

Heep Analysis

- Analyzing the KaonLT and PionLT experimental data at low Q^2 (0.5, 0.38 and 0.42 GeV^2).
- Currently working on the single and coin heep studies.

Single data:

$$\text{Experimental Yield} = N * PS/\epsilon_{\text{tot}} * Q_{\text{tot}}$$

Coin data:

$$\text{Experimental Yield} = N/\epsilon_{\text{tot}} * Q_{\text{tot}}$$

SIMC Normalization:

In this case, I made **weighted plots** to compare the experimental yield.

Weight = weight * normfact / genevents.

I ran all simc input files for **200,000** events.

PionLT Experiment:

- **At low Q^2 (0.38 and 0.42 GeV²)**
 - **2.7 GeV, 1 coin and 6 single settings**
 - **3.6 GeV, 1 coin only**
 - **4.5 GeV, 1 coin only**
- **HMS single:** The **3rd** and **4th** settings are not in good shape.
- **SHMS single:** The **4th** setting is not in good shape.

Coin:

- The **2.7 GeV** is not in good shape.

The comparison plots can be found [here](#) .