AnalysisMeeting082609

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Status

- Look at causes of Asymmetry change pass2/pass4
  - Will be presented later
- Working on Appendix A
  - Chapter 4 in directory
- Profile functions for MC
  - Kin2b has been rerun, others still need to be rerun
- Pre-threshold change Calibration
  - Delayed

Event Shift – Details – Std Cuts

Quantity	Number	Asymmetry	Negative	Positive
Pass 2 QE	24512	-0.0354 \pm 0.0064	0.4823	0.5177
Pass 4 QE	22599	-0.0473 \pm 0.0067	0.4764	0.5236
Pass 2 & Pass 4	16257	-0.0468 \pm 0.0078	0.4766	0.5234
More Pass 2	8018 + 229			
More Pass 4	6118 + 218			

Obviously the part of Old QE that doesn't agree with New QE has a very different asymmetry. To reach the total number of Negative (Positive) counts, multiple Negative(Positive) by Number. The More Pass 2 number gives the number of match type events to compare + the number where there is no event (of that number).

Details – Pass 2

Quantity - Cut	Number	Asymmetry	Negative	Positive
Y	4515	-0.009 \pm 0.015	0.0912	0.0930
W	887	-0.011 \pm 0.034	0.0183	0.0179
q_{m,perp}	212	+0.05 \pm 0.07	0.0045	0.0041
tof	138	-0.07 \pm 0.09	0.0026	0.0030
Mm	647	-0.023 \pm 0.039	0.0129	0.0135
X	45	+0.16 \pm 0.15	0.0011	0.0008
Calc failed	0	0	0	0
Charge ID	1616	-0.046 \pm 0.025	0.0315	0.0345
No Match	207	+0.09 \pm 0.07	0.0046	0.0038

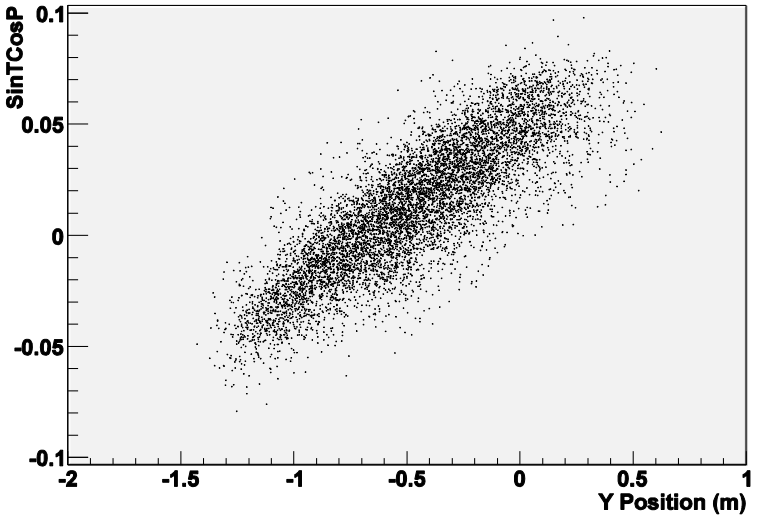
There is a sequential check of the cuts to see what is causing the events that aren't considered as quasi-elastic events in both to fail. The sequential check starts at the top and proceeds to the bottom, with the top cut checked first. Multiply the Negative (Positive) number by Pass 2 total QE counts to give the number of Negative (Positive) counts that fail.

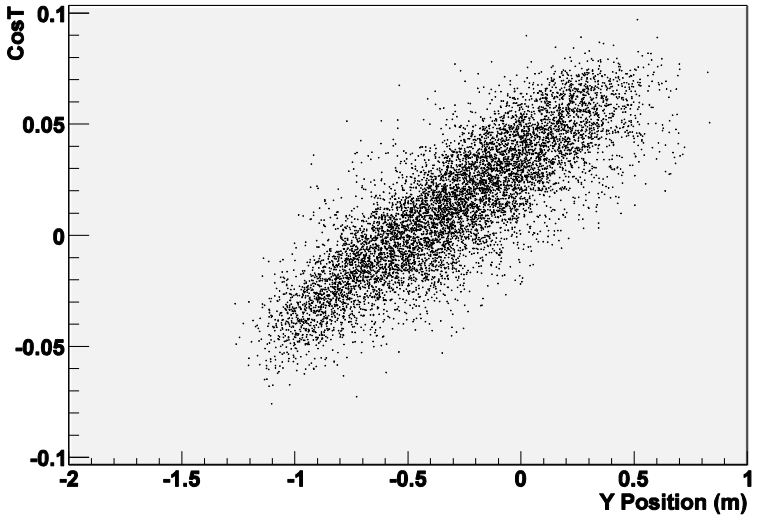
Details – Pass 4

Quantity - Cut	Number	Asymmetry	Negative	Positive
Y	2703	-0.065 \pm 0.019	0.0559	0.0637
W	651	-0.002 \pm 0.039	0.0144	0.0144
q_{m,perp}	150	-0.053 \pm 0.039	0.0031	0.0035
tof	104	+0.17 \pm 0.10	0.0027	0.0019
Mm	721	-0.007 \pm 0.037	0.0158	0.0161
X	18	-0.00 \pm 0.24	0.0040	0.0040
Calc failed	0	0	0	0
Charge ID	1212	-0.107 \pm 0.029	0.0239	0.0297
No Match	770	+0.000 \pm 0.036	0.0170	0.0170

There is a sequential check of the cuts to see what is causing the events that aren't considered as quasi-elastic events in both to fail. The sequential check starts at the top and proceeds to the bottom, with the top cut checked first. Multiply the Negative (Positive) number by Pass 2 total QE counts to give the number of Negative (Positive) counts that fail.

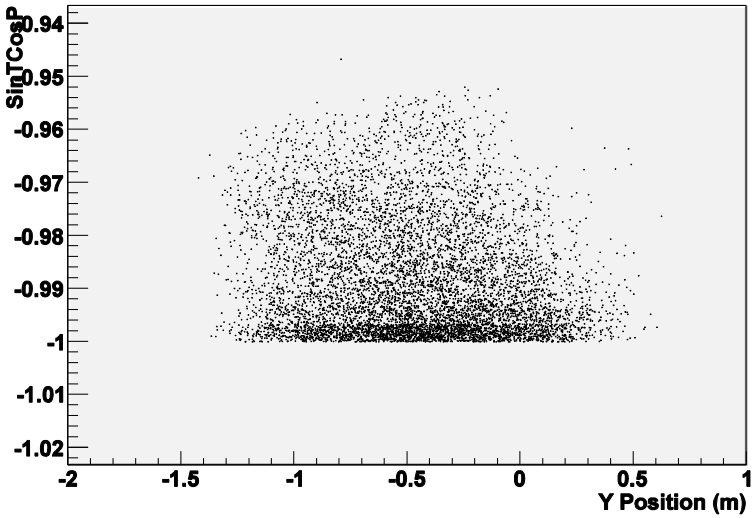
Cos T for Pass 2 and Pass 4

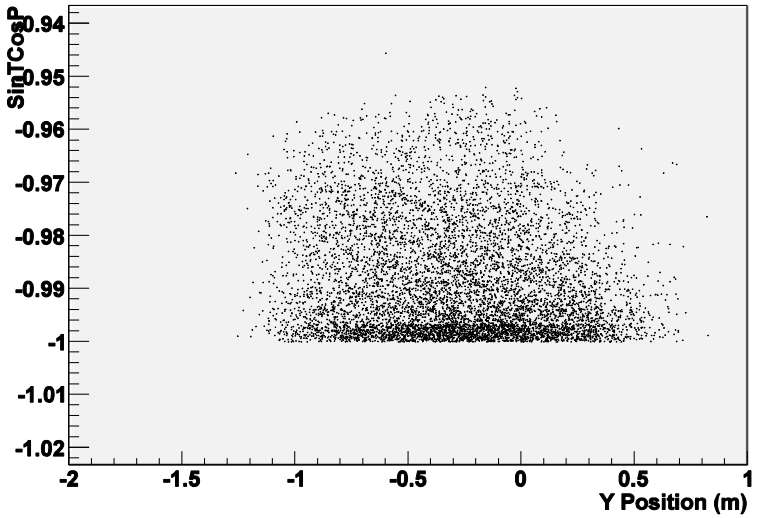




Pass 2 on the left, pass 4 on the right. Both plots are CosT versus Horizontal position in the neutron arm (of the hit).

Sin T Cos P for Pass 2 and Pass 4





Pass 2 on the left, pass 4 on the right. Both plots are SinTCosP versus Horizontal position in the neutron arm (of the hit).

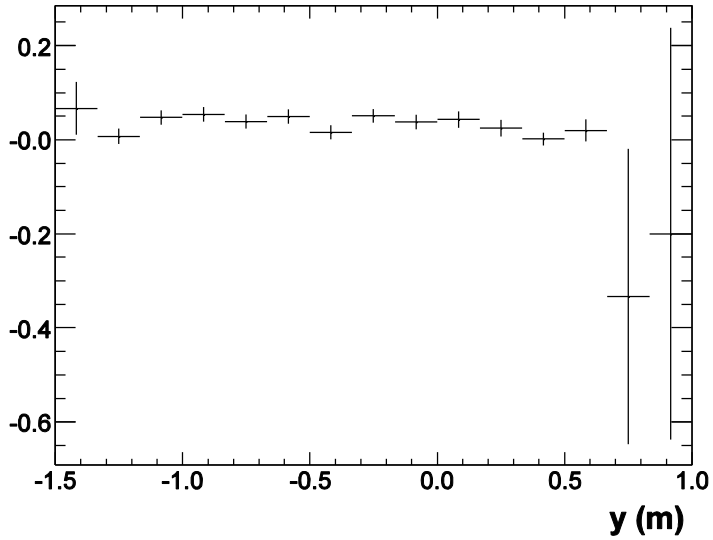
Effects in shift of Horizontal Position

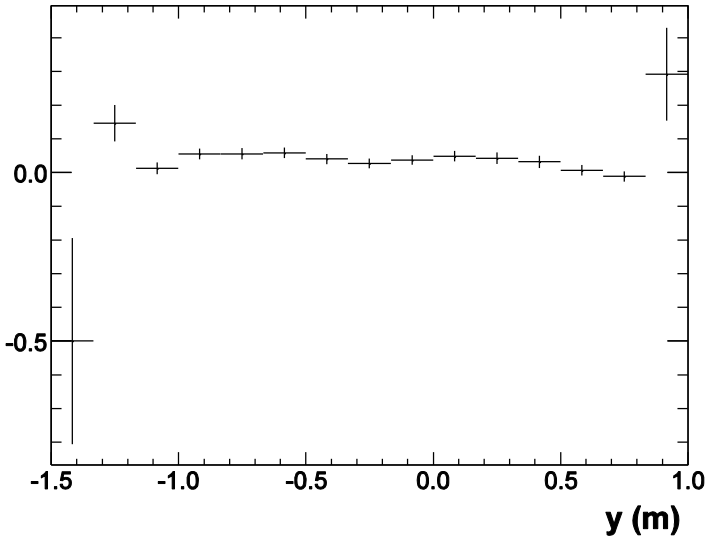
- Perpindicular momentum – shouldn't be major
- Cos T - small
- Sin T Cos P – small
- Cut in Y -> $|y + 0.183| < .7$
  - Includes 'bad' sector

Adjustment of Y

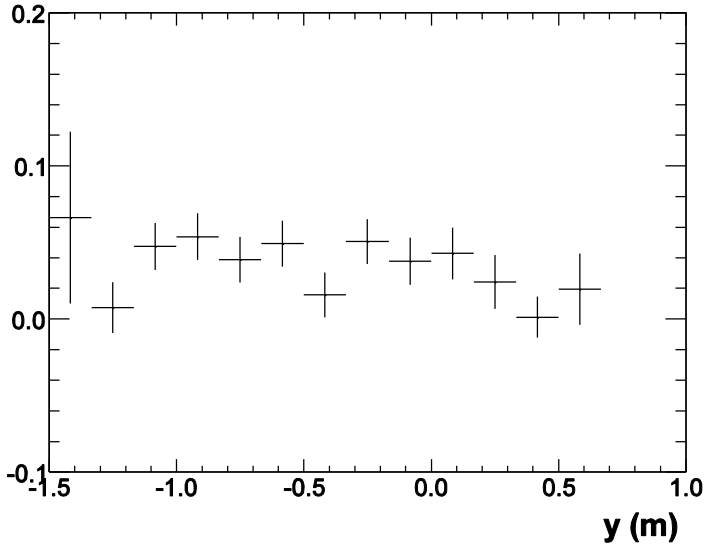
- Cut changed to |Y+.2|<.6
  - Y for pass 2 shifted by .2
- Pass 2 – 19934, -0.0476 \pm 0.0071
- Pass 4 – 20110, -0.0487 \pm 0.0071
- Same – 16097, -0.0508 \pm 0.0079

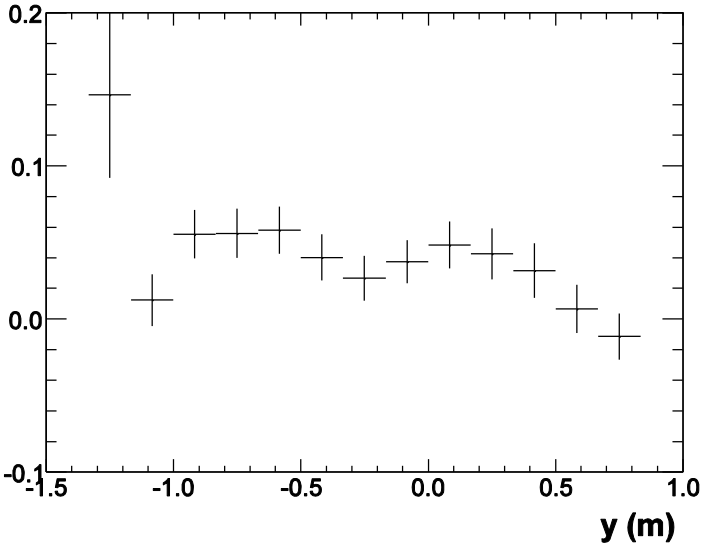
Asymmetry – Pass 2 on Left, Pass 4 on Right



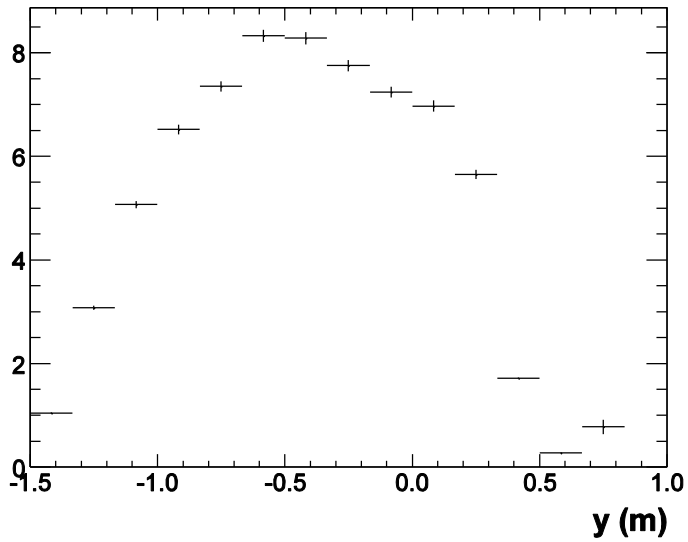


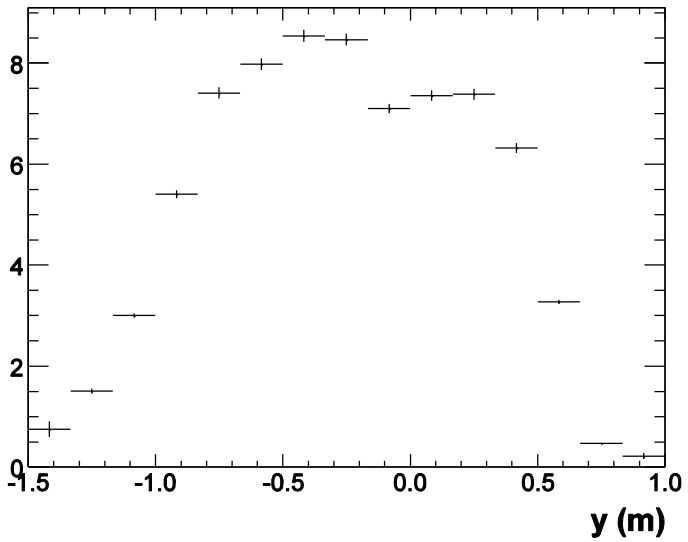
Asymmetry – Pass 2 on Left, Pass 4 on Right



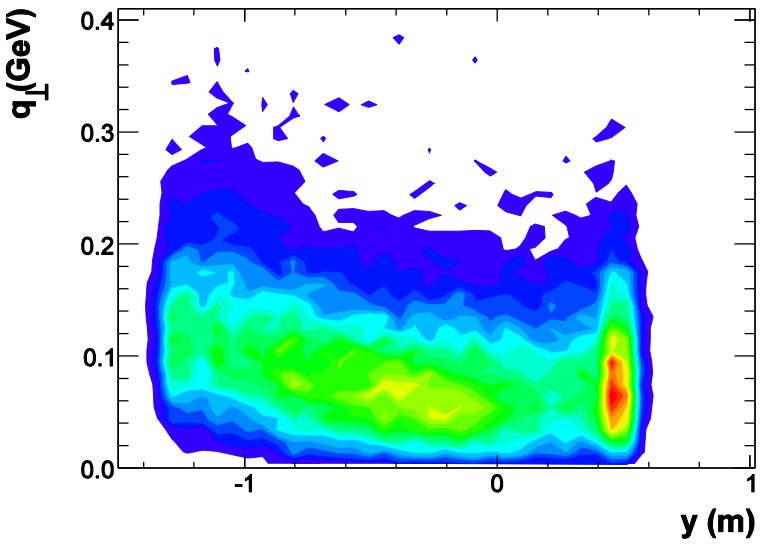


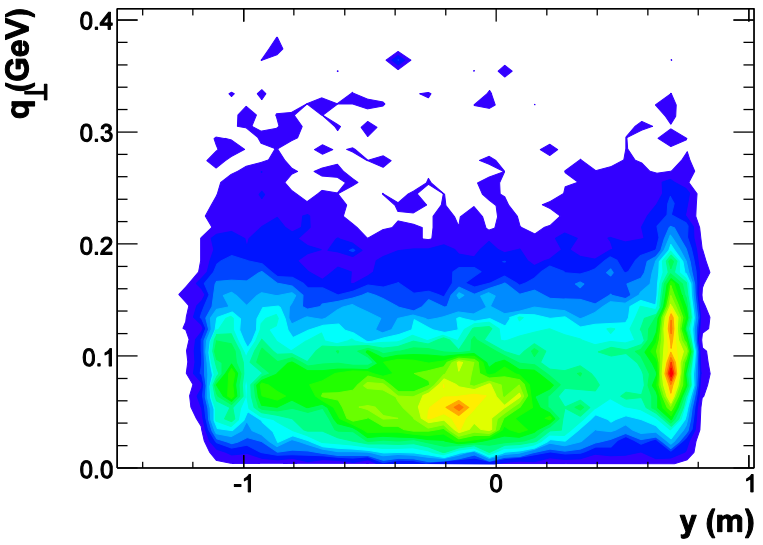
Charge Ratio – Pass 2 on Left, Pass 4 on Right



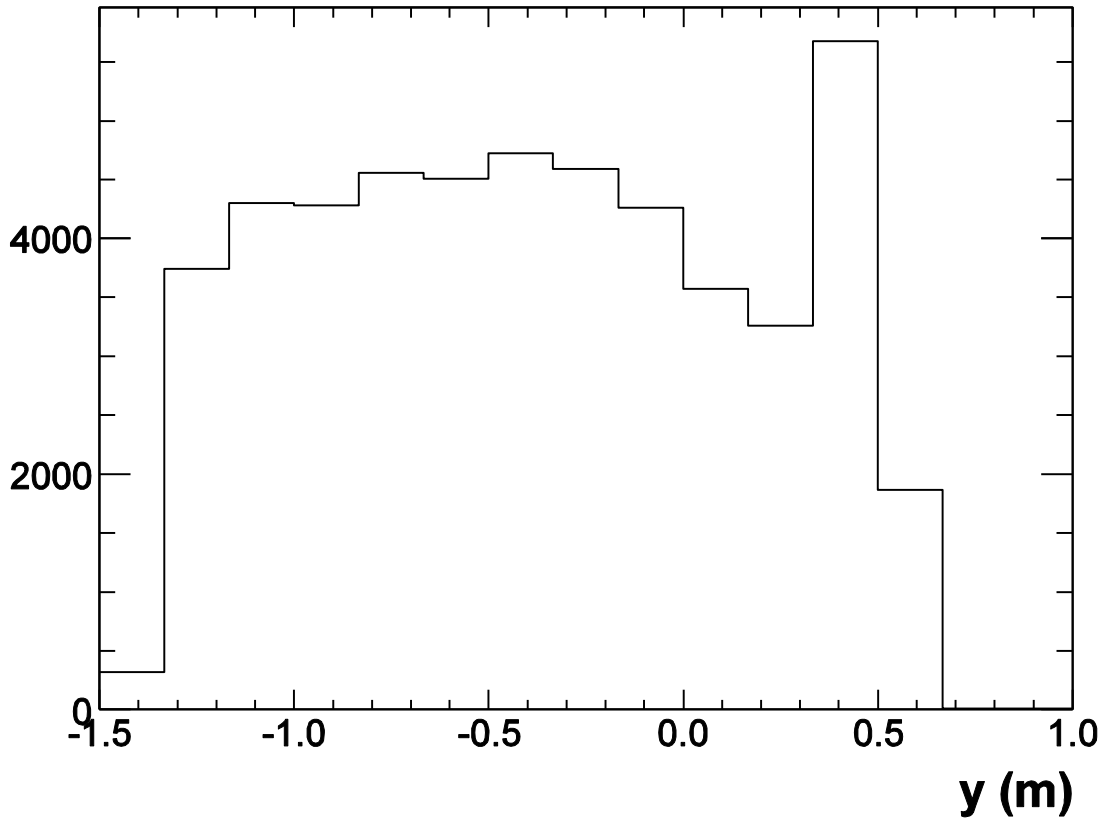


qperp– Pass 2 on Left, Pass 4 on Right

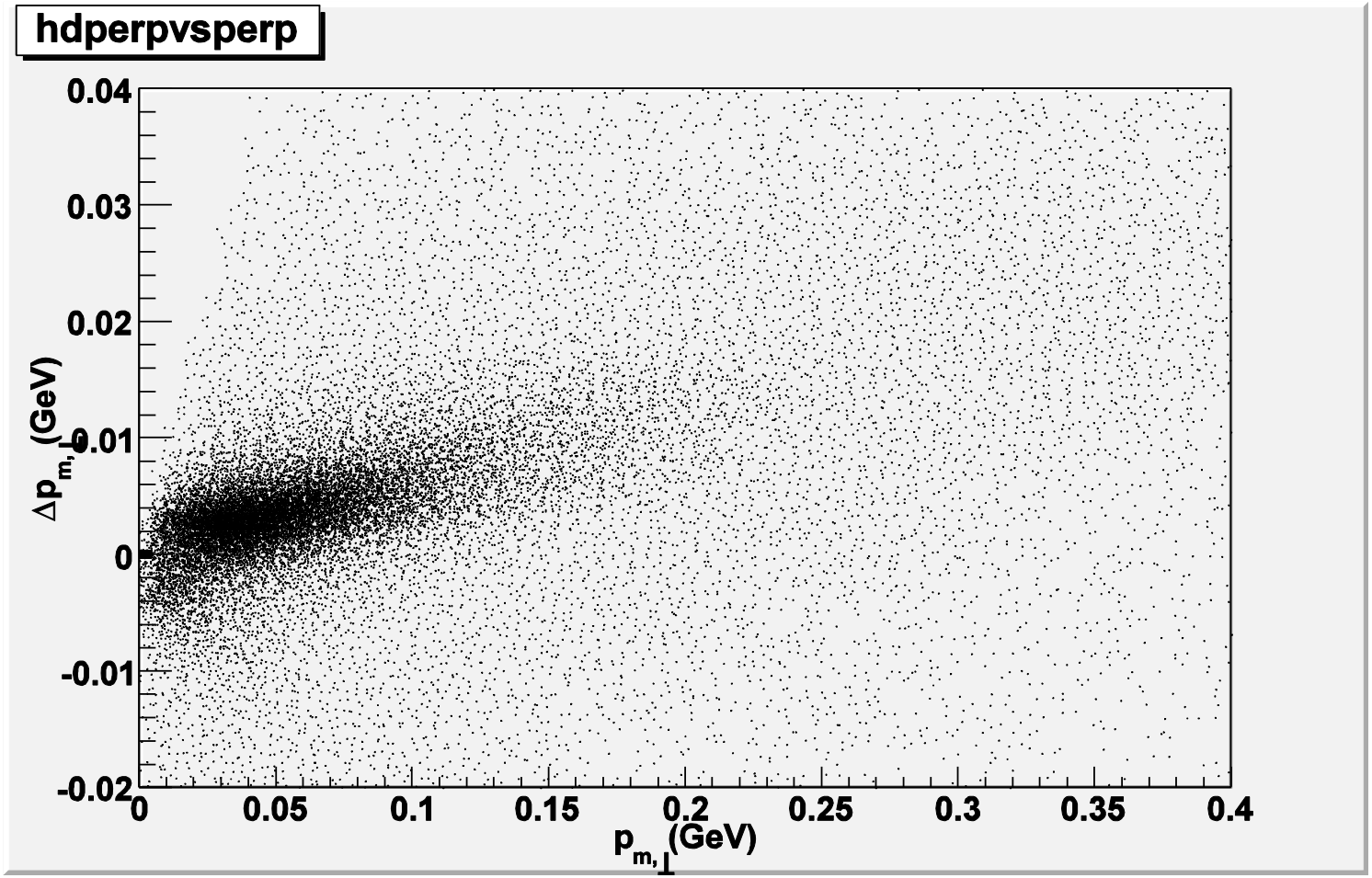




Total Counts – Y



Compare – Plots



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