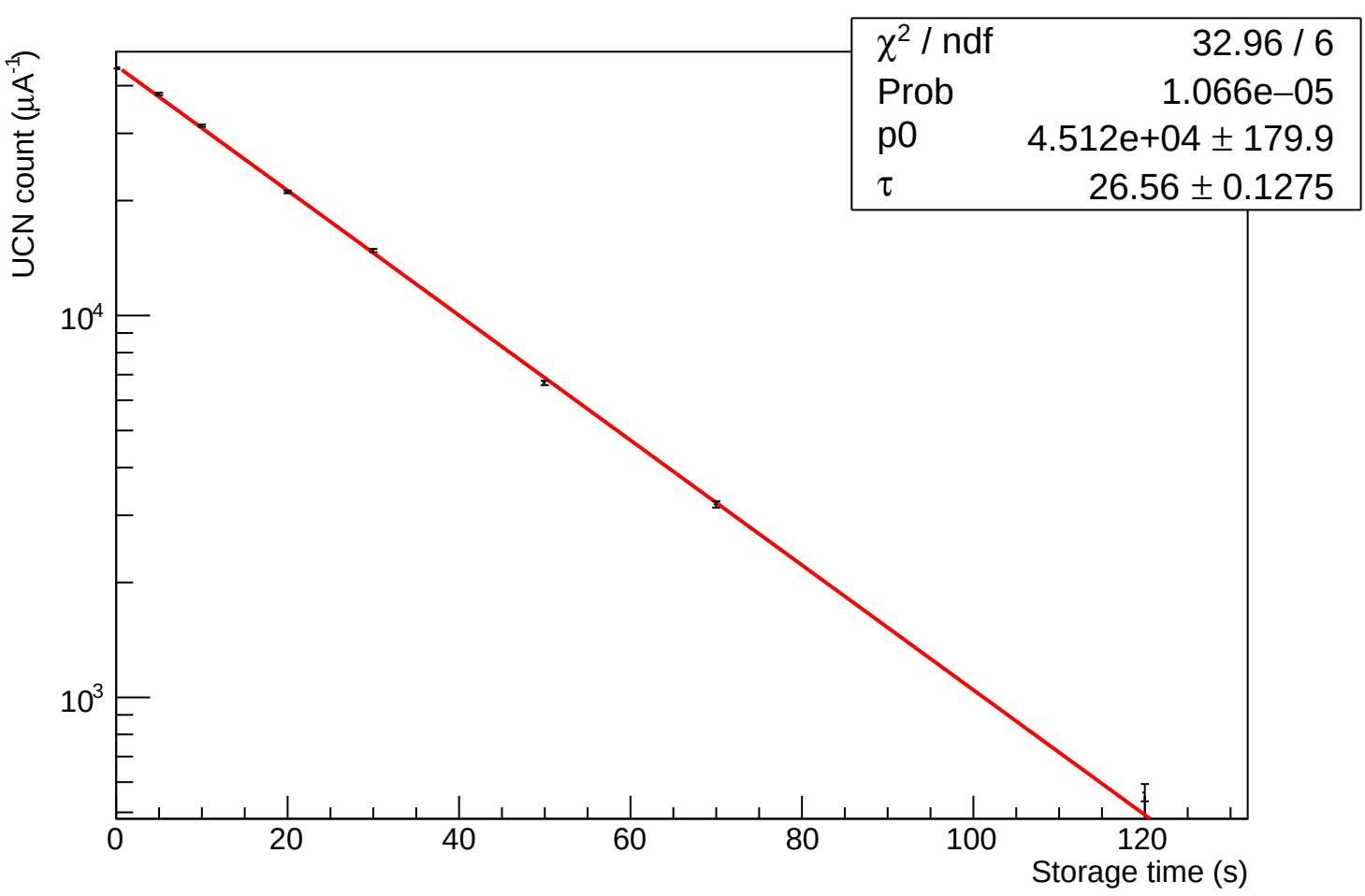
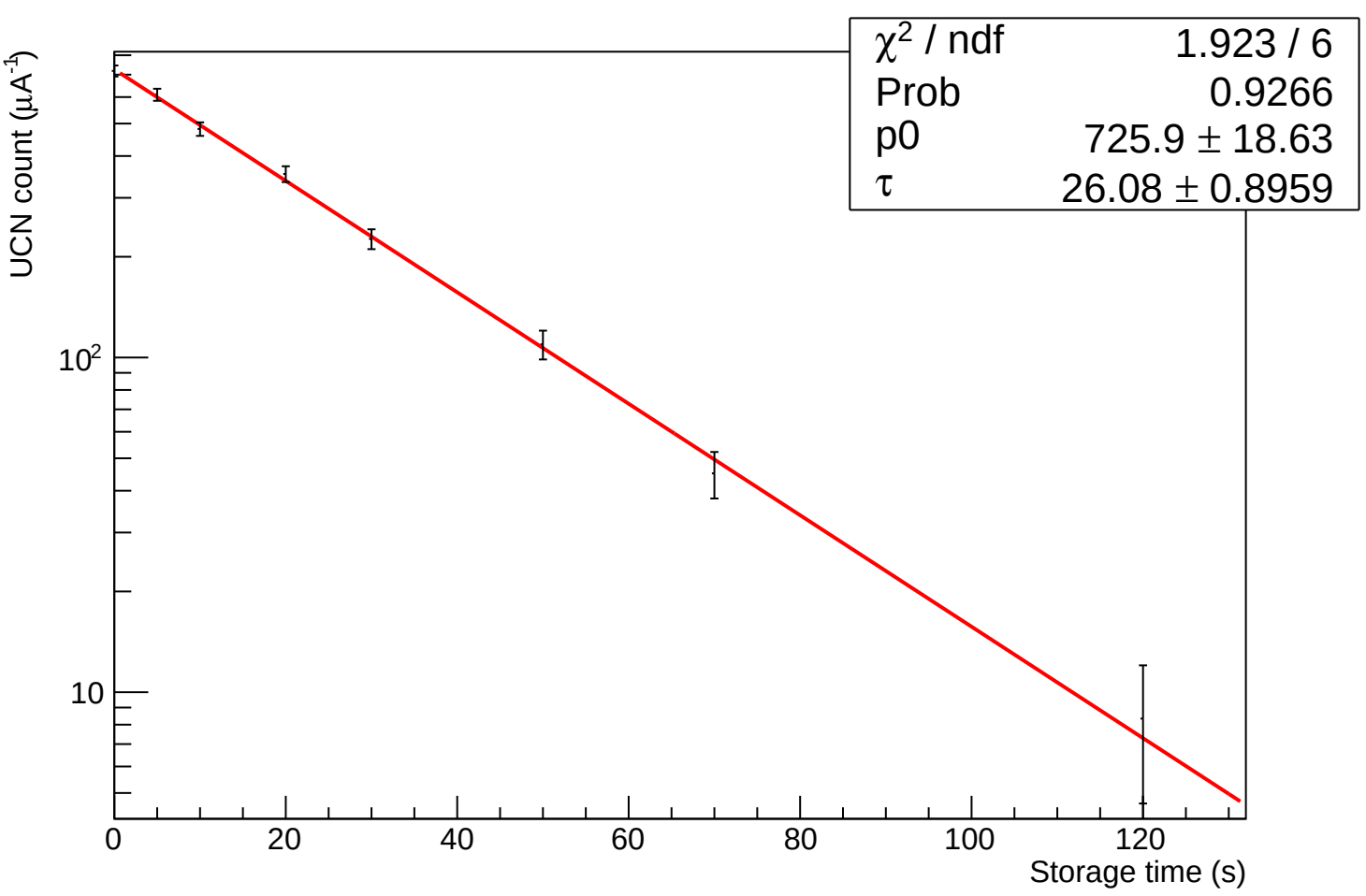
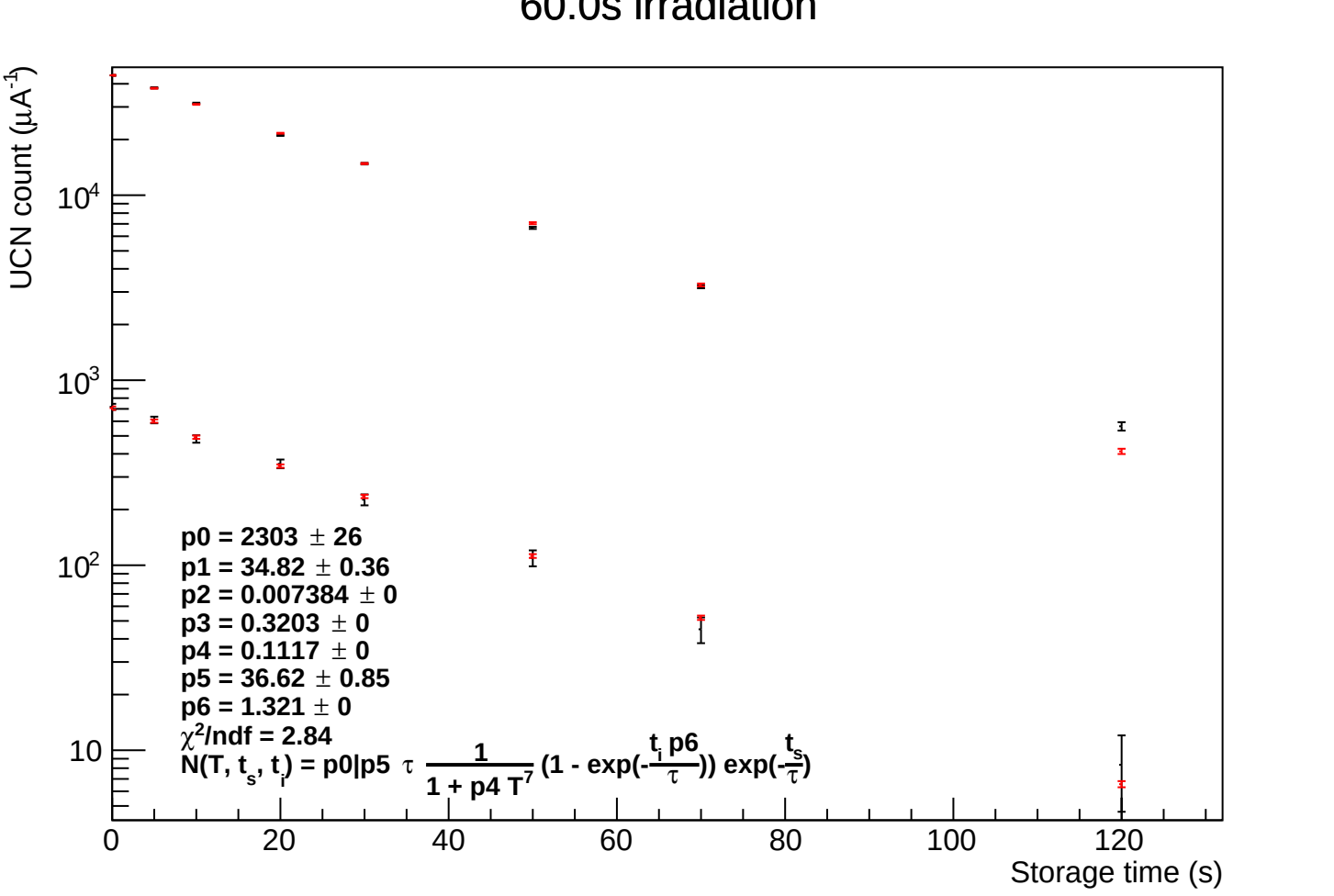
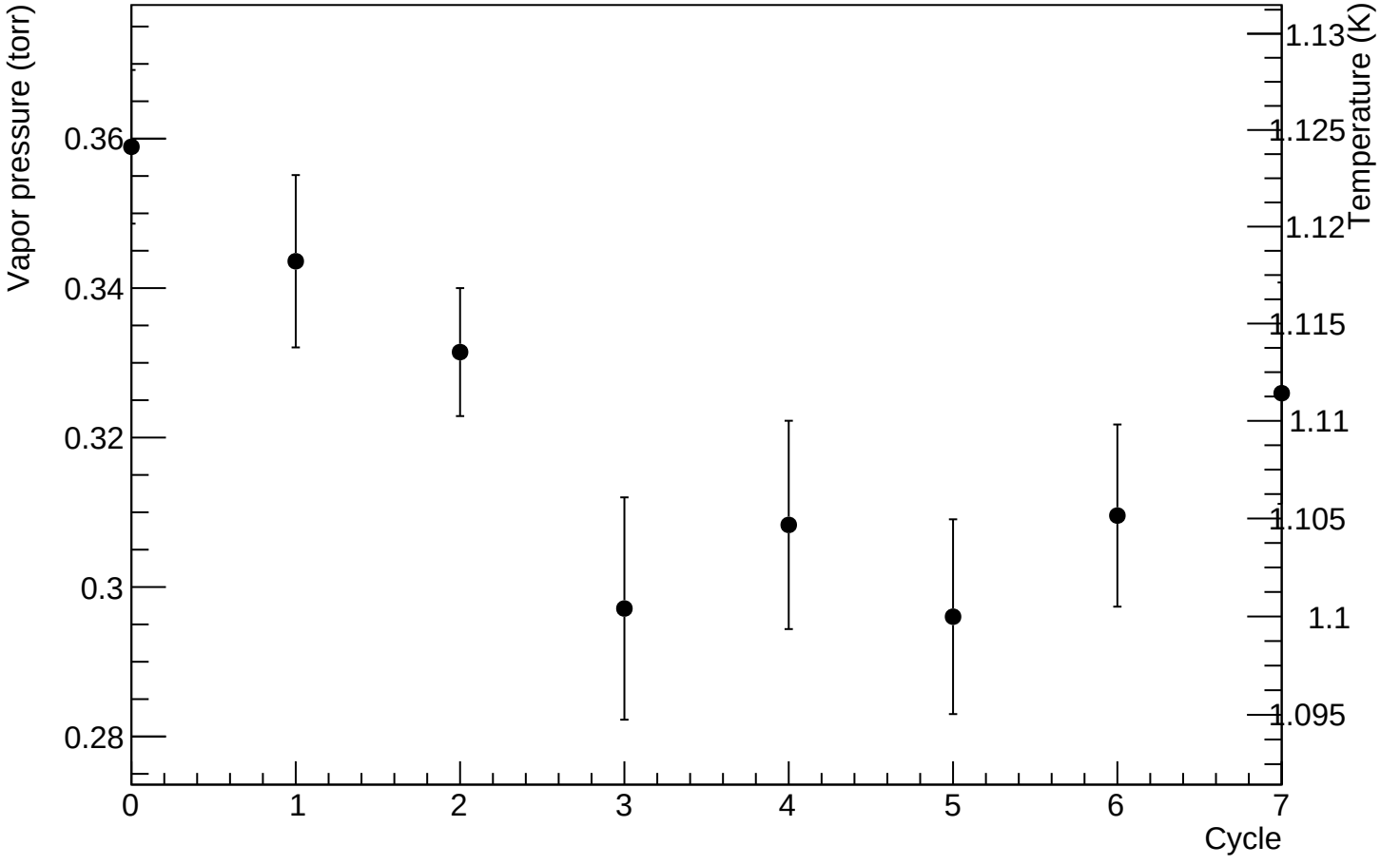
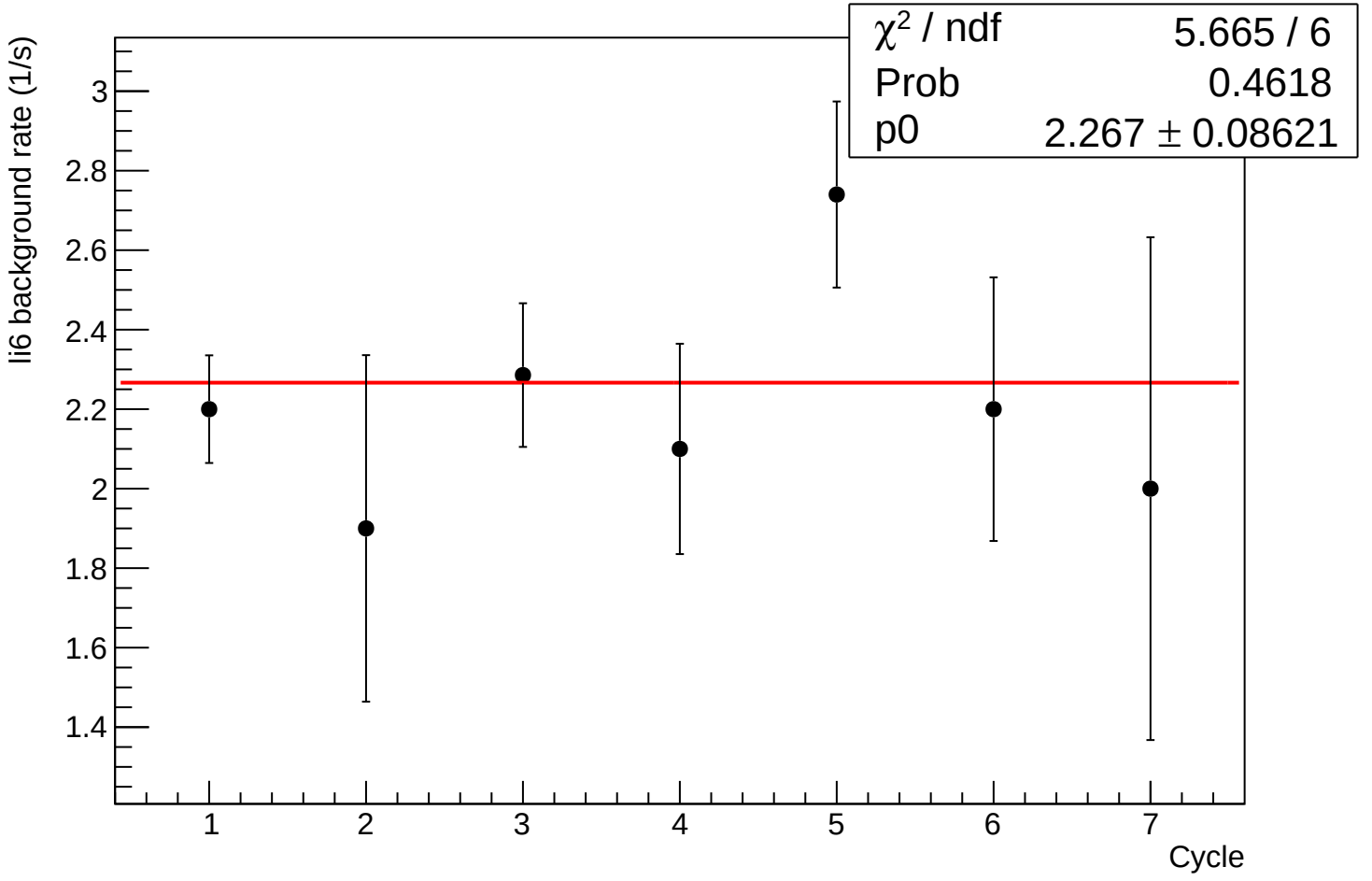
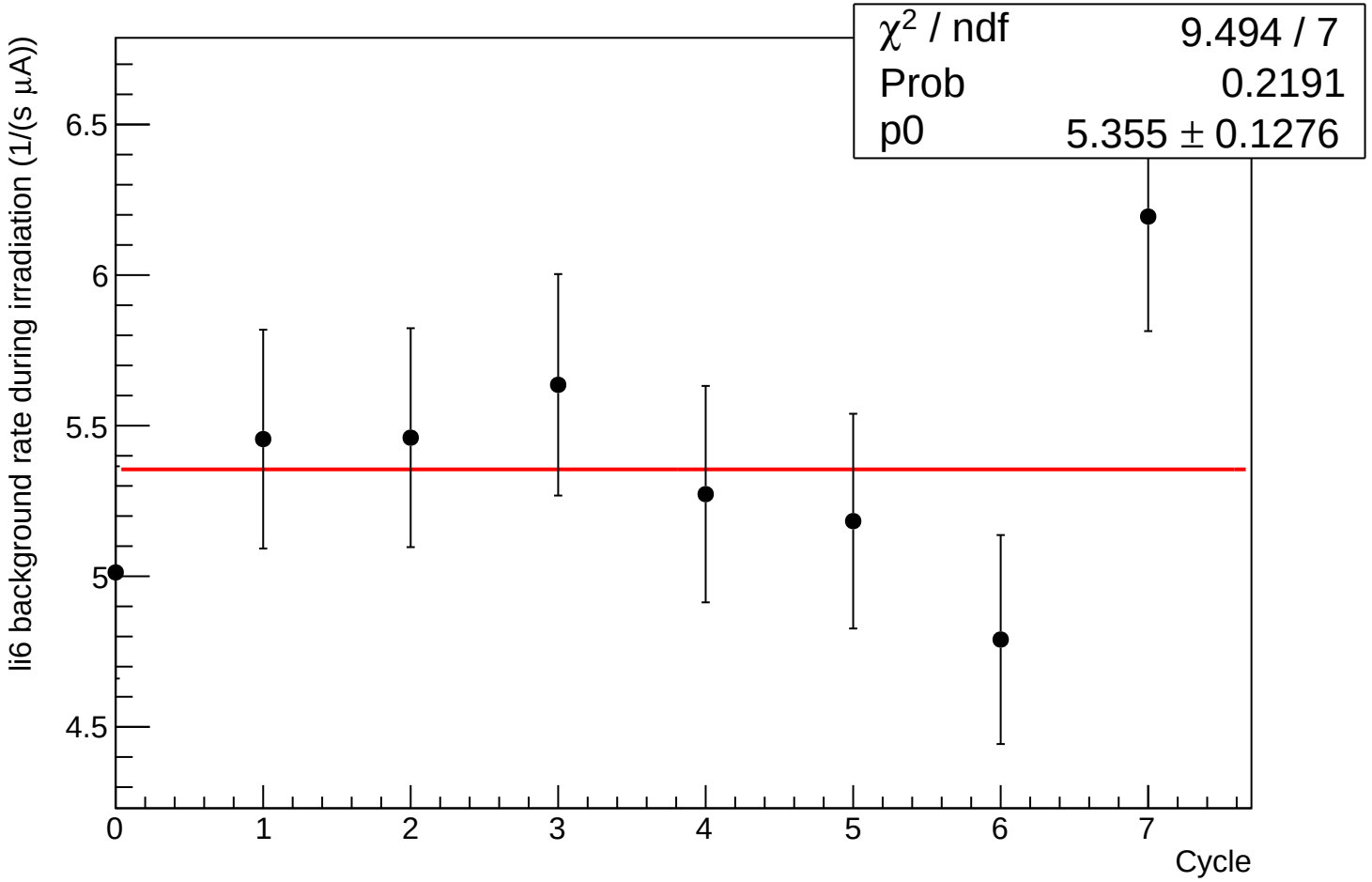

TCN18-170 (li6 detector, single exponential fit, background subtracted, normalized to beam current)
χ² / ndf 32.96 / 6
Prob 1.066e−05
p0 4.512e+04 ± 179.9
τ 26.56 ± 0.1275
UCN count (μA⁻¹)
10⁴
10³
0
20
40
60
80
100
120
Storage time (s)

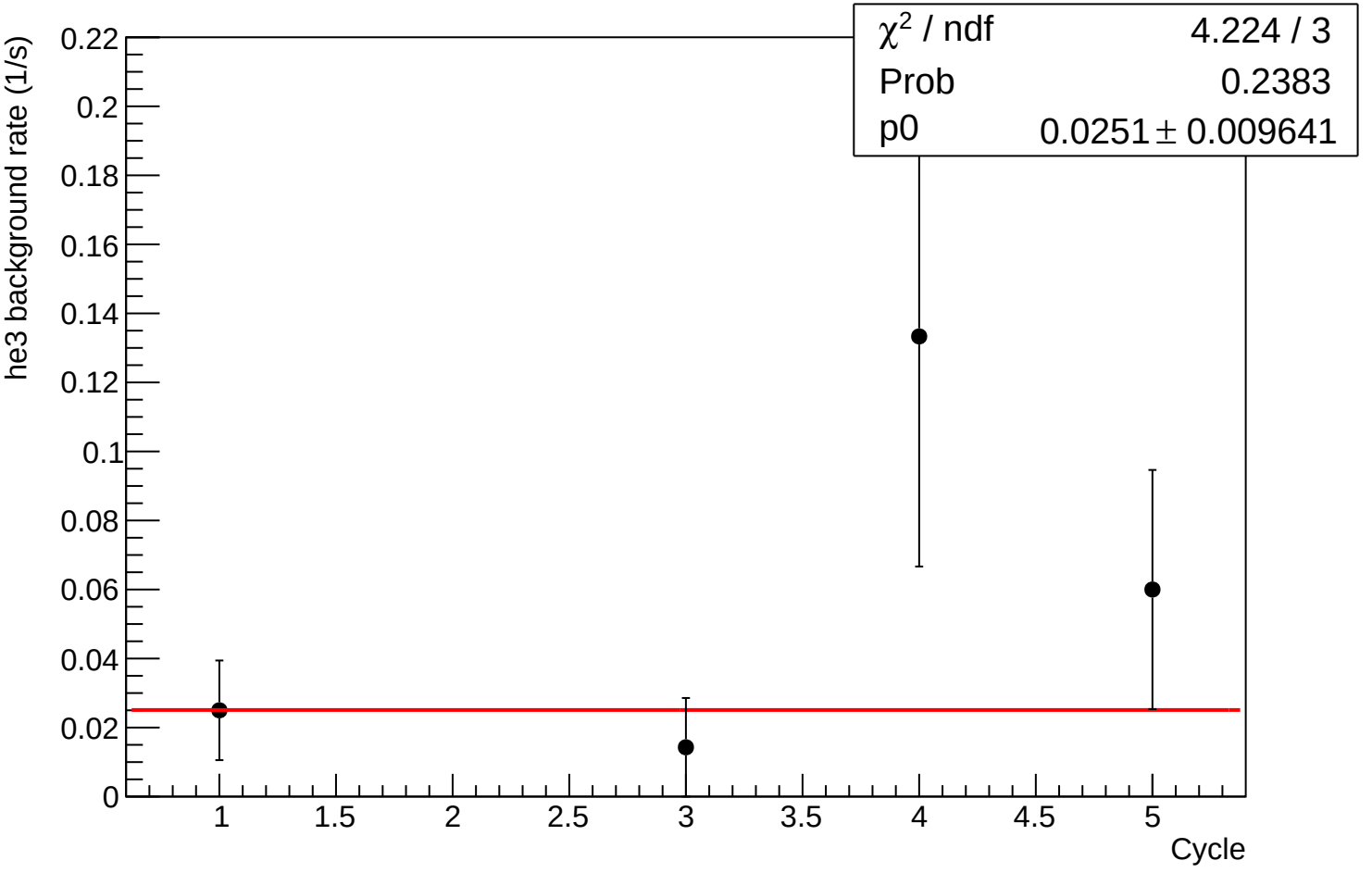

TCN18-170 (he3 detector, single exponential fit, background subtracted, normalized to beam current)
χ² / ndf 1.923 / 6
Prob 0.9266
p0 725.9 ± 18.63
τ 26.08 ± 0.8959
UCN count (μA⁻¹)
10²
10
0
20
40
60
80
100
120
Storage time (s)

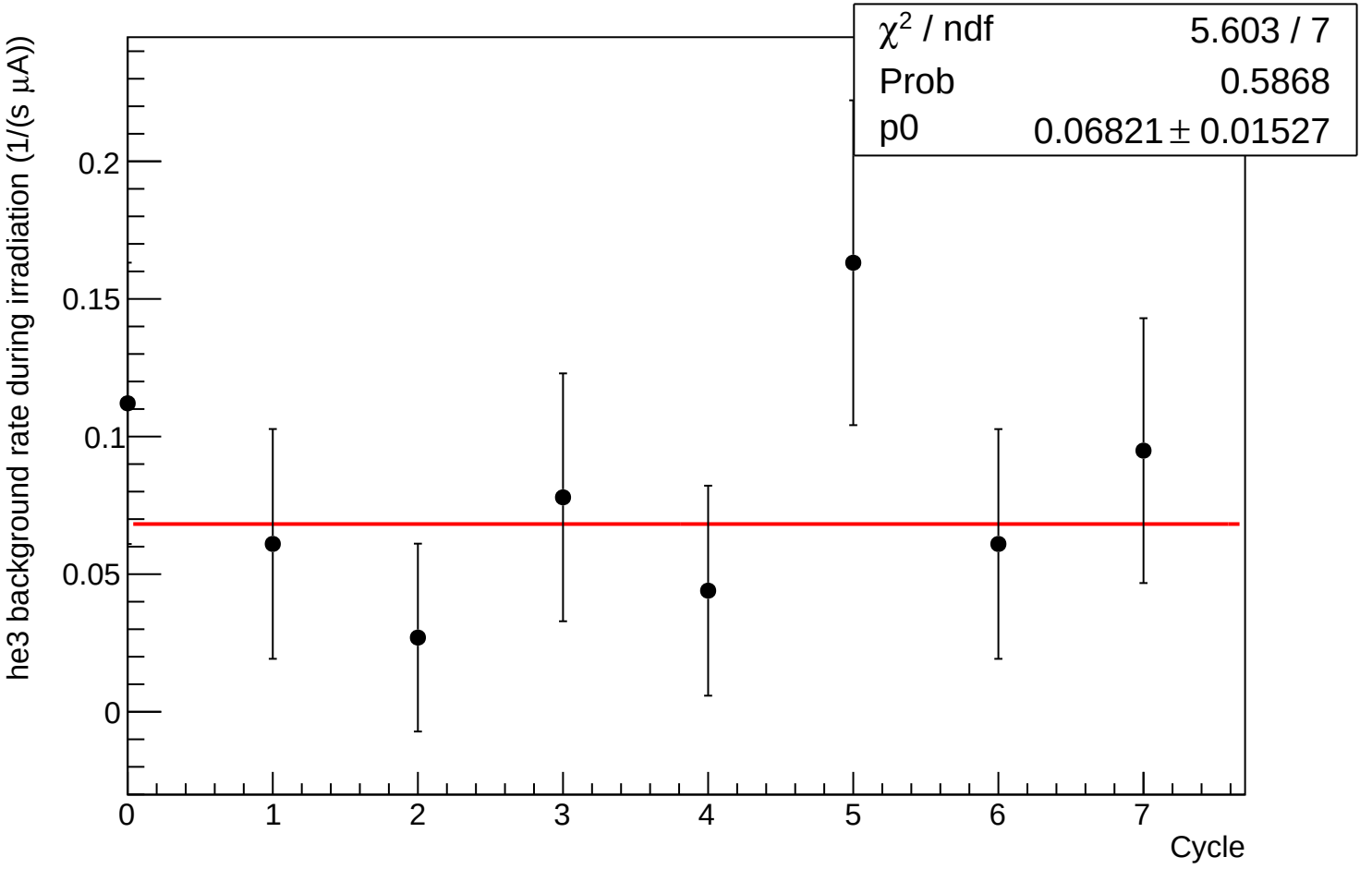

60.0s irradiation
UCN count (μA-1)
10^4
10^3
10^2
10
0
20
40
60
80
100
120
Storage time (s)
p0 = 2303 ± 26
p1 = 34.82 ± 0.36
p2 = 0.007384 ± 0
p3 = 0.3203 ± 0
p4 = 0.1117 ± 0
p5 = 36.62 ± 0.85
p6 = 1.321 ± 0
χ2/ndf = 2.84
N(T, ts, ti) = p0|p5 τ 1/(1 + p4 T7) (1 - exp(-ti p6/τ)) exp(-ts/τ)

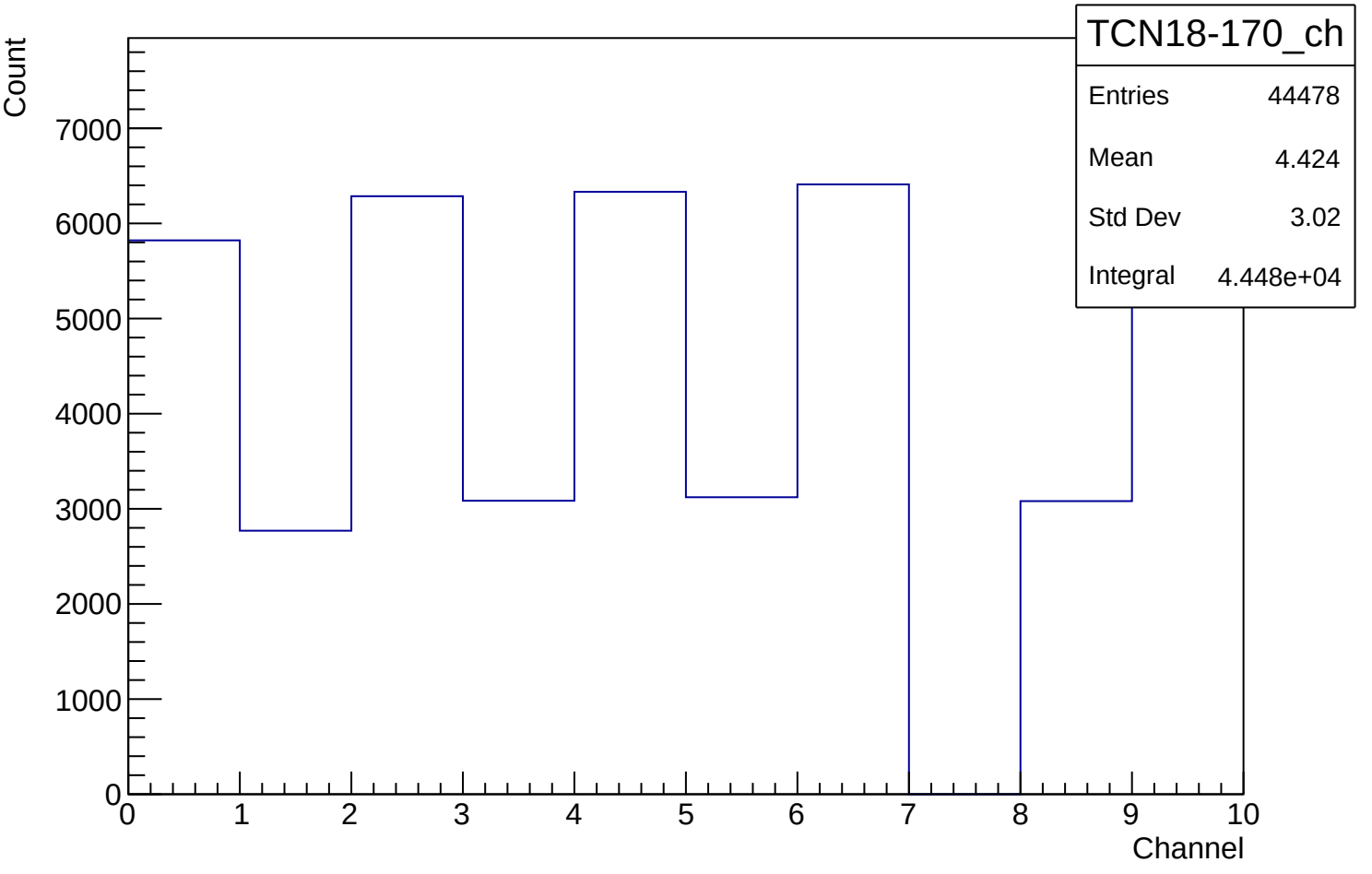

Graph
Vapor pressure (torr)
0.36
0.34
0.32
0.3
0.28
Temperature (K)
1.13
1.125
1.12
1.115
1.11
1.105
1.1
1.095
0
1
2
3
4
5
6
7
Cycle

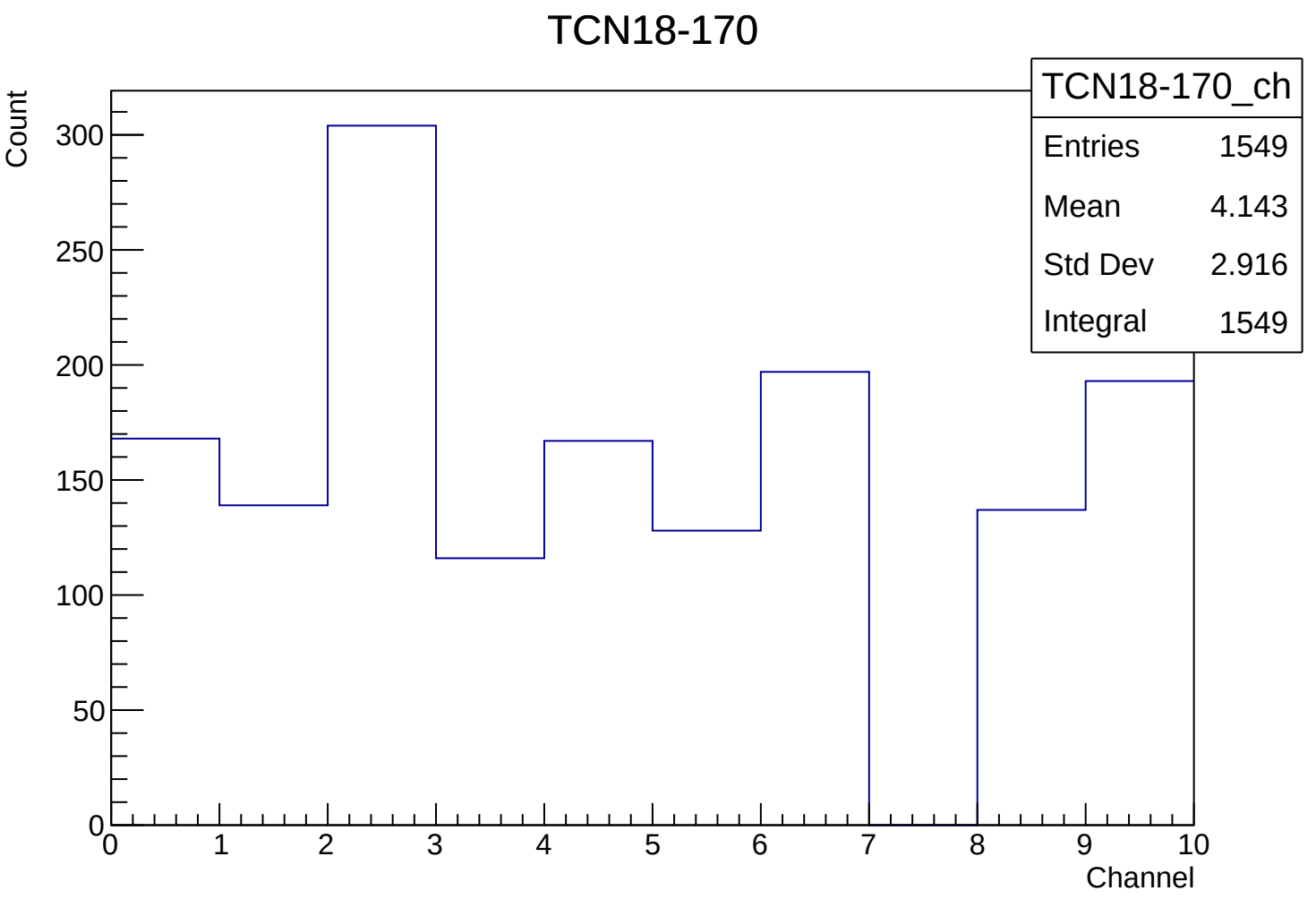

χ² / ndf 5.665 / 6
Prob 0.4618
p0 2.267 ± 0.08621
li6 background rate (1/s)
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1
2
3
4
5
6
7
Cycle

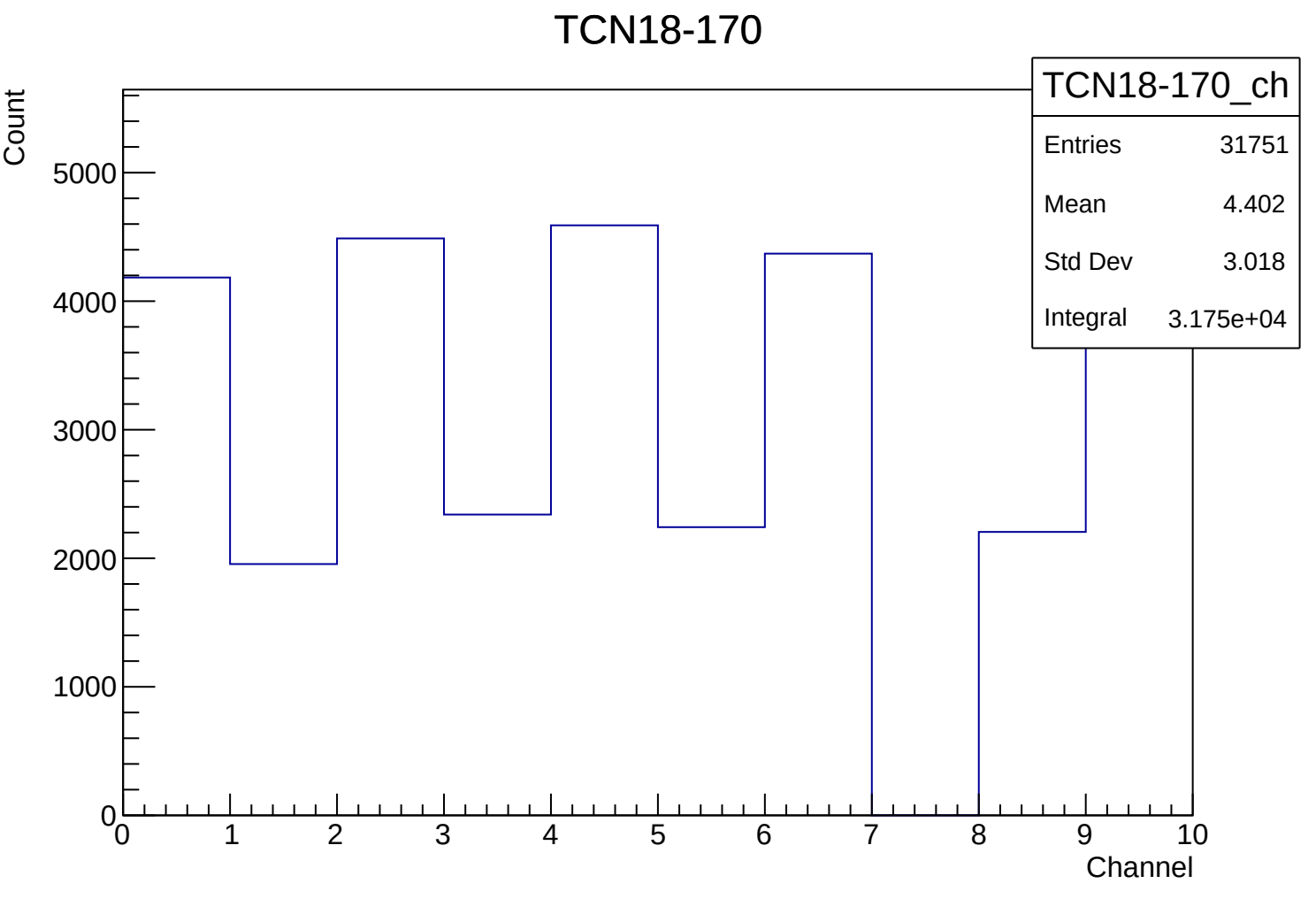

χ^2 / ndf 9.494 / 7
Prob 0.2191
p0 5.355 ± 0.1276
li6 background rate during irradiation (1/(s μA))
6.5
6
5.5
5
4.5
0
1
2
3
4
5
6
7
Cycle

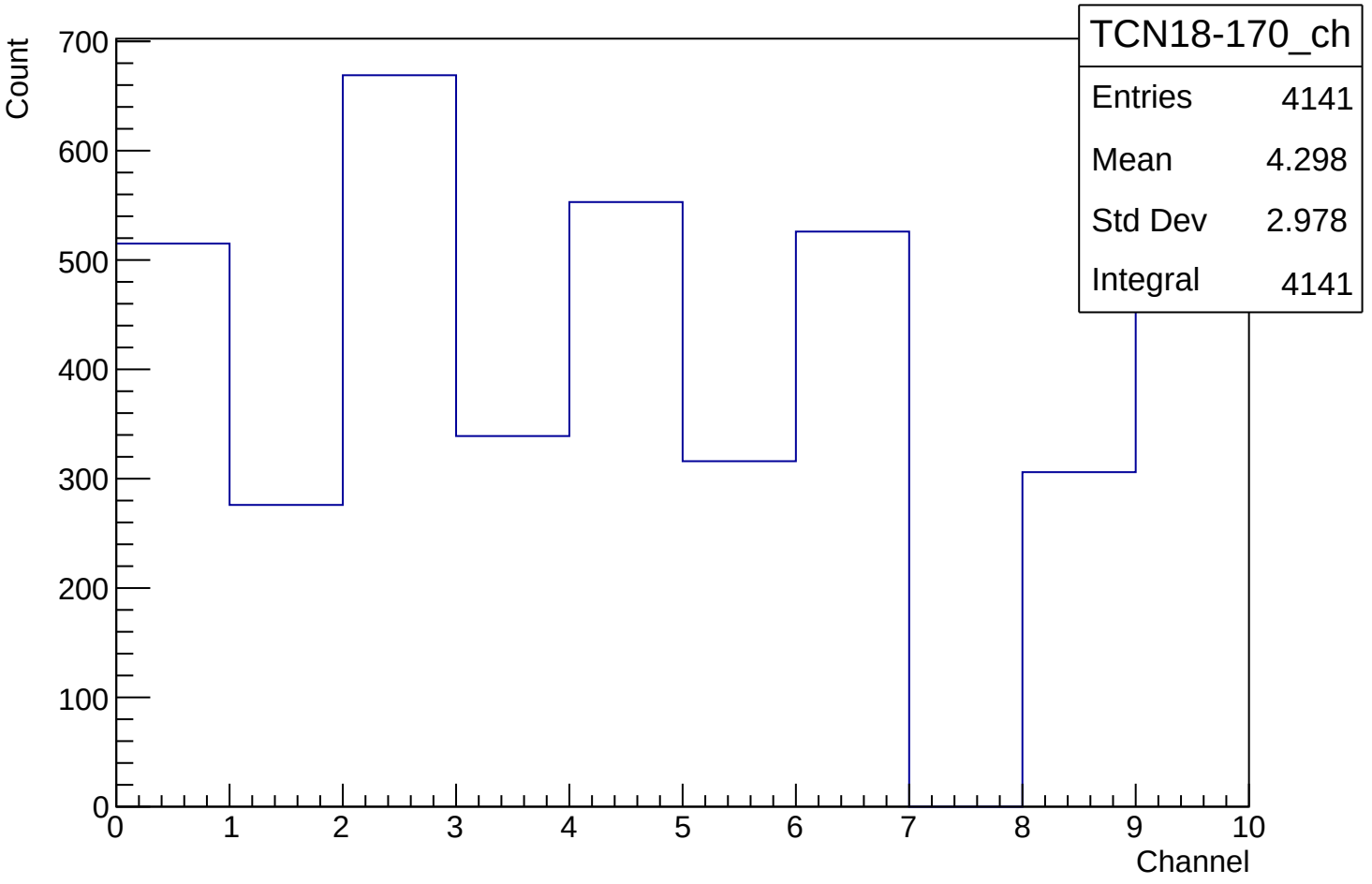

χ^2 / ndf 4.224 / 3
Prob 0.2383
p0 0.0251 ± 0.009641
he3 background rate (1/s)
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
1
1.5
2
2.5
3
3.5
4
4.5
5
Cycle

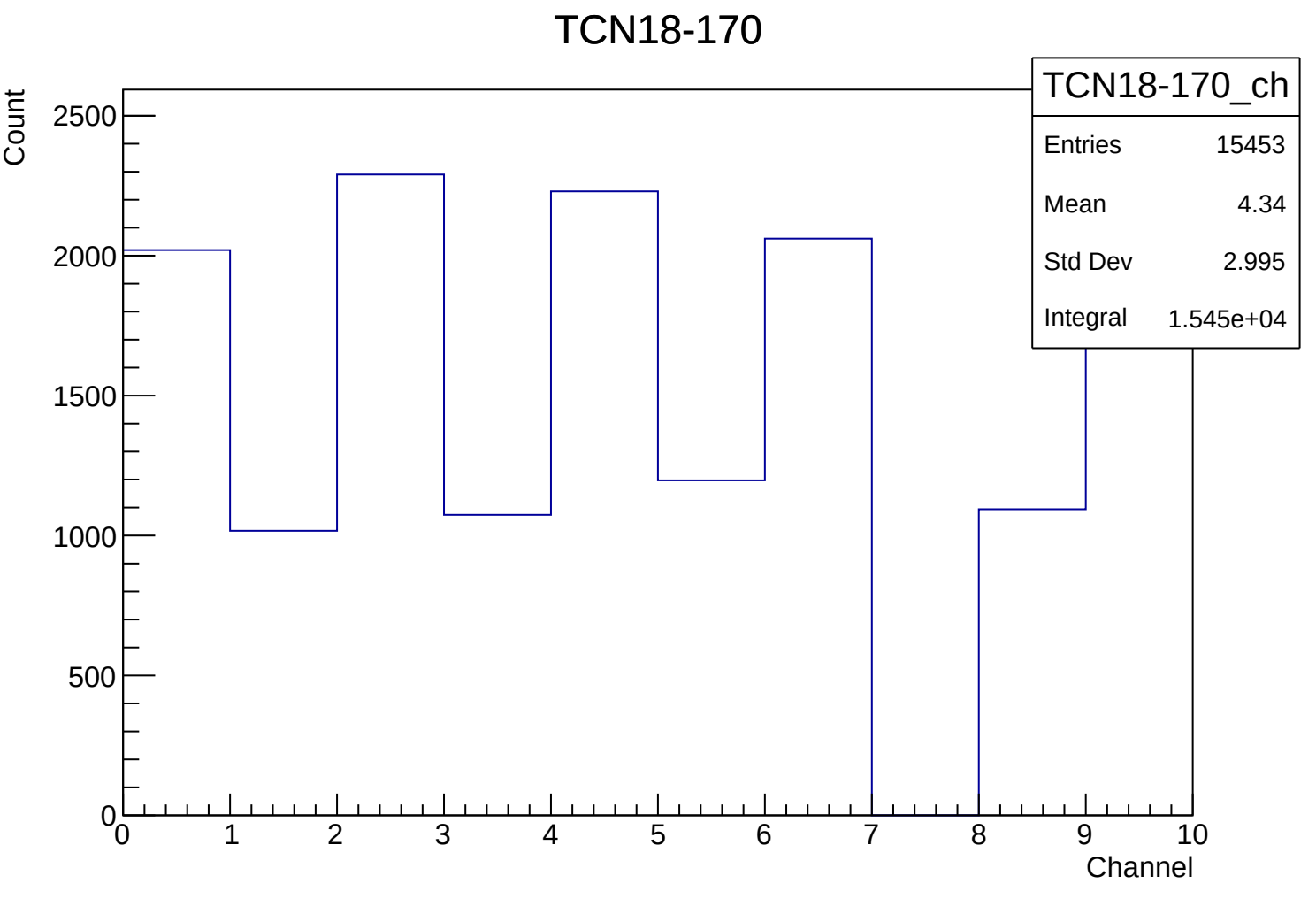

χ² / ndf 5.603 / 7
Prob 0.5868
p0 0.06821 ± 0.01527
he3 background rate during irradiation (1/(s μA))
0.2
0.15
0.1
0.05
0
0
1
2
3
4
5
6
7
Cycle

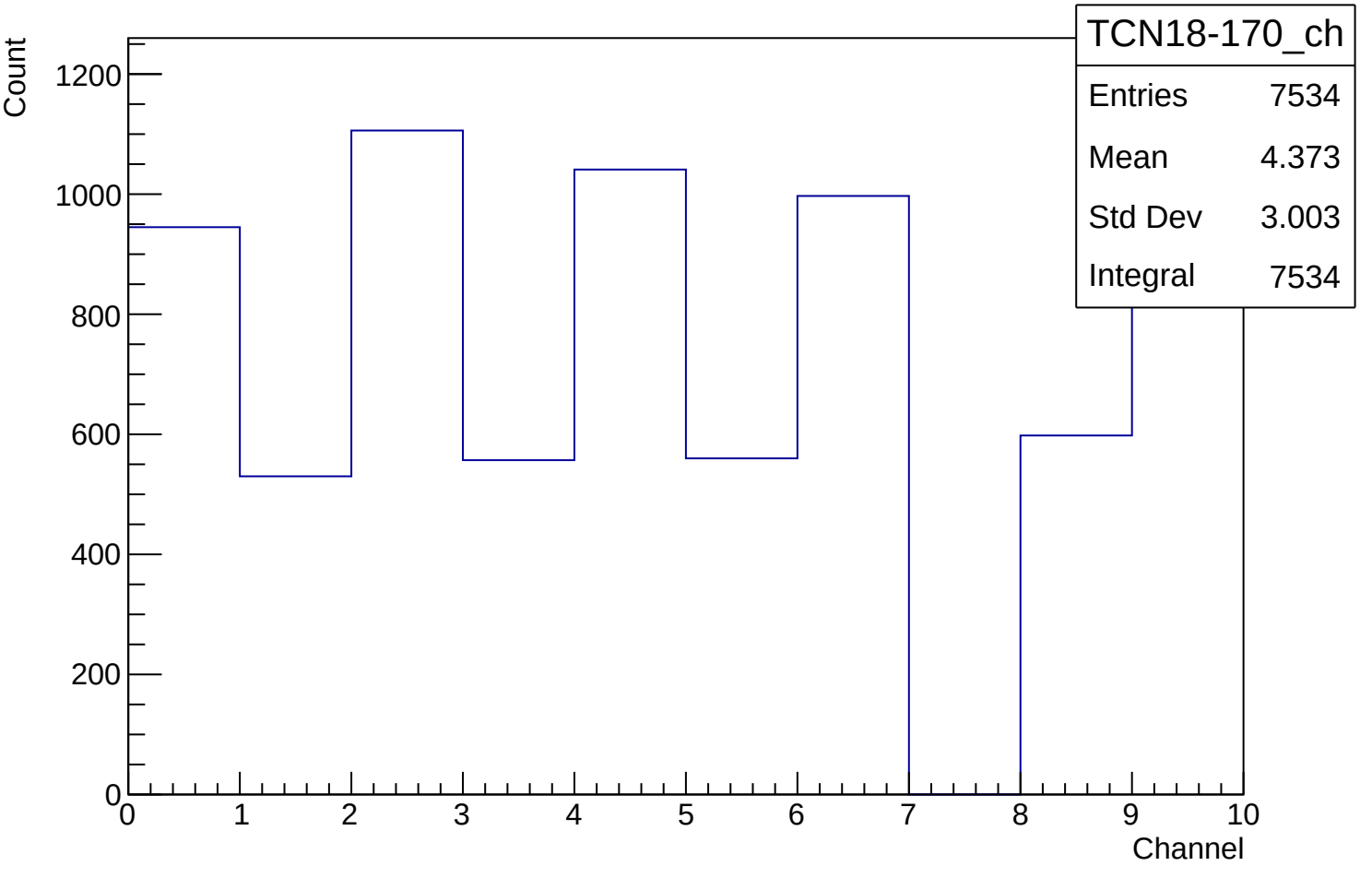

TCN18-170
TCN18-170_ch
Entries 44478
Mean 4.424
Std Dev 3.02
Integral 4.448e+04
Count
0
1000
2000
3000
4000
5000
6000
7000
0
1
2
3
4
5
6
7
8
9
10
Channel

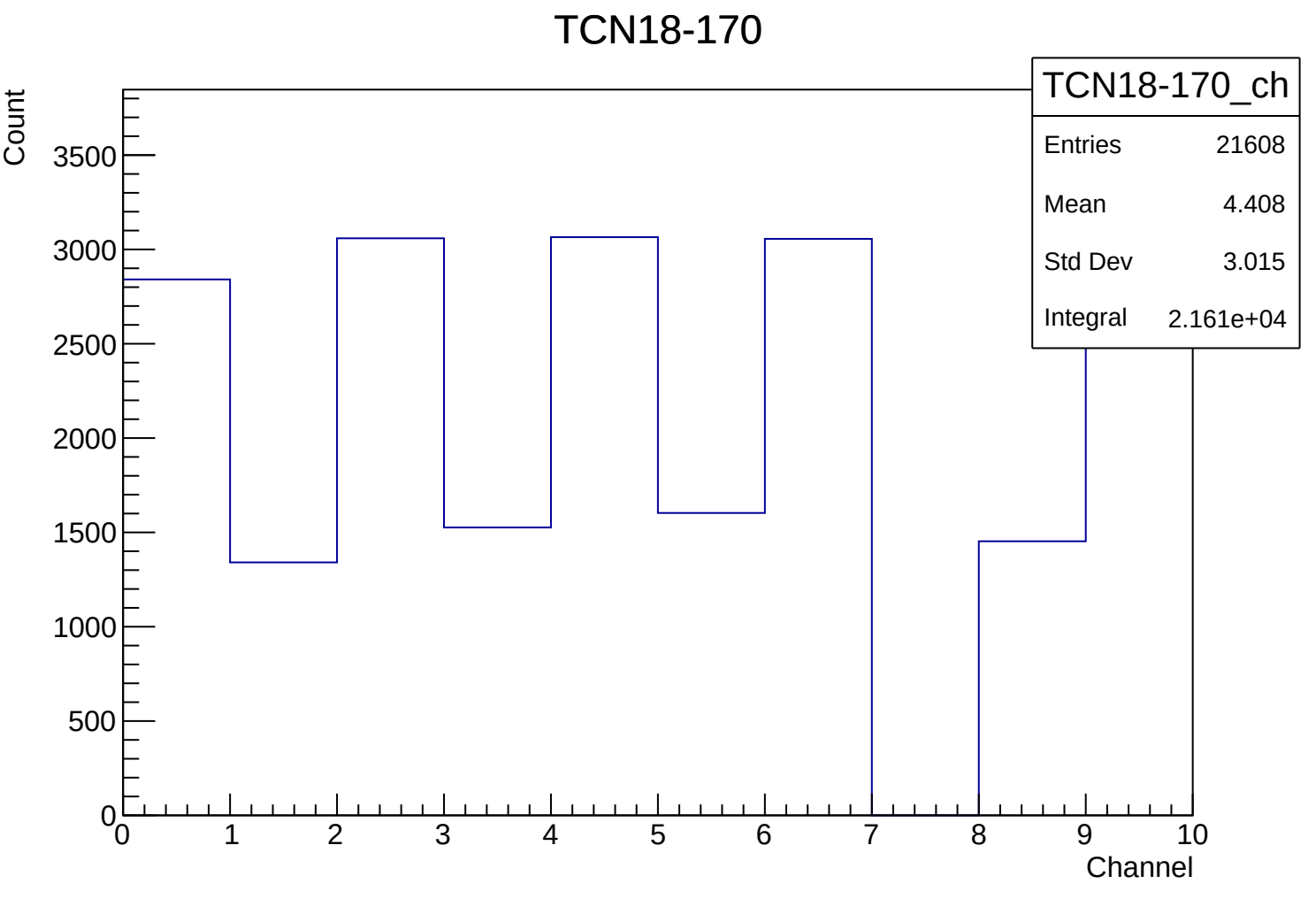

TCN18-170
TCN18-170_ch
Entries 1549
Mean 4.143
Std Dev 2.916
Integral 1549
Count
0
50
100
150
200
250
300
0
1
2
3
4
5
6
7
8
9
10
Channel

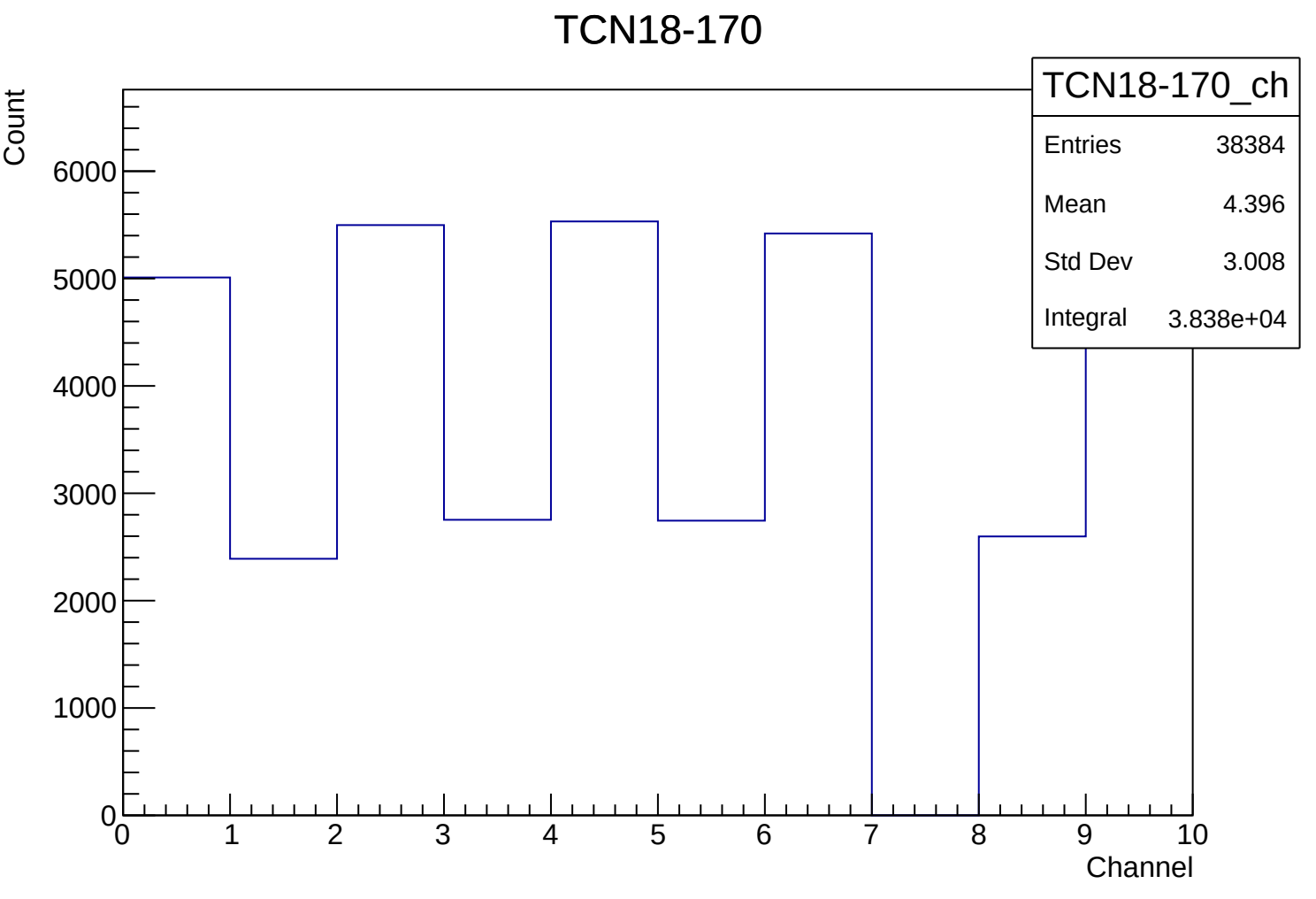

TCN18-170
TCN18-170_ch
Entries 31751
Mean 4.402
Std Dev 3.018
Integral 3.175e+04
Count
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel


TCN18-170
TCN18-170_ch
Entries 4141
Mean 4.298
Std Dev 2.978
Integral 4141
Count
Channel
0
100
200
300
400
500
600
700
0
1
2
3
4
5
6
7
8
9
10


TCN18-170
TCN18-170_ch
Entries 15453
Mean 4.34
Std Dev 2.995
Integral 1.545e+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 7534
Mean 4.373
Std Dev 3.003
Integral 7534
Count
0
200
400
600
800
1000
1200
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-170
TCN18-170_ch
Entries 21608
Mean 4.408
Std Dev 3.015
Integral 2.161e+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 38384
Mean 4.396
Std Dev 3.008
Integral 3.838e+04
Count
0
1000
2000
3000
4000
5000
6000
0
1
2
3
4
5
6
7
8
9
10
Channel