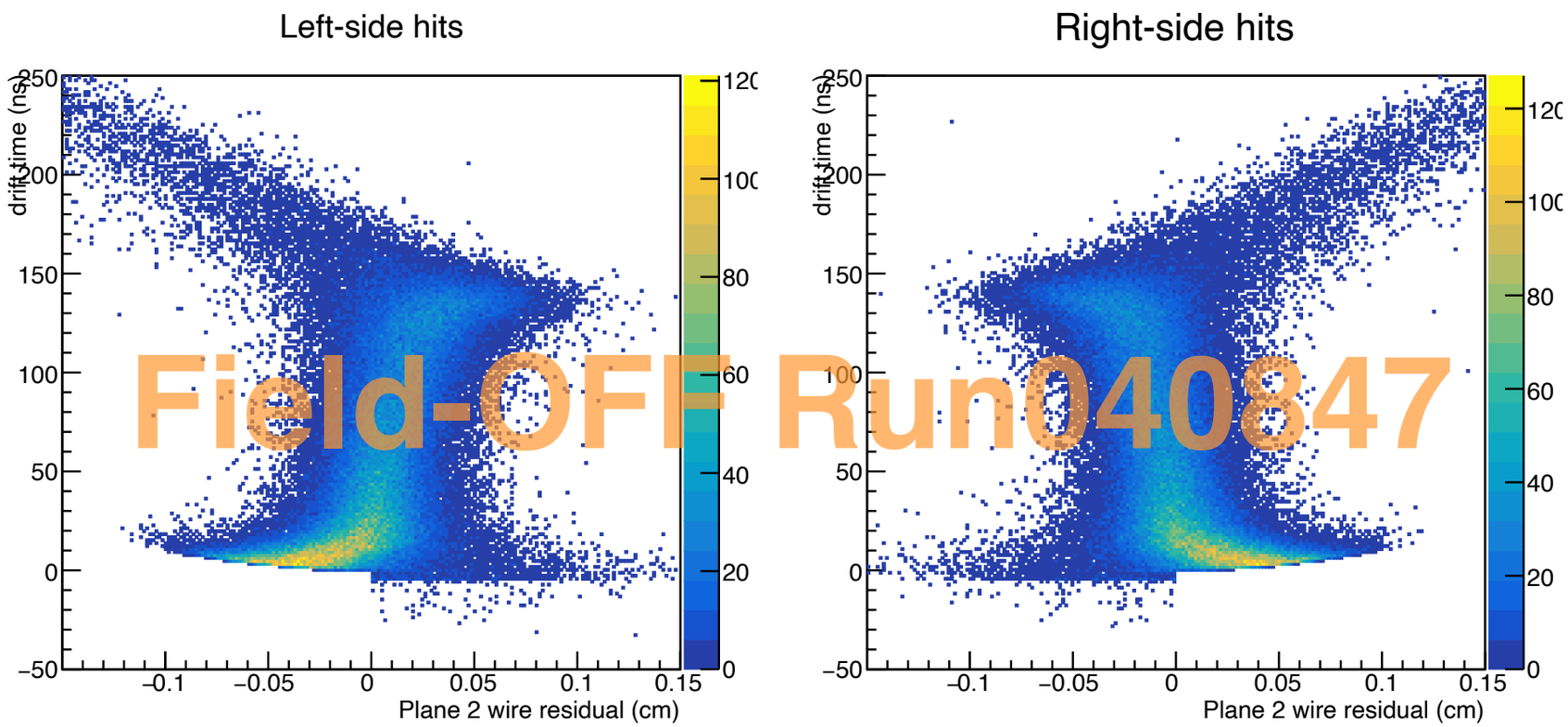
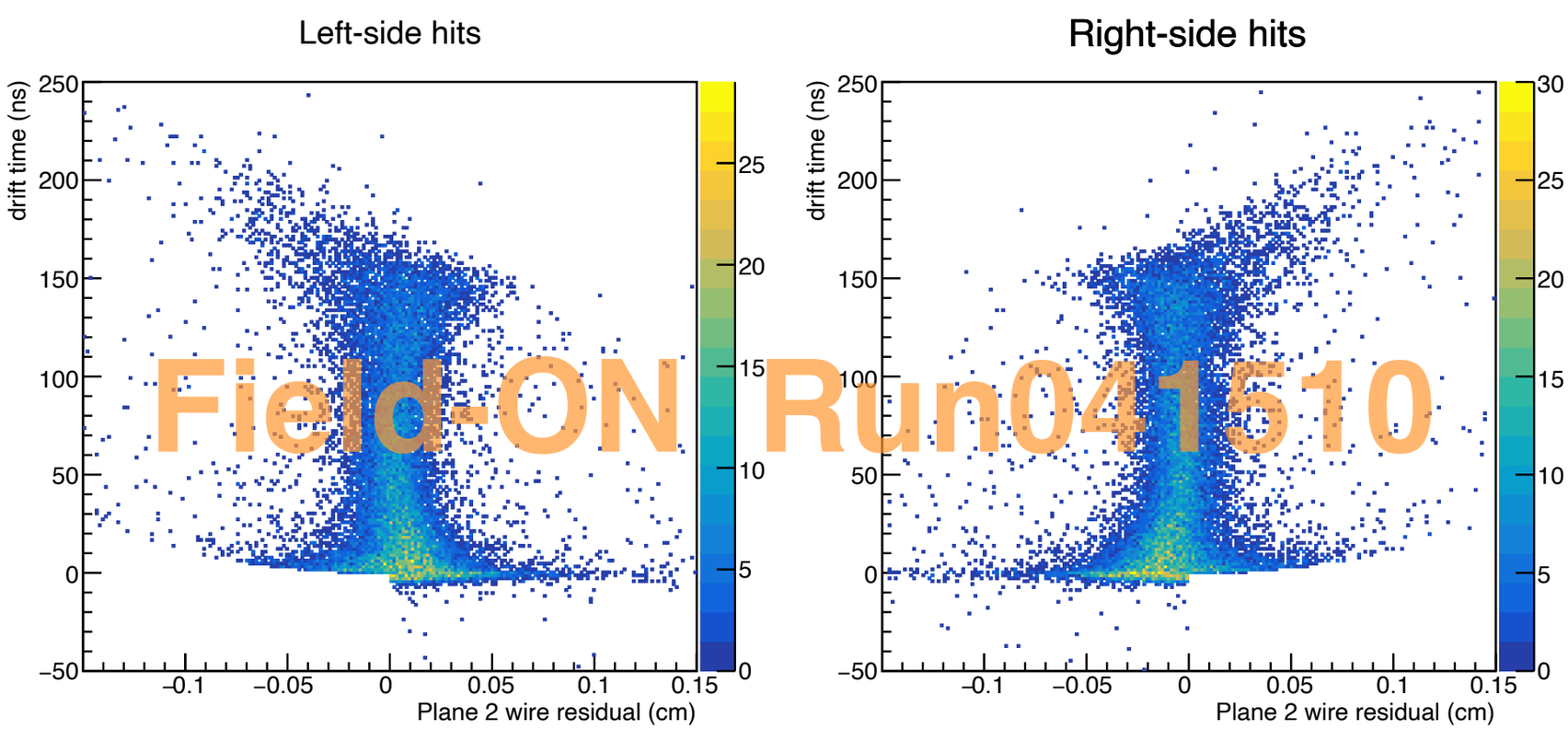
Drift time vs Residual



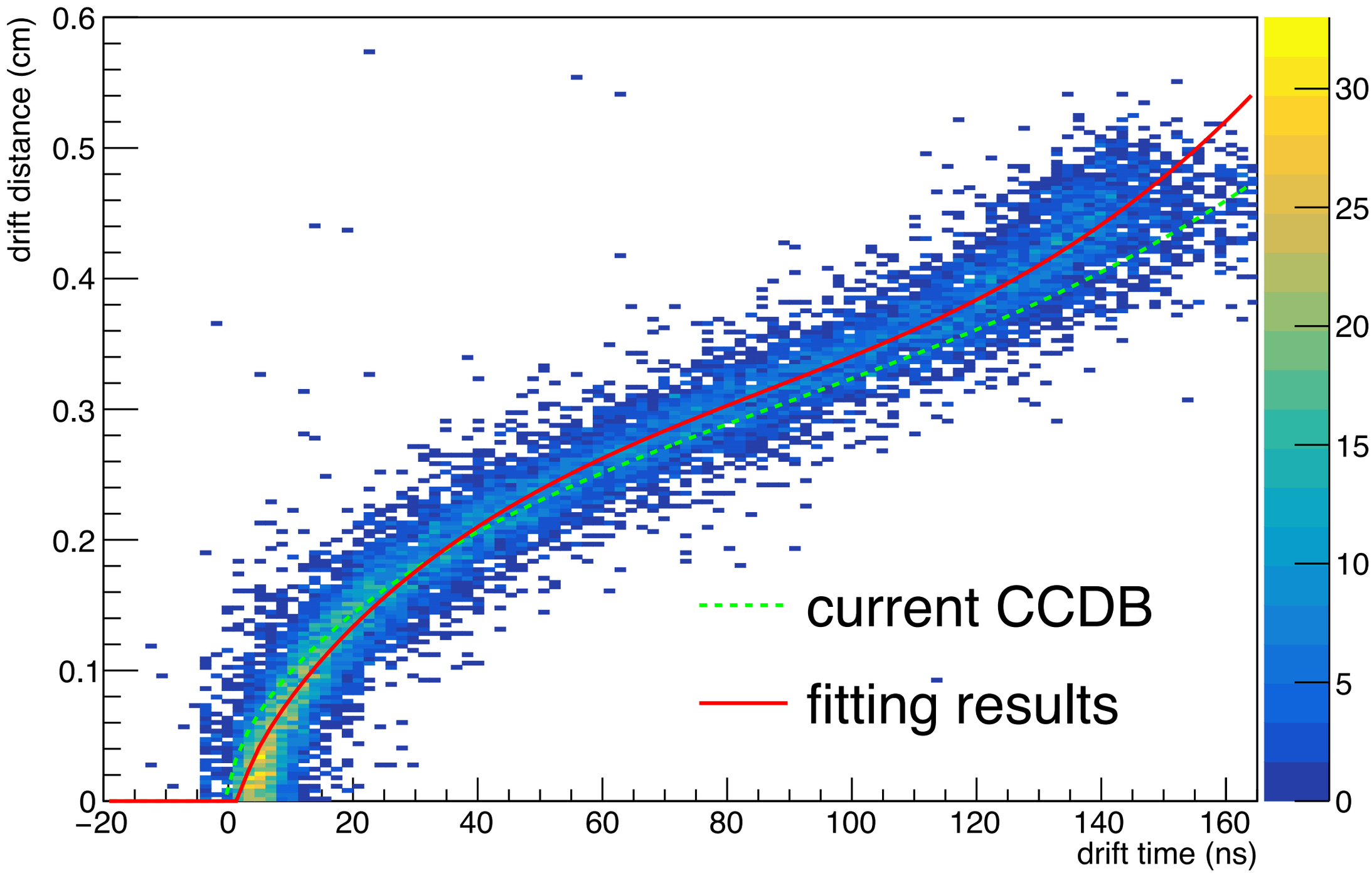


xt-curve needs to be re-optimized for Run040847 (2018-Jan).

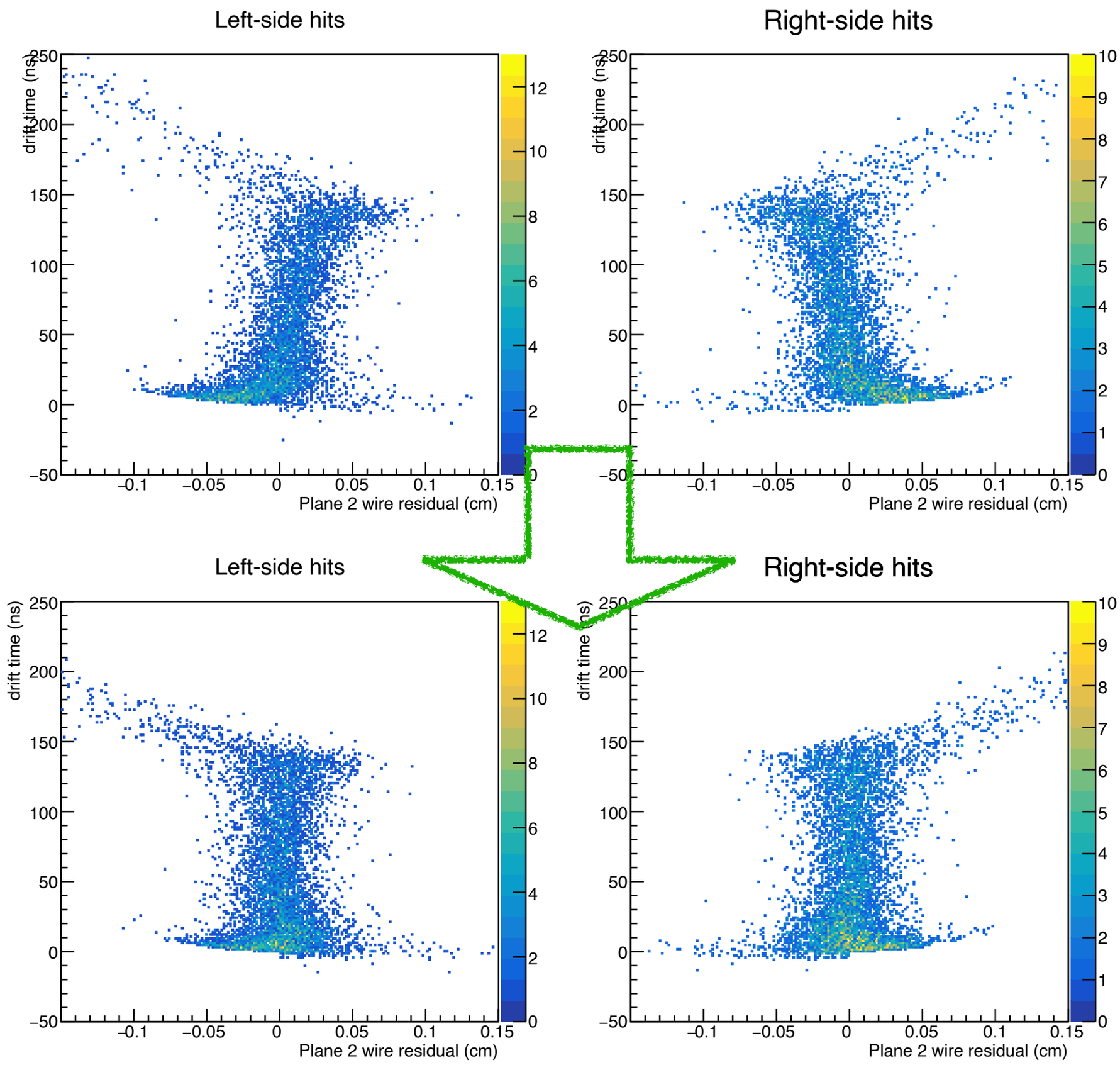
xt-curve calibration

tracking w/o wire plane#2, and predicts the drift distance of the plane

Plane 2, distance-time



Drift time vs Residual, again

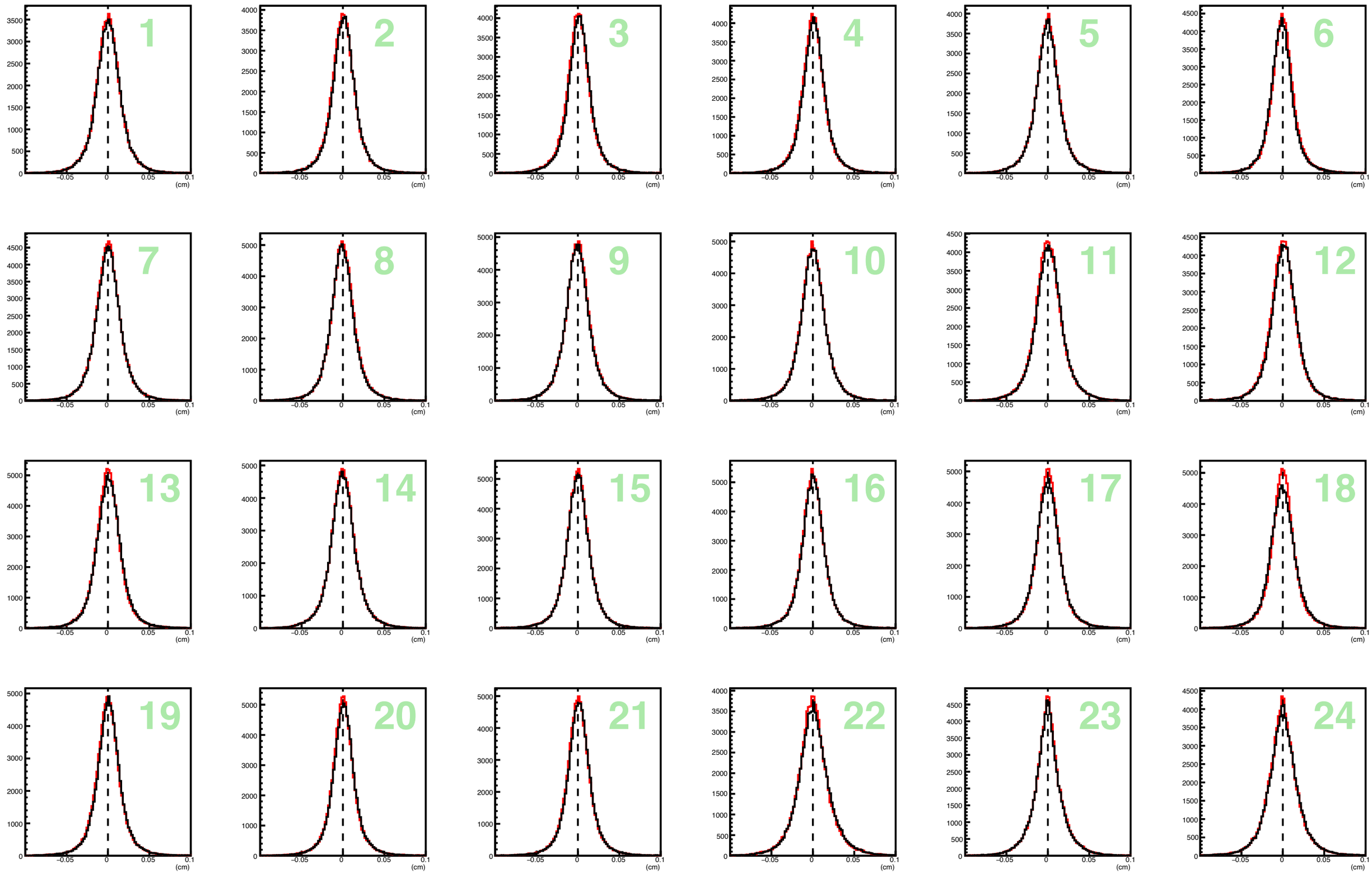


Wire Residual

histogram range: [-0.1, 0.1] cm

official CCDB values, t_0 & xt are updated

alignment parameters are updated

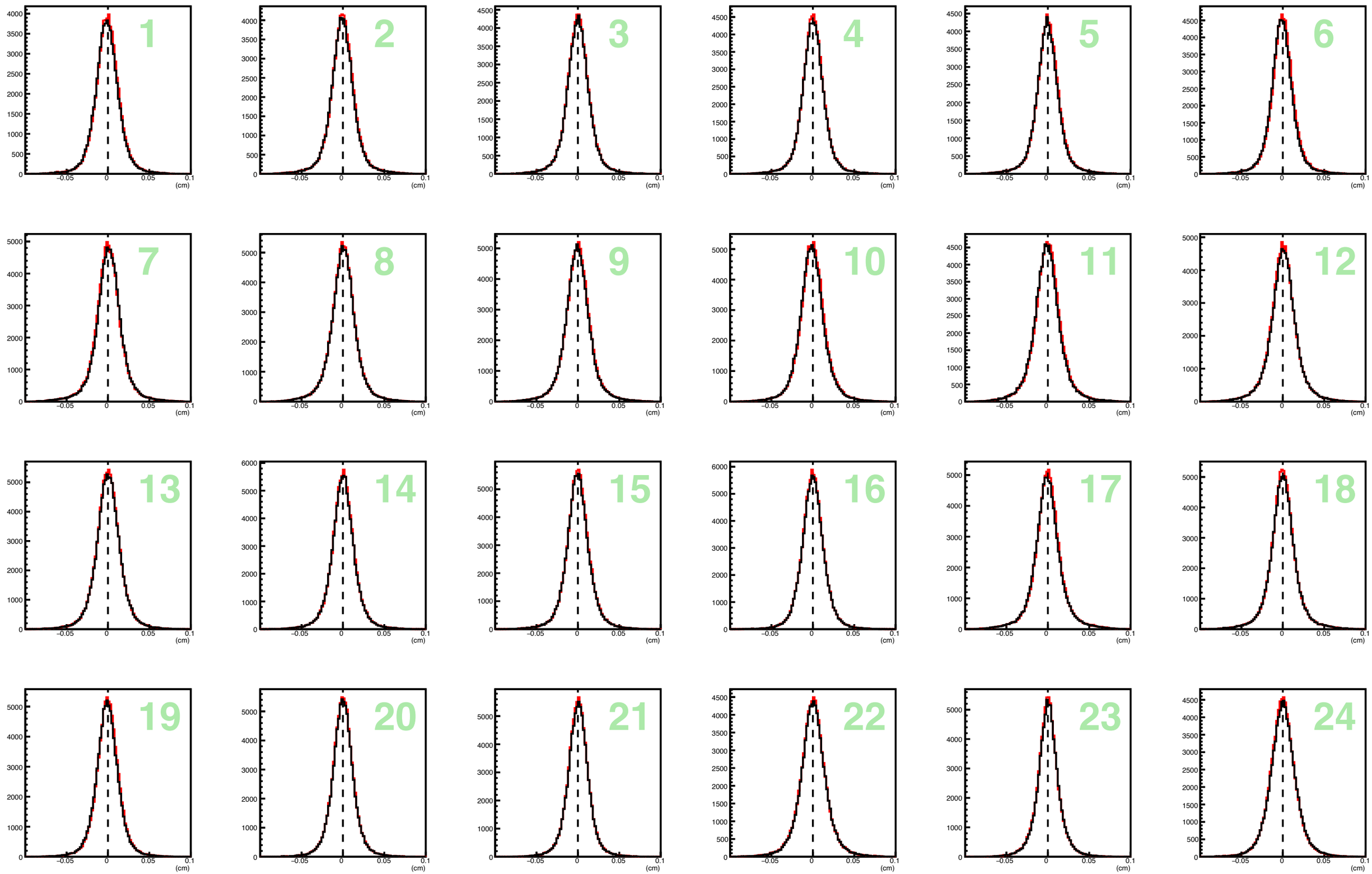


Cathode Residual

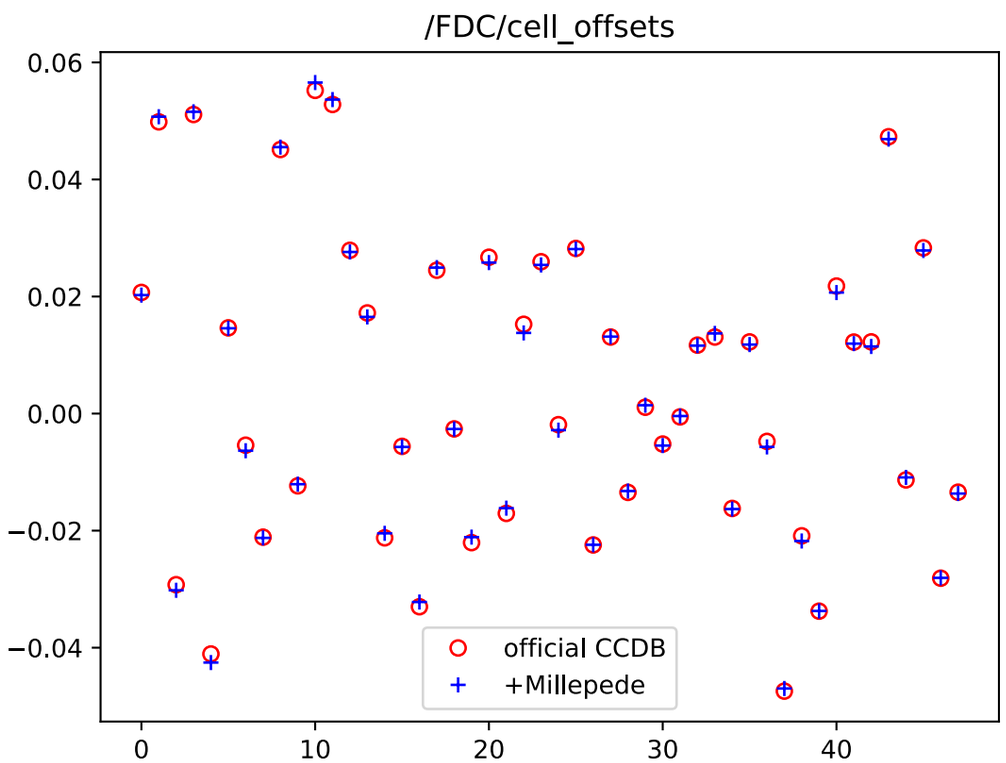
histogram range: [-0.1, 0.1] cm

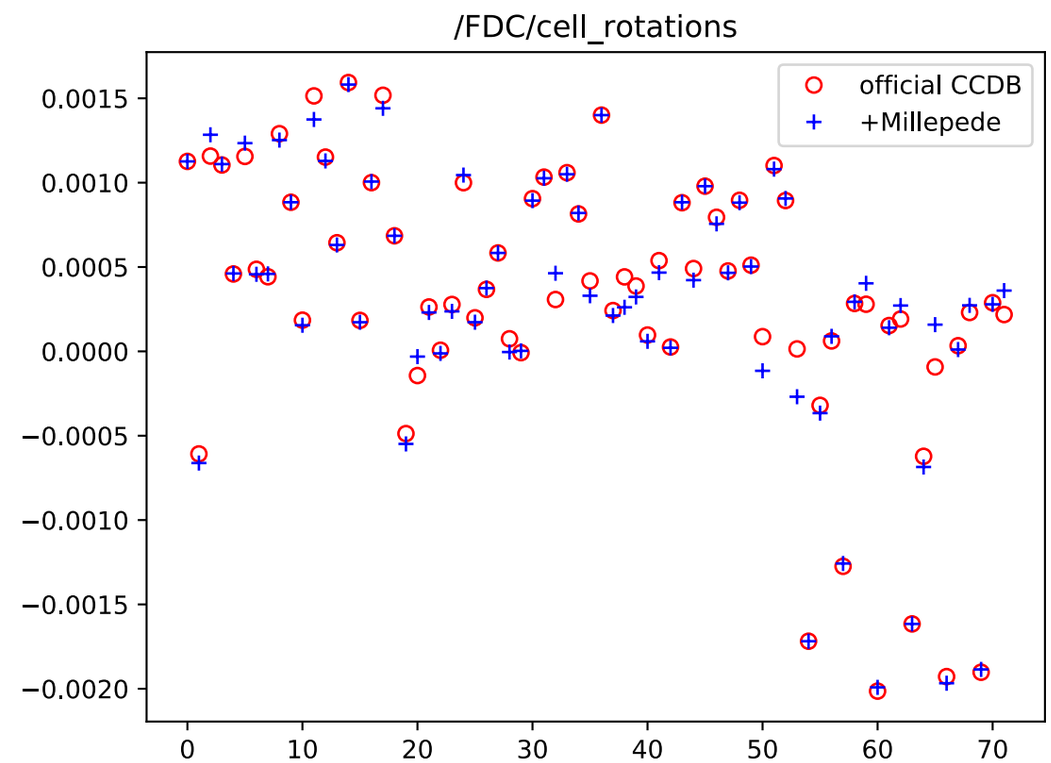
official CCDB values, t_0 & xt are updated

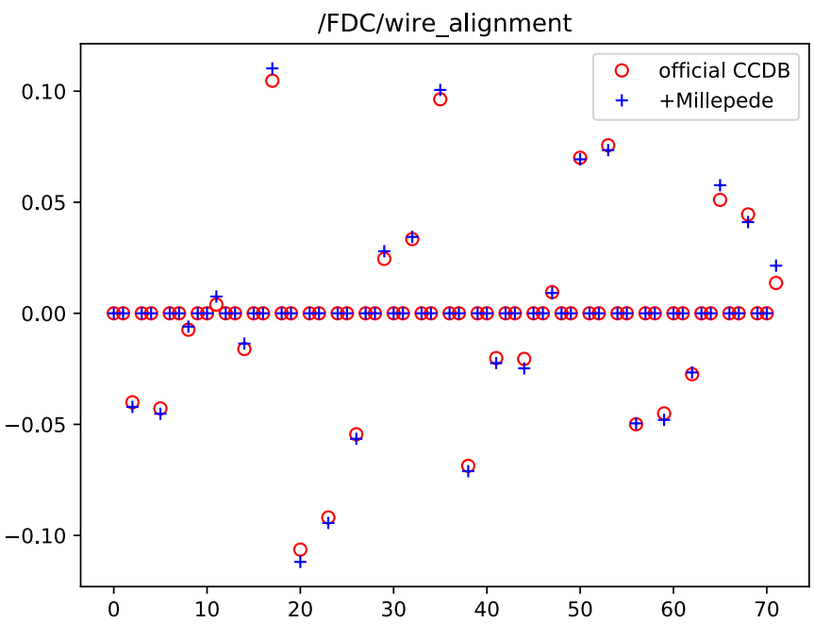
alignment parameters are updated

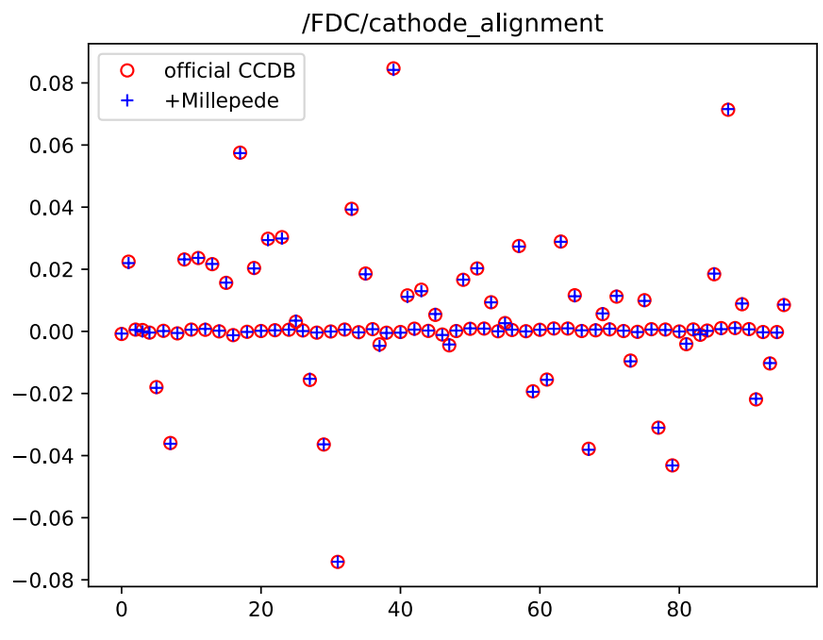


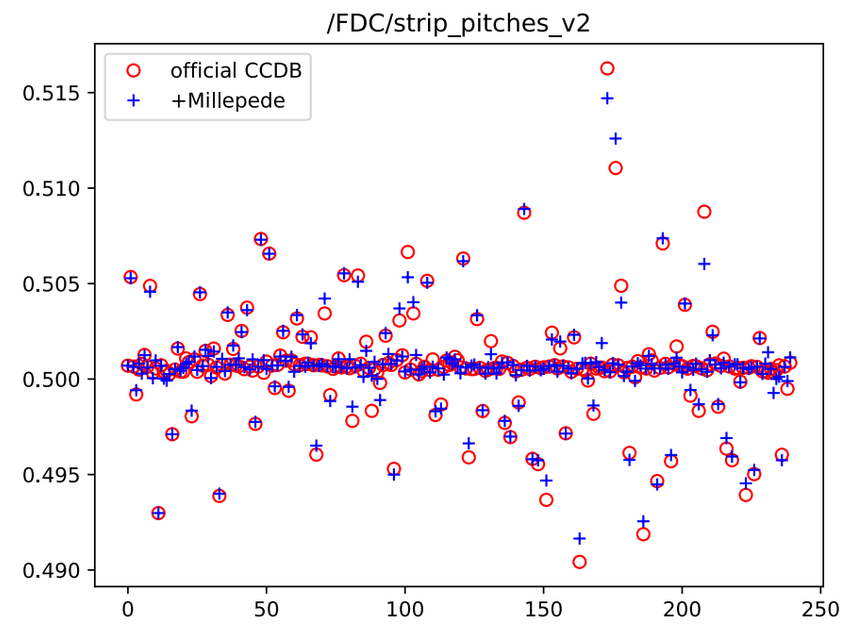
CCDB [alignment parameters]



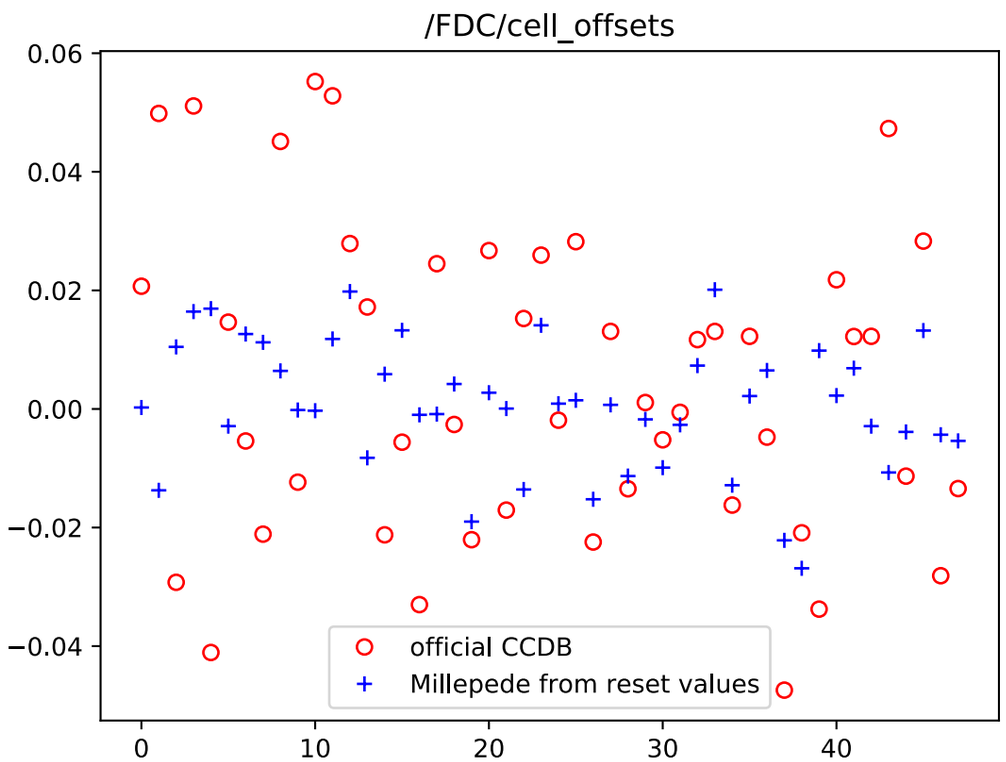


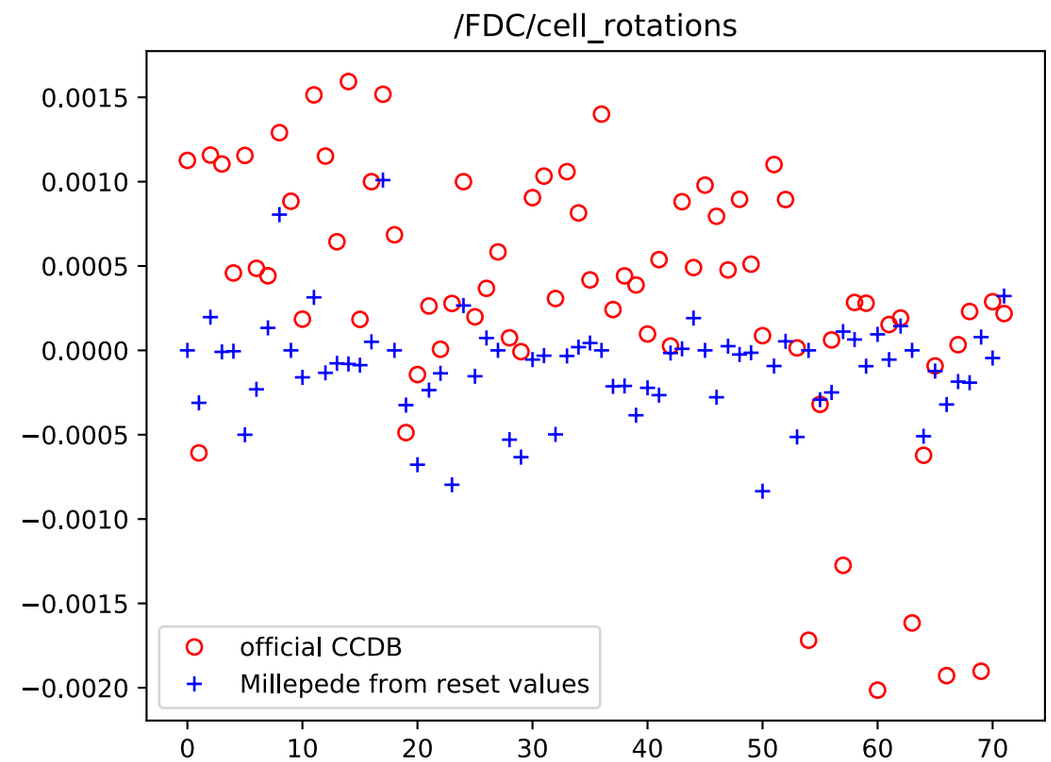




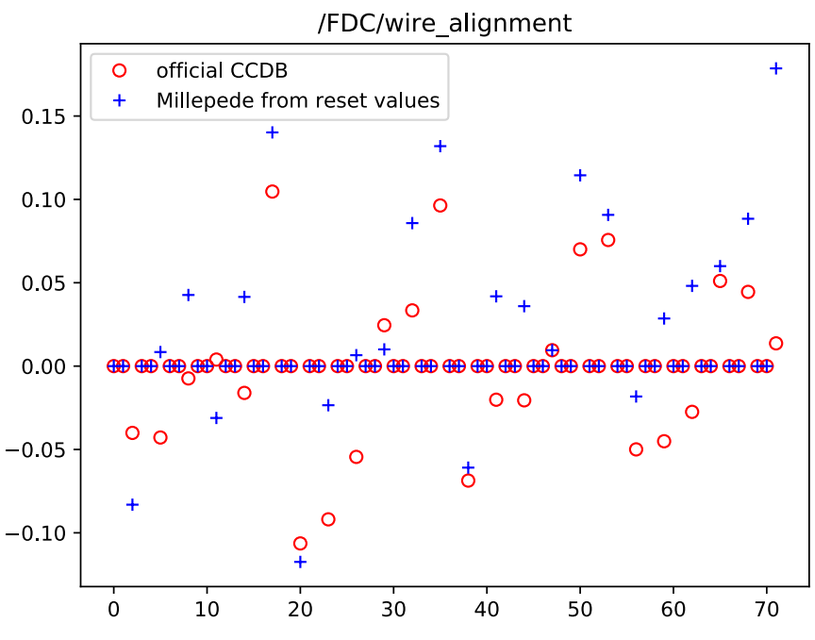


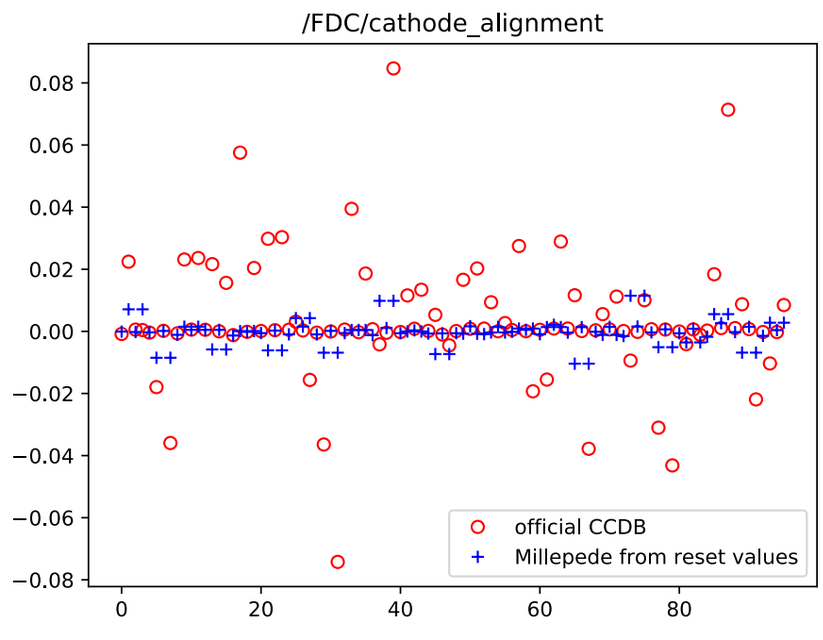
Millepede after resetting CCDB

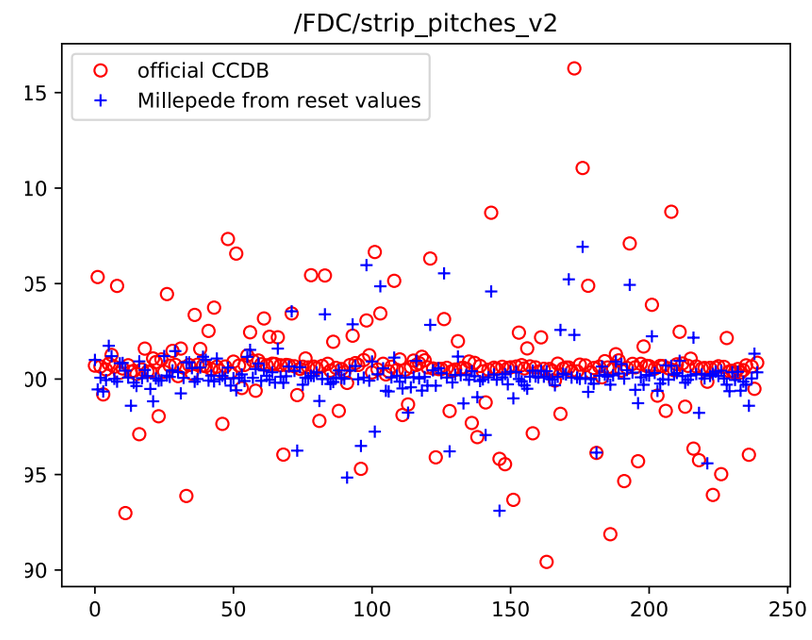




Cannot reproduce the official CCDB values.

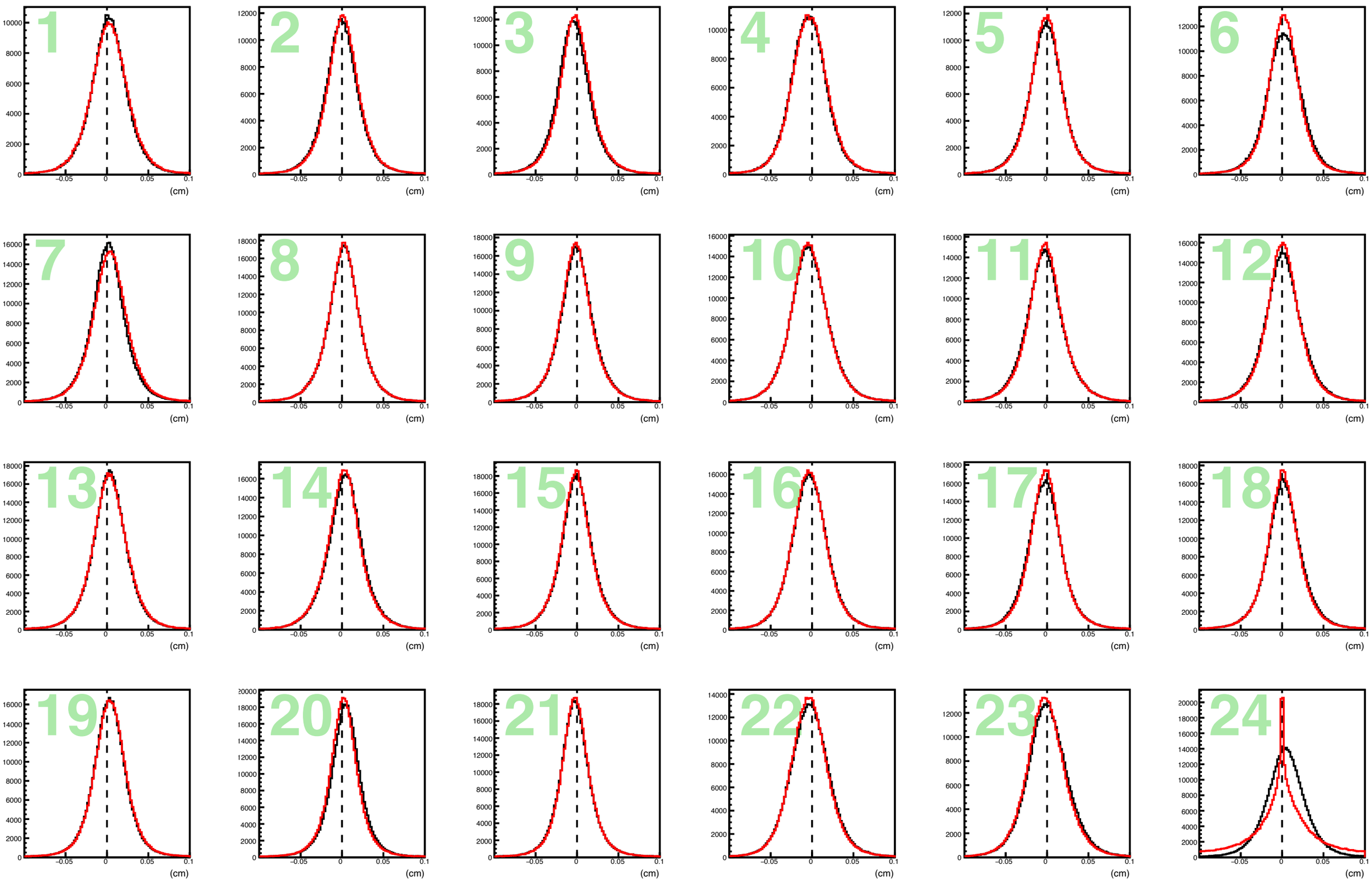




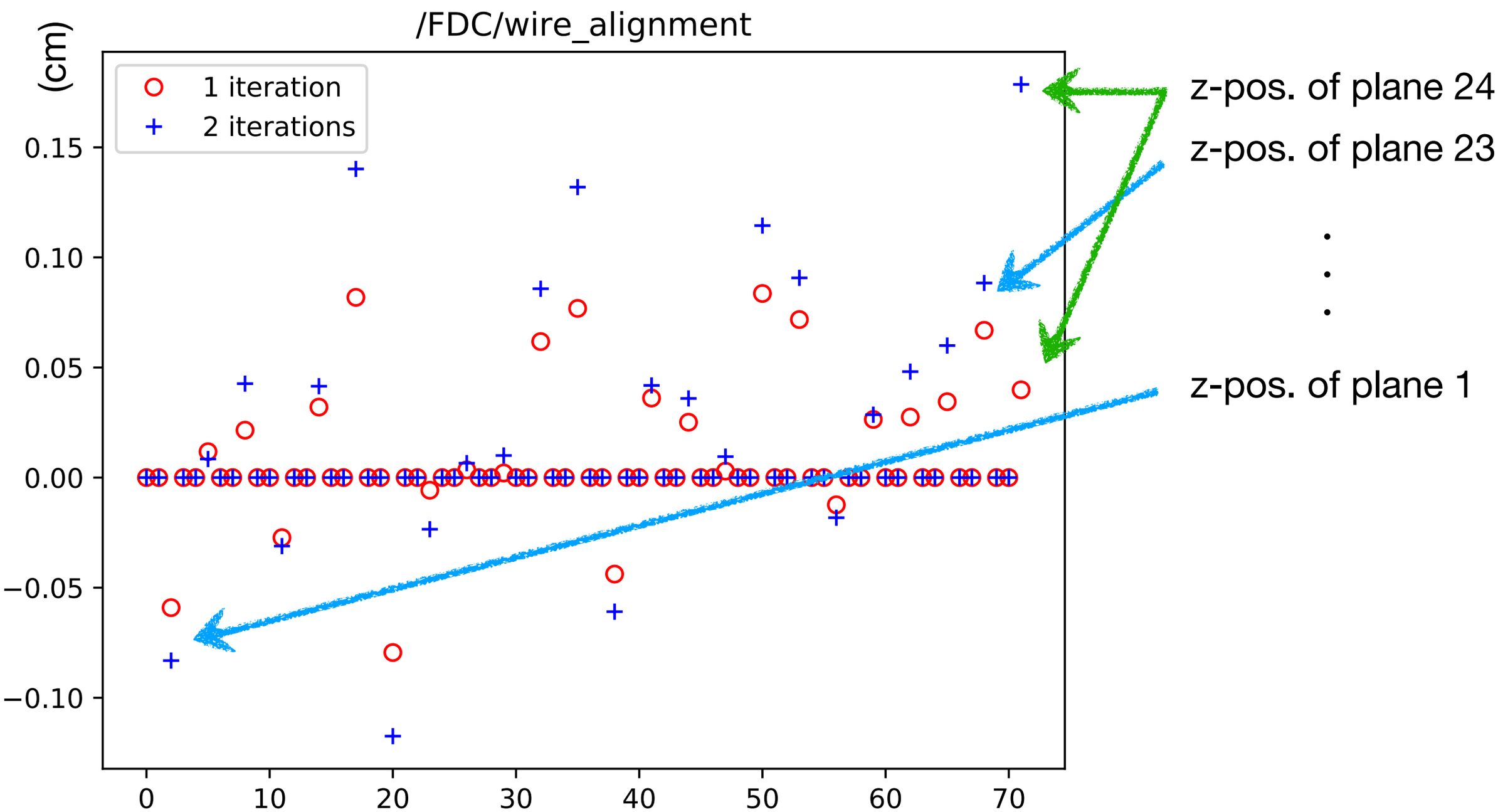


Wire Residual

histogram range: [-0.1, 0.1] cm

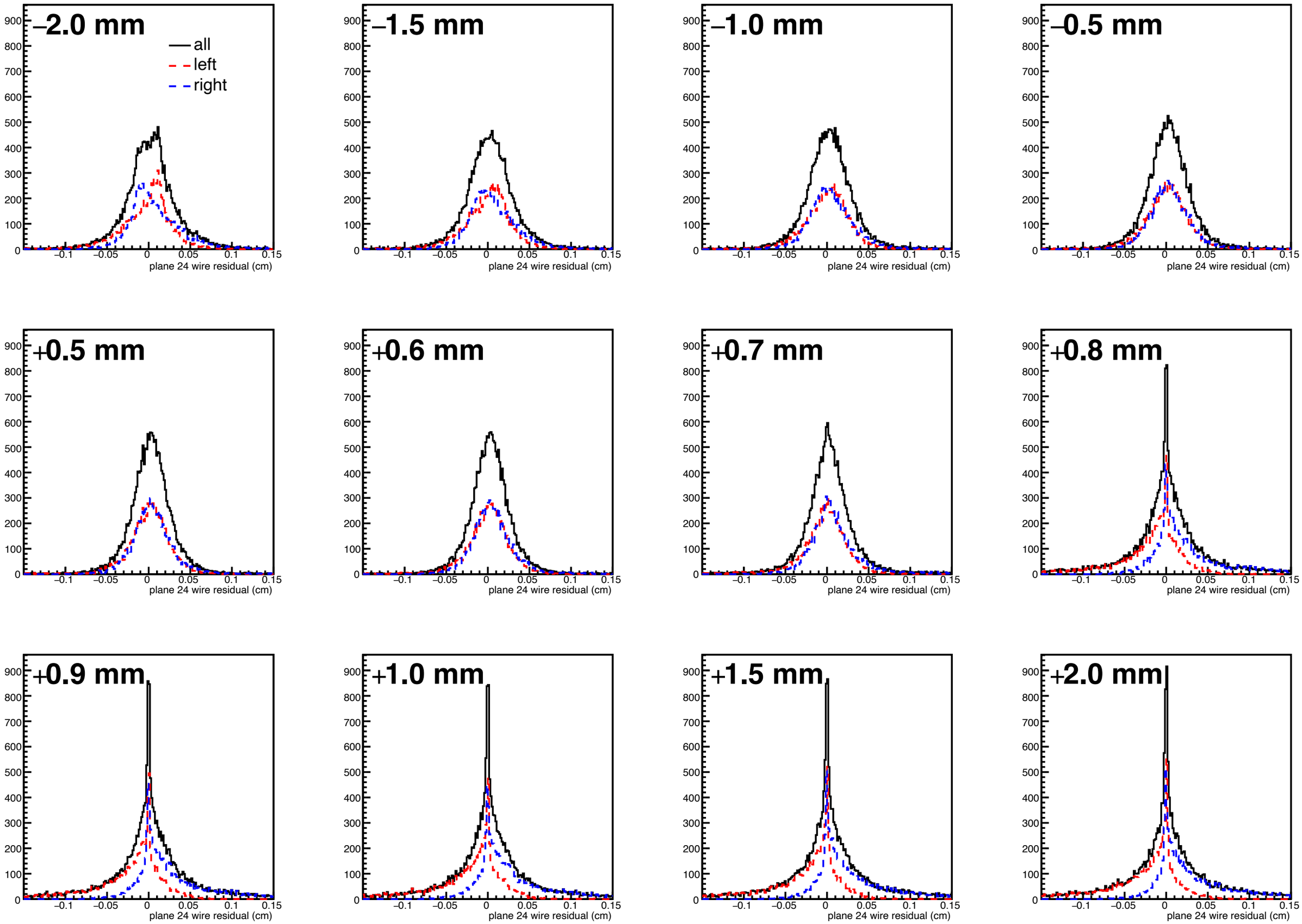


z-position parameters



The sharp peak is due to the large z-pos. shift.

Change z-pos of plane 24

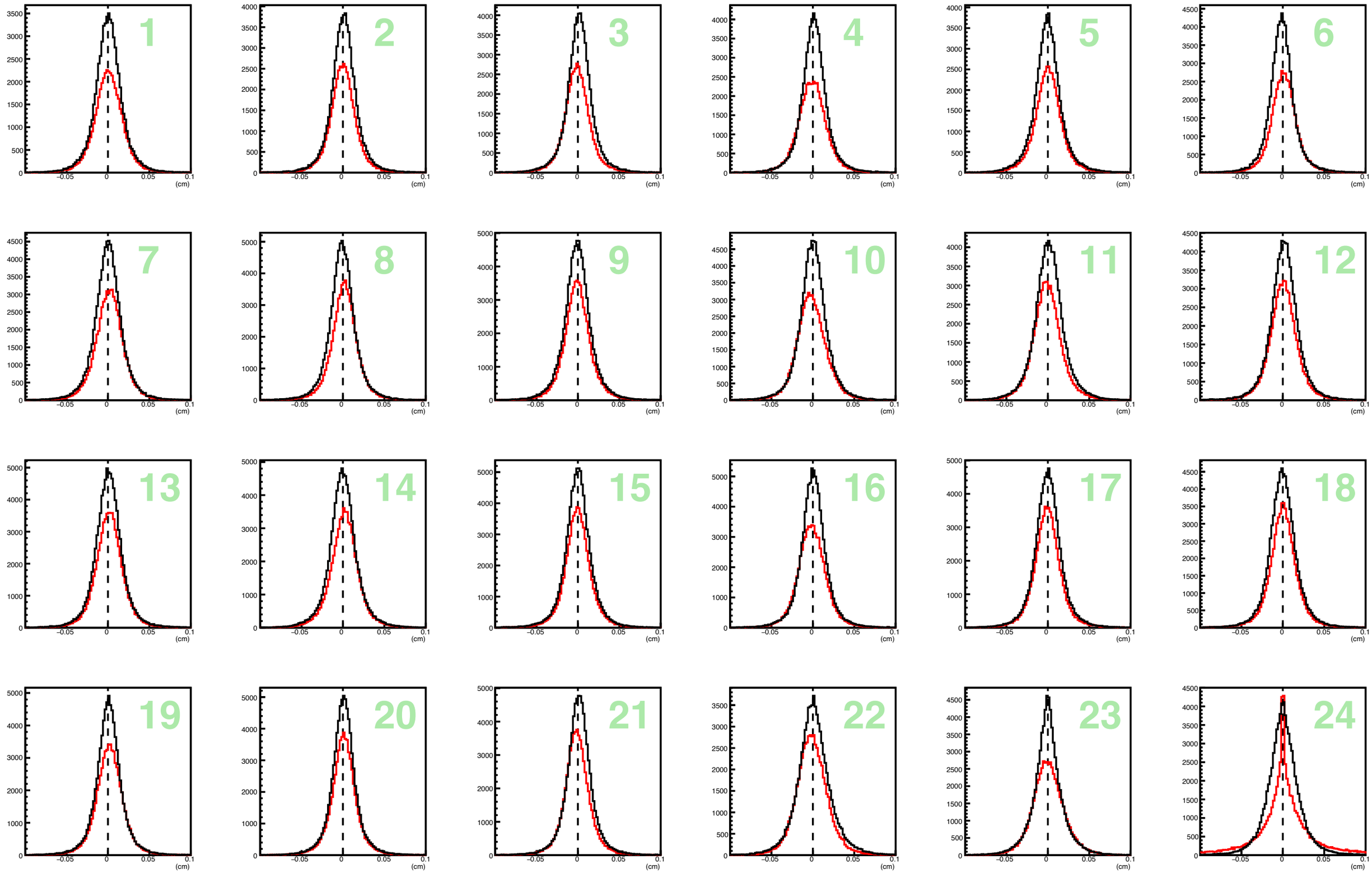


Wire Residual

histogram range: [-0.1, 0.1] cm

official CCDB values, t_0 & xt are updated

Millepede from resetting CCDB

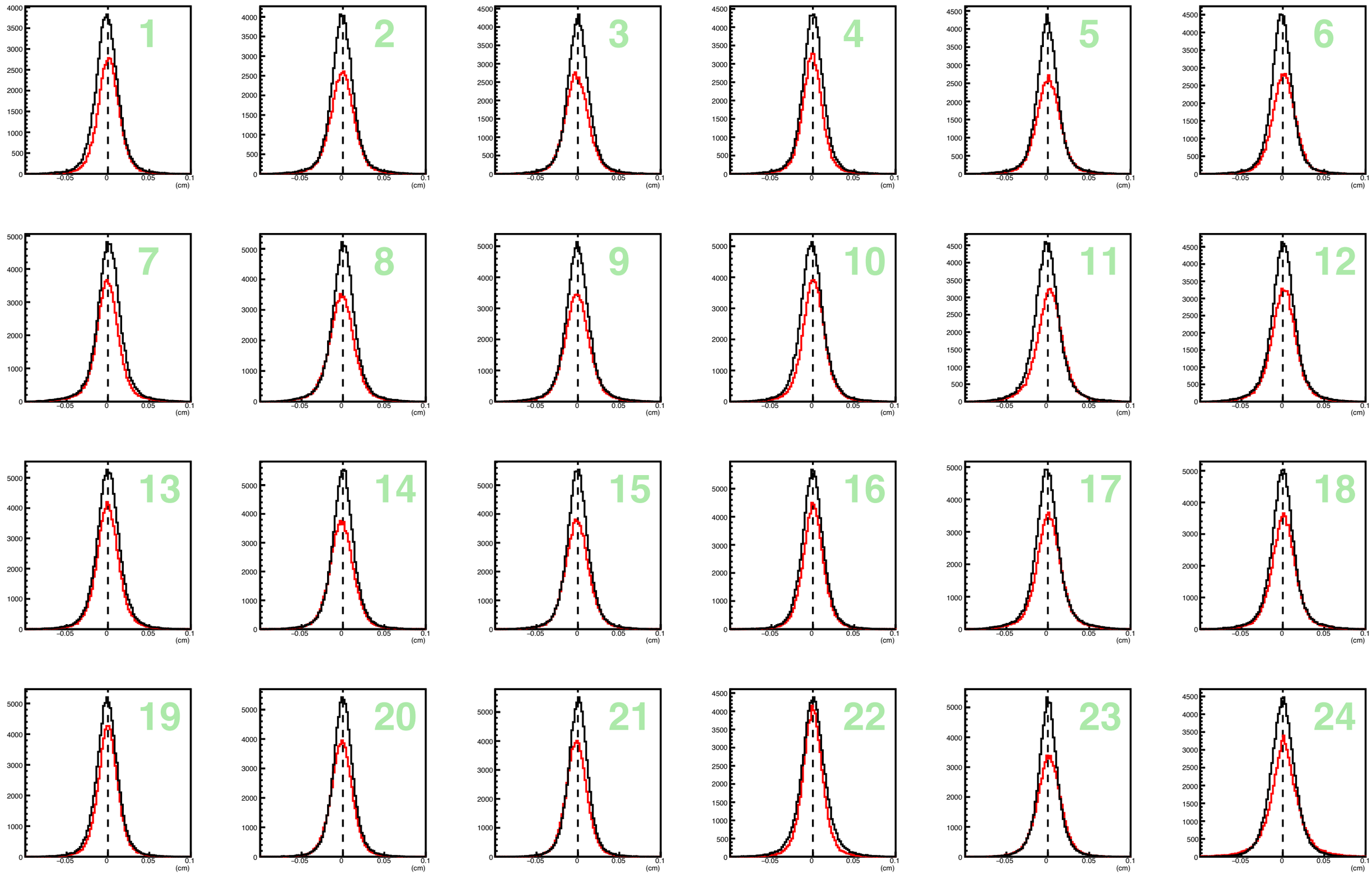


Cathode Residual

histogram range: [-0.1, 0.1] cm

official CCDB values, t_0 & xt are updated

Millepede from resetting CCDB



Summary

- 2018-01 FDC alignment seems almost perfect.
- However, starting from reset CCDB, Millepede iteration cannot reproduce the current constants.
  - Iterations go to a local minimum with large Z.