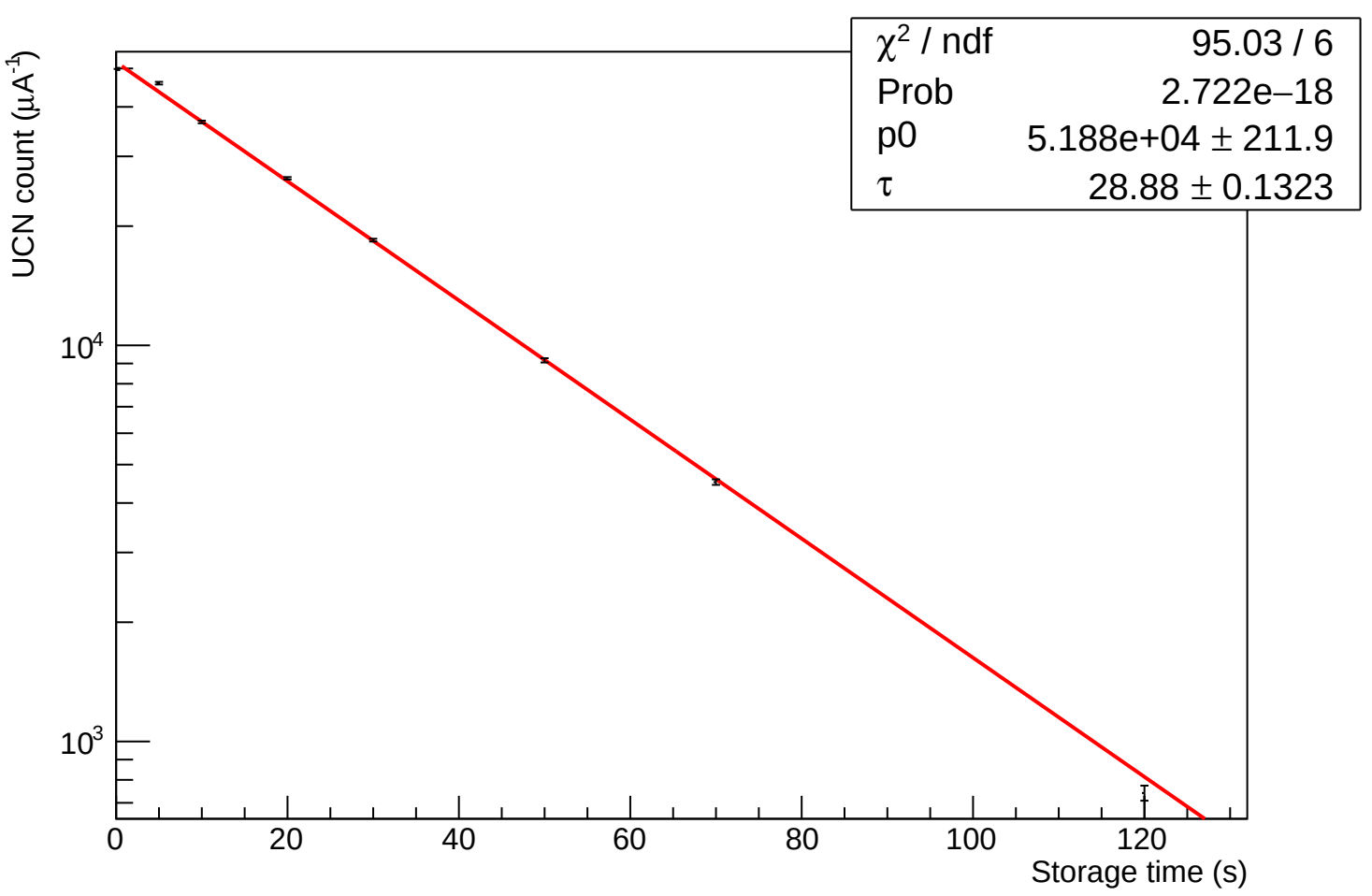
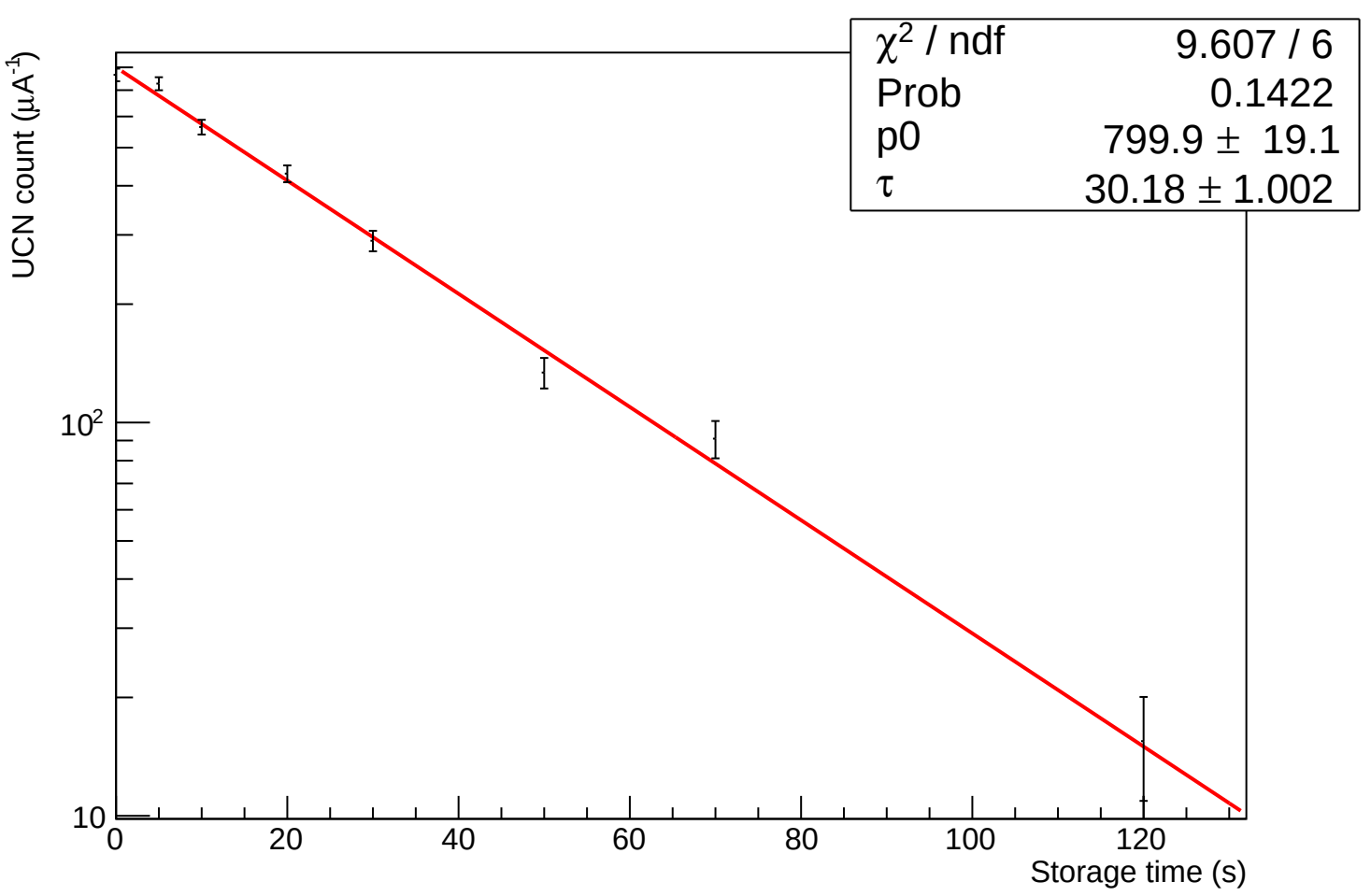
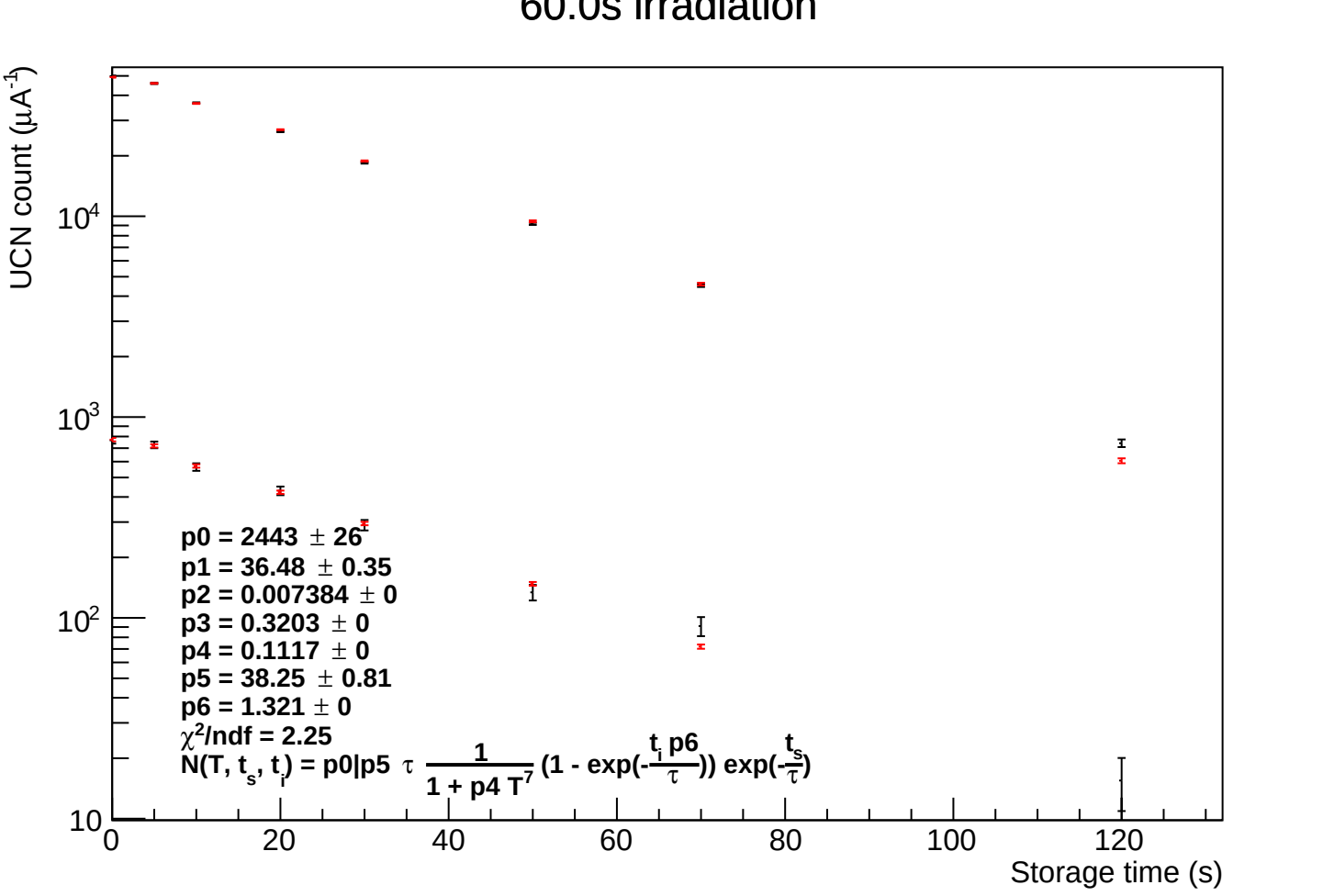
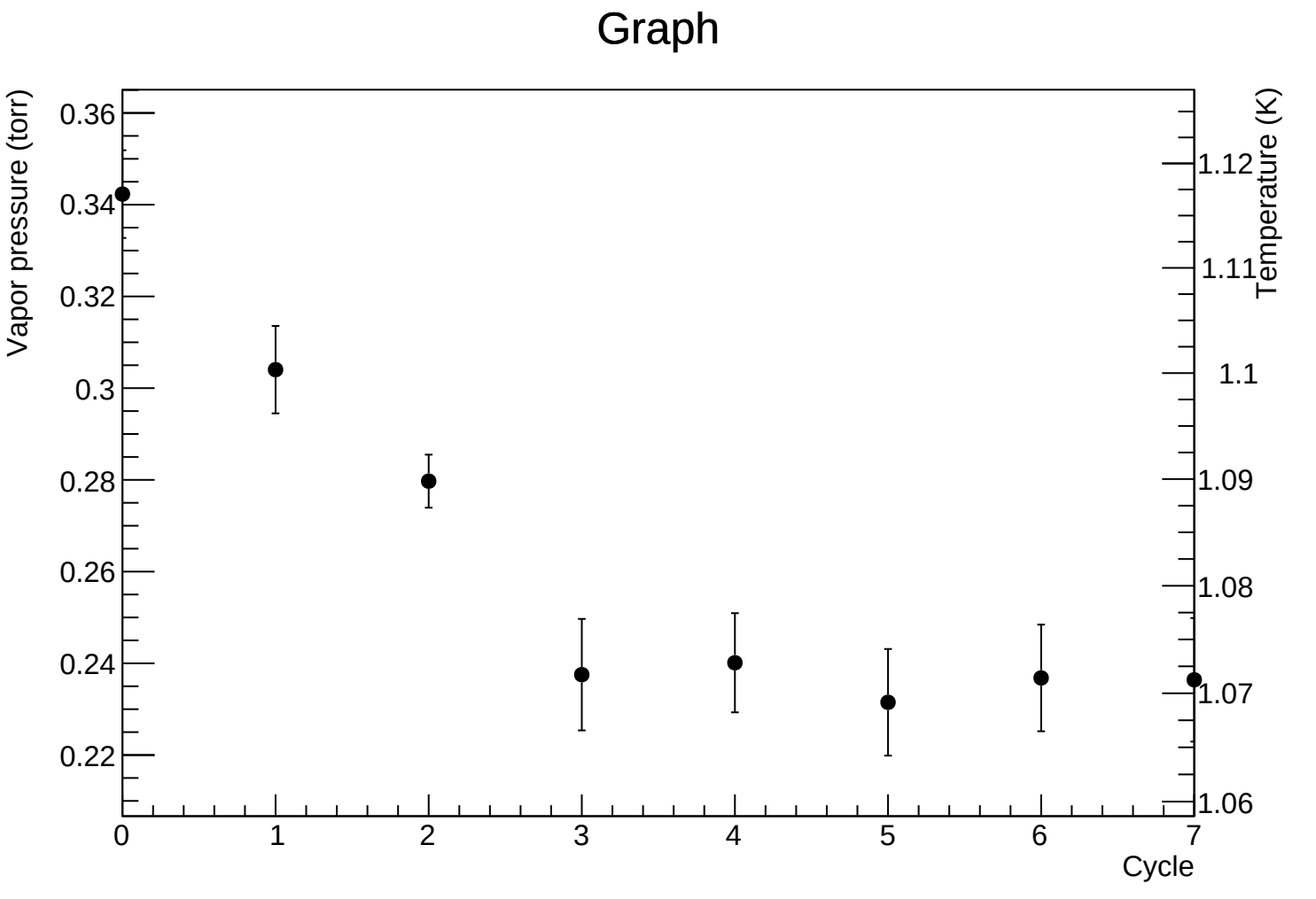
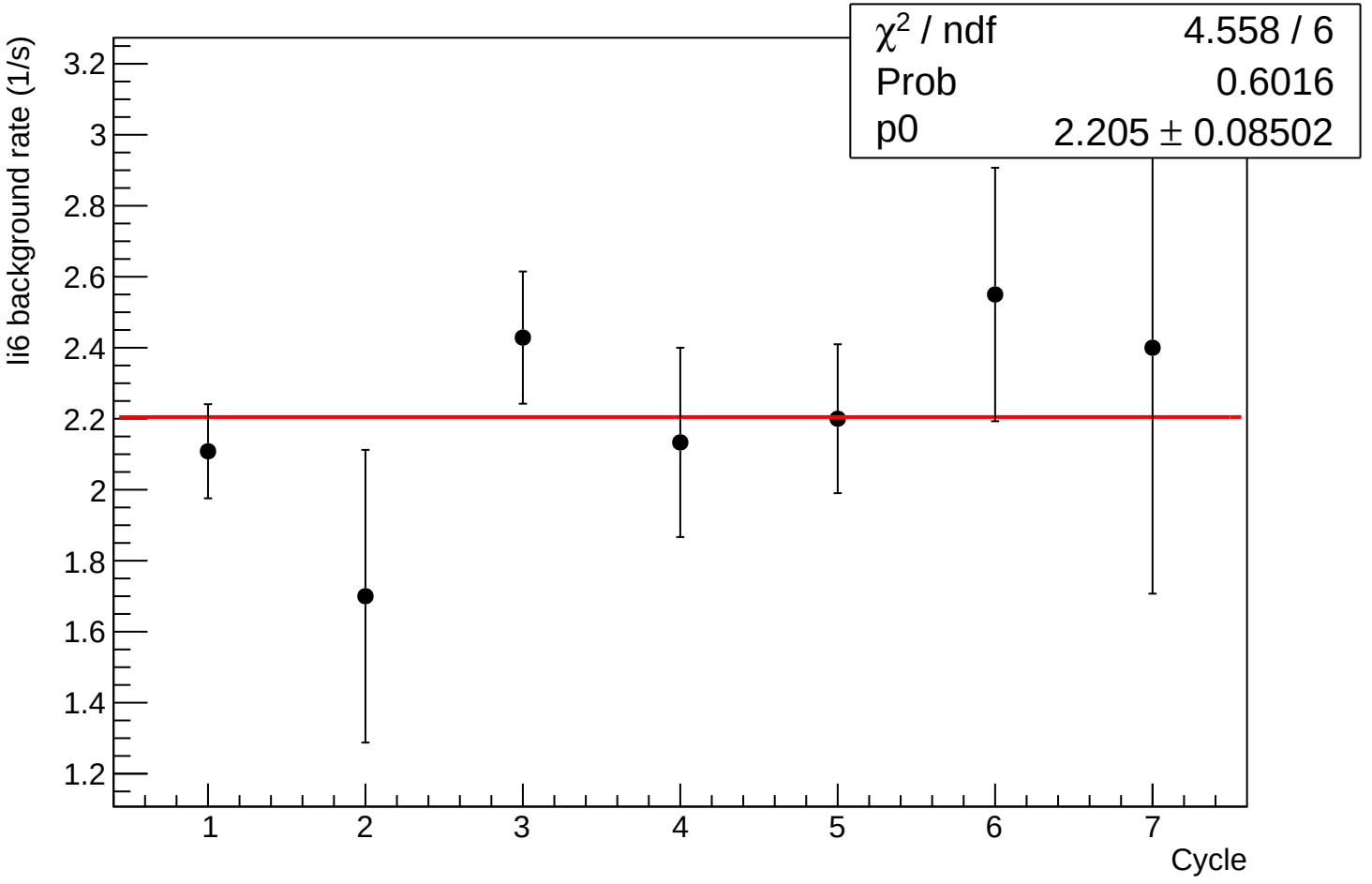
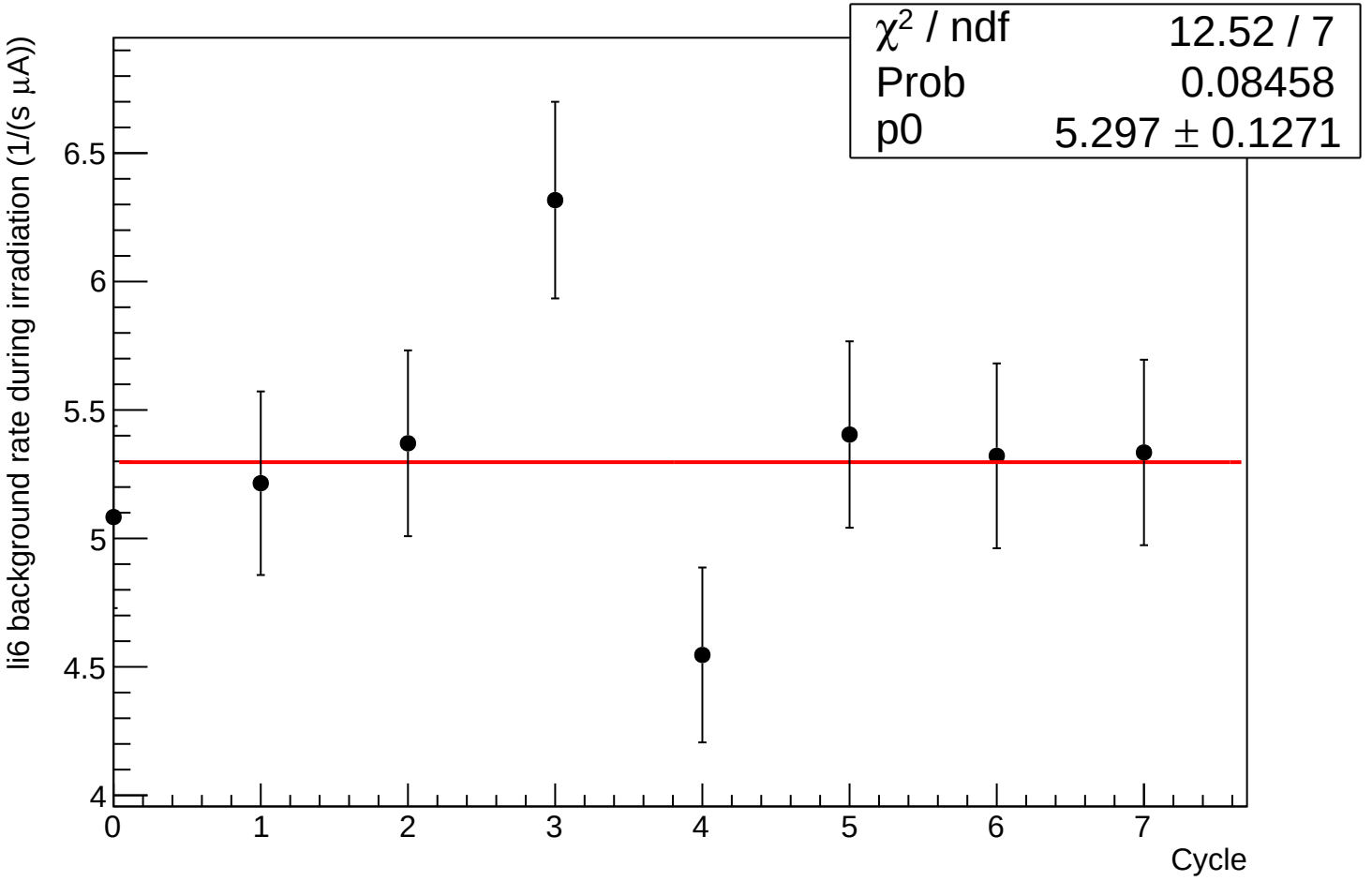

TCN18-170 (li6 detector, single exponential fit, background subtracted, normalized to beam current)
χ² / ndf 95.03 / 6
Prob 2.722e–18
p0 5.188e+04 ± 211.9
τ 28.88 ± 0.1323
UCN count (μA⁻¹)
10⁴
10³
0
20
40
60
80
100
120
Storage time (s)

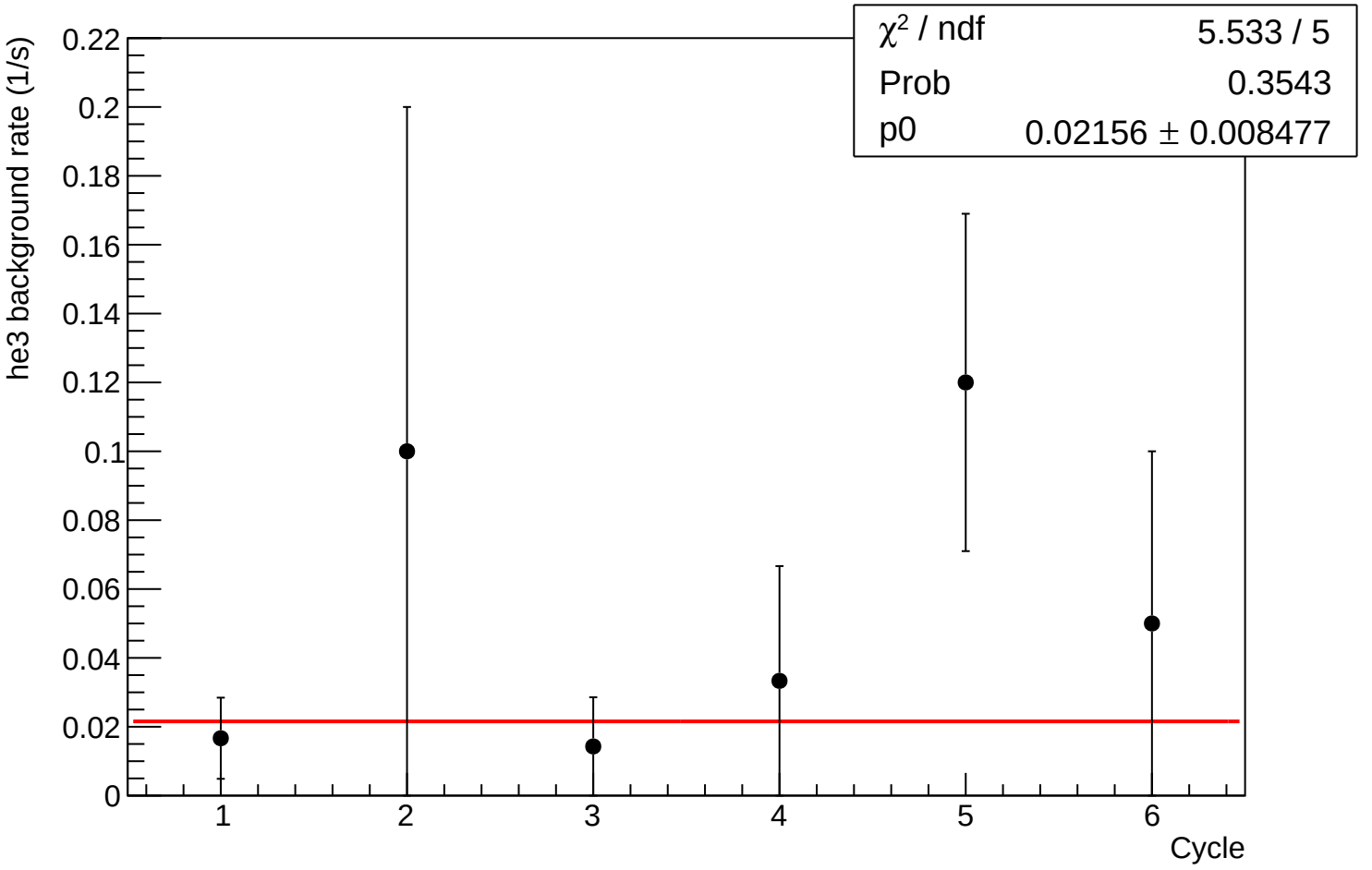

TCN18-170 (he3 detector, single exponential fit, background subtracted, normalized to beam current)
χ2 / ndf 9.607 / 6
Prob 0.1422
p0 799.9 ± 19.1
τ 30.18 ± 1.002
UCN count (μA-1)
10
10^2
0
20
40
60
80
100
120
Storage time (s)

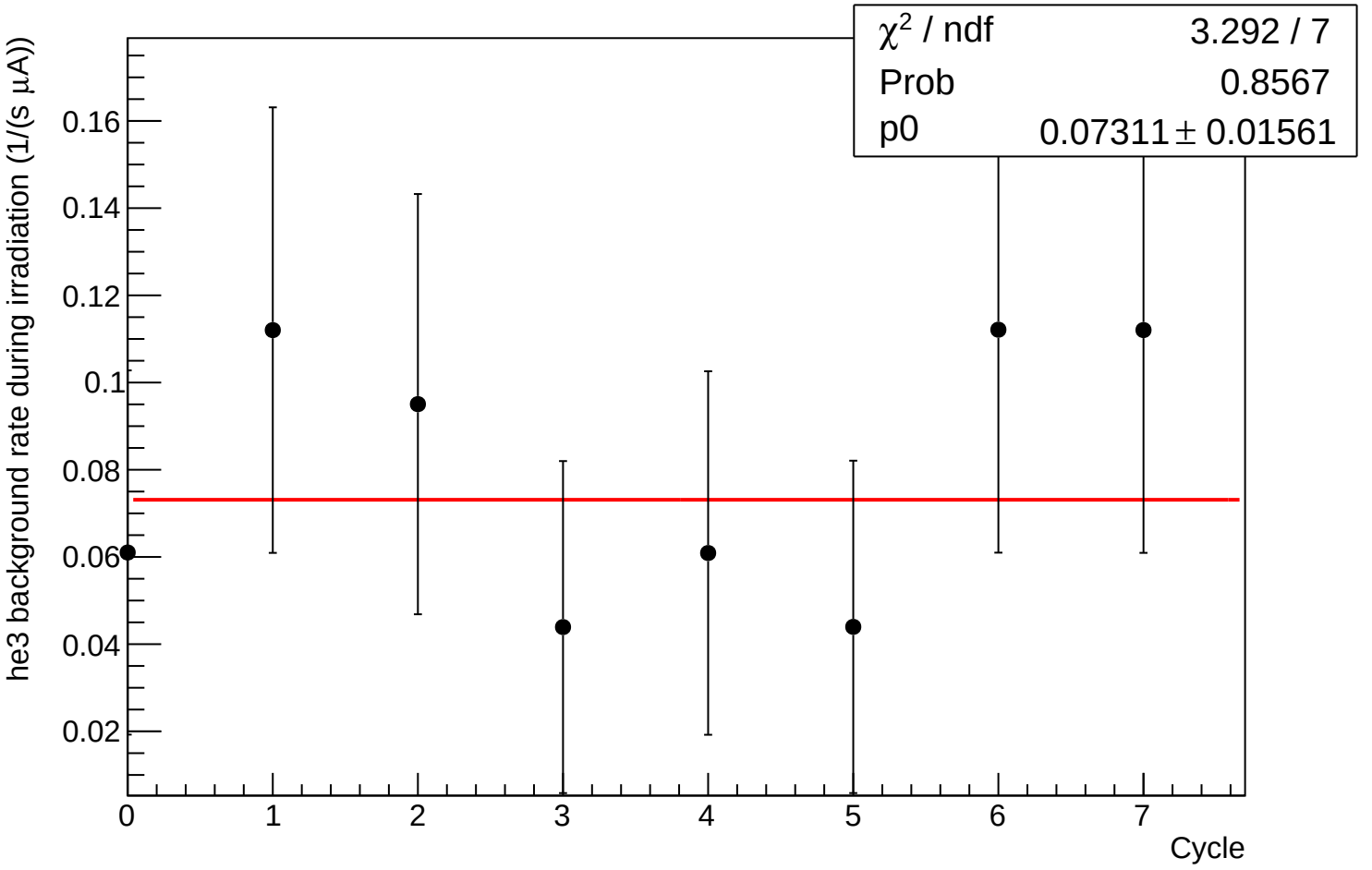

60.0s irradiation
UCN count (μA-1)
Storage time (s)
p0 = 2443 ± 26
p1 = 36.48 ± 0.35
p2 = 0.007384 ± 0
p3 = 0.3203 ± 0
p4 = 0.1117 ± 0
p5 = 38.25 ± 0.81
p6 = 1.321 ± 0
χ2/ndf = 2.25
N(T, ts, ti) = p0|p5 τ 1/(1 + p4 T7) (1 - exp(-ti p6/τ)) exp(-ts/τ)

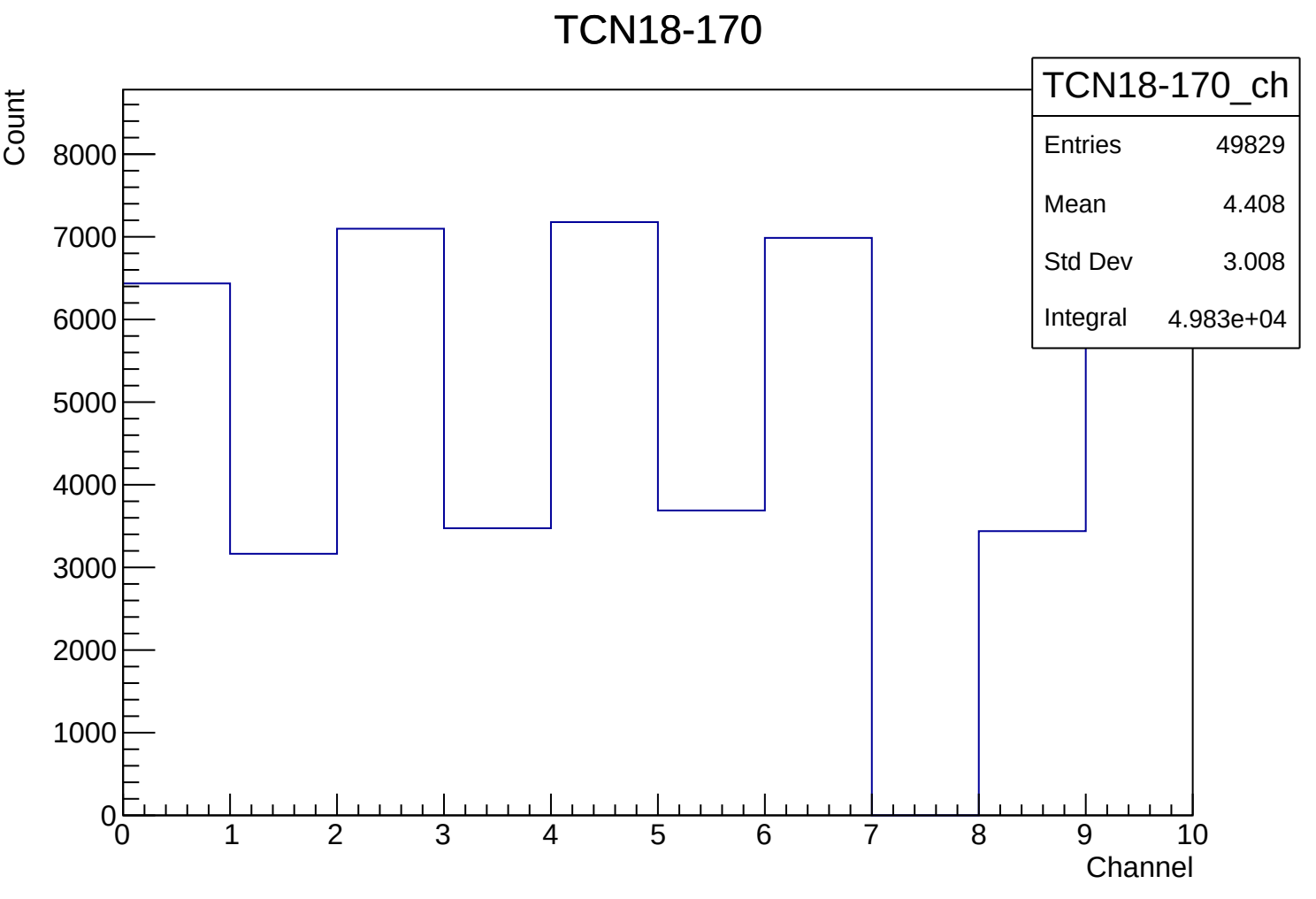

Graph
Vapor pressure (torr)
0.36
0.34
0.32
0.3
0.28
0.26
0.24
0.22
Temperature (K)
1.12
1.11
1.1
1.09
1.08
1.07
1.06
0
1
2
3
4
5
6
7
Cycle

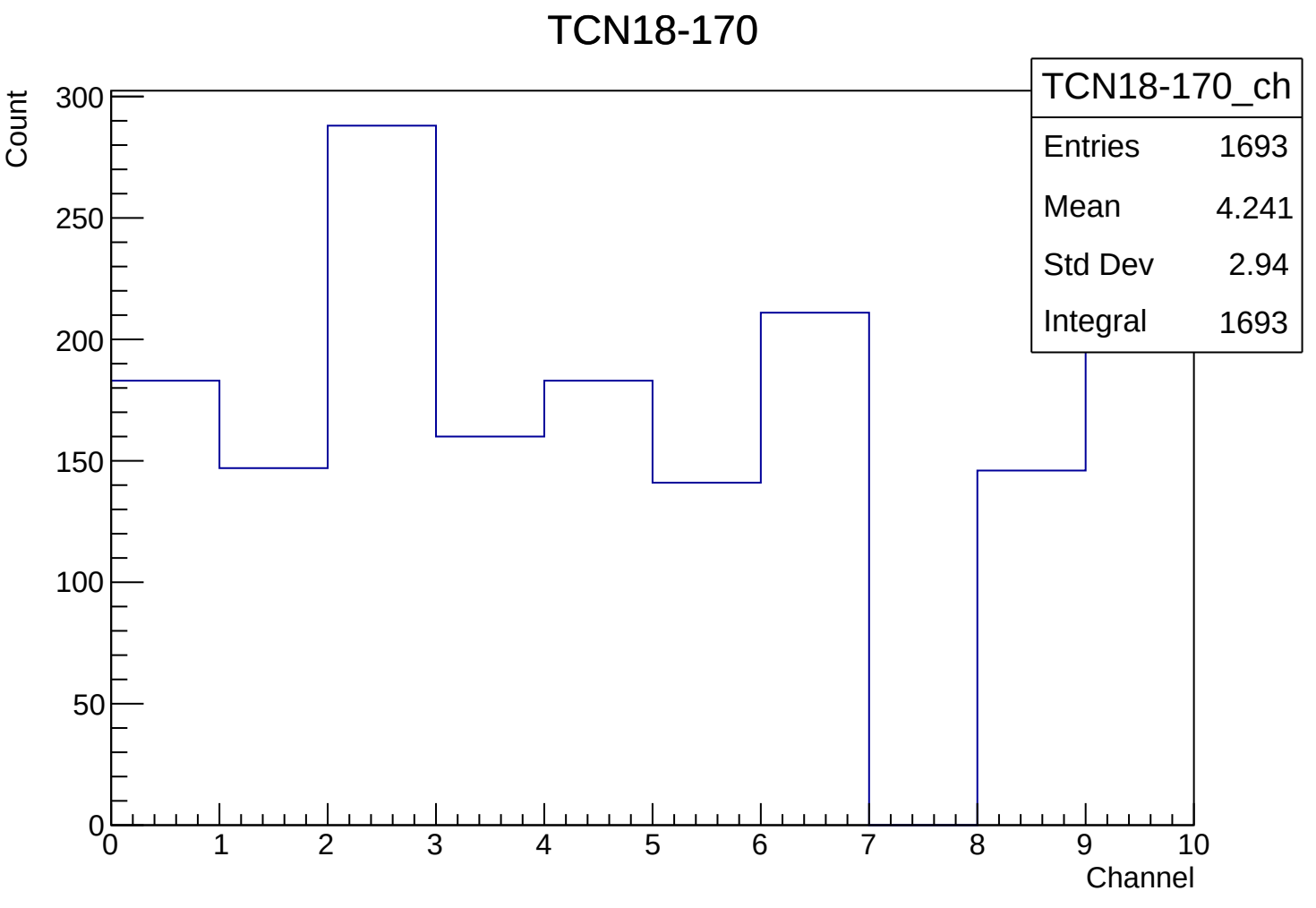

li6 background rate (1/s)
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
2
3
4
5
6
7
Cycle
χ² / ndf 4.558 / 6
Prob 0.6016
p0 2.205 ± 0.08502

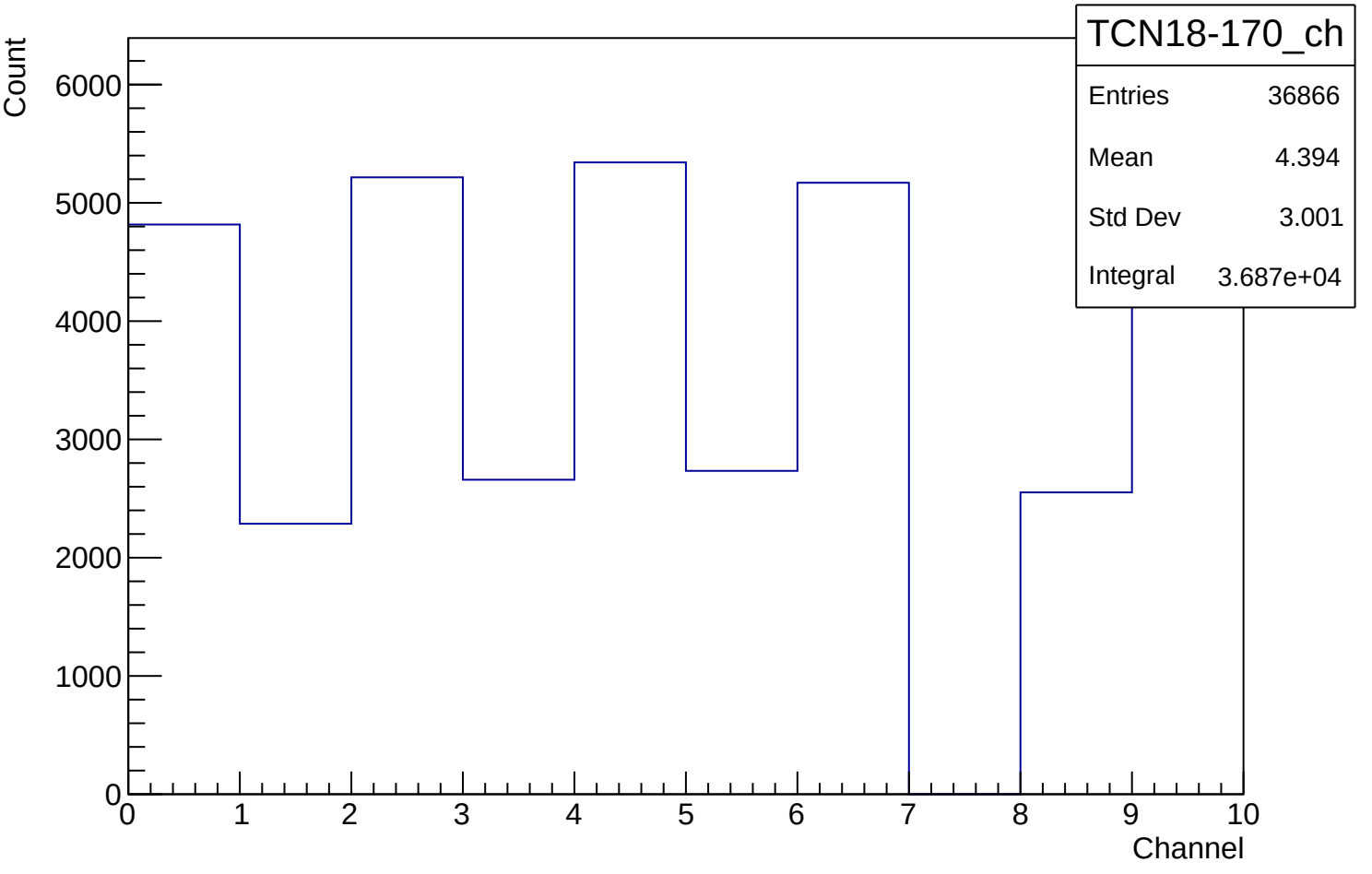

χ² / ndf 12.52 / 7
Prob 0.08458
p0 5.297 ± 0.1271
li6 background rate during irradiation (1/(s μA))
6.5
6
5.5
5
4.5
4
0
1
2
3
4
5
6
7
Cycle

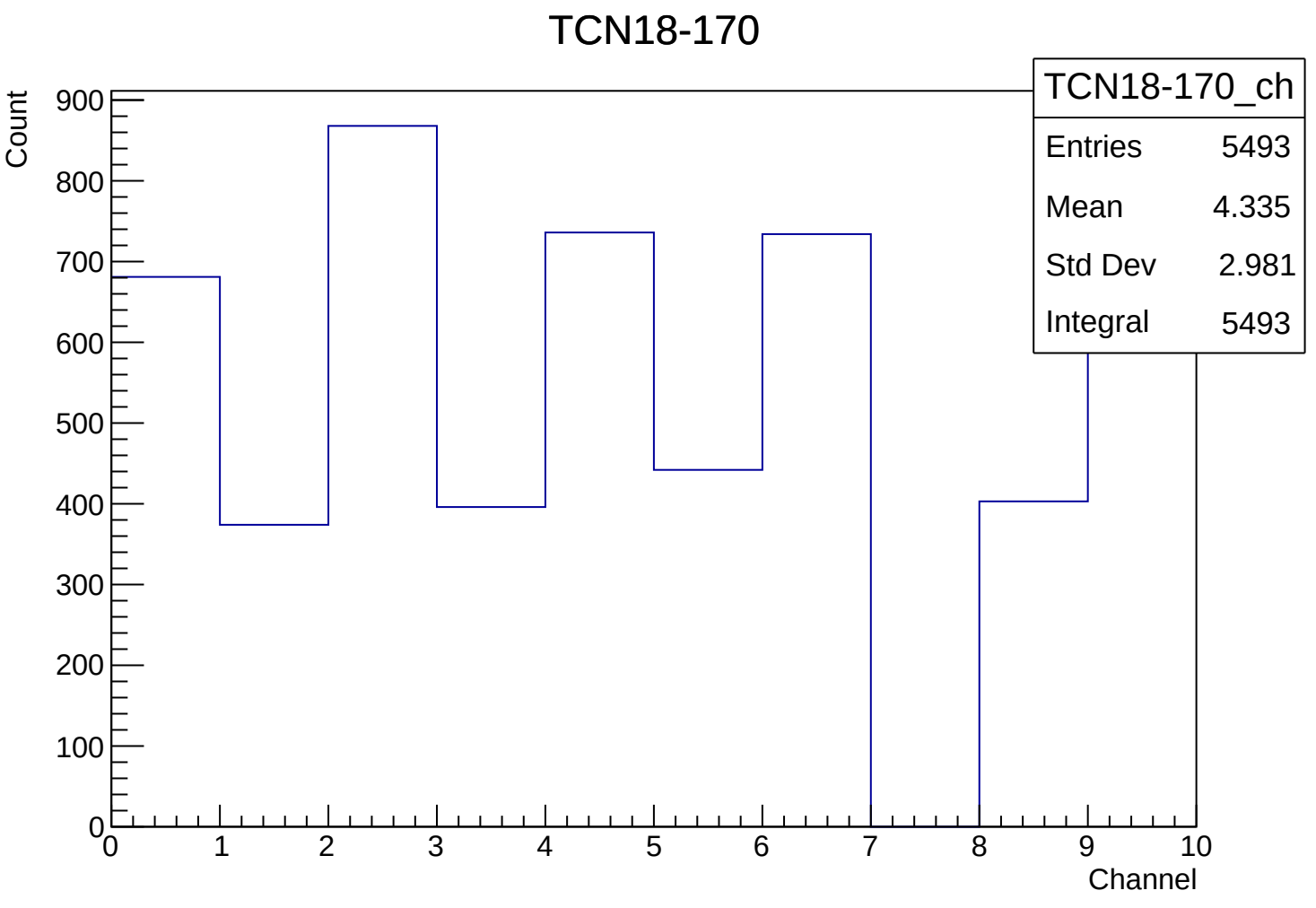

χ² / ndf 5.533 / 5
Prob 0.3543
p0 0.02156 ± 0.008477
he3 background rate (1/s)
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
1
2
3
4
5
6
Cycle

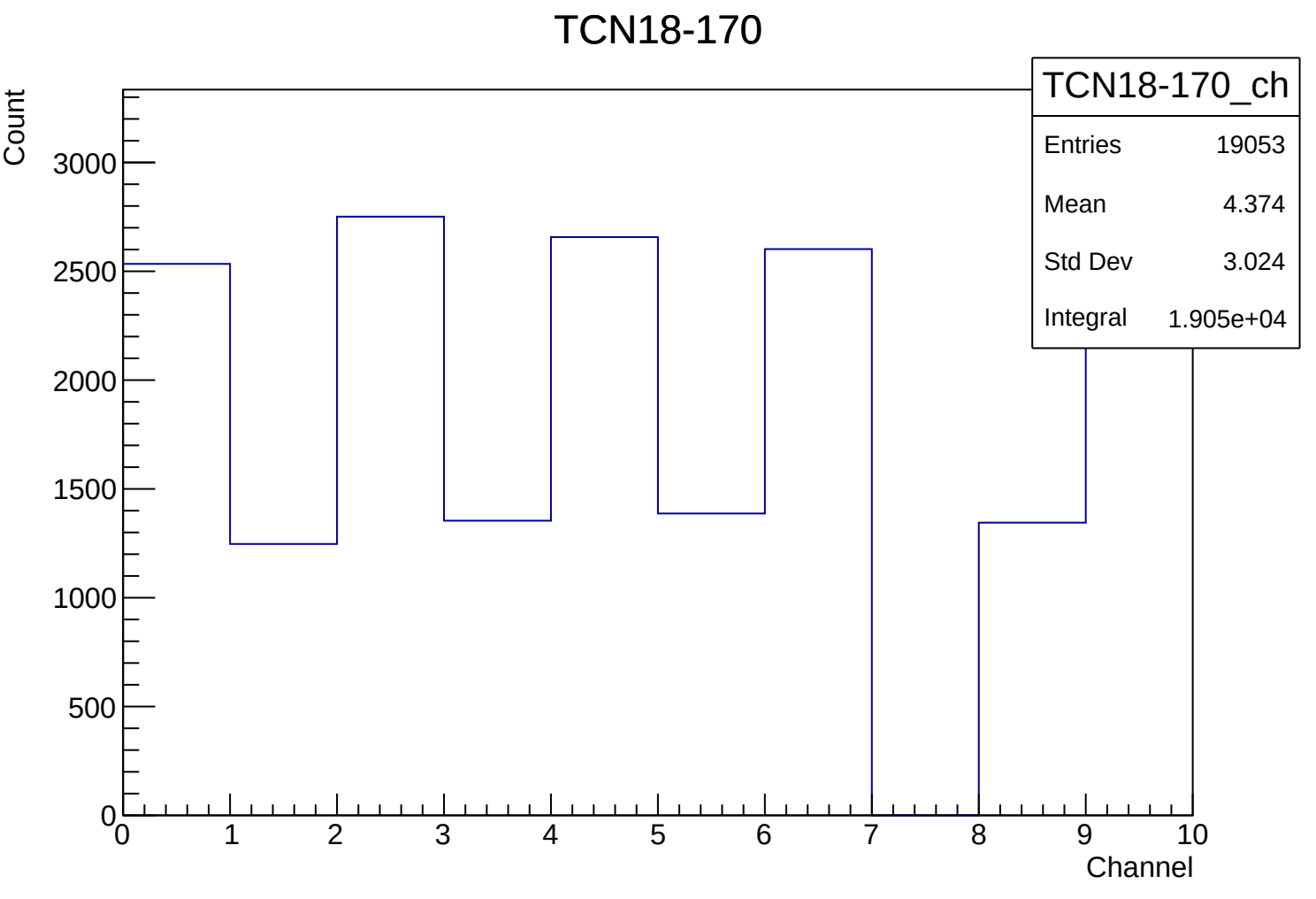

χ² / ndf 3.292 / 7
Prob 0.8567
p0 0.07311 ± 0.01561
he3 background rate during irradiation (1/(s μA))
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
1
2
3
4
5
6
7
Cycle

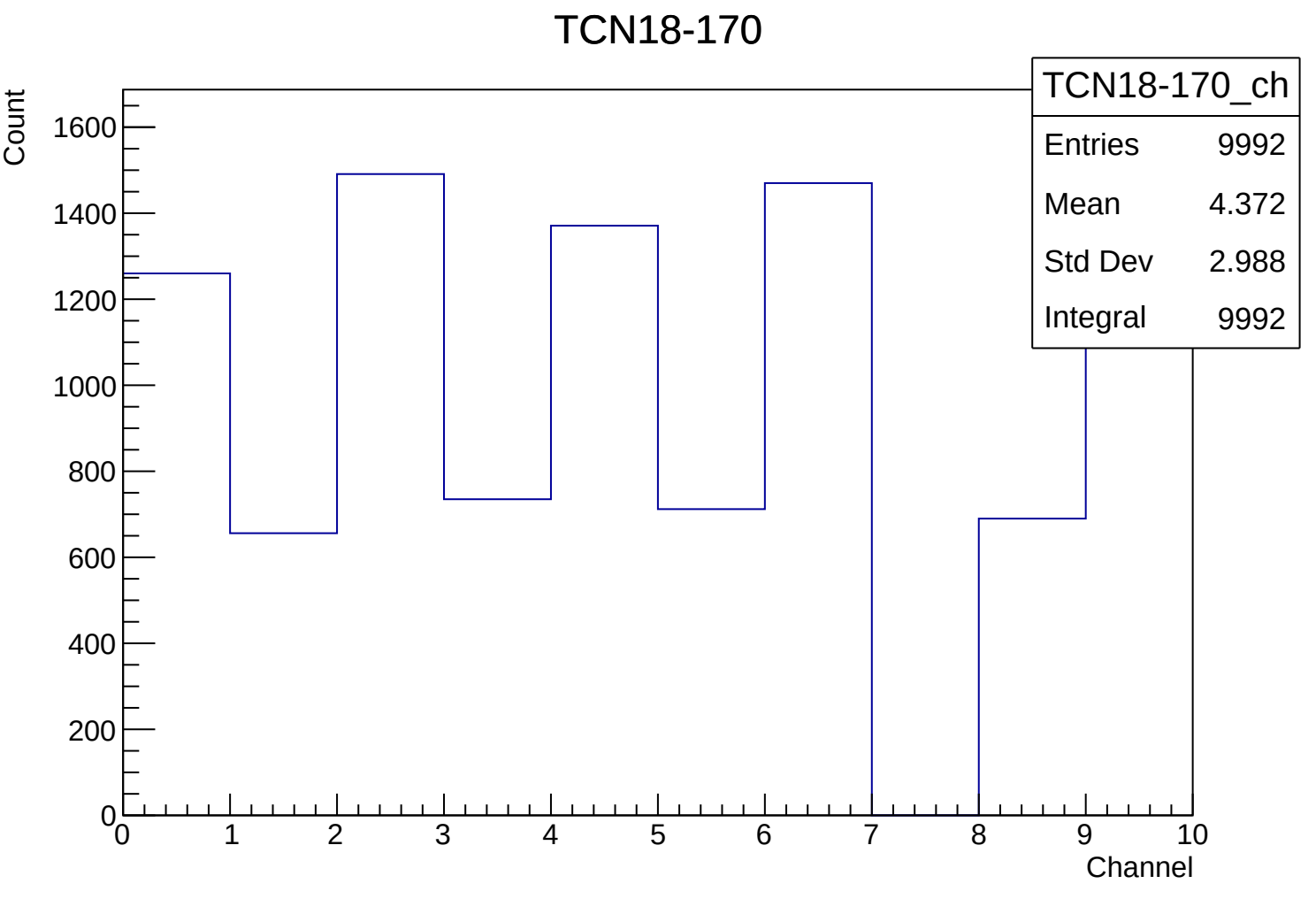

TCN18-170
TCN18-170_ch
Entries 49829
Mean 4.408
Std Dev 3.008
Integral 4.983e+04
Count
8000
7000
6000
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel

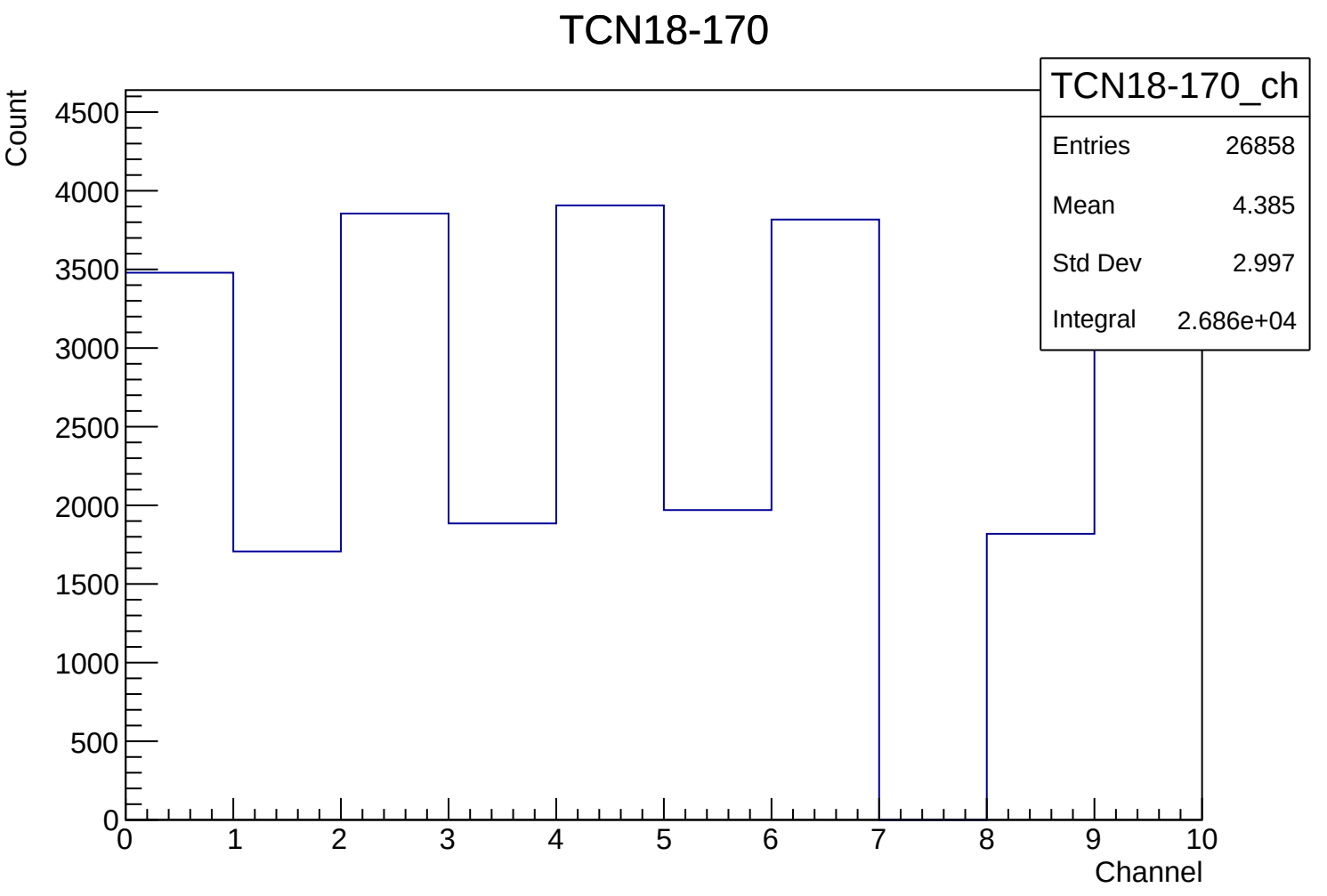

TCN18-170
TCN18-170_ch
Entries 1693
Mean 4.241
Std Dev 2.94
Integral 1693
Count
300
250
200
150
100
50
0
0 1 2 3 4 5 6 7 8 9 10
Channel

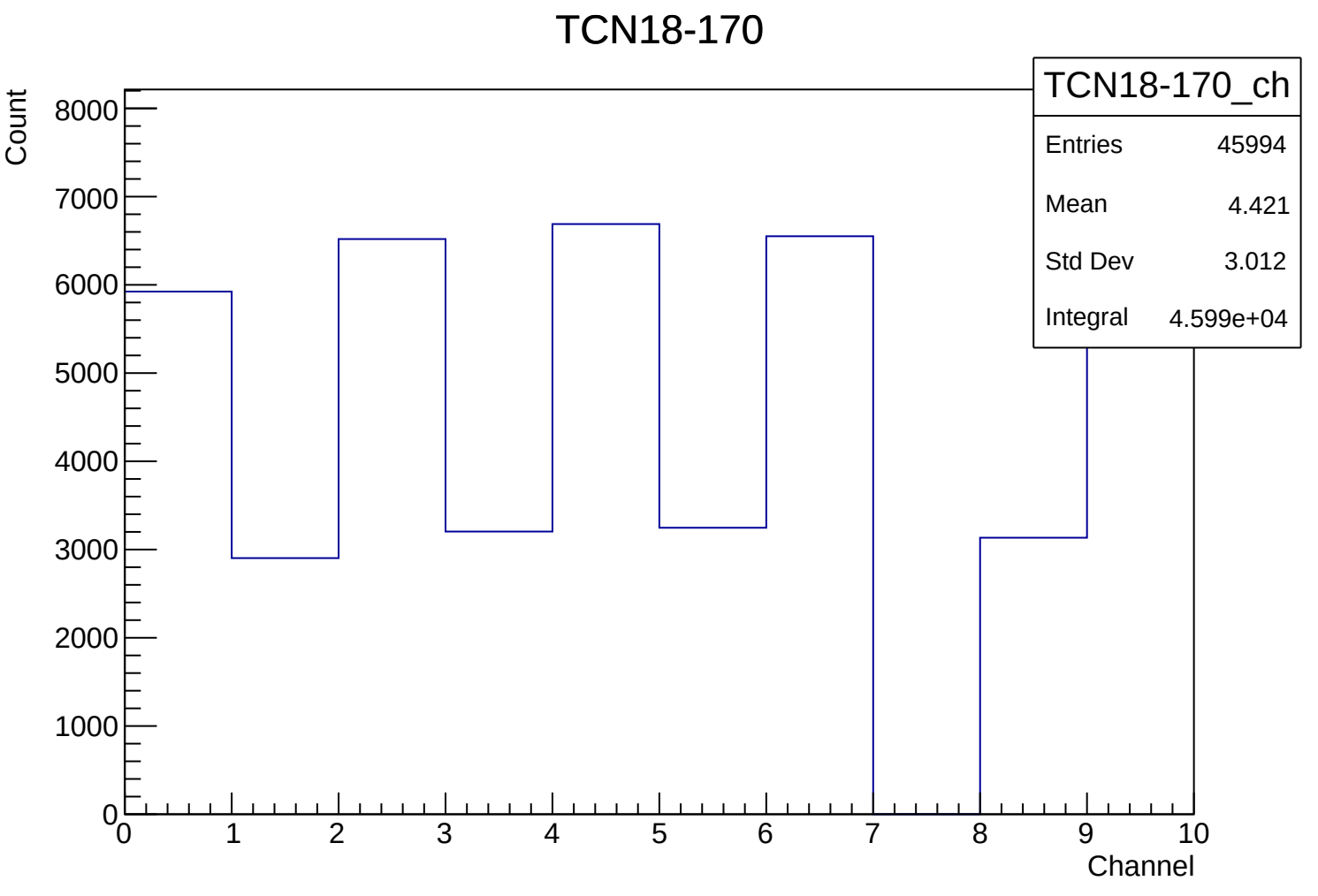

TCN18-170
TCN18-170_ch
Entries 36866
Mean 4.394
Std Dev 3.001
Integral 3.687e+04
Count
6000
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel


TCN18-170
TCN18-170_ch
Entries 5493
Mean 4.335
Std Dev 2.981
Integral 5493
Count
900
800
700
600
500
400
300
200
100
0
0 1 2 3 4 5 6 7 8 9 10
Channel


TCN18-170
TCN18-170_ch
Entries 19053
Mean 4.374
Std Dev 3.024
Integral 1.905e+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 9992
Mean 4.372
Std Dev 2.988
Integral 9992
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 26858
Mean 4.385
Std Dev 2.997
Integral 2.686e+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 45994
Mean 4.421
Std Dev 3.012
Integral 4.599e+04
Count
8000
7000
6000
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel