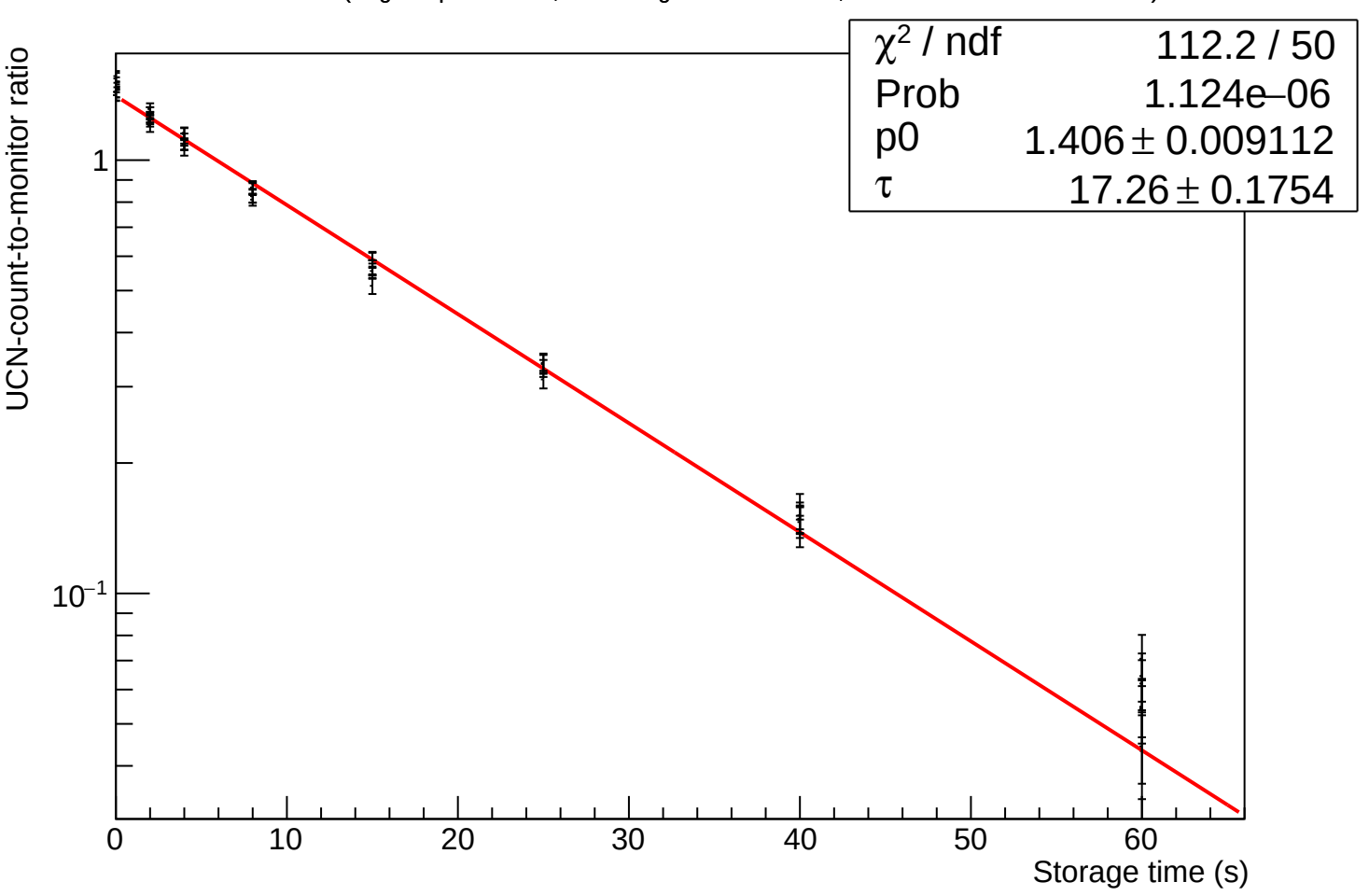
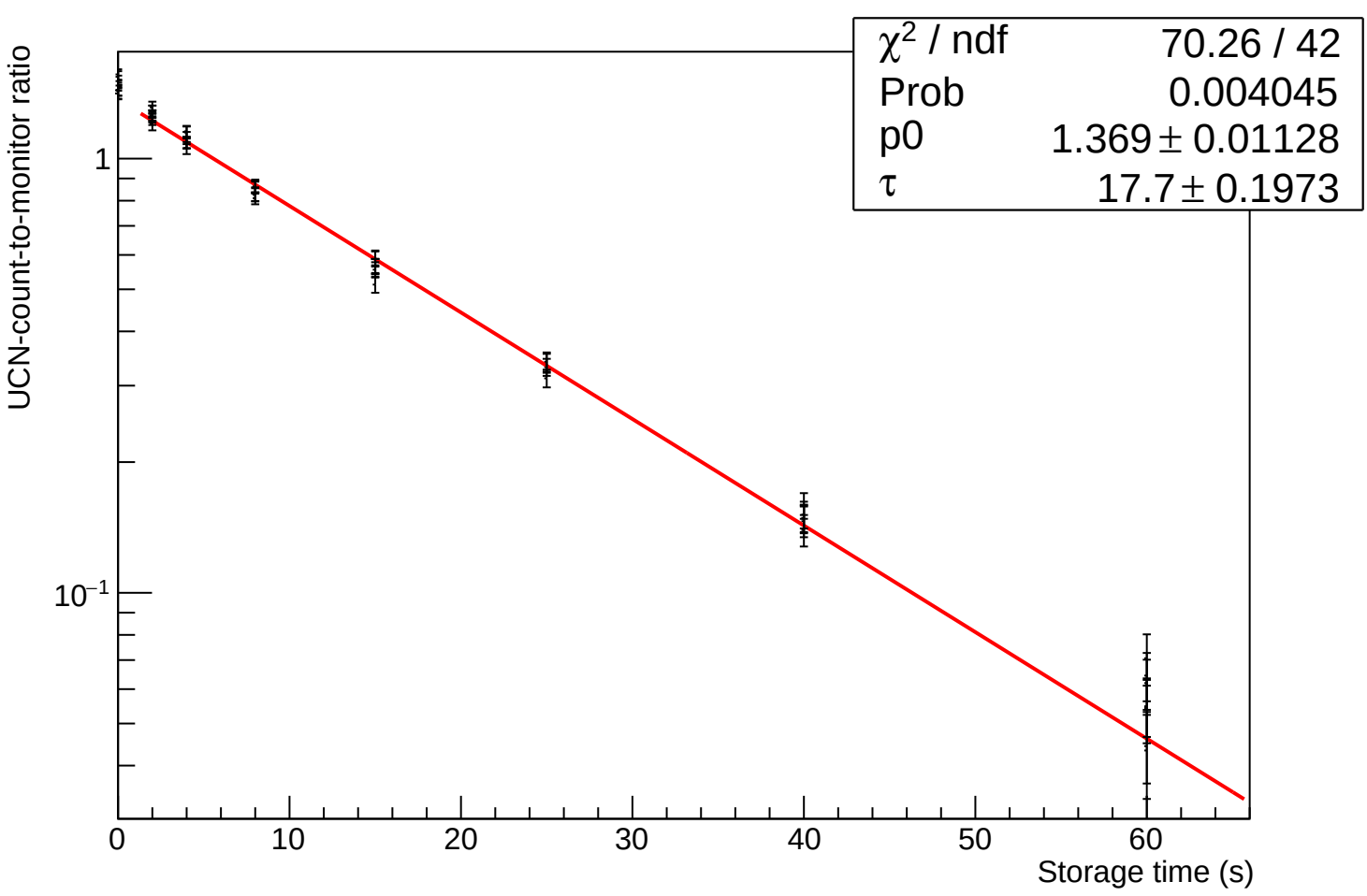
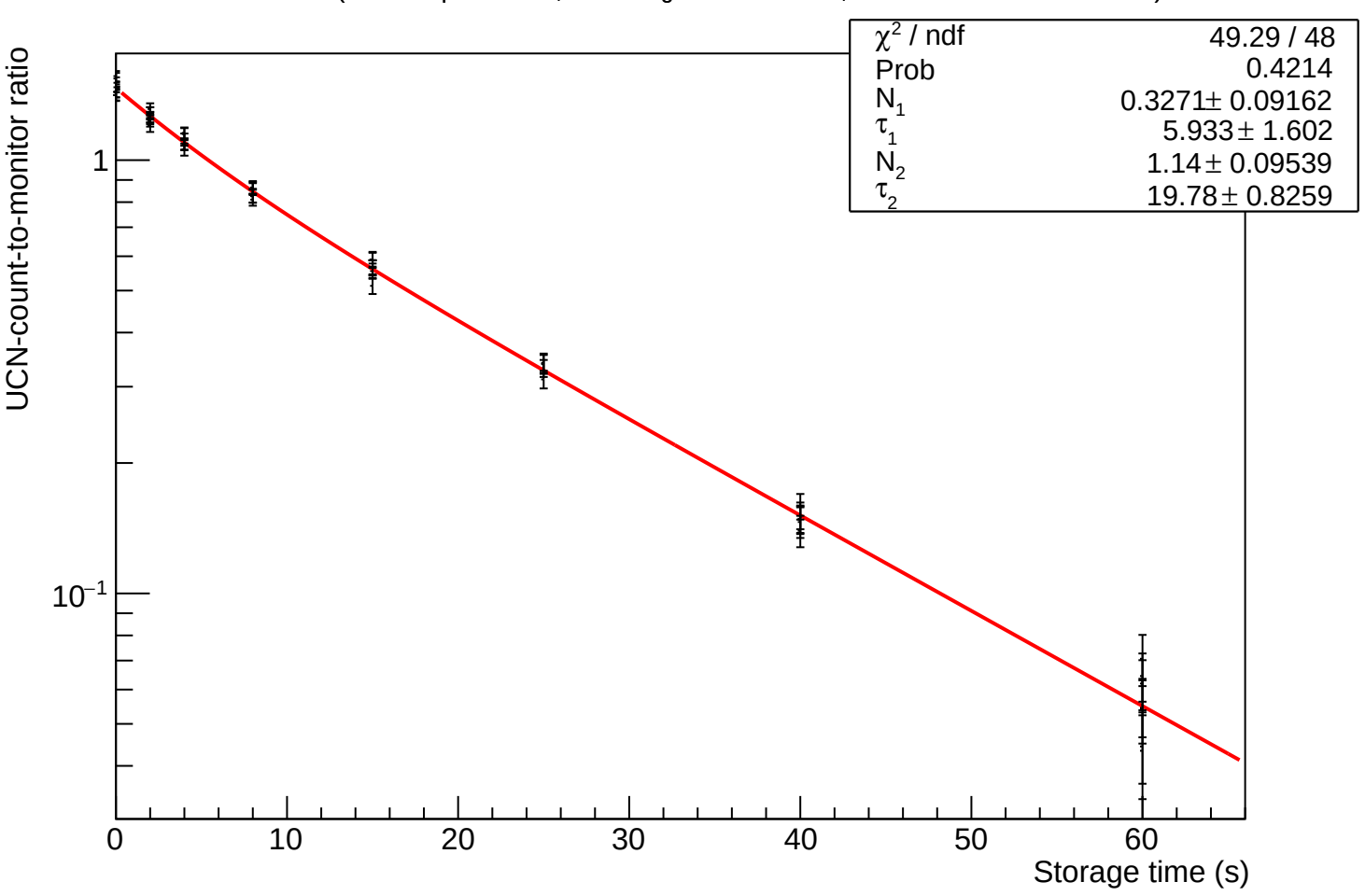
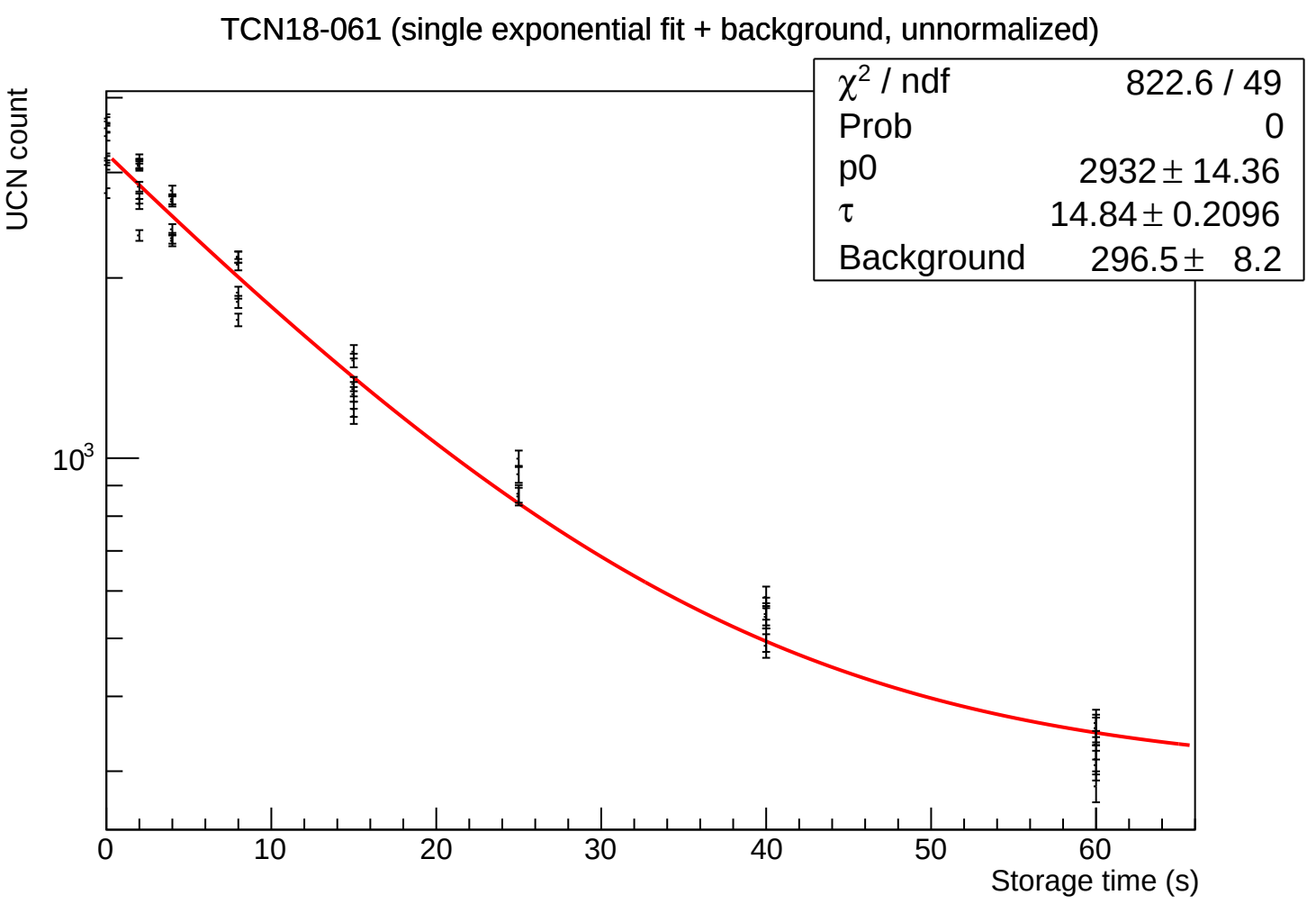
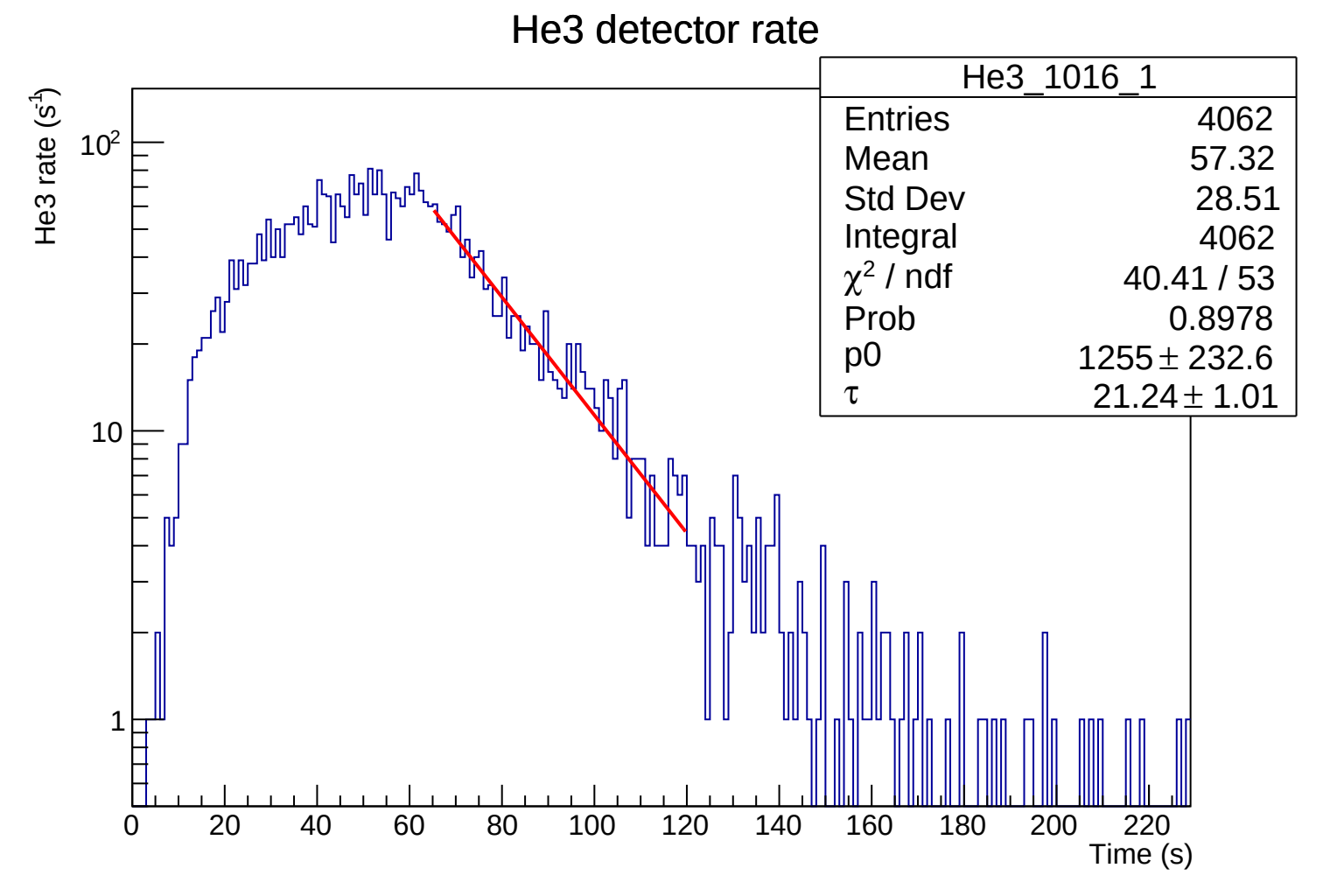
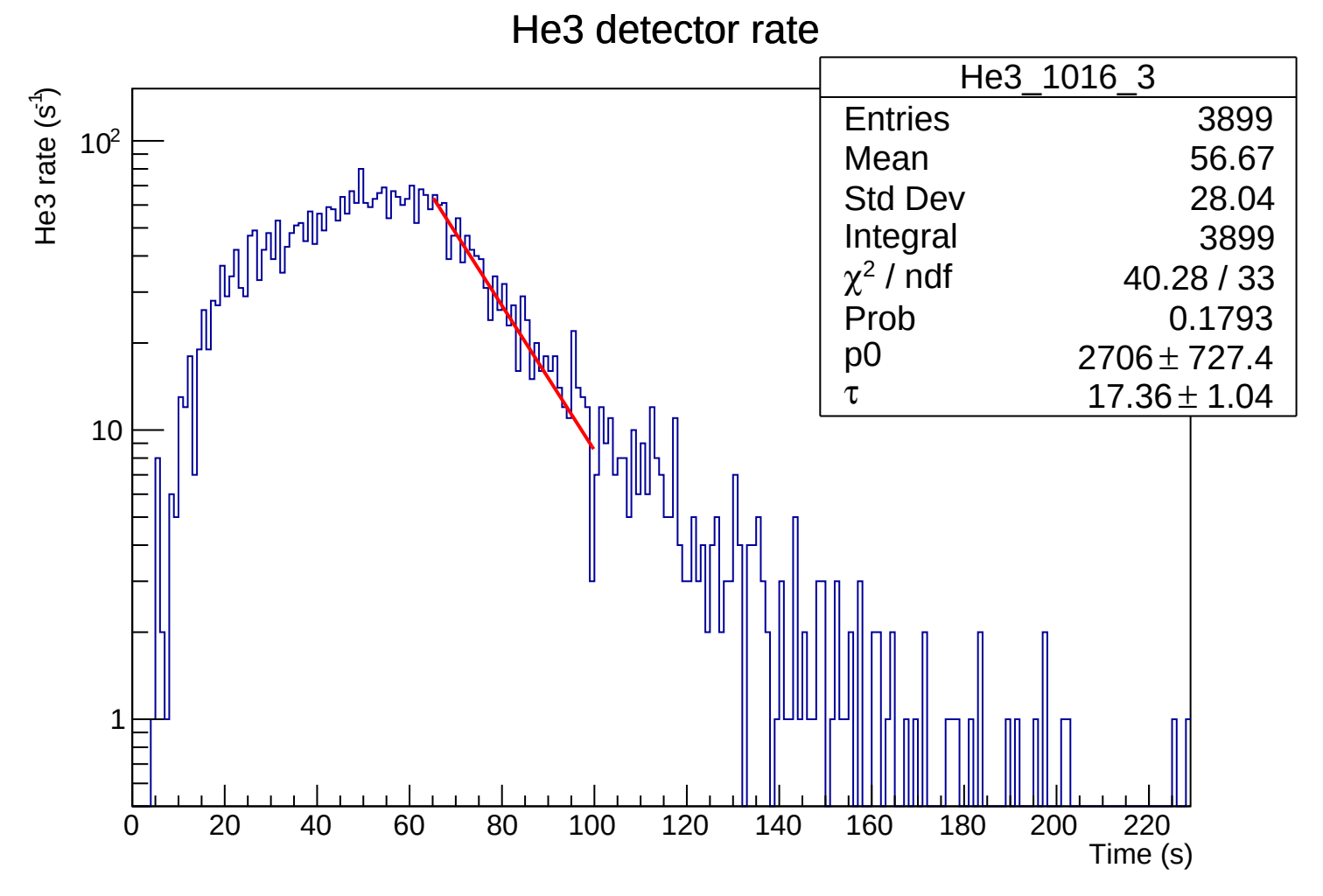

TCN18-061 (single exponential fit, with background subtracted, normalized to monitor detector)
χ² / ndf 112.2 / 50
Prob 1.124e−06
p0 1.406 ± 0.009112
τ 17.26 ± 0.1754
UCN-count-to-monitor ratio
1
10⁻¹
0
10
20
30
40
50
60
Storage time (s)

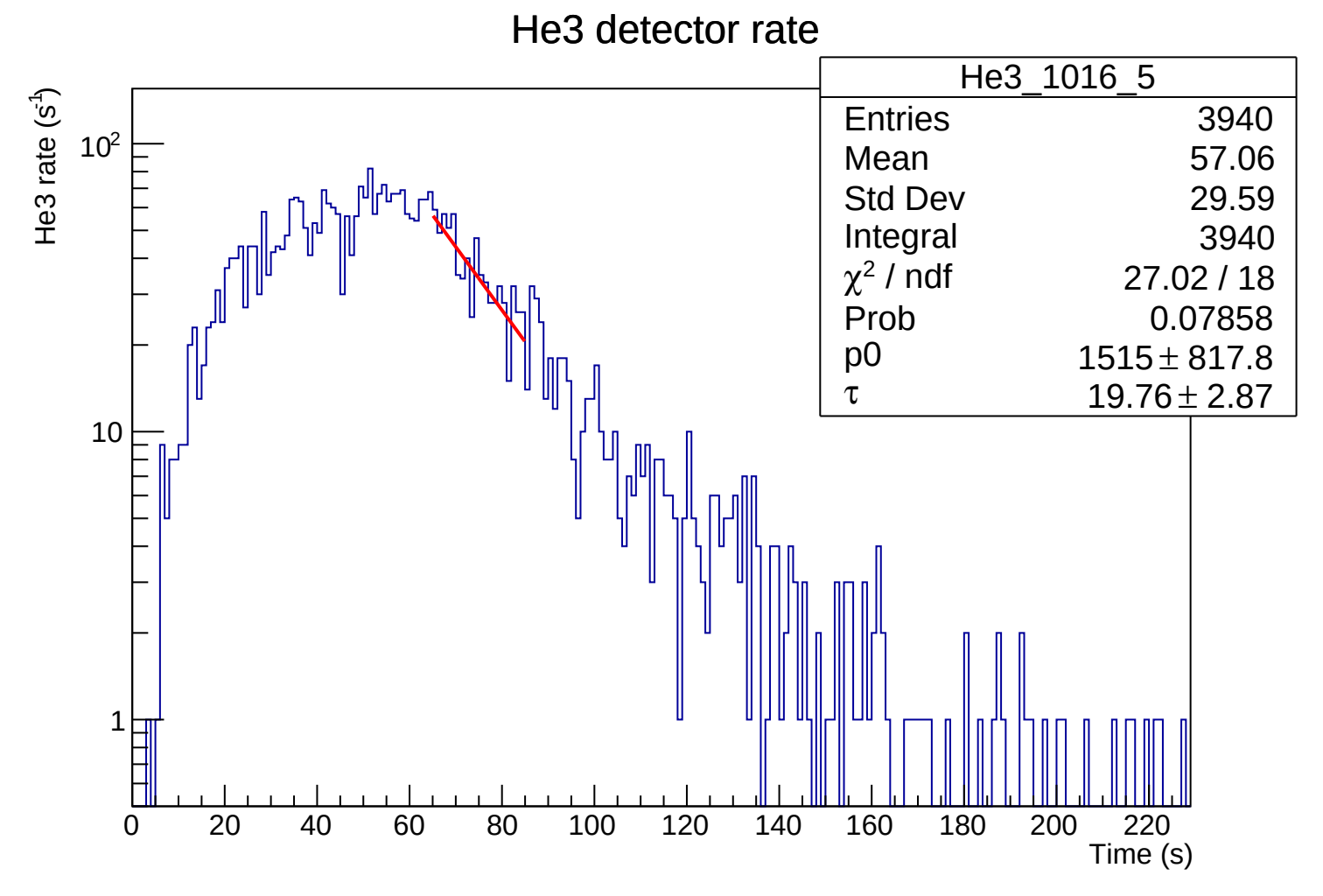

TCN18-061 (single exponential fit, with background subtracted, normalized to monitor detector, 0s excluded)
χ² / ndf 70.26 / 42
Prob 0.004045
p0 1.369 ± 0.01128
τ 17.7 ± 0.1973
UCN-count-to-monitor ratio
1
10⁻¹
0
10
20
30
40
50
60
Storage time (s)

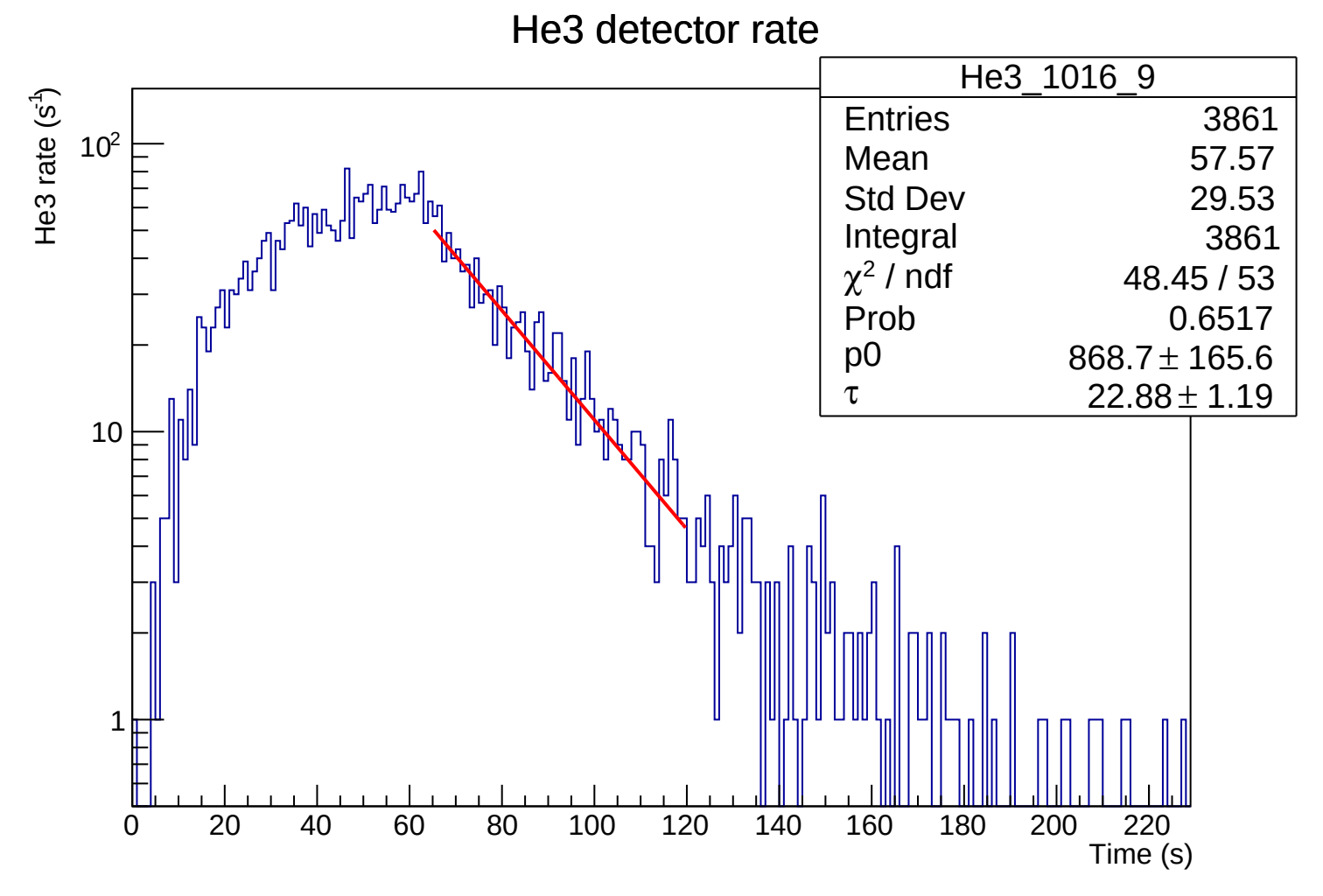

TCN18-061 (double exponential fit, with background subtracted, normalized to monitor detector)
χ² / ndf 49.29 / 48
Prob 0.4214
N1 0.3271± 0.09162
τ1 5.933± 1.602
N2 1.14± 0.09539
τ2 19.78± 0.8259
UCN-count-to-monitor ratio
1
10⁻¹
0
10
20
30
40
50
60
Storage time (s)

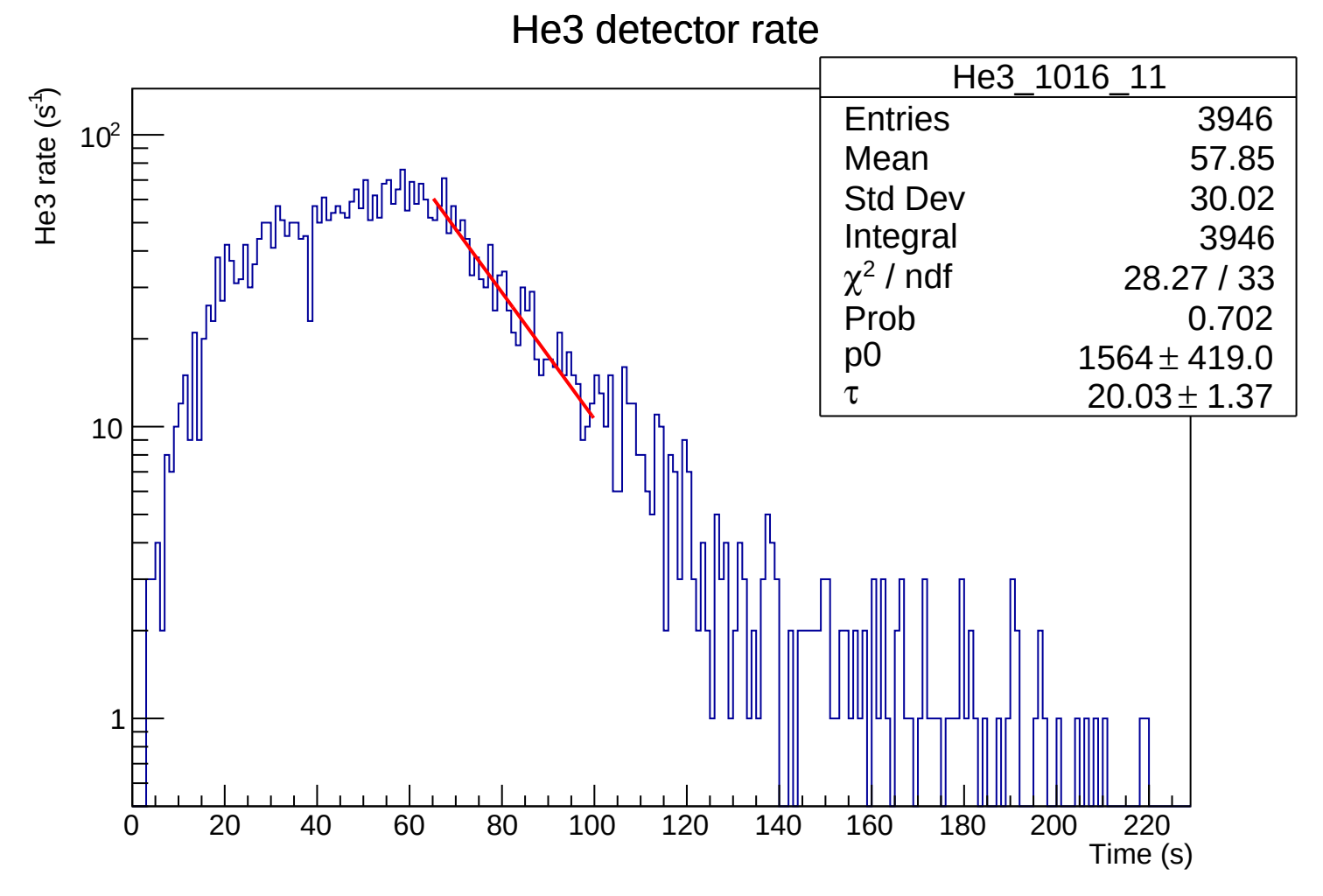

TCN18-061 (single exponential fit + background, unnormalized)
χ² / ndf 822.6 / 49
Prob 0
p0 2932 ± 14.36
τ 14.84 ± 0.2096
Background 296.5 ± 8.2
UCN count
10³
0
10
20
30
40
50
60
Storage time (s)

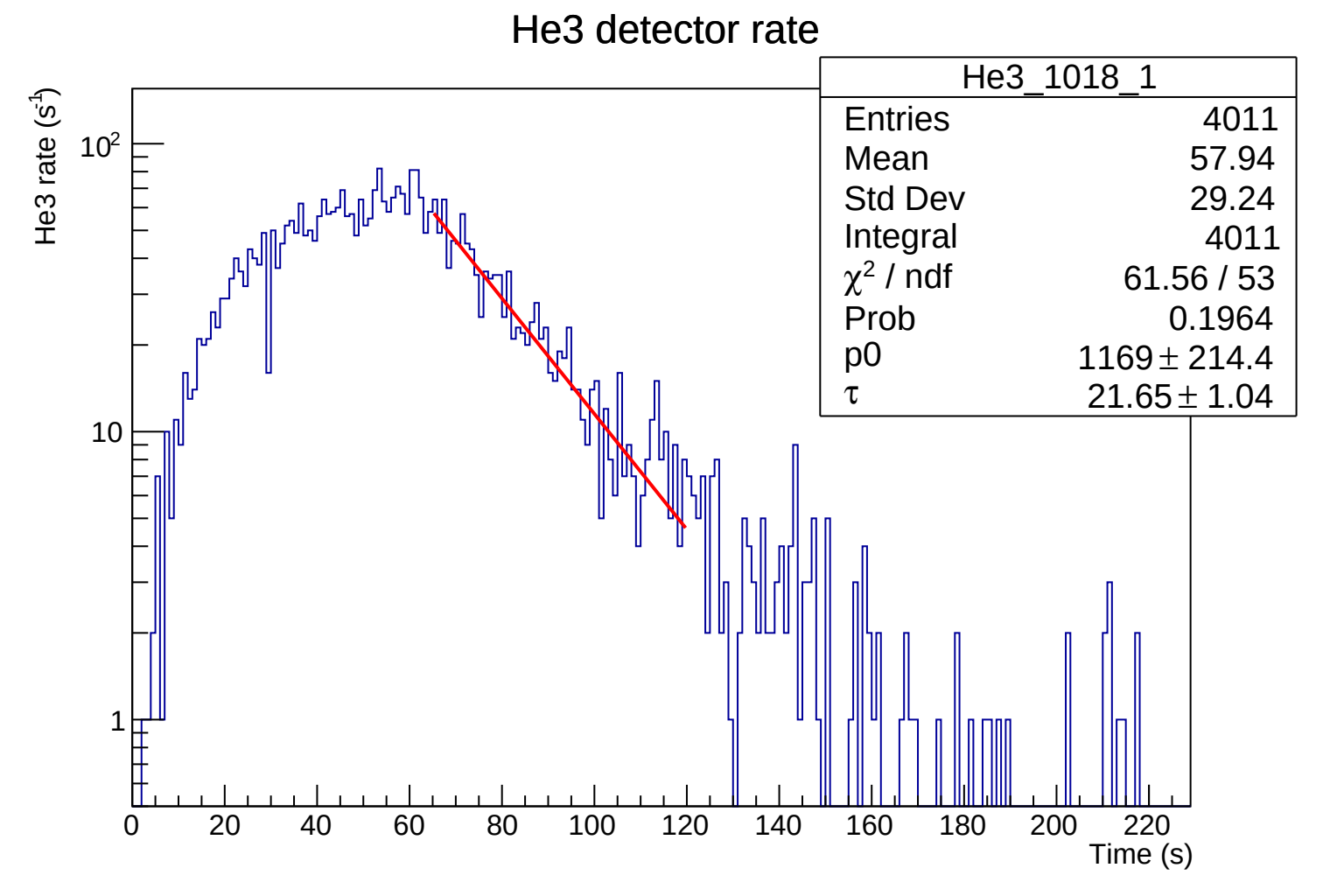

He3 detector rate
He3_1016_1
Entries 4062
Mean 57.32
Std Dev 28.51
Integral 4062
χ² / ndf 40.41 / 53
Prob 0.8978
p0 1255 ± 232.6
τ 21.24 ± 1.01
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

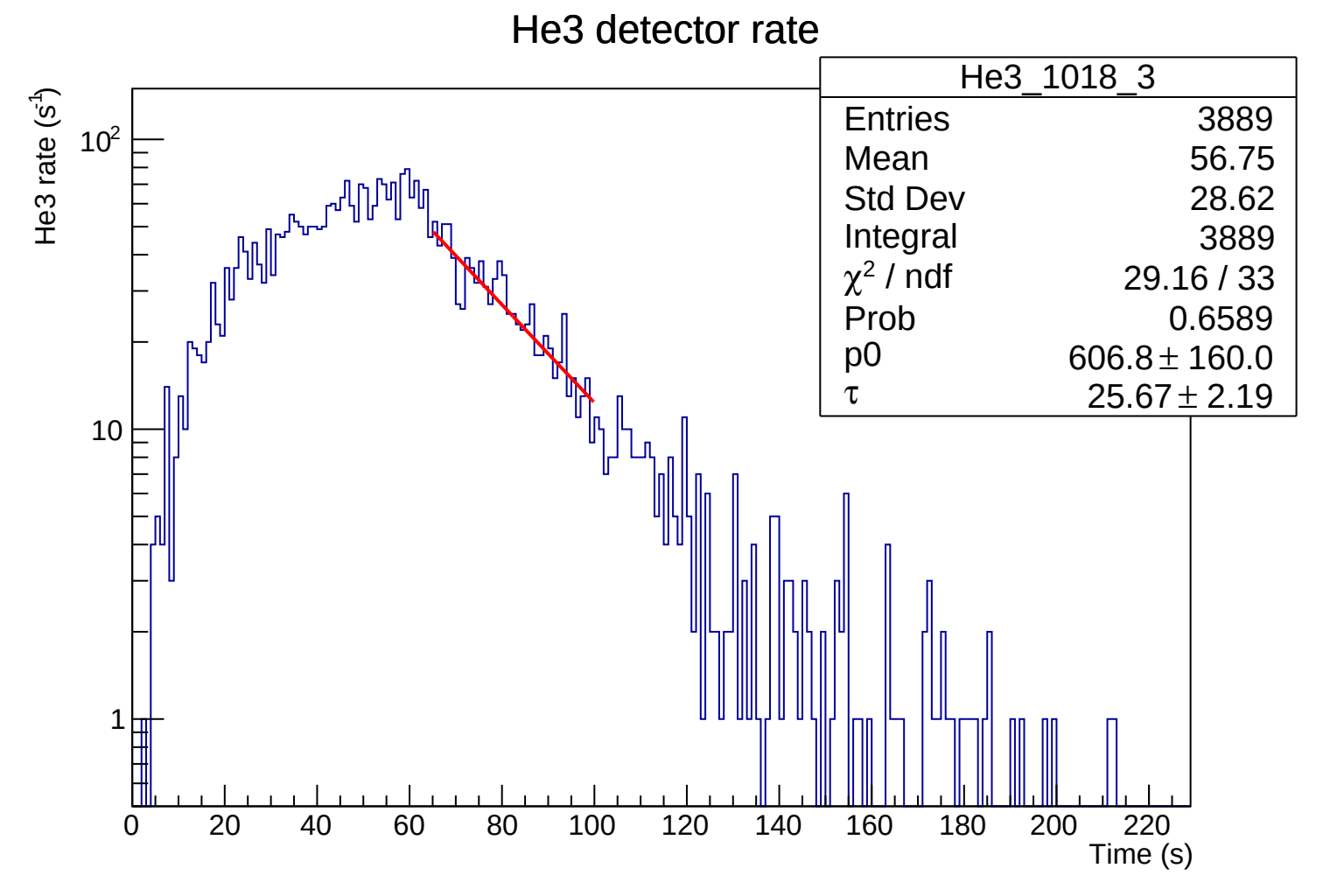

He3 detector rate
He3_1016_3
Entries 3899
Mean 56.67
Std Dev 28.04
Integral 3899
χ² / ndf 40.28 / 33
Prob 0.1793
p0 2706 ± 727.4
τ 17.36 ± 1.04
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

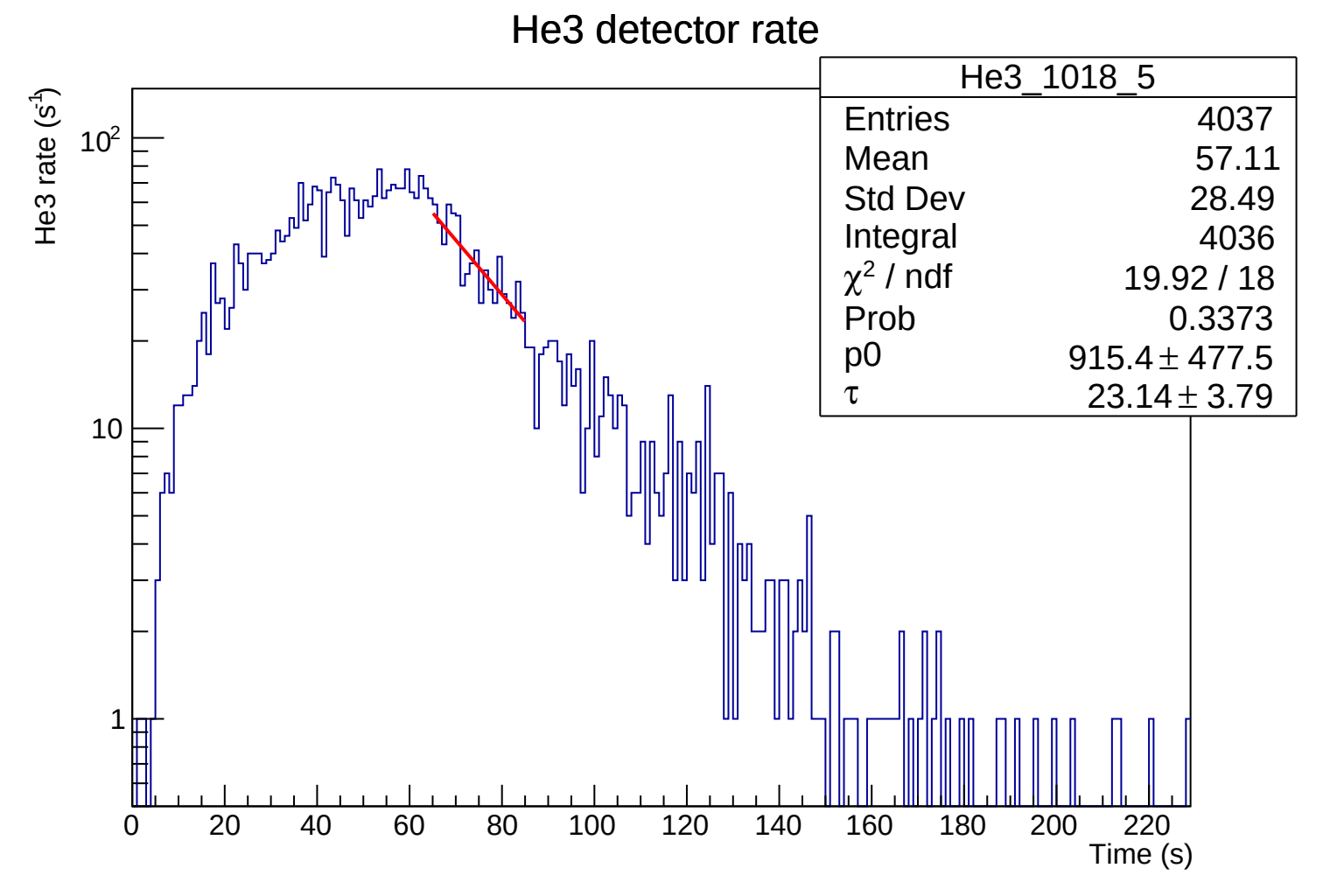

He3 detector rate
He3_1016_5
Entries 3940
Mean 57.06
Std Dev 29.59
Integral 3940
χ² / ndf 27.02 / 18
Prob 0.07858
p0 1515 ± 817.8
τ 19.76 ± 2.87
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

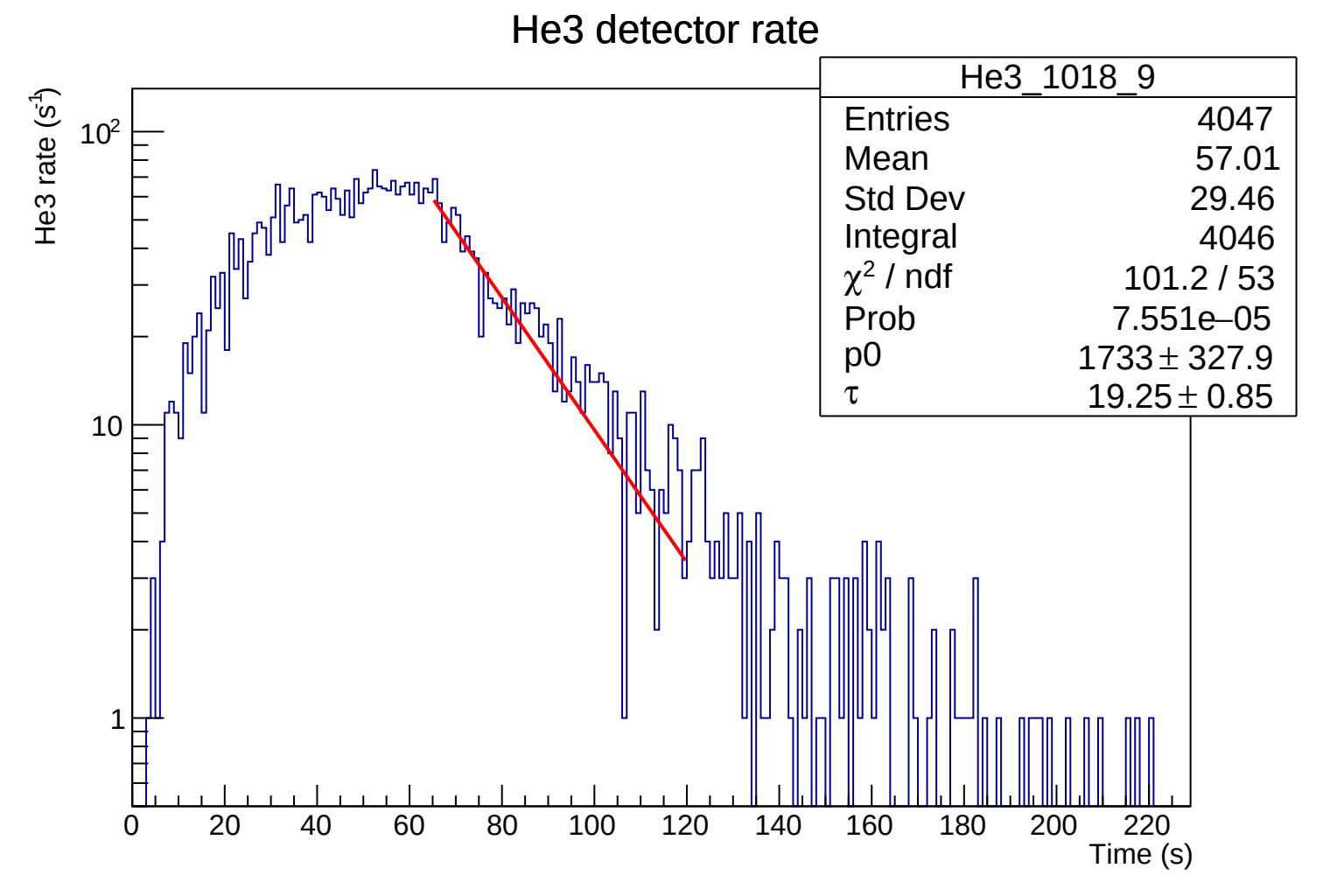

He3 detector rate
He3_1016_9
Entries 3861
Mean 57.57
Std Dev 29.53
Integral 3861
χ² / ndf 48.45 / 53
Prob 0.6517
p0 868.7 ± 165.6
τ 22.88 ± 1.19
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

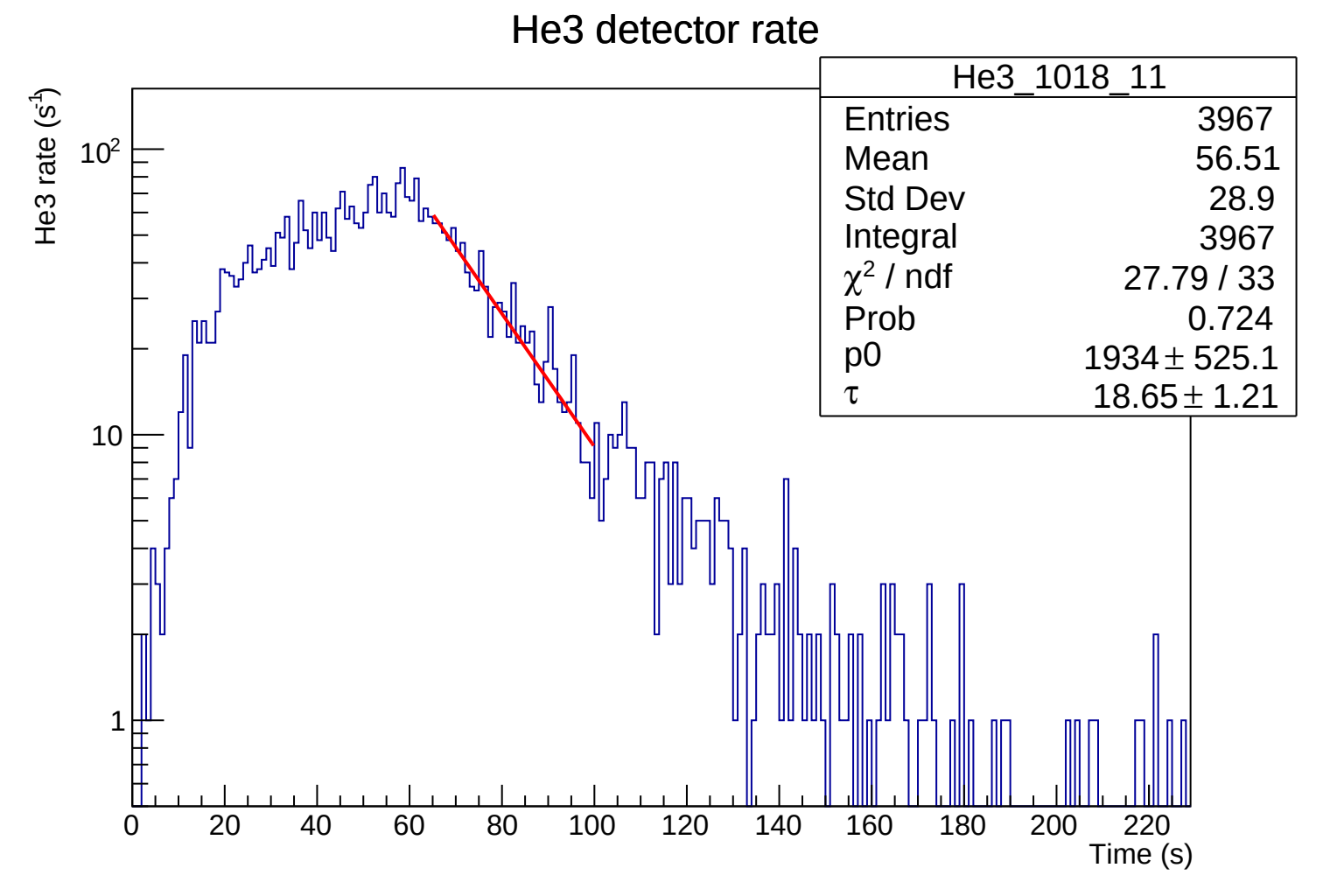

He3 detector rate
He3_1016_11
Entries 3946
Mean 57.85
Std Dev 30.02
Integral 3946
χ² / ndf 28.27 / 33
Prob 0.702
p0 1564 ± 419.0
τ 20.03 ± 1.37
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

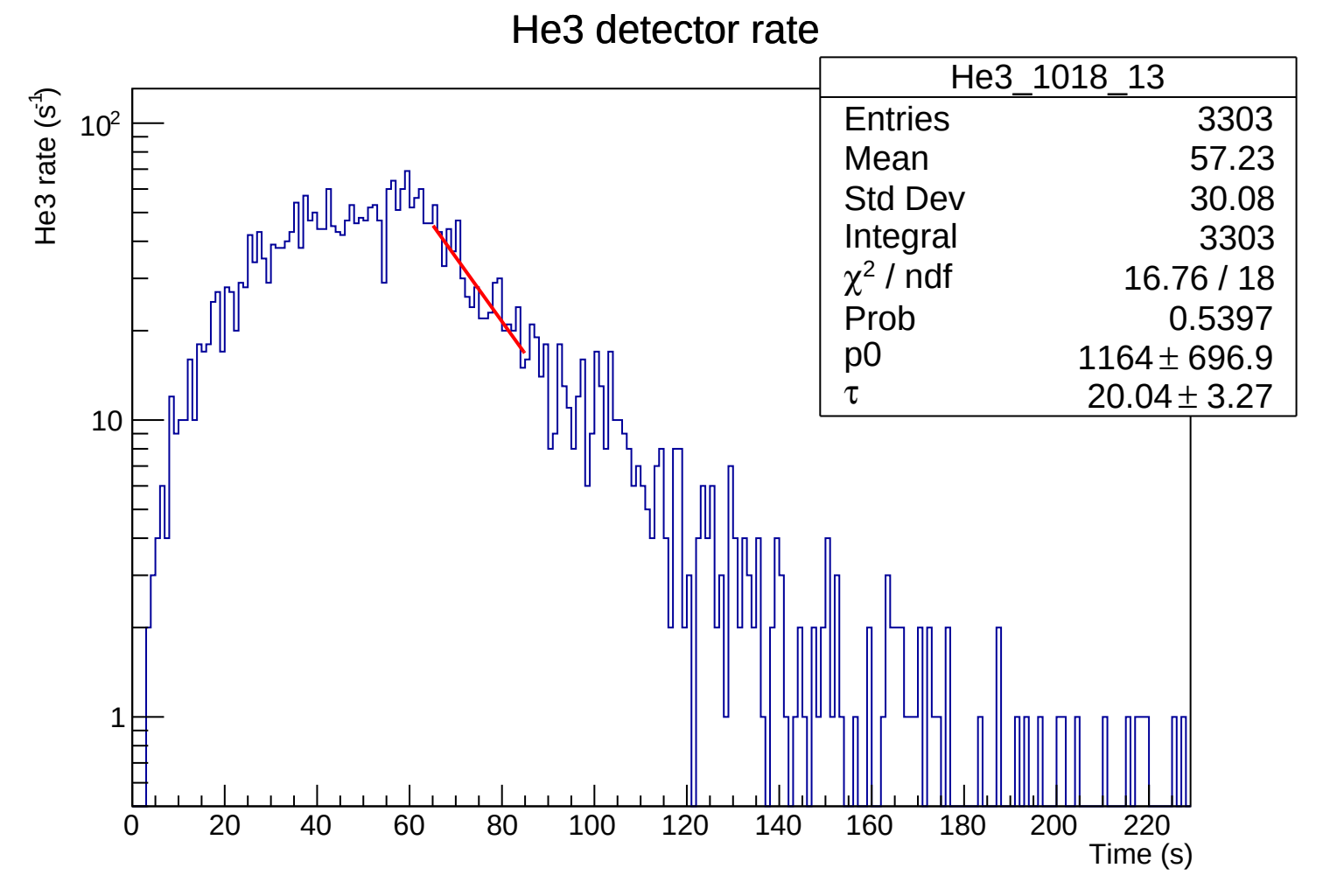

He3 detector rate
He3_1018_1
Entries 4011
Mean 57.94
Std Dev 29.24
Integral 4011
χ² / ndf 61.56 / 53
Prob 0.1964
p0 1169 ± 214.4
τ 21.65 ± 1.04
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

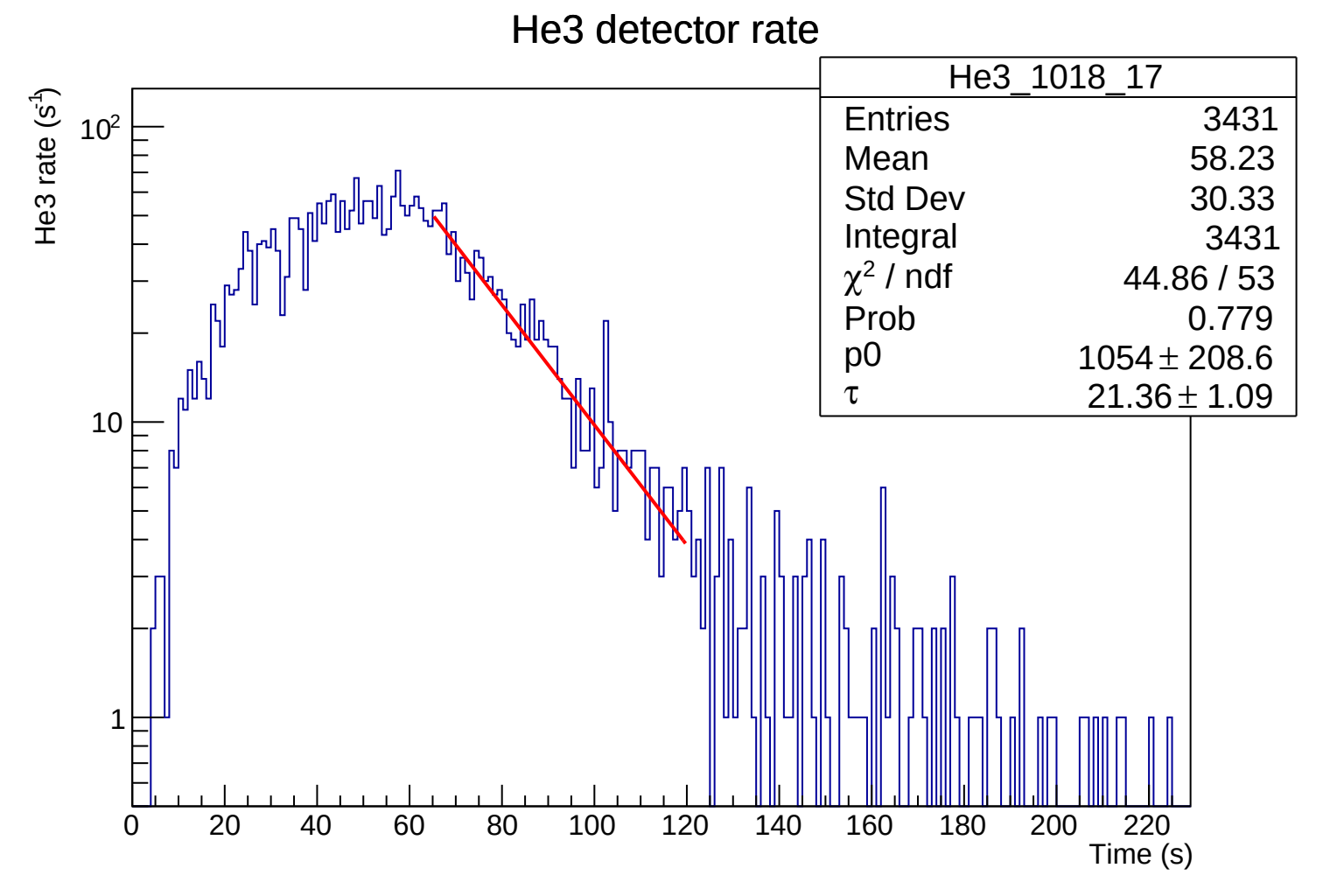

He3 detector rate
He3_1018_3
Entries 3889
Mean 56.75
Std Dev 28.62
Integral 3889
χ² / ndf 29.16 / 33
Prob 0.6589
p0 606.8 ± 160.0
τ 25.67 ± 2.19
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

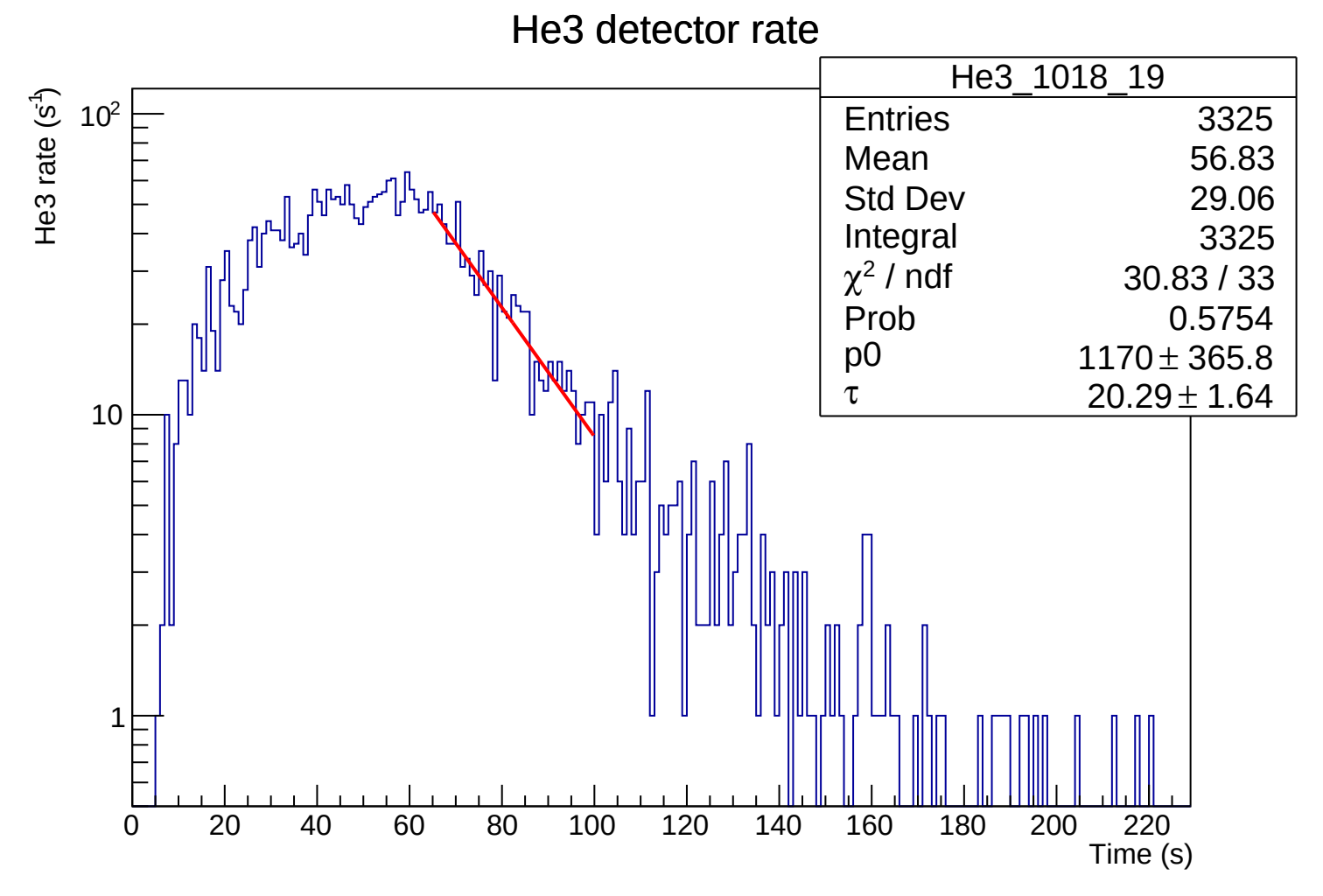

He3 detector rate
He3_1018_5
Entries 4037
Mean 57.11
Std Dev 28.49
Integral 4036
χ² / ndf 19.92 / 18
Prob 0.3373
p0 915.4 ± 477.5
τ 23.14 ± 3.79
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

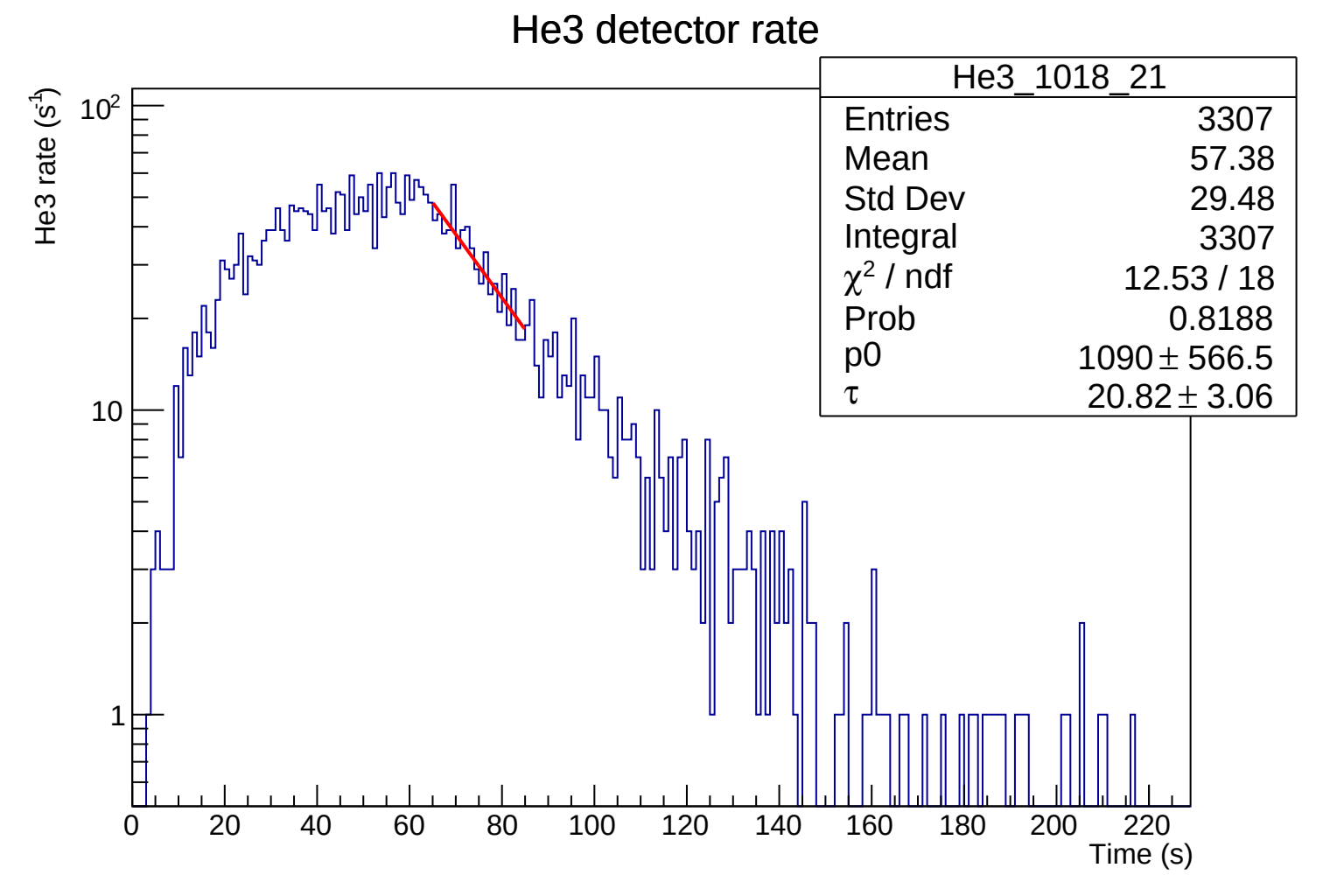

He3 detector rate
He3_1018_9
Entries 4047
Mean 57.01
Std Dev 29.46
Integral 4046
χ² / ndf 101.2 / 53
Prob 7.551e–05
p0 1733 ± 327.9
τ 19.25 ± 0.85
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

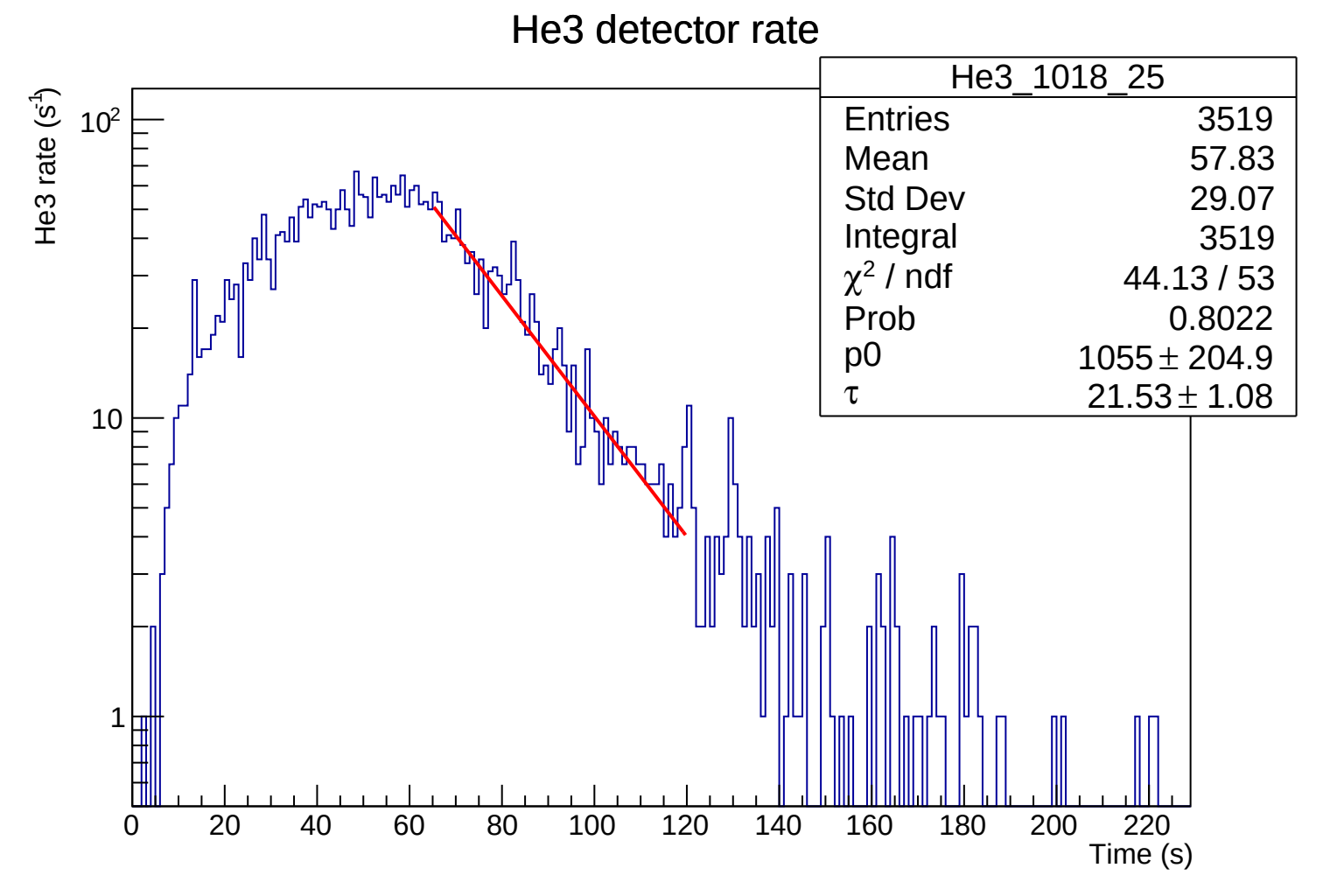

He3 detector rate
He3_1018_11
Entries 3967
Mean 56.51
Std Dev 28.9
Integral 3967
χ² / ndf 27.79 / 33
Prob 0.724
p0 1934 ± 525.1
τ 18.65 ± 1.21
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

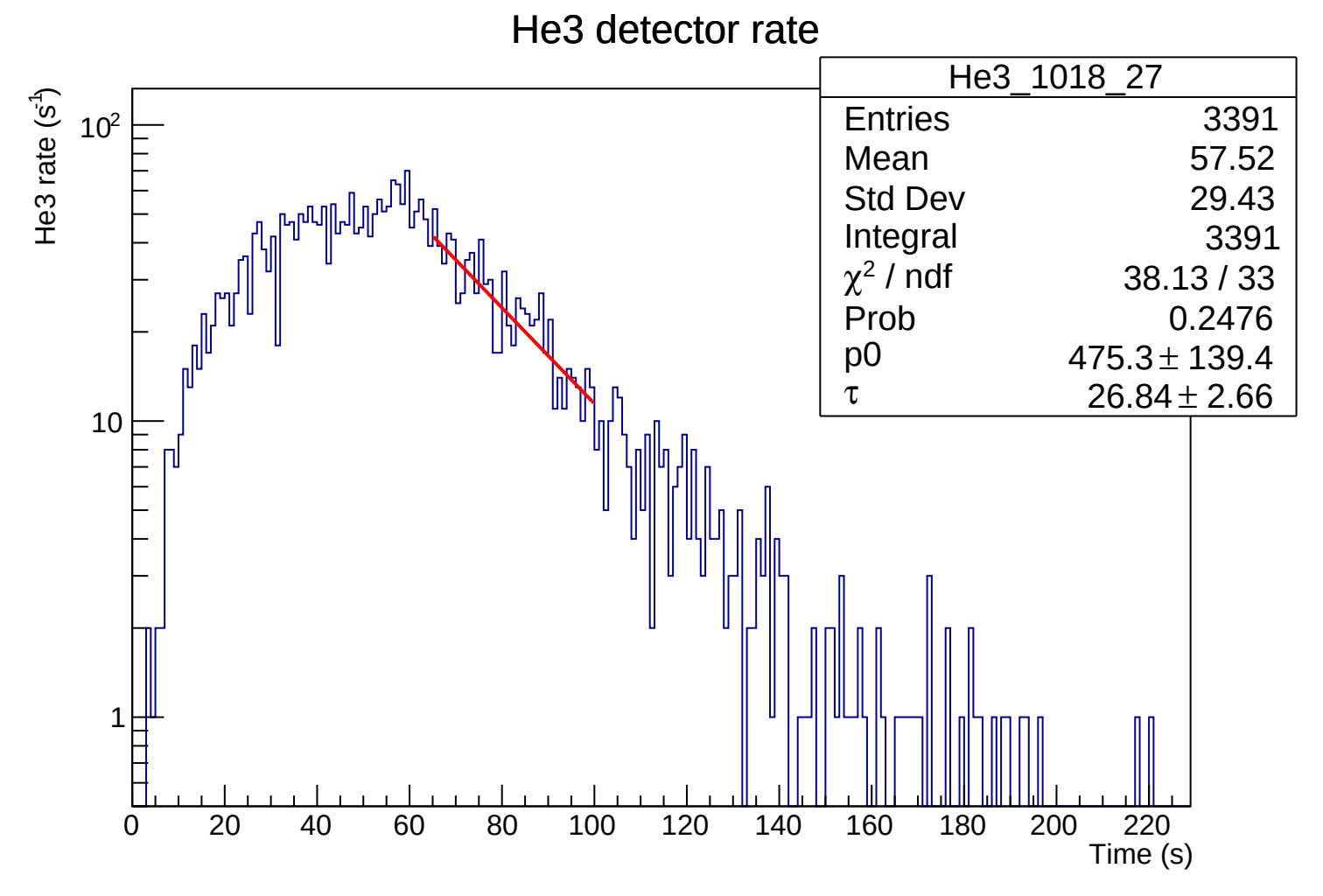

He3 detector rate
He3_1018_13
Entries 3303
Mean 57.23
Std Dev 30.08
Integral 3303
χ² / ndf 16.76 / 18
Prob 0.5397
p0 1164 ± 696.9
τ 20.04 ± 3.27
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

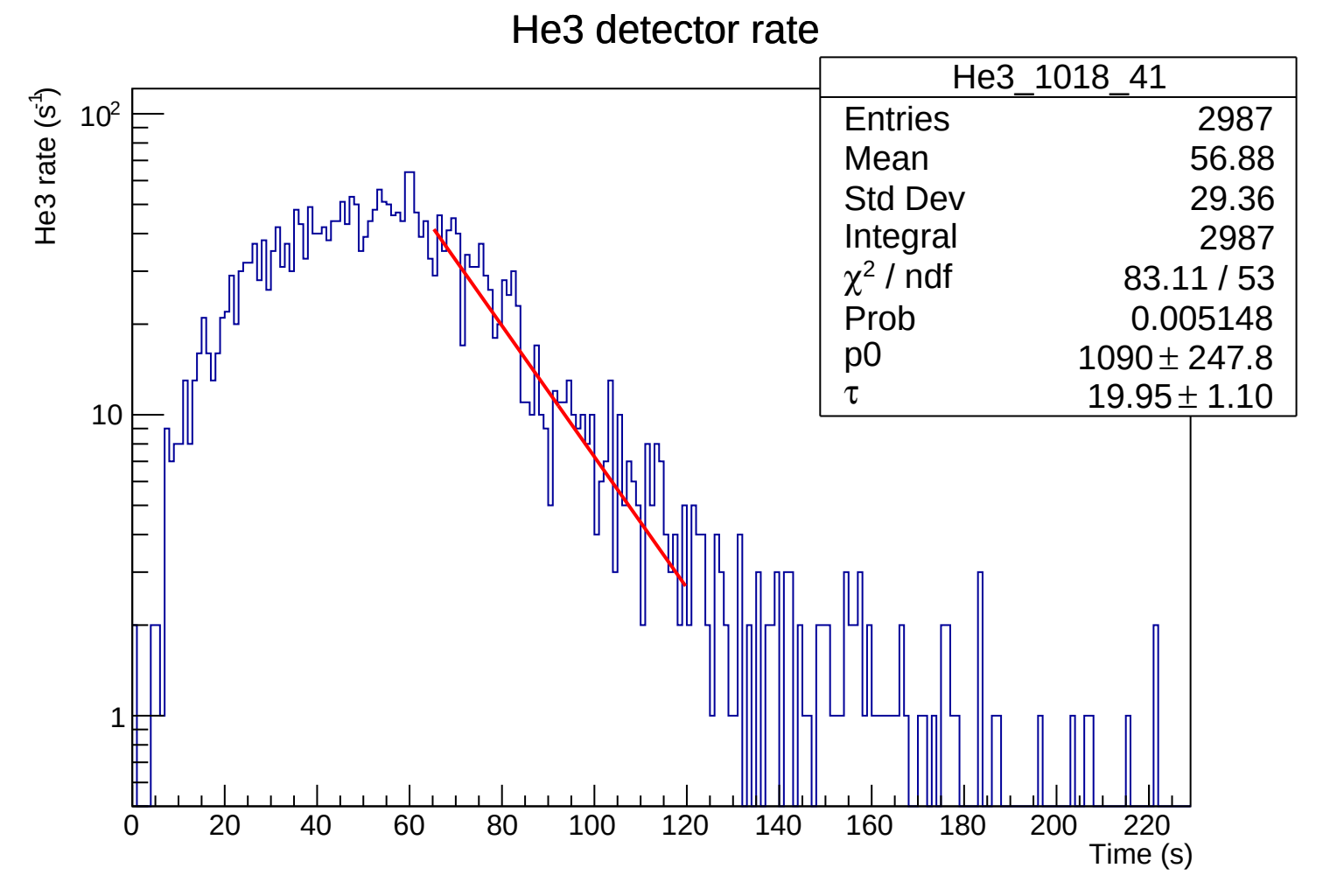

He3 detector rate
He3_1018_17
Entries 3431
Mean 58.23
Std Dev 30.33
Integral 3431
χ² / ndf 44.86 / 53
Prob 0.779
p0 1054 ± 208.6
τ 21.36 ± 1.09
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)


He3 detector rate
He3_1018_19
Entries 3325
Mean 56.83
Std Dev 29.06
Integral 3325
χ² / ndf 30.83 / 33
Prob 0.5754
p0 1170 ± 365.8
τ 20.29 ± 1.64
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)


He3 detector rate
He3_1018_21
Entries 3307
Mean 57.38
Std Dev 29.48
Integral 3307
χ² / ndf 12.53 / 18
Prob 0.8188
p0 1090 ± 566.5
τ 20.82 ± 3.06
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)


He3 detector rate
He3_1018_25
Entries 3519
Mean 57.83
Std Dev 29.07
Integral 3519
χ² / ndf 44.13 / 53
Prob 0.8022
p0 1055 ± 204.9
τ 21.53 ± 1.08
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)


He3 detector rate
He3_1018_27
Entries 3391
Mean 57.52
Std Dev 29.43
Integral 3391
χ² / ndf 38.13 / 33
Prob 0.2476
p0 475.3 ± 139.4
τ 26.84 ± 2.66
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)


He3 detector rate
He3_1018_41
Entries 2987
Mean 56.88
Std Dev 29.36
Integral 2987
χ² / ndf 83.11 / 53
Prob 0.005148
p0 1090 ± 247.8
τ 19.95 ± 1.10
He3 rate (s⁻¹)
10²
10
1
0
20
40
60
80
100
120
140
160
180
200
220
Time (s)

Average lifetime from He3 data:

τ = 20.550629607 +/- 0.0105313124156 s