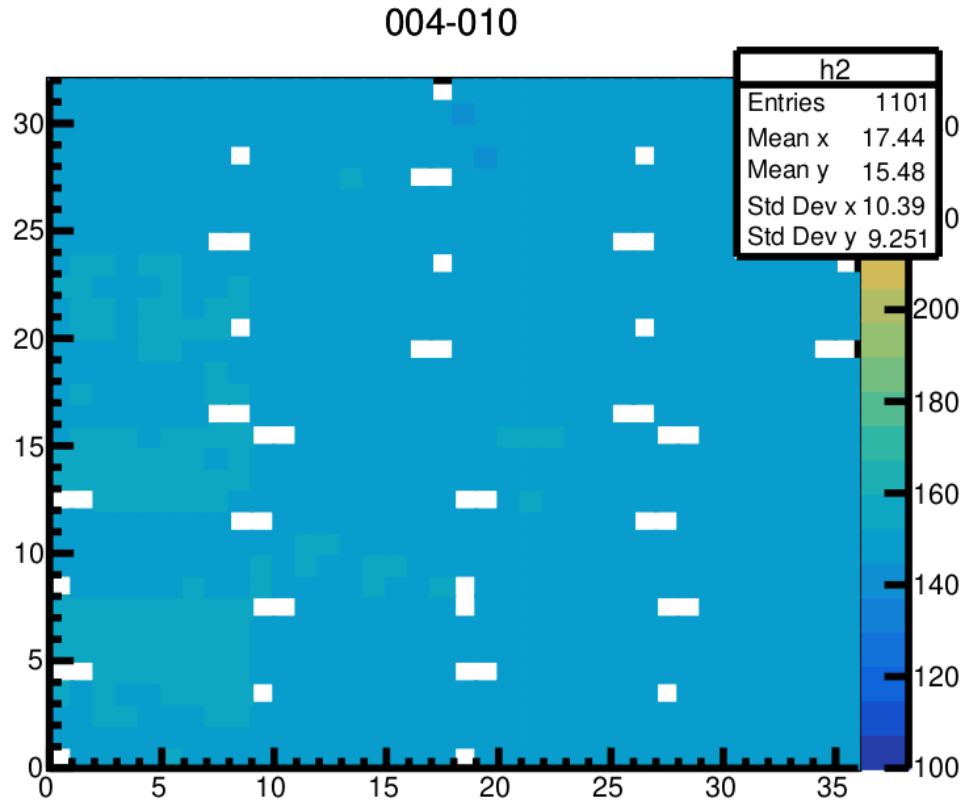
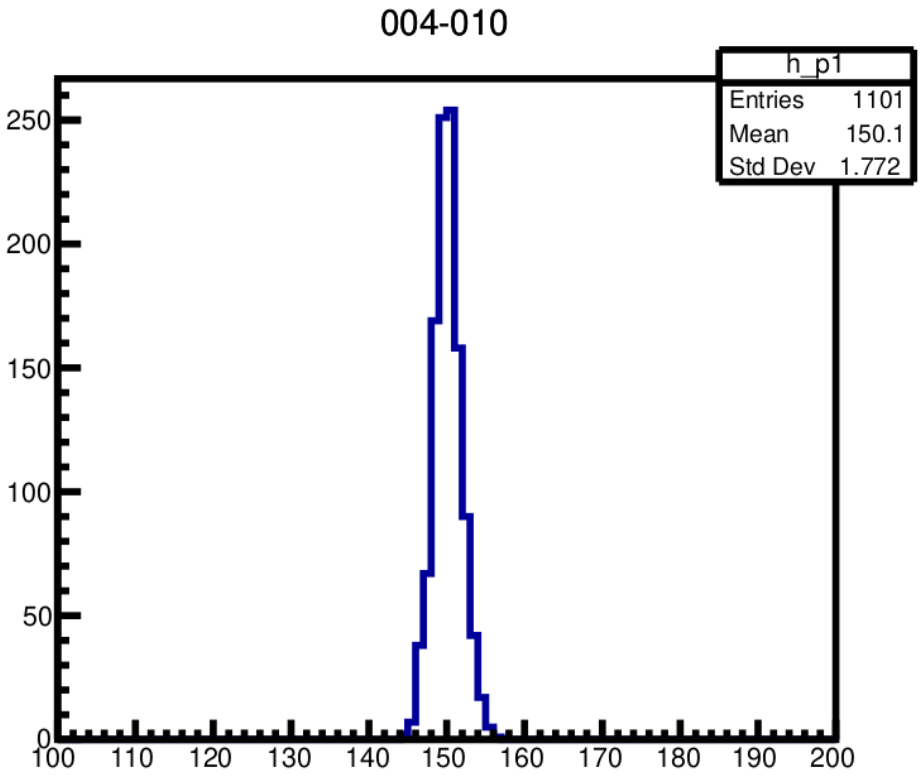
Electronics calibration data analysis

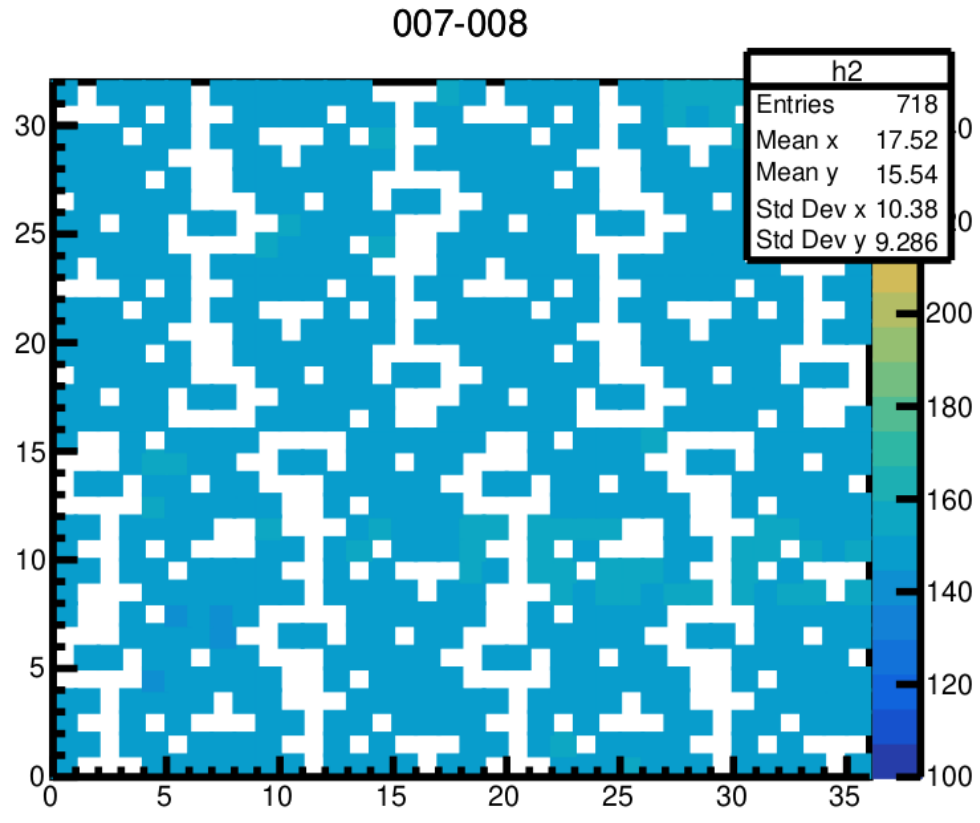
- The principle is to go through each pad of the FEC and find if there is a calibration signal,
- Each corresponding peak is then identified by the algorithm,
- The latter fits each peak thanks to a Gaussian function,
- The mean of each Gaussian distribution is then plotted as a function of the number of peaks
- The slope of the affine functions obtained are then plotted for each pad in a 2D map,

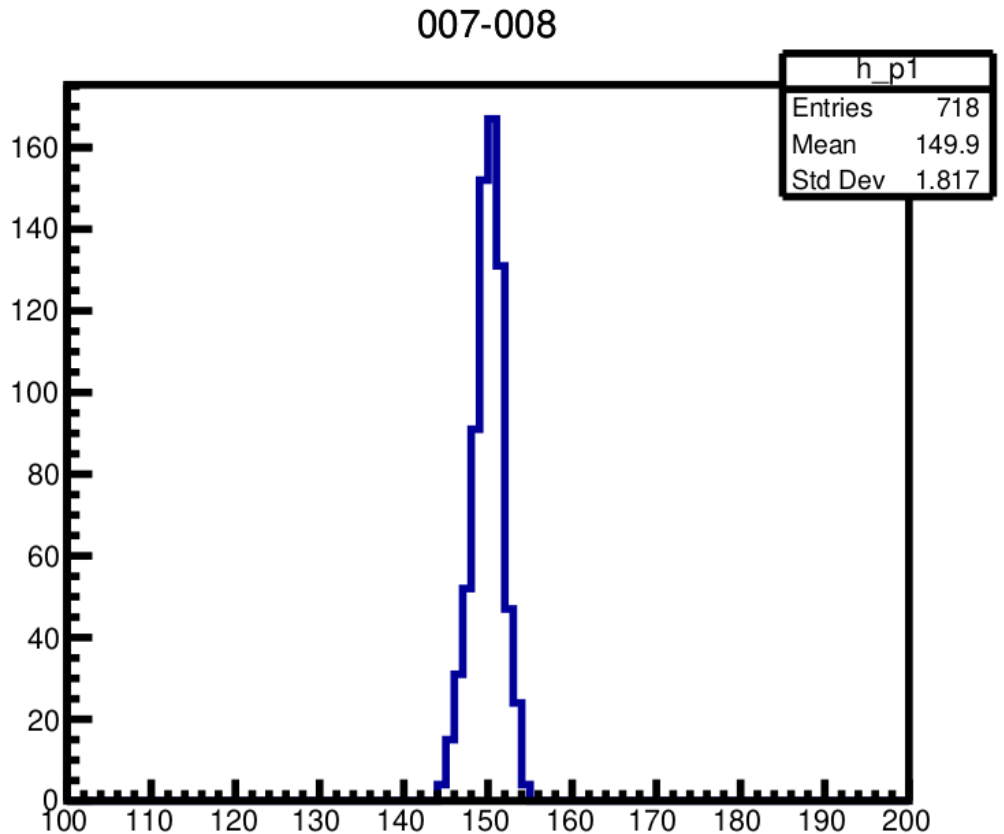
004-010


004-010
h2
Entries 1101
Mean x 17.44
Mean y 15.48
Std Dev x 10.39
Std Dev y 9.251
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
200 180 160 140 120 100

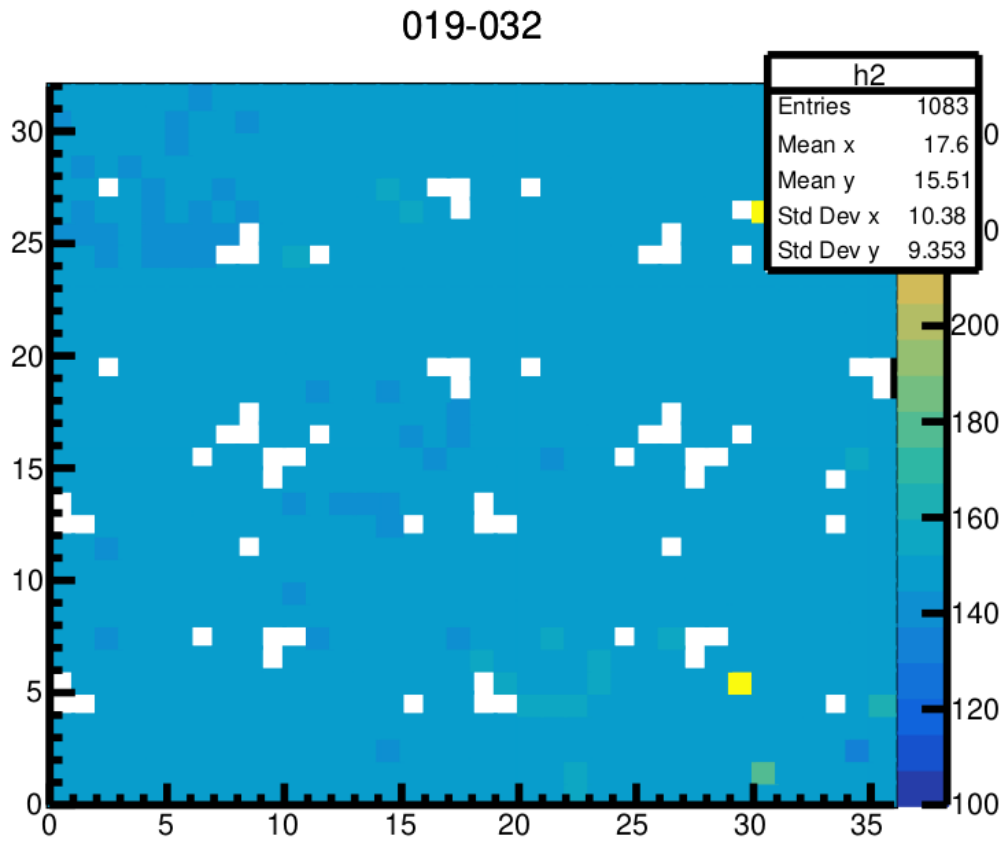

004-010
h_p1
Entries 1101
Mean 150.1
Std Dev 1.772
0 50 100 150 200 250
100 110 120 130 140 150 160 170 180 190 200

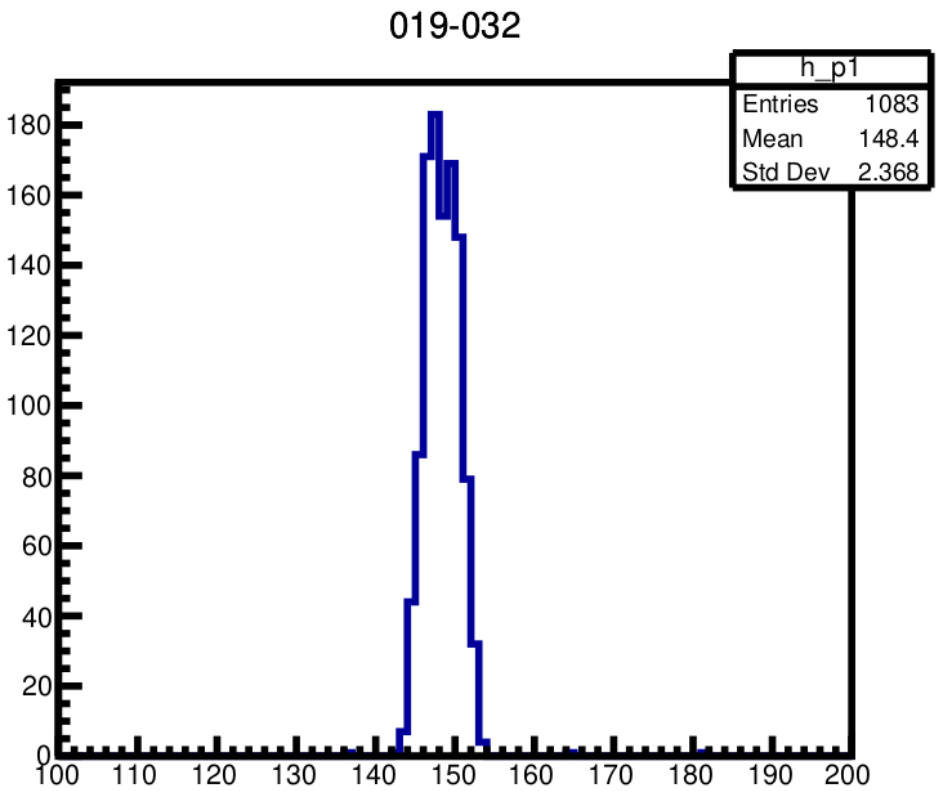
007-008


007-008
h2
Entries 718
Mean x 17.52
Mean y 15.54
Std Dev x 10.38
Std Dev y 9.286
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
100 120 140 160 180 200

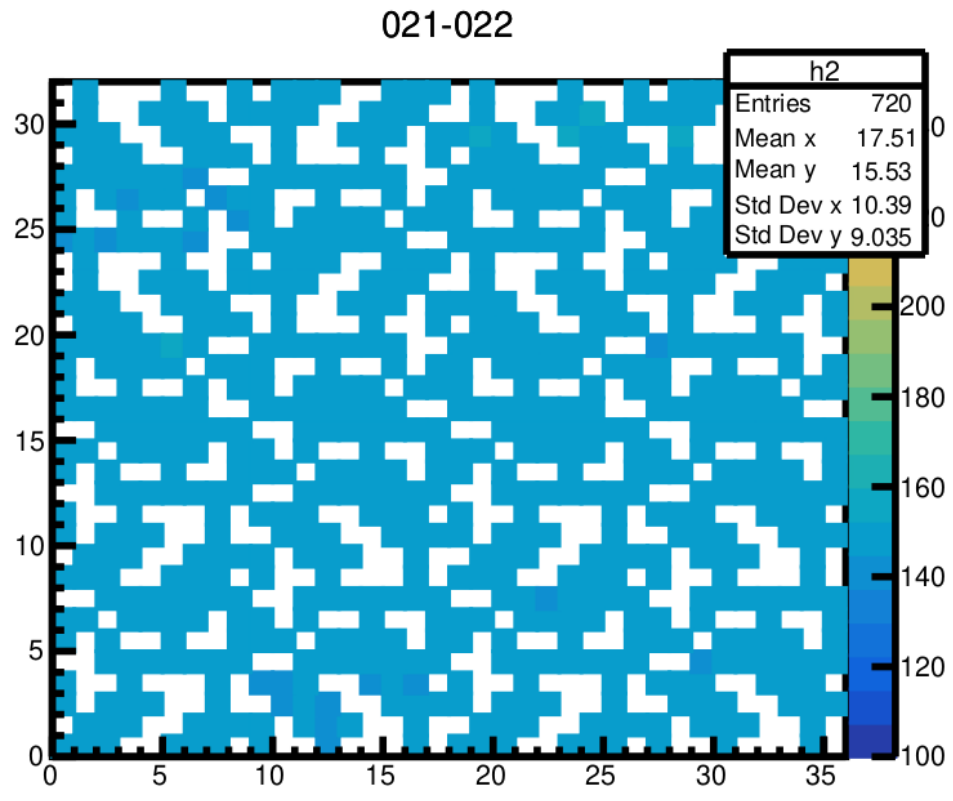

007-008
h_p1
Entries 718
Mean 149.9
Std Dev 1.817
0 20 40 60 80 100 120 140 160
100 110 120 130 140 150 160 170 180 190 200

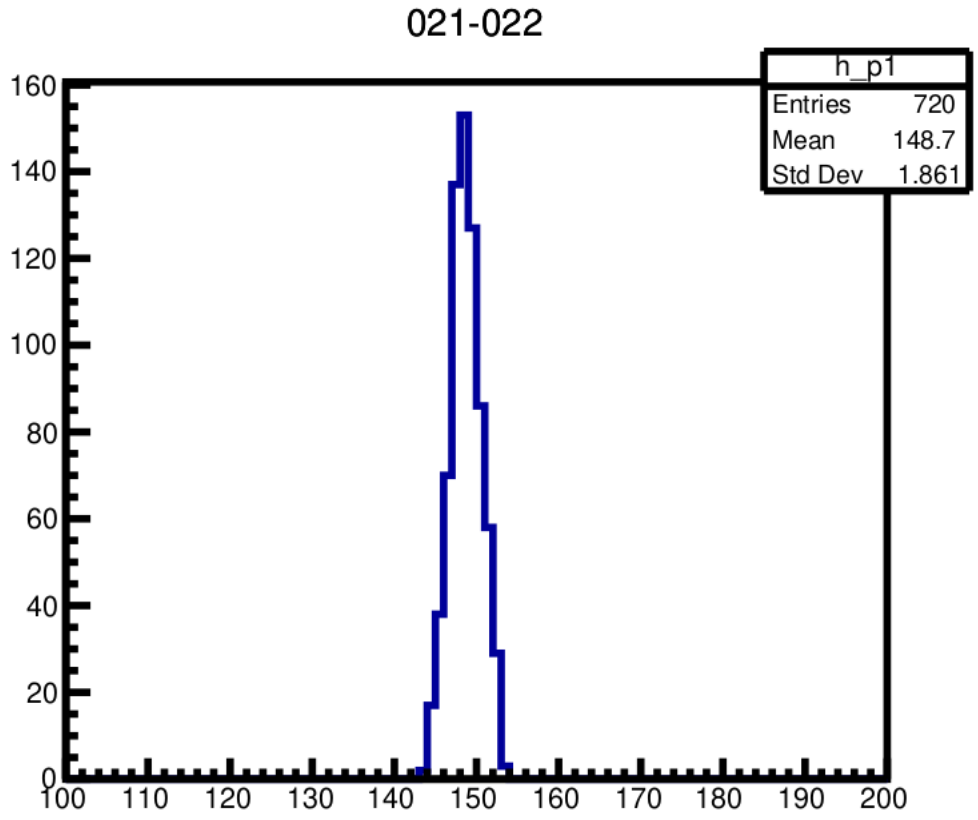
019-032


019-032
h2
Entries 1083
Mean x 17.6
Mean y 15.51
Std Dev x 10.38
Std Dev y 9.353
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
100 120 140 160 180 200

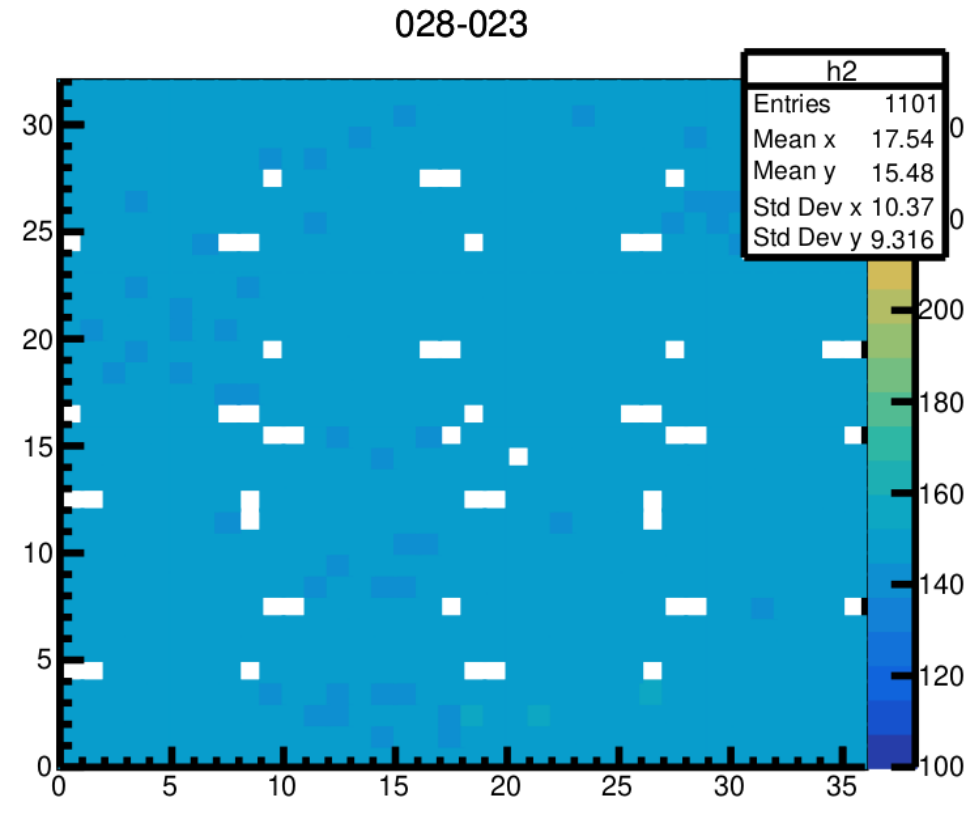

019-032
h_p1
Entries 1083
Mean 148.4
Std Dev 2.368
0 20 40 60 80 100 120 140 160 180
100 110 120 130 140 150 160 170 180 190 200

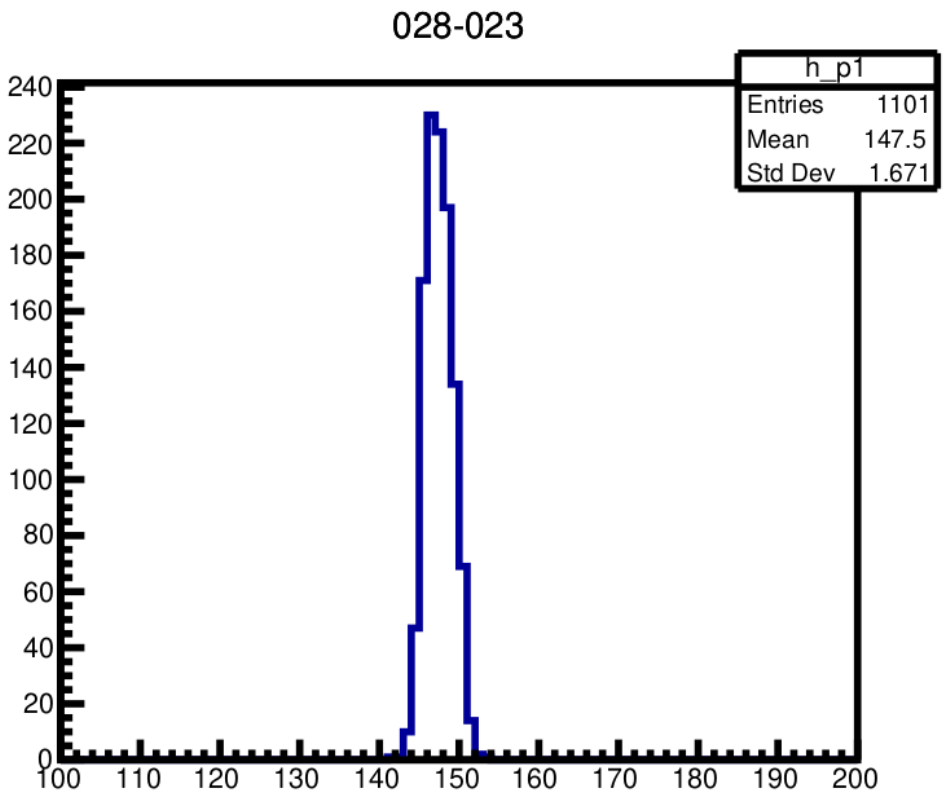
021-022


021-022
h2
Entries 720
Mean x 17.51
Mean y 15.53
Std Dev x 10.39
Std Dev y 9.035
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
200 180 160 140 120 100

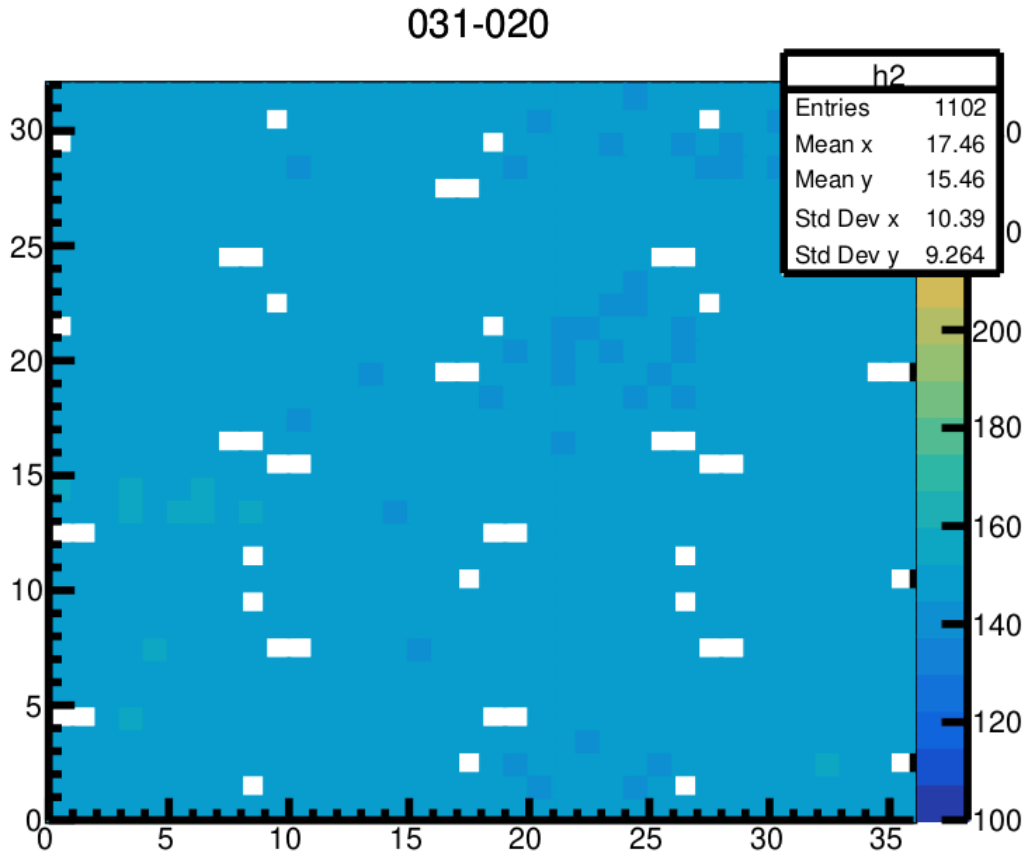

021-022
h_p1
Entries 720
Mean 148.7
Std Dev 1.861
0 20 40 60 80 100 120 140 160
100 110 120 130 140 150 160 170 180 190 200

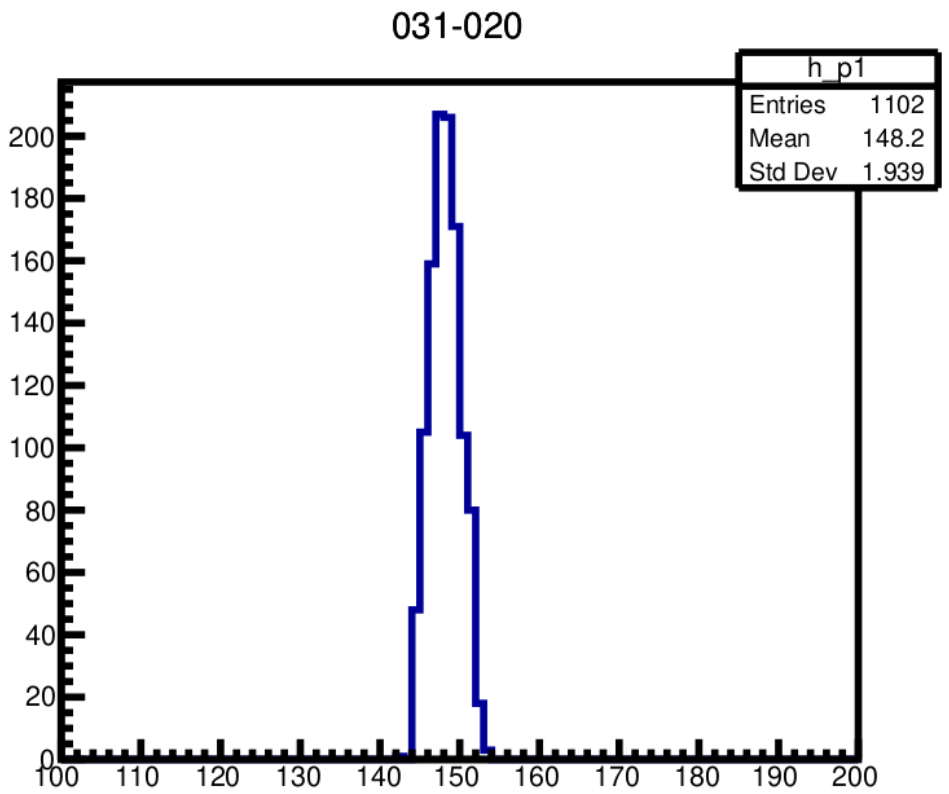
028-023


028-023
h2
Entries 1101
Mean x 17.54
Mean y 15.48
Std Dev x 10.37
Std Dev y 9.316
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
100 120 140 160 180 200

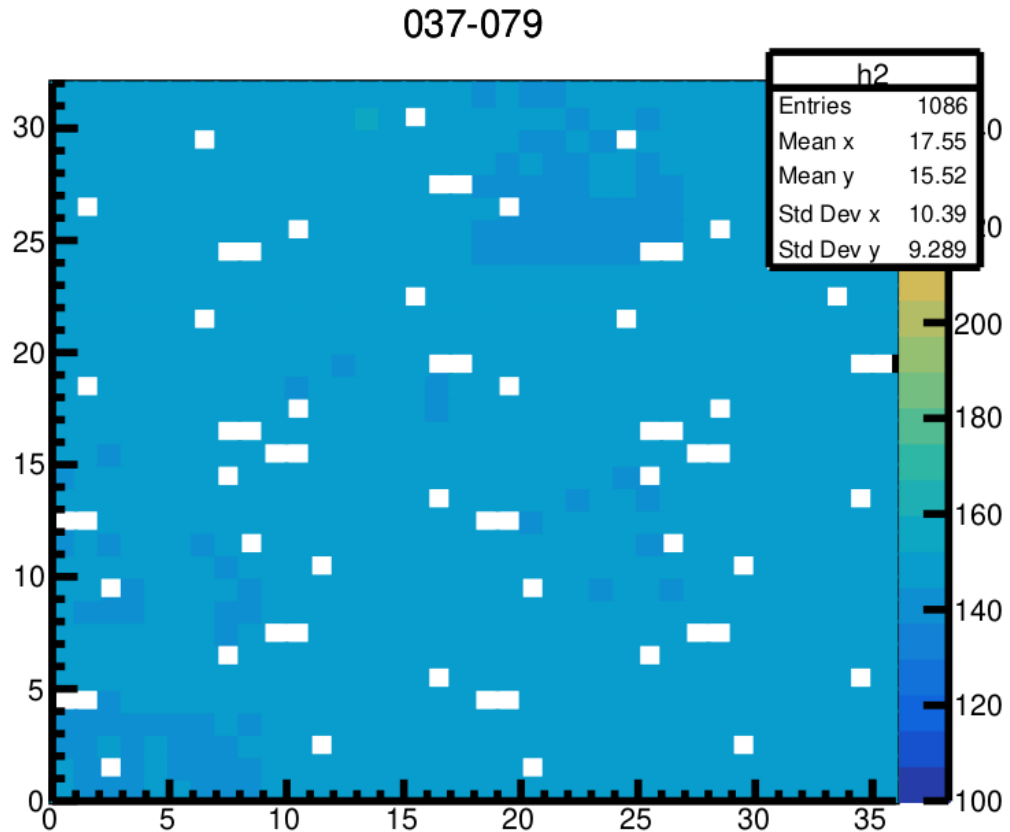

028-023
h_p1
Entries 1101
Mean 147.5
Std Dev 1.671
0 20 40 60 80 100 120 140 160 180 200 220 240
100 110 120 130 140 150 160 170 180 190 200

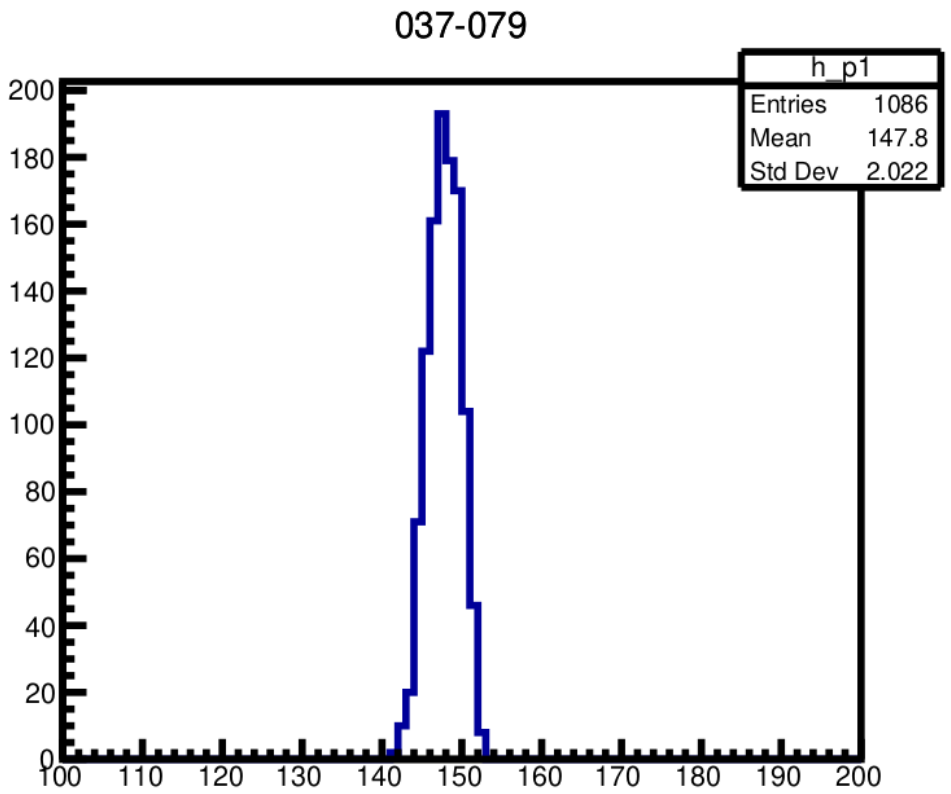
031-020


031-020
h2
Entries 1102
Mean x 17.46
Mean y 15.46
Std Dev x 10.39
Std Dev y 9.264

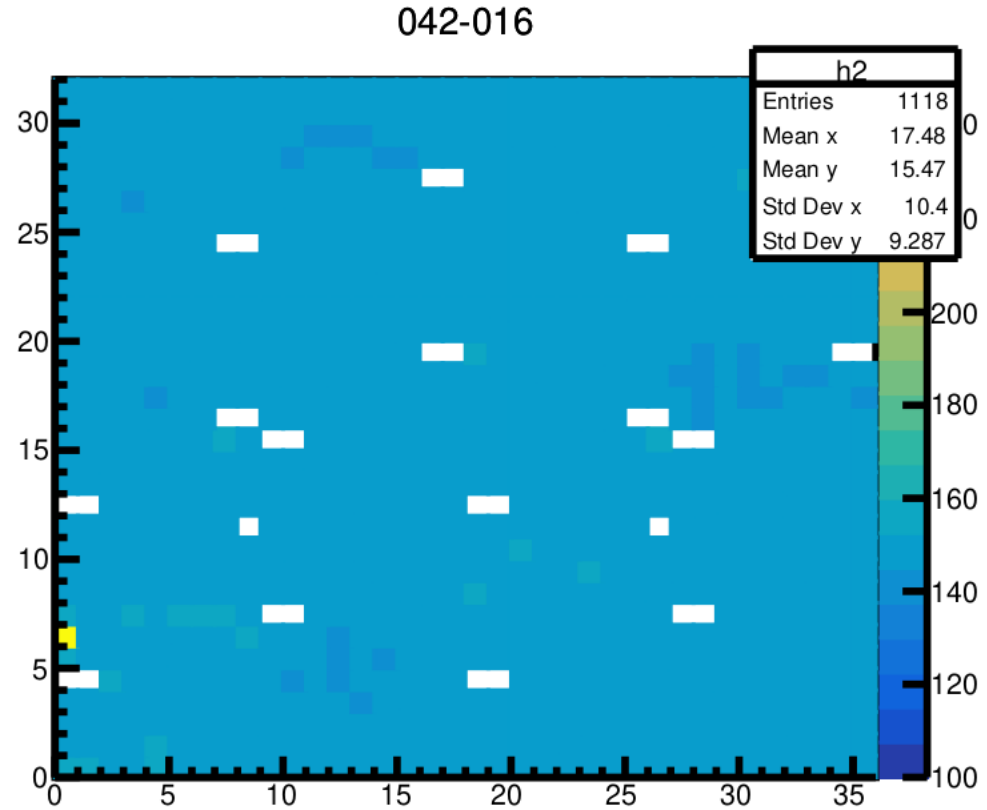

031-020
h_p1
Entries 1102
Mean 148.2
Std Dev 1.939

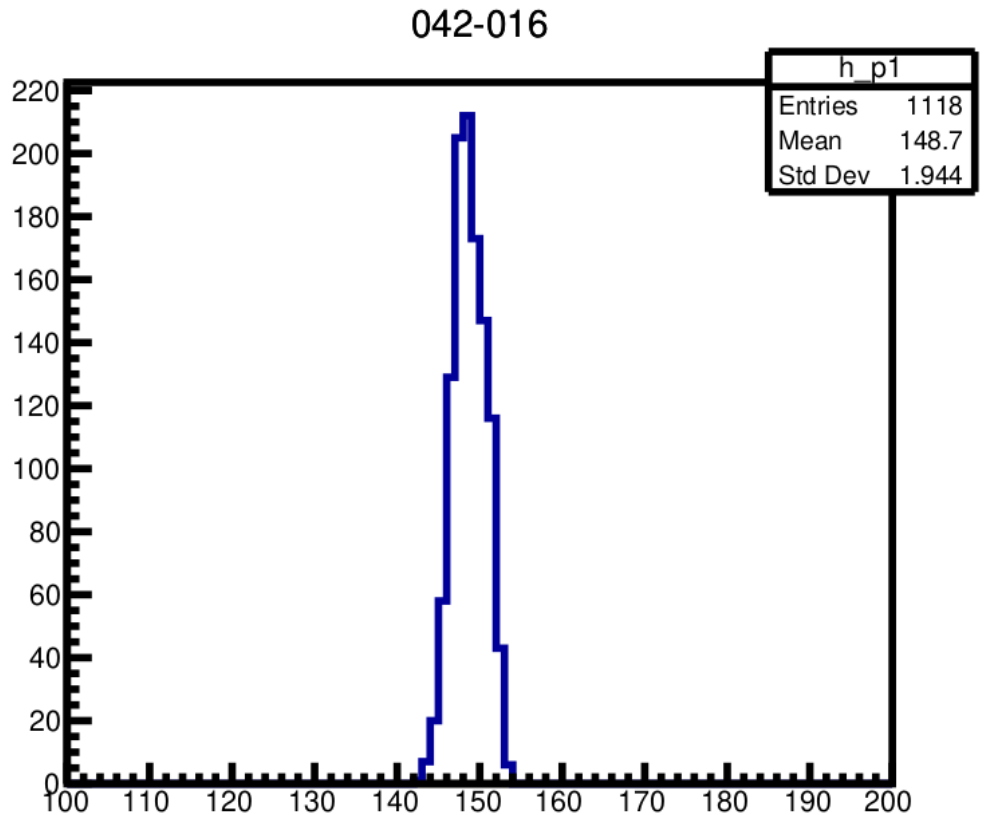
037-079


037-079
h2
Entries 1086
Mean x 17.55
Mean y 15.52
Std Dev x 10.39
Std Dev y 9.289
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
100 120 140 160 180 200

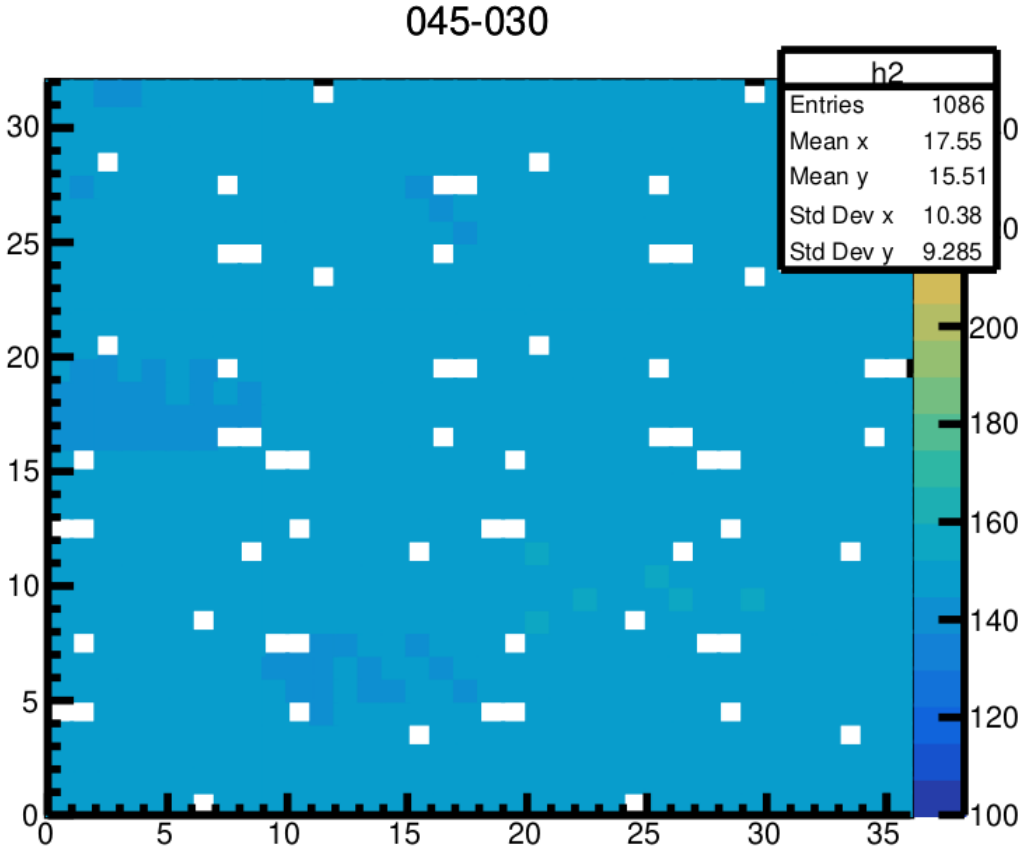

037-079
h_p1
Entries 1086
Mean 147.8
Std Dev 2.022
0 20 40 60 80 100 120 140 160 180 200
100 110 120 130 140 150 160 170 180 190 200

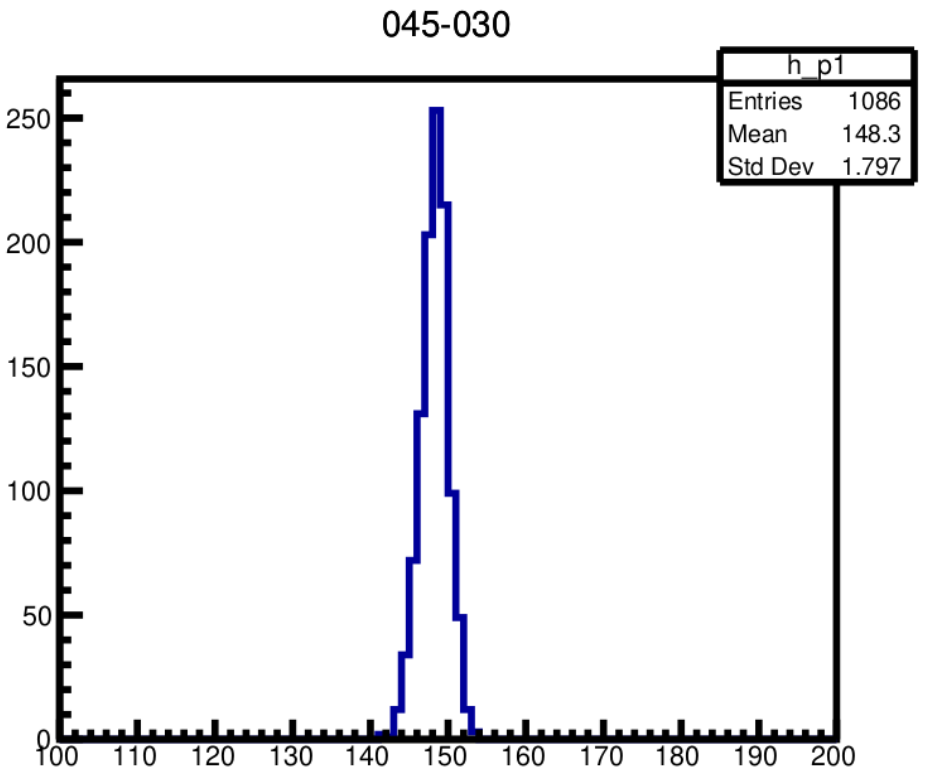
042-016


042-016
h2
Entries 1118
Mean x 17.48
Mean y 15.47
Std Dev x 10.4
Std Dev y 9.287

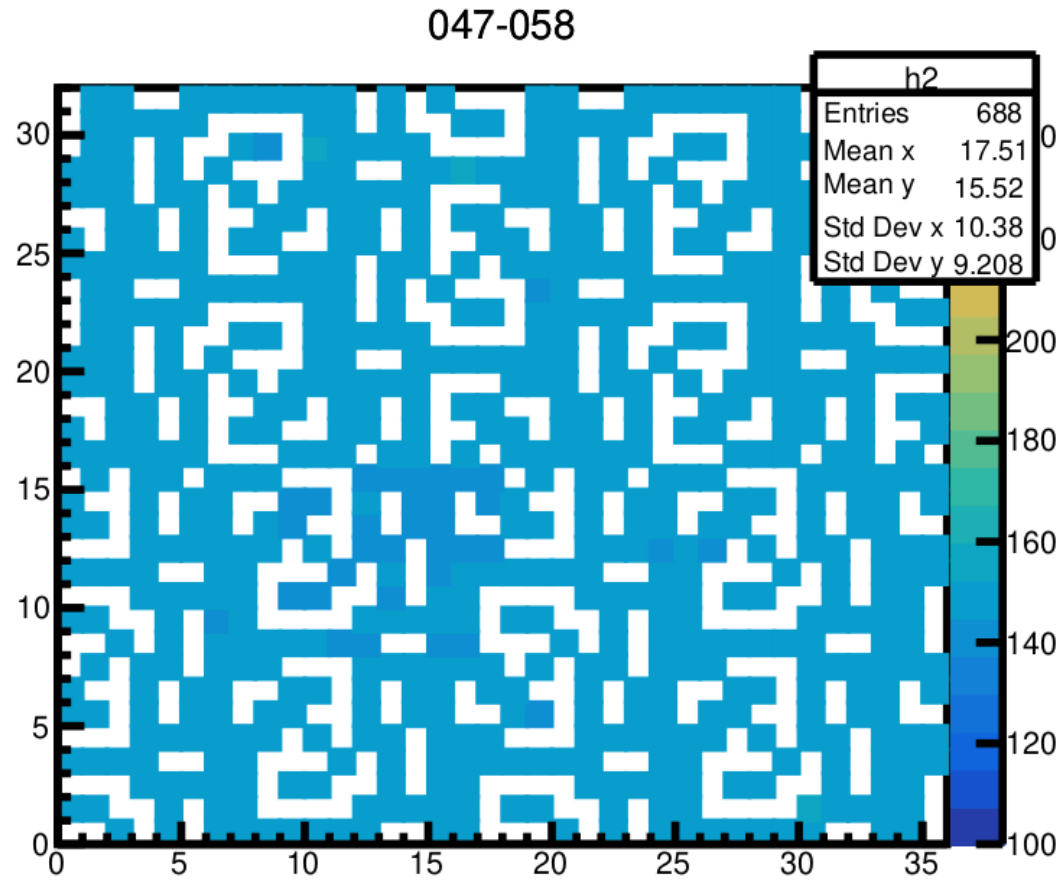

042-016
h_p1
Entries 1118
Mean 148.7
Std Dev 1.944

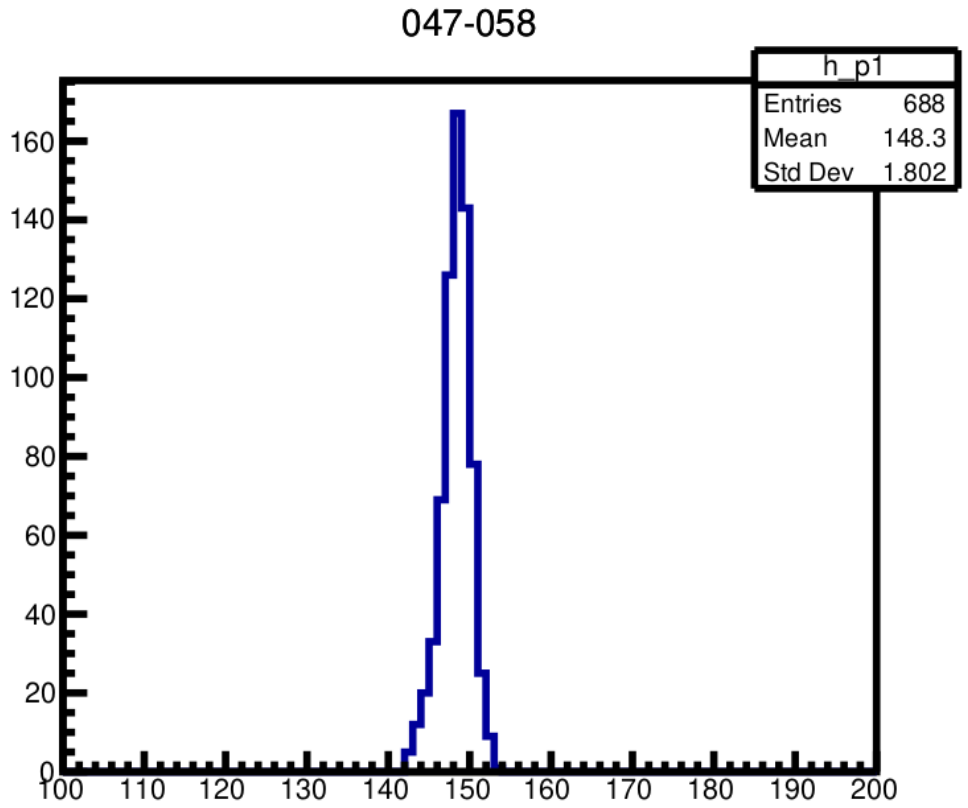
045-030


045-030
h2
Entries 1086
Mean x 17.55
Mean y 15.51
Std Dev x 10.38
Std Dev y 9.285
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
100 120 140 160 180 200

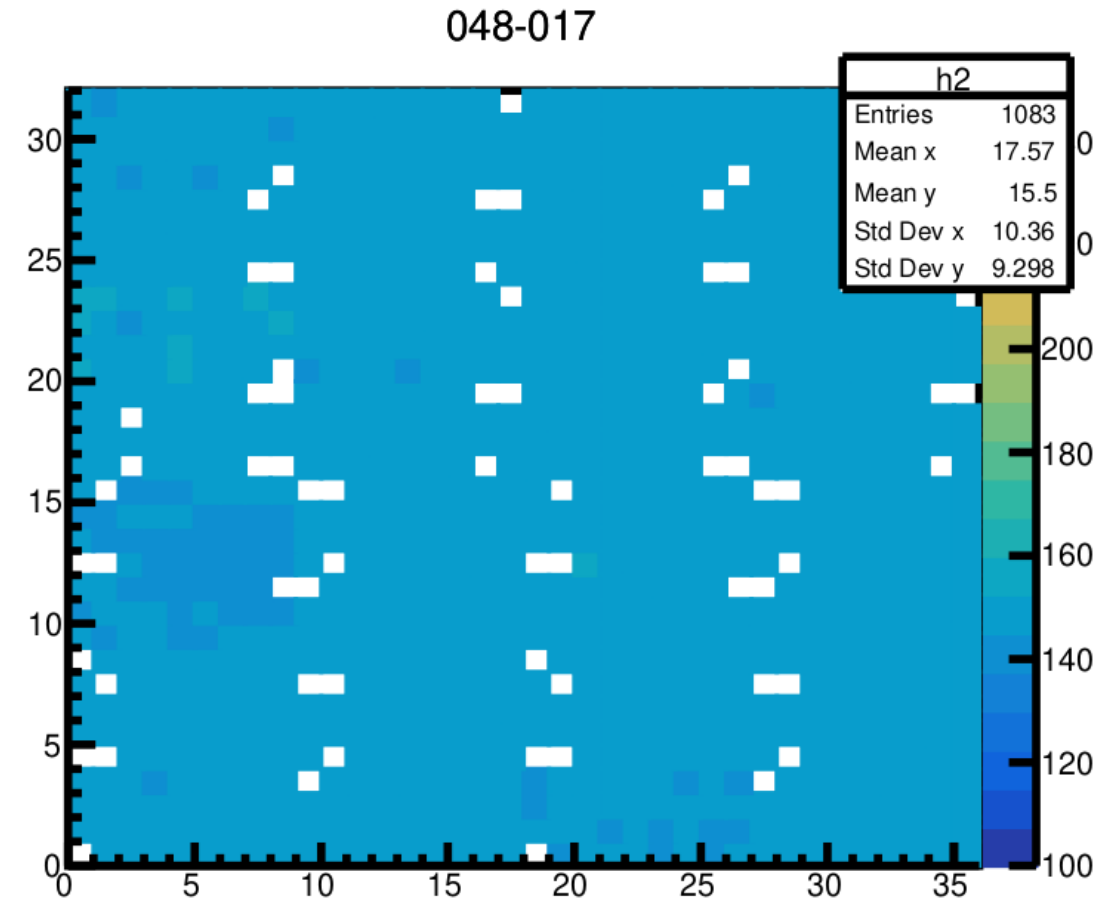

045-030
h_p1
Entries 1086
Mean 148.3
Std Dev 1.797
0 50 100 150 200 250
100 110 120 130 140 150 160 170 180 190 200

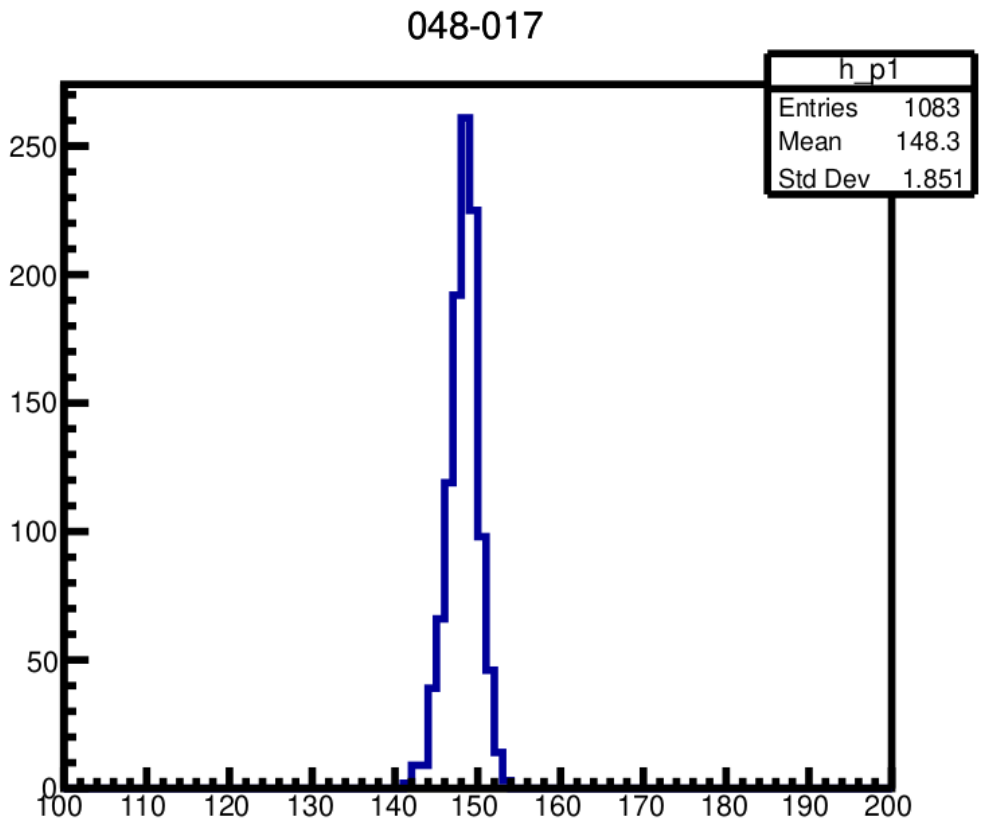
047-058


047-058
h2
Entries 688
Mean x 17.51
Mean y 15.52
Std Dev x 10.38
Std Dev y 9.208
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
100 120 140 160 180 200

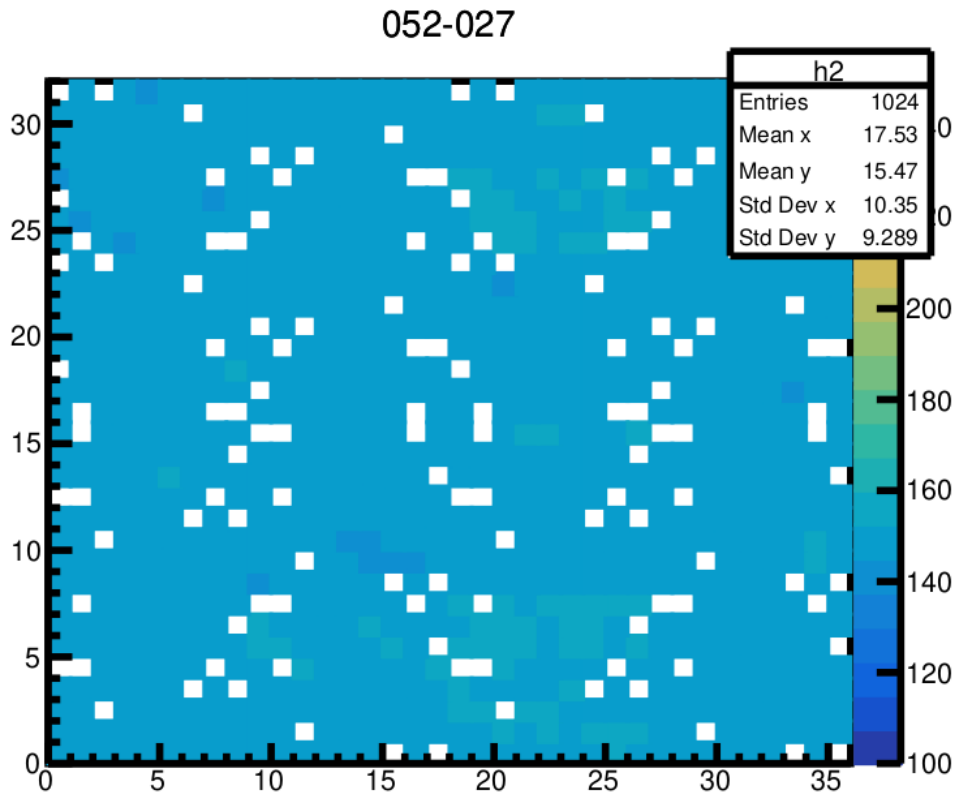

047-058
h_p1
Entries 688
Mean 148.3
Std Dev 1.802
0 20 40 60 80 100 120 140 160
100 110 120 130 140 150 160 170 180 190 200

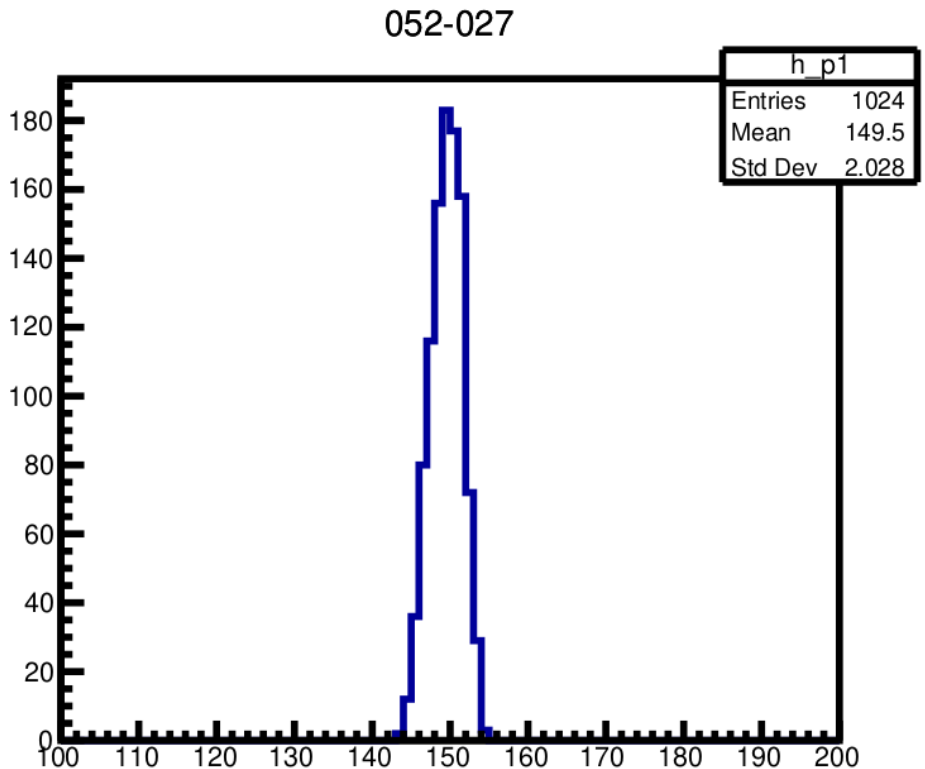
048-017


048-017
h2
Entries 1083
Mean x 17.57
Mean y 15.5
Std Dev x 10.36
Std Dev y 9.298
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
100 120 140 160 180 200

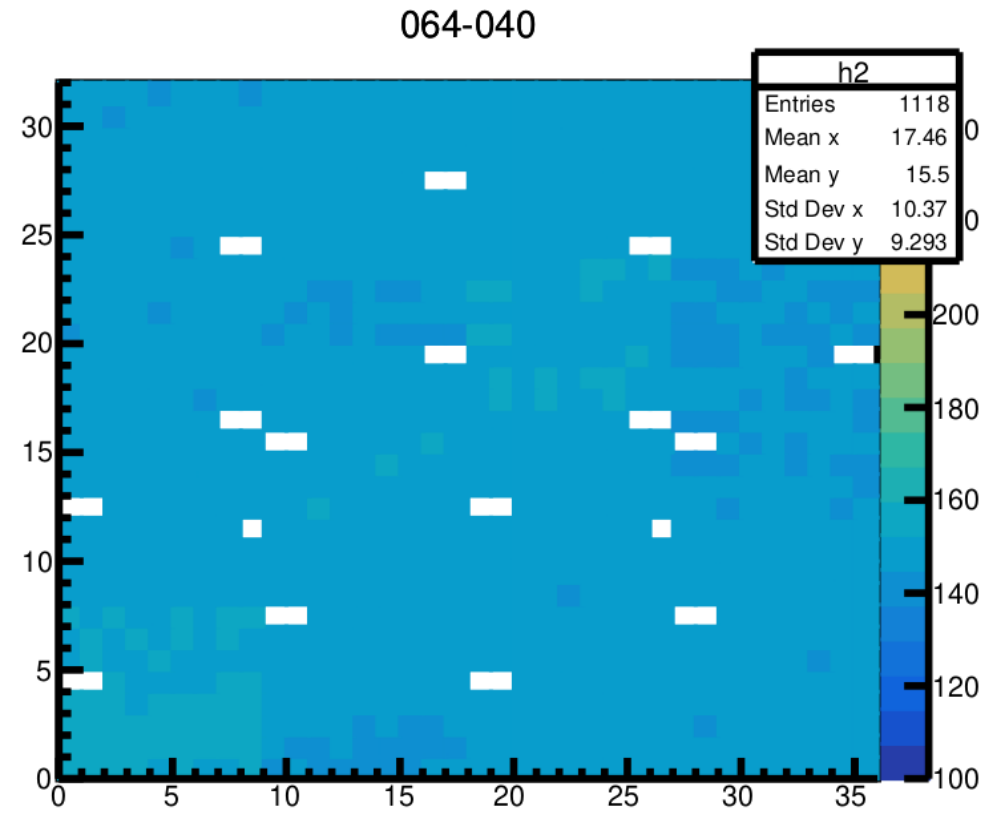

048-017
h_p1
Entries 1083
Mean 148.3
Std Dev 1.851
0 50 100 150 200 250
100 110 120 130 140 150 160 170 180 190 200

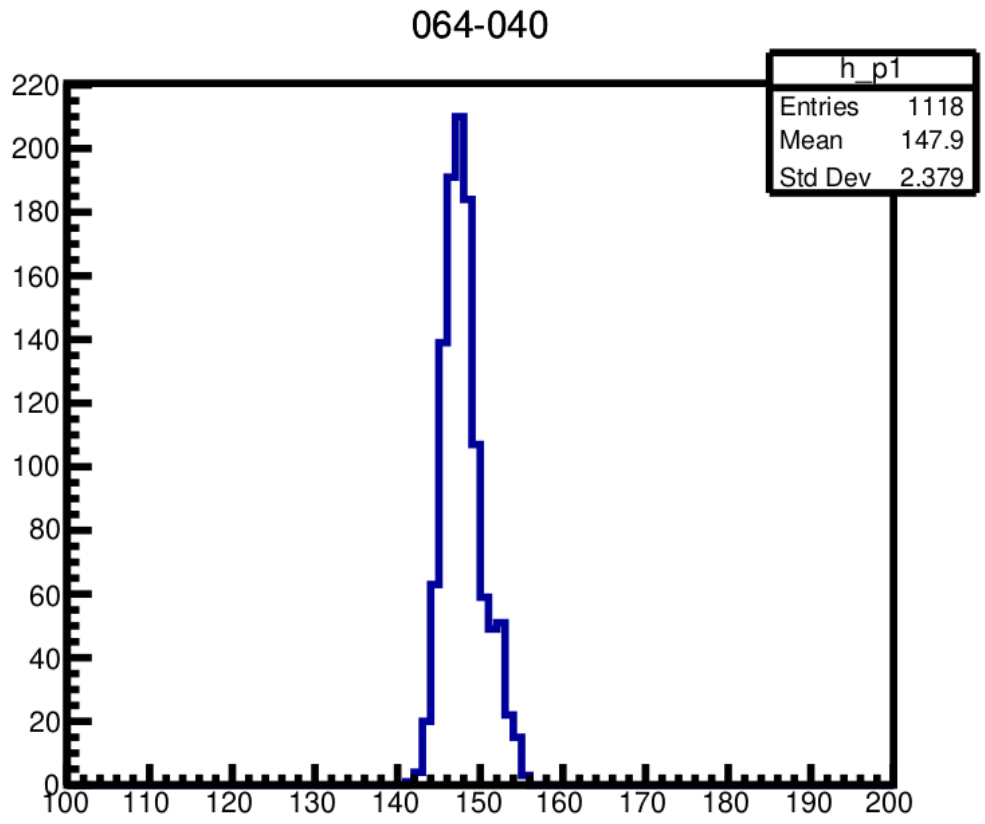
052-027


052-027
h2
Entries 1024
Mean x 17.53
Mean y 15.47
Std Dev x 10.35
Std Dev y 9.289
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
100 120 140 160 180 200

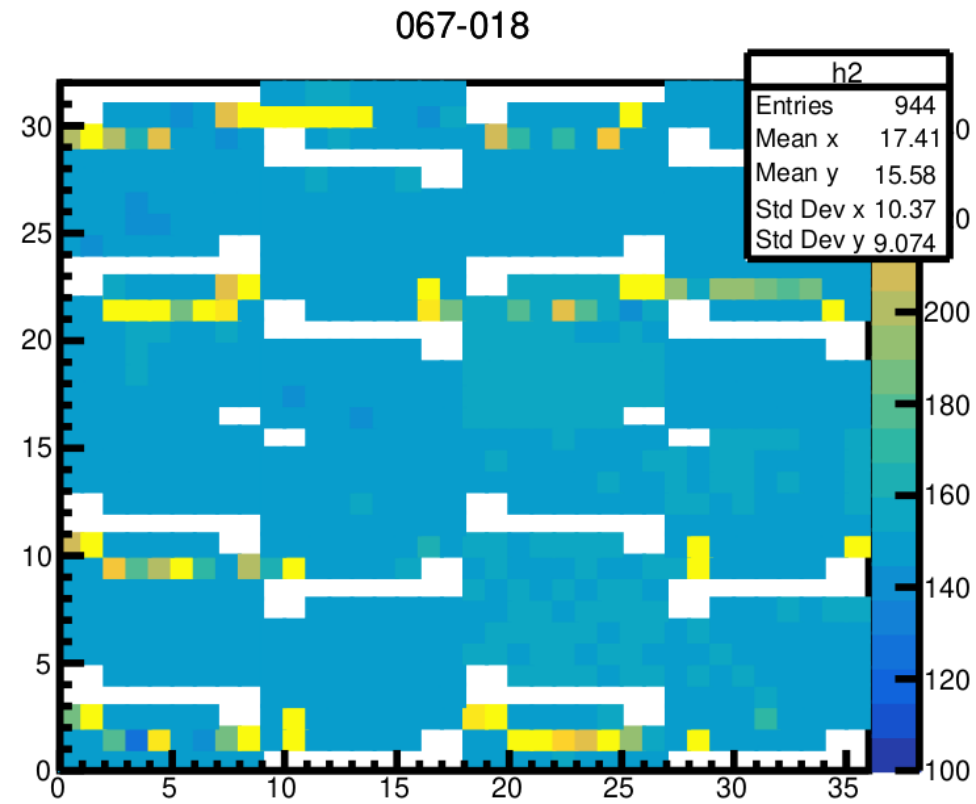

052-027
h_p1
Entries 1024
Mean 149.5
Std Dev 2.028
0 20 40 60 80 100 120 140 160 180
100 110 120 130 140 150 160 170 180 190 200

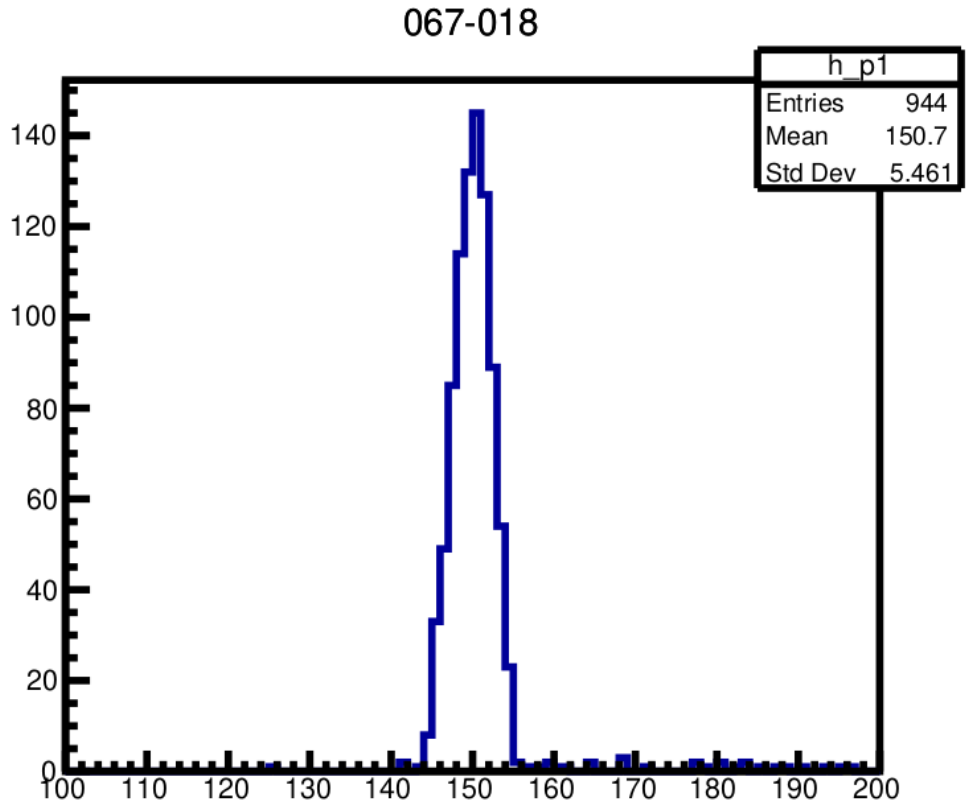
064-040


064-040
h2
Entries 1118
Mean x 17.46
Mean y 15.5
Std Dev x 10.37
Std Dev y 9.293
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
100 120 140 160 180 200

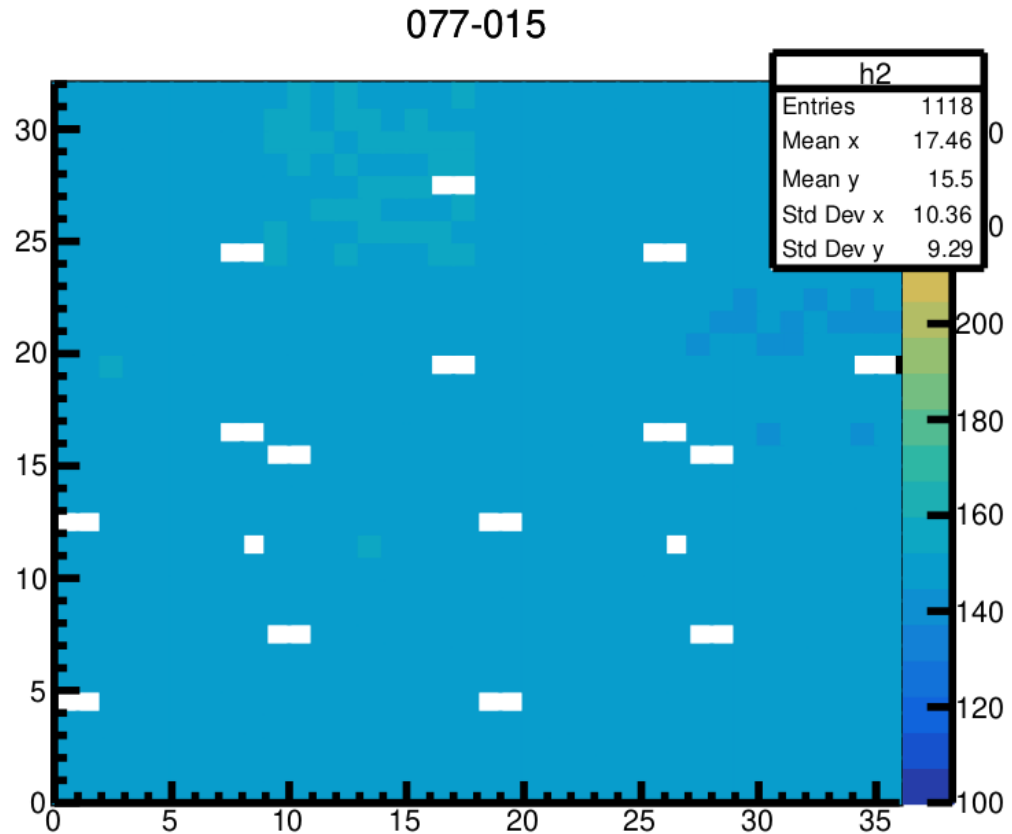

064-040
h_p1
Entries 1118
Mean 147.9
Std Dev 2.379
0 20 40 60 80 100 120 140 160 180 200 220
100 110 120 130 140 150 160 170 180 190 200

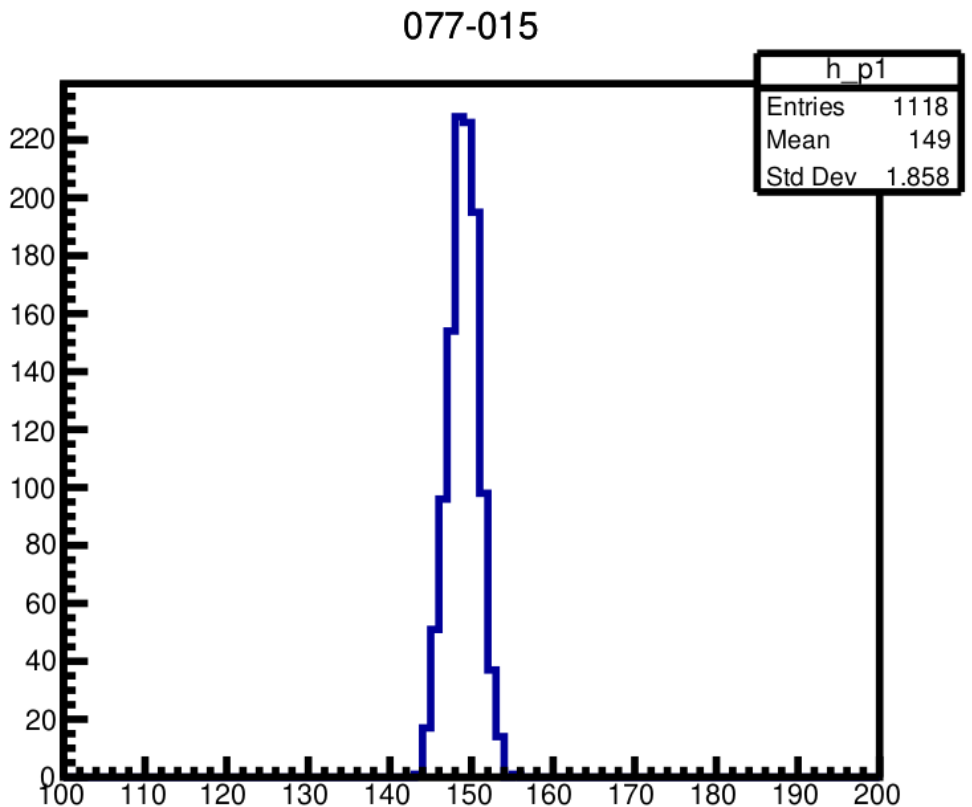
067-018


067-018
h2
Entries 944
Mean x 17.41
Mean y 15.58
Std Dev x 10.37
Std Dev y 9.074


067-018
h_p1
Entries 944
Mean 150.7
Std Dev 5.461

077-015


077-015
h2
Entries 1118
Mean x 17.46
Mean y 15.5
Std Dev x 10.36
Std Dev y 9.29
0 5 10 15 20 25 30 35
0 5 10 15 20 25 30
100 120 140 160 180 200


077-015
h_p1
Entries 1118
Mean 149
Std Dev 1.858
0 20 40 60 80 100 120 140 160 180 200 220
100 110 120 130 140 150 160 170 180 190 200

Some observations

- Some white holes misunderstood in the maps
- Standard deviations of the peaks seem to stay around 2
- Except for the 067-018 couple, where std is around 5
- For this latter, the map seems also not to behave the same as the other couples of cards