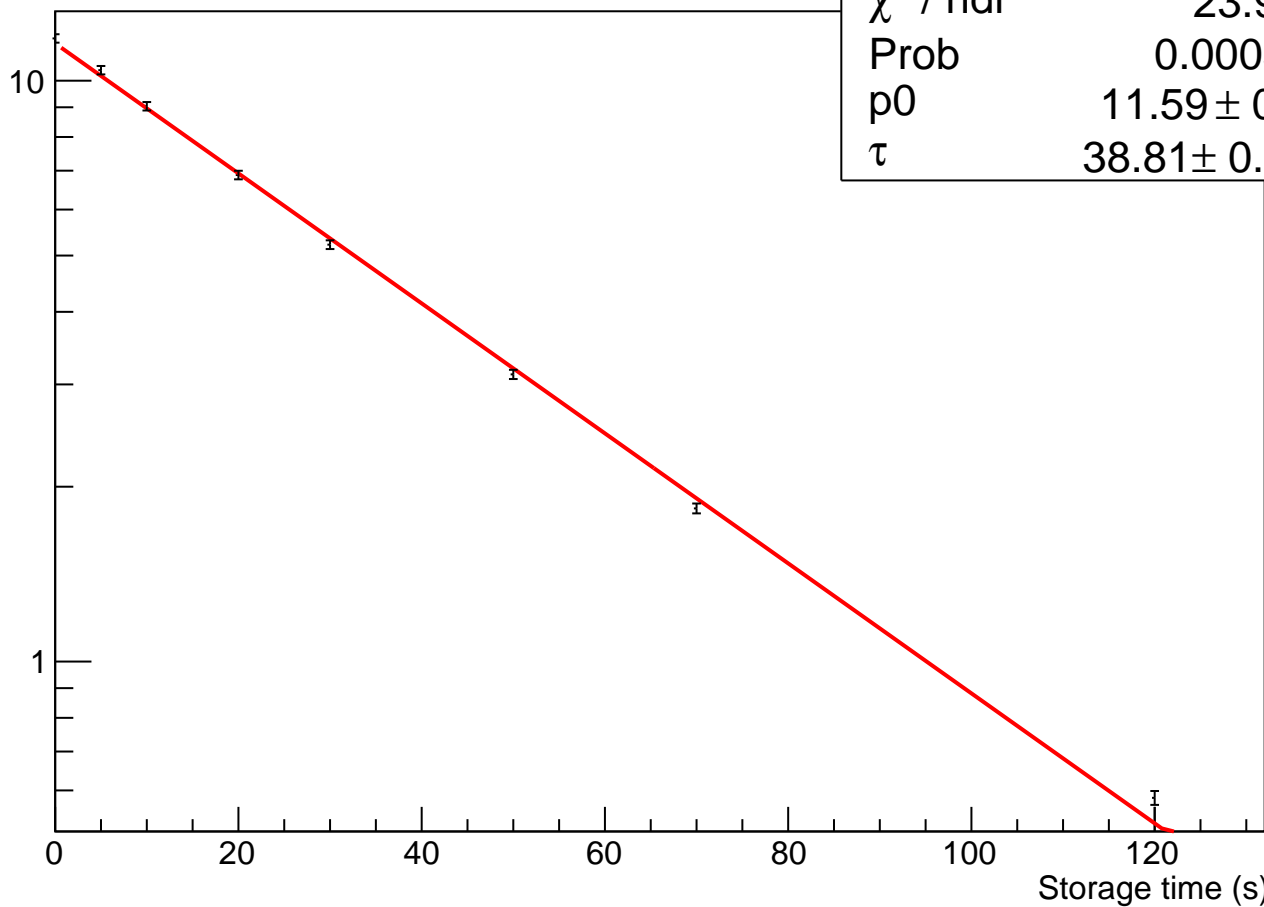


UCN-count-to-monitor ratio

$\chi^2 / \text{ndf}$	23.93 / 6
Prob	0.0005372
p0	$11.59 \pm 0.105$
$\tau$	$38.81 \pm 0.3317$



UCN-count-to-monitor ratio

$\chi^2 / \text{ndf}$	22.02 / 5
Prob	0.0005201
p0	$11.5 \pm 0.1233$
$\tau$	$39.02 \pm 0.365$

10

1

0

20

40

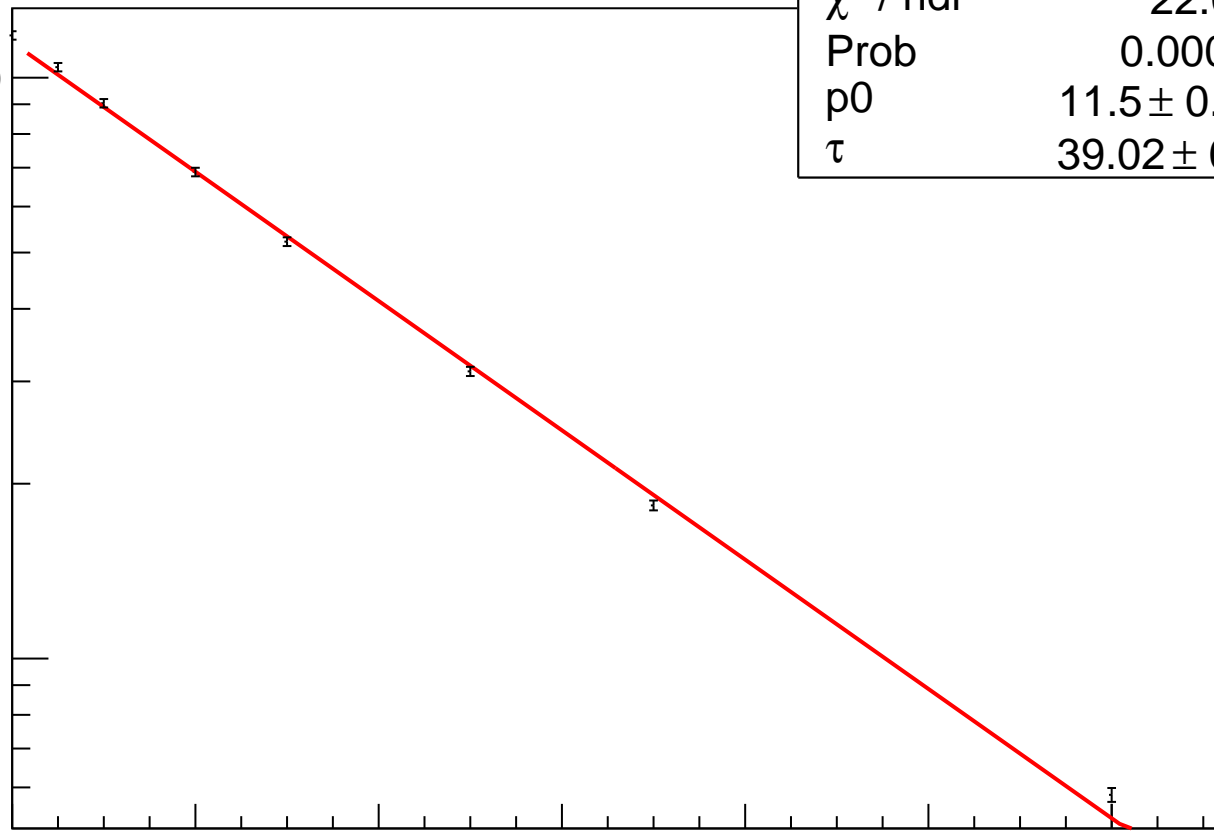
60

80

100

120

Storage time (s)



UCN-count-to-monitor ratio

10

1

0

20

40

60

80

100

120

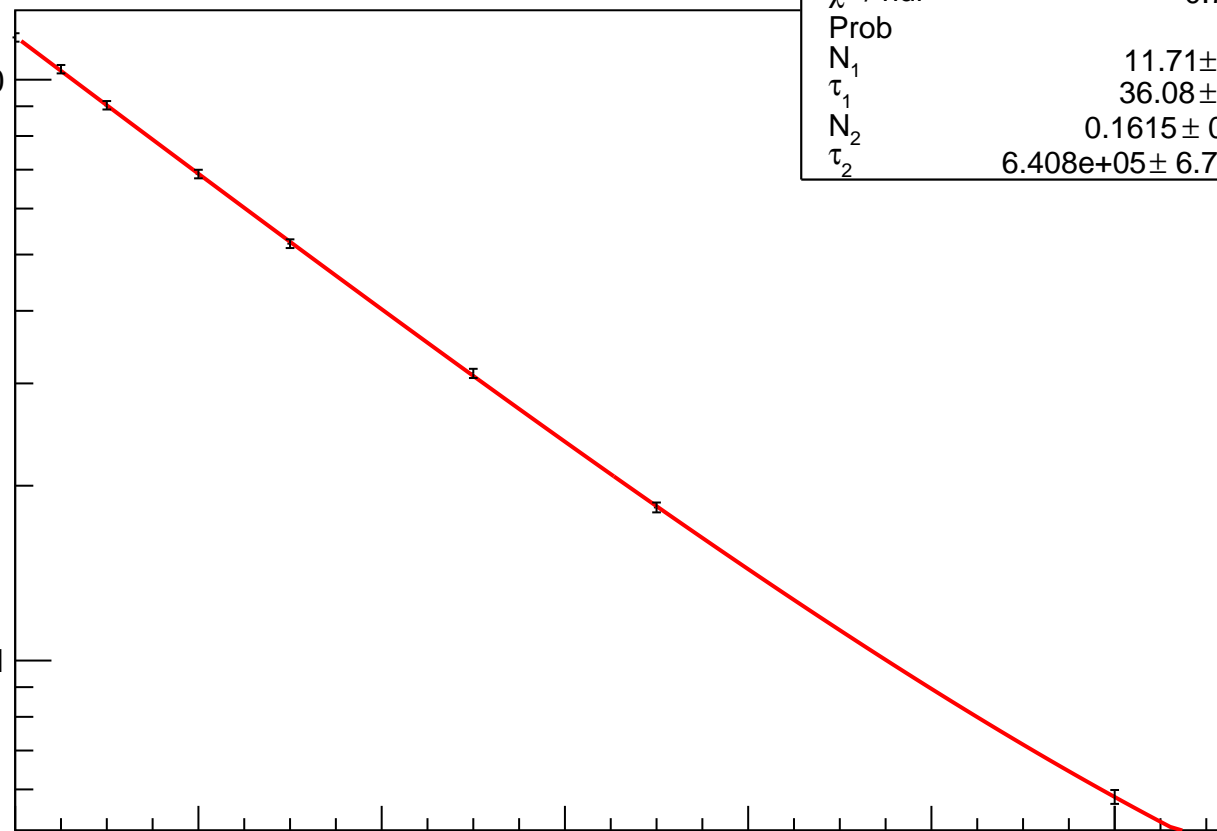
Storage time (s)

 $\chi^2 / \text{ndf}$ 

0.7779 / 4

Prob

0.9414

 $N_1$  $11.71 \pm 0.1104$  $\tau_1$  $36.08 \pm 0.6096$  $N_2$  $0.1615 \pm 0.03286$  $\tau_2$  $6.408\text{e}+05 \pm 6.773\text{e}+05$ 

TCN18-042 (source-IV2, O-ring upstream) (single exponential fit + background, unnormalized)

UCN count

$10^4$

0

20

40

60

80

100

120

Storage time (s)

$\chi^2 / \text{ndf}$

10.56 / 5

Prob

0.06088

p0

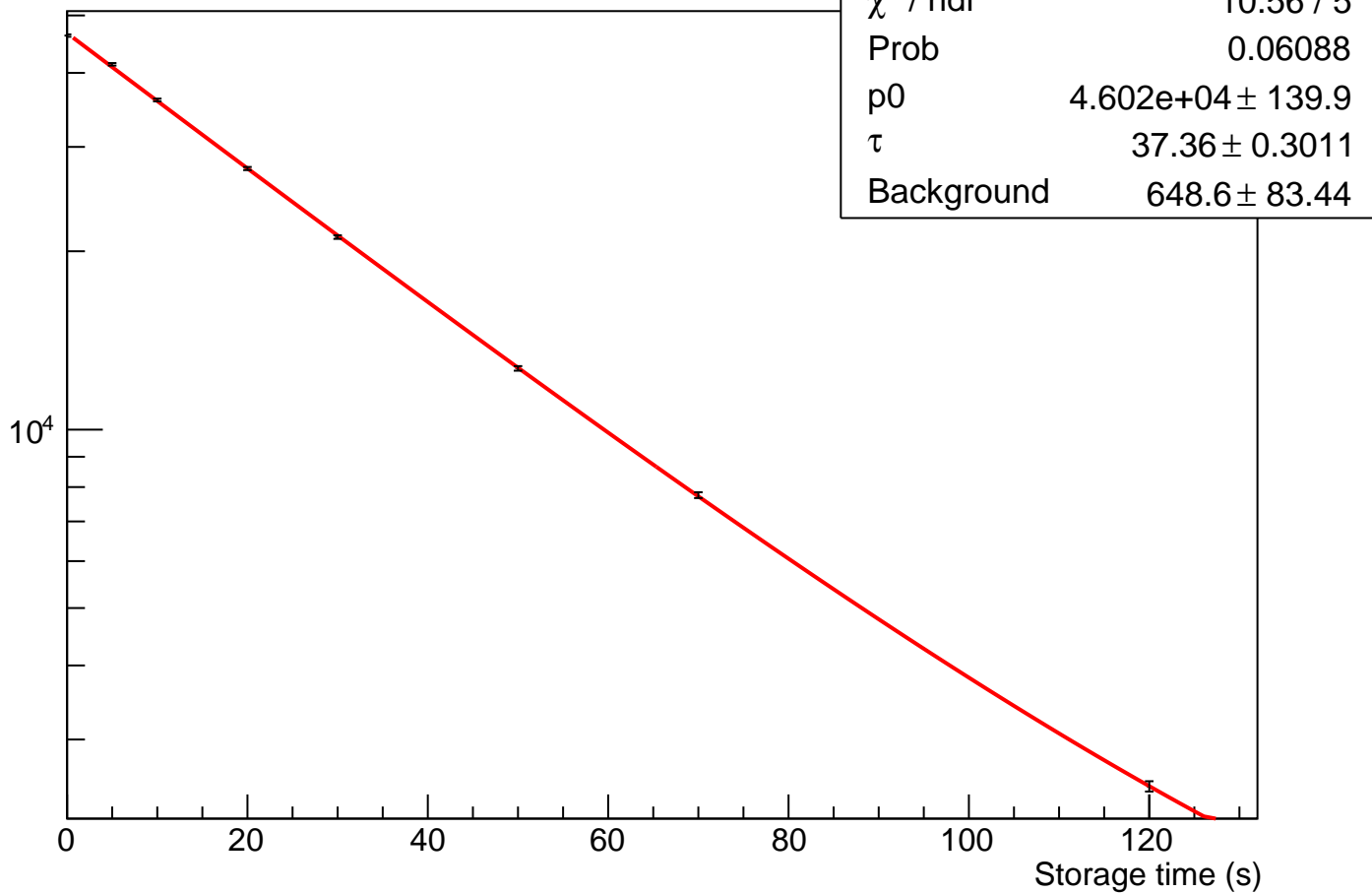
$4.602\text{e}+04 \pm 139.9$

$\tau$

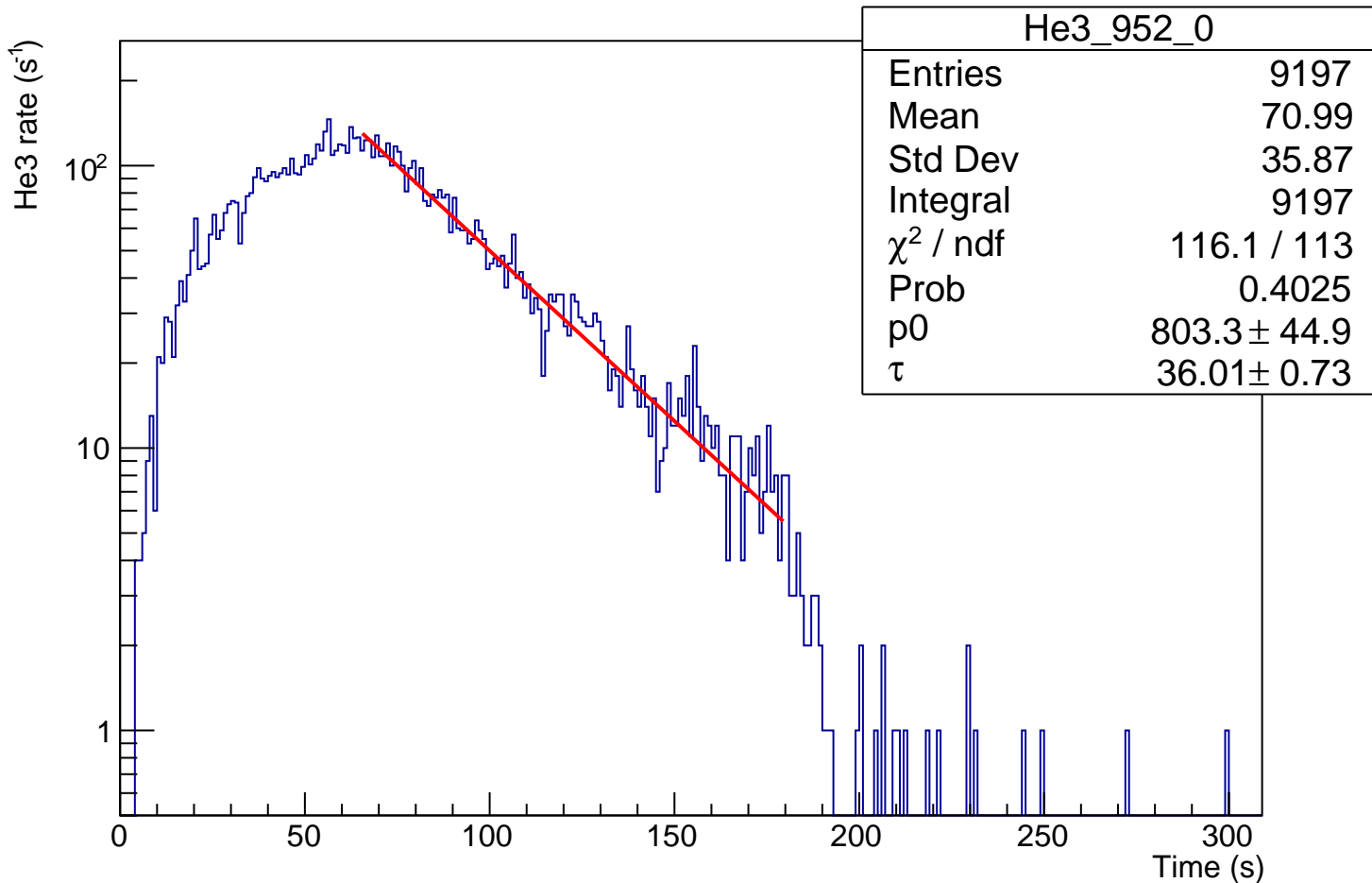
$37.36 \pm 0.3011$

Background

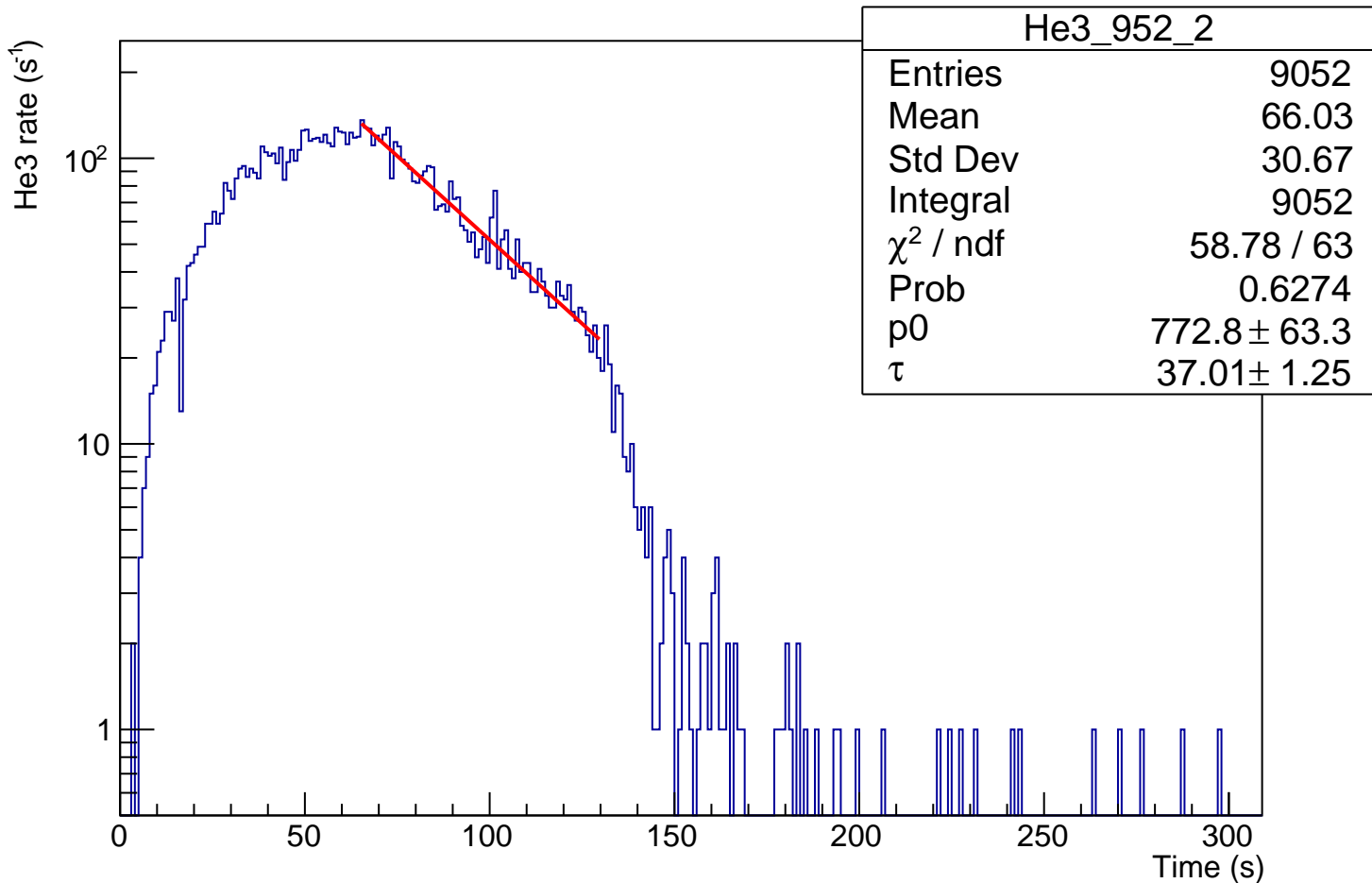
$648.6 \pm 83.44$



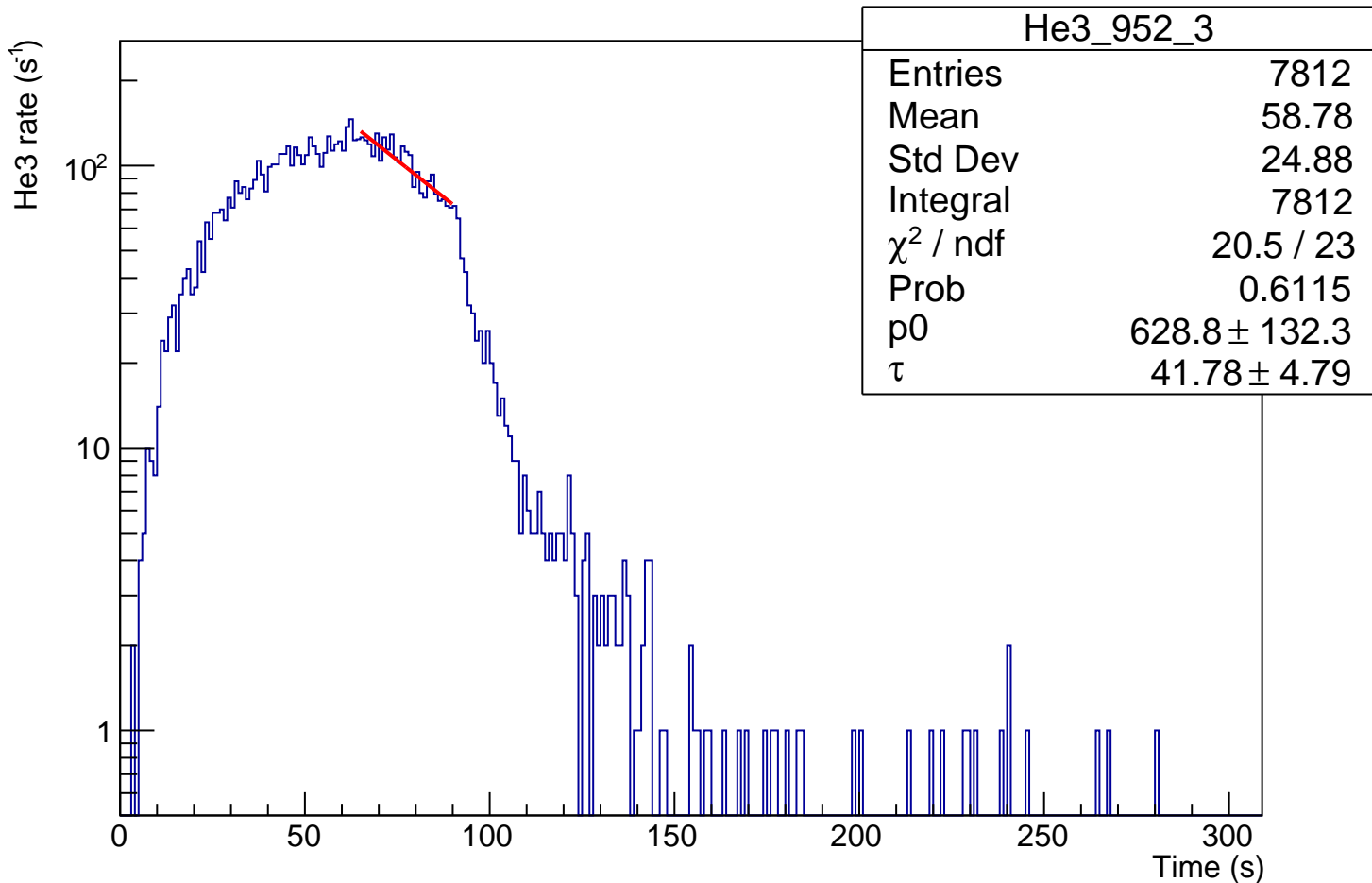
# He3 detector rate



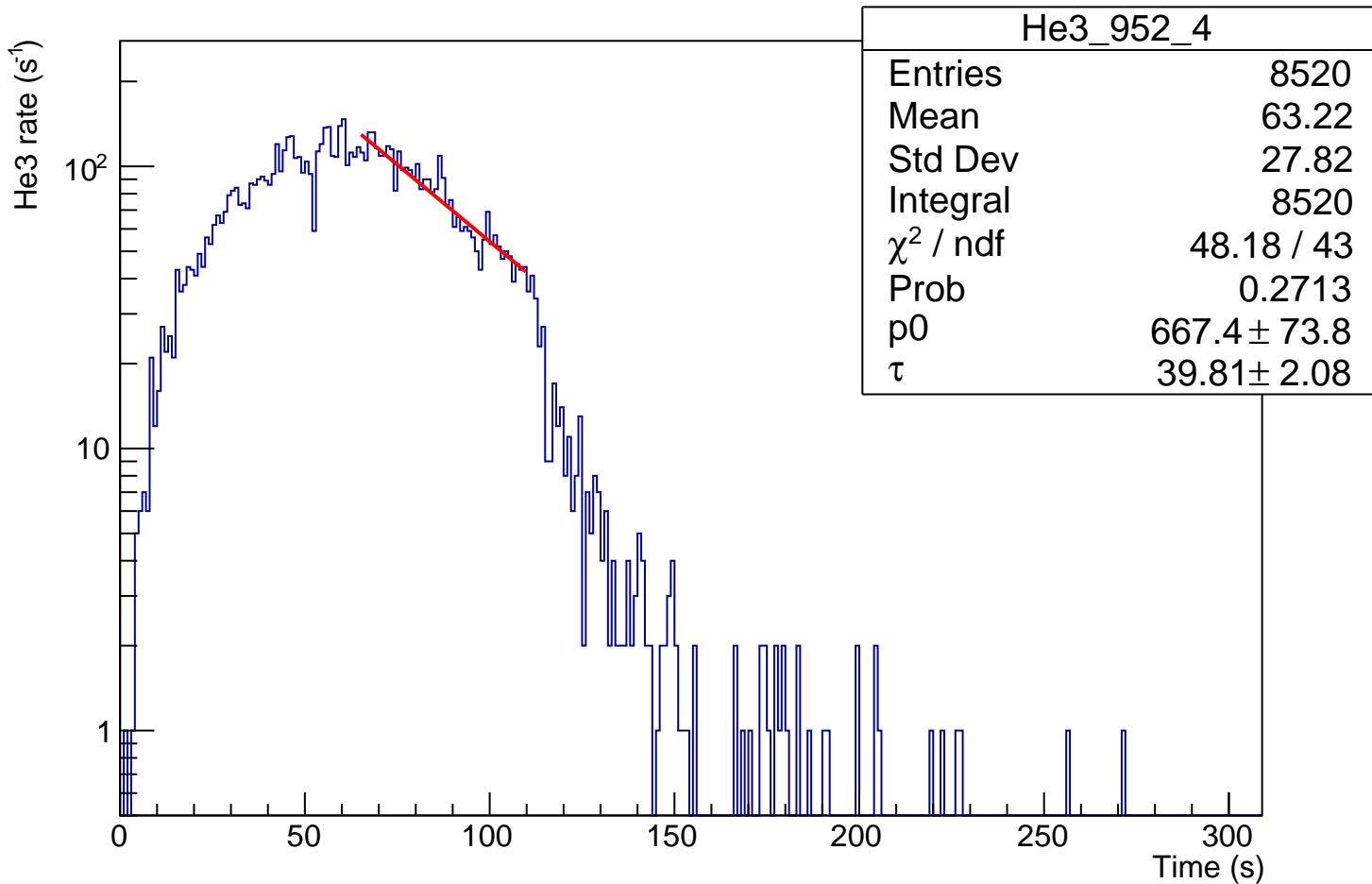
# He3 detector rate



# He3 detector rate

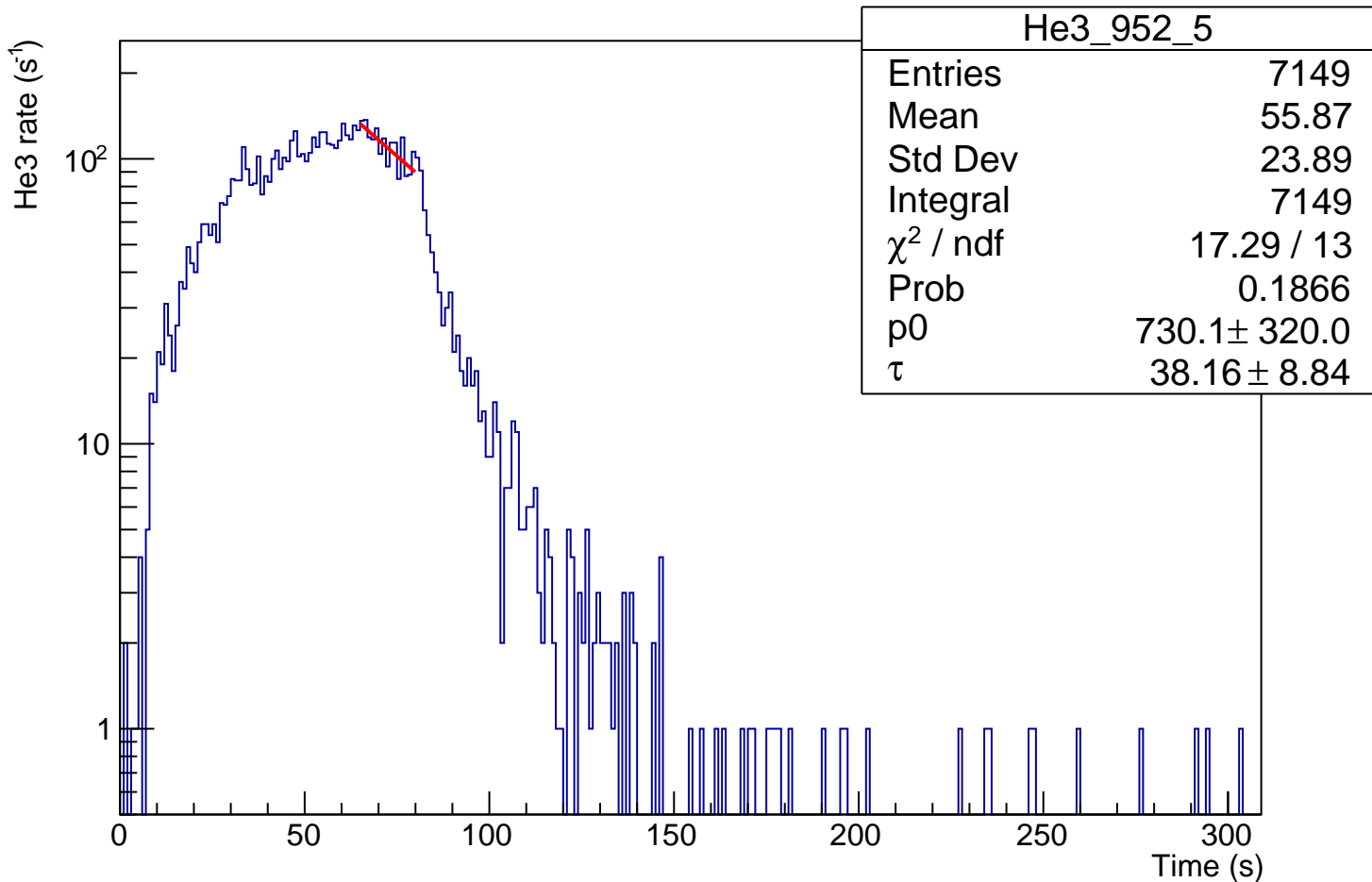


# He3 detector rate





# He3 detector rate



**Average lifetime from He3 data:**

$$\tau = 36.6455786802 \pm 0.125395152081 \text{ s}$$