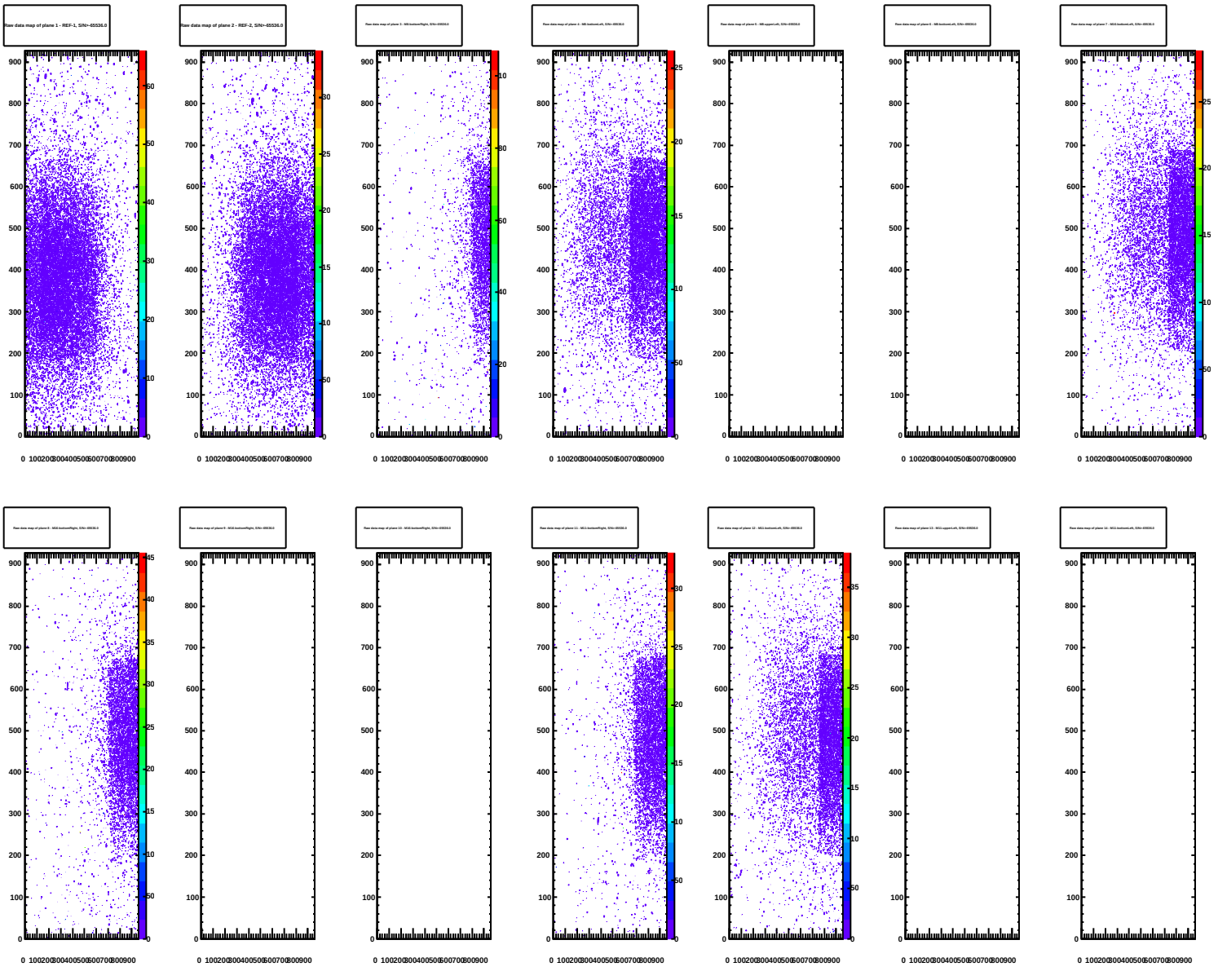
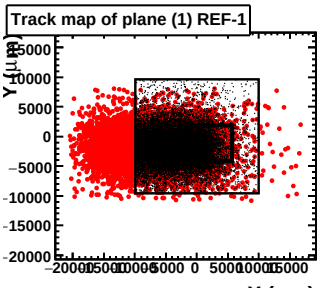
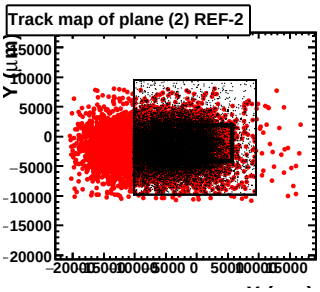
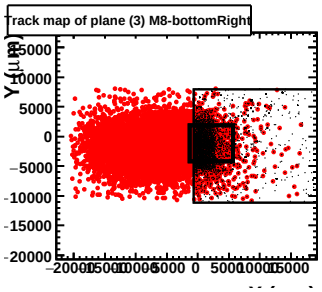
Run 28843, cumul over 10000 events

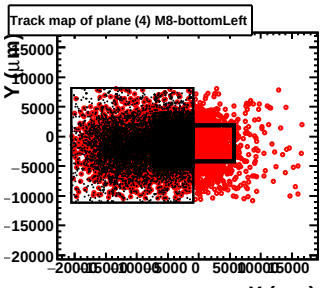


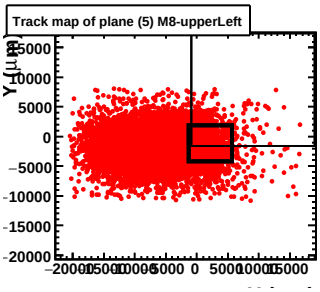
Run 28843, cumul over 10000 events

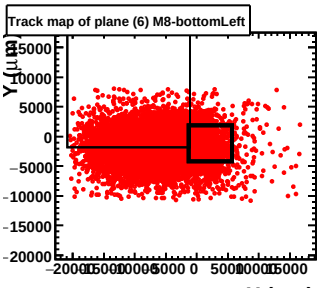


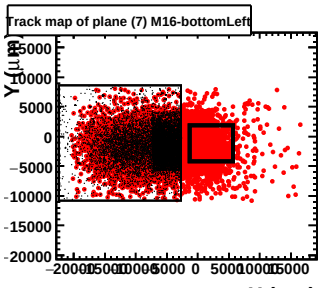


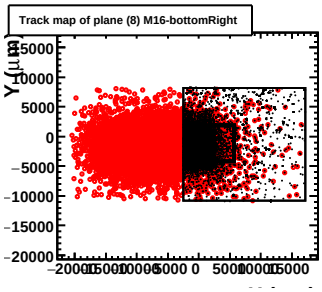


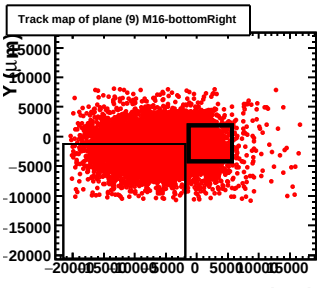


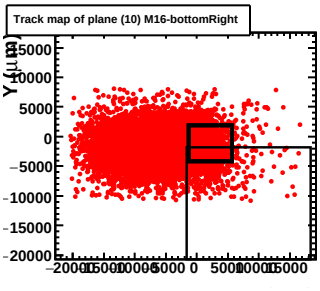


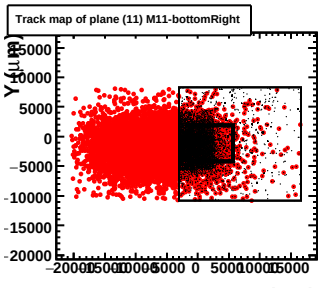


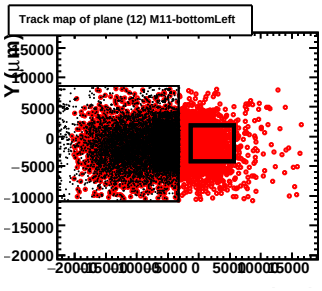


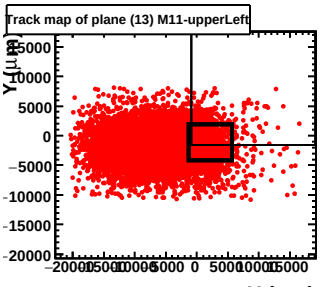


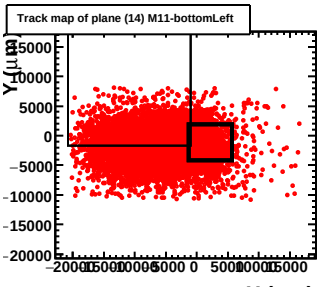




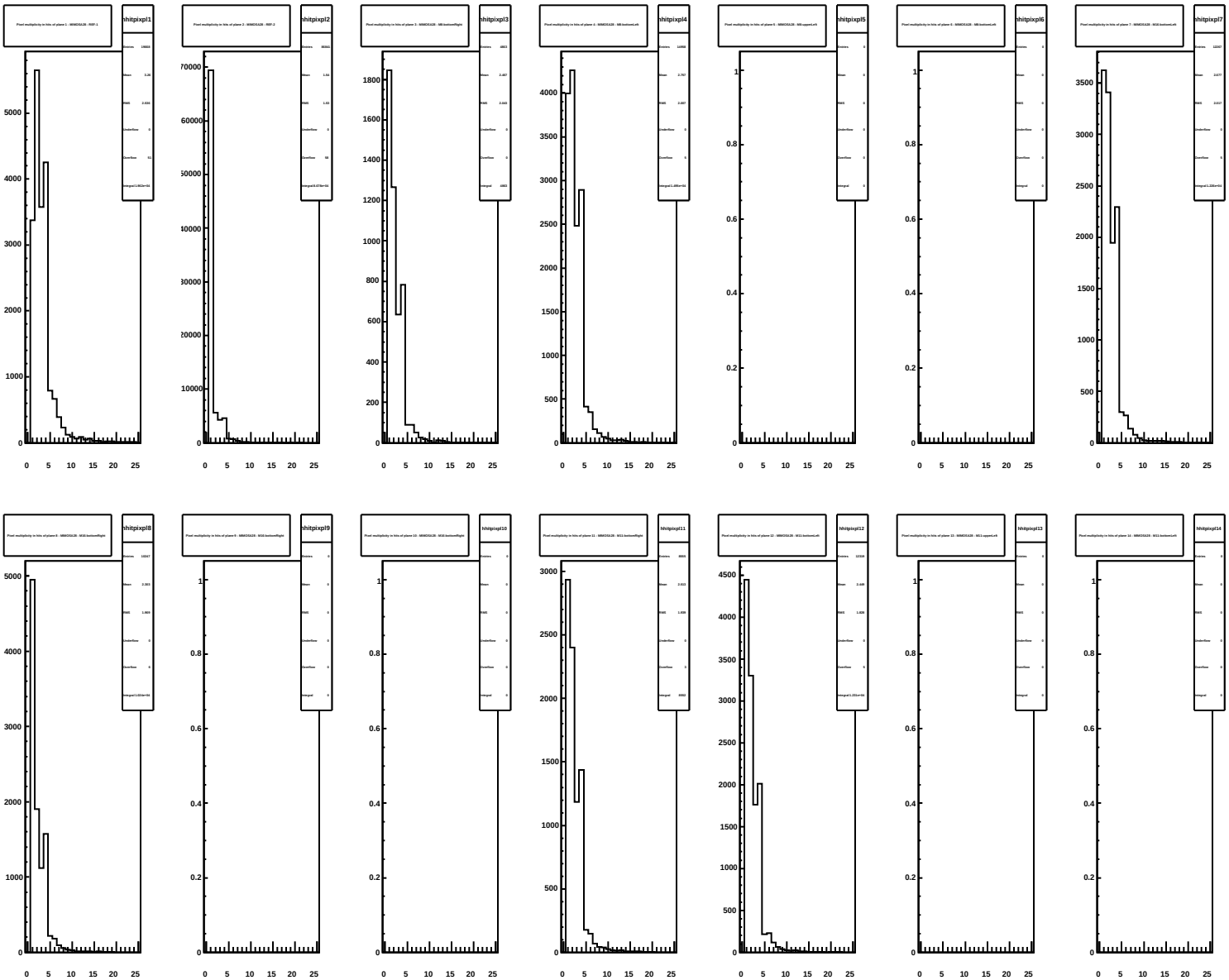




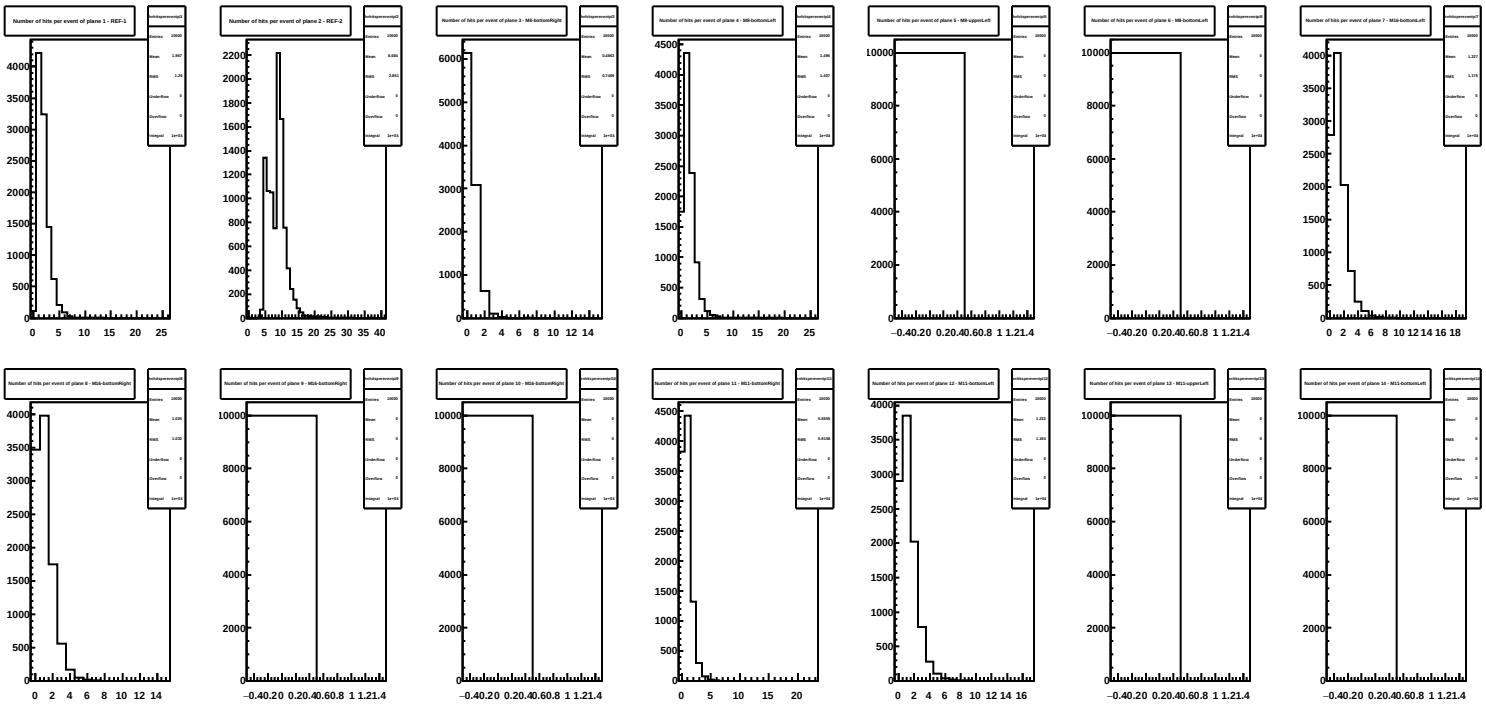


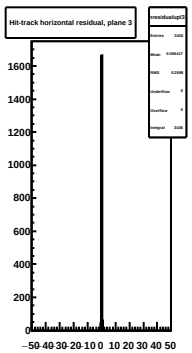


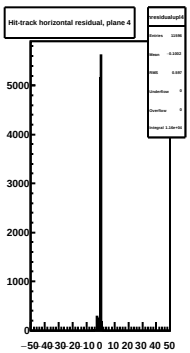
Run 28843, cumul over 10000 events

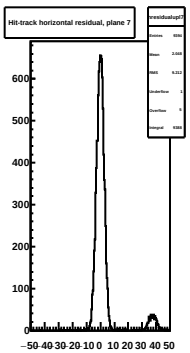


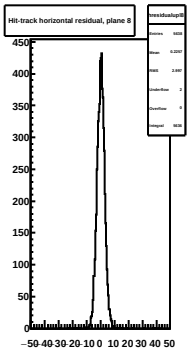
Run 28843, cumul over 10000 events

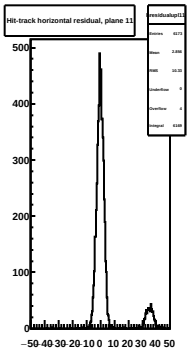


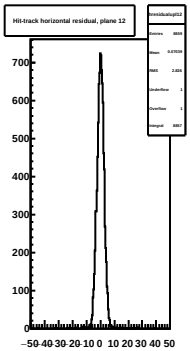

Hit-track horizontal residual, plane 3

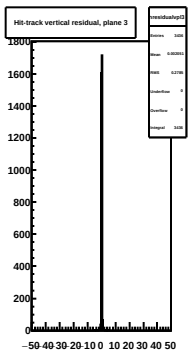

Hit-track horizontal residual, plane 4

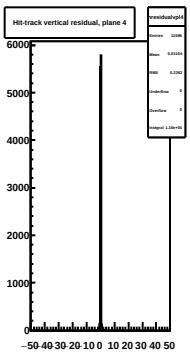

Hit-track horizontal residual, plane 7

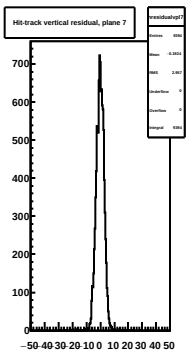

Hit-track horizontal residual, plane 8

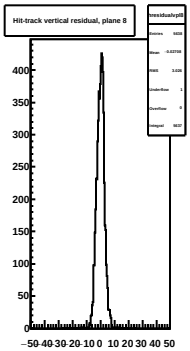

Hit-track horizontal residual, plane 11

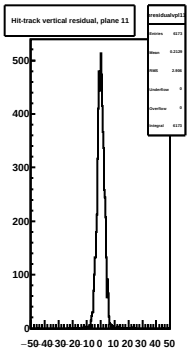

Hit-track horizontal residual, plane 12

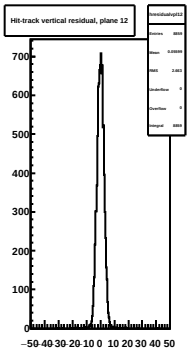

Hit-track vertical residual, plane 3
1800
1600
1400
1200
1000
800
600
400
200
0
−50 −40 −30 −20 −10 0 10 20 30 40 50

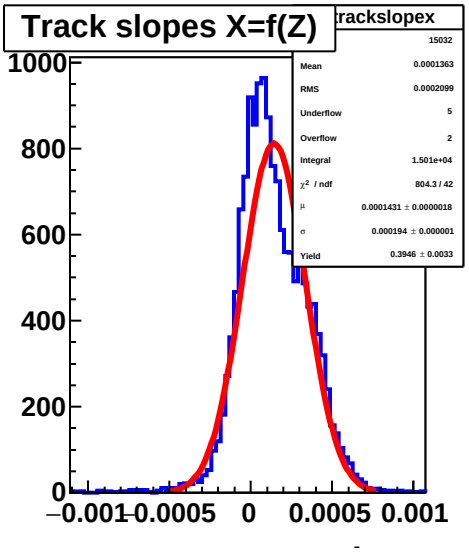

Hit-track vertical residual, plane 4
6000
5000
4000
3000
2000
1000
0
−50 −40 −30 −20 −10 0 10 20 30 40 50

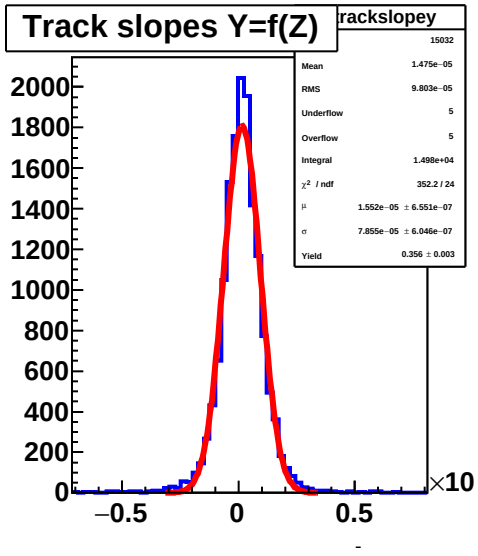

Hit-track vertical residual, plane 7
700
600
500
400
300
200
100
0
−50 −40 −30 −20 −10 0 10 20 30 40 50

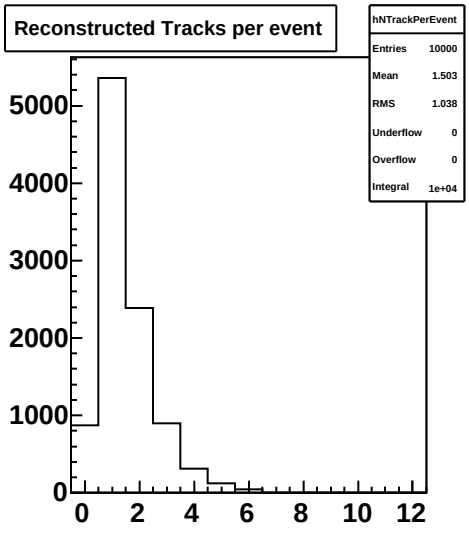

Hit-track vertical residual, plane 8
400
350
300
250
200
150
100
50
0
−50 −40 −30 −20 −10 0 10 20 30 40 50

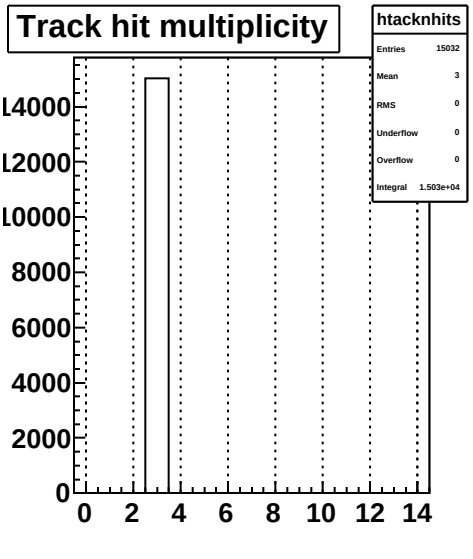

Hit-track vertical residual, plane 11
500
400
300
200
100
0
−50 −40 −30 −20 −10 0 10 20 30 40 50

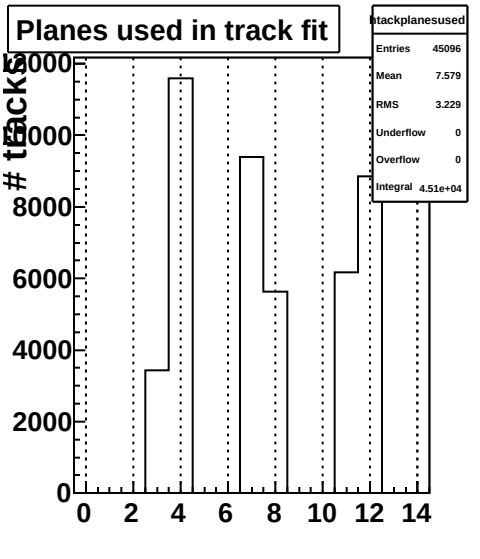

Hit-track vertical residual, plane 12
700
600
500
400
300
200
100
0
−50 −40 −30 −20 −10 0 10 20 30 40 50

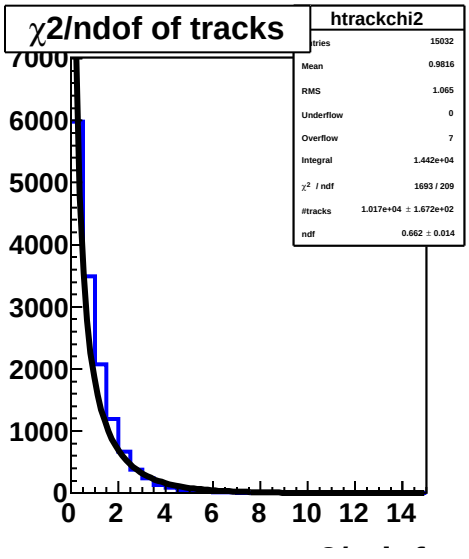

Track slopes X=f(Z)
trackslopex
15032
Mean 0.0001363
RMS 0.0002099
Underflow 5
Overflow 2
Integral 1.501e+04
χ² / ndf 804.3 / 42
μ 0.0001431 ± 0.0000018
σ 0.000194 ± 0.000001
Yield 0.3946 ± 0.0033
1000
800
600
400
200
0
−0.001 −0.0005 0 0.0005 0.001


Track slopes Y=f(Z)
trackslopey
15032
Mean 1.475e−05
RMS 9.803e−05
Underflow 5
Overflow 5
Integral 1.498e+04
χ² / ndf 352.2 / 24
μ 1.552e−05 ± 6.551e−07
σ 7.855e−05 ± 6.046e−07
Yield 0.356 ± 0.003
2000
1800
1600
1400
1200
1000
800
600
400
200
0
−0.5 0 0.5
×10


Reconstructed Tracks per event
hNTrackPerEvent
Entries 10000
Mean 1.503
RMS 1.038
Underflow 0
Overflow 0
Integral 1e+04
5000
4000
3000
2000
1000
0
0 2 4 6 8 10 12


Track hit multiplicity
htacknhits
Entries 15032
Mean 3
RMS 0
Underflow 0
Overflow 0
Integral 1.503e+04
L4000
L2000
L0000
8000
6000
4000
2000
0
0 2 4 6 8 10 12 14


Planes used in track fit
htackplanesused
Entries 45096
Mean 7.579
RMS 3.229
Underflow 0
Overflow 0
Integral 4.51e+04
tracks
8000
6000
4000
2000
0
0 2 4 6 8 10 12 14


χ2/ndof of tracks
htrackchi2
Entries 15032
Mean 0.9816
RMS 1.065
Underflow 0
Overflow 7
Integral 1.442e+04
χ² / ndf 1693 / 209
#tracks 1.017e+04 ± 1.672e+02
ndf 0.662 ± 0.014
7000
6000
5000
4000
3000
2000
1000
0
0 2 4 6 8 10 12 14

Metadata

Wed Aug 10 17:08:58 2016

DSF file used as input:

/home/aperez/TAF_repo/TAF_developments/TAF_Validation_Procedure/TAF_trunk_ValidationProcedure_9Aug201

RUN NUMBER = 28843 Plane number = 1 submatrix Number = 0

Geomatrix = 3 : (-6000.0 < U < 1000.0)μm x (-4000.0 < V < 2000.0)μm

track-Hit dist cut = 100.0μm

χ^2_{max} = 2.0

min # of hits required per tracks = 3

CUTS S/N seed and S/N neighbours = 0.0 and 0.0

MIN and MAX # of hits per event to evaluate effic = 0 and 1550

calibration = 1.000

Summary Results

Total # events processed = 200000

matched/good tracks in DUT = 103230 103696 0.9955

Effic = (99.5506 ± 0.0208) %

Prob(wrong asso.,trk-hit dist = 100.0μm) = (0.0349 ± 0.0058) %

Effic(corr. wrong asso.) = (99.5505 ± 0.0208) %

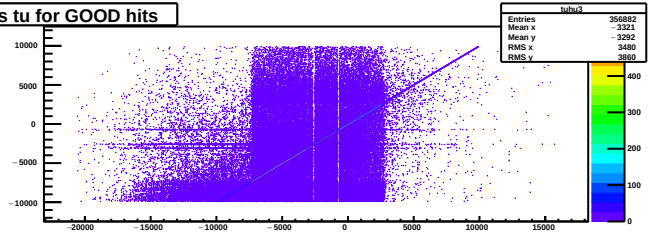
(# good rec tracks in telescope)/event, average = 1.499, RMS = 0.844

# of rec hits in DUT = 357608, good = 356882, average/event = 1.969, RMS = 1.192

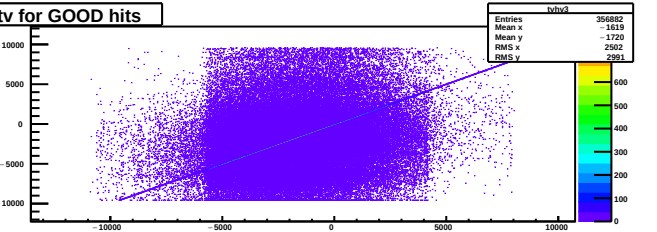
<cluster multiplicity> = 3.140, RMS(cluster multiplicity) = 2.269

 # un-matched tracks = 466, with thdist > THdist limit 442.00, without hits in DUT 24

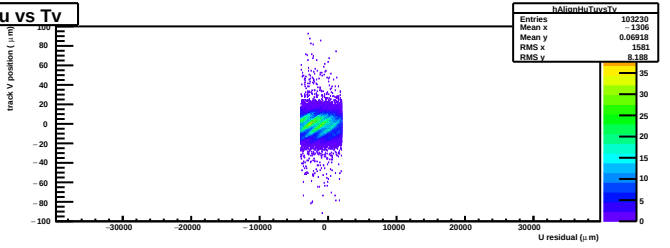
hu vs tu for GOOD hits



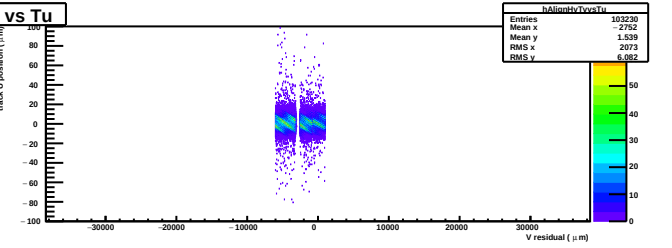
hv vs tv for GOOD hits



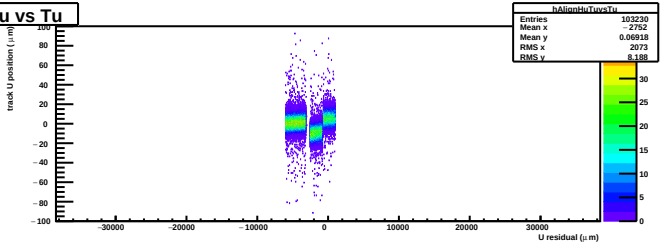
tu-hu vs Tv



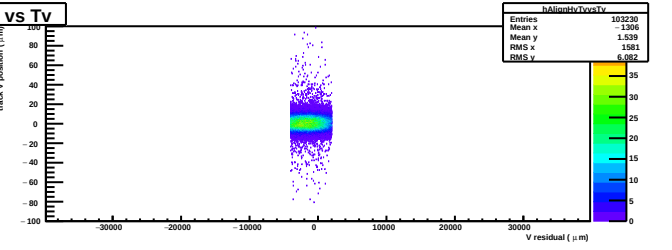
tv-hv vs Tu



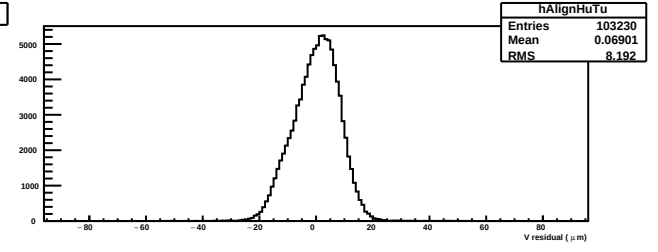
tu-hu vs Tu



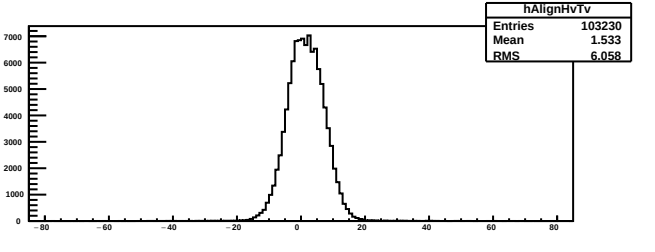
tv-hv vs Tv



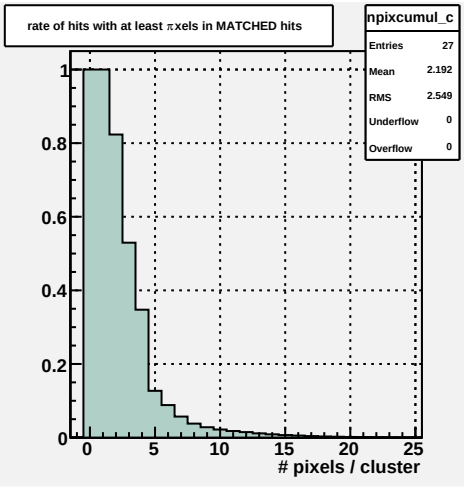
tu-hu

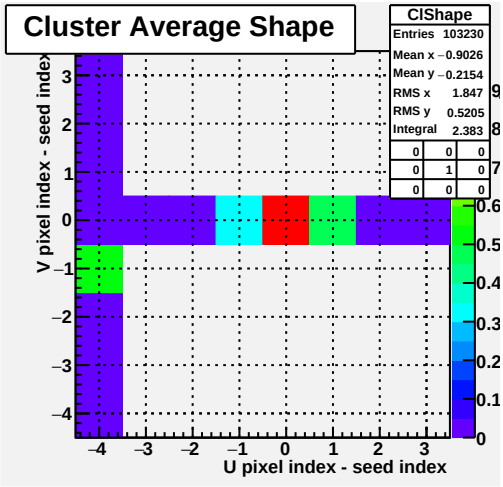


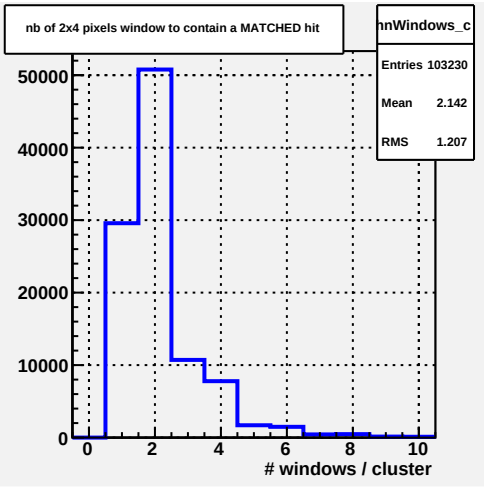
tv-hv

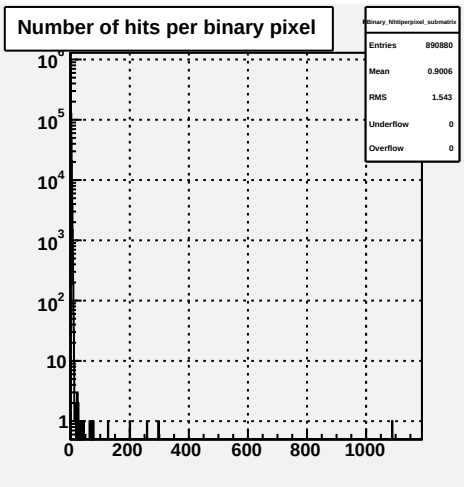


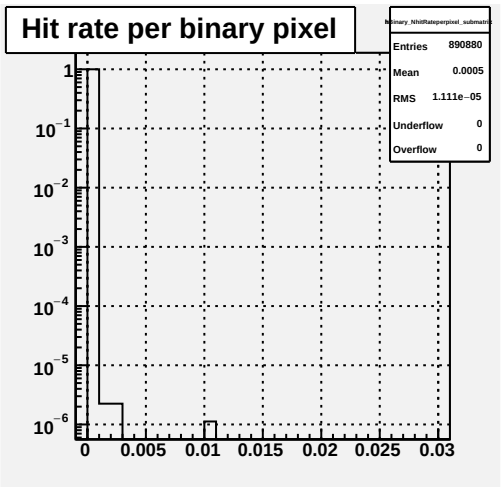
M28 ; run 28843; Pl 1, sub 0, dist 100; Gain 1.00; eff 0.996 +- 0.000; Seed 0.0; Neigh 0.0

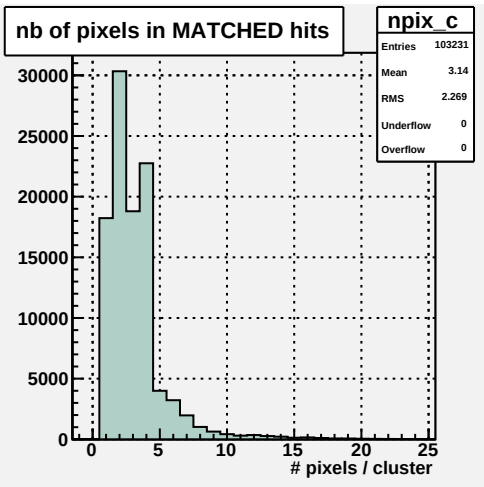


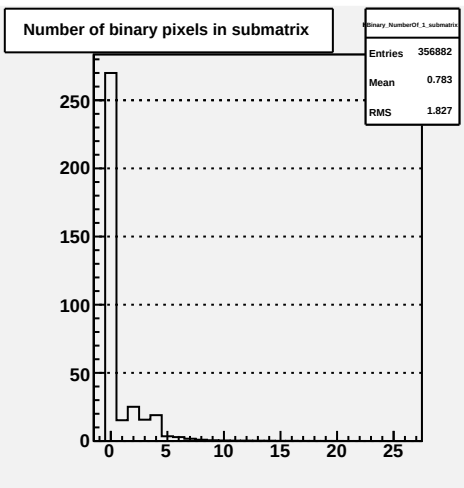


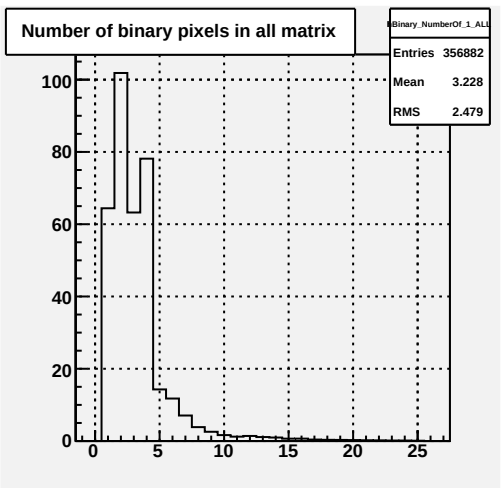


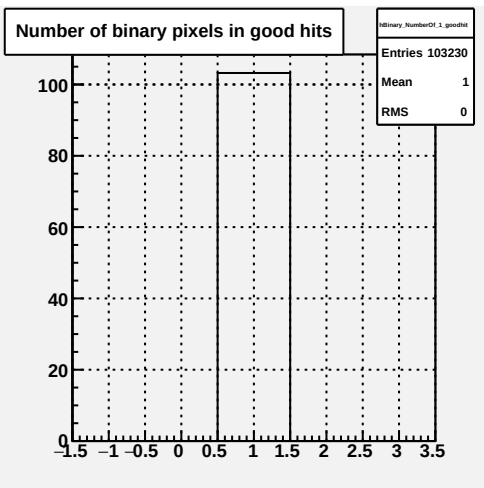




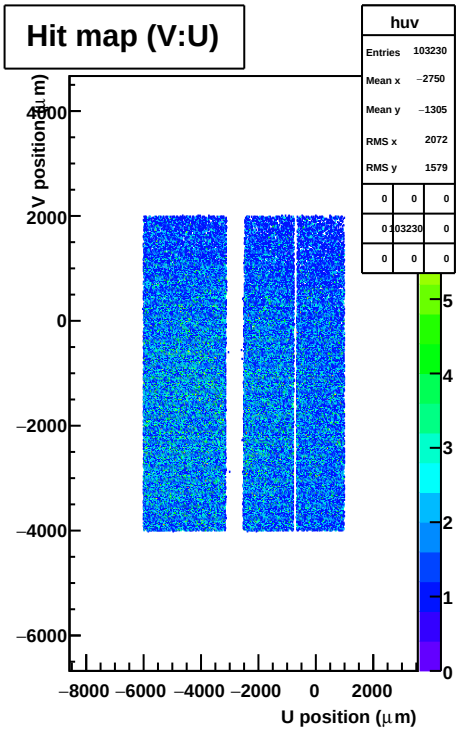


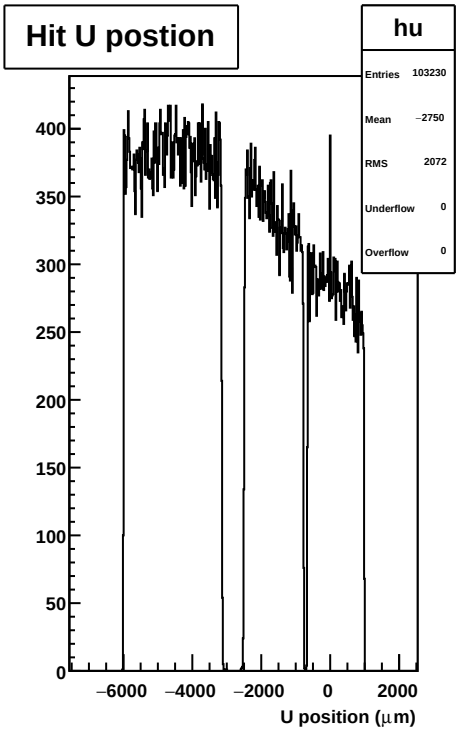


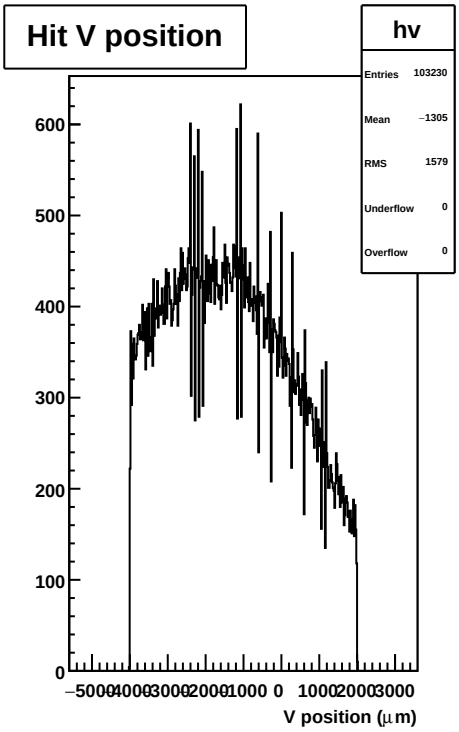


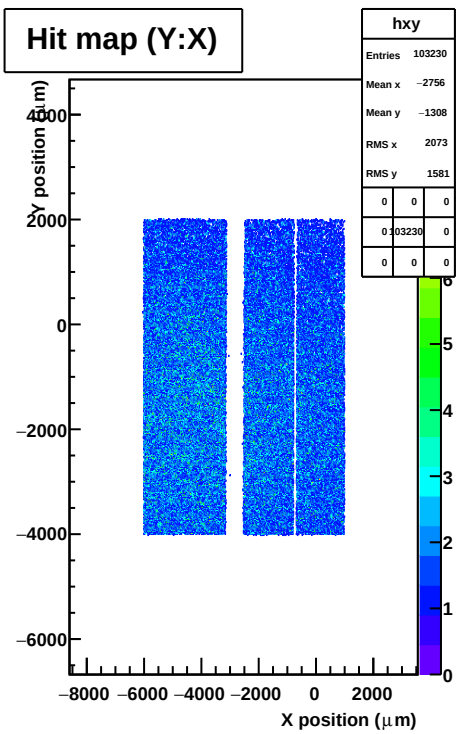


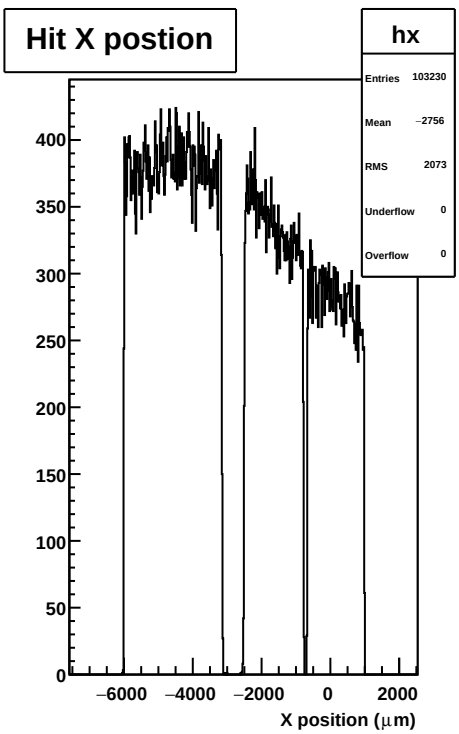
M28 ; run 28843; Pl 1, sub 0; Seed 0.0; Neigh 0.0

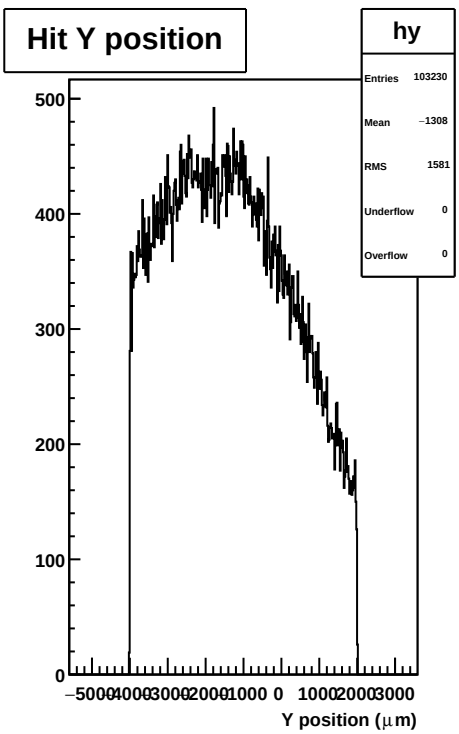




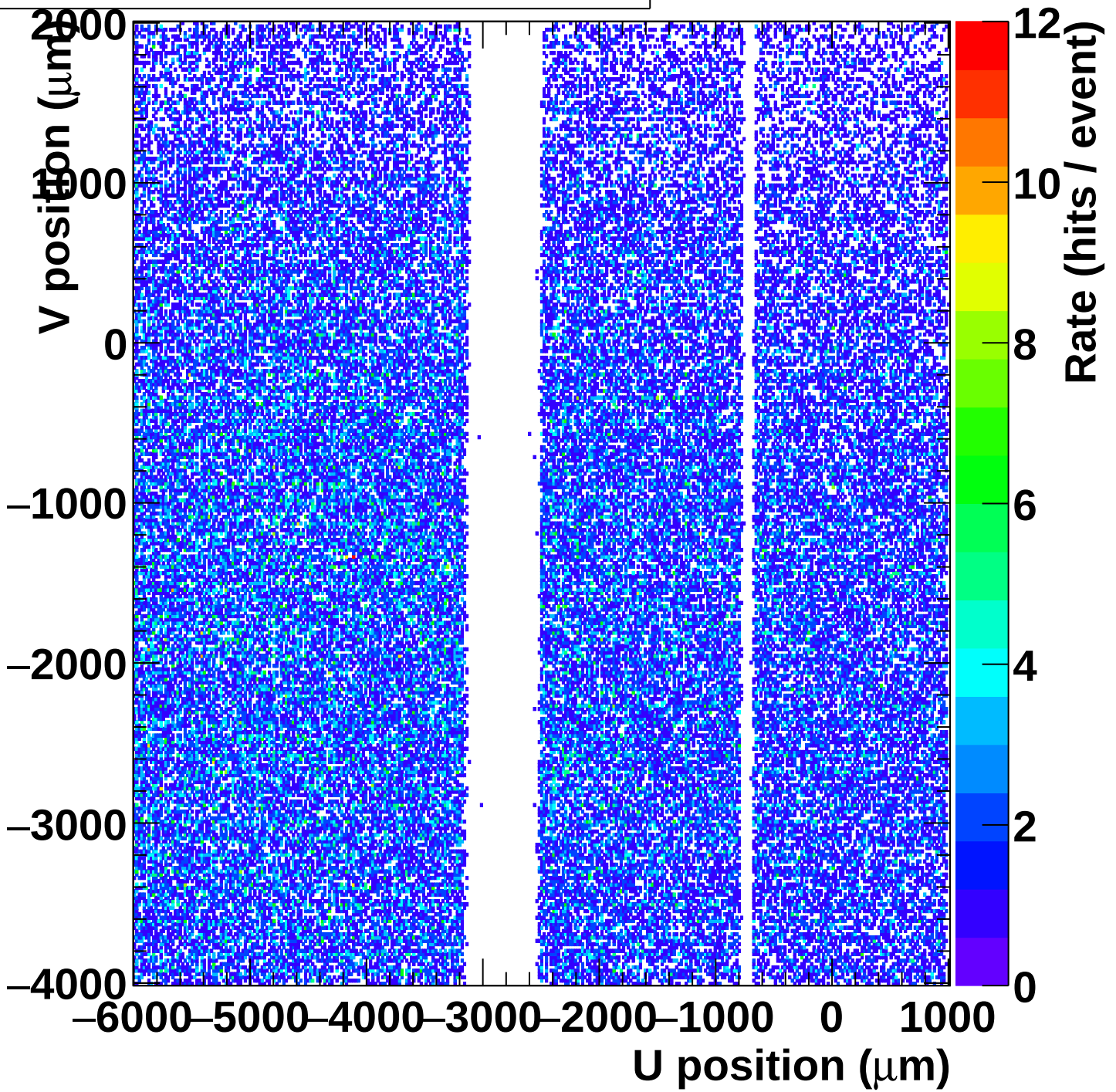


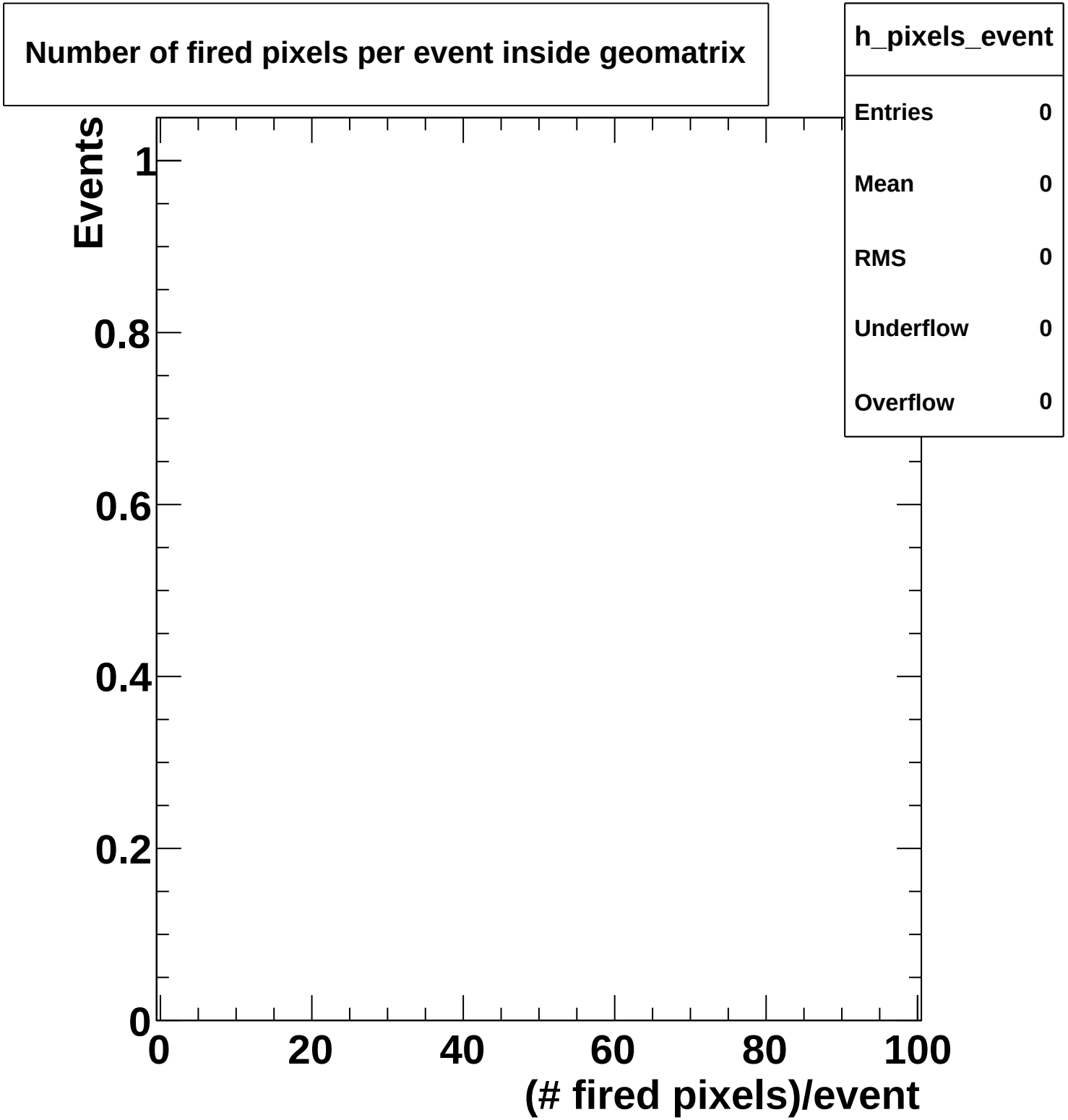


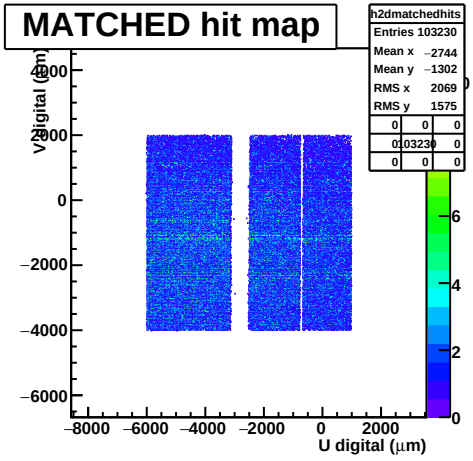


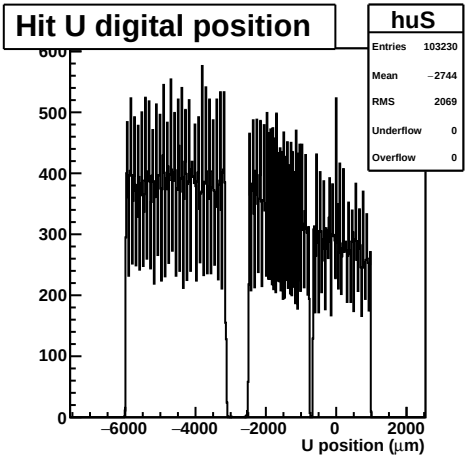


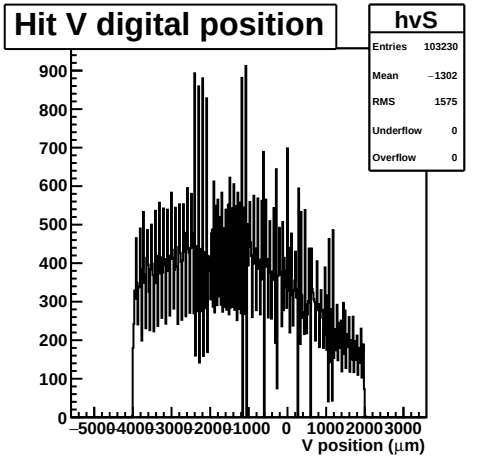
Rate map (V:U)

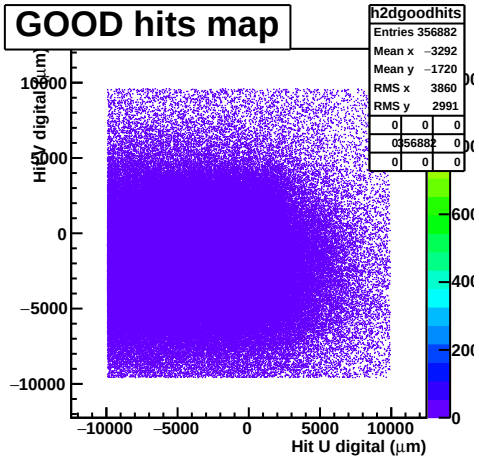

V position (μm)
2000
1000
0
–1000
–2000
–3000
–4000
–6000
–5000
–4000
–3000
–2000
–1000
0
1000
U position (μm)
Rate (hits / event)
12
10
8
6
4
2
0

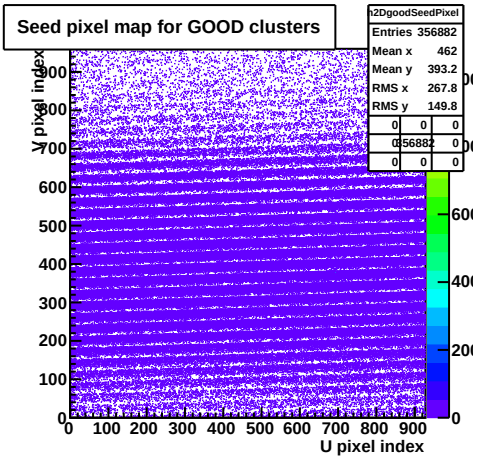

Number of fired pixels per event inside geomatrix
h_pixels_event
Entries 0
Mean 0
RMS 0
Underflow 0
Overflow 0
Events
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
(# fired pixels)/event

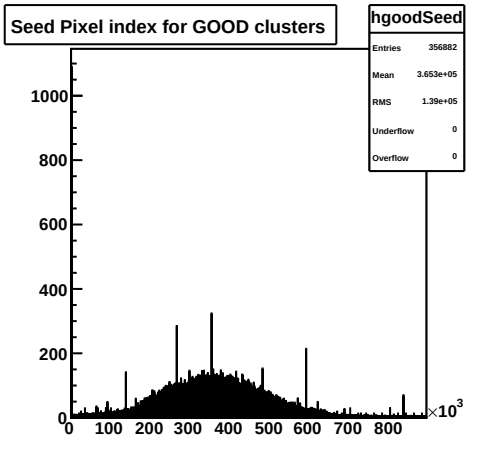

MATCHED hit map
h2dmatchedhits
Entries 103230
Mean x −2744
Mean y −1302
RMS x 2069
RMS y 1575
V digital (μm)
U digital (μm)

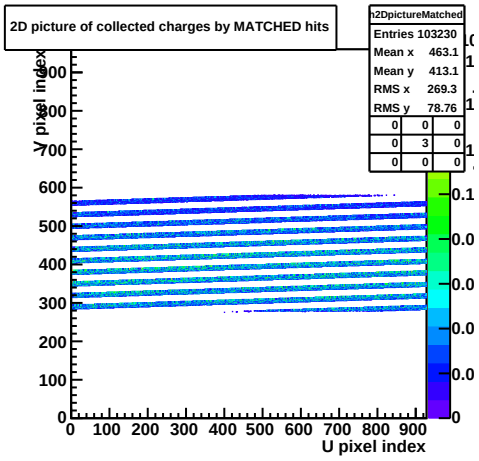

Hit U digital position
huS
Entries 103230
Mean −2744
RMS 2069
Underflow 0
Overflow 0
U position (μm)

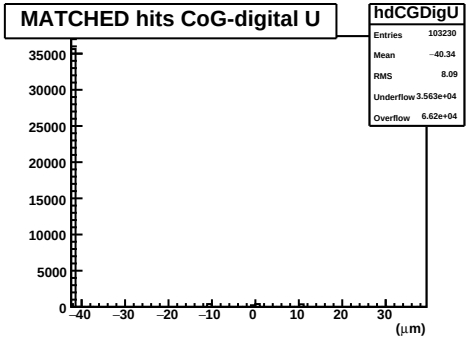

Hit V digital position
hvS
Entries 103230
Mean −1302
RMS 1575
Underflow 0
Overflow 0
V position (μm)

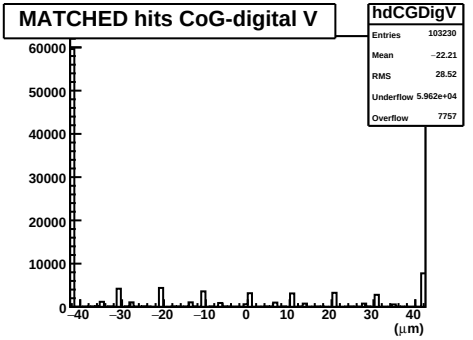

GOOD hits map
h2dgoodhits
Entries 356882
Mean x −3292
Mean y −1720
RMS x 3860
RMS y 2991
Hit V digital (μm)
Hit U digital (μm)

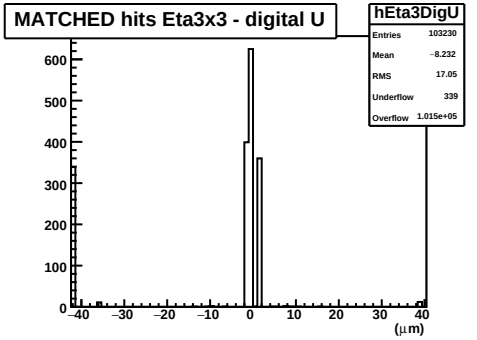

Seed pixel map for GOOD clusters
h2DgoodSeedPixel
Entries 356882
Mean x 462
Mean y 393.2
RMS x 267.8
RMS y 149.8
V pixel index
U pixel index

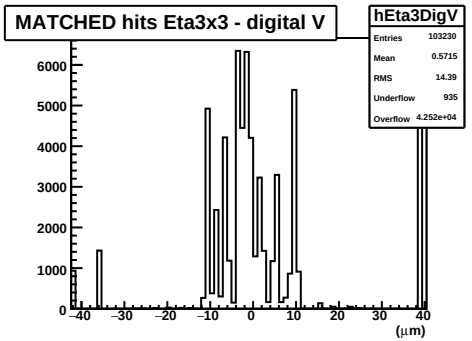

Seed Pixel index for GOOD clusters
hgoodSeed
Entries 356882
Mean 3.653e+05
RMS 1.39e+05
Underflow 0
Overflow 0

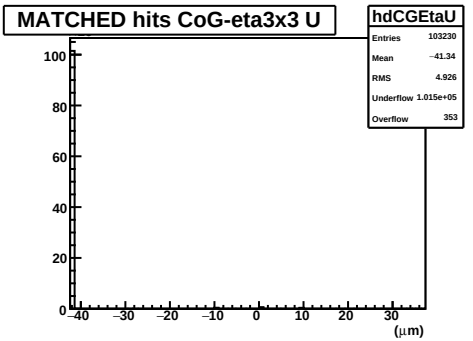

2D picture of collected charges by MATCHED hits
h2DpictureMatched
Entries 103230
Mean x 463.1
Mean y 413.1
RMS x 269.3
RMS y 78.76
V pixel index
U pixel index

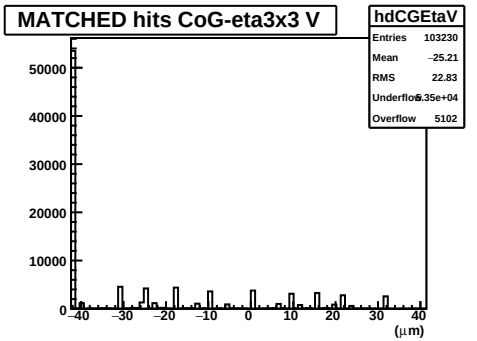

MATCHED hits CoG-digital U
hdCGDigU
Entries 103230
Mean −40.34
RMS 8.09
Underflow 3.563e+04
Overflow 6.62e+04
(μm)

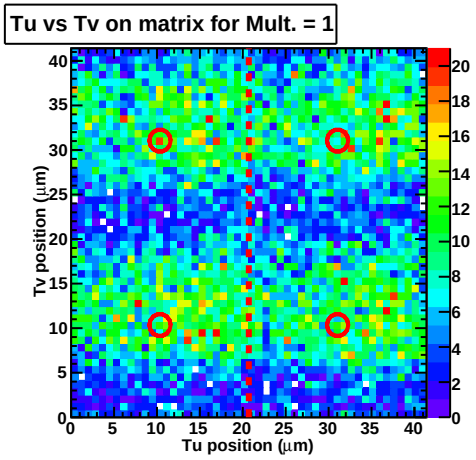

MATCHED hits CoG-digital V
hdCGDigV
Entries 103230
Mean −22.21
RMS 28.52
Underflow 5.962e+04
Overflow 7757
(μm)

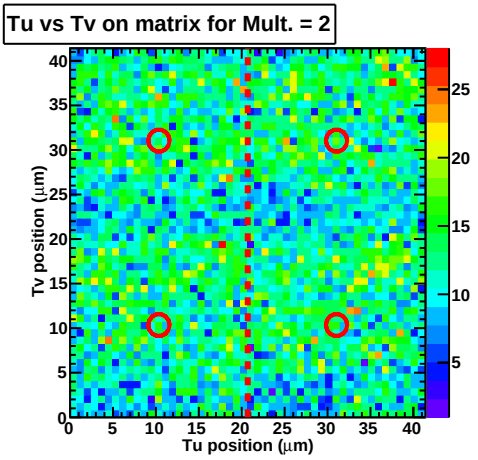

MATCHED hits Eta3x3 - digital U
hEta3DigU
Entries 103230
Mean −8.232
RMS 17.05
Underflow 339
Overflow 1.015e+05
(μm)

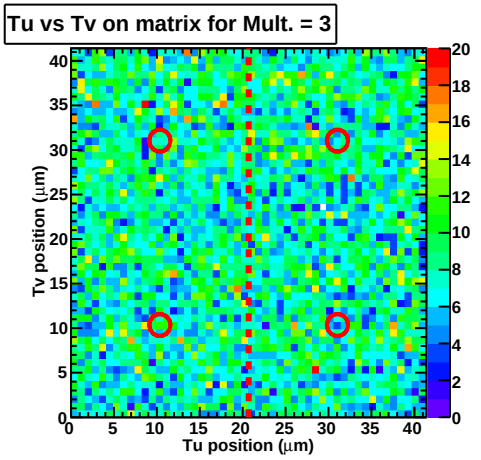

MATCHED hits Eta3x3 - digital V
hEta3DigV
Entries 103230
Mean 0.5715
RMS 14.39
Underflow 935
Overflow 4.252e+04
(μm)

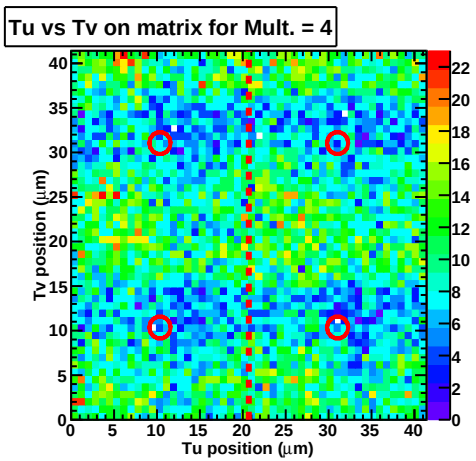

MATCHED hits CoG-eta3x3 U
hdCGEtaU
Entries 103230
Mean −41.34
RMS 4.926
Underflow 1.015e+05
Overflow 353
(μm)

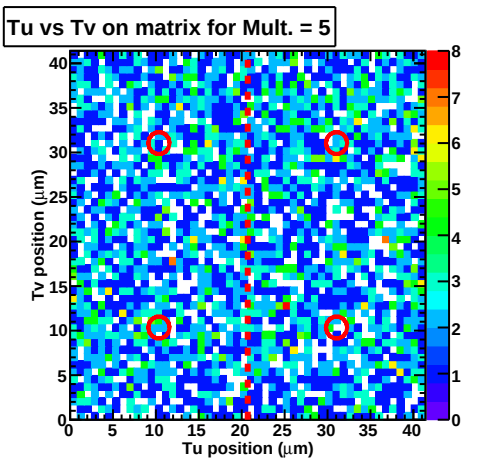

MATCHED hits CoG-eta3x3 V
hdCGEtaV
Entries 103230
Mean −25.21
RMS 22.83
Underflow 5.35e+04
Overflow 5102
(μm)

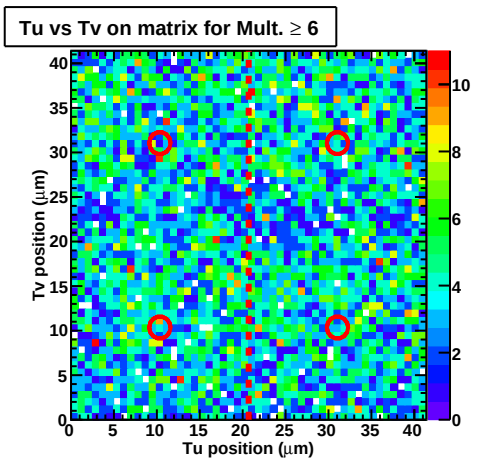

Tu vs Tv on matrix for Mult. = 1
Tv position (μm)
Tu position (μm)

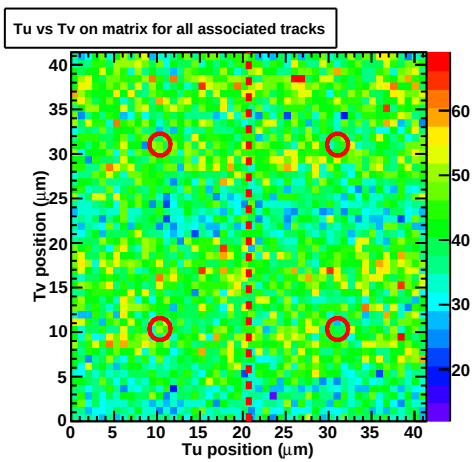

Tu vs Tv on matrix for Mult. = 2
Tv position (μm)
Tu position (μm)

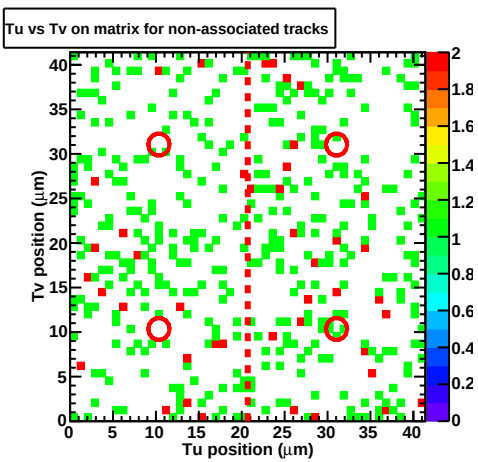

Tu vs Tv on matrix for Mult. = 3
Tv position (μm)
Tu position (μm)

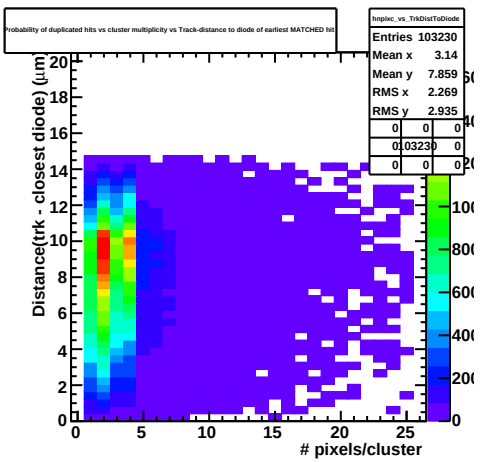

Tu vs Tv on matrix for Mult. = 4
Tv position (μm)
Tu position (μm)

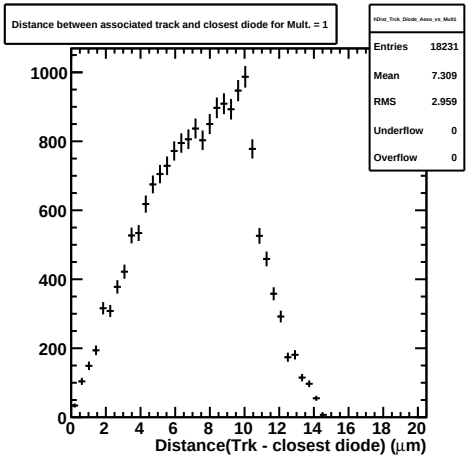

Tu vs Tv on matrix for Mult. = 5
Tv position (μm)
Tu position (μm)

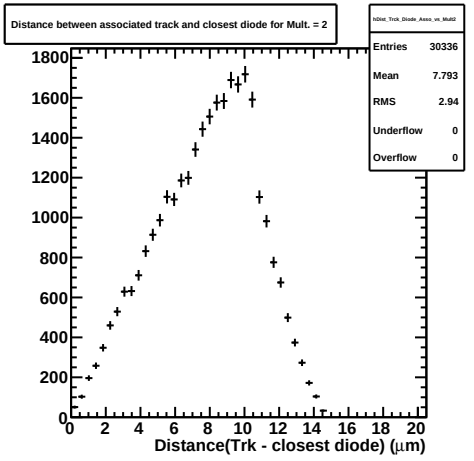

Tu vs Tv on matrix for Mult. ≥ 6
Tv position (μm)
Tu position (μm)

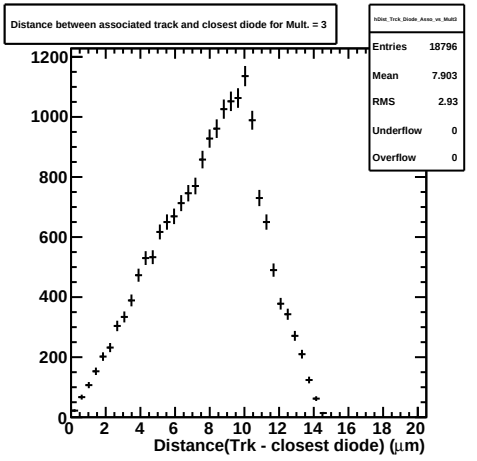

Tu vs Tv on matrix for all associated tracks
Tv position (μm)
Tu position (μm)

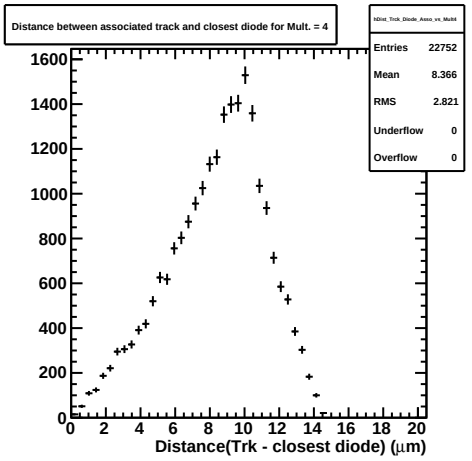

Tu vs Tv on matrix for non-associated tracks
Tv position (μm)
Tu position (μm)

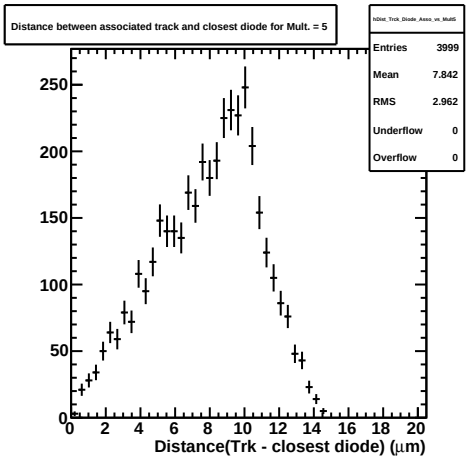

Probability of duplicated hits vs cluster multiplicity vs Track-distance to diode of earliest MATCHED hit
hnpixc_vs_TrkDistToDiode
Entries 103230
Mean x 3.14
Mean y 7.859
RMS x 2.269
RMS y 2.935
Distance(trk - closest diode) (μm)
# pixels/cluster

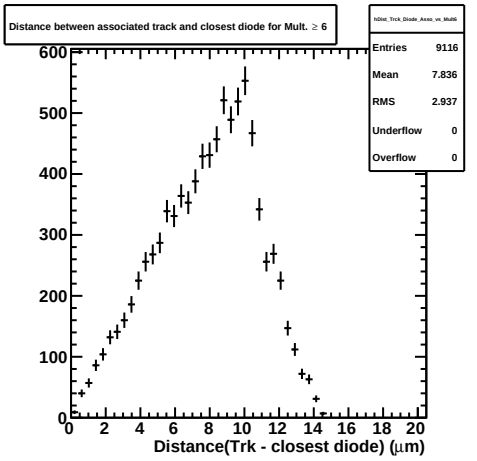

Distance between associated track and closest diode for Mult. = 1
Entries 18231
Mean 7.309
RMS 2.959
Underflow 0
Overflow 0
Distance(Trk - closest diode) (μm)

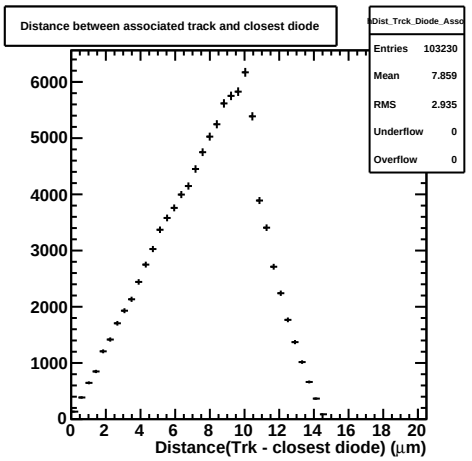

Distance between associated track and closest diode for Mult. = 2
Entries 30336
Mean 7.793
RMS 2.94
Underflow 0
Overflow 0
Distance(Trk - closest diode) (μm)

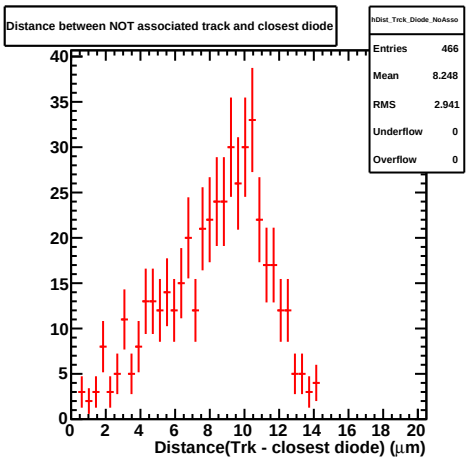

Distance between associated track and closest diode for Mult. = 3
Entries 18796
Mean 7.903
RMS 2.93
Underflow 0
Overflow 0
Distance(Trk - closest diode) (μm)

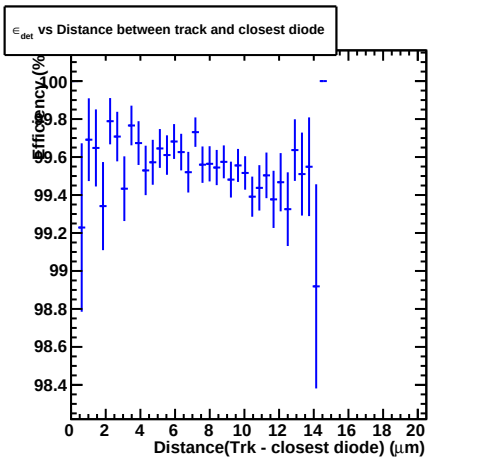

Distance between associated track and closest diode for Mult. = 4
Entries 22752
Mean 8.366
RMS 2.821
Underflow 0
Overflow 0
Distance(Trk - closest diode) (μm)


Distance between associated track and closest diode for Mult. = 5
Entries 3999
Mean 7.842
RMS 2.962
Underflow 0
Overflow 0
Distance(Trk - closest diode) (μm)

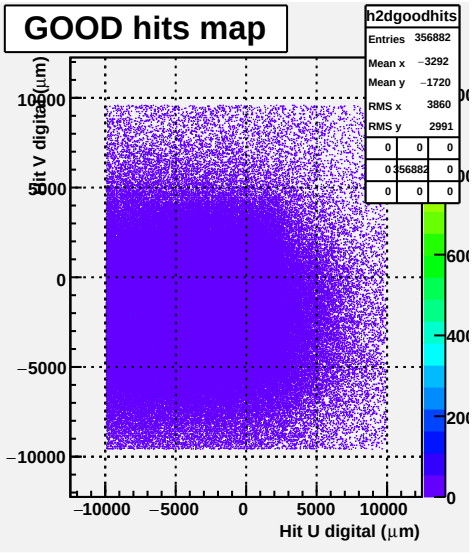

Distance between associated track and closest diode for Mult. ≥ 6
Entries 9116
Mean 7.836
RMS 2.937
Underflow 0
Overflow 0
Distance(Trk - closest diode) (μm)

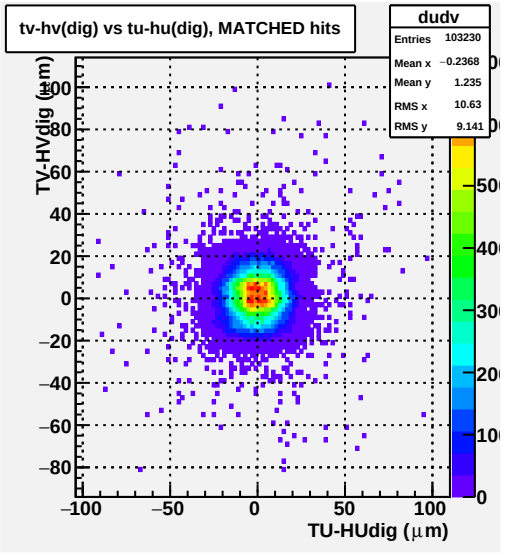

Distance between associated track and closest diode
Entries 103230
Mean 7.859
RMS 2.935
Underflow 0
Overflow 0
Distance(Trk - closest diode) (μm)

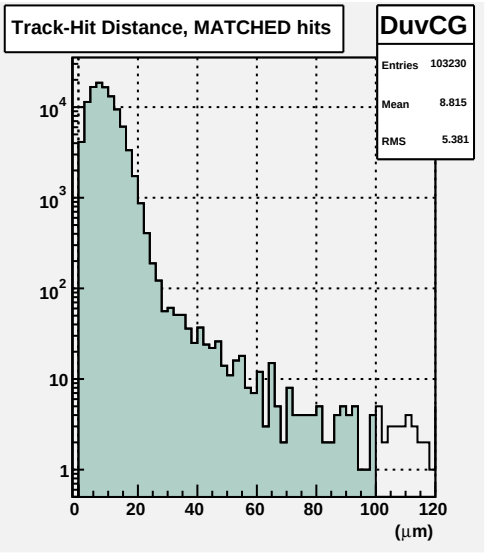

Distance between NOT associated track and closest diode
Entries 466
Mean 8.248
RMS 2.941
Underflow 0
Overflow 0
Distance(Trk - closest diode) (μm)

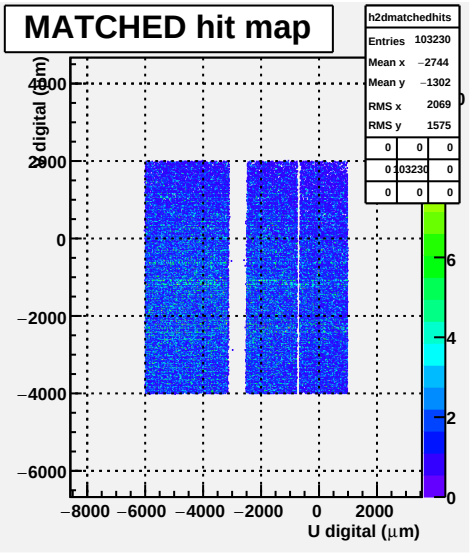

ε_det vs Distance between track and closest diode
efficiency (%)
Distance(Trk - closest diode) (μm)

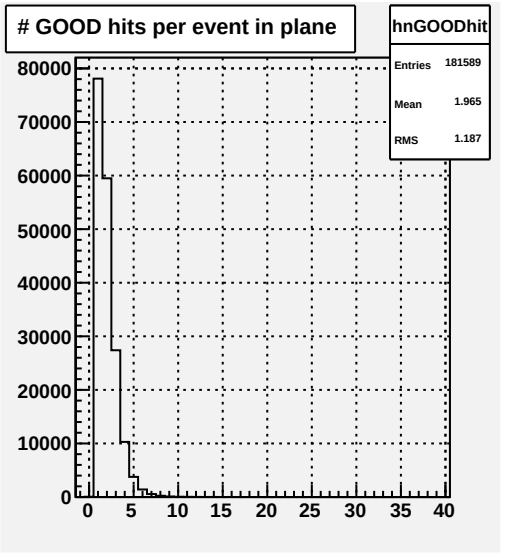
M28 ; run 28843; Pl 1; dist 100; eff 0.996; Seed 0.0; Neigh 0.0

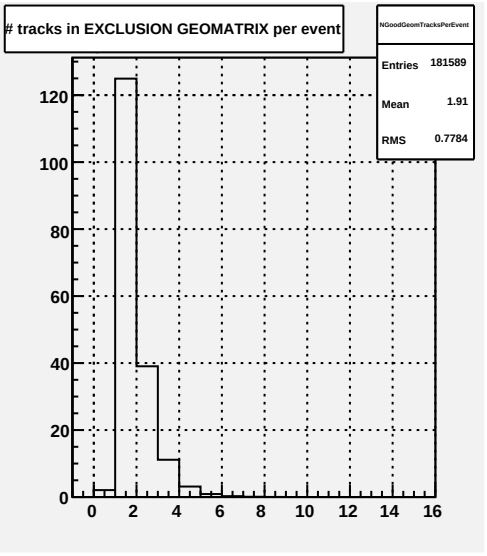


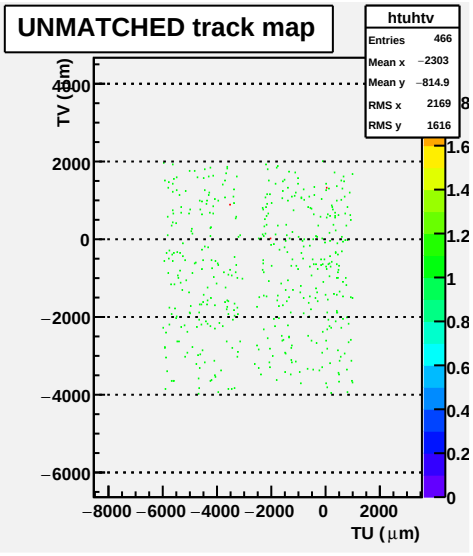


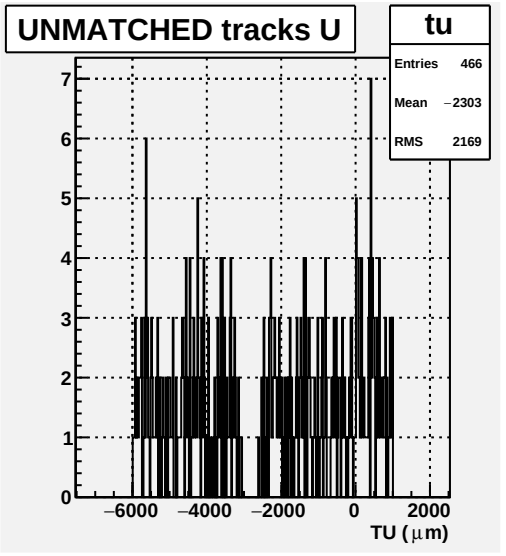


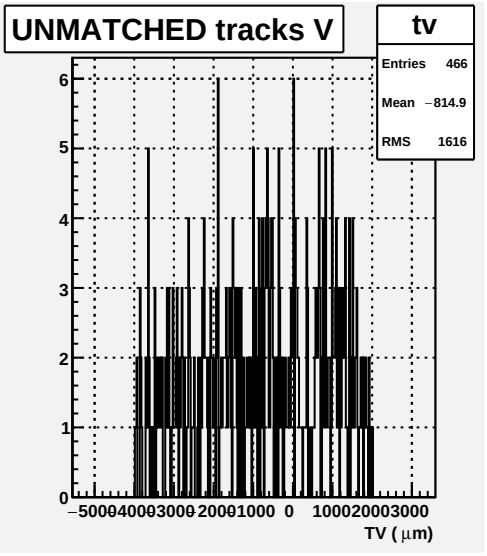


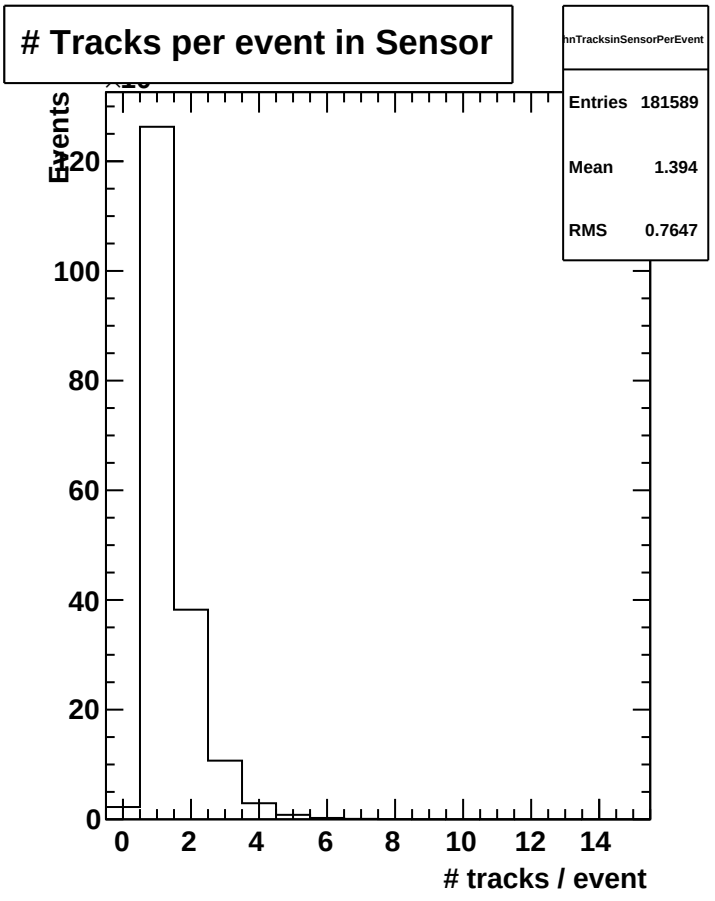


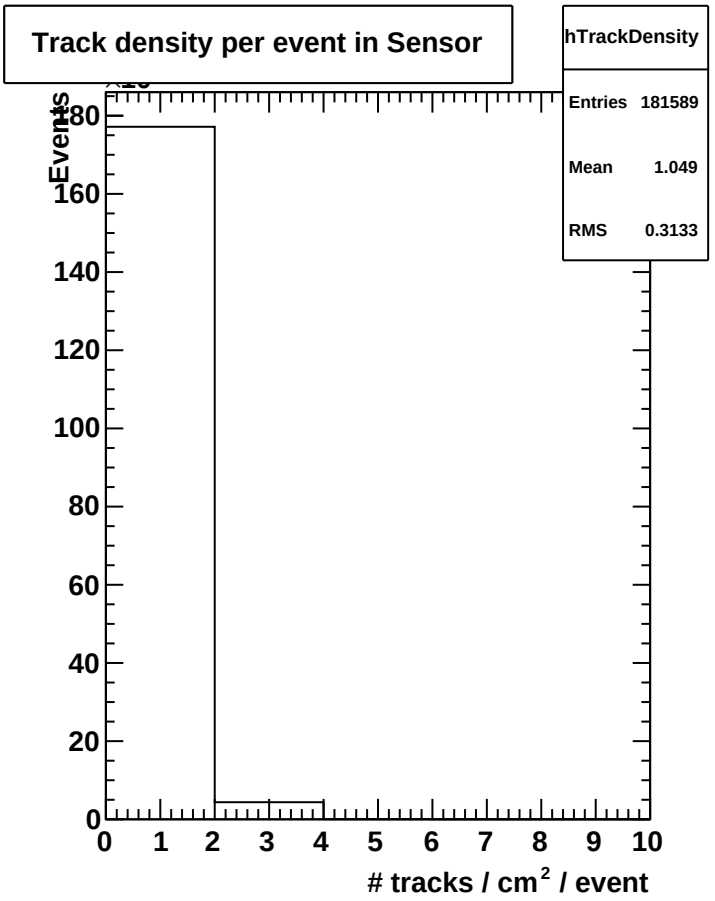


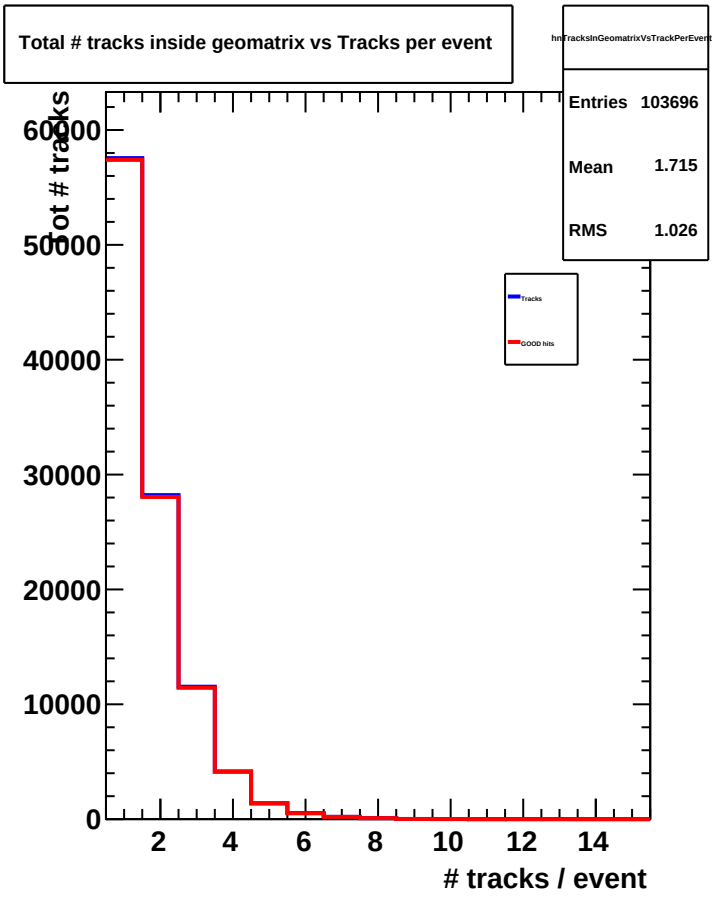


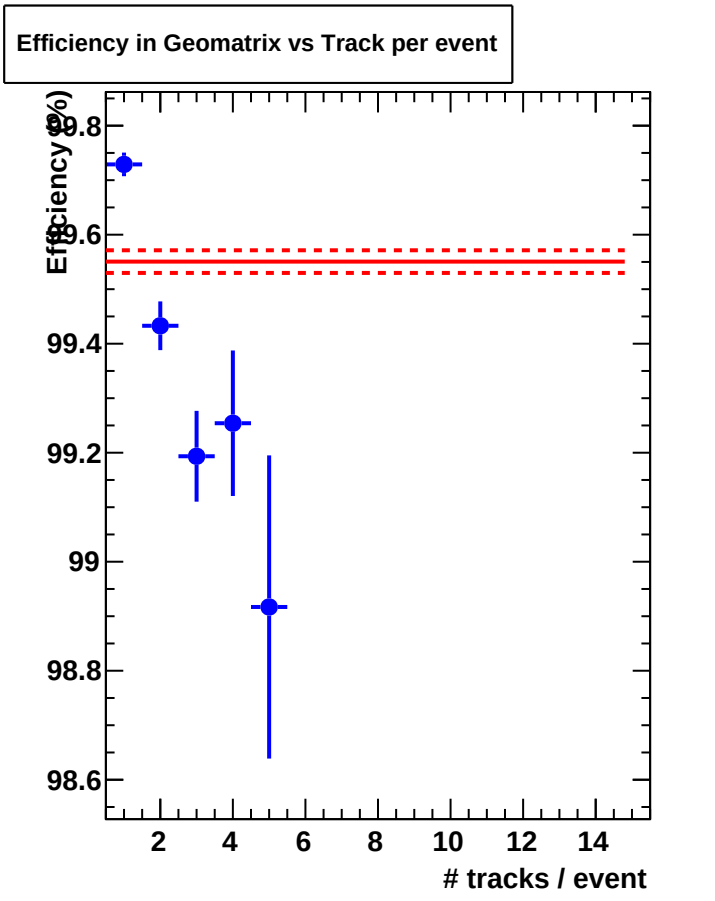




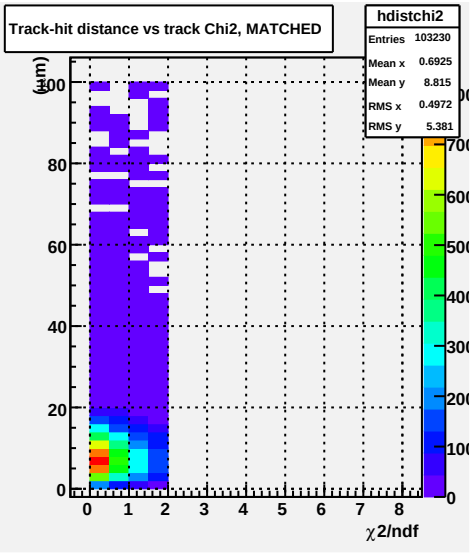

Tracks per event in Sensor
hnTracksinSensorPerEvent
Entries 181589
Mean 1.394
RMS 0.7647
Events
tracks / event

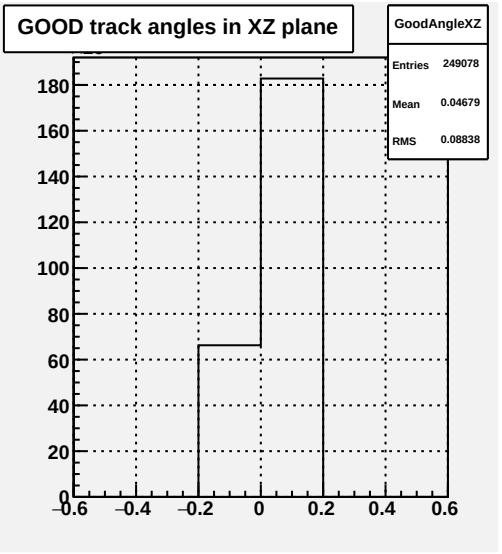

Track density per event in Sensor
hTrackDensity
Entries 181589
Mean 1.049
RMS 0.3133
Events
tracks / cm^2 / event

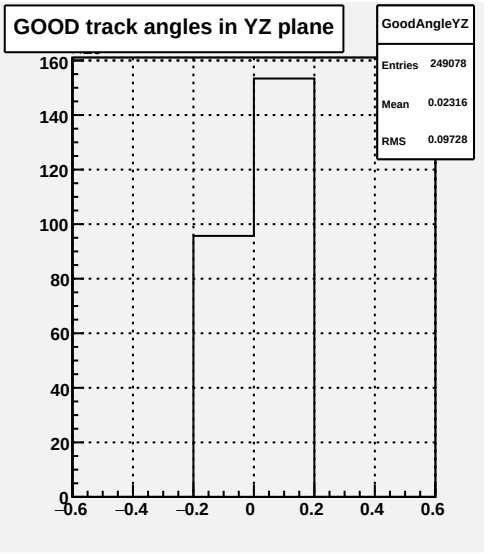

Total # tracks inside geomatrix vs Tracks per event
hnTracksInGeomatrixVsTrackPerEvent
Entries 103696
Mean 1.715
RMS 1.026
Tracks
GOOD hits
Tot # tracks
tracks / event

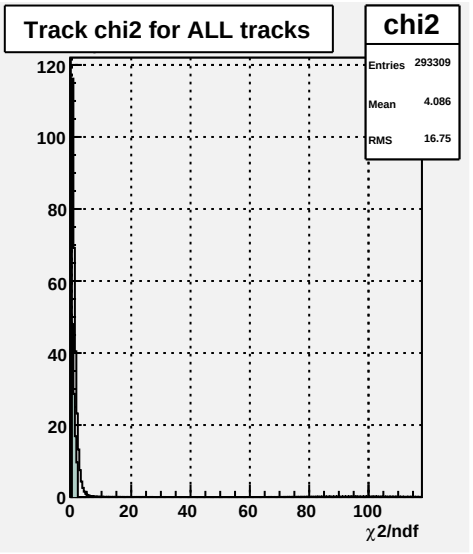

Efficiency in Geomatrix vs Track per event
Efficiency (%)
tracks / event

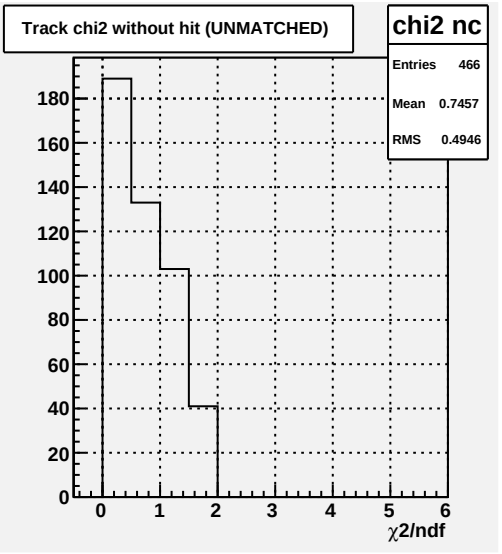
M28 ; run 28843; Pl 1; dist 100; eff 0.996; Seed 0.0; Neigh 0.0

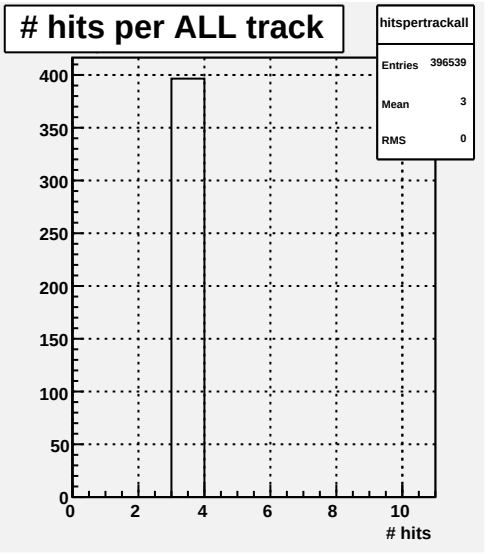


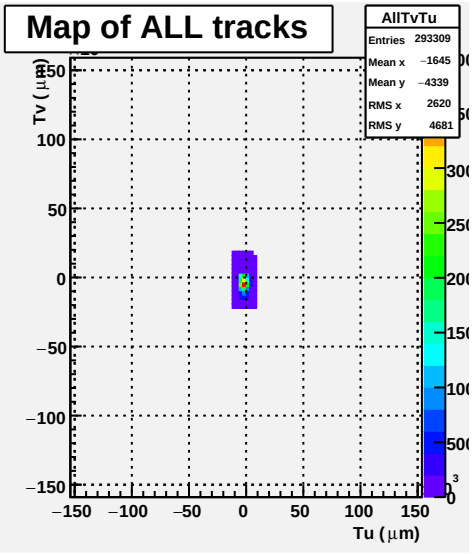


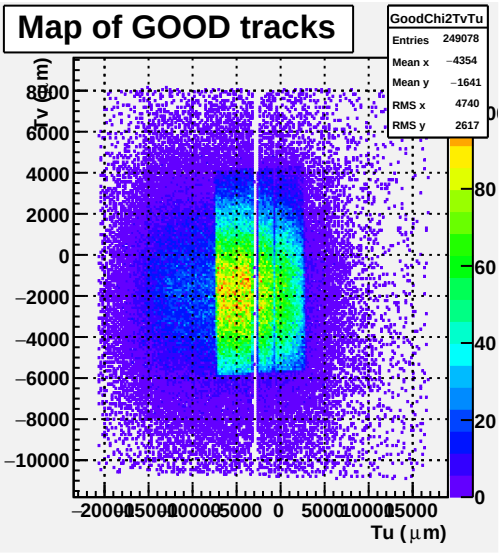


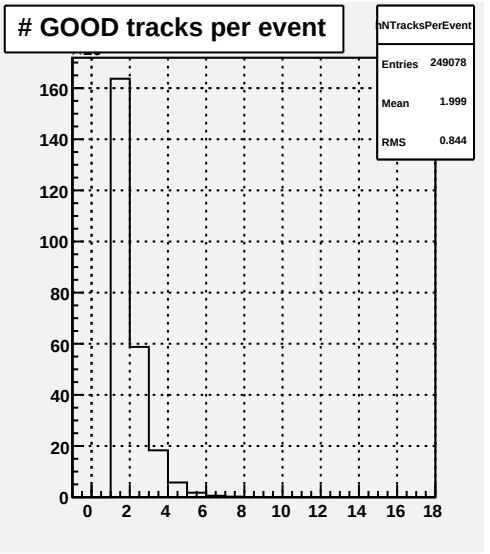




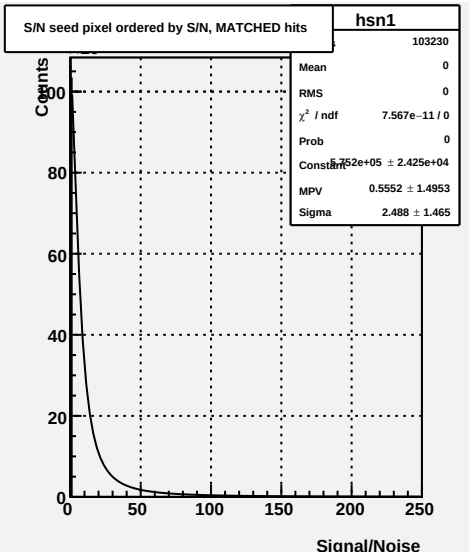


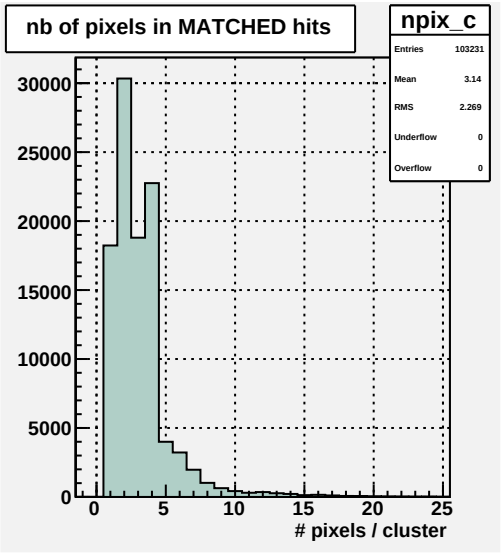


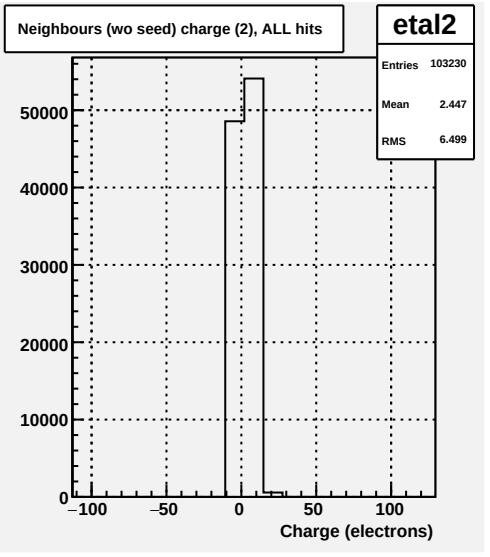


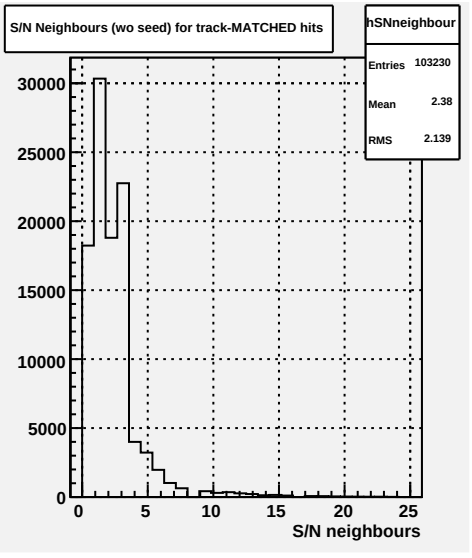


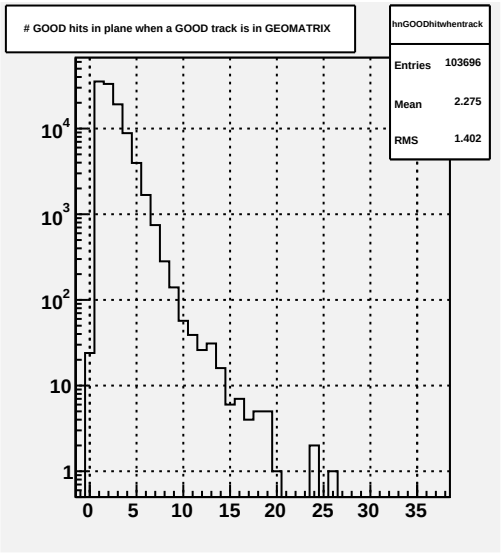
M28 ; run 28843; Pl 1; dist 100; eff 0.996; Seed 0.0; Neigh 0.0

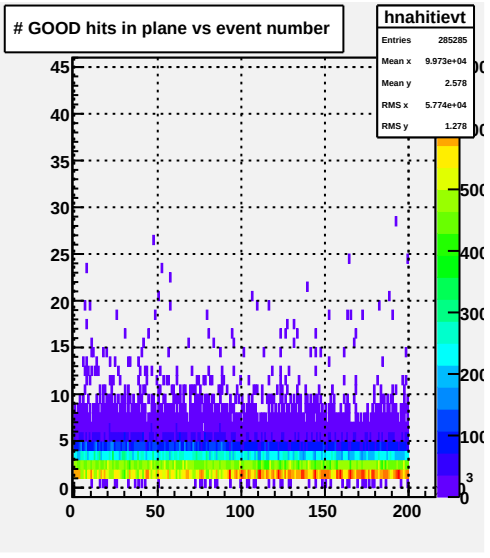


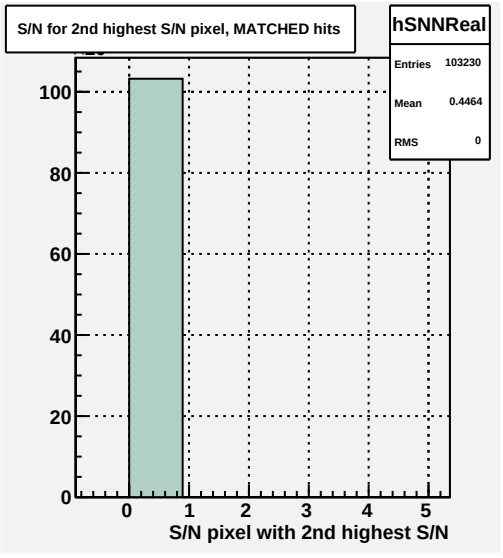


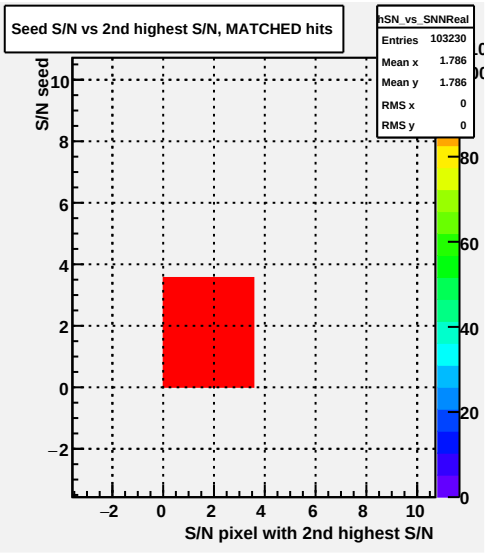




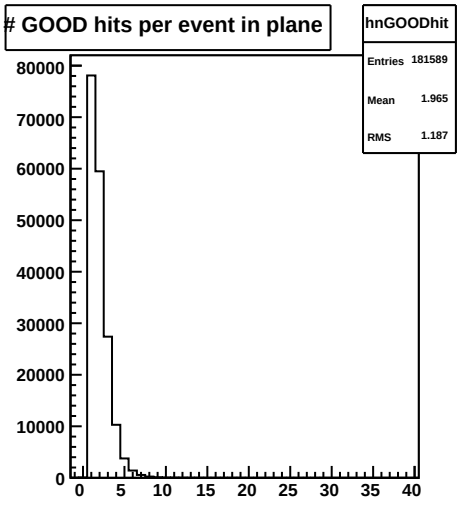


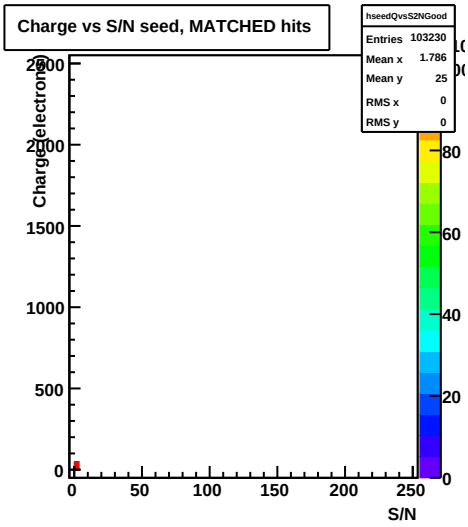


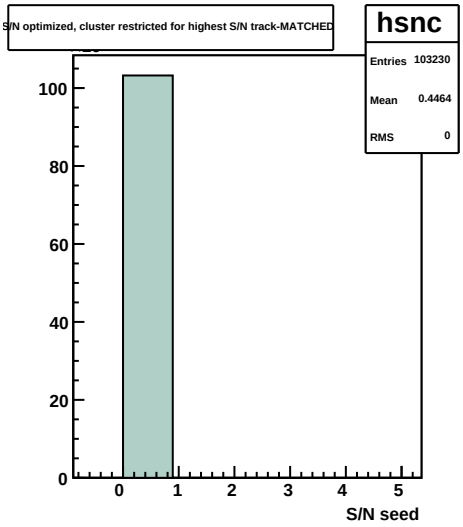


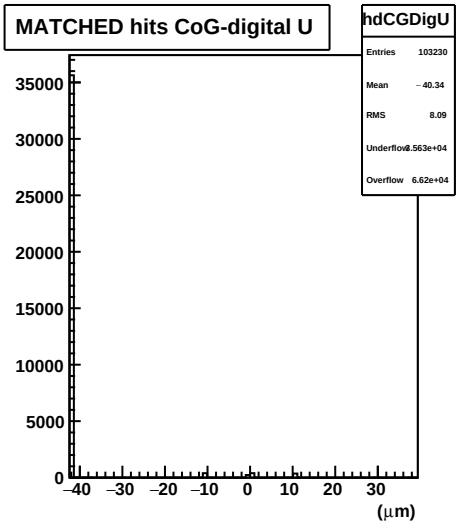


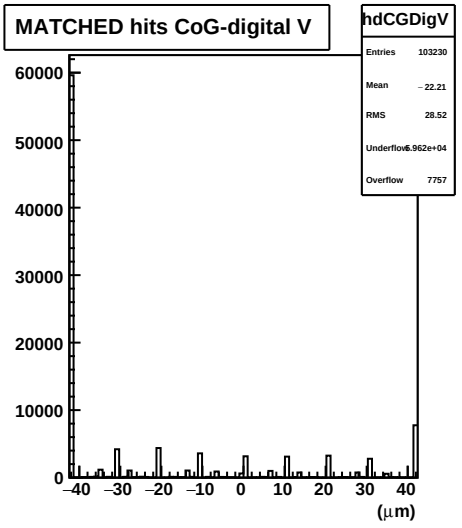
M28 ; run 28843; Pl 1; dist 100; eff 0.996; Seed 0.0; Neigh 0.0

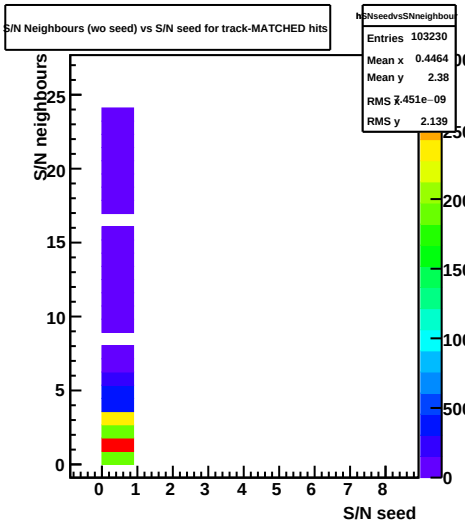


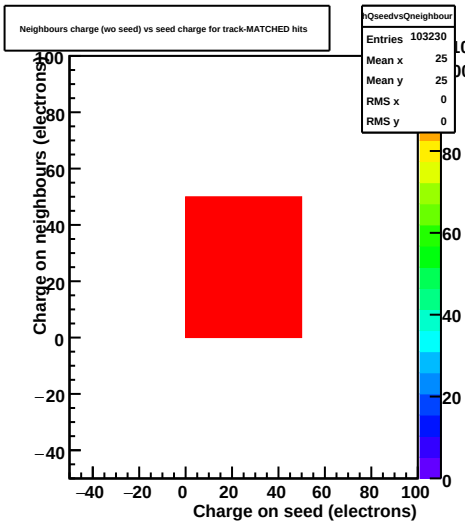


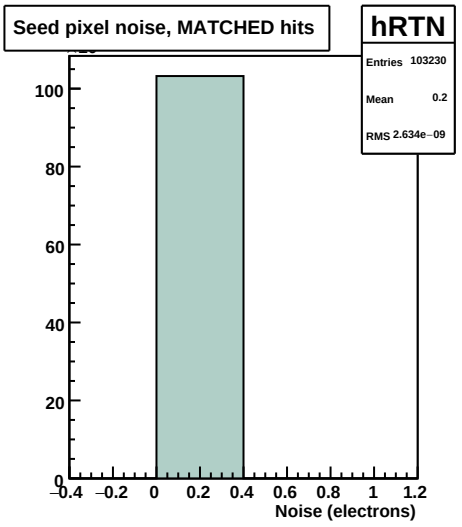


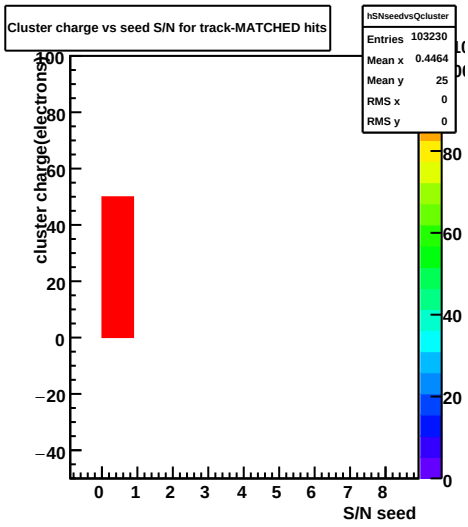




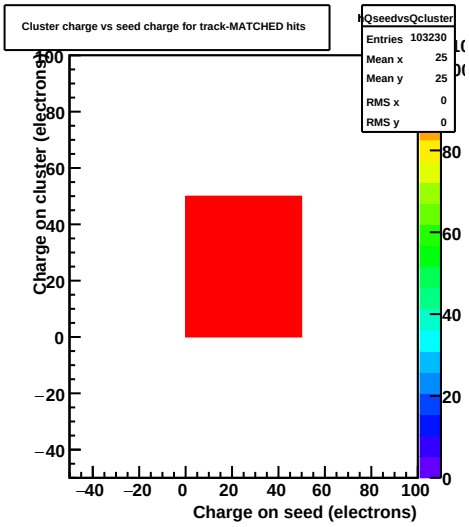


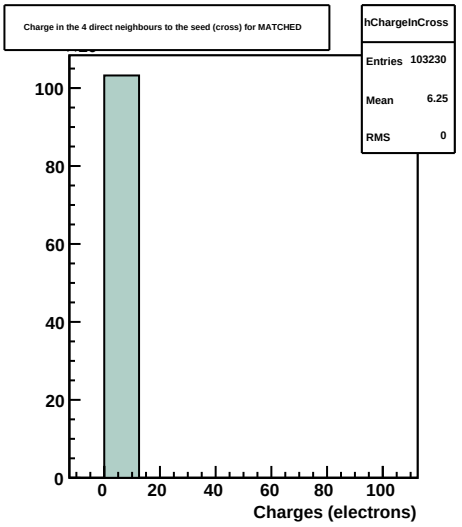


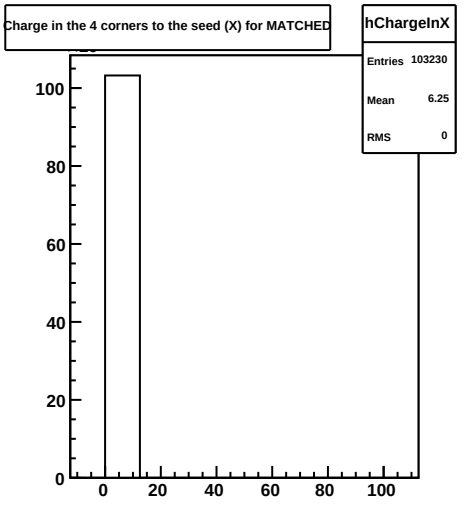


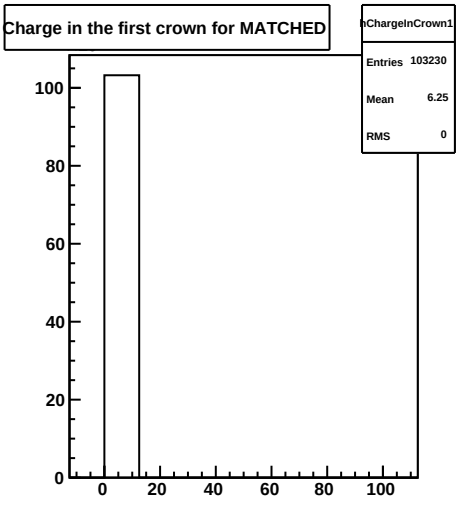


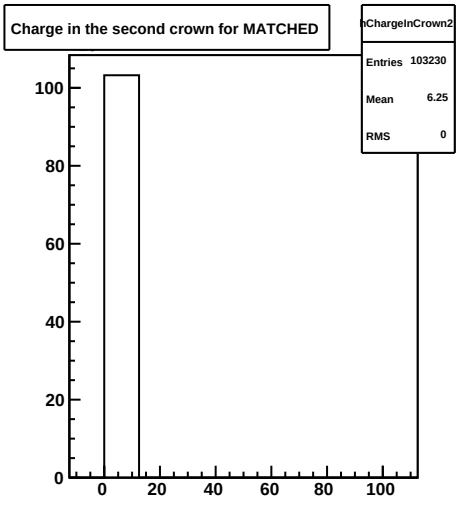
M28 ; run 28843; Pl 1; dist 100; eff 0.996; Seed 0.0; Neigh 0.0

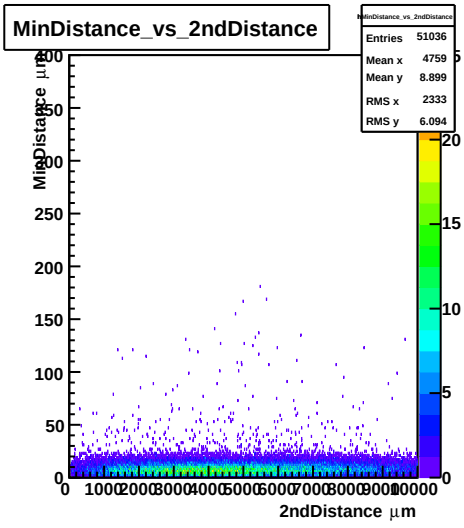


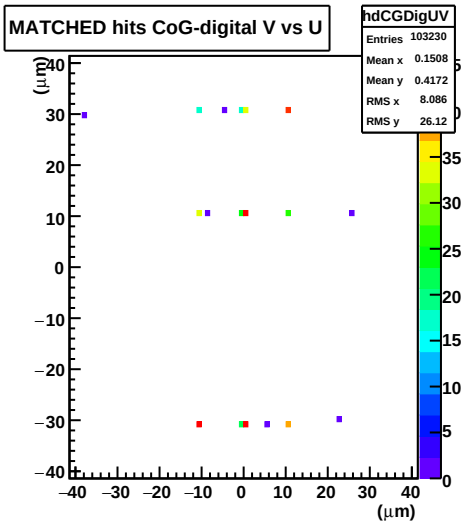


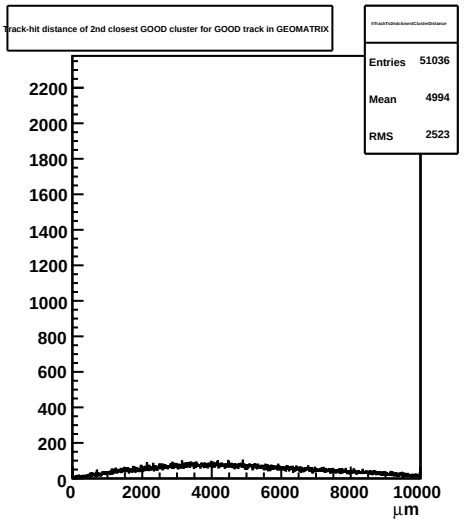


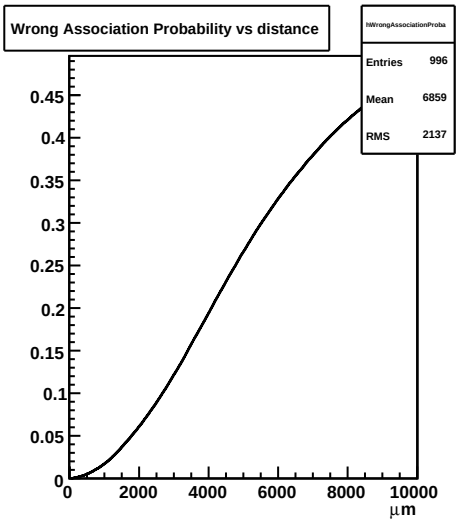




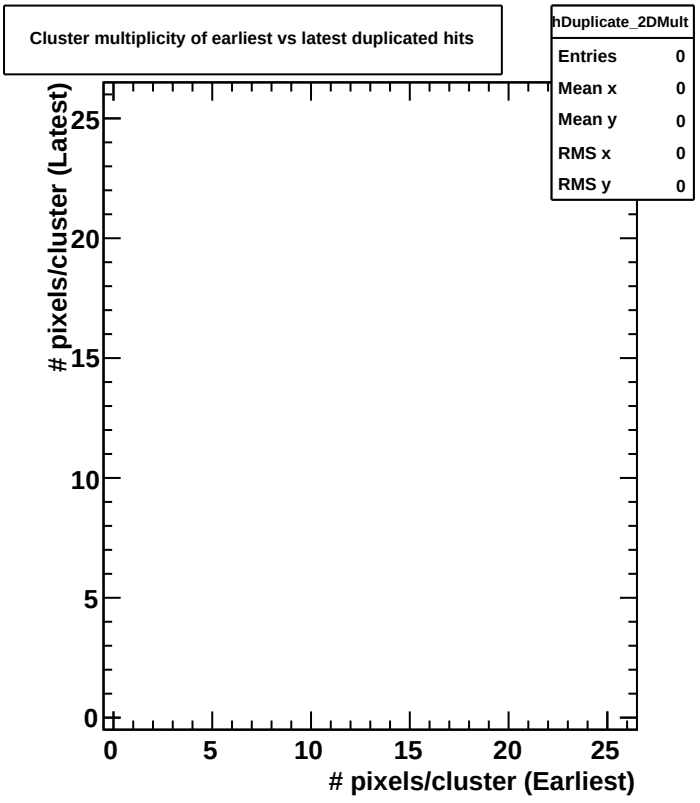


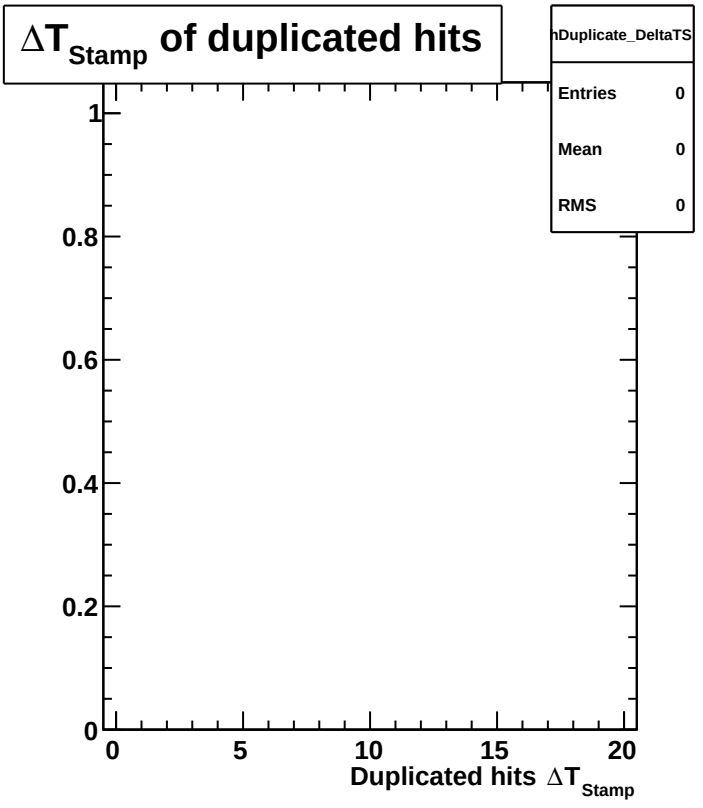


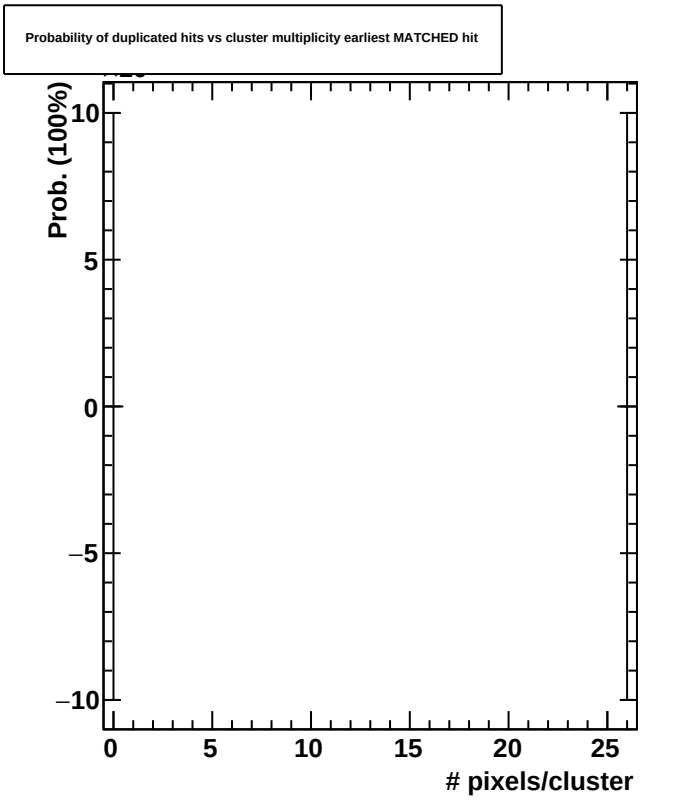


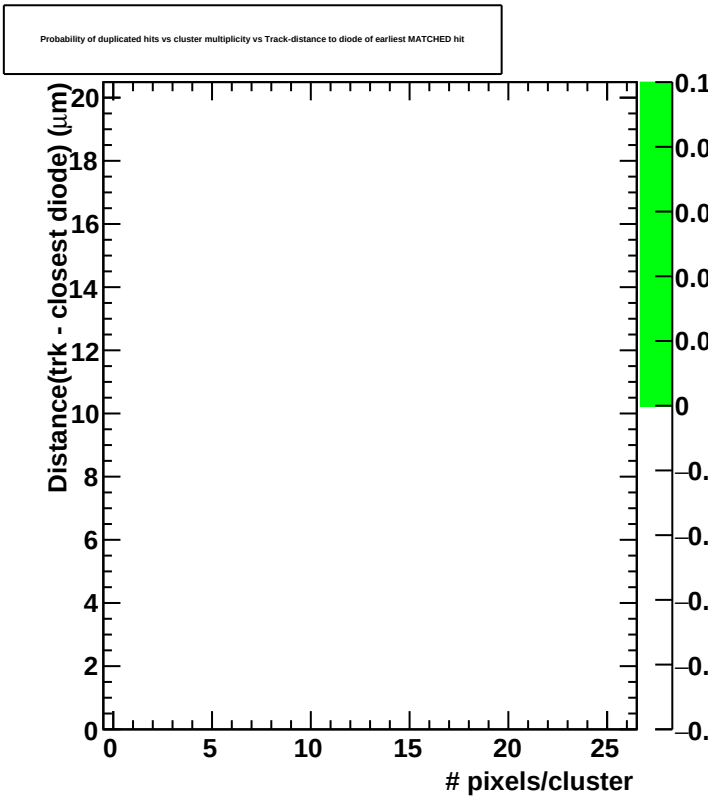


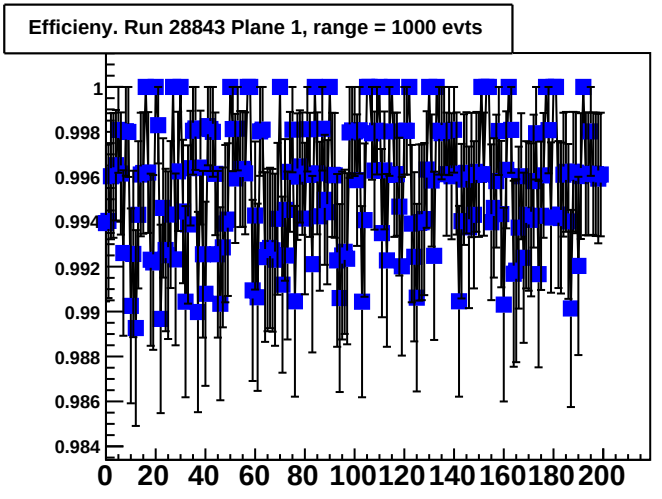
M28 ; run 28843; Pl 1; dist 100; eff 0.996; Seed 0.0; Neigh 0.0

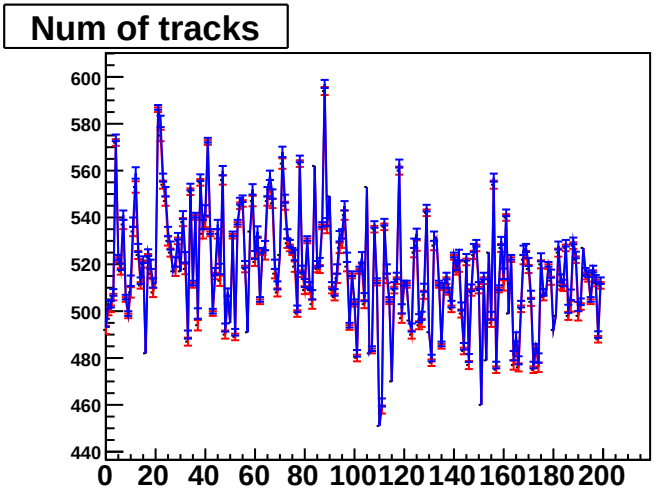


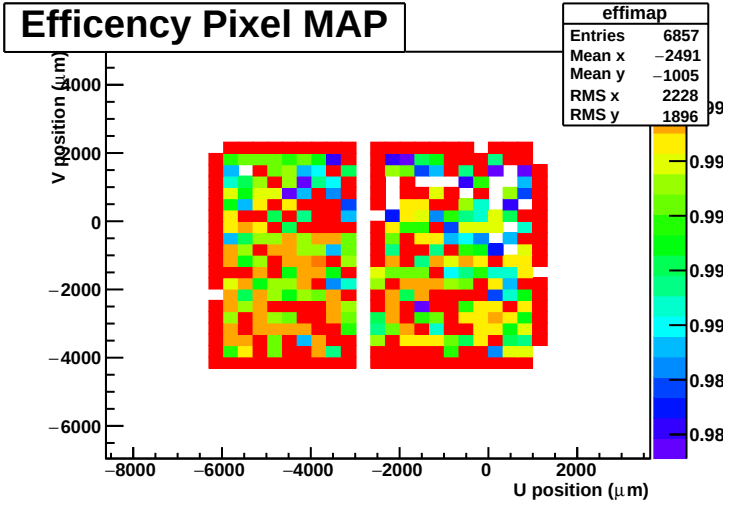


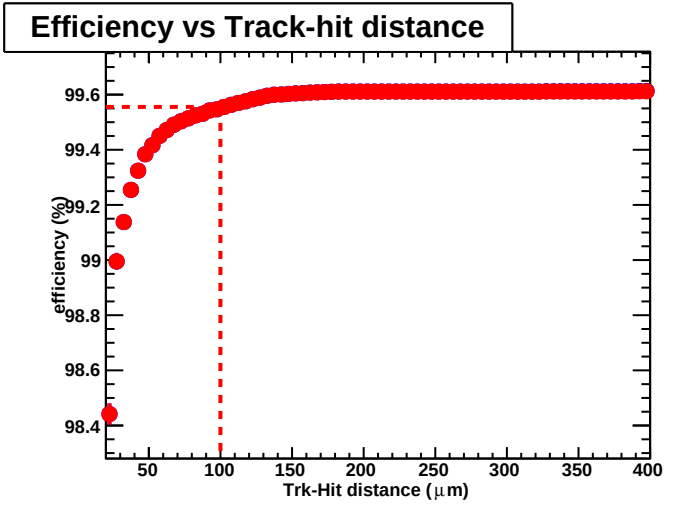


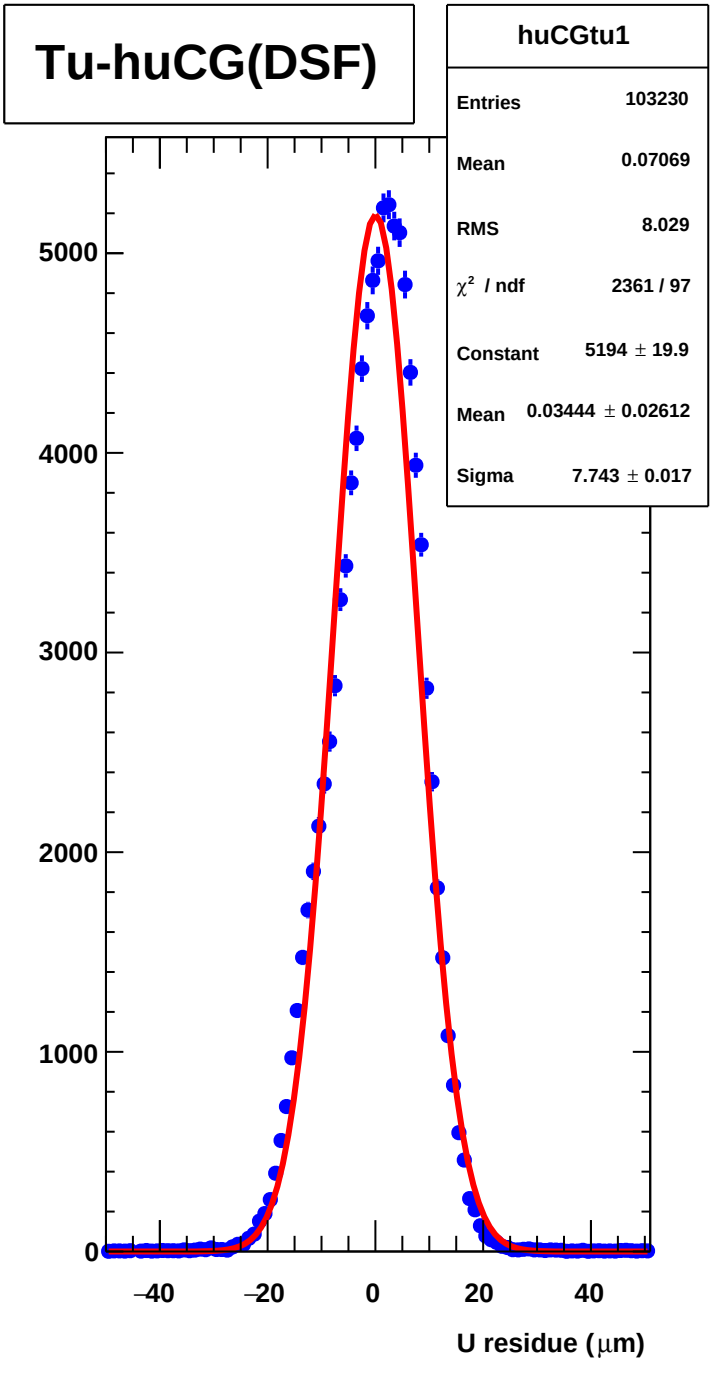


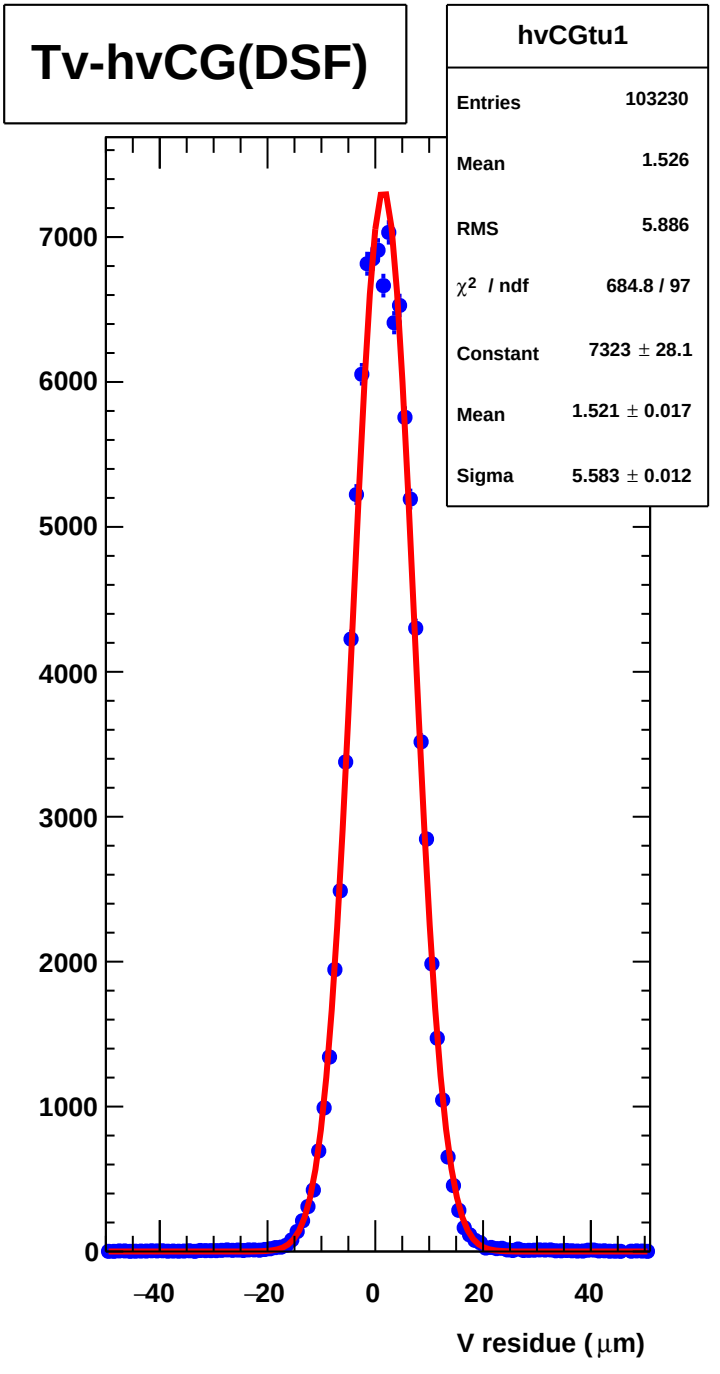

Efficieny. Run 28843 Plane 1, range = 1000 evts
1
0.998
0.996
0.994
0.992
0.99
0.988
0.986
0.984
0 20 40 60 80 100 120 140 160 180 200

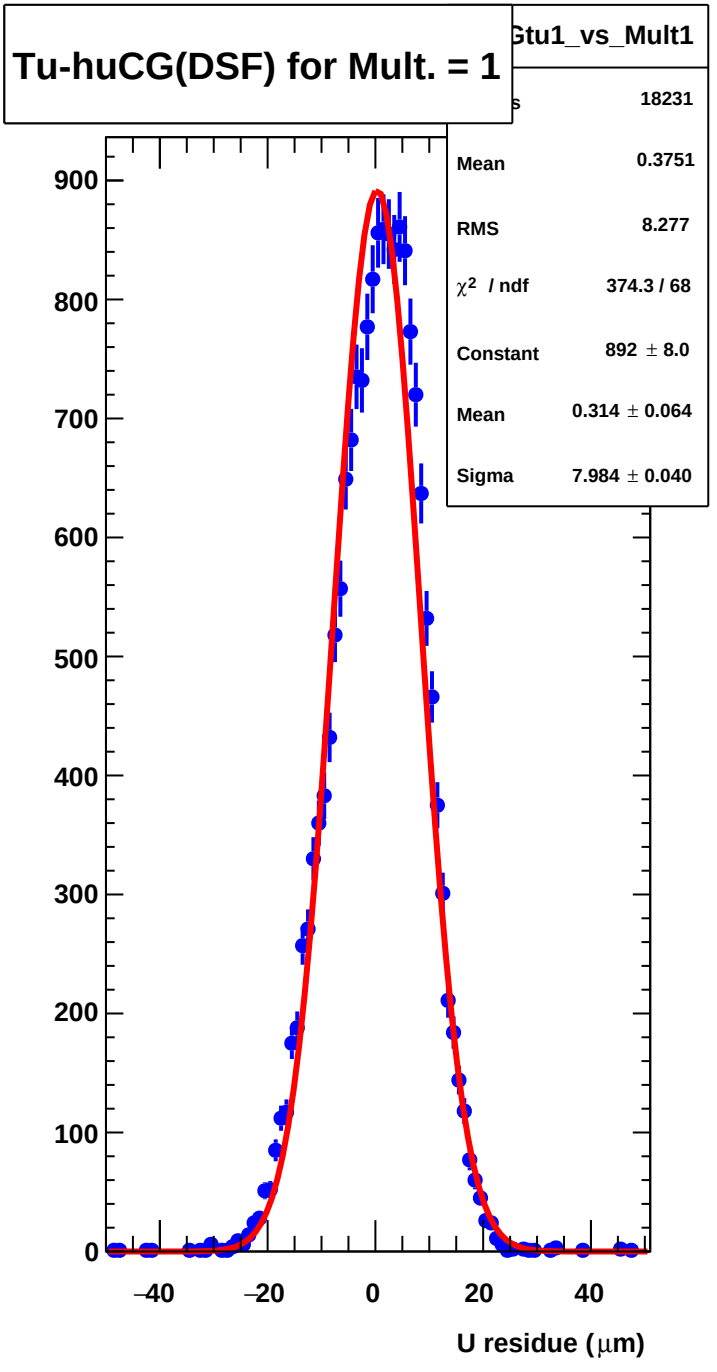

Num of tracks
600
580
560
540
520
500
480
460
440
0 20 40 60 80 100 120 140 160 180 200

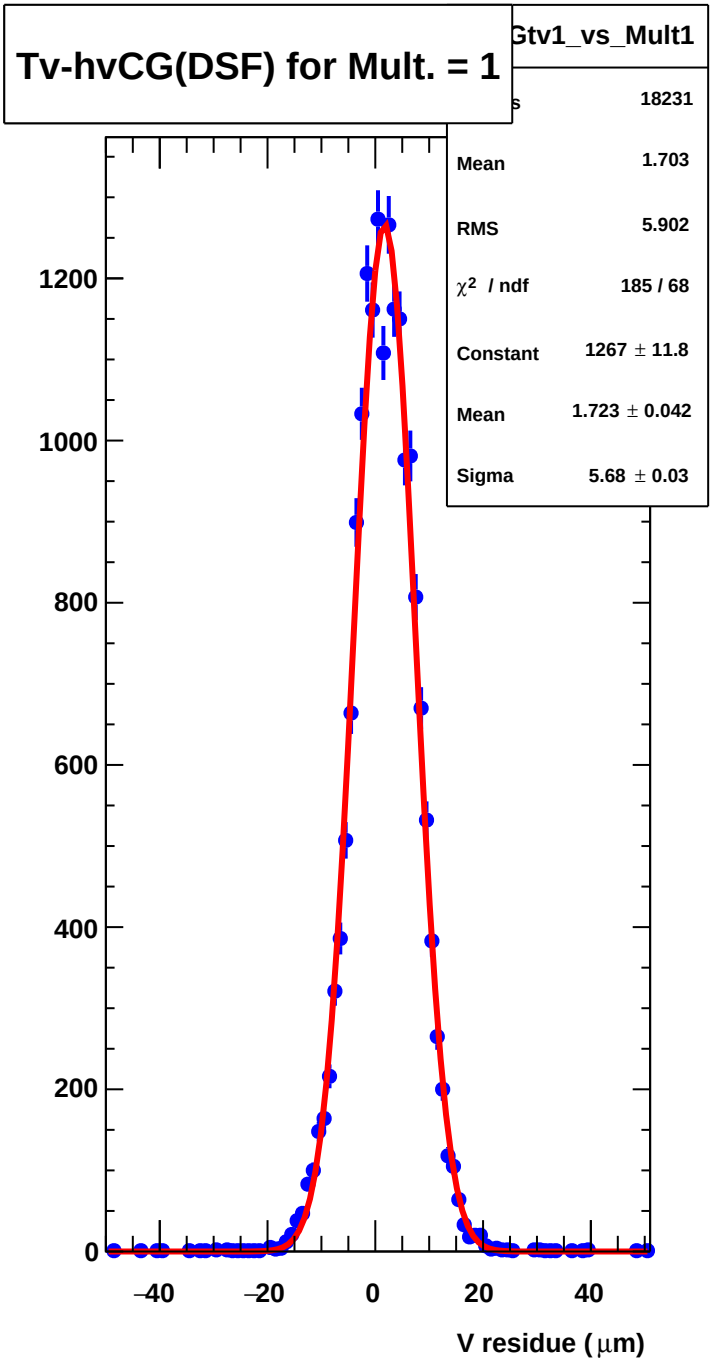

Efficency Pixel MAP
effimap
Entries 6857
Mean x −2491
Mean y −1005
RMS x 2228
RMS y 1896
V position (μm)
4000
2000
0
−2000
−4000
−6000
−8000 −6000 −4000 −2000 0 2000
U position (μm)
0.99
0.99
0.99
0.99
0.98
0.98

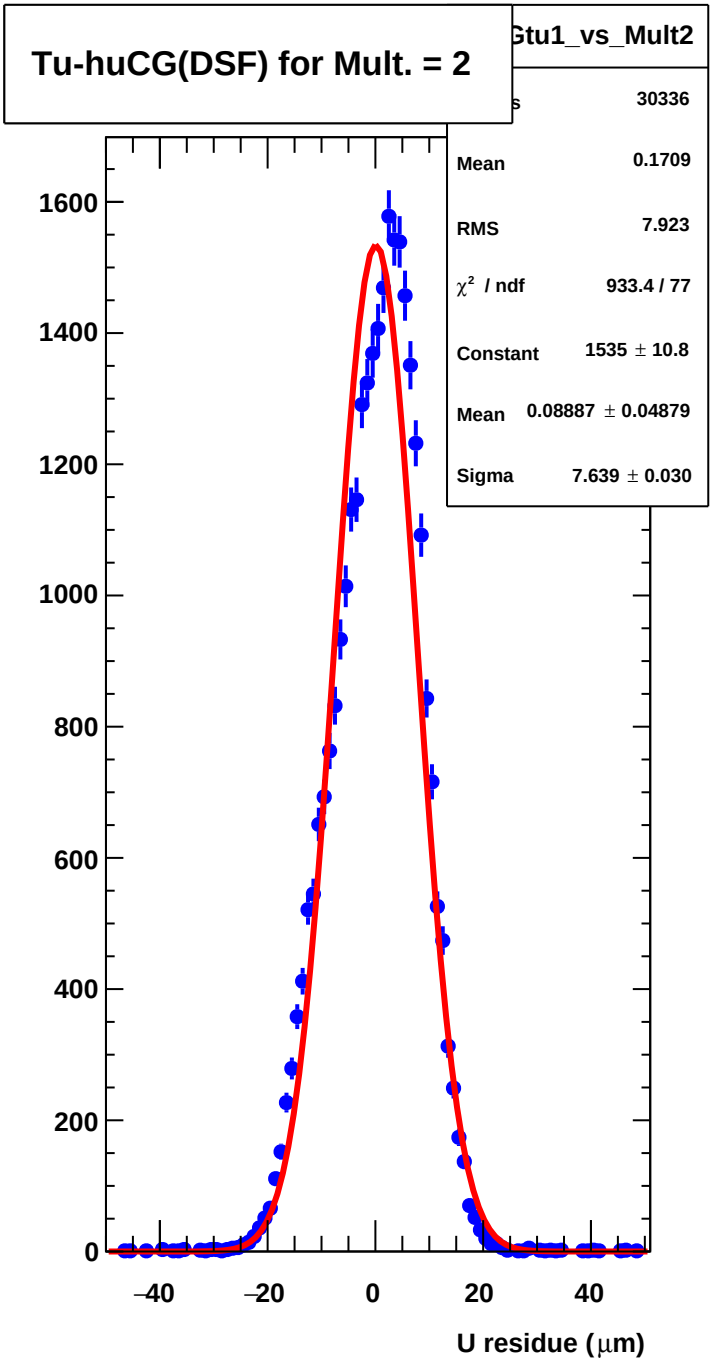

Efficiency vs Track-hit distance
efficiency (%)
99.6
99.4
99.2
99
98.8
98.6
98.4
50 100 150 200 250 300 350 400
Trk-Hit distance (μm)

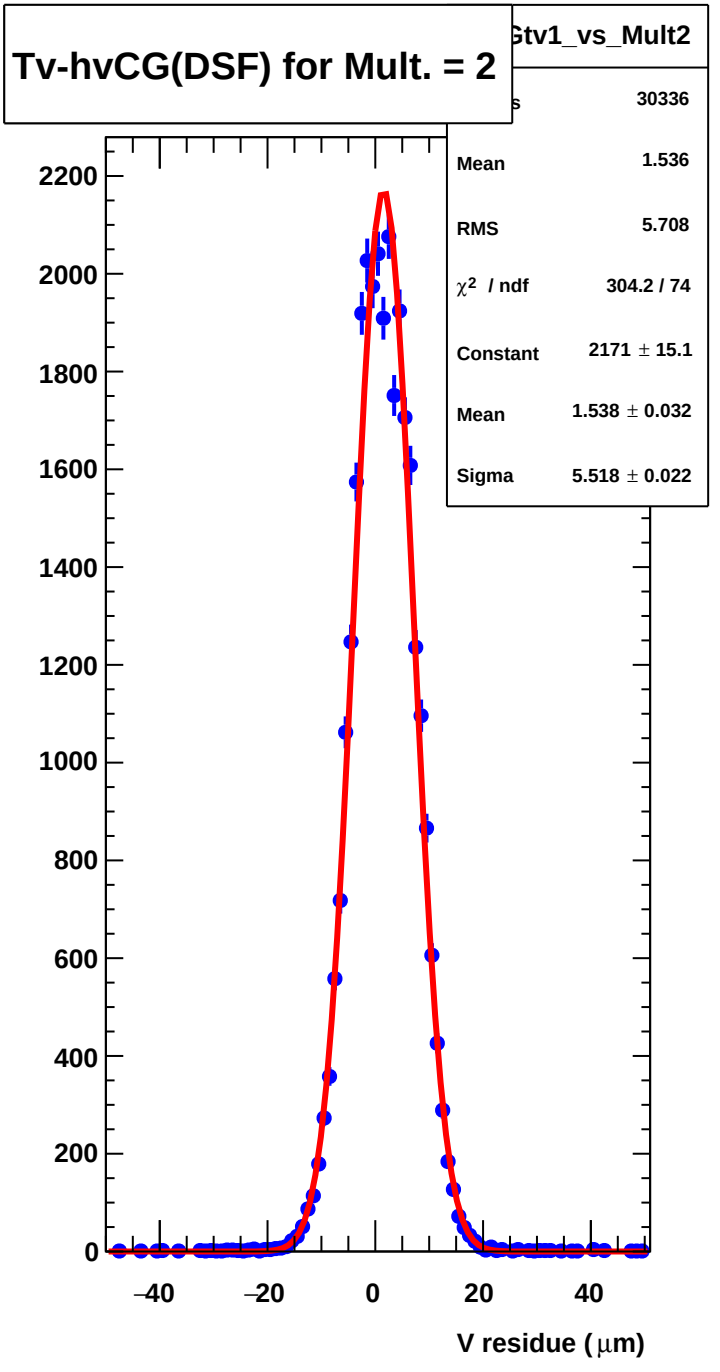

Tu-huCG(DSF)
huCGtu1
Entries 103230
Mean 0.07069
RMS 8.029
χ² / ndf 2361 / 97
Constant 5194 ± 19.9
Mean 0.03444 ± 0.02612
Sigma 7.743 ± 0.017
5000
4000
3000
2000
1000
0
−40
−20
0
20
40
U residue (μm)

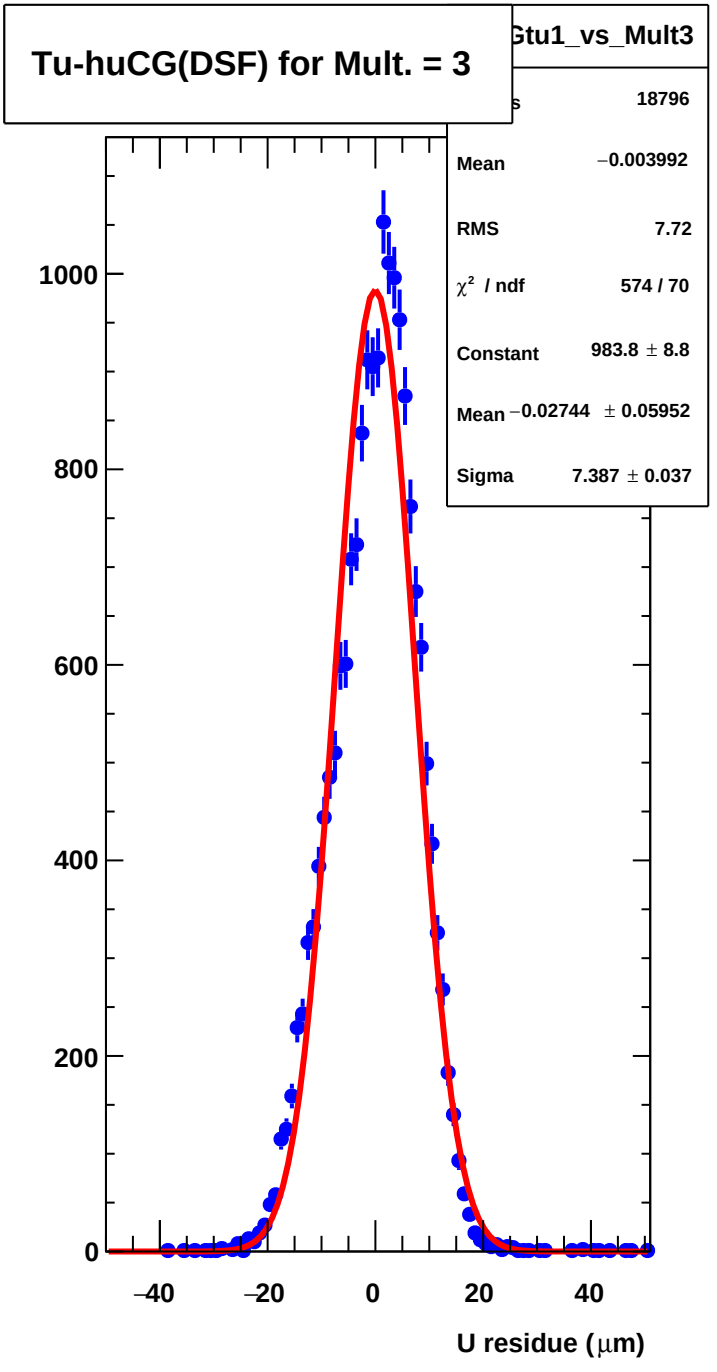

Tv-hvCG(DSF)
hvCGtu1
Entries 103230
Mean 1.526
RMS 5.886
χ² / ndf 684.8 / 97
Constant 7323 ± 28.1
Mean 1.521 ± 0.017
Sigma 5.583 ± 0.012
7000
6000
5000
4000
3000
2000
1000
0
−40
−20
0
20
40
V residue (μm)

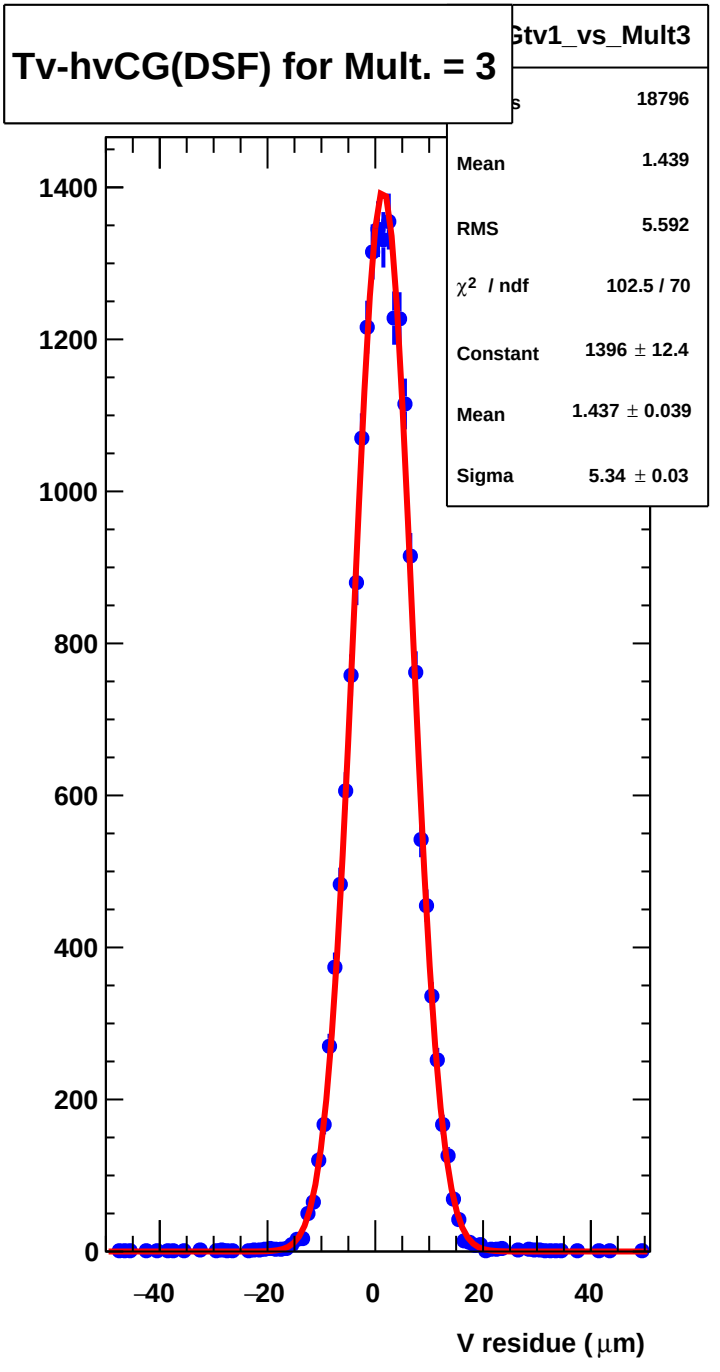

Tu-huCG(DSF) for Mult. = 1
Gtu1_vs_Mult1
s 18231
Mean 0.3751
RMS 8.277
χ² / ndf 374.3 / 68
Constant 892 ± 8.0
Mean 0.314 ± 0.064
Sigma 7.984 ± 0.040
900
800
700
600
500
400
300
200
100
0
−40
−20
0
20
40
U residue (μm)

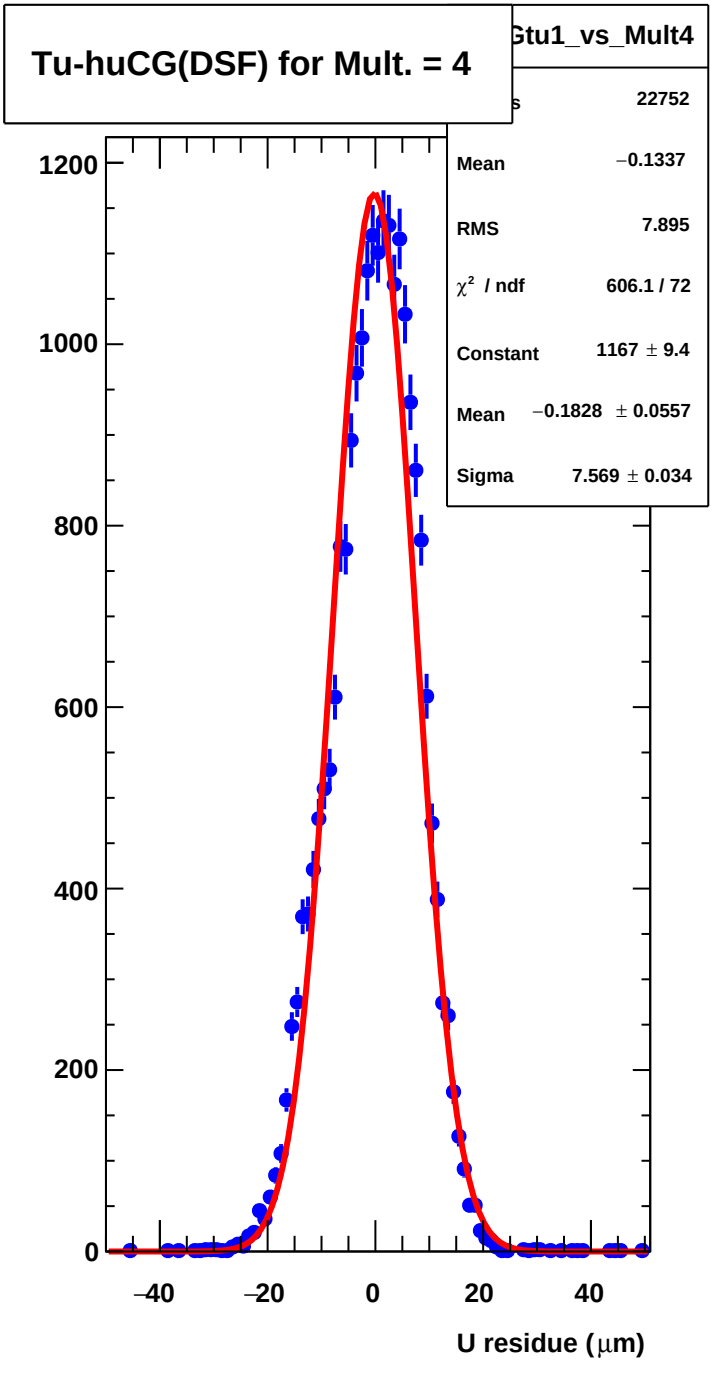

Tv-hvCG(DSF) for Mult. = 1
Gtv1_vs_Mult1
s 18231
Mean 1.703
RMS 5.902
χ² / ndf 185 / 68
Constant 1267 ± 11.8
Mean 1.723 ± 0.042
Sigma 5.68 ± 0.03
1200
1000
800
600
400
200
0
−40
−20
0
20
40
V residue (μm)

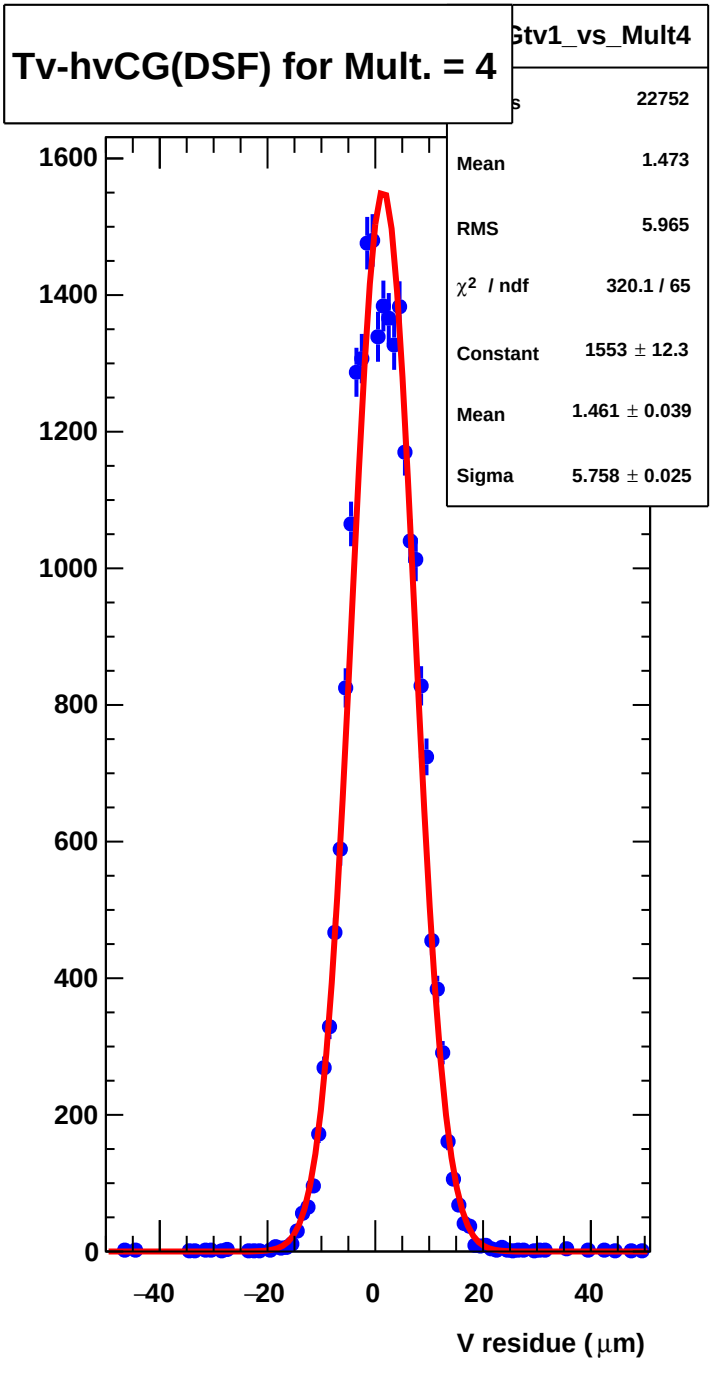

Tu-huCG(DSF) for Mult. = 2
Gtu1_vs_Mult2
30336
Mean 0.1709
RMS 7.923
χ² / ndf 933.4 / 77
Constant 1535 ± 10.8
Mean 0.08887 ± 0.04879
Sigma 7.639 ± 0.030
1600
1400
1200
1000
800
600
400
200
0
–40
–20
0
20
40
U residue (μm)

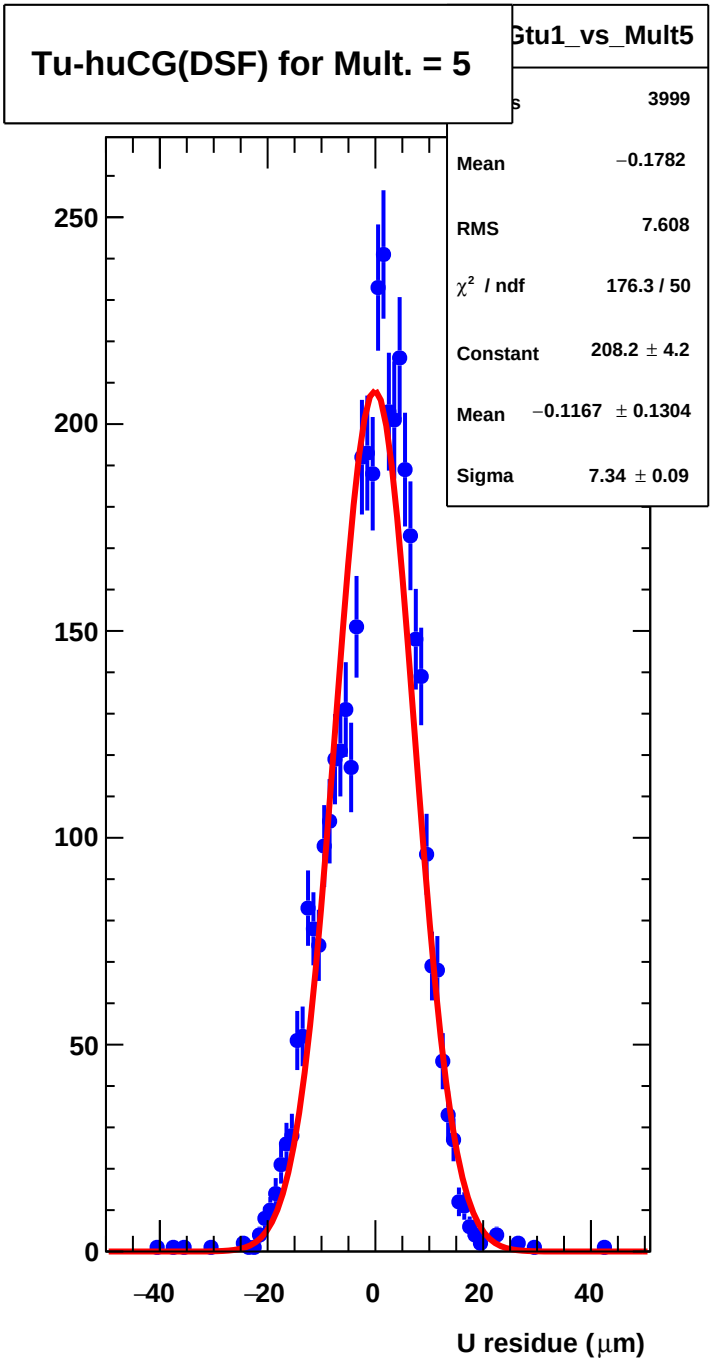

Tv-hvCG(DSF) for Mult. = 2
Gtv1_vs_Mult2
30336
Mean 1.536
RMS 5.708
χ² / ndf 304.2 / 74
Constant 2171 ± 15.1
Mean 1.538 ± 0.032
Sigma 5.518 ± 0.022
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
–40
–20
0
20
40
V residue (μm)

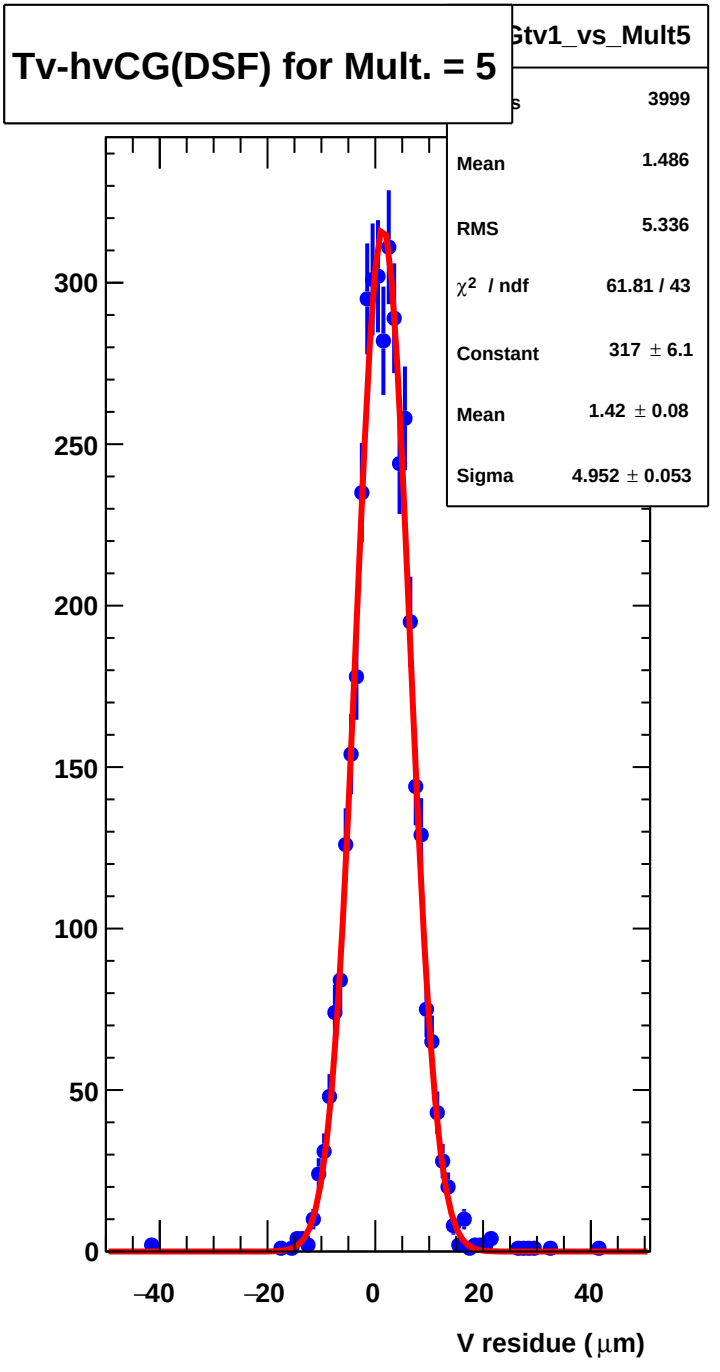

Tu-huCG(DSF) for Mult. = 3
Gtu1_vs_Mult3
18796
Mean −0.003992
RMS 7.72
χ² / ndf 574 / 70
Constant 983.8 ± 8.8
Mean −0.02744 ± 0.05952
Sigma 7.387 ± 0.037
1000
800
600
400
200
0
−40
−20
0
20
40
U residue (μm)

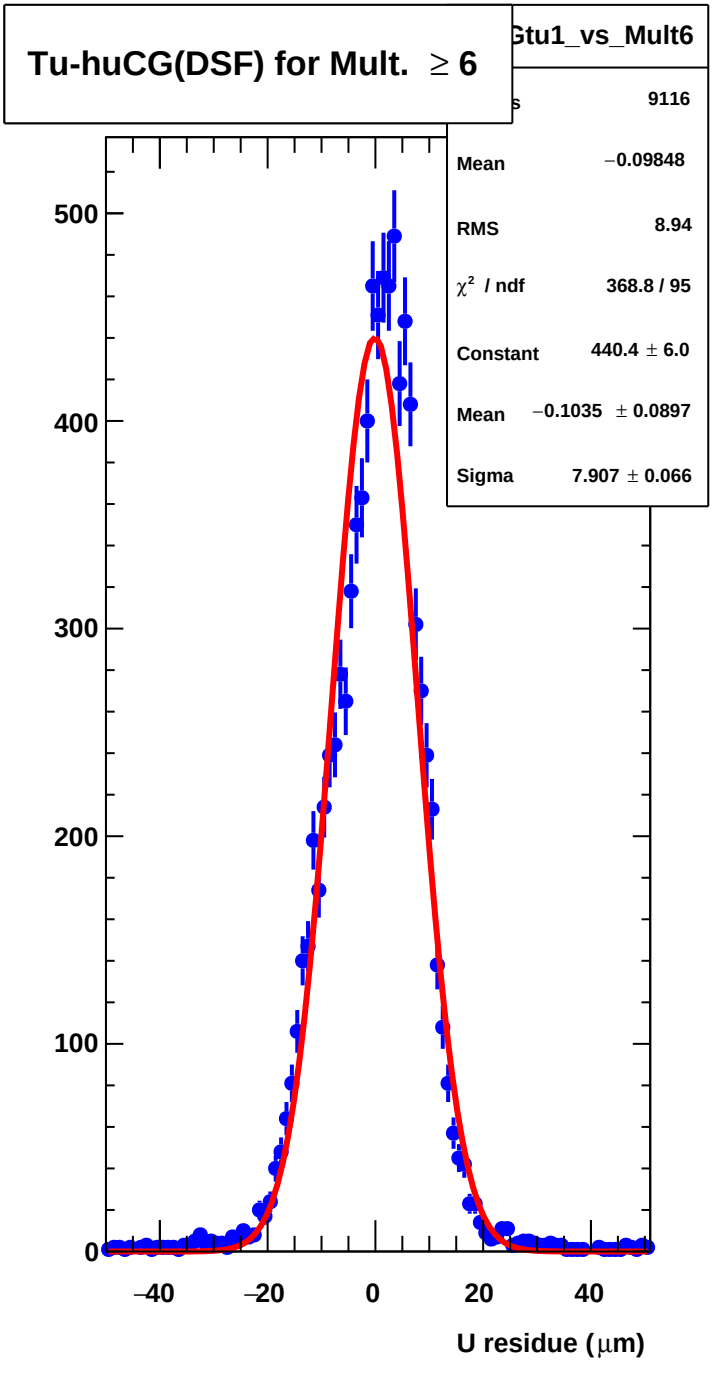

Tv-hvCG(DSF) for Mult. = 3
Gtv1_vs_Mult3
18796
Mean 1.439
RMS 5.592
χ² / ndf 102.5 / 70
Constant 1396 ± 12.4
Mean 1.437 ± 0.039
Sigma 5.34 ± 0.03
1400
1200
1000
800
600
400
200
0
−40
−20
0
20
40
V residue (μm)

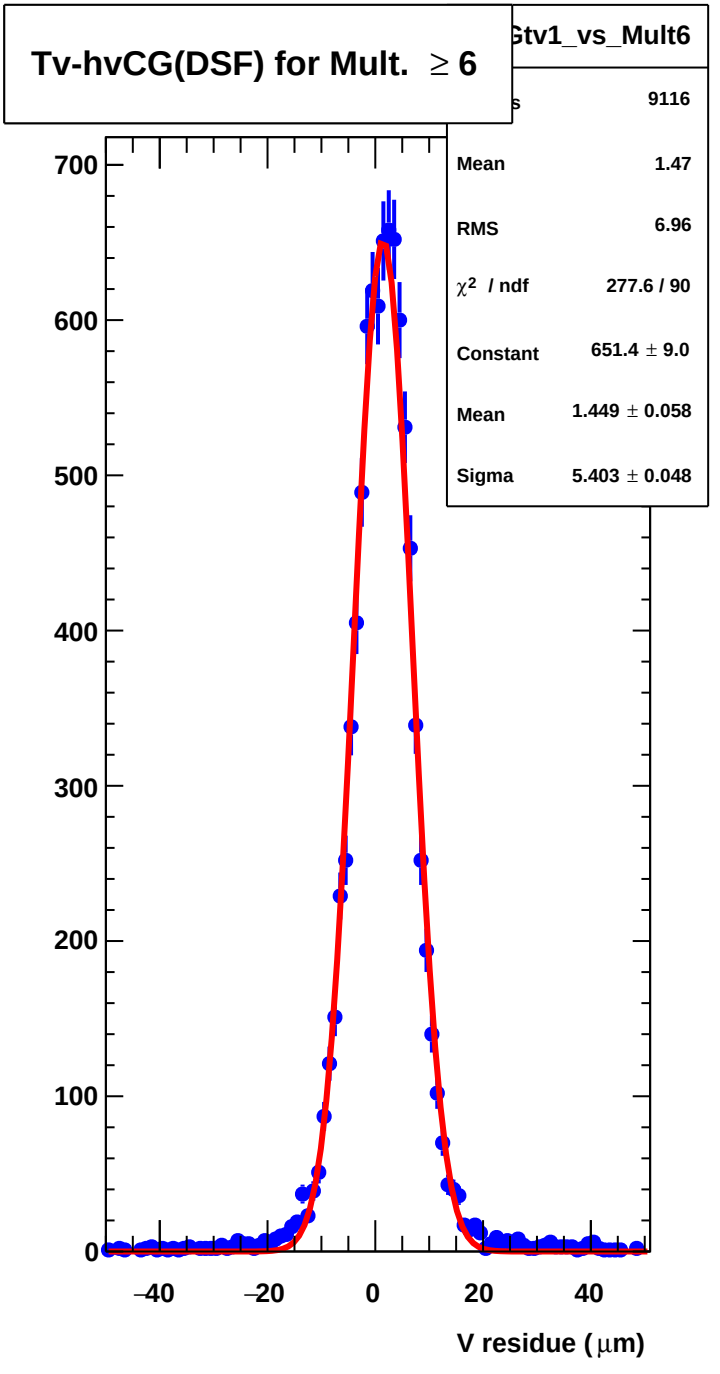

Tu-huCG(DSF) for Mult. = 4
Gtu1_vs_Mult4
s 22752
Mean −0.1337
RMS 7.895
χ² / ndf 606.1 / 72
Constant 1167 ± 9.4
Mean −0.1828 ± 0.0557
Sigma 7.569 ± 0.034
1200
1000
800
600
400
200
0
−40
−20
0
20
40
U residue (μm)

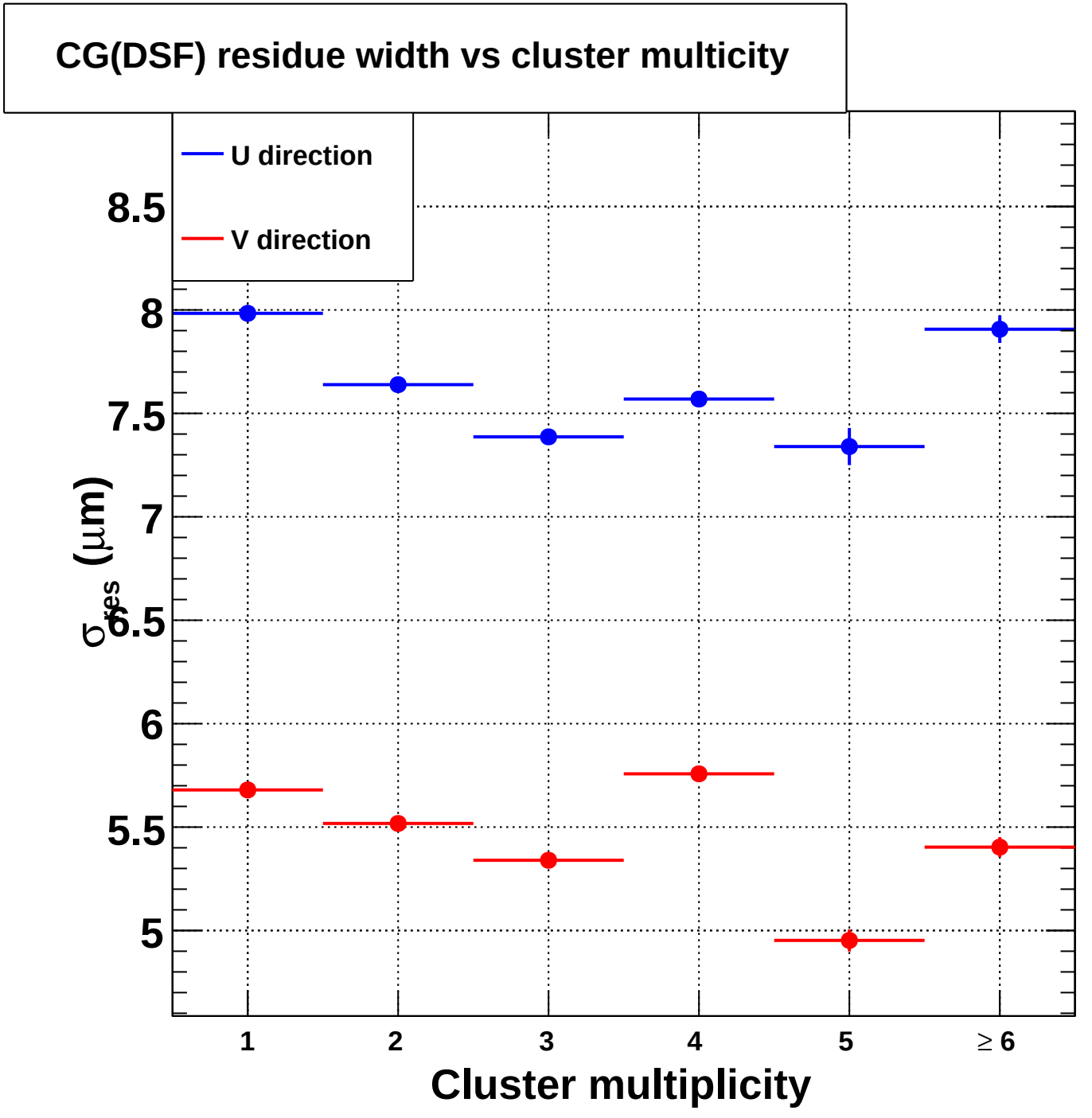

Tv-hvCG(DSF) for Mult. = 4
Gtv1_vs_Mult4
s 22752
Mean 1.473
RMS 5.965
χ² / ndf 320.1 / 65
Constant 1553 ± 12.3
Mean 1.461 ± 0.039
Sigma 5.758 ± 0.025
1600
1400
1200
1000
800
600
400
200
0
−40
−20
0
20
40
V residue (μm)

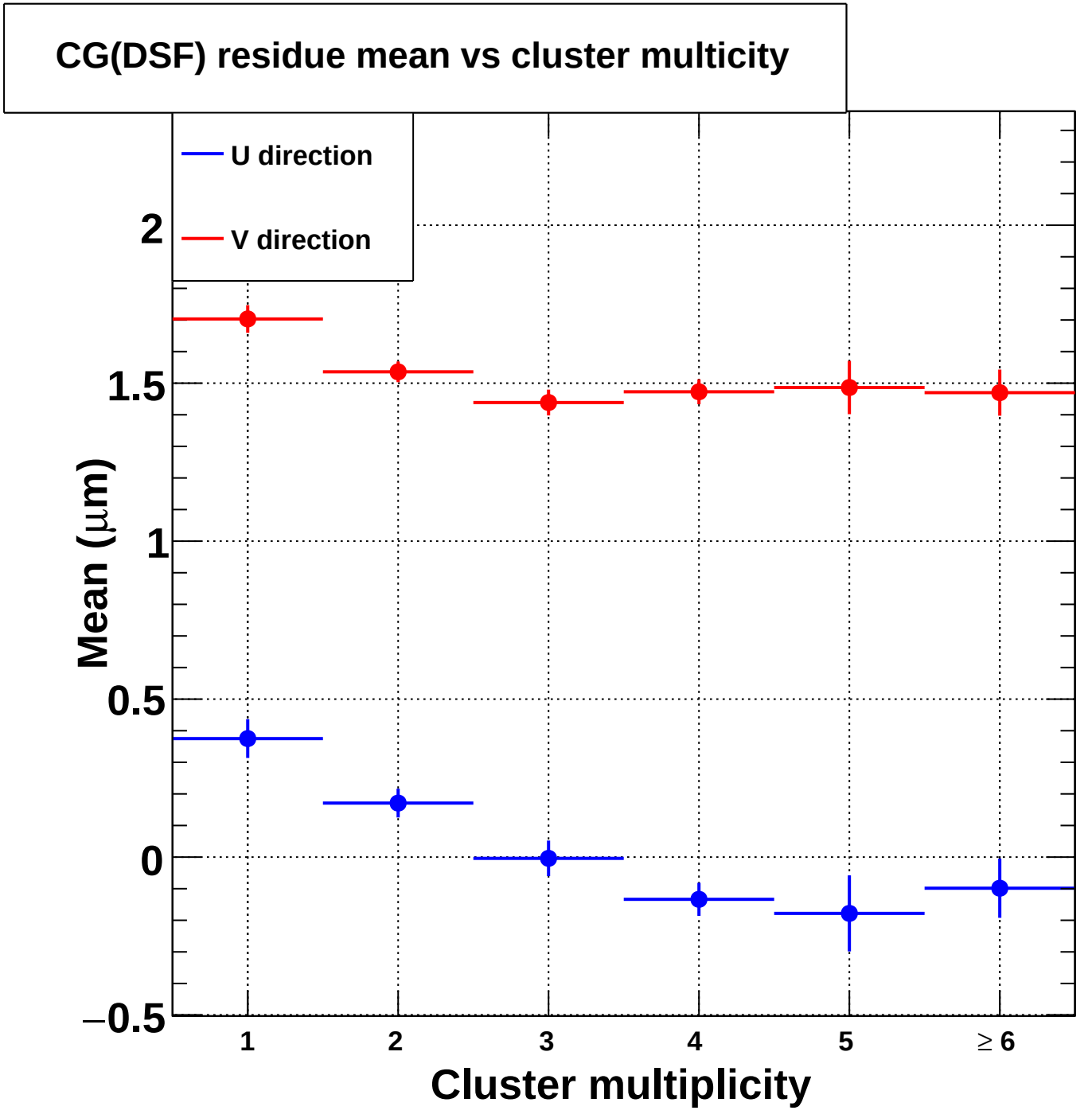

Tu-huCG(DSF) for Mult. = 5
Gtu1_vs_Mult5
s 3999
Mean −0.1782
RMS 7.608
χ² / ndf 176.3 / 50
Constant 208.2 ± 4.2
Mean −0.1167 ± 0.1304
Sigma 7.34 ± 0.09
250
200
150
100
50
0
−40
−20
0
20
40
U residue (μm)


Tv-hvCG(DSF) for Mult. = 5
Gtv1_vs_Mult5
s 3999
Mean 1.486
RMS 5.336
χ² / ndf 61.81 / 43
Constant 317 ± 6.1
Mean 1.42 ± 0.08
Sigma 4.952 ± 0.053
300
250
200
150
100
50
0
−40
−20
0
20
40
V residue (μm)

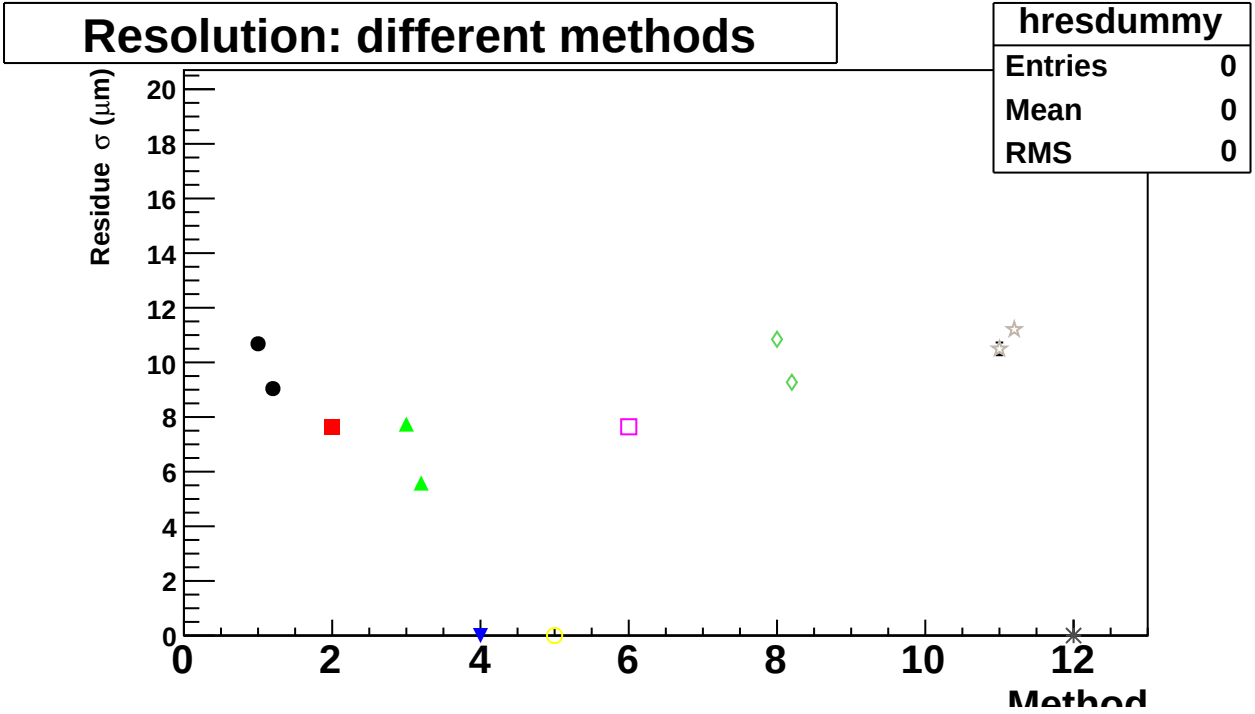

Tu-huCG(DSF) for Mult. ≥ 6
Gtu1_vs_Mult6
s 9116
Mean −0.09848
RMS 8.94
χ² / ndf 368.8 / 95
Constant 440.4 ± 6.0
Mean −0.1035 ± 0.0897
Sigma 7.907 ± 0.066
500
400
300
200
100
0
−40
−20
0
20
40
U residue (μm)


Tv-hvCG(DSF) for Mult. ≥ 6
Gtv1_vs_Mult6
s 9116
Mean 1.47
RMS 6.96
χ² / ndf 277.6 / 90
Constant 651.4 ± 9.0
Mean 1.449 ± 0.058
Sigma 5.403 ± 0.048
700
600
500
400
300
200
100
0
−40
−20
0
20
40
V residue (μm)


CG(DSF) residue width vs cluster multicity
U direction
V direction
8.5
8
7.5
7
6.5
6
5.5
5
σ_{res} (μm)
1
2
3
4
5
≥ 6
Cluster multiplicity


CG(DSF) residue mean vs cluster multicity
U direction
V direction
2
1.5
1
0.5
0
−0.5
Mean (μm)
1
2
3
4
5
≥ 6
Cluster multiplicity

Run 28843 Plane 1



Residuals for different methods

Method 1
residue from Tu-huDig algo(0) = (10.6813 ± 0.0235)μm
residue from Tv-hvDig algo(1) = (9.0407 ± 0.0199)μm

Method 2
residue from Tu-huCG algo(2) = (7.6433 ± 0.1793)μm
residue from Tv-hvCG algo(3) = (45.9022 ± 0.0813)μm

Method 3
residue from Tu-huCG(DSF) algo(4) = (7.7429 ± 0.0170)μm
residue from Tv-hvCG(DSF) algo(5) = (5.5833 ± 0.0124)μm

Method 4
residue from èÇ ²¨• algo(6) = (0.0000± 0.0000)μm
residue from Tv-VCG2x2 algo(7) = (48.0217 ± 0.0821)μm

Method 5
residue from È ²¨• algo(8) = (0.0000± 0.0000)μm
residue from Tv-hvCG5 algo(9) = (48.0217 ± 0.0821)μm

Method 6
residue from Tu-Ucorr algo(10) = (7.6433 ± 0.1793)μm
residue from Tv-Vcorr algo(11) = (45.9022 ± 0.0813)μm

Residuals for different methods

Method 7
residue from Tu-UEta algo(12) = (1316.4044 ± 1297.1423)μm
residue from Tv-VEta algo(13) = (961.5375 ± 465.9930)μm

Method 8
residue from tu-UEta2x2 algo(14) = (10.8455 ± 0.0659)μm
residue from tv-VEta2x2 algo(15) = (9.2722 ± 0.0524)μm

Method 9
residue from Tu-UEta2x2(list) algo(16) = (1316.4044 ± 1297.1423)μm
residue from TV-VEta2x2(list) algo(17) = (961.5375 ± 465.9930)μm

Method 10
residue from Tu-UEta5x5(list) algo(18) = (1316.4044 ± 1297.1425)μm
residue from Tu-UEta5x5(list) algo(19) = (961.5375 ± 465.9929)μm

Method 11
residue from Tu-UEta3 algo(20) = (10.4958 ± 0.2325)μm
residue from Tv-VEta3 algo(21) = (11.2069 ± 0.0393)μm

Method 12
residue from ¸Ç ²¨• algo(22) = (0.0000± 0.0000)μm
residue from Tv-vAHT algo(23) = (48.0200 ± 0.0820)μm

Residuals vs cluster multiplicity

residue from Tu-huCG(DSF) algo for mult = 1 = (7.9836 $\pm$ 0.0396)μm
residue from Tv-hvCG(DSF) algo for mult = 1 = (5.6797 $\pm$ 0.0316)μm

residue from Tu-huCG(DSF) algo for mult = 2 = (7.6389 $\pm$ 0.0299)μm
residue from Tv-hvCG(DSF) algo for mult = 2 = (5.5177 $\pm$ 0.0216)μm

residue from Tu-huCG(DSF) algo for mult = 3 = (7.3865 $\pm$ 0.0371)μm
residue from Tv-hvCG(DSF) algo for mult = 3 = (5.3396 $\pm$ 0.0266)μm

residue from Tu-huCG(DSF) algo for mult = 4 = (7.5692 $\pm$ 0.0339)μm
residue from Tv-hvCG(DSF) algo for mult = 4 = (5.7576 $\pm$ 0.0246)μm

residue from Tu-huCG(DSF) algo for mult = 5 = (7.3396 $\pm$ 0.0897)μm
residue from Tv-hvCG(DSF) algo for mult = 5 = (4.9523 $\pm$ 0.0532)μm

residue from Tu-huCG(DSF) algo for mult = 6 = (7.9067 $\pm$ 0.0662)μm
residue from Tv-hvCG(DSF) algo for mult = 6 = (5.4032 $\pm$ 0.0480)μm