

# KaonLT Meeting

June 27th, 2024

Richard Trotta

$$\sigma_L = (p_1 + p_2 \log Q^2) e^{p_3 | -t|}$$

$$\sigma_T = (p_5 \left( \frac{| -t|}{Q^2} - 1 \right)) e^{p_6 | -t|}$$

Separated Response Functions in  
Exclusive, Forward  $\pi^\pm$  Electroproduction on Deuterium

[arXiv:1412.5140v1](https://arxiv.org/abs/1412.5140v1) [nucl-ex] 16 Dec 2014

[5.5]

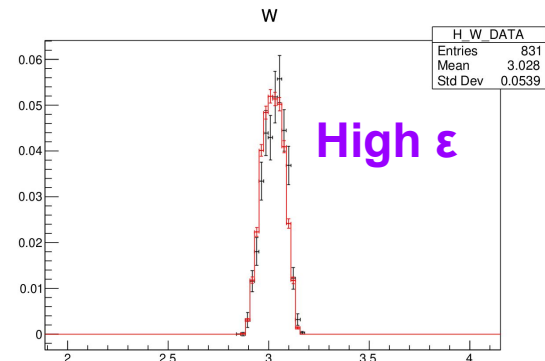
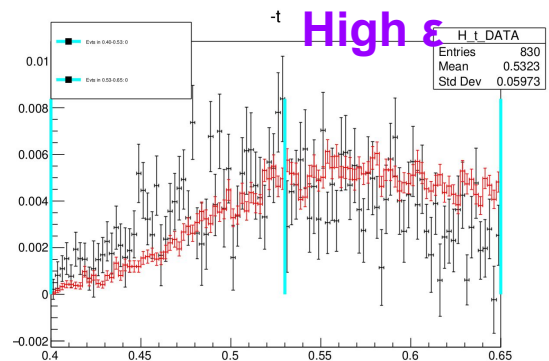
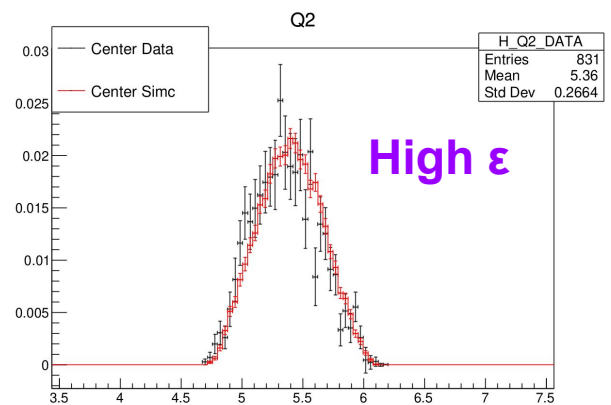
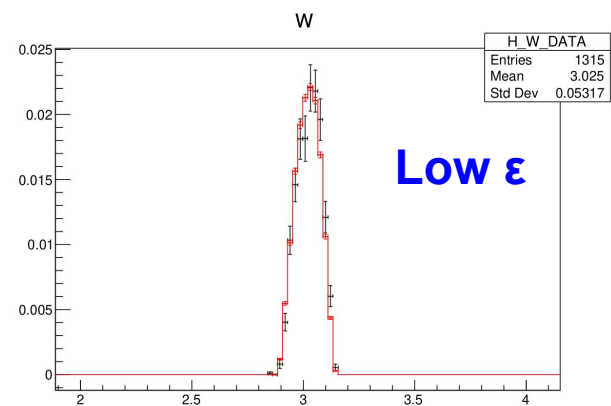
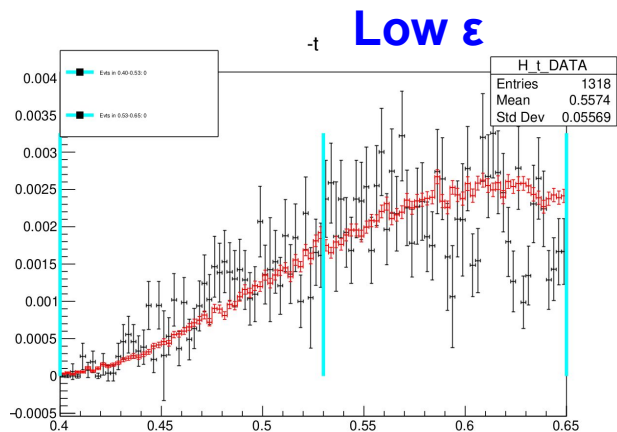
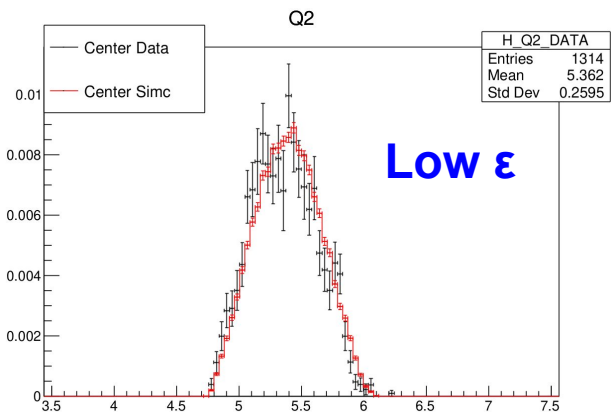
$$\sigma_{LT} = g(W) \cdot (p_9 e^{p_{10} | -t|} + \frac{p_{11}}{| -t|}) \cdot \sin \theta_{CM}. \quad [5.6]$$

$$\sigma_{TT} = g(W) \cdot (f(t) \cdot \frac{p_{12}}{Q^2} e^{-Q^2}) \cdot \sin^2 \theta_{CM}, \quad [5.7]$$

$Q^2=5.5, W=3.02$  (CENTER ONLY)

$t=0.4-0.65$

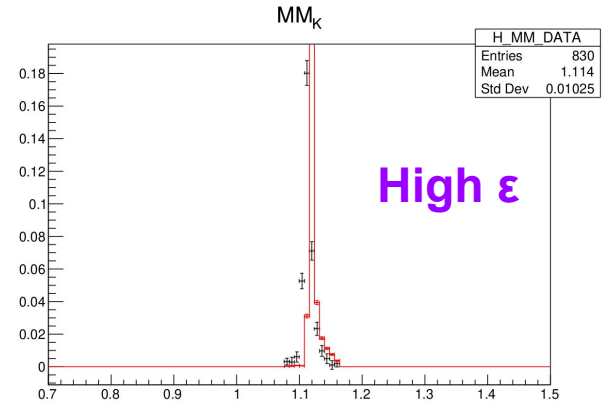
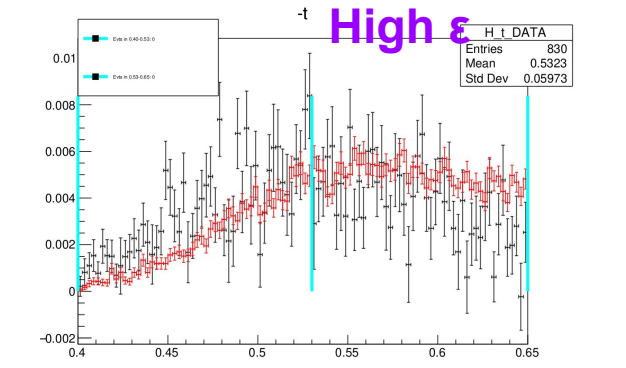
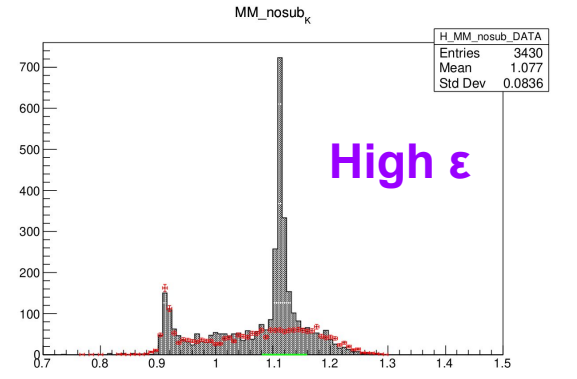
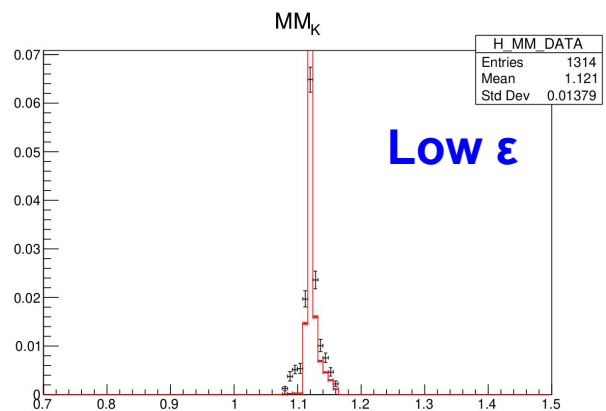
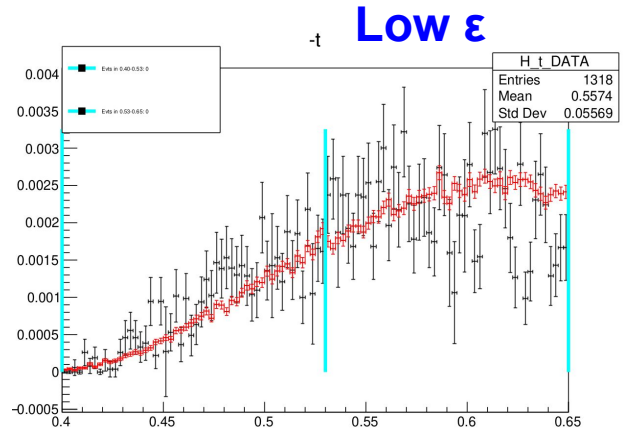
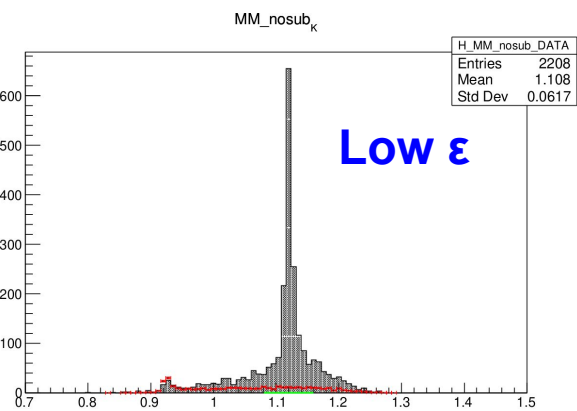
\*\*\*1 iteration



# $Q^2=5.5, W=3.02$ (CENTER ONLY)

$t=0.4-0.65$

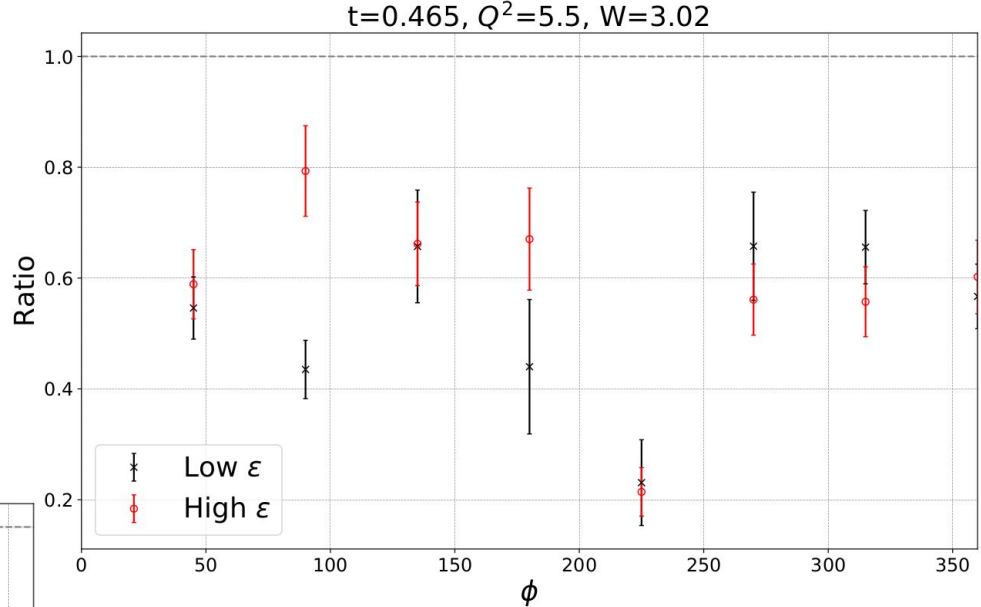
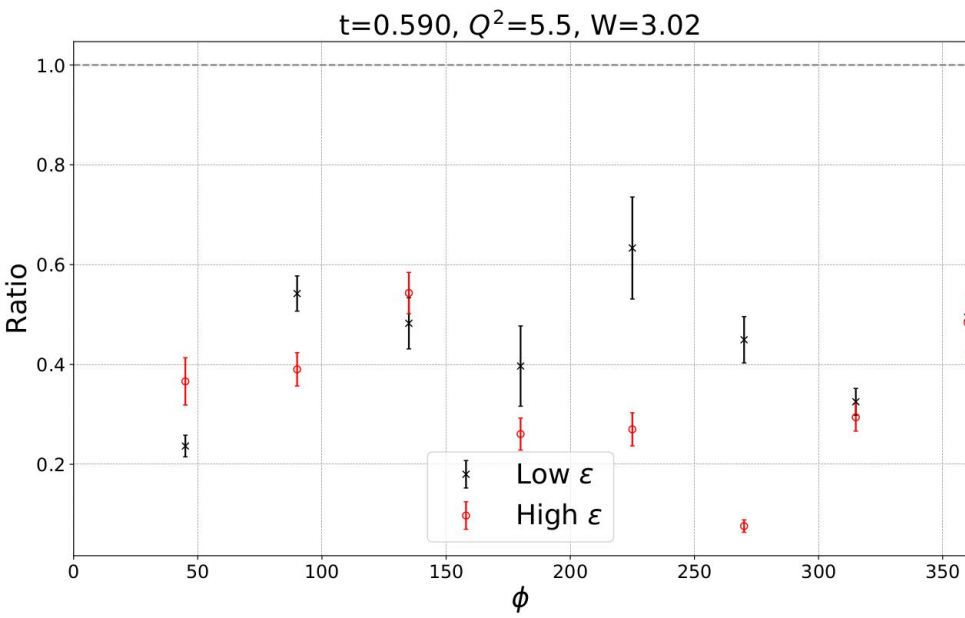
**\*\*\*1 iteration**



$Q^2=5.5, W=3.02$  (CENTER ONLY)

$t=0.4-0.65$

\*\*\*1 iteration



$Q^2=5.5, W=3.02$  (CENTER ONLY)

$t=0.4-0.65$

\*\*\*1 iteration

$$\sigma_L = (p_1 + p_2 \log Q^2) e^{p_3 | -t |}$$

$$\sigma_T = (p_5 \left( \frac{| -t |}{Q^2} - 1 \right)) e^{p_6 | -t |}$$

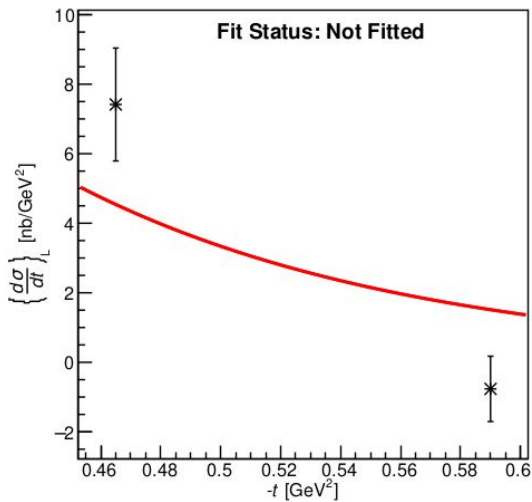
1.00000e+02  
1.00000e+02  
-8.78945e+00

1  
2  
3

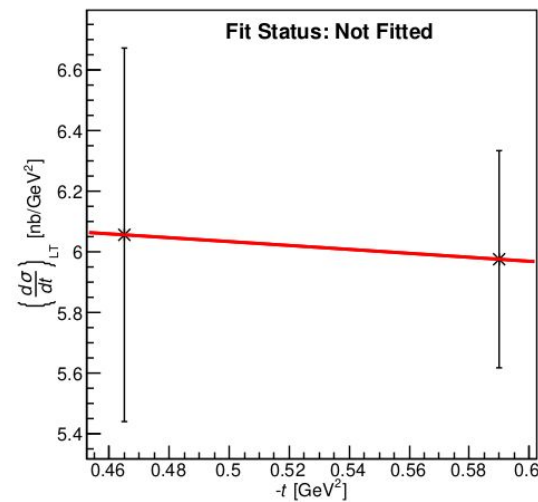
-6.33268e+00  
9.39225e-02

5  
6

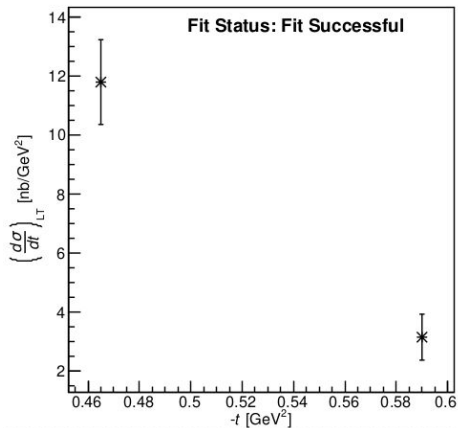
Sigma L Model Fit



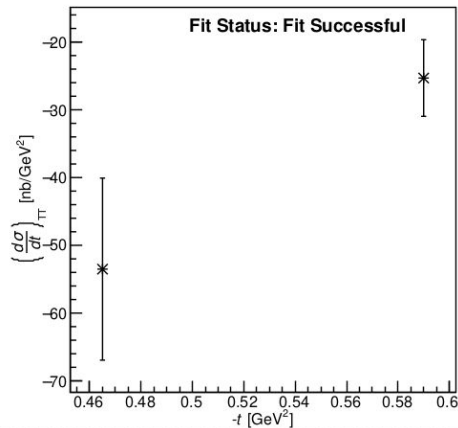
Sigma T Model Fit



Sigma LT Model Fit



Sigma TT Model Fit



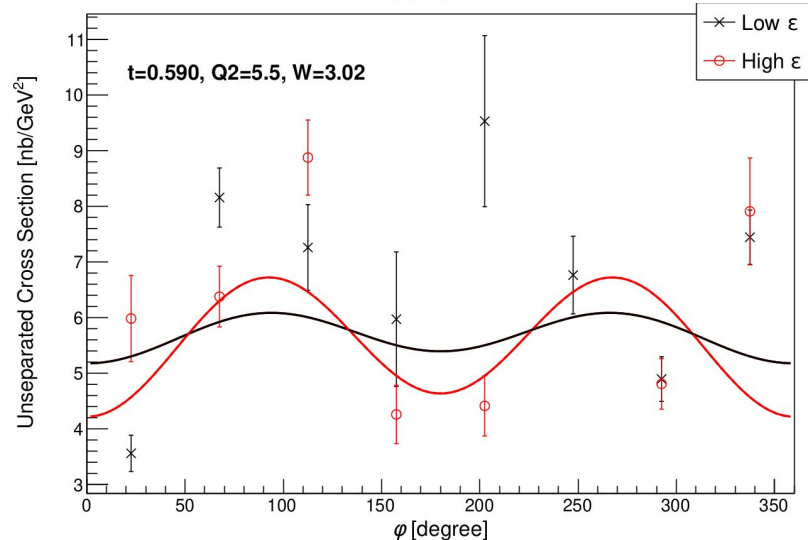
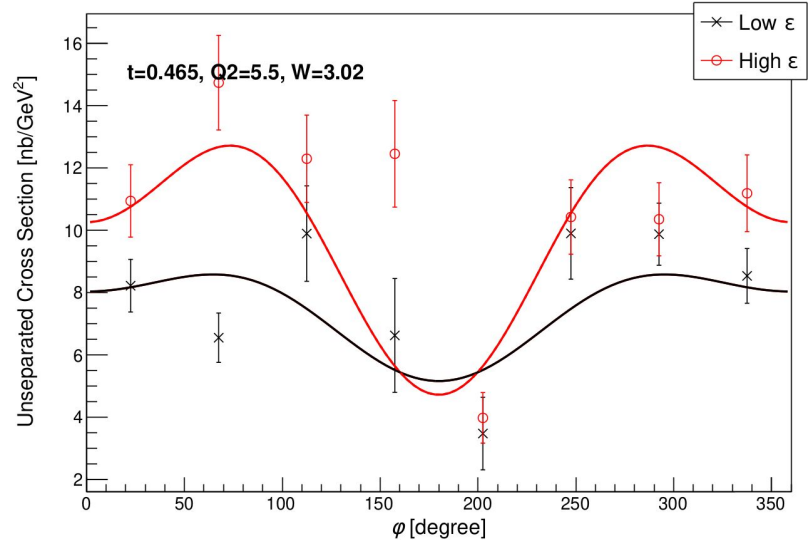
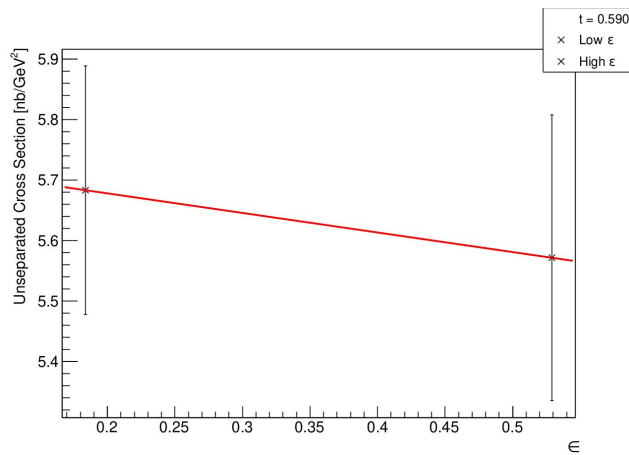
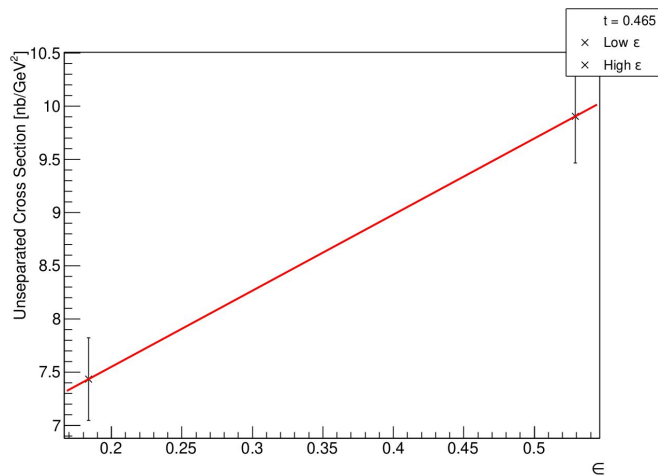
Fits to iterations 0 (generally, i-1)

LT/TT params -> 0

$Q^2=5.5, W=3.02$  (CENTER ONLY)

$t=0.4-0.65$

\*\*\*1 iteration



$Q^2=5.5, W=3.02$  (CENTER ONLY)

$t=0.4-0.65$

\*\*\*1 iteration

$$\sigma_L = (p_1 + p_2 \log Q^2) e^{p_3 | -t |}$$

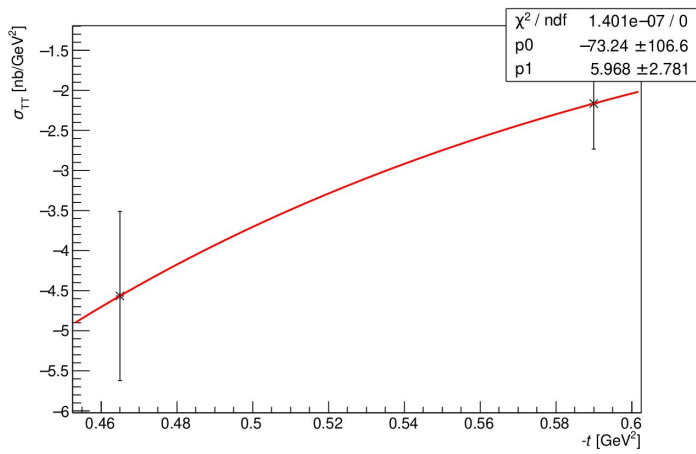
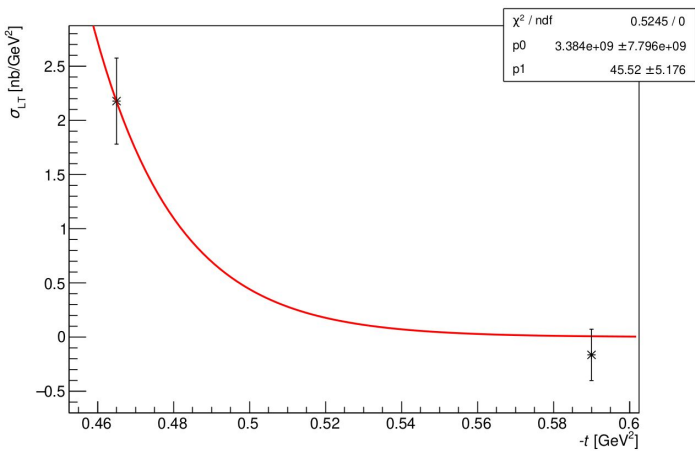
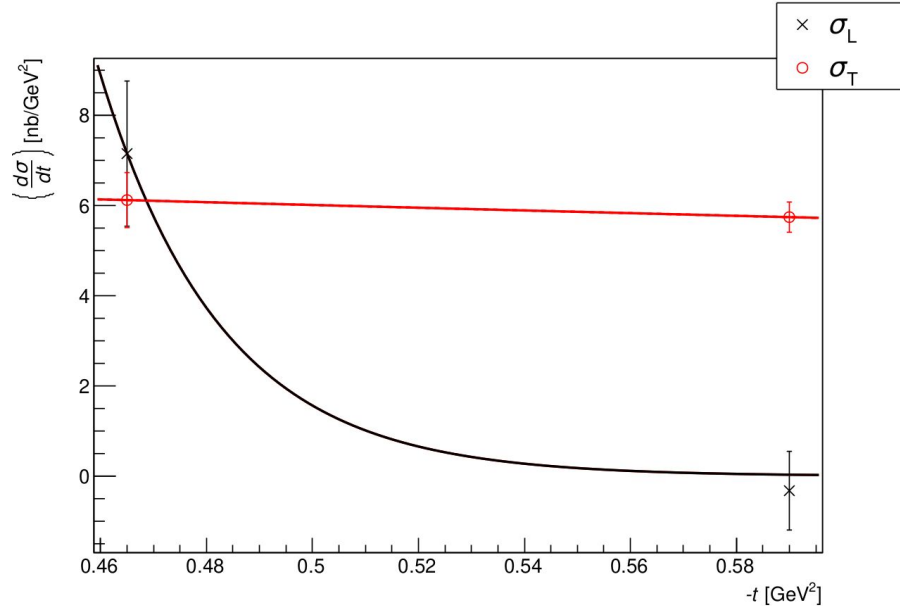
$$\sigma_T = (p_5 \left( \frac{| -t |}{Q^2} - 1 \right)) e^{p_6 | -t |}$$

1.00000e+02  
1.00000e+02  
-8.78945e+00

1  
2  
3

-6.33268e+00  
9.39225e-02

5  
6

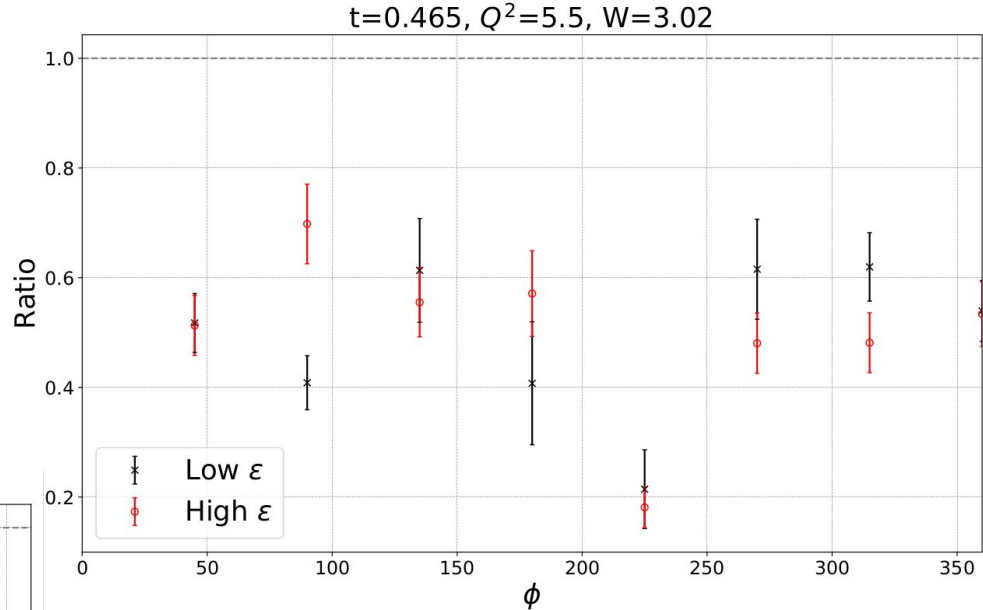
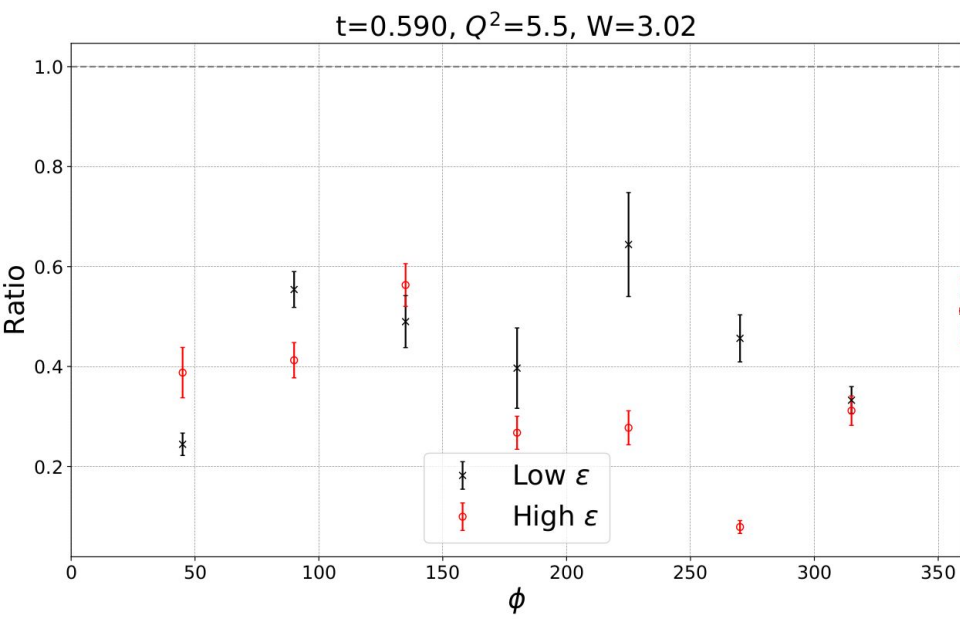




$Q^2=5.5, W=3.02$  (CENTER ONLY)

$t=0.4-0.65$

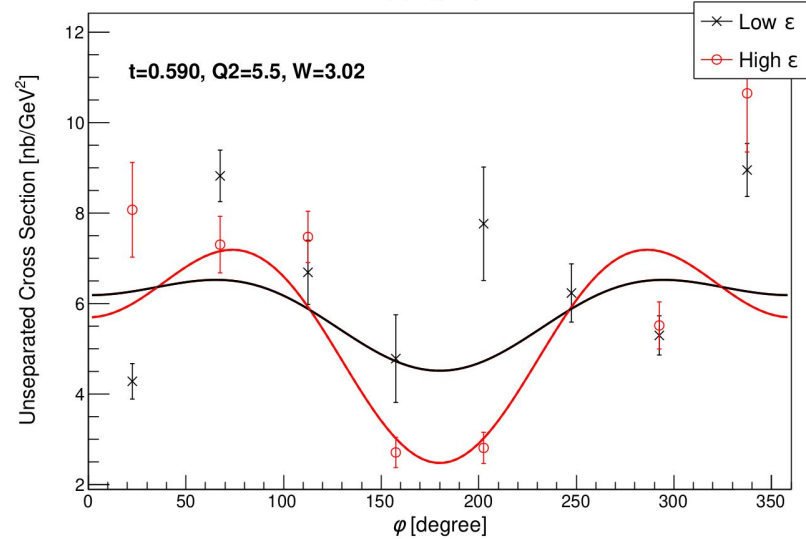
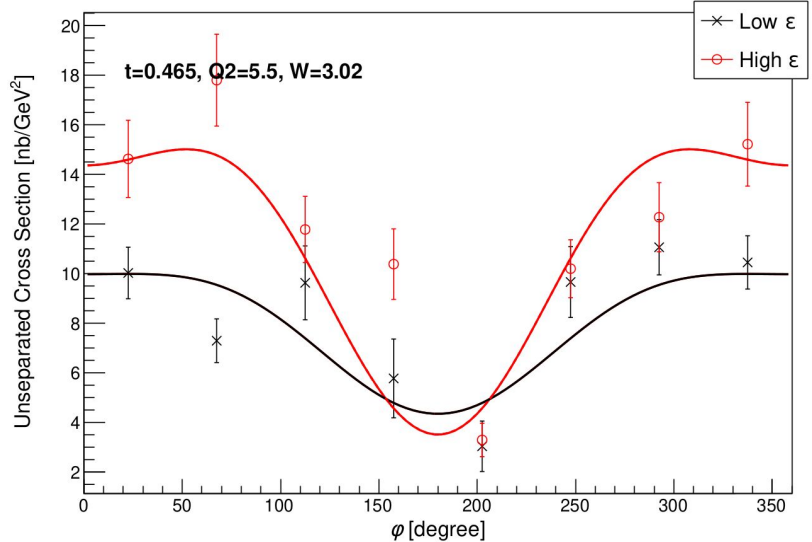
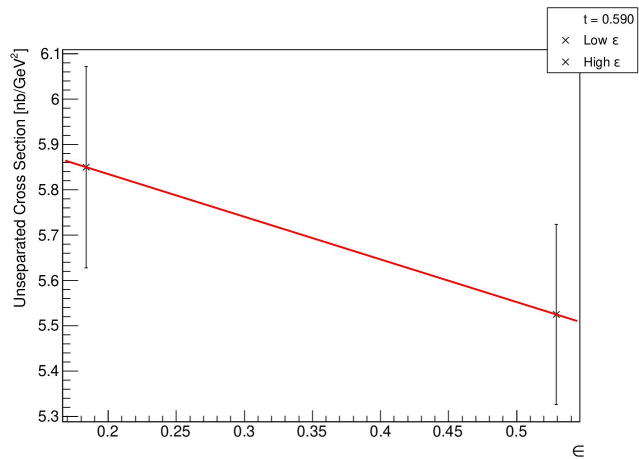
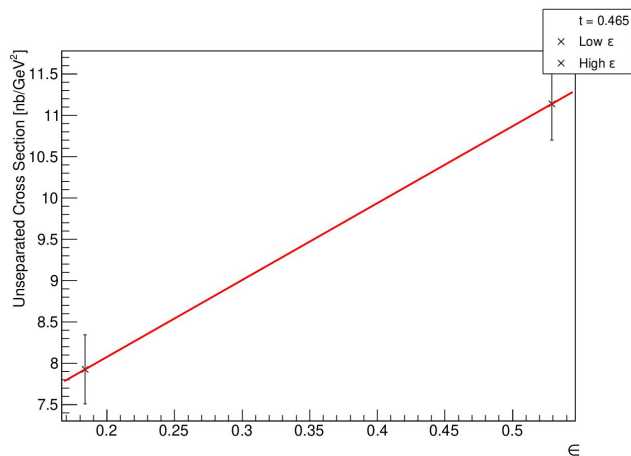
\*\*\*31 iteration



$Q^2=5.5, W=3.02$  (CENTER ONLY)

$t=0.4-0.65$

\*\*\*31 iterations



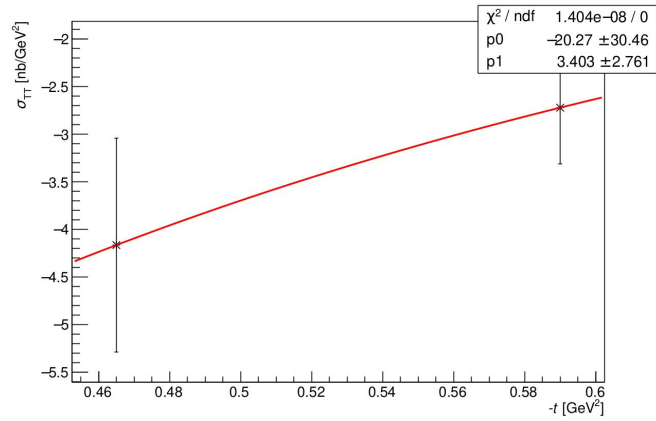
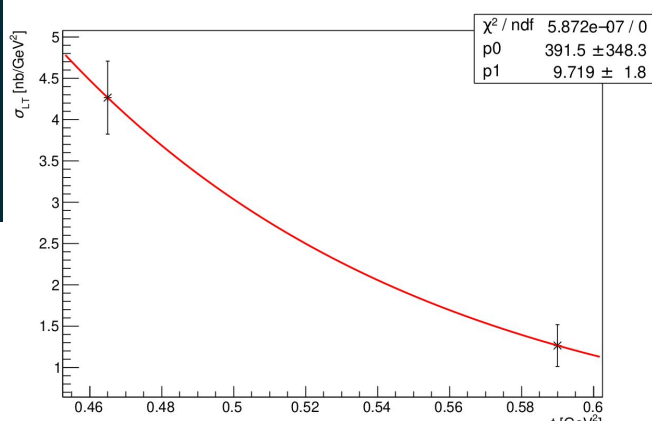
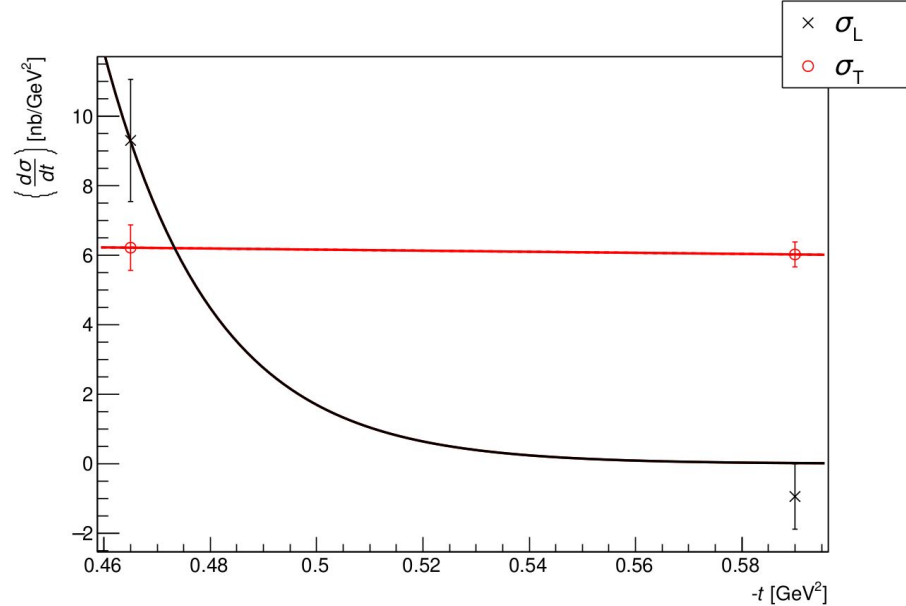
$Q^2=5.5, W=3.02$  (CENTER ONLY)

$t=0.4-0.65$

\*\*\*31 iteration

```
1.97813e+04
1.97813e+04
-1.88162e+01
0.00000e+00
-6.71704e+00
1.45371e-04
0.00000e+00
0.00000e+00
6.04109e-01
1.10570e-01
3.01283e+00
0.00000e+00
-3.08138e+00
0.00000e+00
0.00000e+00
0.00000e+00
```

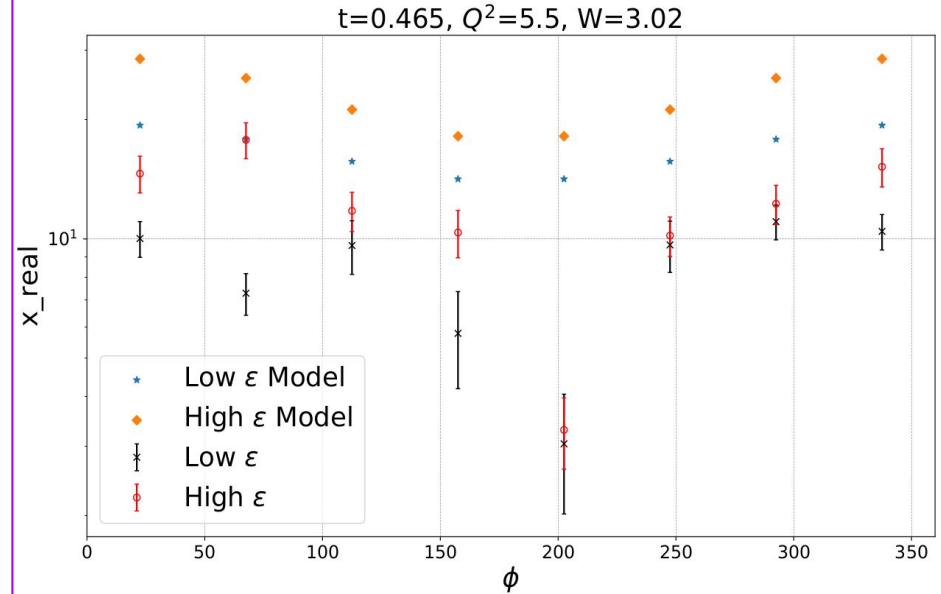
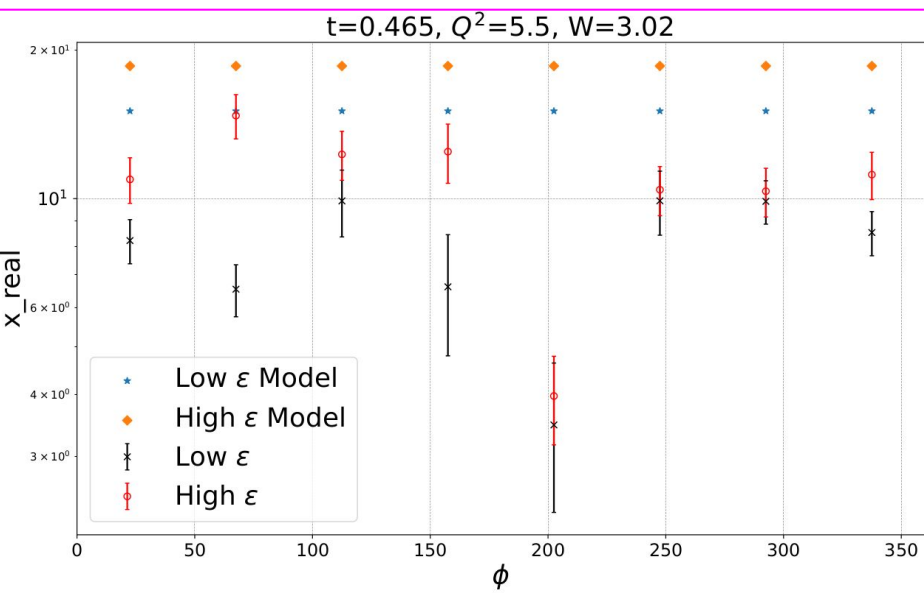
```
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
```



$Q^2=5.5, W=3.02$  (CENTER ONLY)

$t=0.4-0.65$

$i=1$



$i=31$