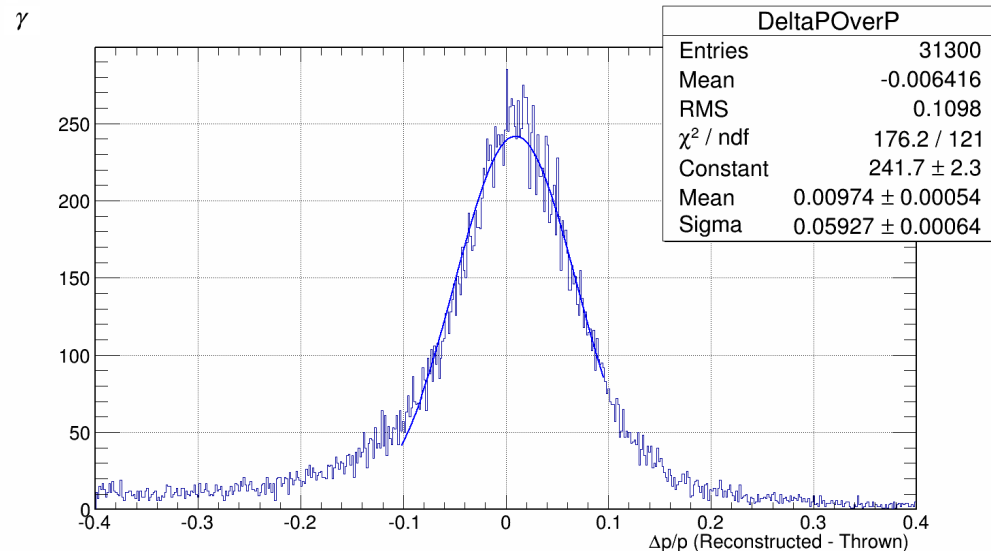# Reconstruction of phase space events with the solenoid current at 1350A
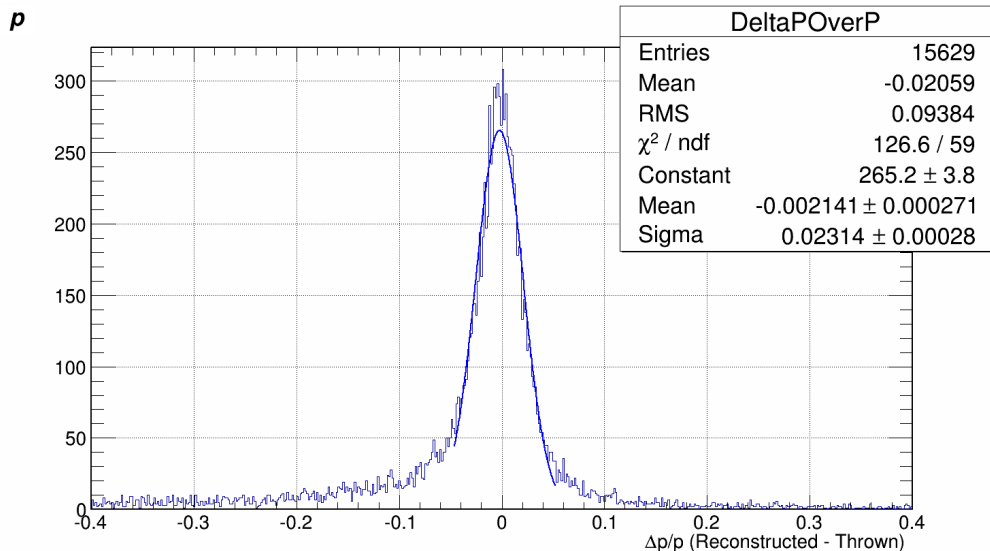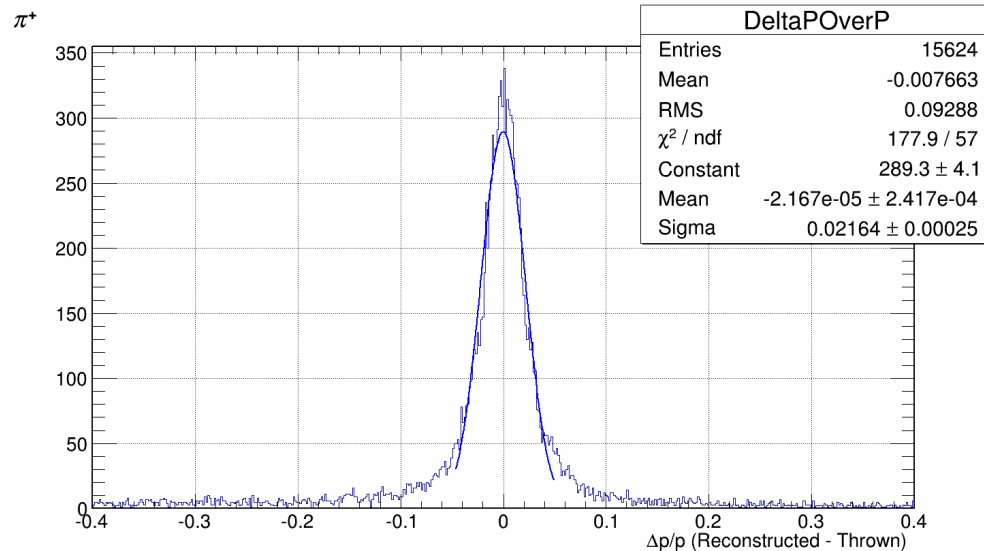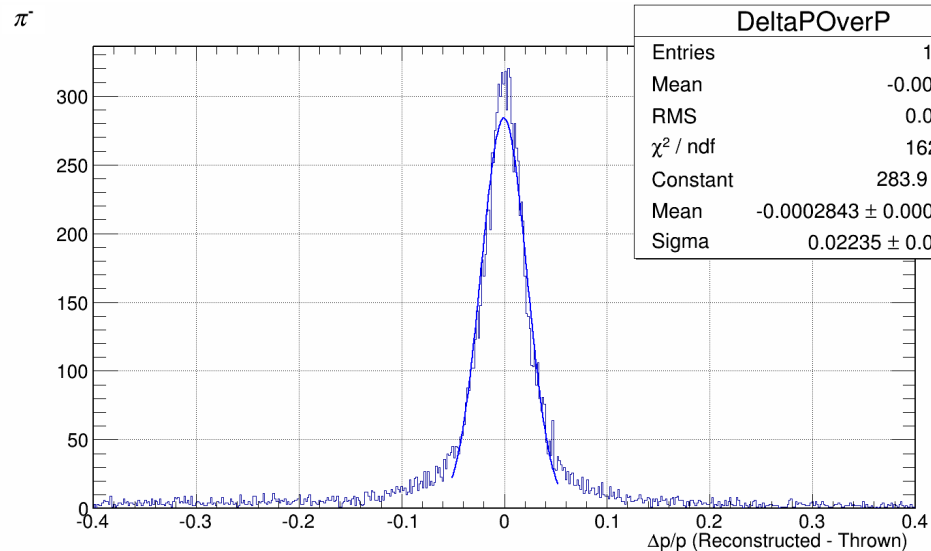
Aristeidis Tsaris
May 19, 2014

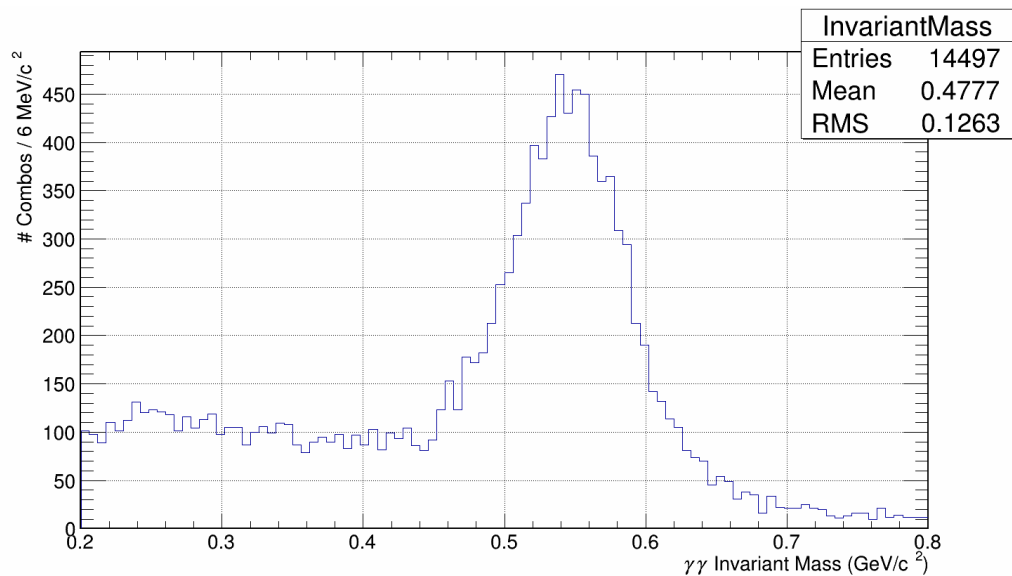$$\gamma\, p \to p\, X(2000) \quad with \quad X(2000) \to \pi^{+}\pi^{-}\eta \ , \ \eta \to \gamma\,\gamma$$

- Genr8 was used with $E_\gamma = 9\,GeV$
- t-slope of $1.5\,GeV^{-2}$
- 45K events were generated

Gaussian Fits for Tracking Resolution

π^-

DeltaPOverP	
Entries	15602
Mean	-0.007156
RMS	0.09019
χ^2 / ndf	162 / 62
Constant	283.9 ± 3.9
Mean	-0.0002843 ± 0.0002425
Sigma	0.02235 ± 0.00024

$\Delta p/p$ (Reconstructed - Thrown)

π^+

DeltaPOverP	
Entries	15624
Mean	-0.007663
RMS	0.09288
χ^2 / ndf	177.9 / 57
Constant	289.3 ± 4.1
Mean	-2.167e-05 ± 2.417e-04
Sigma	0.02164 ± 0.00025

$\Delta p/p$ (Reconstructed - Thrown)

p

DeltaPOverP	
Entries	15629
Mean	-0.02059
RMS	0.09384
χ^2 / ndf	126.6 / 59
Constant	265.2 ± 3.8
Mean	-0.002141 ± 0.000271
Sigma	0.02314 ± 0.00028

$\Delta p/p$ (Reconstructed - Thrown)

γ

DeltaPOverP	
Entries	31300
Mean	-0.006416
RMS	0.1098
χ^2 / ndf	176.2 / 121
Constant	241.7 ± 2.3
Mean	0.00974 ± 0.00054
Sigma	0.05927 ± 0.00064

$\Delta p/p$ (Reconstructed - Thrown)

Mass Distributions

Cuts	
CombinedPIDFOM	5σ
CombinedTrackingFOM	3σ
KinFitFOM	0.0

Events Generated	45k
Events Survived	9610