BeAGLE update

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BeAGLE upgrade

- Released BeAGLE in the case of "offgrid" EPS09 A-values: BNL + JLAB
  - Hannu Paukkunen ("P") suggests just using nearest A values. $R^{(A)}(x, Q^2)$ is a slow function of A.
  - Confirmed!
\[ R^{(A)}_{\text{sea}}(x, Q^2 = Q_0^2) \text{ for } ^{16}\text{O} \& ^{27}\text{Al} \]

This plot is only valid for \( x < 0.1 \)

\[ Q_0^2 = 1.69 \text{ GeV}^2 \]

\[ ^{20}\text{Ne} \approx ^{16}\text{O} \]
$R^{(A)}_{\text{sea}}(x,Q^2=Q_0^2)$ for $^{117}\text{Sn}$ & $^{184}\text{W}$

$^{131}\text{Xe} \approx ^{117}\text{Sn}$

This plot is only valid for $x<0.1$

$Q_0^2 = 1.69 \text{ GeV}^2$
The approximation:

\[ q^{(A)}(x,Q^2) = [Zq^{(p)}(x,Q^2) + Nq^{(n)}(x,Q^2)] \times R^{(A)}(x,Q^2) \]

Keep exact Z, N=A-Z, but nearest available A for R:

\[ q^{(A)}(x,Q^2) \approx [Zq^{(p)}(x,Q^2) + Nq^{(n)}(x,Q^2)] \times R^{(A_{\text{near}})}(x,Q^2) \]

Nearness defined geometrically:
sqrt(A_1A_2) is halfway between A_1, A_2
Proposed PyQM plots for midOct.

- **Light flavor (Liang?)**
  - Ignore target remnant evaporation/breakup
  - Ignore momentum (non)-conservation
  - Ignore pt broadening
  - Just fit HERMES $R(z)$ vs. $\tau_0$ and q-hat as is.

- **Heavy flavor (Mathieu?)**
  - $R(z)$ for JLEIC for D particles w/ charm treated as either light or heavy