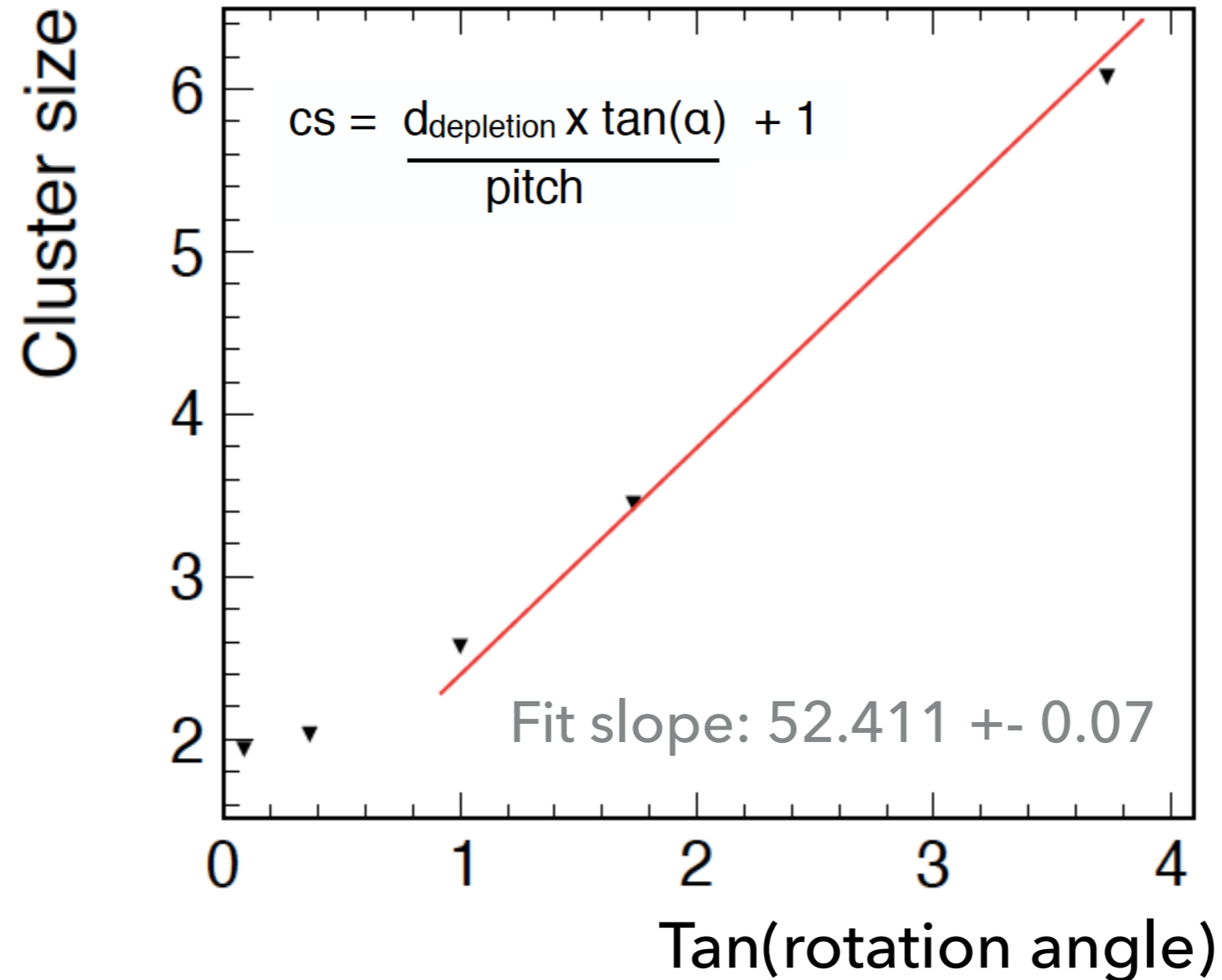


ACTIVE DEPTH

A4/-6V/-6V

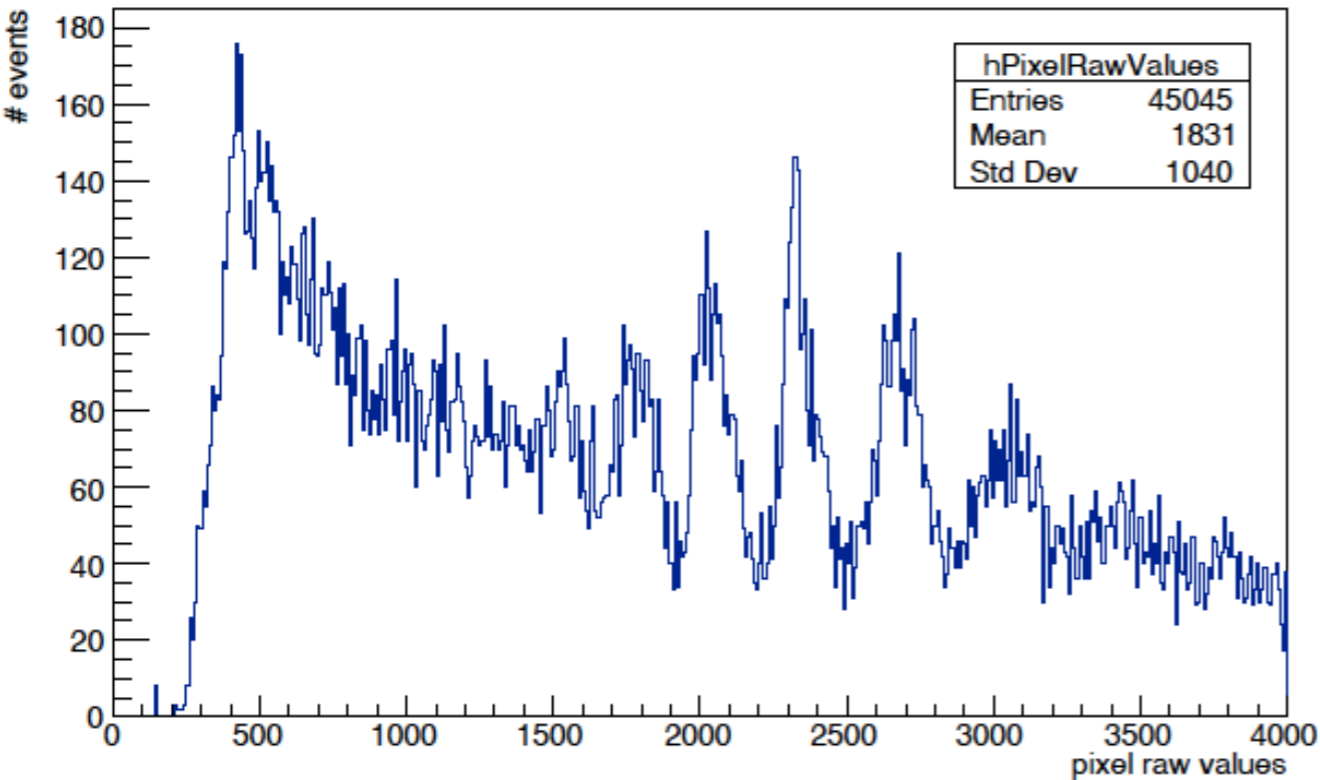


- Non-linear part at low angles is not fitted
- Simple geometrical model (without any corrections) would give active depth of ~52 um

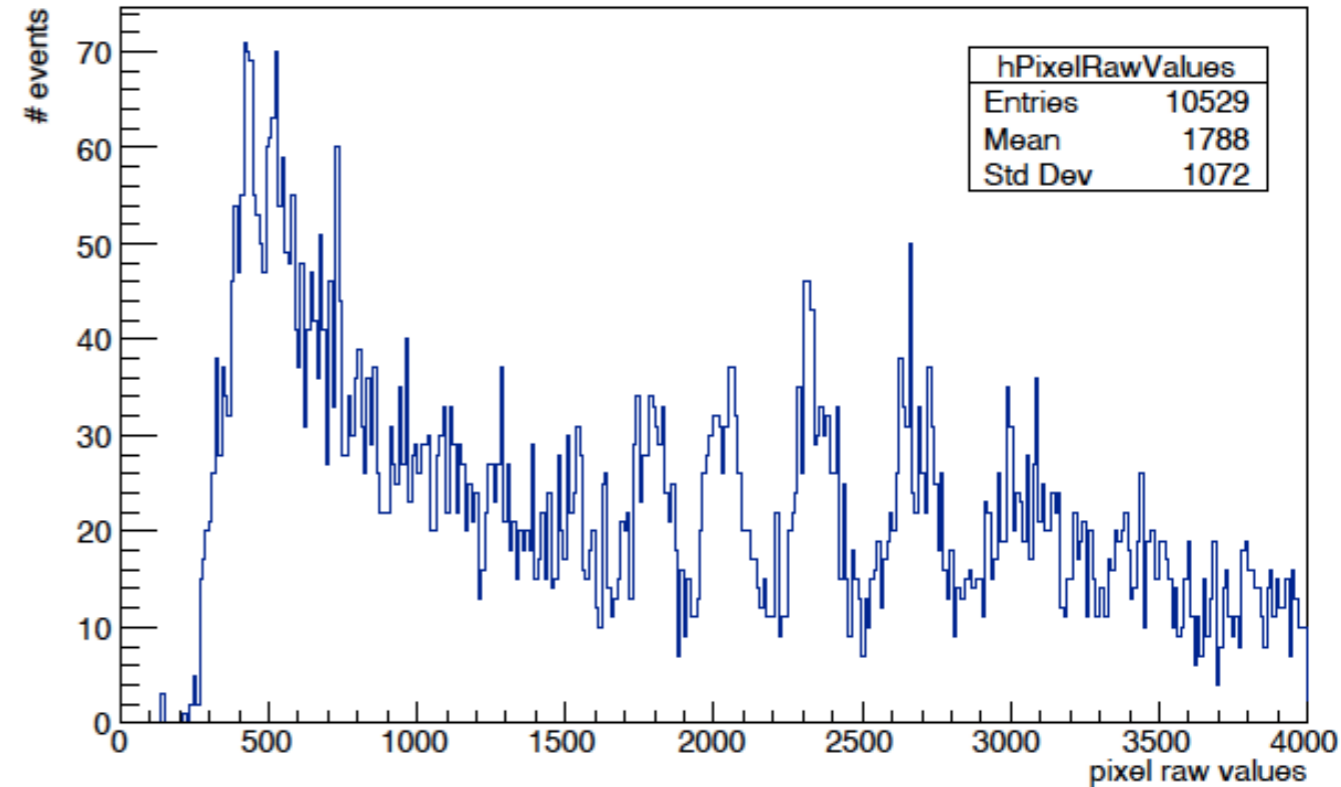
Run 4016

B2/-6V/-6V @ 179 e

Pixel raw values - all pixel

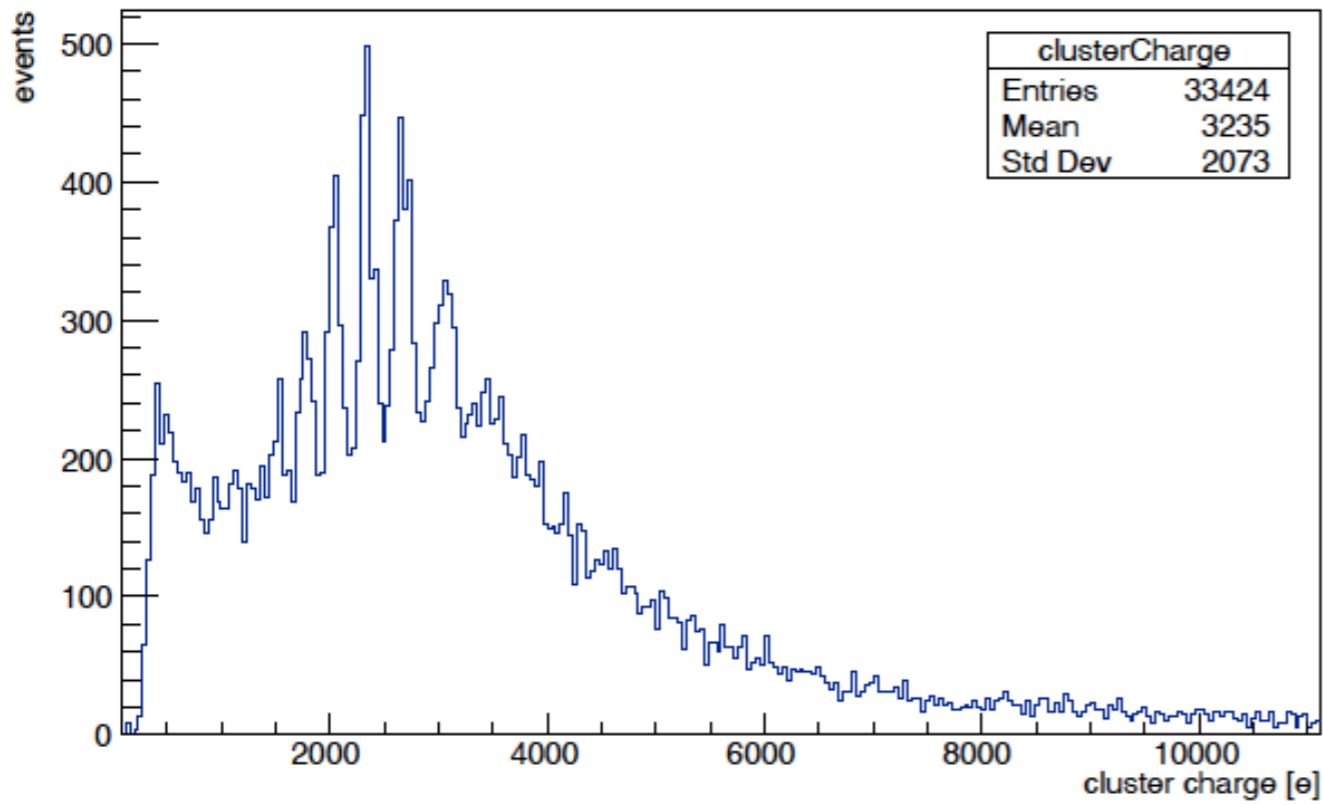


Pixel raw values - only pixels with
< 2 hits in detector channel

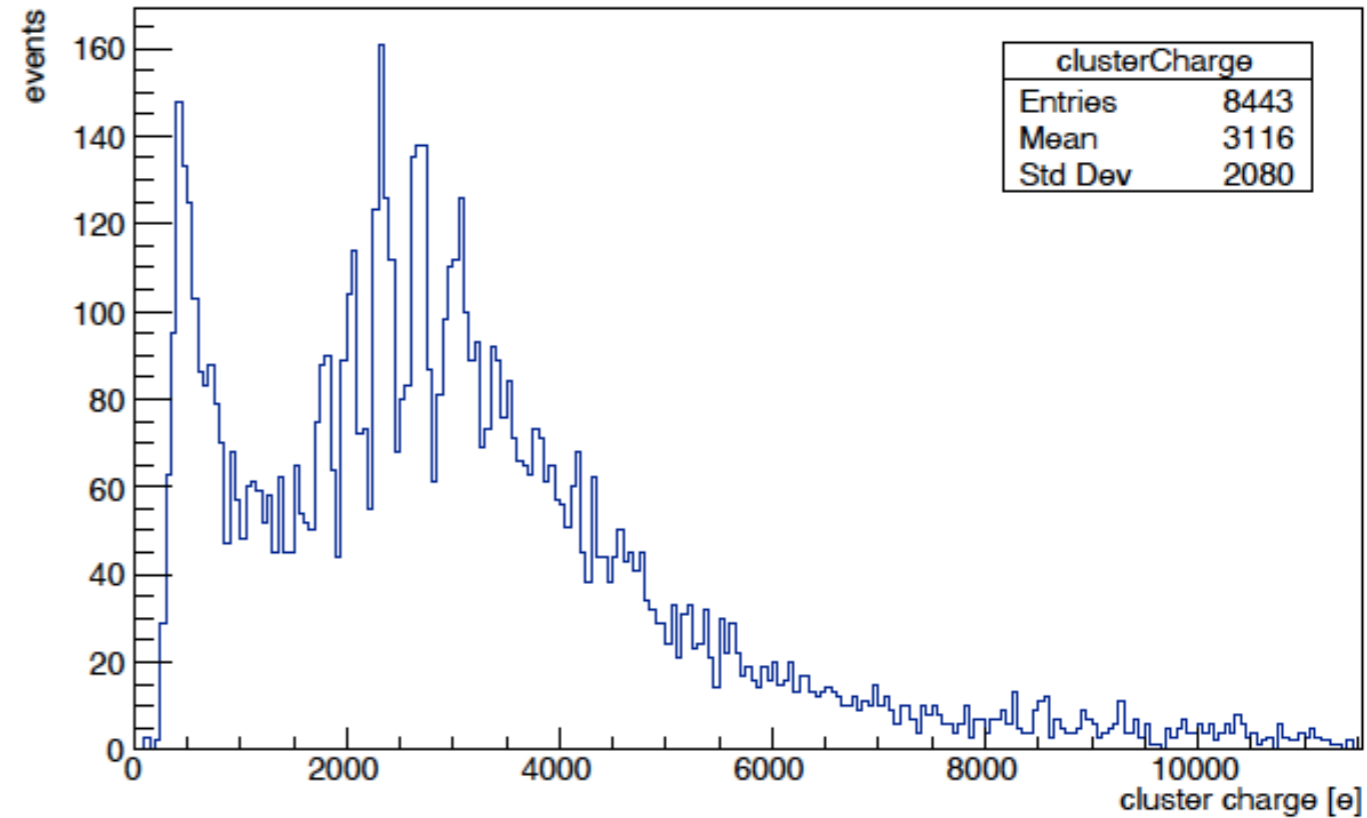


- First ToT calibration attempts with assembly with gap in n-layer
- Spikes (due to quantization of ToT ?) much more pronounced compared to no gap

Cluster charge (no association) - all pixel

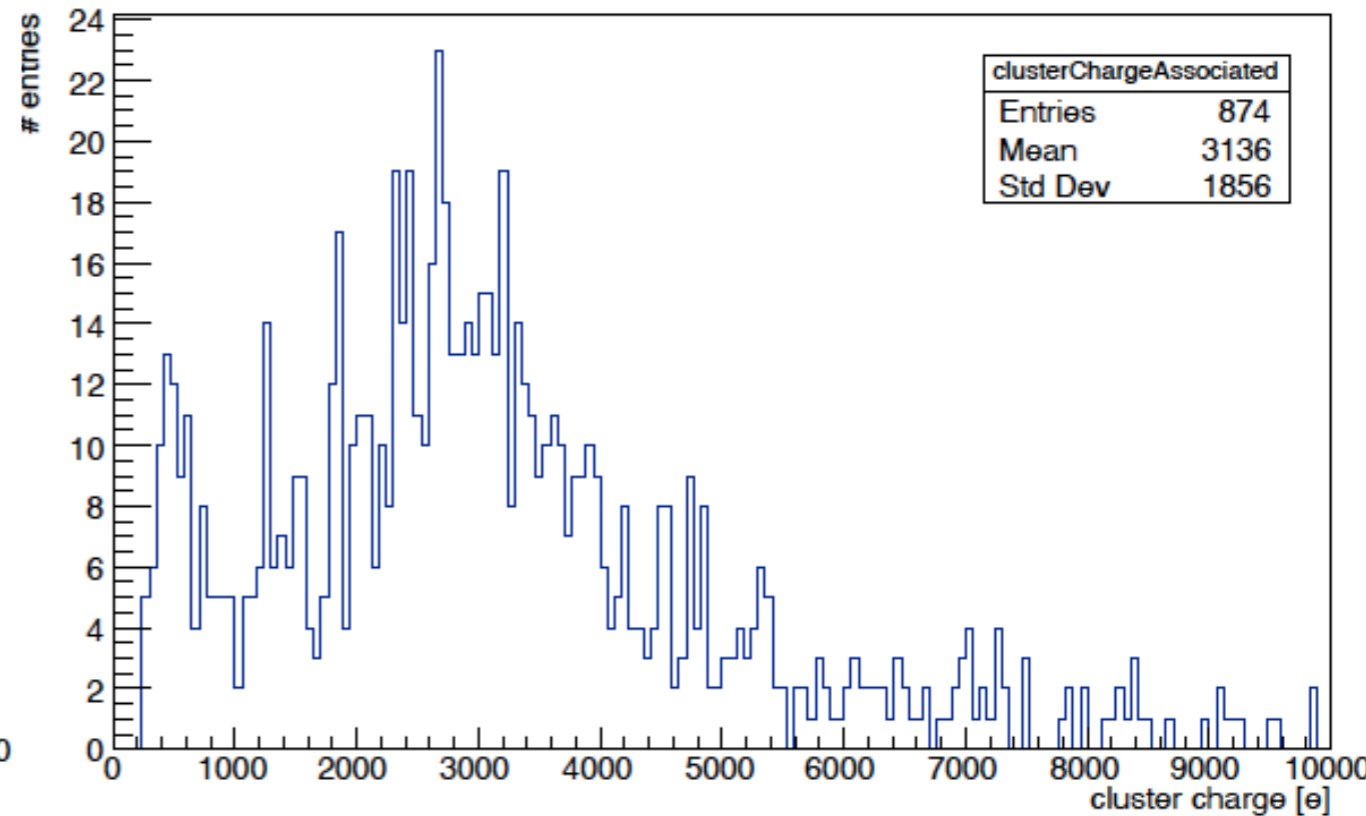
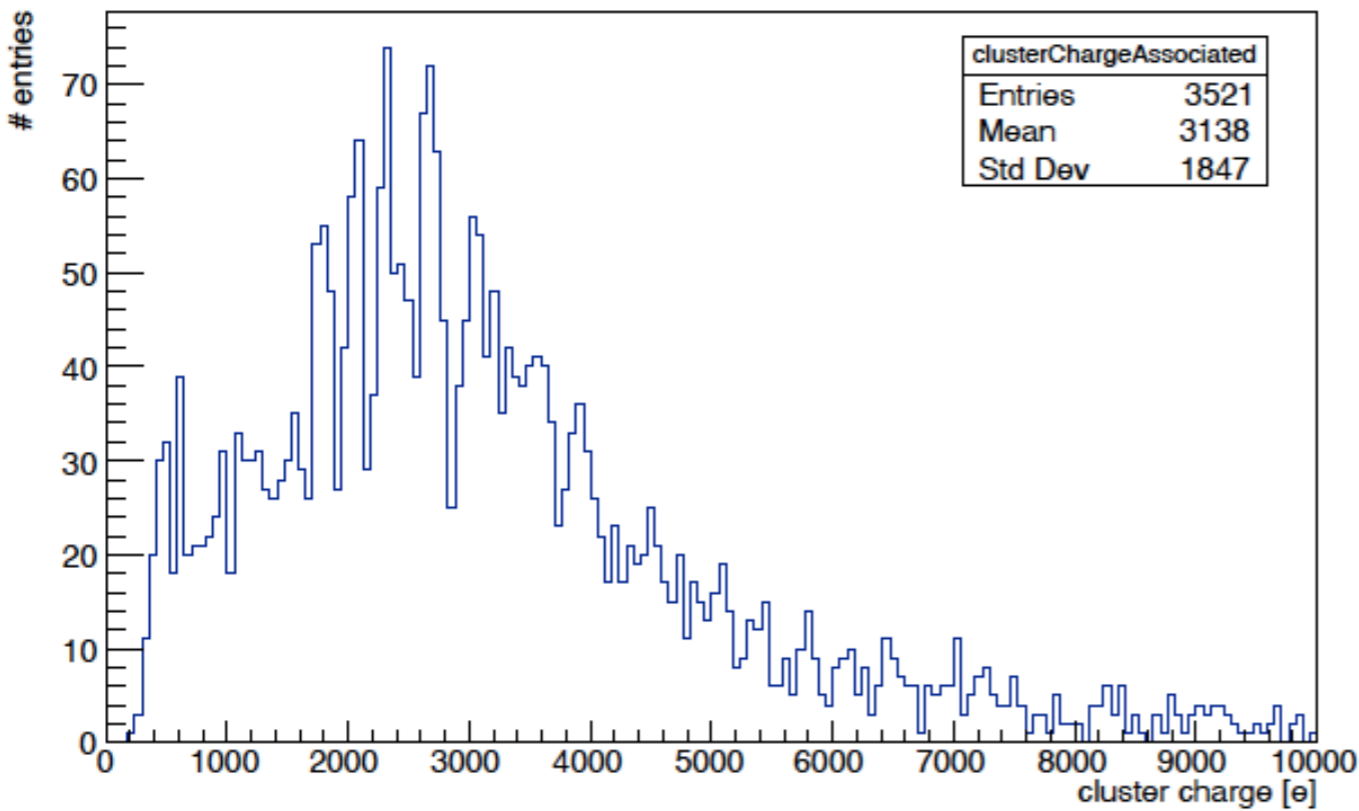


Only pixels with < 2 hits in detector channel



Associated cluster charge - all pixel

Only pixels with < 2 hits in
detector channel

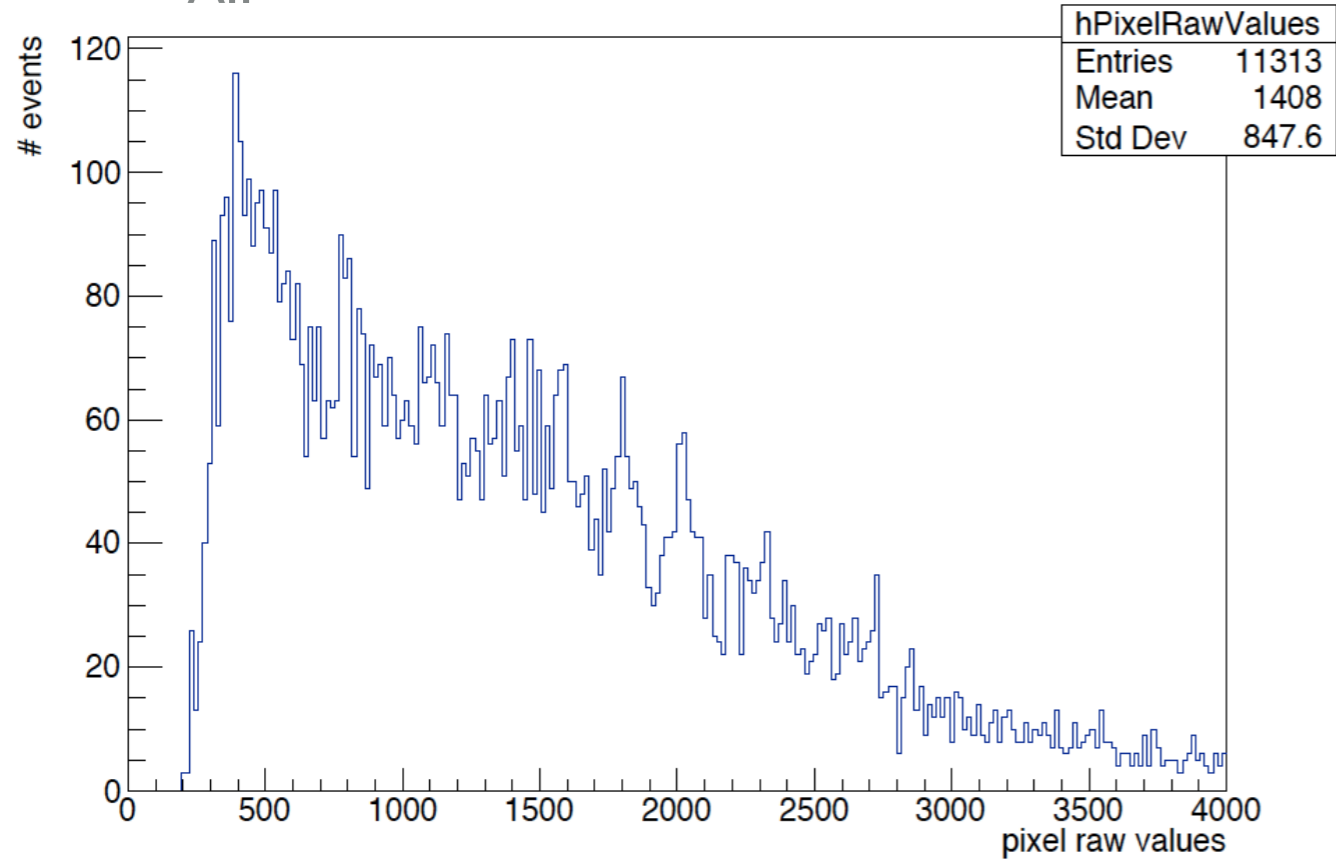


- Peak position (no Landau fit) : ~2200 e (compared to ~1900 e for continuous n-layer)
- However, small difference in threshold:
 - B4: 179 e
 - A1: 171 e

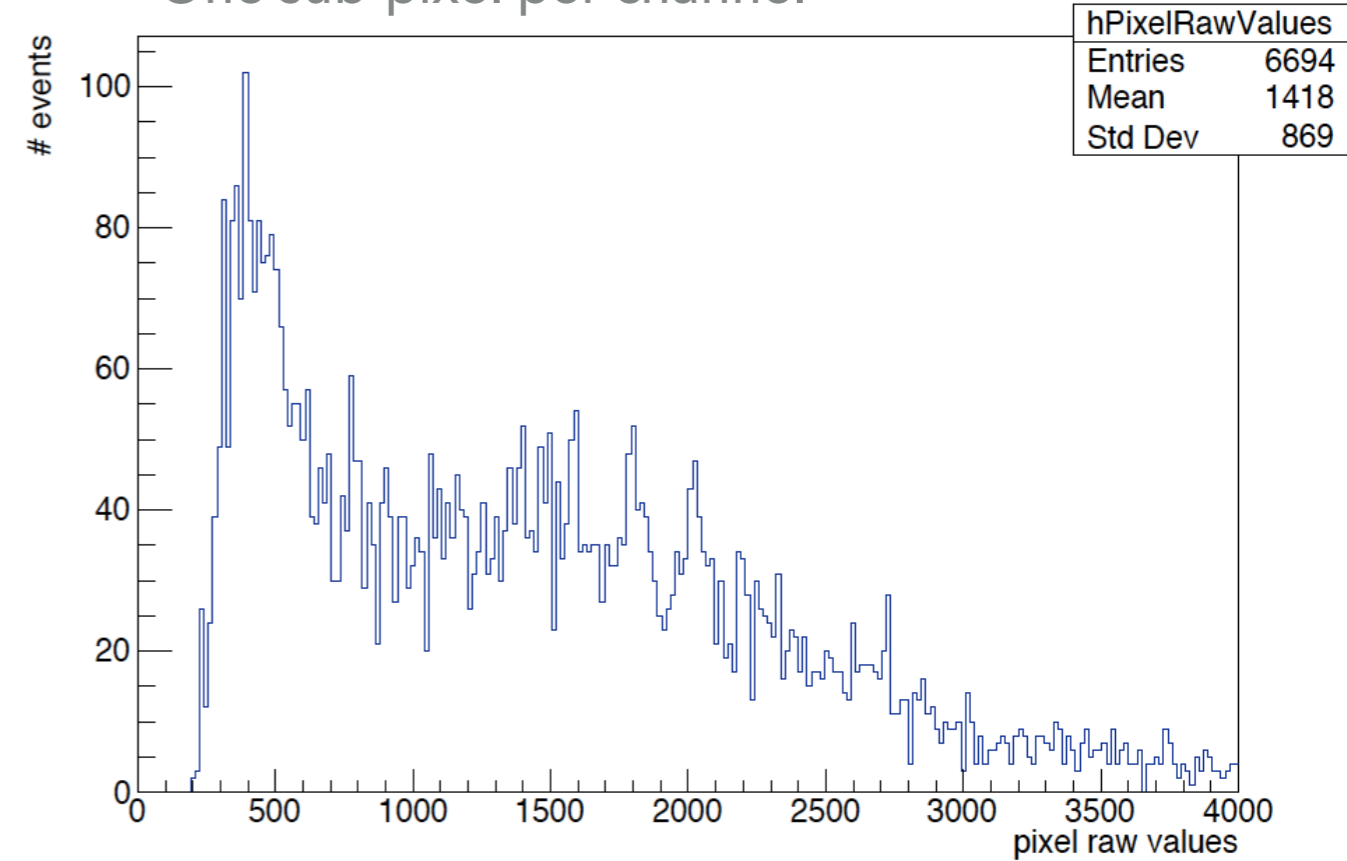
PIXEL CHARGE - NO ASSOCIATION

Run 3020
A1/-6V/-6V @ 171 e

All



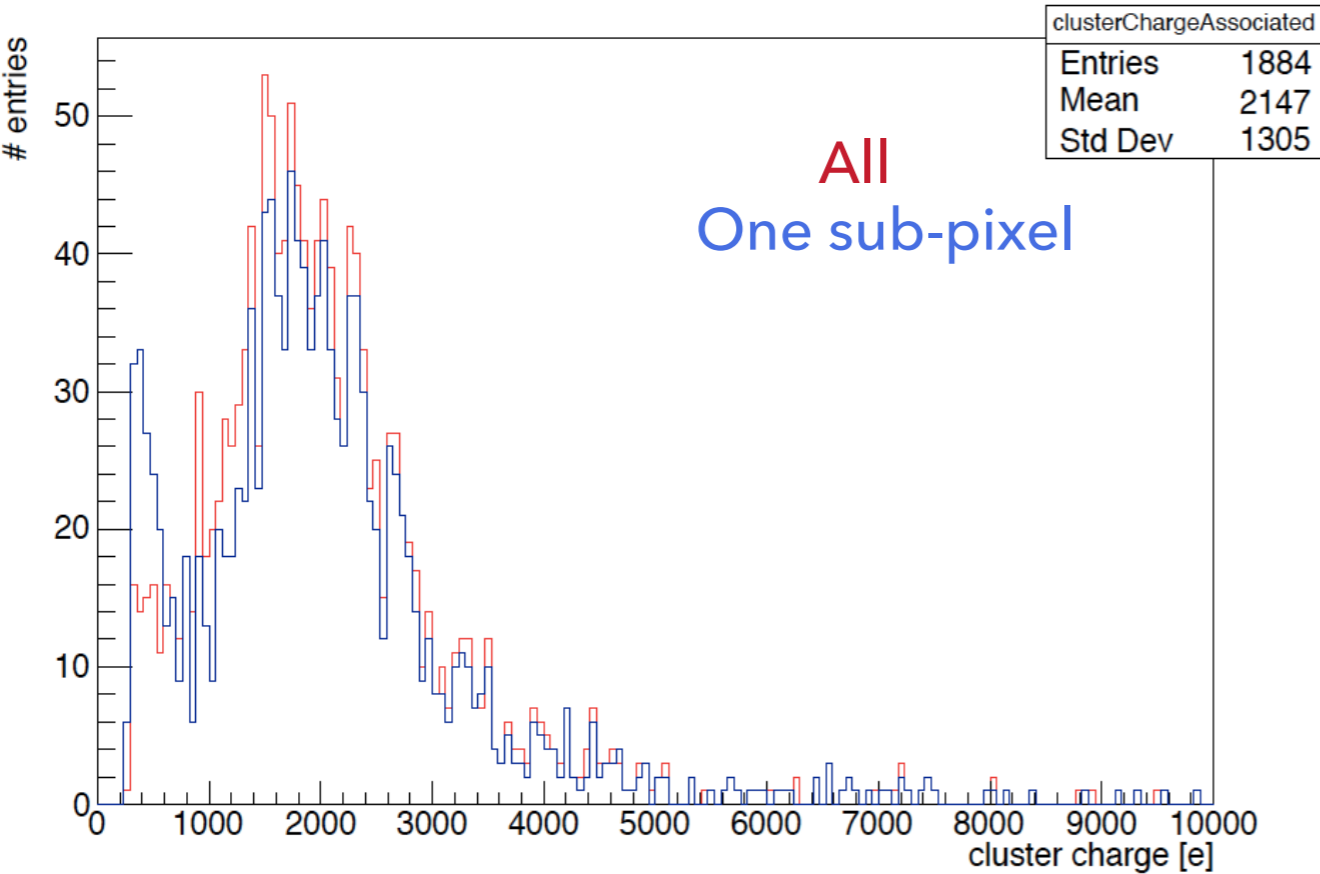
One sub-pixel per channel



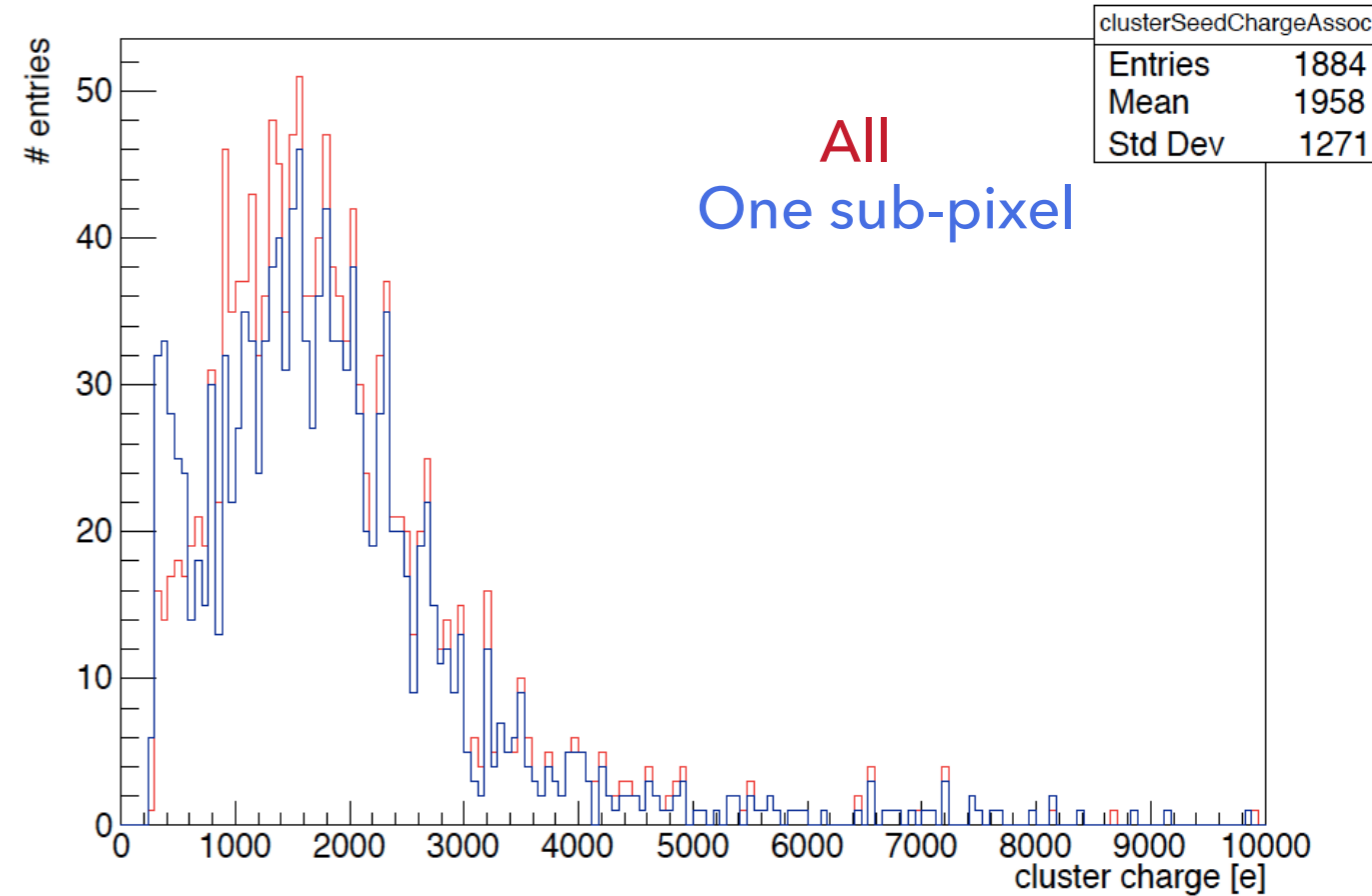
CHARGE -ASSOCIATED

Run 3020
A1/-6V/-6V @250 DAC = 170 e

clusterChargeAssociated

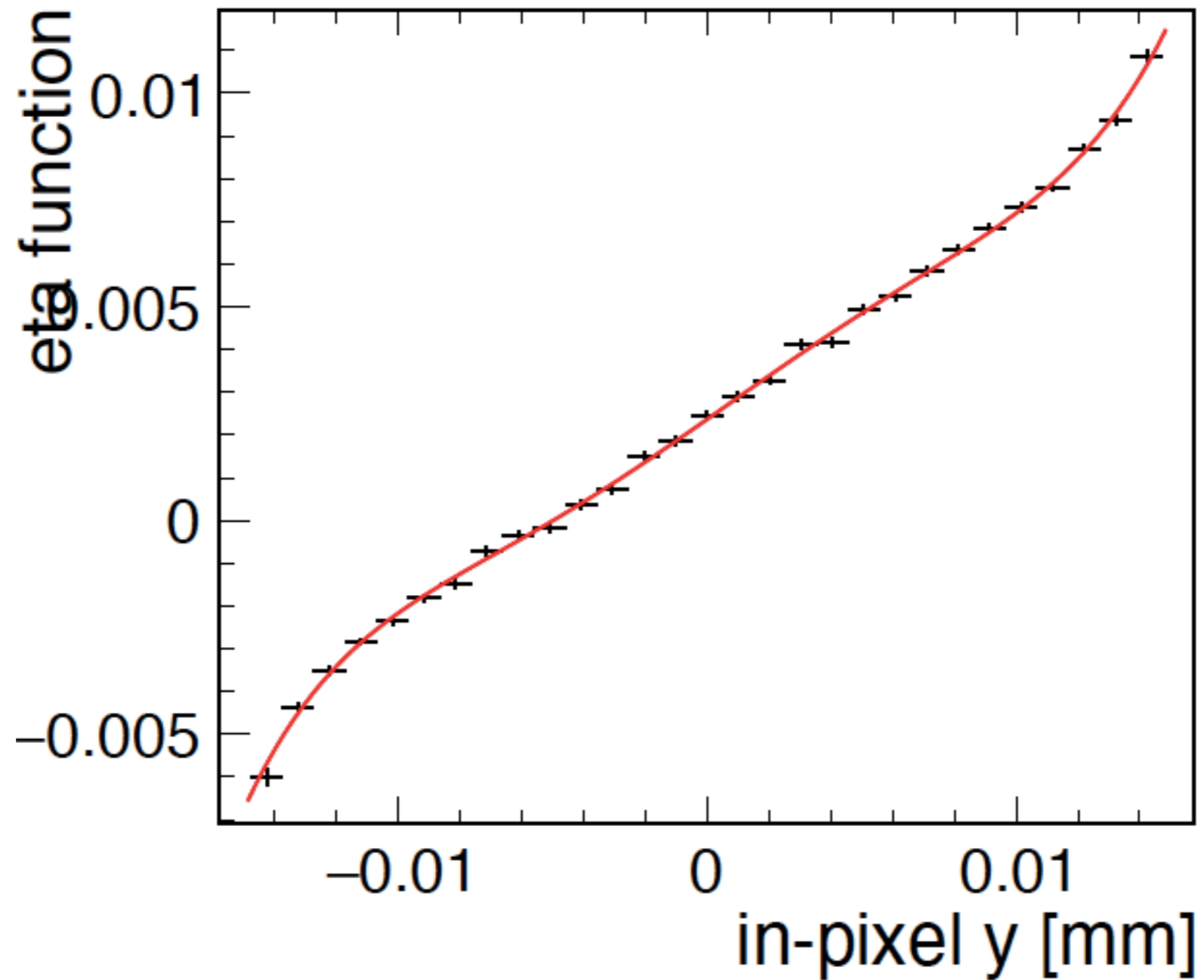


clusterSeedChargeAssoc



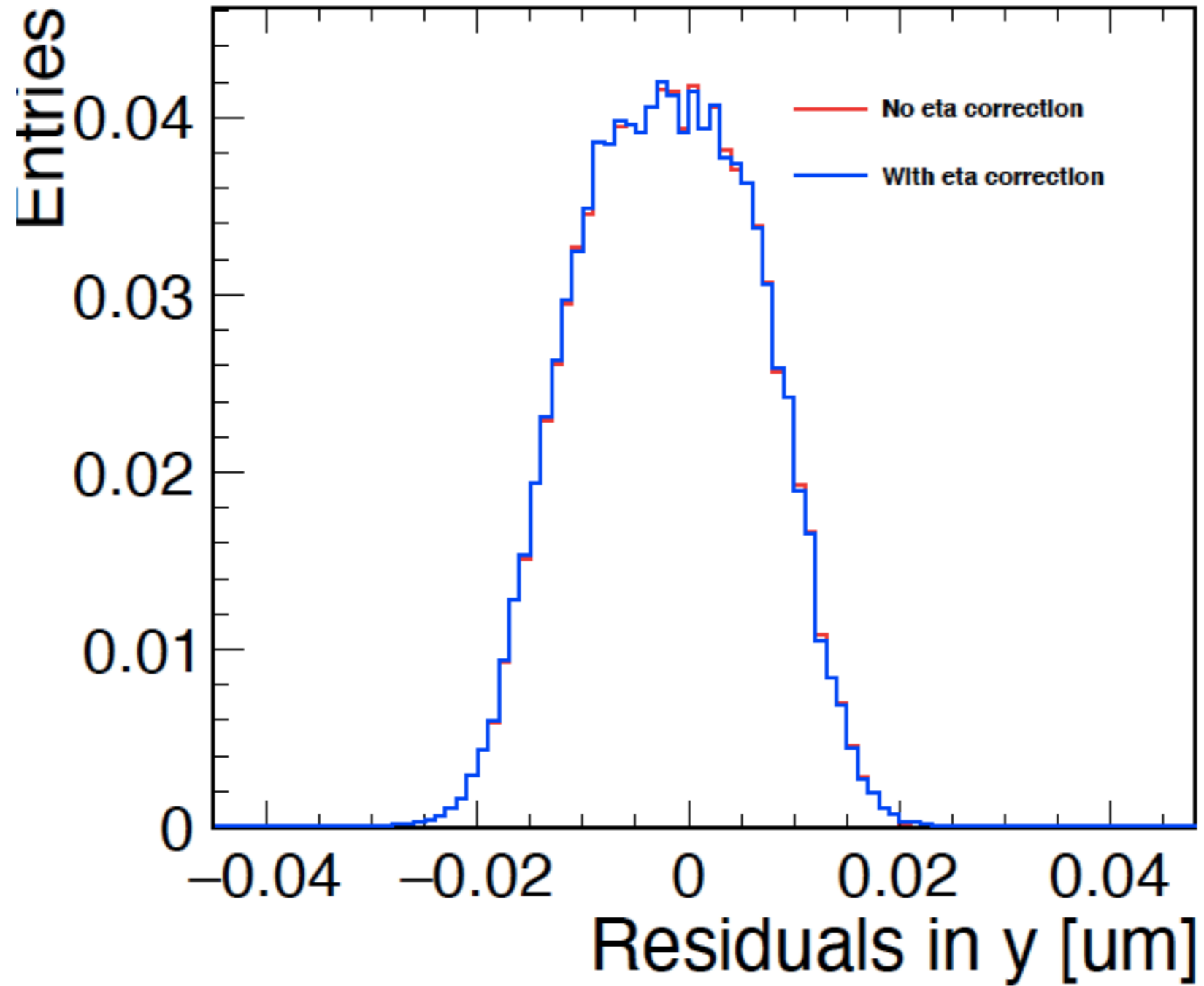
- Total number of entries (= number of clusters)
 - All: 1884
 - Only one sub-pixel per channel: 1374

A1/-6V/-6V



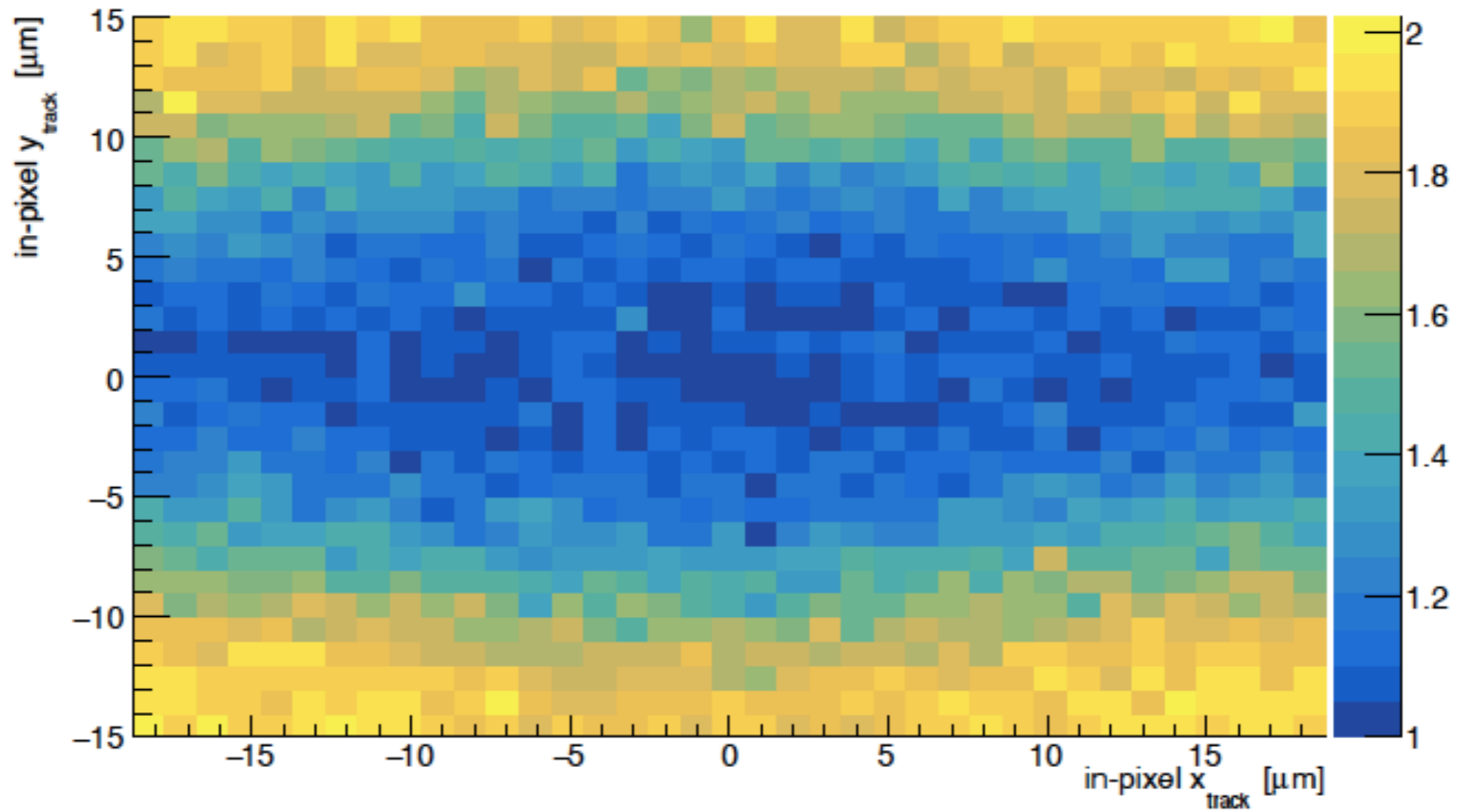
- Eta-correction fit with full statistics for A1
- Not much difference in final result:
 - RMS (no eta) = ~ 6.7 μm
 - RMS (with eta) = ~ 6.0 μm

1-pxl cluster



- Checked that 1-pixel clusters have not changed
- Also tried to re-align after applying eta-correction

Cluster size in y



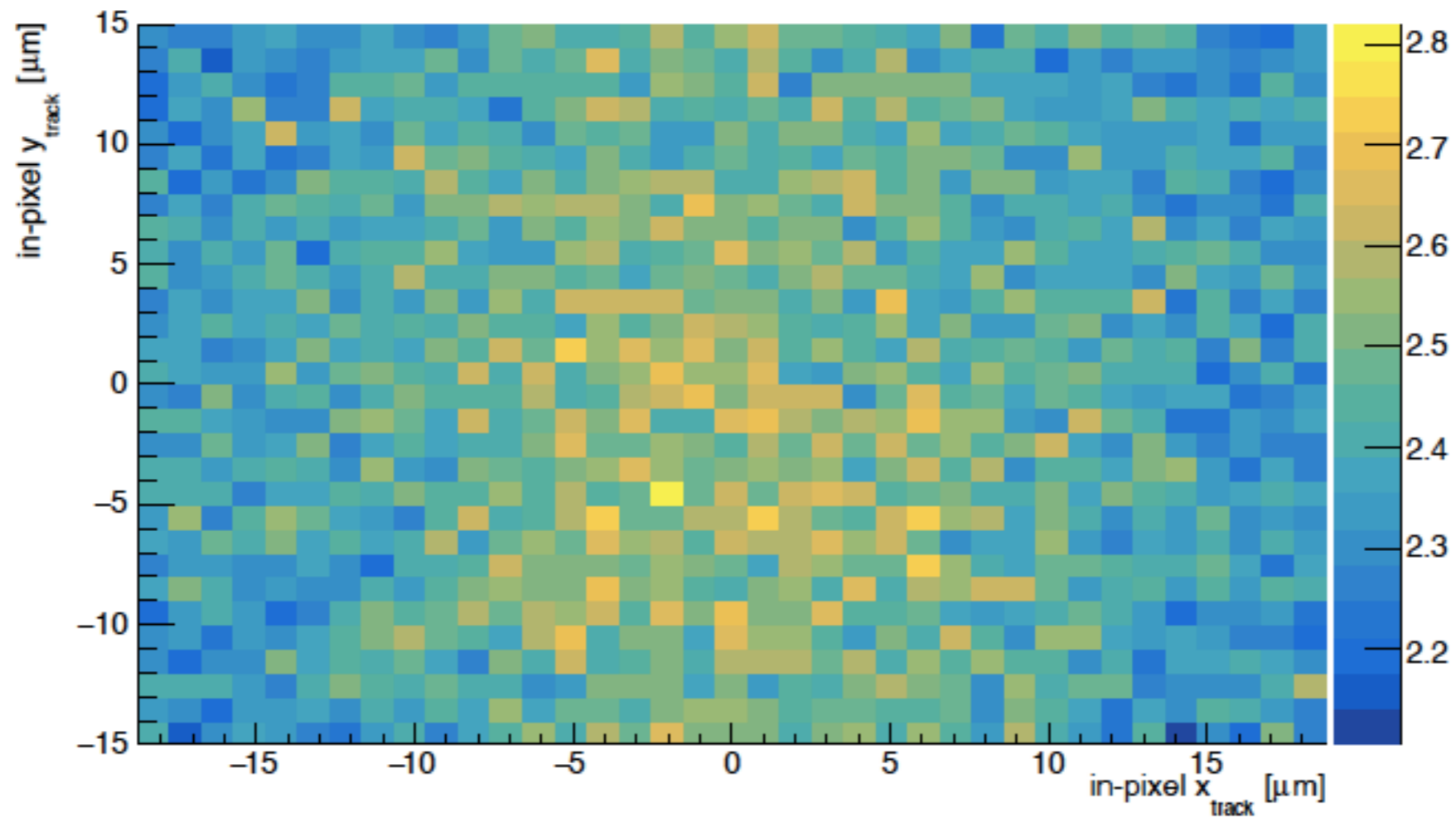
- Checked in-pixel cluster size in y to look for non-linear charge sharing

ROTATION SCANS

- After a lot more work on the alignment (mainly alignment by hand), in-pixel structure in x direction becomes visible

Rotation angle: 60 deg

In-pixel size in x

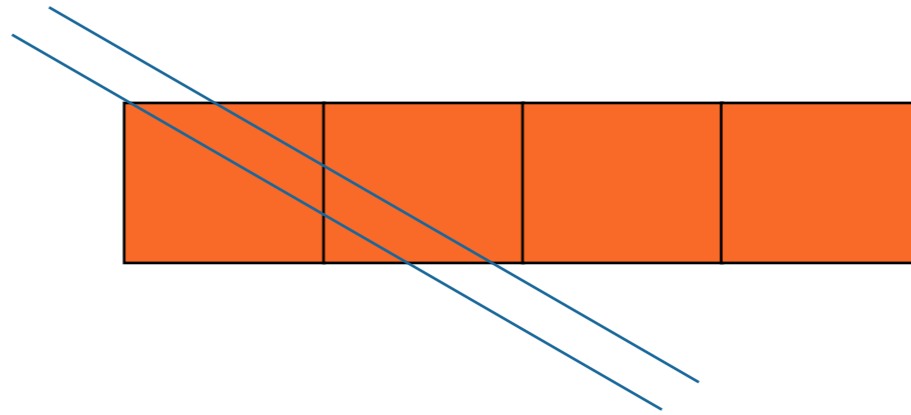
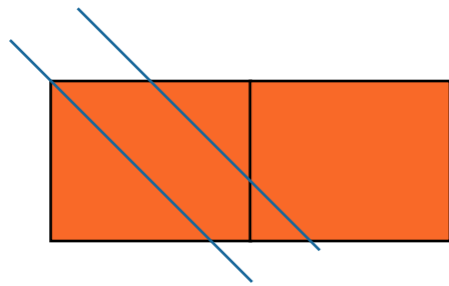


ANGLES - FOR ROTATION SCAN

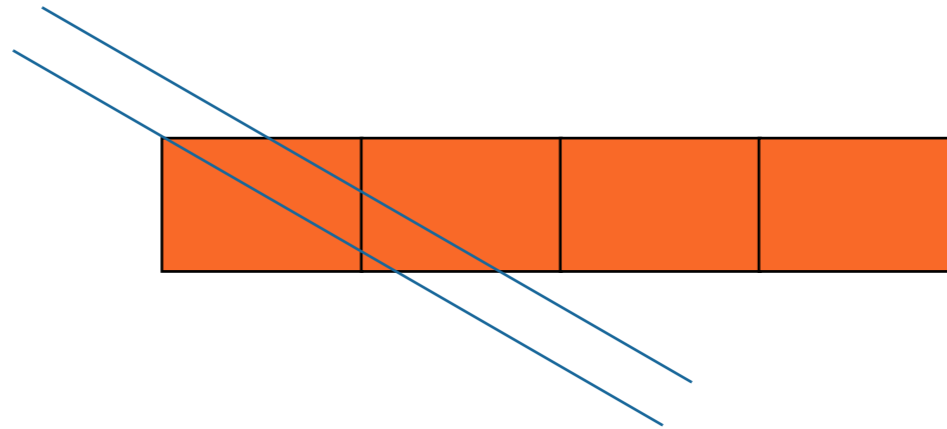
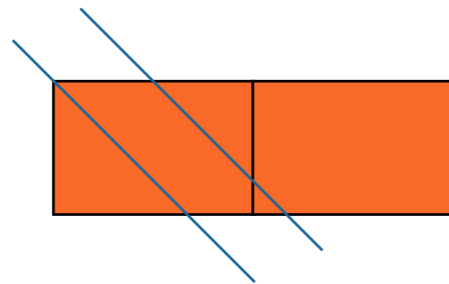
45 deg

60 deg

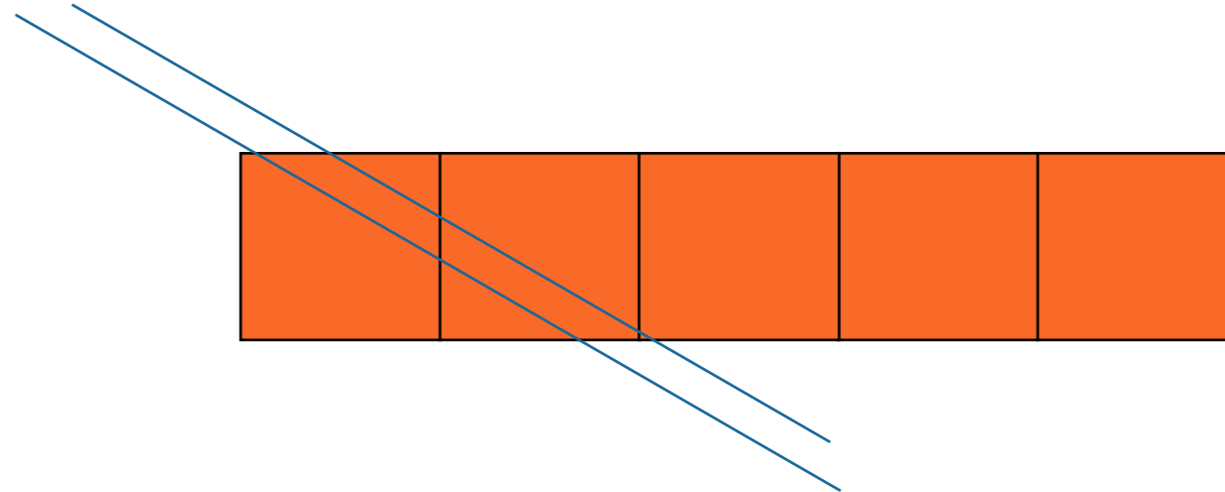
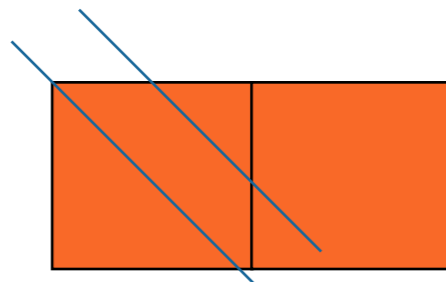
37.5x30



37.5x25



37.5x35

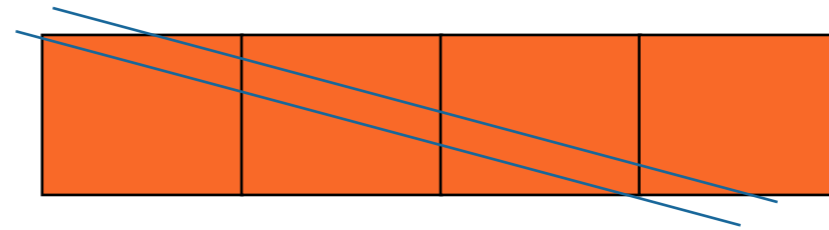
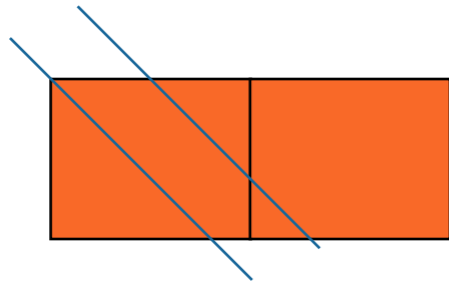


ANGLES - FOR ROTATION SCAN

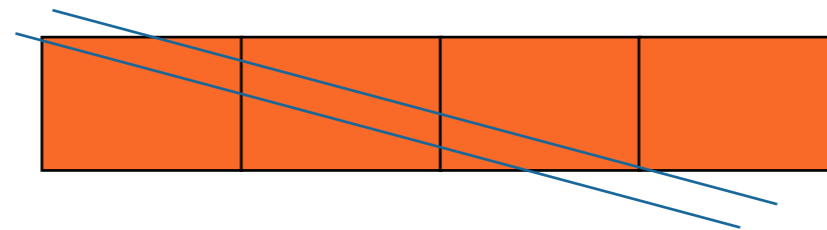
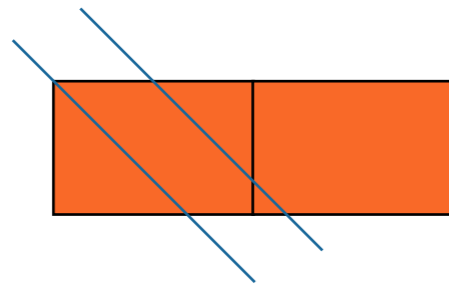
45 deg

75 deg

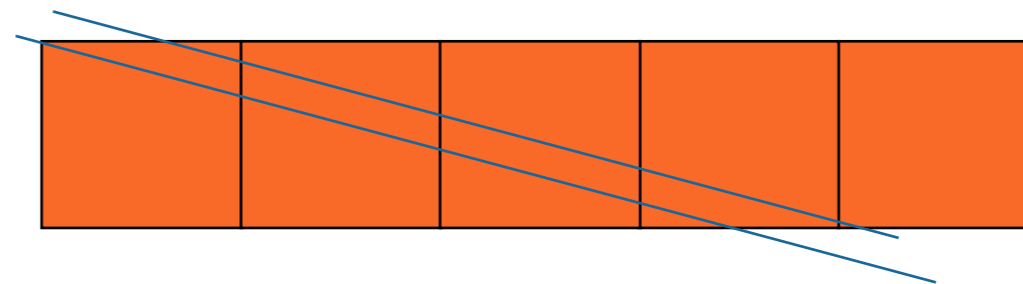
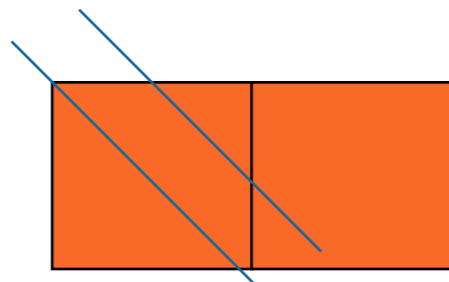
37.5x30



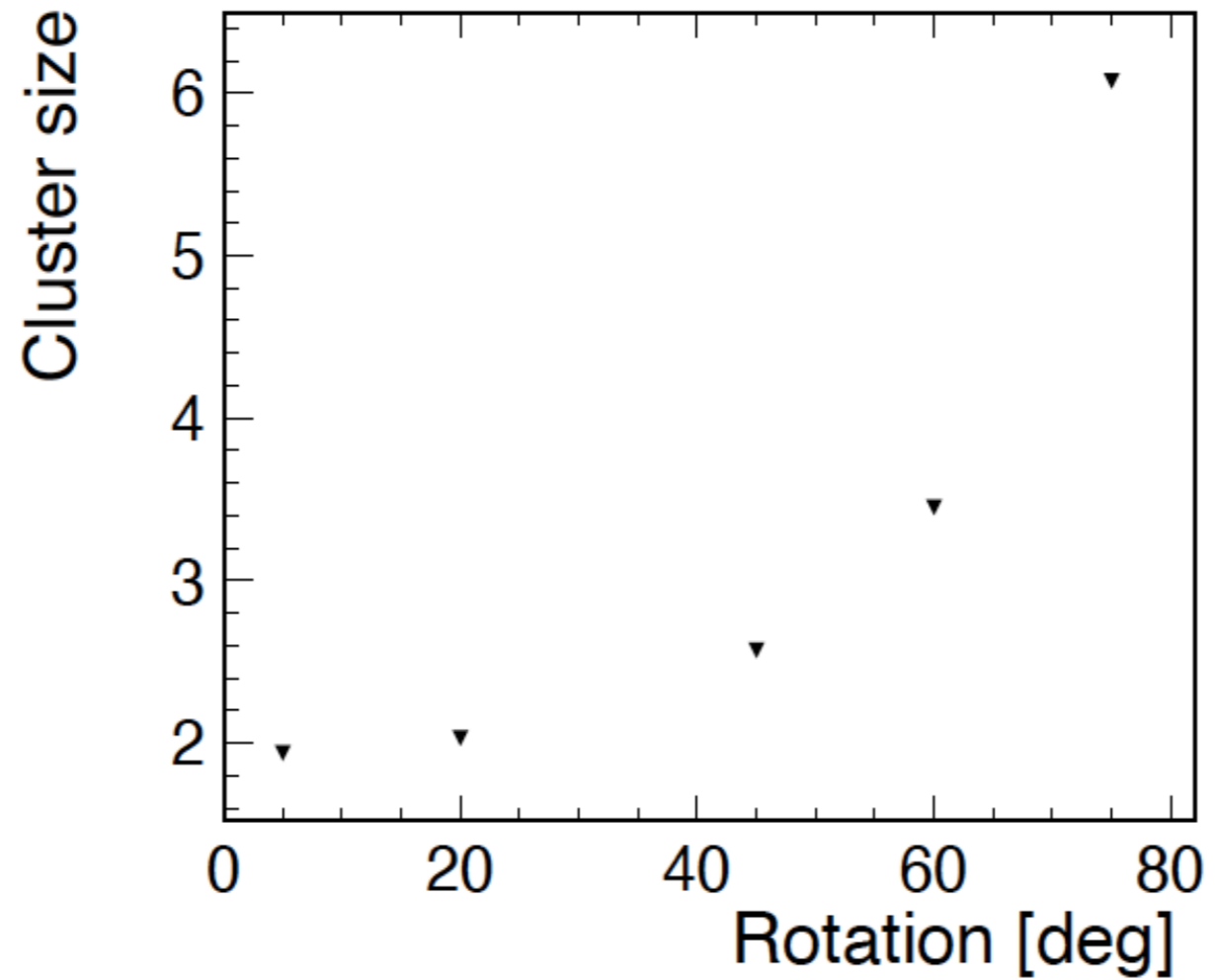
37.5x25



37.5x35



ANGLES - FOR ROTATION SCAN



- Trade-off: high angles seem to be more interesting but we need more statistics and they are more difficult to handle in analysis
- Another point between 60 and 75?

All measurements at -6V/-6V

- 1) Assembly B4 (nominal thickness): checking if timing issue + efficiency loss is still there, could be used to debug telescope setup while testing ACF sample? (Alternative: start with thinned assembly right away)
- 2) 50 nm B-assembly: efficiency scan, (nominal data?)
- 3) 50 nm B-assembly: rotation data
- 4) 100 nm B-assembly: efficiency scan (depending on results achieved for 50 nm)
- 5) 100 nm A-assembly: efficiency scan, (nominal data?)