

SVT Alignment

Per Hansson Adrian 9/4/2015

Look at residuals and kinks together in the fits

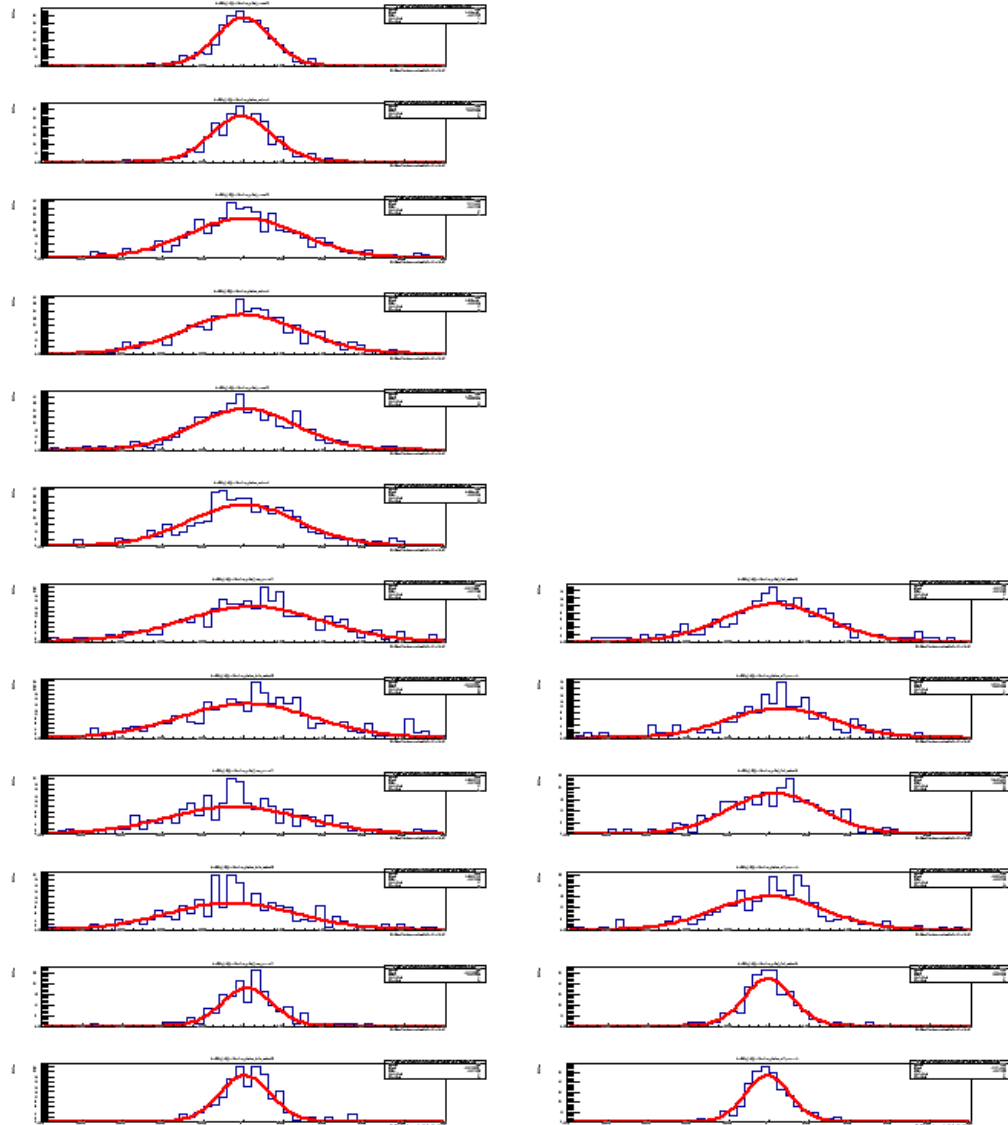
- May help understand how stressed certain geometries are from ideal
- More info on material distribution

Start with ideal geometry and simulated events. Then compare to data

- 75MeV A' sample, 1.1GeV beam
- v1 detector

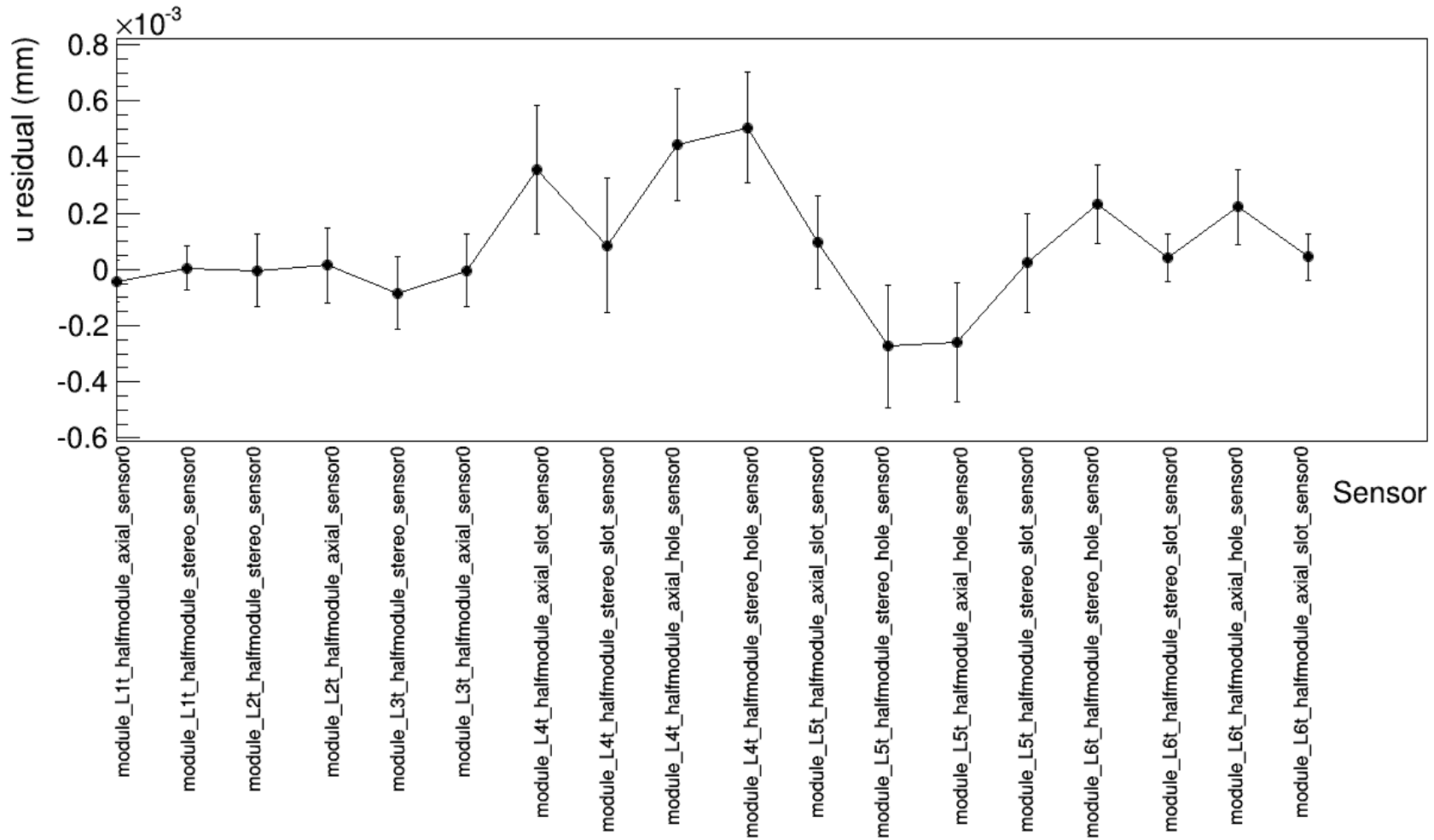
GBL Residuals Top

Top:
A
S
hole slot



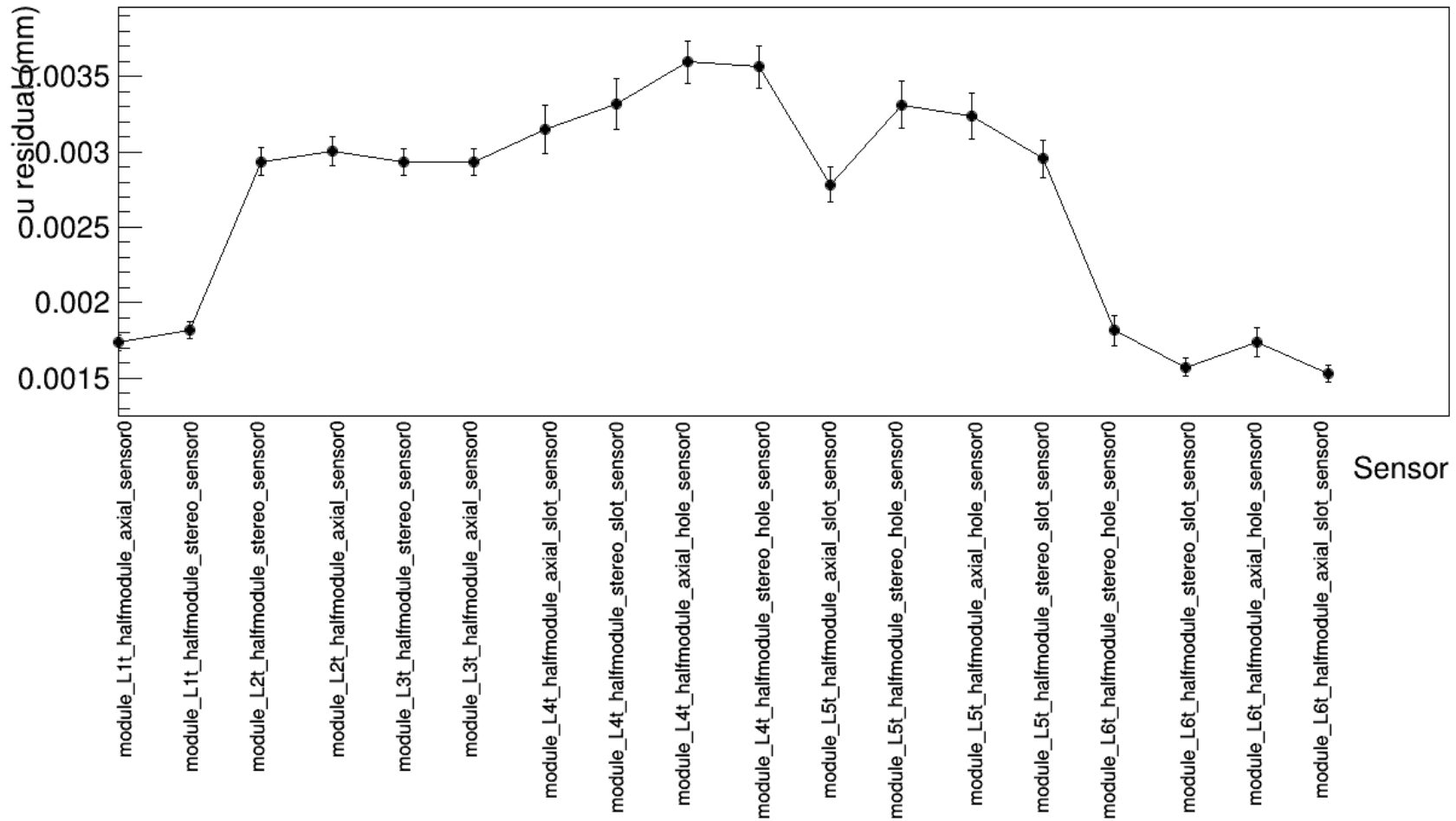
X-axis: +/-0.01

Mean GBL Residuals Top



Mean consistent with zero

Width GBL Residuals Top

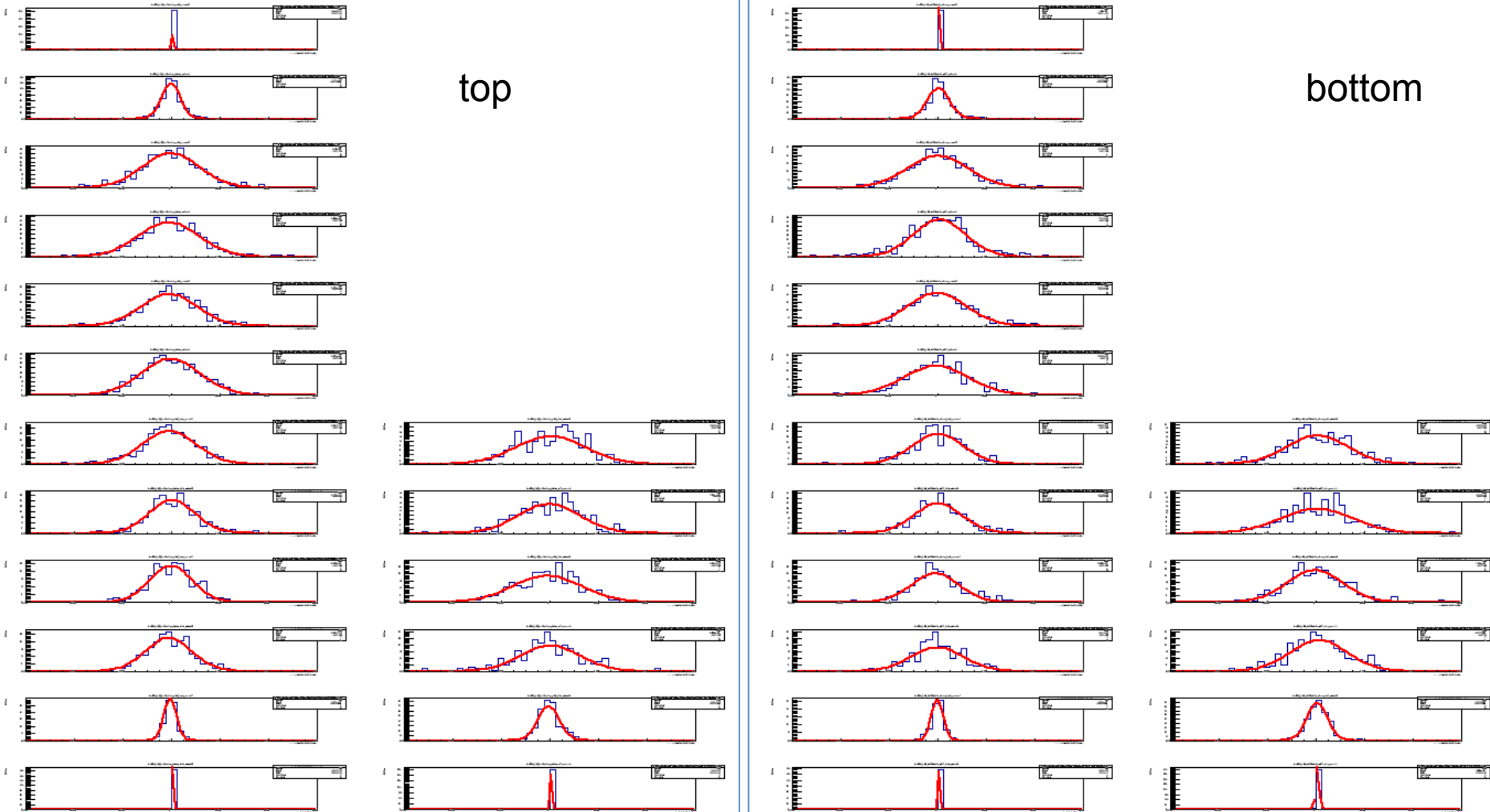


Width about $\frac{1}{2}$ of single hit resolution

GBL Kinks Lambda

top

bottom



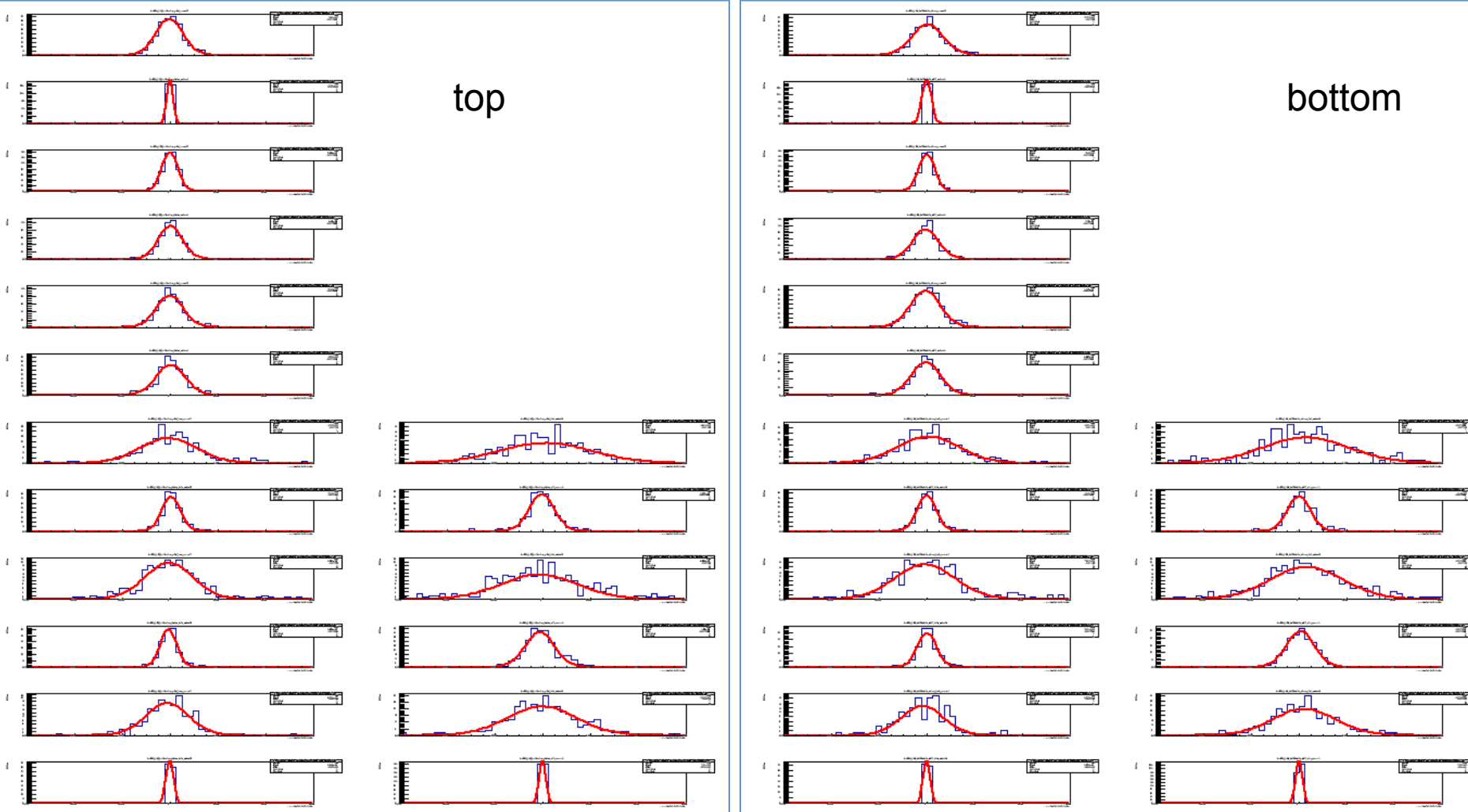
Lambda (almost measurement dir.) consistent b/w top and bottom
 Width $\sim 1.2\text{mrad}$ consistent with multiple scat. Formula for $320\mu\text{m Si @ } 500\text{MeV}$

X-axis: ± 0.007

GBL Kinks Phi

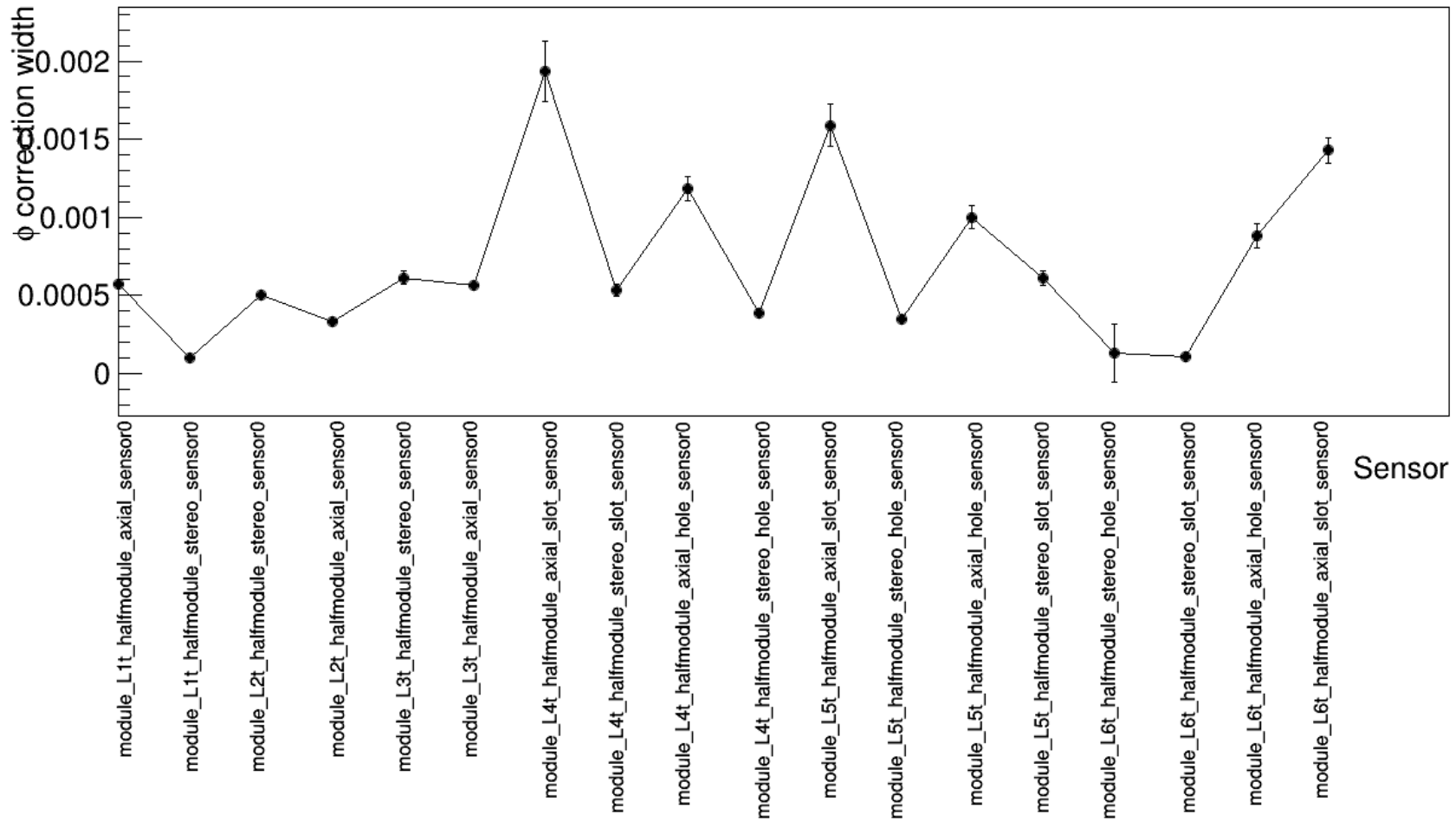
top

bottom



Phi (approx. along strips) consistent b/w top and bottom.
Note large/small width variation: no constraint from axial sensors.

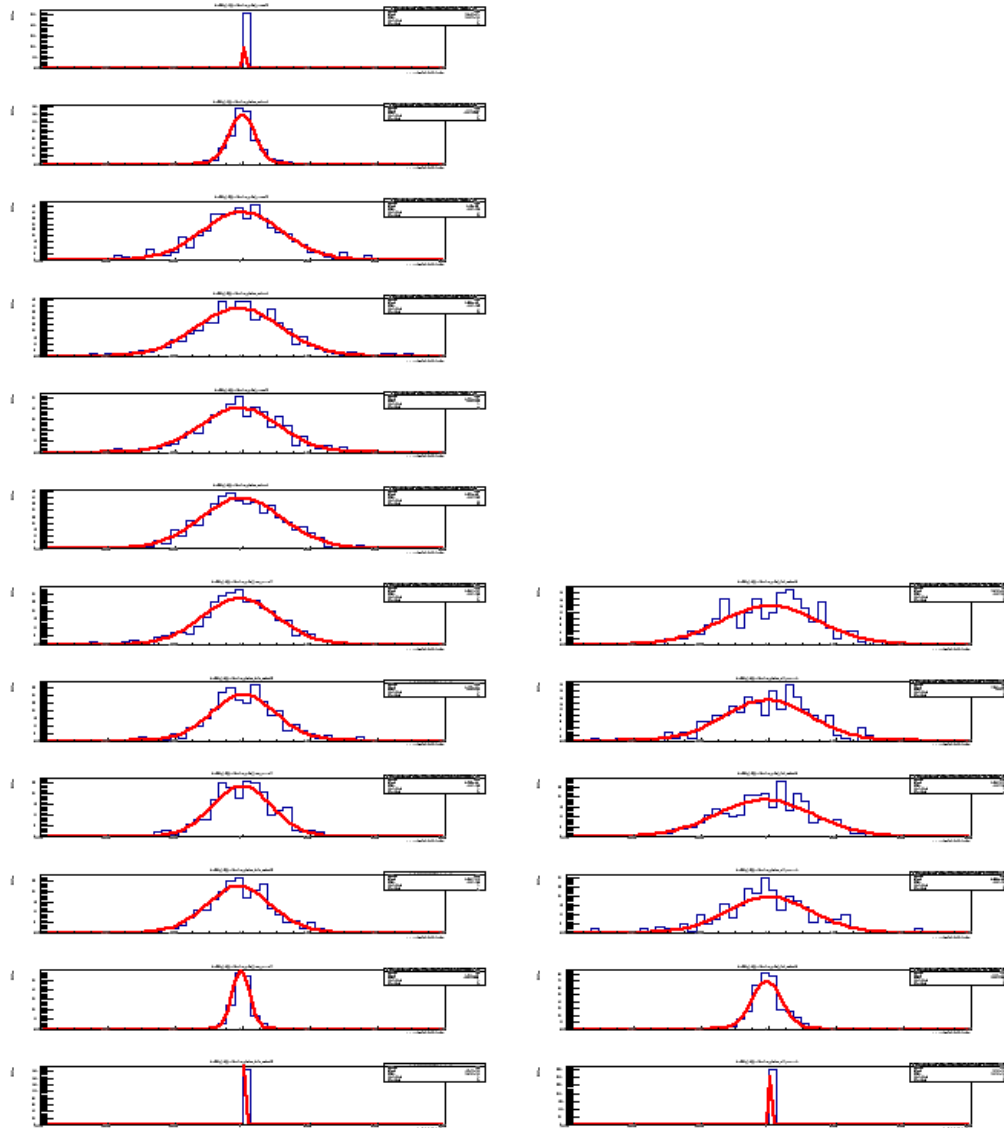
GBL Kinks Phi Top



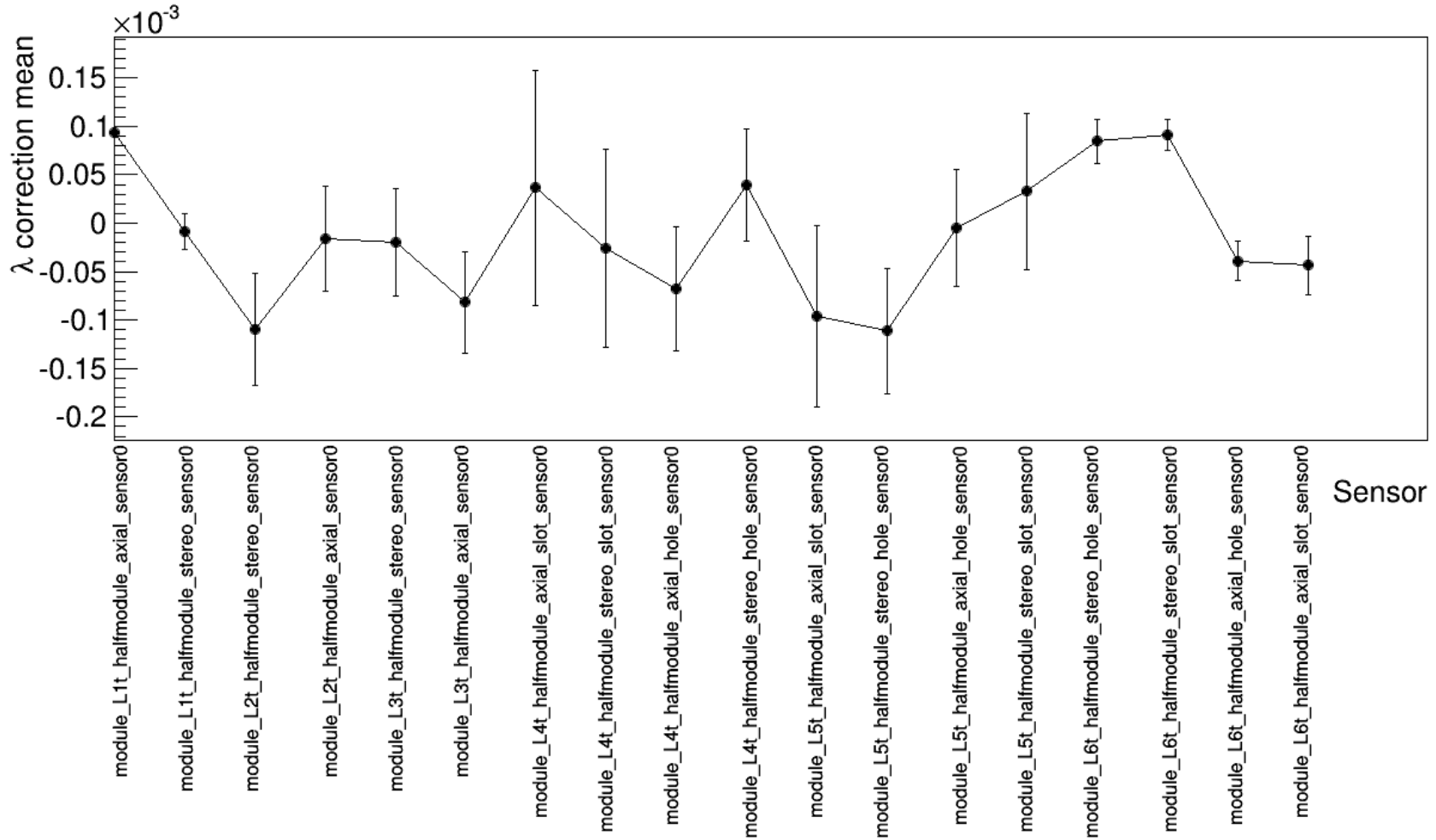
Note large/small width variation. Width is not 1.2mrad as expected across fit.
This global direction has large uncertainties. Not clear how to interpret this yet?

GBL Kinks Lambda Top

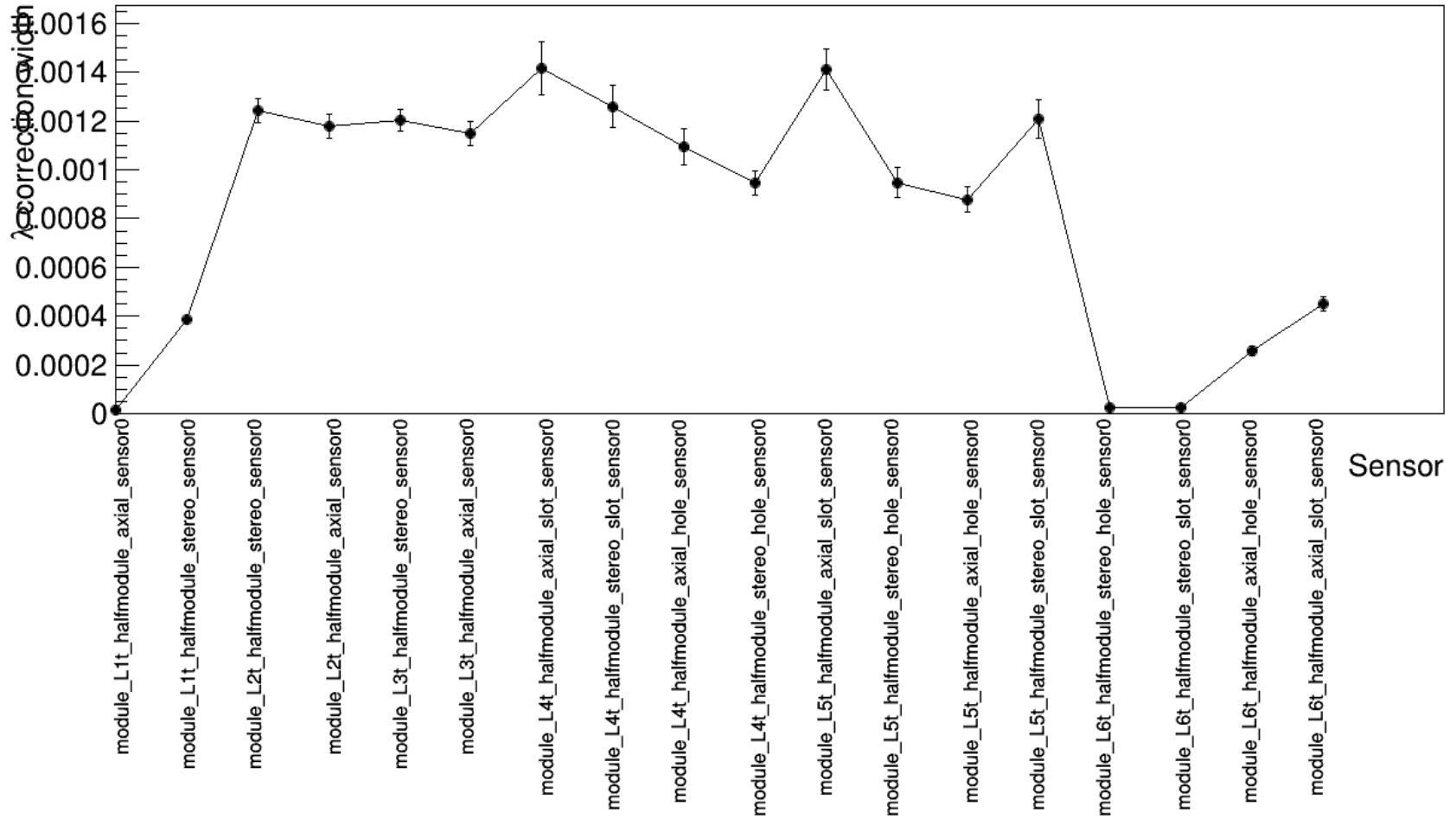
X-axis: ± 0.006



GBL Kinks Lambda Top

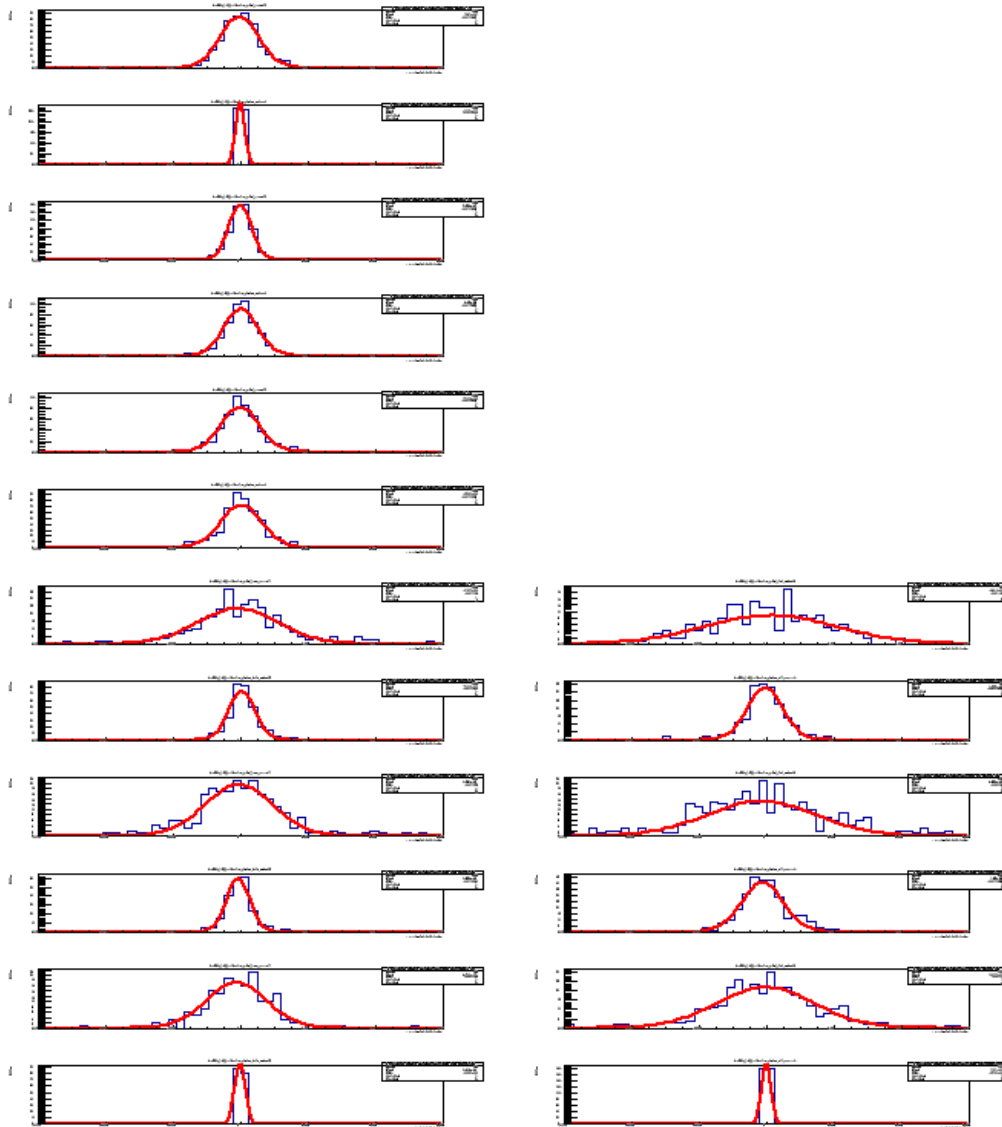


GBL Kinks Lambda Top

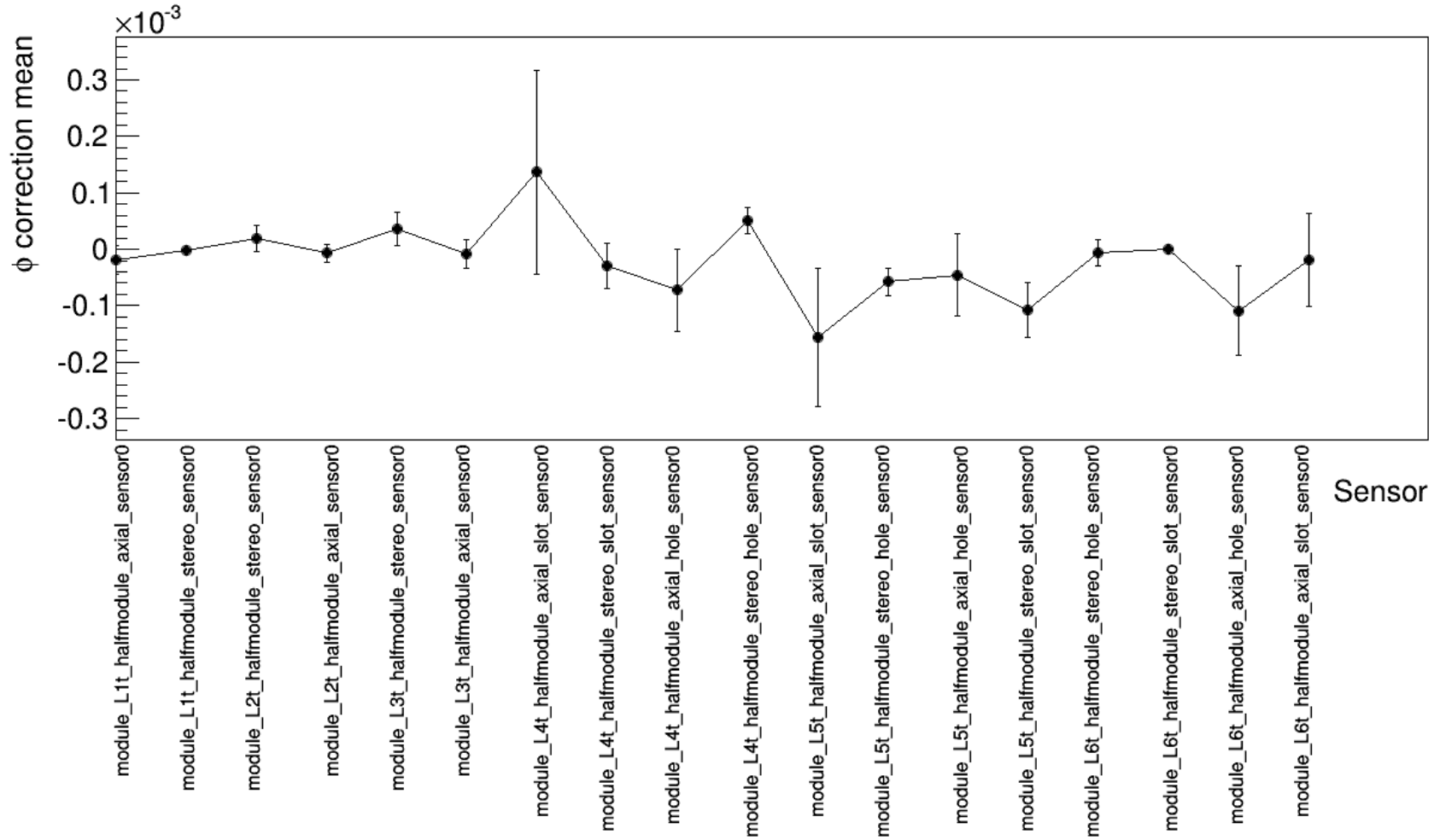


GBL Kinks Phi Top

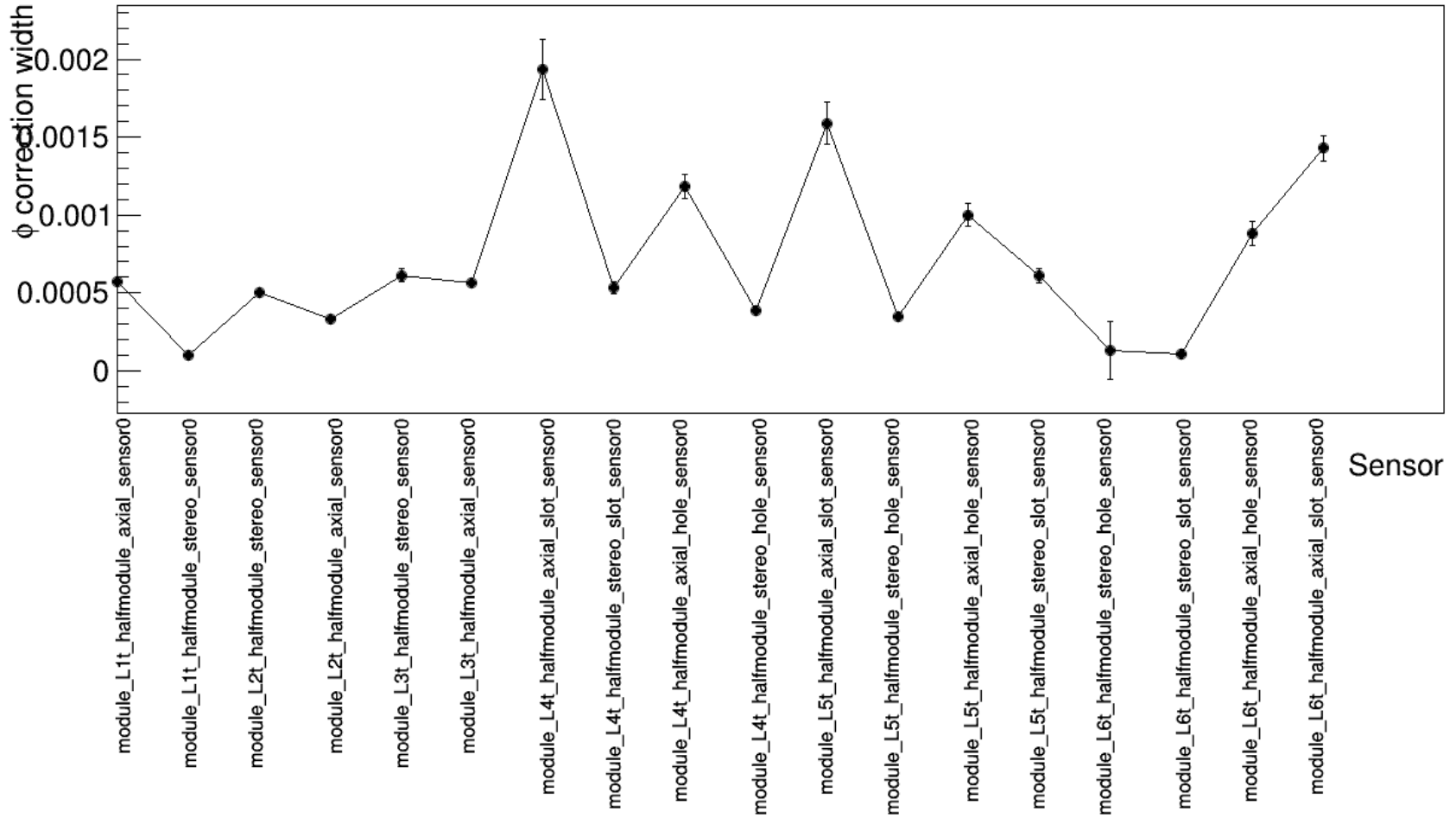
X-axis: ± 0.007



GBL Kinks Phi Top

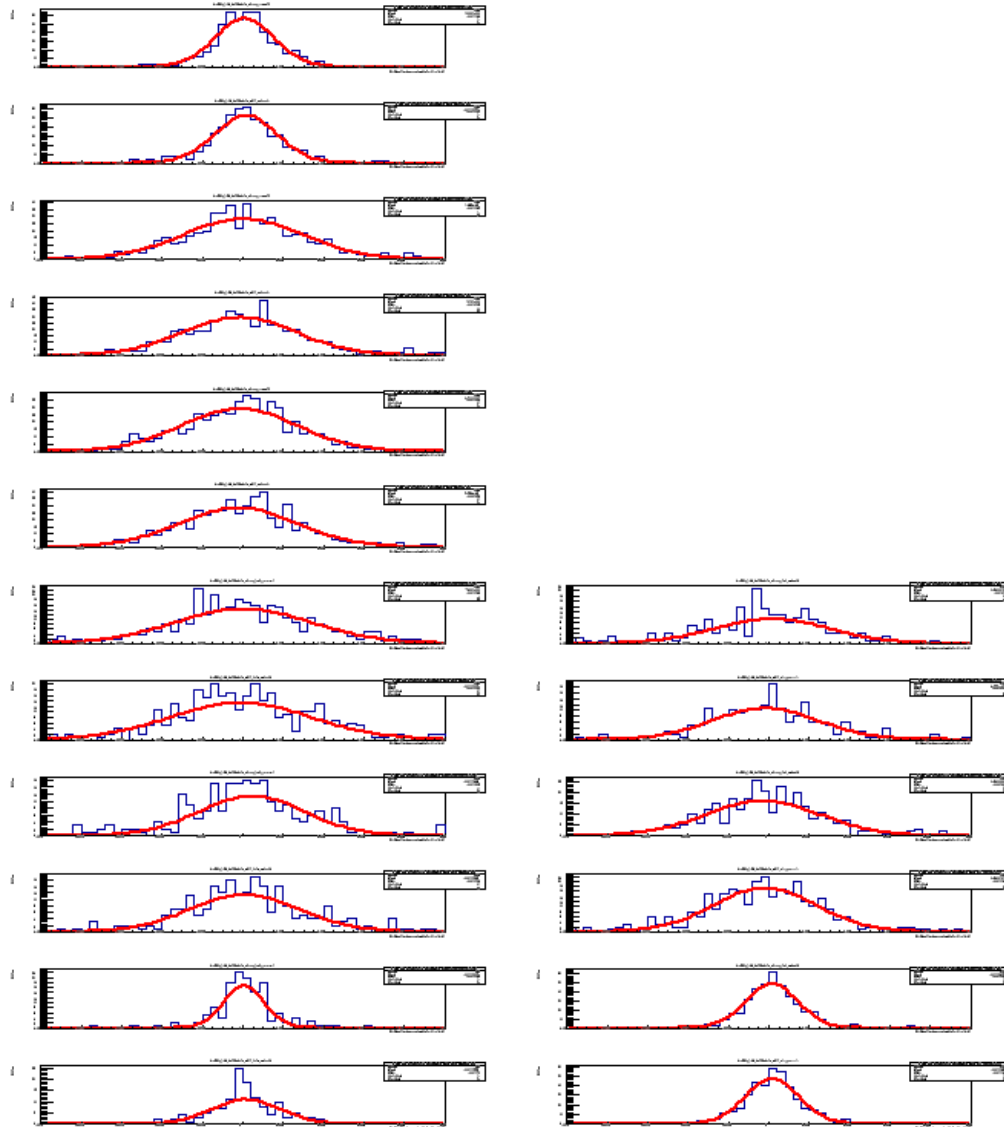


GBL Kinks Phi Top



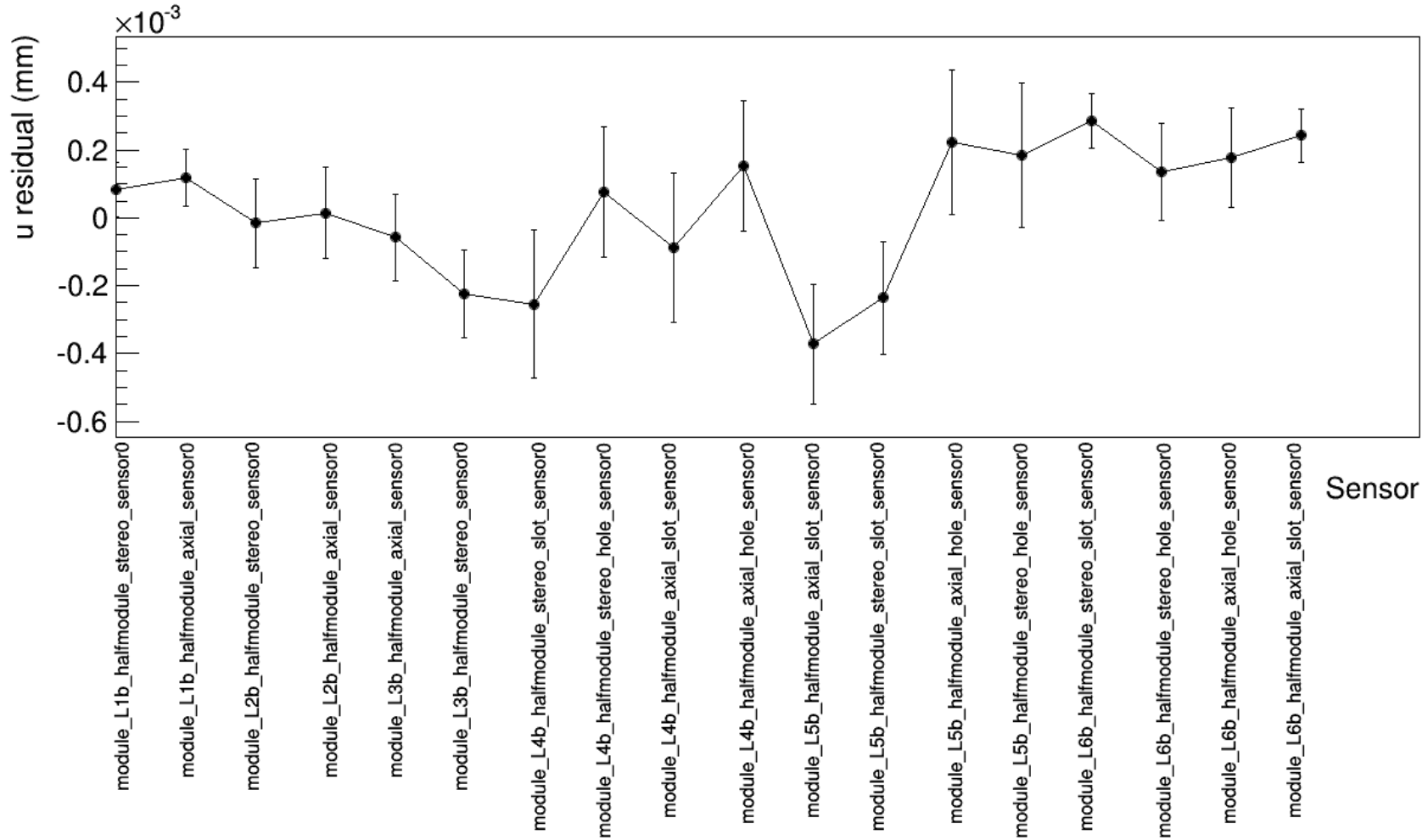
GBL Residuals Bottom

Top:
S
A
hole slot

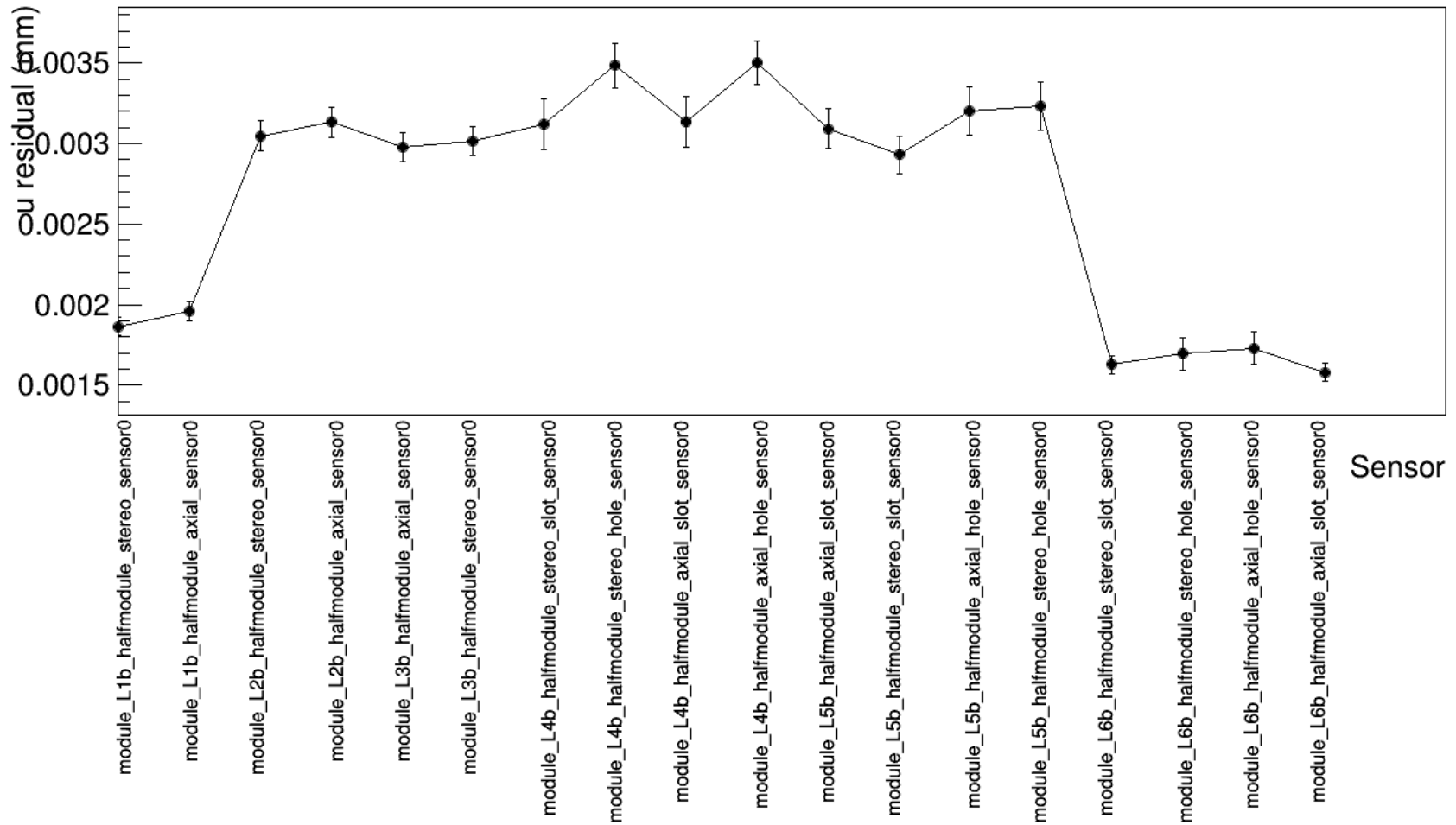


X-axis: +-0.01

Mean GBL Residuals Bottom

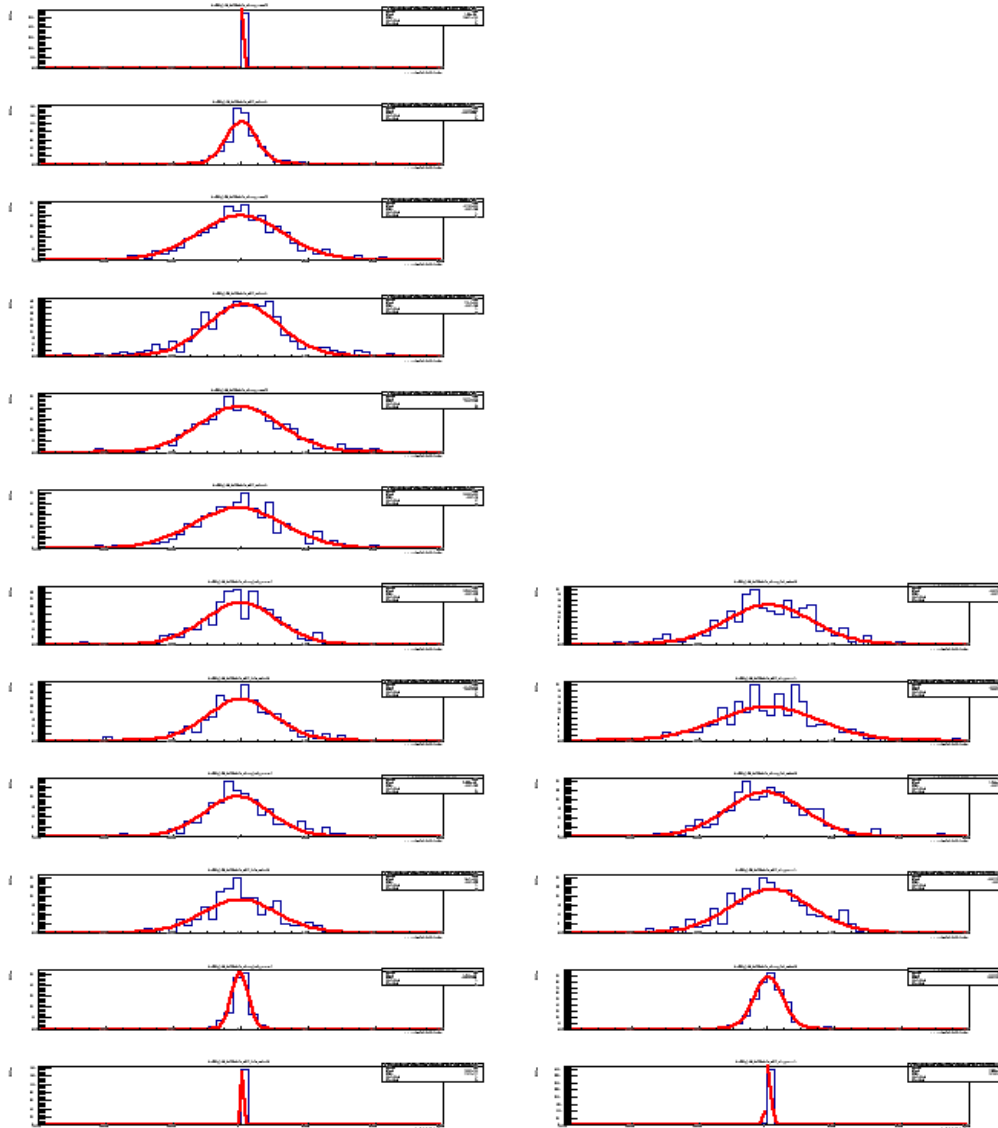


Width GBL Residuals Bottom

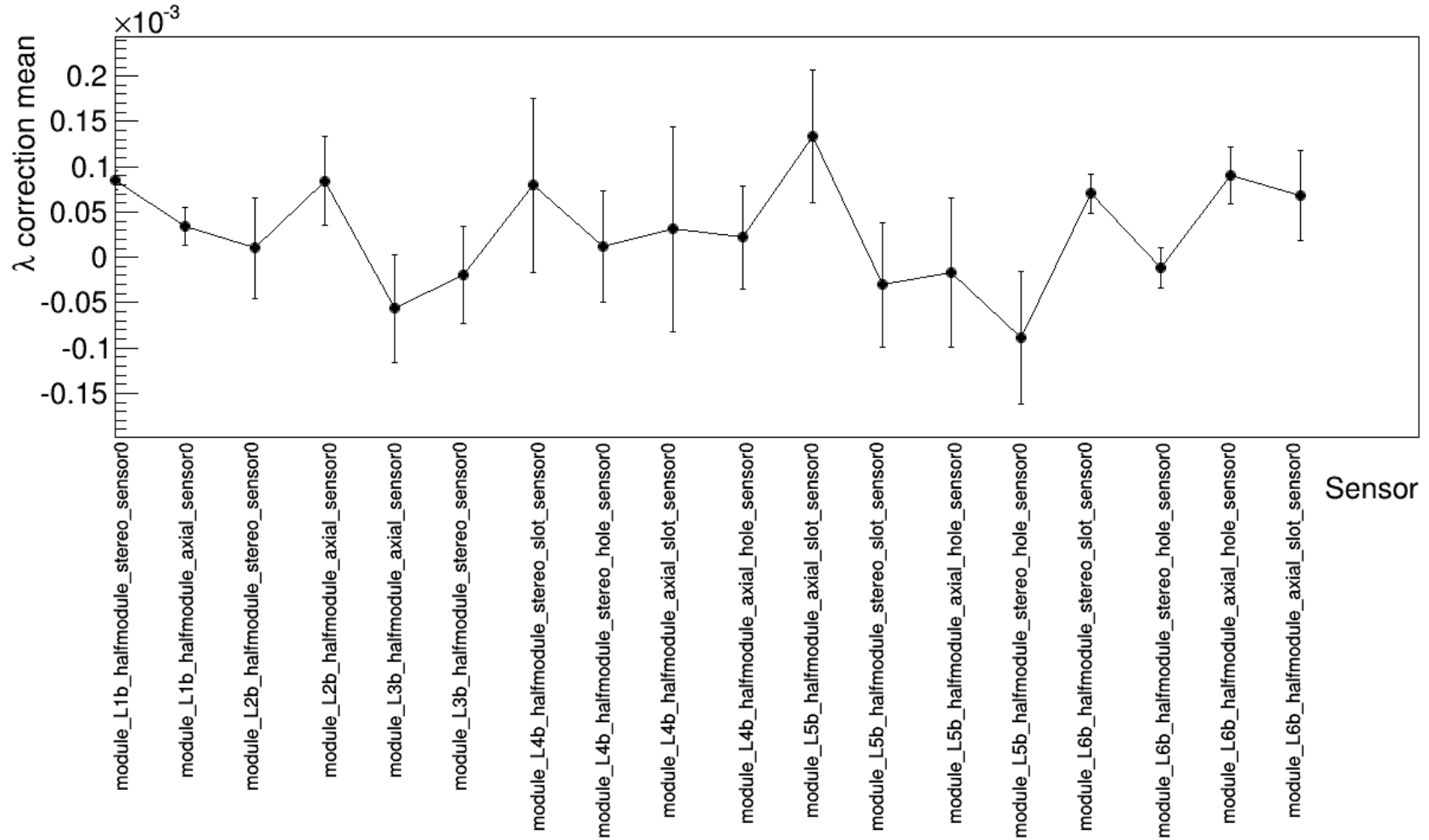


GBL Kinks Lambda Bottom

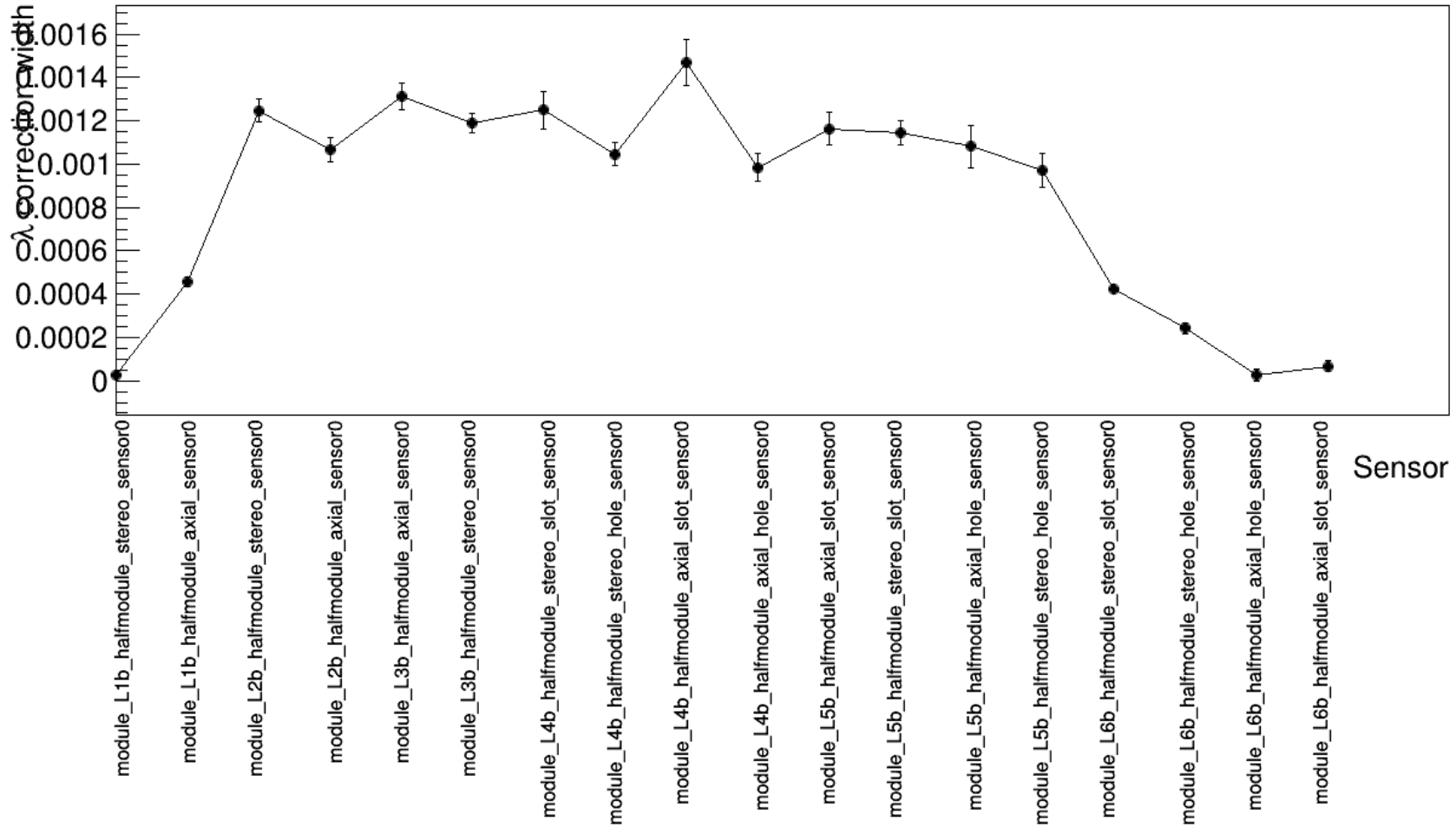
X-axis: ± 0.006



GBL Kinks Lambda Bottom

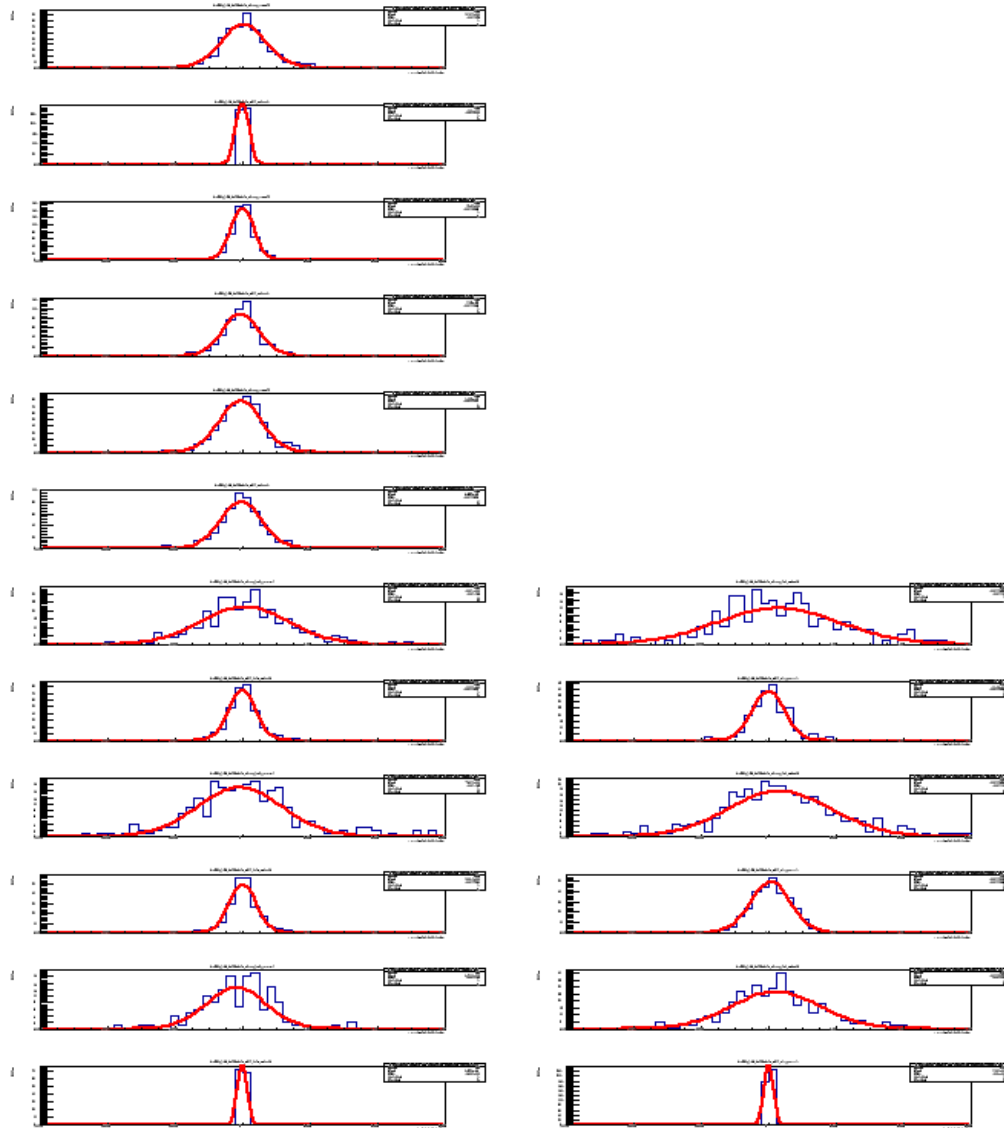


GBL Kinks Lambda Bottom

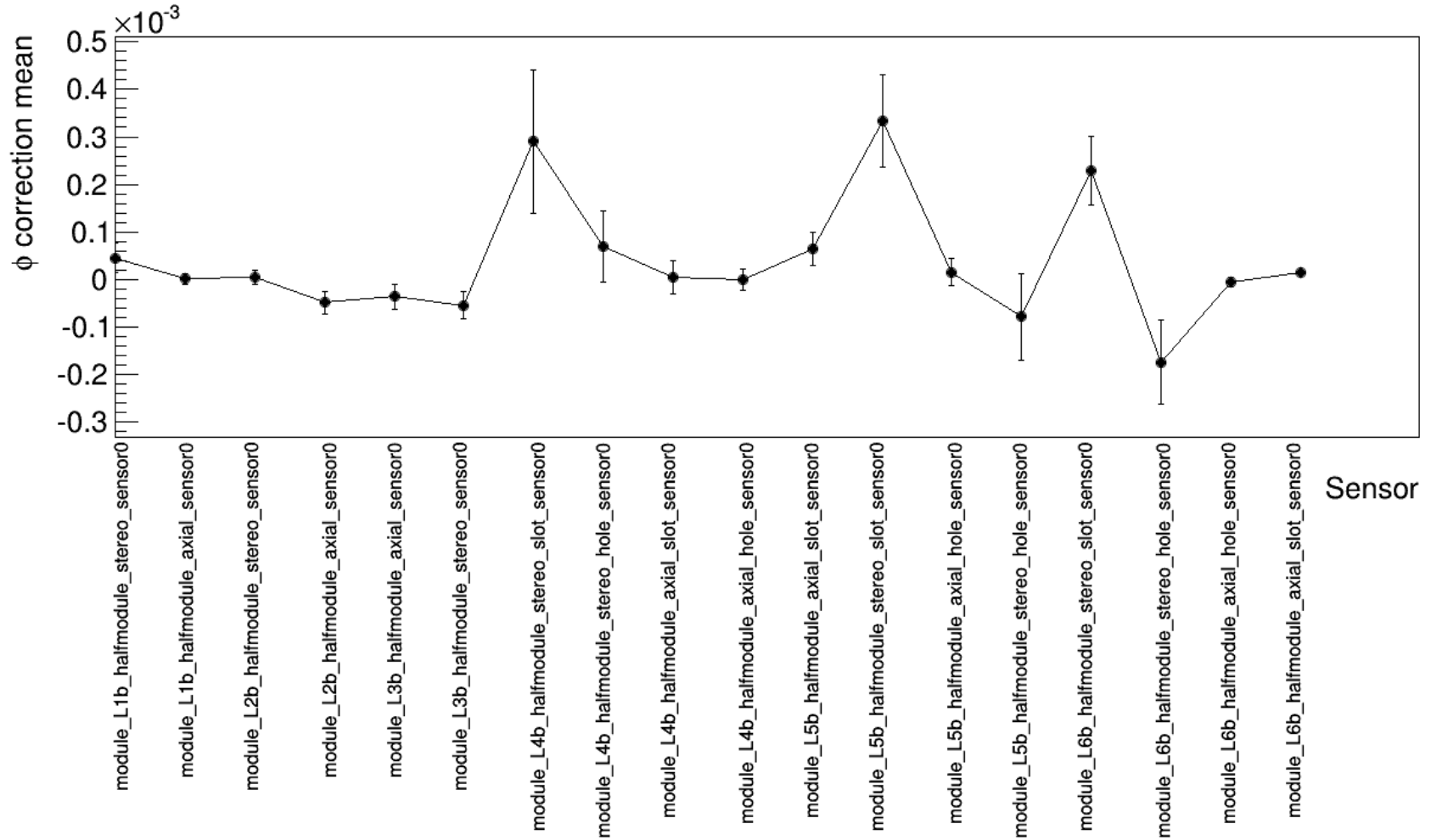


GBL Kinks Phi Bottom

X-axis: ± 0.007



GBL Kinks Phi Bottom



GBL Kinks Phi Bottom

