Goal: Correct mis-alignments of SVT to reach design resolution of $\approx 65 \mu m$.

2 Use millepede which does linear least-squares for large numbers of global parameters.

3 Requires calculation of track residuals with respect to SVT strips.

4 Using Type 1 gemc tracks.

5 Compare results with residuals from clas12-reconstruction.
Misalignment in x (mm)

Misalignment in y (mm)

Type 1 Tracks, Region 1 fixed
Misalignment in $x$ (mm) $y$ (mm)

Type 1 Tracks, Region 1 fixed

Type 1 Tracks, Fixed signs
Type 1 Tracks, Region 1 fixed

Type 1 Tracks, Fixed signs

Jerry Gilfoyle

CLAS12 Track-Based Alignment
Type 1 Tracks, Fixed signs

Misalignment (mm)

$y$ (mm)
Type 1 Tracks, Fixed signs

Type 1, fix $\Delta x$ derivative