RG-D DC Alignment Progress

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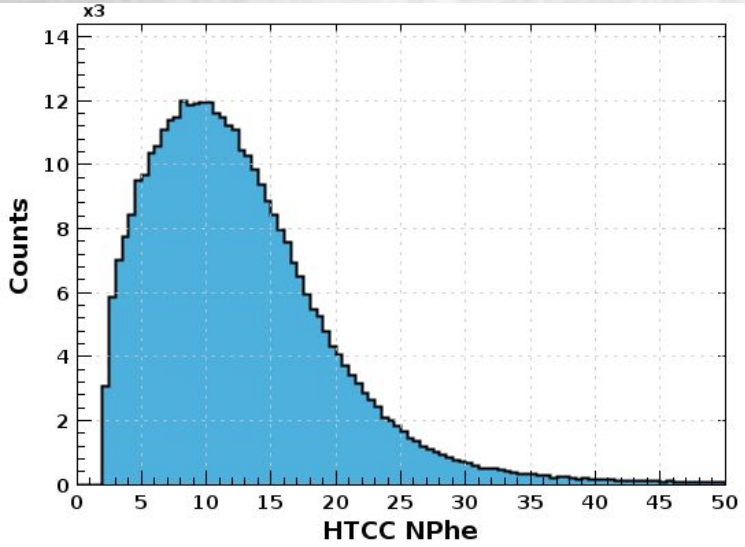
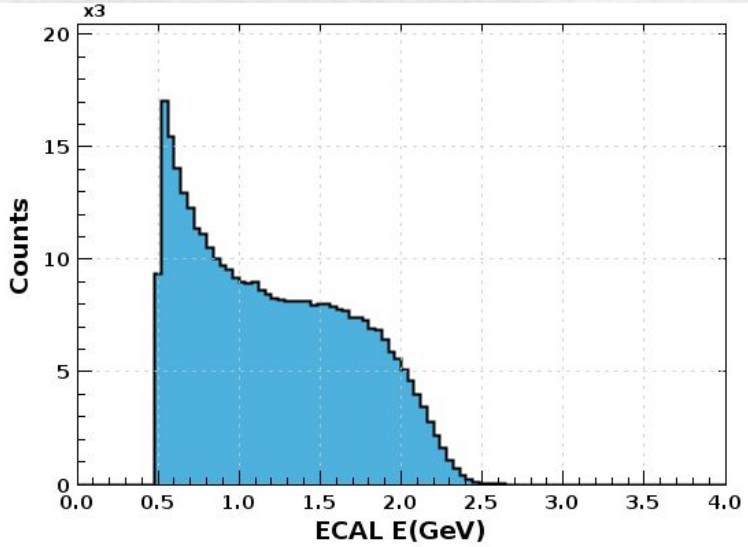
Progress Update

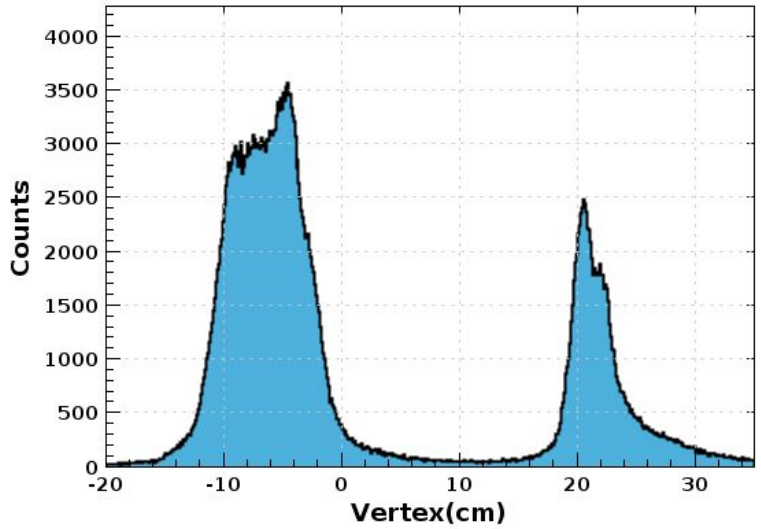
- The first RG-D alignment was completed using a run 18316.
- After the first alignment attempt, the DC calibration constants needed to be adjusted.
- Obtained good alignment results with the extracted DC T2D constants of a run 18316.
- Currently producing the second iteration for further improvement.

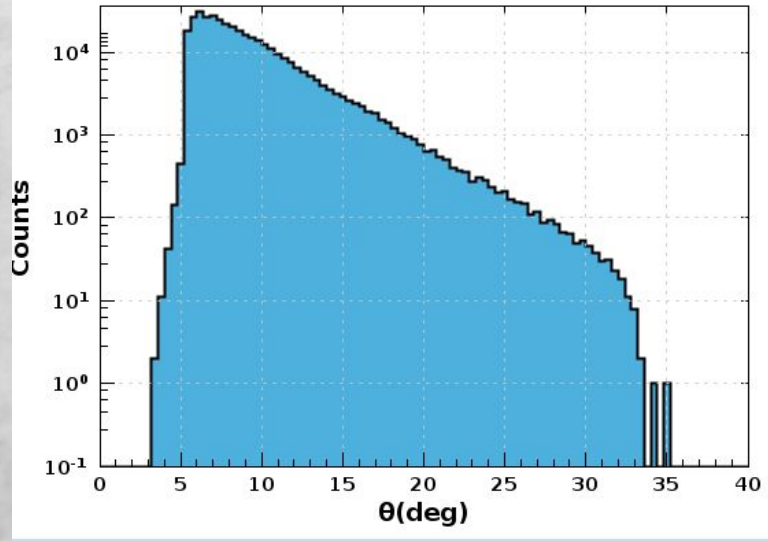
Electron Kinematics

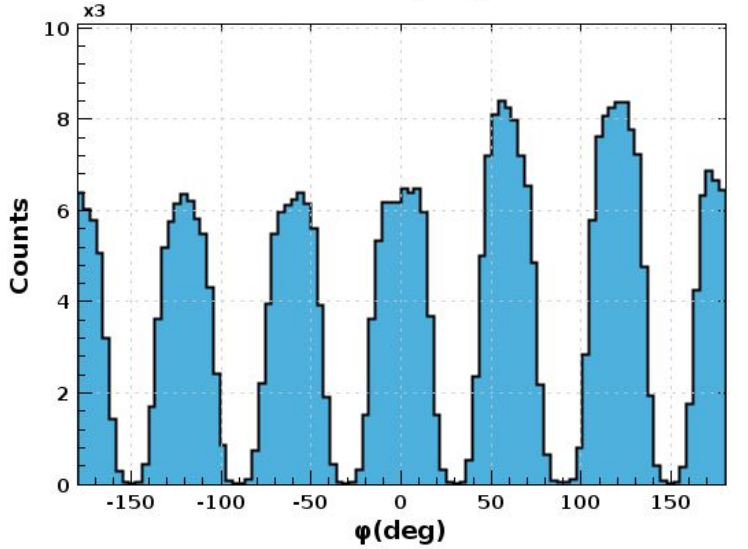
These graphs show the distributions for the selected 300,000 electron tracks

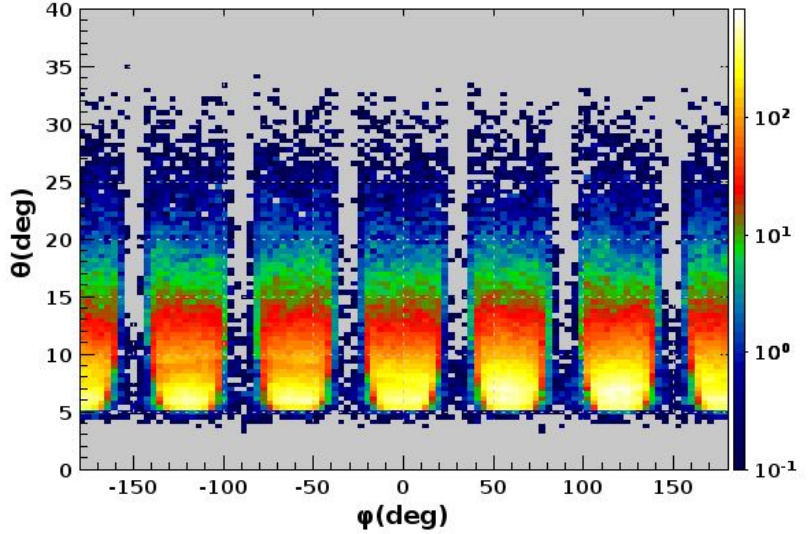




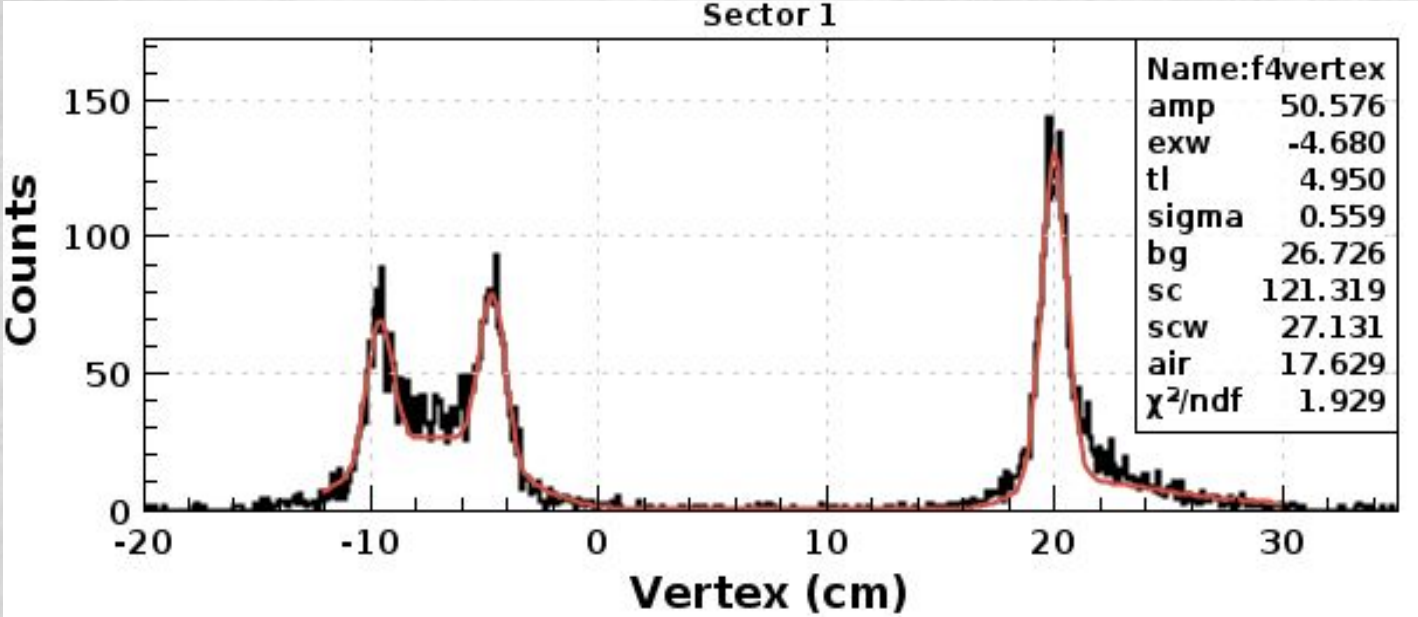








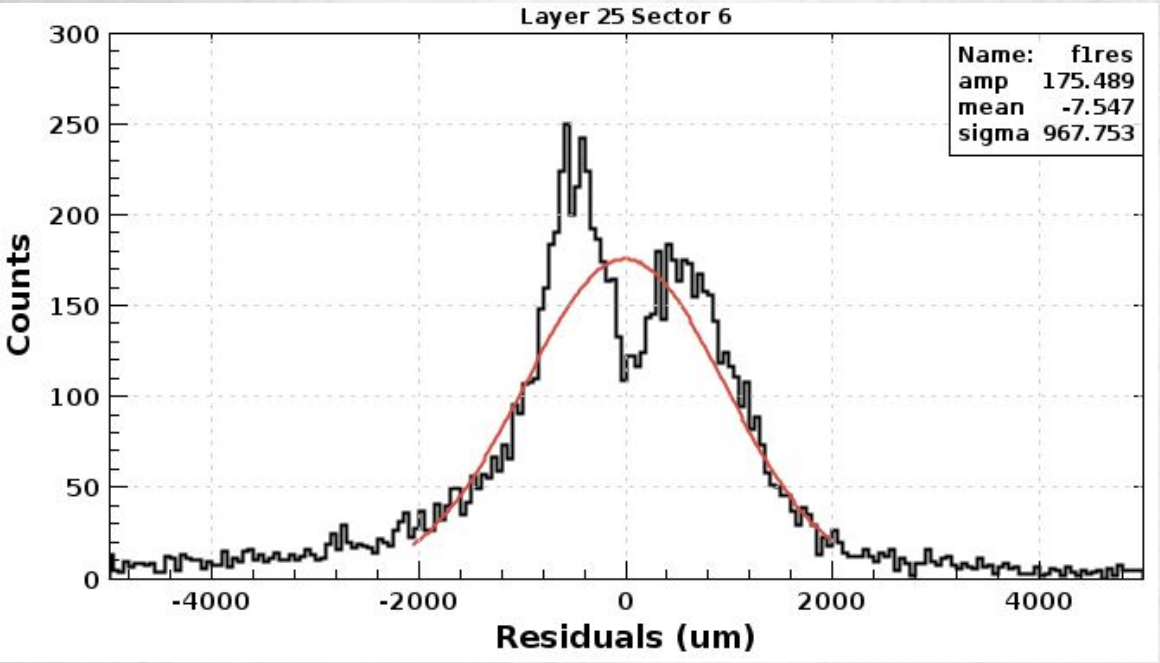
z-Vertex Distributions



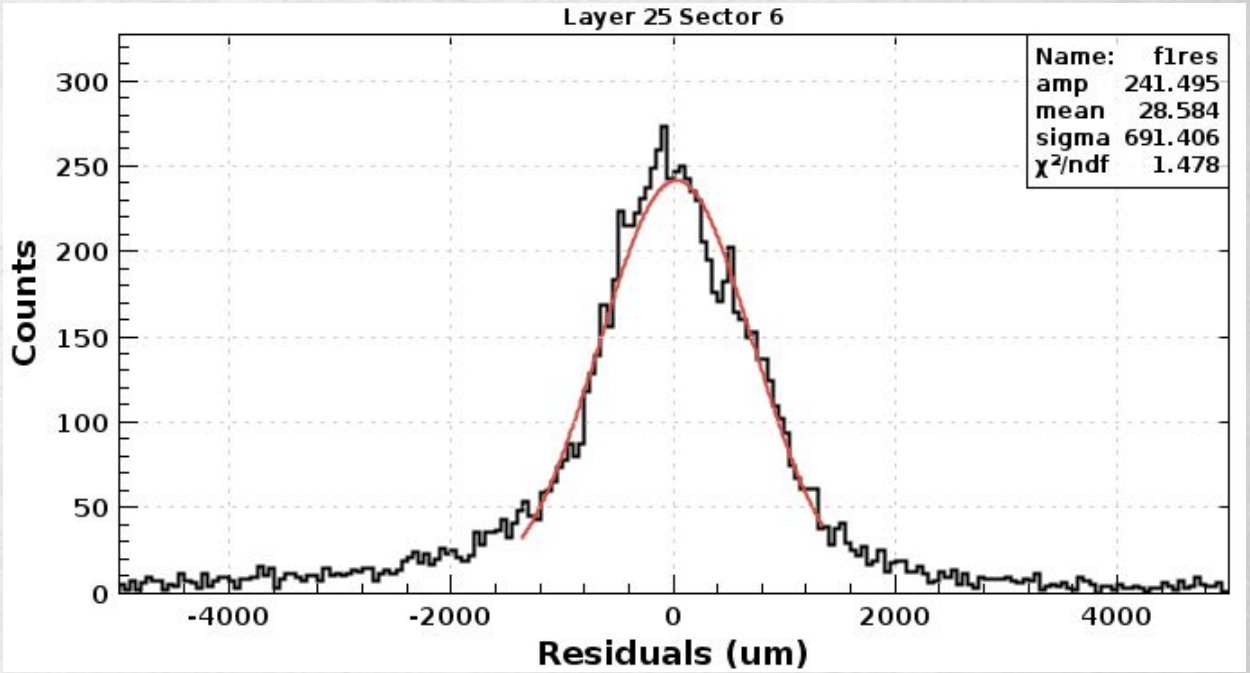
- The two upstream peaks represent, respectively, the entrance and exit windows of the cryo-target cell.
- The downstream peak represents the exit window of the scattering chamber.

Residual Fits

Before 18316 T2D Calibration



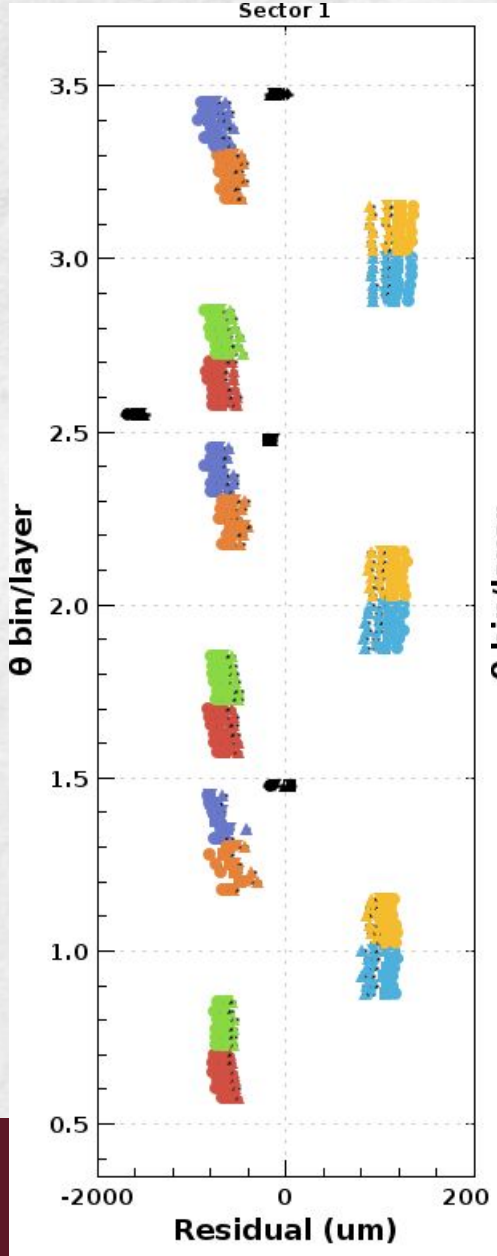
After 18316 T2D Calibration



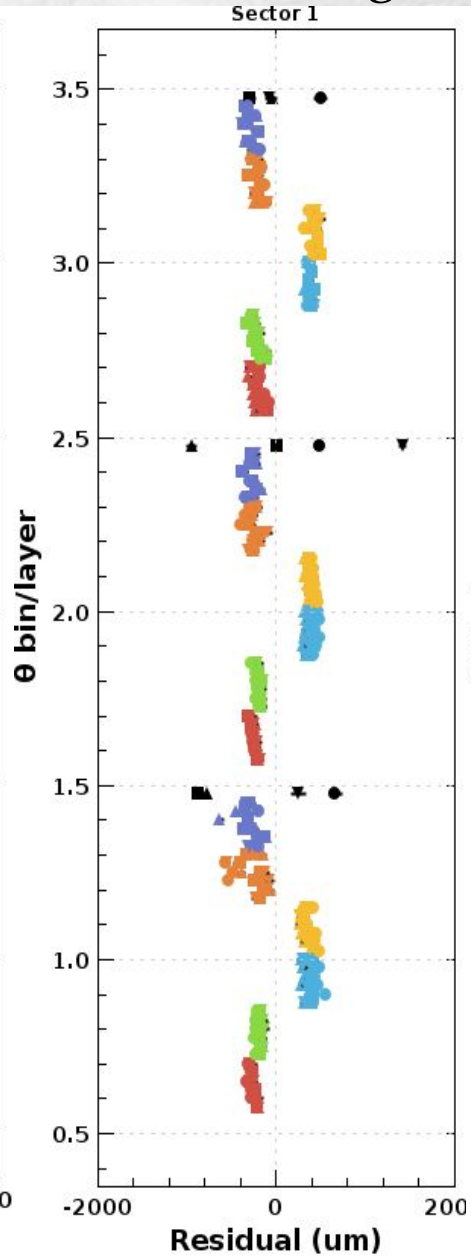
Residuals Dependencies

- Colorful dots represent the polar angle bins.
- Black dots represents the vertex shifts in tens of um.
- Different symbols shows the phi bins.
- Shift is with regard to a known target position.

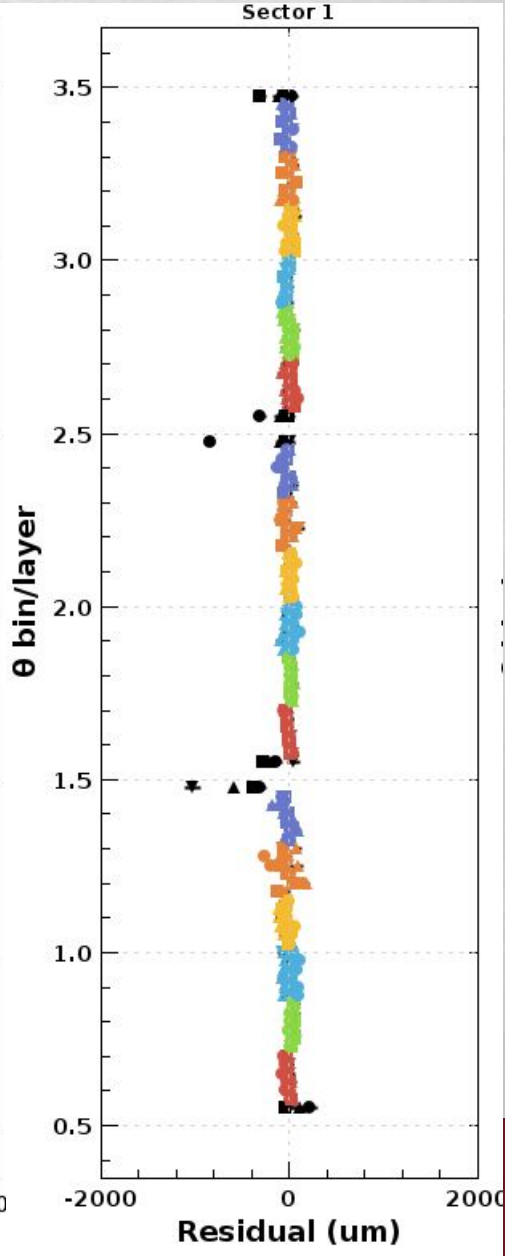
Nominal



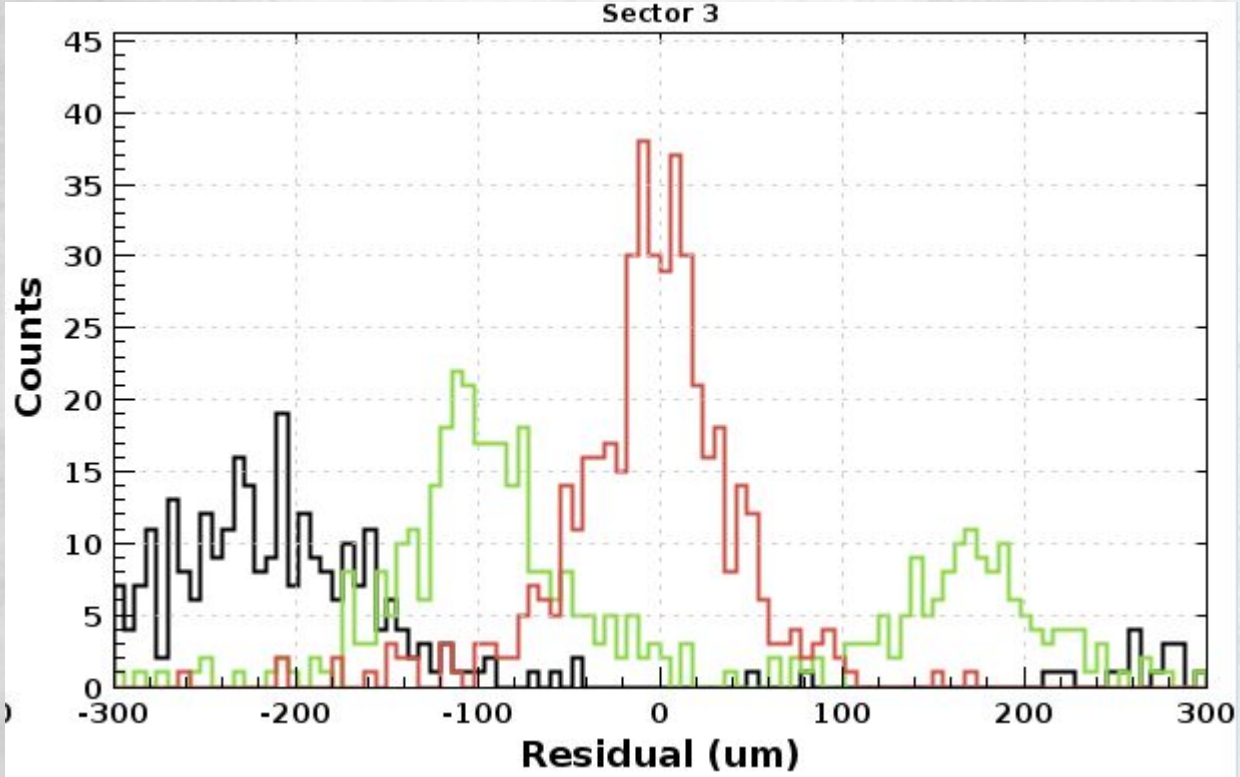
RG-C settings



First Iteration



Residual Results



- Red distribution is the result of the first iteration.
- Green distribution is obtained with the RG-C alignment setting.
- Black distribution represents the nominal geometry.