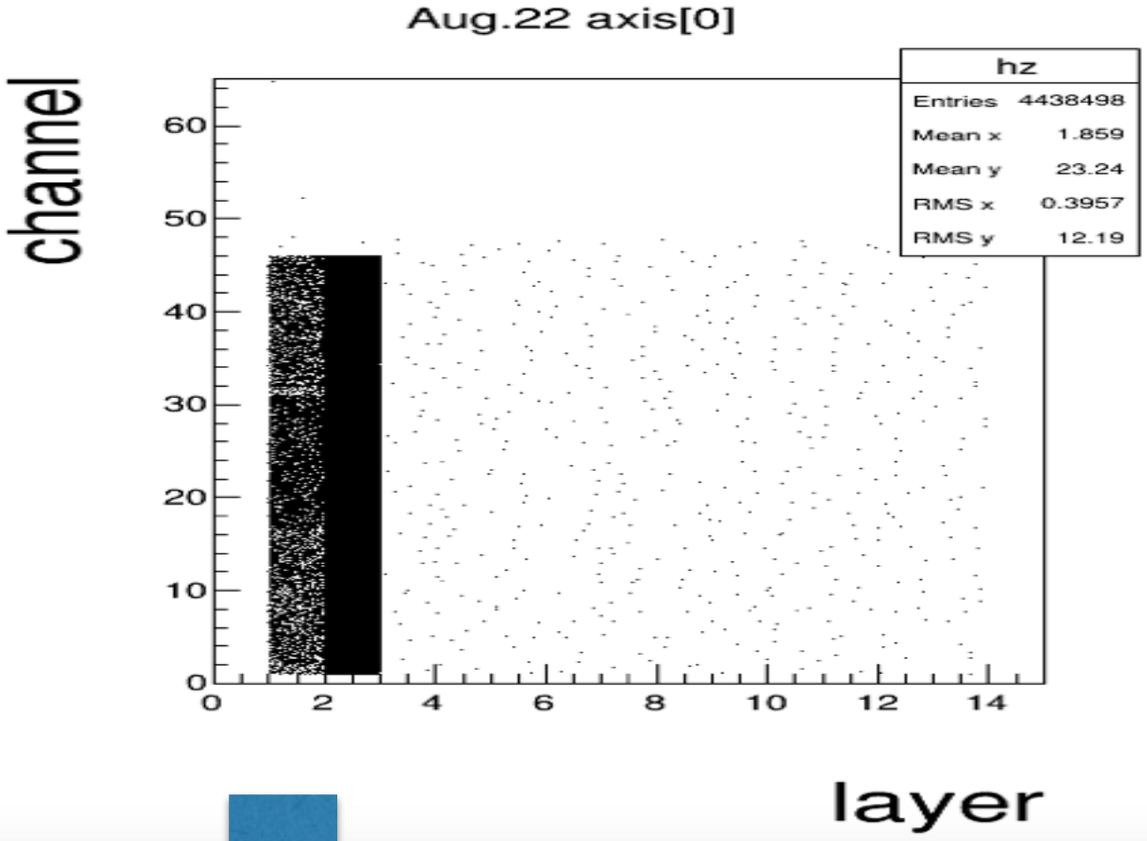
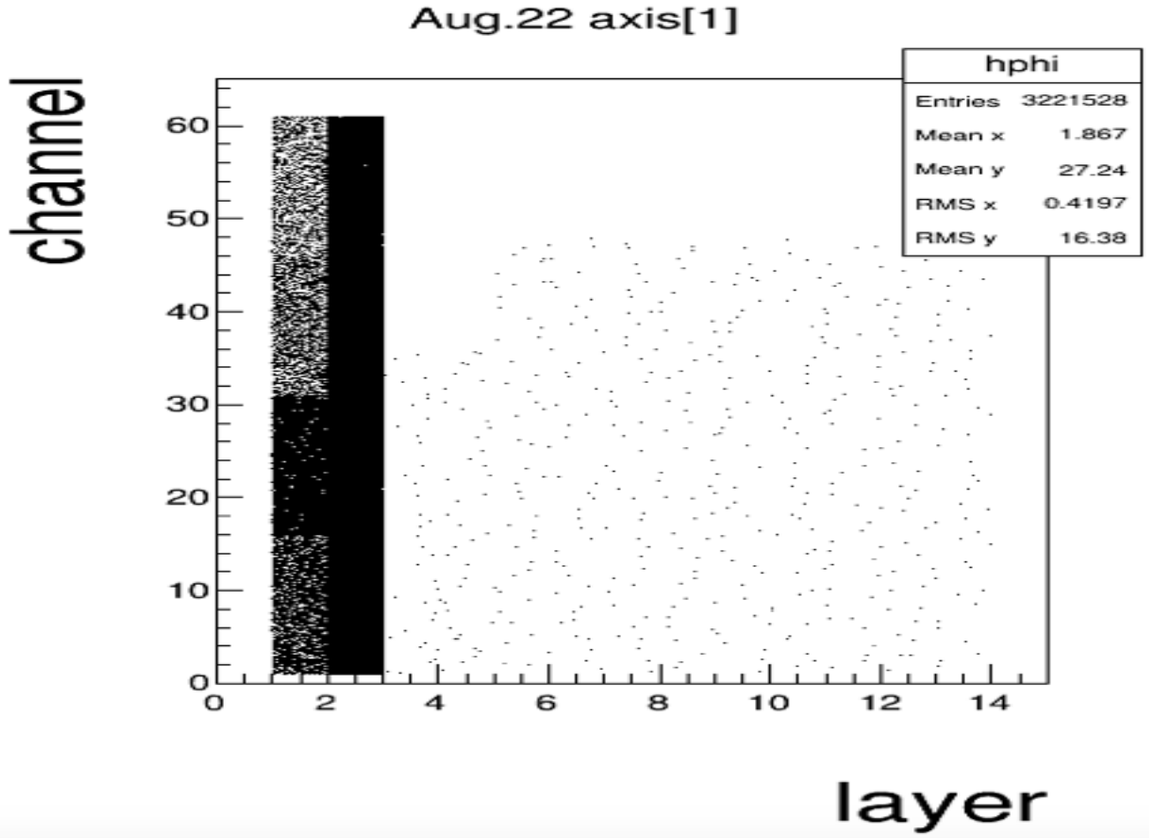
KLM-CRT Meeting

cosmic data analysis

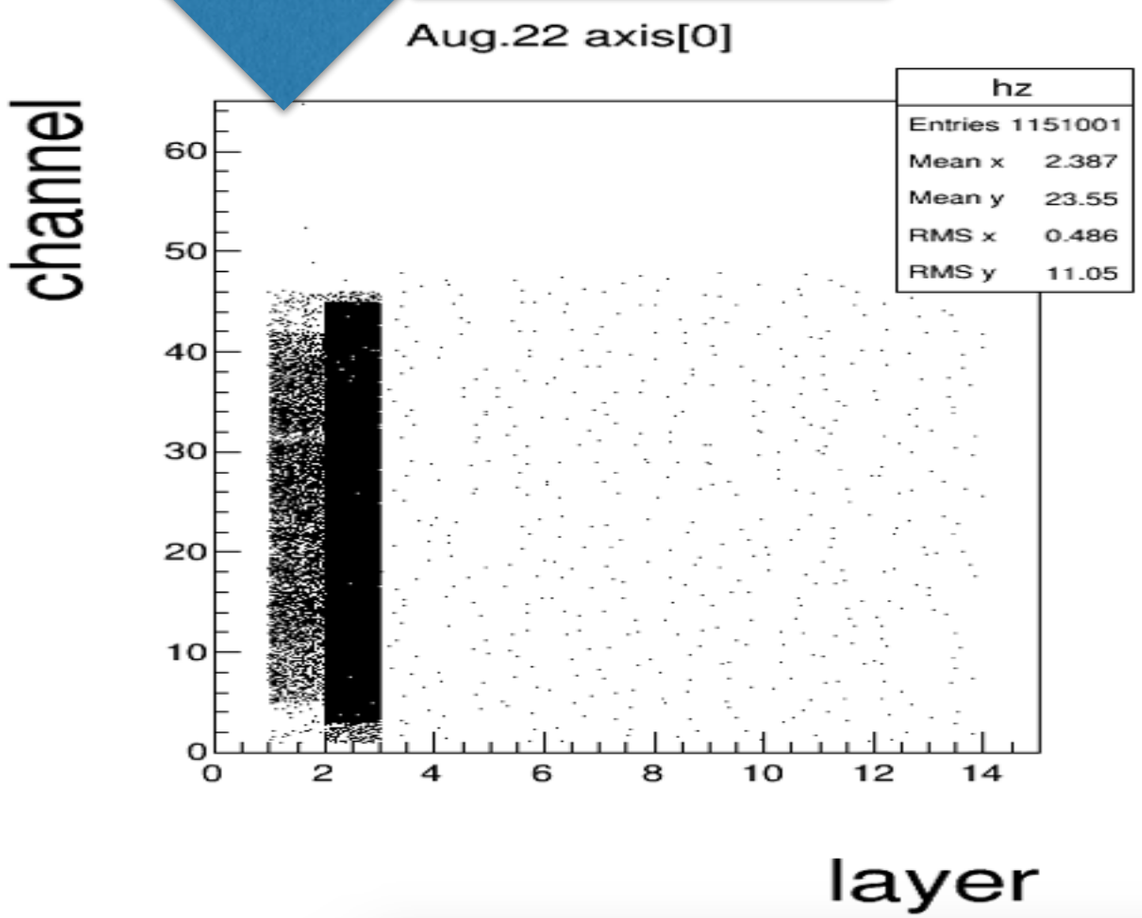
Yinghui GUAN
IU/PNNL

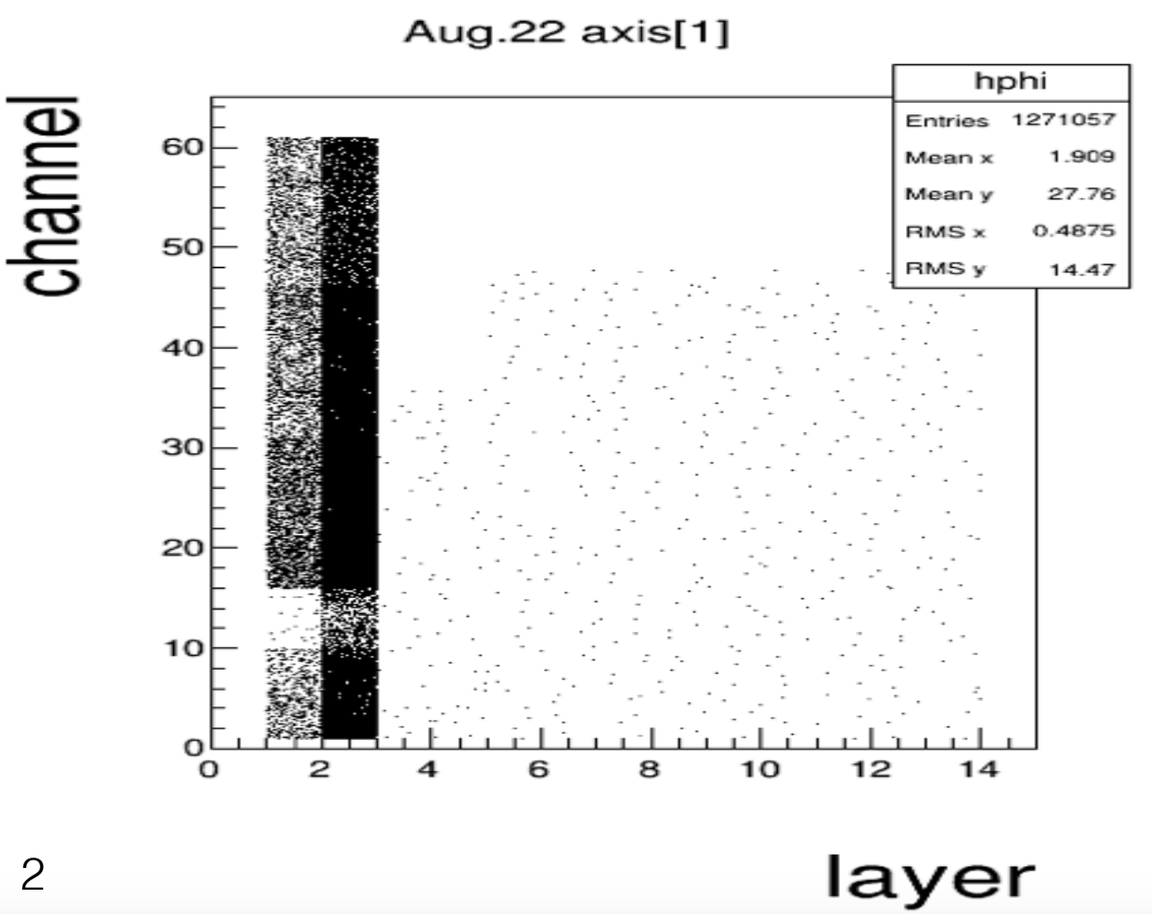
2015. 08. 26



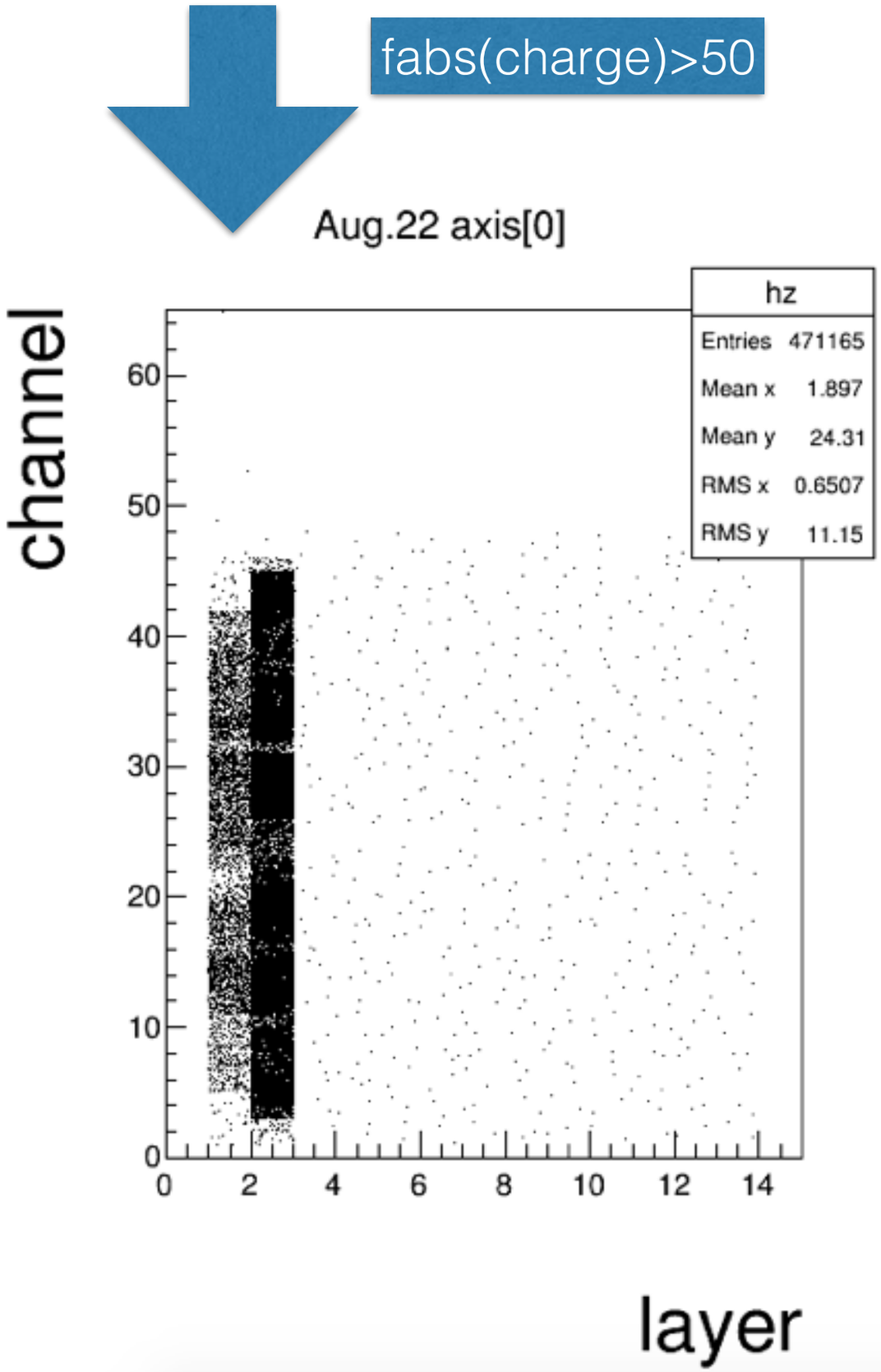


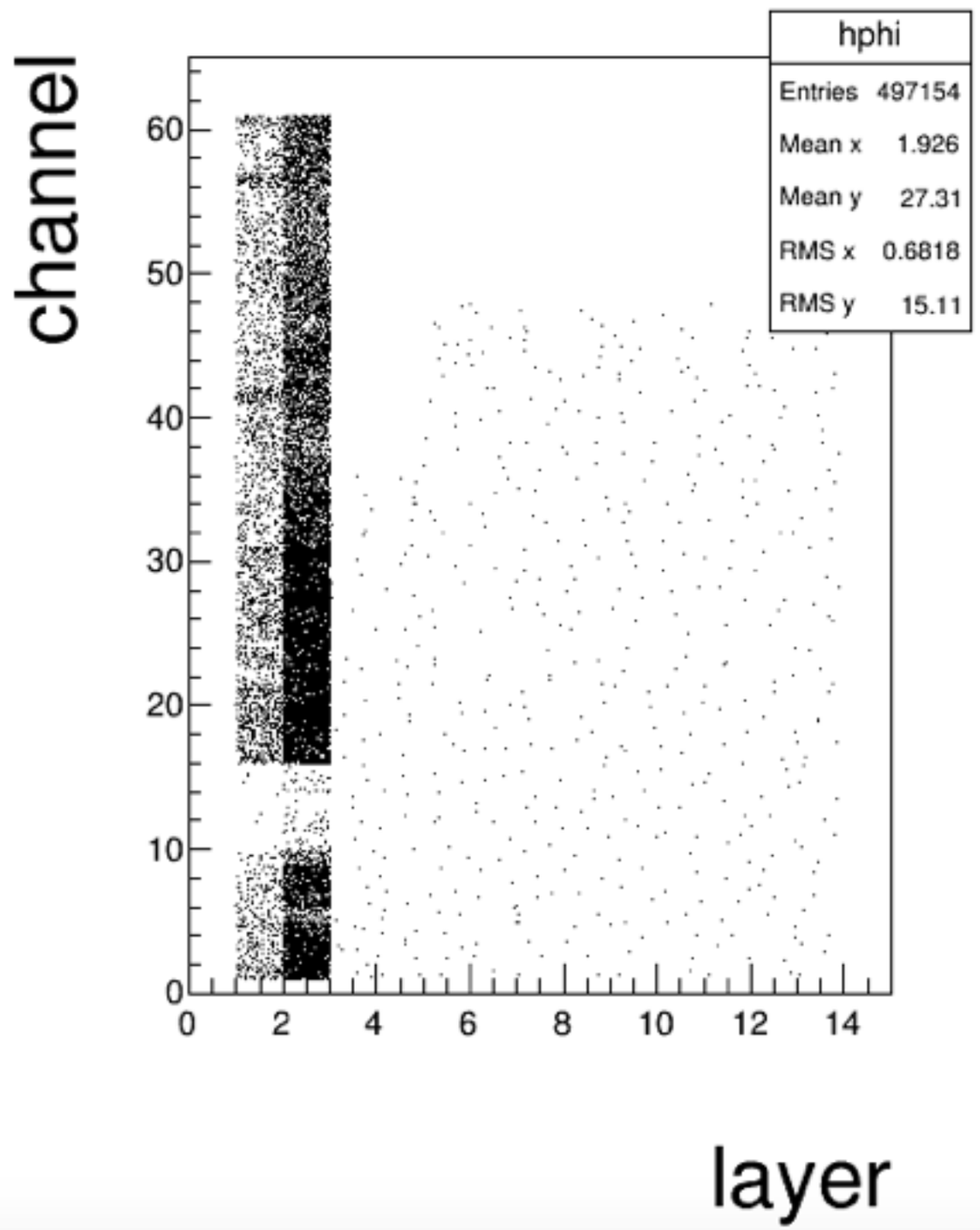
fabs(charge)>15



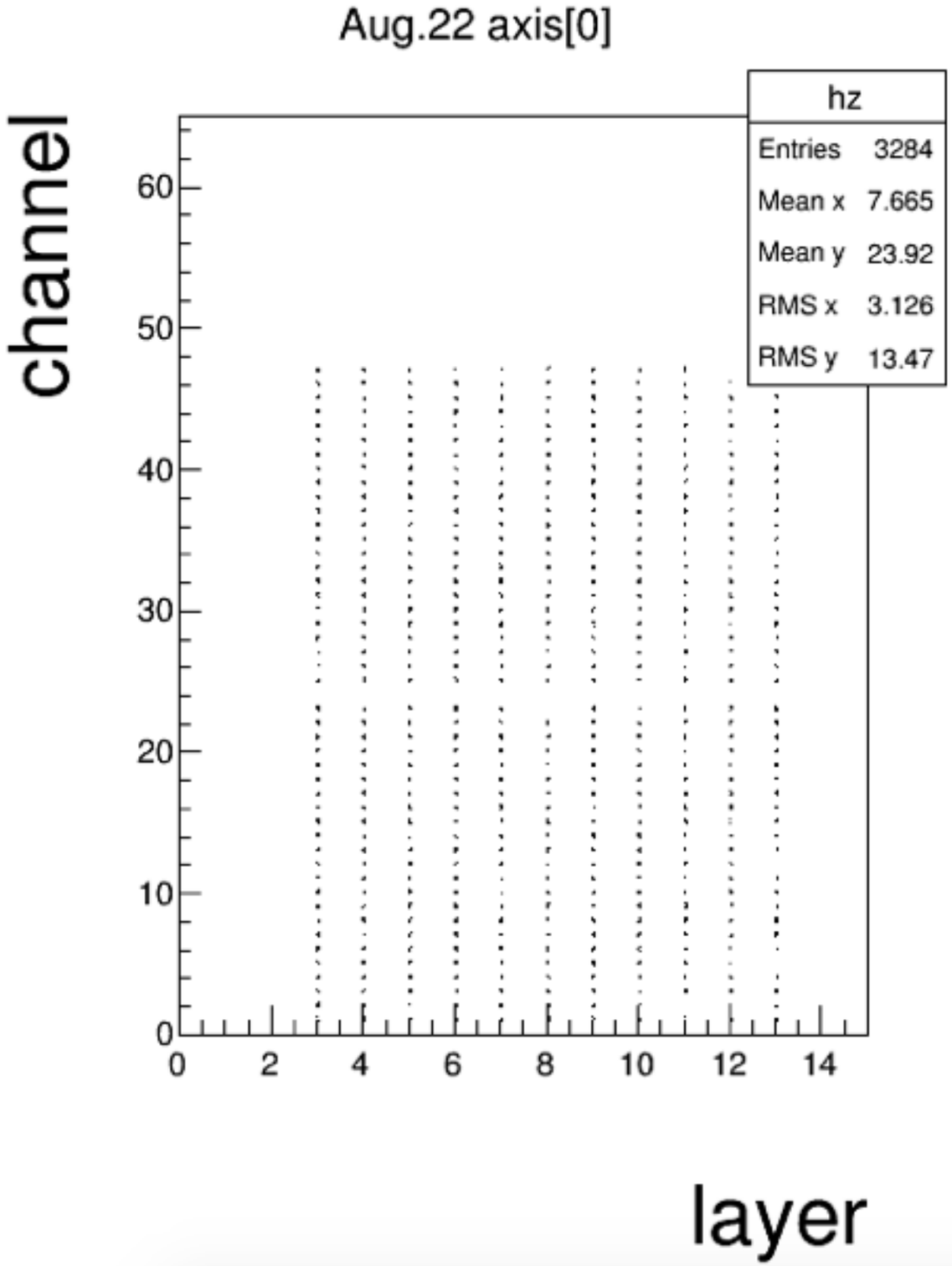


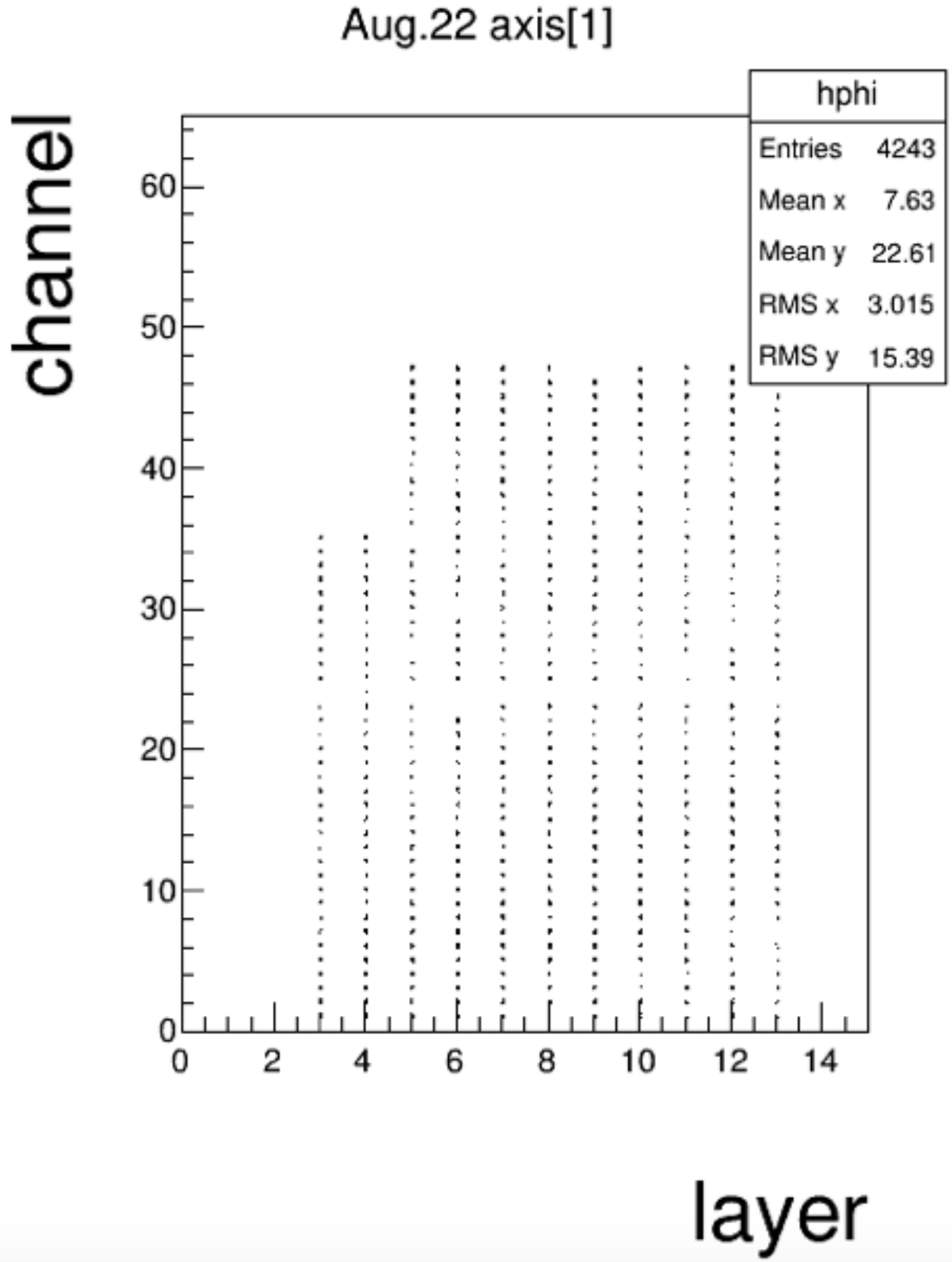
fabs(charge)>50

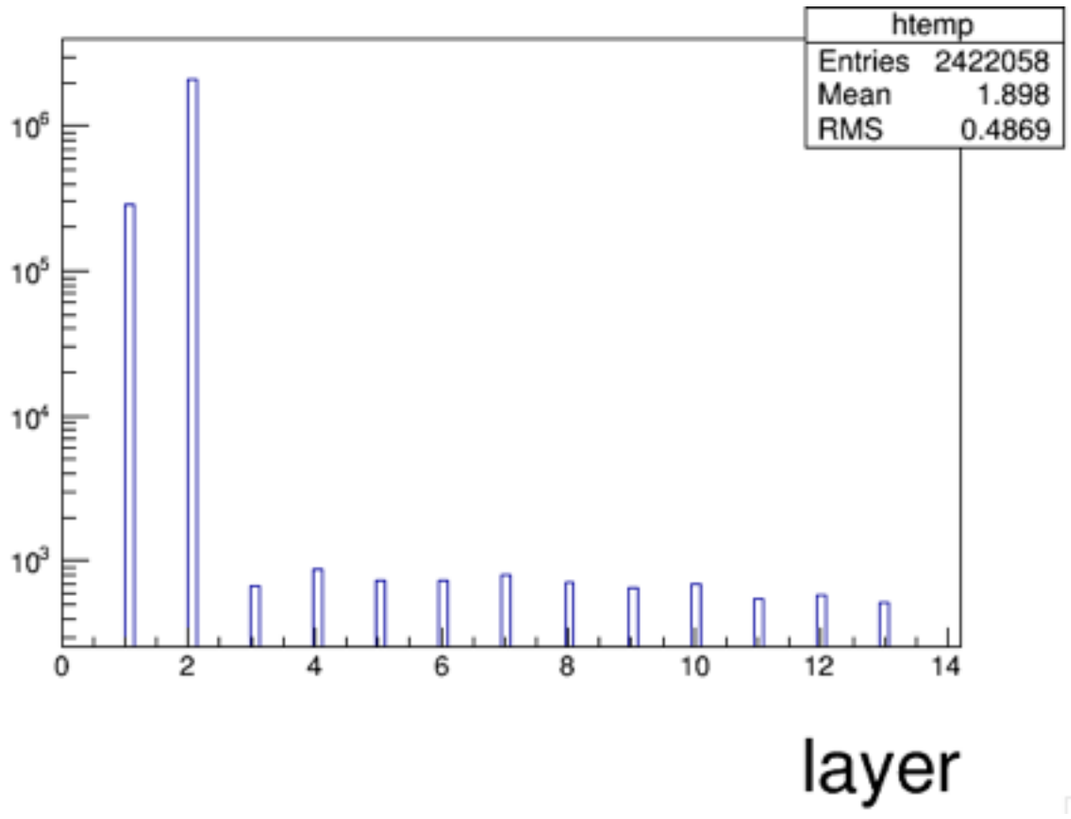


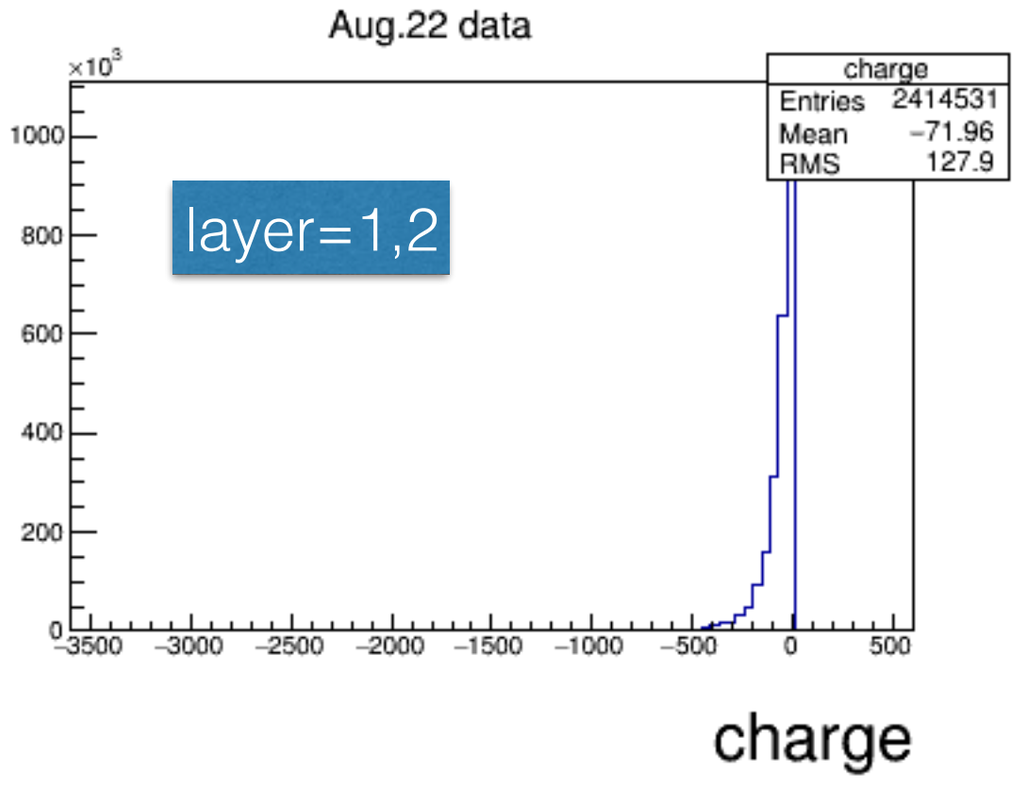


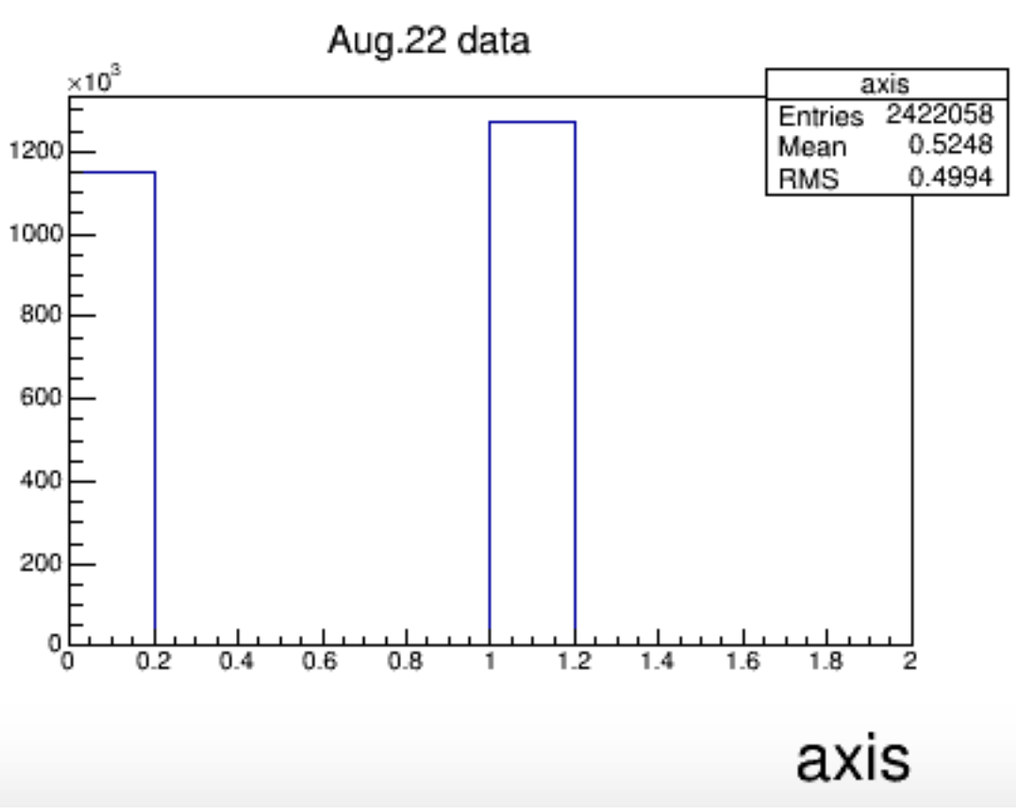
Only Look at RPCs

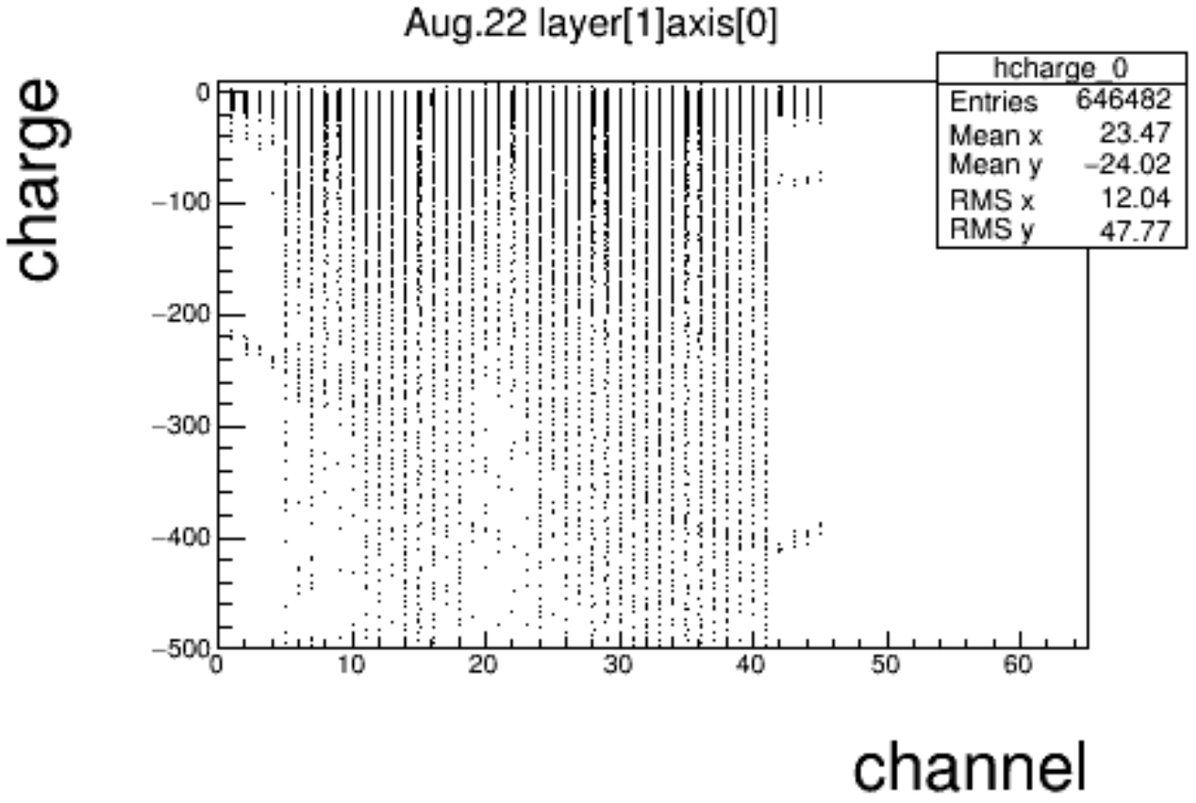


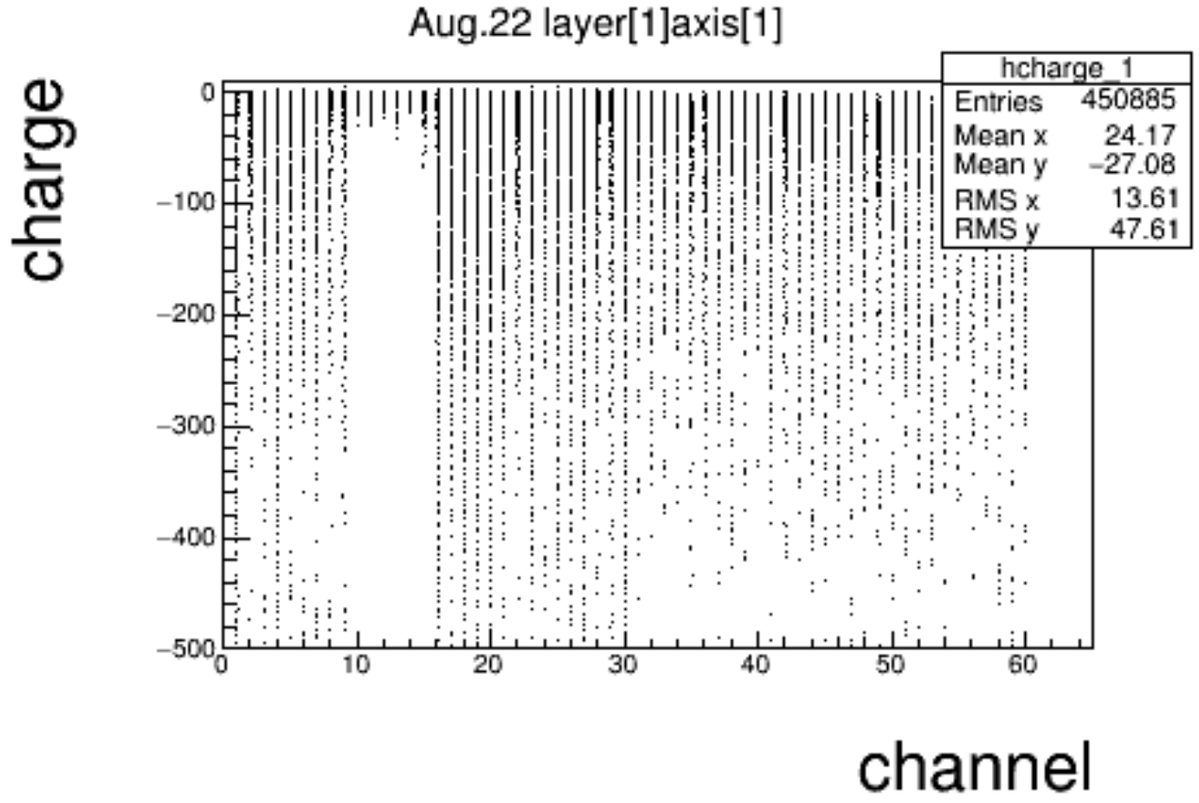


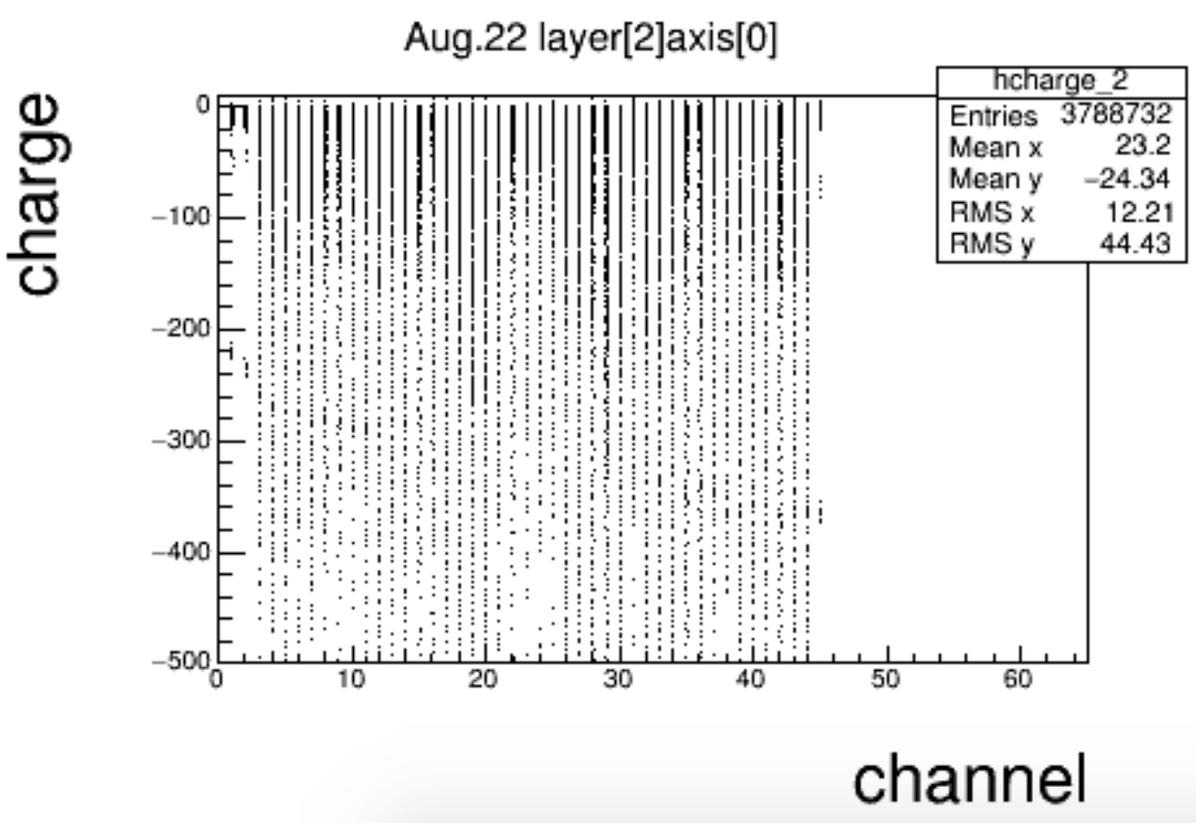

htemp
Entries 2422058
Mean 1.898
RMS 0.4869
layer

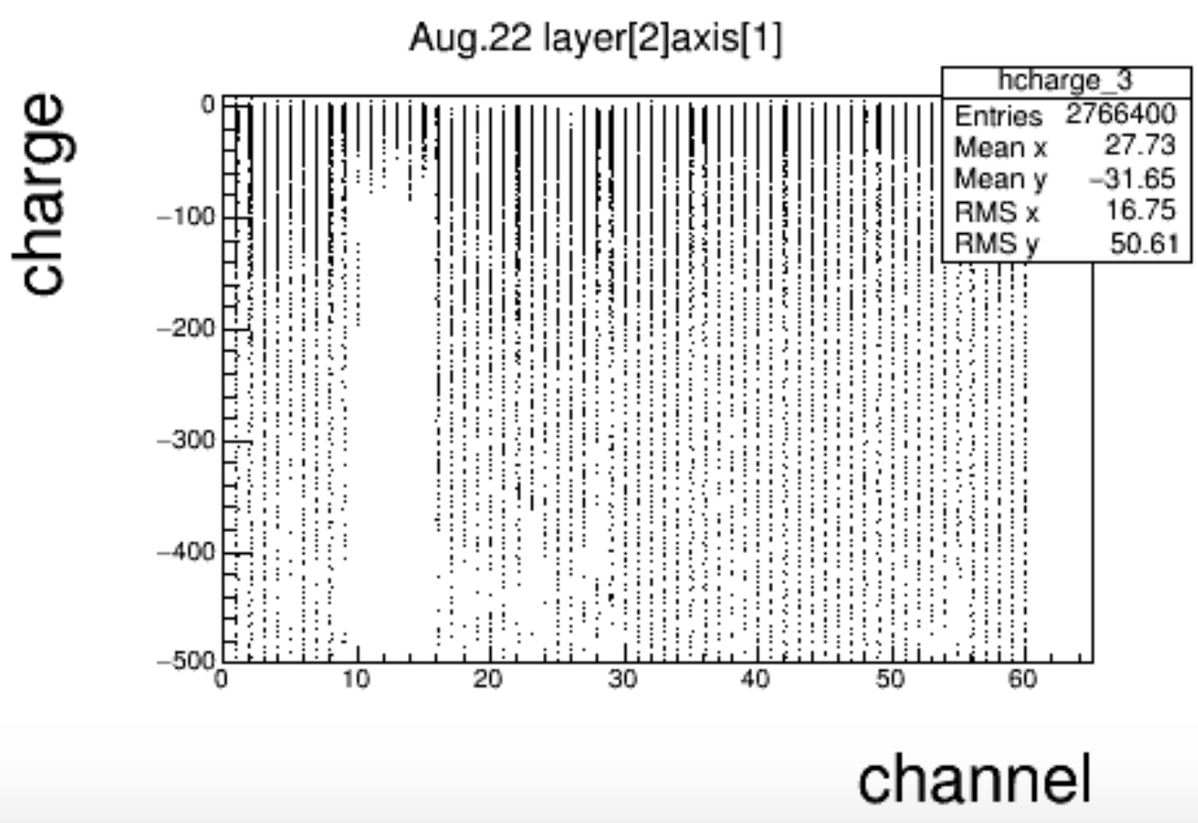

Aug.22 data
charge
Entries 2414531
Mean −71.96
RMS 127.9
layer=1,2
charge


Aug.22 data
axis
Entries 2422058
Mean 0.5248
RMS 0.4994
axis

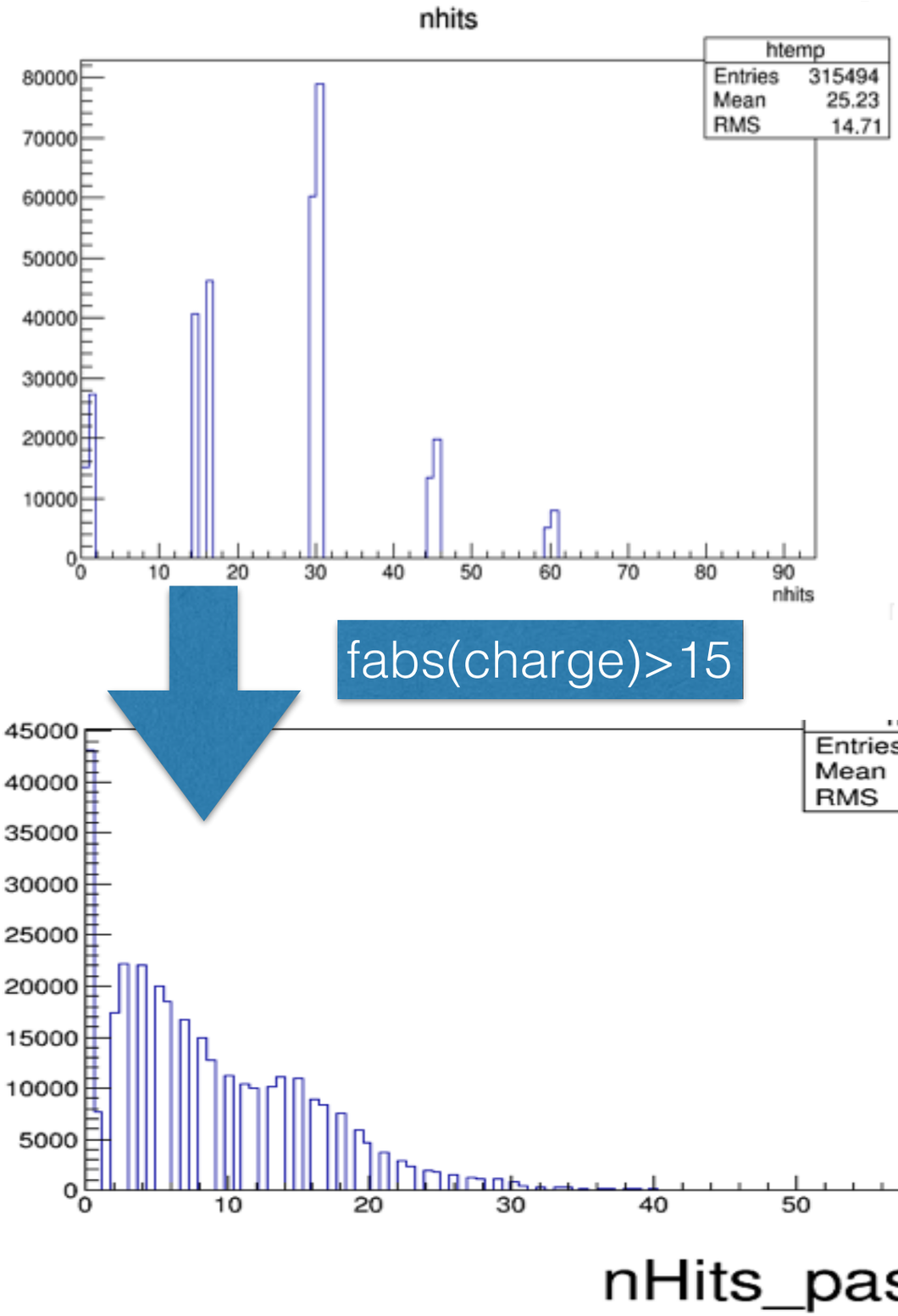

Aug.22 layer[1]axis[0]
hcharge_0
Entries 646482
Mean x 23.47
Mean y −24.02
RMS x 12.04
RMS y 47.77
charge
channel

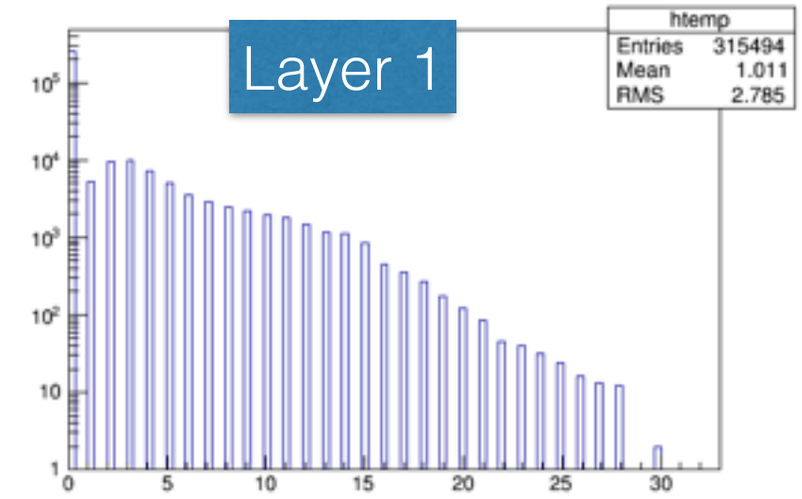

Aug.22 layer[1]axis[1]
hcharge_1
Entries 450885
Mean x 24.17
Mean y −27.08
RMS x 13.61
RMS y 47.61
charge
channel

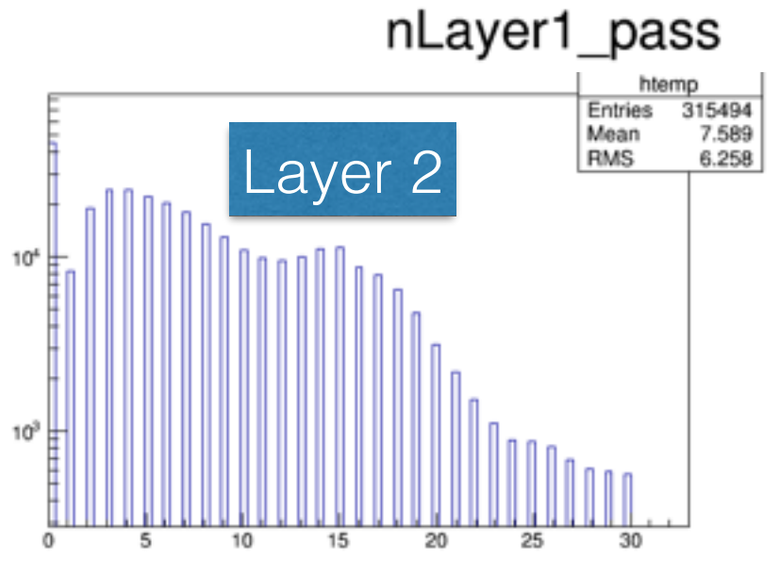

Aug.22 layer[2]axis[0]
hcharge_2
Entries 3788732
Mean x 23.2
Mean y −24.34
RMS x 12.21
RMS y 44.43
charge
channel

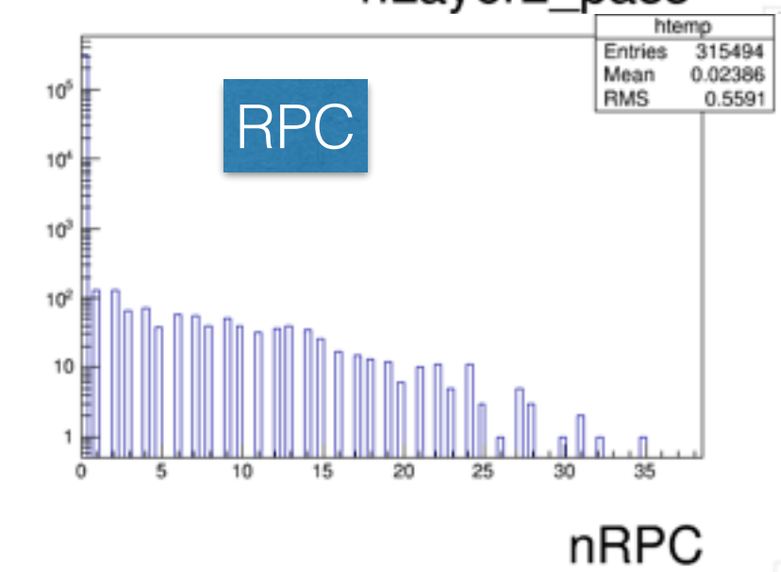

Aug.22 layer[2]axis[1]
hcharge_3
Entries 2766400
Mean x 27.73
Mean y −31.65
RMS x 16.75
RMS y 50.61
charge
channel

Hits perEvent

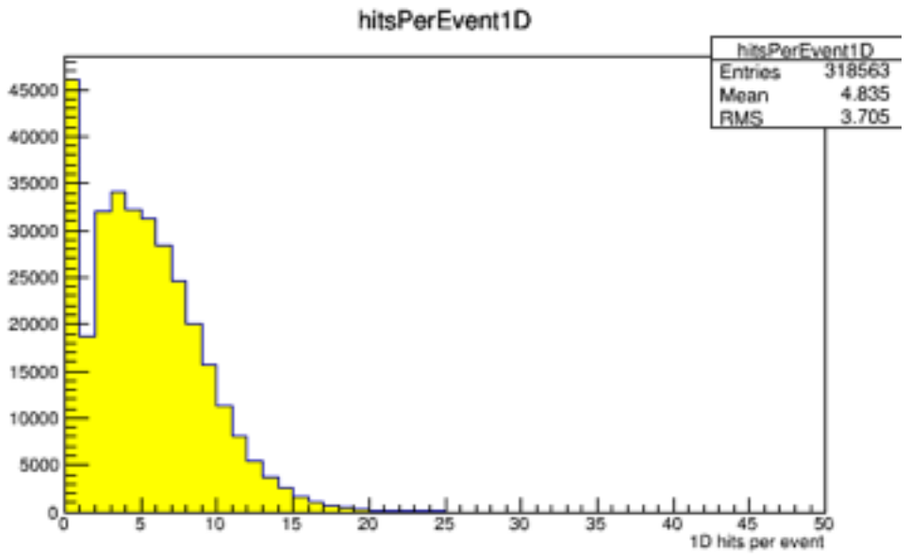


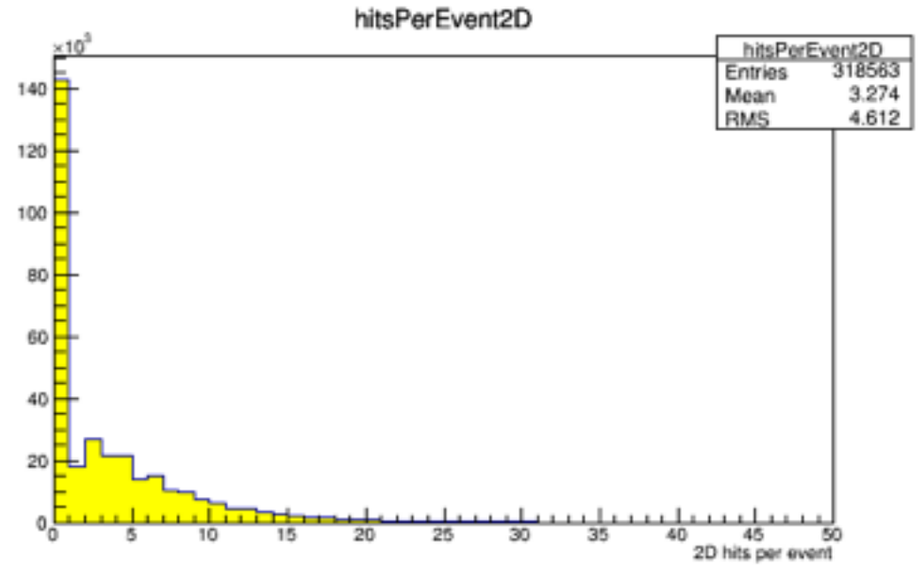




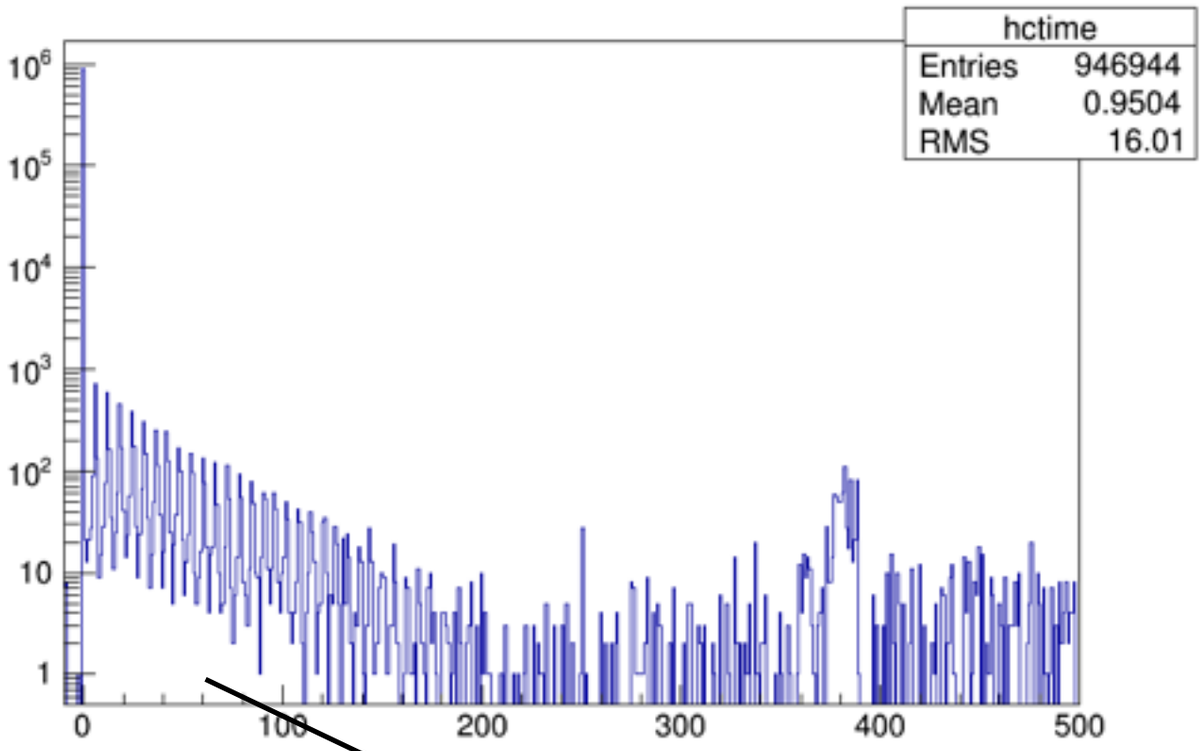


Hits perEvent





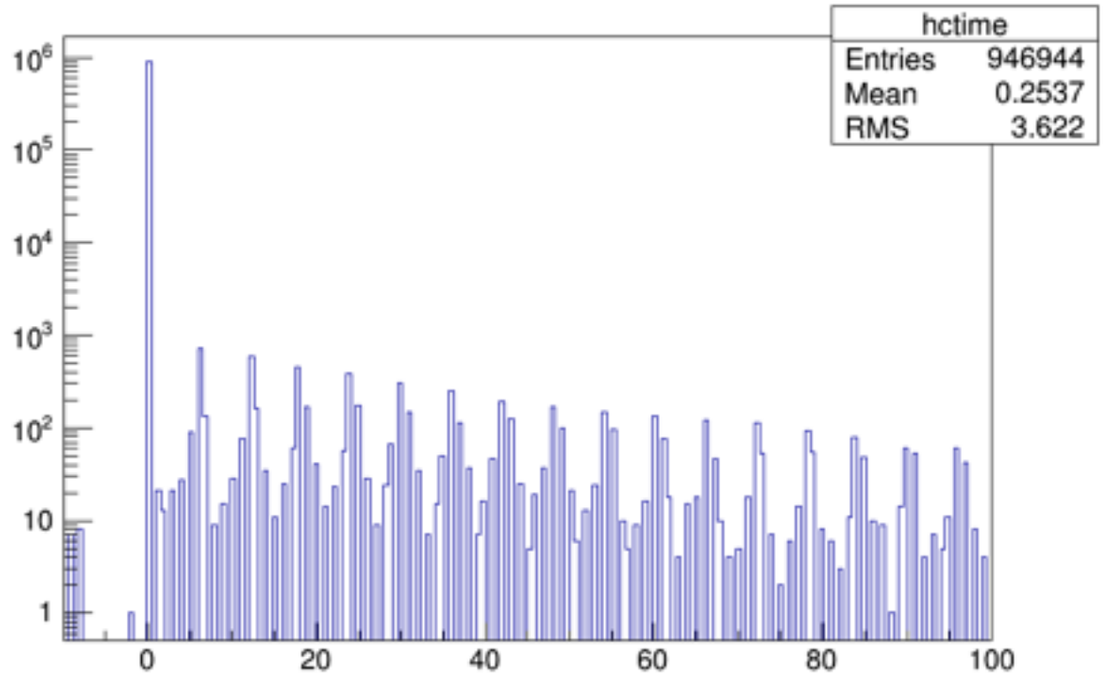
Ctime difference



ctimediff

zoom in

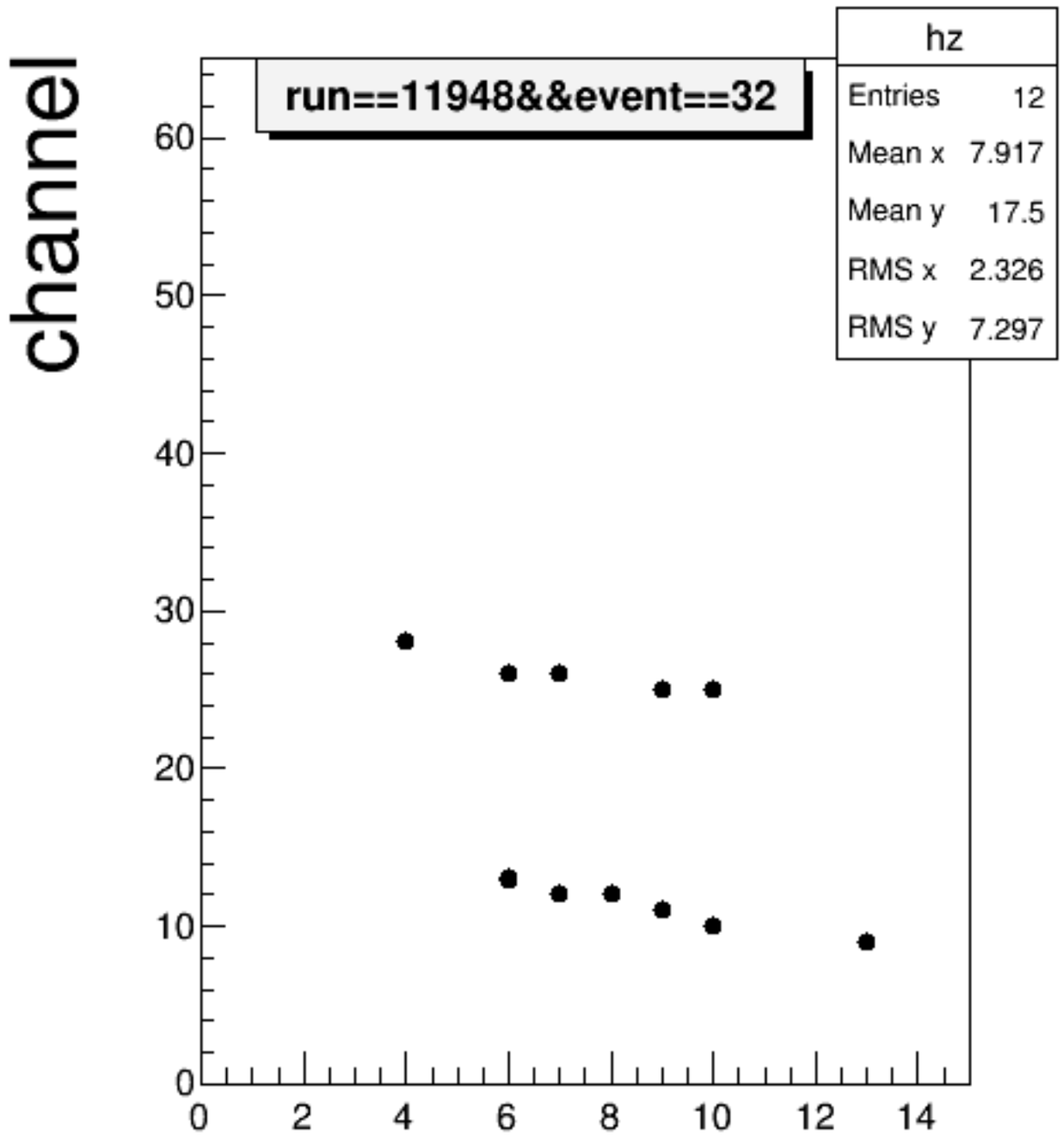
Take the first hit of the event as the reference

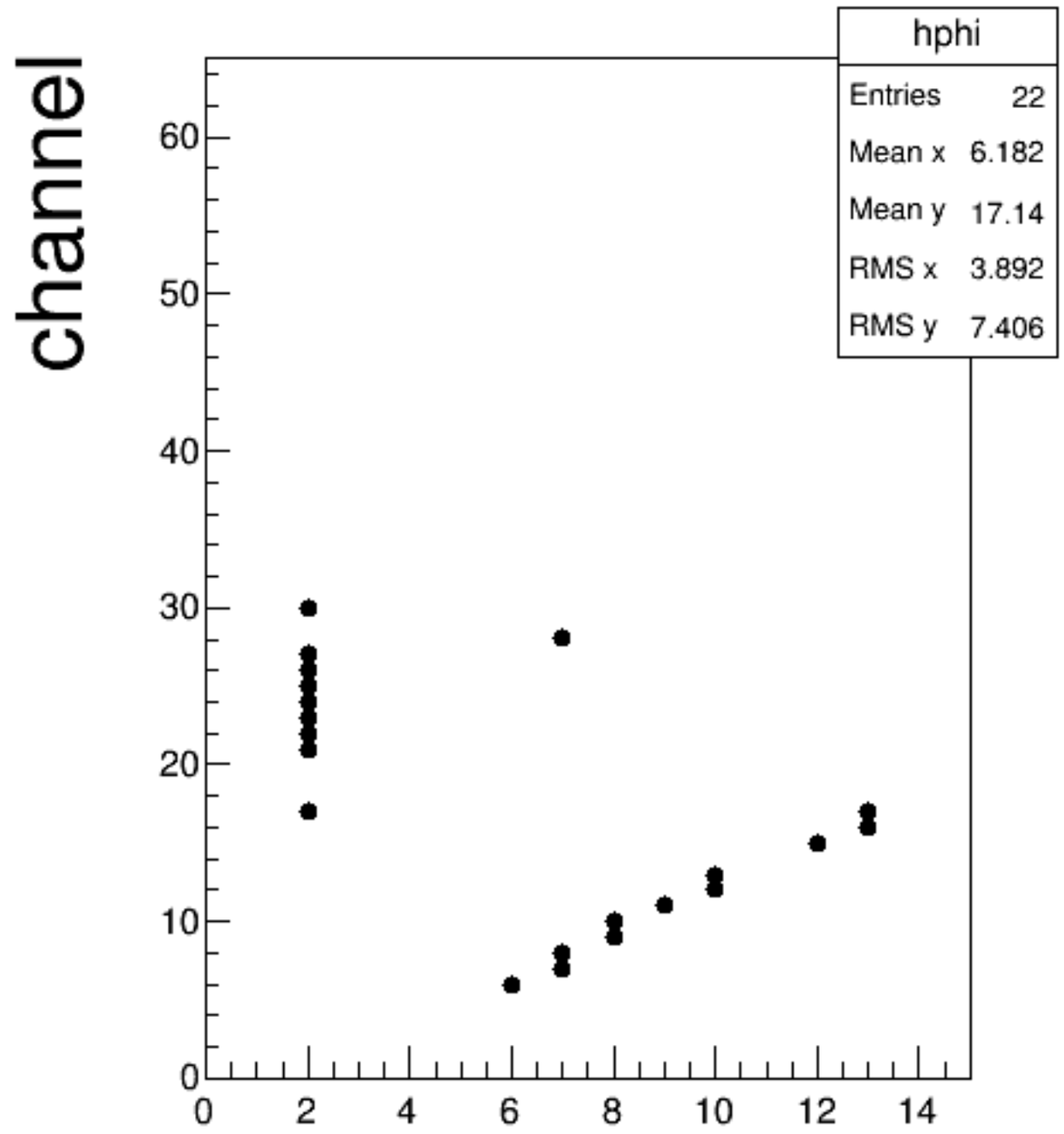


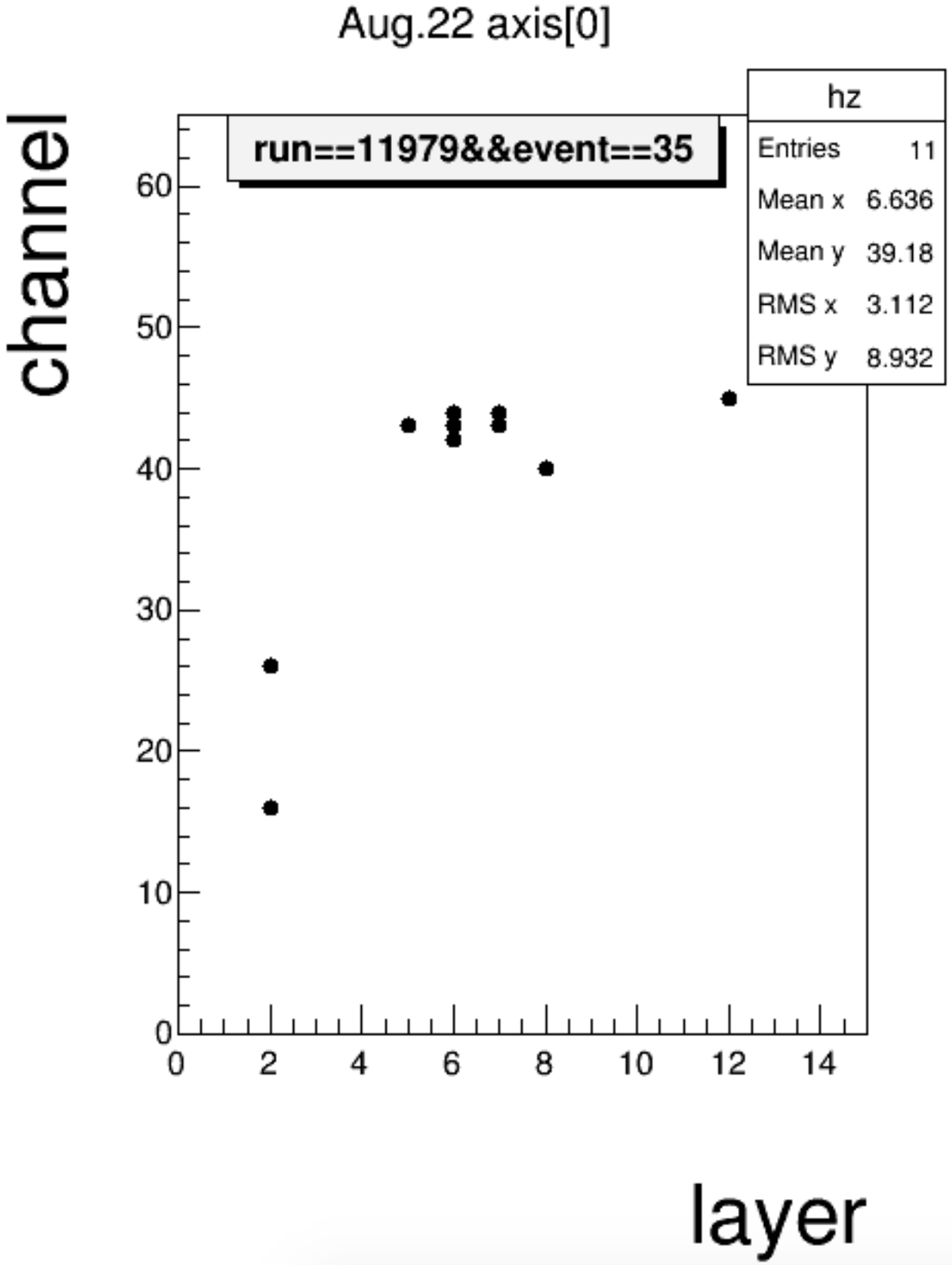
ctimediff

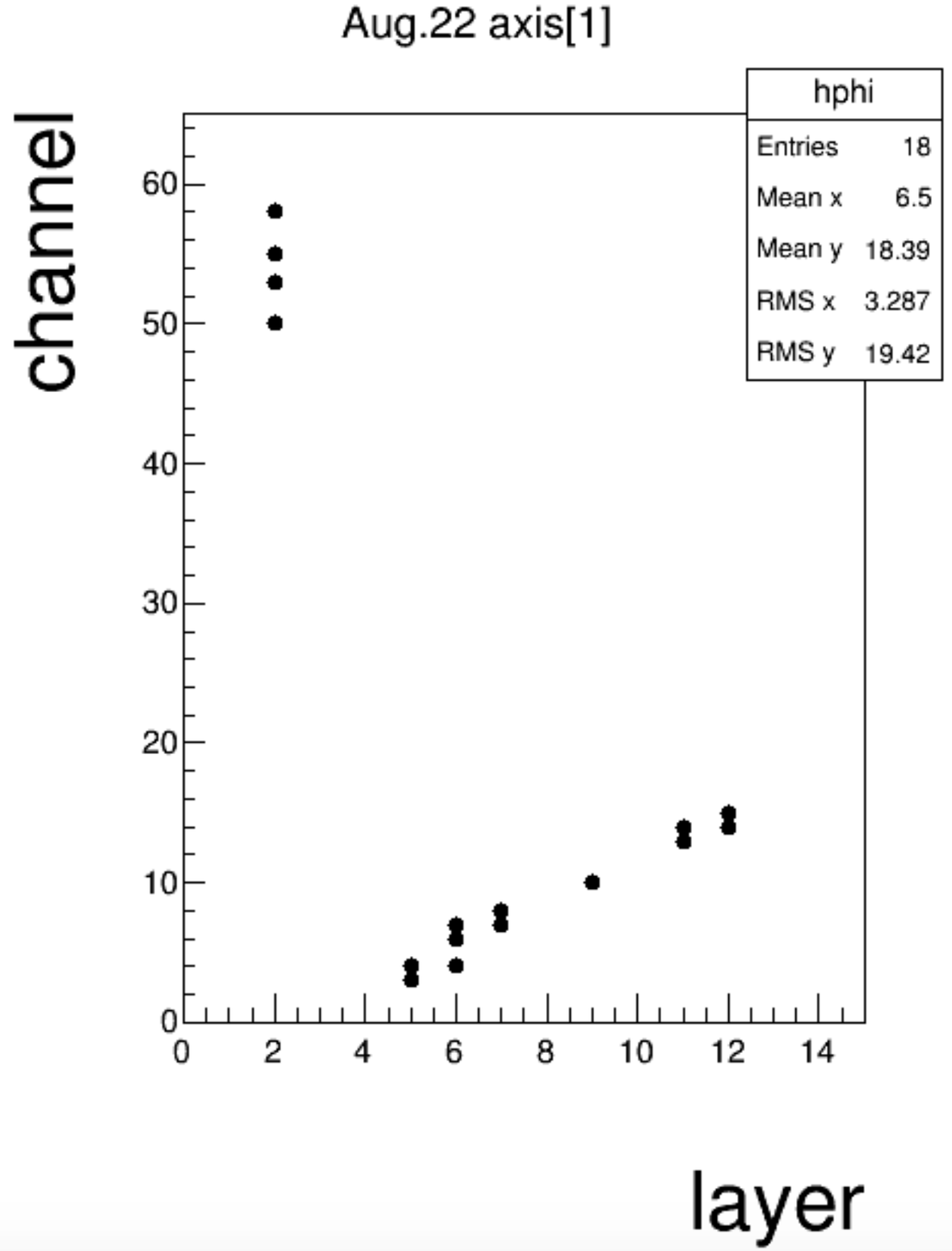
- Layer2（or should say Layer1,2）is quite noisy
- Layer:[3-4],axis[1],Channel>=36, no hit. (slide 2)
- Layer[3,5-13],axis[1],channel[24], no hit
- Layer[3-13],axis[0],channel[24],no hit
- Layer [14-15], no hit
- bizarre structure on ADC
- ctime difference
- We do find some events with tracks(the following slides). Hints of pair of tracks, problem?

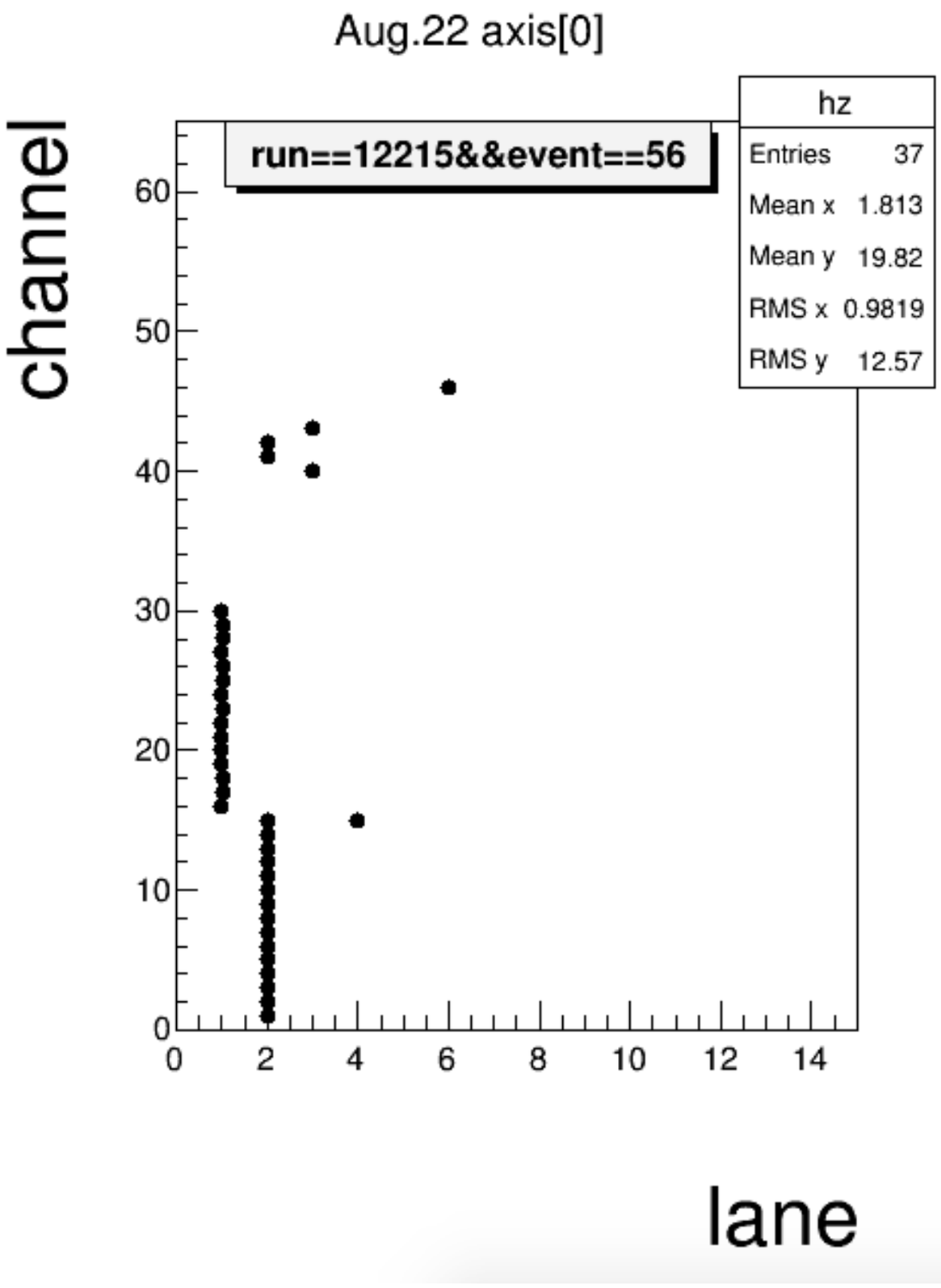
Events with hint of tracks

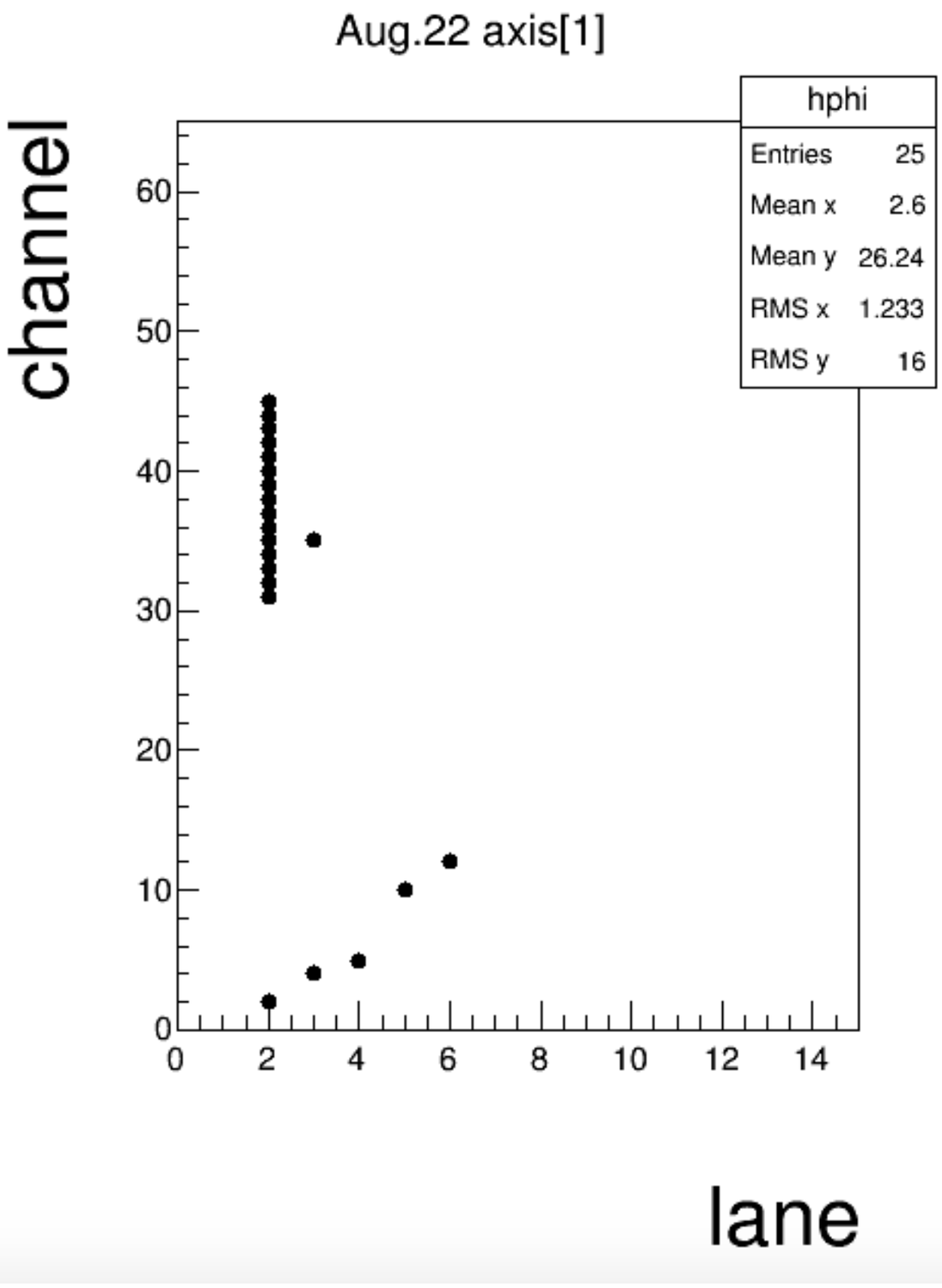

Aug.22 axis[0]
run==11948&&event==32
hz
Entries 12
Mean x 7.917
Mean y 17.5
RMS x 2.326
RMS y 7.297
channel
layer

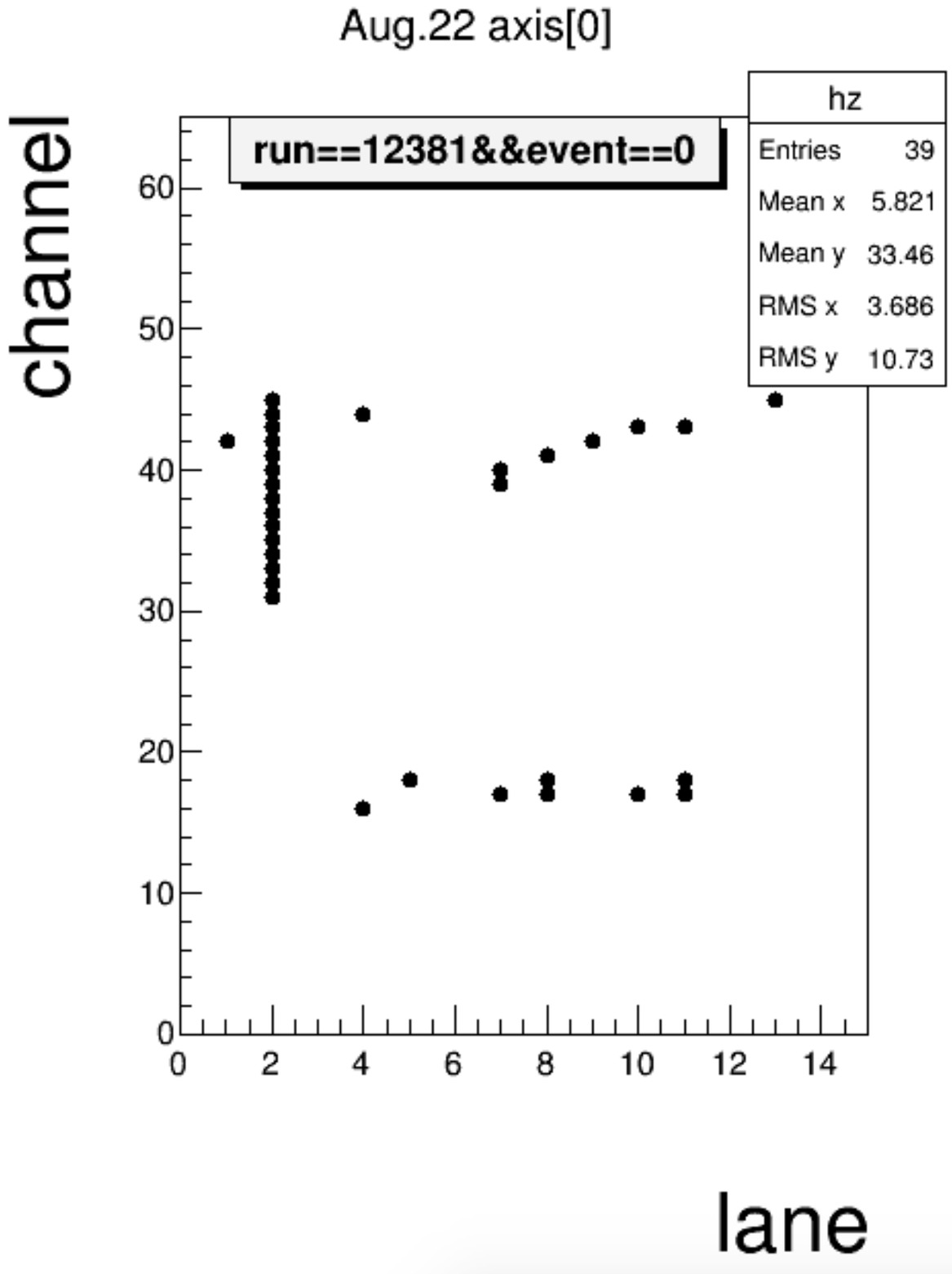

Aug.22 axis[1]
hphi
Entries 22
Mean x 6.182
Mean y 17.14
RMS x 3.892
RMS y 7.406
channel
layer

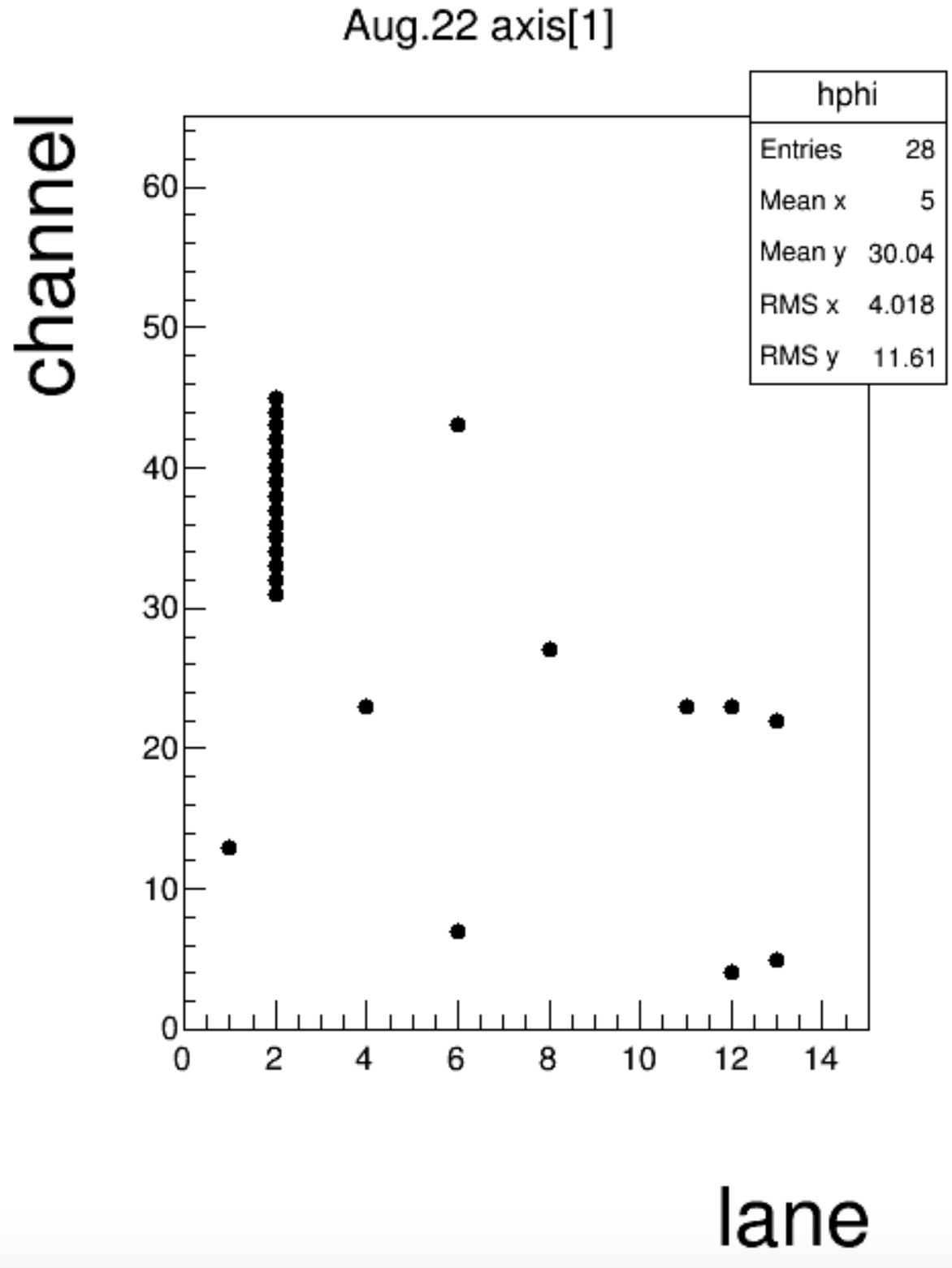

Aug.22 axis[0]
run==11979&&event==35
hz
Entries 11
Mean x 6.636
Mean y 39.18
RMS x 3.112
RMS y 8.932
channel
layer

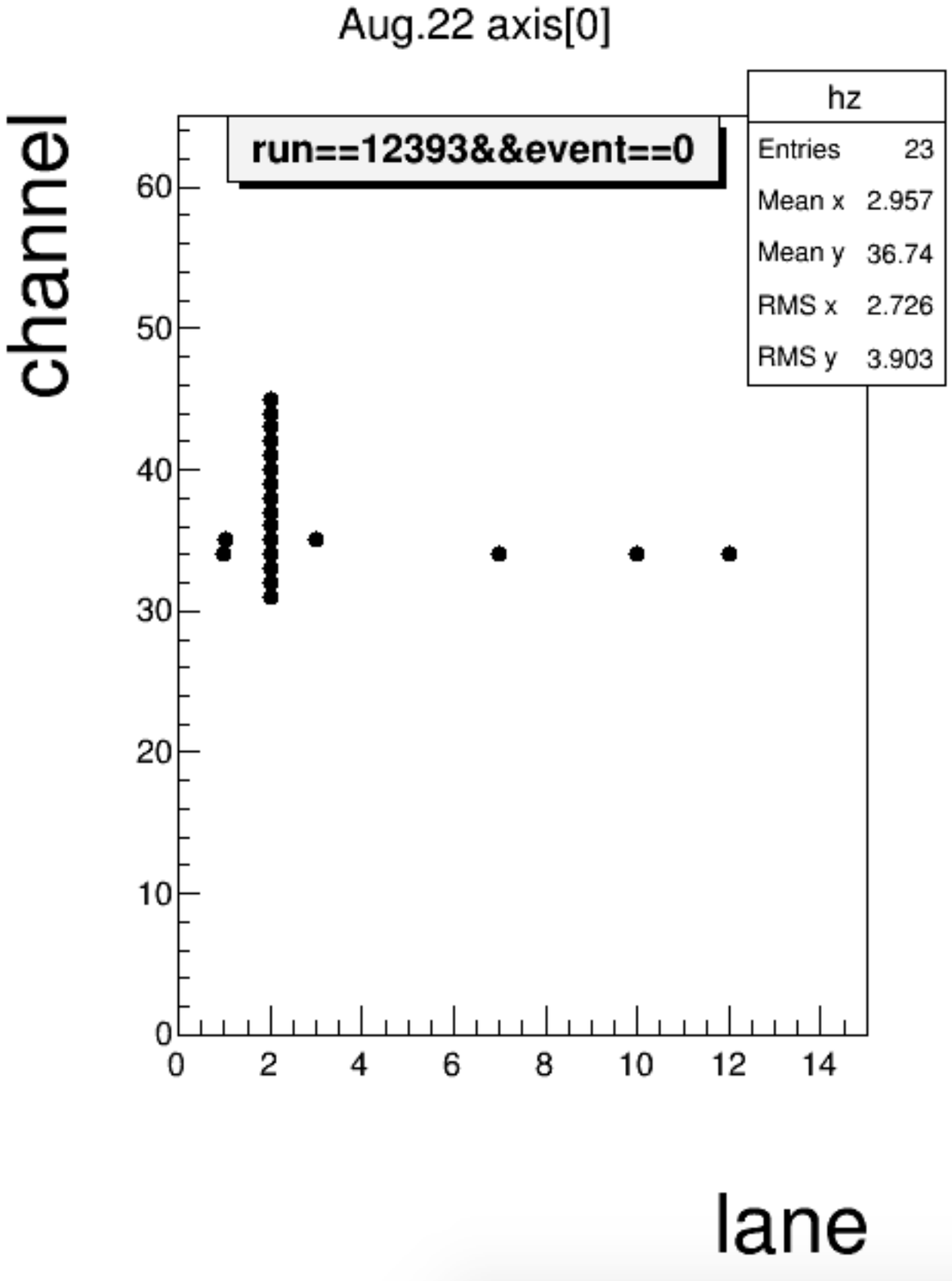

Aug.22 axis[1]
hphi
Entries 18
Mean x 6.5
Mean y 18.39
RMS x 3.287
RMS y 19.42
channel
layer

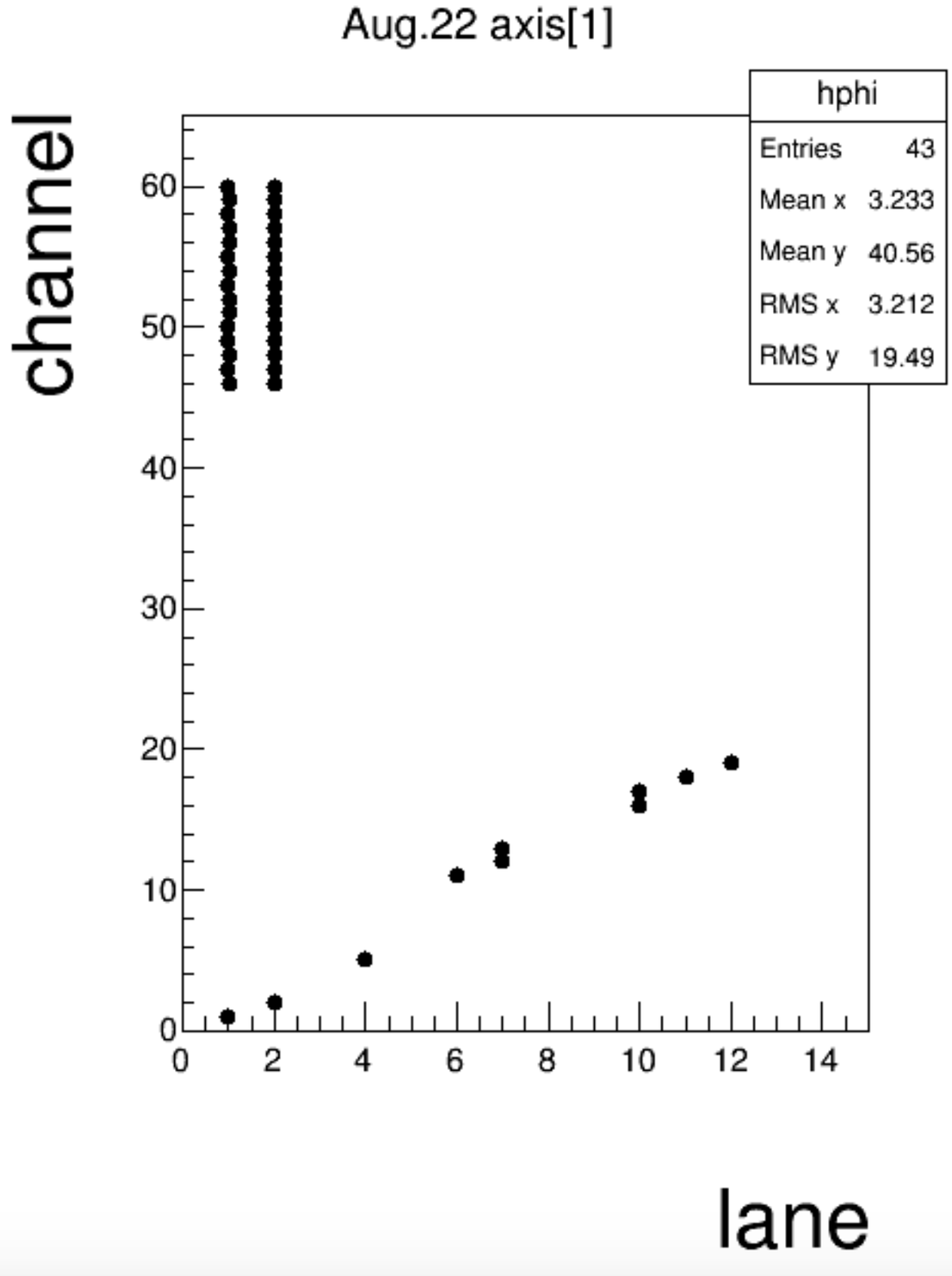

Aug.22 axis[0]
run==12215&&event==56
hz
Entries 37
Mean x 1.813
Mean y 19.82
RMS x 0.9819
RMS y 12.57
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14

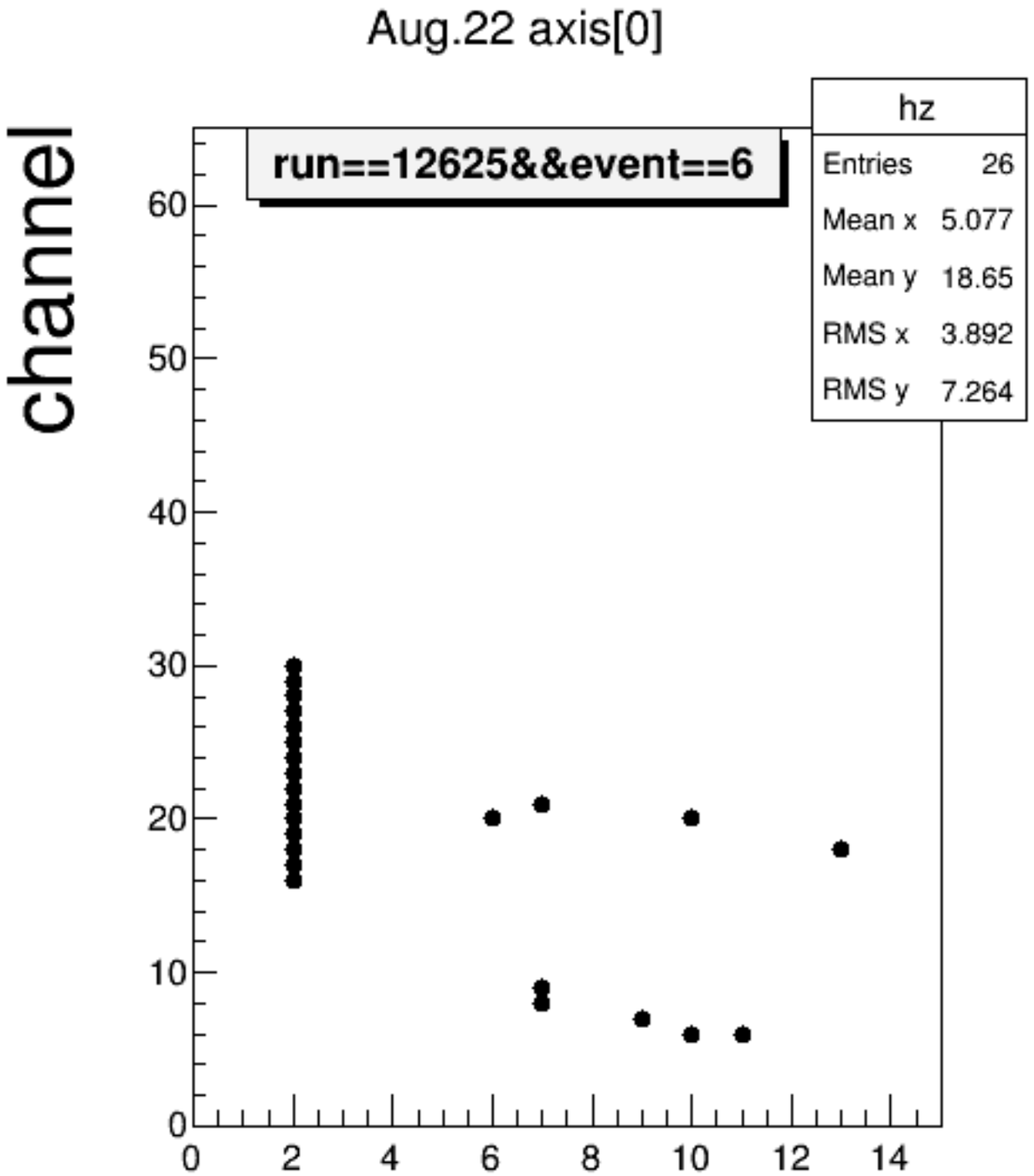

Aug.22 axis[1]
hphi
Entries 25
Mean x 2.6
Mean y 26.24
RMS x 1.233
RMS y 16
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14

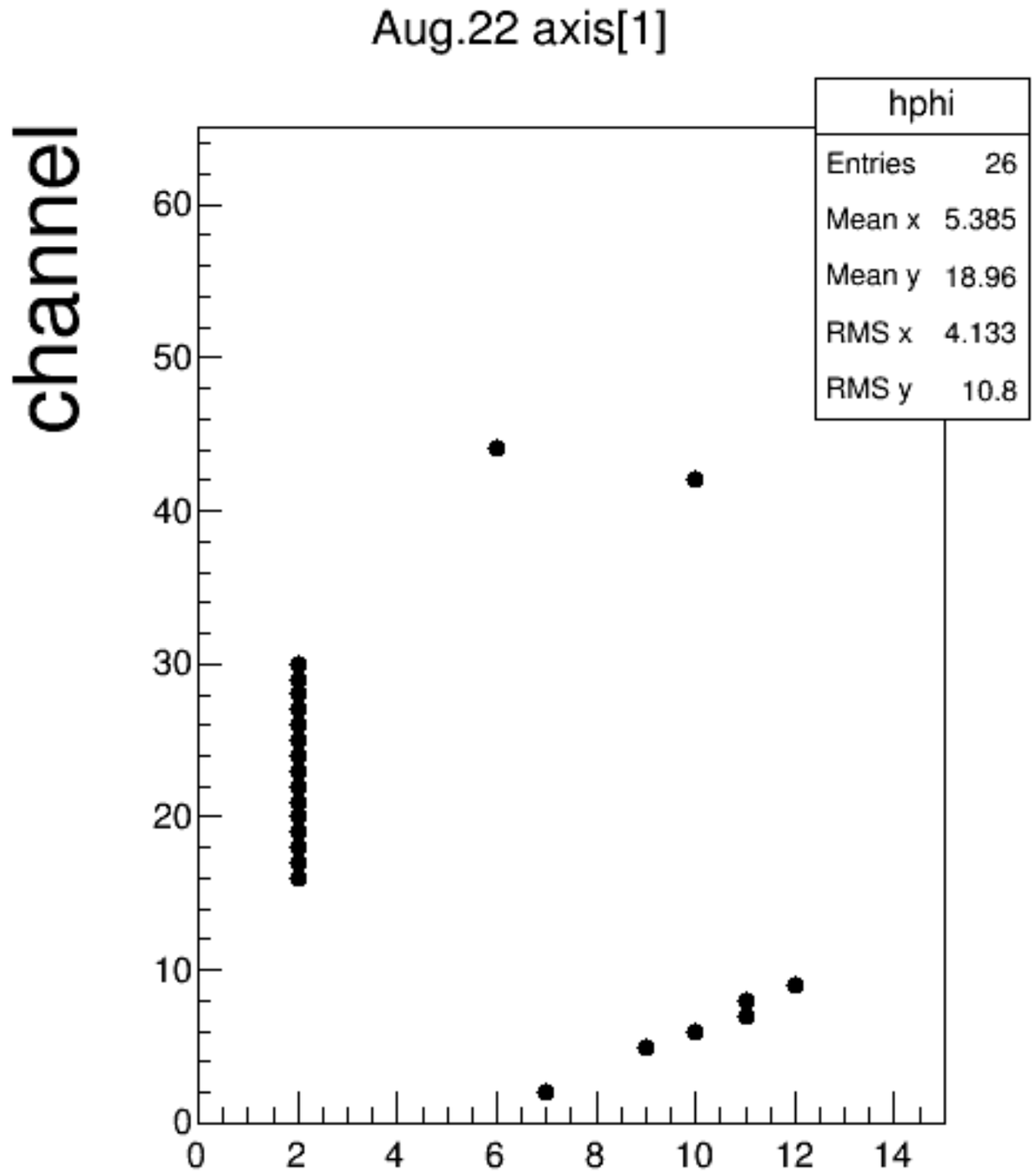

Aug.22 axis[0]
run==12381&&event==0
hz
Entries 39
Mean x 5.821
Mean y 33.46
RMS x 3.686
RMS y 10.73
channel
lane

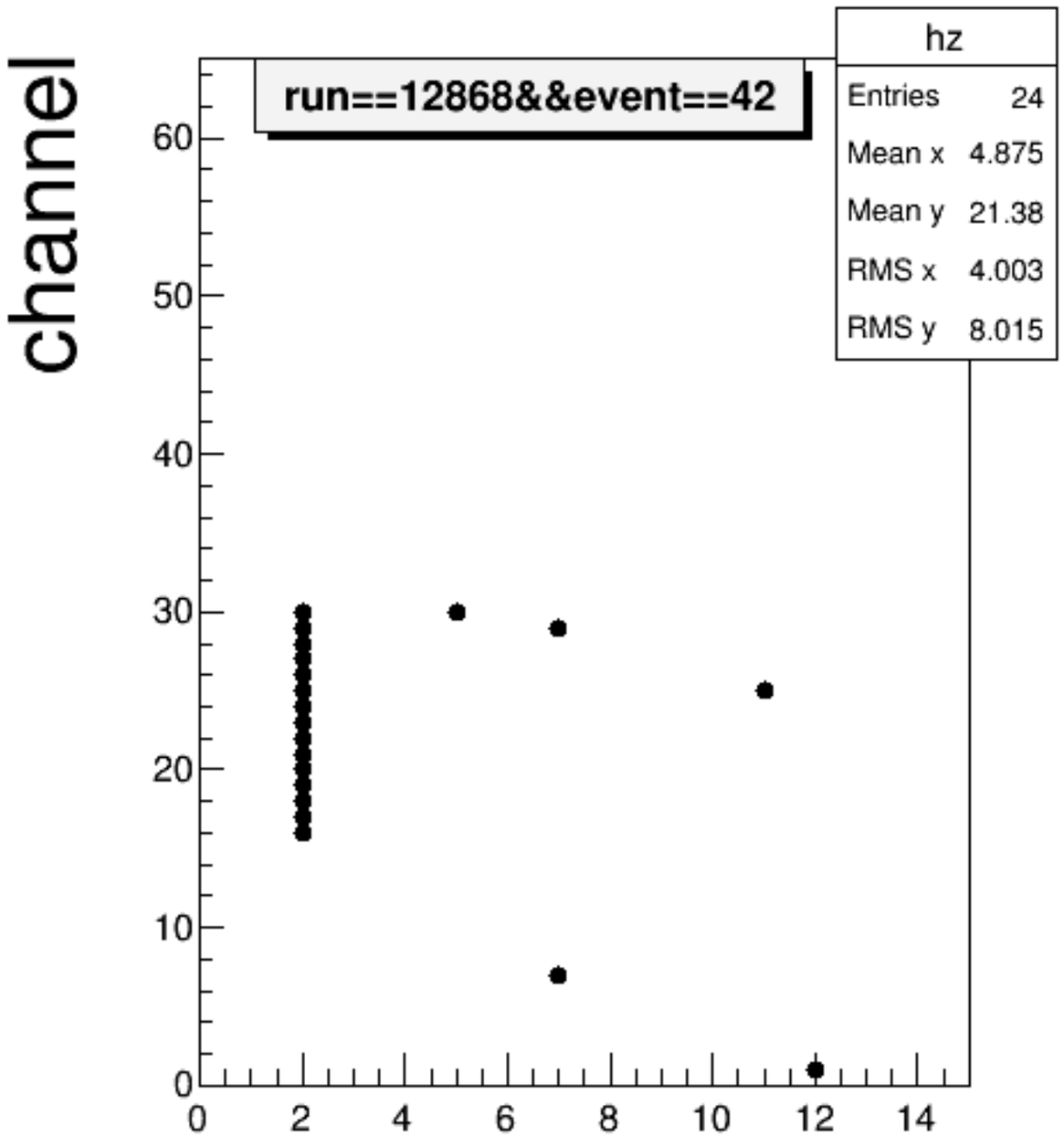

Aug.22 axis[1]
hphi
Entries 28
Mean x 5
Mean y 30.04
RMS x 4.018
RMS y 11.61
channel
lane

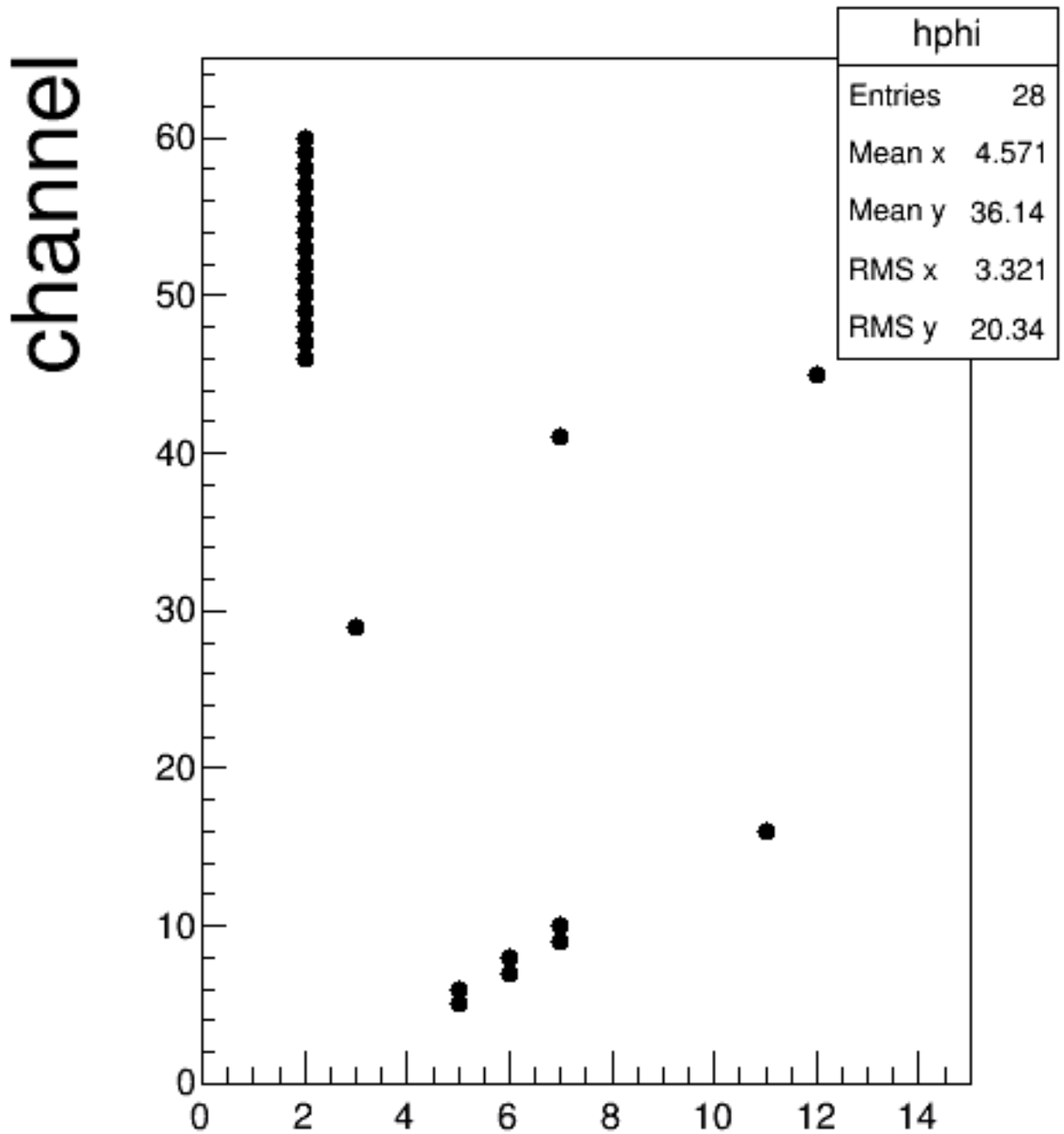

Aug.22 axis[0]
run==12393&&event==0
hz
Entries 23
Mean x 2.957
Mean y 36.74
RMS x 2.726
RMS y 3.903
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14

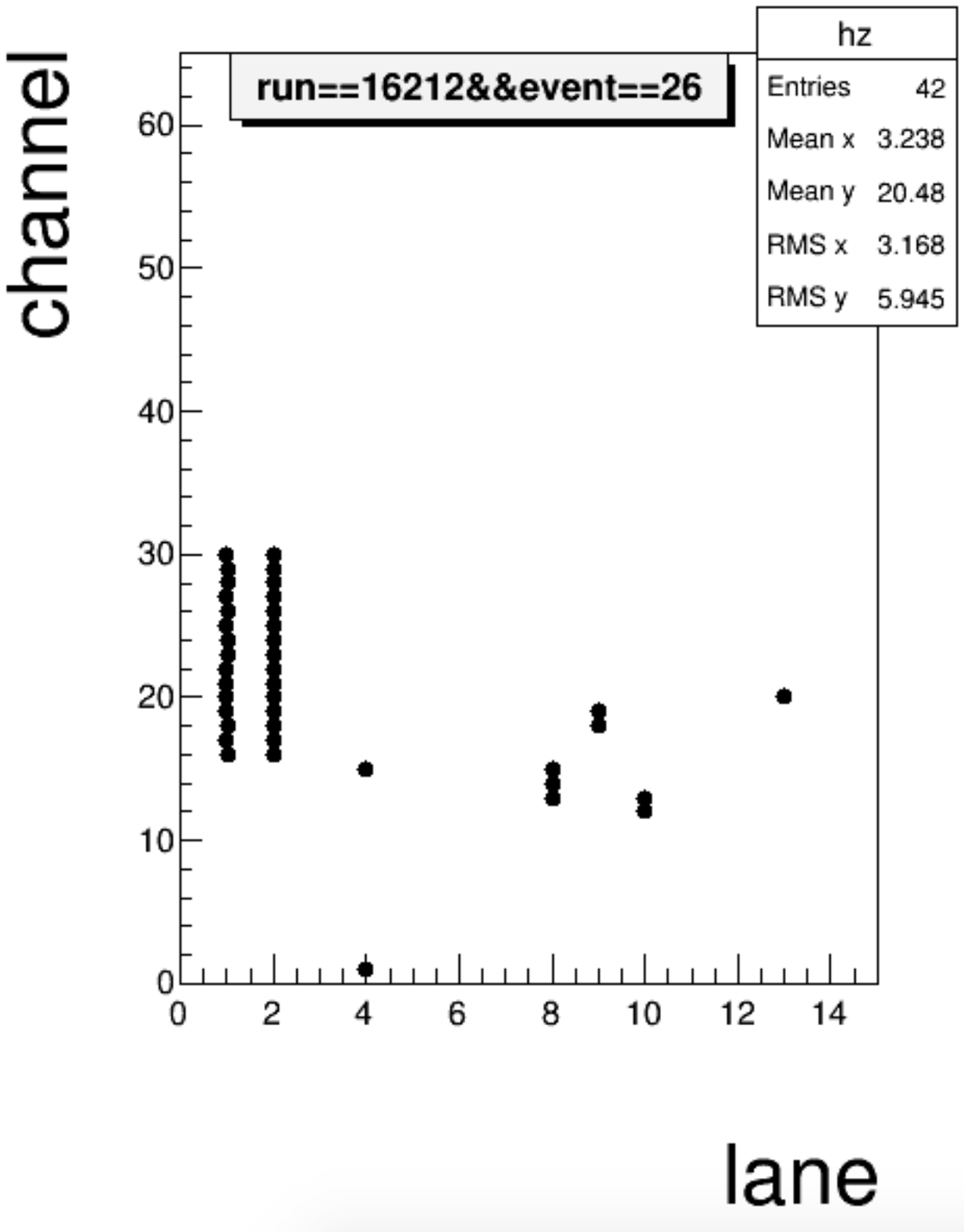

Aug.22 axis[1]
hphi
Entries 43
Mean x 3.233
Mean y 40.56
RMS x 3.212
RMS y 19.49
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14

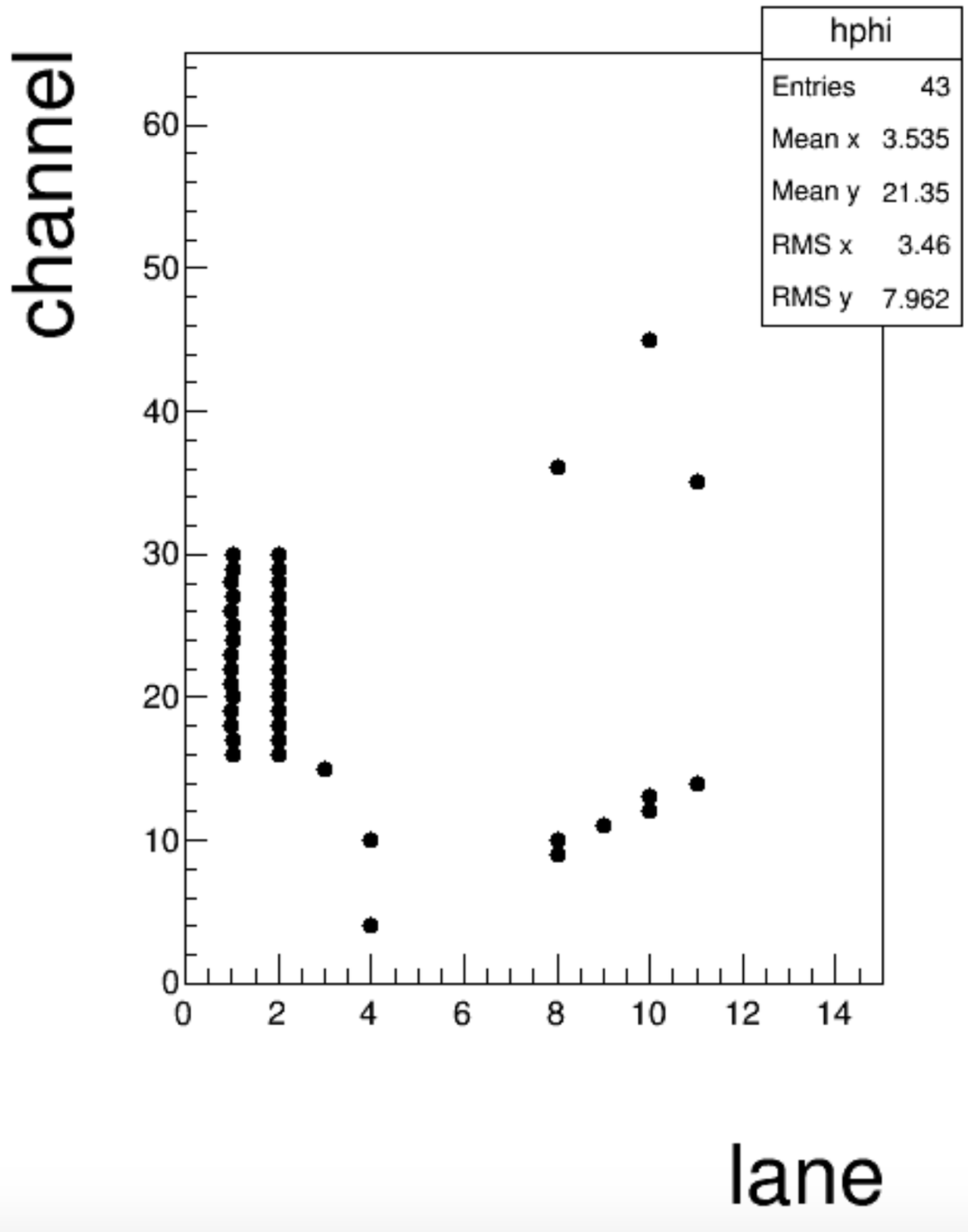

Aug.22 axis[0]
run==12625&&event==6
hz
Entries 26
Mean x 5.077
Mean y 18.65
RMS x 3.892
RMS y 7.264
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14


Aug.22 axis[1]
hphi
Entries 26
Mean x 5.385
Mean y 18.96
RMS x 4.133
RMS y 10.8
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14

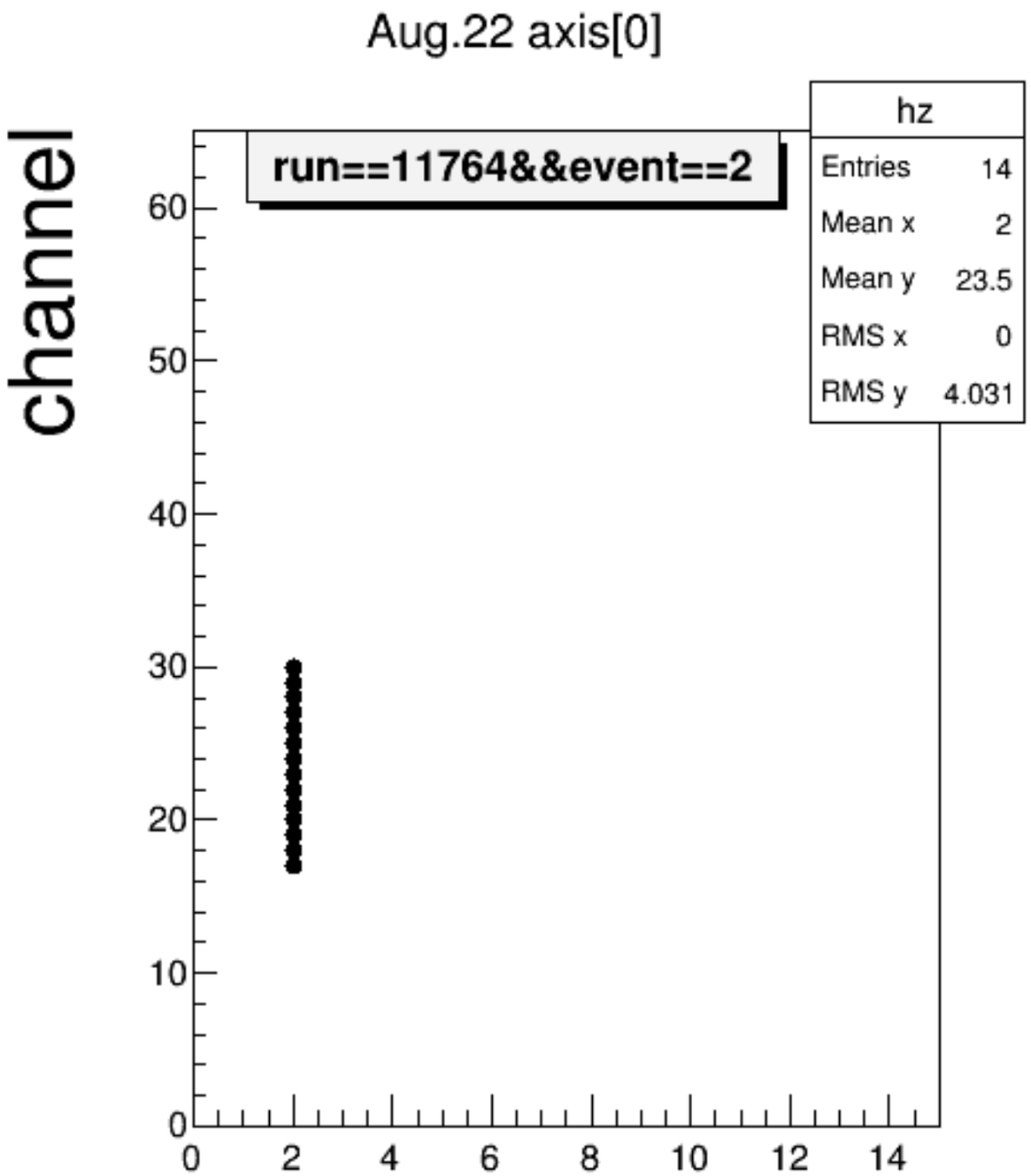

Aug.22 axis[0]
run==12868&&event==42
hz
Entries 24
Mean x 4.875
Mean y 21.38
RMS x 4.003
RMS y 8.015
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14

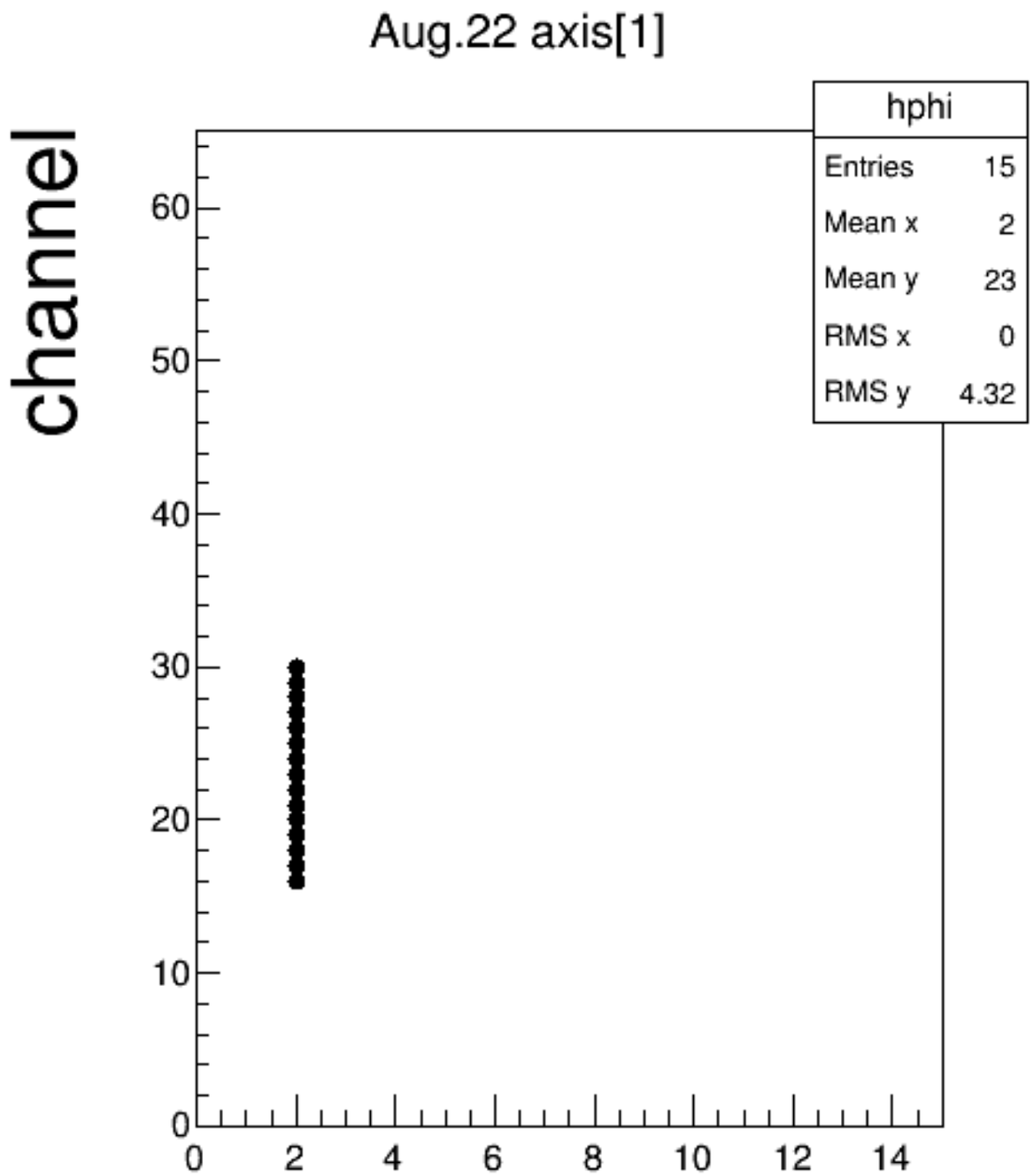

Aug.22 axis[1]
hphi
Entries 28
Mean x 4.571
Mean y 36.14
RMS x 3.321
RMS y 20.34
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14

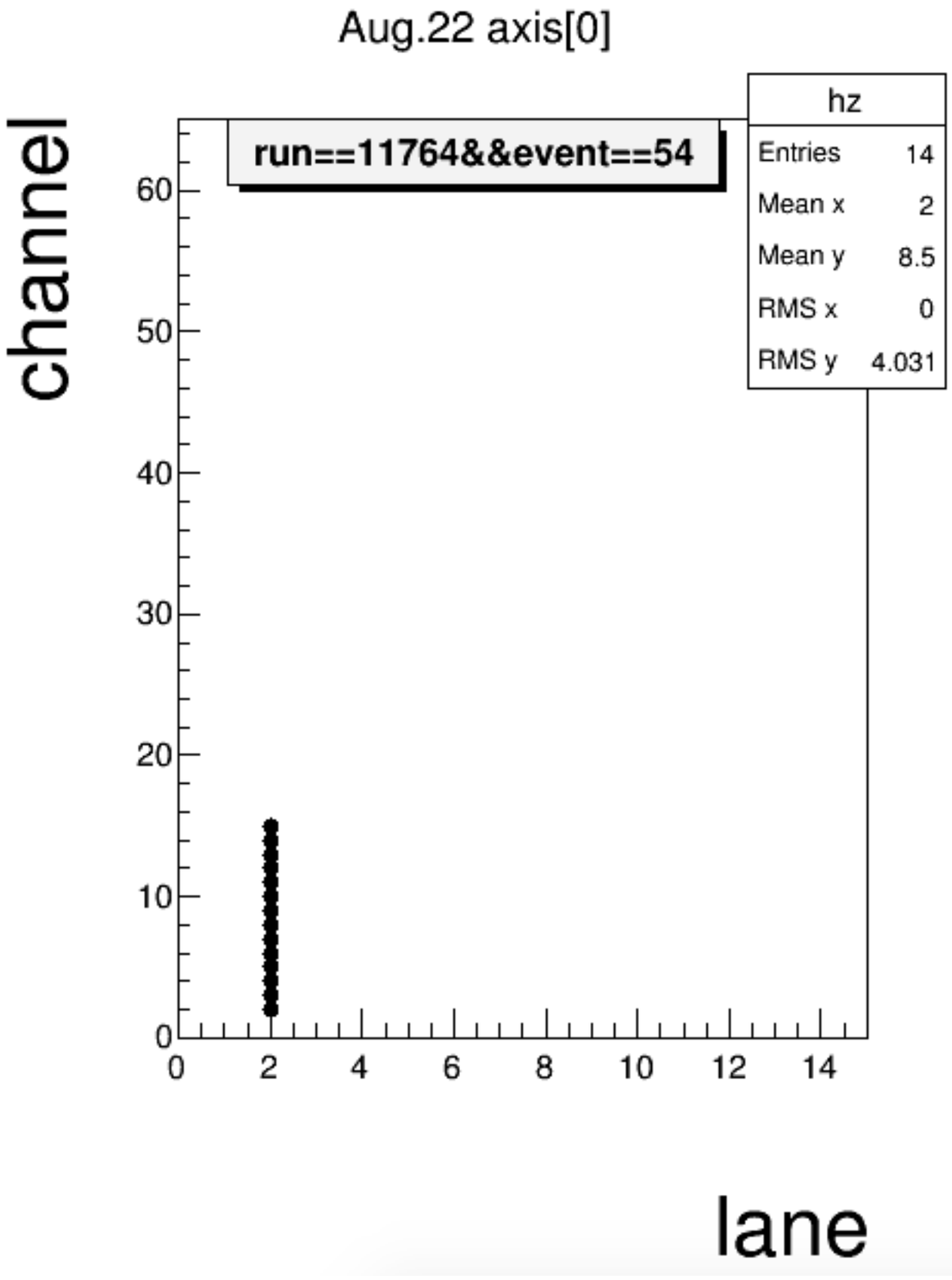

Aug.22 axis[0]
run==16212&&event==26
hz
Entries 42
Mean x 3.238
Mean y 20.48
RMS x 3.168
RMS y 5.945
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14

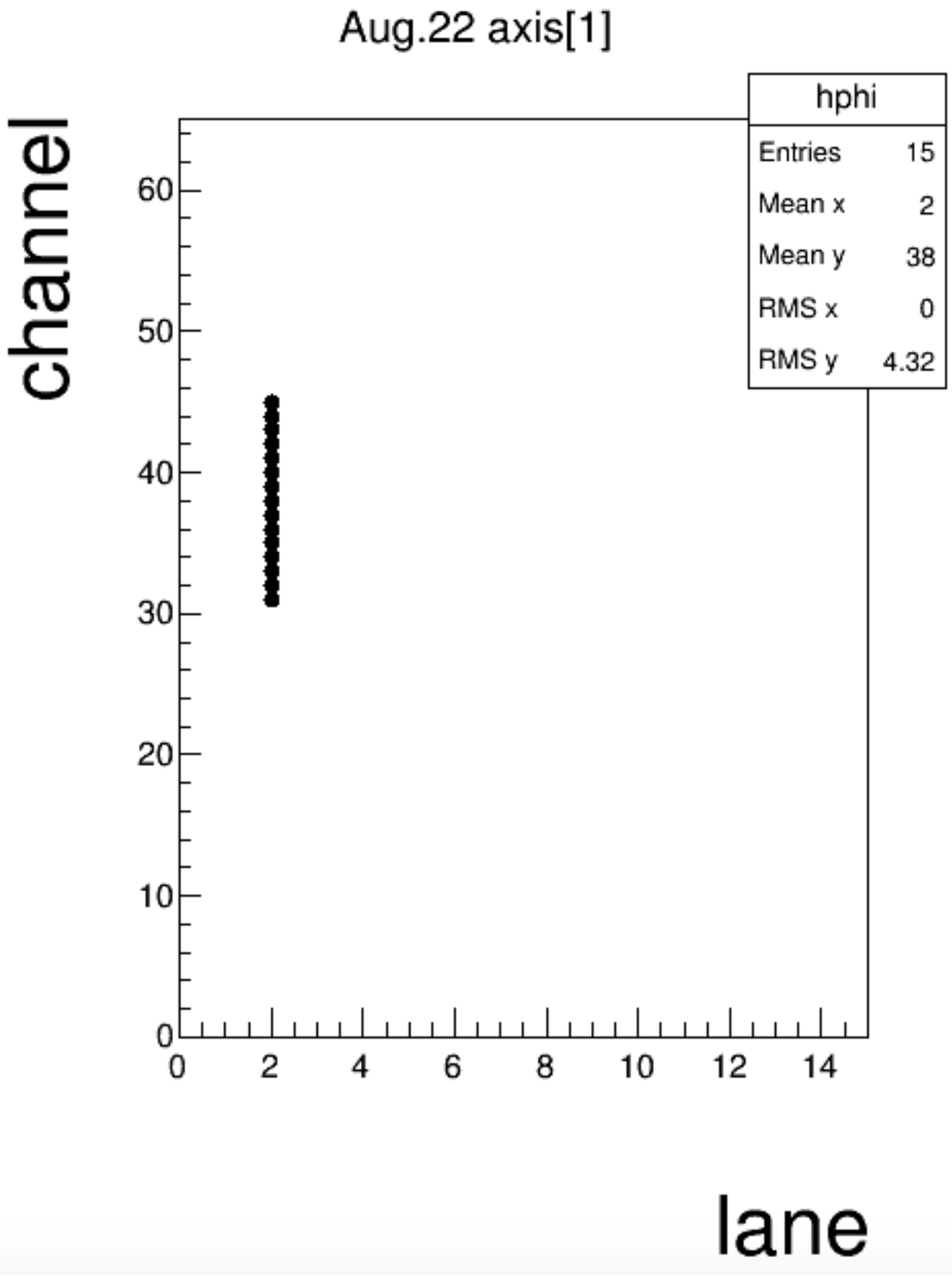

Aug.22 axis[1]
hphi
Entries 43
Mean x 3.535
Mean y 21.35
RMS x 3.46
RMS y 7.962
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14

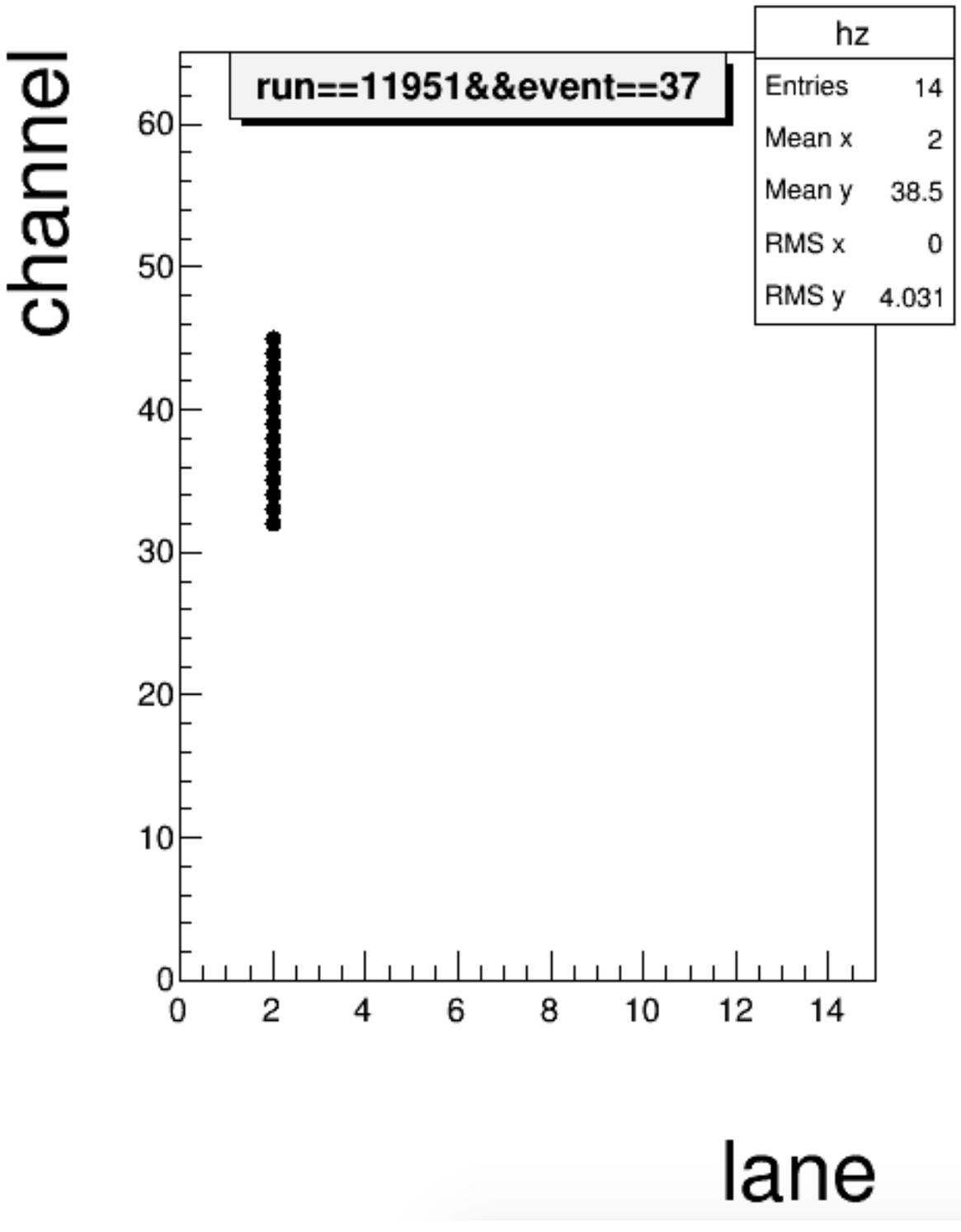
Events with >=5 2DHits, but no track

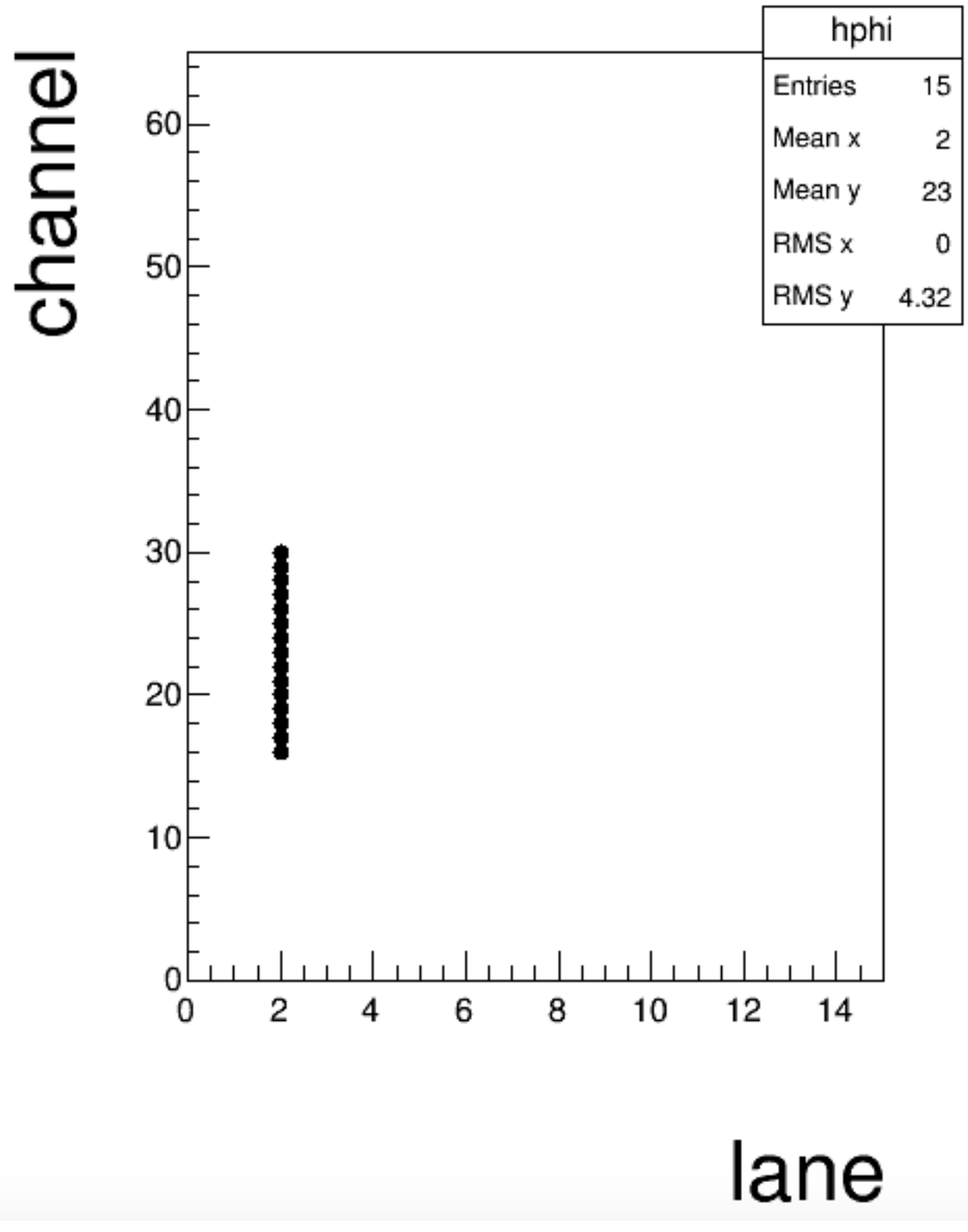

Aug.22 axis[0]
run==11764&&event==2
hz
Entries 14
Mean x 2
Mean y 23.5
RMS x 0
RMS y 4.031
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14


Aug.22 axis[1]
hphi
Entries 15
Mean x 2
Mean y 23
RMS x 0
RMS y 4.32
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14


Aug.22 axis[0]
run==11764&&event==54
hz
Entries 14
Mean x 2
Mean y 8.5
RMS x 0
RMS y 4.031
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14


Aug.22 axis[1]
hphi
Entries 15
Mean x 2
Mean y 38
RMS x 0
RMS y 4.32
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14


Aug.22 axis[0]
run==11951&&event==37
hz
Entries 14
Mean x 2
Mean y 38.5
RMS x 0
RMS y 4.031
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14


Aug.22 axis[1]
hphi
Entries 15
Mean x 2
Mean y 23
RMS x 0
RMS y 4.32
channel
lane
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14