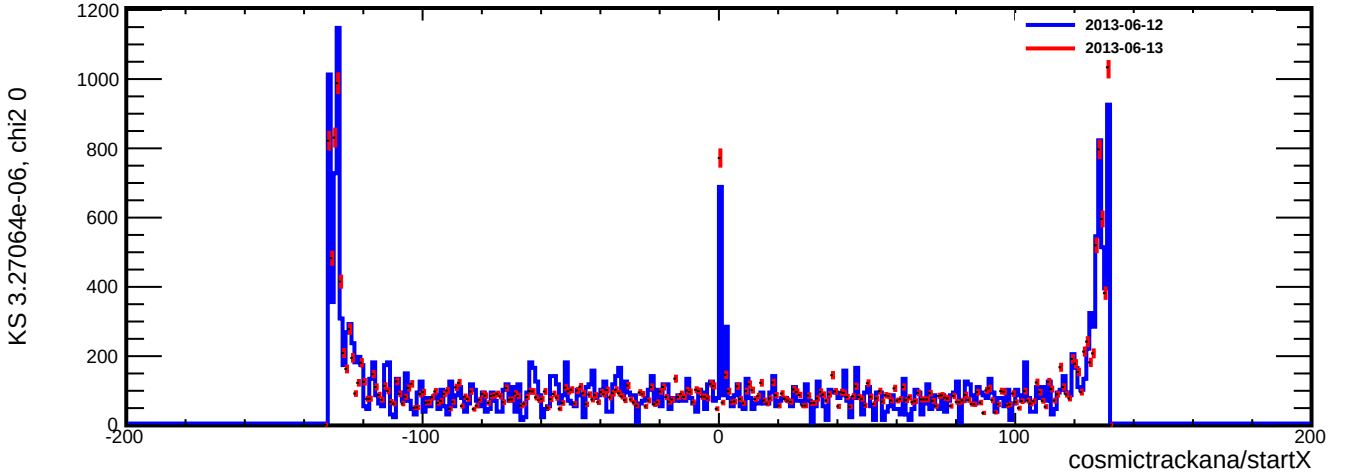

KS 9.60863e-05, chi2 4.09065e-97
2013-06-12
2013-06-13
600
400
200
0
-1
-0.5
0
0.5
1
cosmictrackana/dirX

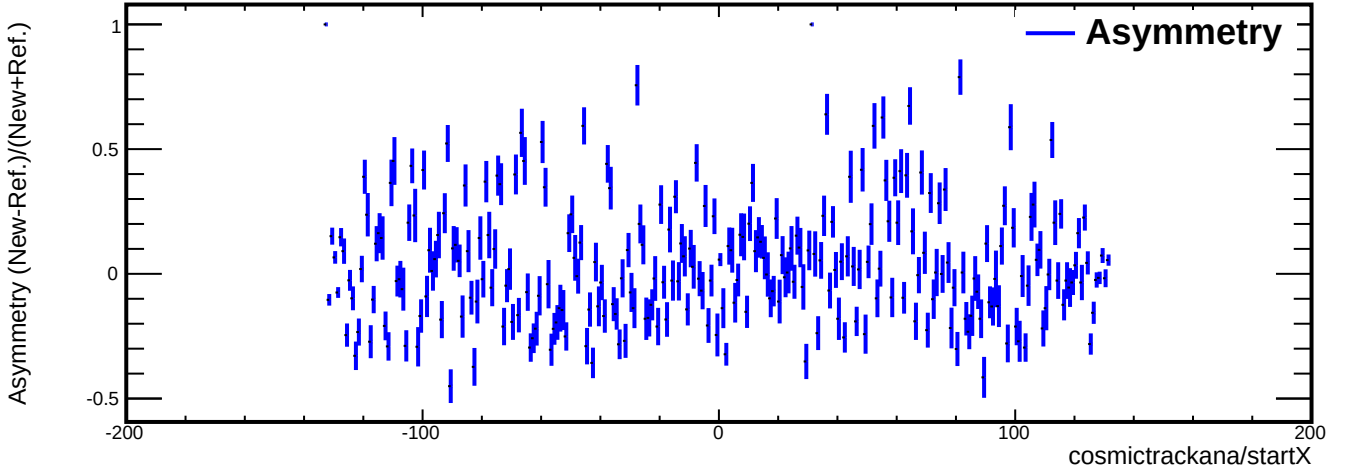

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.5
0
-0.5
-1
-0.5
0
0.5
1
cosmictrackana/dirX

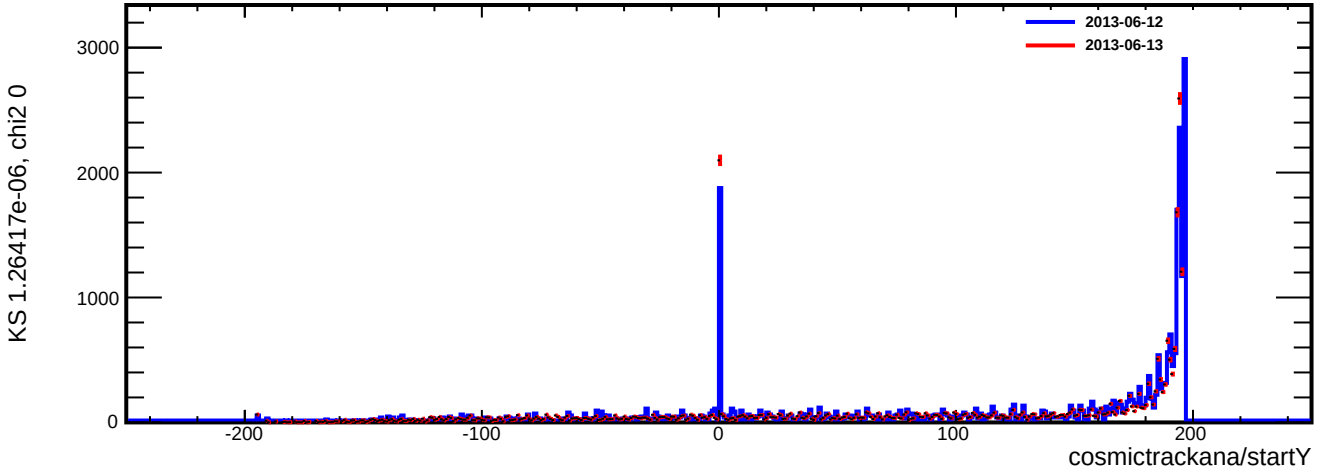

KS 0.00195655, chi2 4.07858e-50
2013-06-12
2013-06-13
1200
1000
800
600
400
200
0
-1
-0.5
0
0.5
1
cosmictrackana/dirY

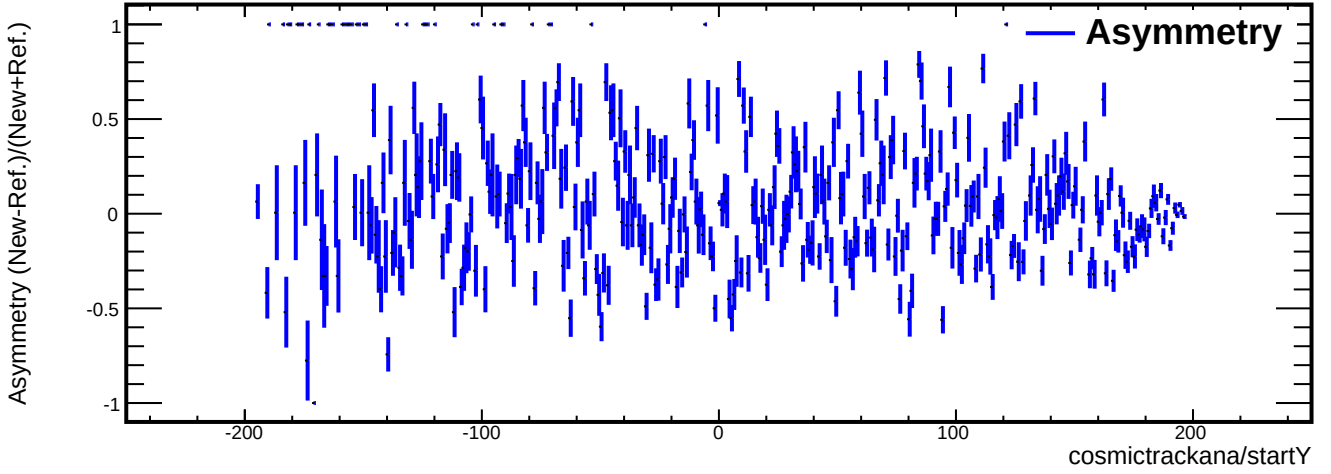

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
-0.5
0
0.5
1
cosmictrackana/dirY

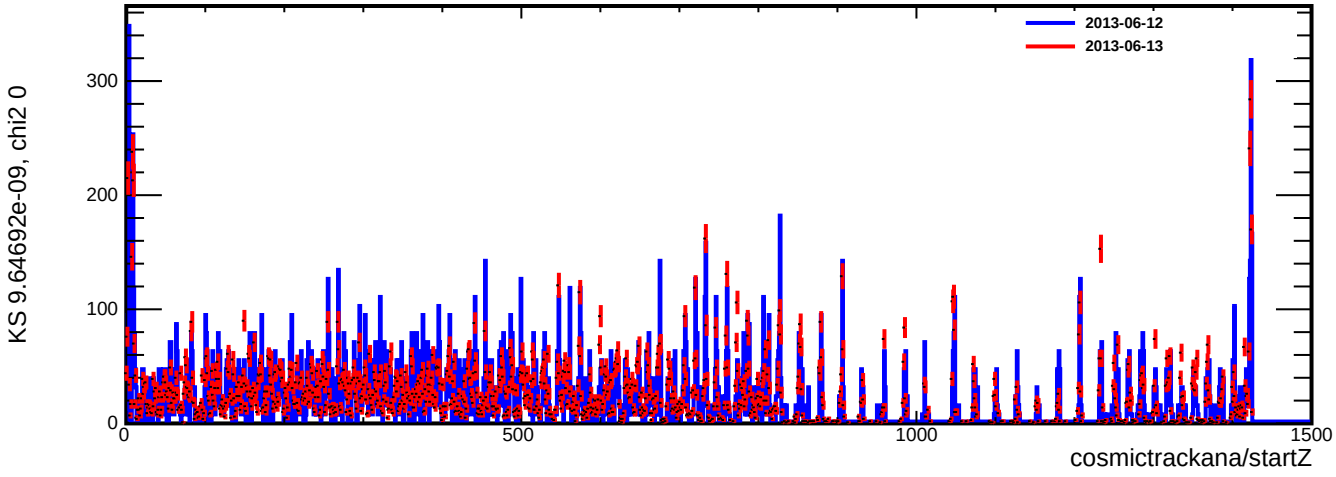

KS 0.106641, chi2 4.22199e-72
2013-06-12
2013-06-13
cosmictrackana/dirZ
Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
cosmictrackana/dirZ

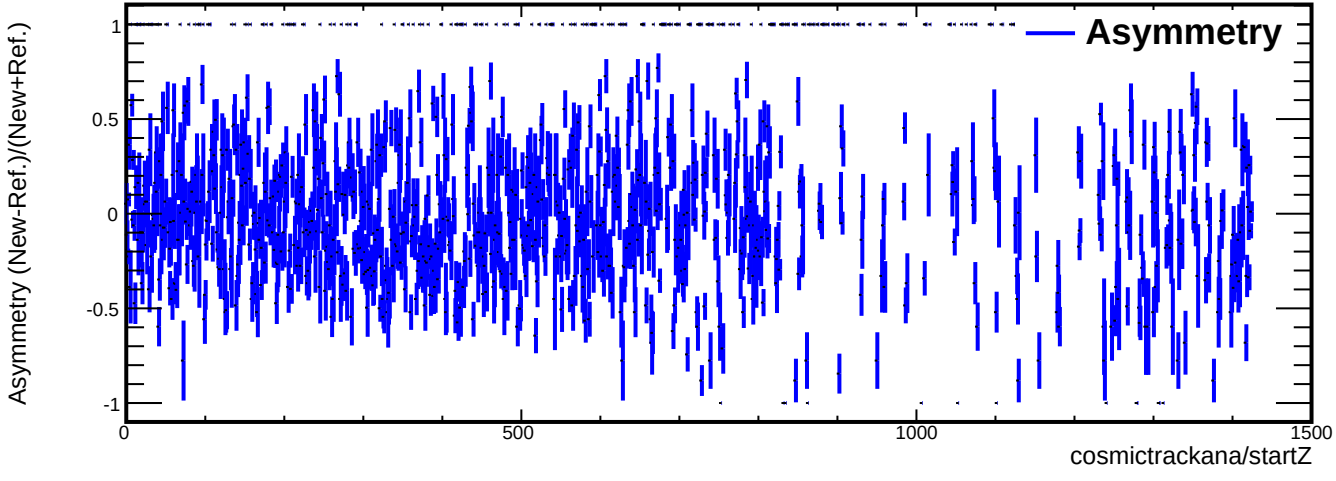

KS 3.27064e-06, chi2 0
1200
1000
800
600
400
200
0
-200
-100
0
100
200
cosmictrackana/startX
2013-06-12
2013-06-13

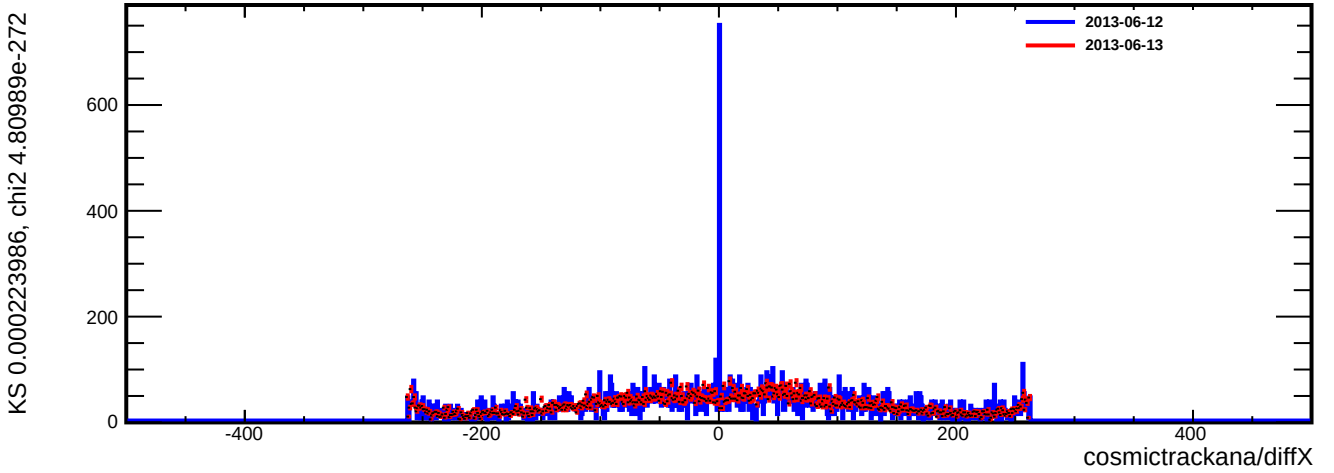

Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-200
-100
0
100
200
cosmictrackana/startX
Asymmetry

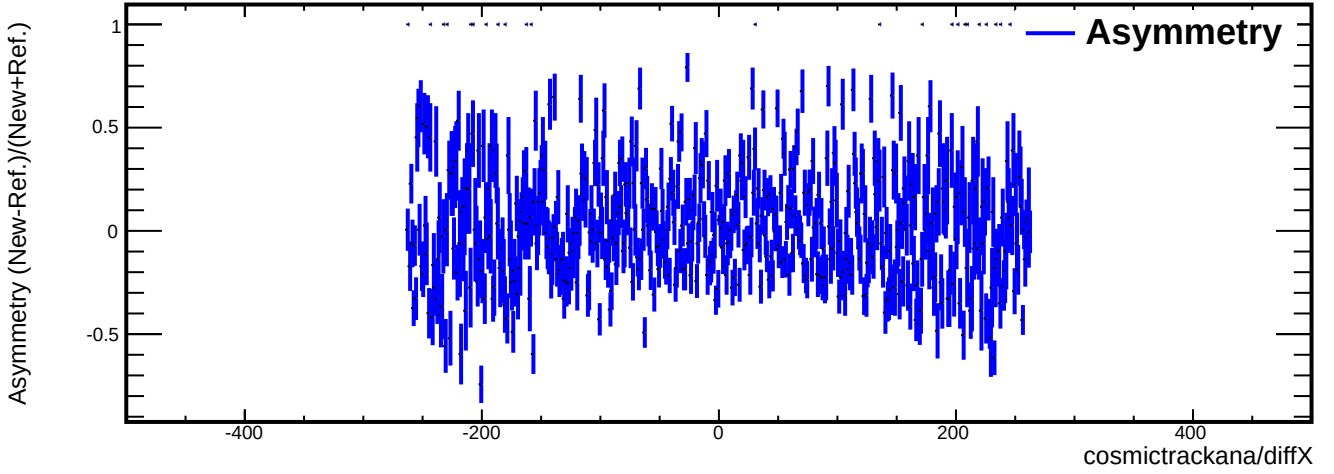

2013-06-12
2013-06-13
KS 1.26417e-06, chi2 0
3000
2000
1000
0
-200
-100
0
100
200
cosmictrackana/startY

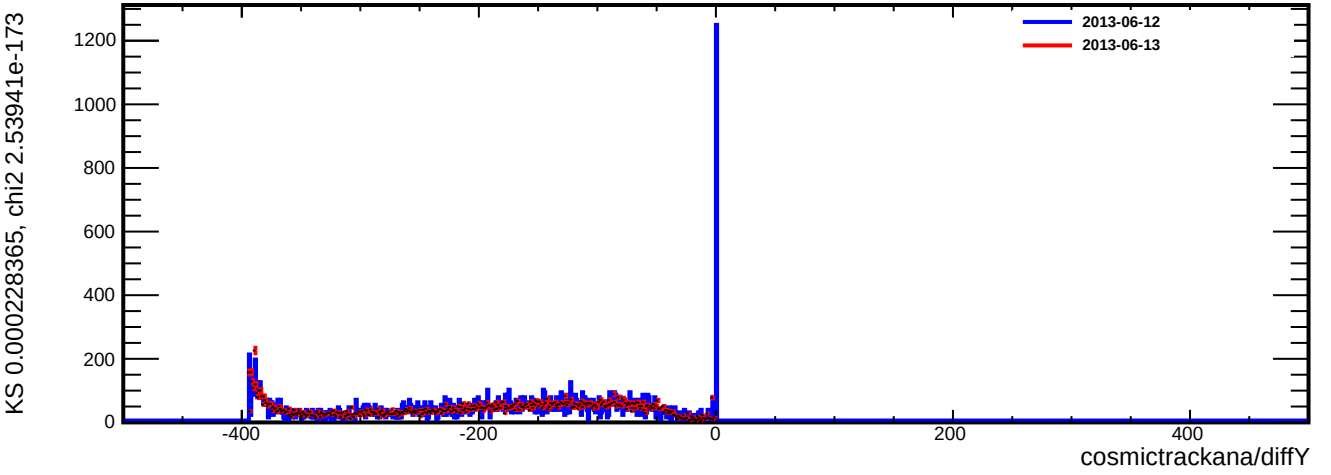

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
-200
-100
0
100
200
cosmictrackana/startY

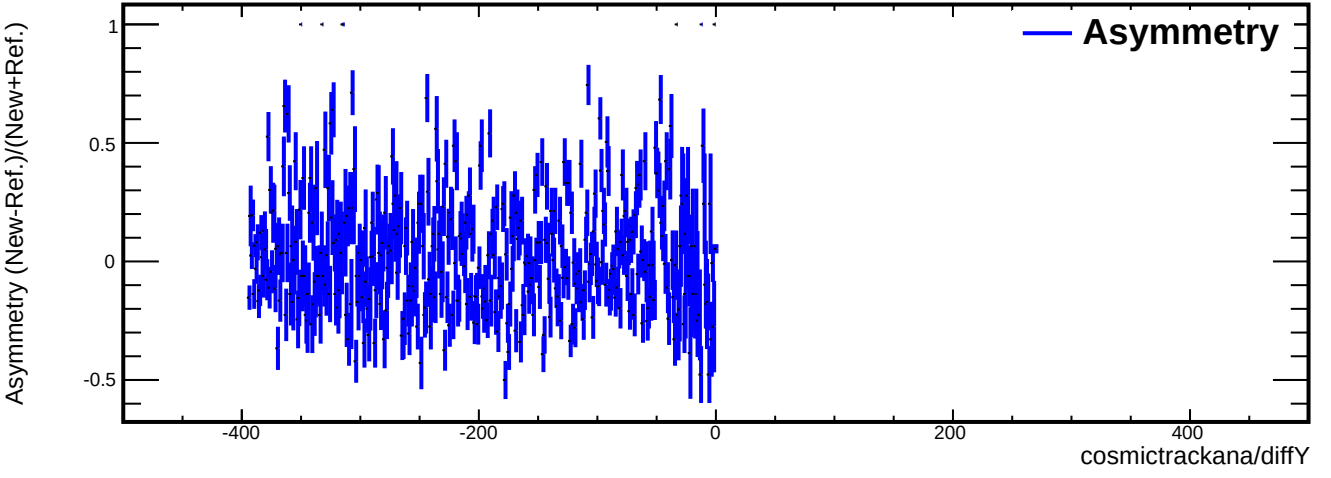

2013-06-12
2013-06-13
KS 9.64692e-09, chi2 0
300
200
100
0
0
500
1000
1500
cosmictrackana/startZ

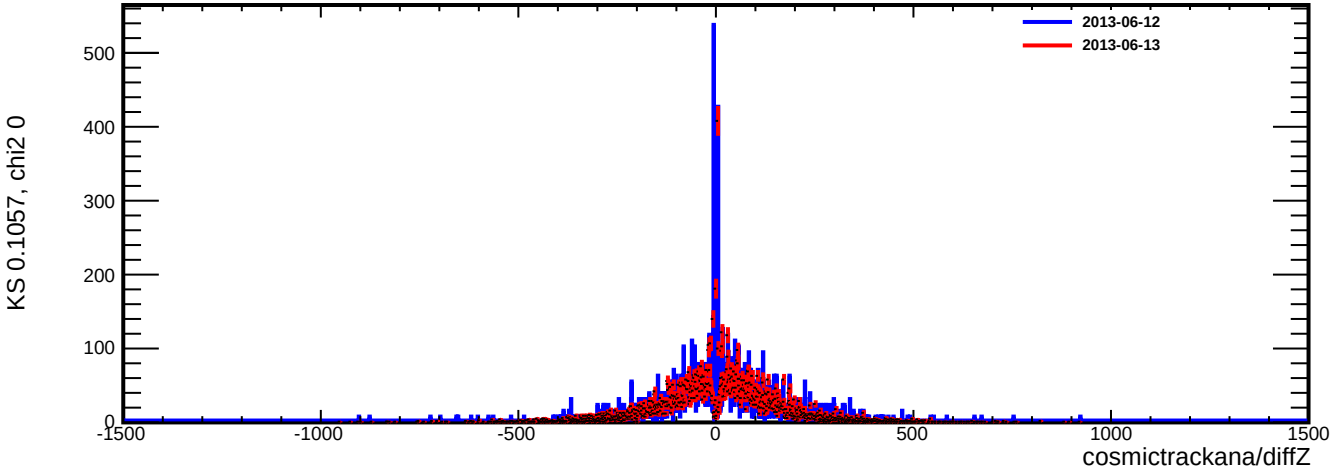

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
500
1000
1500
cosmictrackana/startZ

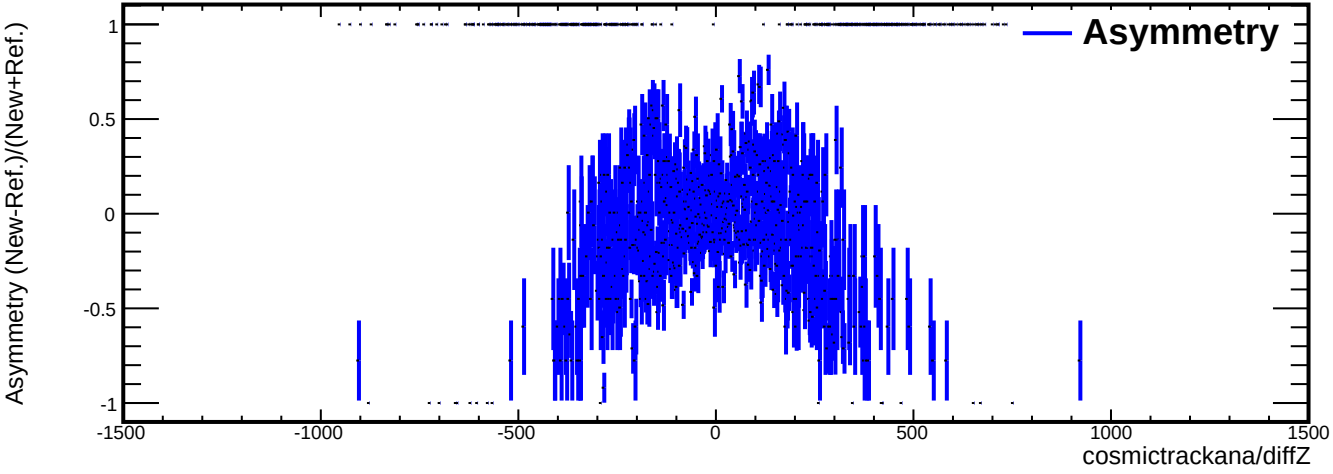

KS 0.000223986, chi2 4.80989e-272
2013-06-12
2013-06-13
600
400
200
0
-400
-200
0
200
400
cosmictrackana/diffX

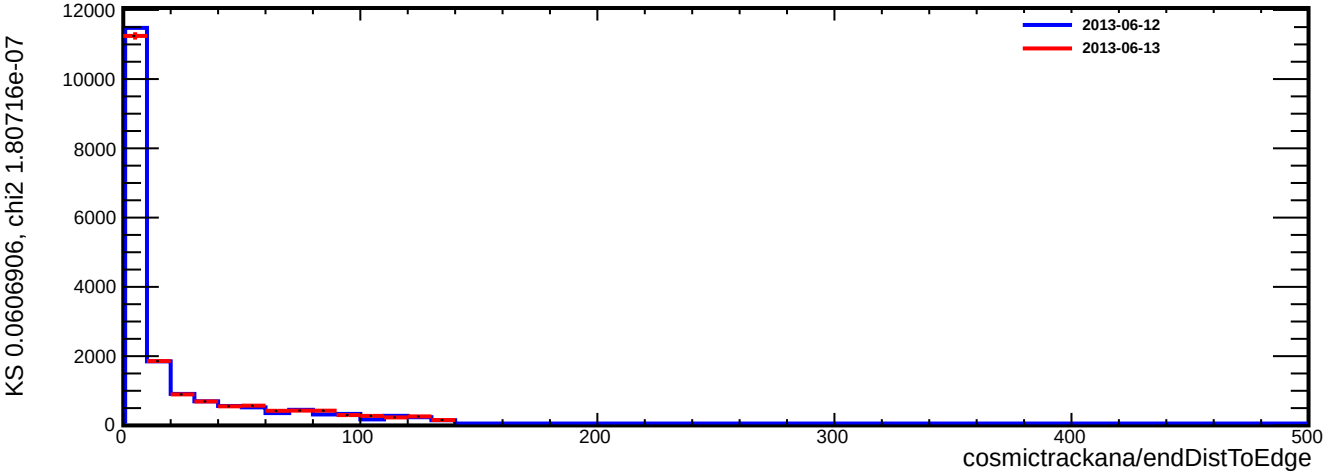

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-400
-200
0
200
400
cosmictrackana/diffX

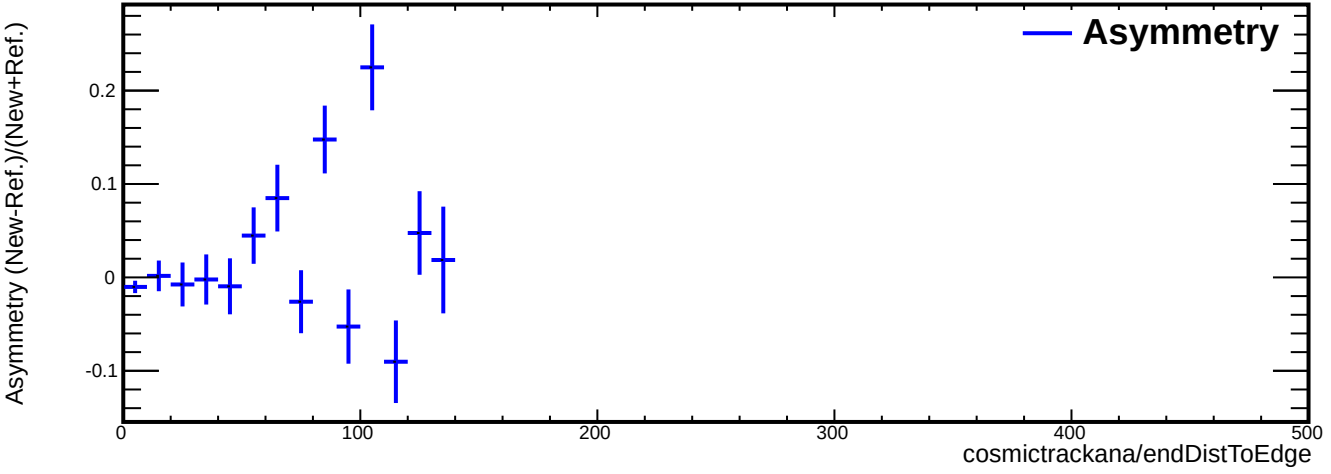

KS 0.000228365, chi2 2.53941e-173
2013-06-12
2013-06-13
1200
1000
800
600
400
200
0
-400
-200
0
200
400
cosmictrackana/diffY

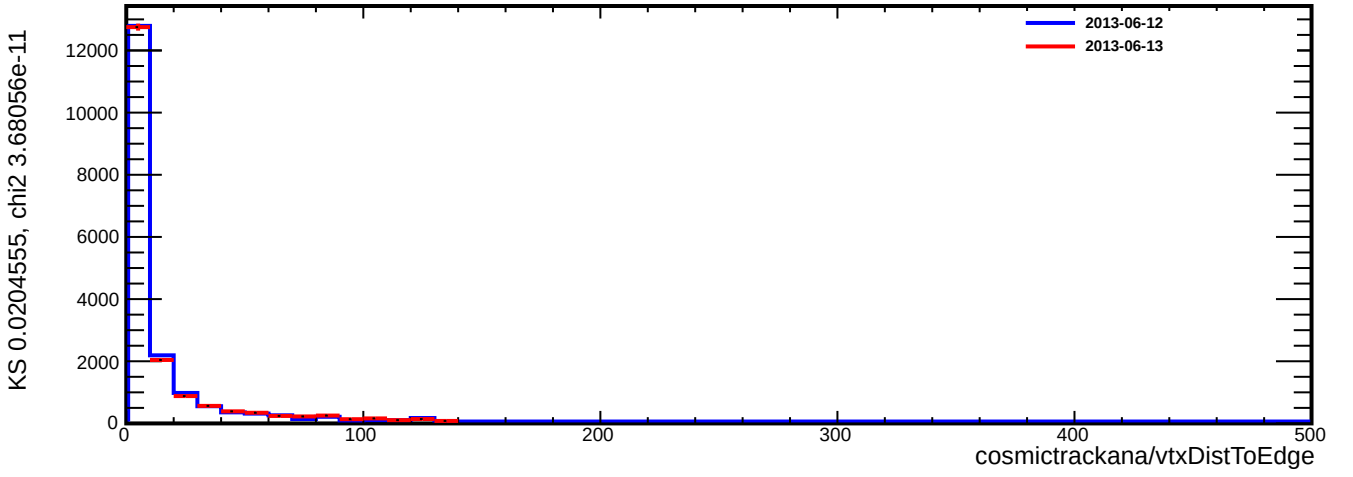

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-400
-200
0
200
400
cosmictrackana/diffY

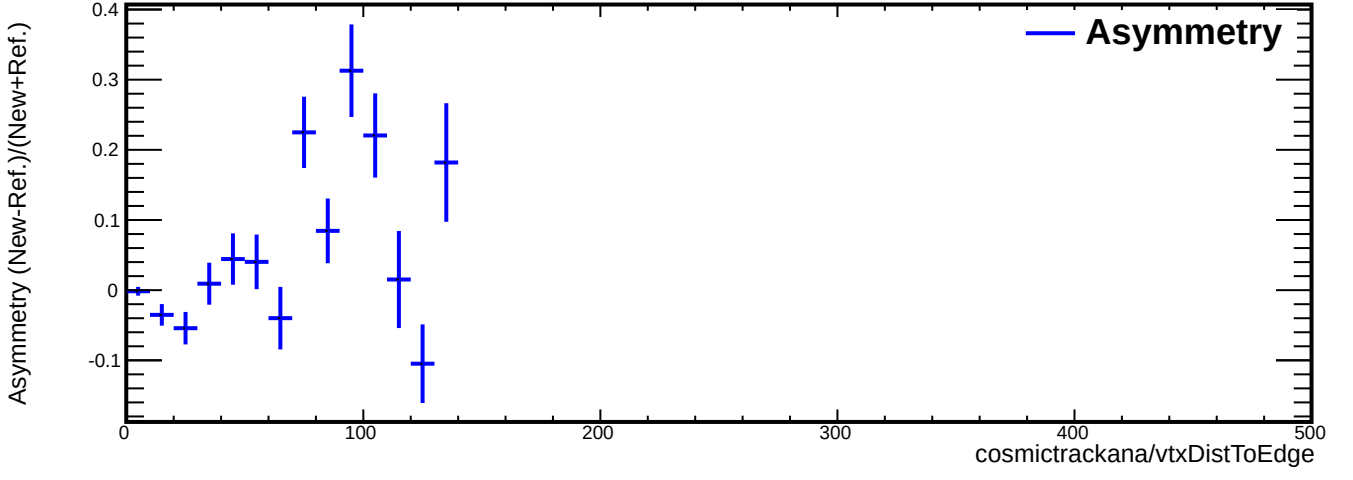

2013-06-12
2013-06-13
KS 0.1057, chi2 0
500
400
300
200
100
0
-1500
-1000
-500
0
500
1000
1500
cosmictrackana/diffZ

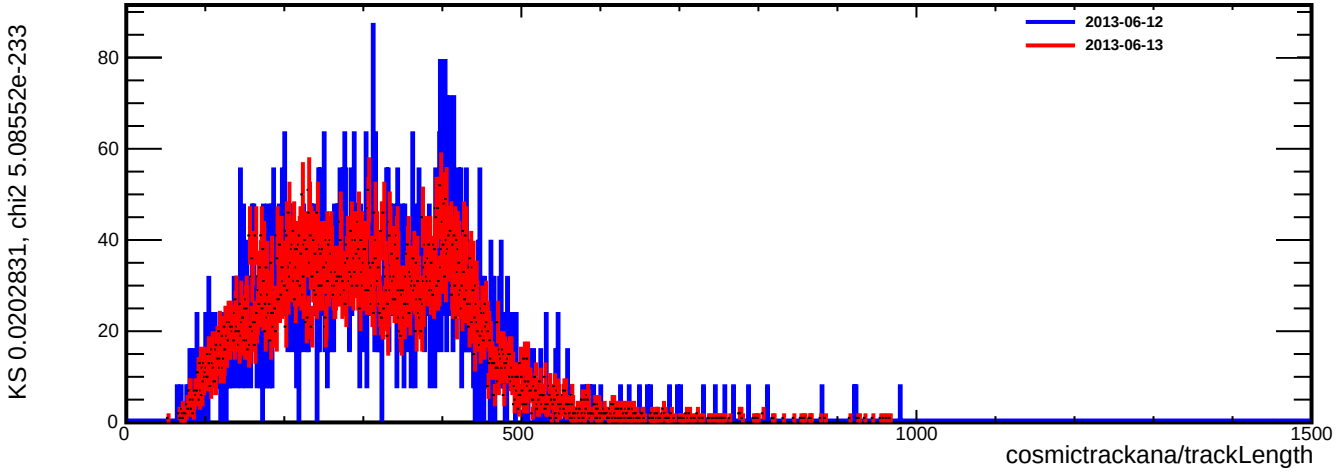

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
-1500
-1000
-500
0
500
1000
1500
cosmictrackana/diffZ

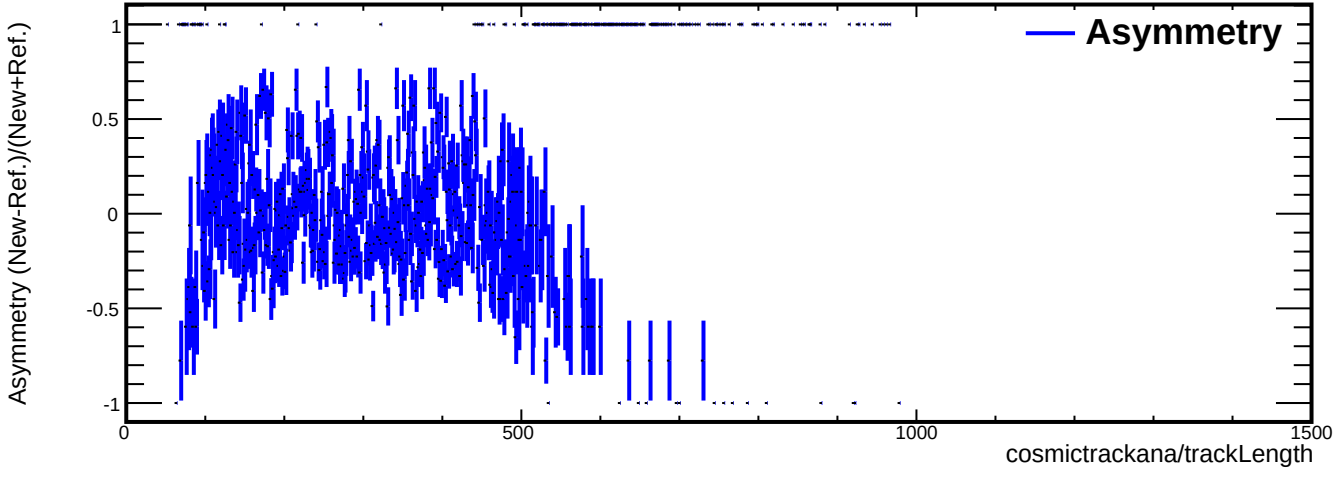

KS 0.0606906, chi2 1.80716e-07
2013-06-12
2013-06-13
cosmictrackana/endDistToEdge

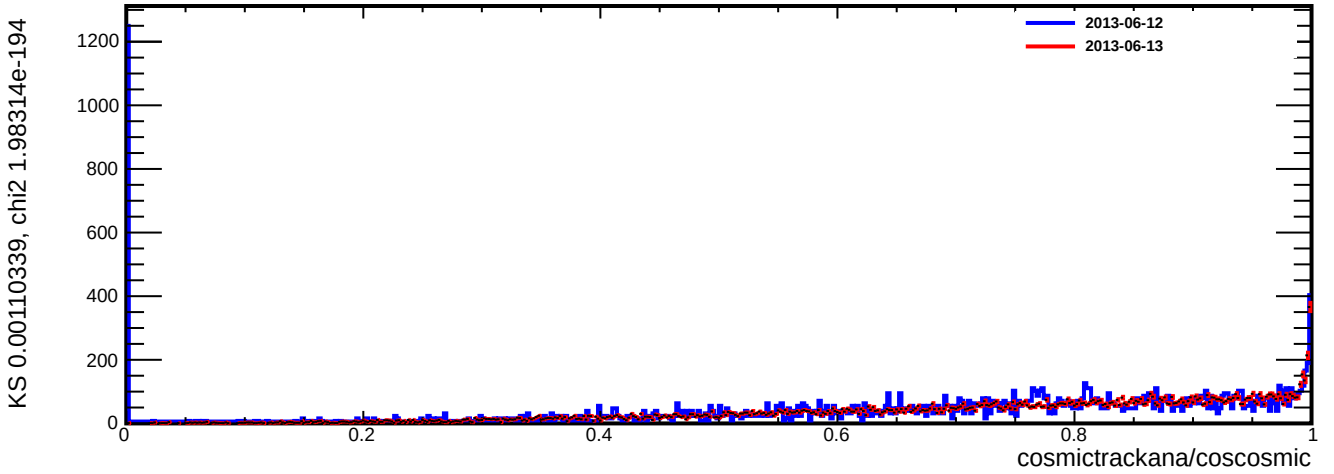

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
cosmictrackana/endDistToEdge

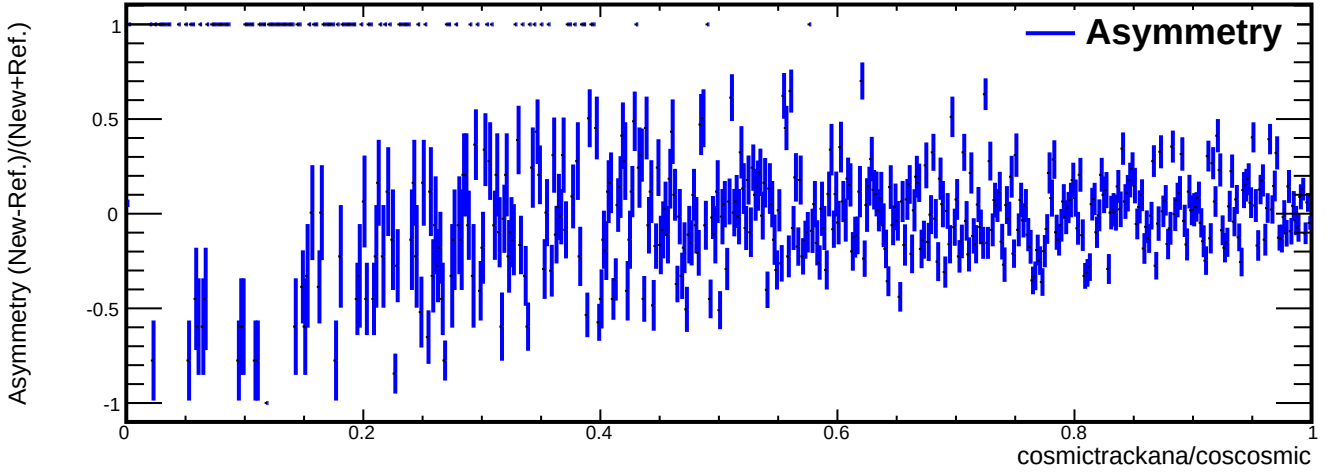

KS 0.0204555, chi2 3.68056e-11
2013-06-12
2013-06-13
12000
10000
8000
6000
4000
2000
0
0
100
200
300
400
500
cosmictrackana/vtxDistToEdge

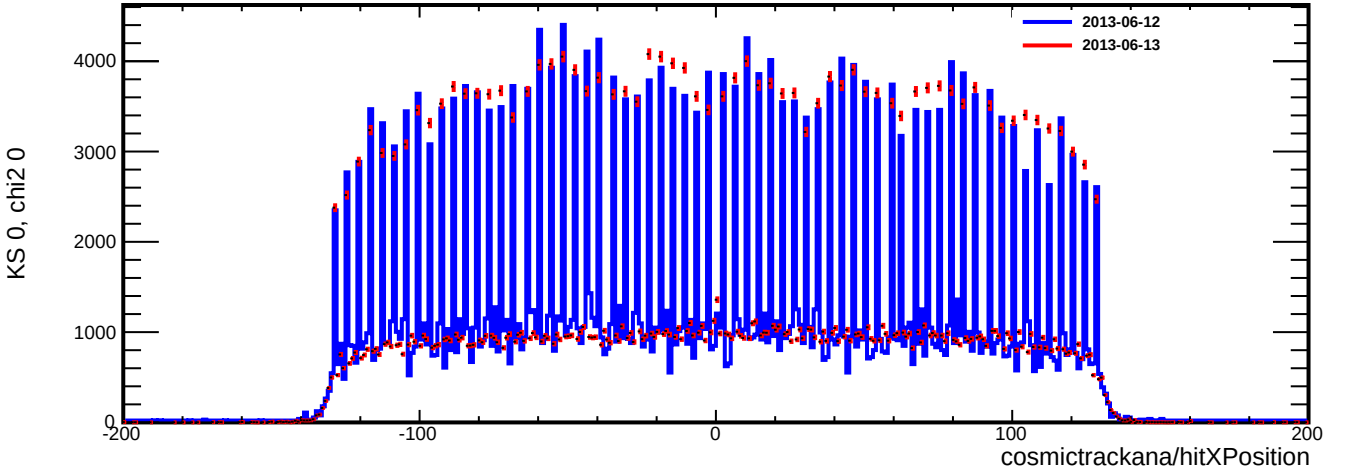

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.4
0.3
0.2
0.1
0
-0.1
0
100
200
300
400
500
cosmictrackana/vtxDistToEdge

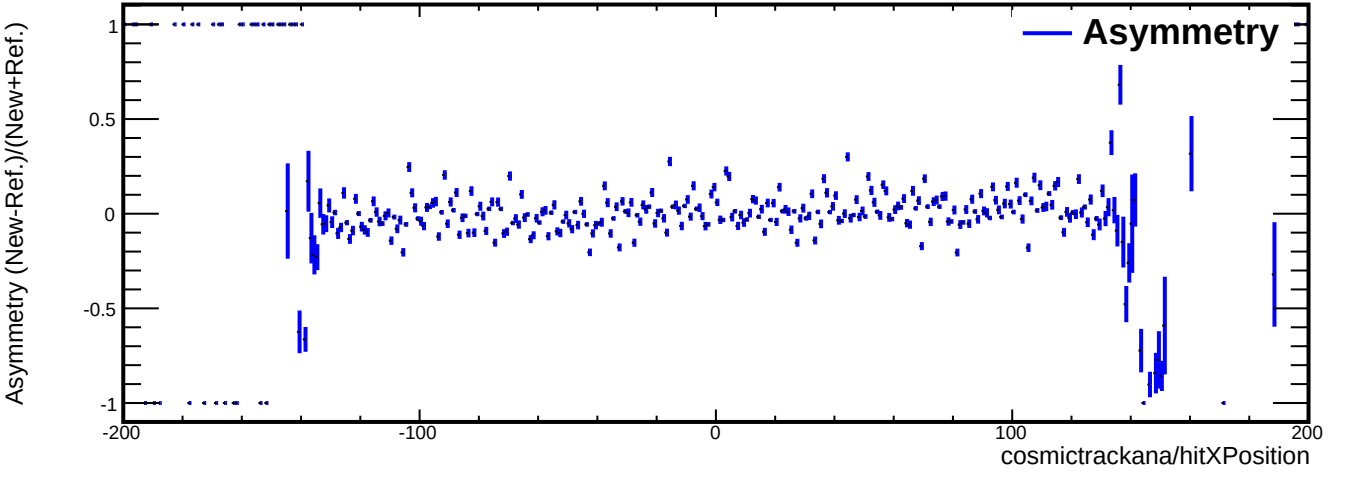

KS 0.0202831, chi2 5.08552e-233
2013-06-12
2013-06-13
0
20
40
60
80
0
500
1000
1500
cosmictrackana/trackLength

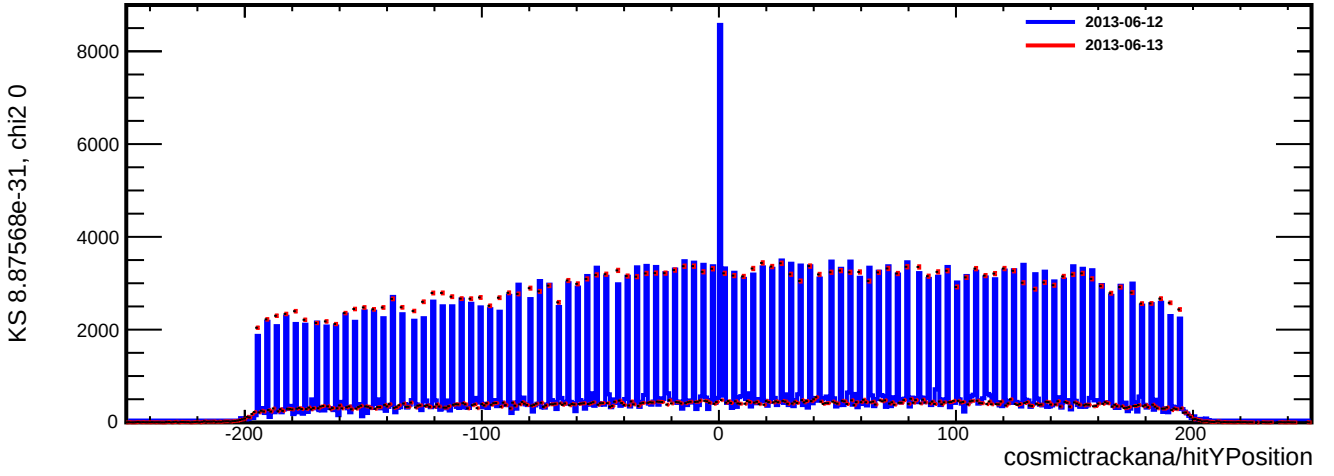

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
500
1000
1500
cosmictrackana/trackLength

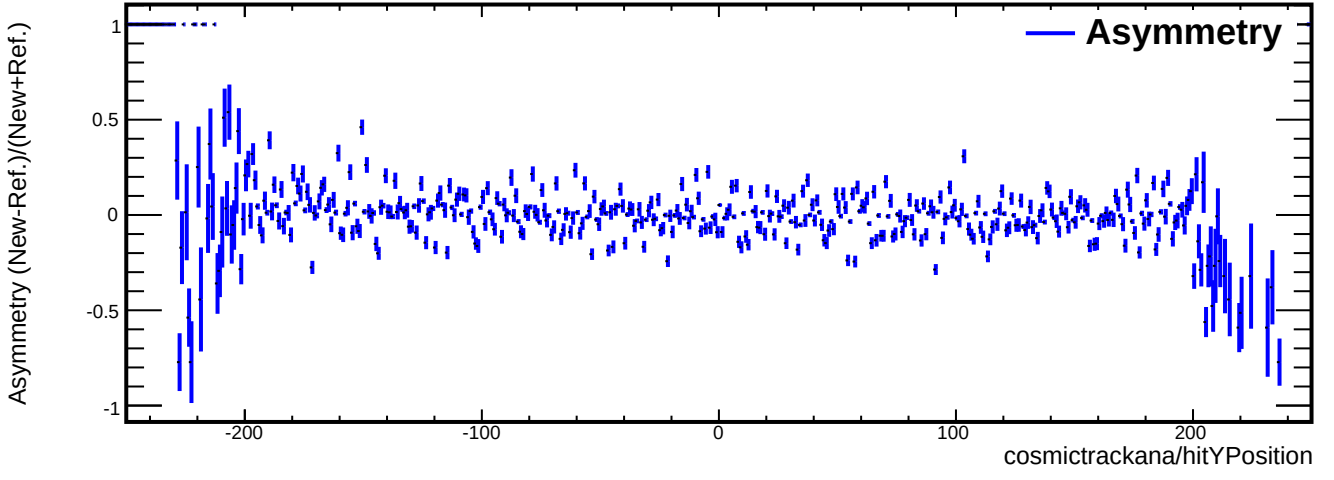

KS 0.00110339, chi2 1.98314e-194
2013-06-12
2013-06-13
1200
1000
800
600
400
200
0
0
0.2
0.4
0.6
0.8
1
cosmictrackana/coscosmic

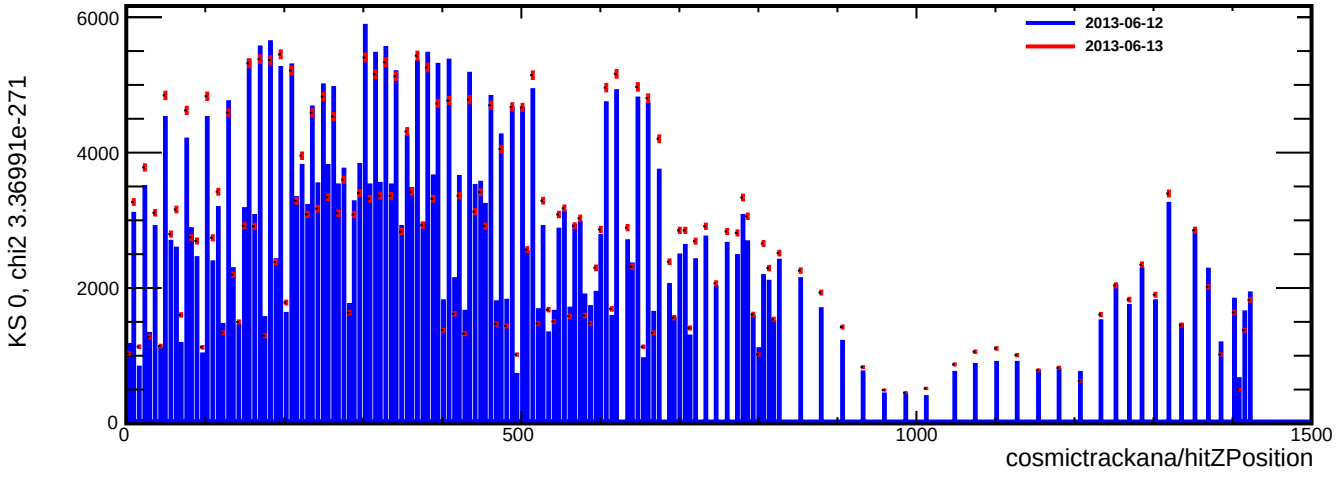

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
1
0.5
0
-0.5
-1
0
0.2
0.4
0.6
0.8
1
cosmictrackana/coscosmic

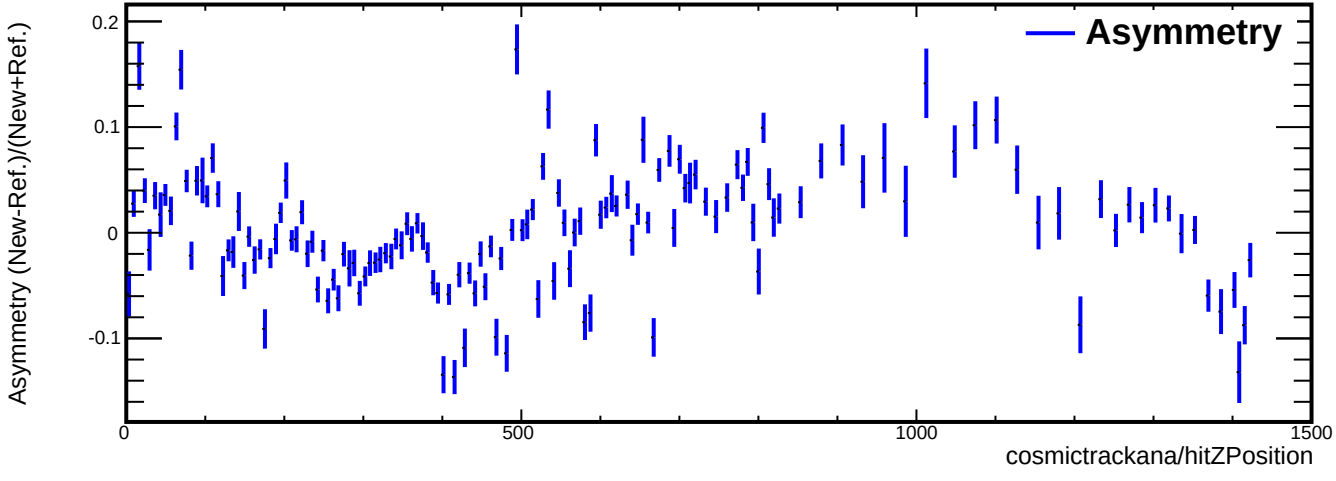

2013-06-12
2013-06-13
KS 0, chi2 0
4000
3000
2000
1000
0
-200
-100
0
100
200
cosmictrackana/hitXPosition

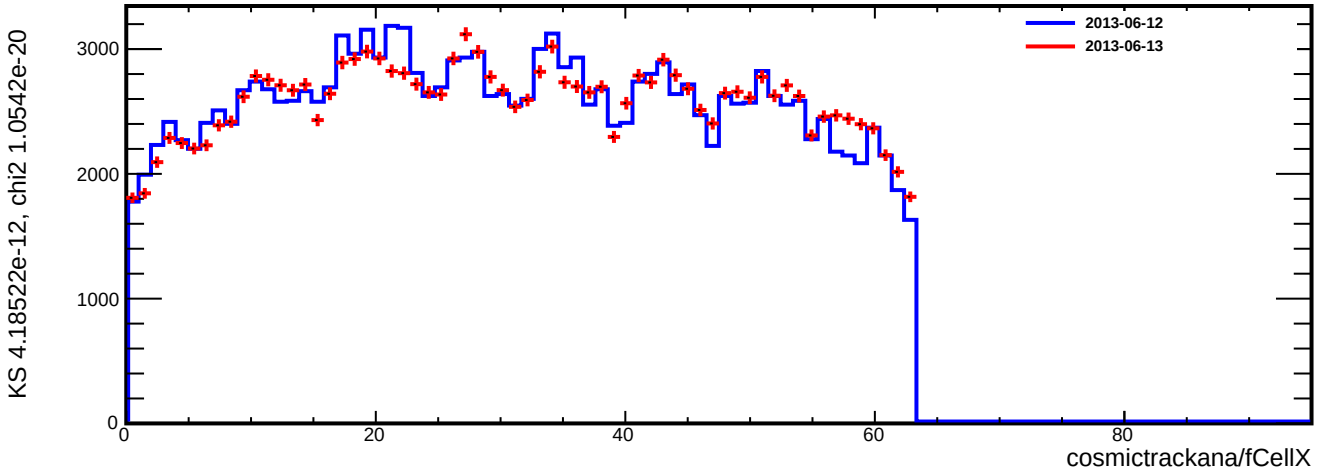

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
-200
-100
0
100
200
cosmictrackana/hitXPosition

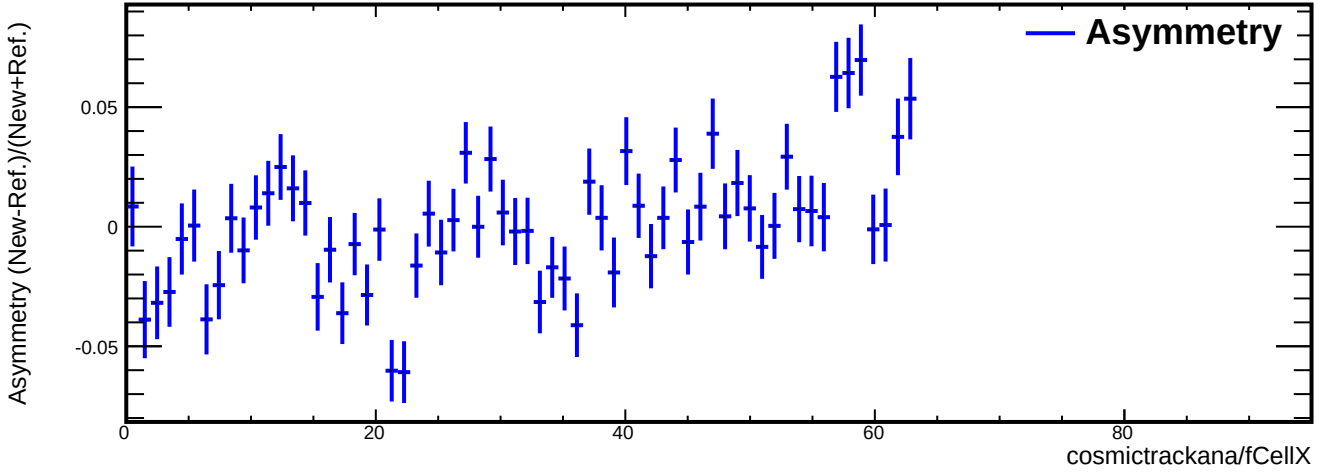

2013-06-12
2013-06-13
KS 8.87568e-31, chi2 0
8000
6000
4000
2000
0
-200
-100
0
100
200
cosmictrackana/hitYPosition

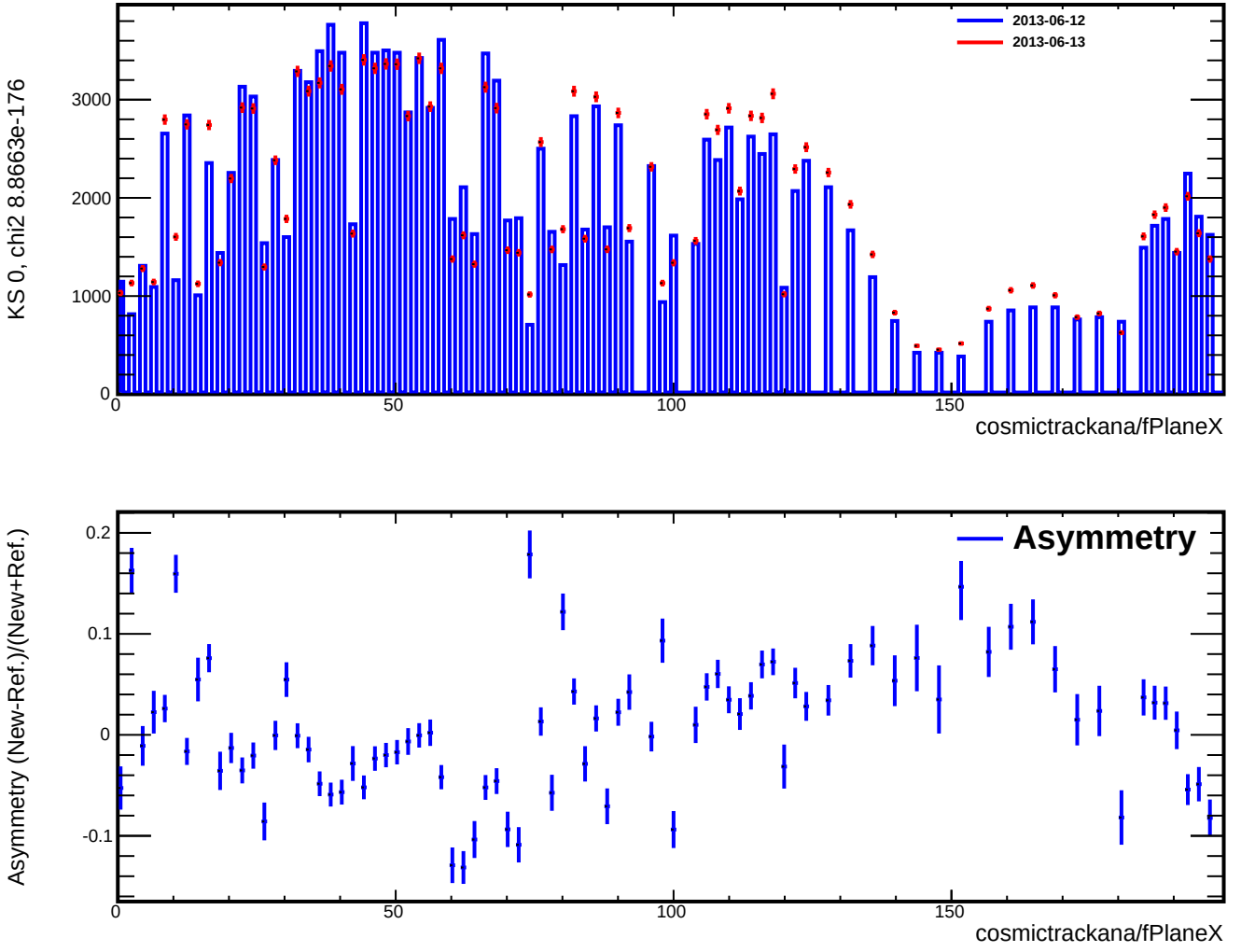

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
-200
-100
0
100
200
cosmictrackana/hitYPosition

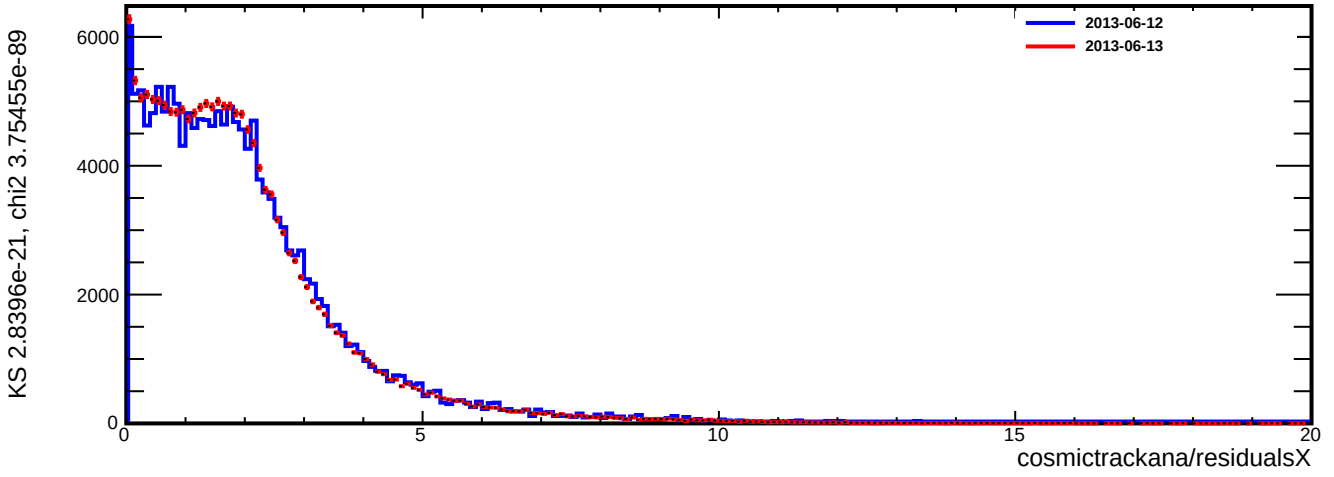

KS 0, chi2 3.36991e-271
6000
4000
2000
0
0
500
1000
1500
cosmictrackana/hitZPosition
2013-06-12
2013-06-13

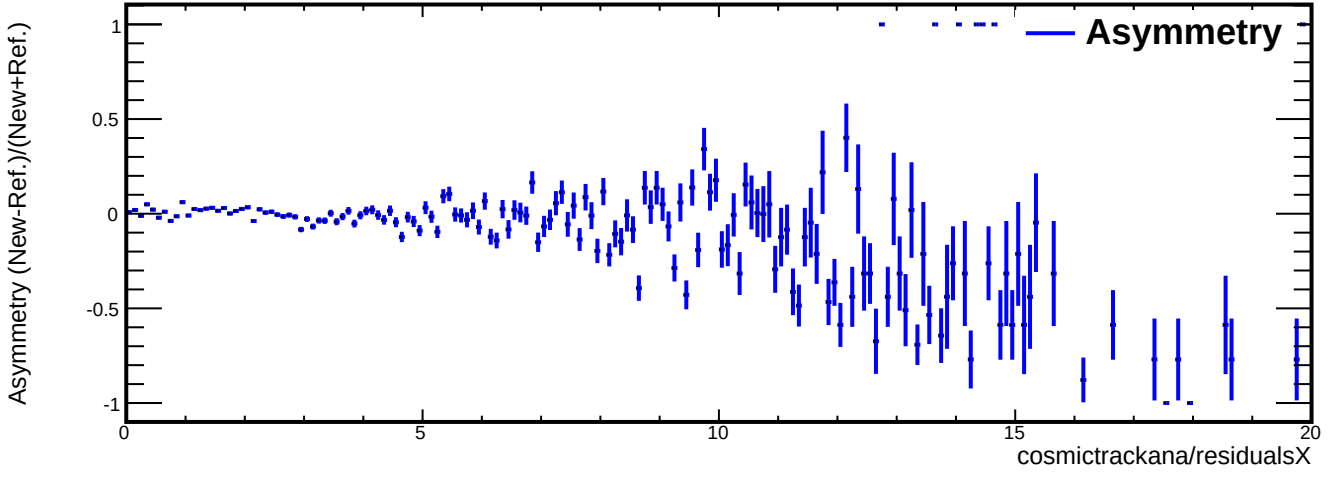

Asymmetry (New-Ref.)/(New+Ref.)
0.2
0.1
0
-0.1
0
500
1000
1500
cosmictrackana/hitZPosition
Asymmetry

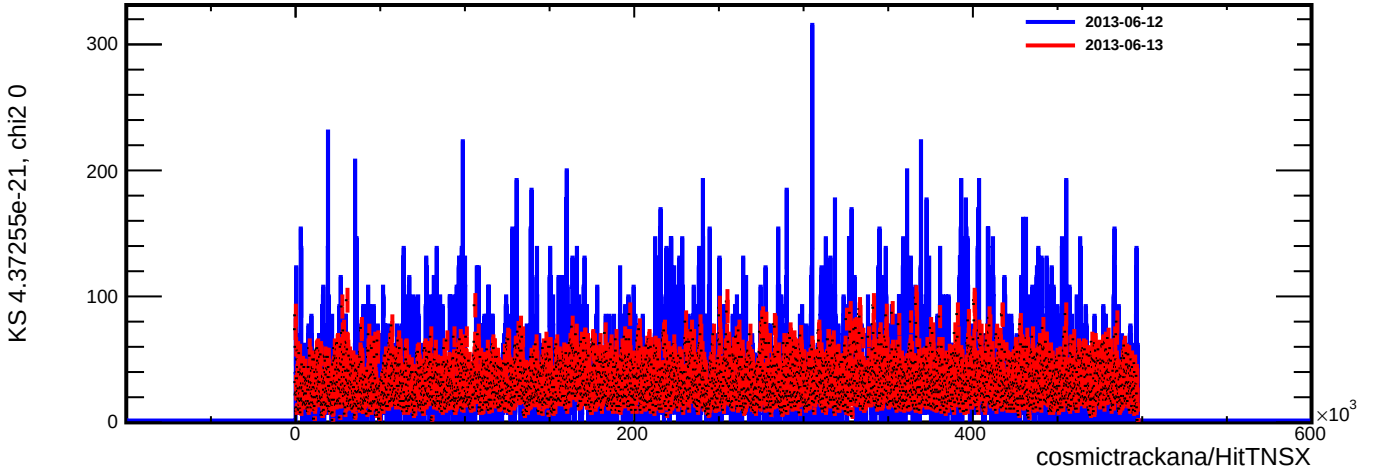

KS 4.18522e-12, chi2 1.0542e-20
2013-06-12
2013-06-13
3000
2000
1000
0
0
20
40
60
80
cosmictrackana/fCellX

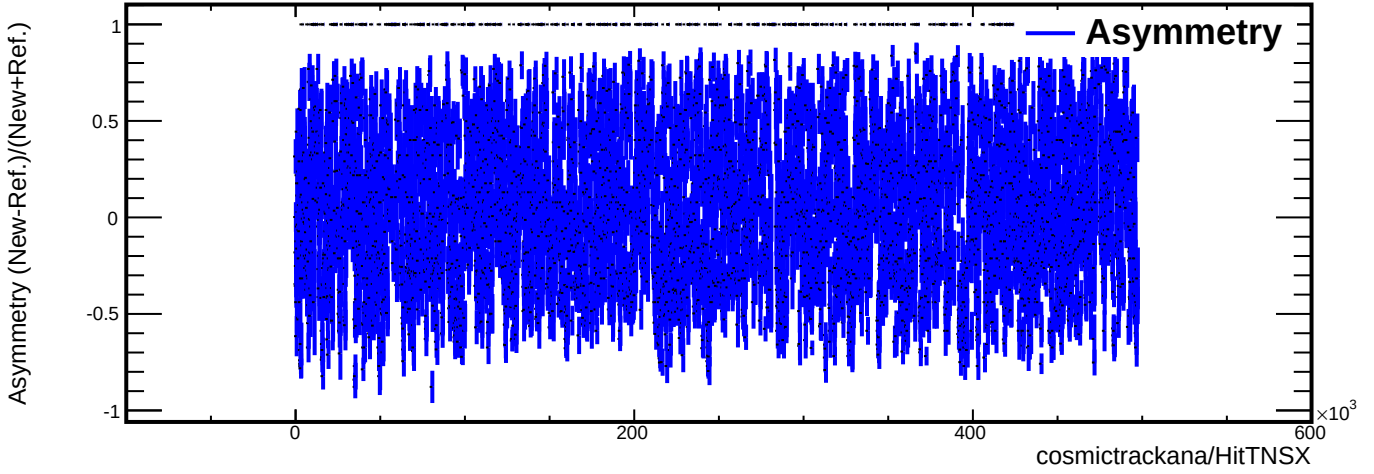

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.05
0
-0.05
0
20
40
60
80
cosmictrackana/fCellX

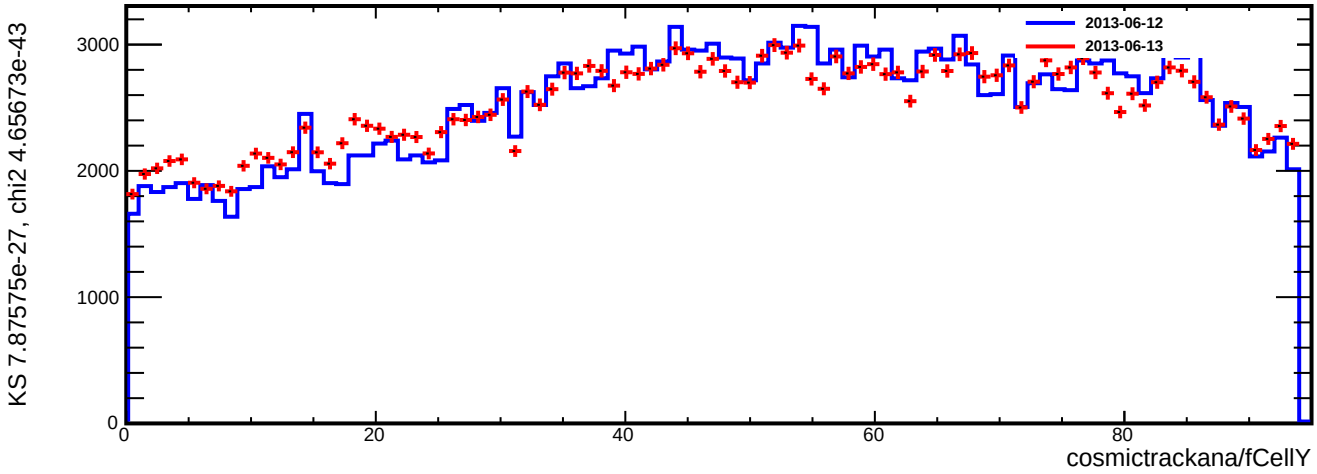

2013-06-12
2013-06-13
KS 0, chi2 8.8663e-176
cosmictrackana/fPlaneX
Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
cosmictrackana/fPlaneX

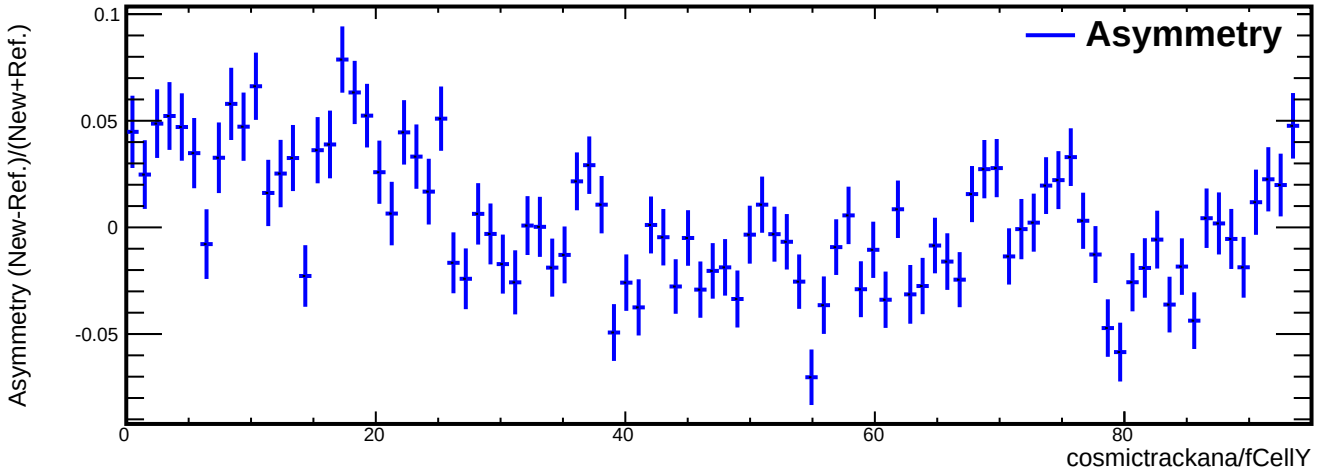

KS 2.8396e-21, chi2 3.75455e-89
6000
4000
2000
0
0
5
10
15
20
cosmictrackana/residualsX
2013-06-12
2013-06-13

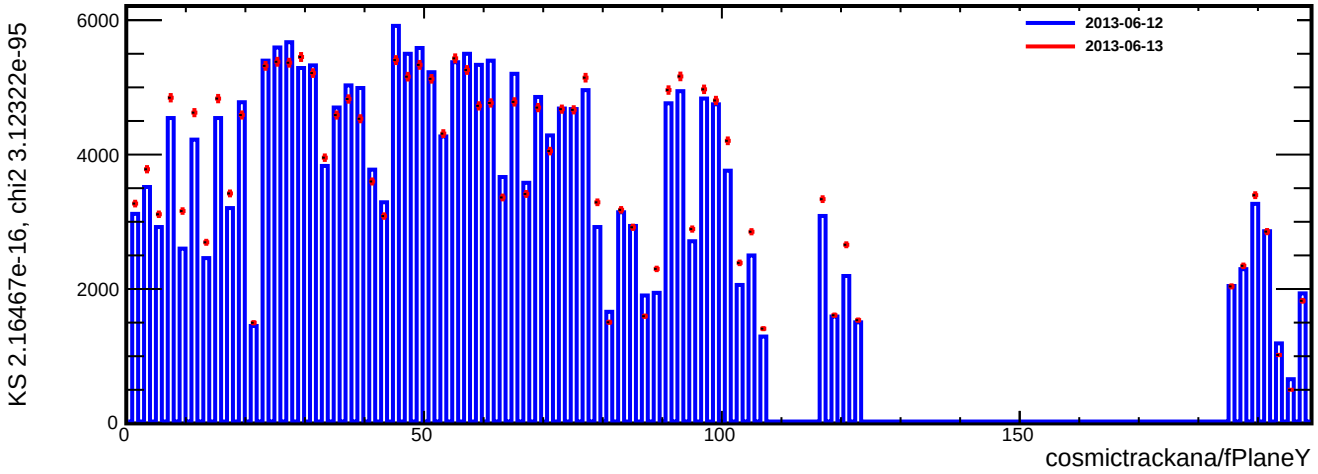

Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
5
10
15
20
cosmictrackana/residualsX
Asymmetry

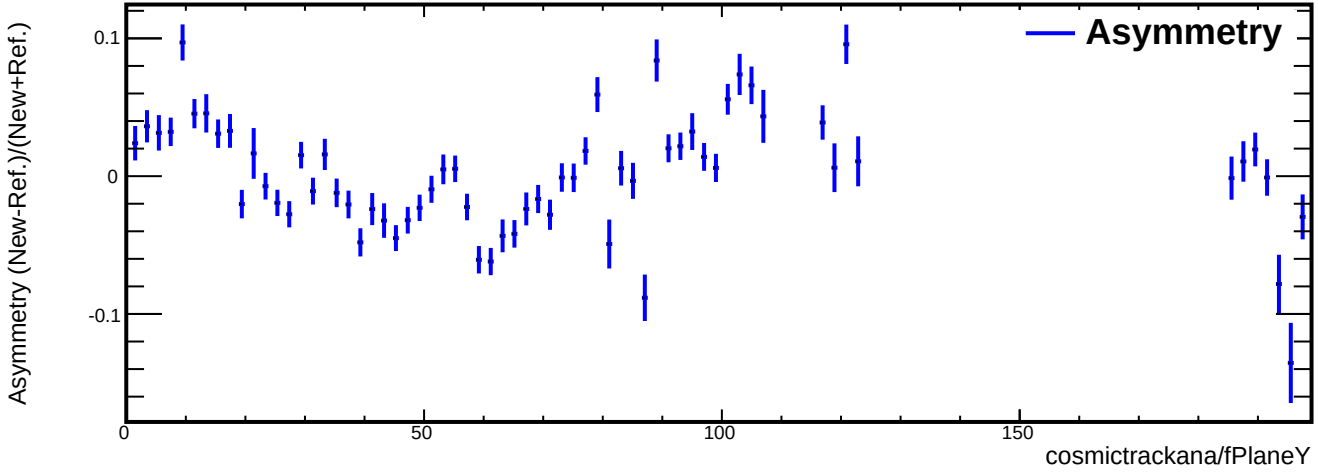

2013-06-12
2013-06-13
KS 4.37255e-21, chi2 0
300
200
100
0
0
200
400
600
×10^3
cosmictrackana/HitTNSX

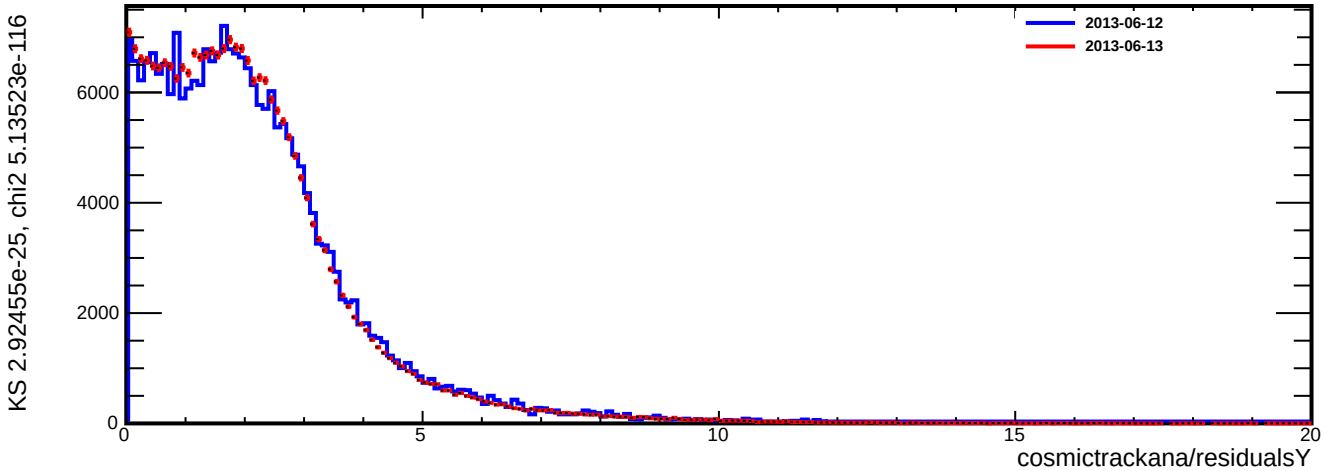

Asymmetry
Asymmetry (New-Ref.)/(New+Ref.)
1
0.5
0
-0.5
-1
0
200
400
600
×10^3
cosmictrackana/HitTNSX

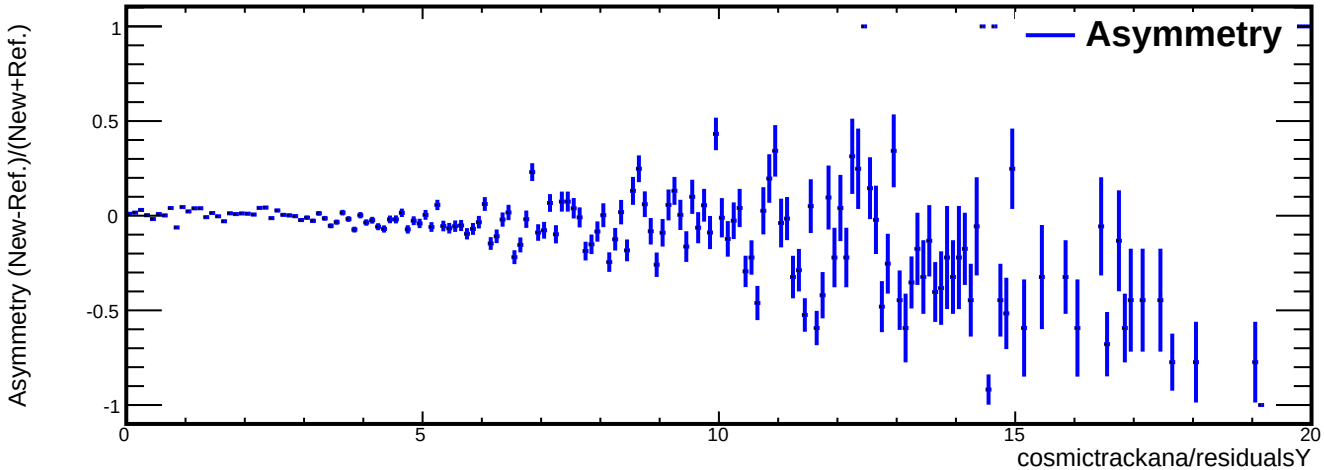

KS 7.87575e-27, chi2 4.65673e-43
2013-06-12
2013-06-13
3000
2000
1000
0
0
20
40
60
80
cosmictrackana/fCellY

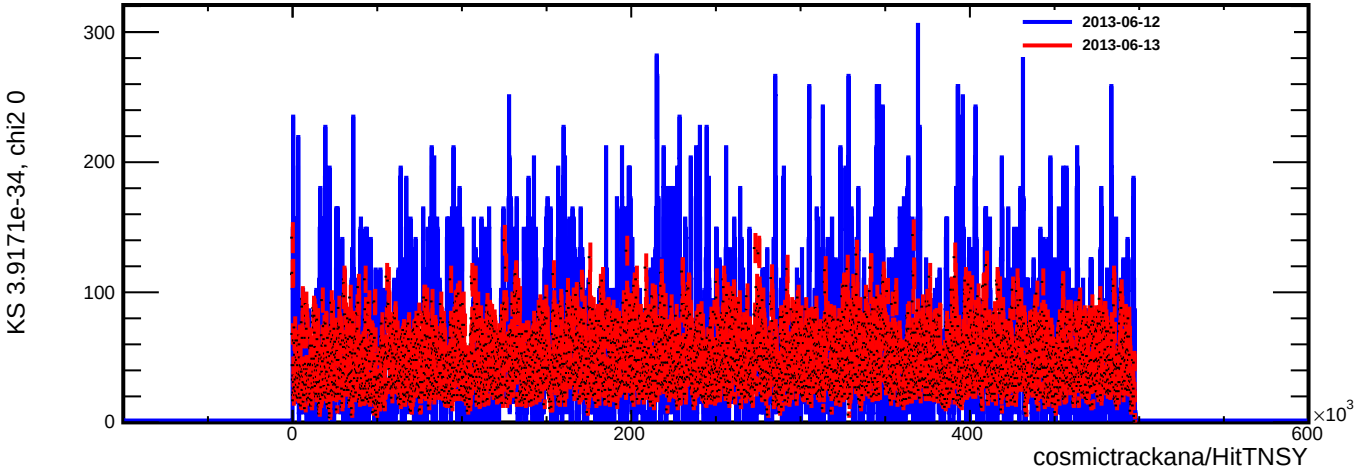

Asymmetry (New-Ref.)/(New+Ref.)
Asymmetry
0.1
0.05
0
-0.05
0
20
40
60
80
cosmictrackana/fCellY

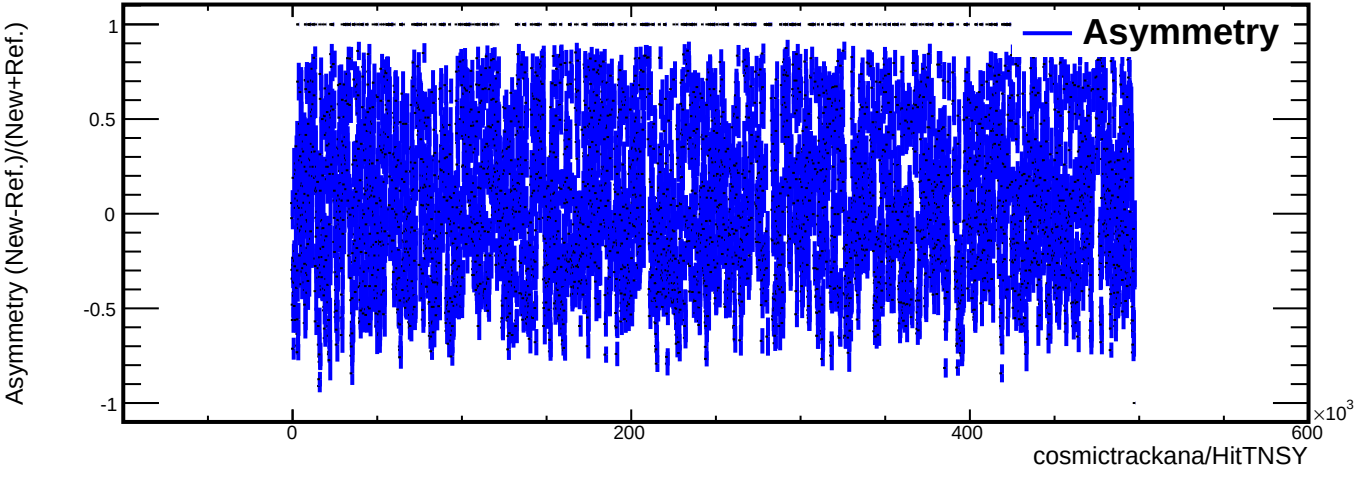

KS 2.16467e-16, chi2 3.12322e-95
6000
4000
2000
0
0
50
100
150
cosmictrackana/fPlaneY
2013-06-12
2013-06-13


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


KS 2.92455e-25, chi2 5.13523e-116
2013-06-12
2013-06-13
6000
4000
2000
0
0
5
10
15
20
cosmictrackana/residualsY


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


2013-06-12
2013-06-13
KS 3.9171e-34, chi2 0
300
200
100
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