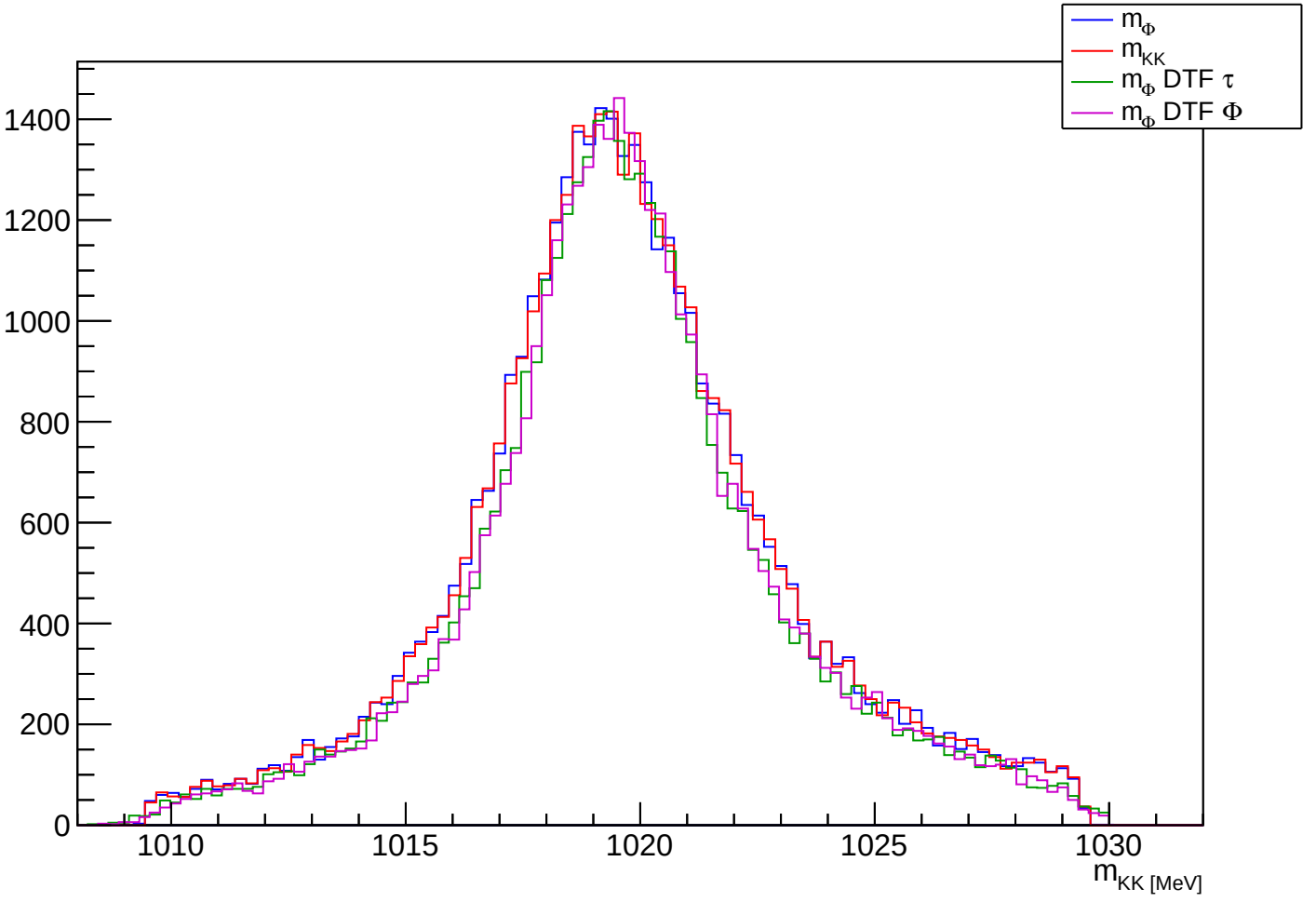
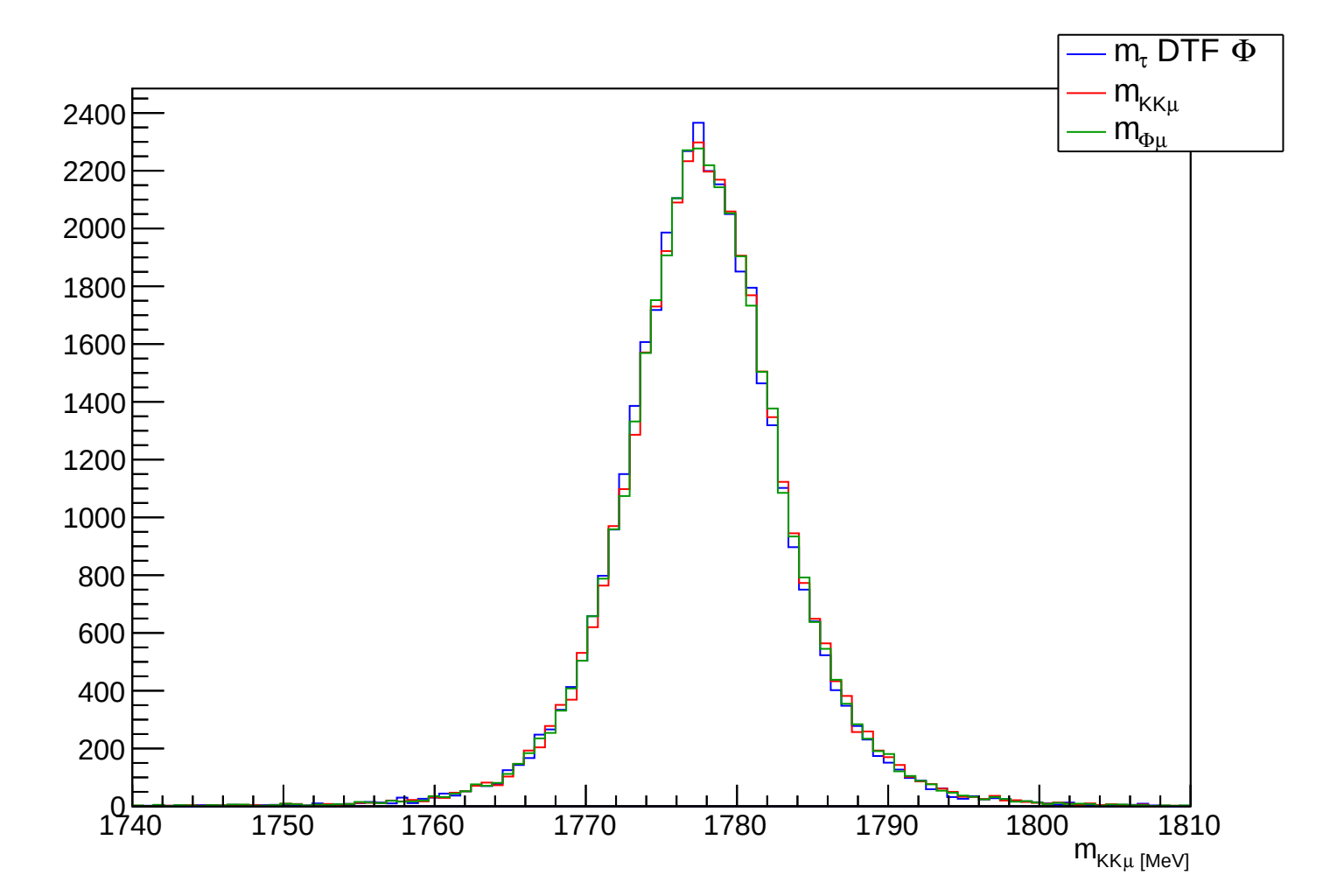
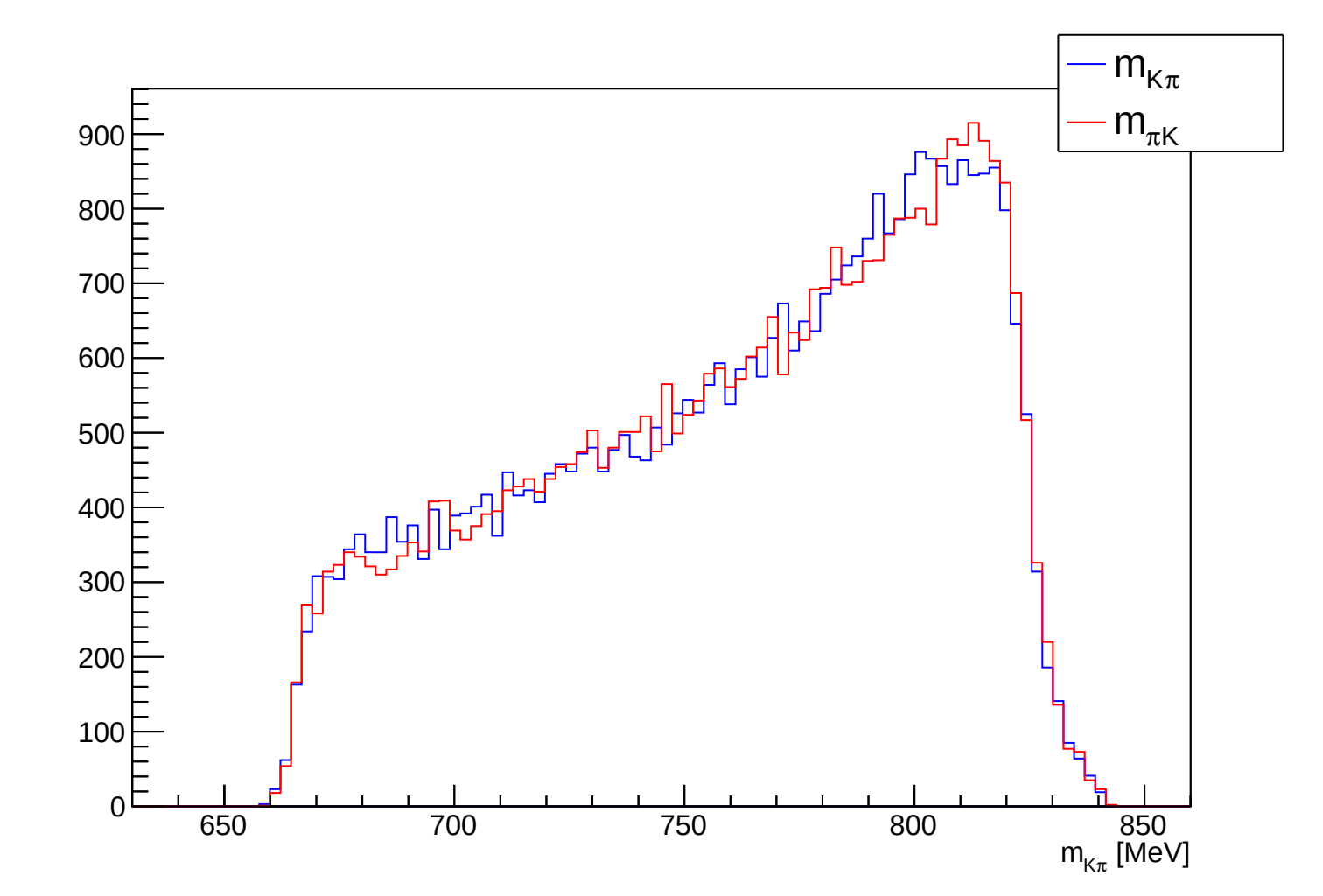
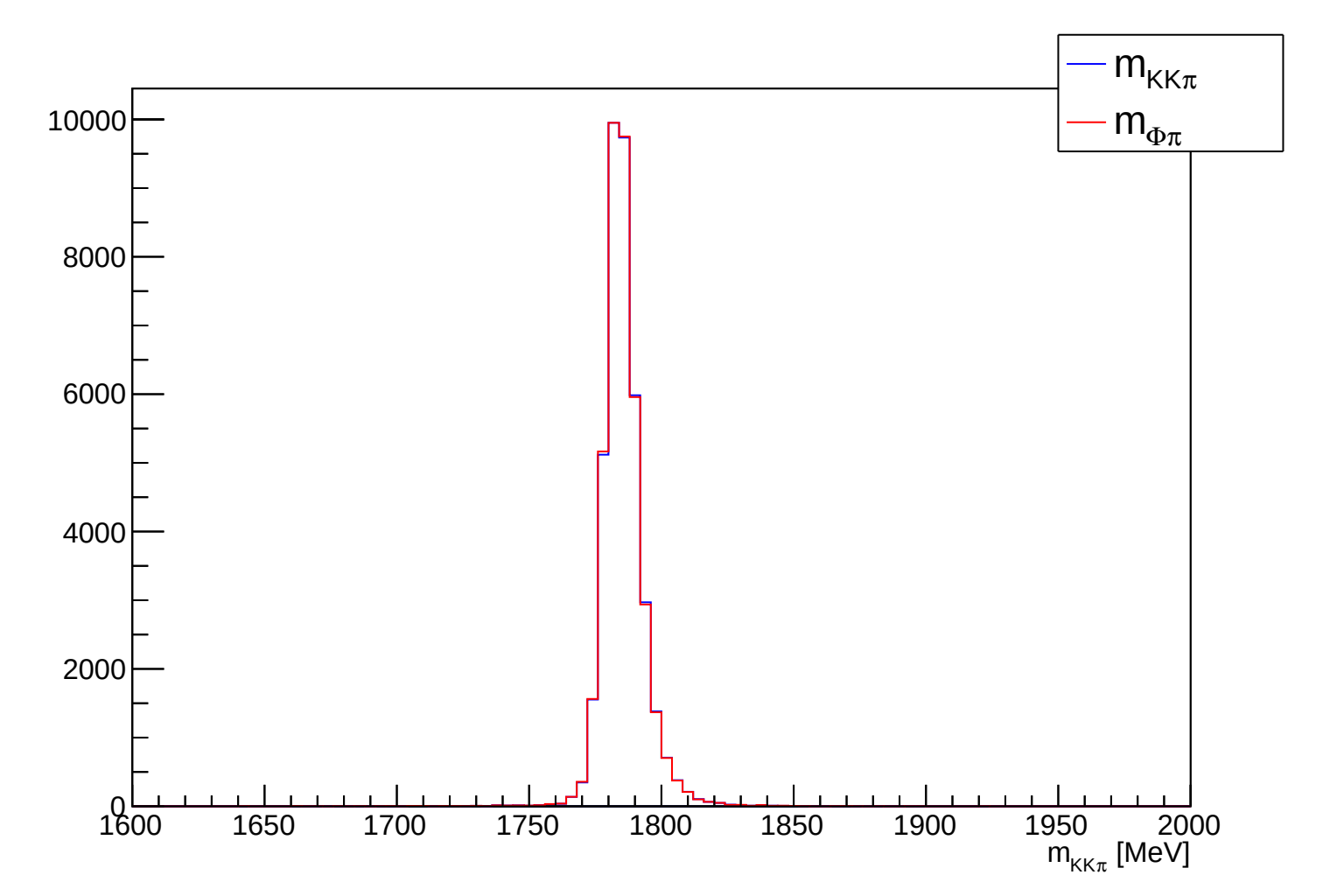
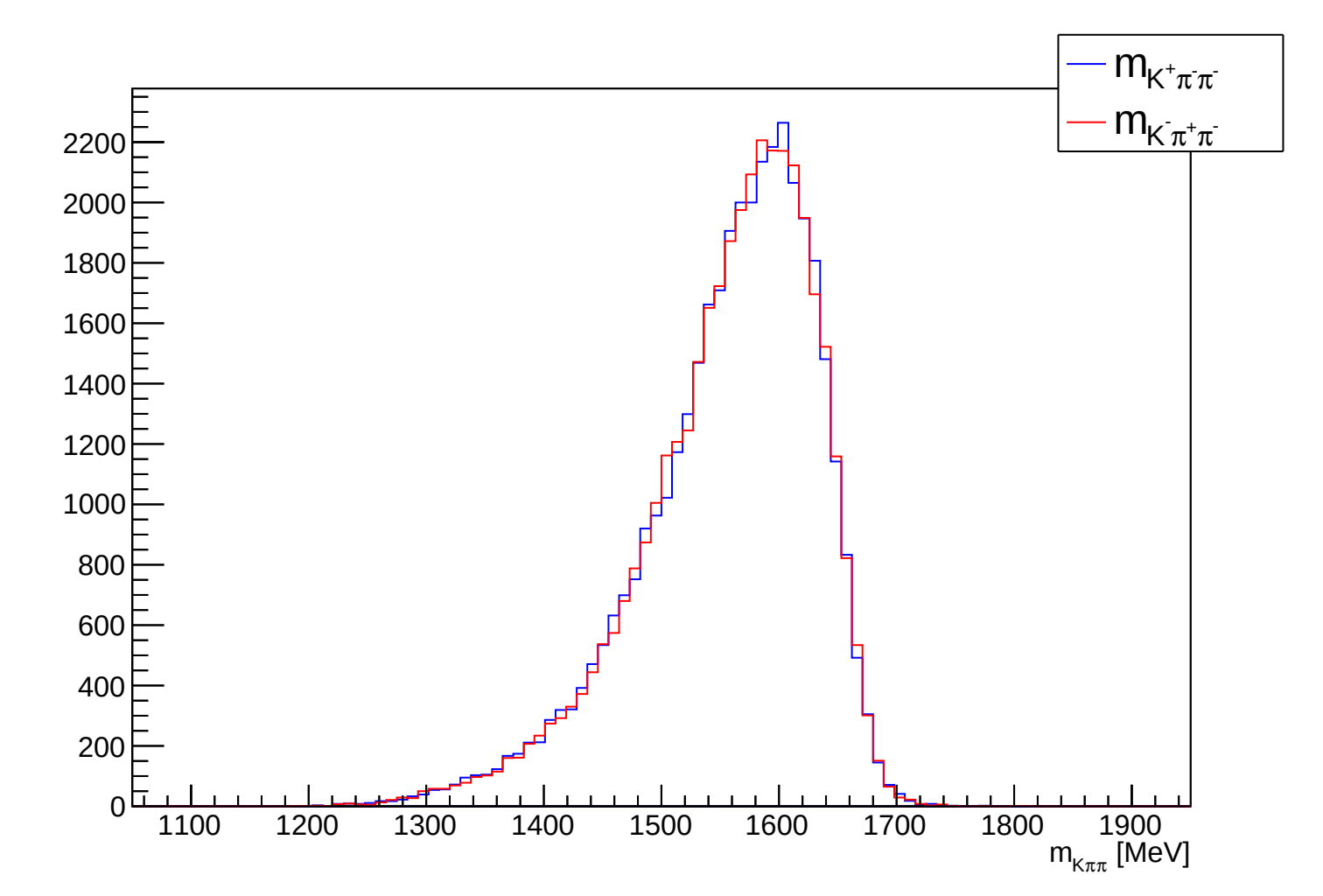
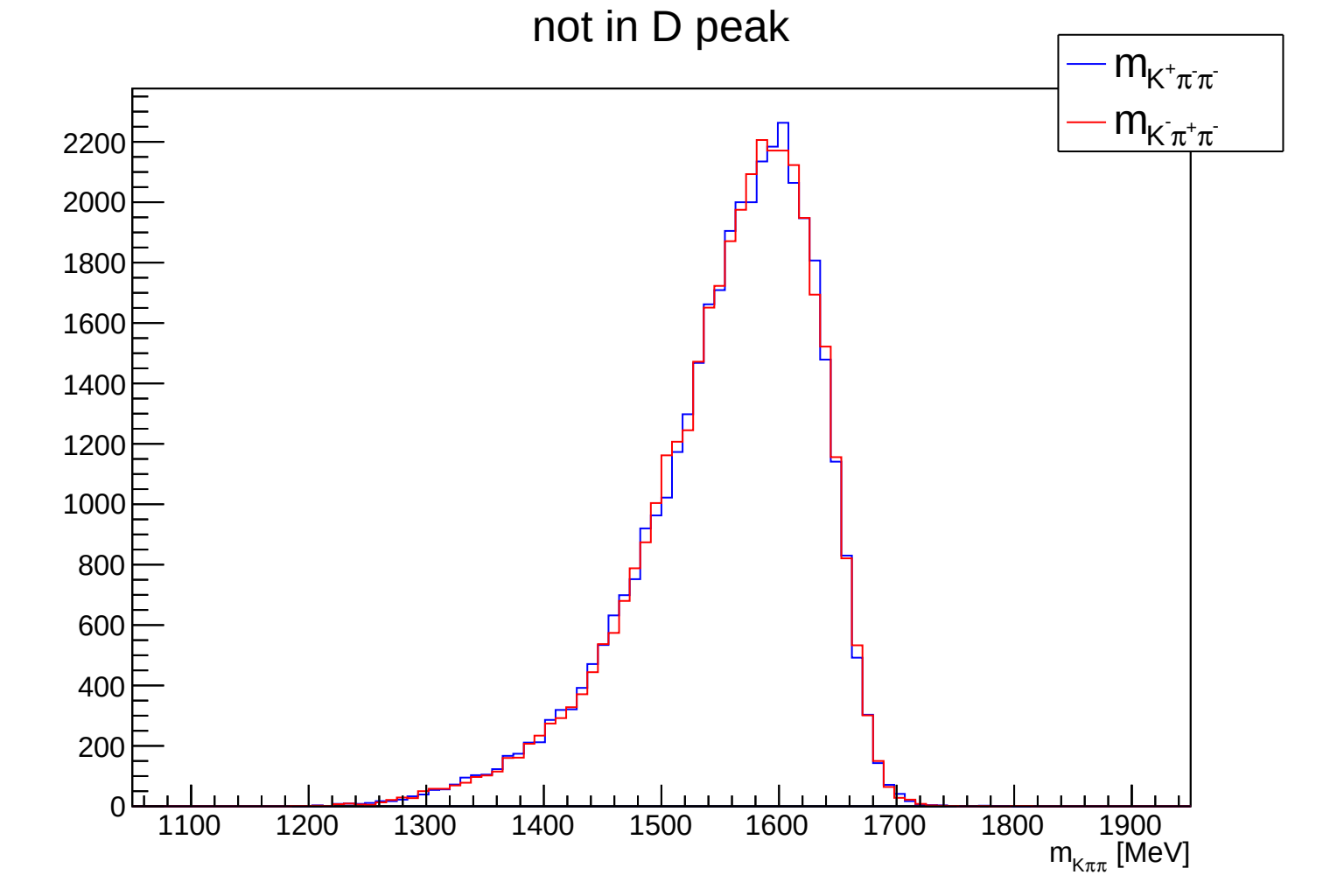

m_{Φ}
m_{KK}
m_{Φ} DTF τ
m_{Φ} DTF Φ
1400
1200
1000
800
600
400
200
0
1010
1015
1020
1025
1030
$m_{KK\ [MeV]}$

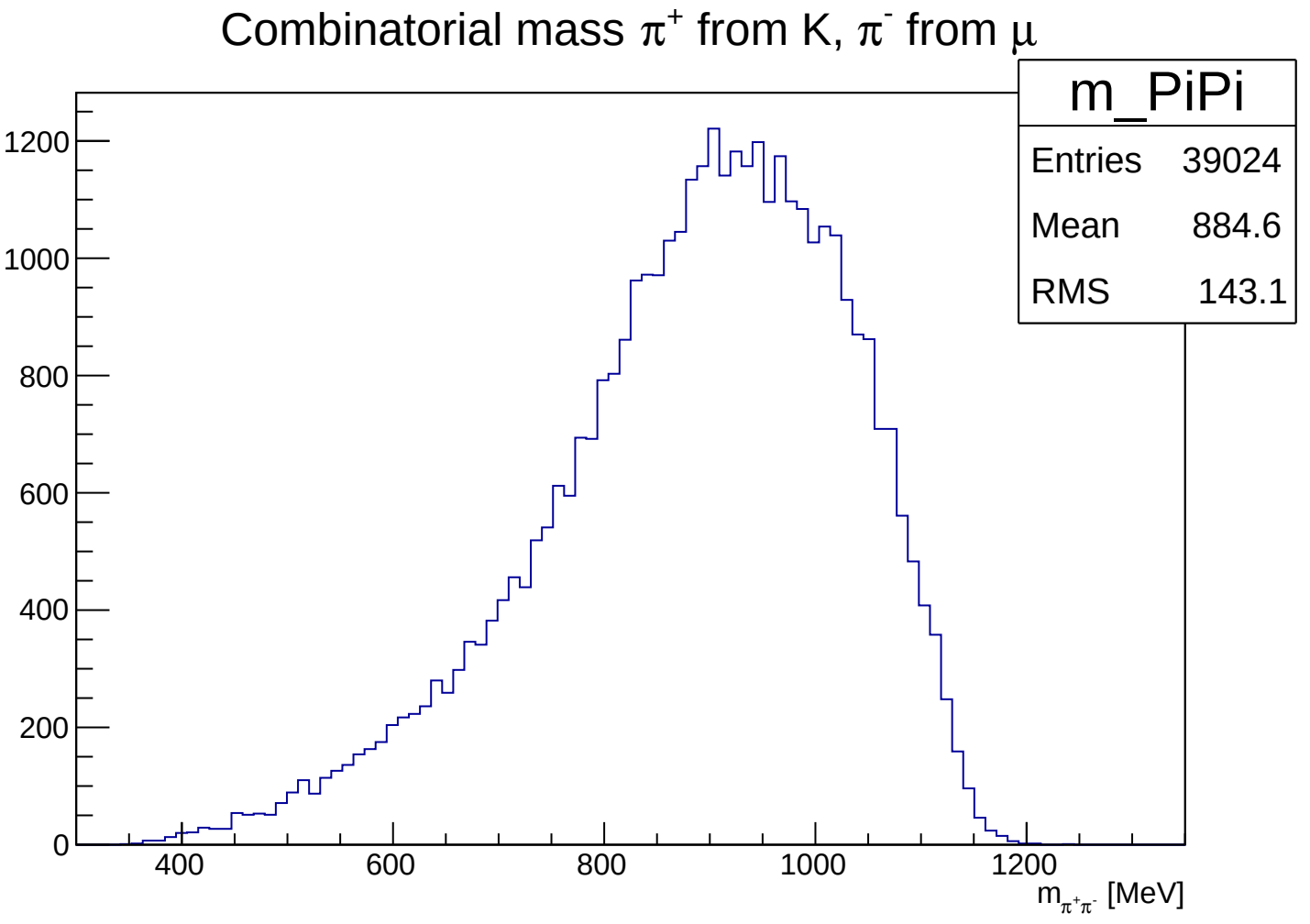

m_τ DTF Φ
$m_{KK\mu}$
$m_{\Phi\mu}$
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1740
1750
1760
1770
1780
1790
1800
1810
$m_{KK\mu}$ [MeV]

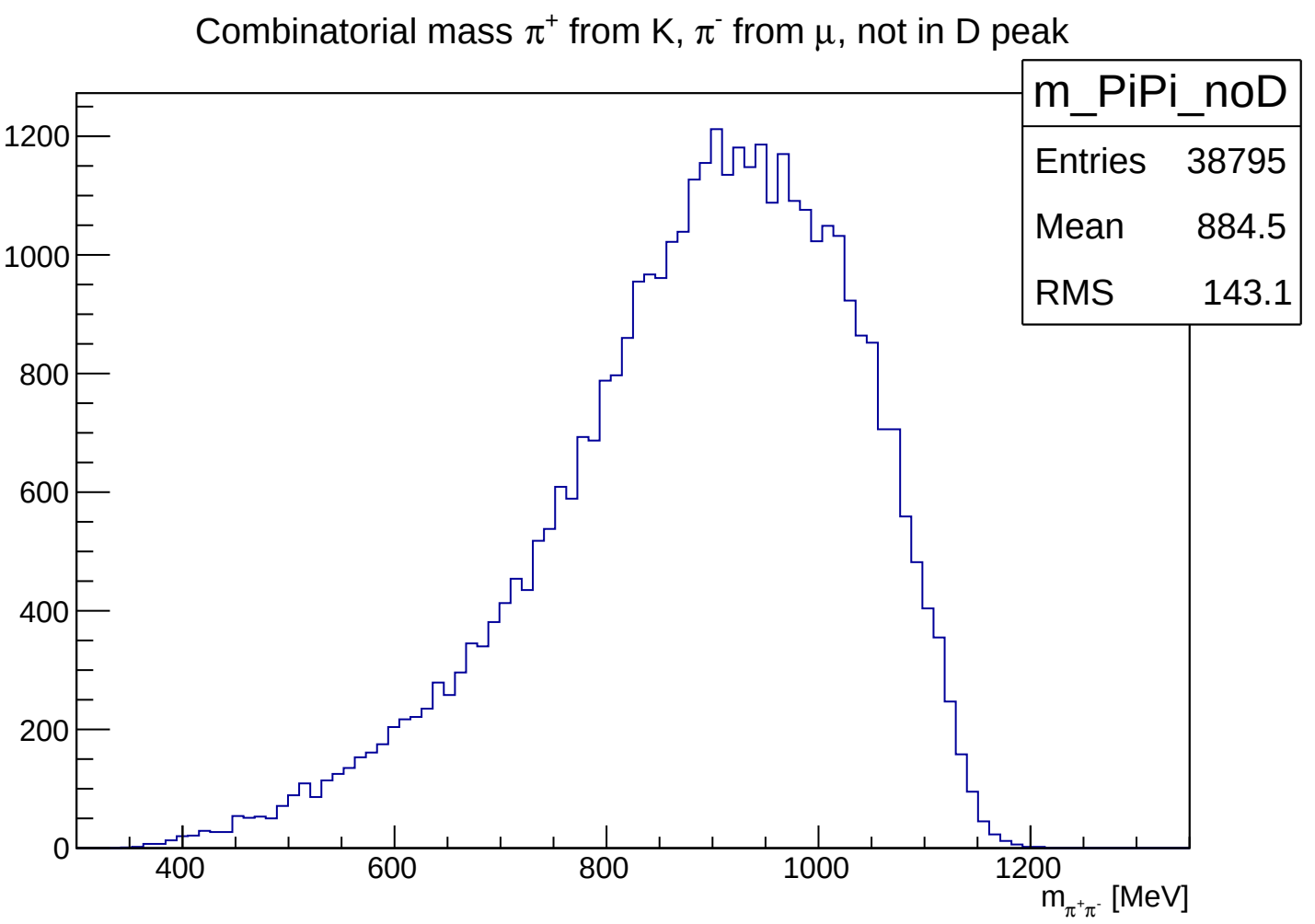

$m_{K\pi}$
$m_{\pi K}$
900
800
700
600
500
400
300
200
100
0
650
700
750
800
850
$m_{K\pi}$ [MeV]

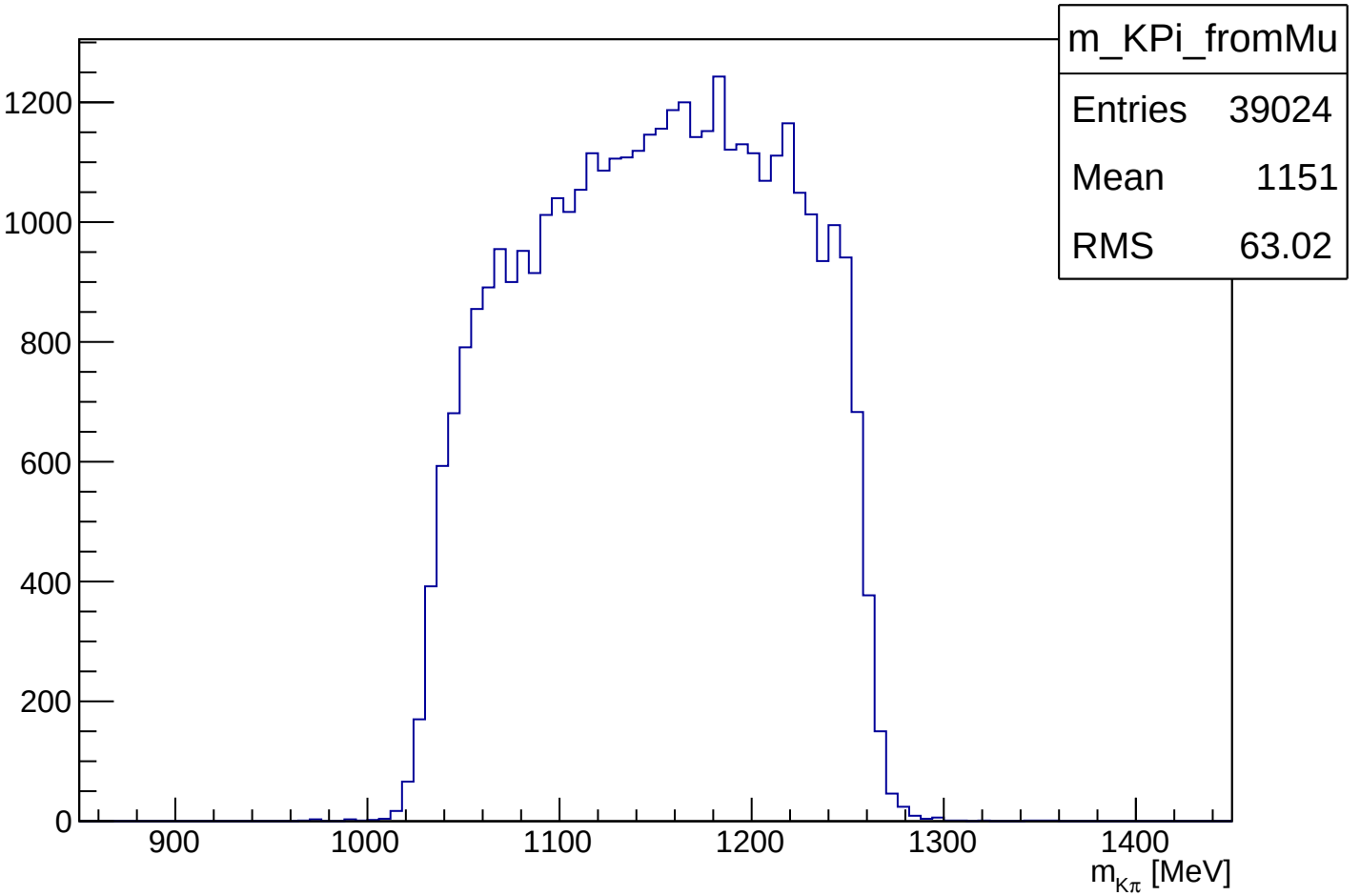

$m_{KK\pi}$
$m_{\Phi\pi}$
10000
8000
6000
4000
2000
0
1600
1650
1700
1750
1800
1850
1900
1950
2000
$m_{KK\pi}$ [MeV]

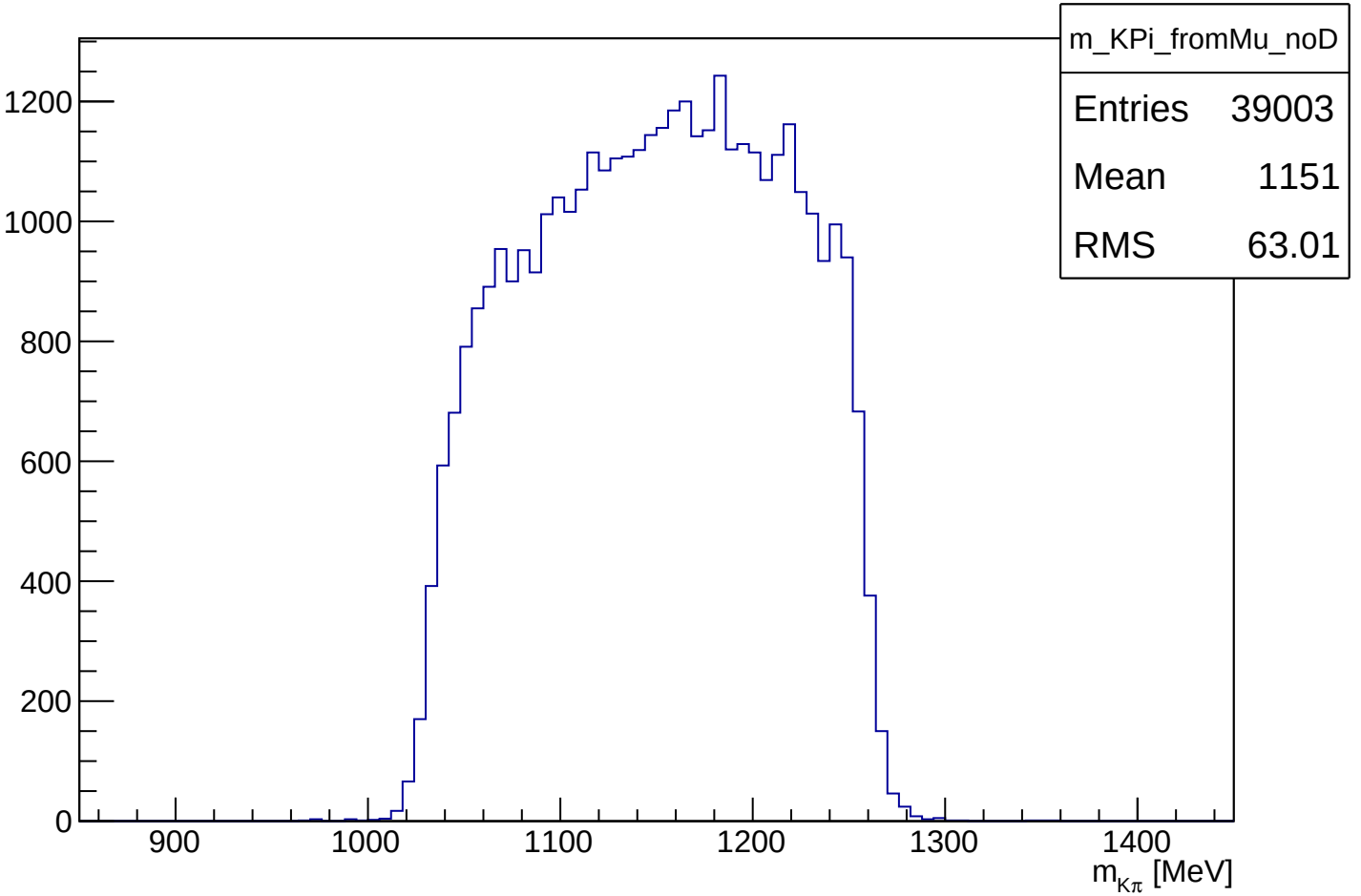

$m_{K^+\pi^-\pi^-}$
$m_{K^-\pi^+\pi^-}$
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1100
1200
1300
1400
1500
1600
1700
1800
1900
$m_{K\pi\pi}$ [MeV]

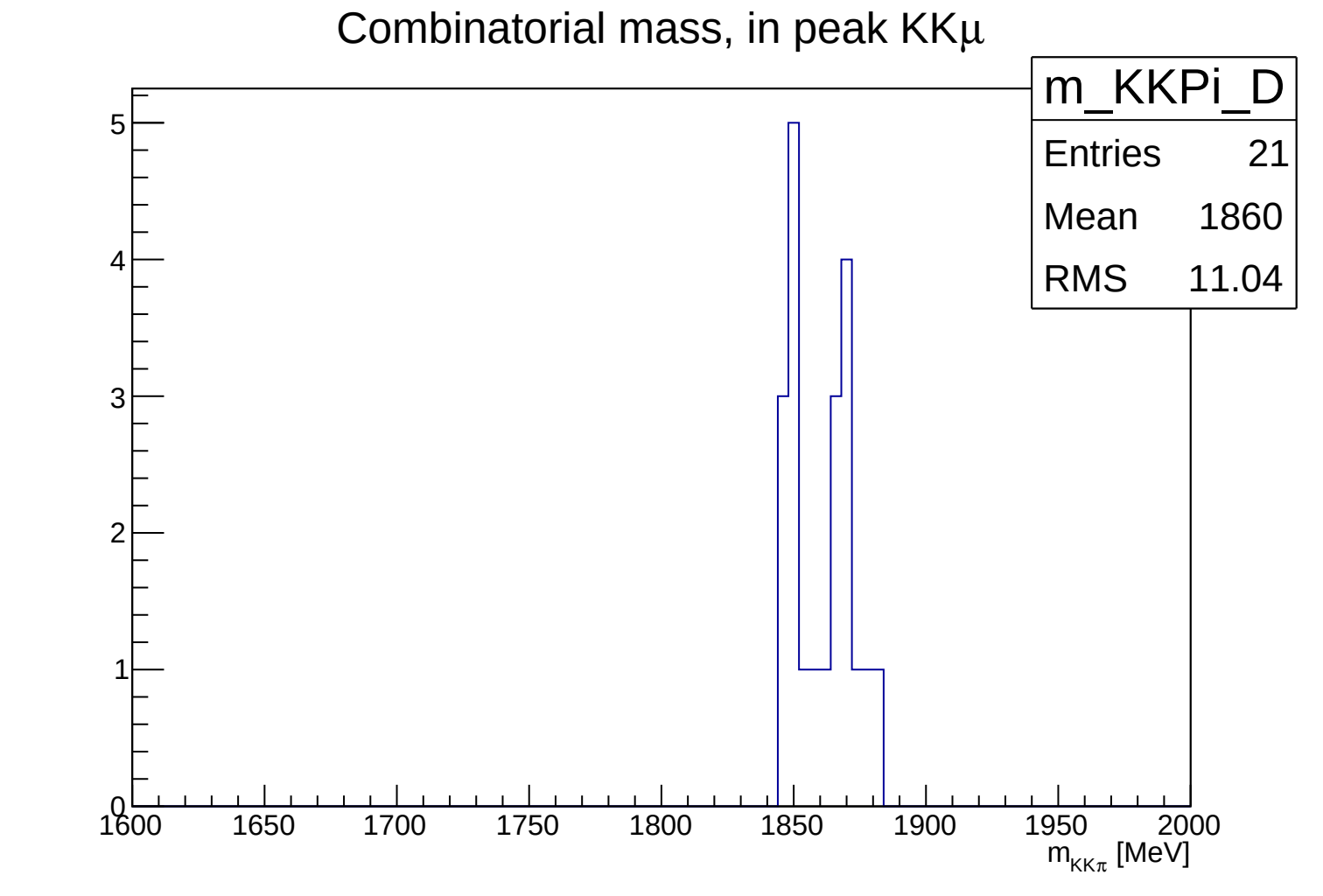

not in D peak
$m_{K^+\pi^-\pi^-}$
$m_{K^-\pi^+\pi^-}$
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1100
1200
1300
1400
1500
1600
1700
1800
1900
$m_{K\pi\pi}$ [MeV]

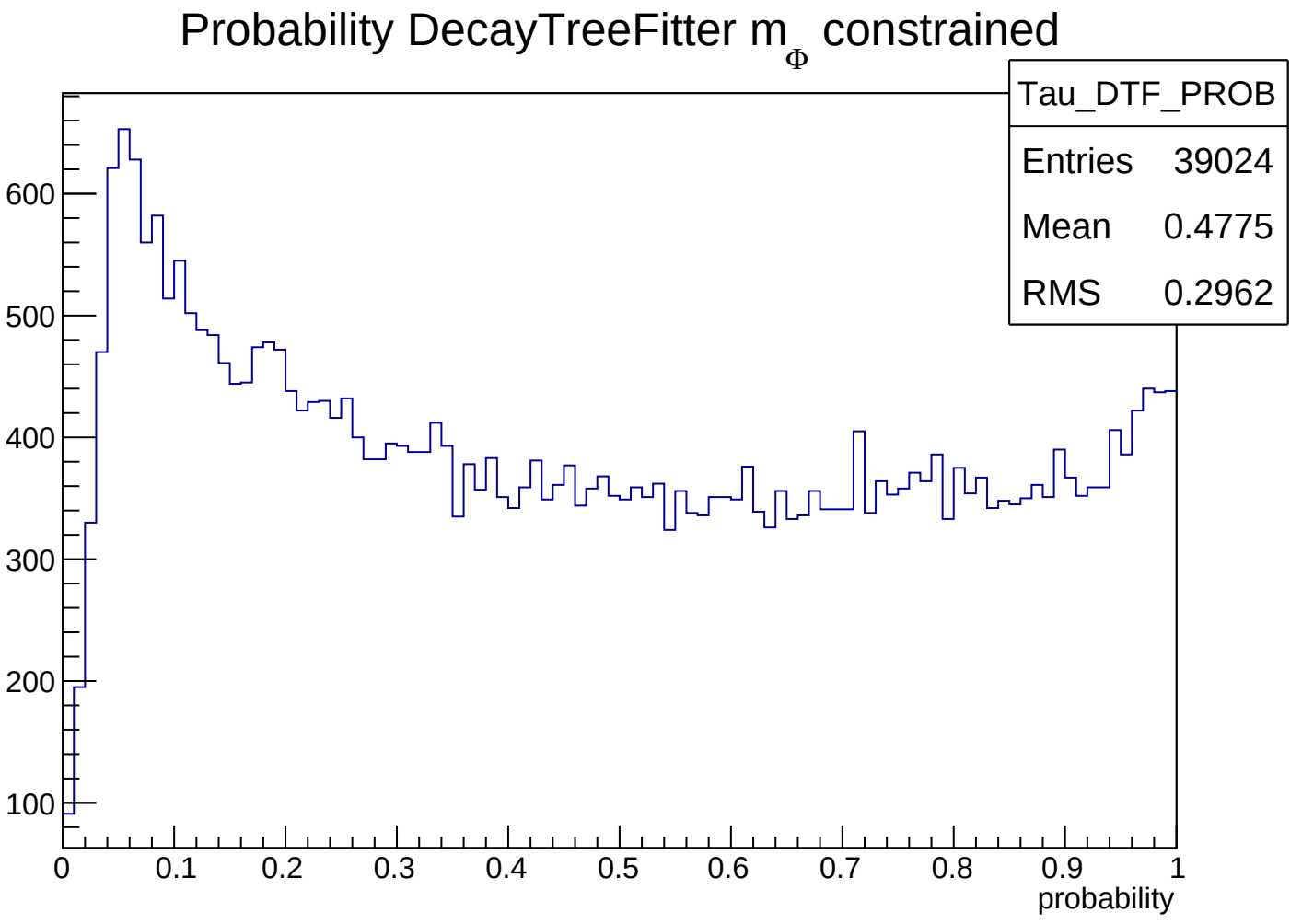

Combinatorial mass π^+ from K, π^- from μ
m_PiPi
Entries 39024
Mean 884.6
RMS 143.1
1200
1000
800
600
400
200
0
400
600
800
1000
1200
$m_{\pi^+\pi^-}$ [MeV]

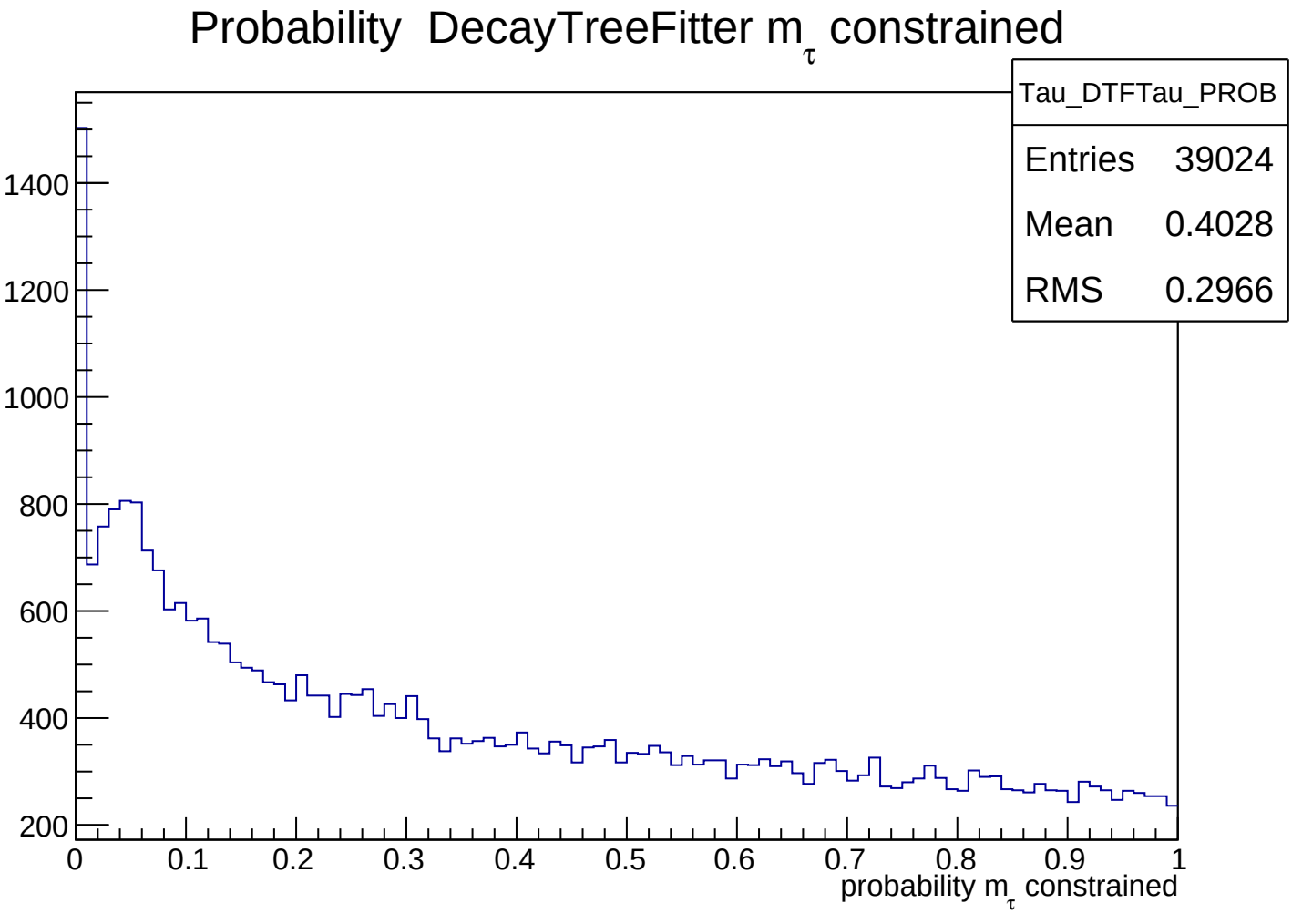

Combinatorial mass π^+ from K, π^- from μ, not in D peak
m_PiPi_noD
Entries 38795
Mean 884.5
RMS 143.1
1200
1000
800
600
400
200
0
400
600
800
1000
1200
$m_{\pi^+\pi^-}$ [MeV]

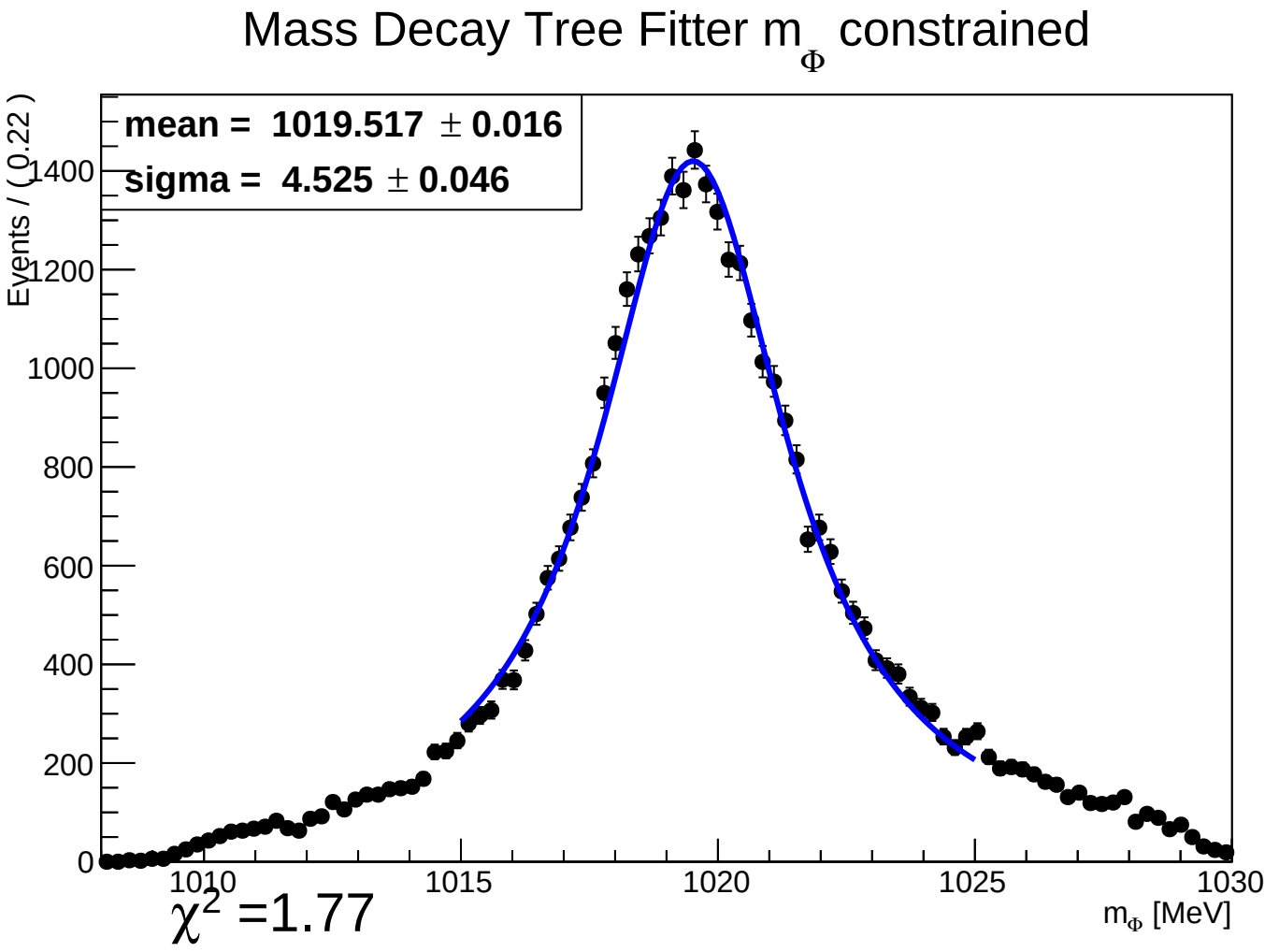

Combinatorial mass kaon and pion misID as muon
m_KPi_fromMu
Entries 39024
Mean 1151
RMS 63.02
1200
1000
800
600
400
200
0
900
1000
1100
1200
1300
1400
m_Kπ [MeV]


Combinatorial mass kaon and pion misID as muon not in the D- peak
m_KPi_fromMu_noD
Entries 39003
Mean 1151
RMS 63.01
1200
1000
800
600
400
200
0
900
1000
1100
1200
1300
1400
m_Kπ [MeV]


Combinatorial mass, in peak KKμ
m_KKPi_D
Entries 21
Mean 1860
RMS 11.04
0
1
2
3
4
5
1600
1650
1700
1750
1800
1850
1900
1950
2000
m_KKπ [MeV]


Probability DecayTreeFitter m_Φ constrained
Tau_DTF_PROB
Entries 39024
Mean 0.4775
RMS 0.2962
600
500
400
300
200
100
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
probability


Probability DecayTreeFitter m_τ constrained
Tau_DTFTau_PROB
Entries 39024
Mean 0.4028
RMS 0.2966
1400
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
probability m_τ constrained


Mass Decay Tree Fitter m_Φ constrained
mean = 1019.517 ± 0.016
sigma = 4.525 ± 0.046
Events / (0.22)
0
200
400
600
800
1000
1200
1400
1010
1015
1020
1025
1030
m_Φ [MeV]
χ² =1.77