Disagreements with Theory

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The Kappa Constraint

$$\kappa = \frac{\xi}{E_{max}} \Rightarrow f(\epsilon) = \begin{cases} Landau, & \kappa < 0.01 \\ Vavilov, & 0.01 < \kappa < 10 \\ Gaussian, & 10 < \kappa \end{cases}$$

- For 12 mm LH, these constraints are equivalent to:

$$f(\epsilon) = \begin{cases} Landau, & 173\ MeV/c < |P| \\ Vavilov, & 24 < |P| < 173 \\ Gaussian, & |P| < 24 \end{cases}$$

- For us, $\kappa_{max} = 0.015, \kappa_{min} = 0.00063$

"coeff"

- Recall $\beta = \xi = coeff * \frac{L}{1-m^2/E_i^2}$.
- Theory: $coeff = 1.08$