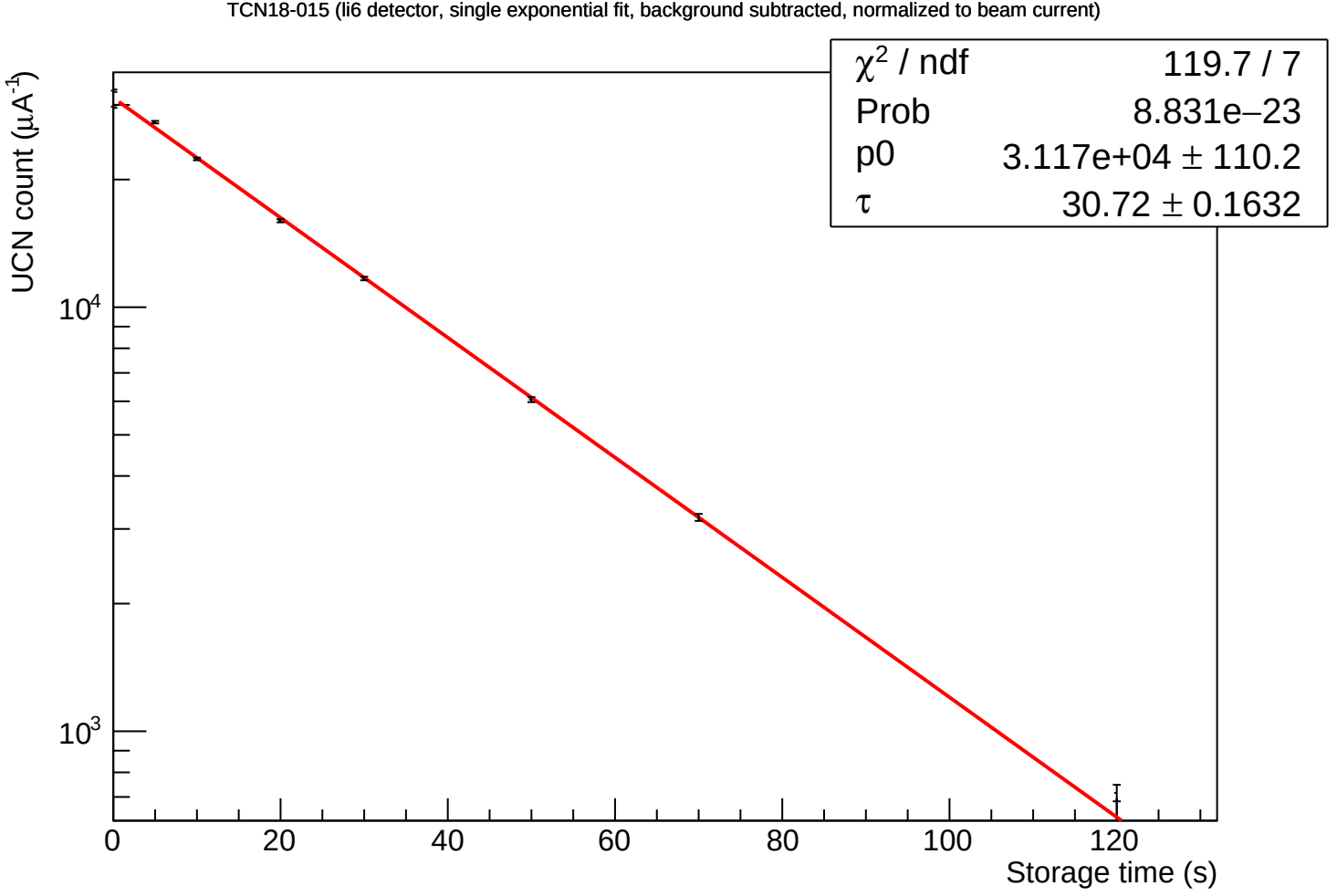
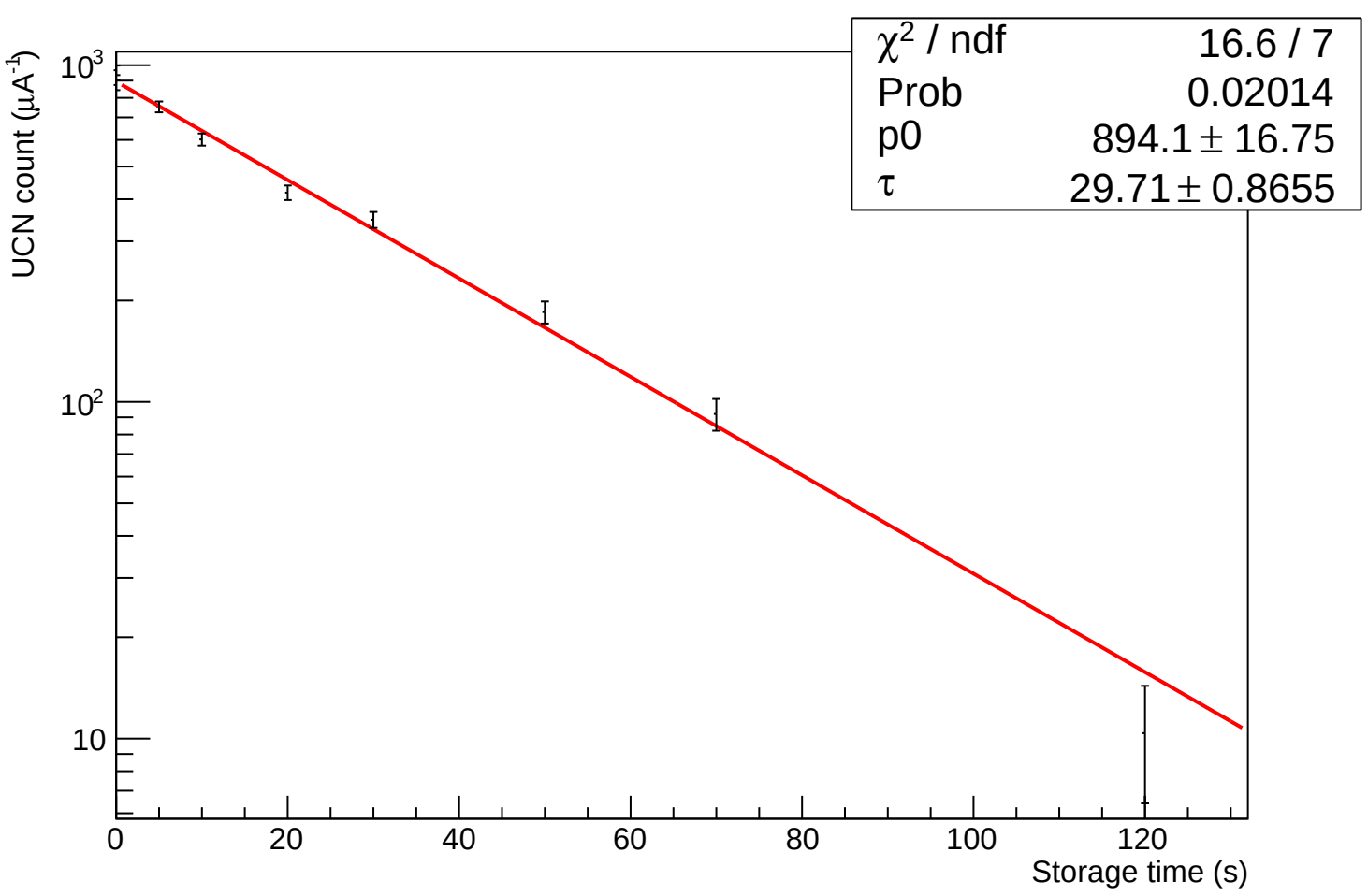
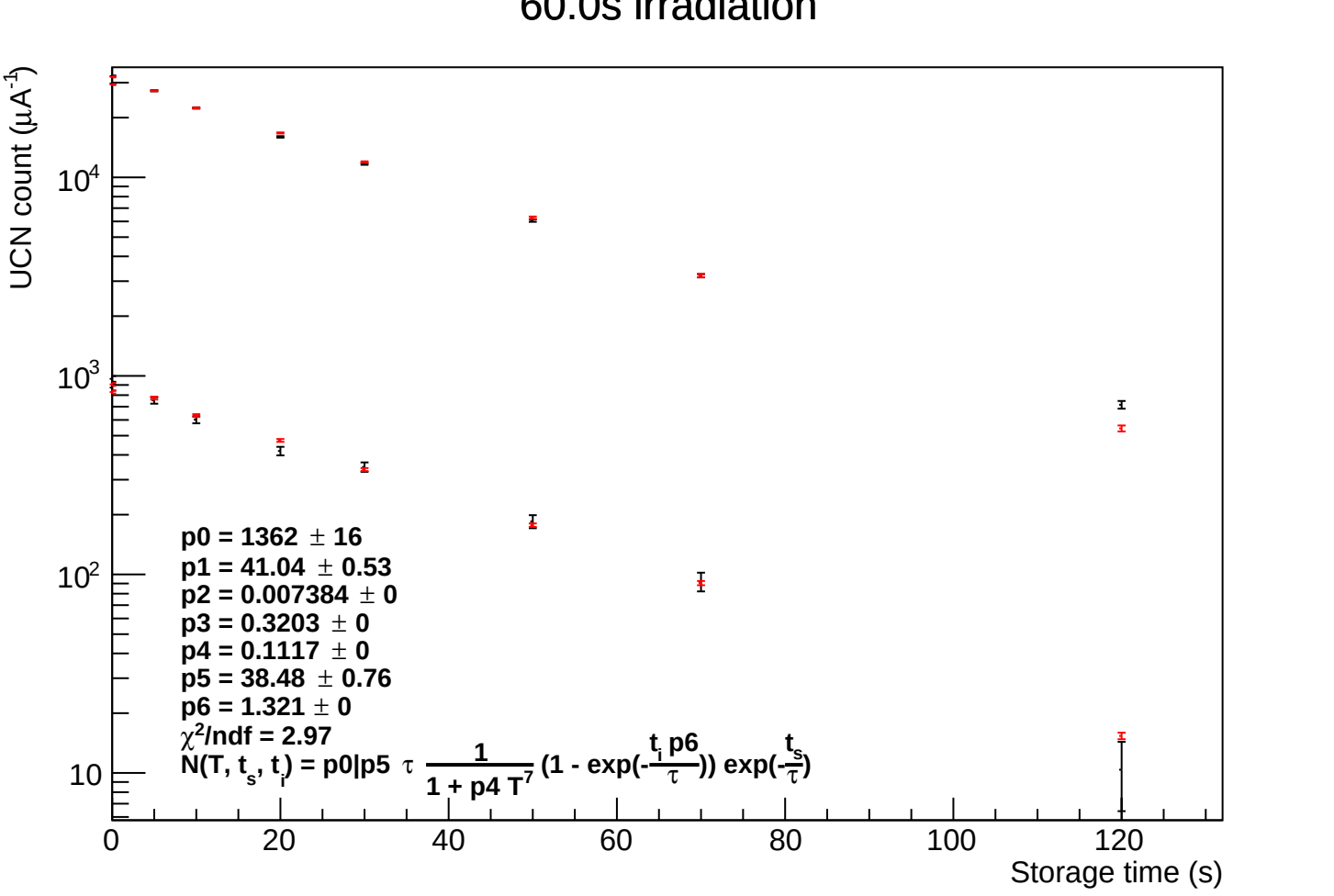
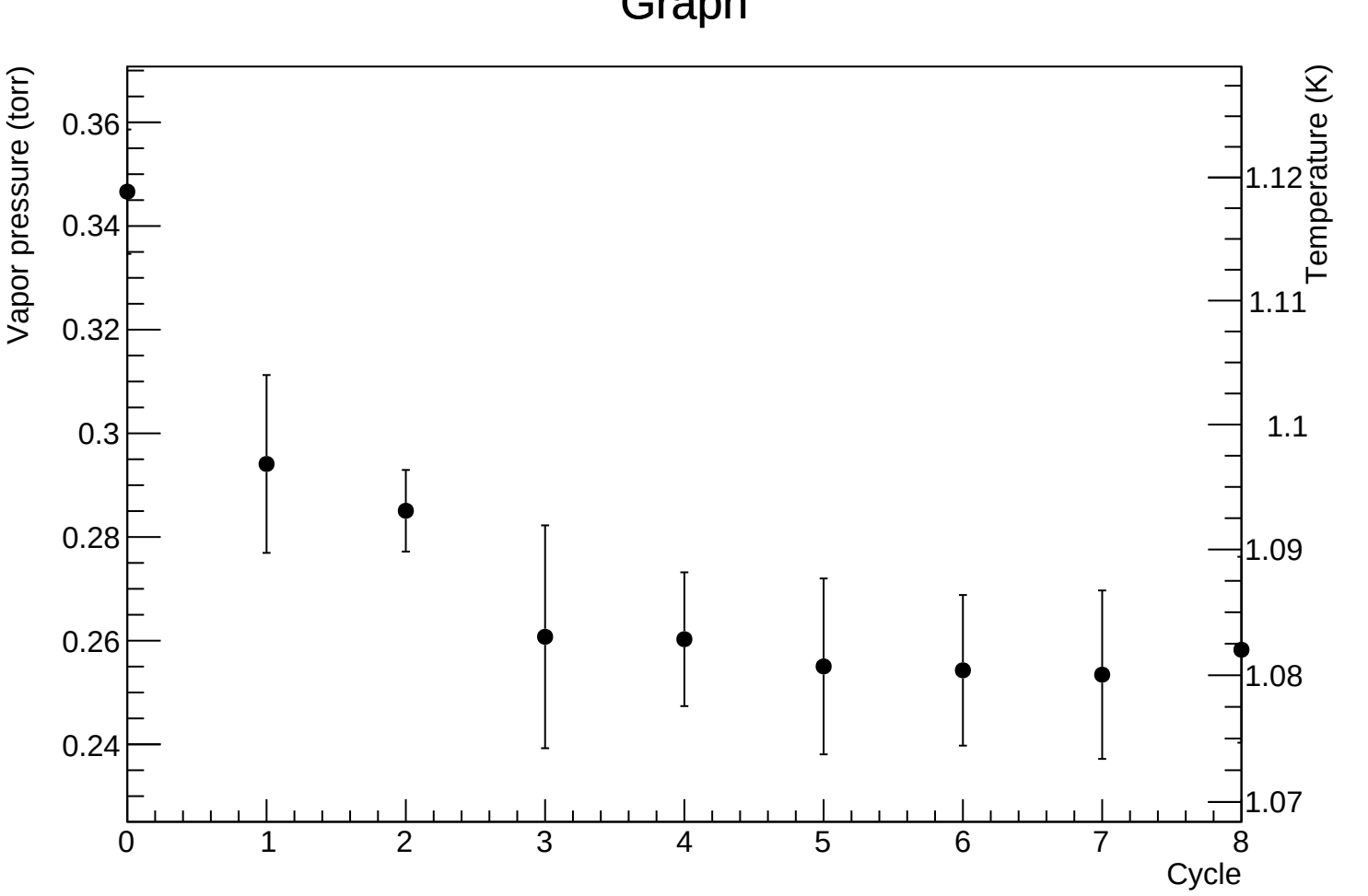
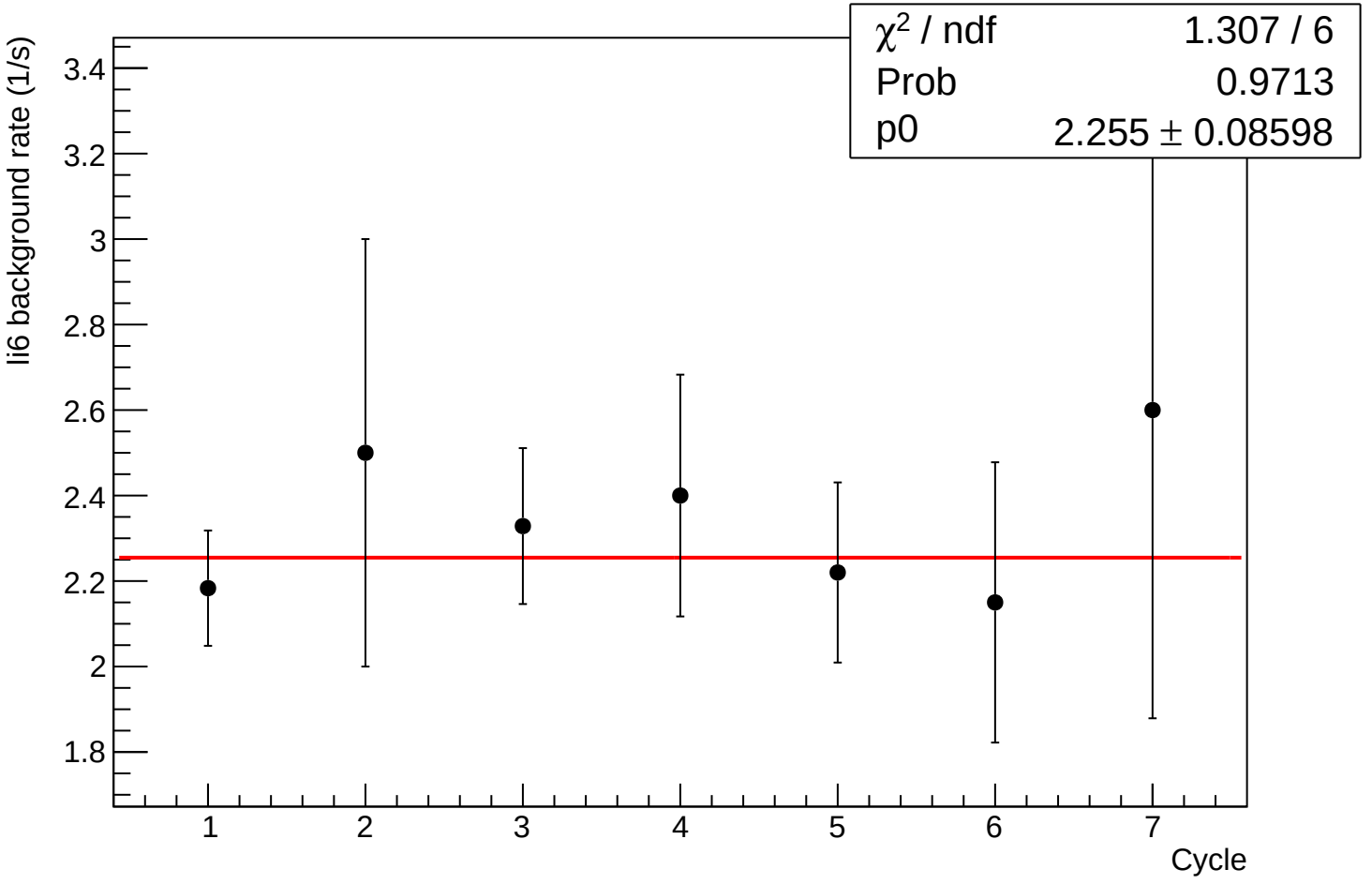
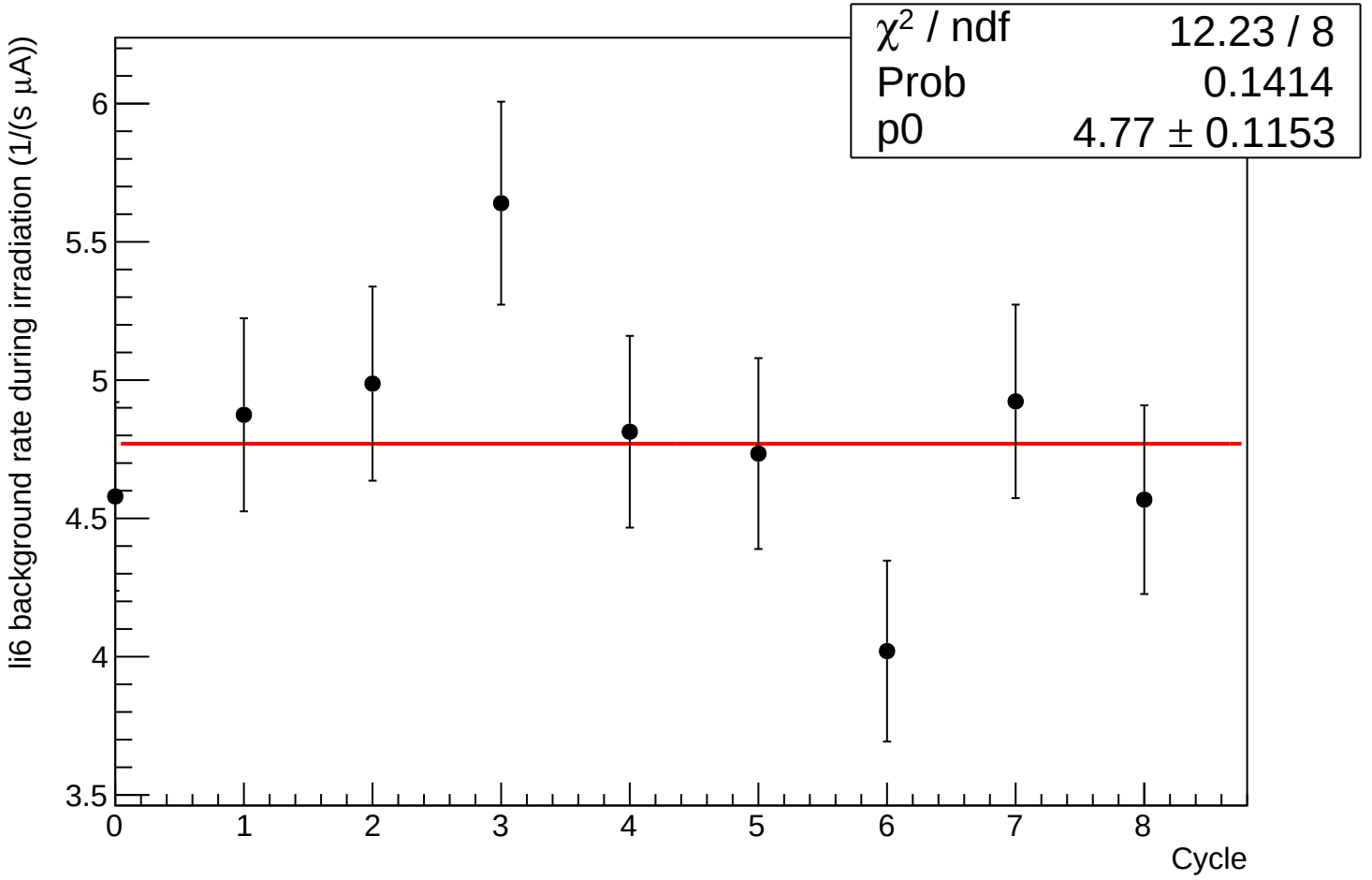

TCN18-015 (li6 detector, single exponential fit, background subtracted, normalized to beam current)
χ² / ndf 119.7 / 7
Prob 8.831e–23
p0 3.117e+04 ± 110.2
τ 30.72 ± 0.1632
UCN count (μA⁻¹)
10⁴
10³
0
20
40
60
80
100
120
Storage time (s)

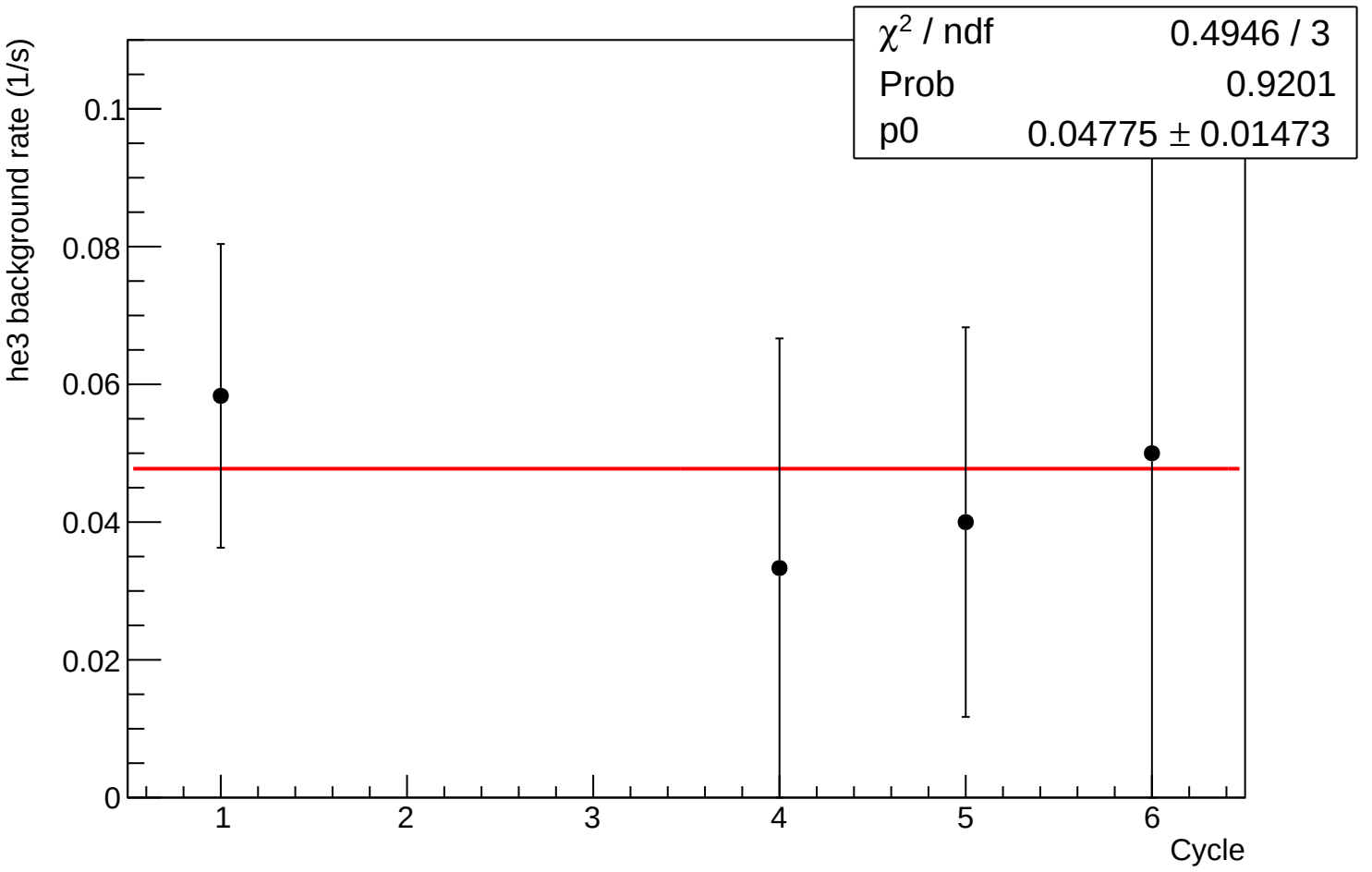

TCN18-015 (he3 detector, single exponential fit, background subtracted, normalized to beam current)
χ² / ndf 16.6 / 7
Prob 0.02014
p0 894.1 ± 16.75
τ 29.71 ± 0.8655
UCN count (μA⁻¹)
10³
10²
10
0
20
40
60
80
100
120
Storage time (s)

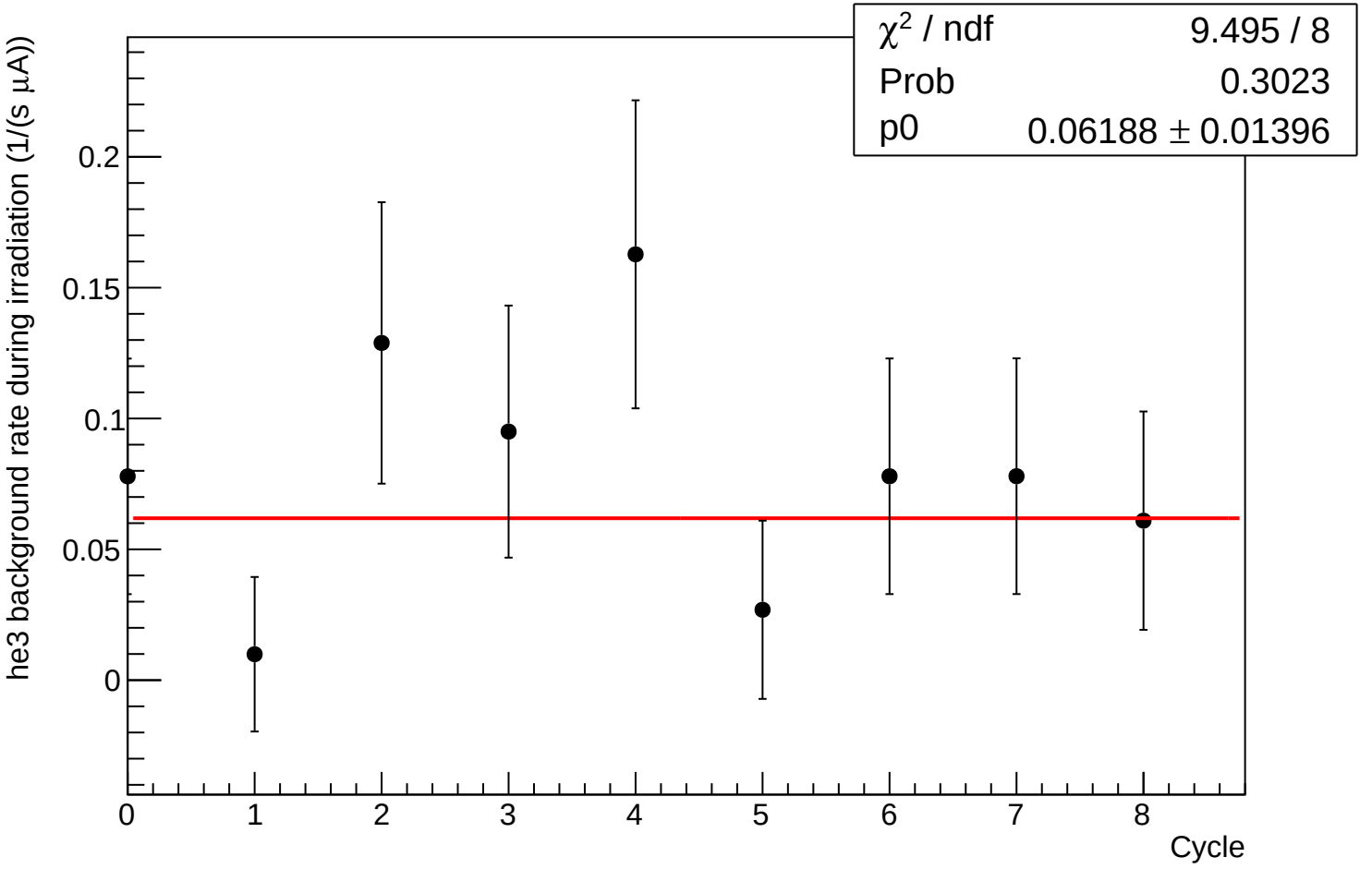

60.0s irradiation
UCN count (μA-1)
10^4
10^3
10^2
10
0
20
40
60
80
100
120
Storage time (s)
p0 = 1362 ± 16
p1 = 41.04 ± 0.53
p2 = 0.007384 ± 0
p3 = 0.3203 ± 0
p4 = 0.1117 ± 0
p5 = 38.48 ± 0.76
p6 = 1.321 ± 0
χ2/ndf = 2.97
N(T, ts, ti) = p0|p5 τ 1/(1 + p4 T7) (1 - exp(-ti p6/τ)) exp(-ts/τ)

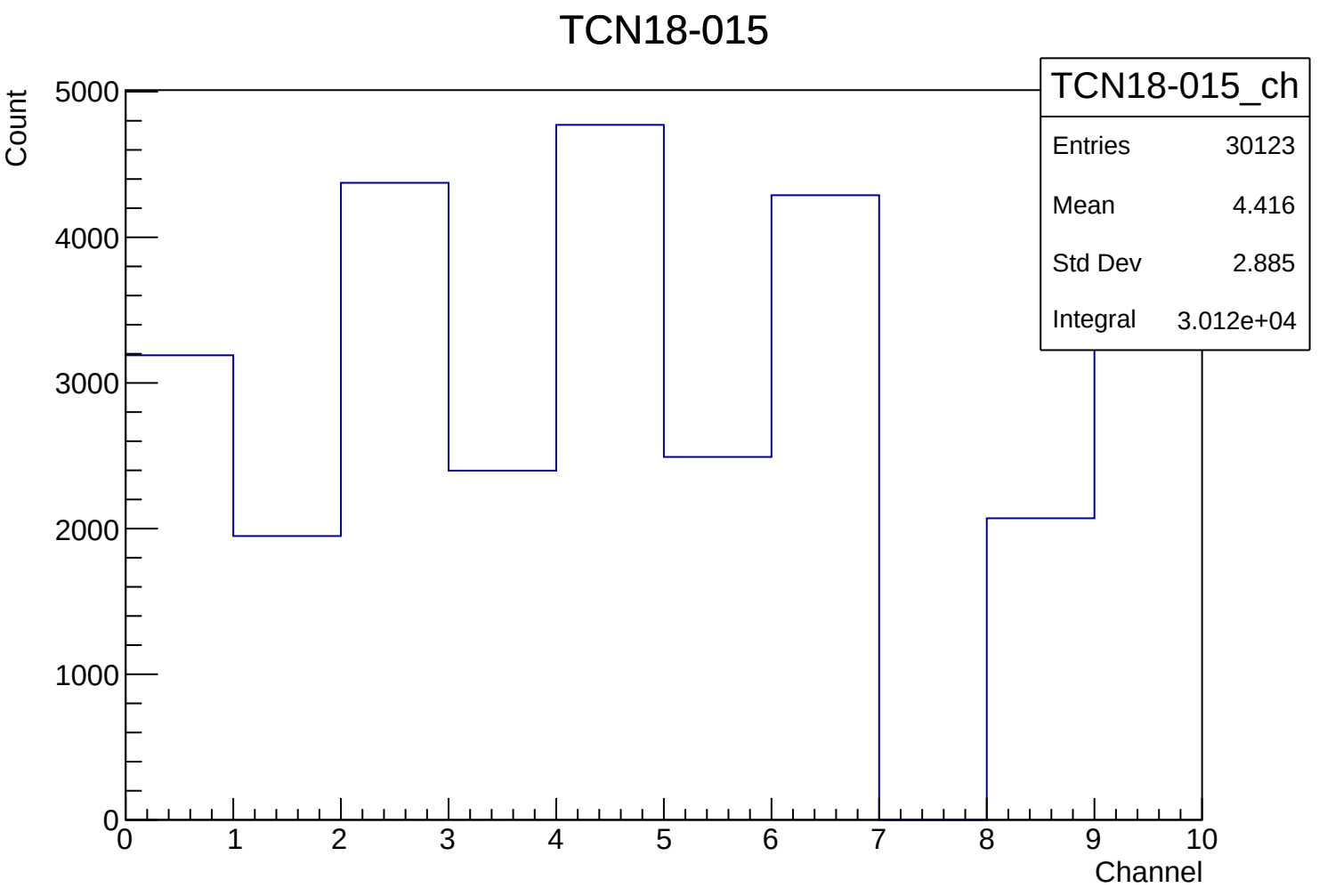

Graph
Vapor pressure (torr)
0.36
0.34
0.32
0.3
0.28
0.26
0.24
Temperature (K)
1.12
1.11
1.1
1.09
1.08
1.07
0
1
2
3
4
5
6
7
8
Cycle

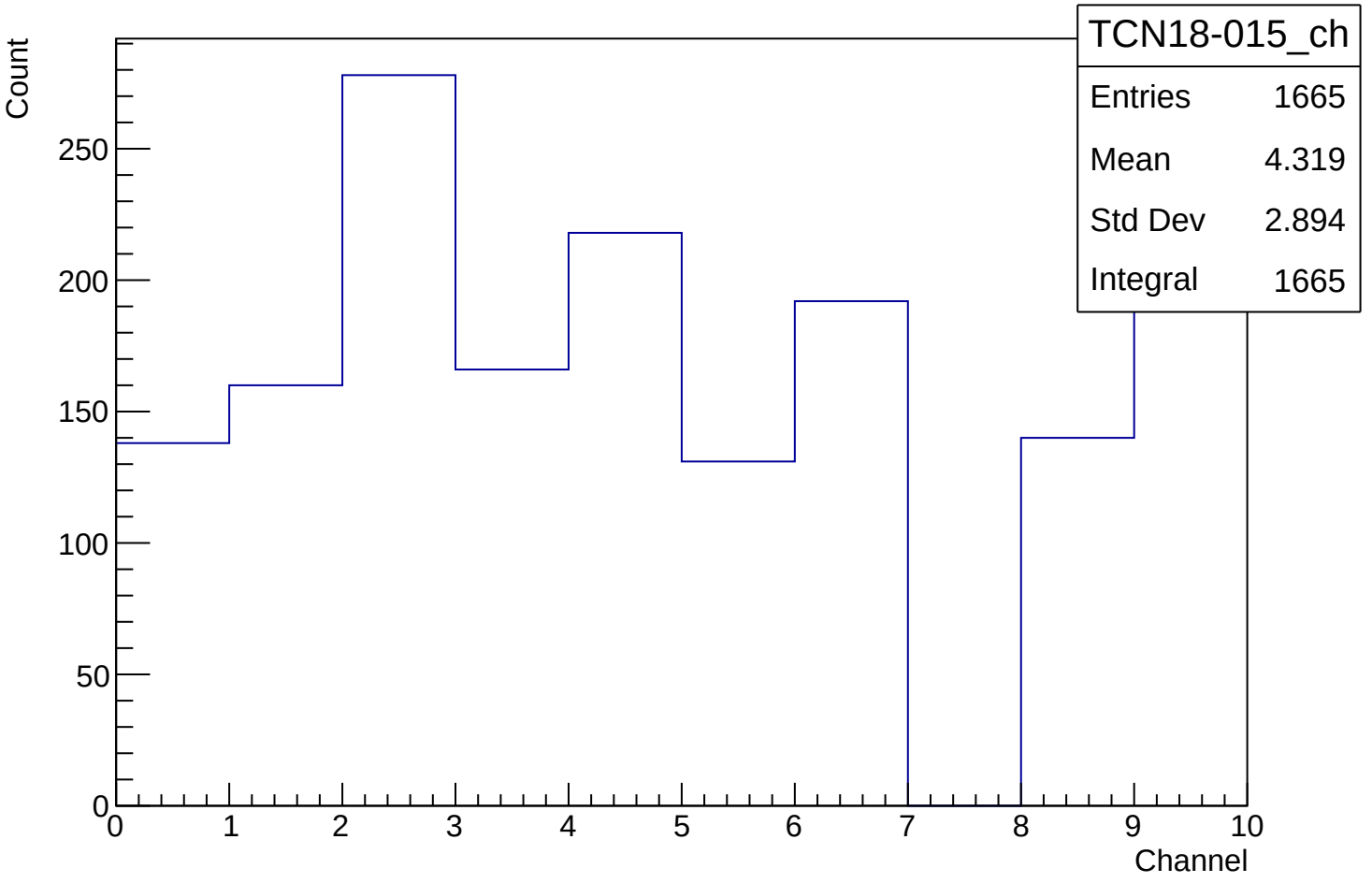

li6 background rate (1/s)
3.4
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1
2
3
4
5
6
7
Cycle
χ² / ndf 1.307 / 6
Prob 0.9713
p0 2.255 ± 0.08598

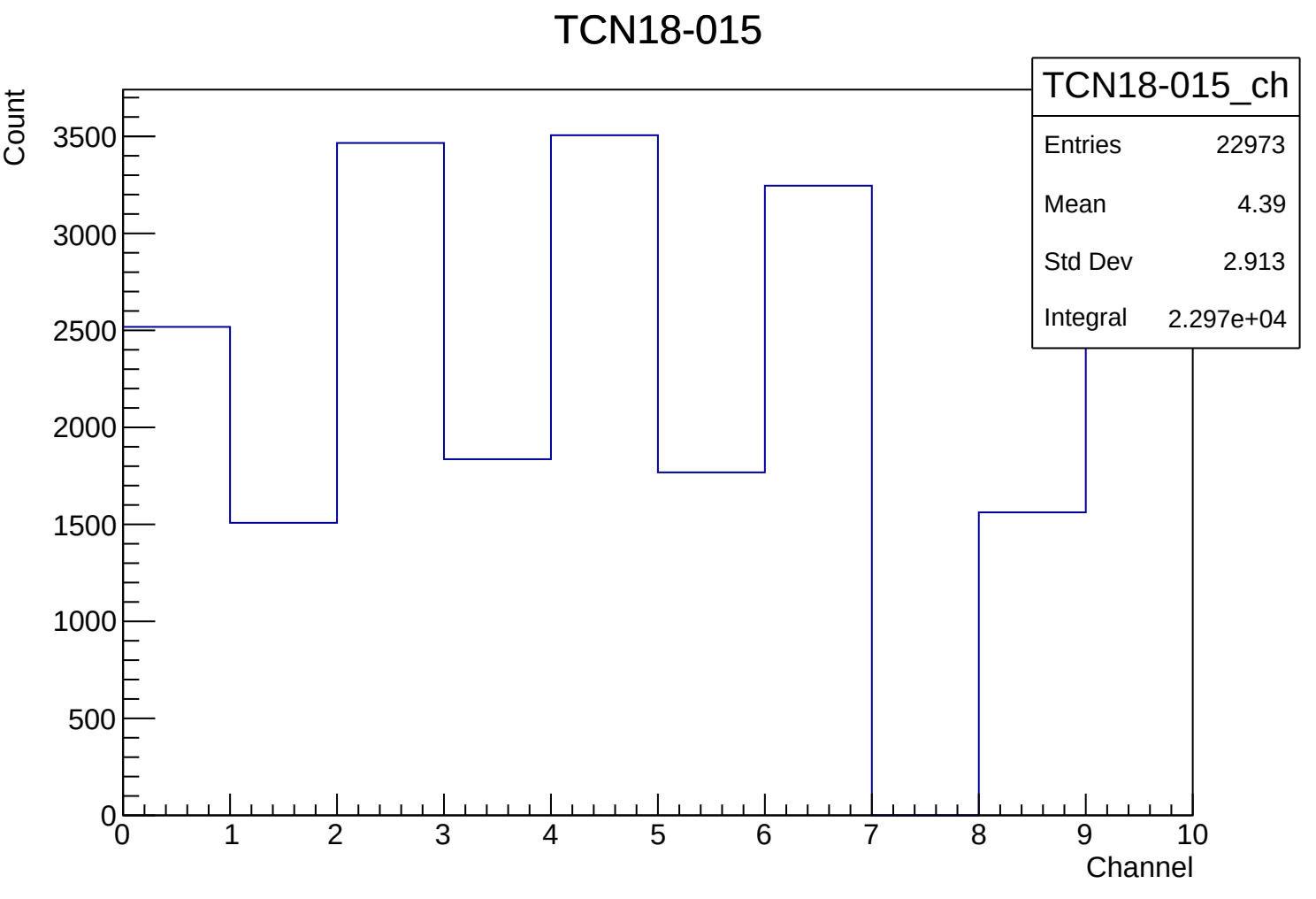

χ^2 / ndf 12.23 / 8
Prob 0.1414
p0 4.77 ± 0.1153
li6 background rate during irradiation (1/(s μA))
Cycle
6
5.5
5
4.5
4
3.5
0
1
2
3
4
5
6
7
8

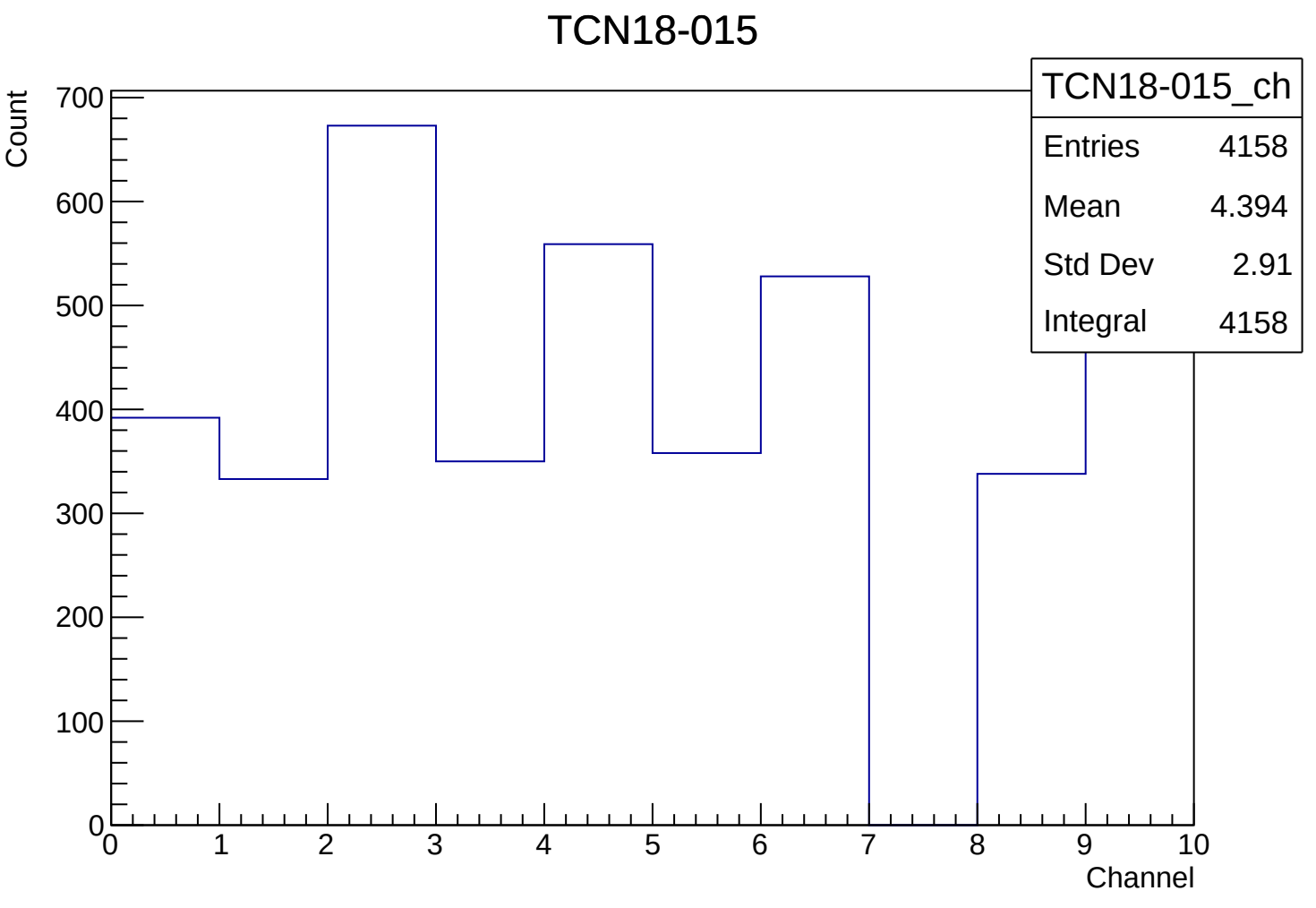

χ² / ndf 0.4946 / 3
Prob 0.9201
p0 0.04775 ± 0.01473
he3 background rate (1/s)
0.1
0.08
0.06
0.04
0.02
0
1
2
3
4
5
6
Cycle

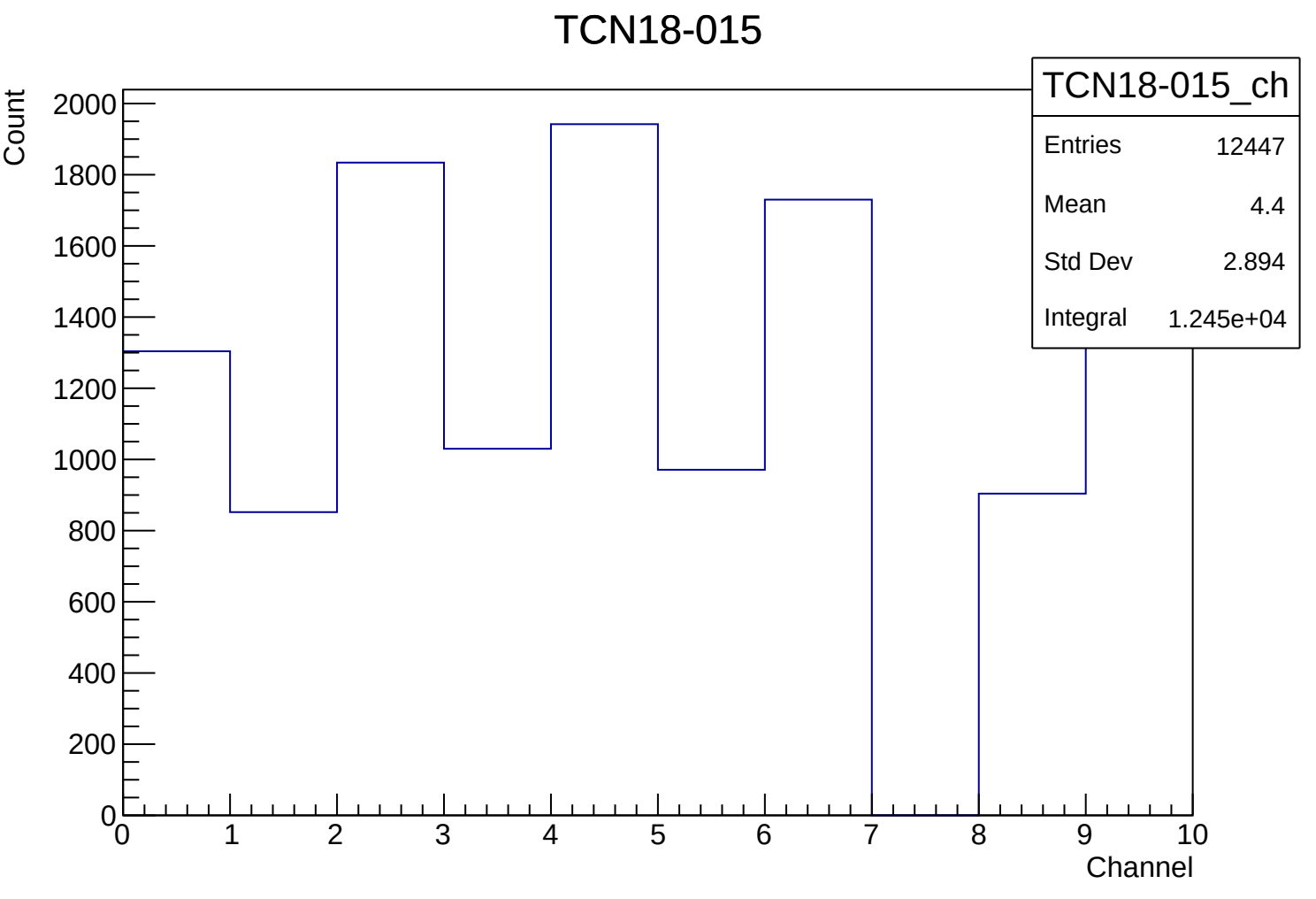

χ² / ndf 9.495 / 8
Prob 0.3023
p0 0.06188 ± 0.01396
he3 background rate during irradiation (1/(s μA))
0.2
0.15
0.1
0.05
0
0
1
2
3
4
5
6
7
8
Cycle

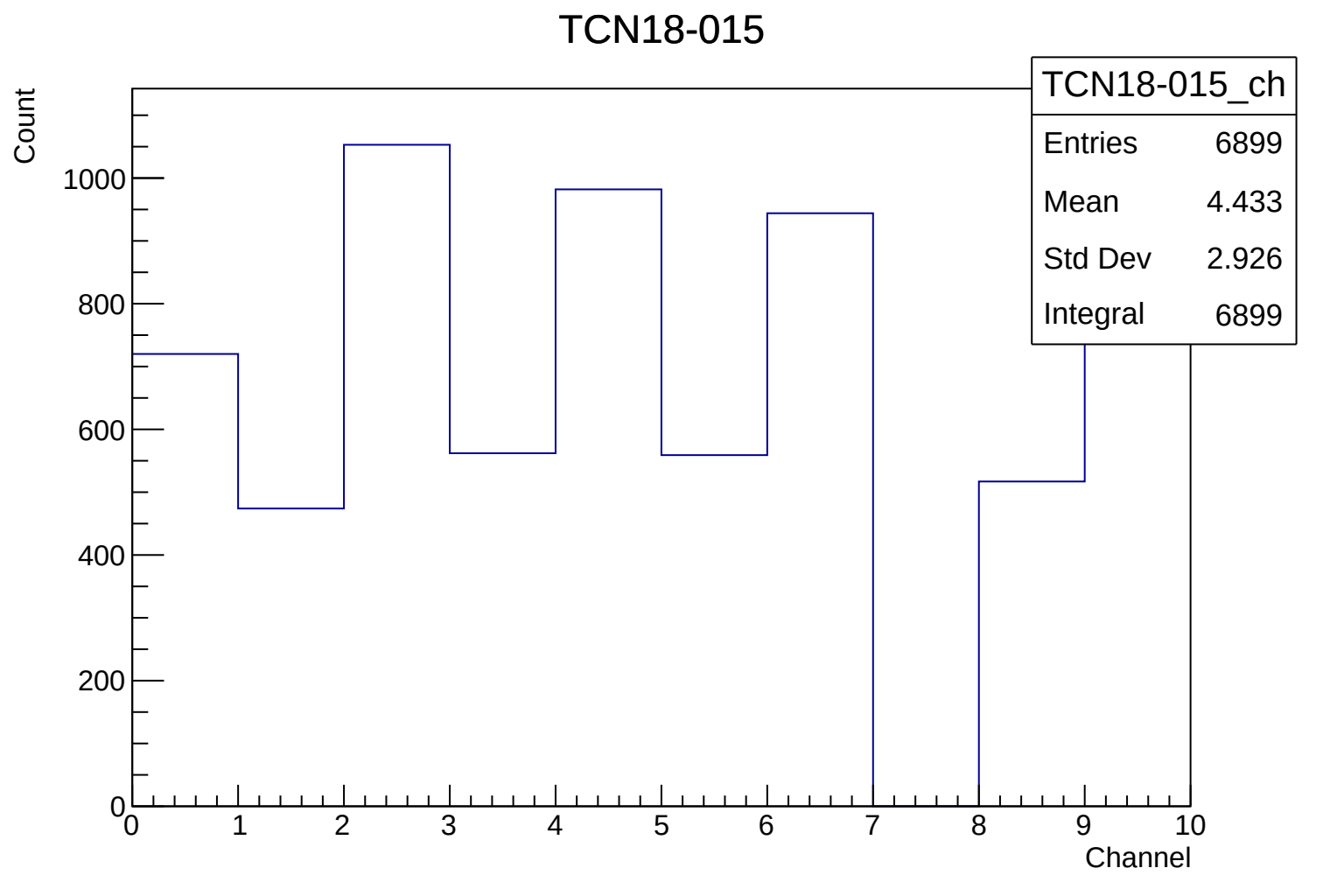

TCN18-015
TCN18-015_ch
Entries 30123
Mean 4.416
Std Dev 2.885
Integral 3.012e+04
Count
Channel
0
1000
2000
3000
4000
5000
0
1
2
3
4
5
6
7
8
9
10

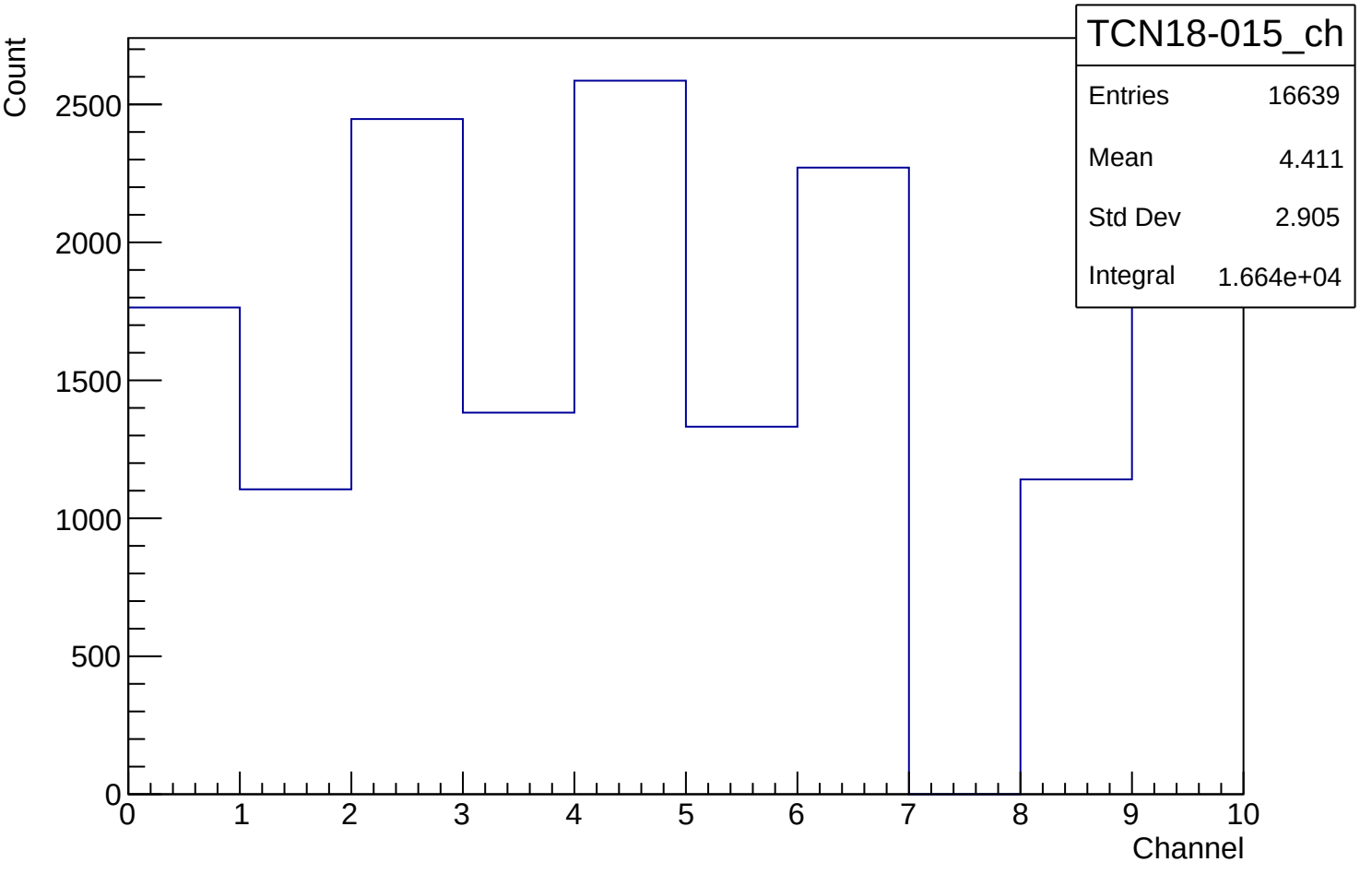

TCN18-015
TCN18-015_ch
Entries 1665
Mean 4.319
Std Dev 2.894
Integral 1665
Count
0
50
100
150
200
250
0
1
2
3
4
5
6
7
8
9
10
Channel

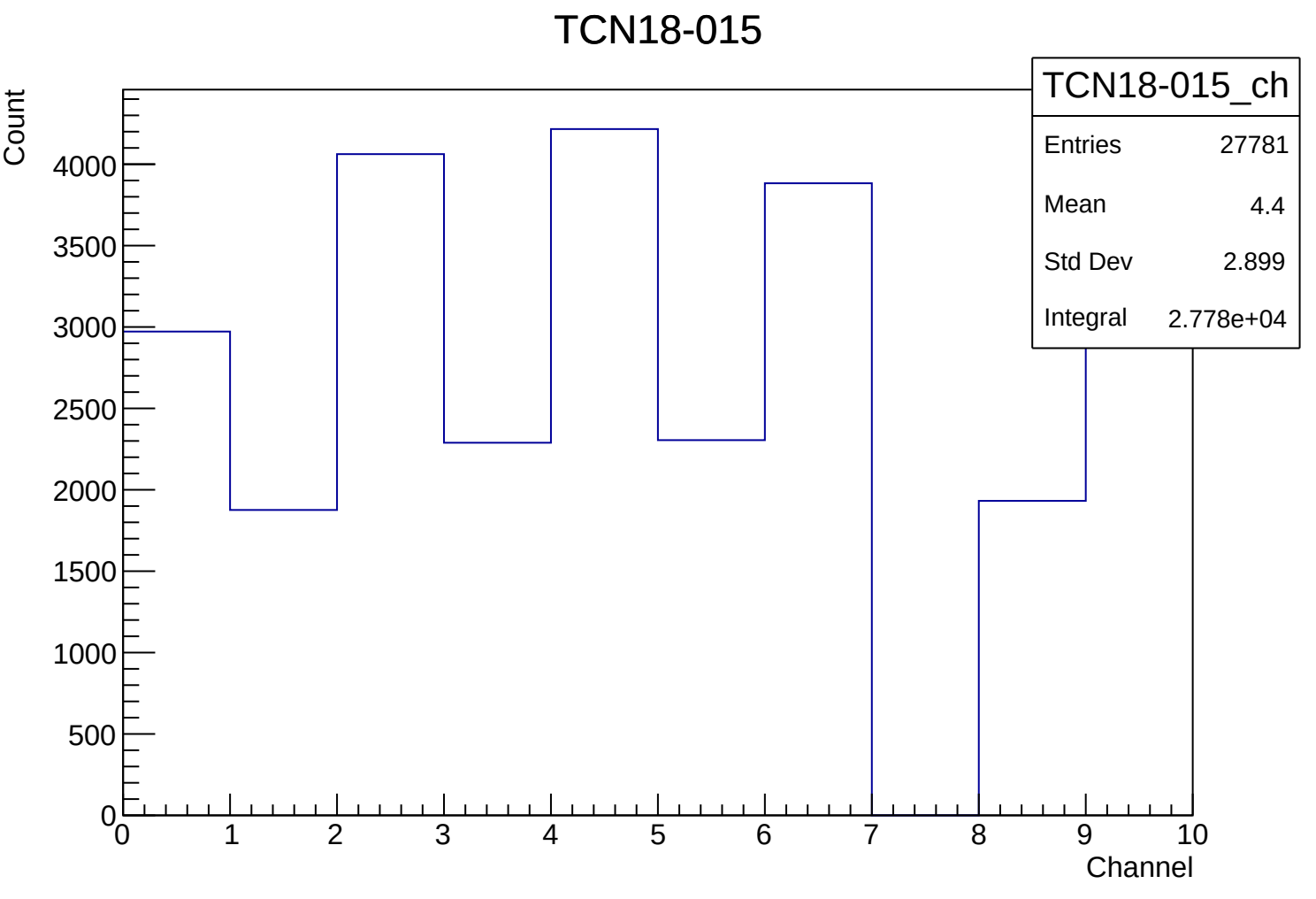

TCN18-015
TCN18-015_ch
Entries 22973
Mean 4.39
Std Dev 2.913
Integral 2.297e+04
Count
3500
3000
2500
2000
1500
1000
500
0
0 1 2 3 4 5 6 7 8 9 10
Channel

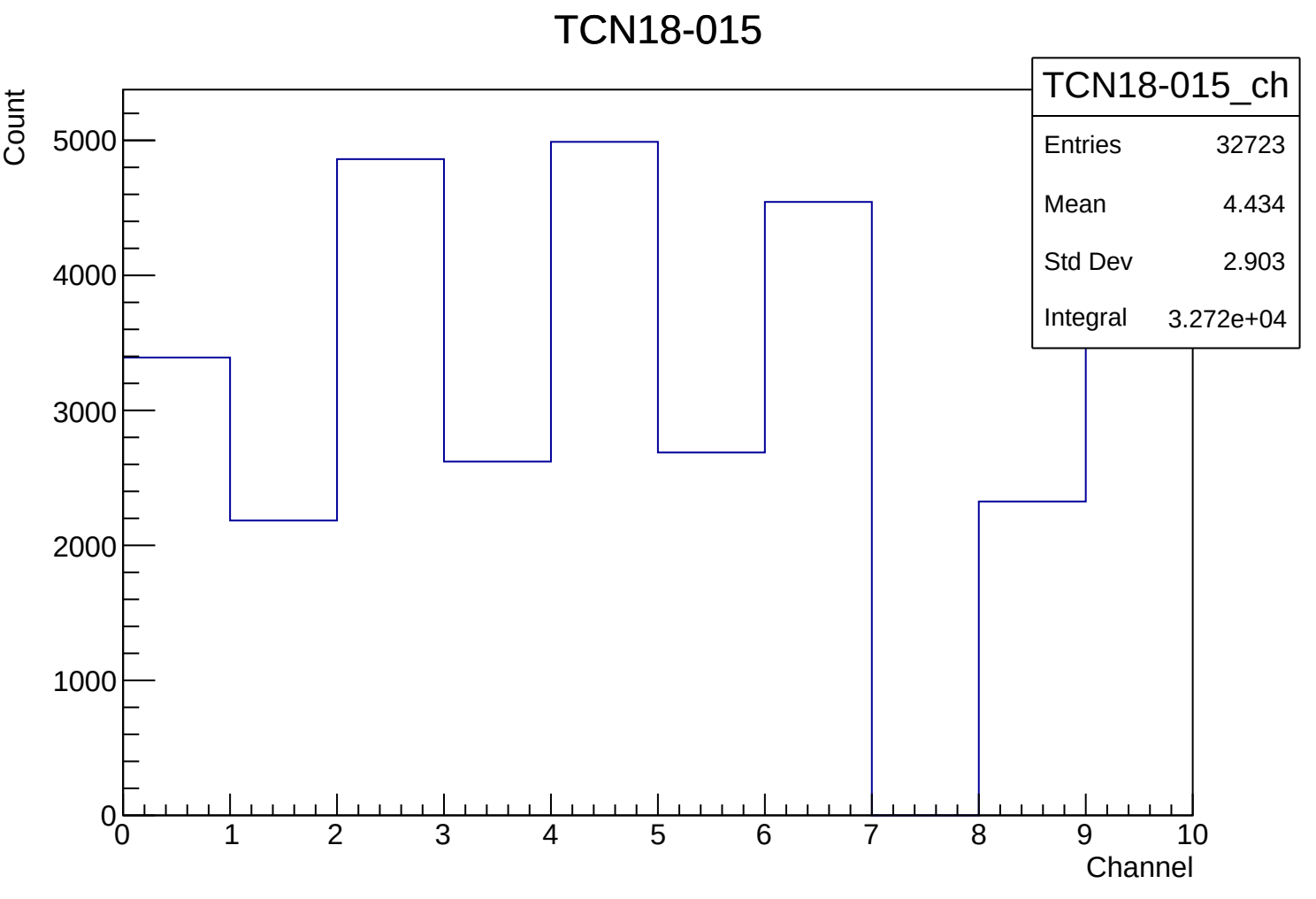

TCN18-015
TCN18-015_ch
Entries 4158
Mean 4.394
Std Dev 2.91
Integral 4158
Count
Channel
0
100
200
300
400
500
600
700
0
1
2
3
4
5
6
7
8
9
10


TCN18-015
TCN18-015_ch
Entries 12447
Mean 4.4
Std Dev 2.894
Integral 1.245e+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


TCN18-015
TCN18-015_ch
Entries 6899
Mean 4.433
Std Dev 2.926
Integral 6899
Count
0
200
400
600
800
1000
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-015
TCN18-015_ch
Entries 16639
Mean 4.411
Std Dev 2.905
Integral 1.664e+04
Count
2500
2000
1500
1000
500
0
0 1 2 3 4 5 6 7 8 9 10
Channel


TCN18-015
TCN18-015_ch
Entries 27781
Mean 4.4
Std Dev 2.899
Integral 2.778e+04
Count
0
500
1000
1500
2000
2500
3000
3500
4000
0
1
2
3
4
5
6
7
8
9
10
Channel


TCN18-015
TCN18-015_ch
Entries 32723
Mean 4.434
Std Dev 2.903
Integral 3.272e+04
Count
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10
Channel