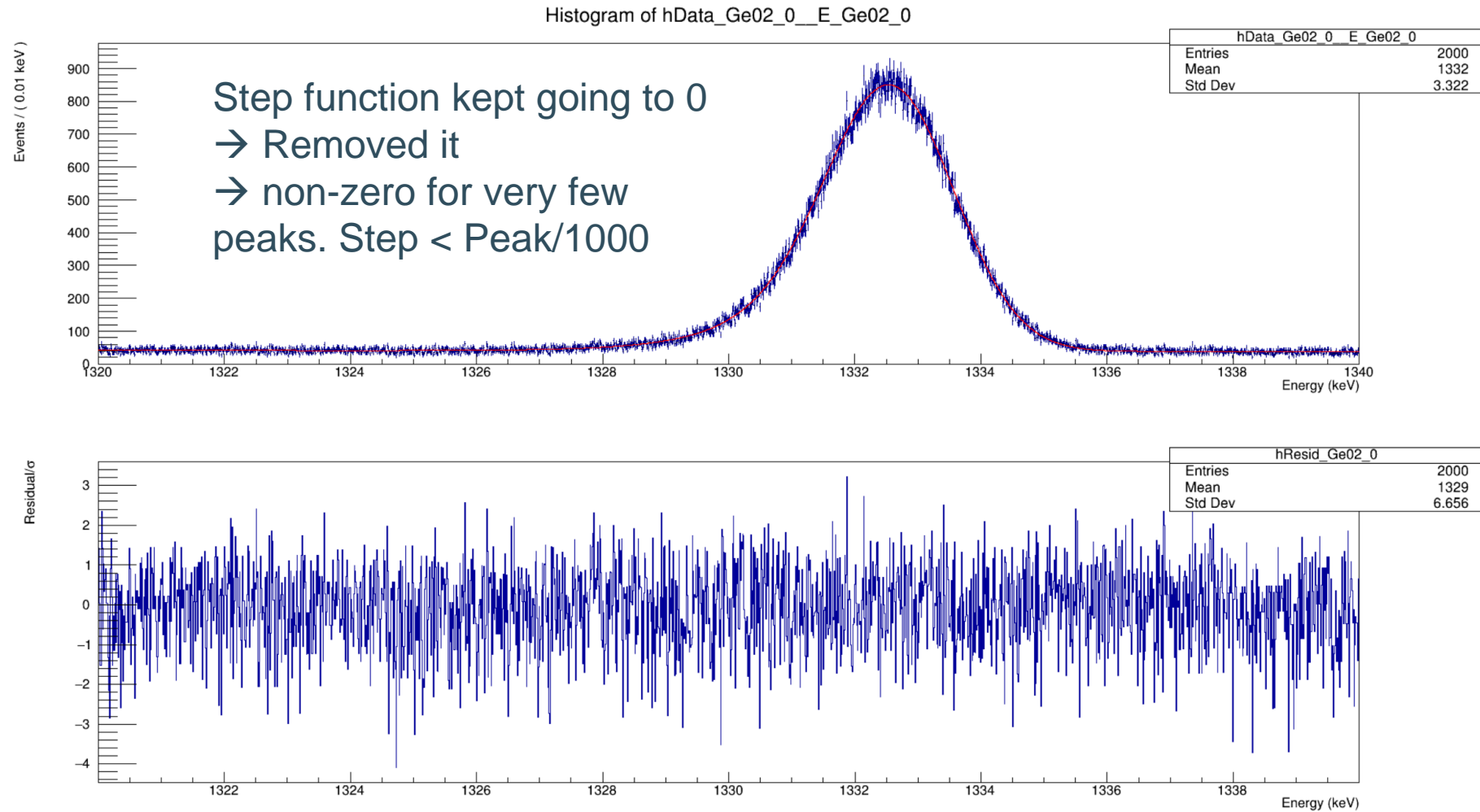


Update muX meeting 08/03

Michael Heines

Fitting with hypermet

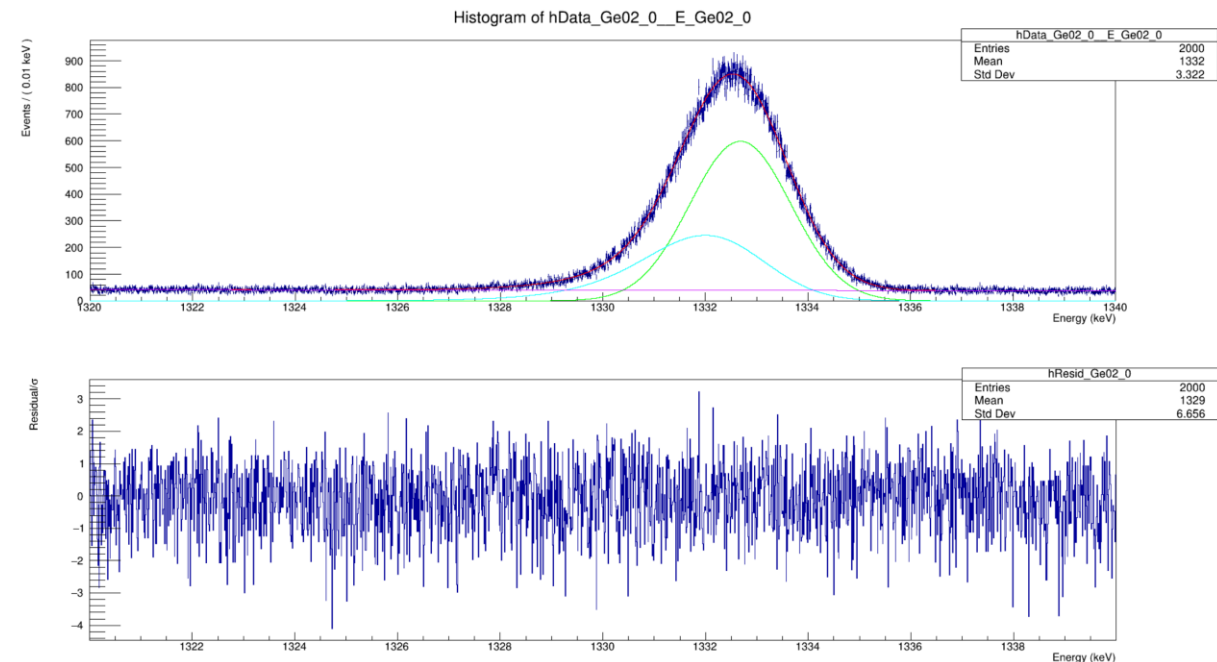


Coupled fits

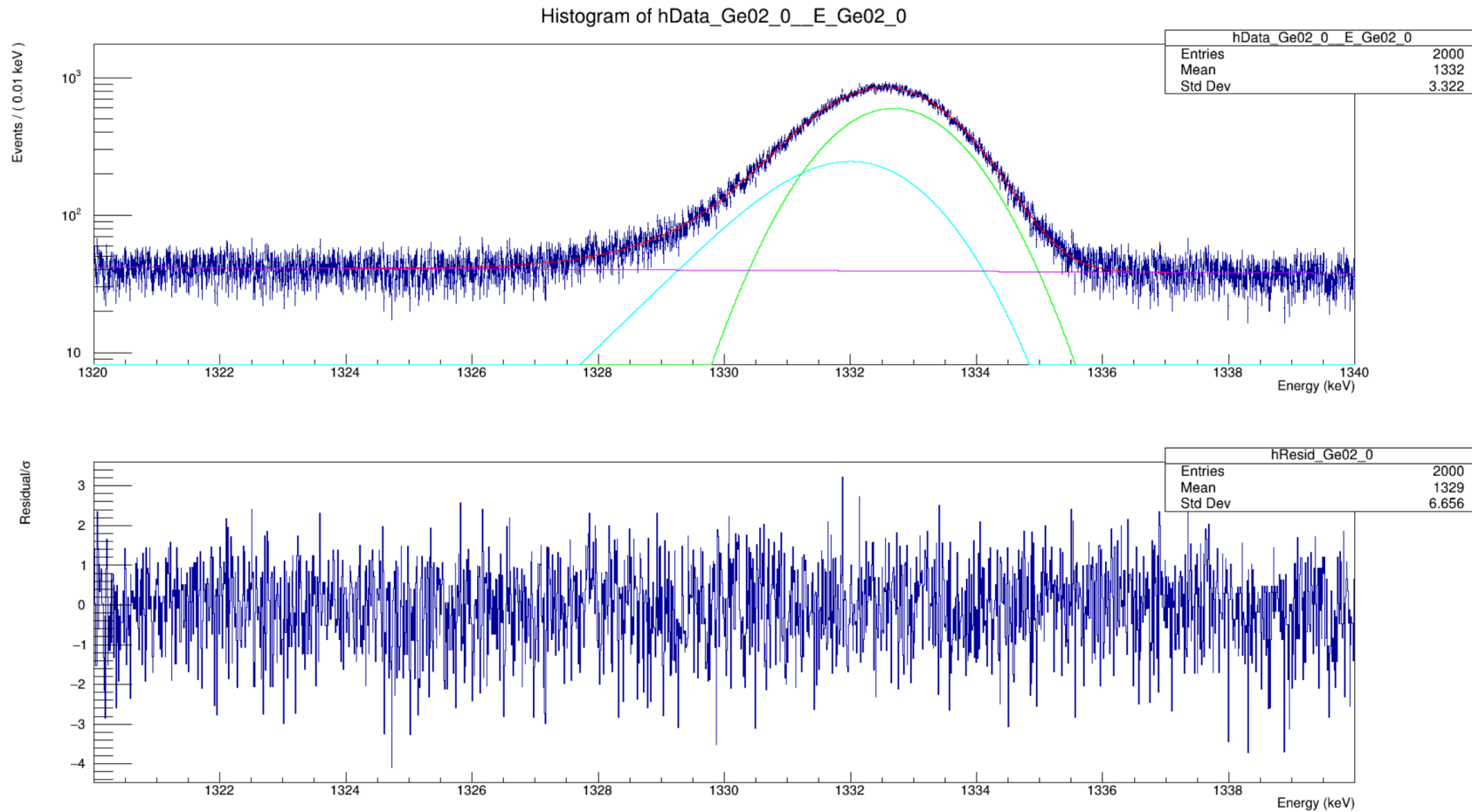
- Adding NLL variables for total NLL
- $\sigma = a + b \sqrt{E} + cE$
- $R_T = \frac{f_T}{f_G}, R_\beta = \frac{\beta}{\sigma}$ as linear functions
- Make TH1F for individual fits:
 - Data
 - Model components
 - Residuals

Chebyshev slope from regular linear:

$$c_1 = \frac{a_1}{2} \frac{N_{bins}}{N_{Bg}} (X_{max} - X_{min})$$

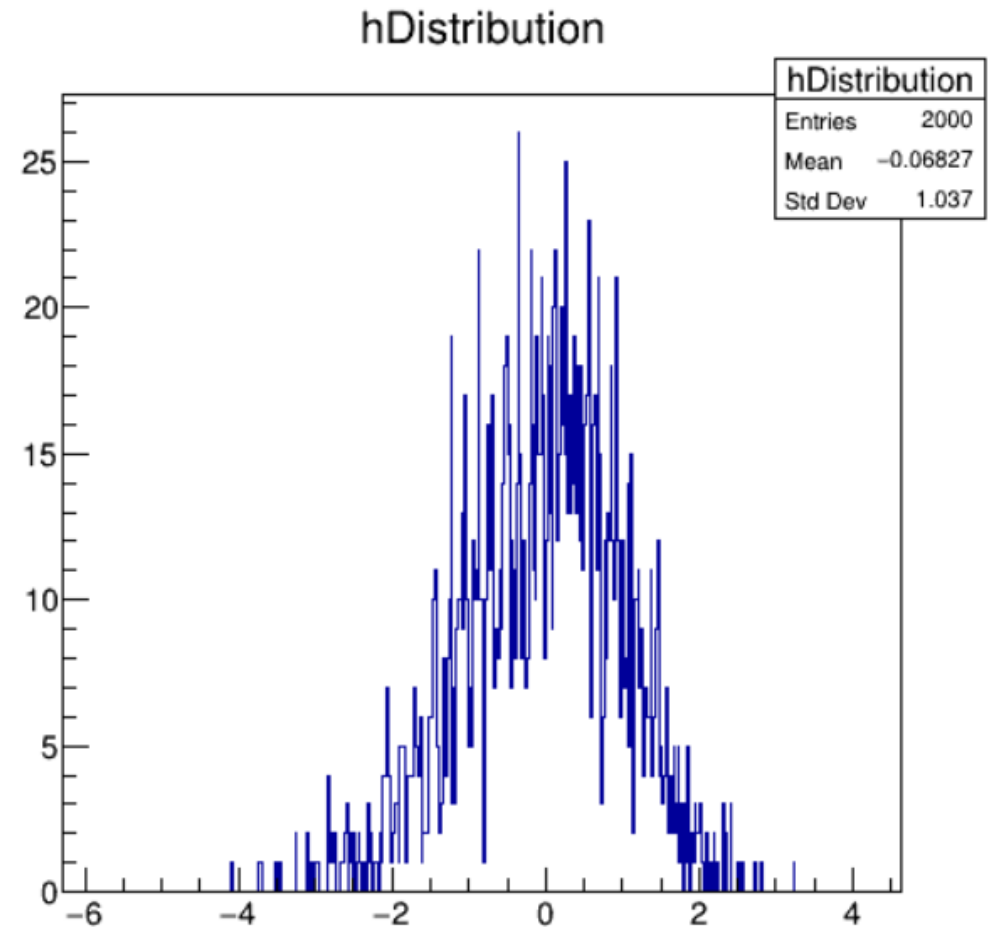


Fitting with hypermet

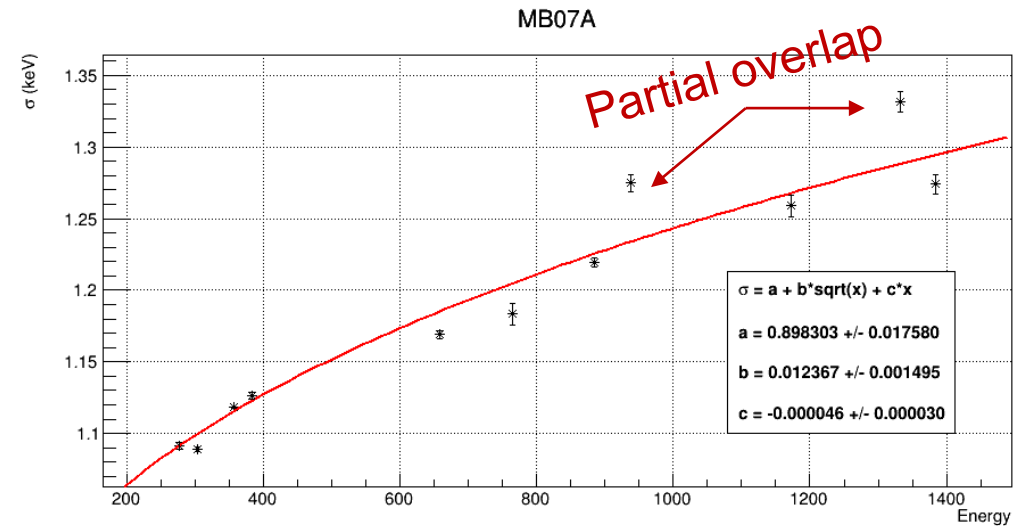
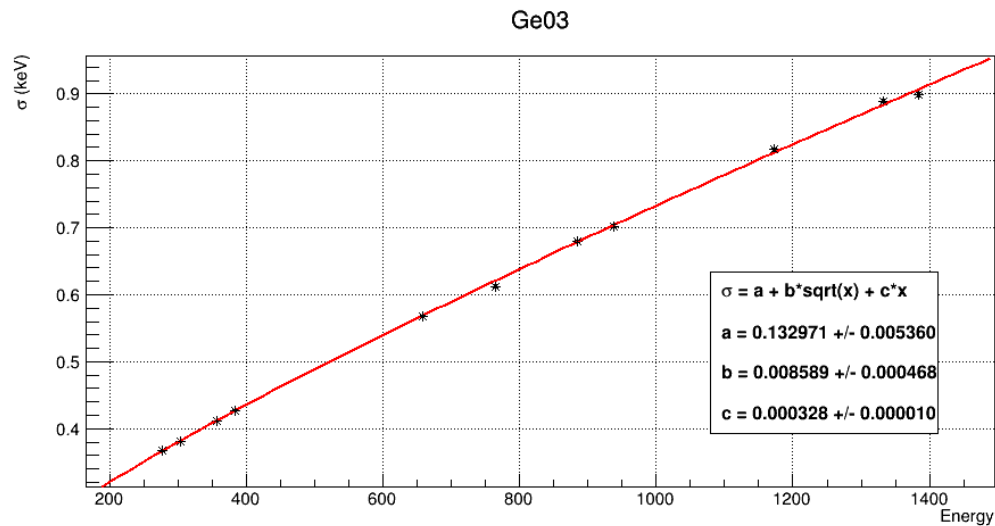


Distribution of residuals for a converging fit

- Residual = (data – fit)/error
- Slight tail at negative residuals due to Poisson statistics?
- Very close to $N(0, 1)$:
 - $\mu = 4.6(28) \times 10^{-2}$
 - $\sigma = 1.006(28)$

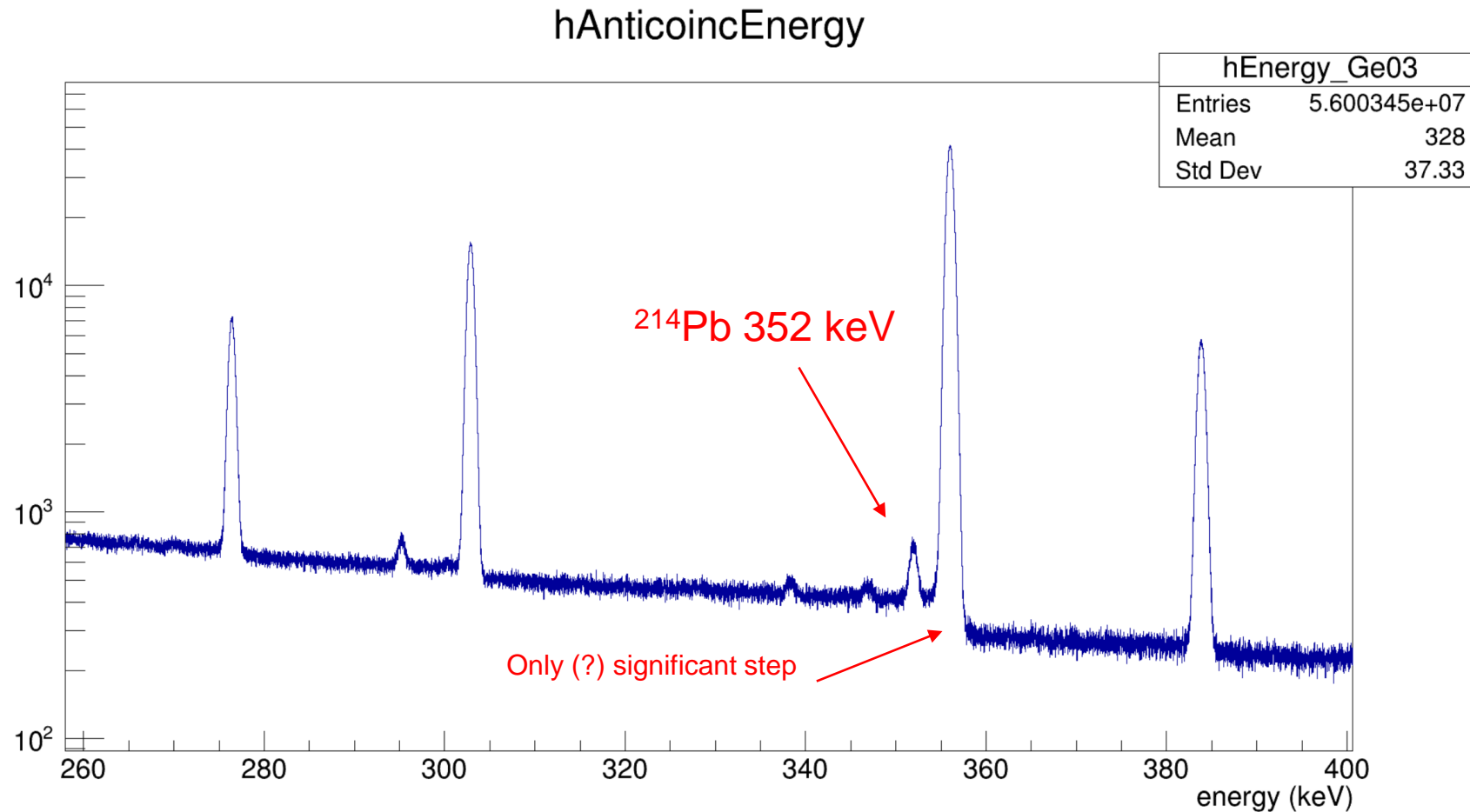


Initial parameters for $\sigma = a + b\sqrt{E} + cE$

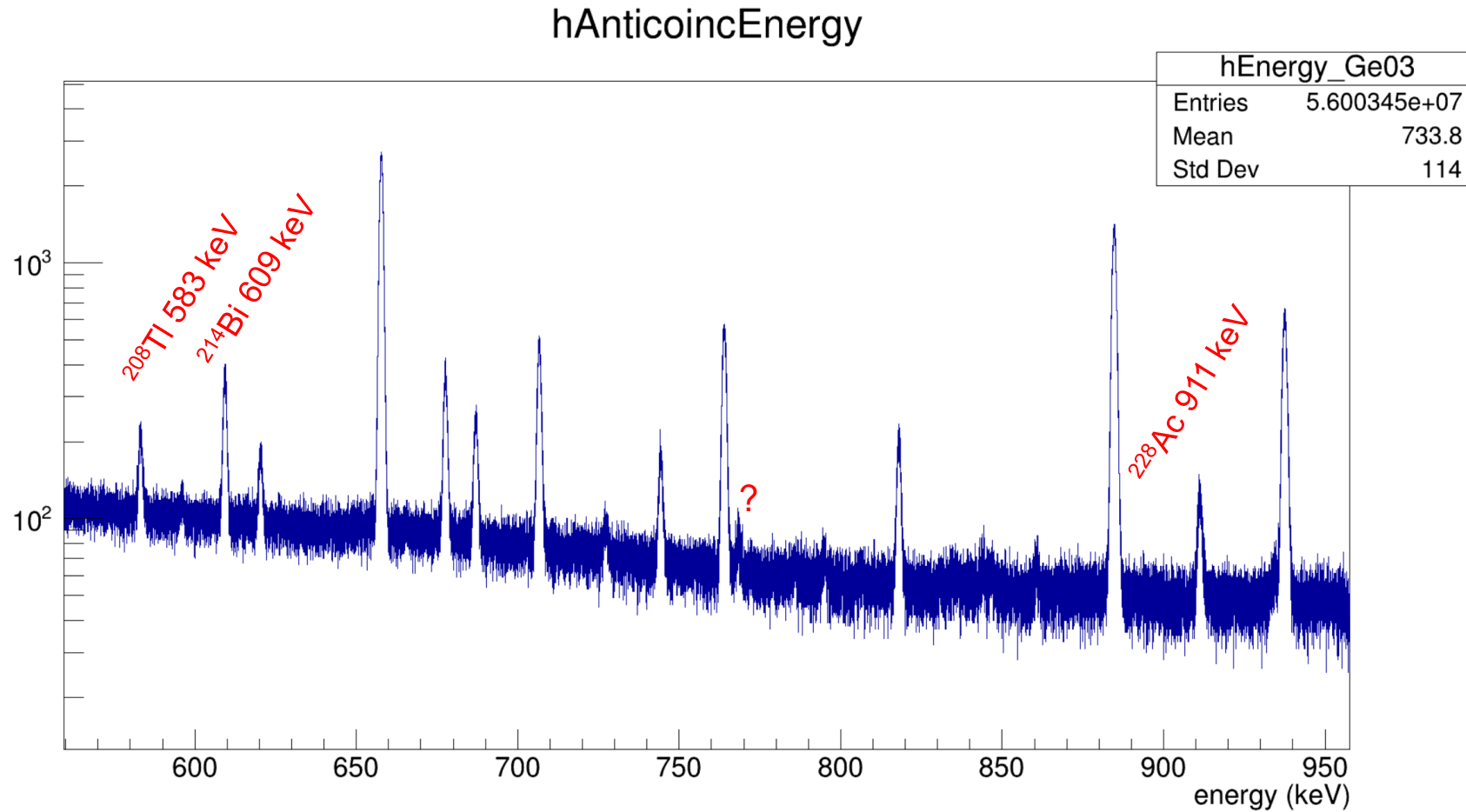


Which lines to use?

Use BEGe to identify potential issues



Which lines to use?



Risk of overlap?

