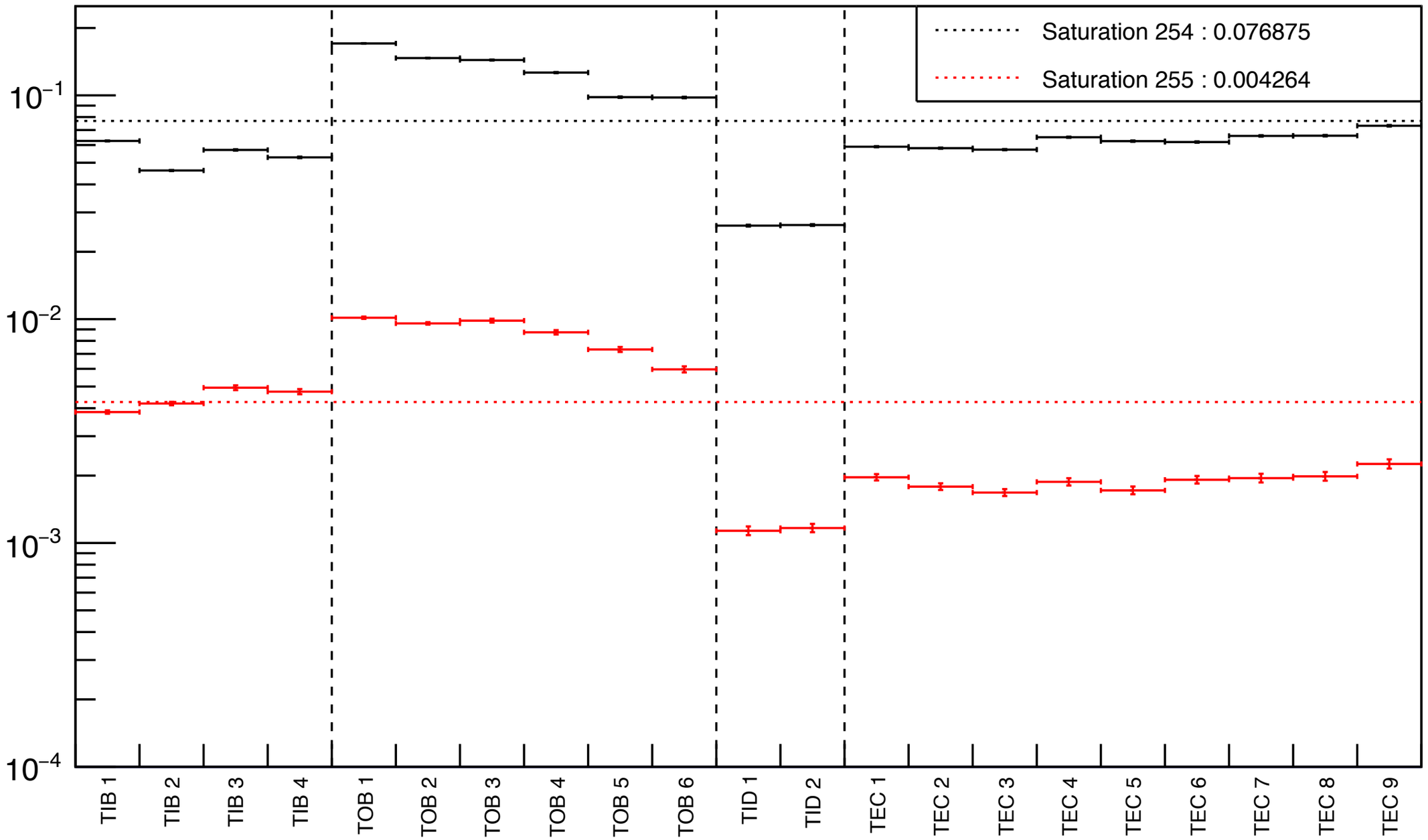
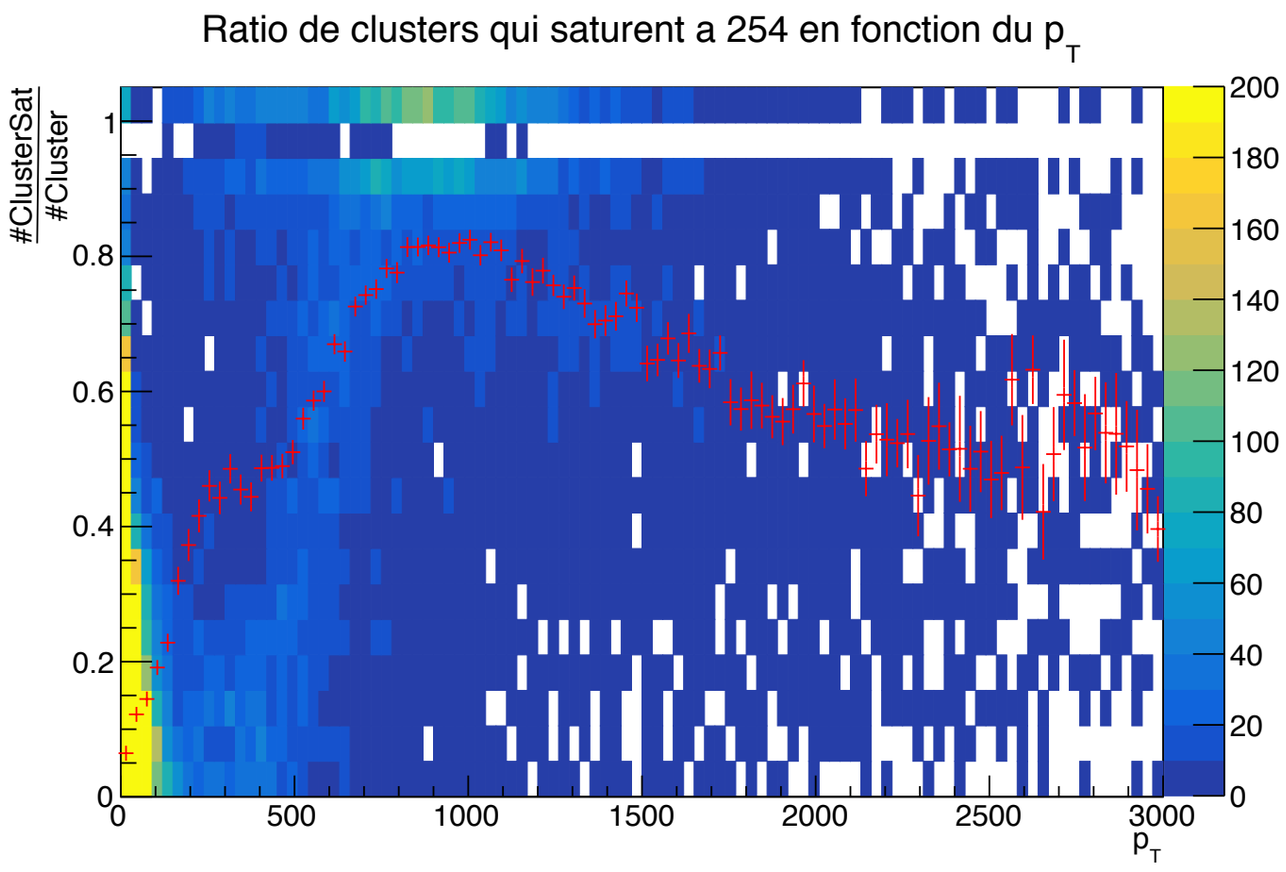
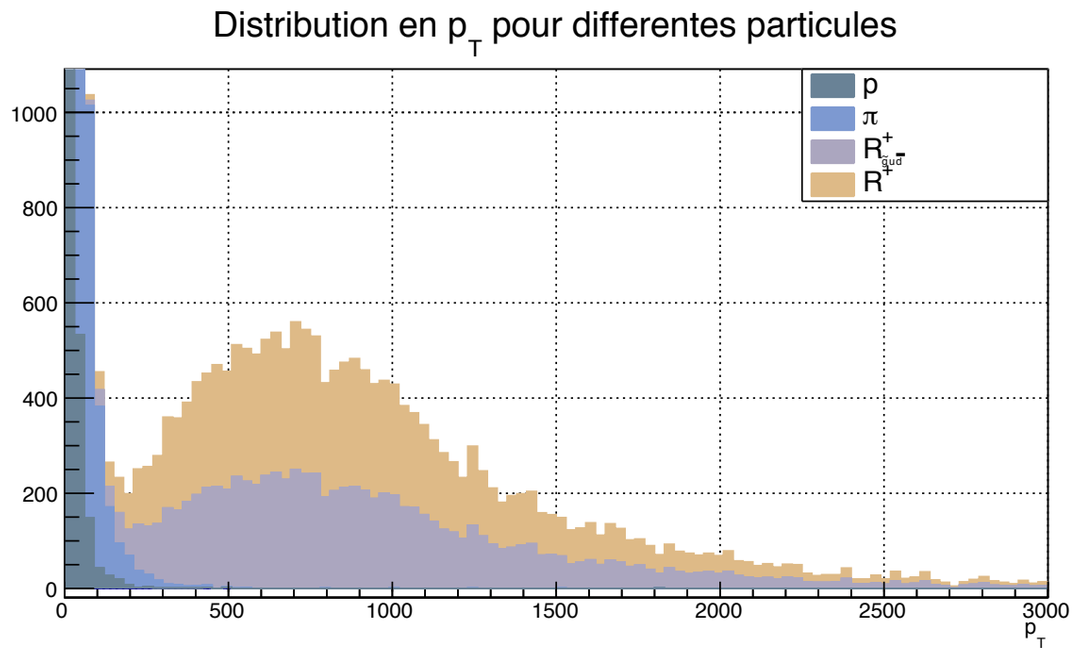
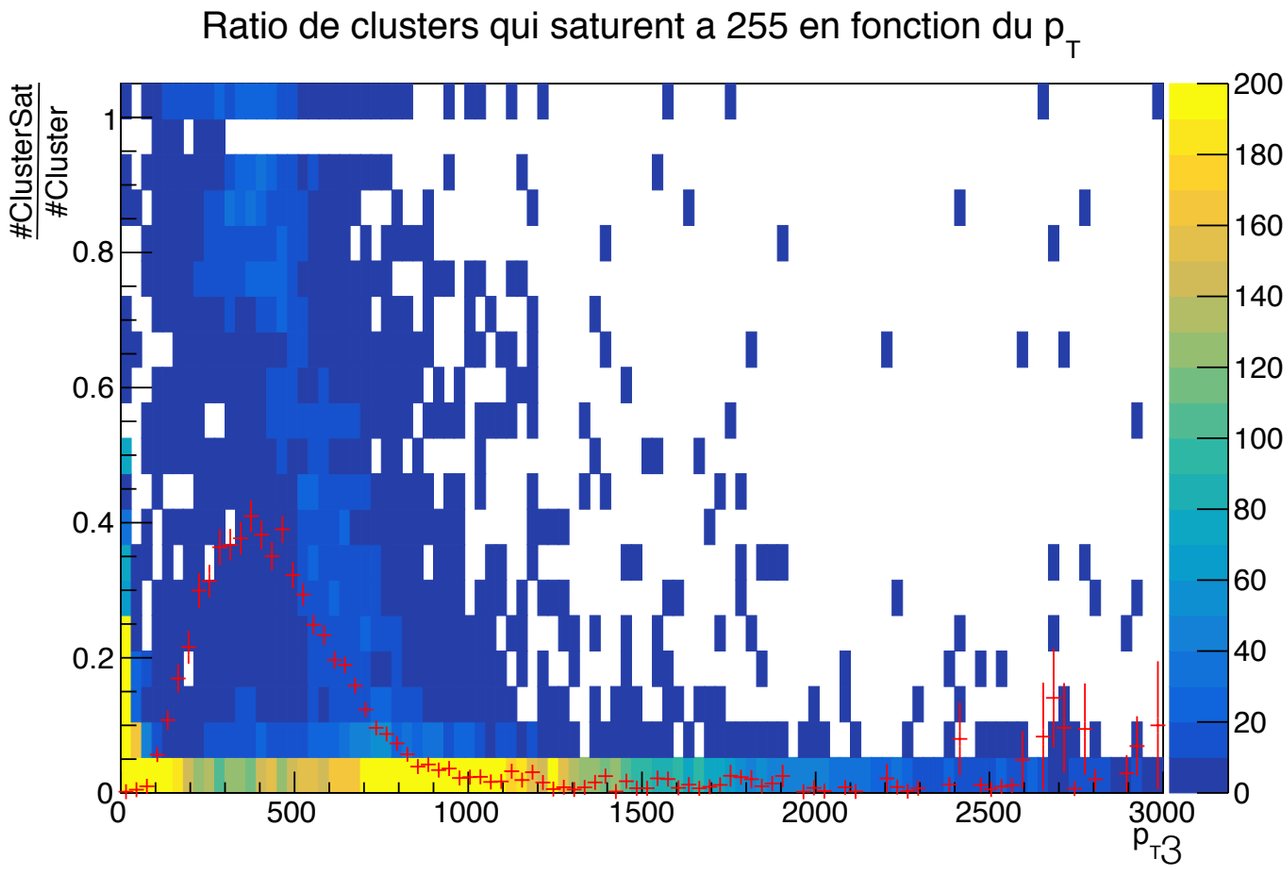
Sample : ‘merge.root’ —> gluino_step3_v3

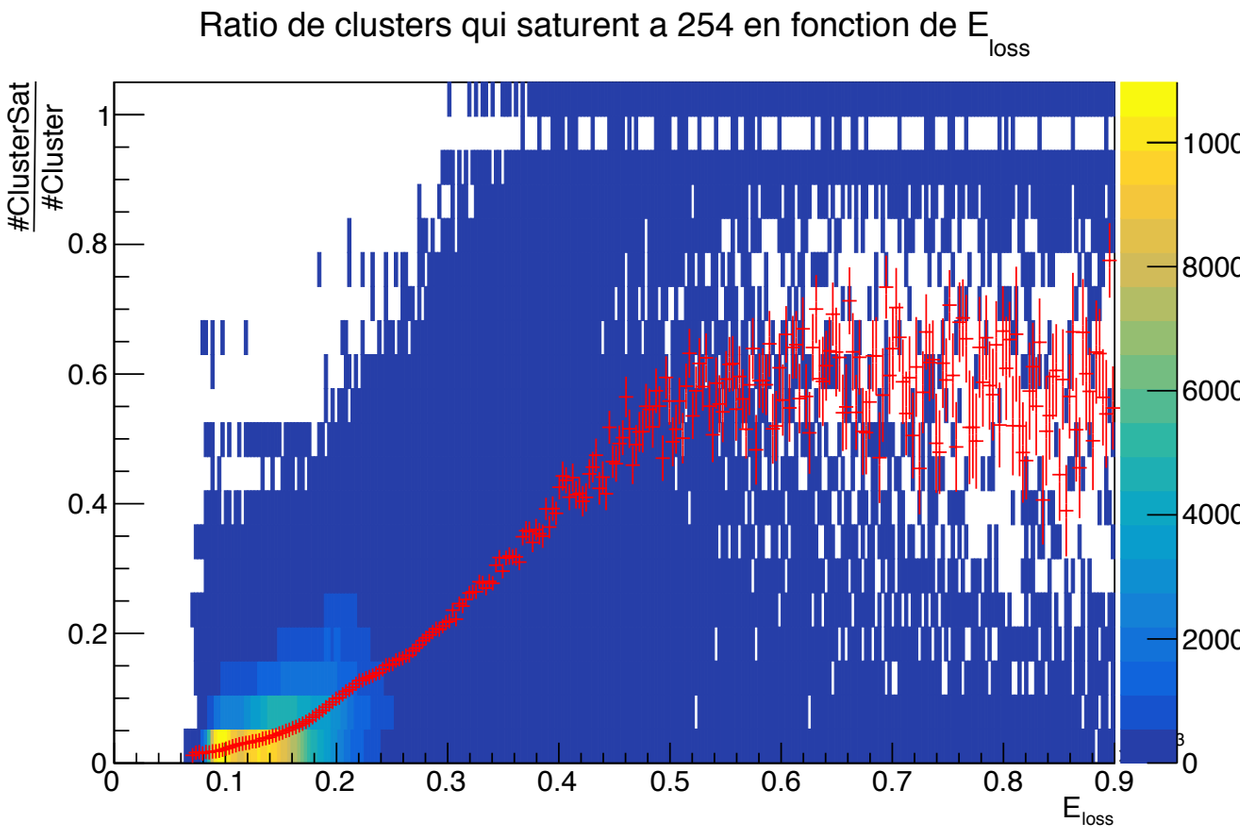
Ratio total : Nombre total de clusters qui saturent/Nombre total de cluster

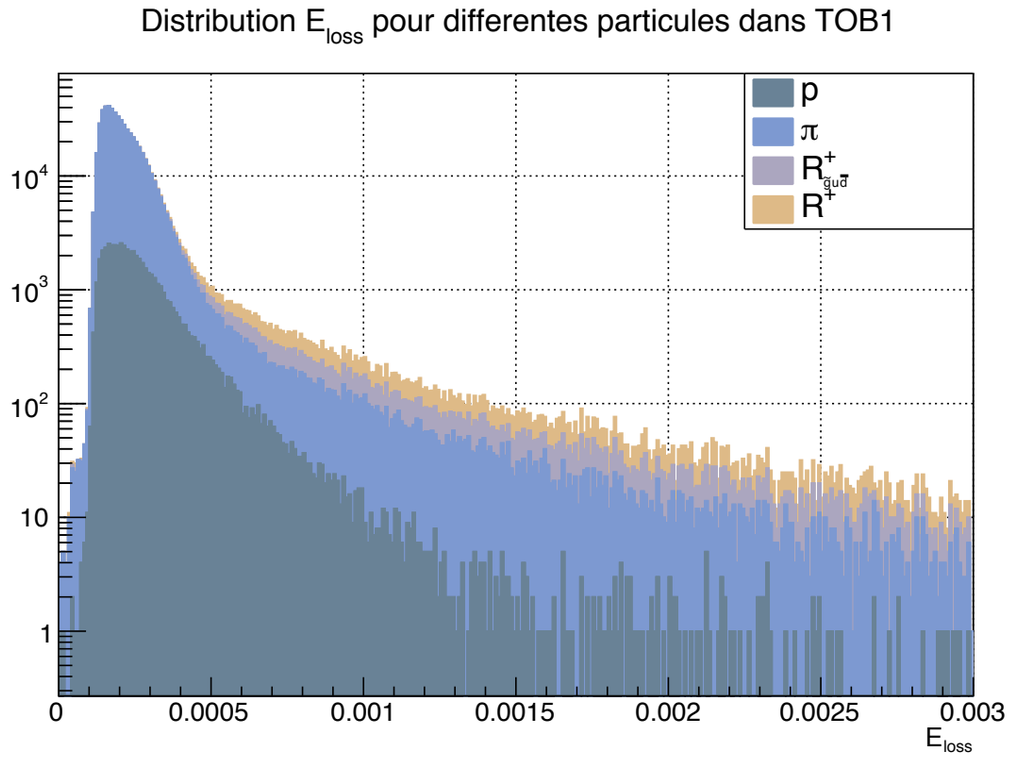


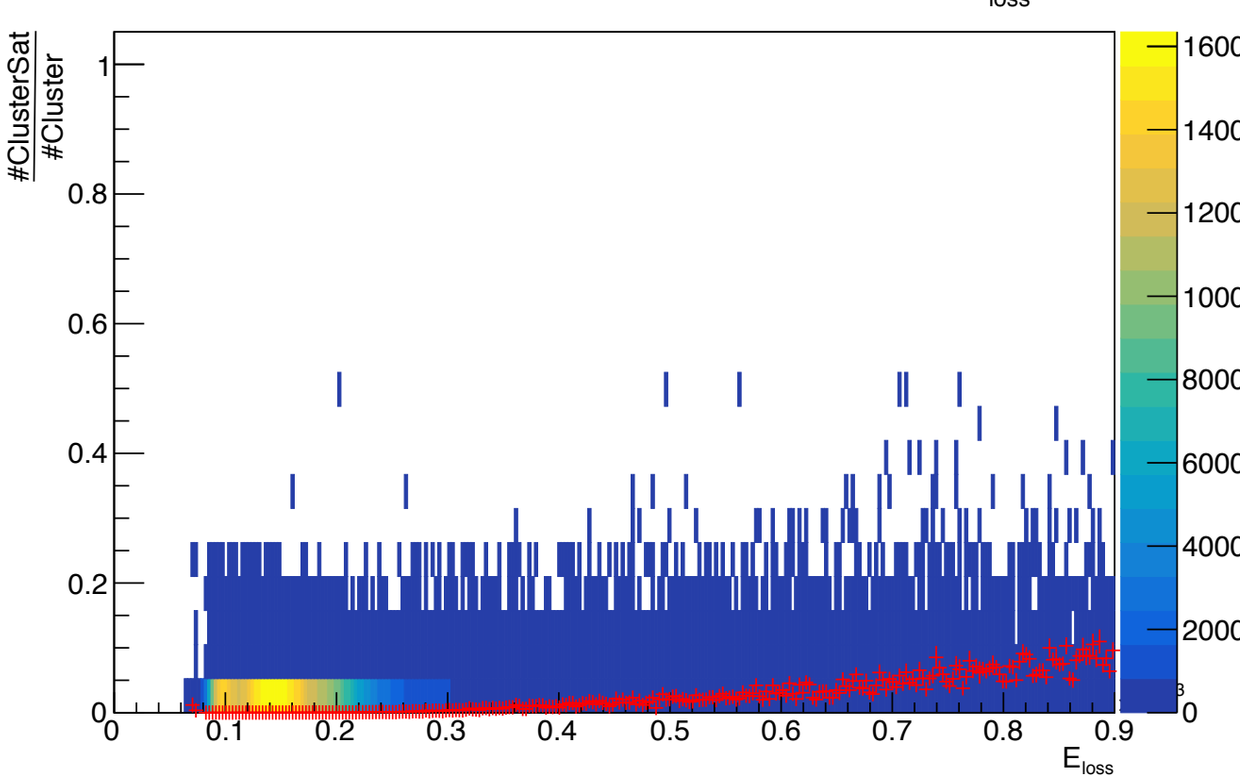

Ratio de clusters qui saturent a 254 en fonction du p_T
#ClusterSat / #Cluster
0
0.2
0.4
0.6
0.8
1
0
500
1000
1500
2000
2500
3000
p_T
0
20
40
60
80
100
120
140
160
180
200

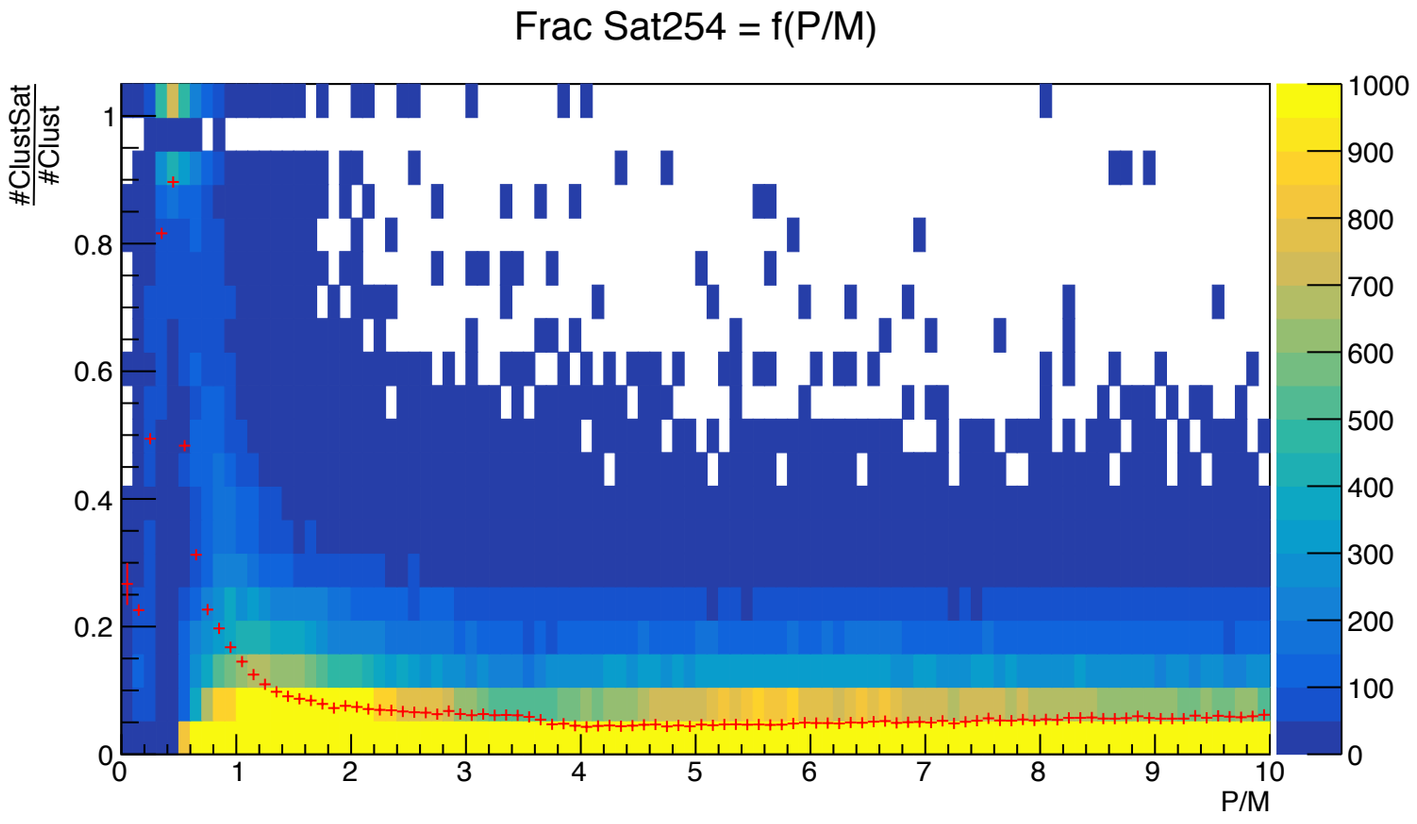

Distribution en p_T pour differentes particules
p
π
R+ aerogel
R+
0
200
400
600
800
1000
0
500
1000
1500
2000
2500
3000
p_T

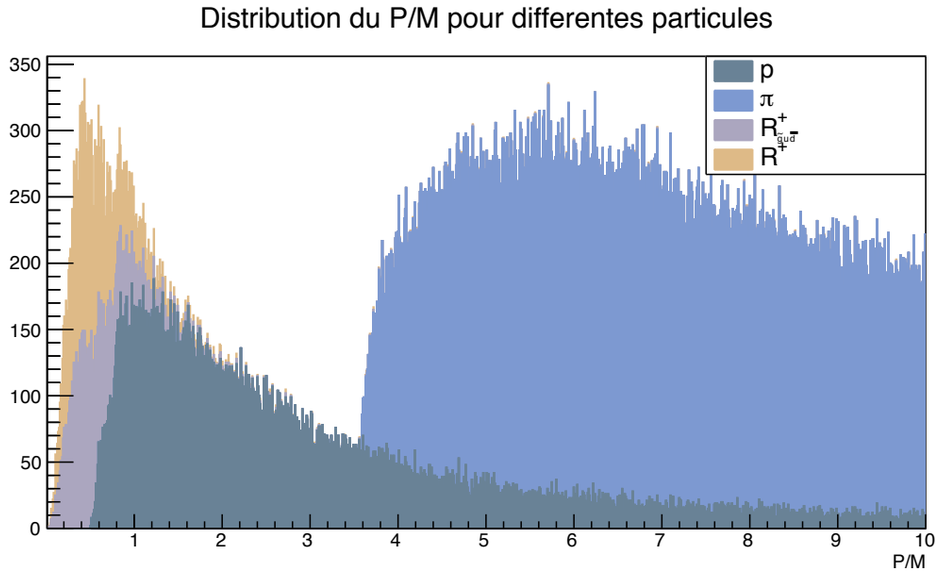

Ratio de clusters qui saturent a 255 en fonction du p_T
#ClusterSat / #Cluster
0
0.2
0.4
0.6
0.8
1
0
500
1000
1500
2000
2500
3000
p_T3
0
20
40
60
80
100
120
140
160
180
200

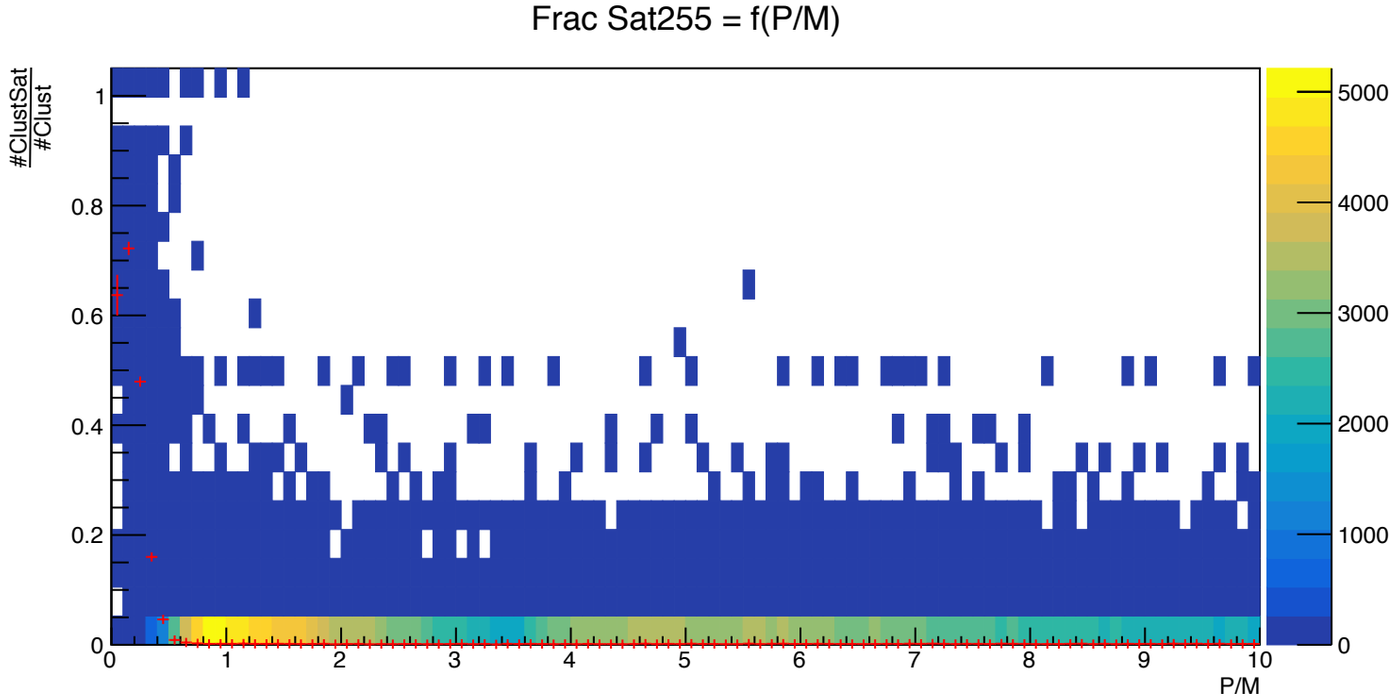

Ratio de clusters qui saturent a 254 en fonction de E loss
#ClusterSat / #Cluster
E loss

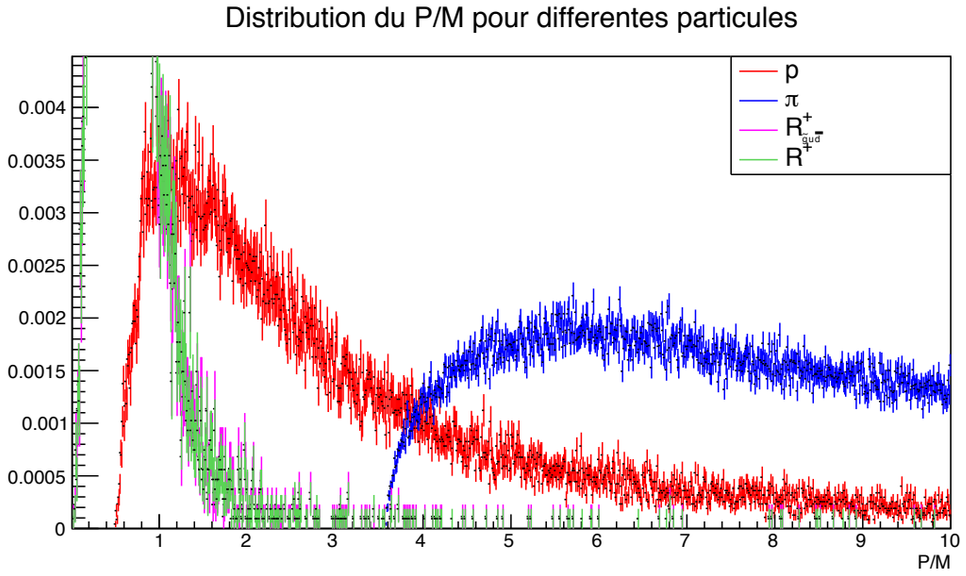

Distribution E loss pour differentes particules dans TOB1
p
π
E loss


Ratio de clusters qui saturent a 255 en fonction de E loss
#ClusterSat / #Cluster
E loss


Frac Sat254 = f(P/M)
#ClustSat / #Clust
P/M

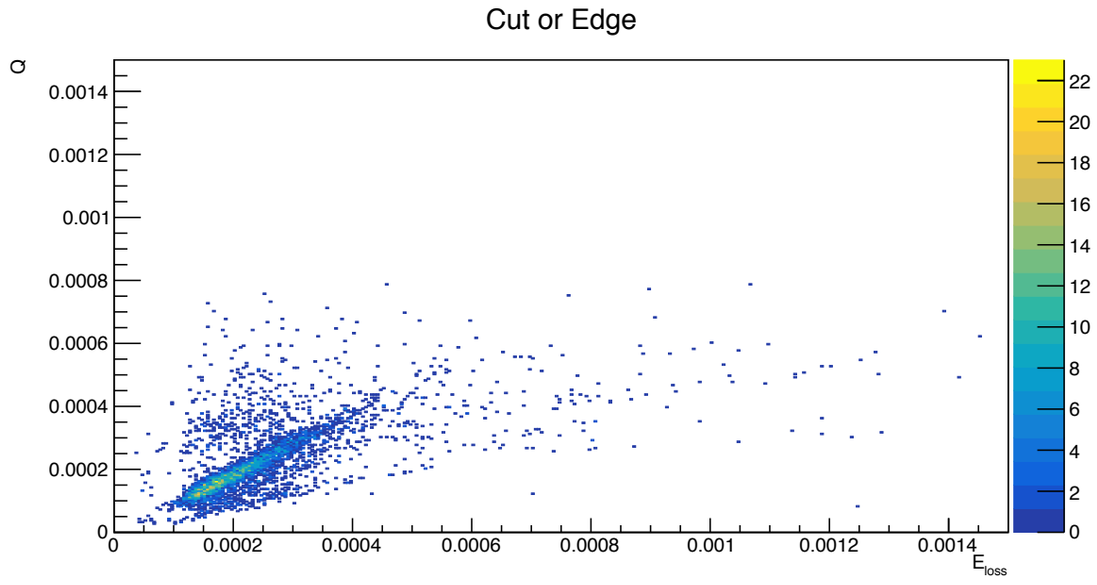

Distribution du P/M pour differentes particules
p
π
P/M


Frac Sat255 = f(P/M)
#ClustSat / #Clust
P/M

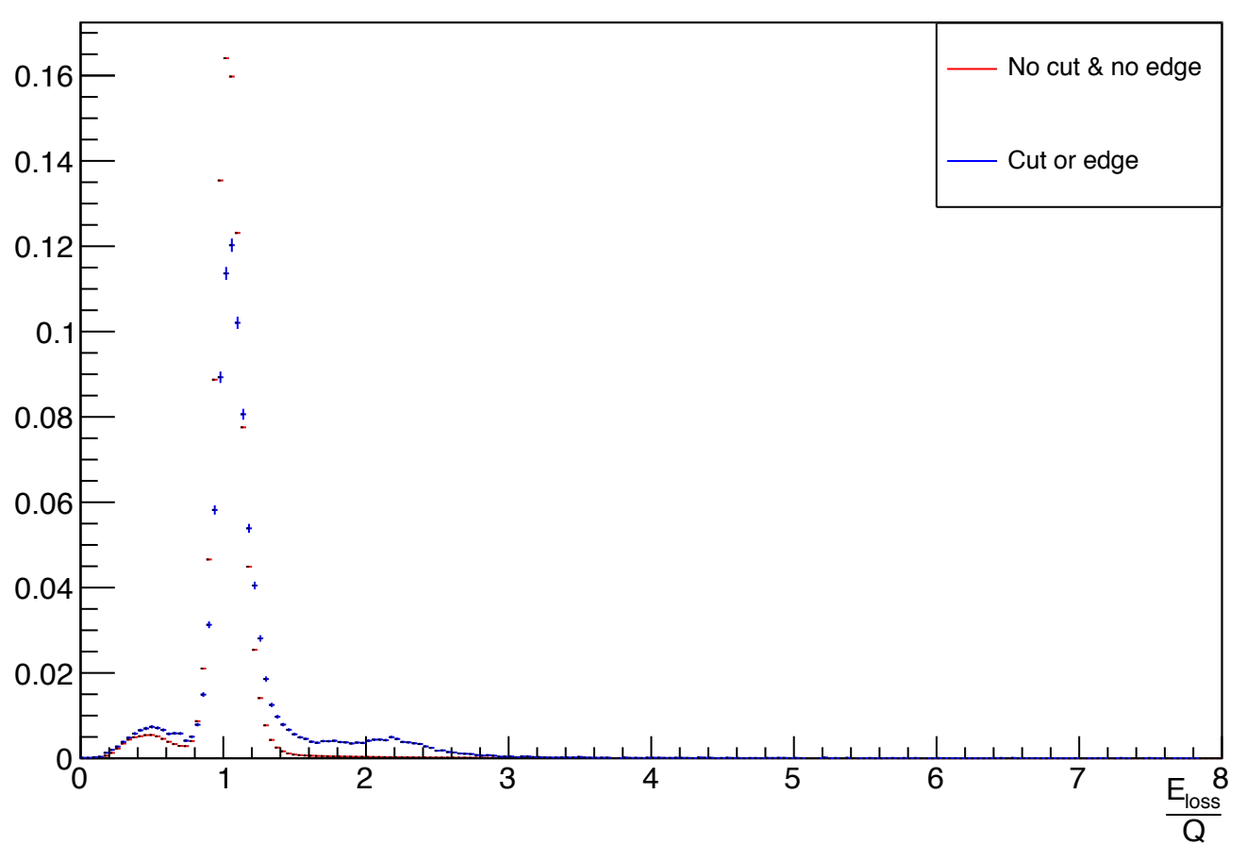

Distribution du P/M pour differentes particules
p
π
P/M

Pas de layer particulière, pas de sélection de particule, test global

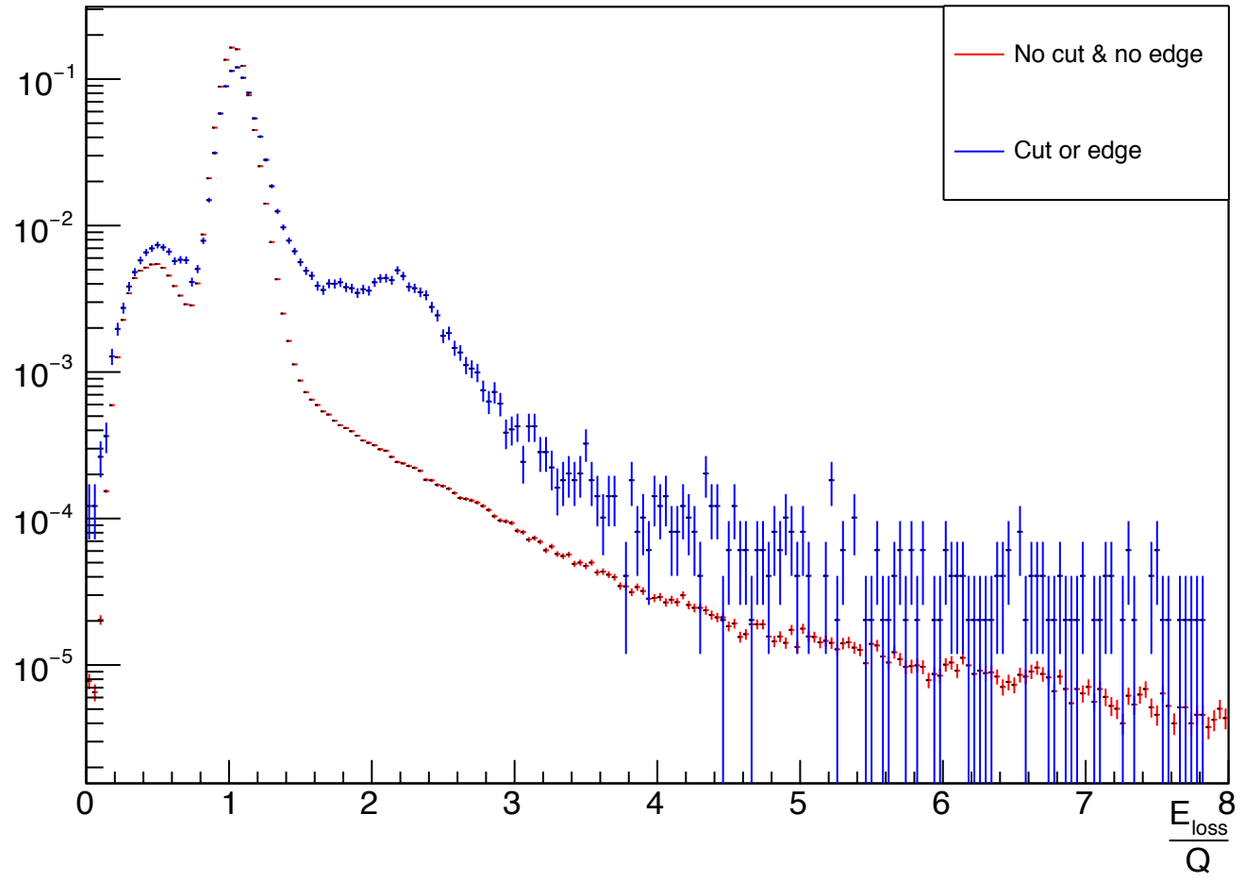
Mise en place de méthodes qui regardent si un cluster donné est coupé (càd canaux morts) et/ou situé sur les bords.
—> Notre distribution E/Q se resserre, on s'approche un peu plus de notre régime linéaire. La bosse à E/Q ~2 disparaît, on enlève des clusters qui se situaient dans le régime de saturation.
—> Filtre fonctionne et améliore légèrement les résultats.



Test cut and edge

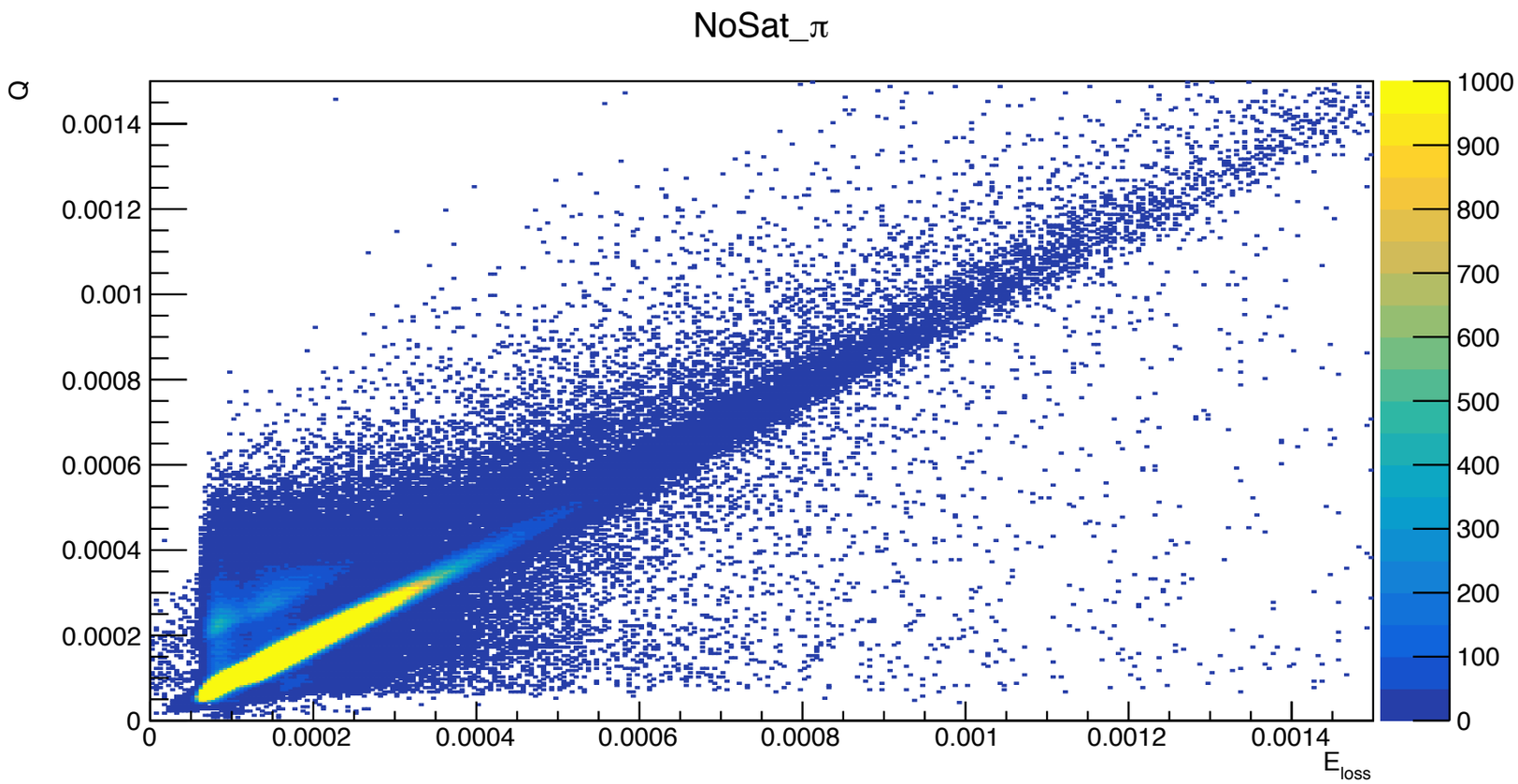


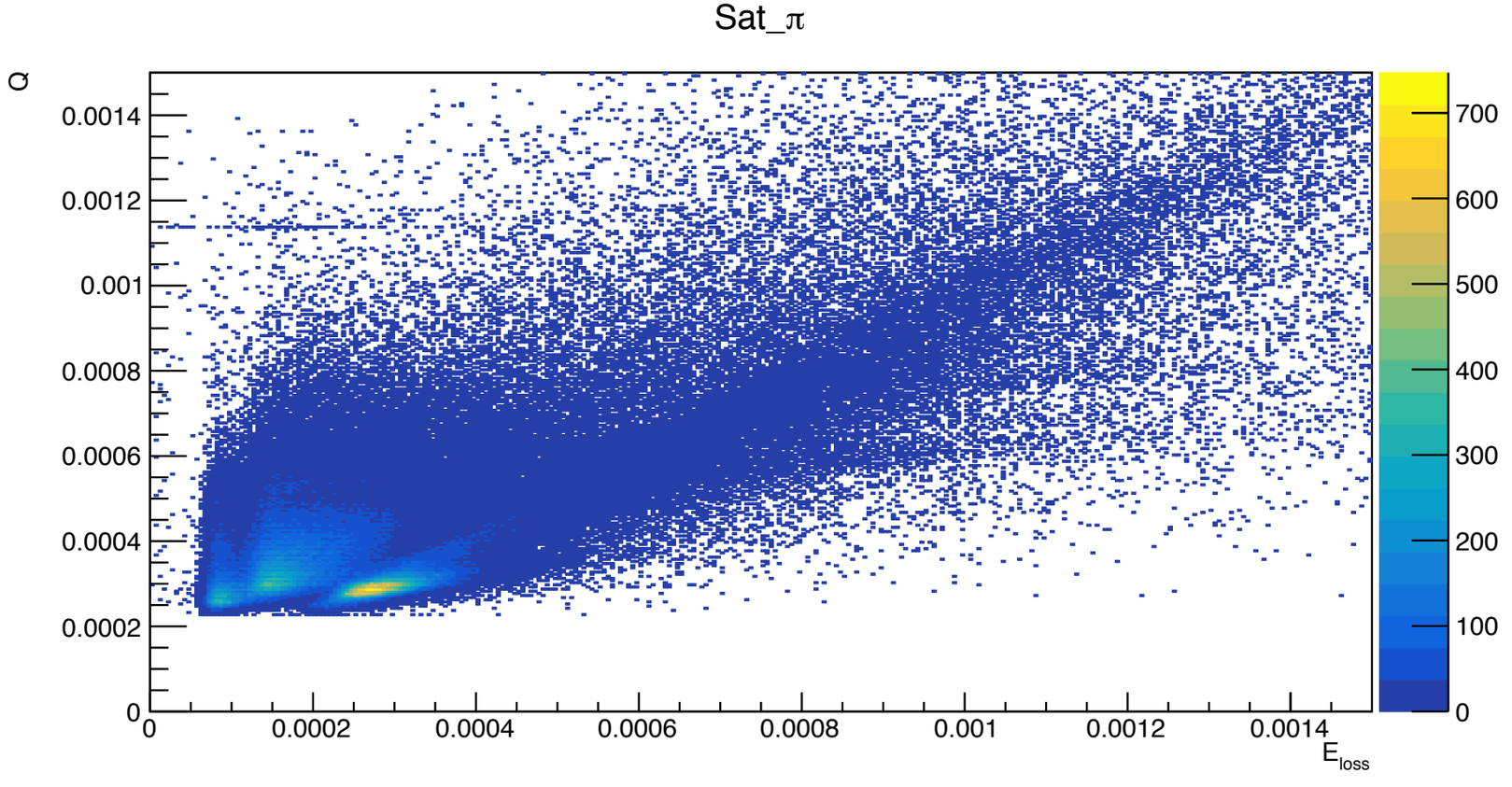
Test cut and edge

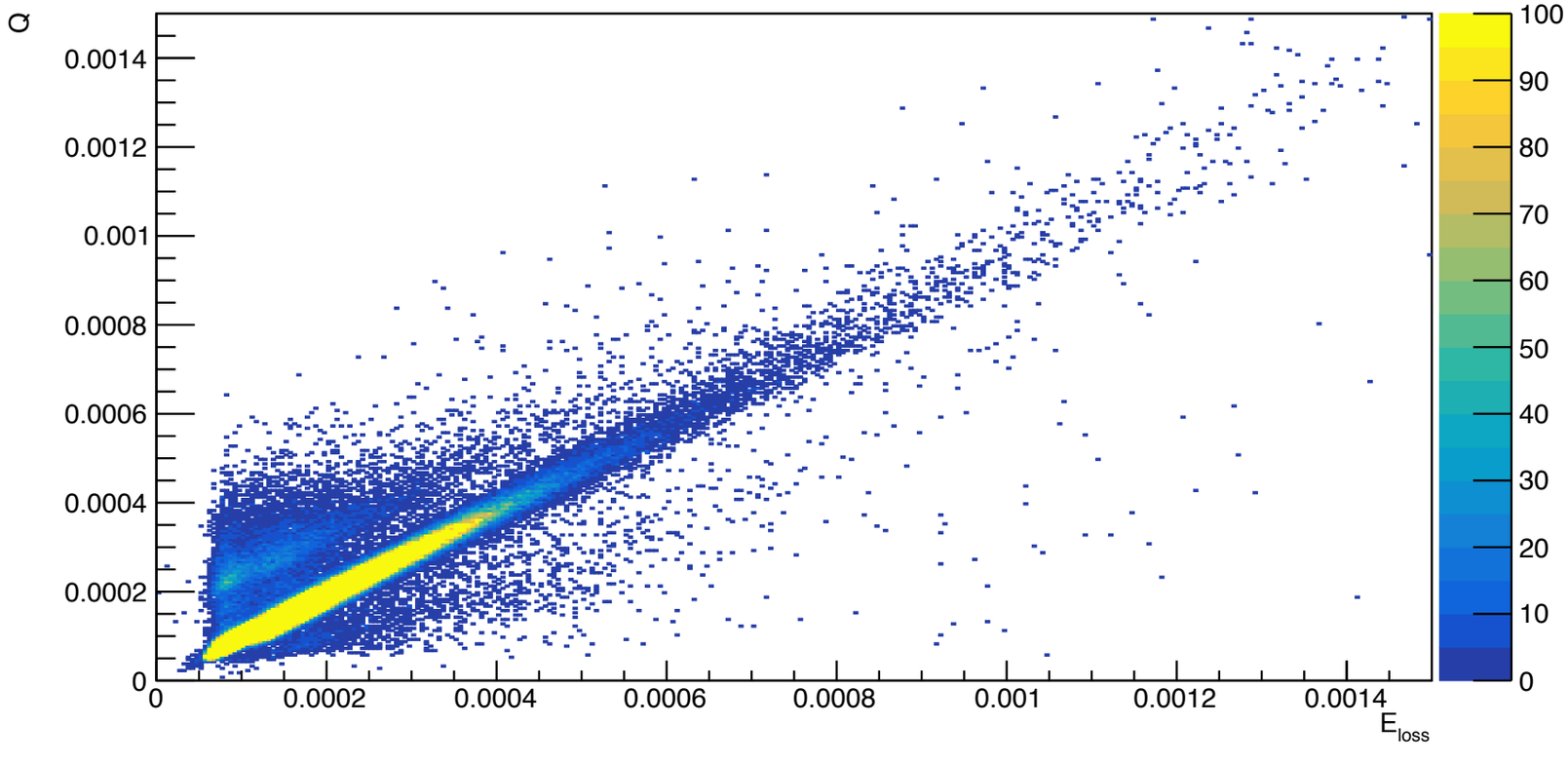


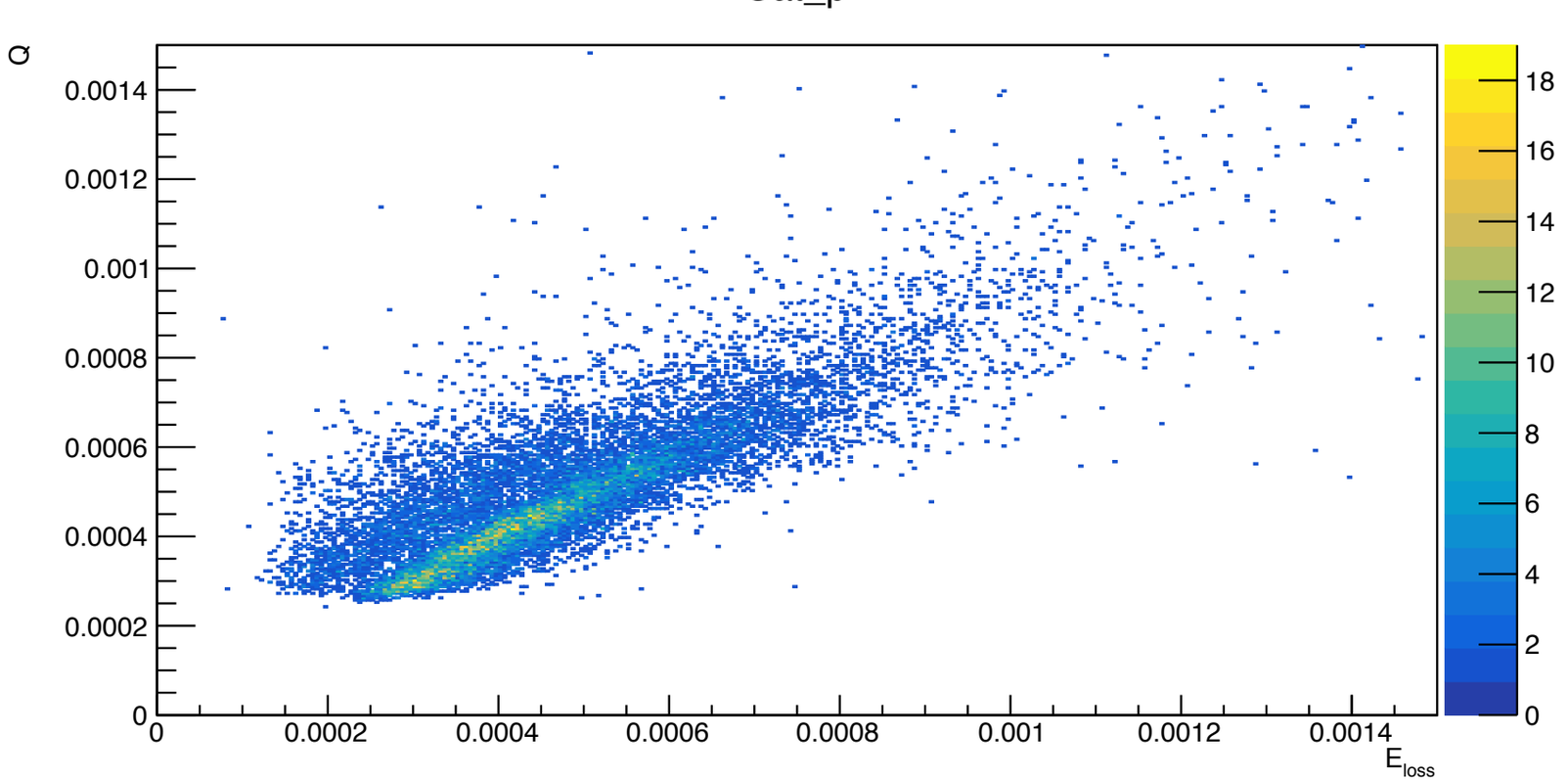
Faux SimHit (VectSimHits.size()==0) :

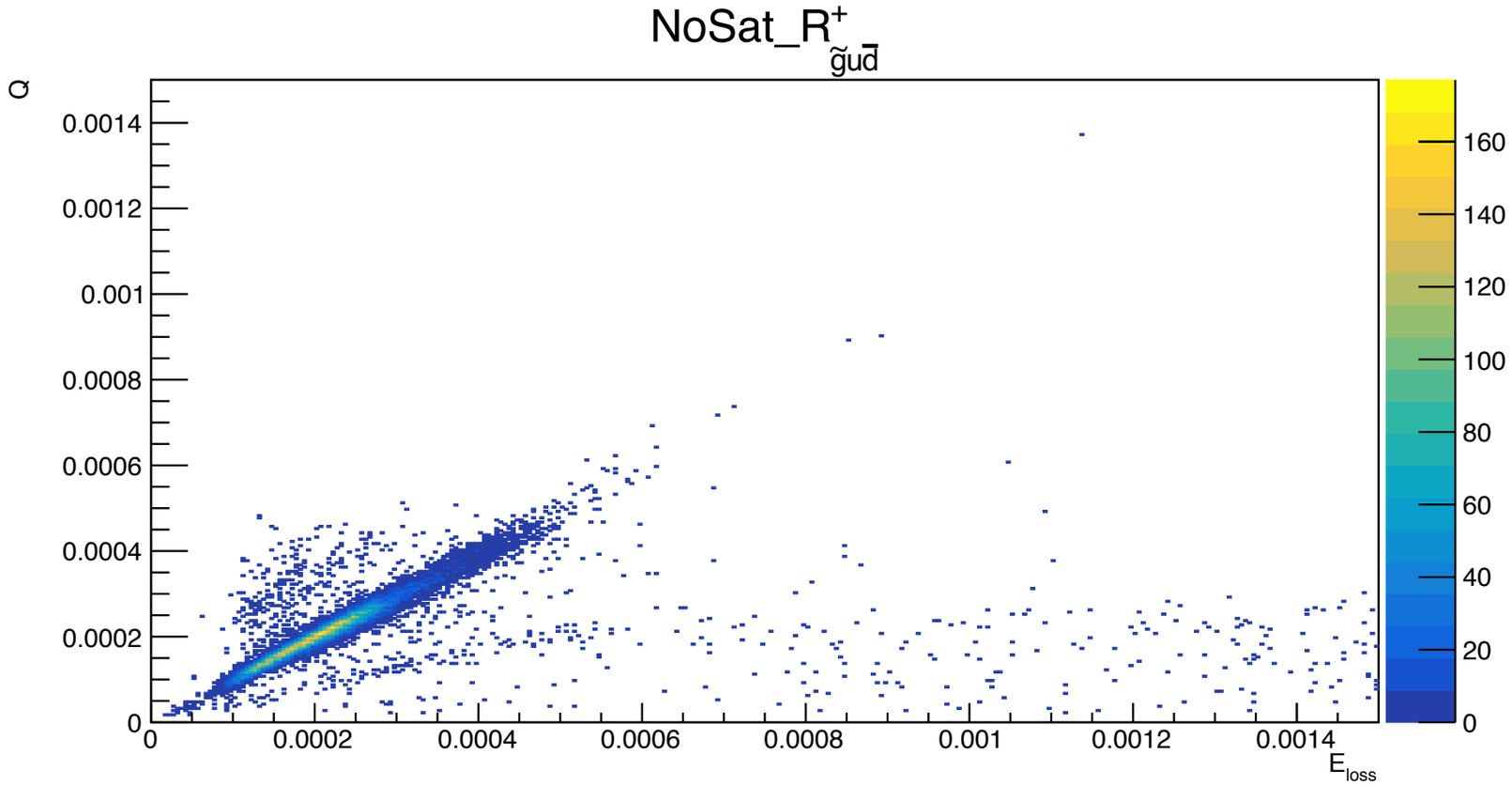
Un seul avec une charge nulle

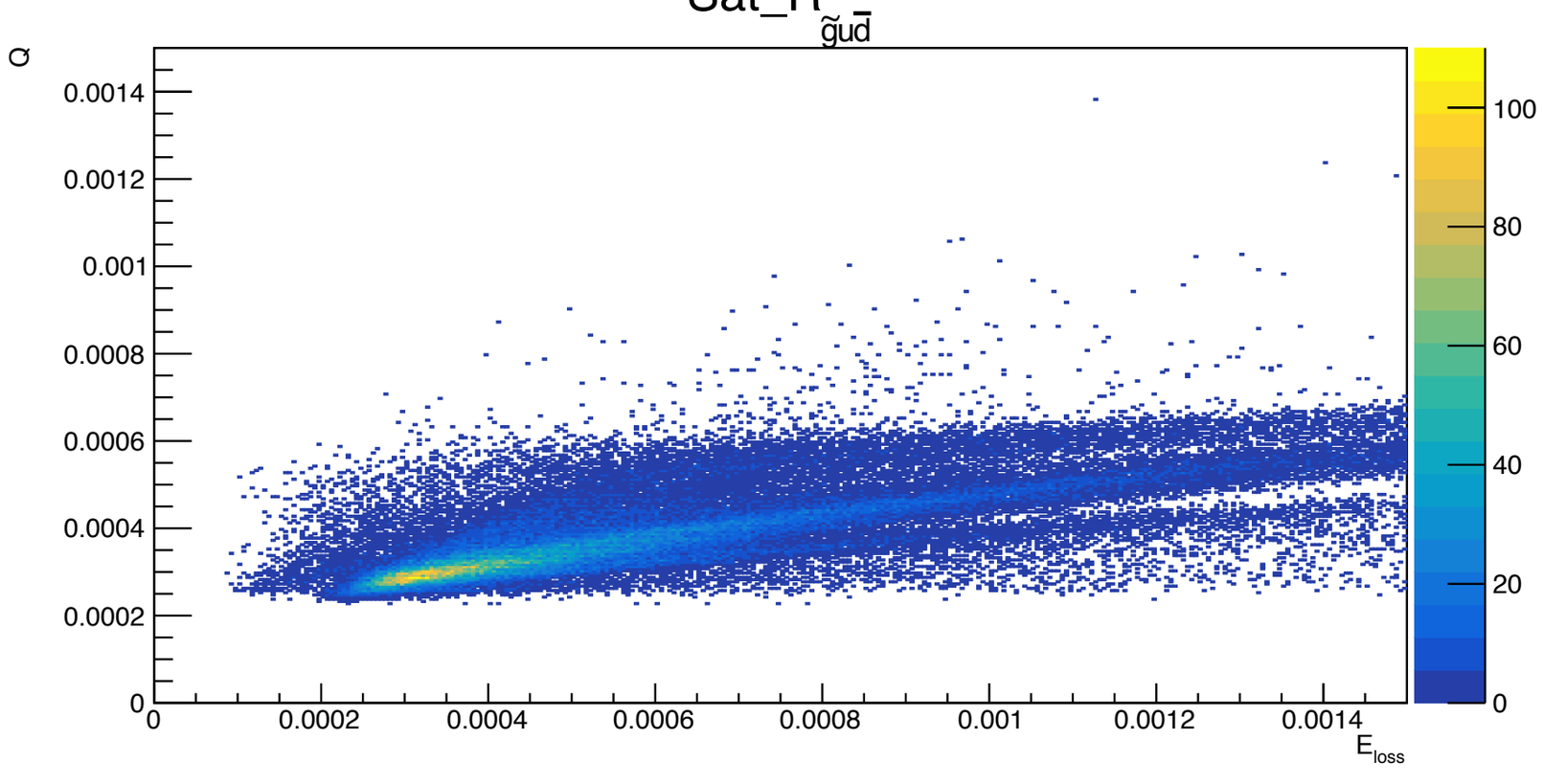

NoSat_π
Q
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
1000
900
800
700
600
500
400
300
200
100
0


Sat_π
Q
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
700
600
500
400
300
200
100
0

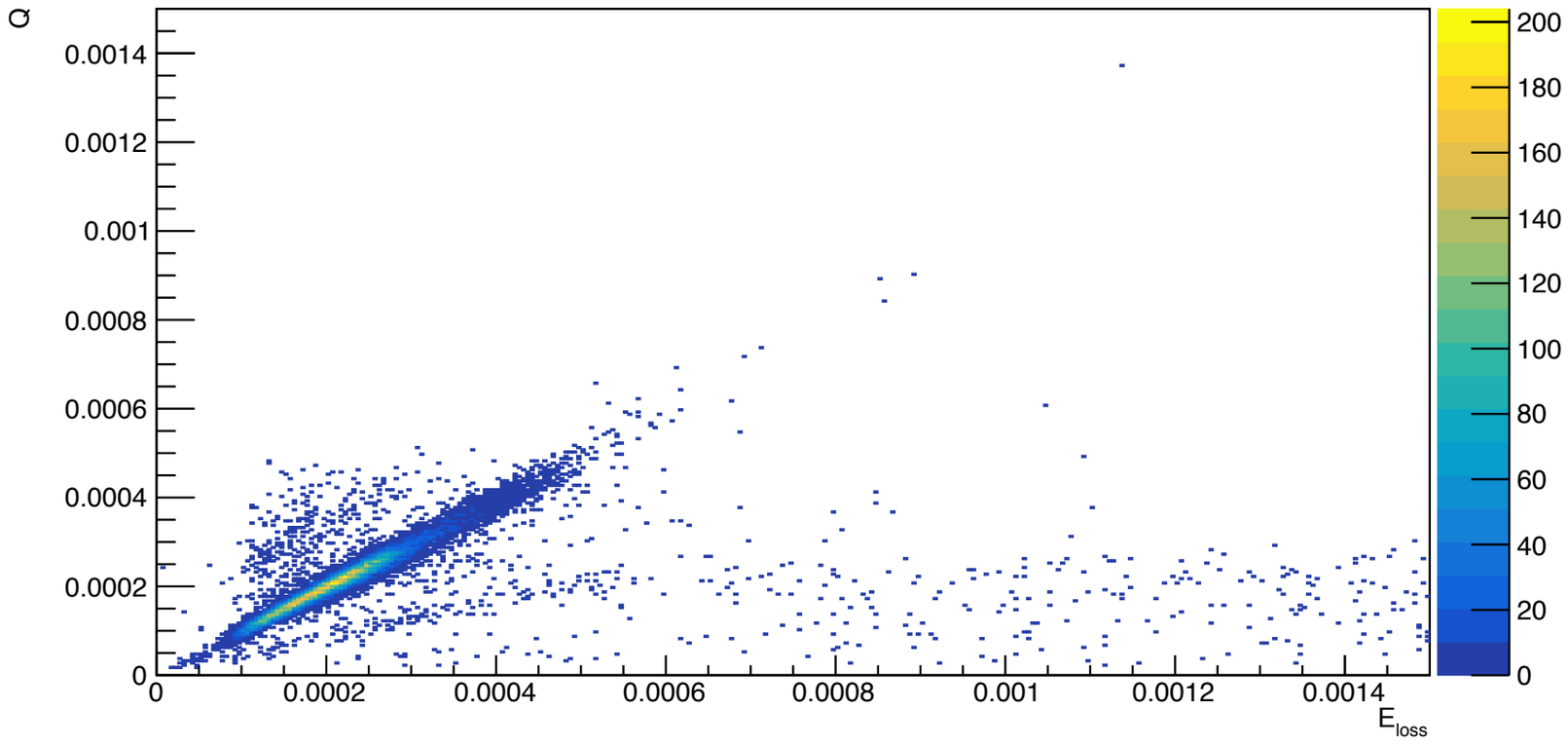

NoSat_p
Q
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
100
90
80
70
60
50
40
30
20
10
0


Sat_p
Q
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
18
16
14
12
10
8
6
4
2
0

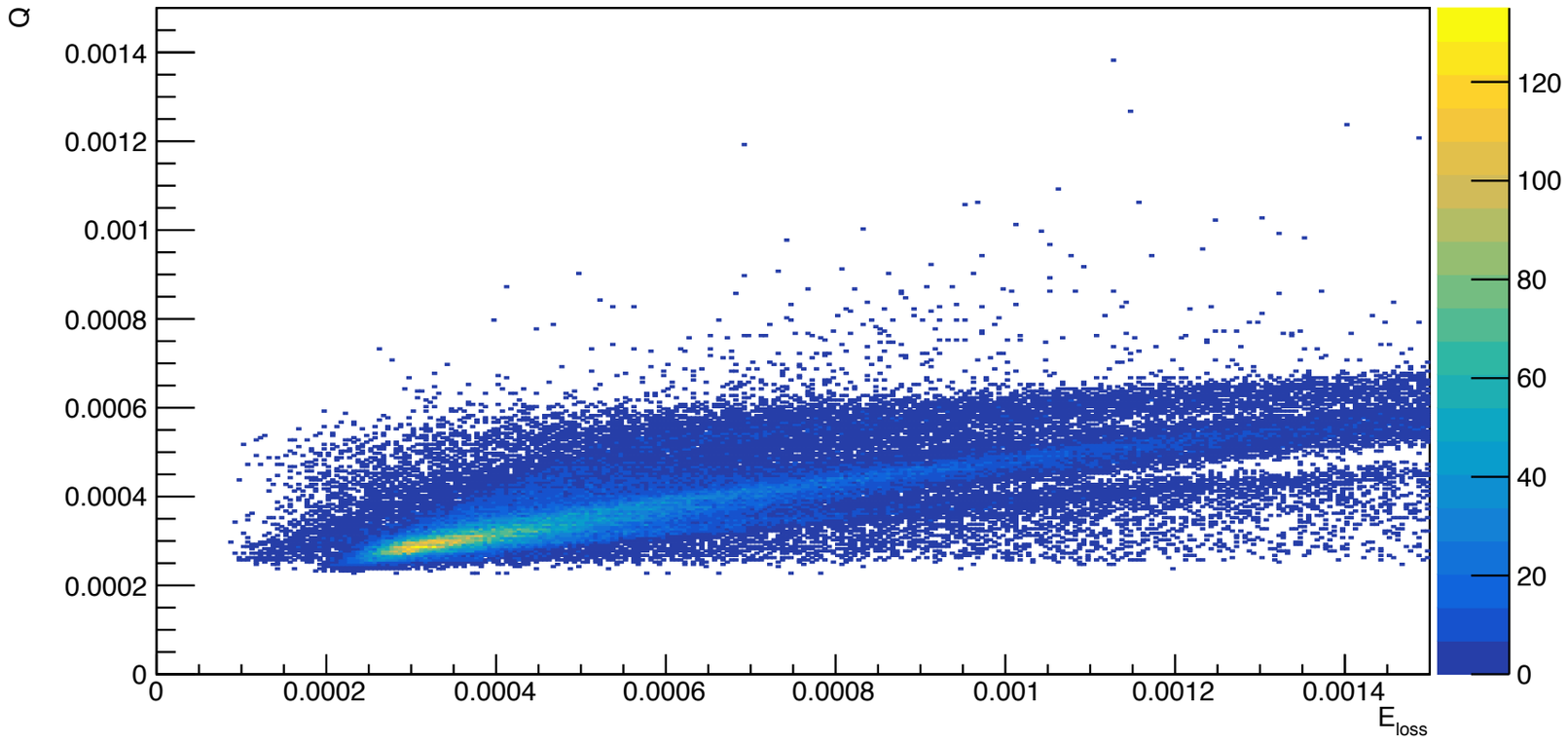

NoSat_R+ g̃ud̄
Q
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
160
140
120
100
80
60
40
20
0


Sat_R+ g̃ud̄
Q
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
100
80
60
40
20
0

NoSat_R+

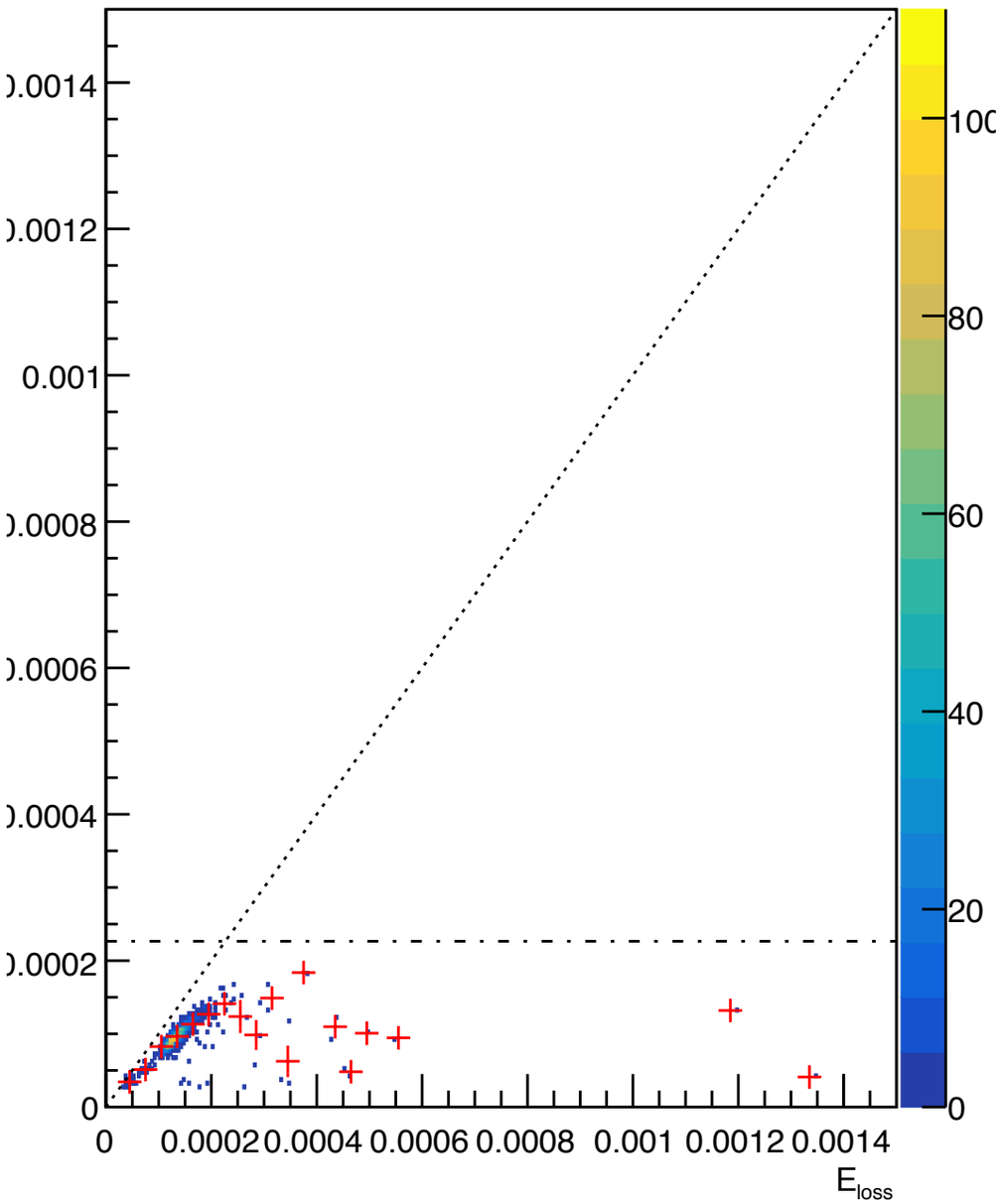

Q
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
200
180
160
140
120
100
80
60
40
20
0

Sat_R+

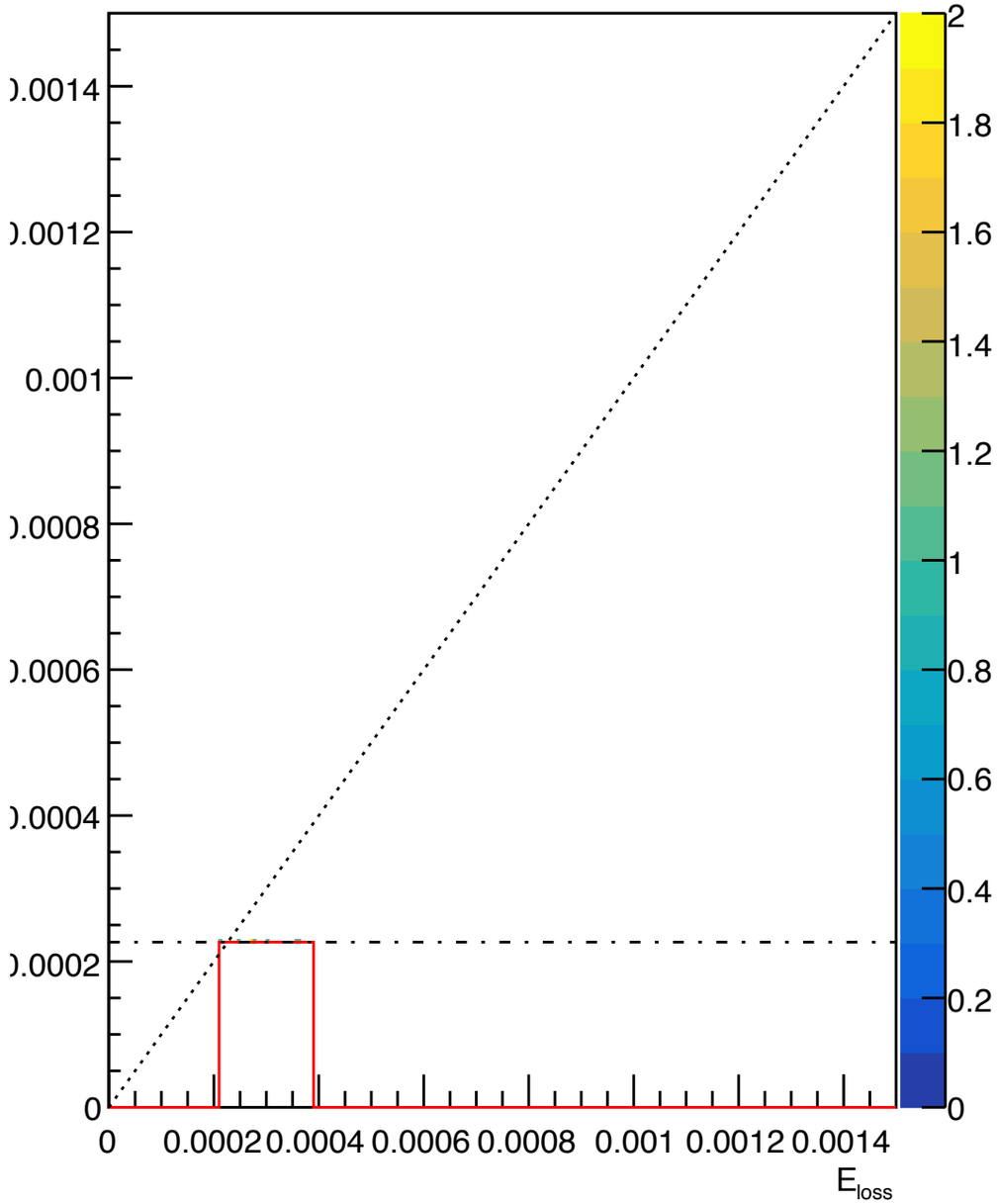

Q
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
120
100
80
60
40
20
0

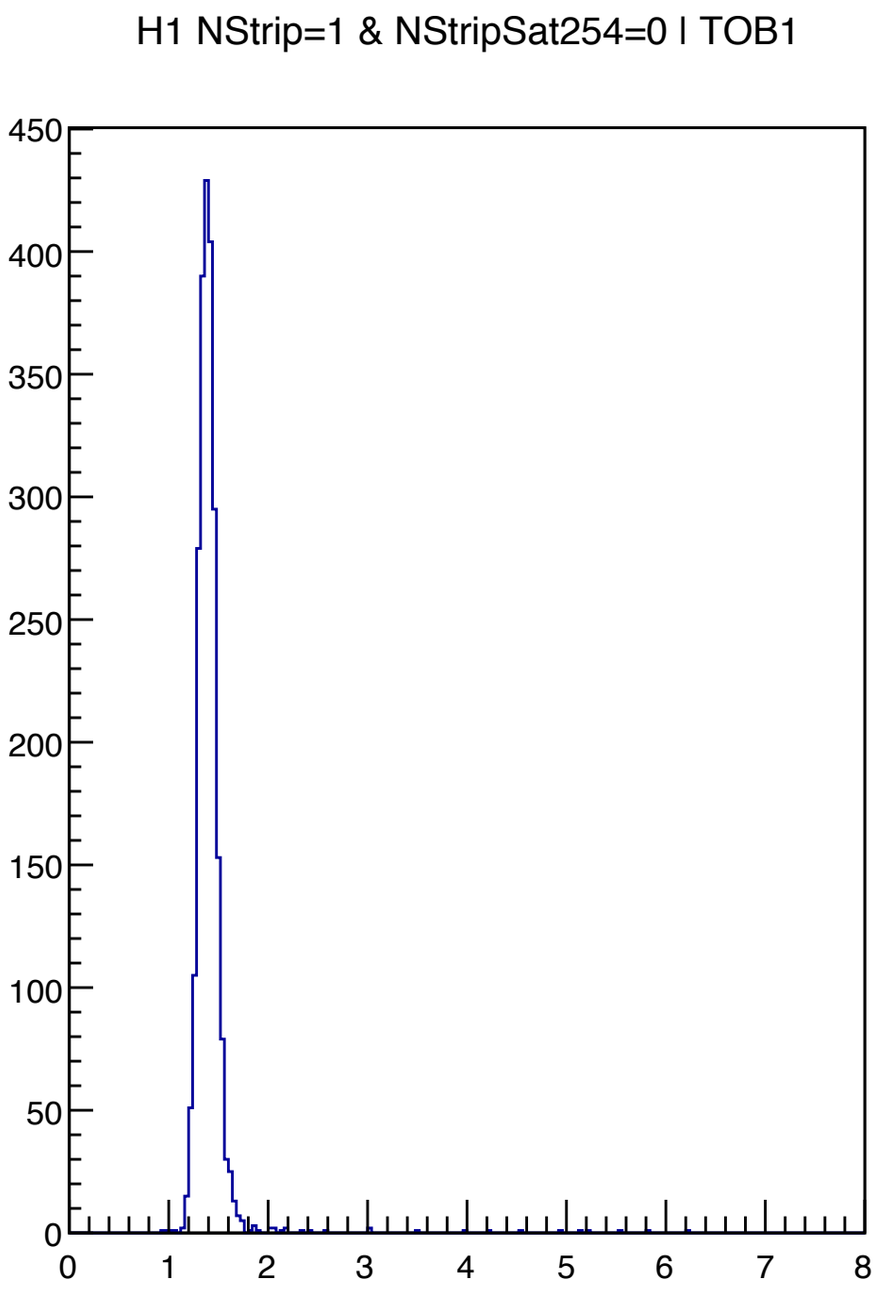
Taille cluster : 1

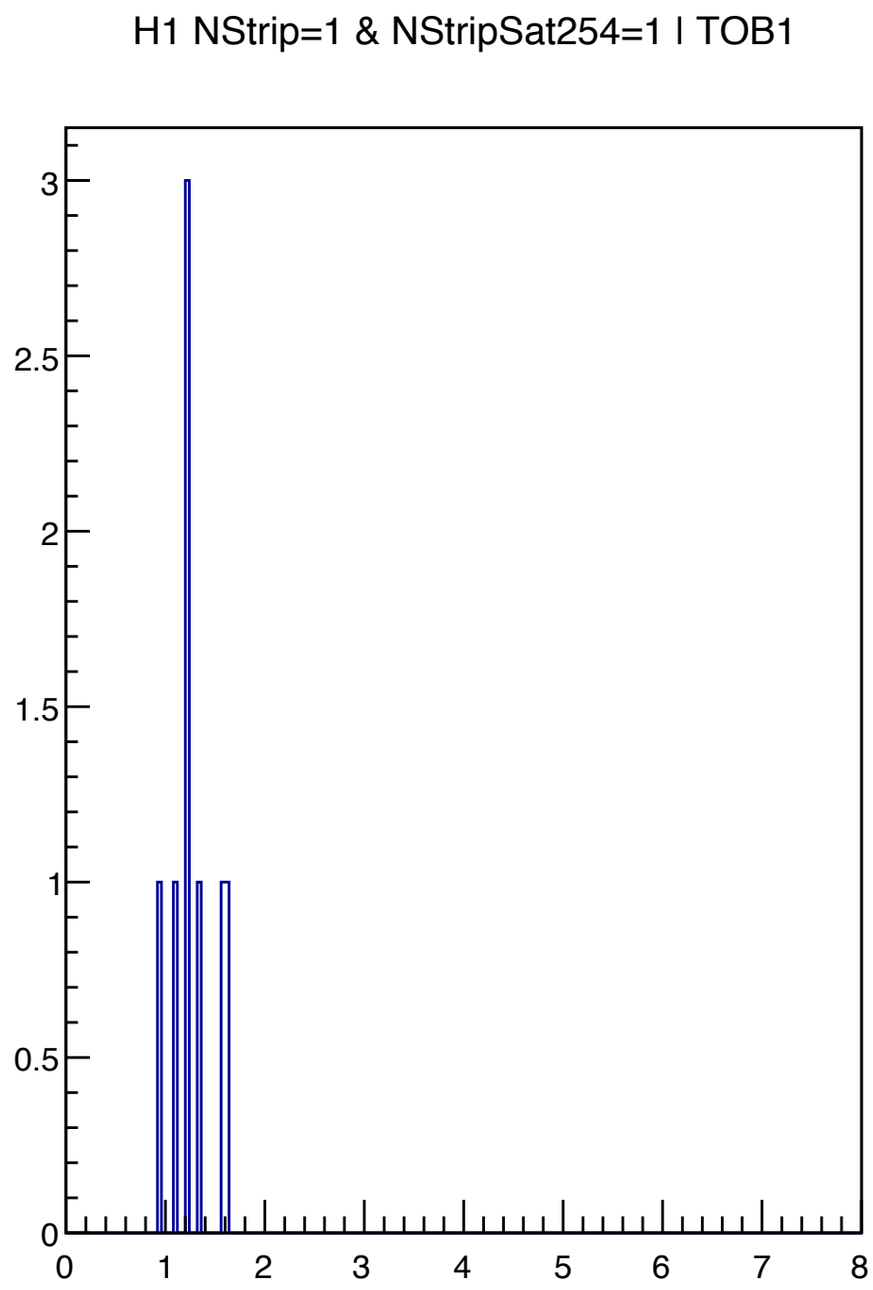
H2 NStrip=1 & NStripSat254=0



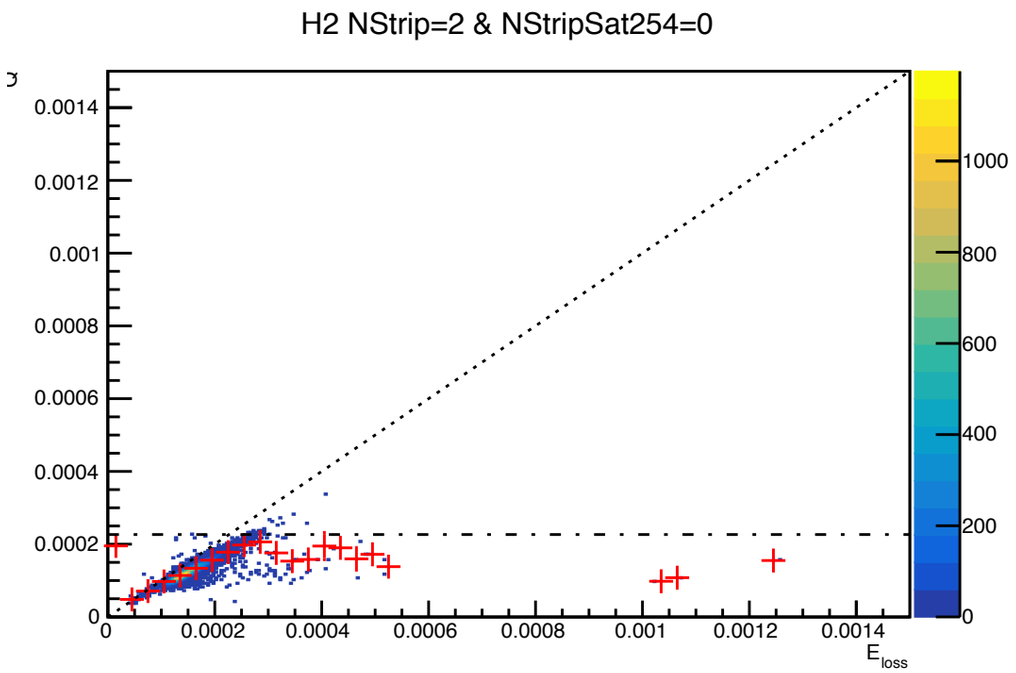
H2 NStrip=1 & NStripSat254=1

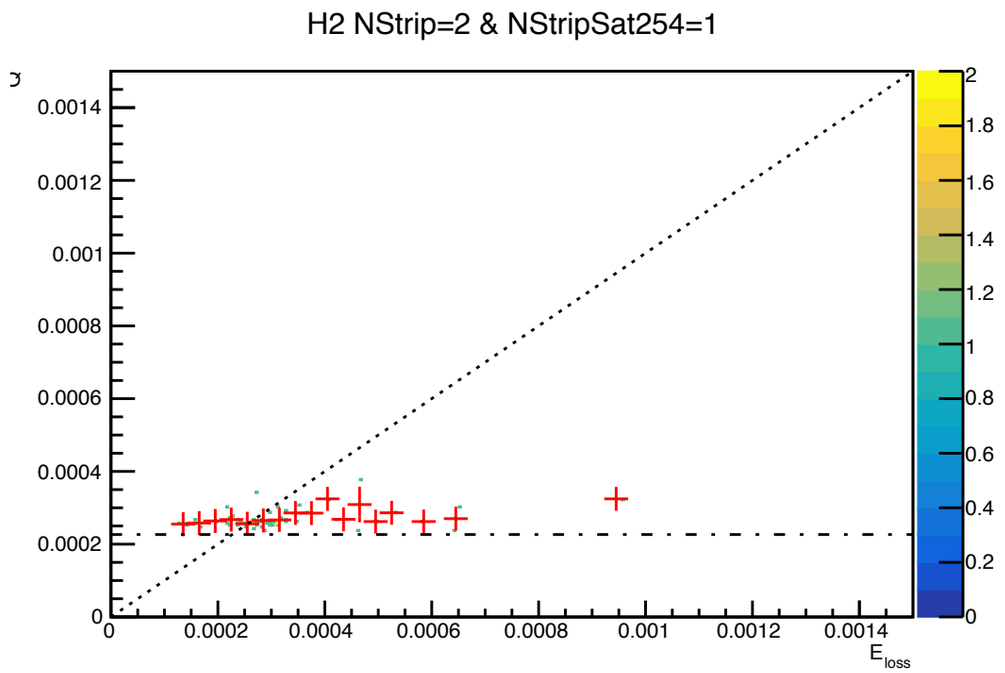


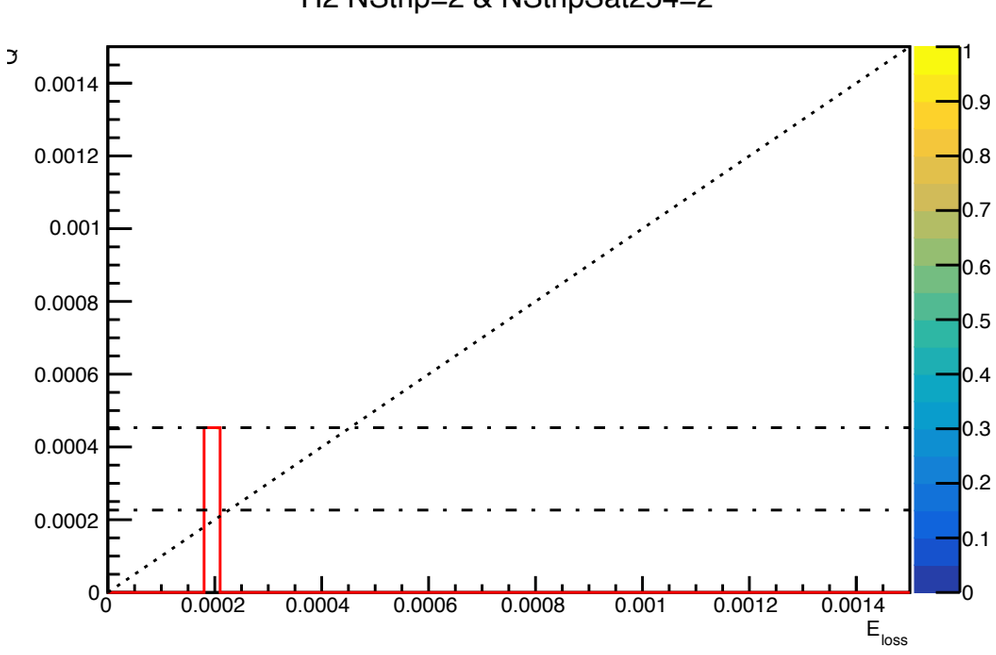

H1 NStrip=1 & NStripSat254=0 | TOB1
450
400
350
300
250
200
150
100
50
0
0
1
2
3
4
5
6
7
8

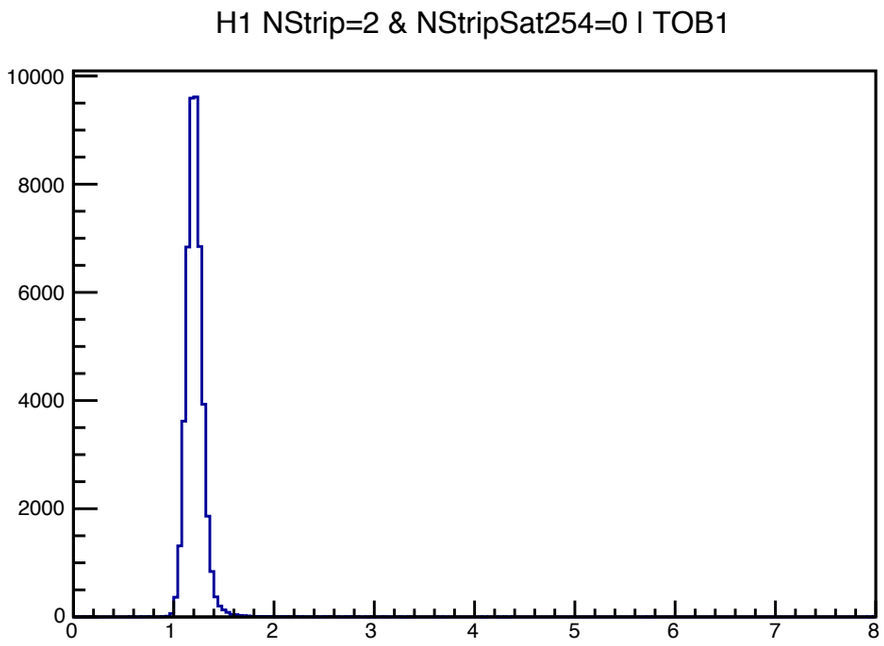

H1 NStrip=1 & NStripSat254=1 | TOB1
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
6
7
8

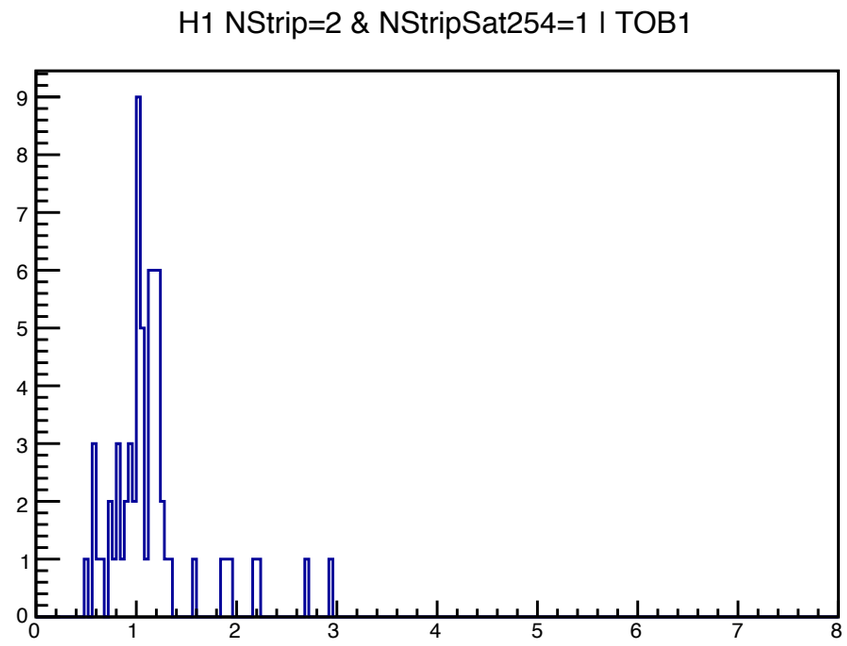
Taille cluster : 2

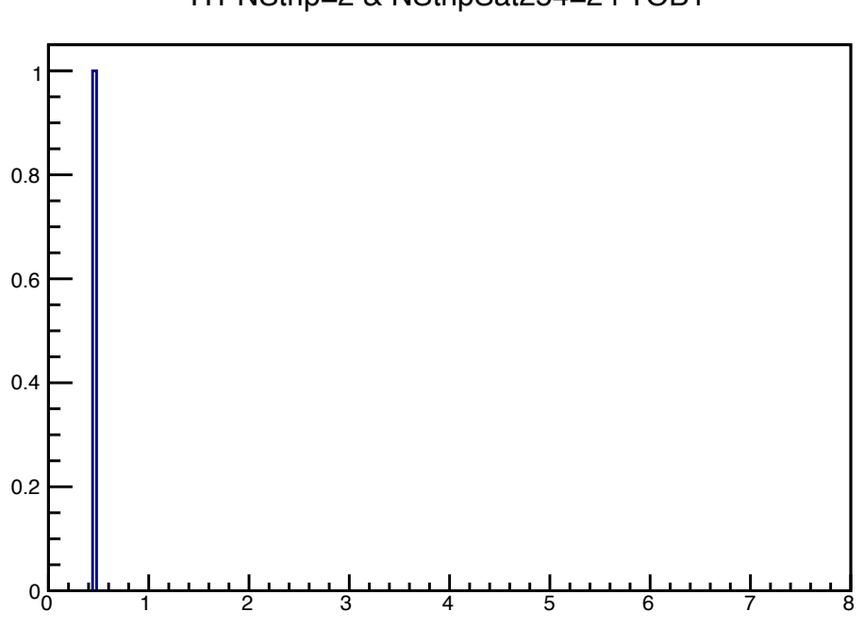

H2 NStrip=2 & NStripSat254=0
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
1000
800
600
400
200
0


H2 NStrip=2 & NStripSat254=1
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

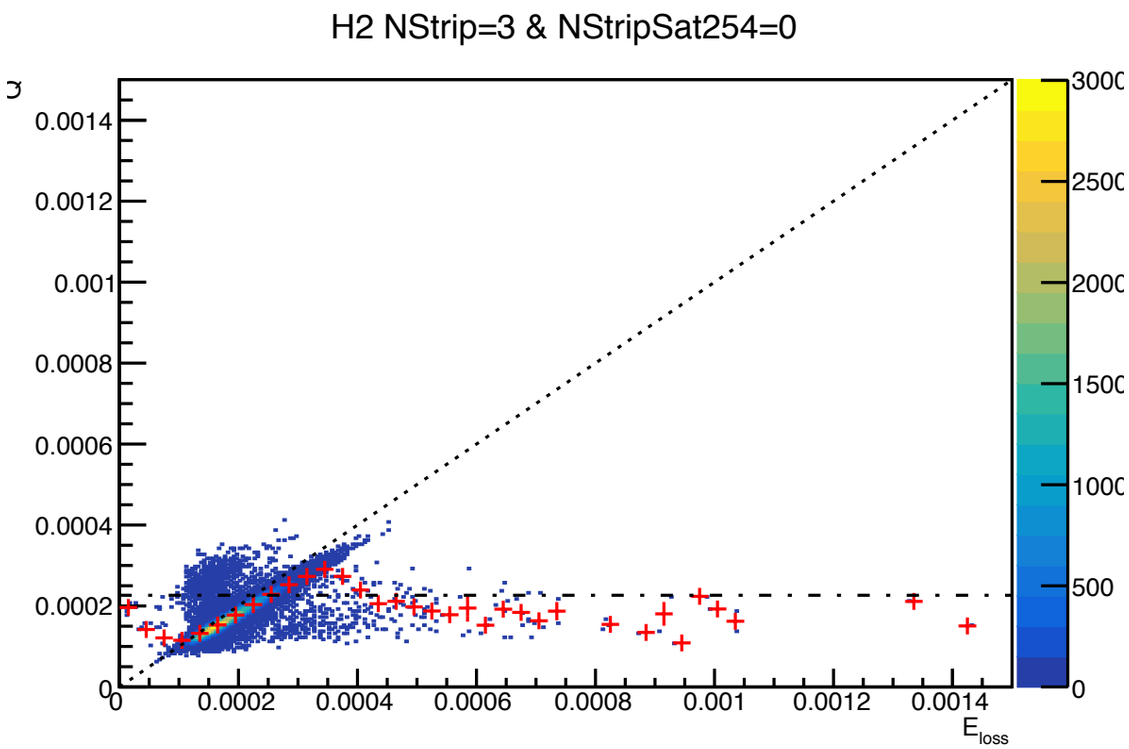

H2 NStrip=2 & NStripSat254=2
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

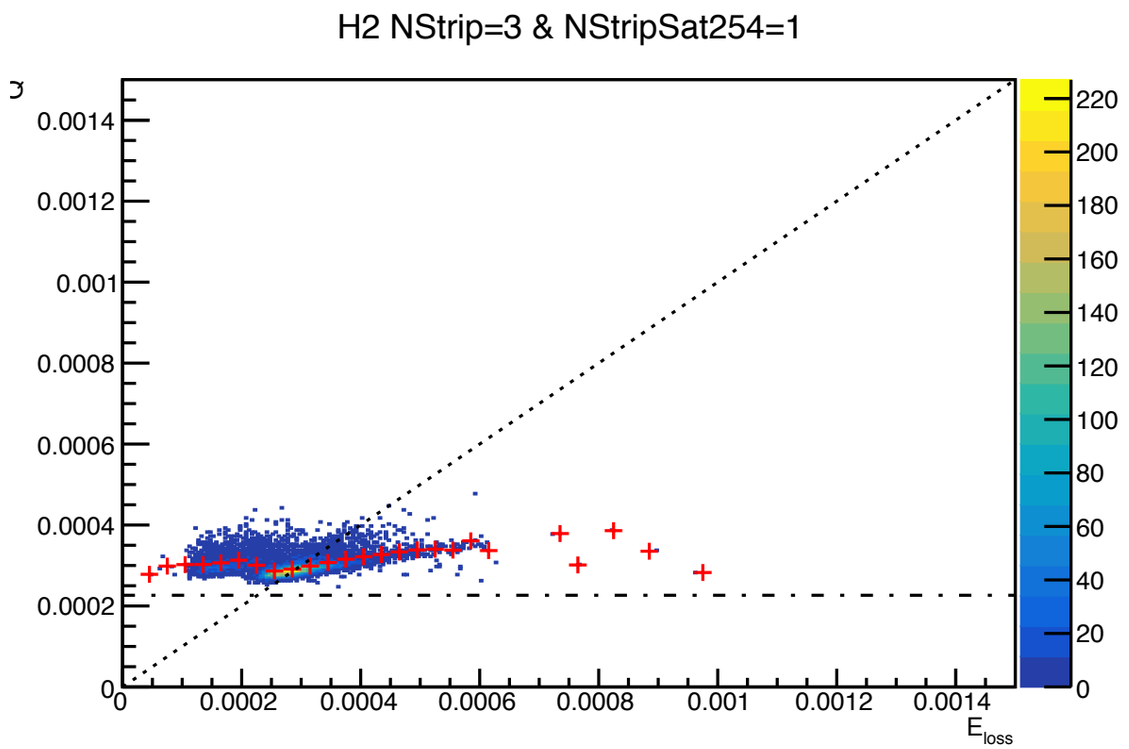

H1 NStrip=2 & NStripSat254=0 | TOB1
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
7
8

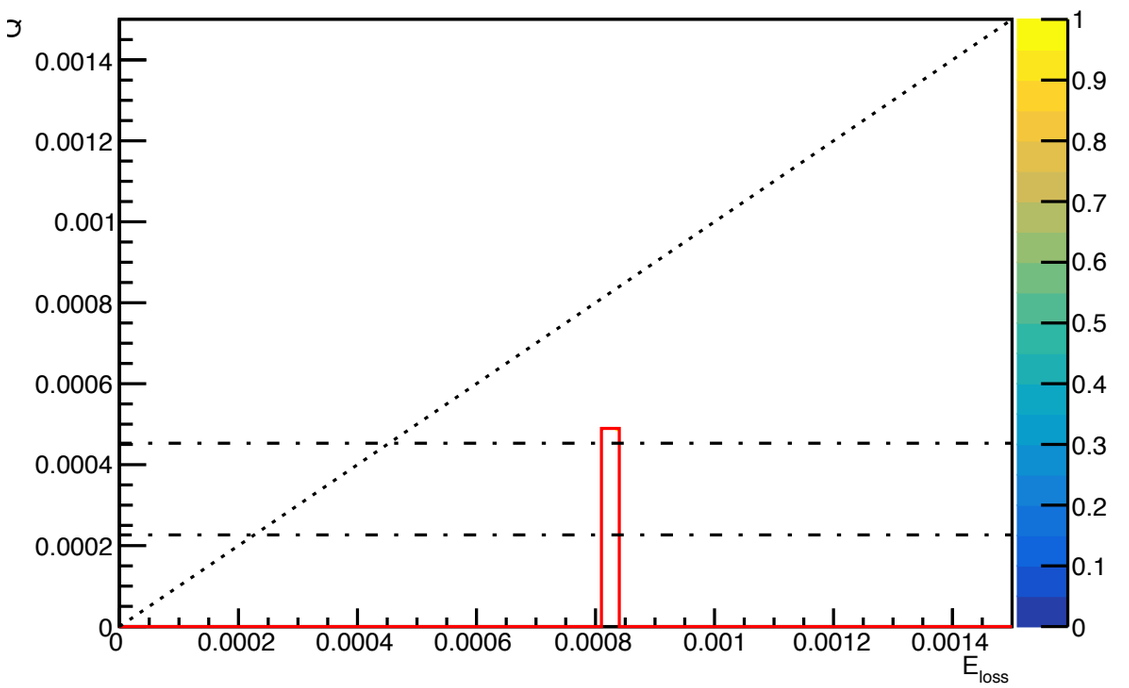

H1 NStrip=2 & NStripSat254=1 | TOB1
9
8
7
6
5
4
3
2
1
0
0
1
2
3
4
5
6
7
8

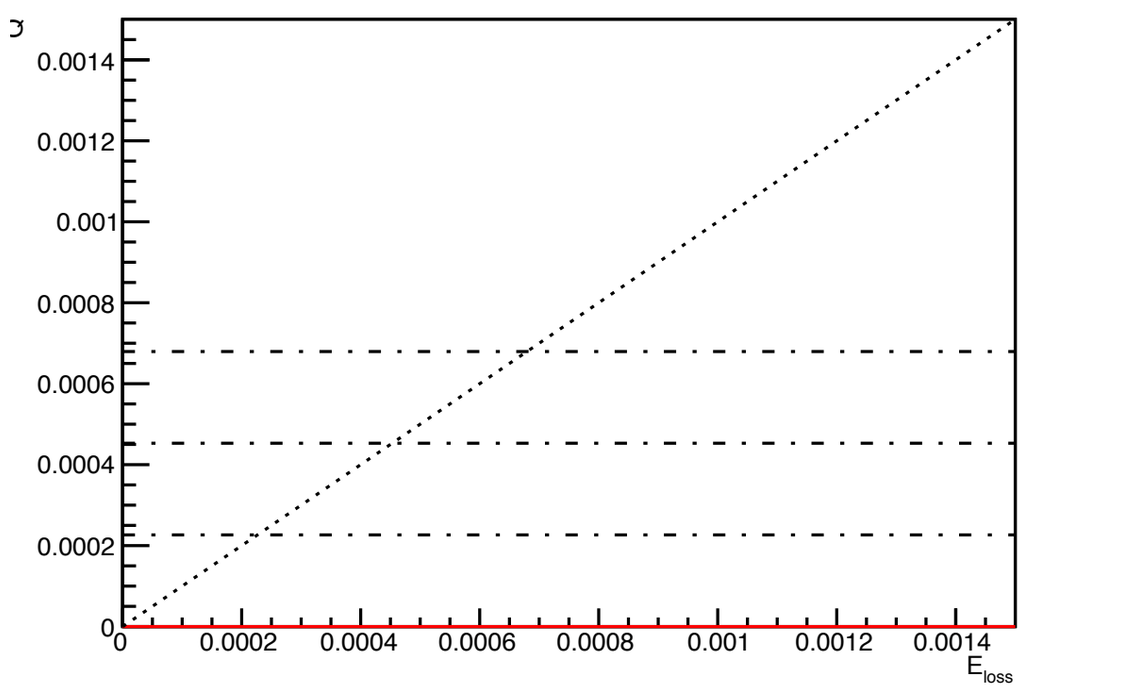

H1 NStrip=2 & NStripSat254=2 | TOB1
1
0.8
0.6
0.4
0.2
0
0
1
2
3
4
5
6
7
8

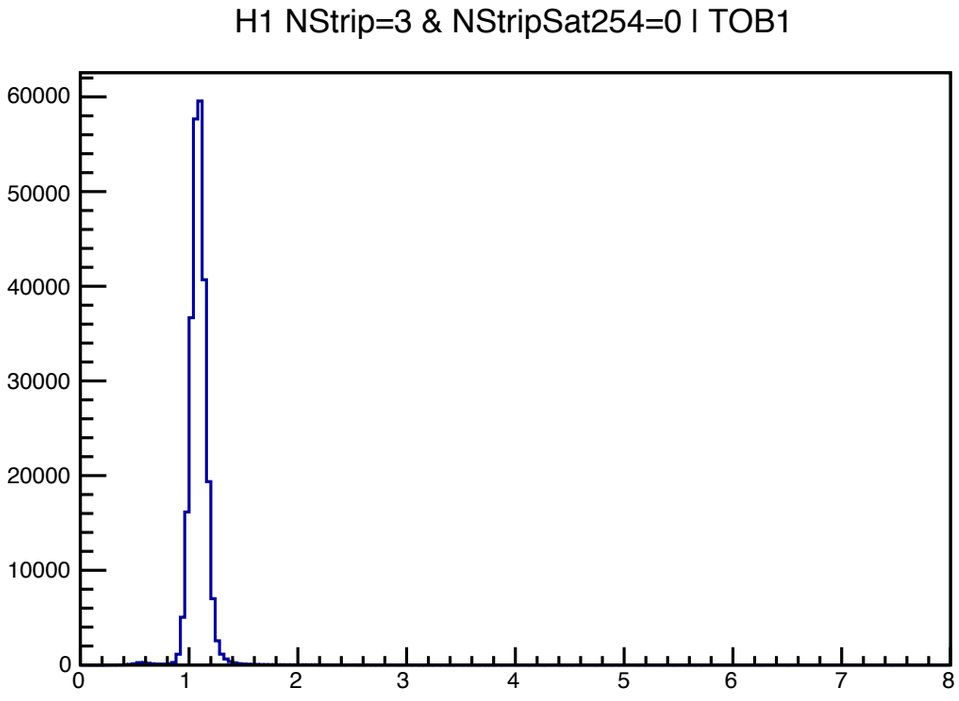
Taille cluster : 3

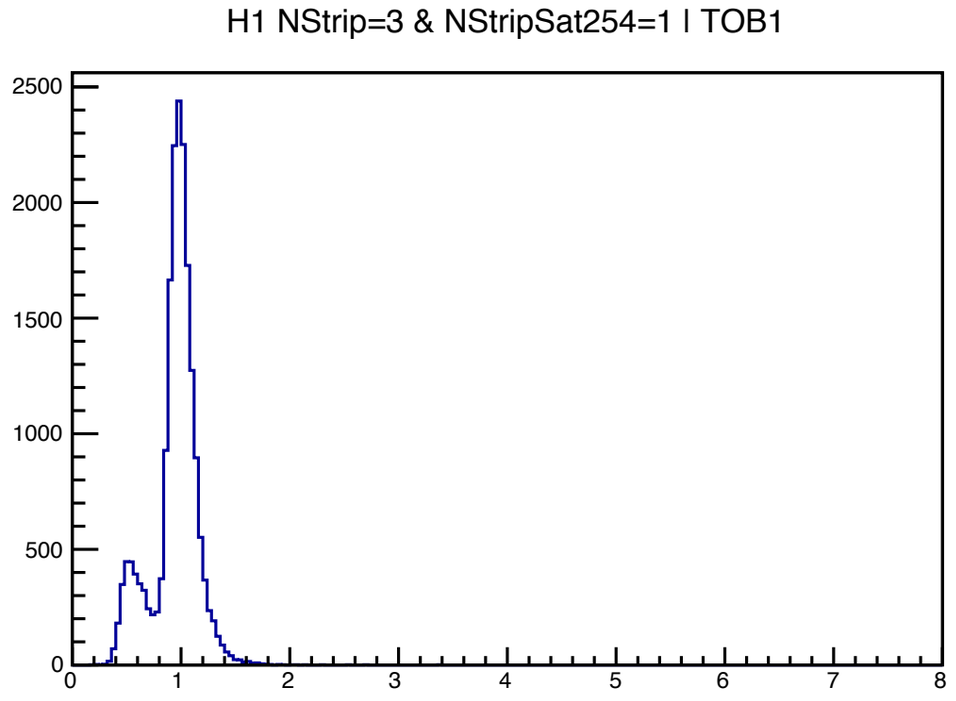

H2 NStrip=3 & NStripSat254=0
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
3000
2500
2000
1500
1000
500
0

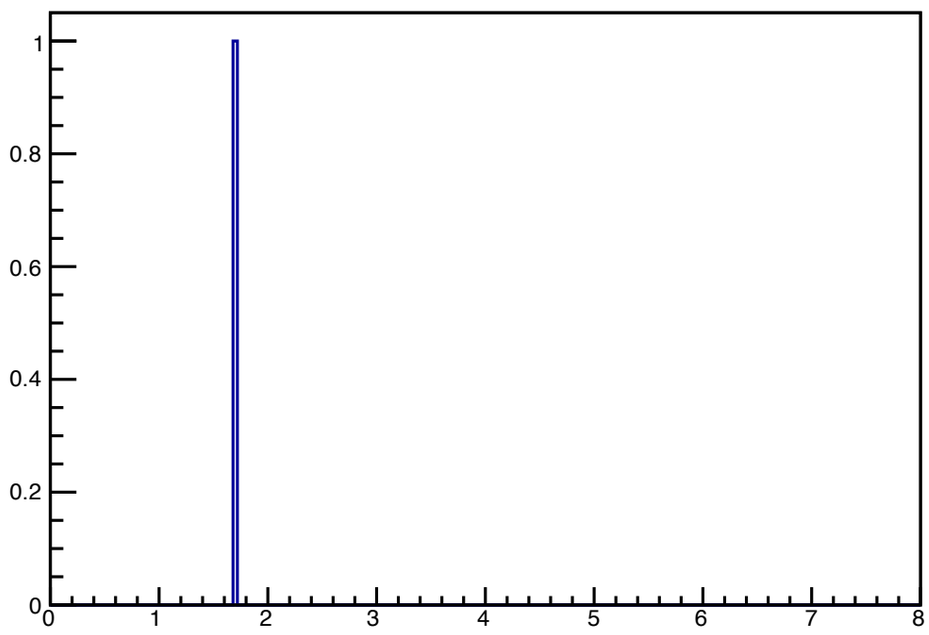

H2 NStrip=3 & NStripSat254=1
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
220
200
180
160
140
120
100
80
60
40
20
0

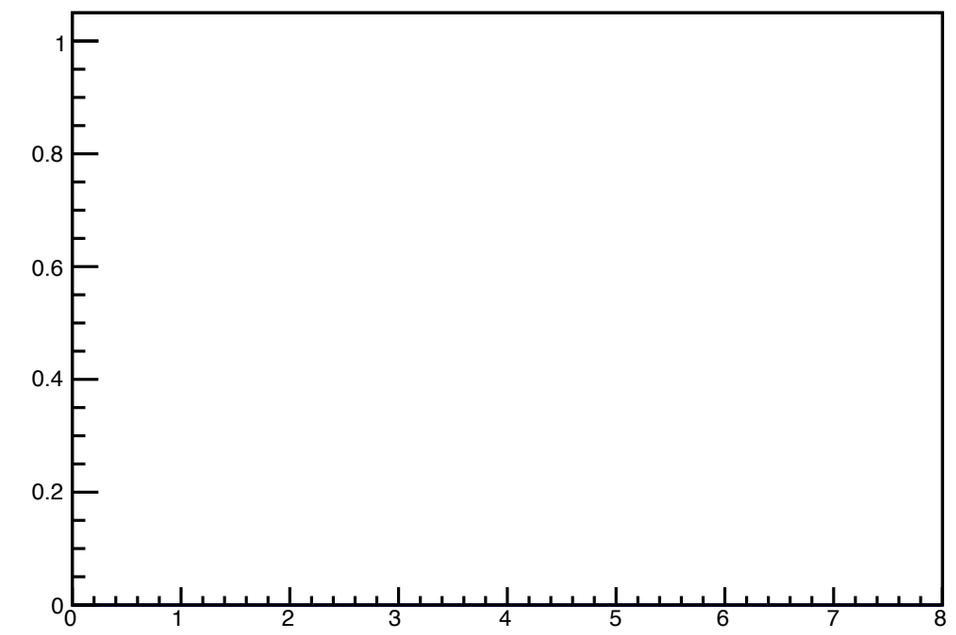

H2 NStrip=3 & NStripSat254=2
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0


H2 NStrip=3 & NStripSat254=3
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss


H1 NStrip=3 & NStripSat254=0 | TOB1
60000
50000
40000
30000
20000
10000
0
0 1 2 3 4 5 6 7 8

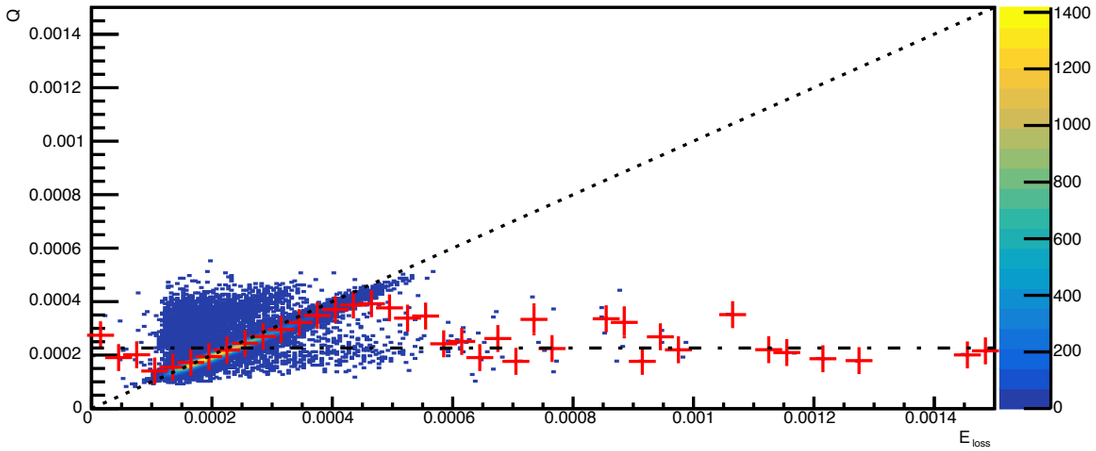

H1 NStrip=3 & NStripSat254=1 | TOB1
2500
2000
1500
1000
500
0
0 1 2 3 4 5 6 7 8


H1 NStrip=3 & NStripSat254=2 | TOB1
1
0.8
0.6
0.4
0.2
0
0 1 2 3 4 5 6 7 8

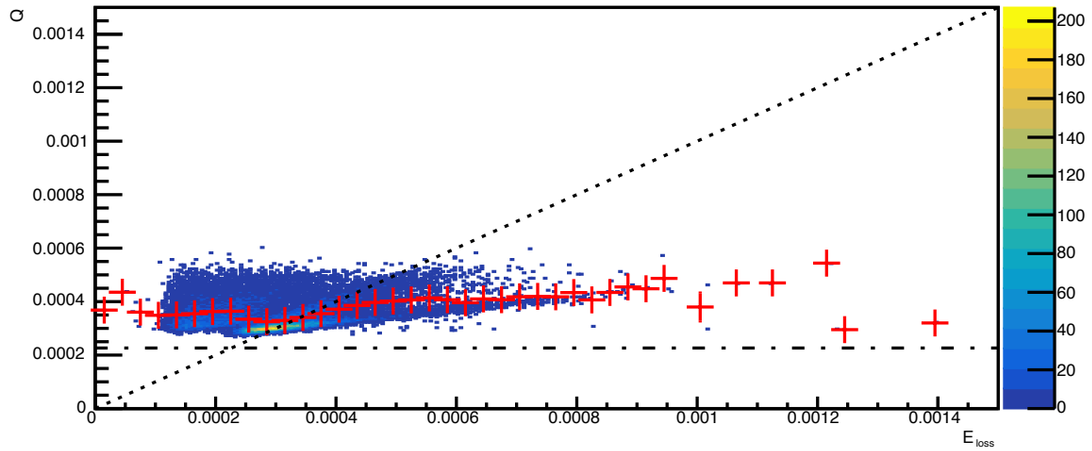

H1 NStrip=3 & NStripSat254=3 | TOB1
1
0.8
0.6
0.4
0.2
0
0 1 2 3 4 5 6 7 8

Taille cluster : 4

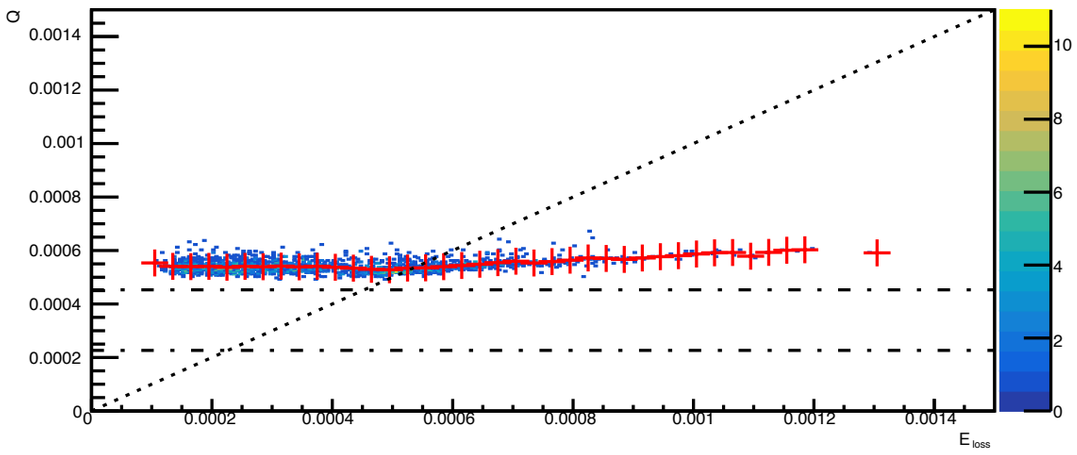
H2 NStrip=4 & NStripSat254=0



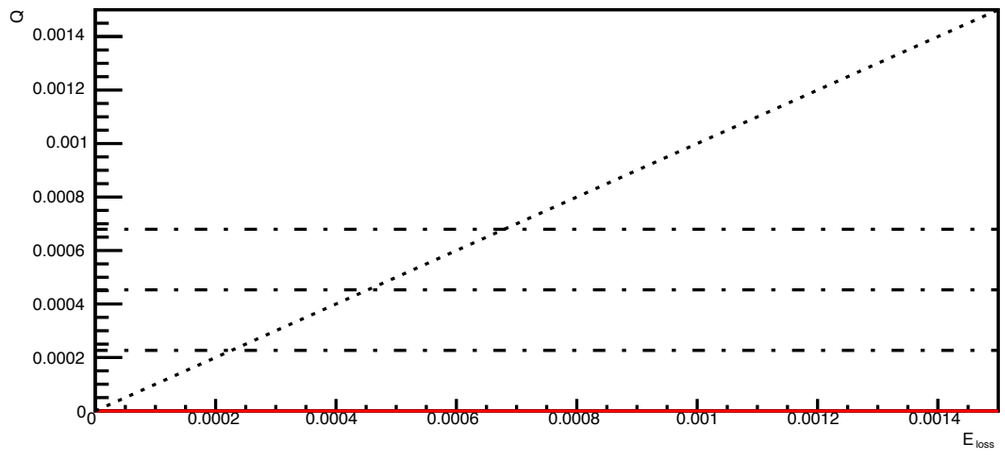
H2 NStrip=4 & NStripSat254=1



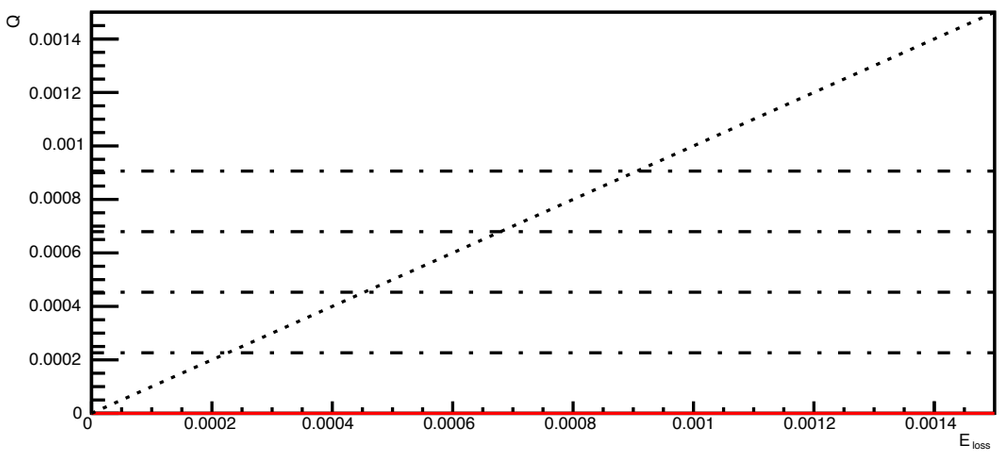
H2 NStrip=4 & NStripSat254=2



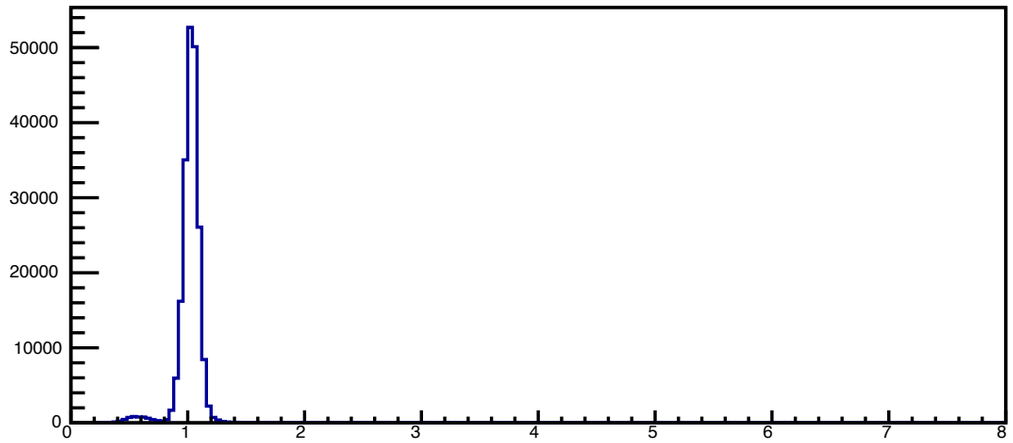
H2 NStrip=4 & NStripSat254=3



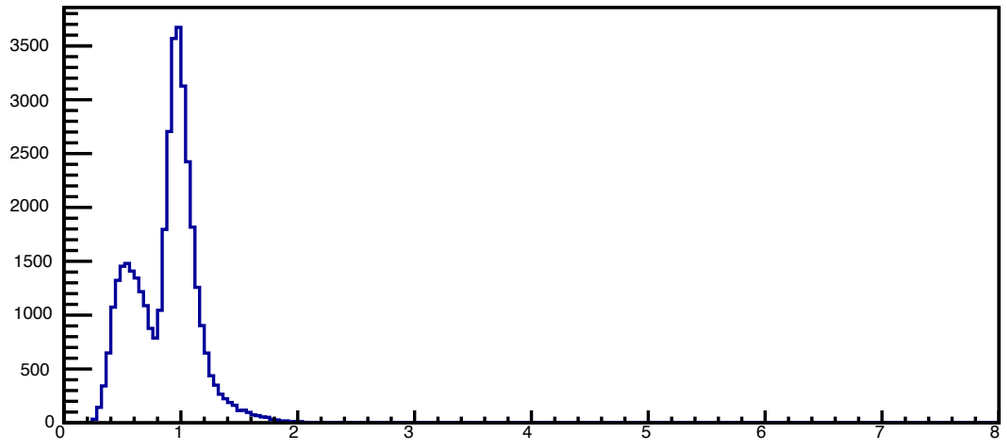
H2 NStrip=4 & NStripSat254=4



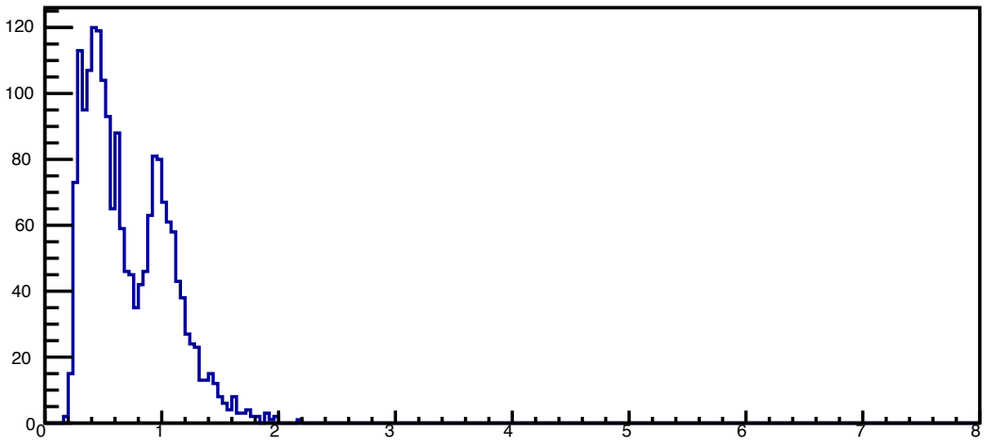
H1 NStrip=4 & NStripSat254=0 | TOB1



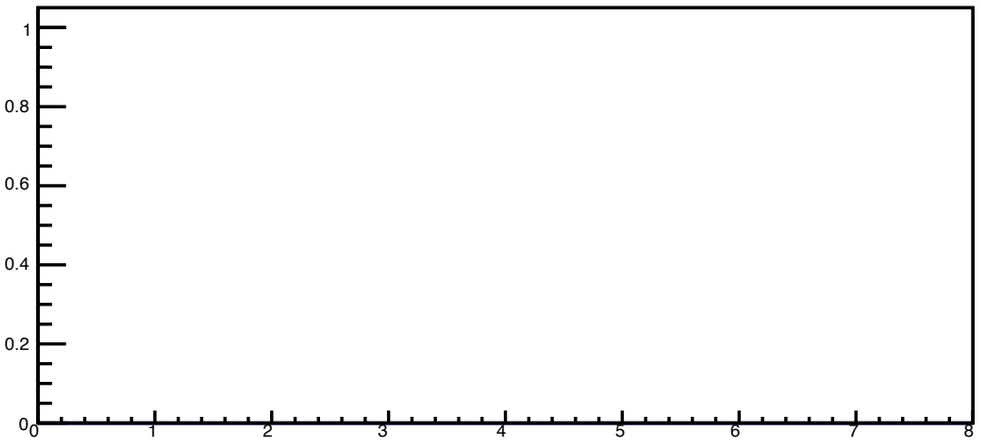
H1 NStrip=4 & NStripSat254=1 | TOB1



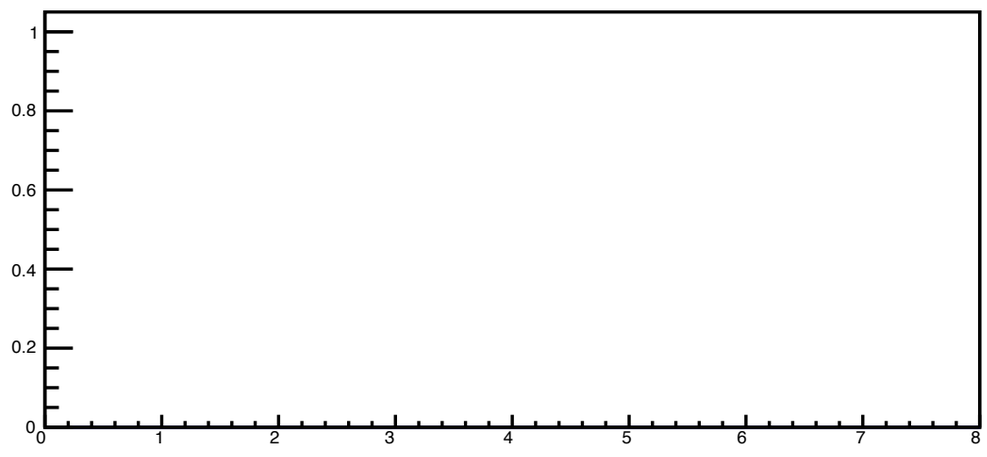
H1 NStrip=4 & NStripSat254=2 | TOB1



H1 NStrip=4 & NStripSat254=3 | TOB1

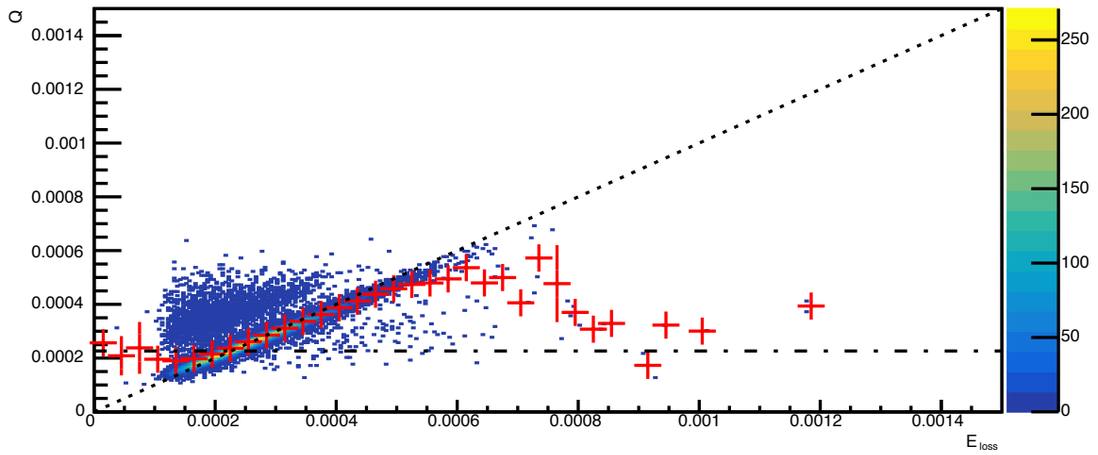


H1 NStrip=4 & NStripSat254=4 | TOB1

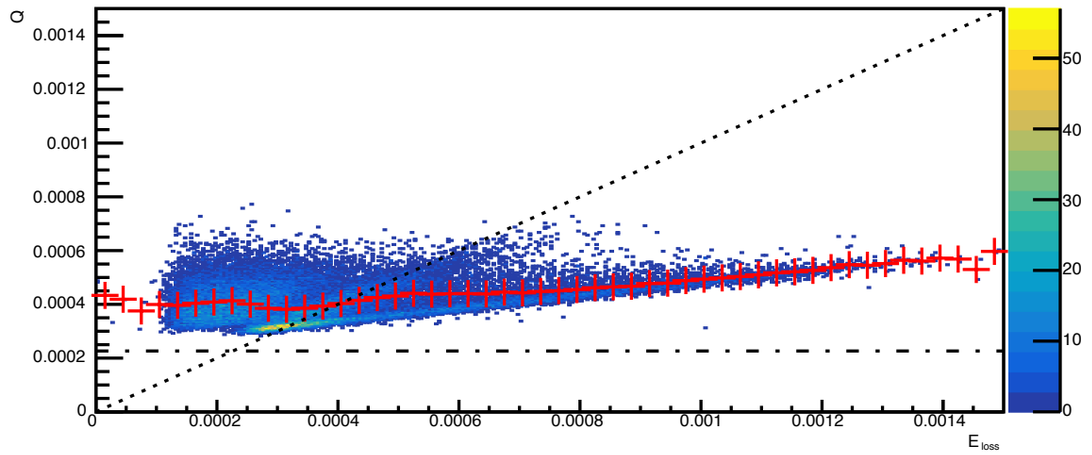


Taille cluster : 5

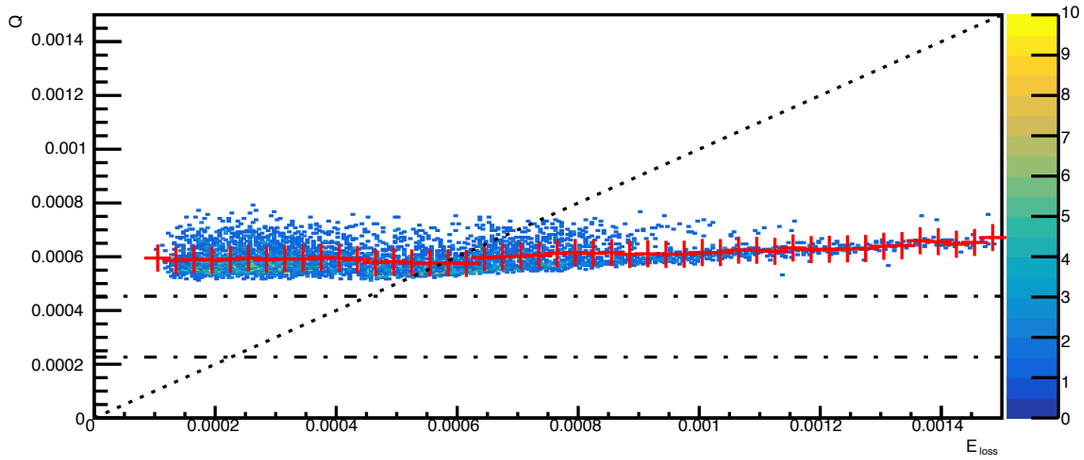
H2 NStrip=5 & NStripSat254=0



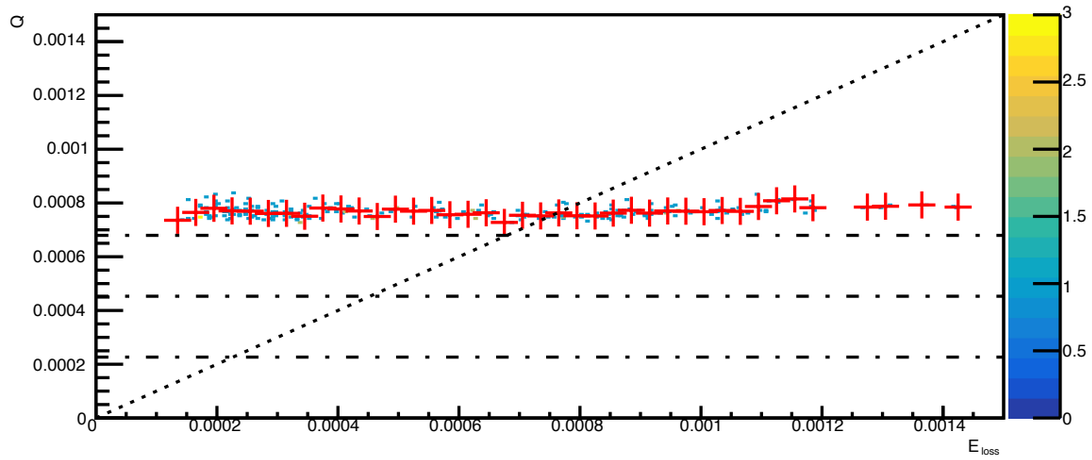
H2 NStrip=5 & NStripSat254=1



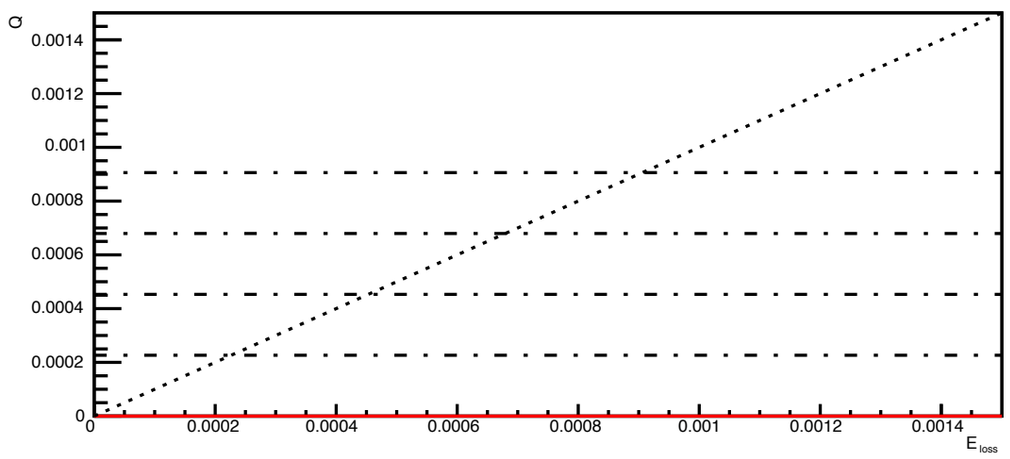
H2 NStrip=5 & NStripSat254=2



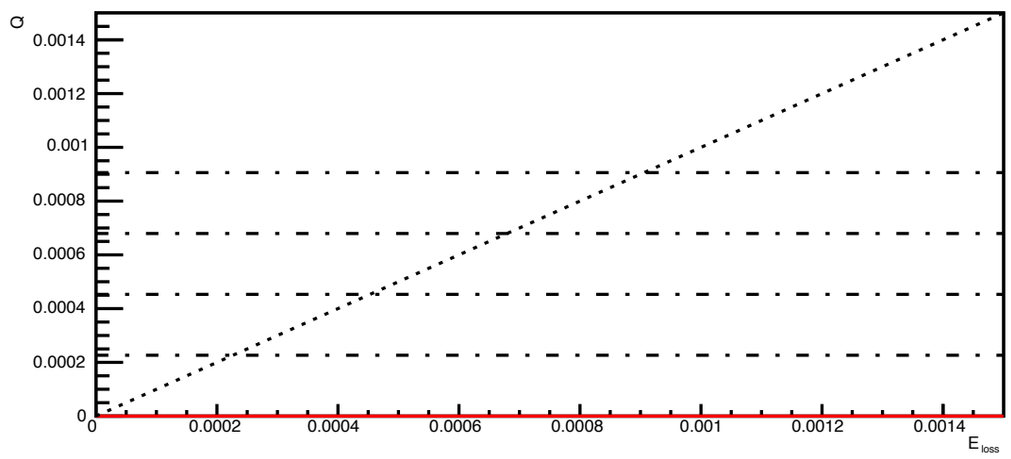
H2 NStrip=5 & NStripSat254=3



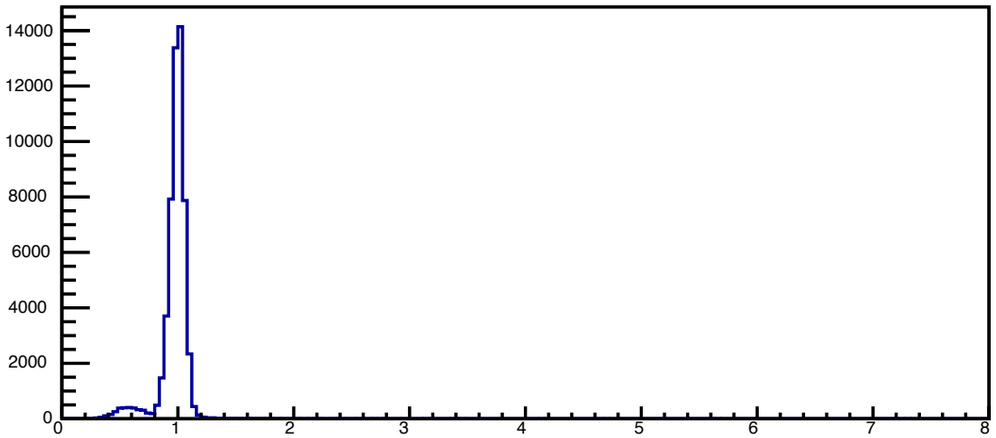
H2 NStrip=5 & NStripSat254=4



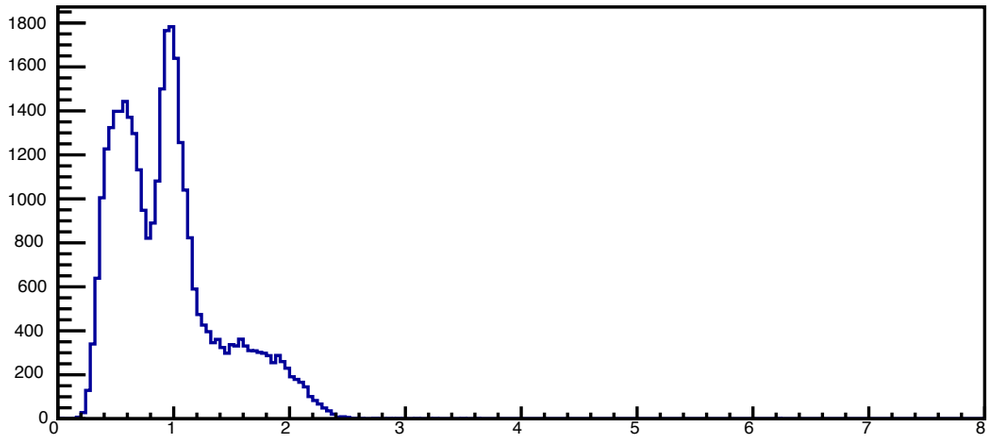
H2 NStrip=5 & NStripSat254=5



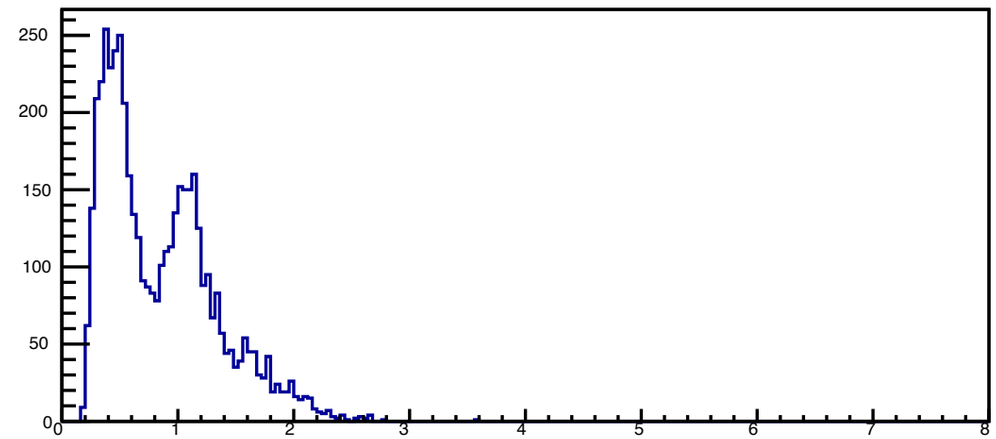
H1 NStrip=5 & NStripSat254=0 | TOB1



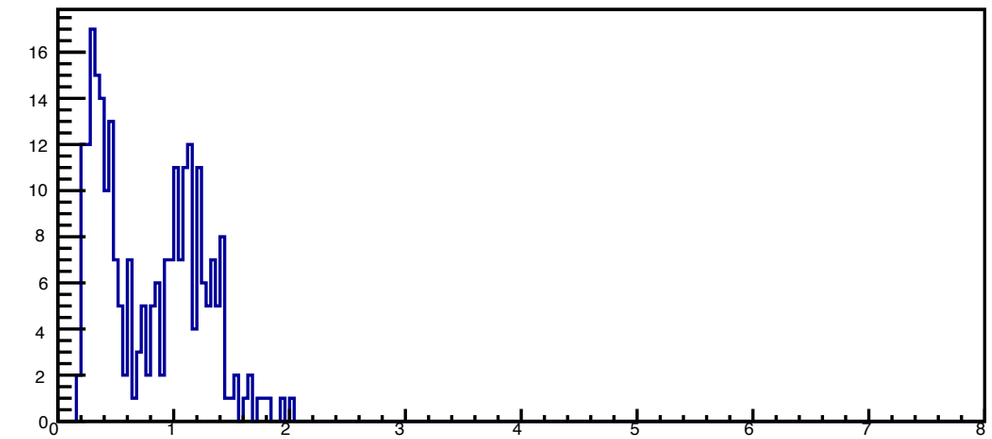
H1 NStrip=5 & NStripSat254=1 | TOB1



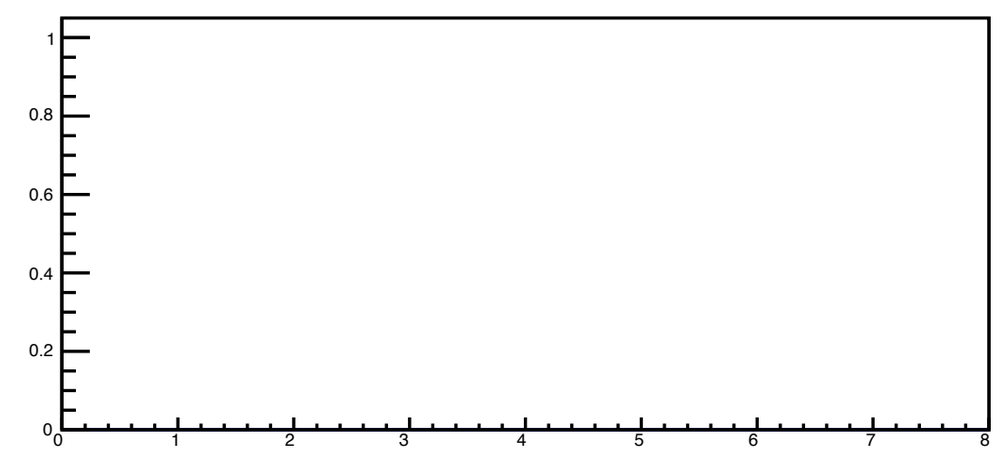
H1 NStrip=5 & NStripSat254=2 | TOB1



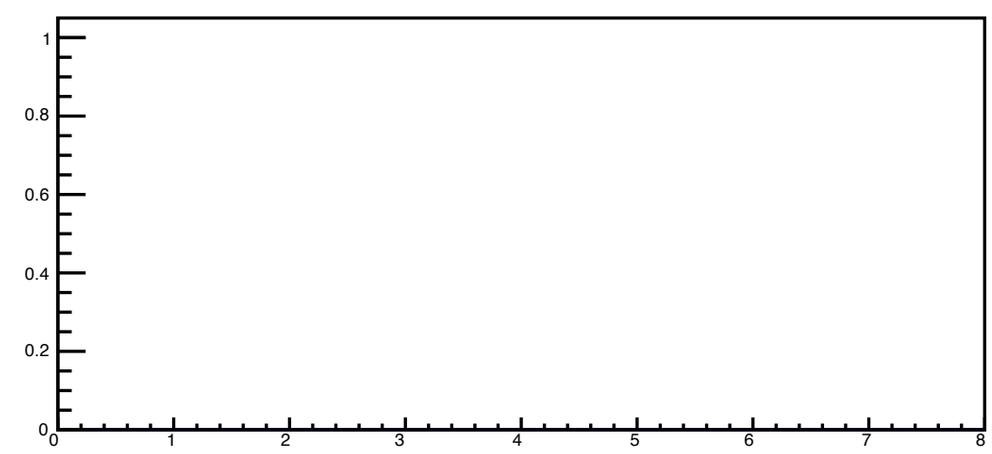
H1 NStrip=5 & NStripSat254=3 | TOB1



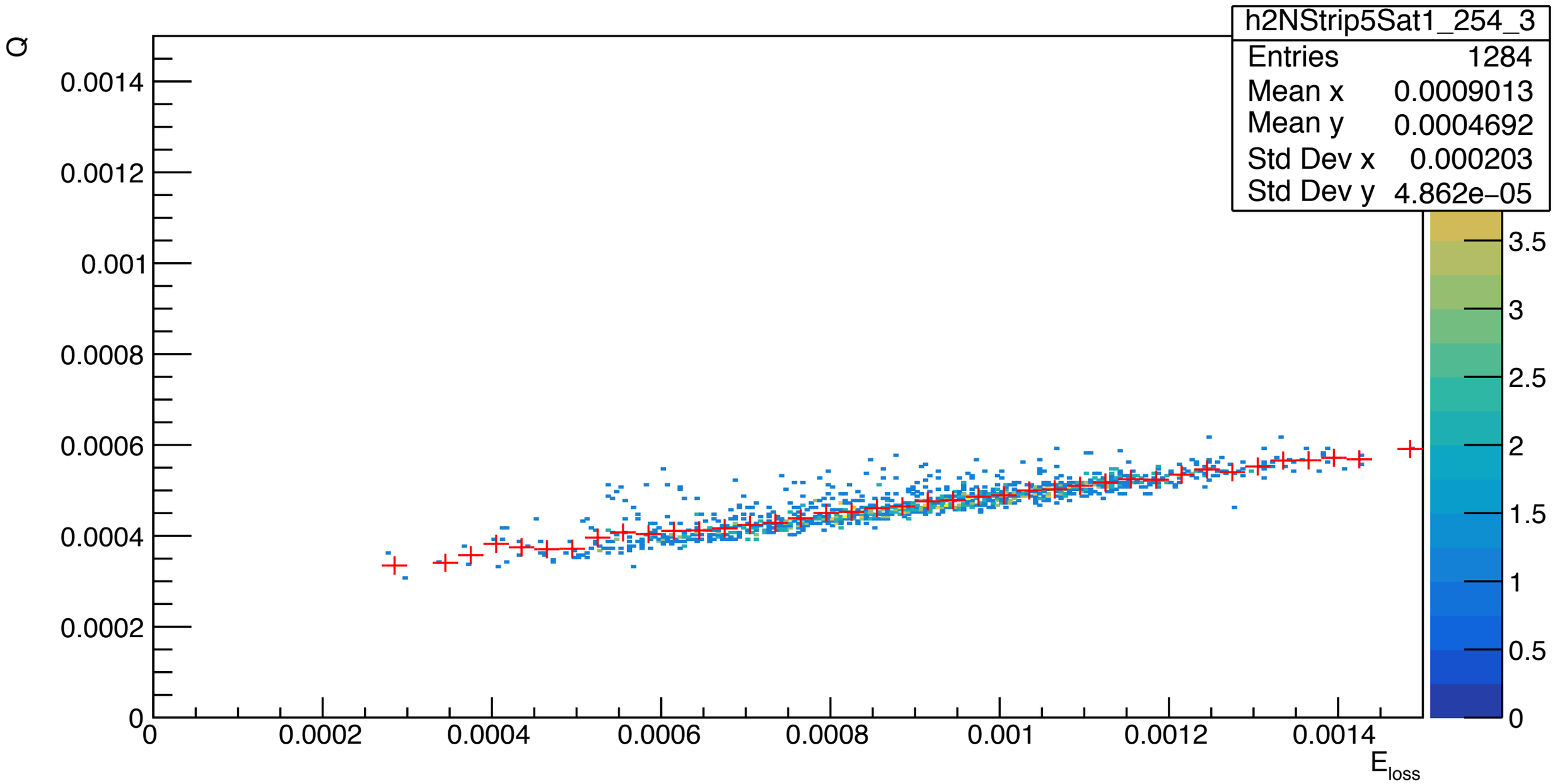
H1 NStrip=5 & NStripSat254=4 | TOB1



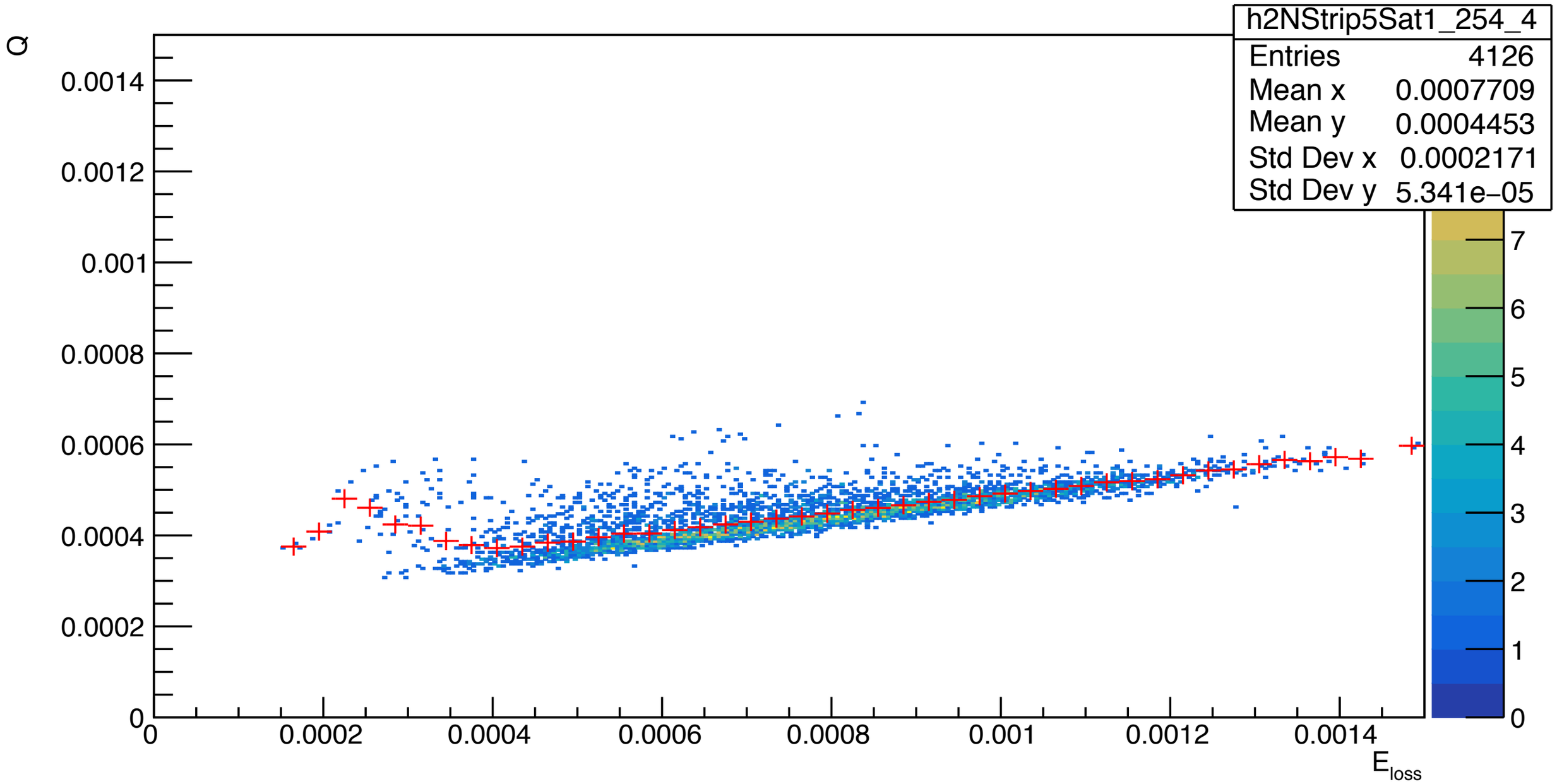
H1 NStrip=5 & NStripSat254=5 | TOB1

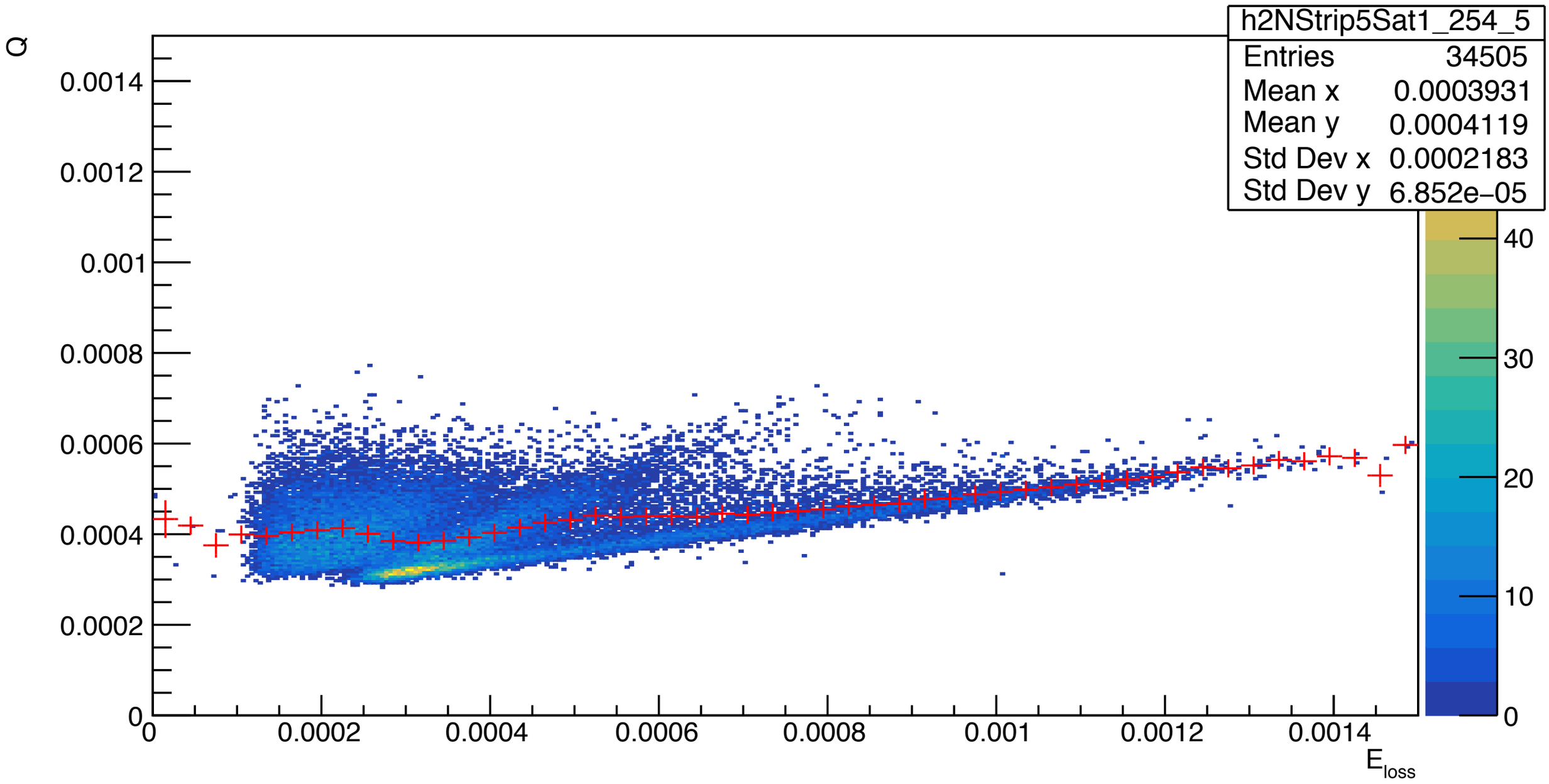


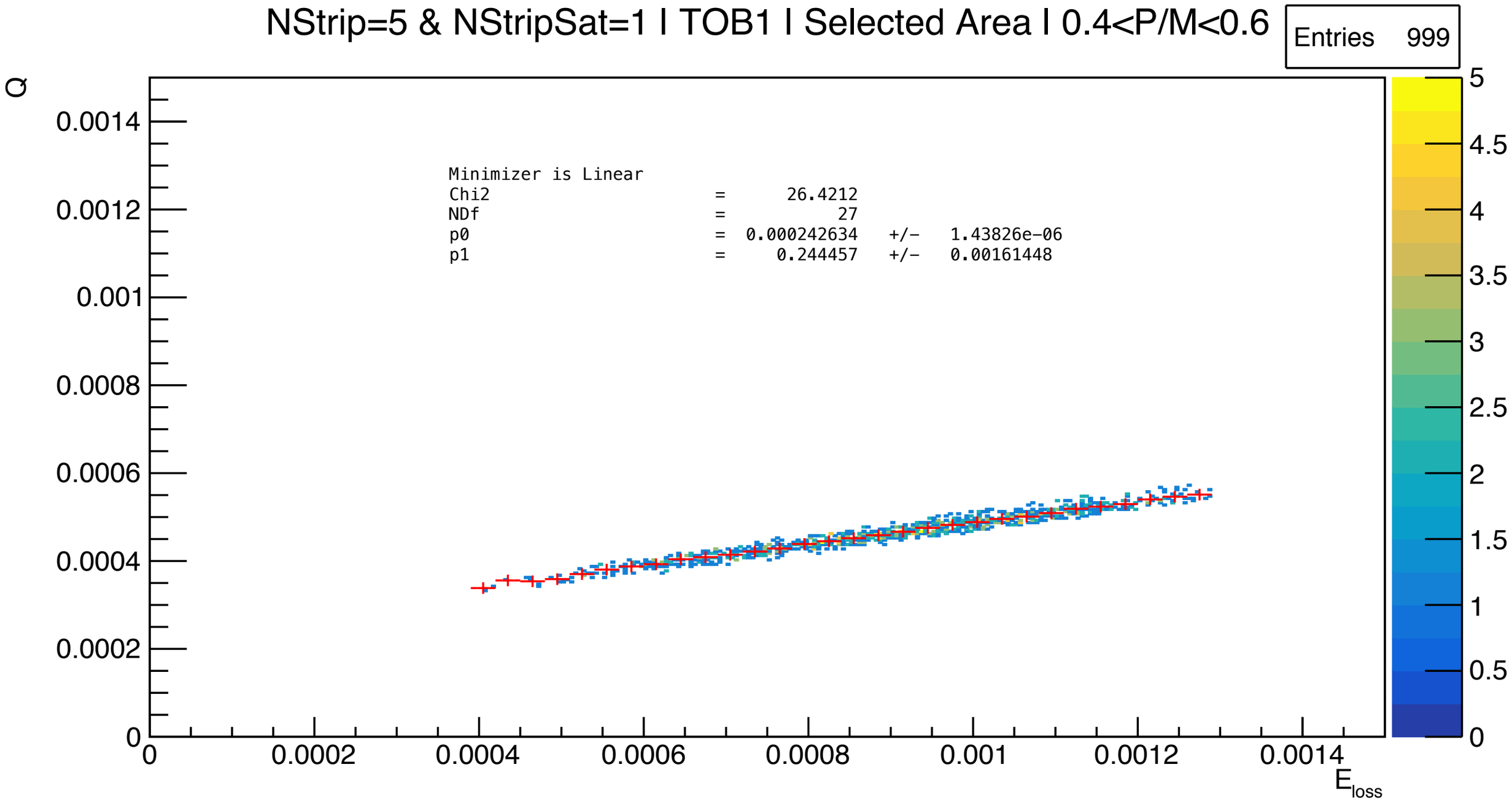
NStrip=5 & NStripSat=1 I TOB1 I Selected Area I 0.4<P/M<0.6

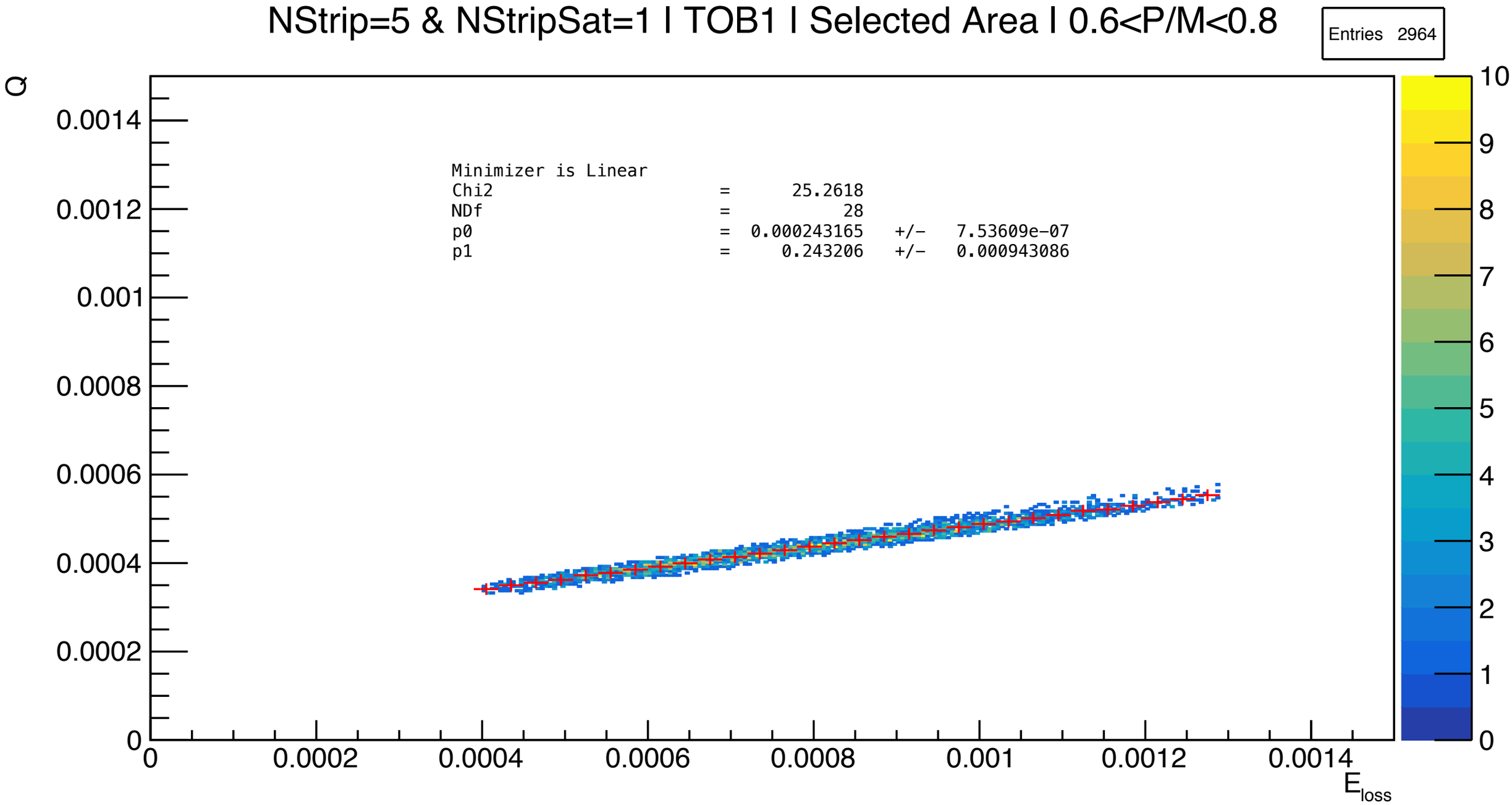


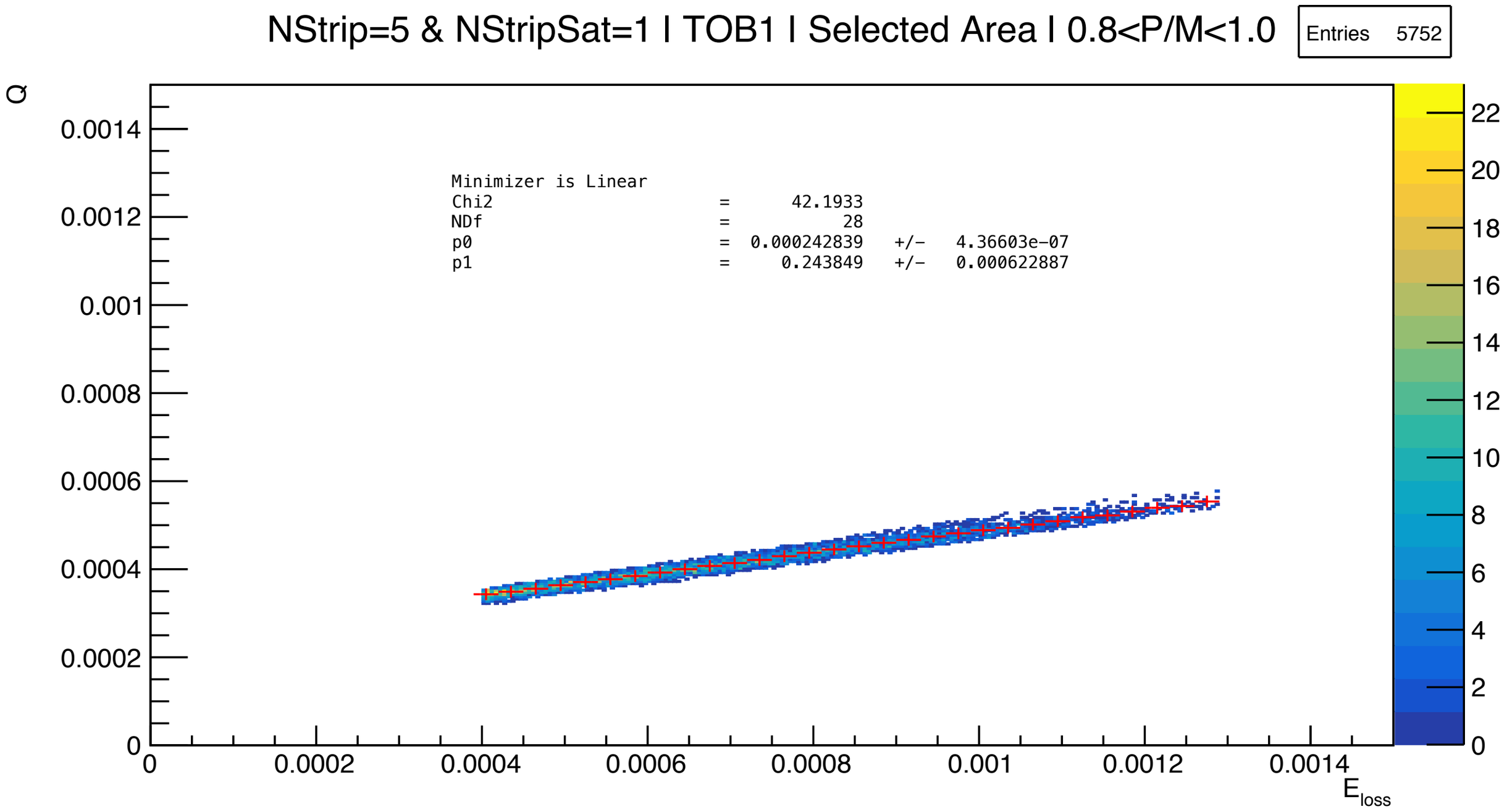
NStrip=5 & NStripSat=1 I TOB1 I Selected Area I 0.6<P/M<0.8

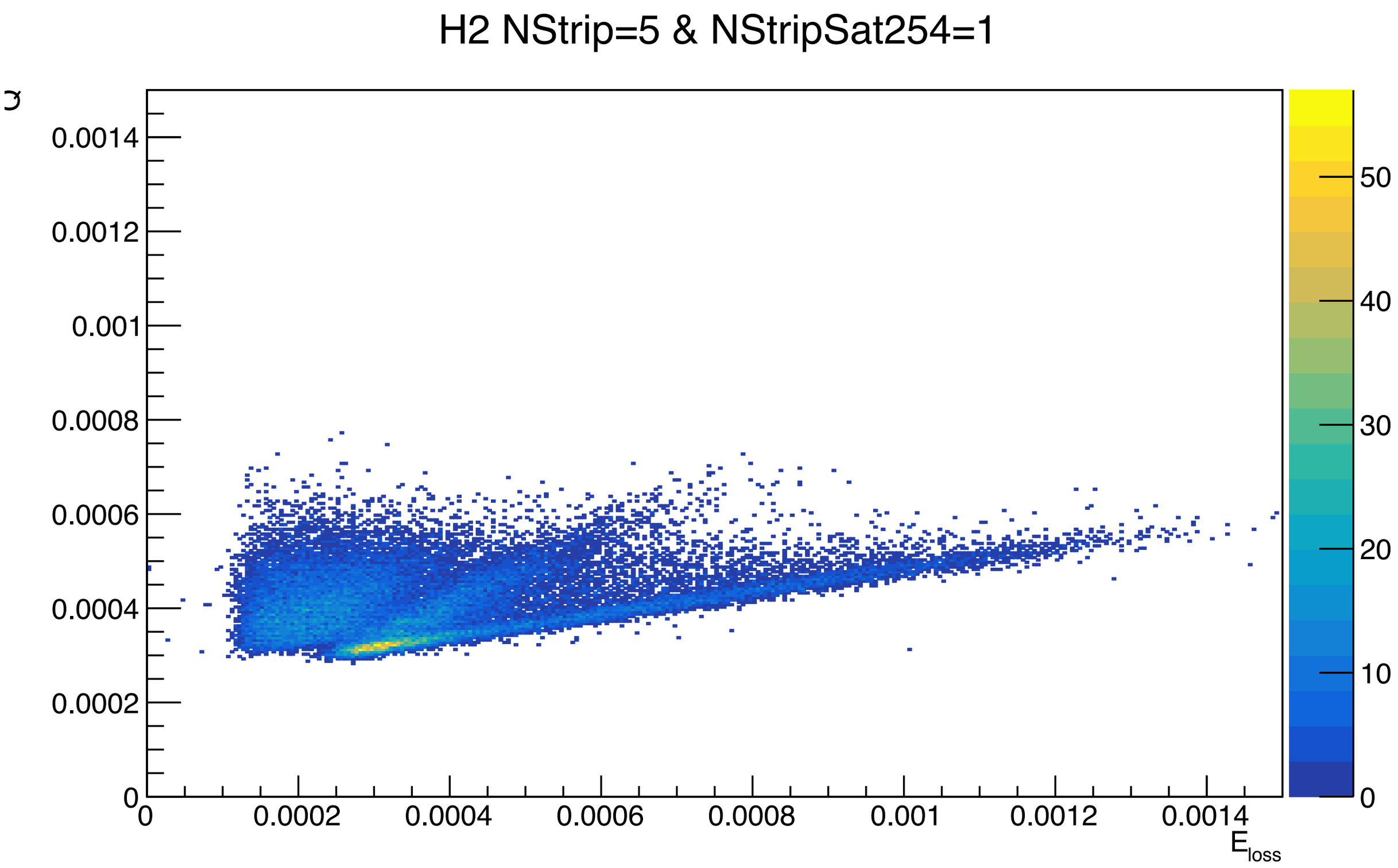



NStrip=5 & NStripSat=1 I TOB1 I Selected Area I 0.8<P/M<1.0
h2NStrip5Sat1_254_5
Entries 34505
Mean x 0.0003931
Mean y 0.0004119
Std Dev x 0.0002183
Std Dev y 6.852e−05
σ
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
40
30
20
10
0

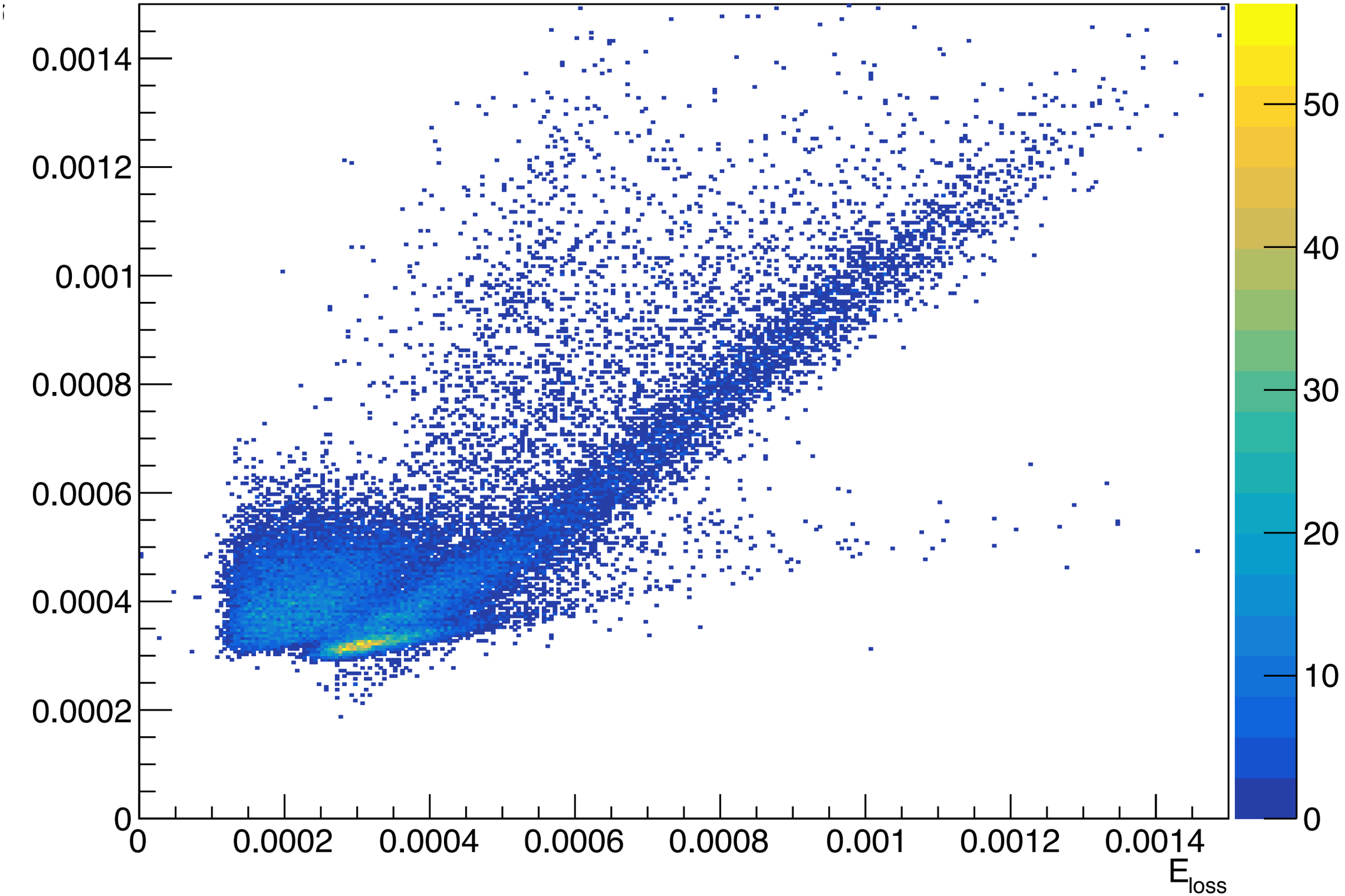

NStrip=5 & NStripSat=1 I TOB1 I Selected Area I 0.4<P/M<0.6
Entries 999
σ
Minimizer is Linear
Chi2 = 26.4212
NDf = 27
p0 = 0.000242634 +/- 1.43826e-06
p1 = 0.244457 +/- 0.00161448
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5

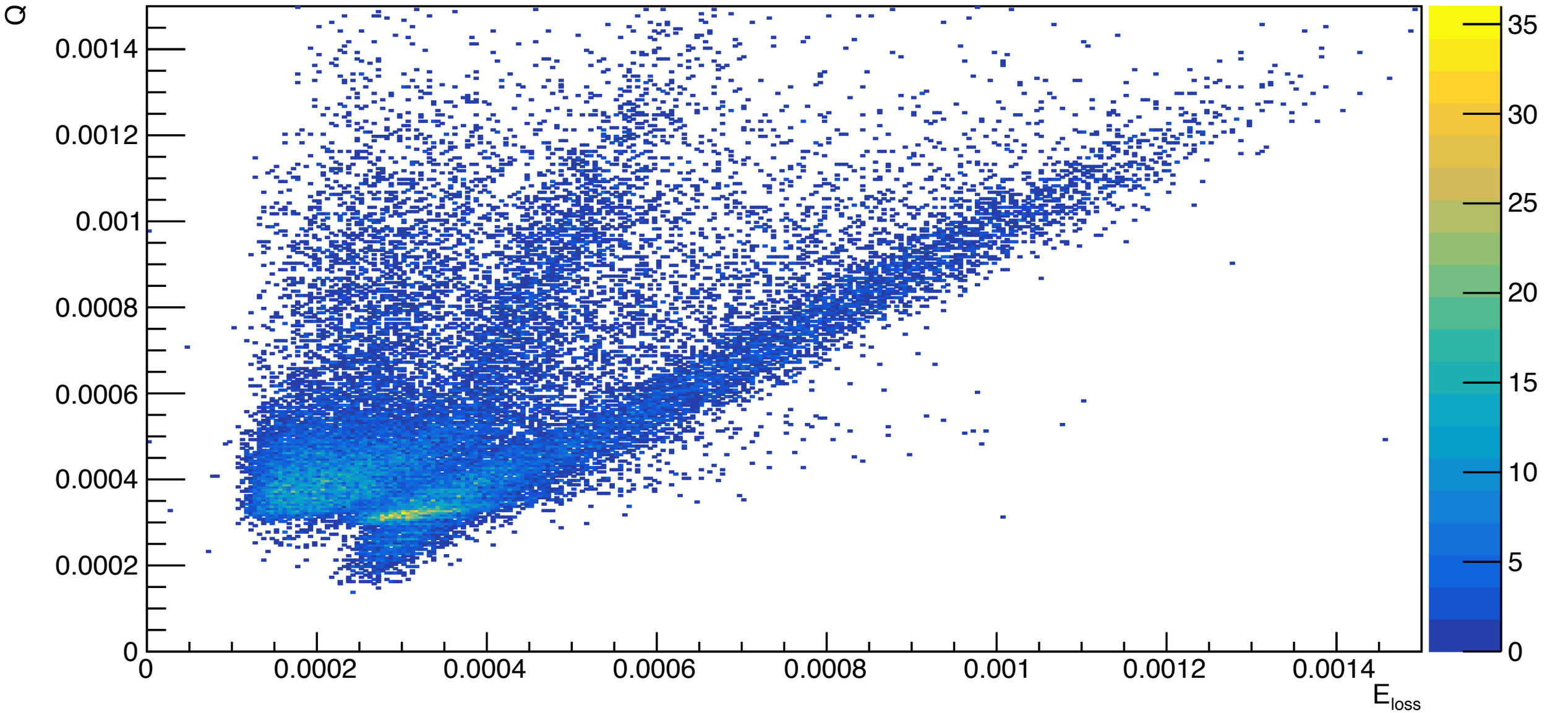

NStrip=5 & NStripSat=1 I TOB1 I Selected Area I 0.6<P/M<0.8
Entries 2964
σ
Minimizer is Linear
Chi2 = 25.2618
NDf = 28
p0 = 0.000243165 +/- 7.53609e-07
p1 = 0.243206 +/- 0.000943086
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
10
9
8
7
6
5
4
3
2
1
0


NStrip=5 & NStripSat=1 I TOB1 I Selected Area I 0.8<P/M<1.0
Entries 5752
Q
Minimizer is Linear
Chi2 = 42.1933
NDf = 28
p0 = 0.000242839 +/- 4.36603e-07
p1 = 0.243849 +/- 0.000622887
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
22
20
18
16
14
12
10
8
6
4
2
0


H2 NStrip=5 & NStripSat254=1
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
50
40
30
20
10
0

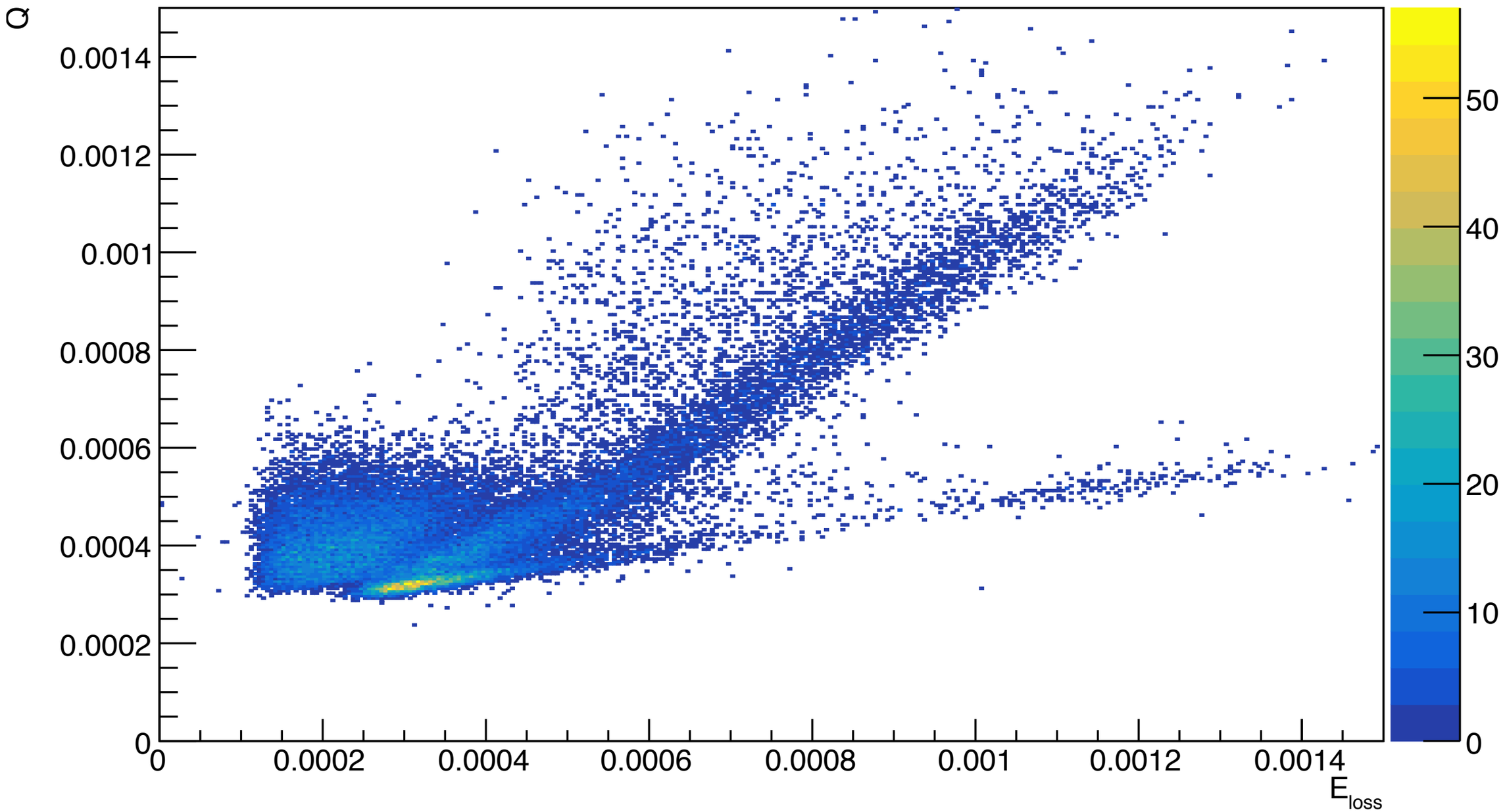
H2 & prof NStrip=5 & NStripSat255=1 I TOB1 I Calibration RatioNClusterSat254>0.5




H2 & prof NStrip=5 & NStripSat255=1 I TOB1 I Calibration
RatioNClusterSat254>0.2
σ
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
E_loss
35
30
25
20
15
10
5
0

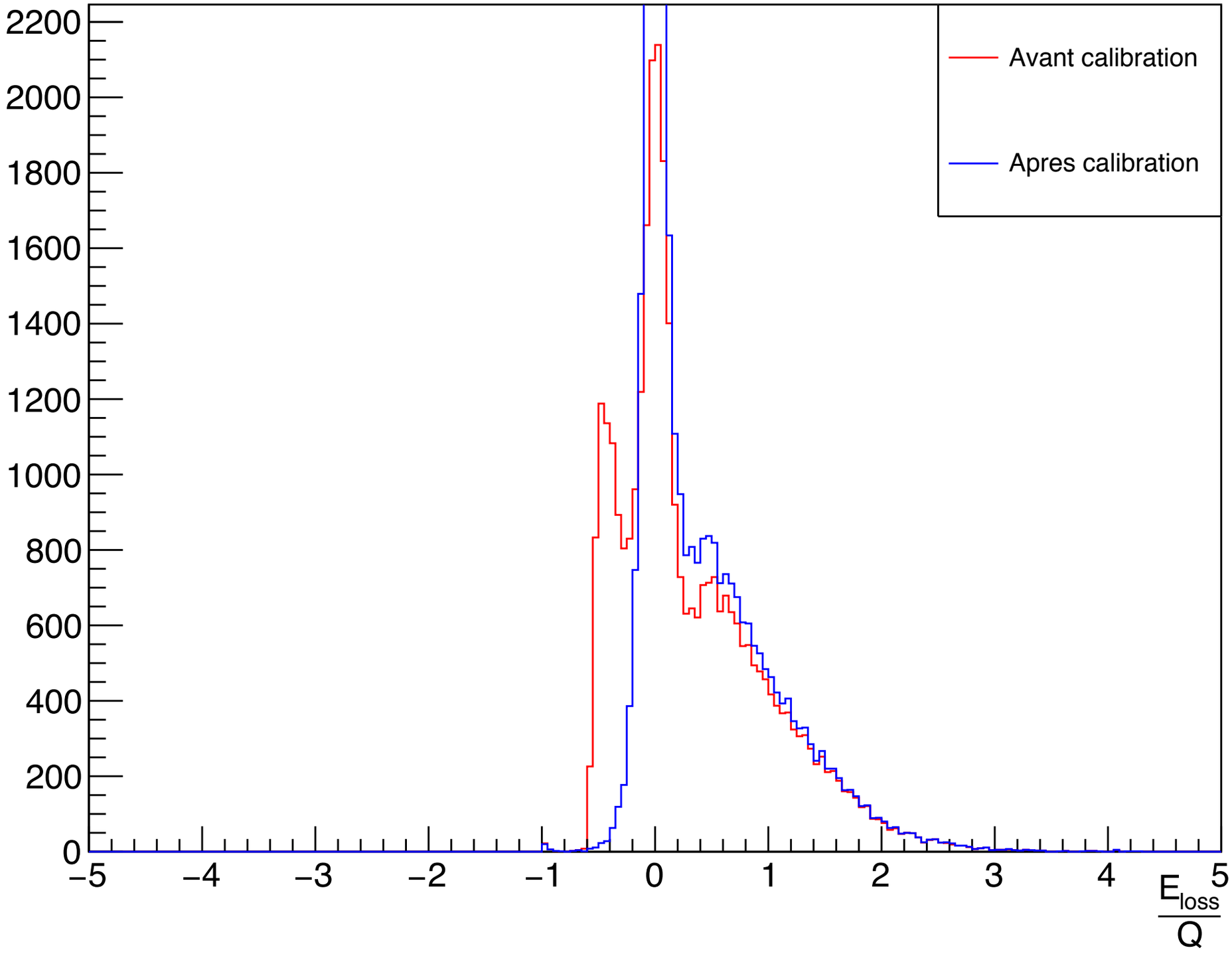
H2 & prof NStrip=5 & NStripSat255=1 I TOB1 I Calibration

RatioNClusterSat254>0.8

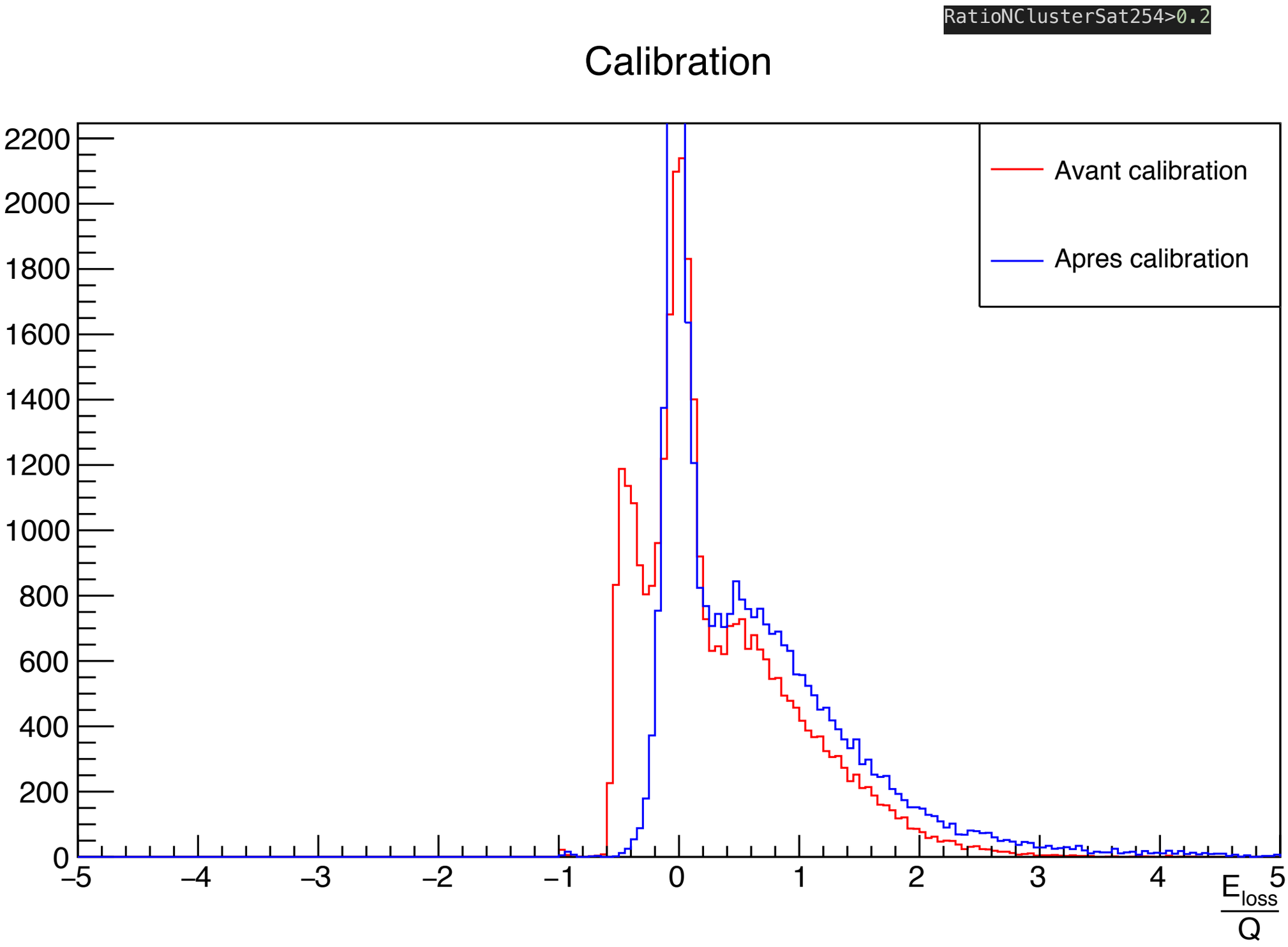


RatioNClusterSat254>0.5

Calibration



RatioNClusterSat254>0.2



RatioNClusterSat254>0.8