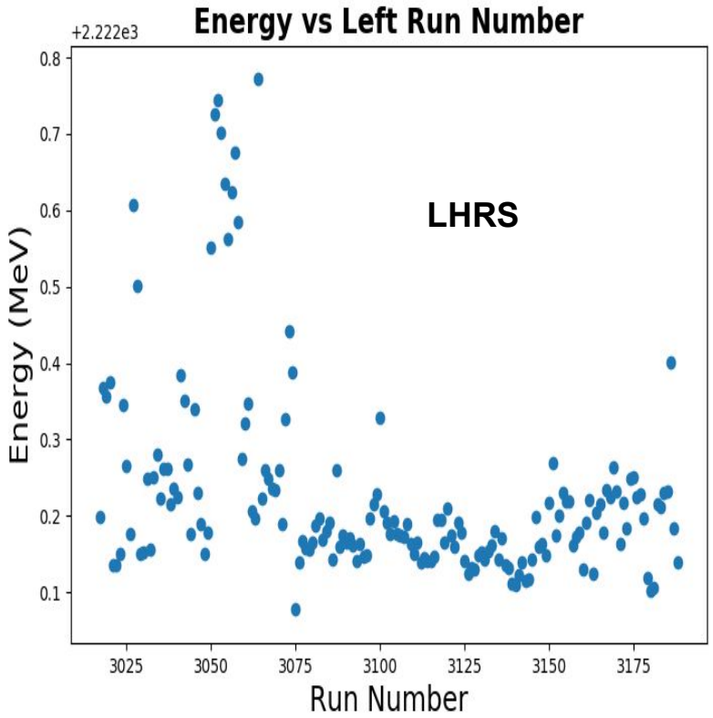
Energy

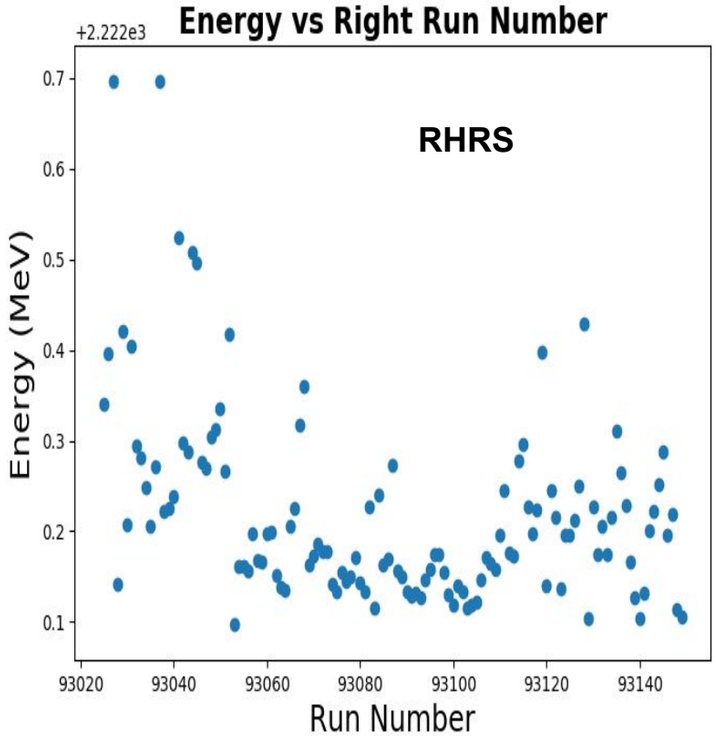
E12-11-112
Nathaly Santiesteban

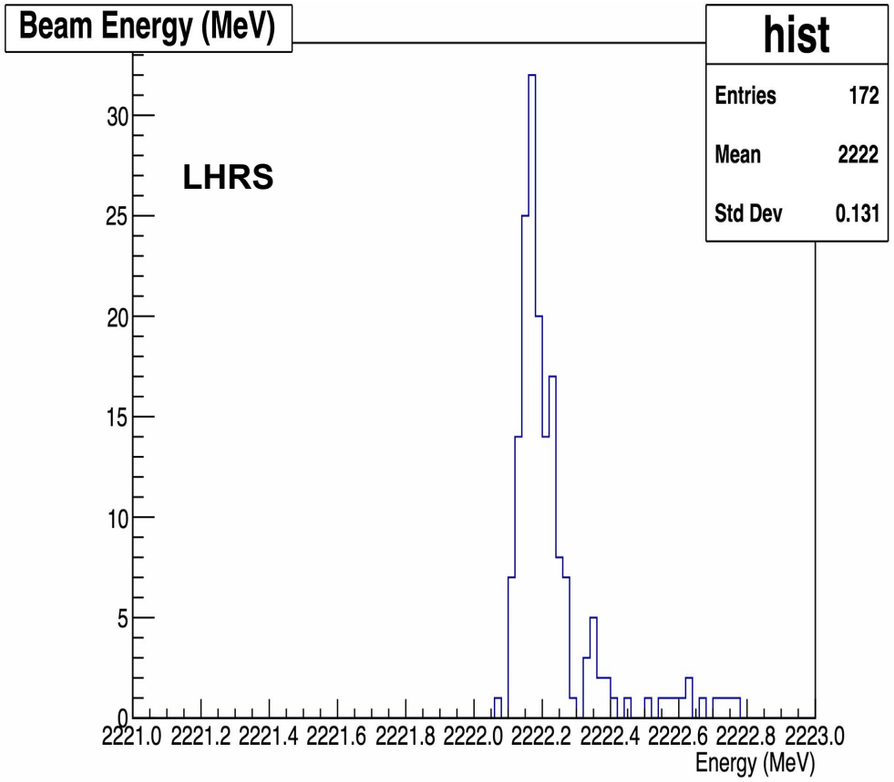
Beam Energy

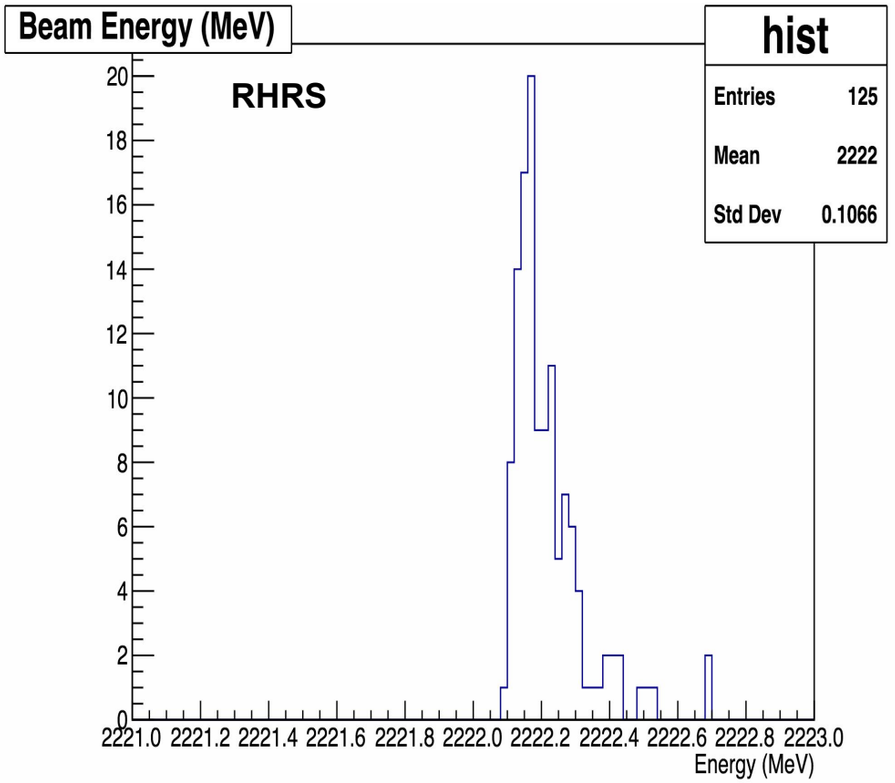
1st Pass Measurements : 1.002 scale factor
According with
https://www.jlab.org/indico/event/197/session/3/contribution/12/material/slides/0.pdf



1. From Average of: Halla_p
2. hac_beam_average>5μA
3. After applying the correction factor







Hydrogen

Replaying the Elastic Hydrogen Data with:

1. Energy values after correction factor
2. Using the Losses Energy Classes , Courtesy of Reynier Cruz:

https://hallaweb.jlab.org/wiki/images/3/39/180612_ebeam_eloss_hydrogen.pdf

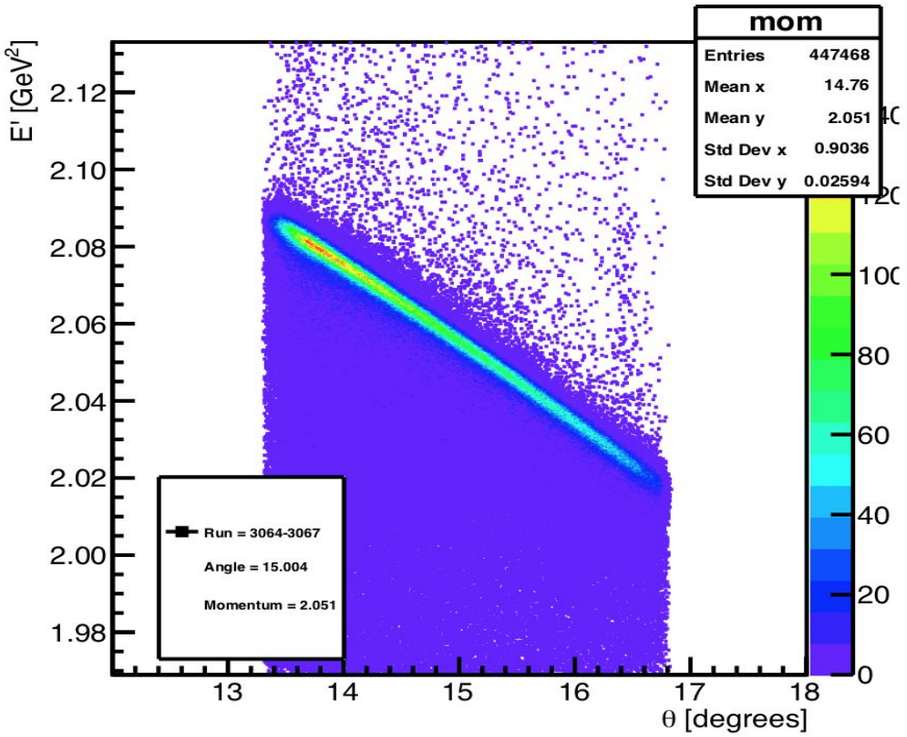
Kinematics with Elastic Hydrogen:

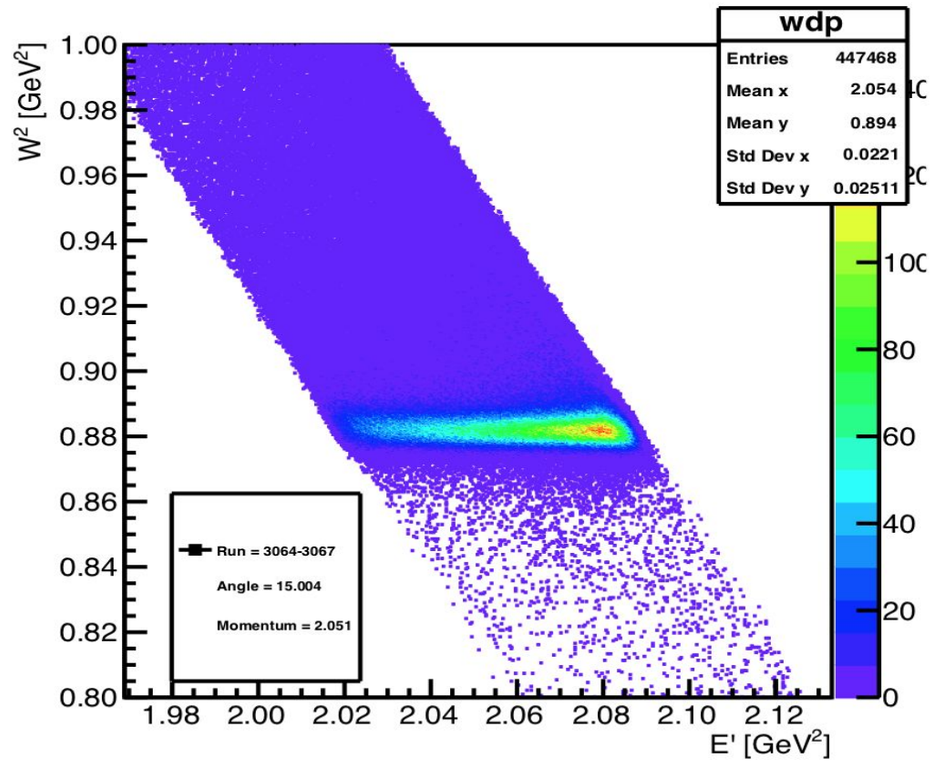
Target	Angle (°)	Momentum (GeV)	Run Numbers
1H	15.004	2.051	3064-3067
1H	21.778	1.896	3094-3095
1H	23.891	1.843	3162
1H	25.952	1.790	3118
1H	28.006	1.737	3177
1H	30.001	1.683	3137
1H	42.025	1.379	93047, 93063, 93082

Cuts for next plots

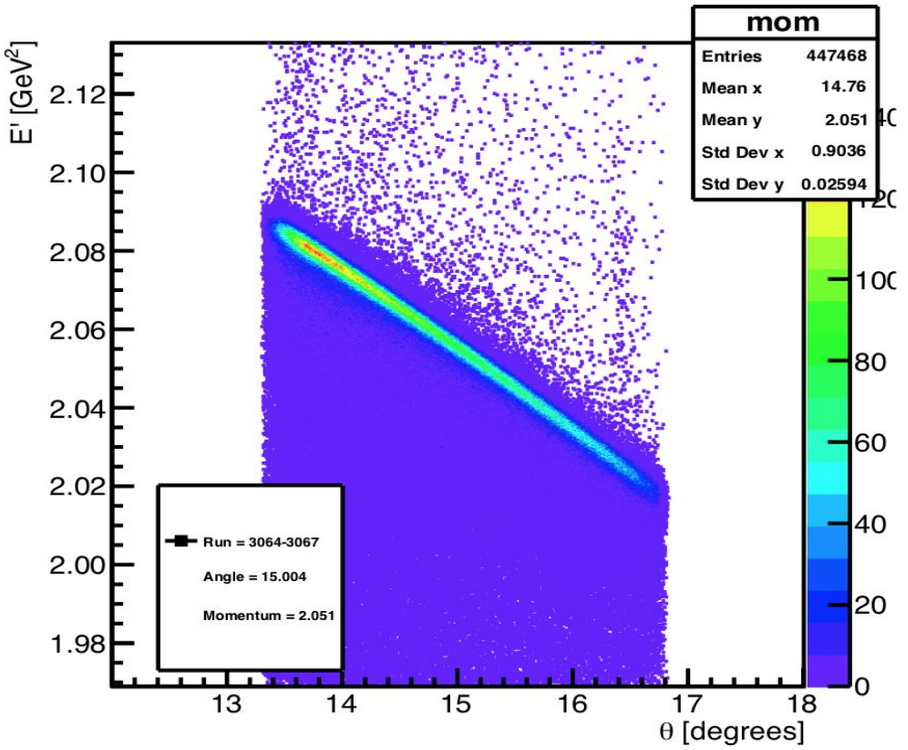
1. Current > 10
2. abs(dp) < 0.05
3. abs(th)<0.03
4. abs(ph)<0.03
5. abs(vz)<0.08
6. cer_asum >2000 and cer_asum<9000
7. E/p > 0.4

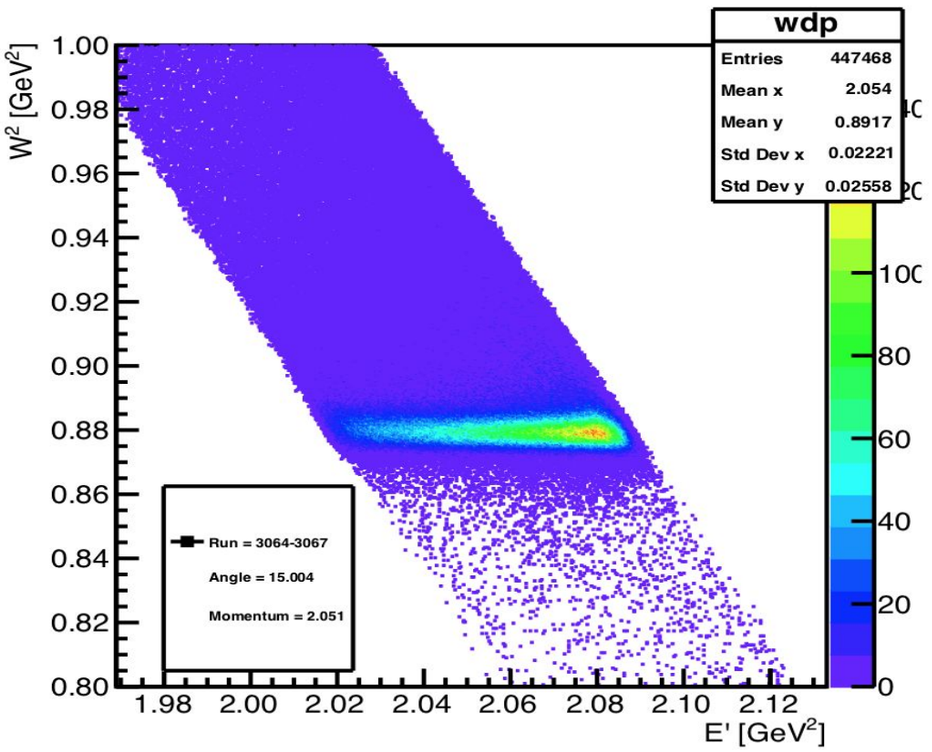
Before Energy Loss Correction



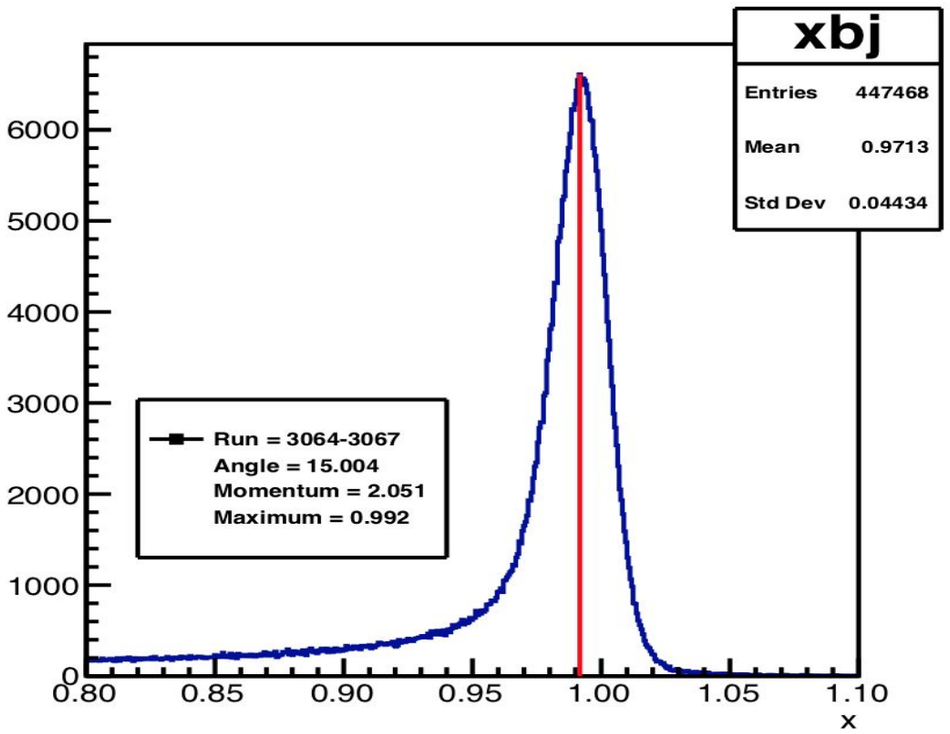


After Energy Loss Correction

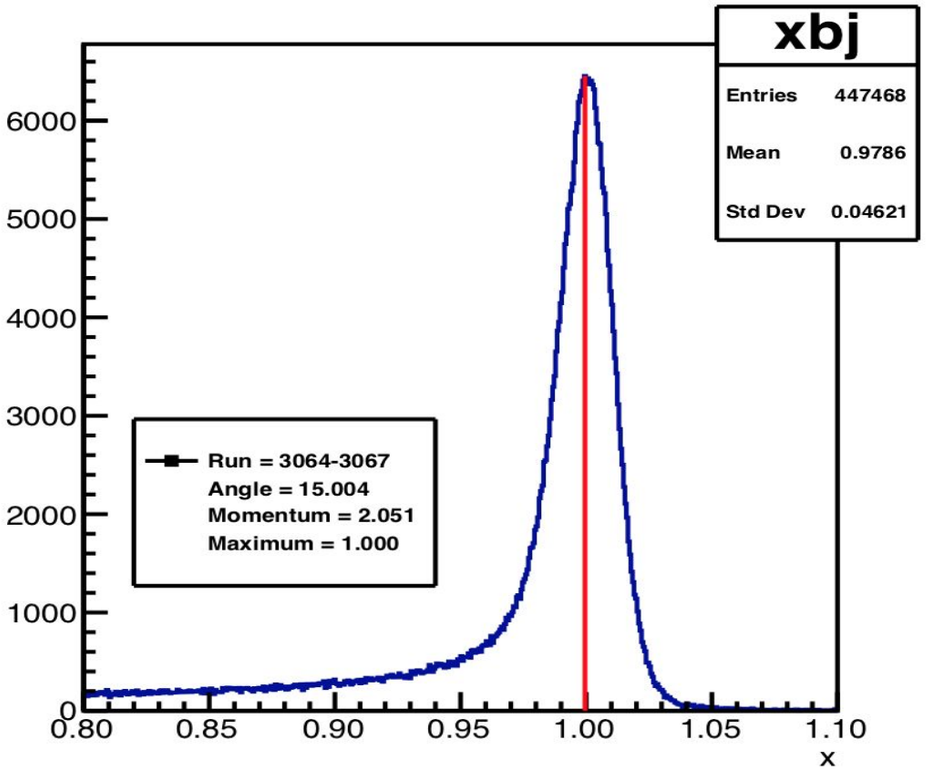




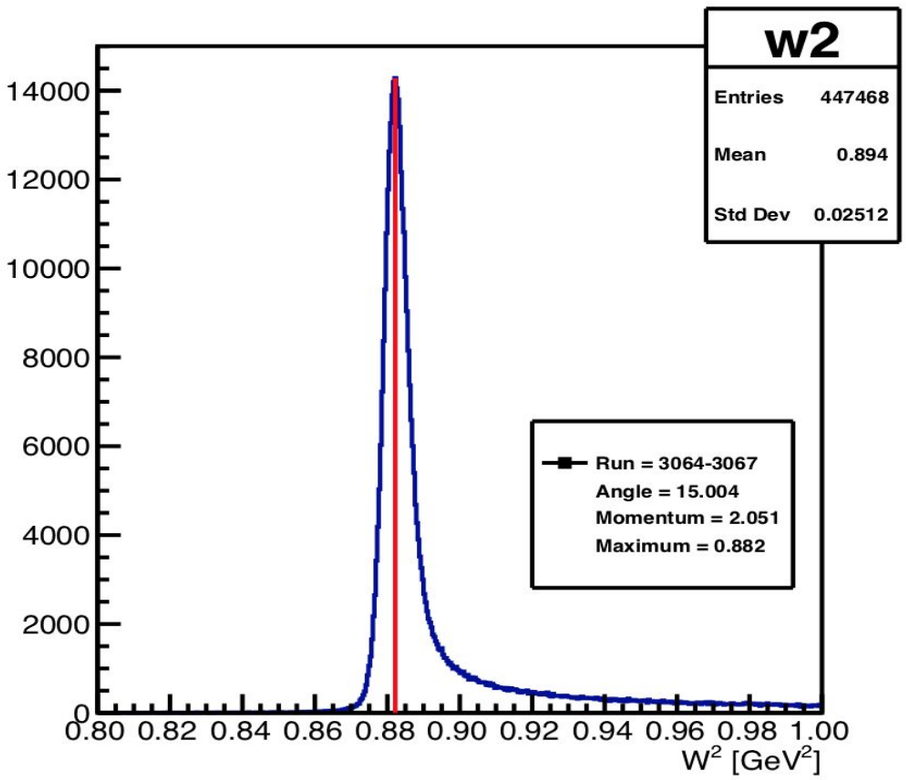
Before Energy Loss Correction

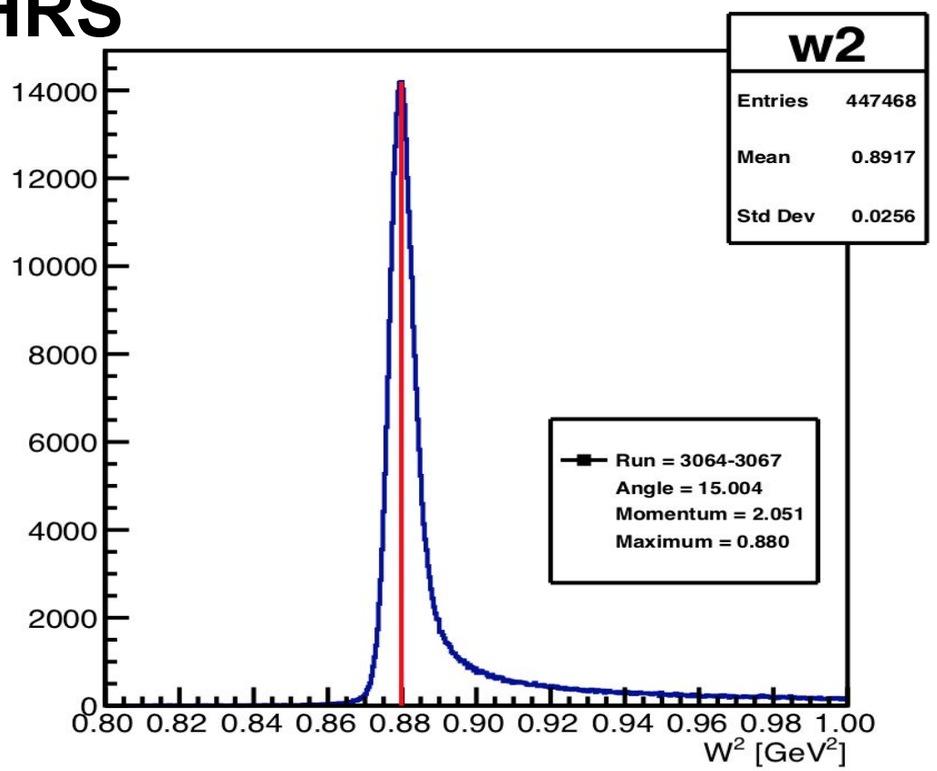


After Energy Loss Correction

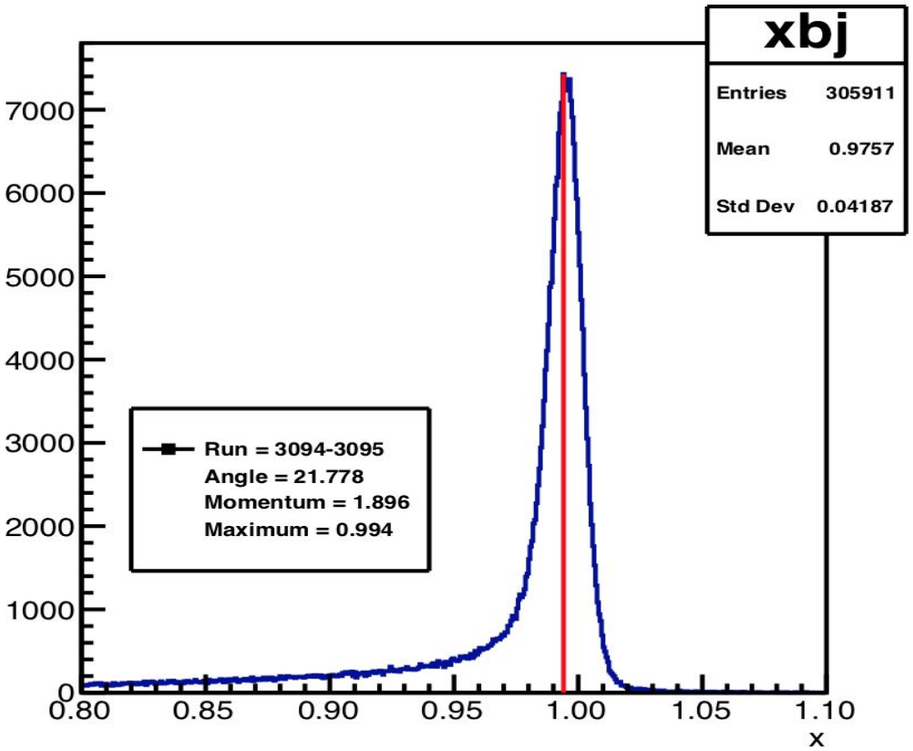


LHRS

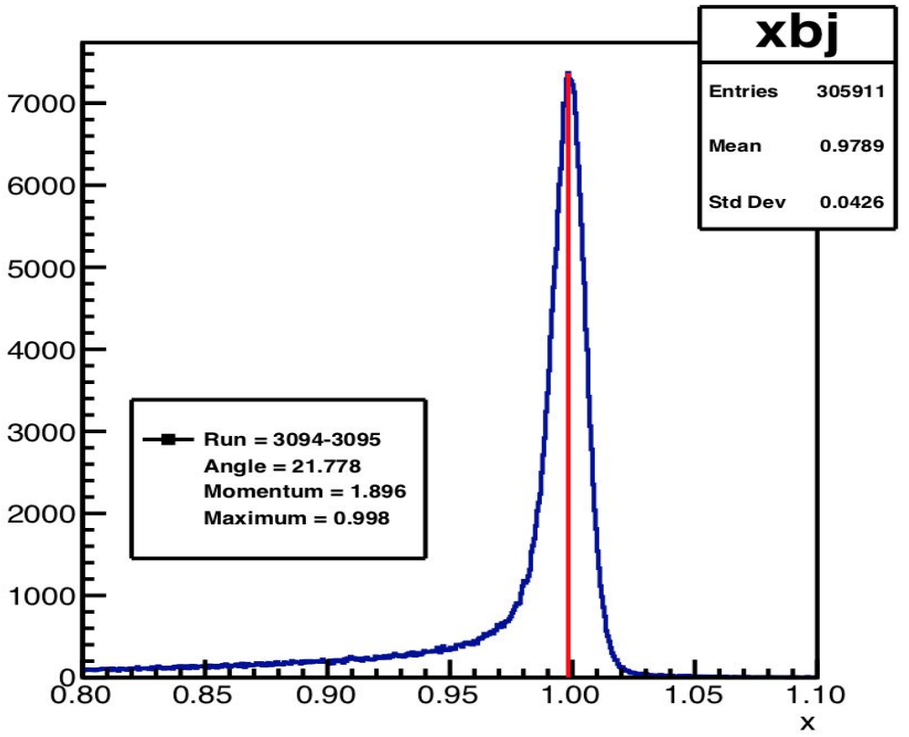




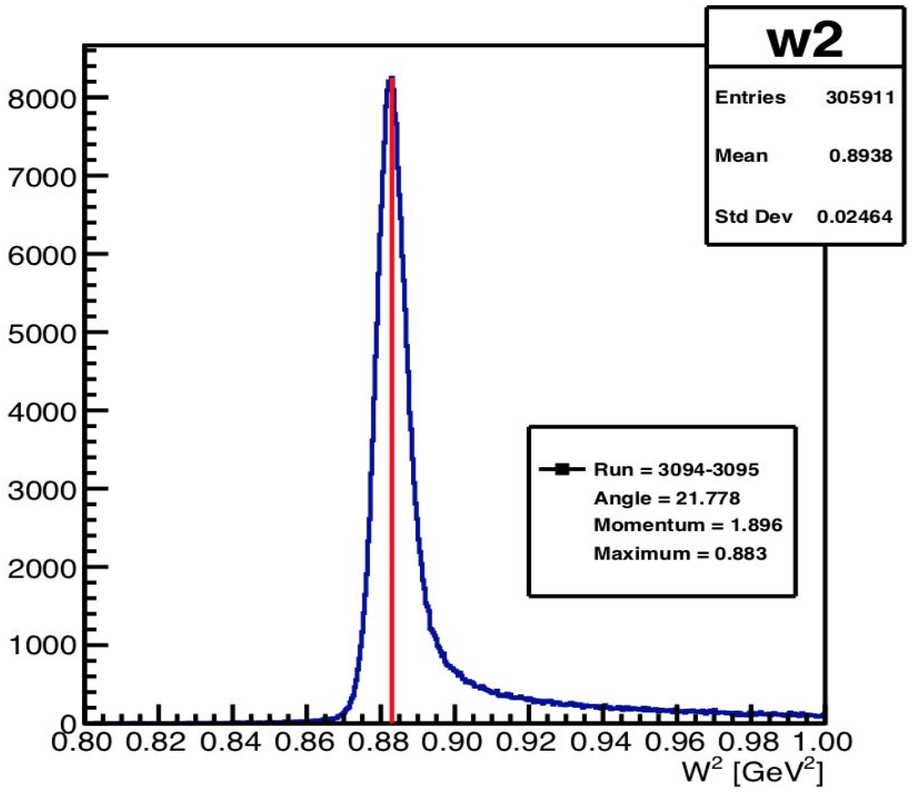
Before Energy Loss Correction

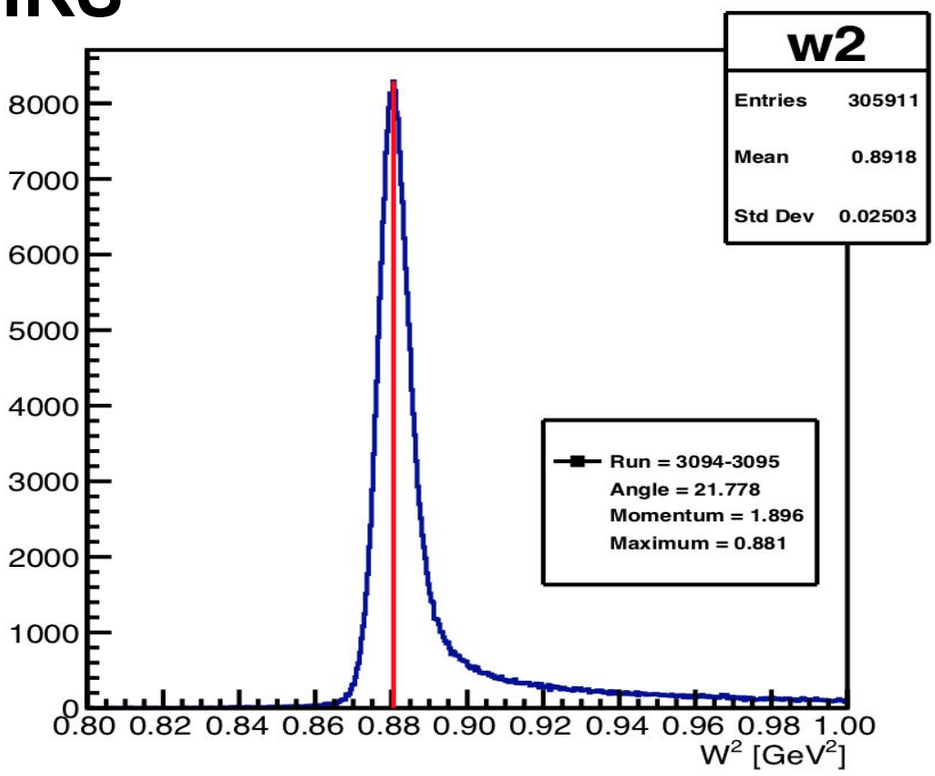


After Energy Loss Correction

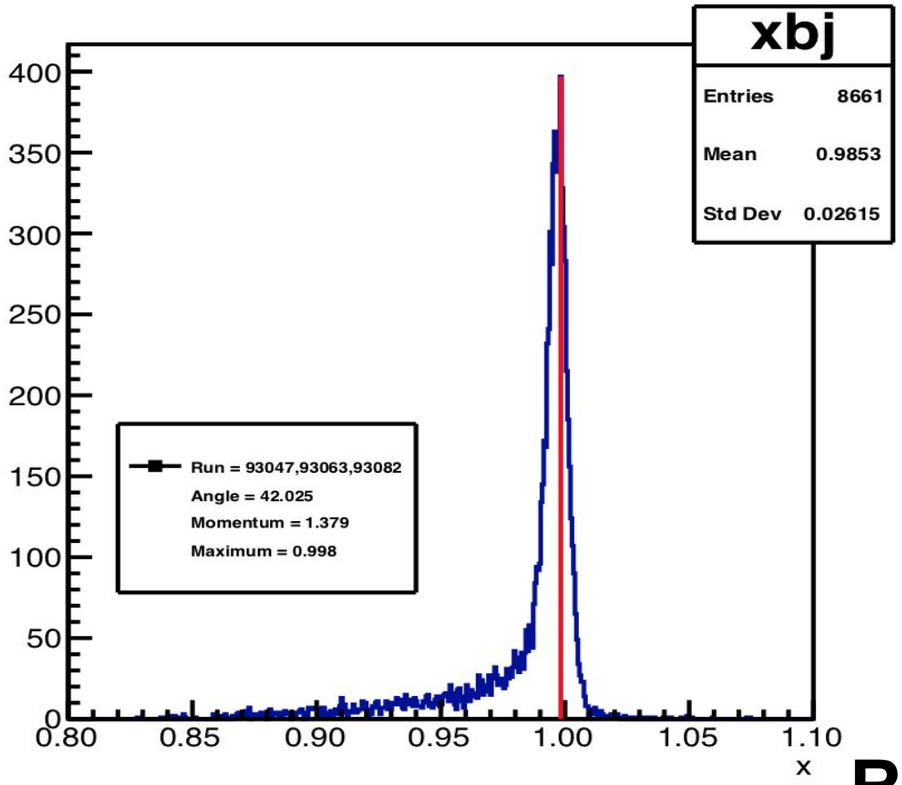


LHRS

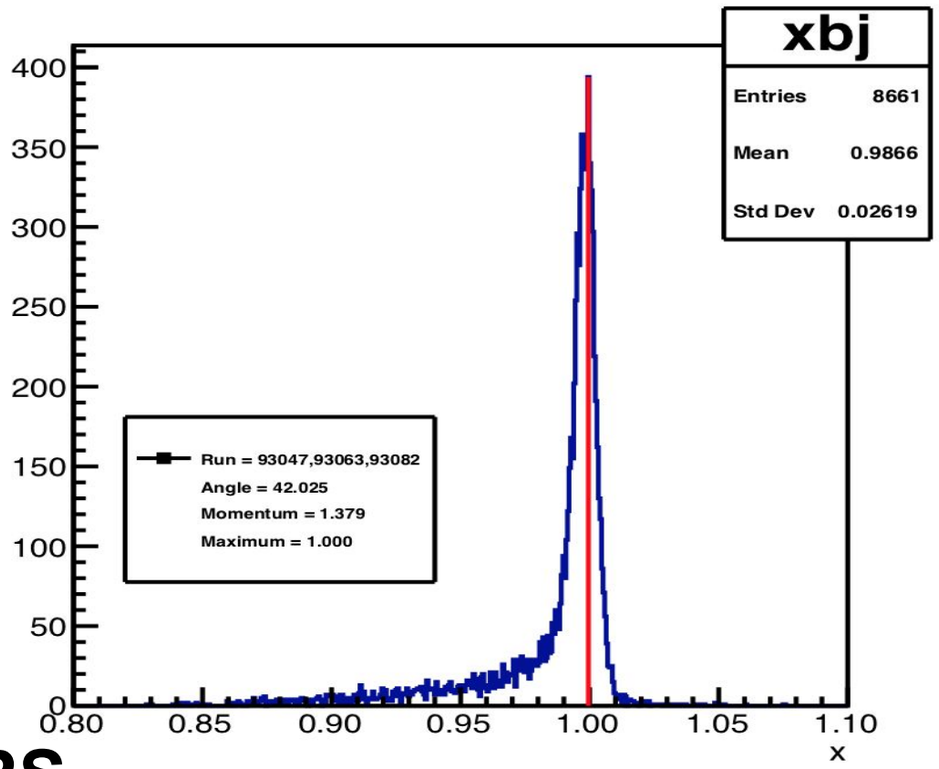




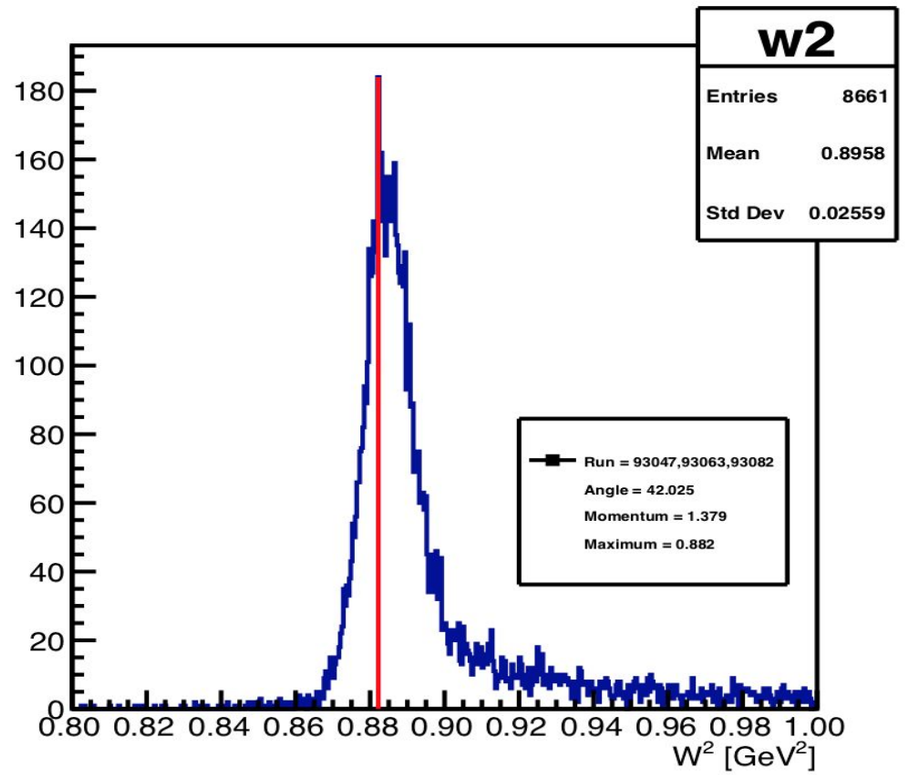
Before Energy Loss Correction

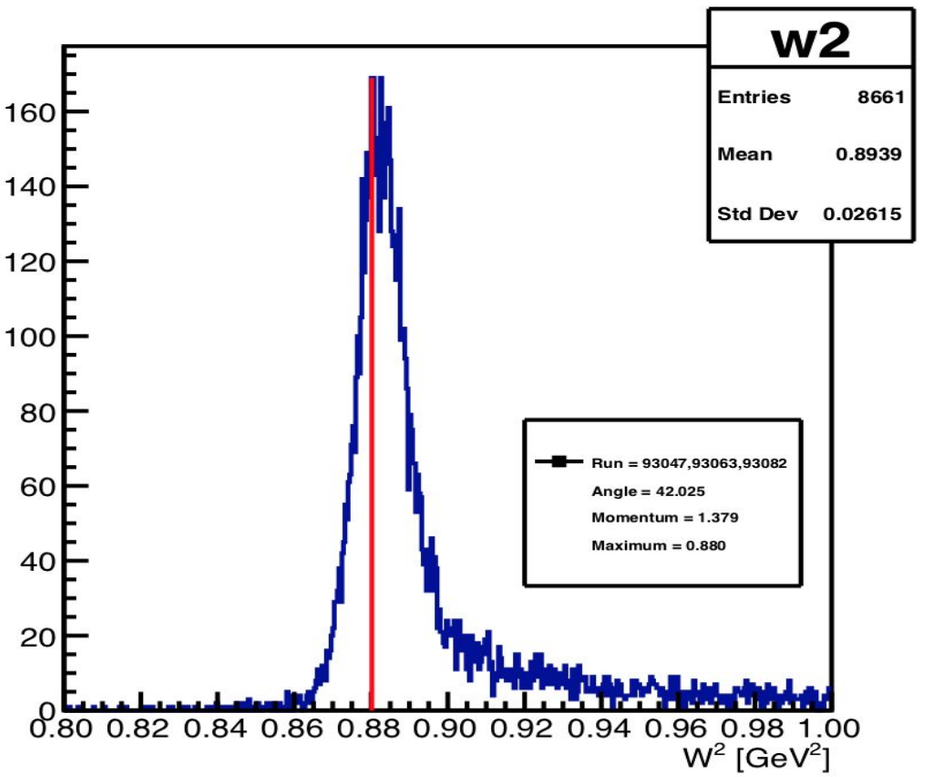


After Energy Loss Correction



RHRS

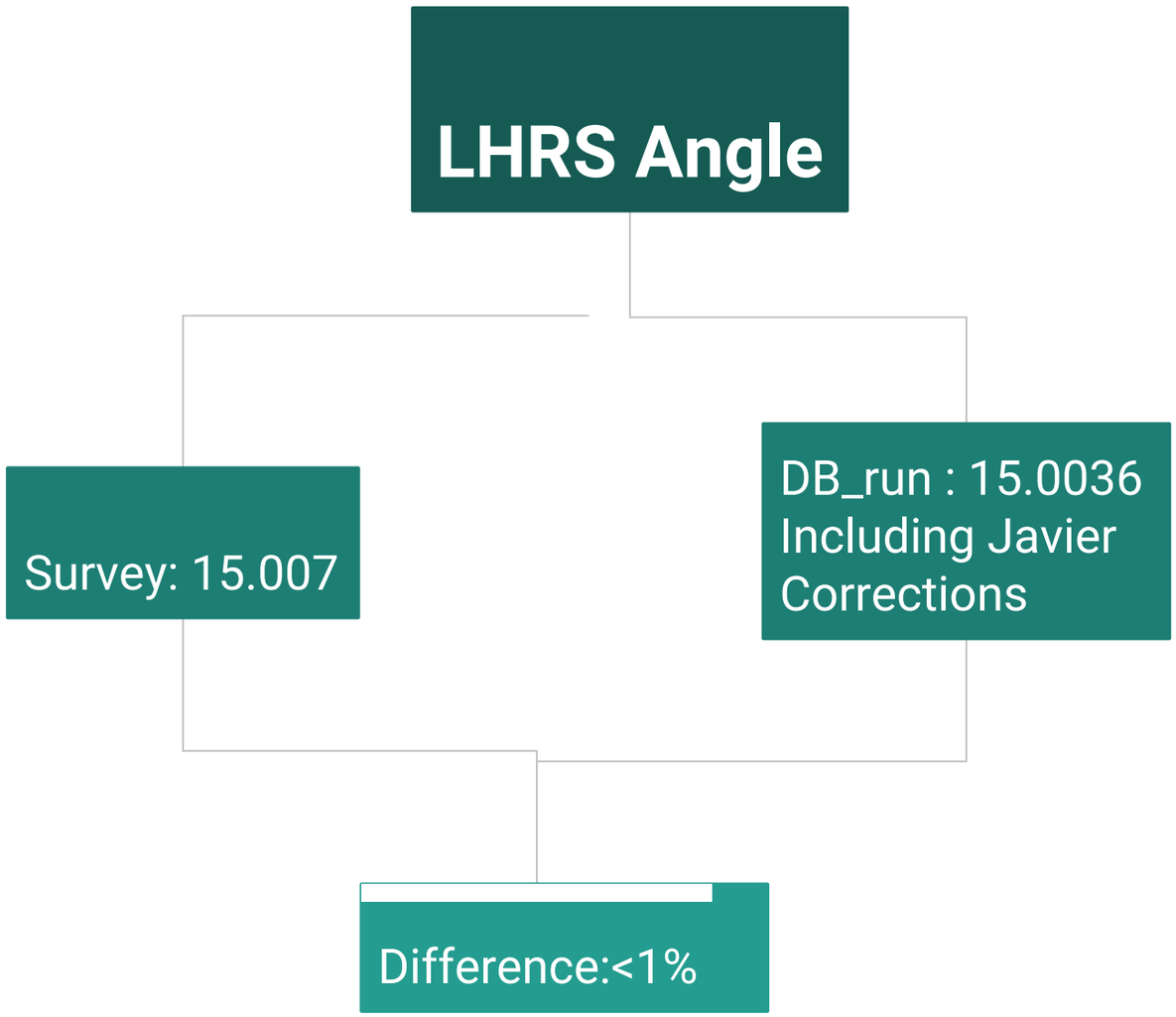


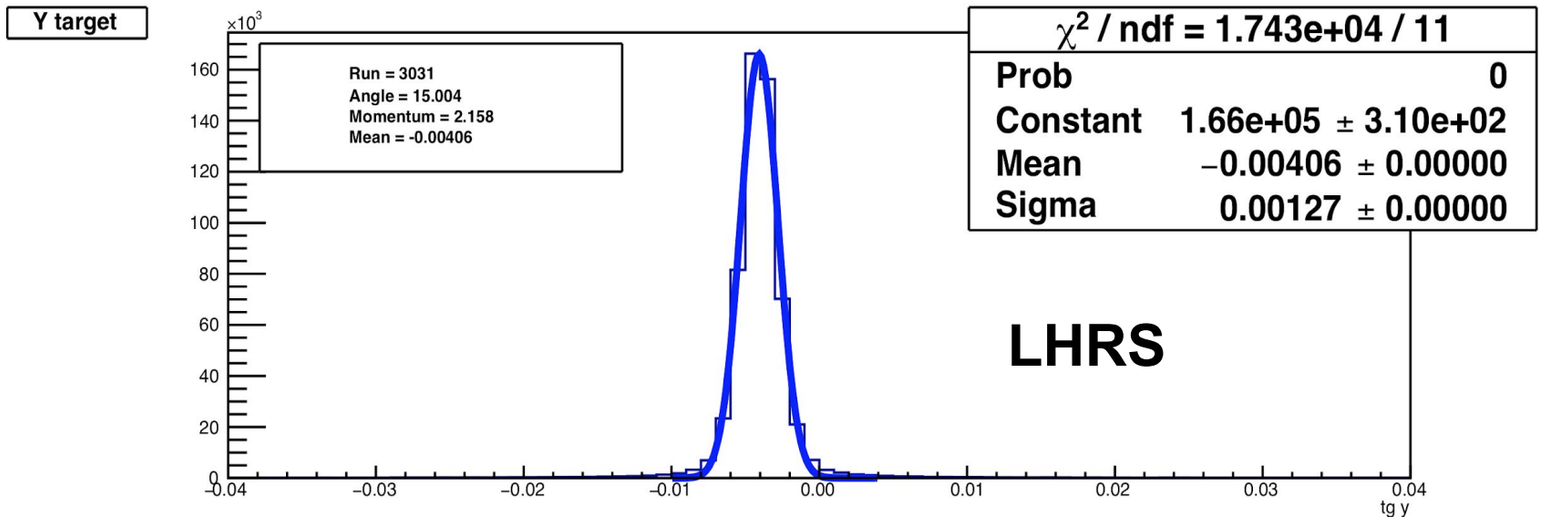


Pointing

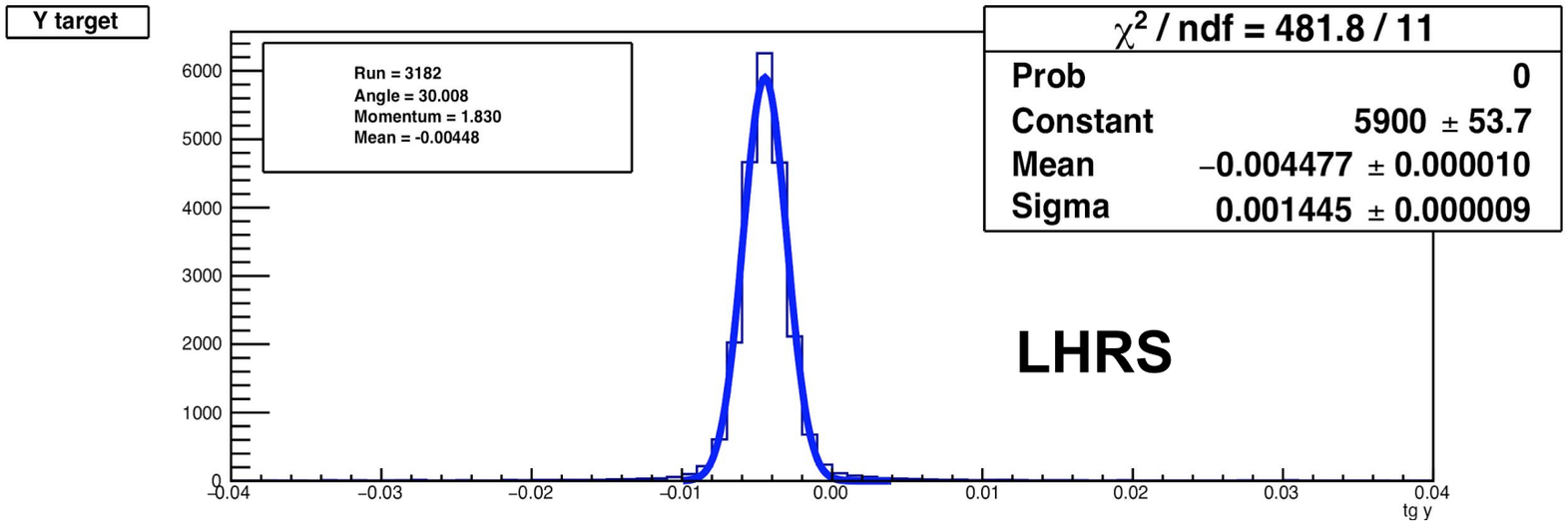
HRS	Angle (°)
LHRS	15.004
LHRS	21.778
LHRS	23.891
LHRS	25.952
LHRS	28.006
LHRS	30.001
RHRS	42.025

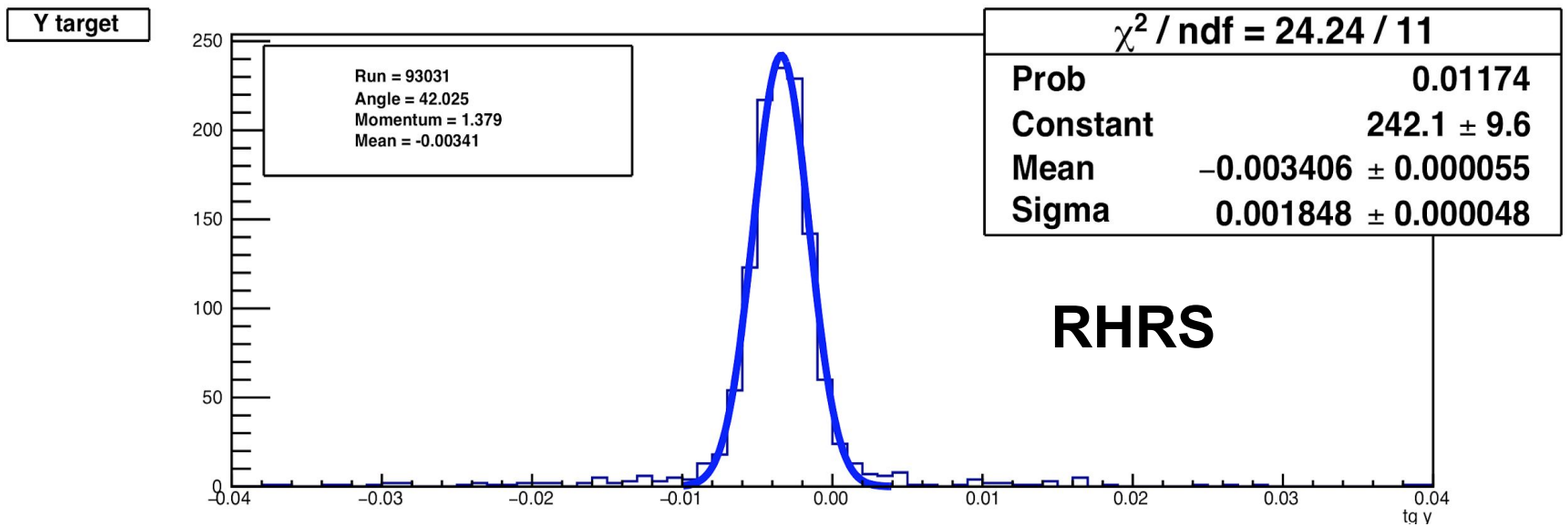
Only the LHRS had a survey at 15.004°:
https://hallaweb.jlab.org/wiki/images/9/98/DT_A1861.pdf



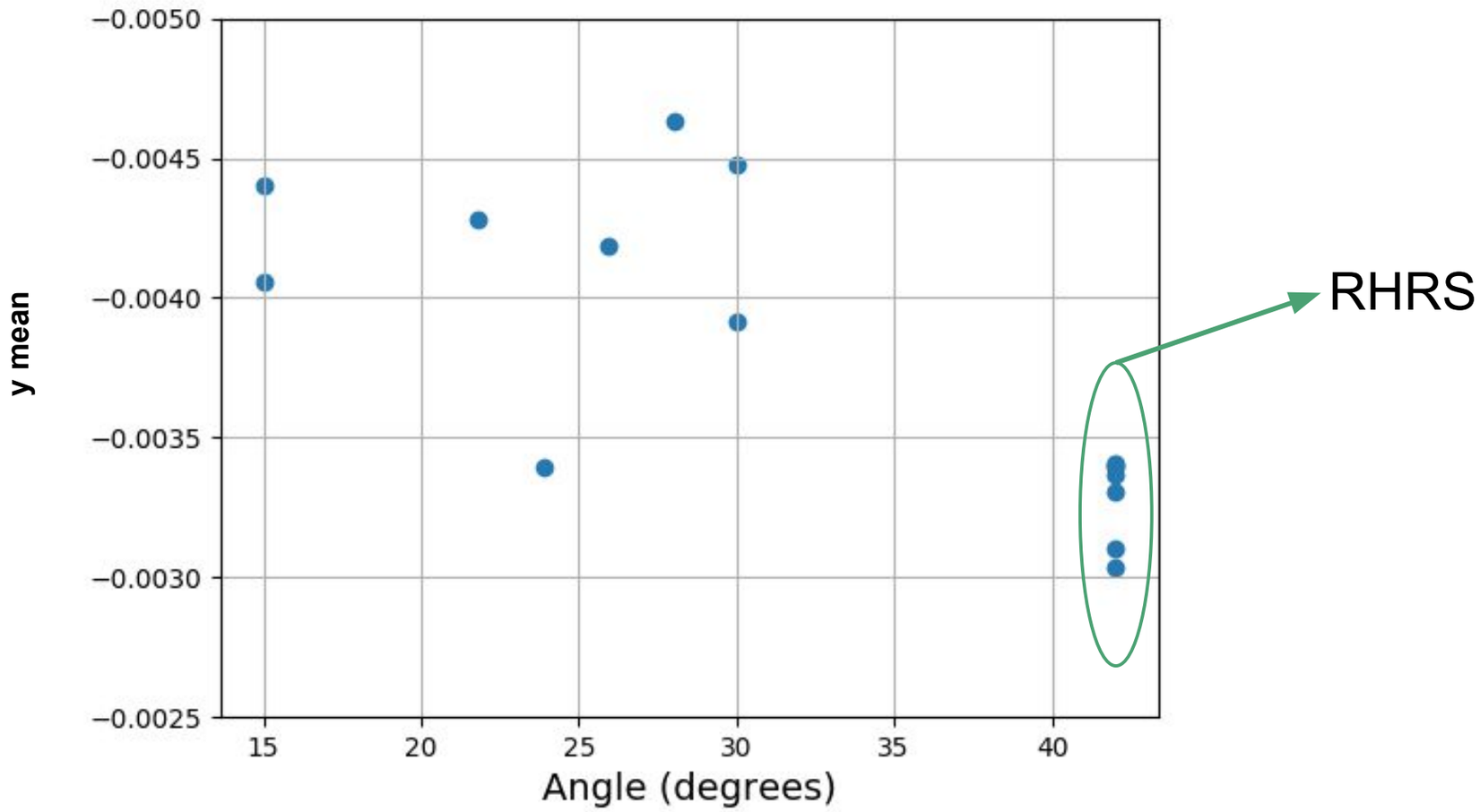
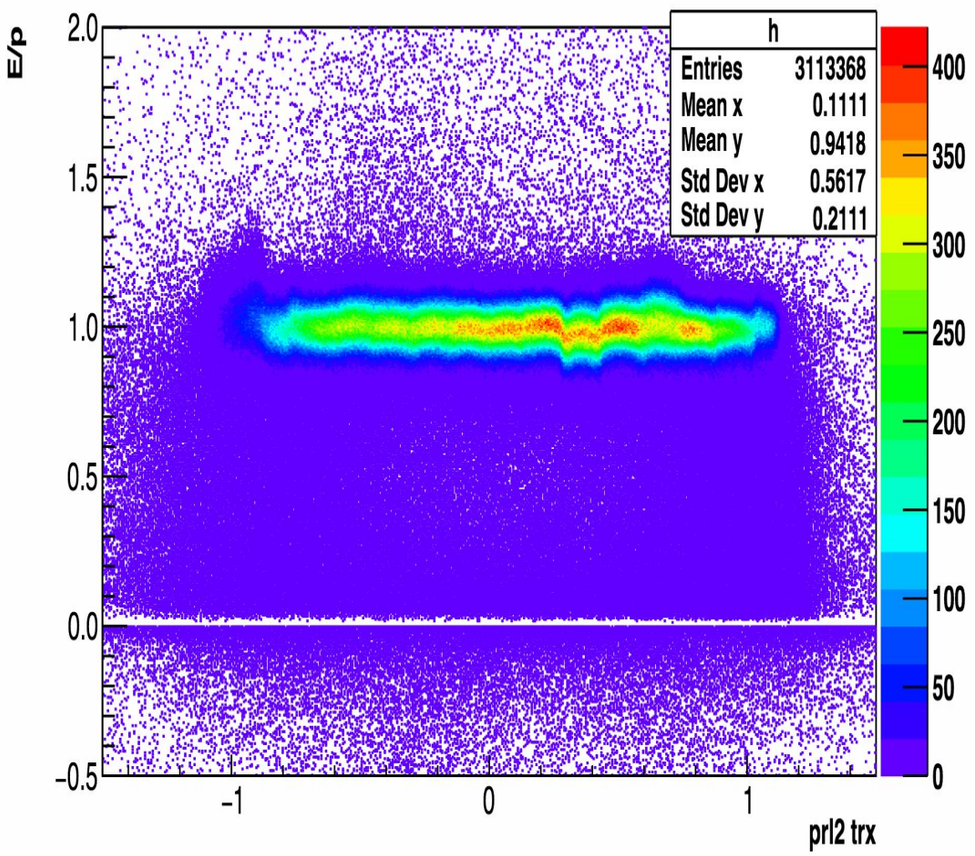
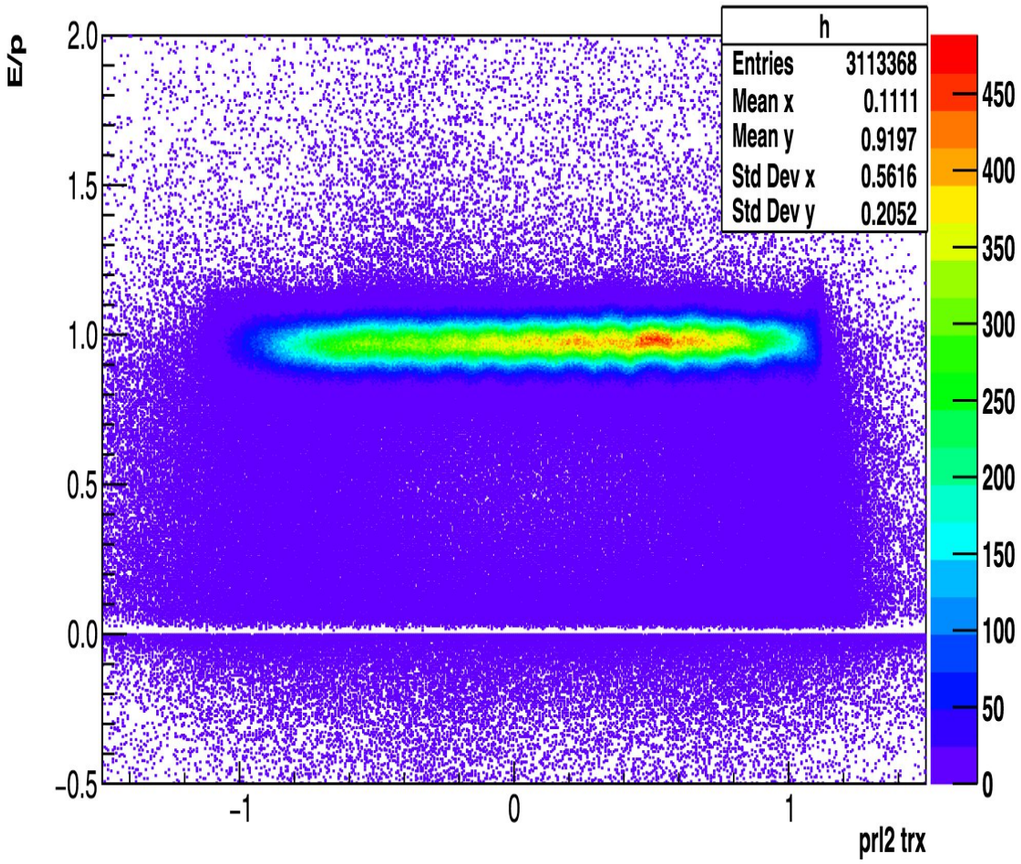


Carbon Foil Y target





Comparing the carbon foil mean for the different runs in the different angles:



Finally checking the Pion Rejectors (LHRS) after new calibration: