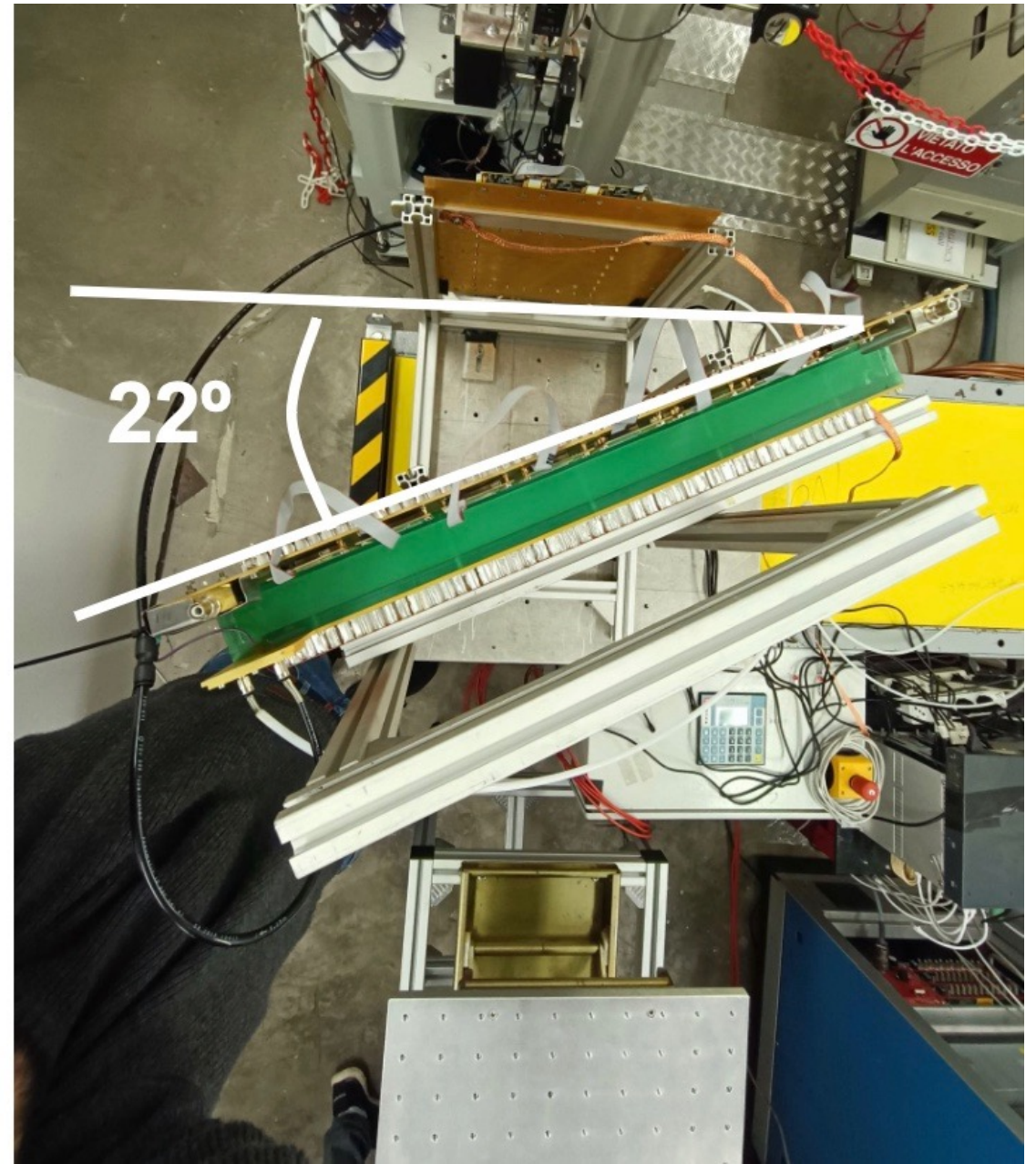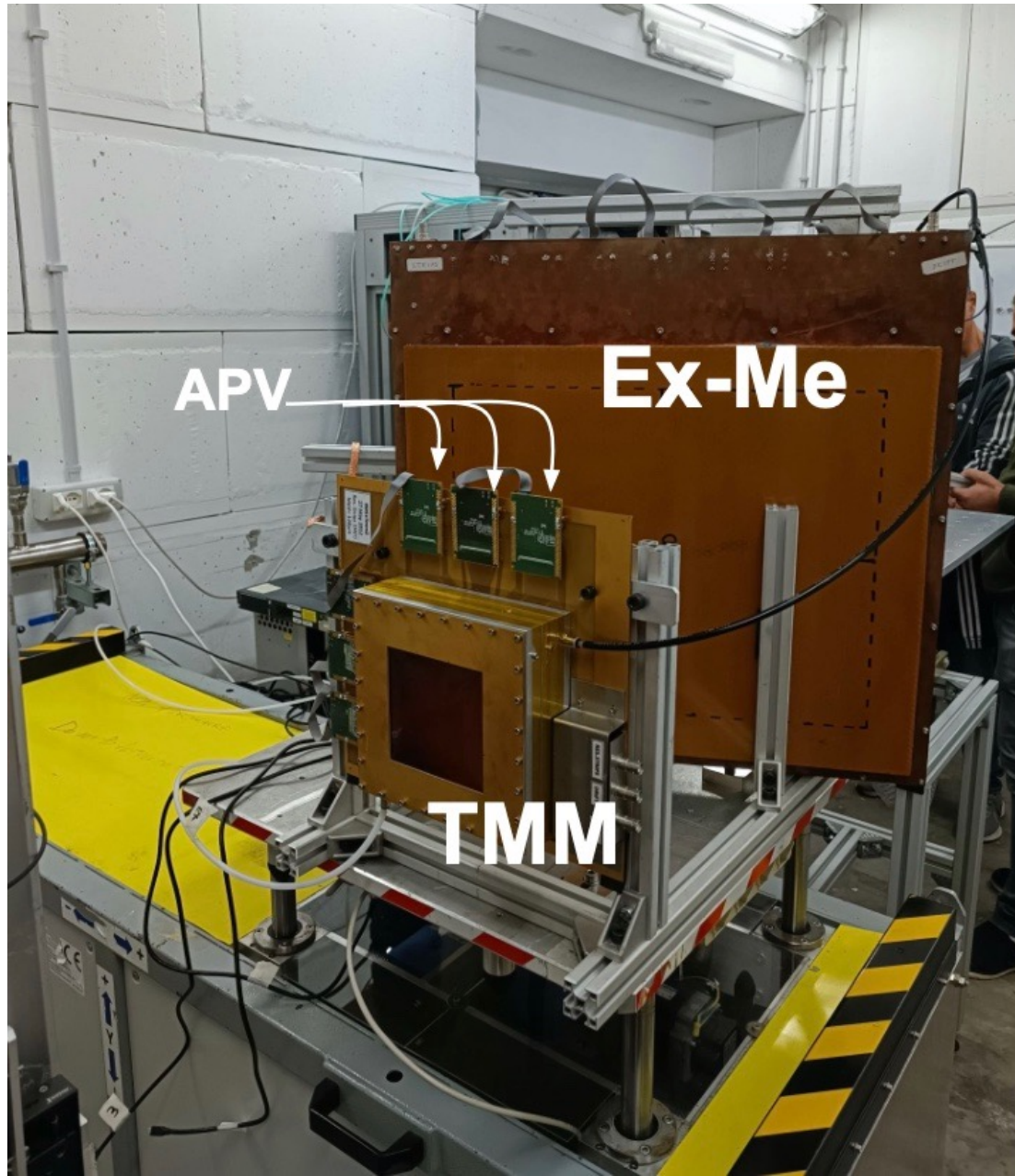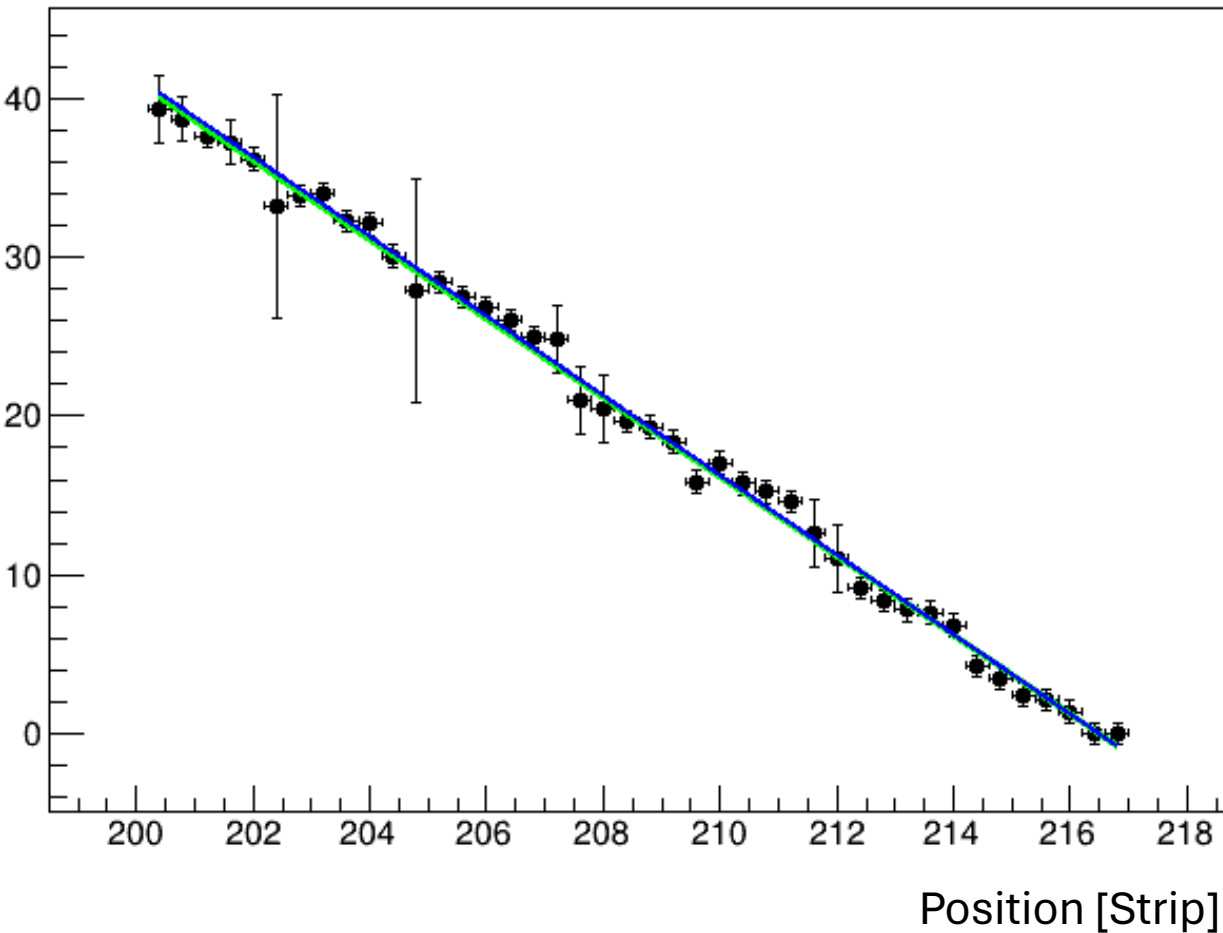# Clustering and uTPC drift gap improvement
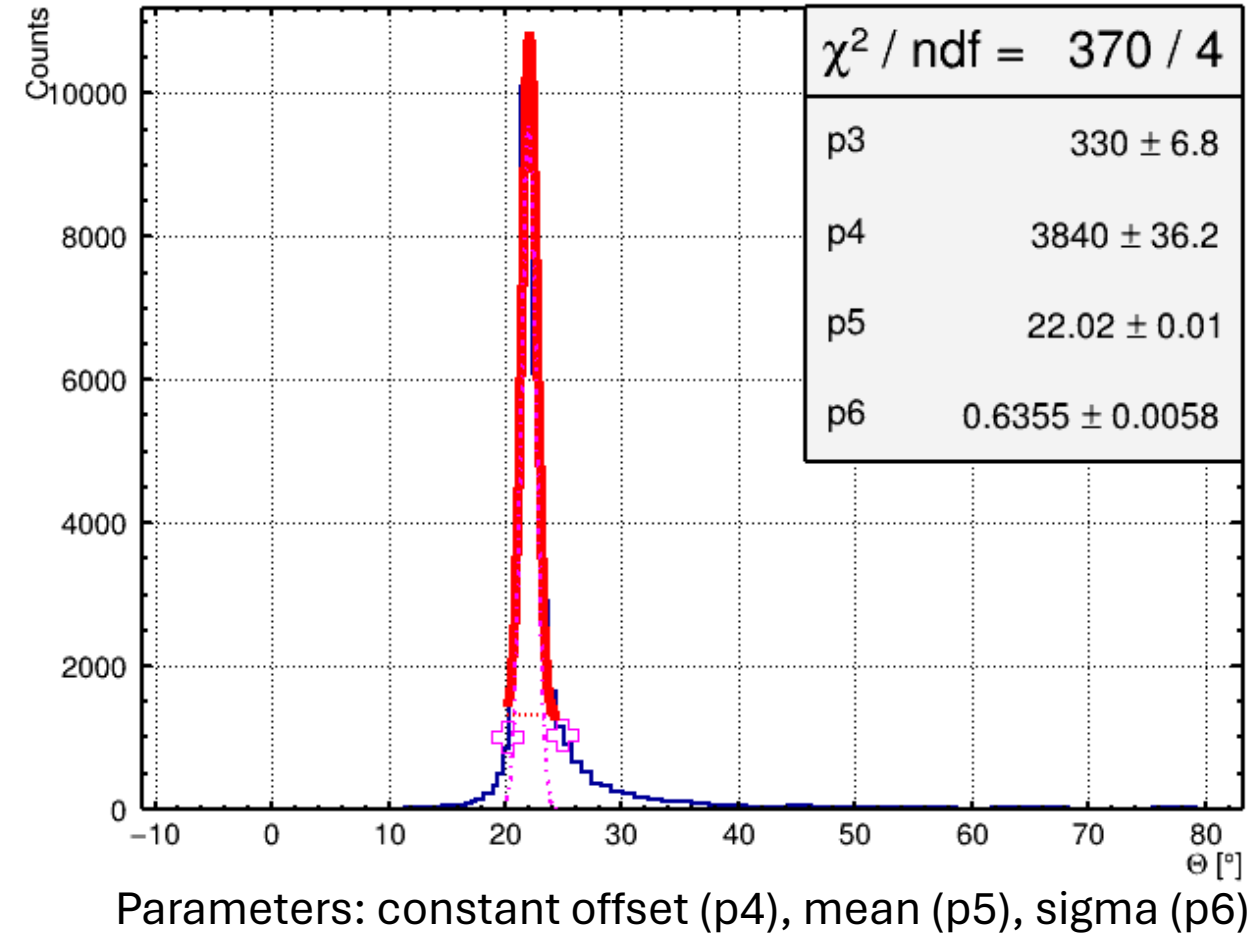
First uTPC results for clustering with every strip hit

drift distance [mm]

Position [Strip]

Variable binning

$\chi^2 / ndf = 370 / 4$

p3	330 ± 6.8
p4	3840 ± 36.2
p5	22.02 ± 0.01
p6	0.6355 ± 0.0058

Parameters: constant offset (p4), mean (p5), sigma (p6)
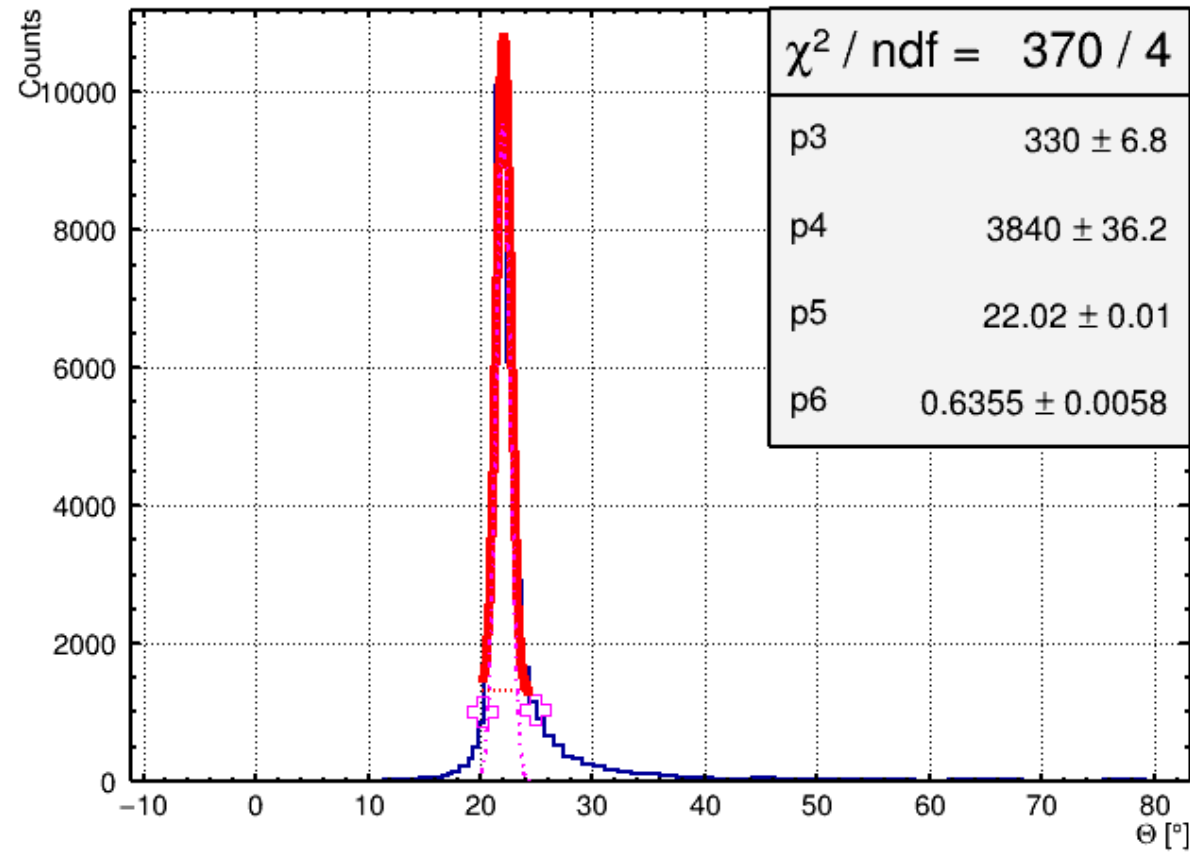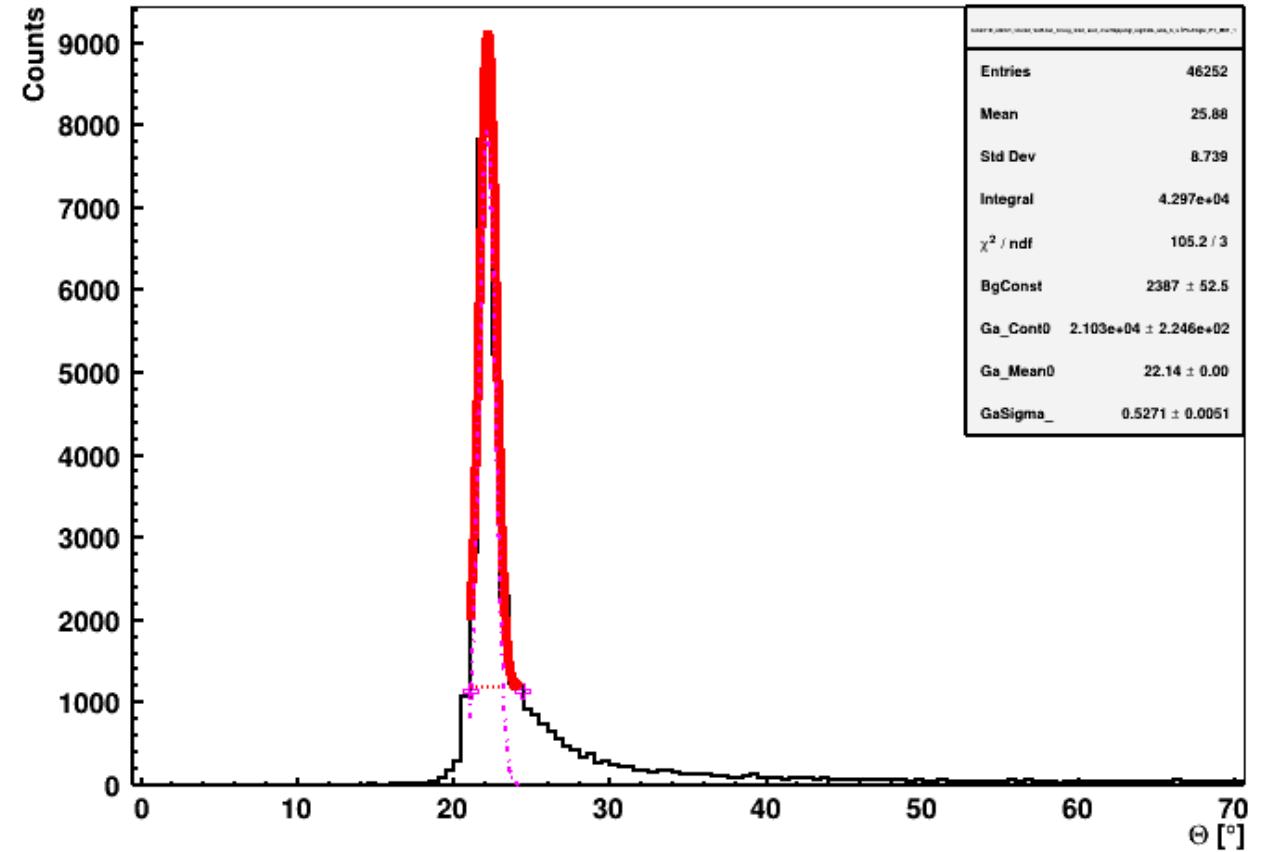
Check: including overlapping signals for ExMe

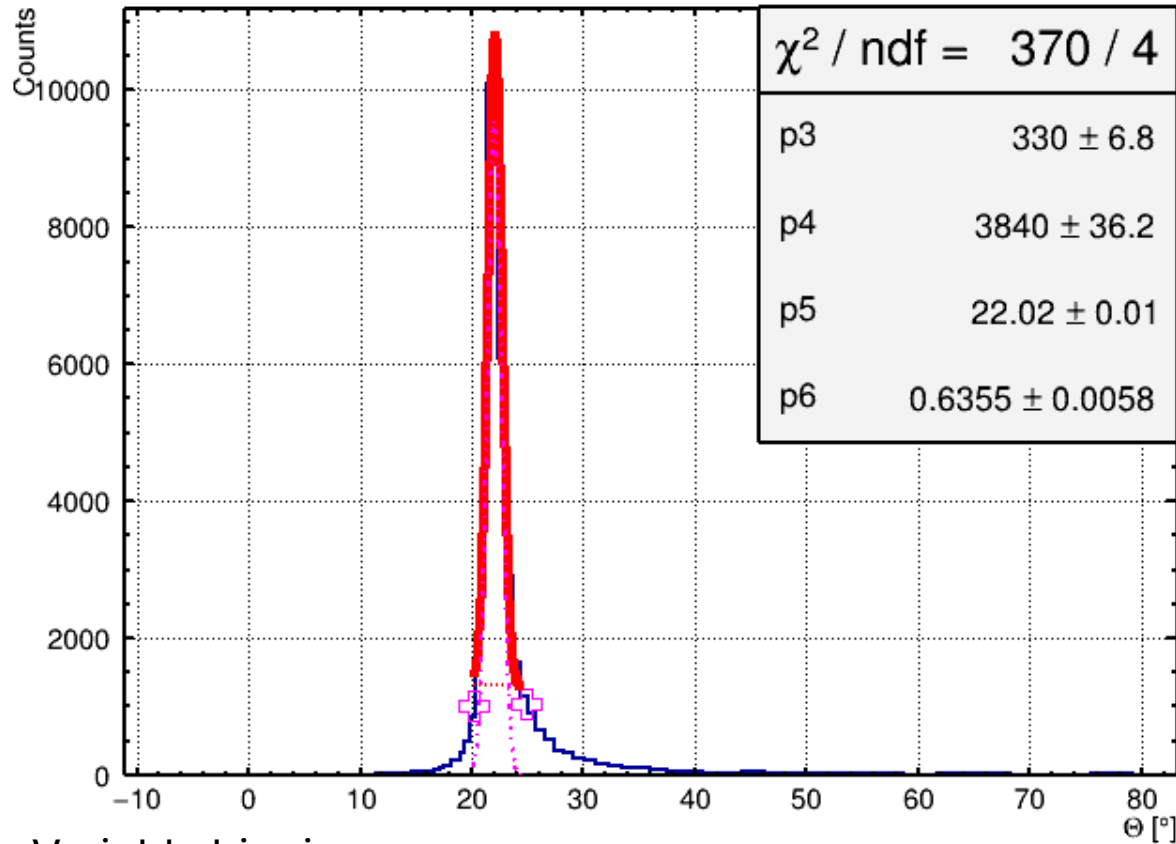Cutting out overlapping signals (~10%)

Including overlapping signals

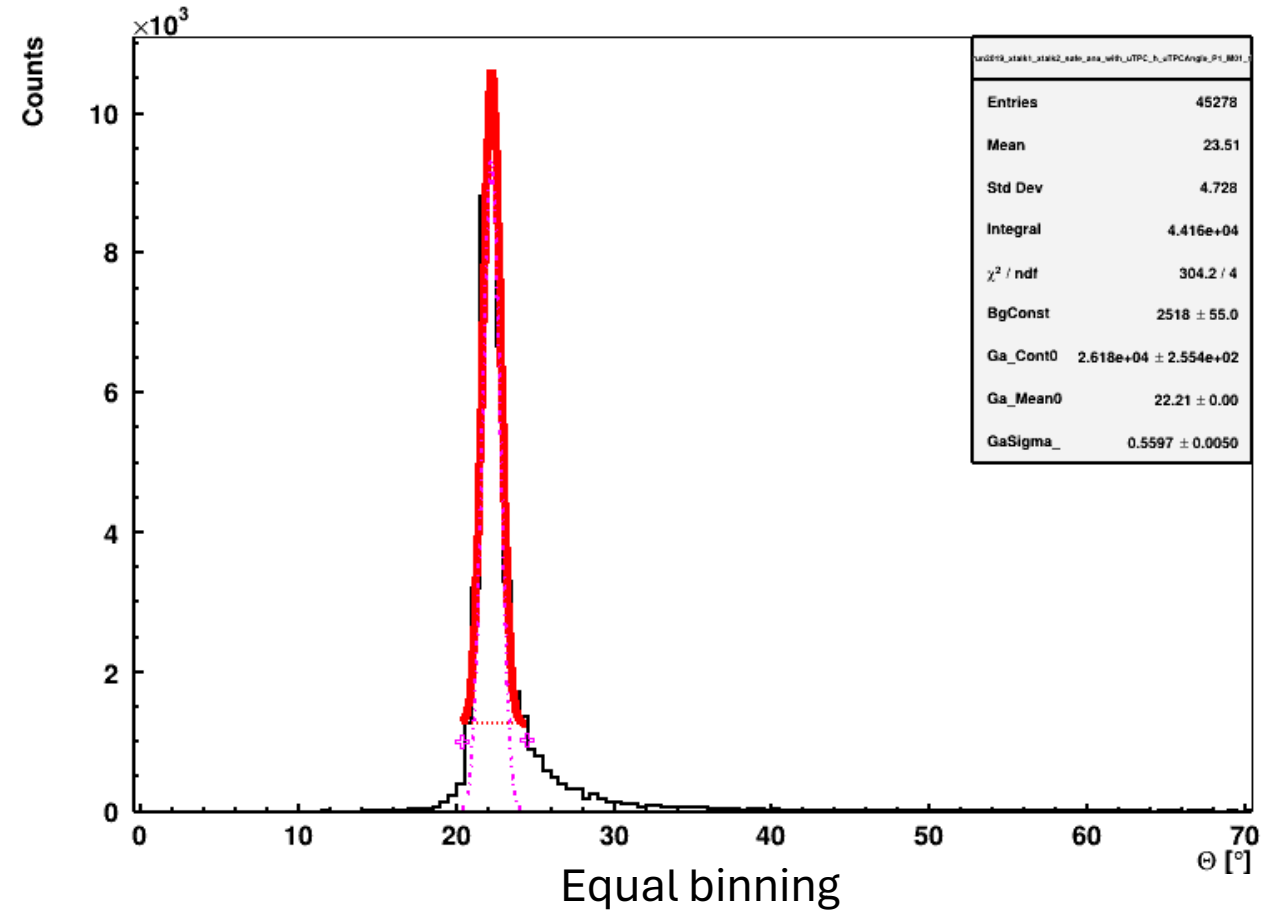=> Angle reconstruction worse, drift distance still ~40 mm

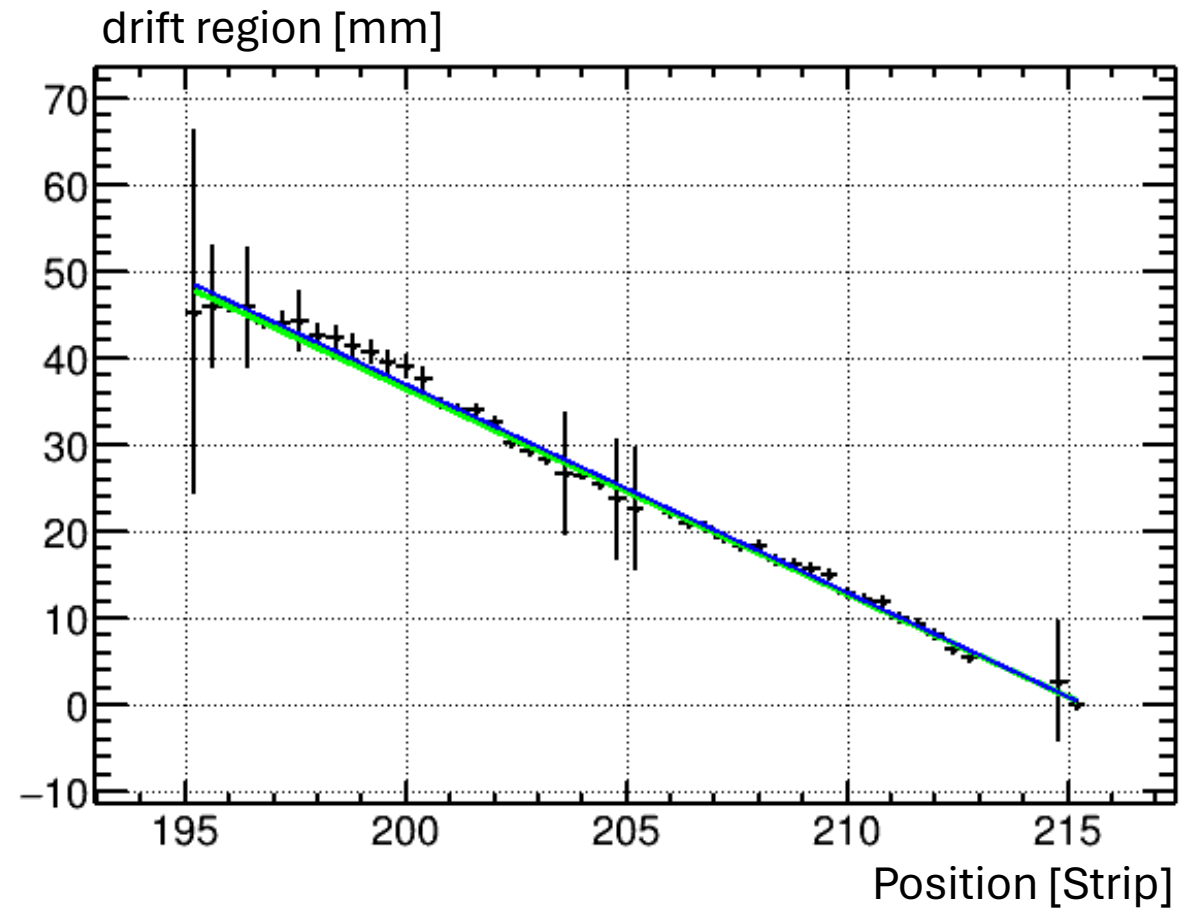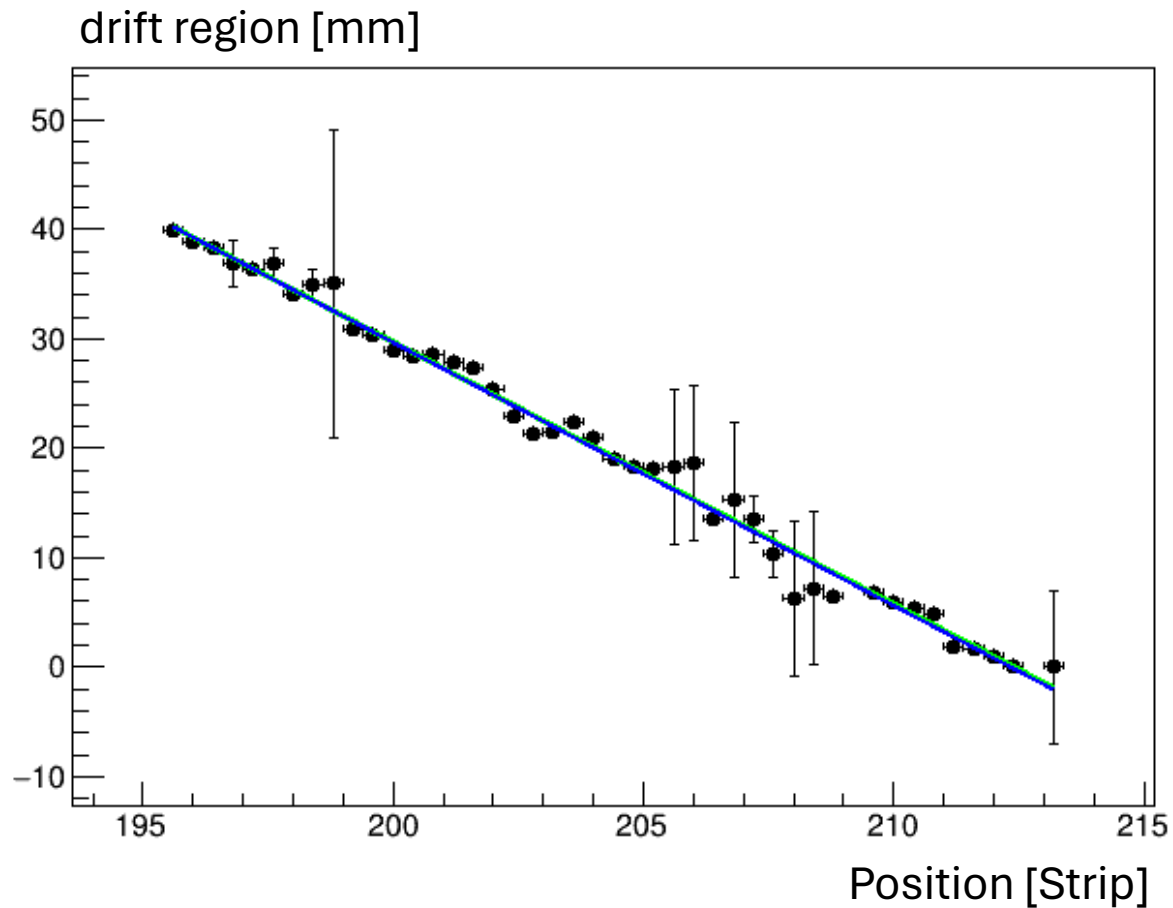# uTPC results with new clustering for ExMe

Every strip hit is a cluster

Hit strips within: (mean positon ± 30) strips

χ^2 / ndf = 370 / 4

p3	330 ± 6.8
p4	3840 ± 36.2
p5	22.02 ± 0.01
p6	0.6355 ± 0.0058

Variable binning;
parameters: constant offset (p4), mean (p5), sigma (p6)

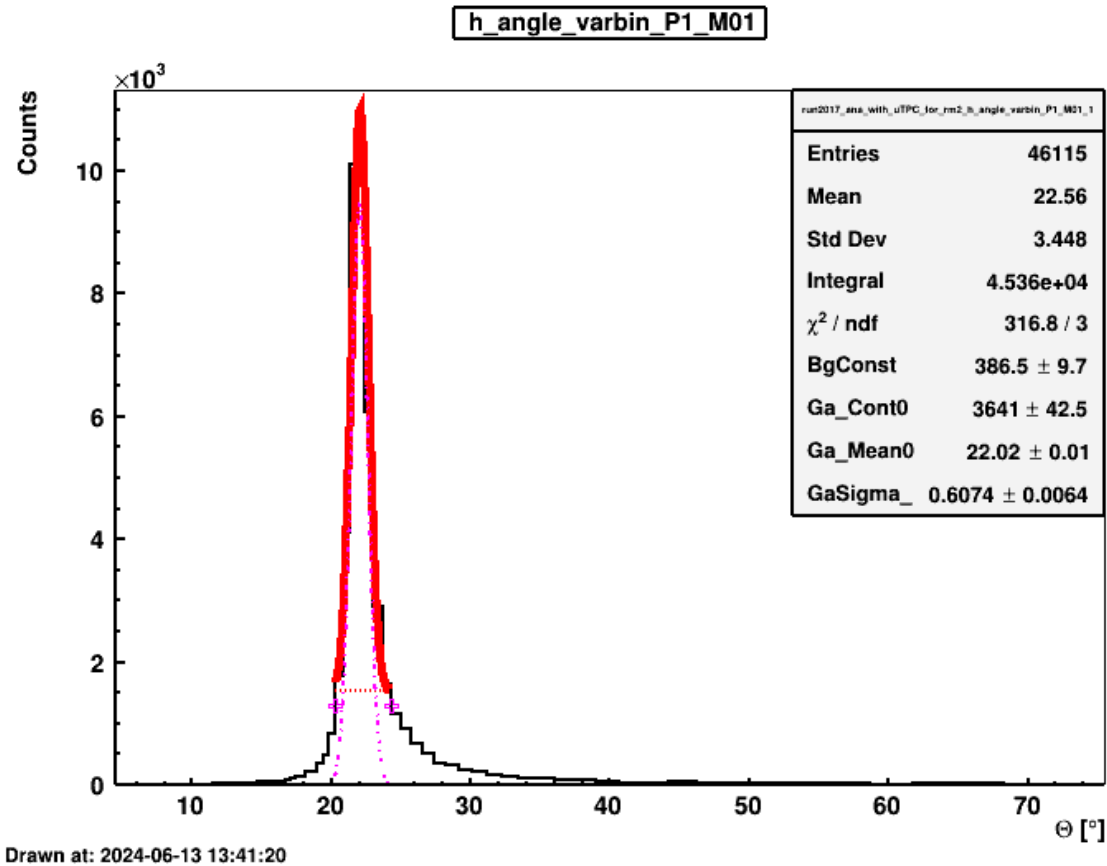|	
Entries	45278
Mean	23.51
Std Dev	4.728
Integral	4.416e+04
χ^2 / ndf	304.2 / 4
BgConst	2518 ± 55.0
Ga_Cont0	2.618e+04 ± 2.554e+02
Ga_Mean0	22.21 ± 0.00
GaSigma_	0.5597 ± 0.0050

Equal binning

Drift distance with narrower clustering (ExMe)
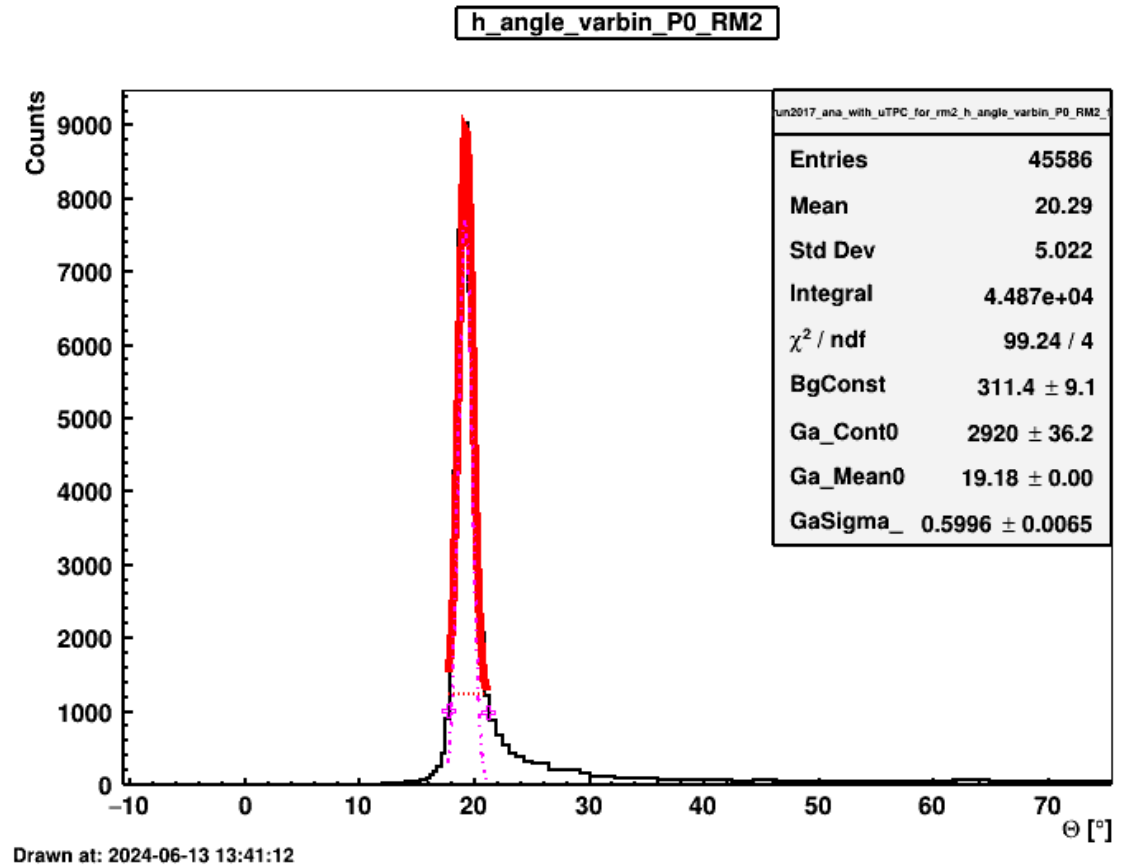

But: most of the drift distances still around 40mm
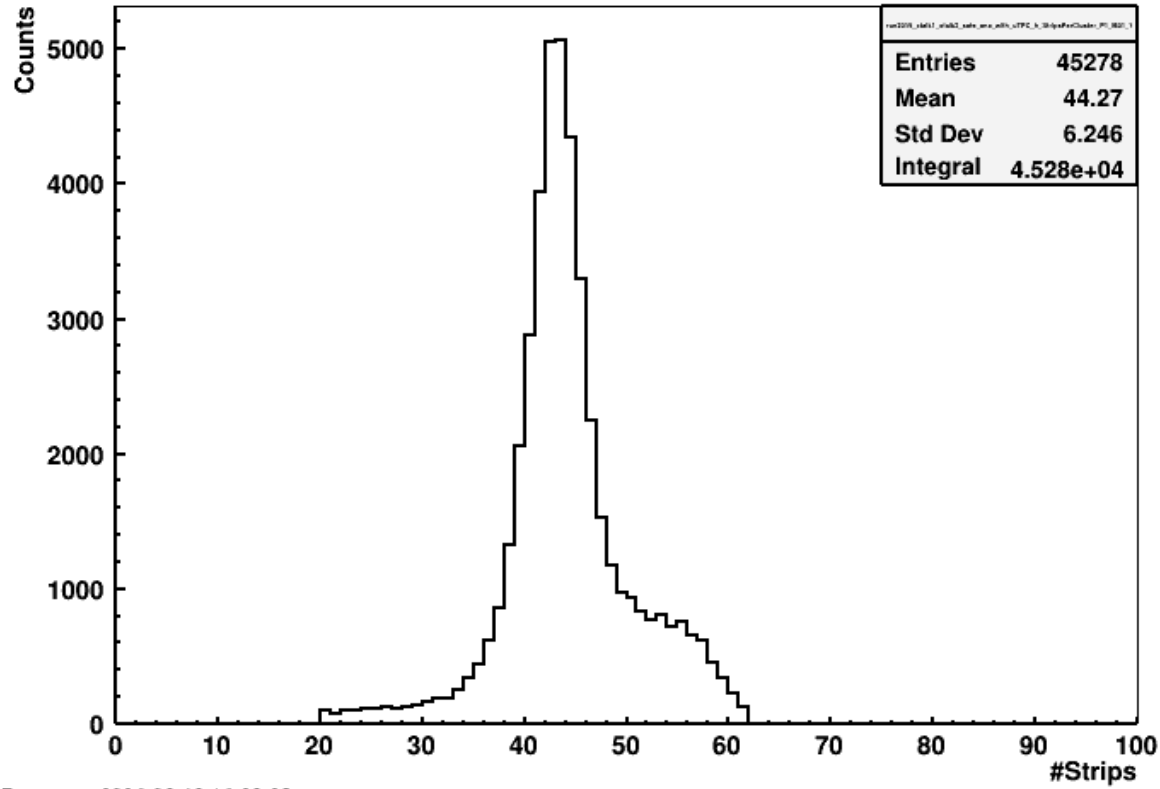
uTPC results for both detectors inclined

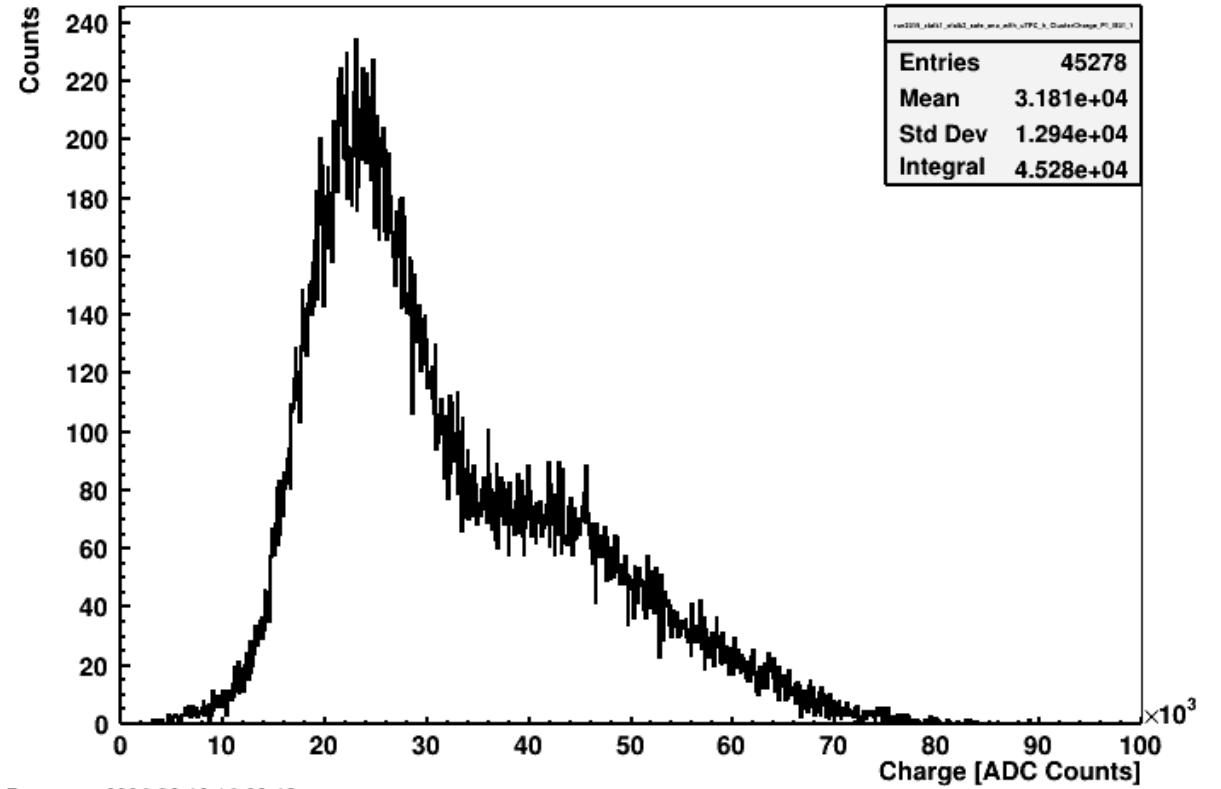ExMe: Every strip hit into a cluster

TMM: former clustering

Backup for ExMe

Problem for y-layer of TMM: too many clusters, fixed by considering every strip hit