

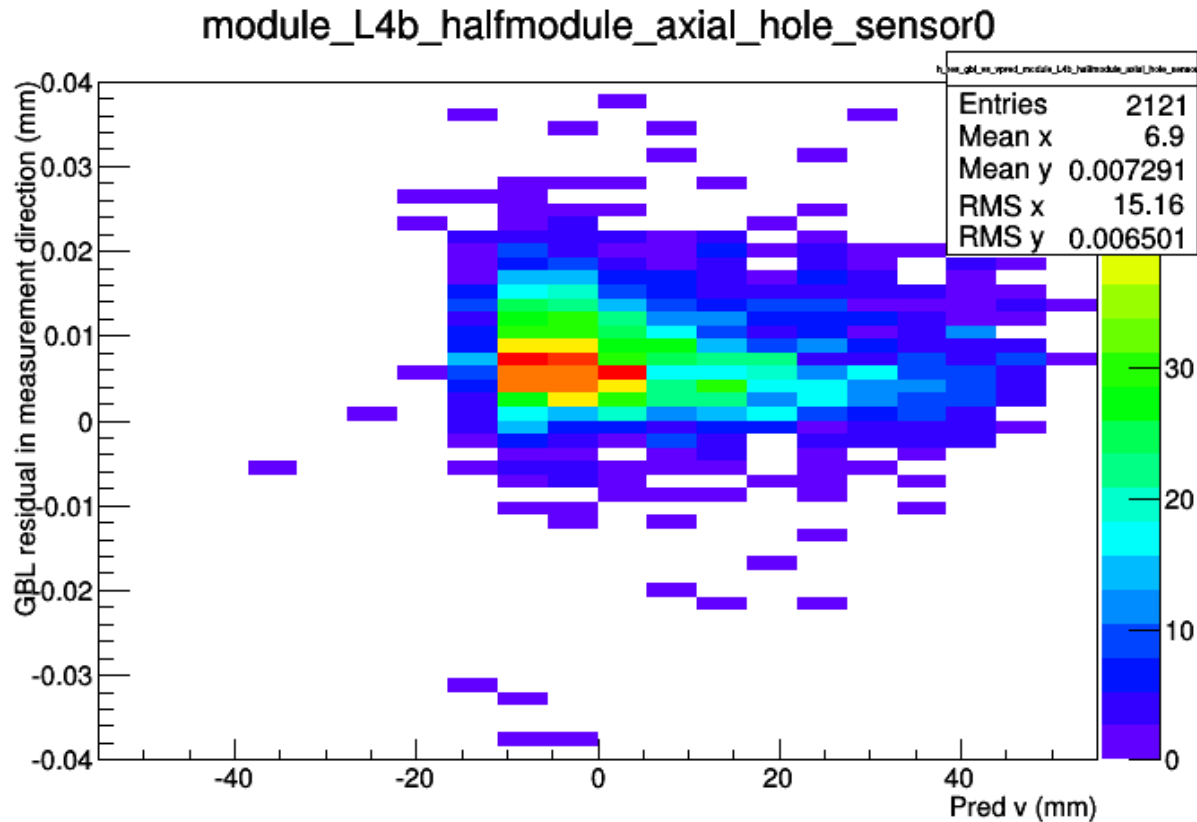
Rotations

Pelle

GBL residuals vs. strip direction

Example: residual vs pred along strip

Straight through 5784

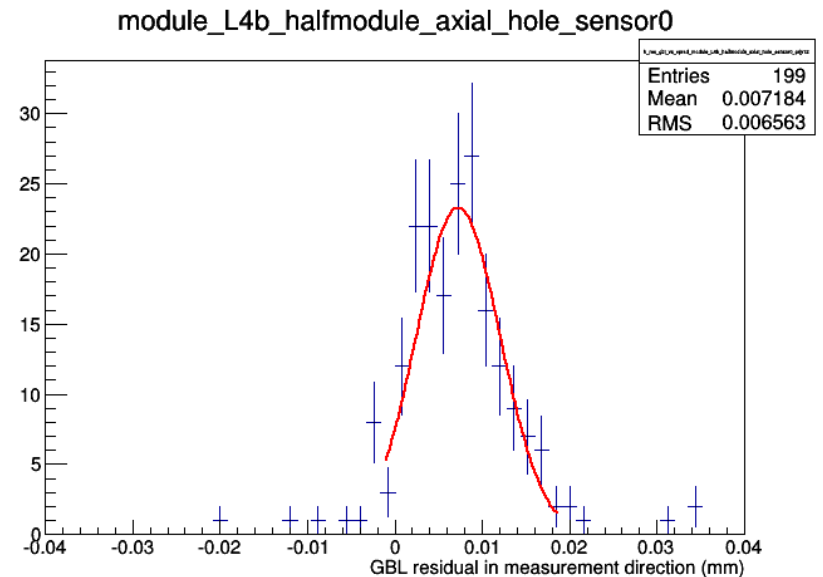
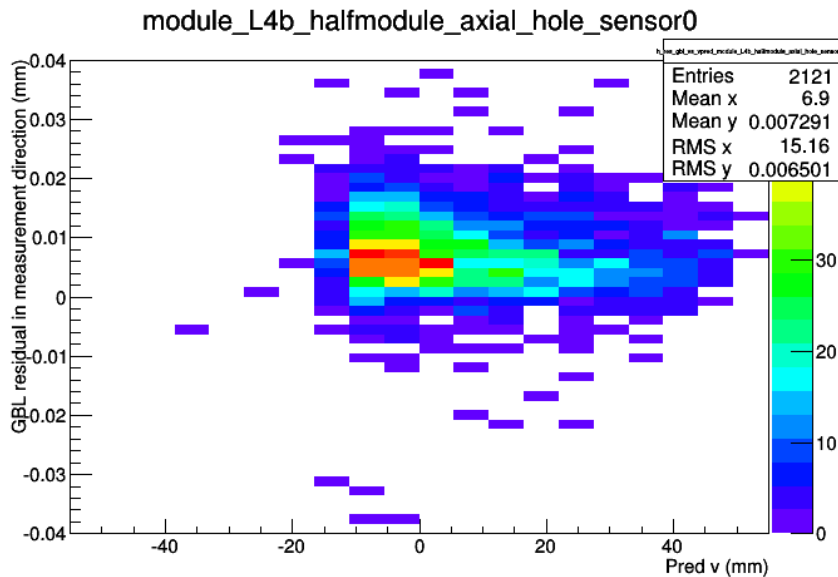


Reference: a slope of $1.0e-5$ gives 1 μ m shift in residual across length of strip
(of course GBL has kinks too to take care of)

GBL residuals vs. strip direction

Project on Y-axis and fit

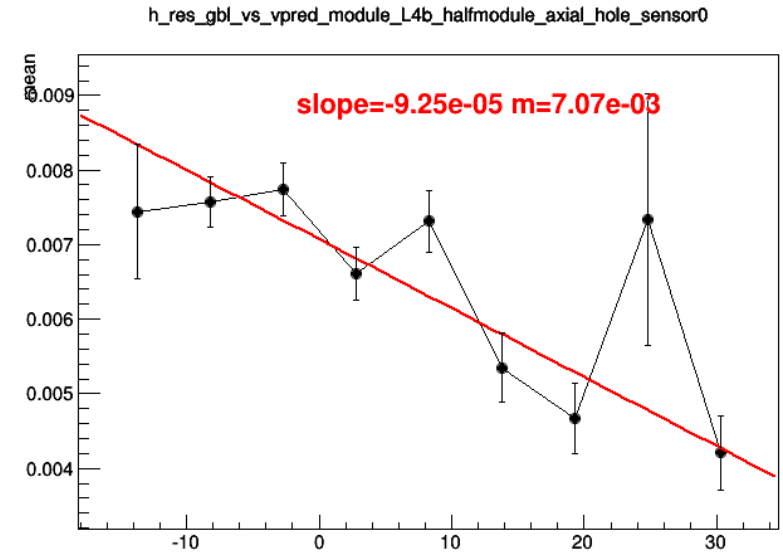
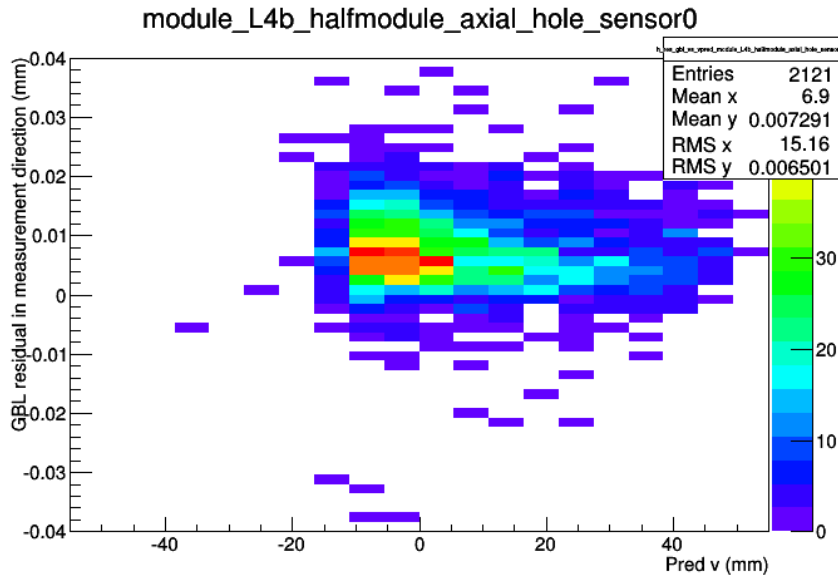
Straight through 5784



GBL residuals vs. strip direction

Project on Y-axis and fit, for all bins in X

Straight through 5784

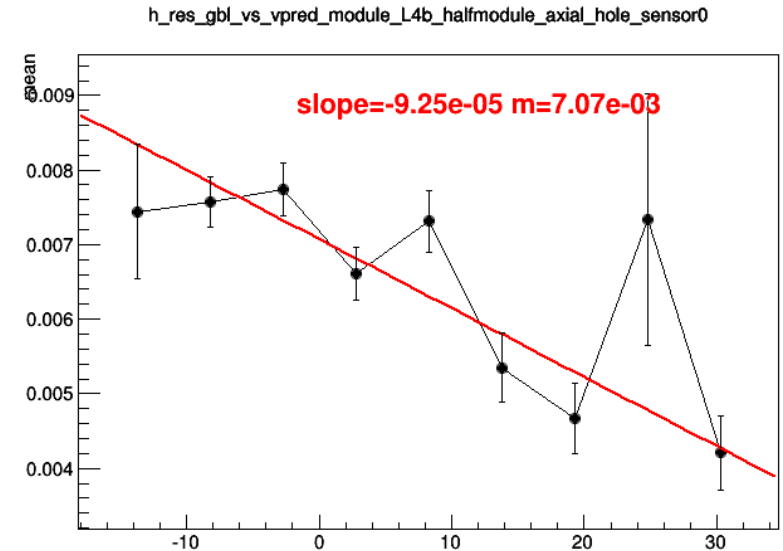
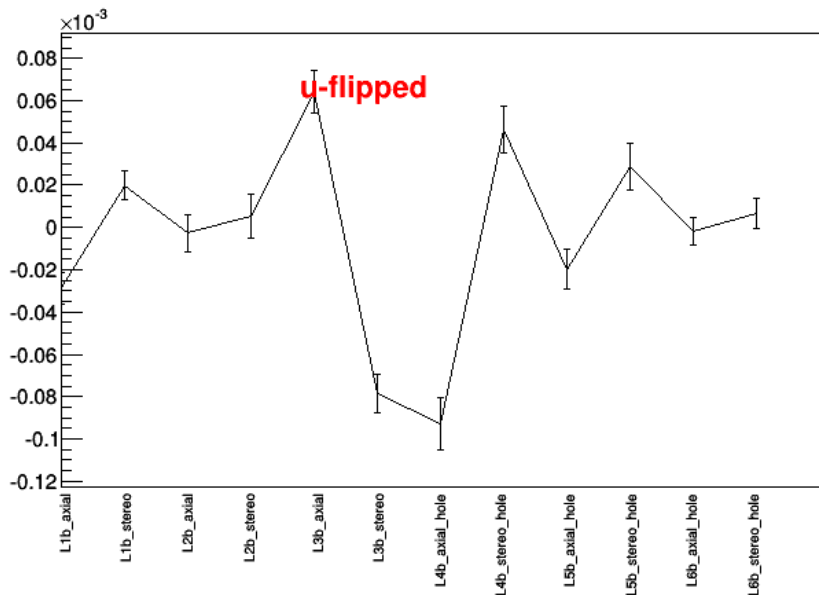


GBL residuals vs. strip direction

Compare all slopes across sensors

Straight through 5784

All bottom (hole) sensors

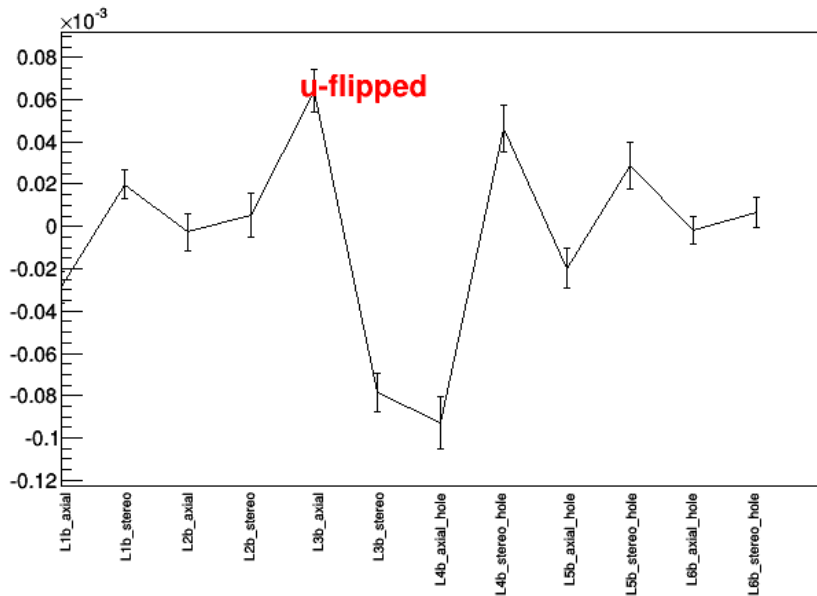


Residual slopes in strip direction

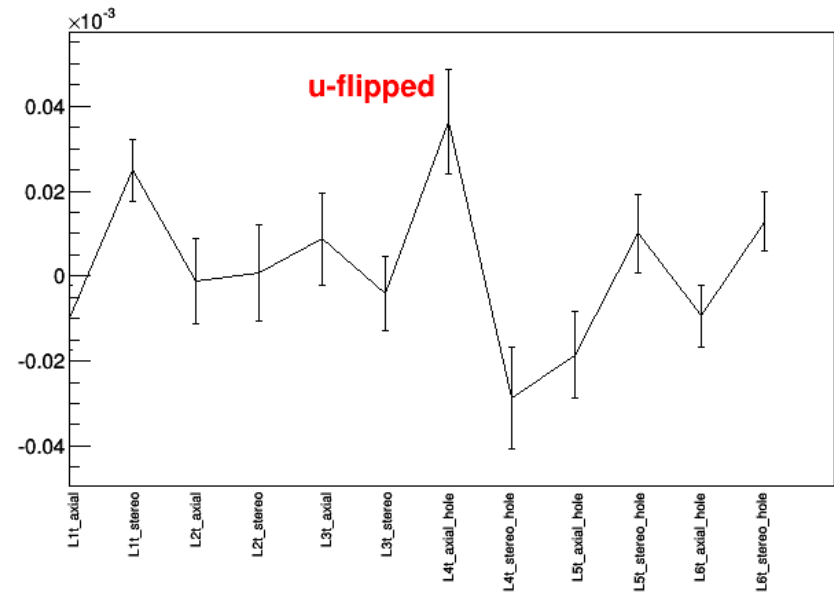
All bottom & top (hole) sensors

Straight through 5784

bottom



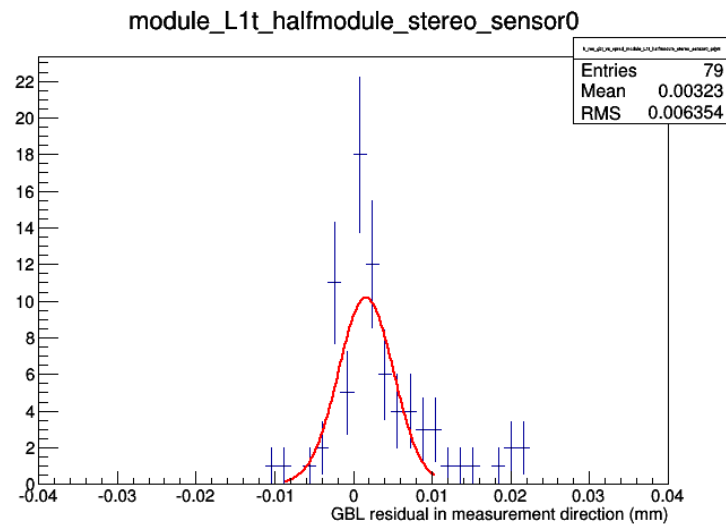
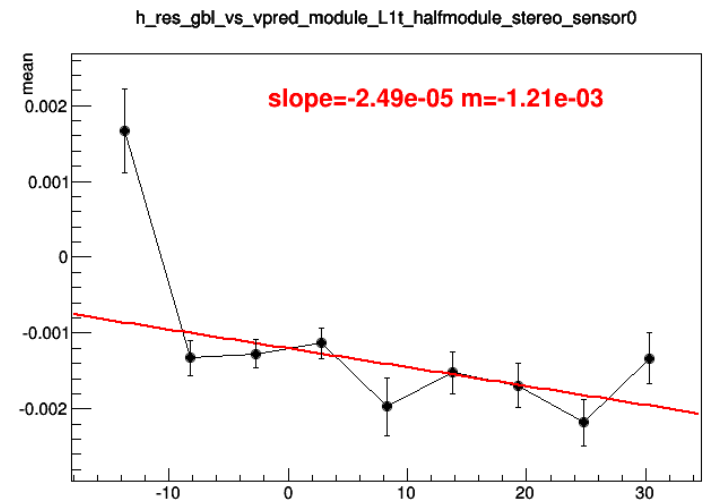
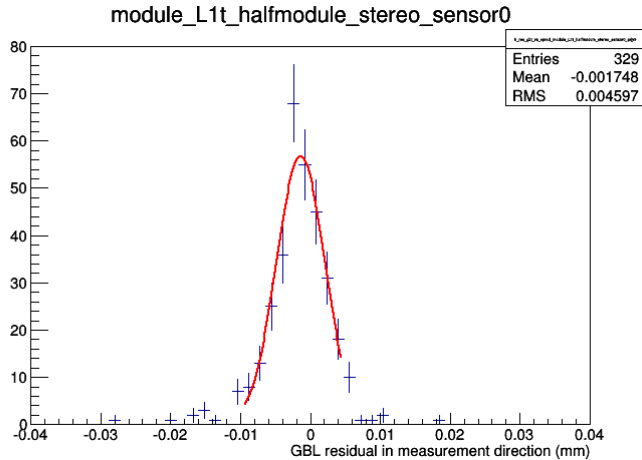
top



Residual slopes in strip direction

Example 1 of "outliers"

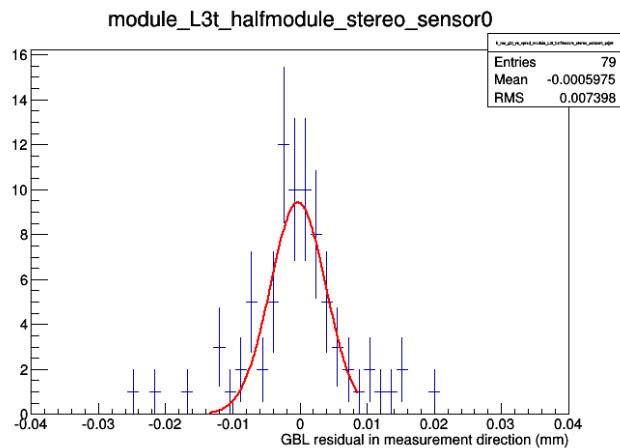
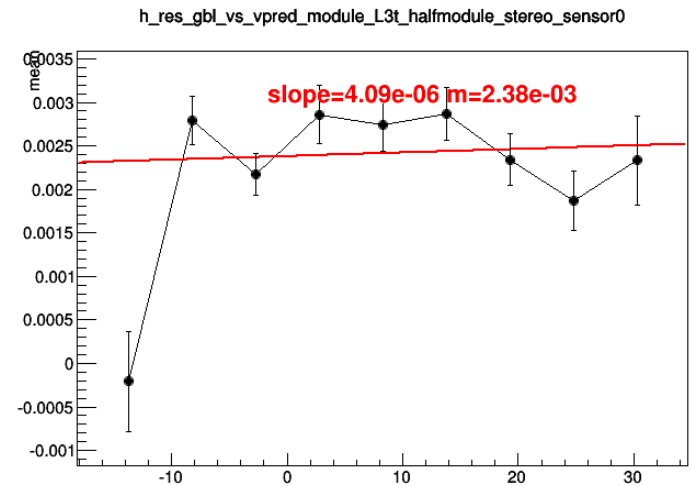
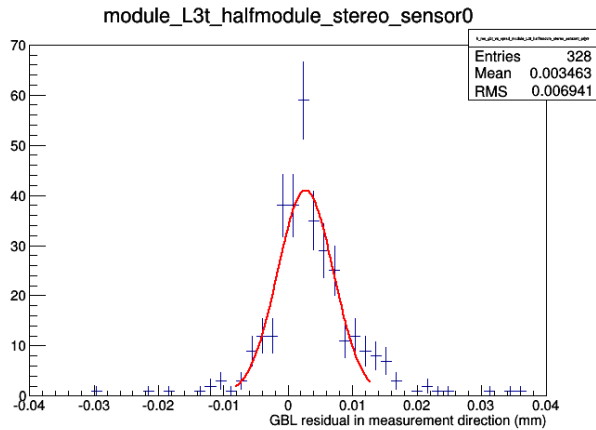
Straight through 5784



Residual slopes in strip direction

Example 2 of “outliers”

Straight through 5784

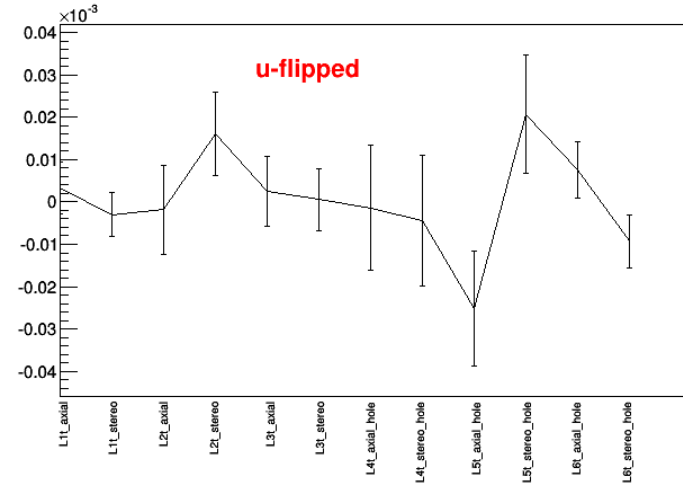
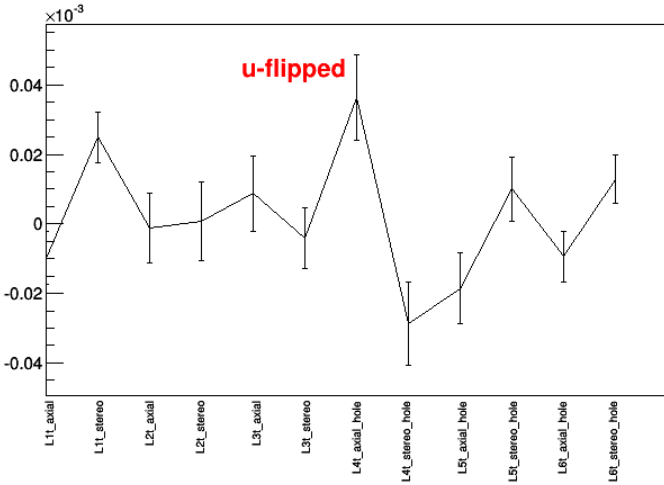


Residual slopes in strip direction: w/ vs. w/o B-field

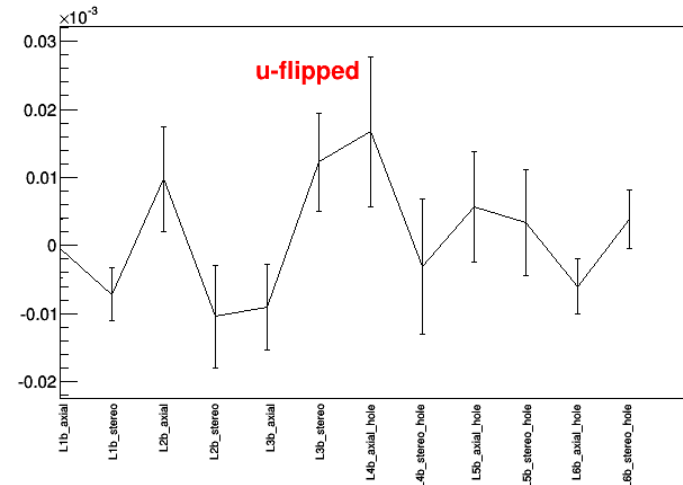
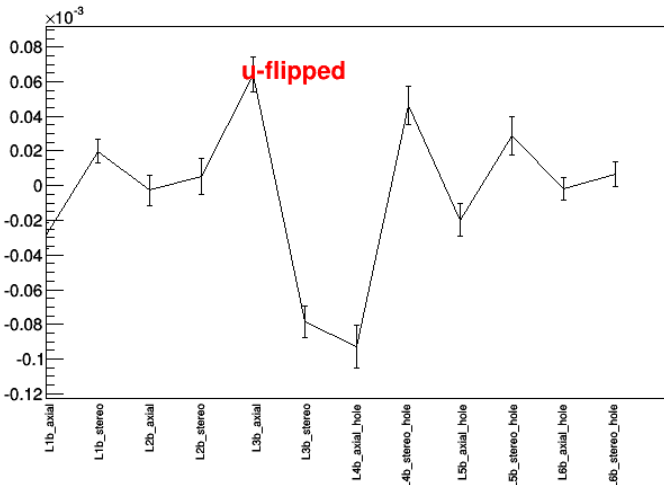
ST 5784

5772

top



bottom



Signs/patterns doesn't match b/w the two samples
L3-4 region shows larger offsets (maybe)

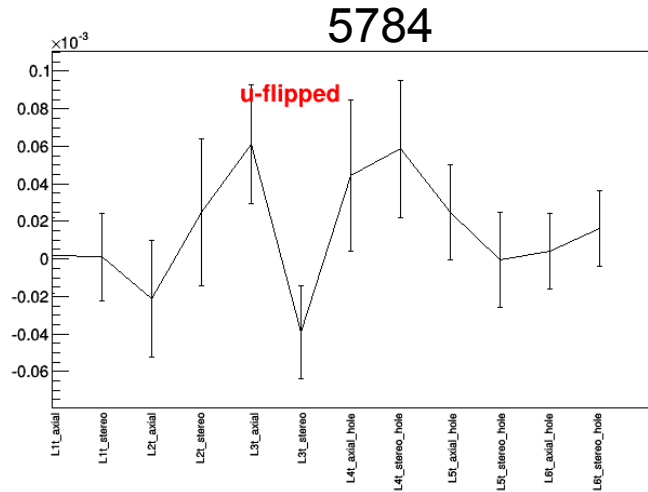
GBL residuals vs. measured (“u”) direction

Same procedure as the analysis vs. strip direction

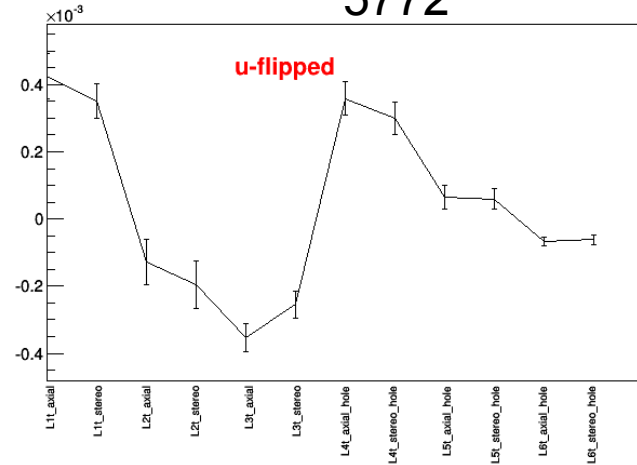
Reference: a slope of $1.0e-4$ gives 4um shift in residual across sensor

Sloped in measured (“u”) direction

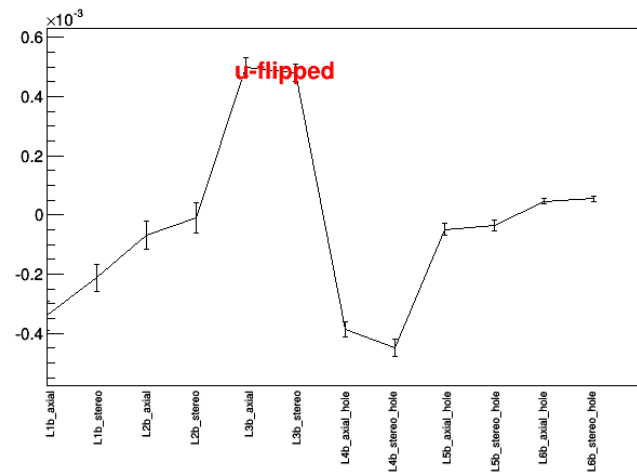
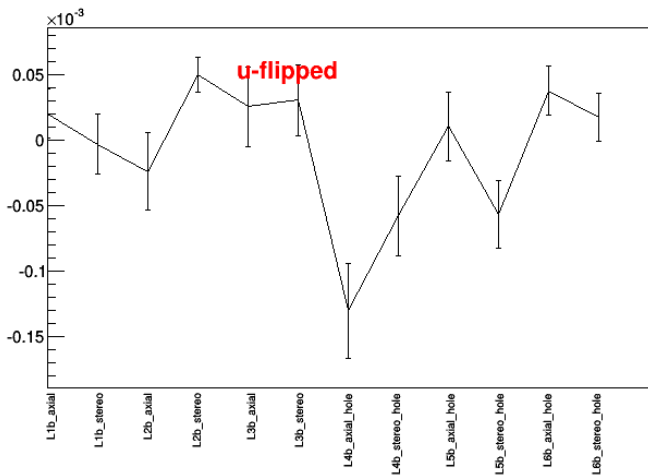
top



5772



bot

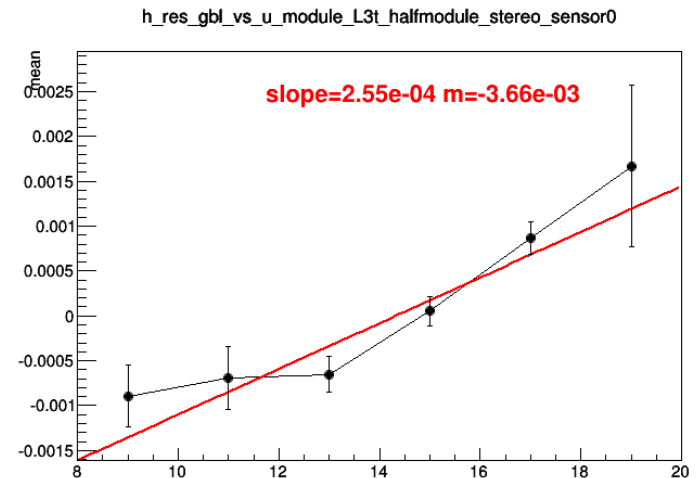
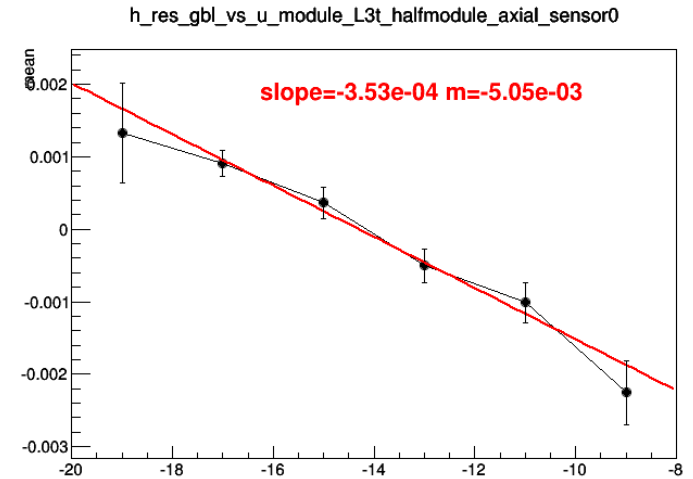
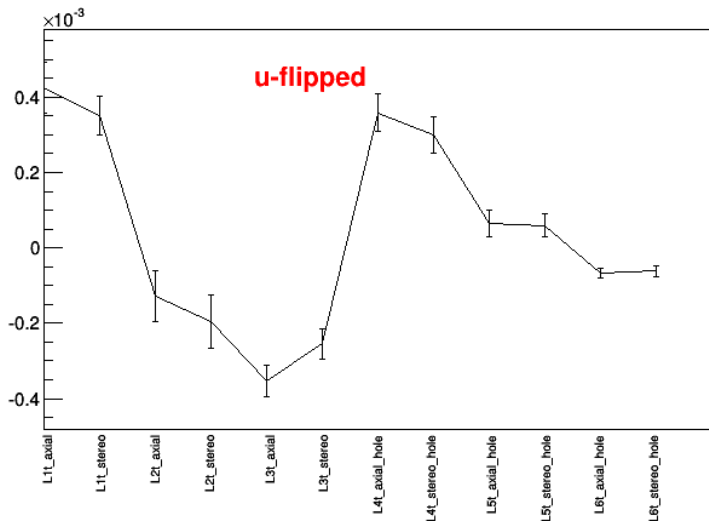


Signs/patterns doesn't match b/w the two samples
Strong systematic slope in 5772, stereo pairs positively correlated

GBL residuals vs. measured (“u”) direction

Example of axial-stereo correlations in slope for 5772

- L3 axial vs stereo
- All look like this: not statistical fluctuations



Note flipped sign of stereo slope

Summary

There are systematic slopes for residuals in v3-4-fieldmap (surprise 😊)

- Strip direction has no obvious slope; L3-4 region shows more fluctuations perhaps
- Measurement direction show clear systematic slopes up to $0.4e-3$ for 5772; harder to say for ST 5784 (stats mostly but looks a lot small)

We expected (?) rotations around w (~beam dir.) to show up

- Residuals and the track distributions play into this too; perhaps taken out in minimization across each sample? Could be solved when combining them...
- Clear slopes vs. u (meas. dir) for curved tracks (less for ST)