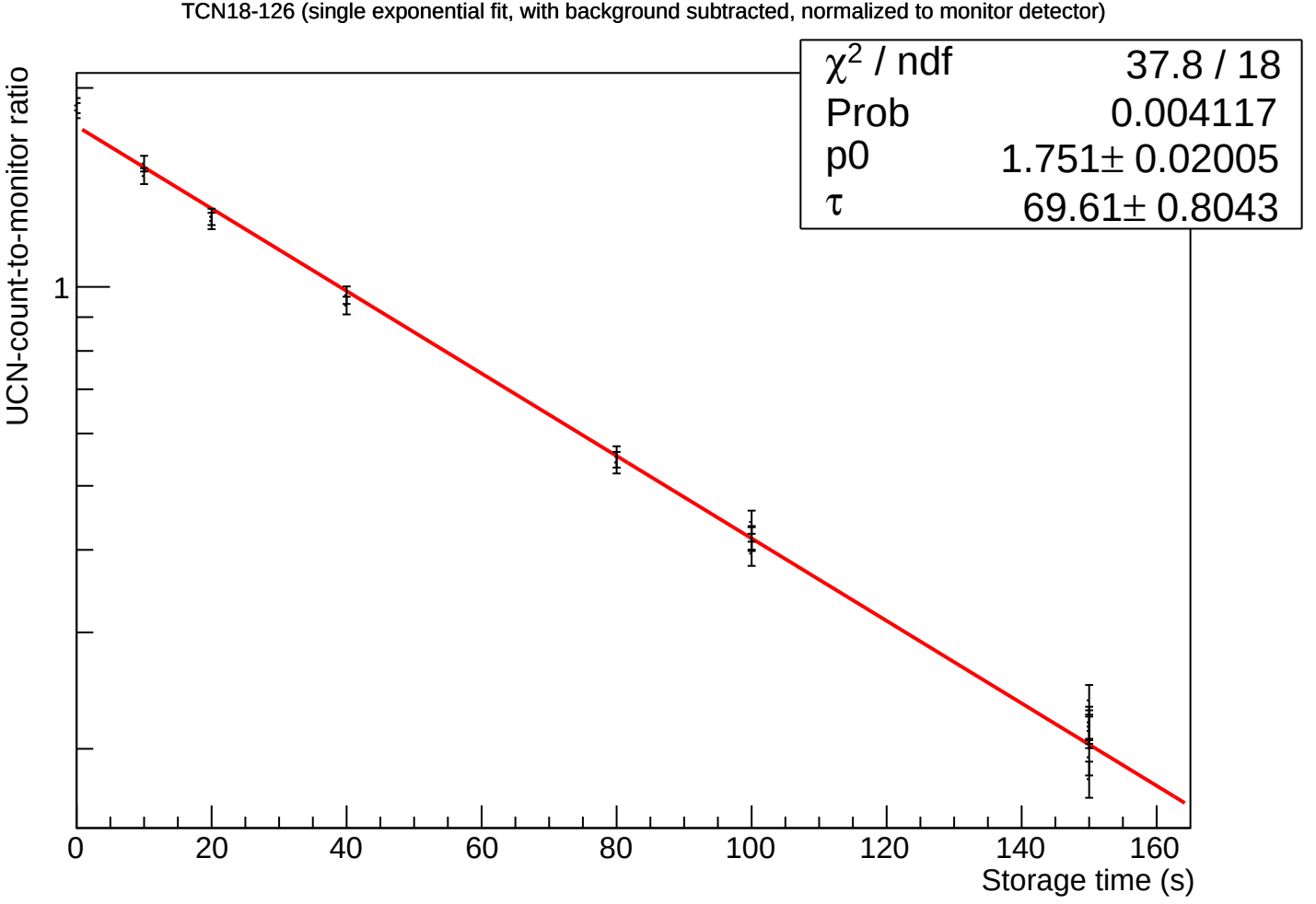
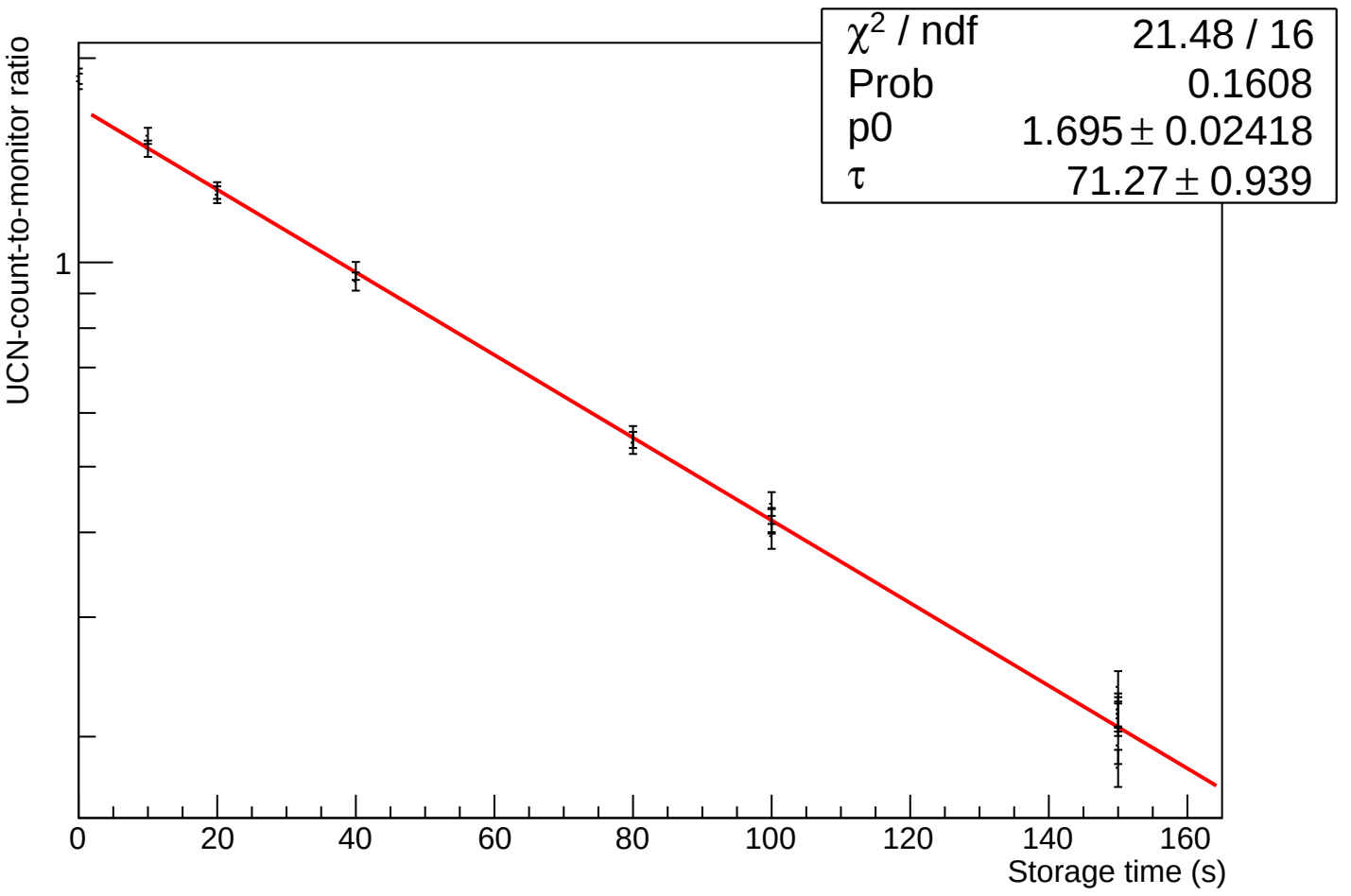
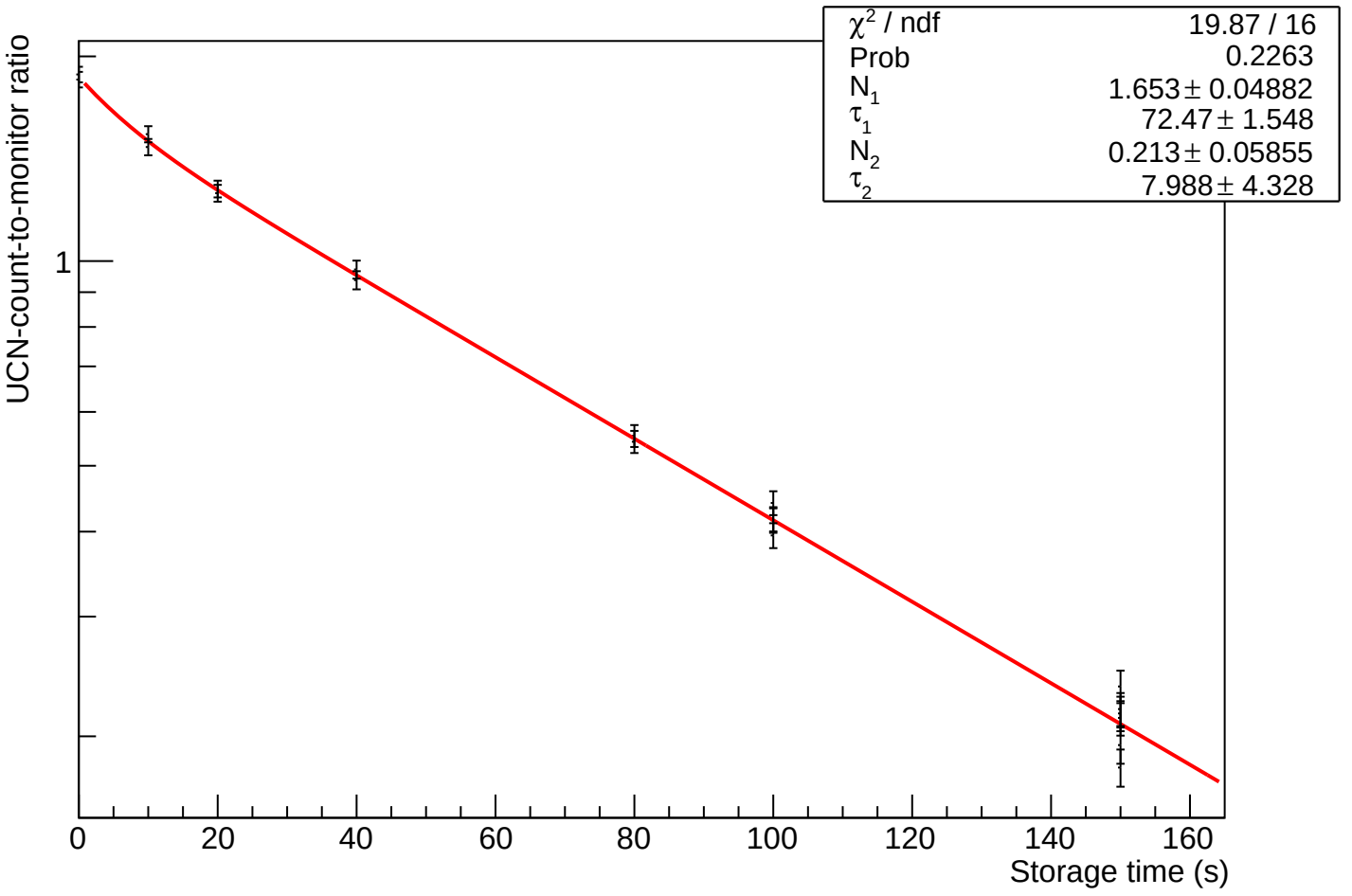
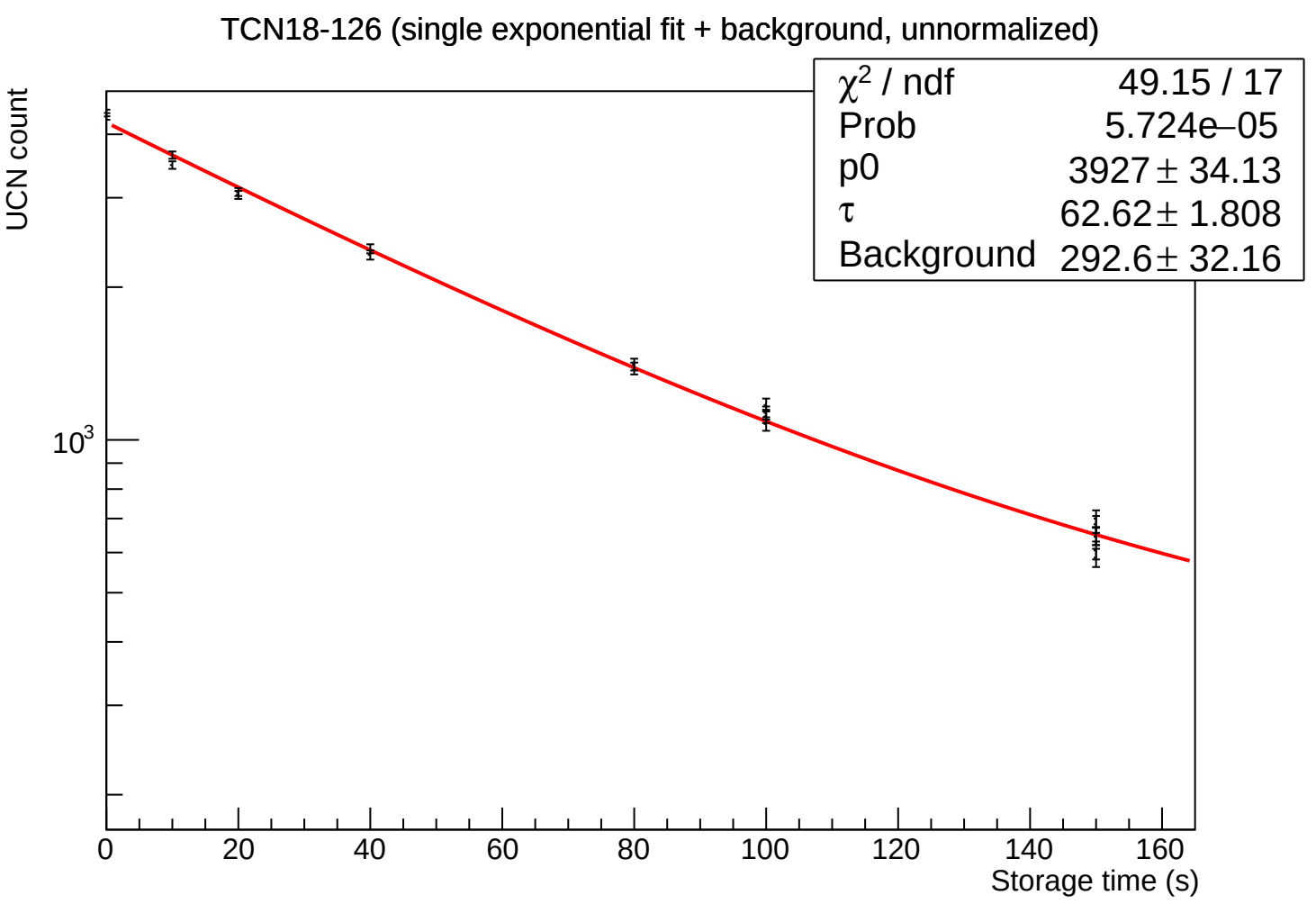
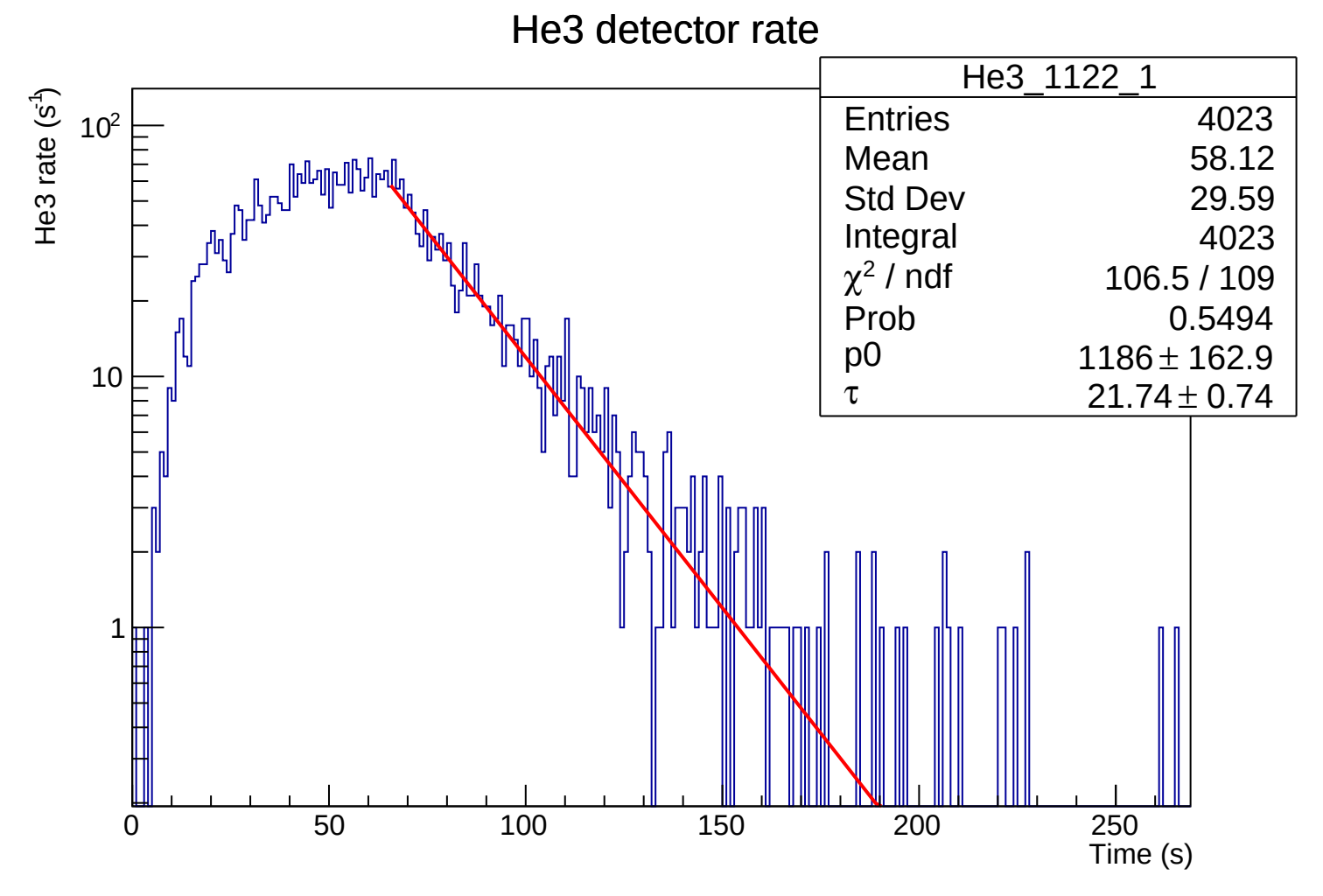
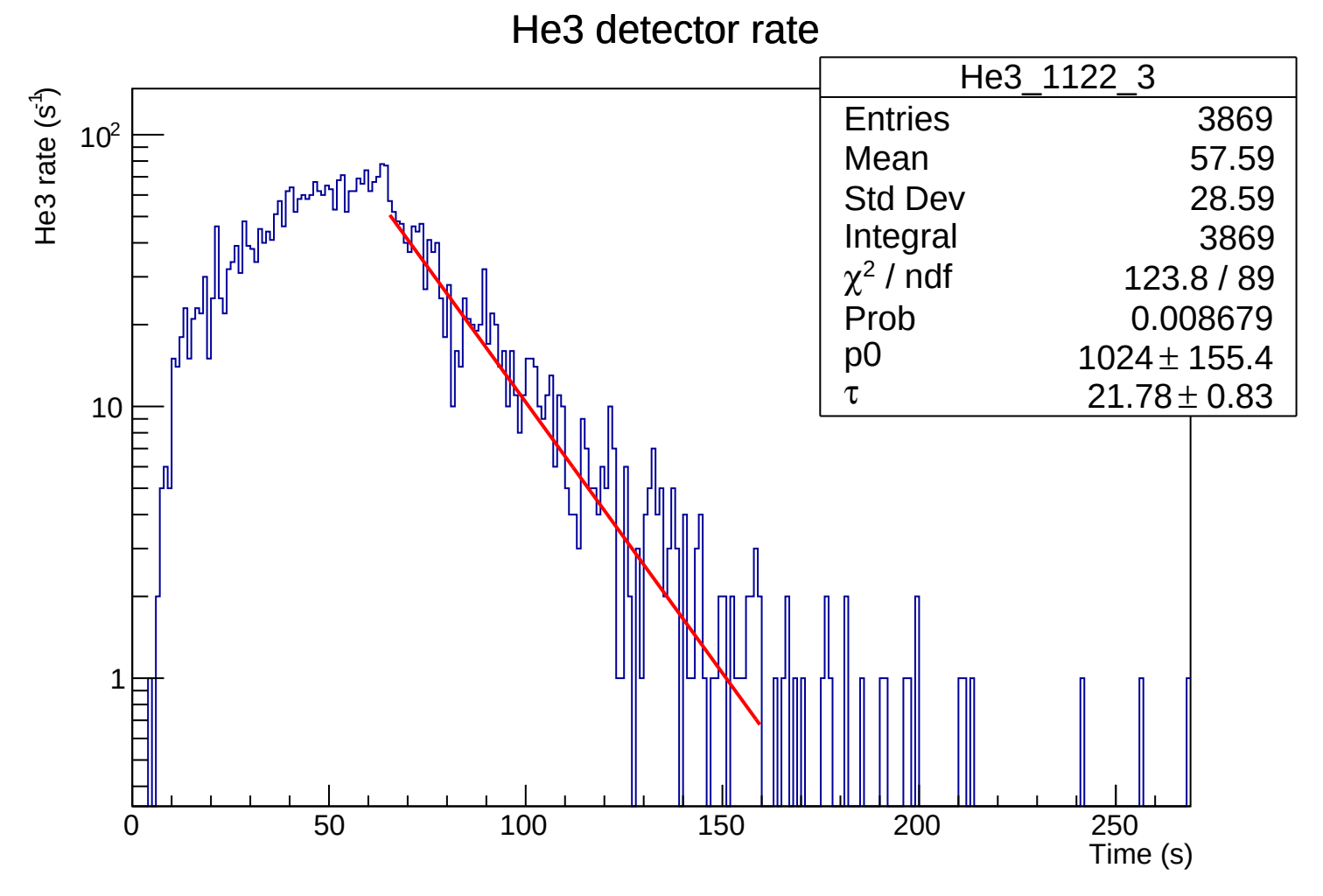

TCN18-126 (single exponential fit, with background subtracted, normalized to monitor detector)
χ² / ndf 37.8 / 18
Prob 0.004117
p0 1.751± 0.02005
τ 69.61± 0.8043
UCN-count-to-monitor ratio
1
0
20
40
60
80
100
120
140
160
Storage time (s)

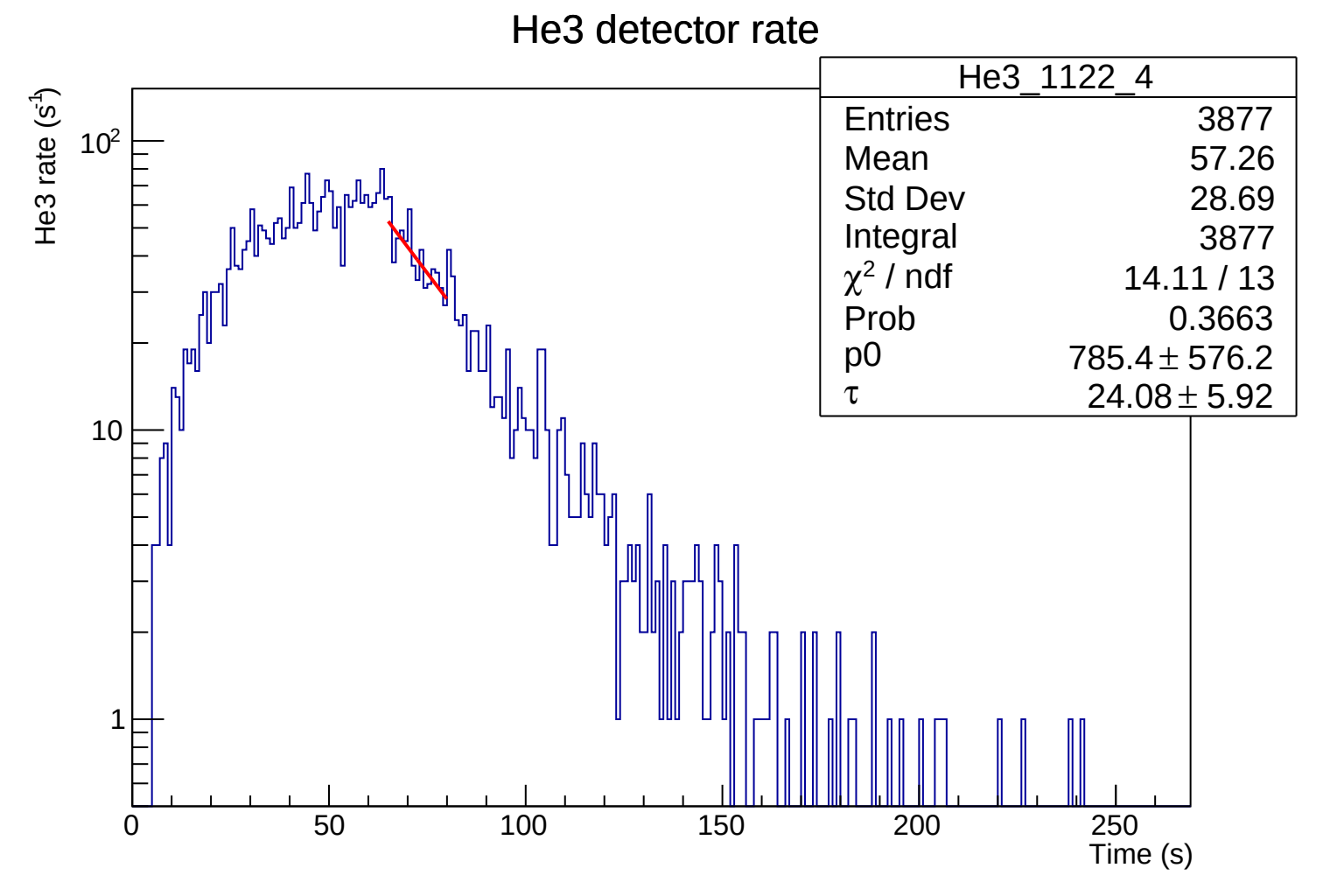

TCN18-126 (single exponential fit, with background subtracted, normalized to monitor detector, 0s excluded)
χ² / ndf 21.48 / 16
Prob 0.1608
p0 1.695 ± 0.02418
τ 71.27 ± 0.939
UCN-count-to-monitor ratio
1
0
20
40
60
80
100
120
140
160
Storage time (s)

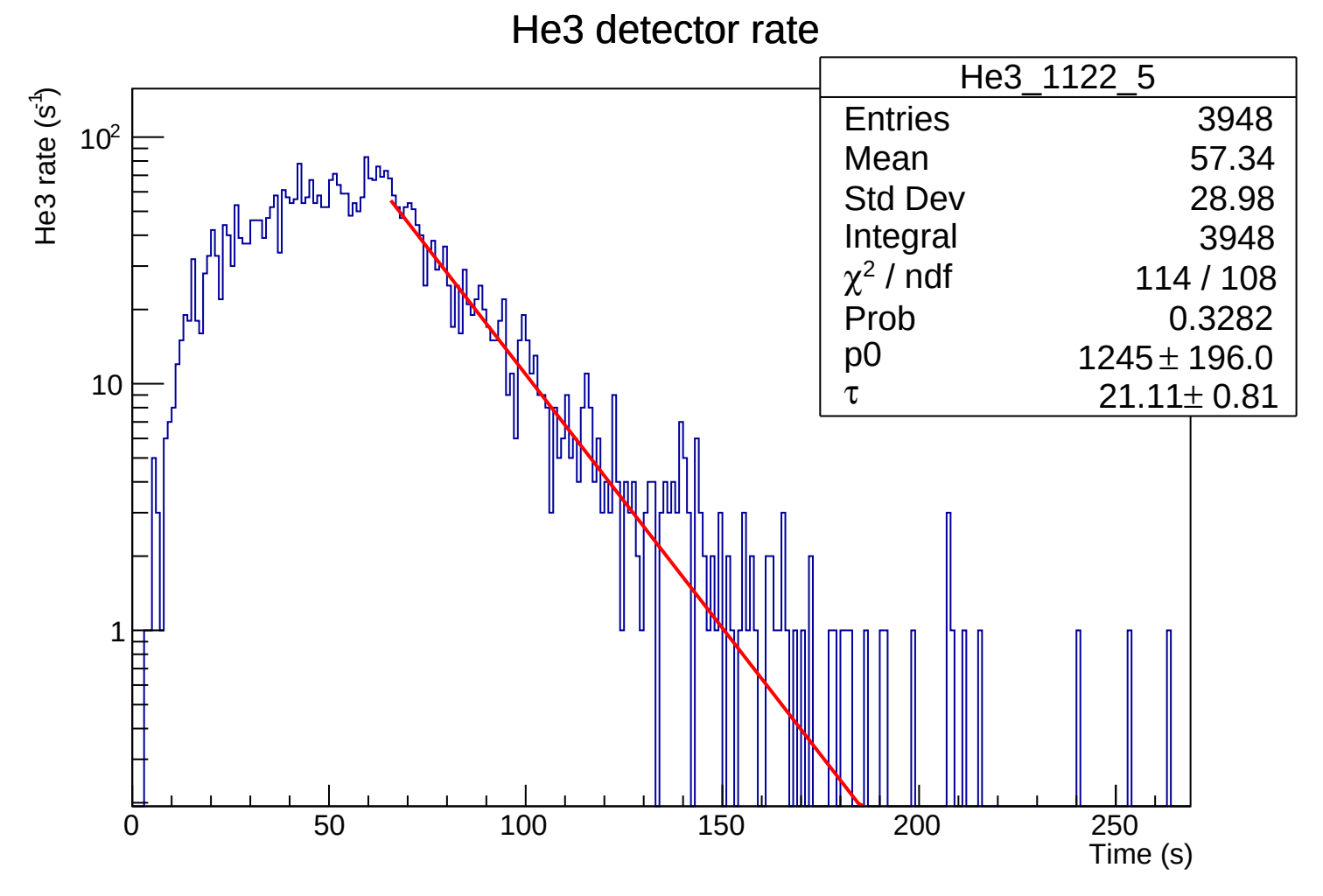

TCN18-126 (double exponential fit, with background subtracted, normalized to monitor detector)
χ² / ndf 19.87 / 16
Prob 0.2263
N1 1.653 ± 0.04882
τ1 72.47 ± 1.548
N2 0.213 ± 0.05855
τ2 7.988 ± 4.328
UCN-count-to-monitor ratio
1
0
20
40
60
80
100
120
140
160
Storage time (s)

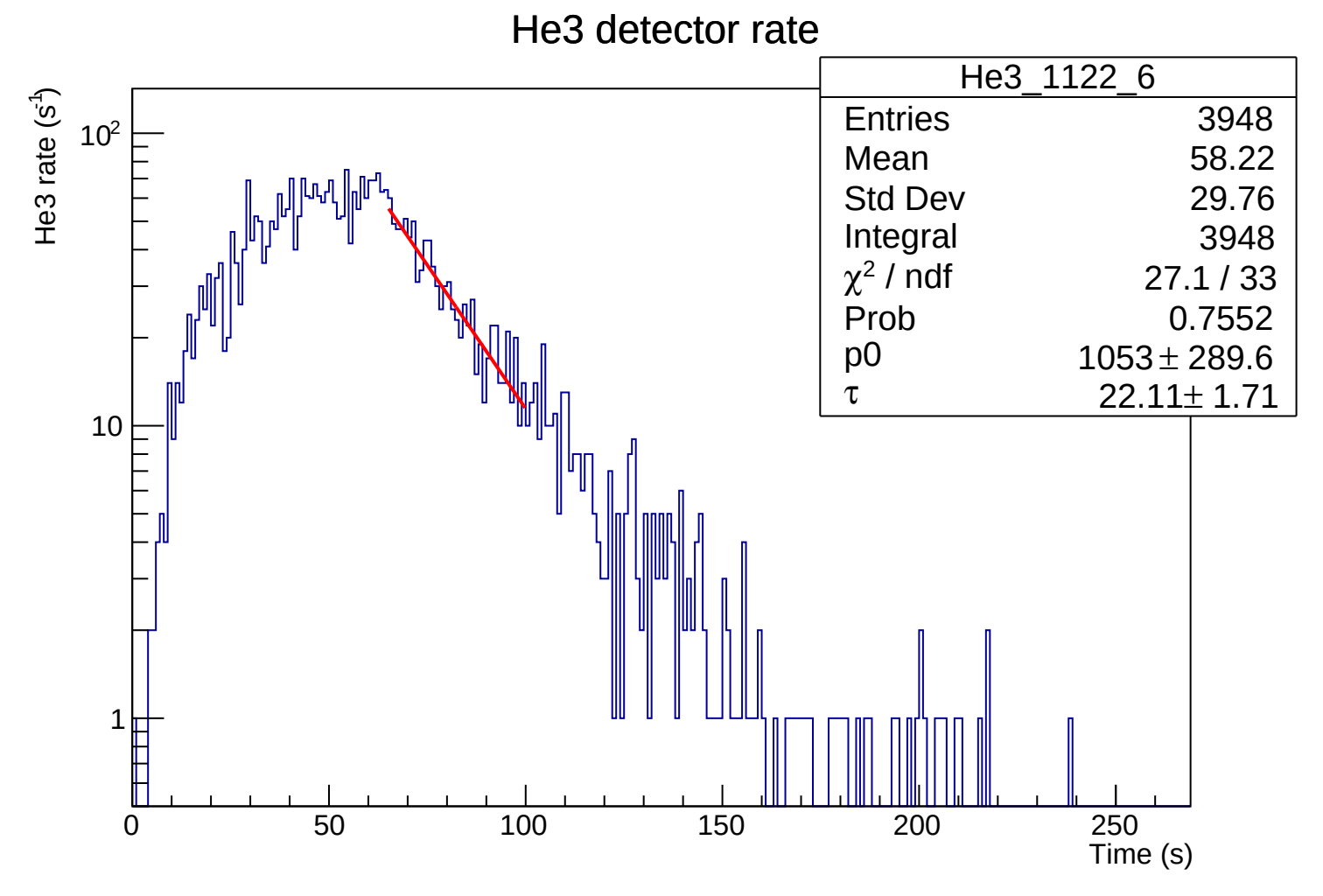

TCN18-126 (single exponential fit + background, unnormalized)
χ² / ndf 49.15 / 17
Prob 5.724e–05
p0 3927 ± 34.13
τ 62.62 ± 1.808
Background 292.6 ± 32.16
UCN count
10³
0
20
40
60
80
100
120
140
160
Storage time (s)

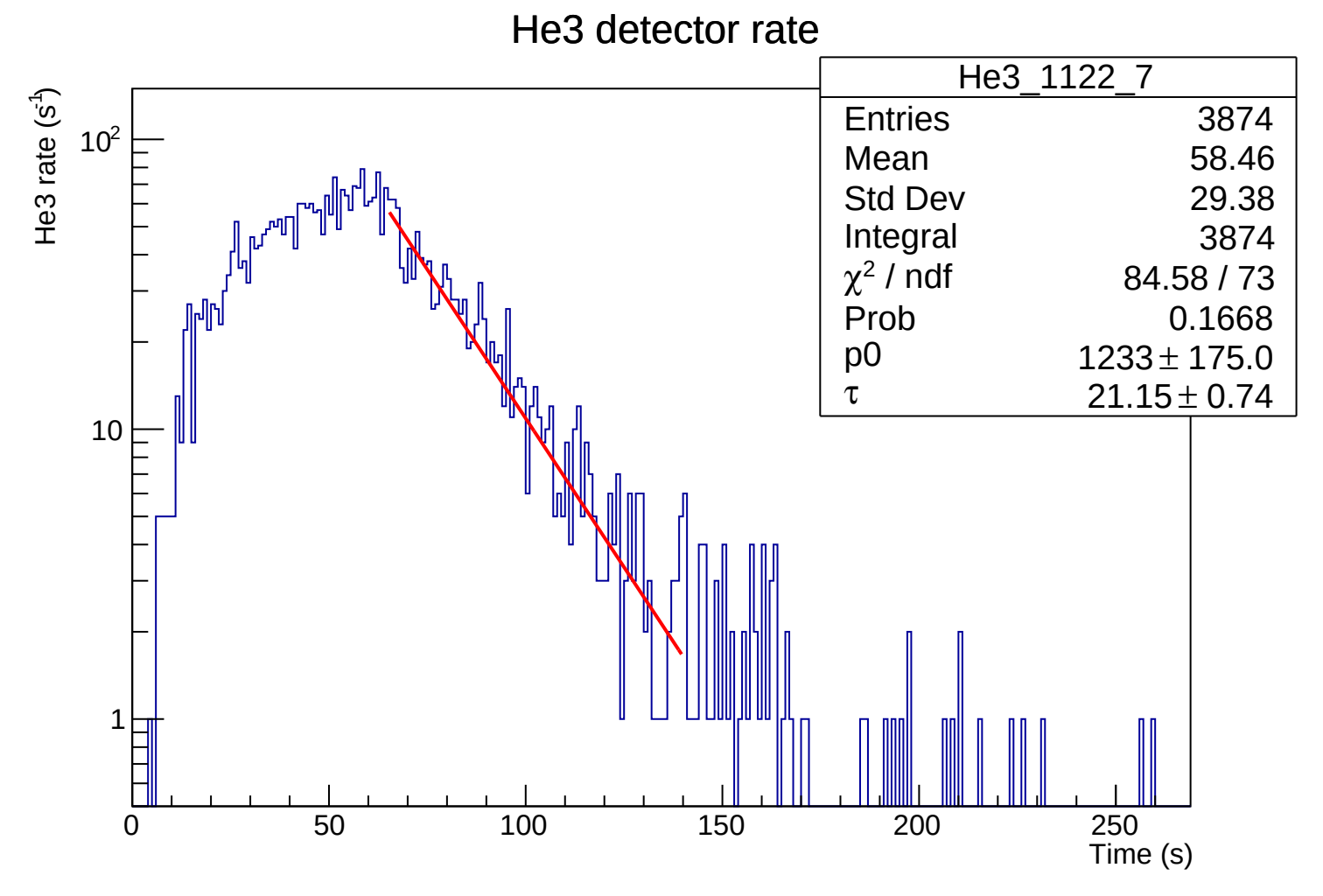

He3 detector rate
He3_1122_1
Entries 4023
Mean 58.12
Std Dev 29.59
Integral 4023
χ² / ndf 106.5 / 109
Prob 0.5494
p0 1186 ± 162.9
τ 21.74 ± 0.74
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

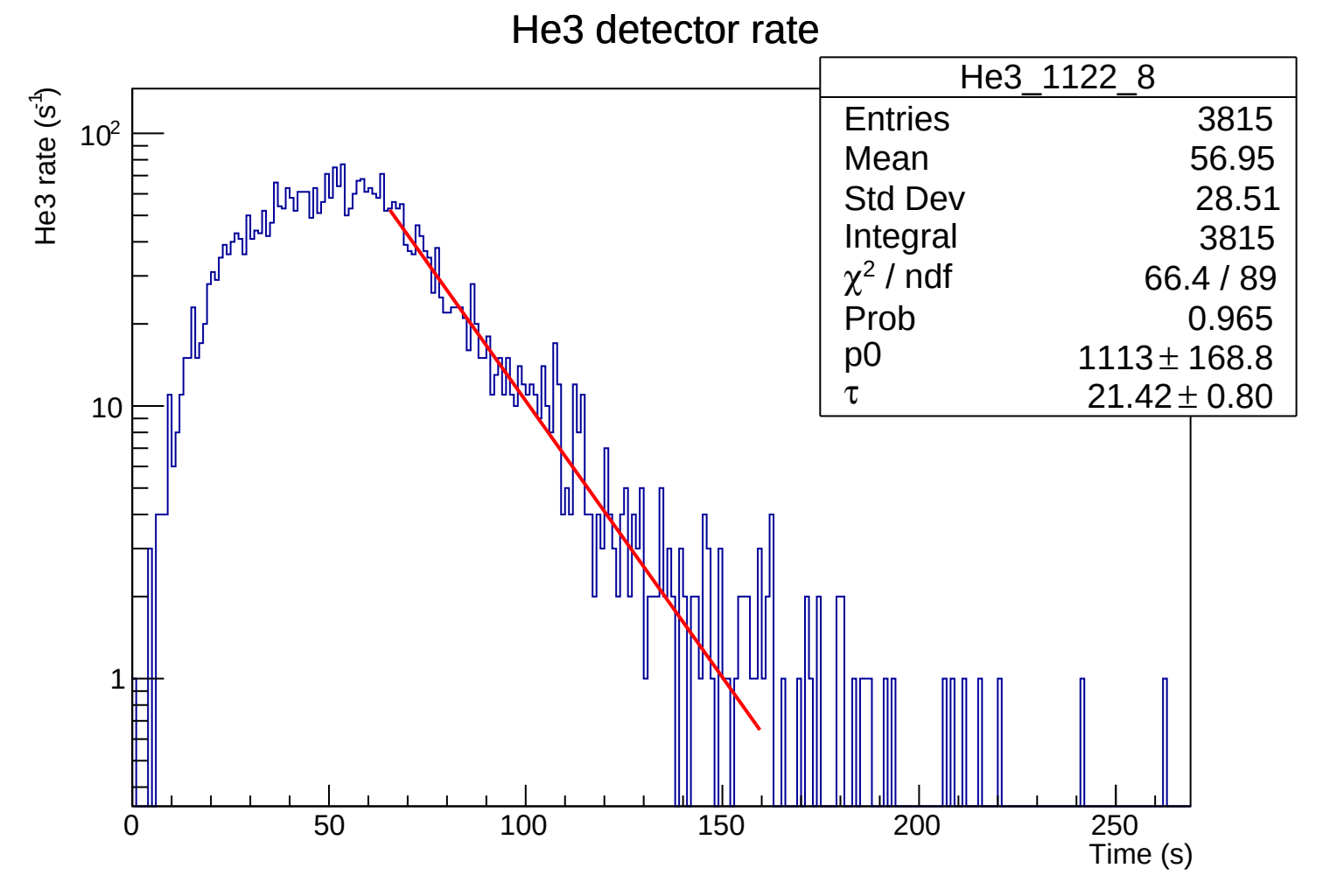

He3 detector rate
He3_1122_3
Entries 3869
Mean 57.59
Std Dev 28.59
Integral 3869
χ² / ndf 123.8 / 89
Prob 0.008679
p0 1024 ± 155.4
τ 21.78 ± 0.83
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

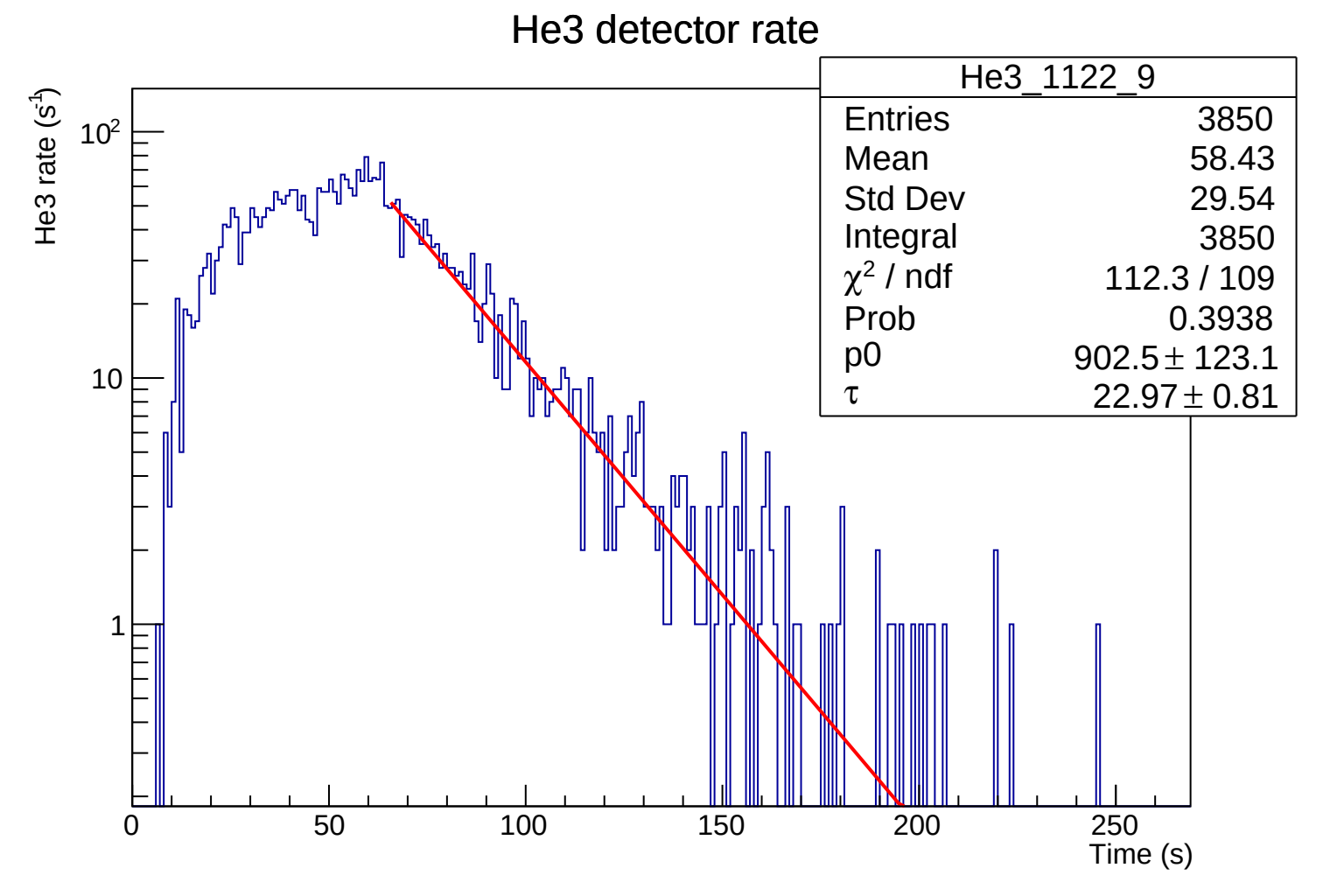

He3 detector rate
He3_1122_4
Entries 3877
Mean 57.26
Std Dev 28.69
Integral 3877
χ² / ndf 14.11 / 13
Prob 0.3663
p0 785.4 ± 576.2
τ 24.08 ± 5.92
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

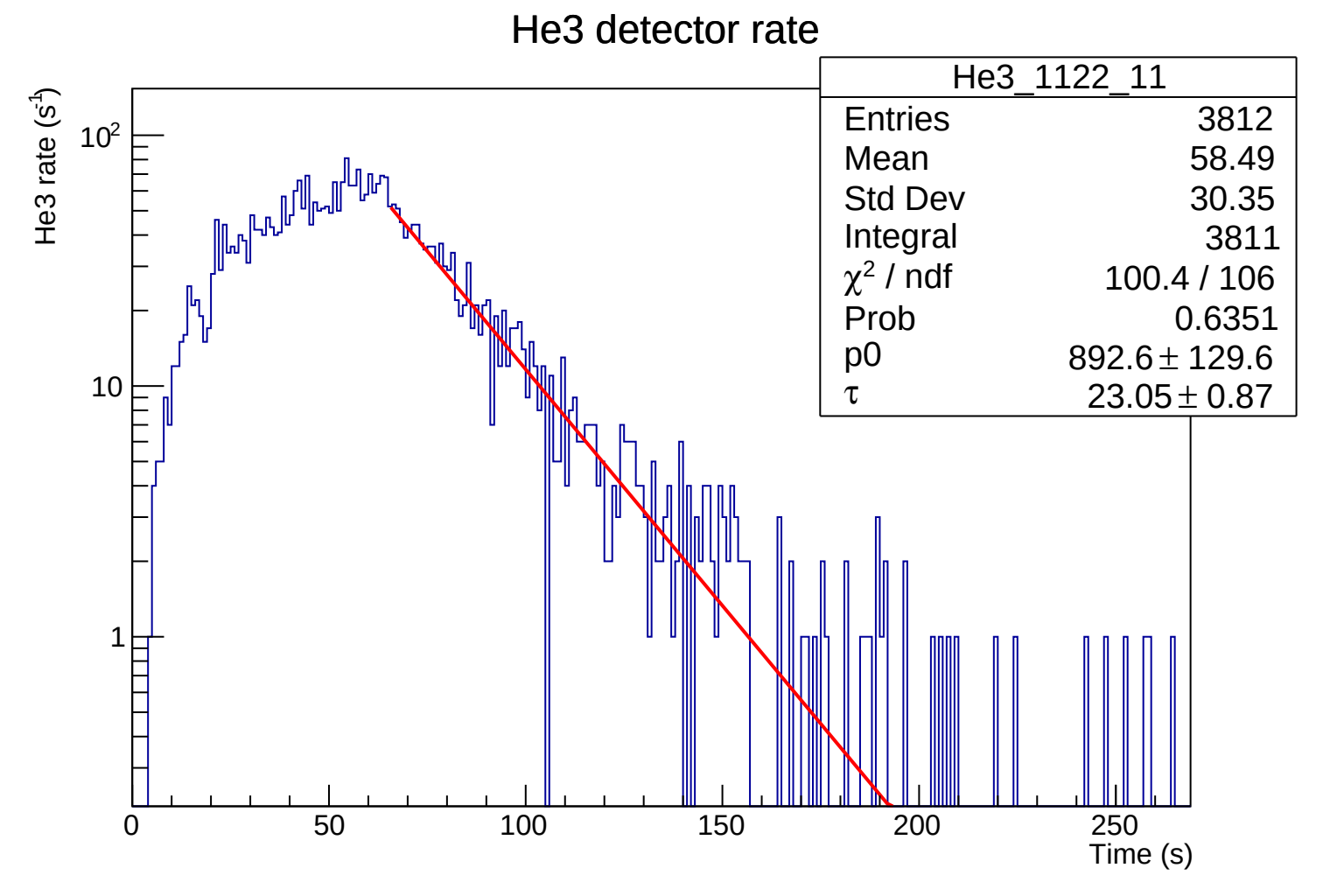

He3 detector rate
He3_1122_5
Entries 3948
Mean 57.34
Std Dev 28.98
Integral 3948
χ² / ndf 114 / 108
Prob 0.3282
p0 1245 ± 196.0
τ 21.11 ± 0.81
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

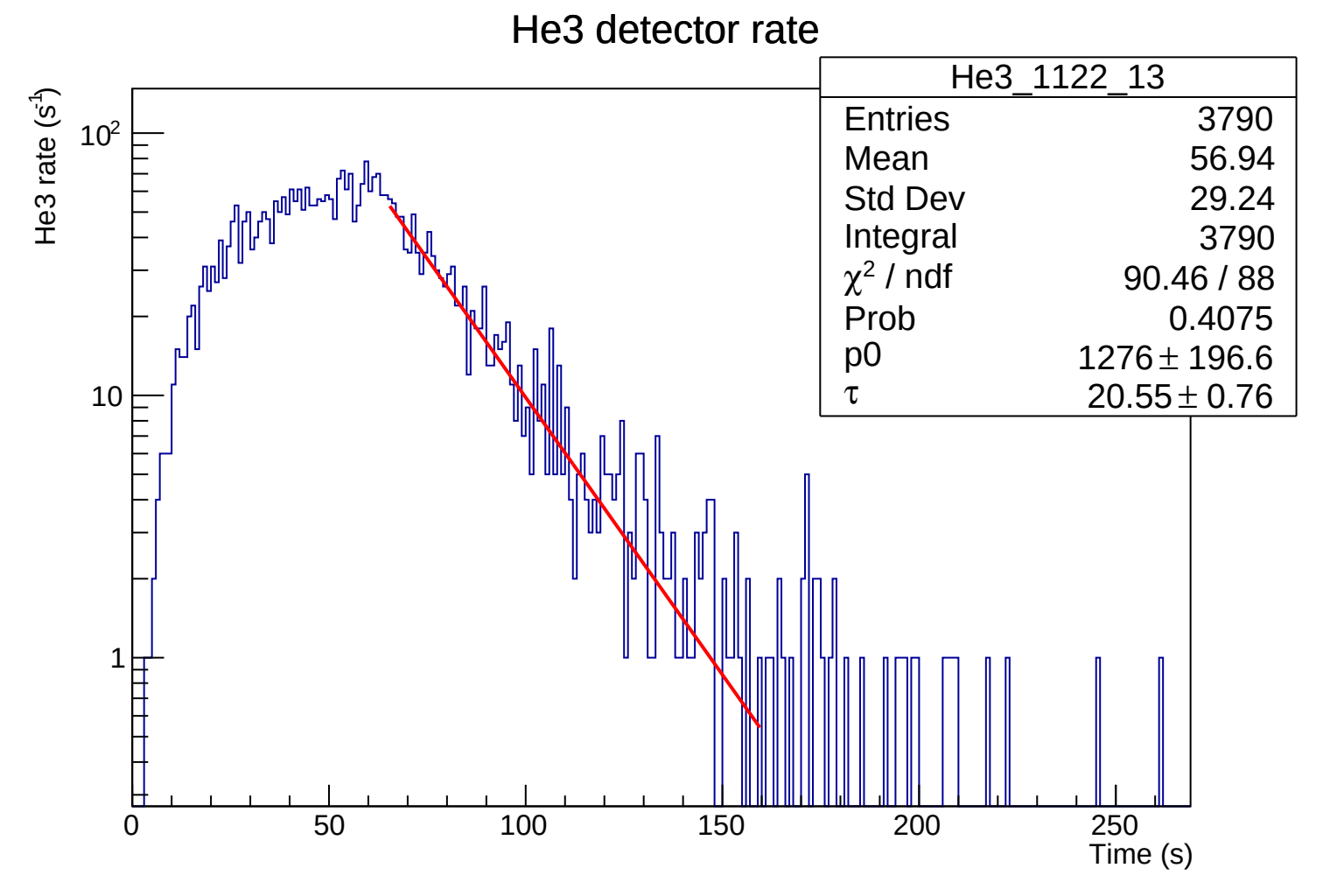

He3 detector rate
He3_1122_6
Entries 3948
Mean 58.22
Std Dev 29.76
Integral 3948
χ² / ndf 27.1 / 33
Prob 0.7552
p0 1053 ± 289.6
τ 22.11 ± 1.71
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

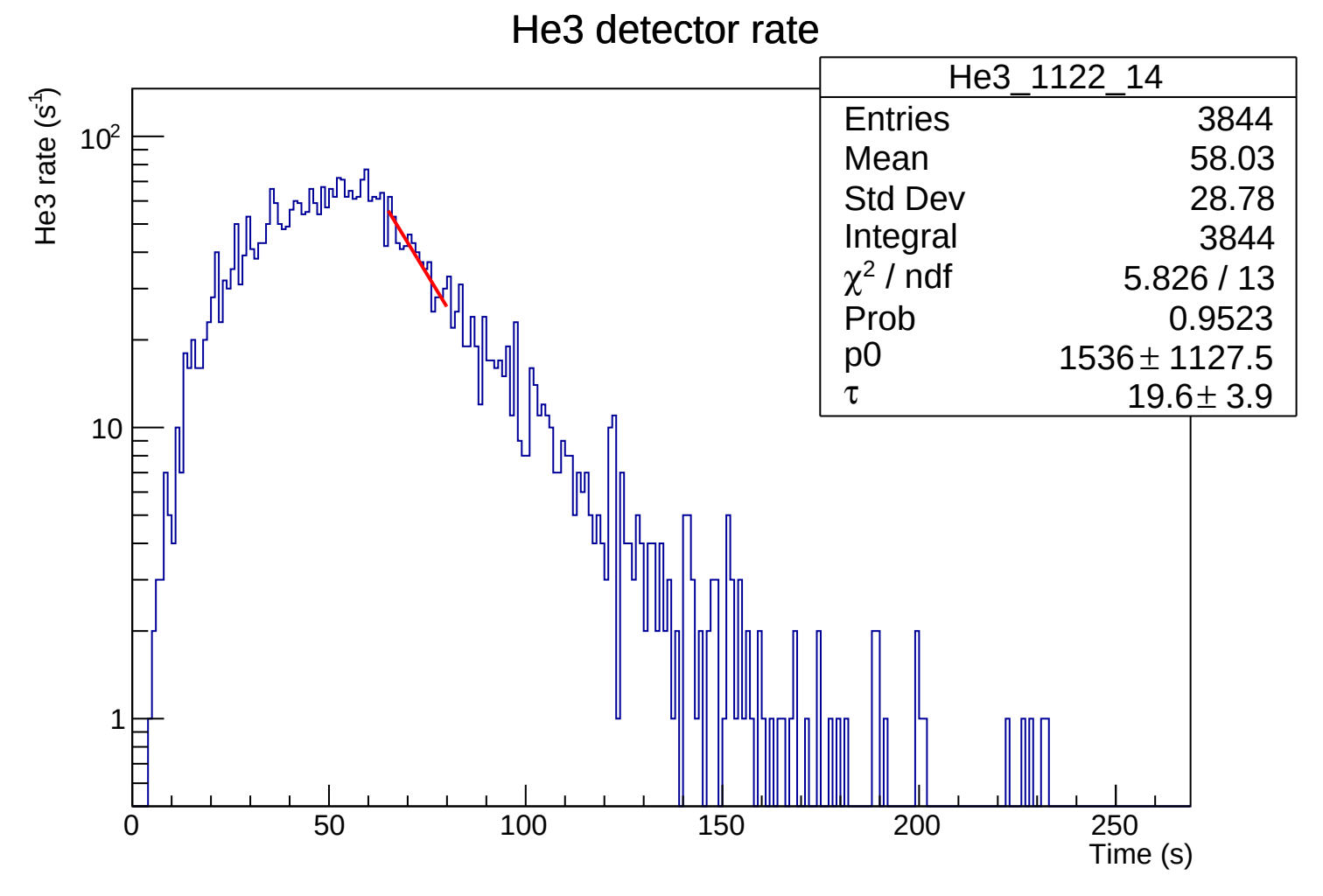

He3 detector rate
He3_1122_7
Entries 3874
Mean 58.46
Std Dev 29.38
Integral 3874
χ² / ndf 84.58 / 73
Prob 0.1668
p0 1233 ± 175.0
τ 21.15 ± 0.74
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

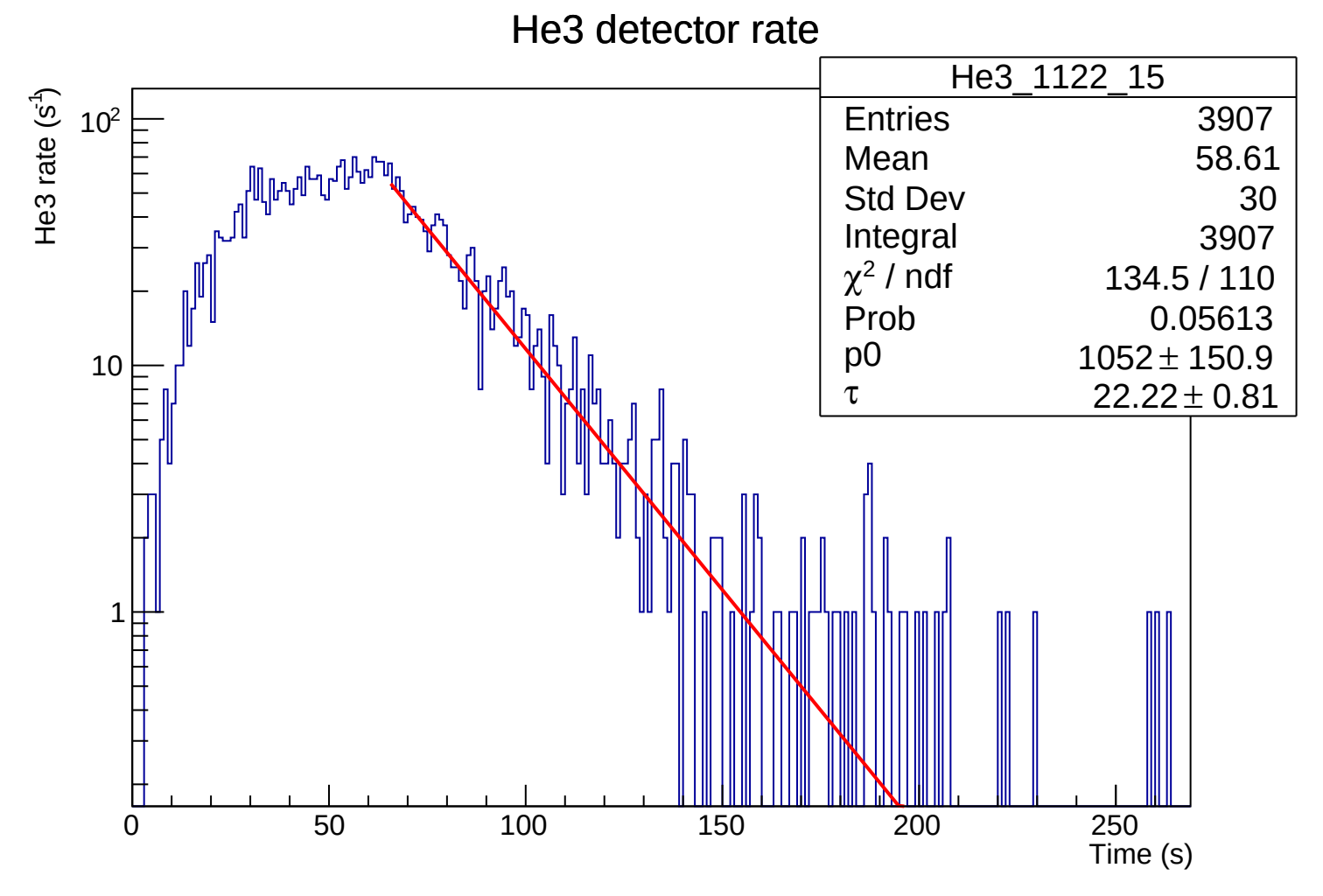

He3 detector rate
He3_1122_8
Entries 3815
Mean 56.95
Std Dev 28.51
Integral 3815
χ² / ndf 66.4 / 89
Prob 0.965
p0 1113 ± 168.8
τ 21.42 ± 0.80
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

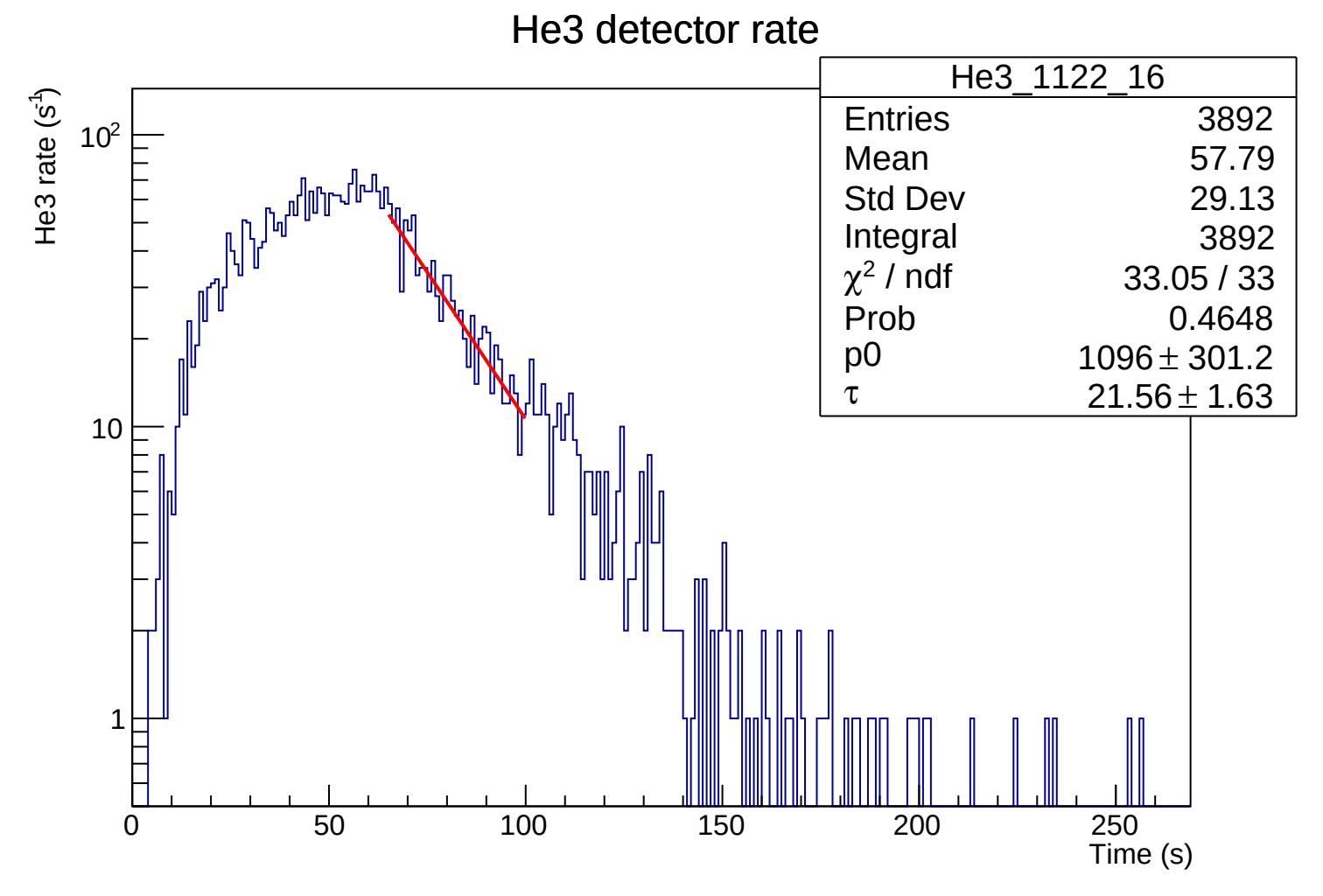

He3 detector rate
He3_1122_9
Entries 3850
Mean 58.43
Std Dev 29.54
Integral 3850
χ² / ndf 112.3 / 109
Prob 0.3938
p0 902.5 ± 123.1
τ 22.97 ± 0.81
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

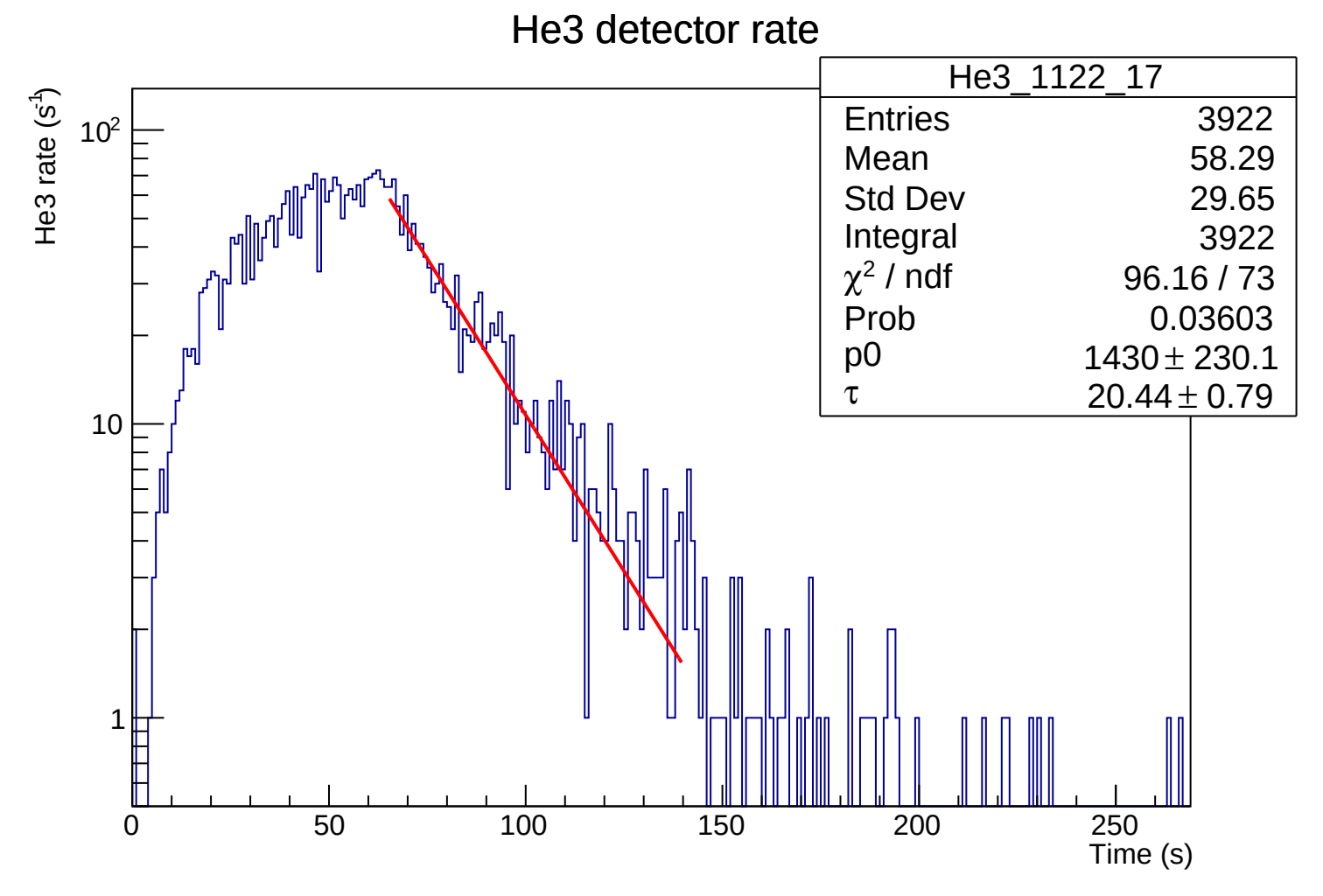

He3 detector rate
He3_1122_11
Entries 3812
Mean 58.49
Std Dev 30.35
Integral 3811
χ² / ndf 100.4 / 106
Prob 0.6351
p0 892.6 ± 129.6
τ 23.05 ± 0.87
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

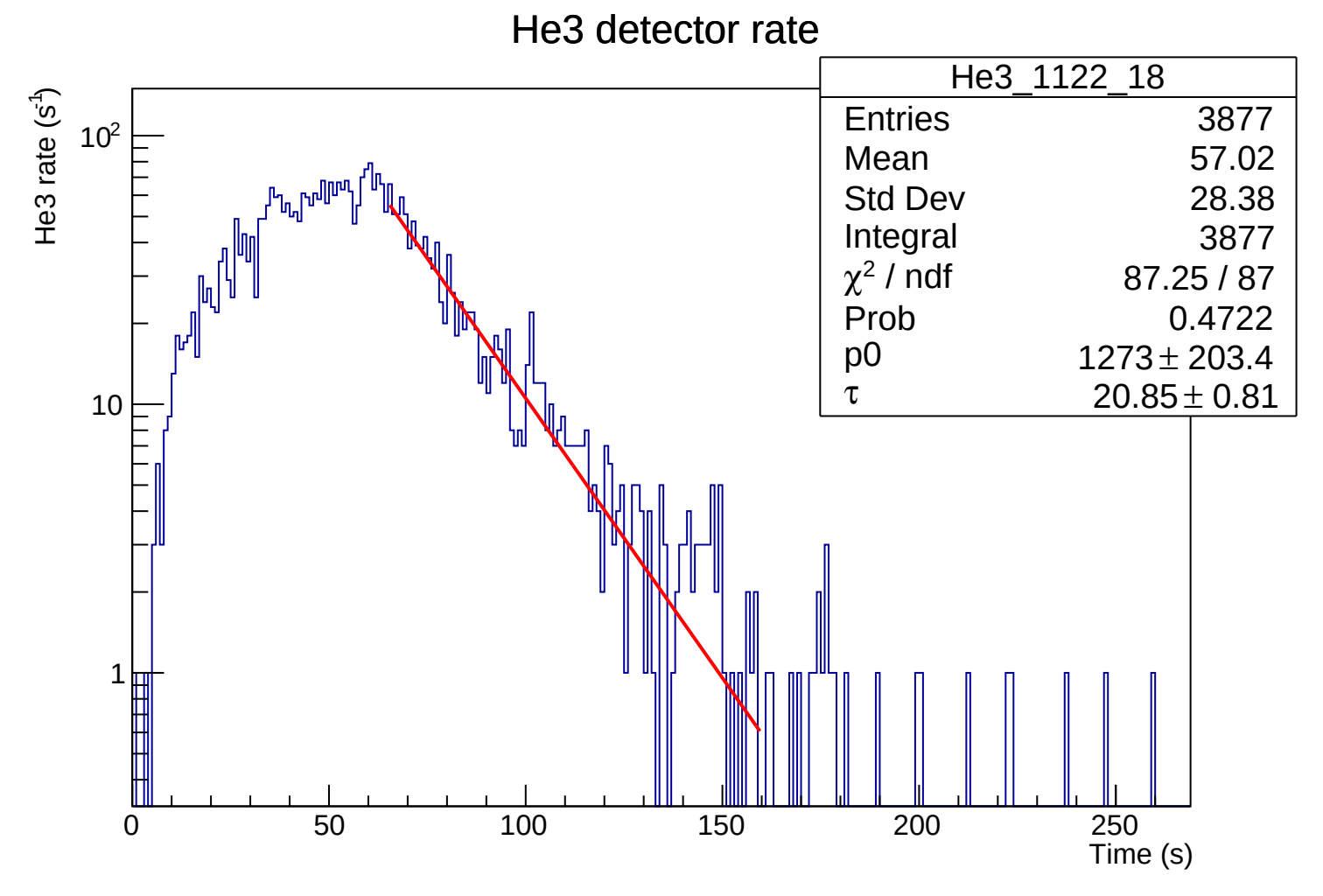

He3 detector rate
He3_1122_13
Entries 3790
Mean 56.94
Std Dev 29.24
Integral 3790
χ² / ndf 90.46 / 88
Prob 0.4075
p0 1276 ± 196.6
τ 20.55 ± 0.76
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

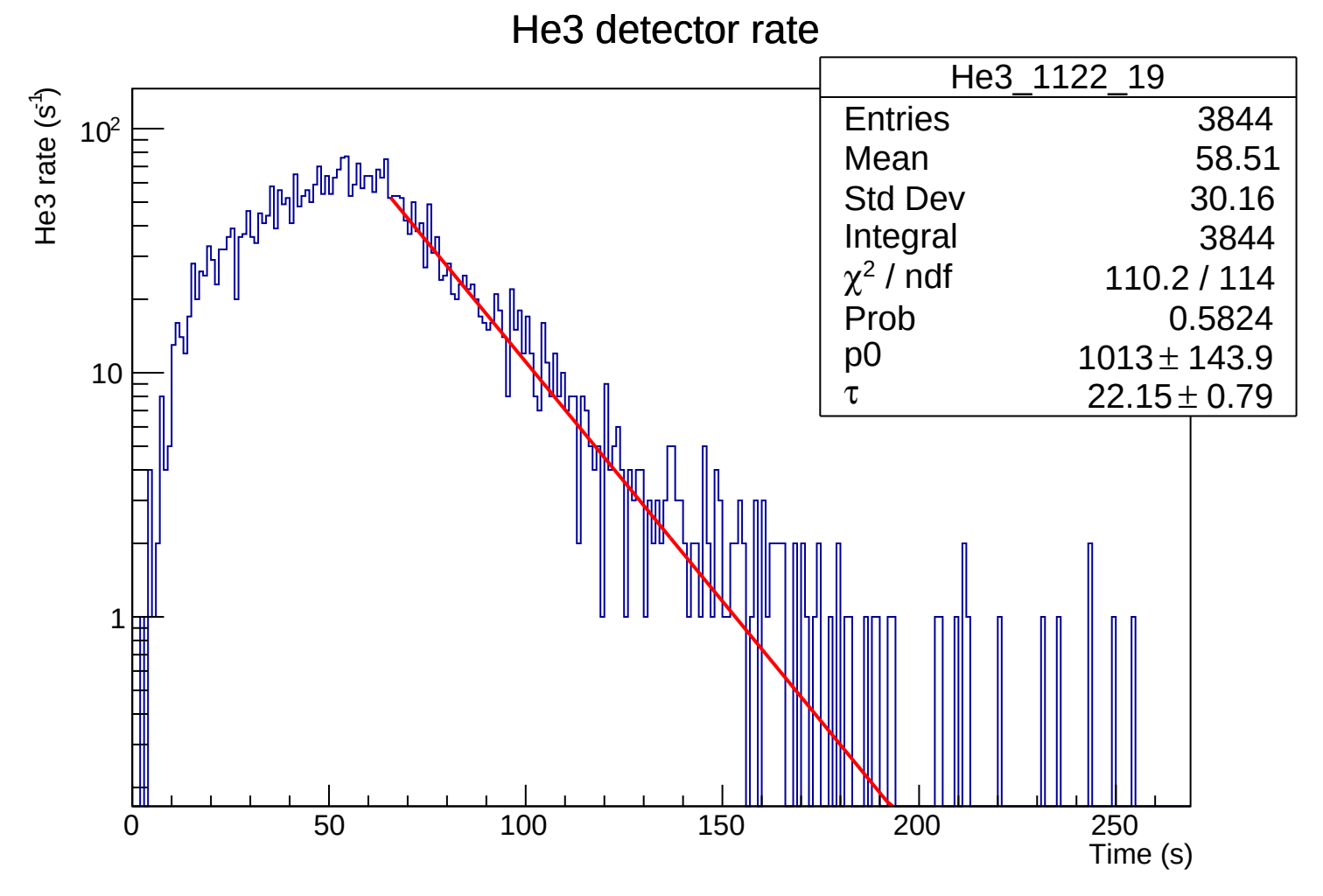

He3 detector rate
He3_1122_14
Entries 3844
Mean 58.03
Std Dev 28.78
Integral 3844
χ² / ndf 5.826 / 13
Prob 0.9523
p0 1536 ± 1127.5
τ 19.6 ± 3.9
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)


He3 detector rate
He3_1122_15
Entries 3907
Mean 58.61
Std Dev 30
Integral 3907
χ² / ndf 134.5 / 110
Prob 0.05613
p0 1052 ± 150.9
τ 22.22 ± 0.81
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)


He3 detector rate
He3_1122_16
Entries 3892
Mean 57.79
Std Dev 29.13
Integral 3892
χ² / ndf 33.05 / 33
Prob 0.4648
p0 1096 ± 301.2
τ 21.56 ± 1.63
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)


He3 detector rate
He3_1122_17
Entries 3922
Mean 58.29
Std Dev 29.65
Integral 3922
χ² / ndf 96.16 / 73
Prob 0.03603
p0 1430 ± 230.1
τ 20.44 ± 0.79
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)


He3 detector rate
He3_1122_18
Entries 3877
Mean 57.02
Std Dev 28.38
Integral 3877
χ² / ndf 87.25 / 87
Prob 0.4722
p0 1273 ± 203.4
τ 20.85 ± 0.81
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)


He3 detector rate
He3_1122_19
Entries 3844
Mean 58.51
Std Dev 30.16
Integral 3844
χ² / ndf 110.2 / 114
Prob 0.5824
p0 1013 ± 143.9
τ 22.15 ± 0.79
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

Average lifetime from He3 data:

τ = 21.5865999279 +/- 0.00253692867183 s