KaonLT Meeting

May 22nd, 2025

Richard L. Trotta

Used for all Q^2

$$\sigma_L = (p_1 \cdot f_t) \cdot e^{-p_2|t|}$$

$$\sigma_T = \frac{p_5}{|t|^{p_6}}$$

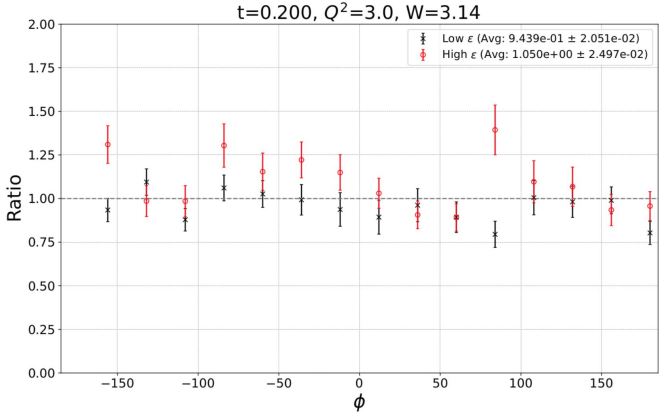
$$\sigma_{LT} = p_9 \cdot e^{-p_{10}|t|} \sin\theta$$

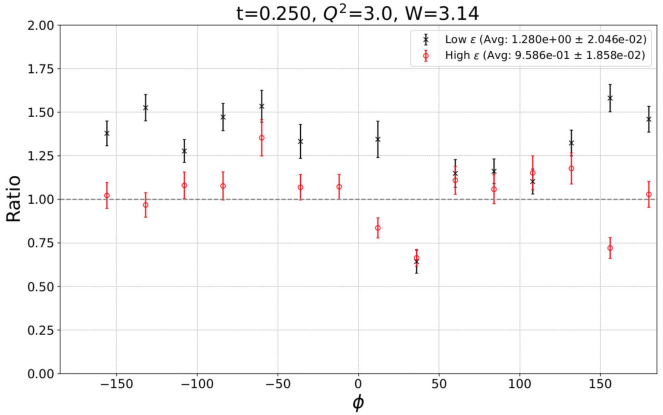
$$\sigma_{TT} = \frac{p_{13}}{|t|^{p_{14}}} \sin^2\theta$$

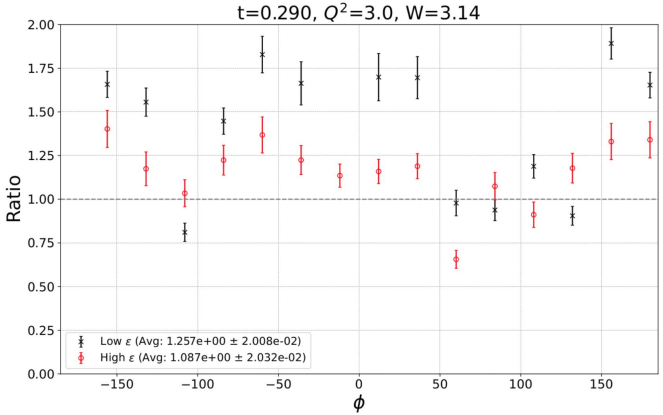
$$\omega(W) = \frac{1}{(W^2 - M^2)^{0.85 \cdot W_c^2 - 5.97 \cdot W_c + 12.68}}$$

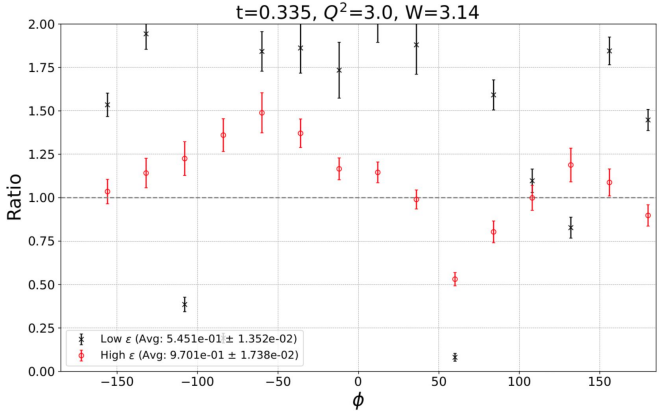
Q^2=3.0, W=3.14, t=(0.17-0.36), 4t, 15φ

i=15





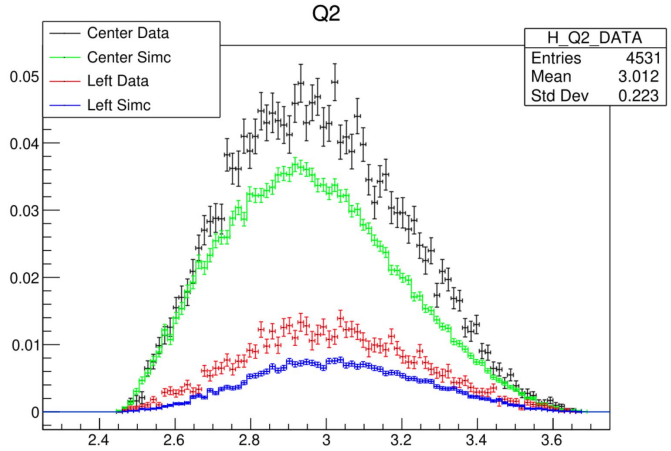


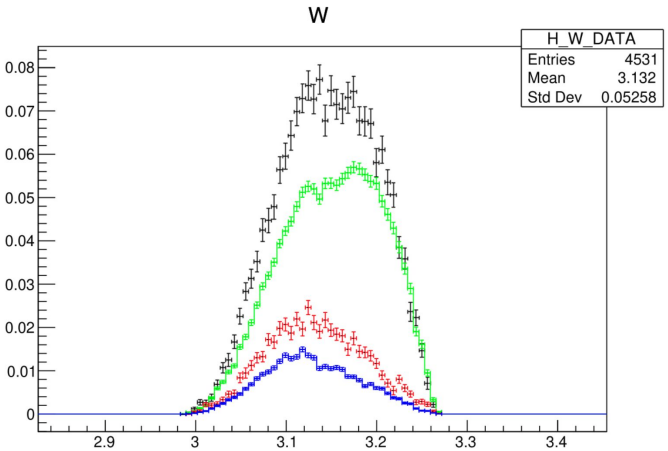


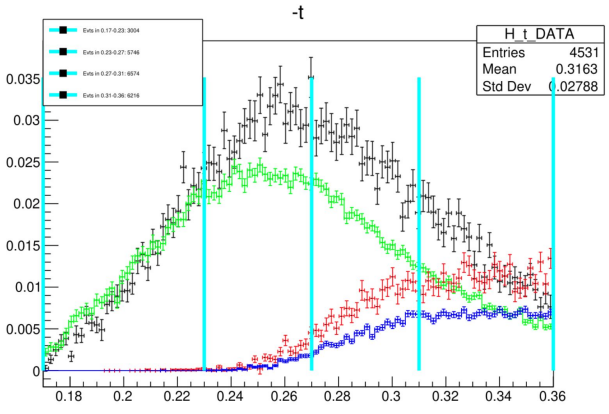
Ratios look nice, but that's about it

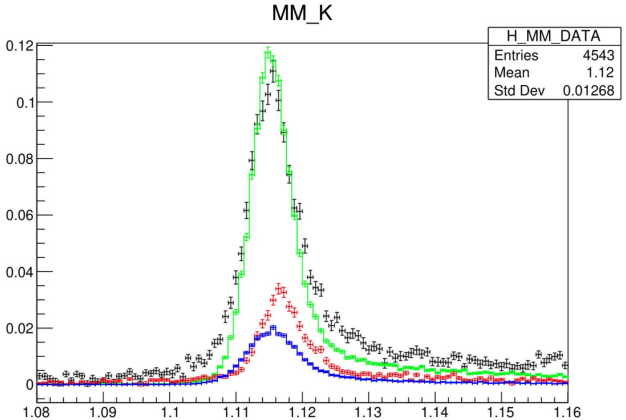
Q^2=3.0, W=3.14, t=(0.17-0.36), 4t, 15φ

i=15







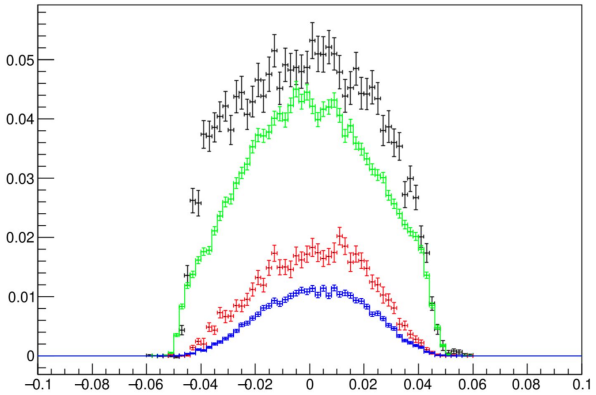


Better off using the alternative functional form

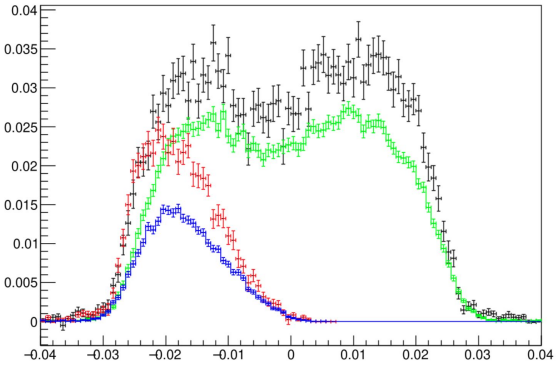
Q^2=3.0, W=3.14, t=(0.17-0.36), 4t, 15φ

i=15

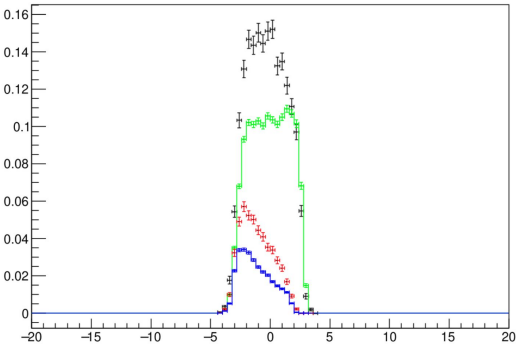
SHMS xptar



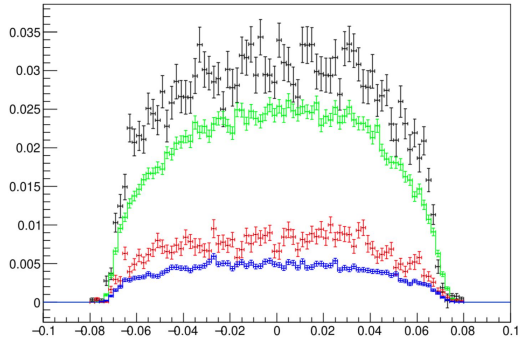
SHMS yptar



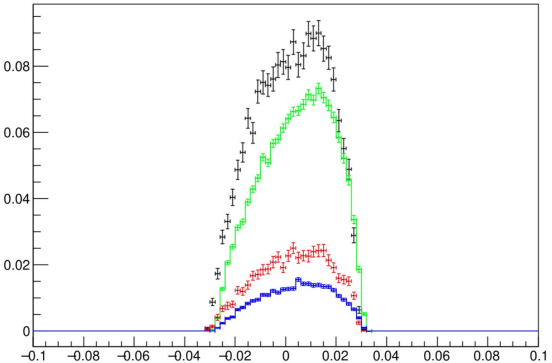
SHMS delta



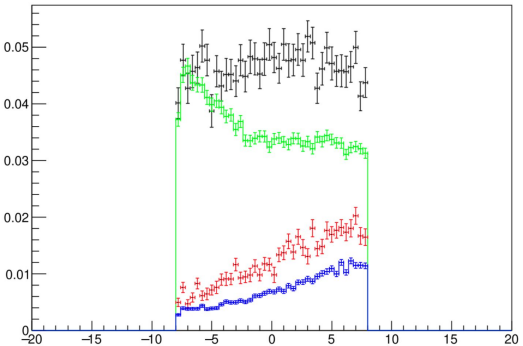
HMS xptar



HMS yptar



HMS Delta



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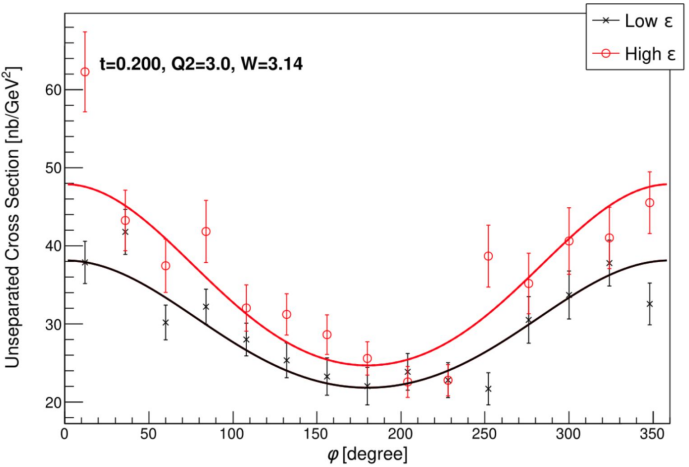
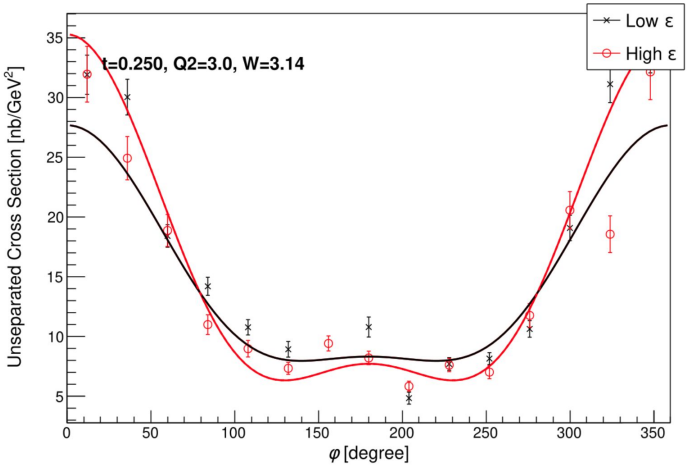
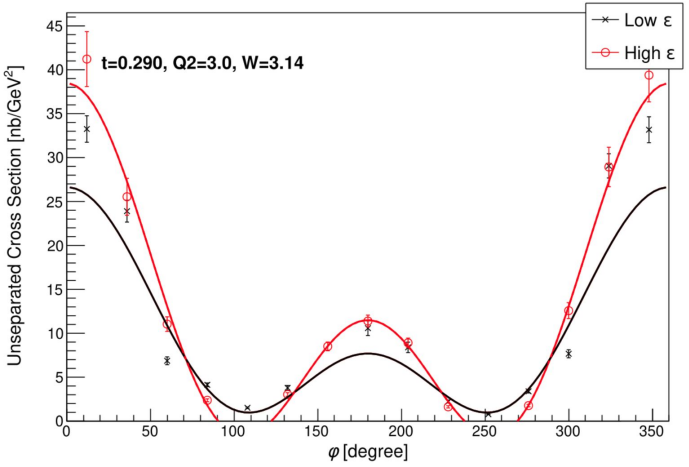
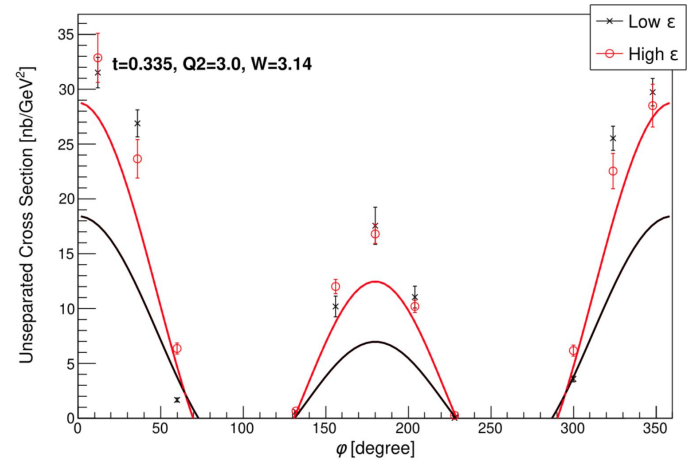
i=15





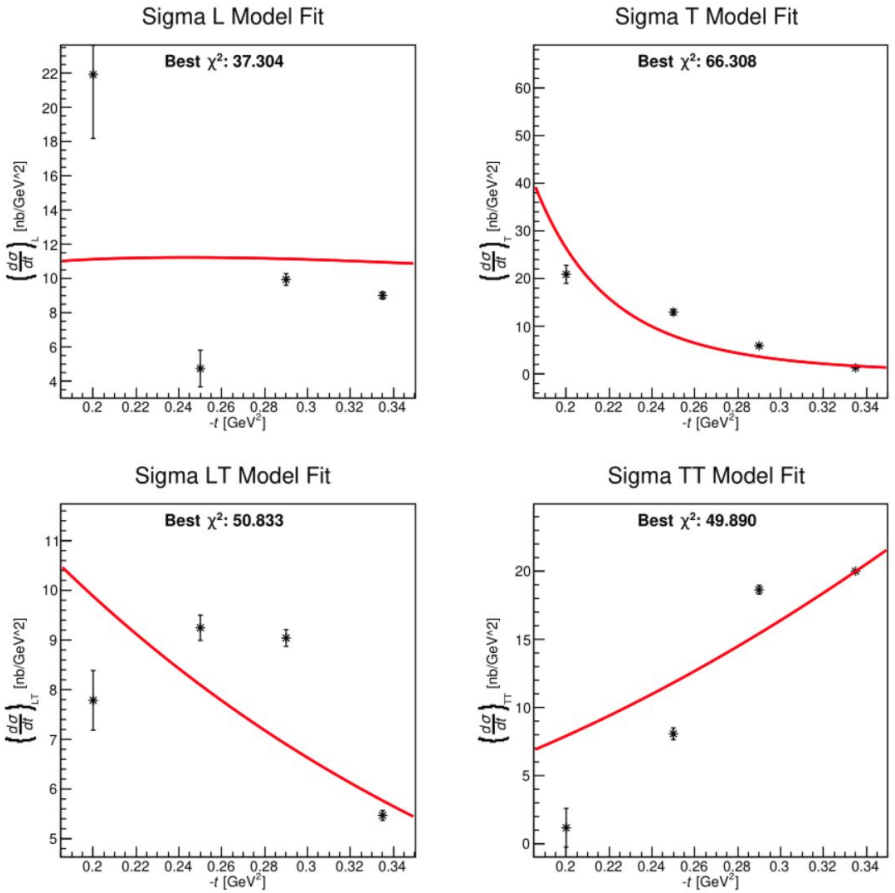


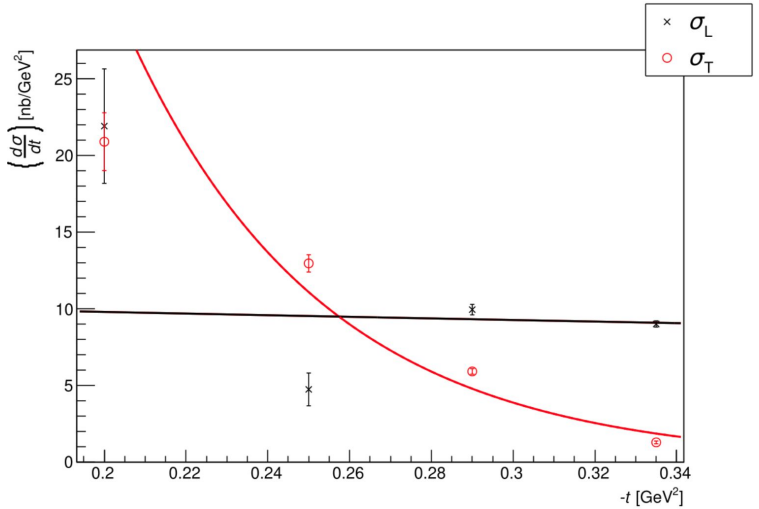


Higher t-bins much worse

Q^2=3.0, W=3.14, t=(0.17-0.36), 4t, 15φ

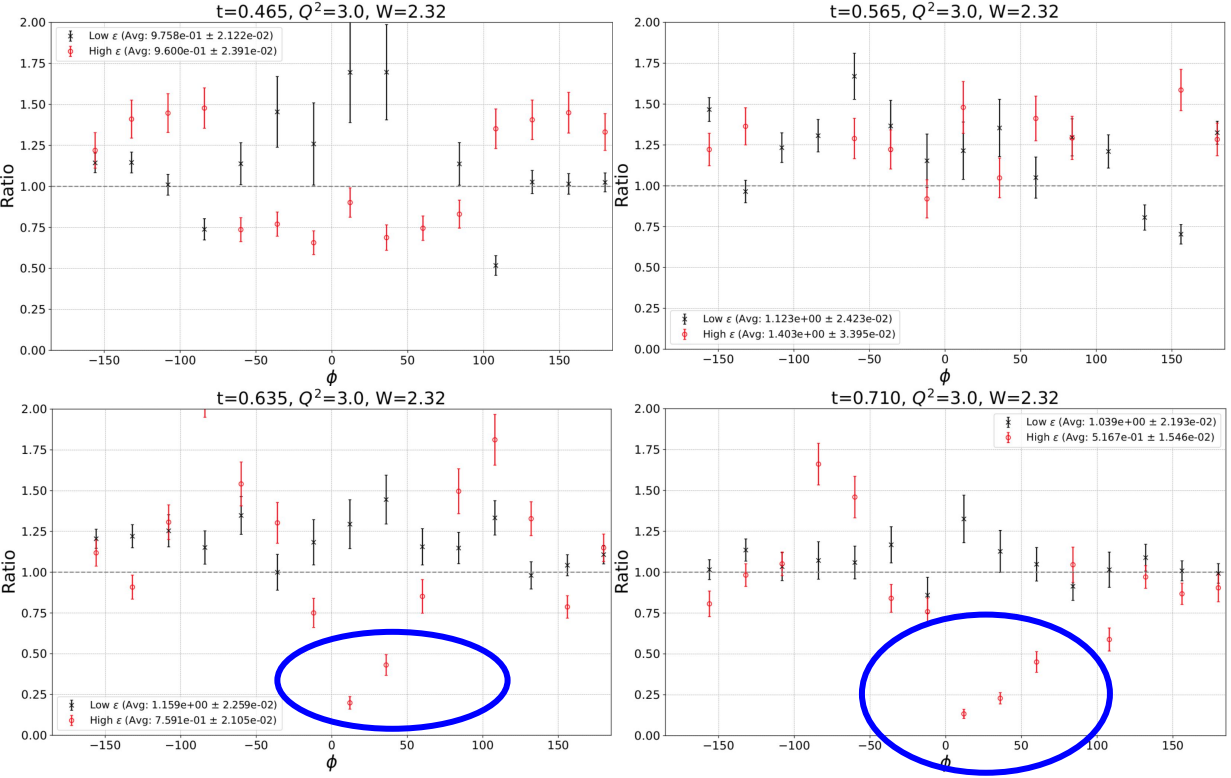
i=15





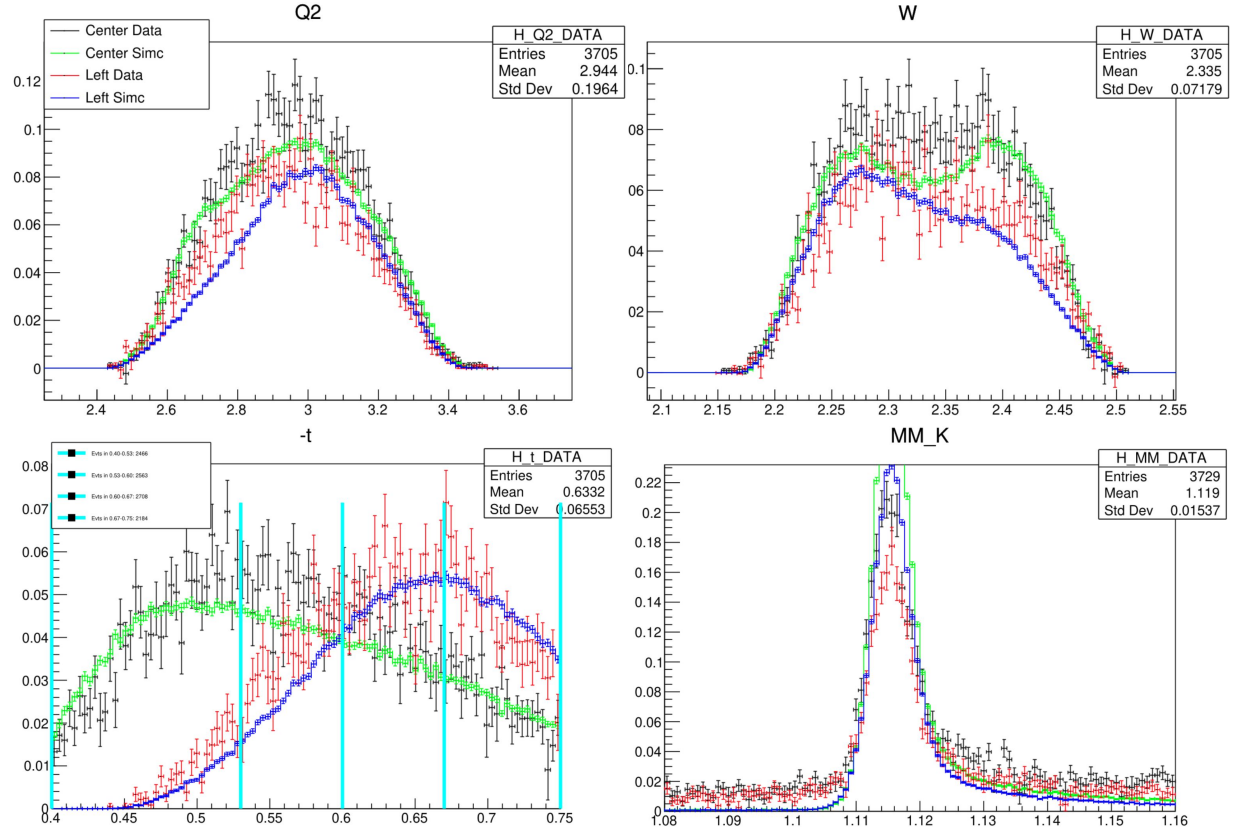
Q^2=3.0, W=2.32, t=(0.40-0.75), 4t, 15φ

i=5



Q^2=3.0, W=2.32, t=(0.40-0.75), 4t, 15φ

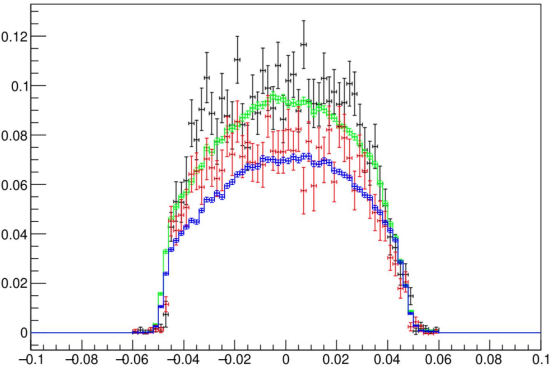
i=5



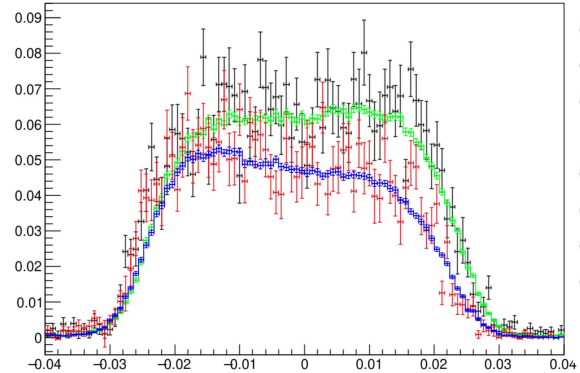
Q^2=3.0, W=2.32, t=(0.40-0.75), 4t, 15φ

i=5

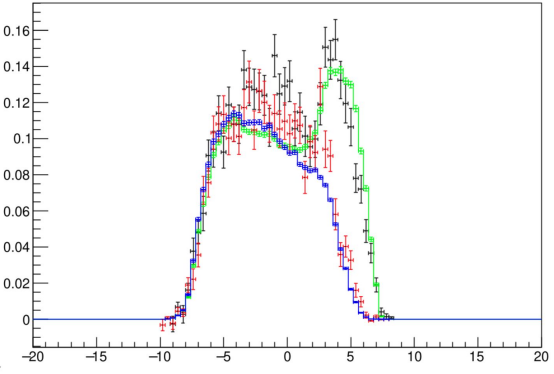
SHMS xptar



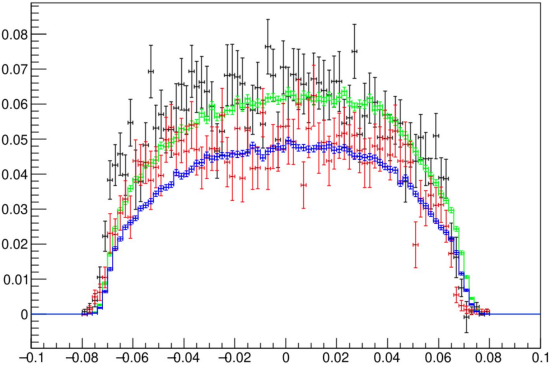
SHMS yptar



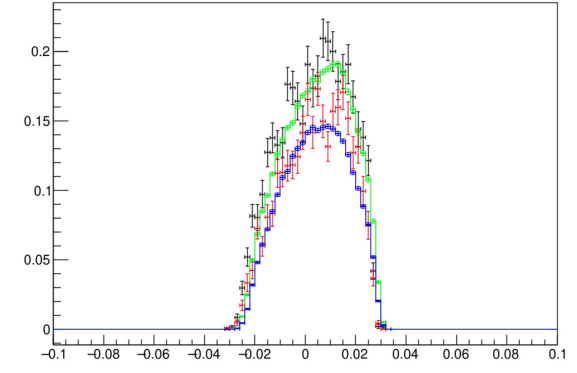
SHMS delta



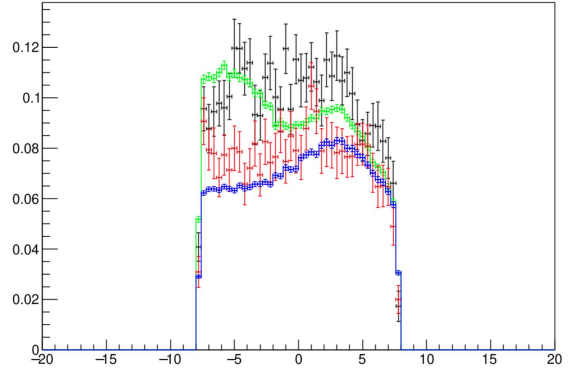
HMS xptar



HMS yptar

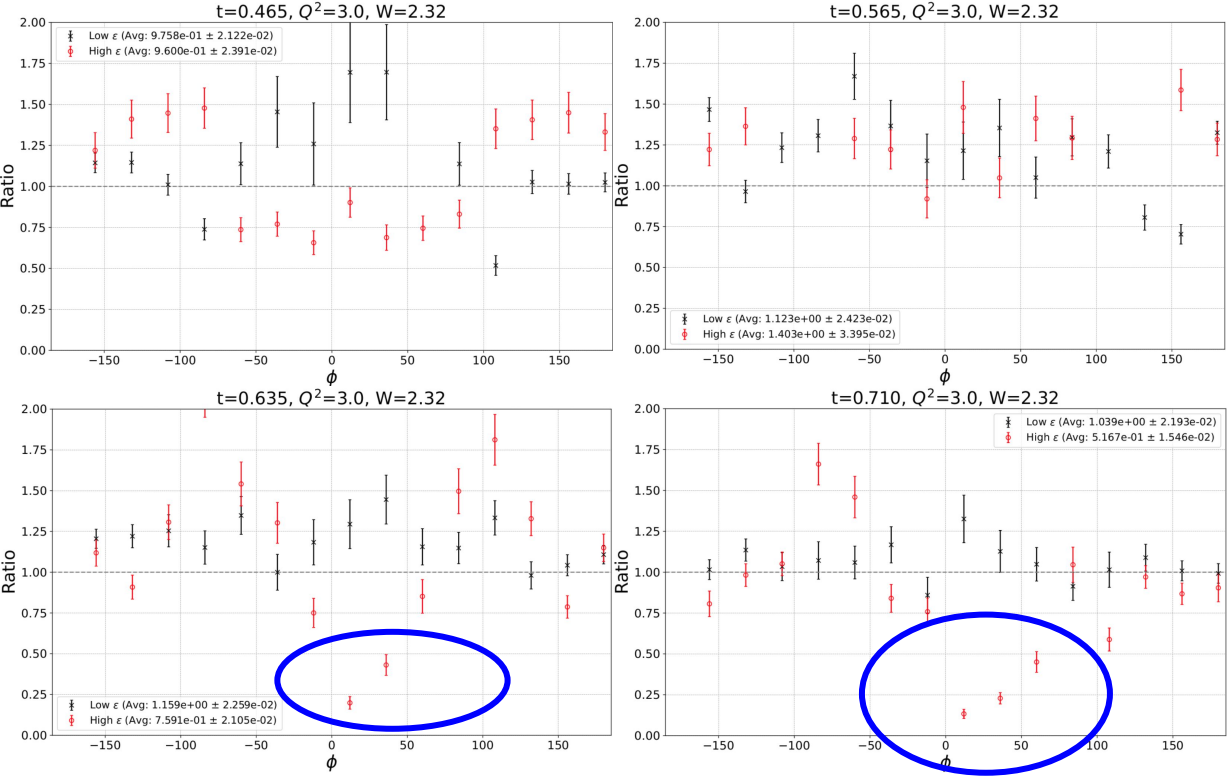


HMS Delta



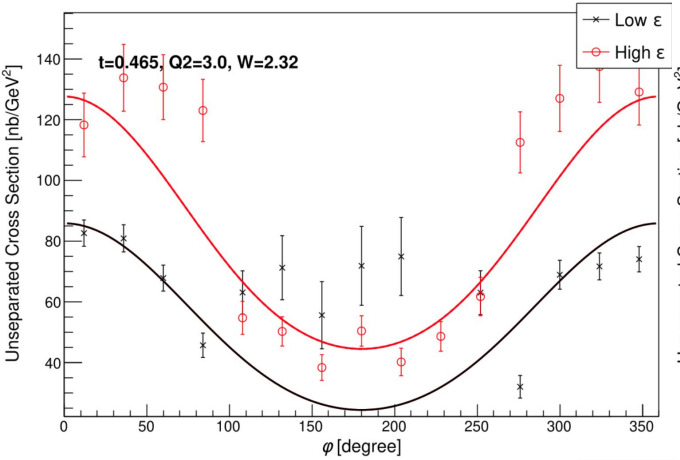
Q^2=3.0, W=2.32, t=(0.40-0.75), 4t, 15φ

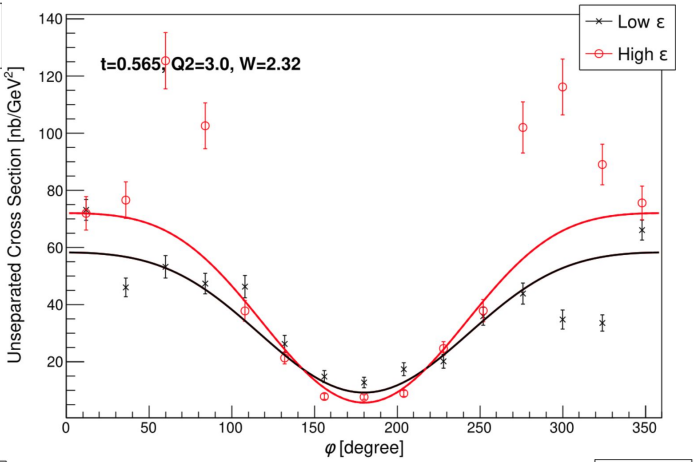
i=5

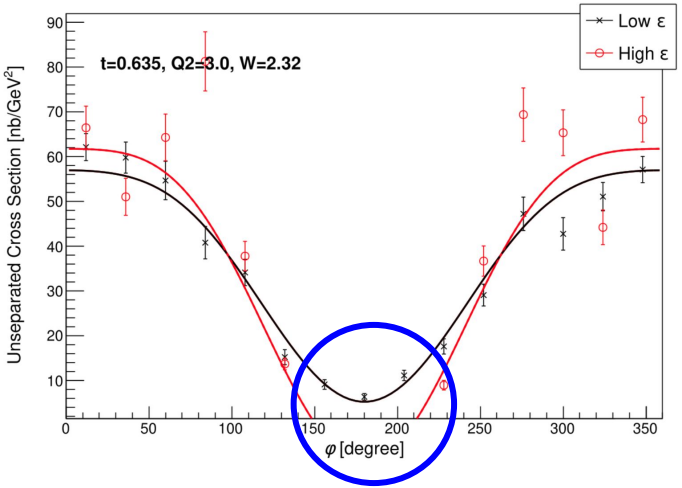


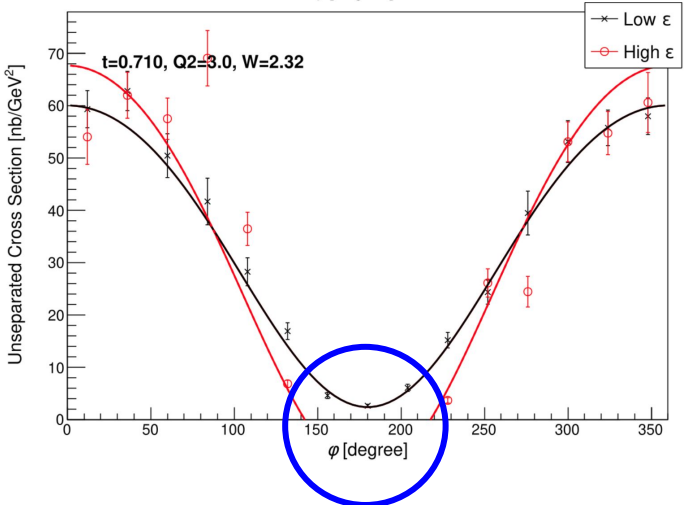
Q^2=3.0, W=2.32, t=(0.40-0.75), 4t, 15φ

i=5



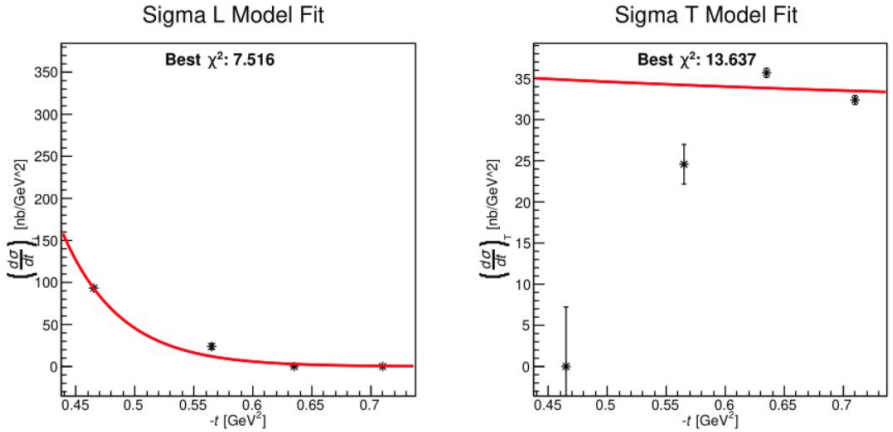


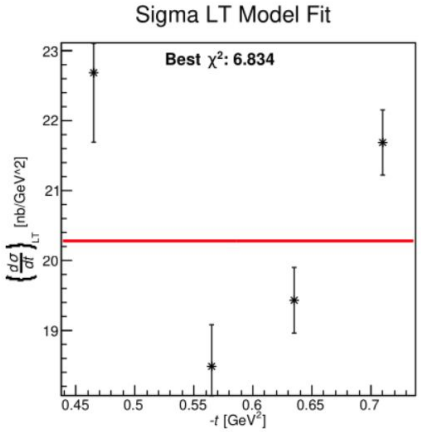


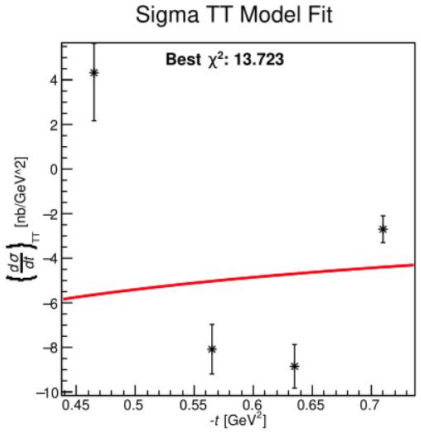


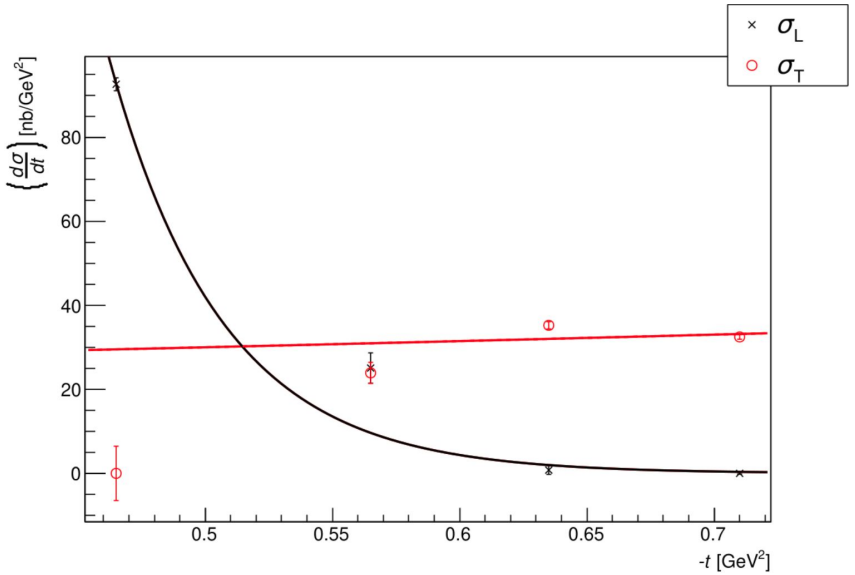
Q^2=3.0, W=2.32, t=(0.40-0.75), 4t, 15φ

i=5



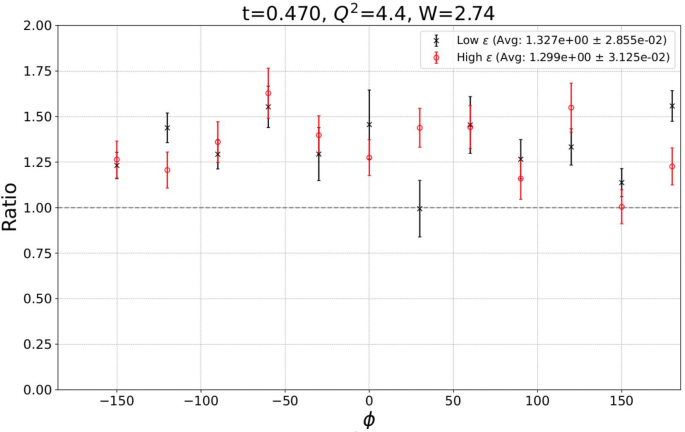


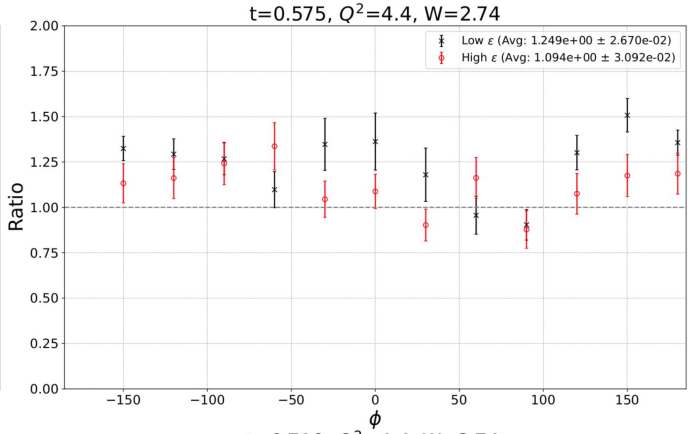


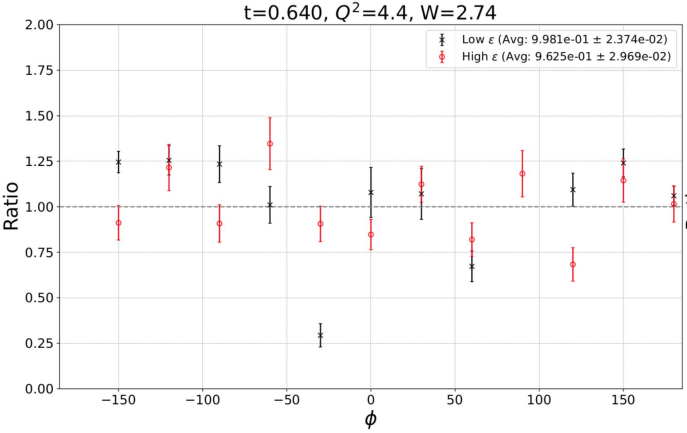


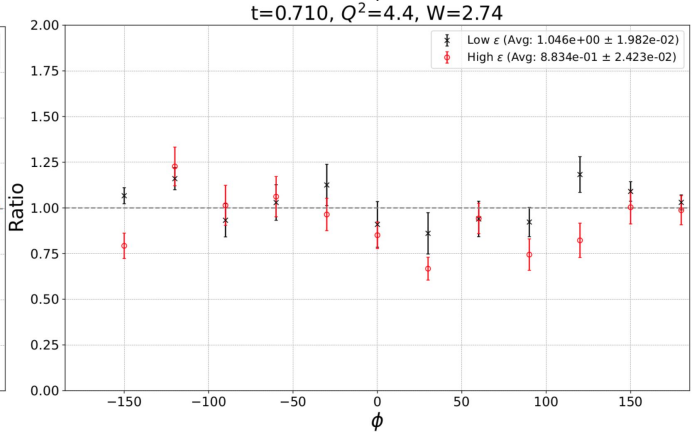
Q^2=4.4, W=2.74, t=(0.40-0.75), 4t, 12φ

i=10



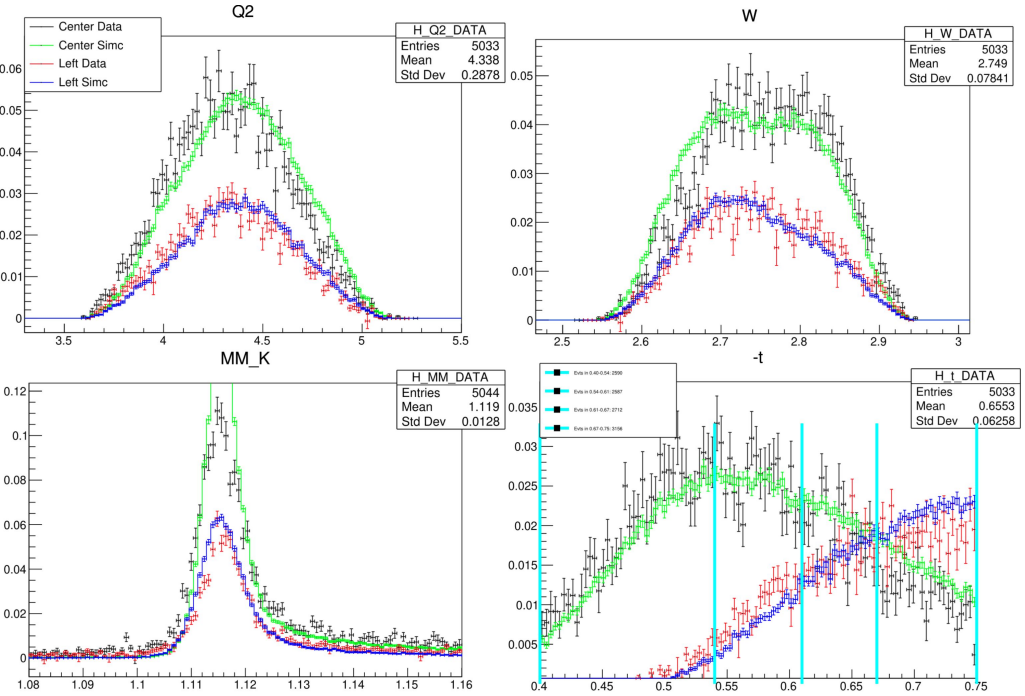






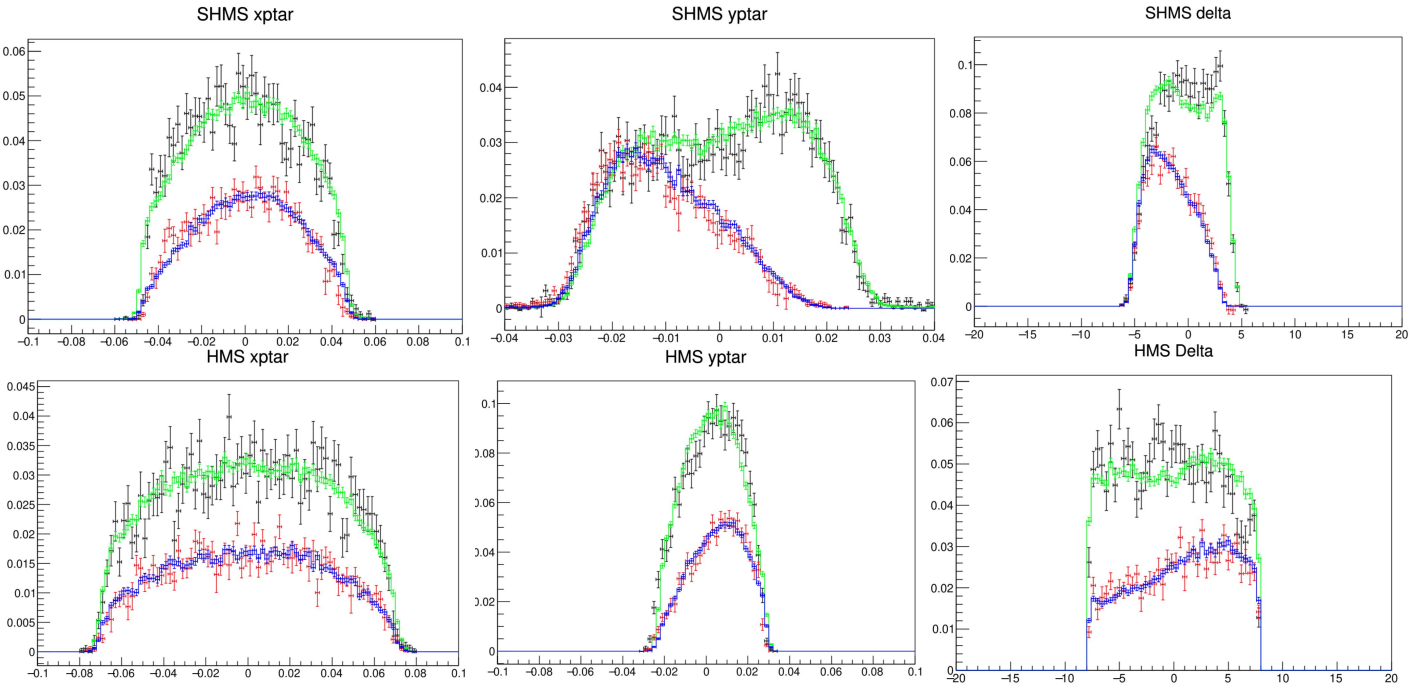
Q^2=4.4, W=2.74, t=(0.40-0.75), 4t, 12φ

i=10



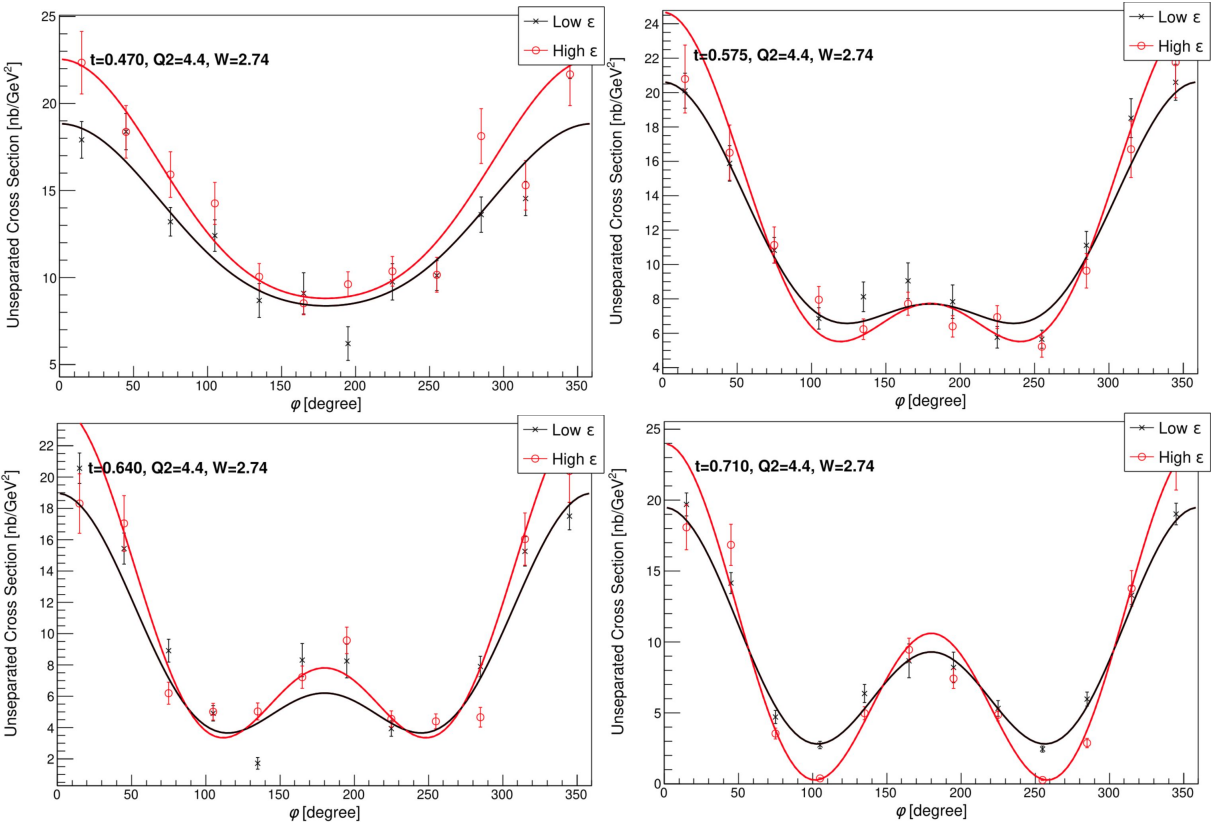
Q^2=4.4, W=2.74, t=(0.40-0.75), 4t, 12φ

i=10



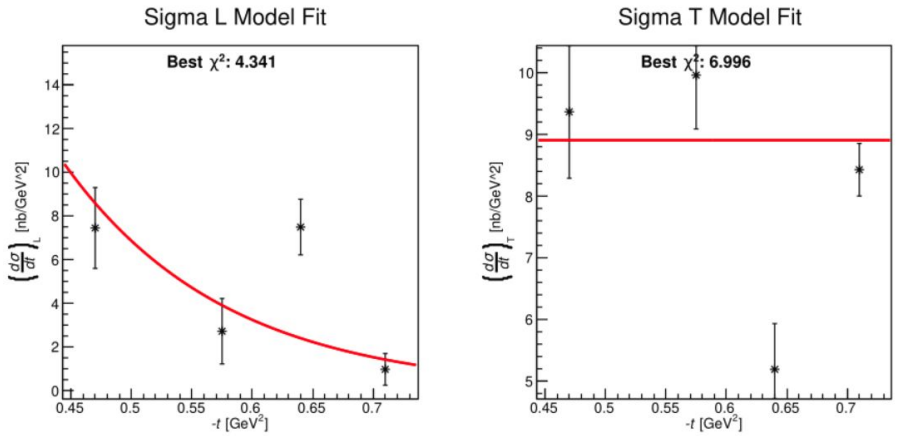
Q^2=4.4, W=2.74, t=(0.40-0.75), 4t, 12φ

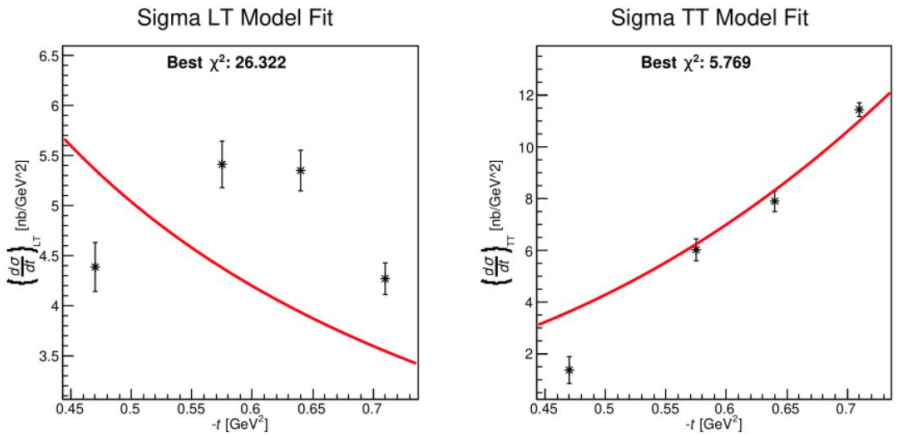
i=10

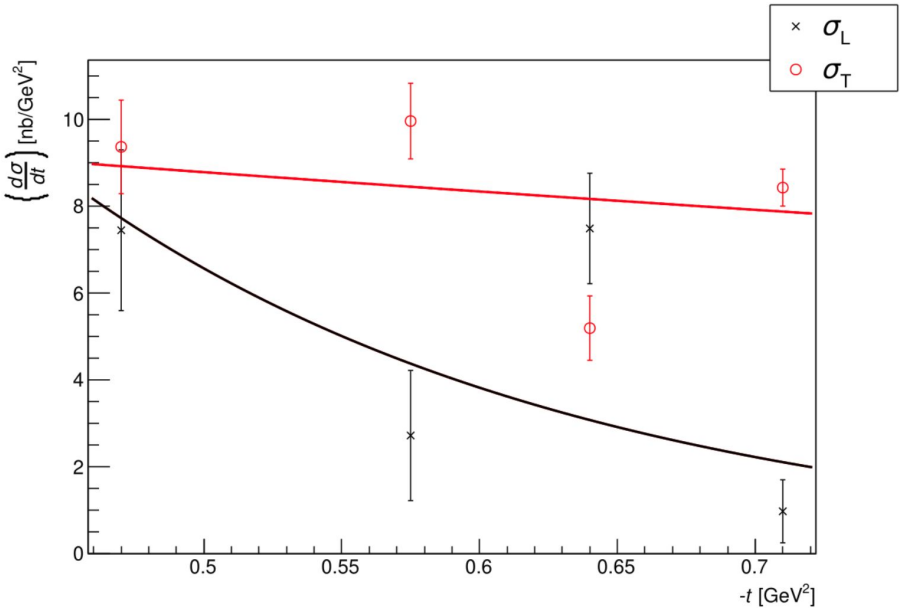


Q^2=4.4, W=2.74, t=(0.40-0.75), 4t, 12φ

i=10







To Do

1. Reanalyze…
   - Q^2=3.0/W=2.32
   - Q^2=4.4/W=2.74
   - Q^2=5.5/W=3.02
2. Re-parameterize…
   - Q^2=2.115/W=2.95
   - Q^2=3.0/W=3.14

MAY 2025

SUN	MON	TUE	WED	THU	FRI	SAT
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

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JUNE 2025

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

3. Full SIMC runs with new functions and parameters for all settings
4. Full Replay for all settings
5. Finalize systematics study **(~70-110 days)**

Finish up by Hall A/C meeting