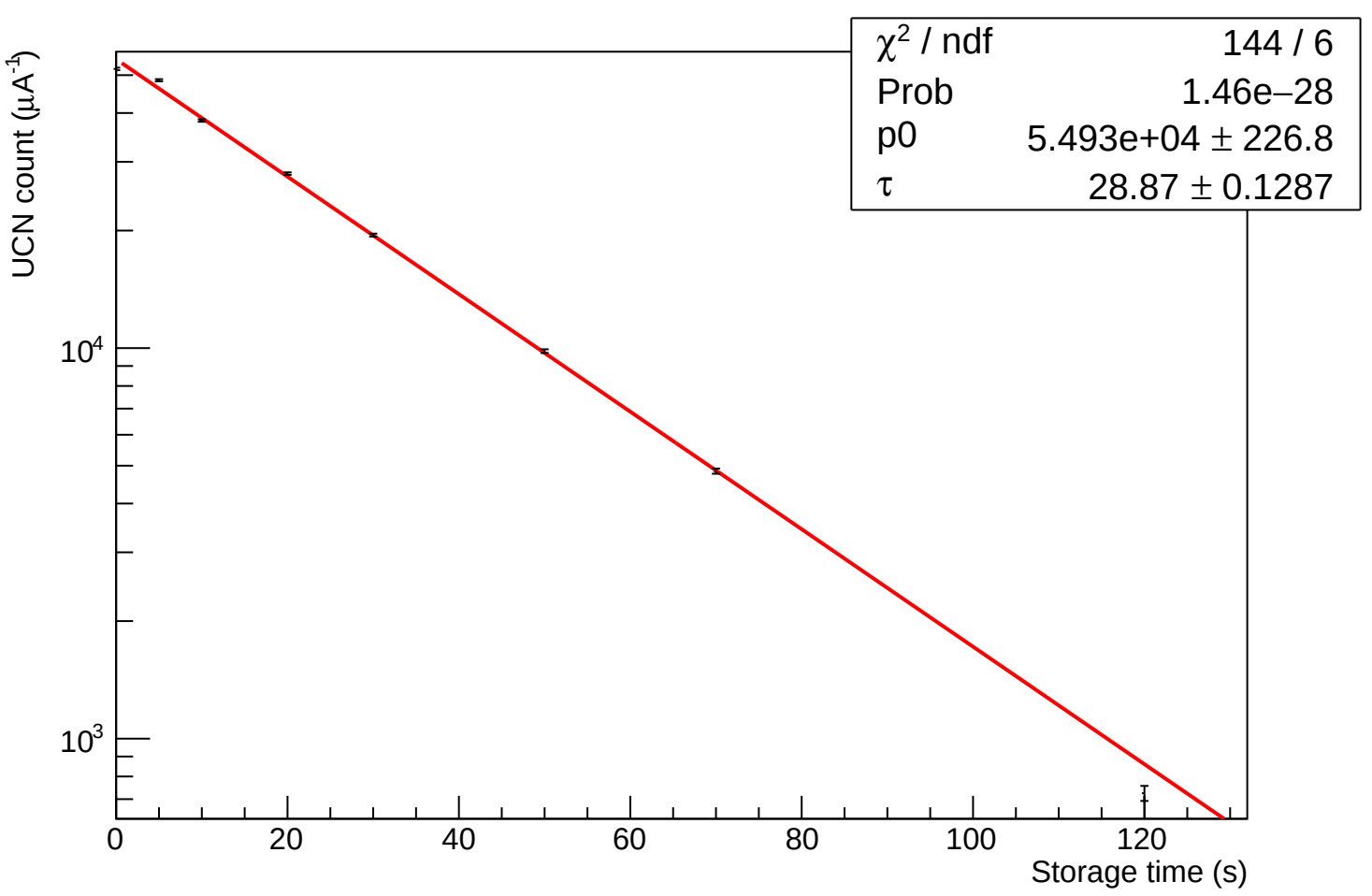
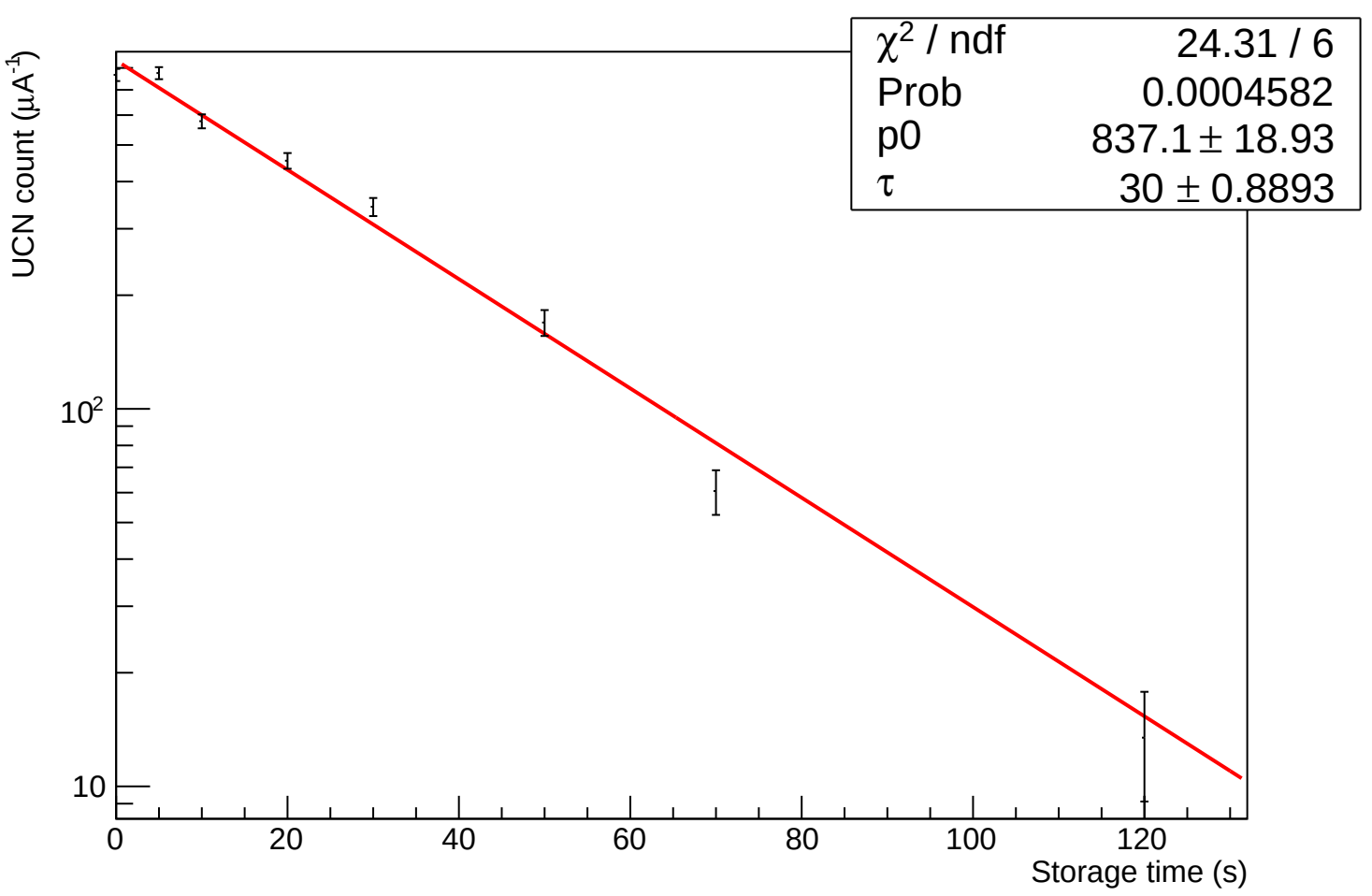
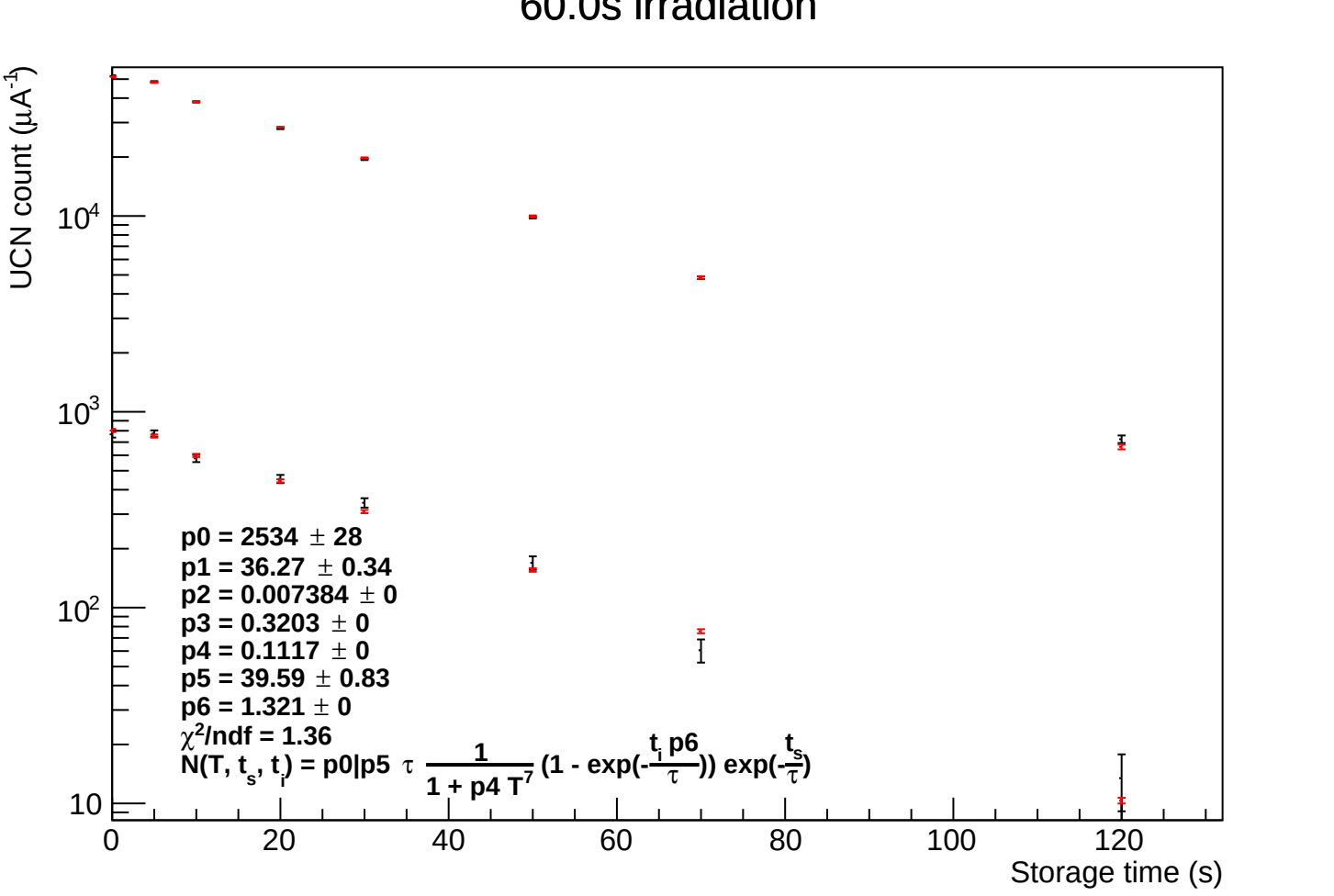
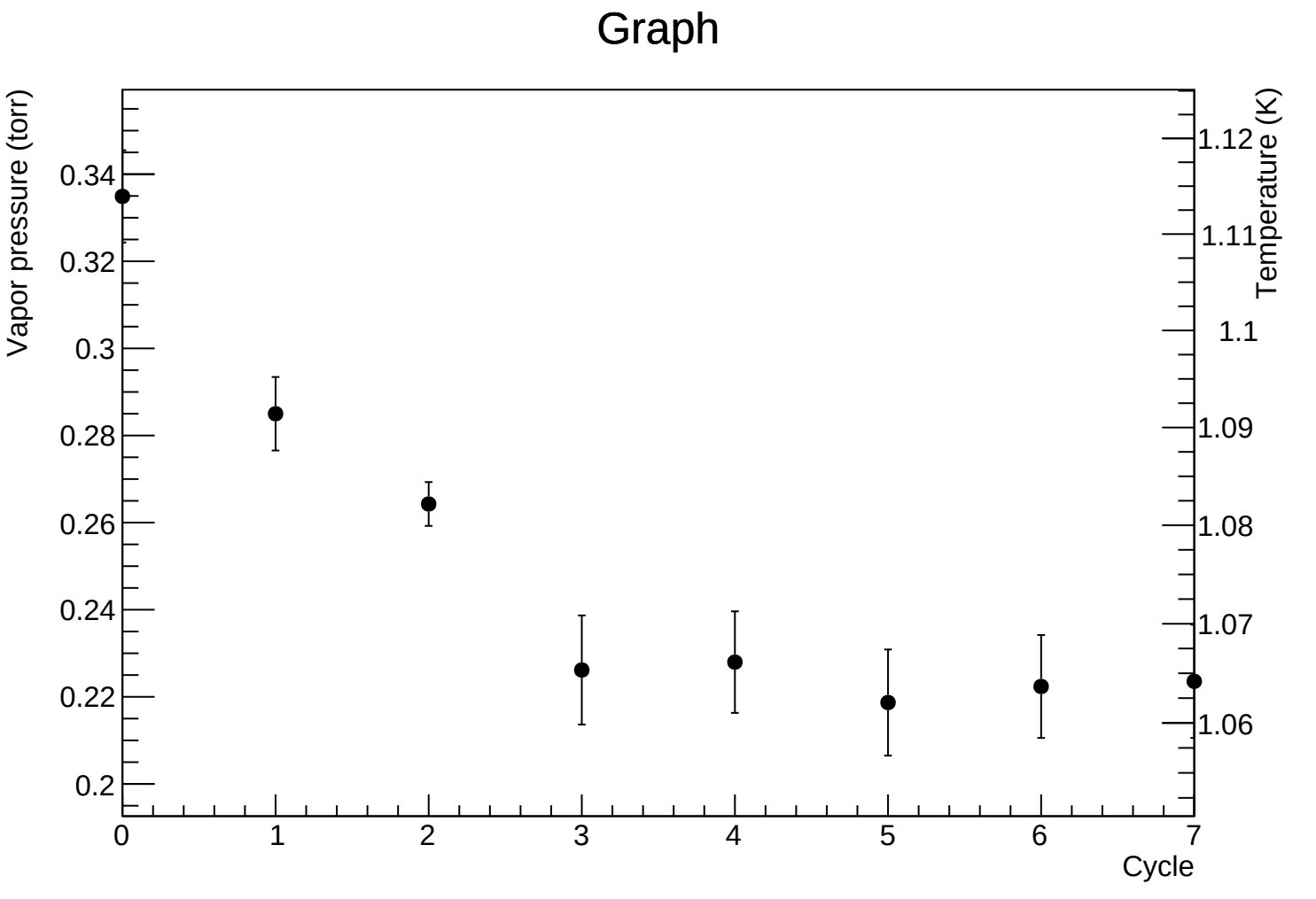
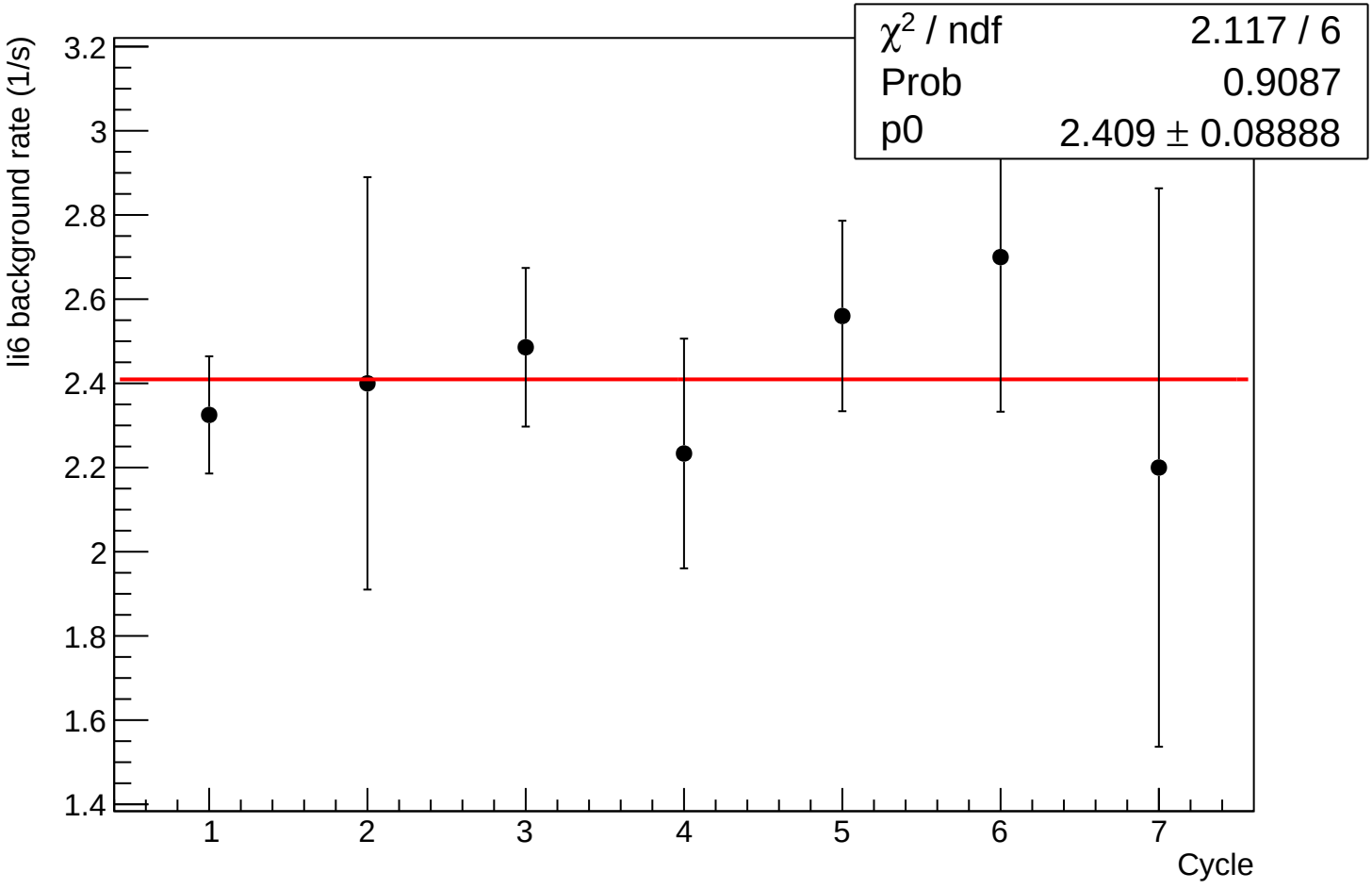
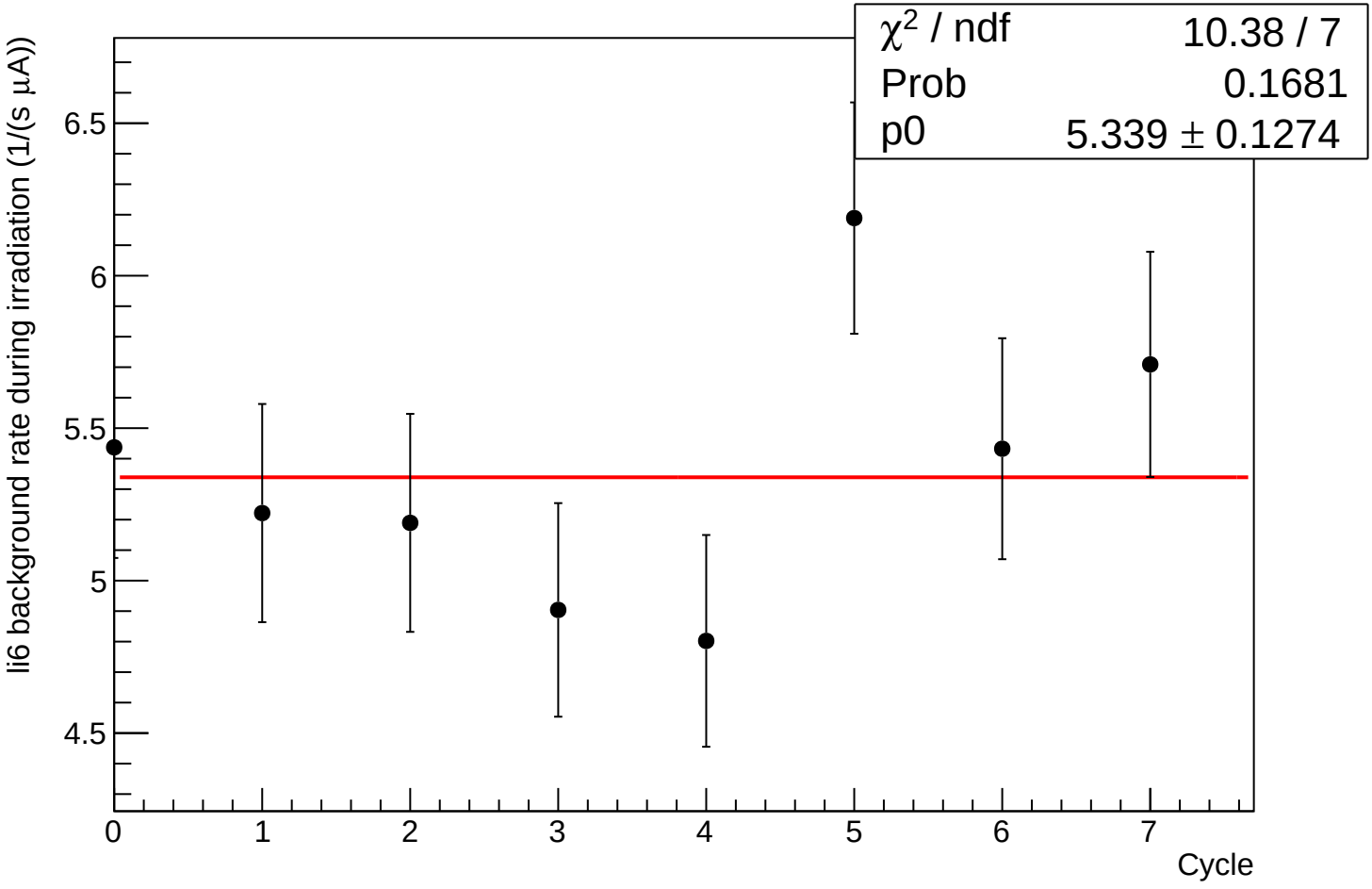

TCN18-170 (li6 detector, single exponential fit, background subtracted, normalized to beam current)
χ² / ndf 144 / 6
Prob 1.46e–28
p0 5.493e+04 ± 226.8
τ 28.87 ± 0.1287
UCN count (μA⁻¹)
10⁴
10³
0
20
40
60
80
100
120
Storage time (s)

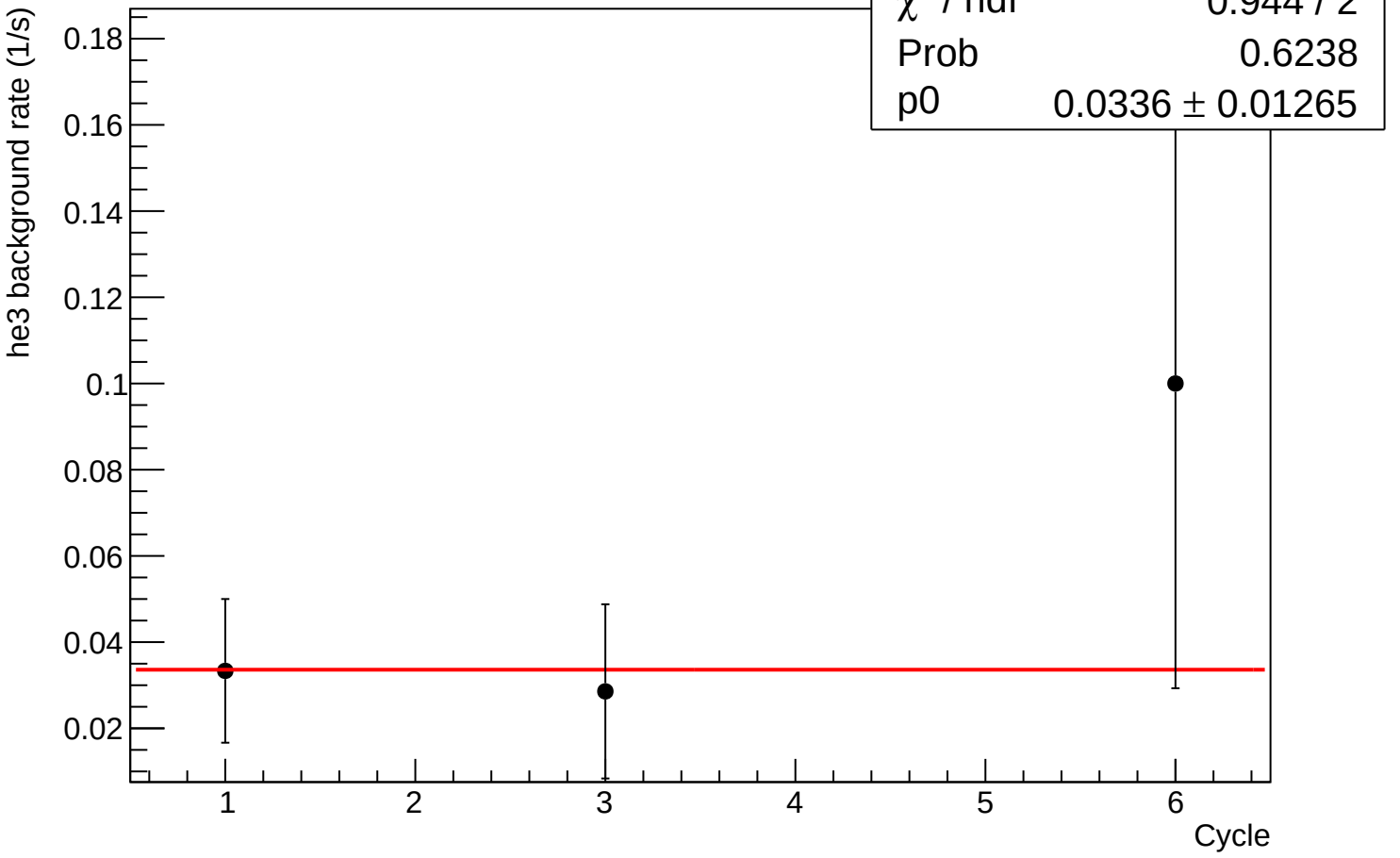

TCN18-170 (he3 detector, single exponential fit, background subtracted, normalized to beam current)
χ² / ndf 24.31 / 6
Prob 0.0004582
p0 837.1 ± 18.93
τ 30 ± 0.8893
UCN count (μA⁻¹)
10²
10
0
20
40
60
80
100
120
Storage time (s)

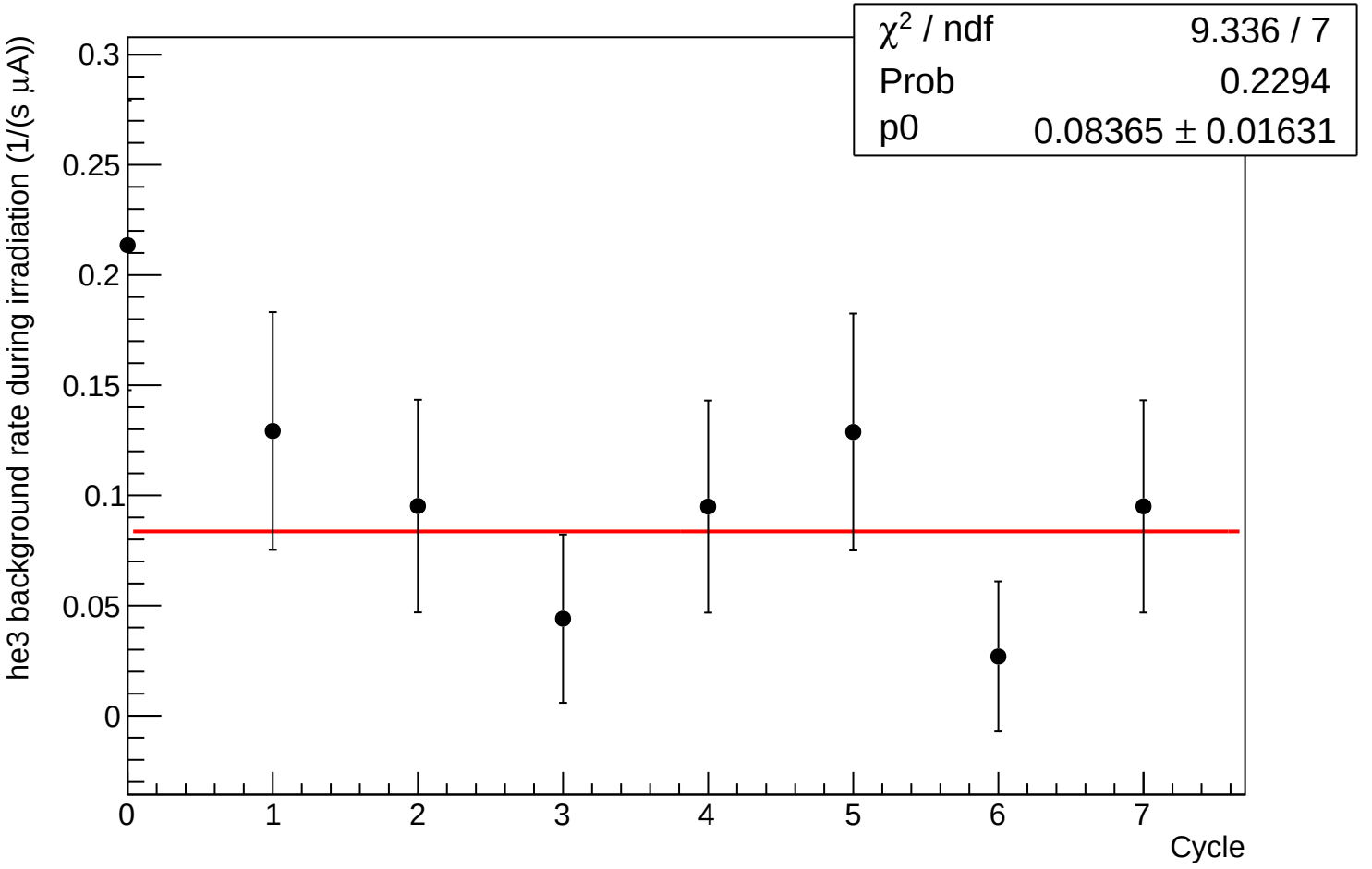

60.0s irradiation
UCN count (μA-1)
Storage time (s)
p0 = 2534 ± 28
p1 = 36.27 ± 0.34
p2 = 0.007384 ± 0
p3 = 0.3203 ± 0
p4 = 0.1117 ± 0
p5 = 39.59 ± 0.83
p6 = 1.321 ± 0
χ2/ndf = 1.36
N(T, ts, ti) = p0|p5 τ 1/(1 + p4 T7) (1 - exp(-ti p6/τ)) exp(-ts/τ)

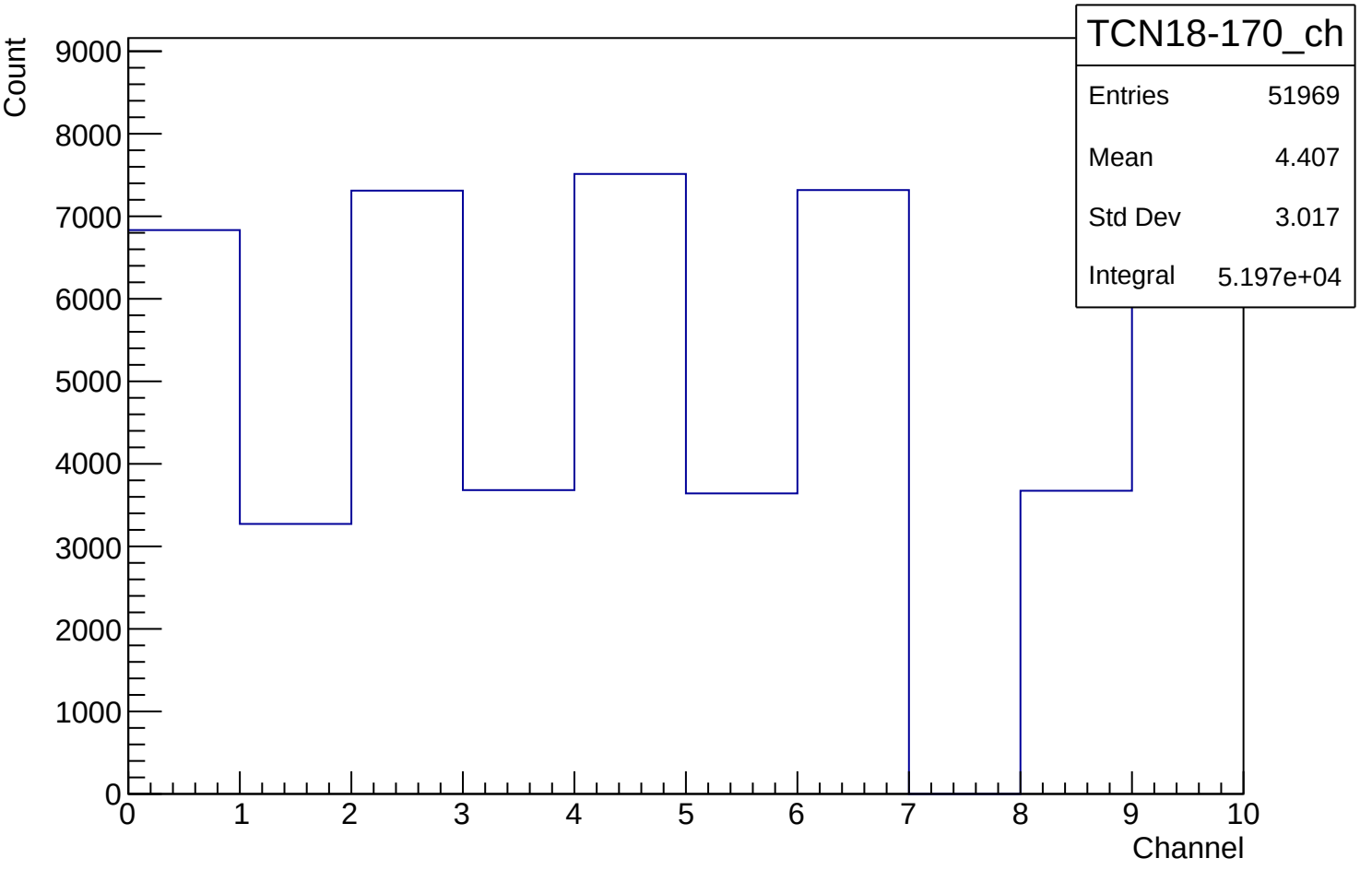

Graph
Vapor pressure (torr)
0.34
0.32
0.3
0.28
0.26
0.24
0.22
0.2
Temperature (K)
1.12
1.11
1.1
1.09
1.08
1.07
1.06
0
1
2
3
4
5
6
7
Cycle

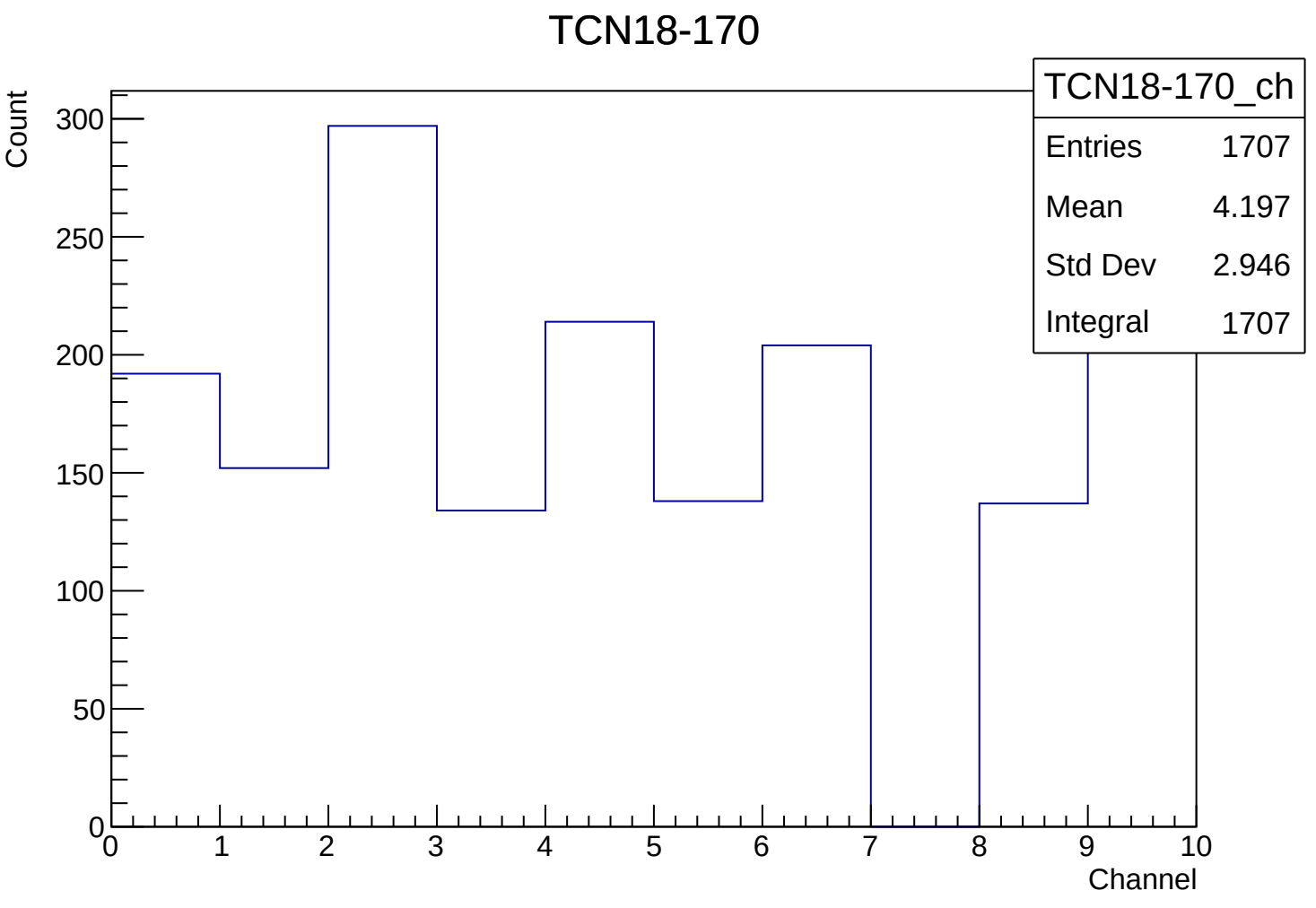

li6 background rate (1/s)
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1
2
3
4
5
6
7
Cycle
χ² / ndf 2.117 / 6
Prob 0.9087
p0 2.409 ± 0.08888

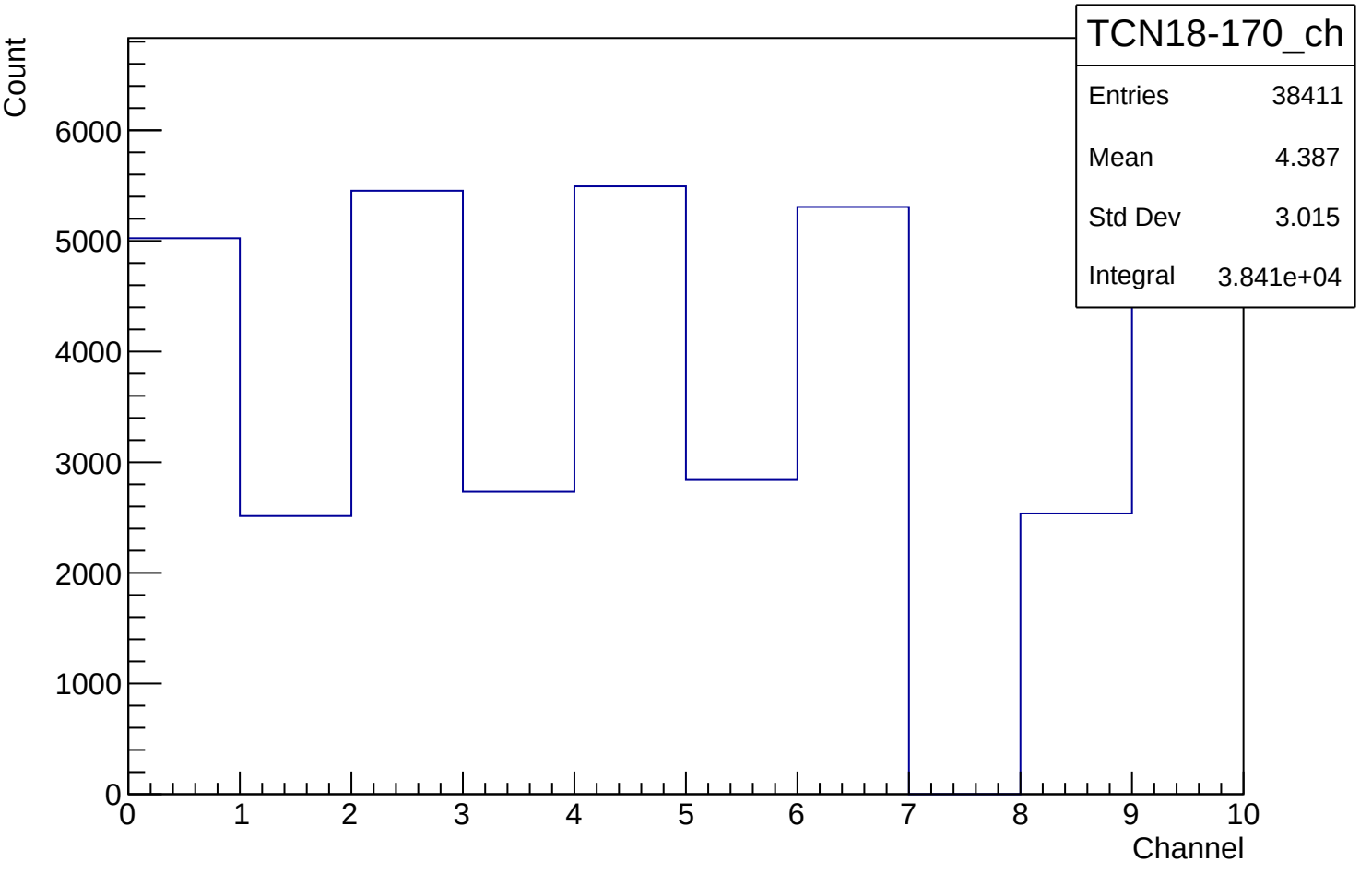

χ² / ndf 10.38 / 7
Prob 0.1681
p0 5.339 ± 0.1274
li6 background rate during irradiation (1/(s μA))
6.5
6
5.5
5
4.5
0
1
2
3
4
5
6
7
Cycle

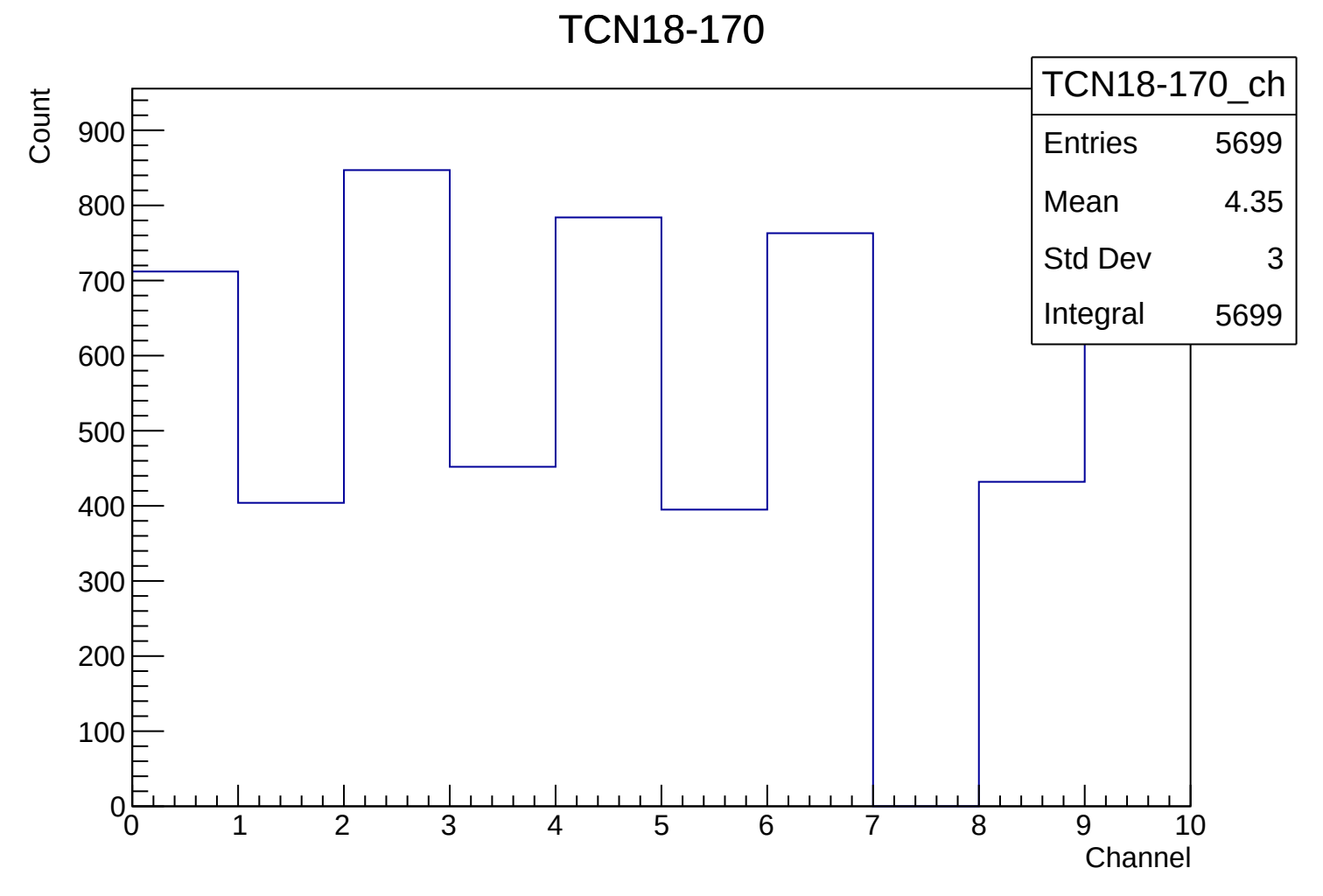

χ² / ndf 0.944 / 2
Prob 0.6238
p0 0.0336 ± 0.01265
he3 background rate (1/s)
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
1
2
3
4
5
6
Cycle

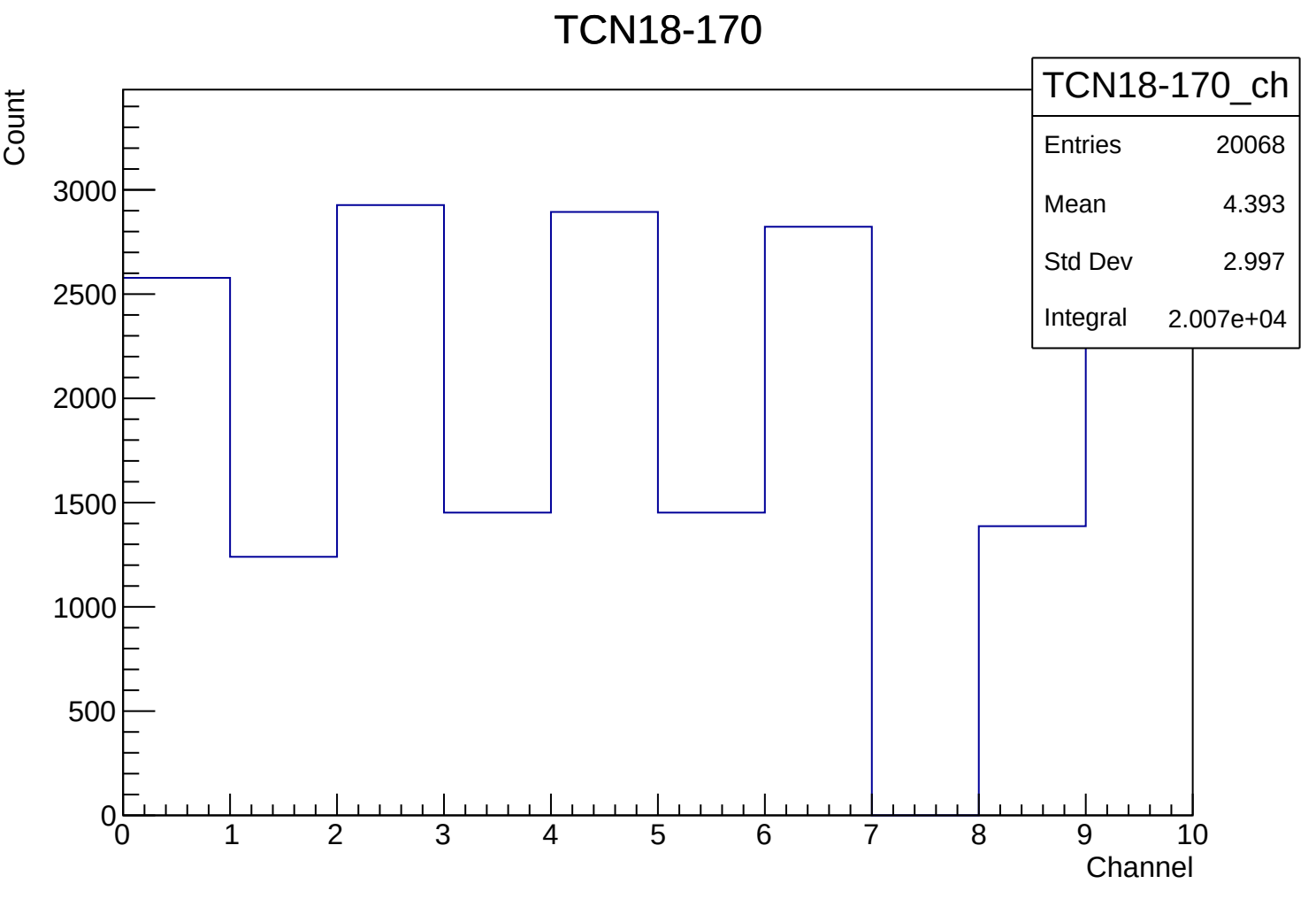

χ² / ndf 9.336 / 7
Prob 0.2294
p0 0.08365 ± 0.01631
he3 background rate during irradiation (1/(s μA))
0.3
0.25
0.2
0.15
0.1
0.05
0
0
1
2
3
4
5
6
7
Cycle

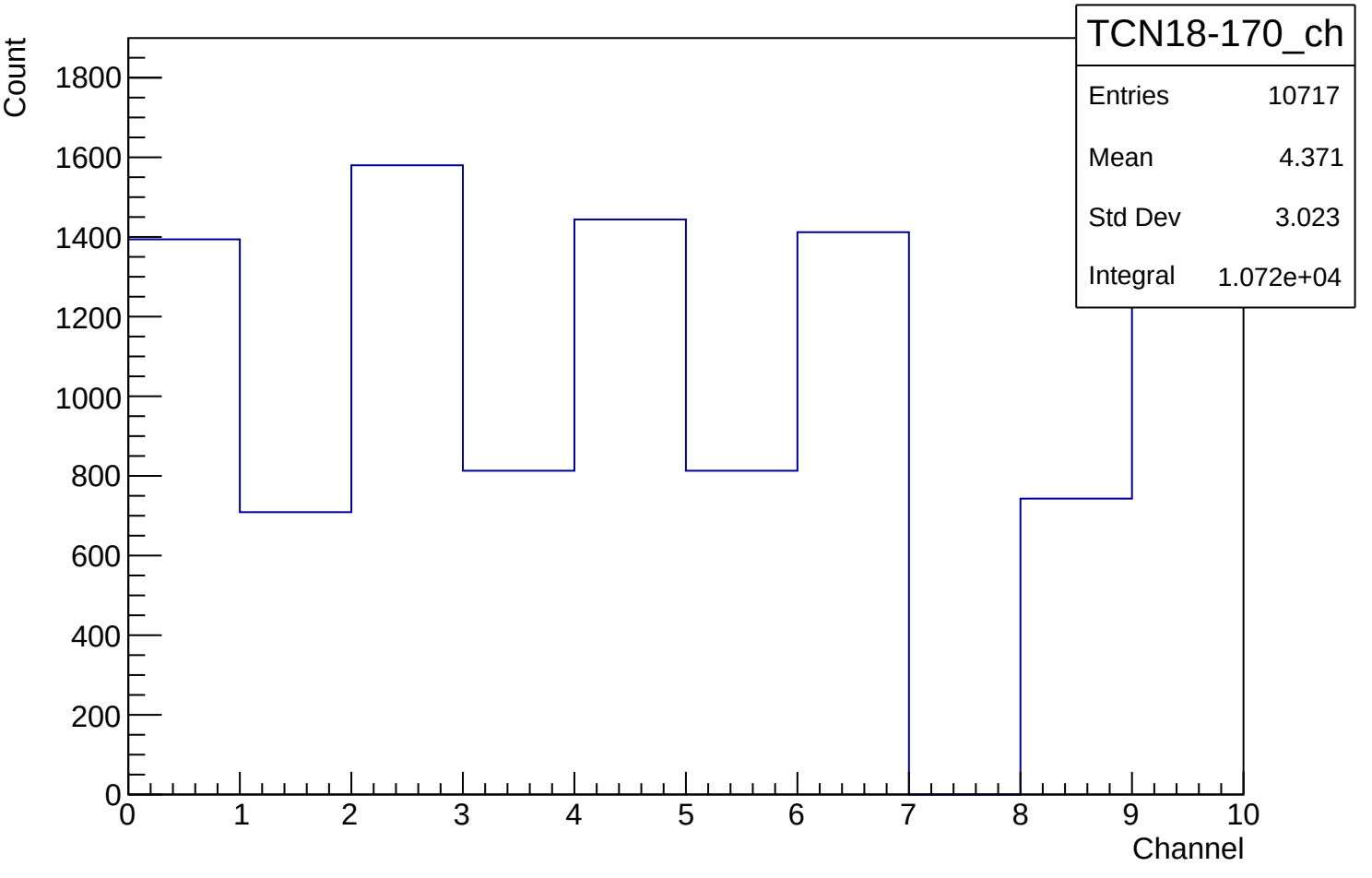

TCN18-170
TCN18-170_ch
Entries 51969
Mean 4.407
Std Dev 3.017
Integral 5.197e+04
Count
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel

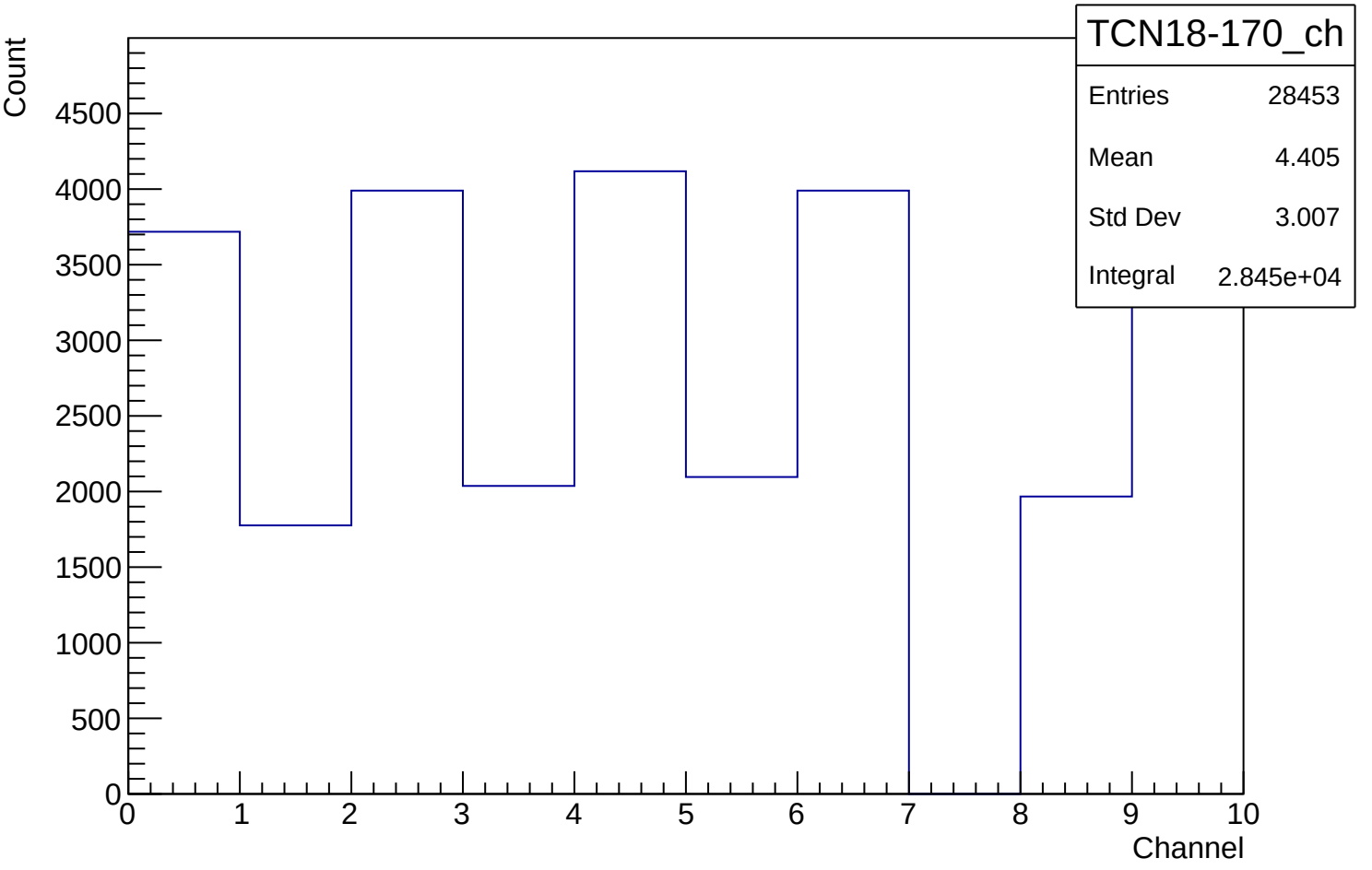

TCN18-170
TCN18-170_ch
Entries 1707
Mean 4.197
Std Dev 2.946
Integral 1707
Count
Channel
0
50
100
150
200
250
300
0
1
2
3
4
5
6
7
8
9
10

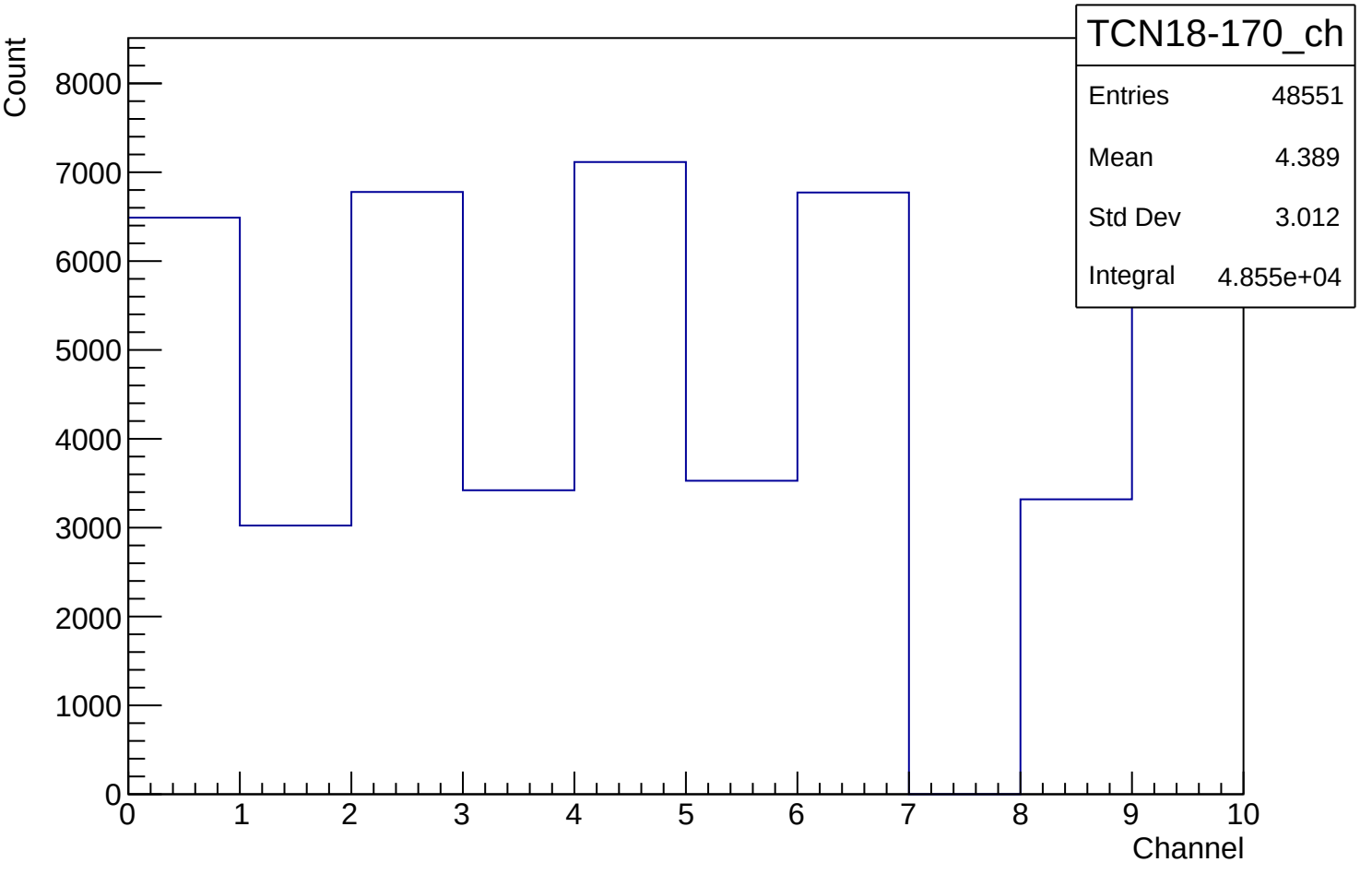

TCN18-170
TCN18-170_ch
Entries 38411
Mean 4.387
Std Dev 3.015
Integral 3.841e+04
Count
6000
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel


TCN18-170
TCN18-170_ch
Entries 5699
Mean 4.35
Std Dev 3
Integral 5699
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 20068
Mean 4.393
Std Dev 2.997
Integral 2.007e+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 10717
Mean 4.371
Std Dev 3.023
Integral 1.072e+04
Count
0
200
400
600
800
1000
1200
1400
1600
1800
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-170
TCN18-170_ch
Entries 28453
Mean 4.405
Std Dev 3.007
Integral 2.845e+04
Count
4500
4000
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 48551
Mean 4.389
Std Dev 3.012
Integral 4.855e+04
Count
8000
7000
6000
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel