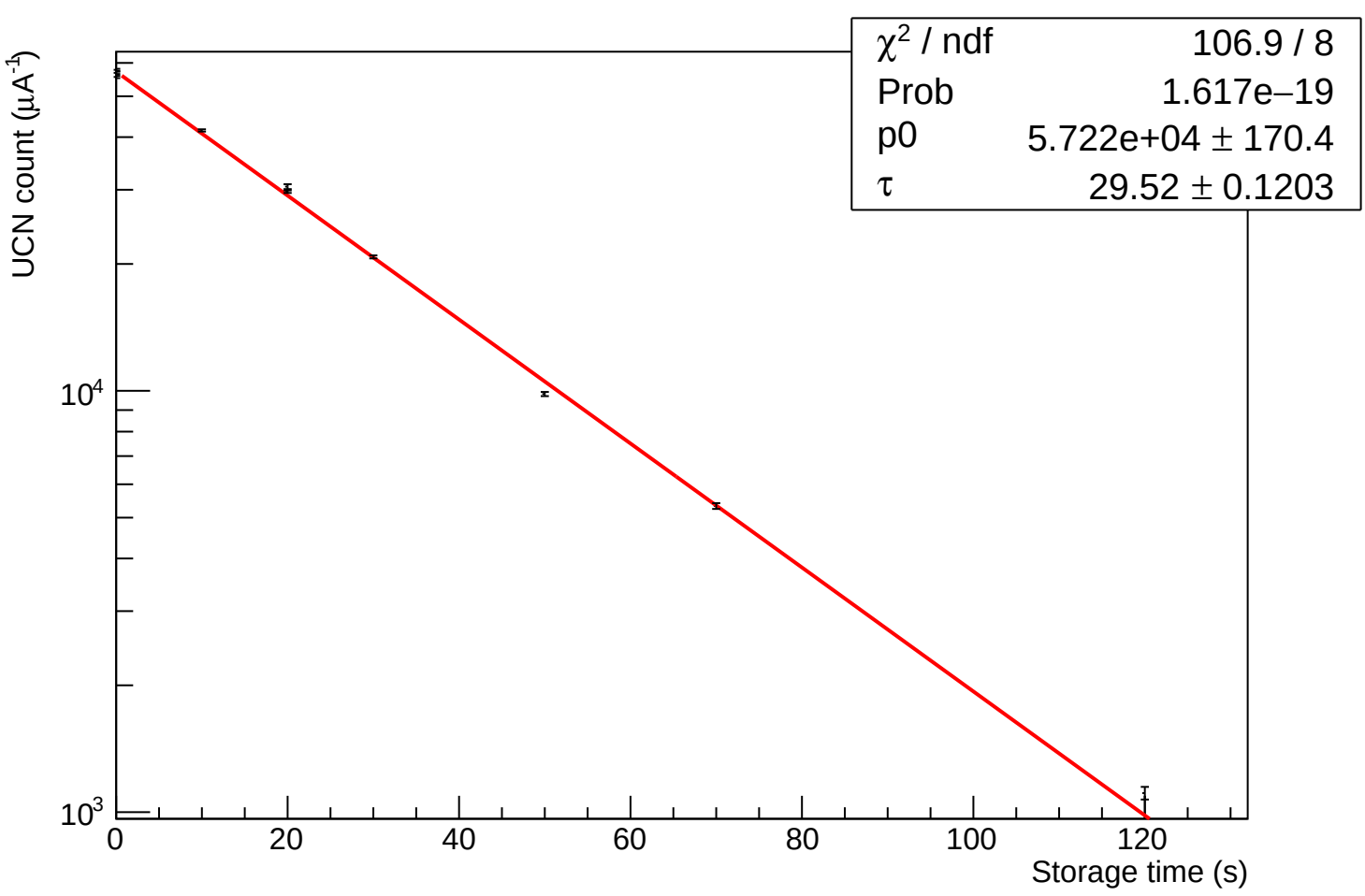
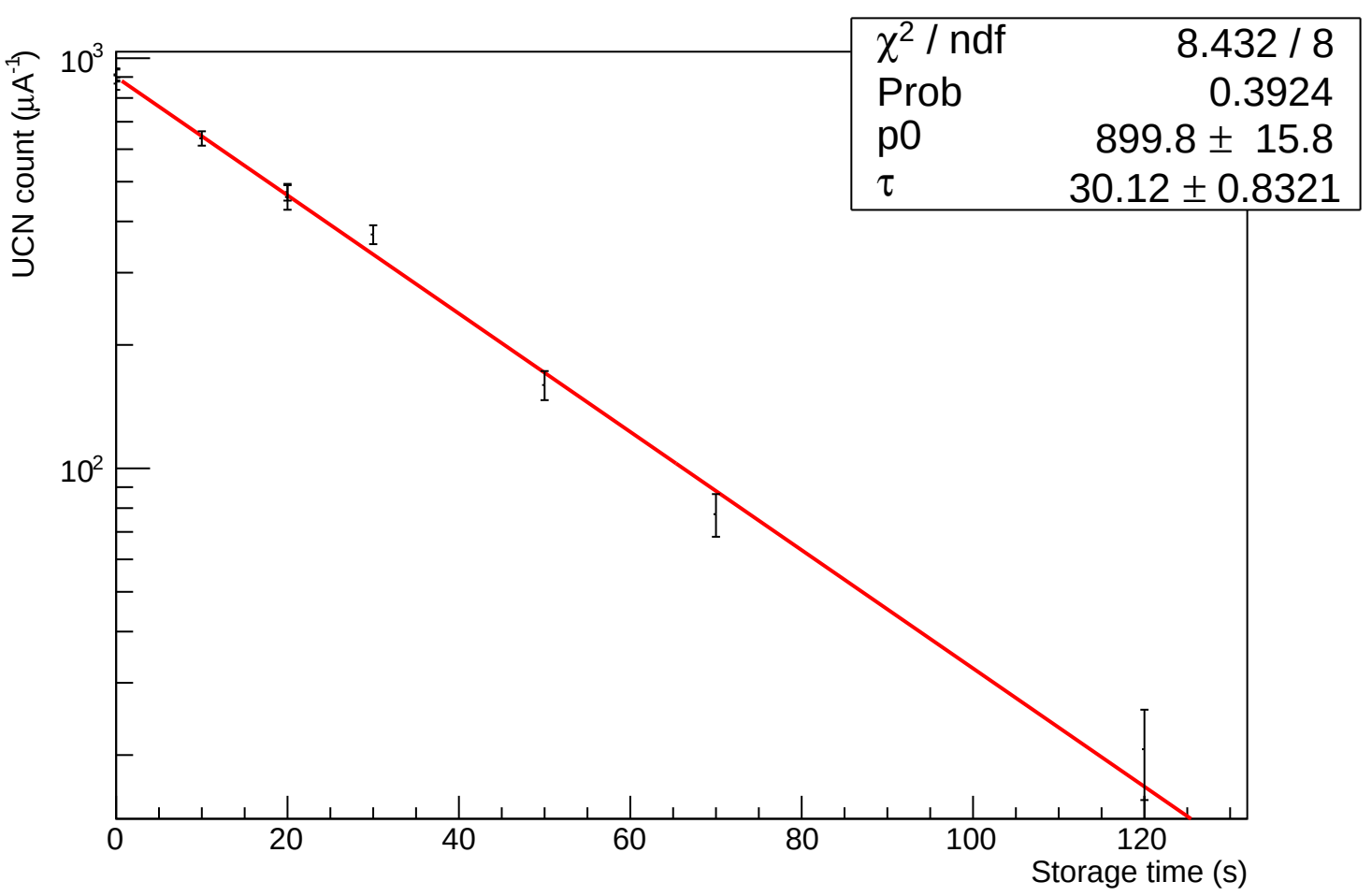
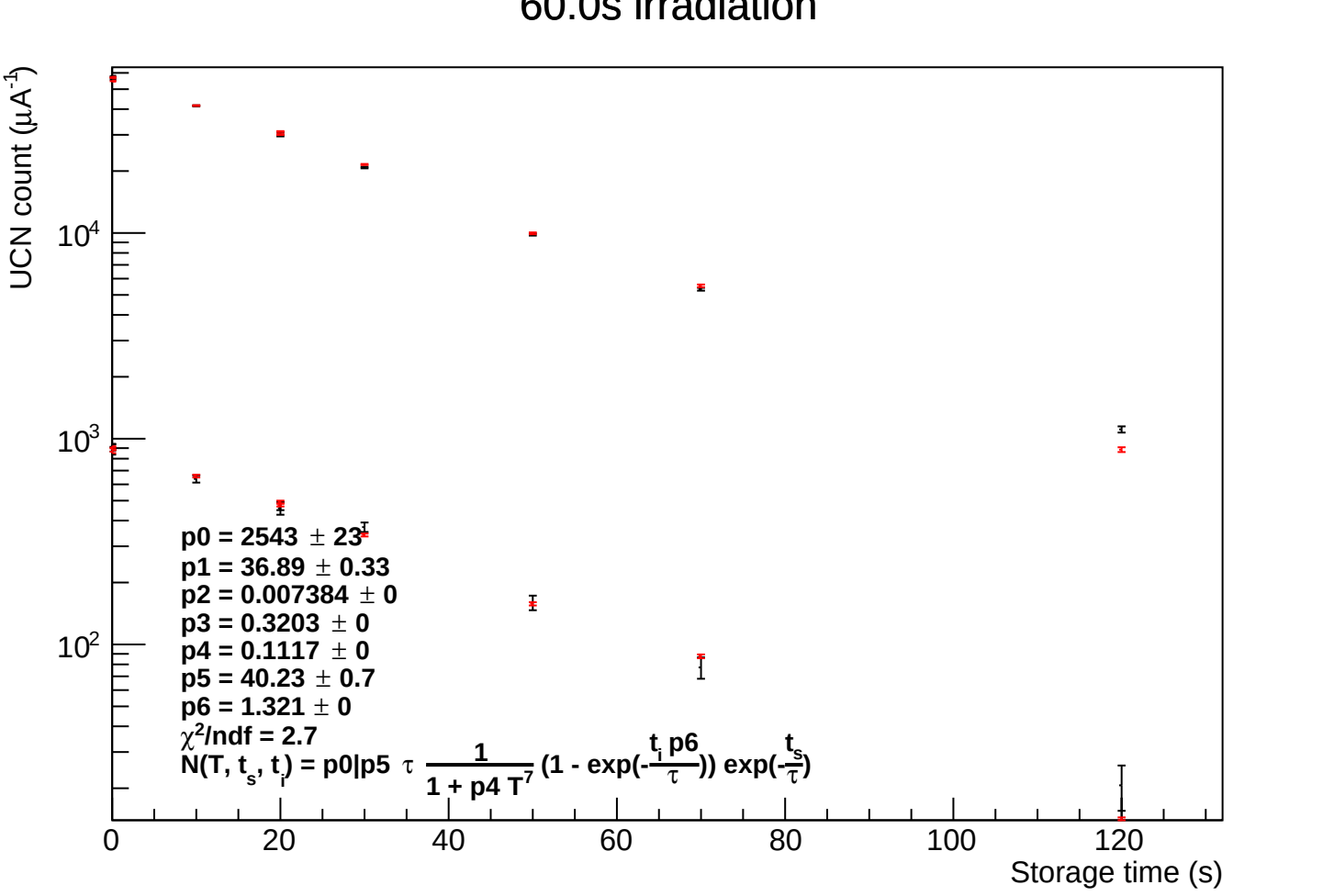
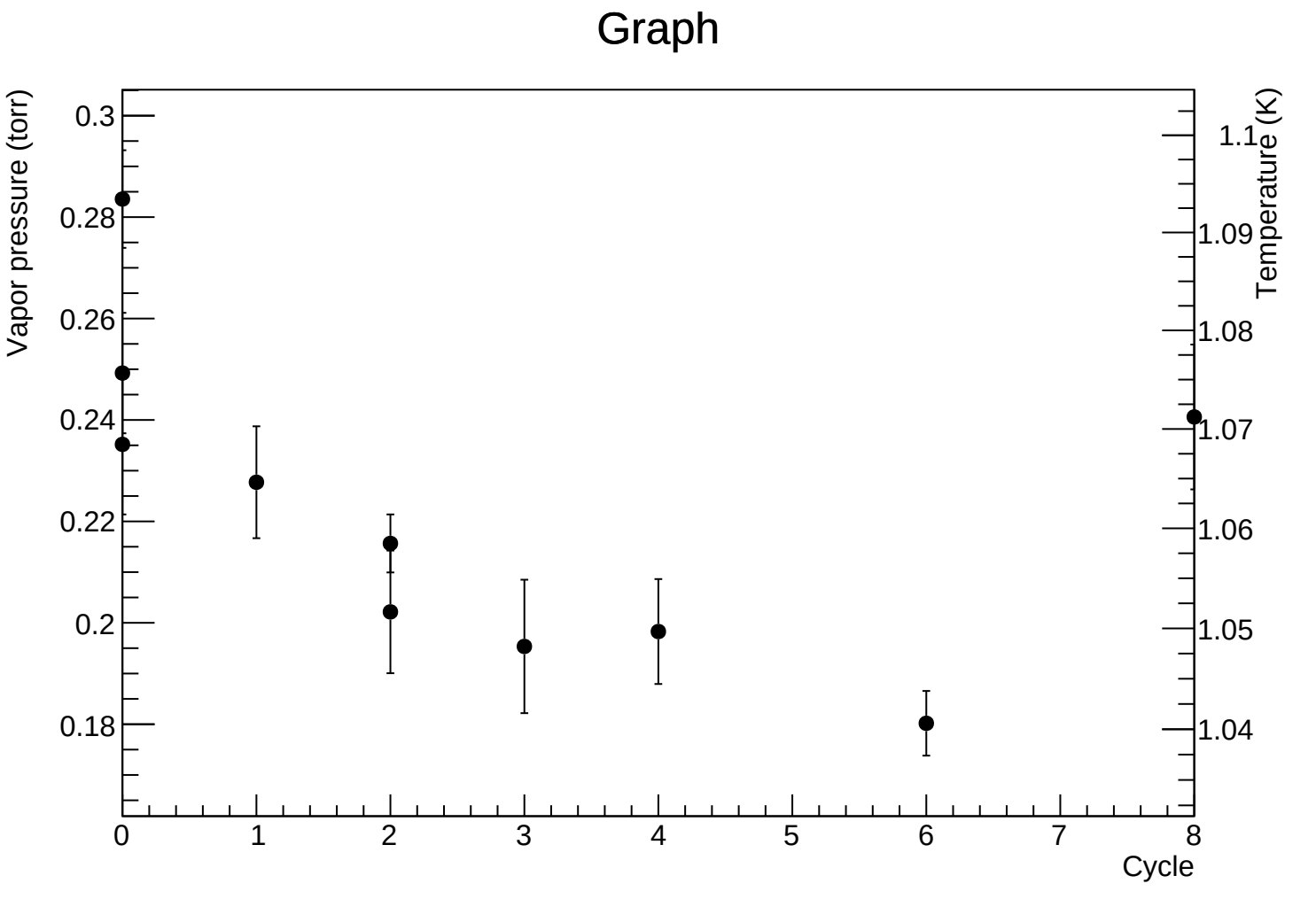
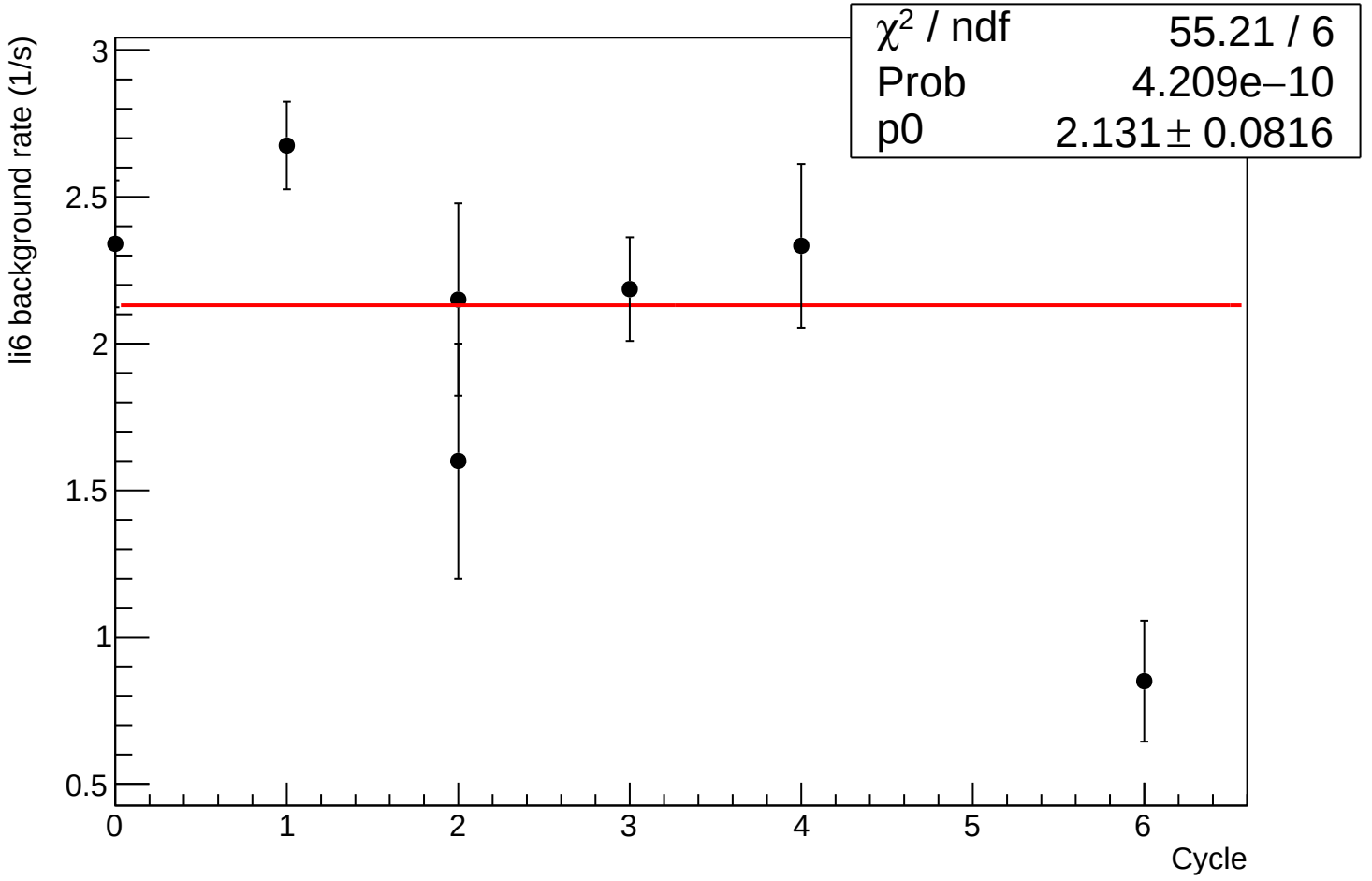
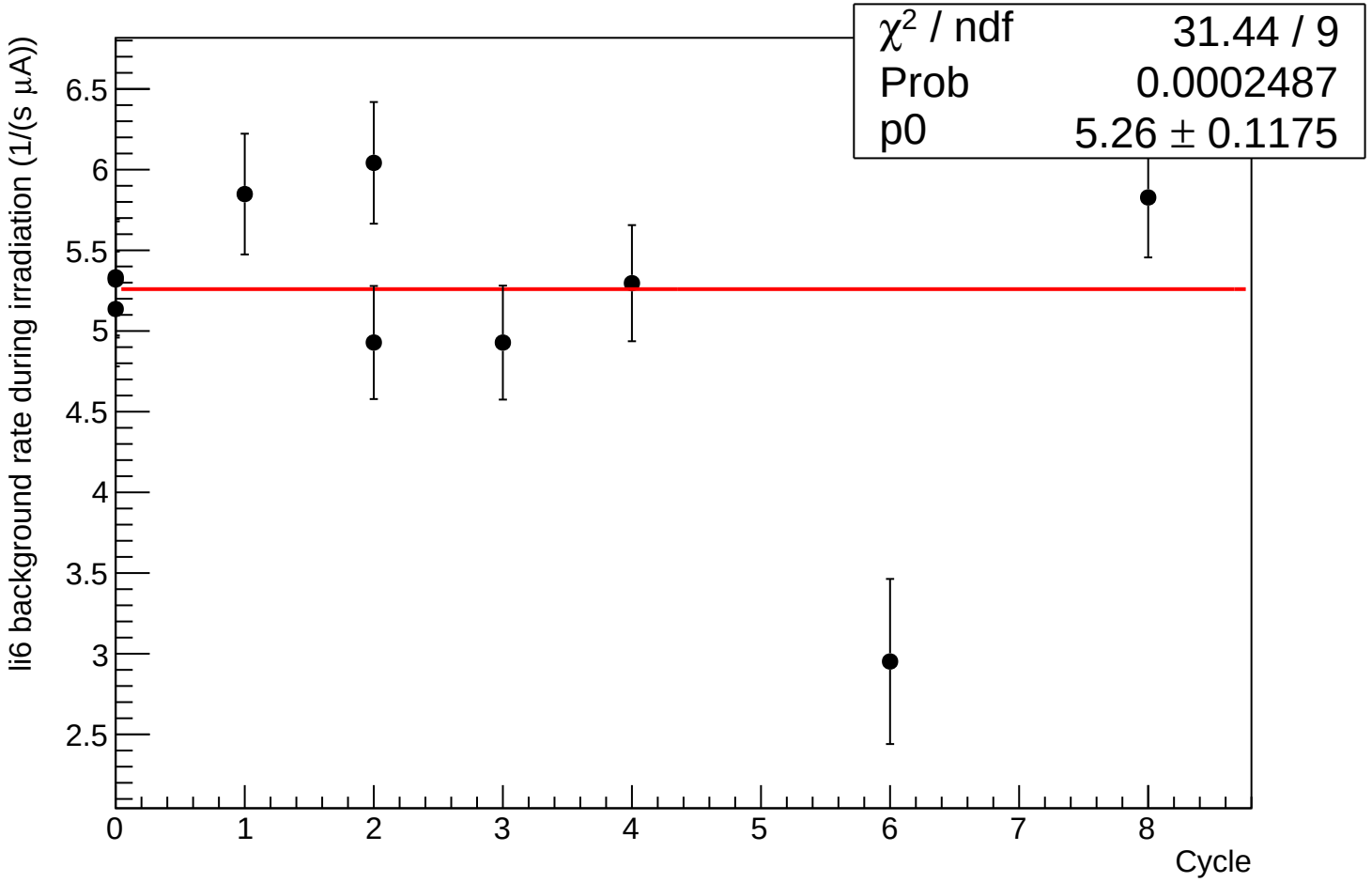

TCN18-170 (li6 detector, single exponential fit, background subtracted, normalized to beam current)
χ² / ndf 106.9 / 8
Prob 1.617e–19
p0 5.722e+04 ± 170.4
τ 29.52 ± 0.1203
UCN count (μA⁻¹)
10⁴
10³
0
20
40
60
80
100
120
Storage time (s)

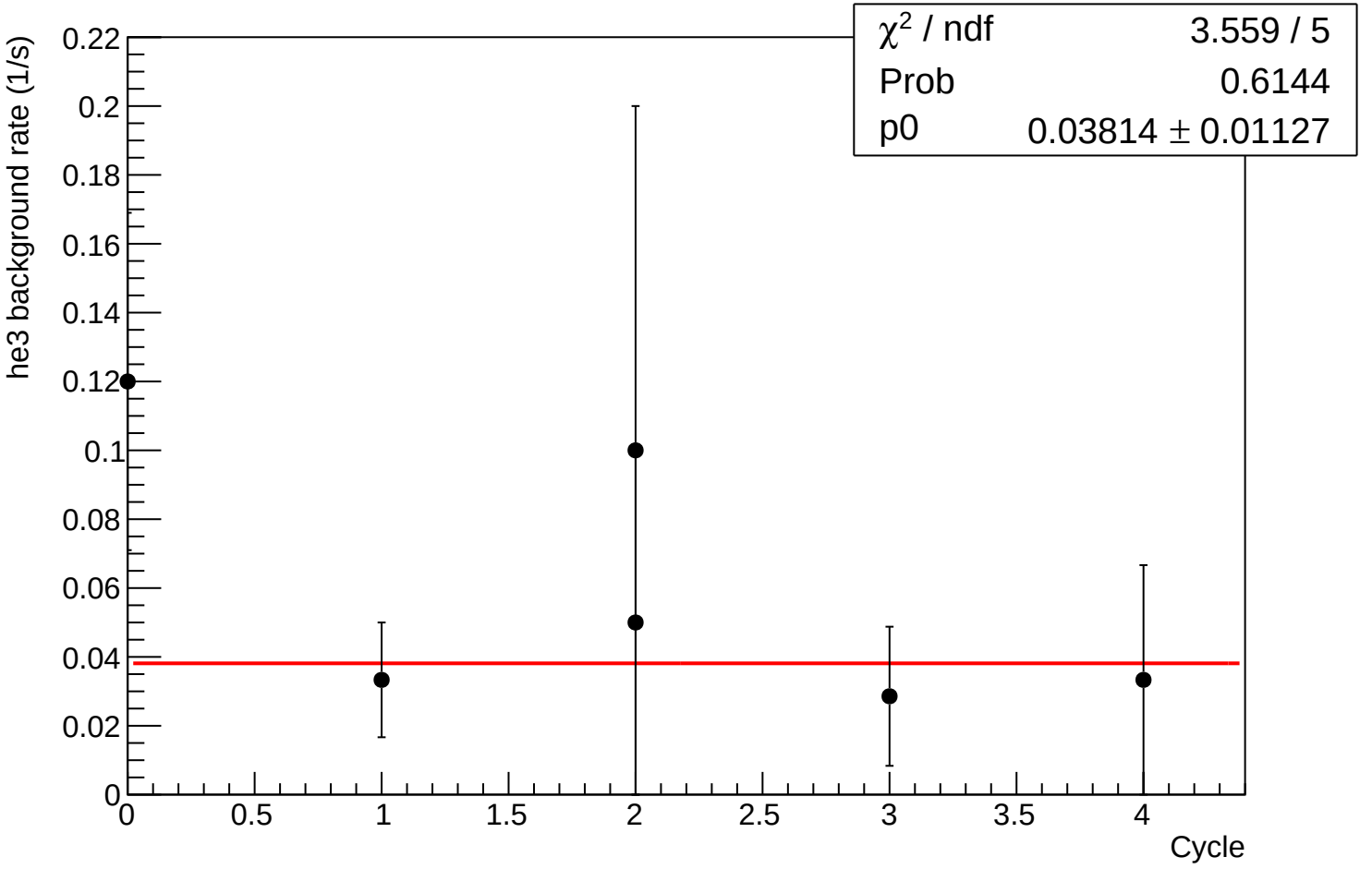

TCN18-170 (he3 detector, single exponential fit, background subtracted, normalized to beam current)
χ2 / ndf 8.432 / 8
Prob 0.3924
p0 899.8 ± 15.8
τ 30.12 ± 0.8321
UCN count (μA-1)
10^3
10^2
0
20
40
60
80
100
120
Storage time (s)

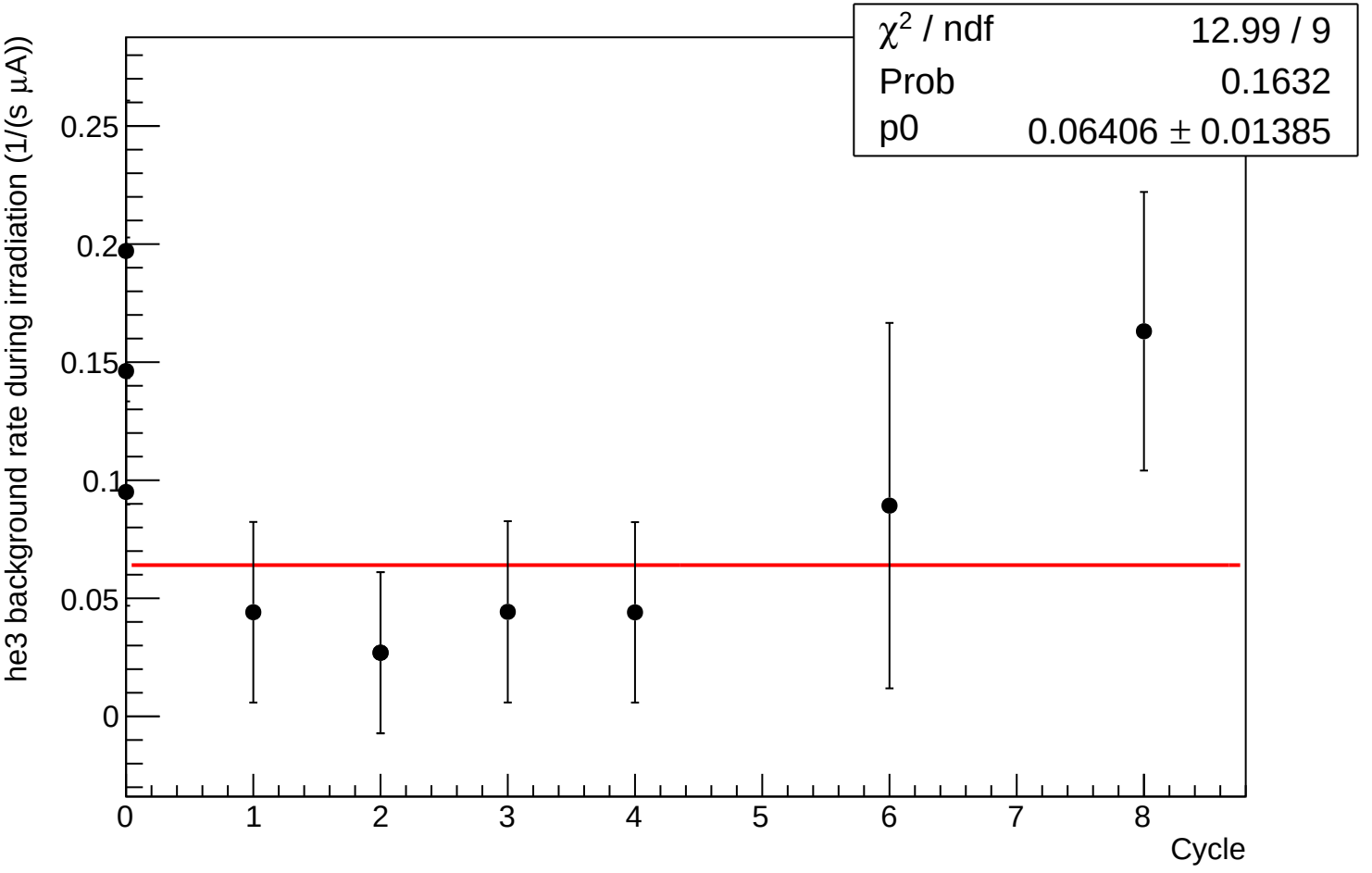

60.0s irradiation
UCN count (μA-1)
10^4
10^3
10^2
0
20
40
60
80
100
120
Storage time (s)
p0 = 2543 ± 23
p1 = 36.89 ± 0.33
p2 = 0.007384 ± 0
p3 = 0.3203 ± 0
p4 = 0.1117 ± 0
p5 = 40.23 ± 0.7
p6 = 1.321 ± 0
χ2/ndf = 2.7
N(T, ts, ti) = p0|p5 τ 1/(1 + p4 T7) (1 - exp(-ti p6/τ)) exp(-ts/τ)

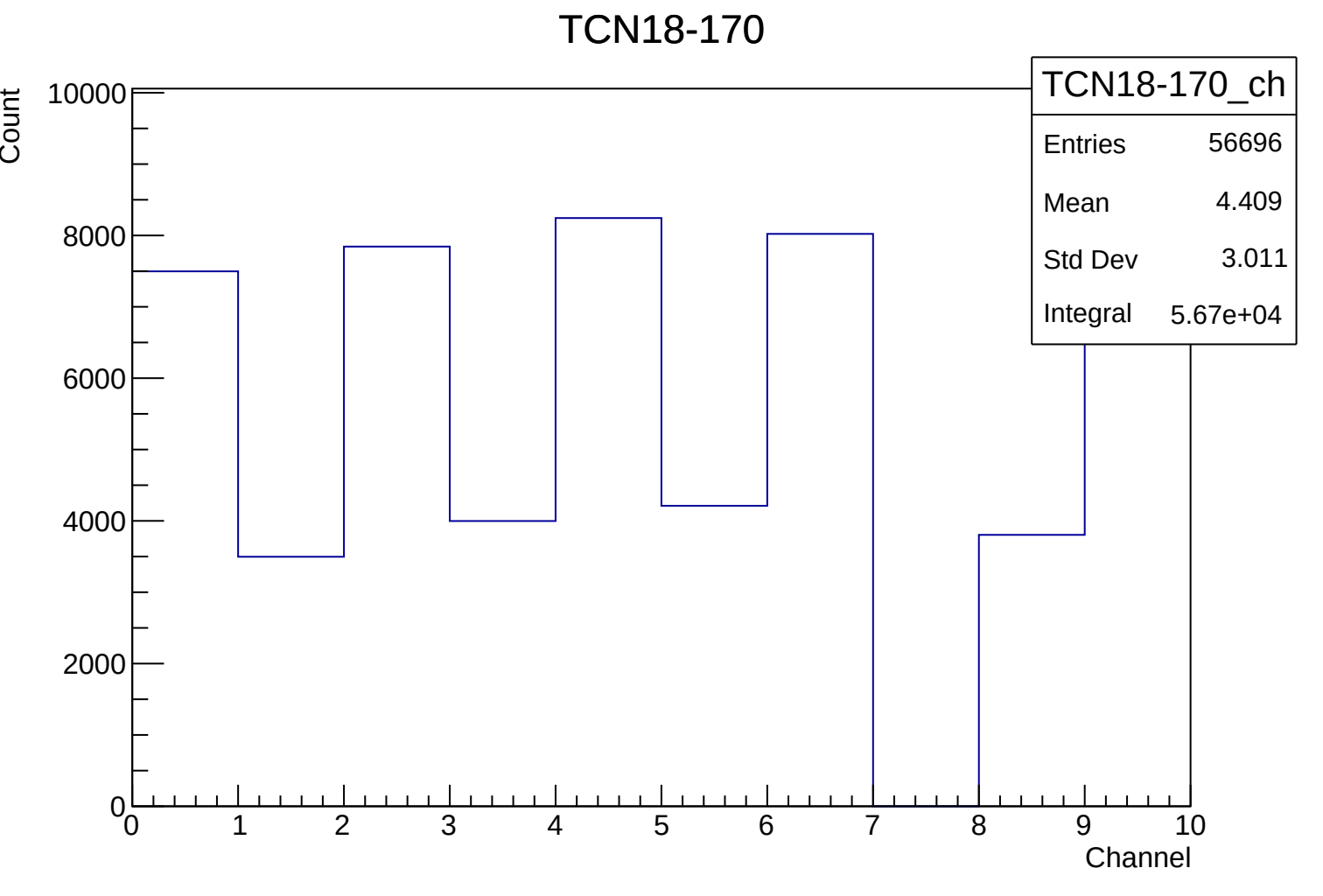

Graph
Vapor pressure (torr)
Temperature (K)
Cycle
0.3
0.28
0.26
0.24
0.22
0.2
0.18
1.1
1.09
1.08
1.07
1.06
1.05
1.04
0
1
2
3
4
5
6
7
8

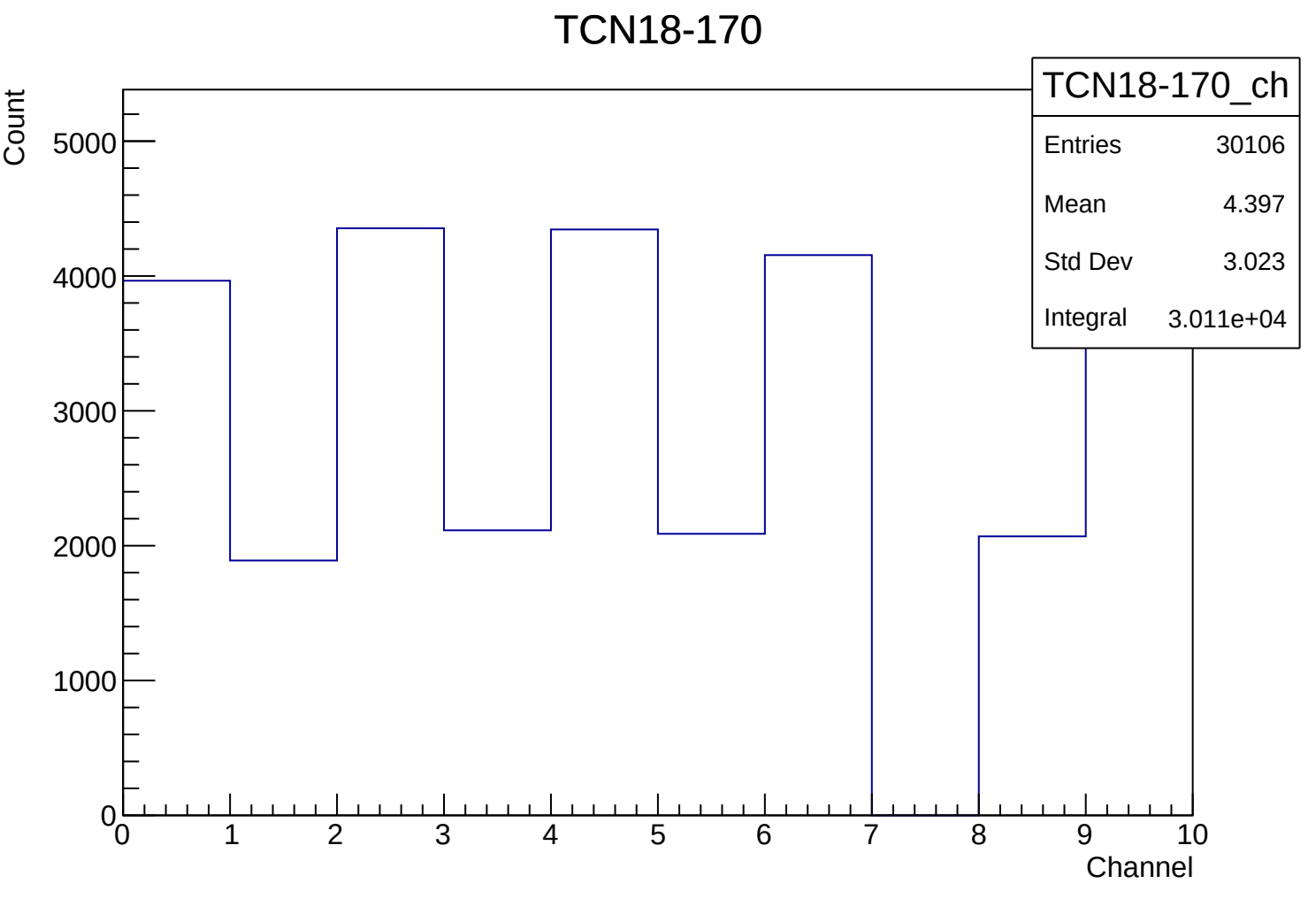

li6 background rate (1/s)
3
2.5
2
1.5
1
0.5
0
1
2
3
4
5
6
Cycle
χ² / ndf 55.21 / 6
Prob 4.209e−10
p0 2.131 ± 0.0816

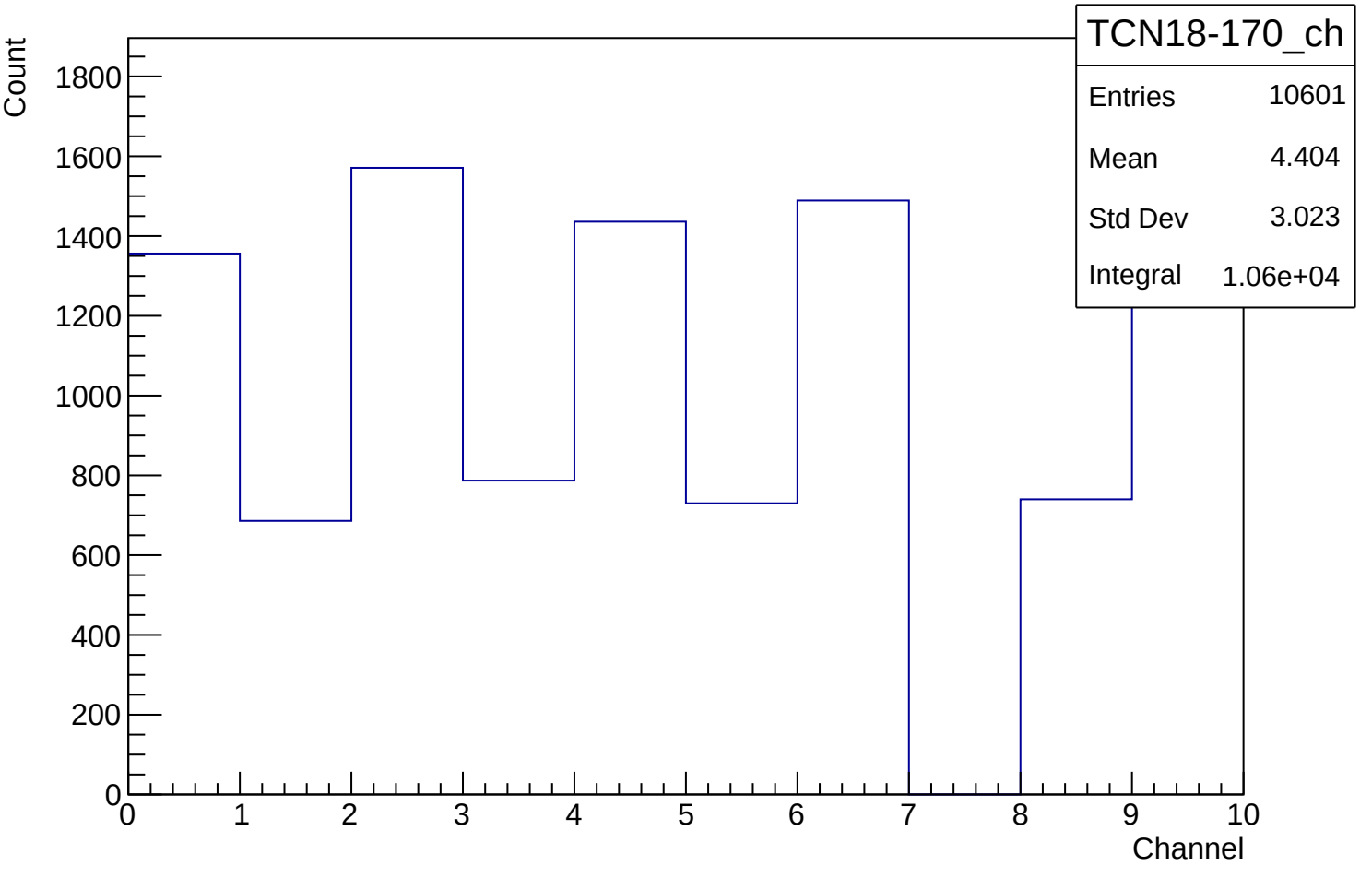

χ² / ndf 31.44 / 9
Prob 0.0002487
p0 5.26 ± 0.1175
li6 background rate during irradiation (1/(s μA))
Cycle
6.5
6
5.5
5
4.5
4
3.5
3
2.5
0
1
2
3
4
5
6
7
8

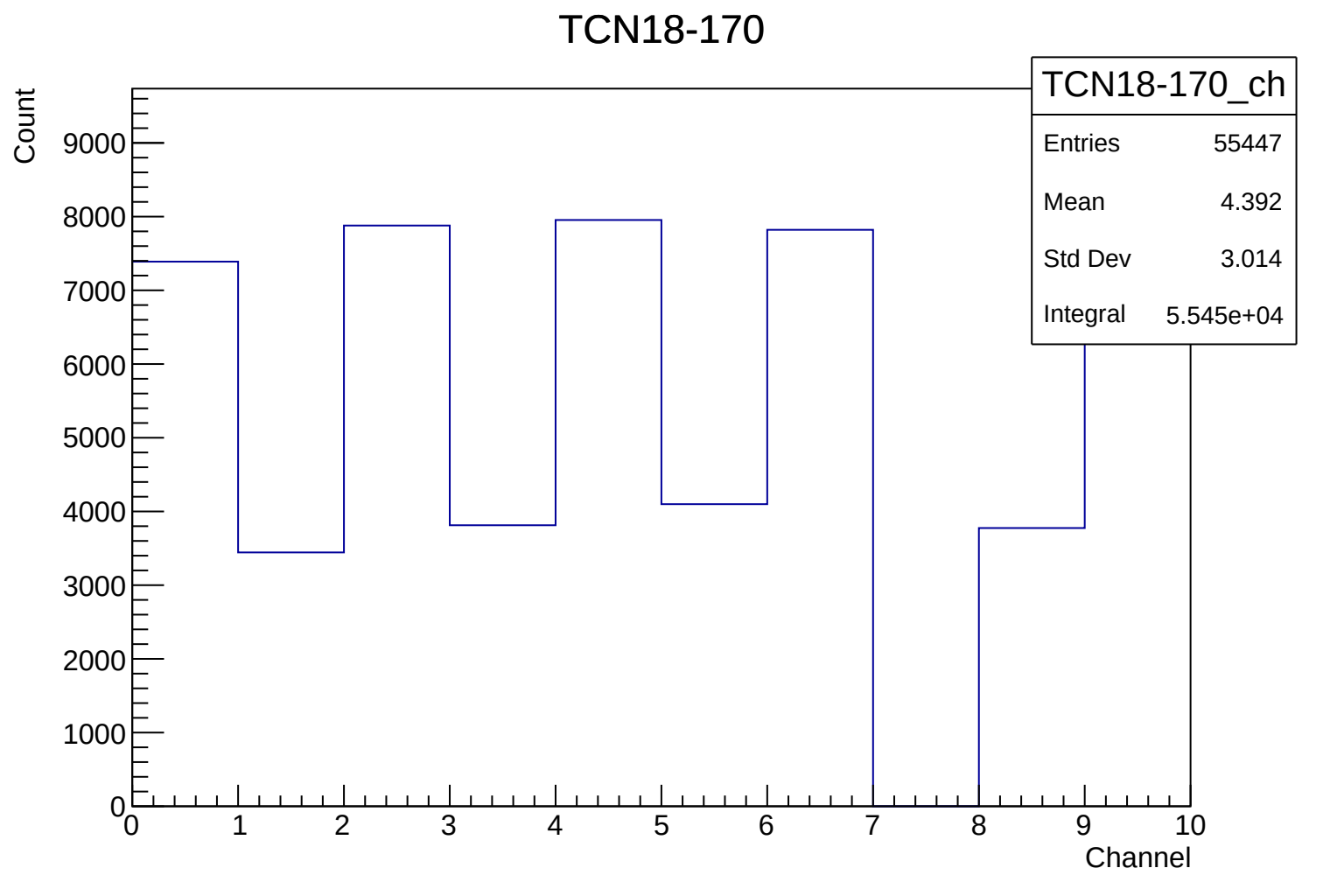

χ^2 / ndf 3.559 / 5
Prob 0.6144
p0 0.03814 ± 0.01127
he3 background rate (1/s)
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.5
1
1.5
2
2.5
3
3.5
4
Cycle

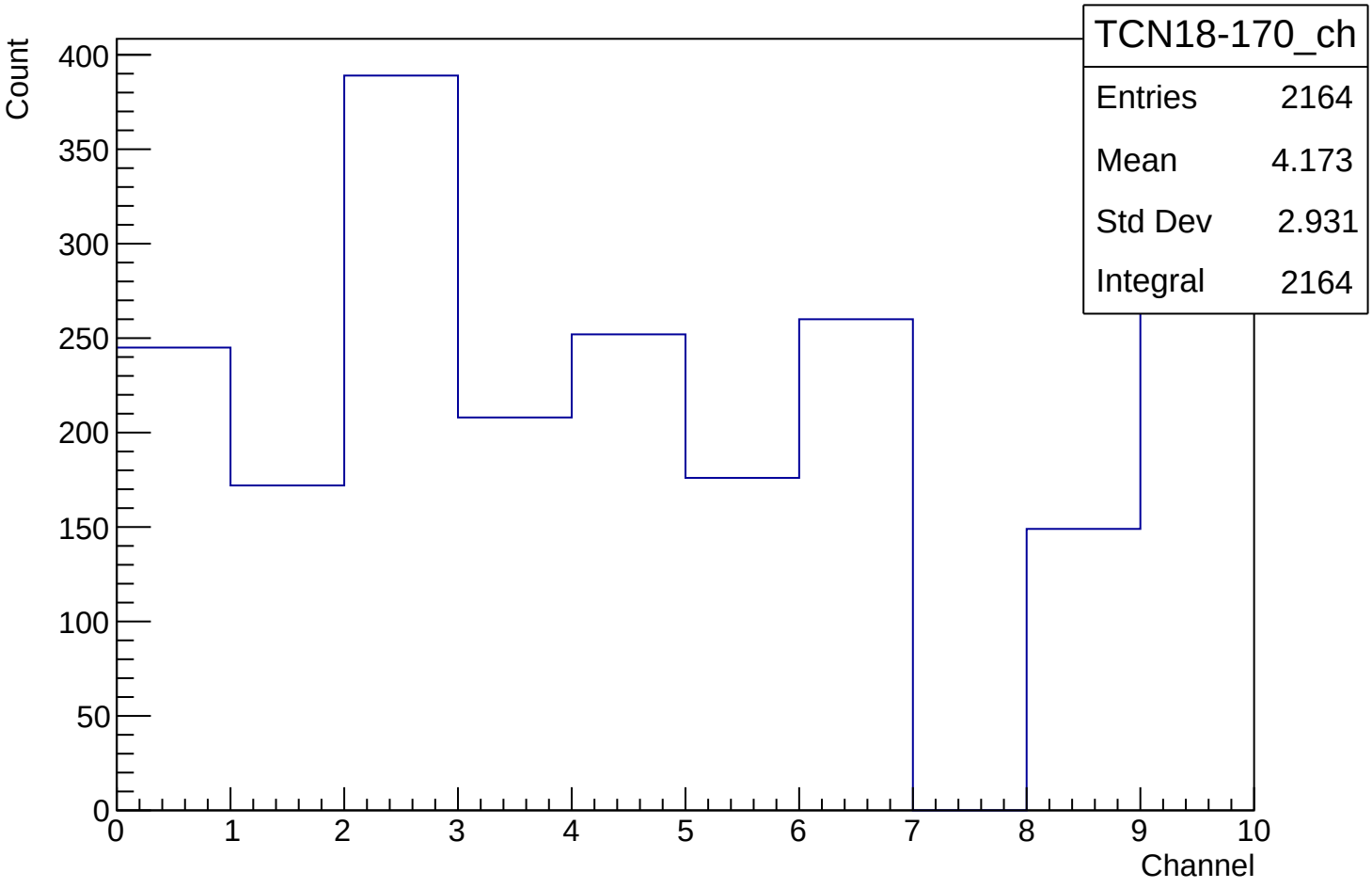

χ² / ndf 12.99 / 9
Prob 0.1632
p0 0.06406 ± 0.01385
he3 background rate during irradiation (1/(s μA))
0.25
0.2
0.15
0.1
0.05
0
0
1
2
3
4
5
6
7
8
Cycle

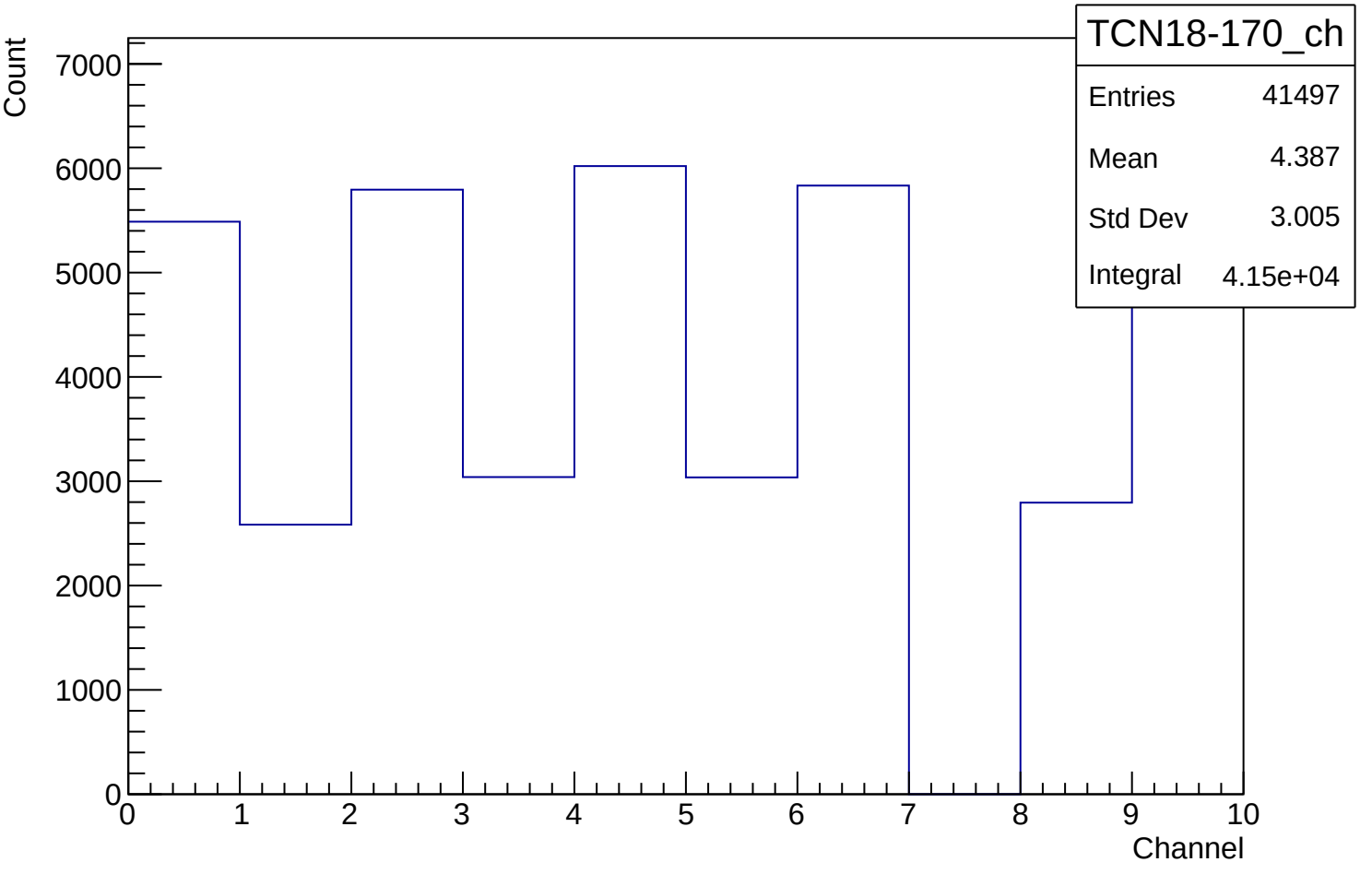

TCN18-170
TCN18-170_ch
Entries 56696
Mean 4.409
Std Dev 3.011
Integral 5.67e+04
Count
10000
8000
6000
4000
2000
0
0 1 2 3 4 5 6 7 8 9 10
Channel

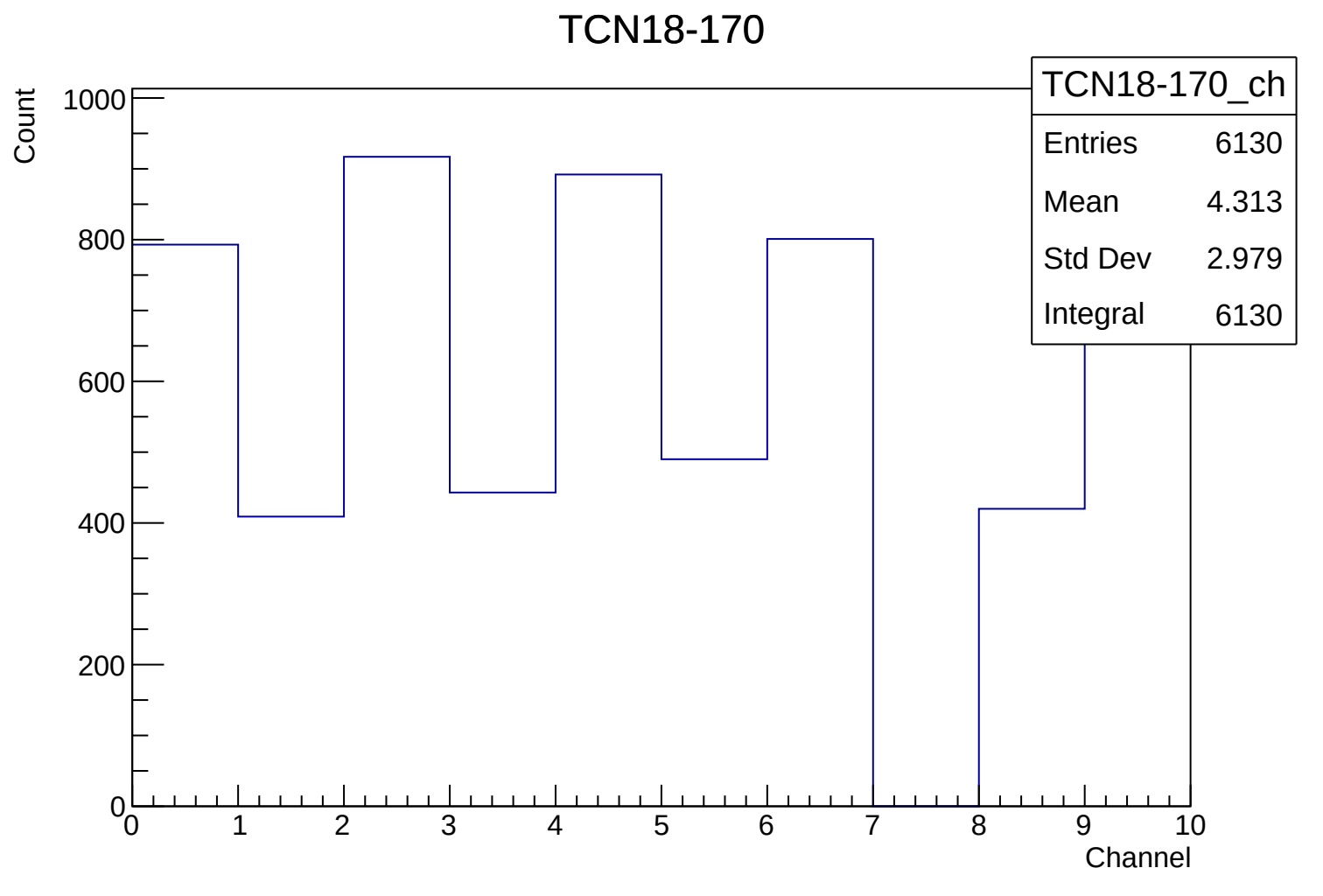

TCN18-170
TCN18-170_ch
Entries 30106
Mean 4.397
Std Dev 3.023
Integral 3.011e+04
Count
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel

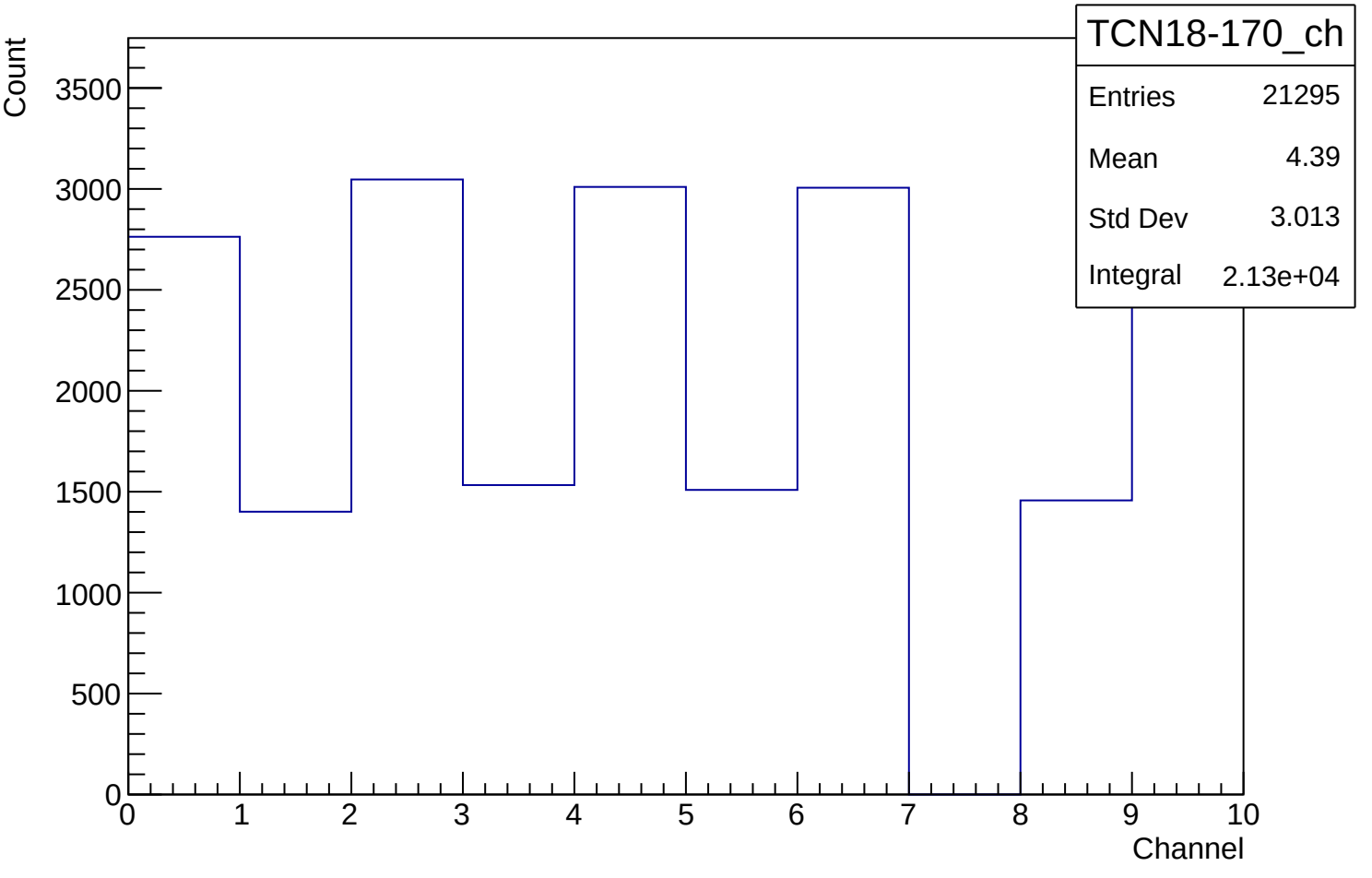

TCN18-170
TCN18-170_ch
Entries 10601
Mean 4.404
Std Dev 3.023
Integral 1.06e+04
Count
Channel
0
200
400
600
800
1000
1200
1400
1600
1800
0
1
2
3
4
5
6
7
8
9
10

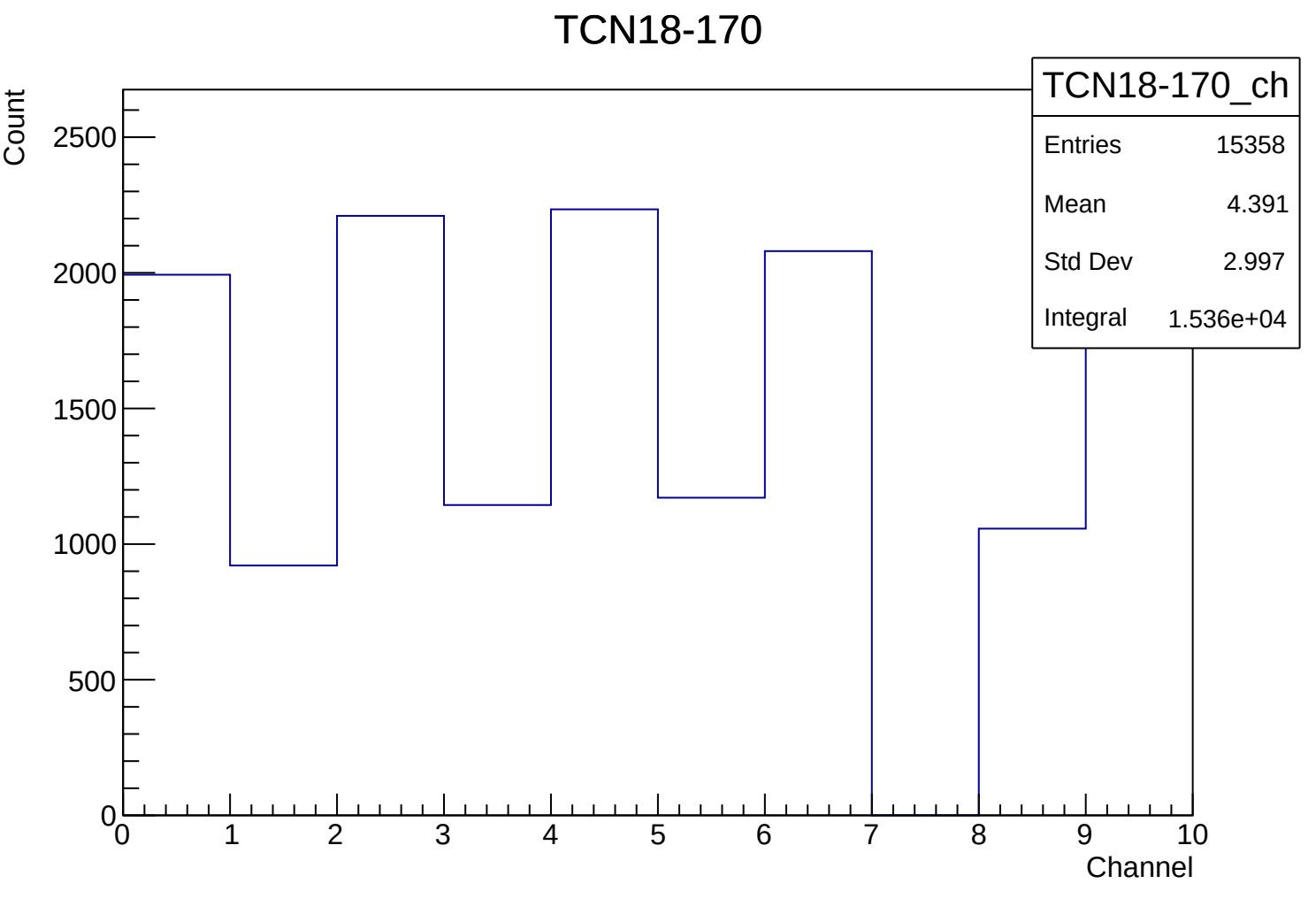

TCN18-170
TCN18-170_ch
Entries 55447
Mean 4.392
Std Dev 3.014
Integral 5.545e+04
Count
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel

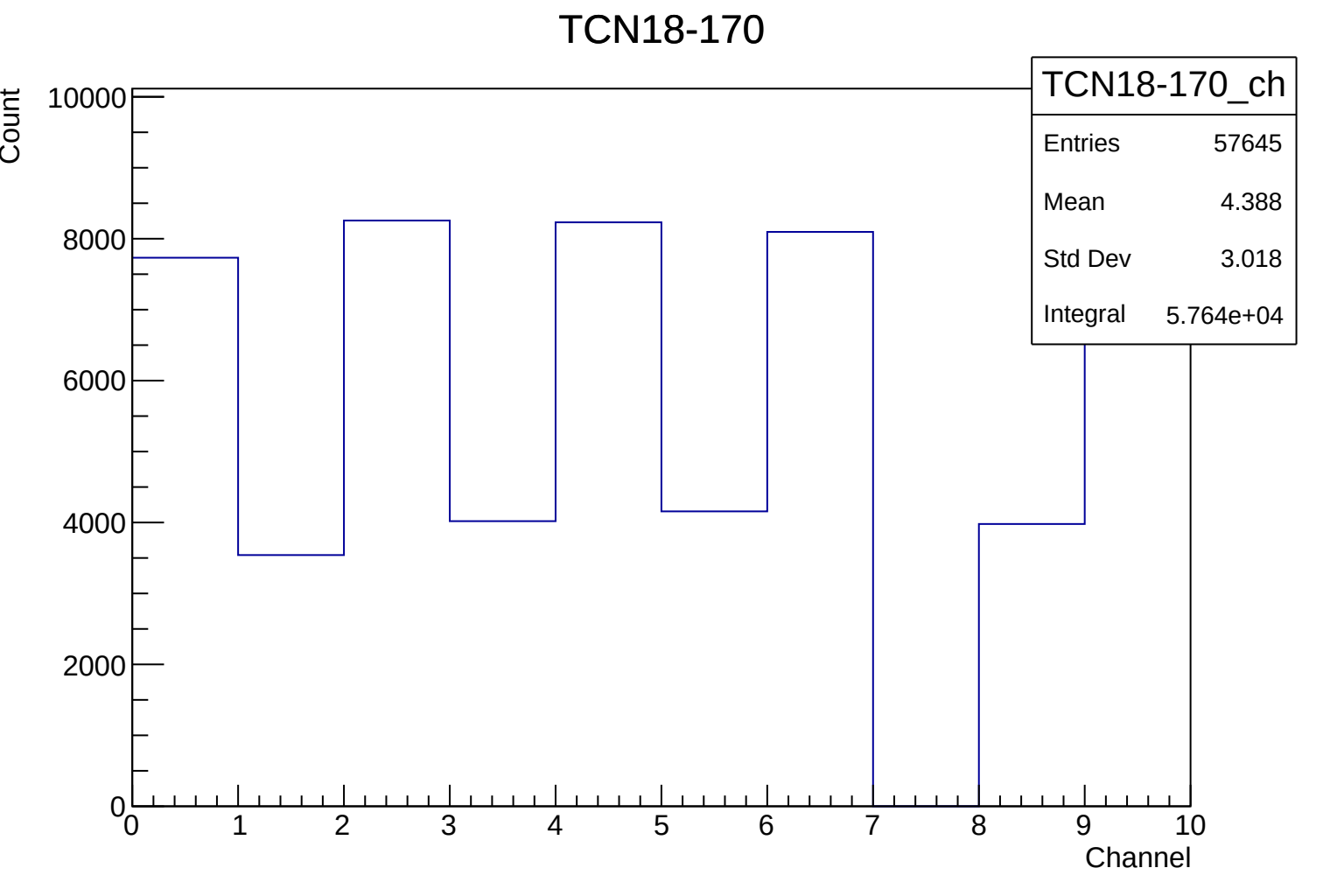

TCN18-170
TCN18-170_ch
Entries 2164
Mean 4.173
Std Dev 2.931
Integral 2164
Count
0
50
100
150
200
250
300
350
400
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-170
TCN18-170_ch
Entries 41497
Mean 4.387
Std Dev 3.005
Integral 4.15e+04
Count
0
1000
2000
3000
4000
5000
6000
7000
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-170
TCN18-170_ch
Entries 6130
Mean 4.313
Std Dev 2.979
Integral 6130
Count
1000
800
600
400
200
0
0 1 2 3 4 5 6 7 8 9 10
Channel


TCN18-170
TCN18-170_ch
Entries 21295
Mean 4.39
Std Dev 3.013
Integral 2.13e+04
Count
3500
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 15358
Mean 4.391
Std Dev 2.997
Integral 1.536e+04
Count
2500
2000
1500
1000
500
0
0 1 2 3 4 5 6 7 8 9 10
Channel


TCN18-170
TCN18-170_ch
Entries 57645
Mean 4.388
Std Dev 3.018
Integral 5.764e+04
Count
10000
8000
6000
4000
2000
0
0 1 2 3 4 5 6 7 8 9 10
Channel