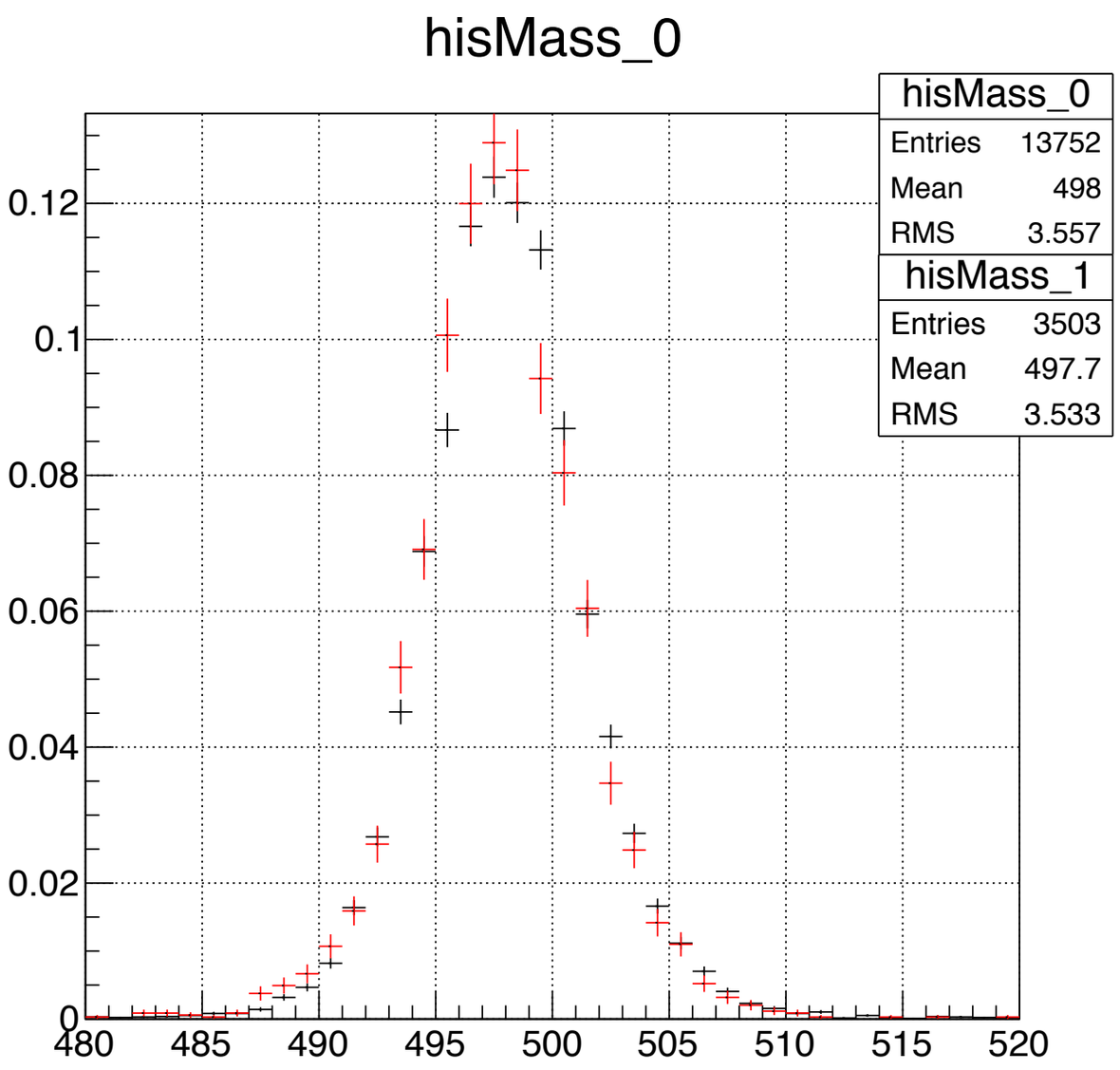
KOTO-Korea meeting 20160316

KL mass distribution

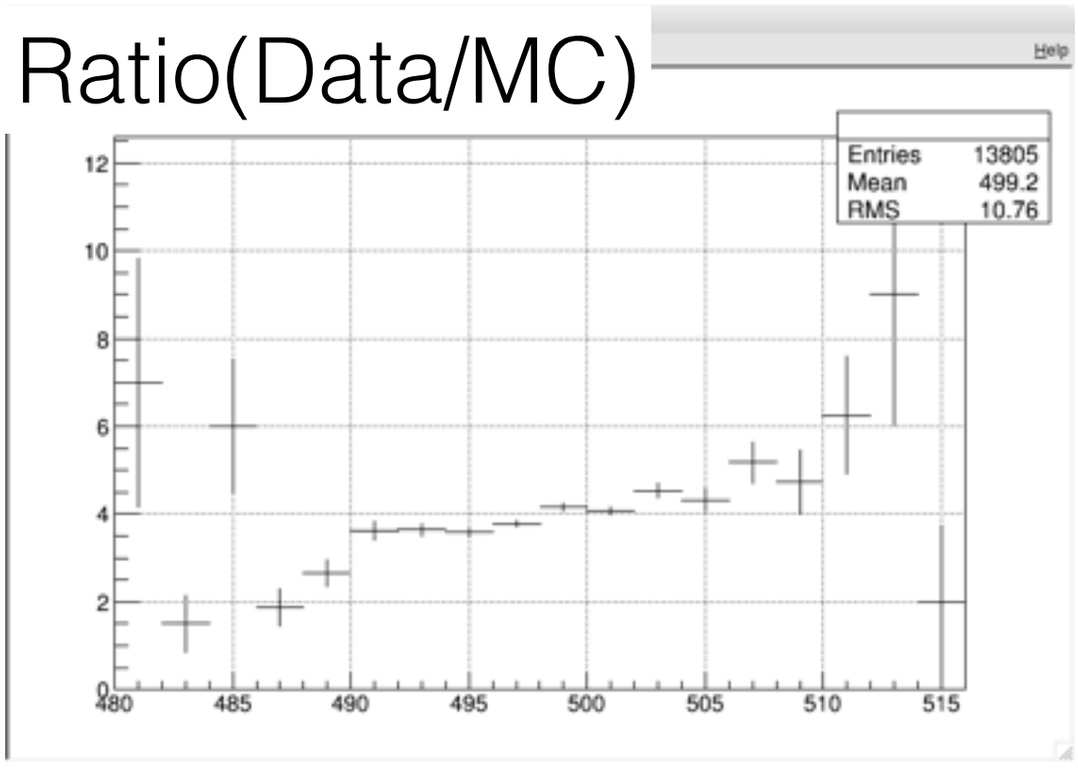
Check KLmass with other parameters

1. KL parameters
    1. KL energy
    2. KL pt
    3. KL ChisqZ
    4. KL rec position(z)
2. Pi0 parameters
    1. Pi0Mass
    2. Pi0E
    3. Pi0 Pt
3. Gamma parameters
    1. GammaE
    2. GammaChi2(shape chi-square)
    3. Gamma X position
    4. Gamma Y position

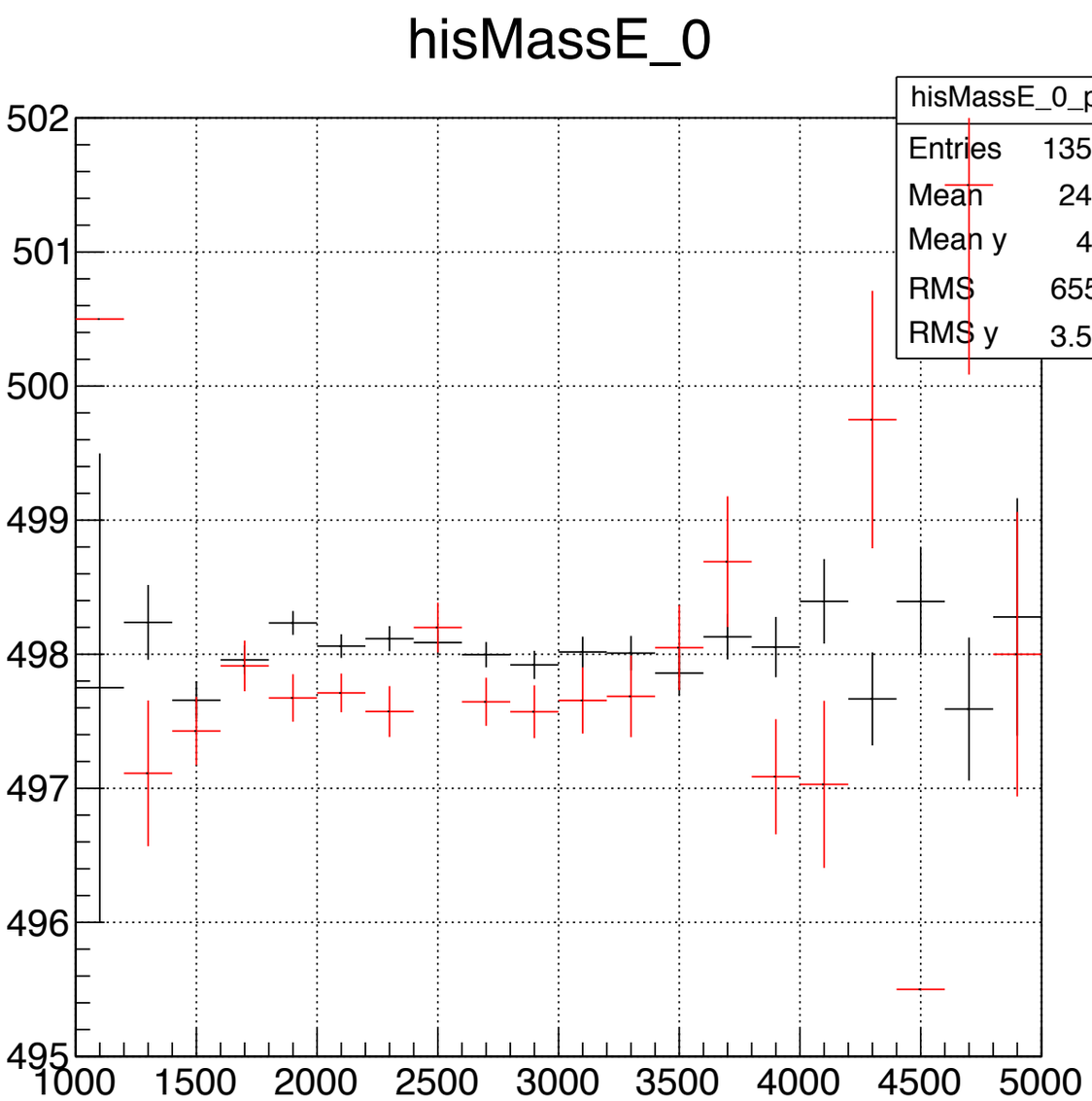
KL mass distribution

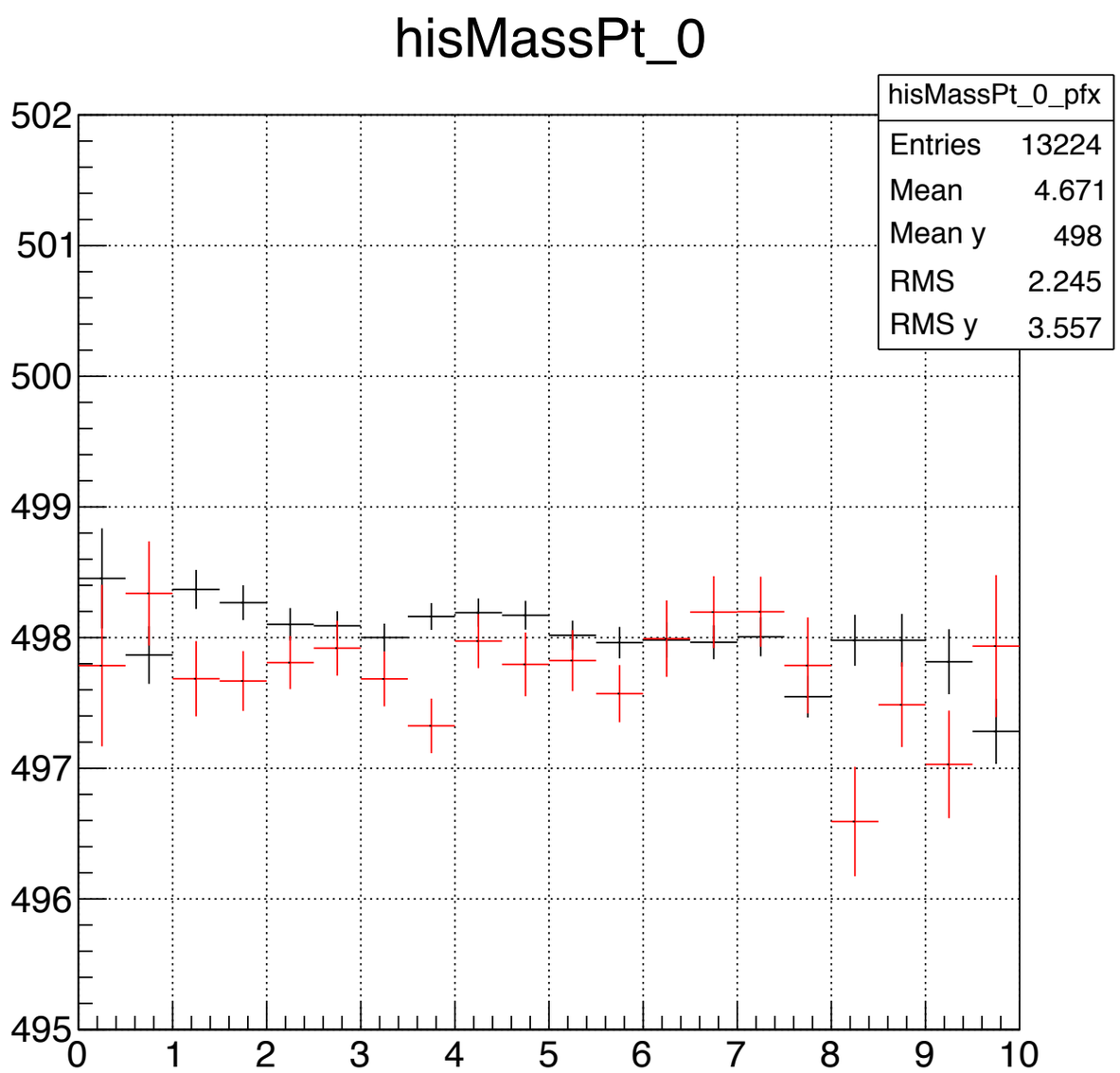


1. CutCondition :CutCondition == 0 && VetoCondition == 0
2. Black : data, Red : MC
3. Mean value of KL mass : 498MeV(data), 497.7(MC)

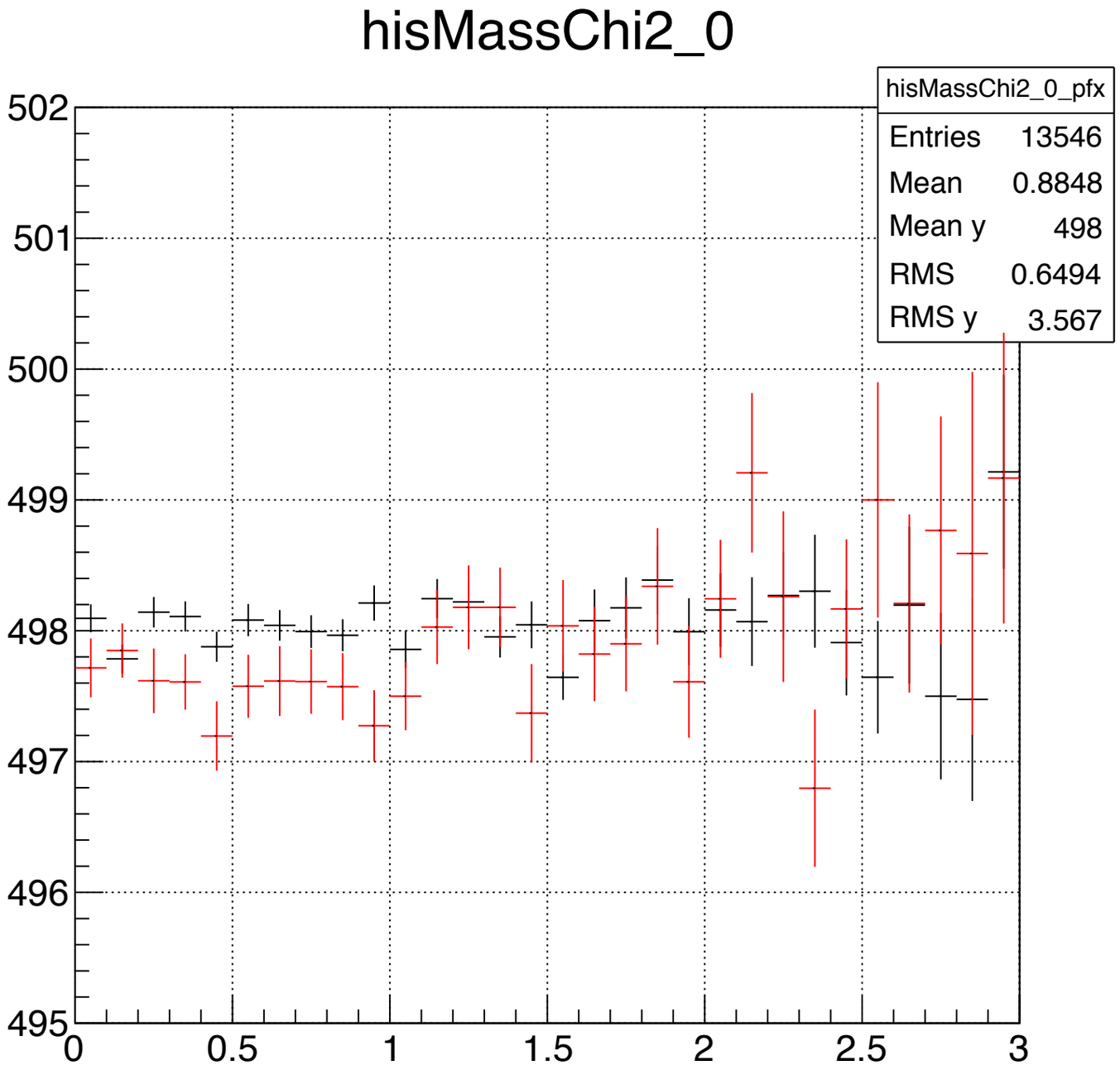


KL mass vs KL energy/pt

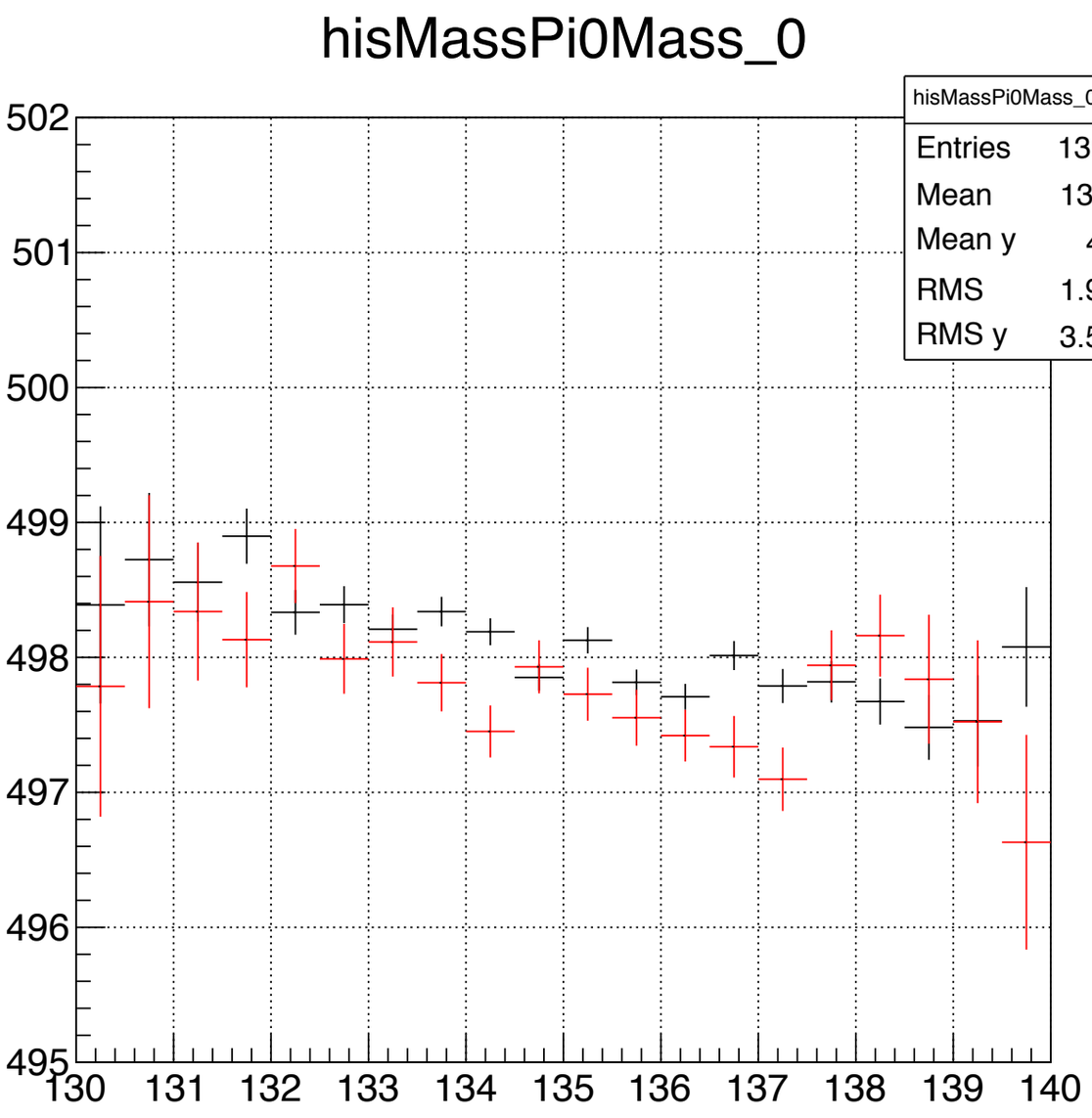


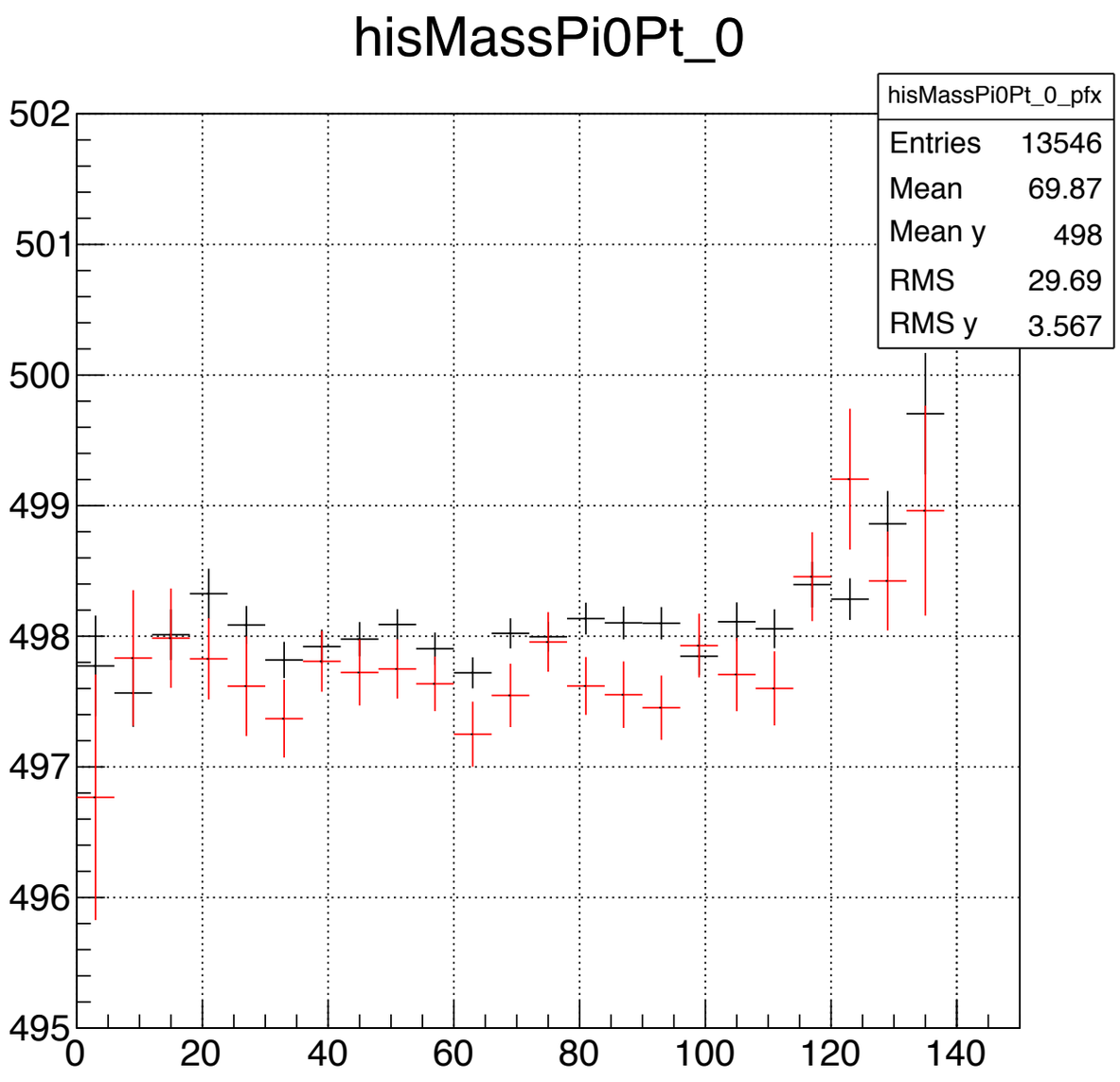


KL mass vs KL chi2Z



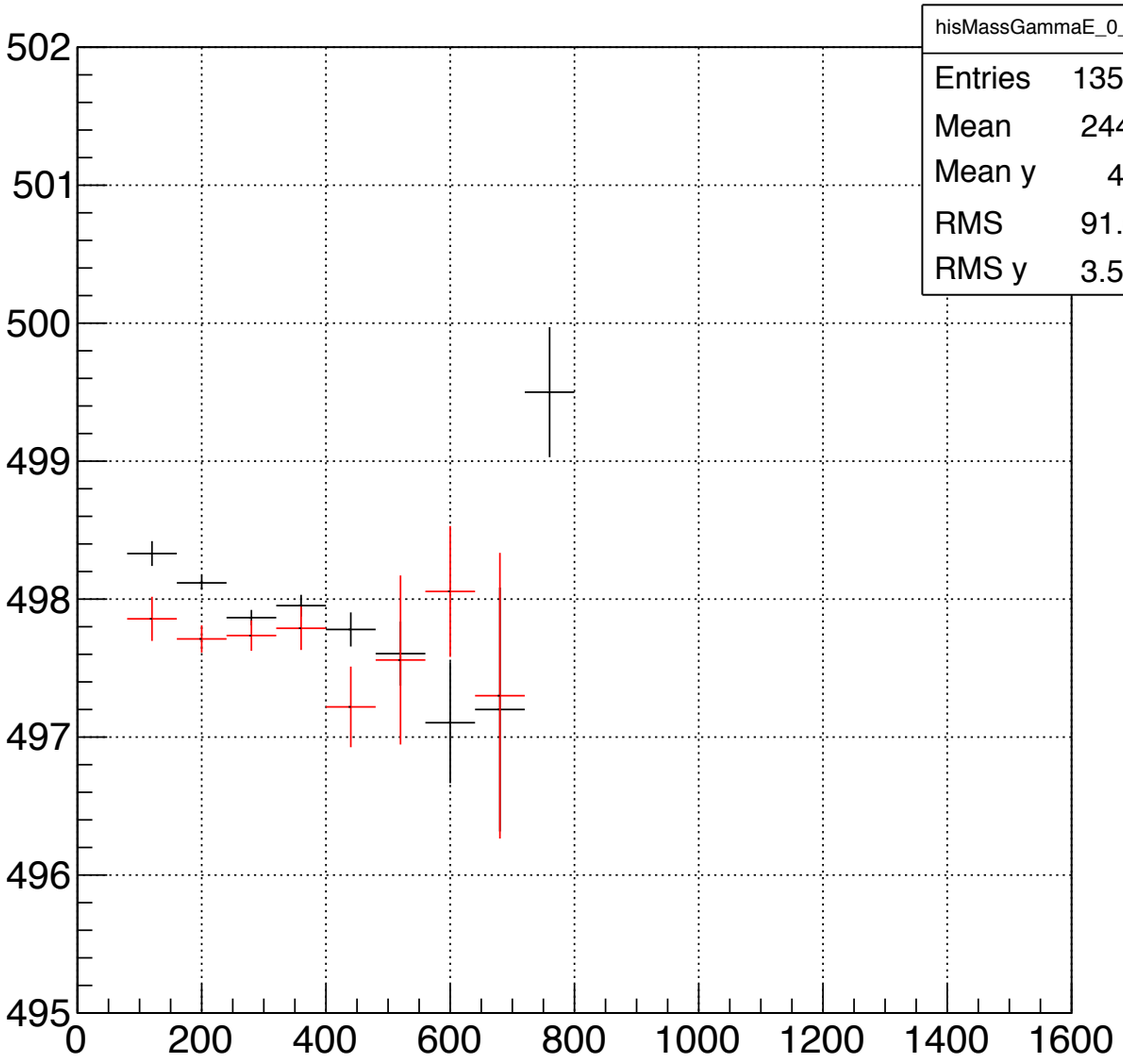
KL mass Pi0 Mass/Pt



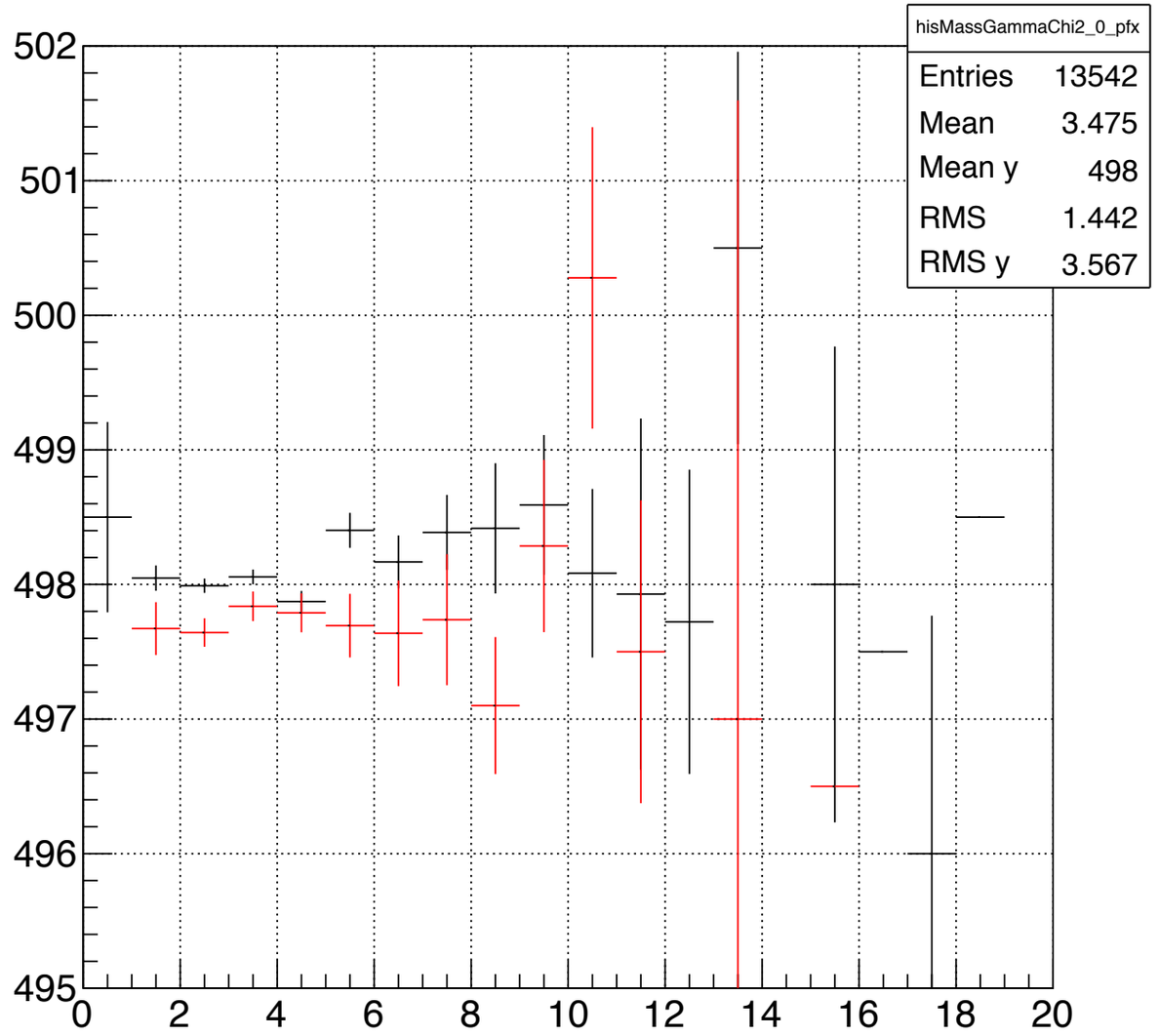


KL mass Gamma E/Chi2

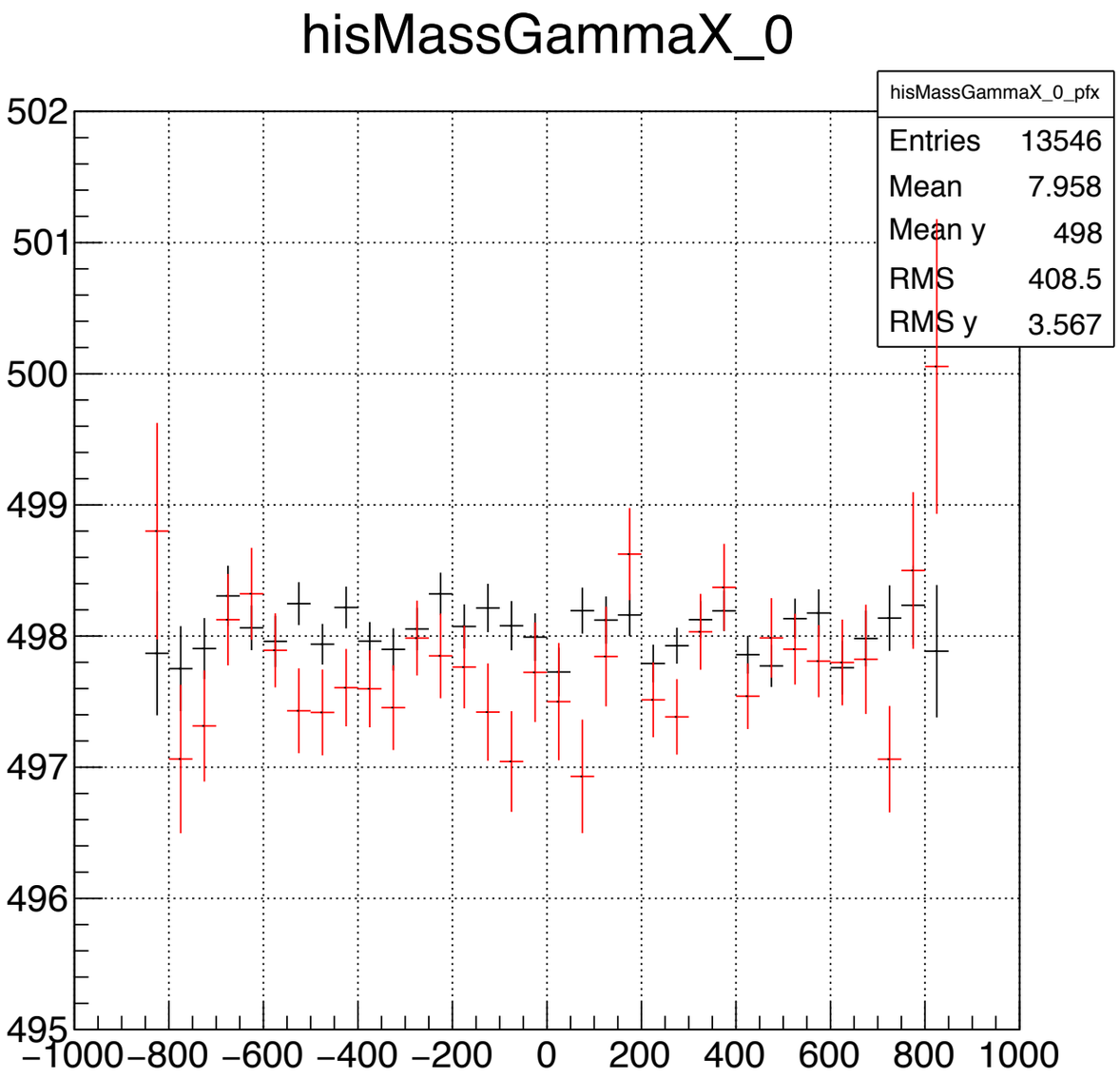
hisMassGammaE_0

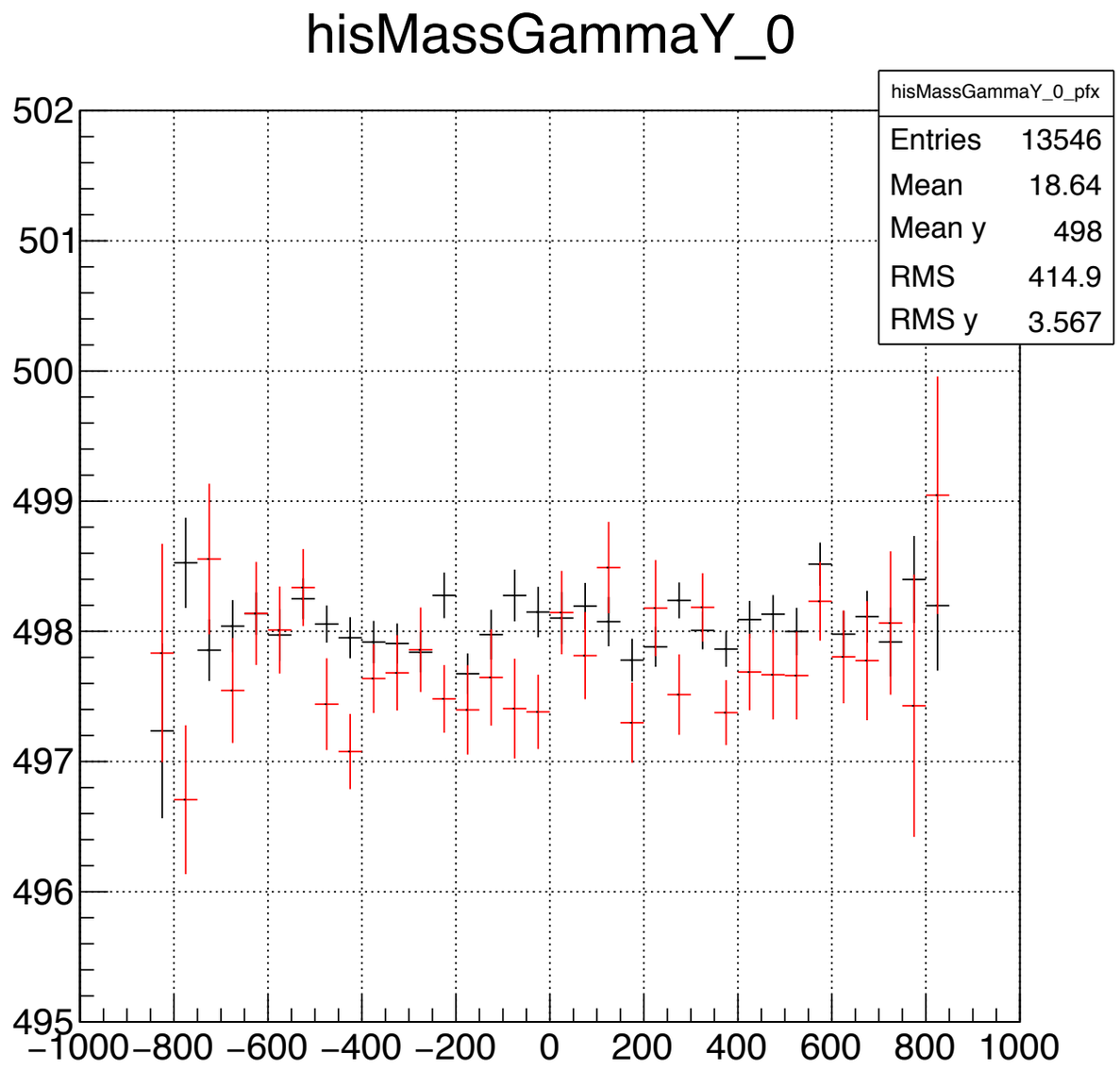


hisMassGammaChi2_0



KL mass vs Gamma XY





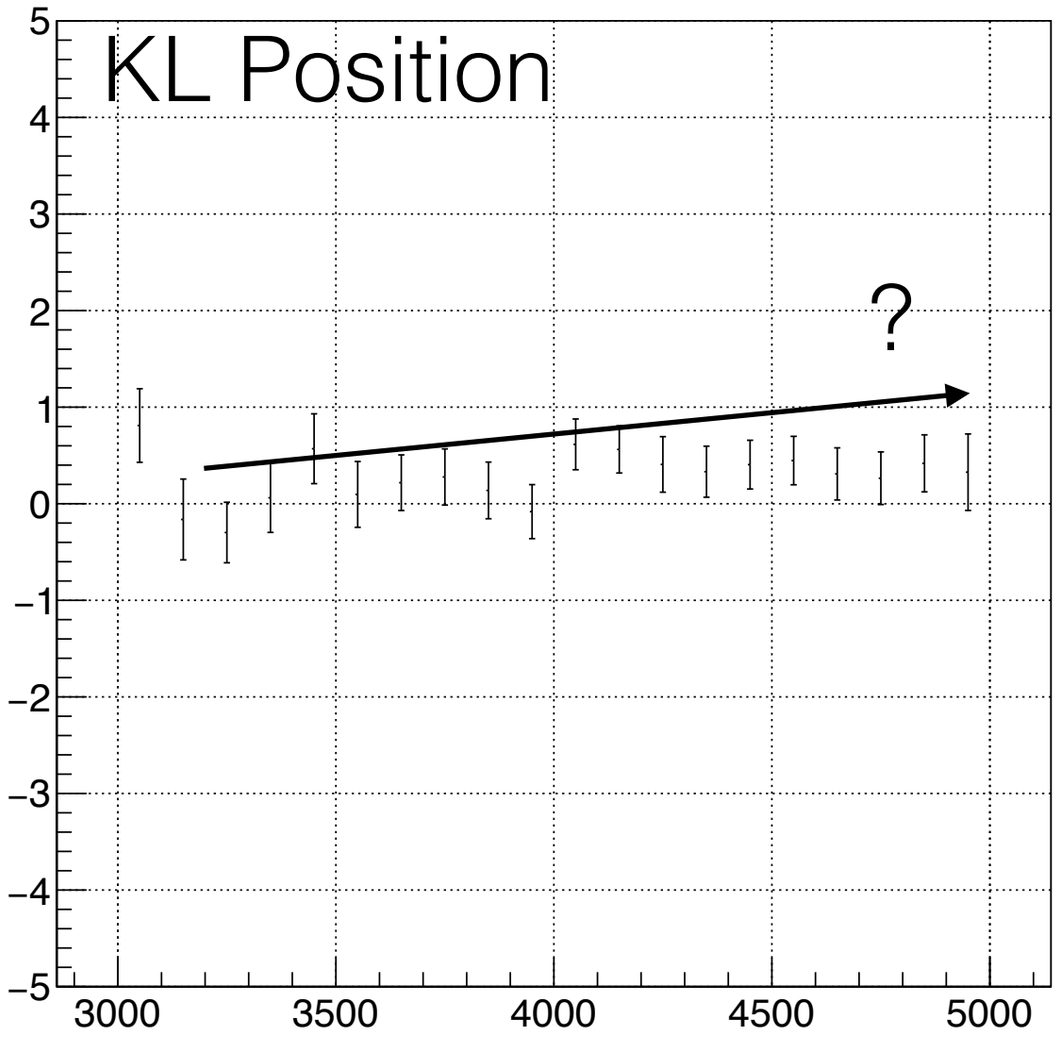
Summary

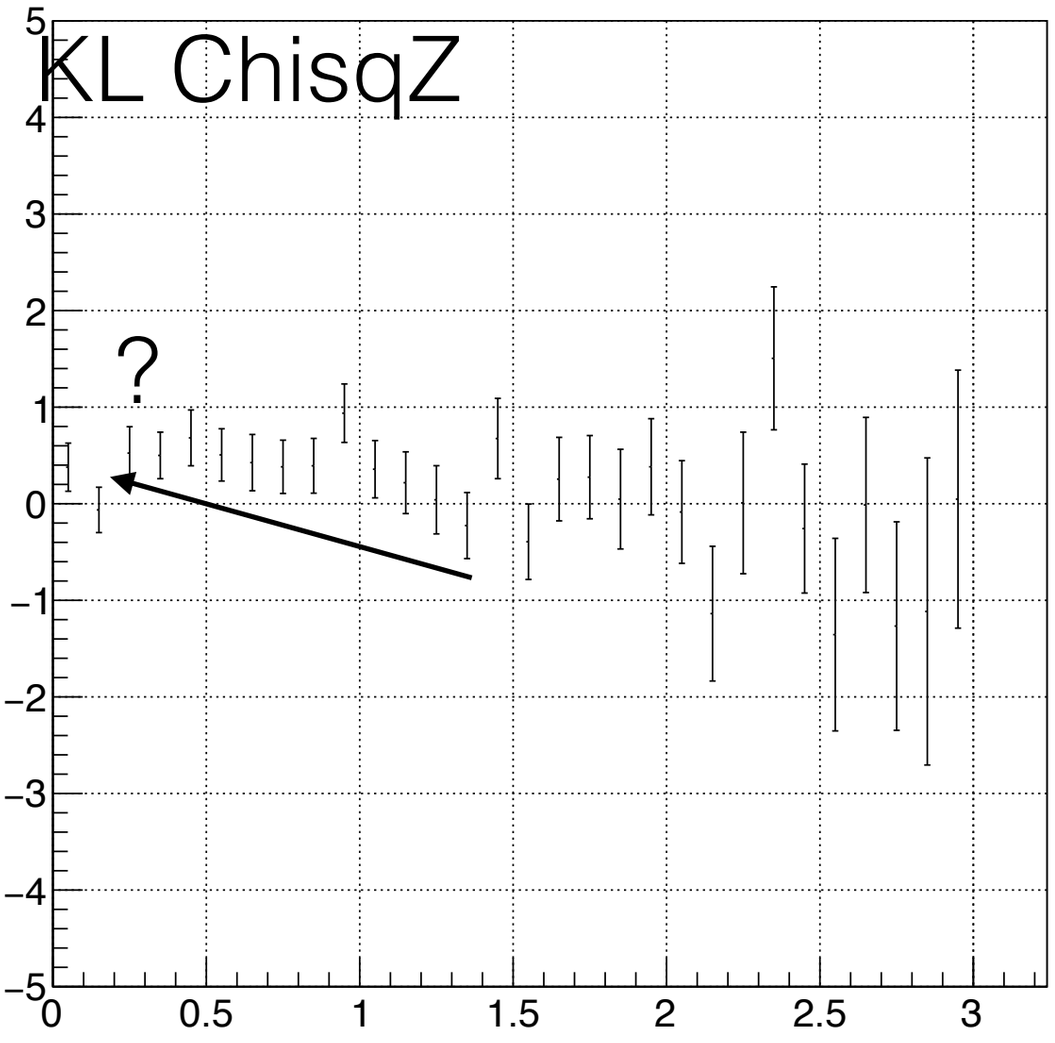
1. KL 질량분포에서 data 가 MC 보다 0.3MeV 큰 분포를 가진다.

2. KL의 질량과 KL/pi0/gamma의 각 파라미터들 간의 분포의 상관을 살펴봤으나, 크게 의존성을 가지는 파라미터는 아직 발견하지 못함.

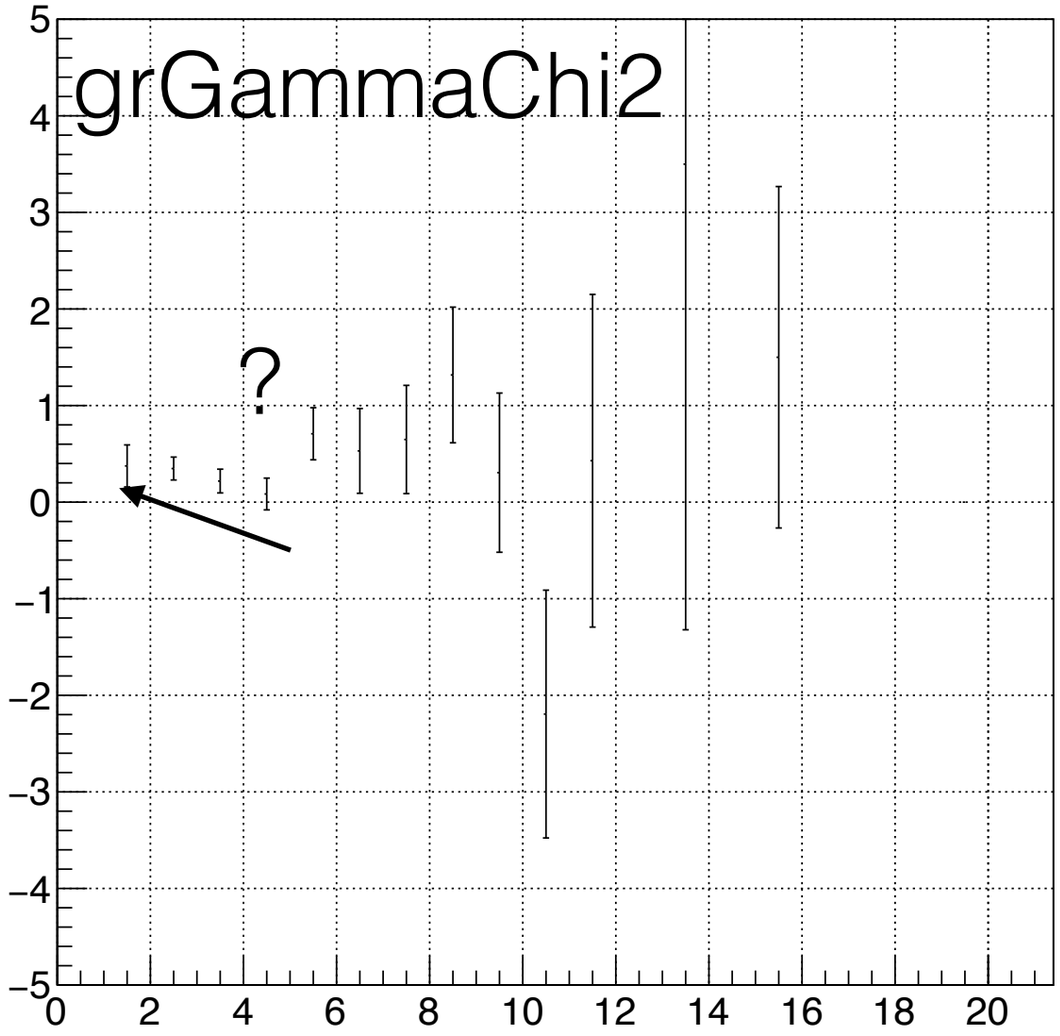
3. Data/MC의 비율이 4에서 많이 벗어나는 부분만을 선택하여 각 파라미터와의 상관을 살펴볼예정(M(KL) < 490, M(KL) >500)

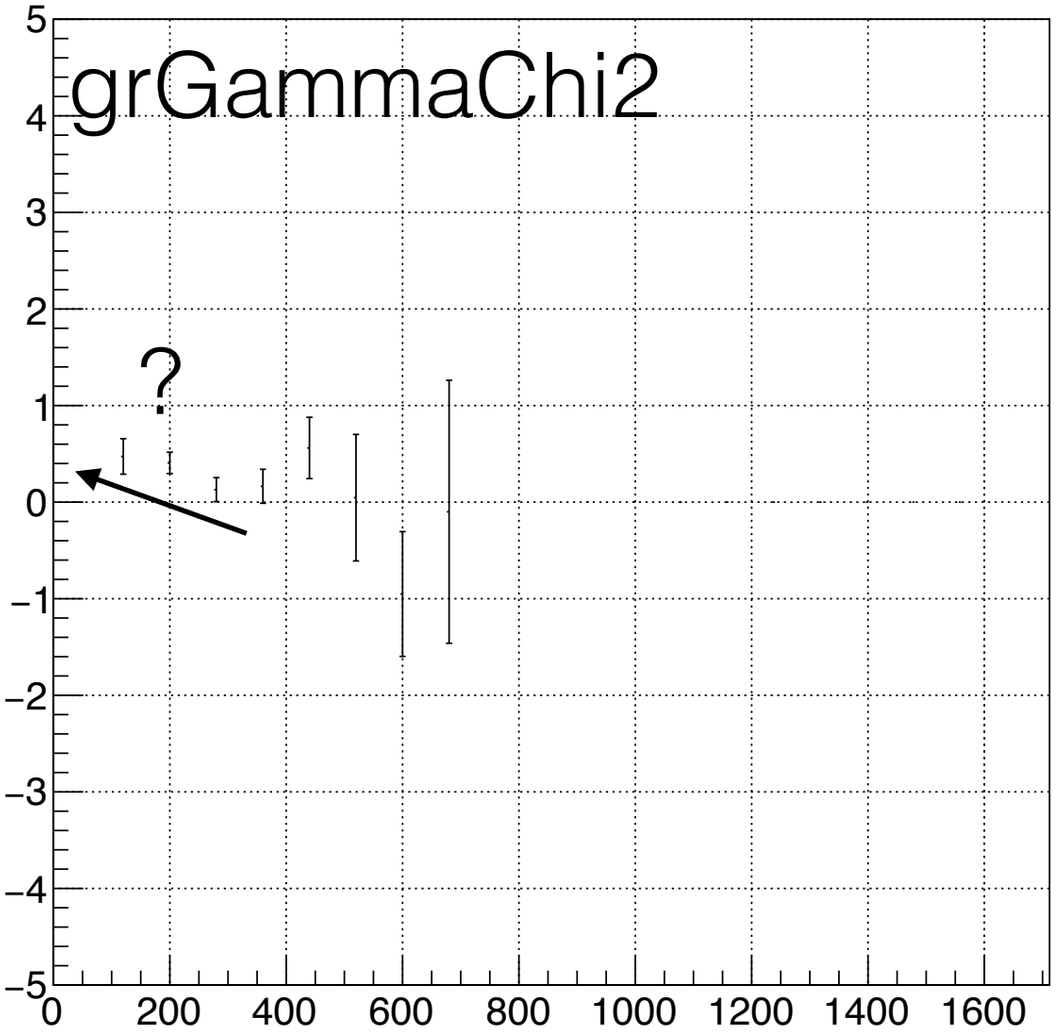
Data - MC


KL Position
?
5
4
3
2
1
0
−1
−2
−3
−4
−5
3000
3500
4000
4500
5000


KL ChisqZ
?
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
0.5
1
1.5
2
2.5
3

Data - MC


grGammaChi2
?
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
2
4
6
8
10
12
14
16
18
20


grGammaChi2
?
5
4
3
2
1
0
−1
−2
−3
−4
−5
0
200
400
600
800
1000
1200
1400
1600

Data - MC