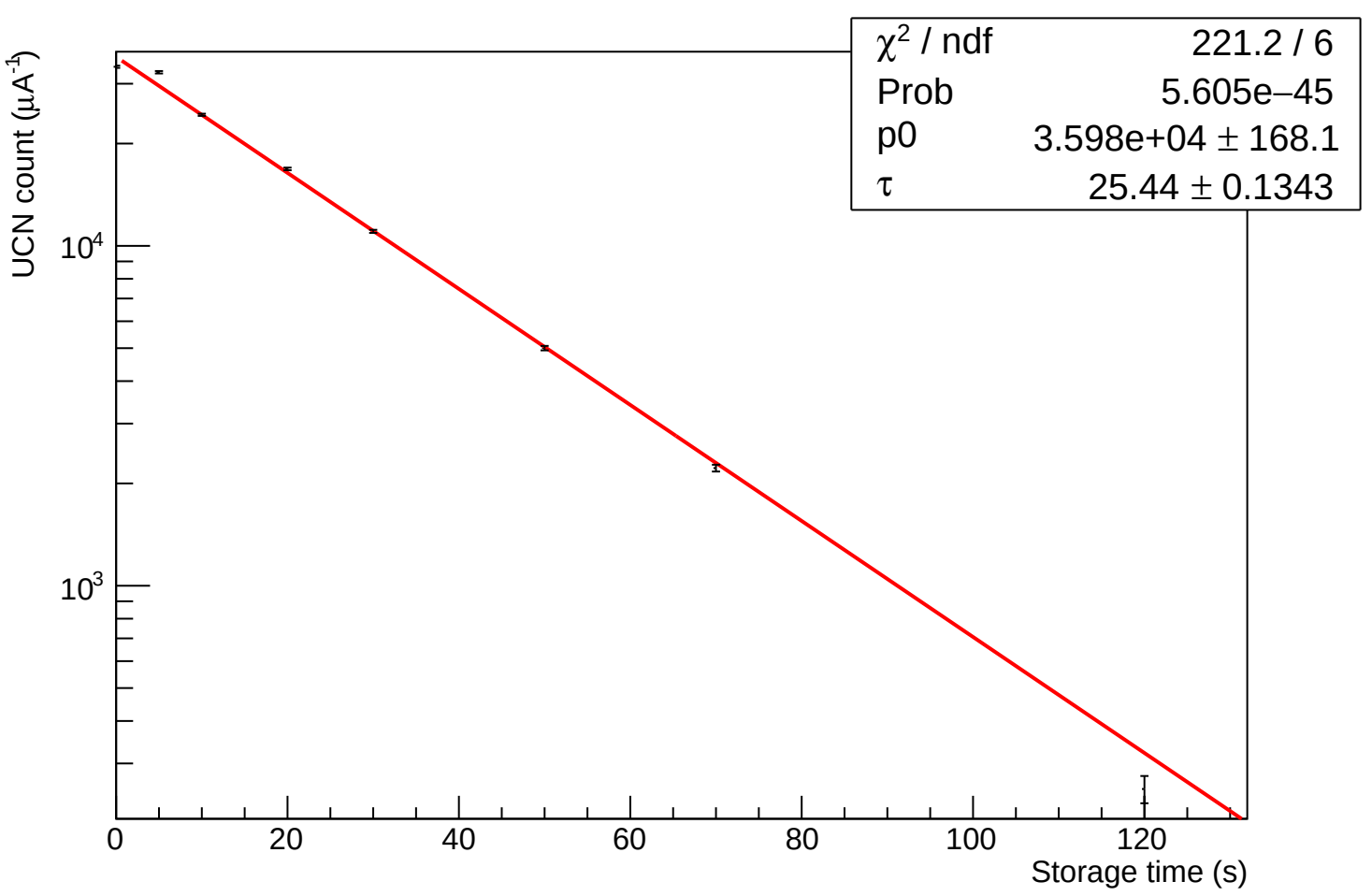
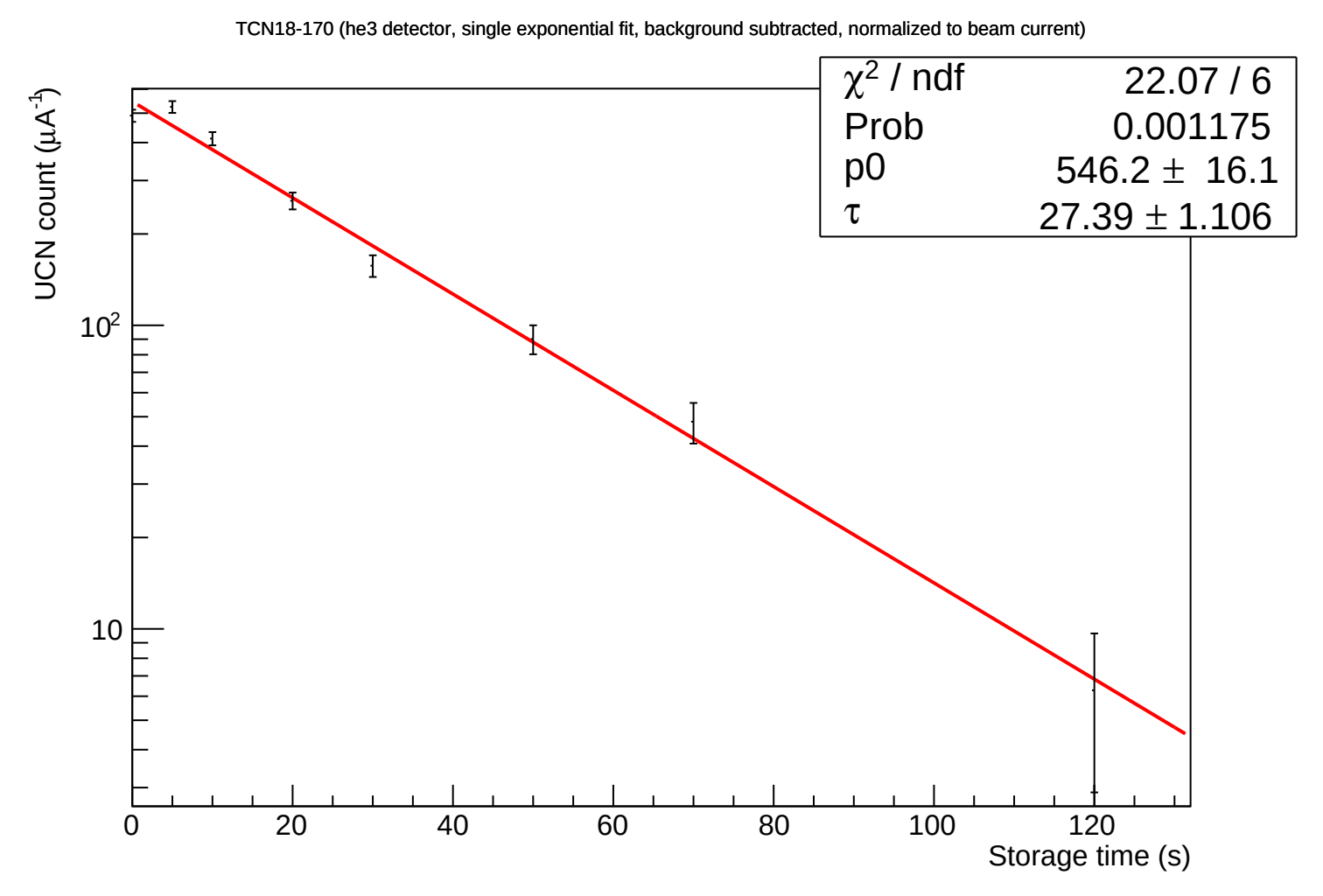
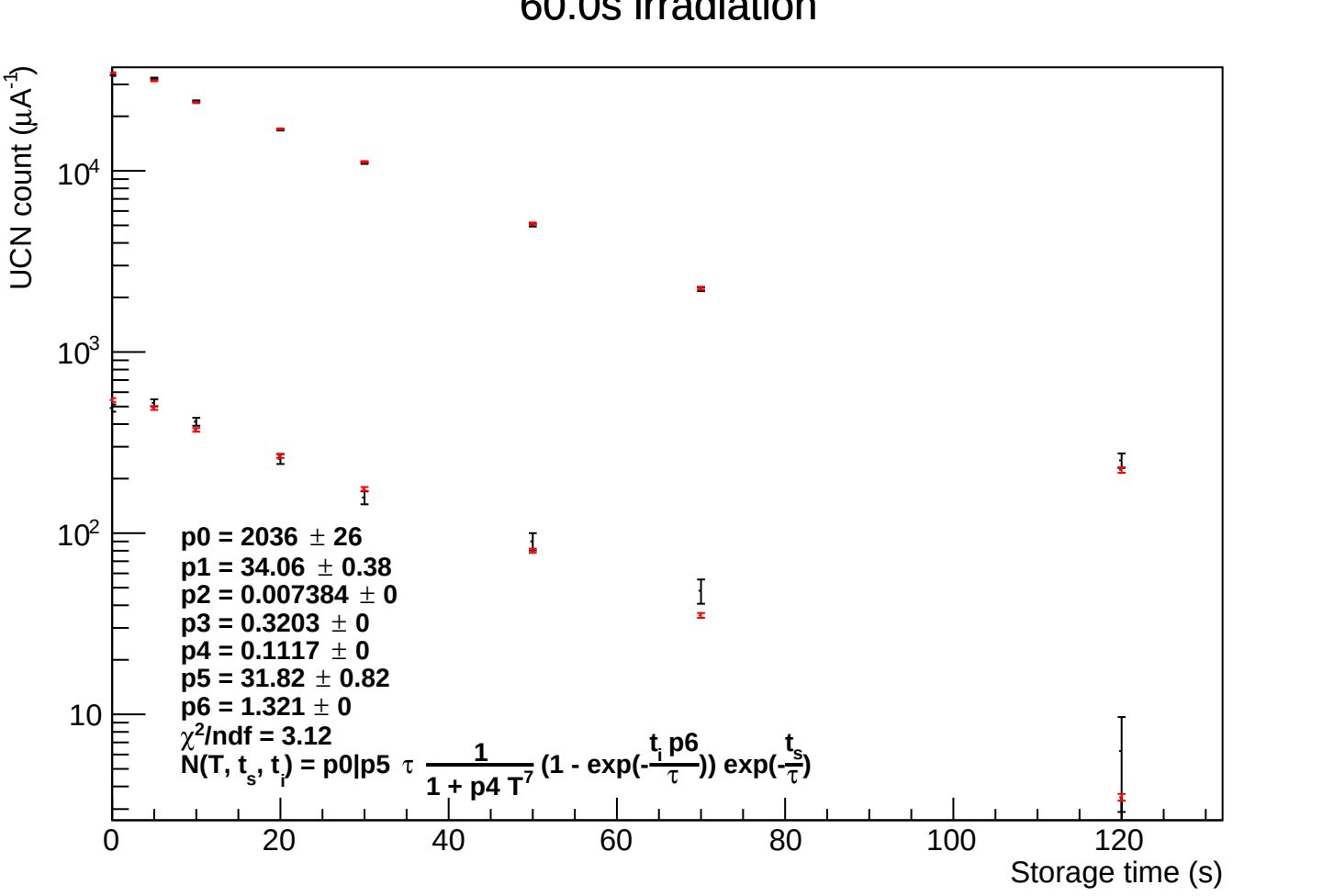
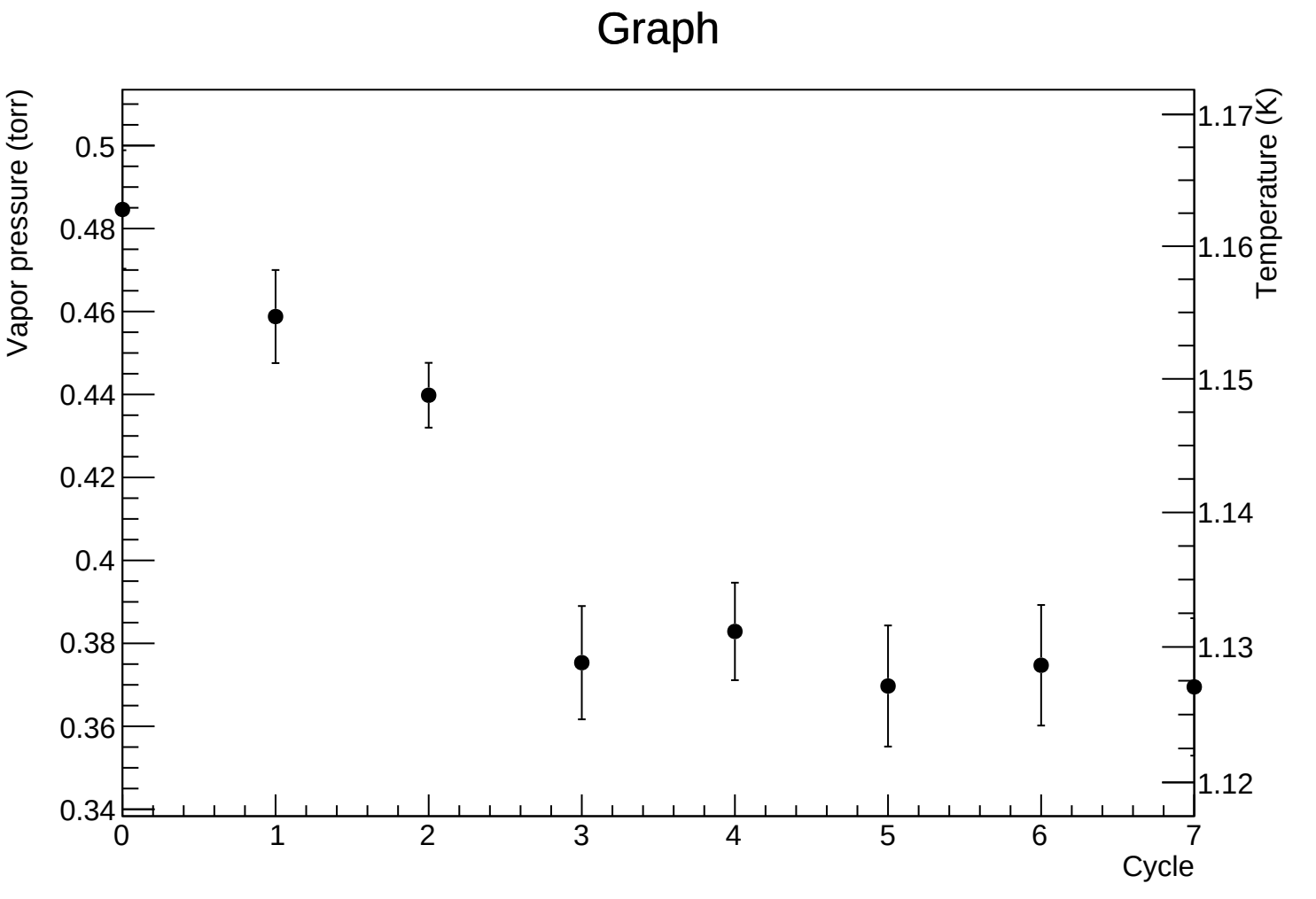
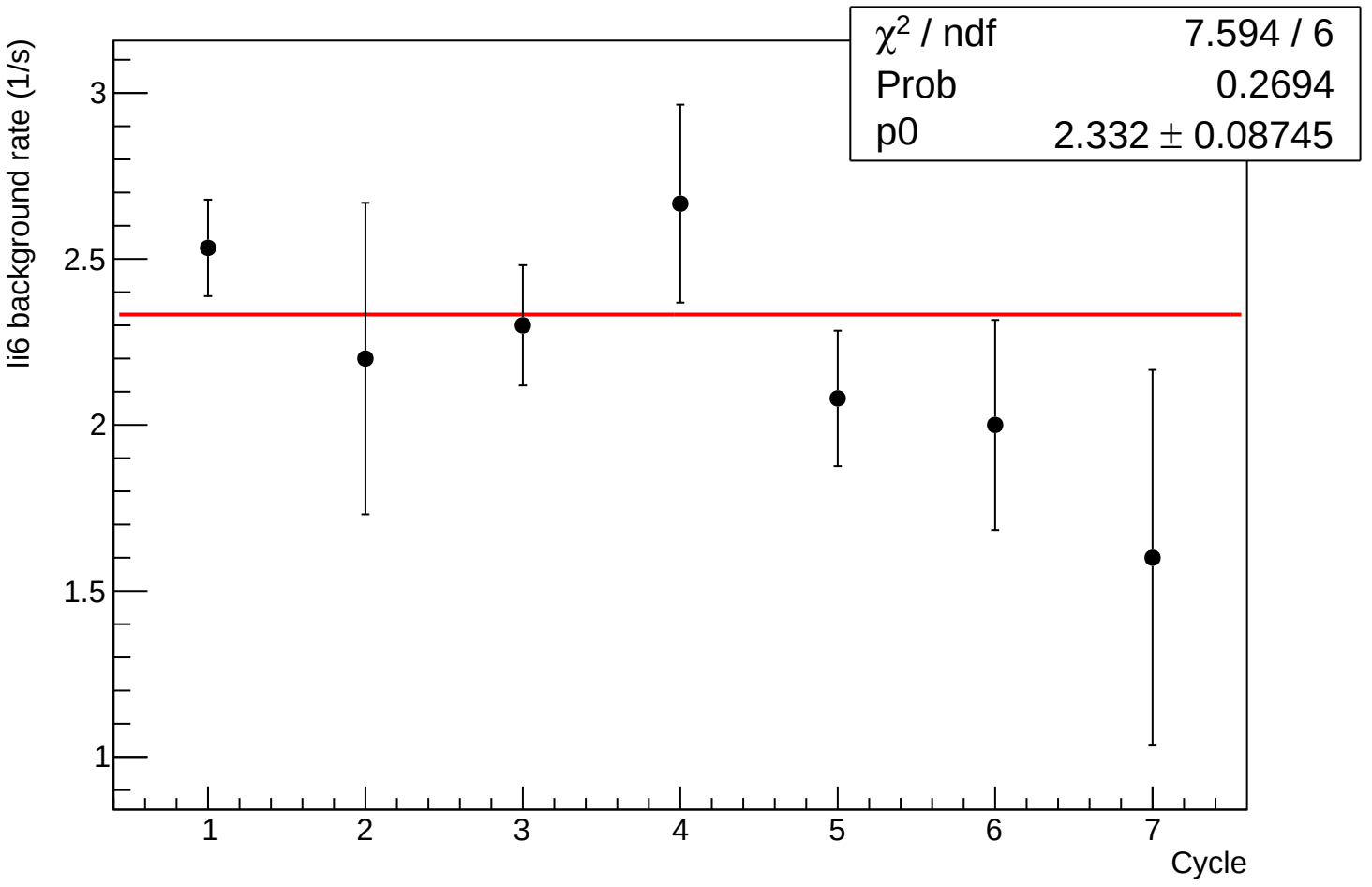
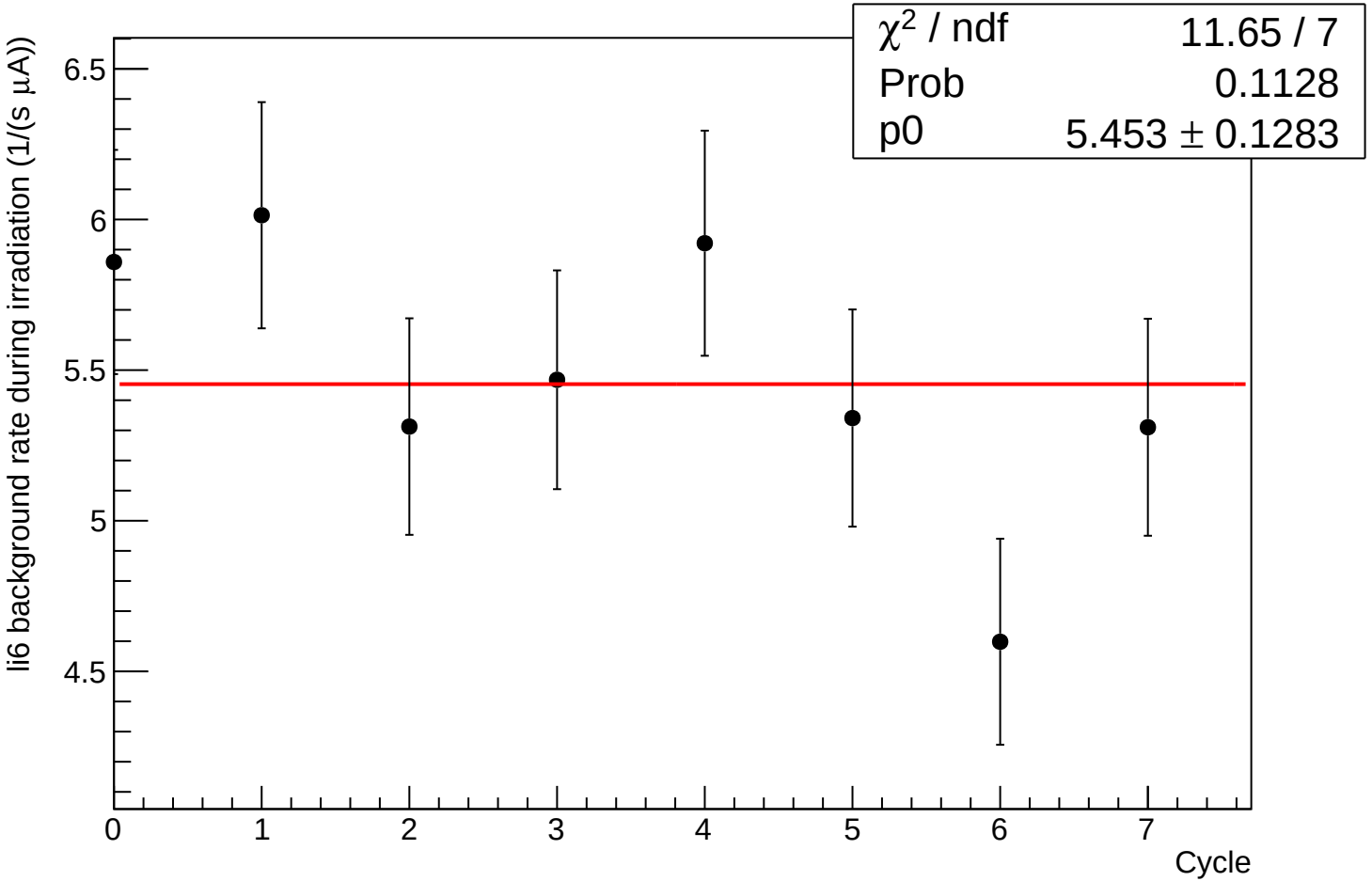

TCN18-170 (li6 detector, single exponential fit, background subtracted, normalized to beam current)
χ² / ndf 221.2 / 6
Prob 5.605e–45
p0 3.598e+04 ± 168.1
τ 25.44 ± 0.1343
UCN count (μA⁻¹)
10⁴
10³
0
20
40
60
80
100
120
Storage time (s)

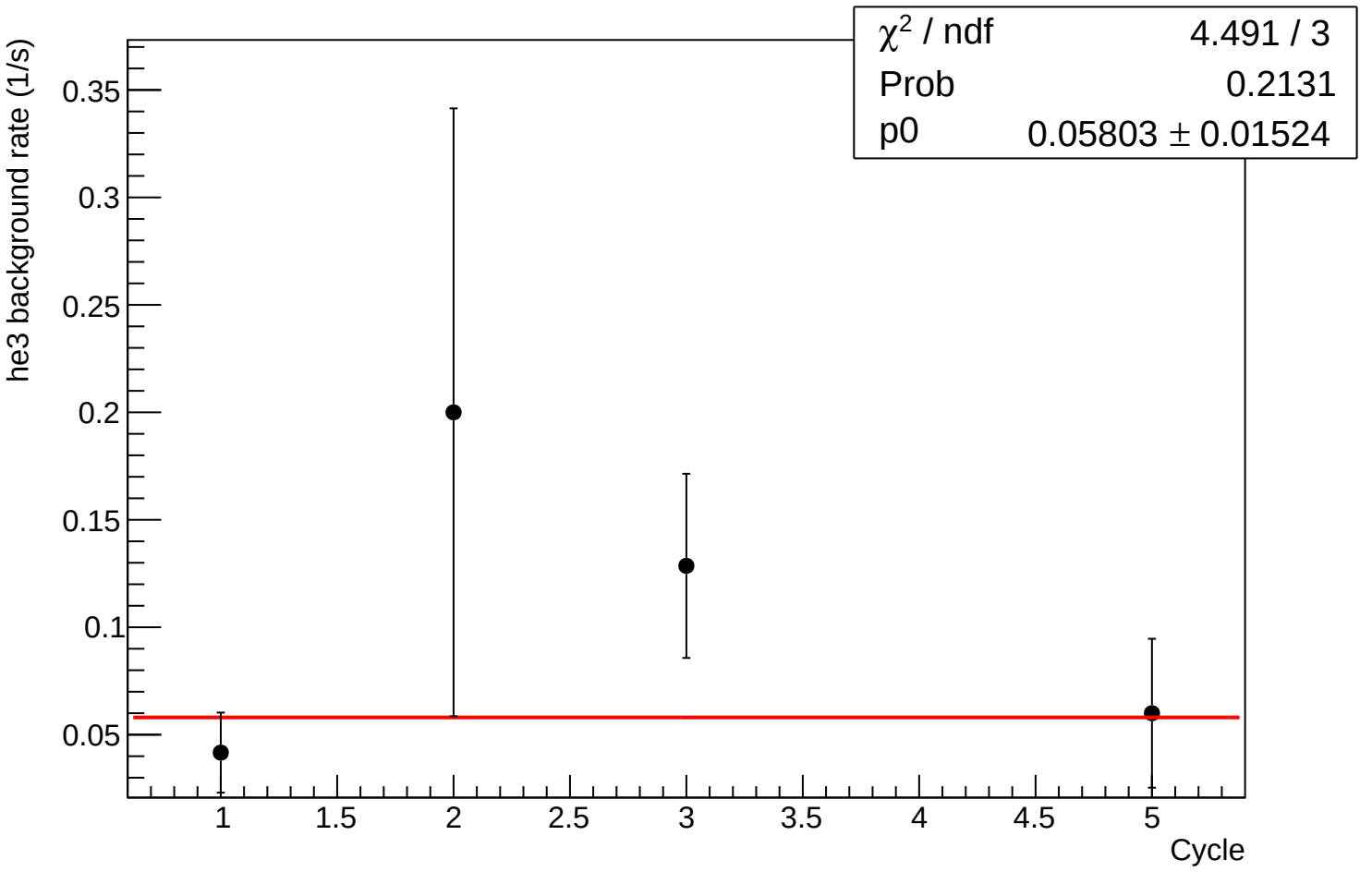

TCN18-170 (he3 detector, single exponential fit, background subtracted, normalized to beam current)
χ2 / ndf 22.07 / 6
Prob 0.001175
p0 546.2 ± 16.1
τ 27.39 ± 1.106
UCN count (μA-1)
10
10^2
0
20
40
60
80
100
120
Storage time (s)

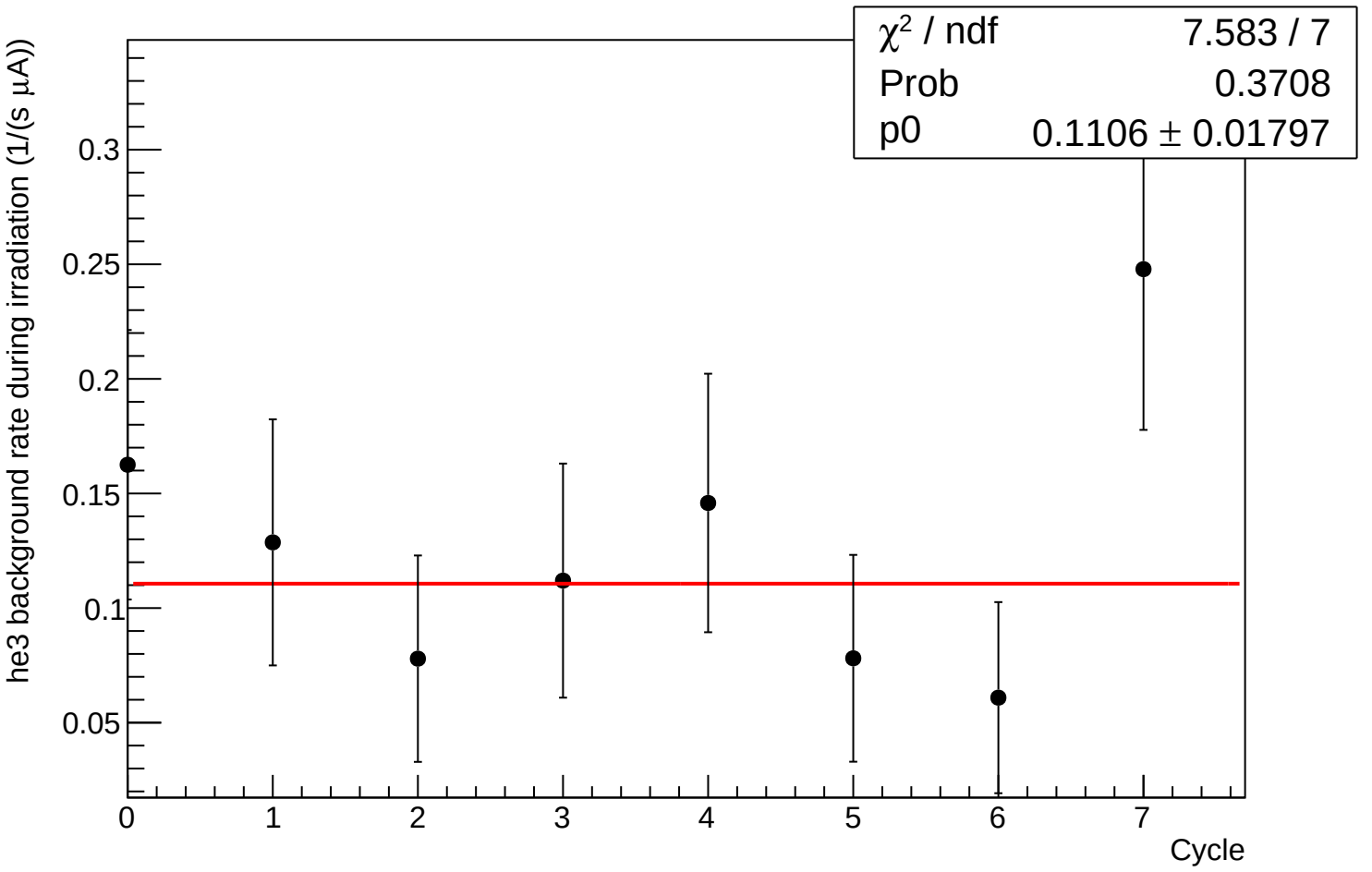

60.0s irradiation
UCN count (μA-1)
10^4
10^3
10^2
10
0
20
40
60
80
100
120
Storage time (s)
p0 = 2036 ± 26
p1 = 34.06 ± 0.38
p2 = 0.007384 ± 0
p3 = 0.3203 ± 0
p4 = 0.1117 ± 0
p5 = 31.82 ± 0.82
p6 = 1.321 ± 0
χ2/ndf = 3.12
N(T, ts, ti) = p0|p5 τ 1/(1 + p4 T7) (1 - exp(-ti p6/τ)) exp(-ts/τ)

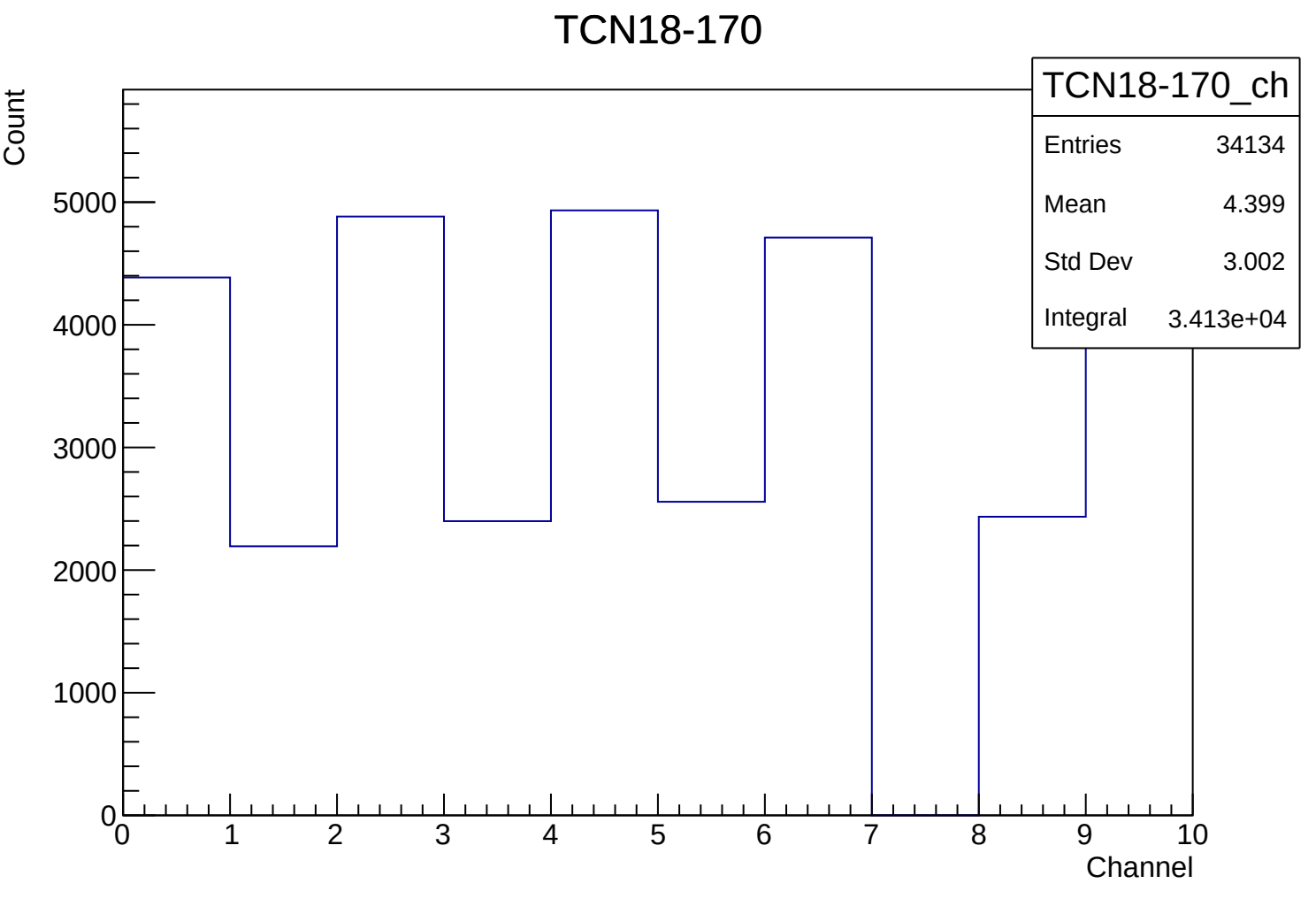

Graph
Vapor pressure (torr)
0.5
0.48
0.46
0.44
0.42
0.4
0.38
0.36
0.34
Temperature (K)
1.17
1.16
1.15
1.14
1.13
1.12
0
1
2
3
4
5
6
7
Cycle

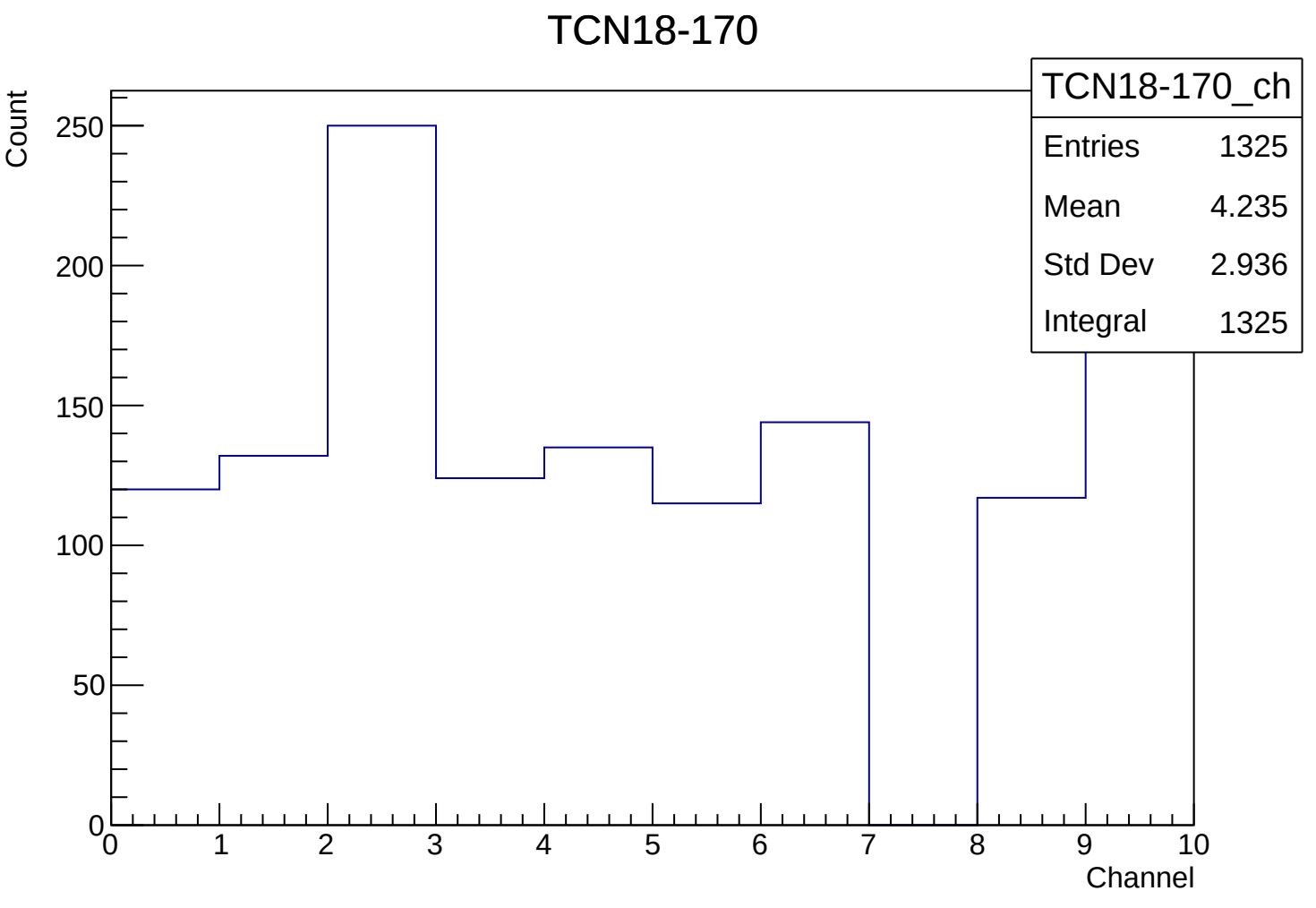

li6 background rate (1/s)
3
2.5
2
1.5
1
1
2
3
4
5
6
7
Cycle
χ² / ndf 7.594 / 6
Prob 0.2694
p0 2.332 ± 0.08745

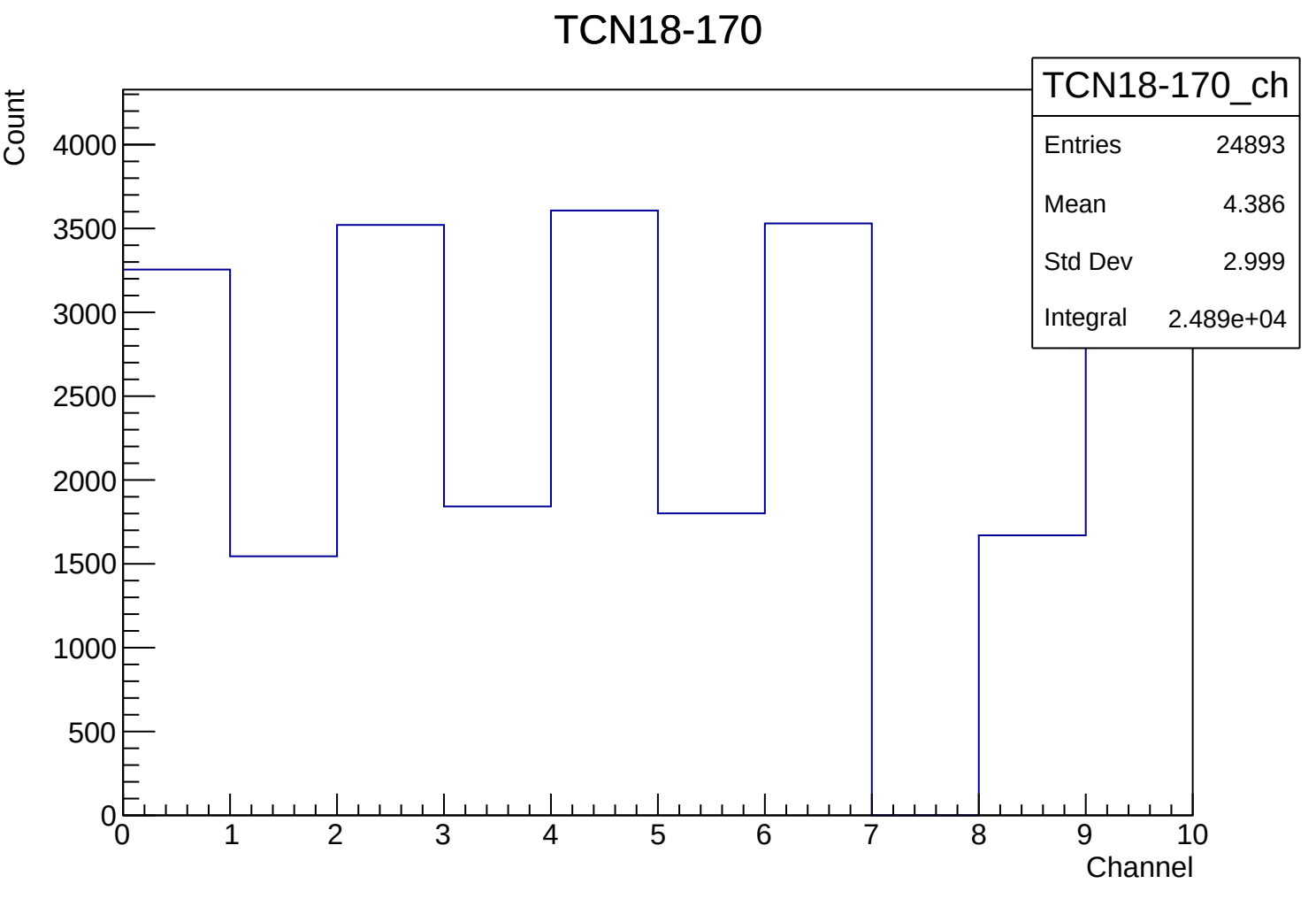

χ² / ndf 11.65 / 7
Prob 0.1128
p0 5.453 ± 0.1283
li6 background rate during irradiation (1/(s μA))
6.5
6
5.5
5
4.5
0
1
2
3
4
5
6
7
Cycle

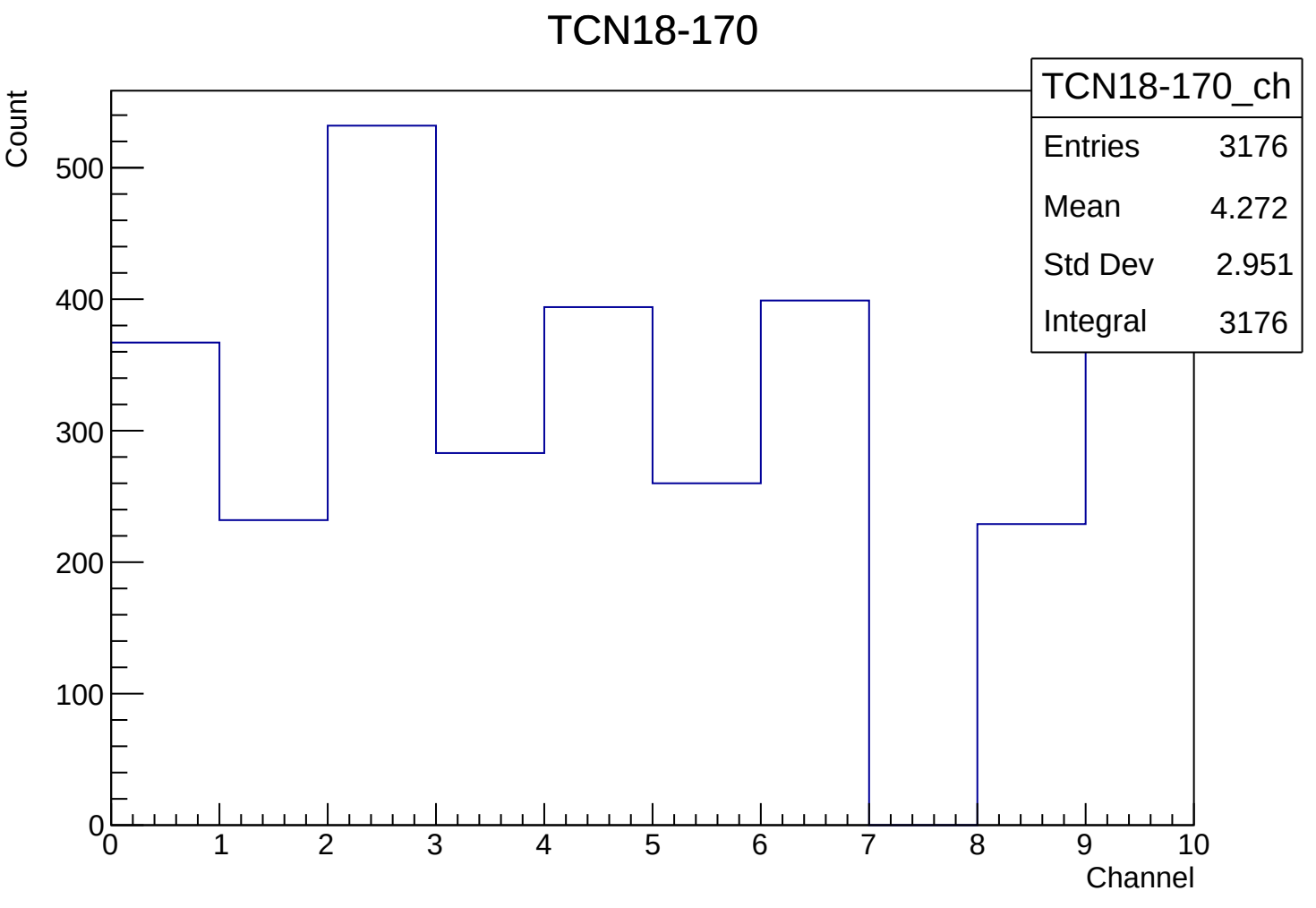

χ² / ndf 4.491 / 3
Prob 0.2131
p0 0.05803 ± 0.01524
he3 background rate (1/s)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
1
1.5
2
2.5
3
3.5
4
4.5
5
Cycle

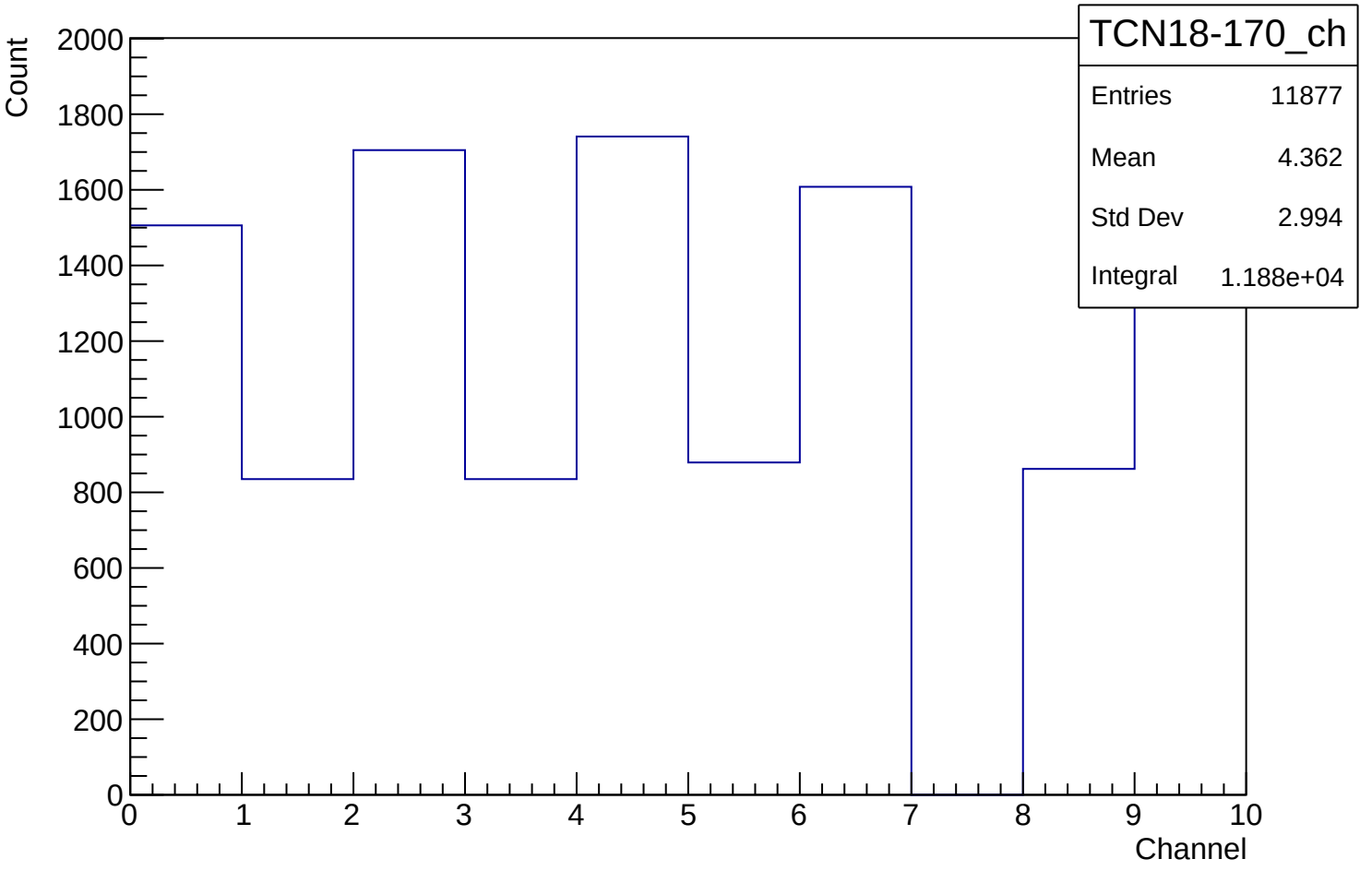

χ² / ndf 7.583 / 7
Prob 0.3708
p0 0.1106 ± 0.01797
he3 background rate during irradiation (1/(s μA))
0.3
0.25
0.2
0.15
0.1
0.05
0
1
2
3
4
5
6
7
Cycle

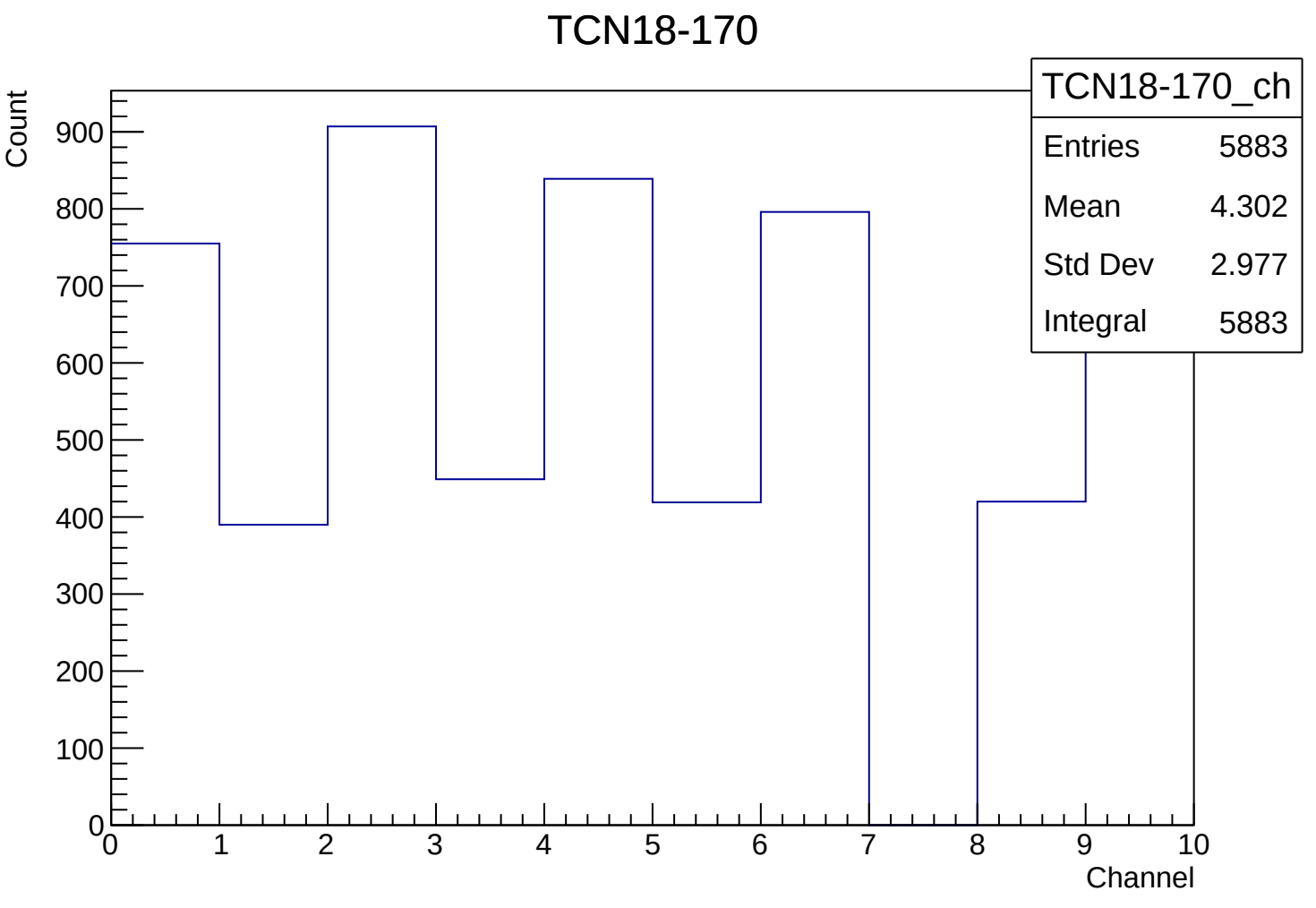

TCN18-170
TCN18-170_ch
Entries 34134
Mean 4.399
Std Dev 3.002
Integral 3.413e+04
Count
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel

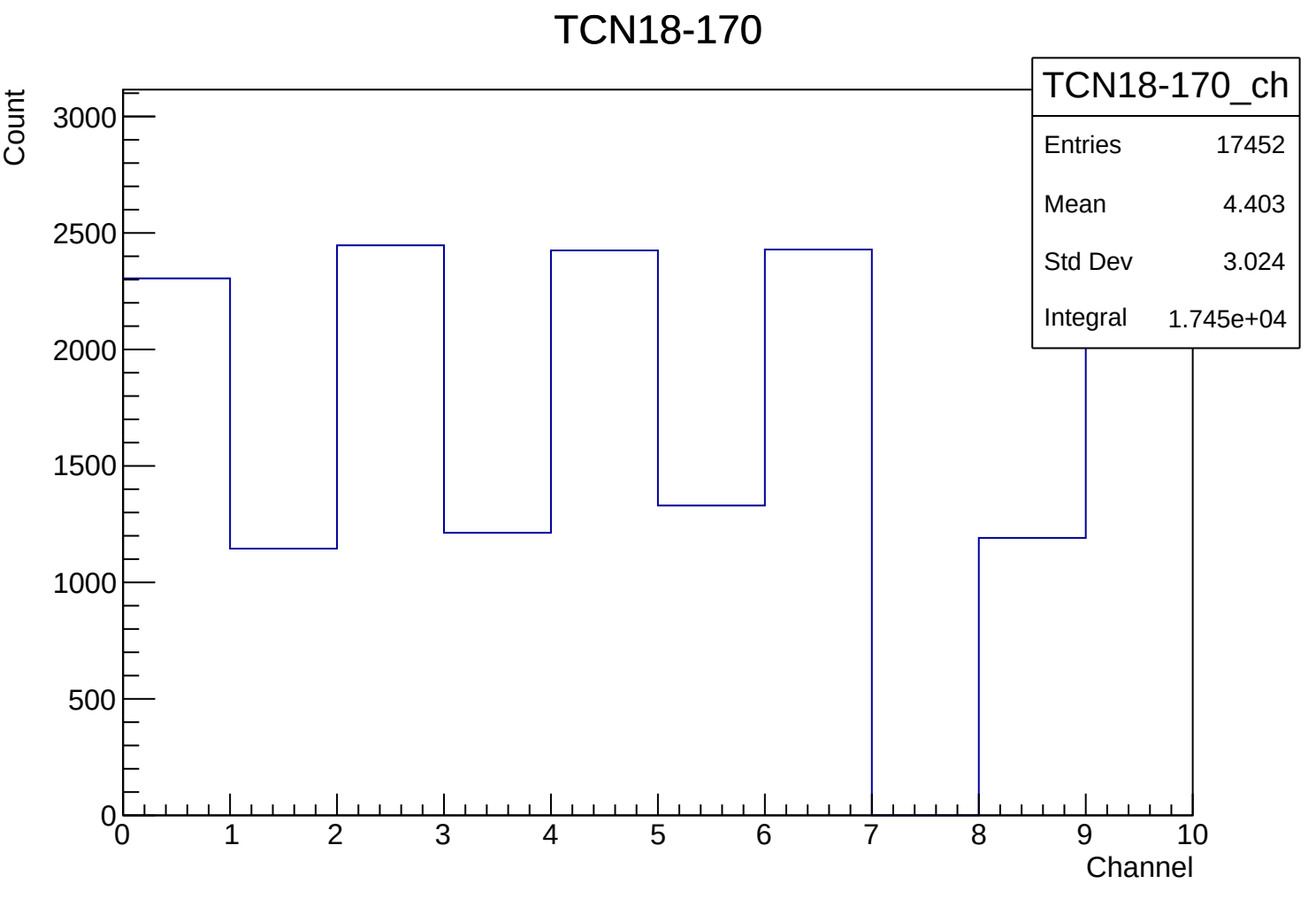

TCN18-170
TCN18-170_ch
Entries 1325
Mean 4.235
Std Dev 2.936
Integral 1325
Count
0
50
100
150
200
250
0
1
2
3
4
5
6
7
8
9
10
Channel

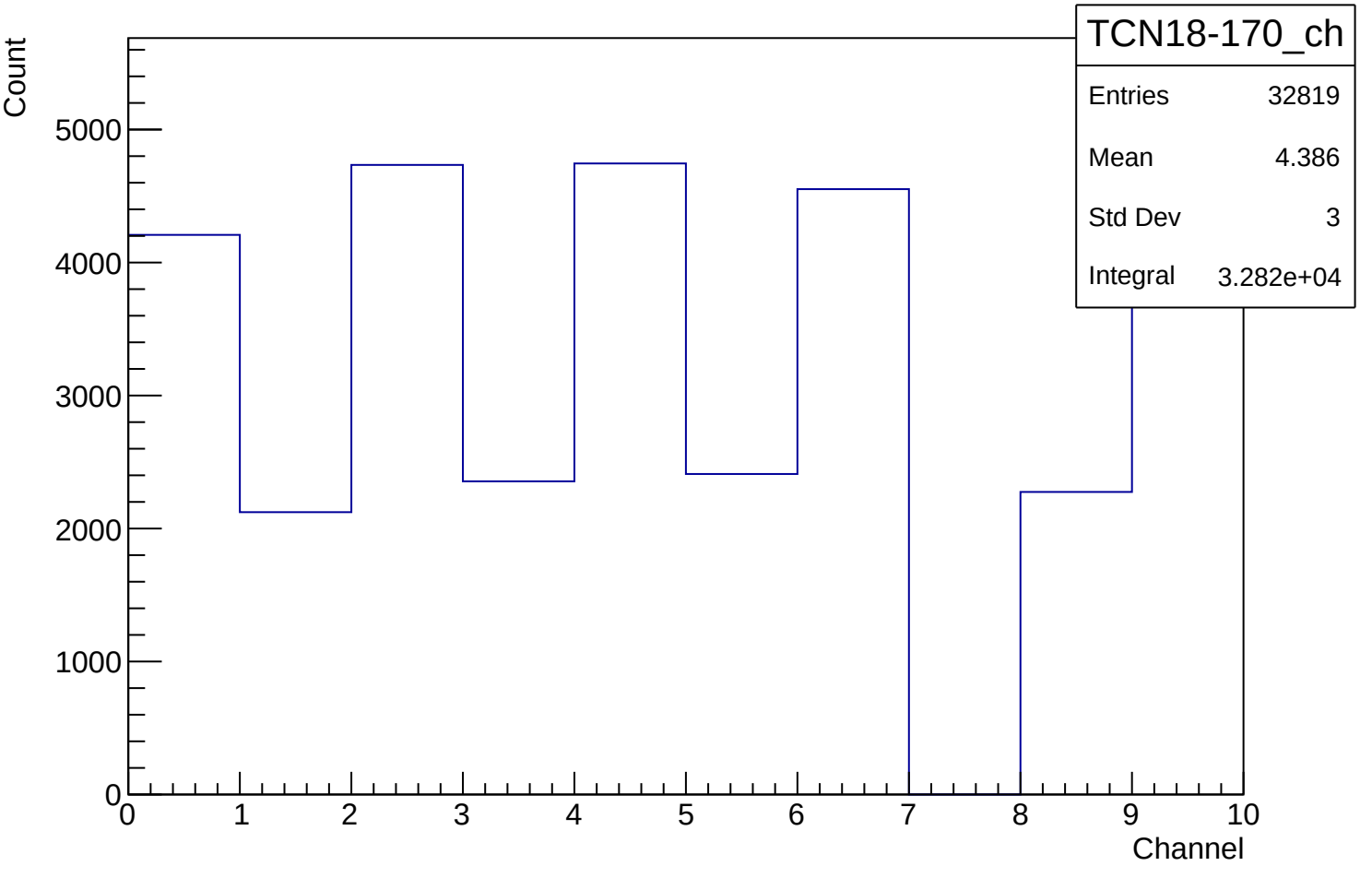

TCN18-170
TCN18-170_ch
Entries 24893
Mean 4.386
Std Dev 2.999
Integral 2.489e+04
Count
0
500
1000
1500
2000
2500
3000
3500
4000
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-170
TCN18-170_ch
Entries 3176
Mean 4.272
Std Dev 2.951
Integral 3176
Count
0
100
200
300
400
500
0 1 2 3 4 5 6 7 8 9 10
Channel


TCN18-170
TCN18-170_ch
Entries 11877
Mean 4.362
Std Dev 2.994
Integral 1.188e+04
Count
Channel
0
200
400
600
800
1000
1200
1400
1600
1800
2000
0
1
2
3
4
5
6
7
8
9
10


TCN18-170
TCN18-170_ch
Entries 5883
Mean 4.302
Std Dev 2.977
Integral 5883
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 17452
Mean 4.403
Std Dev 3.024
Integral 1.745e+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 32819
Mean 4.386
Std Dev 3
Integral 3.282e+04
Count
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel