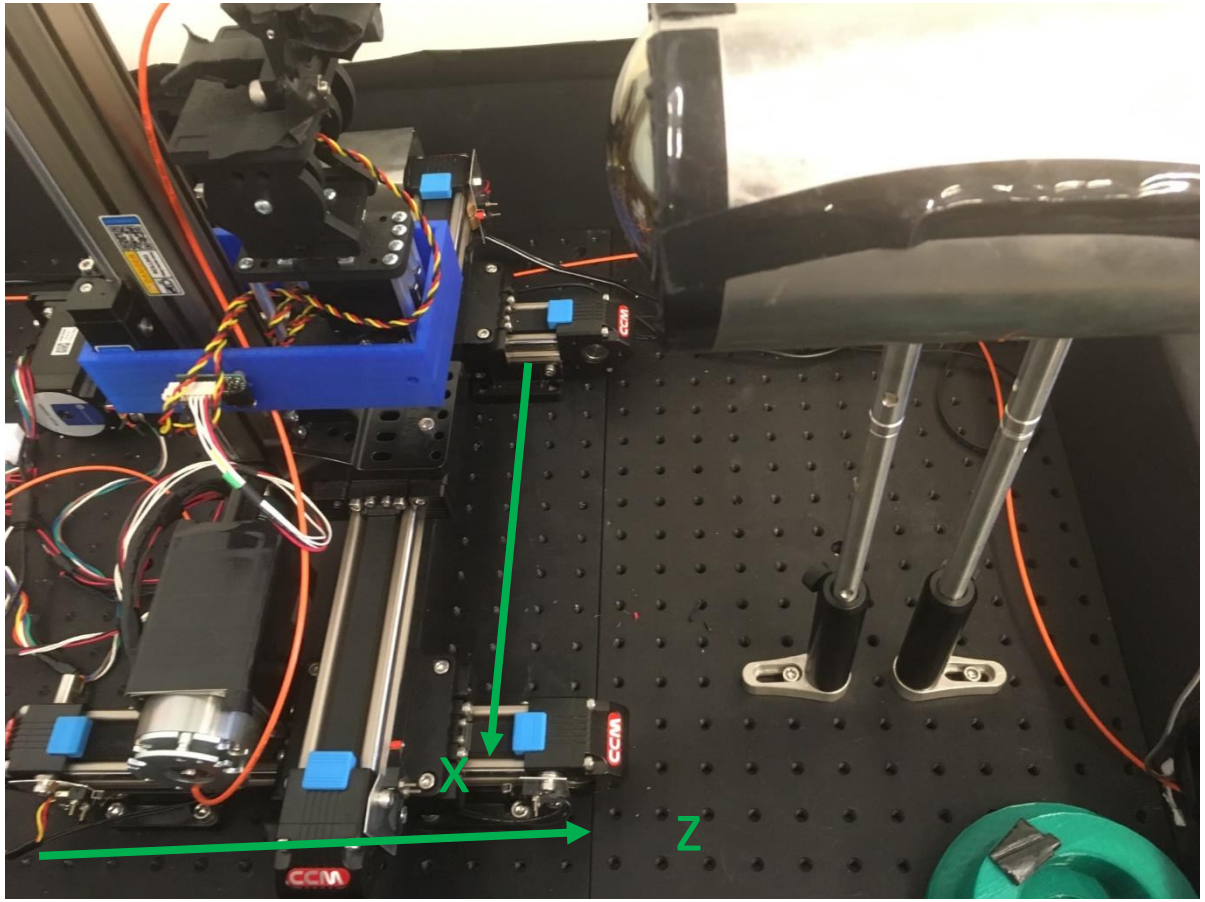
Status Update

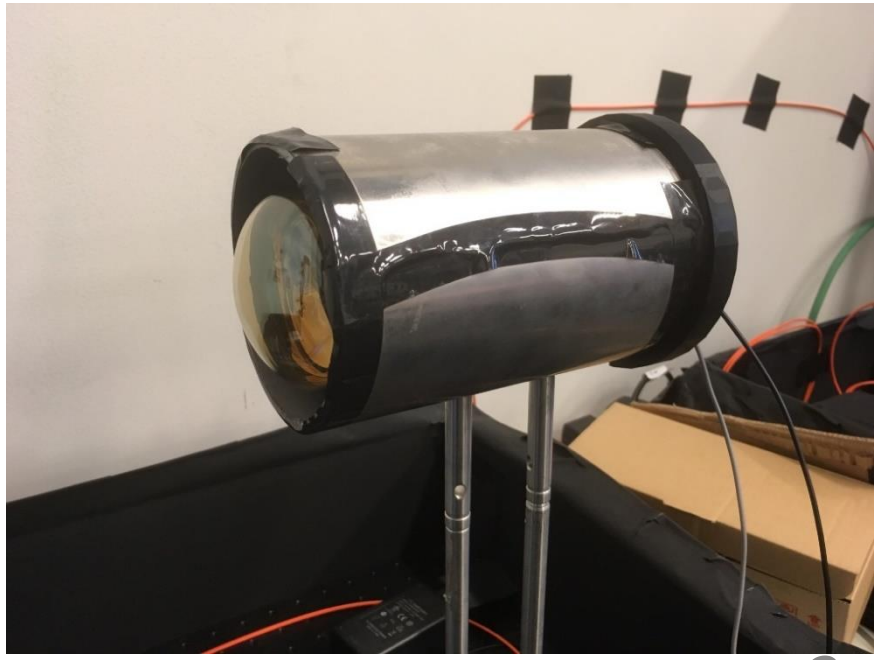
03/29/2019

TUS Nao Izumi

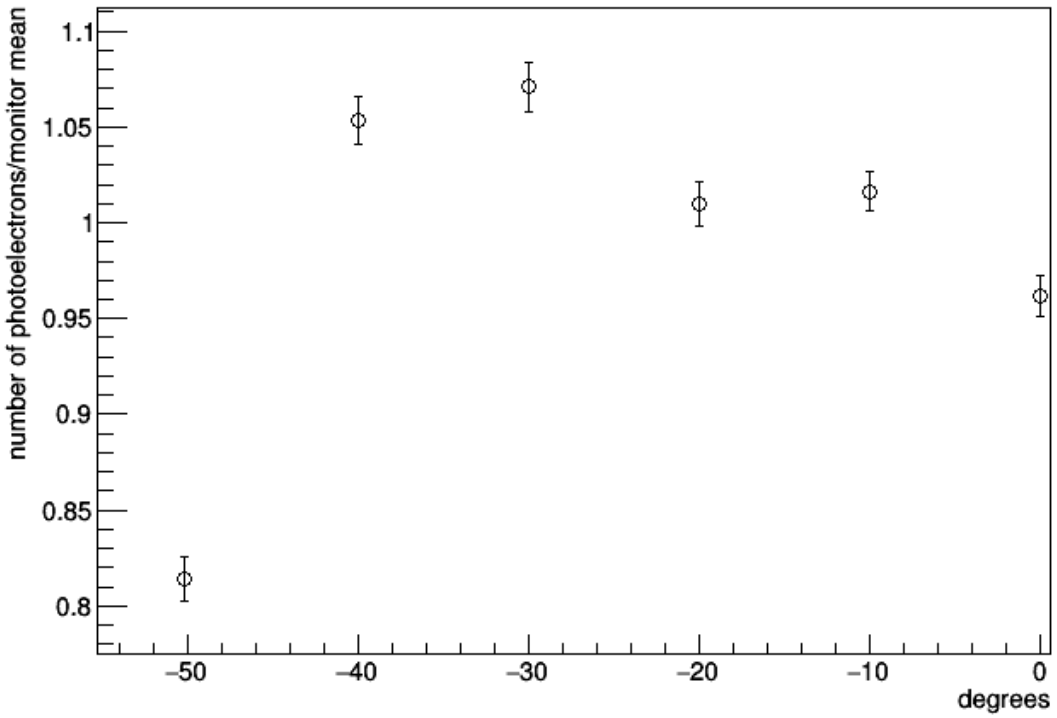
Measurements with new PMT holder



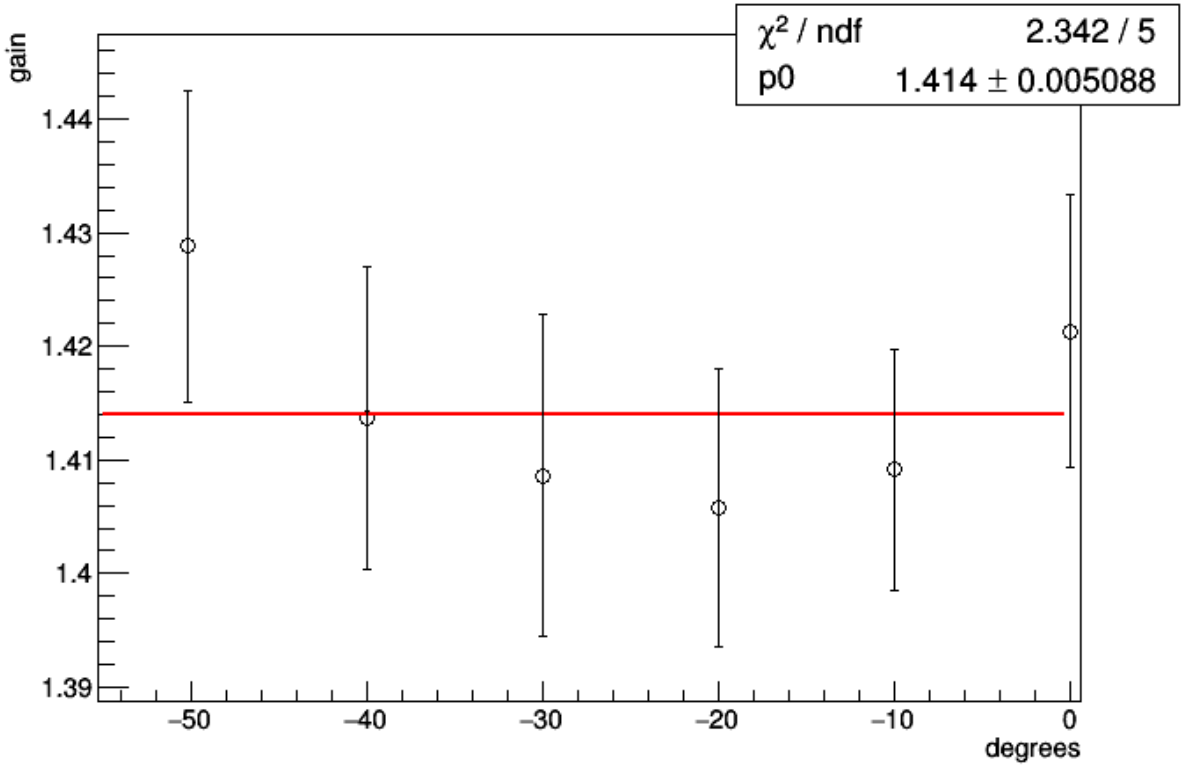
- Not enough space in x- and z-axis
- Move the PMT
- Take measurement from -50 to 0 degrees



①BC0035/+1200 V



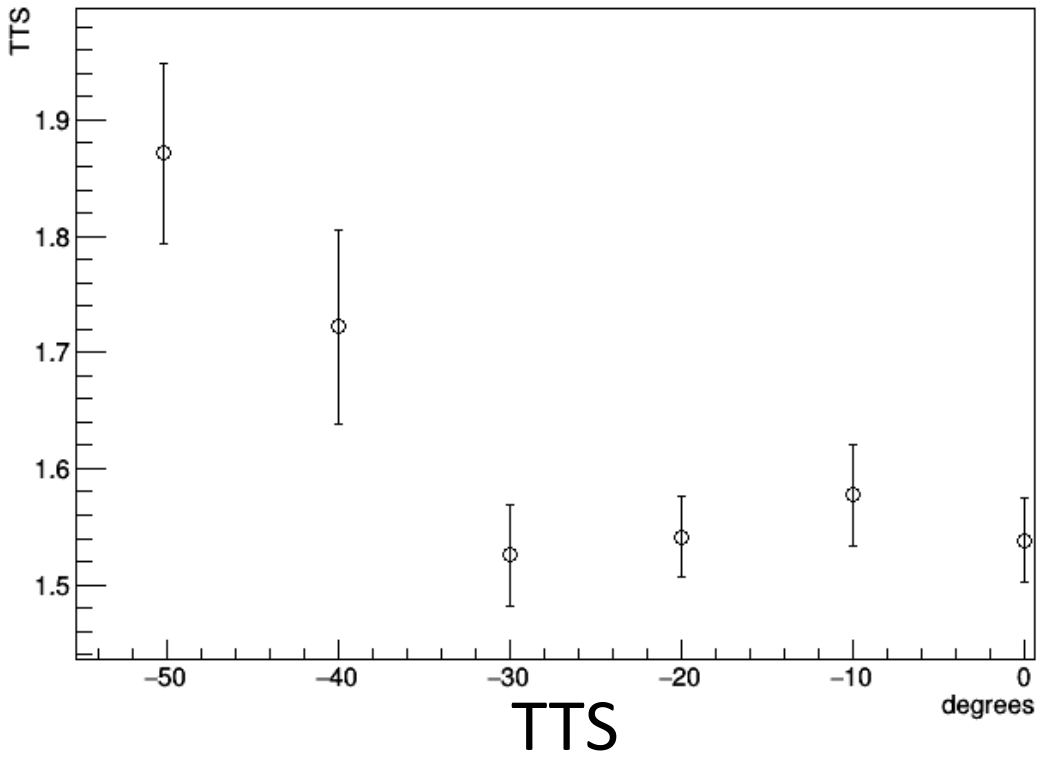
Number of p.e.



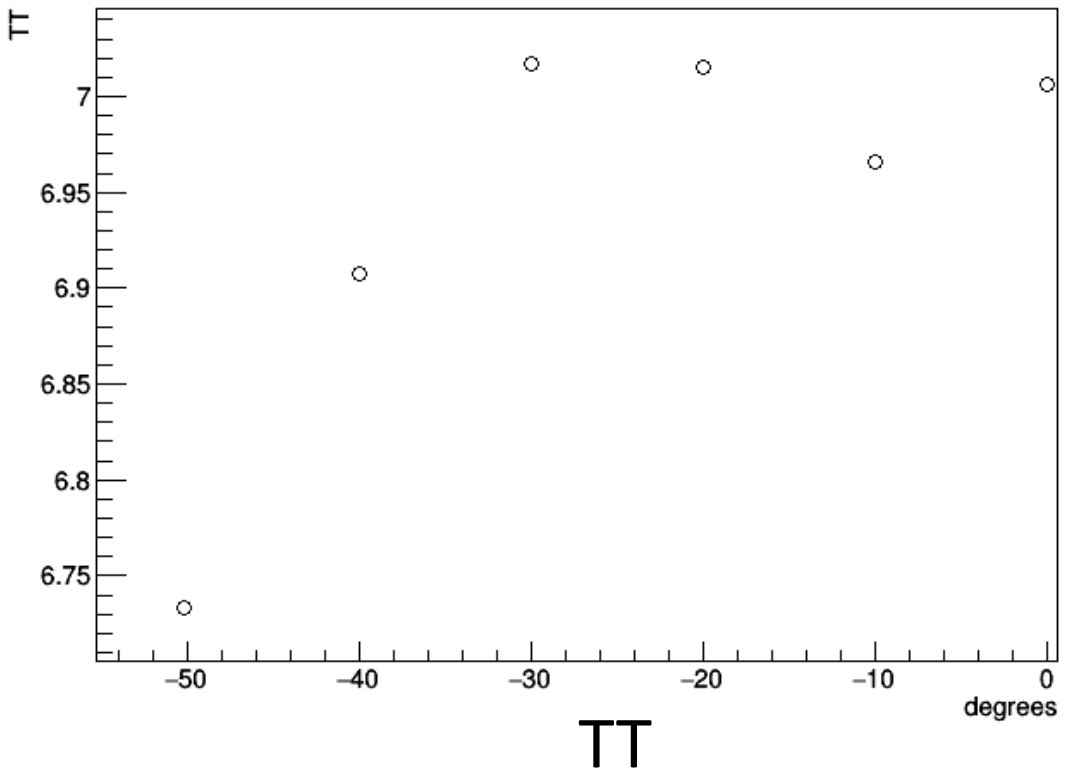
gain

The efficiency dropped at -50 degrees.
Gain is almost uniform.

①BC0035/+1200 V



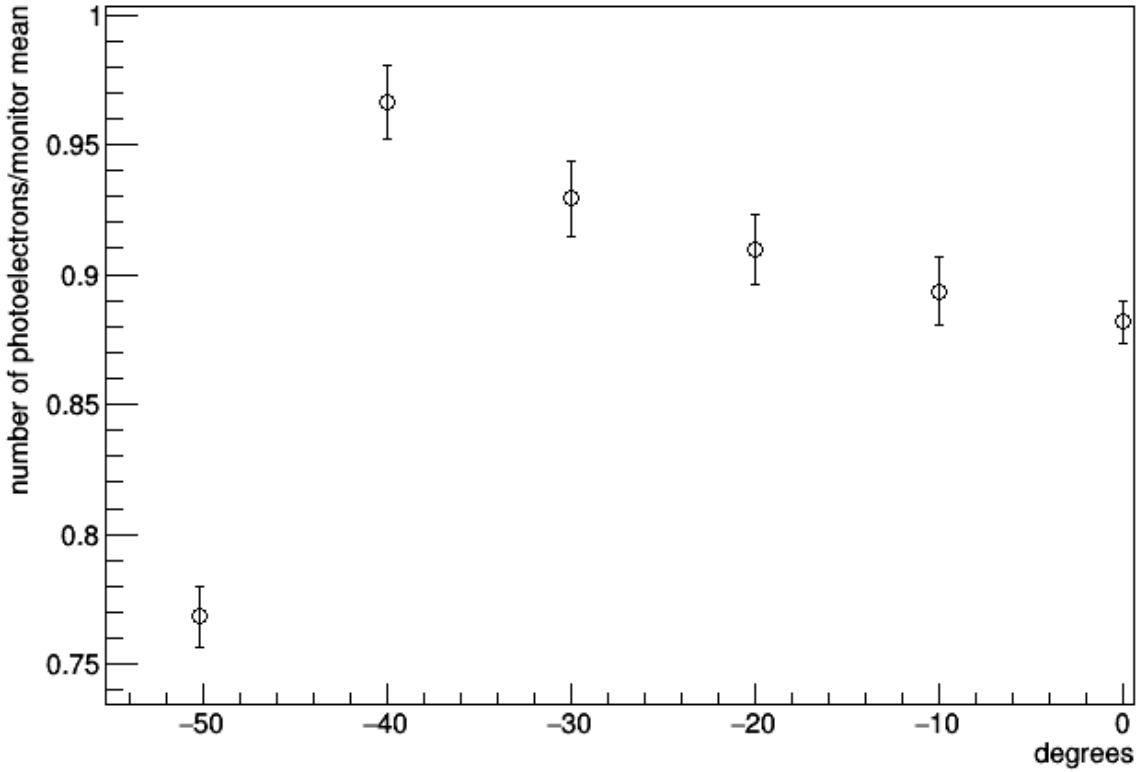
TTS



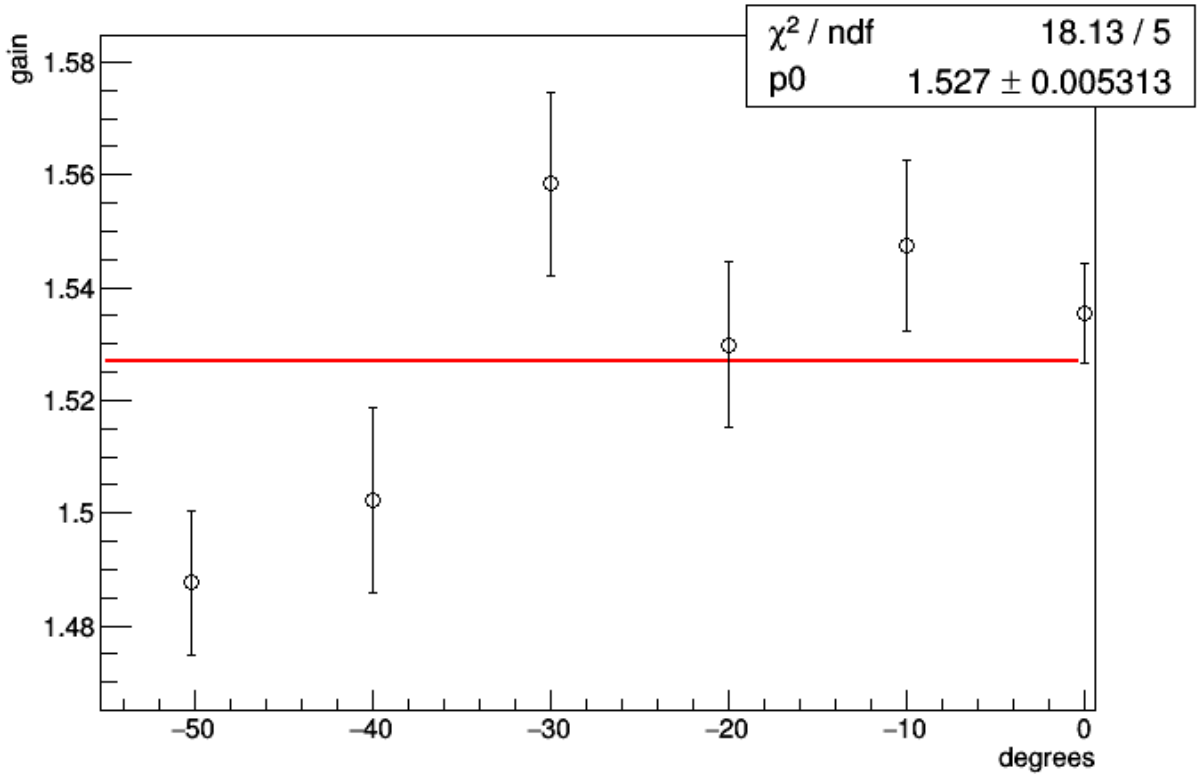
TT

TTS is larger and TT is smaller at larger angles.

②BC0035/+1200 V rotated



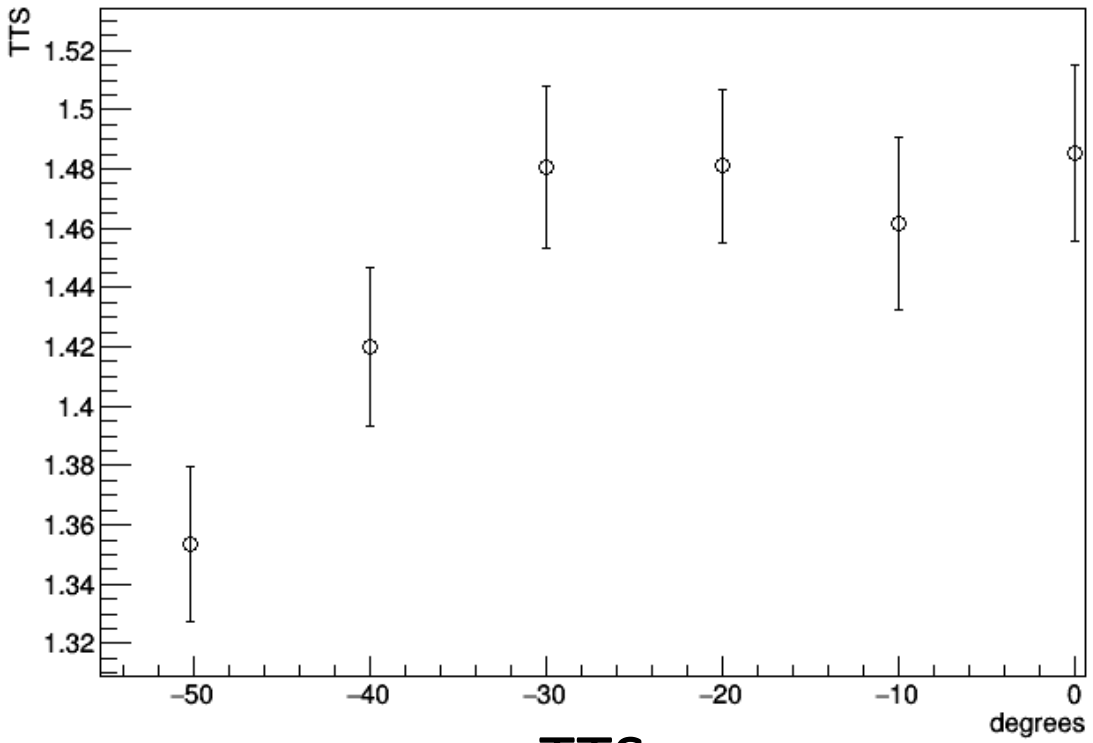
Number of p.e.



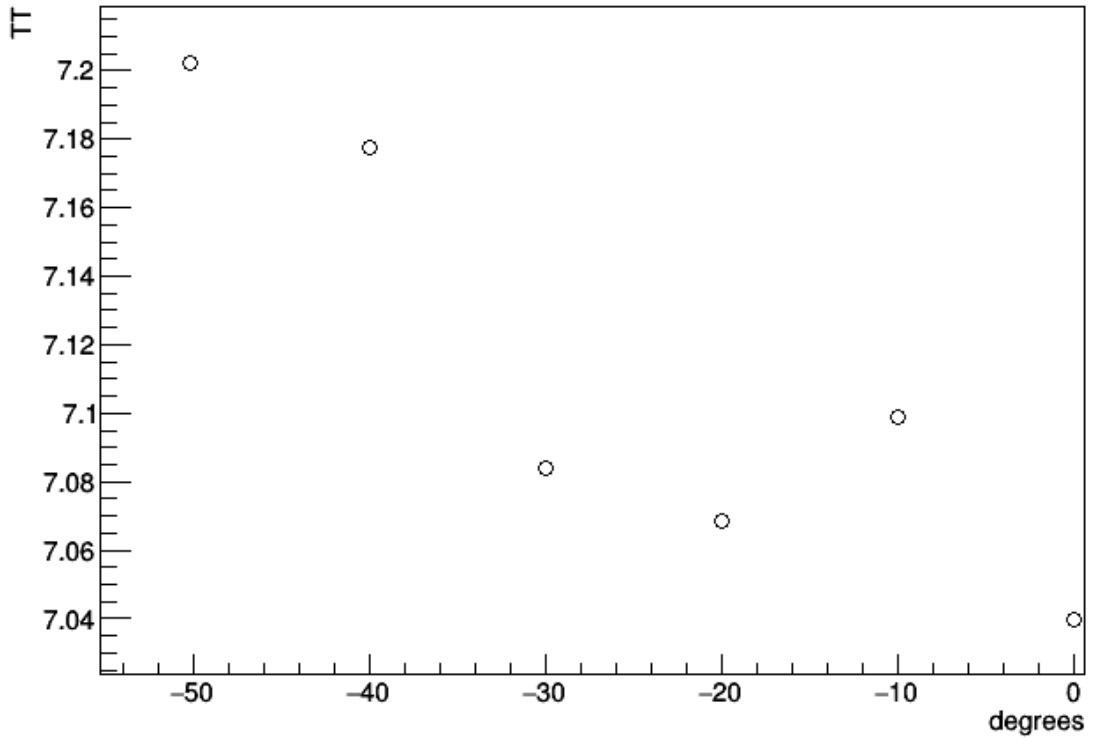
gain

The efficiency dropped at -50 degrees.

②BC0035/+1200 V rotated



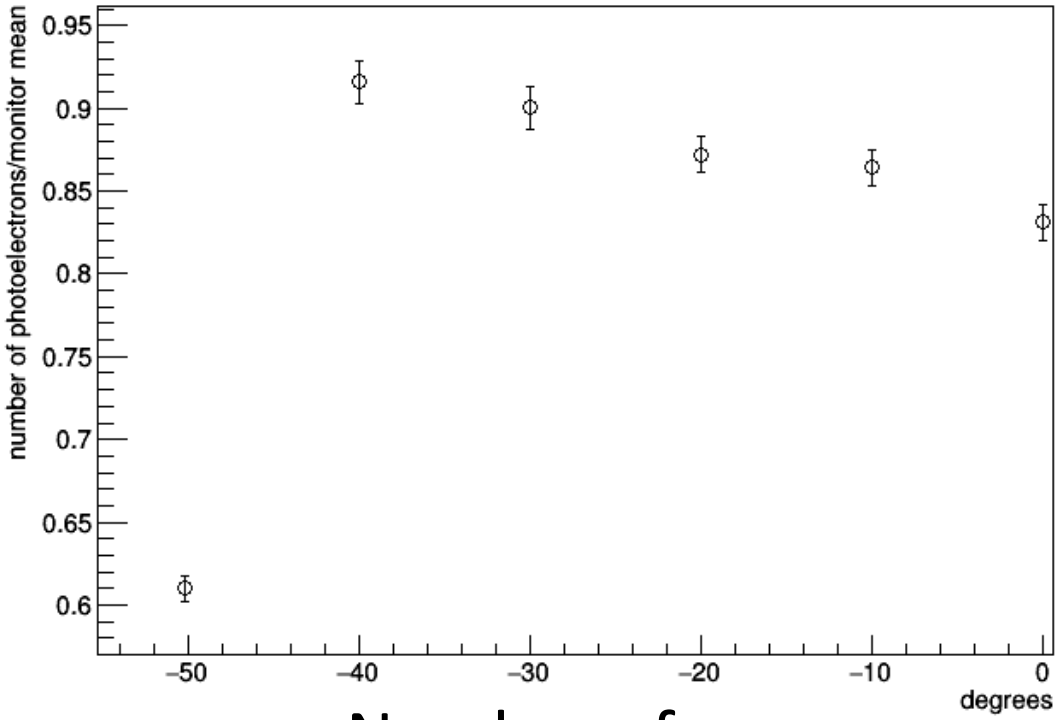
TTS



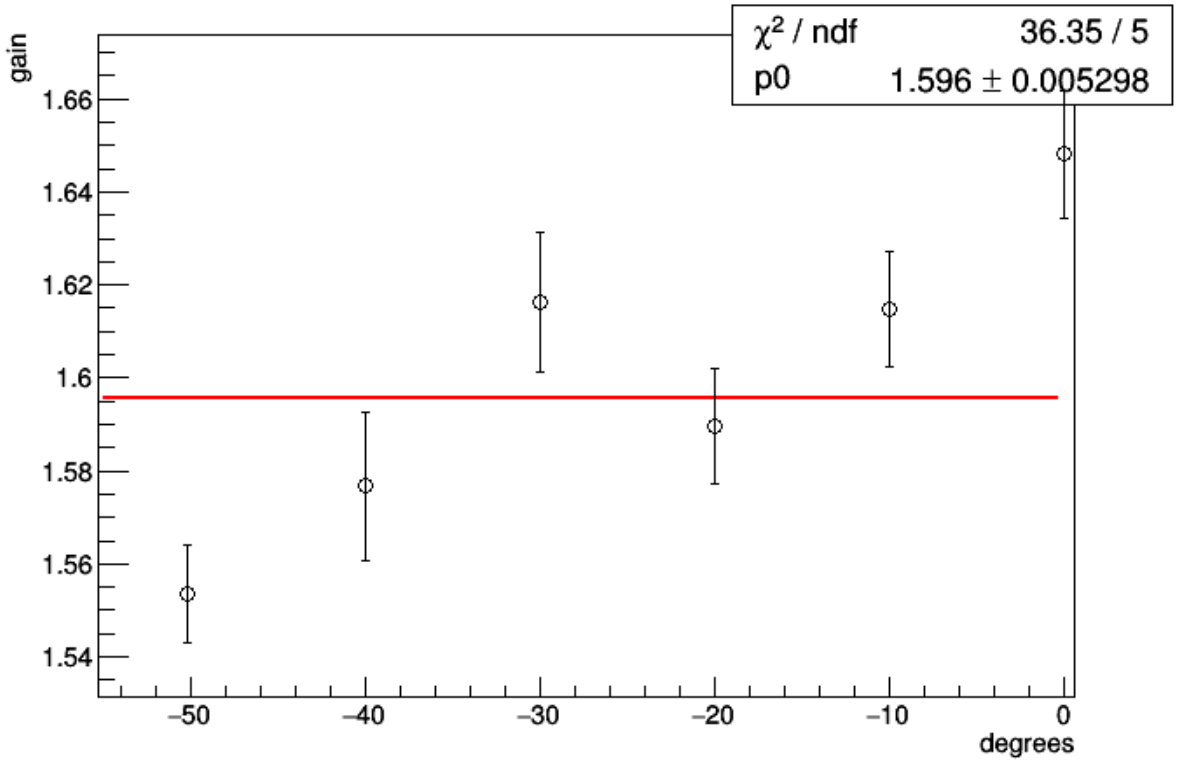
TT

TTS is smaller and TT is larger at larger angles.
Opposite trend as before rotation.

③BC0035/-1200 V



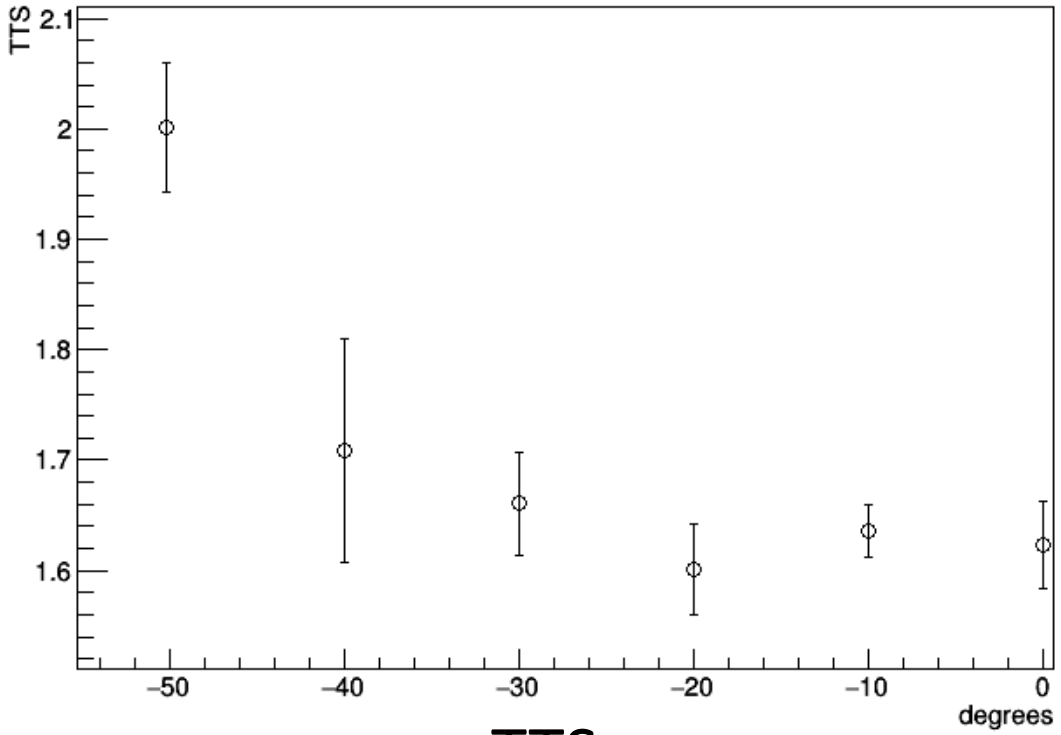
Number of p.e.



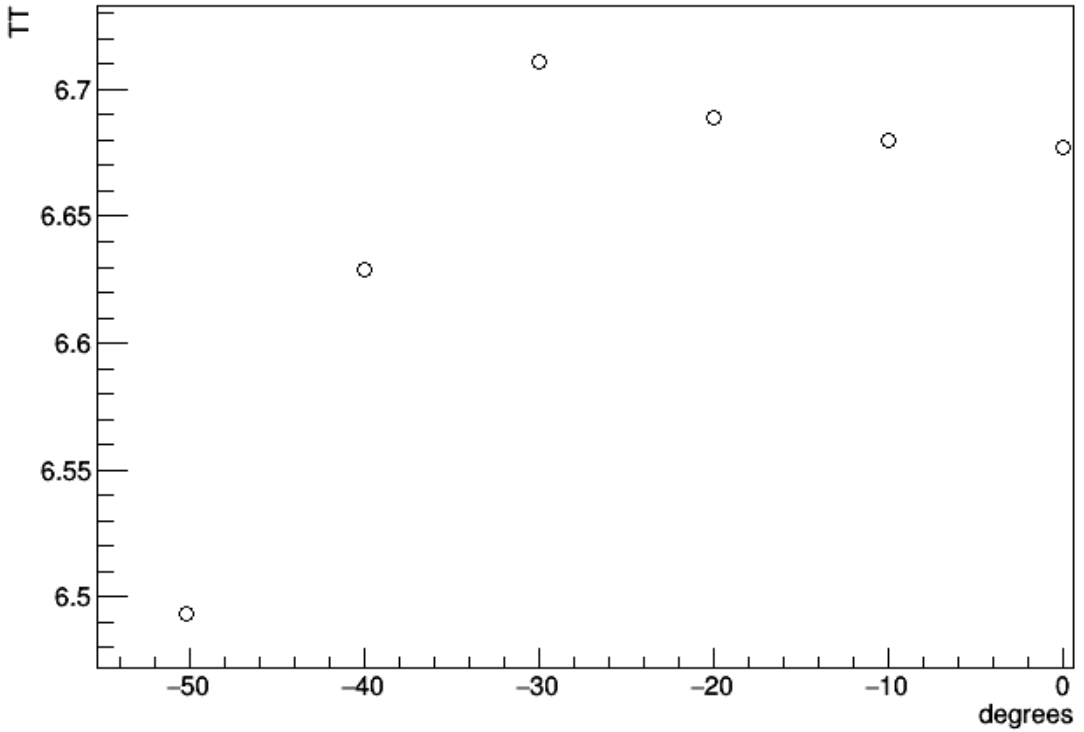
gain

The efficiency dropped at -50 degrees.
Gain is smaller at larger angles.

③BC0035/-1200 V



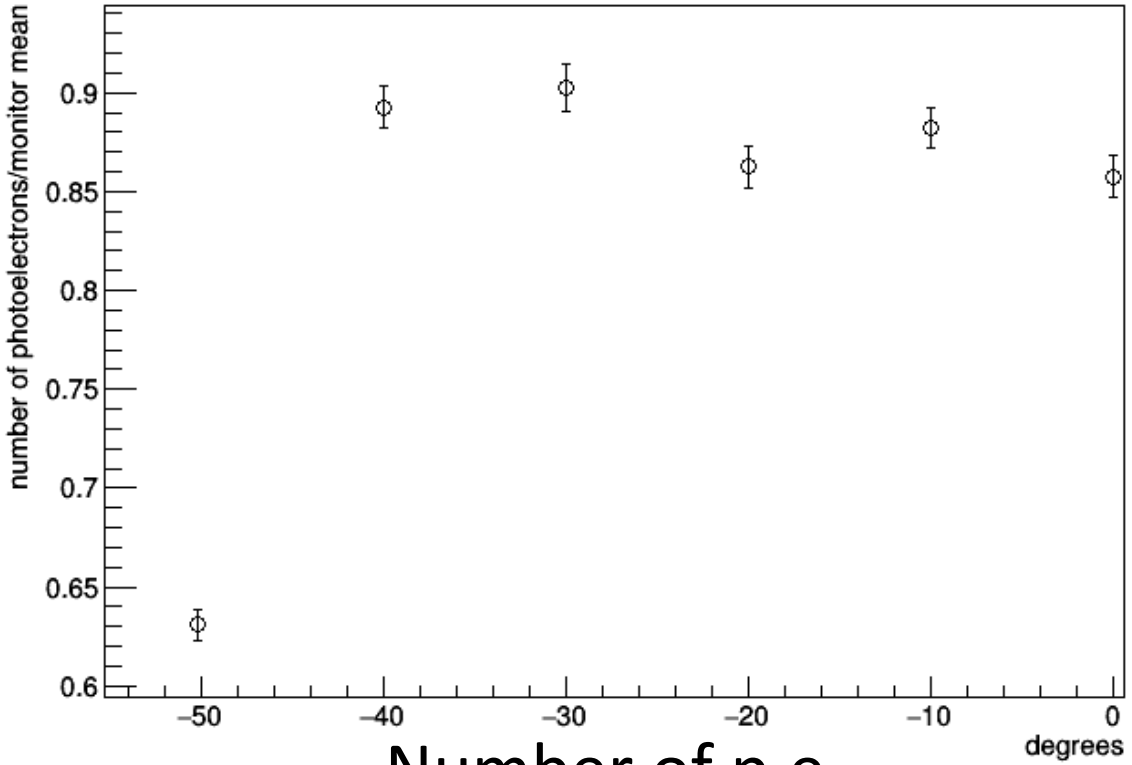
TTS



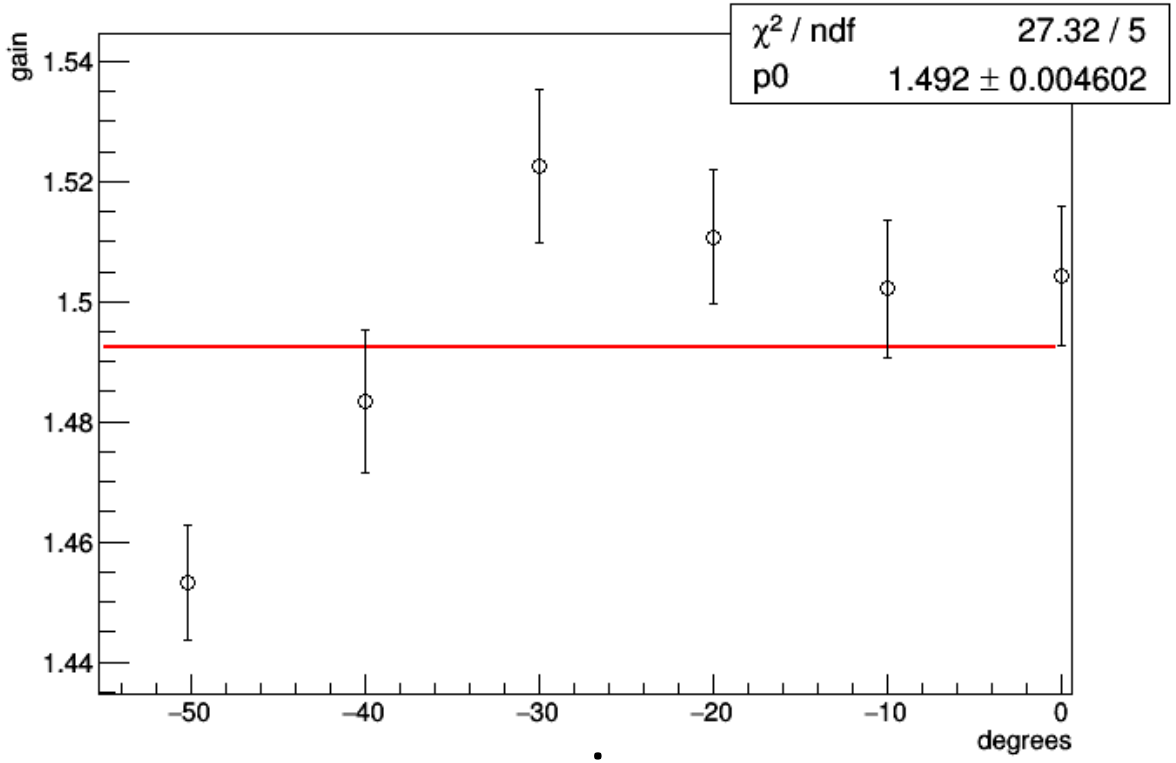
TT

TTS is larger and TT is smaller at -50 degrees.

④BC0035/-1200 V rotated



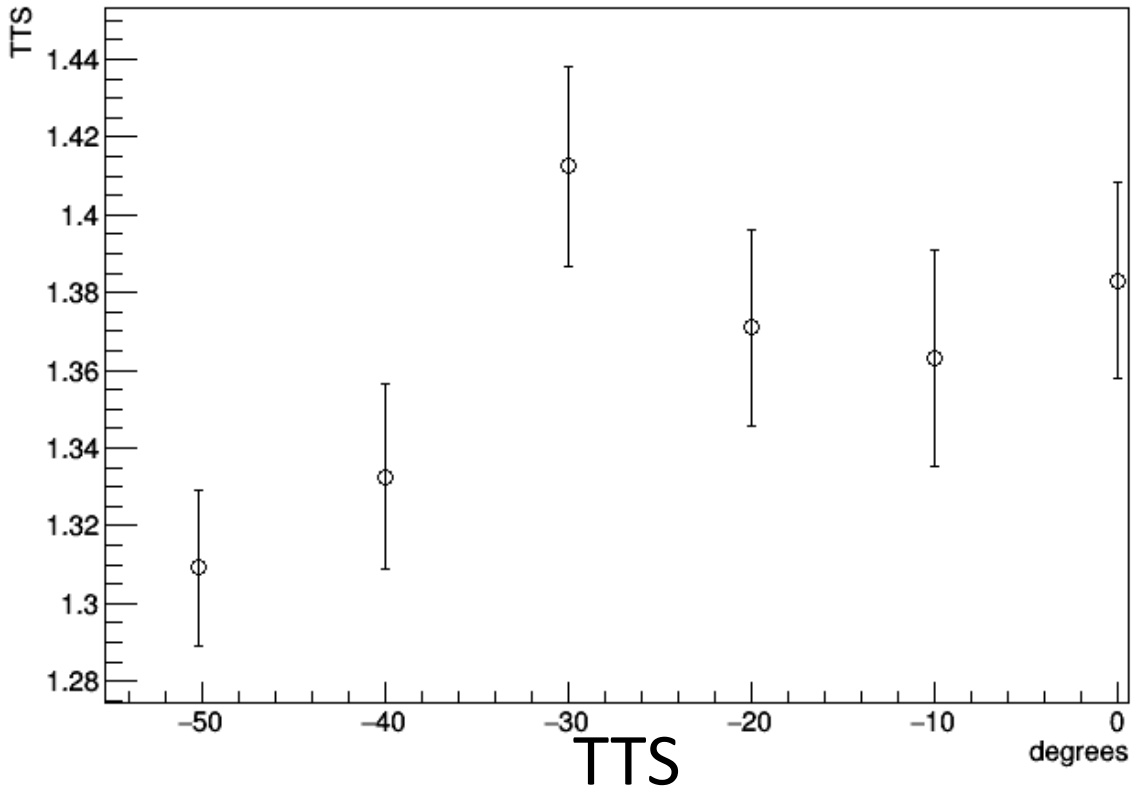
Number of p.e.



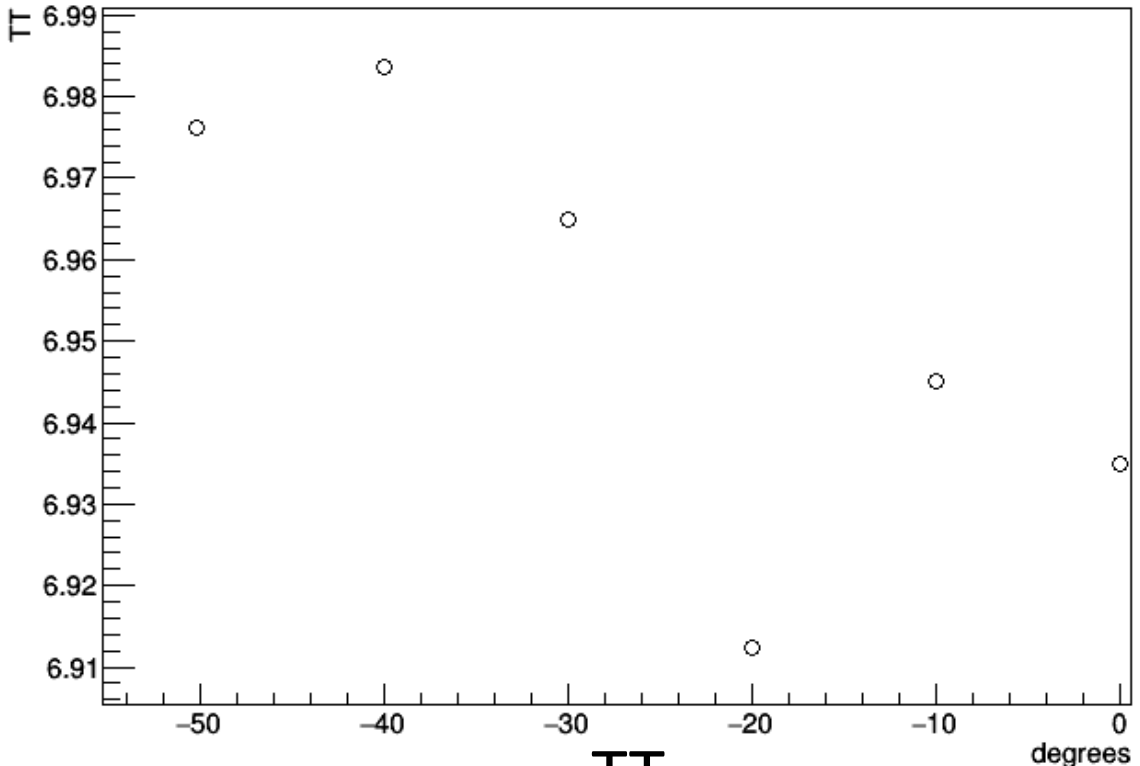
gain

The efficiency dropped at -50 degrees.

④BC0035/-1200 V rotated

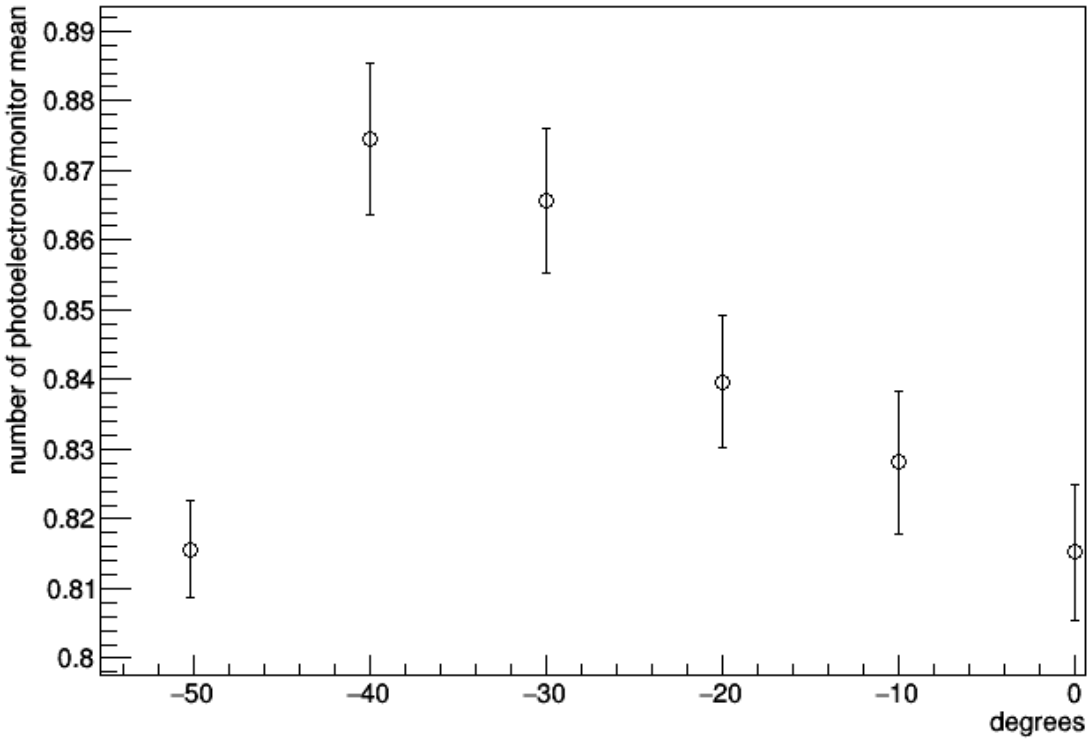


TTS

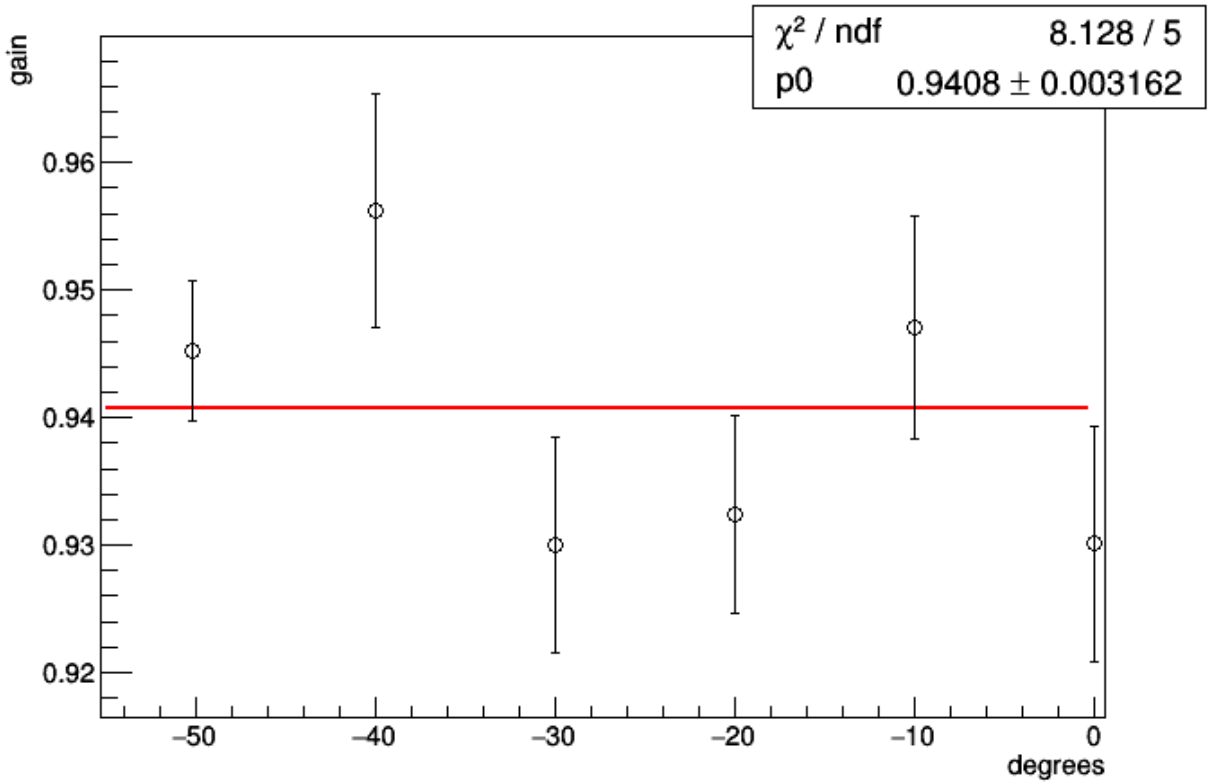


TT

⑤BC0038/+1200 V



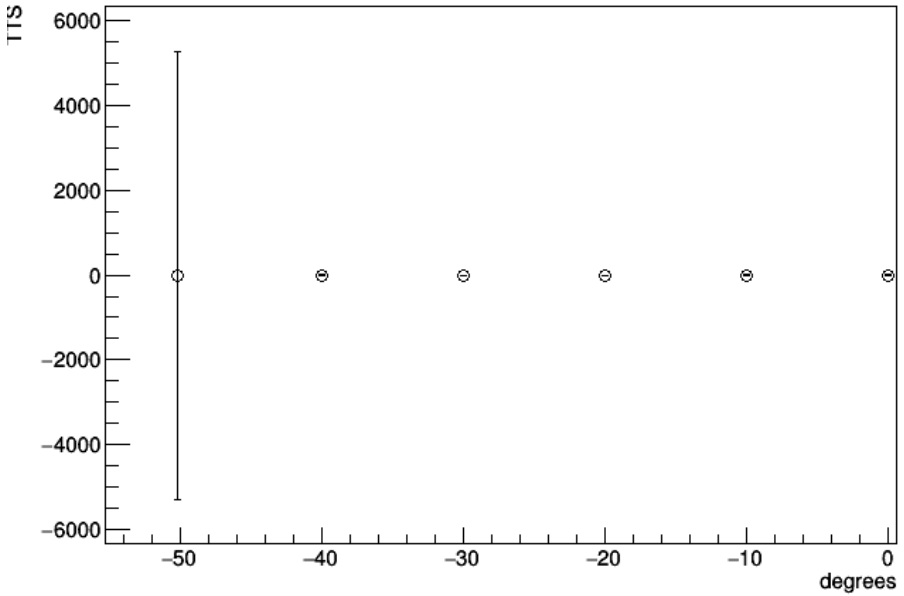
Number of p.e.



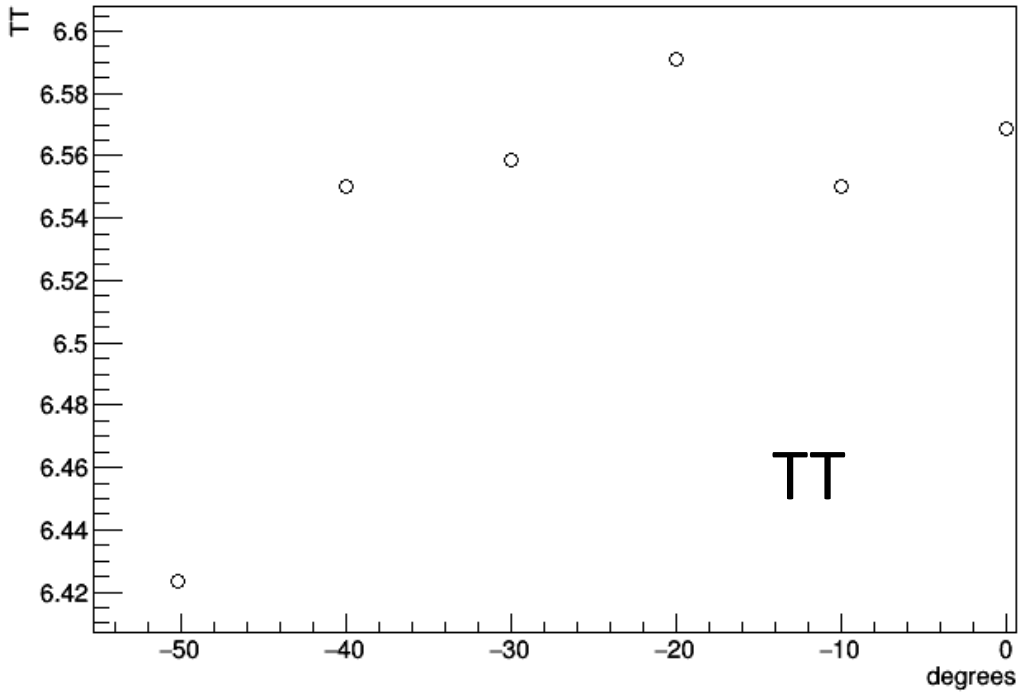
gain

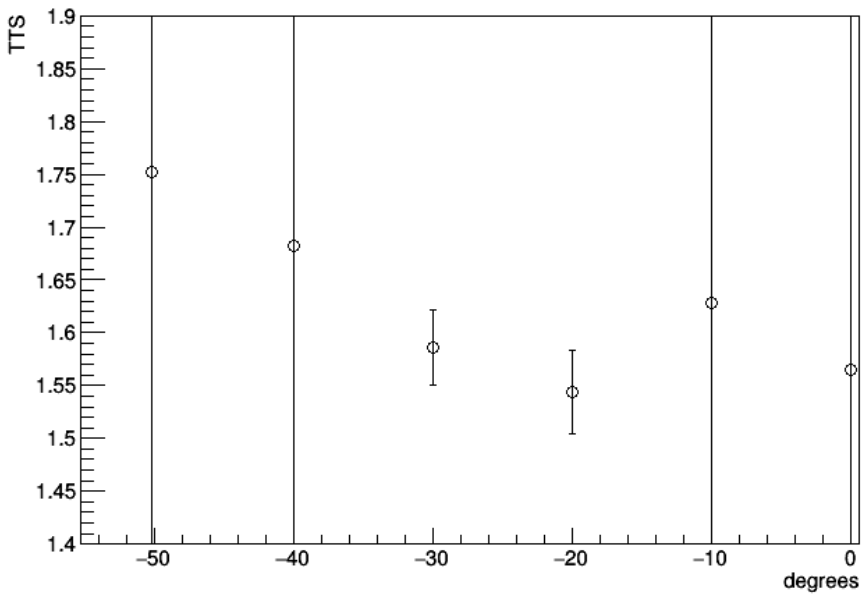
The efficiency dropped at -50 and 0 degrees.
Gain is almost uniform.

⑤BC0038/+1200 V

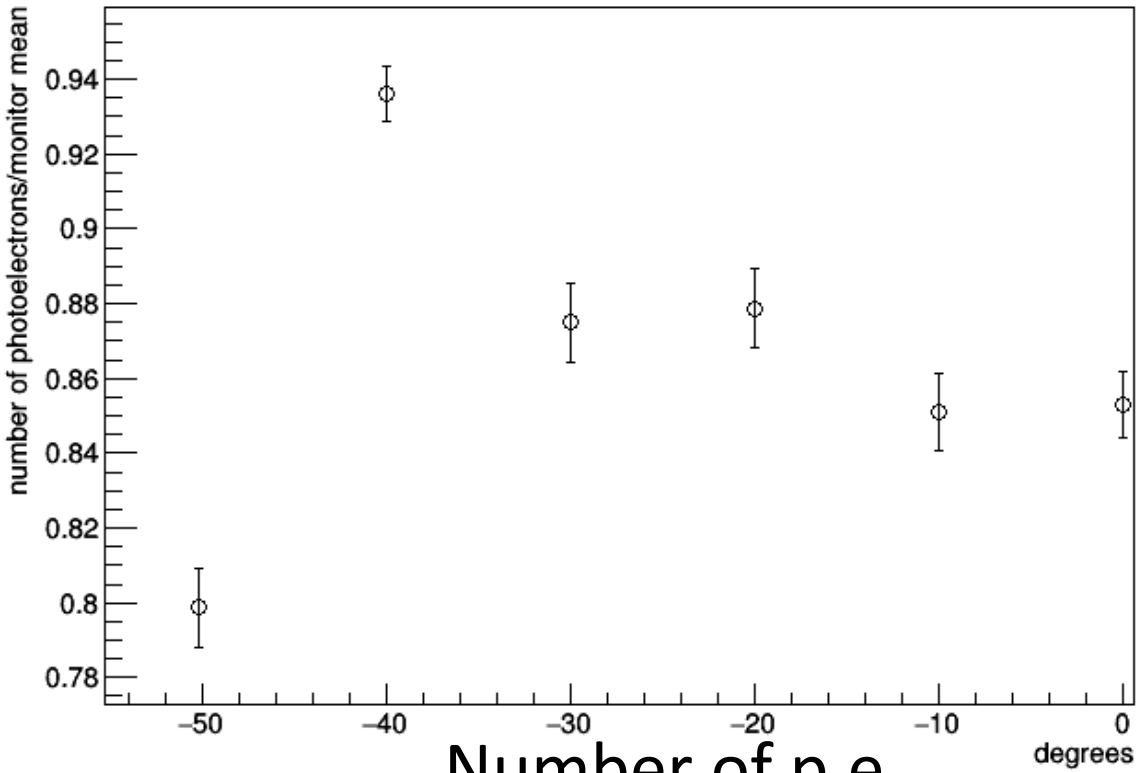


TTS

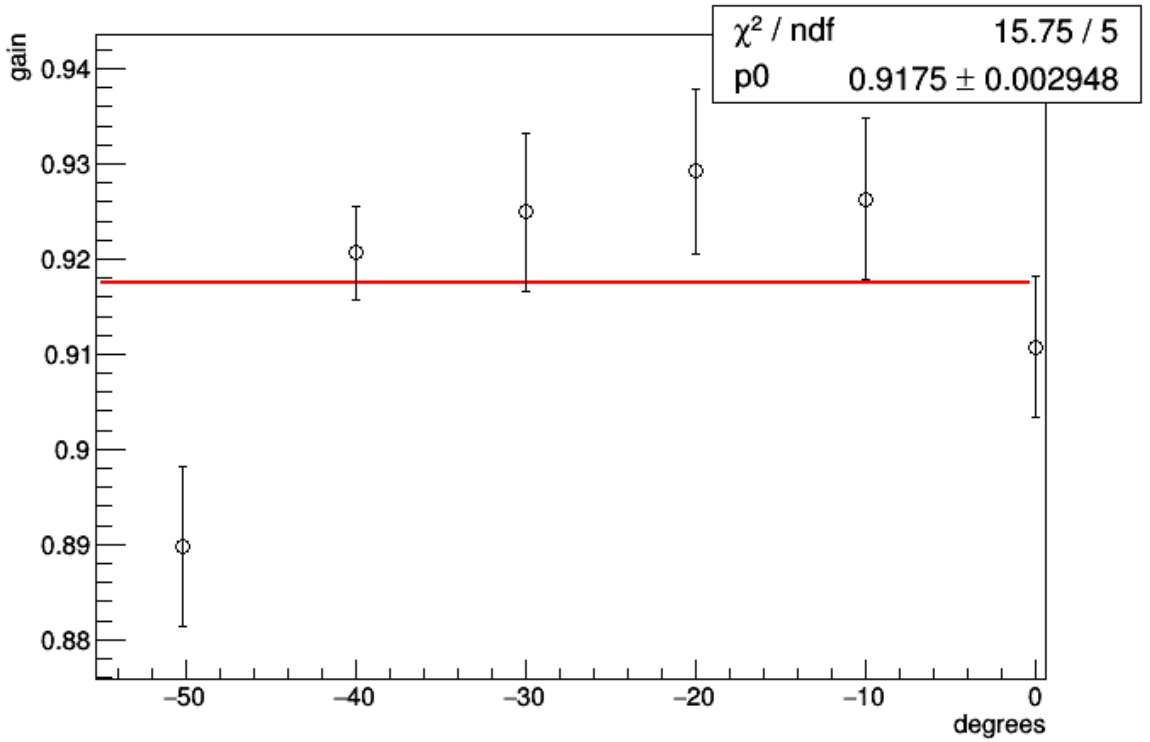




⑥BC0038/+1200 V rotated



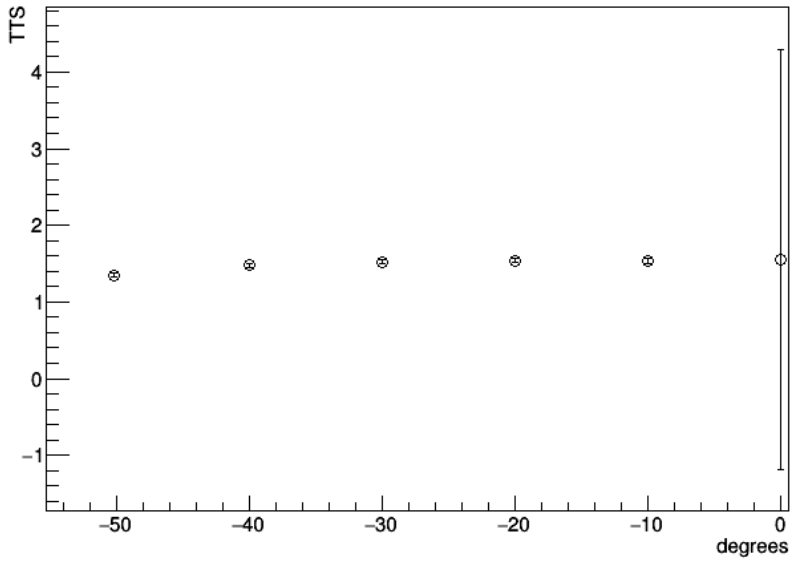
Number of p.e.

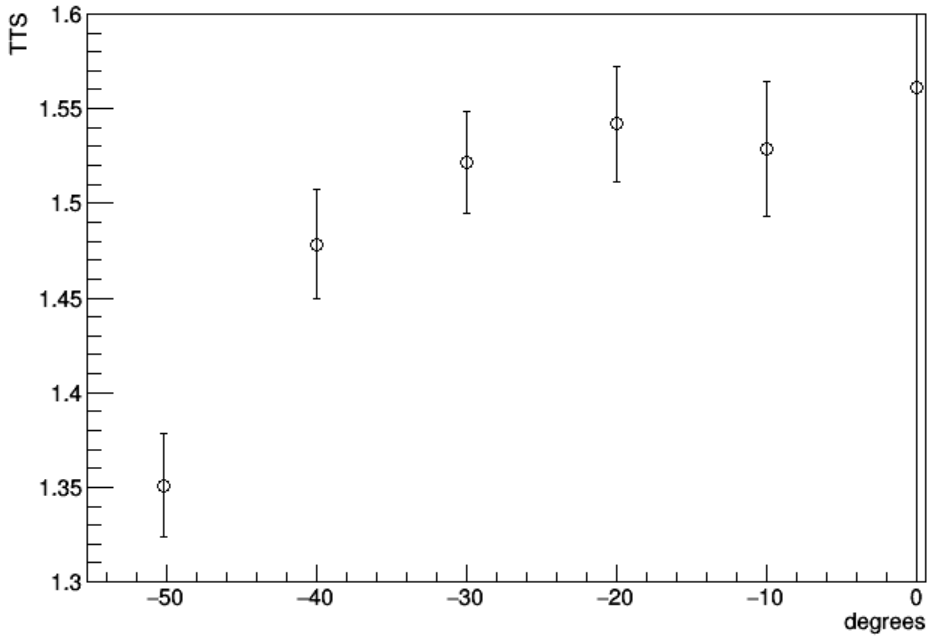


gain

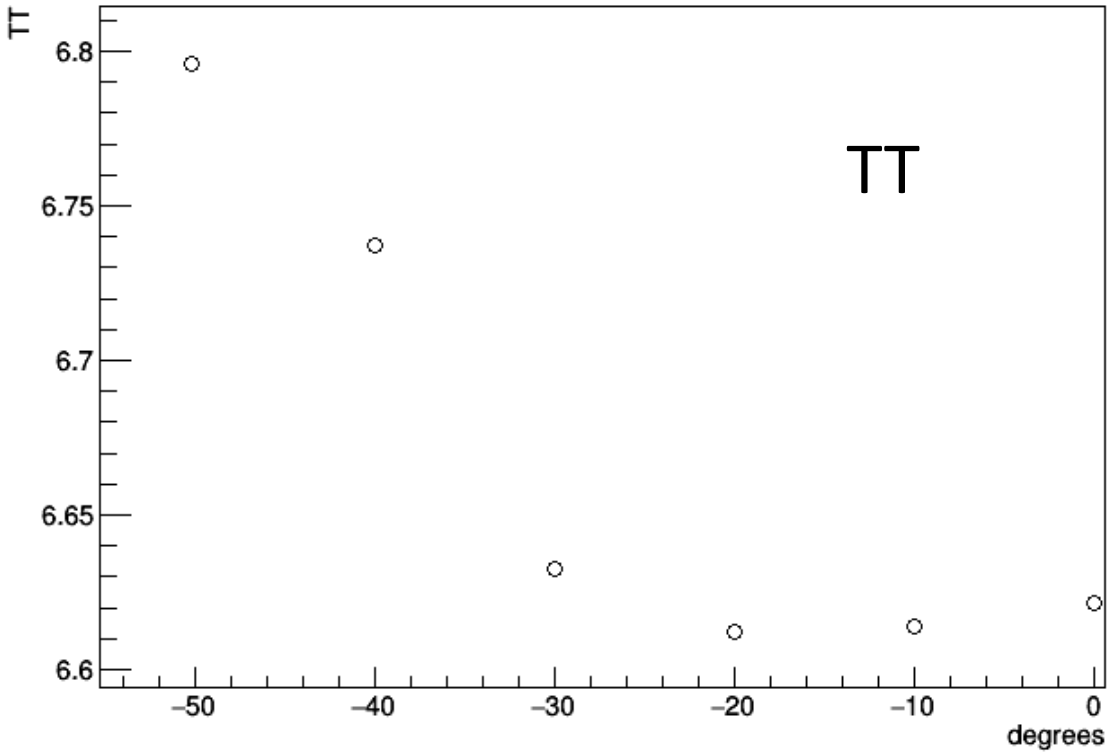
The efficiency and the gain are smaller at -50 degrees.

⑥BC0038/+1200 V rotated





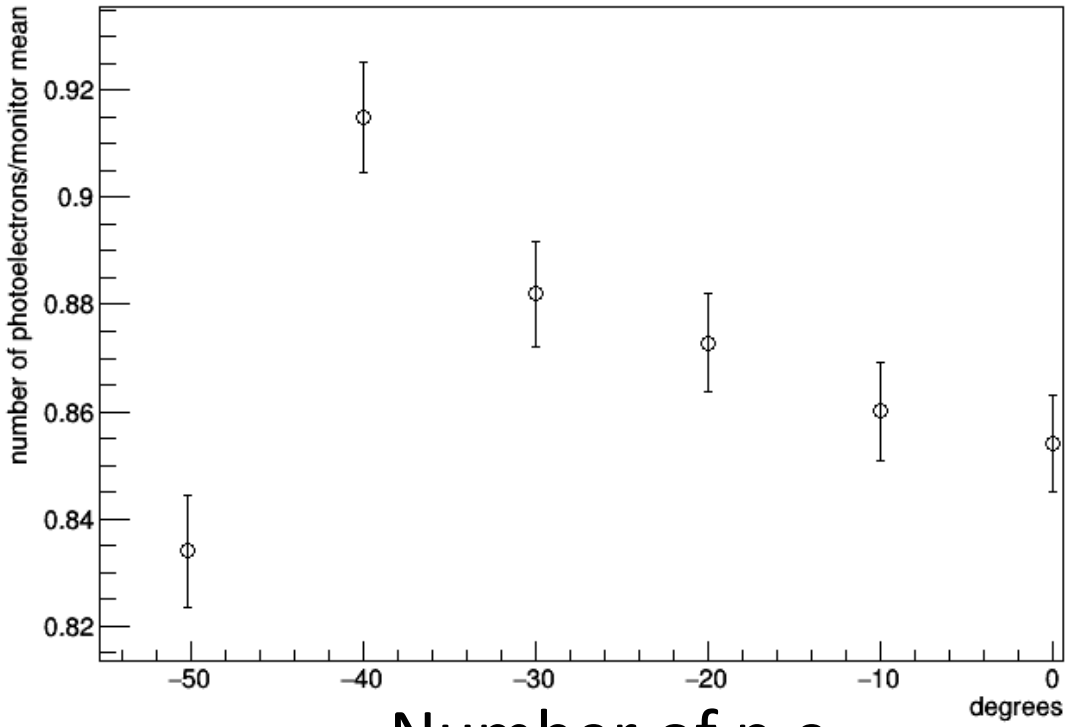
TTS



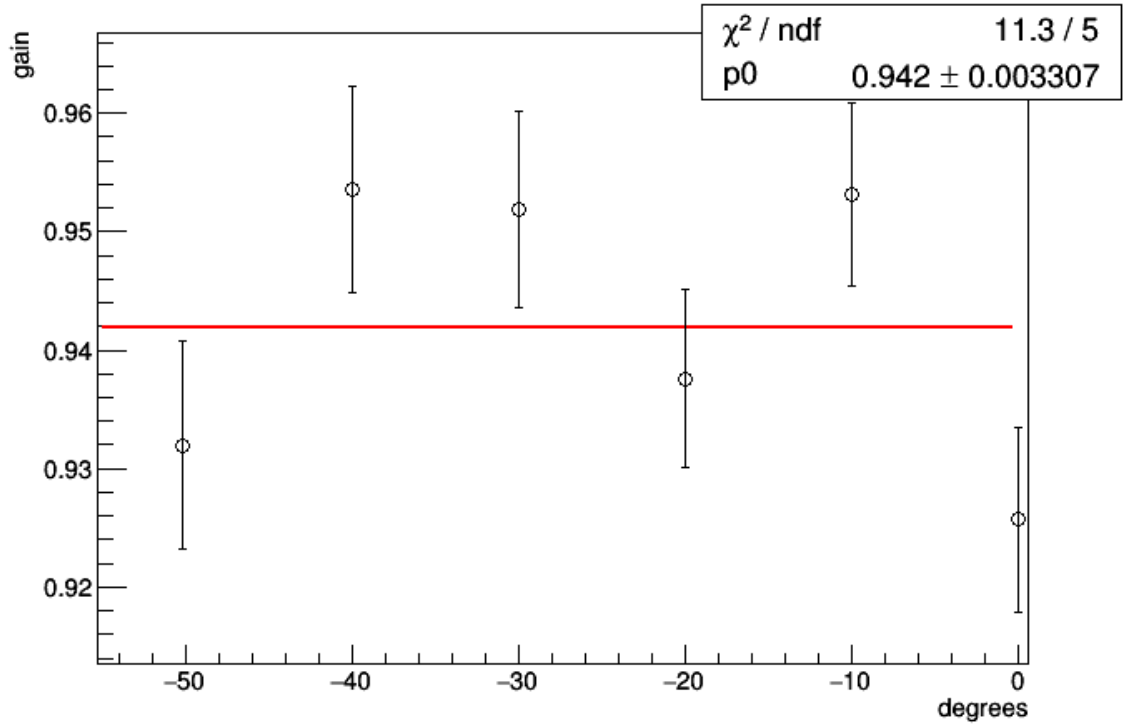
TT

TTS is smaller and TT is larger at larger angles.
Opposite trend as before rotation.

⑦BC0038/-1200 V



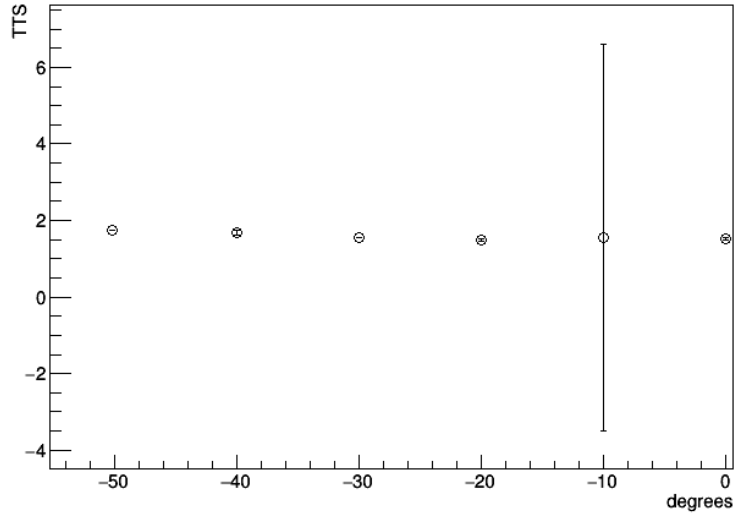
Number of p.e.



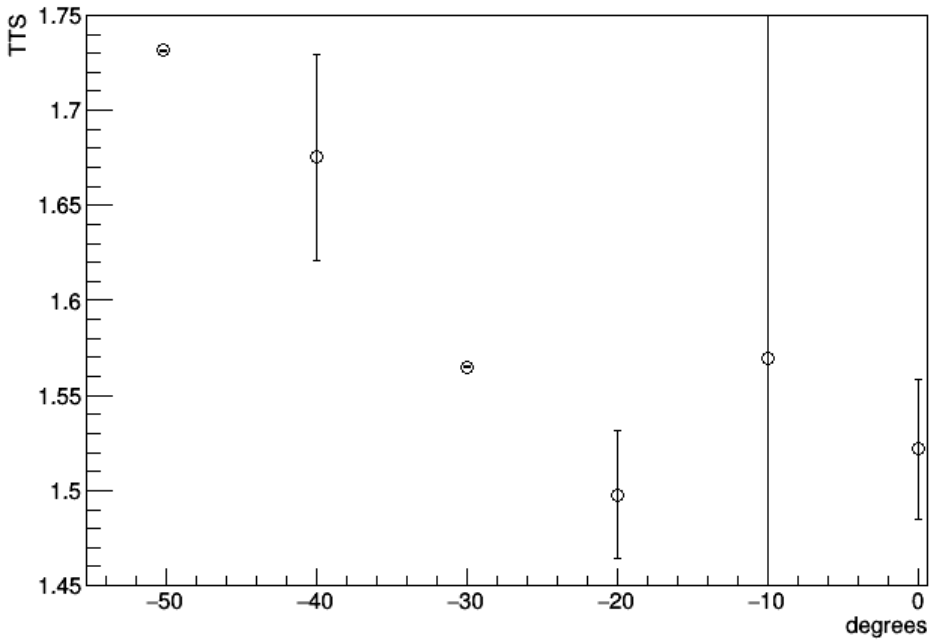
gain

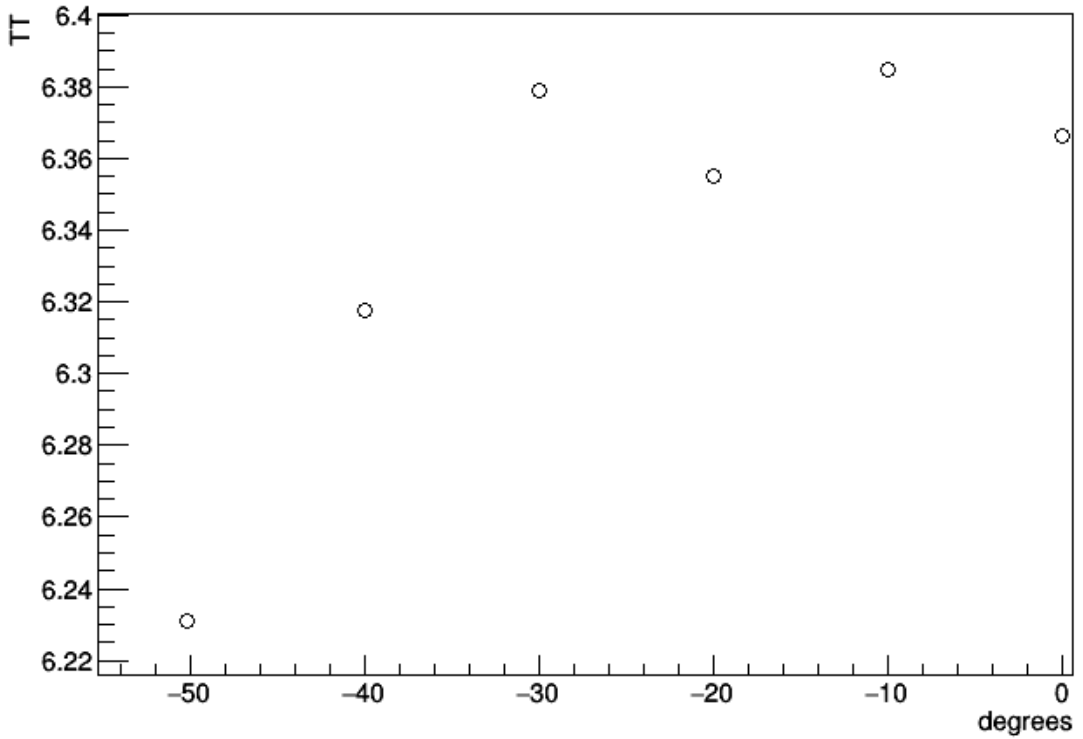
The efficiency dropped at -50 and 0 degrees.

⑦BC0038/-1200 V



TTS

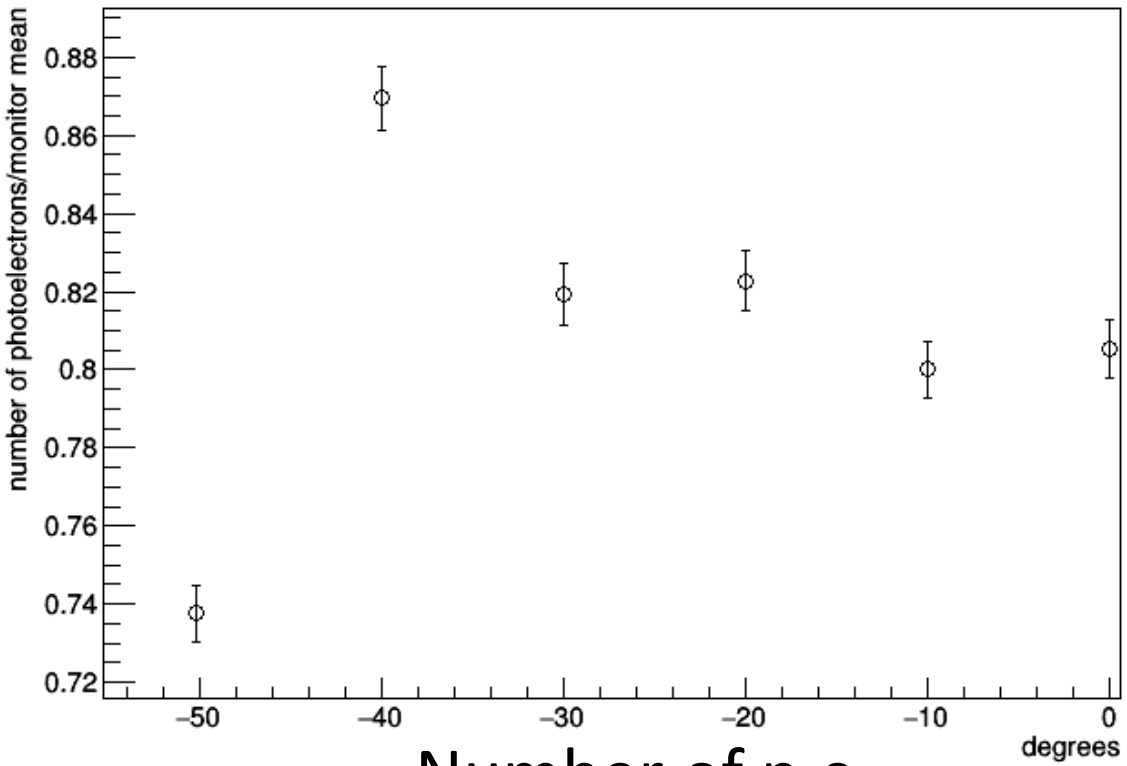




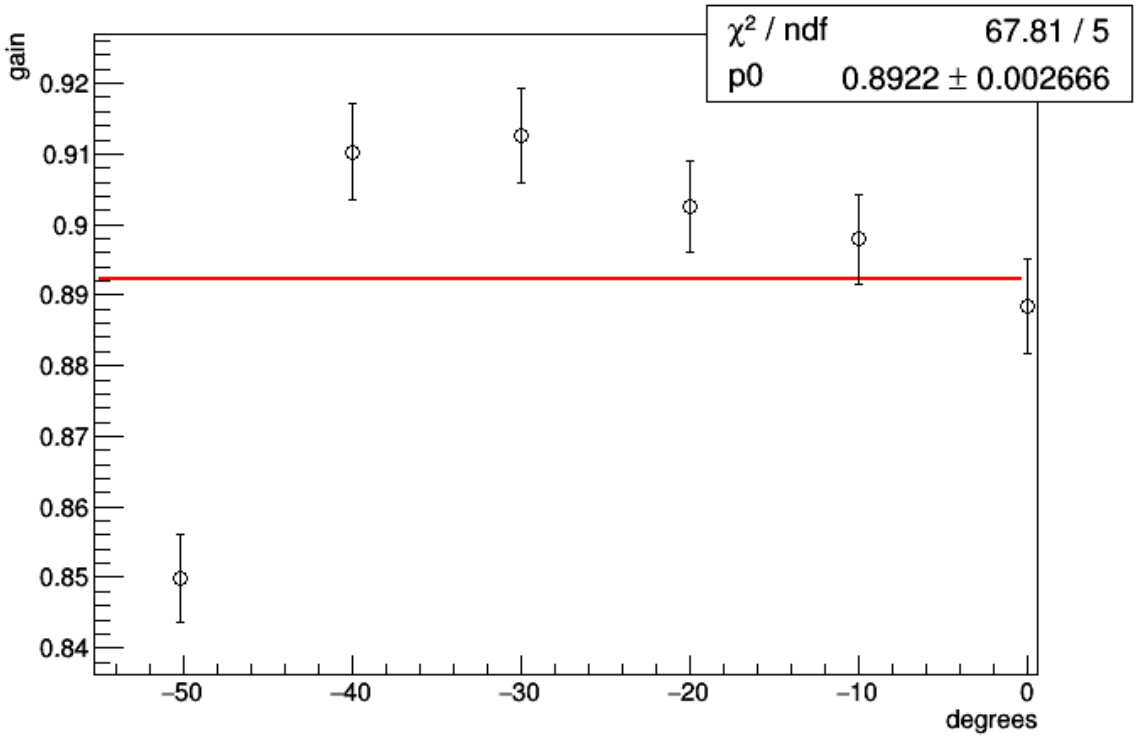
TT

TTS is larger and TT is smaller at larger angles.

⑧BC0038/-1200 V rotated



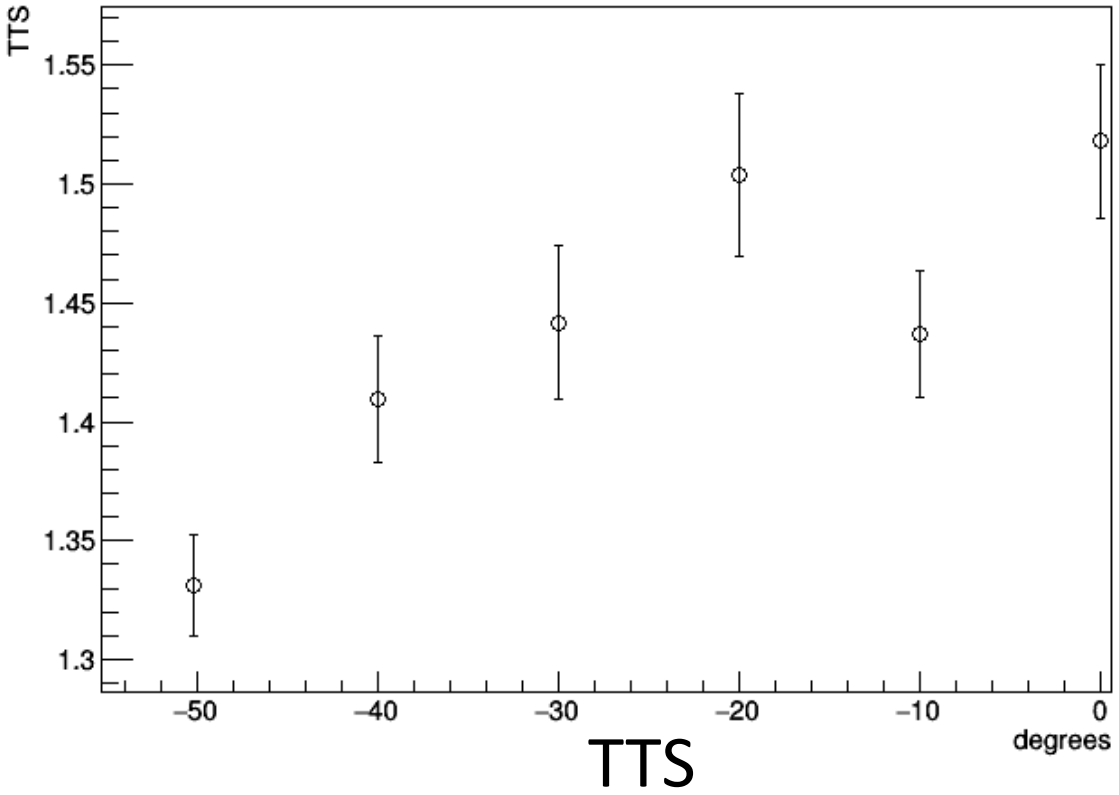
Number of p.e.

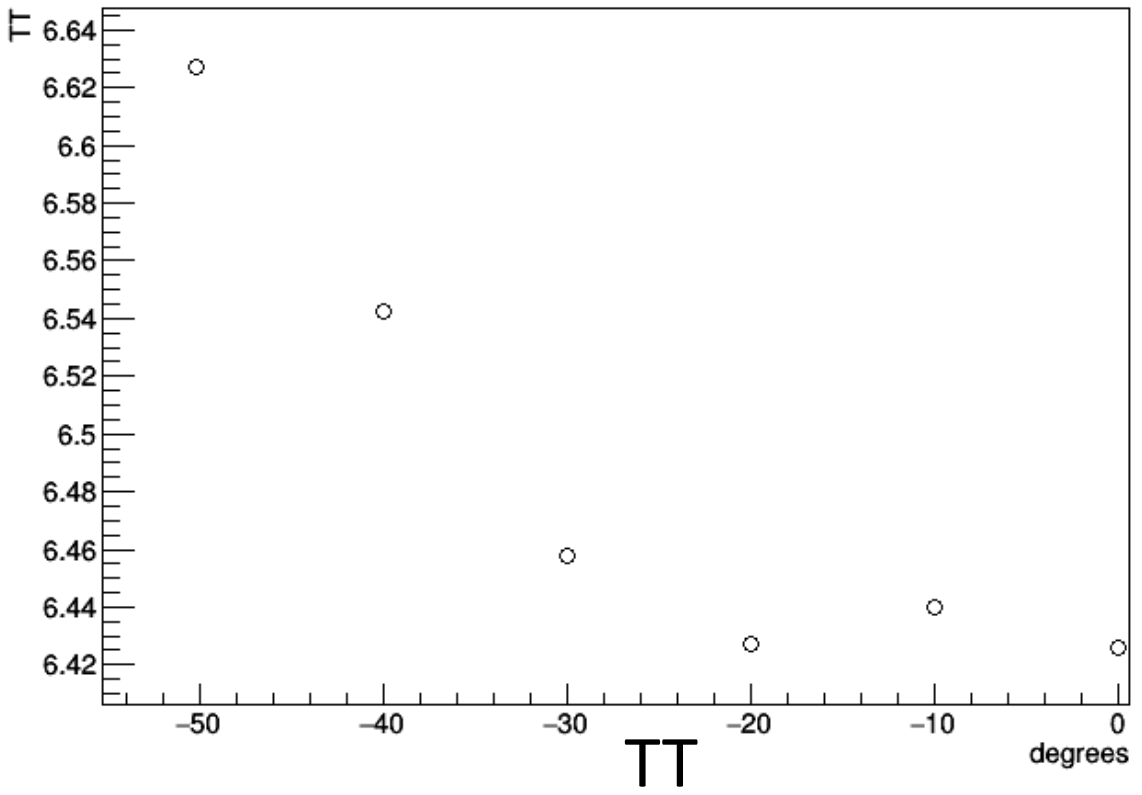


gain

The efficiency and the gain are smaller at -50 degrees.

⑧BC0038/-1200 V rotated



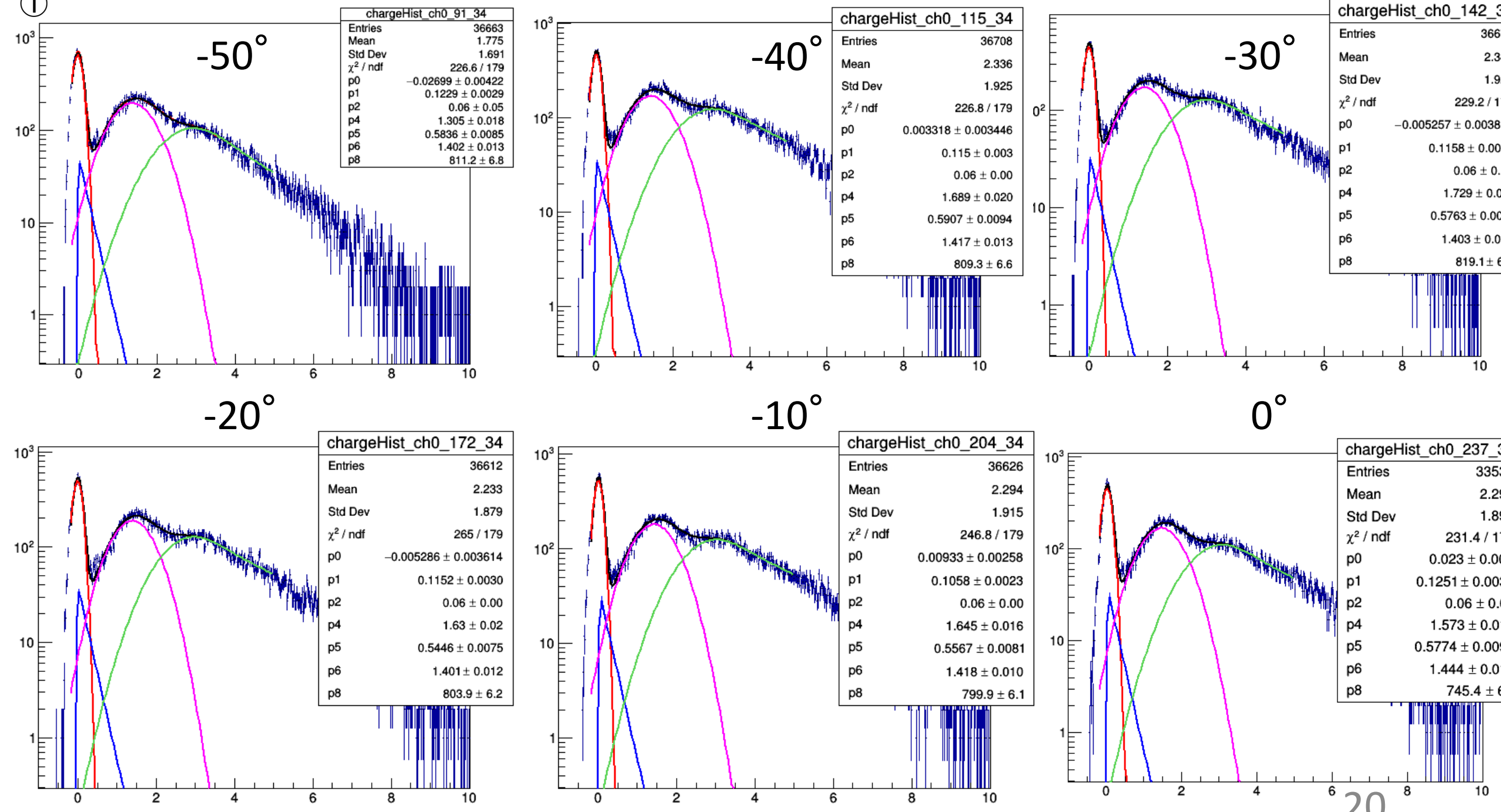


TTS is smaller and TT is larger at -50 degrees.

Conclusion

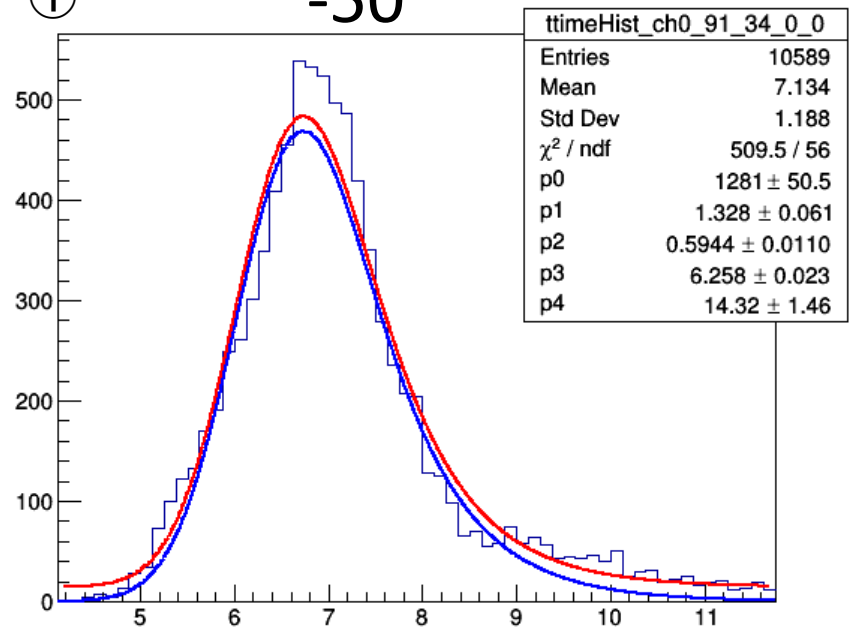
- The efficiency (and gain?) drops at -50 degrees with BC0035.
- The efficiency is highest at -40 degrees with BC0038.

- TTS is larger and TT is smaller at larger angles.
- When rotated, the trends of TTS and TT also rotate.

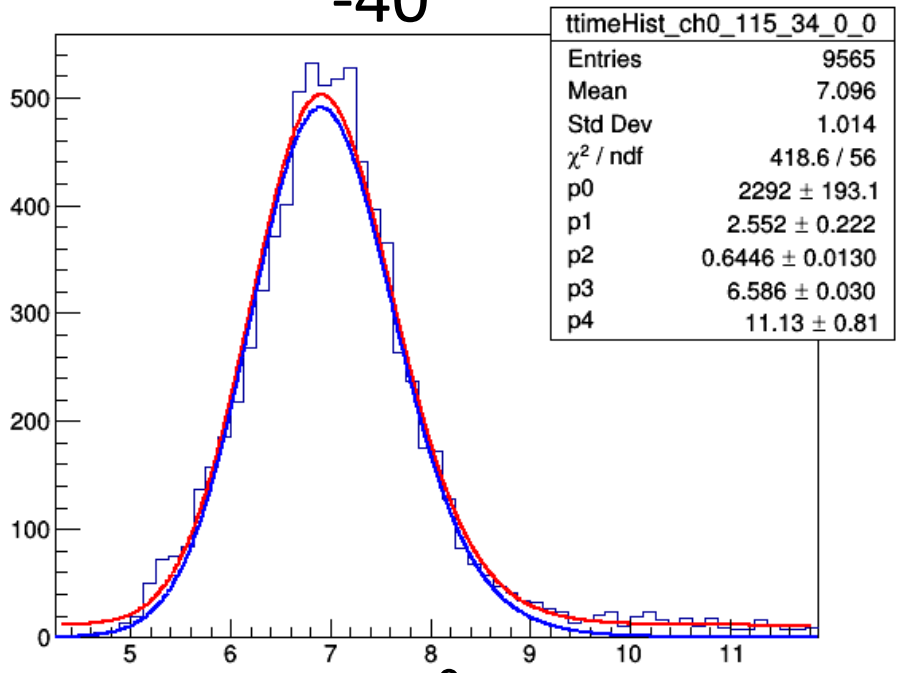

-50°
chargeHist_ch0_91_34
Entries 36663
Mean 1.775
Std Dev 1.691
χ² / ndf 226.6 / 179
p0 −0.02699 ± 0.00422
p1 0.1229 ± 0.0029
p2 0.06 ± 0.05
p4 1.305 ± 0.018
p5 0.5836 ± 0.0085
p6 1.402 ± 0.013
p8 811.2 ± 6.8
-40°
chargeHist_ch0_115_34
Entries 36708
Mean 2.336
Std Dev 1.925
χ² / ndf 226.8 / 179
p0 0.003318 ± 0.003446
p1 0.115 ± 0.003
p2 0.06 ± 0.00
p4 1.689 ± 0.020
p5 0.5907 ± 0.0094
p6 1.417 ± 0.013
p8 809.3 ± 6.6
-30°
chargeHist_ch0_142_3
Entries 366
Mean 2.3
Std Dev 1.9
χ² / ndf 229.2 / 1
p0 −0.005257 ± 0.0038
p1 0.1158 ± 0.00
p2 0.06 ± 0.
p4 1.729 ± 0.0
p5 0.5763 ± 0.00
p6 1.403 ± 0.0
p8 819.1 ± 6
-20°
chargeHist_ch0_172_34
Entries 36612
Mean 2.233
Std Dev 1.879
χ² / ndf 265 / 179
p0 −0.005286 ± 0.003614
p1 0.1152 ± 0.0030
p2 0.06 ± 0.00
p4 1.63 ± 0.02
p5 0.5446 ± 0.0075
p6 1.401 ± 0.012
p8 803.9 ± 6.2
-10°
chargeHist_ch0_204_34
Entries 36626
Mean 2.294
Std Dev 1.915
χ² / ndf 246.8 / 179
p0 0.00933 ± 0.00258
p1 0.1058 ± 0.0023
p2 0.06 ± 0.00
p4 1.645 ± 0.016
p5 0.5567 ± 0.0081
p6 1.418 ± 0.010
p8 799.9 ± 6.1
0°
chargeHist_ch0_237_3
Entries 335
Mean 2.2
Std Dev 1.8
χ² / ndf 231.4 / 1
p0 0.023 ± 0.0
p1 0.1251 ± 0.00
p2 0.06 ± 0.
p4 1.573 ± 0.0
p5 0.5774 ± 0.00
p6 1.444 ± 0.0
p8 745.4 ± 6

①

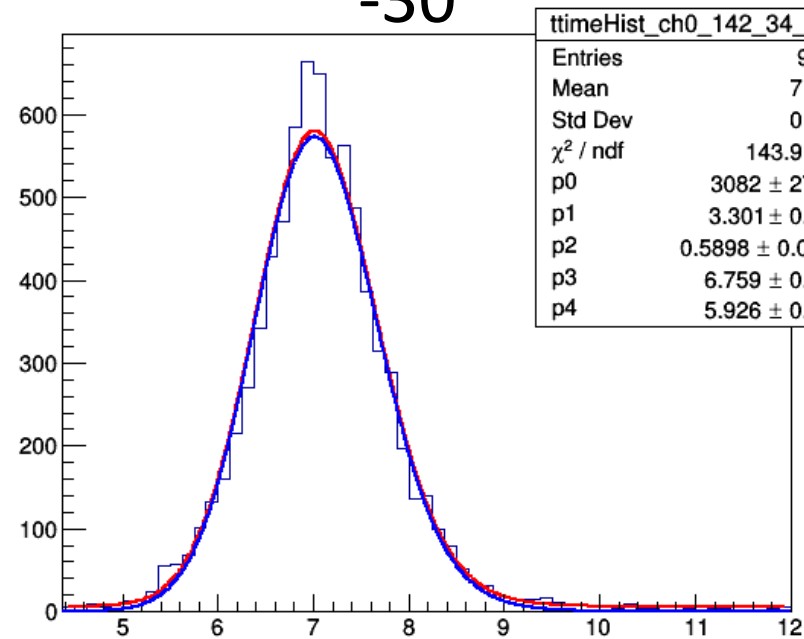
-50°



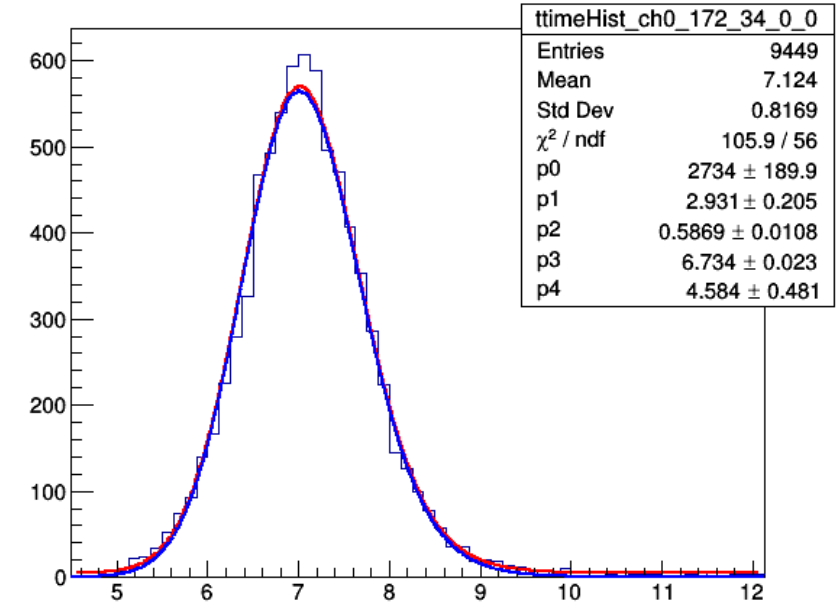
-40°



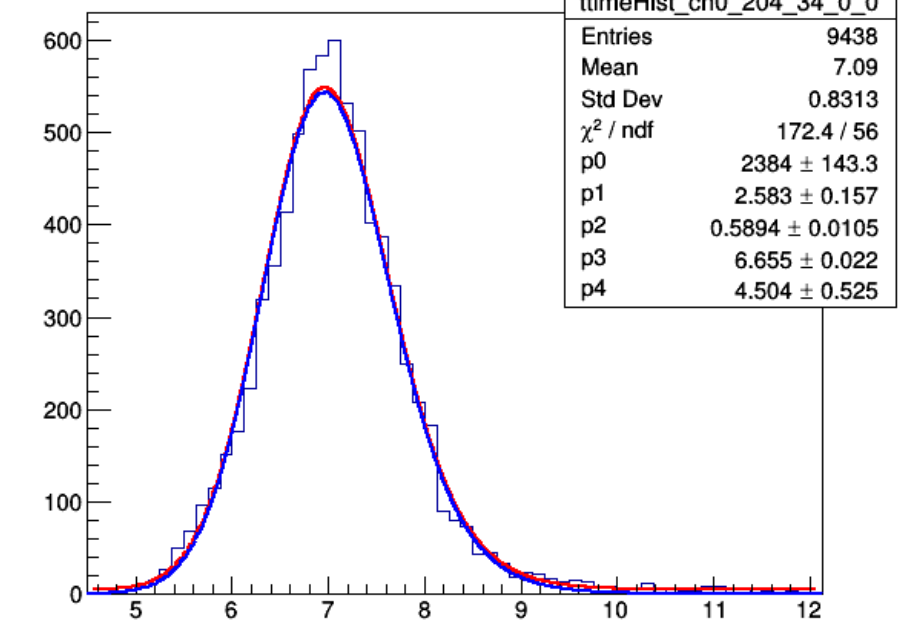
-30°



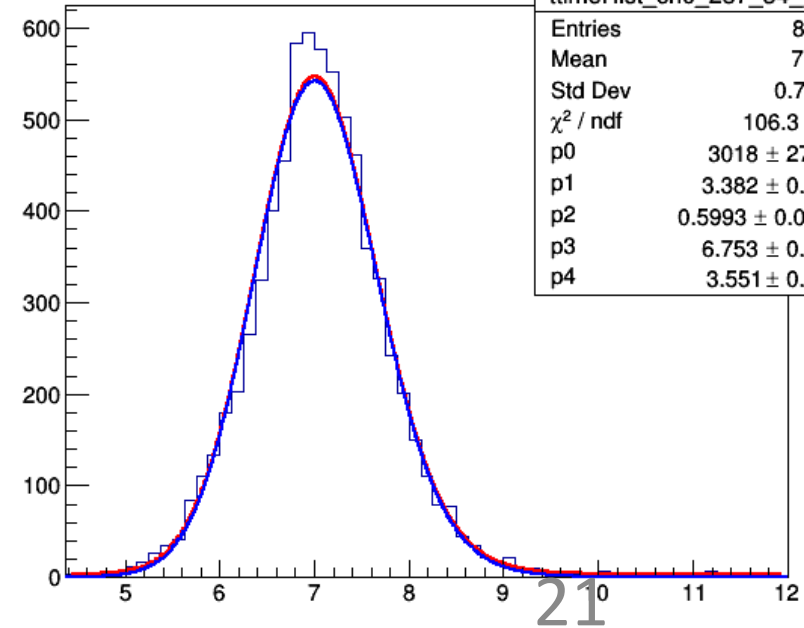
-20°



-10°

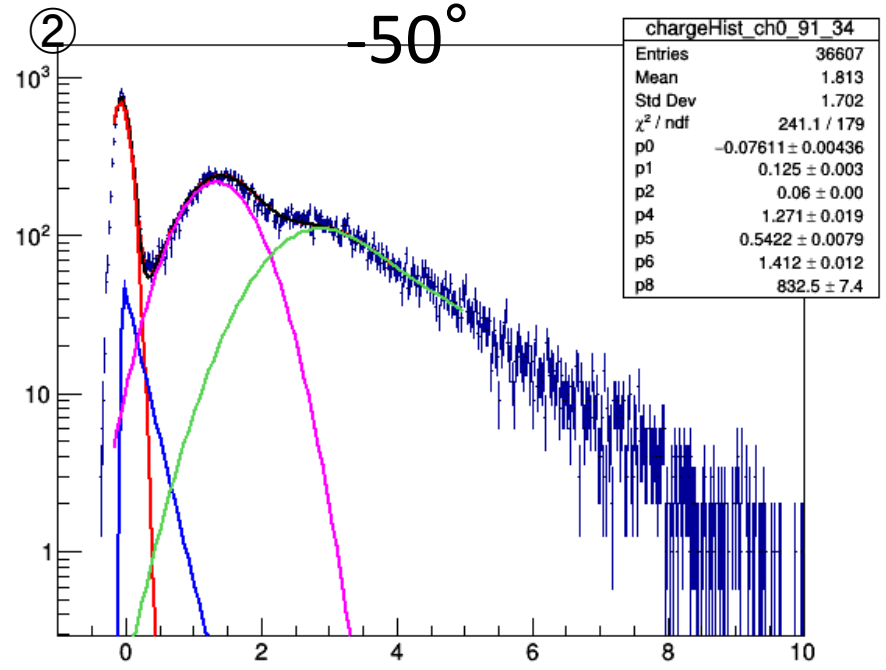


0°

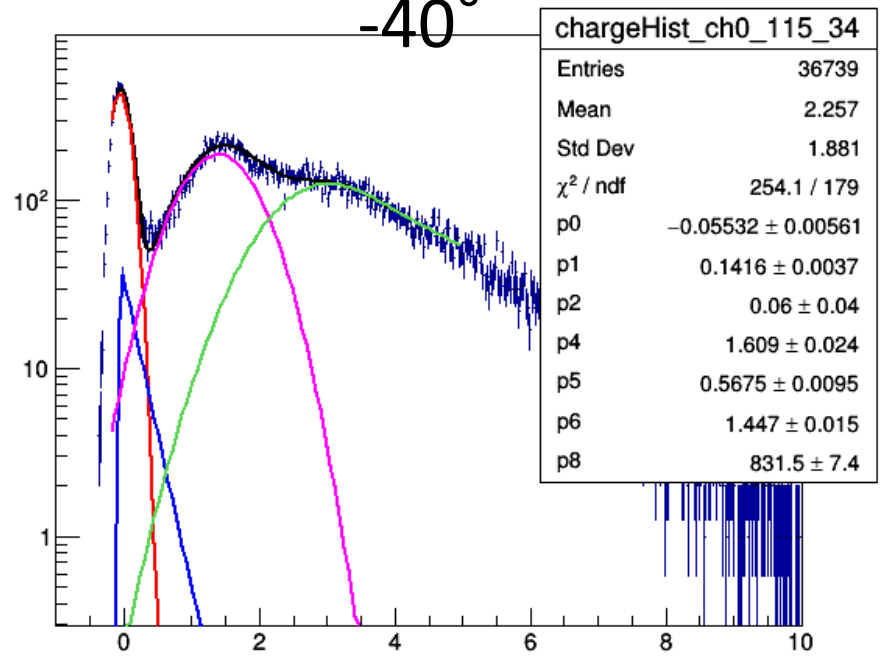


②

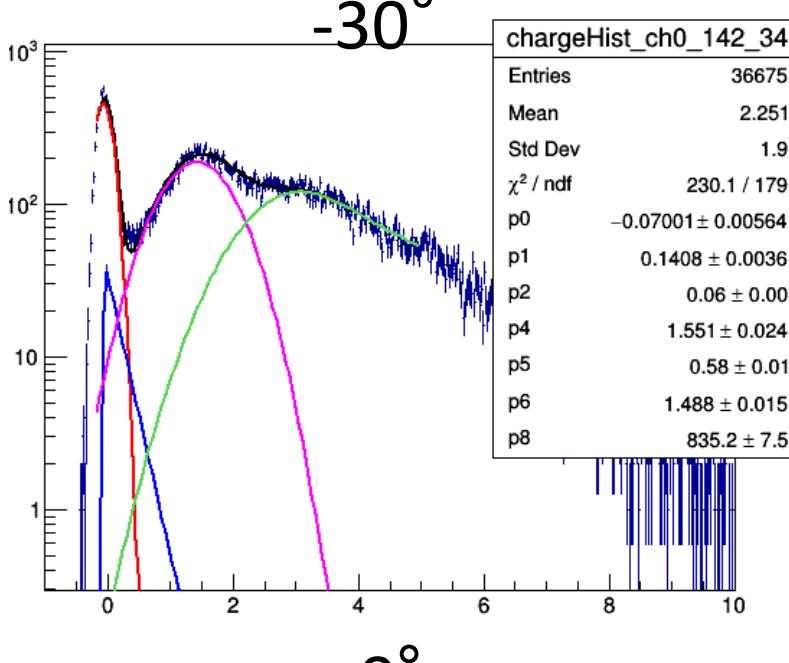
-50°



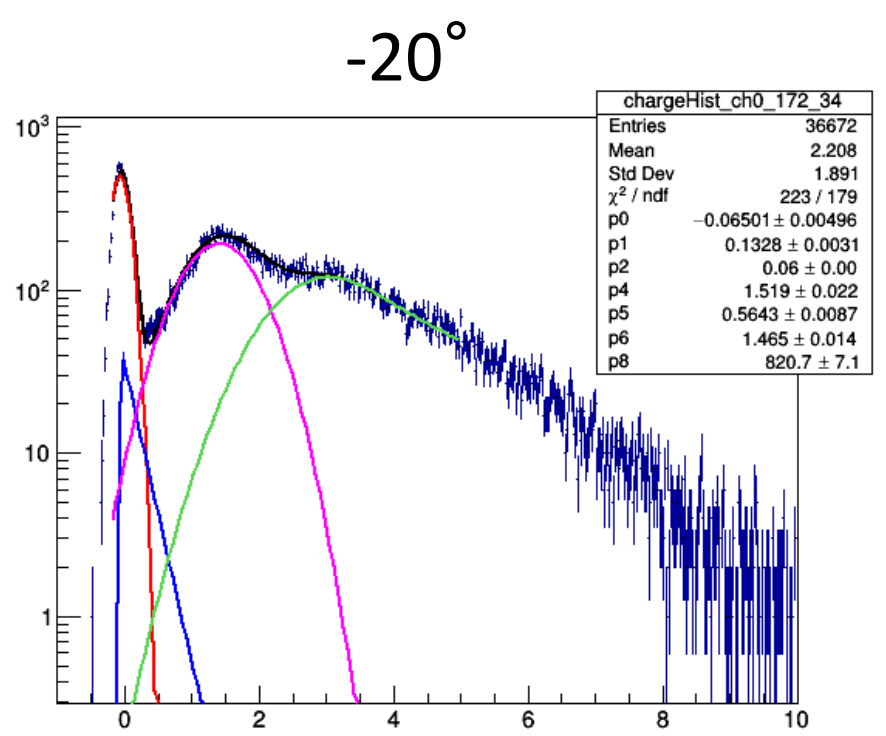
-40°



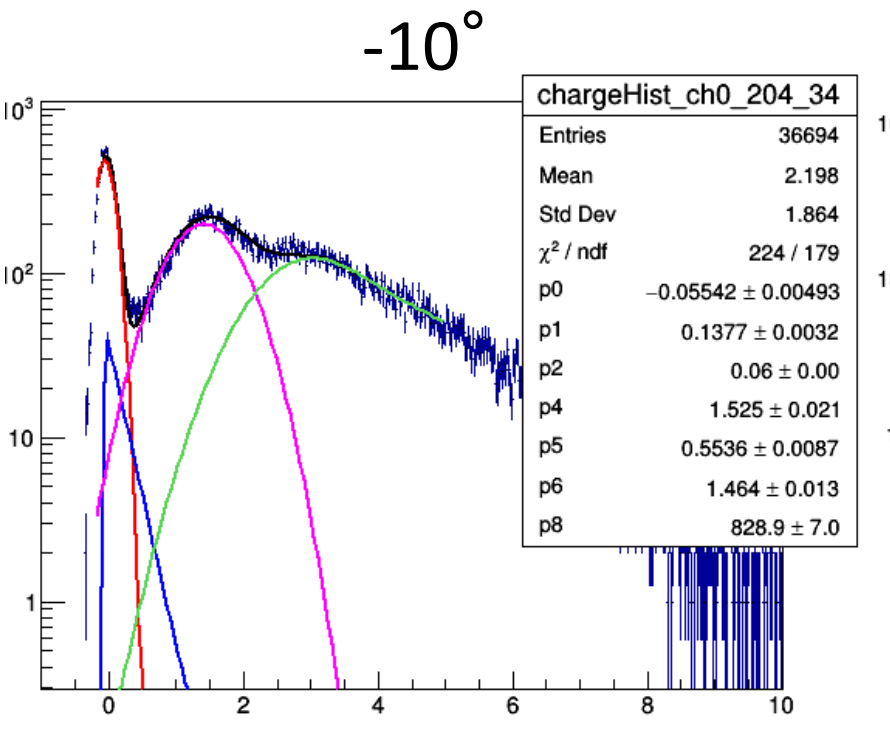
-30°



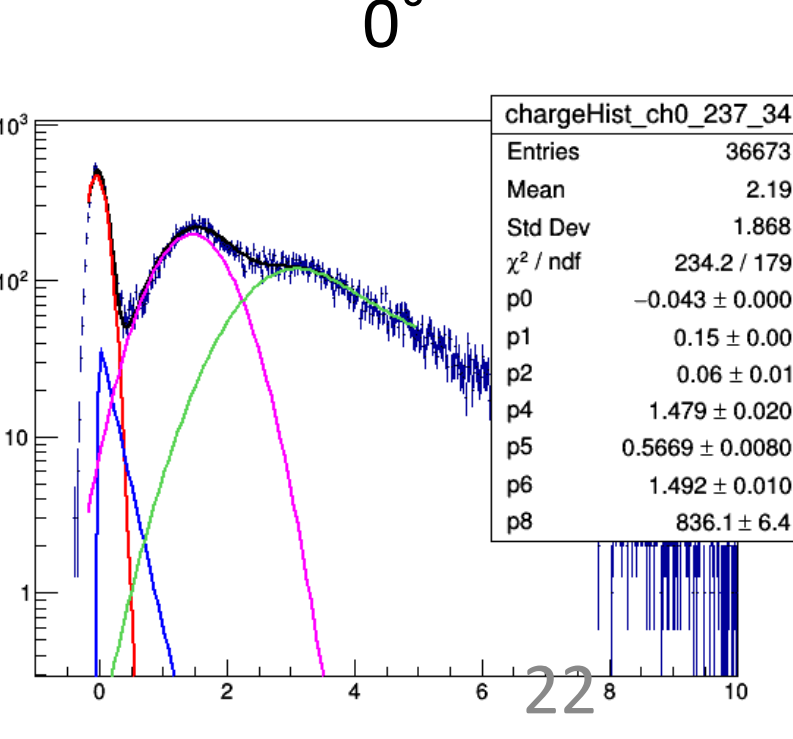
-20°



-10°

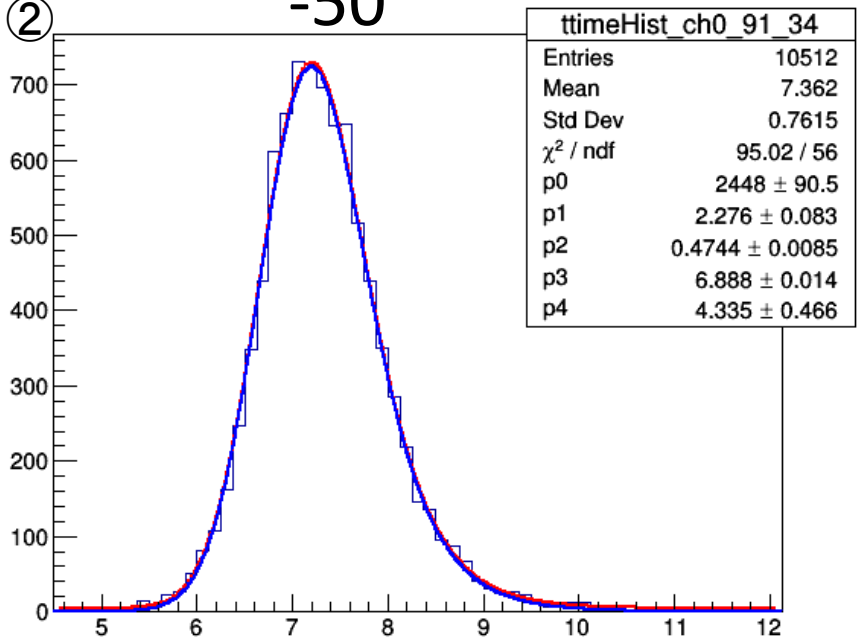


0°

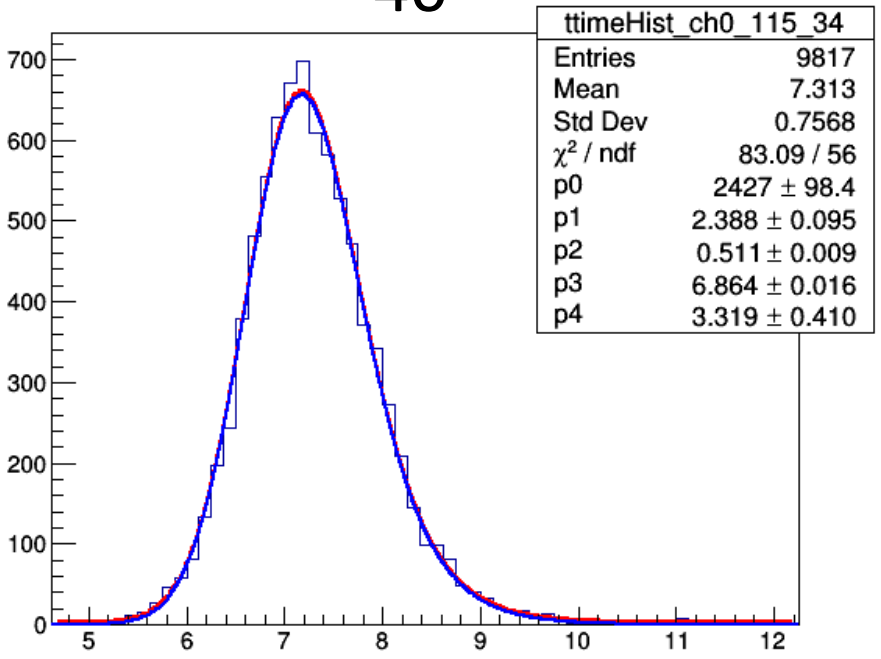


②

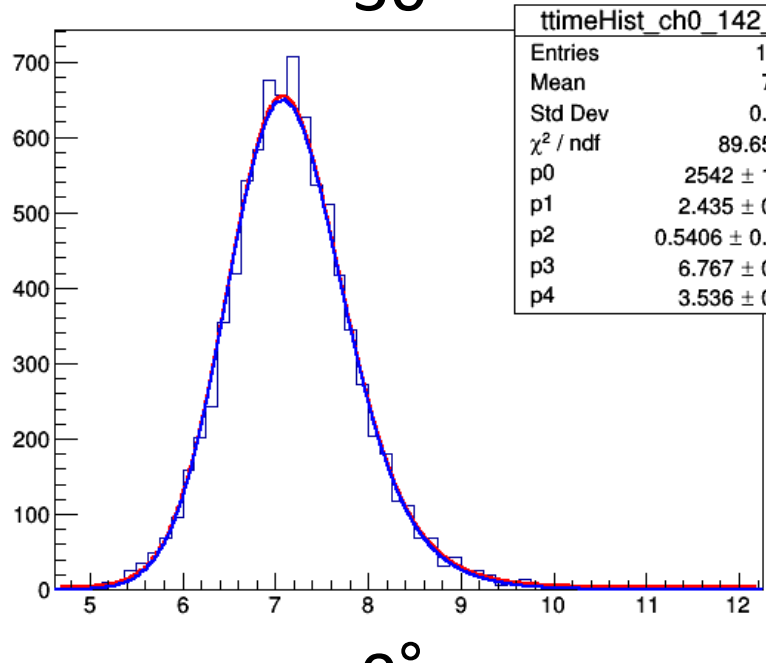
-50°



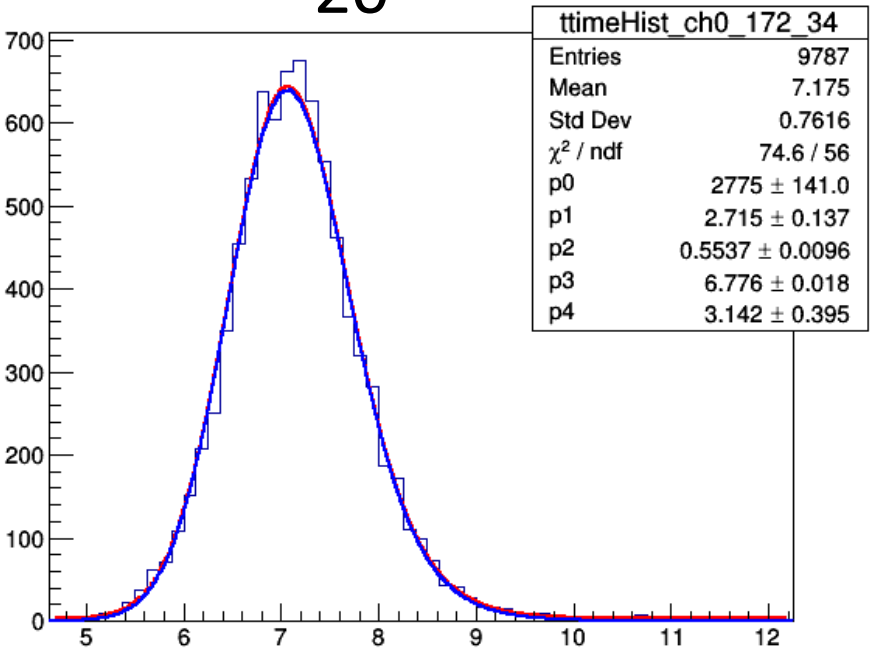
-40°



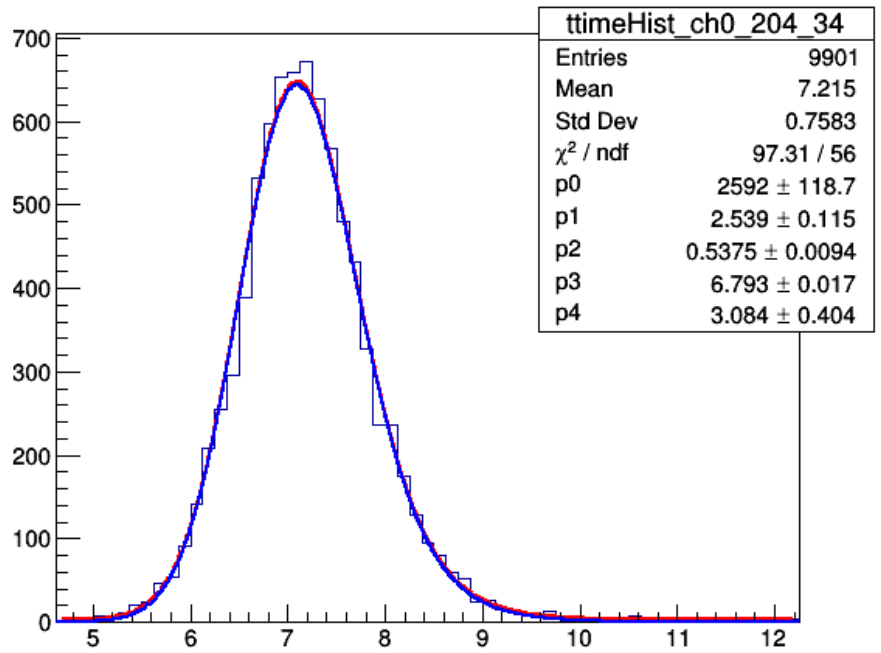
-30°



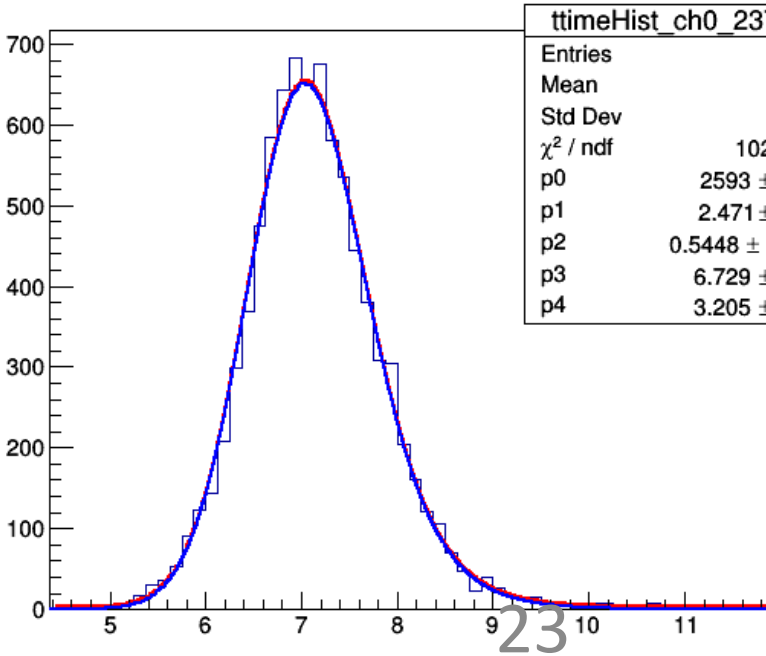
-20°



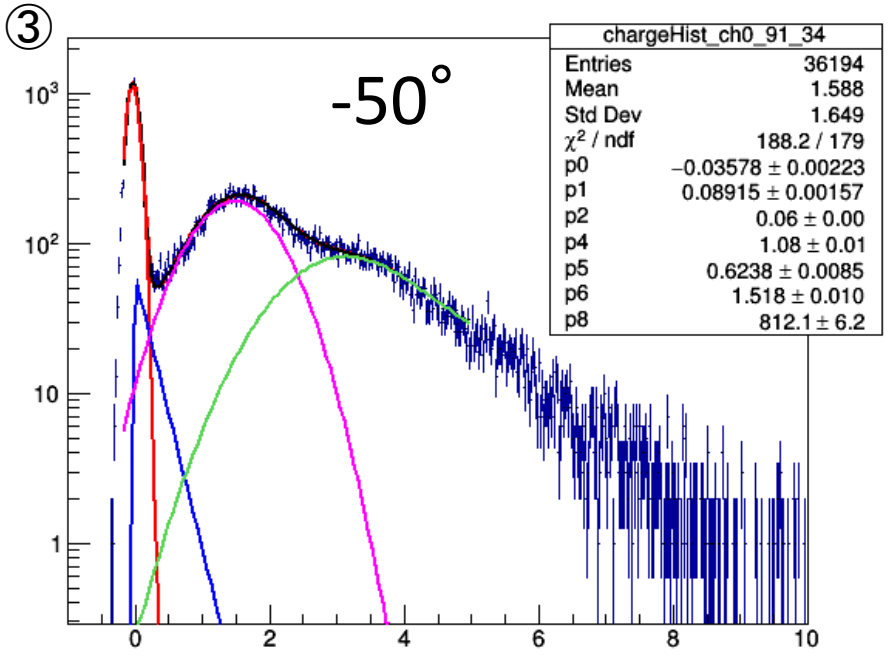
-10°

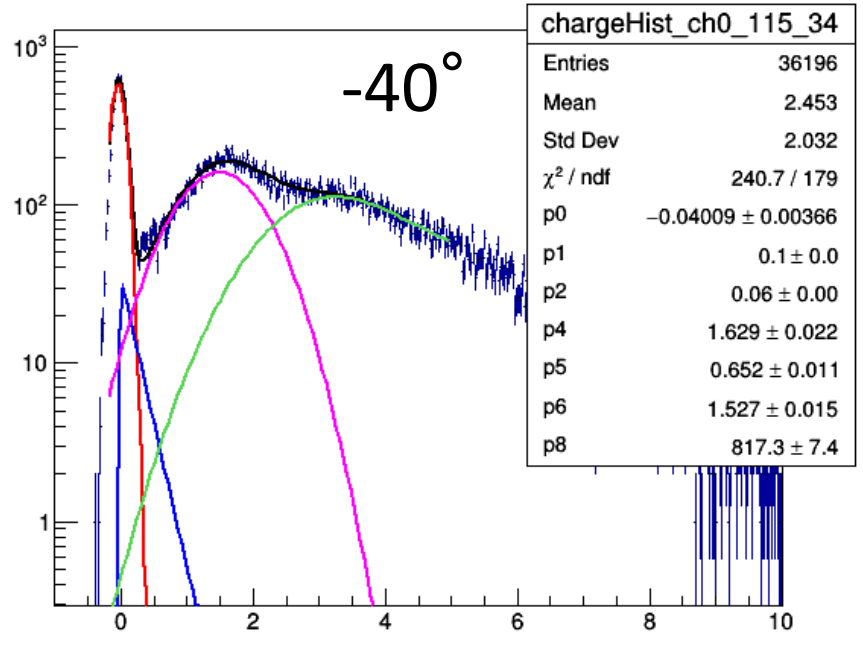


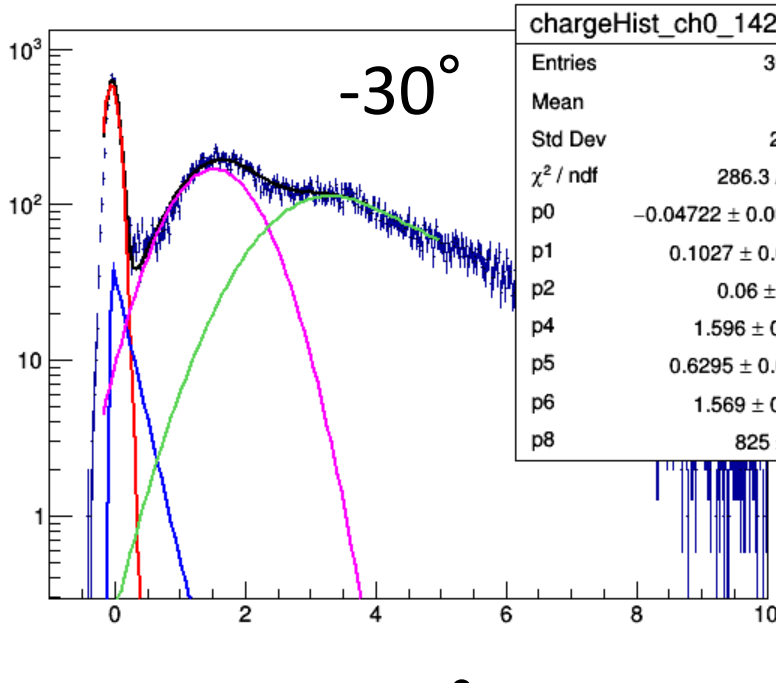
0°

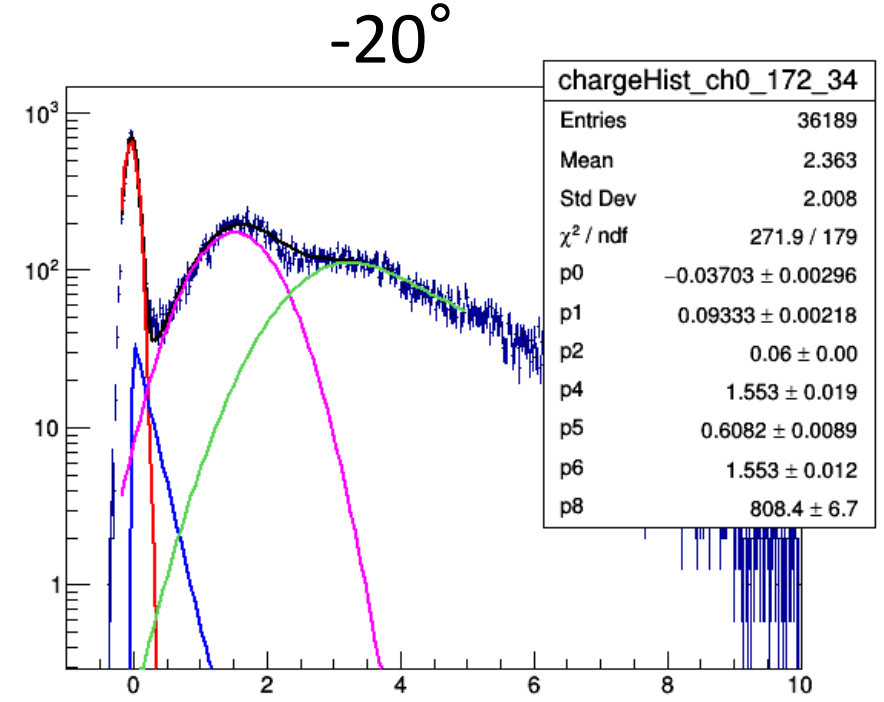


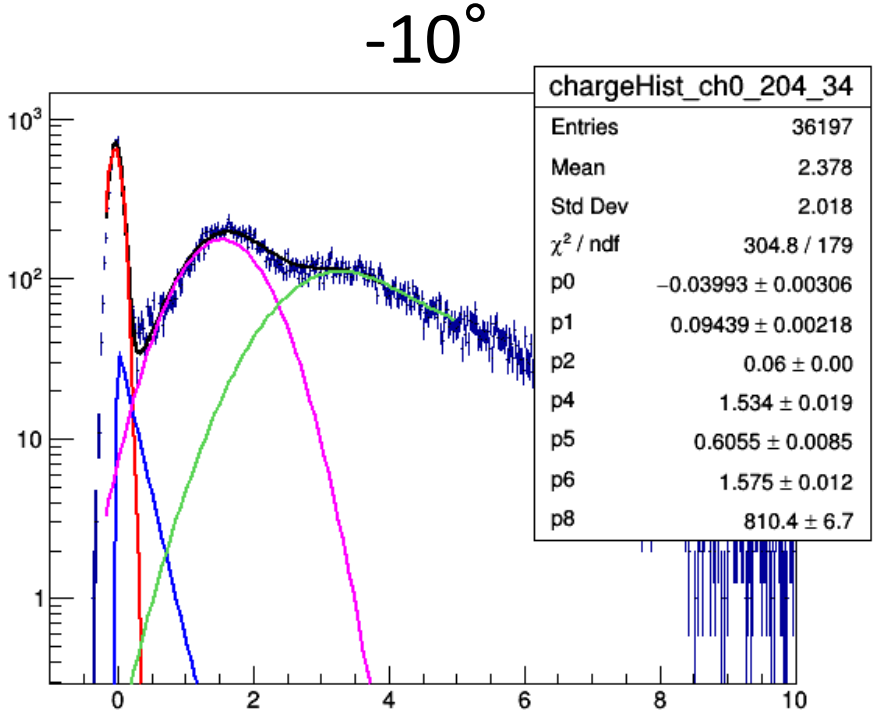
③

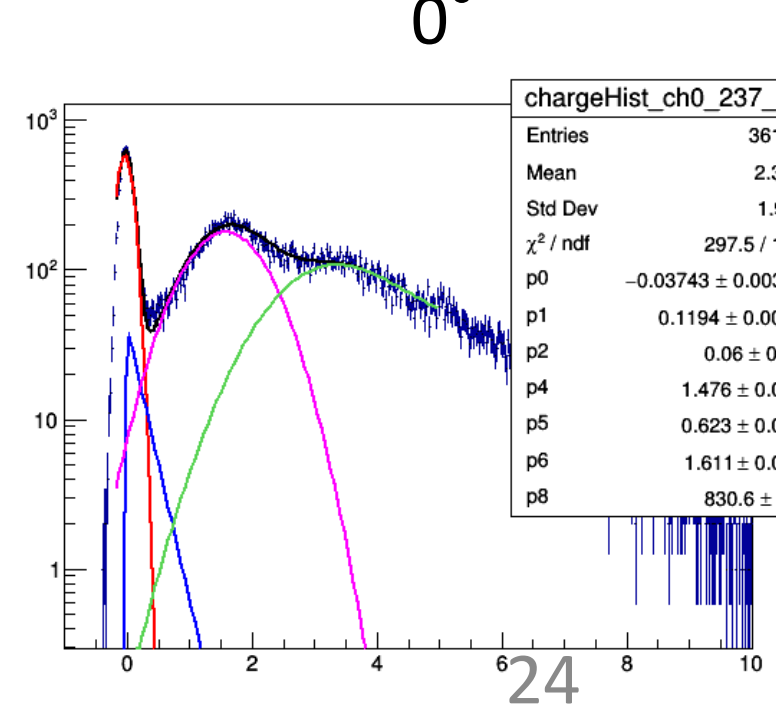

-50°
chargeHist_ch0_91_34
Entries 36194
Mean 1.588
Std Dev 1.649
χ² / ndf 188.2 / 179
p0 −0.03578 ± 0.00223
p1 0.08915 ± 0.00157
p2 0.06 ± 0.00
p4 1.08 ± 0.01
p5 0.6238 ± 0.0085
p6 1.518 ± 0.010
p8 812.1 ± 6.2


-40°
chargeHist_ch0_115_34
Entries 36196
Mean 2.453
Std Dev 2.032
χ² / ndf 240.7 / 179
p0 −0.04009 ± 0.00366
p1 0.1 ± 0.0
p2 0.06 ± 0.00
p4 1.629 ± 0.022
p5 0.652 ± 0.011
p6 1.527 ± 0.015
p8 817.3 ± 7.4


-30°
chargeHist_ch0_142
Entries 3
Mean
Std Dev
χ² / ndf 286.3
p0 −0.04722 ± 0.0
p1 0.1027 ± 0.
p2 0.06 ±
p4 1.596 ±
p5 0.6295 ± 0.
p6 1.569 ±
p8 825

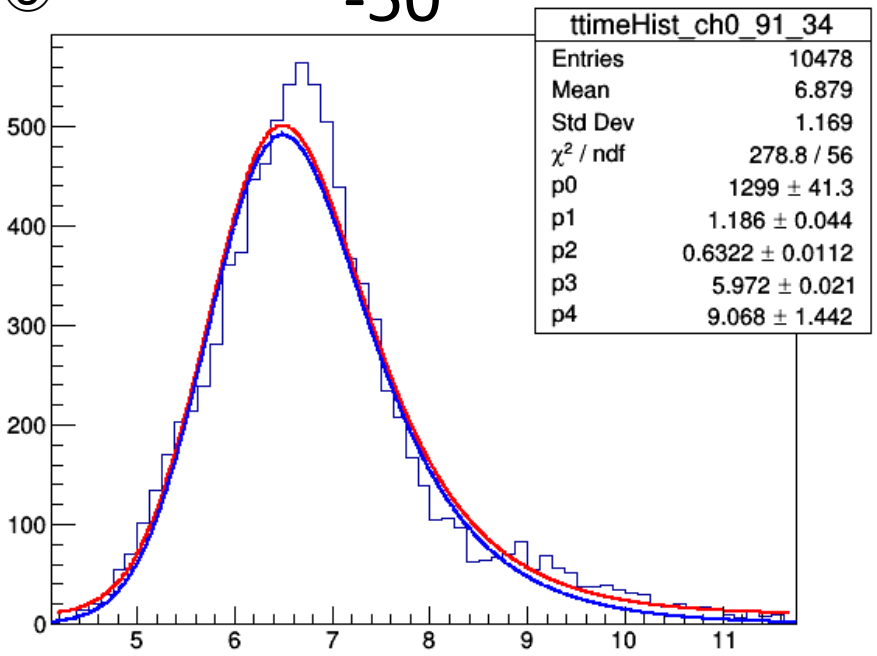

-20°
chargeHist_ch0_172_34
Entries 36189
Mean 2.363
Std Dev 2.008
χ² / ndf 271.9 / 179
p0 −0.03703 ± 0.00296
p1 0.09333 ± 0.00218
p2 0.06 ± 0.00
p4 1.553 ± 0.019
p5 0.6082 ± 0.0089
p6 1.553 ± 0.012
p8 808.4 ± 6.7


-10°
chargeHist_ch0_204_34
Entries 36197
Mean 2.378
Std Dev 2.018
χ² / ndf 304.8 / 179
p0 −0.03993 ± 0.00306
p1 0.09439 ± 0.00218
p2 0.06 ± 0.00
p4 1.534 ± 0.019
p5 0.6055 ± 0.0085
p6 1.575 ± 0.012
p8 810.4 ± 6.7

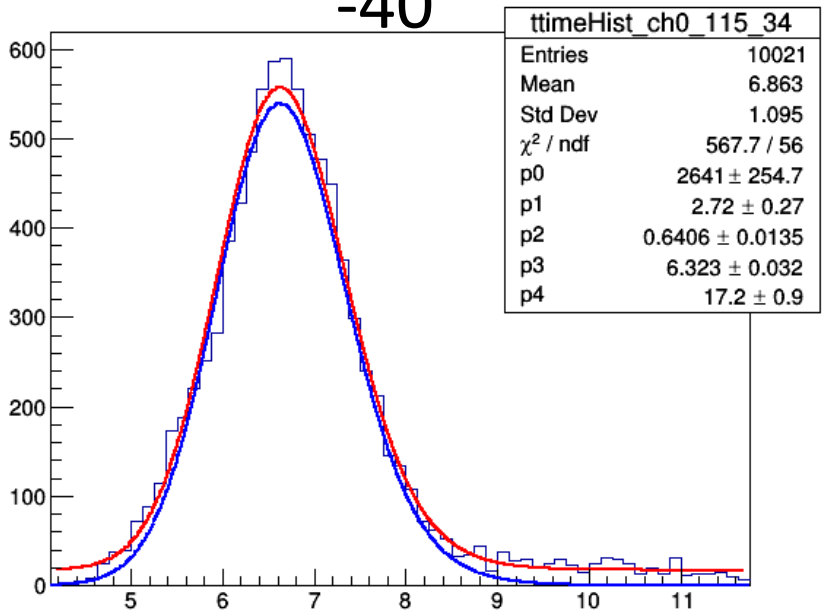

0°
chargeHist_ch0_237_
Entries 36
Mean 2.3
Std Dev 1.5
χ² / ndf 297.5 /
p0 −0.03743 ± 0.00
p1 0.1194 ± 0.00
p2 0.06 ± 0
p4 1.476 ± 0.0
p5 0.623 ± 0.0
p6 1.611 ± 0.0
p8 830.6 ±

③

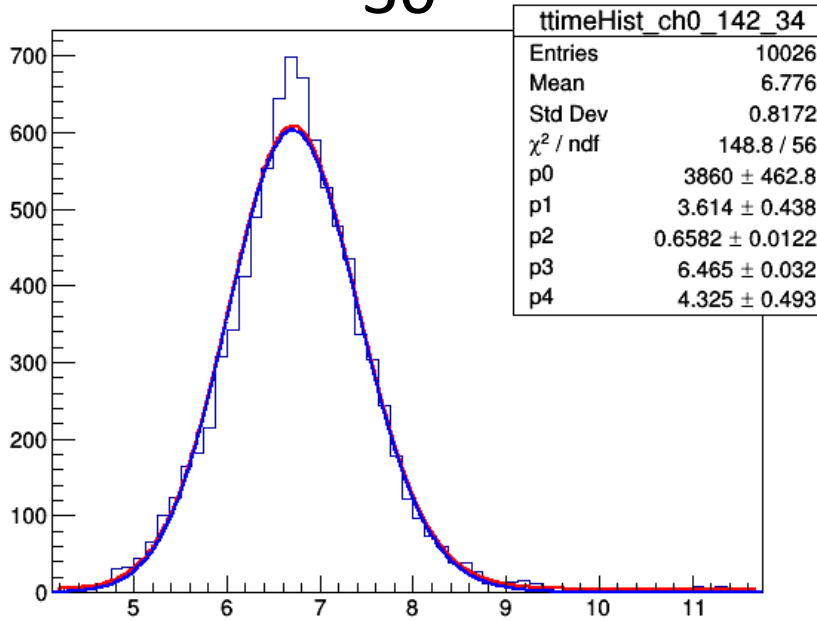
-50°



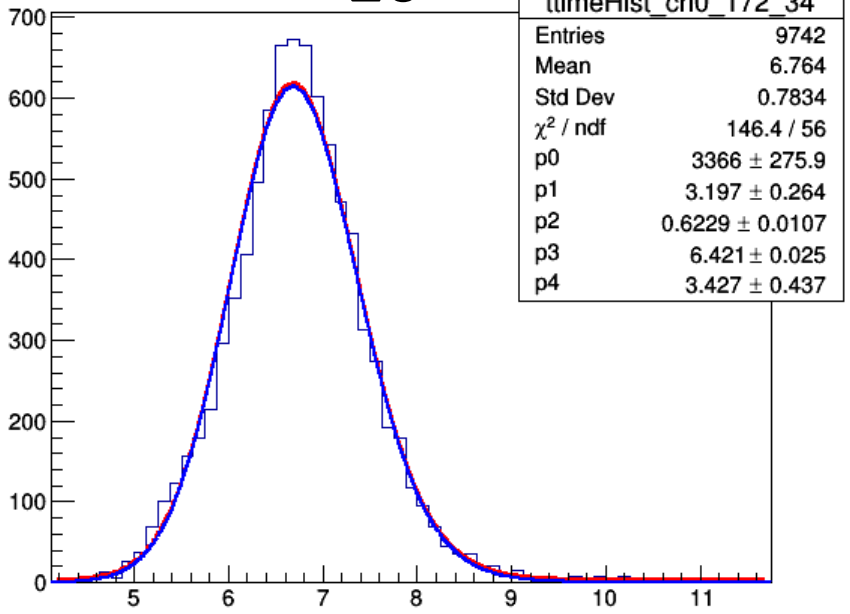
-40°



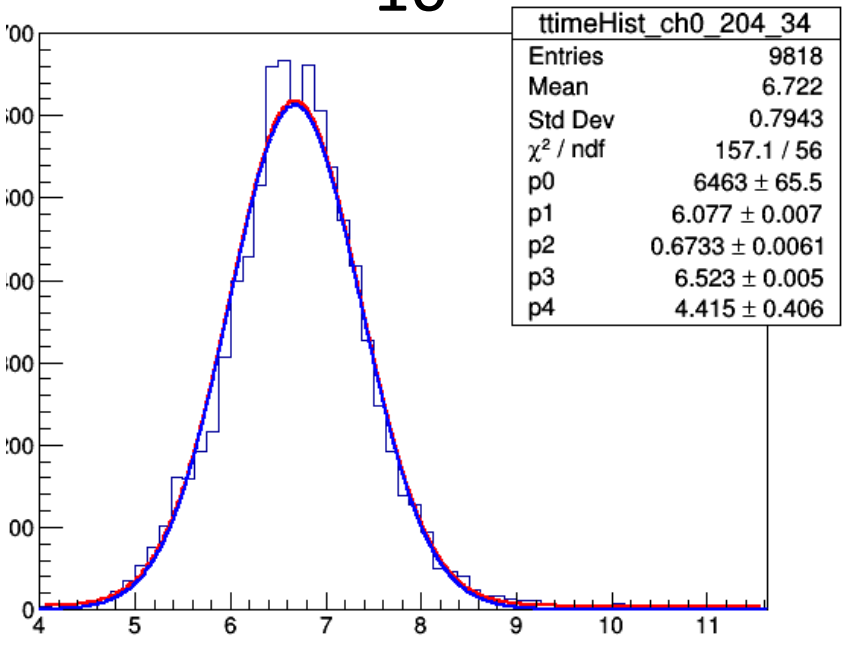
-30°



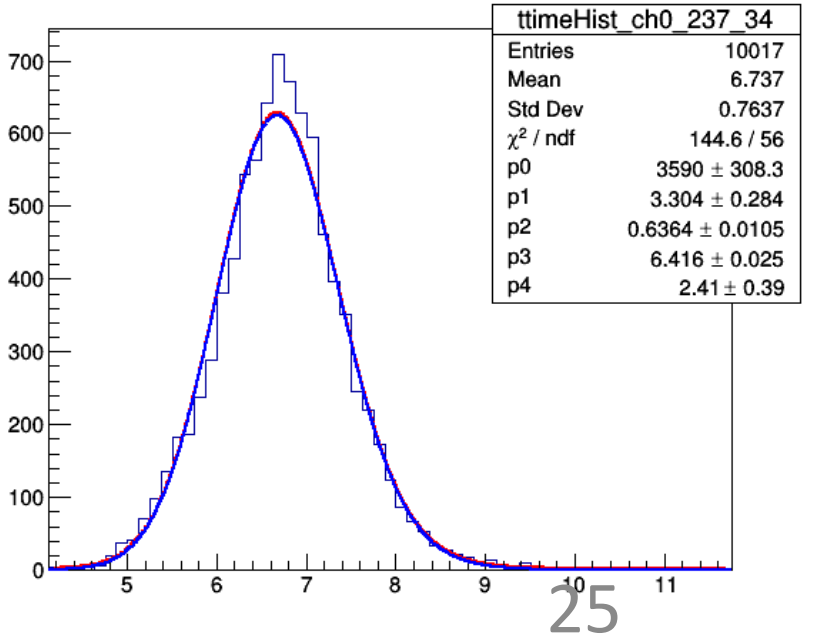
-20°

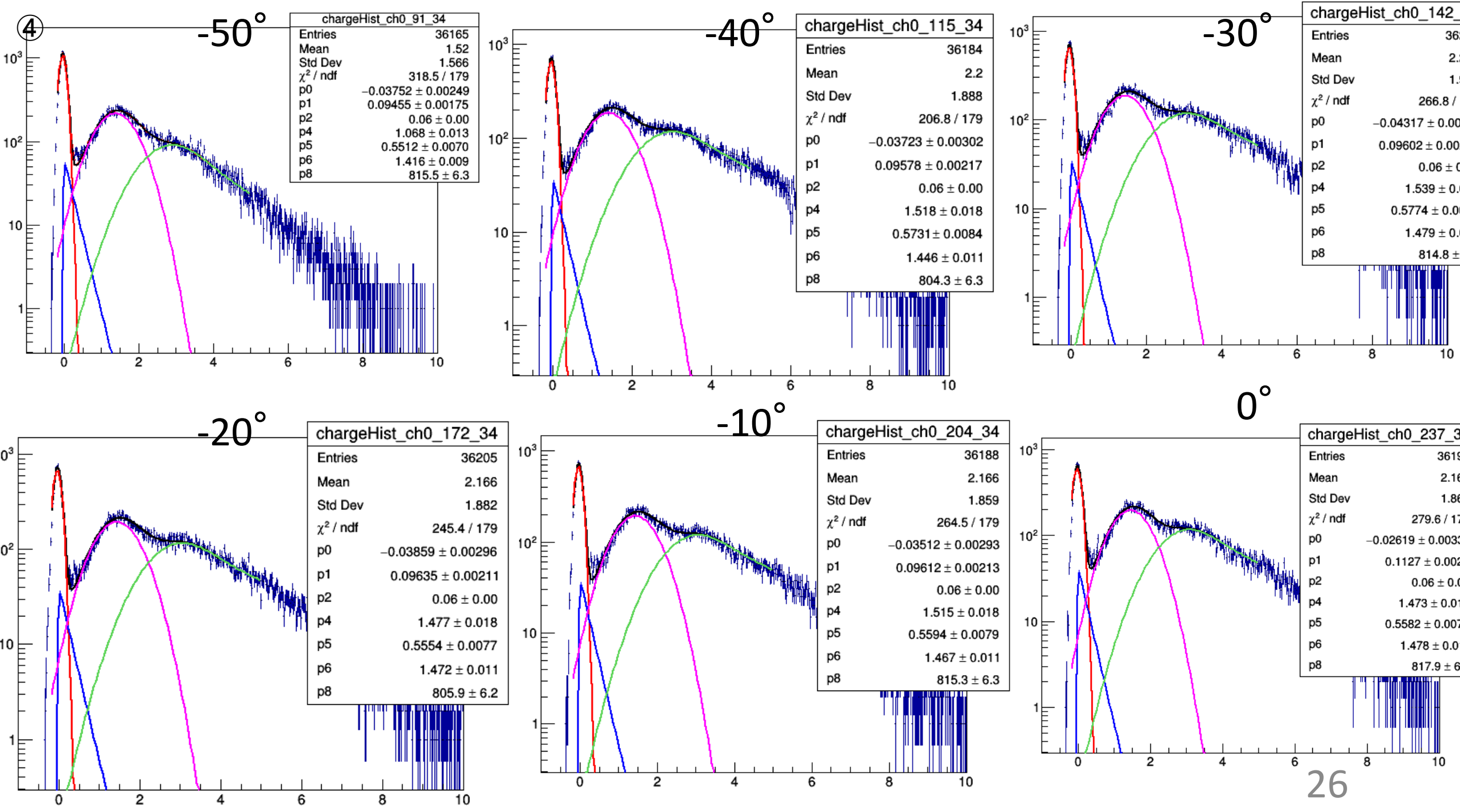


-10°

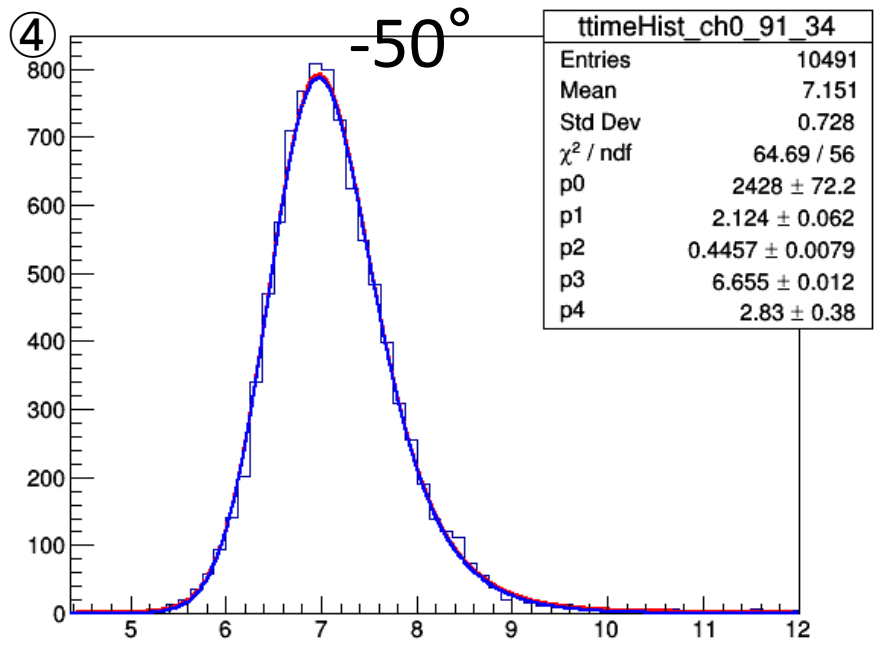


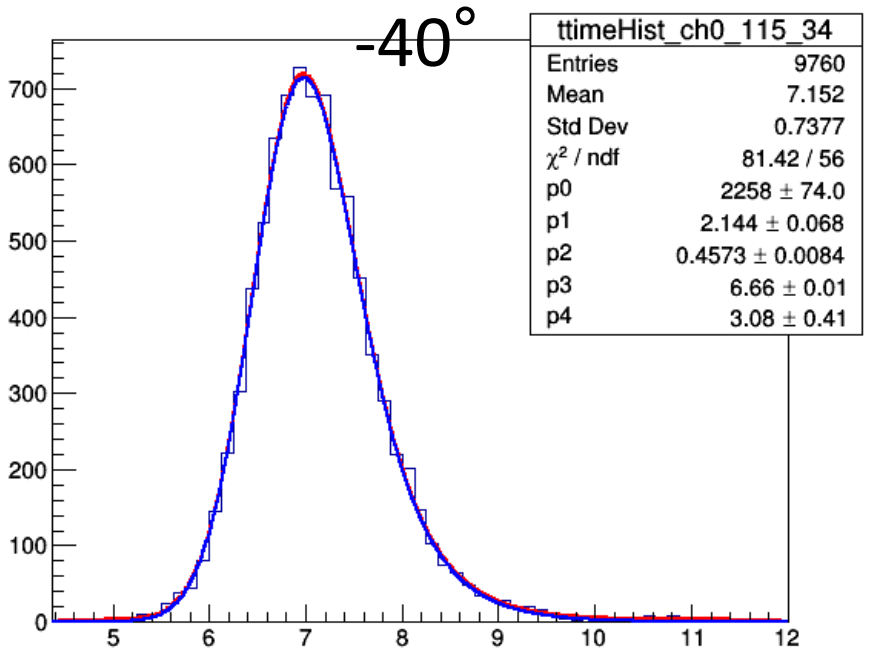
0°

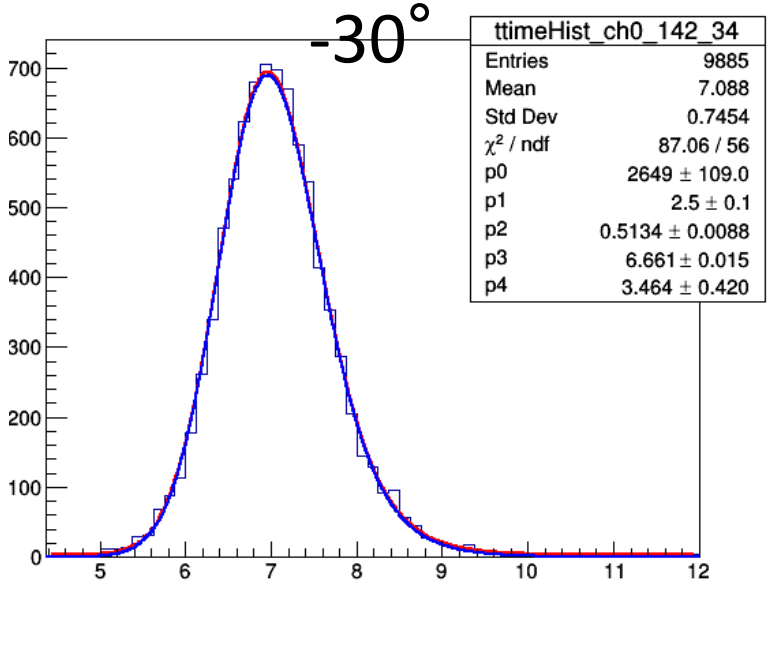


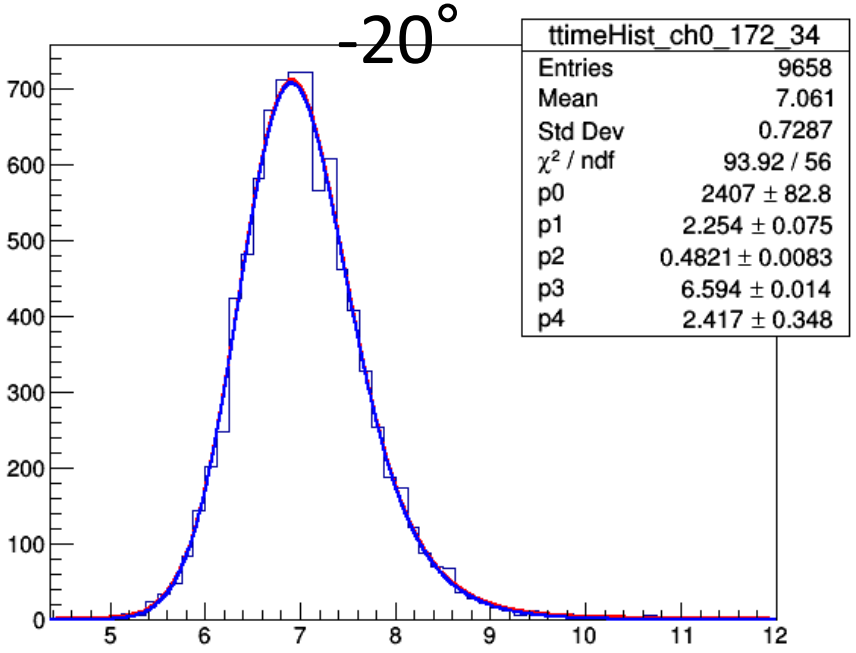

④
-50°
chargeHist_ch0_91_34
Entries 36165
Mean 1.52
Std Dev 1.566
χ² / ndf 318.5 / 179
p0 −0.03752 ± 0.00249
p1 0.09455 ± 0.00175
p2 0.06 ± 0.00
p4 1.068 ± 0.013
p5 0.5512 ± 0.0070
p6 1.416 ± 0.009
p8 815.5 ± 6.3
-40°
chargeHist_ch0_115_34
Entries 36184
Mean 2.2
Std Dev 1.888
χ² / ndf 206.8 / 179
p0 −0.03723 ± 0.00302
p1 0.09578 ± 0.00217
p2 0.06 ± 0.00
p4 1.518 ± 0.018
p5 0.5731 ± 0.0084
p6 1.446 ± 0.011
p8 804.3 ± 6.3
-30°
chargeHist_ch0_142_
Entries 36
Mean 2.
Std Dev 1.
χ² / ndf 266.8 /
p0 −0.04317 ± 0.00
p1 0.09602 ± 0.00
p2 0.06 ± 0
p4 1.539 ± 0.
p5 0.5774 ± 0.0
p6 1.479 ± 0.
p8 814.8 ±
-20°
chargeHist_ch0_172_34
Entries 36205
Mean 2.166
Std Dev 1.882
χ² / ndf 245.4 / 179
p0 −0.03859 ± 0.00296
p1 0.09635 ± 0.00211
p2 0.06 ± 0.00
p4 1.477 ± 0.018
p5 0.5554 ± 0.0077
p6 1.472 ± 0.011
p8 805.9 ± 6.2
-10°
chargeHist_ch0_204_34
Entries 36188
Mean 2.166
Std Dev 1.859
χ² / ndf 264.5 / 179
p0 −0.03512 ± 0.00293
p1 0.09612 ± 0.00213
p2 0.06 ± 0.00
p4 1.515 ± 0.018
p5 0.5594 ± 0.0079
p6 1.467 ± 0.011
p8 815.3 ± 6.3
0°
chargeHist_ch0_237_3
Entries 3619
Mean 2.16
Std Dev 1.86
χ² / ndf 279.6 / 17
p0 −0.02619 ± 0.0033
p1 0.1127 ± 0.002
p2 0.06 ± 0.0
p4 1.473 ± 0.01
p5 0.5582 ± 0.007
p6 1.478 ± 0.0
p8 817.9 ± 6

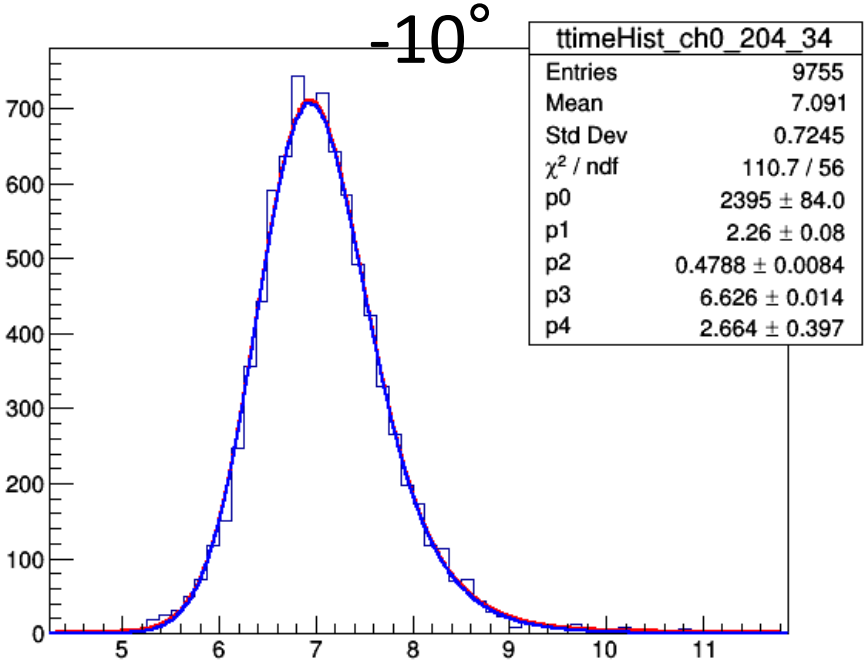
④

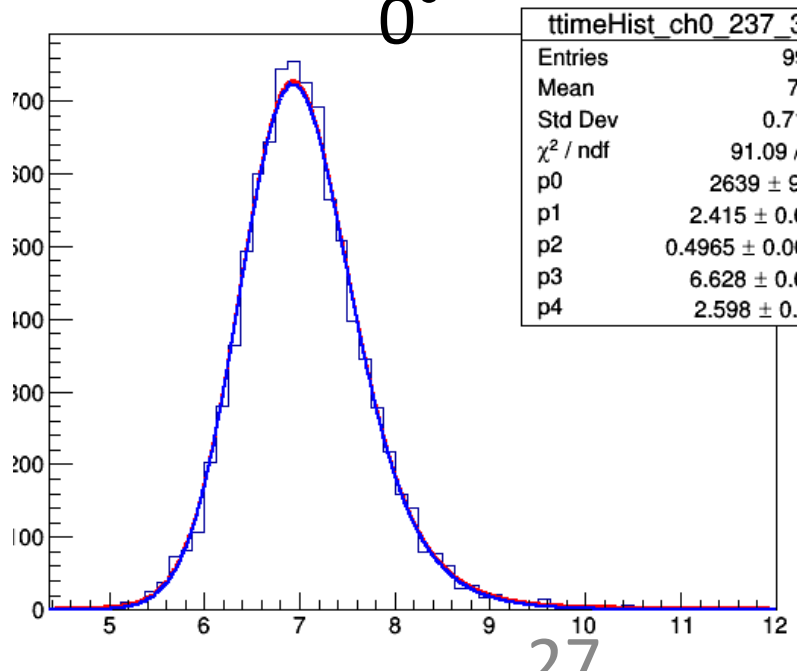

-50°
ttimeHist_ch0_91_34
Entries 10491
Mean 7.151
Std Dev 0.728
χ² / ndf 64.69 / 56
p0 2428 ± 72.2
p1 2.124 ± 0.062
p2 0.4457 ± 0.0079
p3 6.655 ± 0.012
p4 2.83 ± 0.38


-40°
ttimeHist_ch0_115_34
Entries 9760
Mean 7.152
Std Dev 0.7377
χ² / ndf 81.42 / 56
p0 2258 ± 74.0
p1 2.144 ± 0.068
p2 0.4573 ± 0.0084
p3 6.66 ± 0.01
p4 3.08 ± 0.41

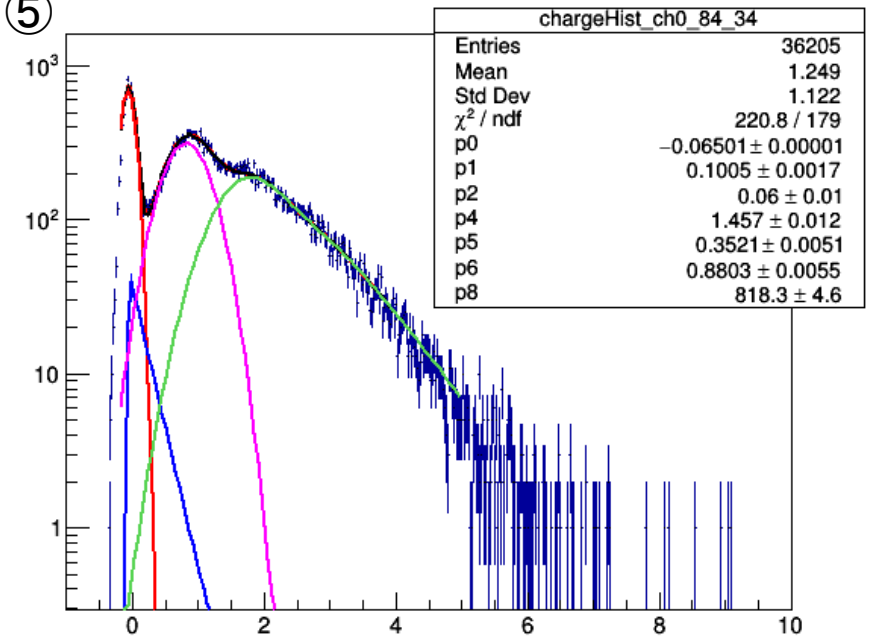

-30°
ttimeHist_ch0_142_34
Entries 9885
Mean 7.088
Std Dev 0.7454
χ² / ndf 87.06 / 56
p0 2649 ± 109.0
p1 2.5 ± 0.1
p2 0.5134 ± 0.0088
p3 6.661 ± 0.015
p4 3.464 ± 0.420

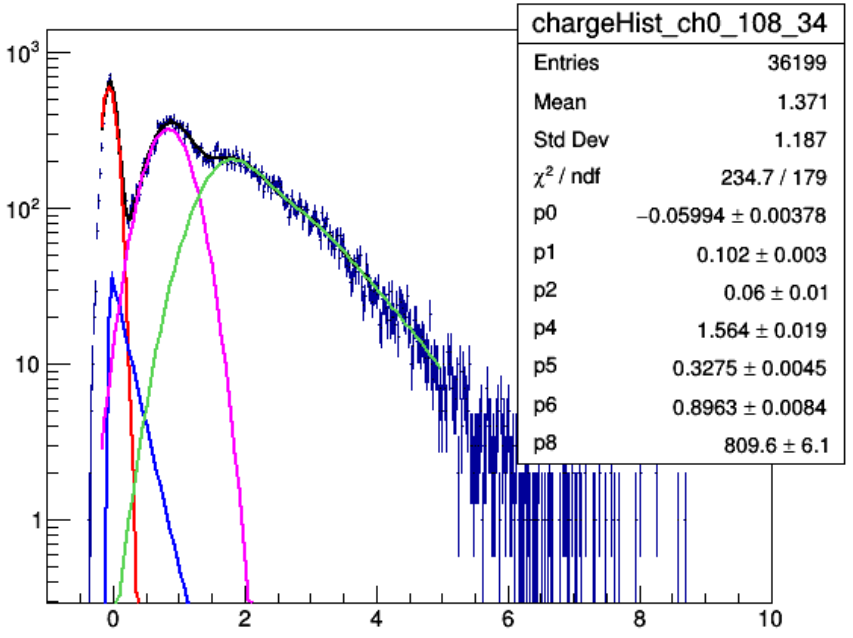

-20°
ttimeHist_ch0_172_34
Entries 9658
Mean 7.061
Std Dev 0.7287
χ² / ndf 93.92 / 56
p0 2407 ± 82.8
p1 2.254 ± 0.075
p2 0.4821 ± 0.0083
p3 6.594 ± 0.014
p4 2.417 ± 0.348

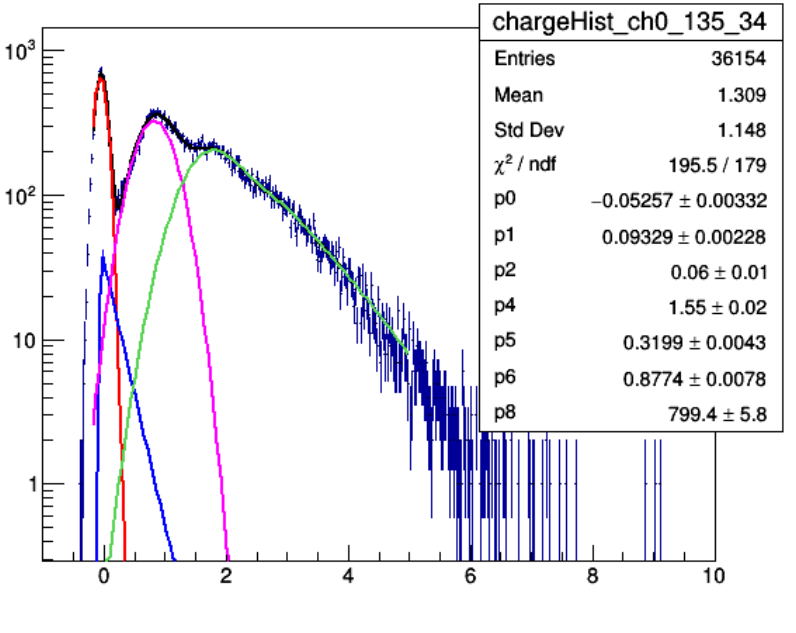

-10°
ttimeHist_ch0_204_34
Entries 9755
Mean 7.091
Std Dev 0.7245
χ² / ndf 110.7 / 56
p0 2395 ± 84.0
p1 2.26 ± 0.08
p2 0.4788 ± 0.0084
p3 6.626 ± 0.014
p4 2.664 ± 0.397

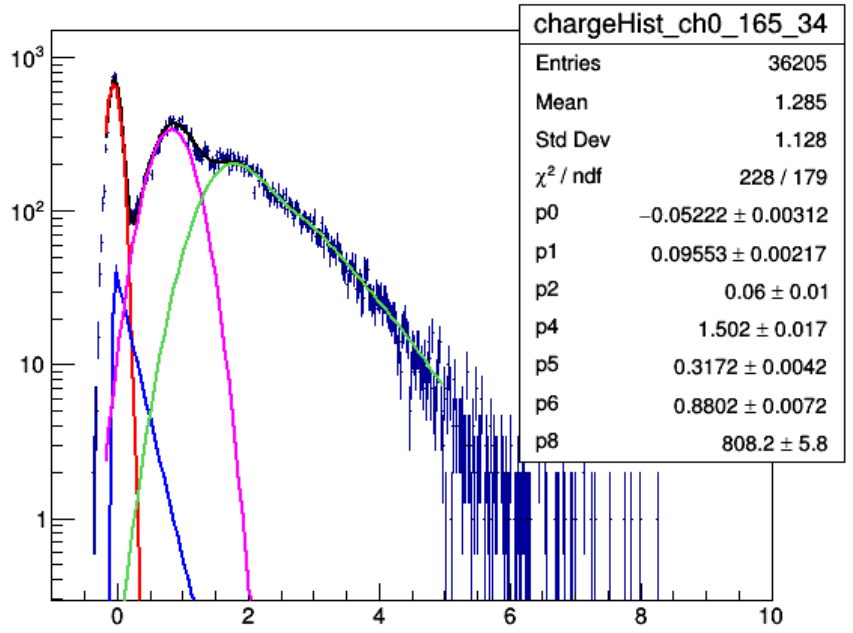

0°
ttimeHist_ch0_237_3
Entries 9
Mean 7
Std Dev 0.7
χ² / ndf 91.09
p0 2639 ± 9
p1 2.415 ± 0.0
p2 0.4965 ± 0.0
p3 6.628 ± 0.0
p4 2.598 ± 0.

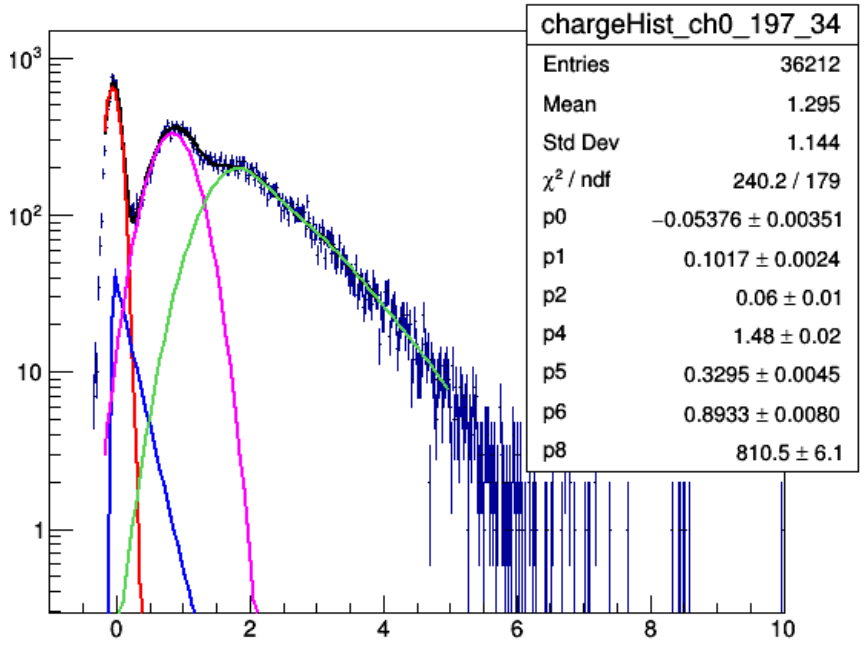
⑤

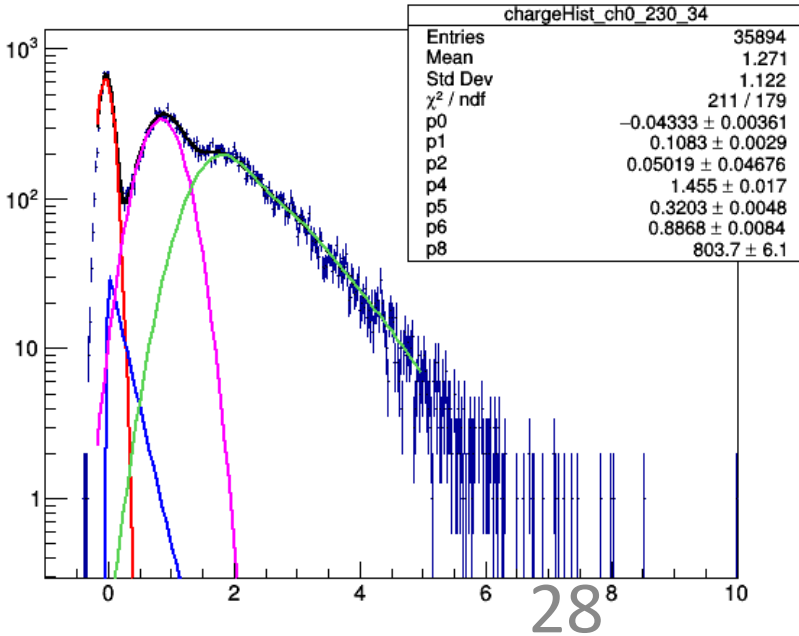

chargeHist_ch0_84_34
Entries 36205
Mean 1.249
Std Dev 1.122
χ² / ndf 220.8 / 179
p0 −0.06501 ± 0.00001
p1 0.1005 ± 0.0017
p2 0.06 ± 0.01
p4 1.457 ± 0.012
p5 0.3521 ± 0.0051
p6 0.8803 ± 0.0055
p8 818.3 ± 4.6


chargeHist_ch0_108_34
Entries 36199
Mean 1.371
Std Dev 1.187
χ² / ndf 234.7 / 179
p0 −0.05994 ± 0.00378
p1 0.102 ± 0.003
p2 0.06 ± 0.01
p4 1.564 ± 0.019
p5 0.3275 ± 0.0045
p6 0.8963 ± 0.0084
p8 809.6 ± 6.1

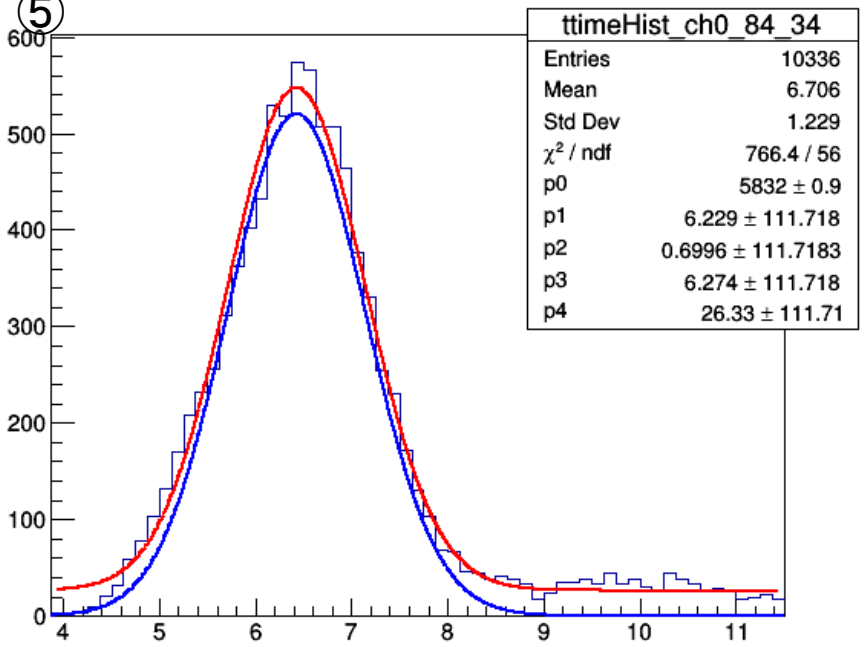

chargeHist_ch0_135_34
Entries 36154
Mean 1.309
Std Dev 1.148
χ² / ndf 195.5 / 179
p0 −0.05257 ± 0.00332
p1 0.09329 ± 0.00228
p2 0.06 ± 0.01
p4 1.55 ± 0.02
p5 0.3199 ± 0.0043
p6 0.8774 ± 0.0078
p8 799.4 ± 5.8

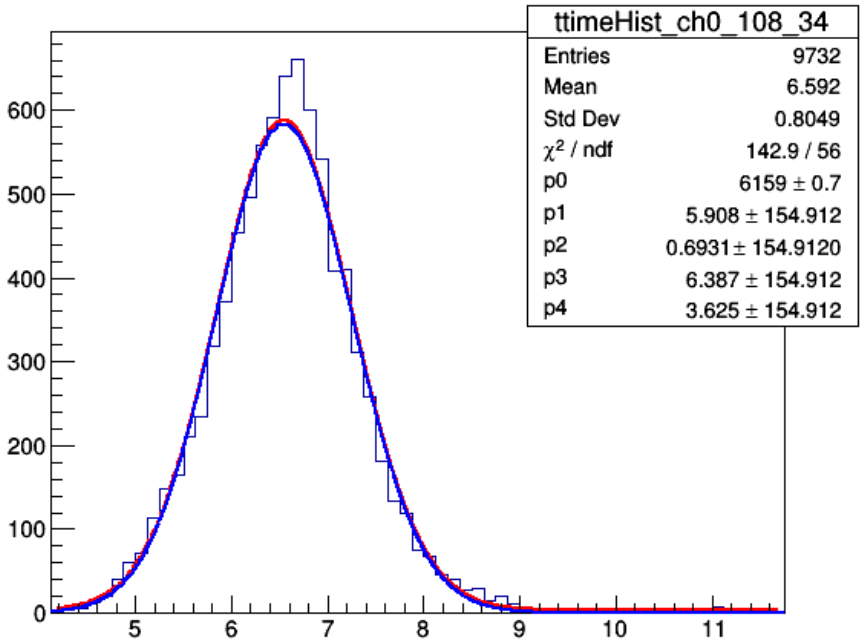

chargeHist_ch0_165_34
Entries 36205
Mean 1.285
Std Dev 1.128
χ² / ndf 228 / 179
p0 −0.05222 ± 0.00312
p1 0.09553 ± 0.00217
p2 0.06 ± 0.01
p4 1.502 ± 0.017
p5 0.3172 ± 0.0042
p6 0.8802 ± 0.0072
p8 808.2 ± 5.8

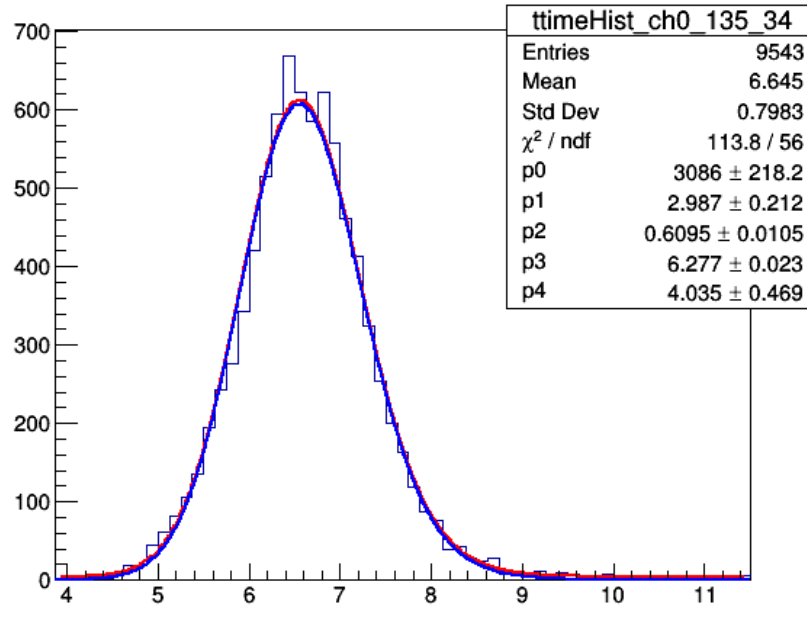

chargeHist_ch0_197_34
Entries 36212
Mean 1.295
Std Dev 1.144
χ² / ndf 240.2 / 179
p0 −0.05376 ± 0.00351
p1 0.1017 ± 0.0024
p2 0.06 ± 0.01
p4 1.48 ± 0.02
p5 0.3295 ± 0.0045
p6 0.8933 ± 0.0080
p8 810.5 ± 6.1

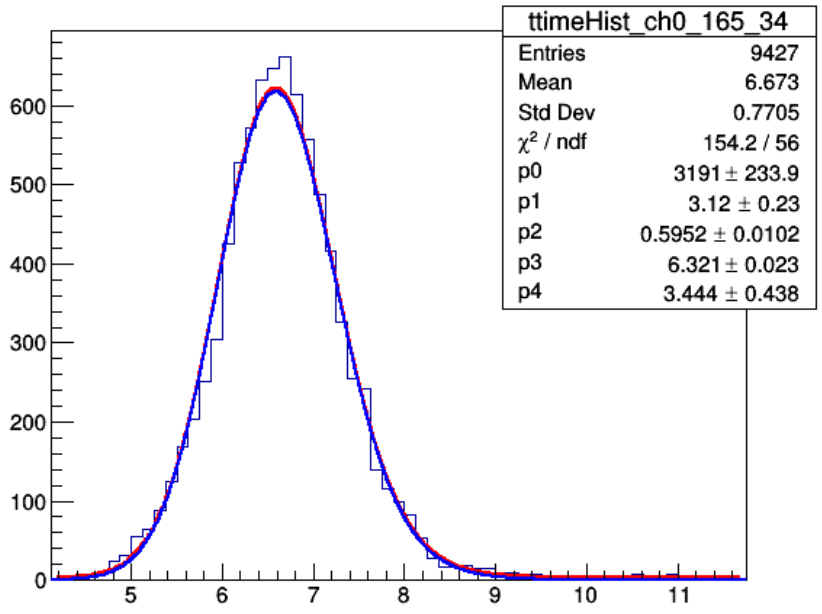

chargeHist_ch0_230_34
Entries 35894
Mean 1.271
Std Dev 1.122
χ² / ndf 211 / 179
p0 −0.04333 ± 0.00361
p1 0.1083 ± 0.0029
p2 0.05019 ± 0.04676
p4 1.455 ± 0.017
p5 0.3203 ± 0.0048
p6 0.8868 ± 0.0084
p8 803.7 ± 6.1

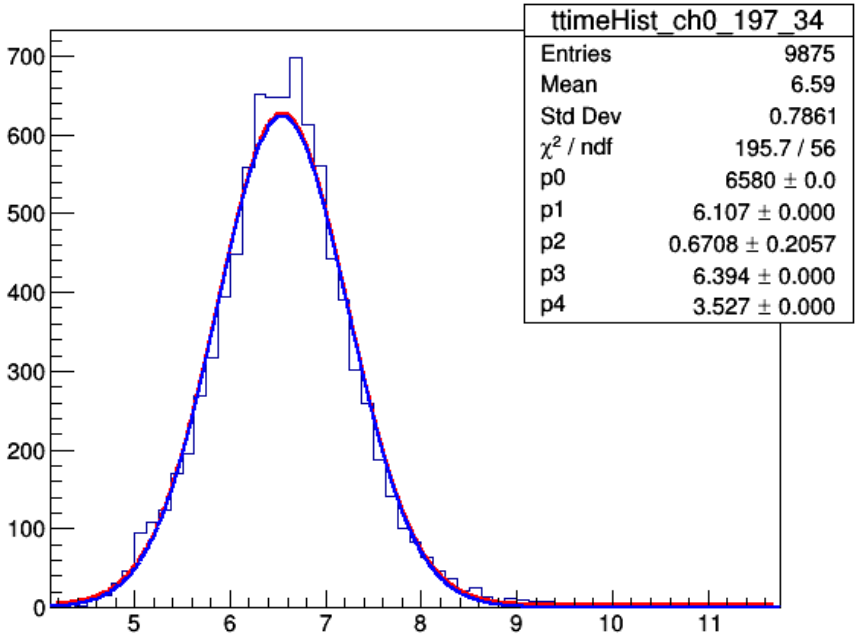
⑤

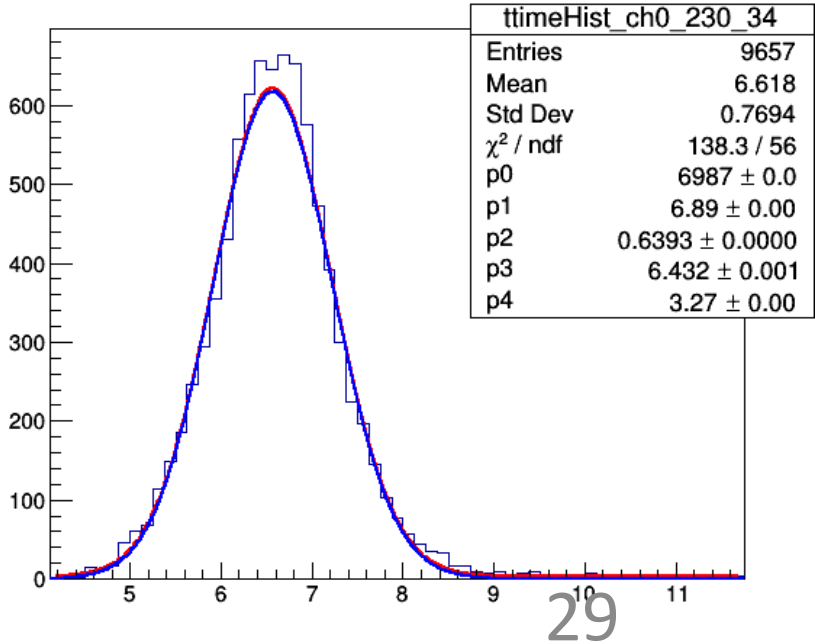

ttimeHist_ch0_84_34
Entries 10336
Mean 6.706
Std Dev 1.229
χ² / ndf 766.4 / 56
p0 5832 ± 0.9
p1 6.229 ± 111.718
p2 0.6996 ± 111.7183
p3 6.274 ± 111.718
p4 26.33 ± 111.71


ttimeHist_ch0_108_34
Entries 9732
Mean 6.592
Std Dev 0.8049
χ² / ndf 142.9 / 56
p0 6159 ± 0.7
p1 5.908 ± 154.912
p2 0.6931 ± 154.9120
p3 6.387 ± 154.912
p4 3.625 ± 154.912

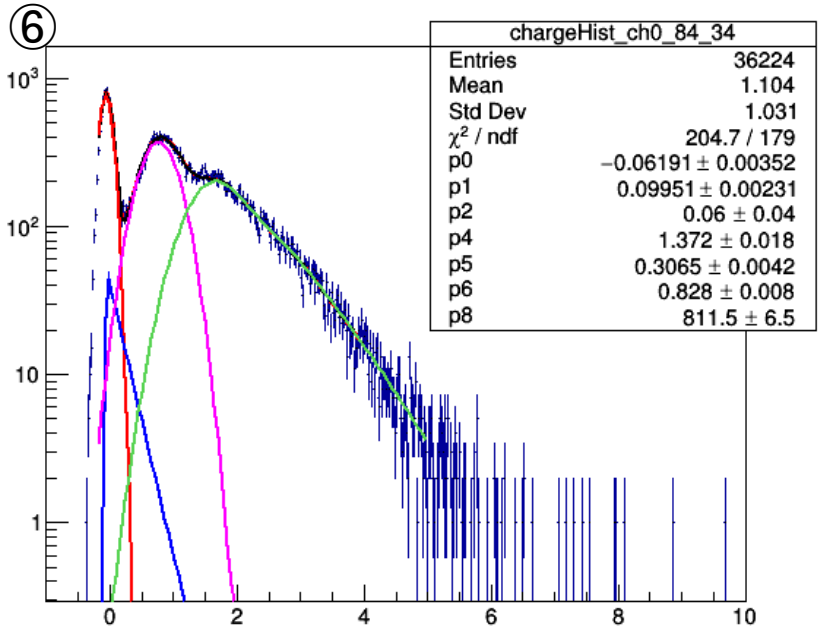

ttimeHist_ch0_135_34
Entries 9543
Mean 6.645
Std Dev 0.7983
χ² / ndf 113.8 / 56
p0 3086 ± 218.2
p1 2.987 ± 0.212
p2 0.6095 ± 0.0105
p3 6.277 ± 0.023
p4 4.035 ± 0.469

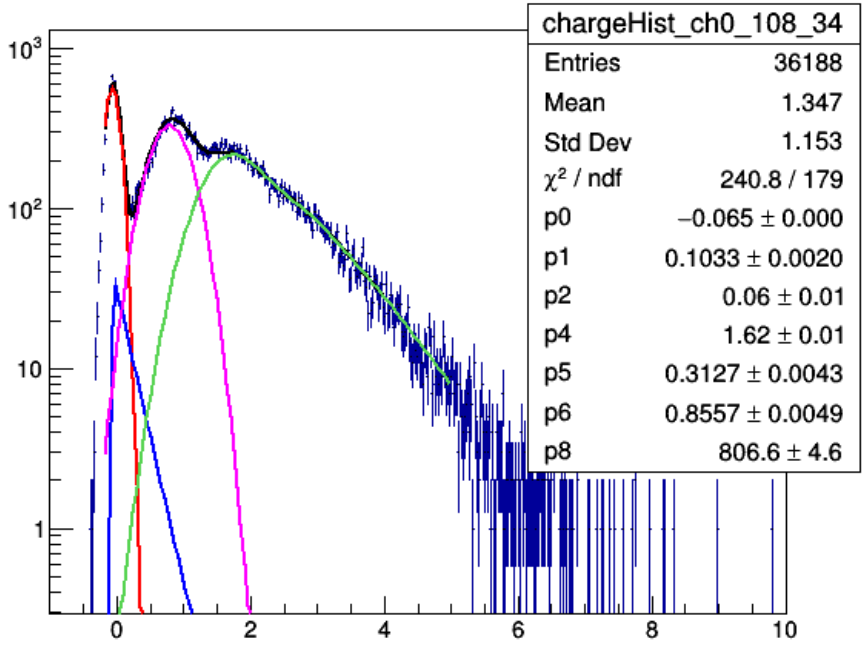

ttimeHist_ch0_165_34
Entries 9427
Mean 6.673
Std Dev 0.7705
χ² / ndf 154.2 / 56
p0 3191 ± 233.9
p1 3.12 ± 0.23
p2 0.5952 ± 0.0102
p3 6.321 ± 0.023
p4 3.444 ± 0.438

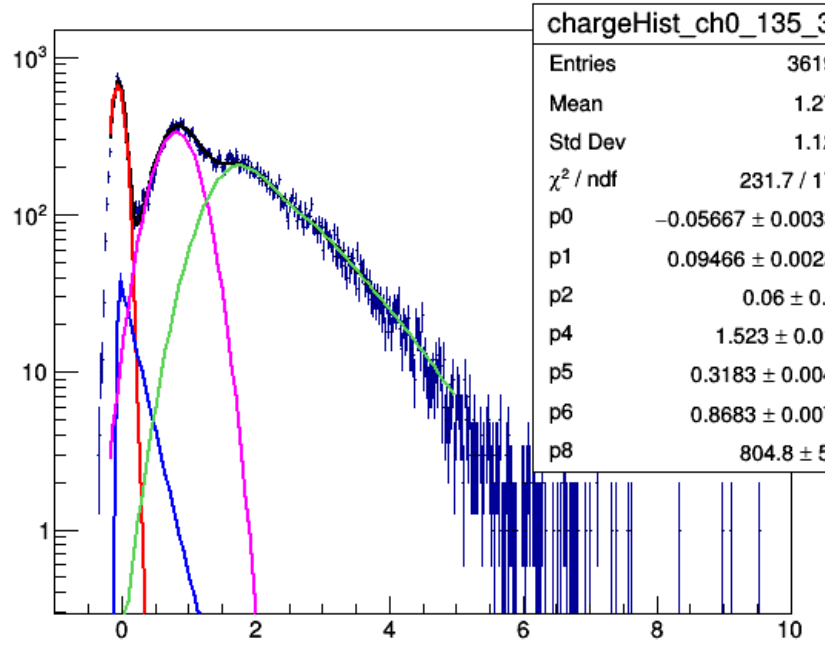

ttimeHist_ch0_197_34
Entries 9875
Mean 6.59
Std Dev 0.7861
χ² / ndf 195.7 / 56
p0 6580 ± 0.0
p1 6.107 ± 0.000
p2 0.6708 ± 0.2057
p3 6.394 ± 0.000
p4 3.527 ± 0.000

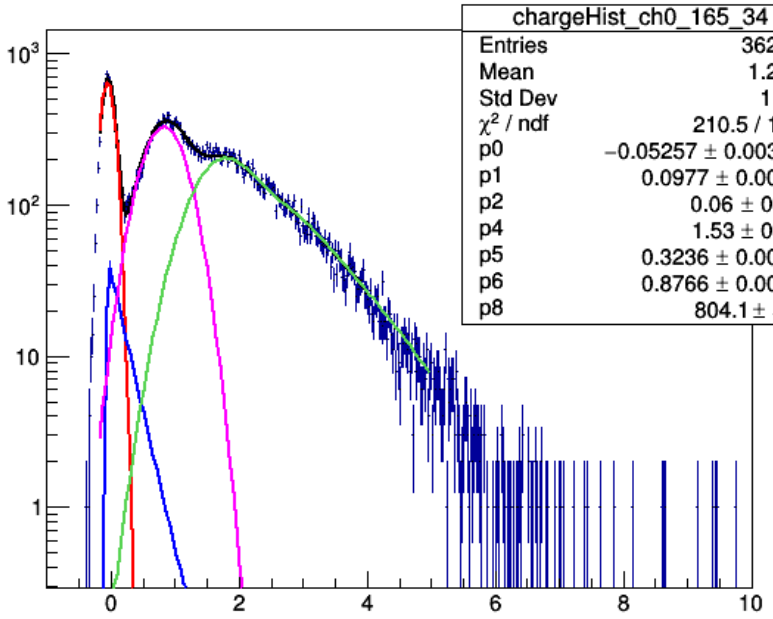

ttimeHist_ch0_230_34
Entries 9657
Mean 6.618
Std Dev 0.7694
χ² / ndf 138.3 / 56
p0 6987 ± 0.0
p1 6.89 ± 0.00
p2 0.6393 ± 0.0000
p3 6.432 ± 0.001
p4 3.27 ± 0.00

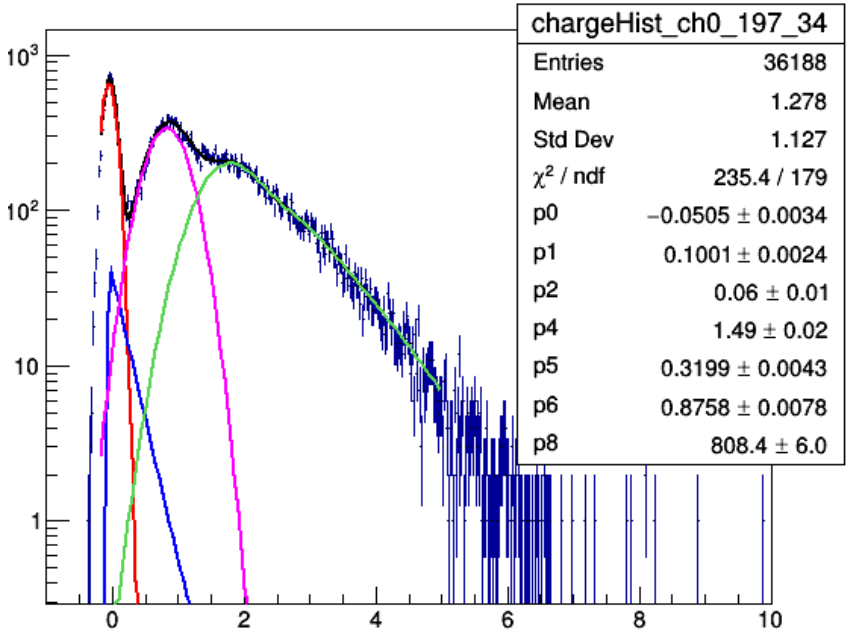
⑥

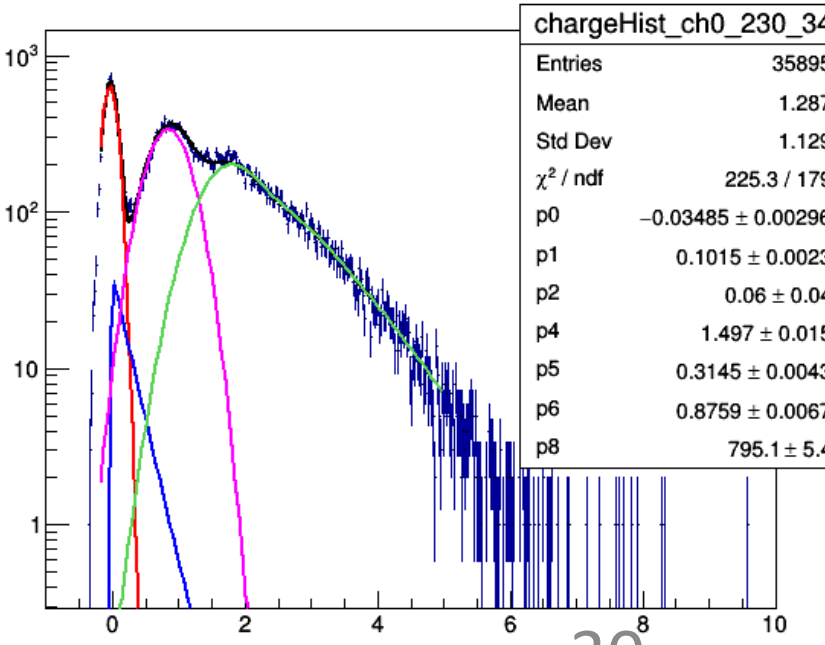

chargeHist_ch0_84_34
Entries 36224
Mean 1.104
Std Dev 1.031
χ² / ndf 204.7 / 179
p0 −0.06191 ± 0.00352
p1 0.09951 ± 0.00231
p2 0.06 ± 0.04
p4 1.372 ± 0.018
p5 0.3065 ± 0.0042
p6 0.828 ± 0.008
p8 811.5 ± 6.5


chargeHist_ch0_108_34
Entries 36188
Mean 1.347
Std Dev 1.153
χ² / ndf 240.8 / 179
p0 −0.065 ± 0.000
p1 0.1033 ± 0.0020
p2 0.06 ± 0.01
p4 1.62 ± 0.01
p5 0.3127 ± 0.0043
p6 0.8557 ± 0.0049
p8 806.6 ± 4.6

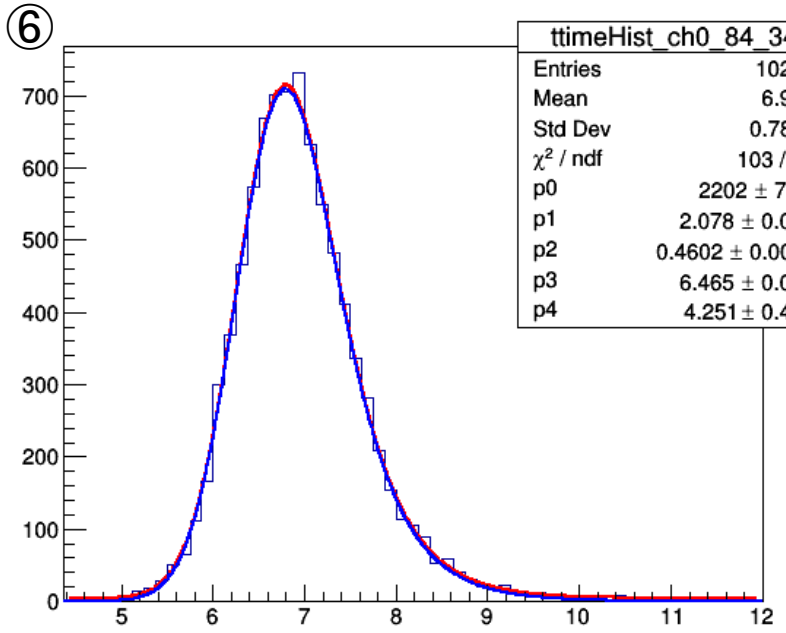

chargeHist_ch0_135_34
Entries 3619
Mean 1.278
Std Dev 1.126
χ² / ndf 231.7 / 179
p0 −0.05667 ± 0.0033
p1 0.09466 ± 0.0023
p2 0.06 ± 0.0
p4 1.523 ± 0.01
p5 0.3183 ± 0.004
p6 0.8683 ± 0.007
p8 804.8 ± 5.9

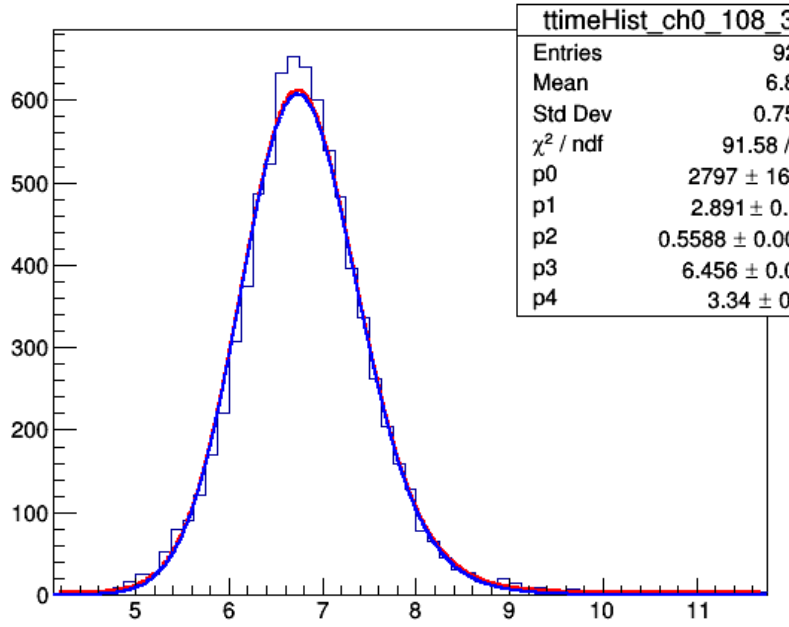

chargeHist_ch0_165_34
Entries 36206
Mean 1.296
Std Dev 1.14
χ² / ndf 210.5 / 179
p0 −0.05257 ± 0.00345
p1 0.0977 ± 0.0024
p2 0.06 ± 0.04
p4 1.53 ± 0.02
p5 0.3236 ± 0.0045
p6 0.8766 ± 0.0080
p8 804.1 ± 5.9

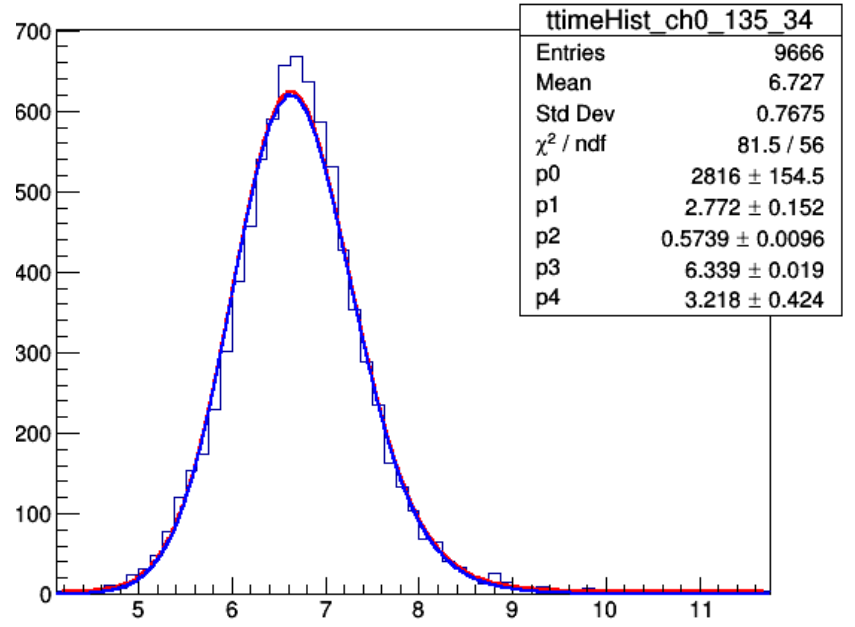

chargeHist_ch0_197_34
Entries 36188
Mean 1.278
Std Dev 1.127
χ² / ndf 235.4 / 179
p0 −0.0505 ± 0.0034
p1 0.1001 ± 0.0024
p2 0.06 ± 0.01
p4 1.49 ± 0.02
p5 0.3199 ± 0.0043
p6 0.8758 ± 0.0078
p8 808.4 ± 6.0

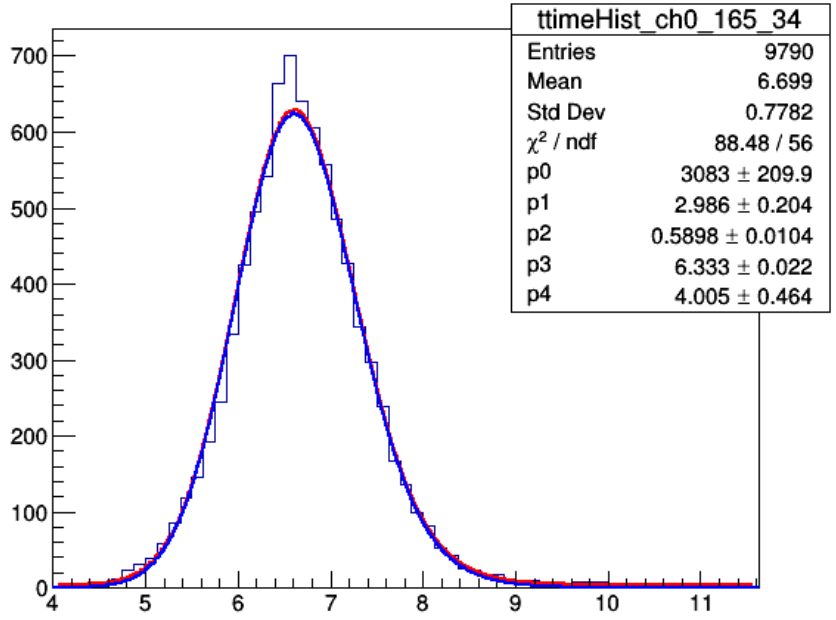

chargeHist_ch0_230_34
Entries 35895
Mean 1.287
Std Dev 1.129
χ² / ndf 225.3 / 179
p0 −0.03485 ± 0.00296
p1 0.1015 ± 0.0023
p2 0.06 ± 0.04
p4 1.497 ± 0.015
p5 0.3145 ± 0.0043
p6 0.8759 ± 0.0067
p8 795.1 ± 5.4

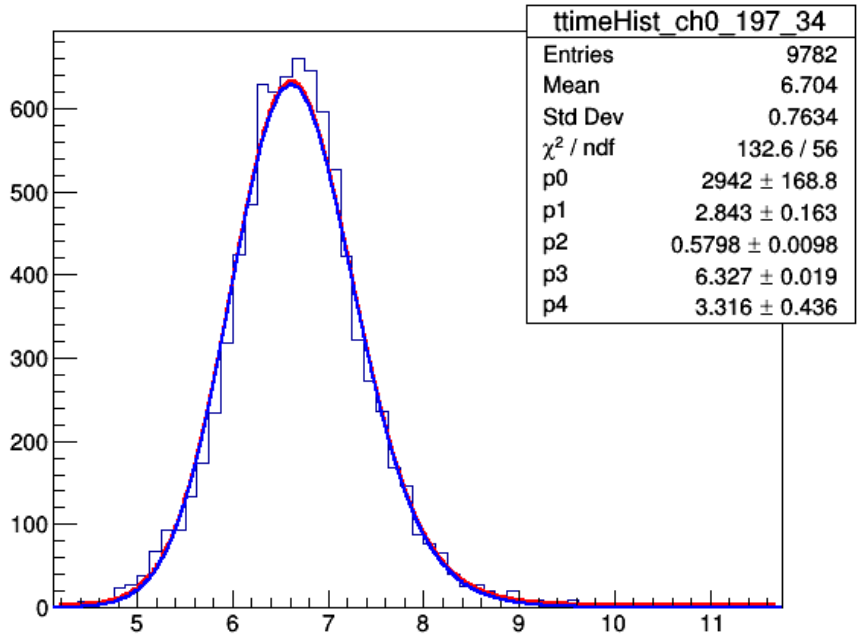
⑥

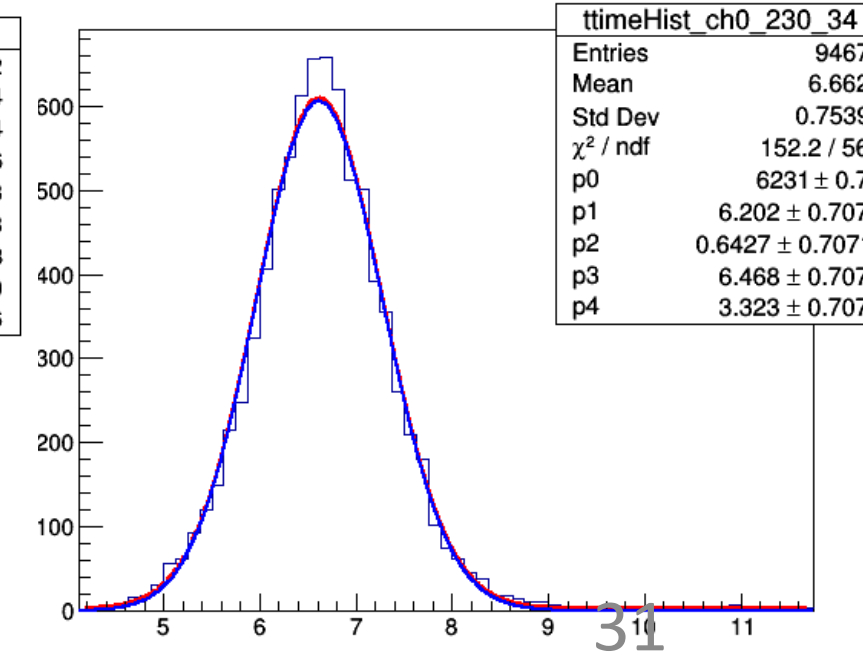

ttimeHist_ch0_84_34
Entries 10220
Mean 6.986
Std Dev 0.7859
χ² / ndf 103 / 56
p0 2202 ± 71.0
p1 2.078 ± 0.065
p2 0.4602 ± 0.0085
p3 6.465 ± 0.013
p4 4.251 ± 0.469


ttimeHist_ch0_108_34
Entries 9290
Mean 6.829
Std Dev 0.7504
χ² / ndf 91.58 / 56
p0 2797 ± 165.5
p1 2.891 ± 0.171
p2 0.5588 ± 0.0097
p3 6.456 ± 0.020
p4 3.34 ± 0.43

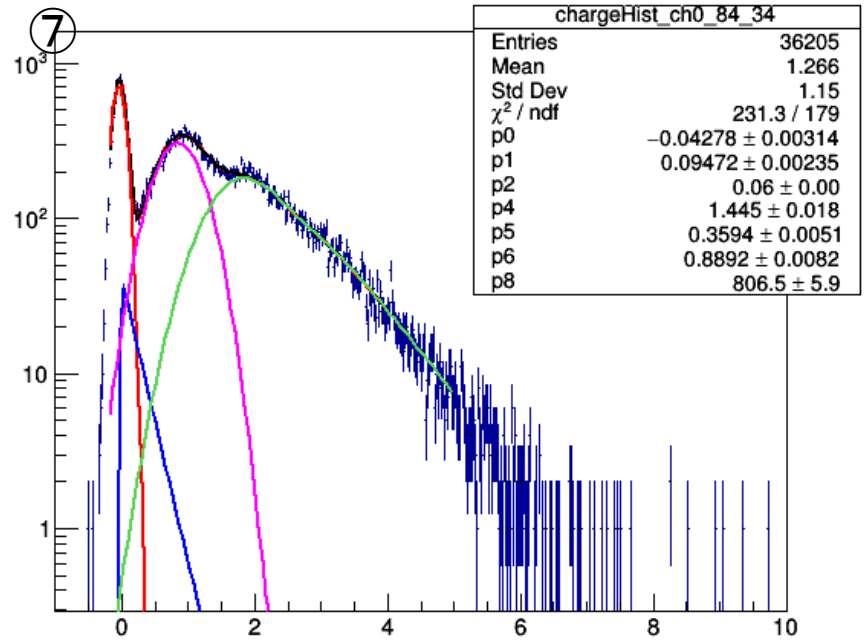

ttimeHist_ch0_135_34
Entries 9666
Mean 6.727
Std Dev 0.7675
χ² / ndf 81.5 / 56
p0 2816 ± 154.5
p1 2.772 ± 0.152
p2 0.5739 ± 0.0096
p3 6.339 ± 0.019
p4 3.218 ± 0.424

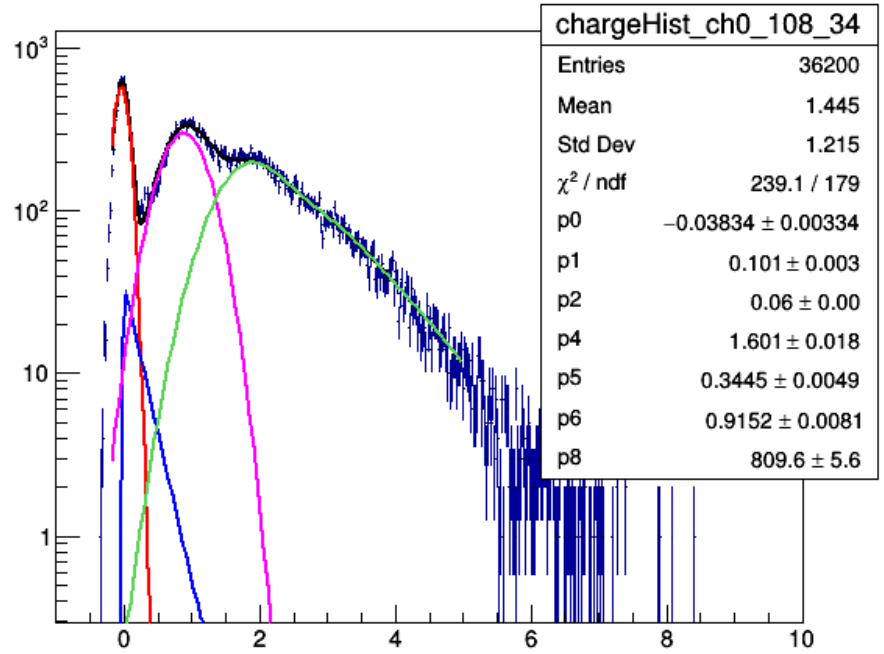

ttimeHist_ch0_165_34
Entries 9790
Mean 6.699
Std Dev 0.7782
χ² / ndf 88.48 / 56
p0 3083 ± 209.9
p1 2.986 ± 0.204
p2 0.5898 ± 0.0104
p3 6.333 ± 0.022
p4 4.005 ± 0.464

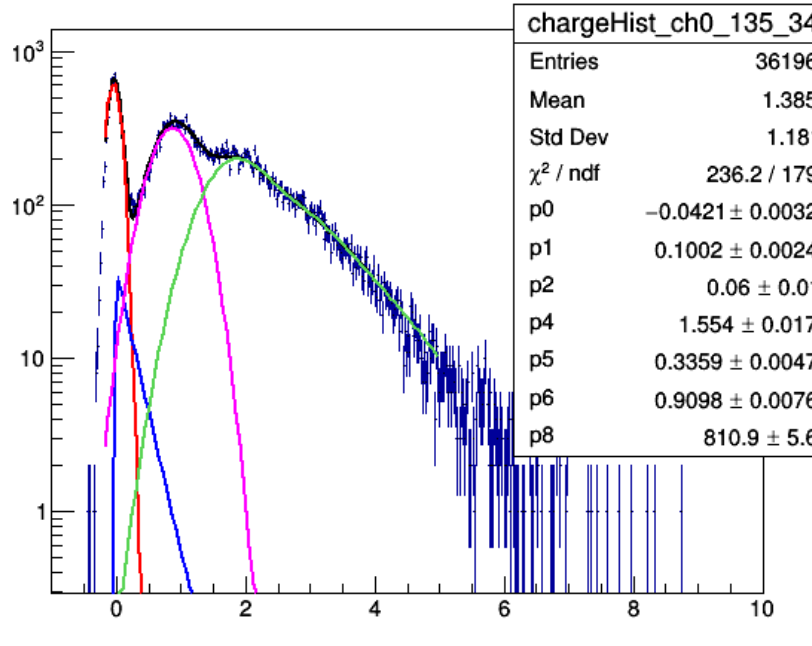

ttimeHist_ch0_197_34
Entries 9782
Mean 6.704
Std Dev 0.7634
χ² / ndf 132.6 / 56
p0 2942 ± 168.8
p1 2.843 ± 0.163
p2 0.5798 ± 0.0098
p3 6.327 ± 0.019
p4 3.316 ± 0.436

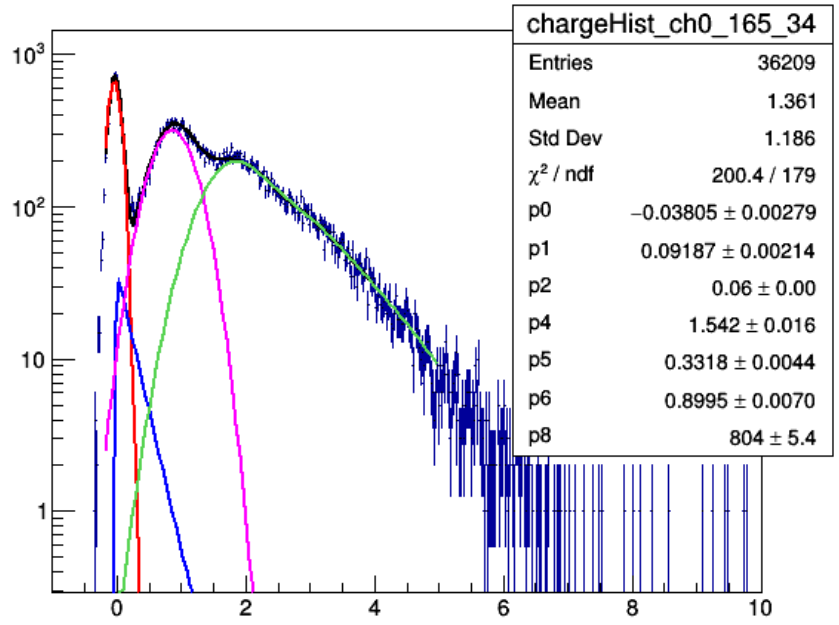

ttimeHist_ch0_230_34
Entries 9467
Mean 6.662
Std Dev 0.7539
χ² / ndf 152.2 / 56
p0 6231 ± 0.7
p1 6.202 ± 0.707
p2 0.6427 ± 0.707
p3 6.468 ± 0.707
p4 3.323 ± 0.707

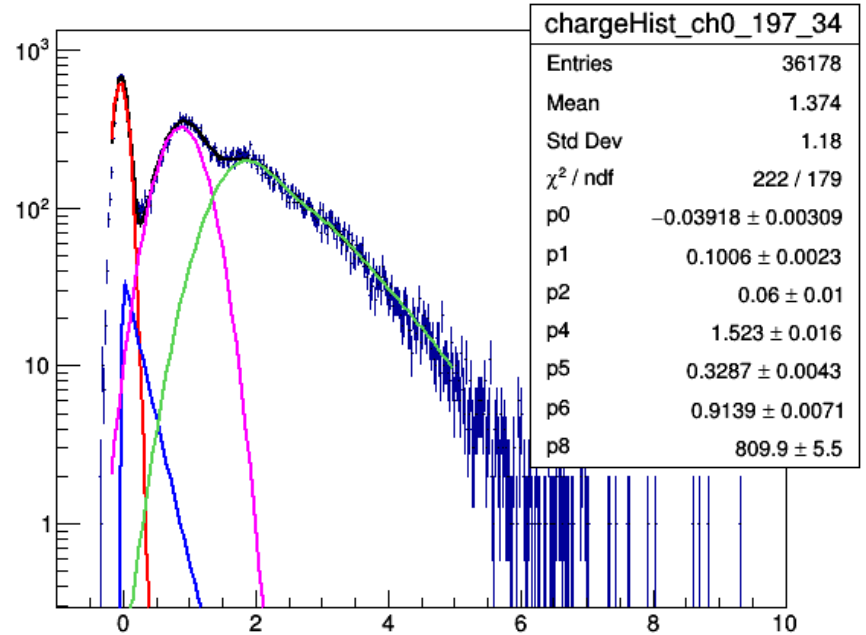
⑦

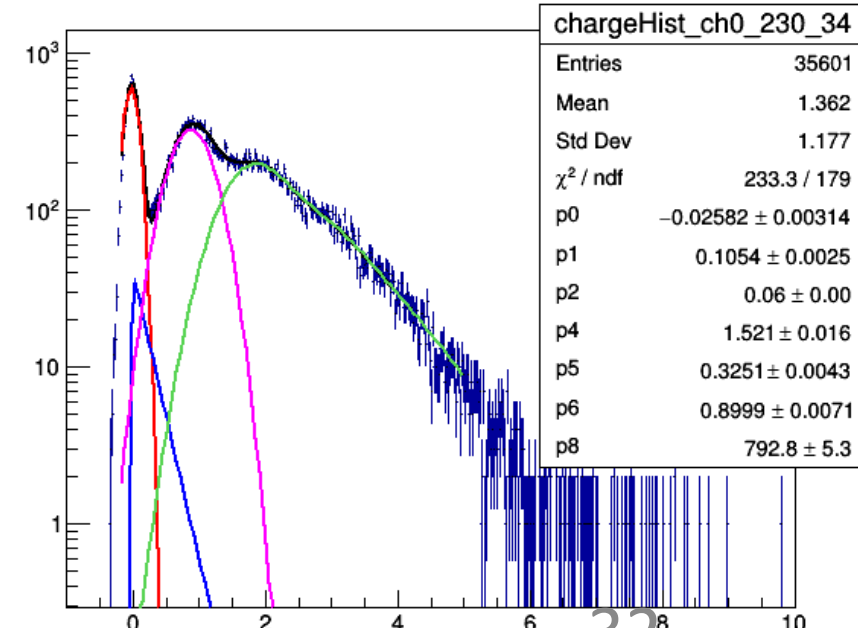

chargeHist_ch0_84_34
Entries 36205
Mean 1.266
Std Dev 1.15
χ² / ndf 231.3 / 179
p0 −0.04278 ± 0.00314
p1 0.09472 ± 0.00235
p2 0.06 ± 0.00
p4 1.445 ± 0.018
p5 0.3594 ± 0.0051
p6 0.8892 ± 0.0082
p8 806.5 ± 5.9


chargeHist_ch0_108_34
Entries 36200
Mean 1.445
Std Dev 1.215
χ² / ndf 239.1 / 179
p0 −0.03834 ± 0.00334
p1 0.101 ± 0.003
p2 0.06 ± 0.00
p4 1.601 ± 0.018
p5 0.3445 ± 0.0049
p6 0.9152 ± 0.0081
p8 809.6 ± 5.6

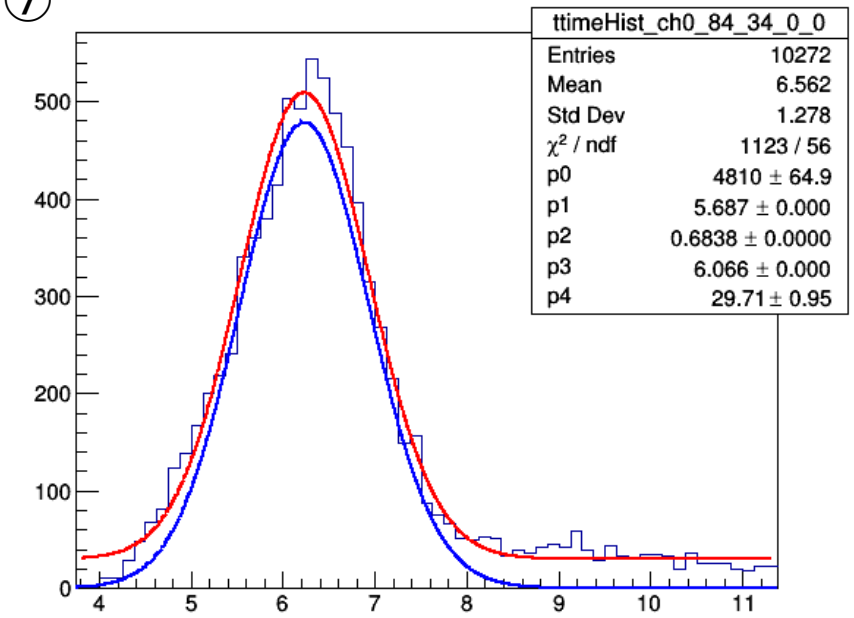

chargeHist_ch0_135_34
Entries 36196
Mean 1.385
Std Dev 1.18
χ² / ndf 236.2 / 179
p0 −0.0421 ± 0.0032
p1 0.1002 ± 0.0024
p2 0.06 ± 0.01
p4 1.554 ± 0.017
p5 0.3359 ± 0.0047
p6 0.9098 ± 0.0076
p8 810.9 ± 5.6

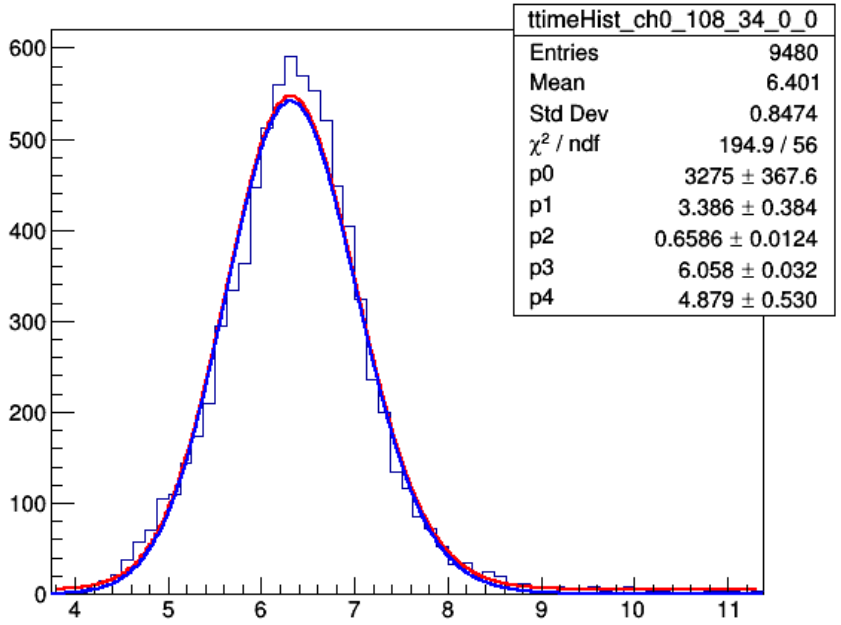

chargeHist_ch0_165_34
Entries 36209
Mean 1.361
Std Dev 1.186
χ² / ndf 200.4 / 179
p0 −0.03805 ± 0.00279
p1 0.09187 ± 0.00214
p2 0.06 ± 0.00
p4 1.542 ± 0.016
p5 0.3318 ± 0.0044
p6 0.8995 ± 0.0070
p8 804 ± 5.4

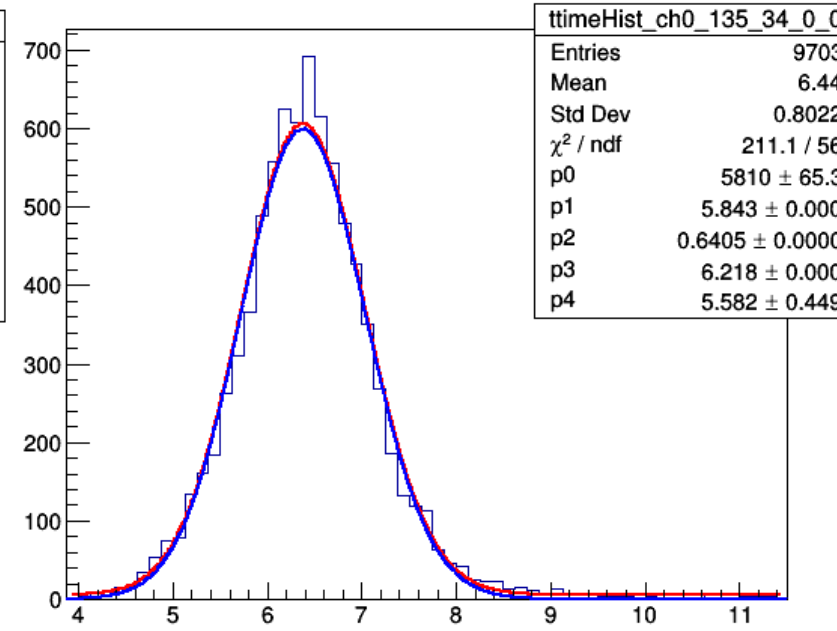

chargeHist_ch0_197_34
Entries 36178
Mean 1.374
Std Dev 1.18
χ² / ndf 222 / 179
p0 −0.03918 ± 0.00309
p1 0.1006 ± 0.0023
p2 0.06 ± 0.01
p4 1.523 ± 0.016
p5 0.3287 ± 0.0043
p6 0.9139 ± 0.0071
p8 809.9 ± 5.5

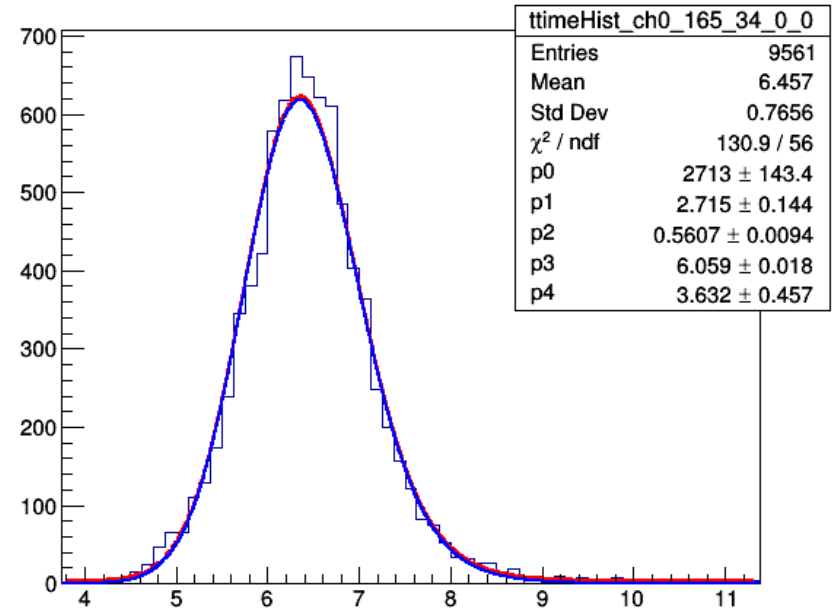

chargeHist_ch0_230_34
Entries 35601
Mean 1.362
Std Dev 1.177
χ² / ndf 233.3 / 179
p0 −0.02582 ± 0.00314
p1 0.1054 ± 0.0025
p2 0.06 ± 0.00
p4 1.521 ± 0.016
p5 0.3251 ± 0.0043
p6 0.8999 ± 0.0071
p8 792.8 ± 5.3

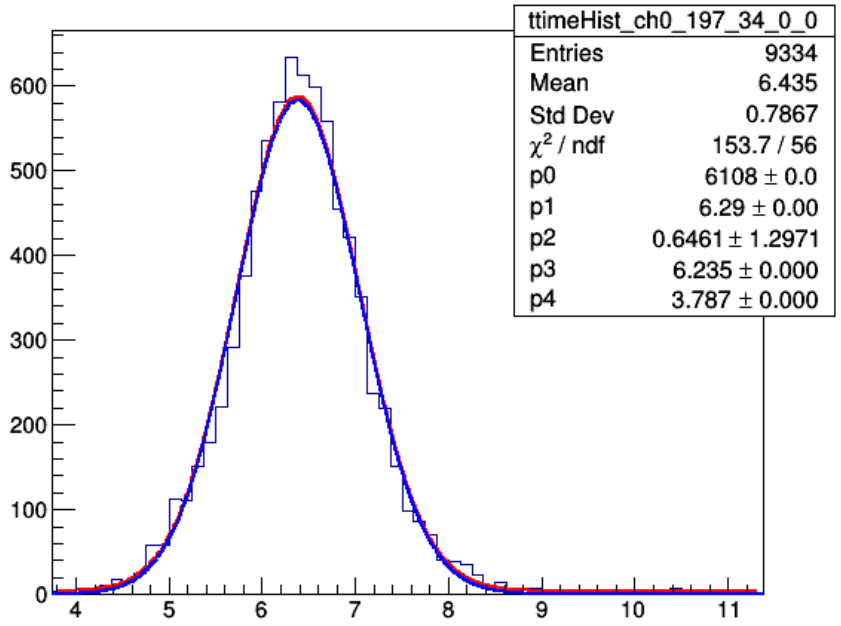
⑦

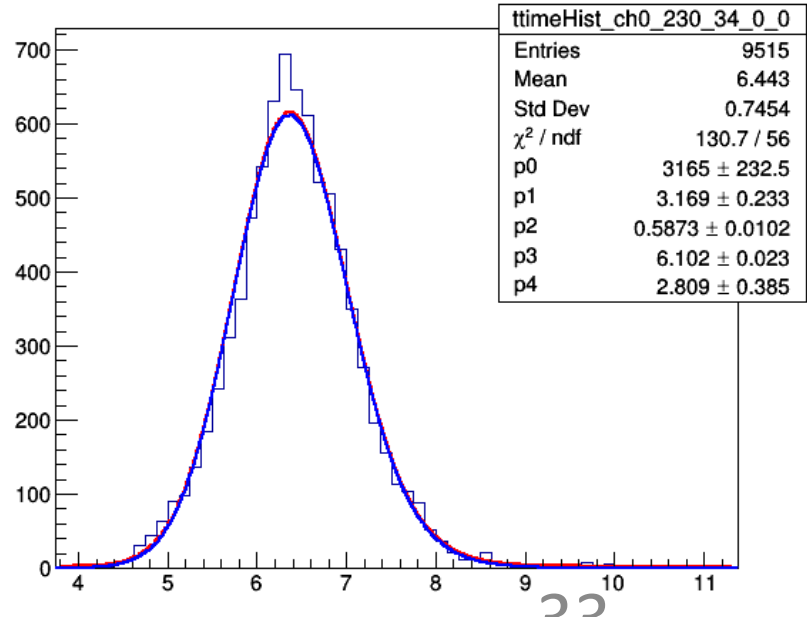

ttimeHist_ch0_84_34_0_0
Entries 10272
Mean 6.562
Std Dev 1.278
χ² / ndf 1123 / 56
p0 4810 ± 64.9
p1 5.687 ± 0.000
p2 0.6838 ± 0.0000
p3 6.066 ± 0.000
p4 29.71 ± 0.95


ttimeHist_ch0_108_34_0_0
Entries 9480
Mean 6.401
Std Dev 0.8474
χ² / ndf 194.9 / 56
p0 3275 ± 367.6
p1 3.386 ± 0.384
p2 0.6586 ± 0.0124
p3 6.058 ± 0.032
p4 4.879 ± 0.530

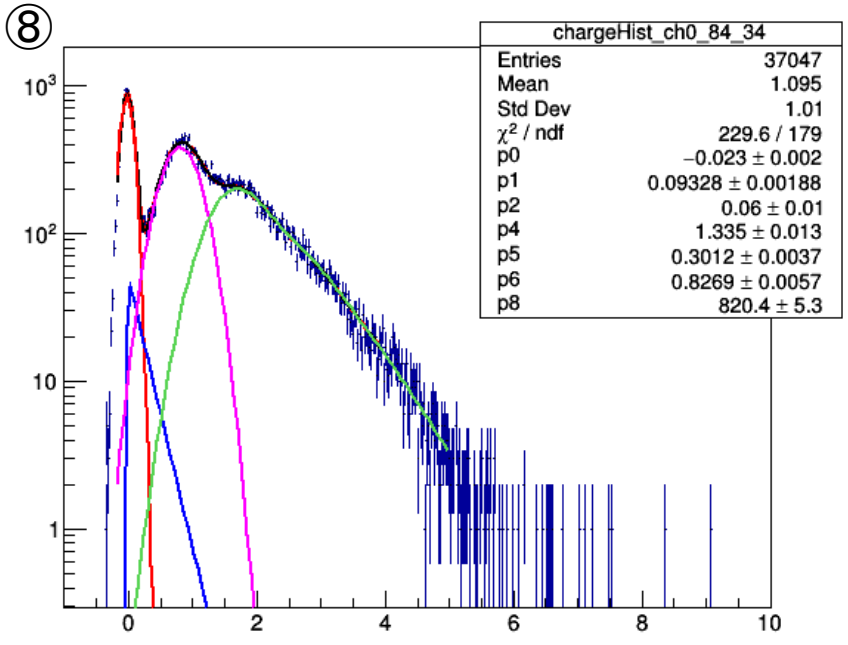

ttimeHist_ch0_135_34_0_0
Entries 9703
Mean 6.44
Std Dev 0.8022
χ² / ndf 211.1 / 56
p0 5810 ± 65.3
p1 5.843 ± 0.000
p2 0.6405 ± 0.0000
p3 6.218 ± 0.000
p4 5.582 ± 0.449

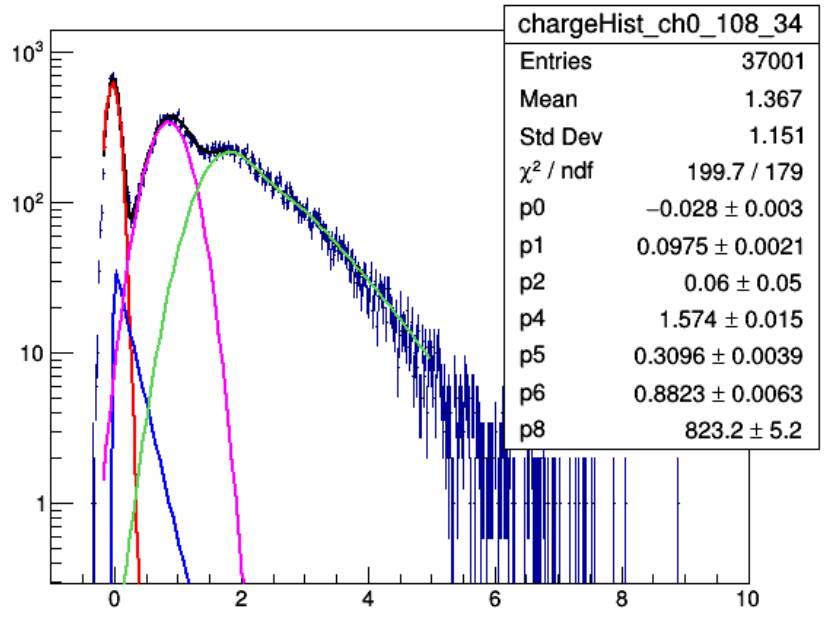

ttimeHist_ch0_165_34_0_0
Entries 9561
Mean 6.457
Std Dev 0.7656
χ² / ndf 130.9 / 56
p0 2713 ± 143.4
p1 2.715 ± 0.144
p2 0.5607 ± 0.0094
p3 6.059 ± 0.018
p4 3.632 ± 0.457

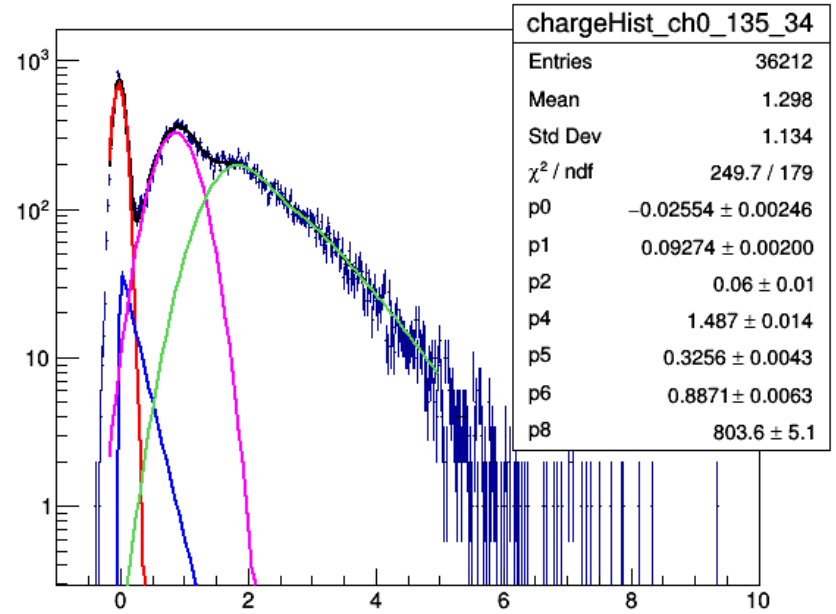

ttimeHist_ch0_197_34_0_0
Entries 9334
Mean 6.435
Std Dev 0.7867
χ² / ndf 153.7 / 56
p0 6108 ± 0.0
p1 6.29 ± 0.00
p2 0.6461 ± 1.2971
p3 6.235 ± 0.000
p4 3.787 ± 0.000

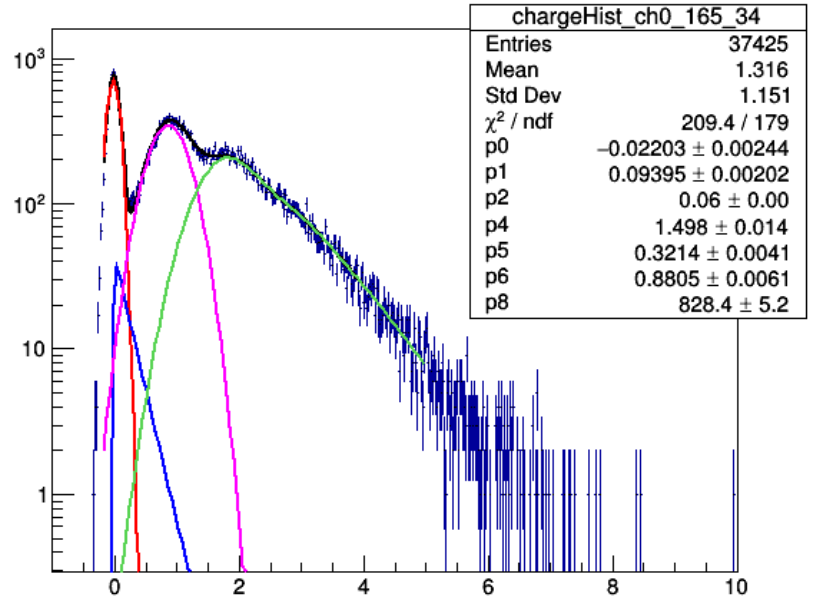

ttimeHist_ch0_230_34_0_0
Entries 9515
Mean 6.443
Std Dev 0.7454
χ² / ndf 130.7 / 56
p0 3165 ± 232.5
p1 3.169 ± 0.233
p2 0.5873 ± 0.0102
p3 6.102 ± 0.023
p4 2.809 ± 0.385

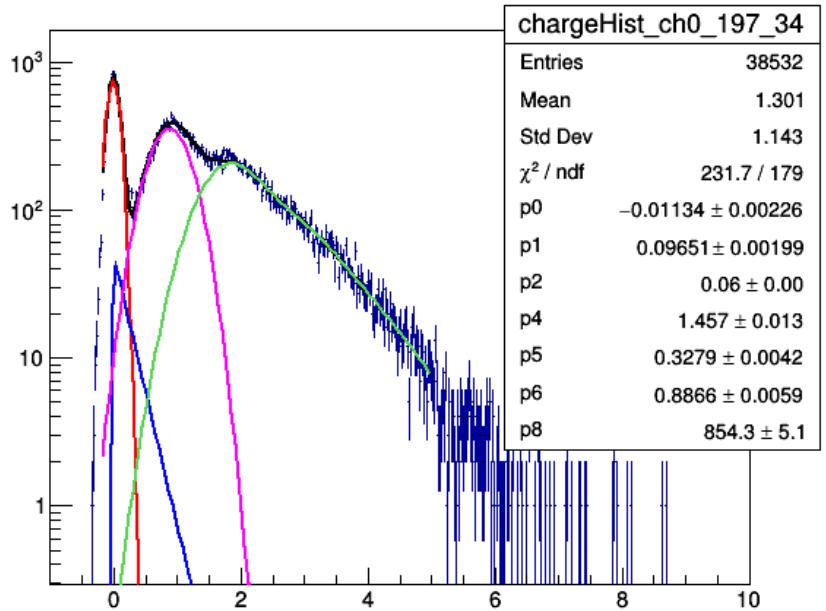
⑧

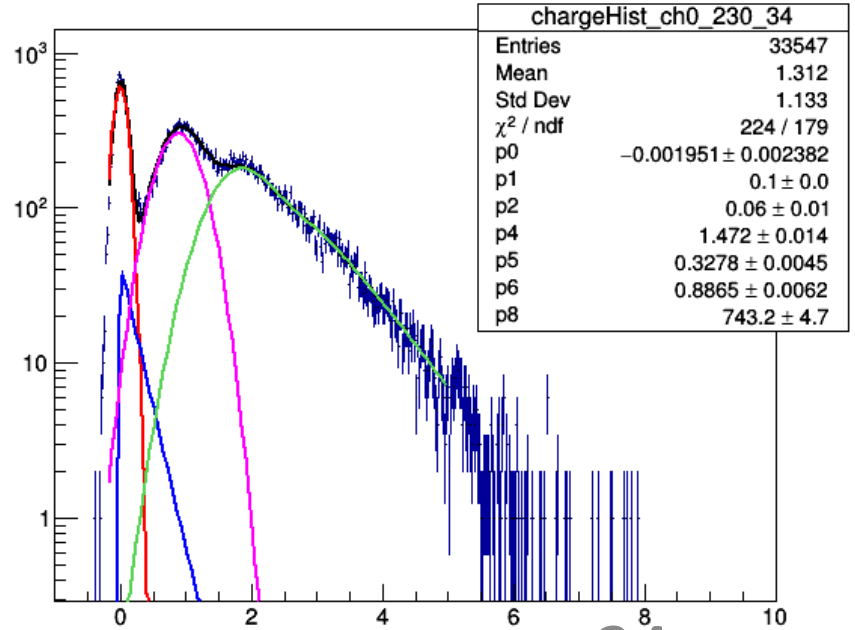

chargeHist_ch0_84_34
Entries 37047
Mean 1.095
Std Dev 1.01
χ² / ndf 229.6 / 179
p0 −0.023 ± 0.002
p1 0.09328 ± 0.00188
p2 0.06 ± 0.01
p4 1.335 ± 0.013
p5 0.3012 ± 0.0037
p6 0.8269 ± 0.0057
p8 820.4 ± 5.3


chargeHist_ch0_108_34
Entries 37001
Mean 1.367
Std Dev 1.151
χ² / ndf 199.7 / 179
p0 −0.028 ± 0.003
p1 0.0975 ± 0.0021
p2 0.06 ± 0.05
p4 1.574 ± 0.015
p5 0.3096 ± 0.0039
p6 0.8823 ± 0.0063
p8 823.2 ± 5.2

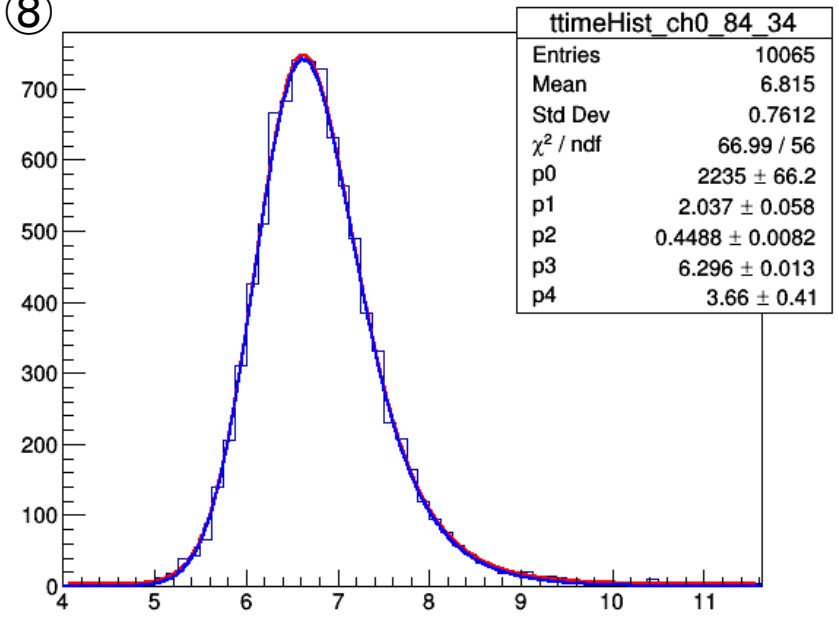

chargeHist_ch0_135_34
Entries 36212
Mean 1.298
Std Dev 1.134
χ² / ndf 249.7 / 179
p0 −0.02554 ± 0.00246
p1 0.09274 ± 0.00200
p2 0.06 ± 0.01
p4 1.487 ± 0.014
p5 0.3256 ± 0.0043
p6 0.8871 ± 0.0063
p8 803.6 ± 5.1

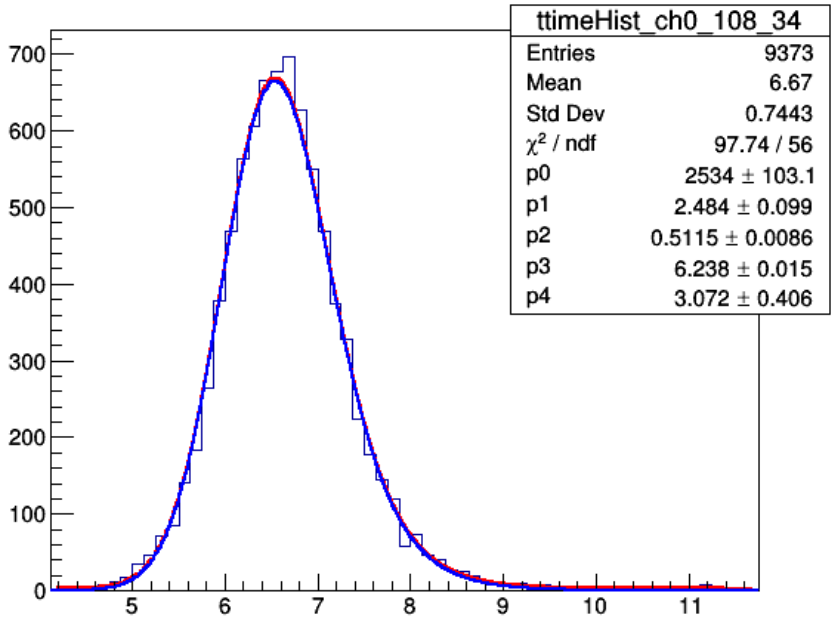

chargeHist_ch0_165_34
Entries 37425
Mean 1.316
Std Dev 1.151
χ² / ndf 209.4 / 179
p0 −0.02203 ± 0.00244
p1 0.09395 ± 0.00202
p2 0.06 ± 0.00
p4 1.498 ± 0.014
p5 0.3214 ± 0.0041
p6 0.8805 ± 0.0061
p8 828.4 ± 5.2

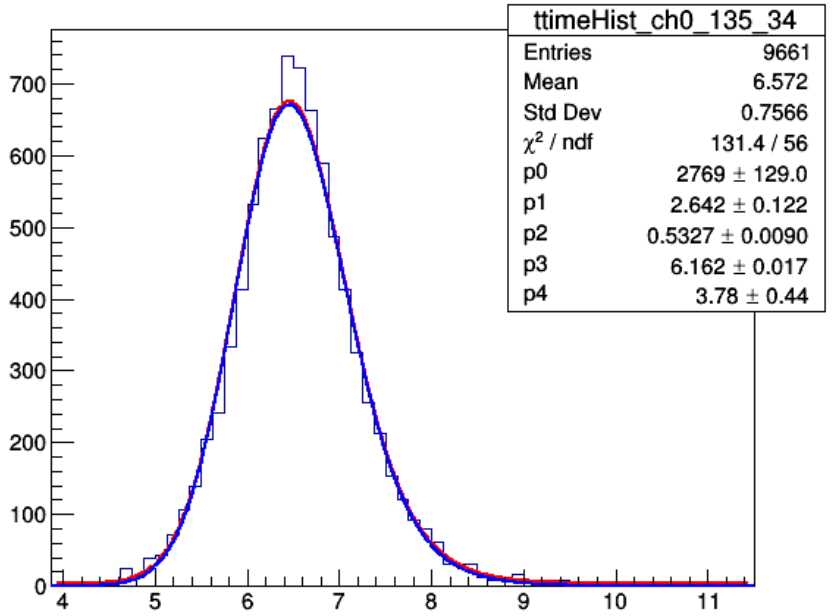

chargeHist_ch0_197_34
Entries 38532
Mean 1.301
Std Dev 1.143
χ² / ndf 231.7 / 179
p0 −0.01134 ± 0.00226
p1 0.09651 ± 0.00199
p2 0.06 ± 0.00
p4 1.457 ± 0.013
p5 0.3279 ± 0.0042
p6 0.8866 ± 0.0059
p8 854.3 ± 5.1

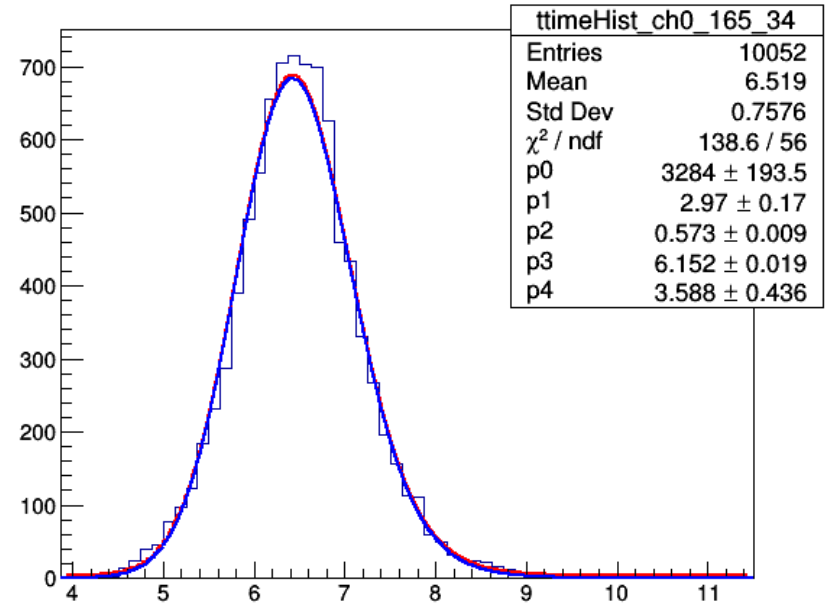

chargeHist_ch0_230_34
Entries 33547
Mean 1.312
Std Dev 1.133
χ² / ndf 224 / 179
p0 −0.001951 ± 0.002382
p1 0.1 ± 0.0
p2 0.06 ± 0.01
p4 1.472 ± 0.014
p5 0.3278 ± 0.0045
p6 0.8865 ± 0.0062
p8 743.2 ± 4.7

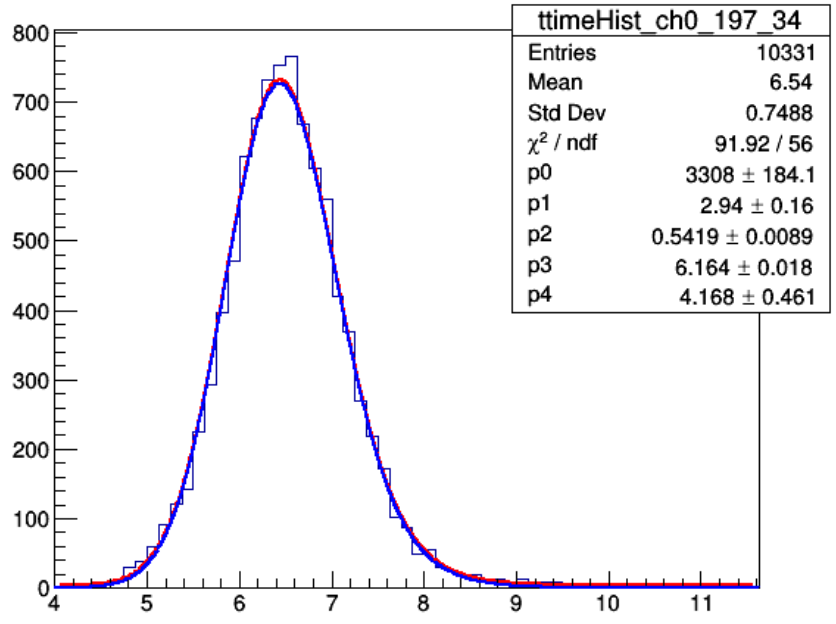
⑧

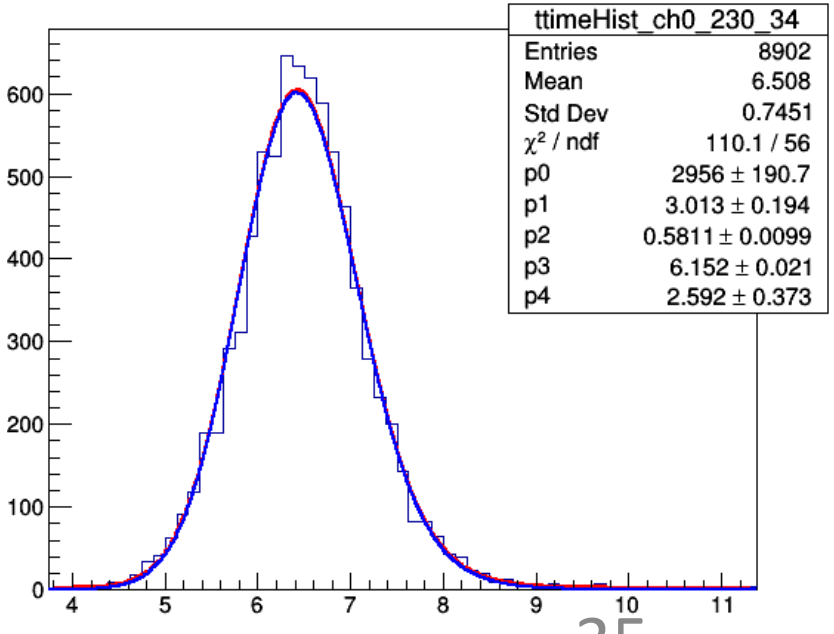

ttimeHist_ch0_84_34
Entries 10065
Mean 6.815
Std Dev 0.7612
χ² / ndf 66.99 / 56
p0 2235 ± 66.2
p1 2.037 ± 0.058
p2 0.4488 ± 0.0082
p3 6.296 ± 0.013
p4 3.66 ± 0.41


ttimeHist_ch0_108_34
Entries 9373
Mean 6.67
Std Dev 0.7443
χ² / ndf 97.74 / 56
p0 2534 ± 103.1
p1 2.484 ± 0.099
p2 0.5115 ± 0.0086
p3 6.238 ± 0.015
p4 3.072 ± 0.406


ttimeHist_ch0_135_34
Entries 9661
Mean 6.572
Std Dev 0.7566
χ² / ndf 131.4 / 56
p0 2769 ± 129.0
p1 2.642 ± 0.122
p2 0.5327 ± 0.0090
p3 6.162 ± 0.017
p4 3.78 ± 0.44


ttimeHist_ch0_165_34
Entries 10052
Mean 6.519
Std Dev 0.7576
χ² / ndf 138.6 / 56
p0 3284 ± 193.5
p1 2.97 ± 0.17
p2 0.573 ± 0.009
p3 6.152 ± 0.019
p4 3.588 ± 0.436


ttimeHist_ch0_197_34
Entries 10331
Mean 6.54
Std Dev 0.7488
χ² / ndf 91.92 / 56
p0 3308 ± 184.1
p1 2.94 ± 0.16
p2 0.5419 ± 0.0089
p3 6.164 ± 0.018
p4 4.168 ± 0.461


ttimeHist_ch0_230_34
Entries 8902
Mean 6.508
Std Dev 0.7451
χ² / ndf 110.1 / 56
p0 2956 ± 190.7
p1 3.013 ± 0.194
p2 0.5811 ± 0.0099
p3 6.152 ± 0.021
p4 2.592 ± 0.373