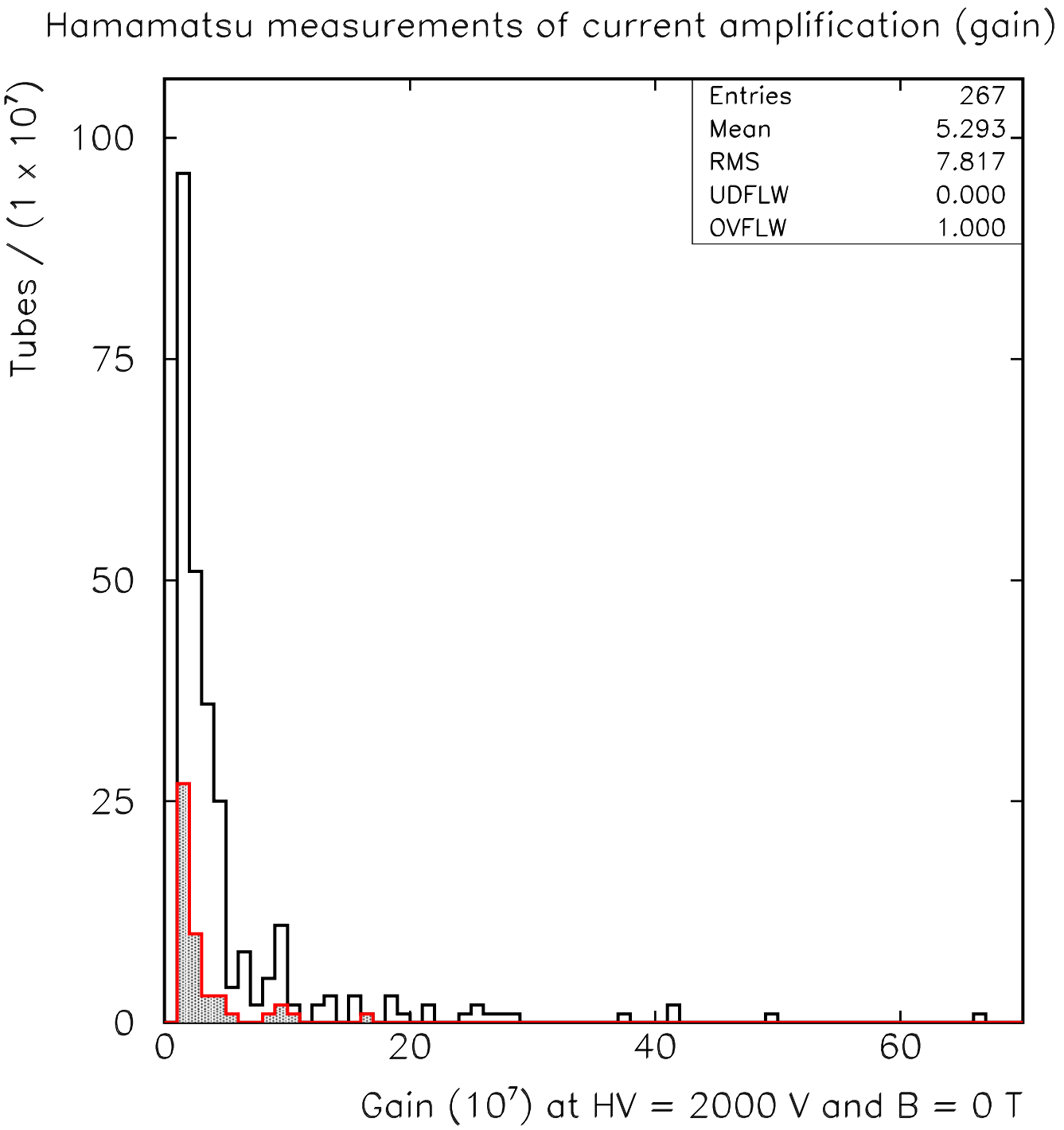
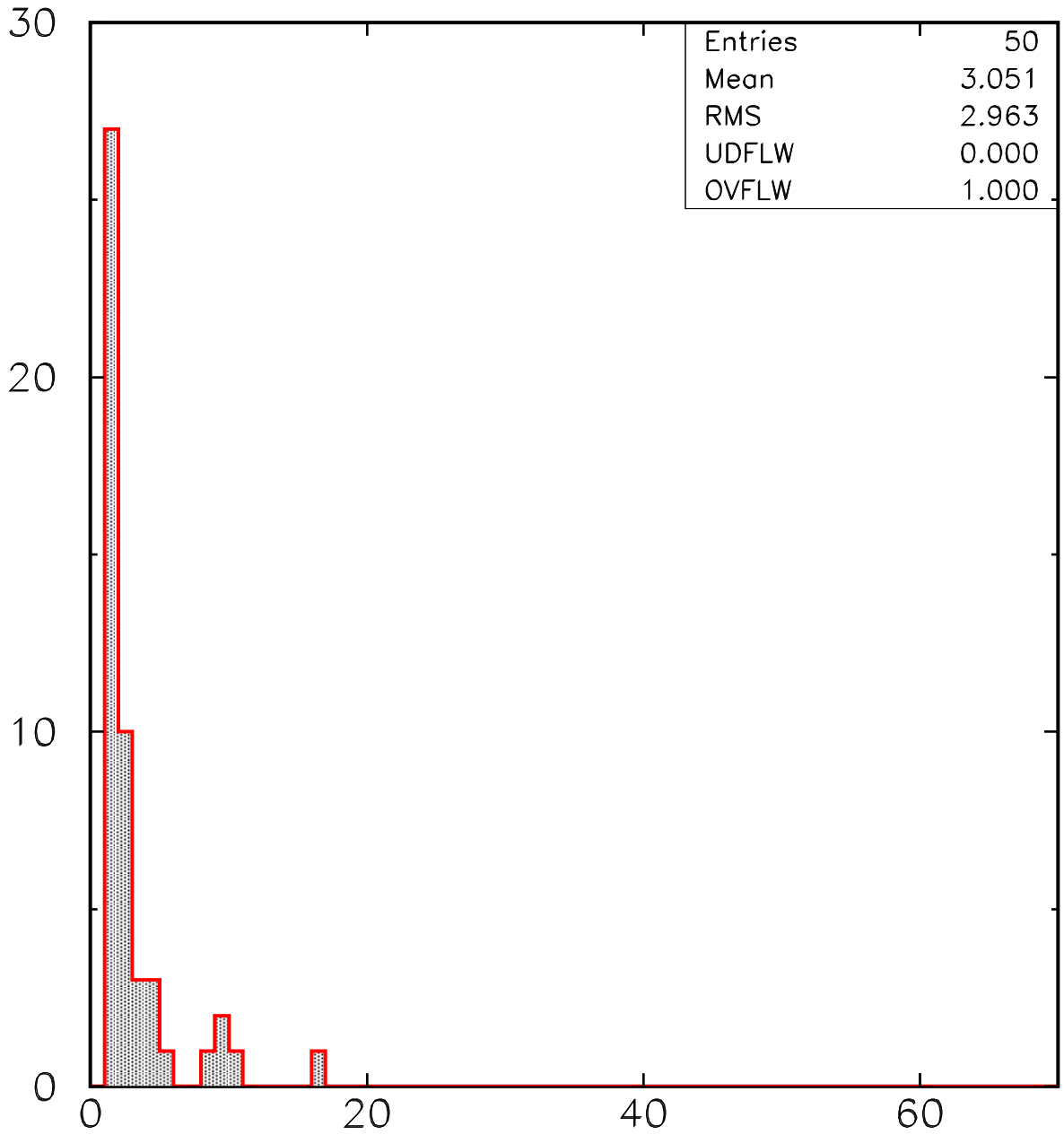
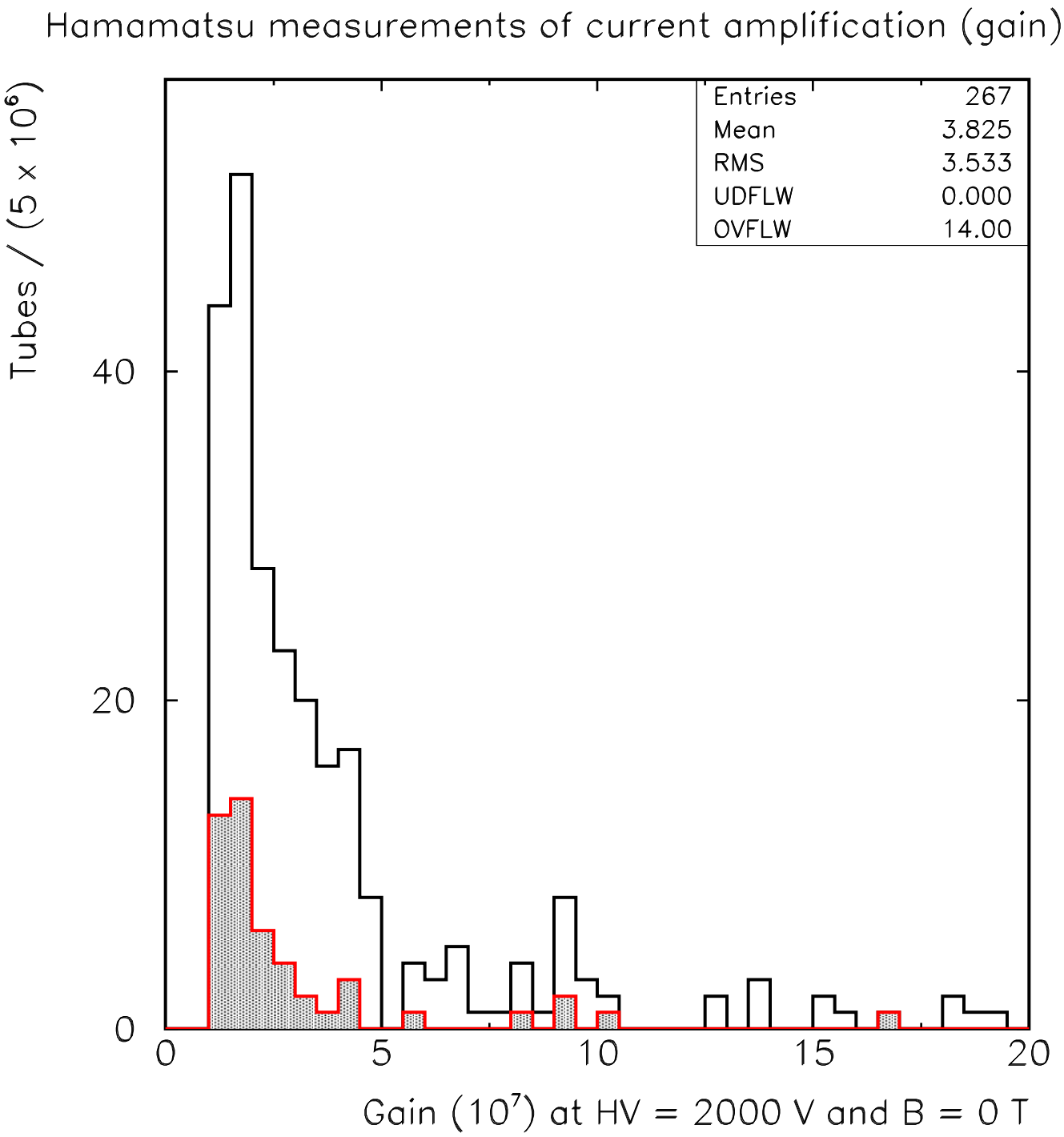
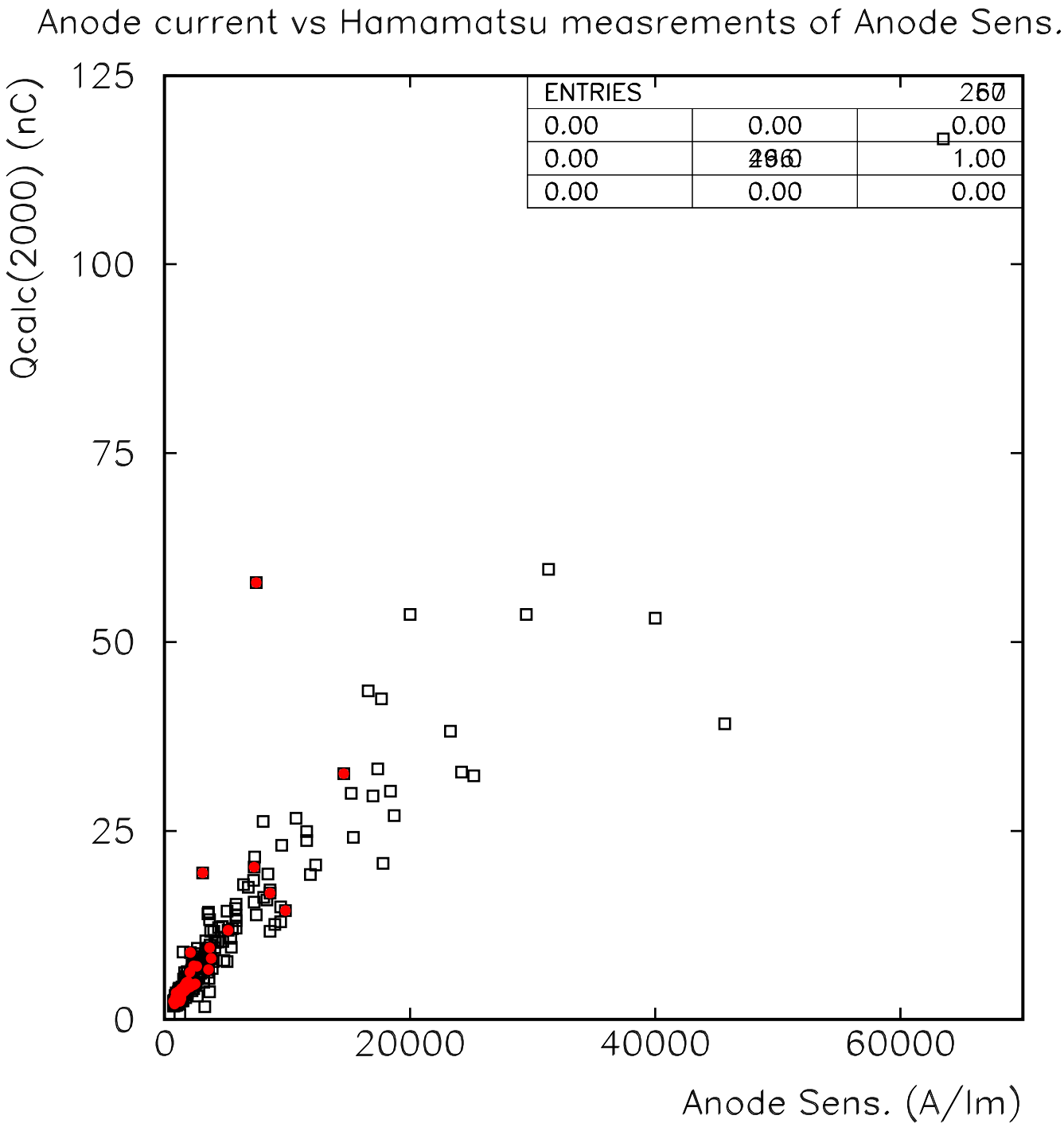
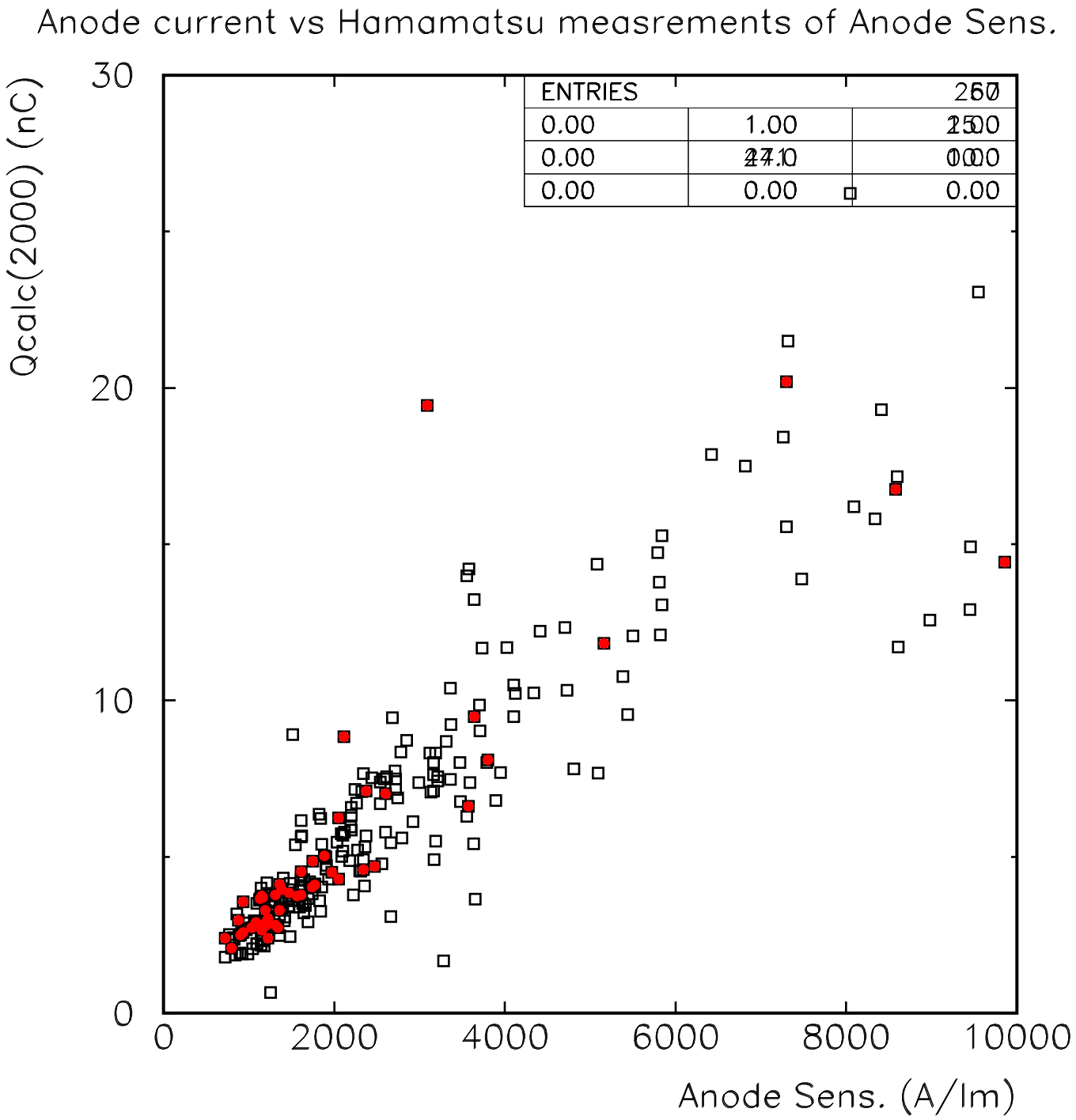

Hamamatsu measurements of current amplification (gain)
Entries 267
Mean 5.293
RMS 7.817
UDFLW 0.000
OVFLW 1.000
Tubes / (1 x 10⁷)
100
75
50
25
0
0
20
40
60
Gain (10⁷) at HV = 2000 V and B = 0 T

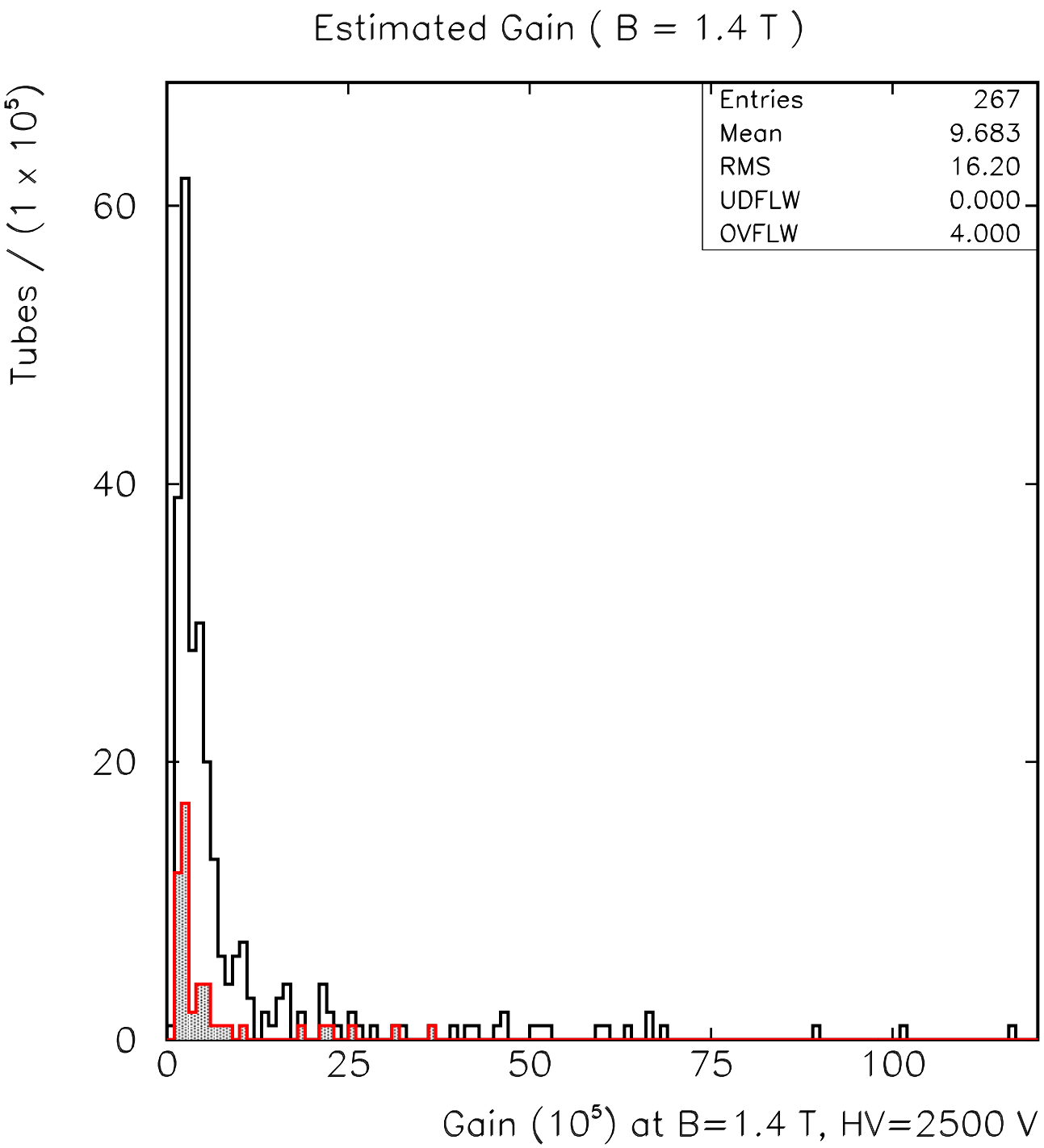
Hamamatsu measurements of current amplification (gain)

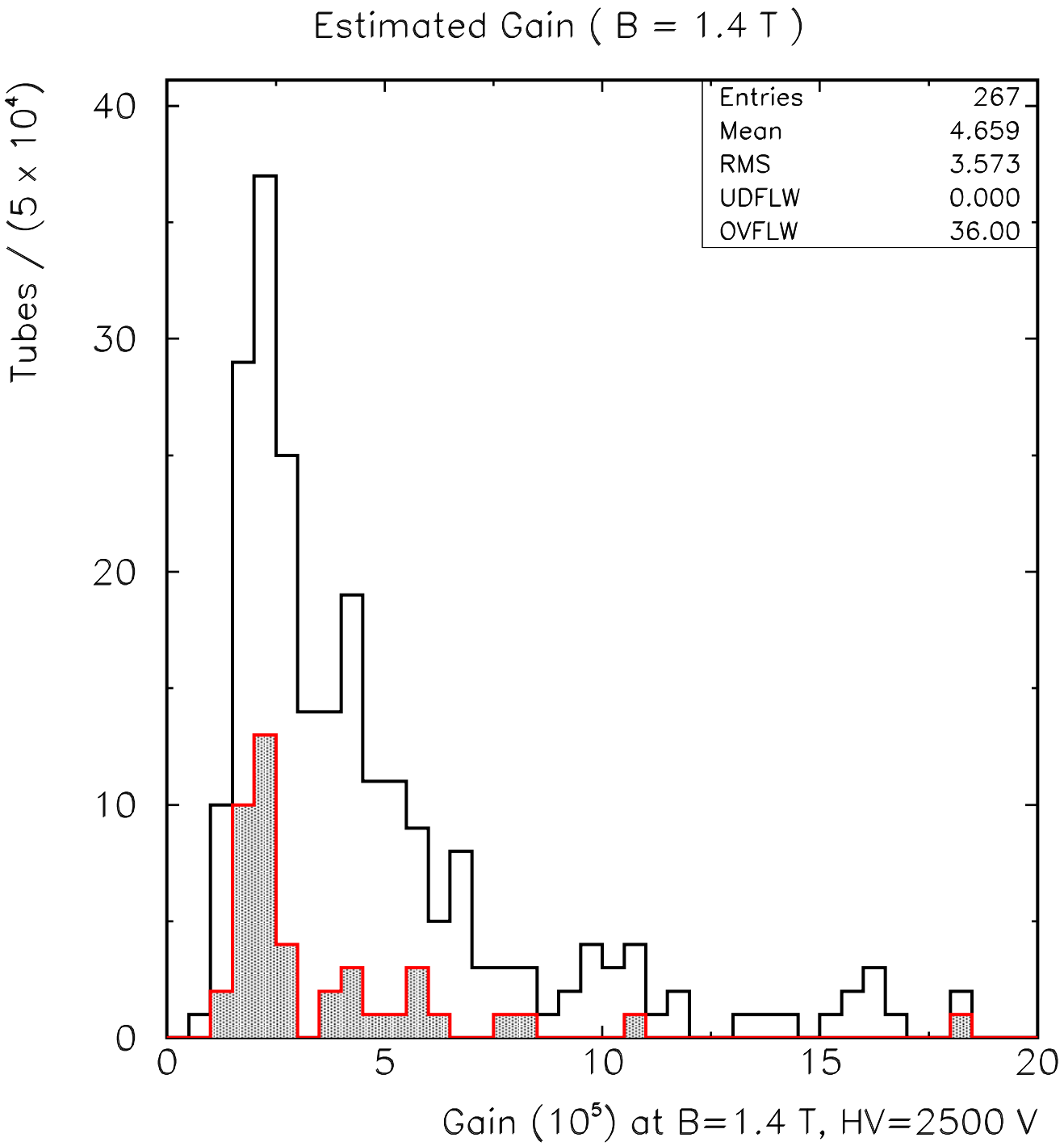


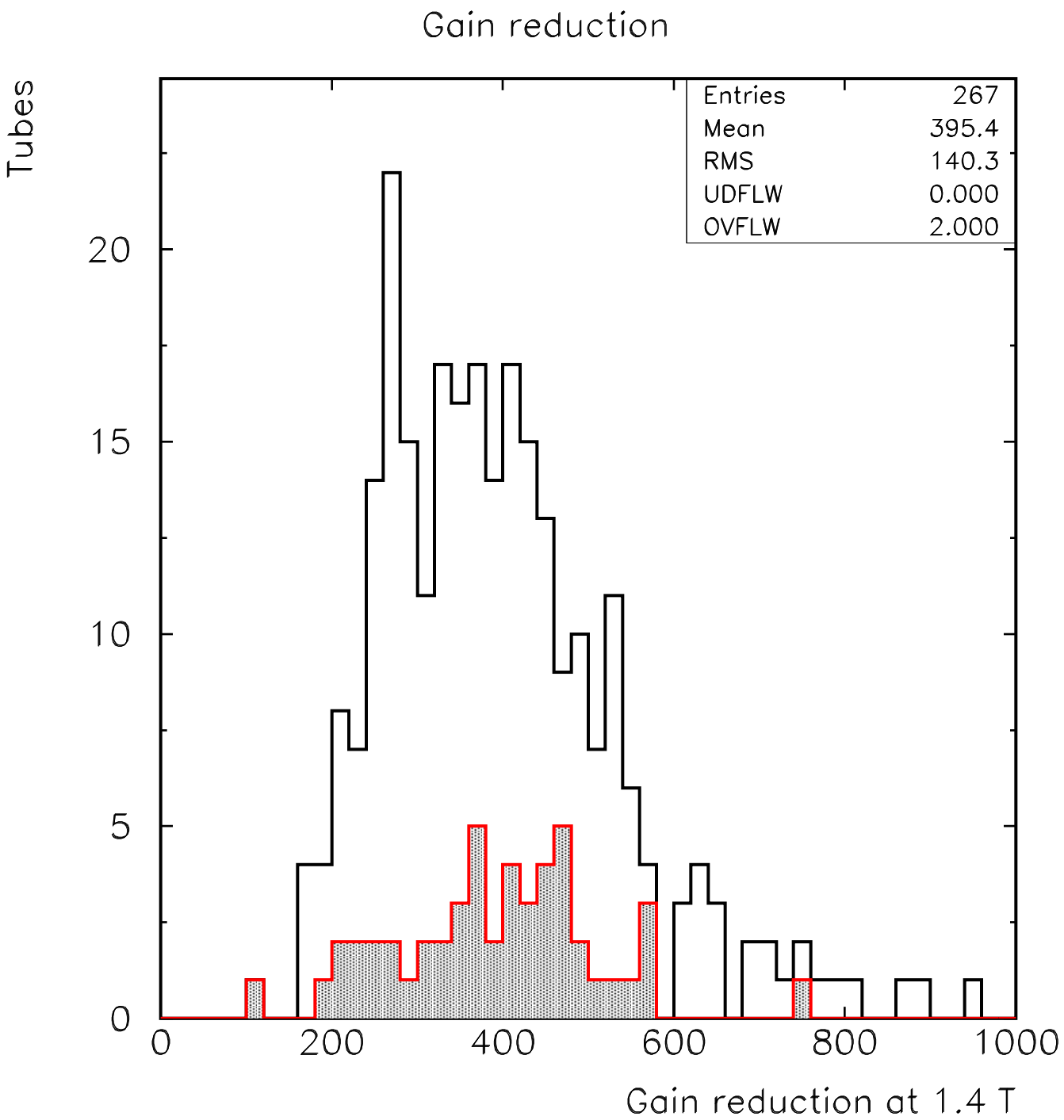

Hamamatsu measurements of current amplification (gain)
Entries 267
Mean 3.825
RMS 3.533
UDFLW 0.000
OVFLW 14.00
Tubes / (5 x 10^6)
0
20
40
0
5
10
15
20
Gain (10^7) at HV = 2000 V and B = 0 T

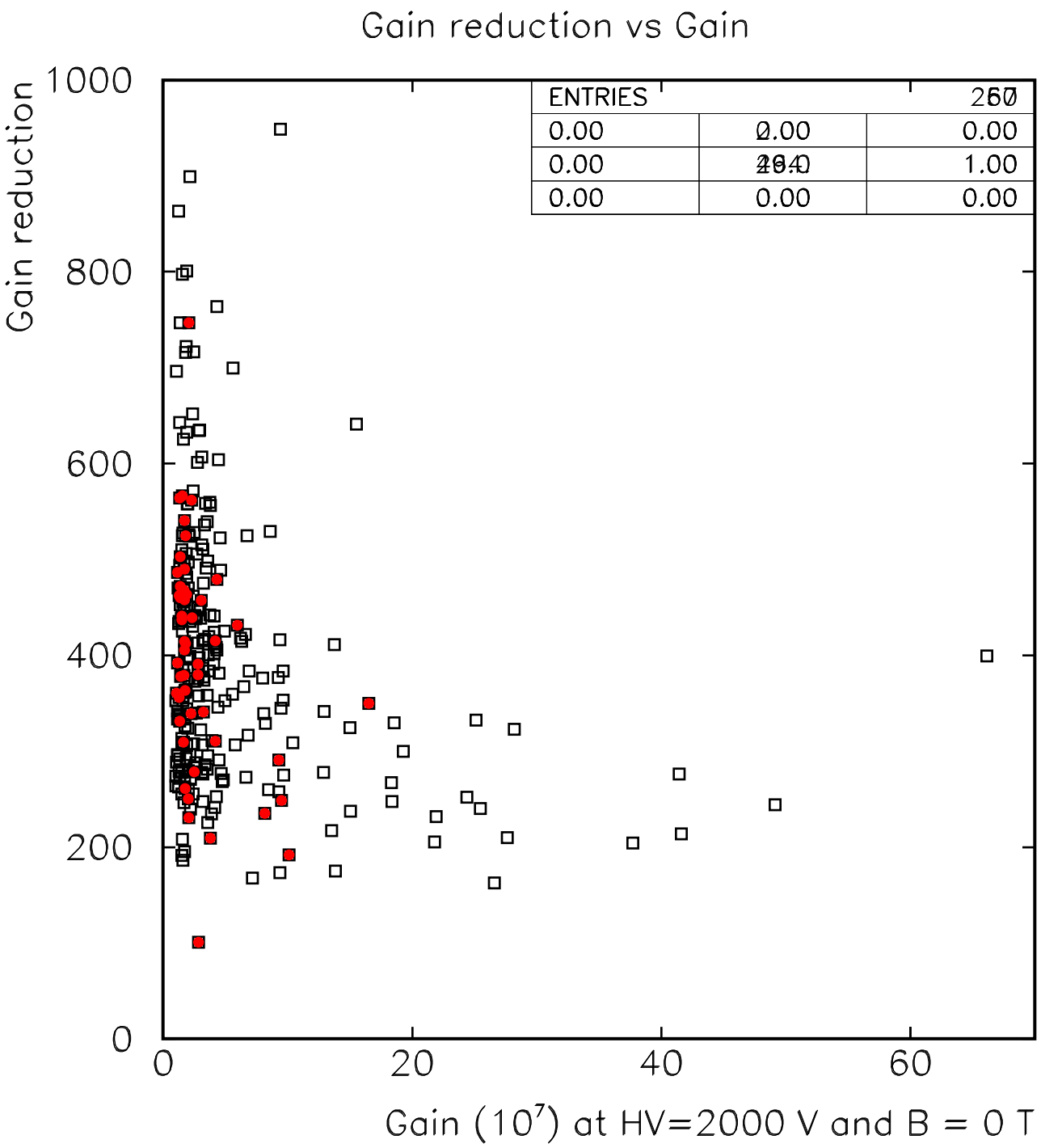

Anode current vs Hamamatsu measrements of Anode Sens.
ENTRIES
0.00
0.00
0.00
0.00
1.00
0.00
0.00
Qcalc(2000) (nC)
125
100
75
50
25
0
0
20000
40000
60000
Anode Sens. (A/lm)

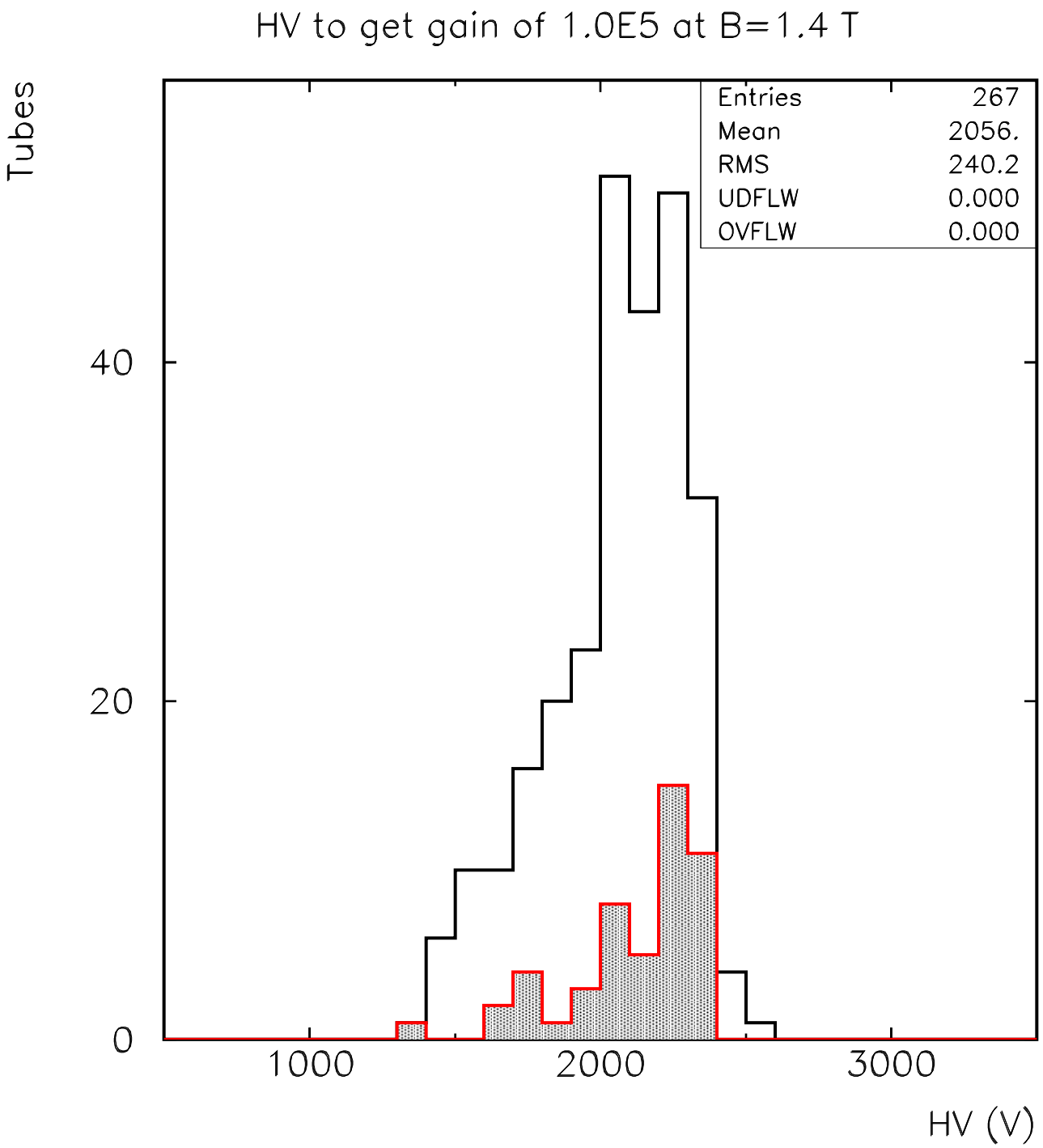

Anode current vs Hamamatsu measrements of Anode Sens.
ENTRIES
0.00
1.00
0.00
0.00
0.00
Qcalc(2000) (nC)
Anode Sens. (A/Im)
0
10
20
30
0
2000
4000
6000
8000
10000

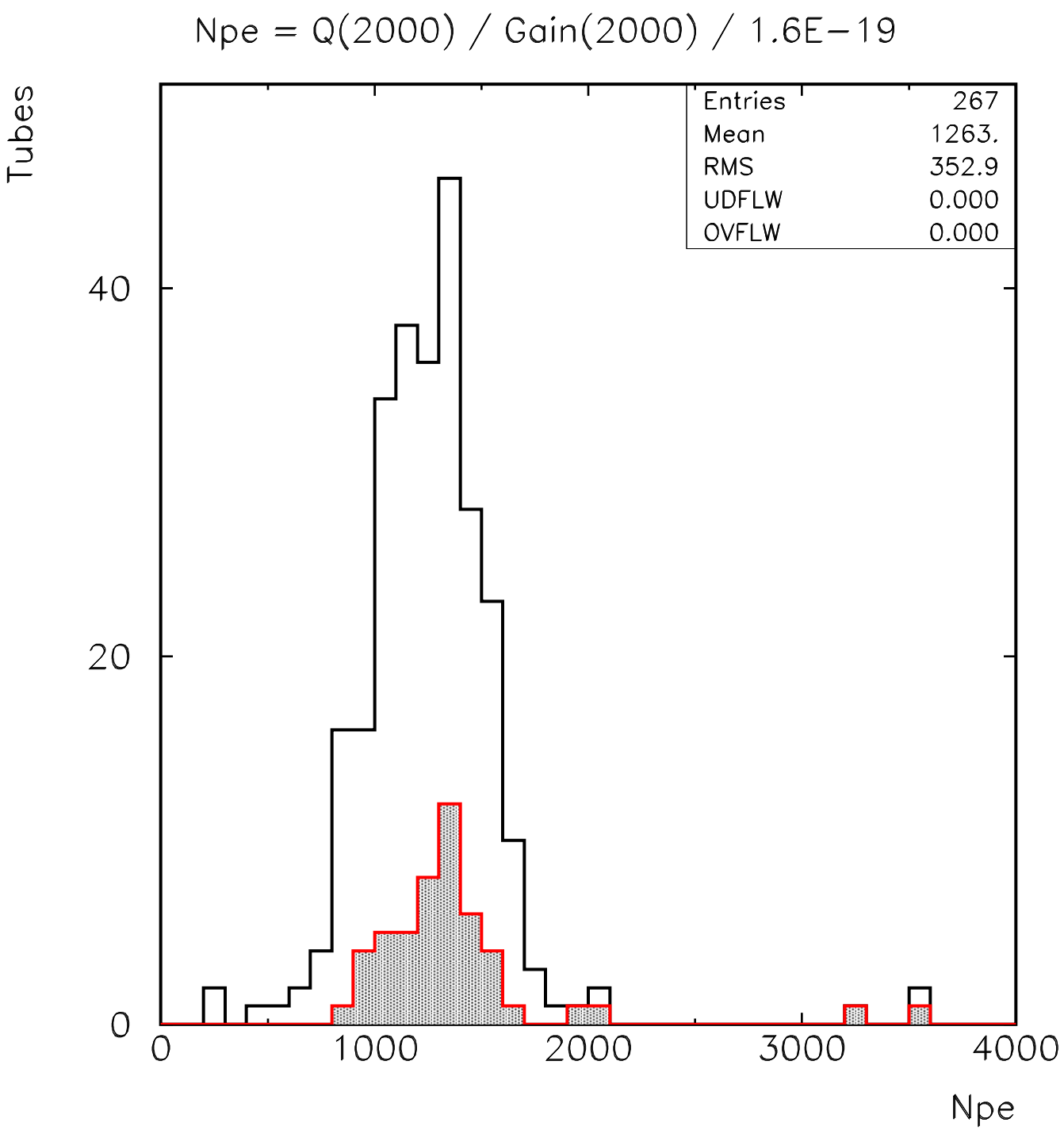

Estimated Gain (B = 1.4 T)
Entries 267
Mean 9.683
RMS 16.20
UDFLW 0.000
OVFLW 4.000
Tubes / (1 x 10^5)
60
40
20
0
0
25
50
75
100
Gain (10^5) at B=1.4 T, HV=2500 V

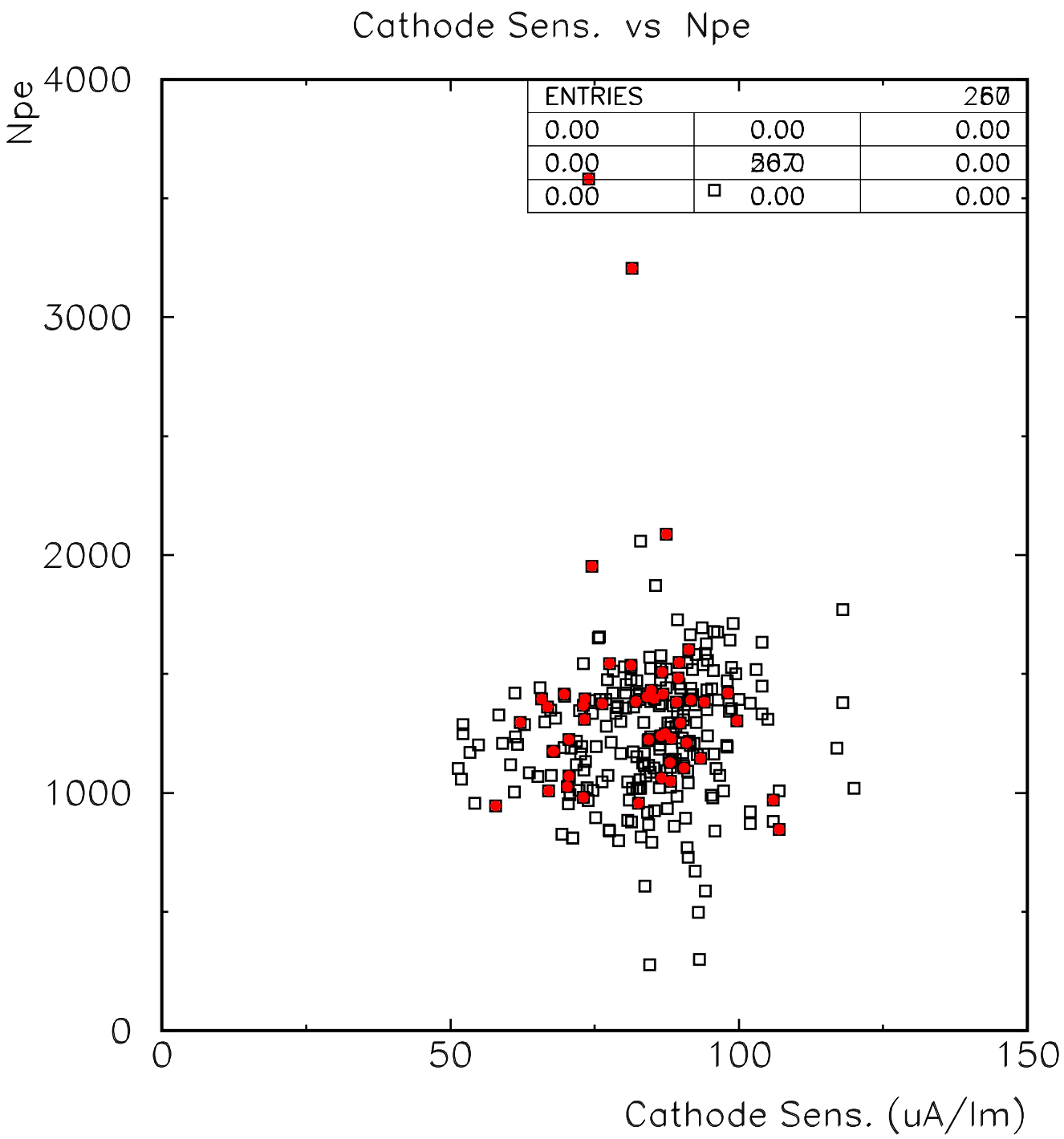

Estimated Gain (B = 1.4 T)
Entries 267
Mean 4.659
RMS 3.573
UDFLW 0.000
OVFLW 36.00
Tubes / (5 x 10⁴)
0
10
20
30
40
0
5
10
15
20
Gain (10⁵) at B=1.4 T, HV=2500 V

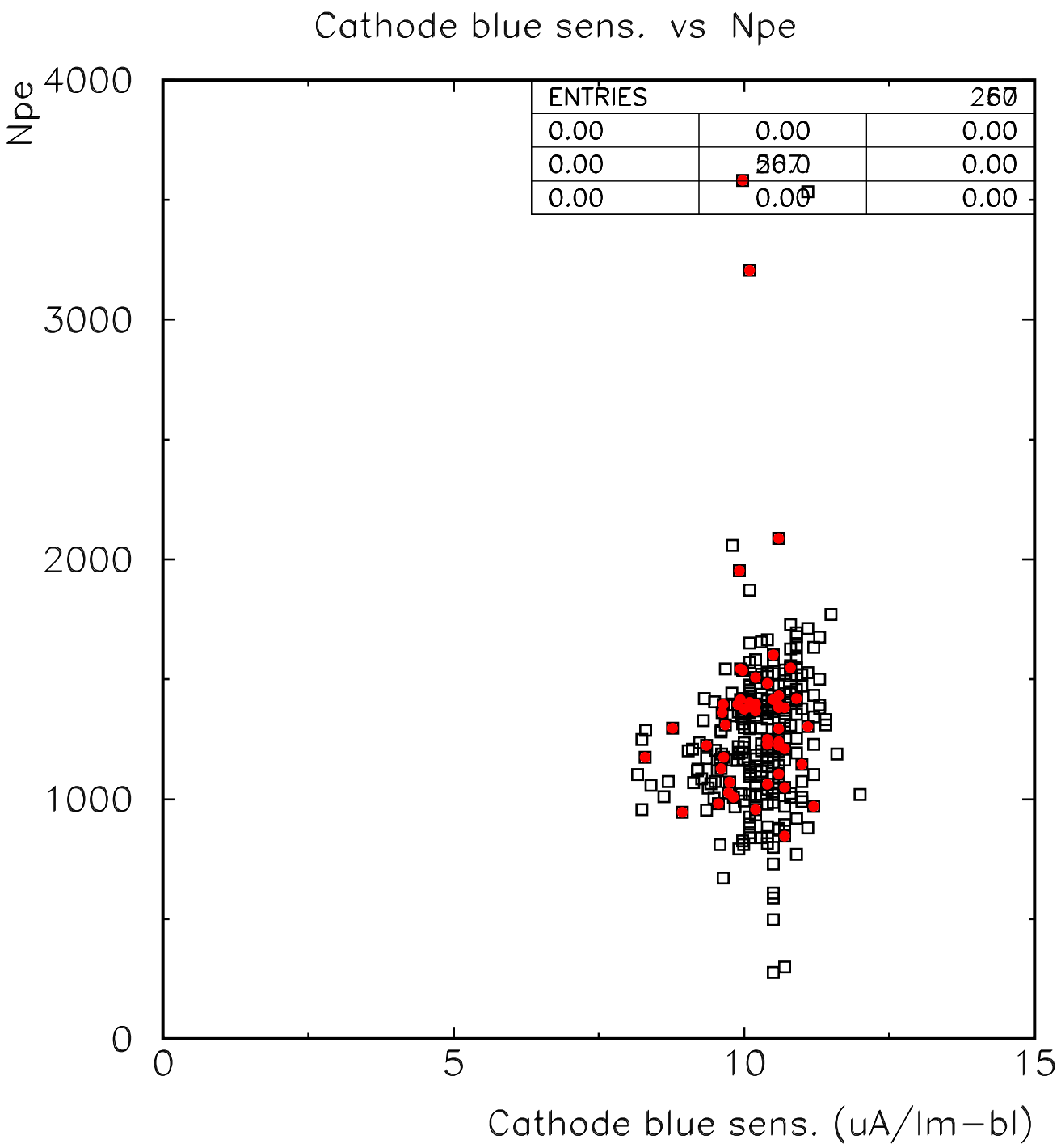

Gain reduction
Tubes
Entries 267
Mean 395.4
RMS 140.3
UDFLW 0.000
OVFLW 2.000
0
5
10
15
20
0
200
400
600
800
1000
Gain reduction at 1.4 T

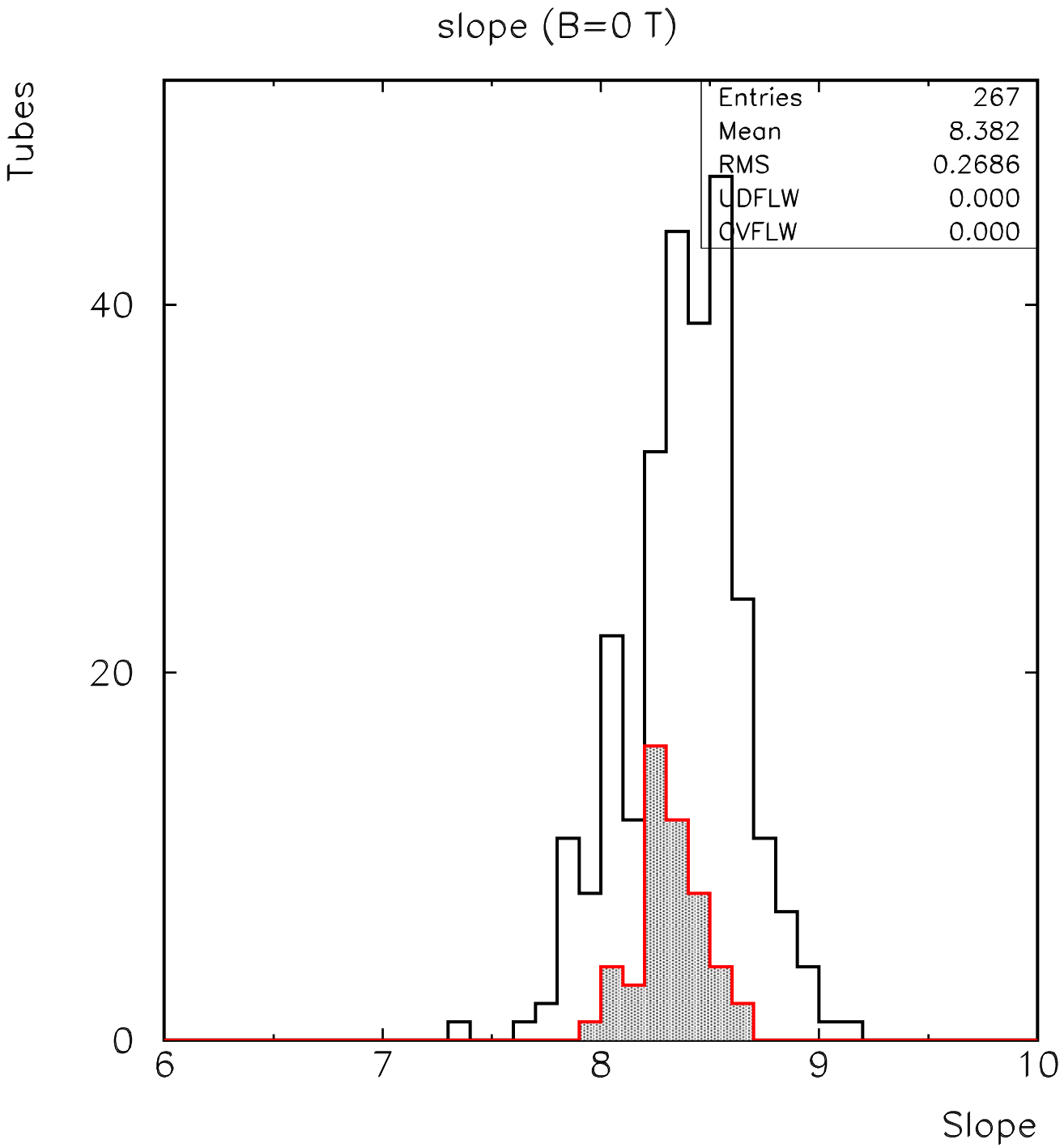

Gain reduction vs Gain
Gain reduction
1000
800
600
400
200
0
0
20
40
60
Gain (10^7) at HV=2000 V and B = 0 T
ENTRIES
0.00
0.00
0.00
0.00
1.00
0.00
0.00
0.00

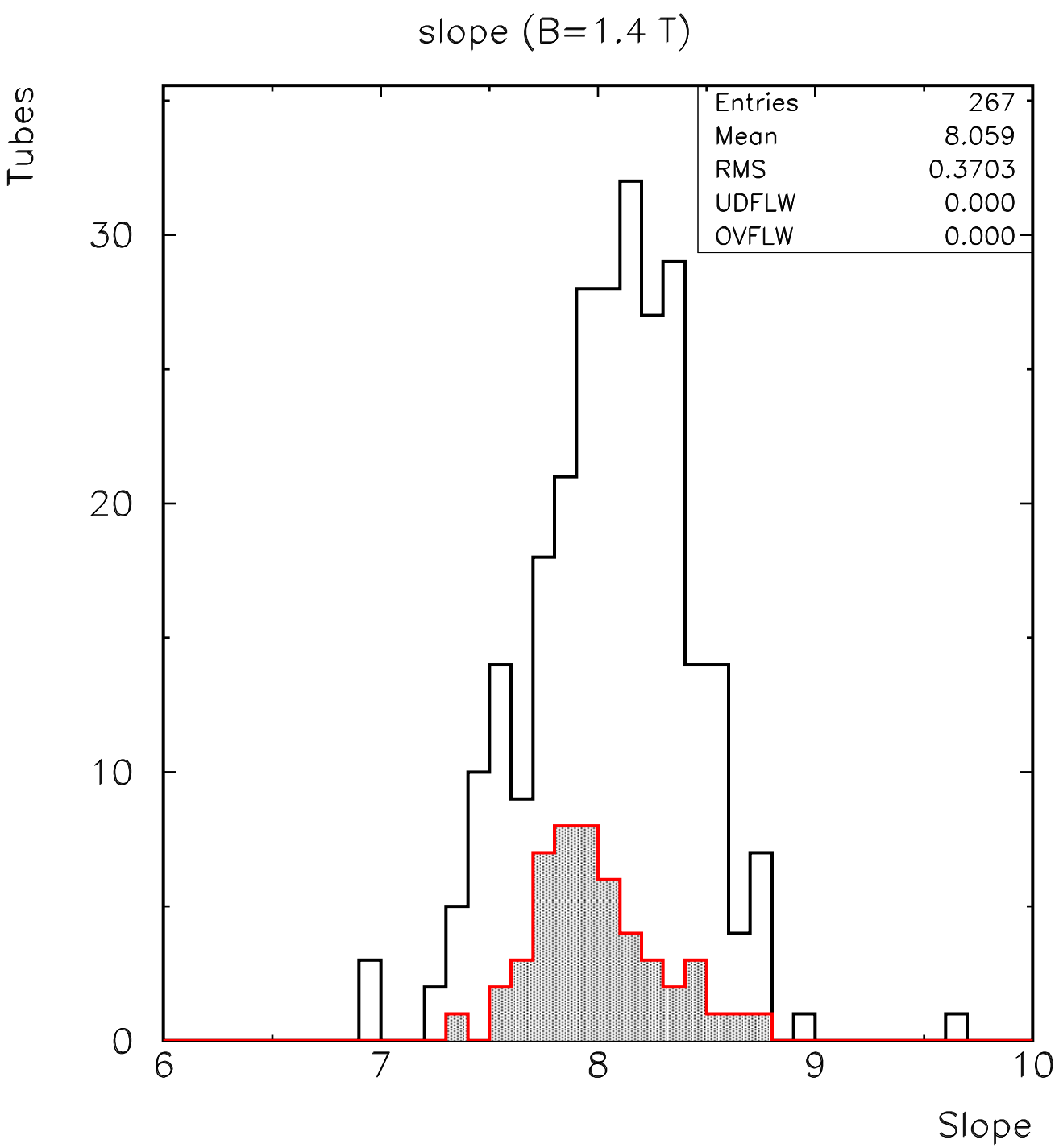

HV to get gain of 1.0E5 at B=1.4 T
Tubes
Entries 267
Mean 2056.
RMS 240.2
UDFLW 0.000
OVFLW 0.000
40
20
0
1000
2000
3000
HV (V)

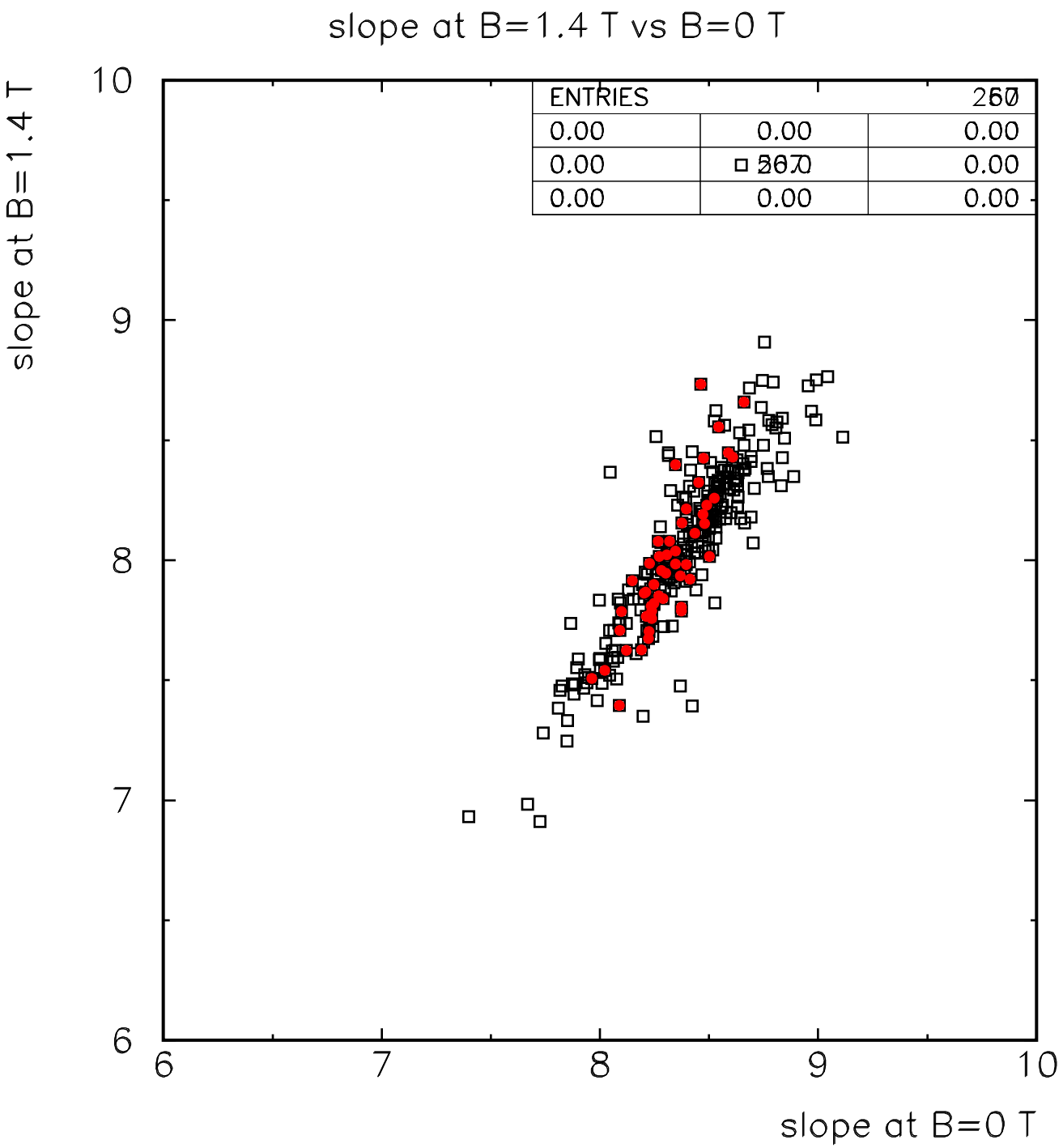

Npe = Q(2000) / Gain(2000) / 1.6E−19
Tubes
Entries 267
Mean 1263.
RMS 352.9
UDFLW 0.000
OVFLW 0.000
40
20
0
0
1000
2000
3000
4000
Npe

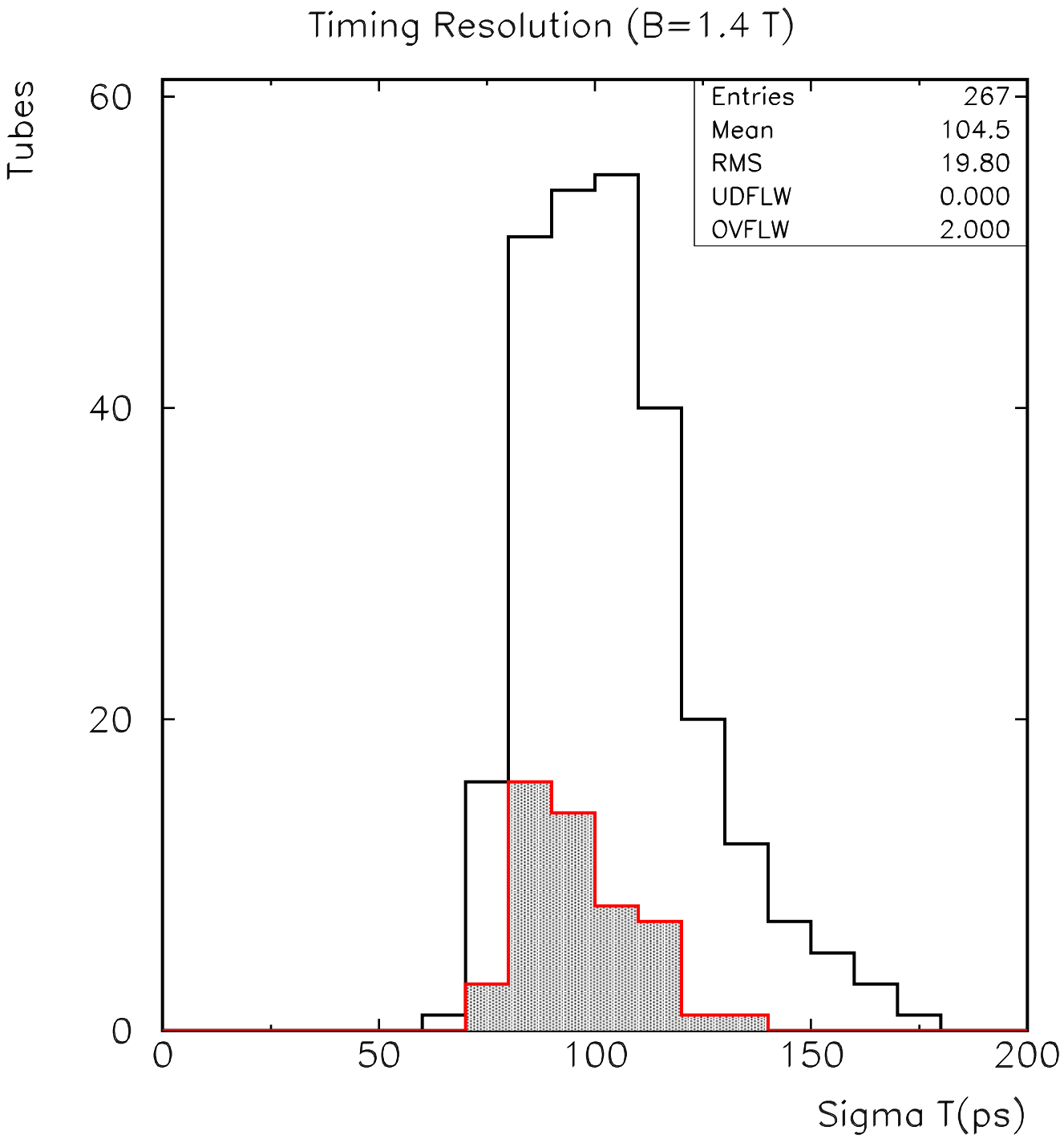

Cathode Sens. vs Npe
Npe
4000
3000
2000
1000
0
0
50
100
150
Cathode Sens. (uA/lm)
ENTRIES
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00

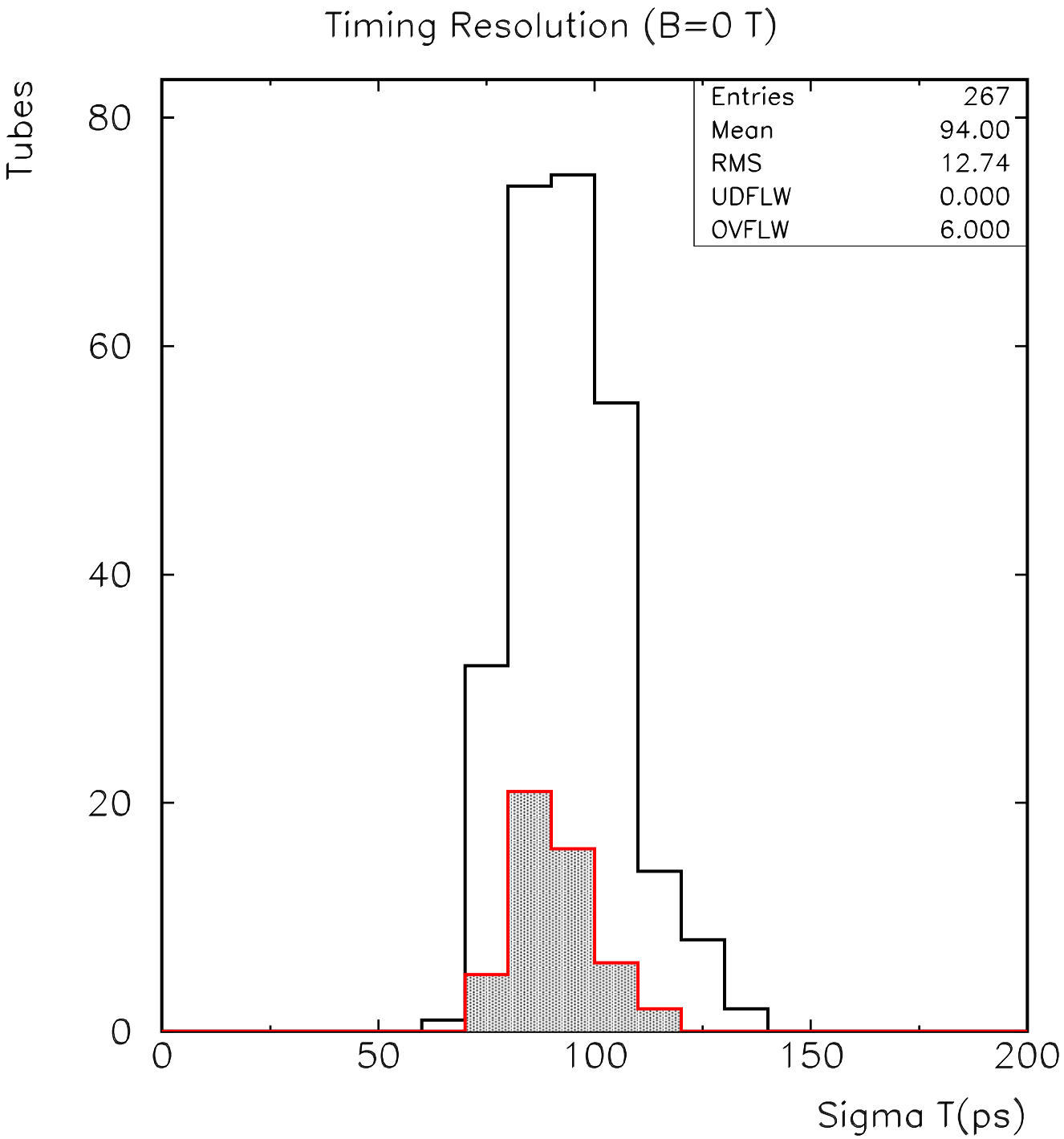

Cathode blue sens. vs Npe
Npe
4000
3000
2000
1000
0
0
5
10
15
Cathode blue sens. (uA/lm−bl)
ENTRIES
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00


slope (B=0 T)
Tubes
Entries 267
Mean 8.382
RMS 0.2686
UDFLW 0.000
OVFLW 0.000
40
20
0
6
7
8
9
10
Slope


slope (B=1.4 T)
Tubes
Entries 267
Mean 8.059
RMS 0.3703
UDFLW 0.000
OVFLW 0.000
30
20
10
0
6
7
8
9
10
Slope


slope at B=1.4 T vs B=0 T
slope at B=1.4 T
slope at B=0 T
ENTRIES
0.00
0.00
0.00
0.00
0.00
0.00
0.00
10
9
8
7
6
6
7
8
9
10


Timing Resolution (B=1.4 T)
Tubes
60
40
20
0
0
50
100
150
200
Sigma T(ps)
Entries 267
Mean 104.5
RMS 19.80
UDFLW 0.000
OVFLW 2.000


Timing Resolution (B=0 T)
Tubes
Entries 267
Mean 94.00
RMS 12.74
UDFLW 0.000
OVFLW 6.000
80
60
40
20
0
0
50
100
150
200
Sigma T(ps)