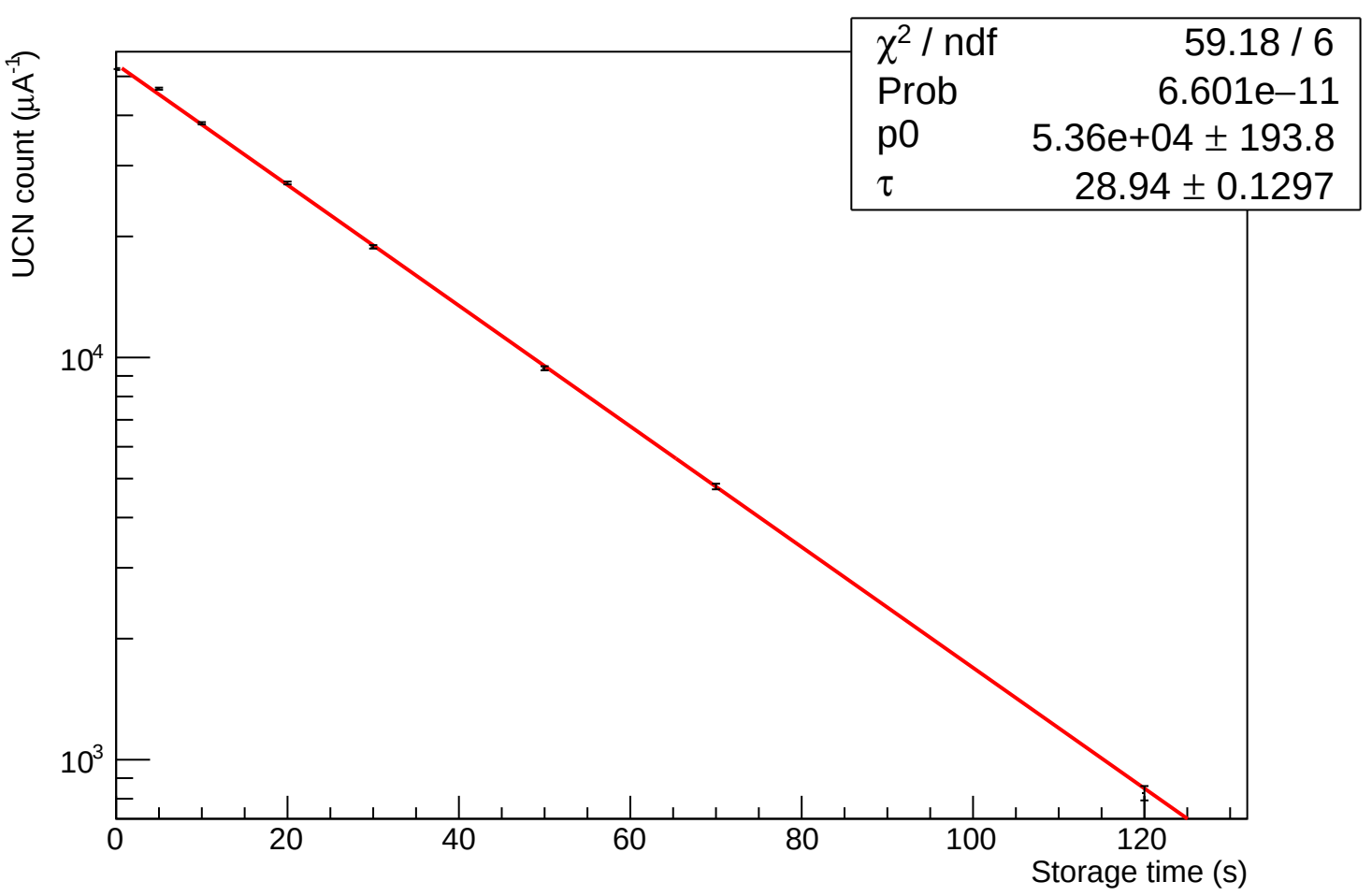
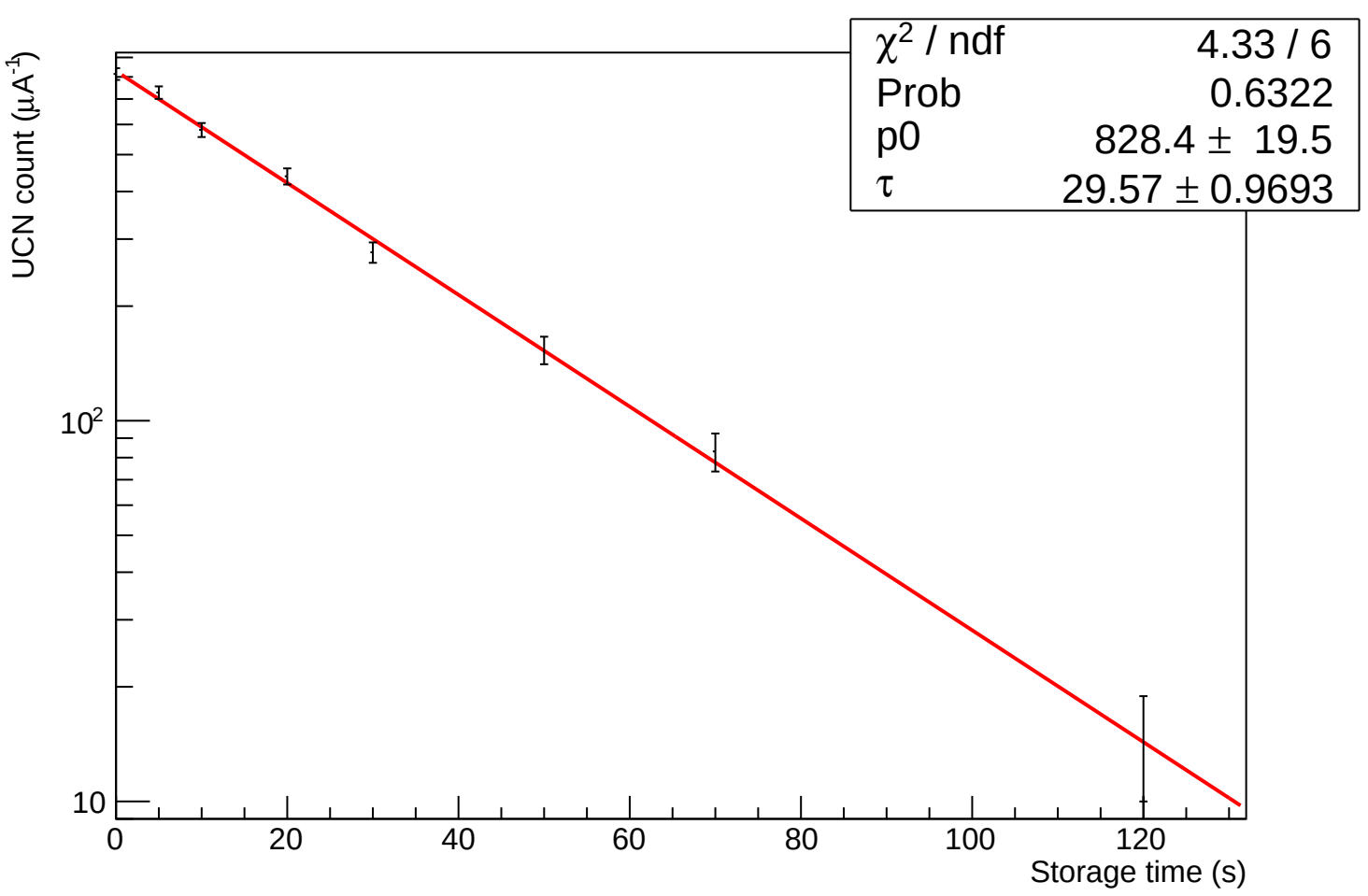
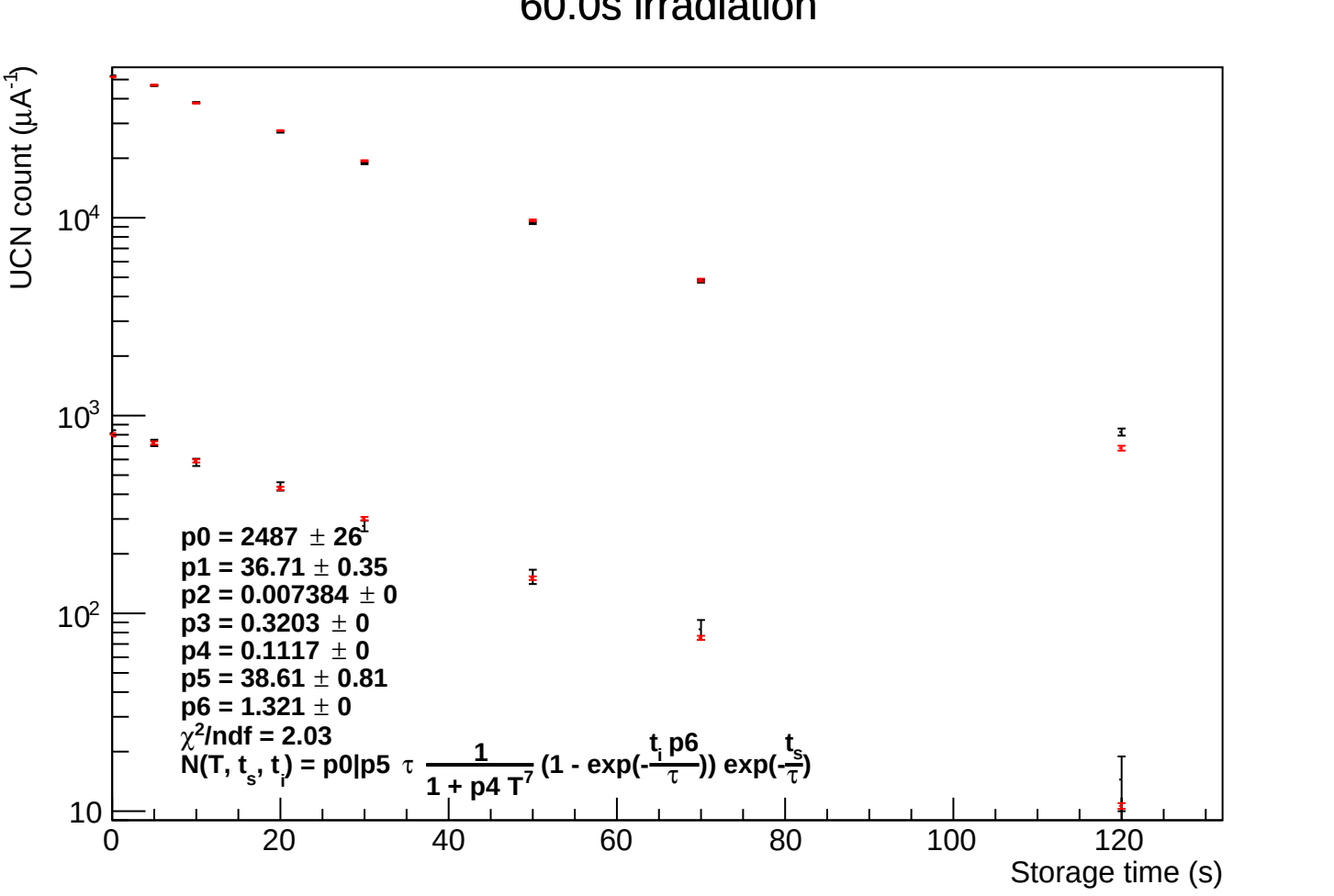
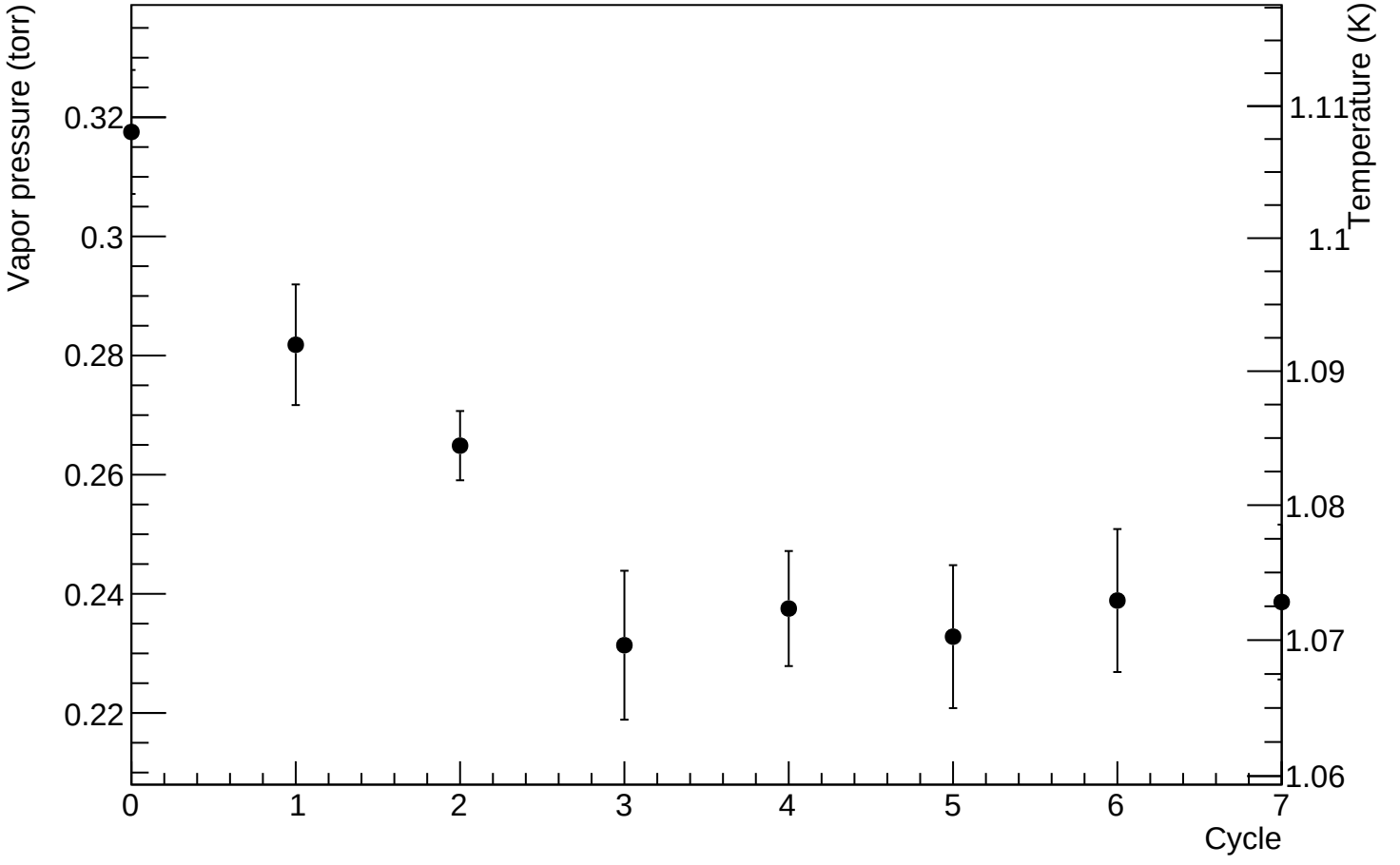
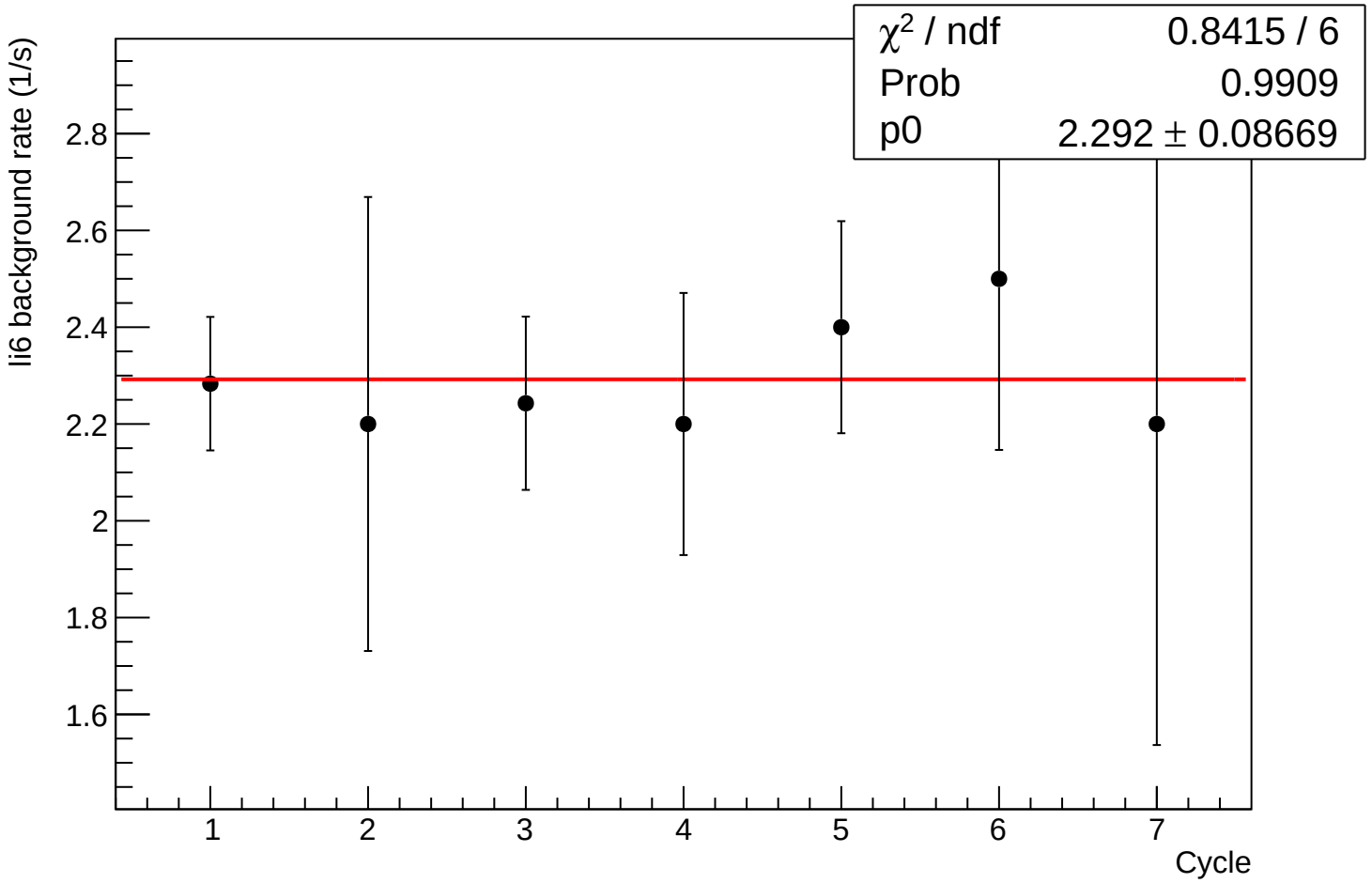
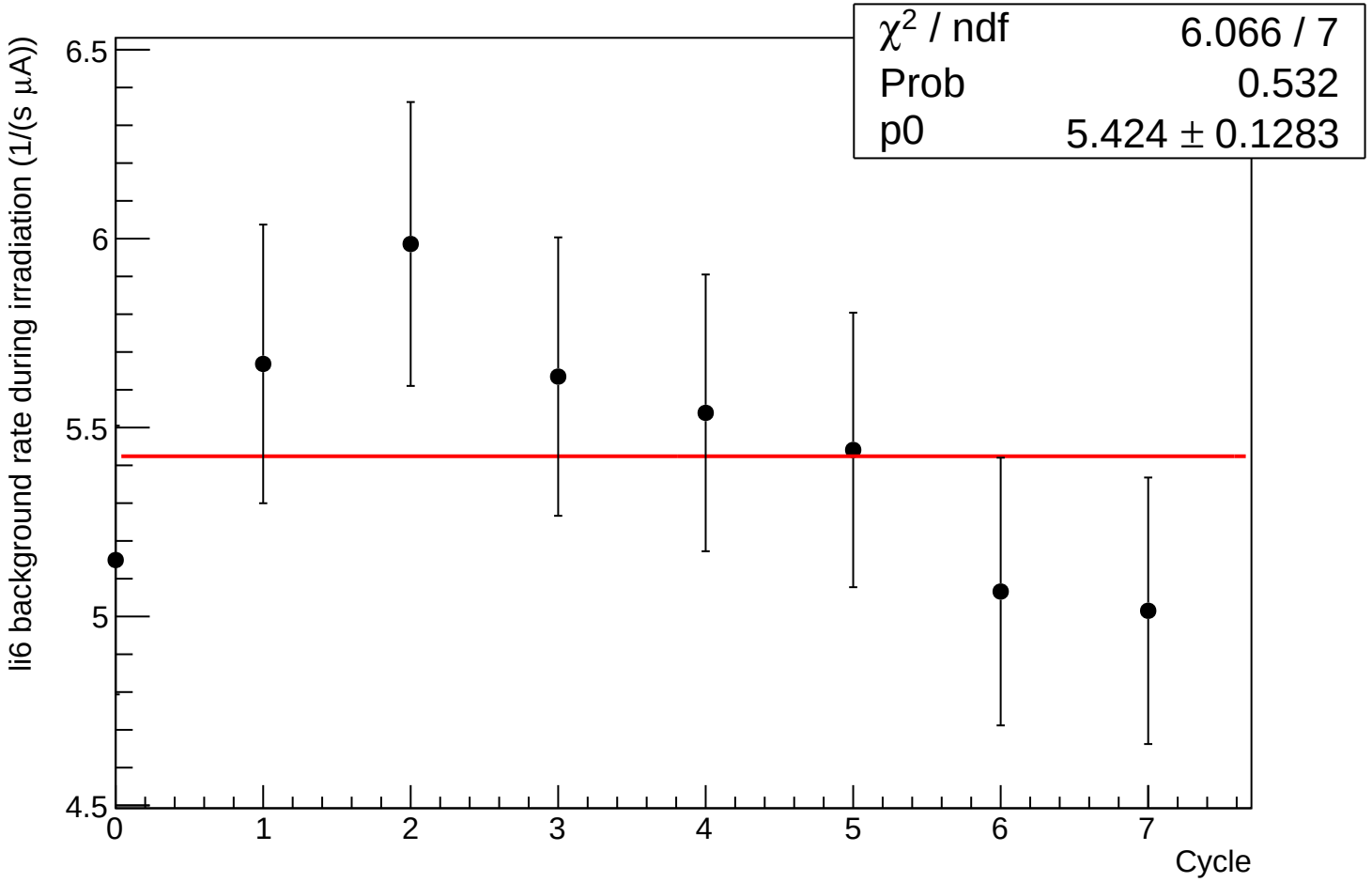

TCN18-170 (li6 detector, single exponential fit, background subtracted, normalized to beam current)
χ² / ndf 59.18 / 6
Prob 6.601e−11
p0 5.36e+04 ± 193.8
τ 28.94 ± 0.1297
UCN count (μA⁻¹)
10⁴
10³
0
20
40
60
80
100
120
Storage time (s)

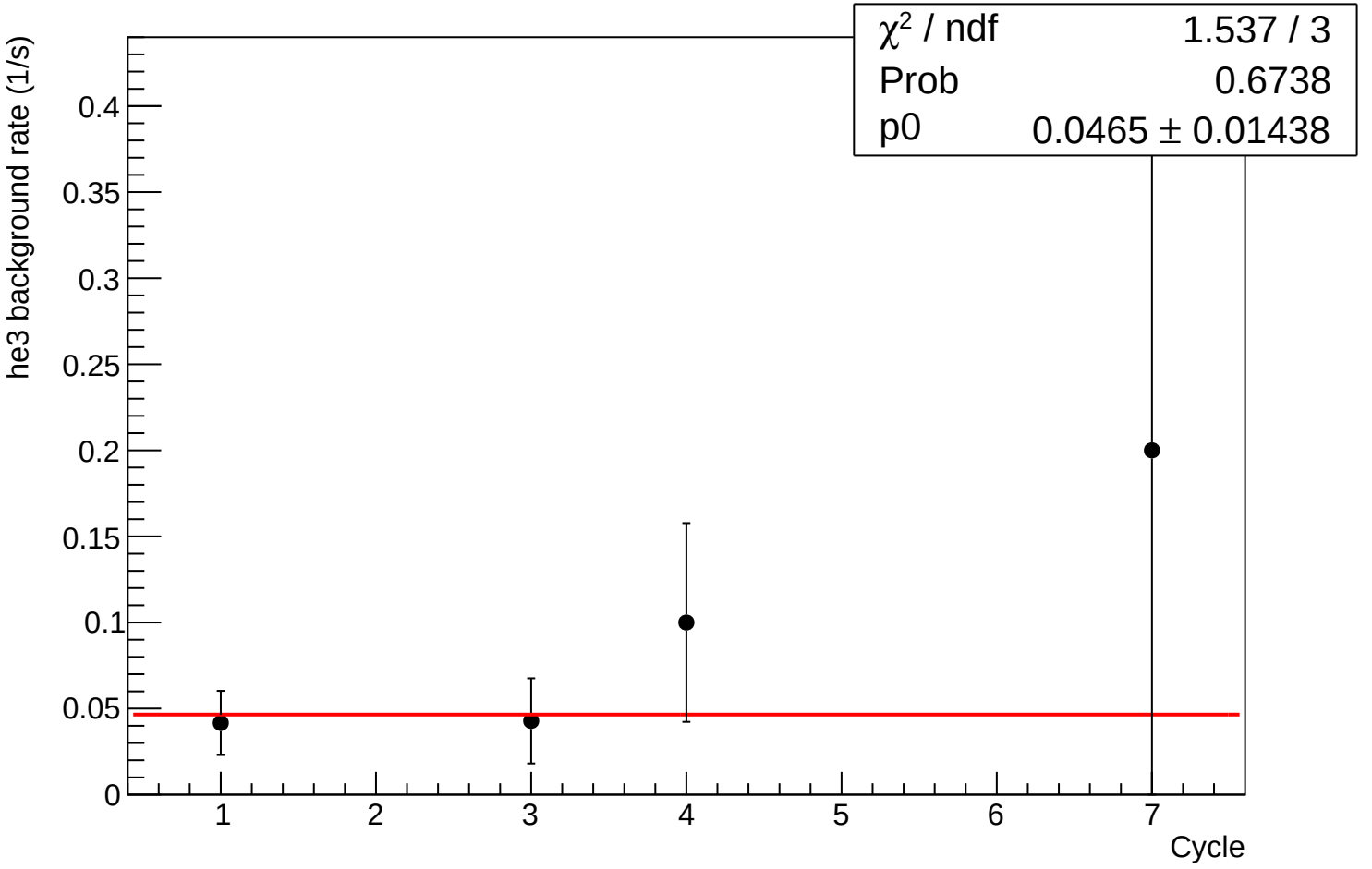

TCN18-170 (he3 detector, single exponential fit, background subtracted, normalized to beam current)
χ2 / ndf 4.33 / 6
Prob 0.6322
p0 828.4 ± 19.5
τ 29.57 ± 0.9693
UCN count (μA-1)
10
10^2
0
20
40
60
80
100
120
Storage time (s)

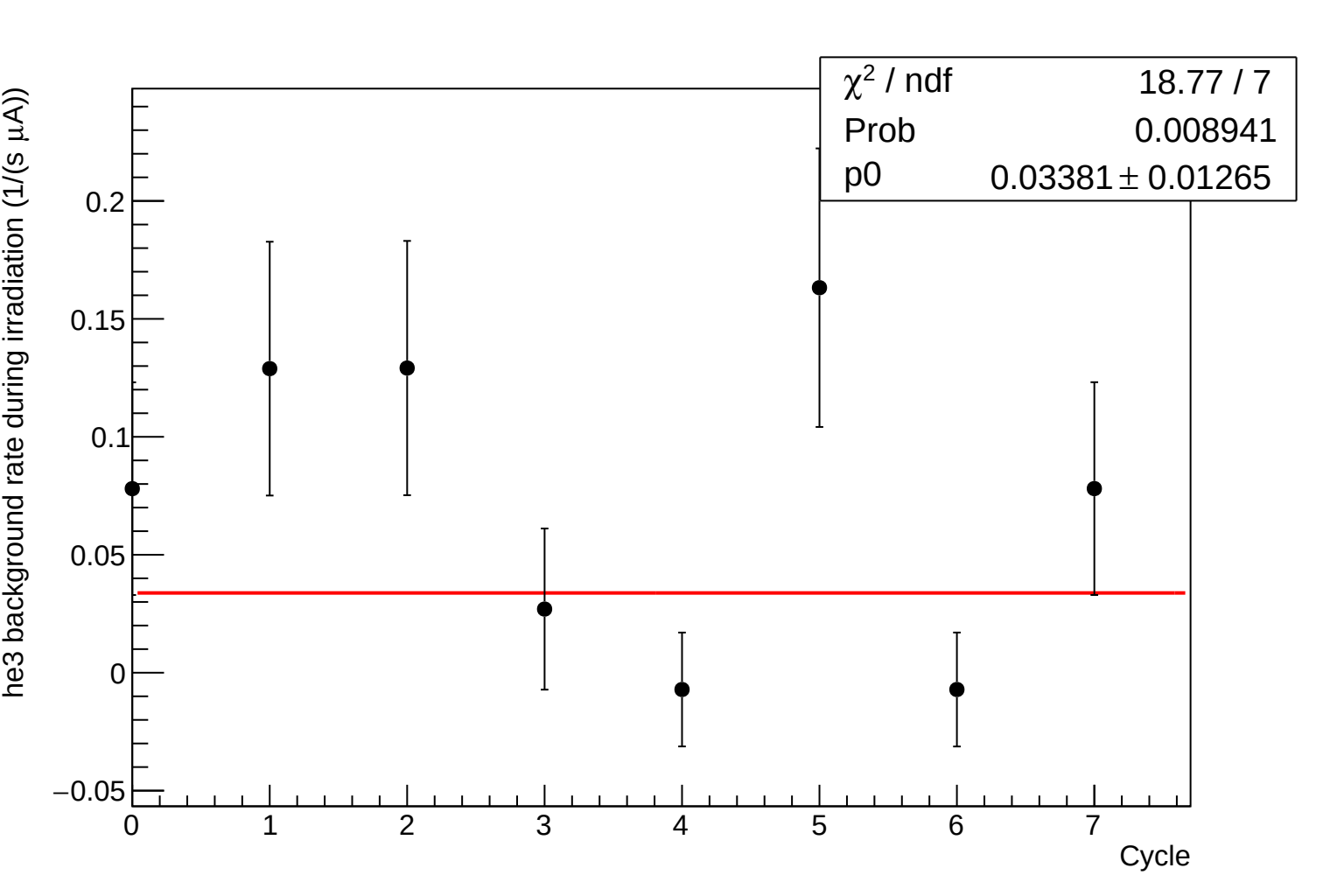

60.0s irradiation
UCN count (μA-1)
Storage time (s)
p0 = 2487 ± 26
p1 = 36.71 ± 0.35
p2 = 0.007384 ± 0
p3 = 0.3203 ± 0
p4 = 0.1117 ± 0
p5 = 38.61 ± 0.81
p6 = 1.321 ± 0
χ2/ndf = 2.03
N(T, ts, ti) = p0|p5 τ 1/(1 + p4 T7) (1 - exp(-ti p6/τ)) exp(-ts/τ)

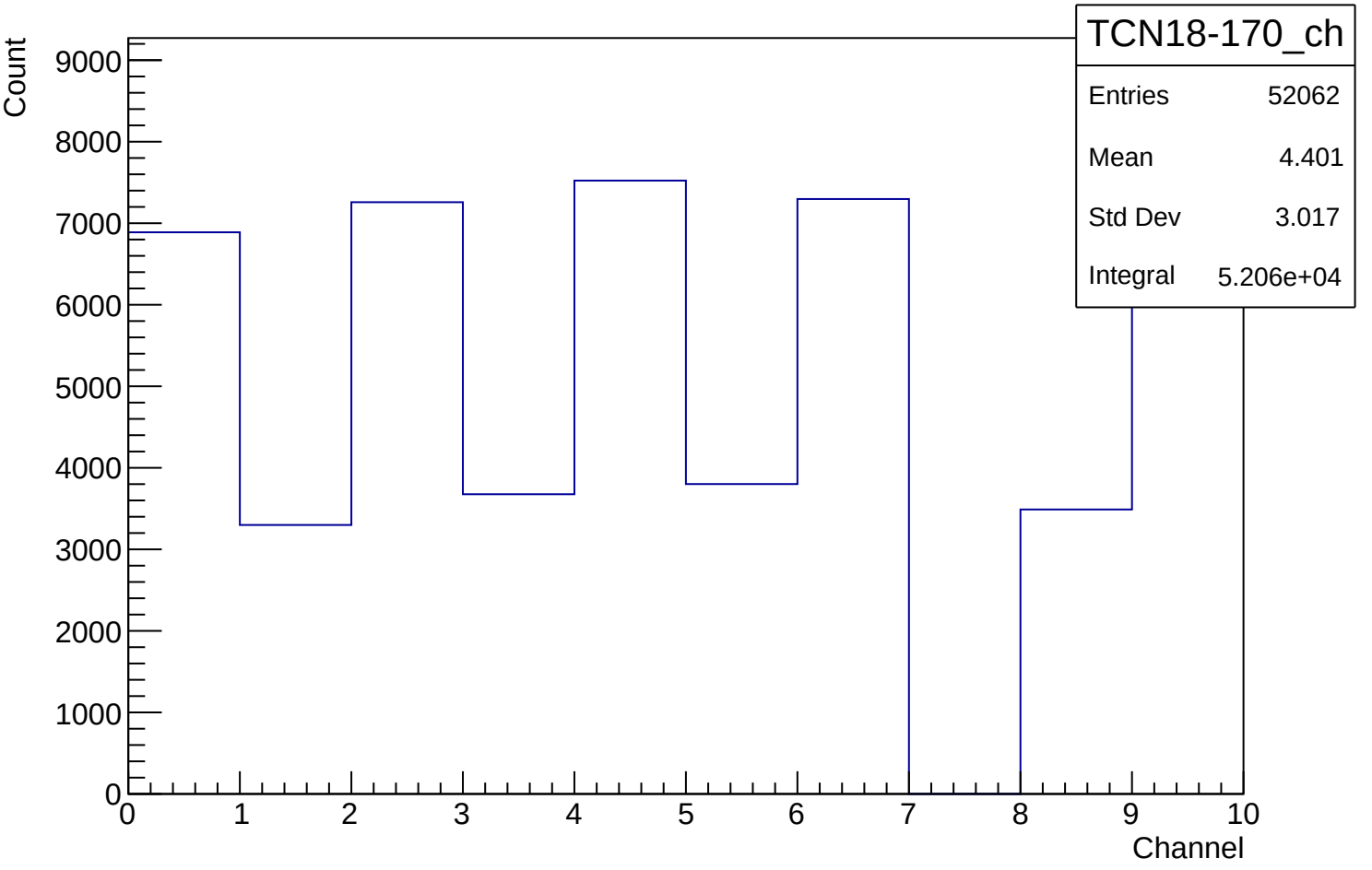

Graph
Vapor pressure (torr)
0.32
0.3
0.28
0.26
0.24
0.22
Temperature (K)
1.11
1.1
1.09
1.08
1.07
1.06
0
1
2
3
4
5
6
7
Cycle

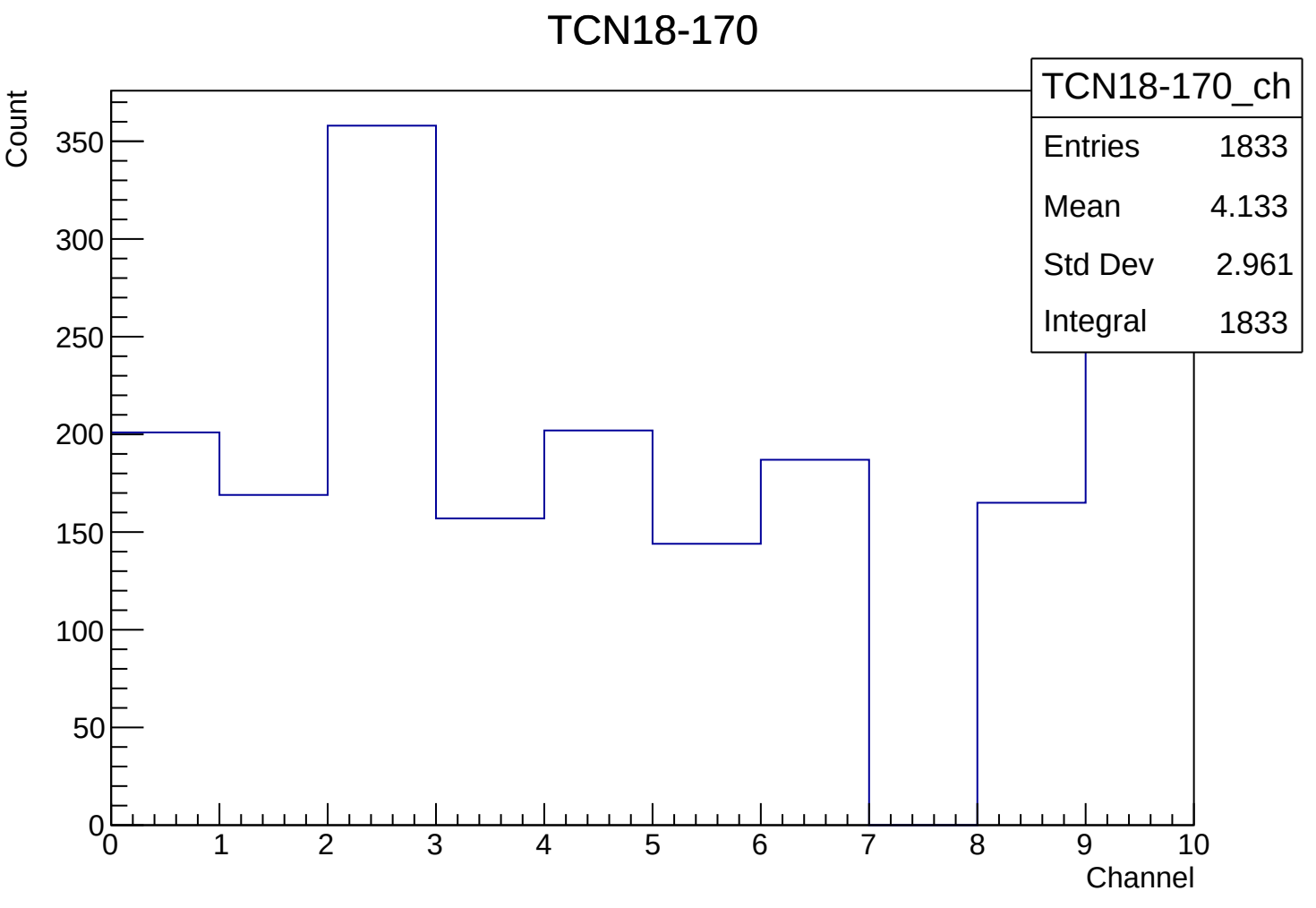

li6 background rate (1/s)
2.8
2.6
2.4
2.2
2
1.8
1.6
1
2
3
4
5
6
7
Cycle
χ² / ndf 0.8415 / 6
Prob 0.9909
p0 2.292 ± 0.08669

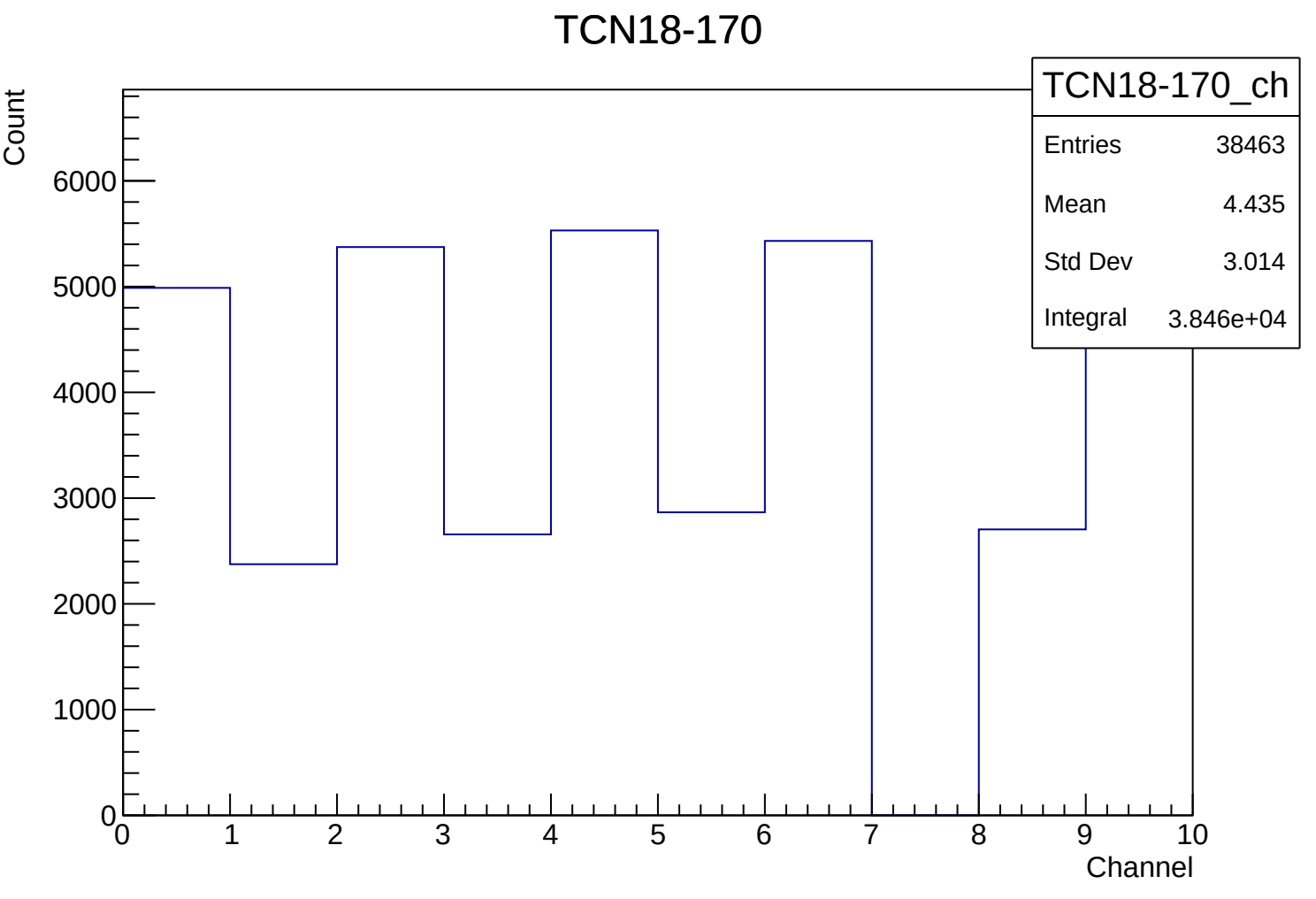

χ² / ndf 6.066 / 7
Prob 0.532
p0 5.424 ± 0.1283
li6 background rate during irradiation (1/(s μA))
6.5
6
5.5
5
4.5
0
1
2
3
4
5
6
7
Cycle

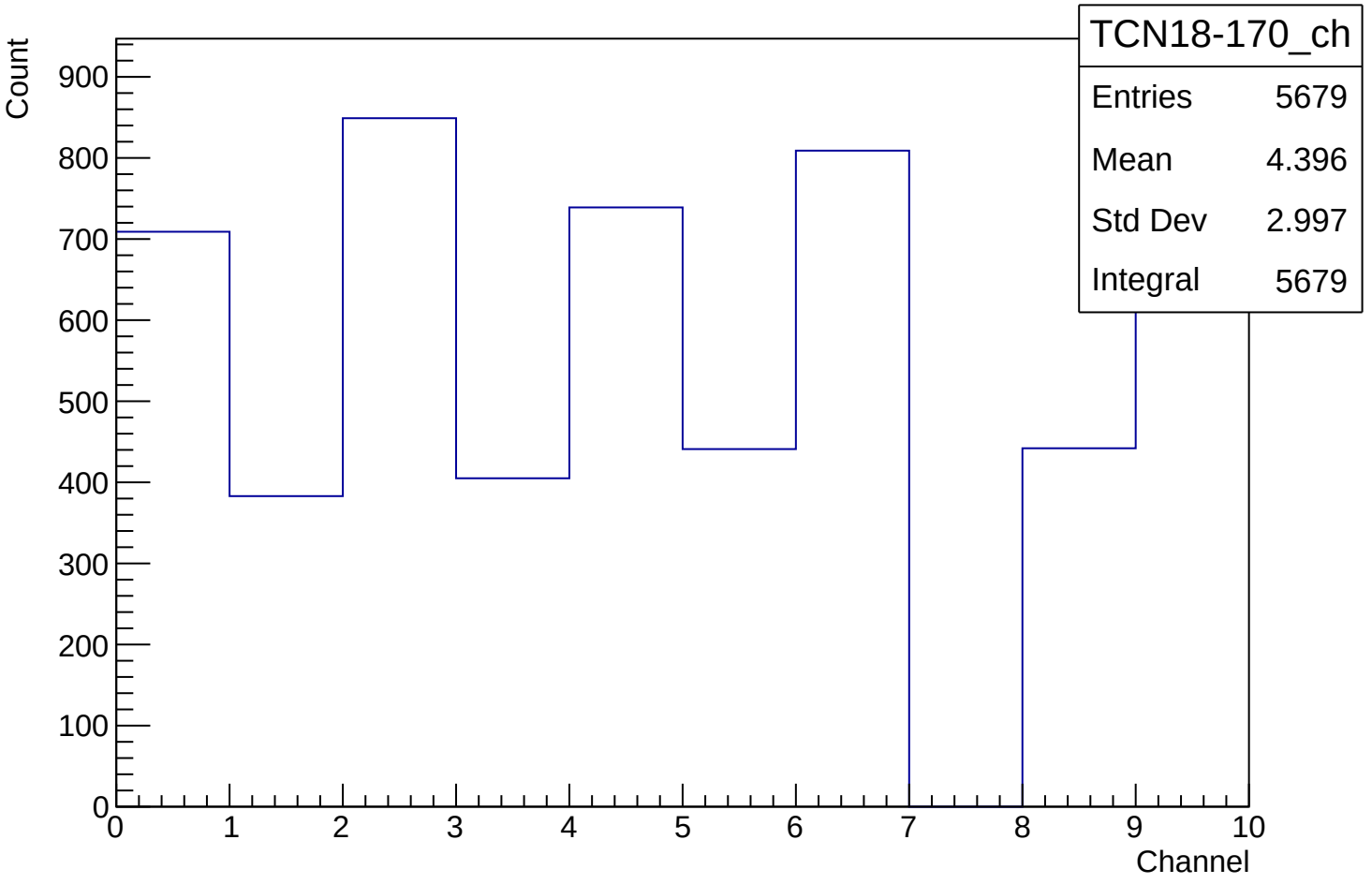

χ² / ndf 1.537 / 3
Prob 0.6738
p0 0.0465 ± 0.01438
he3 background rate (1/s)
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
1
2
3
4
5
6
7
Cycle

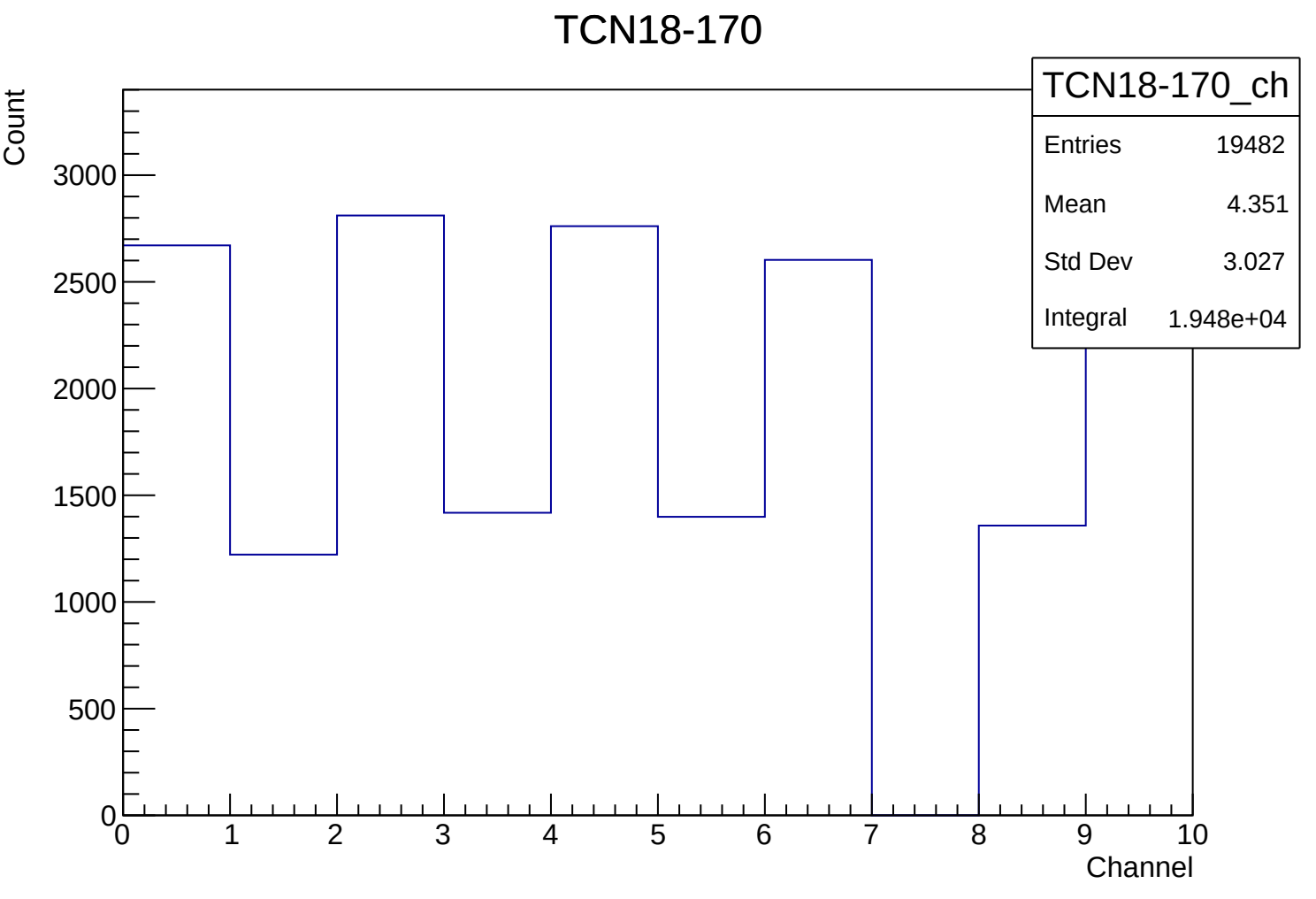

χ² / ndf 18.77 / 7
Prob 0.008941
p0 0.03381 ± 0.01265
he3 background rate during irradiation (1/(s μA))
0.2
0.15
0.1
0.05
0
−0.05
0
1
2
3
4
5
6
7
Cycle

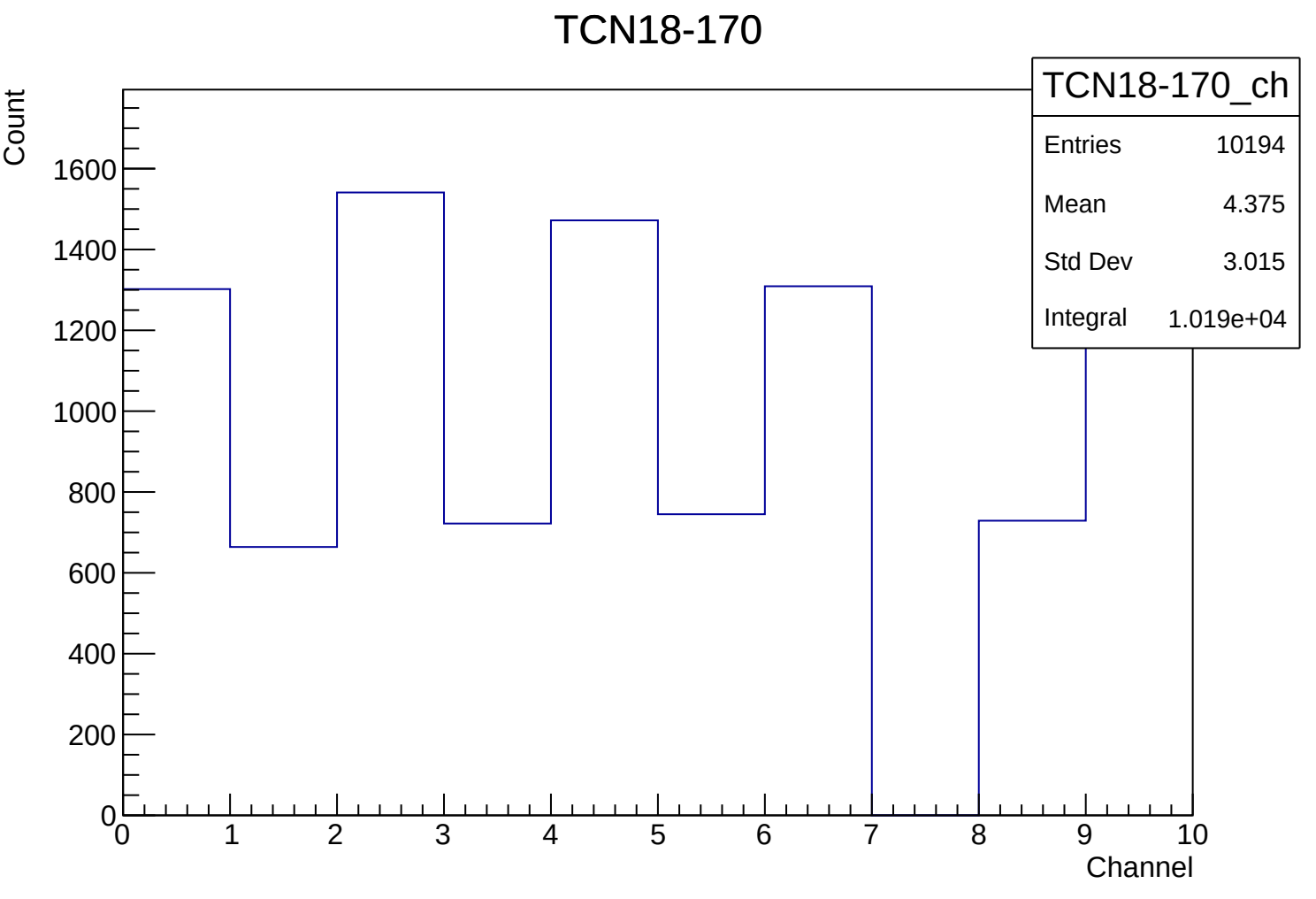

TCN18-170
TCN18-170_ch
Entries 52062
Mean 4.401
Std Dev 3.017
Integral 5.206e+04
Count
Channel
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
0
1
2
3
4
5
6
7
8
9
10

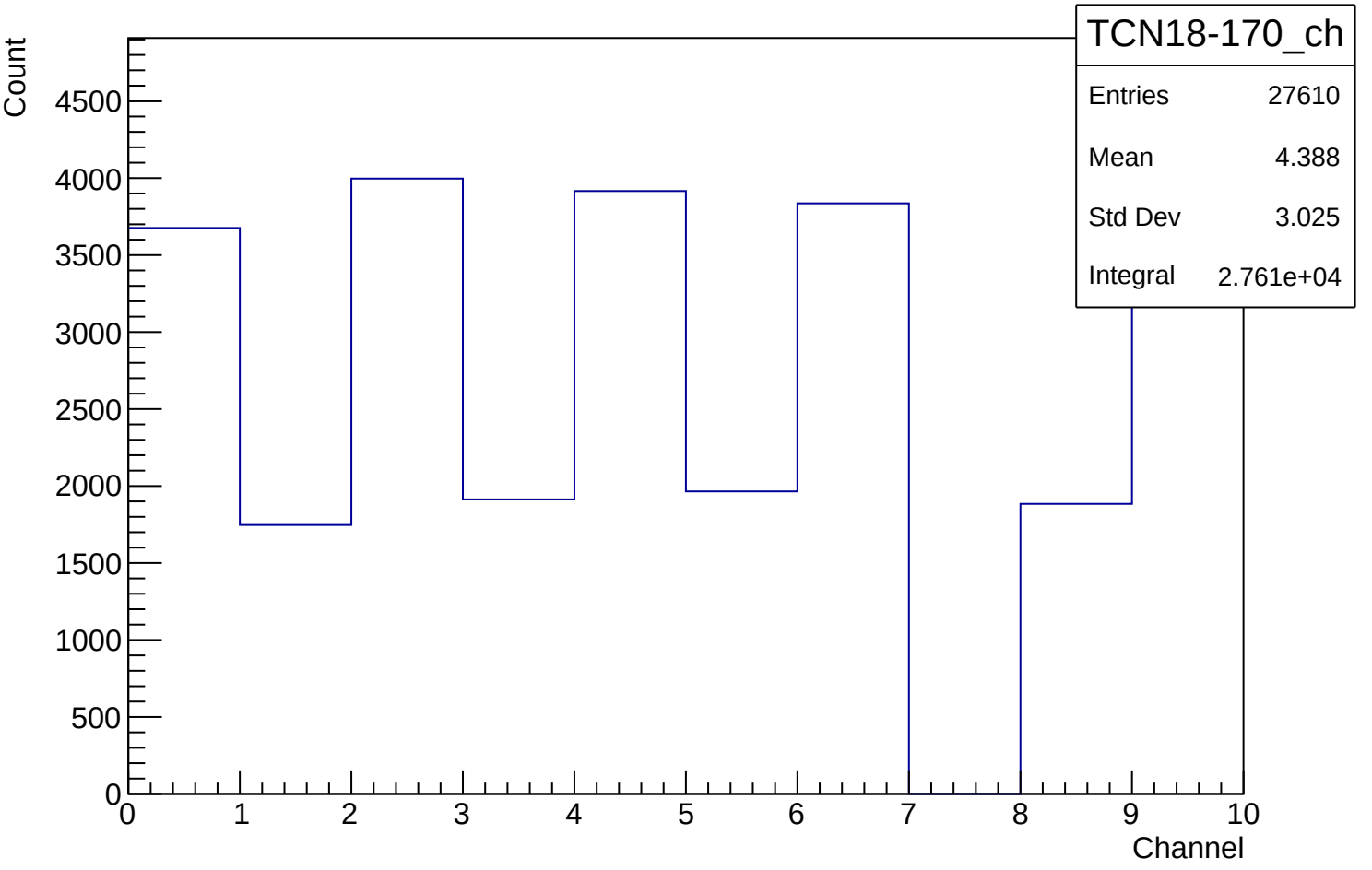

TCN18-170
TCN18-170_ch
Entries 1833
Mean 4.133
Std Dev 2.961
Integral 1833
Count
0
50
100
150
200
250
300
350
0
1
2
3
4
5
6
7
8
9
10
Channel

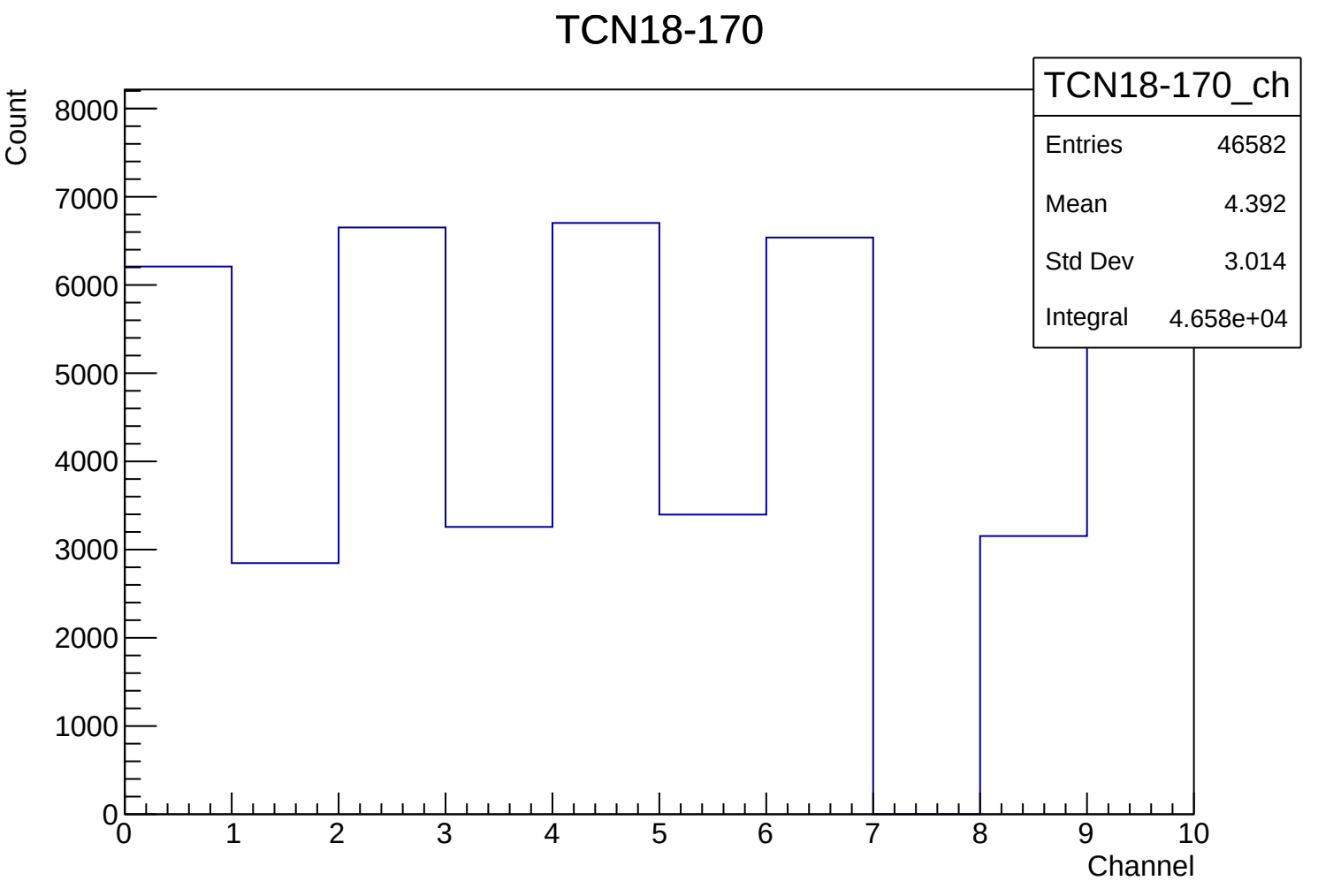

TCN18-170
TCN18-170_ch
Entries 38463
Mean 4.435
Std Dev 3.014
Integral 3.846e+04
Count
0
1000
2000
3000
4000
5000
6000
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-170
TCN18-170_ch
Entries 5679
Mean 4.396
Std Dev 2.997
Integral 5679
Count
0
100
200
300
400
500
600
700
800
900
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-170
TCN18-170_ch
Entries 19482
Mean 4.351
Std Dev 3.027
Integral 1.948e+04
Count
3000
2500
2000
1500
1000
500
0
0 1 2 3 4 5 6 7 8 9 10
Channel


TCN18-170
TCN18-170_ch
Entries 10194
Mean 4.375
Std Dev 3.015
Integral 1.019e+04
Count
0
200
400
600
800
1000
1200
1400
1600
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-170
TCN18-170_ch
Entries 27610
Mean 4.388
Std Dev 3.025
Integral 2.761e+04
Count
0
500
1000
1500
2000
2500
3000
3500
4000
4500
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-170
TCN18-170_ch
Entries 46582
Mean 4.392
Std Dev 3.014
Integral 4.658e+04
Count
8000
7000
6000
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel