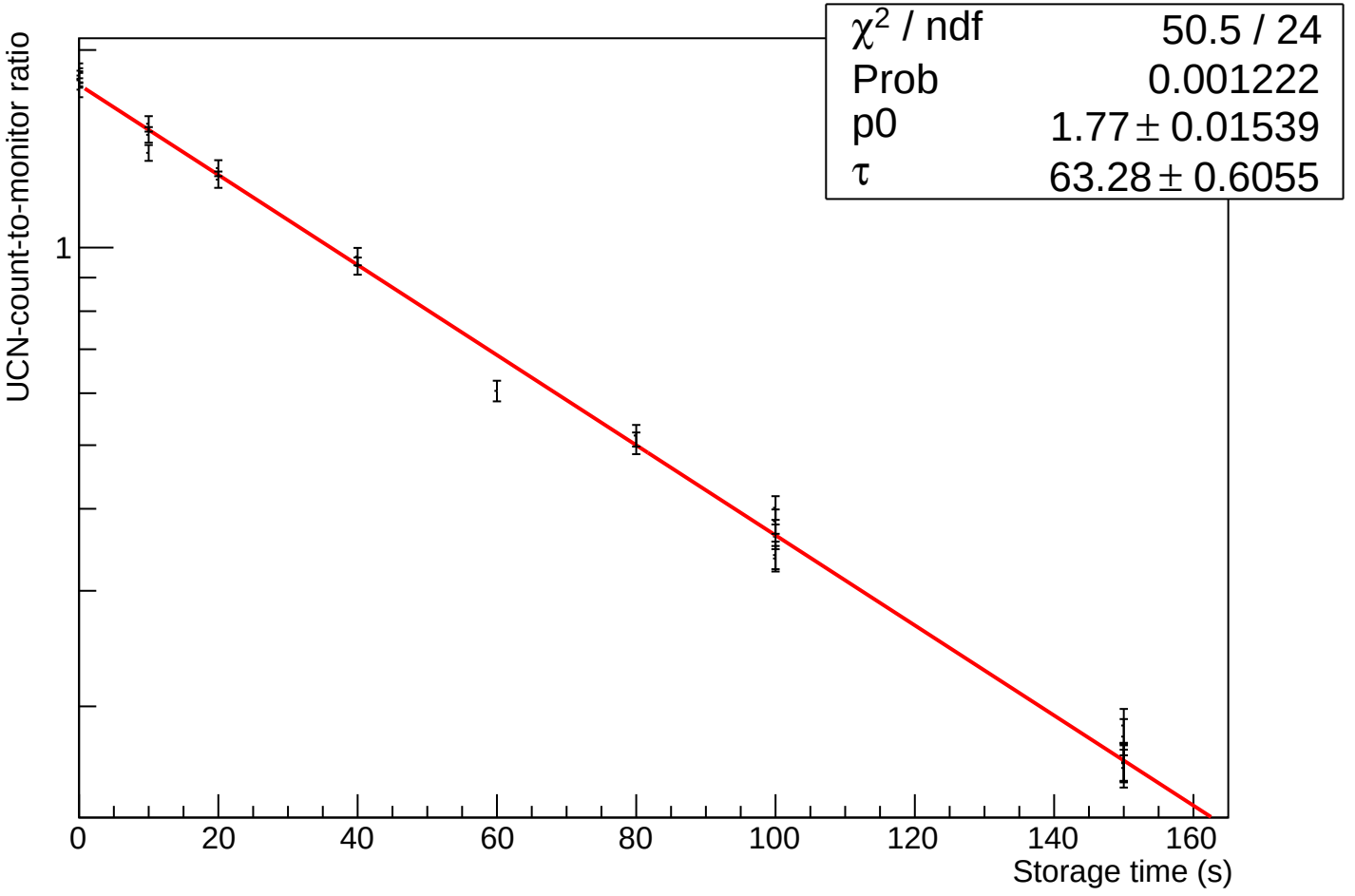
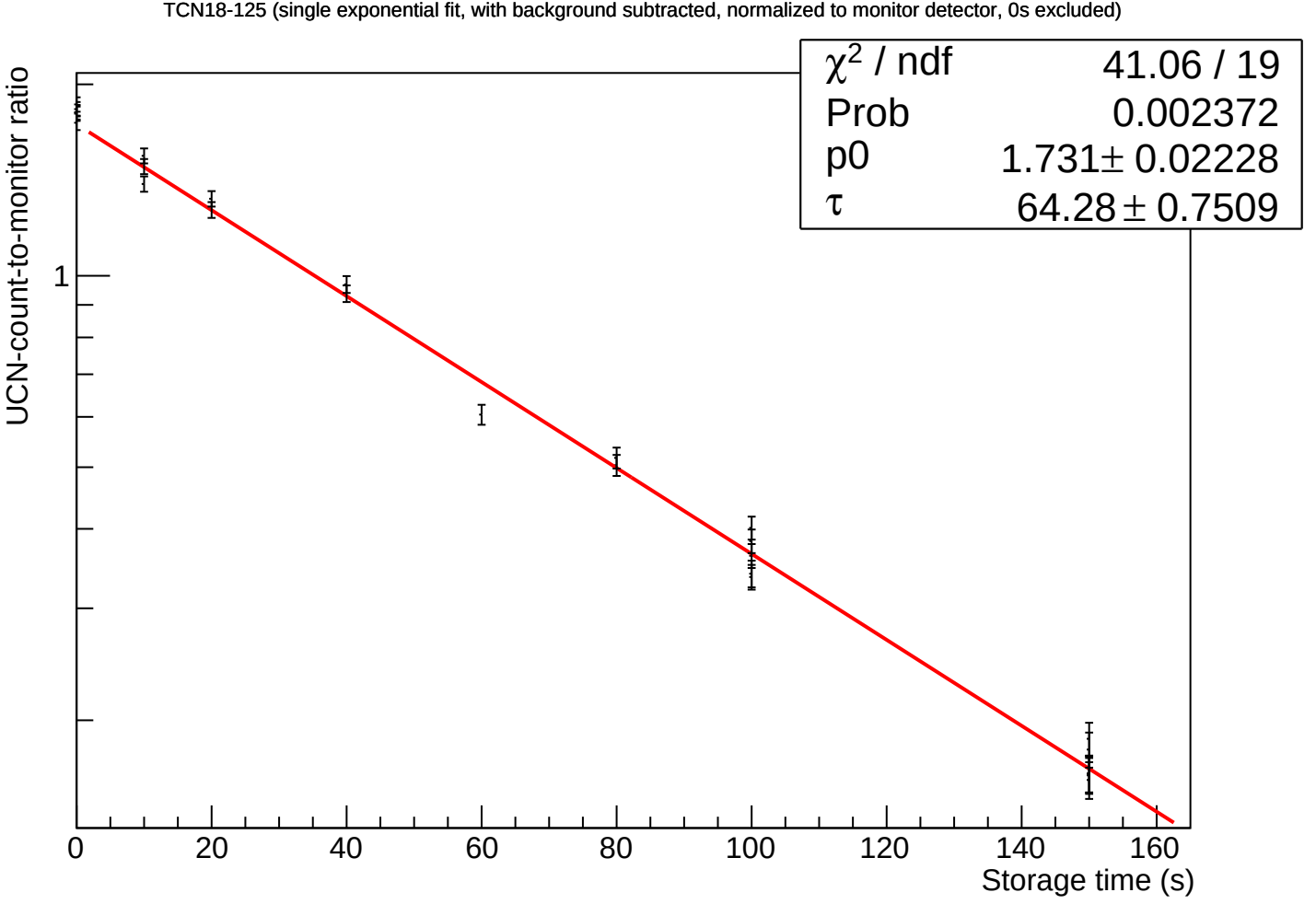
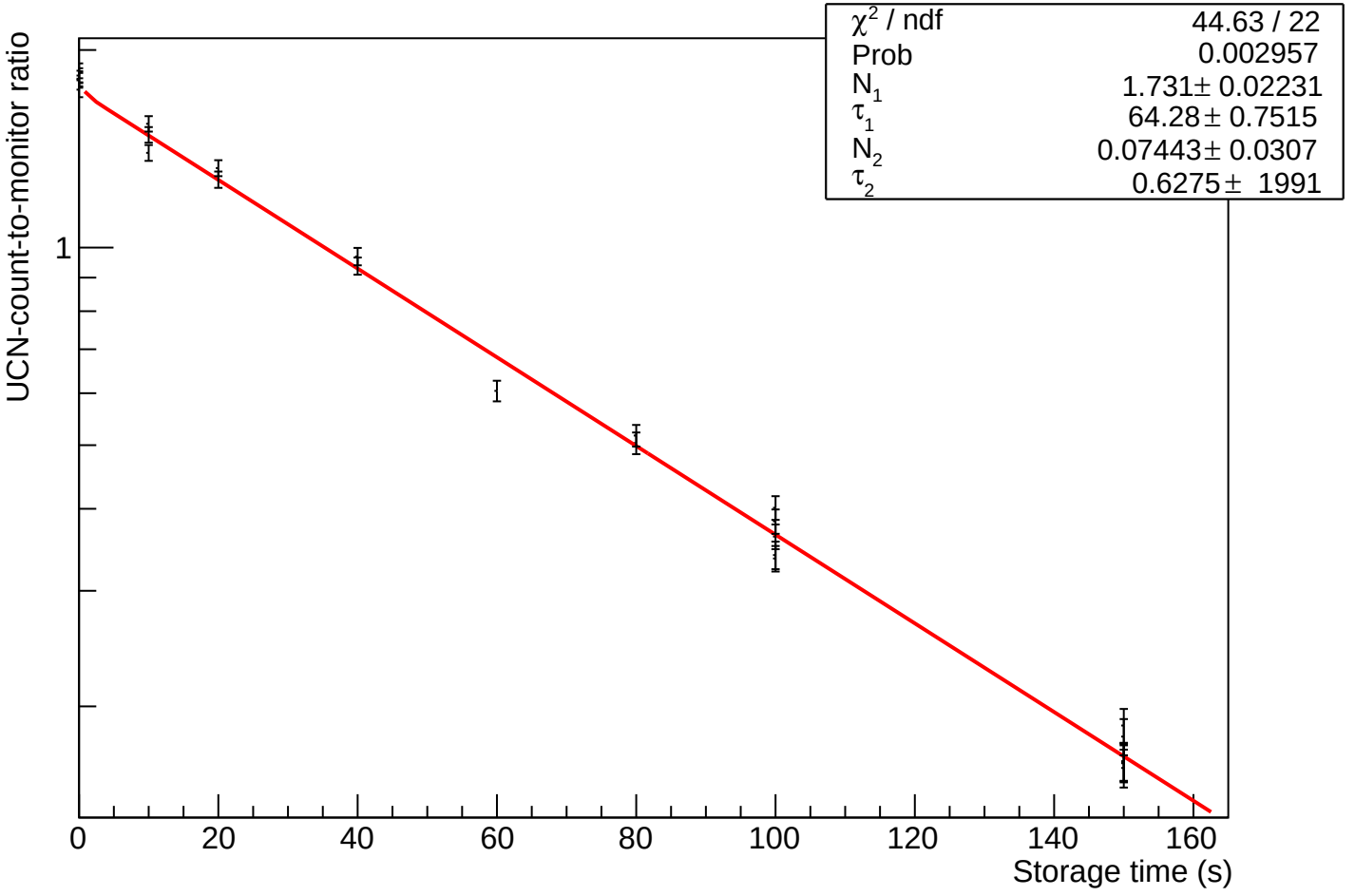
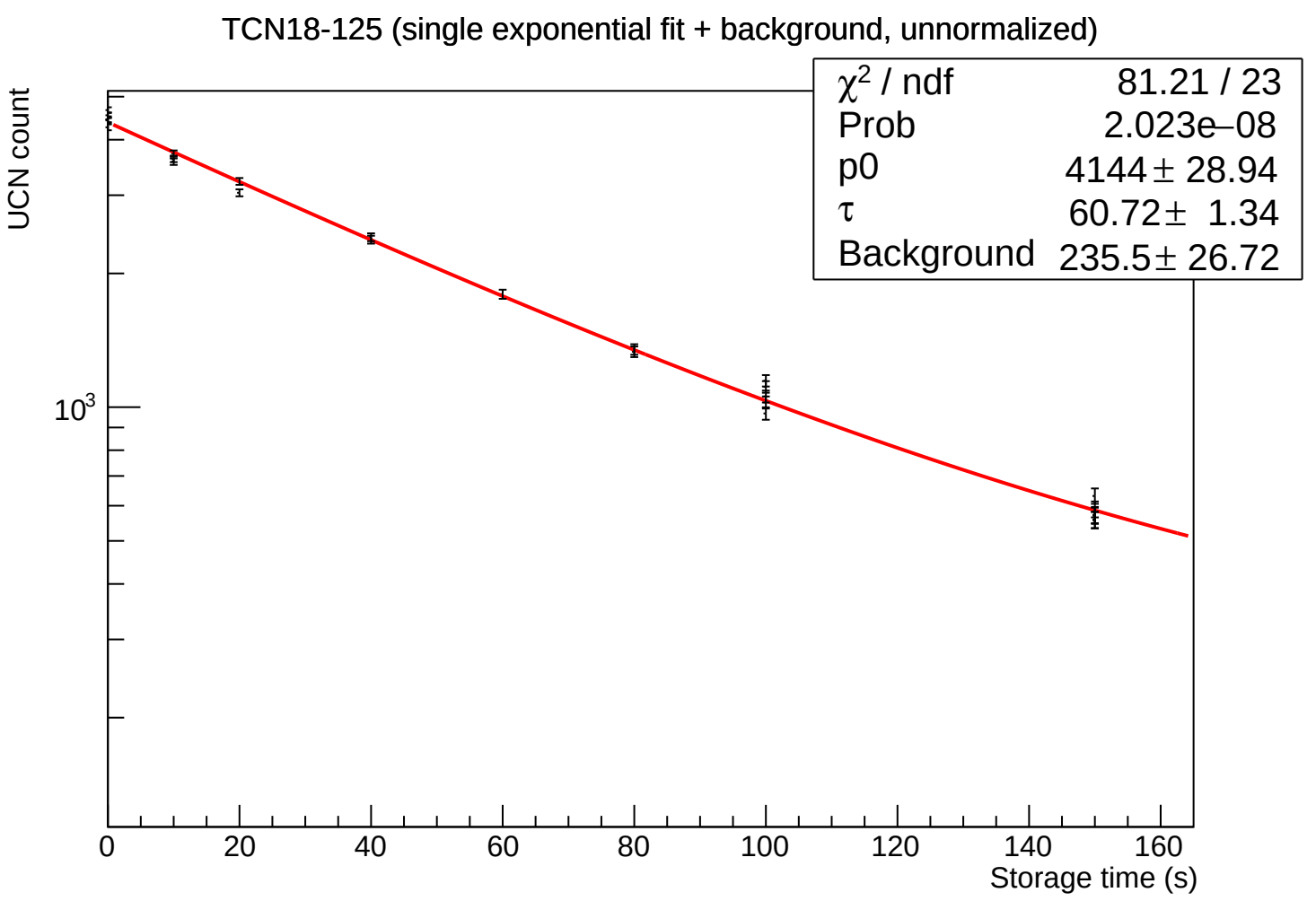
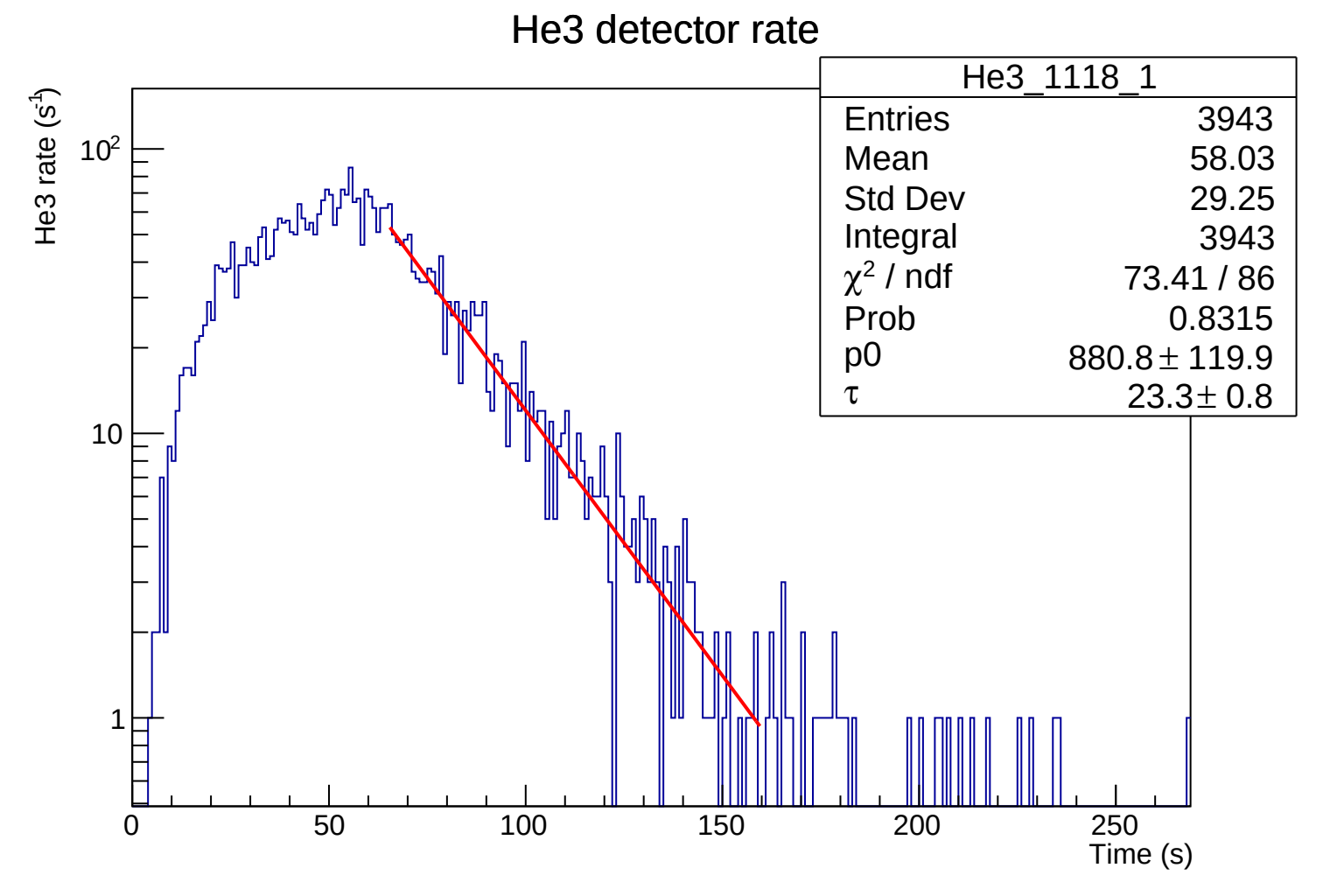
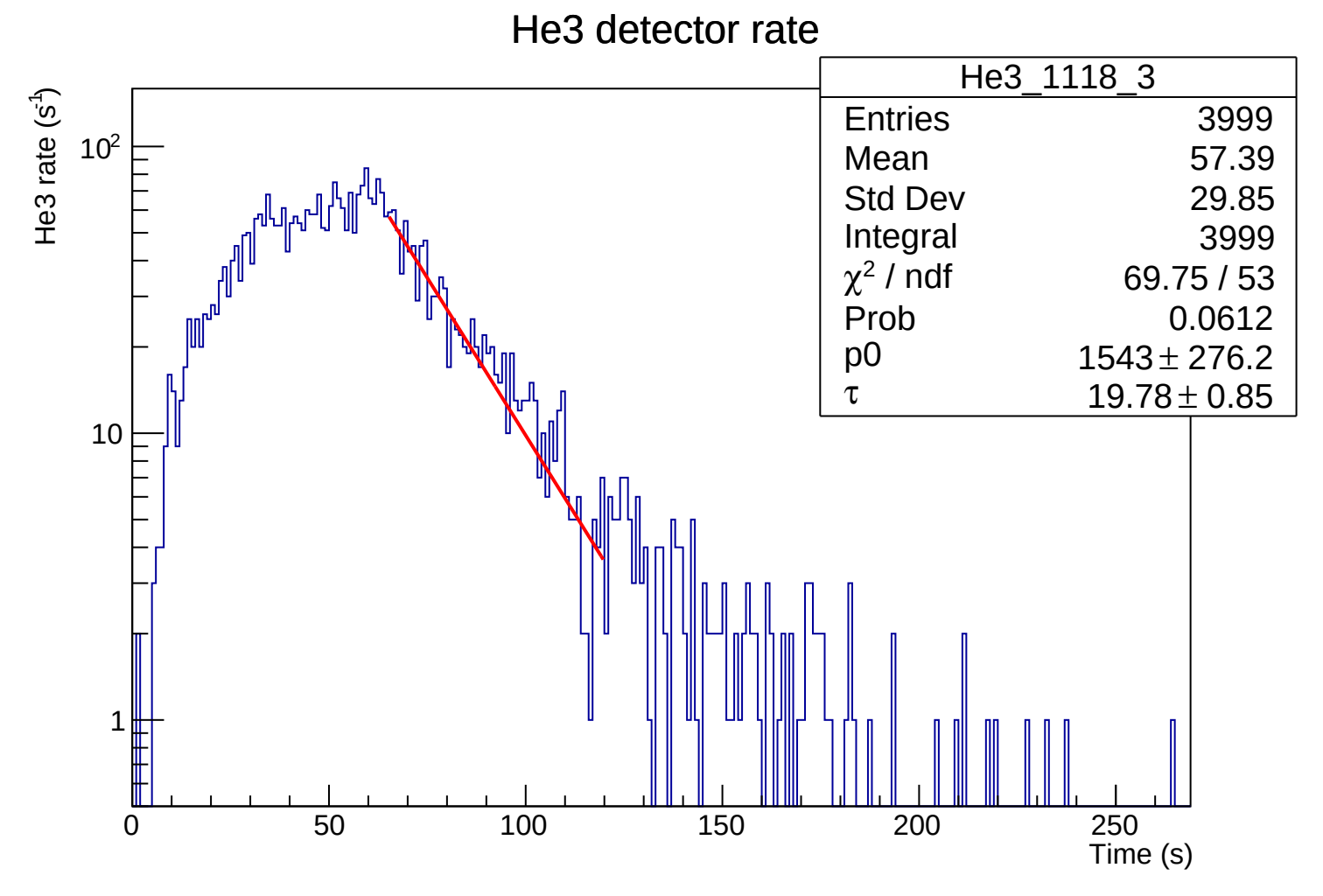

TCN18-125 (single exponential fit, with background subtracted, normalized to monitor detector)
χ² / ndf 50.5 / 24
Prob 0.001222
p0 1.77 ± 0.01539
τ 63.28 ± 0.6055
UCN-count-to-monitor ratio
1
0
20
40
60
80
100
120
140
160
Storage time (s)

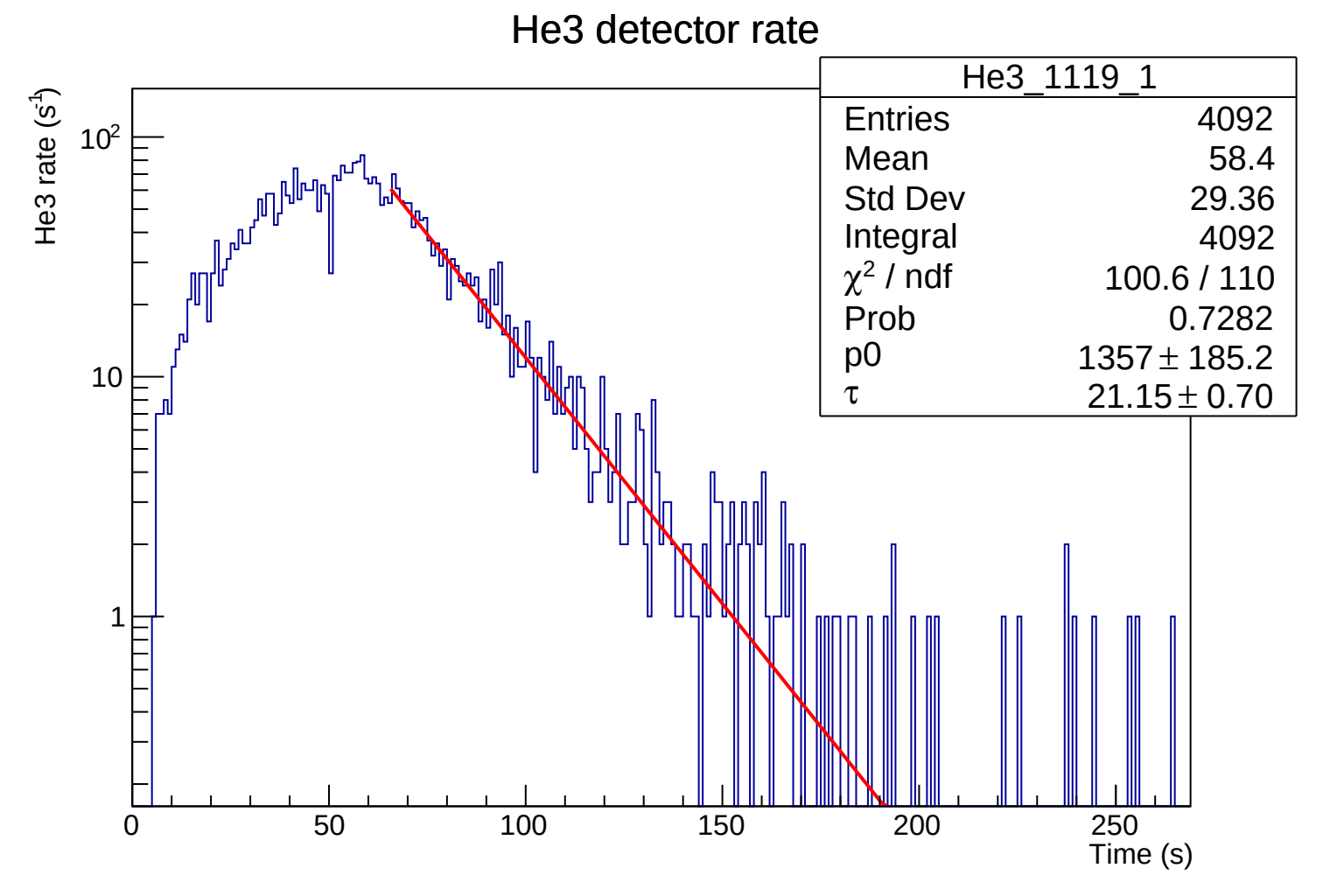

TCN18-125 (single exponential fit, with background subtracted, normalized to monitor detector, 0s excluded)
χ² / ndf 41.06 / 19
Prob 0.002372
p0 1.731 ± 0.02228
τ 64.28 ± 0.7509
UCN-count-to-monitor ratio
1
0
20
40
60
80
100
120
140
160
Storage time (s)

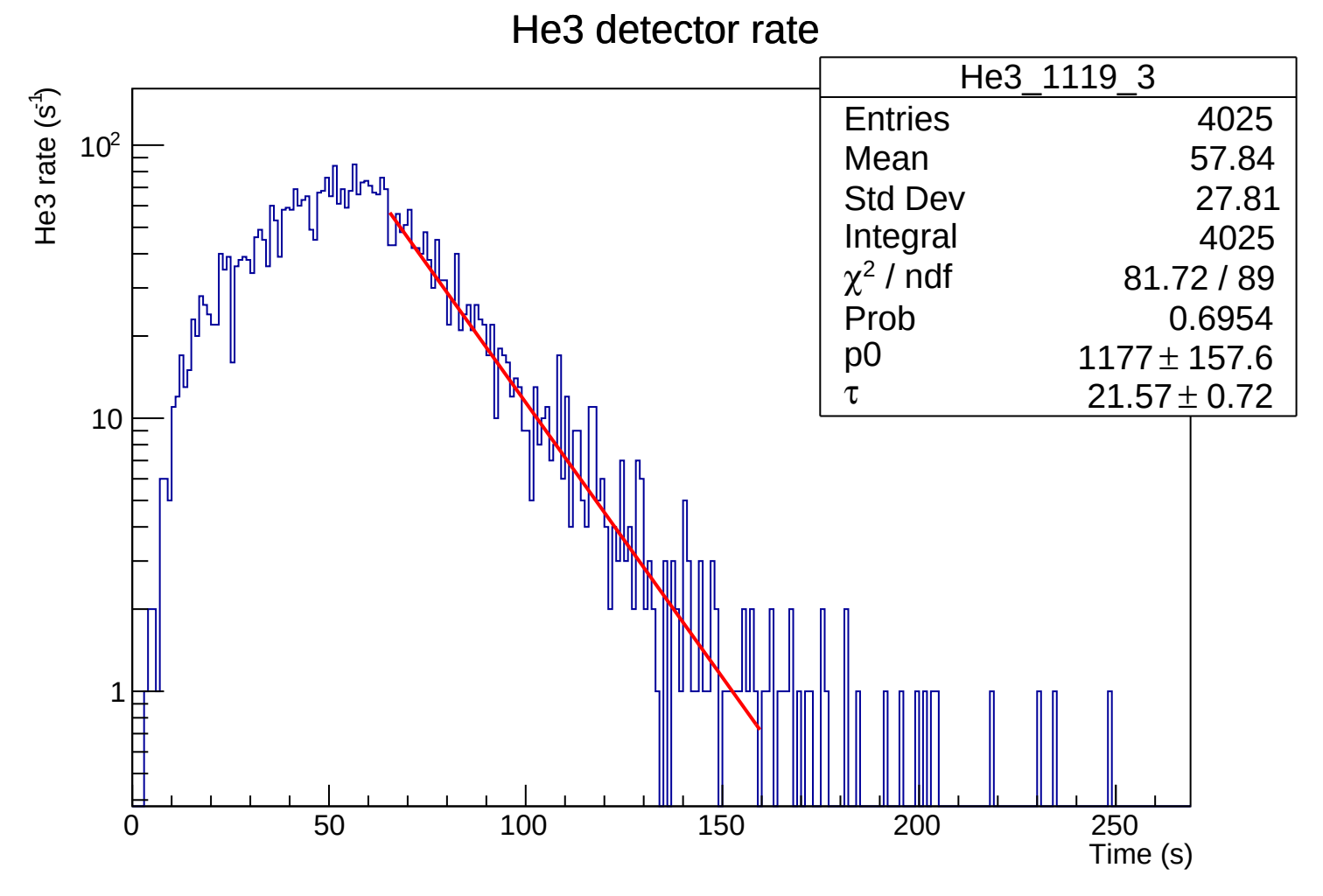

TCN18-125 (double exponential fit, with background subtracted, normalized to monitor detector)
χ² / ndf 44.63 / 22
Prob 0.002957
N1 1.731± 0.02231
τ1 64.28± 0.7515
N2 0.07443± 0.0307
τ2 0.6275± 1991
UCN-count-to-monitor ratio
1
0
20
40
60
80
100
120
140
160
Storage time (s)

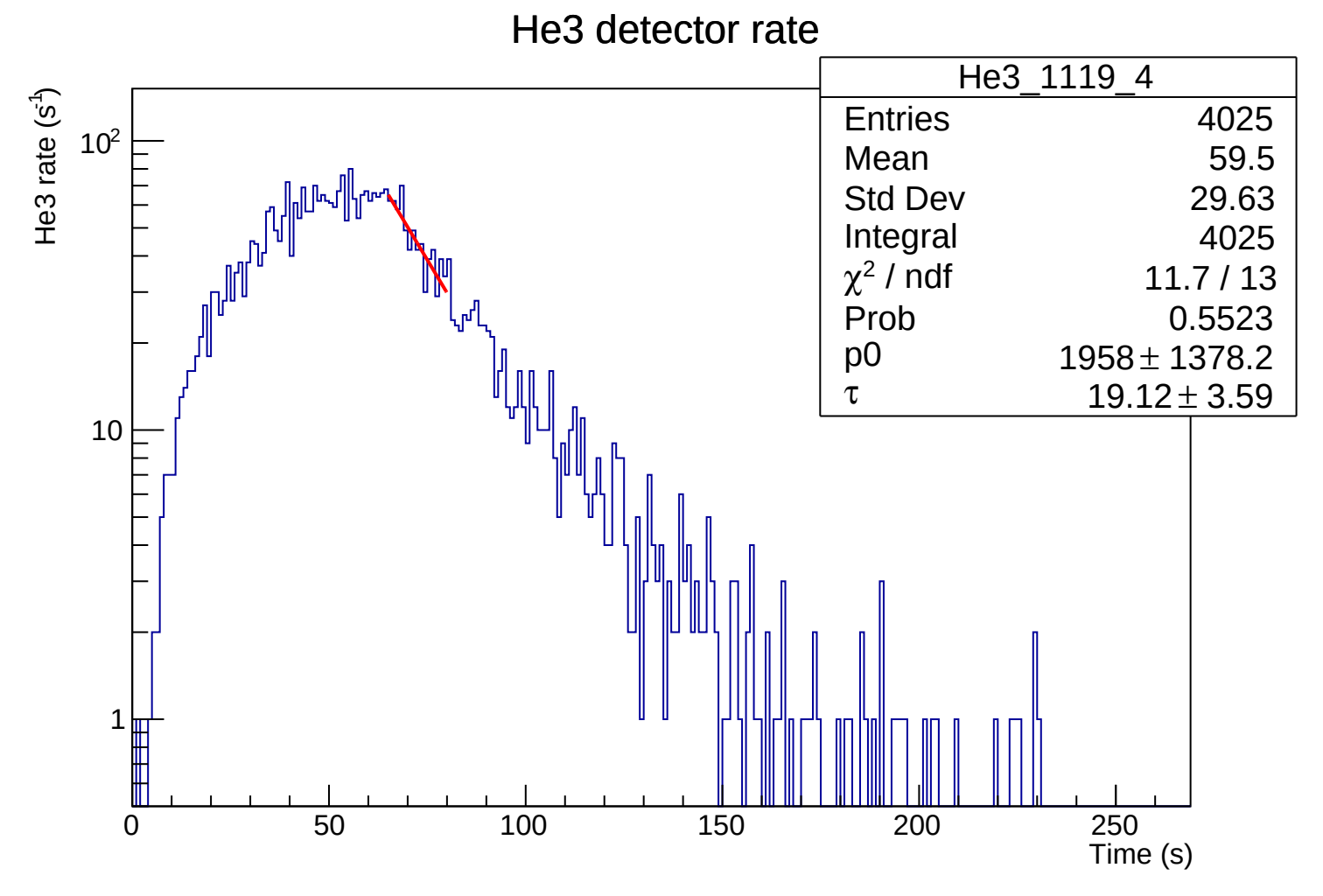

TCN18-125 (single exponential fit + background, unnormalized)
χ^2 / ndf 81.21 / 23
Prob 2.023e−08
p0 4144 ± 28.94
τ 60.72 ± 1.34
Background 235.5 ± 26.72
UCN count
10^3
0
20
40
60
80
100
120
140
160
Storage time (s)

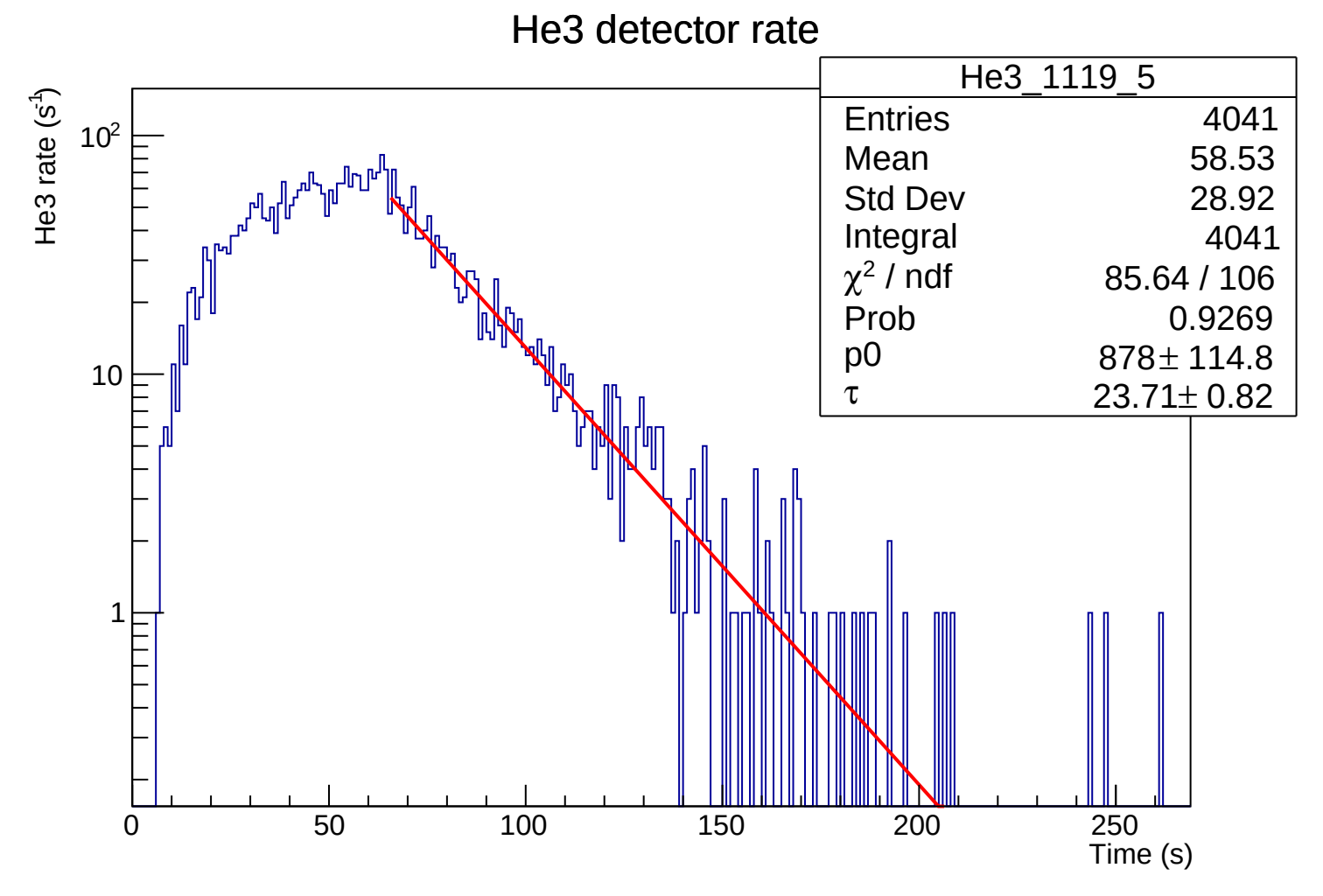

He3 detector rate
He3_1118_1
Entries 3943
Mean 58.03
Std Dev 29.25
Integral 3943
χ² / ndf 73.41 / 86
Prob 0.8315
p0 880.8 ± 119.9
τ 23.3 ± 0.8
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

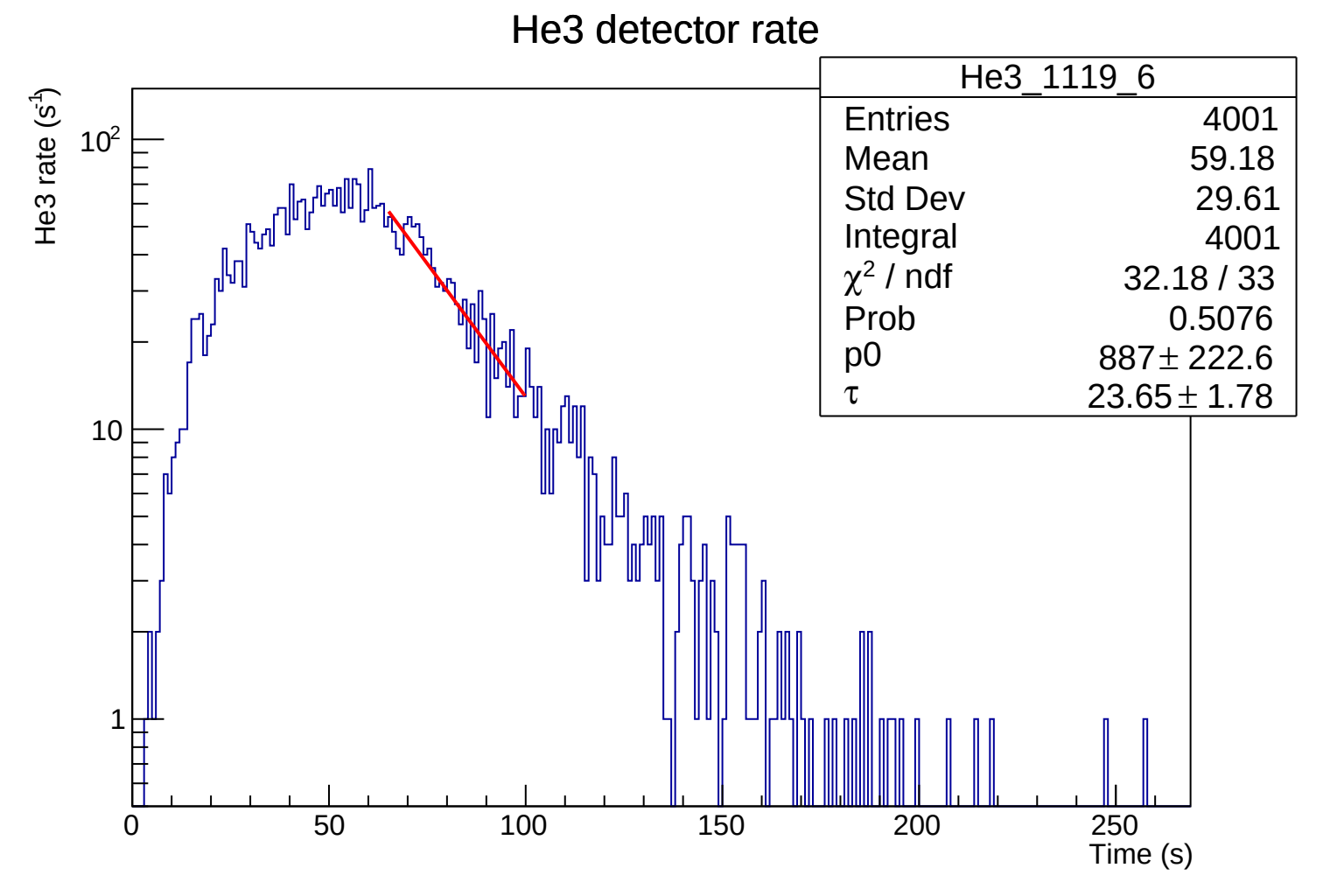

He3 detector rate
He3_1118_3
Entries 3999
Mean 57.39
Std Dev 29.85
Integral 3999
χ² / ndf 69.75 / 53
Prob 0.0612
p0 1543 ± 276.2
τ 19.78 ± 0.85
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

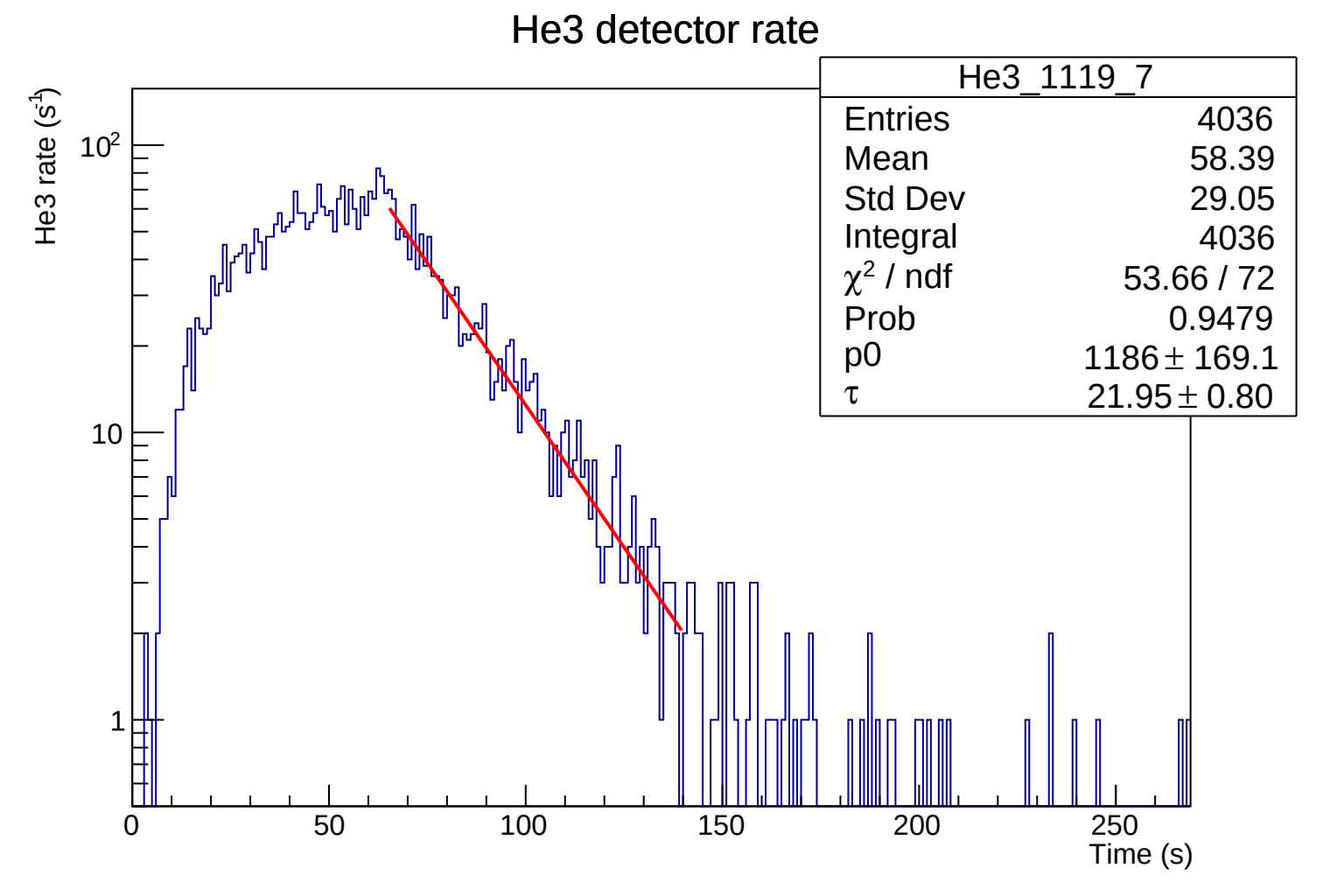

He3 detector rate
He3_1119_1
Entries 4092
Mean 58.4
Std Dev 29.36
Integral 4092
χ² / ndf 100.6 / 110
Prob 0.7282
p0 1357 ± 185.2
τ 21.15 ± 0.70
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

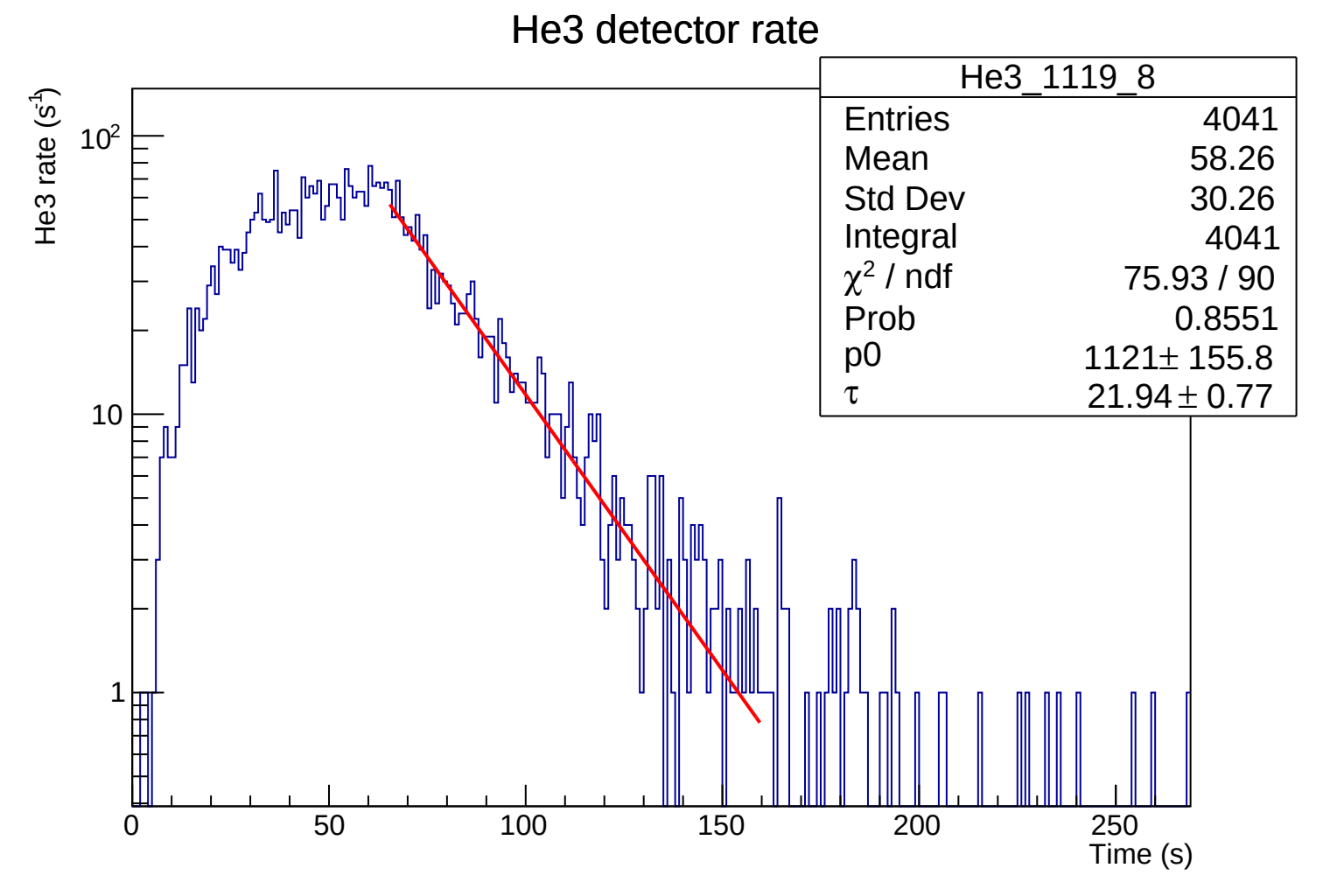

He3 detector rate
He3_1119_3
Entries 4025
Mean 57.84
Std Dev 27.81
Integral 4025
χ² / ndf 81.72 / 89
Prob 0.6954
p0 1177 ± 157.6
τ 21.57 ± 0.72
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

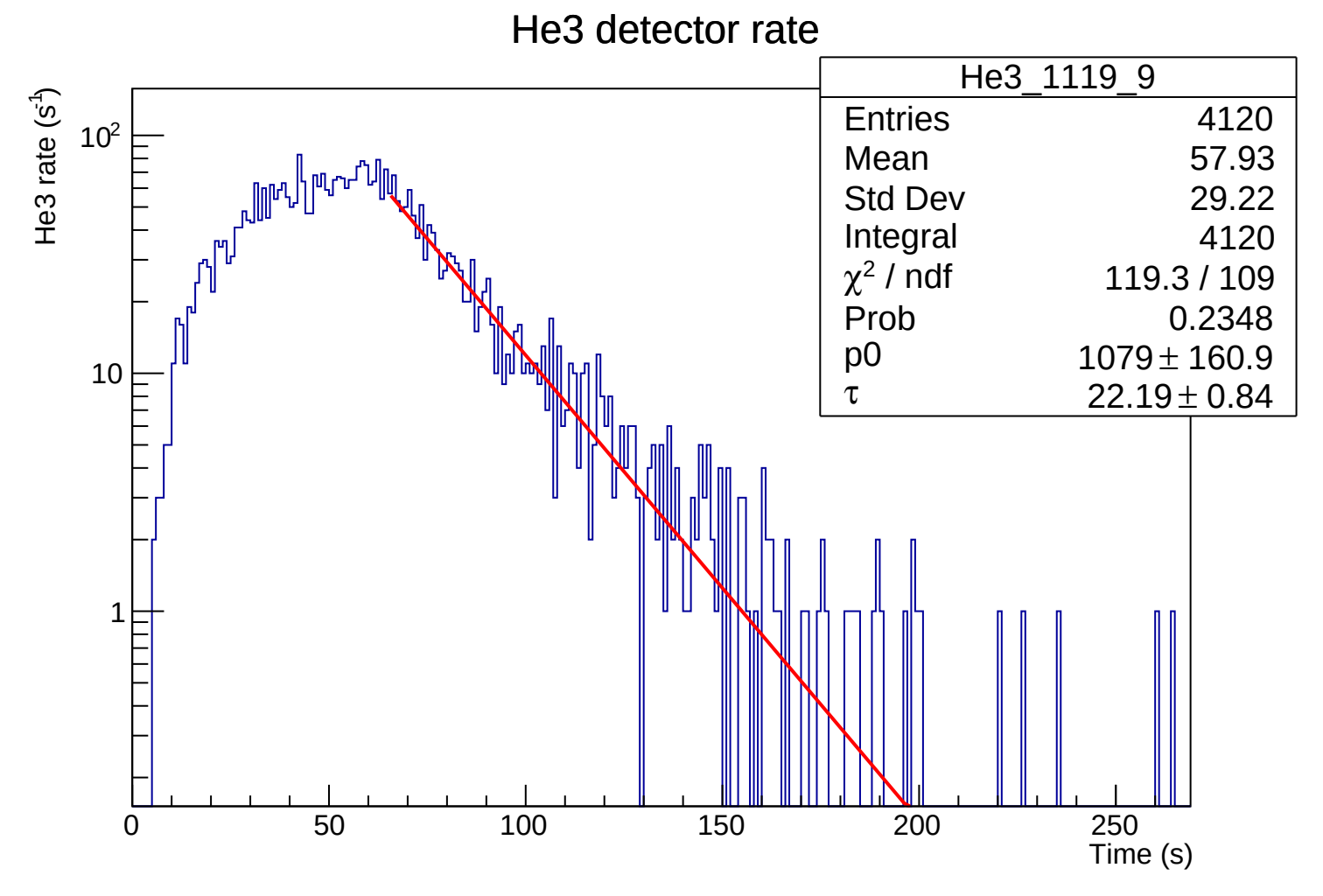

He3 detector rate
He3_1119_4
Entries 4025
Mean 59.5
Std Dev 29.63
Integral 4025
χ² / ndf 11.7 / 13
Prob 0.5523
p0 1958 ± 1378.2
τ 19.12 ± 3.59
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

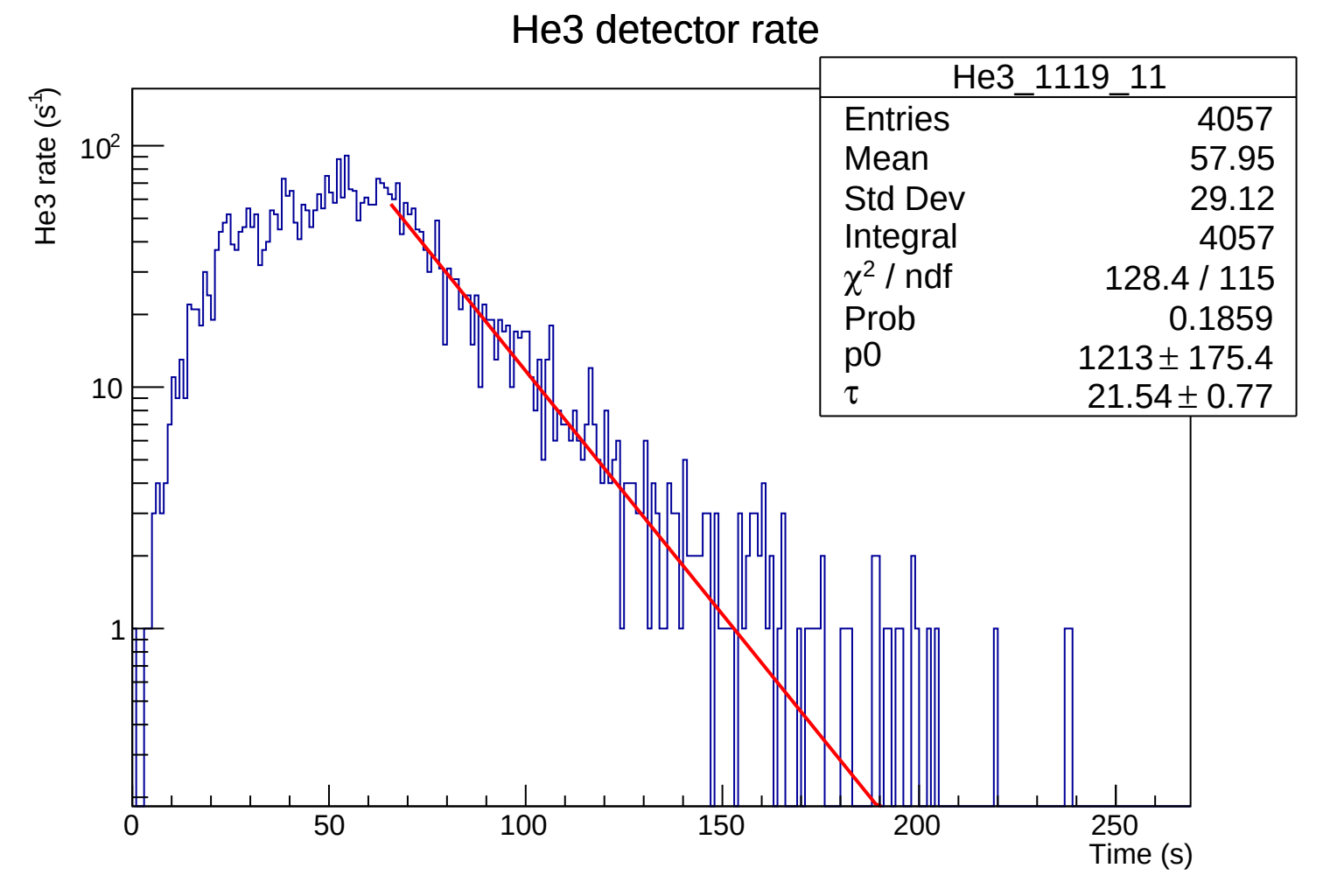

He3 detector rate
He3_1119_5
Entries 4041
Mean 58.53
Std Dev 28.92
Integral 4041
χ² / ndf 85.64 / 106
Prob 0.9269
p0 878± 114.8
τ 23.71± 0.82
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

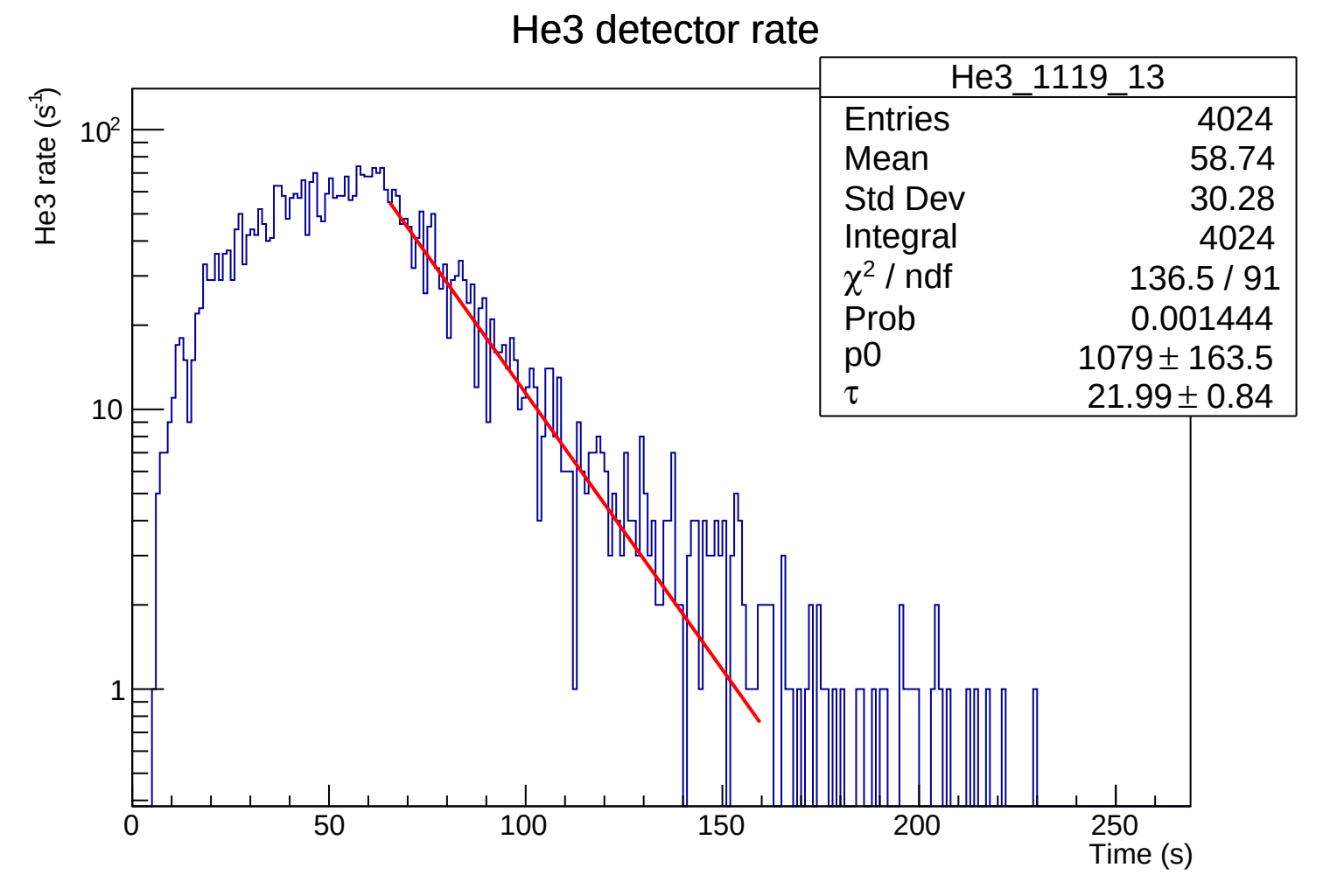

He3 detector rate
He3_1119_6
Entries 4001
Mean 59.18
Std Dev 29.61
Integral 4001
χ² / ndf 32.18 / 33
Prob 0.5076
p0 887 ± 222.6
τ 23.65 ± 1.78
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

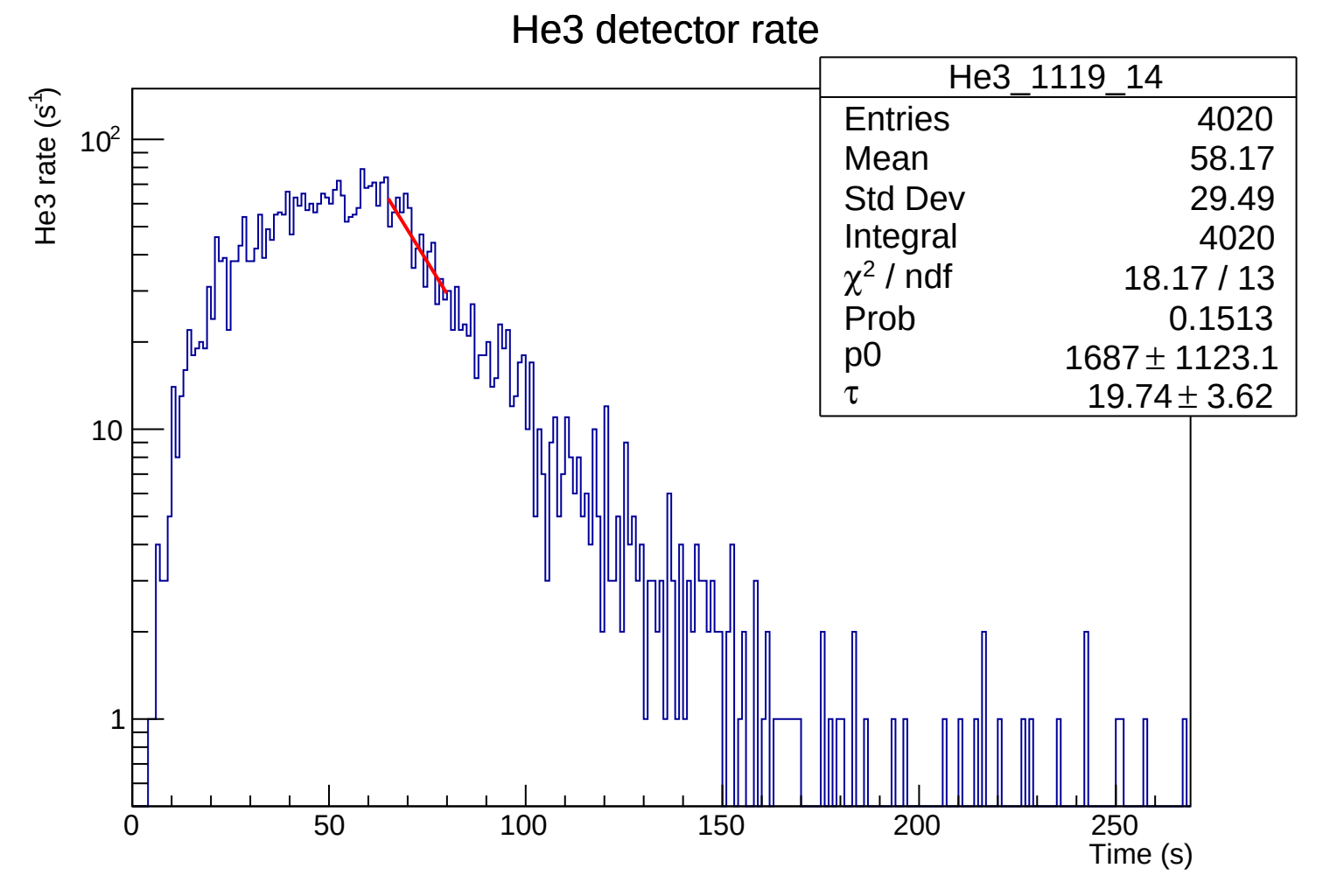

He3 detector rate
He3_1119_7
Entries 4036
Mean 58.39
Std Dev 29.05
Integral 4036
χ² / ndf 53.66 / 72
Prob 0.9479
p0 1186 ± 169.1
τ 21.95 ± 0.80
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

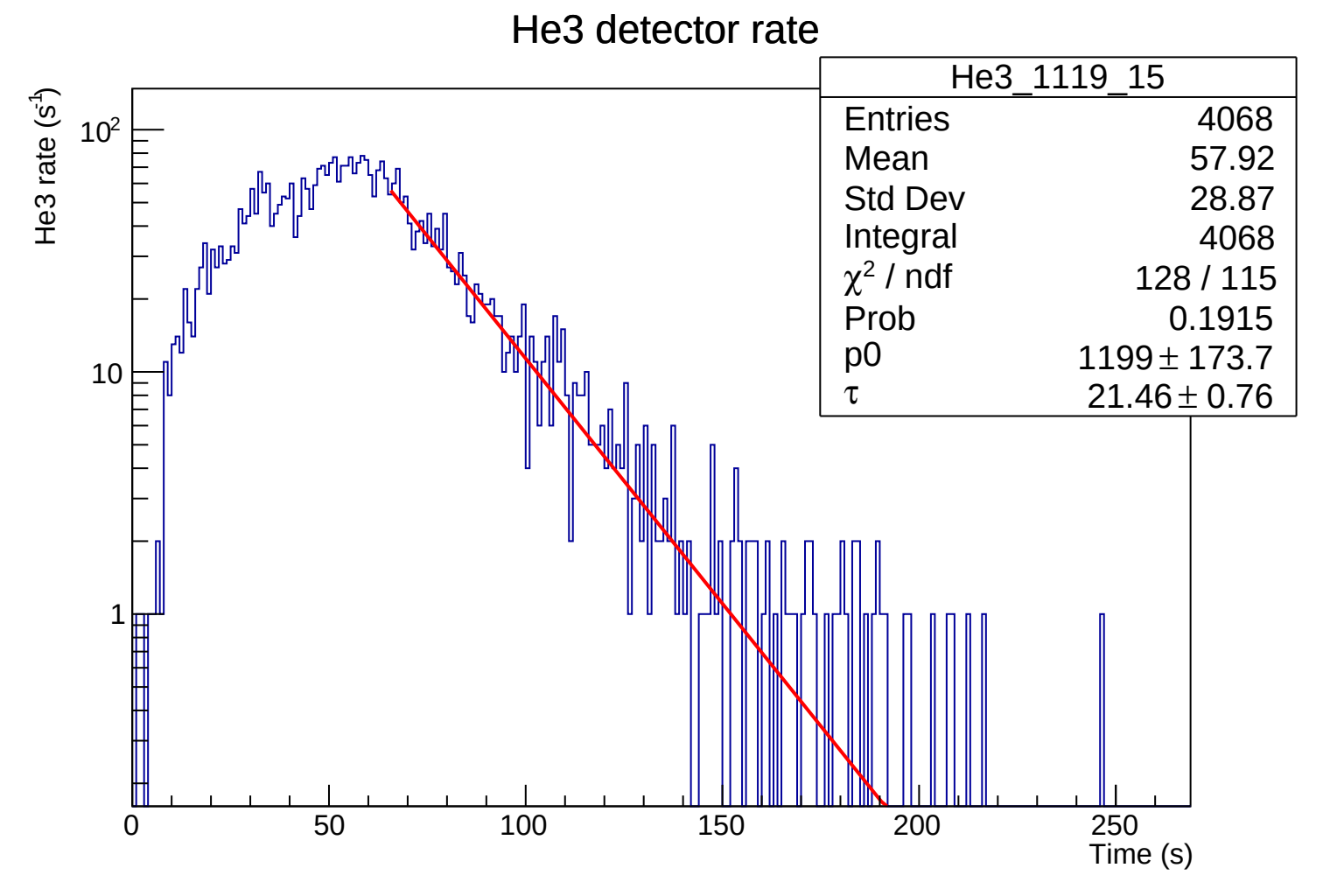

He3 detector rate
He3_1119_8
Entries 4041
Mean 58.26
Std Dev 30.26
Integral 4041
χ² / ndf 75.93 / 90
Prob 0.8551
p0 1121± 155.8
τ 21.94 ± 0.77
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

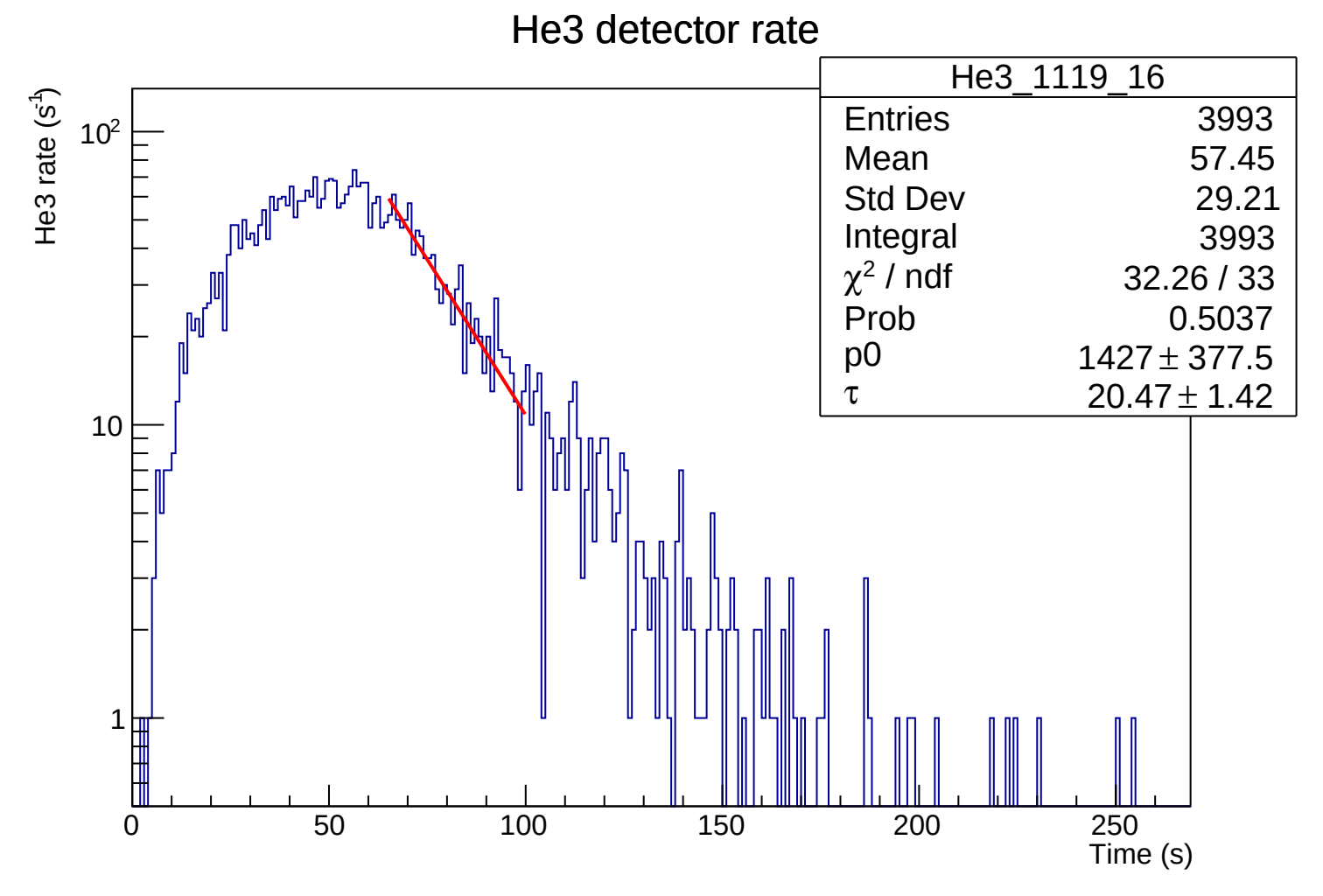

He3 detector rate
He3_1119_9
Entries 4120
Mean 57.93
Std Dev 29.22
Integral 4120
χ² / ndf 119.3 / 109
Prob 0.2348
p0 1079 ± 160.9
τ 22.19 ± 0.84
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

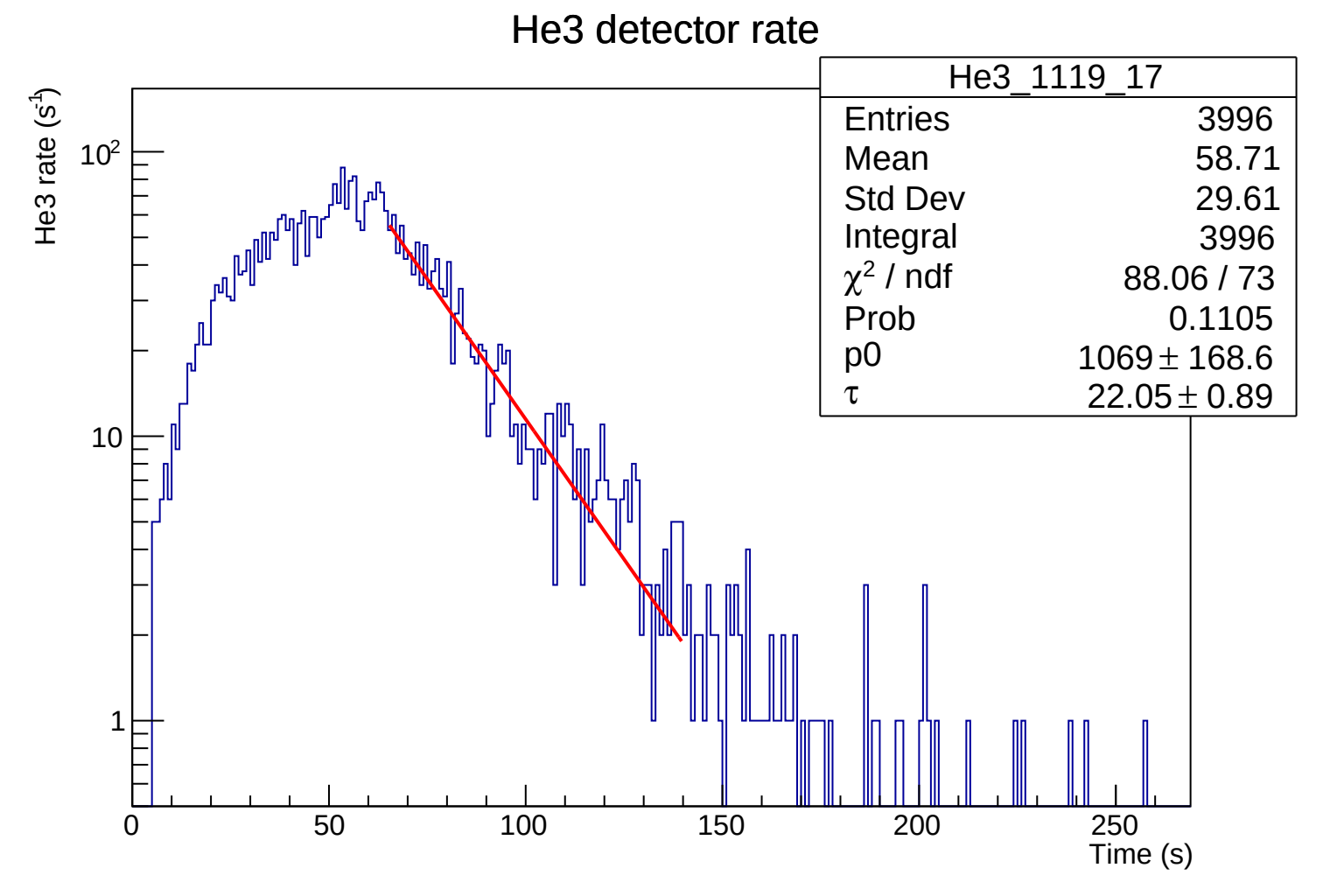

He3 detector rate
He3_1119_11
Entries 4057
Mean 57.95
Std Dev 29.12
Integral 4057
χ² / ndf 128.4 / 115
Prob 0.1859
p0 1213 ± 175.4
τ 21.54 ± 0.77
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

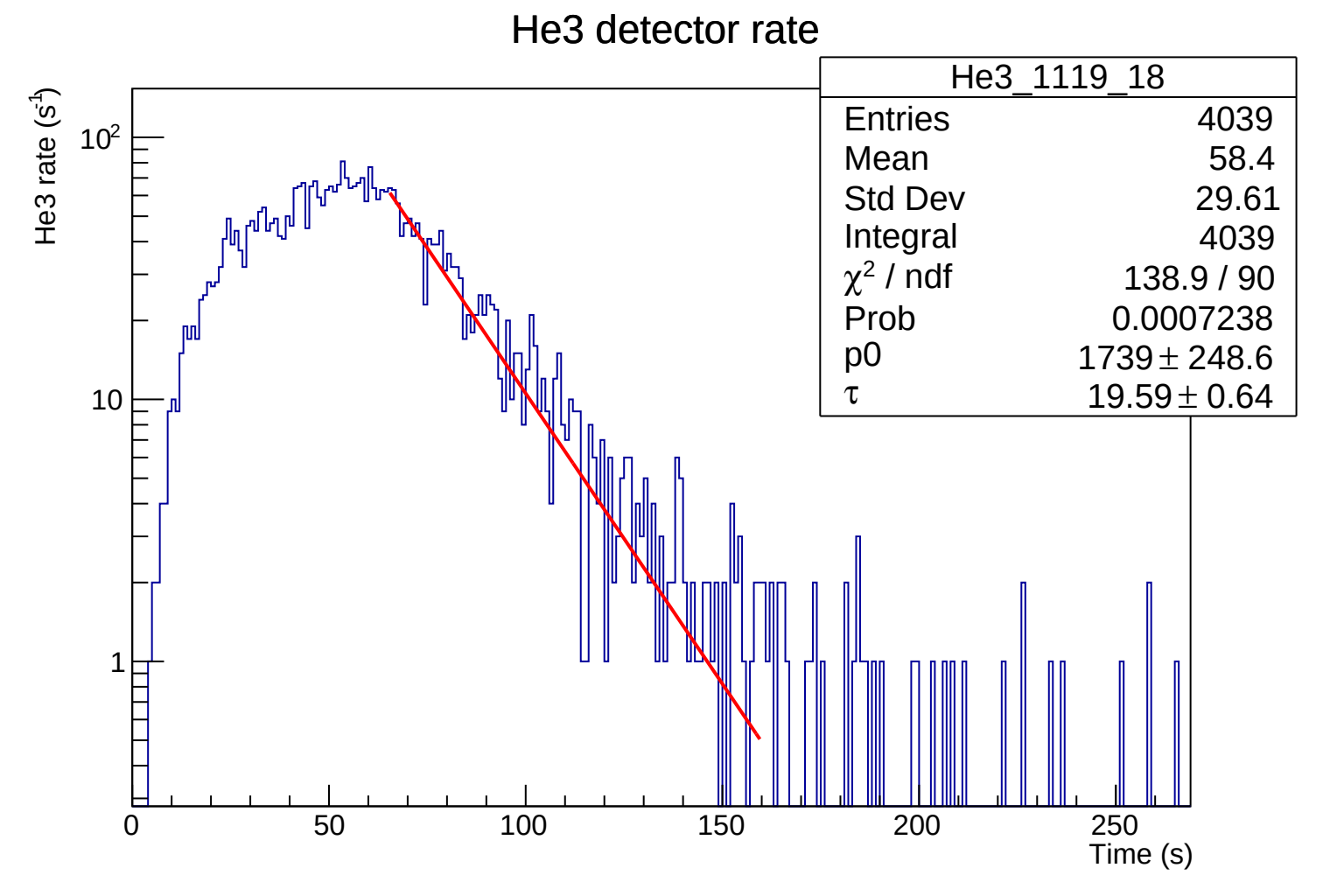

He3 detector rate
He3_1119_13
Entries 4024
Mean 58.74
Std Dev 30.28
Integral 4024
χ² / ndf 136.5 / 91
Prob 0.001444
p0 1079 ± 163.5
τ 21.99 ± 0.84
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

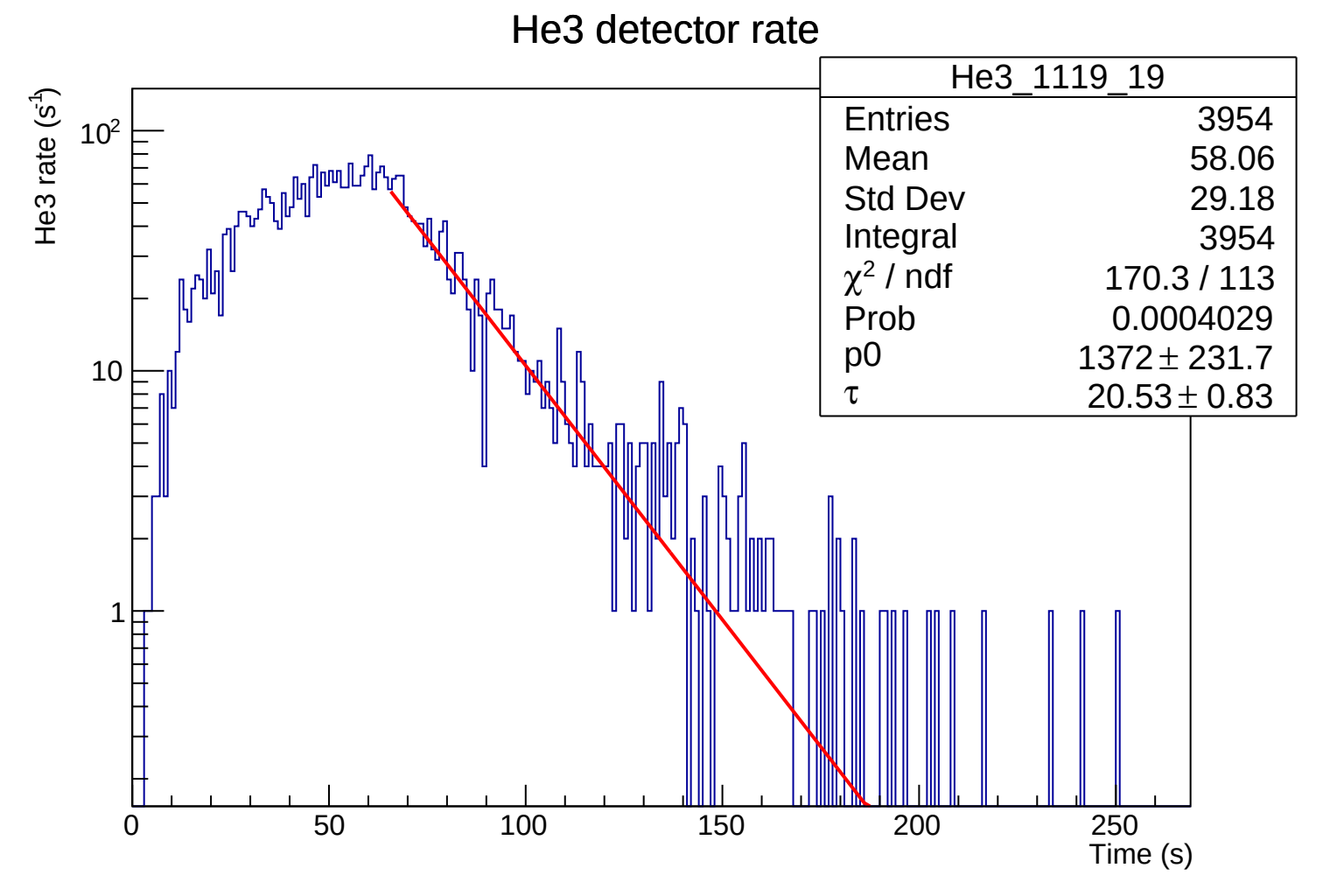

He3 detector rate
He3_1119_14
Entries 4020
Mean 58.17
Std Dev 29.49
Integral 4020
χ² / ndf 18.17 / 13
Prob 0.1513
p0 1687 ± 1123.1
τ 19.74 ± 3.62
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)


He3 detector rate
He3_1119_15
Entries 4068
Mean 57.92
Std Dev 28.87
Integral 4068
χ² / ndf 128 / 115
Prob 0.1915
p0 1199 ± 173.7
τ 21.46 ± 0.76
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)


He3 detector rate
He3_1119_16
Entries 3993
Mean 57.45
Std Dev 29.21
Integral 3993
χ² / ndf 32.26 / 33
Prob 0.5037
p0 1427 ± 377.5
τ 20.47 ± 1.42
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)


He3 detector rate
He3_1119_17
Entries 3996
Mean 58.71
Std Dev 29.61
Integral 3996
χ² / ndf 88.06 / 73
Prob 0.1105
p0 1069 ± 168.6
τ 22.05 ± 0.89
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)


He3 detector rate
He3_1119_18
Entries 4039
Mean 58.4
Std Dev 29.61
Integral 4039
χ² / ndf 138.9 / 90
Prob 0.0007238
p0 1739 ± 248.6
τ 19.59 ± 0.64
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)


He3 detector rate
He3_1119_19
Entries 3954
Mean 58.06
Std Dev 29.18
Integral 3954
χ² / ndf 170.3 / 113
Prob 0.0004029
p0 1372 ± 231.7
τ 20.53 ± 0.83
He3 rate (s⁻¹)
10²
10
1
0
50
100
150
200
250
Time (s)

Average lifetime from He3 data:

τ = 21.5184656823 +/- 0.0017478592481 s