Fourier Transform of 7-Pole Wiggler Field and 8-Pole Wiggler Field Calculations

1. **Obtained Fourier transform of $B_Y(z)$ along axis of 7-pole wiggler**
   - Now know number of terms necessary for a given level of accuracy.
     40 terms suffice to reduce residuals below 20 G. Present numerical limit is $< \ 1\ G$.
   - Also know which terms they are
   - A fit to the field using these terms as input is now running.
   - Thinking about transform of x-dependence.
     Few terms but both real and imaginary.
     Desired result: Fit only coefficients of linearly-independent terms.

2. **8-Pole Wiggler Field Calculations**
   - Antisymmetric field. $B_Y = 0$ at center of magnet.
   - Currents in main and end poles independent.
     Will adjust end pole current to give desired tracking result.

3. **Fit Gymnastics for 7-Pole Field**
   - Minimize with respect to B_Y only.
     $\Rightarrow$ No change. Fit remained at minimum previously found.
   - Weight field values with 1-G errors rather than with VF error bars.
     $\Rightarrow$ Weird result. Y-dependence wrong. Peak field poorly constrained.