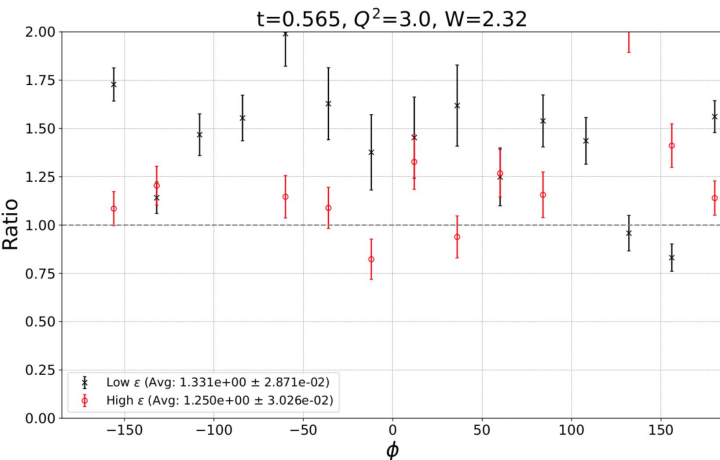
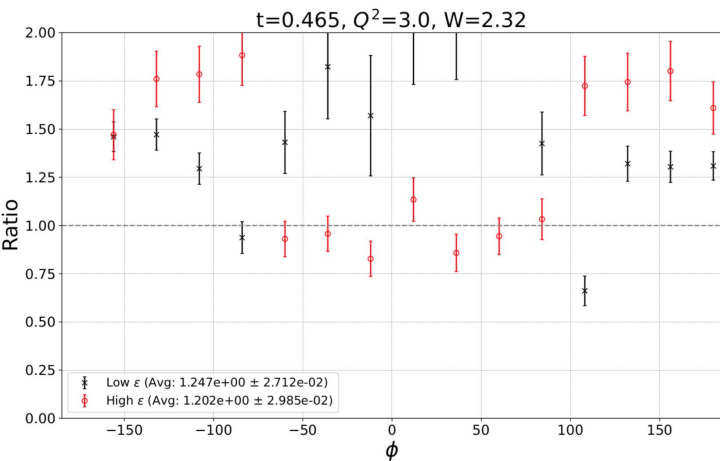


KaonLT Meeting

April 24th, 2024

Richard Trotta

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



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

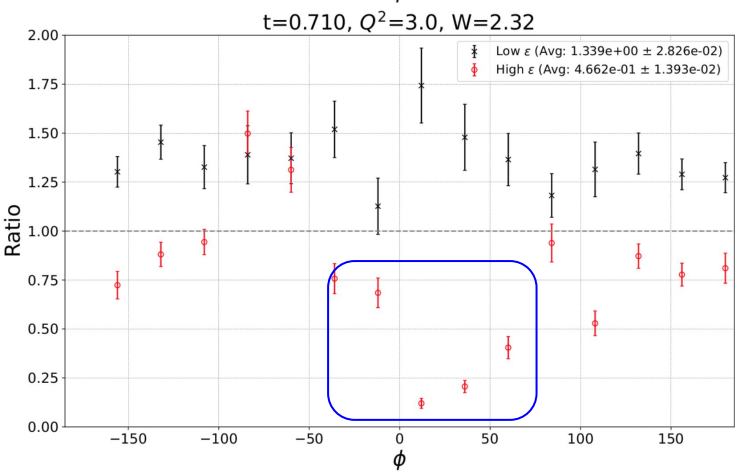
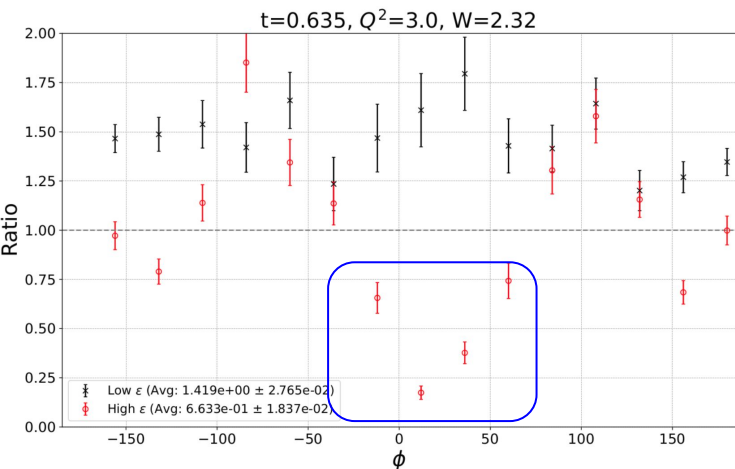
$$\sigma_T = \frac{p_5}{|t|^{p_6}}$$

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

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

Same functional forms as $Q^2=4.4$, 5.5

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



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

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

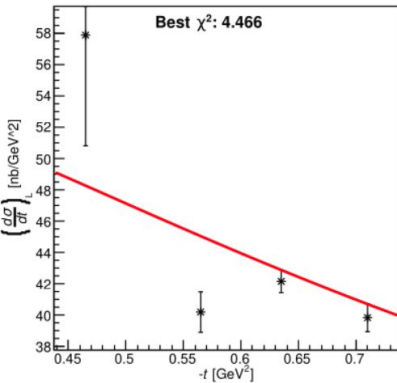
$$\sigma_{LT} = p_9 \cdot e^{-p_{10}|t|} \sin \theta$$

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

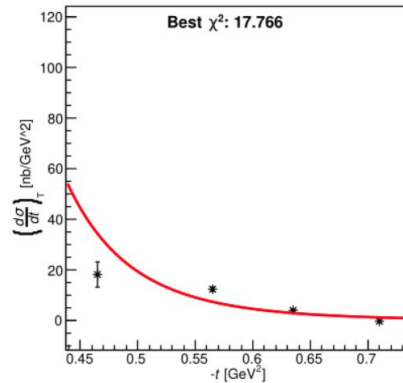
Same functional forms as $Q^2=4.4$, 5.5

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

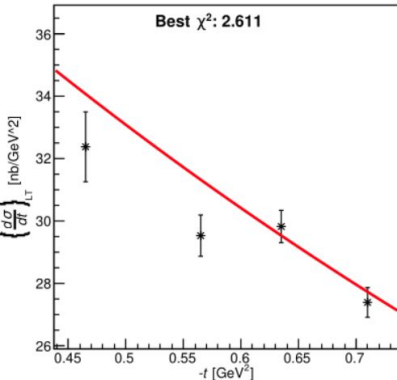
Sigma L Model Fit



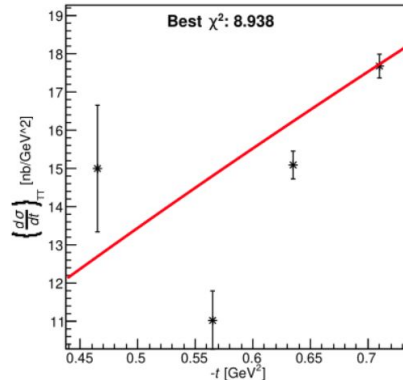
Sigma T Model Fit



Sigma LT Model Fit



Sigma TT Model Fit



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

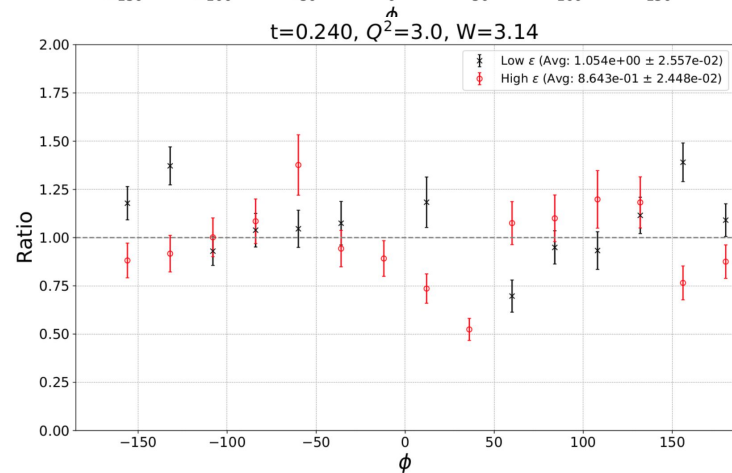
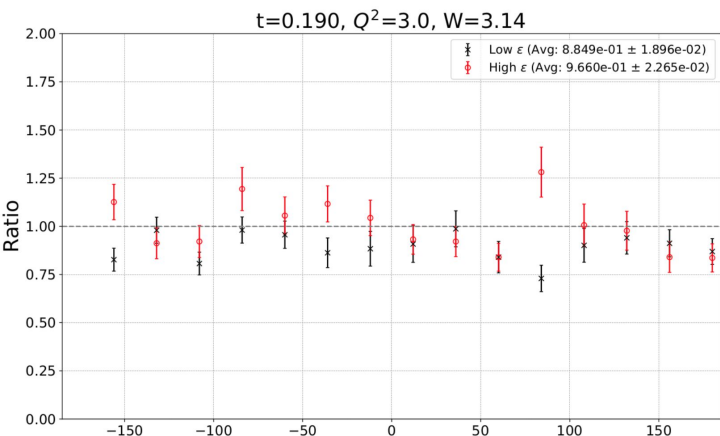
$$\sigma_T = \frac{p_5}{|t|^{p_6}}$$

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

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

Likely need adjustment

$Q^2=3.0$, **$W=3.14$** , $t=(0.15-0.40)$, $5t$, 15ϕ



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

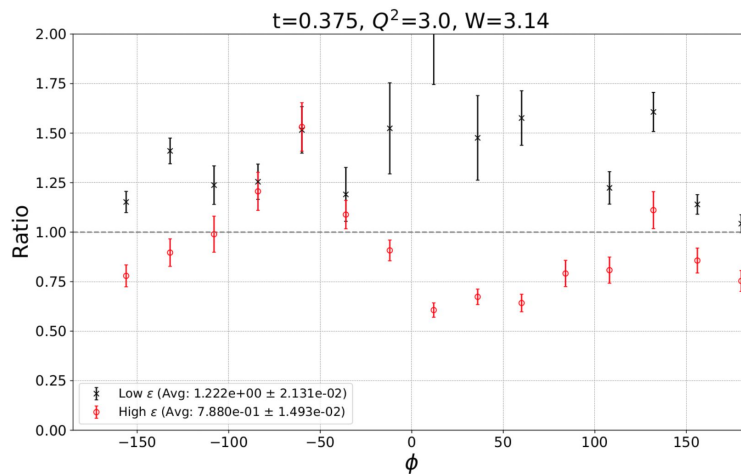
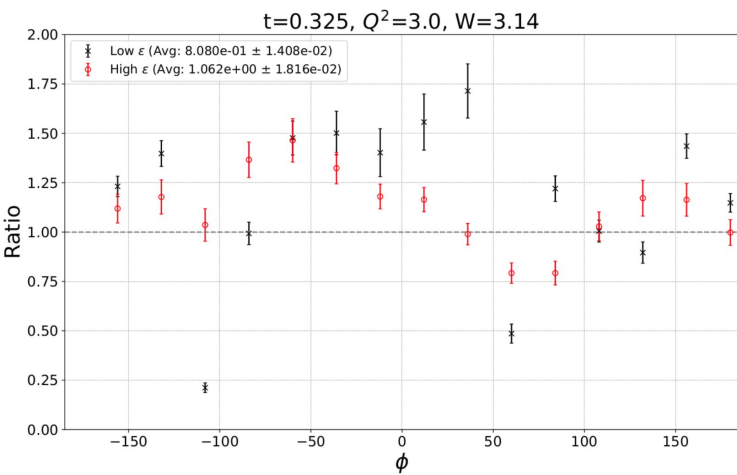
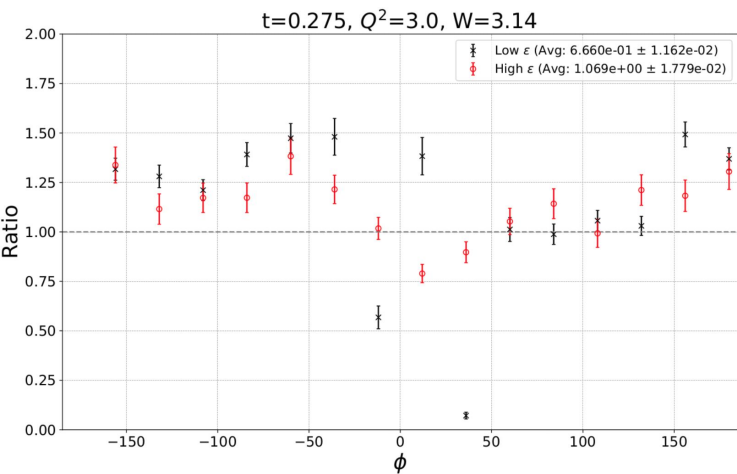
$$\sigma_T = \frac{p_5}{|t|^{p_6}}$$

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Same functional forms as $Q^2=4.4$, 5.5

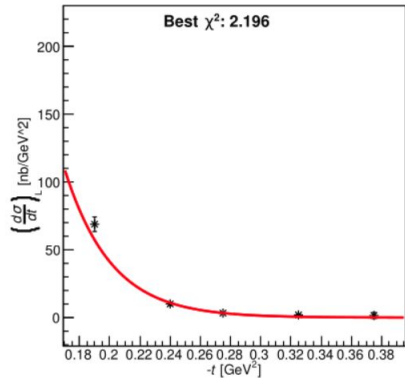
$Q^2=3.0$, $W=3.14$, $t=(0.15-0.40)$, $5t$, 15ϕ



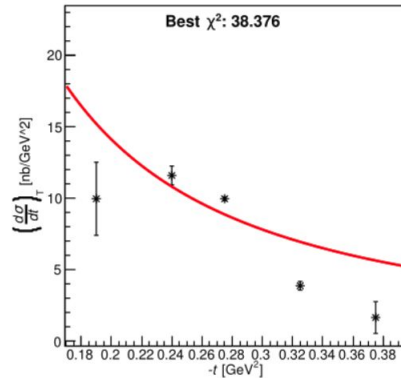
$i=10$

$Q^2=3.0$, $W=3.14$, $t=(0.15-0.40)$, $5t$, 15ϕ

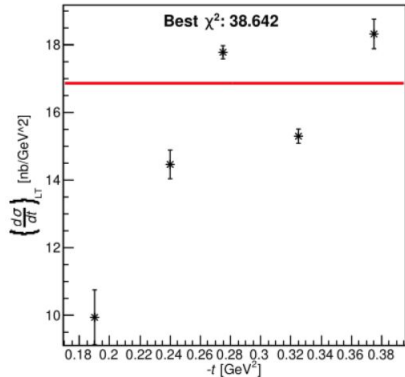
Sigma L Model Fit



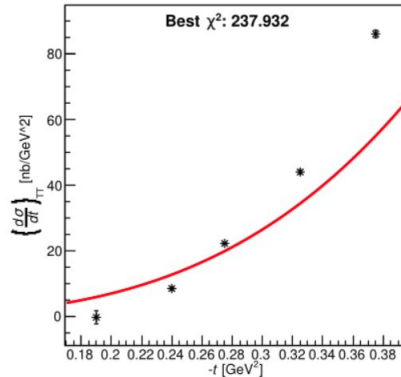
Sigma T Model Fit



Sigma LT Model Fit



Sigma TT Model Fit



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

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

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

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

Same functional forms as $Q^2=4.4$, 5.5

To Do

1. **Finish up $Q^2=3.0/W=2.32$**
2. **Re-parameterize $Q^2=3.0/W=3.14$ with new functional form**
3. **Parameterize $Q^2=2.115/W=2.95$**
4. Full SIMC runs with new functions and parameters for all settings
5. Full Replay for all settings
6. Finalize systematics study

Finish up by end of May