Generic MC update with MVA photon cuts

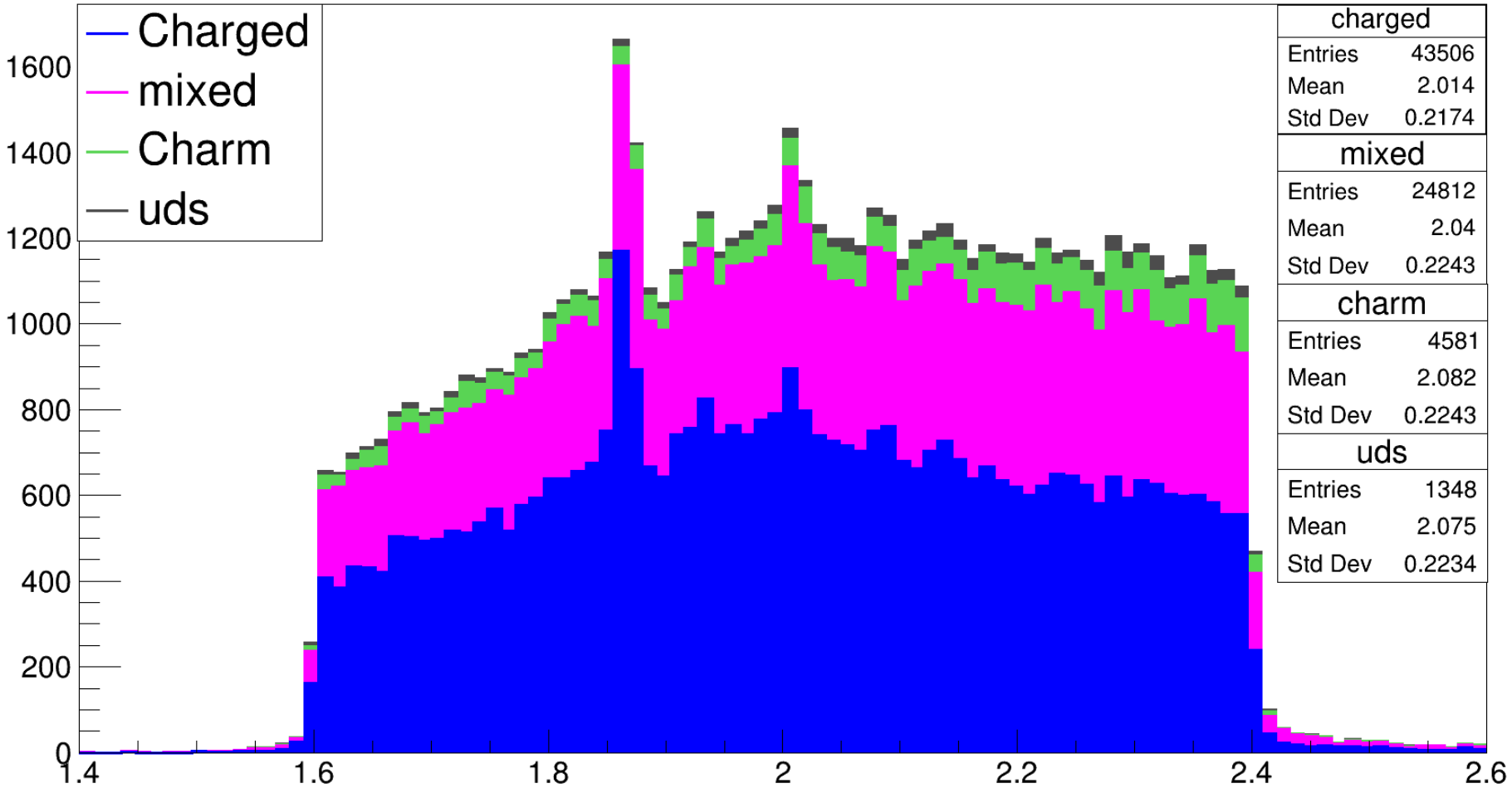
3.0 Streams

20 Nov. 2023

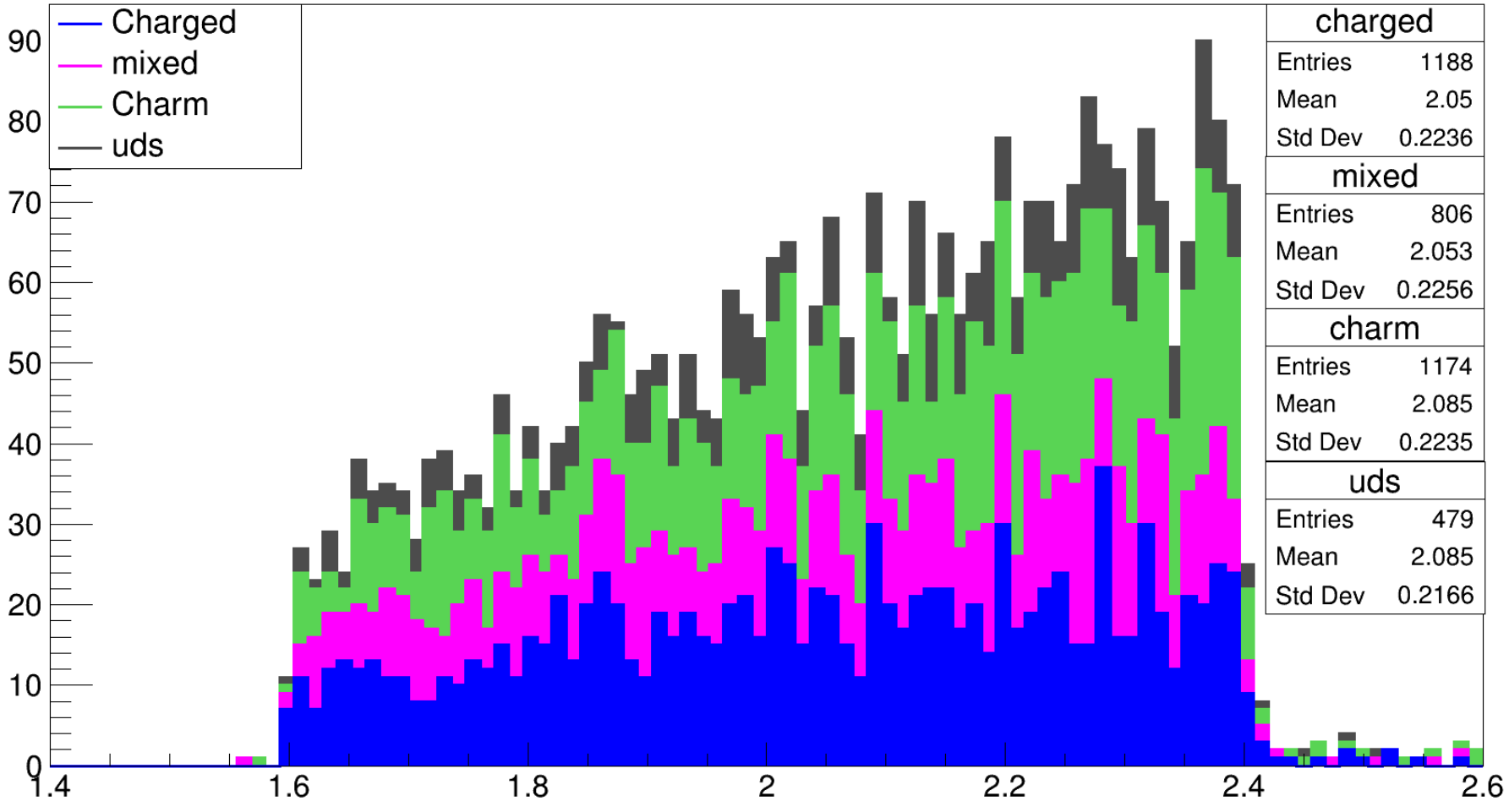
Cuts in the reconstruction program

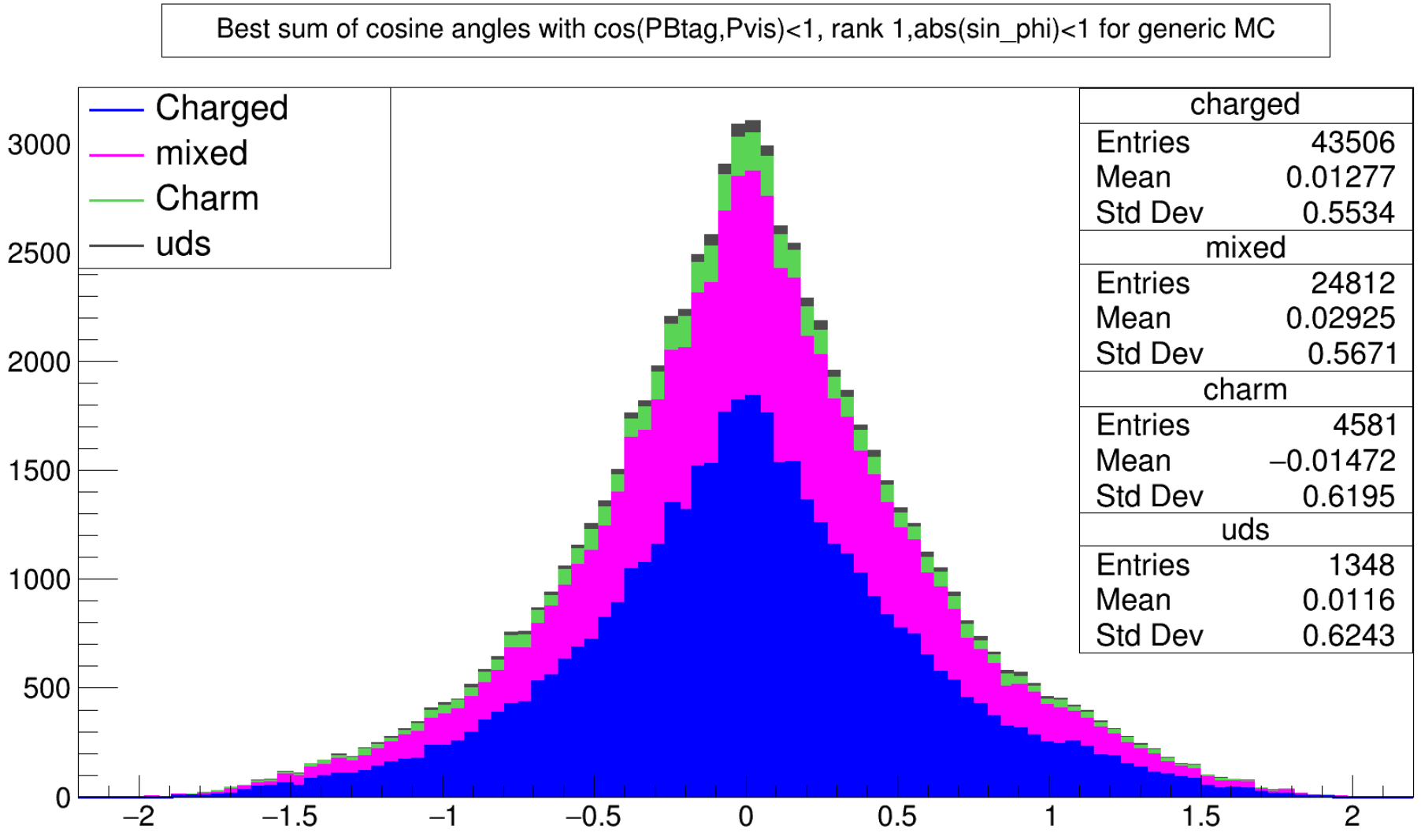
- $m_{kpi} > 0.7$
- $abs(m_{lpi}-3.1) > 0.015$
- $1.6 < m_{hadronROE} < 2.4$
- $abs(cos(P_{Btag},P_{tag,vis}) < 2$
- $abs(sin(Phi) < 1.5$

m_hadROE with cos(PBtag,Pvis)<1, rank 1 abs(sin_phi)<1 for generic MC

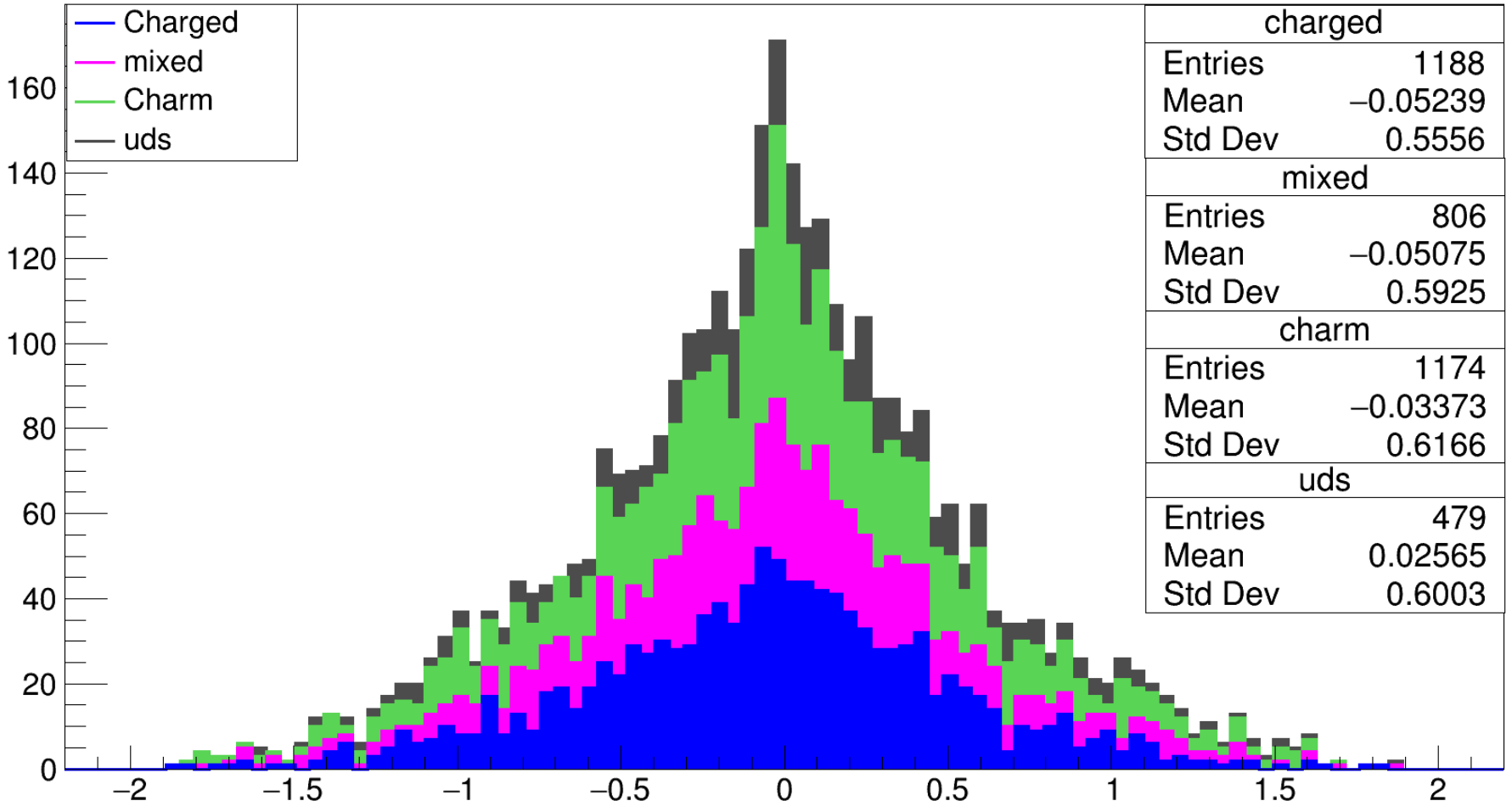


m_hadROE with cos(PBtag,Pvis)<1, rank 1,abs(best_sum_cos)<2,nLepton=2,m_Kpi>2, abs(sin_phi)<1 for generic MC

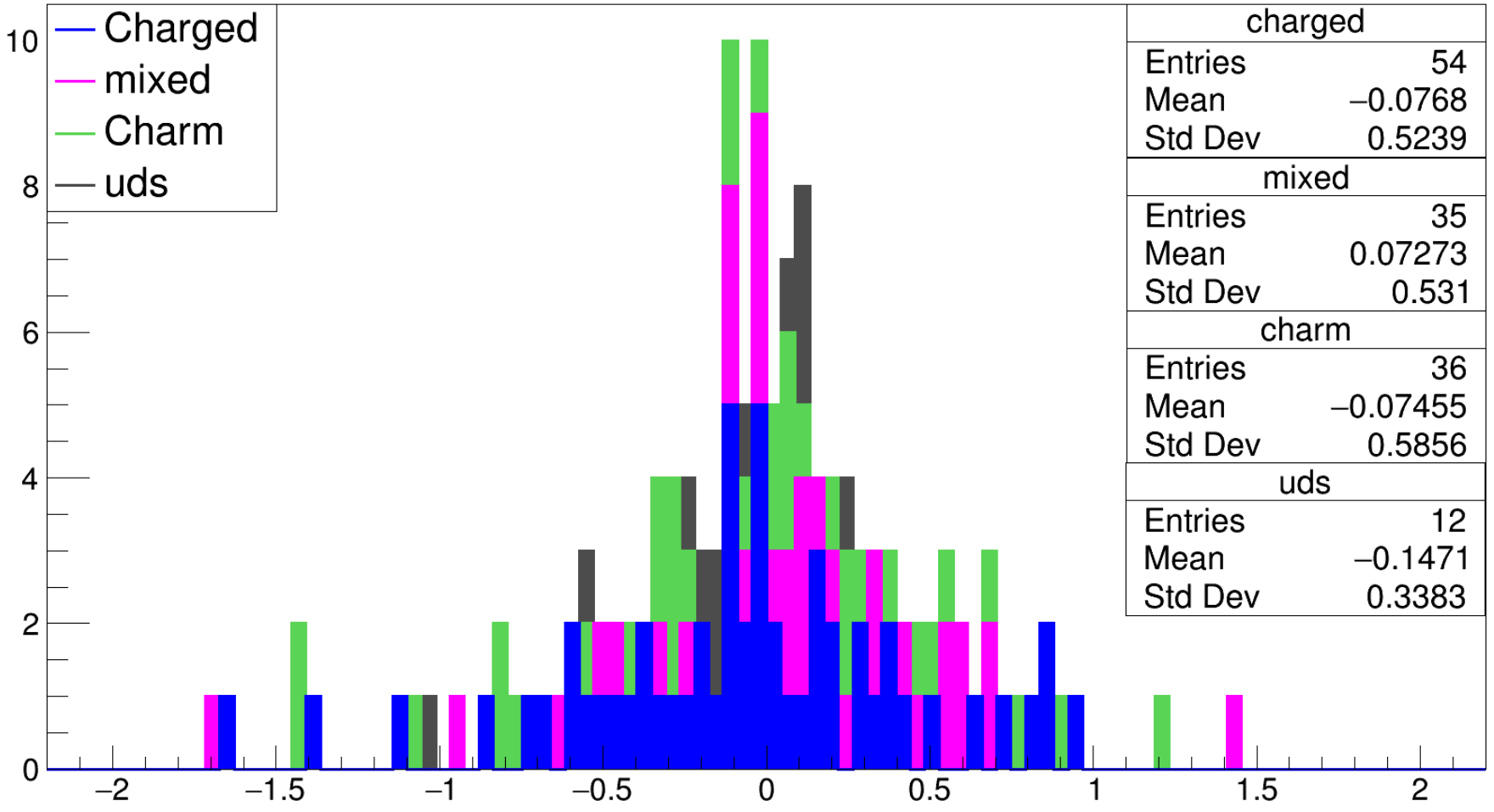



Best sum of cosine angles with cos(PBtag,Pvis)<1, rank 1,abs(sin_phi)<1 for generic MC
Charged
mixed
Charm
uds
charged
Entries 43506
Mean 0.01277
Std Dev 0.5534
mixed
Entries 24812
Mean 0.02925
Std Dev 0.5671
charm
Entries 4581
Mean −0.01472
Std Dev 0.6195
uds
Entries 1348
Mean 0.0116
Std Dev 0.6243
3000
2500
2000
1500
1000
500
0
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2

Best sum of cosine angles with cos(PBtag,Pvis)<1, rank 1,nLepton=2,m_Kpi>2, abs(sin_phi)<1 for generic MC

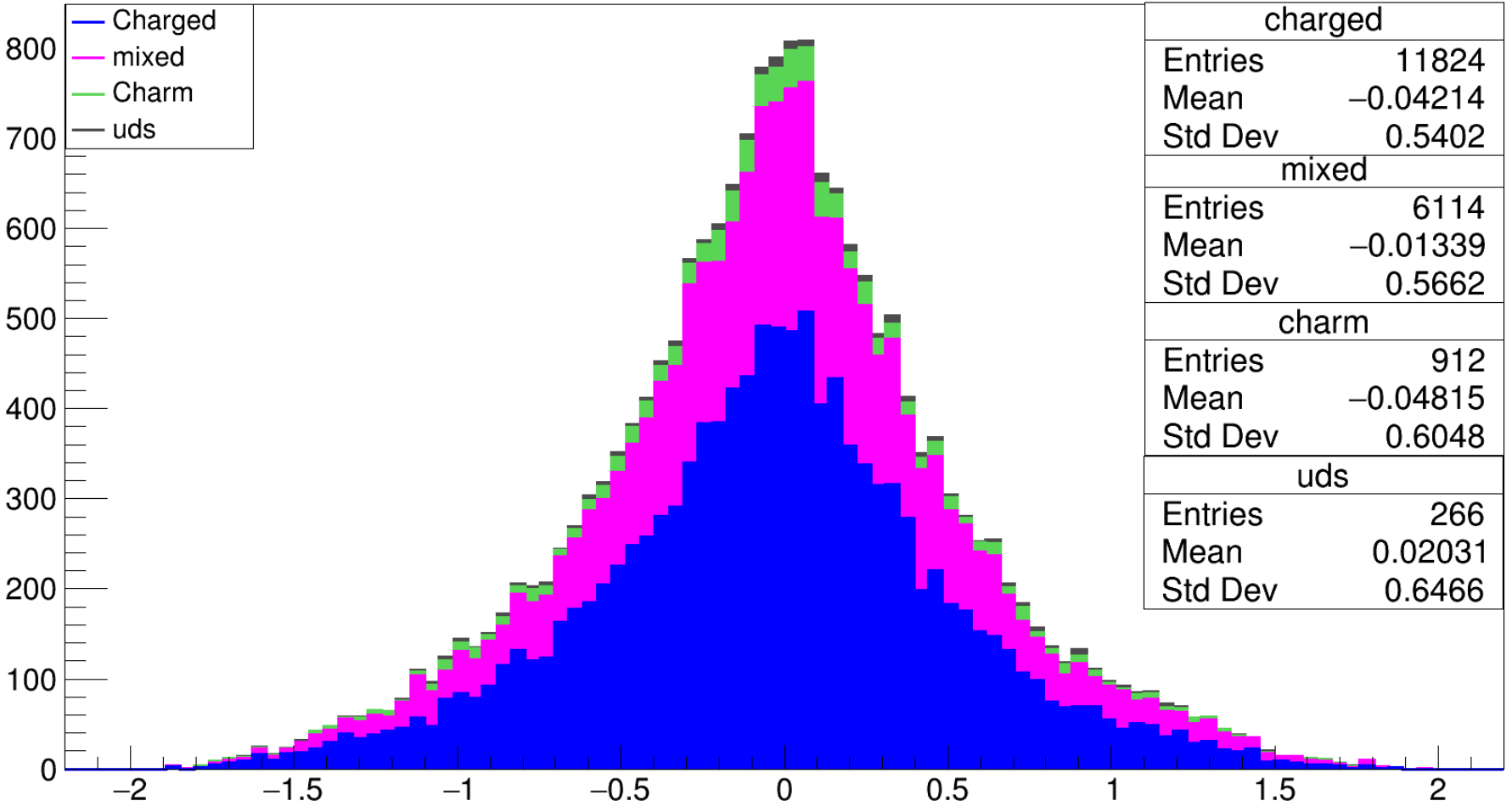


Best sum of cosine angles with cos(PBtag,Pvis)<1,rank 1,nLepton=2,m_Kpi>2,abs(sin_phi)<1,abs(had. mass-1.86)<0.015 for generic MC

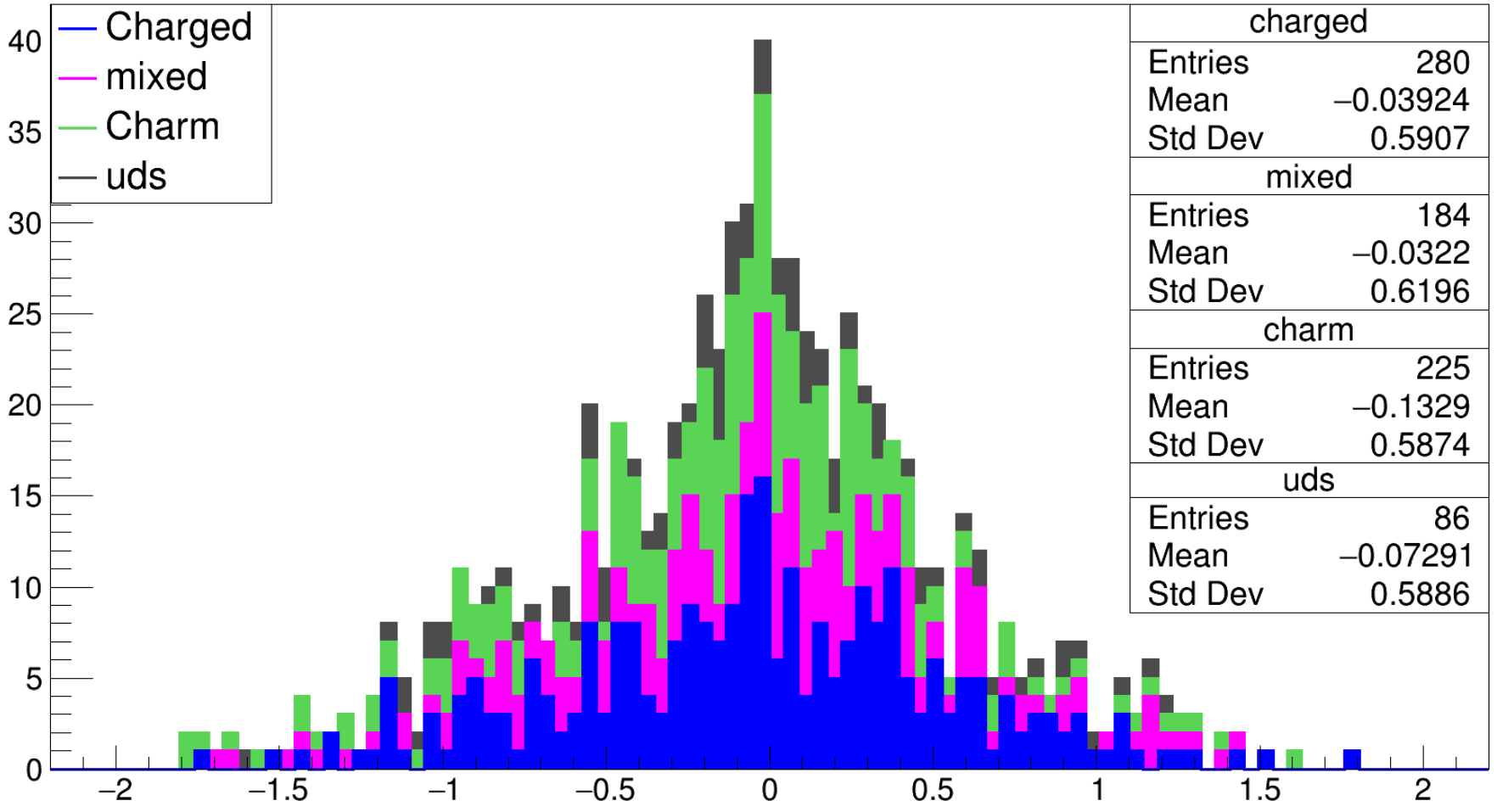


Backup

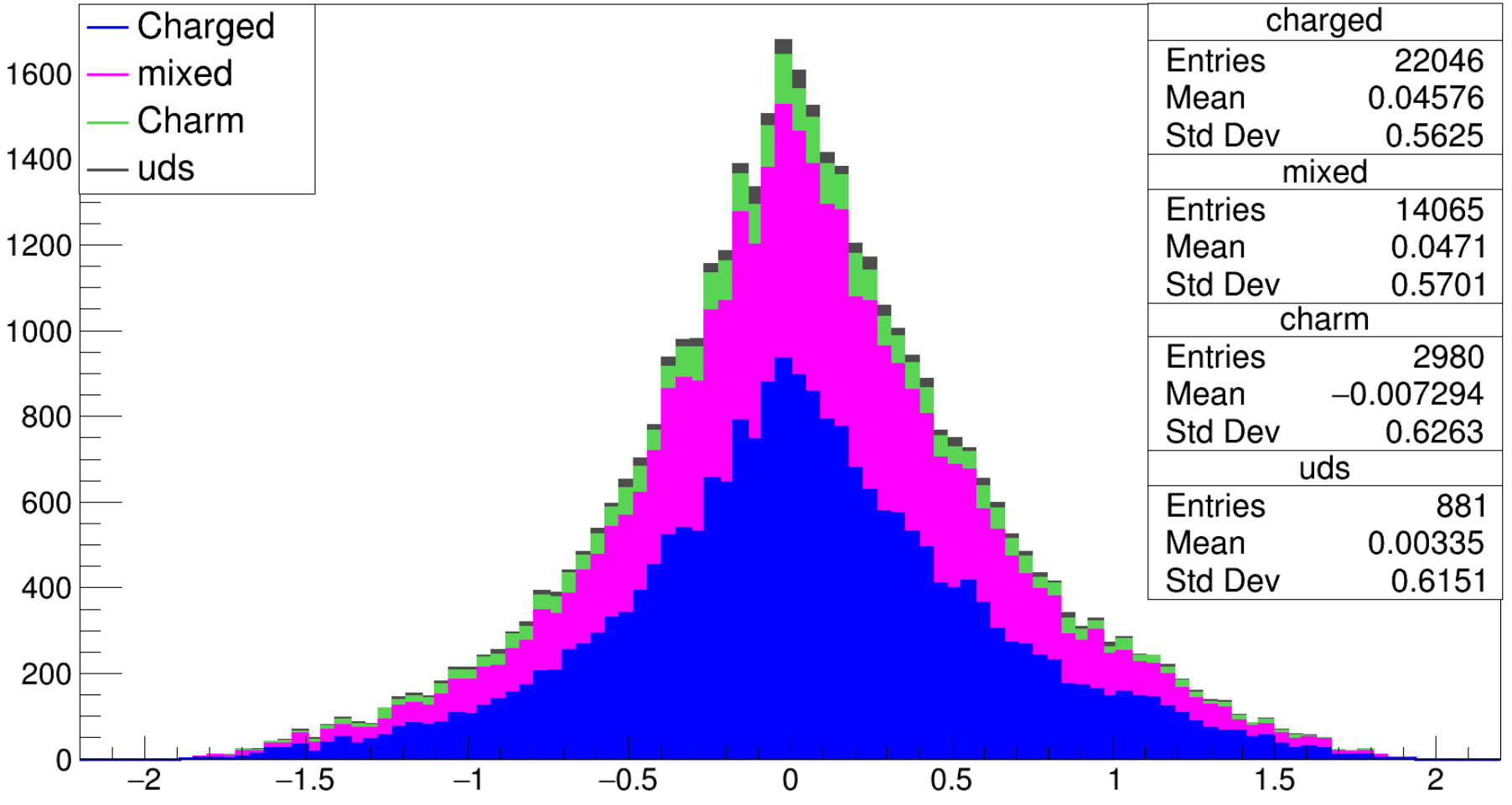
Best sum of cosine angles with cos(PBtag,Pvis)<1, rank 1,abs(sin_phi)<1 and had. mass<m_D for generic MC



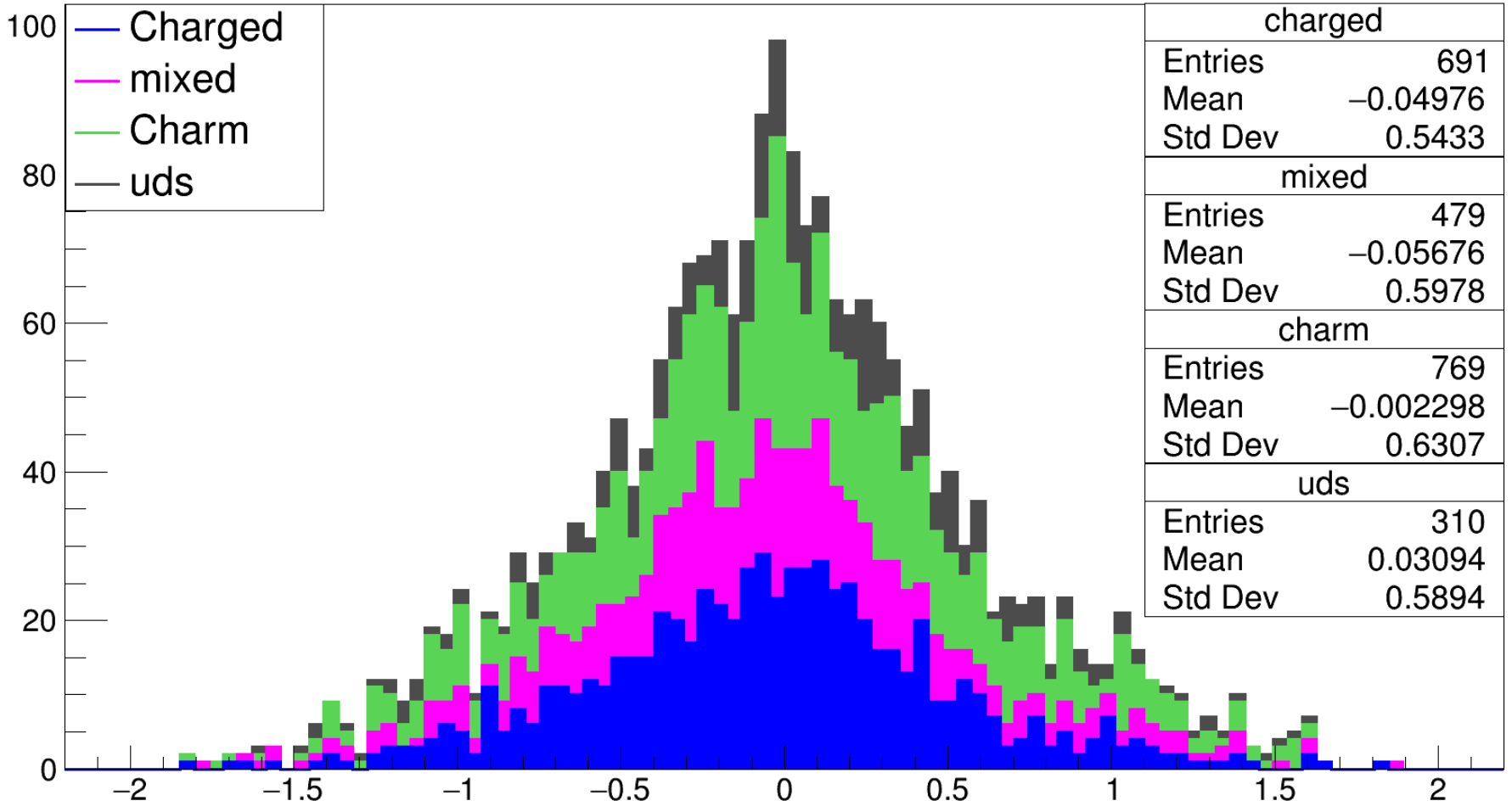
Best sum of cosine angles with cos(PBtag,Pvis)<1,rank 1,nLepton=2,m_Kpi>2,abs(sin_phi)<1,had. mass<m_D for generic MC

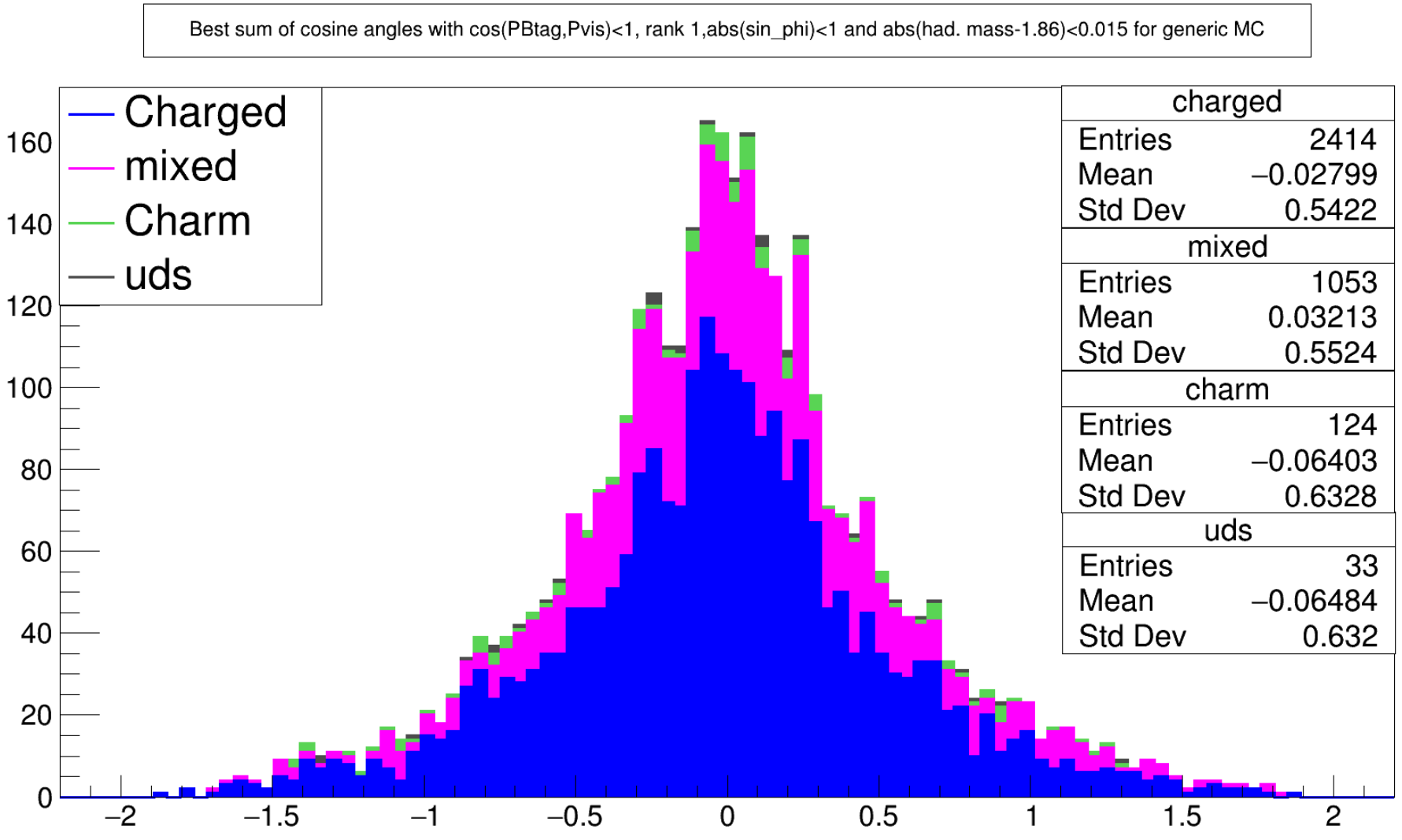


Best sum of cosine angles with cos(PBtag,Pvis)<1, rank 1,abs(sin_phi)<1 and had. mass>m_D* for generic MC

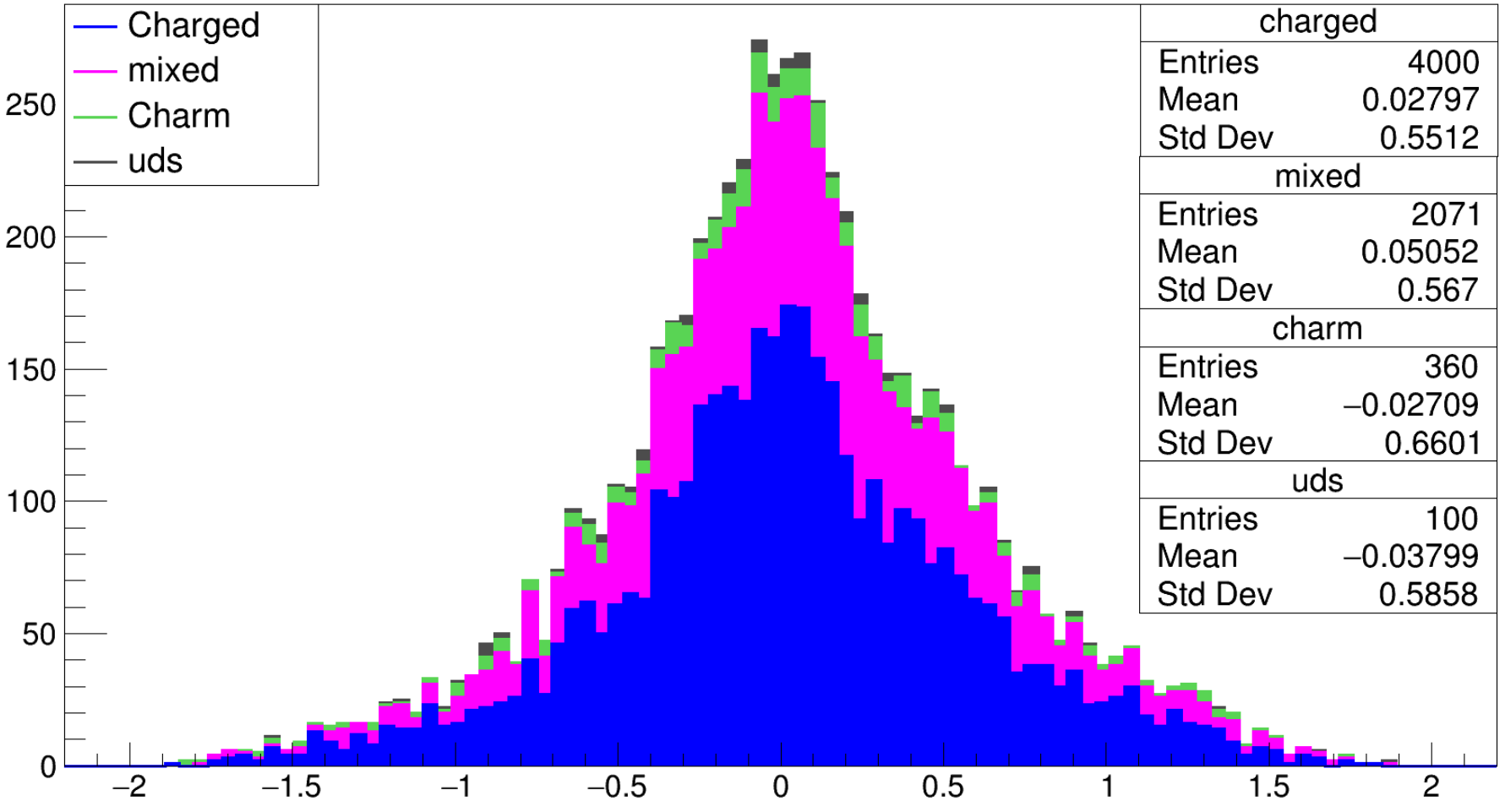


Best sum of cosine angles with cos(PBtag,Pvis)<1,rank 1,nLepton=2,m_Kpi>2,abs(sin_phi)<1,had. mass>m_D* for generic MC

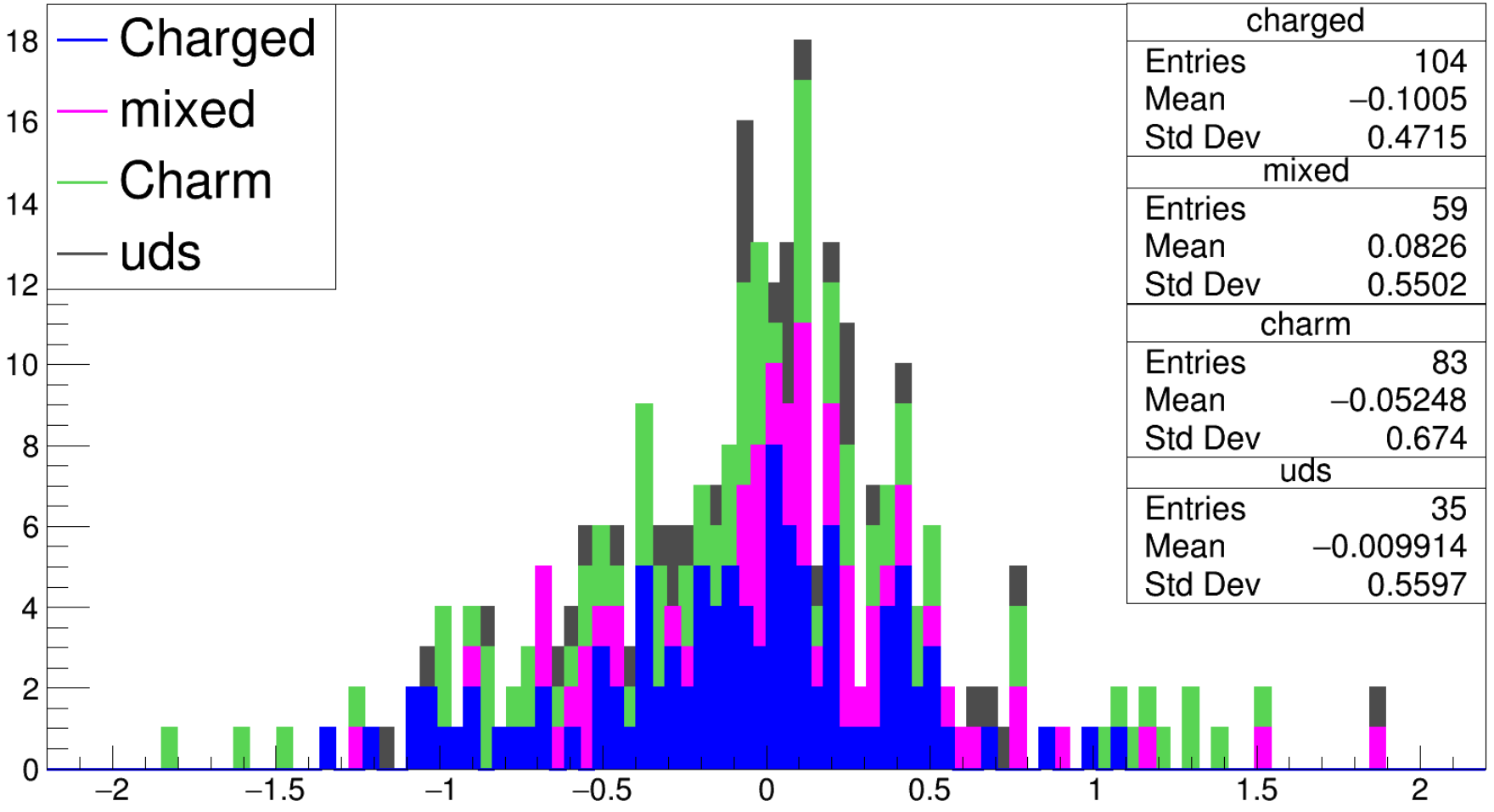



Best sum of cosine angles with cos(PBtag,Pvis)<1, rank 1,abs(sin_phi)<1 and abs(had. mass-1.86)<0.015 for generic MC
Charged
mixed
Charm
uds
charged
Entries 2414
Mean −0.02799
Std Dev 0.5422
mixed
Entries 1053
Mean 0.03213
Std Dev 0.5524
charm
Entries 124
Mean −0.06403
Std Dev 0.6328
uds
Entries 33
Mean −0.06484
Std Dev 0.632
160
140
120
100
80
60
40
20
0
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2

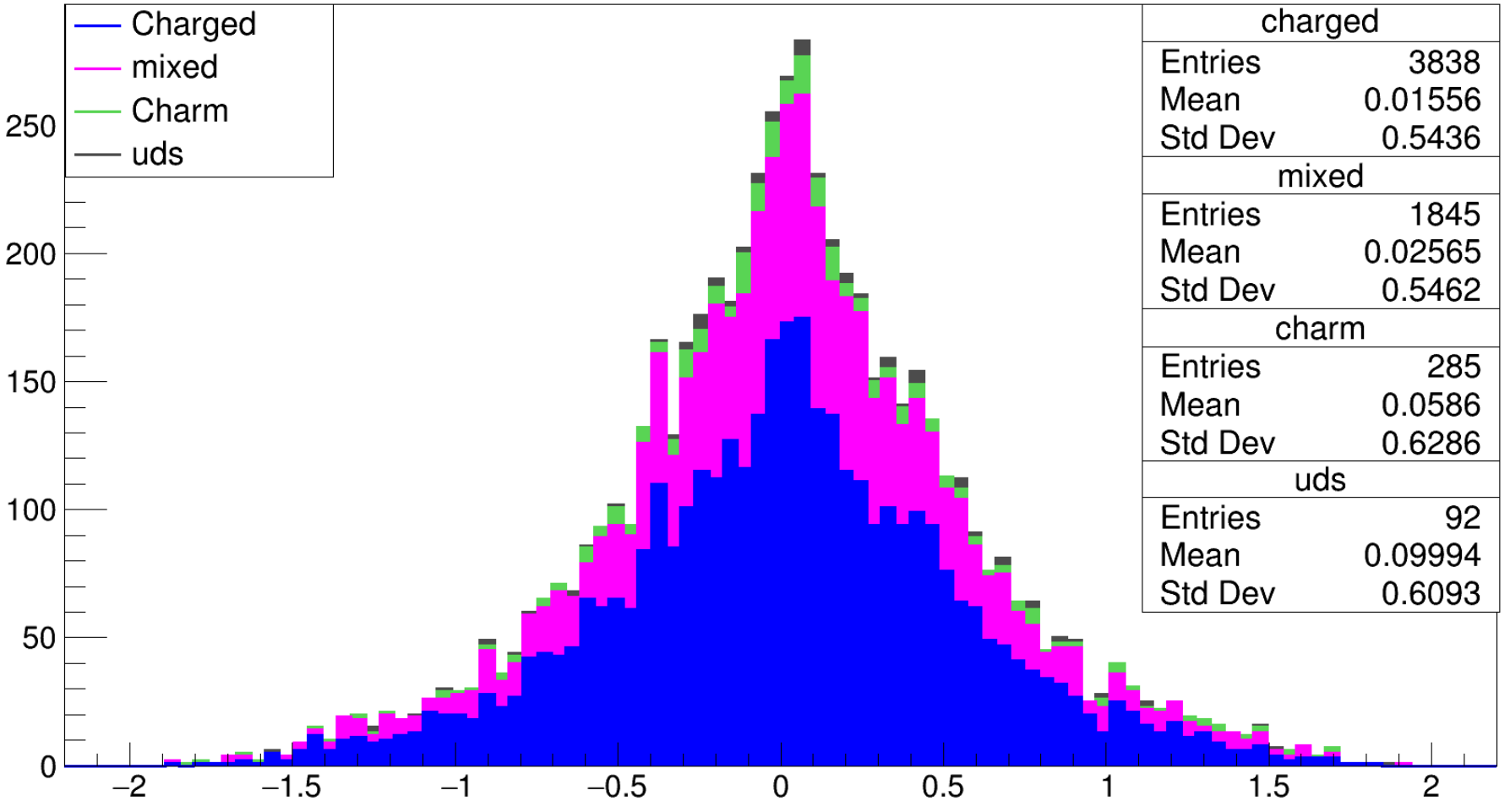
Best sum of cosine angles with cos(PBtag,Pvis)<1, rank 1,abs(sin_phi)<1 and abs(had. mass-2.006)<0.03 for generic MC



Best sum of cosine angles with cos(PBtag,Pvis)<1,rank 1,nLepton=2,m_Kpi>2,abs(sin_phi)<1,abs(had. mass-2.006)<0.03 for generic MC



Best sum of cosine angles with cos(PBtag,Pvis)<1, rank 1,abs(sin_phi)<1 and abs(had. mass-1.96)<0.03 for generic MC



Best sum of cosine angles with cos(PBtag,Pvis)<1,rank 1,nLepton=2,m_Kpi>2,abs(sin_phi)<1,abs(had. mass-1.96)<0.03 for generic MC