Pion-LT/Kaon-LT Collaboration Meeting

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LTSep Analysis

- **Next steps are listed as follows:**
  - **Unseparated cross-section calculations**
  - **Model iterations**
  - **Rosenbluth equation fitting**
  - **L/T separated cross-section calculations**
  - **Pion Form Factor measurements**

New Model Functions V10

LTSep Functions

- **Started with functional forms (with SIMC W_factor):**

$$\frac{d\sigma_T}{dt} = \left(\frac{\mathrm{p1}}{Q^2}\right) \cdot \mathrm{e}^{(\mathrm{p2}\, Q^2)} \cdot \mathrm{e}^{(\mathrm{p3}\, |t|)}$$

$$\frac{d\sigma_L}{dt} = (\mathrm{p5} + \mathrm{p6}/\mathrm{Q}^2) \cdot \frac{|t|}{(|t| + m_\pi^2)^2} \cdot Q^2 \mathrm{e}^{(\mathrm{p7}|t|)} F_\pi^2$$

Where, $F_\pi = \frac{1}{(1+\mathrm{p8}\cdot Q^2+\mathrm{p9}\cdot Q^4)}$

$$\frac{d\sigma_{LT}}{dt} = \left(\frac{\mathrm{p10}}{Q^2} + \mathrm{e}^{(\mathrm{p11}|t|)} \cdot \frac{\mathrm{p12}}{|t|^2}\right) \cdot \sin(\theta^*)$$

$$\frac{d\sigma_{TT}}{dt} = \left(\frac{\mathrm{p14}}{Q^2} + \frac{\mathrm{p15}}{|t|^3}\right) \cdot \sin(\theta^*)^2$$

In σ_L, fixed p8 and p9

Parameter	Initial Values
p1	23.3
p2	0.0098
p3	-1.5
p5	214
p6	8.6
p7	0.7
p8	1.77
p9	0.05
P10	0.87
P11	-5.0
P12	1.1
p14	-217.09
P15	1.0

LTSep Analysis

- **Working on physics setting: "Q2 = 3.85, W = 2.62, t = 0.21 (2 epsilons)"**

- **The following studies have been finalized for Pion Form Factor measurement:**
  - **Unseparated cross-section calculations**
  - **Model iterations**
  - **Rosenbluth equation fitting**
  - **L/T separated cross-section calculations**

- **In progress:**
  - Working on model iterations.