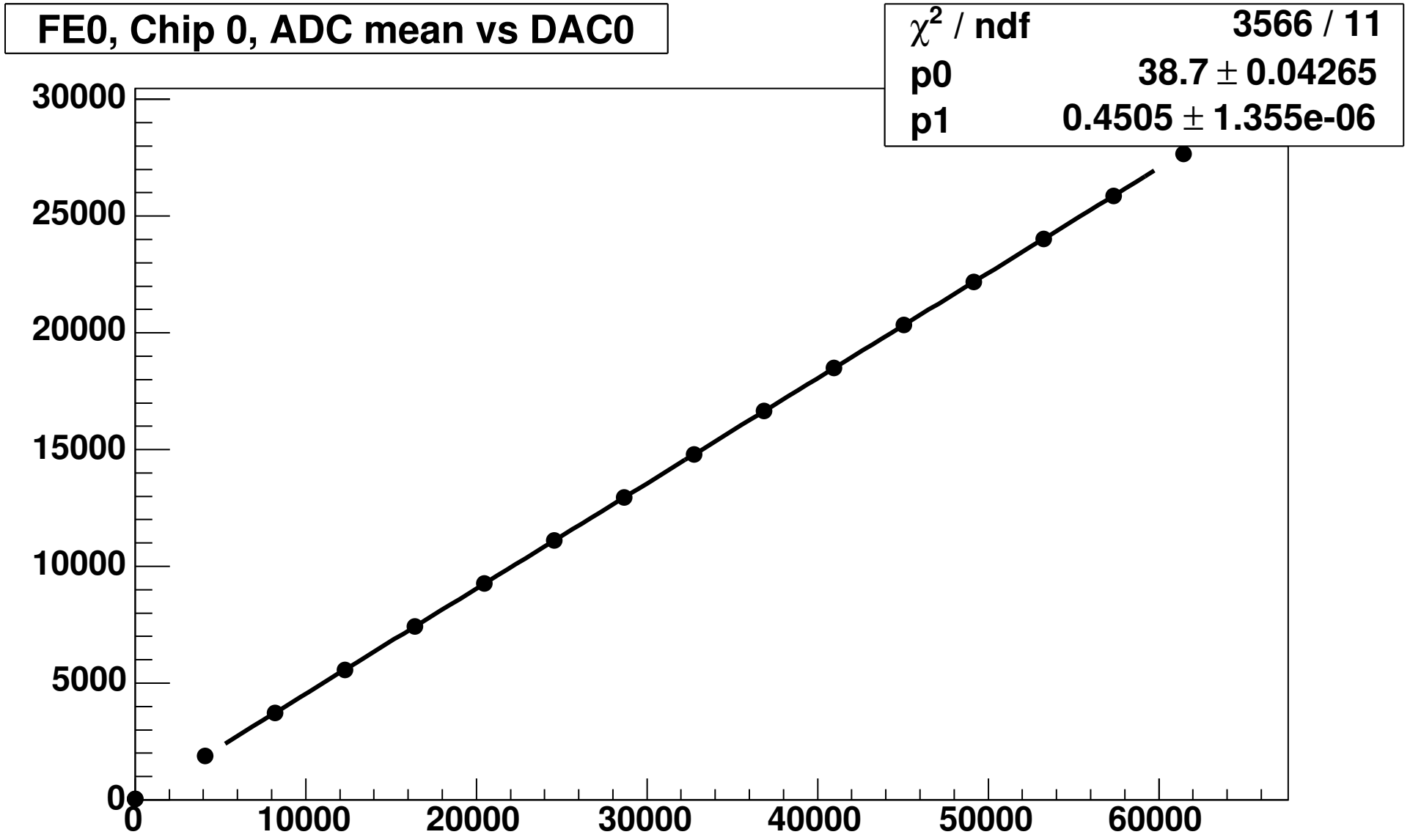
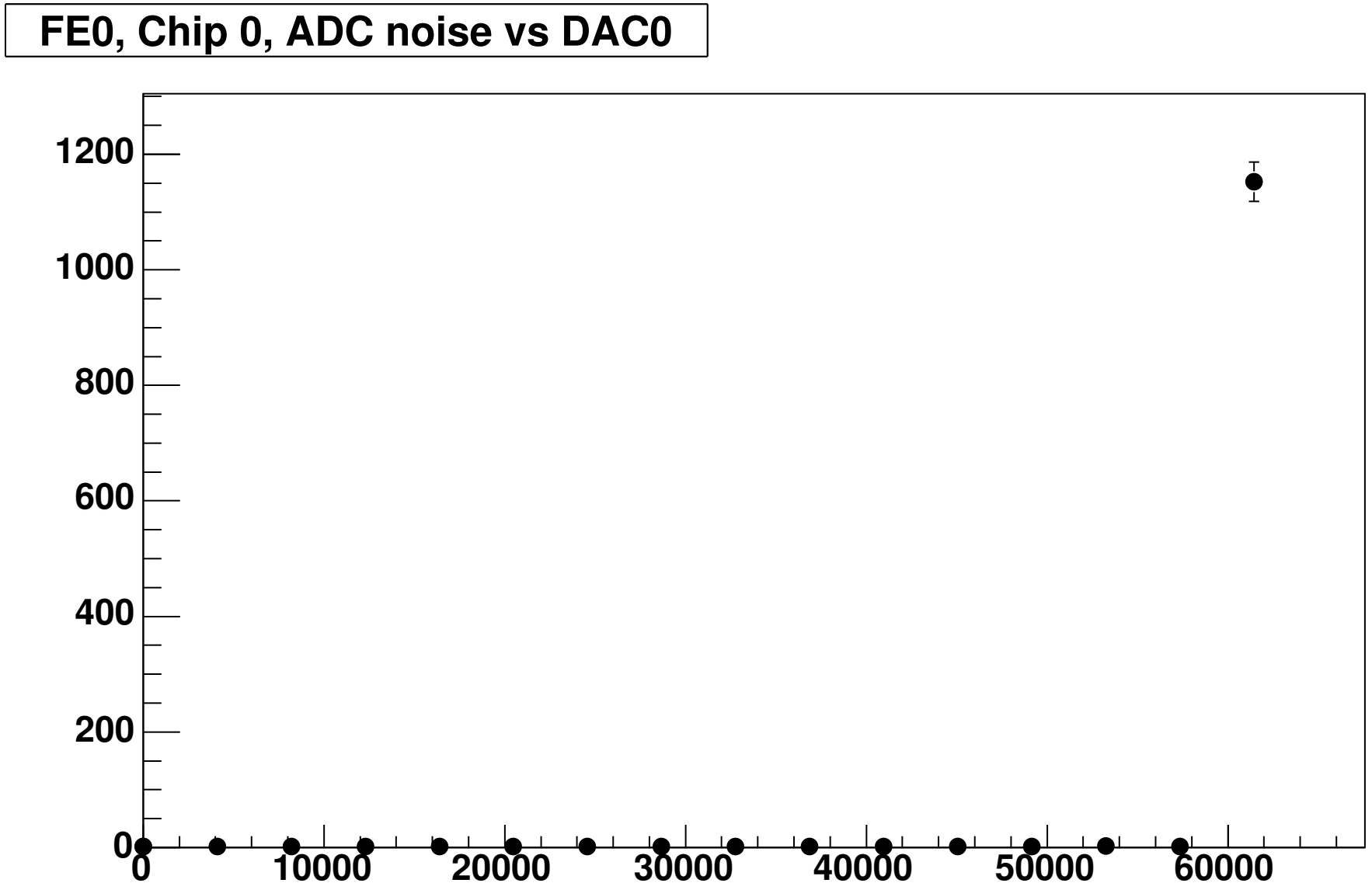
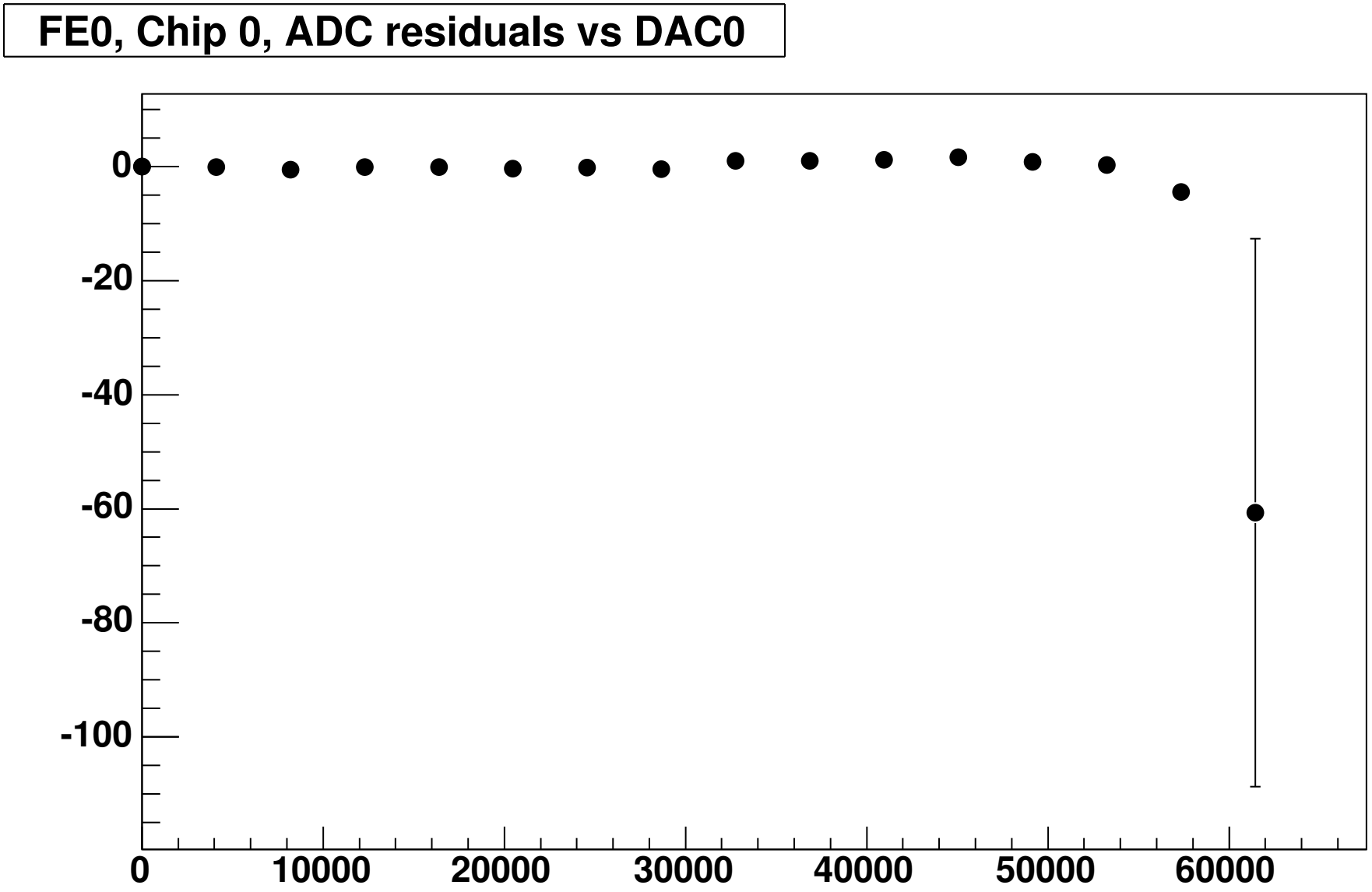
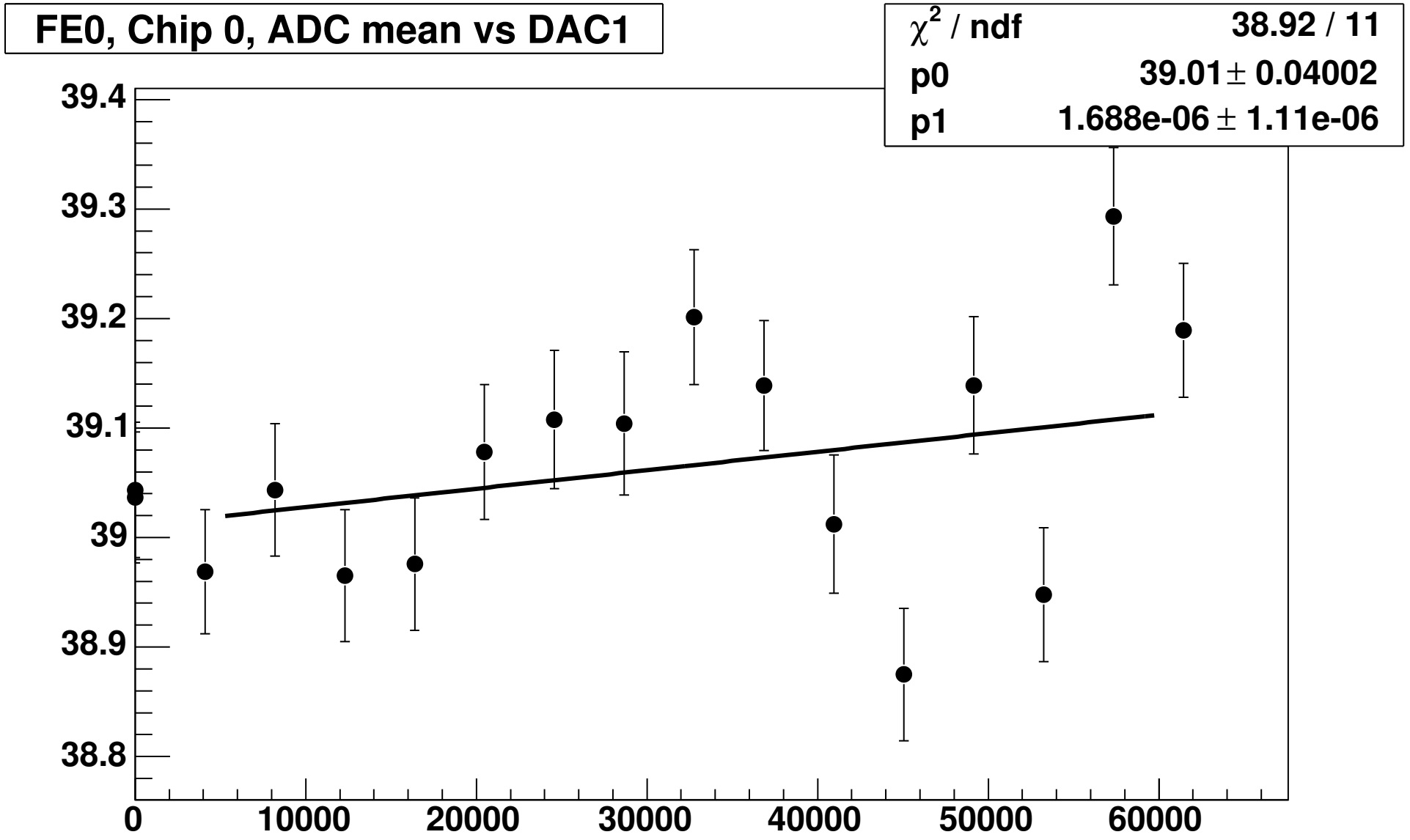
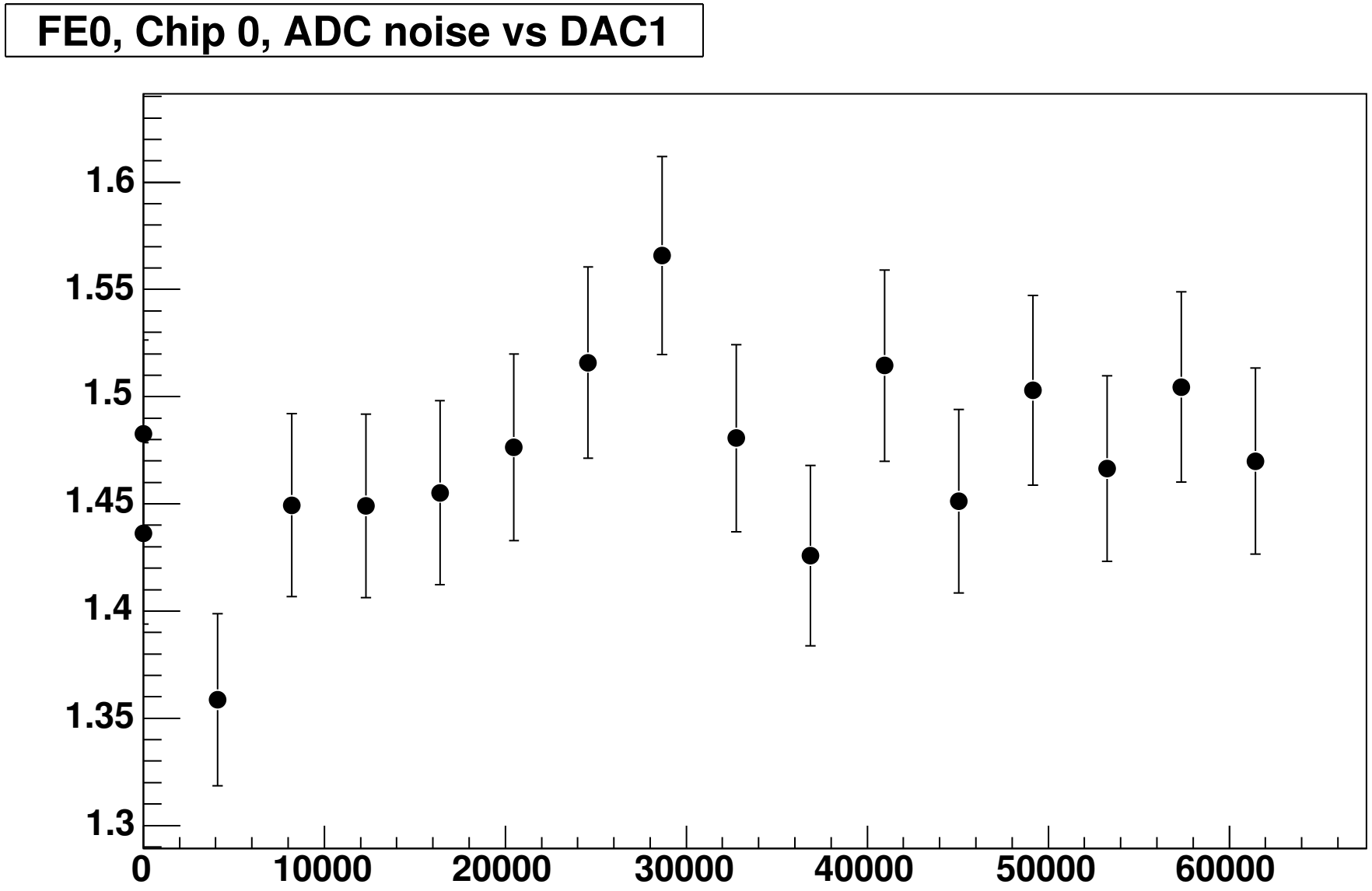
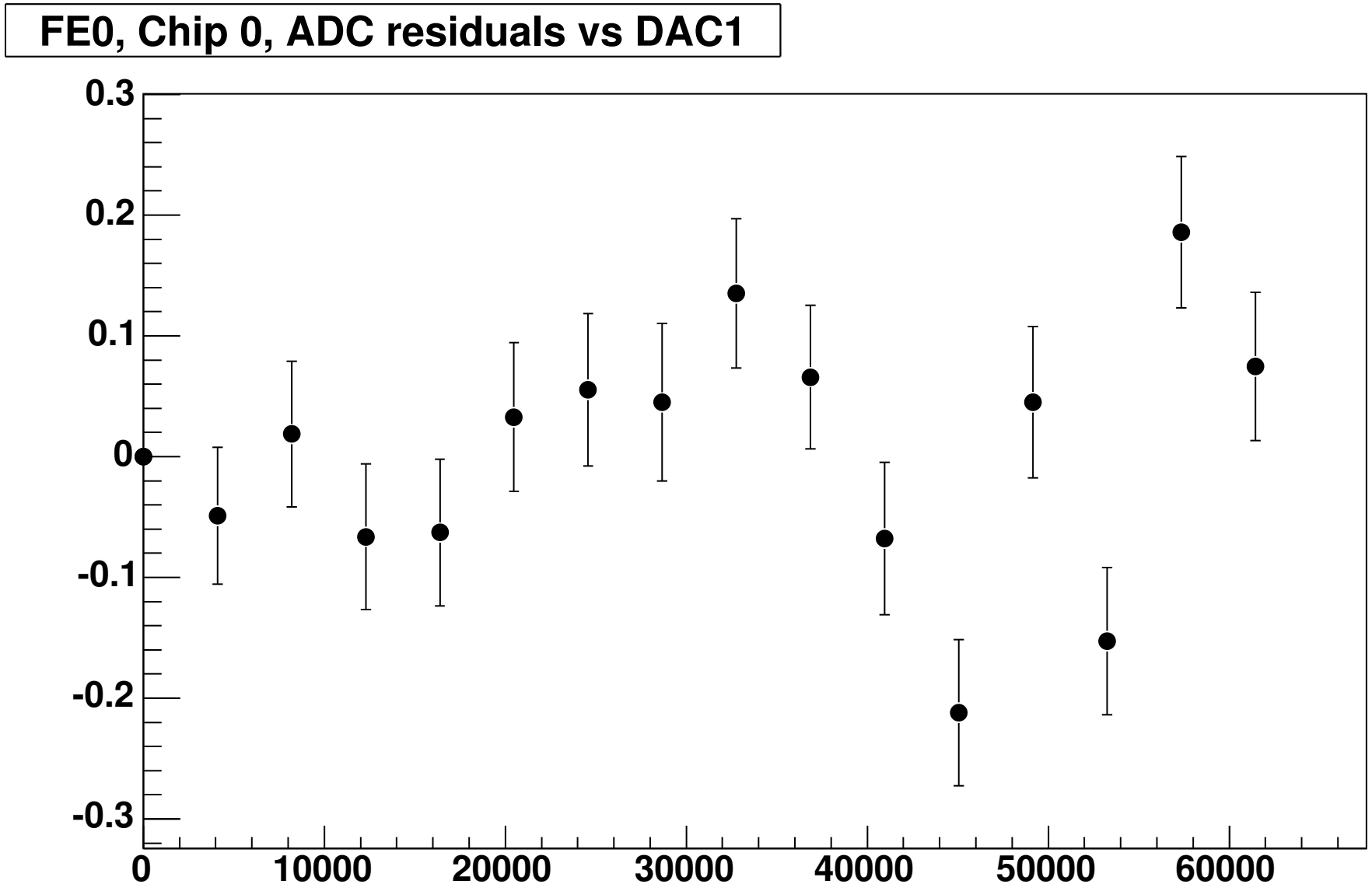

FE0, Chip 0, ADC mean vs DAC0
χ² / ndf 3566 / 11
p0 38.7 ± 0.04265
p1 0.4505 ± 1.355e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

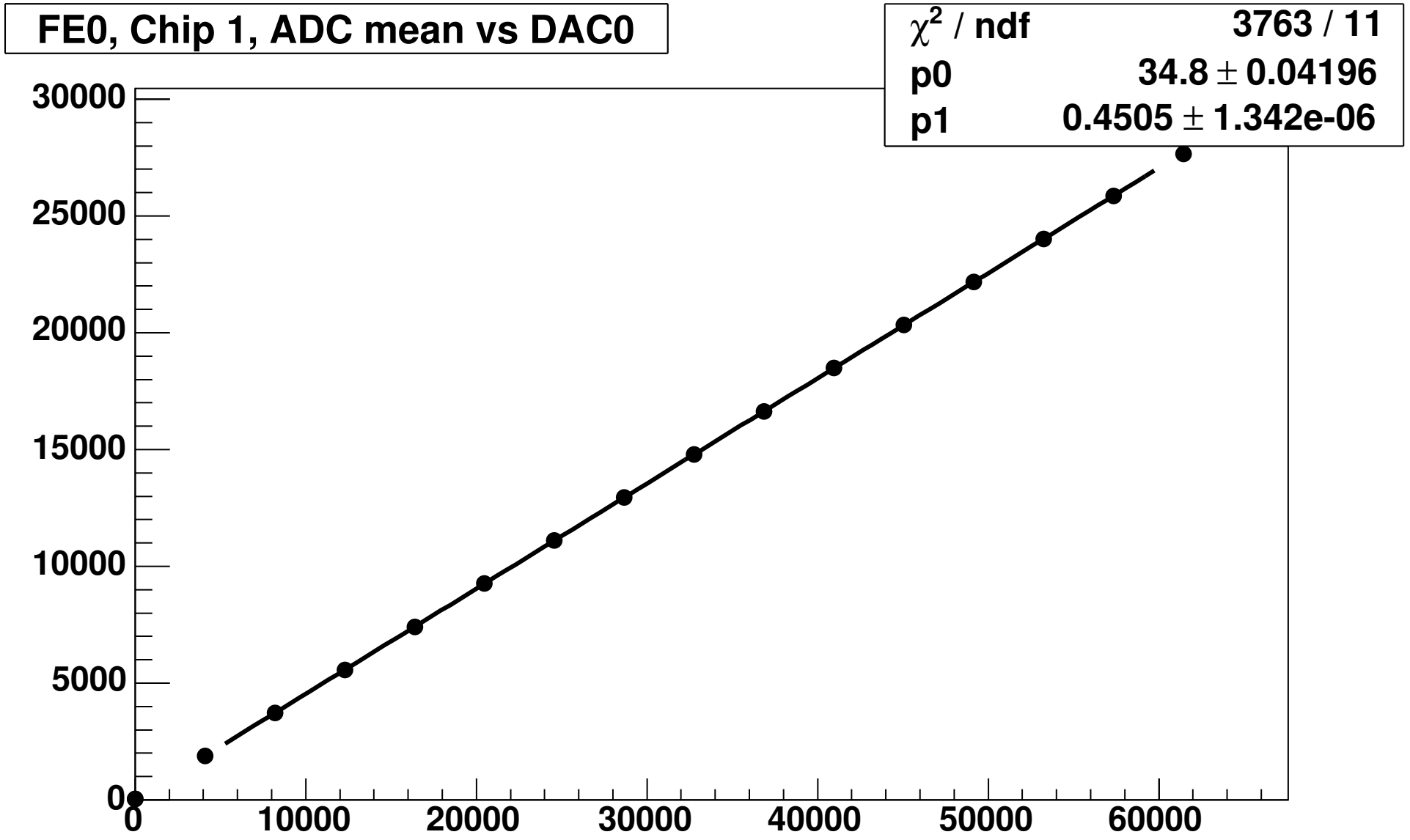

FE0, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

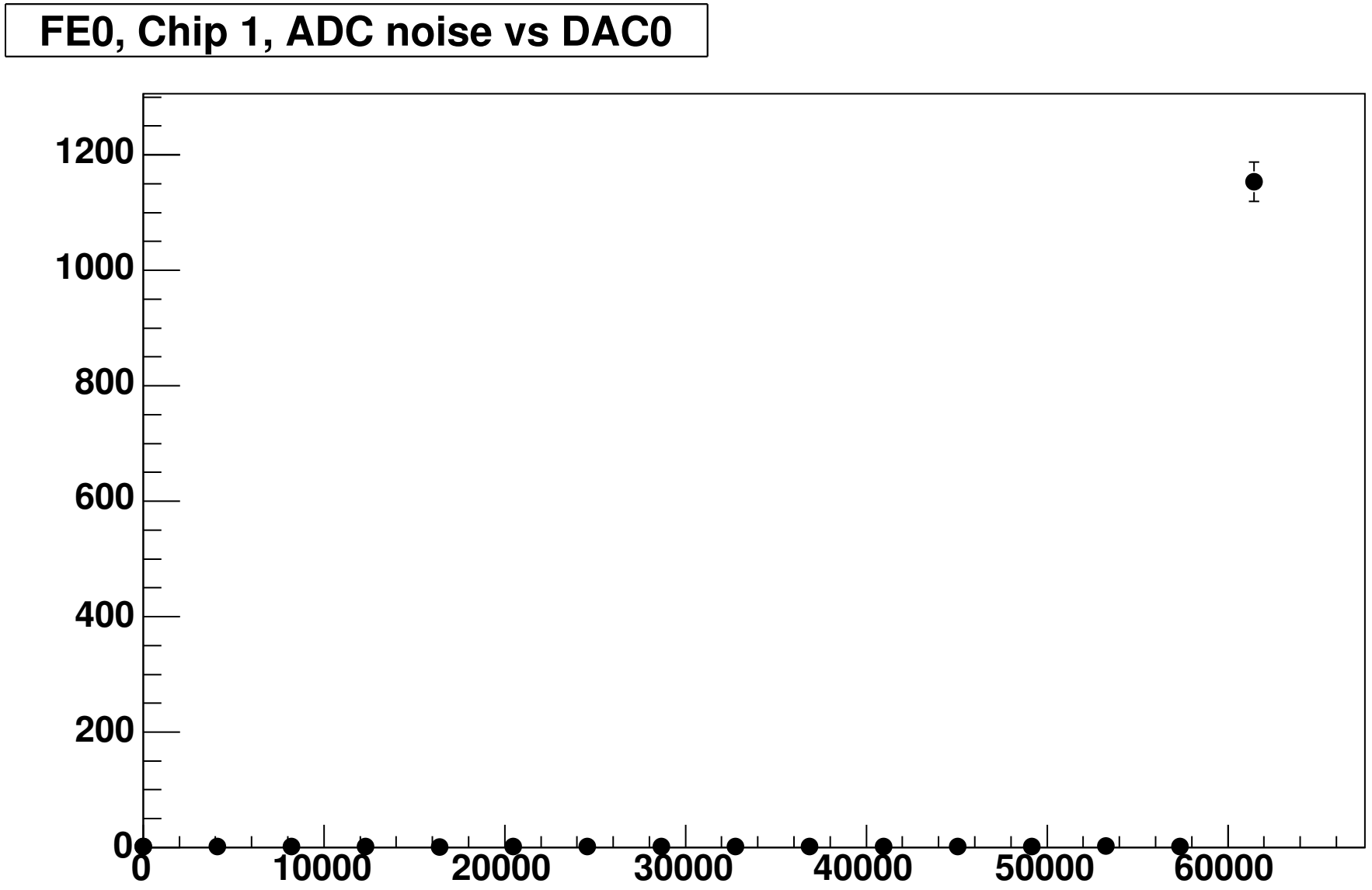

FE0, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

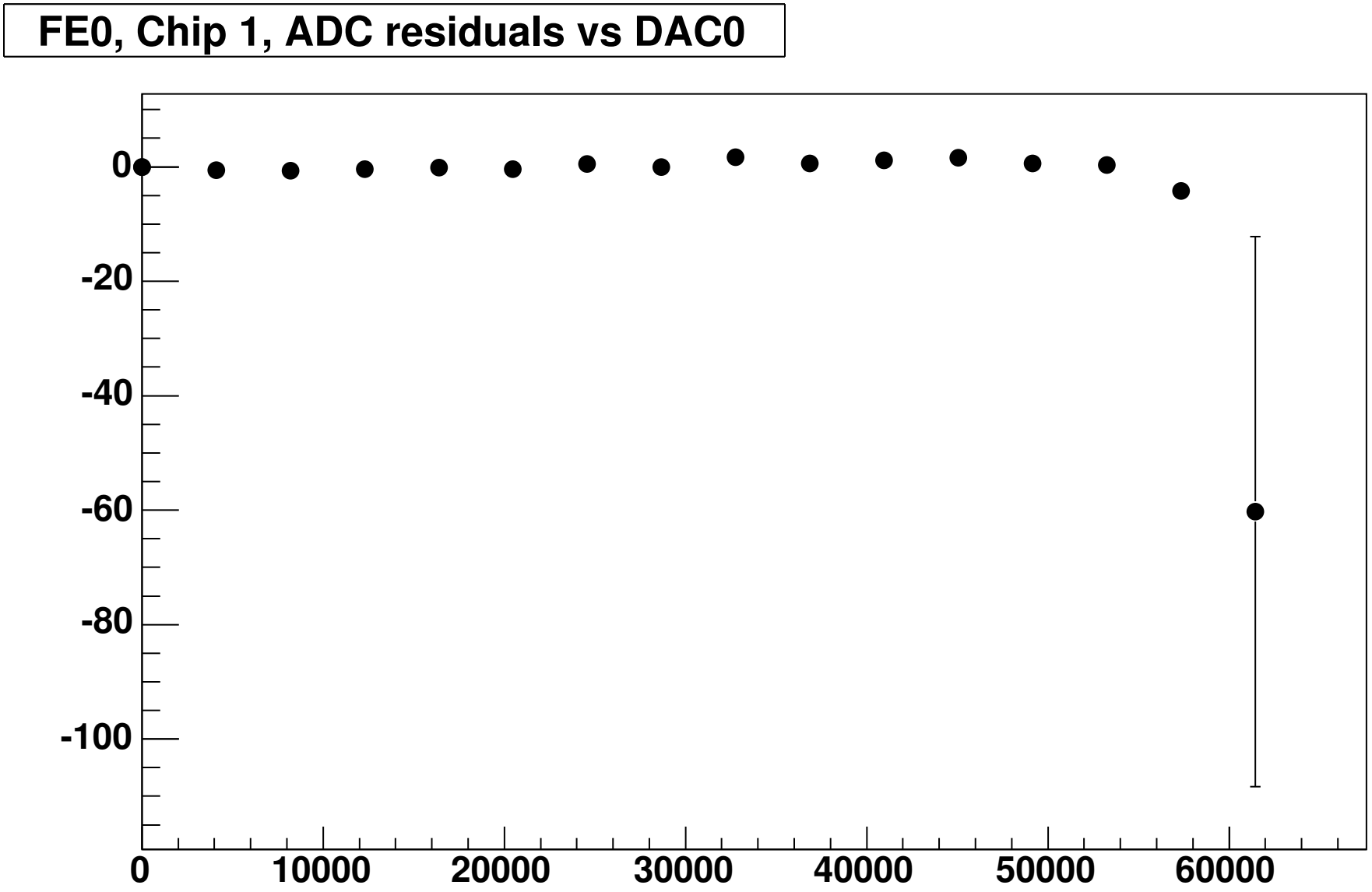

FE0, Chip 0, ADC mean vs DAC1
χ² / ndf 38.92 / 11
p0 39.01 ± 0.04002
p1 1.688e-06 ± 1.11e-06
39.4
39.3
39.2
39.1
39
38.9
38.8
0
10000
20000
30000
40000
50000
60000

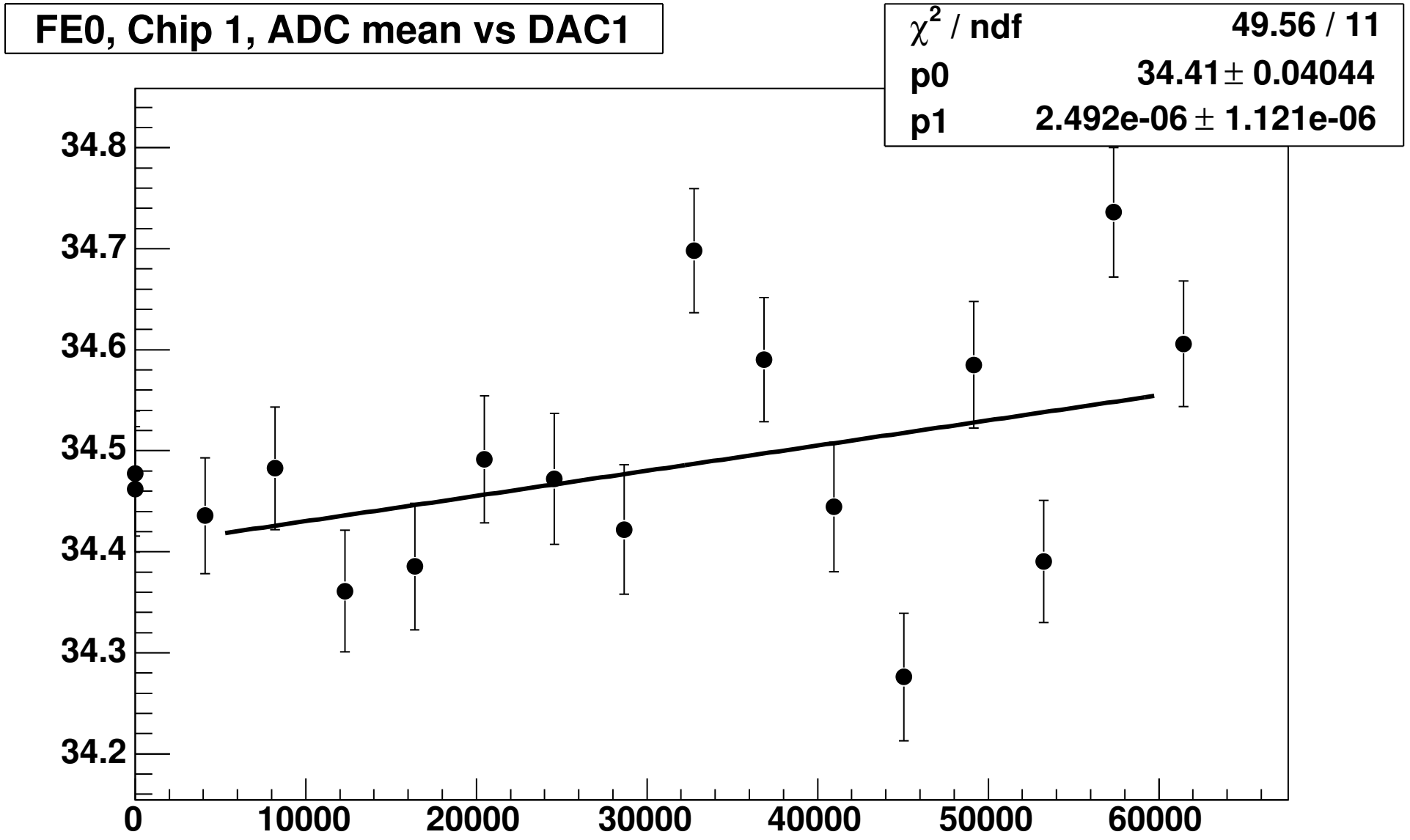

FE0, Chip 0, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

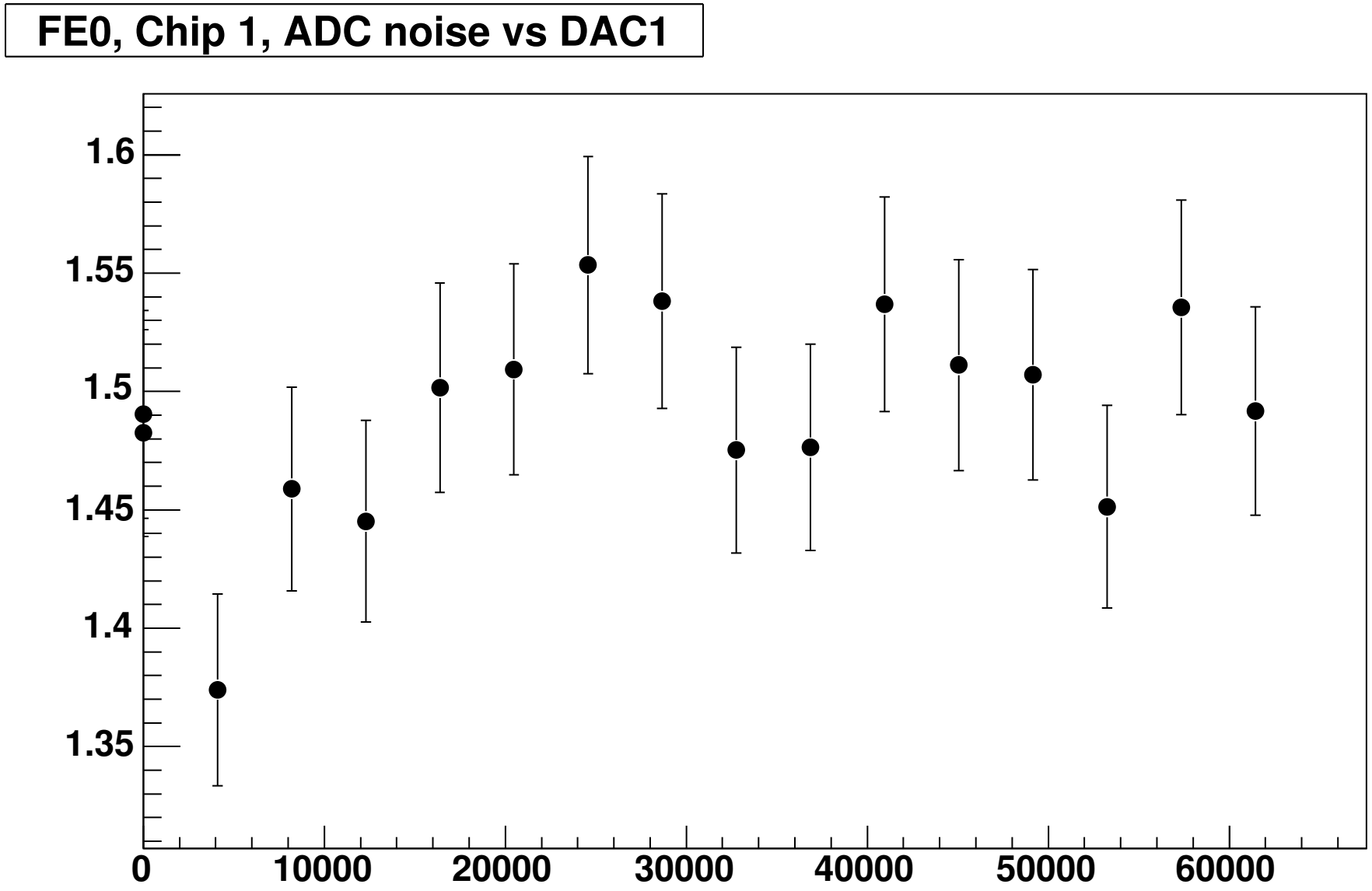

FE0, Chip 0, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

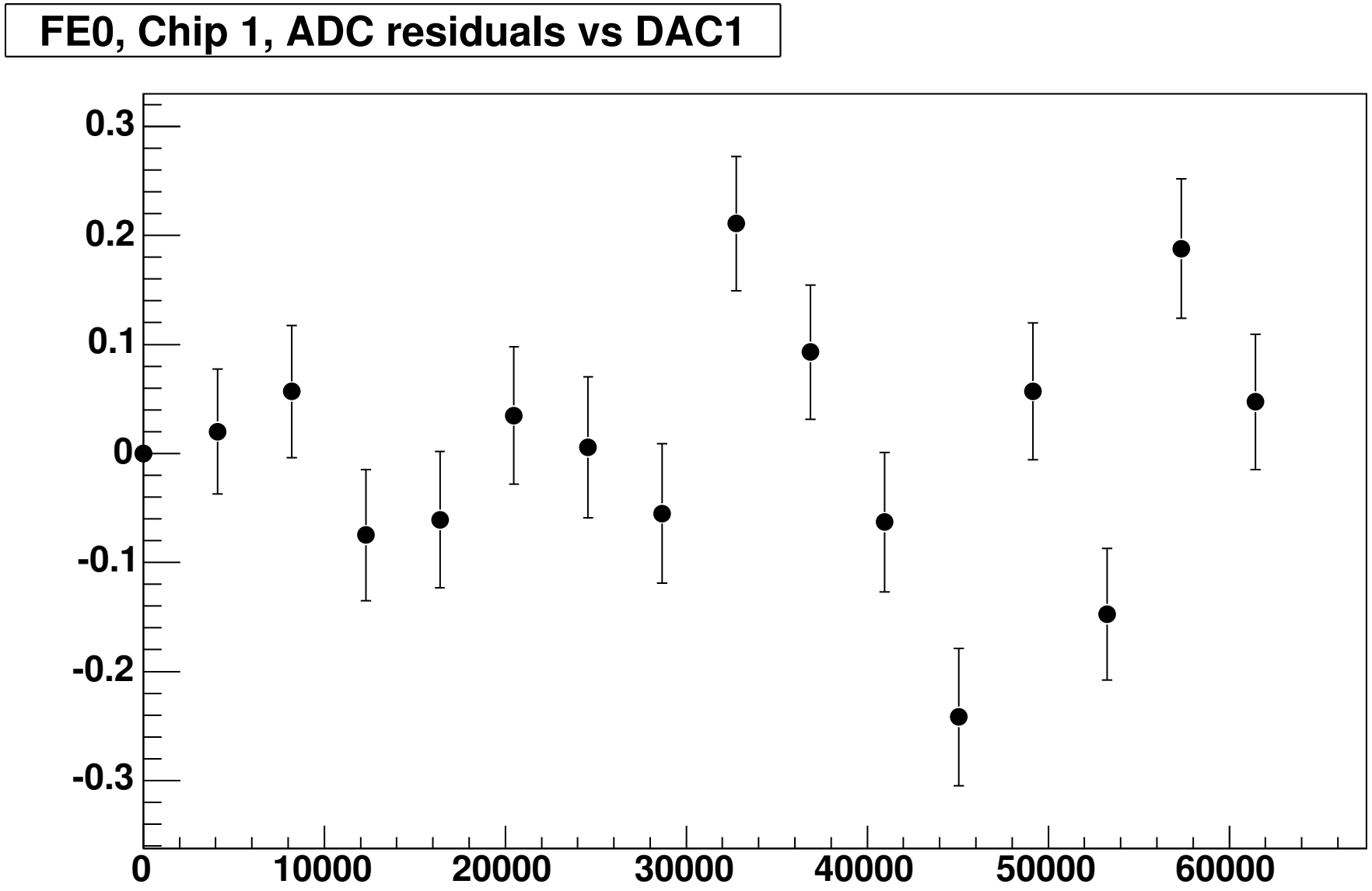

FE0, Chip 1, ADC mean vs DAC0
χ² / ndf 3763 / 11
p0 34.8 ± 0.04196
p1 0.4505 ± 1.342e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

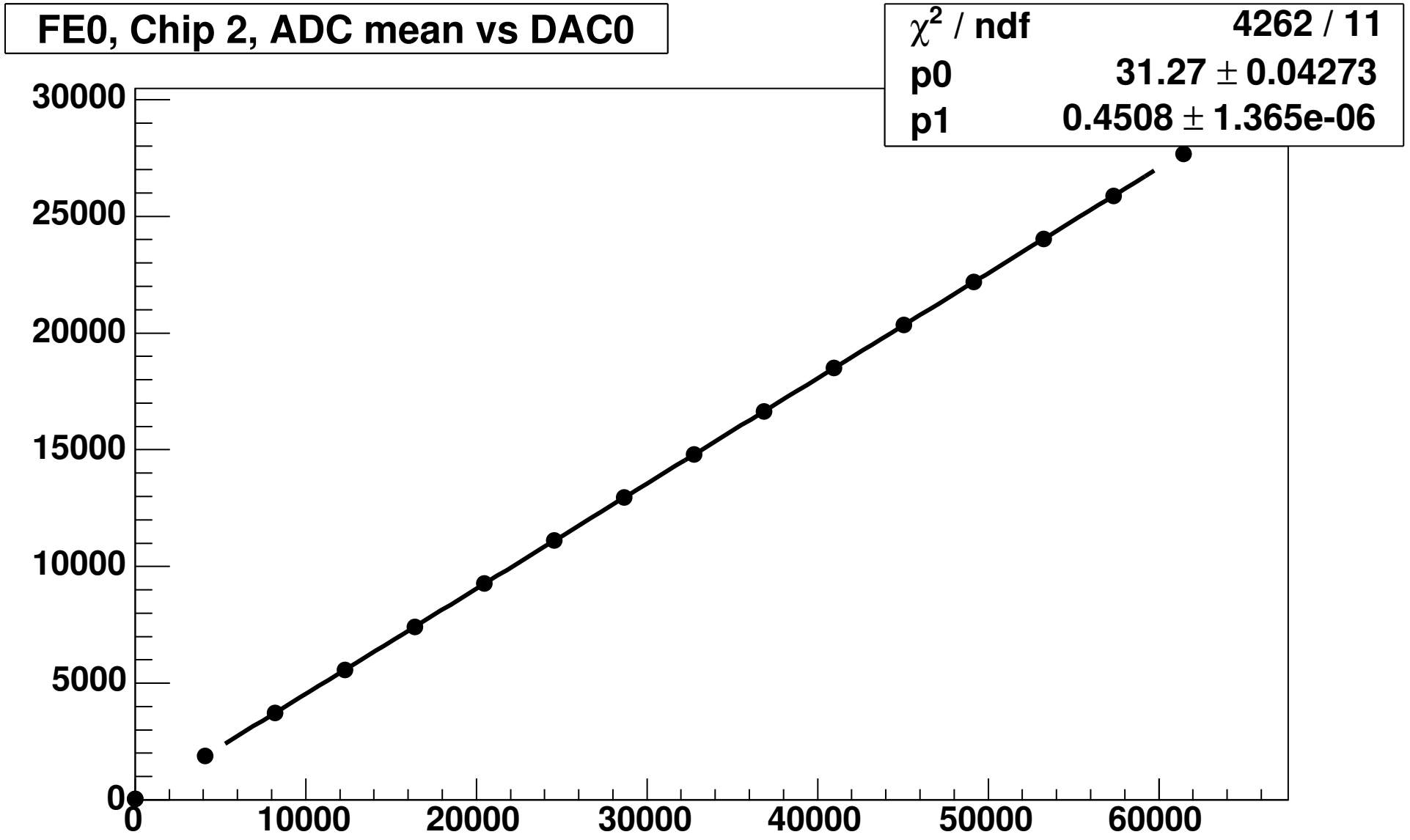

FE0, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

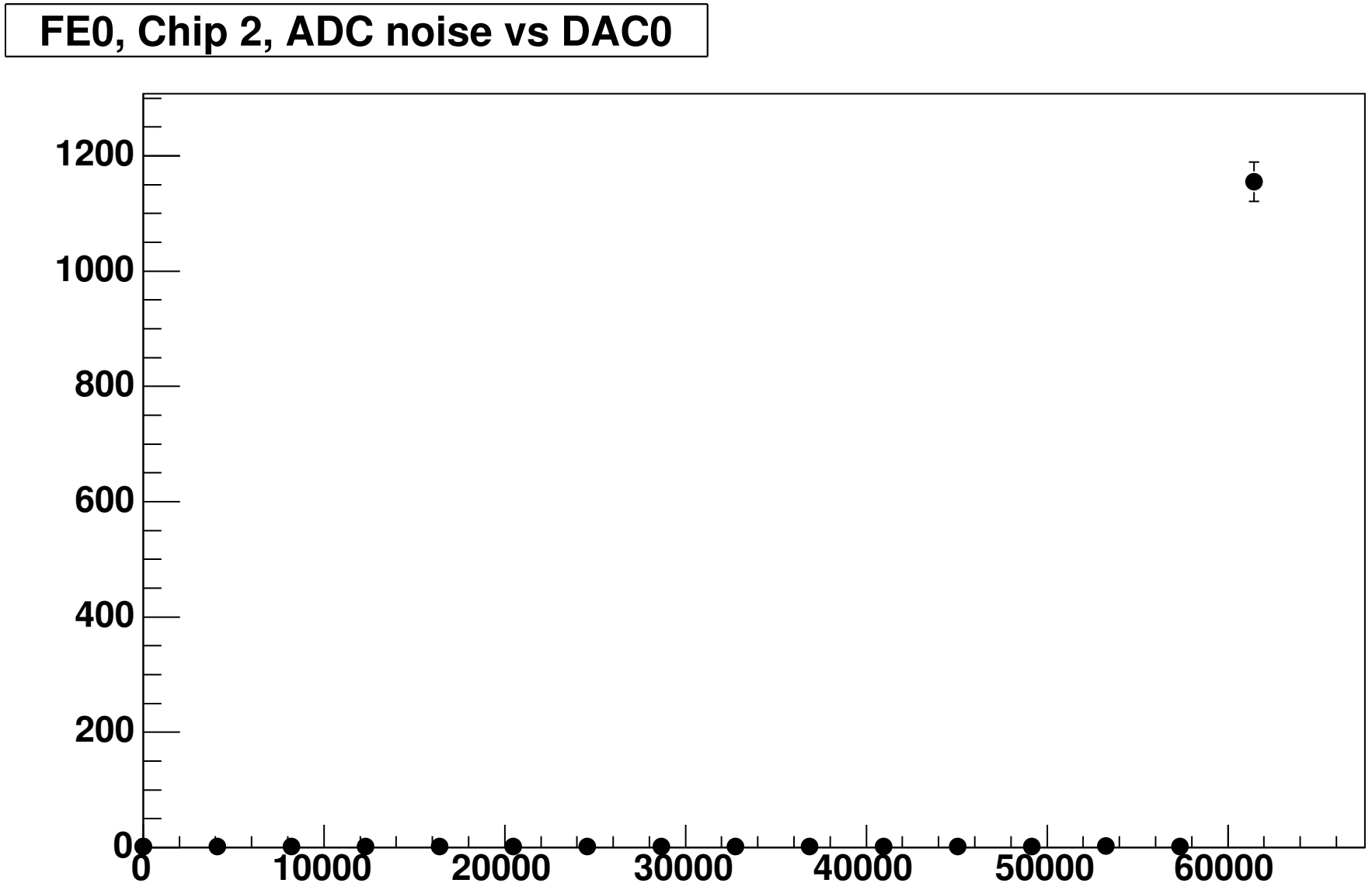

FE0, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

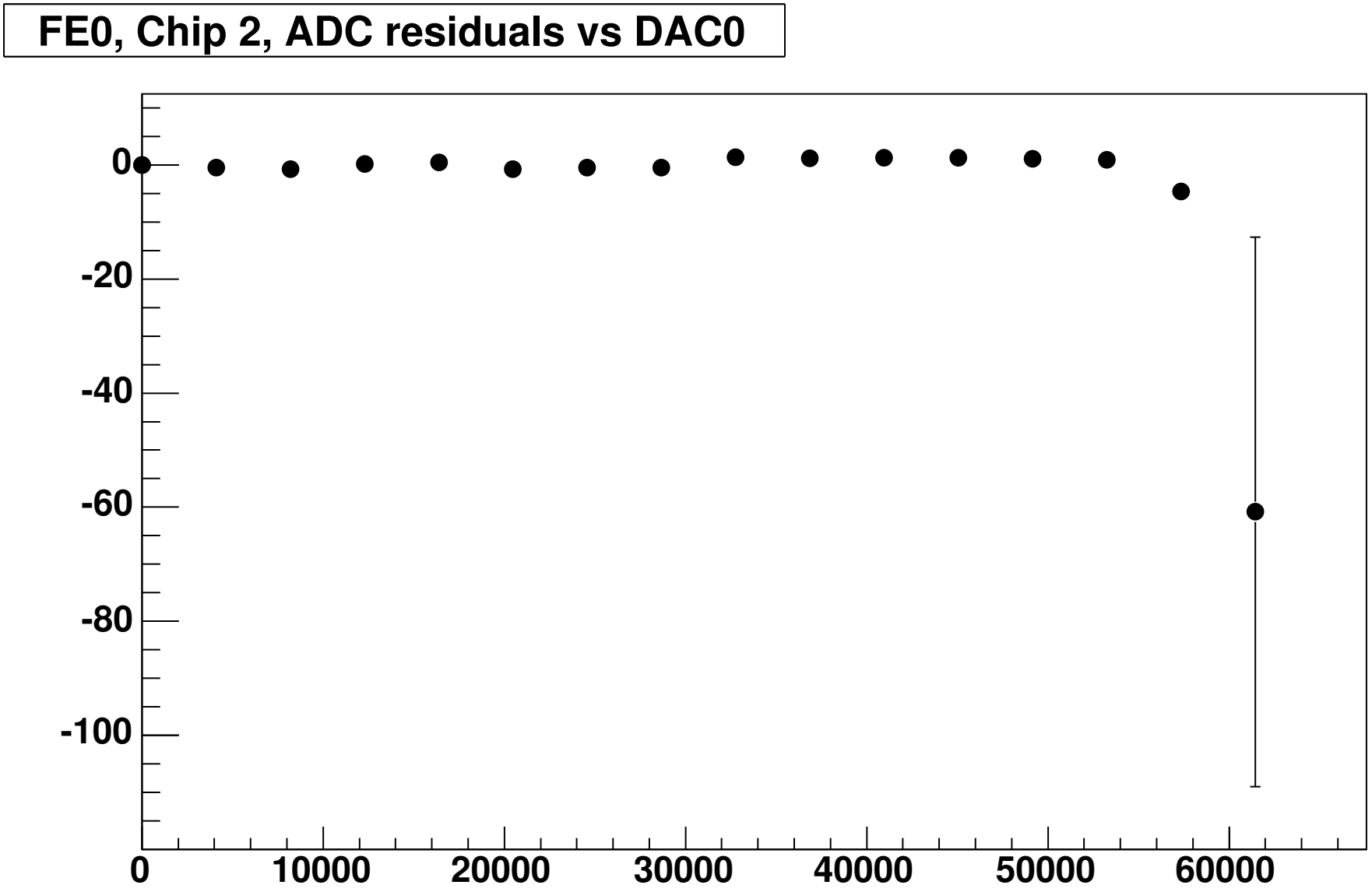

FE0, Chip 1, ADC mean vs DAC1
χ² / ndf 49.56 / 11
p0 34.41 ± 0.04044
p1 2.492e-06 ± 1.121e-06
34.8
34.7
34.6
34.5
34.4
34.3
34.2
0
10000
20000
30000
40000
50000
60000

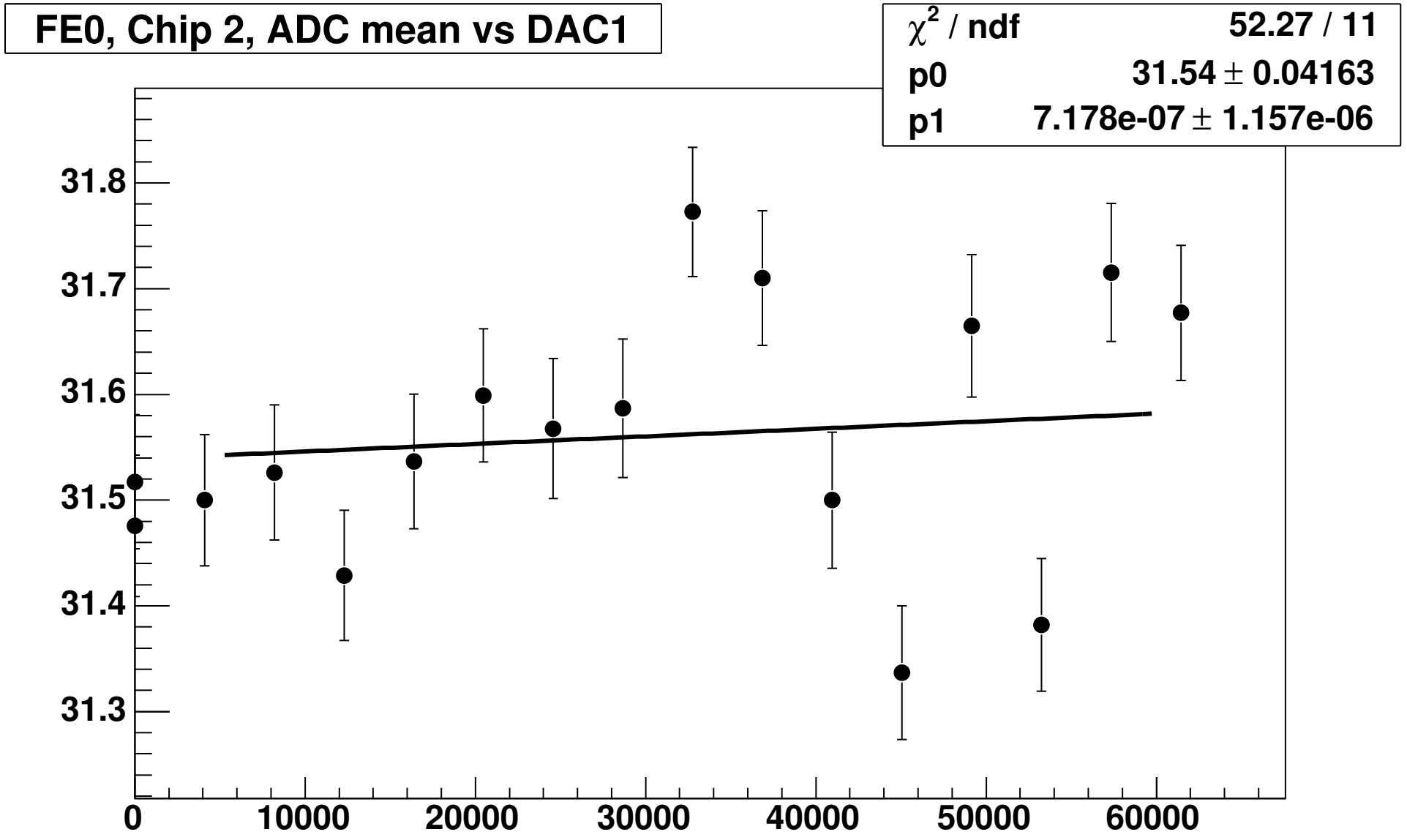

FE0, Chip 1, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

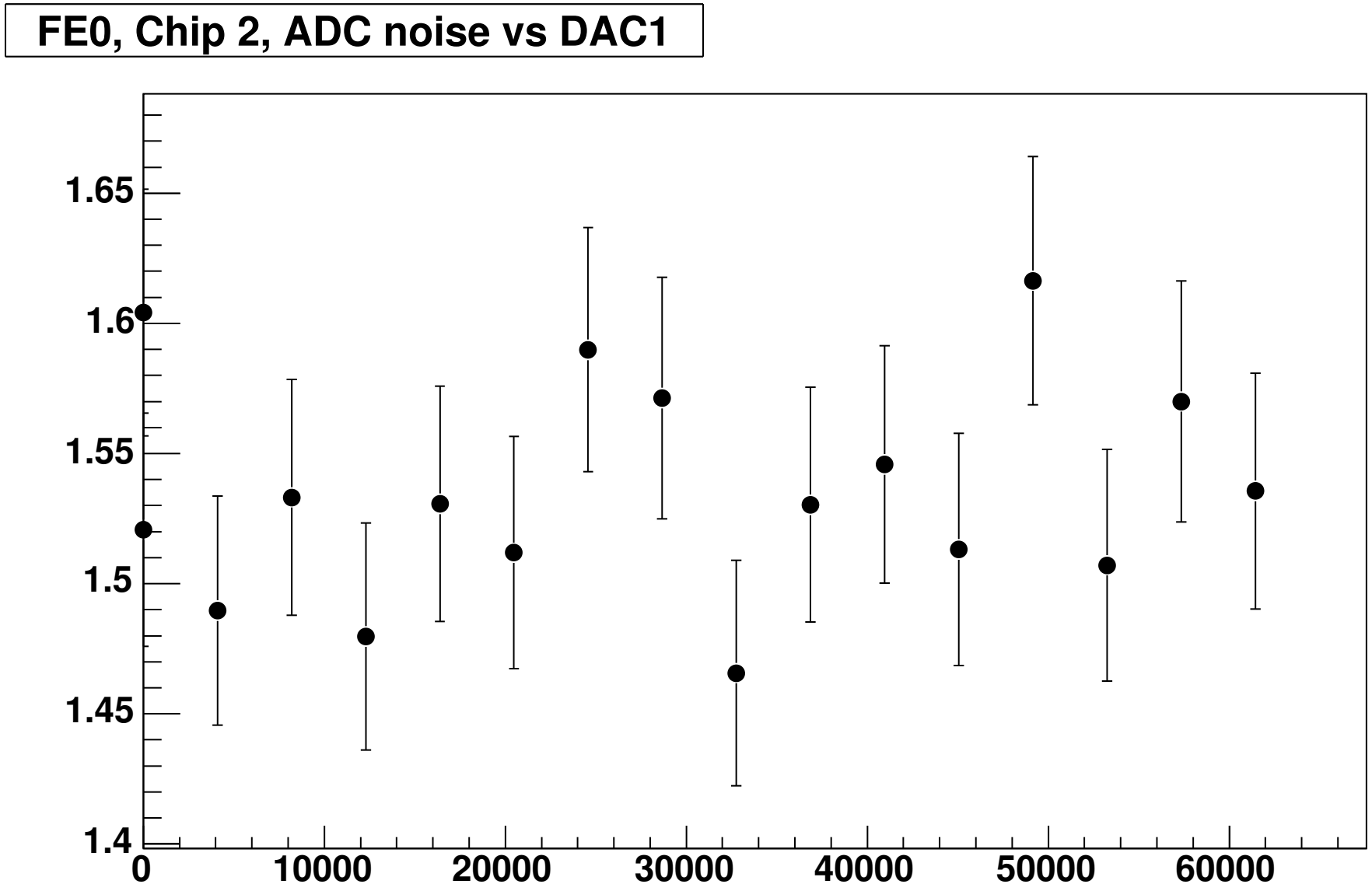

FE0, Chip 1, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

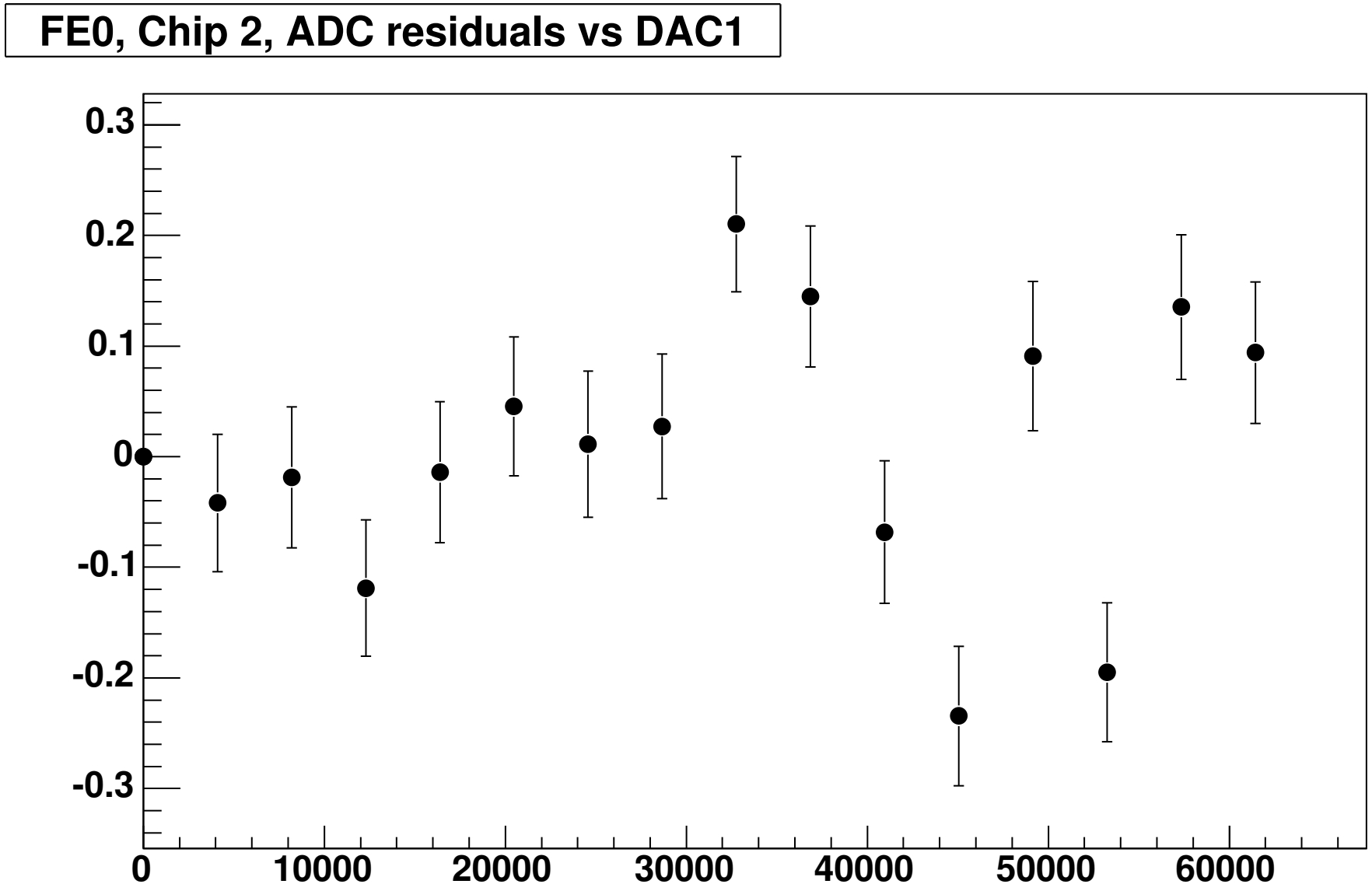

FE0, Chip 2, ADC mean vs DAC0
χ² / ndf 4262 / 11
p0 31.27 ± 0.04273
p1 0.4508 ± 1.365e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

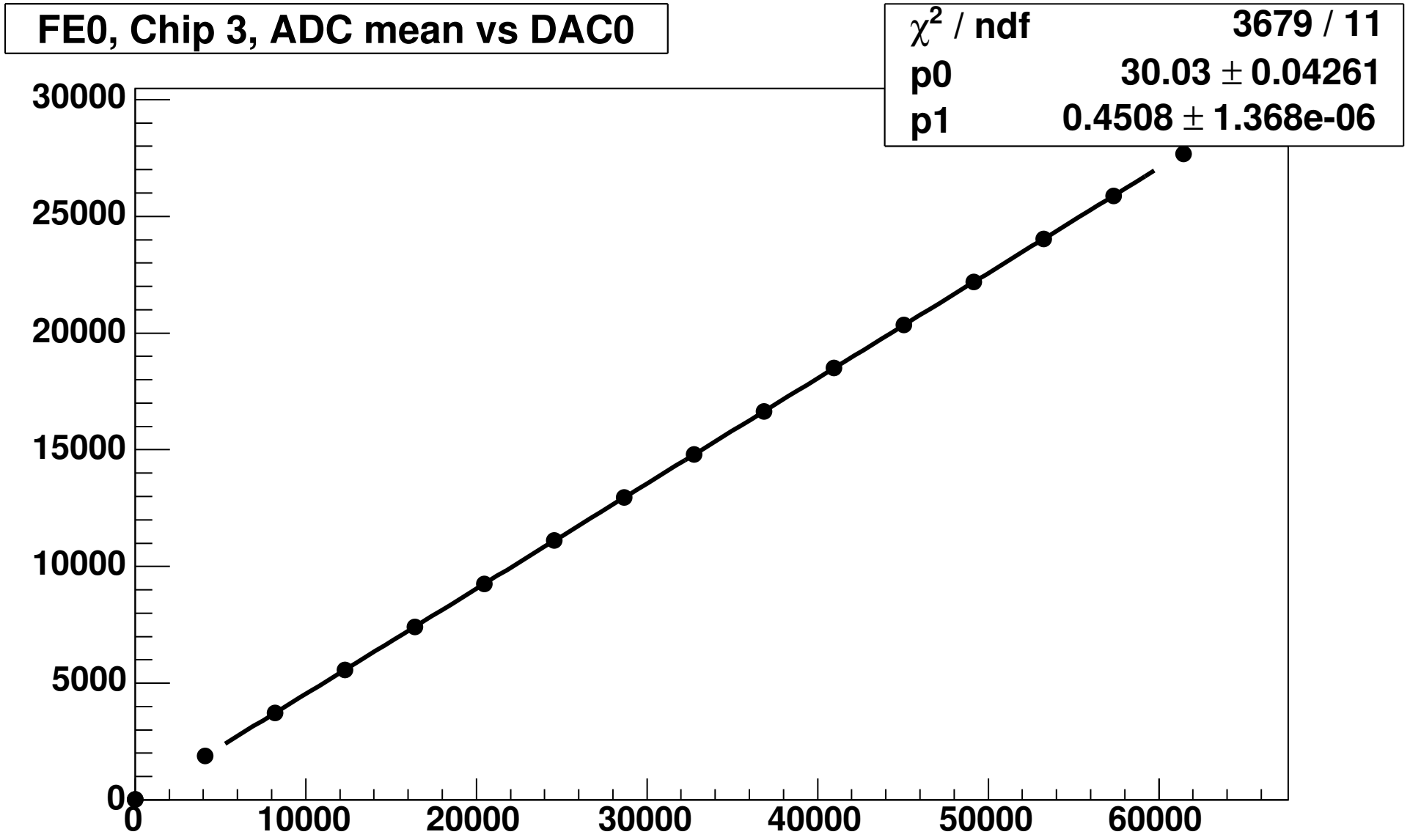

FE0, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

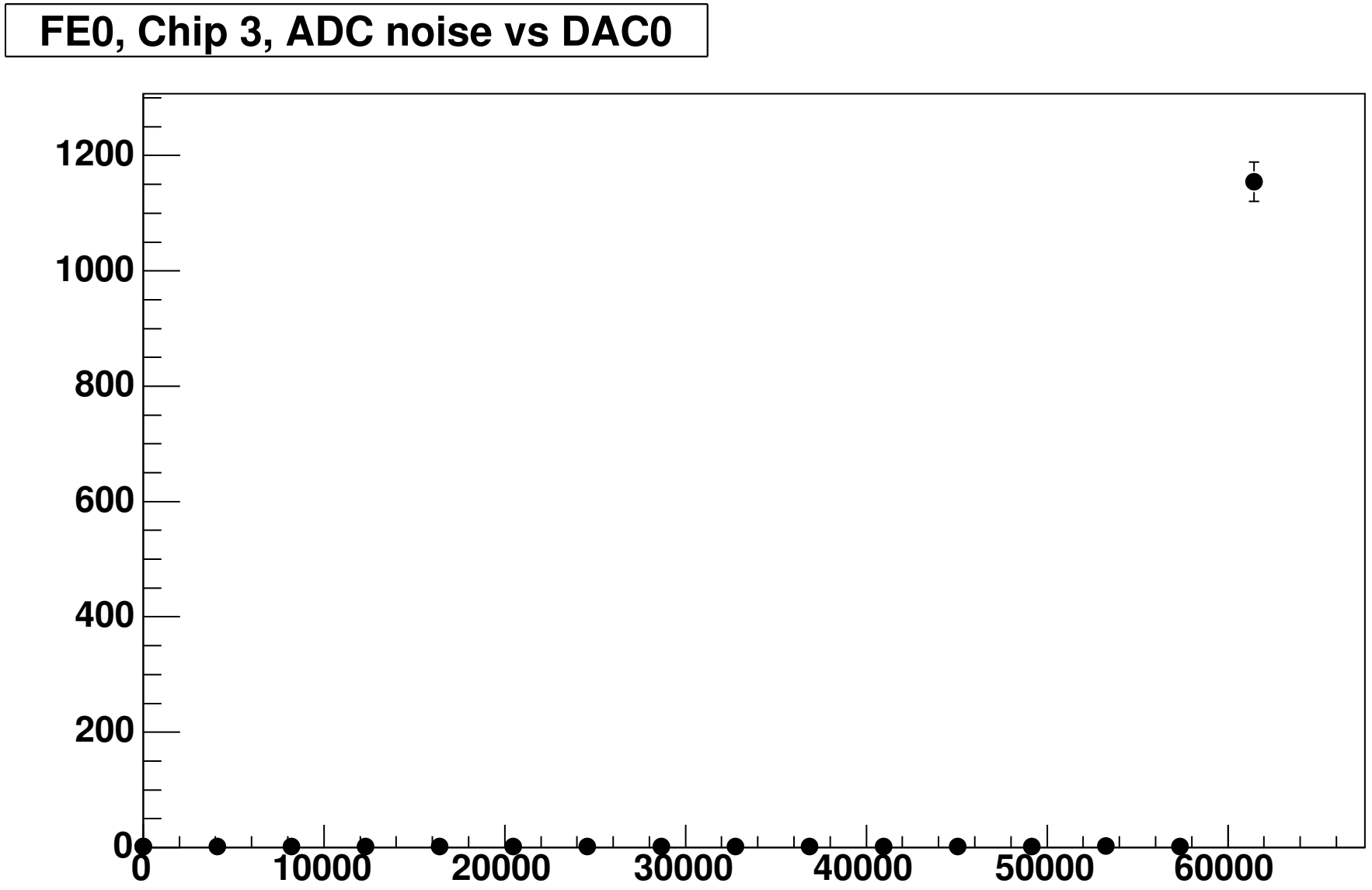

FE0, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

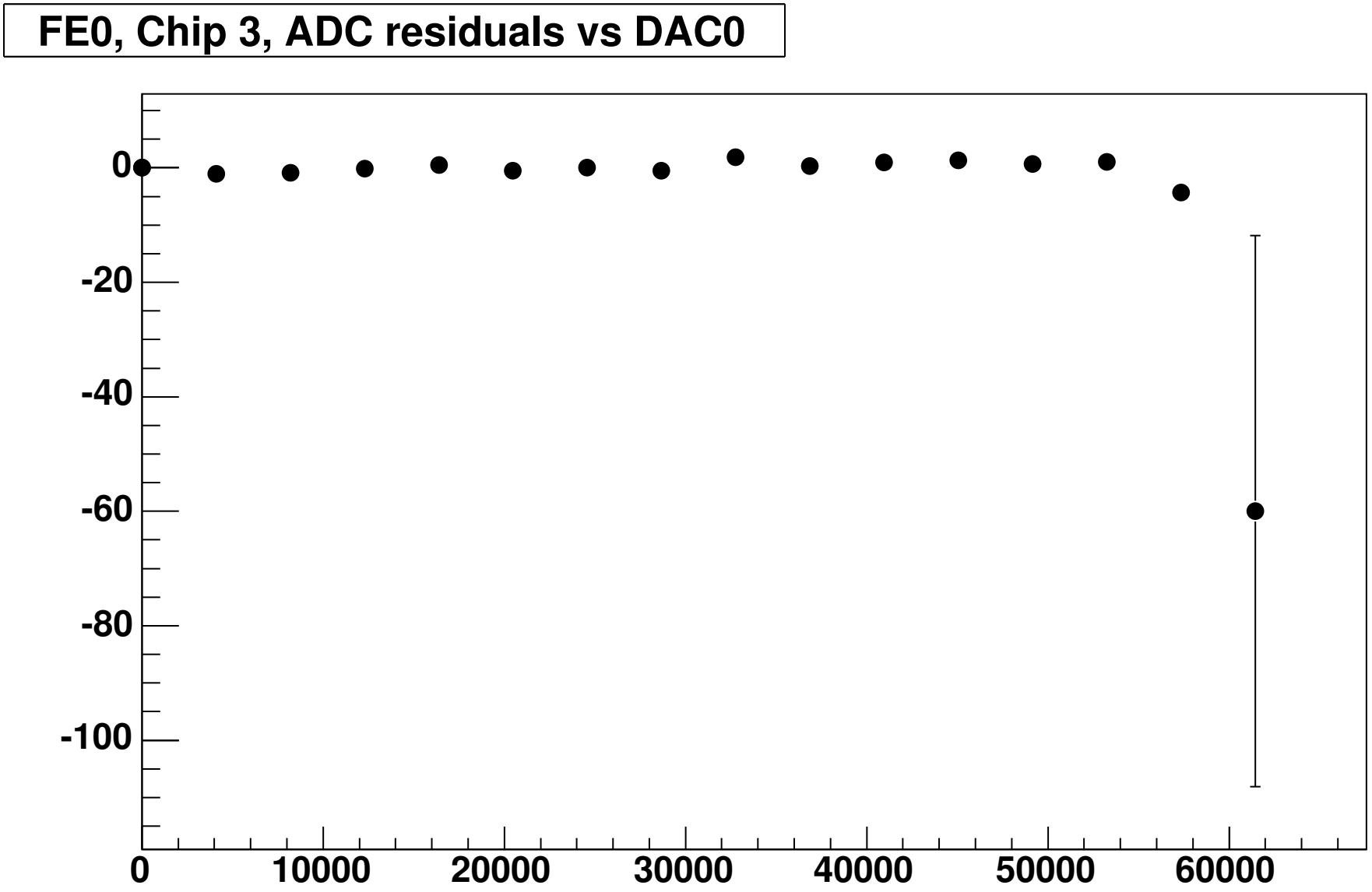

FE0, Chip 2, ADC mean vs DAC1
χ² / ndf 52.27 / 11
p0 31.54 ± 0.04163
p1 7.178e-07 ± 1.157e-06
31.8
31.7
31.6
31.5
31.4
31.3
0
10000
20000
30000
40000
50000
60000

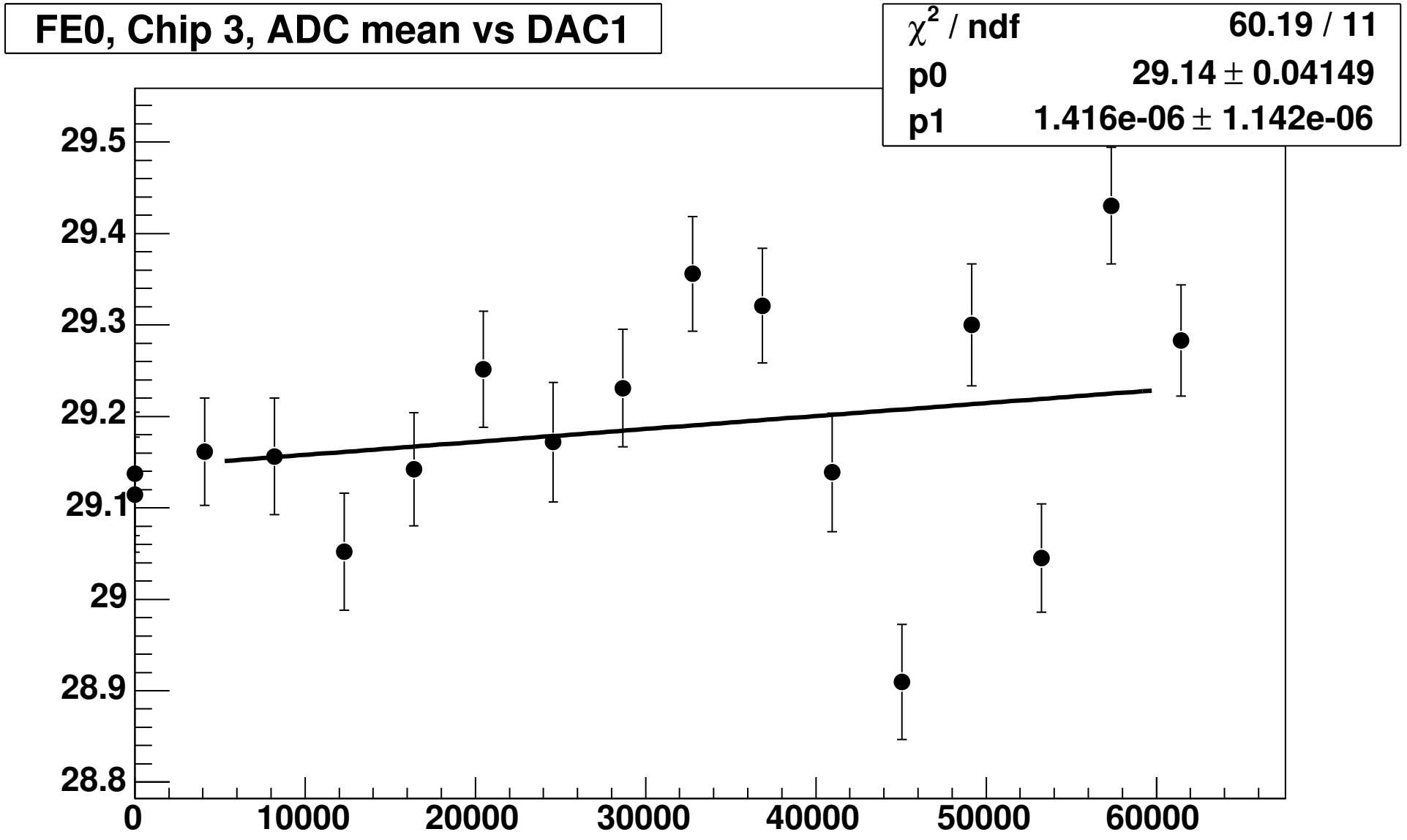

FE0, Chip 2, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

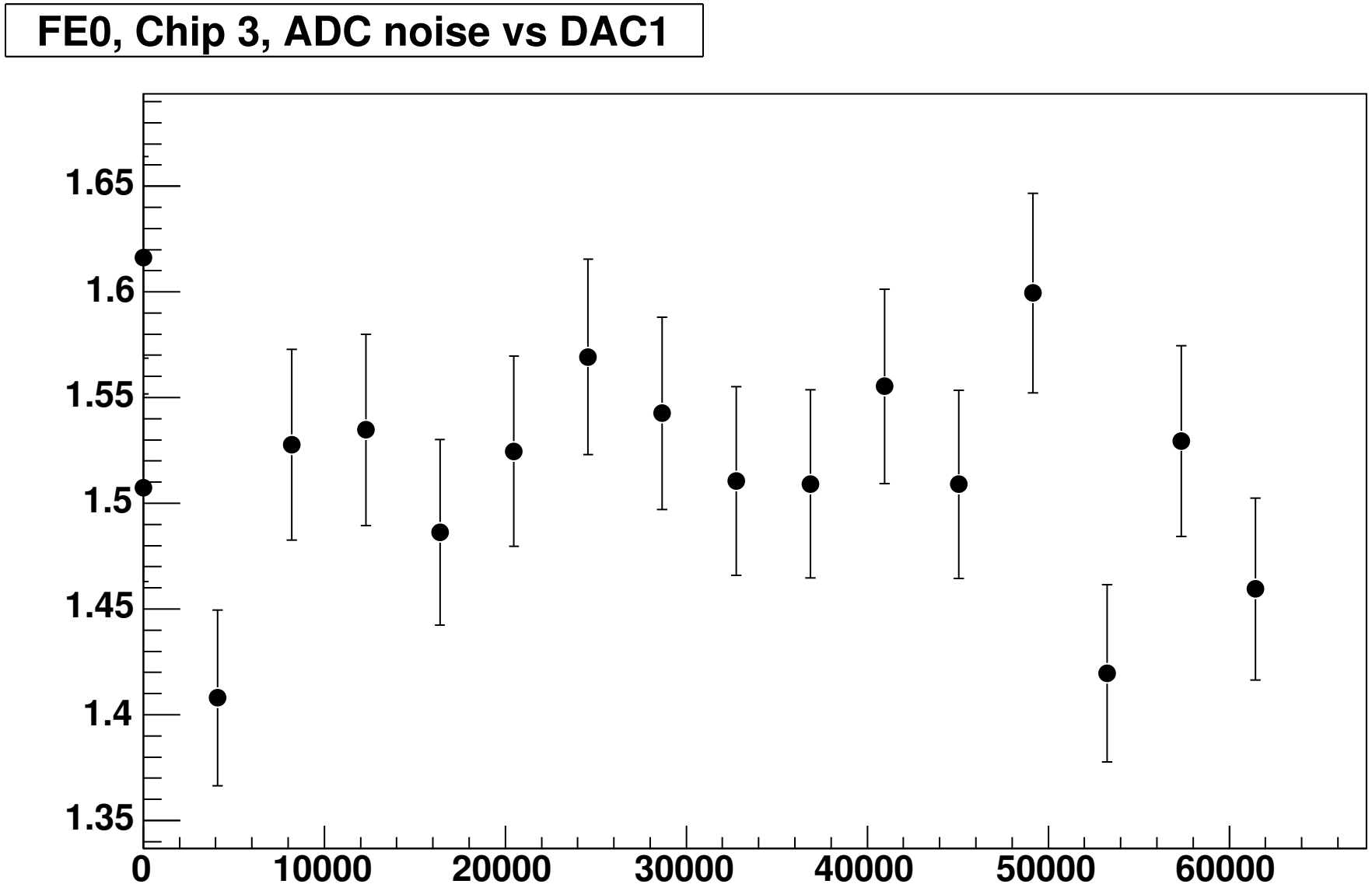

FE0, Chip 2, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

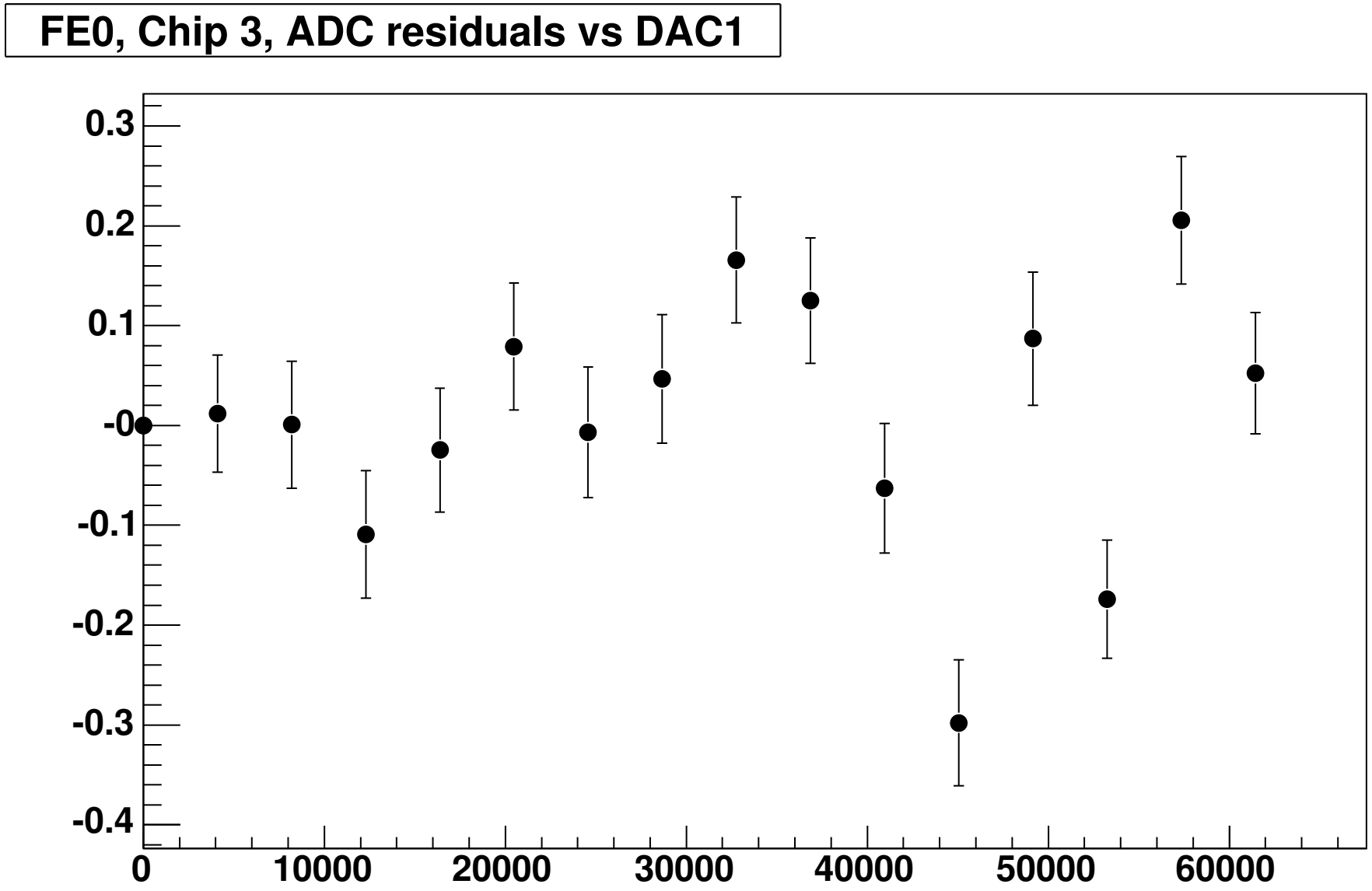

FE0, Chip 3, ADC mean vs DAC0
χ² / ndf 3679 / 11
p0 30.03 ± 0.04261
p1 0.4508 ± 1.368e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

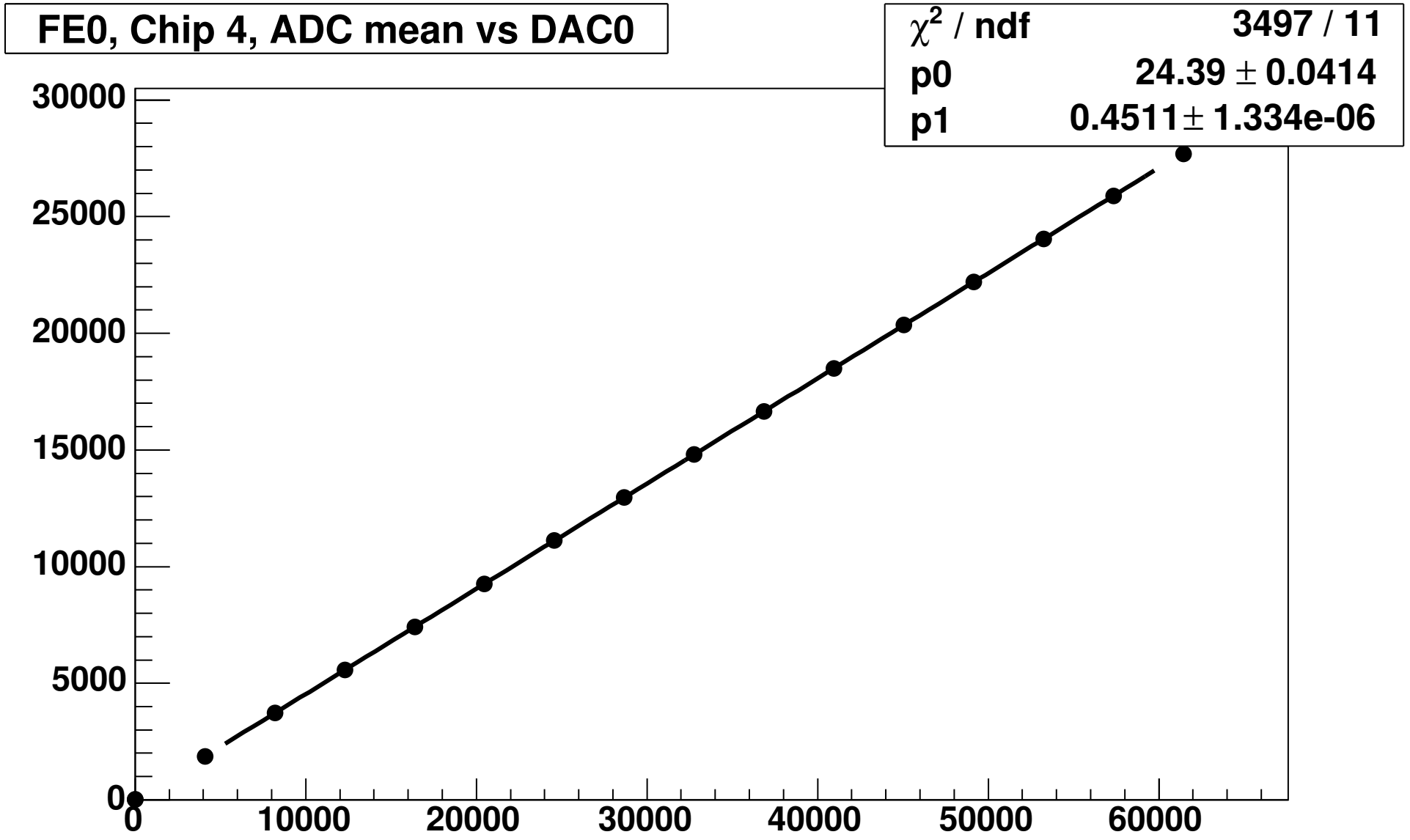

FE0, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

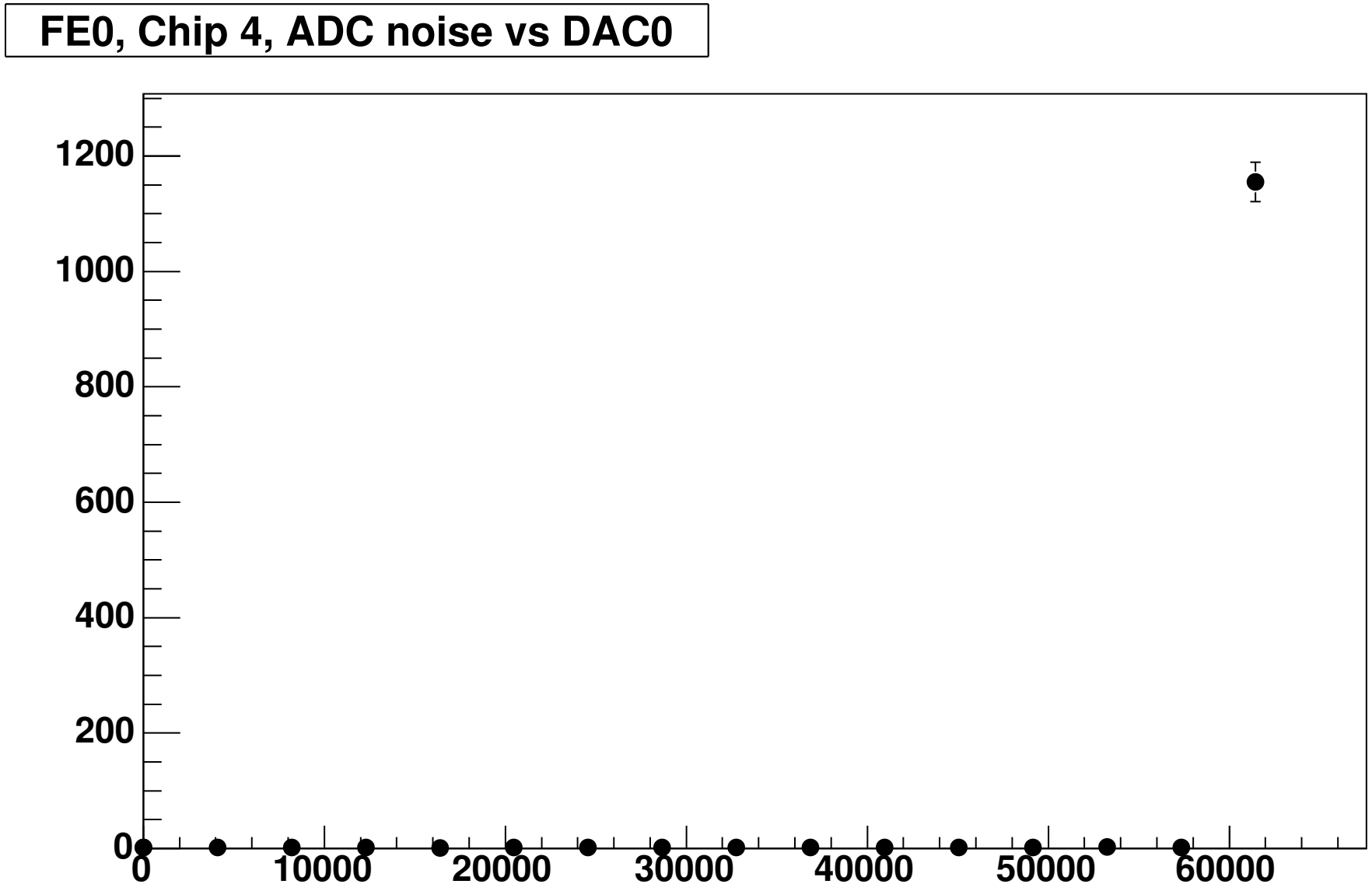

FE0, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

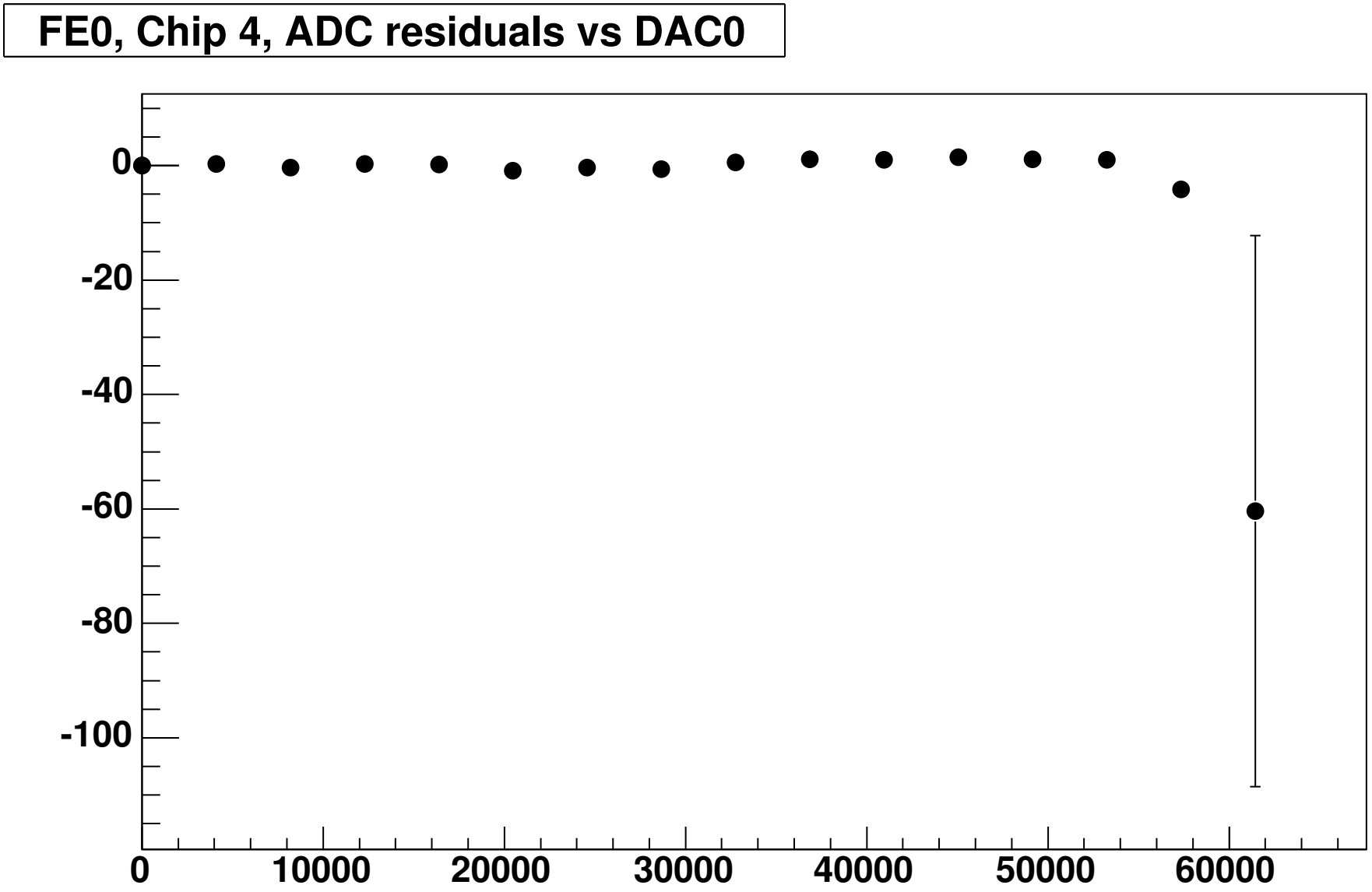

FE0, Chip 3, ADC mean vs DAC1
χ² / ndf 60.19 / 11
p0 29.14 ± 0.04149
p1 1.416e-06 ± 1.142e-06
29.5
29.4
29.3
29.2
29.1
29
28.9
28.8
0
10000
20000
30000
40000
50000
60000

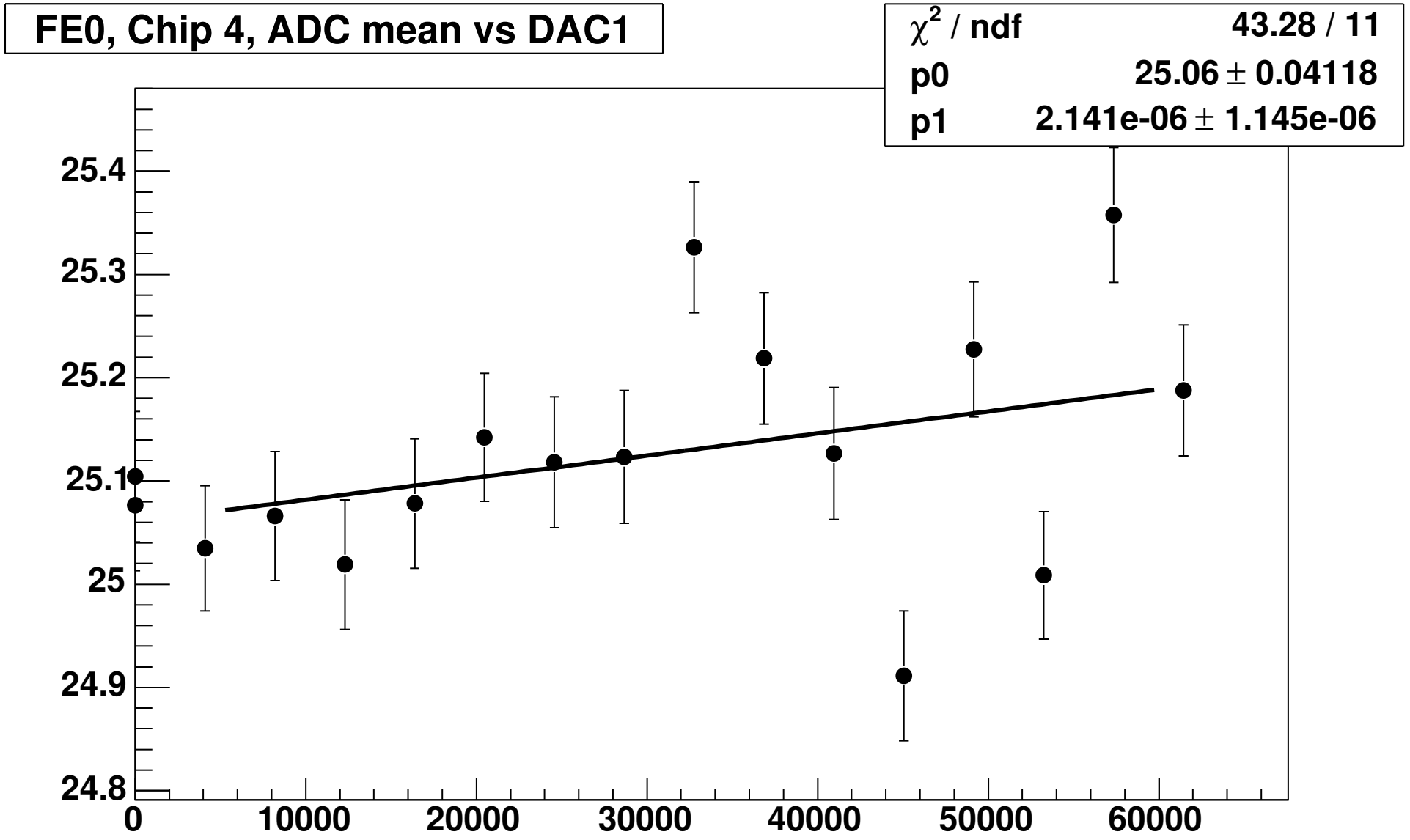

FE0, Chip 3, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

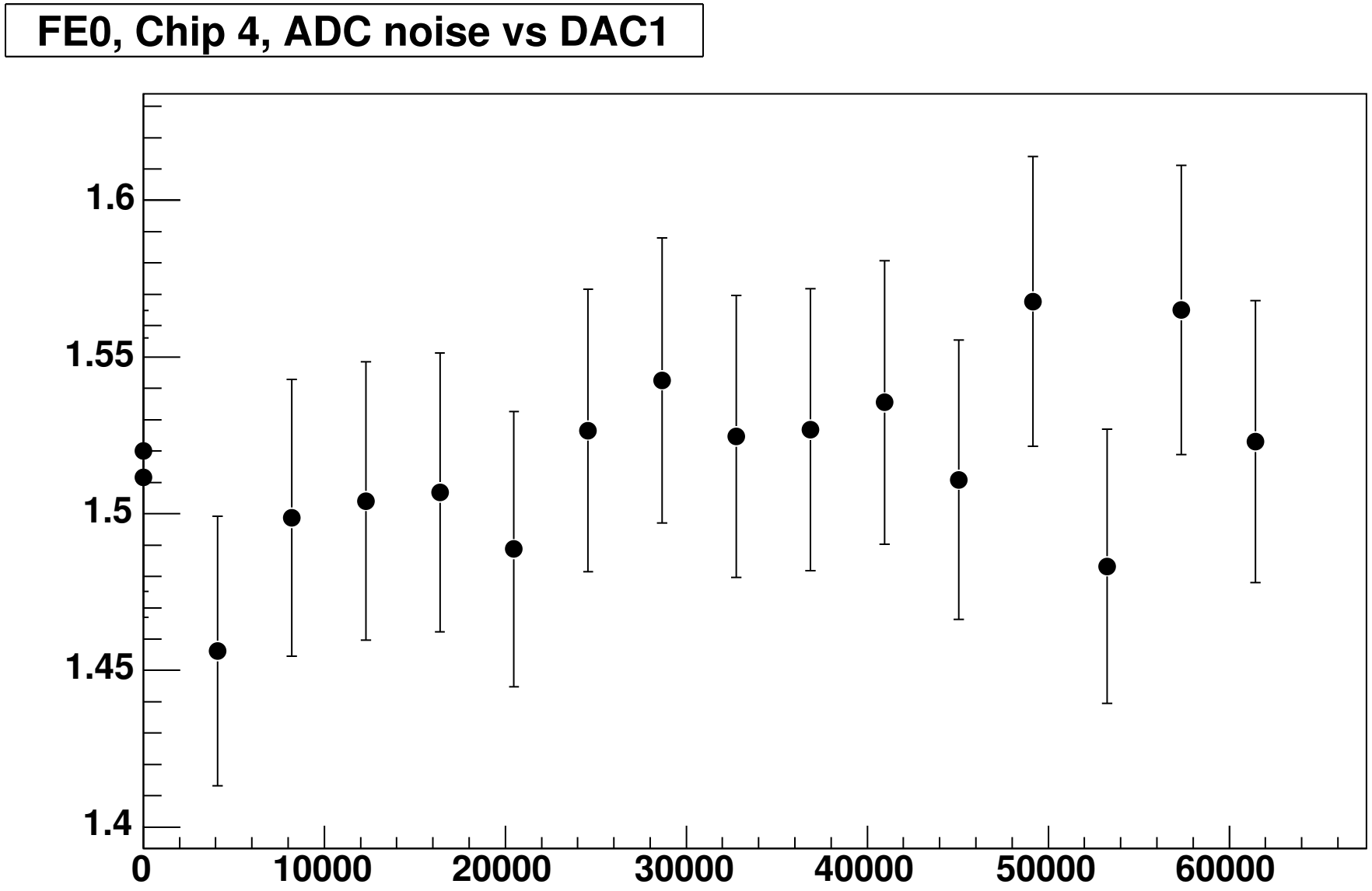

FE0, Chip 3, ADC residuals vs DAC1
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

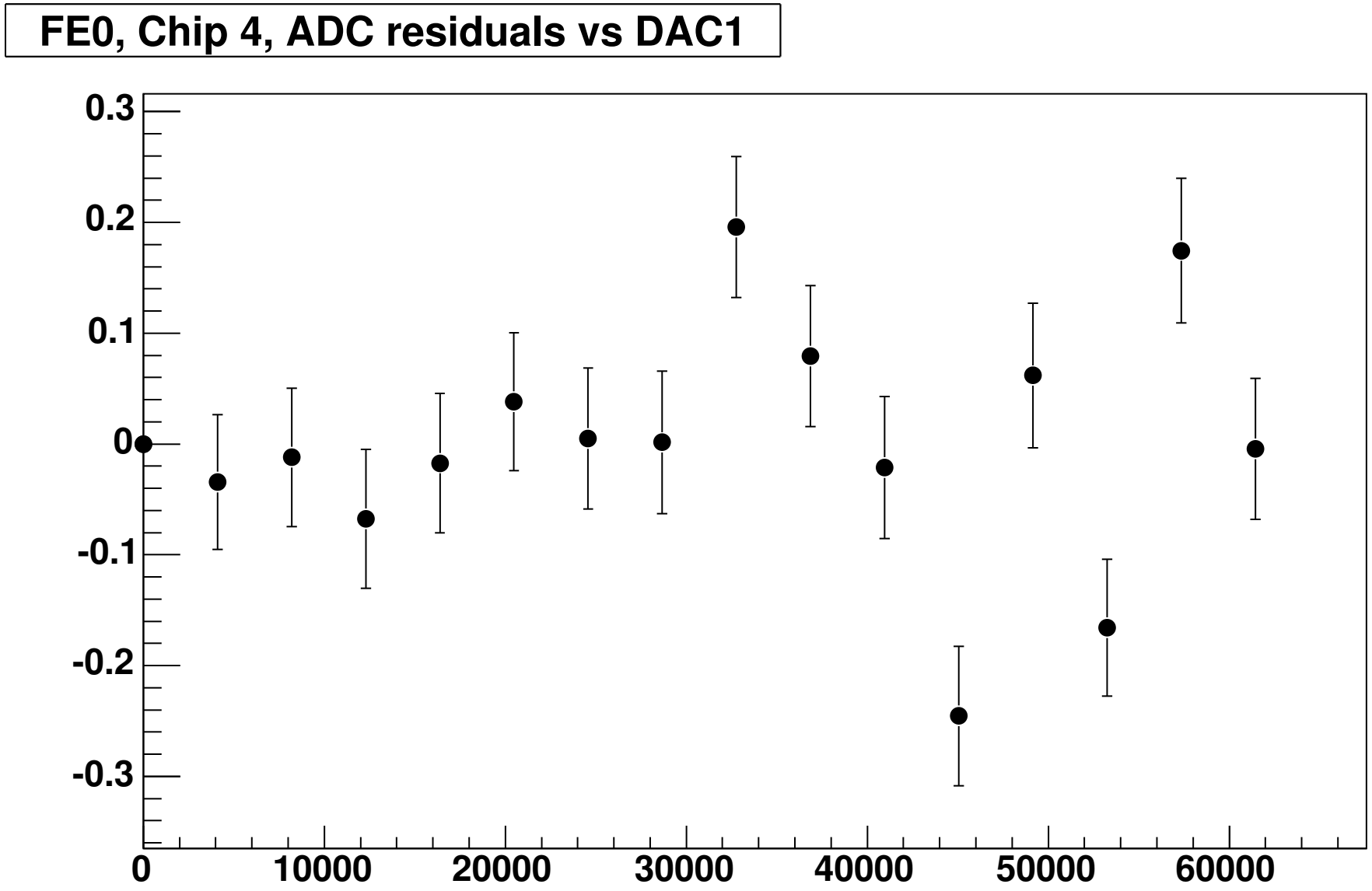

FE0, Chip 4, ADC mean vs DAC0
χ² / ndf 3497 / 11
p0 24.39 ± 0.0414
p1 0.4511 ± 1.334e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

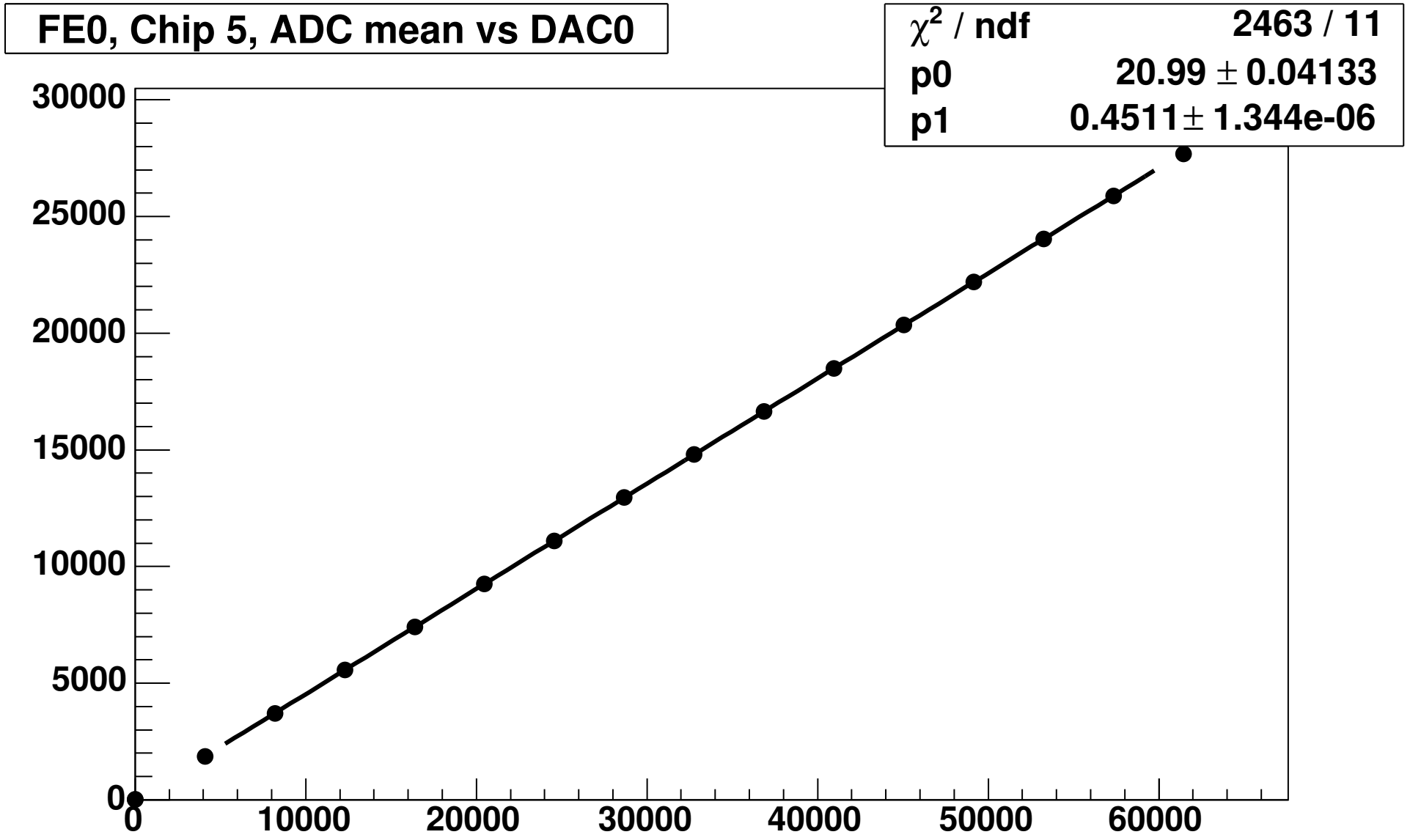

FE0, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

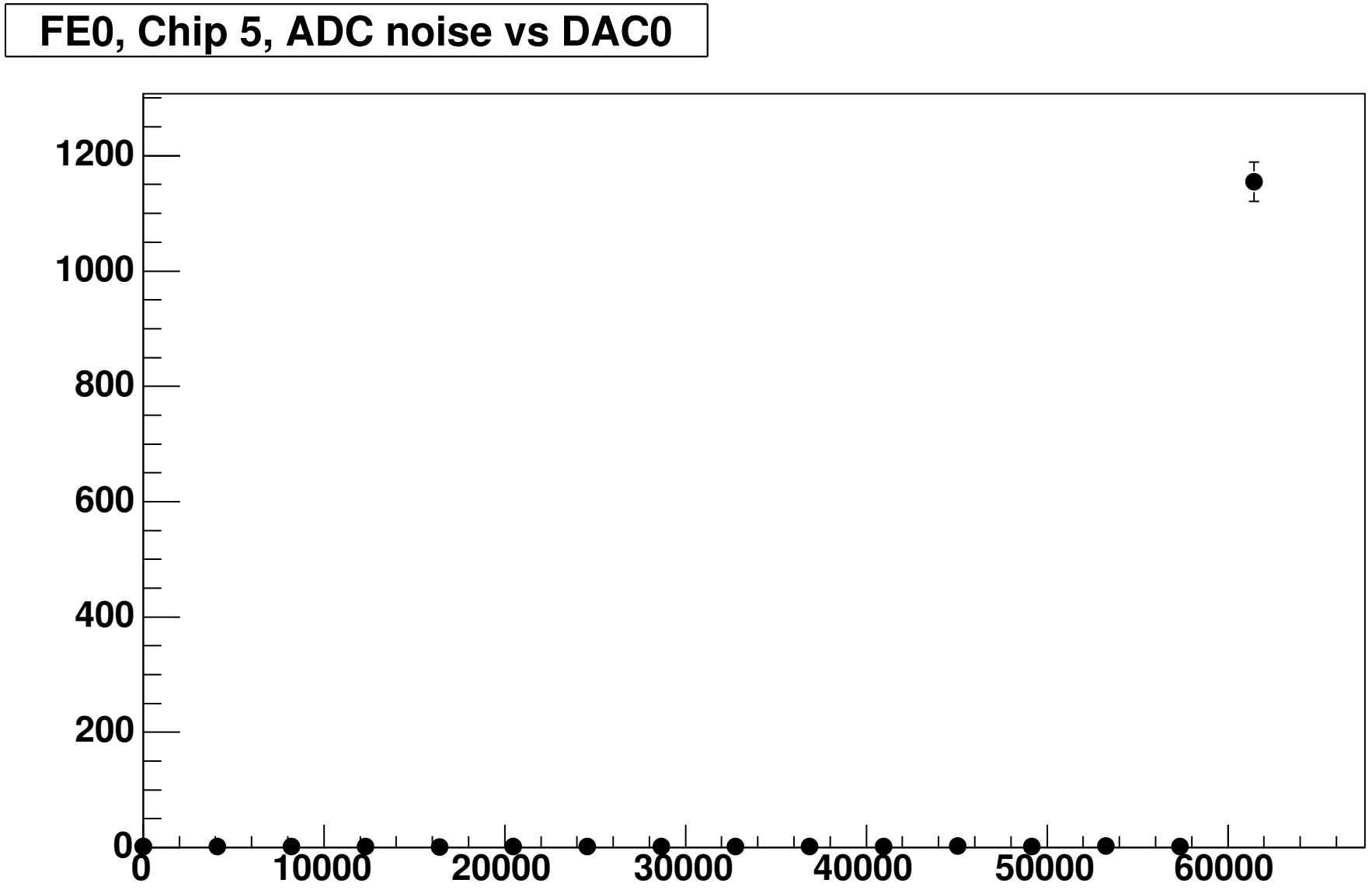

FE0, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

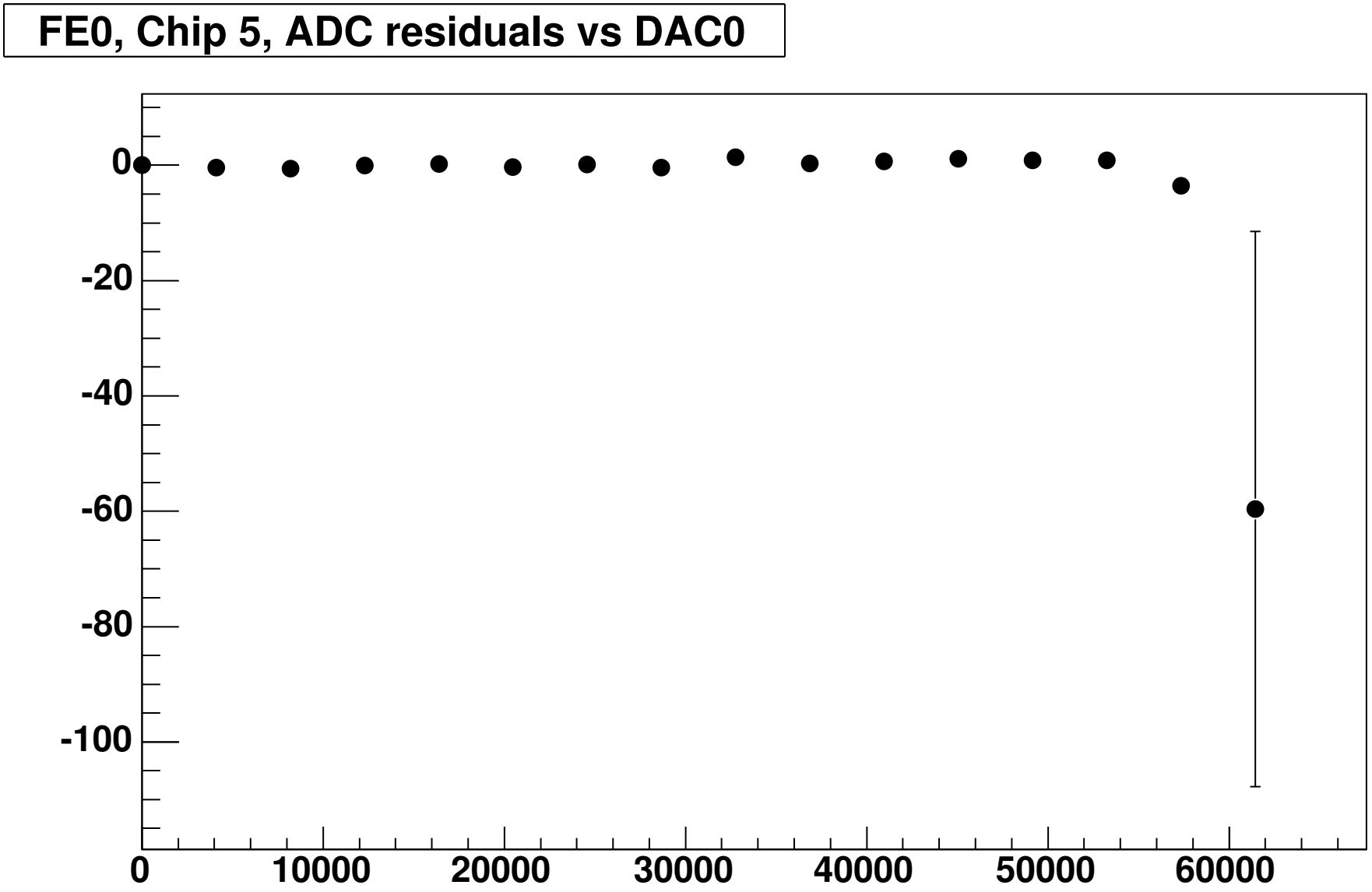

FE0, Chip 4, ADC mean vs DAC1
χ² / ndf 43.28 / 11
p0 25.06 ± 0.04118
p1 2.141e-06 ± 1.145e-06
25.4
25.3
25.2
25.1
25
24.9
24.8
0
10000
20000
30000
40000
50000
60000

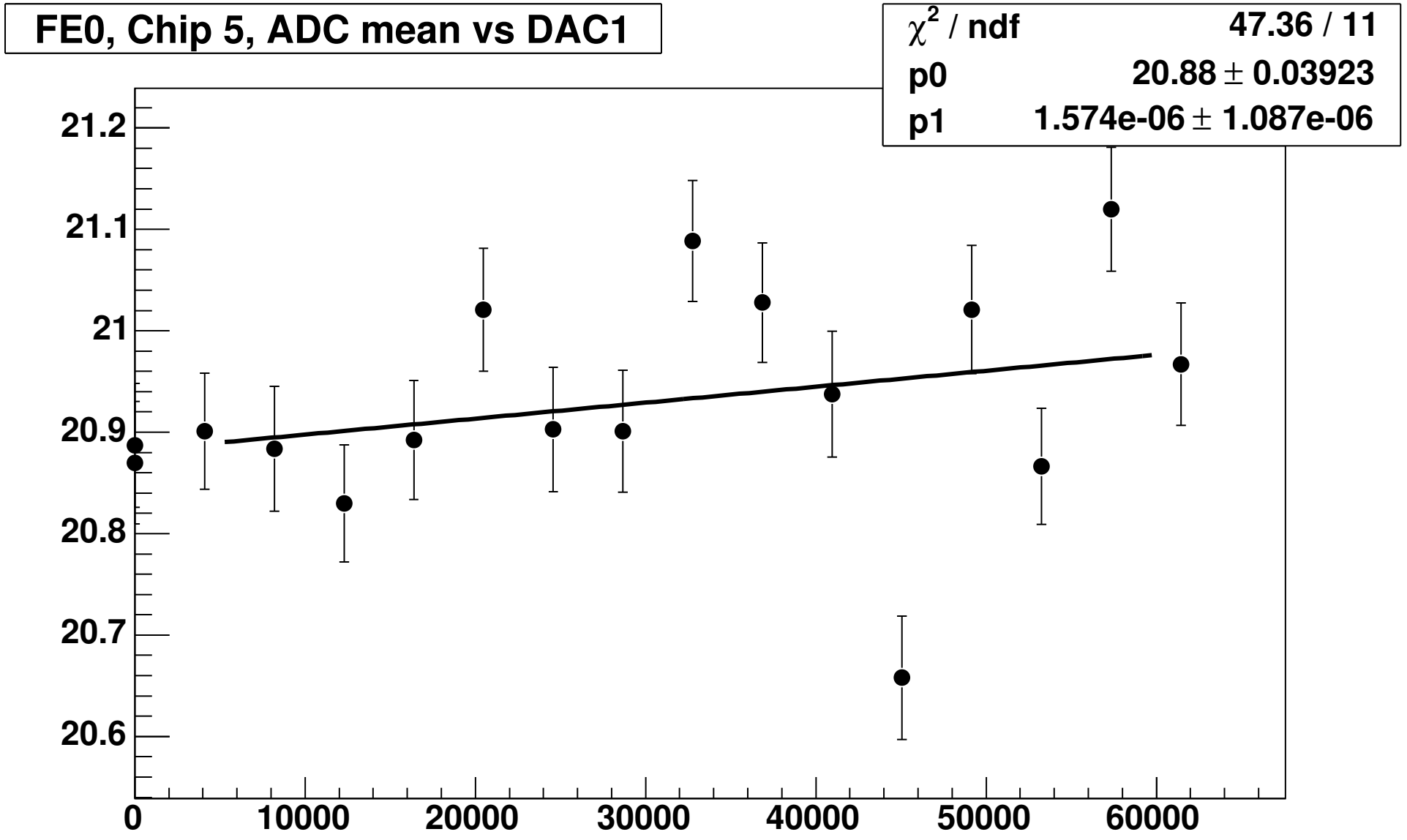

FE0, Chip 4, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

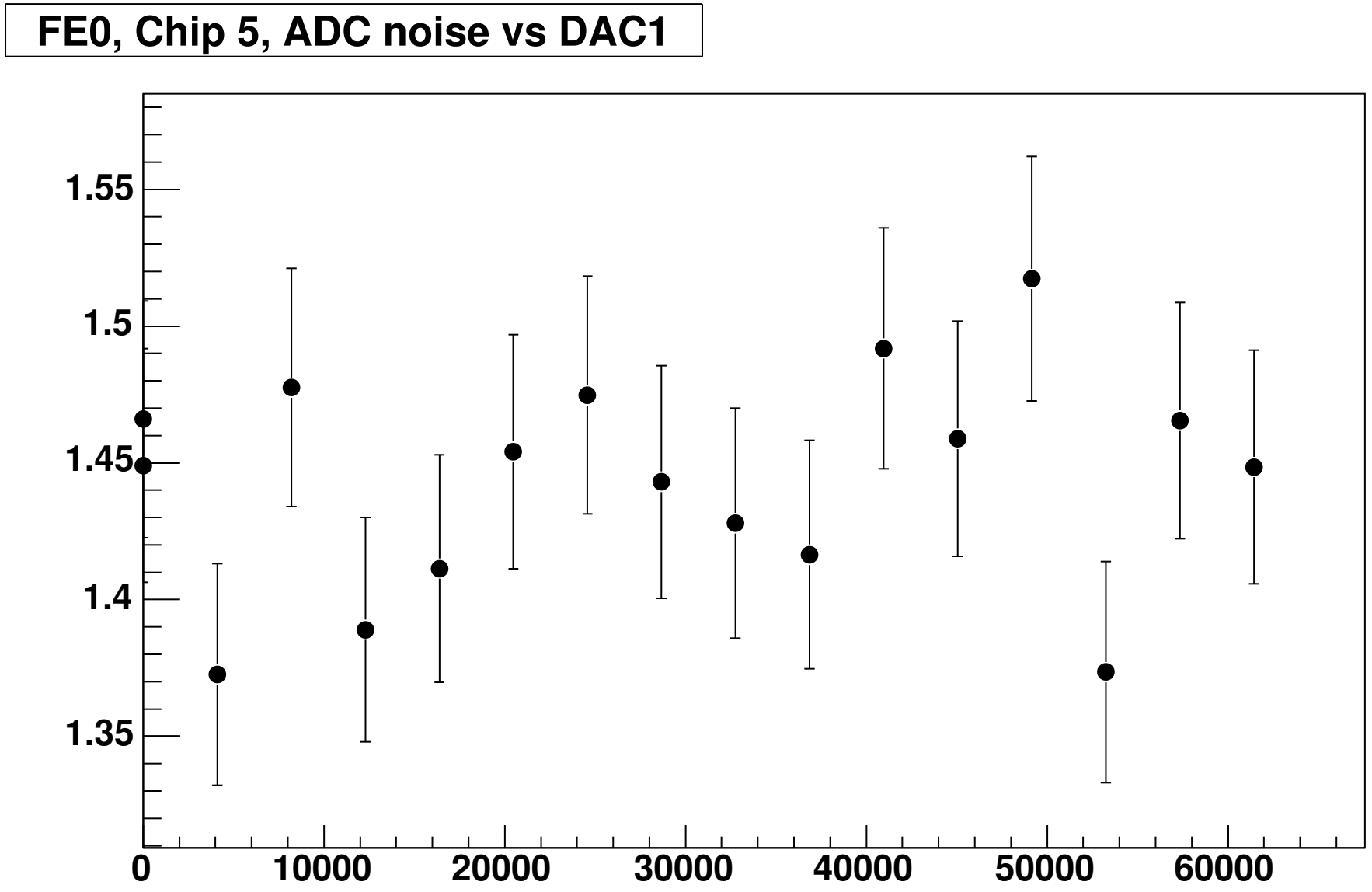

FE0, Chip 4, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

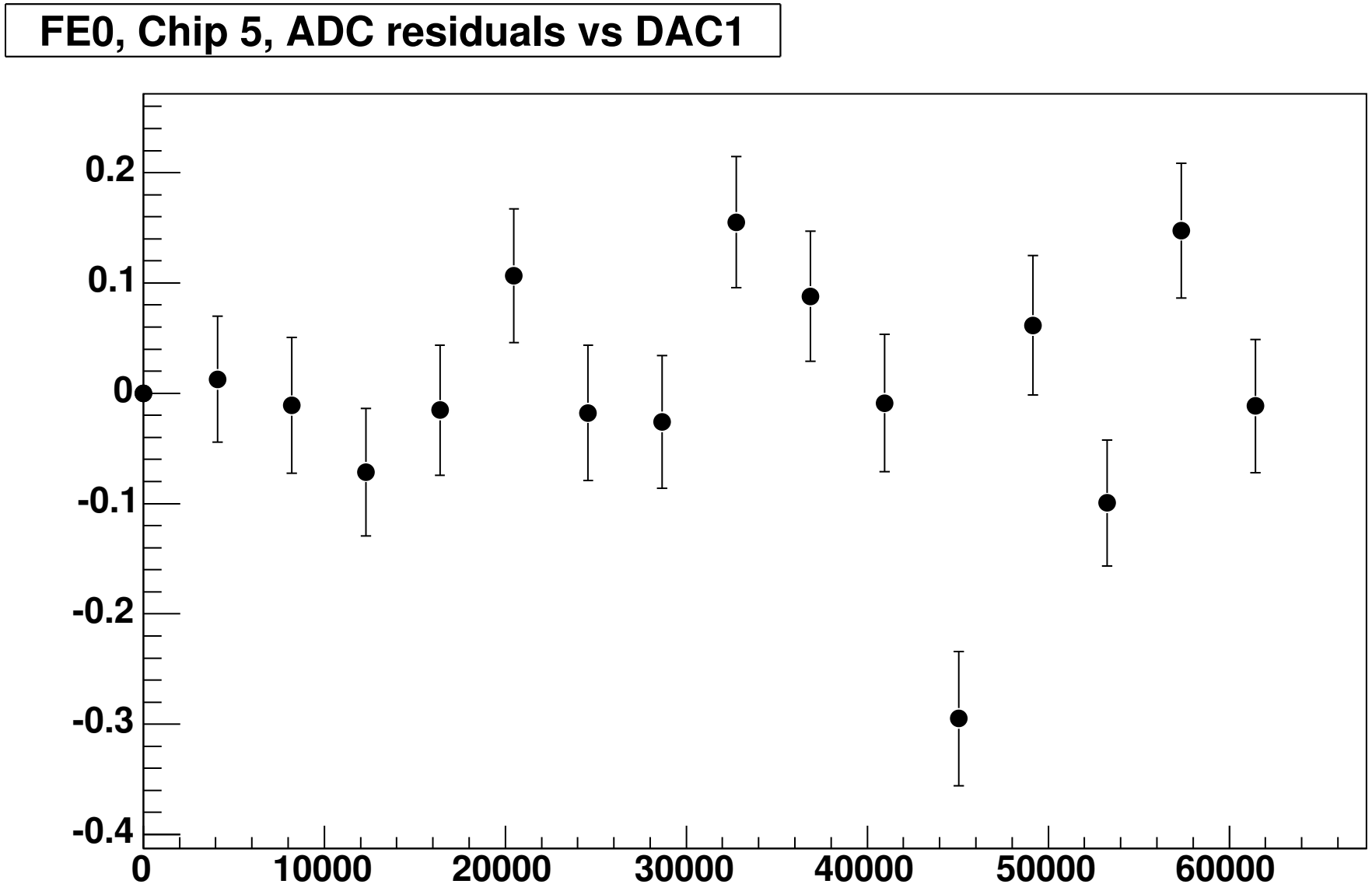

FE0, Chip 5, ADC mean vs DAC0
χ² / ndf 2463 / 11
p0 20.99 ± 0.04133
p1 0.4511 ± 1.344e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

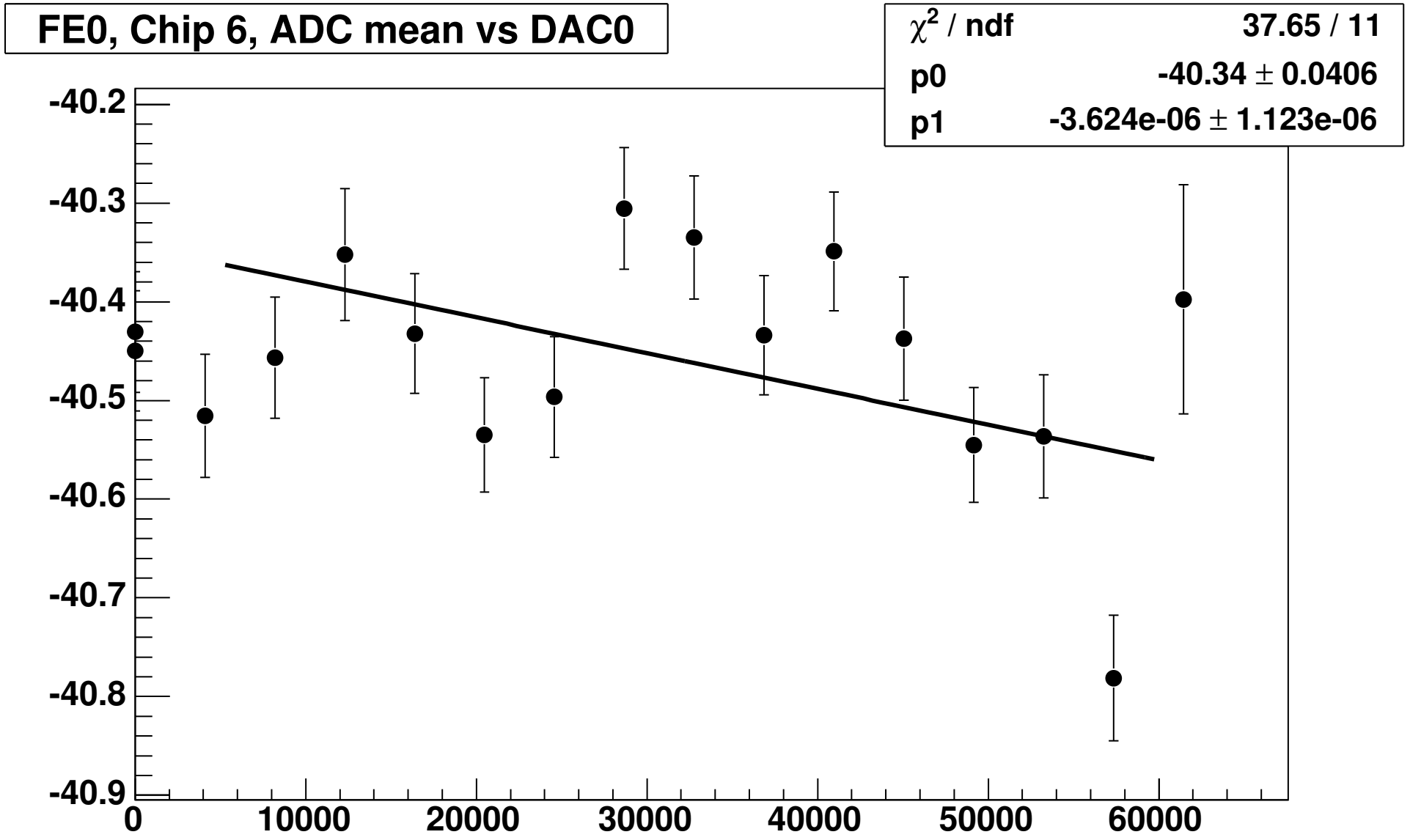

FE0, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

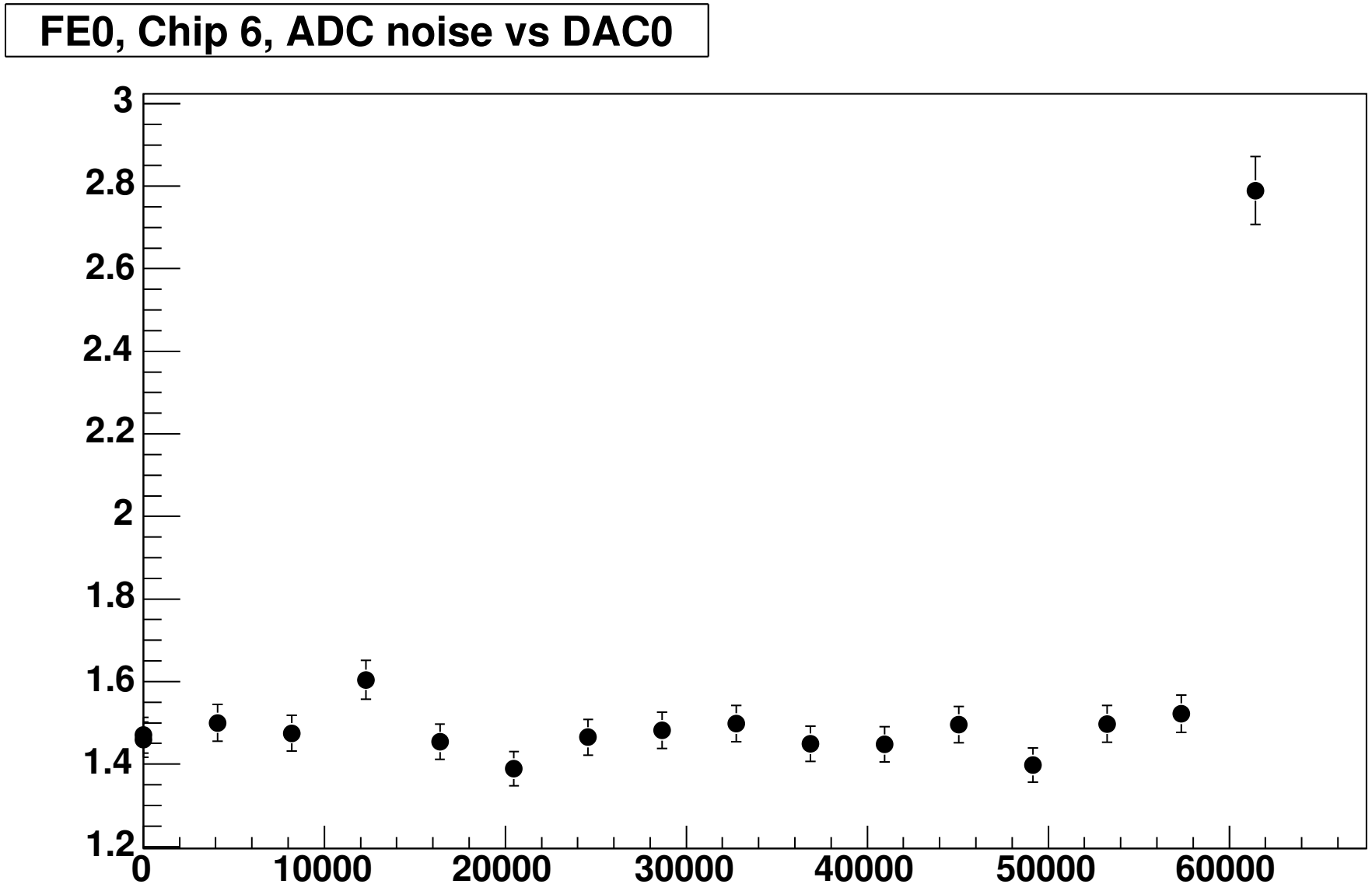

FE0, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

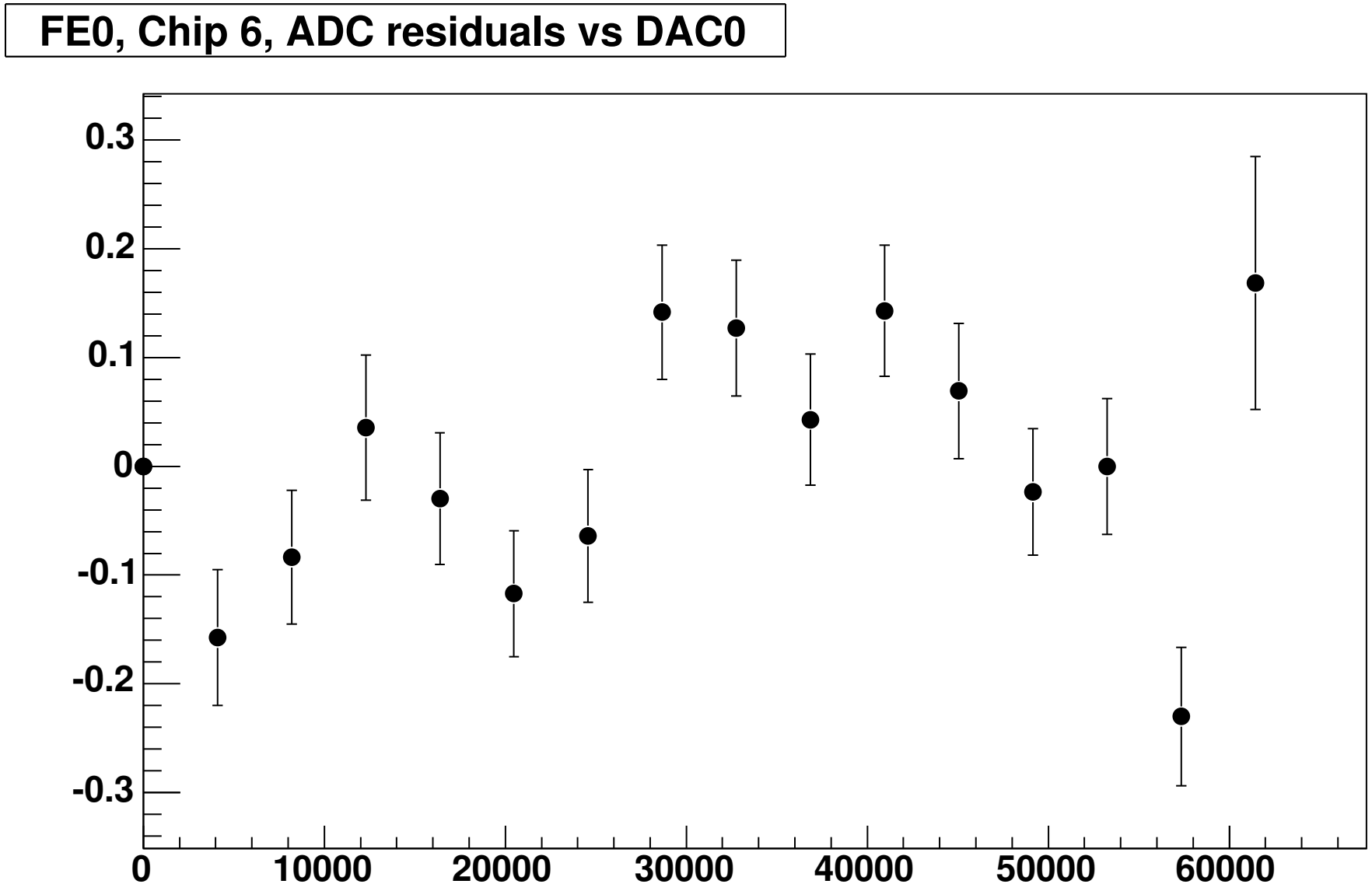

FE0, Chip 5, ADC mean vs DAC1
χ² / ndf 47.36 / 11
p0 20.88 ± 0.03923
p1 1.574e-06 ± 1.087e-06
21.2
21.1
21
20.9
20.8
20.7
20.6
0
10000
20000
30000
40000
50000
60000

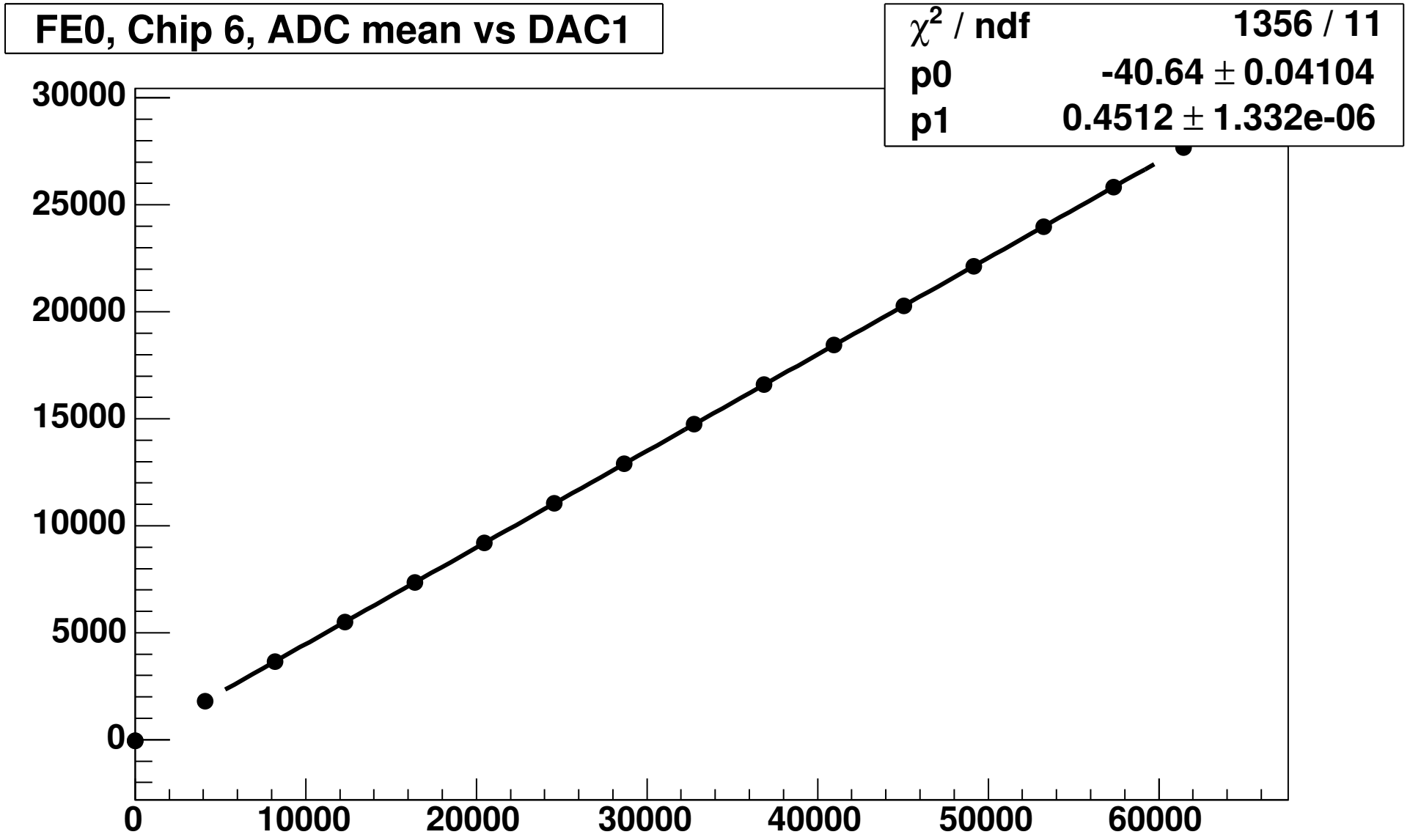

FE0, Chip 5, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

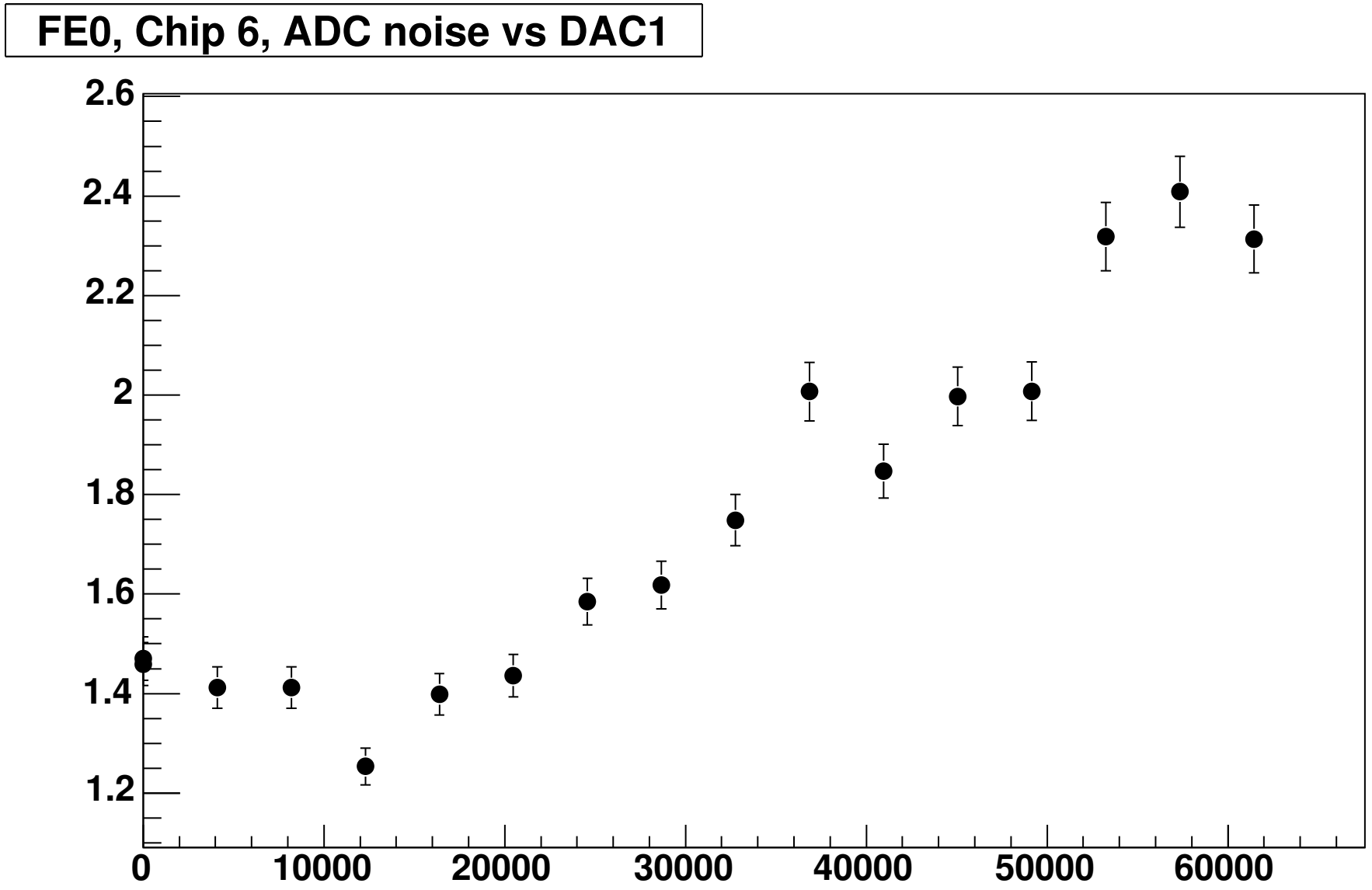

FE0, Chip 5, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

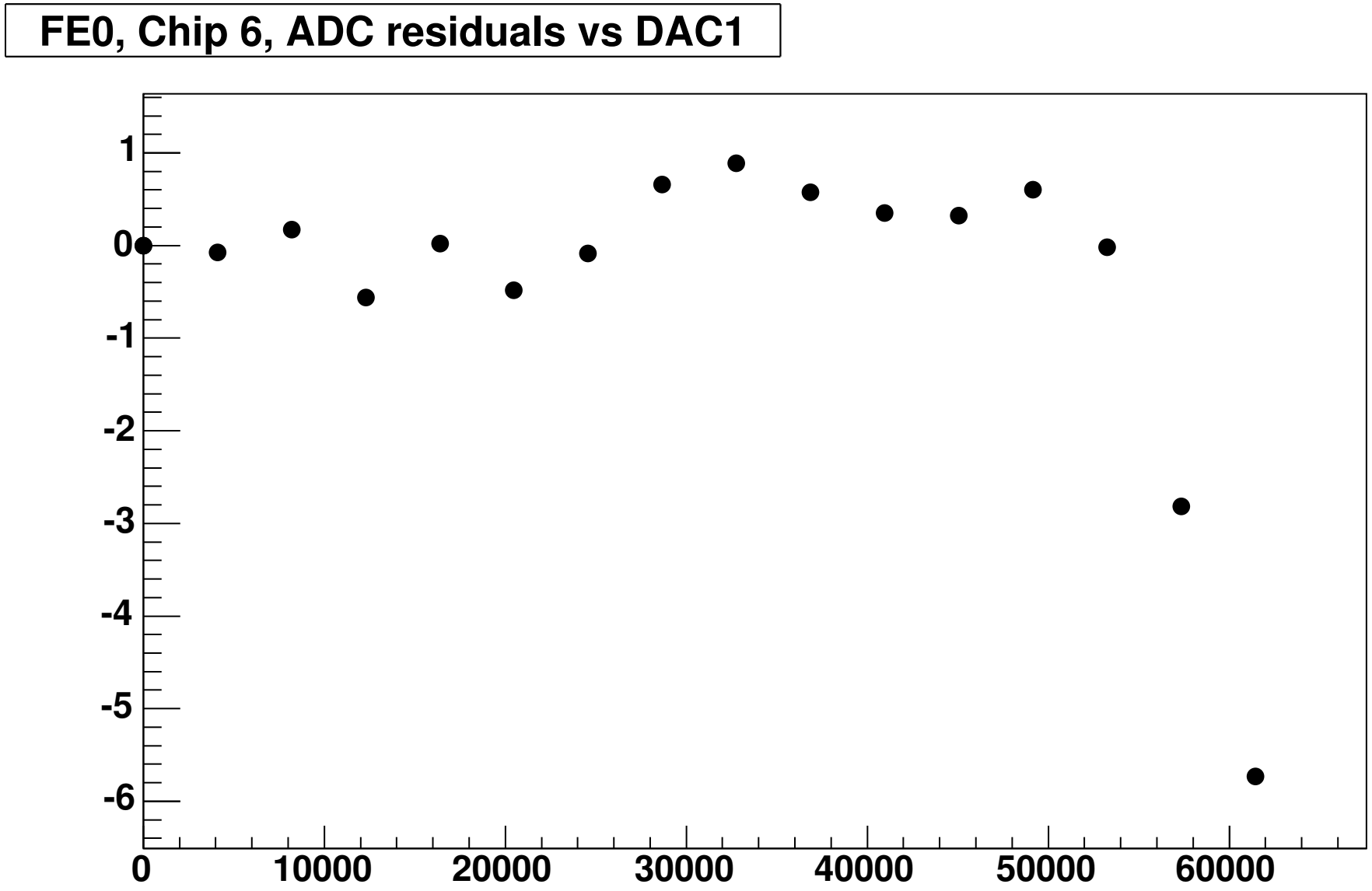

FE0, Chip 6, ADC mean vs DAC0
χ² / ndf 37.65 / 11
p0 -40.34 ± 0.0406
p1 -3.624e-06 ± 1.123e-06
-40.2
-40.3
-40.4
-40.5
-40.6
-40.7
-40.8
-40.9
0
10000
20000
30000
40000
50000
60000

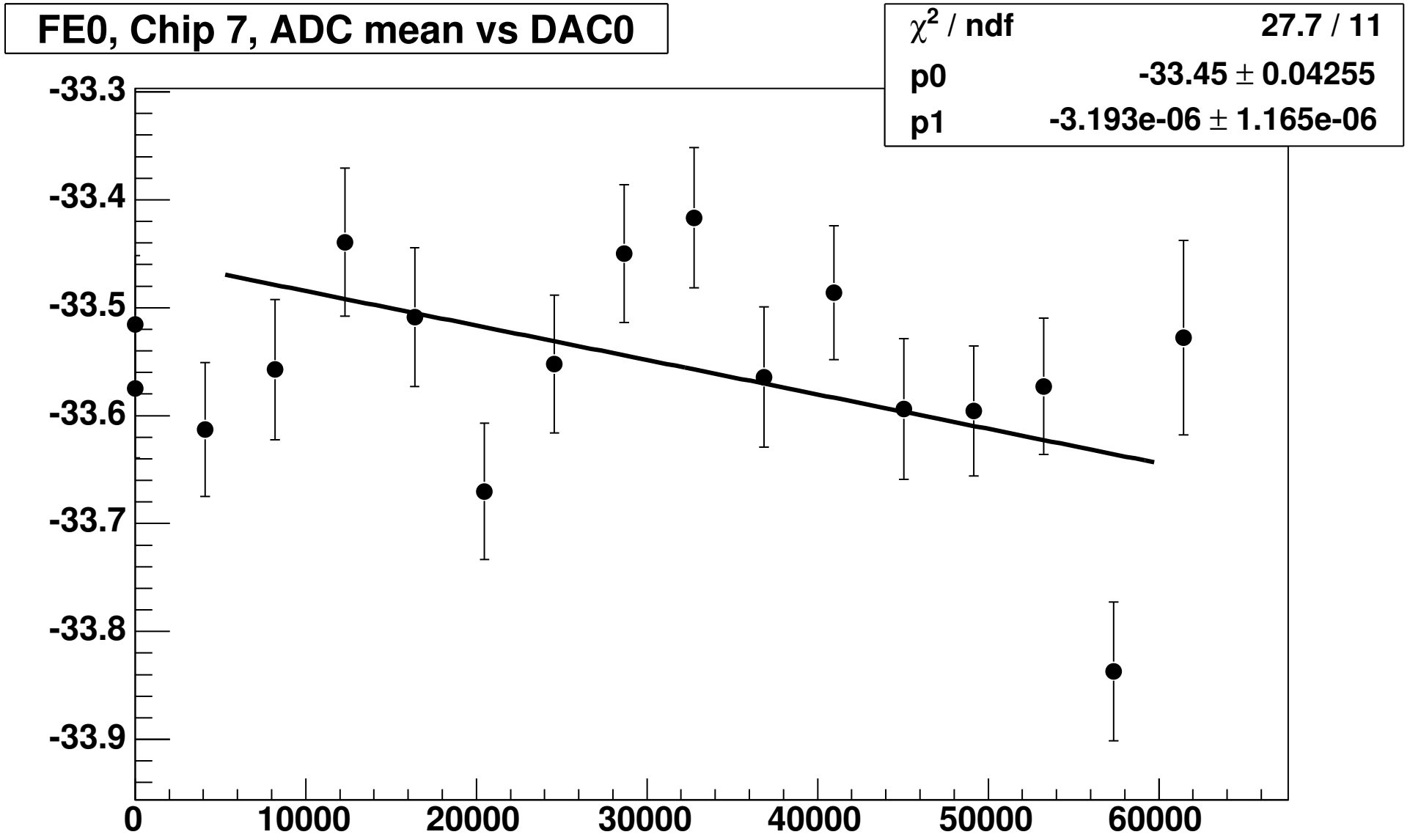

FE0, Chip 6, ADC noise vs DAC0
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

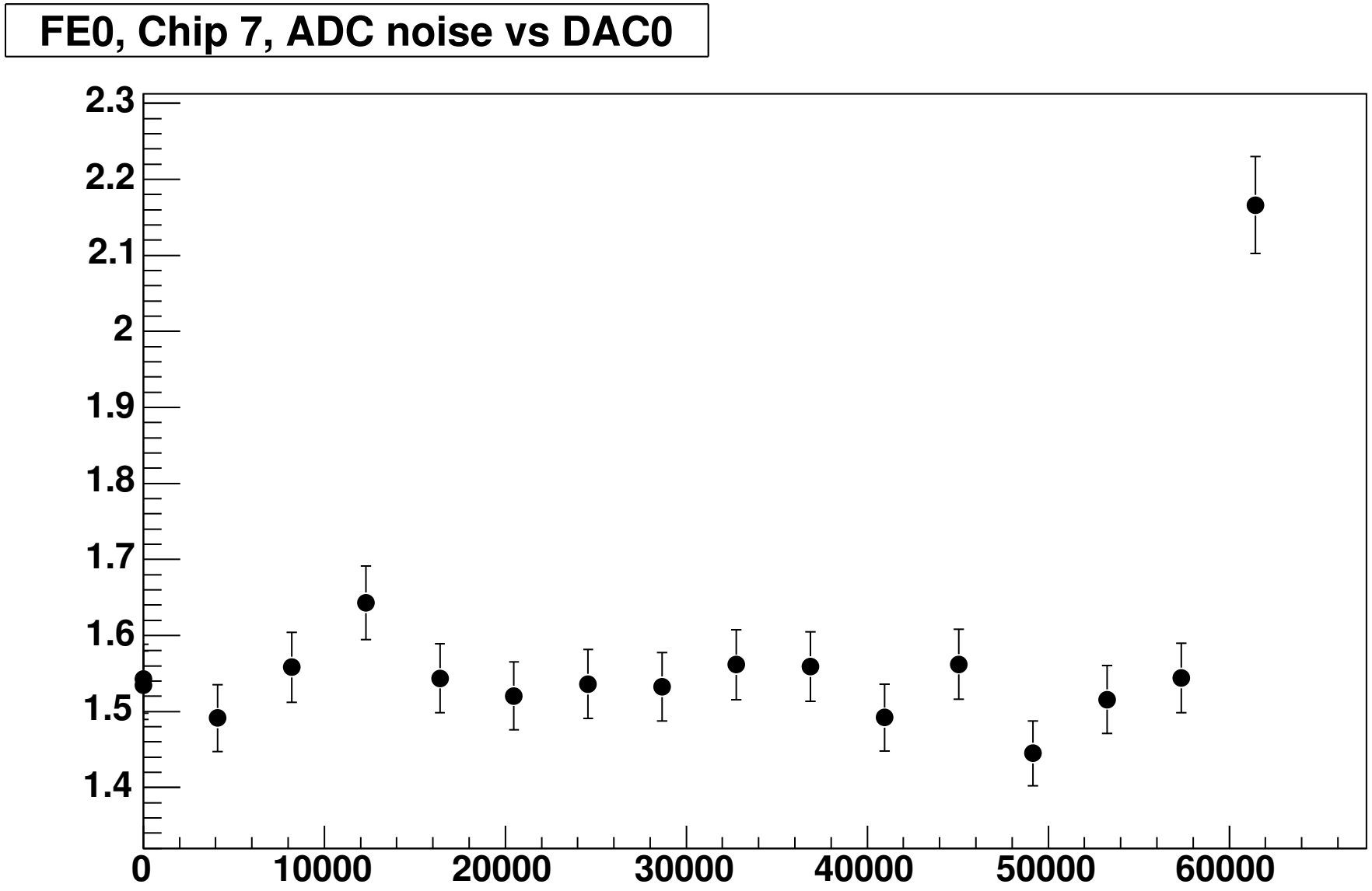

FE0, Chip 6, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

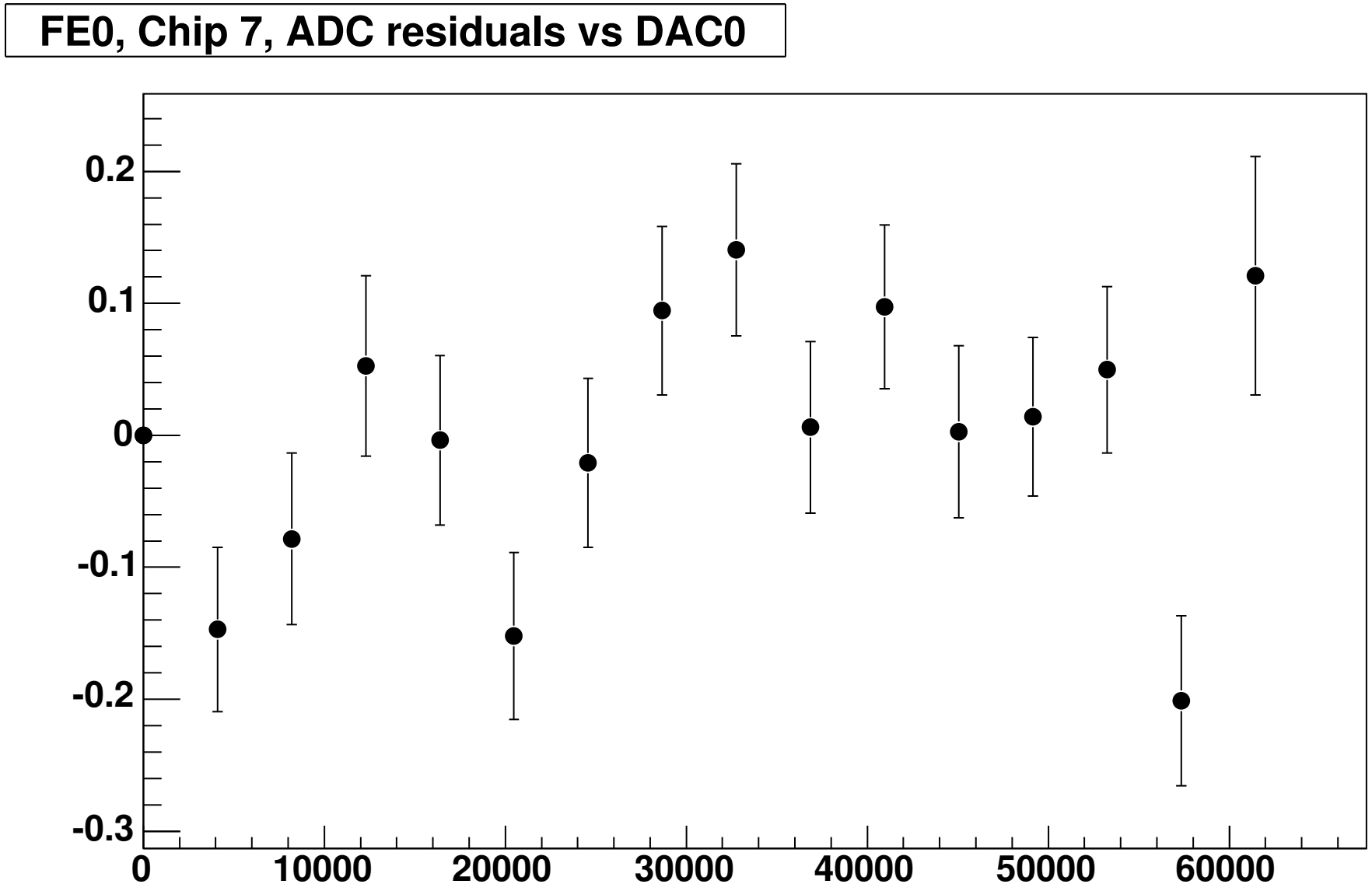

FE0, Chip 6, ADC mean vs DAC1
χ² / ndf 1356 / 11
p0 -40.64 ± 0.04104
p1 0.4512 ± 1.332e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

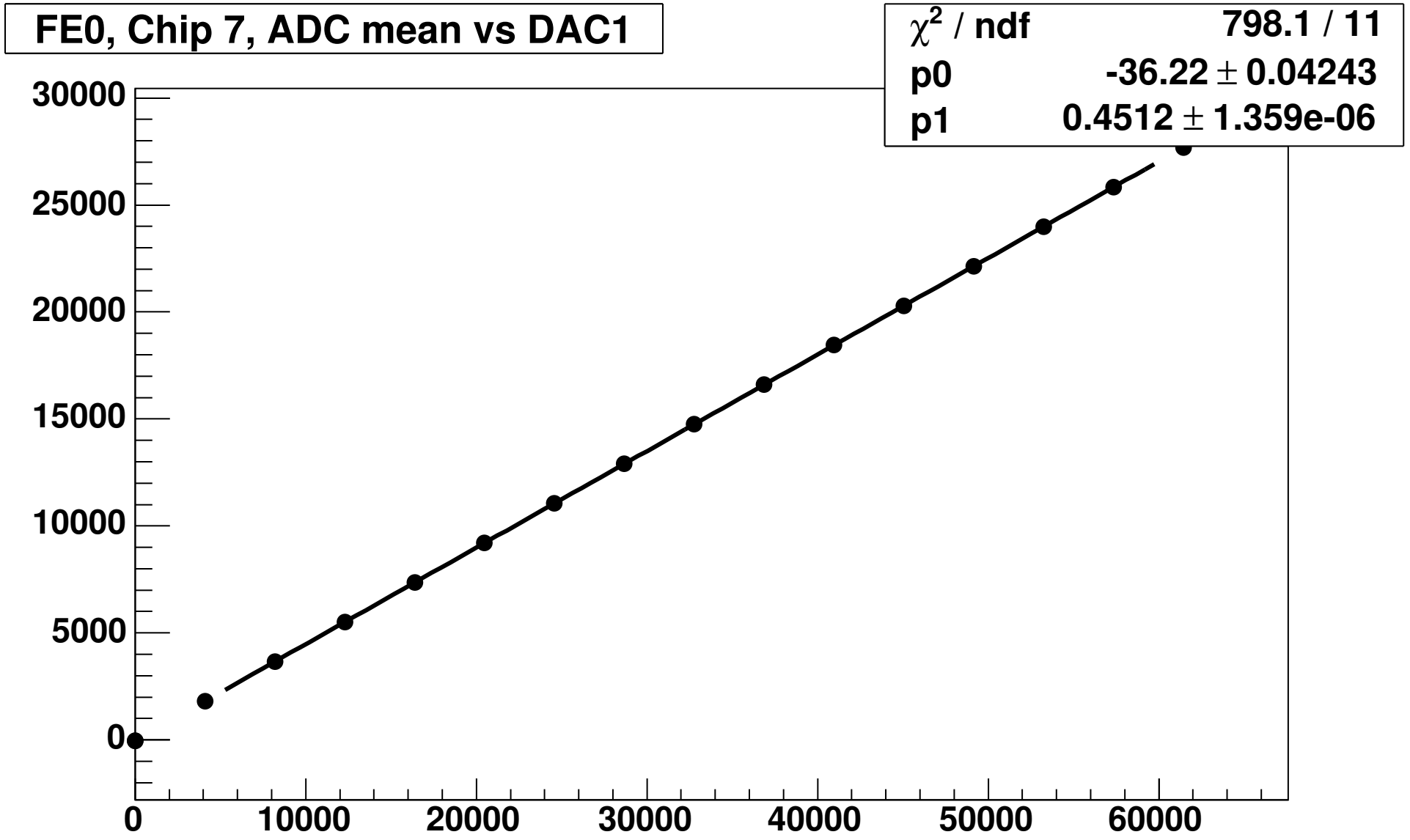

FE0, Chip 6, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000


FE0, Chip 6, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

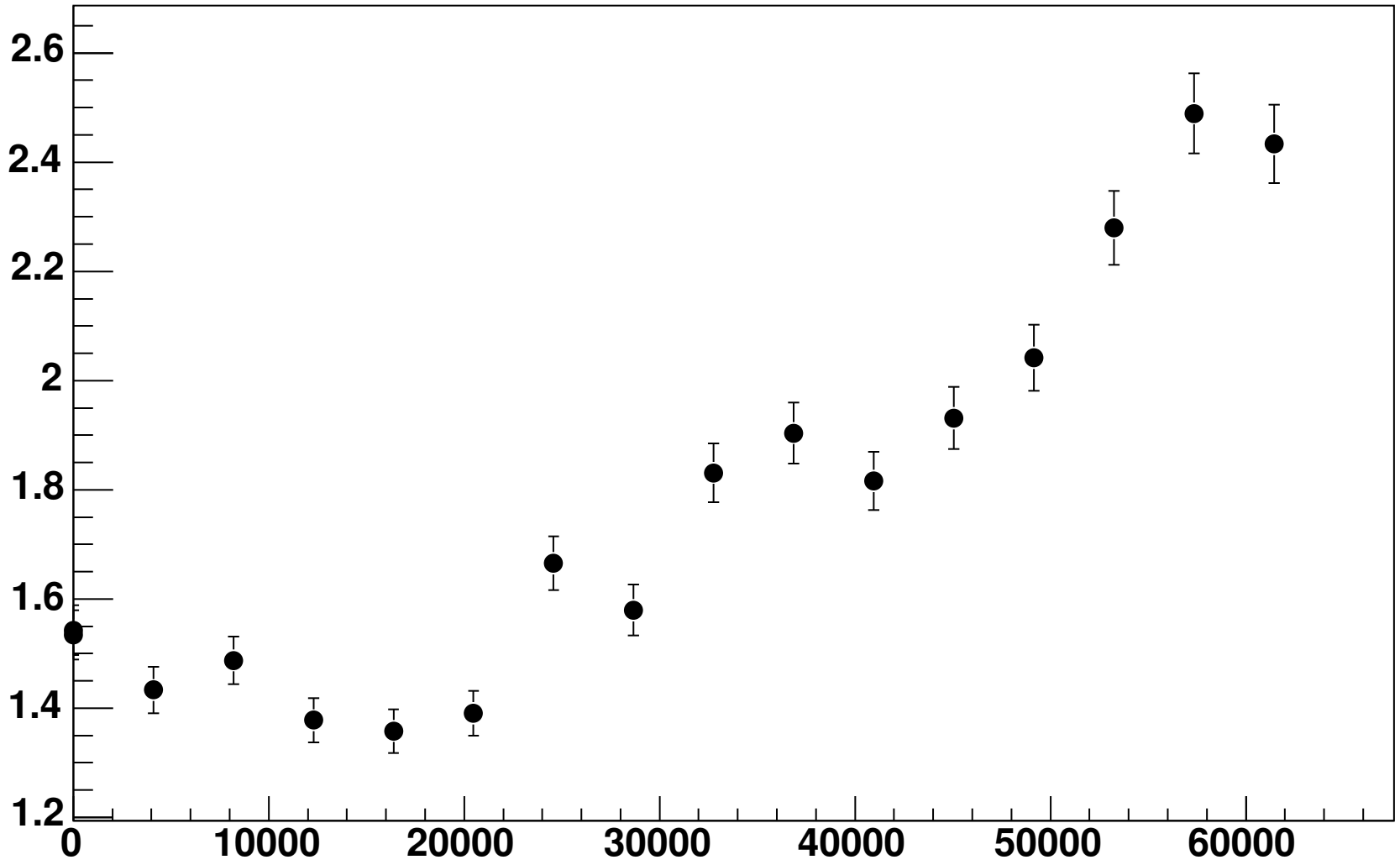

FE0, Chip 7, ADC mean vs DAC0
χ² / ndf 27.7 / 11
p0 -33.45 ± 0.04255
p1 -3.193e-06 ± 1.165e-06
-33.3
-33.4
-33.5
-33.6
-33.7
-33.8
-33.9
0
10000
20000
30000
40000
50000
60000

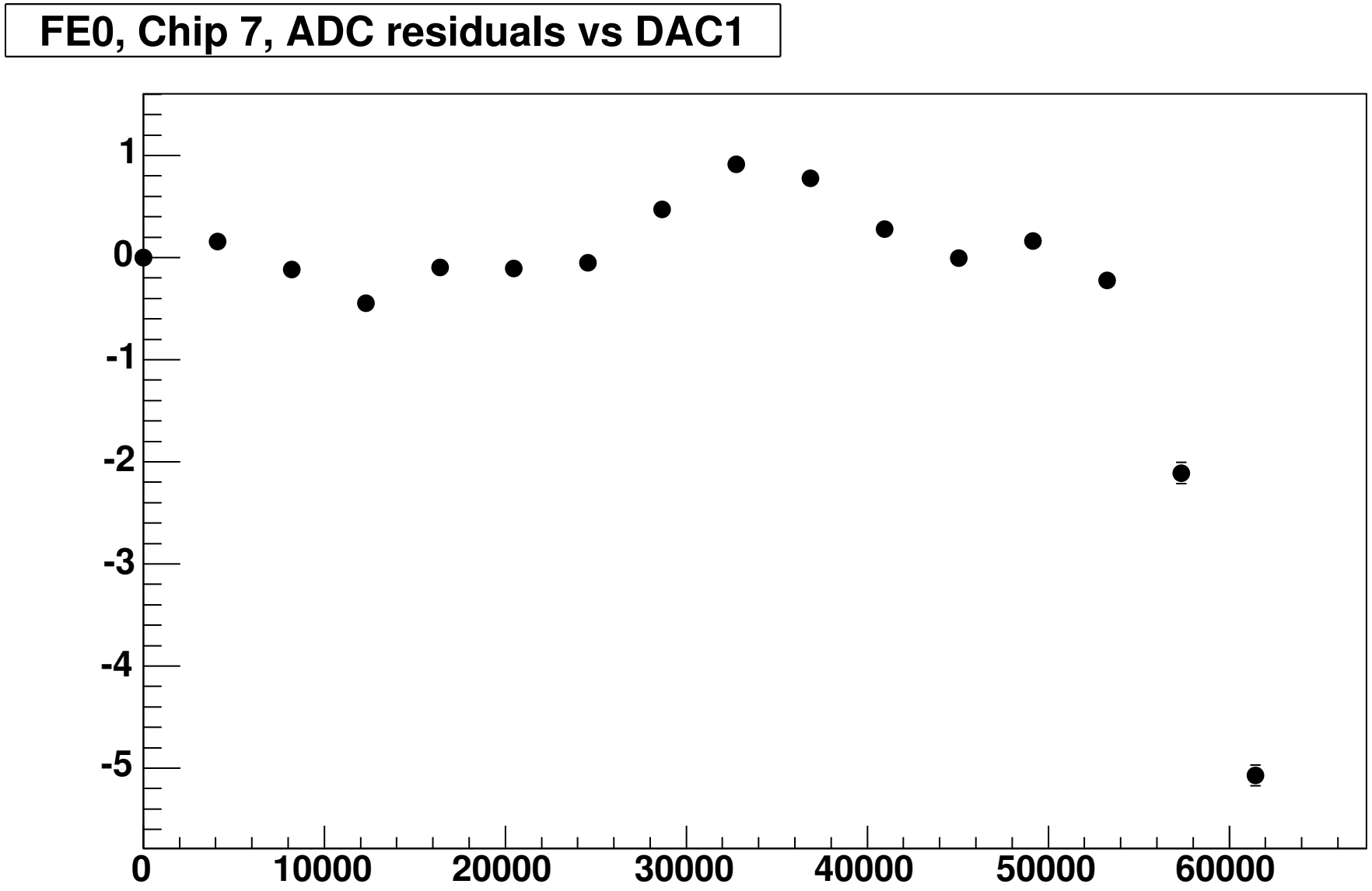

FE0, Chip 7, ADC noise vs DAC0
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

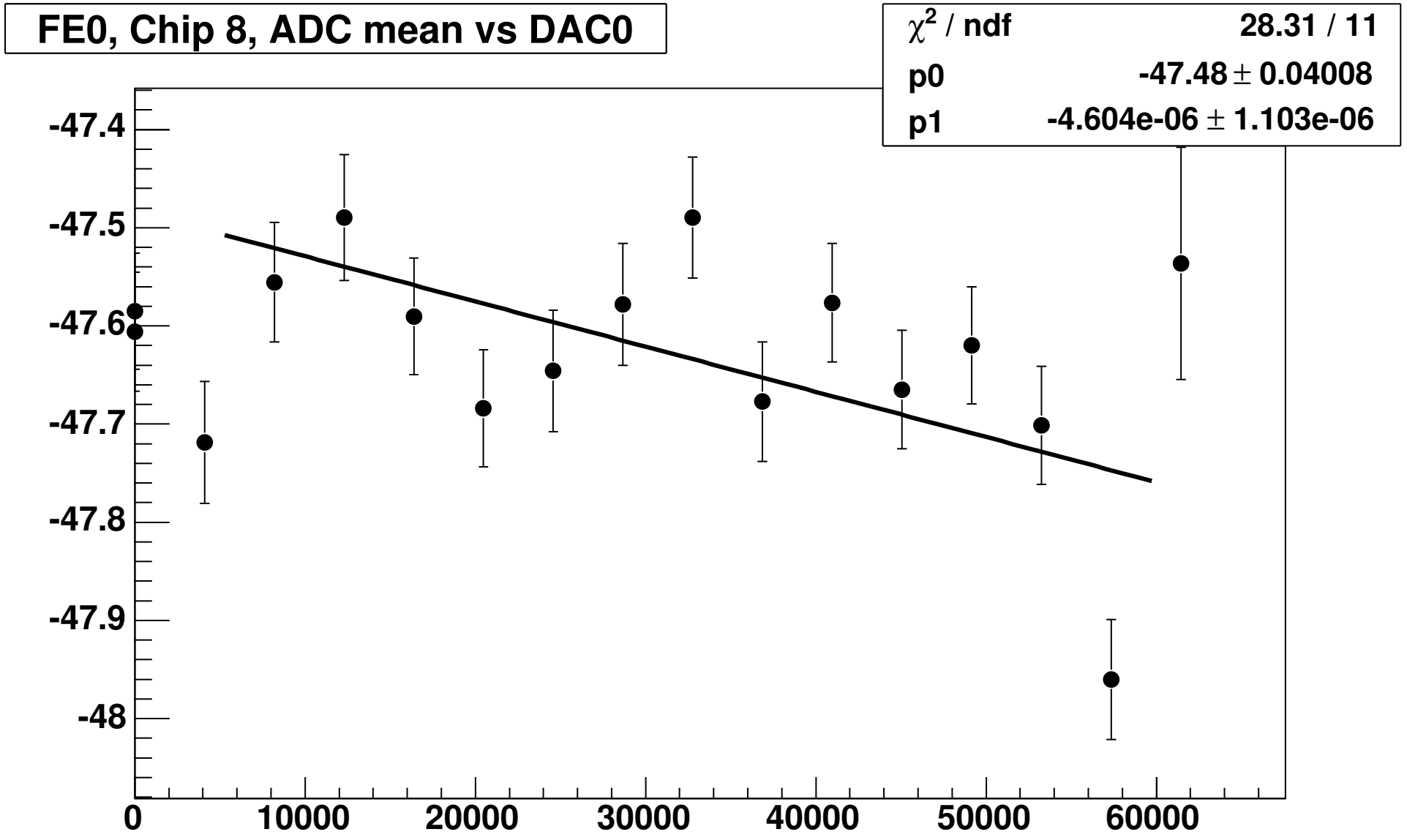

FE0, Chip 7, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

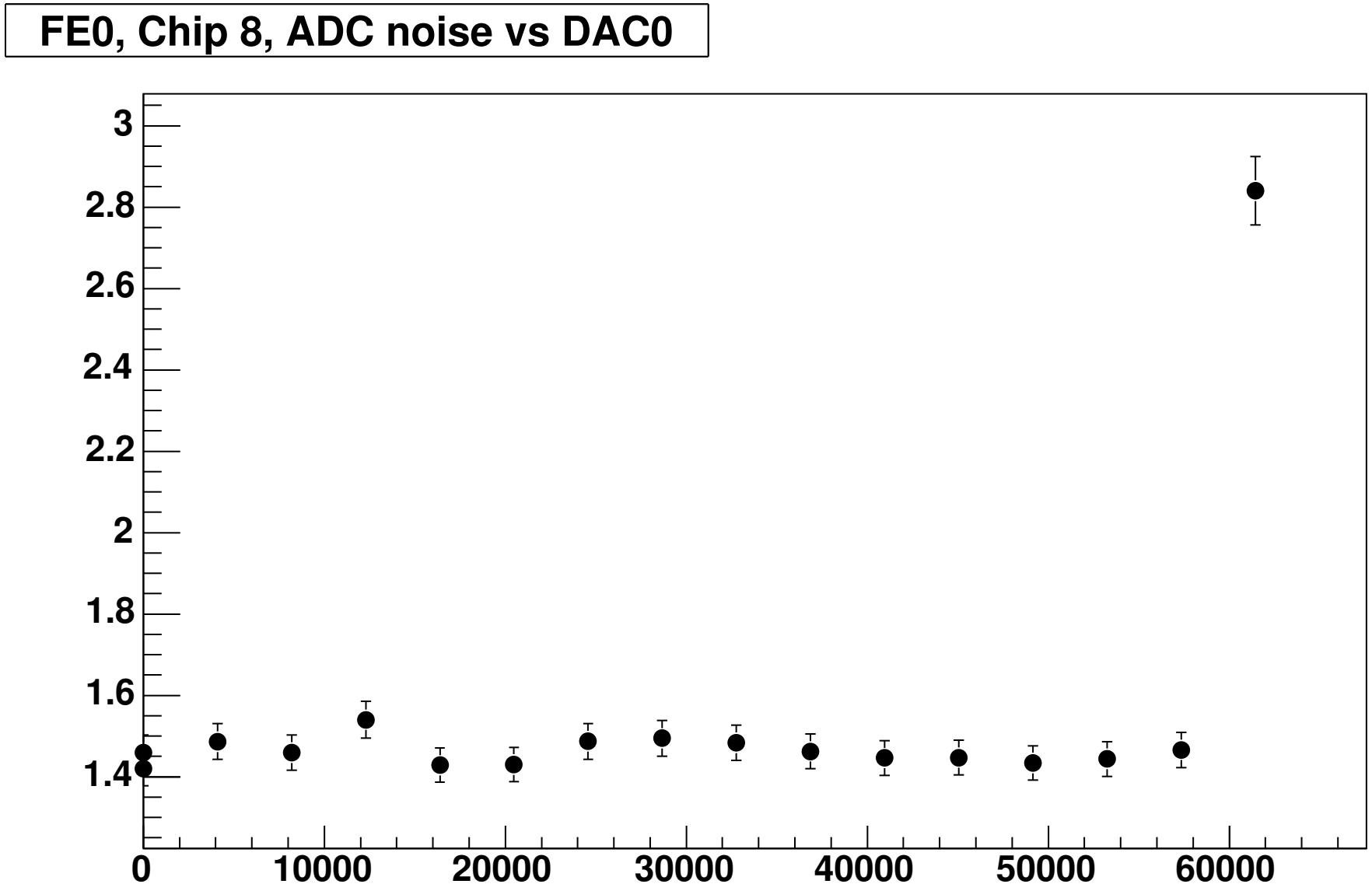

FE0, Chip 7, ADC mean vs DAC1
χ² / ndf 798.1 / 11
p0 -36.22 ± 0.04243
p1 0.4512 ± 1.359e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

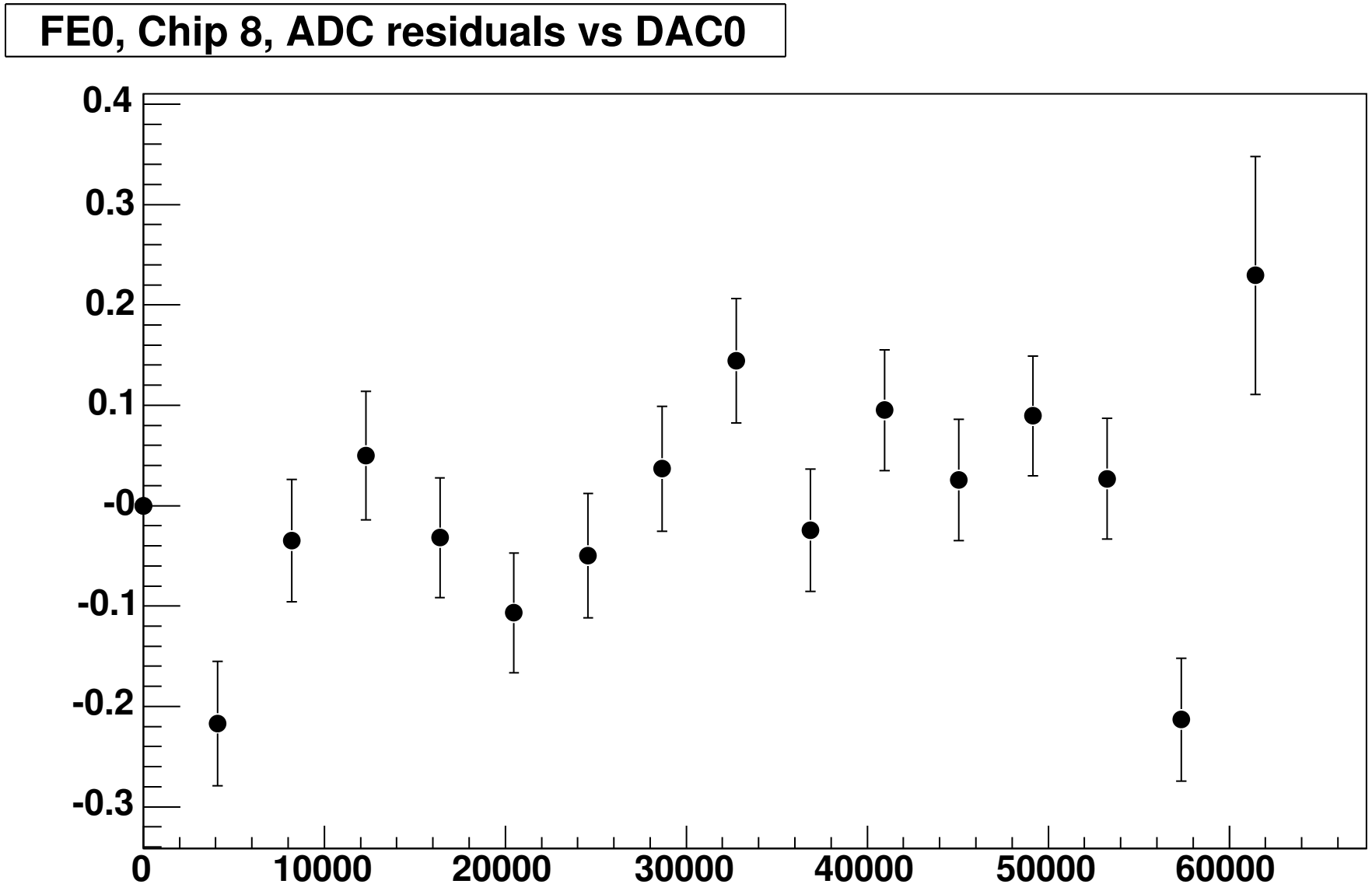
FE0, Chip 7, ADC noise vs DAC1

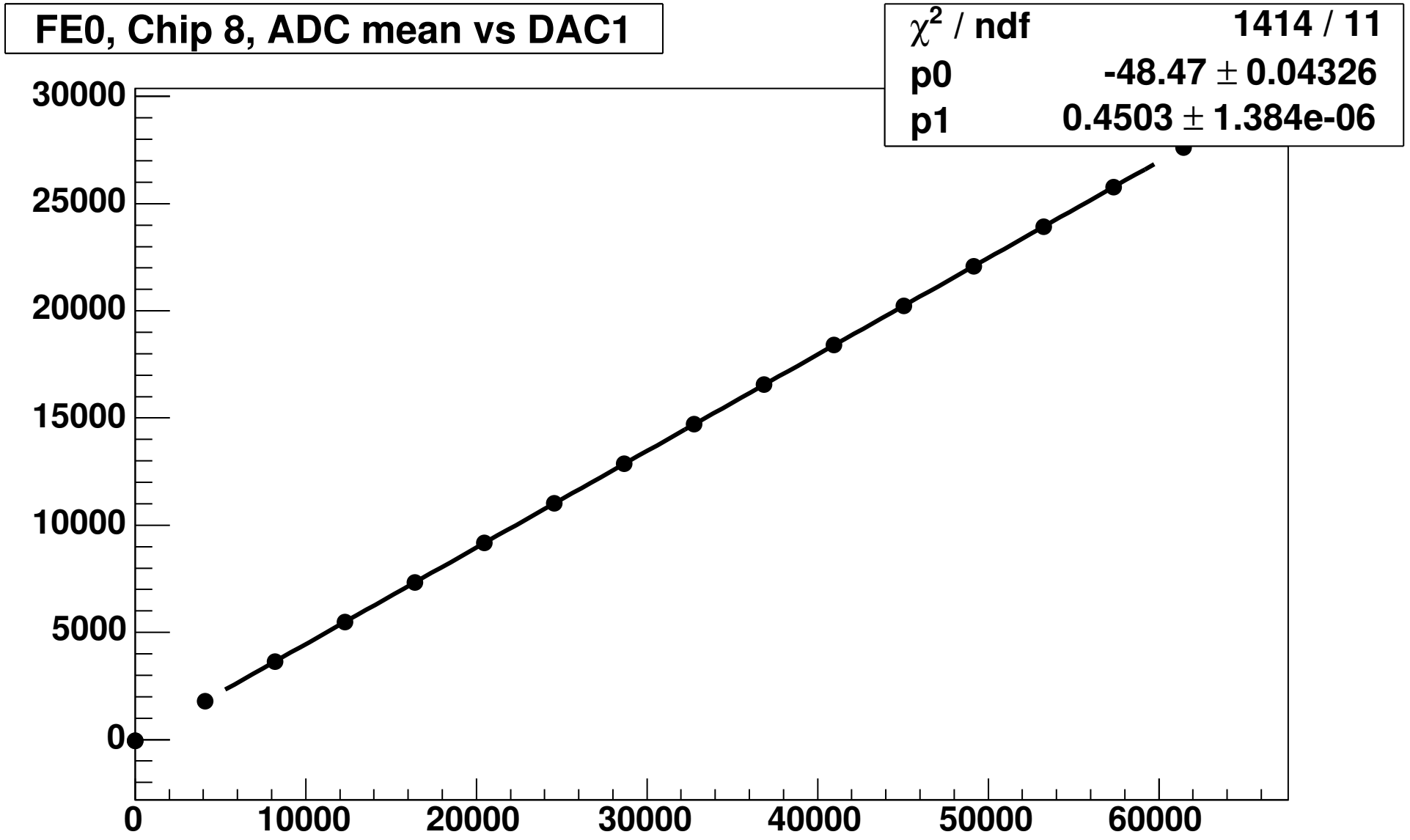


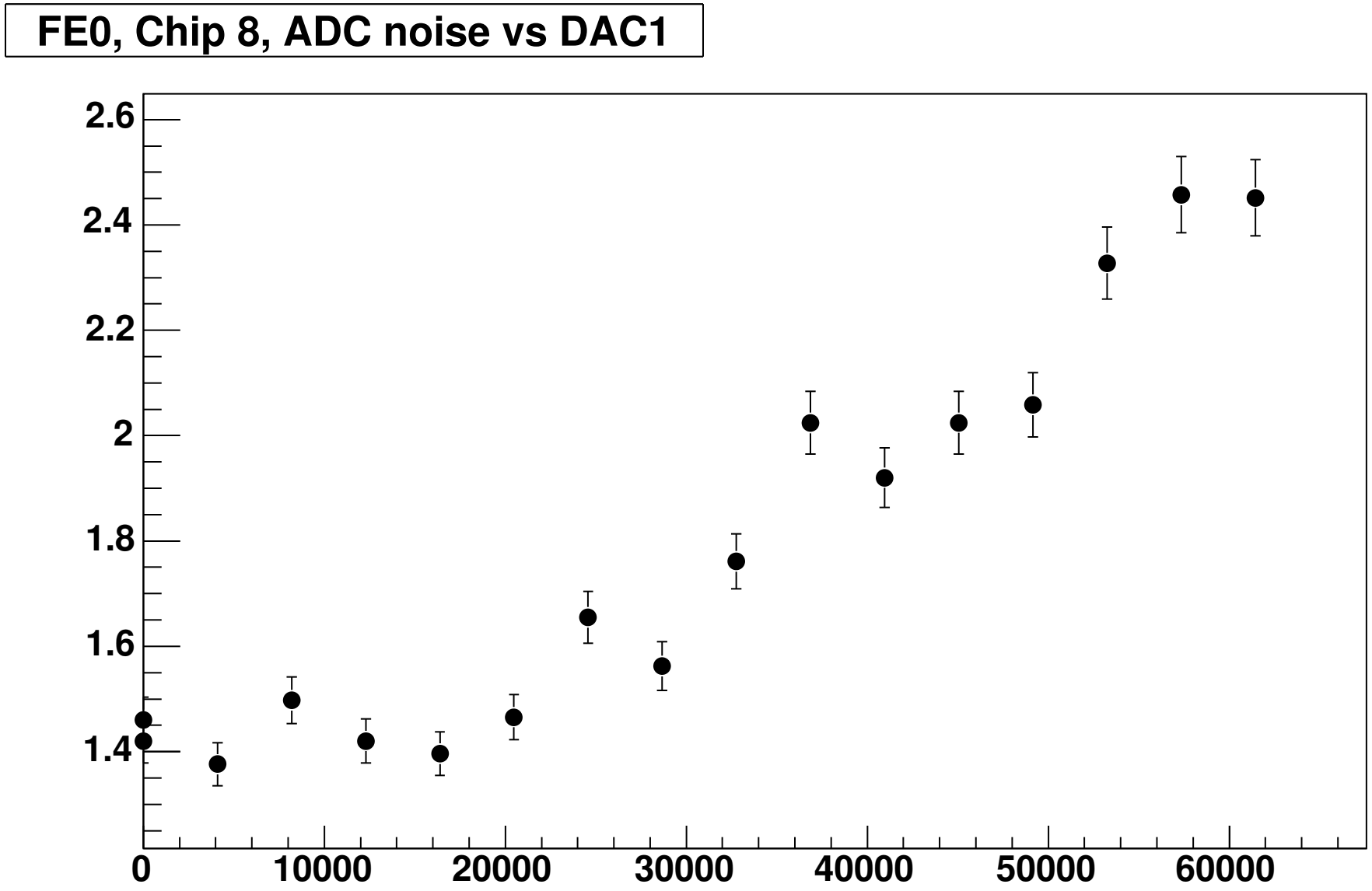

FE0, Chip 7, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

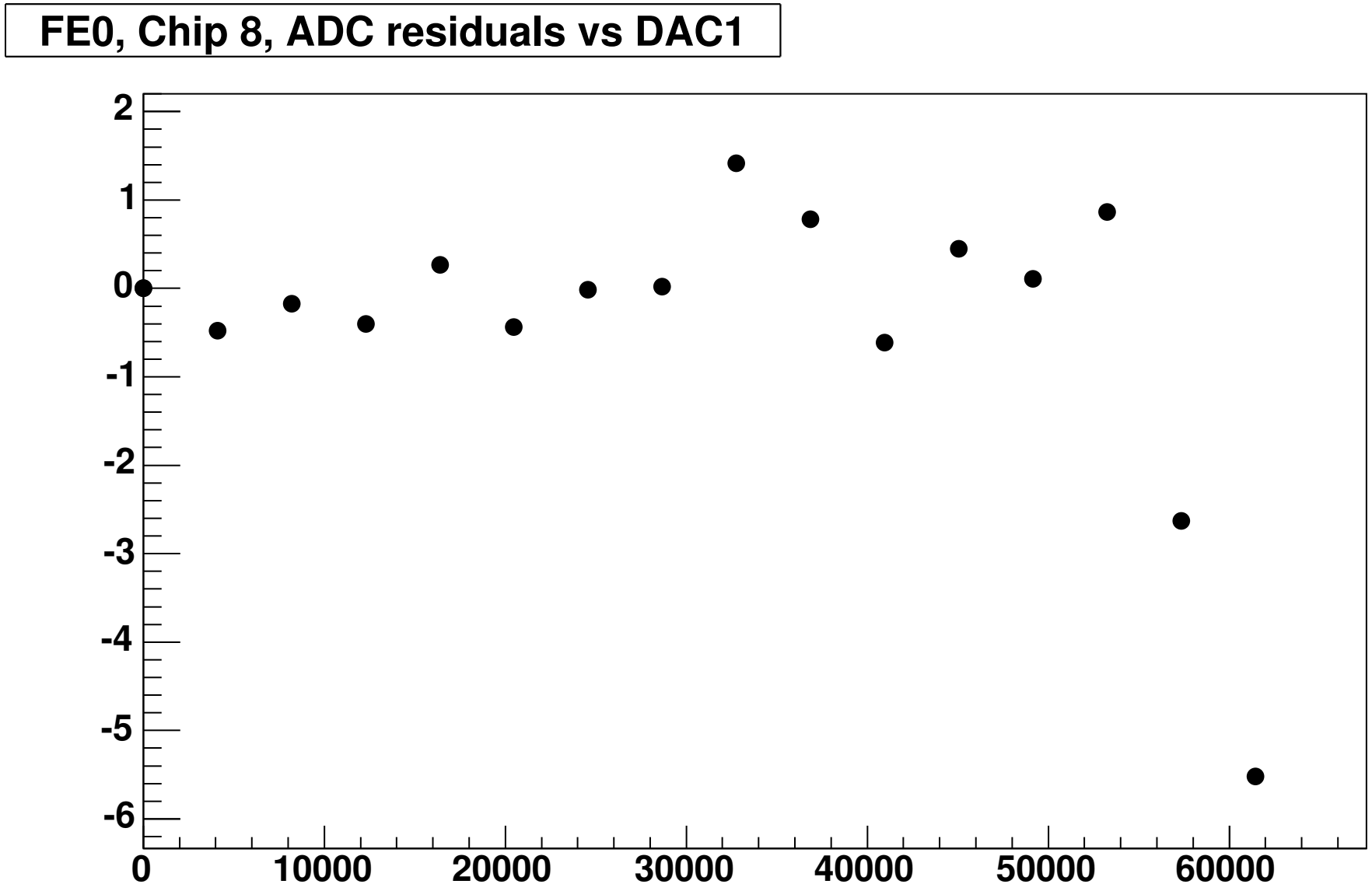

FE0, Chip 8, ADC mean vs DAC0
χ² / ndf 28.31 / 11
p0 -47.48 ± 0.04008
p1 -4.604e-06 ± 1.103e-06
-47.4
-47.5
-47.6
-47.7
-47.8
-47.9
-48
0
10000
20000
30000
40000
50000
60000

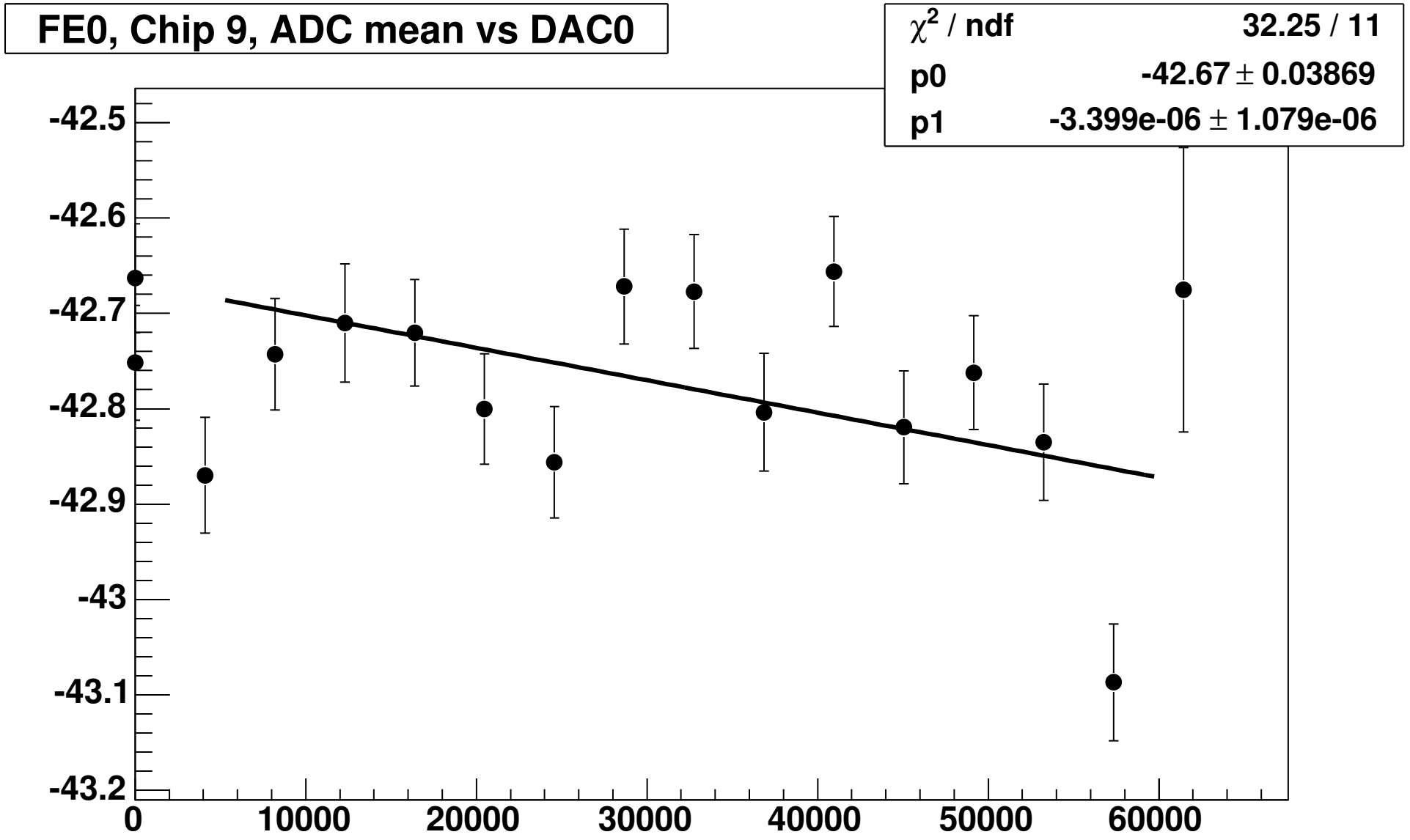

FE0, Chip 8, ADC noise vs DAC0
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

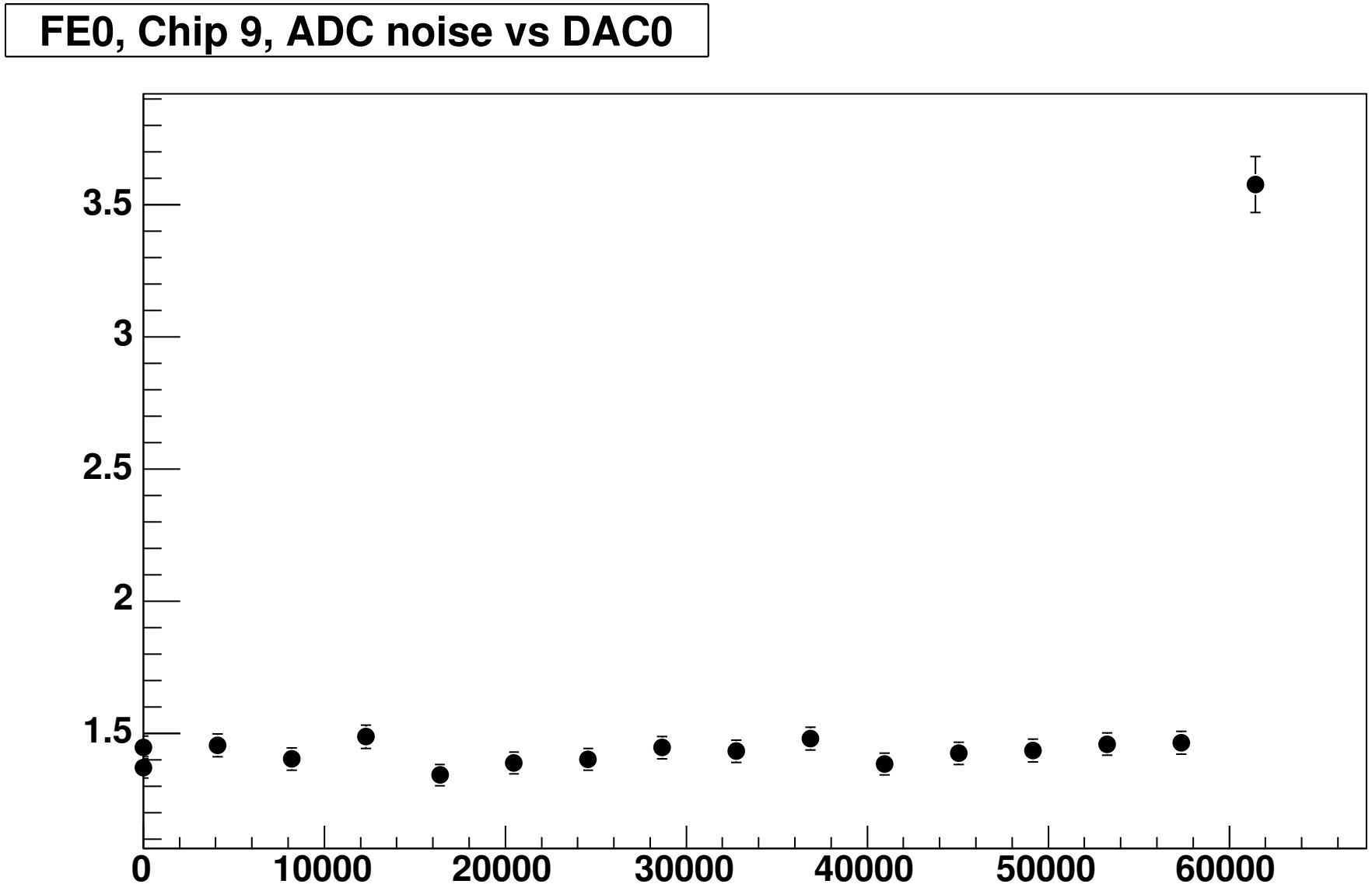

FE0, Chip 8, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

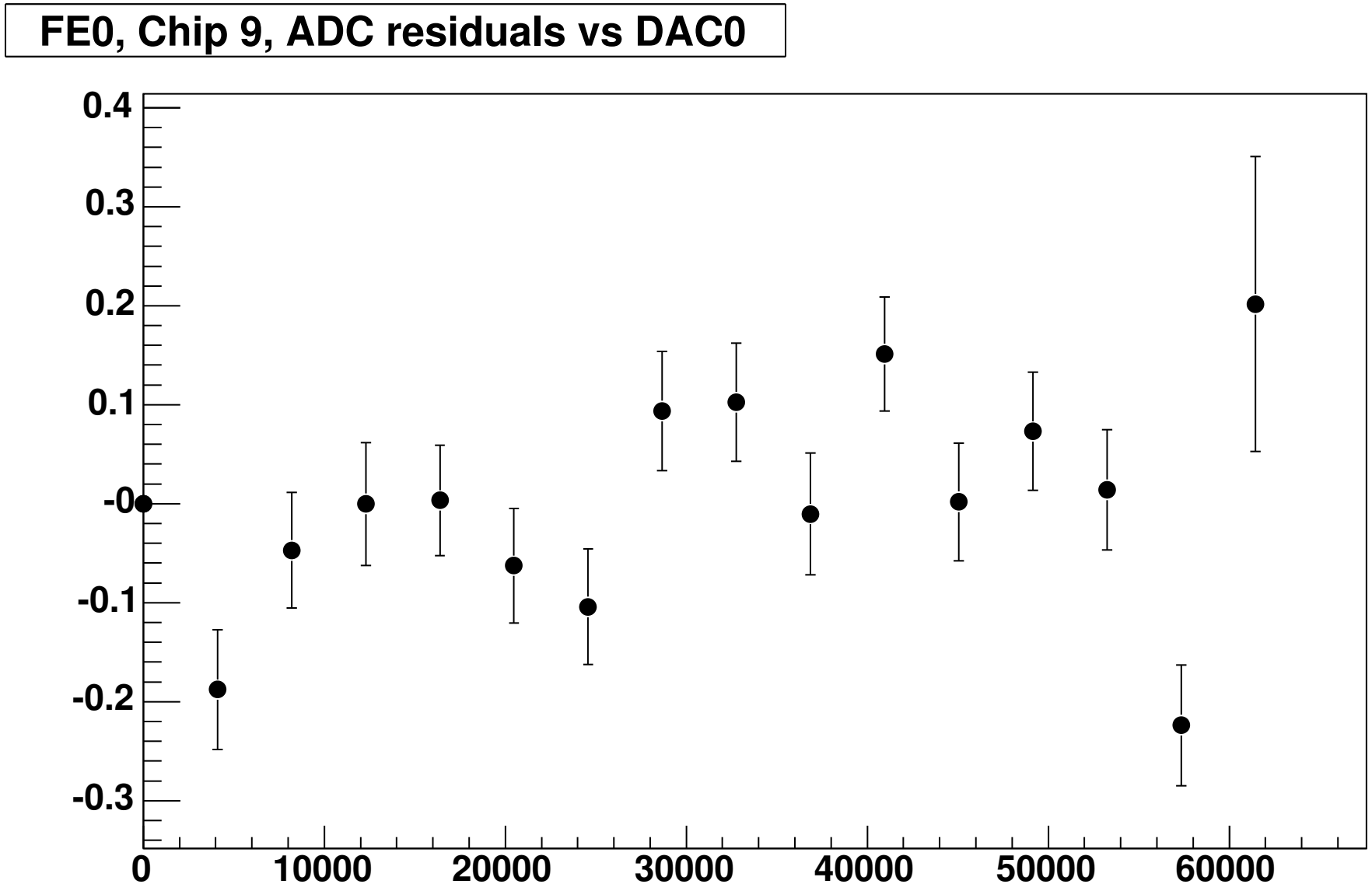

FE0, Chip 8, ADC mean vs DAC1
χ² / ndf 1414 / 11
p0 -48.47 ± 0.04326
p1 0.4503 ± 1.384e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

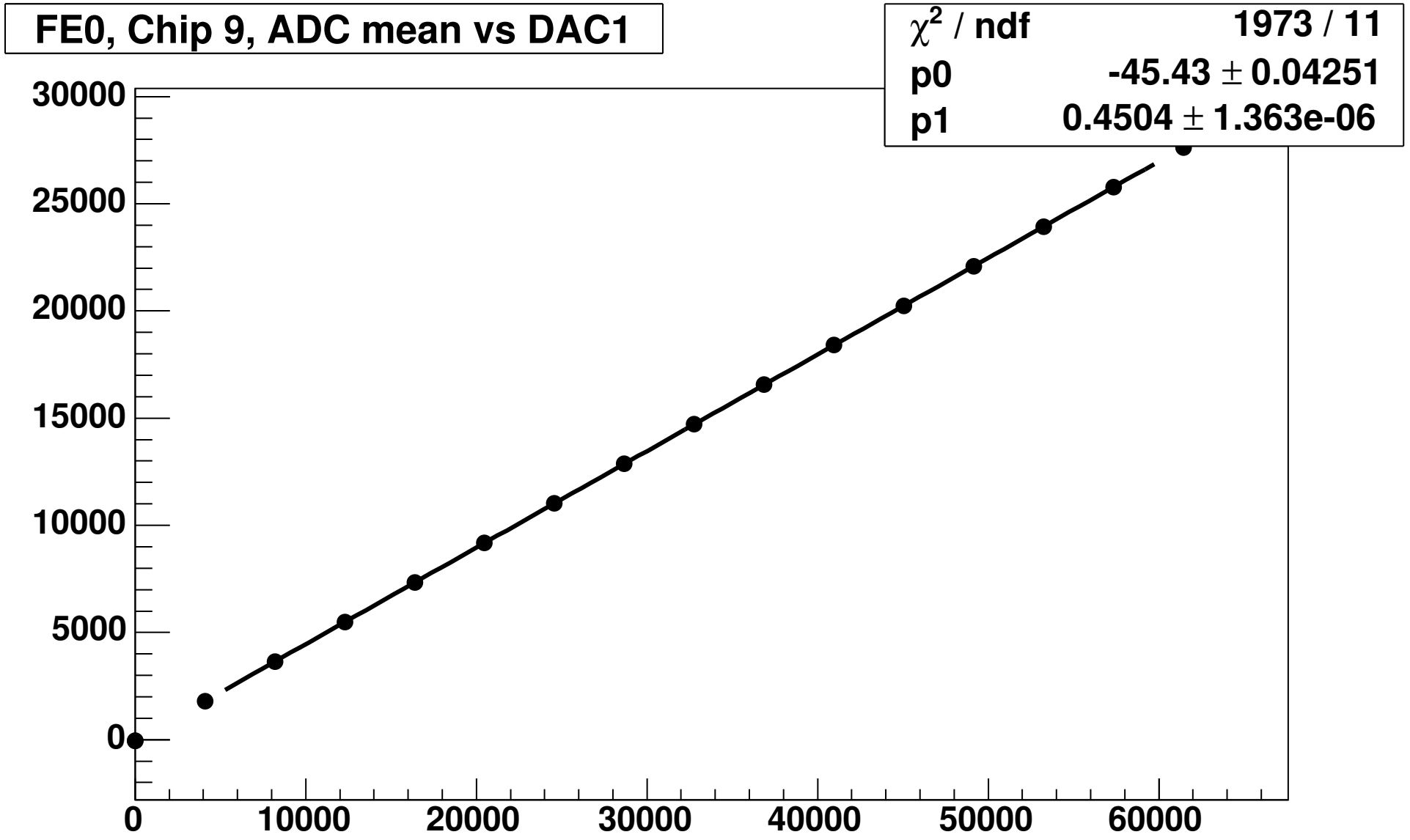

FE0, Chip 8, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

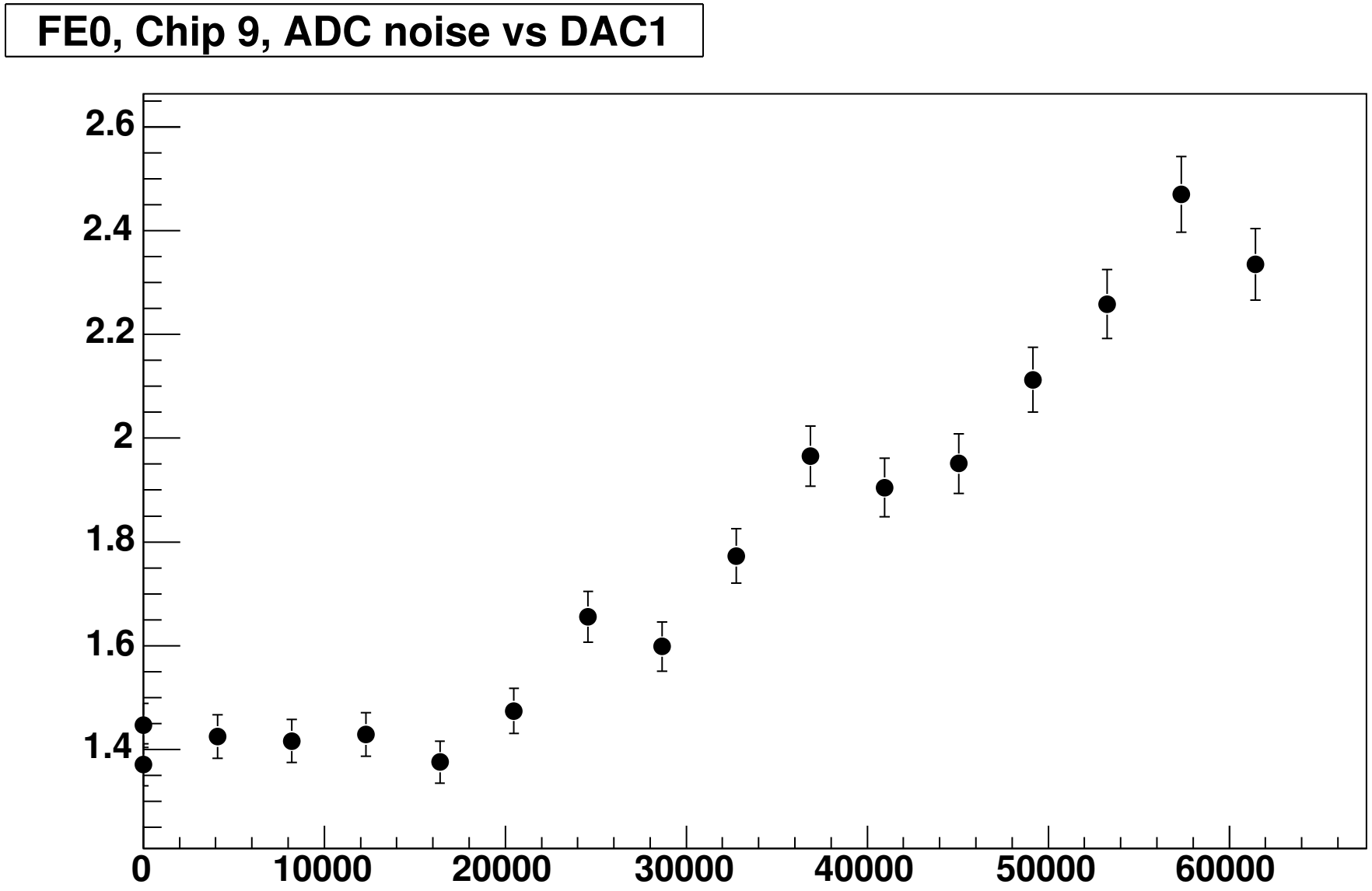

FE0, Chip 8, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

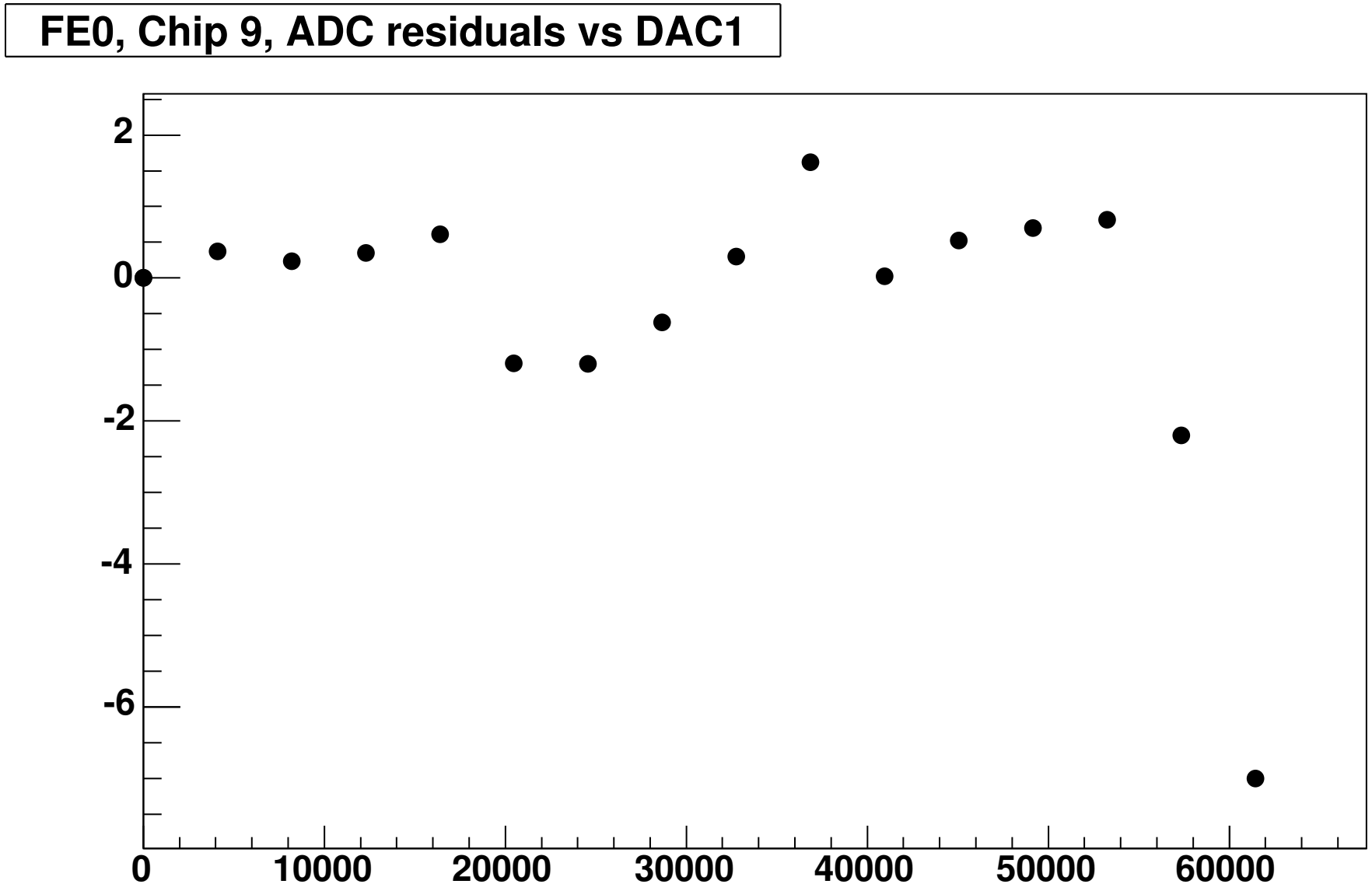

FE0, Chip 9, ADC mean vs DAC0
χ² / ndf 32.25 / 11
p0 -42.67 ± 0.03869
p1 -3.399e-06 ± 1.079e-06
-42.5
-42.6
-42.7
-42.8
-42.9
-43
-43.1
-43.2
0
10000
20000
30000
40000
50000
60000

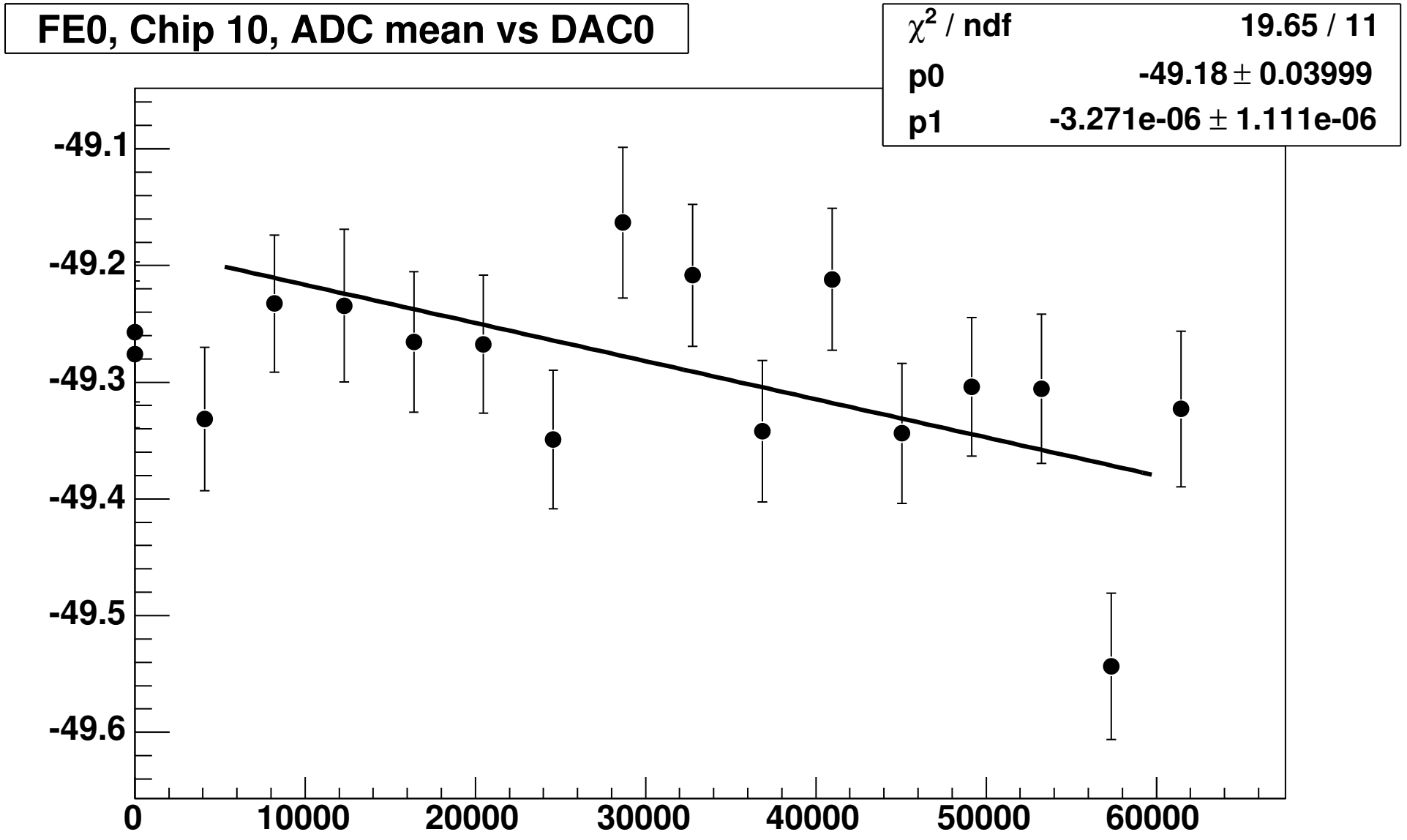

FE0, Chip 9, ADC noise vs DAC0
3.5
3
2.5
2
1.5
0
10000
20000
30000
40000
50000
60000

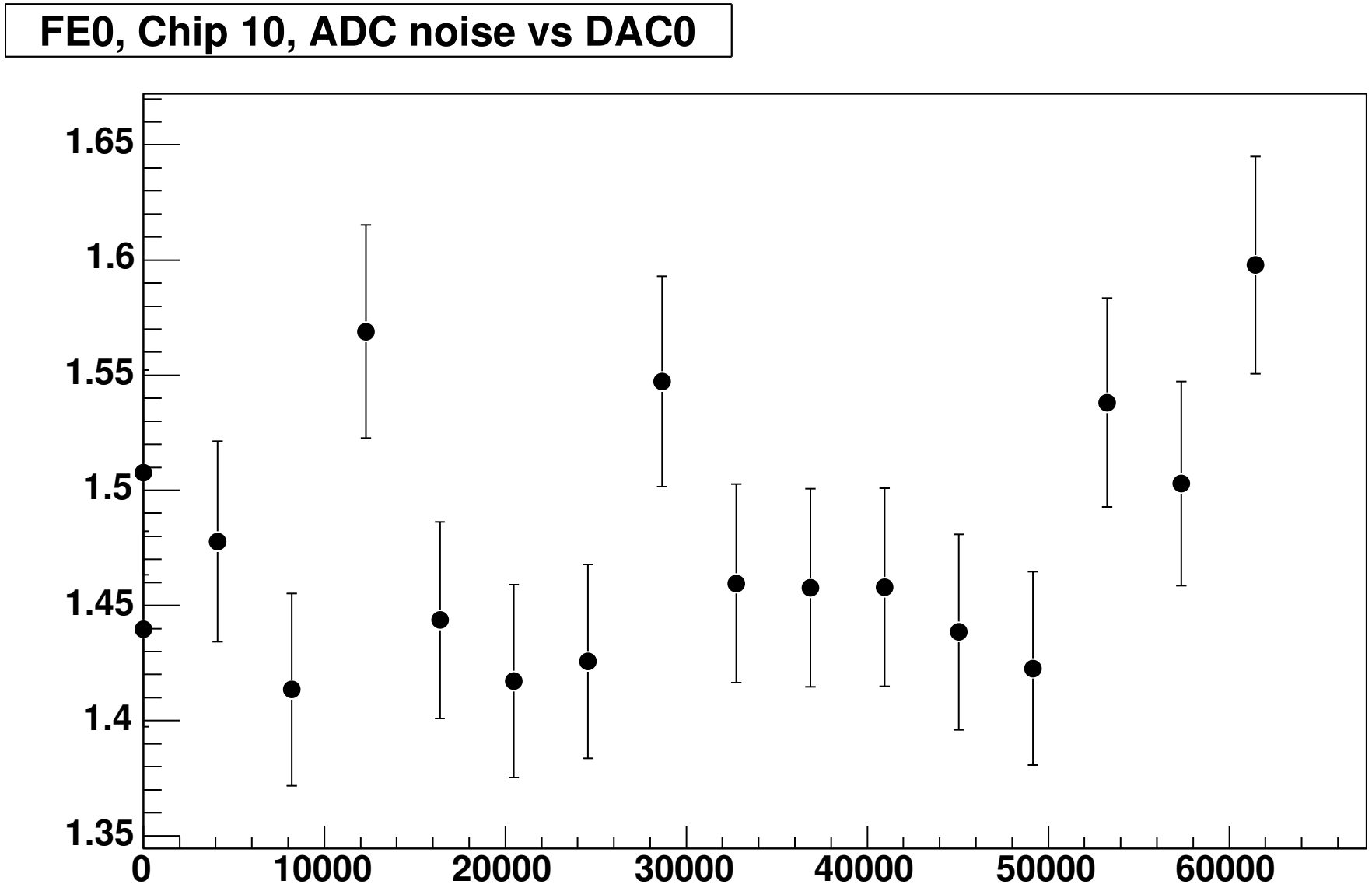

FE0, Chip 9, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

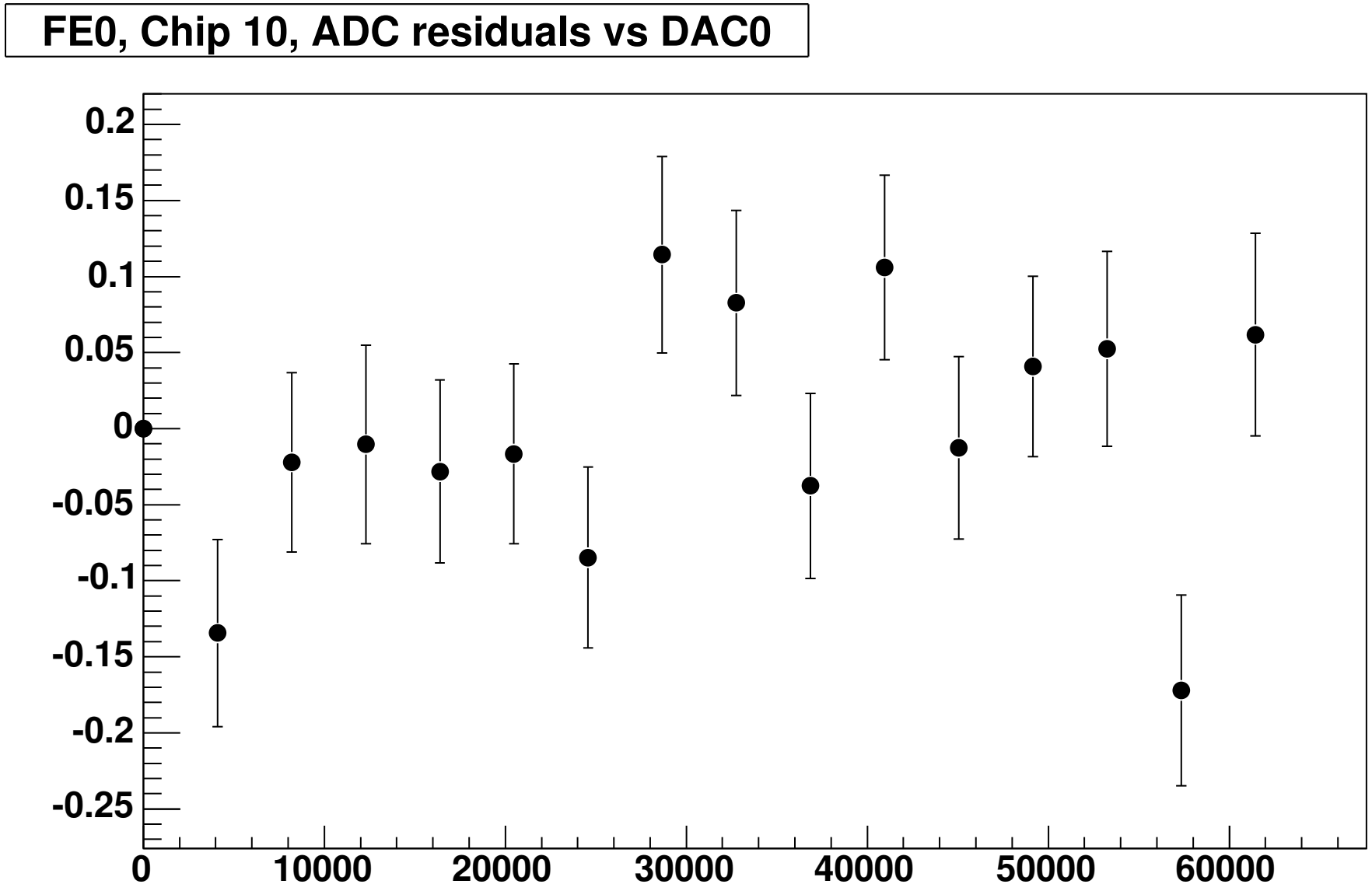

FE0, Chip 9, ADC mean vs DAC1
χ² / ndf 1973 / 11
p0 -45.43 ± 0.04251
p1 0.4504 ± 1.363e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

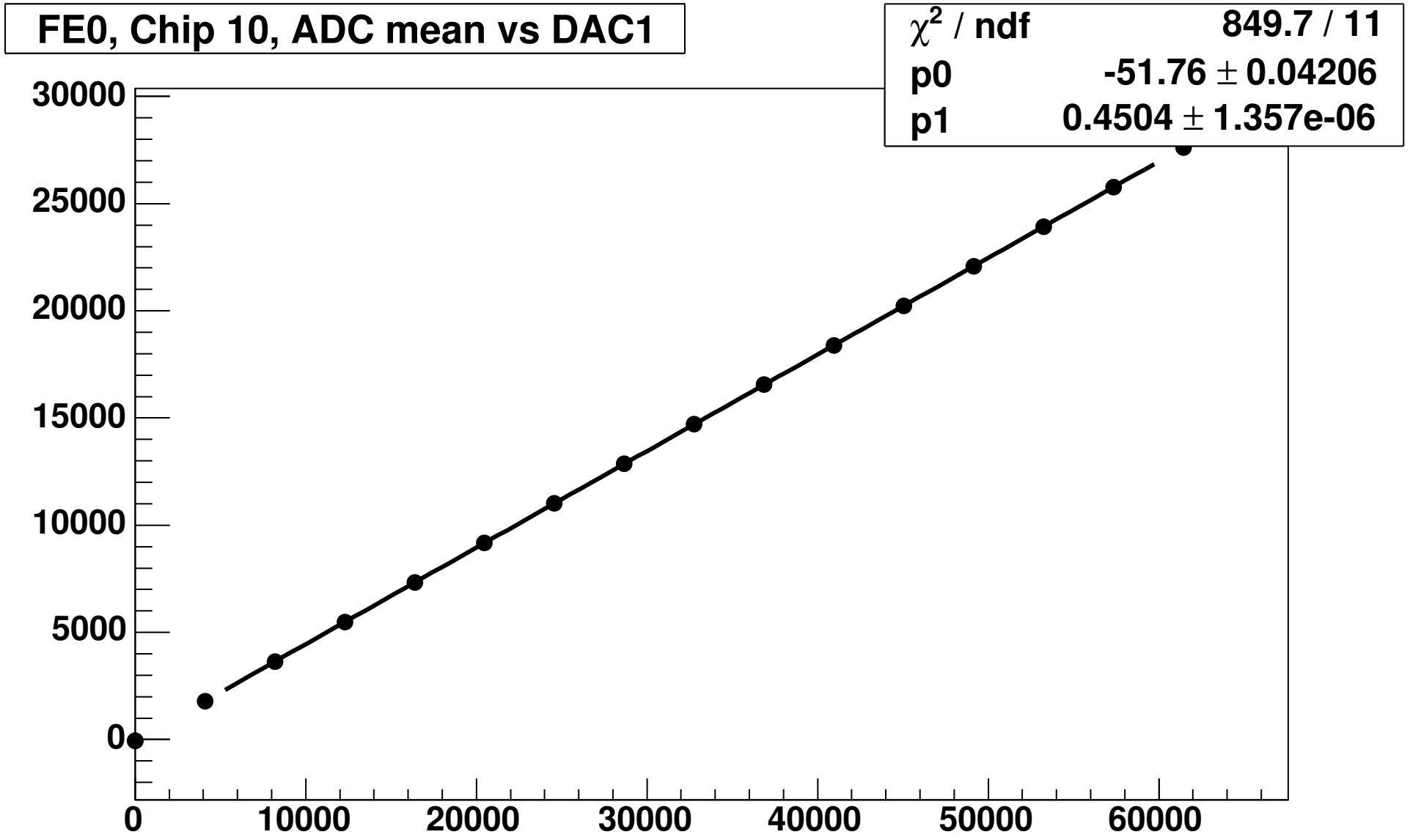

FE0, Chip 9, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

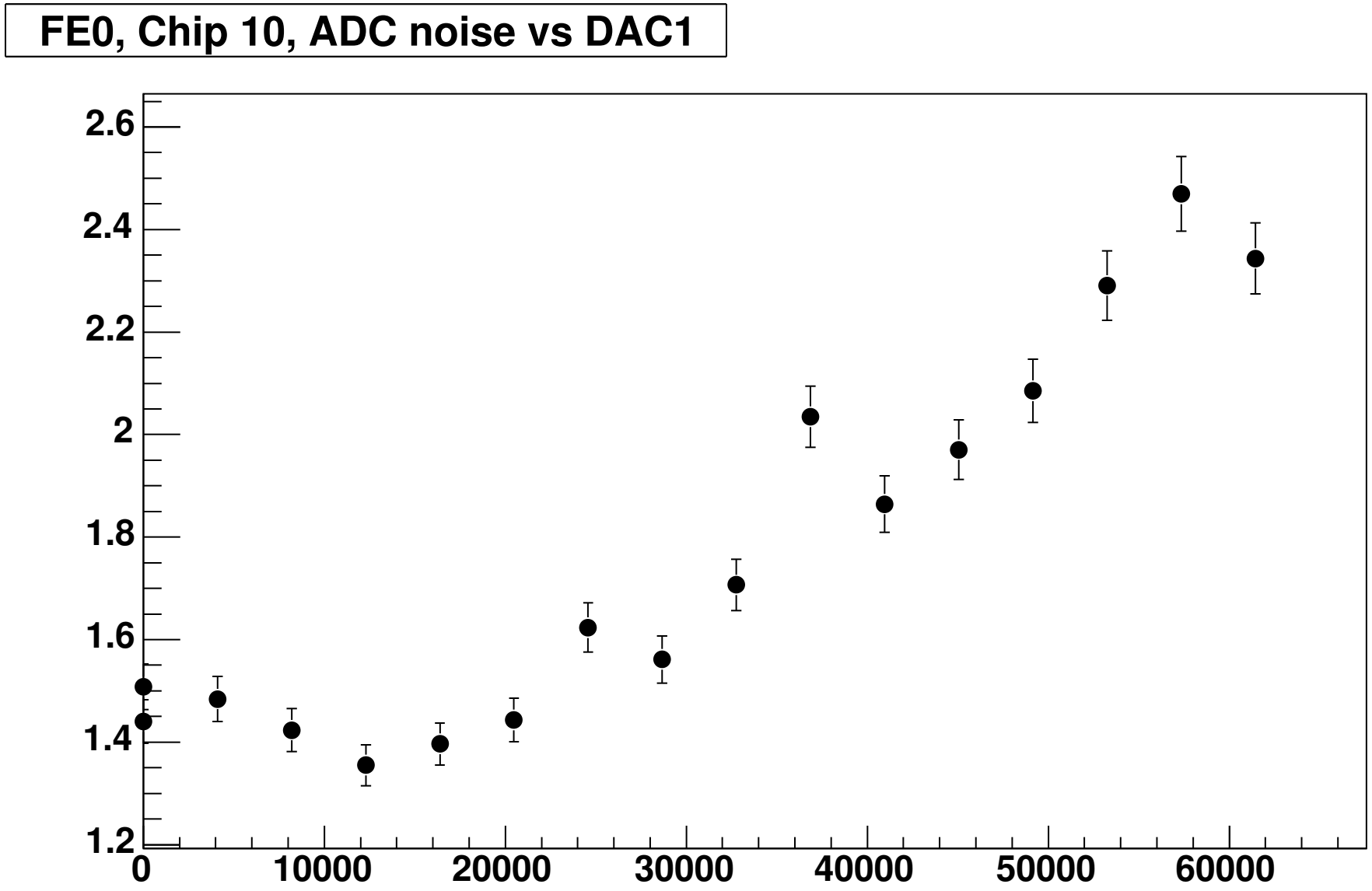

FE0, Chip 9, ADC residuals vs DAC1
2
0
-2
-4
-6
0
10000
20000
30000
40000
50000
60000

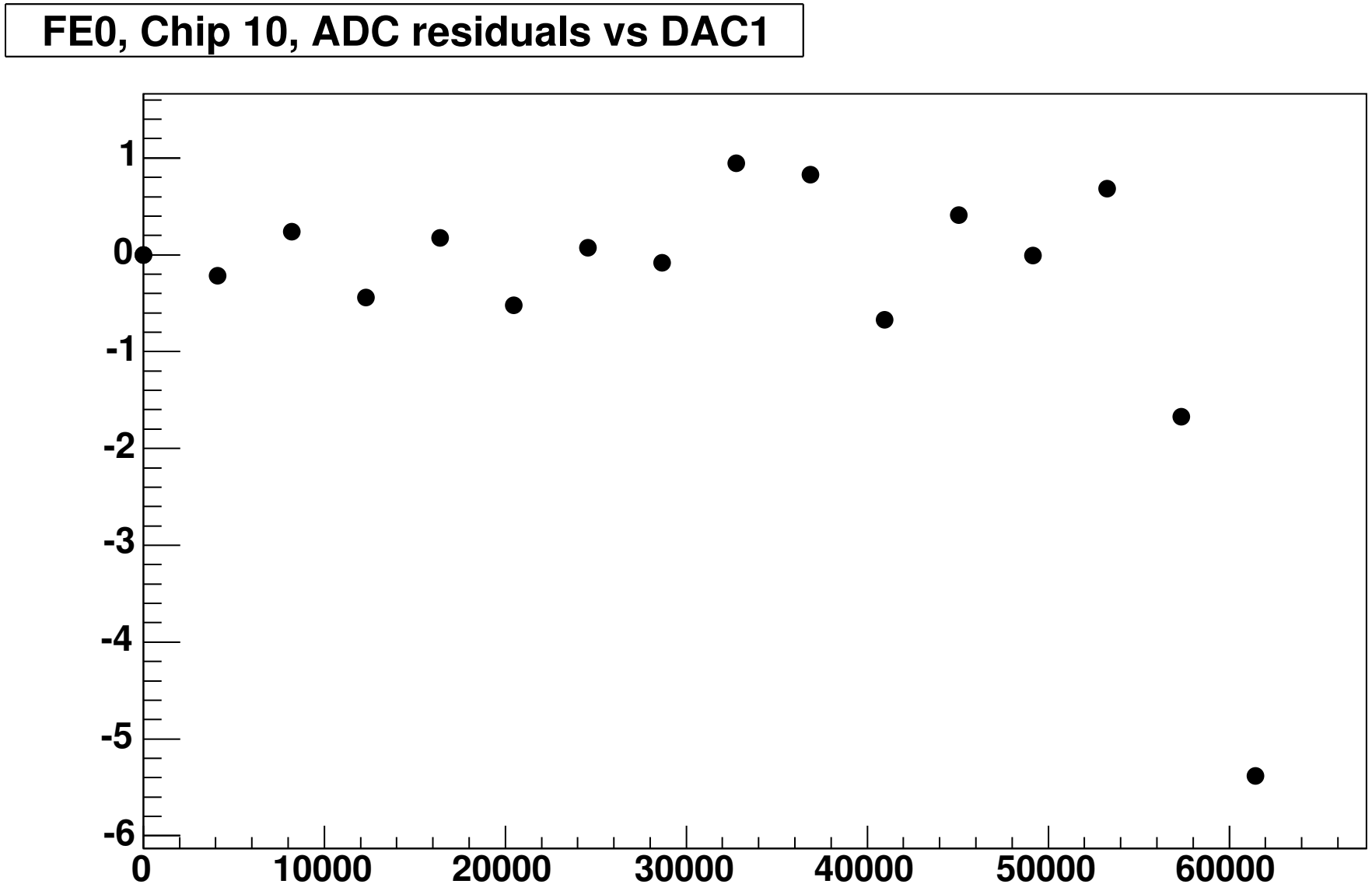

FE0, Chip 10, ADC mean vs DAC0
χ² / ndf 19.65 / 11
p0 -49.18 ± 0.03999
p1 -3.271e-06 ± 1.111e-06
-49.1
-49.2
-49.3
-49.4
-49.5
-49.6
0
10000
20000
30000
40000
50000
60000

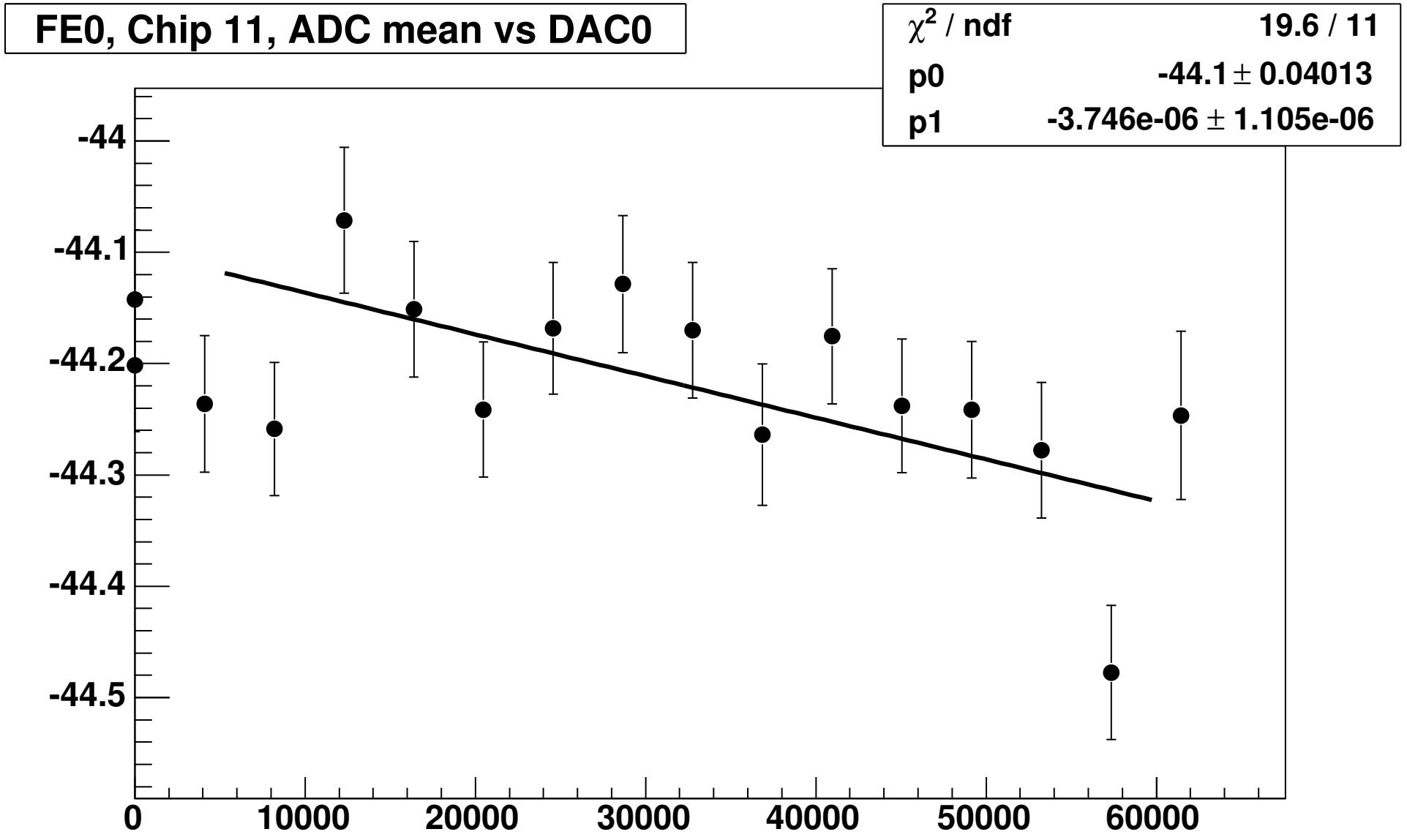

FE0, Chip 10, ADC noise vs DAC0
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

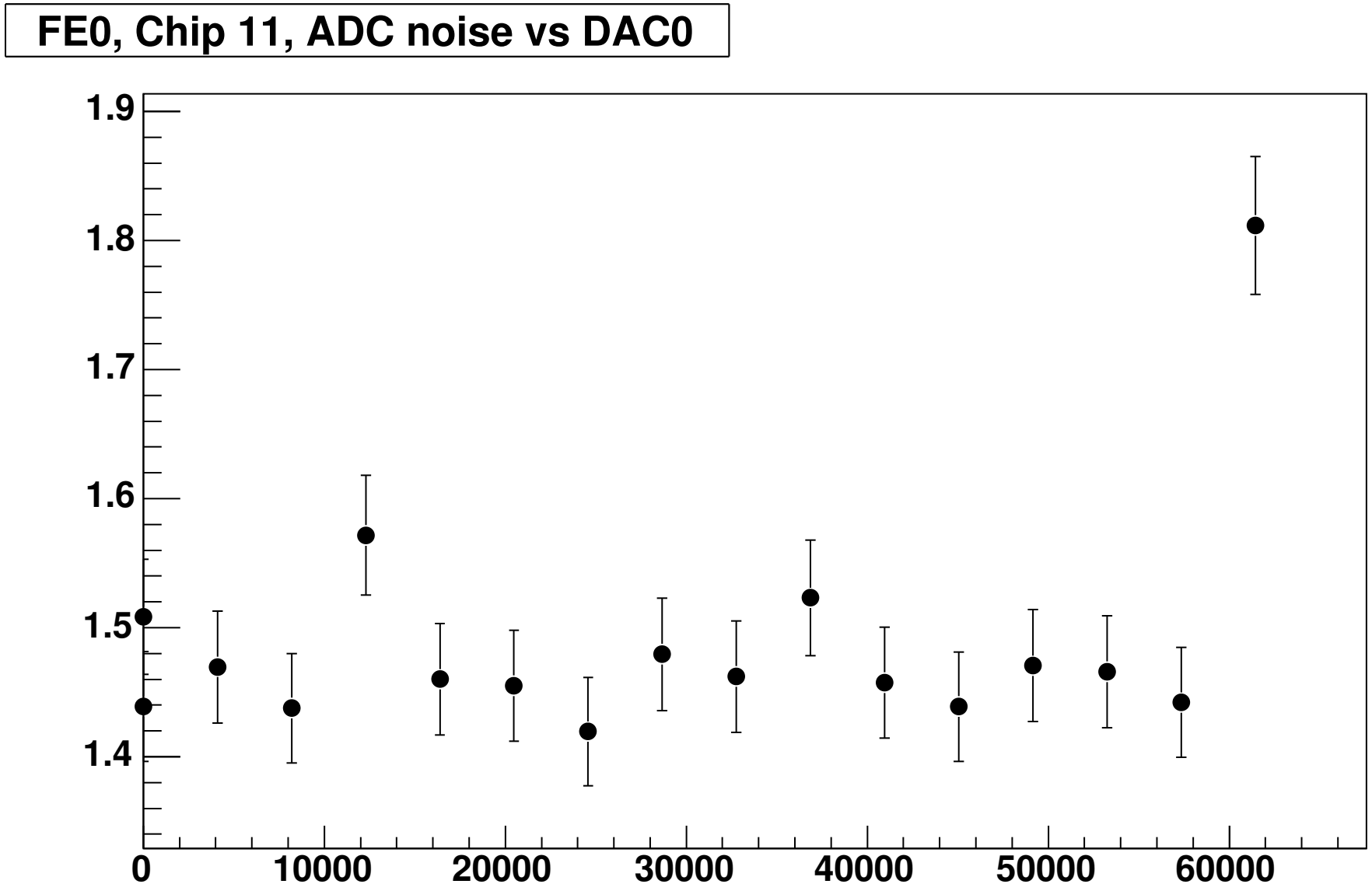

FE0, Chip 10, ADC residuals vs DAC0
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

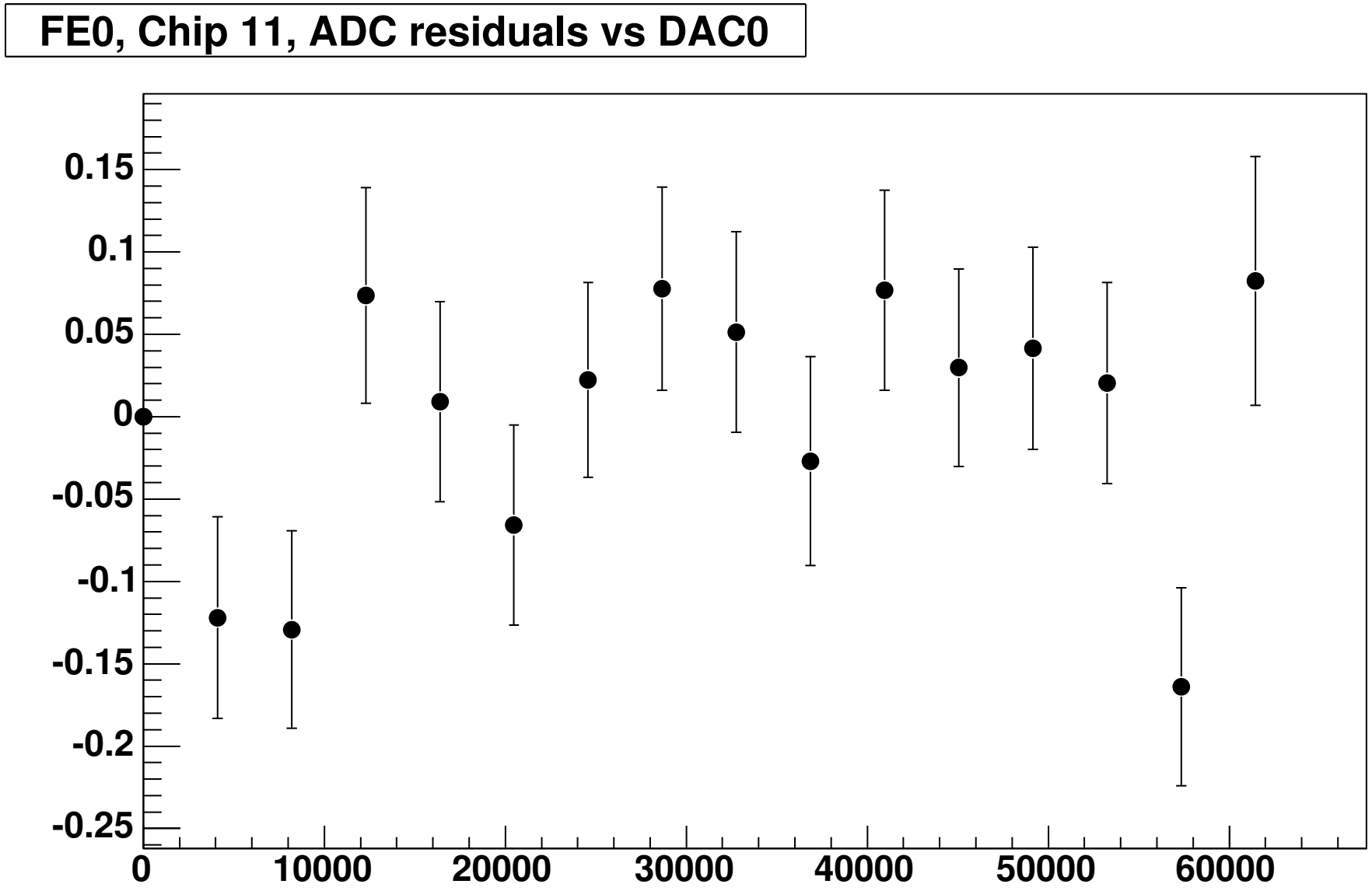

FE0, Chip 10, ADC mean vs DAC1
χ² / ndf 849.7 / 11
p0 -51.76 ± 0.04206
p1 0.4504 ± 1.357e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

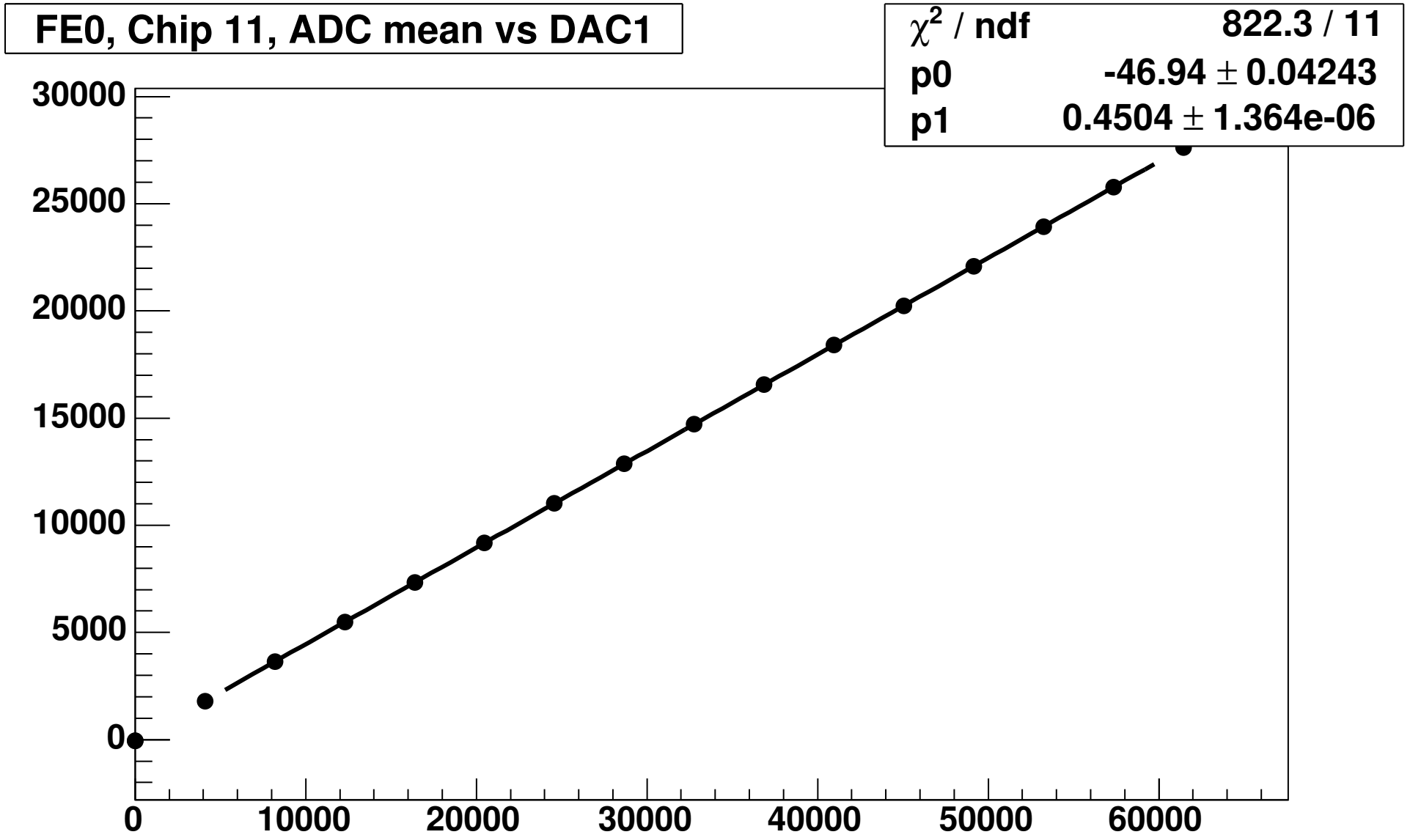

FE0, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

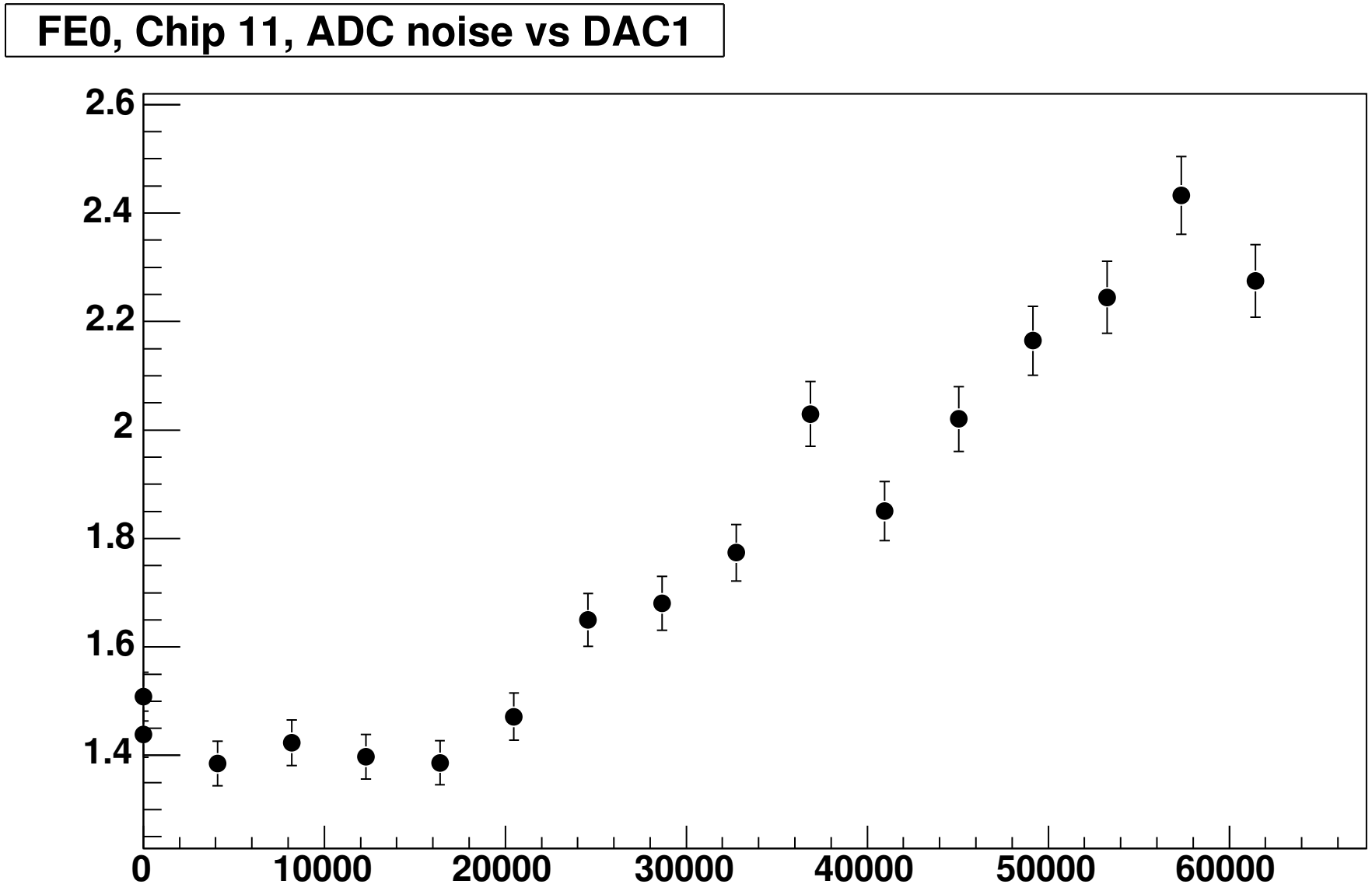

FE0, Chip 10, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

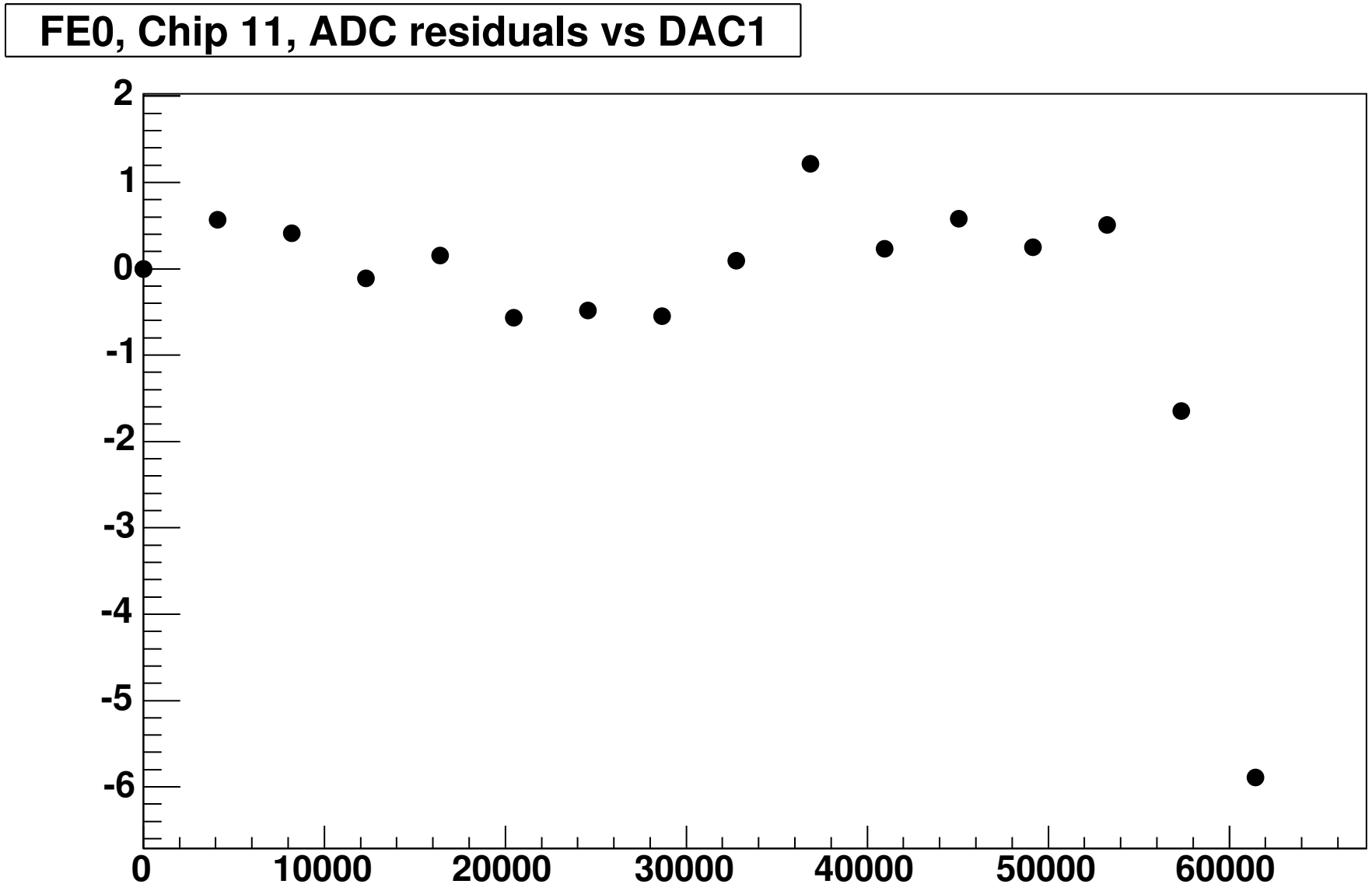

FE0, Chip 11, ADC mean vs DAC0
χ² / ndf 19.6 / 11
p0 -44.1 ± 0.04013
p1 -3.746e-06 ± 1.105e-06
-44
-44.1
-44.2
-44.3
-44.4
-44.5
0
10000
20000
30000
40000
50000
60000

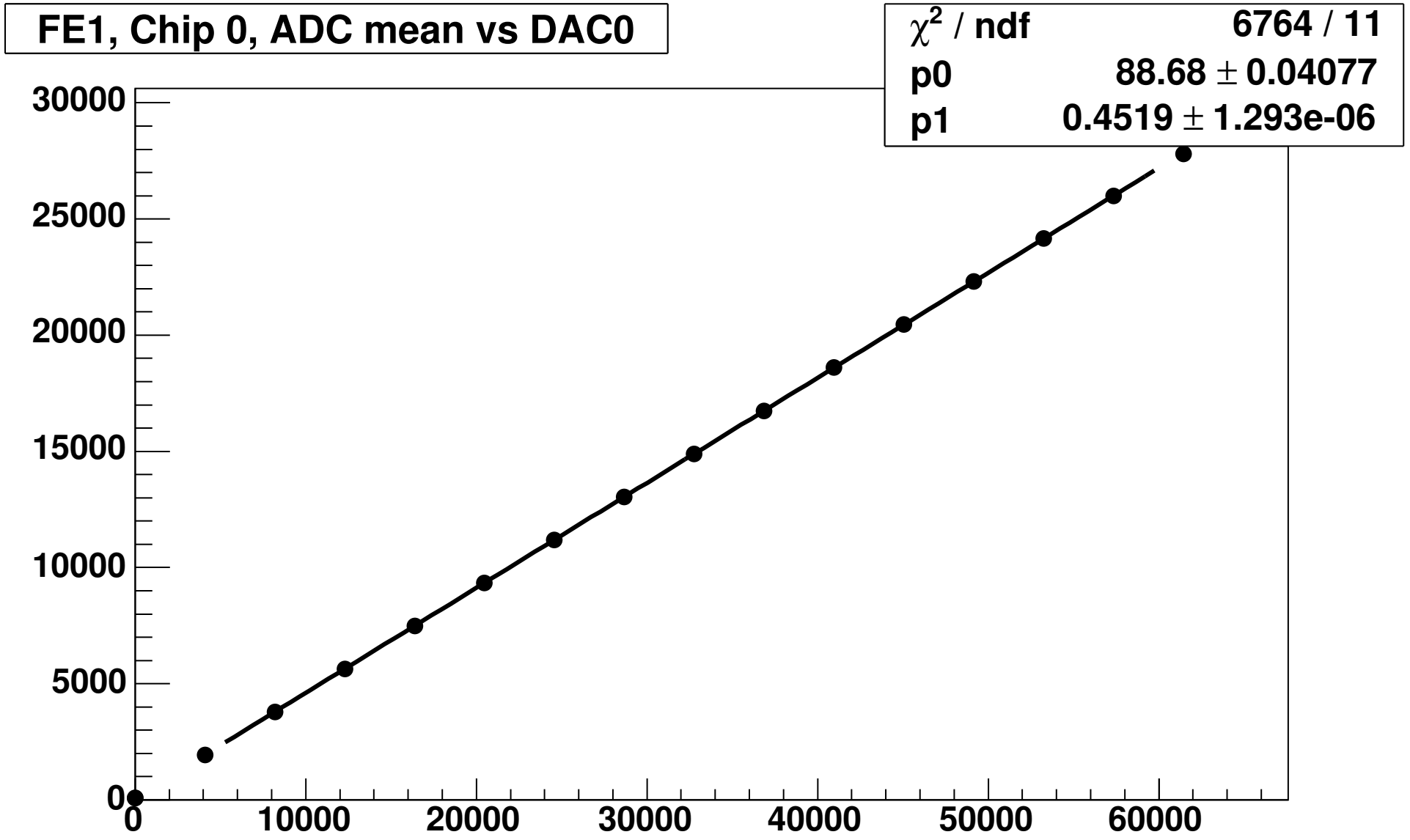

FE0, Chip 11, ADC noise vs DAC0
1.9
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

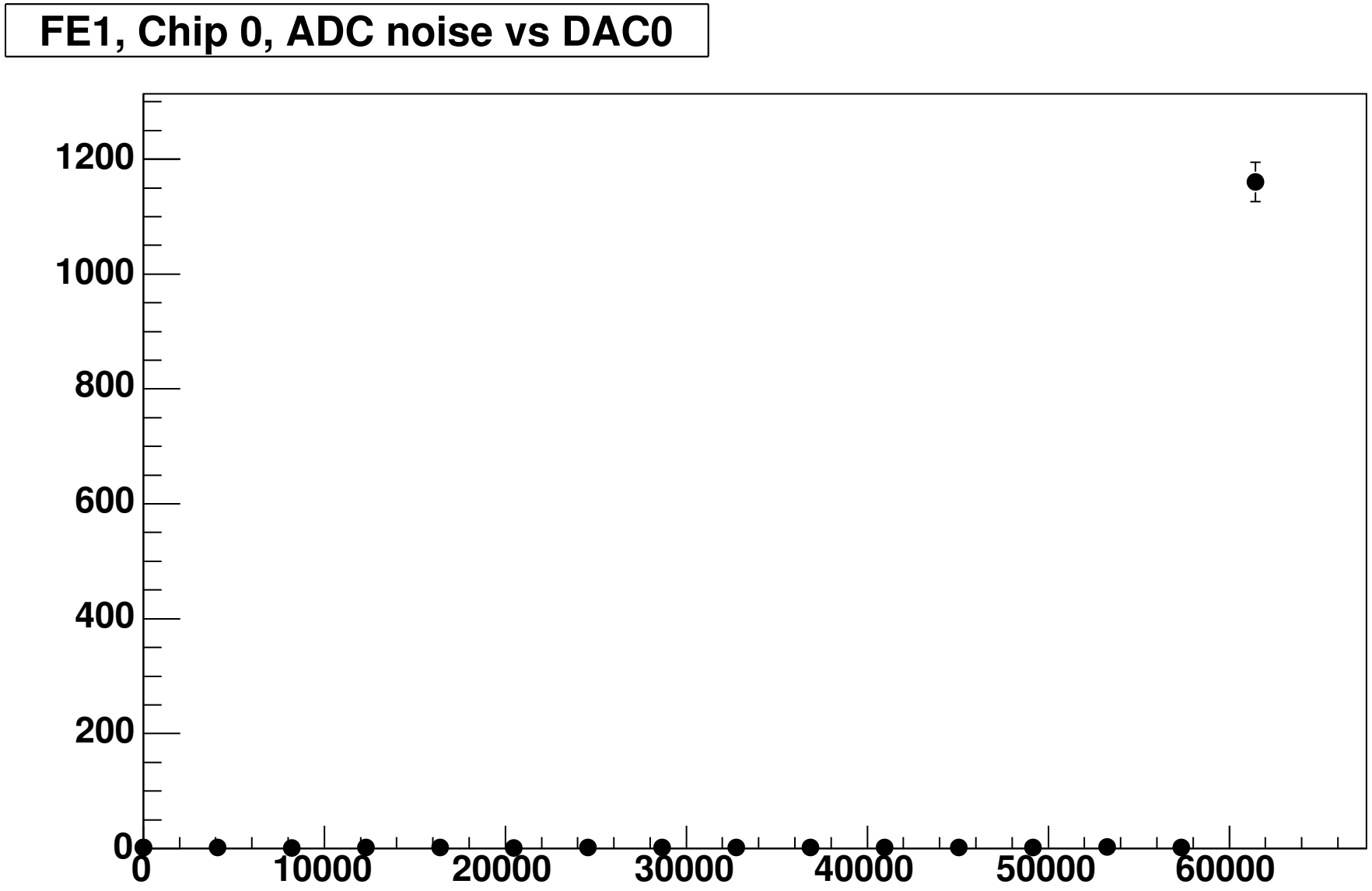

FE0, Chip 11, ADC residuals vs DAC0
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

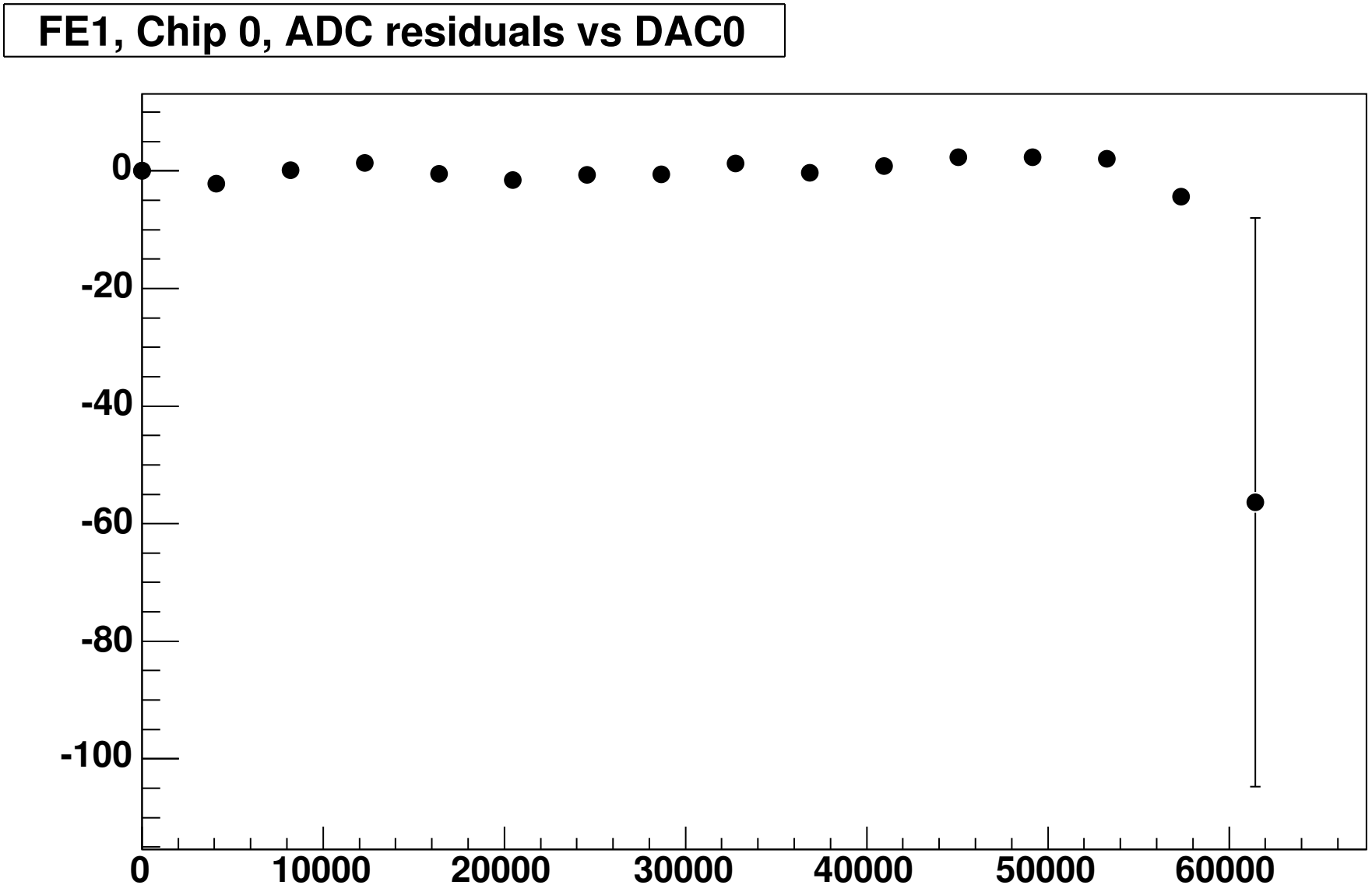

FE0, Chip 11, ADC mean vs DAC1
χ² / ndf 822.3 / 11
p0 -46.94 ± 0.04243
p1 0.4504 ± 1.364e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

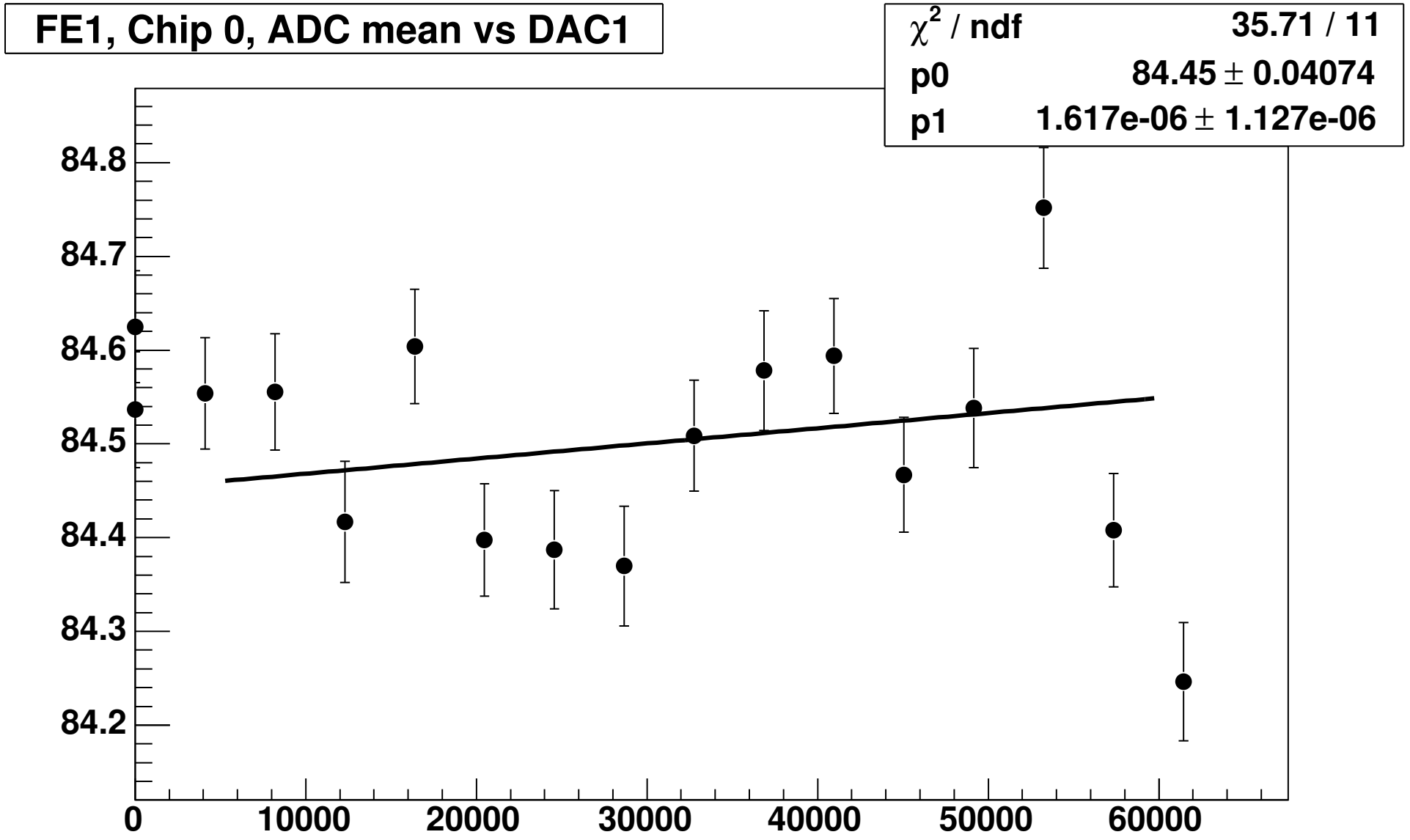

FE0, Chip 11, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

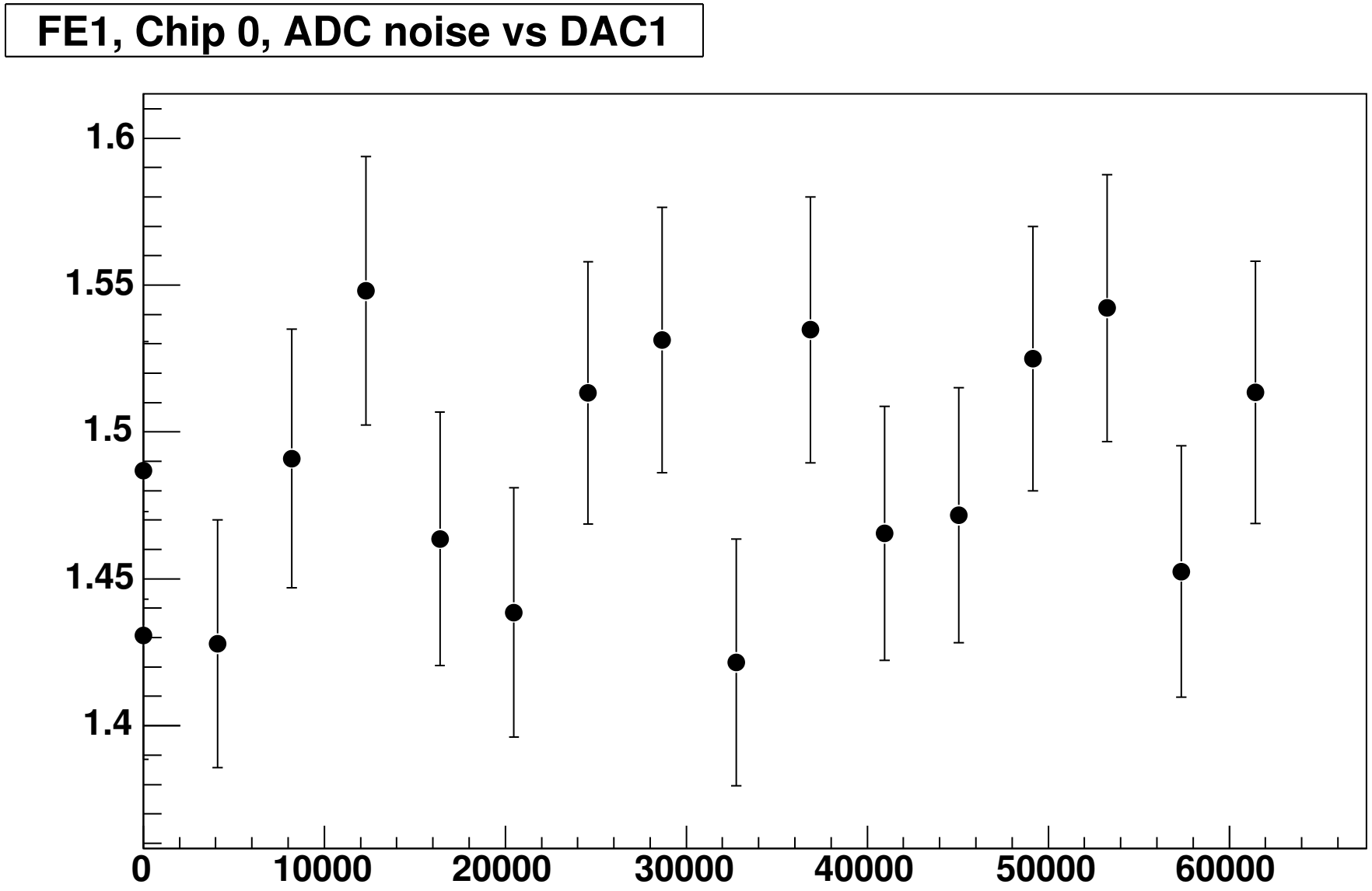

FE0, Chip 11, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

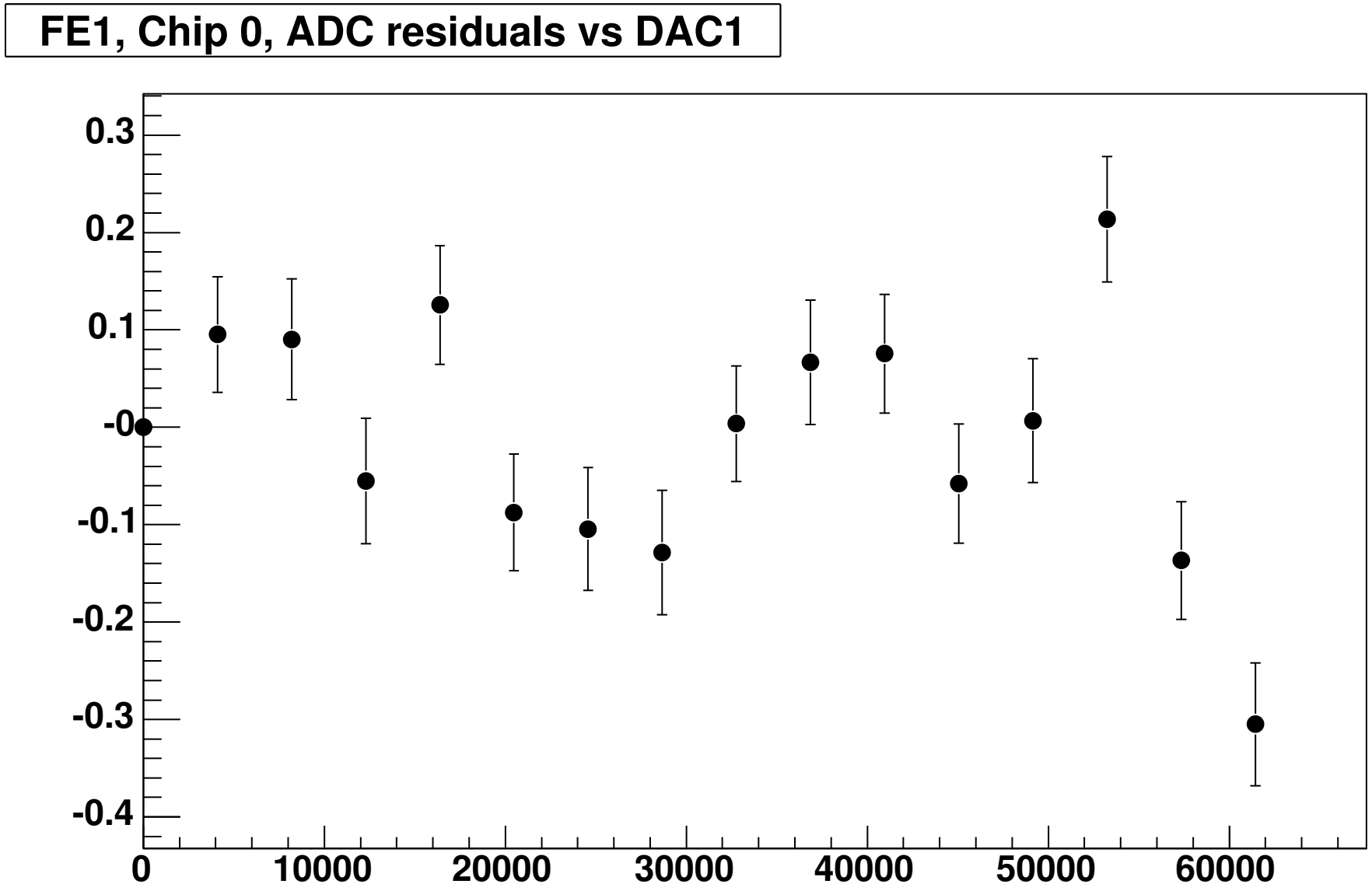

FE1, Chip 0, ADC mean vs DAC0
χ² / ndf 6764 / 11
p0 88.68 ± 0.04077
p1 0.4519 ± 1.293e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

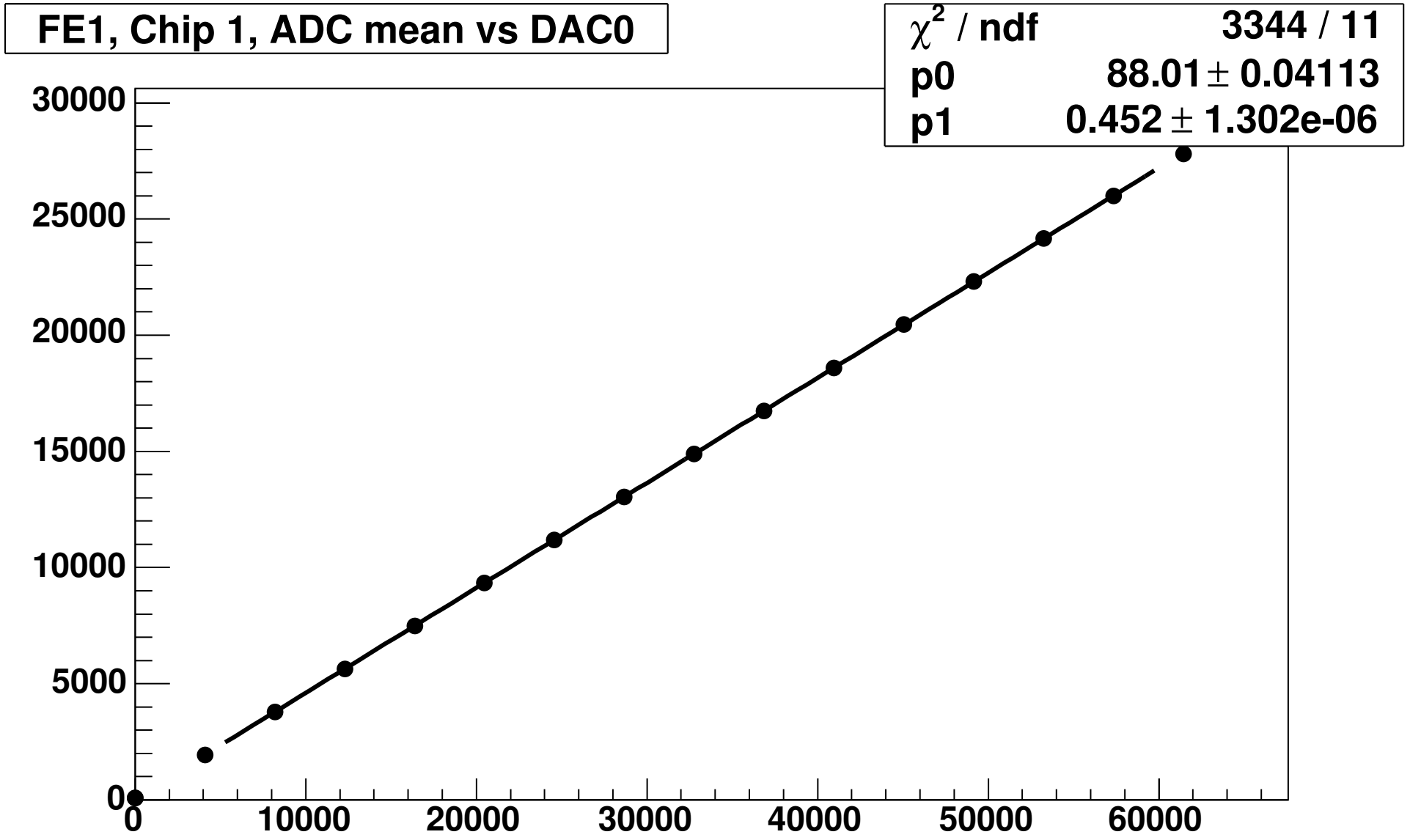

FE1, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

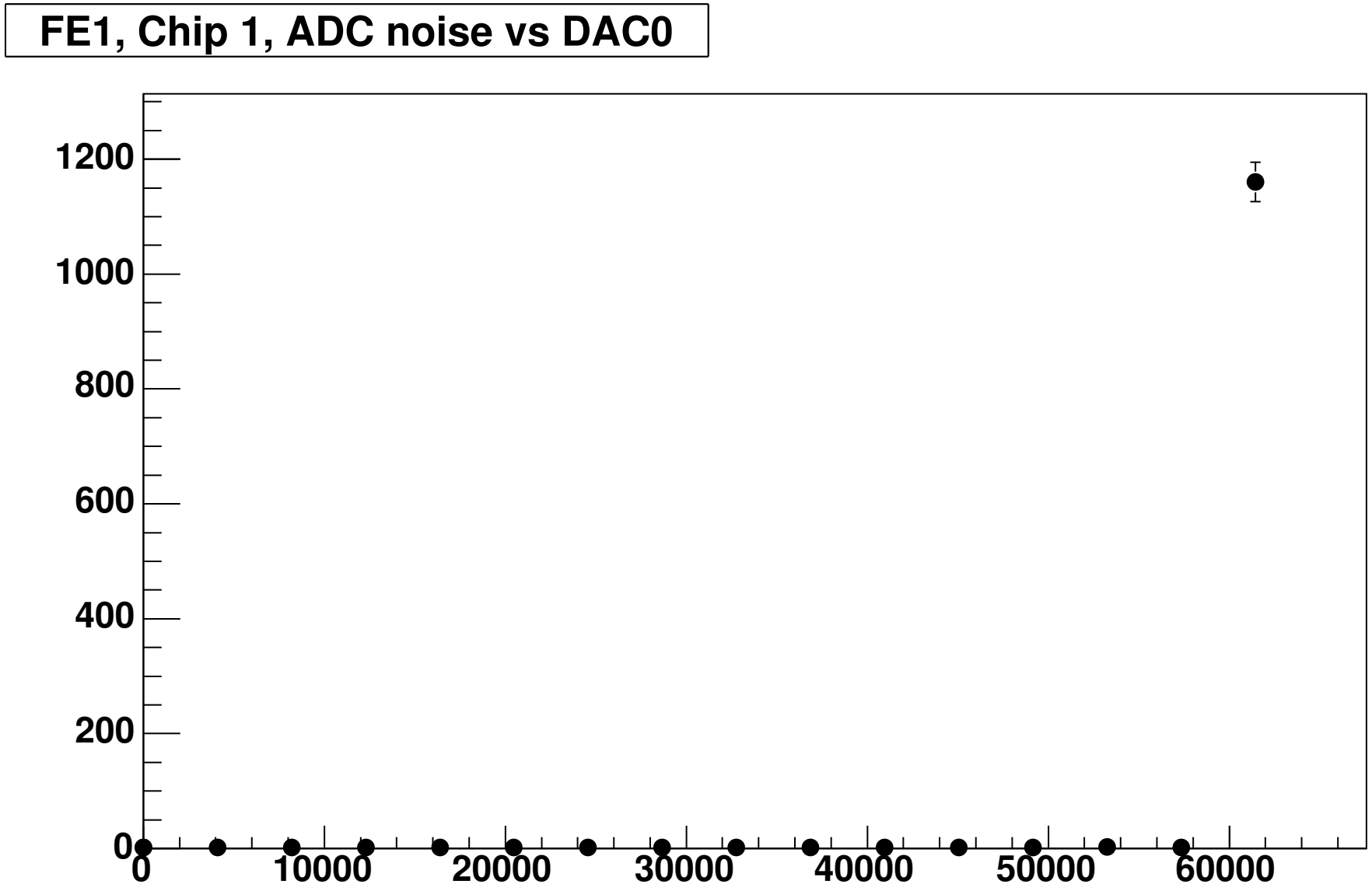

FE1, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

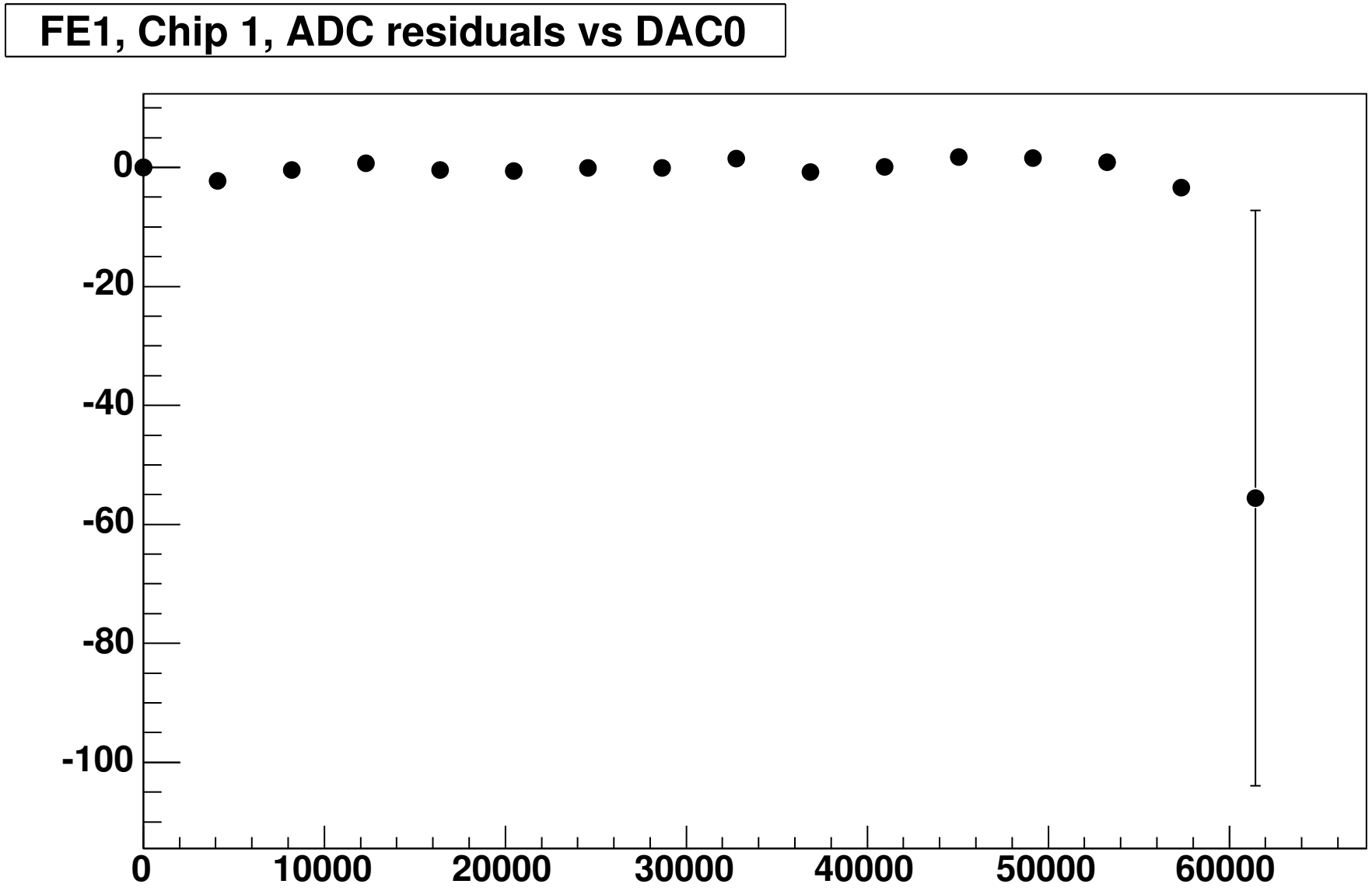

FE1, Chip 0, ADC mean vs DAC1
χ² / ndf 35.71 / 11
p0 84.45 ± 0.04074
p1 1.617e-06 ± 1.127e-06
84.8
84.7
84.6
84.5
84.4
84.3
84.2
0
10000
20000
30000
40000
50000
60000

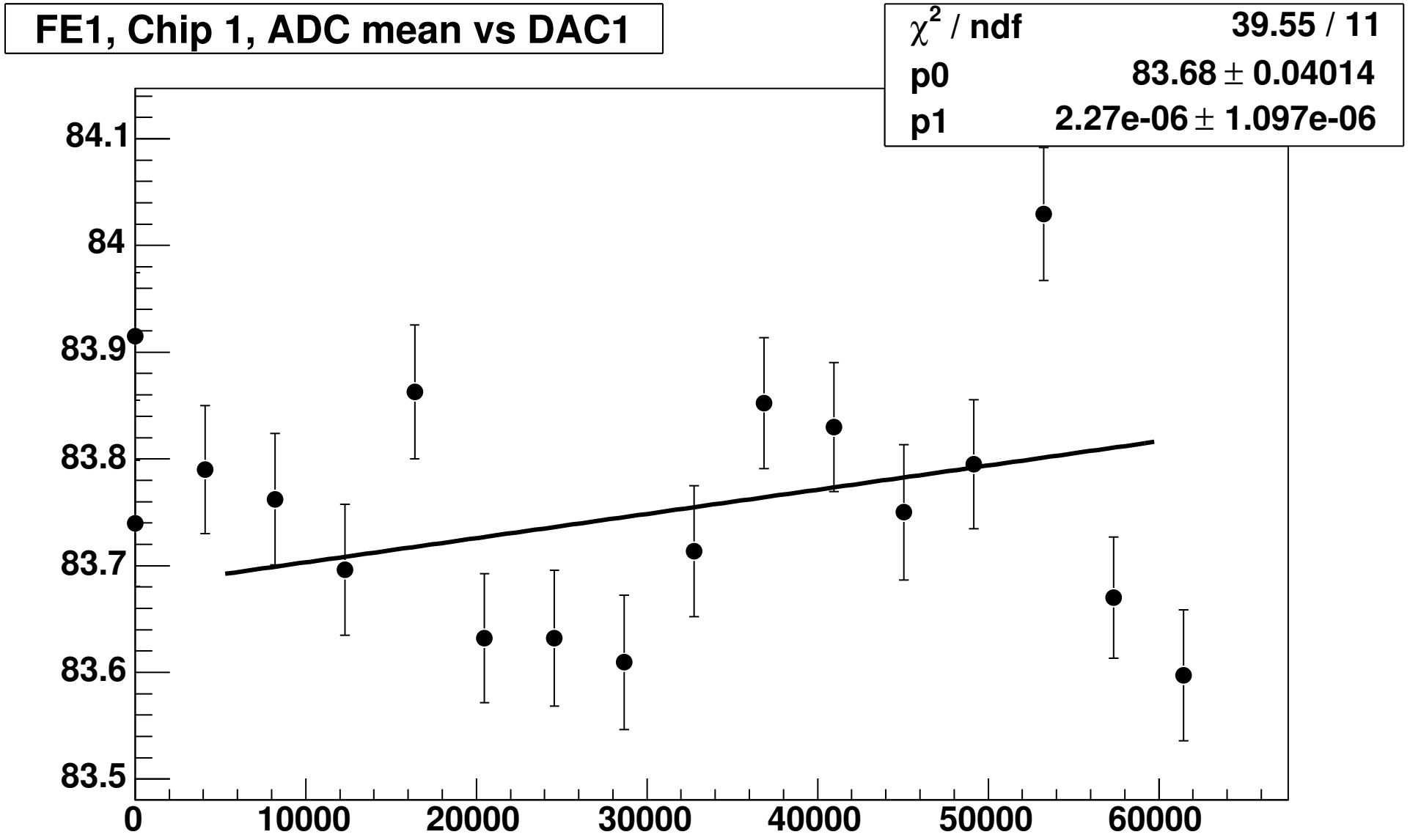

FE1, Chip 0, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

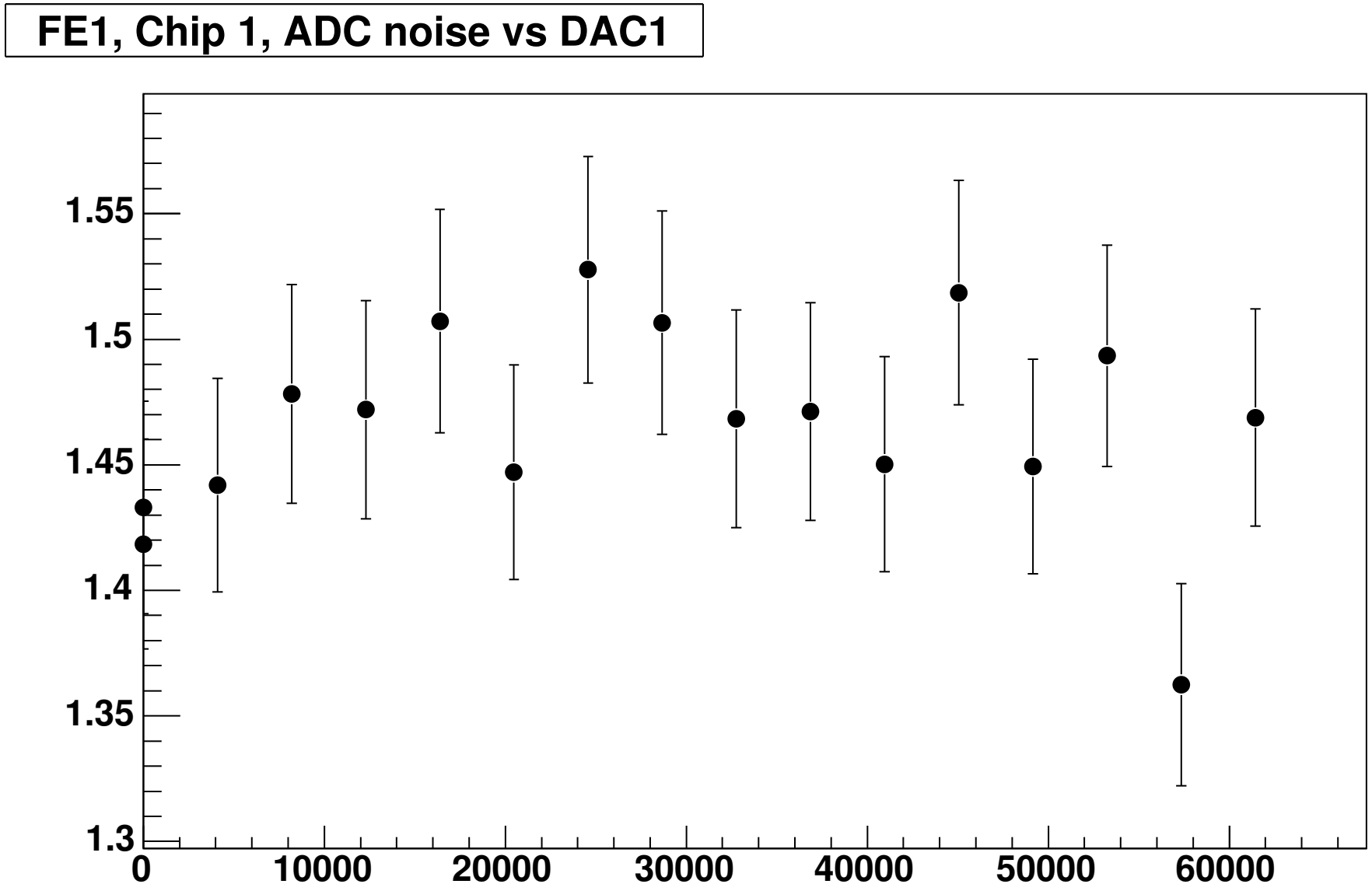

FE1, Chip 0, ADC residuals vs DAC1
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

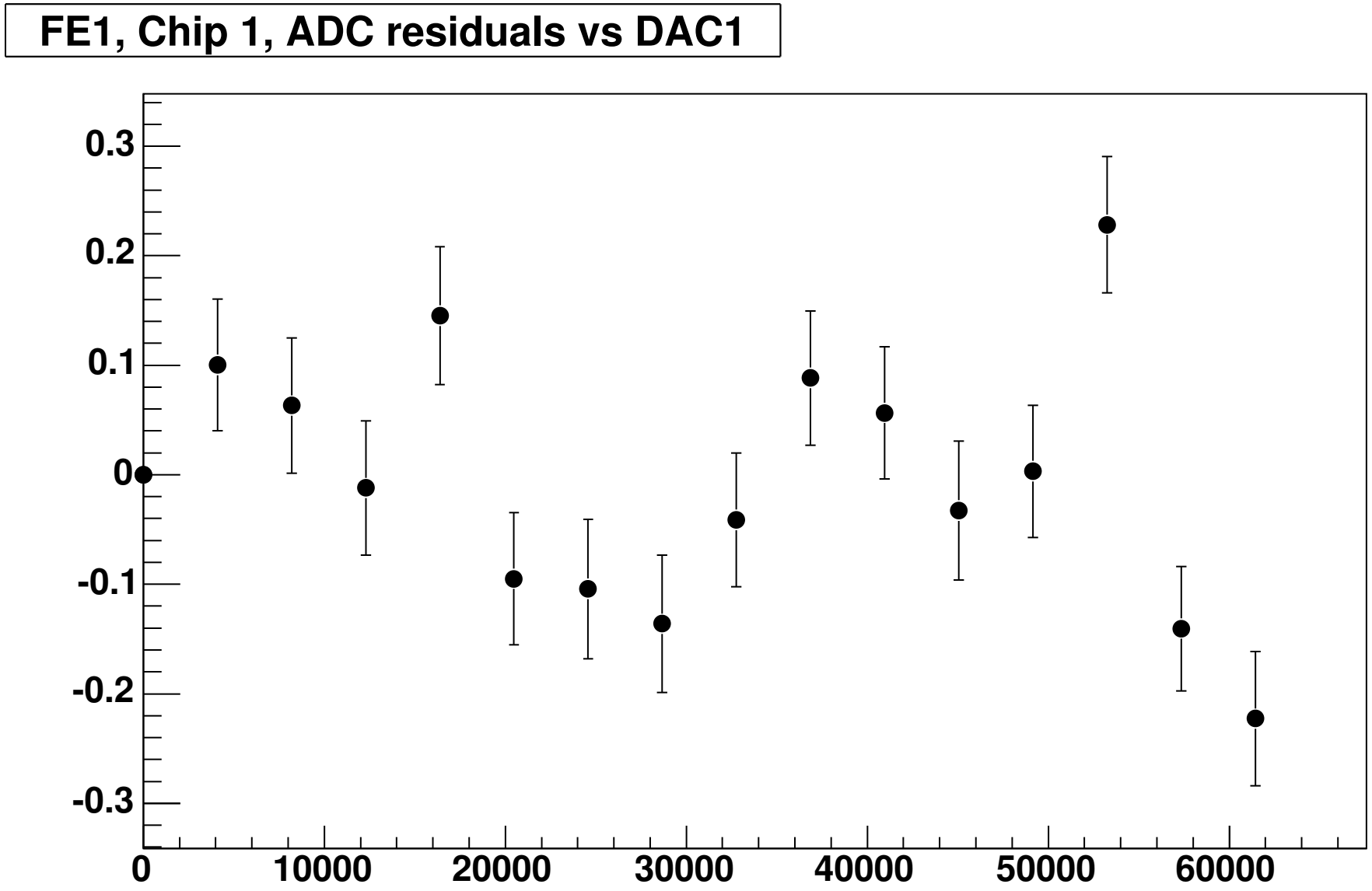

FE1, Chip 1, ADC mean vs DAC0
χ² / ndf 3344 / 11
p0 88.01 ± 0.04113
p1 0.452 ± 1.302e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

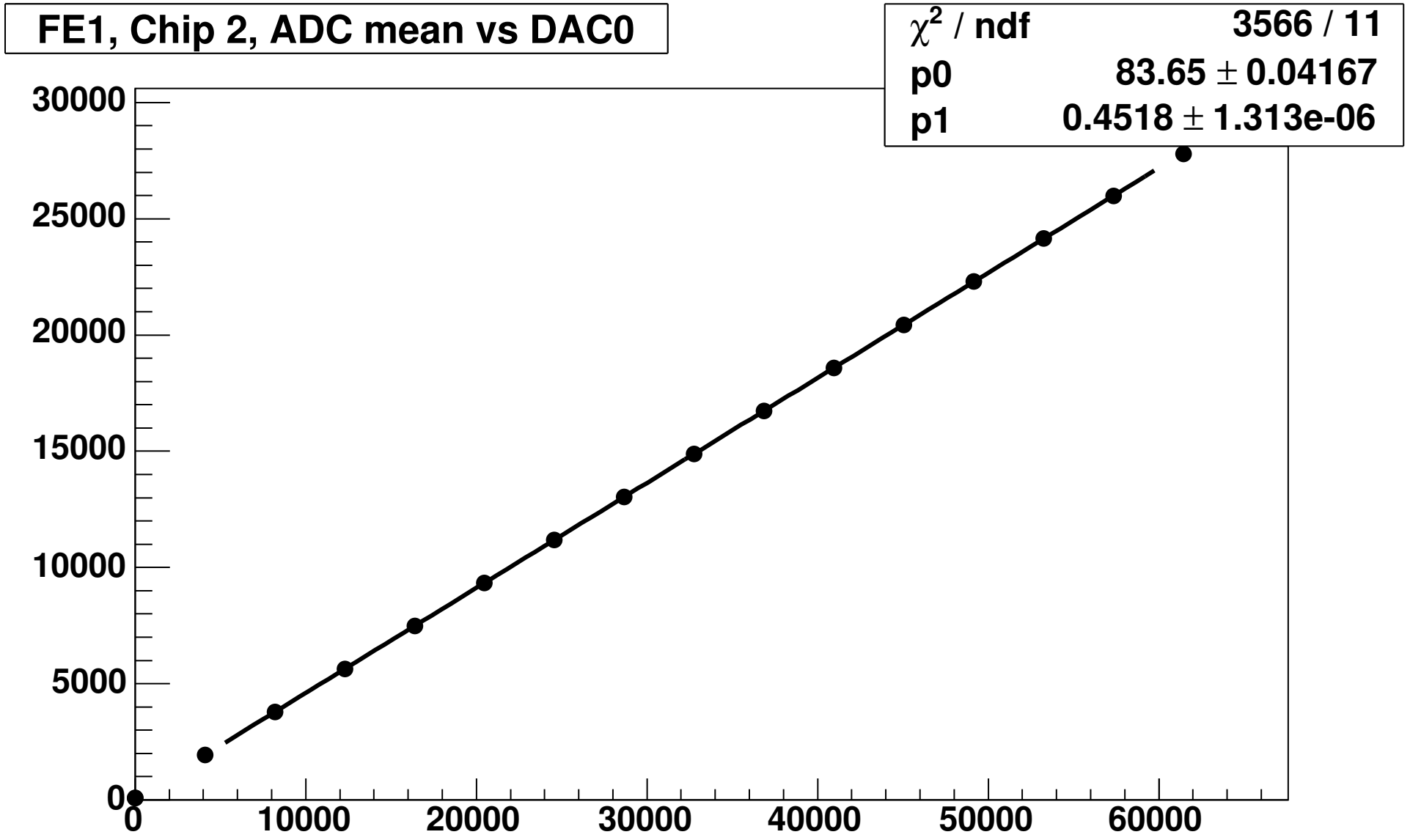

FE1, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

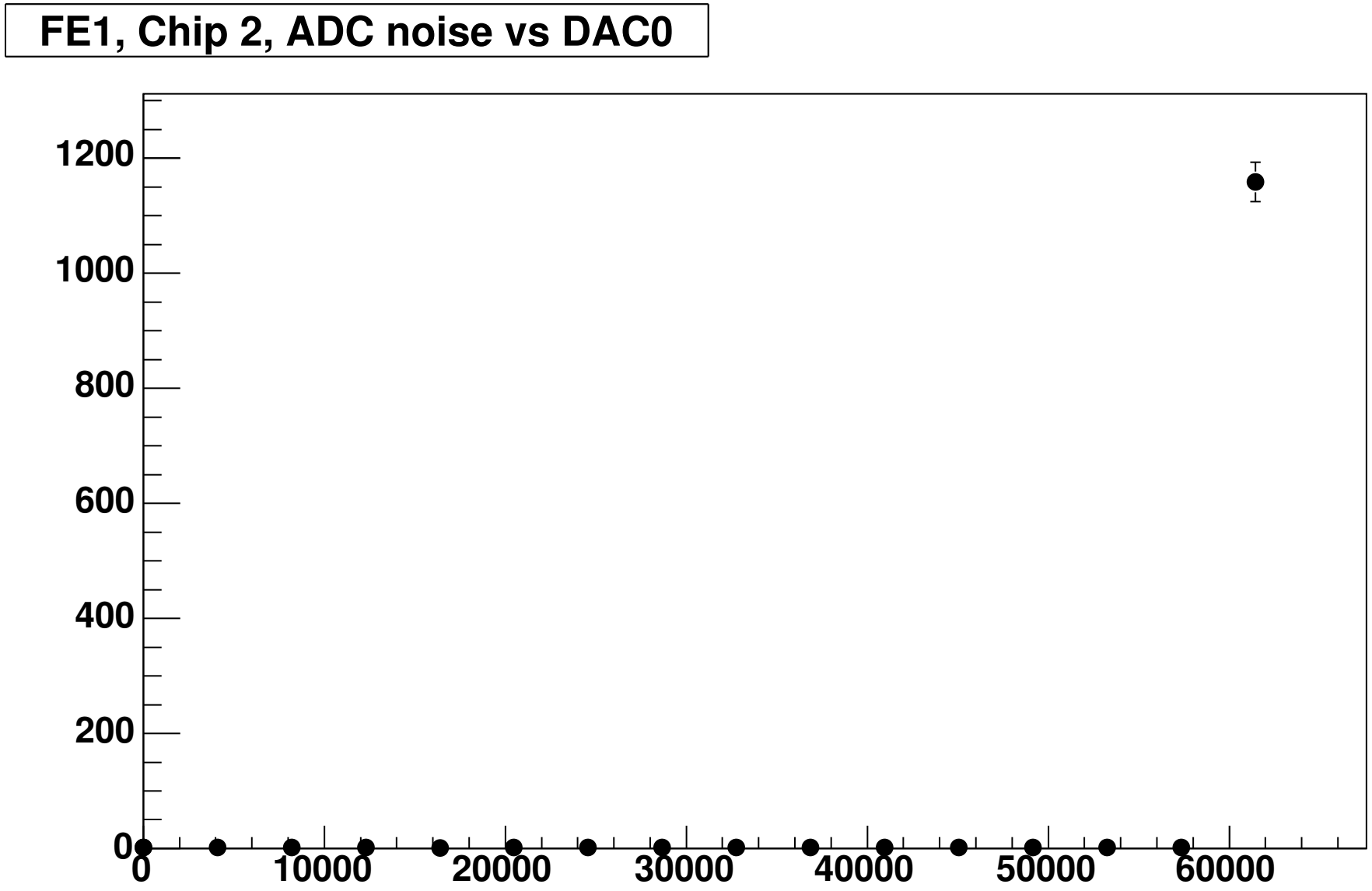

FE1, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

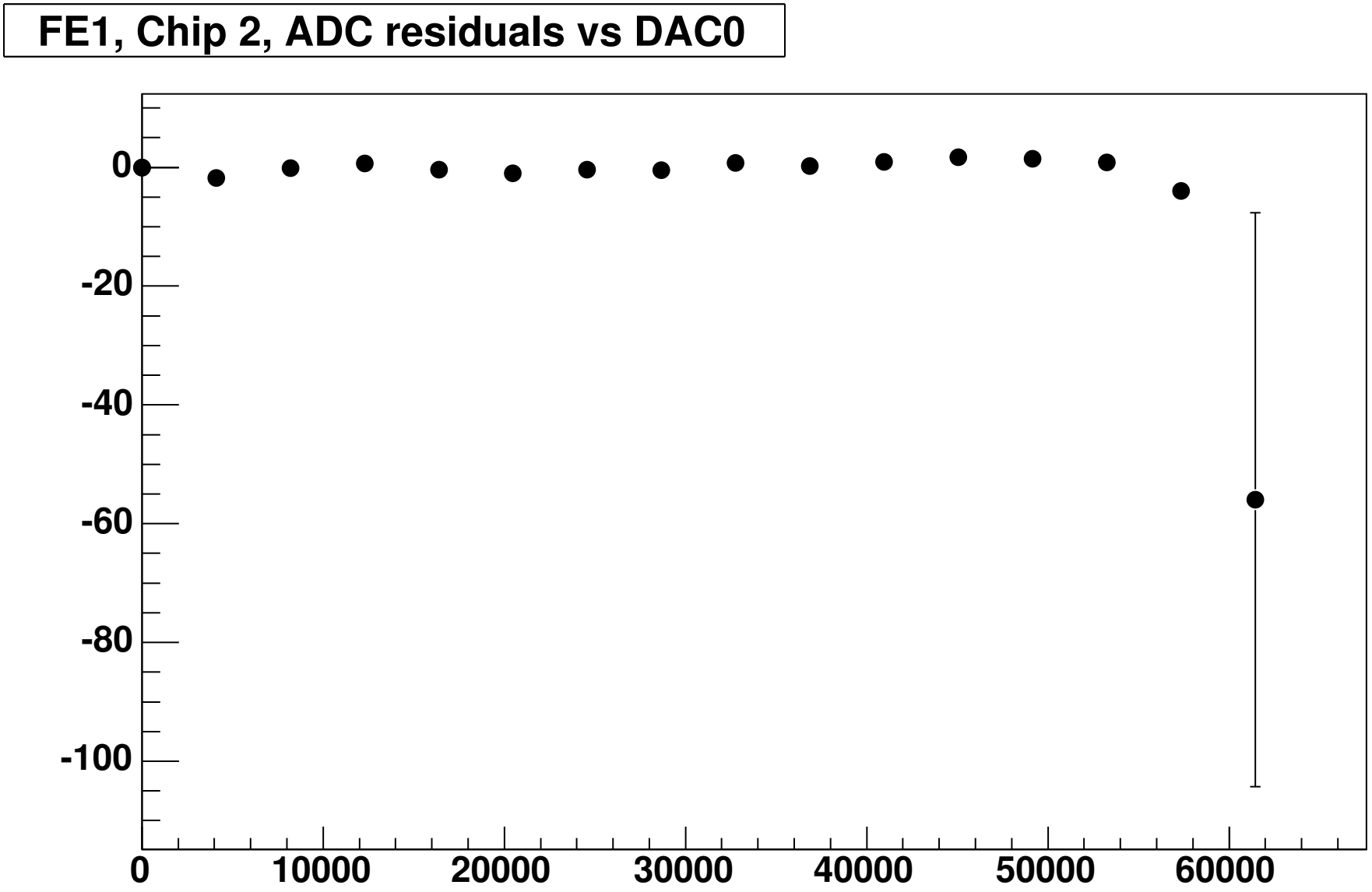

FE1, Chip 1, ADC mean vs DAC1
χ² / ndf 39.55 / 11
p0 83.68 ± 0.04014
p1 2.27e-06 ± 1.097e-06
84.1
84
83.9
83.8
83.7
83.6
83.5
0
10000
20000
30000
40000
50000
60000

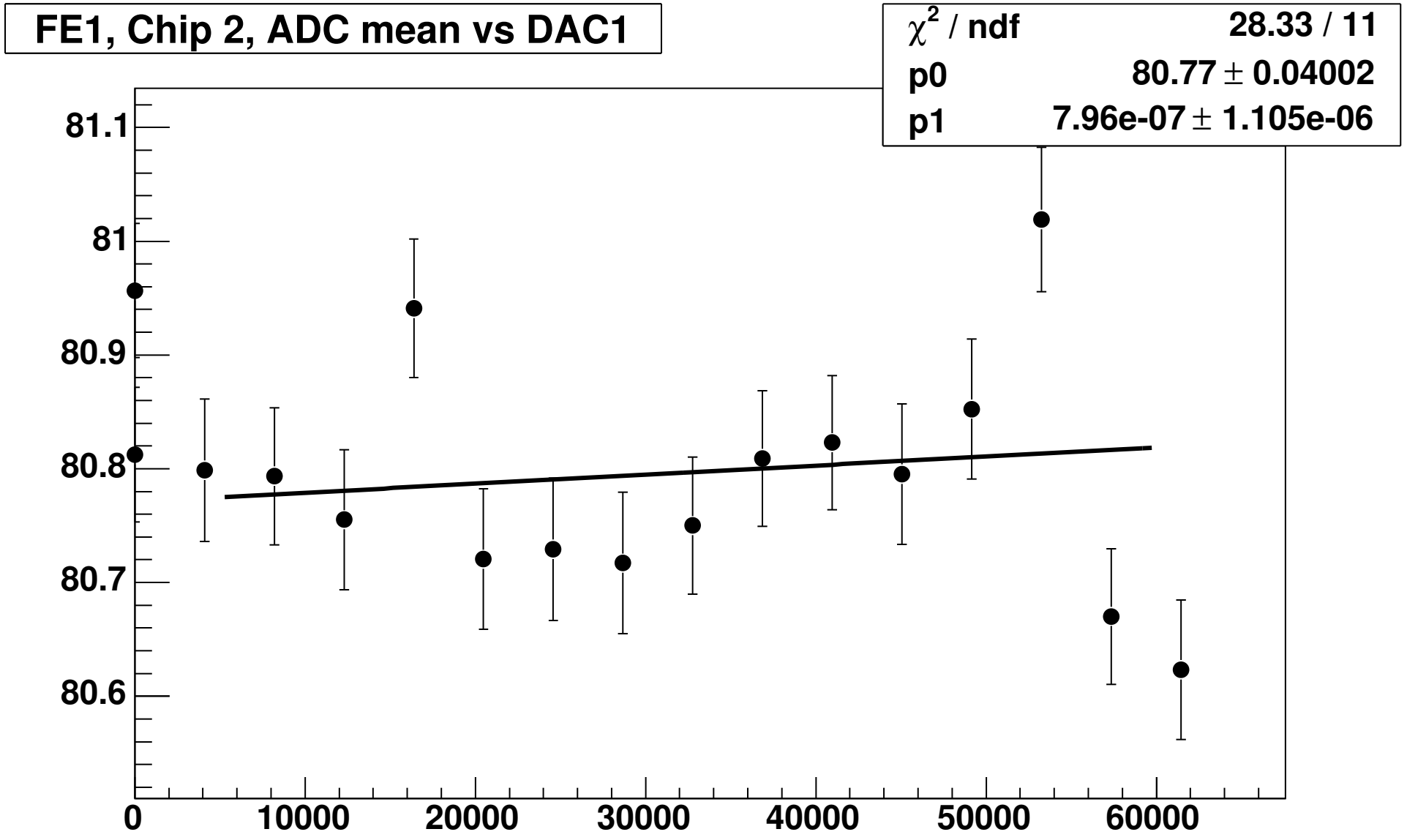

FE1, Chip 1, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

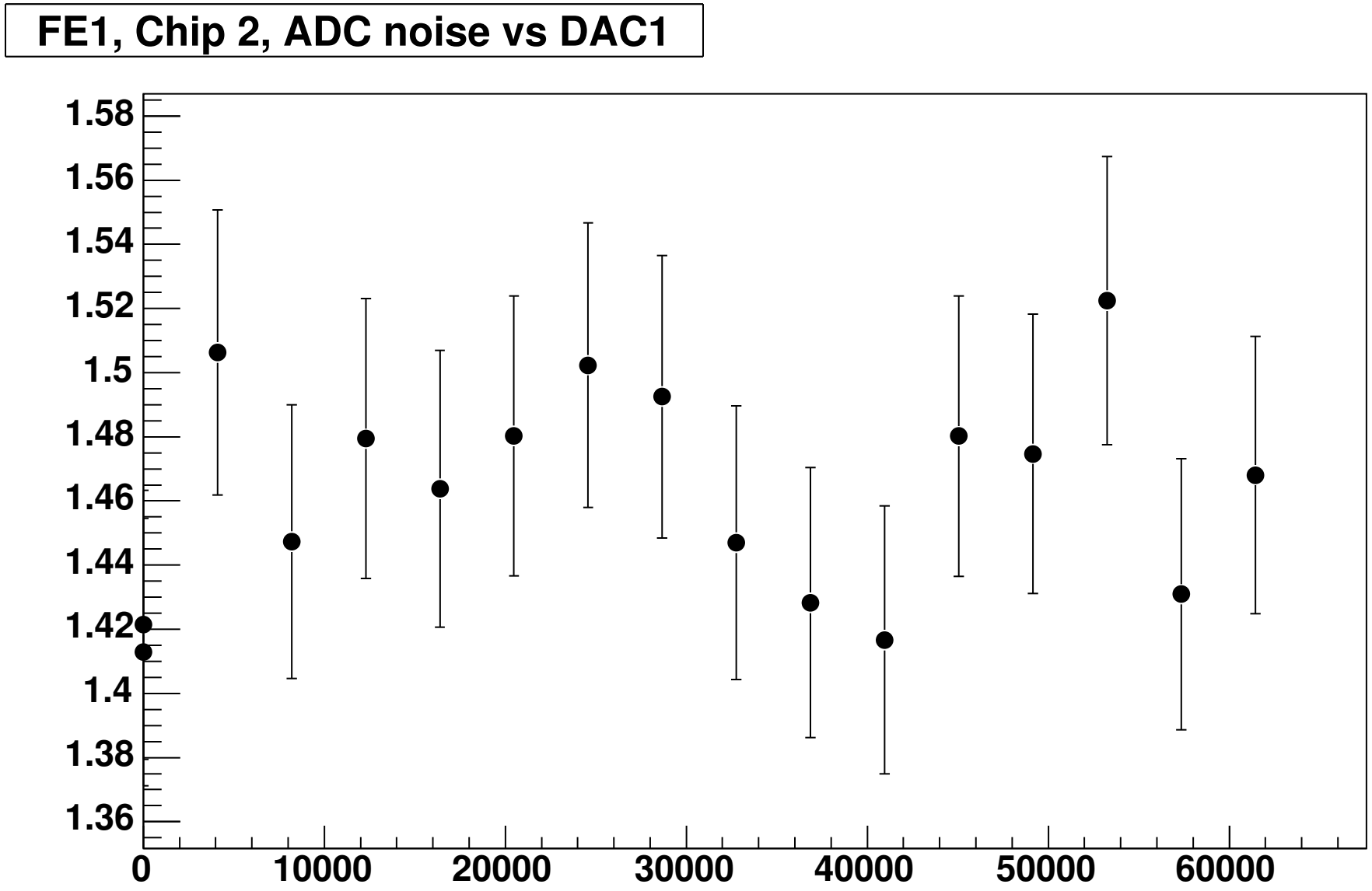

FE1, Chip 1, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

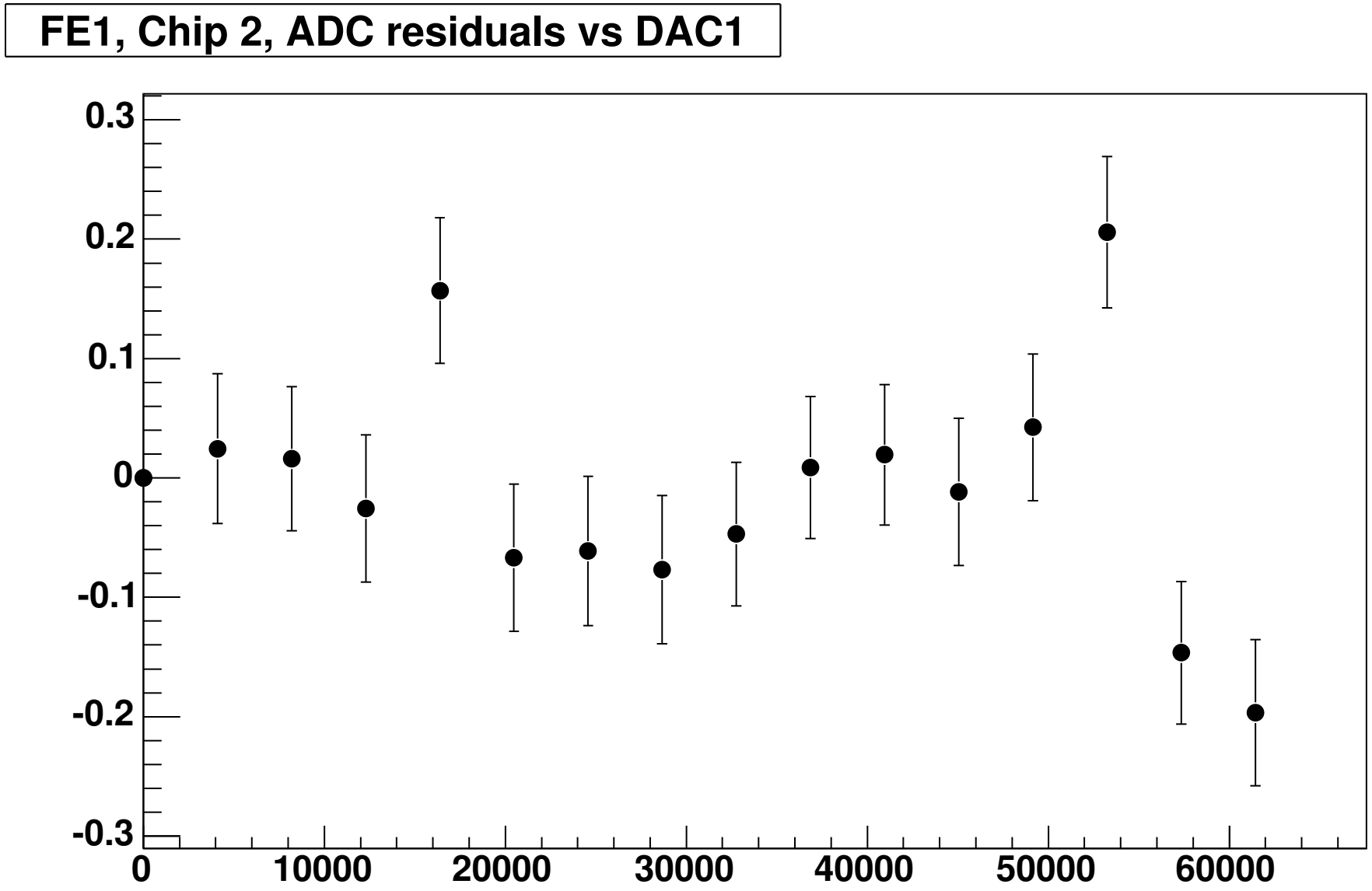

FE1, Chip 2, ADC mean vs DAC0
χ² / ndf 3566 / 11
p0 83.65 ± 0.04167
p1 0.4518 ± 1.313e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

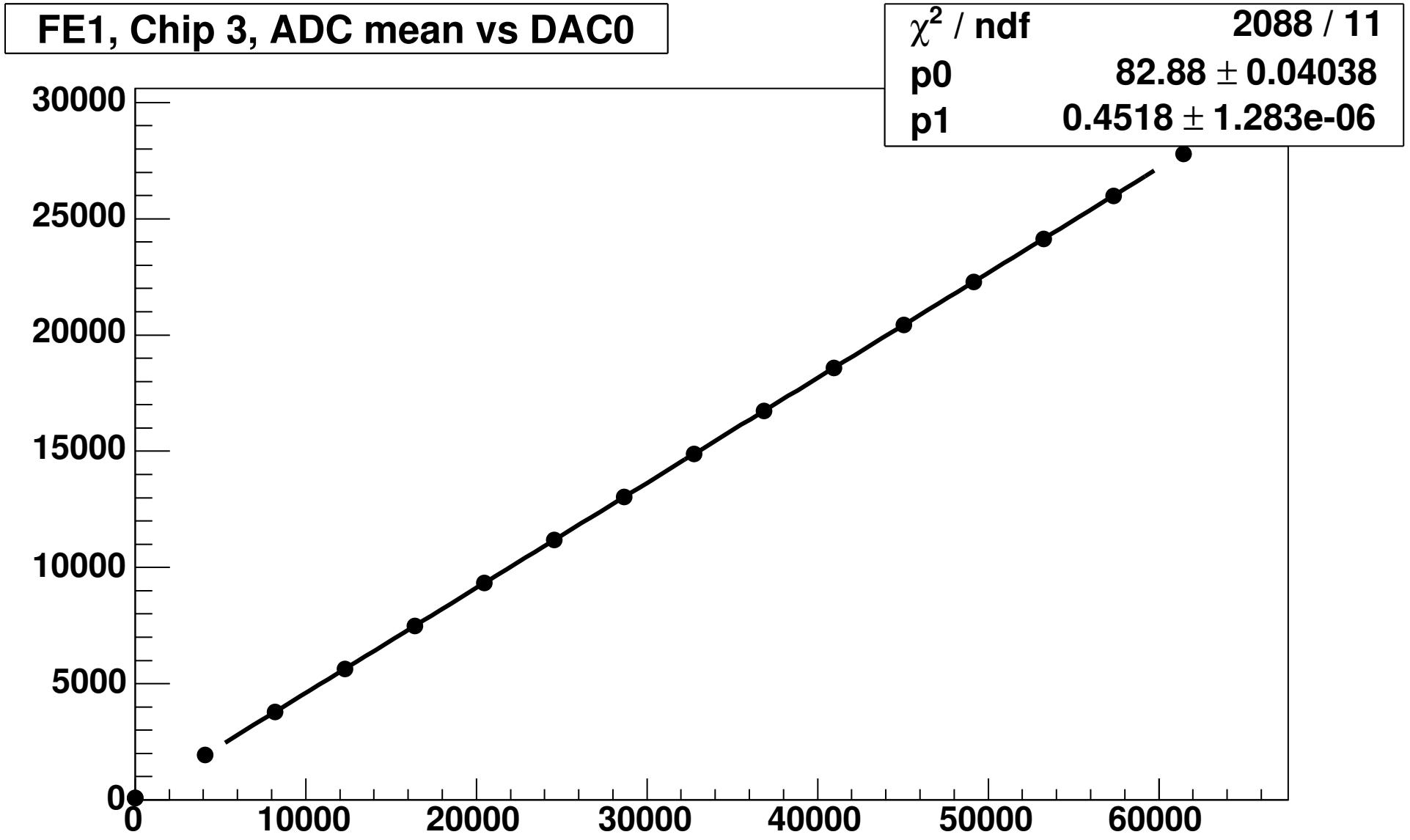

FE1, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

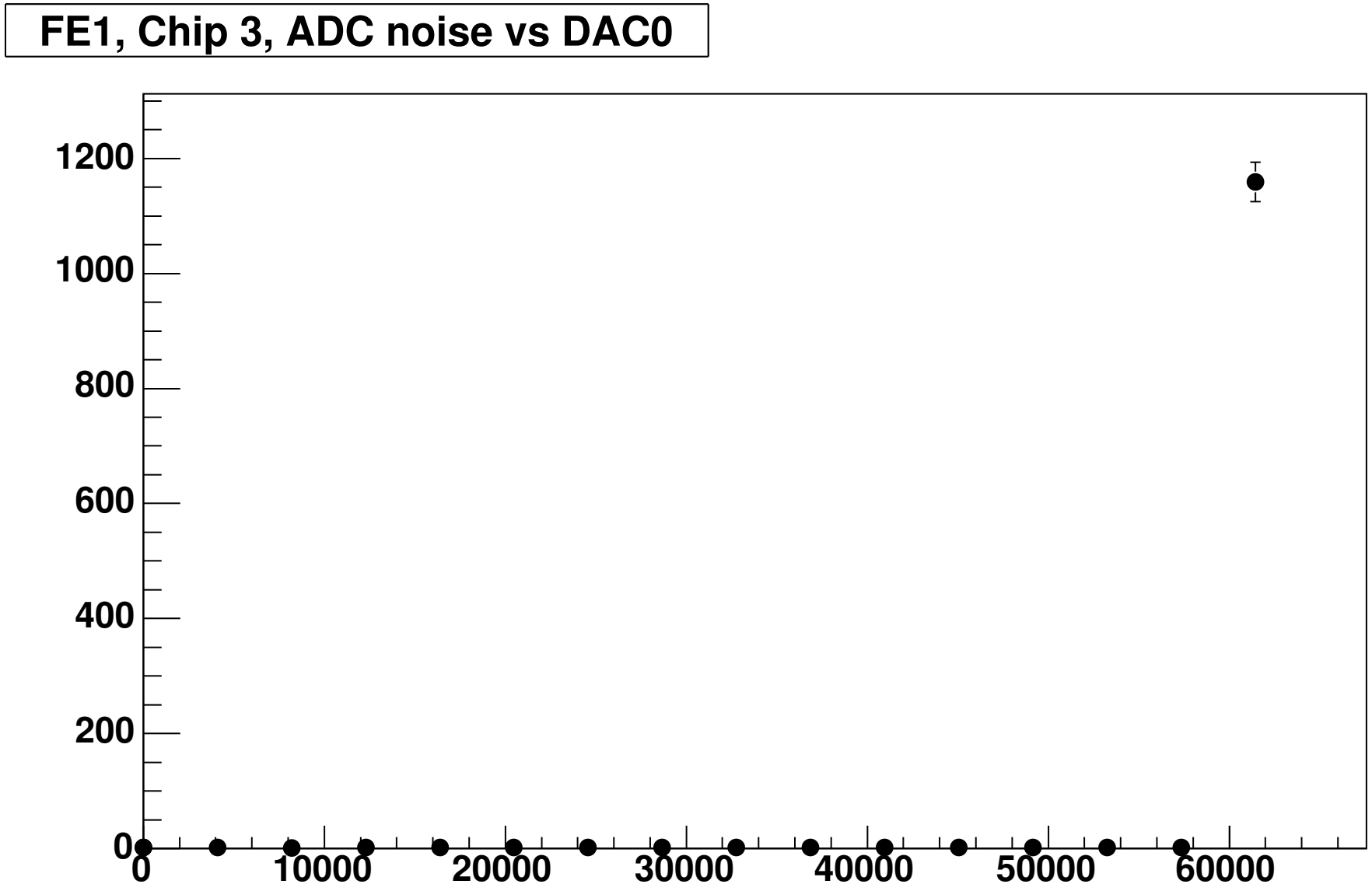

FE1, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

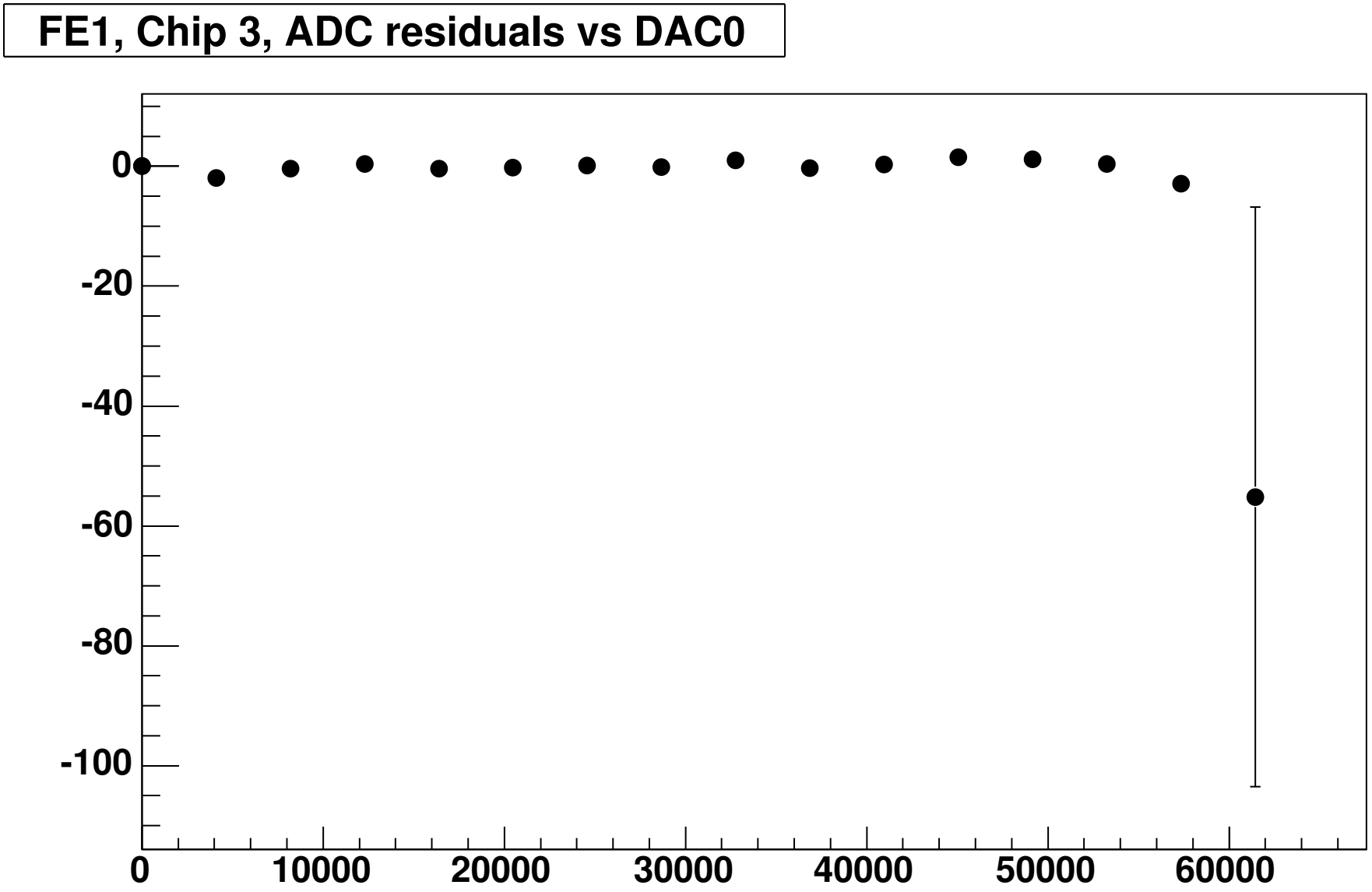

FE1, Chip 2, ADC mean vs DAC1
χ² / ndf 28.33 / 11
p0 80.77 ± 0.04002
p1 7.96e-07 ± 1.105e-06
81.1
81
80.9
80.8
80.7
80.6
0
10000
20000
30000
40000
50000
60000

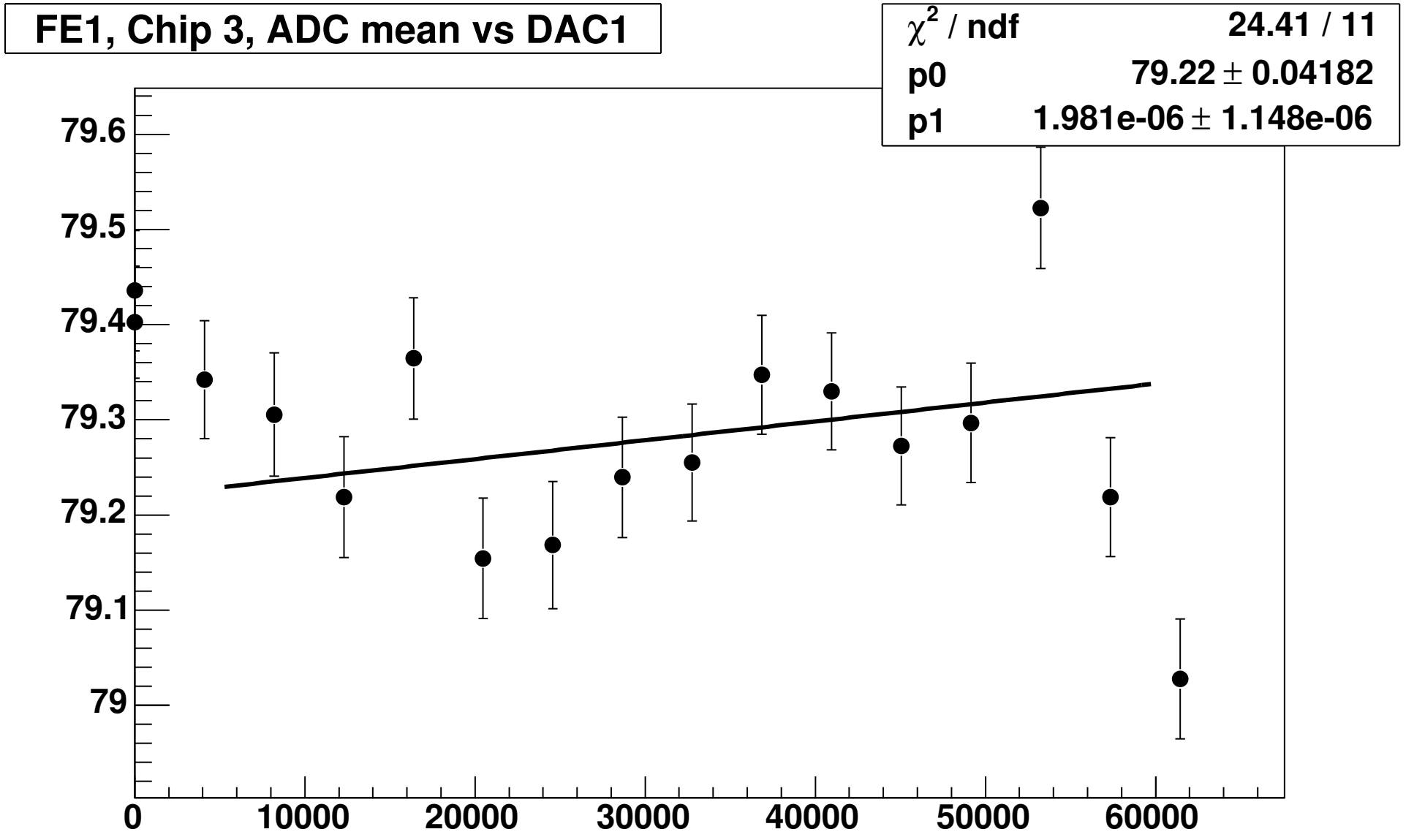

FE1, Chip 2, ADC noise vs DAC1
1.58
1.56
1.54
1.52
1.5
1.48
1.46
1.44
1.42
1.4
1.38
1.36
0
10000
20000
30000
40000
50000
60000

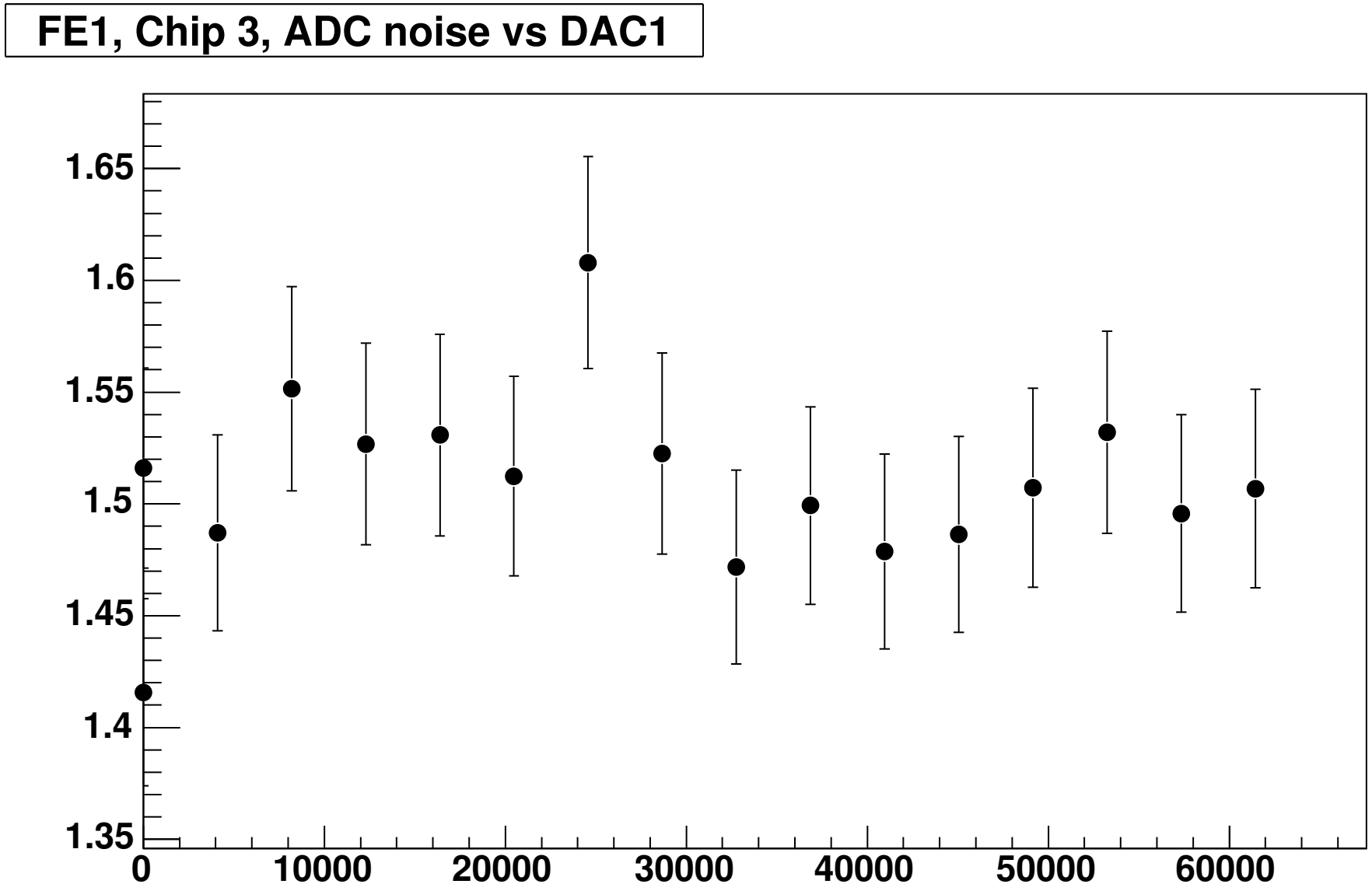

FE1, Chip 2, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

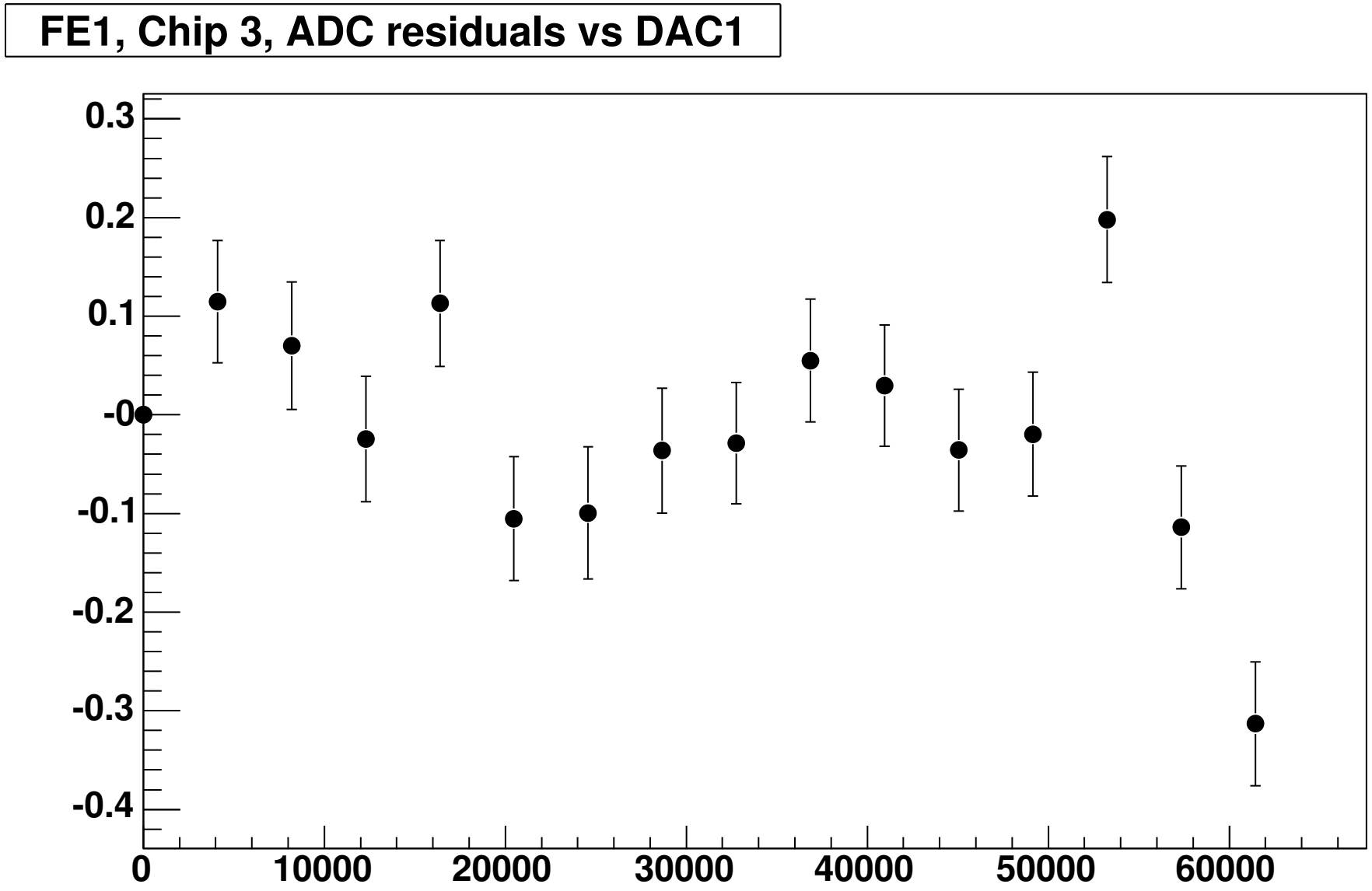

FE1, Chip 3, ADC mean vs DAC0
χ² / ndf 2088 / 11
p0 82.88 ± 0.04038
p1 0.4518 ± 1.283e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

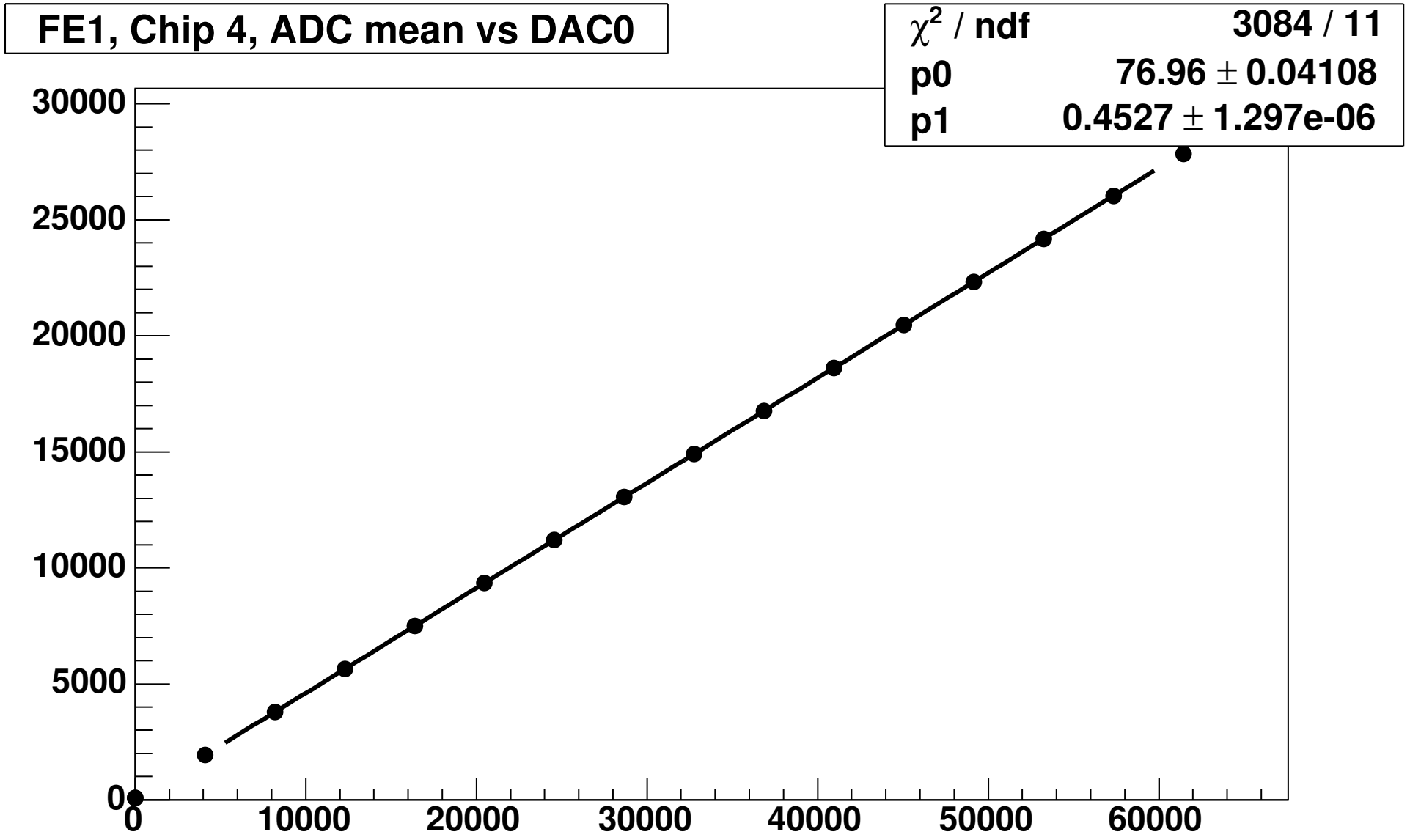

FE1, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

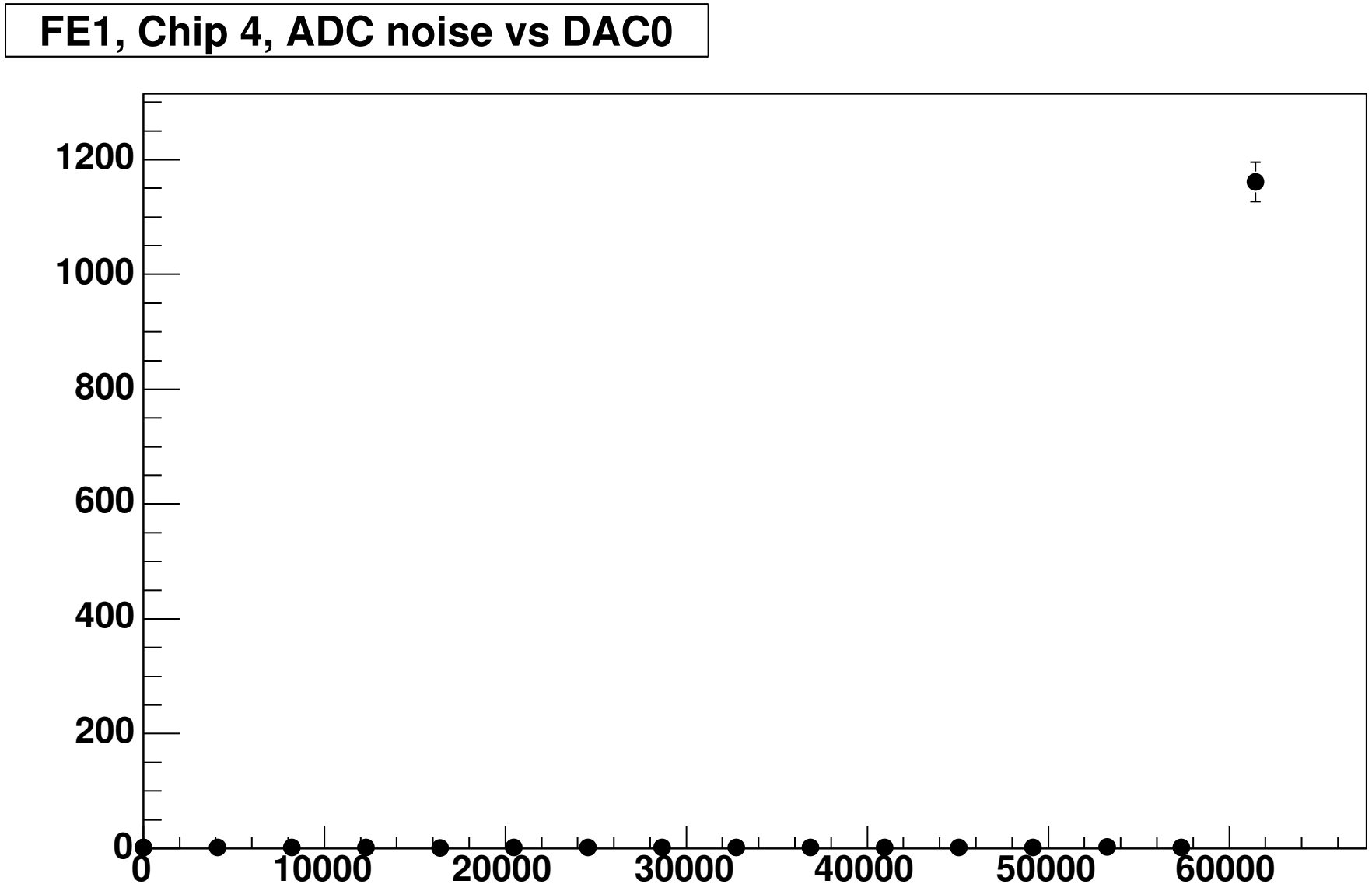

FE1, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

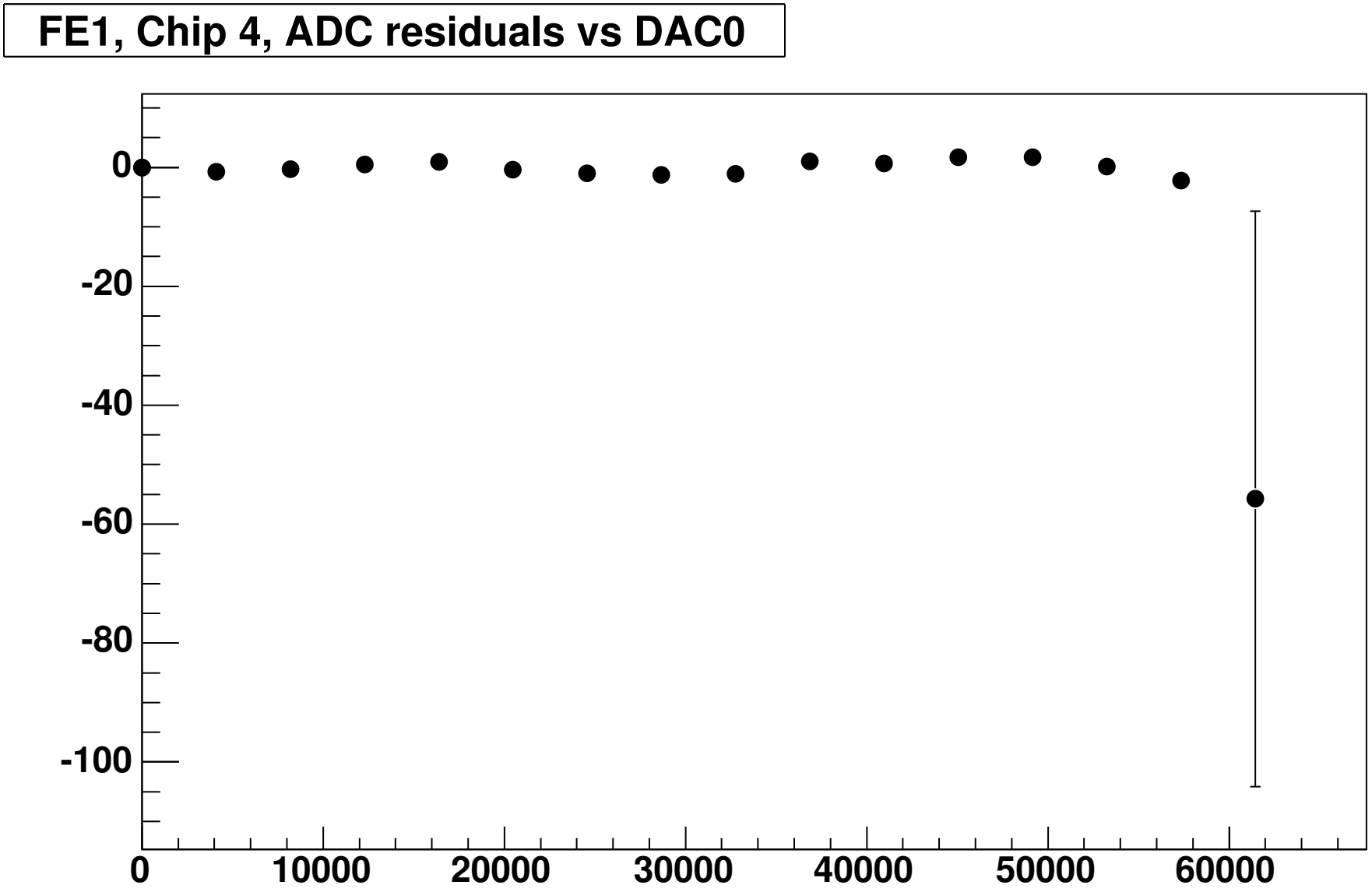

FE1, Chip 3, ADC mean vs DAC1
χ² / ndf 24.41 / 11
p0 79.22 ± 0.04182
p1 1.981e-06 ± 1.148e-06
79.6
79.5
79.4
79.3
79.2
79.1
79
0
10000
20000
30000
40000
50000
60000

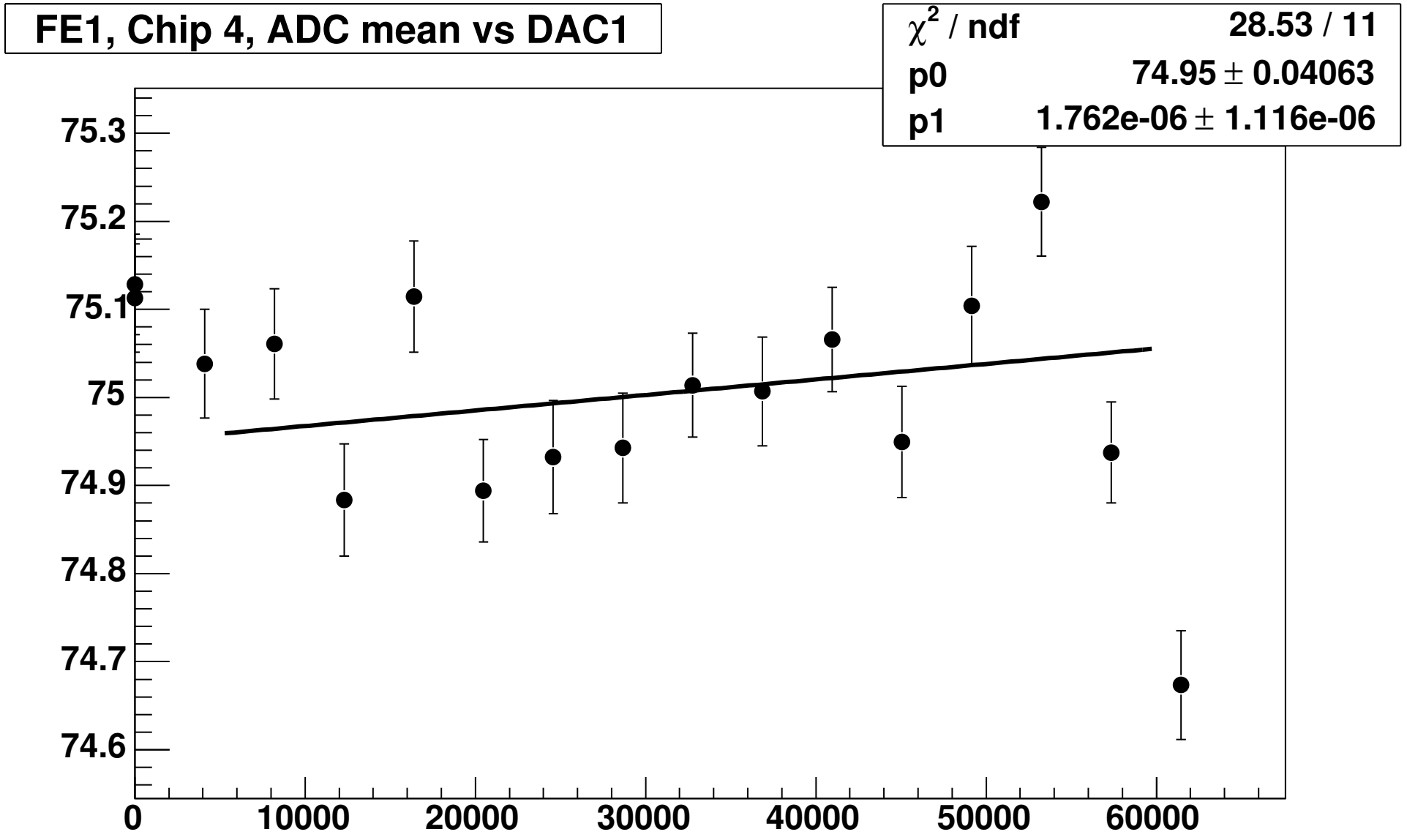

FE1, Chip 3, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

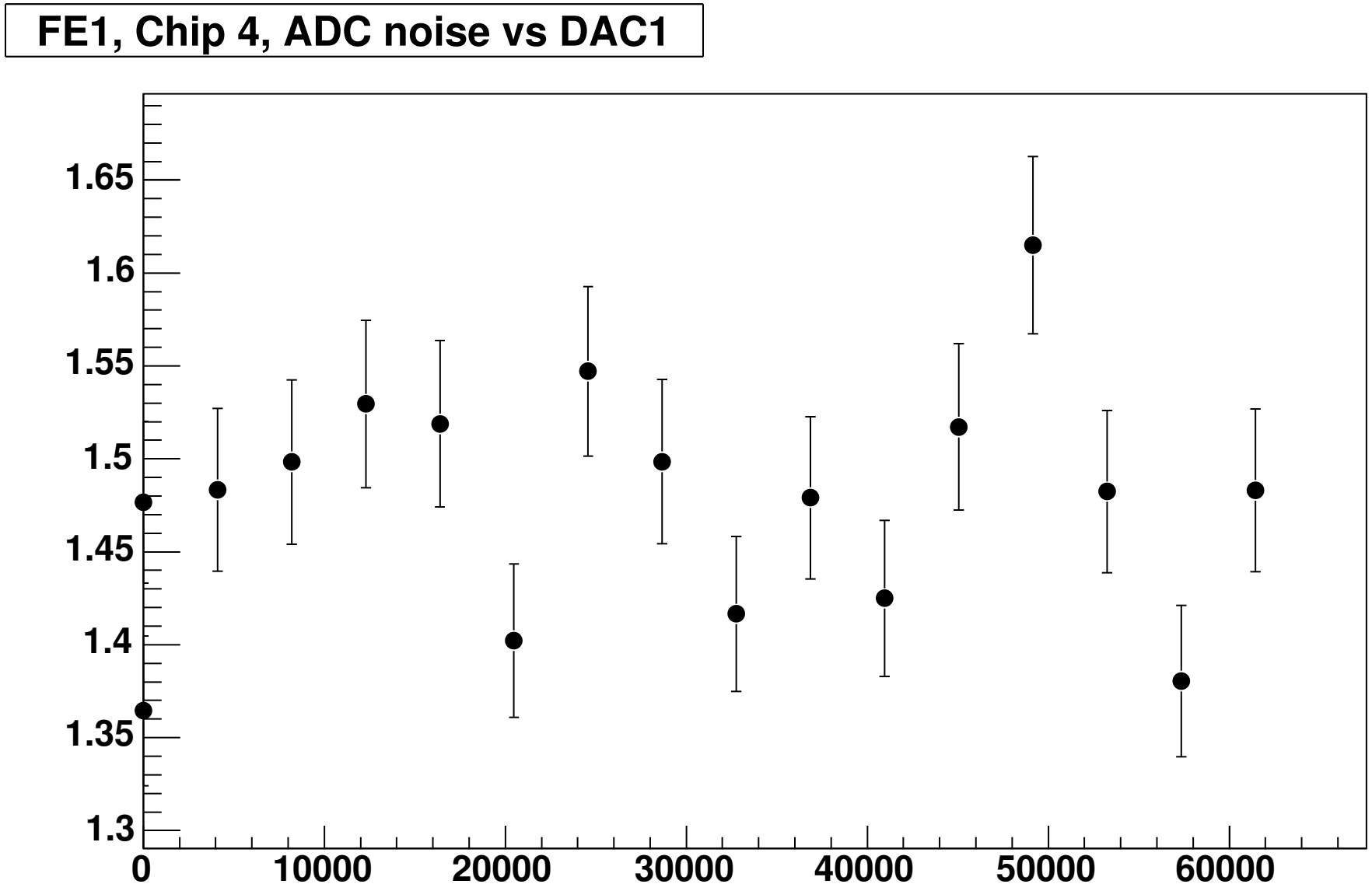

FE1, Chip 3, ADC residuals vs DAC1
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

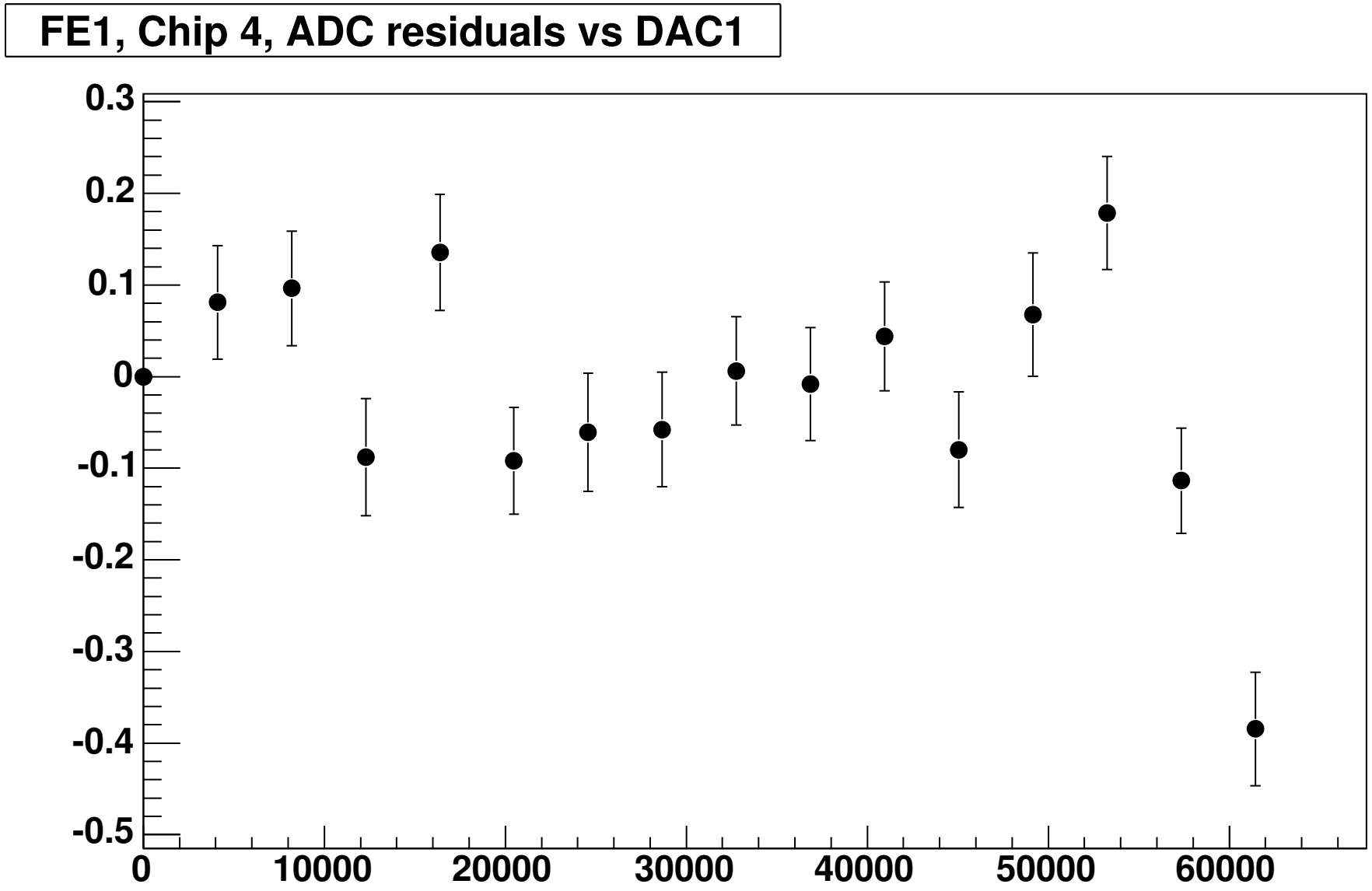

FE1, Chip 4, ADC mean vs DAC0
χ² / ndf 3084 / 11
p0 76.96 ± 0.04108
p1 0.4527 ± 1.297e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

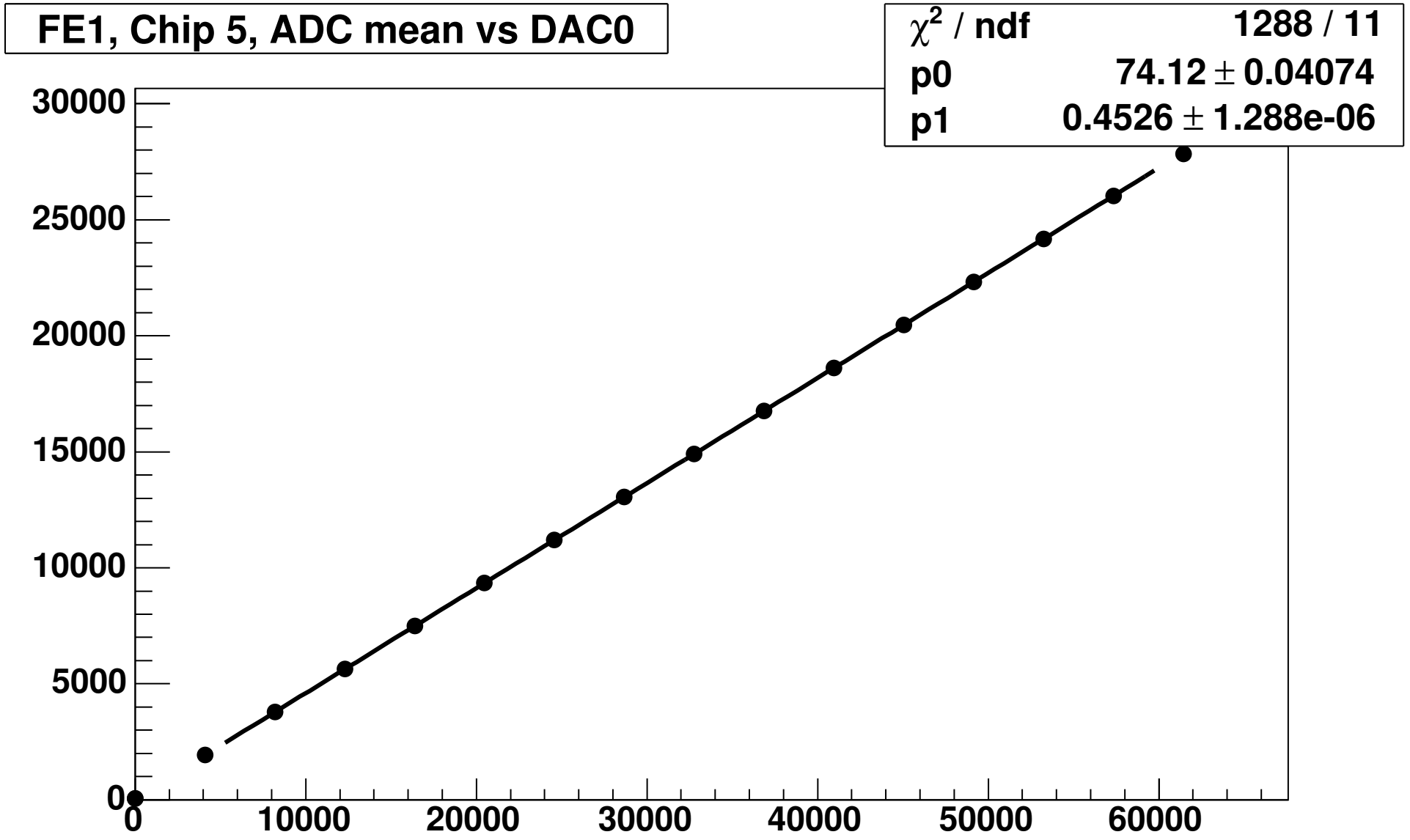

FE1, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

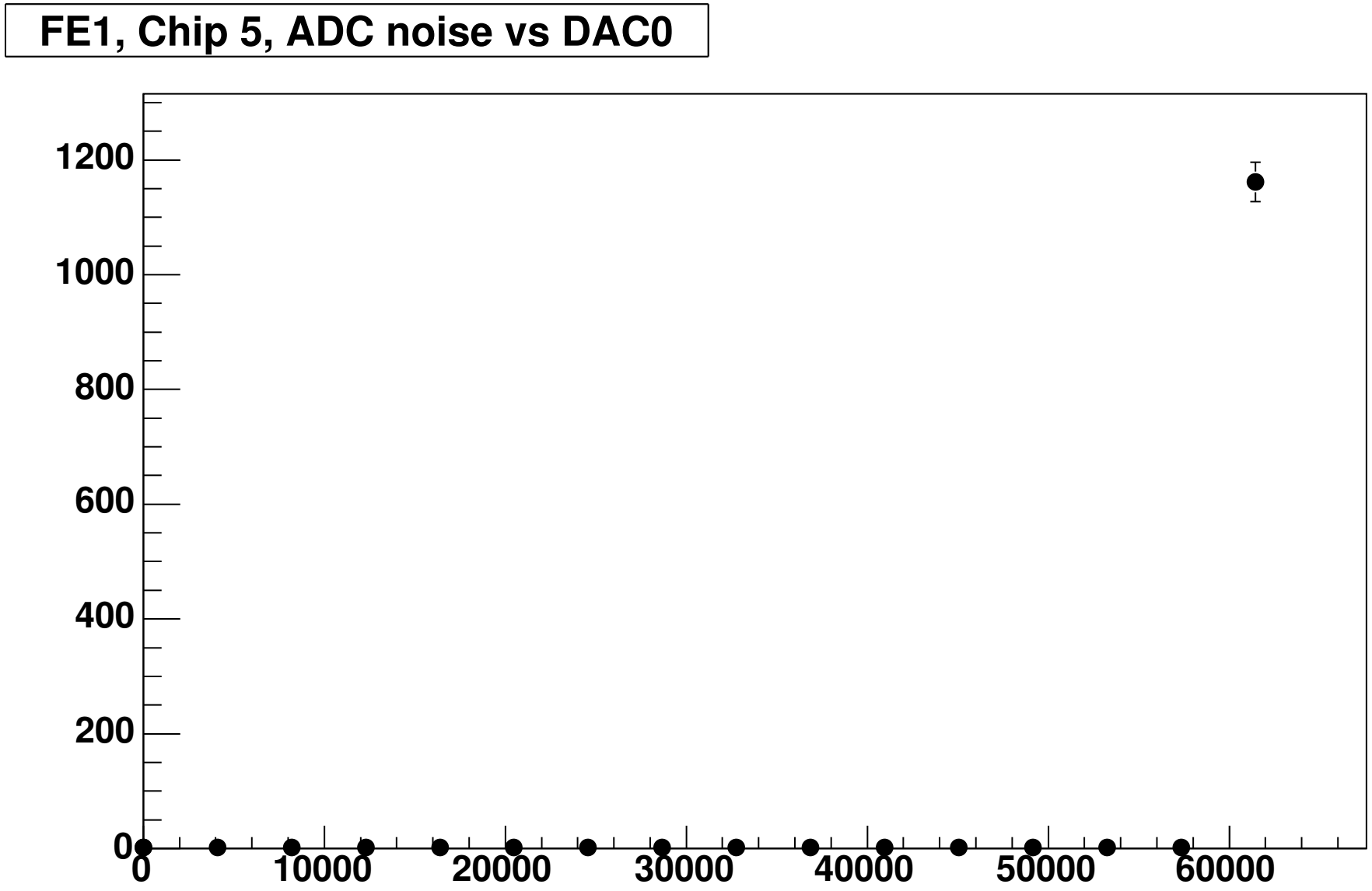

FE1, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

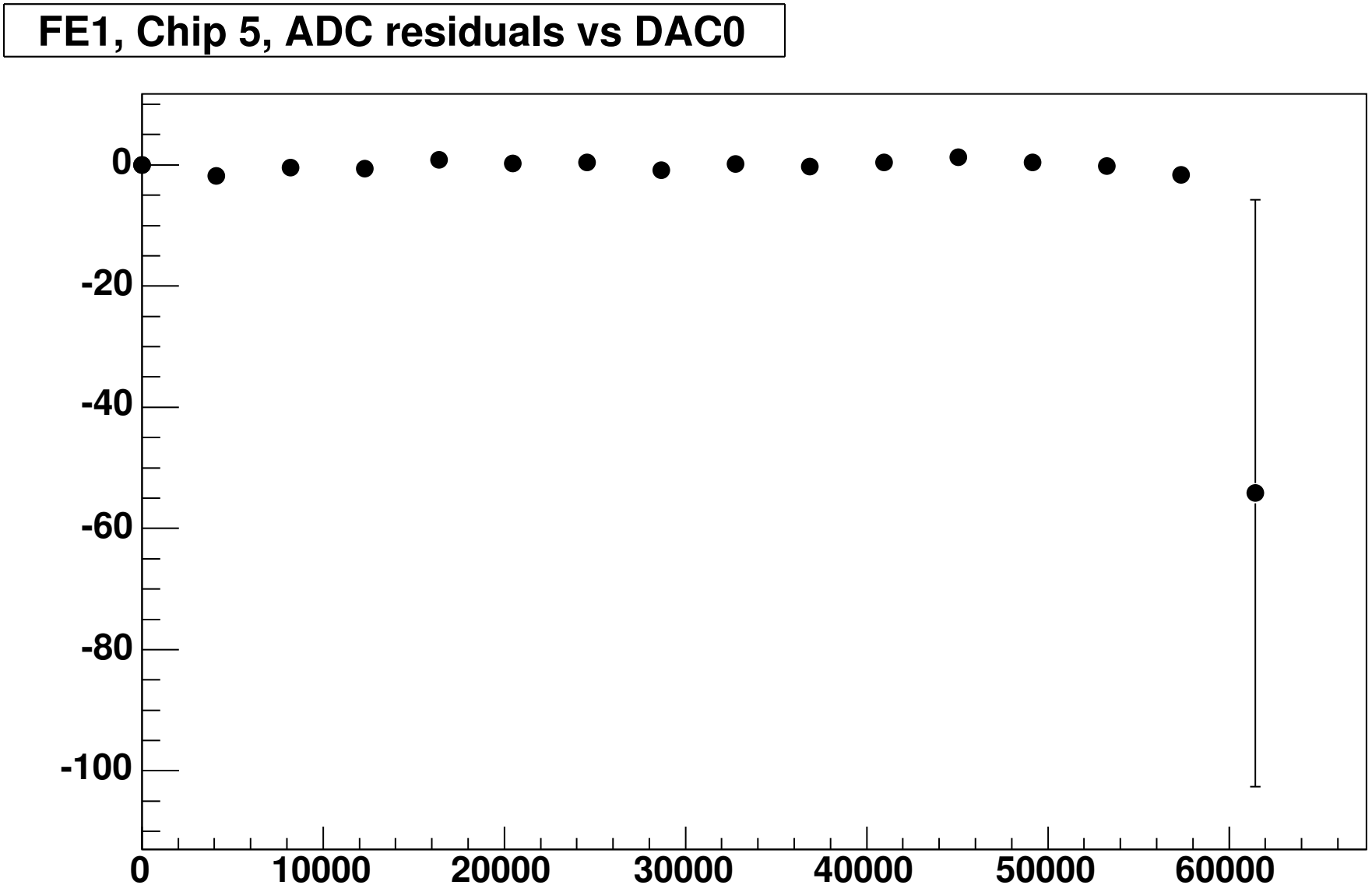

FE1, Chip 4, ADC mean vs DAC1
χ² / ndf 28.53 / 11
p0 74.95 ± 0.04063
p1 1.762e-06 ± 1.116e-06
75.3
75.2
75.1
75
74.9
74.8
74.7
74.6
0
10000
20000
30000
40000
50000
60000

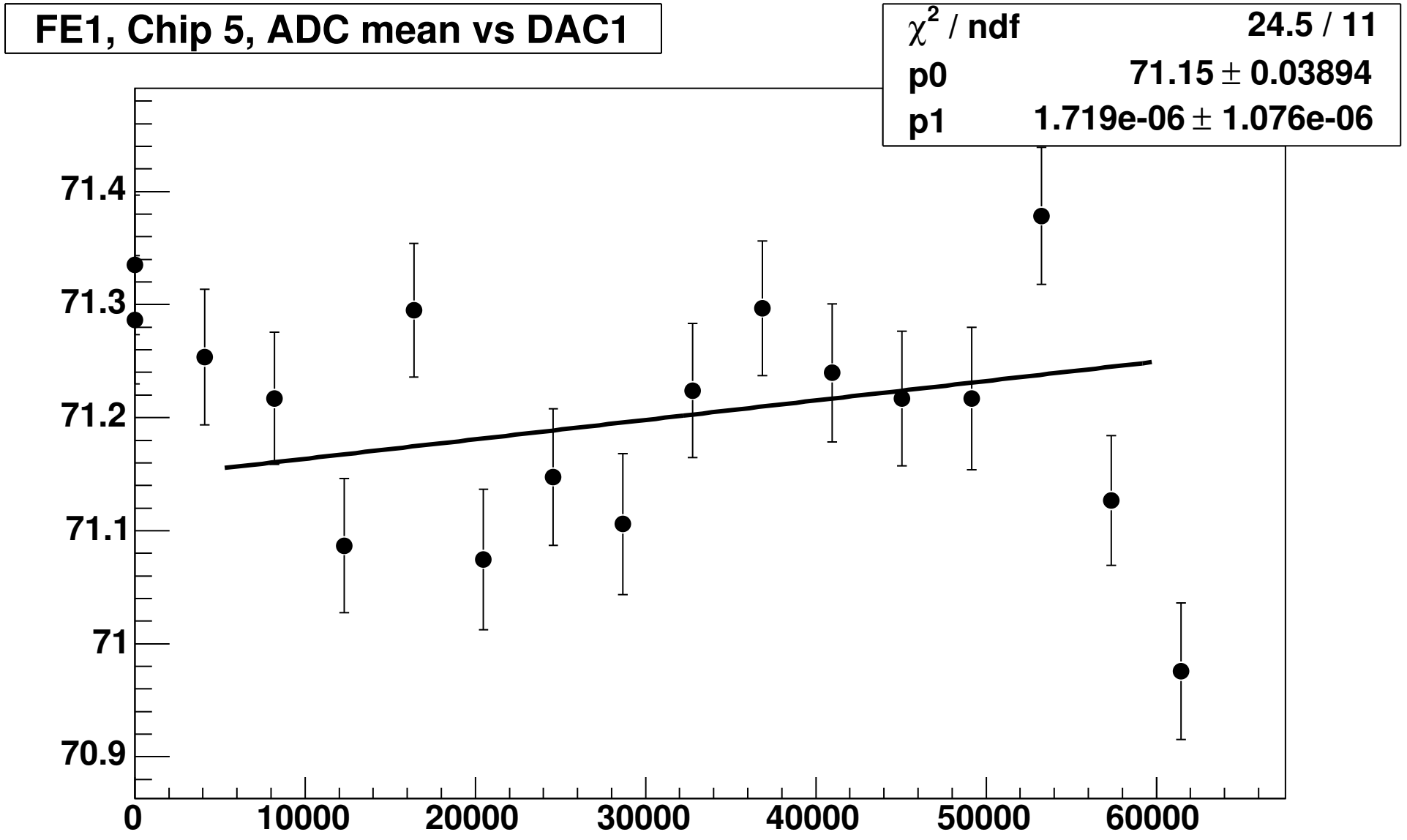

FE1, Chip 4, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

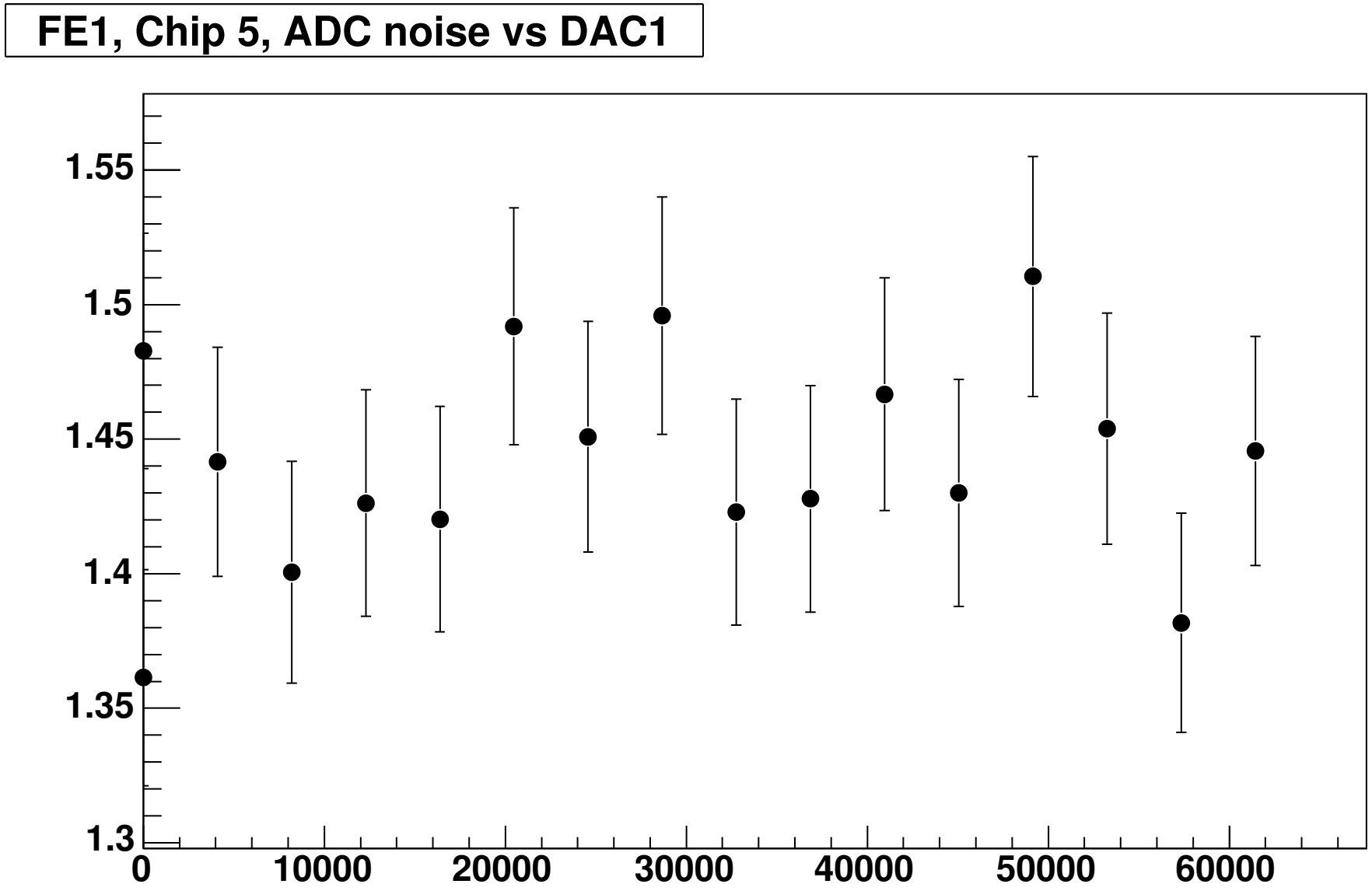

FE1, Chip 4, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
0
10000
20000
30000
40000
50000
60000

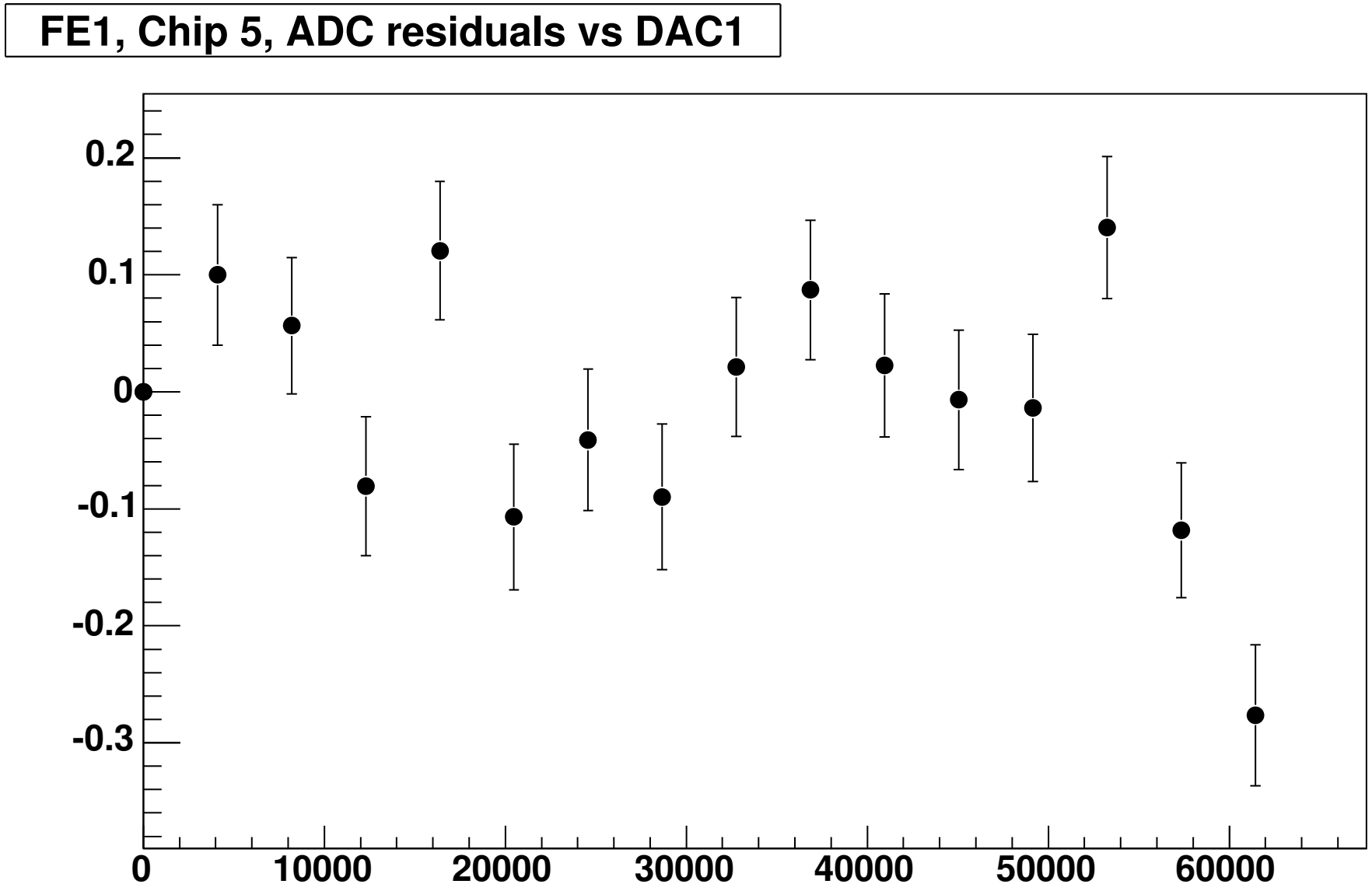

FE1, Chip 5, ADC mean vs DAC0
χ² / ndf 1288 / 11
p0 74.12 ± 0.04074
p1 0.4526 ± 1.288e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

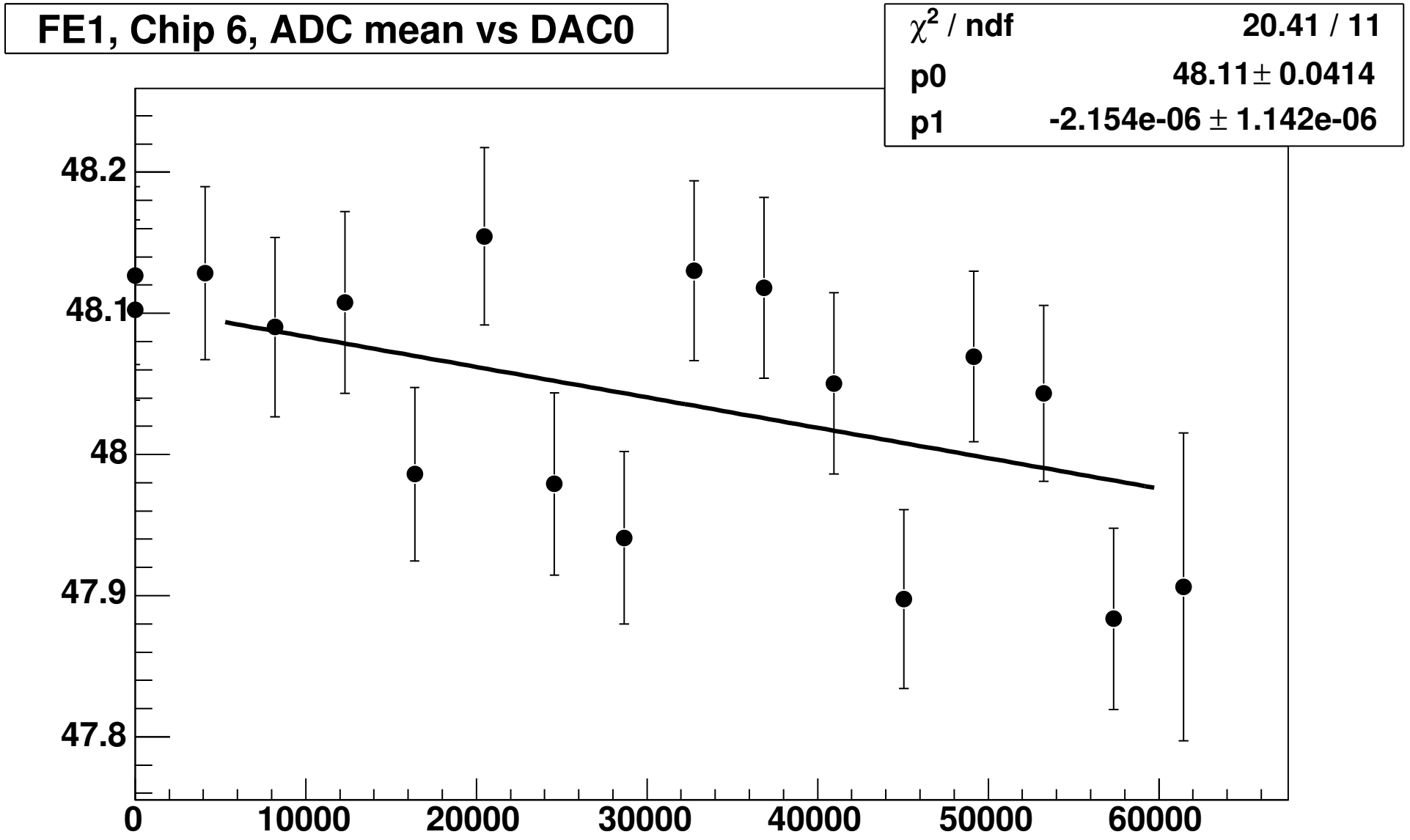

FE1, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

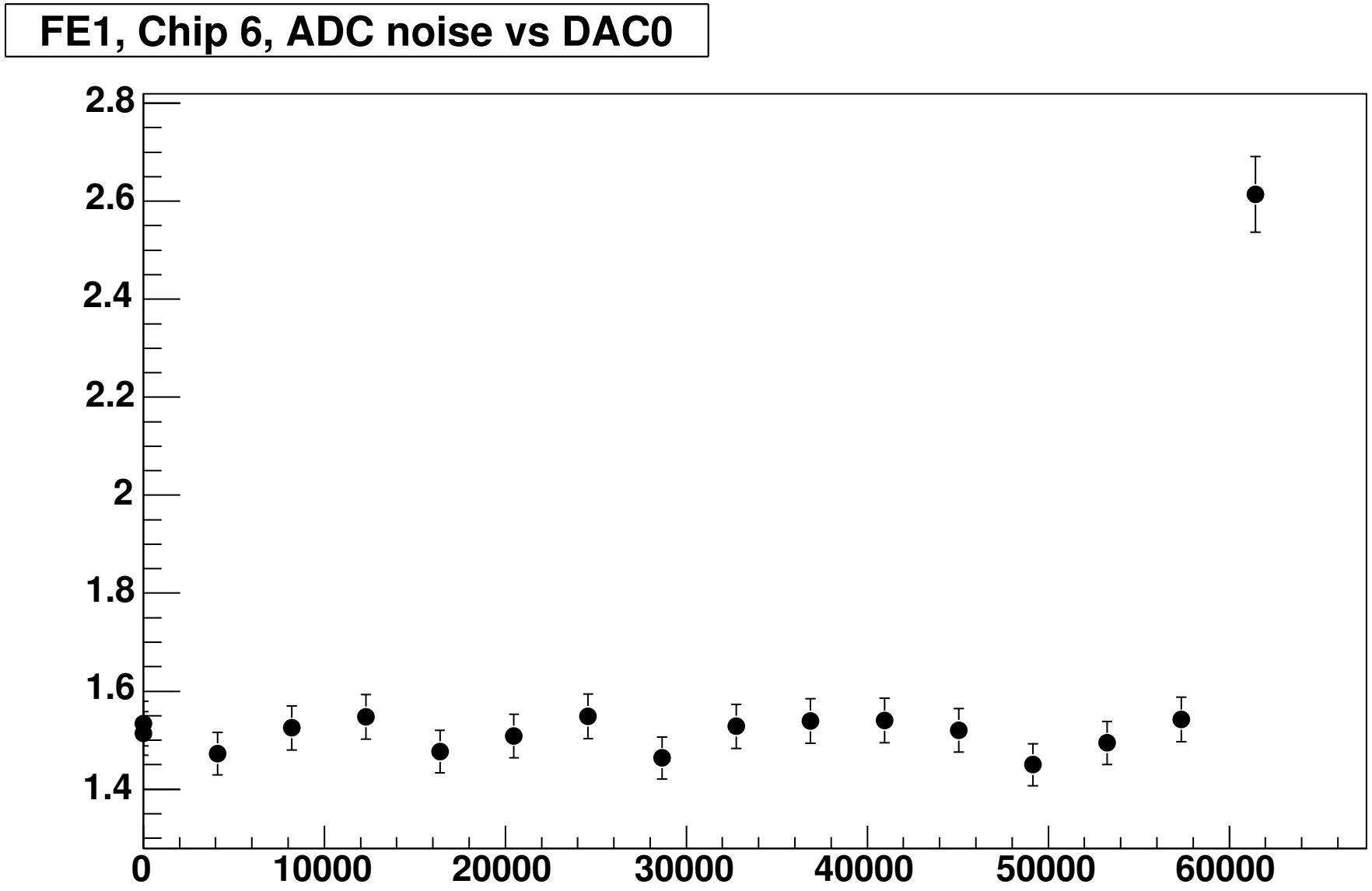

FE1, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

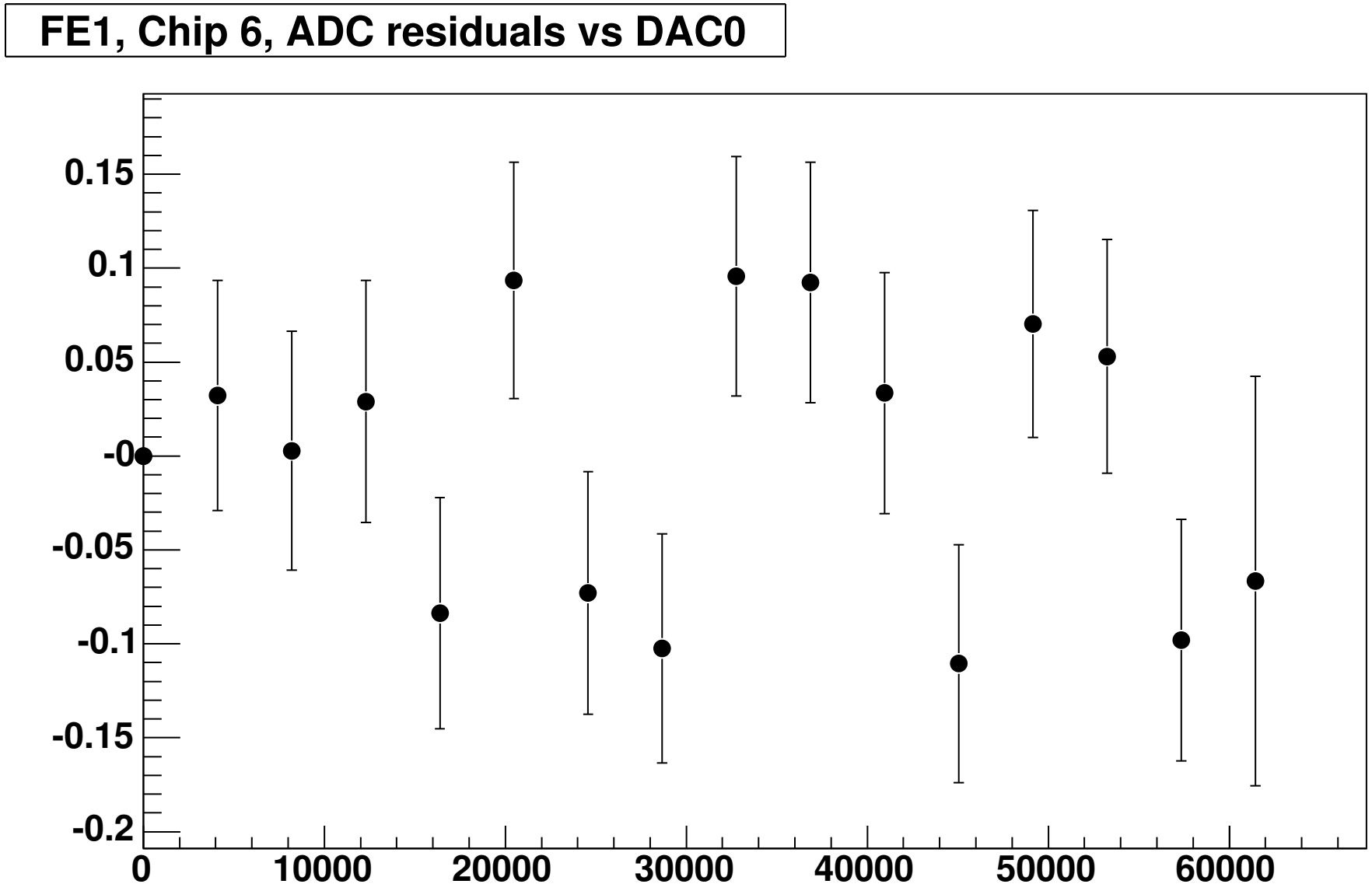

FE1, Chip 5, ADC mean vs DAC1
χ² / ndf 24.5 / 11
p0 71.15 ± 0.03894
p1 1.719e-06 ± 1.076e-06
71.4
71.3
71.2
71.1
71
70.9
0
10000
20000
30000
40000
50000
60000

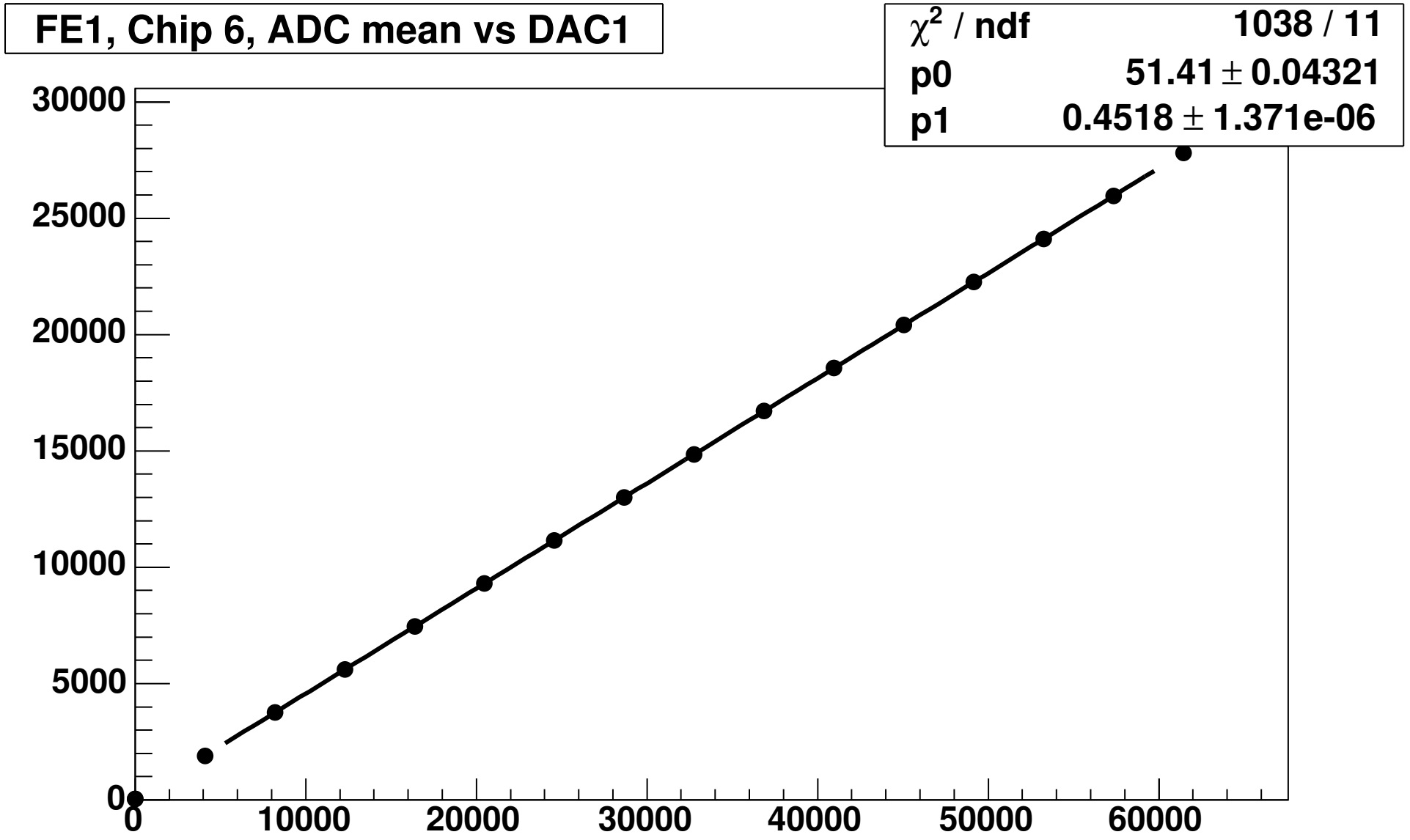

FE1, Chip 5, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000


FE1, Chip 5, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

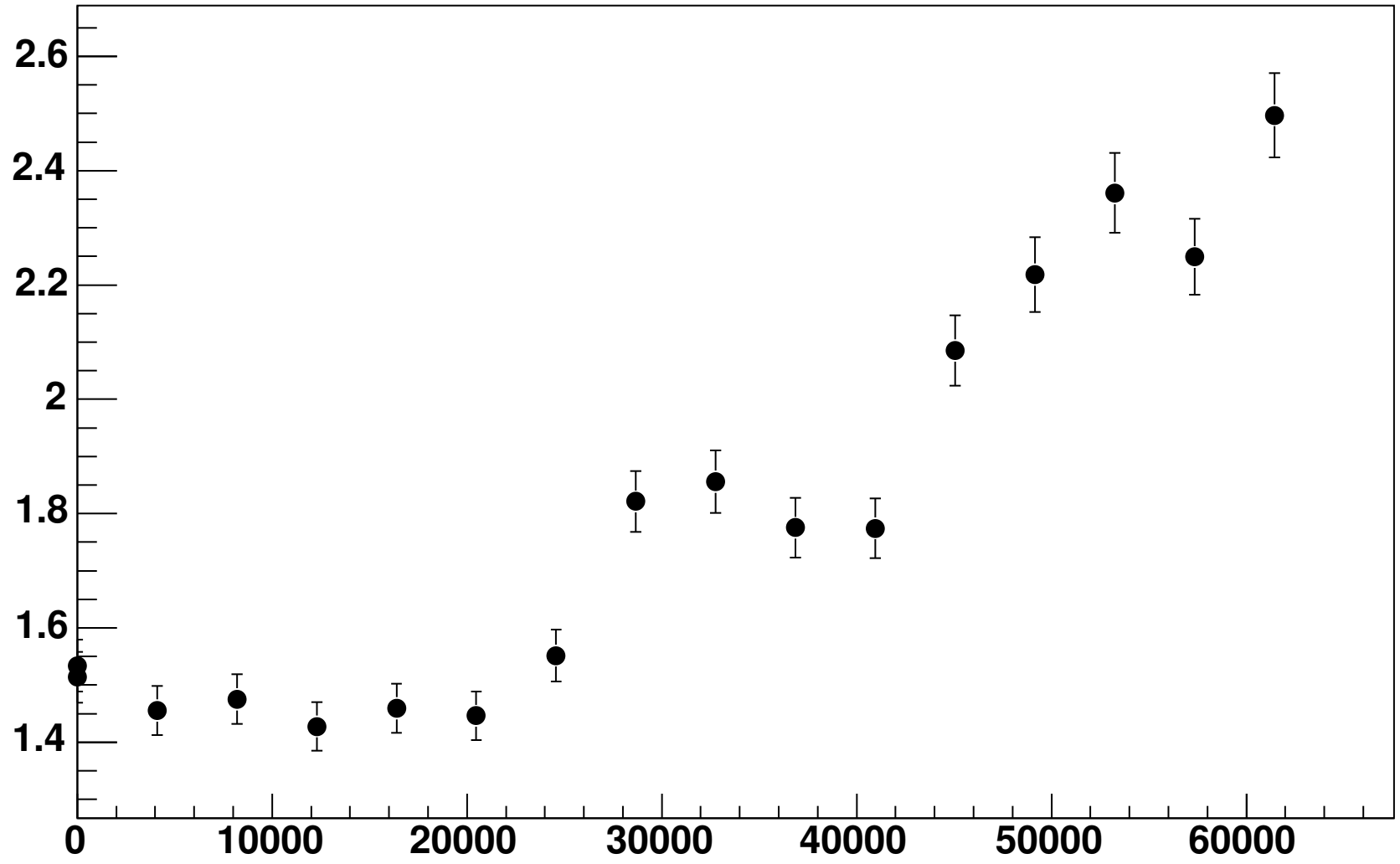

FE1, Chip 6, ADC mean vs DAC0
χ² / ndf 20.41 / 11
p0 48.11 ± 0.0414
p1 -2.154e-06 ± 1.142e-06
48.2
48.1
48
47.9
47.8
0
10000
20000
30000
40000
50000
60000


FE1, Chip 6, ADC noise vs DAC0
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

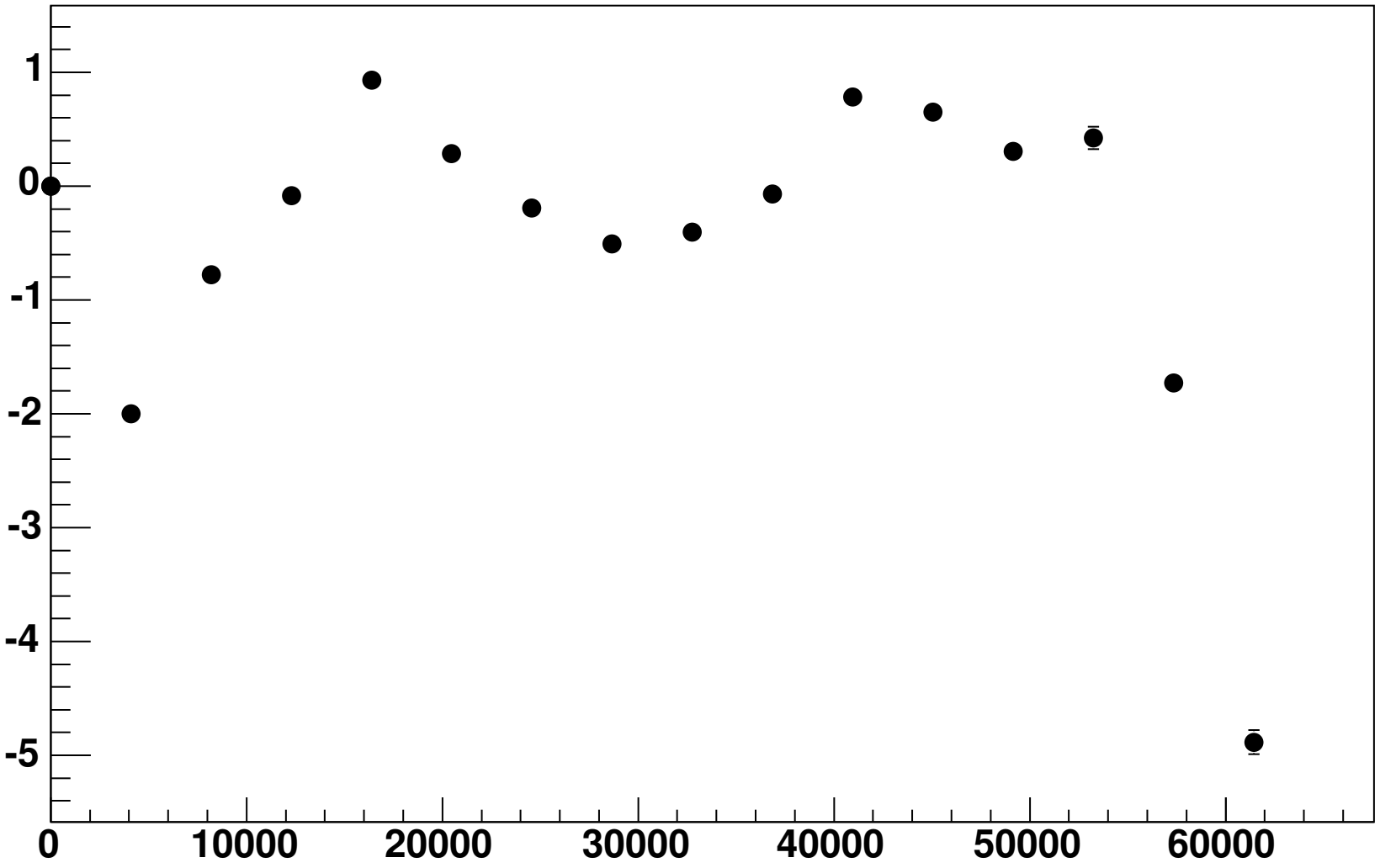

FE1, Chip 6, ADC residuals vs DAC0
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

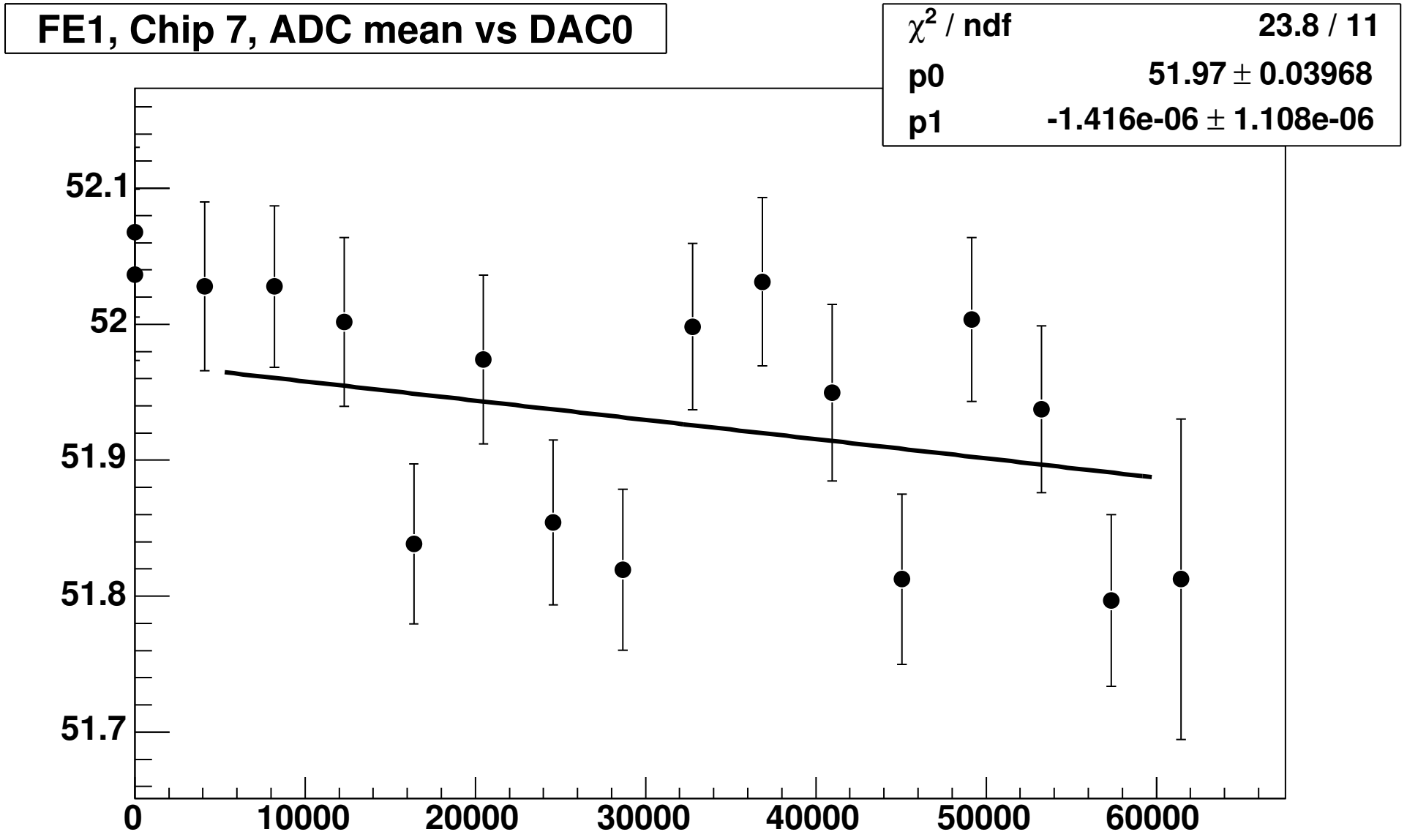

FE1, Chip 6, ADC mean vs DAC1
χ² / ndf 1038 / 11
p0 51.41 ± 0.04321
p1 0.4518 ± 1.371e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

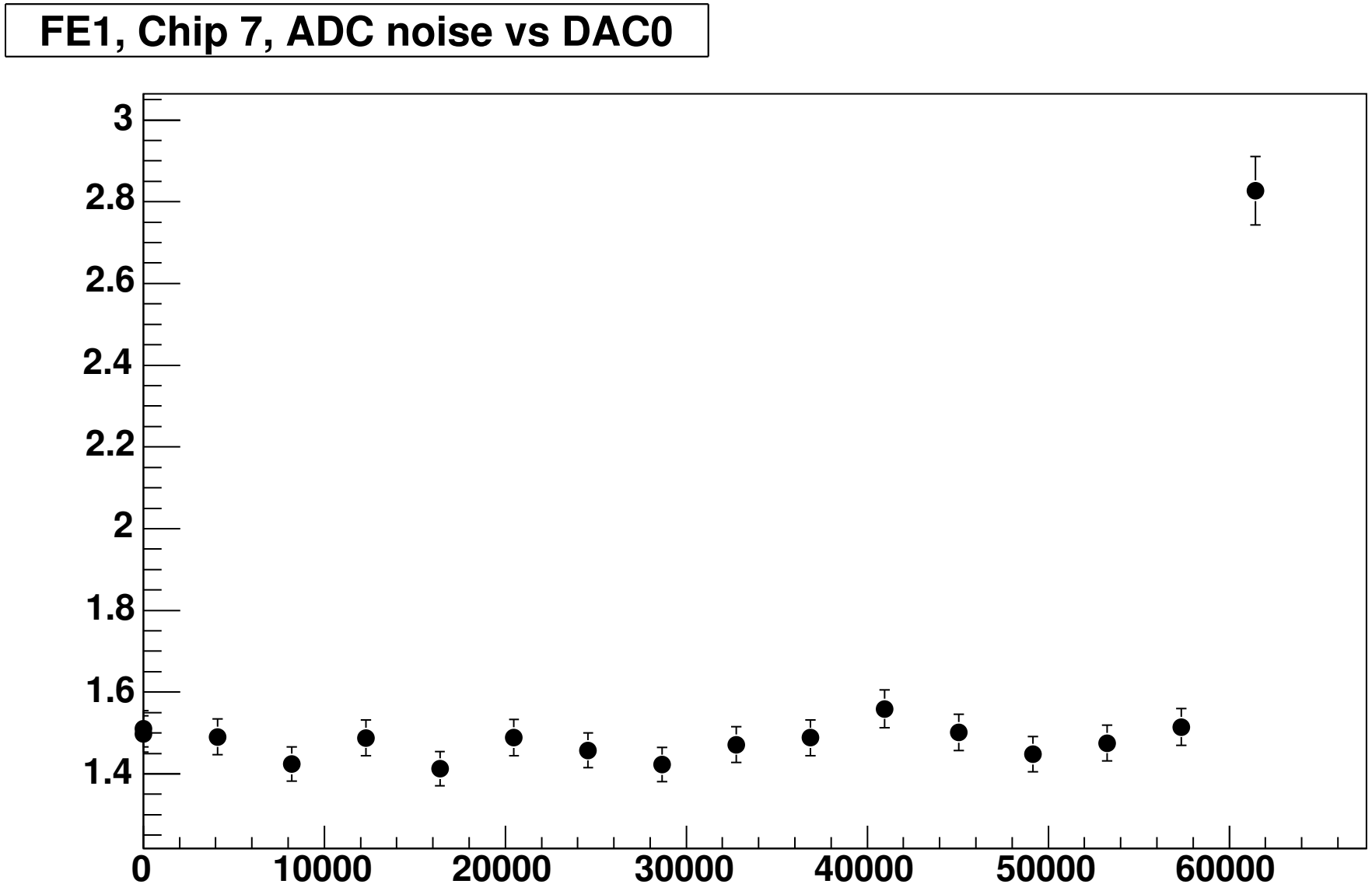
FE1, Chip 6, ADC noise vs DAC1

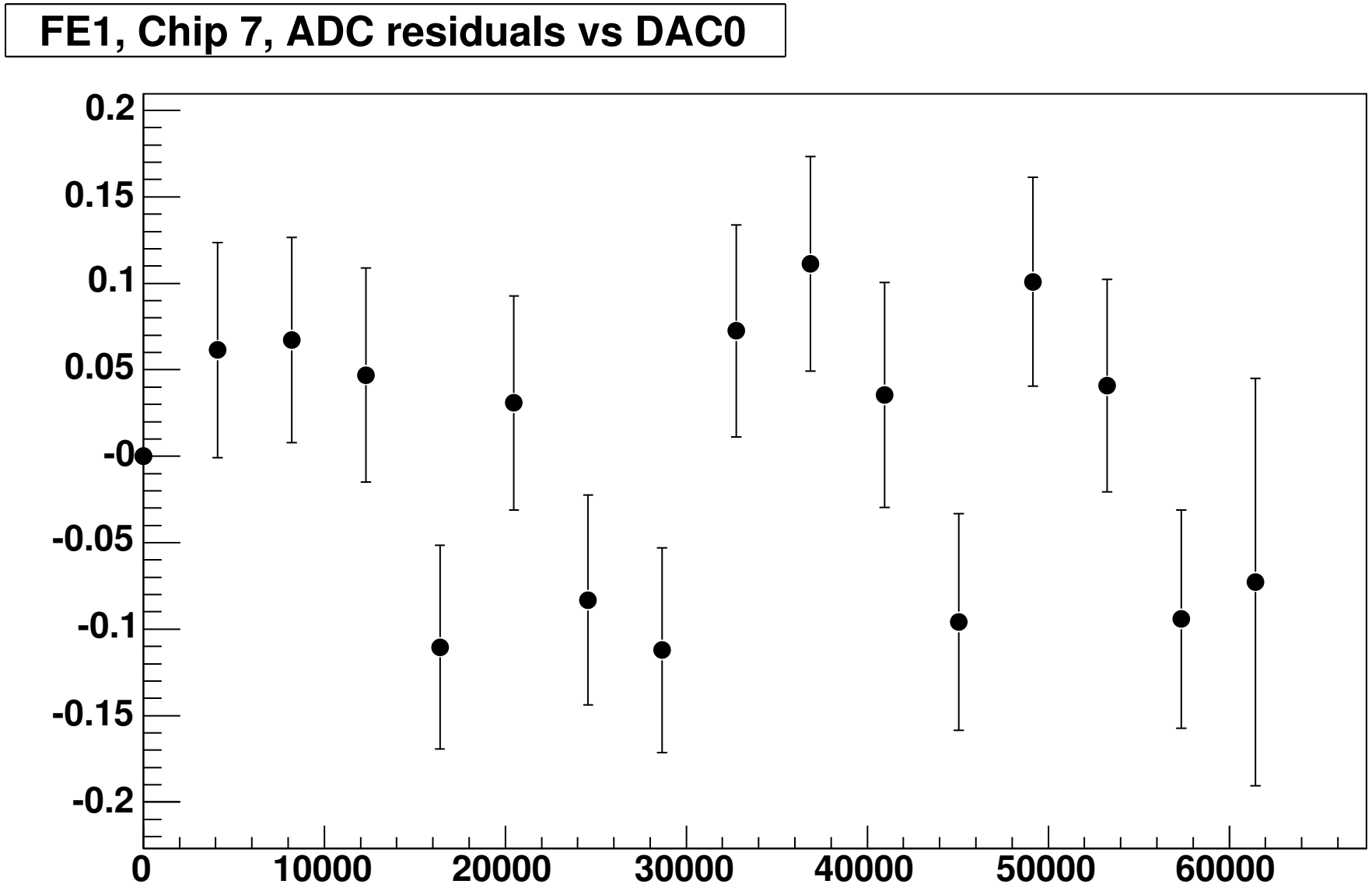


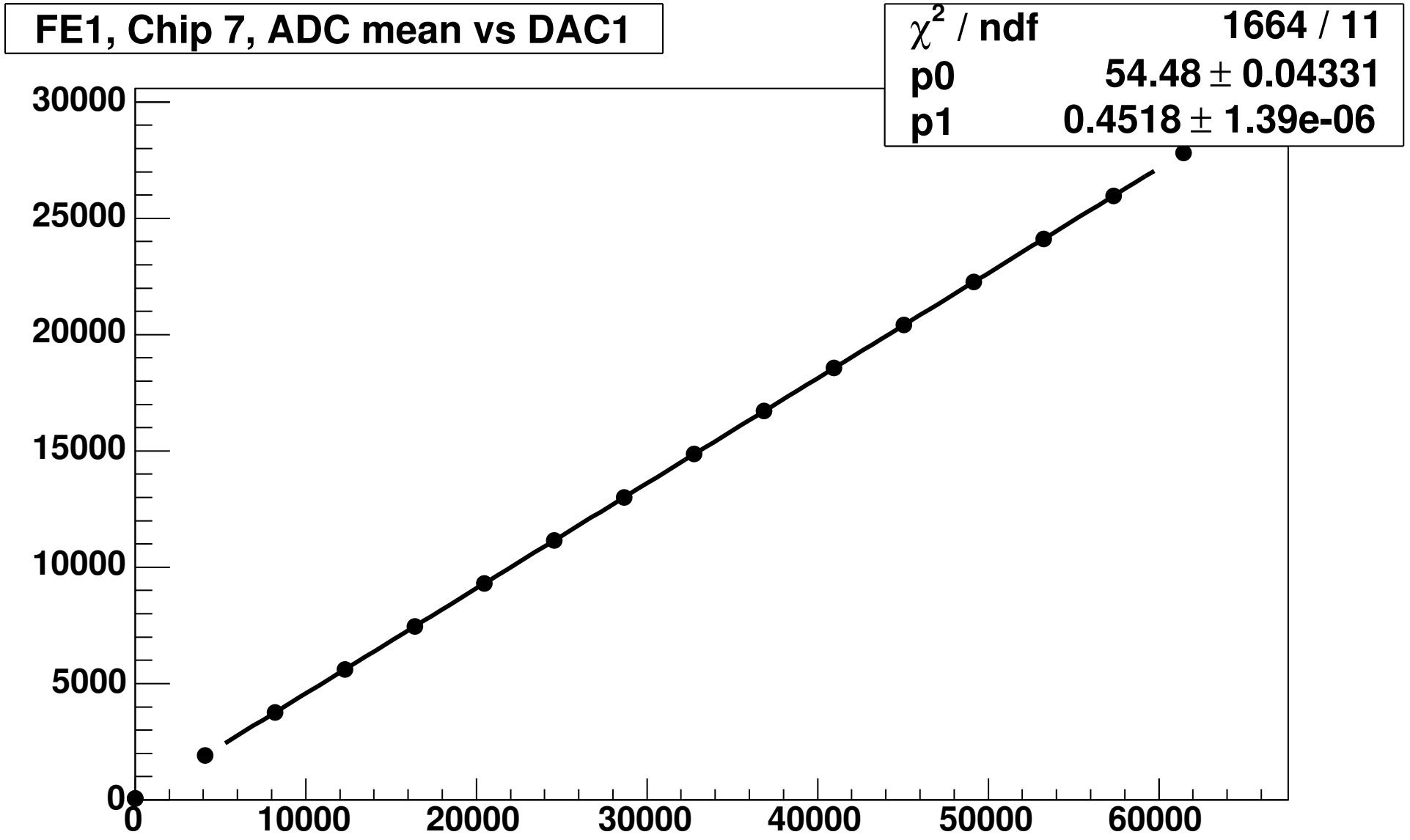
FE1, Chip 6, ADC residuals vs DAC1



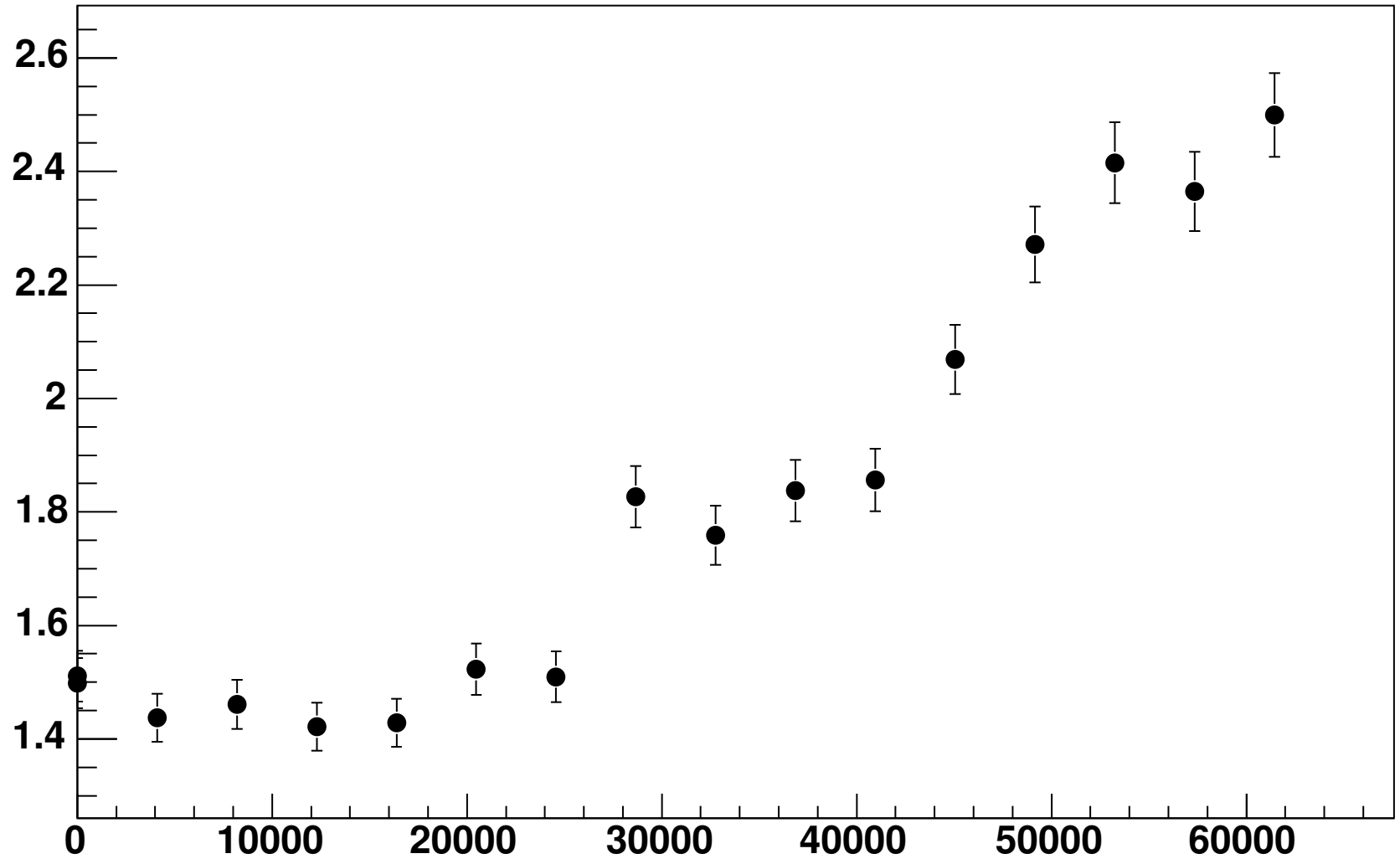

FE1, Chip 7, ADC mean vs DAC0
χ² / ndf 23.8 / 11
p0 51.97 ± 0.03968
p1 -1.416e-06 ± 1.108e-06
52.1
52
51.9
51.8
51.7
0
10000
20000
30000
40000
50000
60000

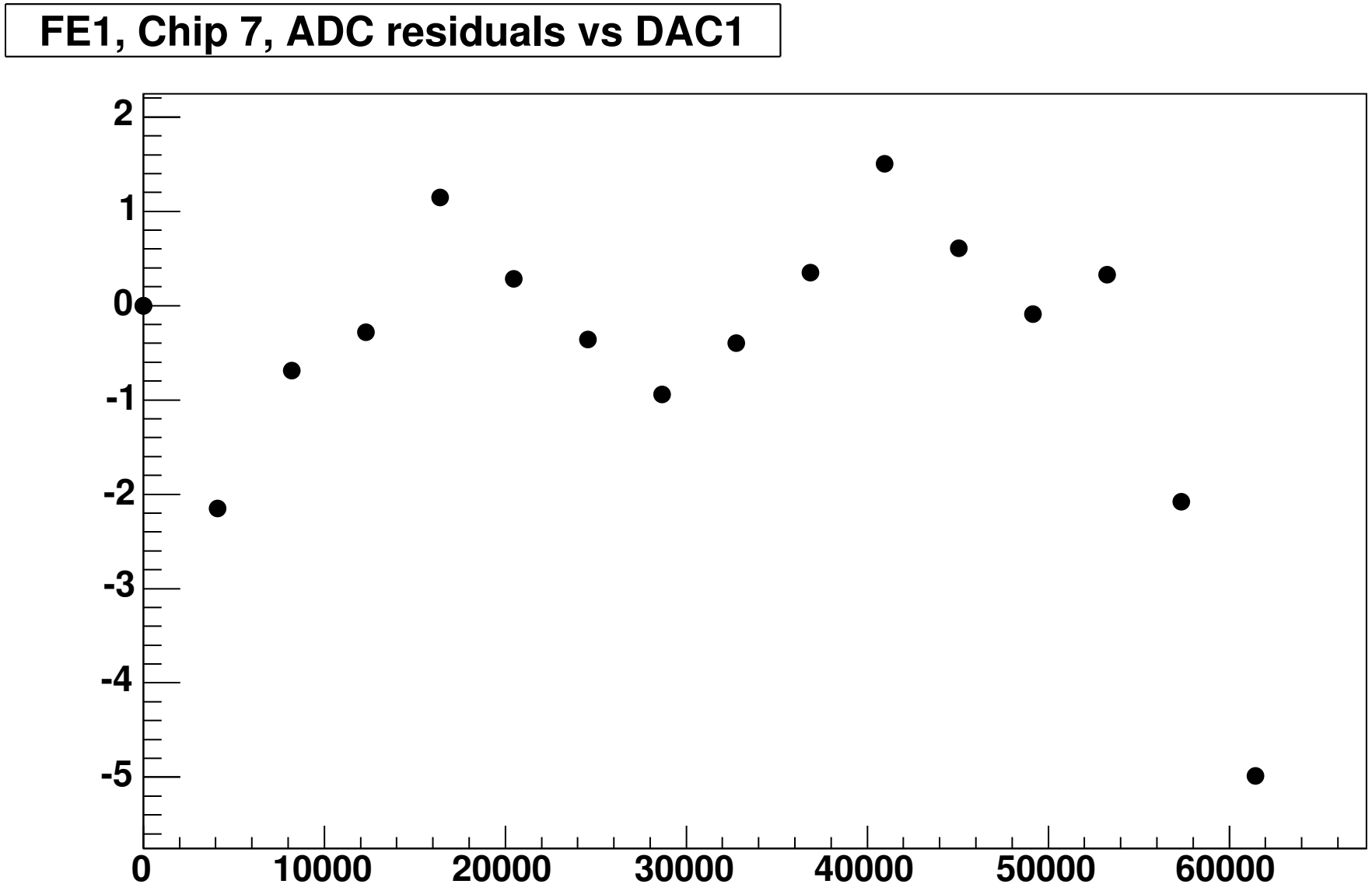

FE1, Chip 7, ADC noise vs DAC0
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

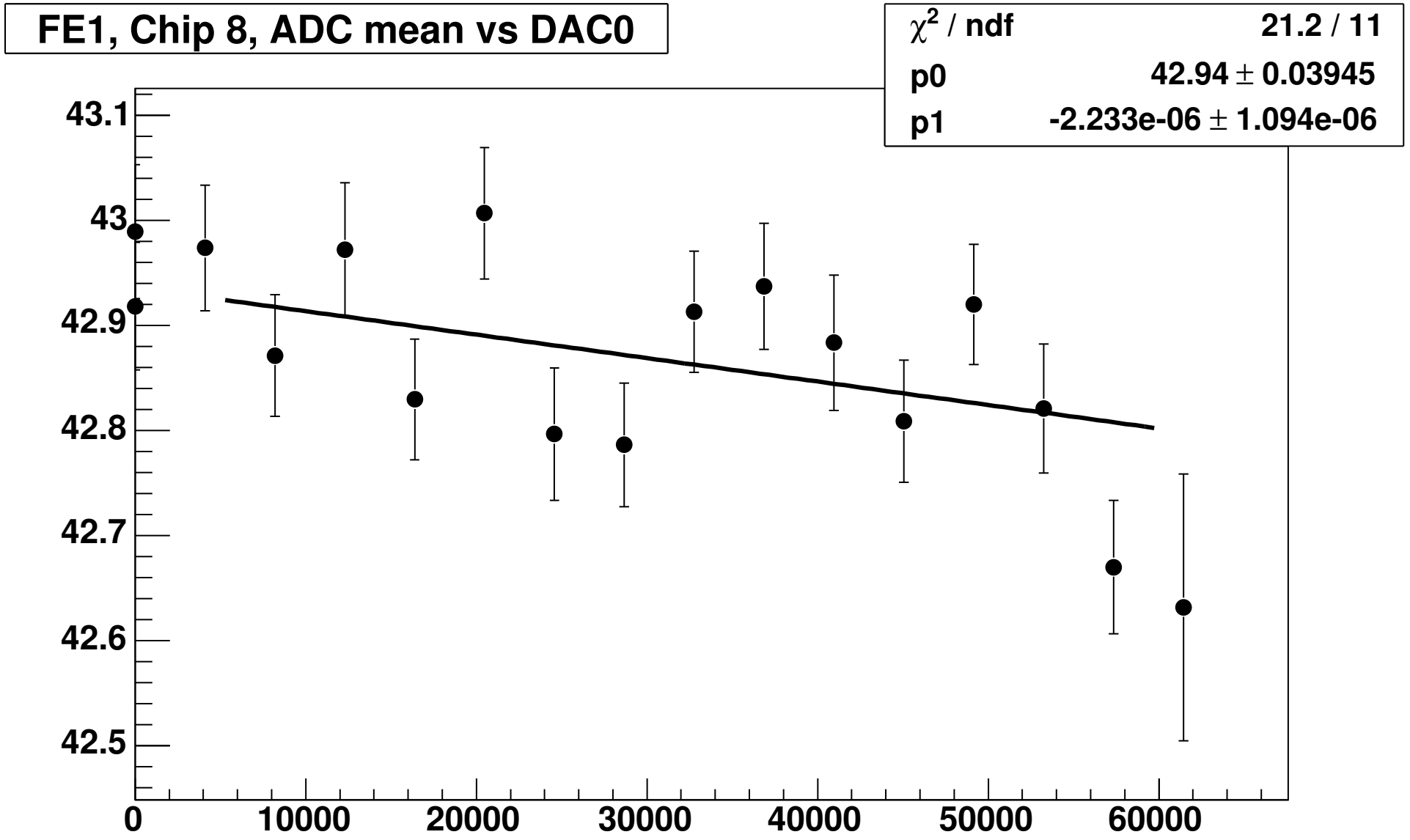

FE1, Chip 7, ADC residuals vs DAC0
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000


FE1, Chip 7, ADC mean vs DAC1
χ² / ndf 1664 / 11
p0 54.48 ± 0.04331
p1 0.4518 ± 1.39e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

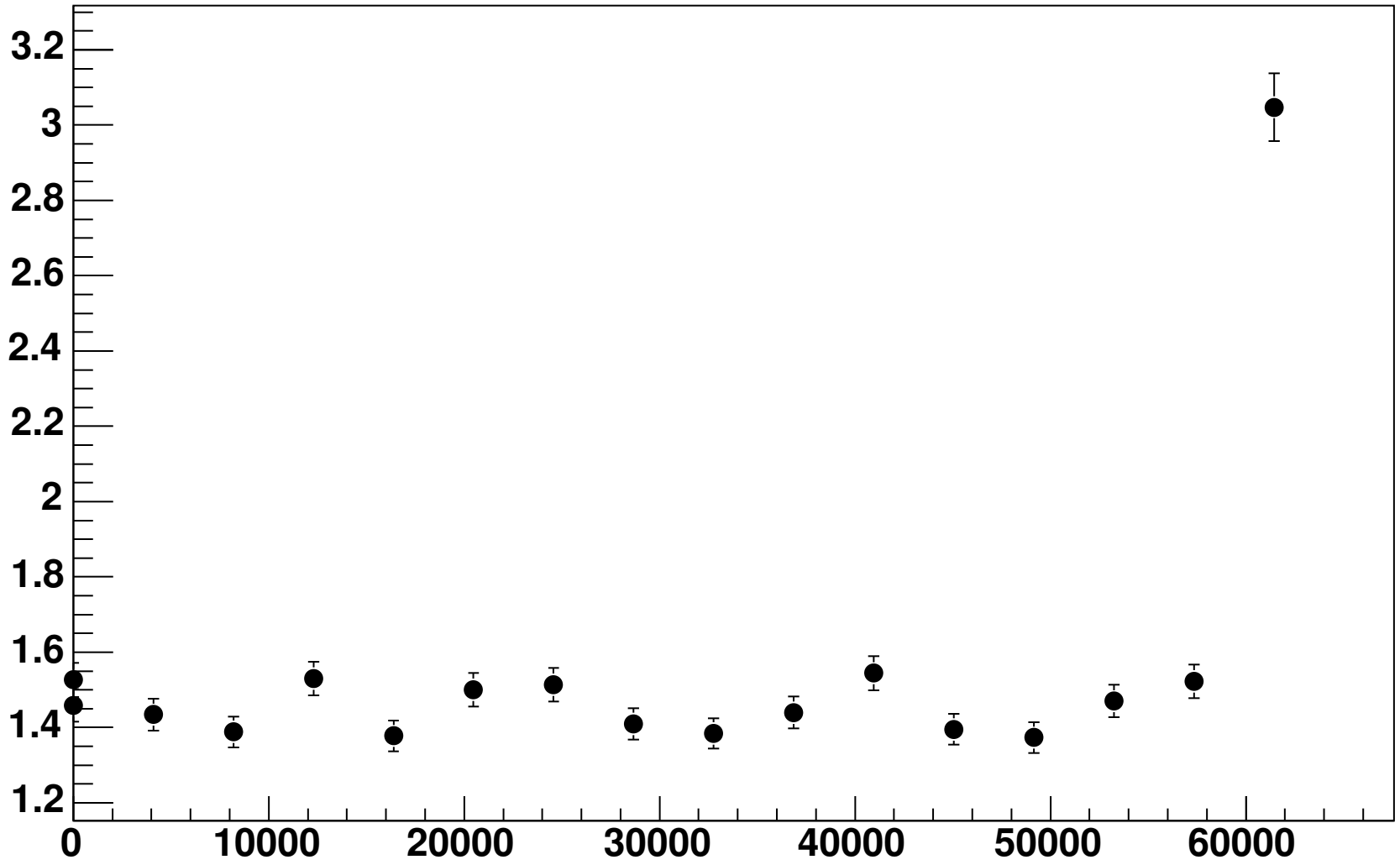
FE1, Chip 7, ADC noise vs DAC1

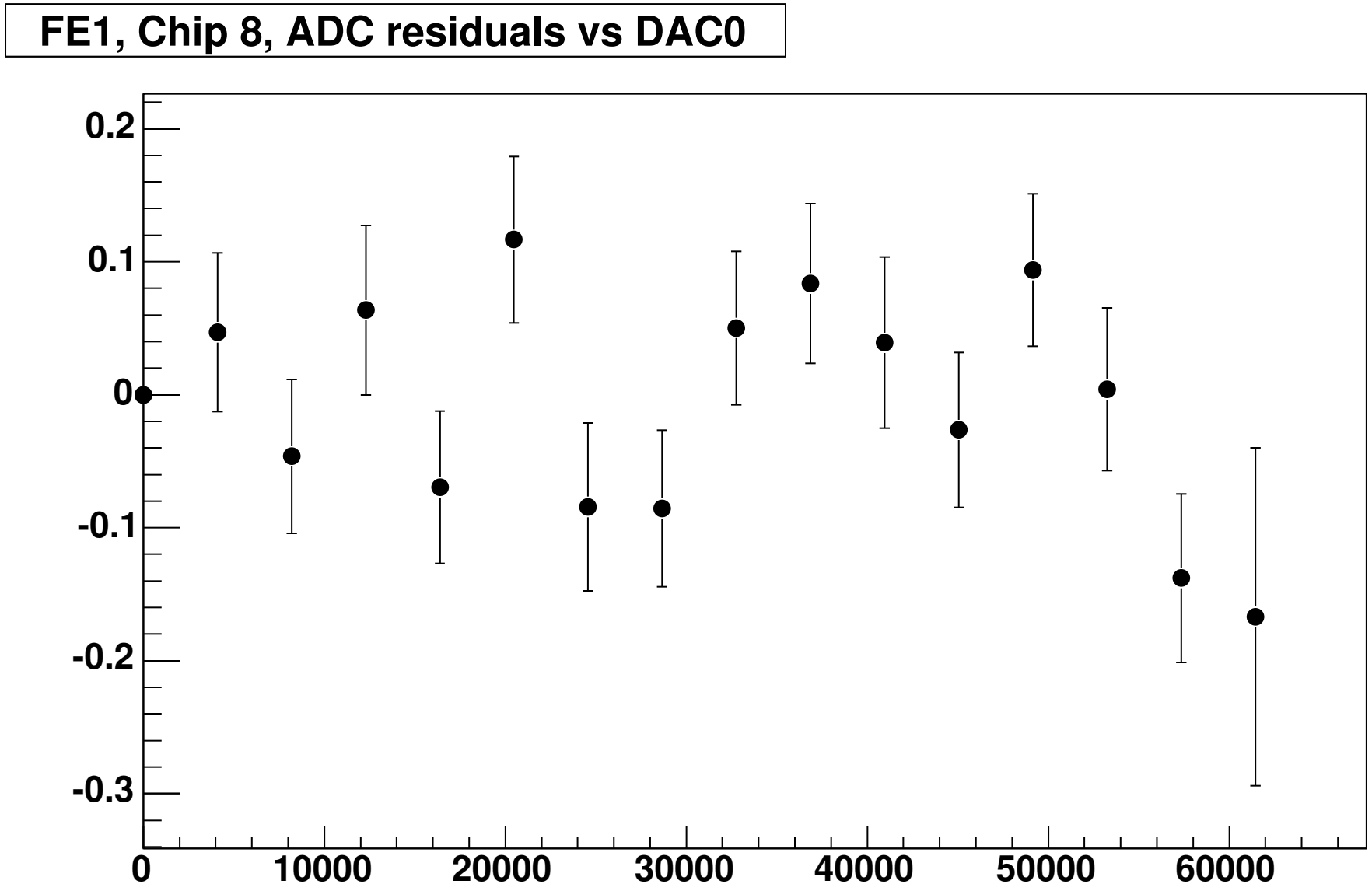


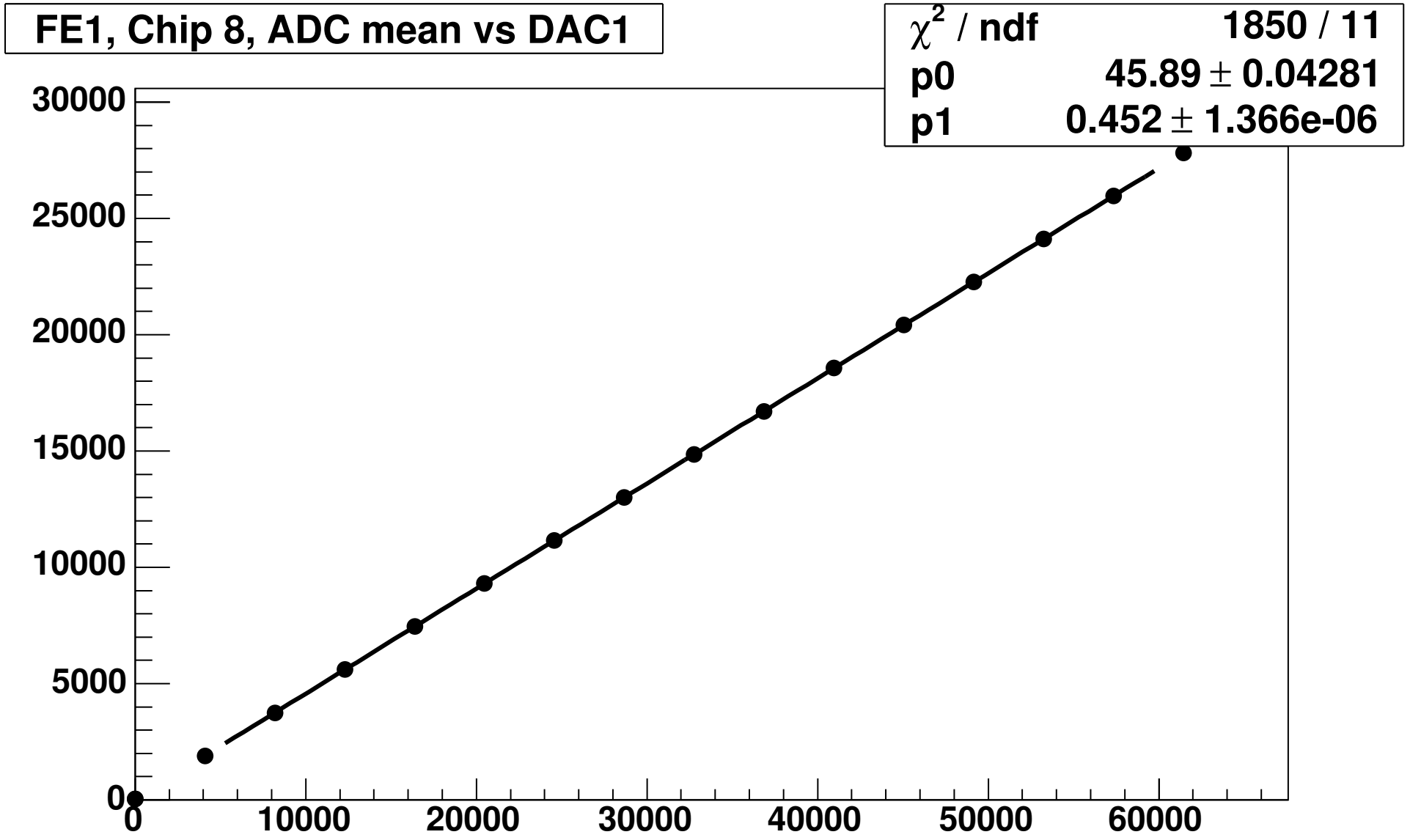

FE1, Chip 7, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

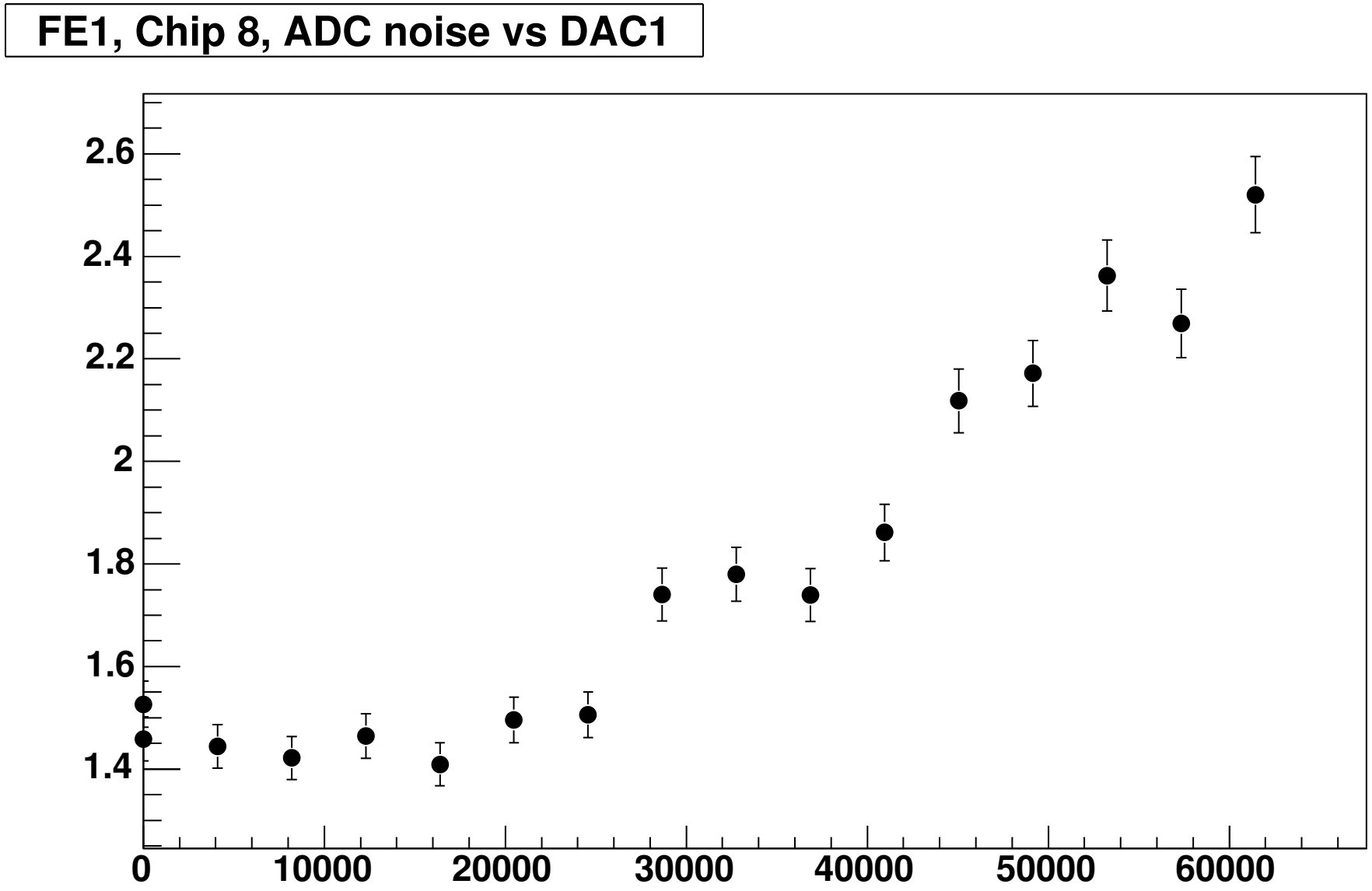

FE1, Chip 8, ADC mean vs DAC0
χ² / ndf 21.2 / 11
p0 42.94 ± 0.03945
p1 -2.233e-06 ± 1.094e-06
43.1
43
42.9
42.8
42.7
42.6
42.5
0
10000
20000
30000
40000
50000
60000

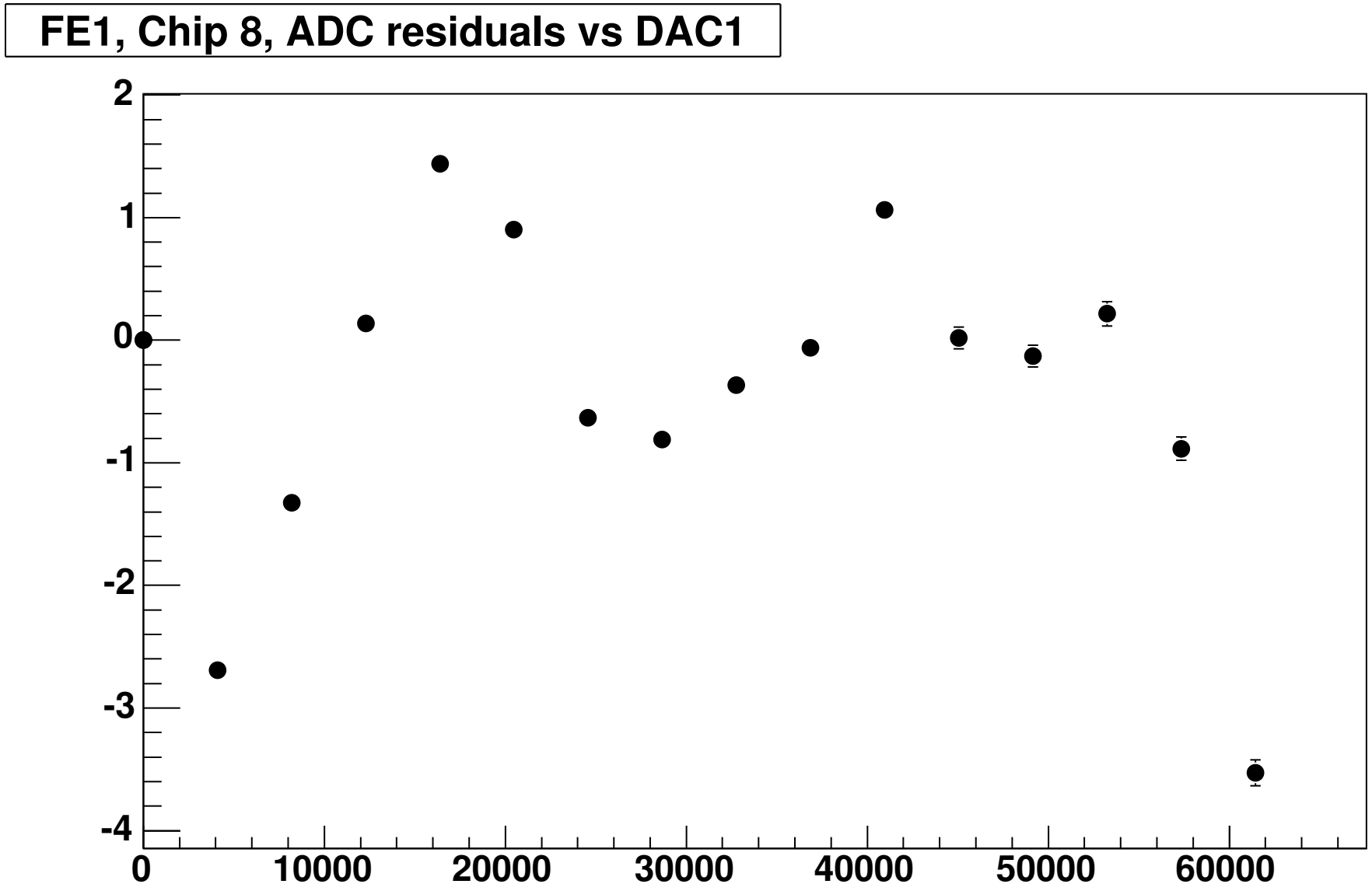
FE1, Chip 8, ADC noise vs DAC0

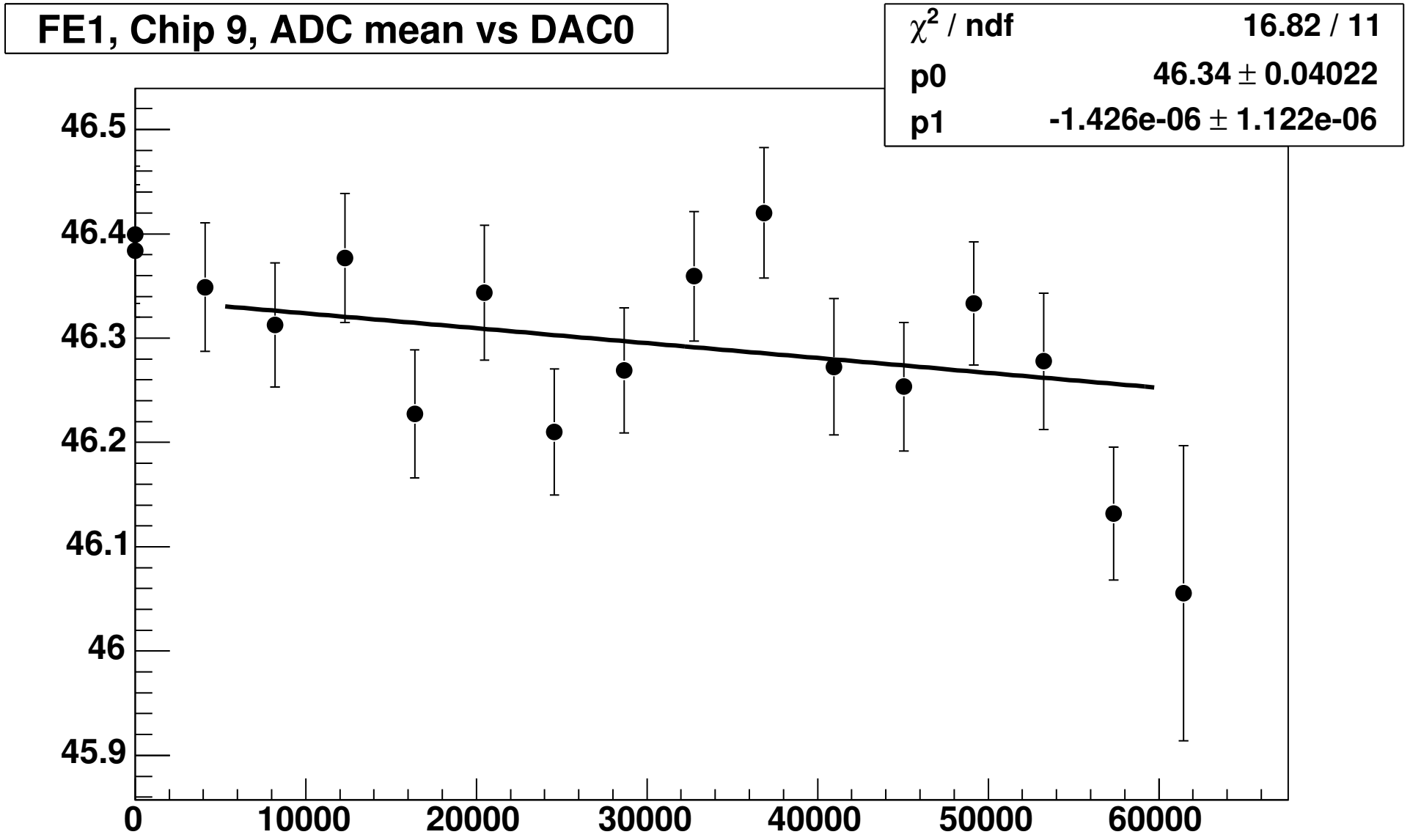


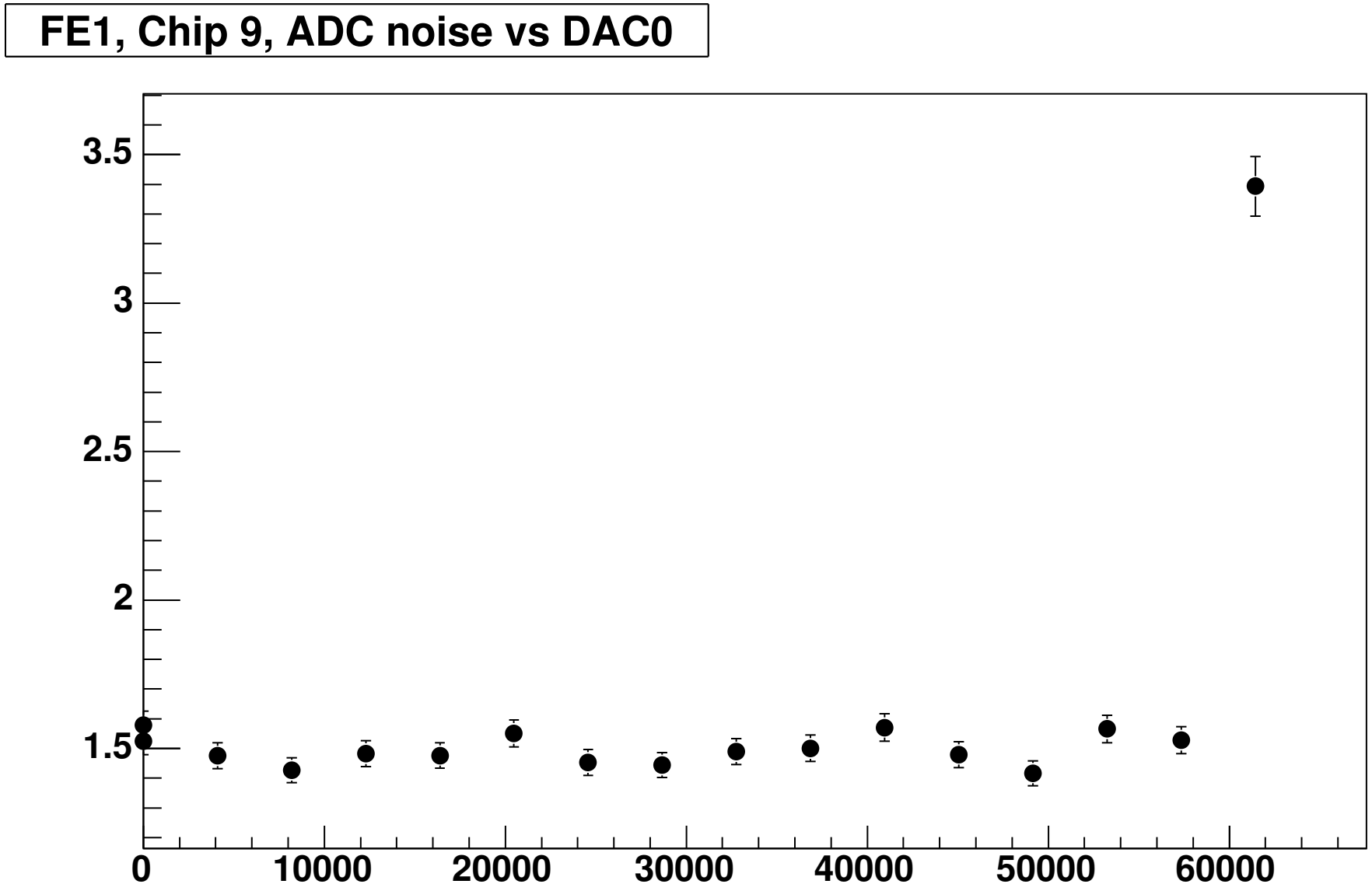

FE1, Chip 8, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

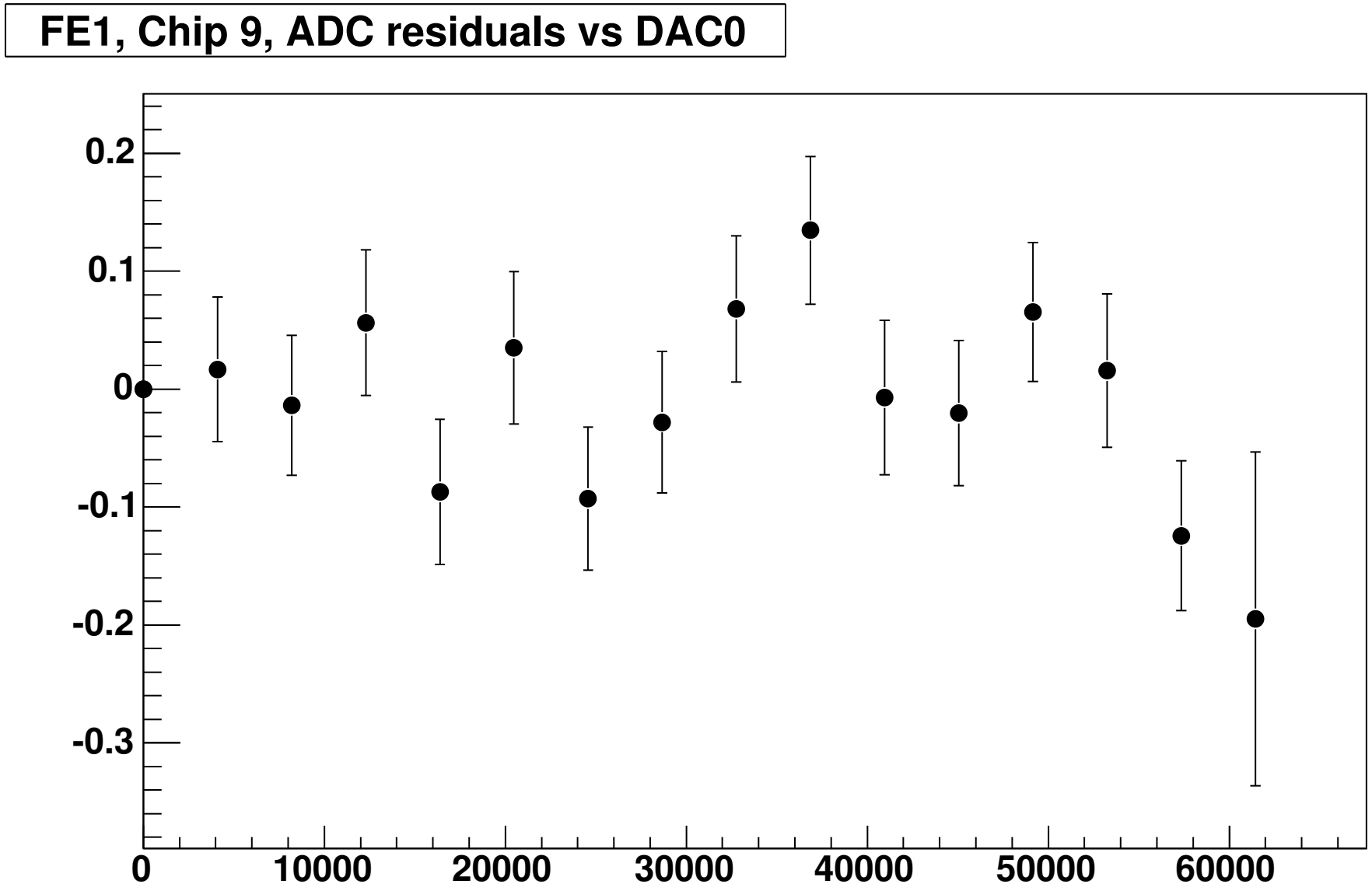

FE1, Chip 8, ADC mean vs DAC1
χ² / ndf 1850 / 11
p0 45.89 ± 0.04281
p1 0.452 ± 1.366e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

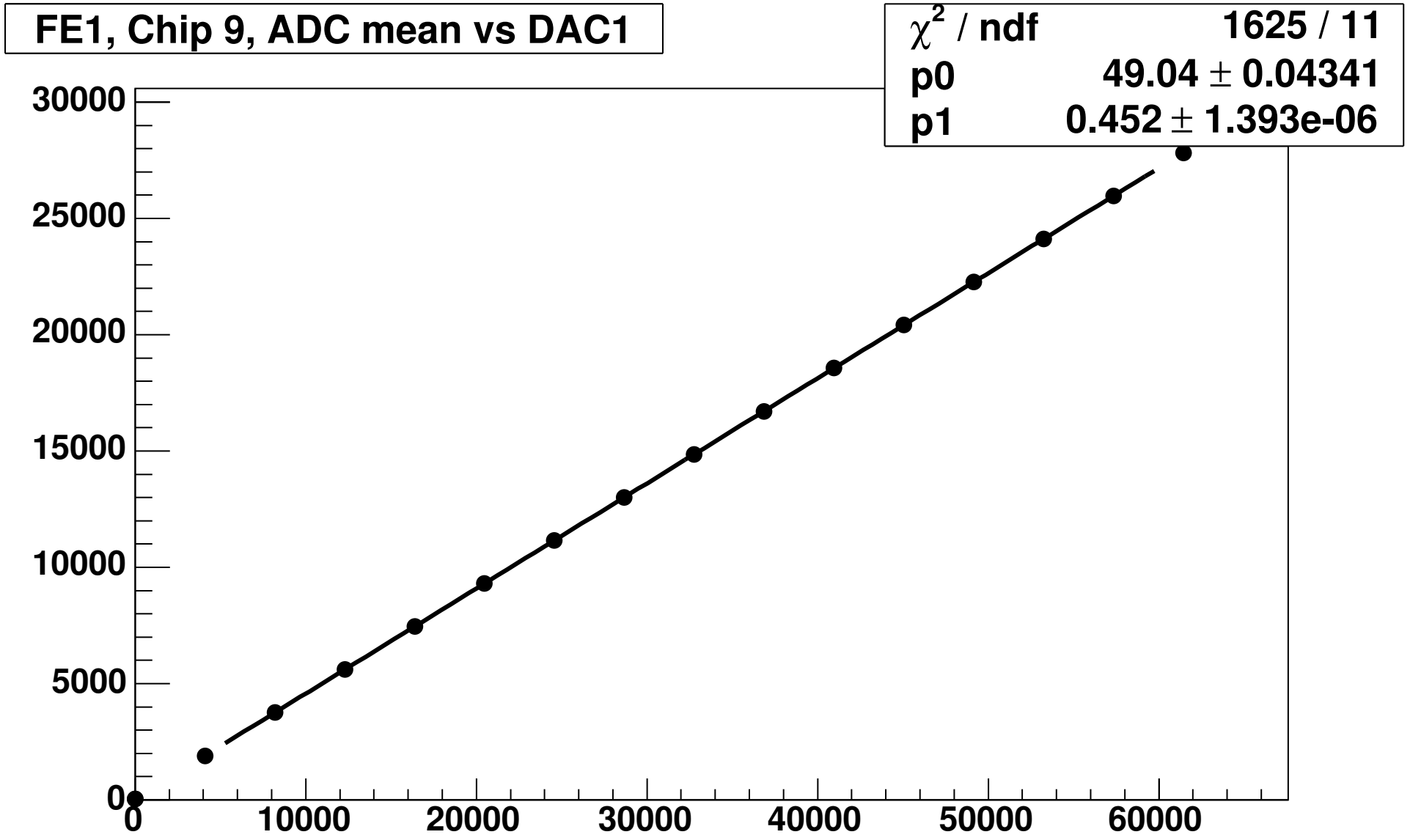

FE1, Chip 8, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

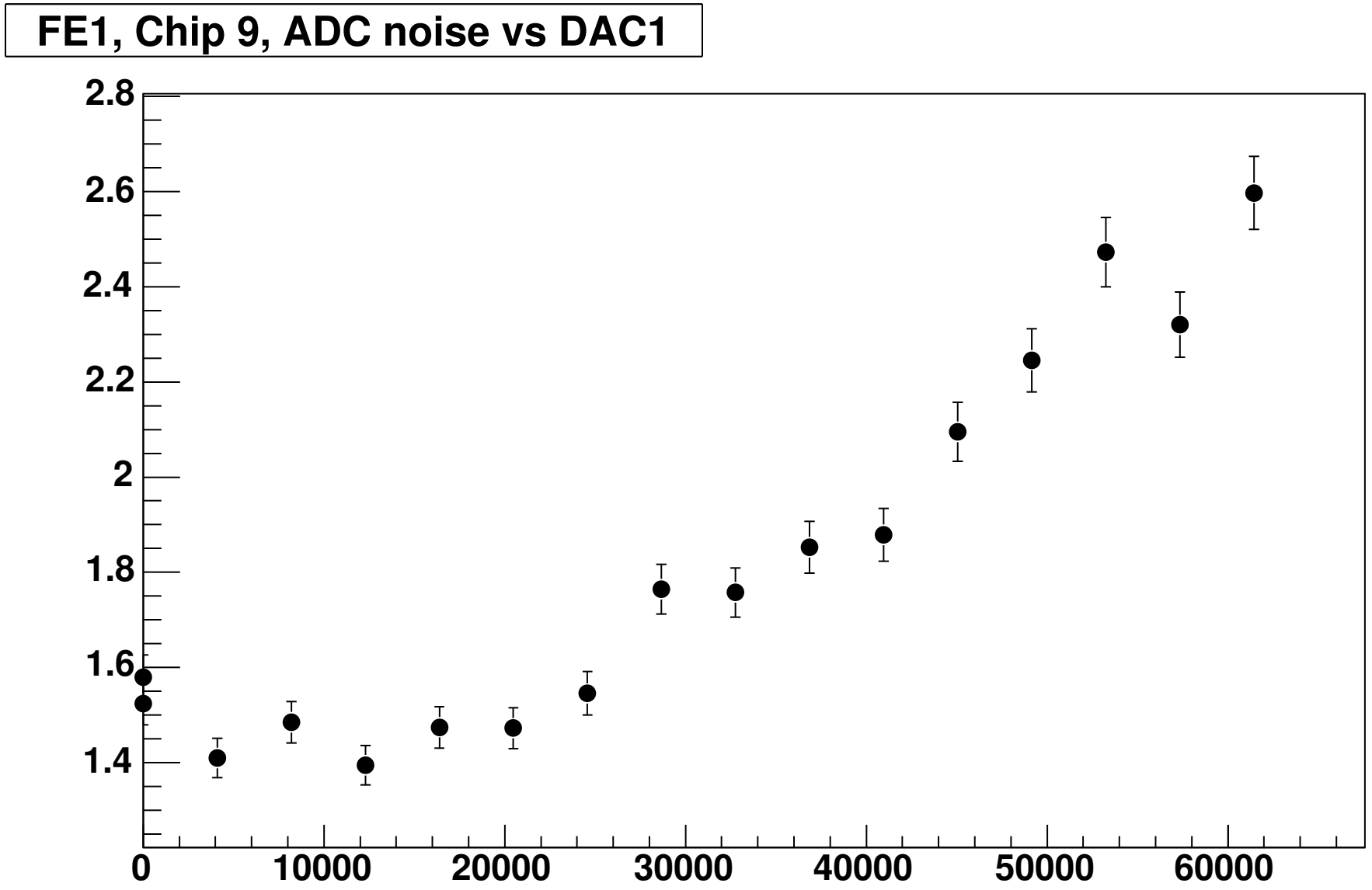

FE1, Chip 8, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000

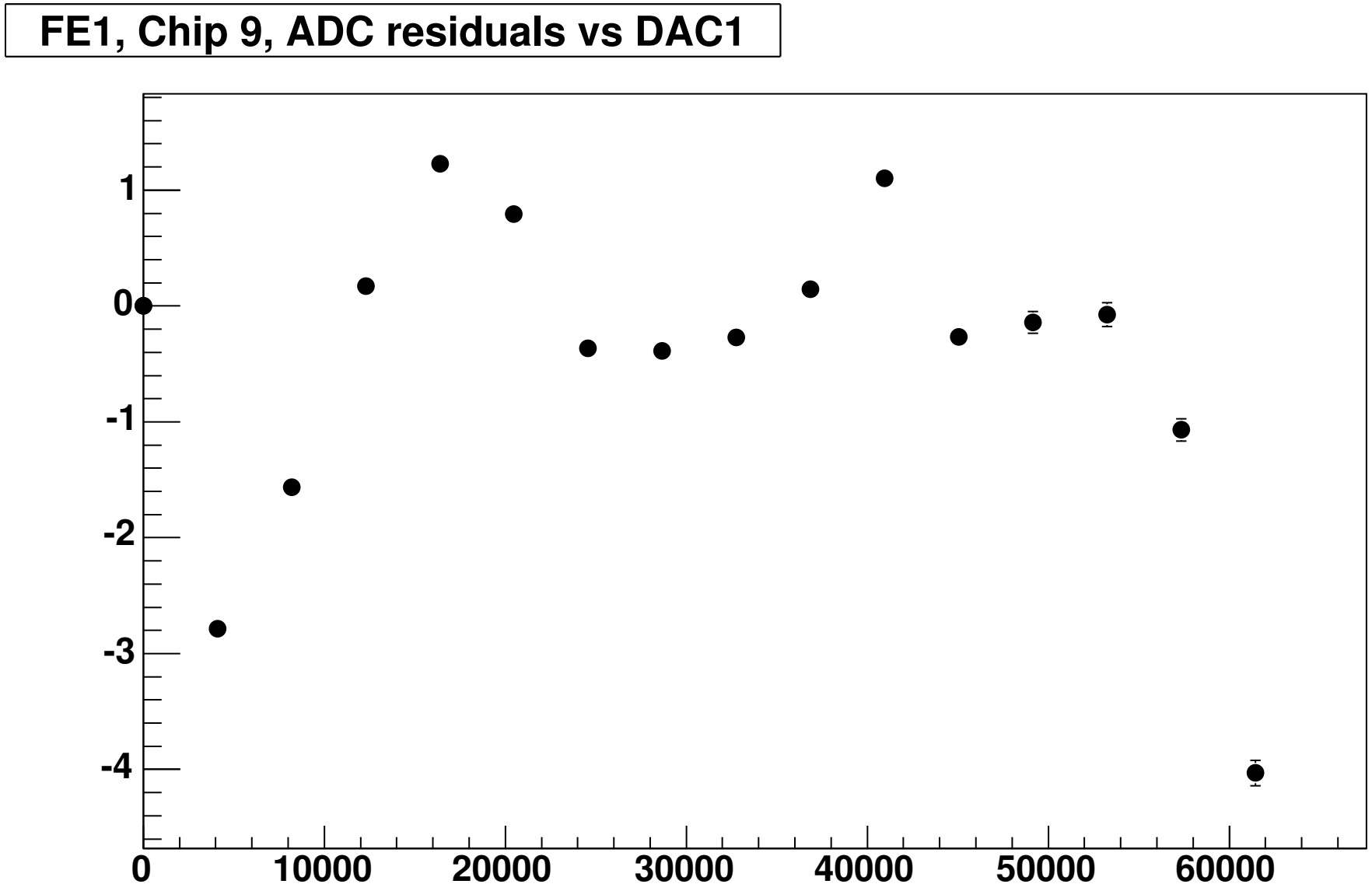

FE1, Chip 9, ADC mean vs DAC0
χ² / ndf 16.82 / 11
p0 46.34 ± 0.04022
p1 -1.426e-06 ± 1.122e-06
46.5
46.4
46.3
46.2
46.1
46
45.9
0
10000
20000
30000
40000
50000
60000

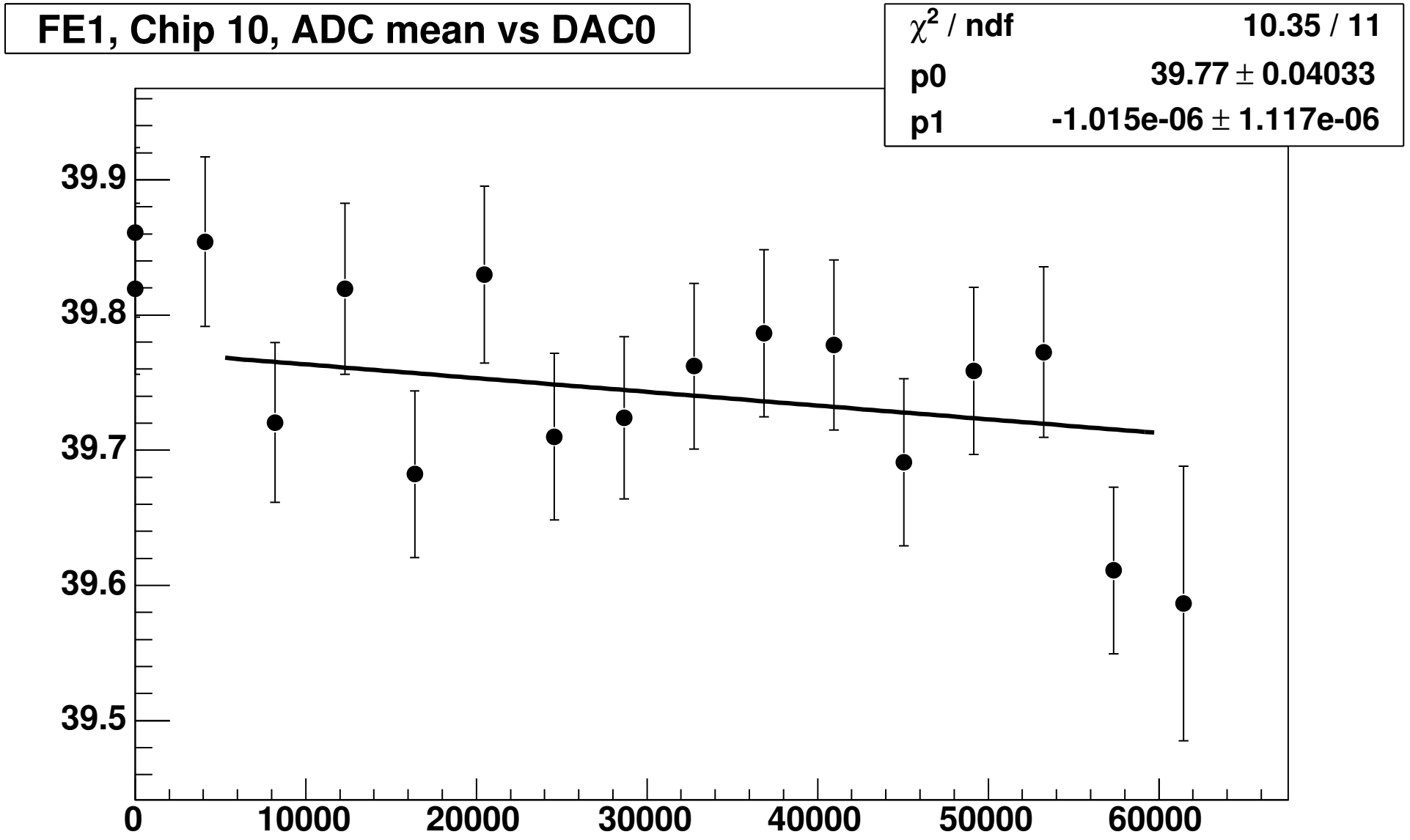

FE1, Chip 9, ADC noise vs DAC0
3.5
3
2.5
2
1.5
0
10000
20000
30000
40000
50000
60000

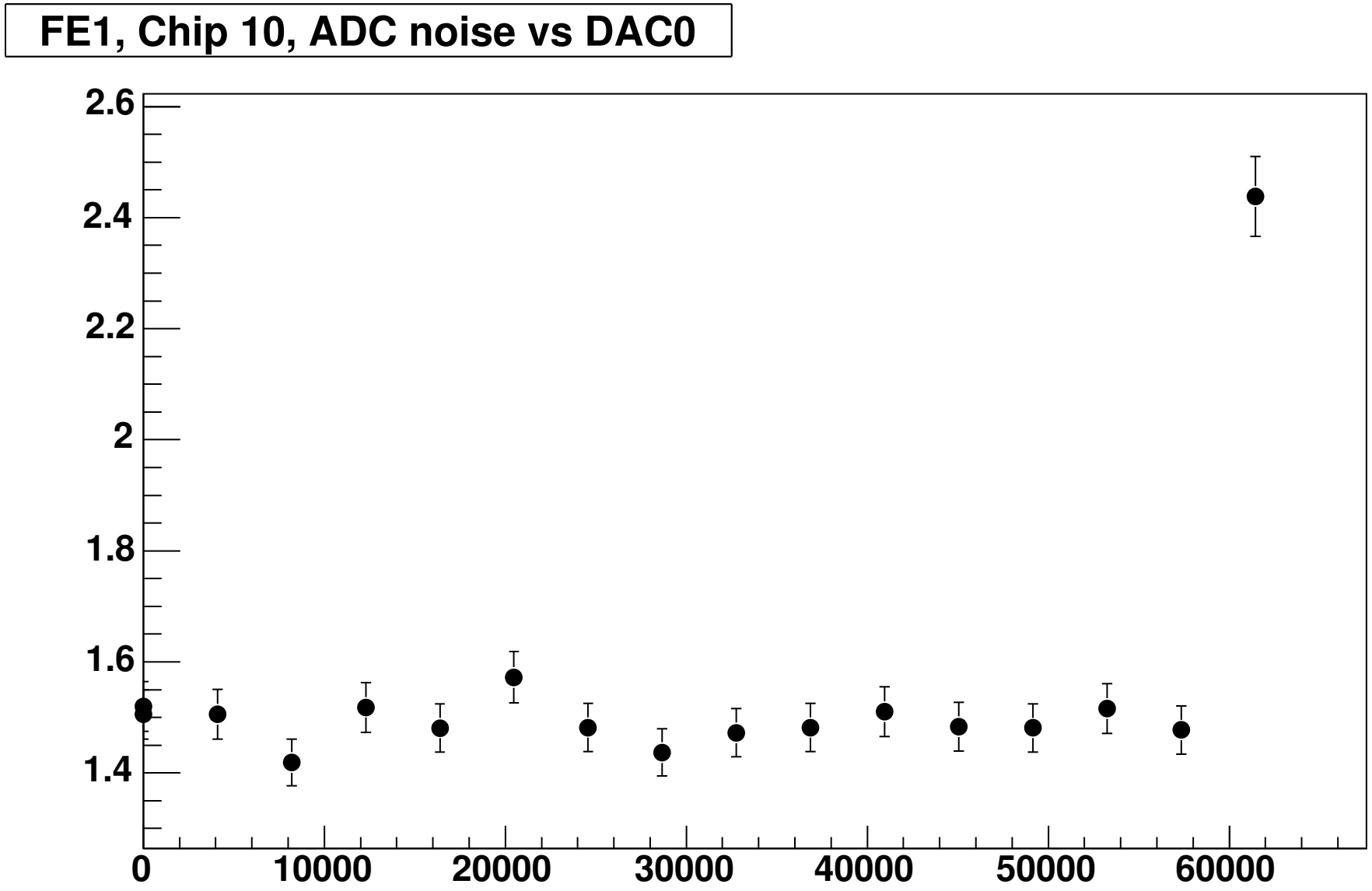

FE1, Chip 9, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

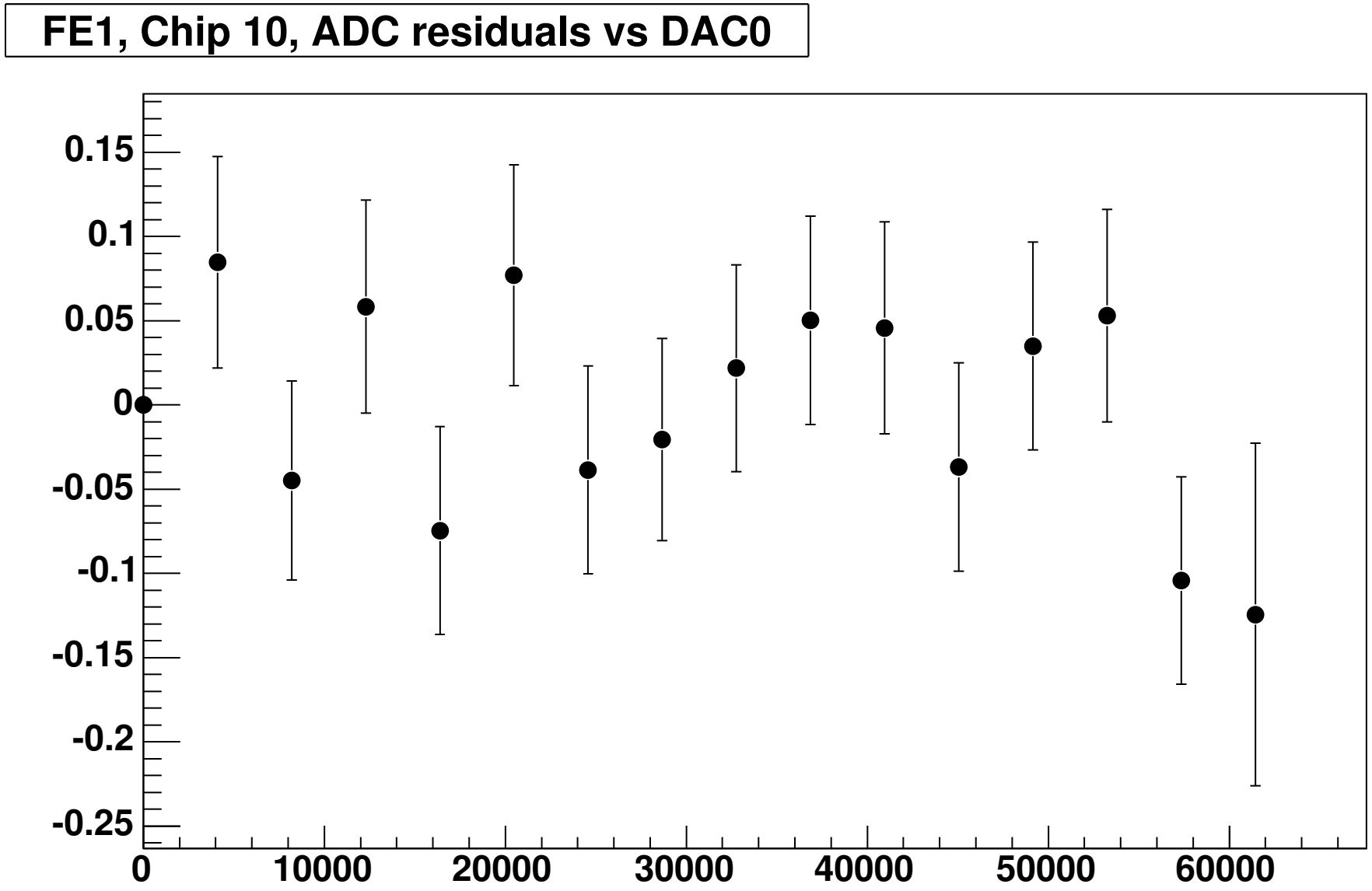

FE1, Chip 9, ADC mean vs DAC1
χ² / ndf 1625 / 11
p0 49.04 ± 0.04341
p1 0.452 ± 1.393e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

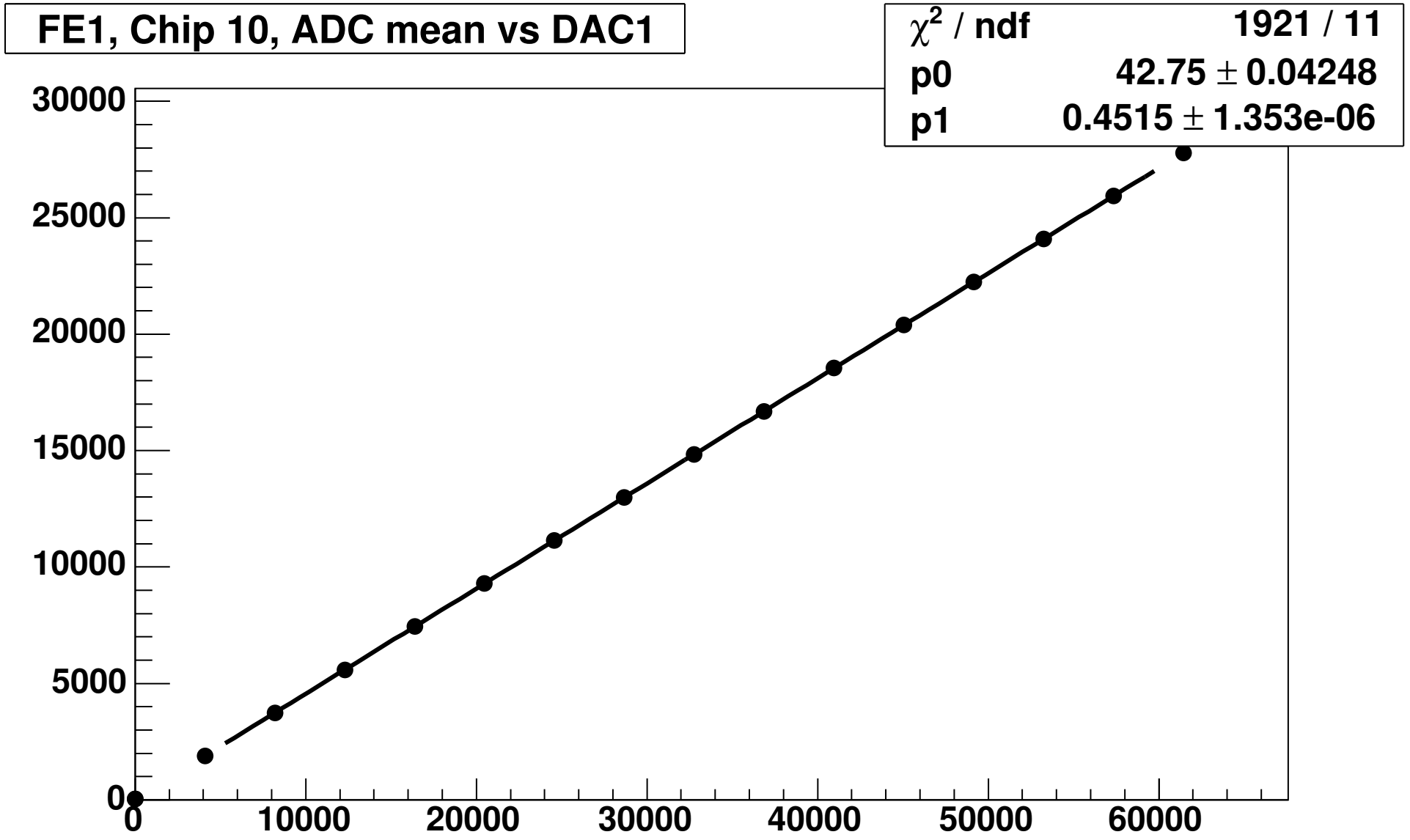

FE1, Chip 9, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

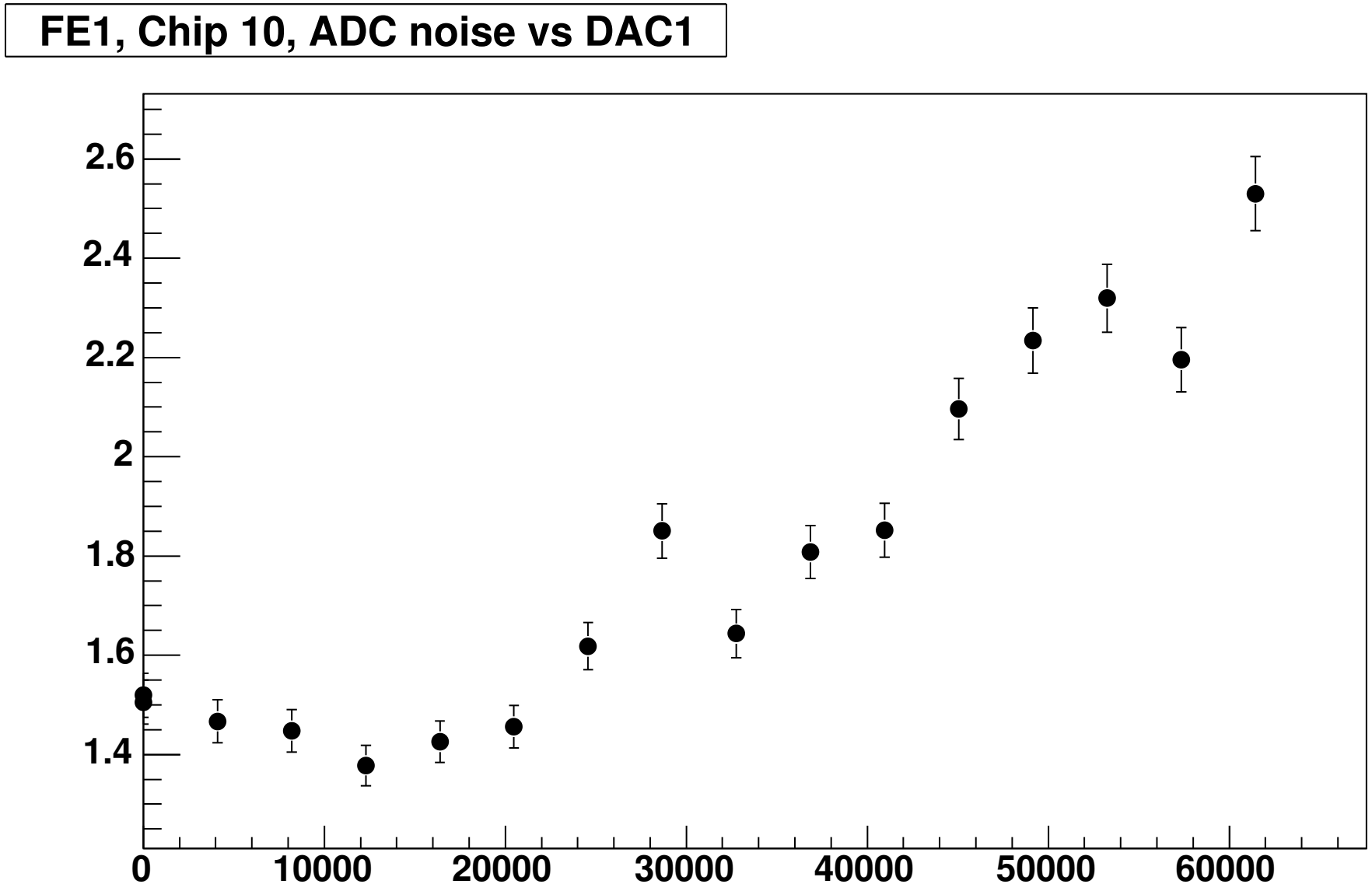

FE1, Chip 9, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000

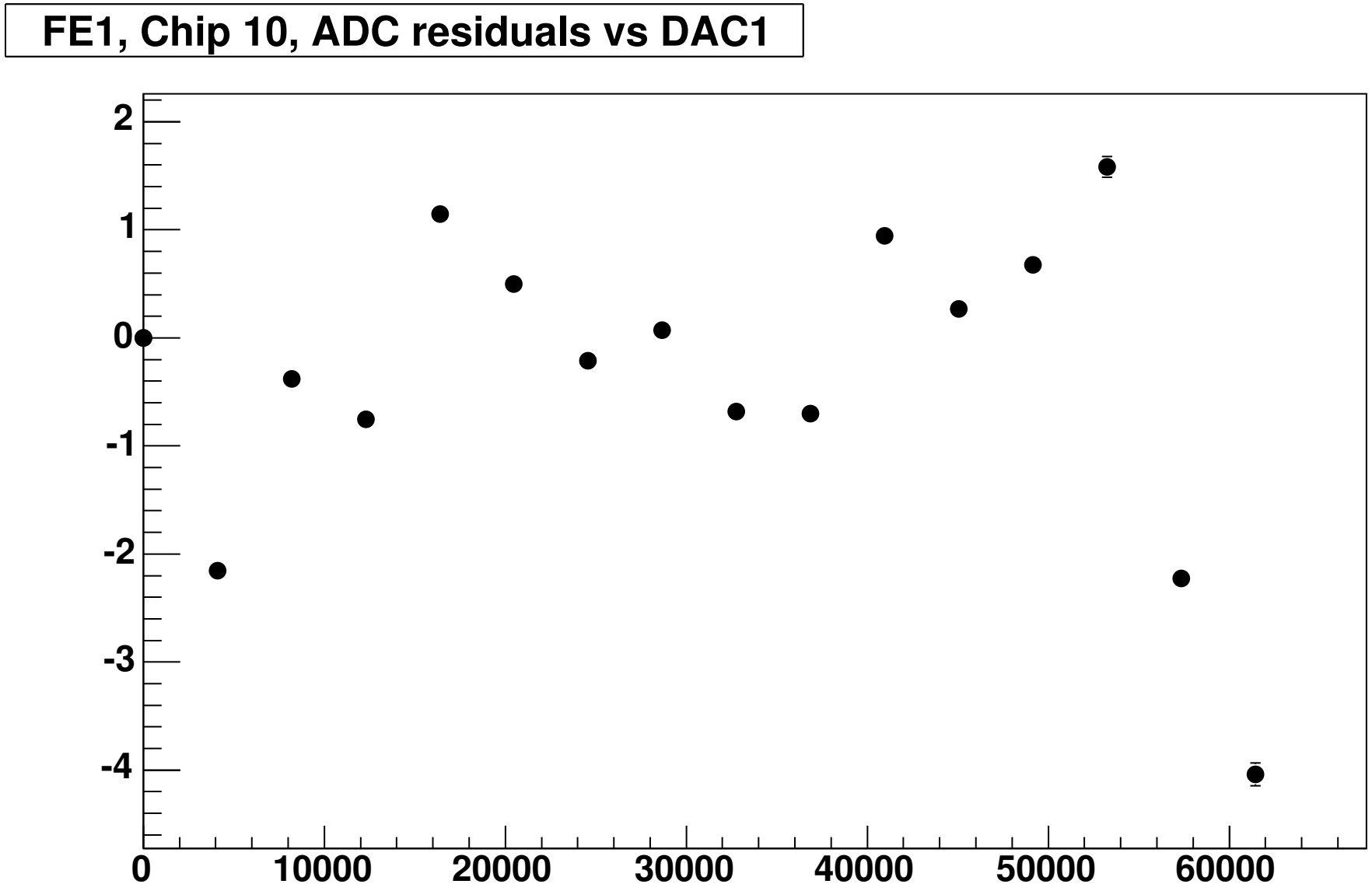

FE1, Chip 10, ADC mean vs DAC0
χ² / ndf 10.35 / 11
p0 39.77 ± 0.04033
p1 -1.015e-06 ± 1.117e-06
39.9
39.8
39.7
39.6
39.5
0
10000
20000
30000
40000
50000
60000

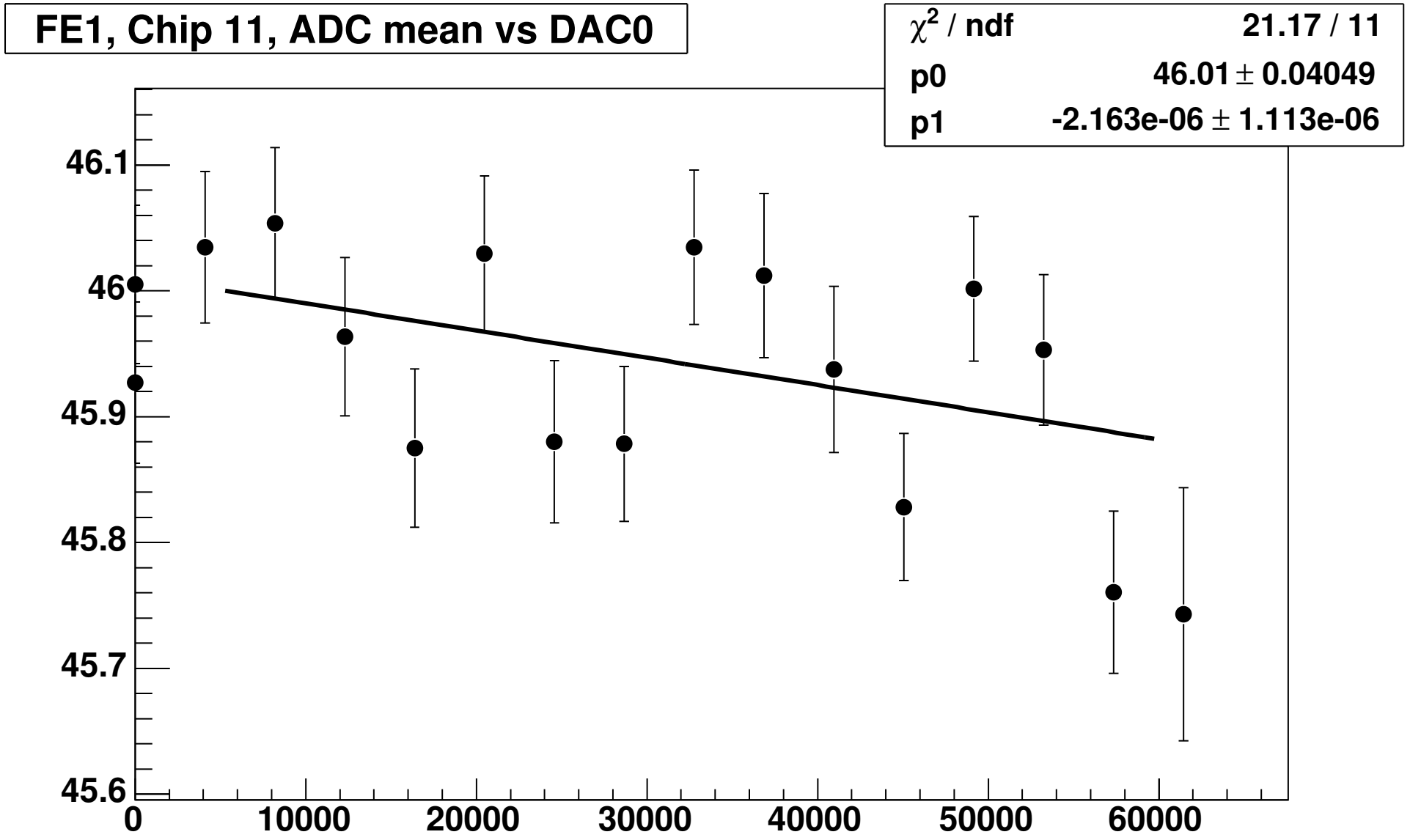

FE1, Chip 10, ADC noise vs DAC0
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

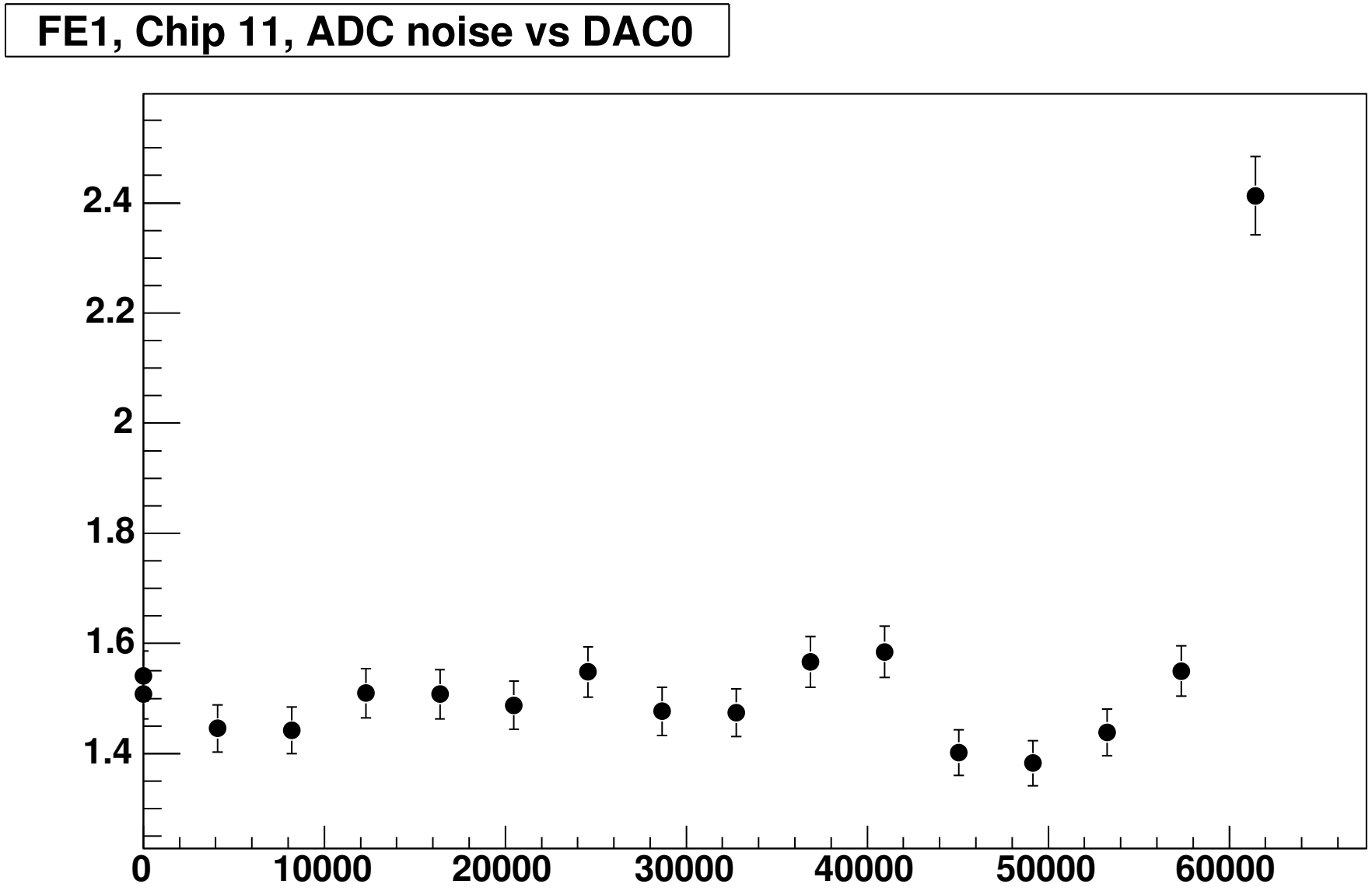

FE1, Chip 10, ADC residuals vs DAC0
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

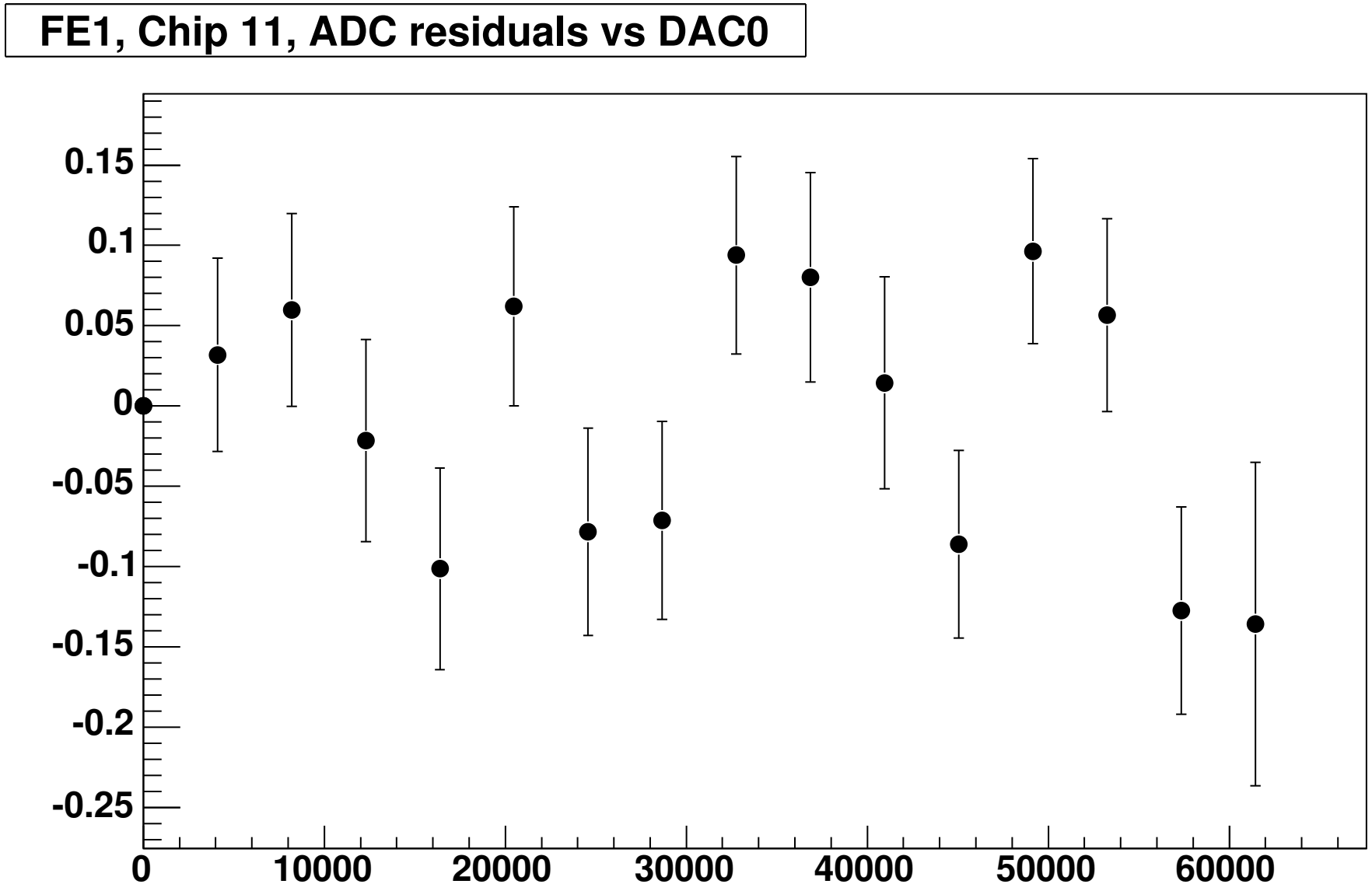

FE1, Chip 10, ADC mean vs DAC1
χ² / ndf 1921 / 11
p0 42.75 ± 0.04248
p1 0.4515 ± 1.353e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

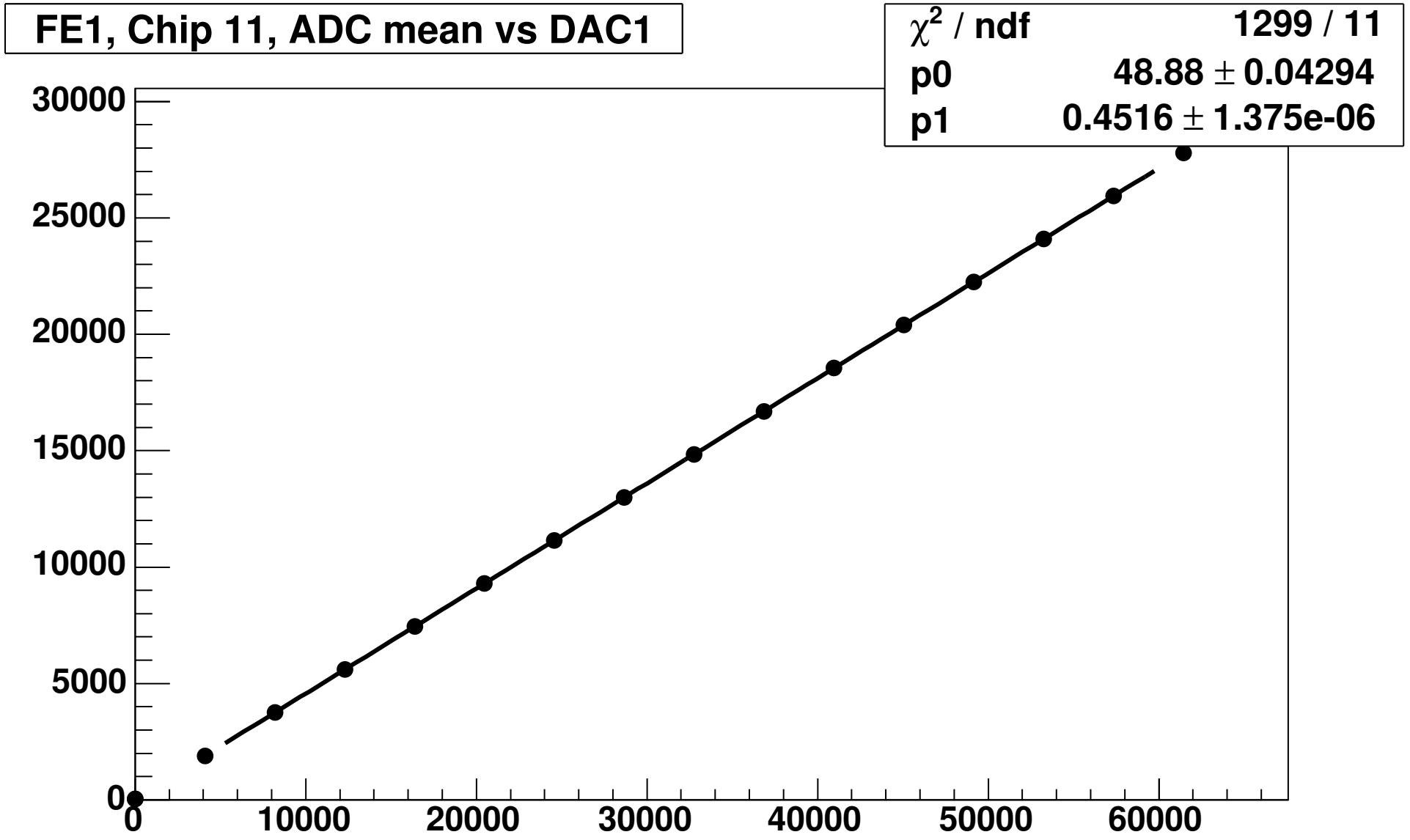

FE1, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

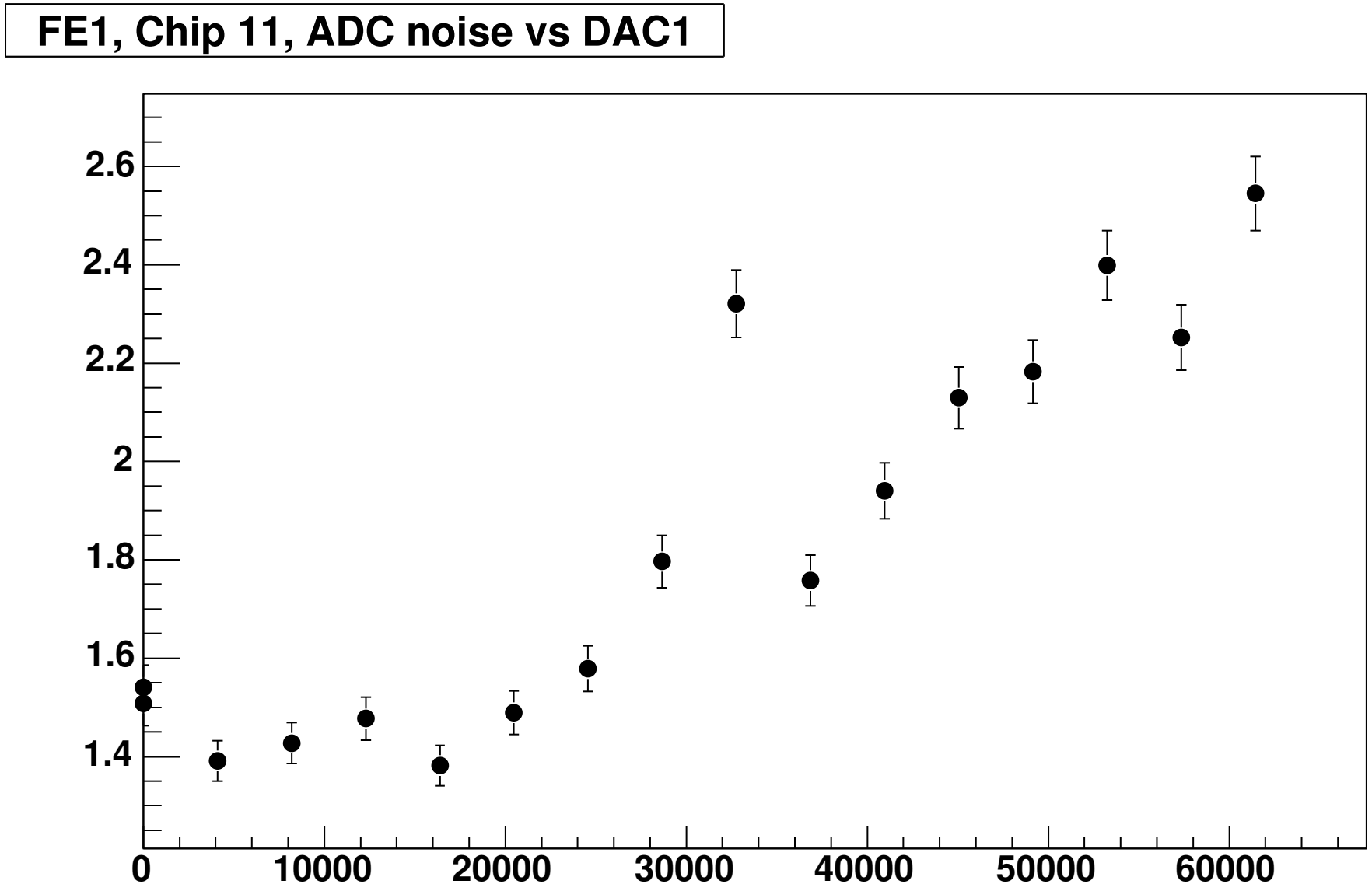

FE1, Chip 10, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000

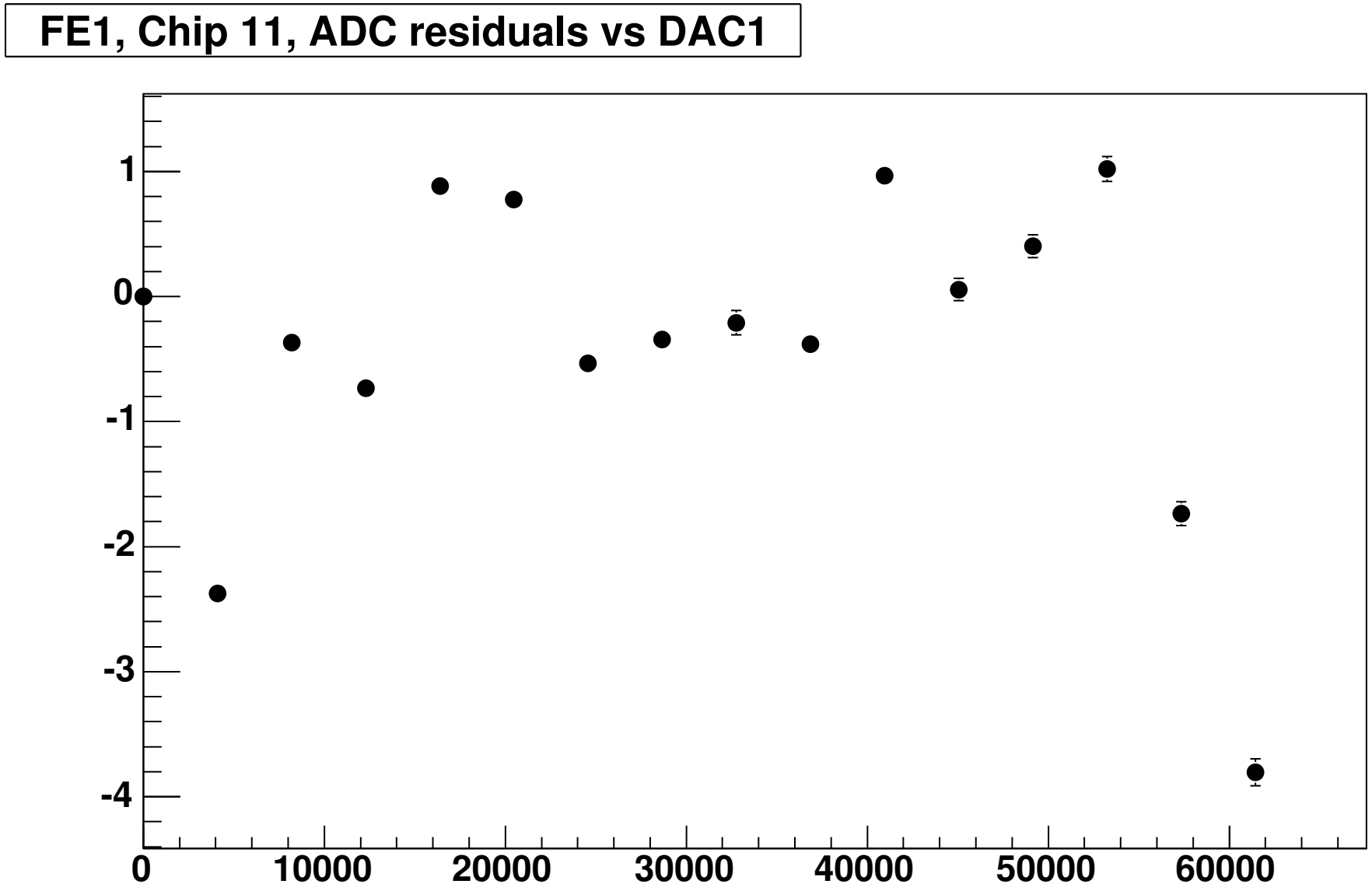

FE1, Chip 11, ADC mean vs DAC0
χ² / ndf 21.17 / 11
p0 46.01 ± 0.04049
p1 -2.163e-06 ± 1.113e-06
46.1
46
45.9
45.8
45.7
45.6
0
10000
20000
30000
40000
50000
60000

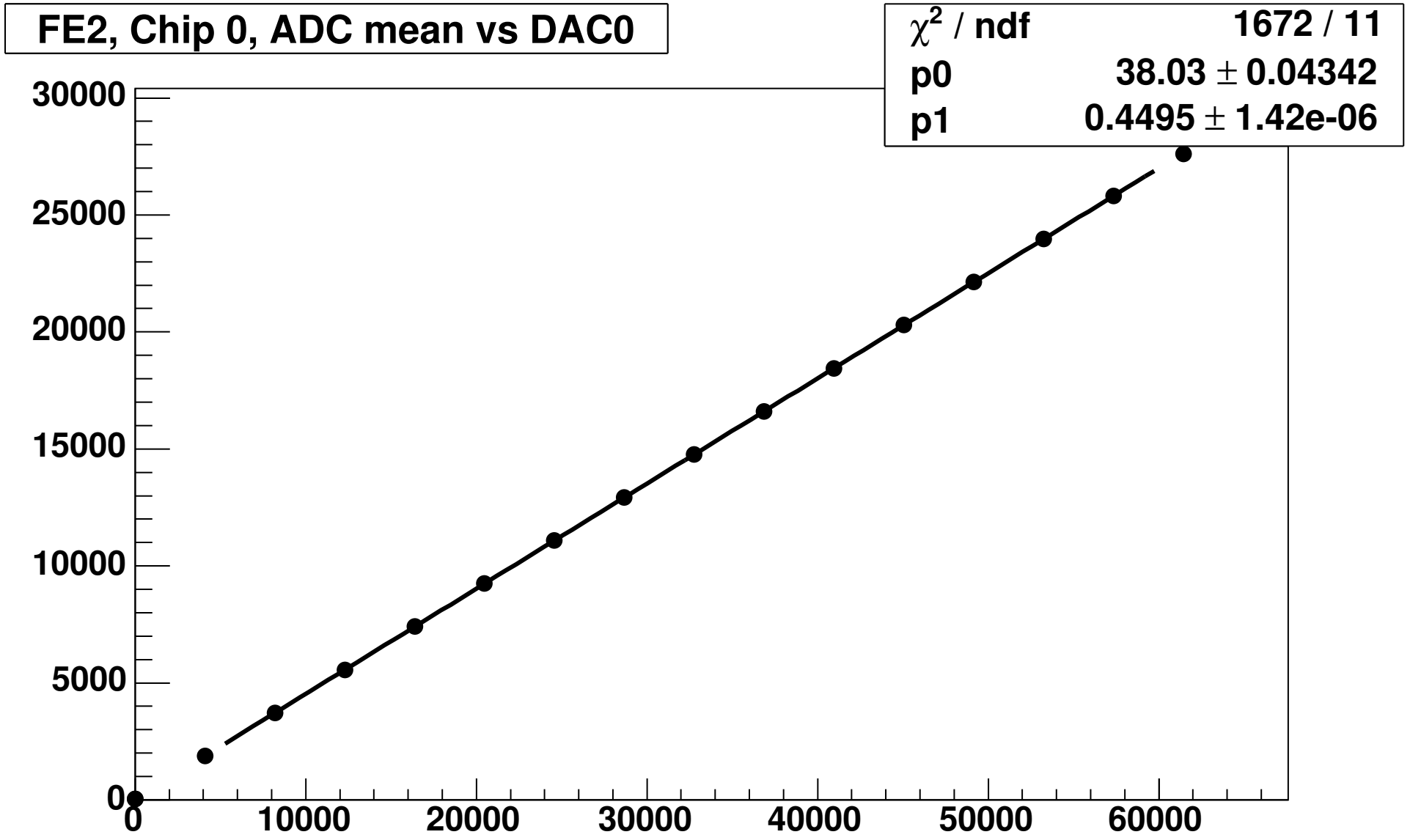

FE1, Chip 11, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

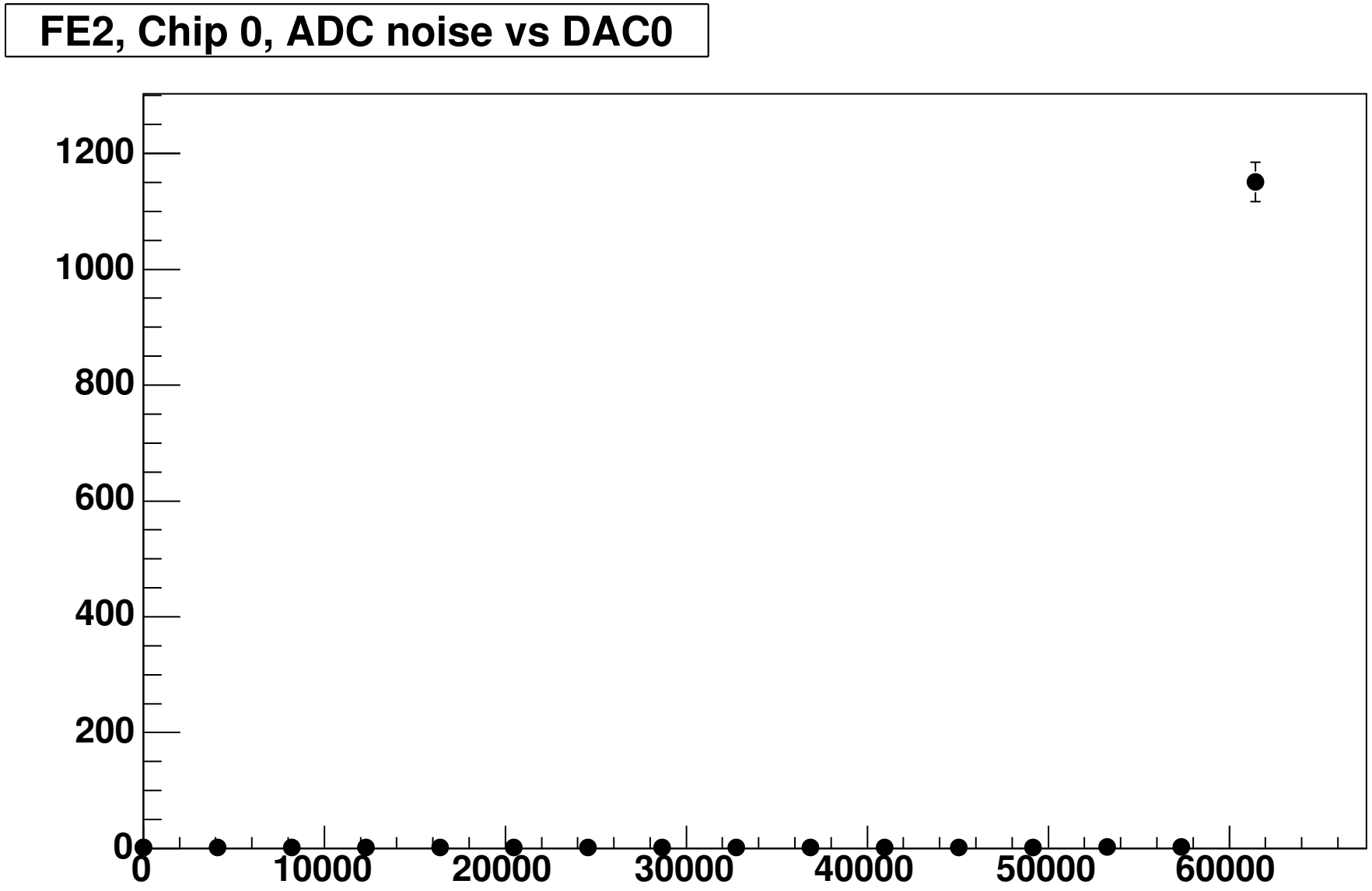

FE1, Chip 11, ADC residuals vs DAC0
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

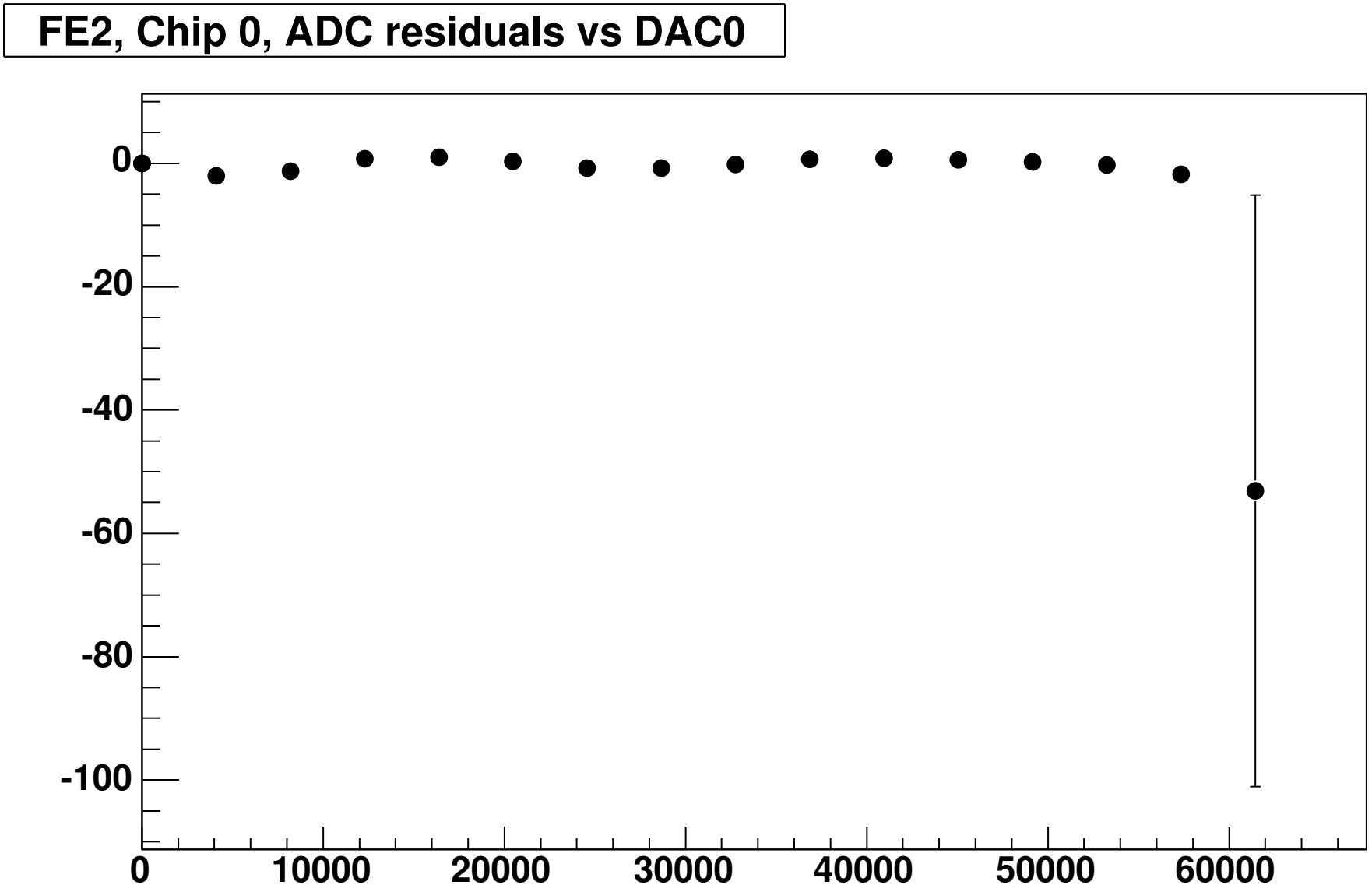

FE1, Chip 11, ADC mean vs DAC1
χ² / ndf 1299 / 11
p0 48.88 ± 0.04294
p1 0.4516 ± 1.375e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

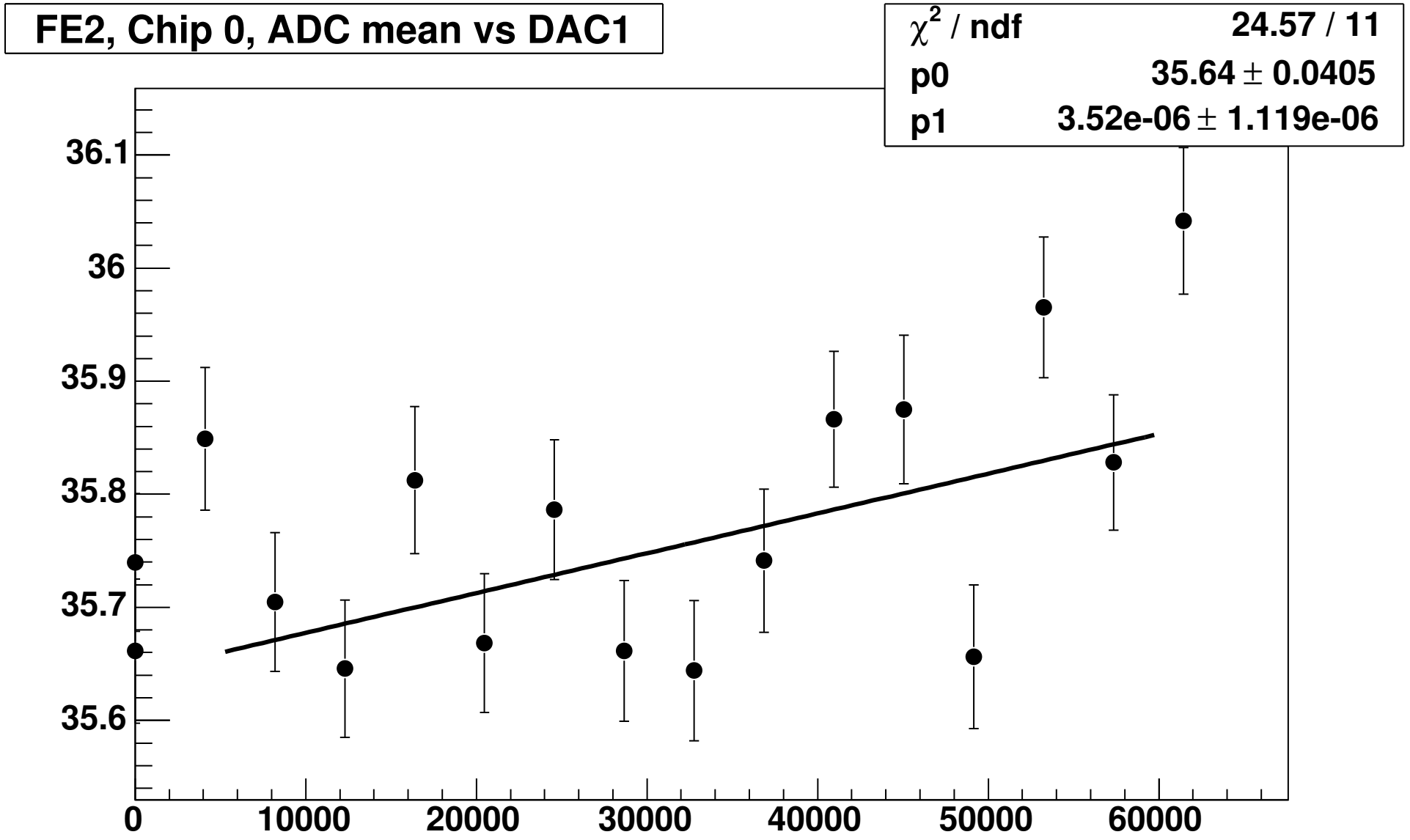

FE1, Chip 11, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

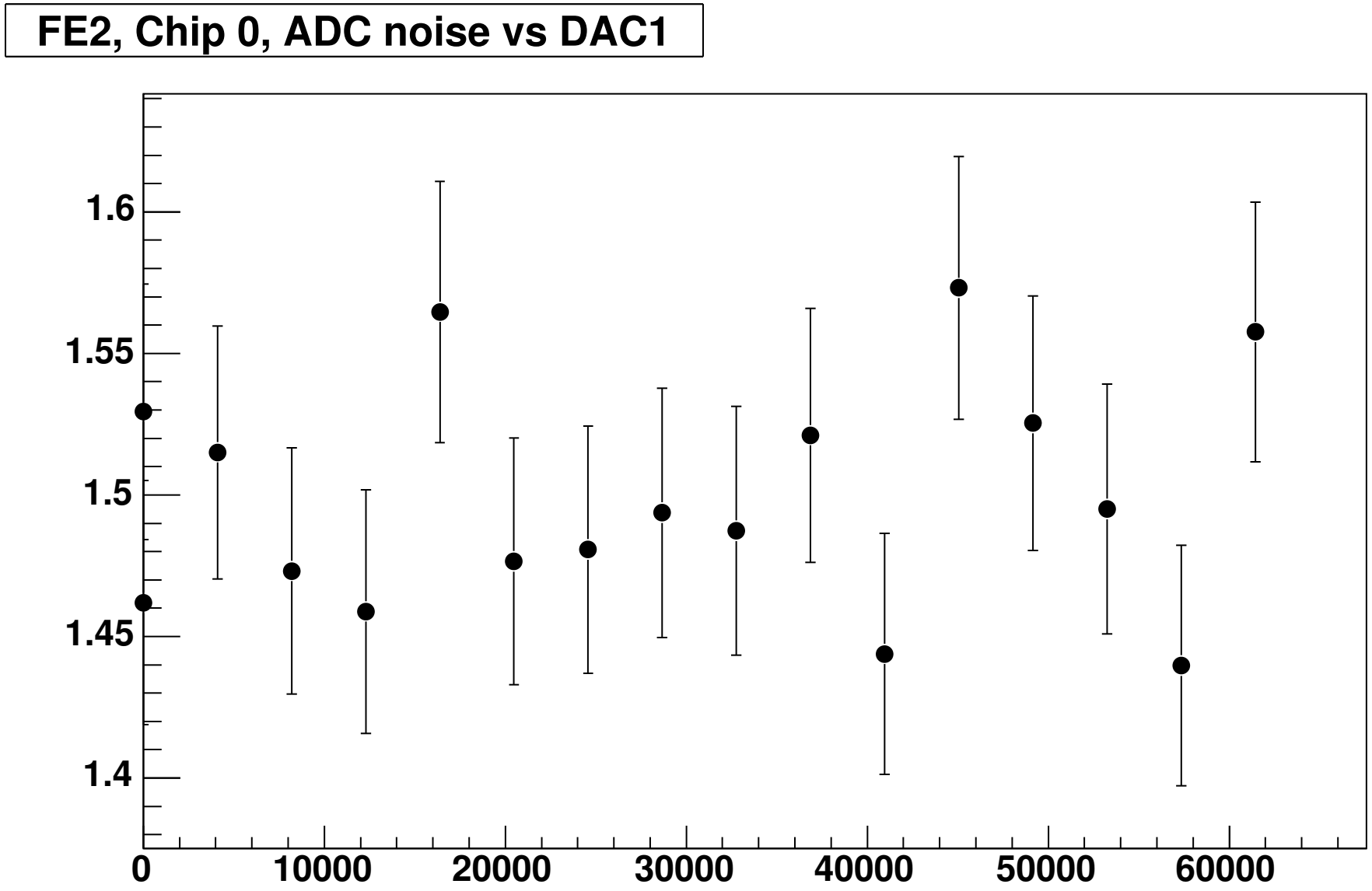

FE1, Chip 11, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000

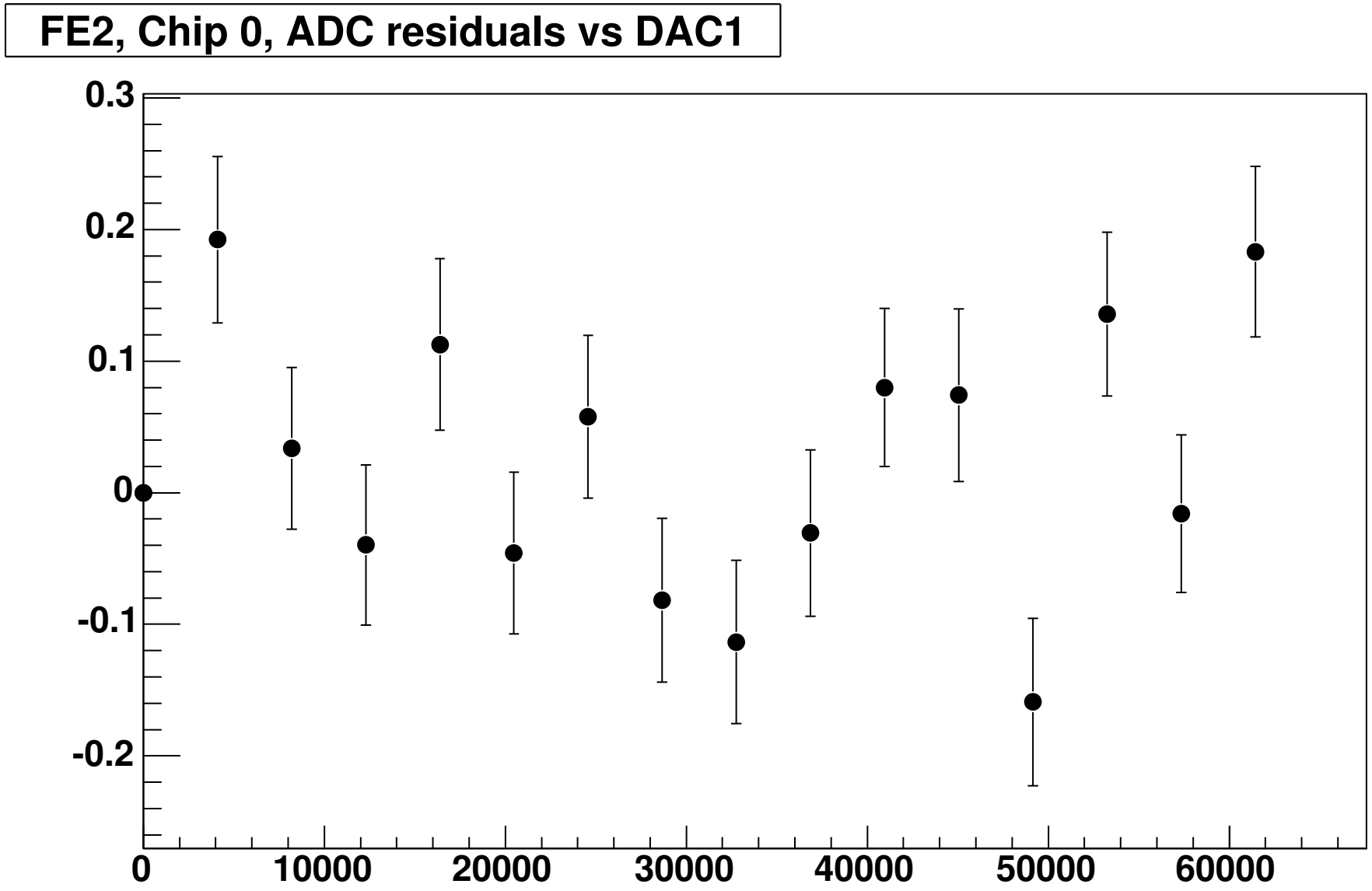

FE2, Chip 0, ADC mean vs DAC0
χ² / ndf 1672 / 11
p0 38.03 ± 0.04342
p1 0.4495 ± 1.42e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

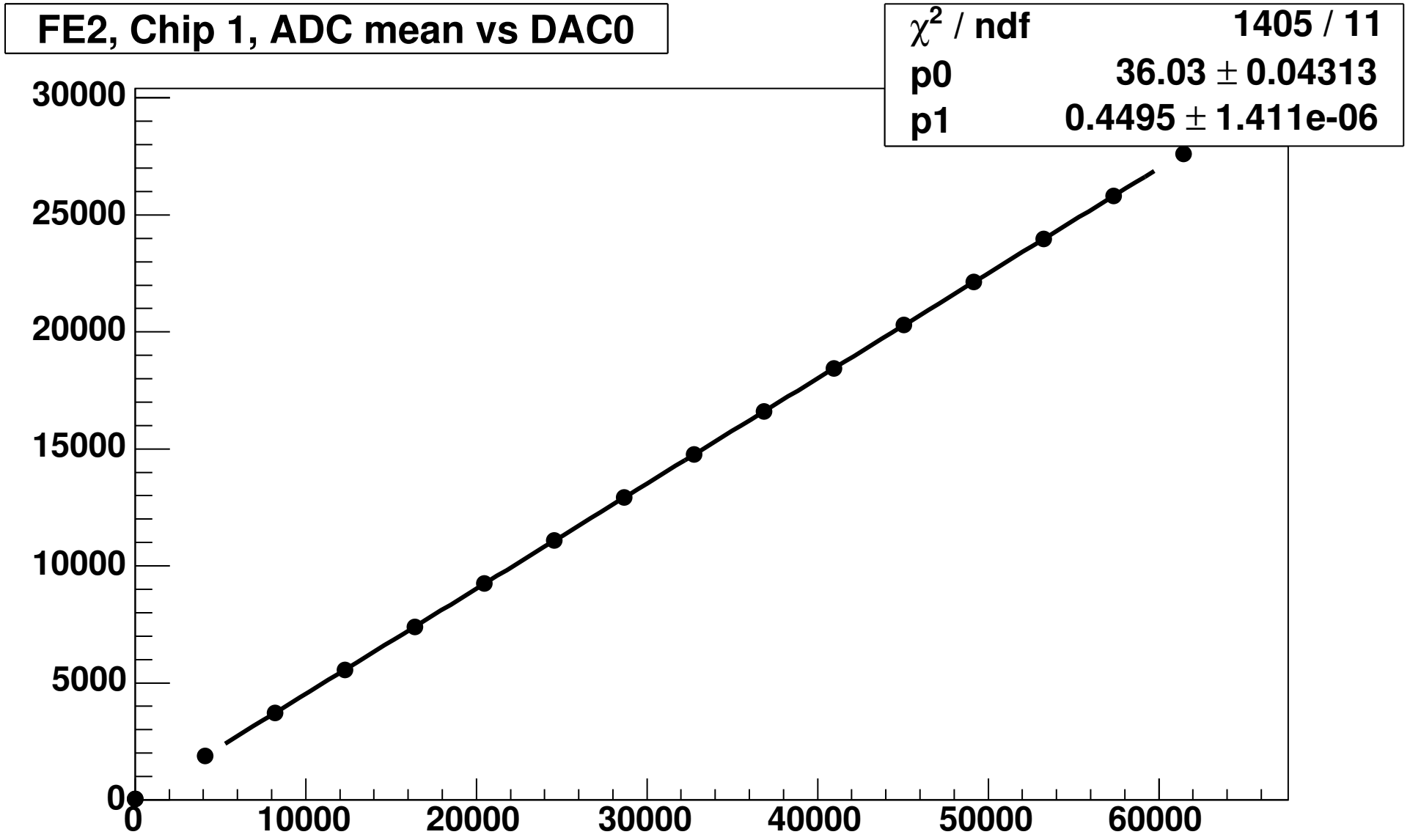

FE2, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

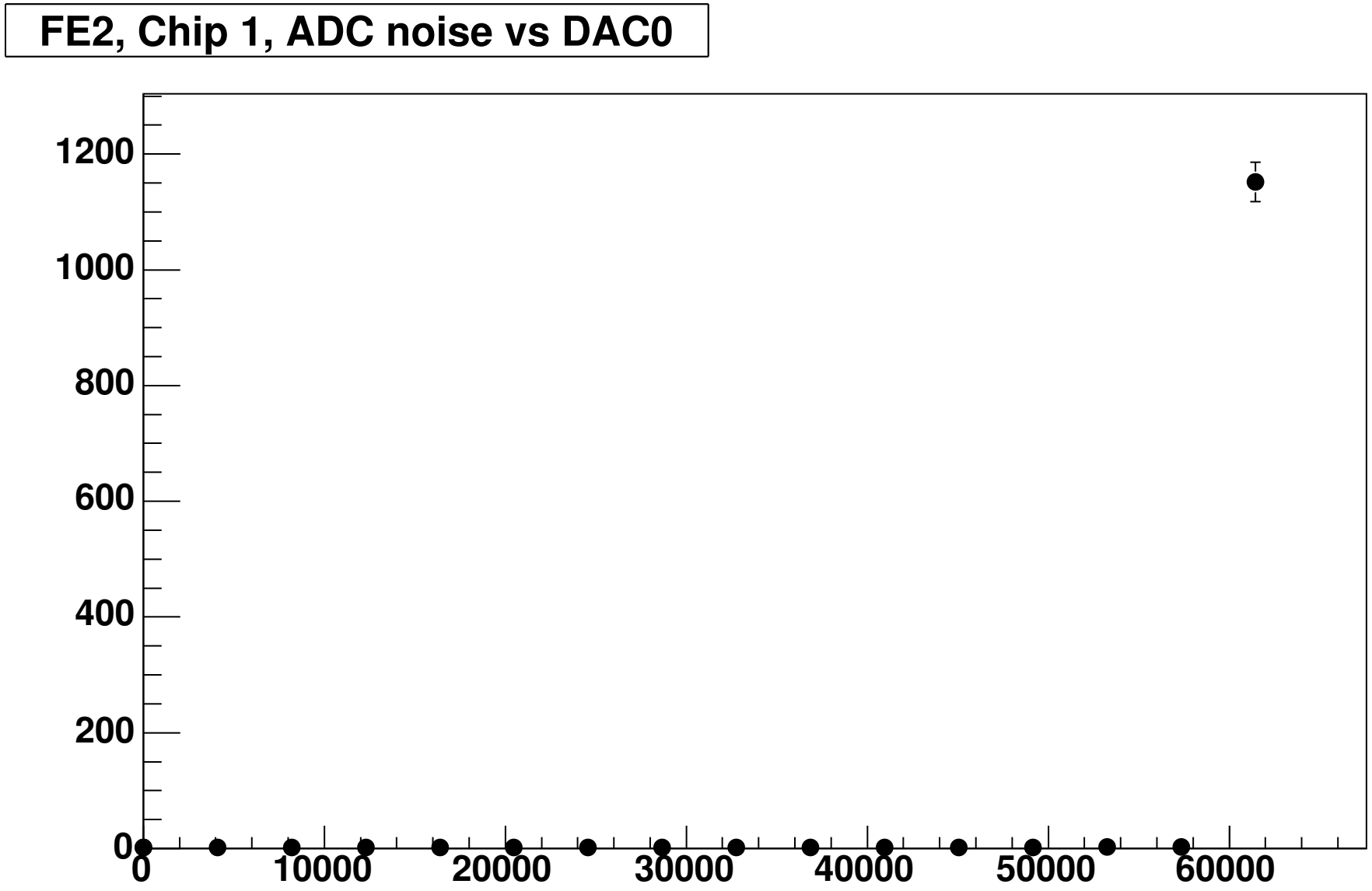

FE2, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

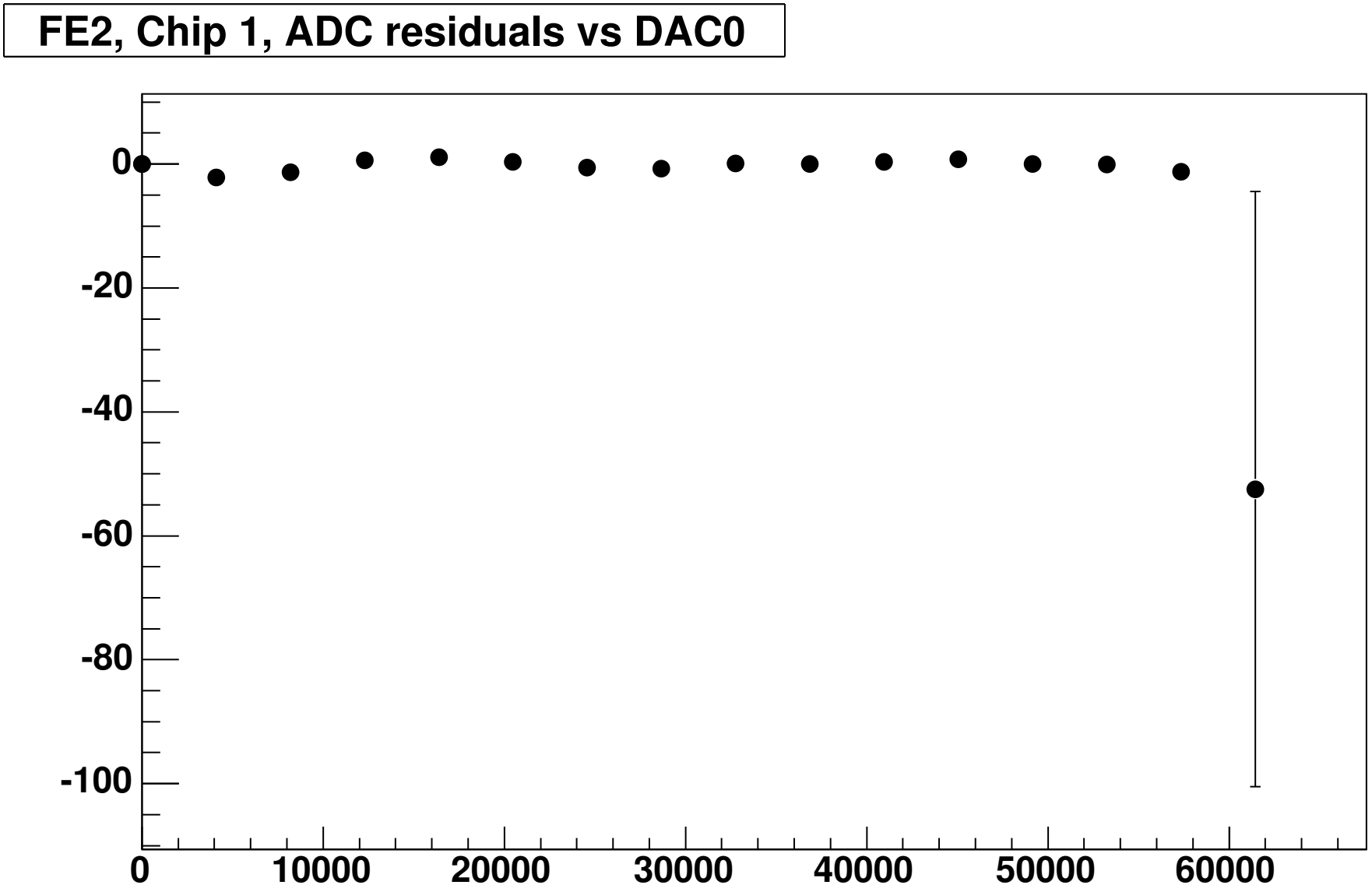

FE2, Chip 0, ADC mean vs DAC1
χ² / ndf 24.57 / 11
p0 35.64 ± 0.0405
p1 3.52e-06 ± 1.119e-06
36.1
36
35.9
35.8
35.7
35.6
0
10000
20000
30000
40000
50000
60000

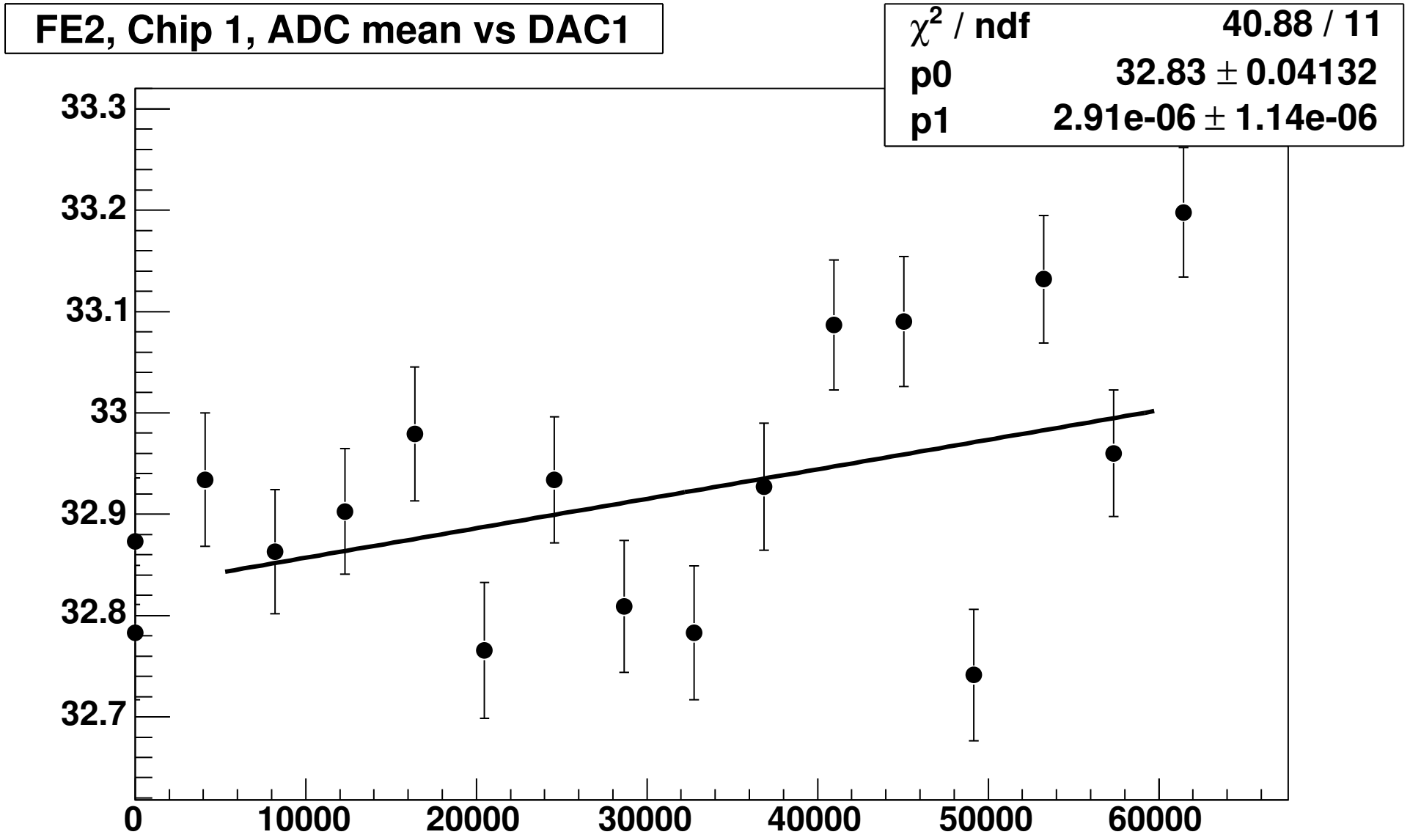

FE2, Chip 0, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

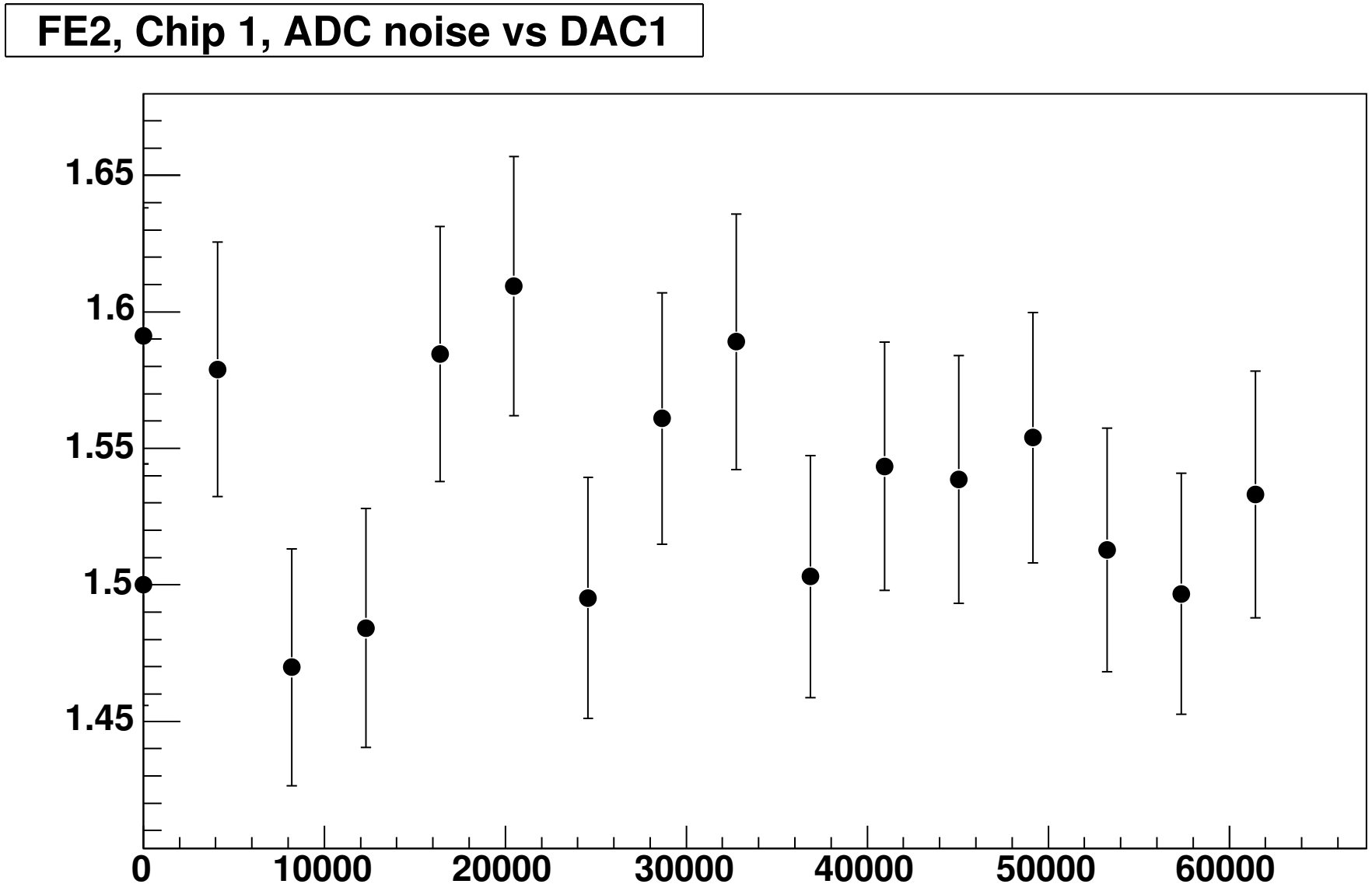

FE2, Chip 0, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

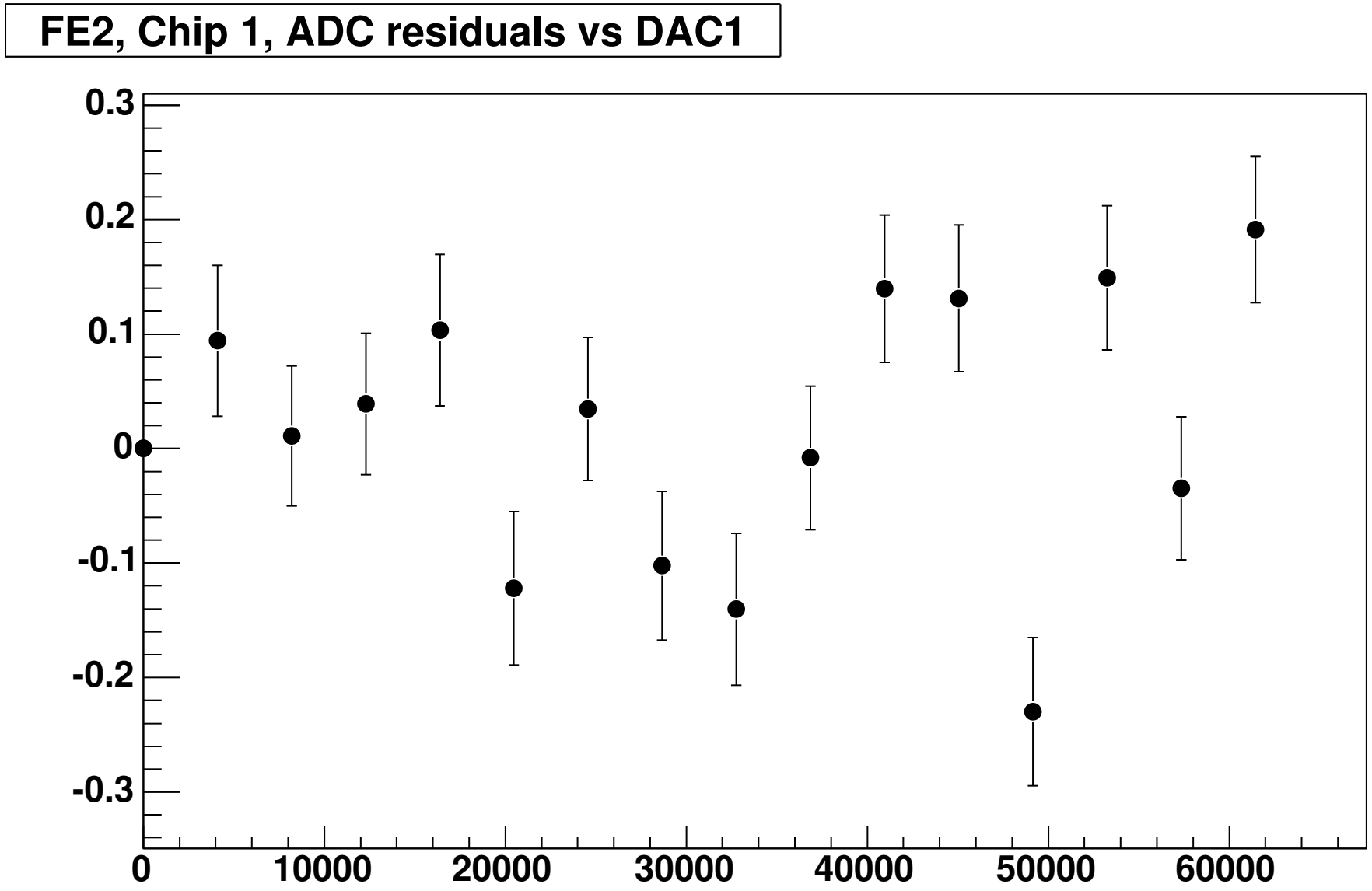

FE2, Chip 1, ADC mean vs DAC0
χ² / ndf 1405 / 11
p0 36.03 ± 0.04313
p1 0.4495 ± 1.411e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

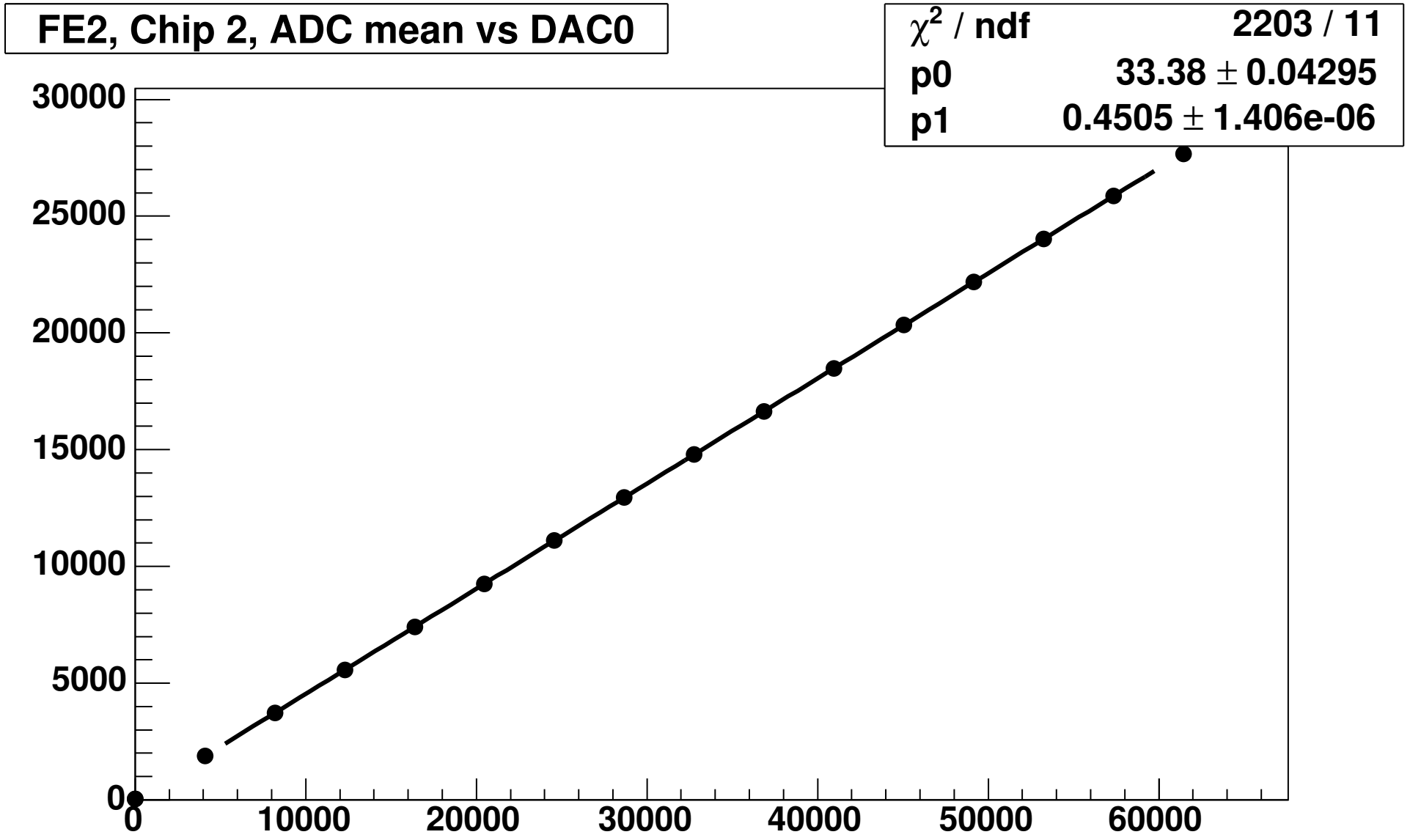

FE2, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

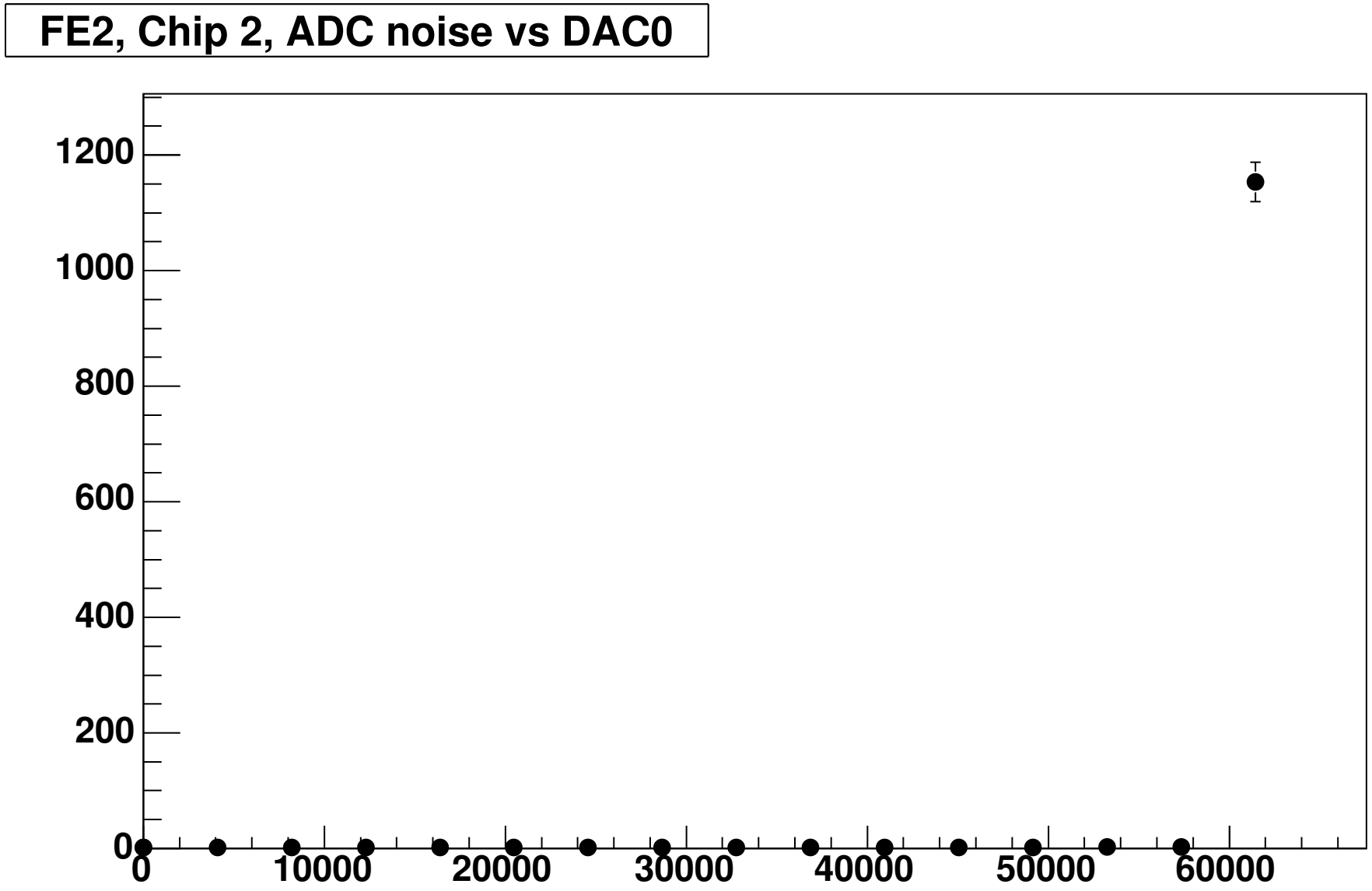

FE2, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

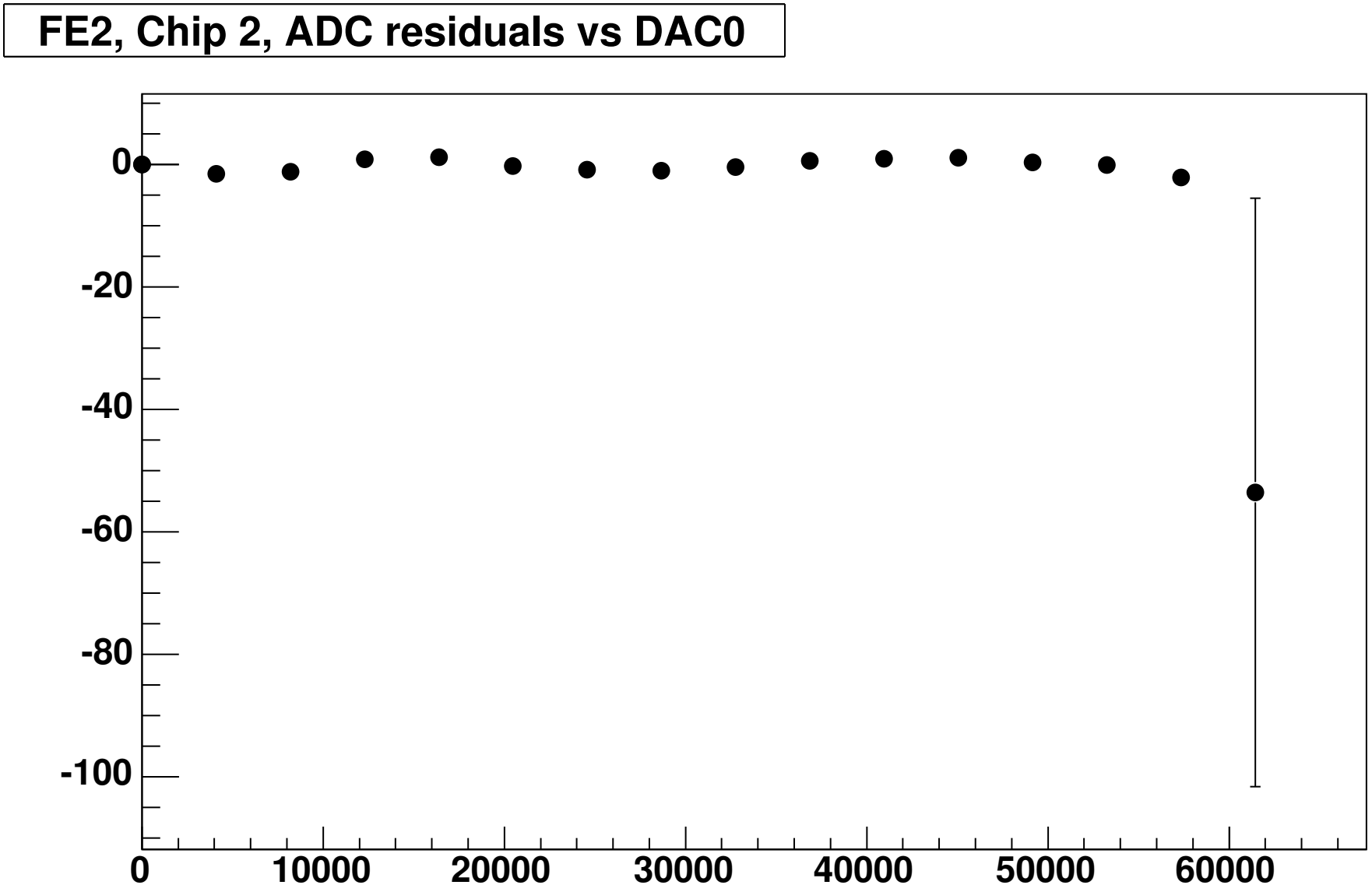

FE2, Chip 1, ADC mean vs DAC1
χ² / ndf 40.88 / 11
p0 32.83 ± 0.04132
p1 2.91e-06 ± 1.14e-06
33.3
33.2
33.1
33
32.9
32.8
32.7
0
10000
20000
30000
40000
50000
60000

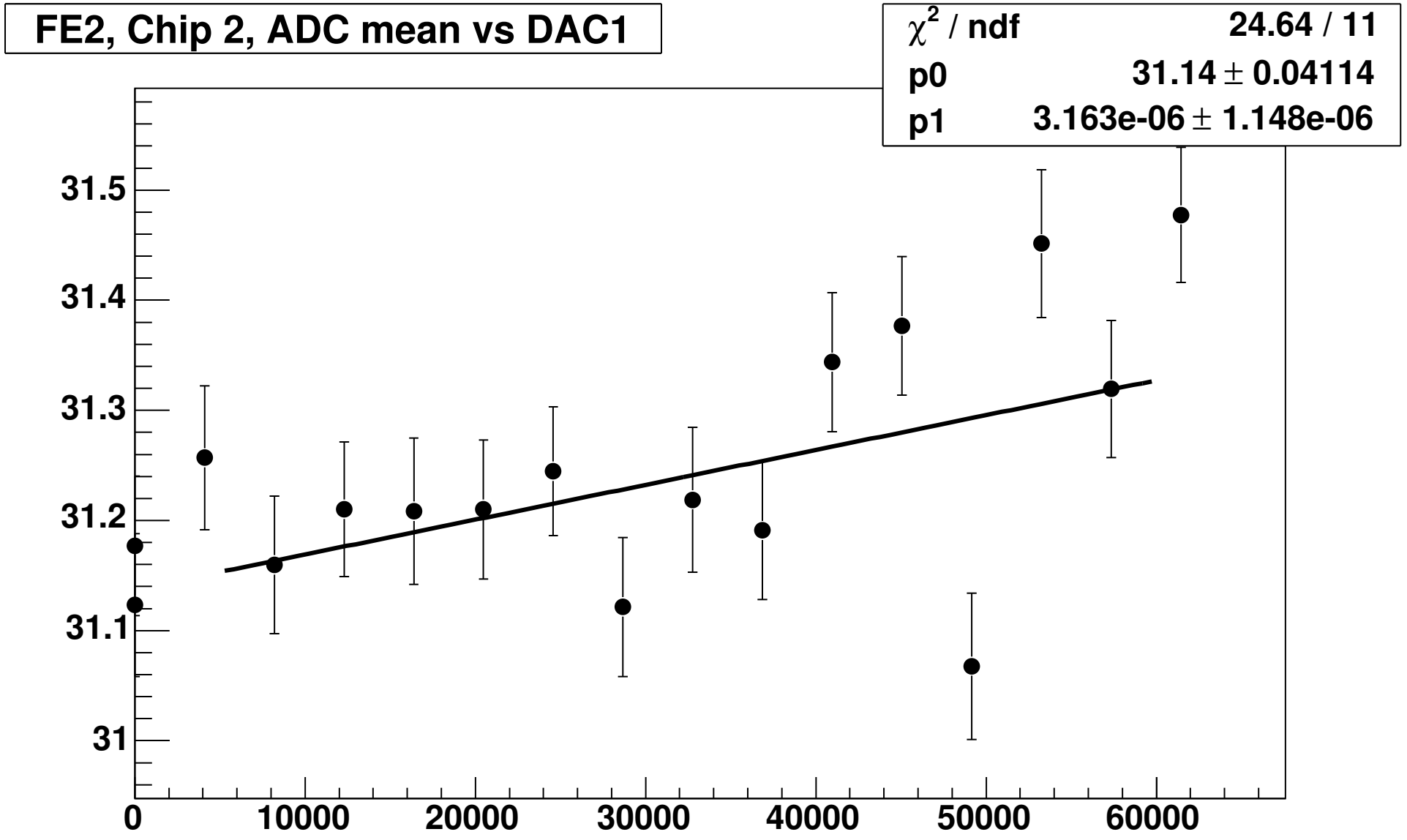

FE2, Chip 1, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
0
10000
20000
30000
40000
50000
60000

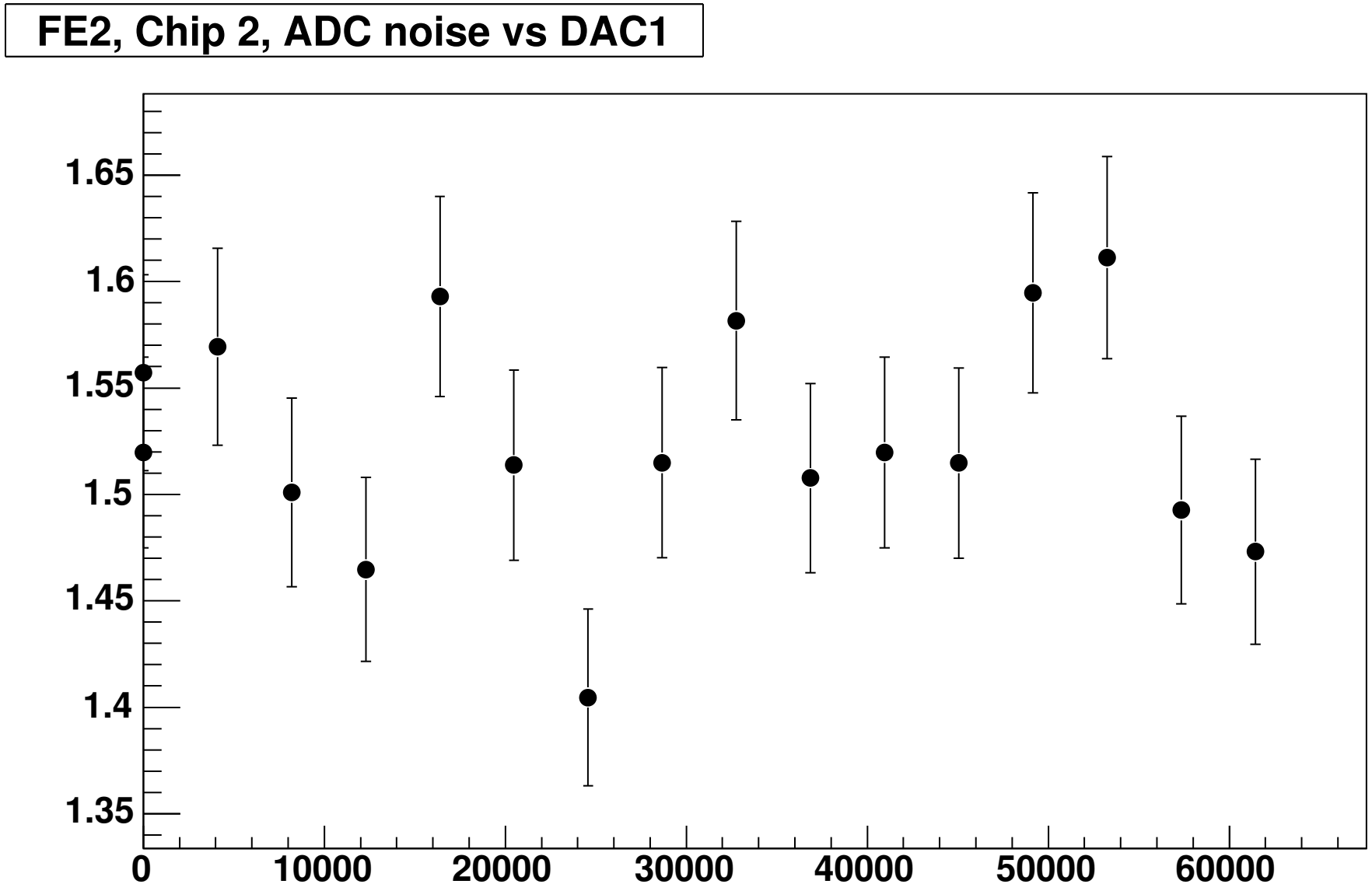

FE2, Chip 1, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

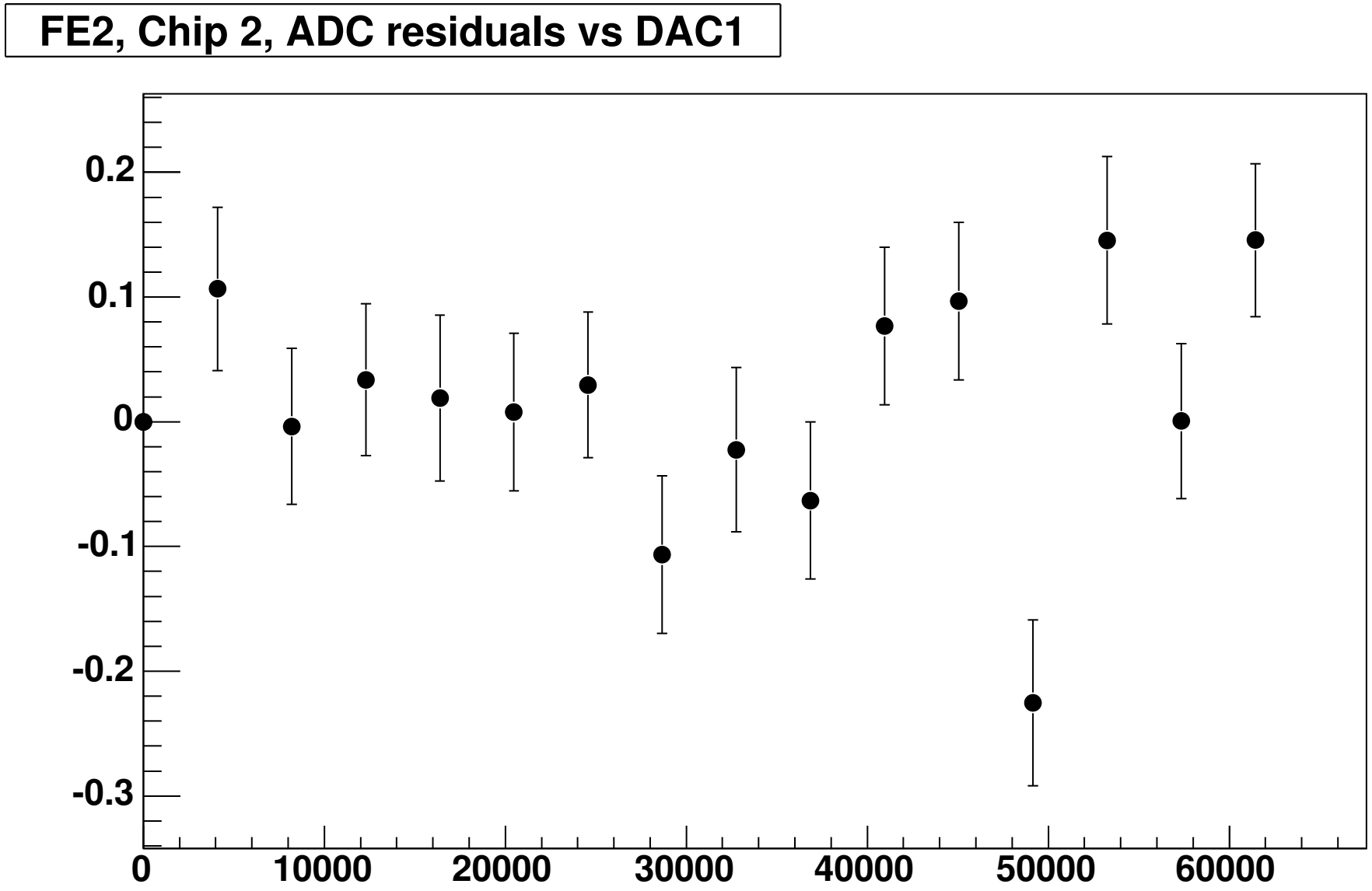

FE2, Chip 2, ADC mean vs DAC0
χ² / ndf 2203 / 11
p0 33.38 ± 0.04295
p1 0.4505 ± 1.406e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

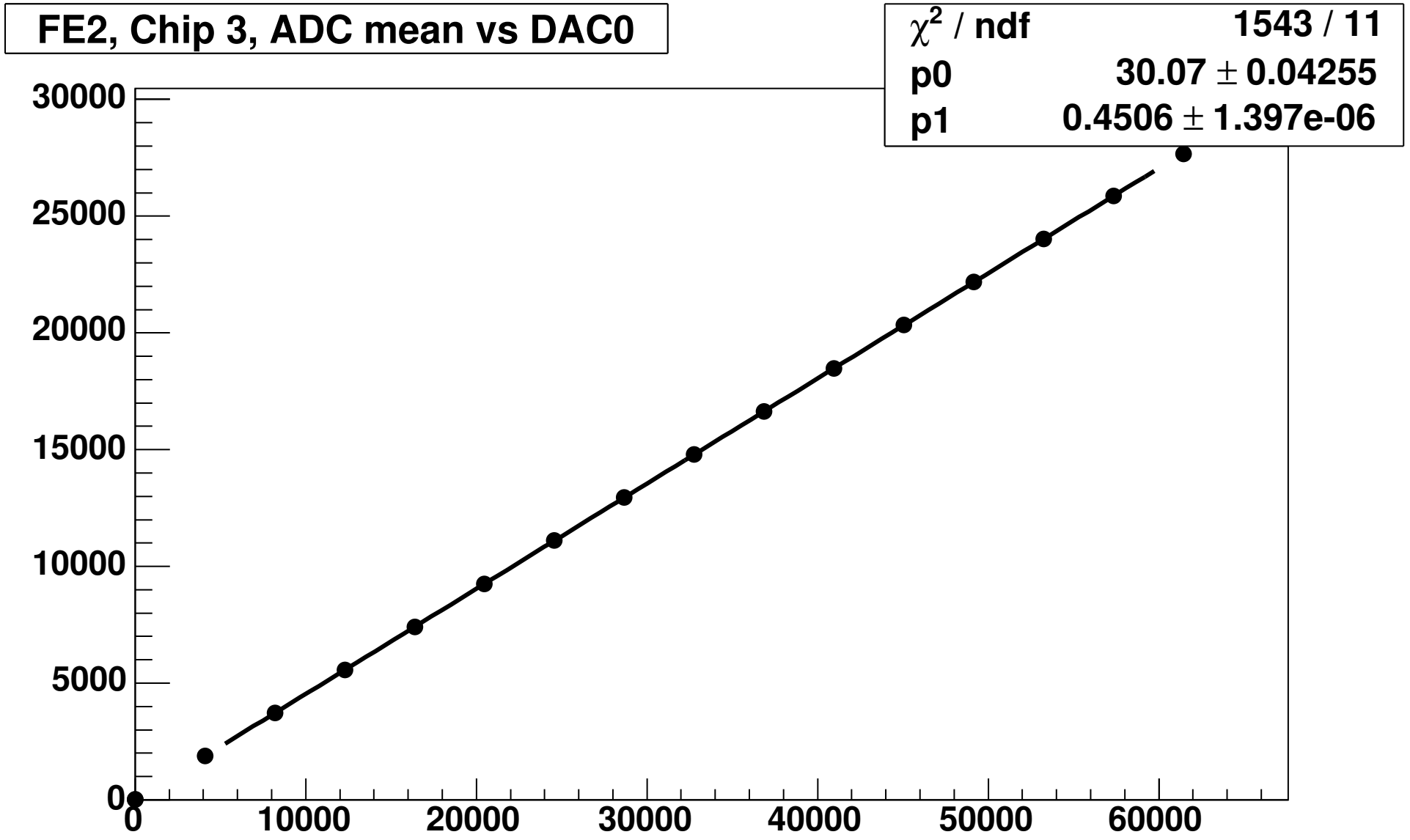

FE2, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

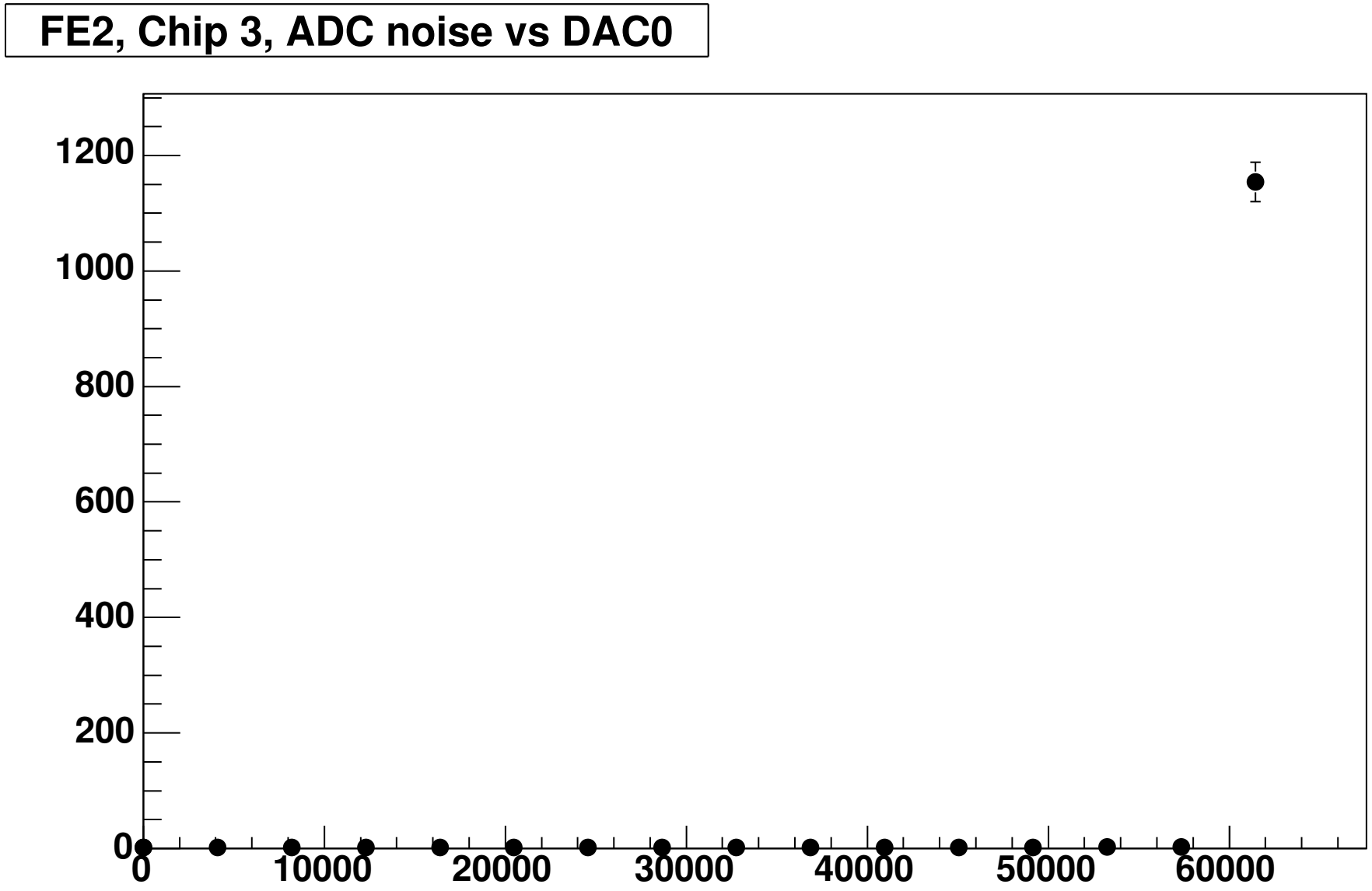

FE2, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

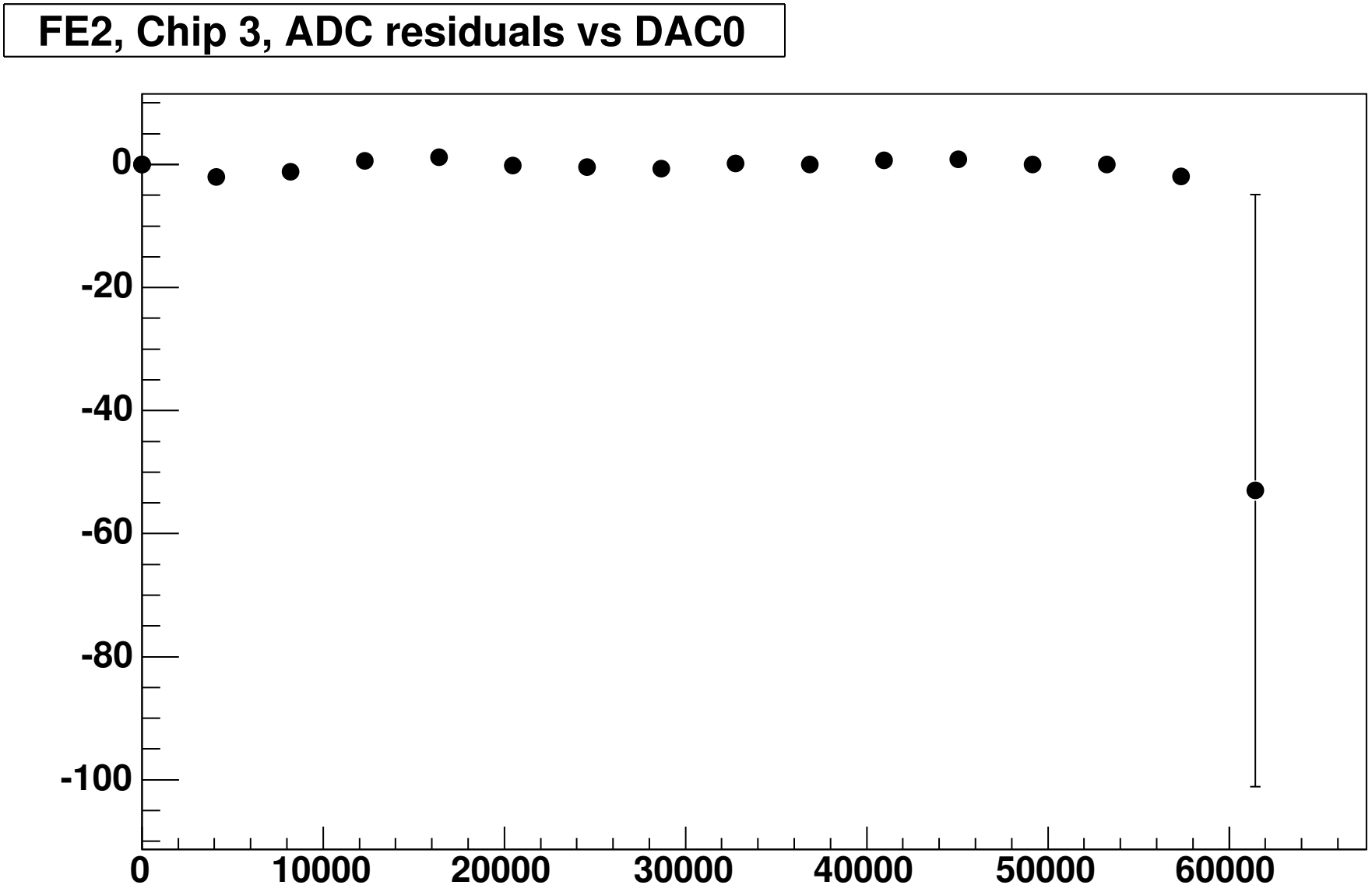

FE2, Chip 2, ADC mean vs DAC1
χ² / ndf 24.64 / 11
p0 31.14 ± 0.04114
p1 3.163e-06 ± 1.148e-06
31.5
31.4
31.3
31.2
31.1
31
0
10000
20000
30000
40000
50000
60000

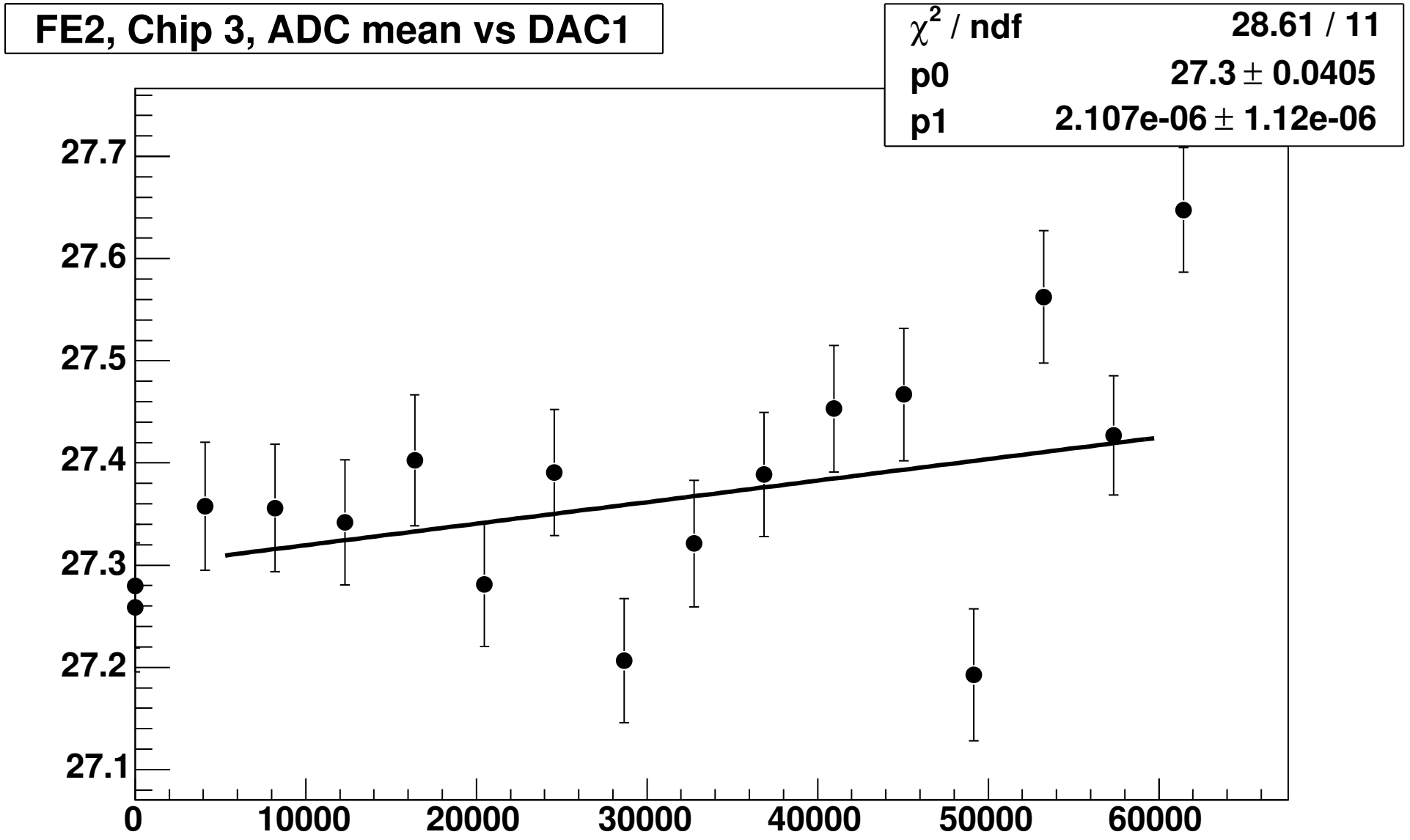

FE2, Chip 2, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

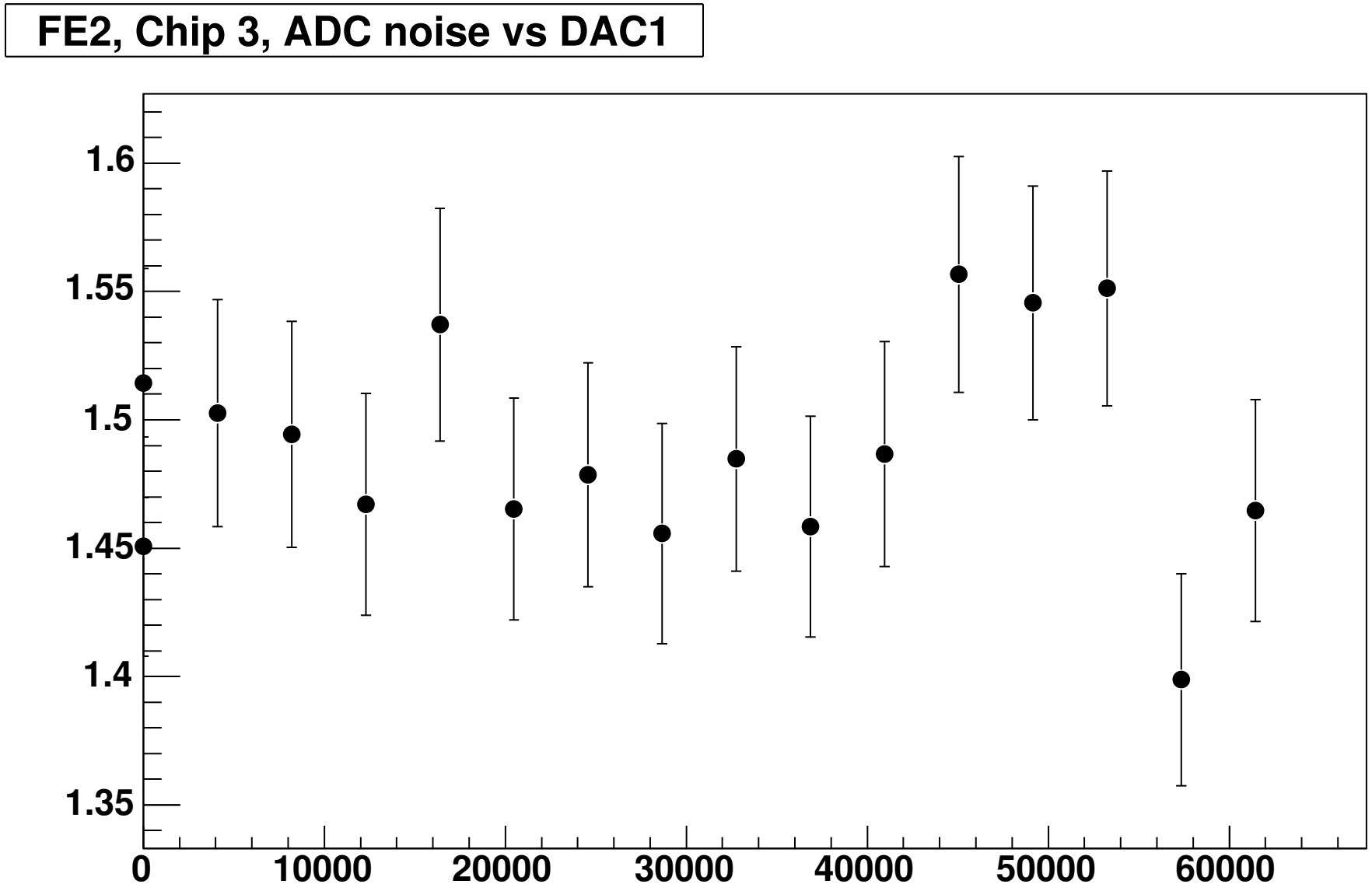

FE2, Chip 2, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

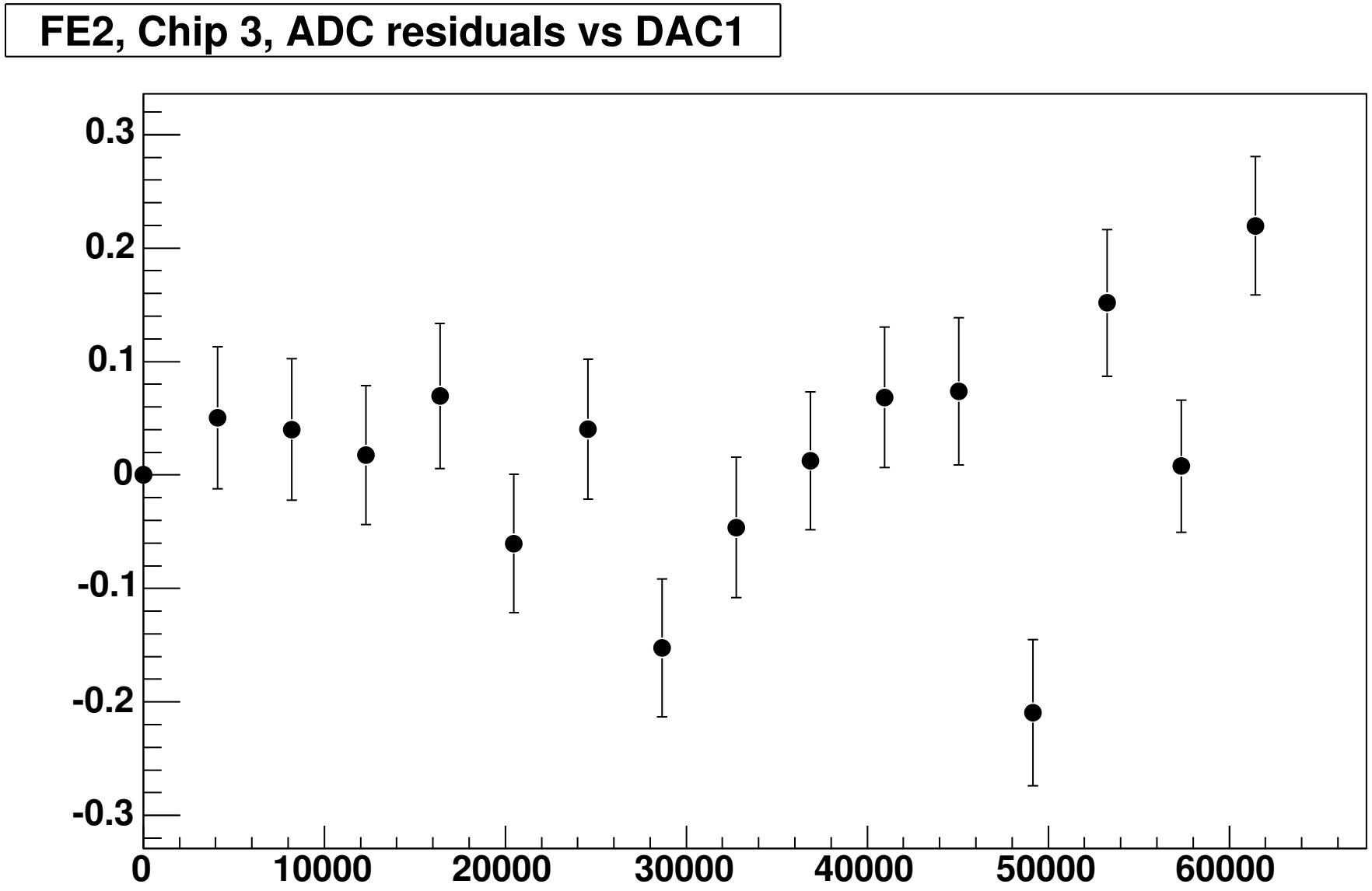

FE2, Chip 3, ADC mean vs DAC0
χ² / ndf 1543 / 11
p0 30.07 ± 0.04255
p1 0.4506 ± 1.397e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

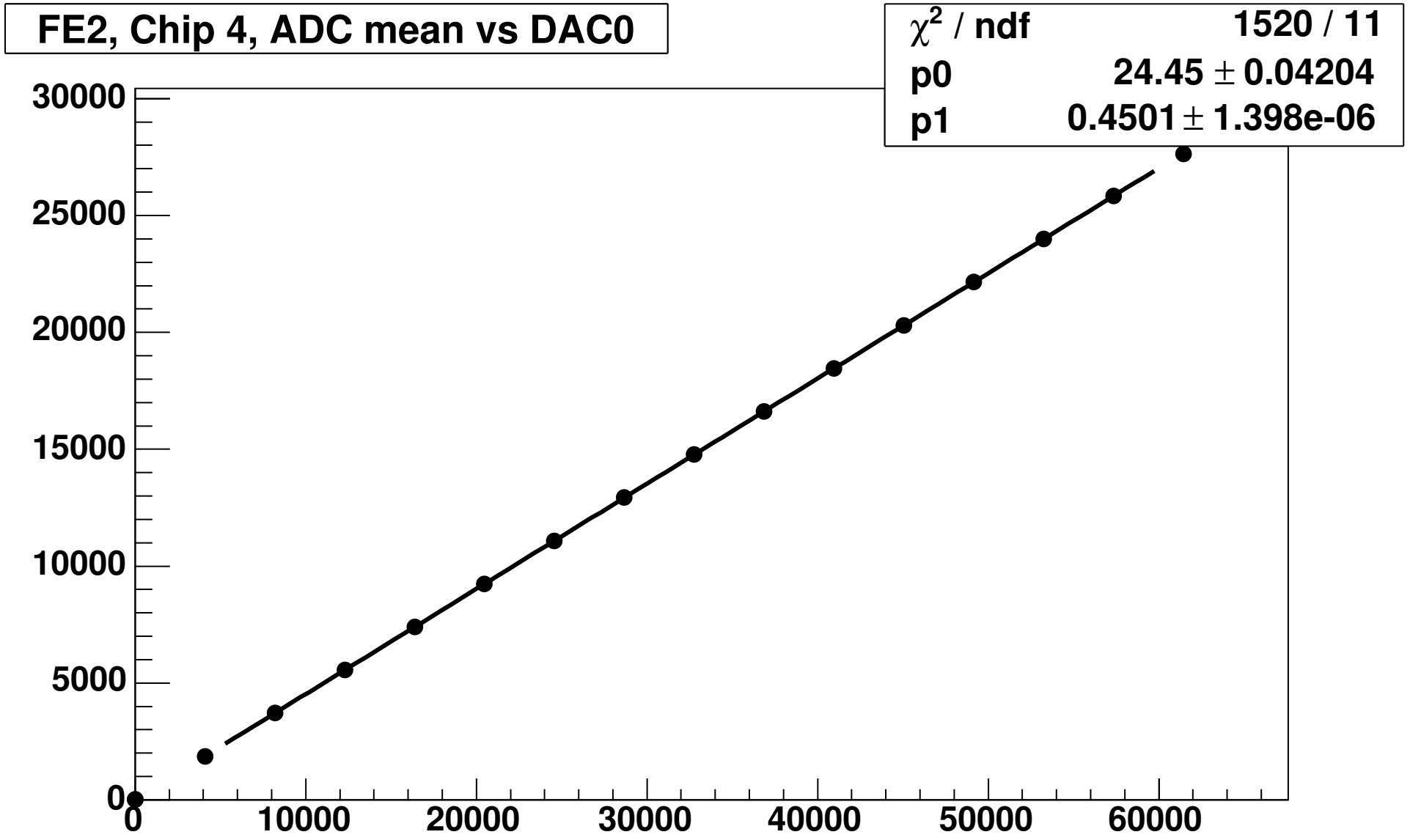

FE2, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

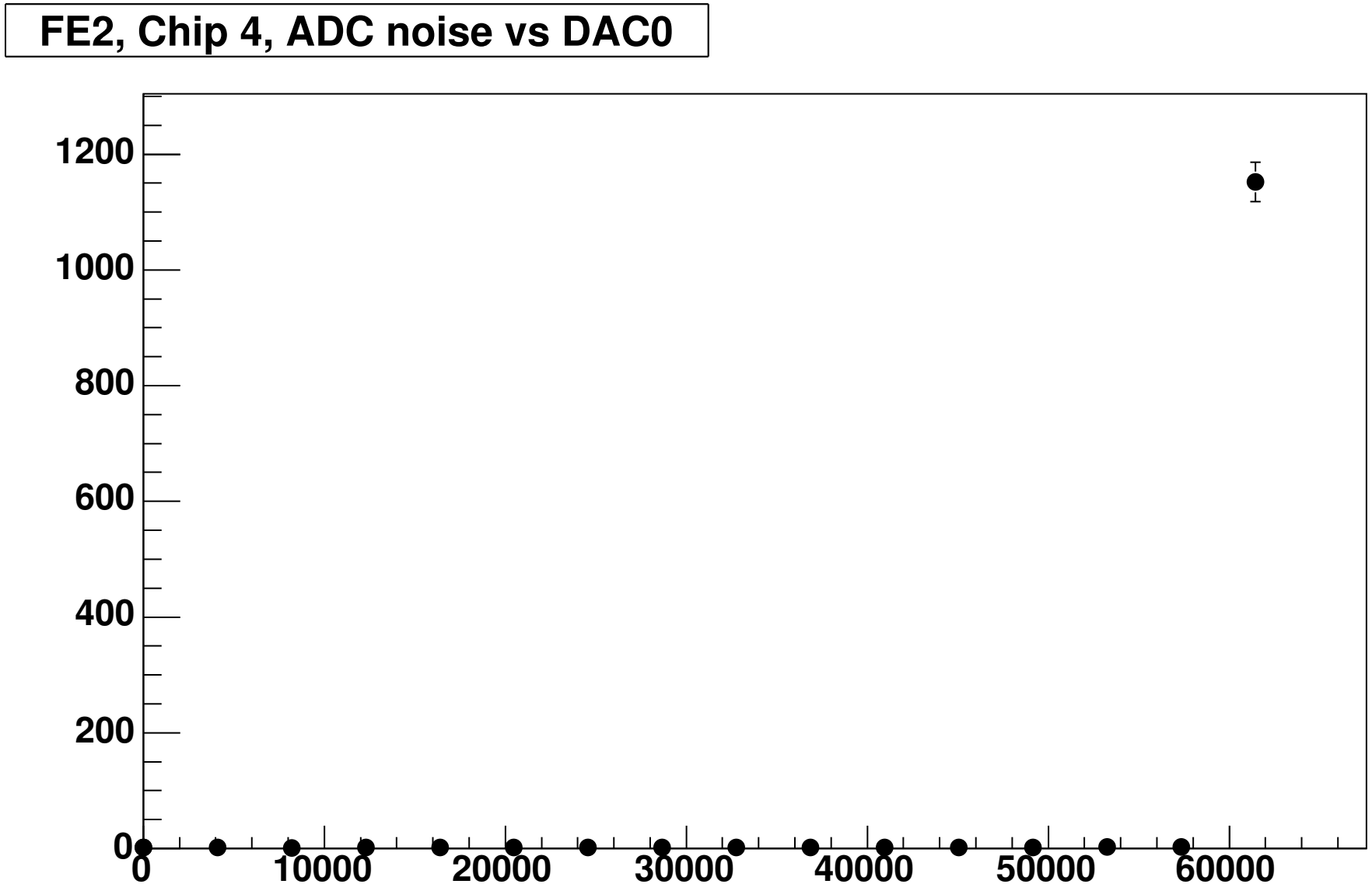

FE2, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

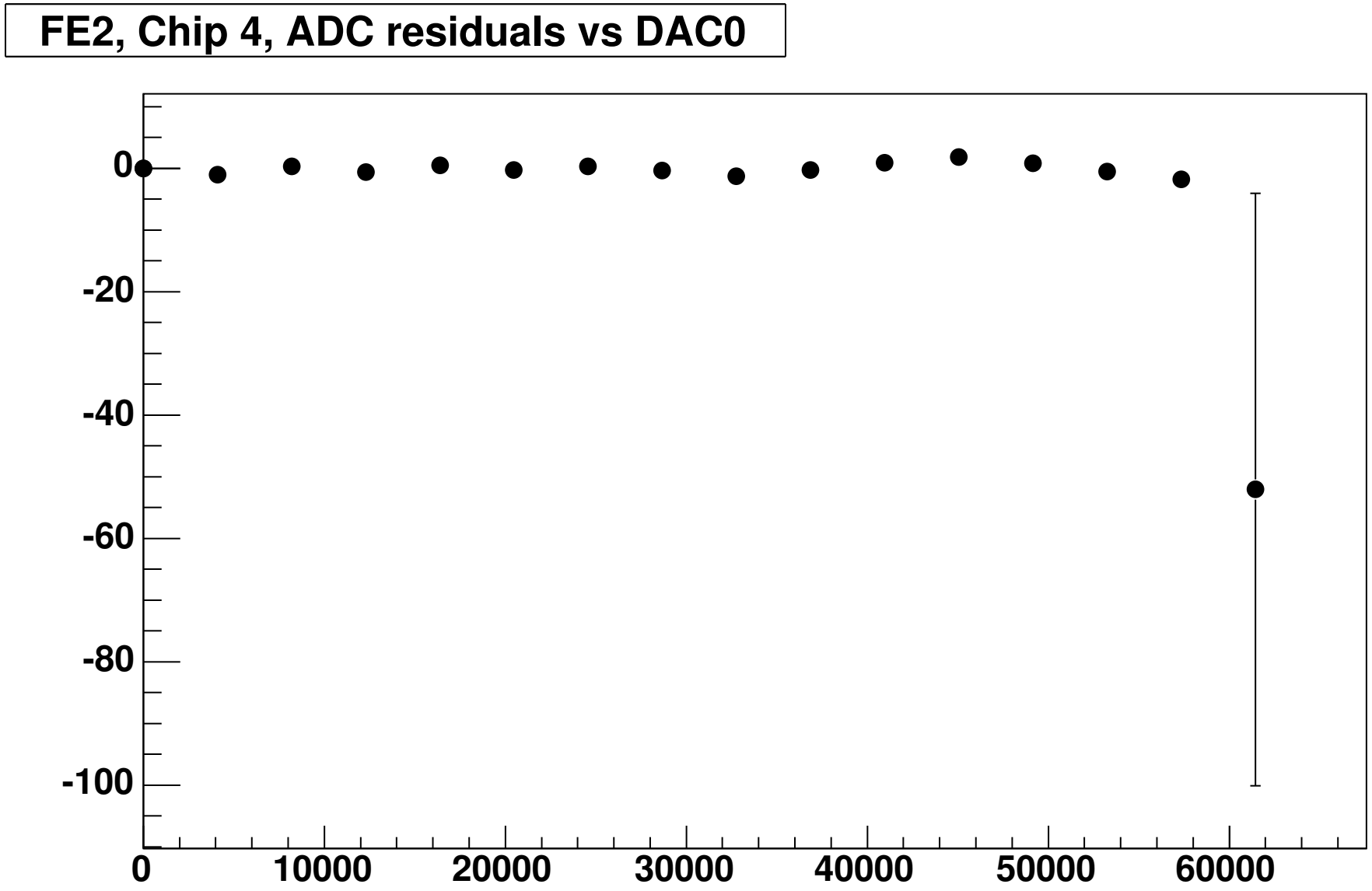

FE2, Chip 3, ADC mean vs DAC1
χ² / ndf 28.61 / 11
p0 27.3 ± 0.0405
p1 2.107e-06 ± 1.12e-06
27.7
27.6
27.5
27.4
27.3
27.2
27.1
0
10000
20000
30000
40000
50000
60000

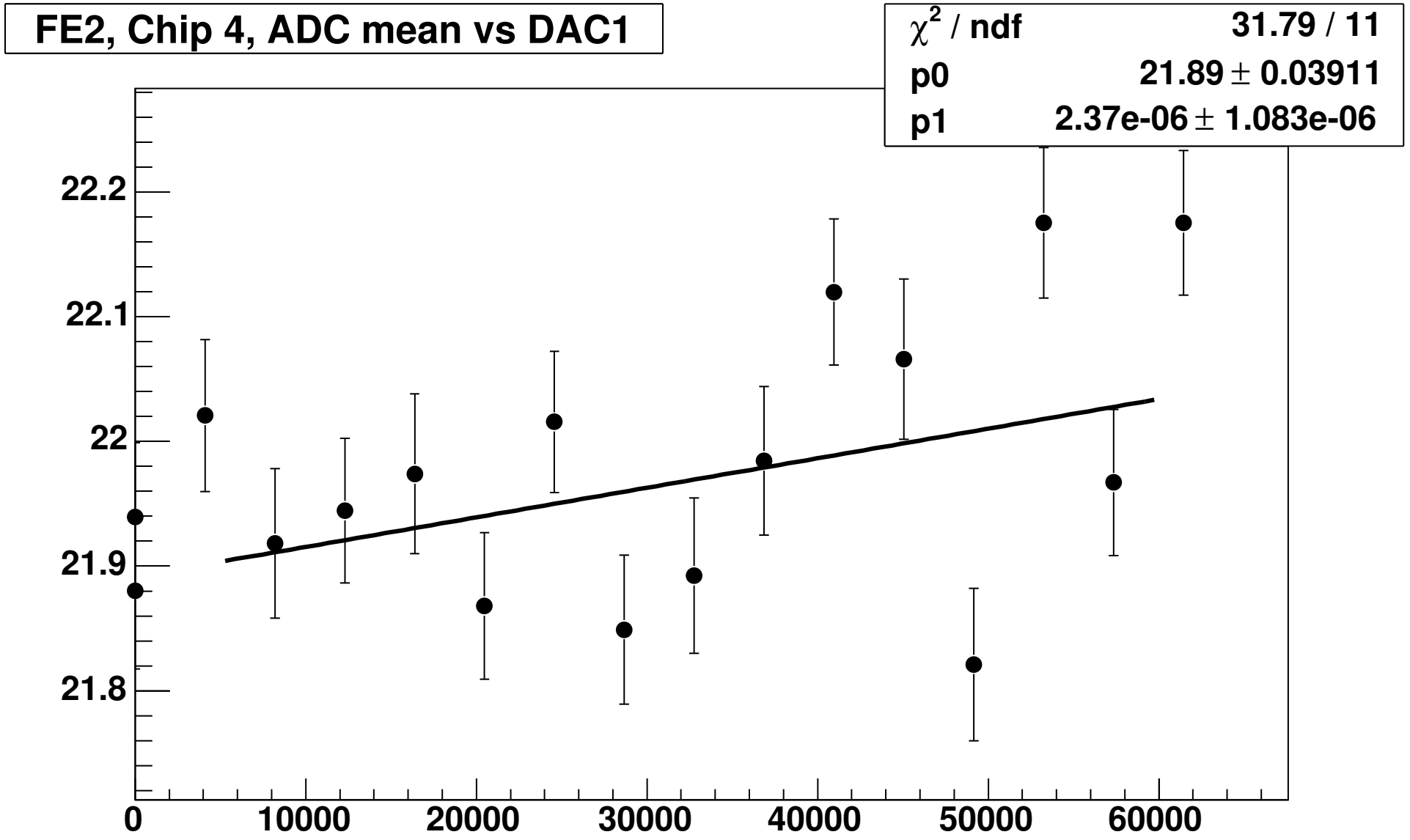

FE2, Chip 3, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

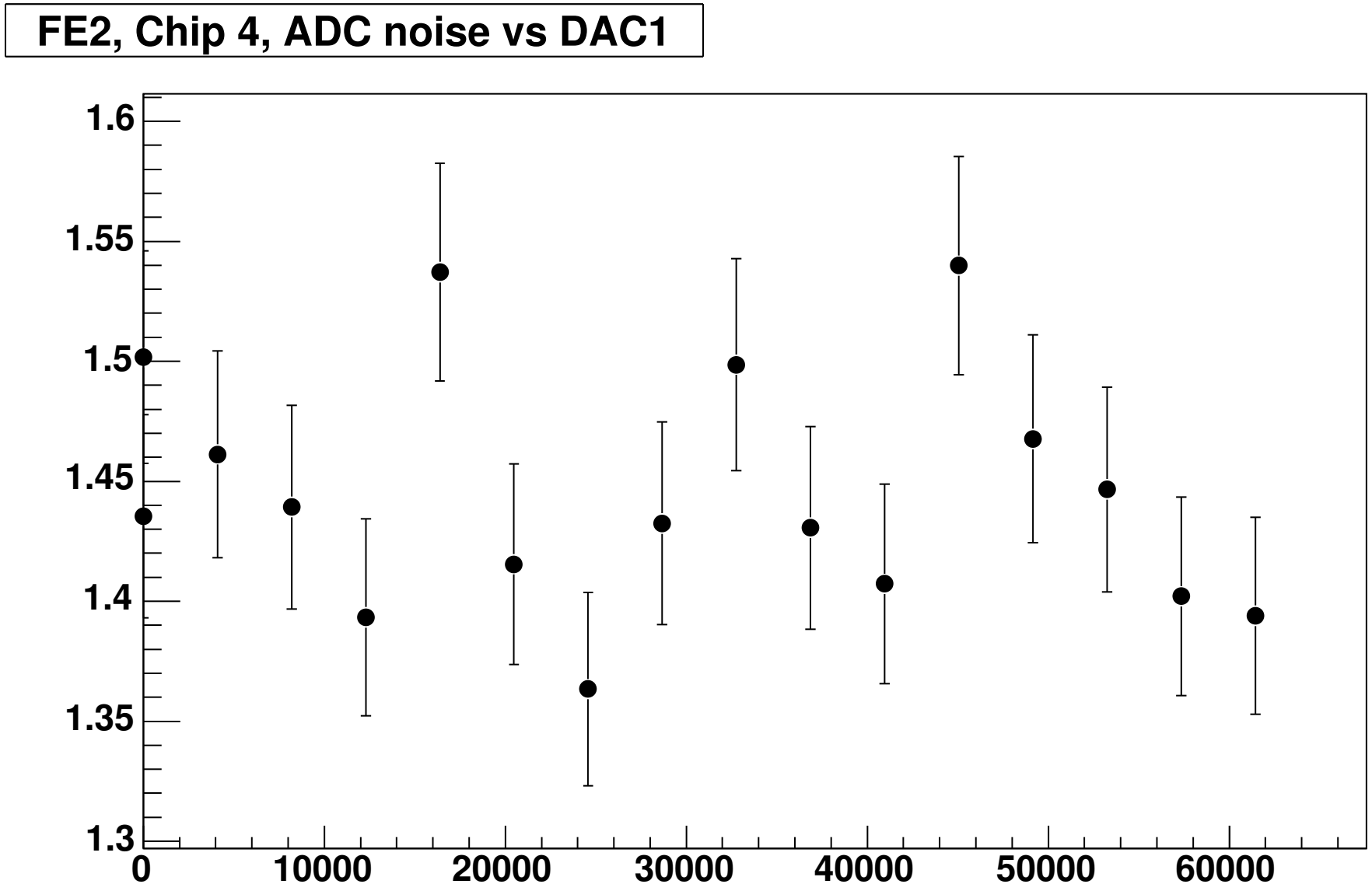

FE2, Chip 3, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

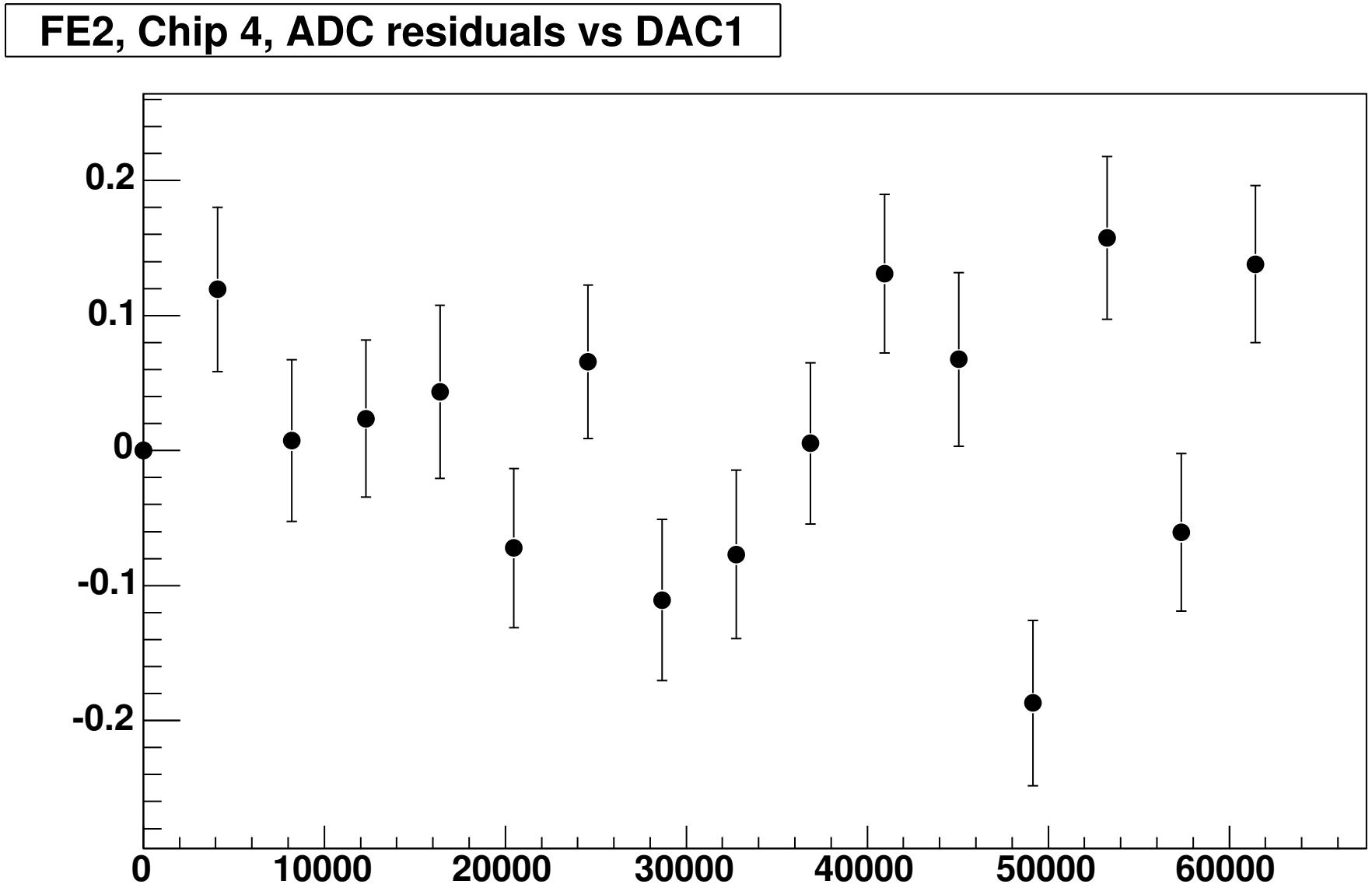

FE2, Chip 4, ADC mean vs DAC0
χ² / ndf 1520 / 11
p0 24.45 ± 0.04204
p1 0.4501 ± 1.398e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

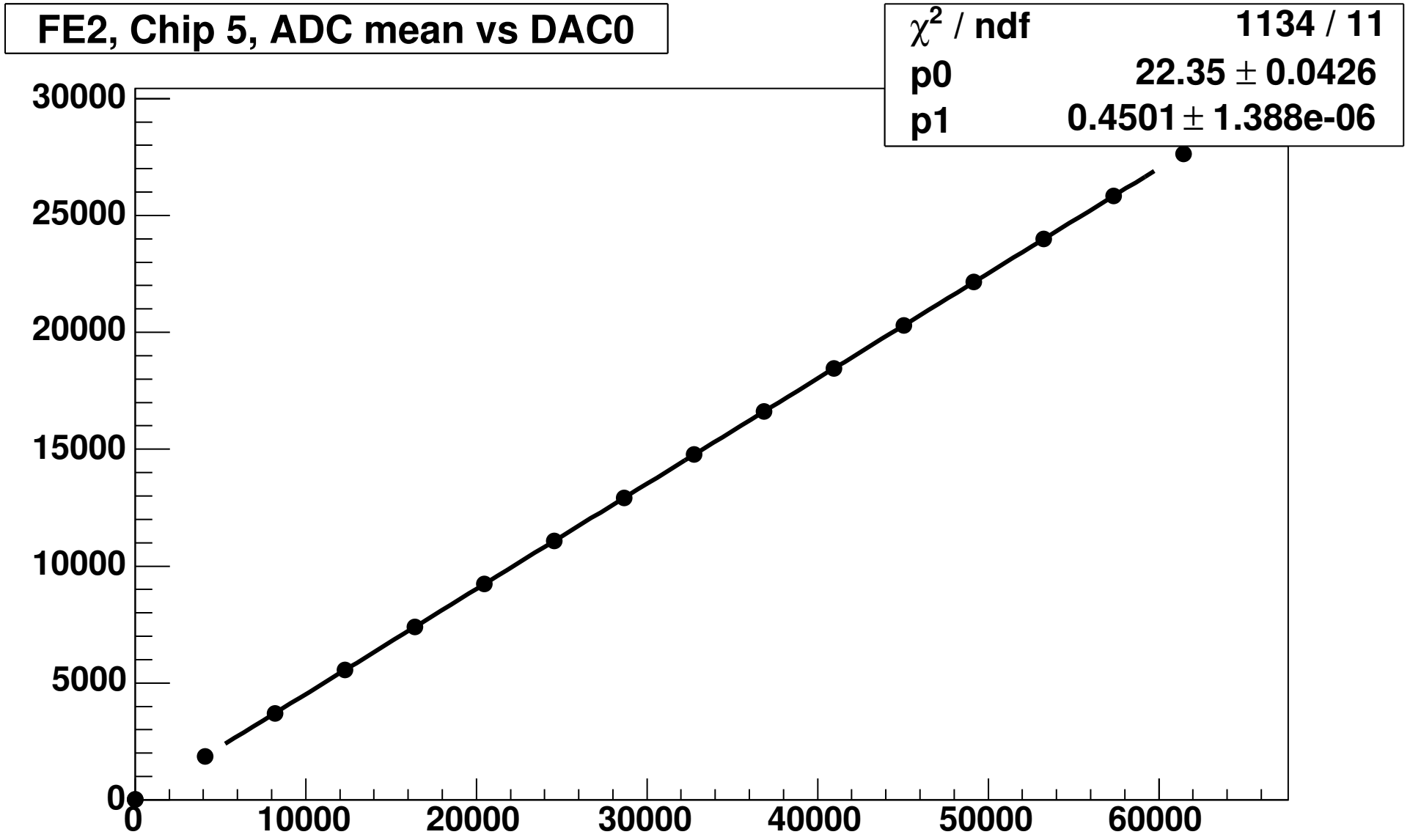

FE2, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

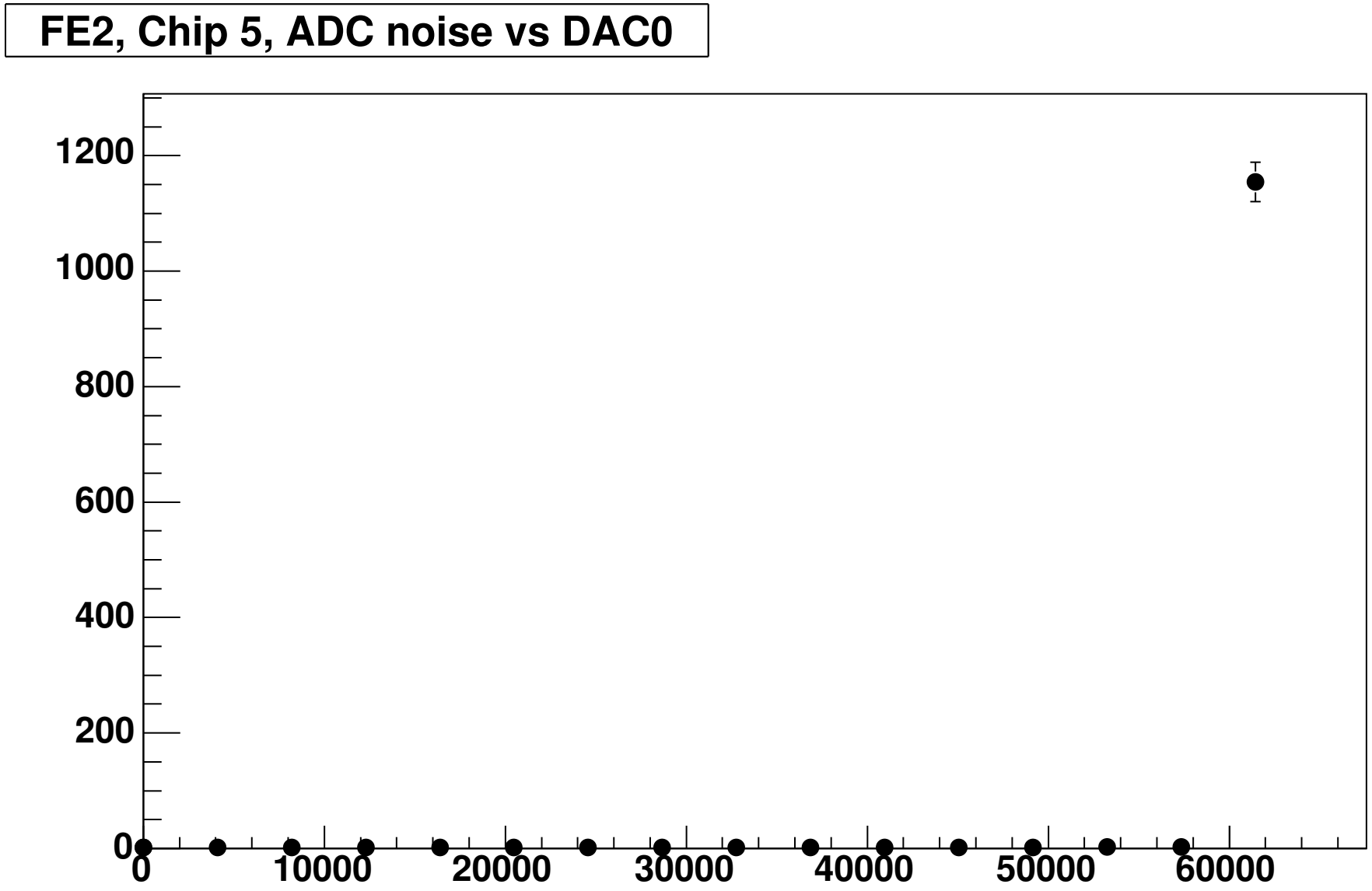

FE2, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

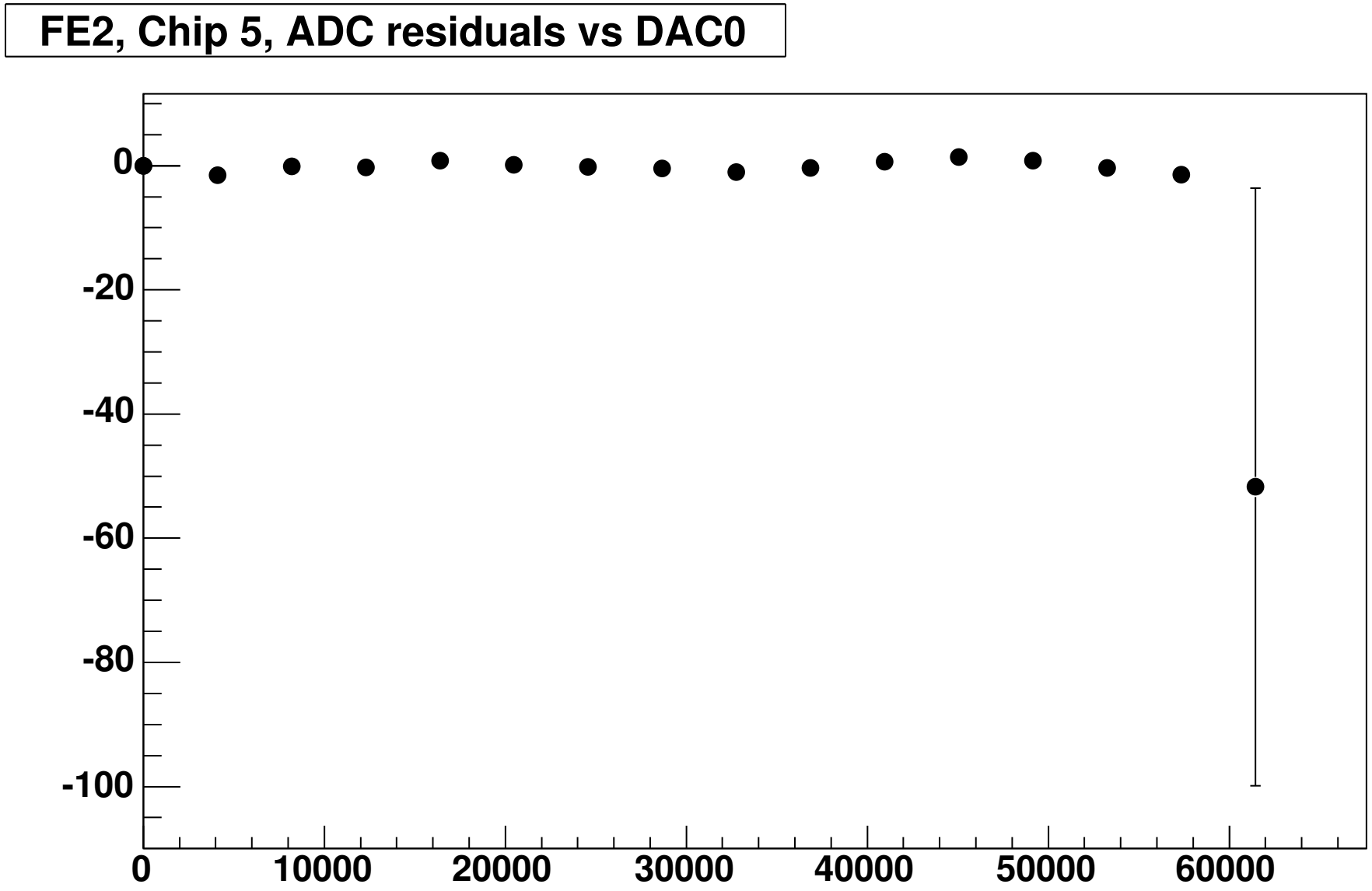

FE2, Chip 4, ADC mean vs DAC1
χ² / ndf 31.79 / 11
p0 21.89 ± 0.03911
p1 2.37e-06 ± 1.083e-06
22.2
22.1
22
21.9
21.8
0
10000
20000
30000
40000
50000
60000

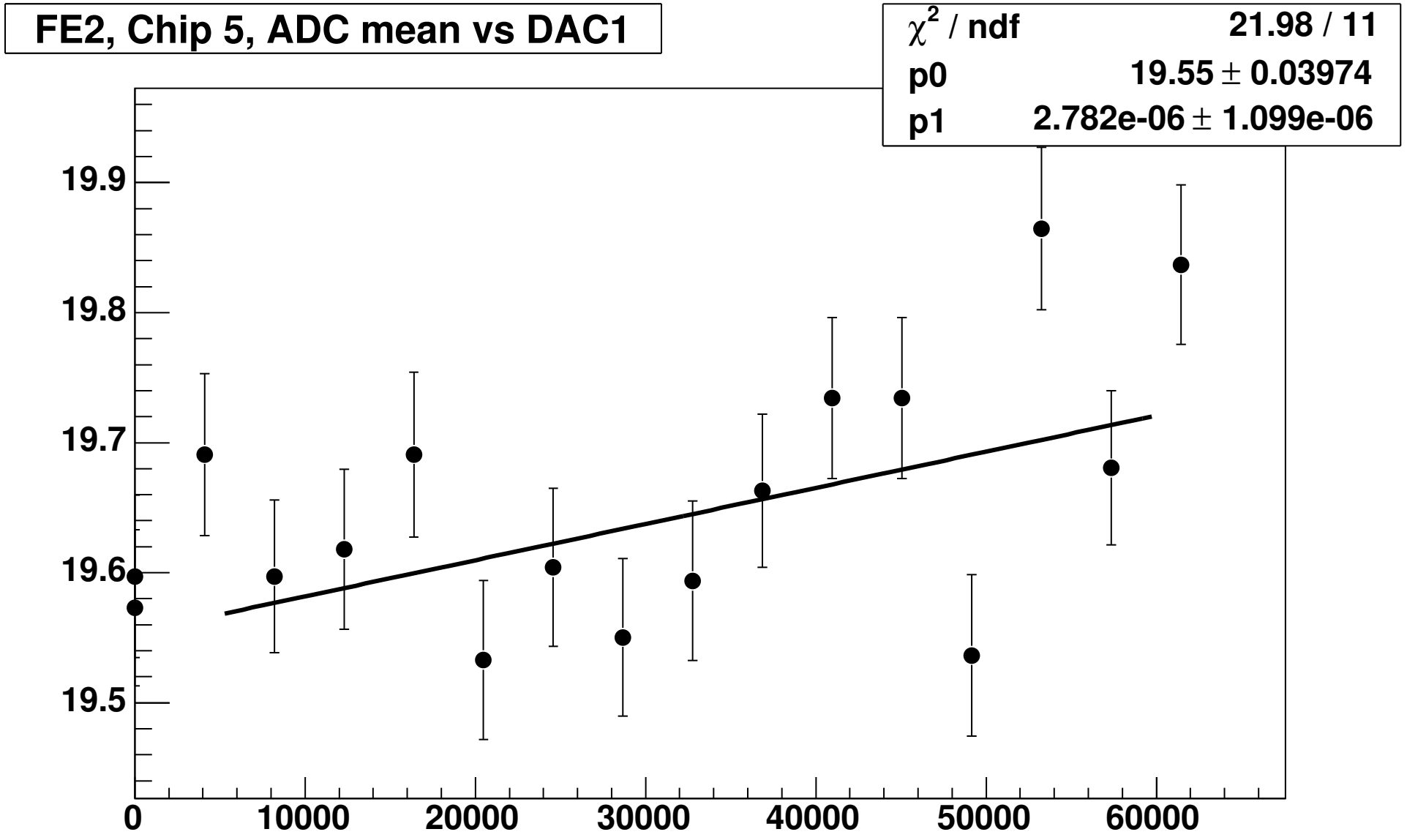

FE2, Chip 4, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

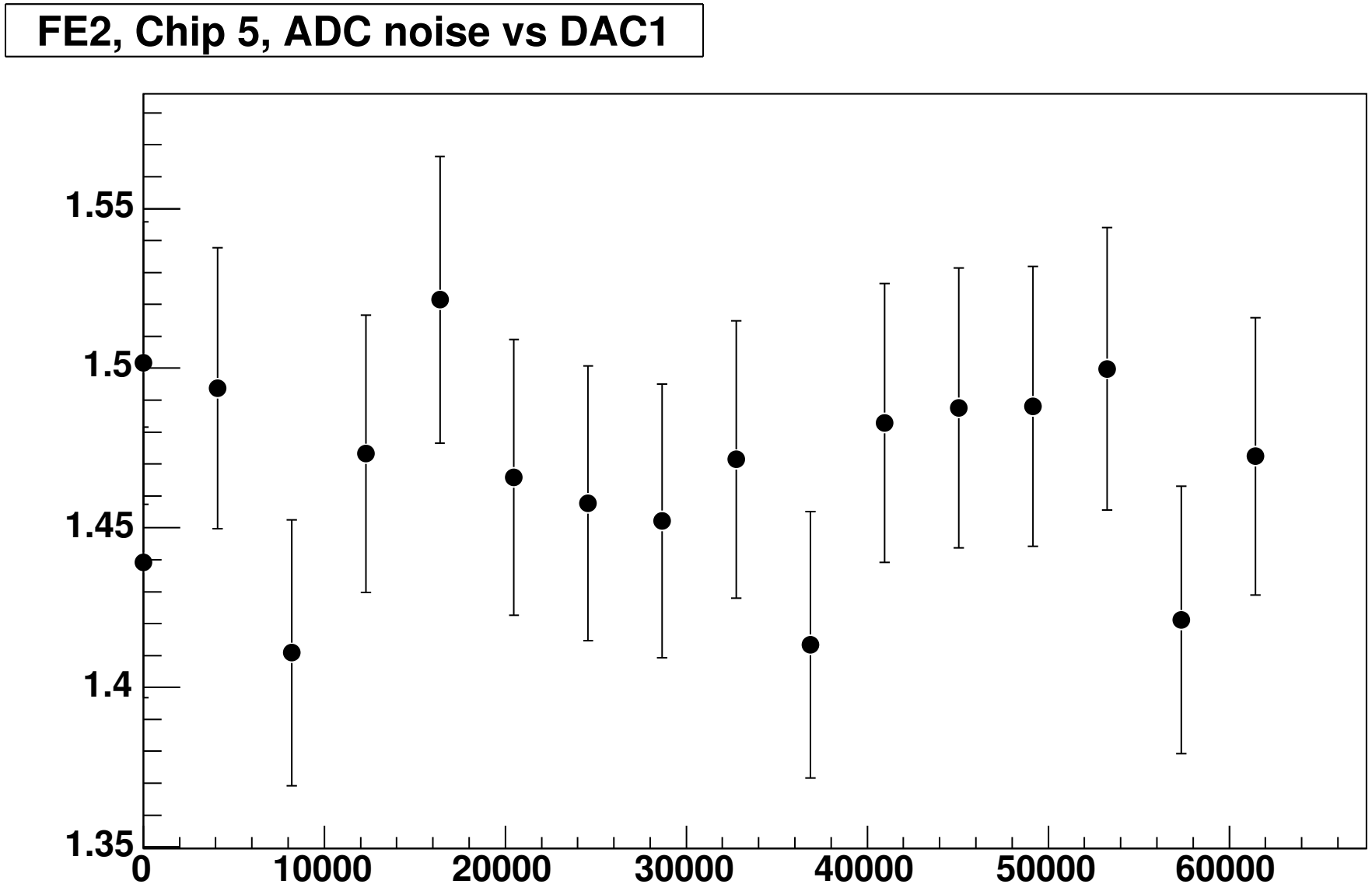

FE2, Chip 4, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

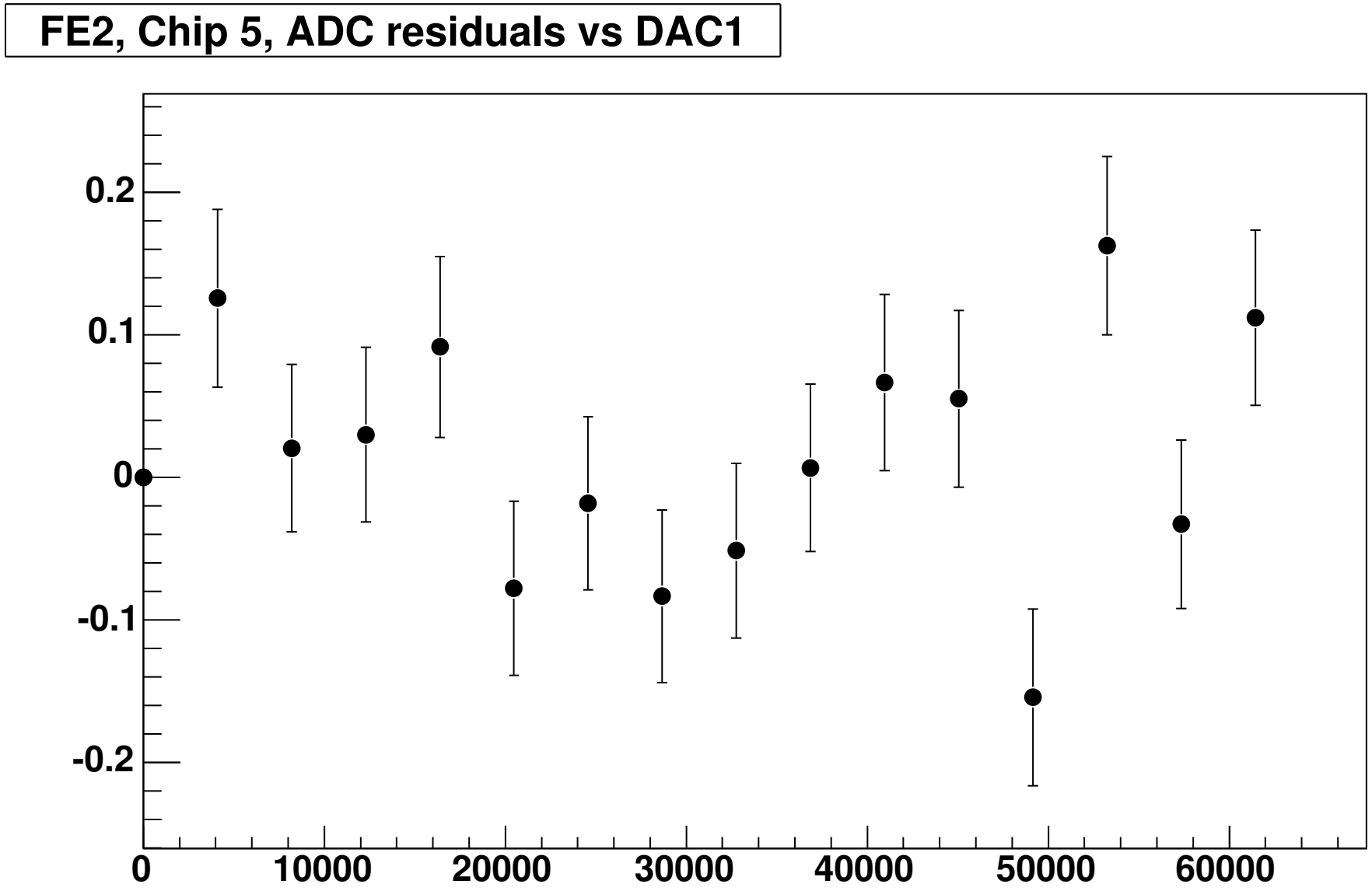

FE2, Chip 5, ADC mean vs DAC0
χ² / ndf 1134 / 11
p0 22.35 ± 0.0426
p1 0.4501 ± 1.388e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

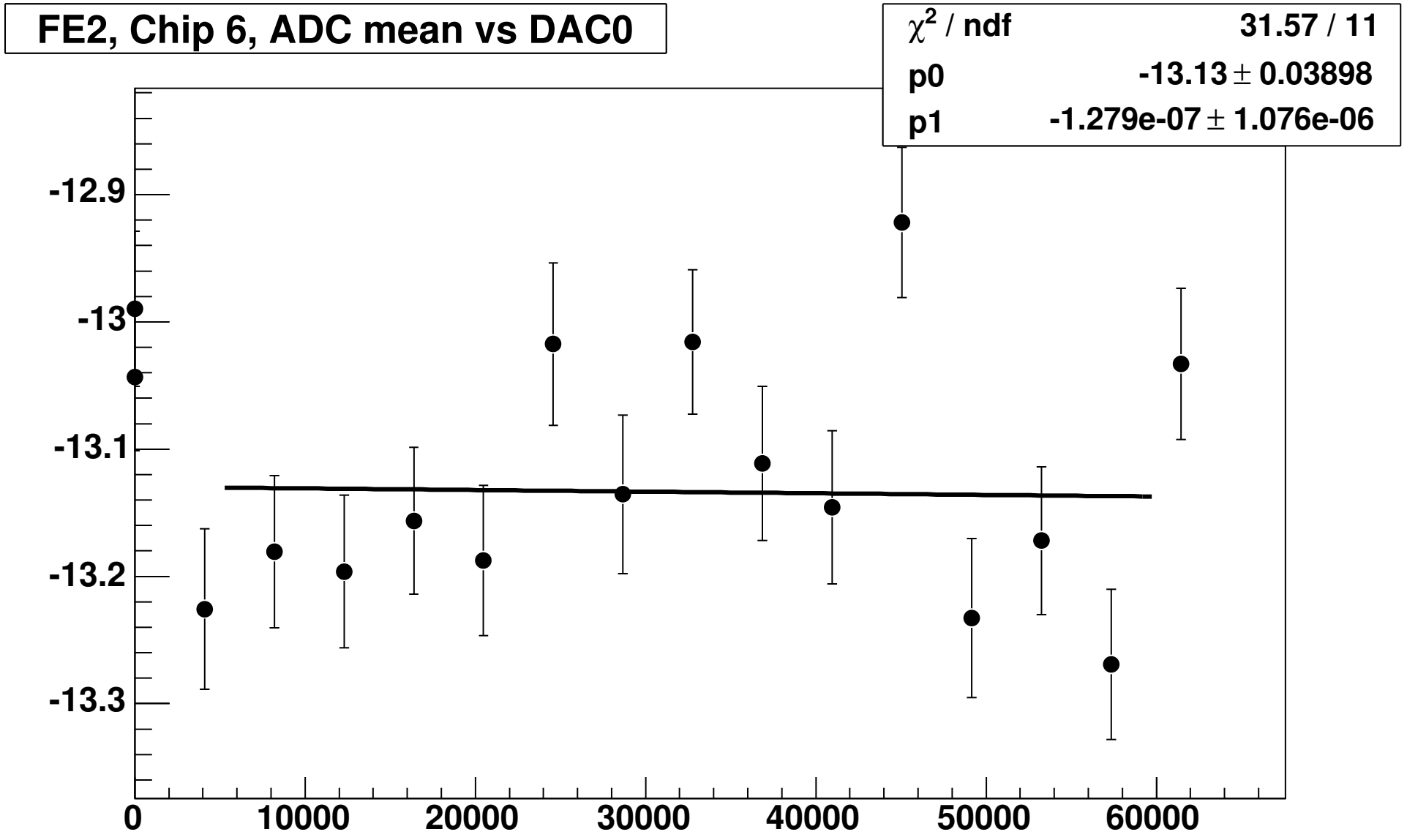

FE2, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

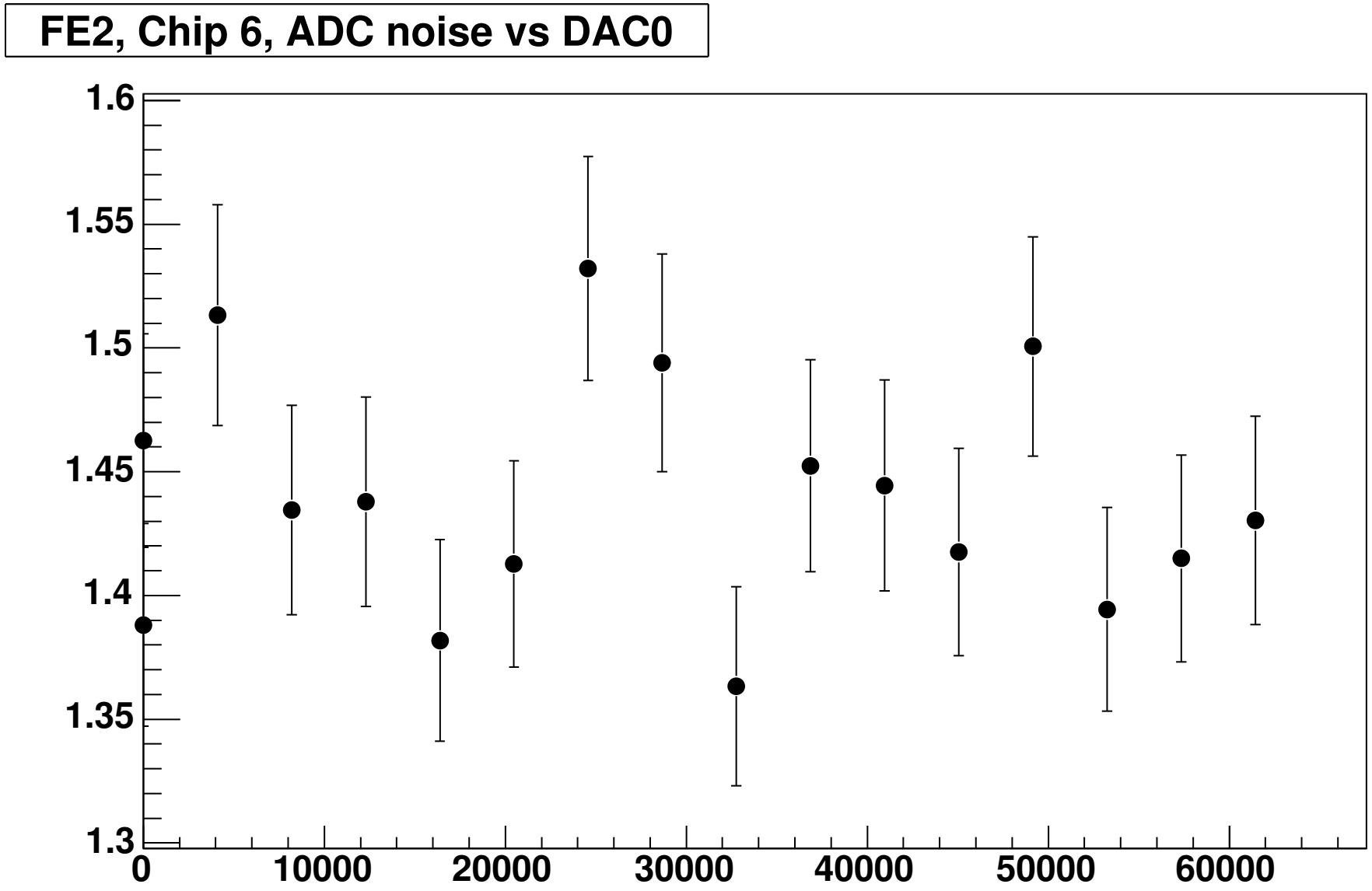

FE2, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

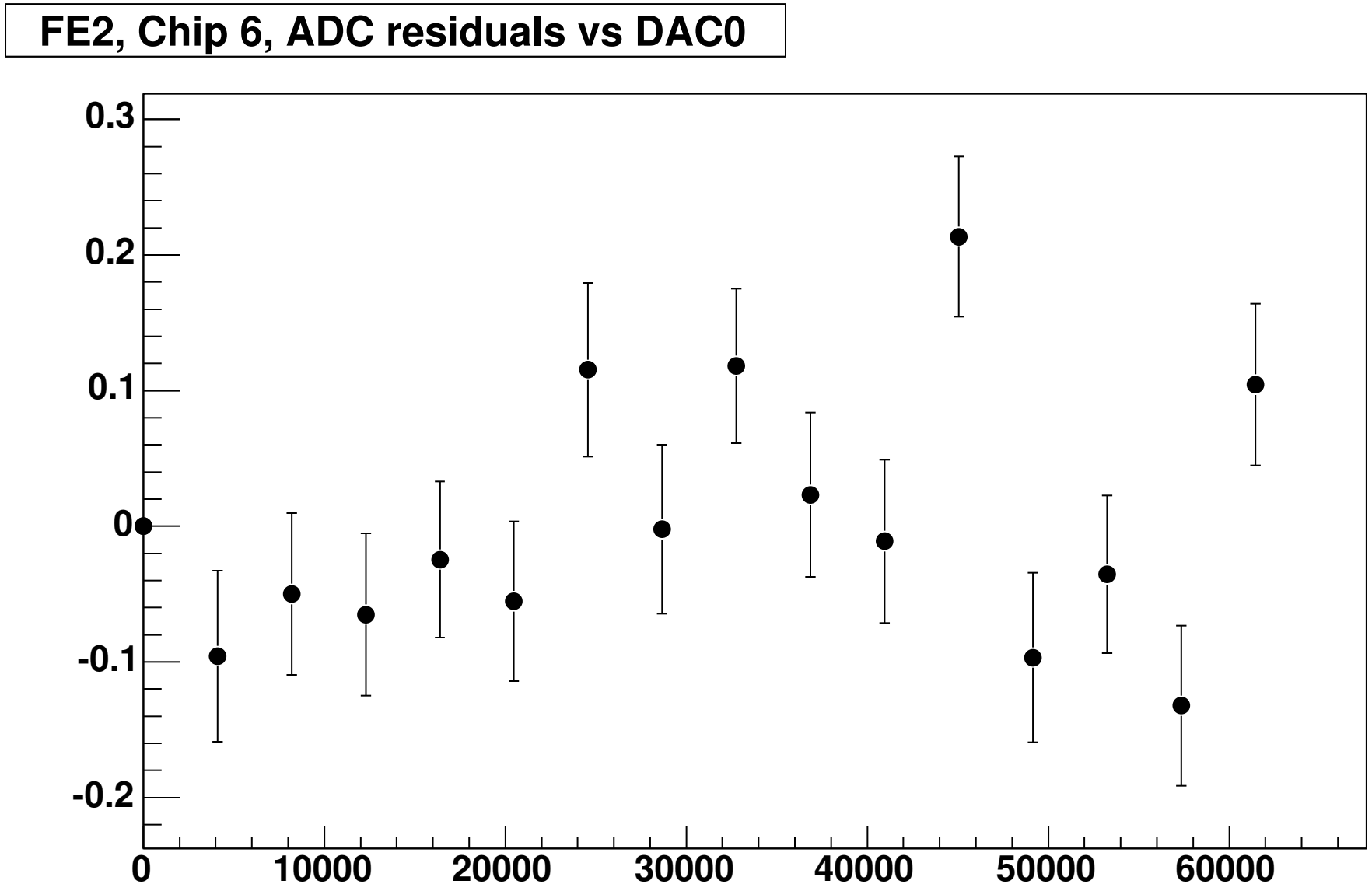

FE2, Chip 5, ADC mean vs DAC1
χ² / ndf 21.98 / 11
p0 19.55 ± 0.03974
p1 2.782e-06 ± 1.099e-06
19.9
19.8
19.7
19.6
19.5
0
10000
20000
30000
40000
50000
60000

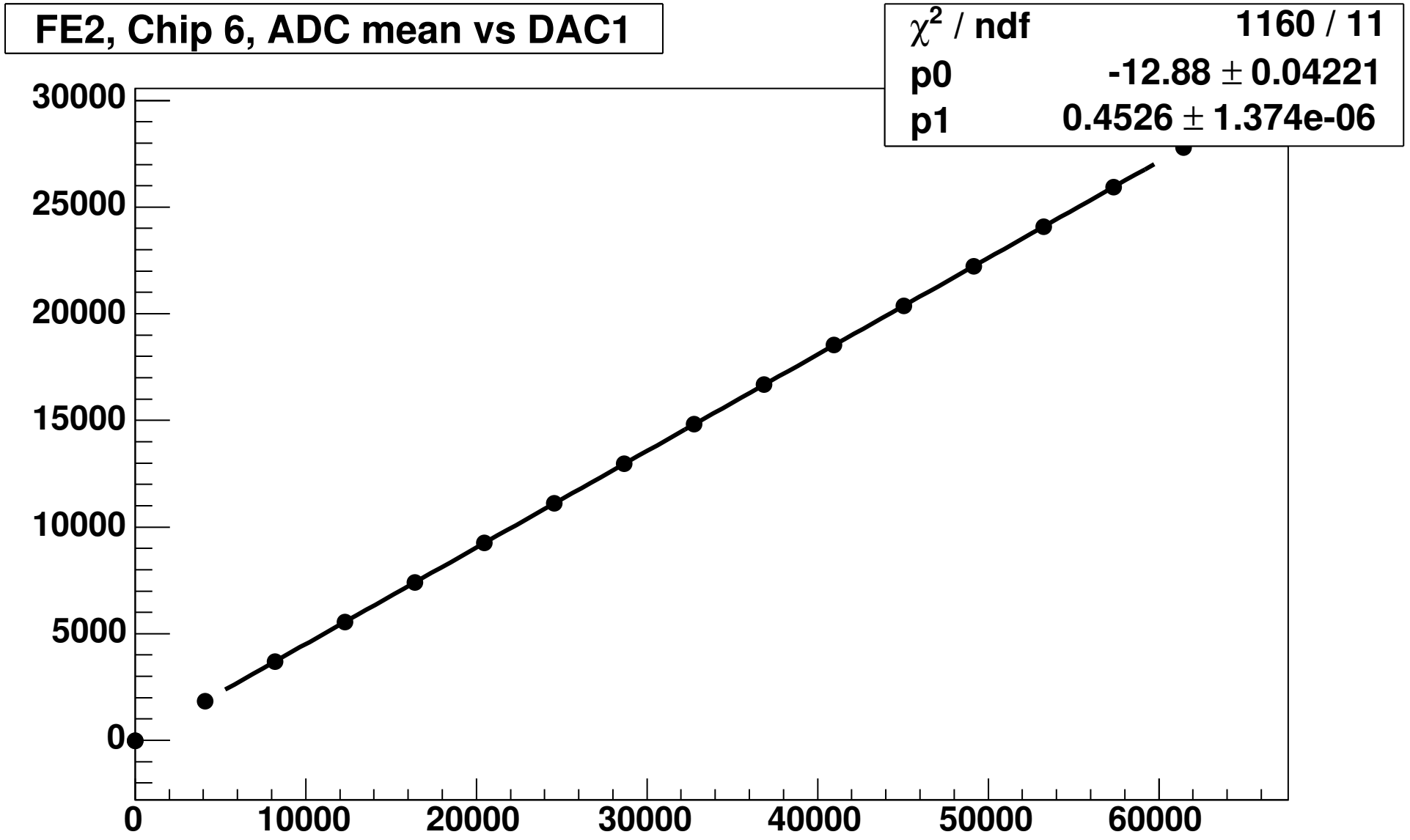

FE2, Chip 5, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

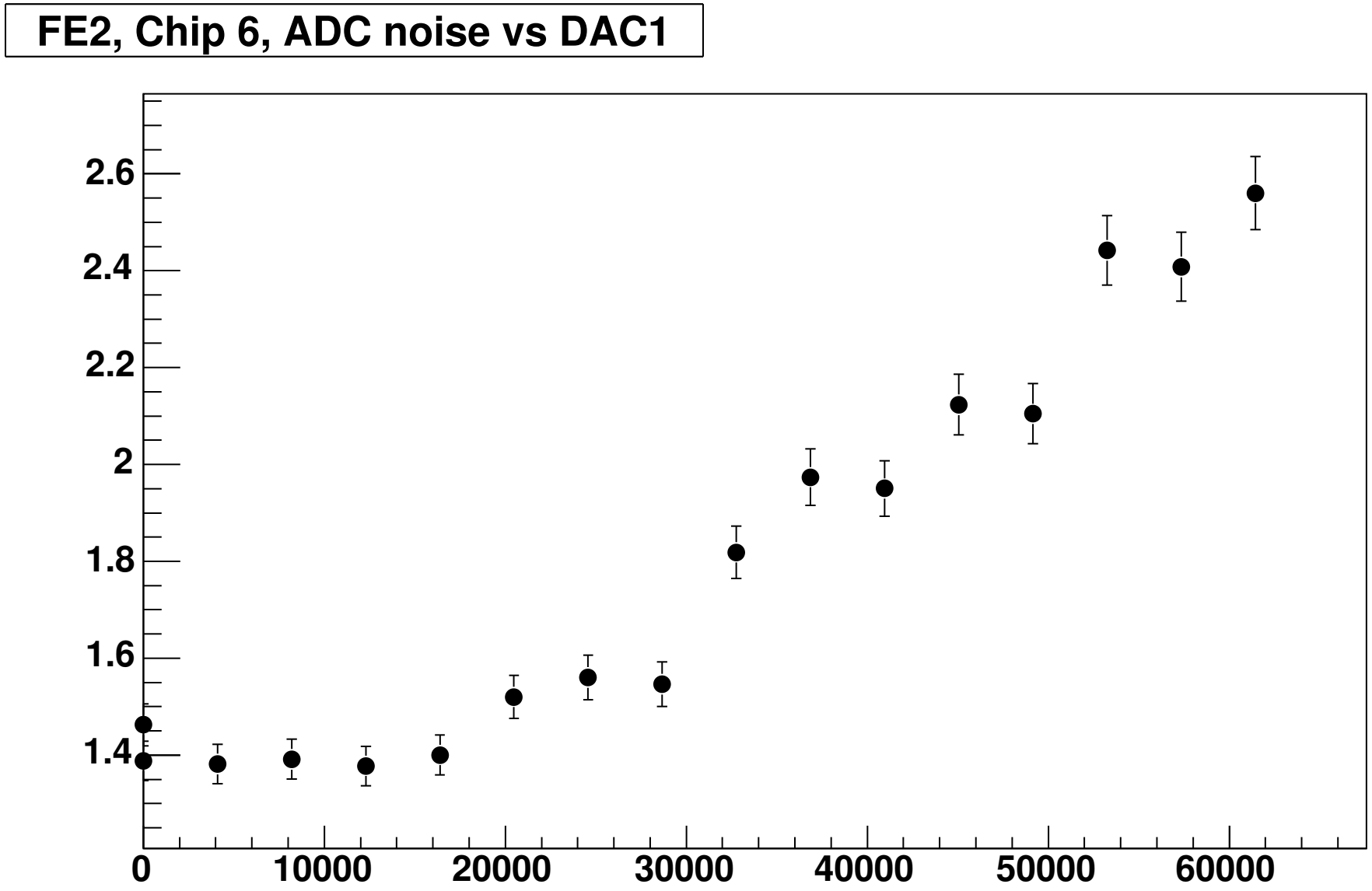

FE2, Chip 5, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

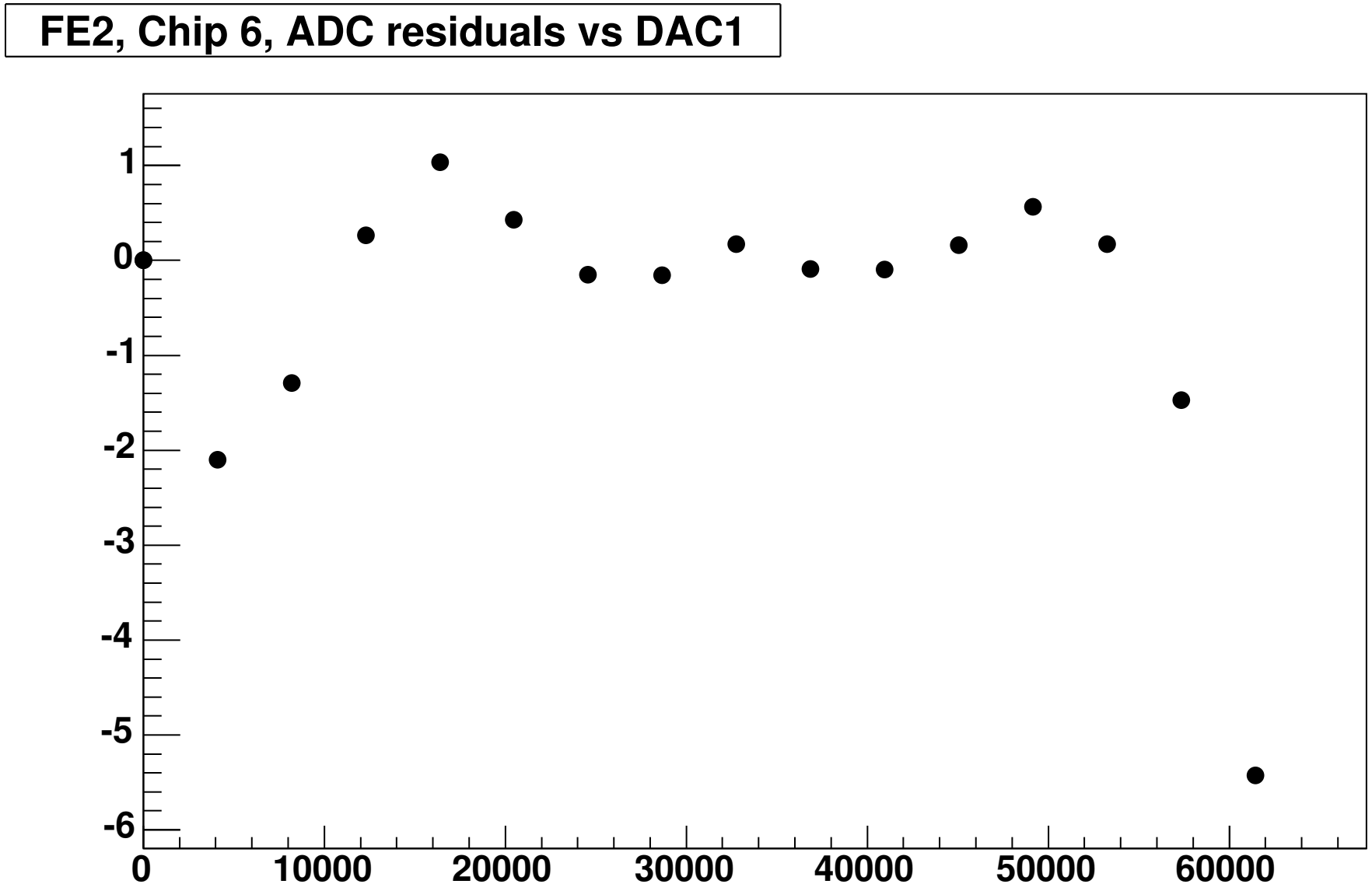

FE2, Chip 6, ADC mean vs DAC0
χ² / ndf 31.57 / 11
p0 -13.13 ± 0.03898
p1 -1.279e-07 ± 1.076e-06
-12.9
-13
-13.1
-13.2
-13.3
0
10000
20000
30000
40000
50000
60000

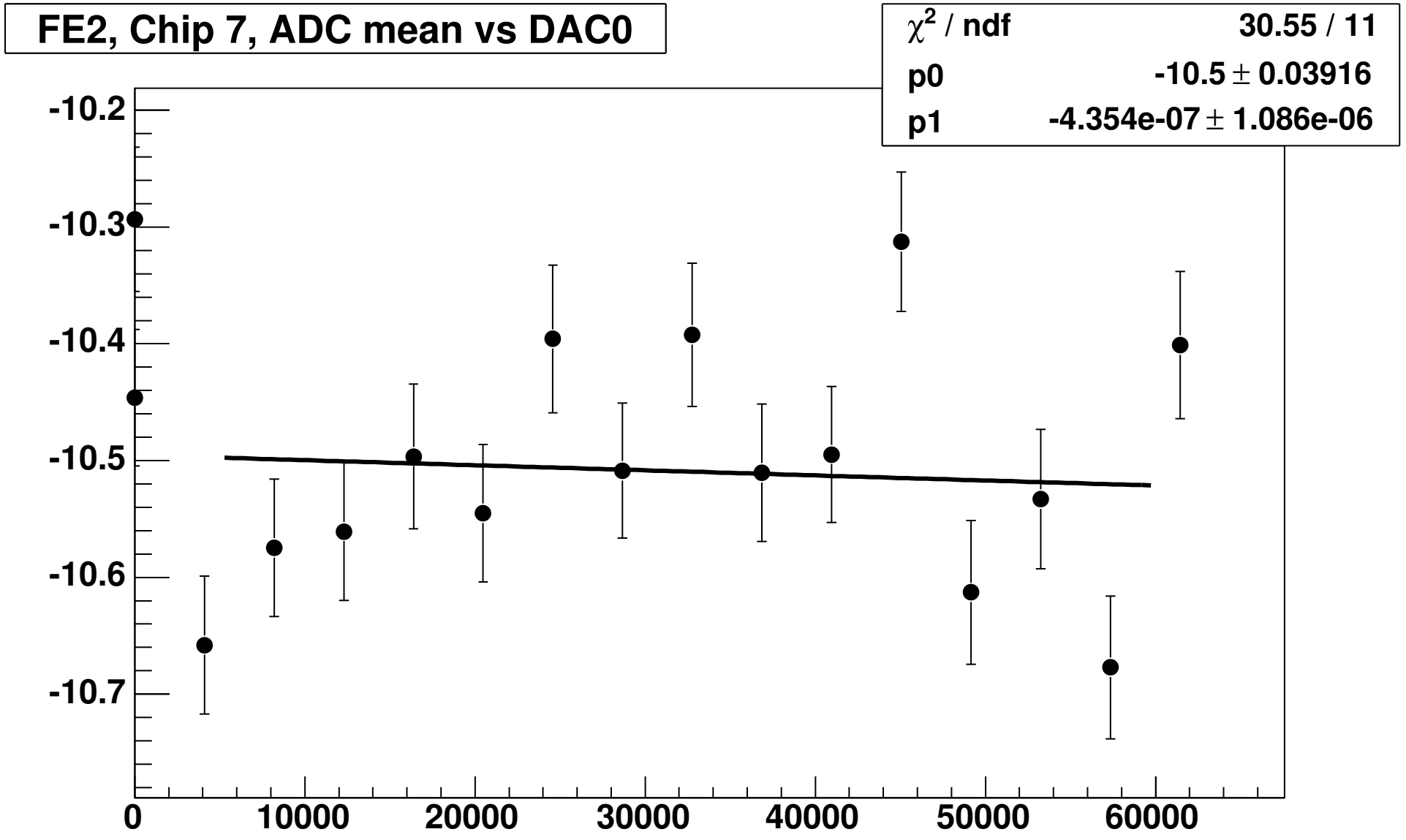

FE2, Chip 6, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

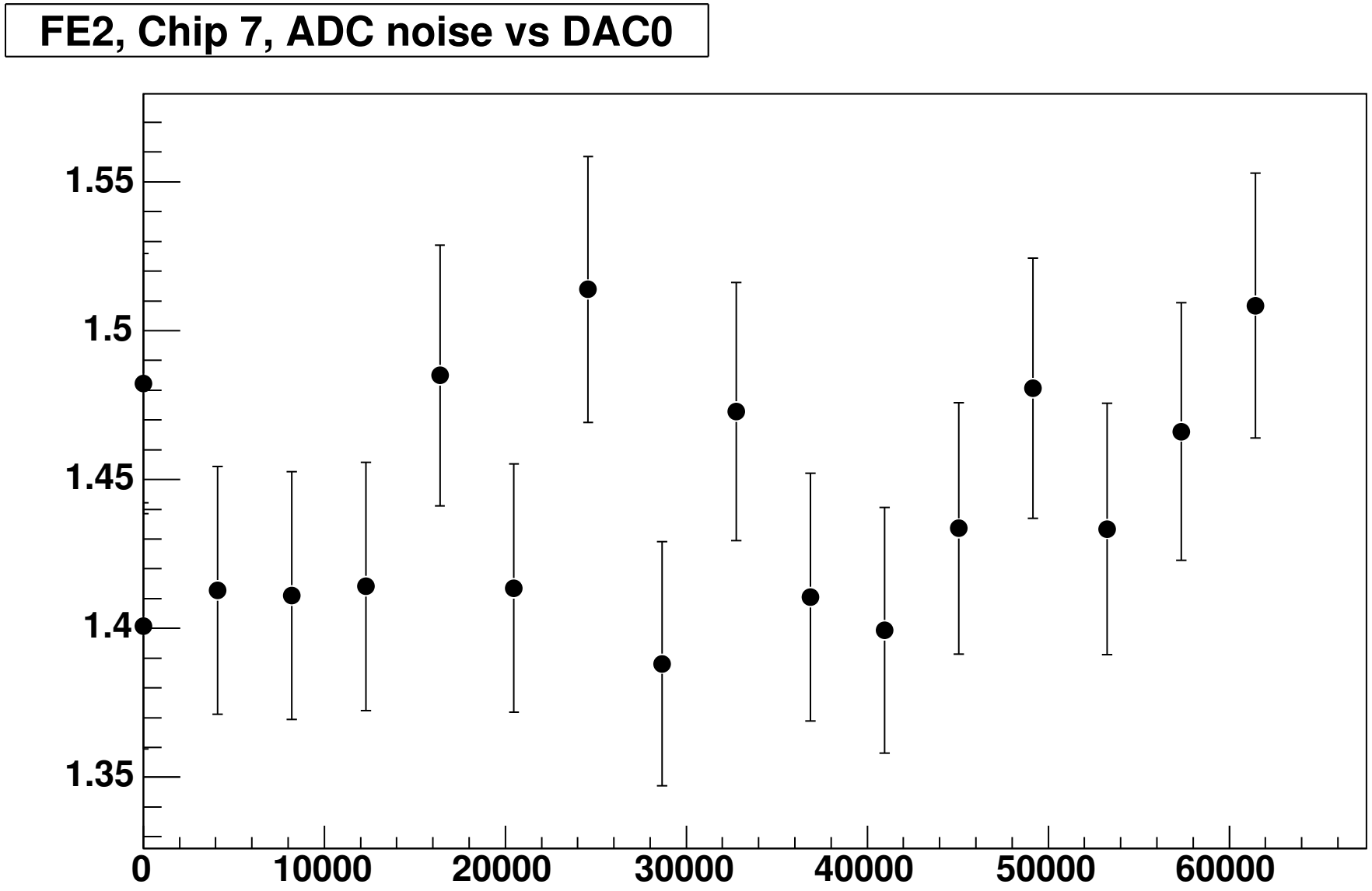

FE2, Chip 6, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

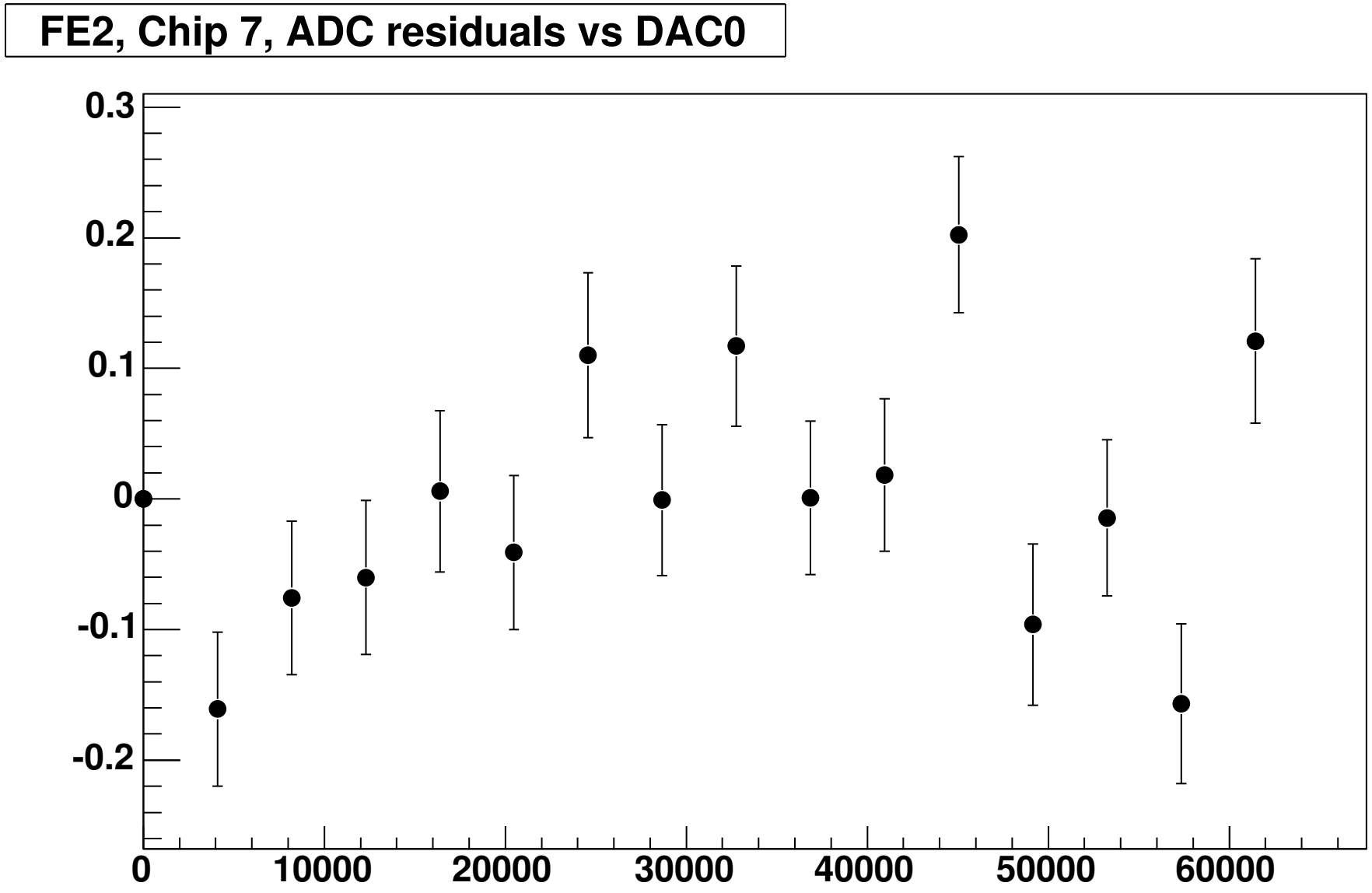

FE2, Chip 6, ADC mean vs DAC1
χ² / ndf 1160 / 11
p0 -12.88 ± 0.04221
p1 0.4526 ± 1.374e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

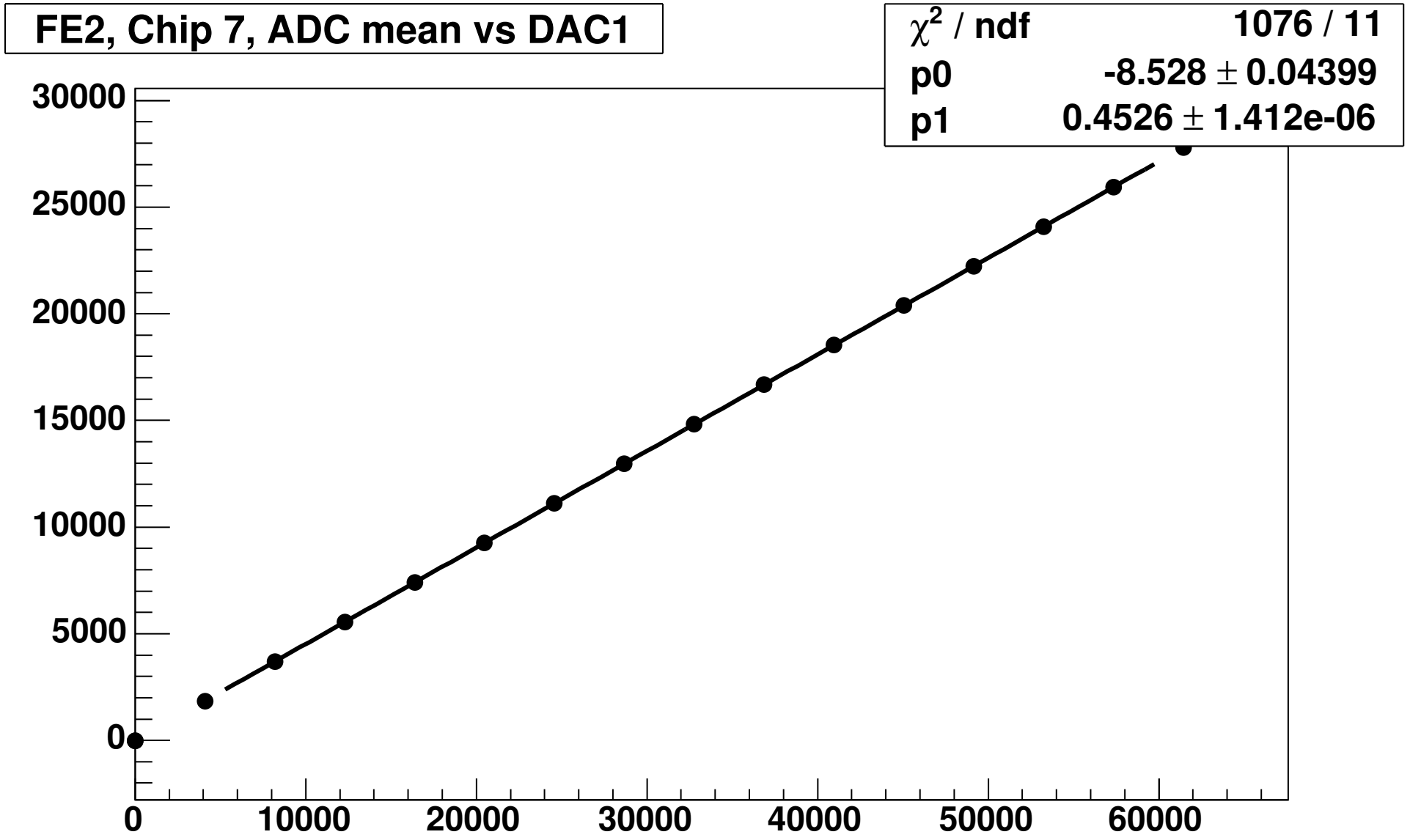

FE2, Chip 6, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

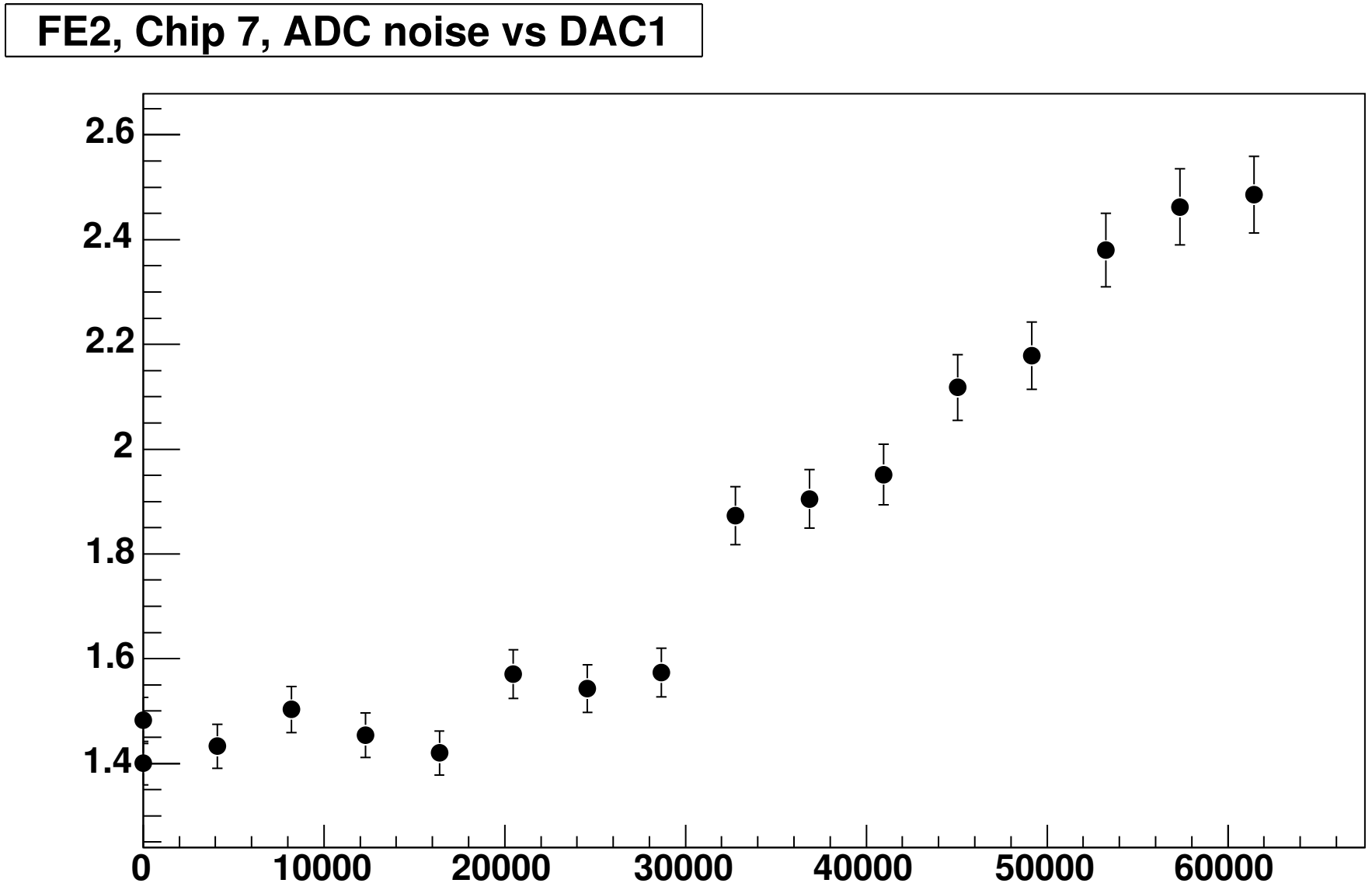

FE2, Chip 6, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000


FE2, Chip 7, ADC mean vs DAC0
χ² / ndf 30.55 / 11
p0 -10.5 ± 0.03916
p1 -4.354e-07 ± 1.086e-06
-10.2
-10.3
-10.4
-10.5
-10.6
-10.7
0
10000
20000
30000
40000
50000
60000

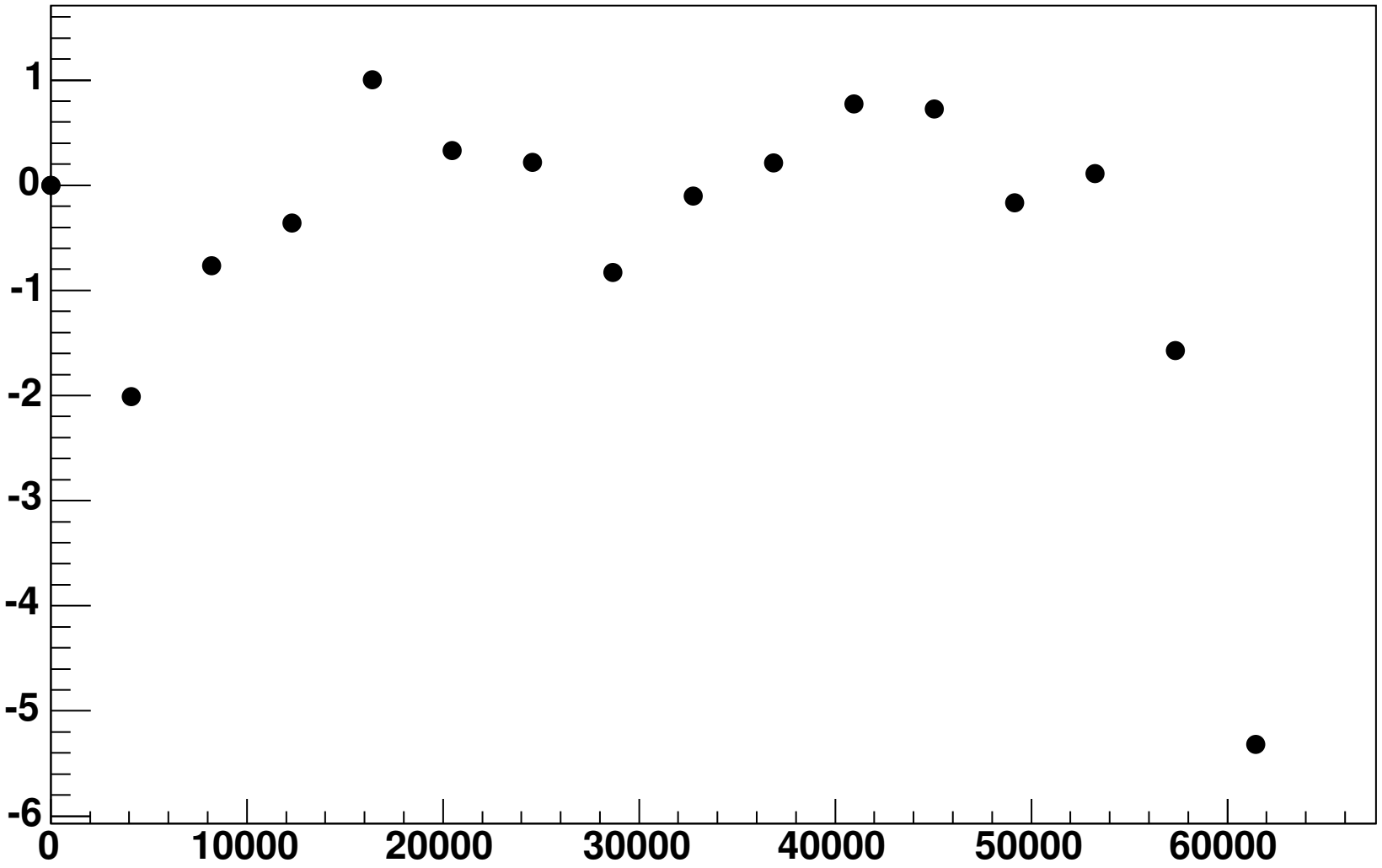

FE2, Chip 7, ADC noise vs DAC0
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

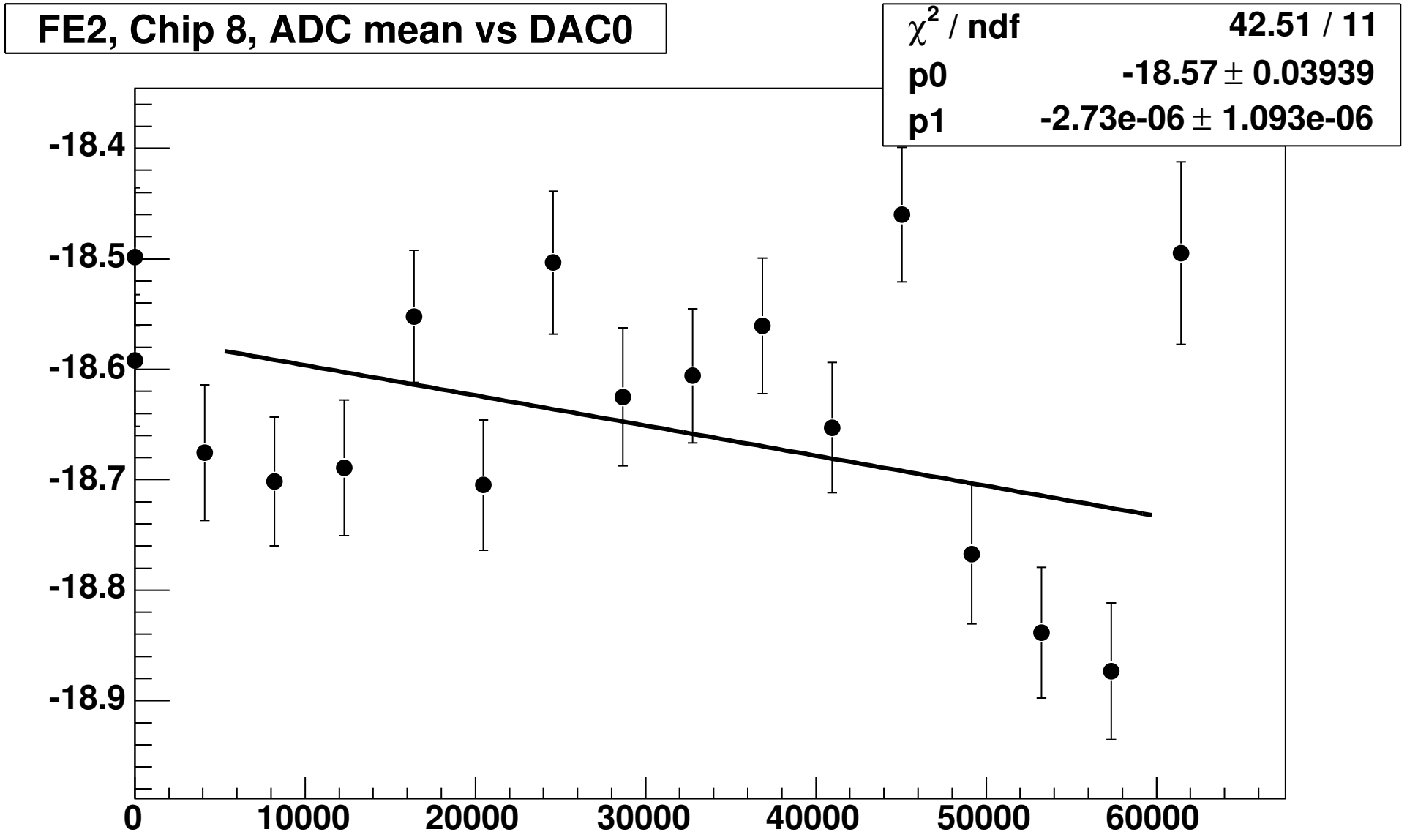

FE2, Chip 7, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

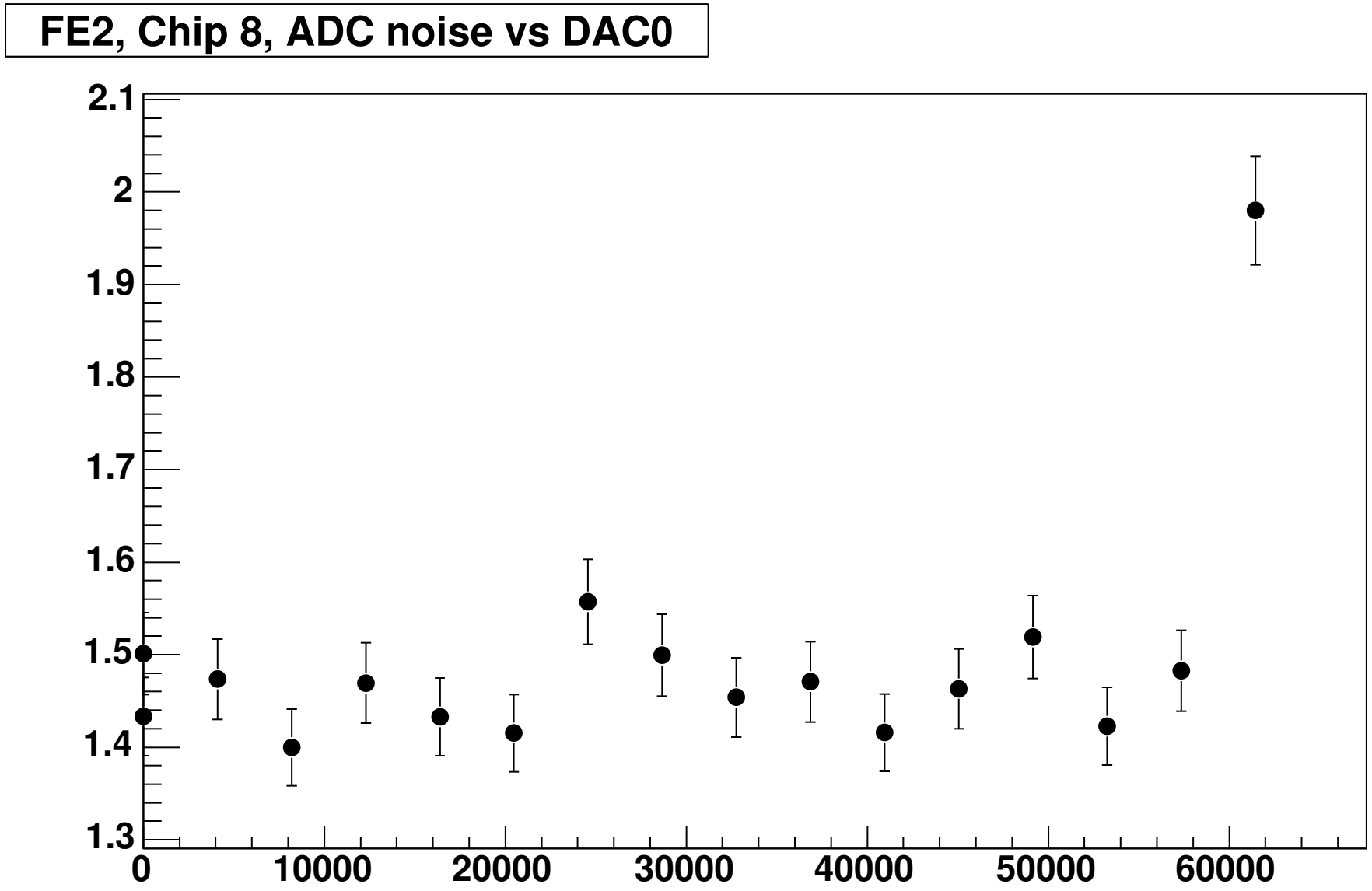

FE2, Chip 7, ADC mean vs DAC1
χ² / ndf 1076 / 11
p0 -8.528 ± 0.04399
p1 0.4526 ± 1.412e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

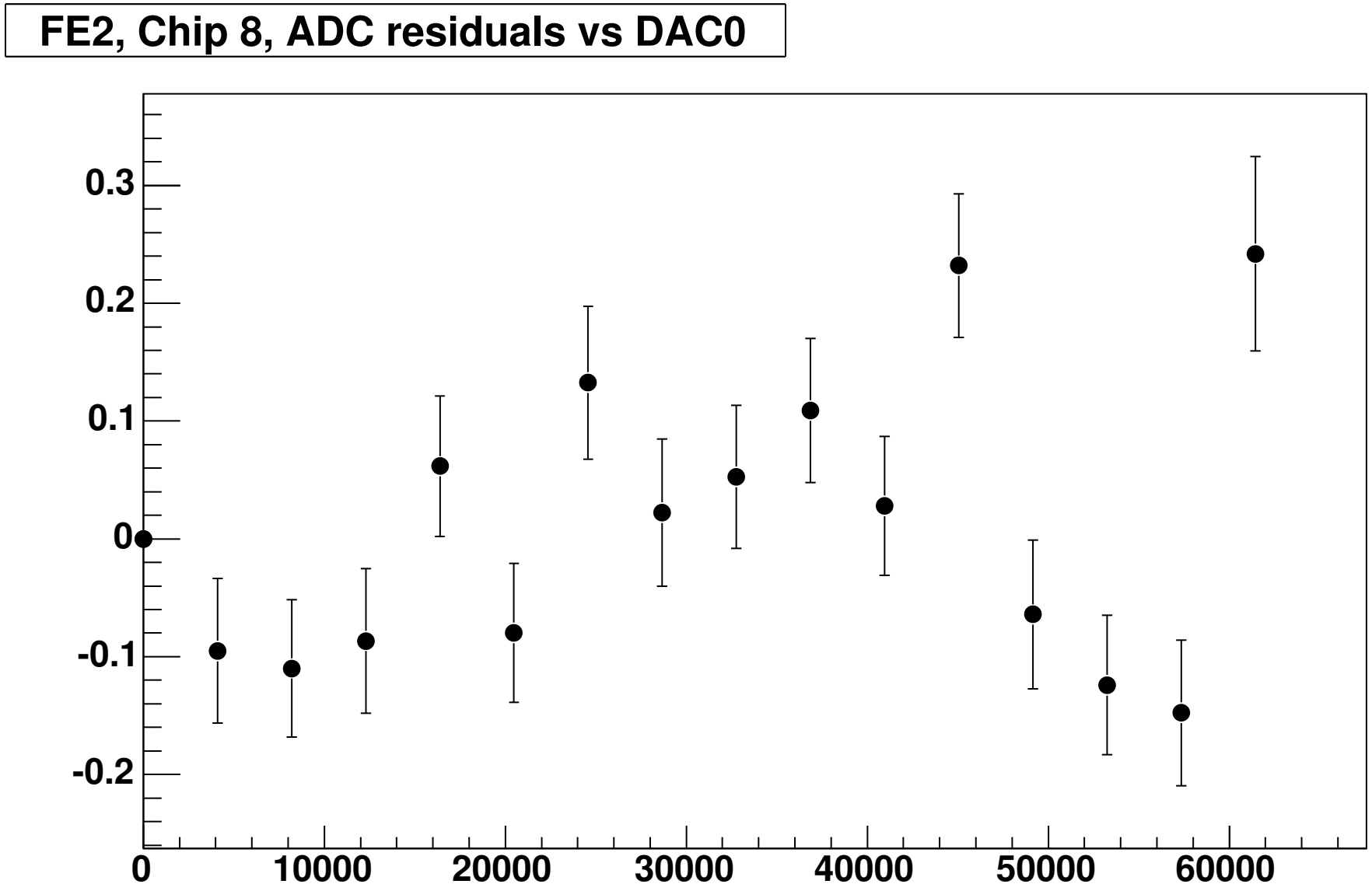

FE2, Chip 7, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

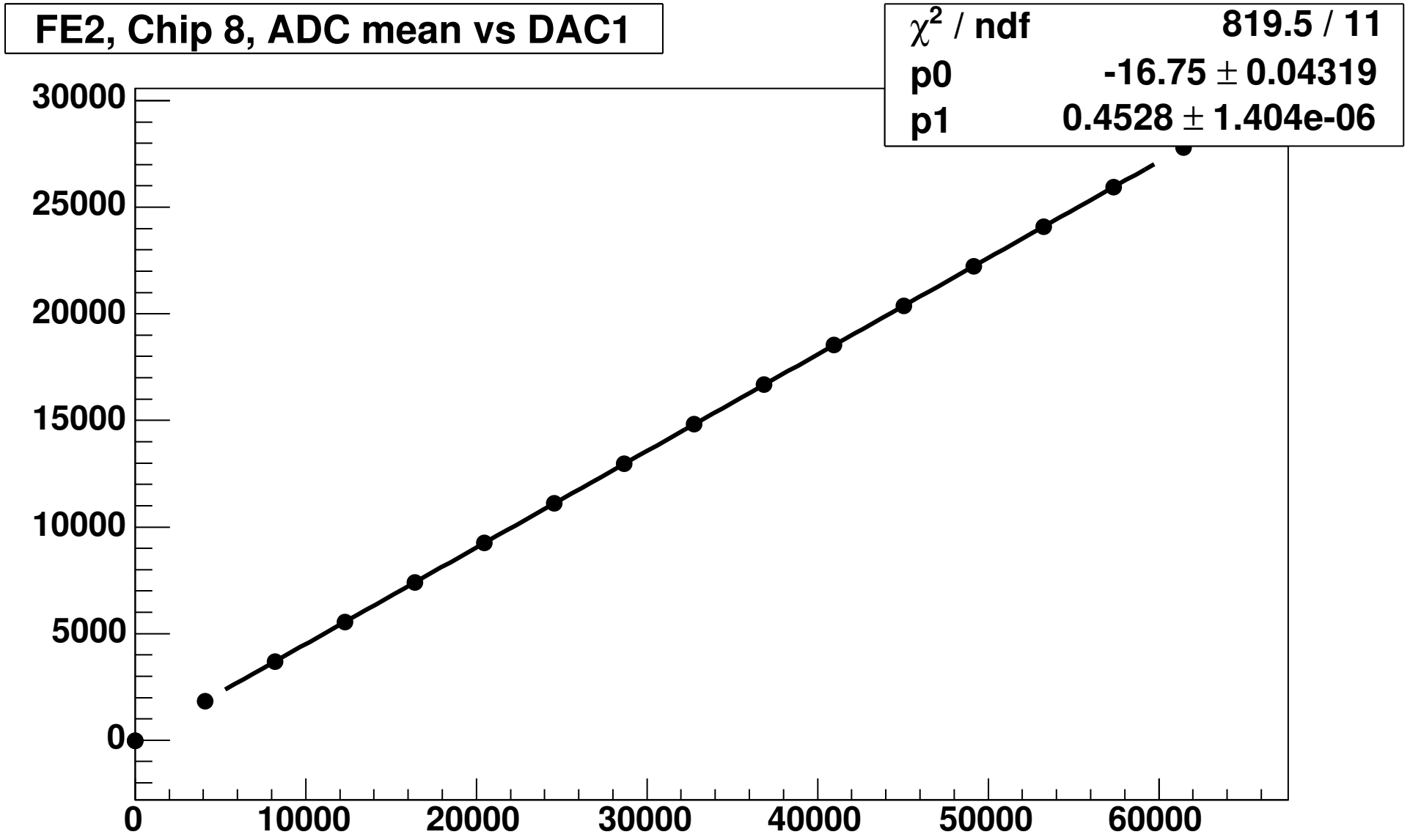
FE2, Chip 7, ADC residuals vs DAC1

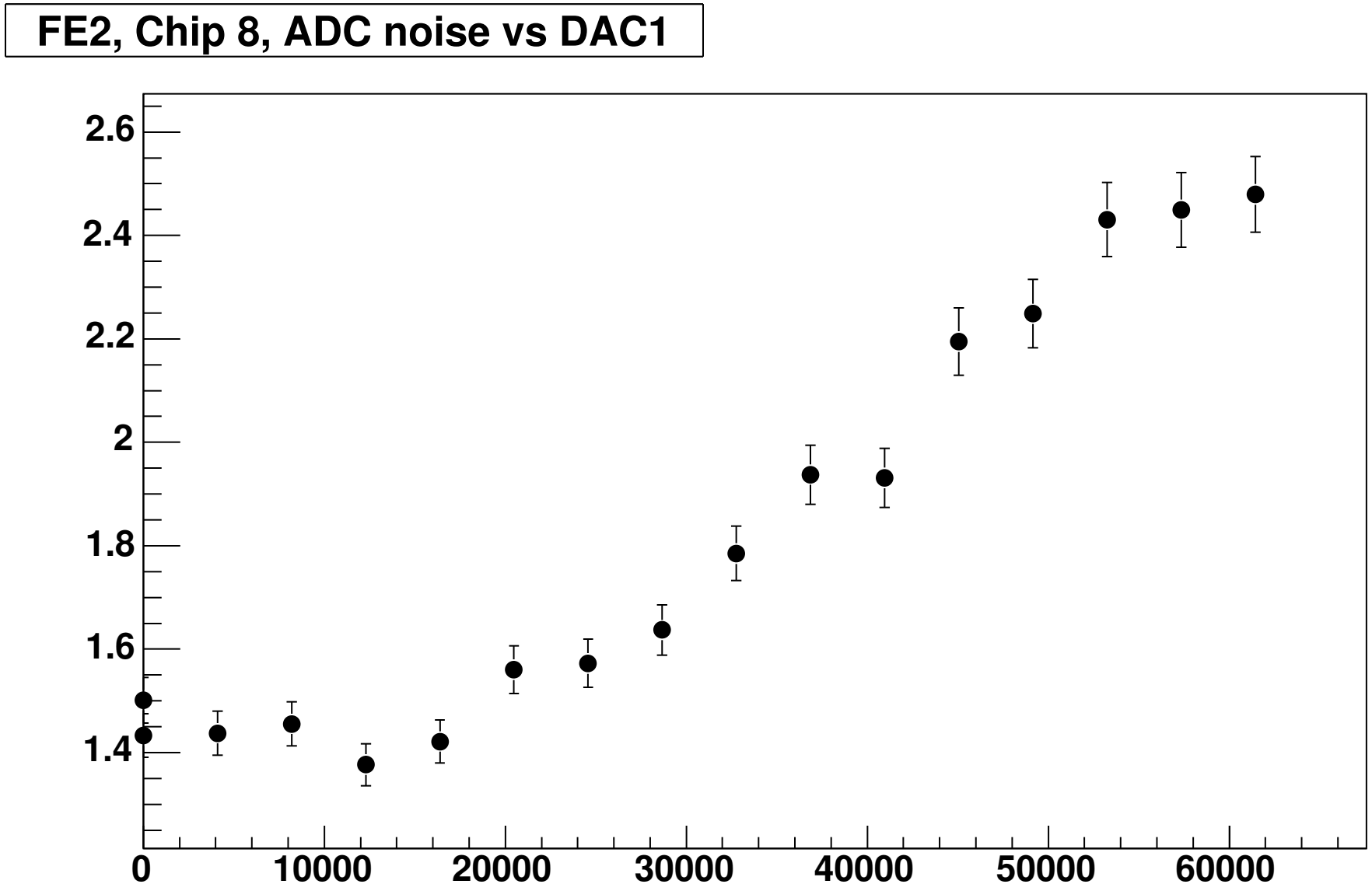


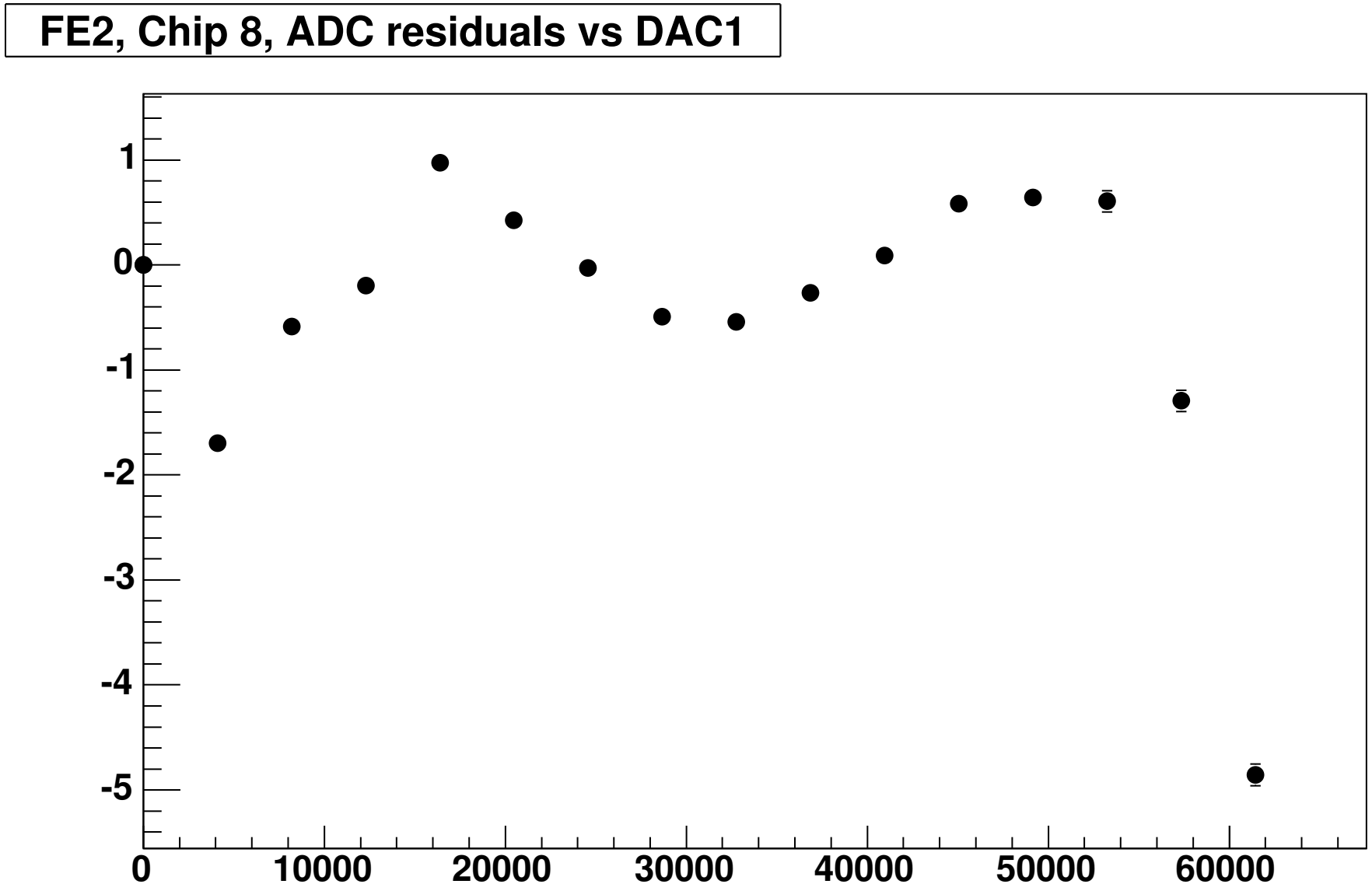

FE2, Chip 8, ADC mean vs DAC0
χ² / ndf 42.51 / 11
p0 -18.57 ± 0.03939
p1 -2.73e-06 ± 1.093e-06
-18.4
-18.5
-18.6
-18.7
-18.8
-18.9
0
10000
20000
30000
40000
50000
60000

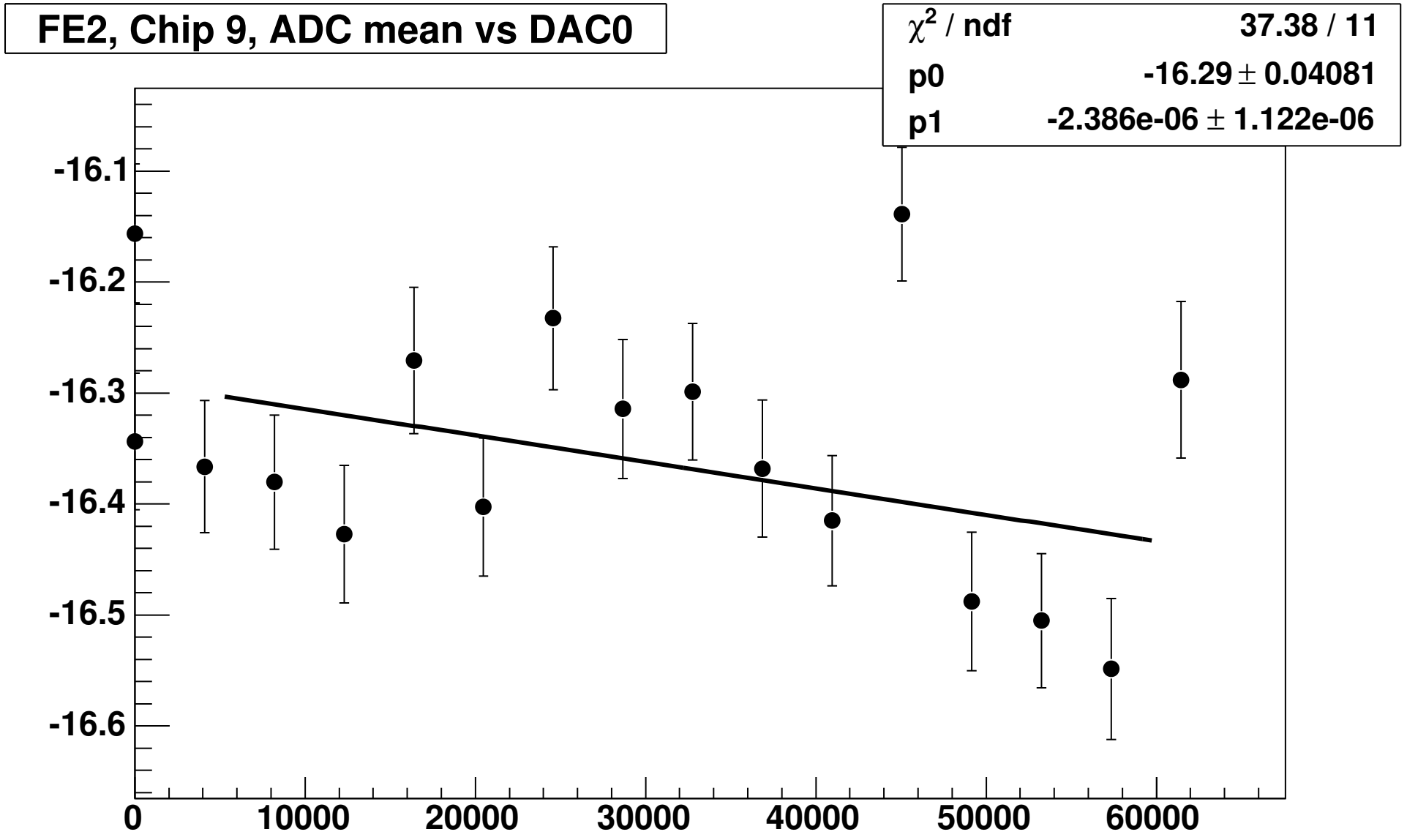

FE2, Chip 8, ADC noise vs DAC0
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
0
10000
20000
30000
40000
50000
60000

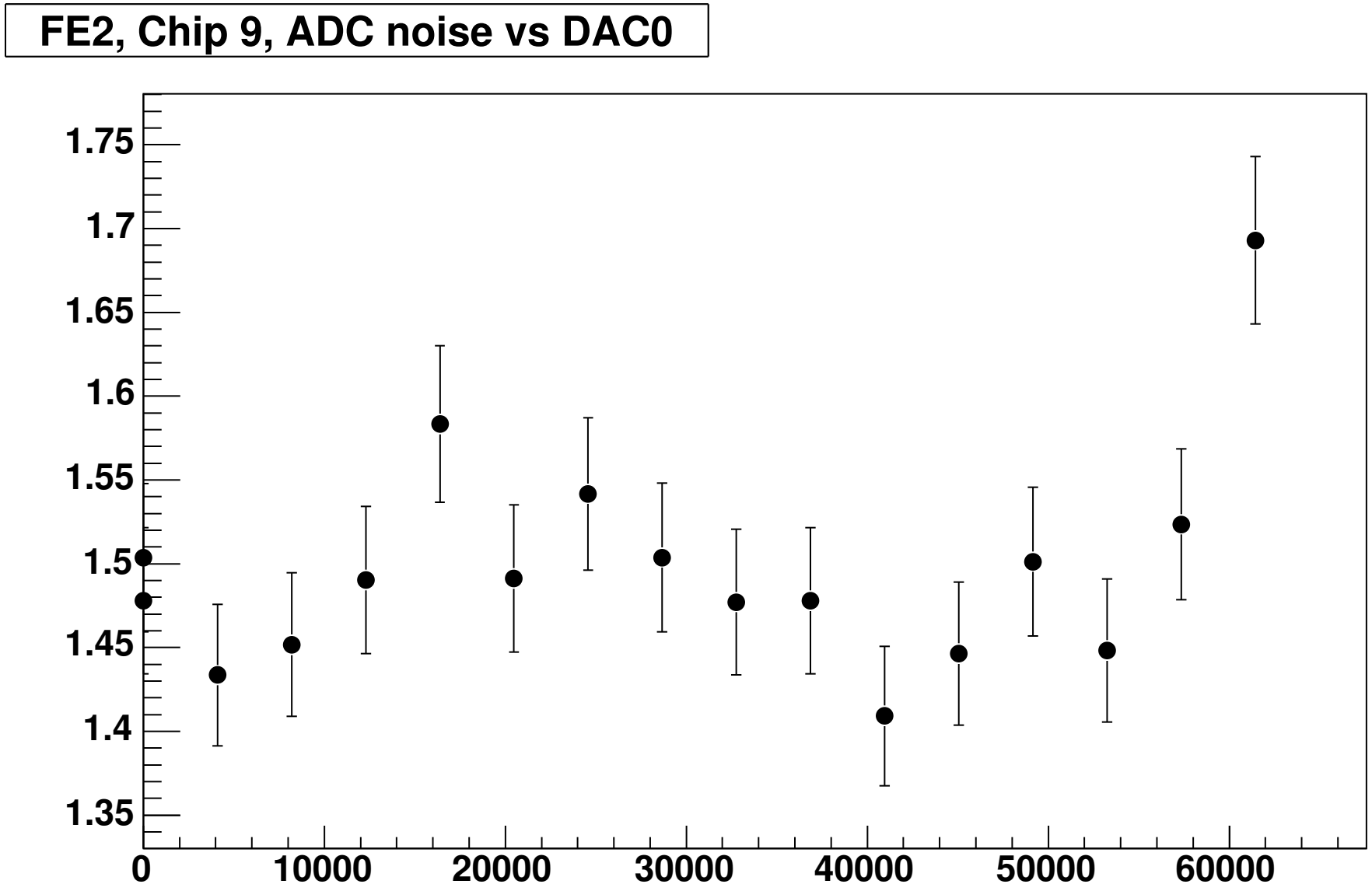

FE2, Chip 8, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

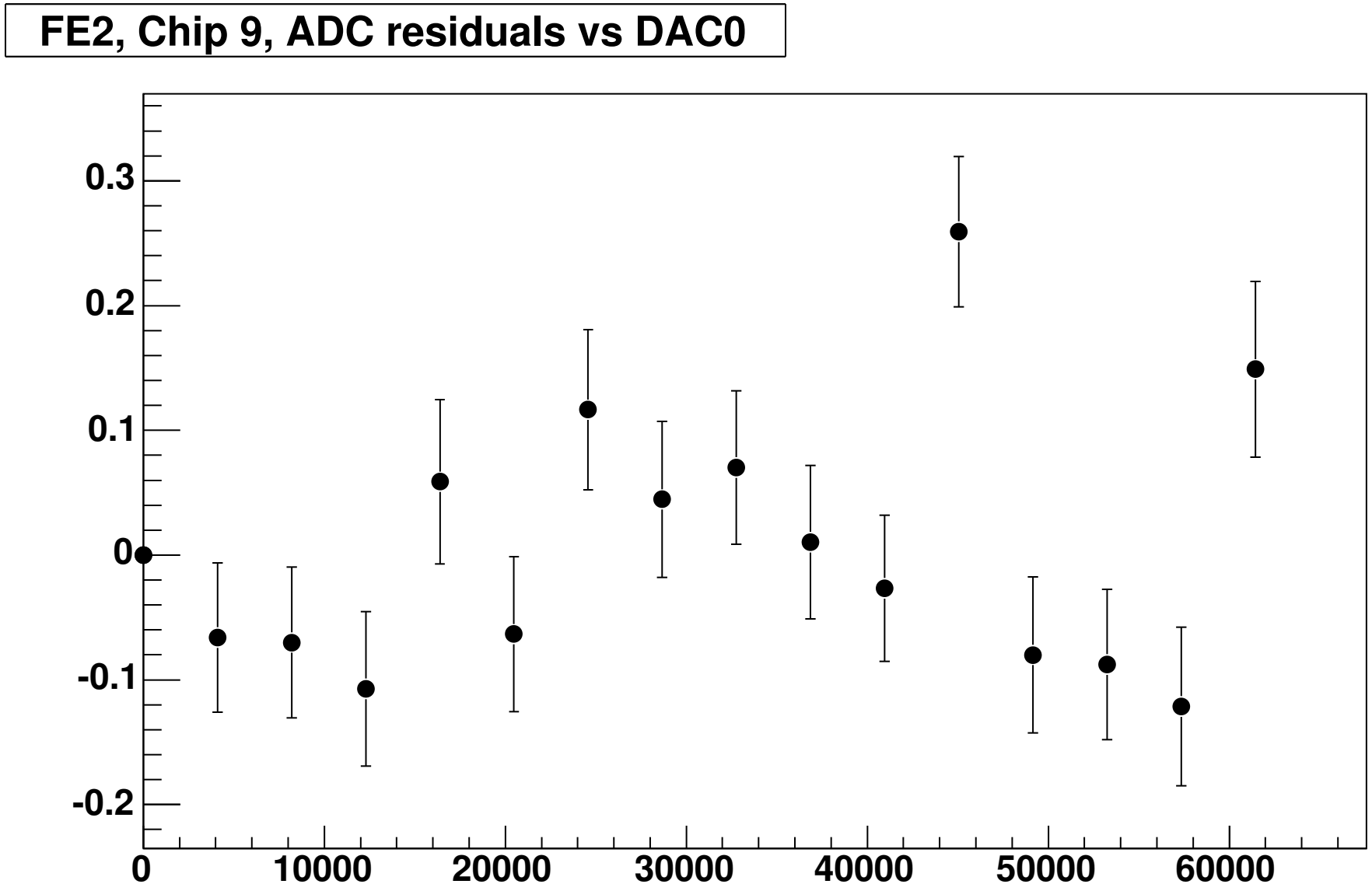

FE2, Chip 8, ADC mean vs DAC1
χ^2 / ndf 819.5 / 11
p0 -16.75 ± 0.04319
p1 0.4528 ± 1.404e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

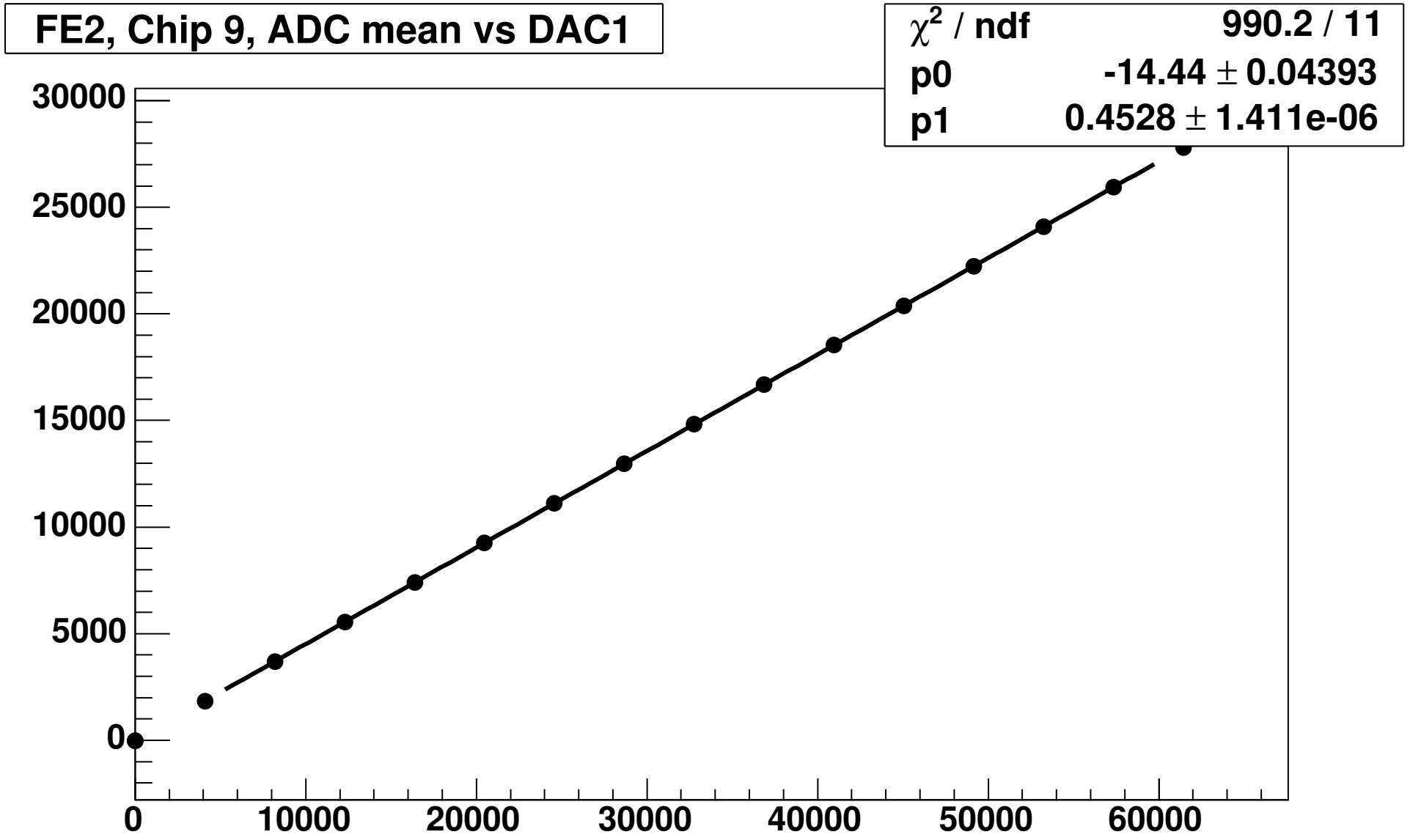

FE2, Chip 8, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000


FE2, Chip 8, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

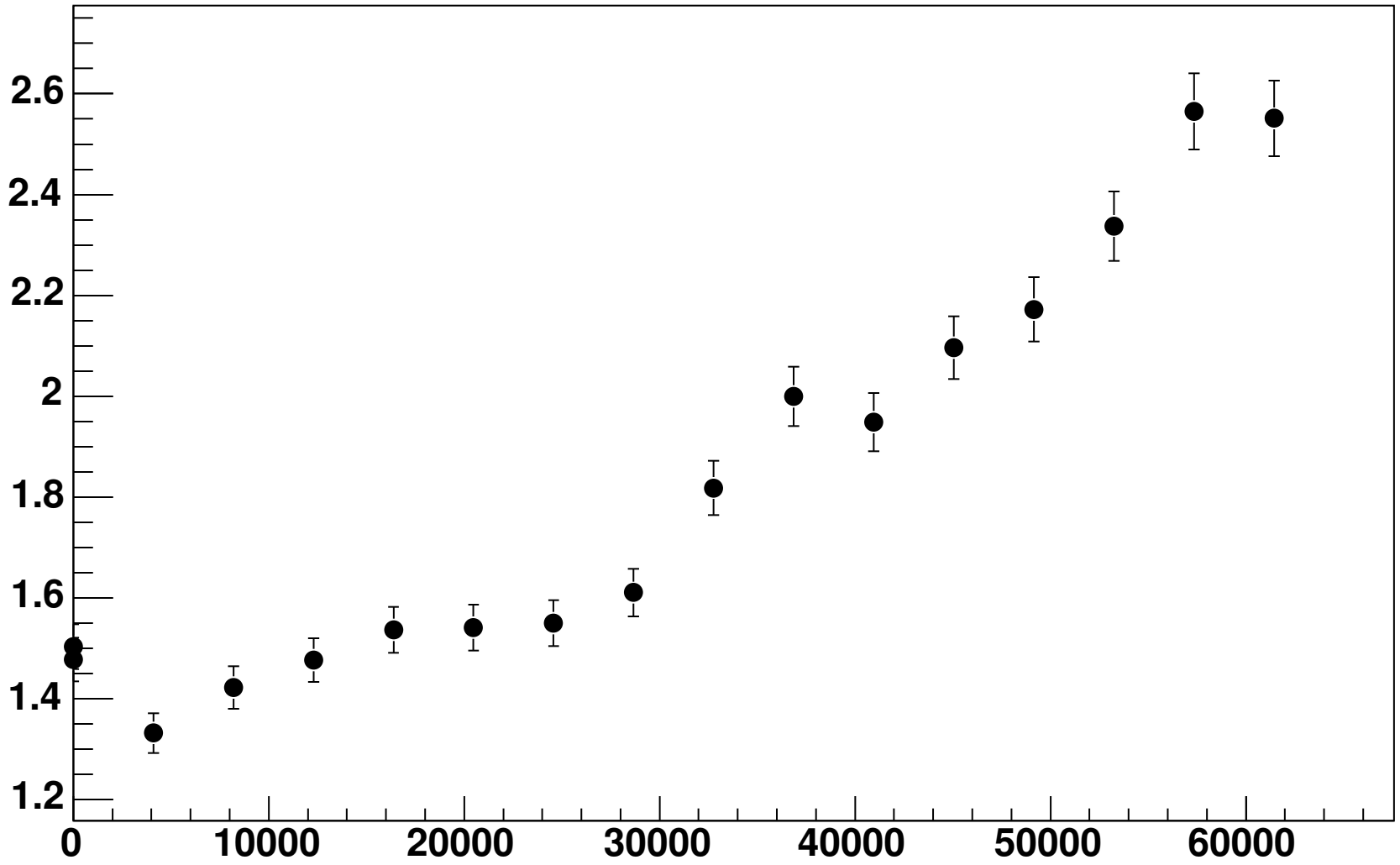

FE2, Chip 9, ADC mean vs DAC0
χ² / ndf 37.38 / 11
p0 -16.29 ± 0.04081
p1 -2.386e-06 ± 1.122e-06
-16.1
-16.2
-16.3
-16.4
-16.5
-16.6
0
10000
20000
30000
40000
50000
60000

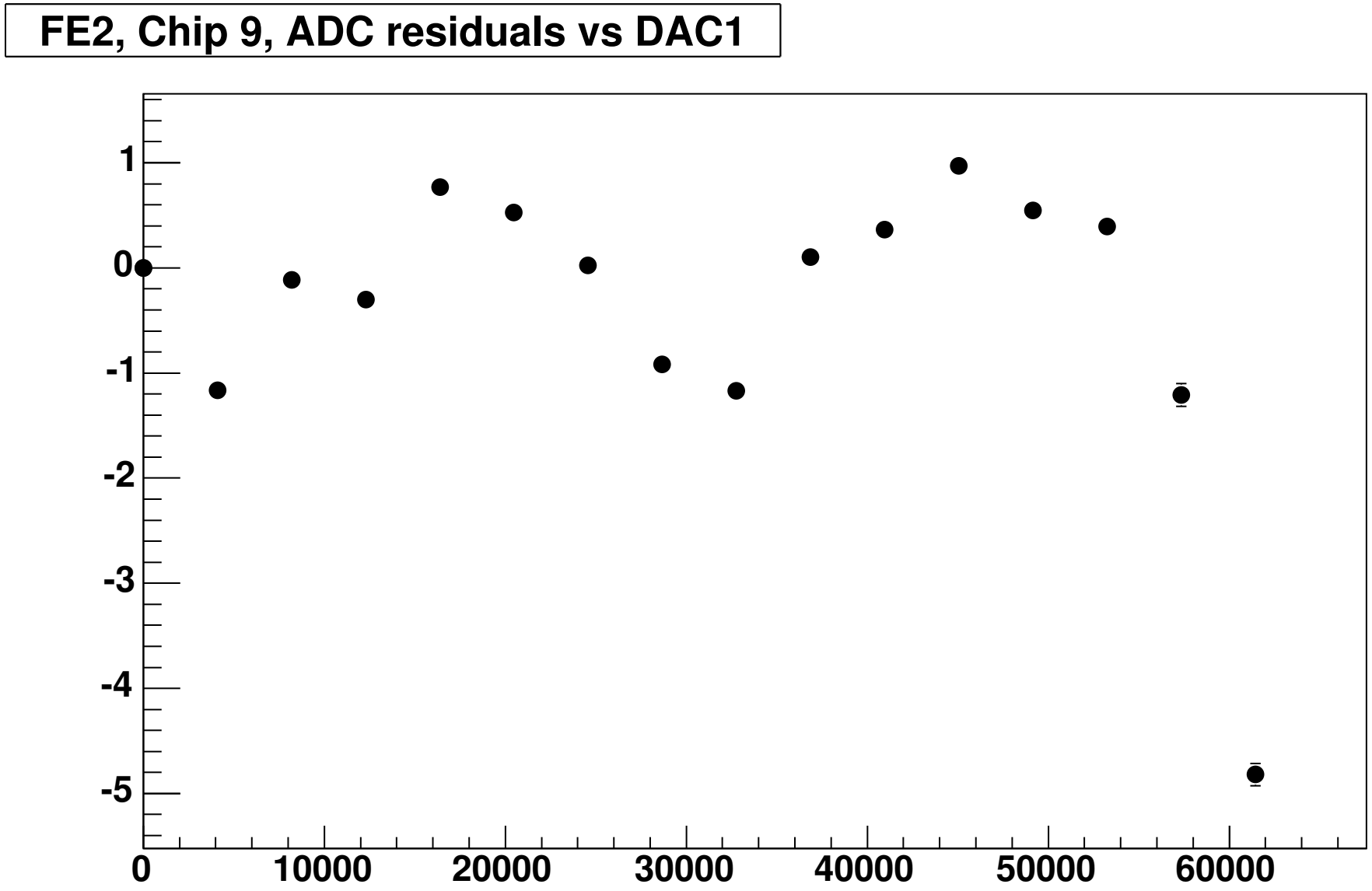

FE2, Chip 9, ADC noise vs DAC0
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

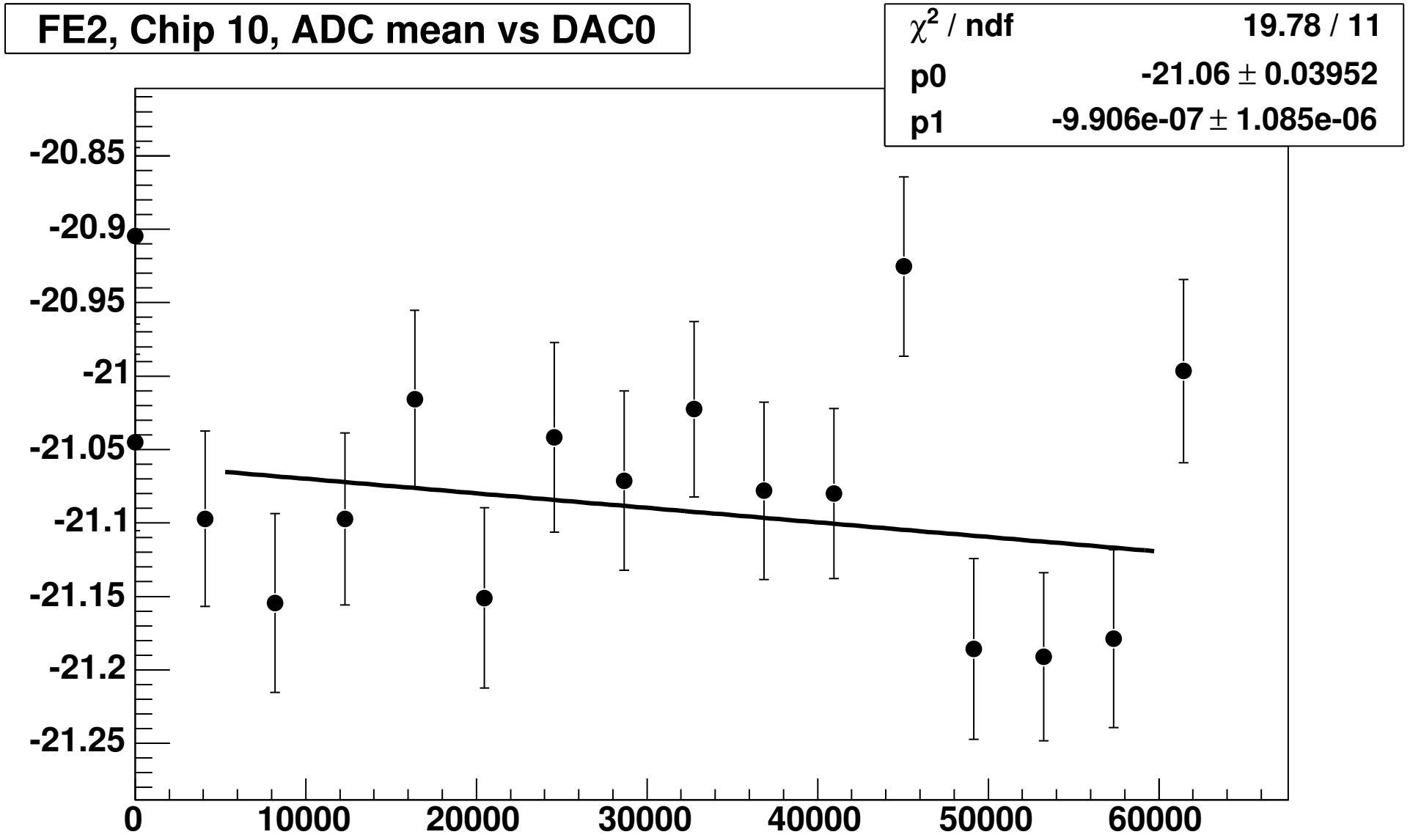

FE2, Chip 9, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

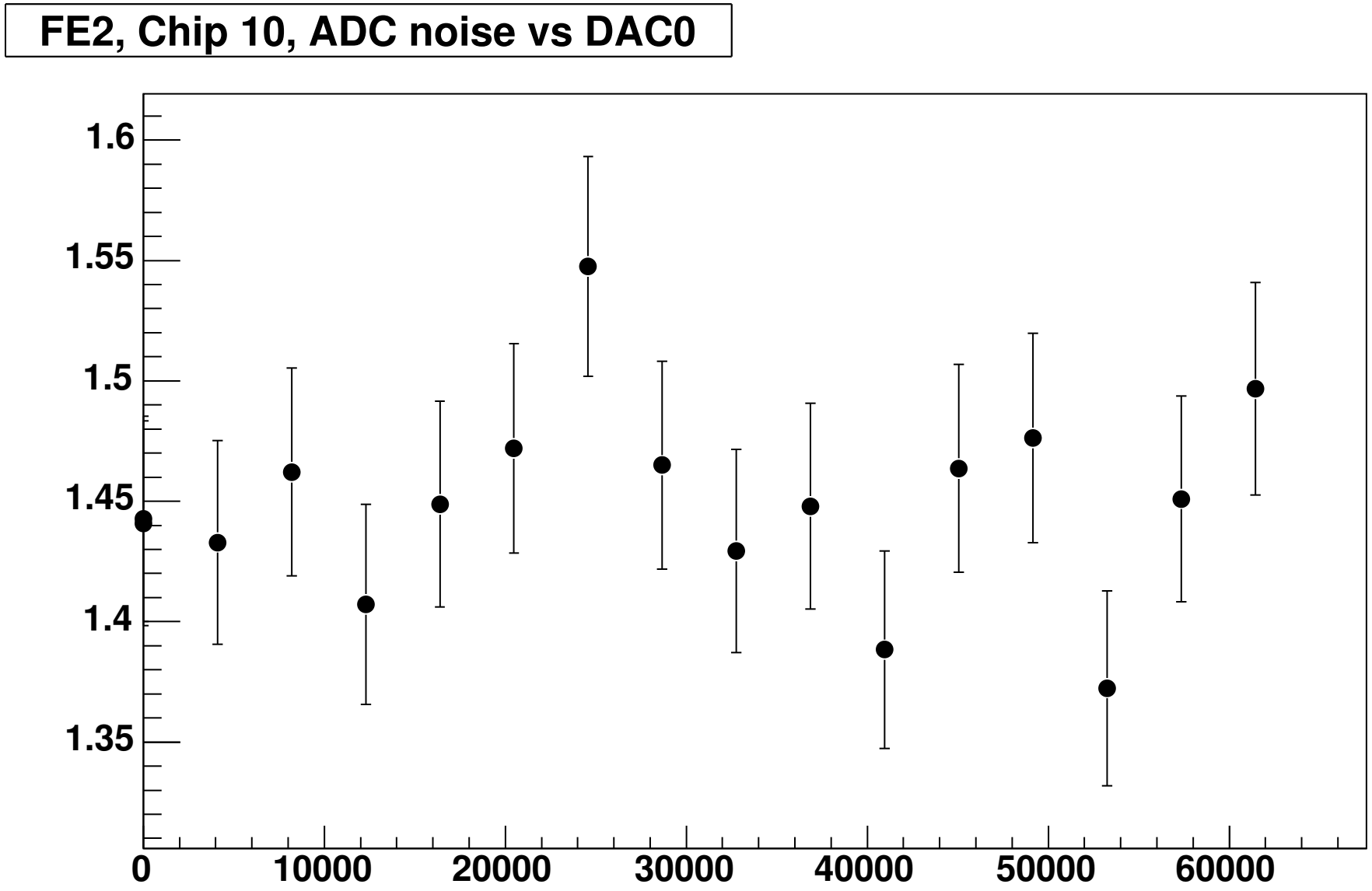

FE2, Chip 9, ADC mean vs DAC1
χ² / ndf 990.2 / 11
p0 -14.44 ± 0.04393
p1 0.4528 ± 1.411e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

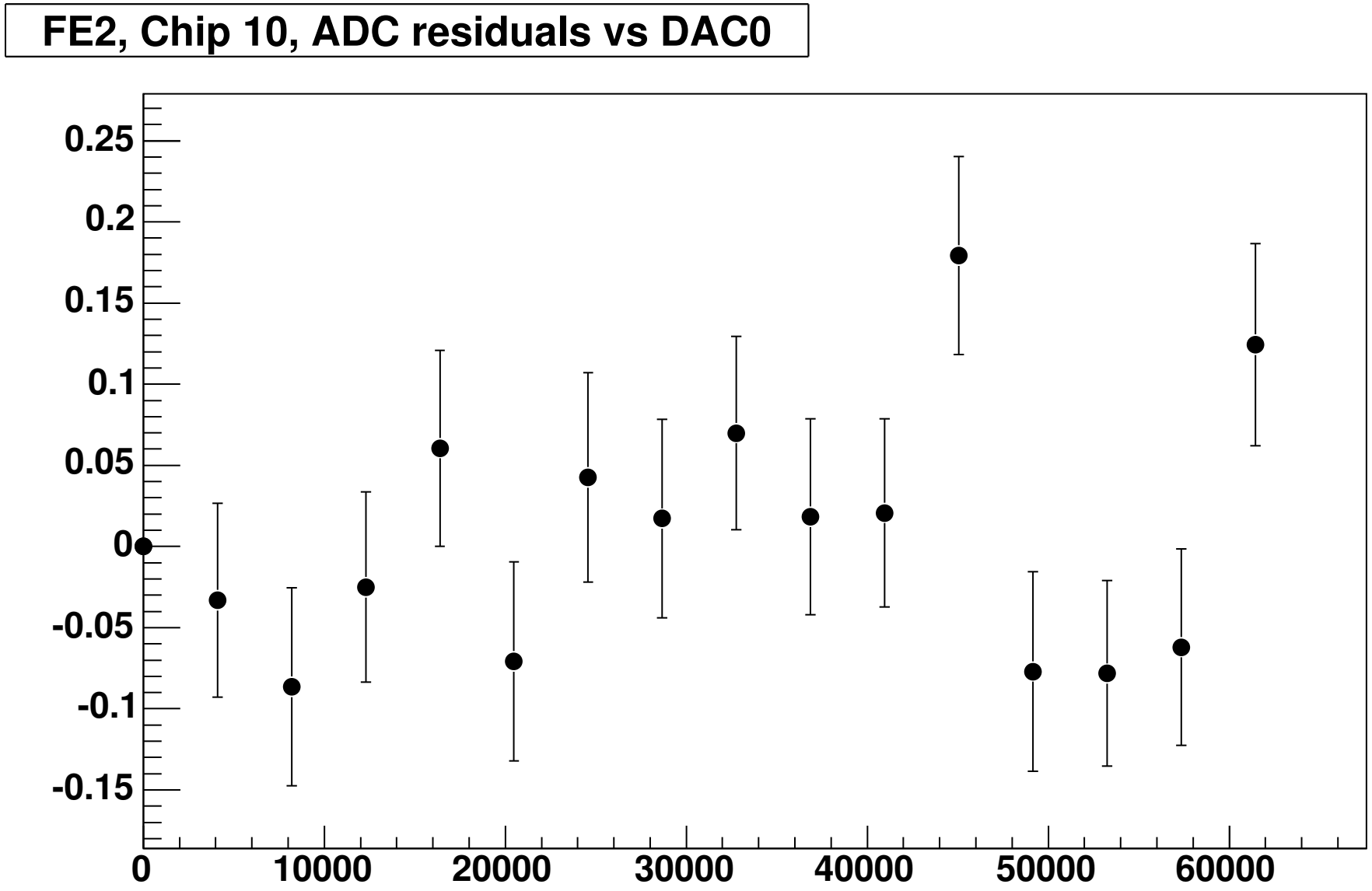
FE2, Chip 9, ADC noise vs DAC1

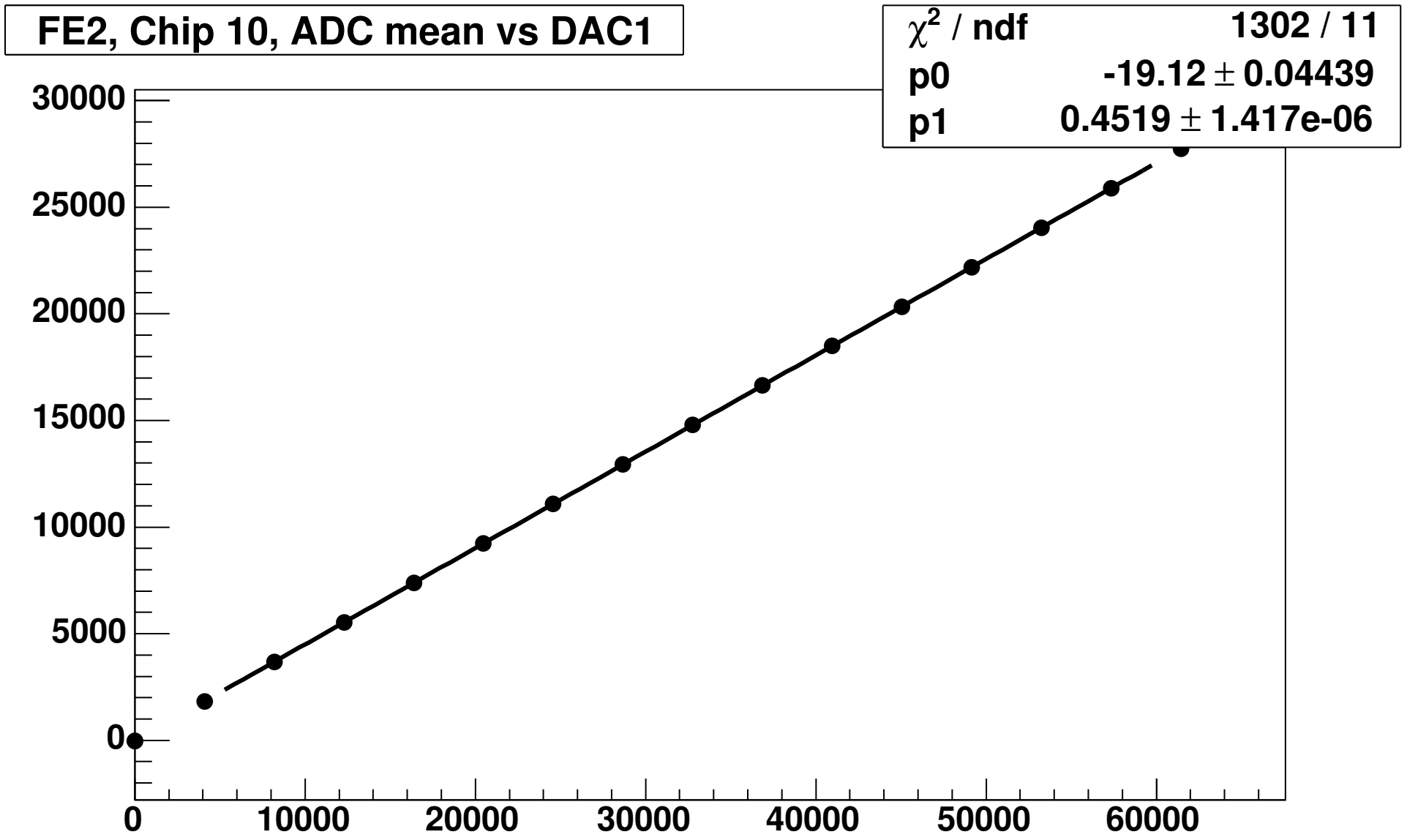


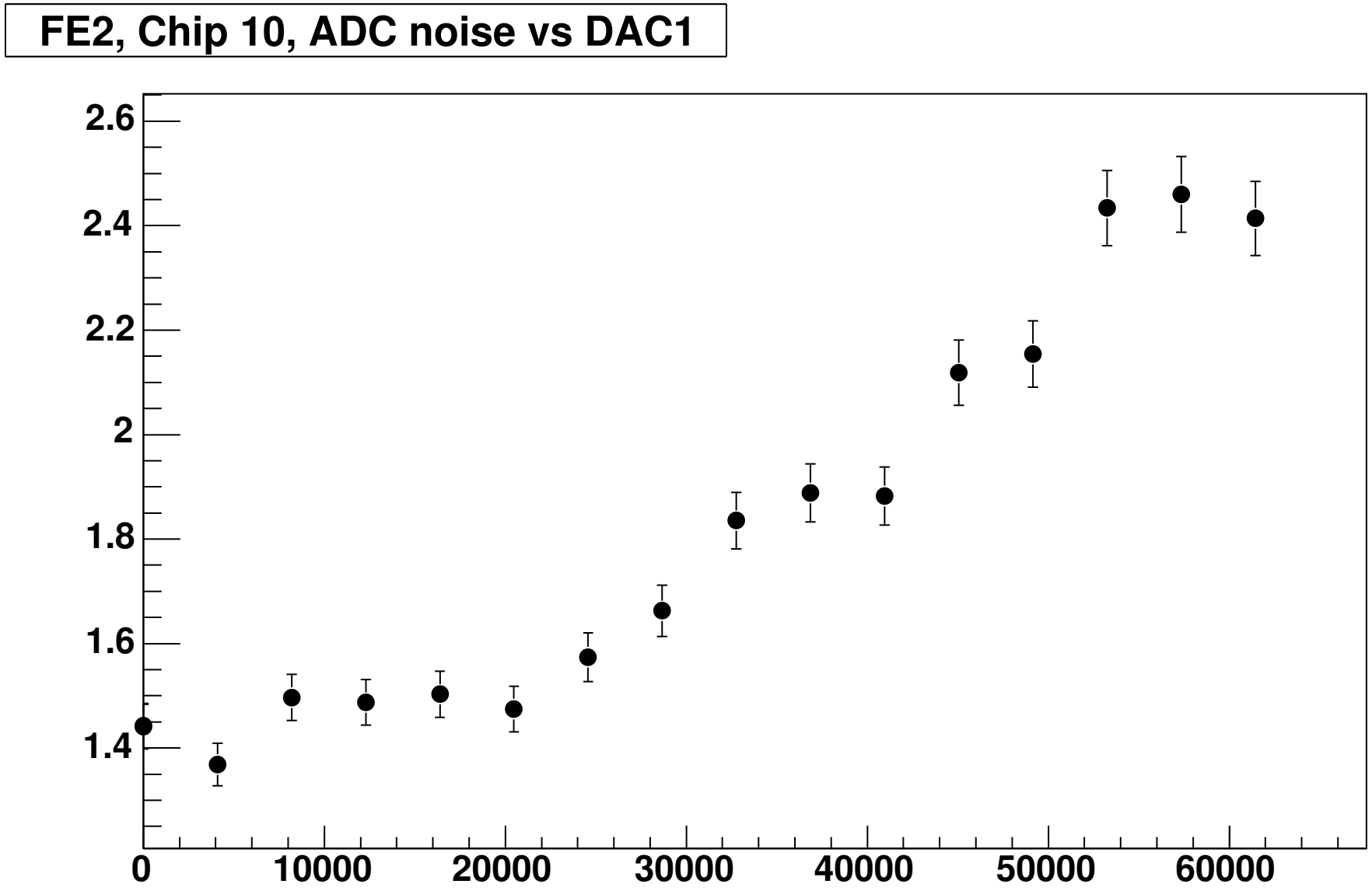

FE2, Chip 9, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

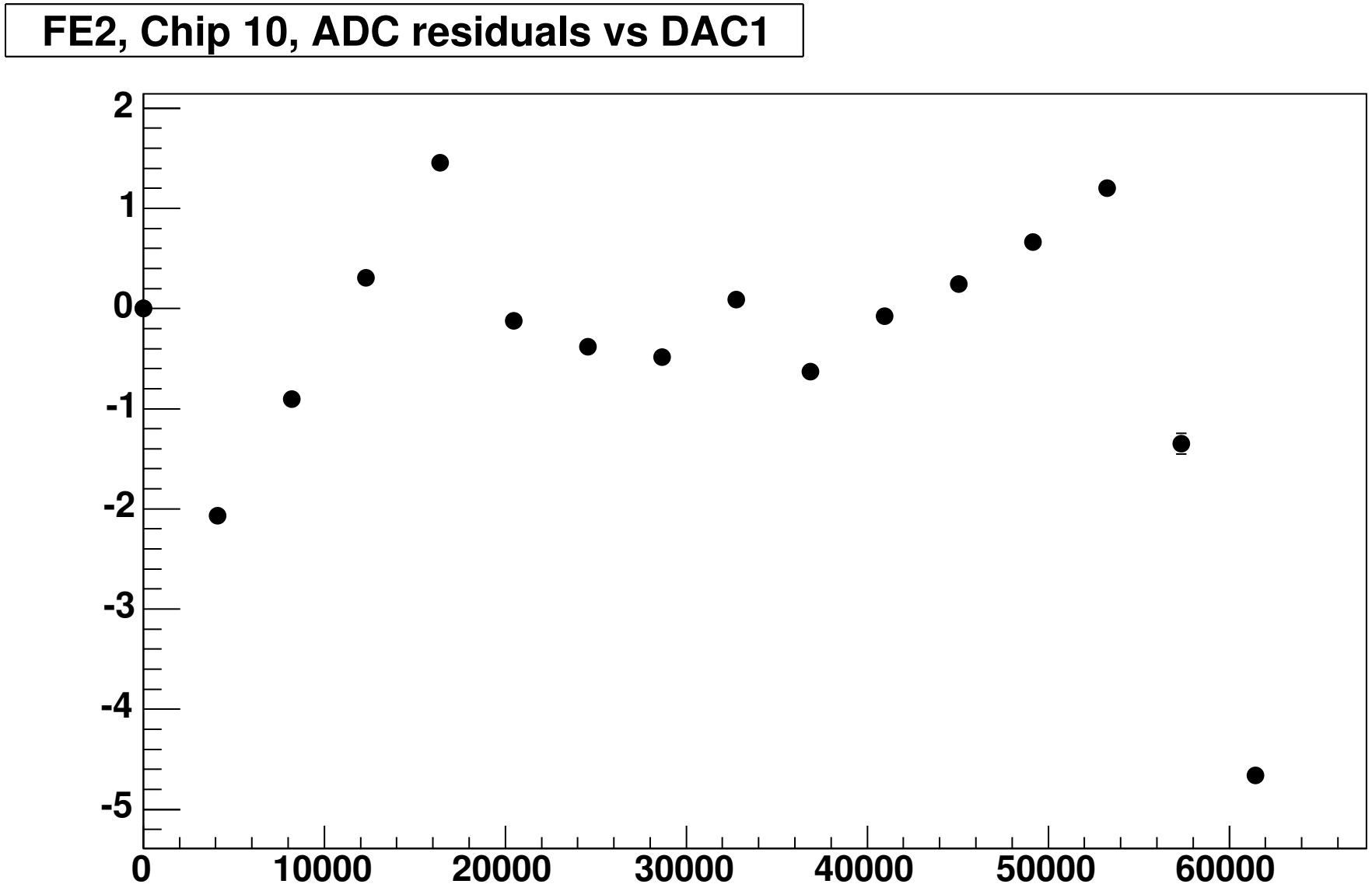

FE2, Chip 10, ADC mean vs DAC0
χ² / ndf 19.78 / 11
p0 -21.06 ± 0.03952
p1 -9.906e-07 ± 1.085e-06
-20.85
-20.9
-20.95
-21
-21.05
-21.1
-21.15
-21.2
-21.25
0
10000
20000
30000
40000
50000
60000

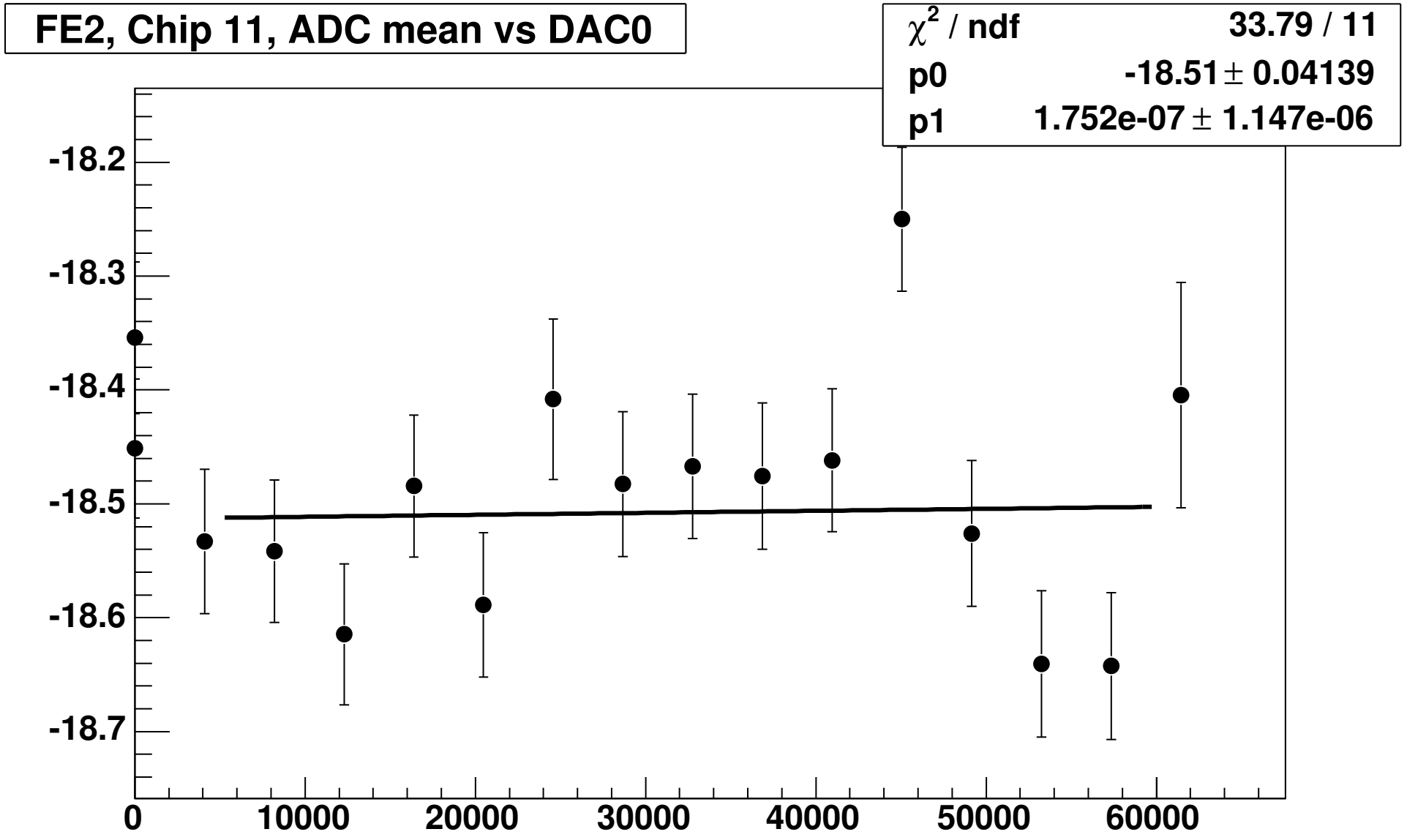

FE2, Chip 10, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

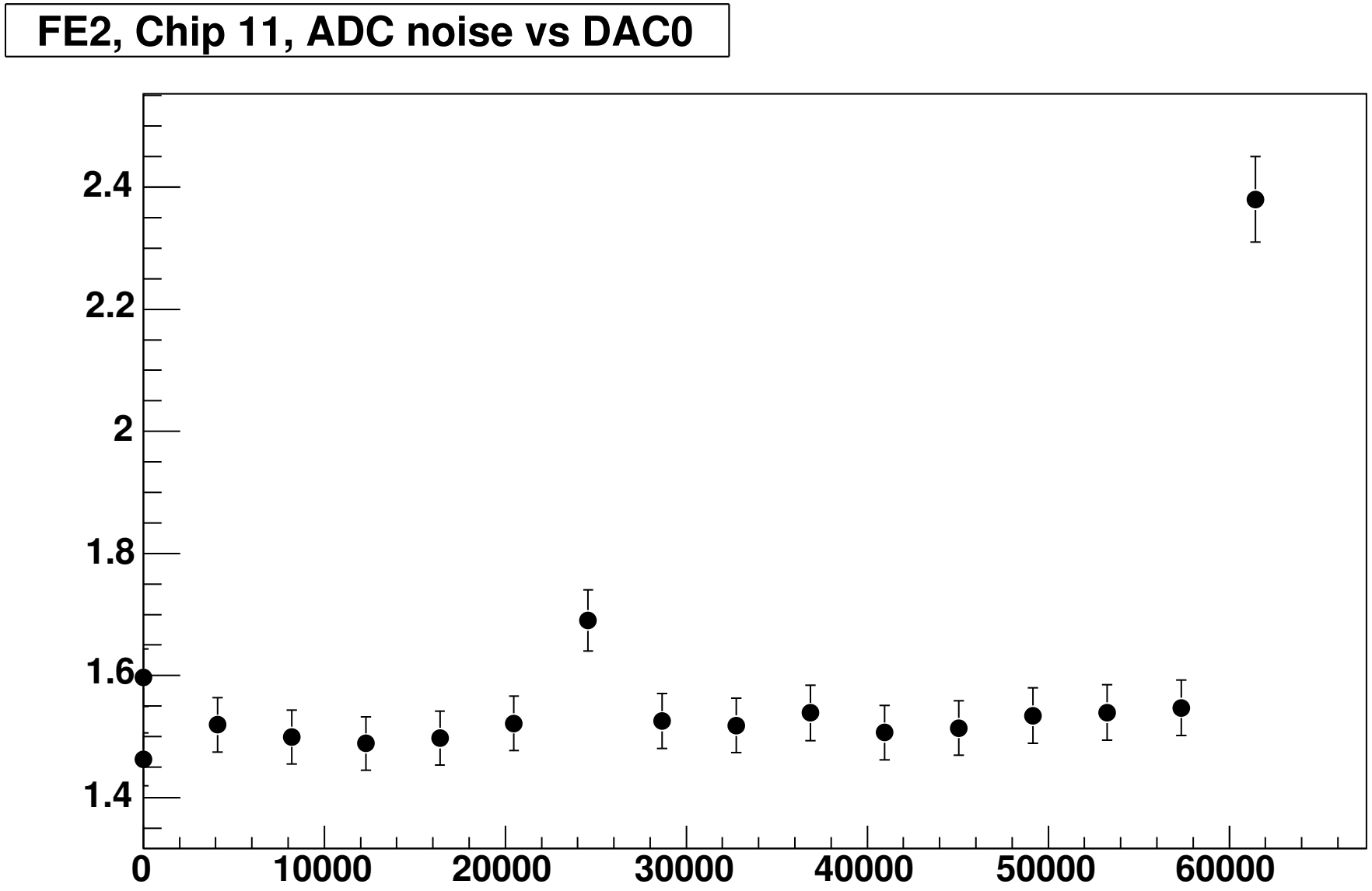

FE2, Chip 10, ADC residuals vs DAC0
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

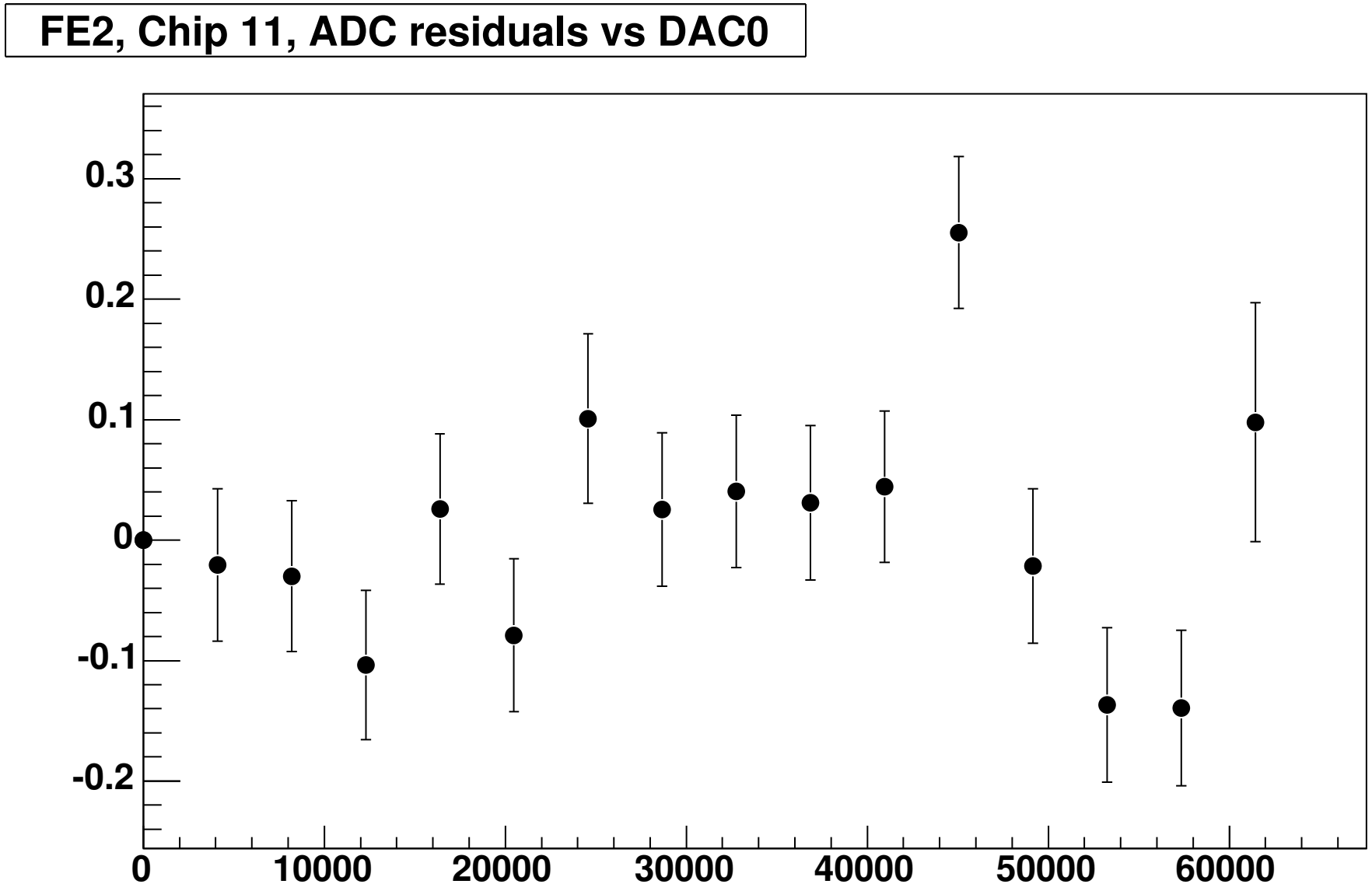

FE2, Chip 10, ADC mean vs DAC1
χ² / ndf 1302 / 11
p0 -19.12 ± 0.04439
p1 0.4519 ± 1.417e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

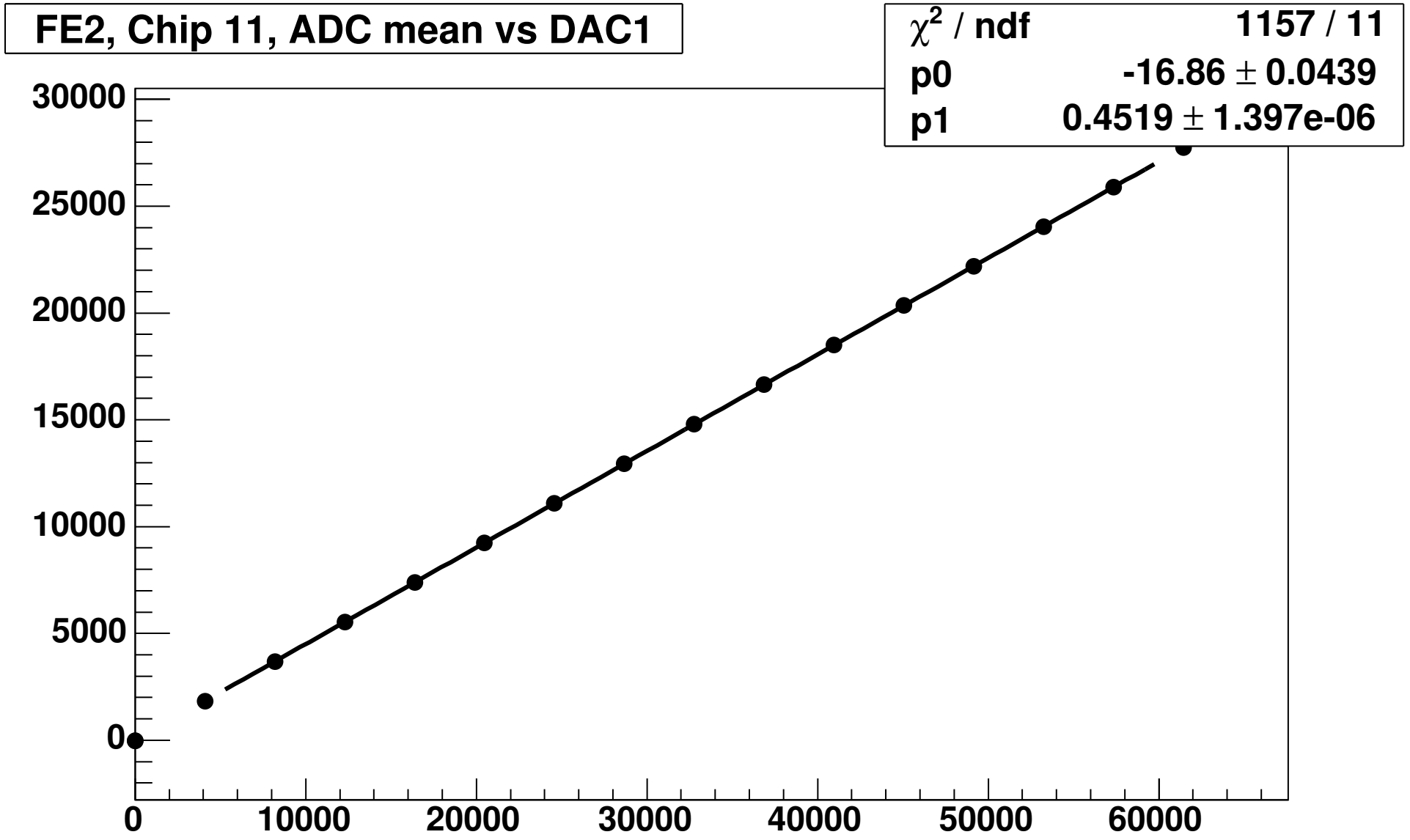

FE2, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

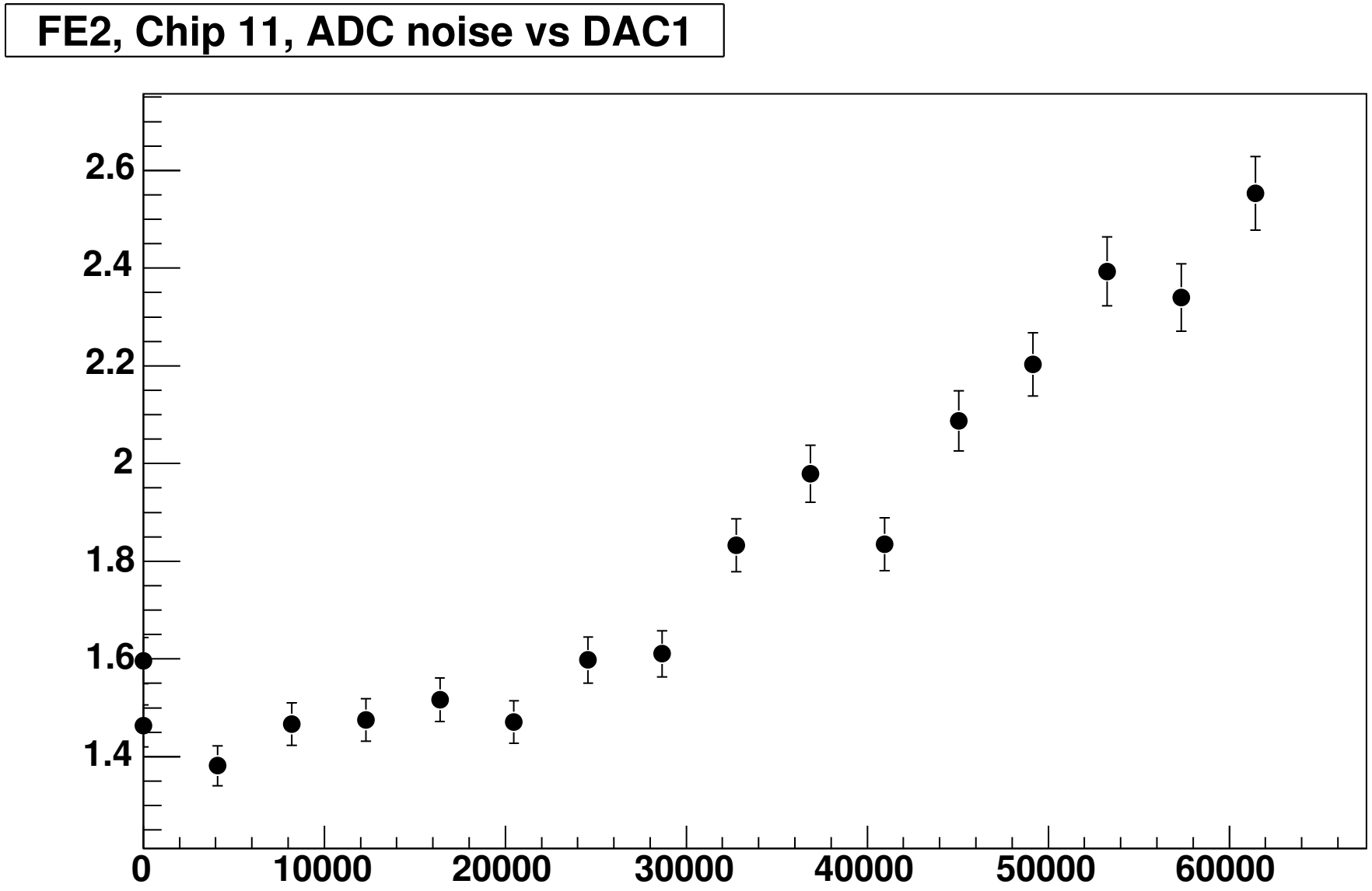

FE2, Chip 10, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

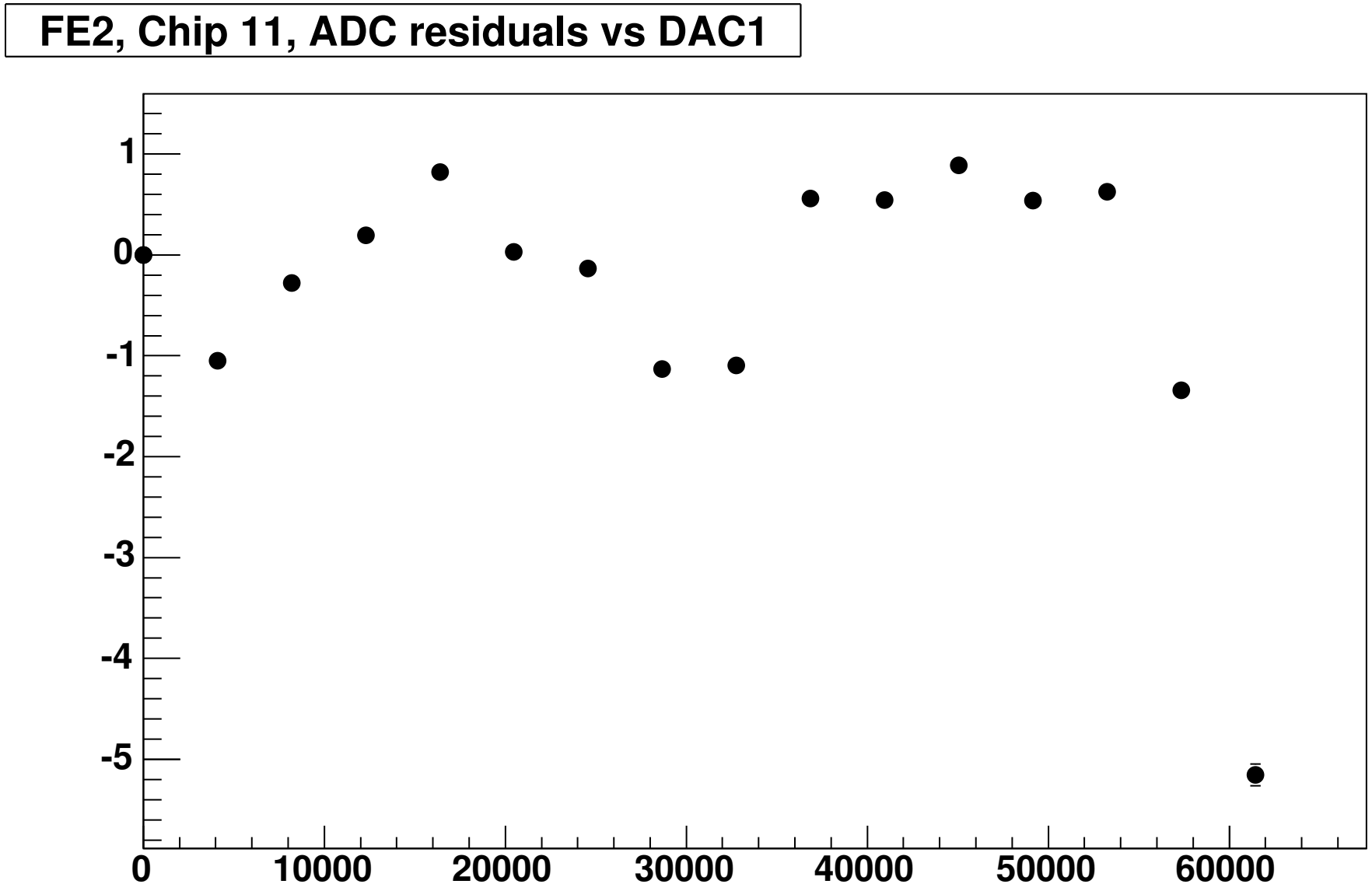

FE2, Chip 11, ADC mean vs DAC0
χ² / ndf 33.79 / 11
p0 -18.51 ± 0.04139
p1 1.752e-07 ± 1.147e-06
-18.2
-18.3
-18.4
-18.5
-18.6
-18.7
0
10000
20000
30000
40000
50000
60000

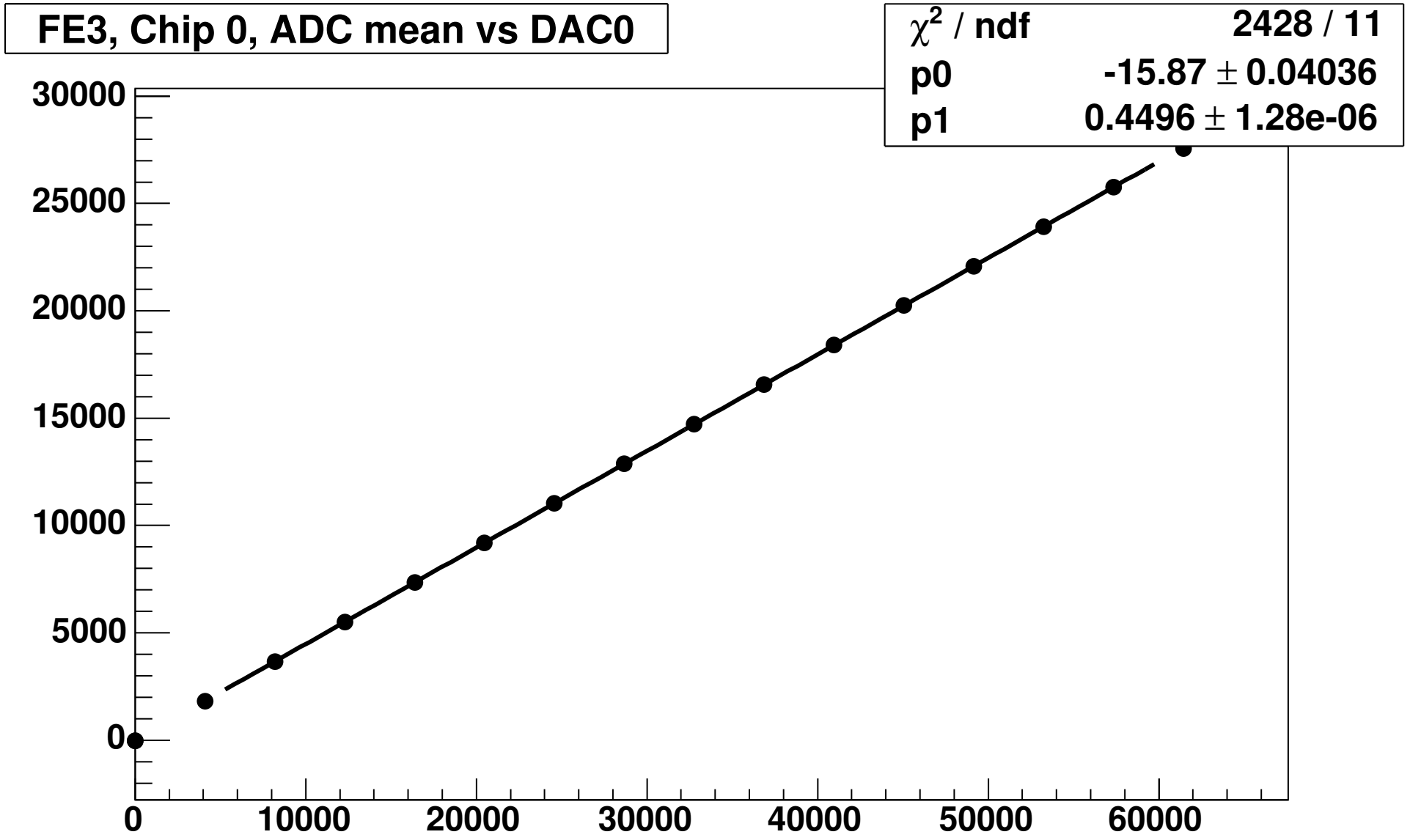

FE2, Chip 11, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

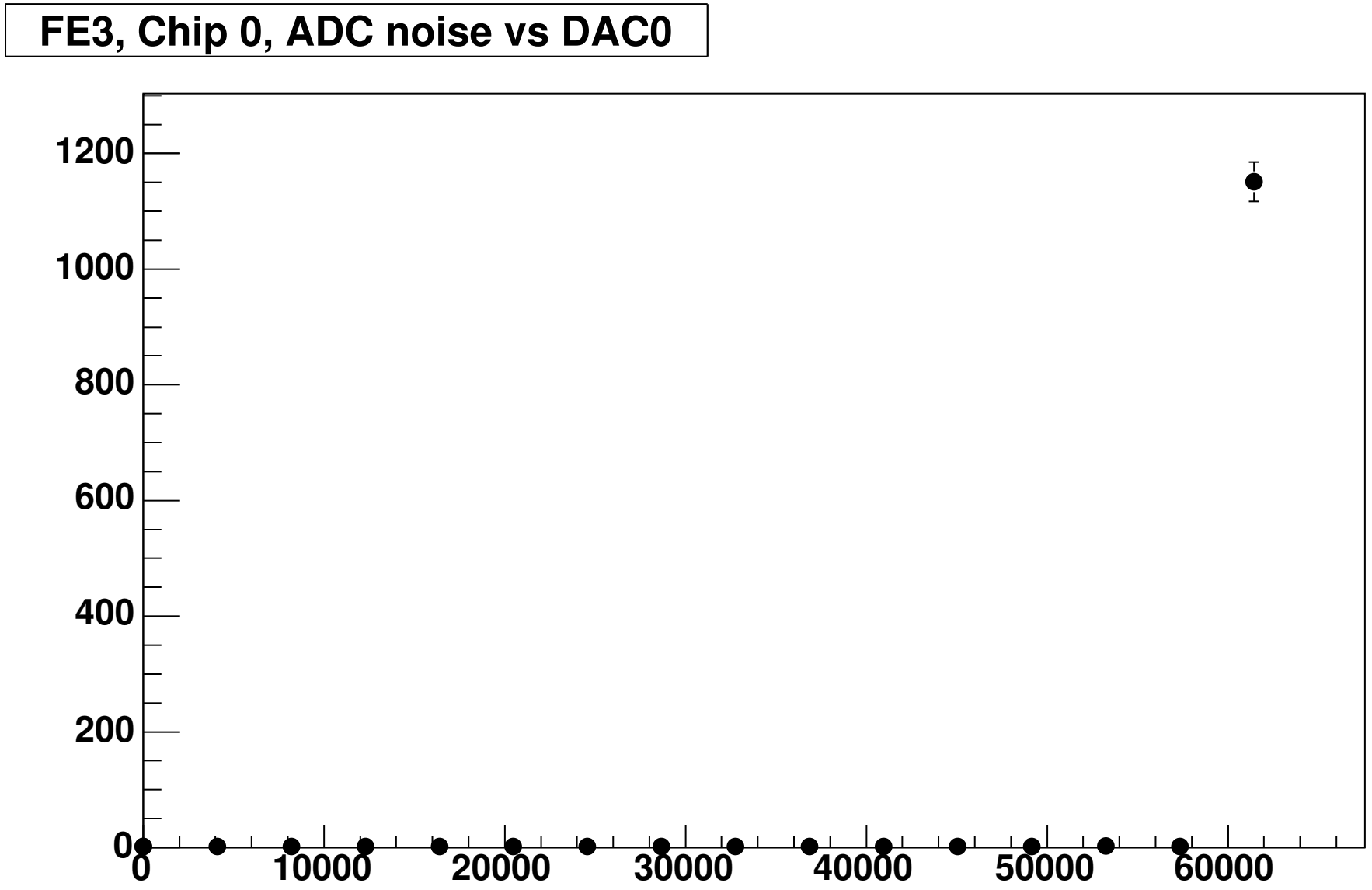

FE2, Chip 11, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

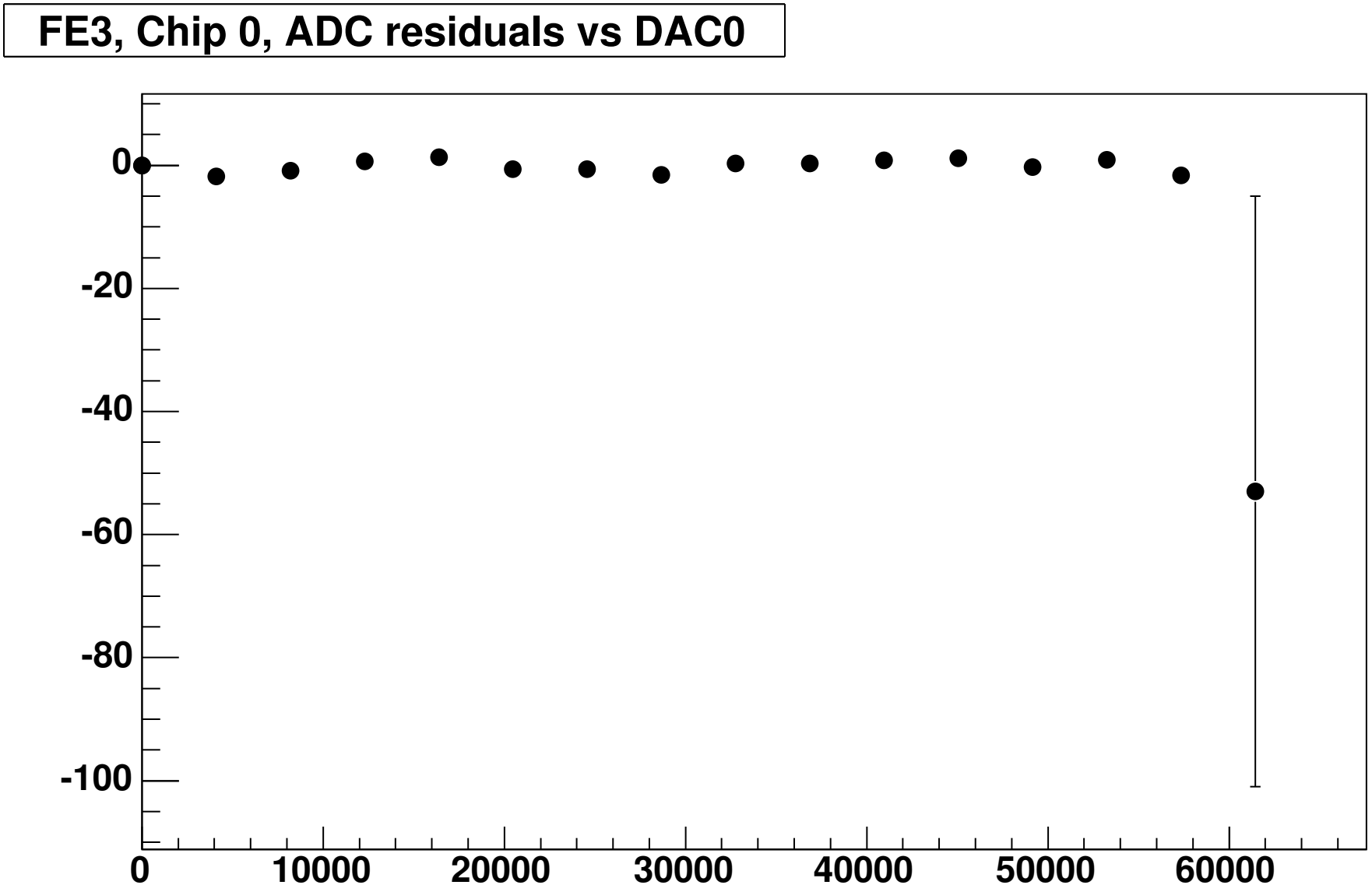

FE2, Chip 11, ADC mean vs DAC1
χ² / ndf 1157 / 11
p0 -16.86 ± 0.0439
p1 0.4519 ± 1.397e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

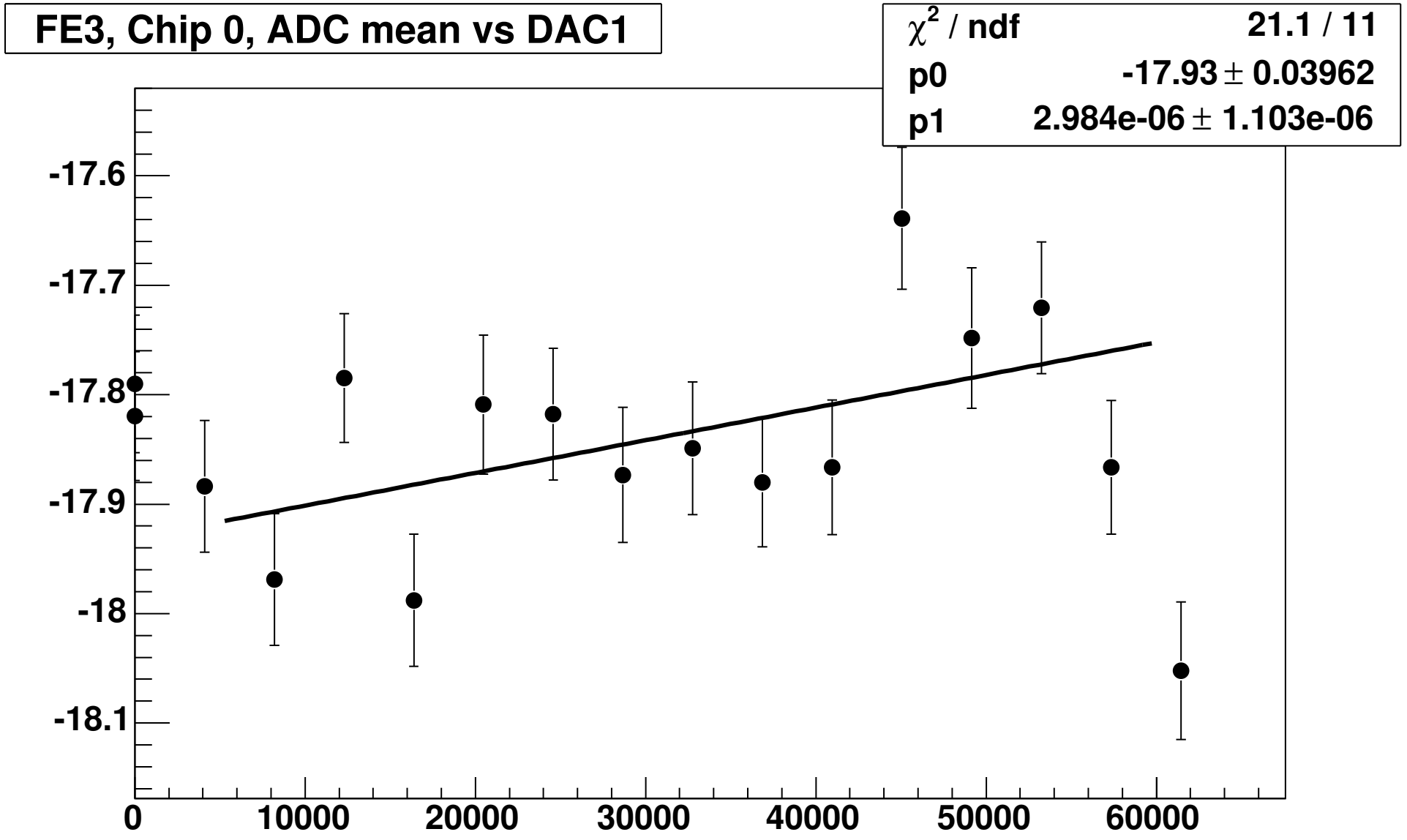

FE2, Chip 11, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

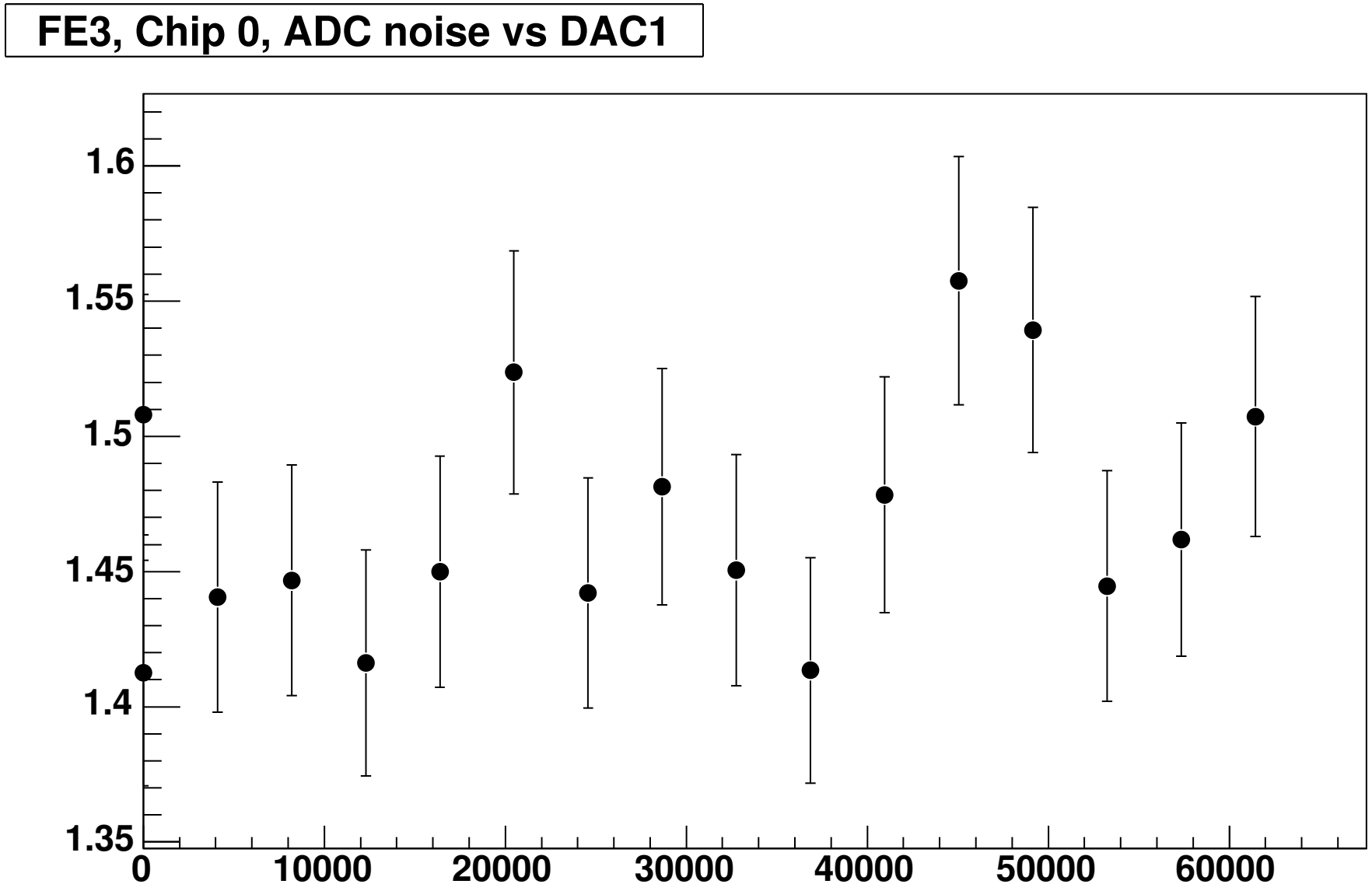

FE2, Chip 11, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

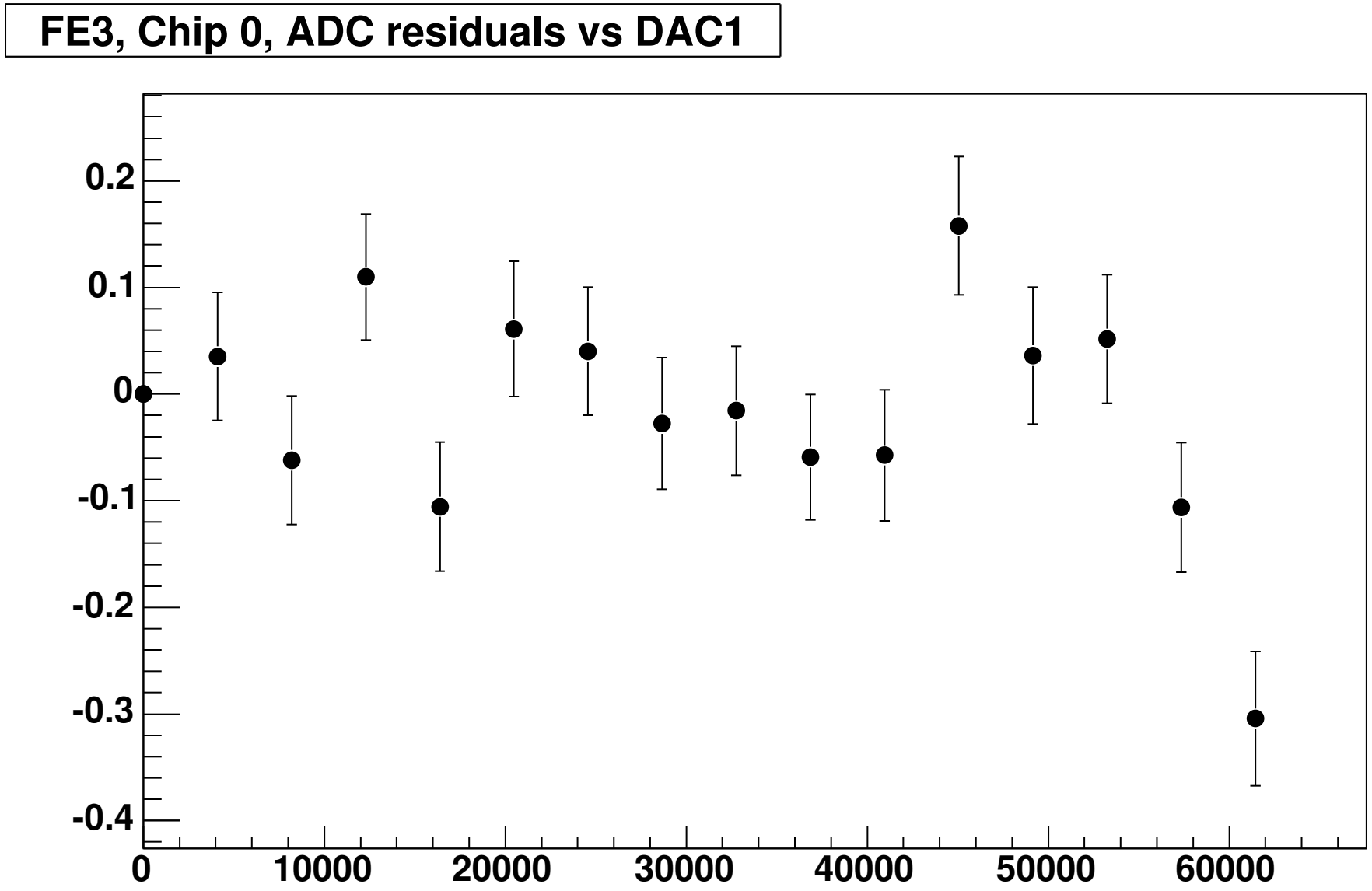

FE3, Chip 0, ADC mean vs DAC0
χ² / ndf 2428 / 11
p0 -15.87 ± 0.04036
p1 0.4496 ± 1.28e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

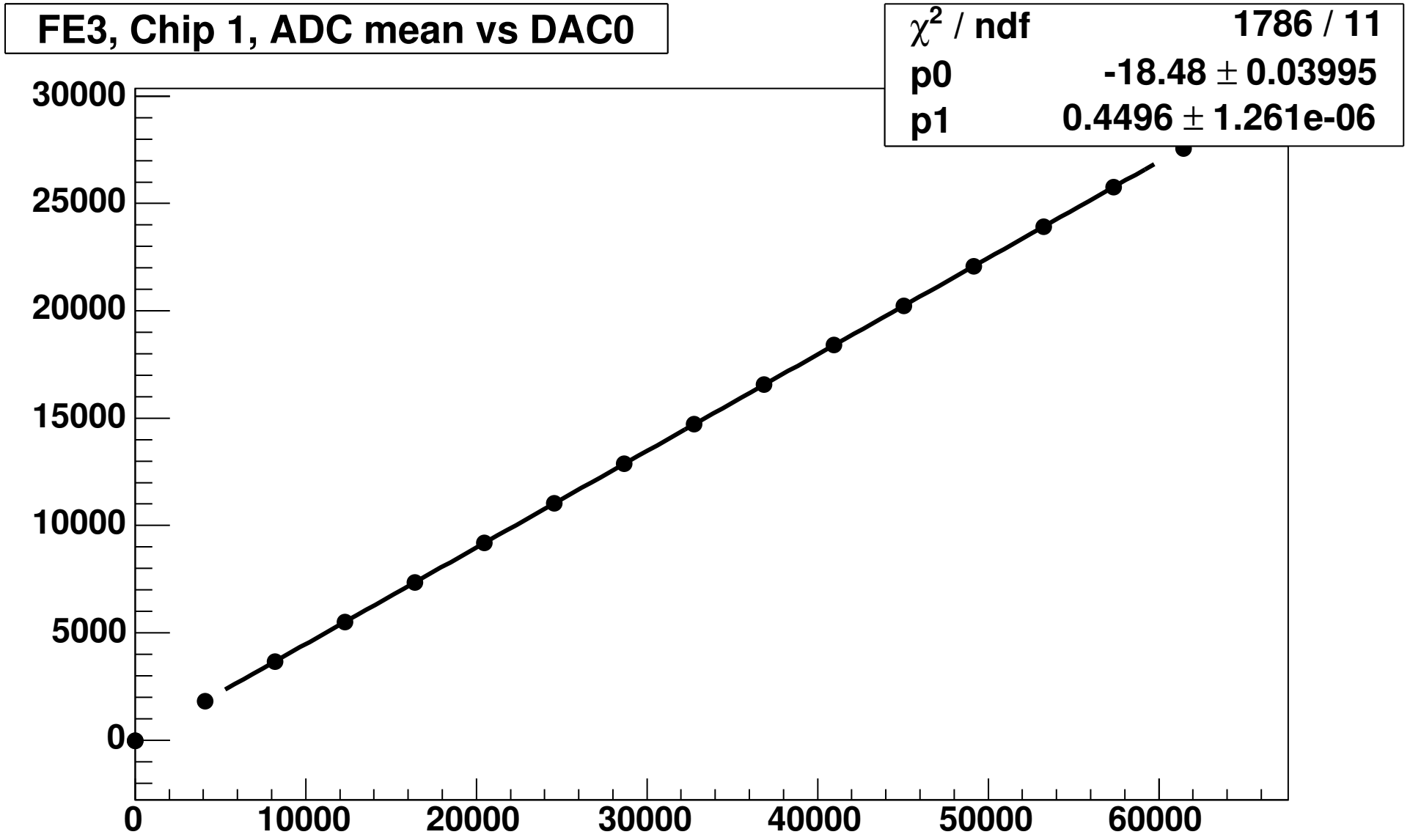

FE3, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

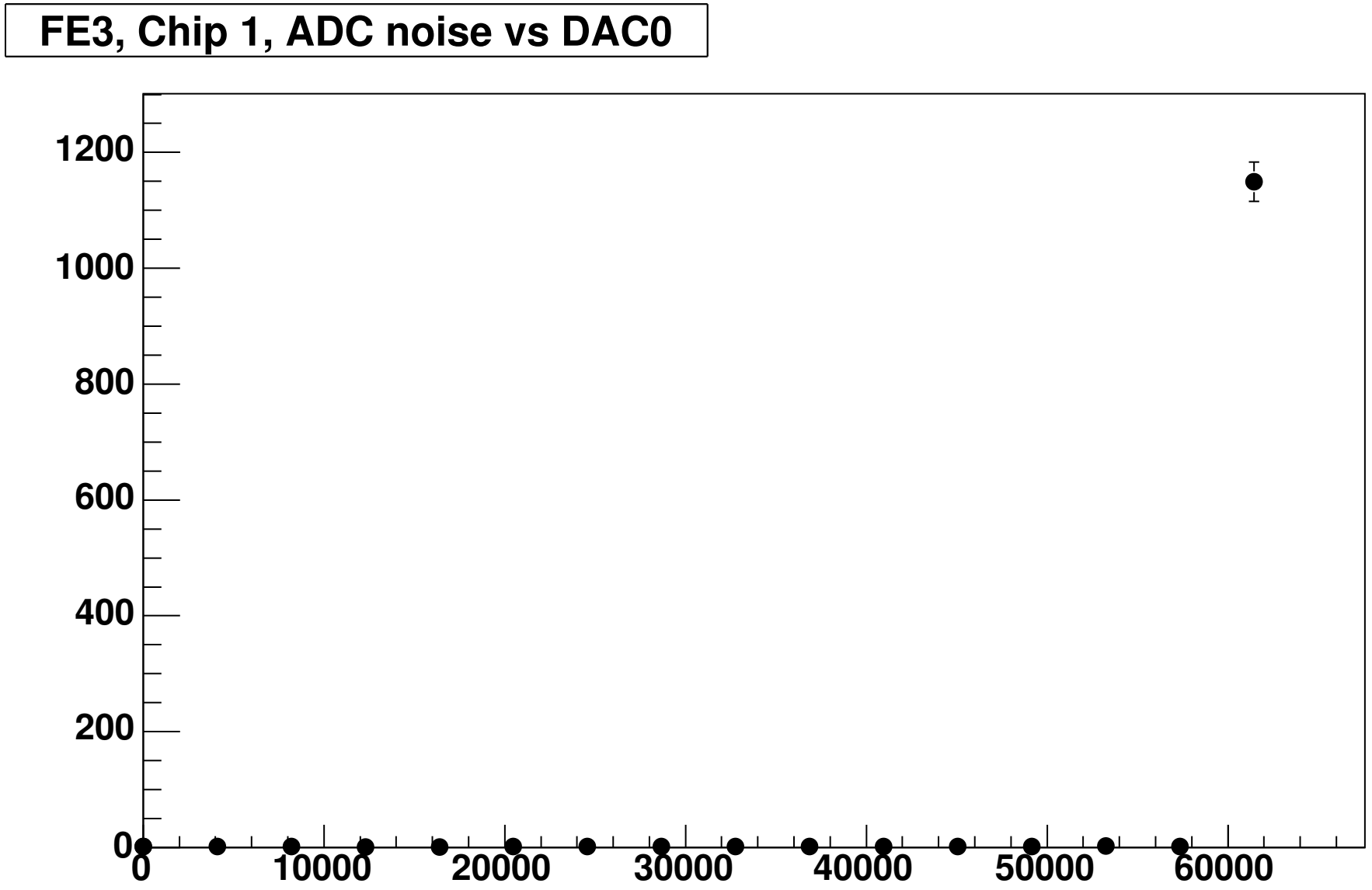

FE3, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

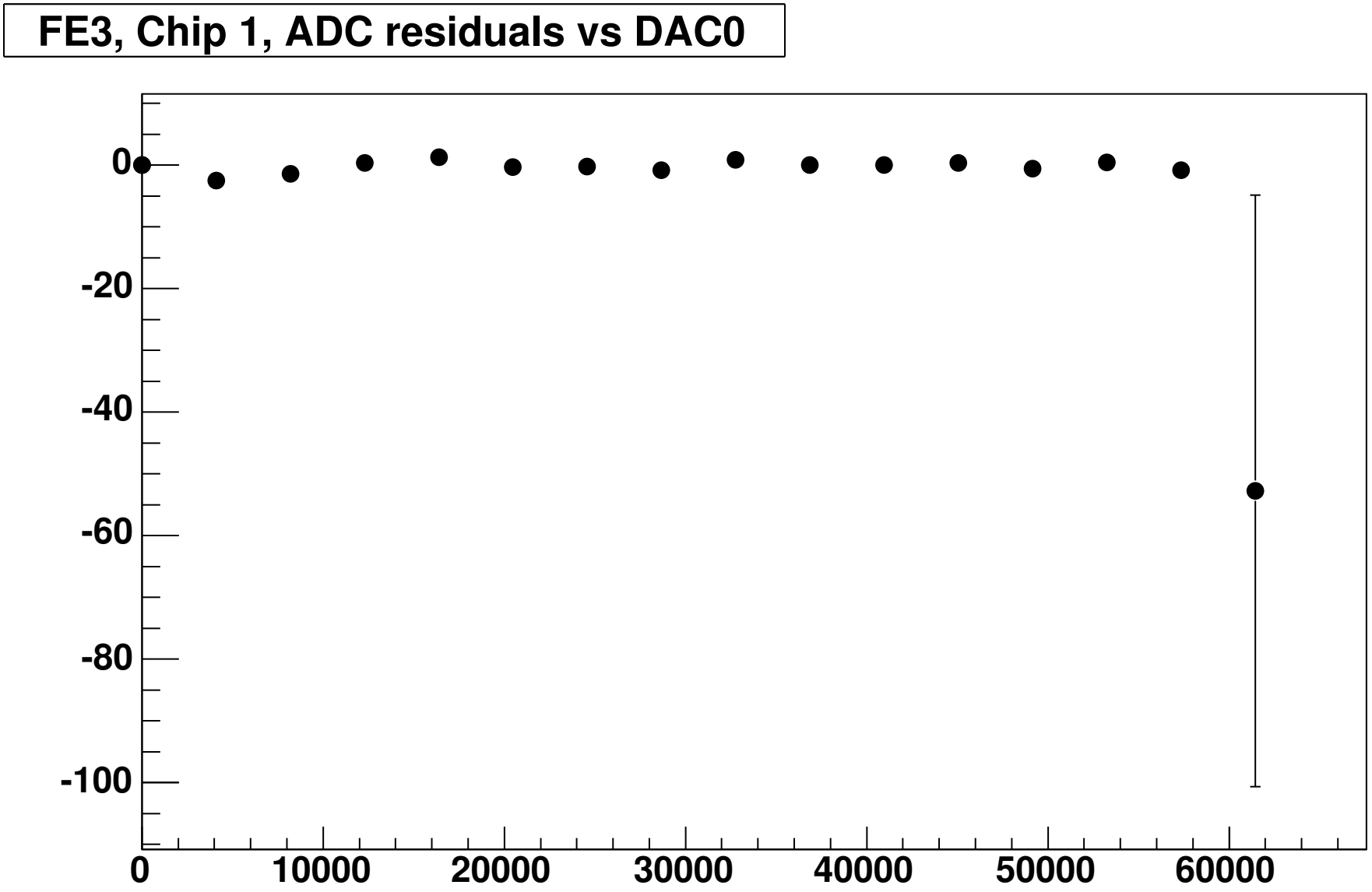

FE3, Chip 0, ADC mean vs DAC1
χ² / ndf 21.1 / 11
p0 -17.93 ± 0.03962
p1 2.984e-06 ± 1.103e-06
-17.6
-17.7
-17.8
-17.9
-18
-18.1
0
10000
20000
30000
40000
50000
60000

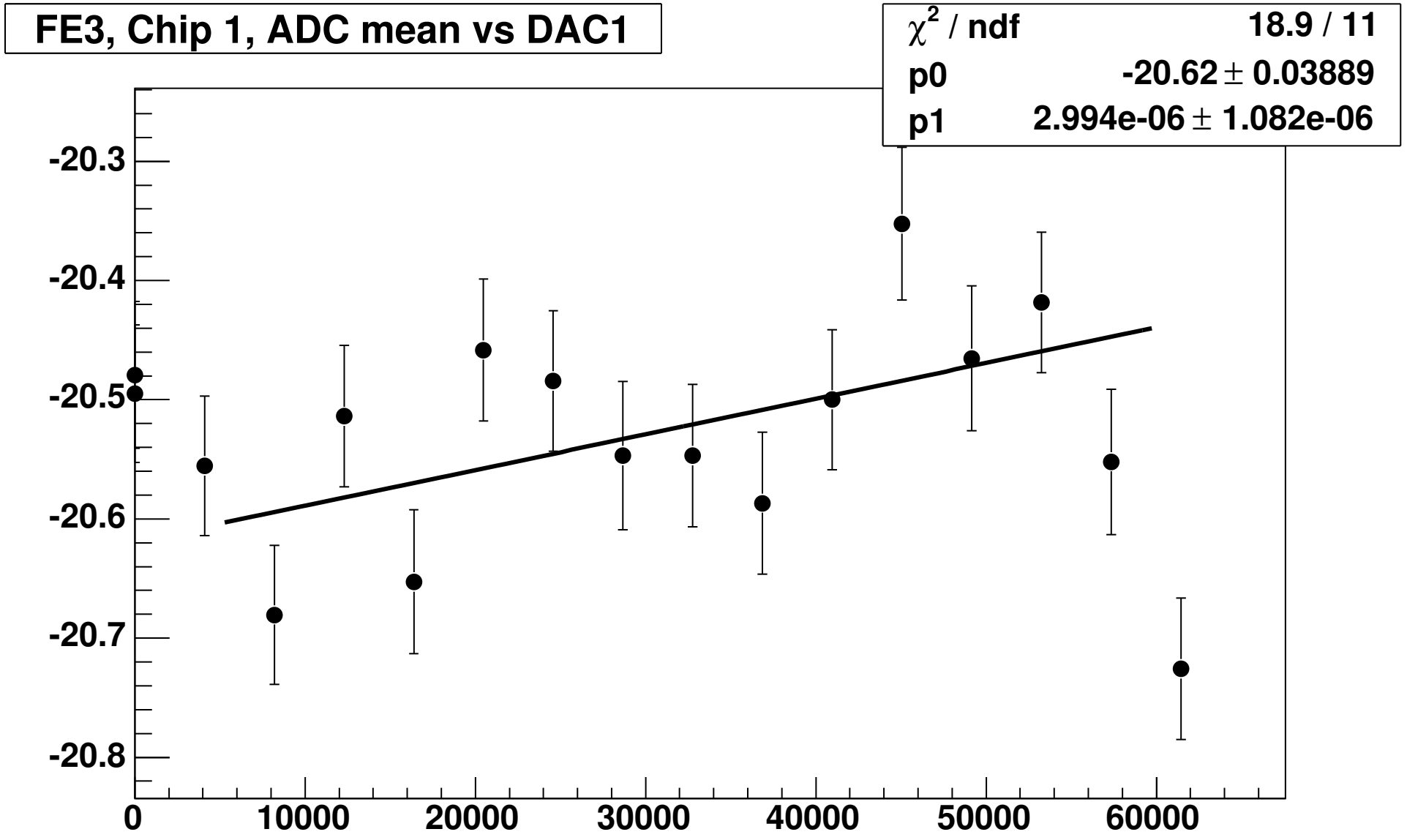

FE3, Chip 0, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

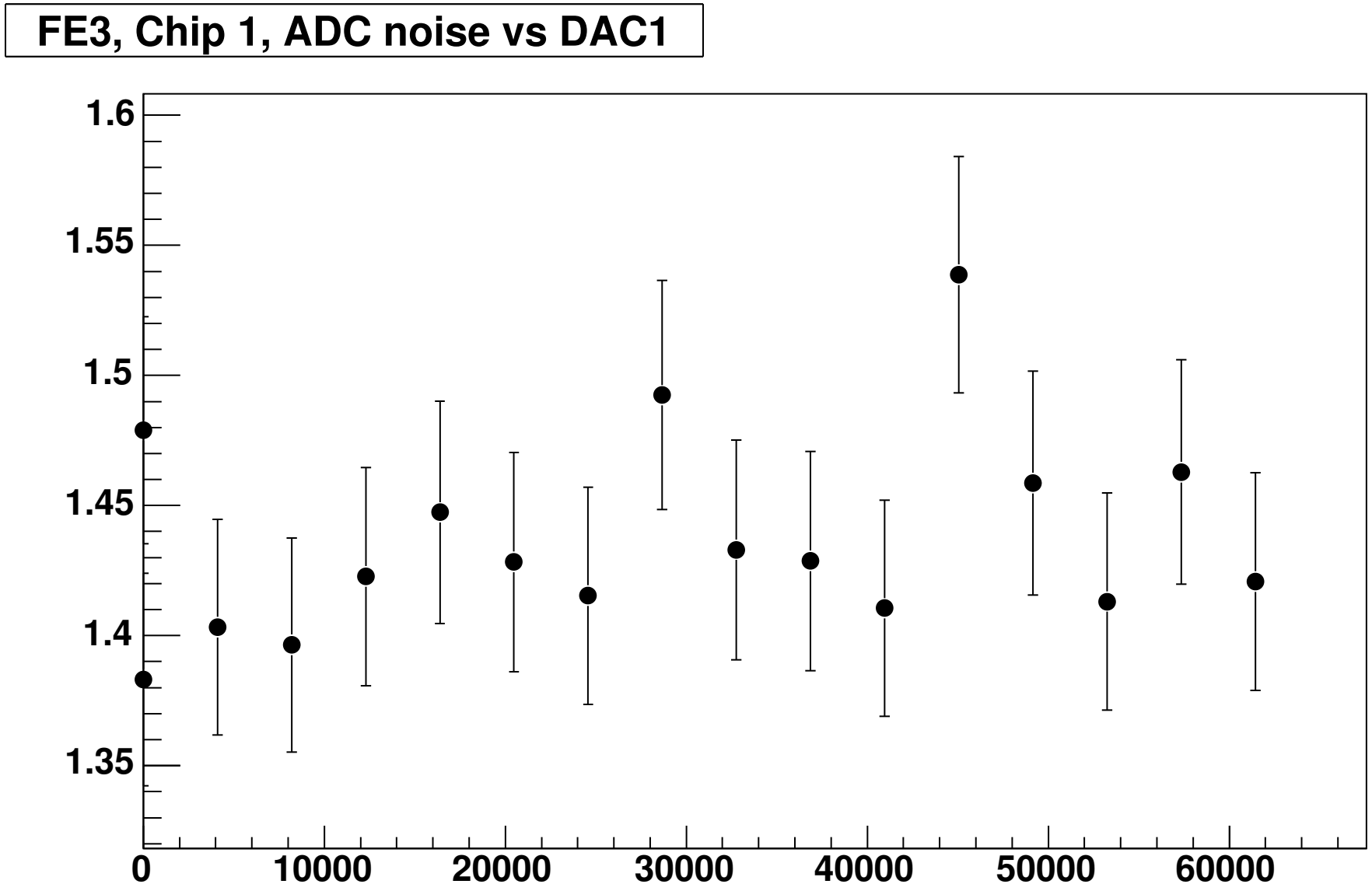

FE3, Chip 0, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

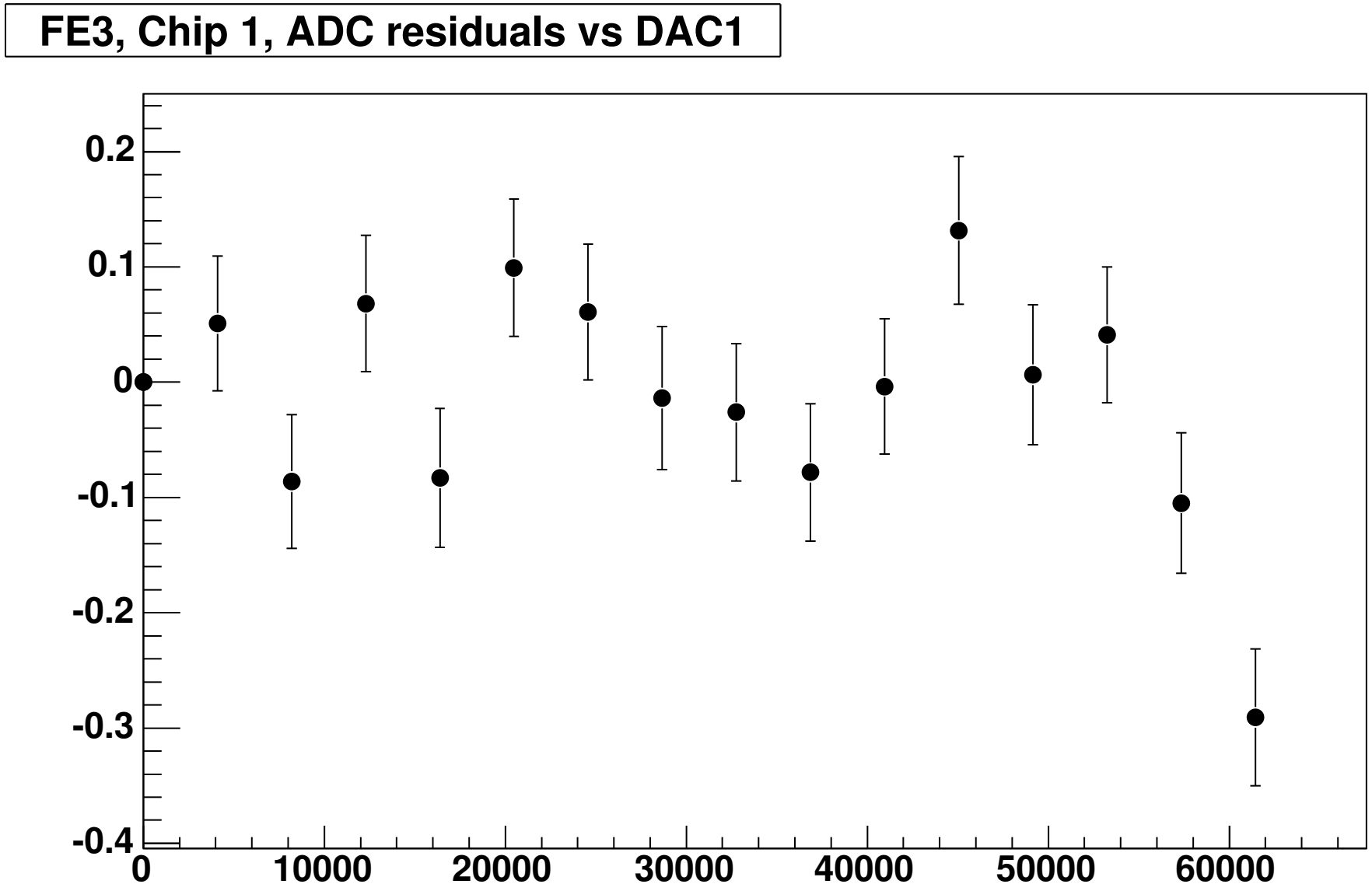

FE3, Chip 1, ADC mean vs DAC0
χ² / ndf 1786 / 11
p0 -18.48 ± 0.03995
p1 0.4496 ± 1.261e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

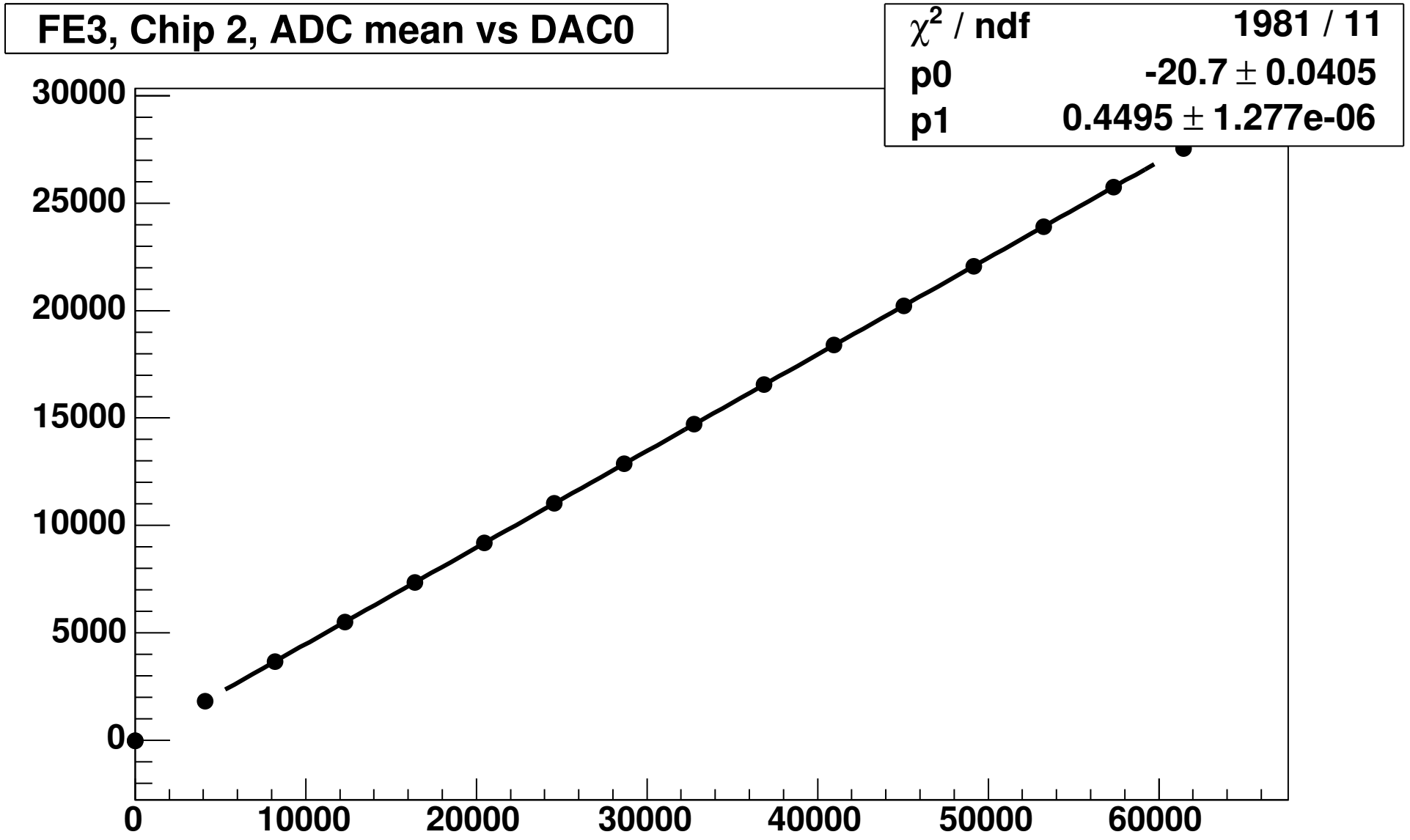

FE3, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

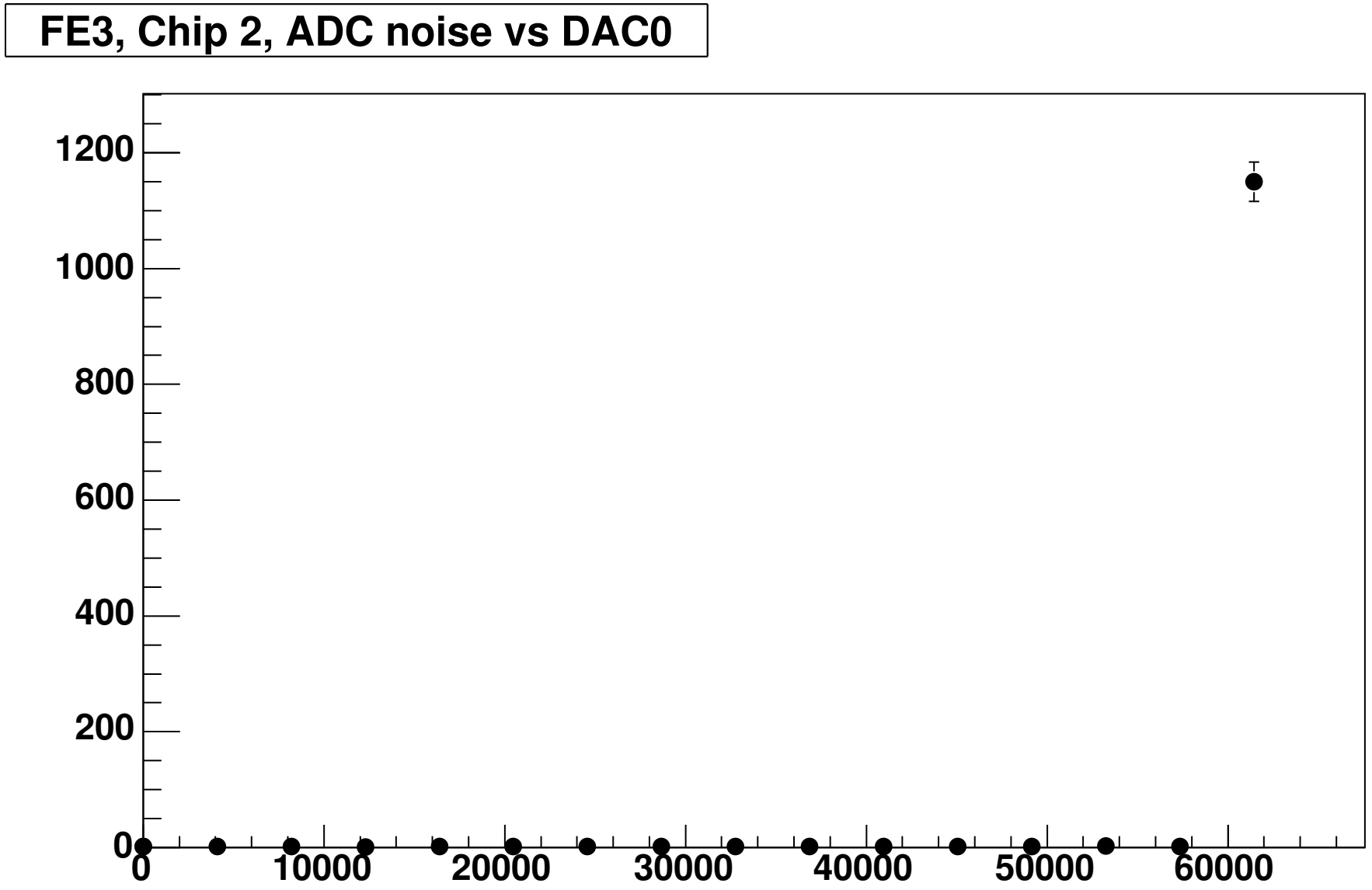

FE3, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

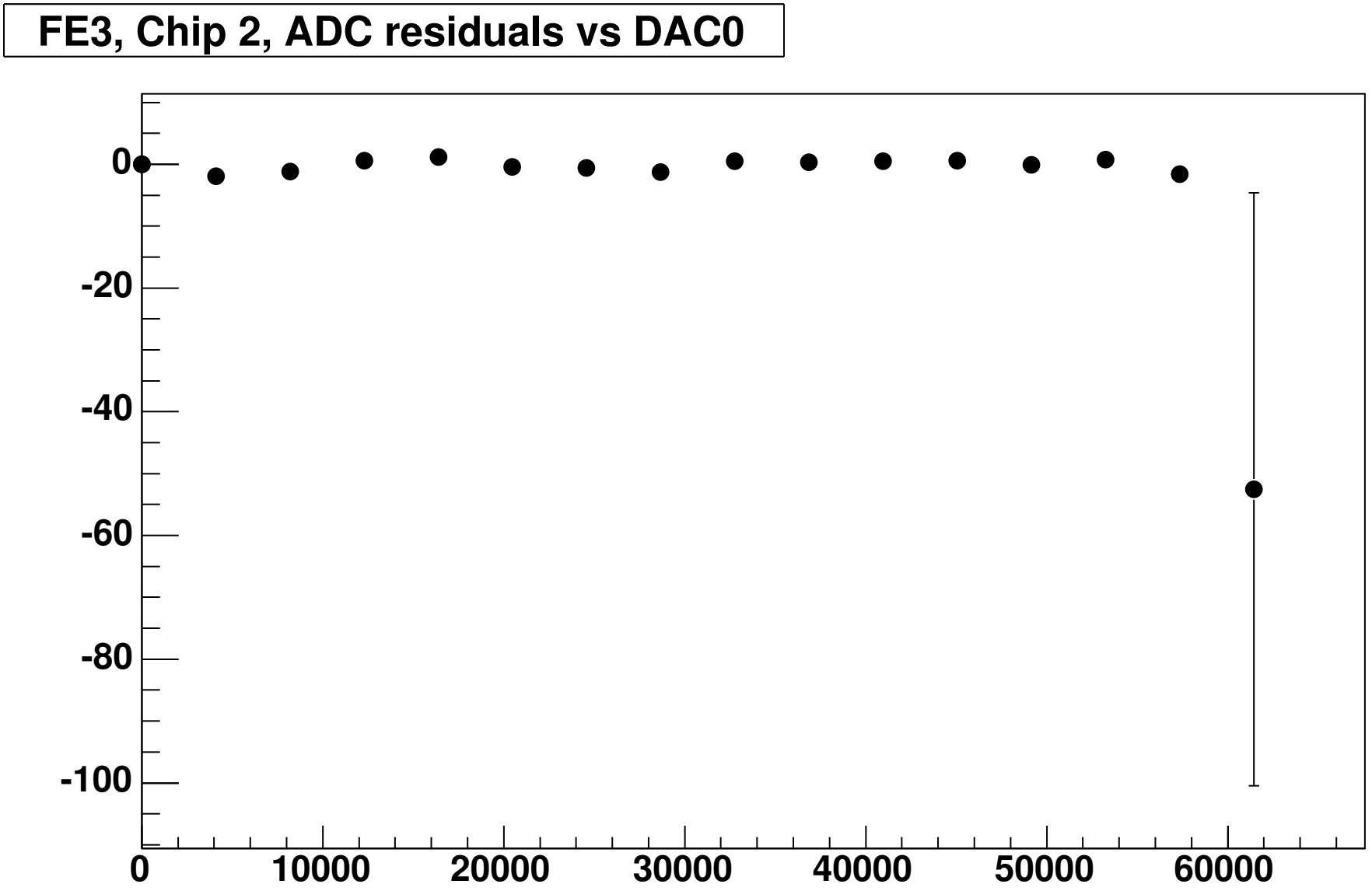

FE3, Chip 1, ADC mean vs DAC1
χ² / ndf 18.9 / 11
p0 -20.62 ± 0.03889
p1 2.994e-06 ± 1.082e-06
-20.3
-20.4
-20.5
-20.6
-20.7
-20.8
0
10000
20000
30000
40000
50000
60000

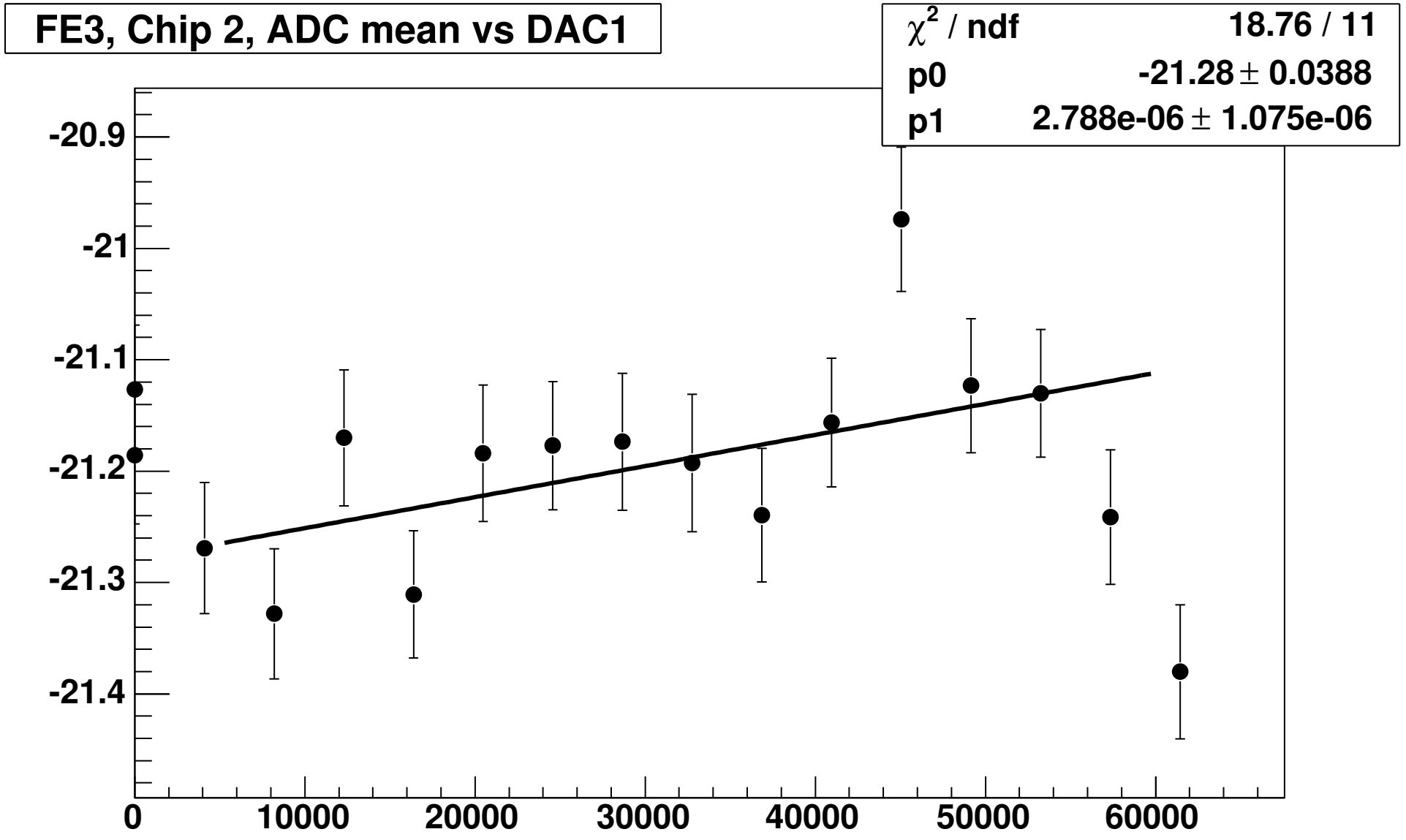

FE3, Chip 1, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

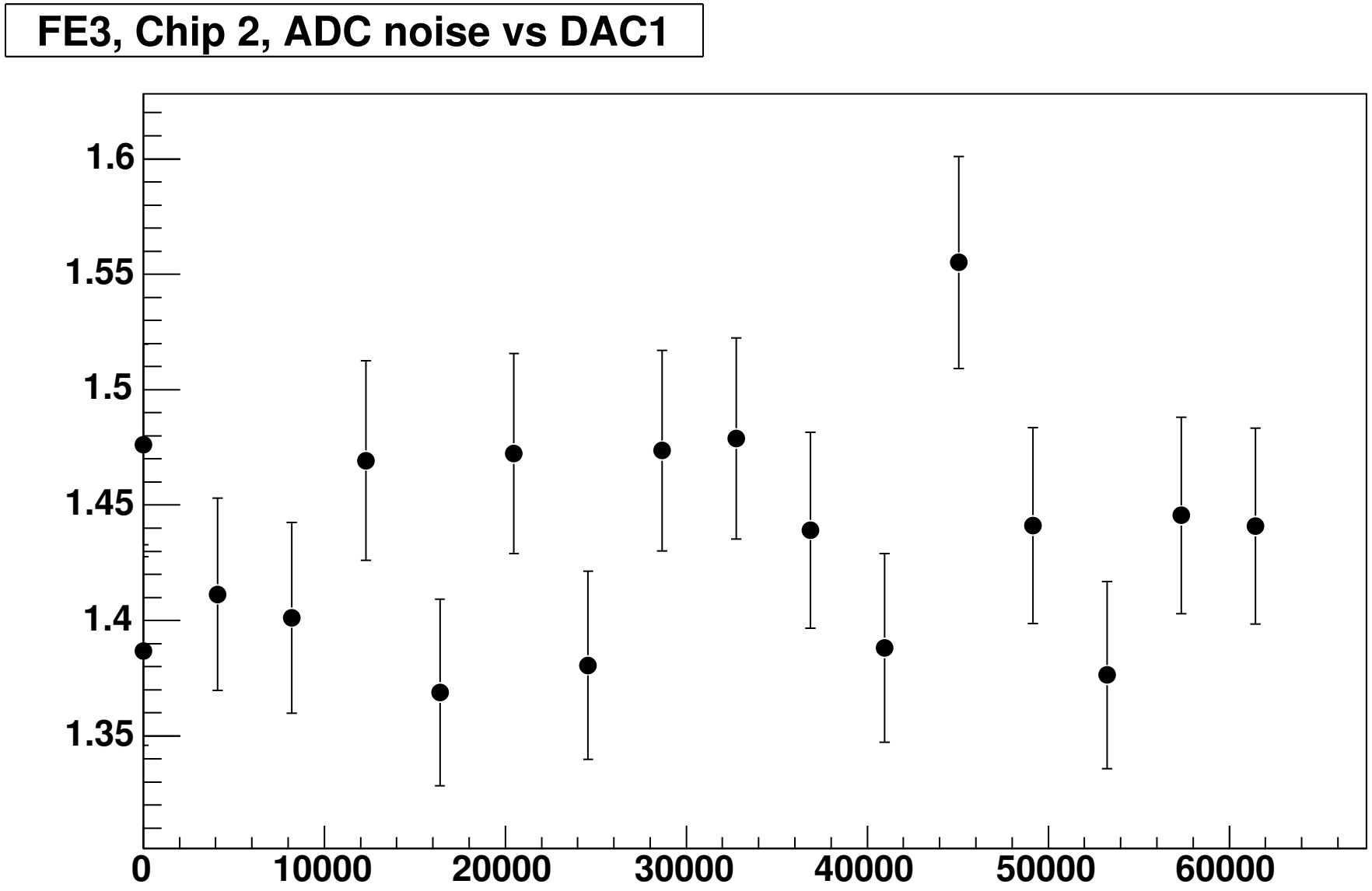

FE3, Chip 1, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

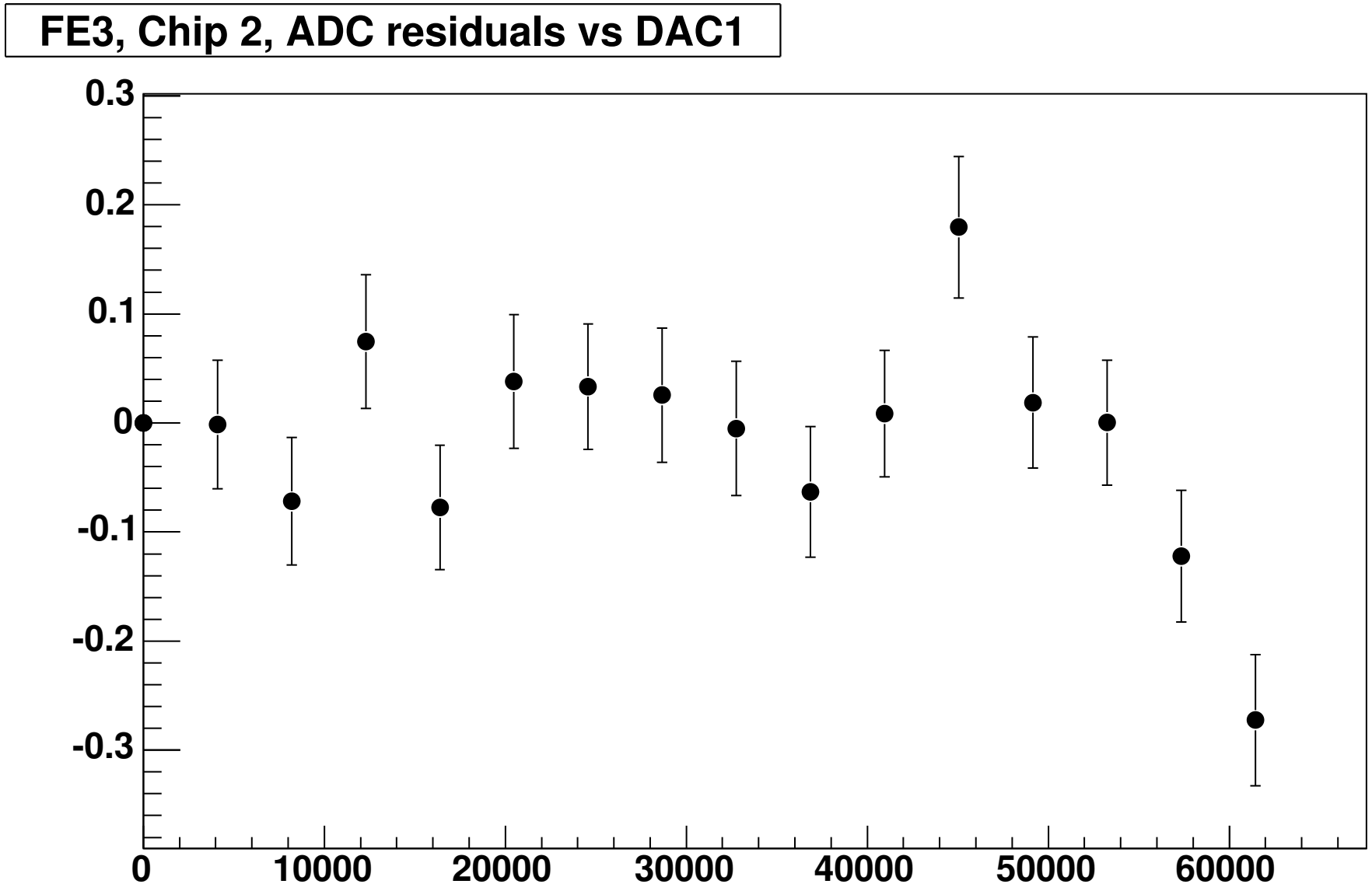

FE3, Chip 2, ADC mean vs DAC0
χ^2 / ndf 1981 / 11
p0 -20.7 ± 0.0405
p1 0.4495 ± 1.277e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

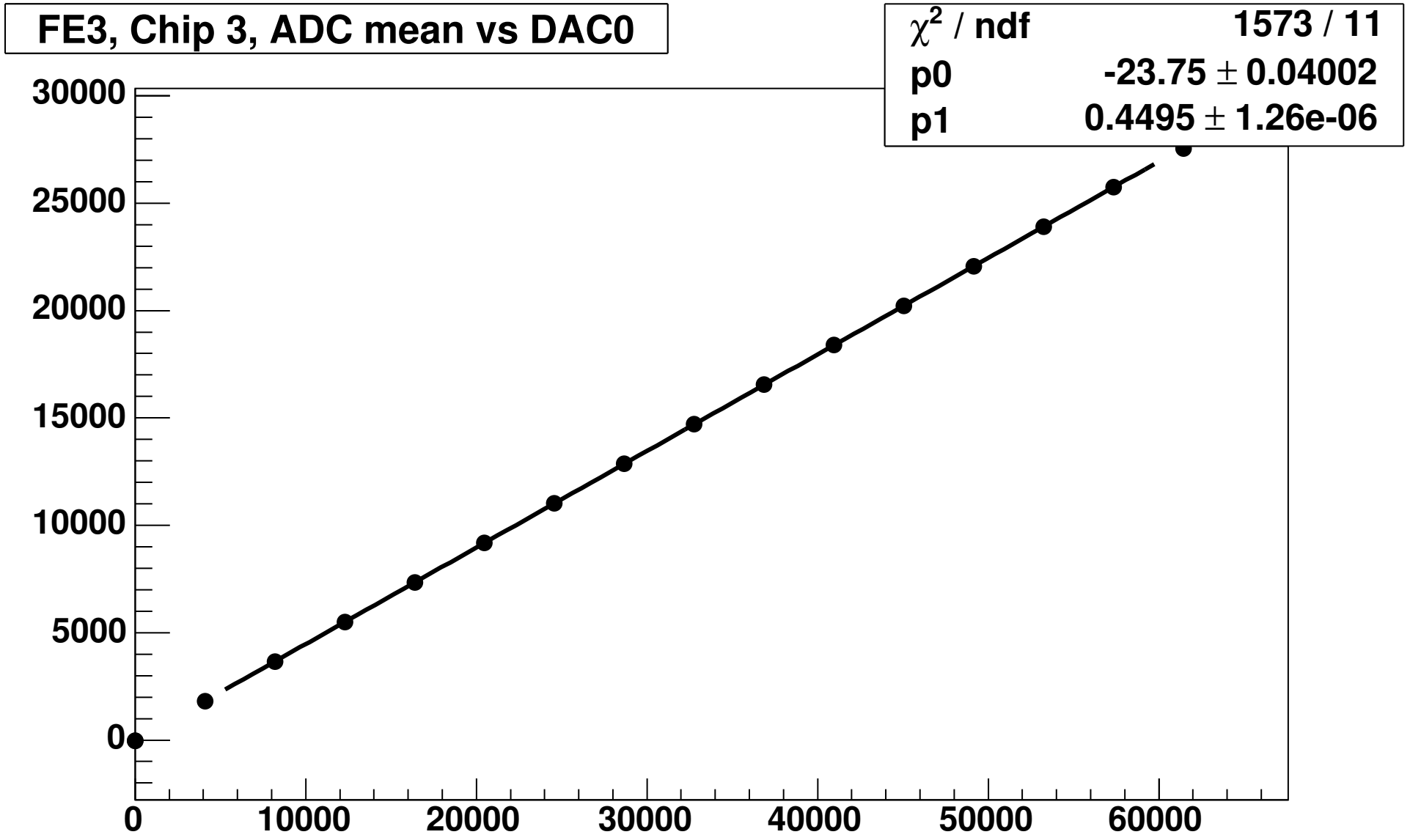

FE3, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

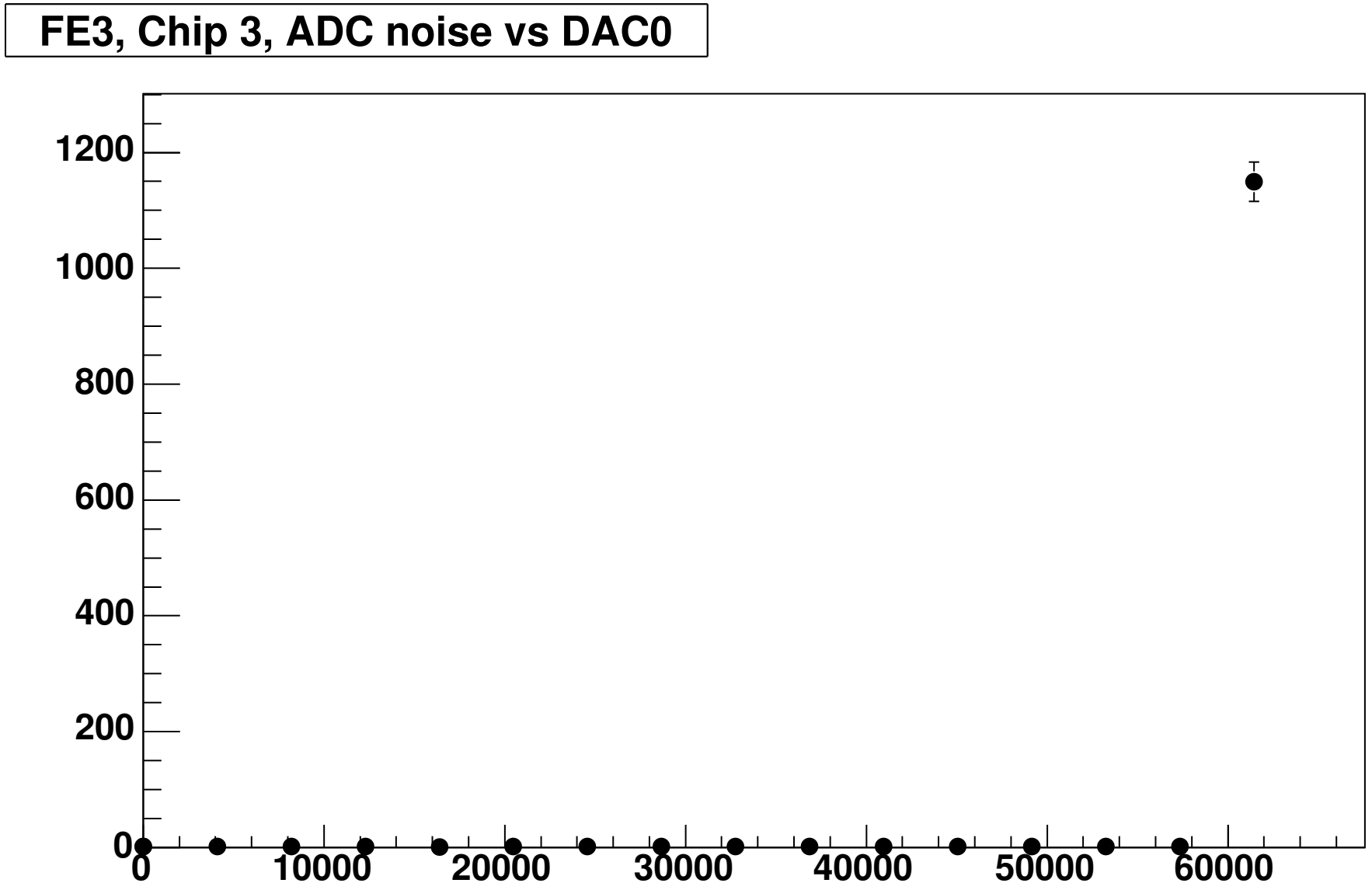

FE3, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

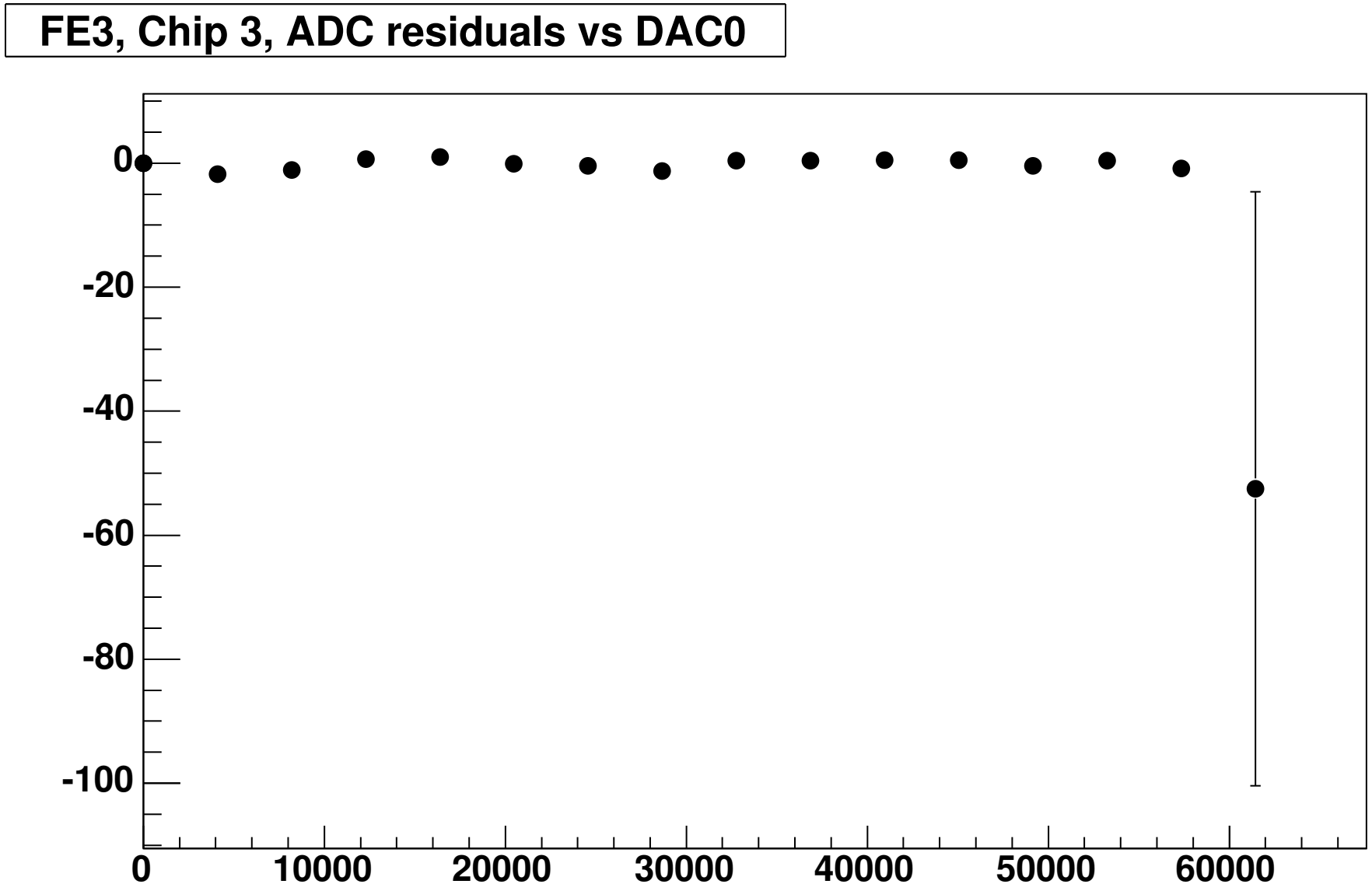

FE3, Chip 2, ADC mean vs DAC1
χ² / ndf 18.76 / 11
p0 -21.28 ± 0.0388
p1 2.788e-06 ± 1.075e-06
-20.9
-21
-21.1
-21.2
-21.3
-21.4
0
10000
20000
30000
40000
50000
60000

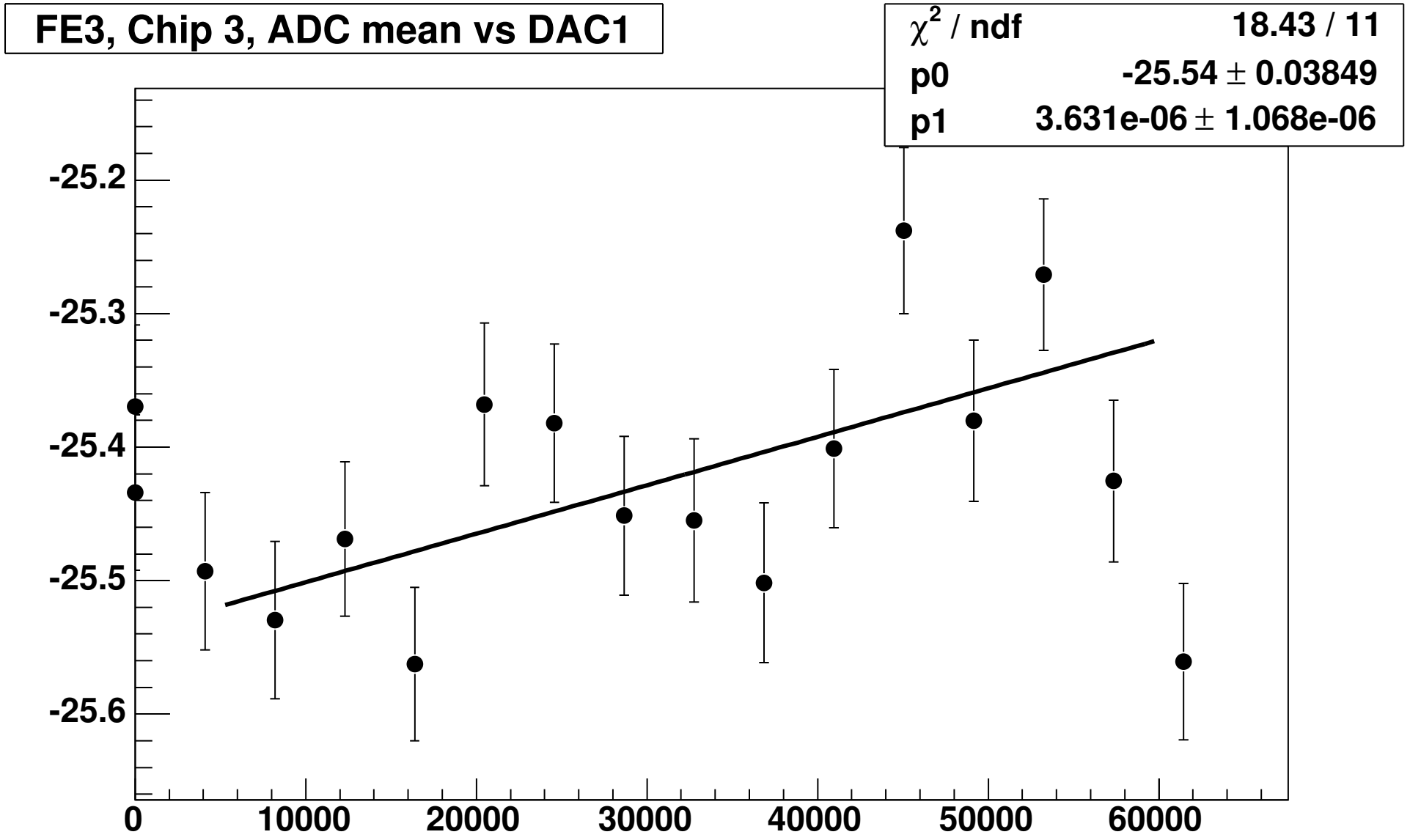

FE3, Chip 2, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

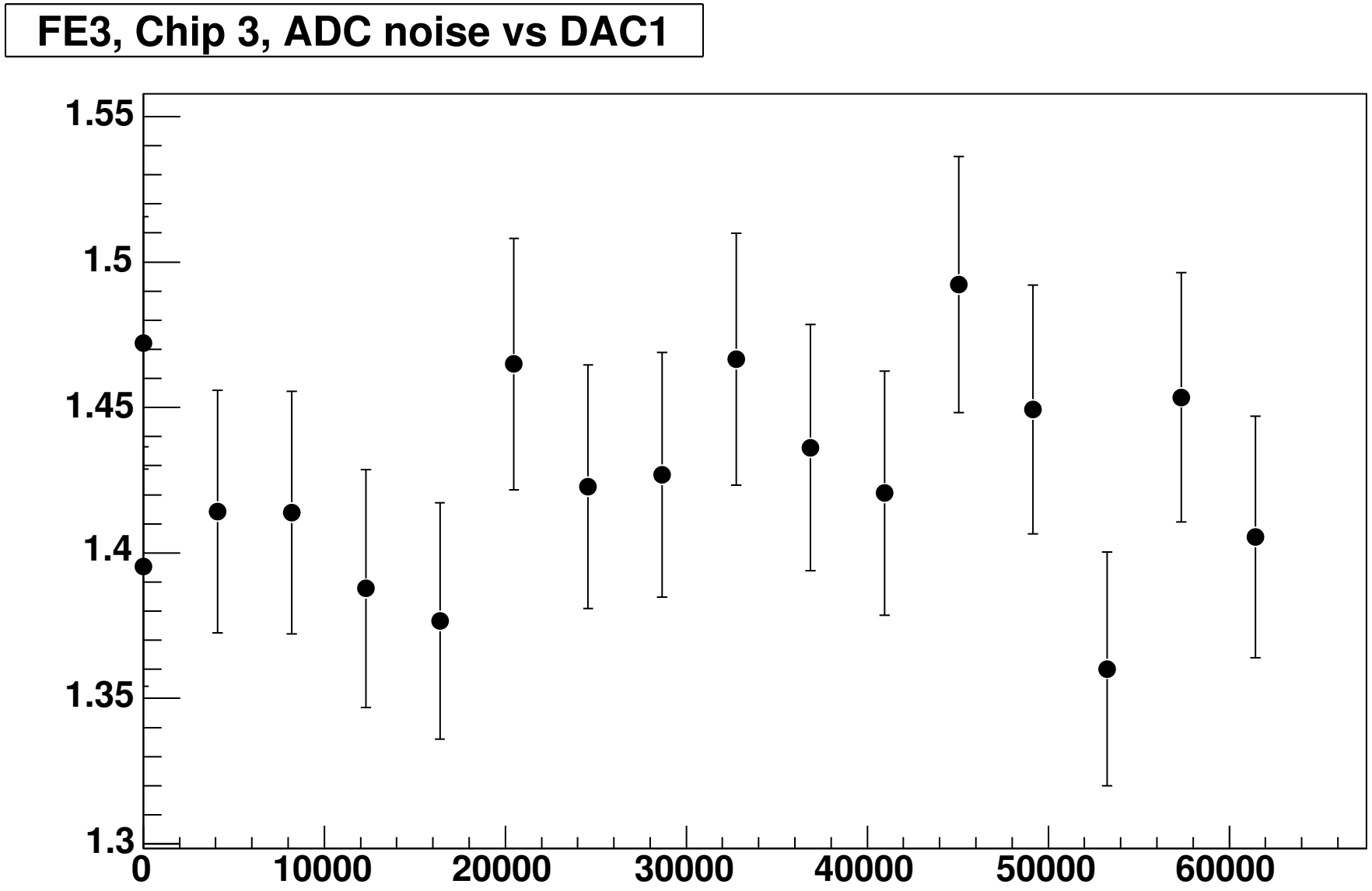

FE3, Chip 2, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

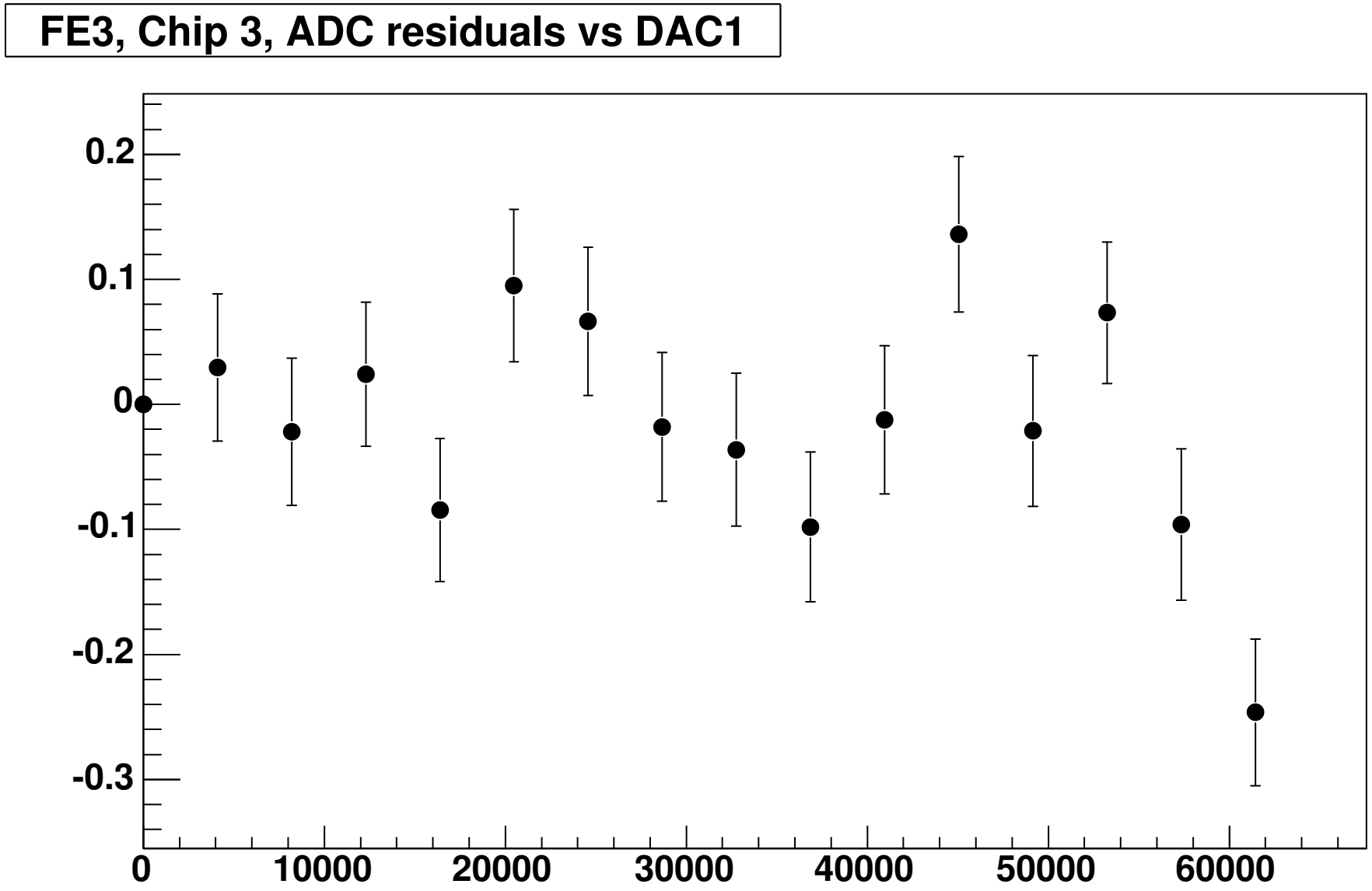

FE3, Chip 3, ADC mean vs DAC0
χ² / ndf 1573 / 11
p0 -23.75 ± 0.04002
p1 0.4495 ± 1.26e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

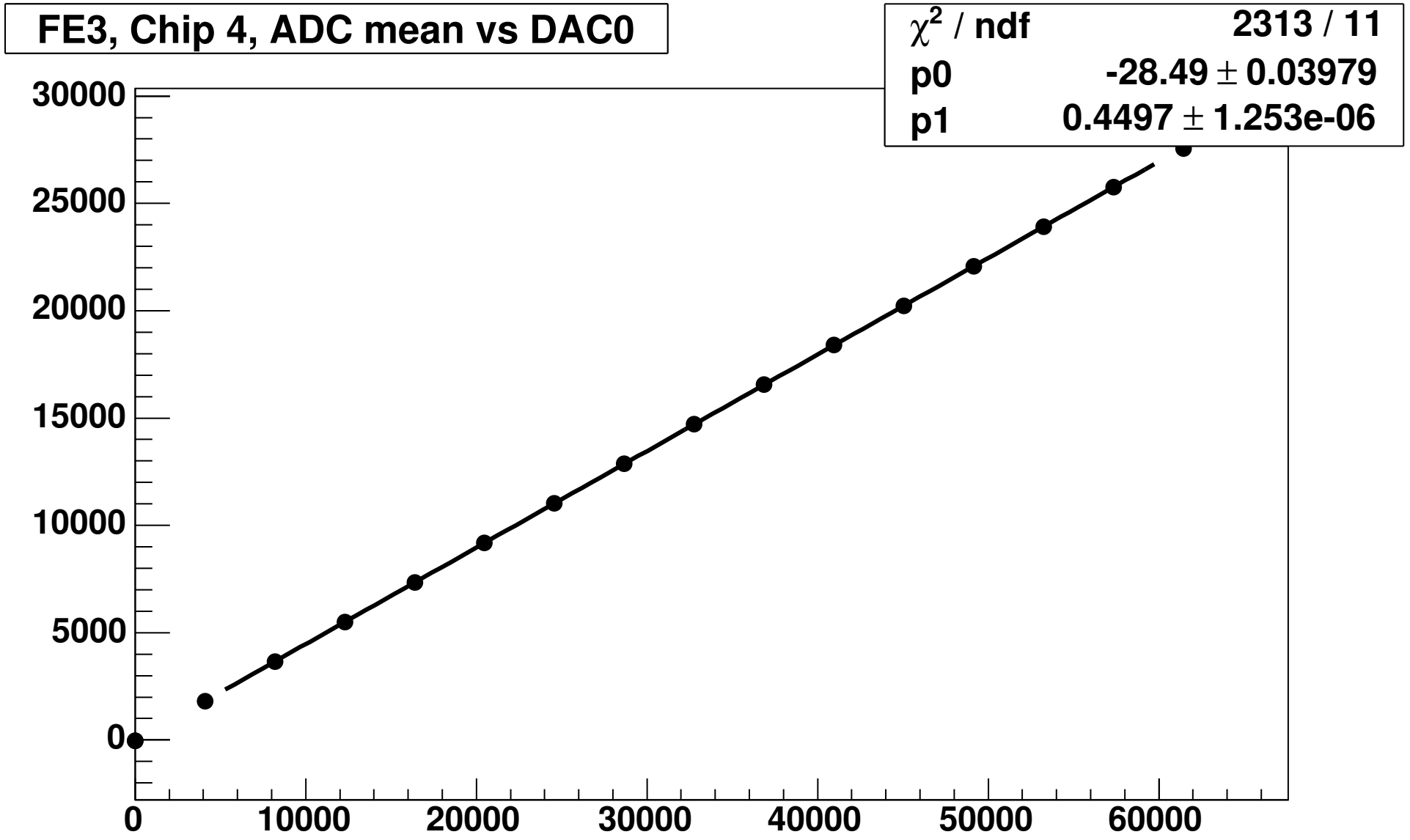

FE3, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

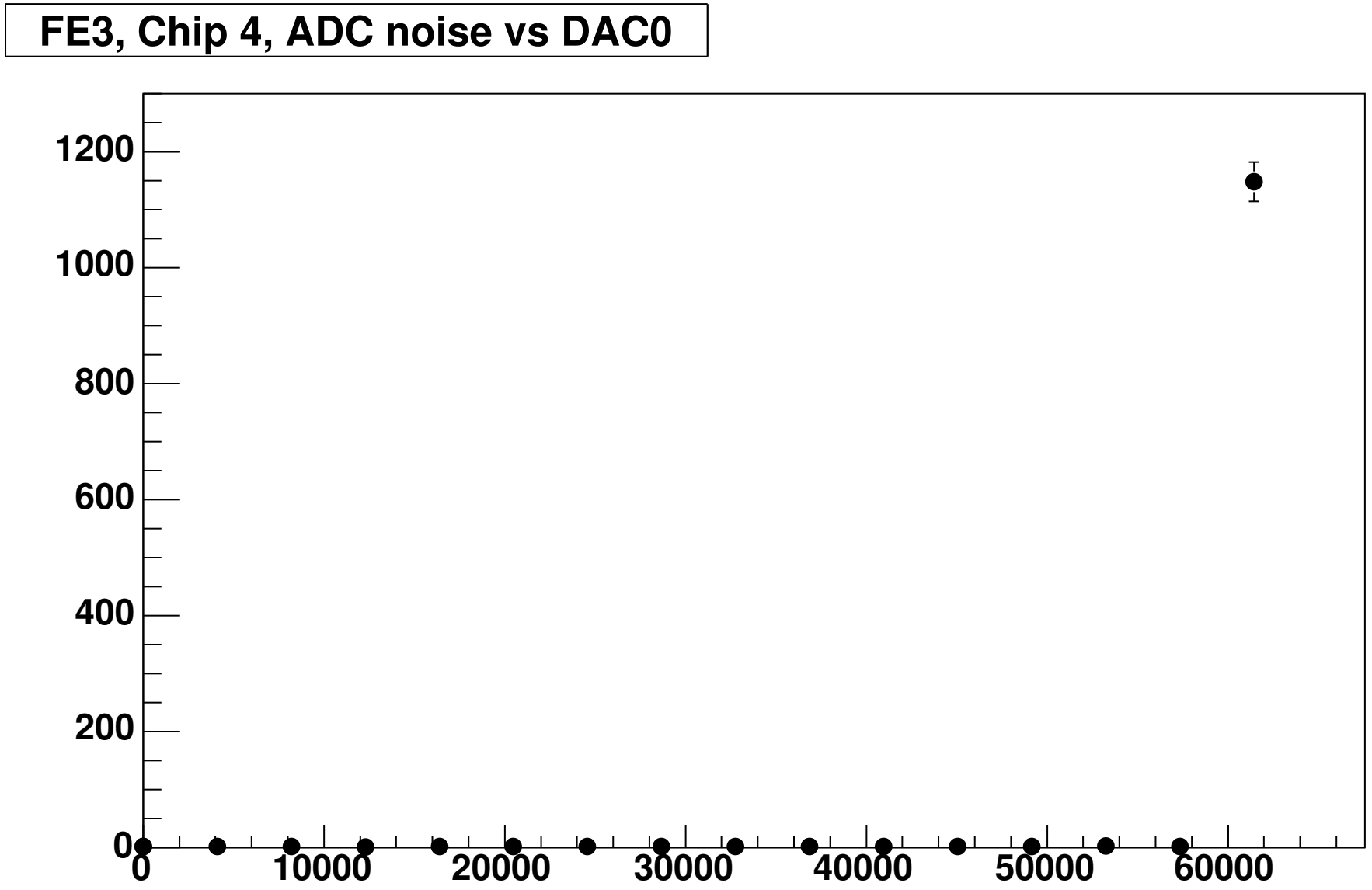

FE3, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

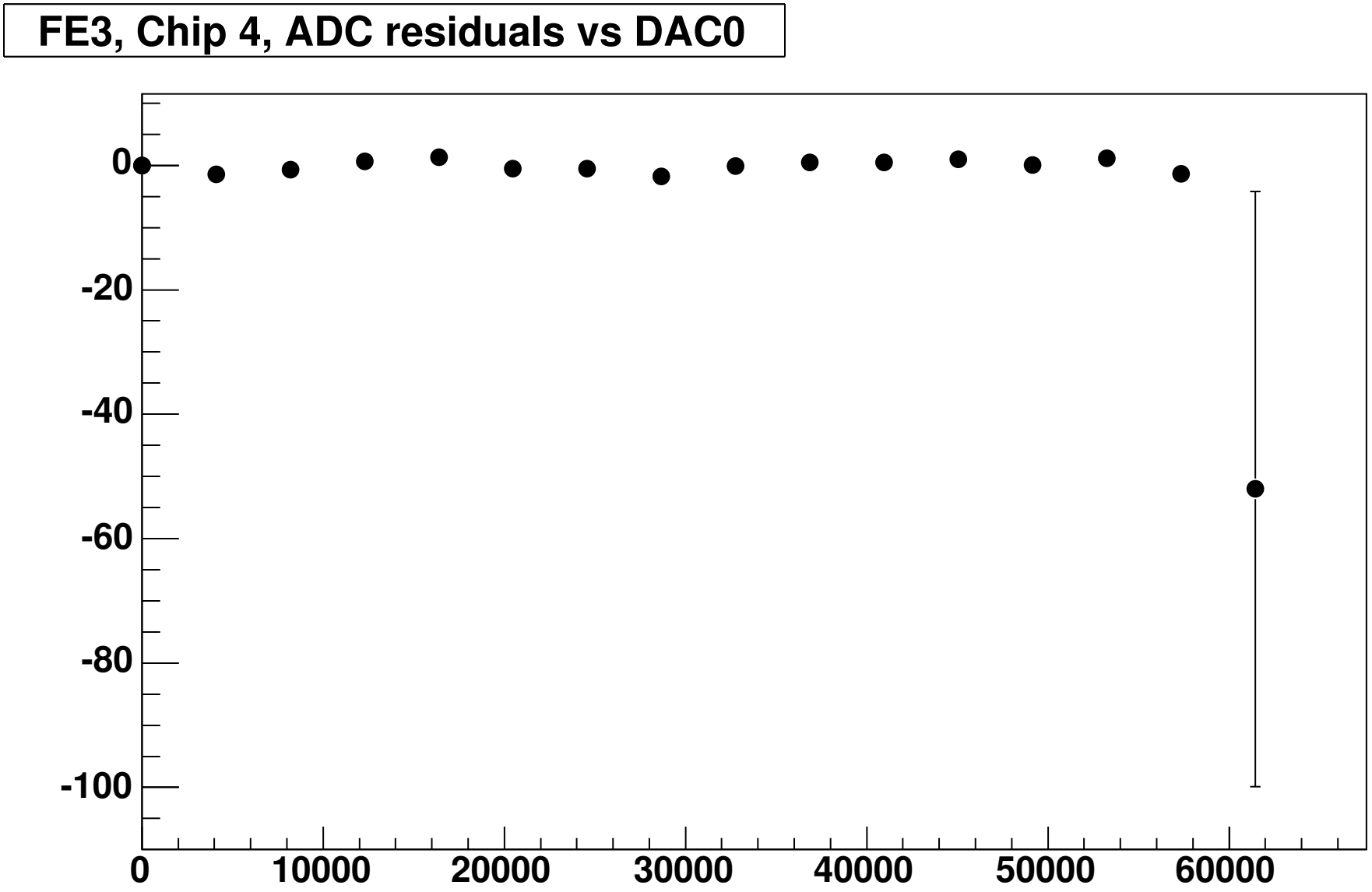

FE3, Chip 3, ADC mean vs DAC1
χ² / ndf 18.43 / 11
p0 -25.54 ± 0.03849
p1 3.631e-06 ± 1.068e-06
-25.2
-25.3
-25.4
-25.5
-25.6
0
10000
20000
30000
40000
50000
60000

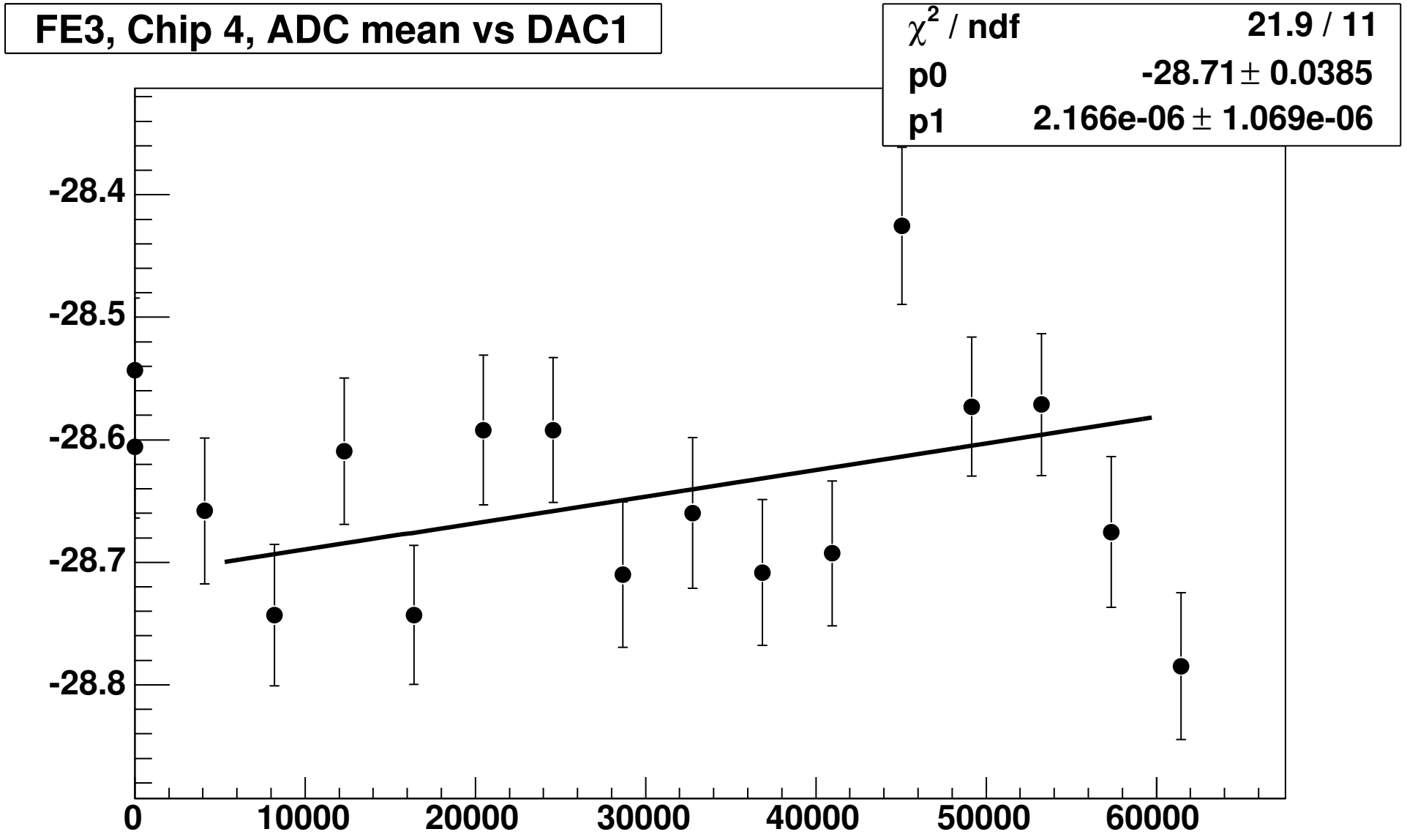

FE3, Chip 3, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

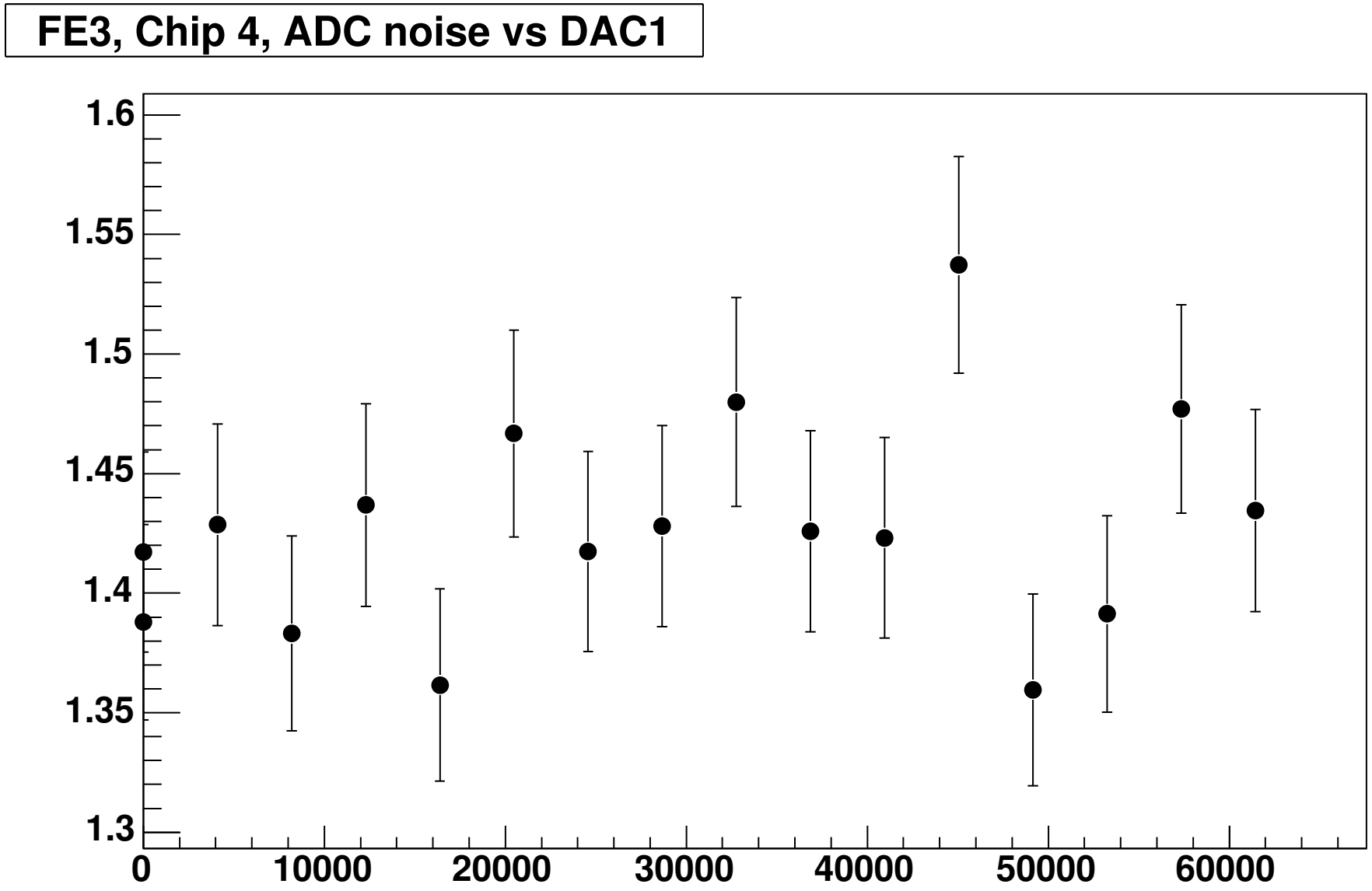

FE3, Chip 3, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

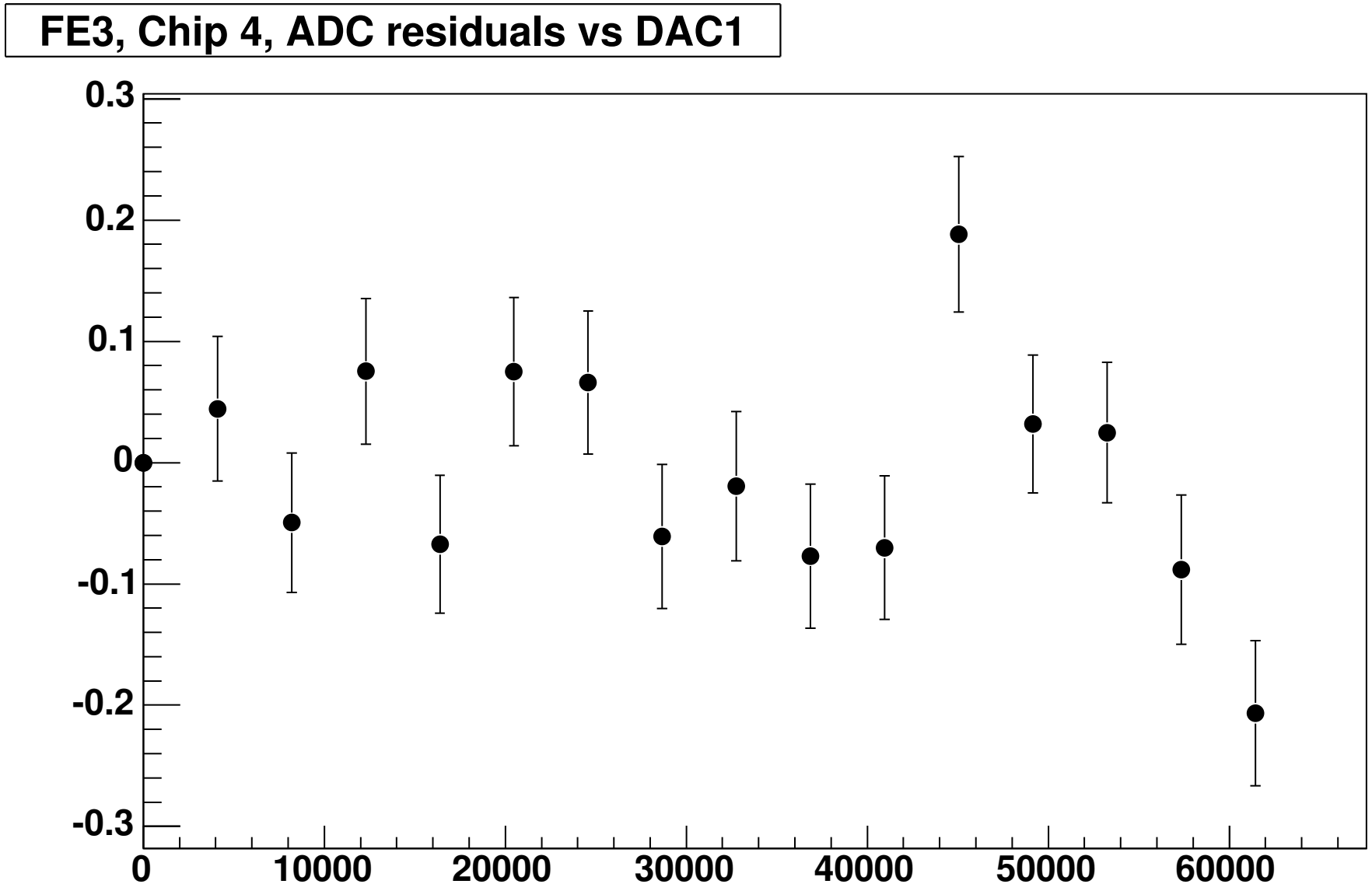

FE3, Chip 4, ADC mean vs DAC0
χ² / ndf 2313 / 11
p0 -28.49 ± 0.03979
p1 0.4497 ± 1.253e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

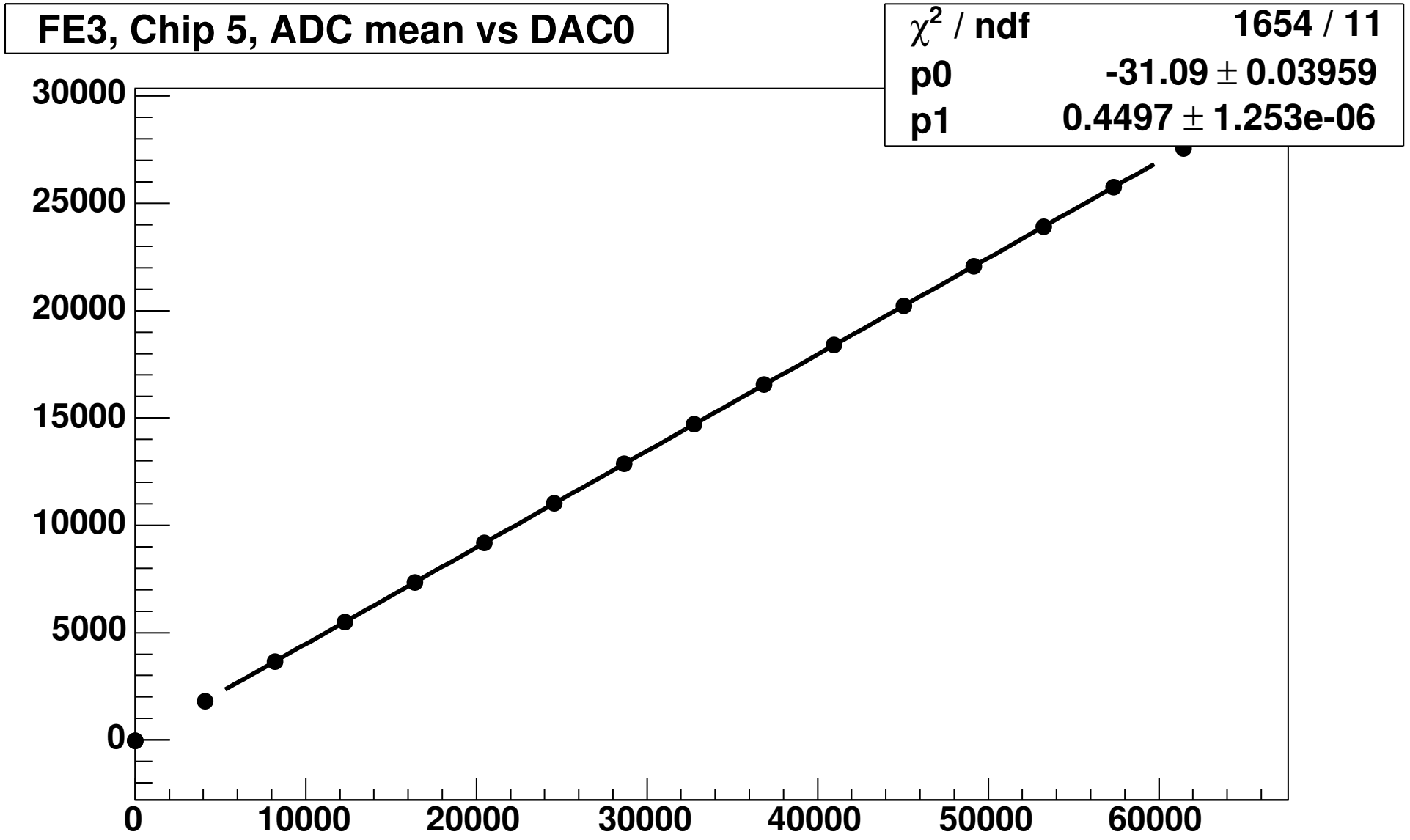

FE3, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

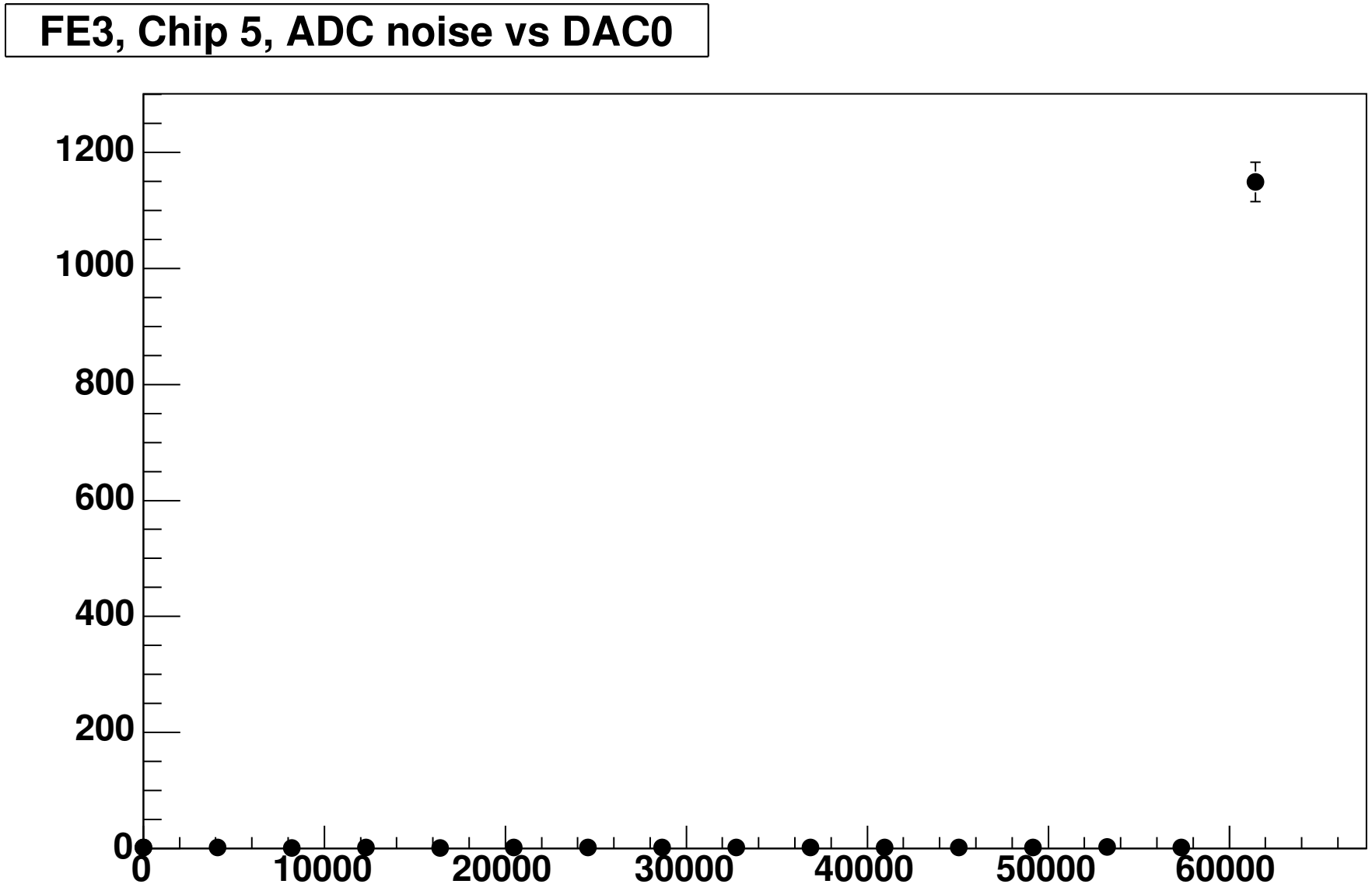

FE3, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

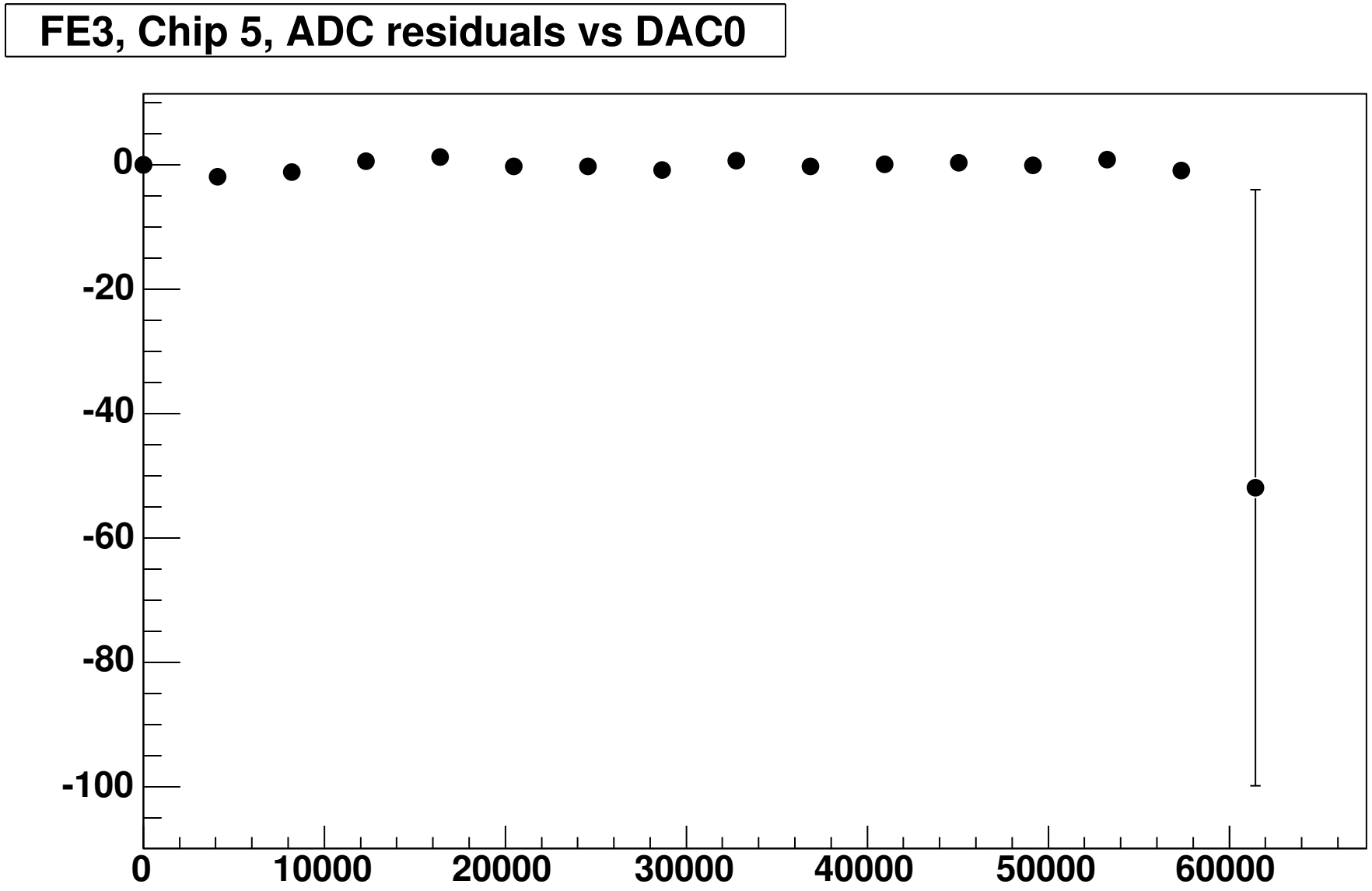

FE3, Chip 4, ADC mean vs DAC1
χ^2 / ndf 21.9 / 11
p0 -28.71 ± 0.0385
p1 2.166e-06 ± 1.069e-06
-28.4
-28.5
-28.6
-28.7
-28.8
0
10000
20000
30000
40000
50000
60000

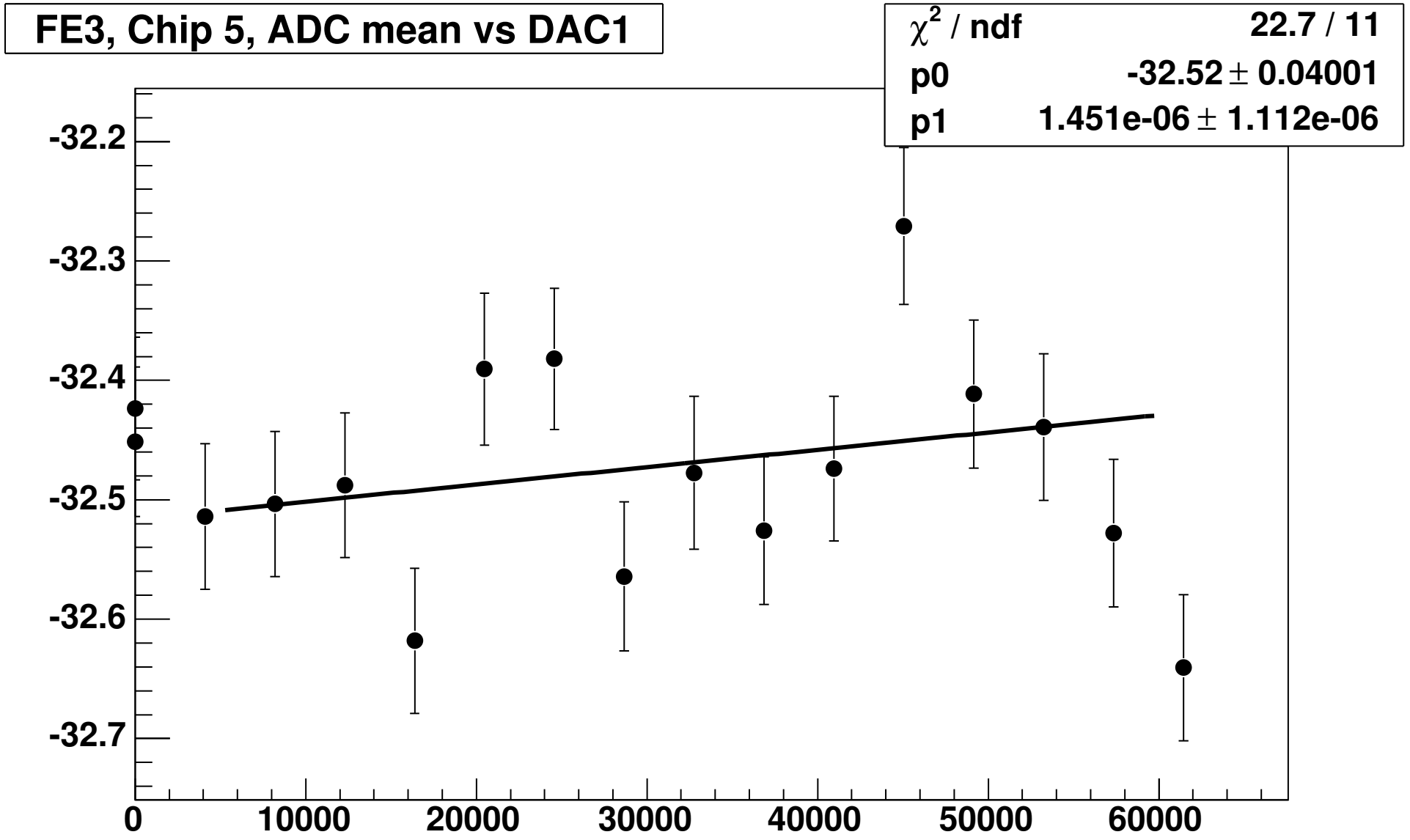

FE3, Chip 4, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

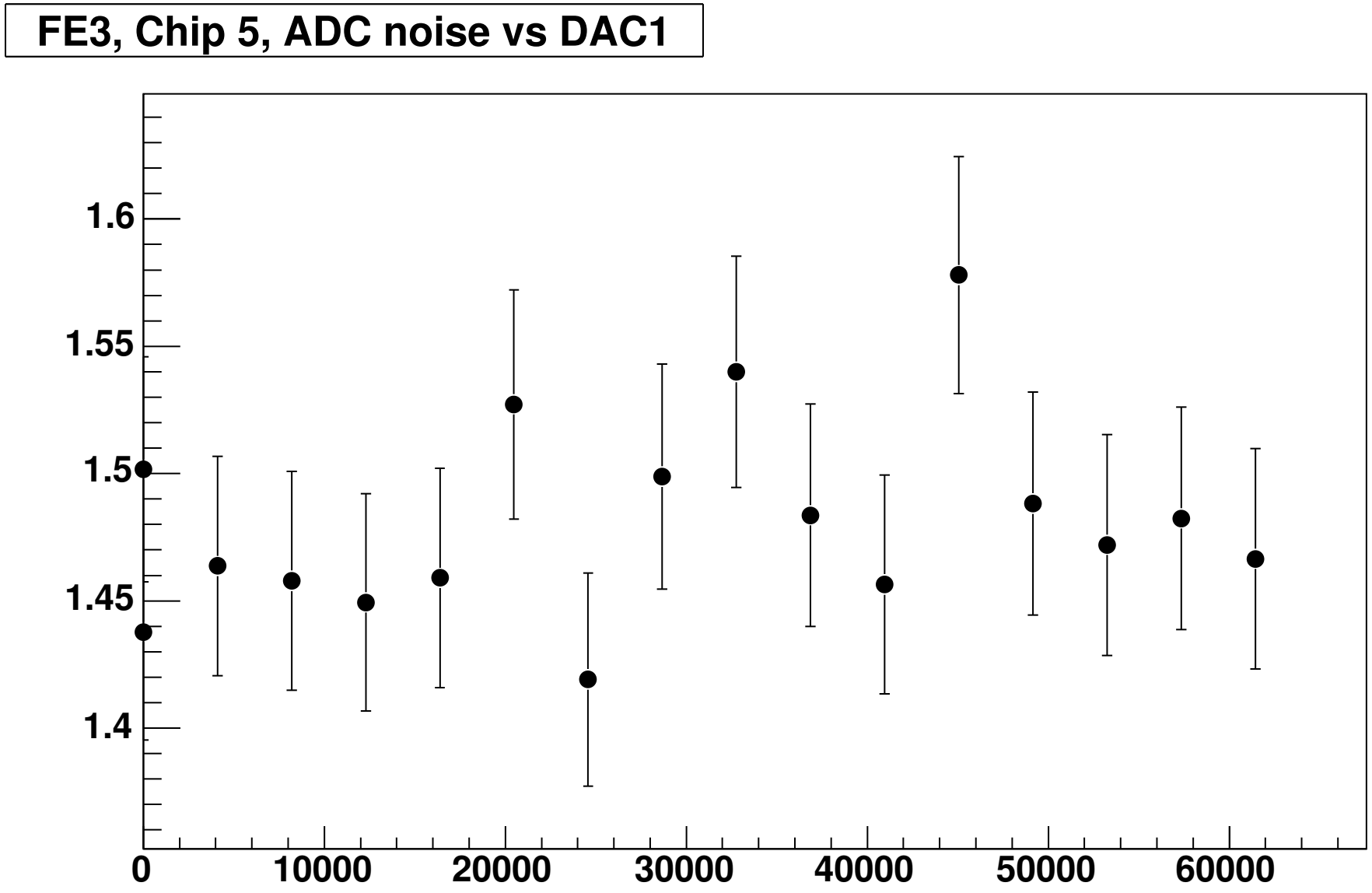

FE3, Chip 4, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

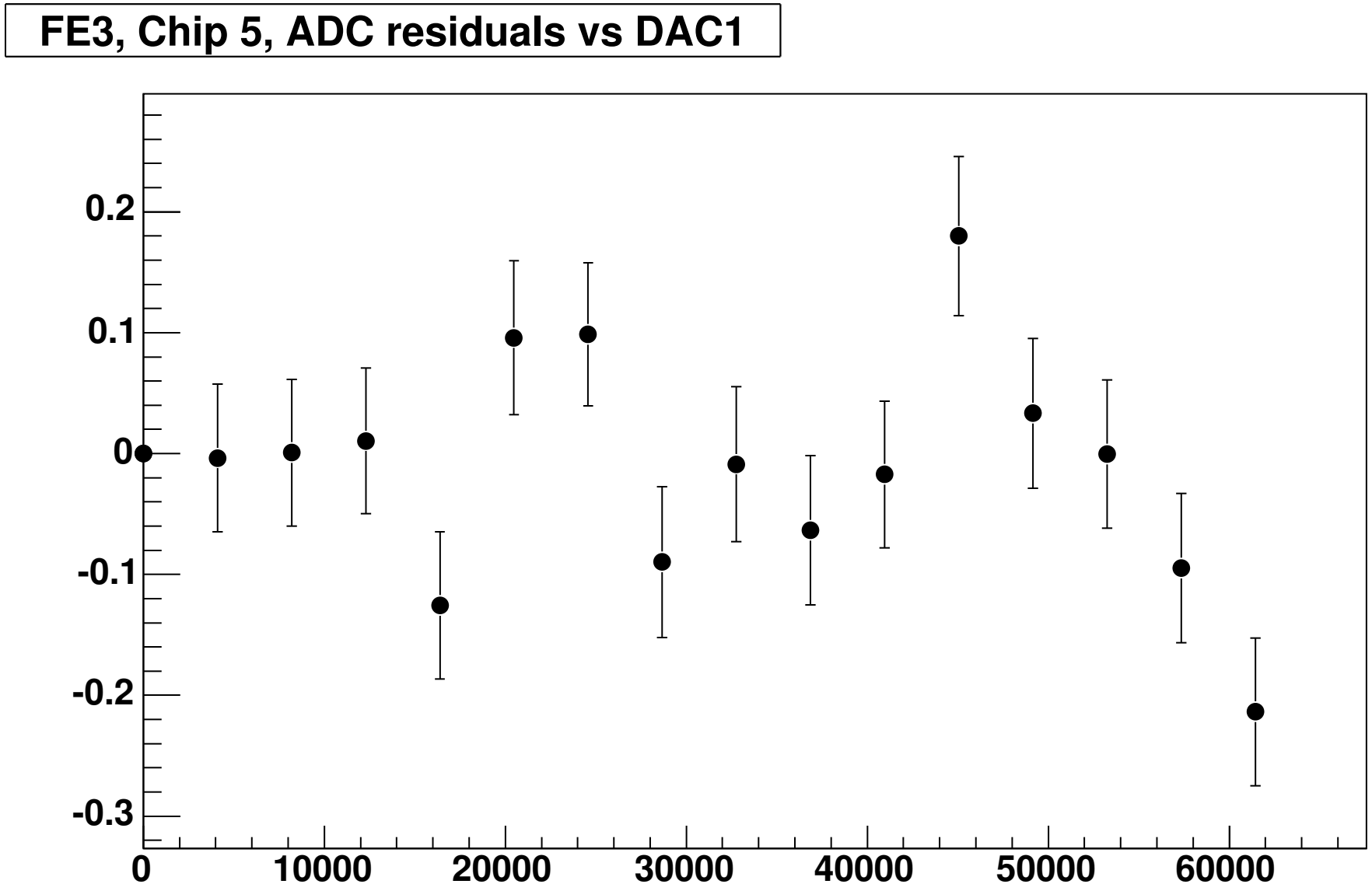

FE3, Chip 5, ADC mean vs DAC0
χ² / ndf 1654 / 11
p0 -31.09 ± 0.03959
p1 0.4497 ± 1.253e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

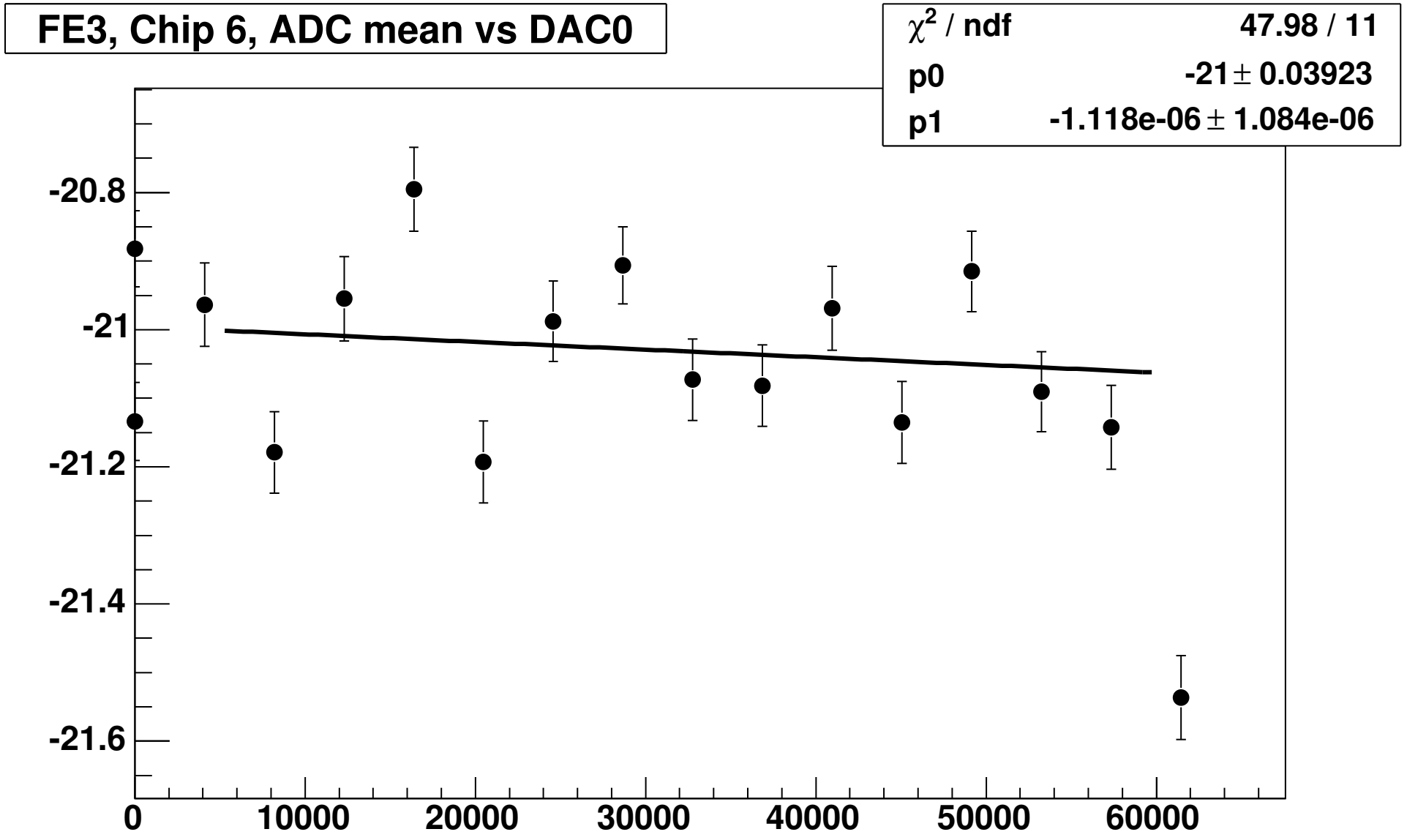

FE3, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

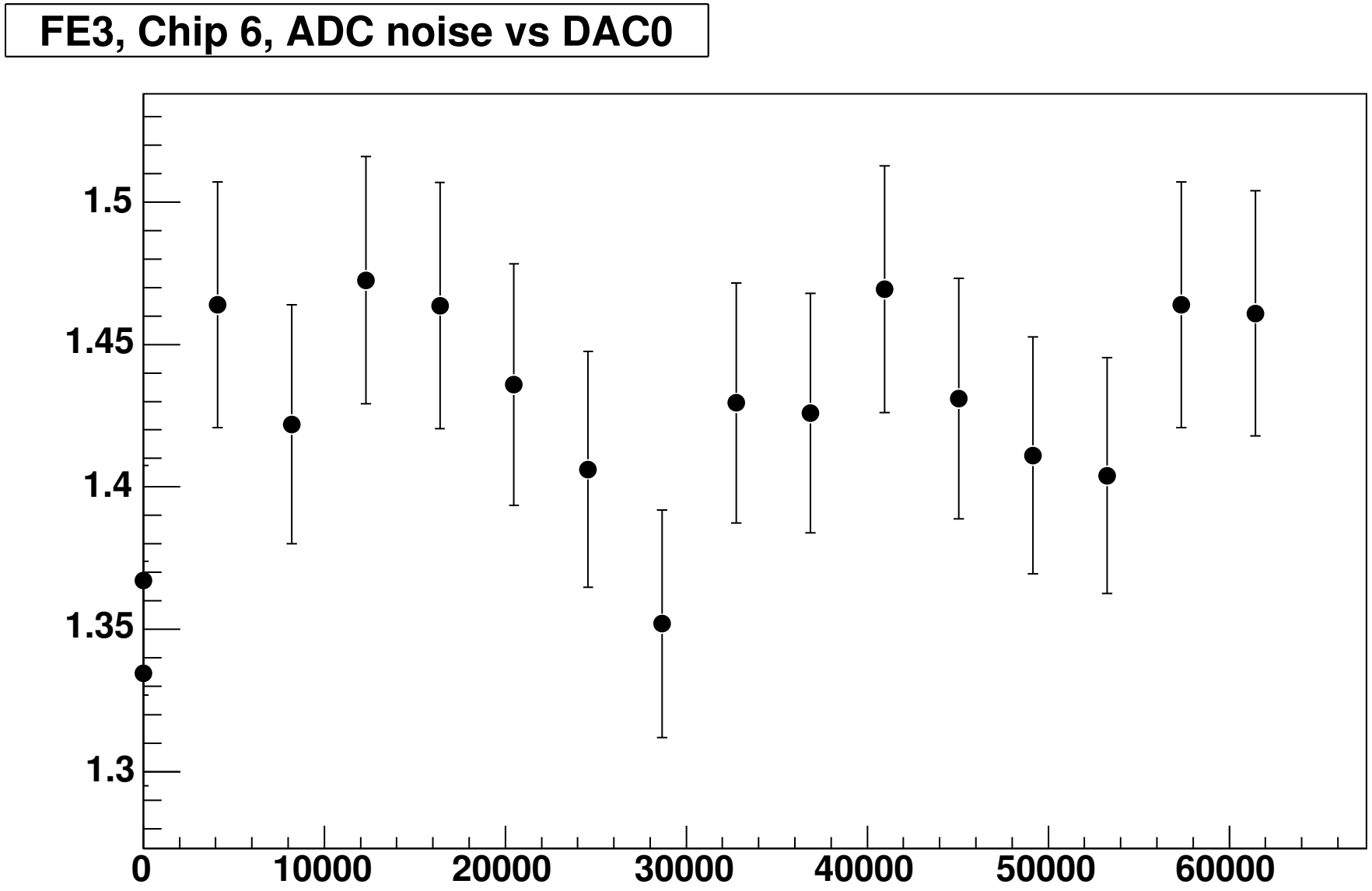

FE3, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

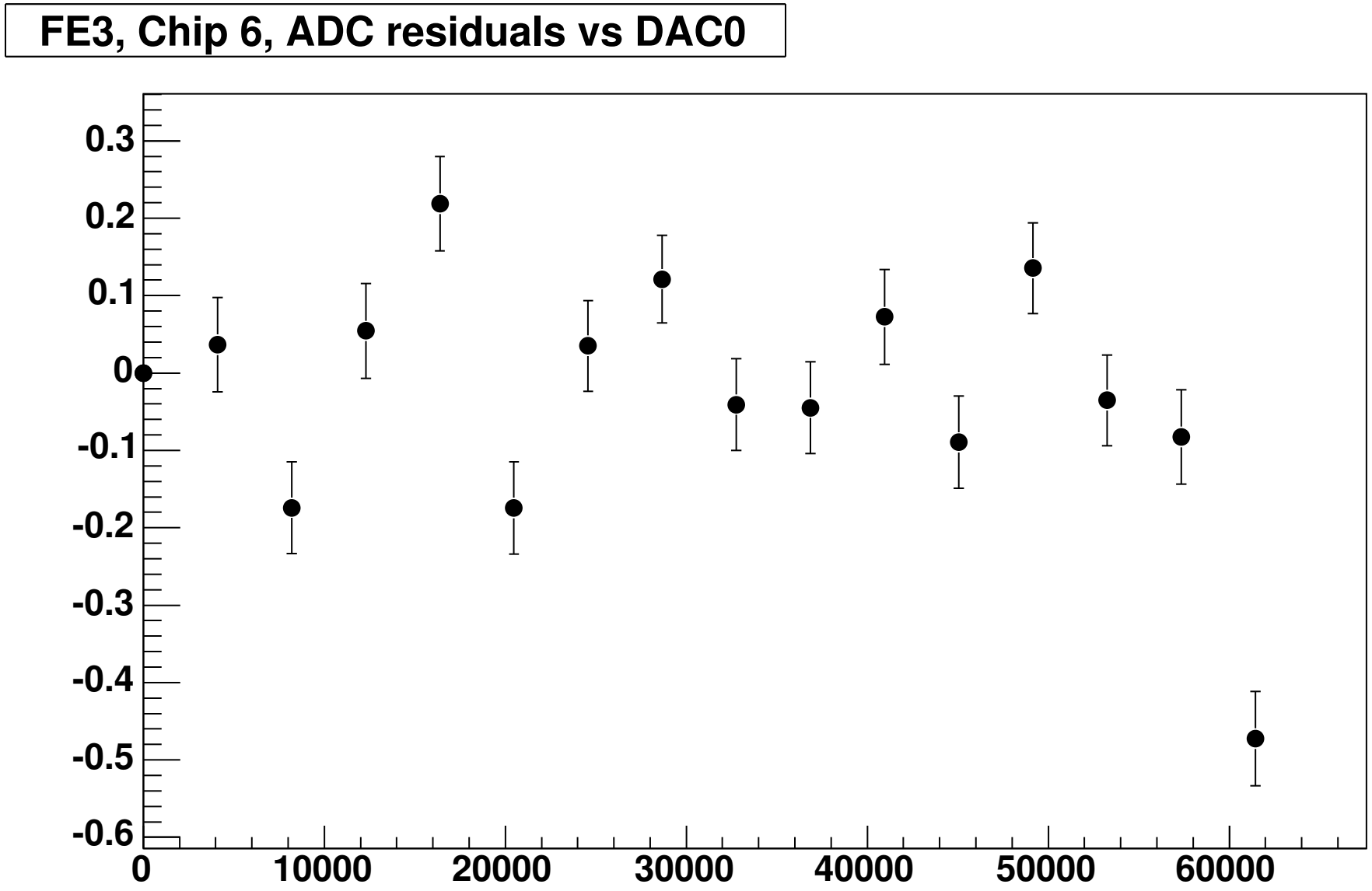

FE3, Chip 5, ADC mean vs DAC1
χ² / ndf 22.7 / 11
p0 -32.52 ± 0.04001
p1 1.451e-06 ± 1.112e-06
-32.2
-32.3
-32.4
-32.5
-32.6
-32.7
0
10000
20000
30000
40000
50000
60000

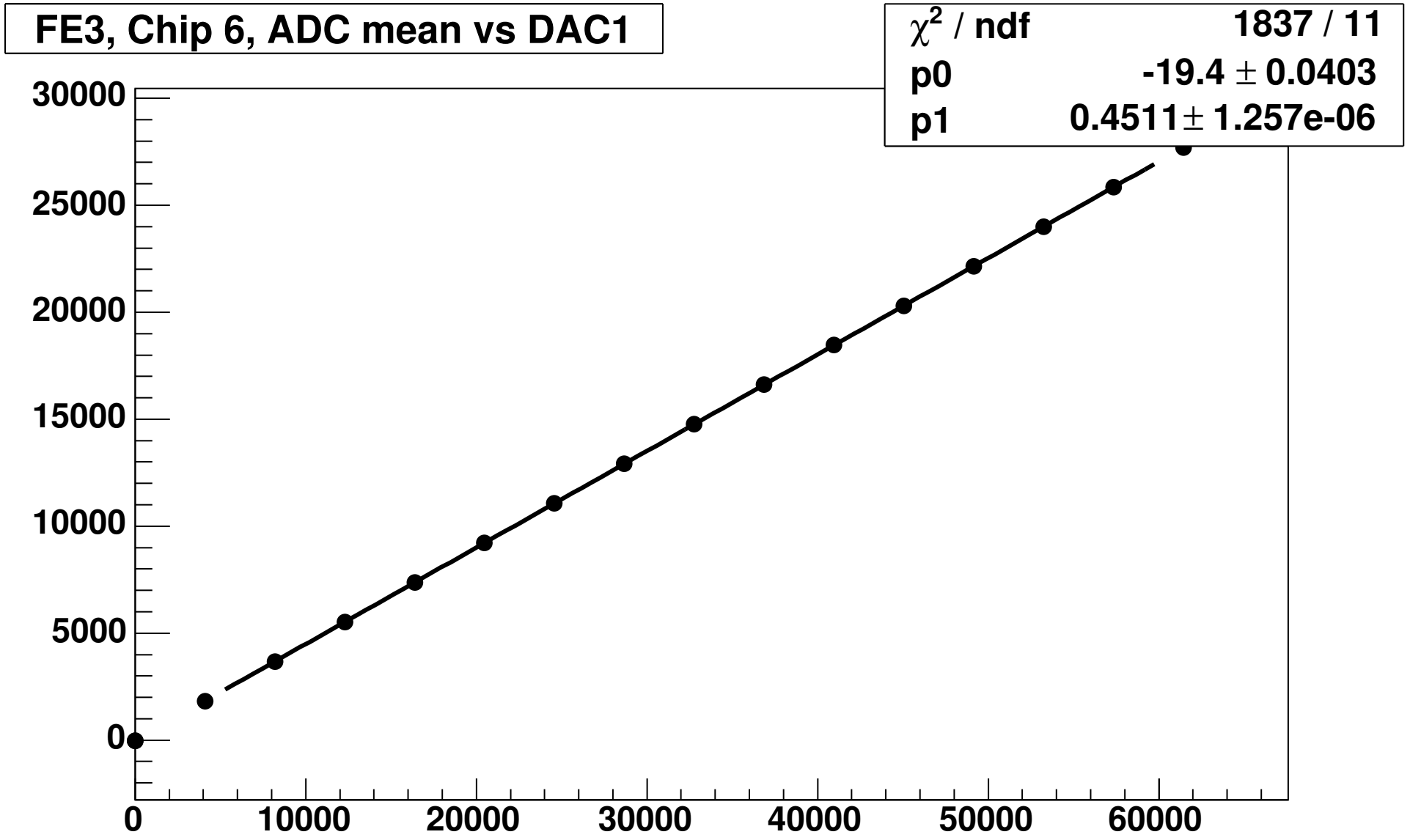

FE3, Chip 5, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

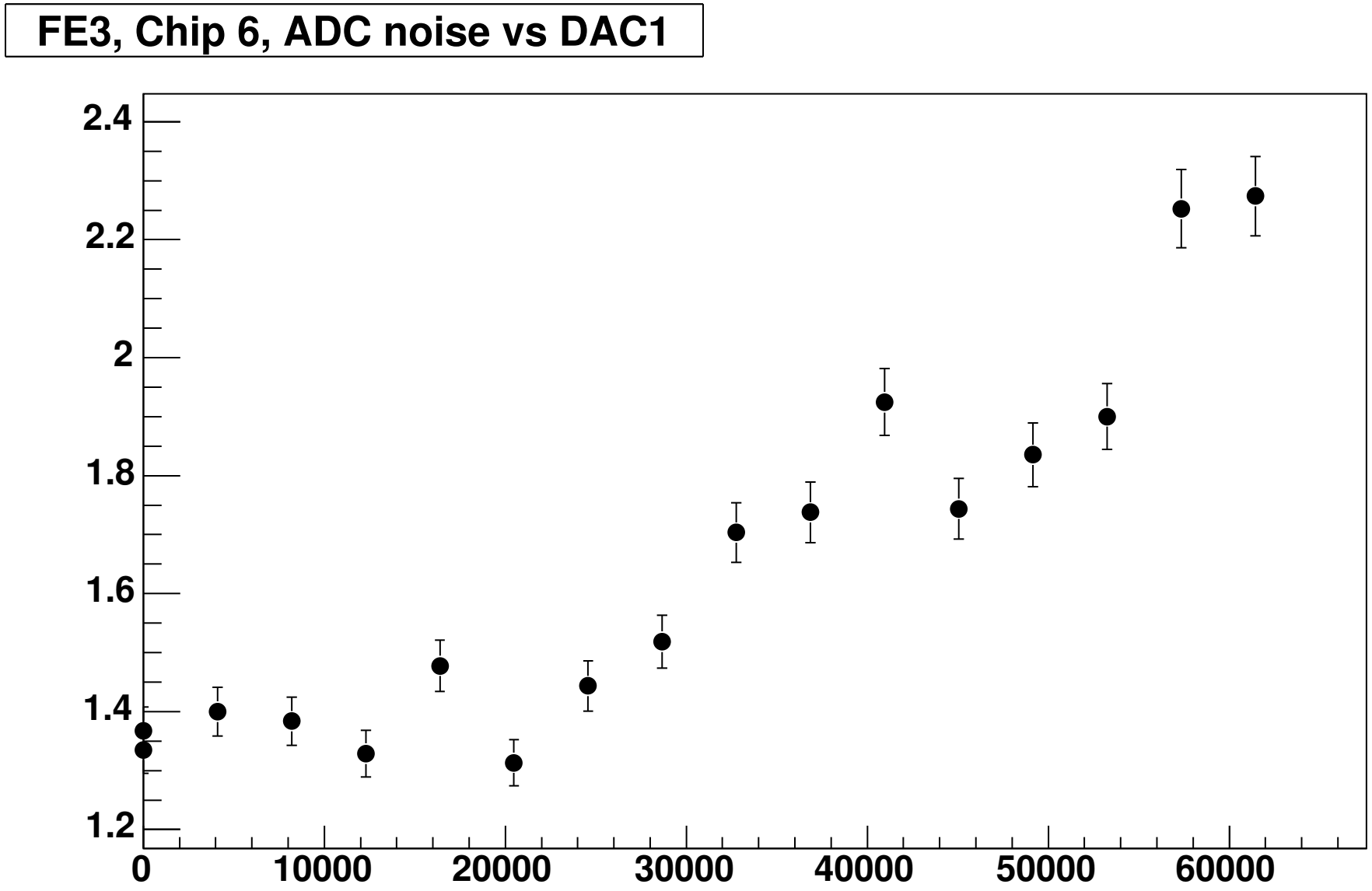

FE3, Chip 5, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000


FE3, Chip 6, ADC mean vs DAC0
χ² / ndf 47.98 / 11
p0 -21 ± 0.03923
p1 -1.118e-06 ± 1.084e-06
-20.8
-21
-21.2
-21.4
-21.6
0
10000
20000
30000
40000
50000
60000

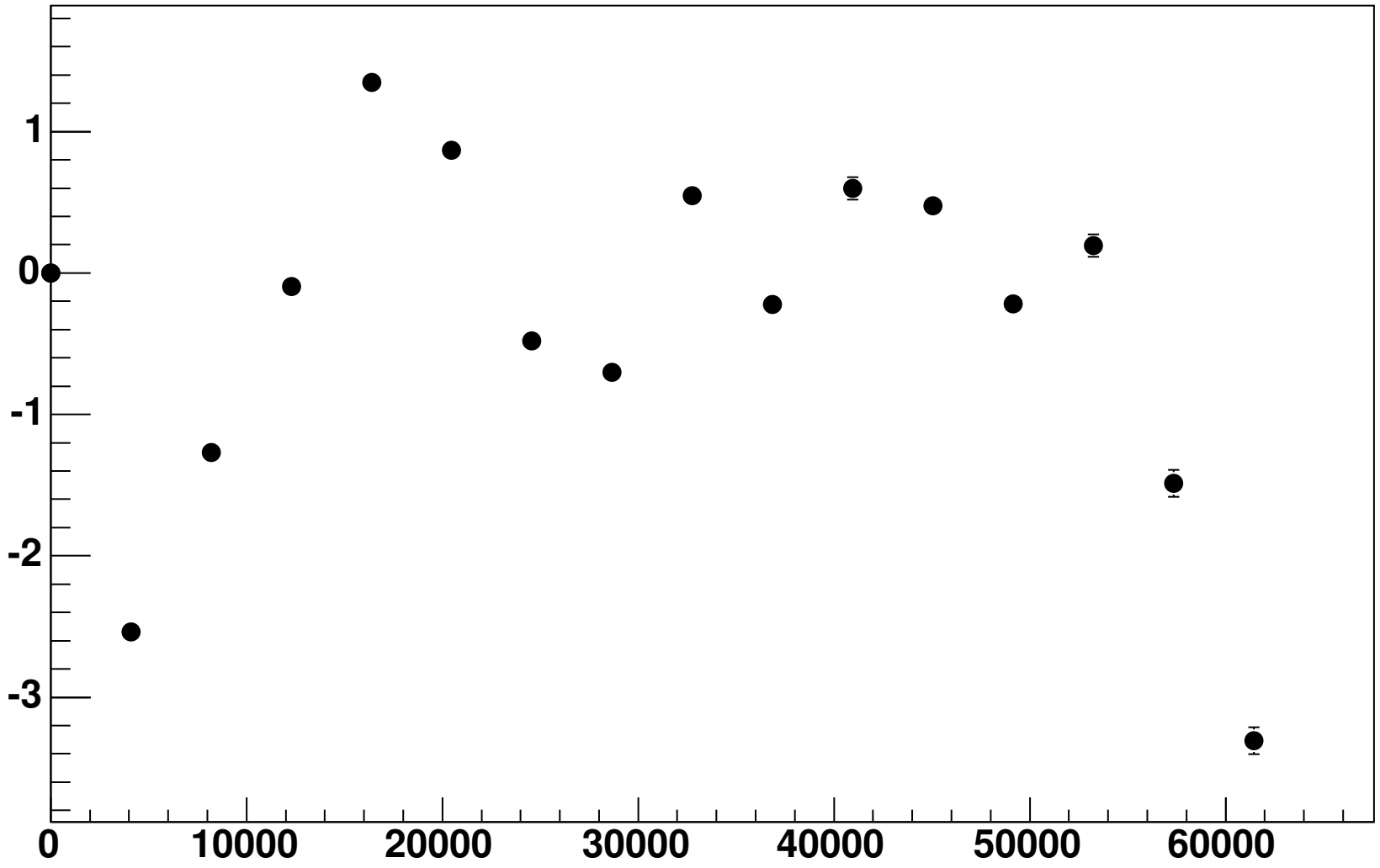

FE3, Chip 6, ADC noise vs DAC0
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

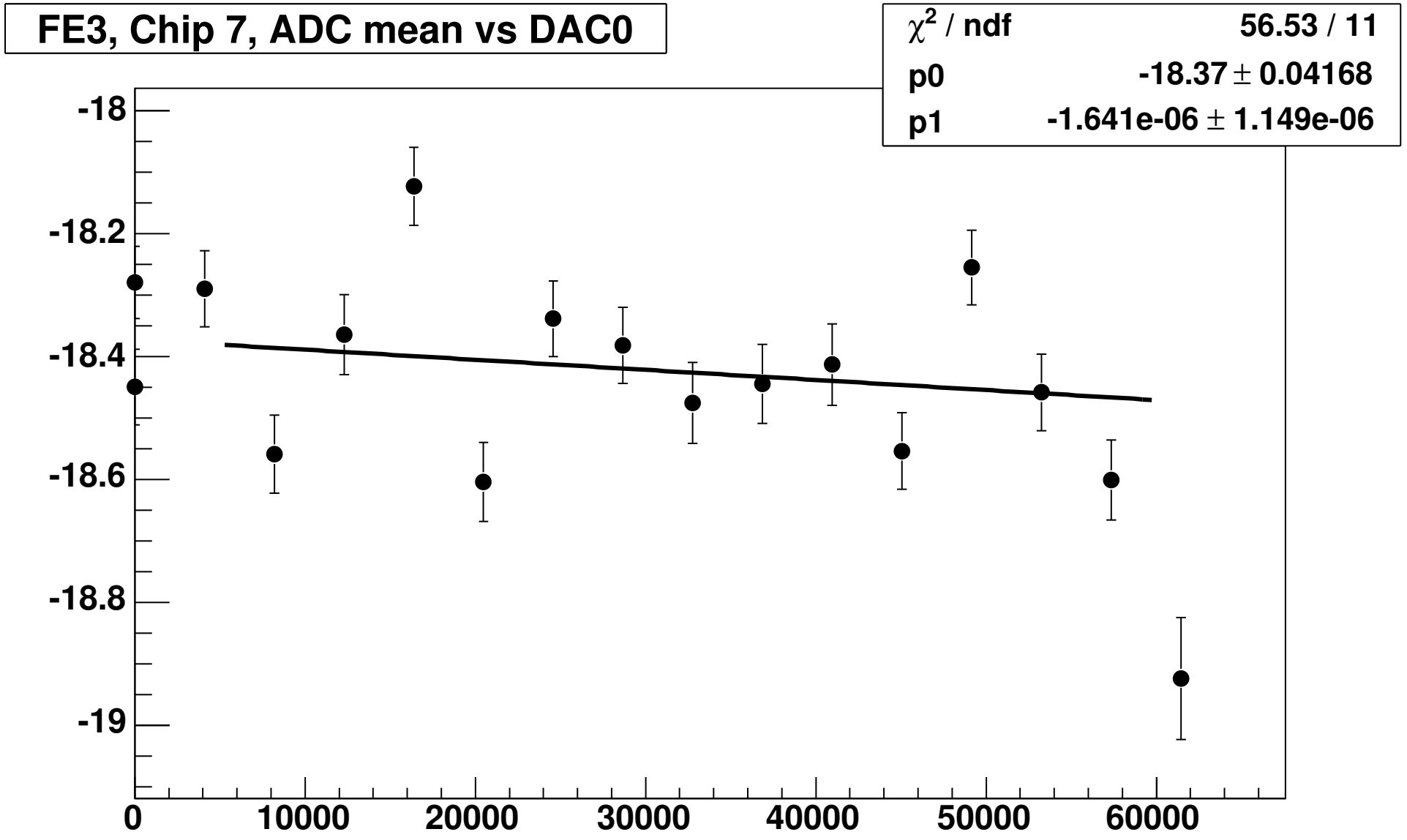

FE3, Chip 6, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
0
10000
20000
30000
40000
50000
60000

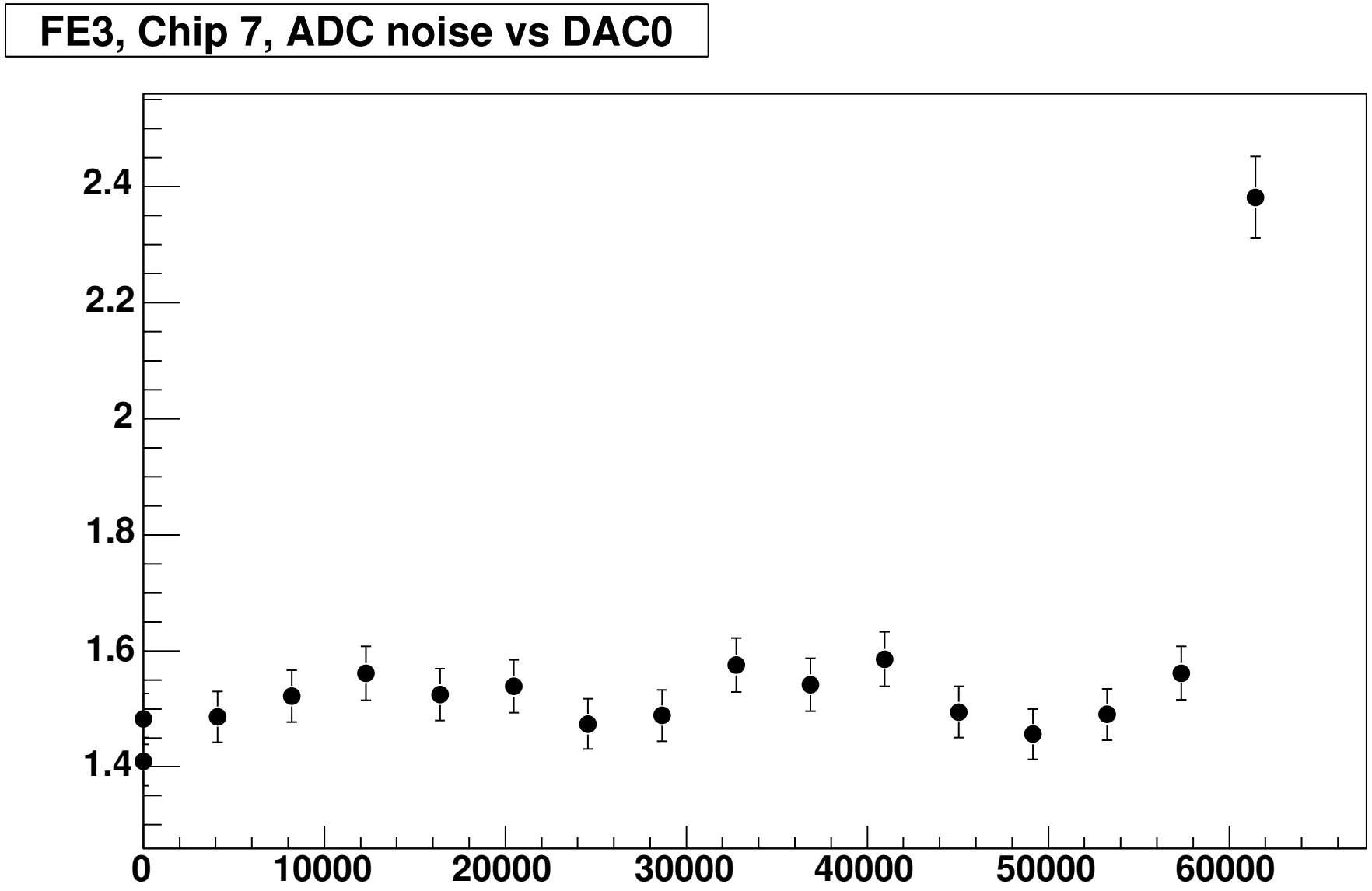

FE3, Chip 6, ADC mean vs DAC1
χ² / ndf 1837 / 11
p0 -19.4 ± 0.0403
p1 0.4511 ± 1.257e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

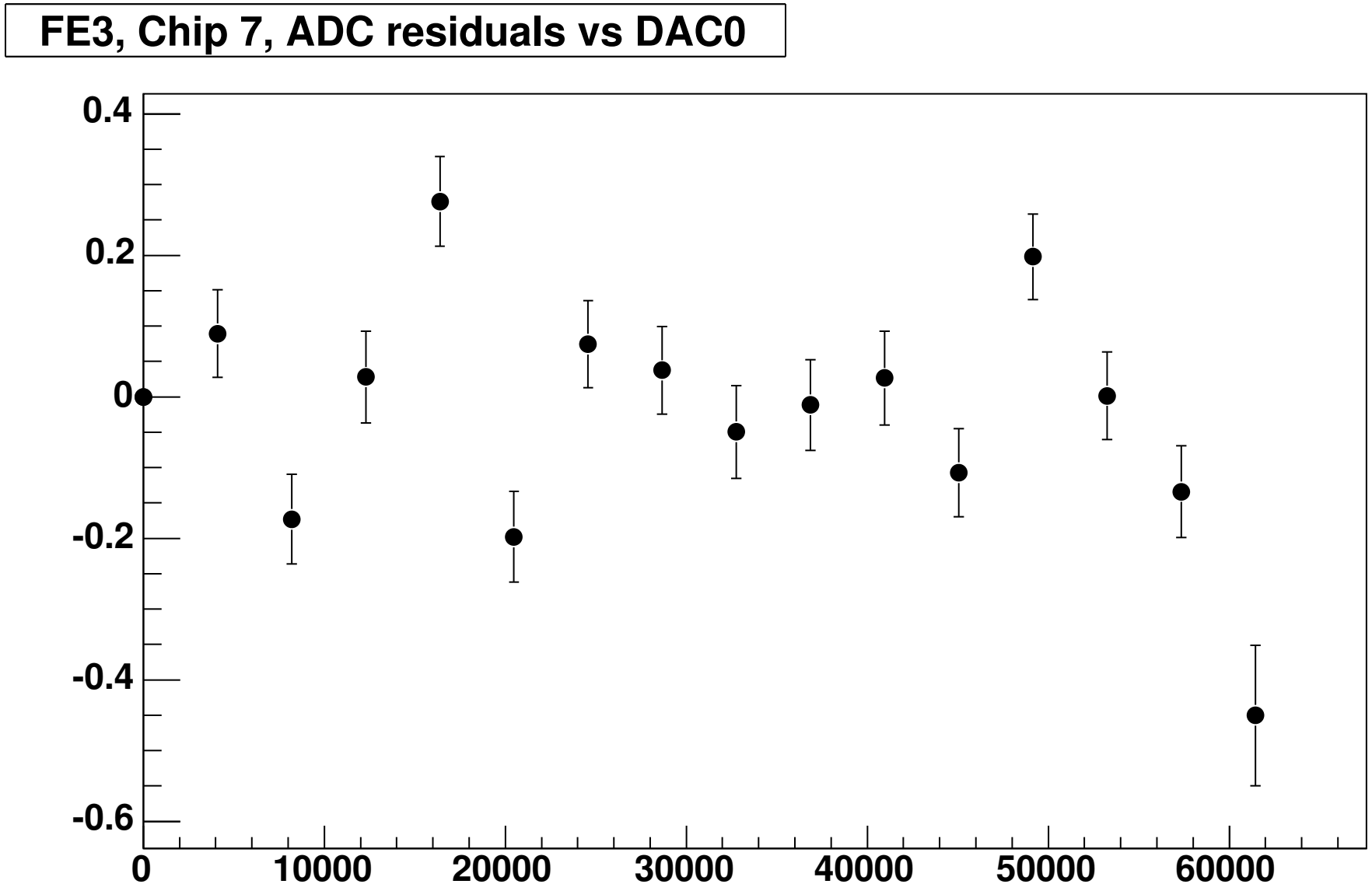

FE3, Chip 6, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

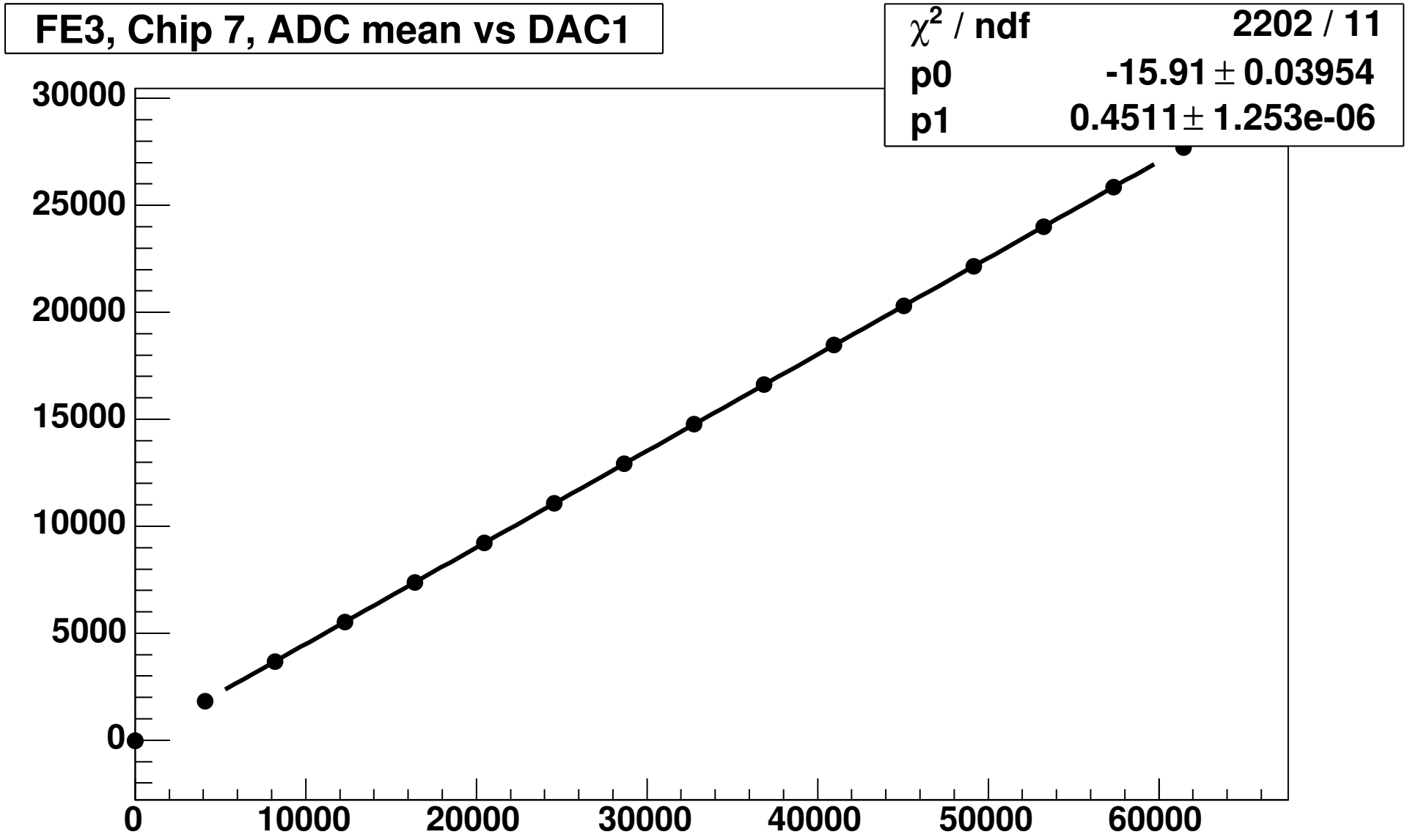
FE3, Chip 6, ADC residuals vs DAC1

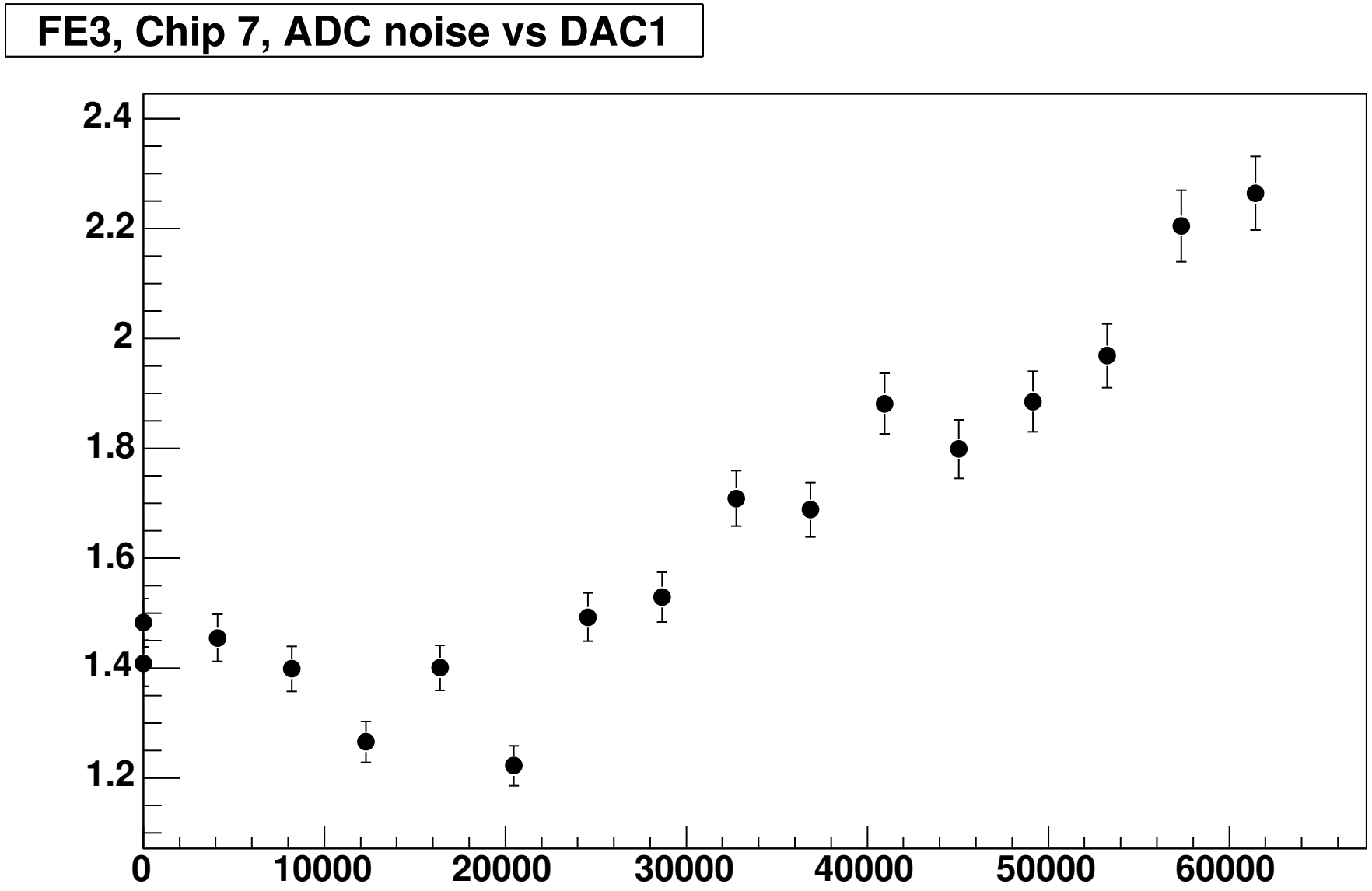


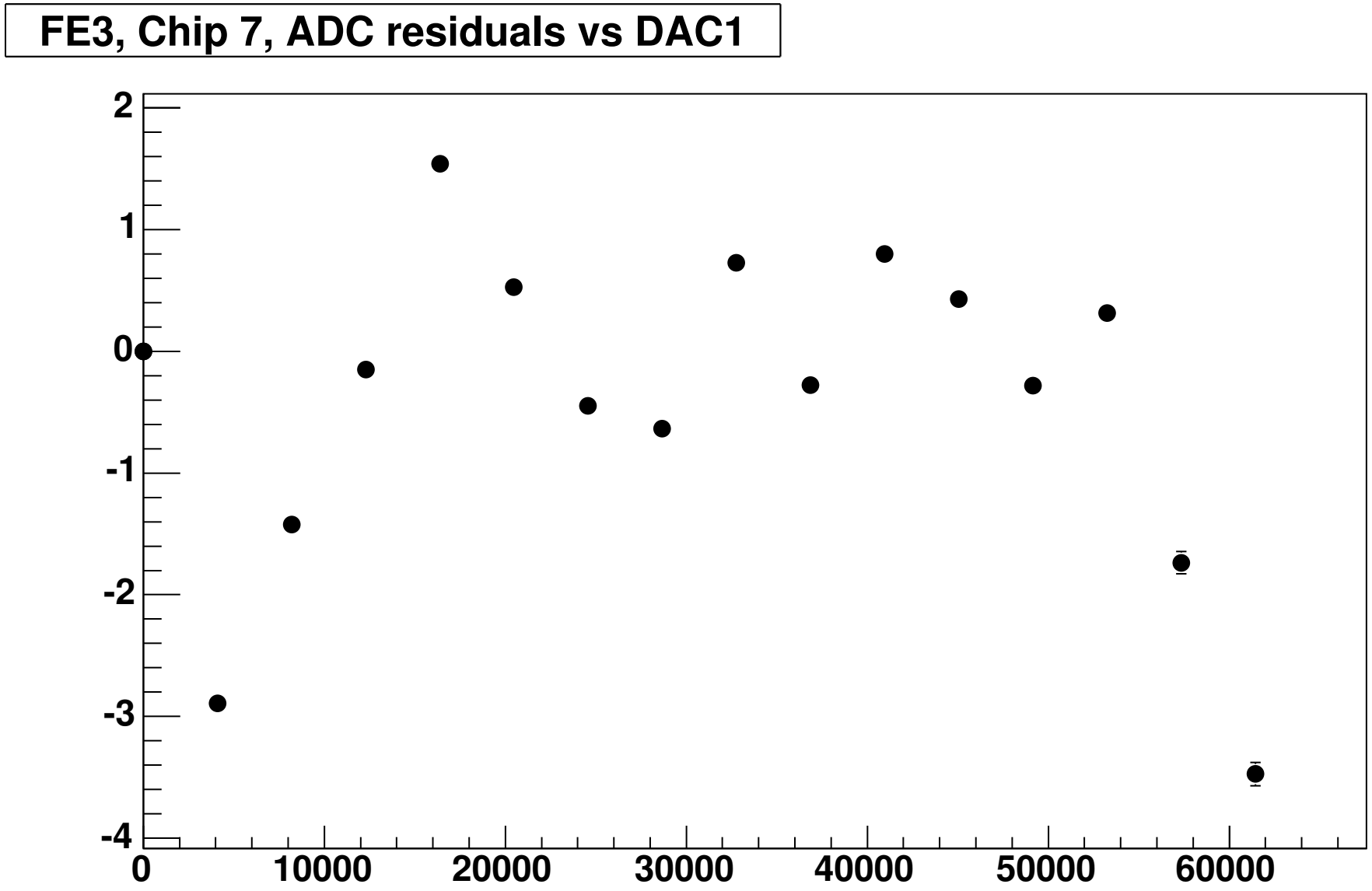

FE3, Chip 7, ADC mean vs DAC0
χ² / ndf 56.53 / 11
p0 -18.37 ± 0.04168
p1 -1.641e-06 ± 1.149e-06
-18
-18.2
-18.4
-18.6
-18.8
-19
0
10000
20000
30000
40000
50000
60000

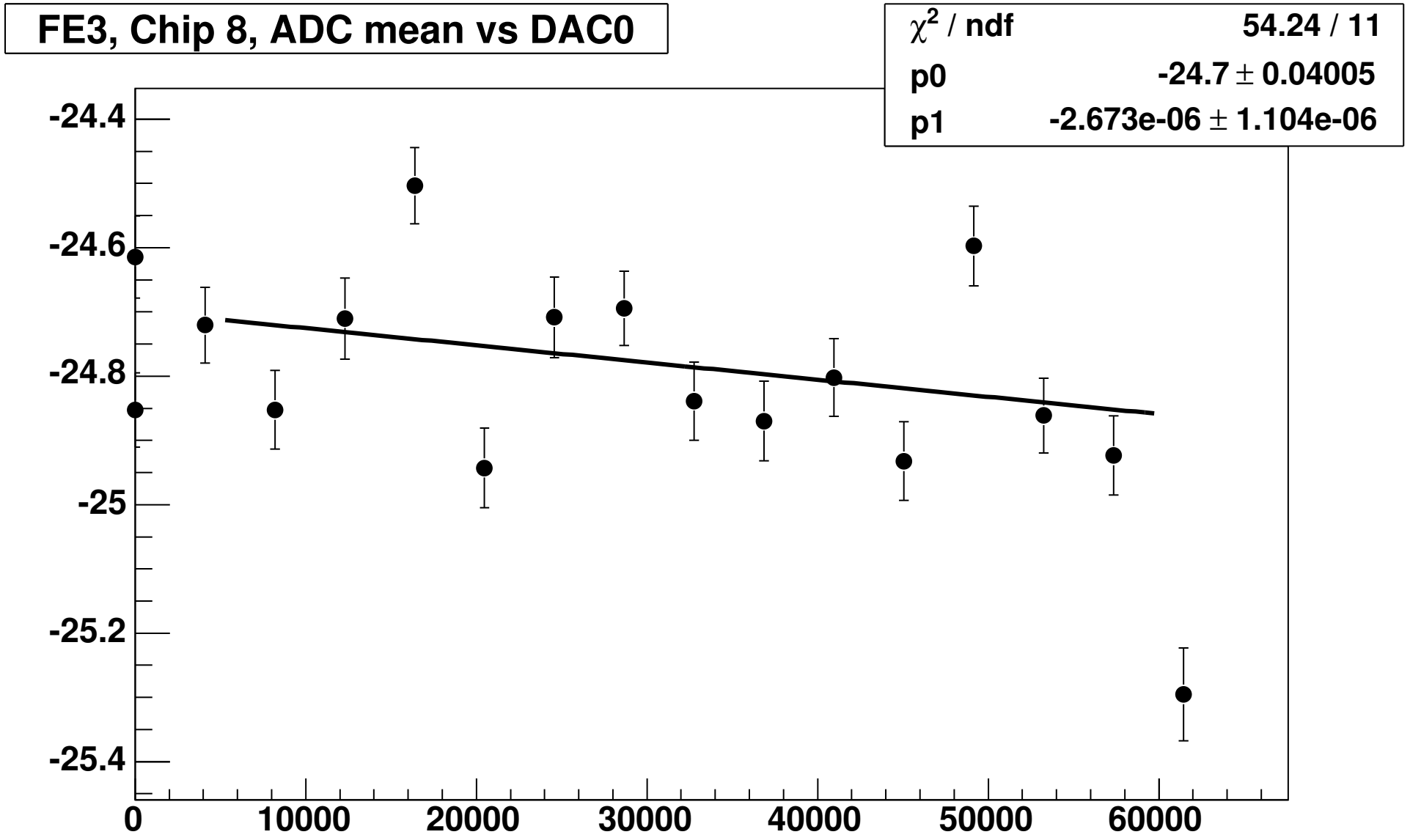

FE3, Chip 7, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

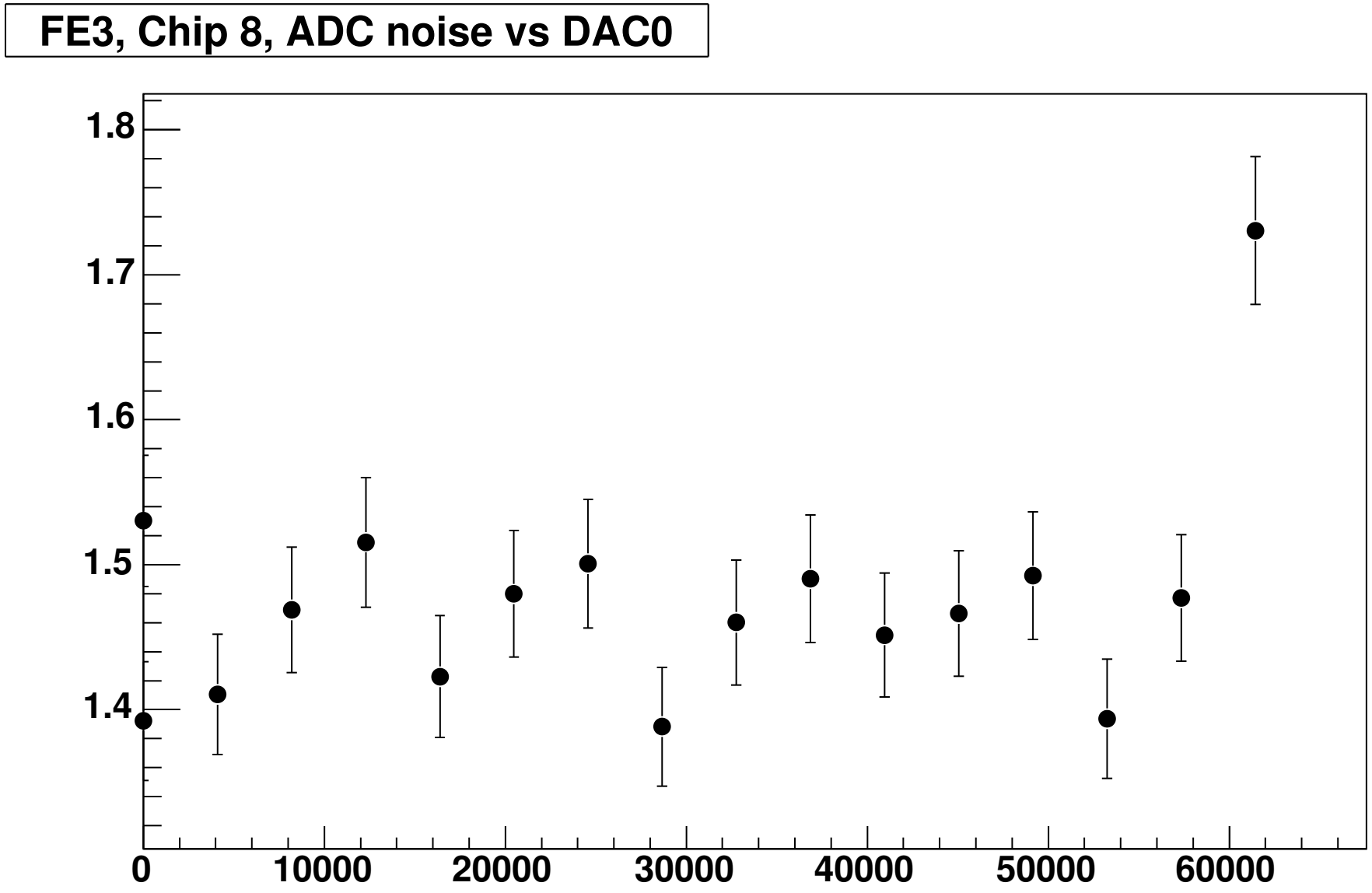

FE3, Chip 7, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
-0.6
0
10000
20000
30000
40000
50000
60000

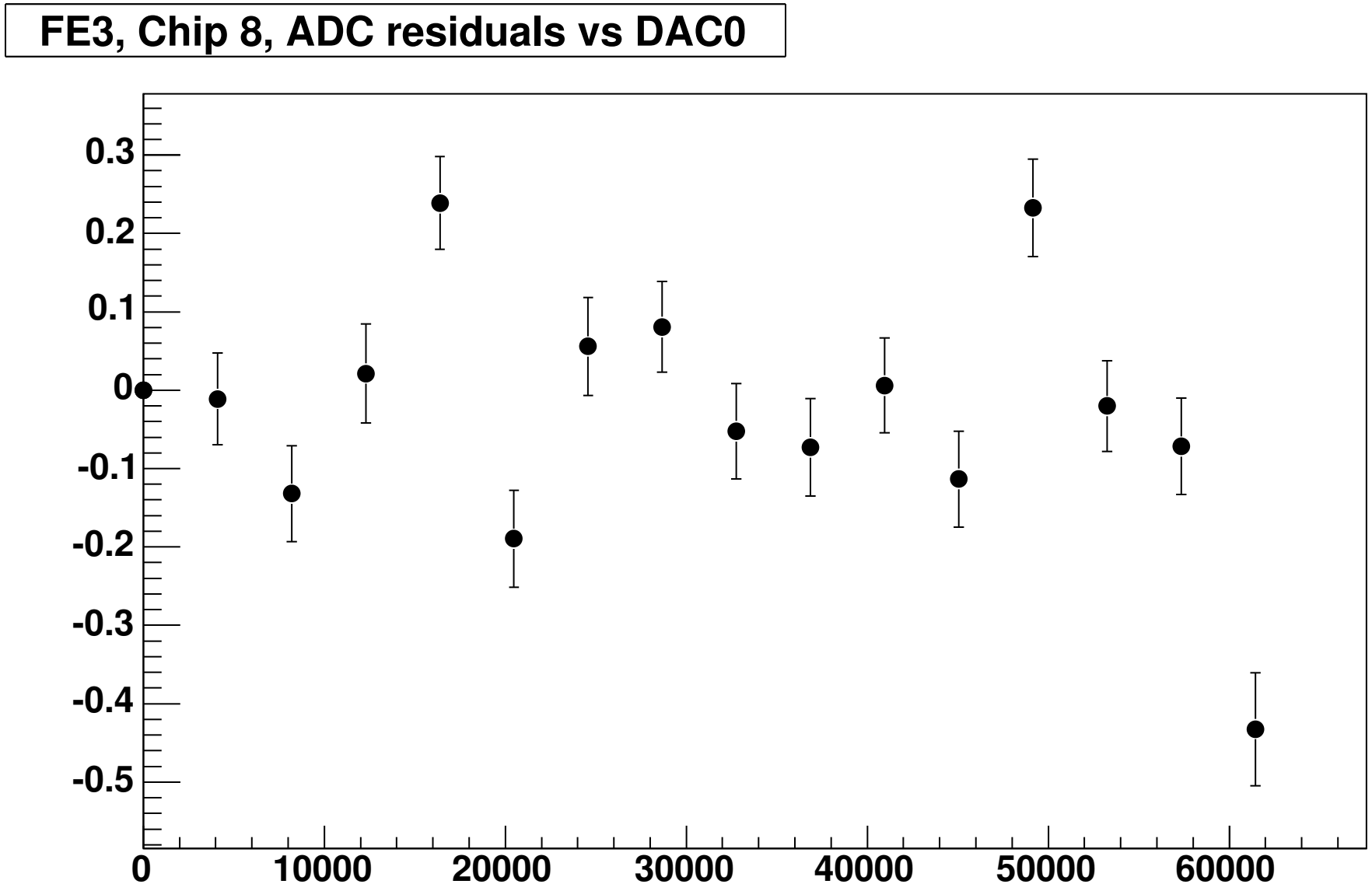

FE3, Chip 7, ADC mean vs DAC1
χ² / ndf 2202 / 11
p0 -15.91 ± 0.03954
p1 0.4511 ± 1.253e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

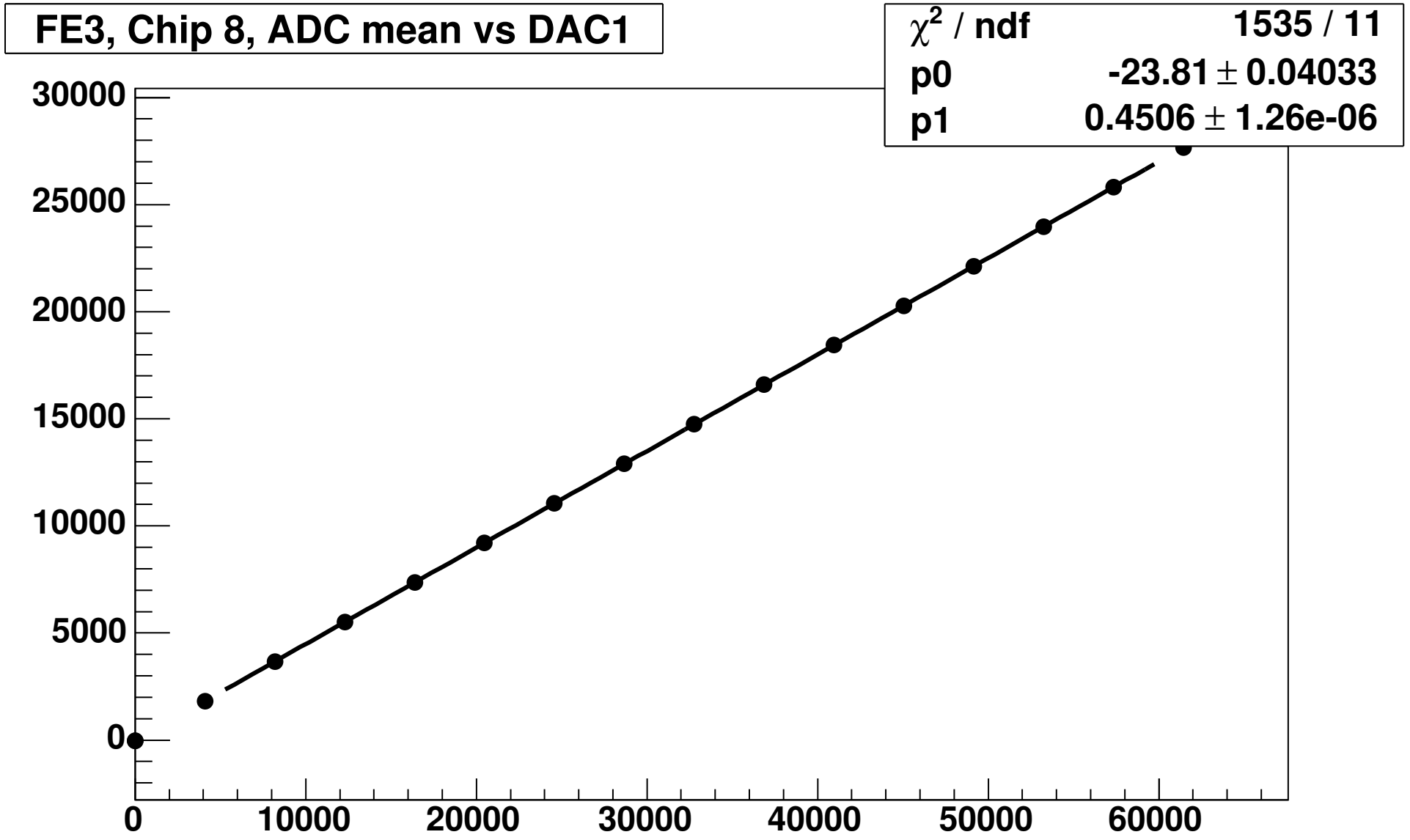

FE3, Chip 7, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

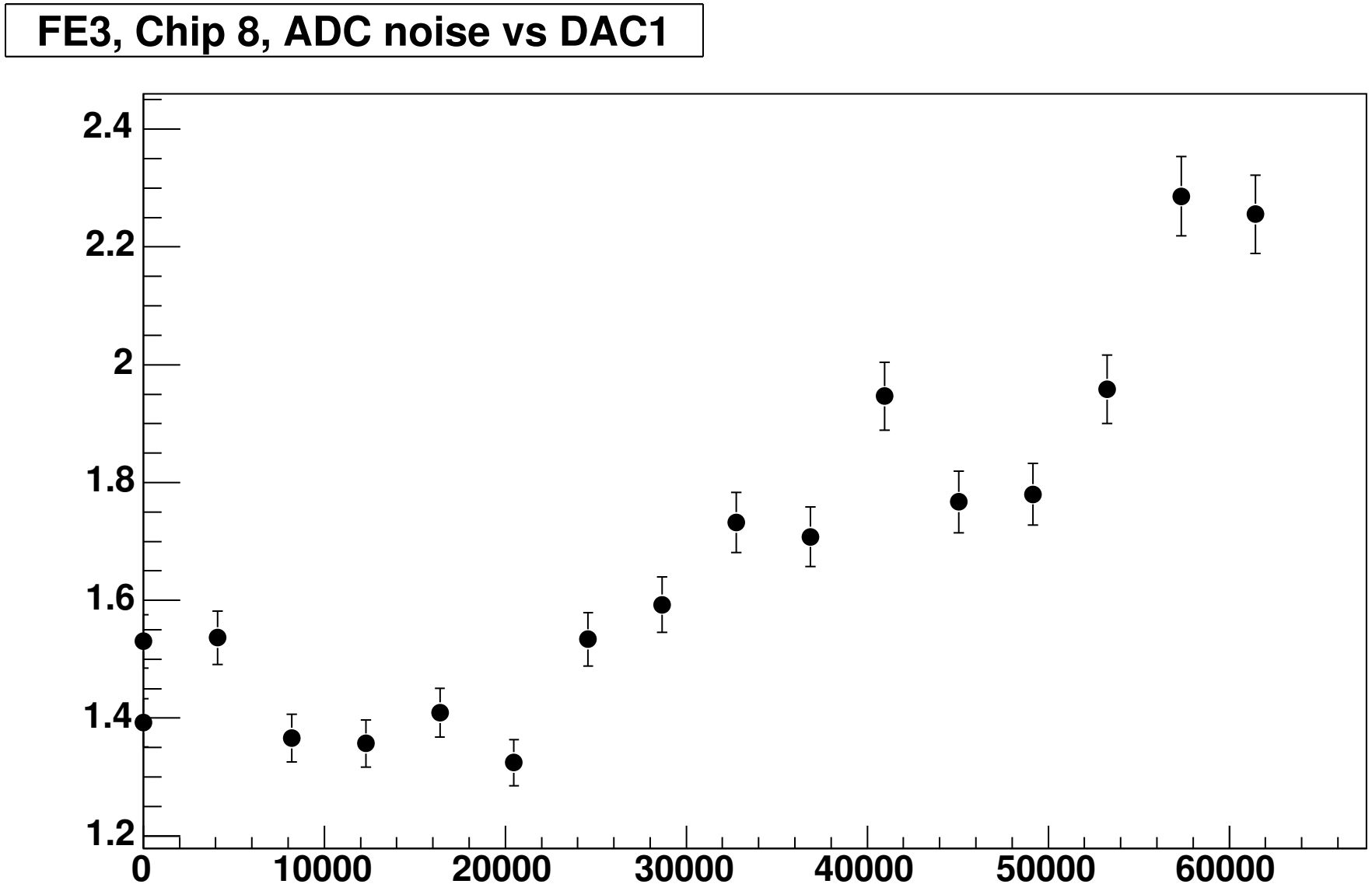

FE3, Chip 7, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000

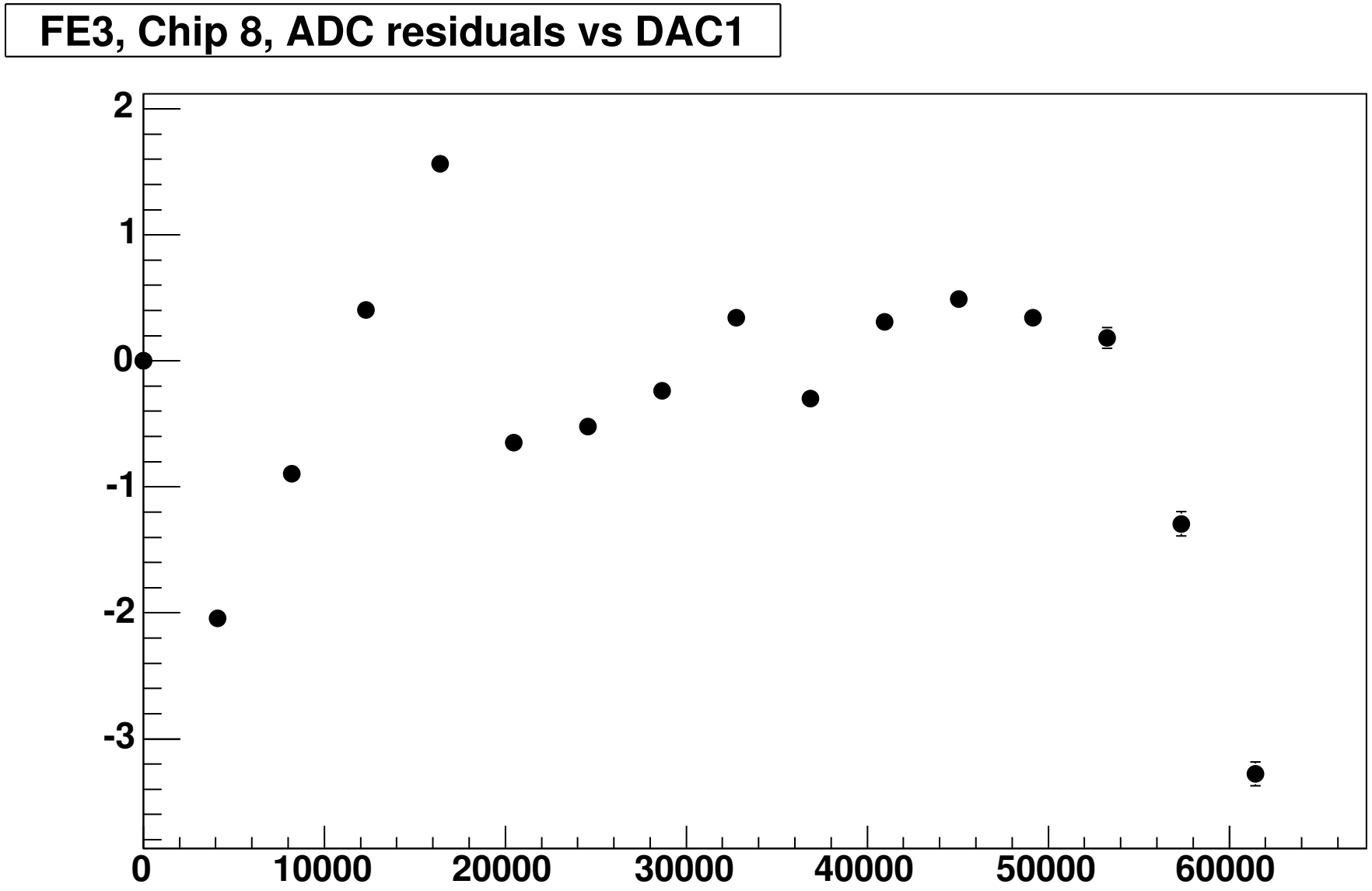

FE3, Chip 8, ADC mean vs DAC0
χ² / ndf 54.24 / 11
p0 -24.7 ± 0.04005
p1 -2.673e-06 ± 1.104e-06
-24.4
-24.6
-24.8
-25
-25.2
-25.4
0
10000
20000
30000
40000
50000
60000

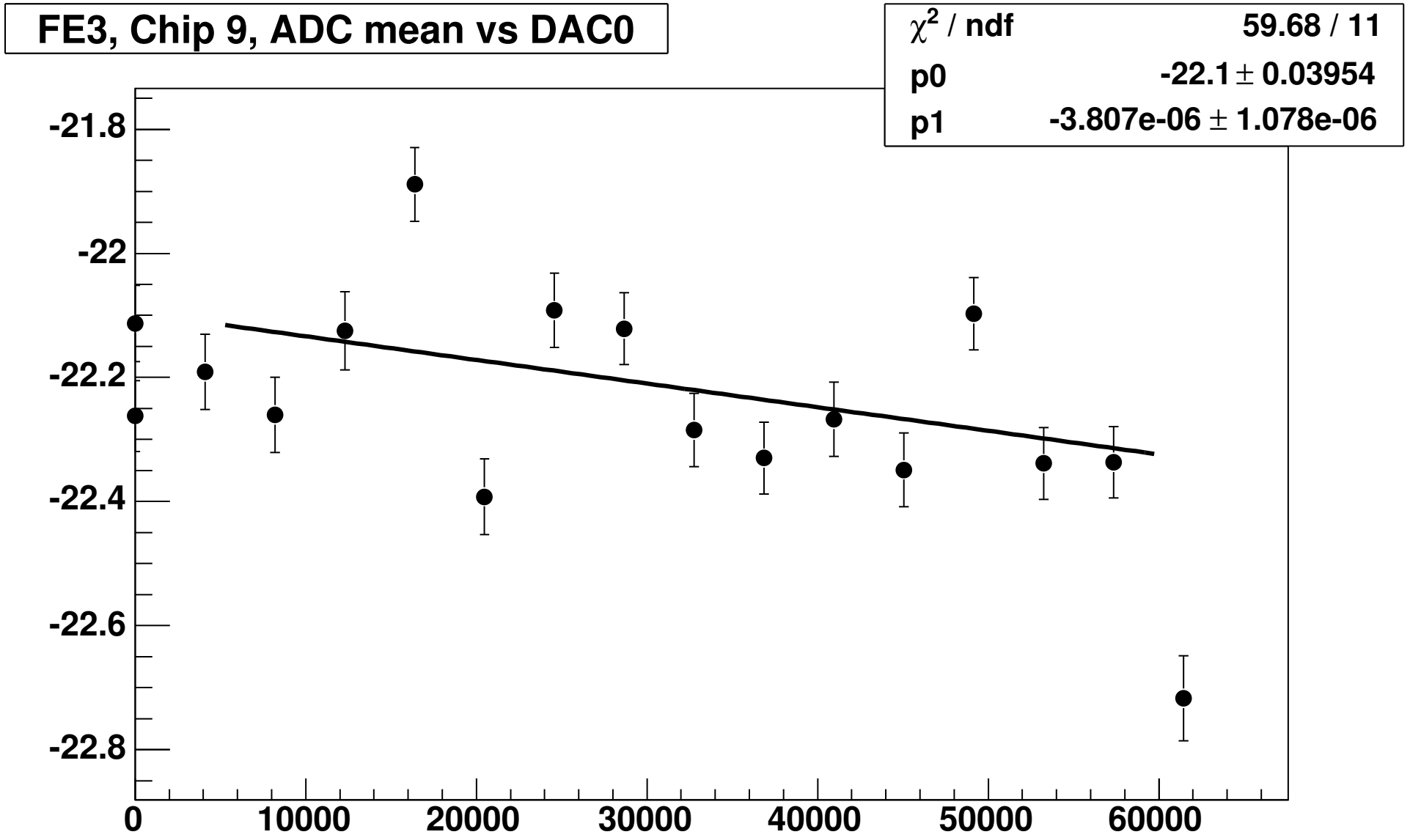

FE3, Chip 8, ADC noise vs DAC0
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

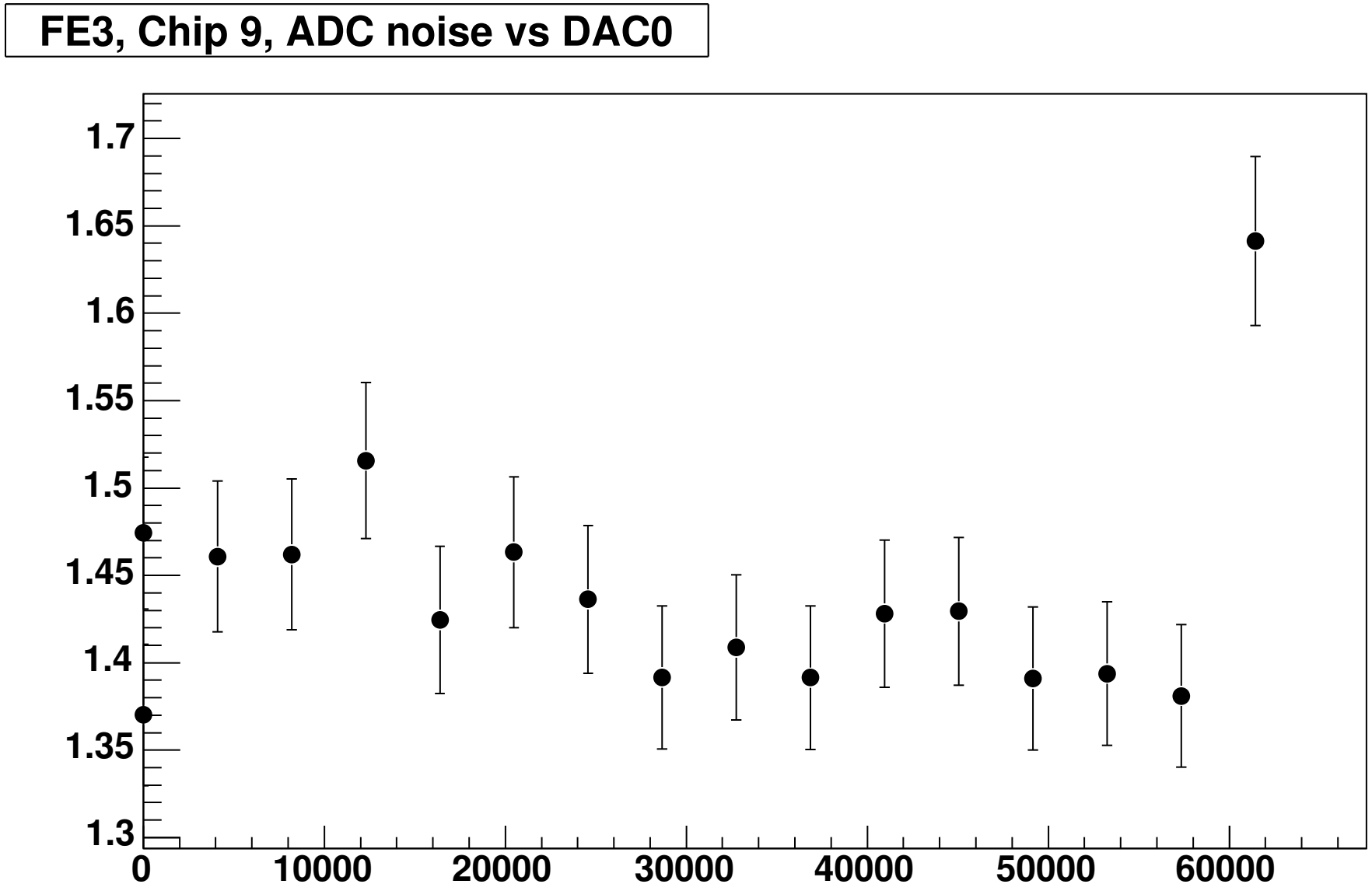

FE3, Chip 8, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
0
10000
20000
30000
40000
50000
60000

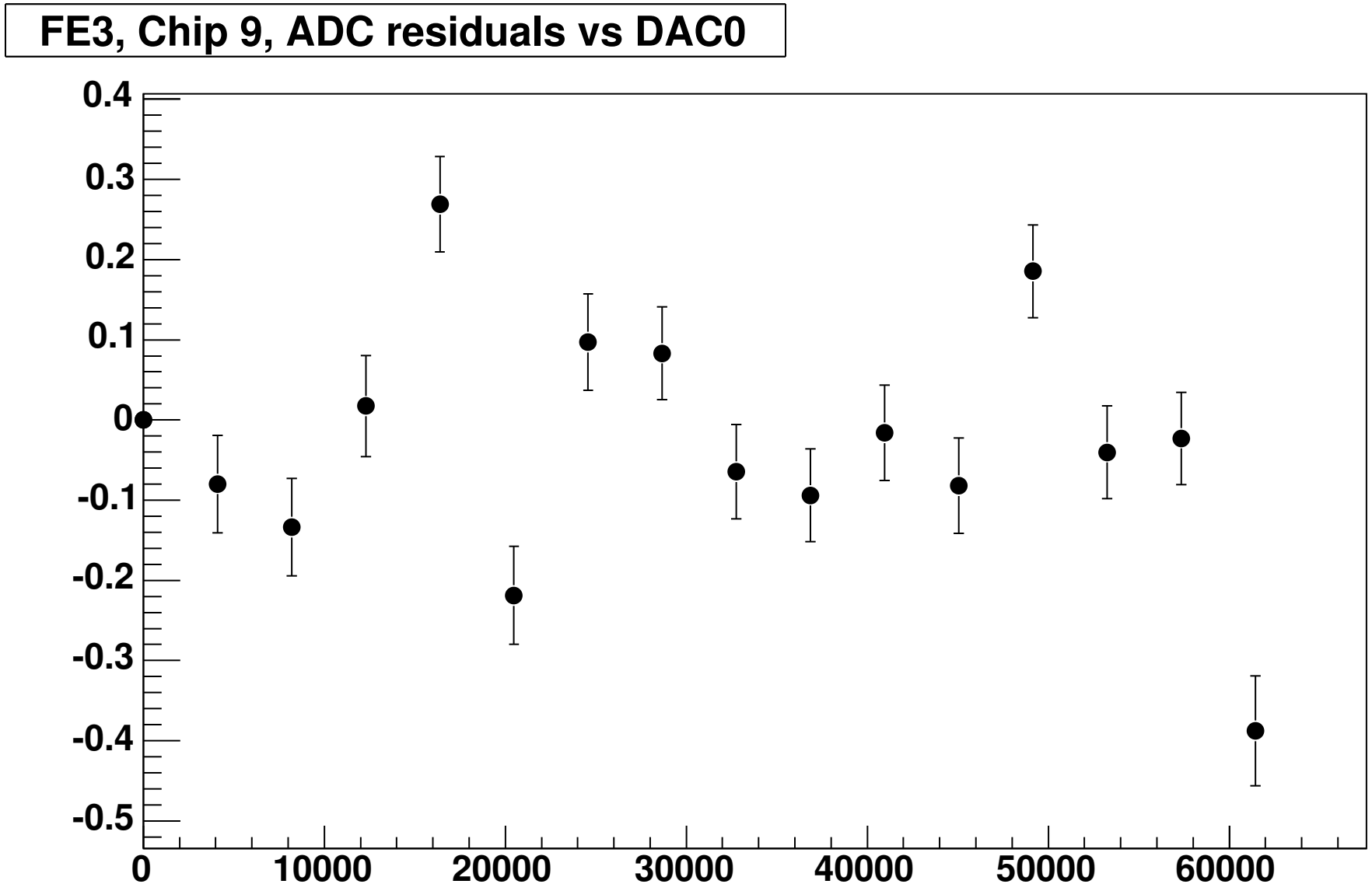

FE3, Chip 8, ADC mean vs DAC1
χ² / ndf 1535 / 11
p0 -23.81 ± 0.04033
p1 0.4506 ± 1.26e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

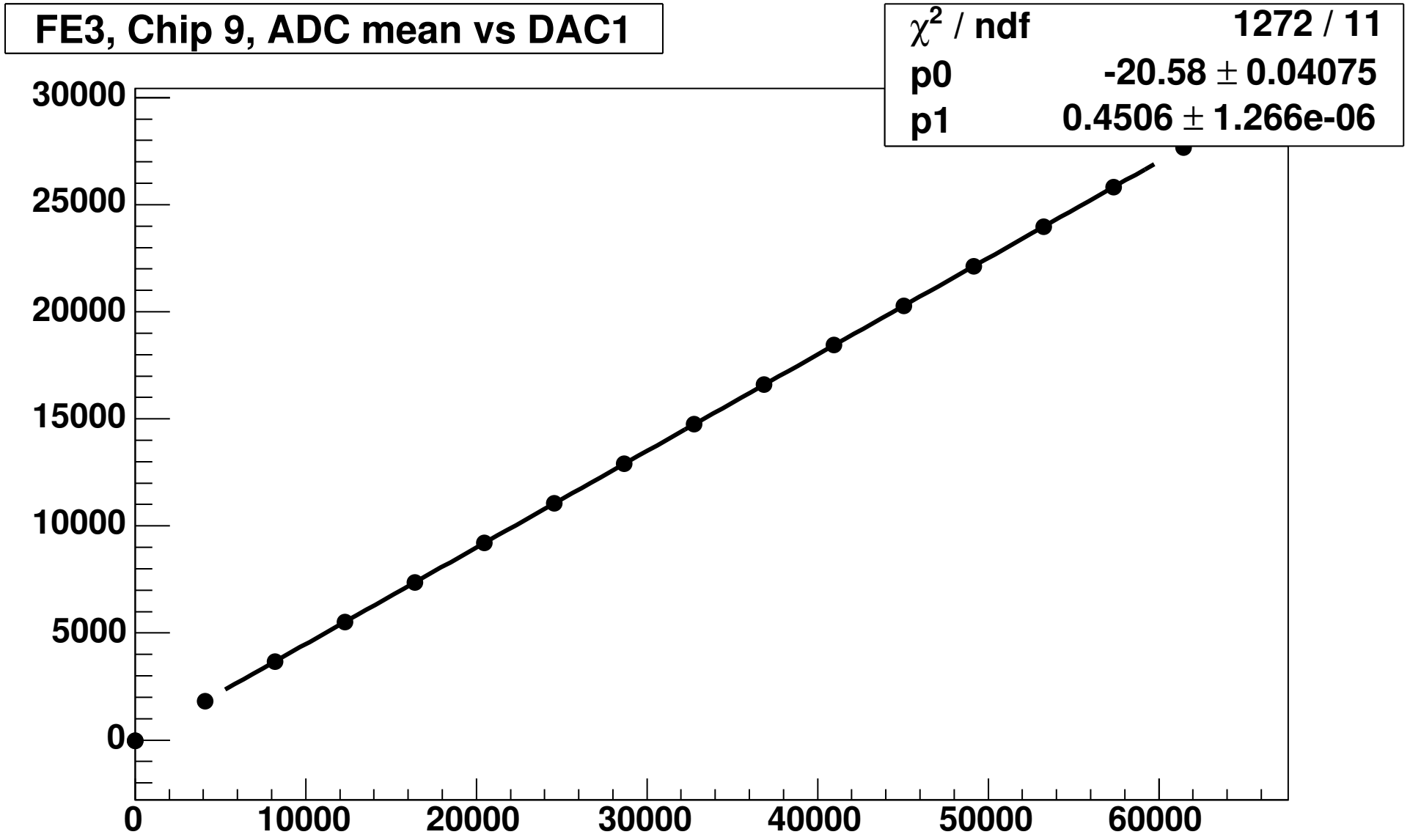

FE3, Chip 8, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

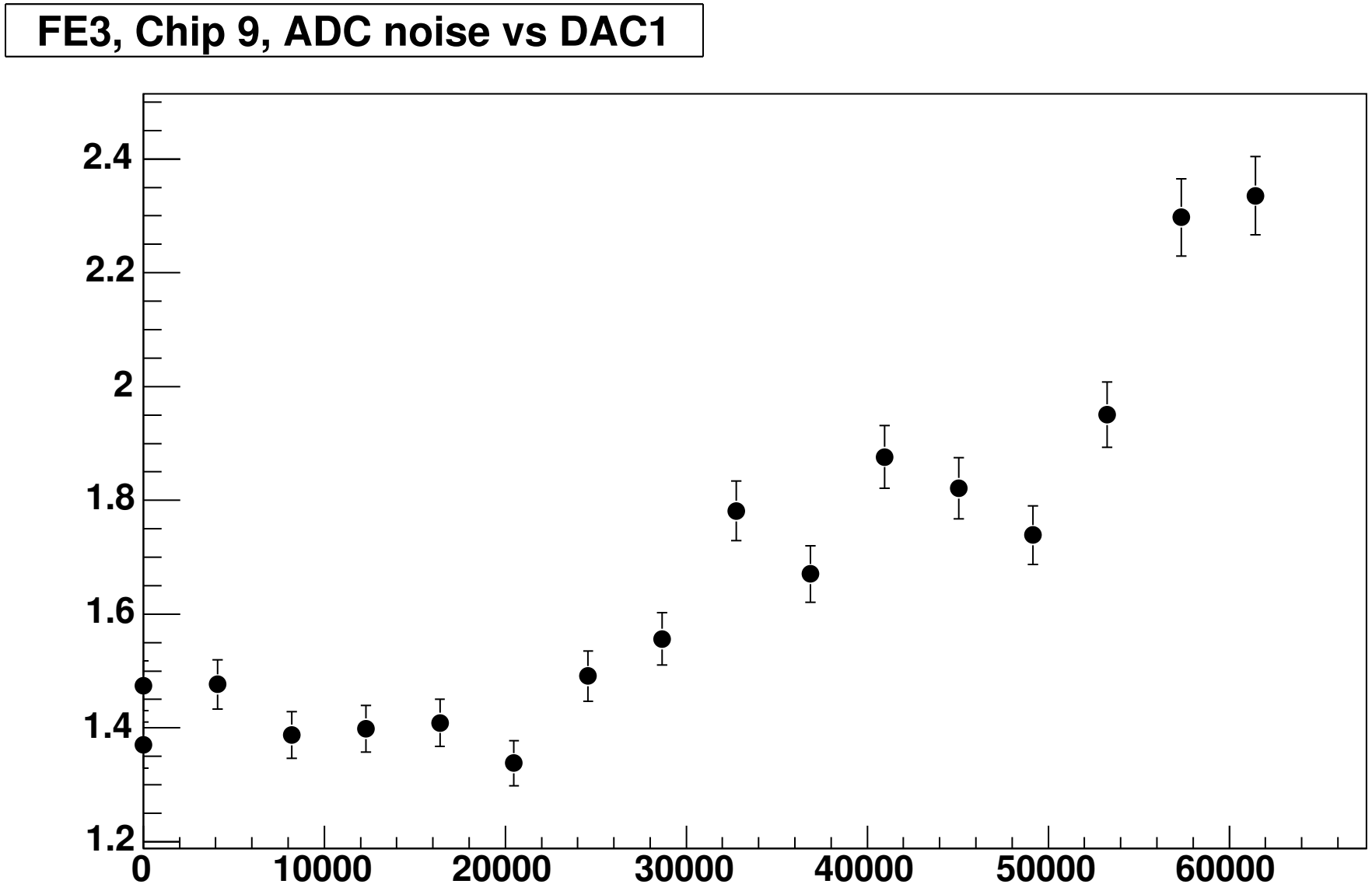

FE3, Chip 8, ADC residuals vs DAC1
2
1
0
-1
-2
-3
0
10000
20000
30000
40000
50000
60000


FE3, Chip 9, ADC mean vs DAC0
χ² / ndf 59.68 / 11
p0 -22.1 ± 0.03954
p1 -3.807e-06 ± 1.078e-06
-21.8
-22
-22.2
-22.4
-22.6
-22.8
0
10000
20000
30000
40000
50000
60000

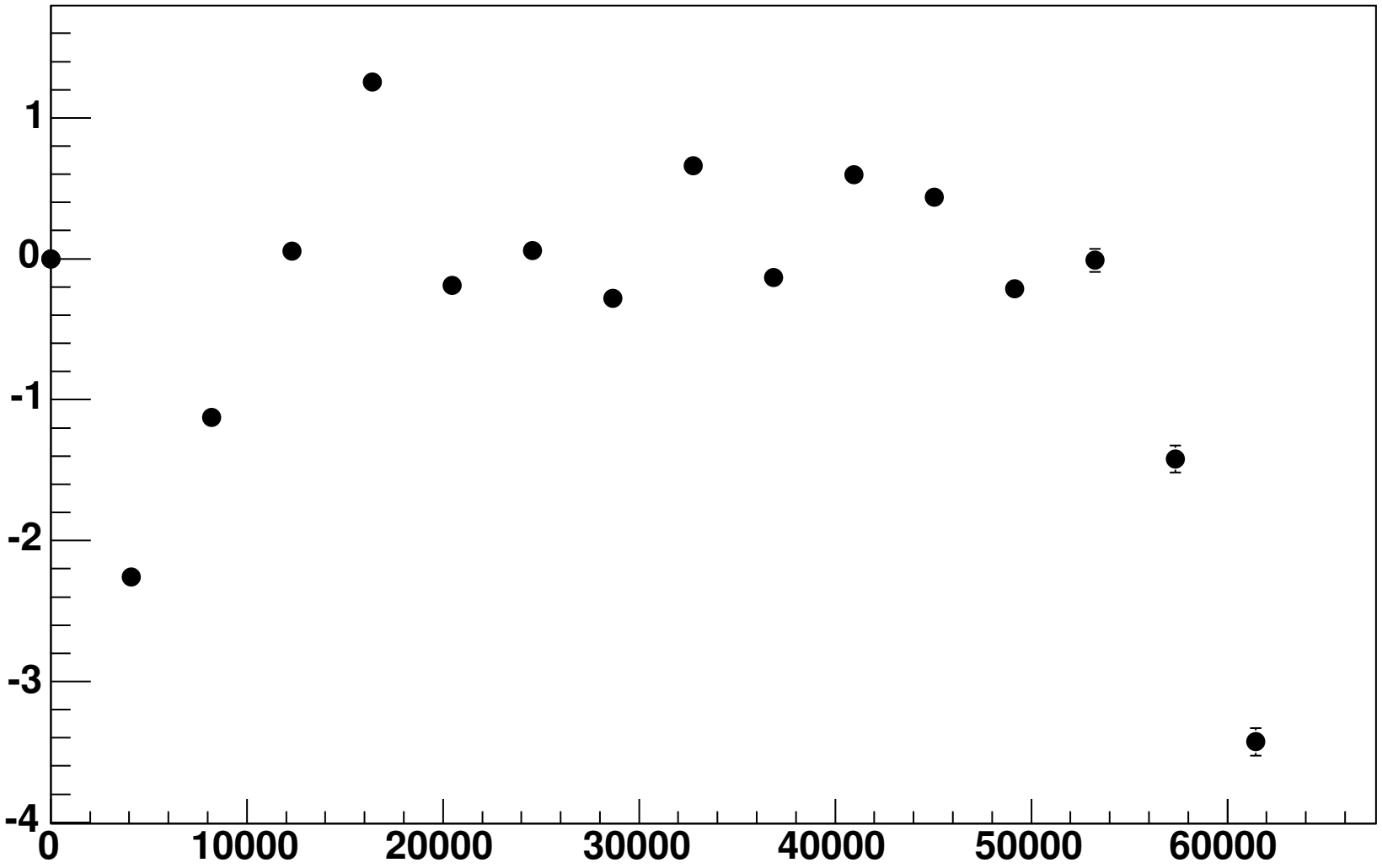

FE3, Chip 9, ADC noise vs DAC0
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

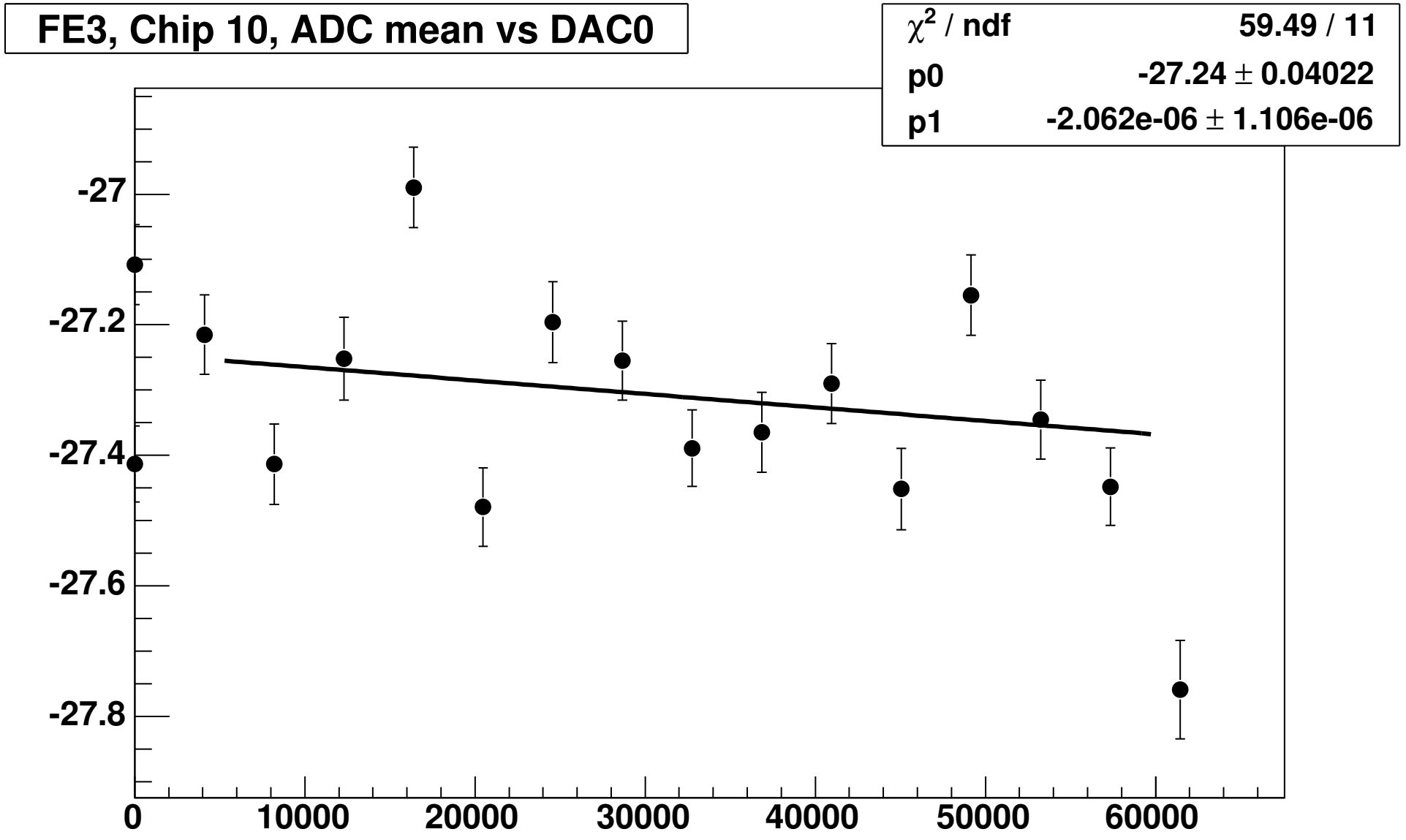

FE3, Chip 9, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
0
10000
20000
30000
40000
50000
60000

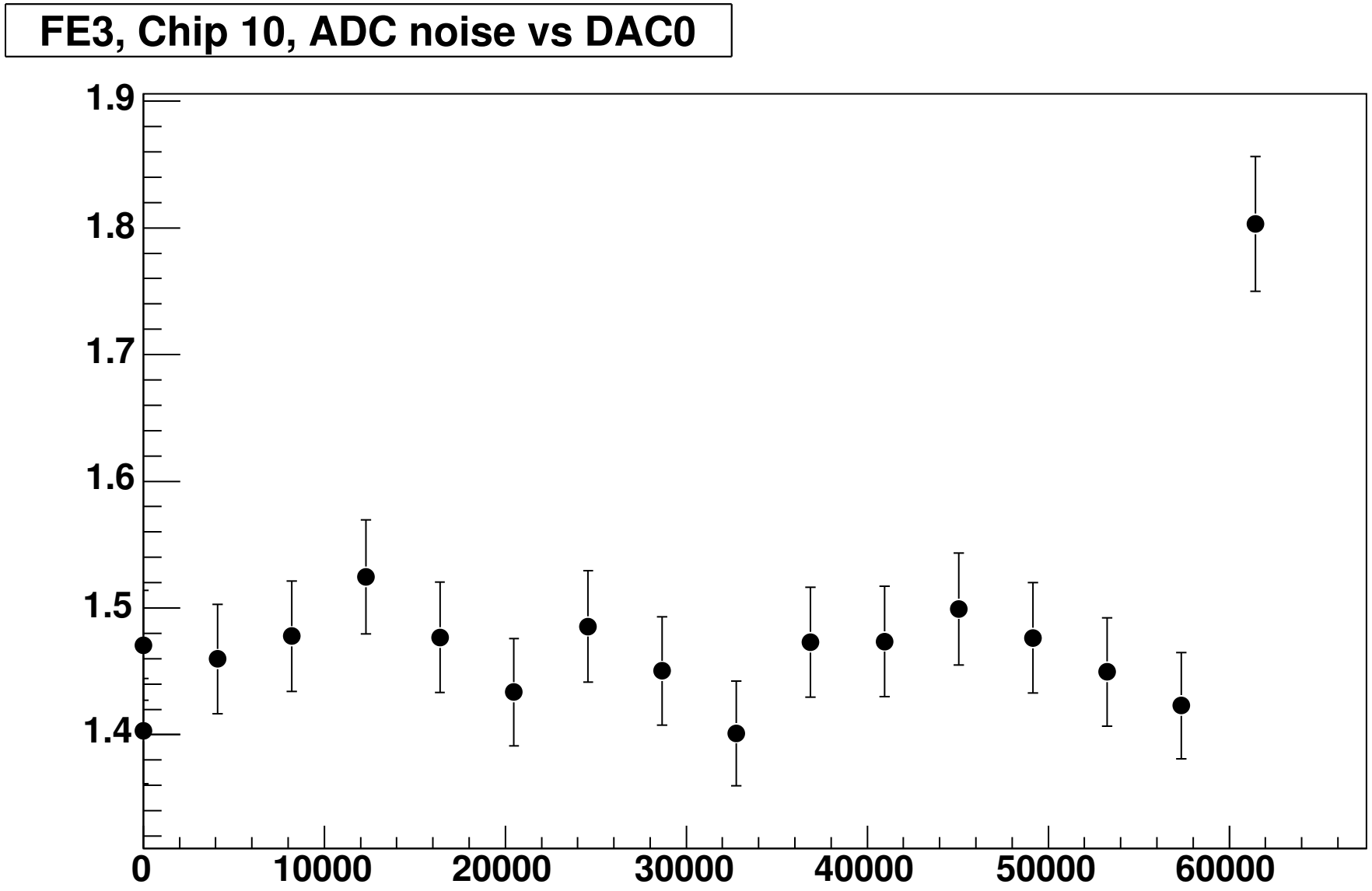

FE3, Chip 9, ADC mean vs DAC1
χ² / ndf 1272 / 11
p0 -20.58 ± 0.04075
p1 0.4506 ± 1.266e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

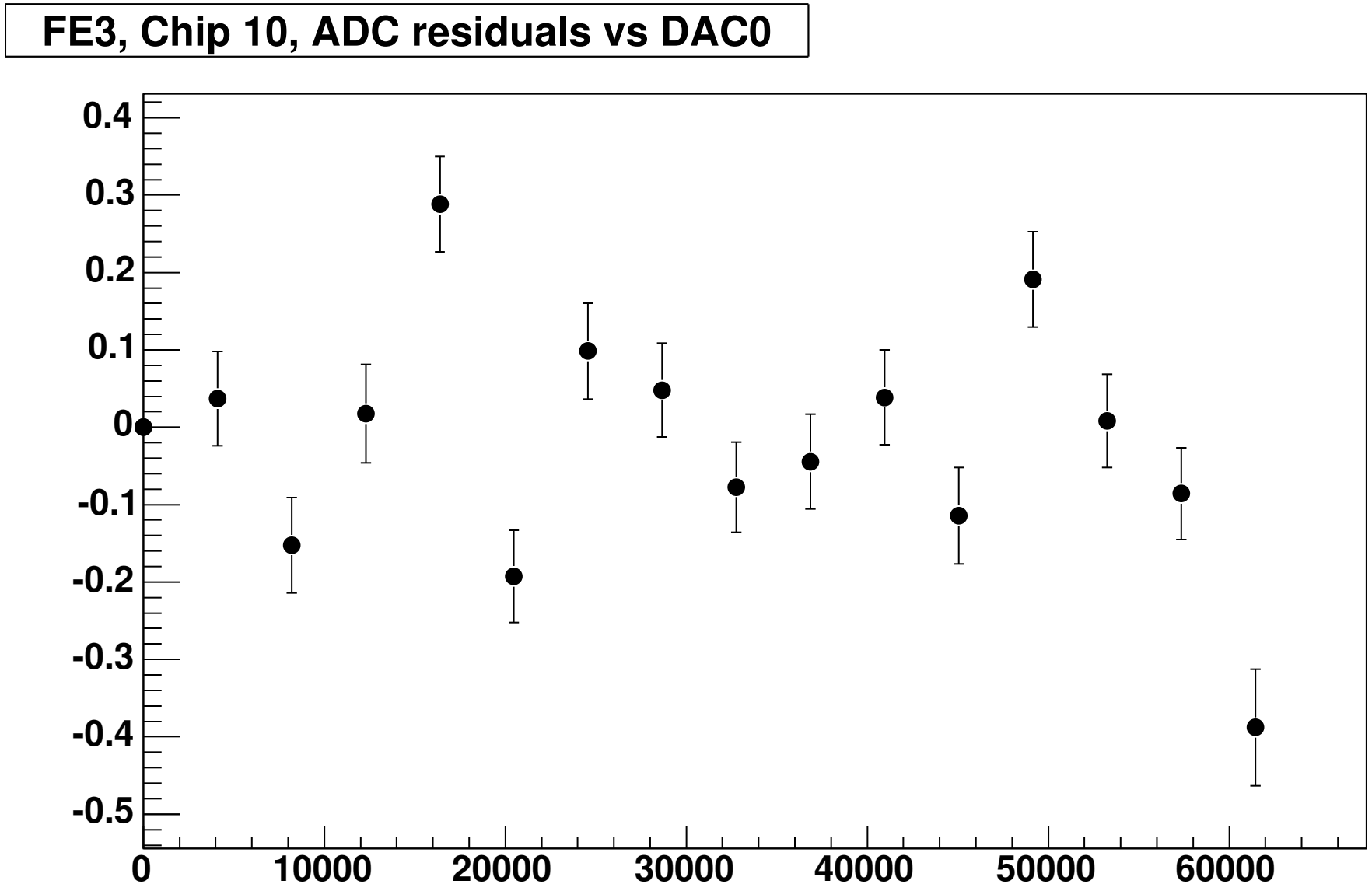

FE3, Chip 9, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

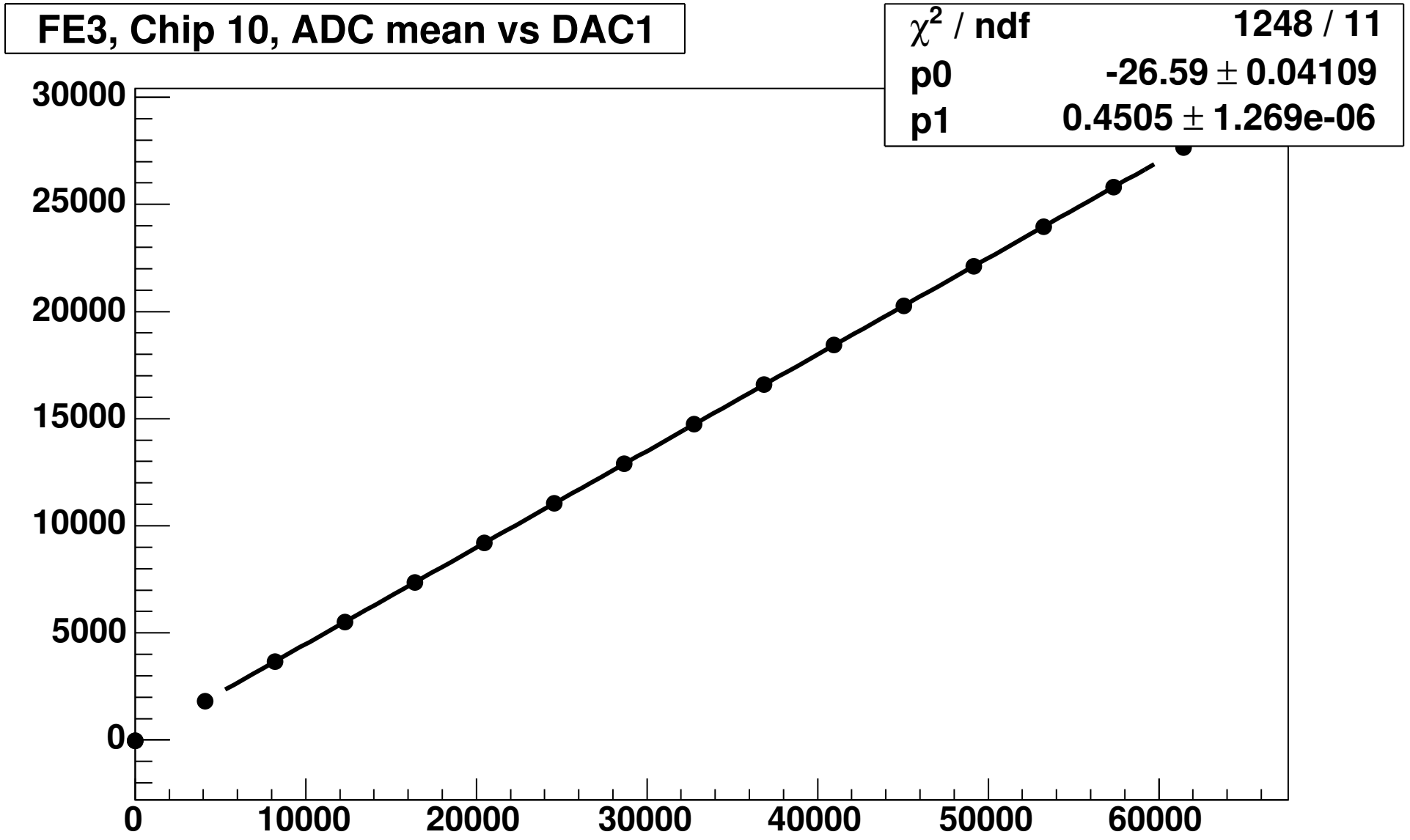
FE3, Chip 9, ADC residuals vs DAC1

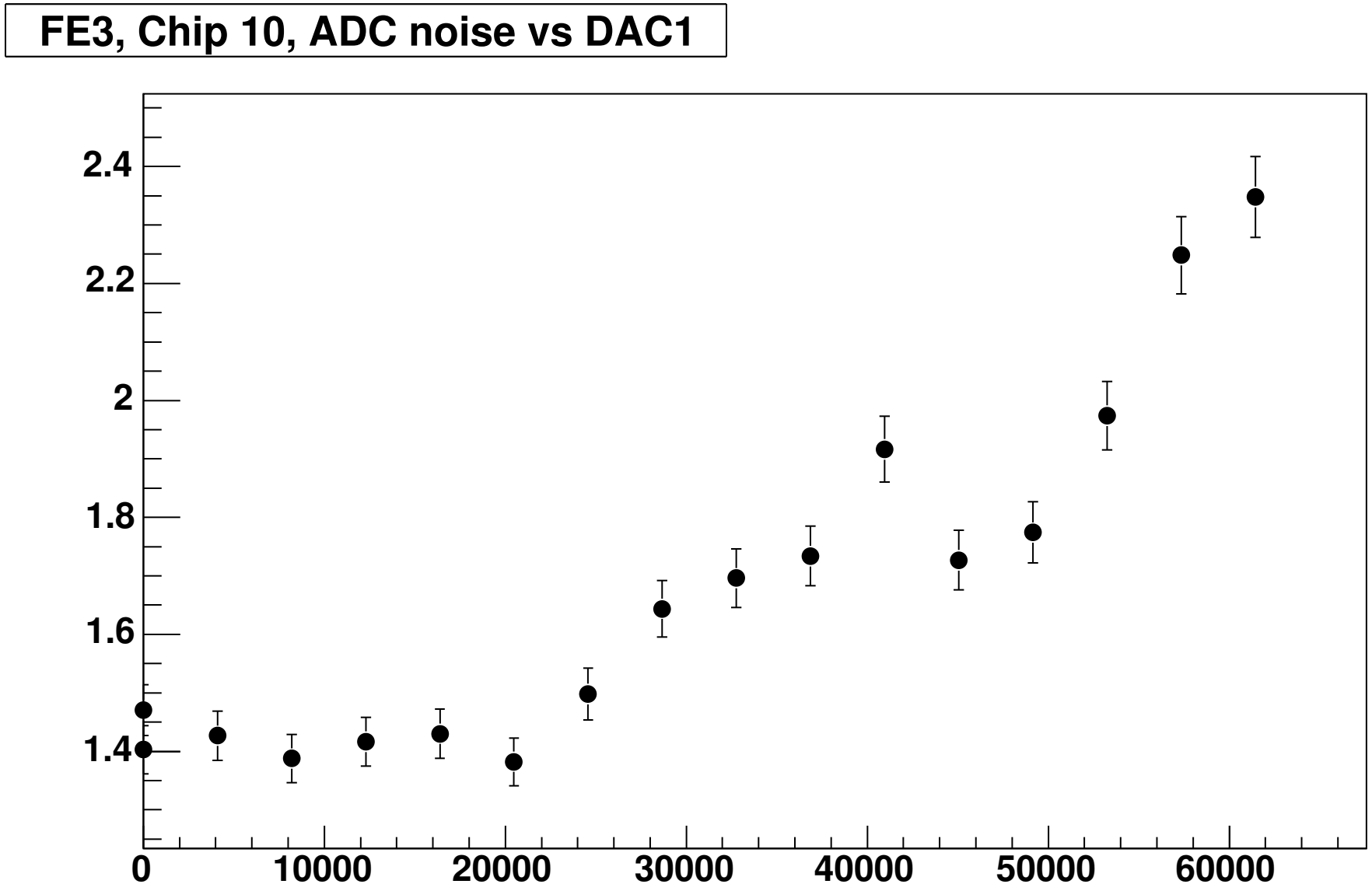


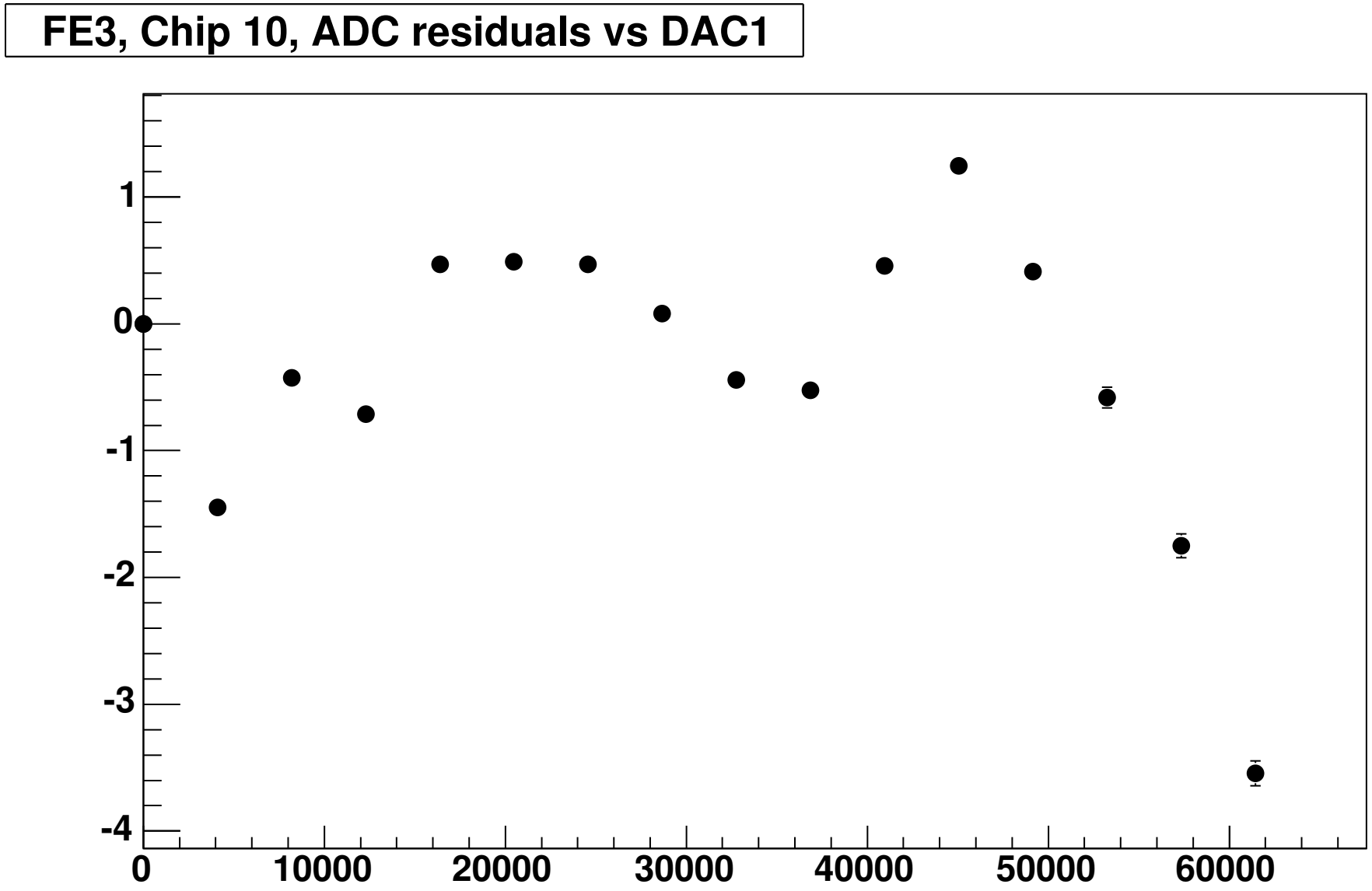

FE3, Chip 10, ADC mean vs DAC0
χ² / ndf 59.49 / 11
p0 -27.24 ± 0.04022
p1 -2.062e-06 ± 1.106e-06
-27
-27.2
-27.4
-27.6
-27.8
0
10000
20000
30000
40000
50000
60000

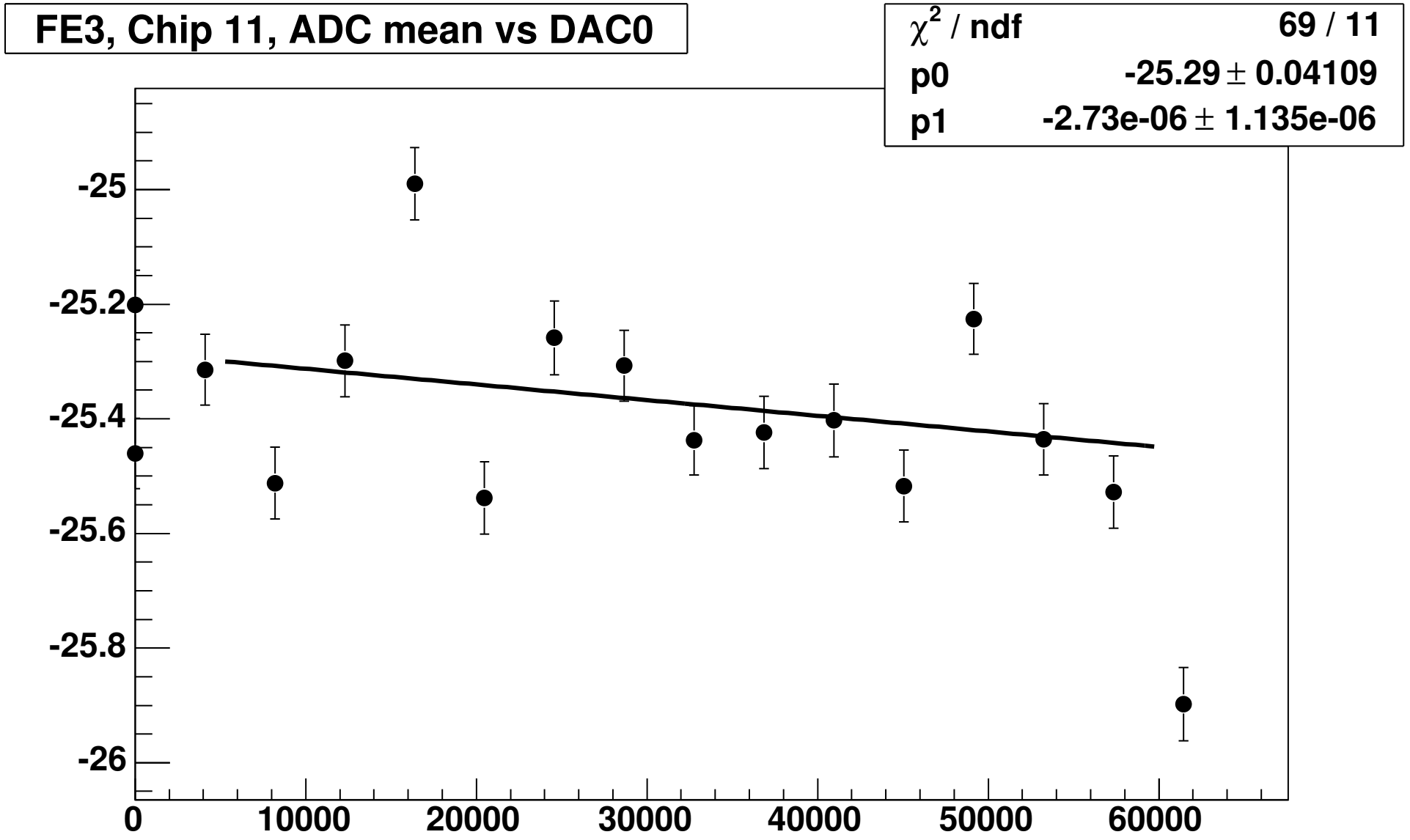

FE3, Chip 10, ADC noise vs DAC0
1.9
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

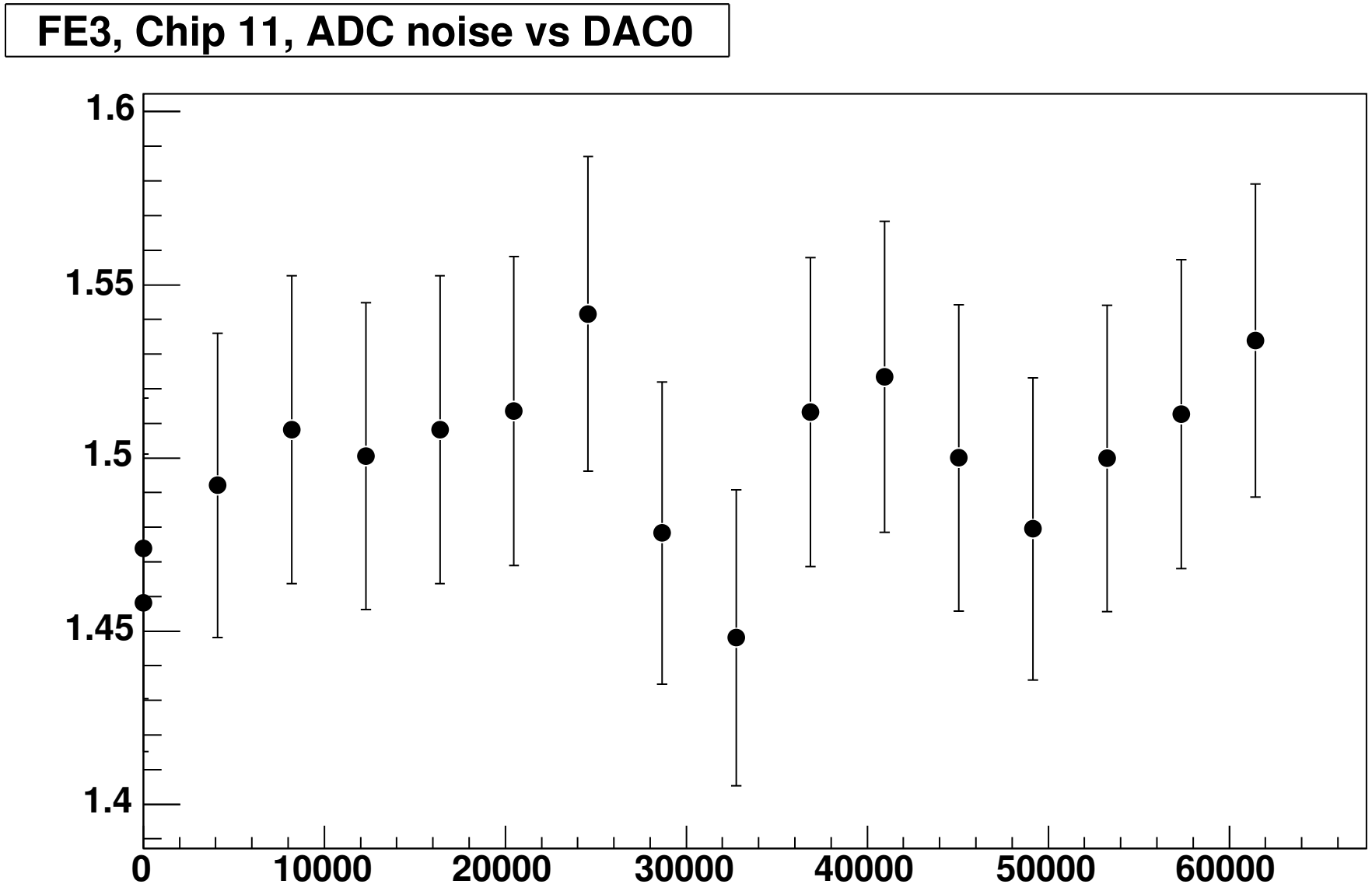

FE3, Chip 10, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
0
10000
20000
30000
40000
50000
60000

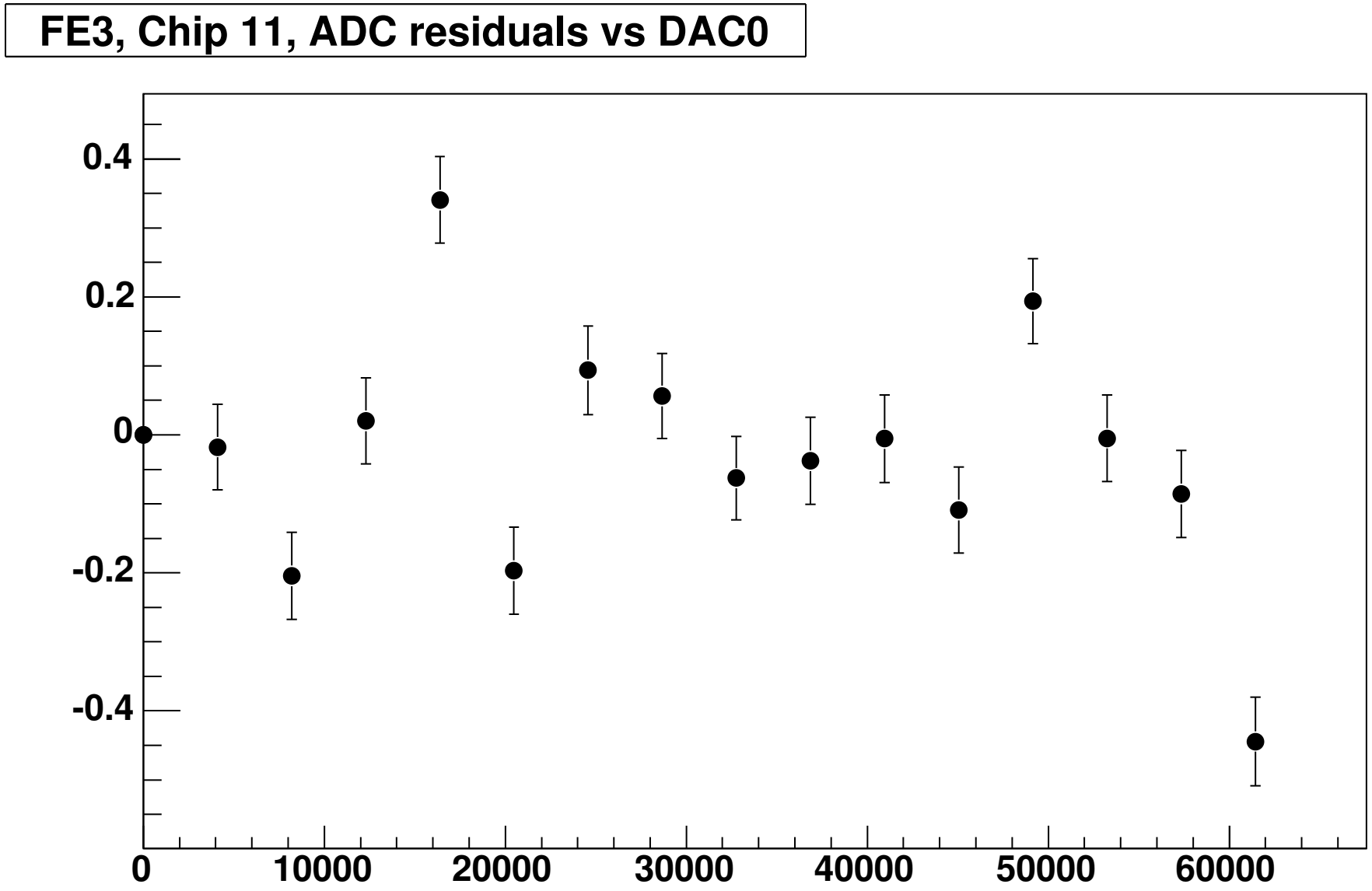

FE3, Chip 10, ADC mean vs DAC1
χ² / ndf 1248 / 11
p0 -26.59 ± 0.04109
p1 0.4505 ± 1.269e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

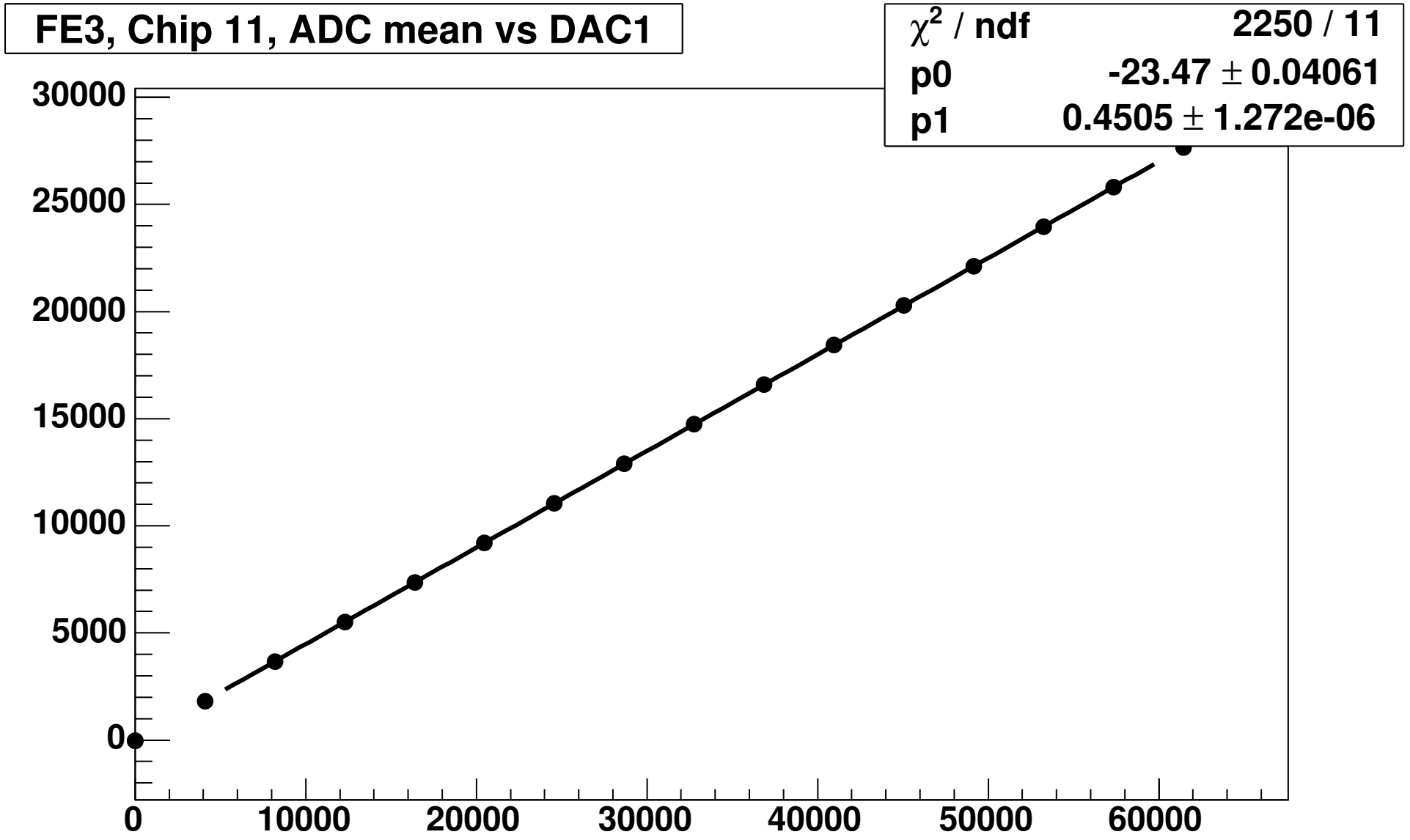

FE3, Chip 10, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

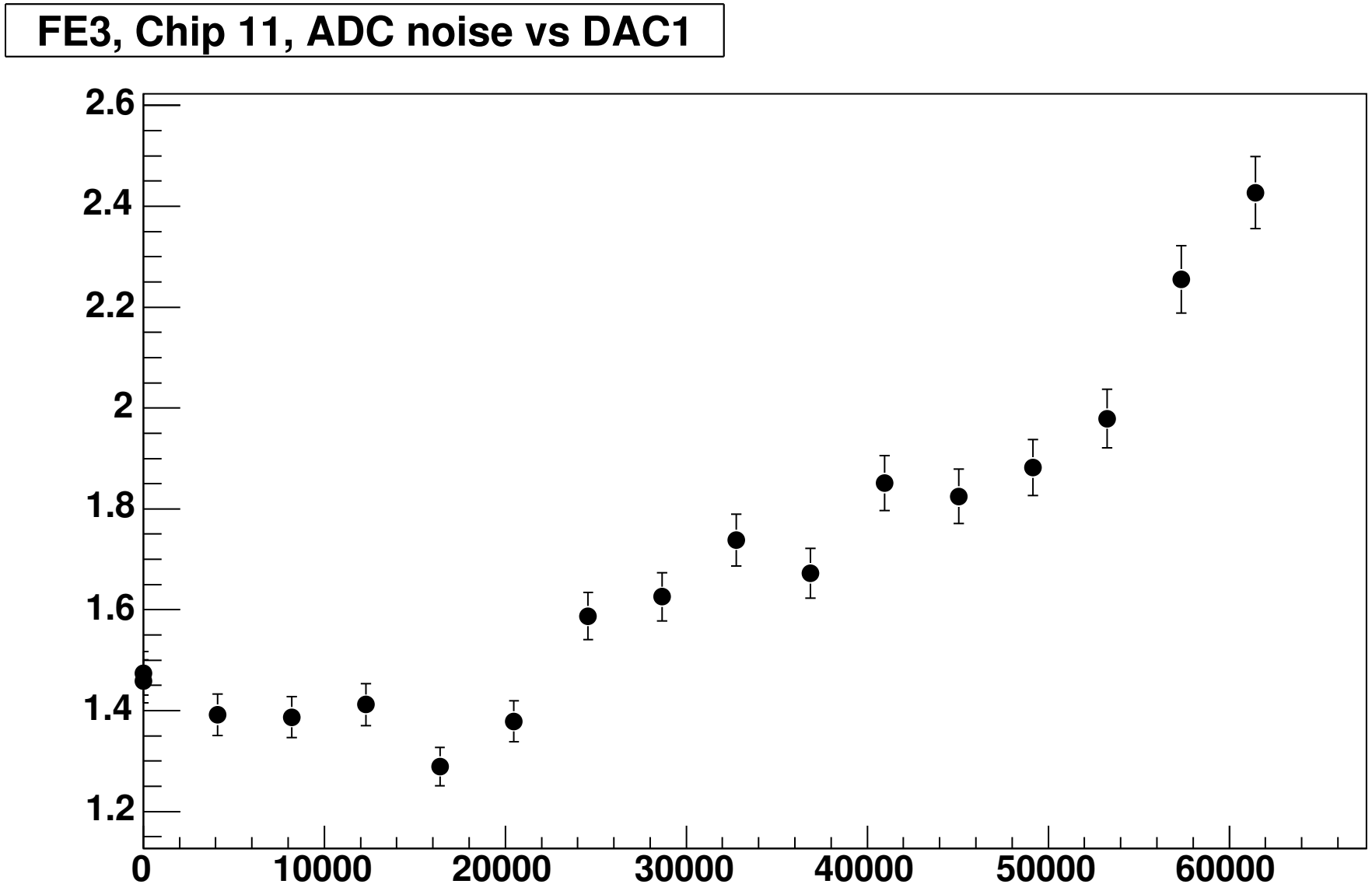

FE3, Chip 10, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000

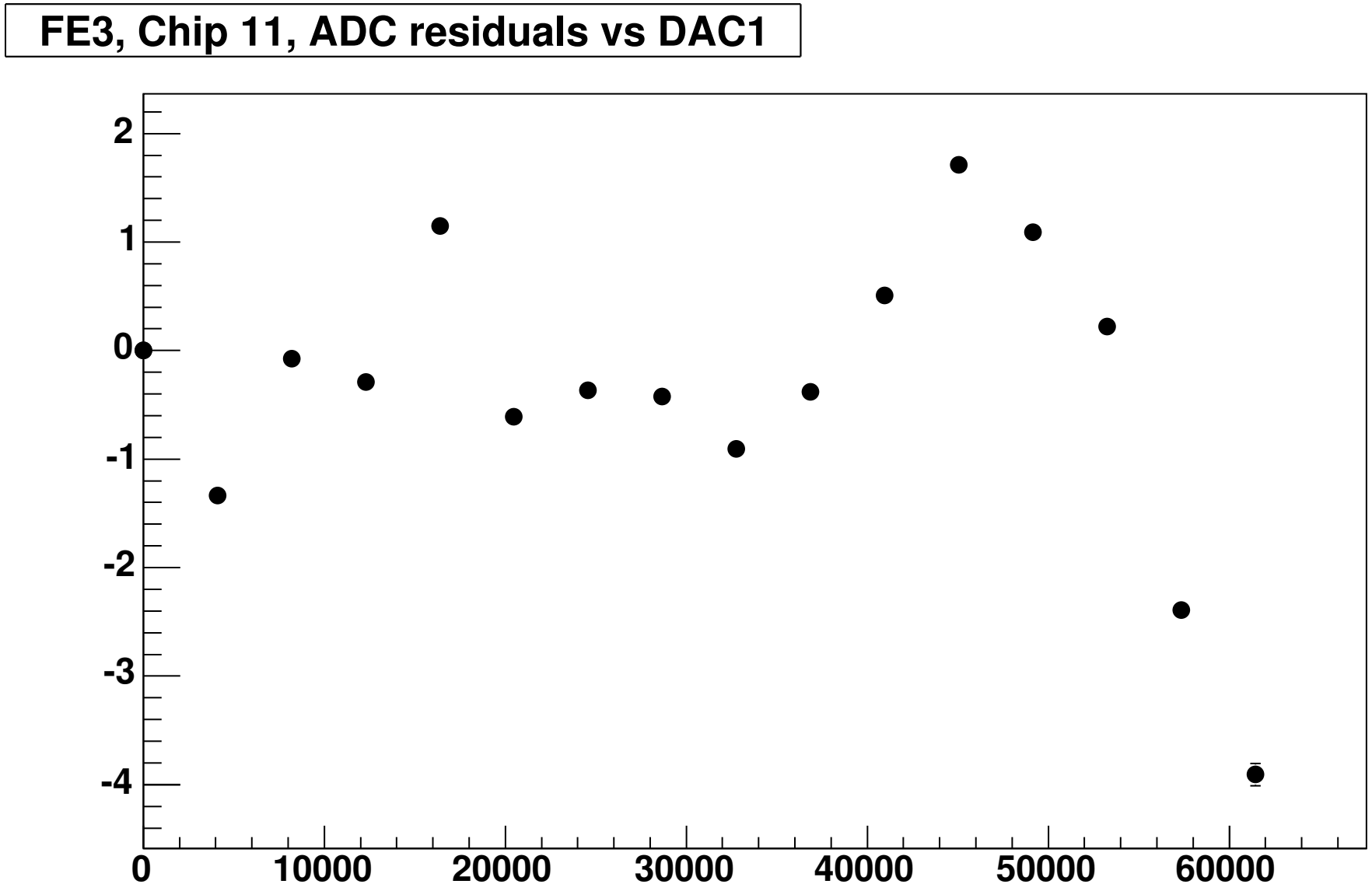

FE3, Chip 11, ADC mean vs DAC0
χ² / ndf 69 / 11
p0 -25.29 ± 0.04109
p1 -2.73e-06 ± 1.135e-06
-25
-25.2
-25.4
-25.6
-25.8
-26
0
10000
20000
30000
40000
50000
60000

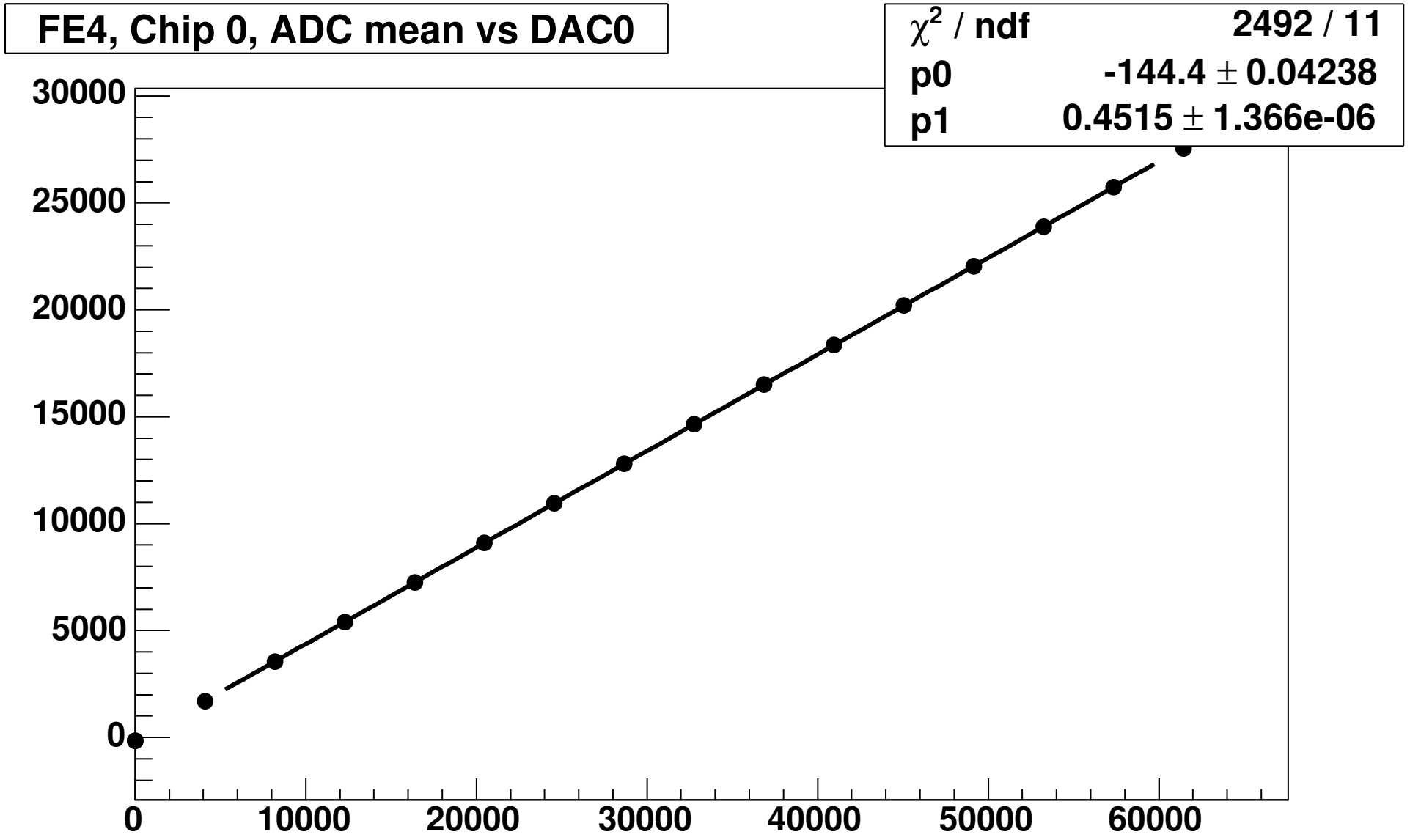

FE3, Chip 11, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

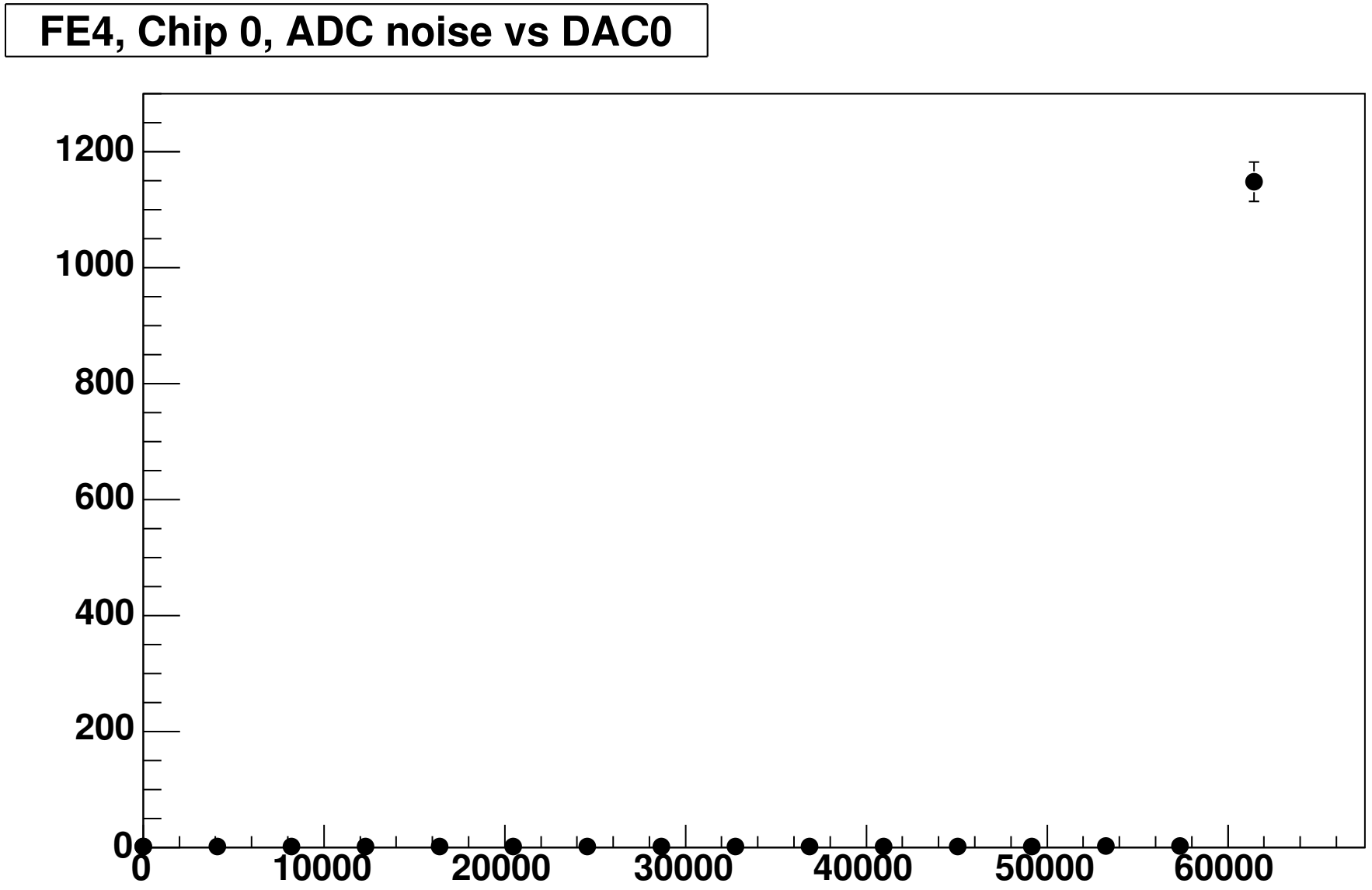

FE3, Chip 11, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
10000
20000
30000
40000
50000
60000

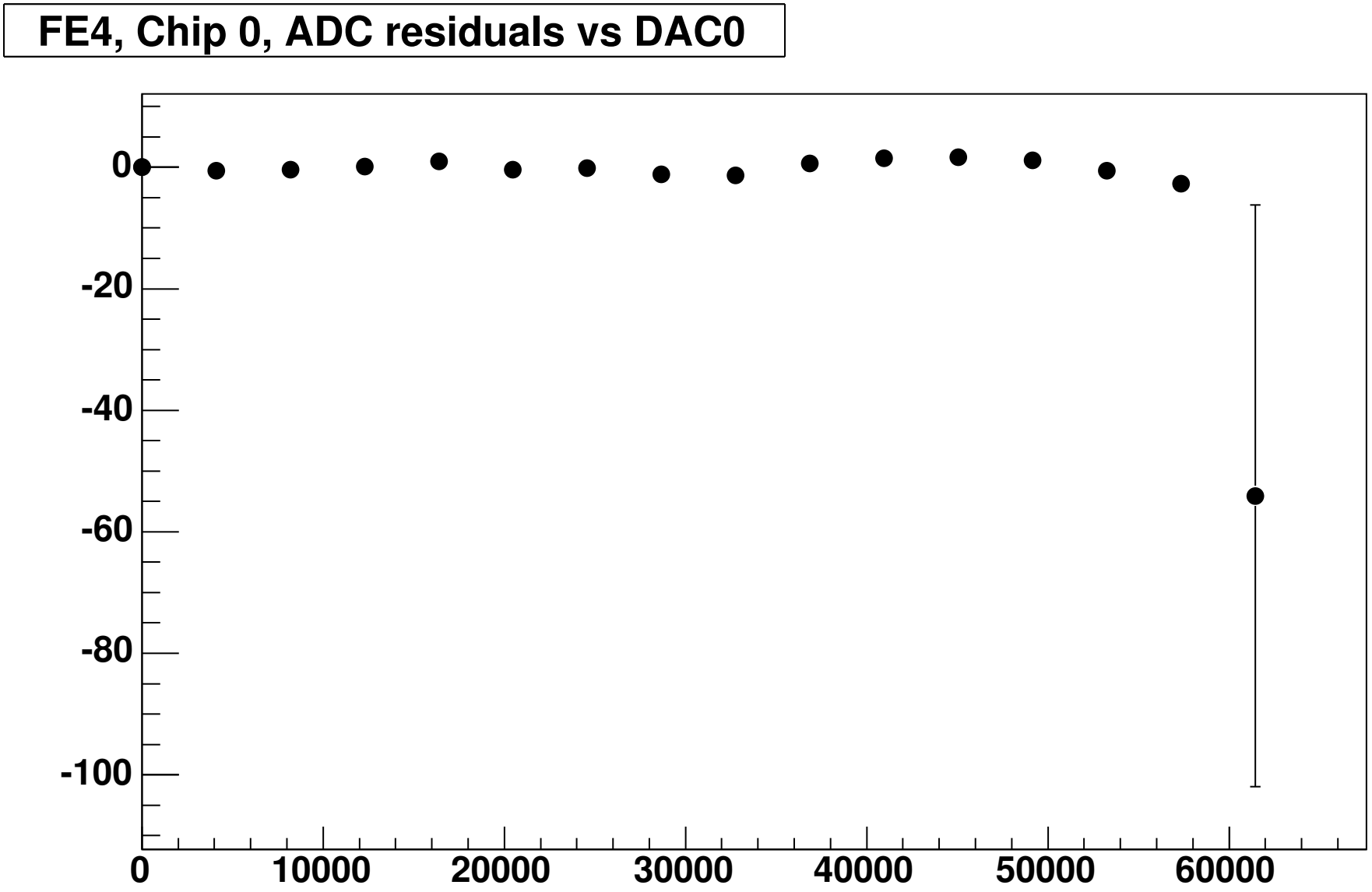

FE3, Chip 11, ADC mean vs DAC1
χ² / ndf 2250 / 11
p0 -23.47 ± 0.04061
p1 0.4505 ± 1.272e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

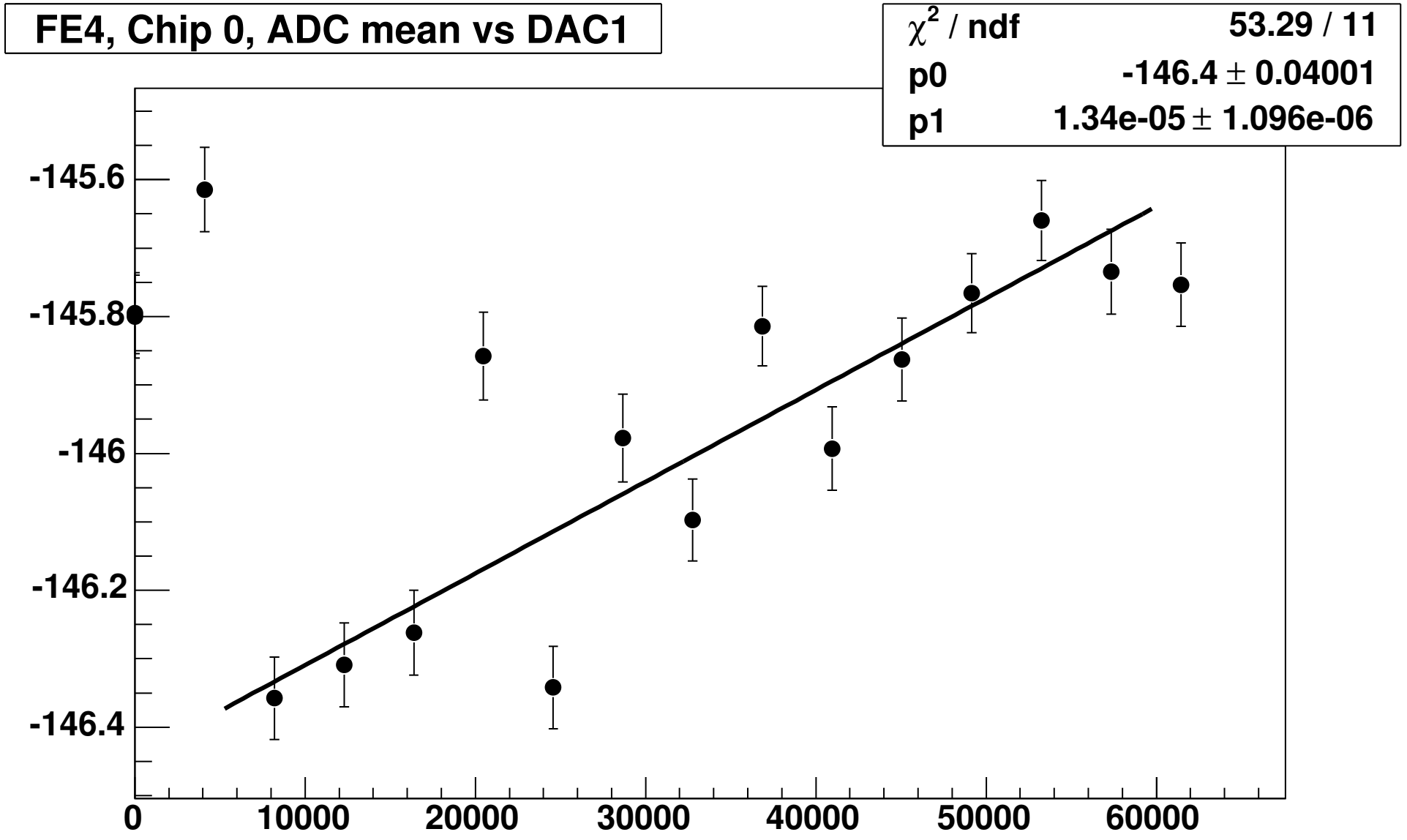

FE3, Chip 11, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

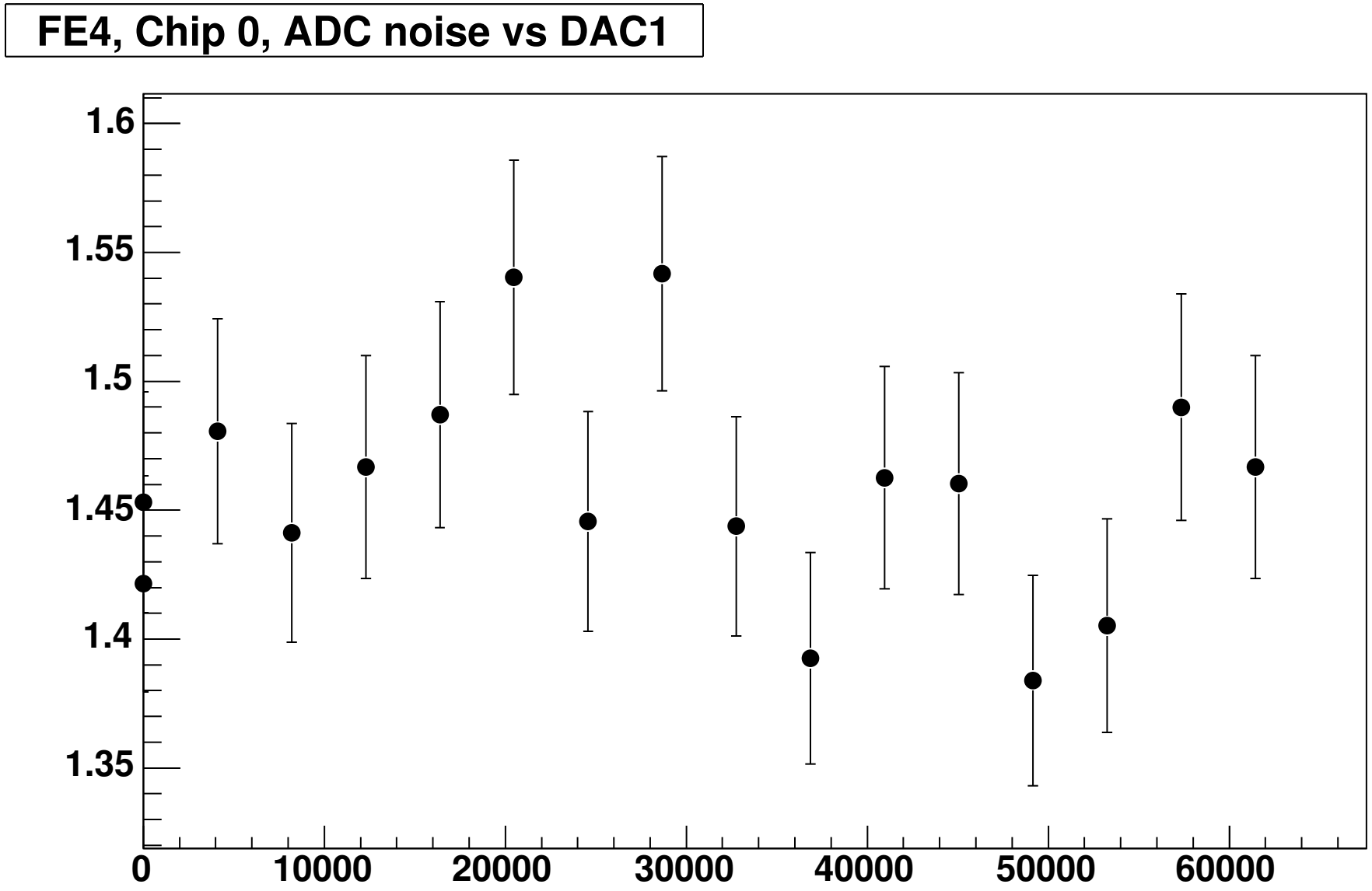

FE3, Chip 11, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000


FE4, Chip 0, ADC mean vs DAC0
χ² / ndf 2492 / 11
p0 -144.4 ± 0.04238
p1 0.4515 ± 1.366e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

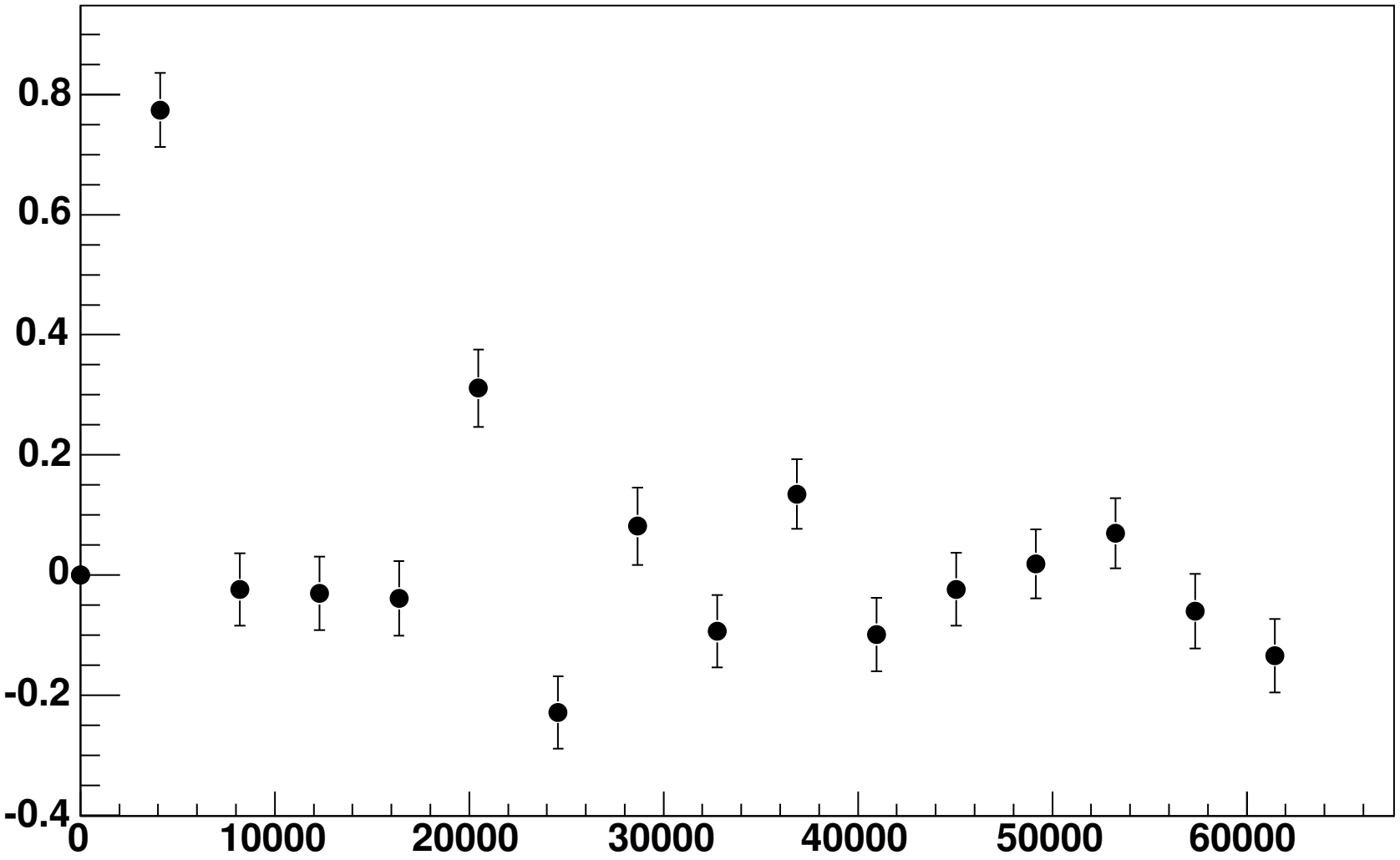

FE4, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

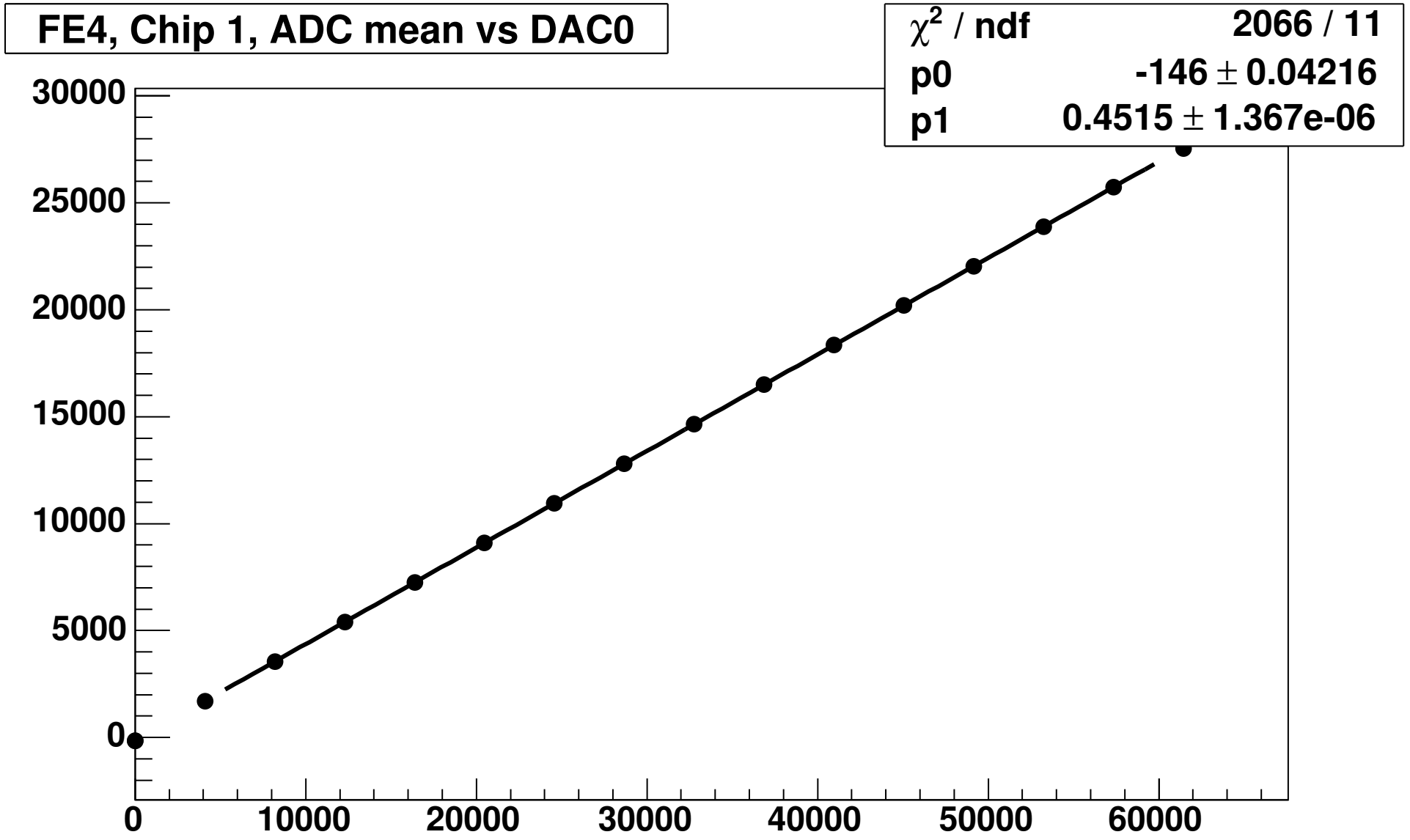

FE4, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

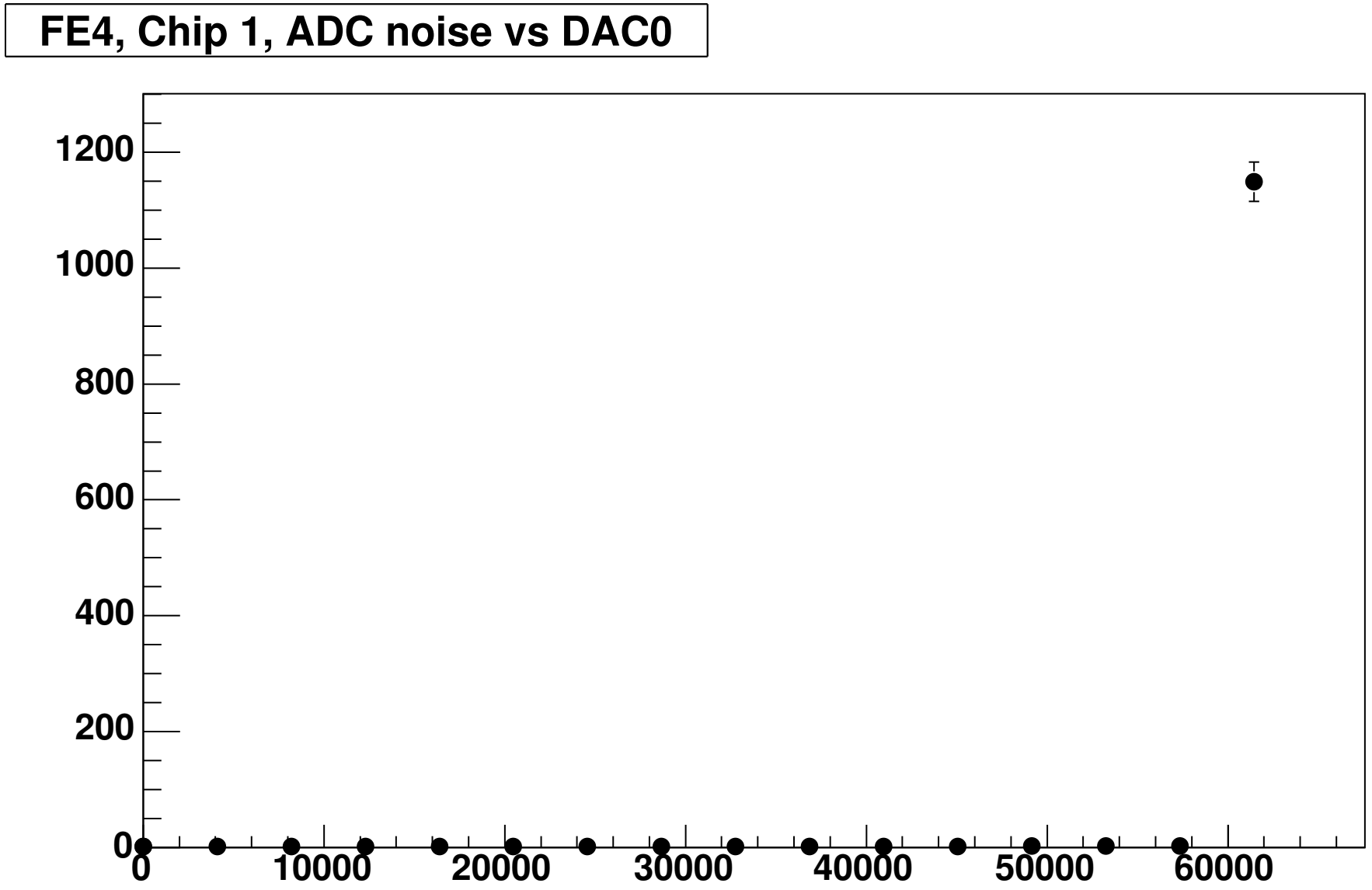

FE4, Chip 0, ADC mean vs DAC1
χ² / ndf 53.29 / 11
p0 -146.4 ± 0.04001
p1 1.34e-05 ± 1.096e-06
-145.6
-145.8
-146
-146.2
-146.4
0
10000
20000
30000
40000
50000
60000

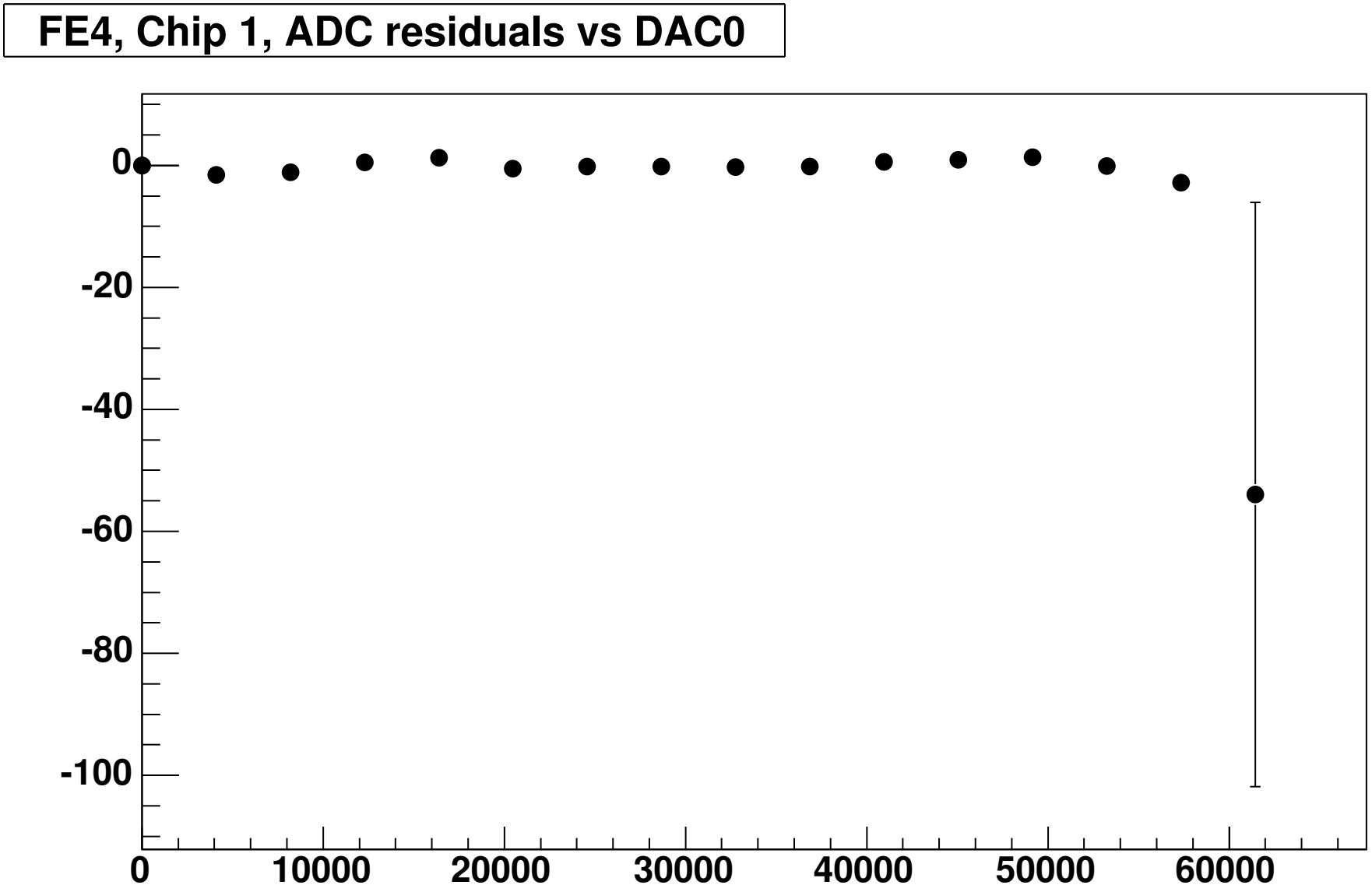

FE4, Chip 0, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

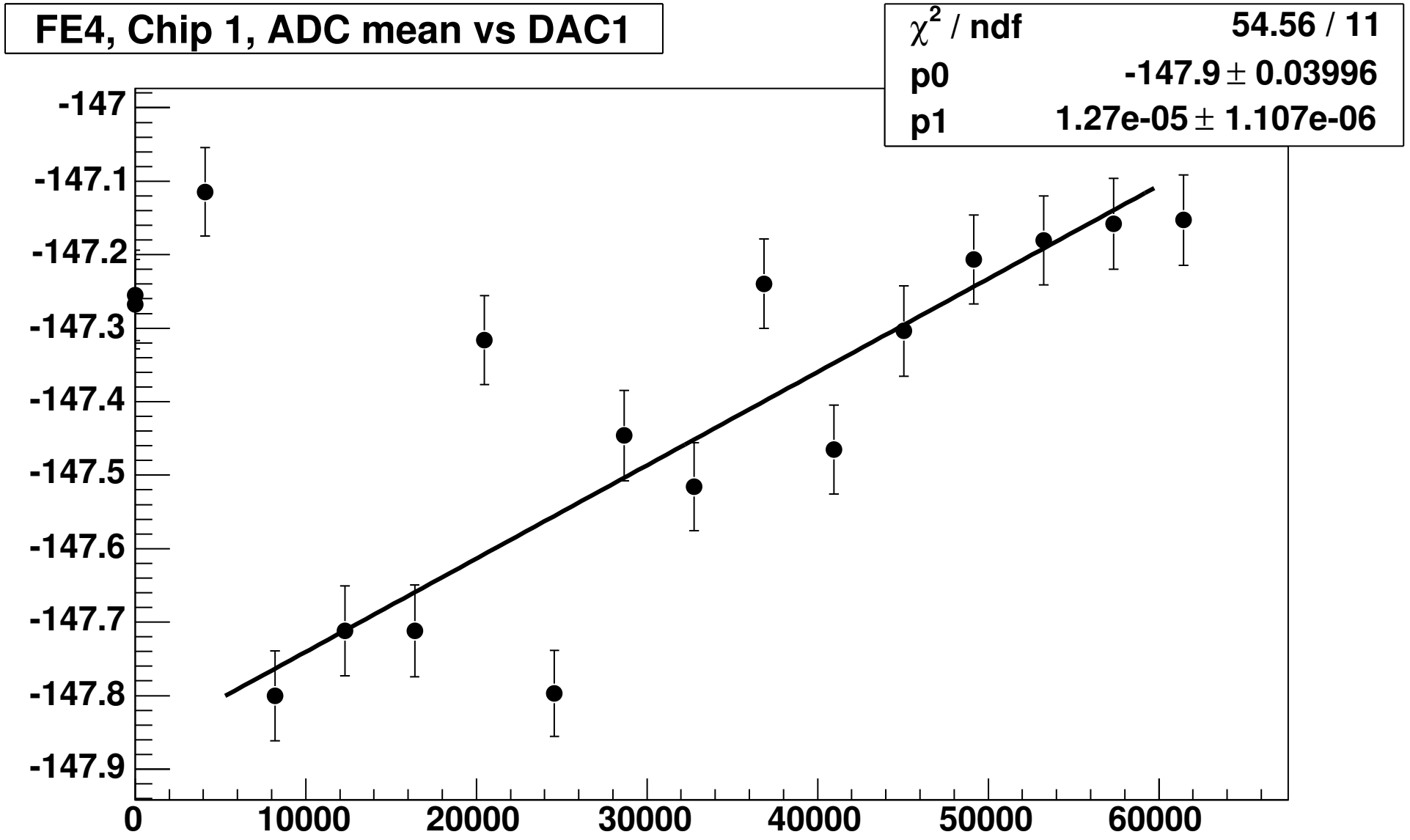
FE4, Chip 0, ADC residuals vs DAC1

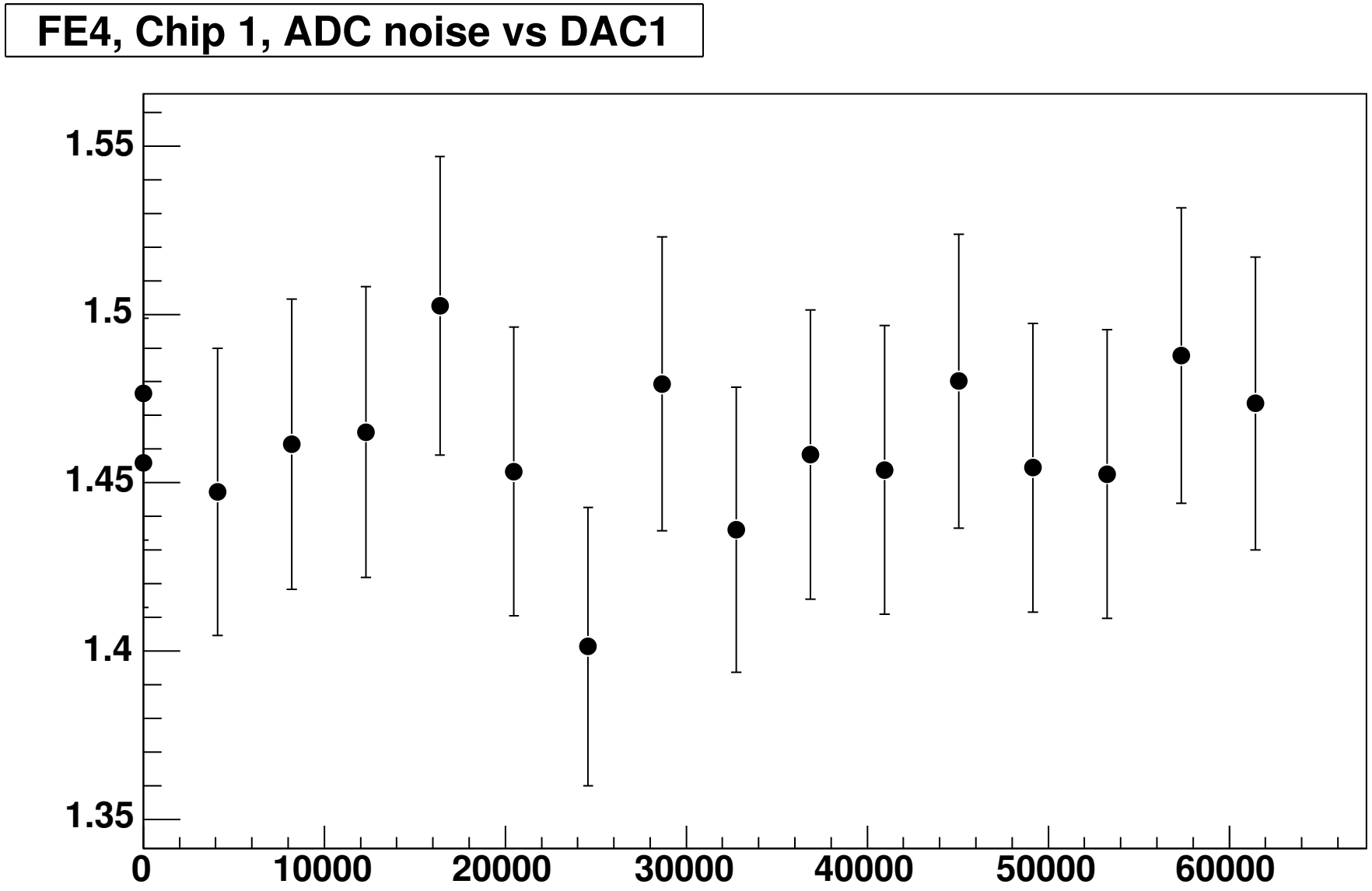


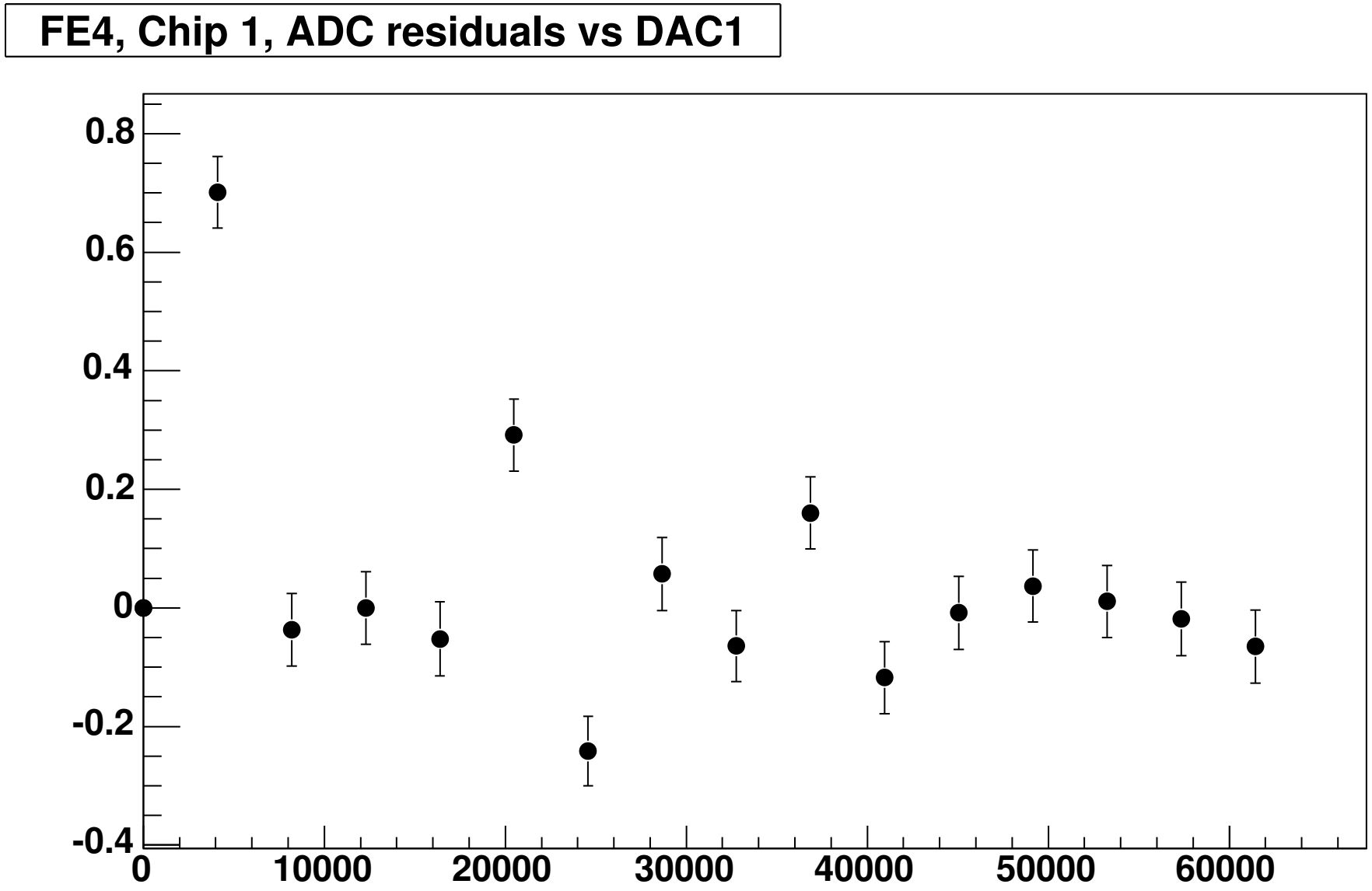

FE4, Chip 1, ADC mean vs DAC0
χ² / ndf 2066 / 11
p0 -146 ± 0.04216
p1 0.4515 ± 1.367e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

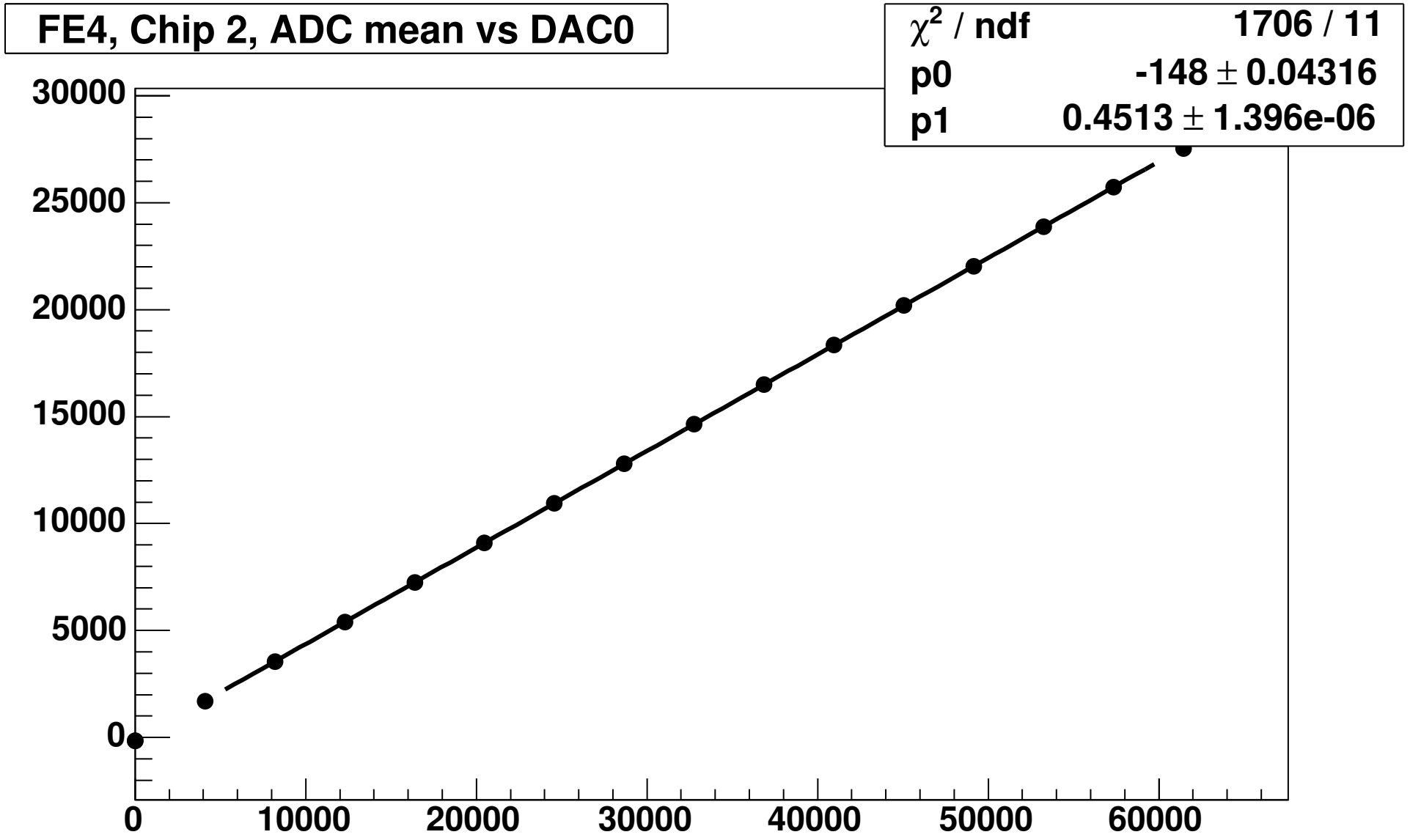

FE4, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

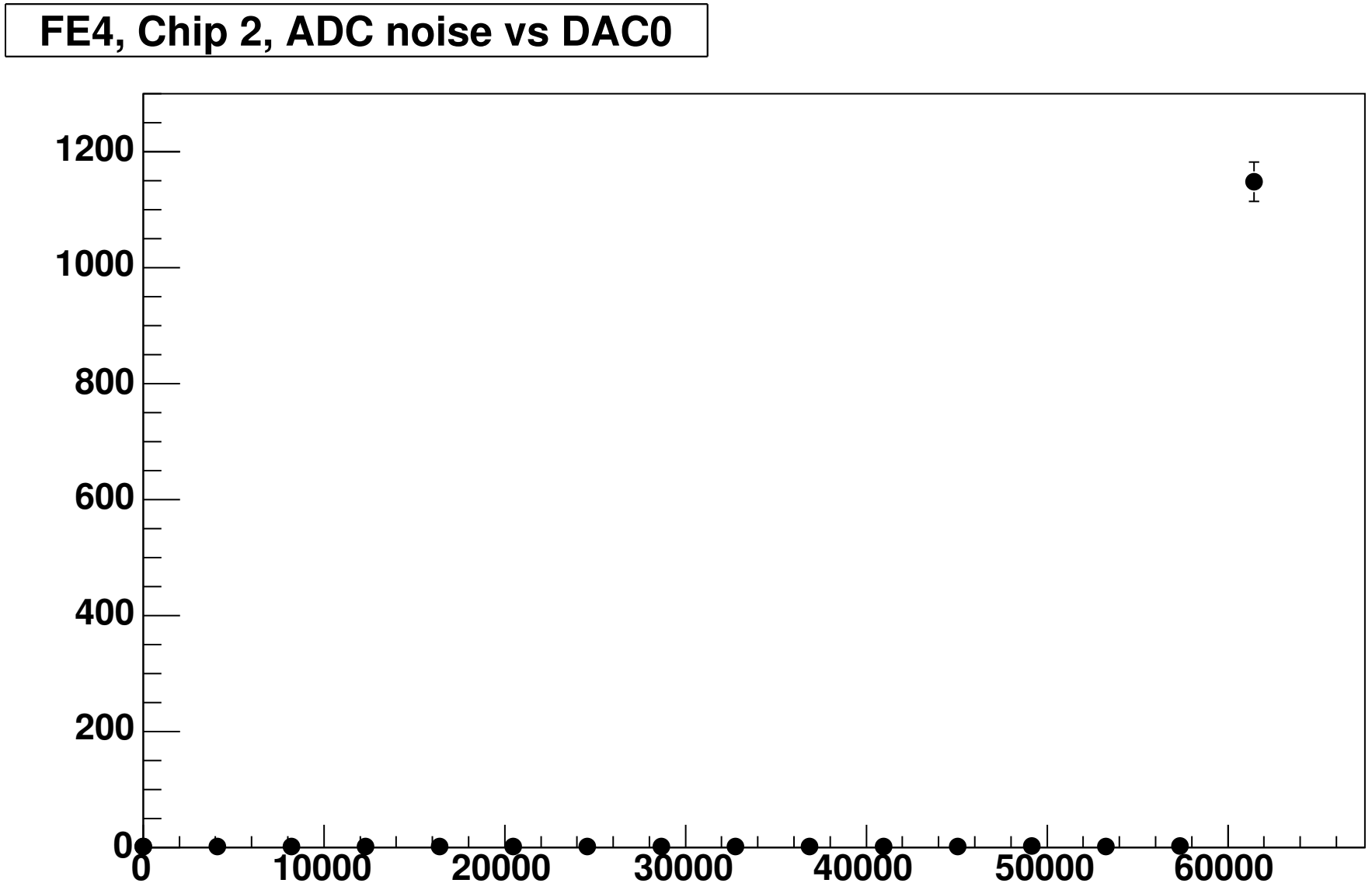

FE4, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

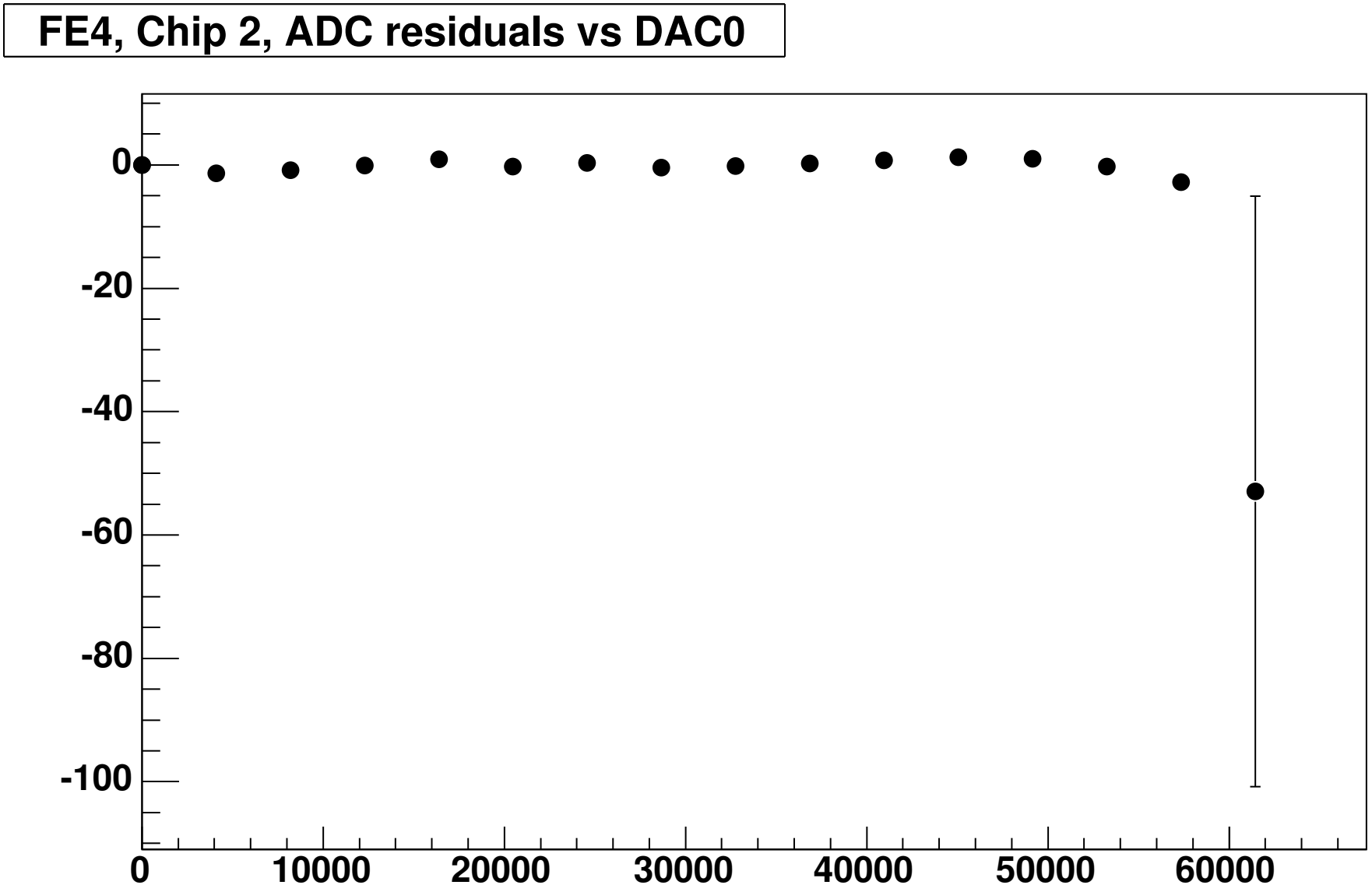

FE4, Chip 1, ADC mean vs DAC1
χ² / ndf 54.56 / 11
p0 -147.9 ± 0.03996
p1 1.27e-05 ± 1.107e-06
-147
-147.1
-147.2
-147.3
-147.4
-147.5
-147.6
-147.7
-147.8
-147.9
0
10000
20000
30000
40000
50000
60000

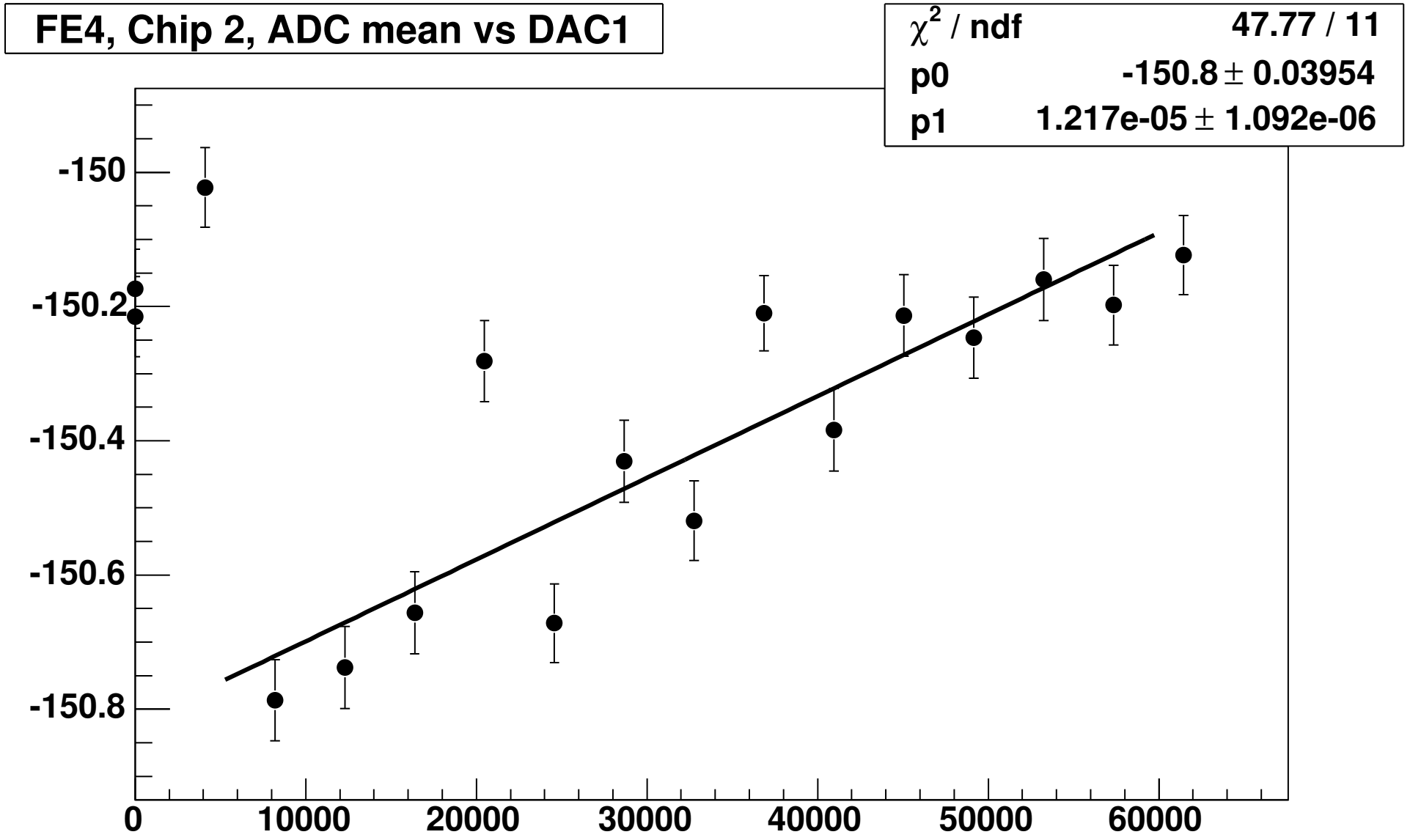

FE4, Chip 1, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

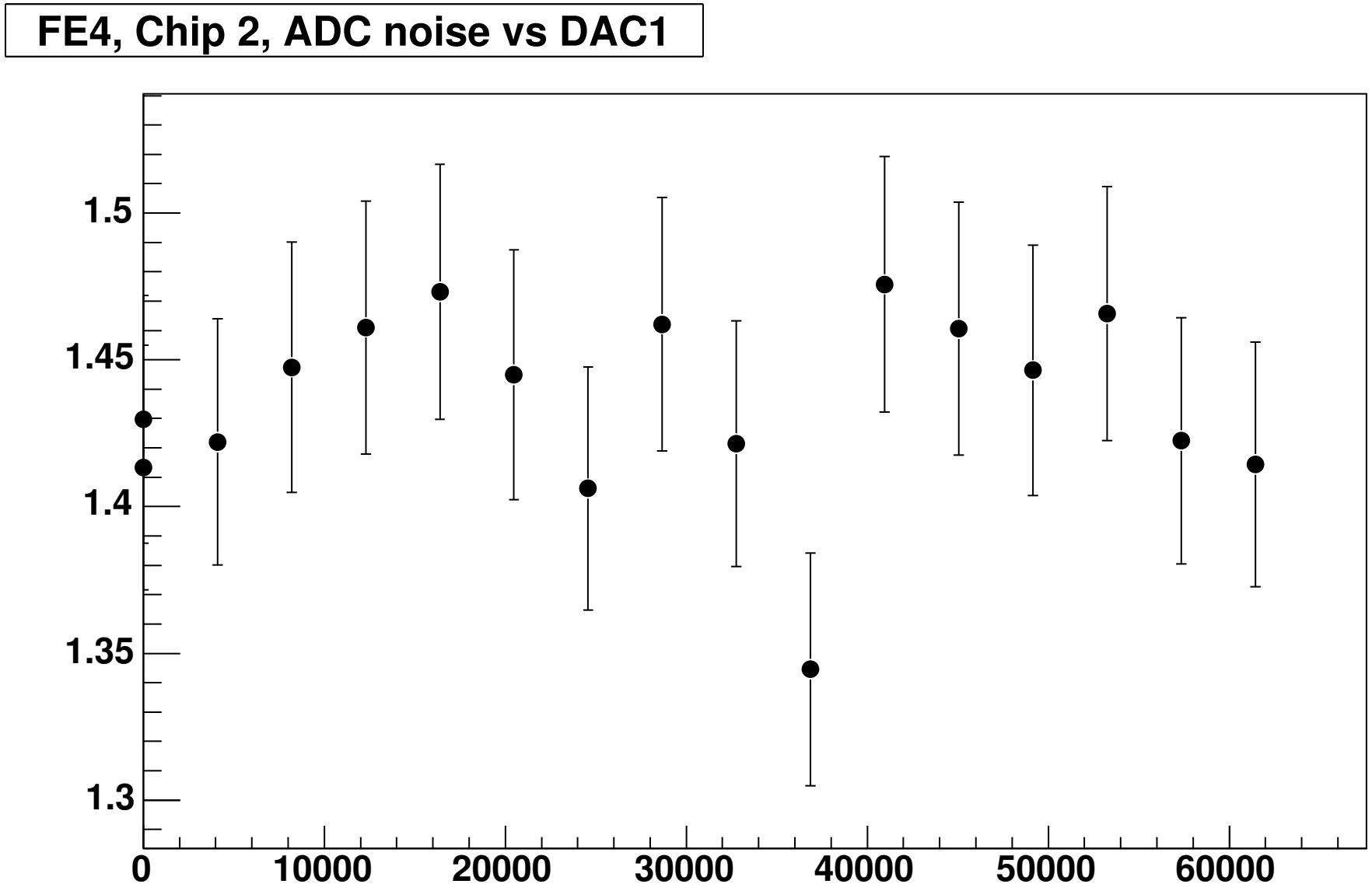

FE4, Chip 1, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
0
10000
20000
30000
40000
50000
60000

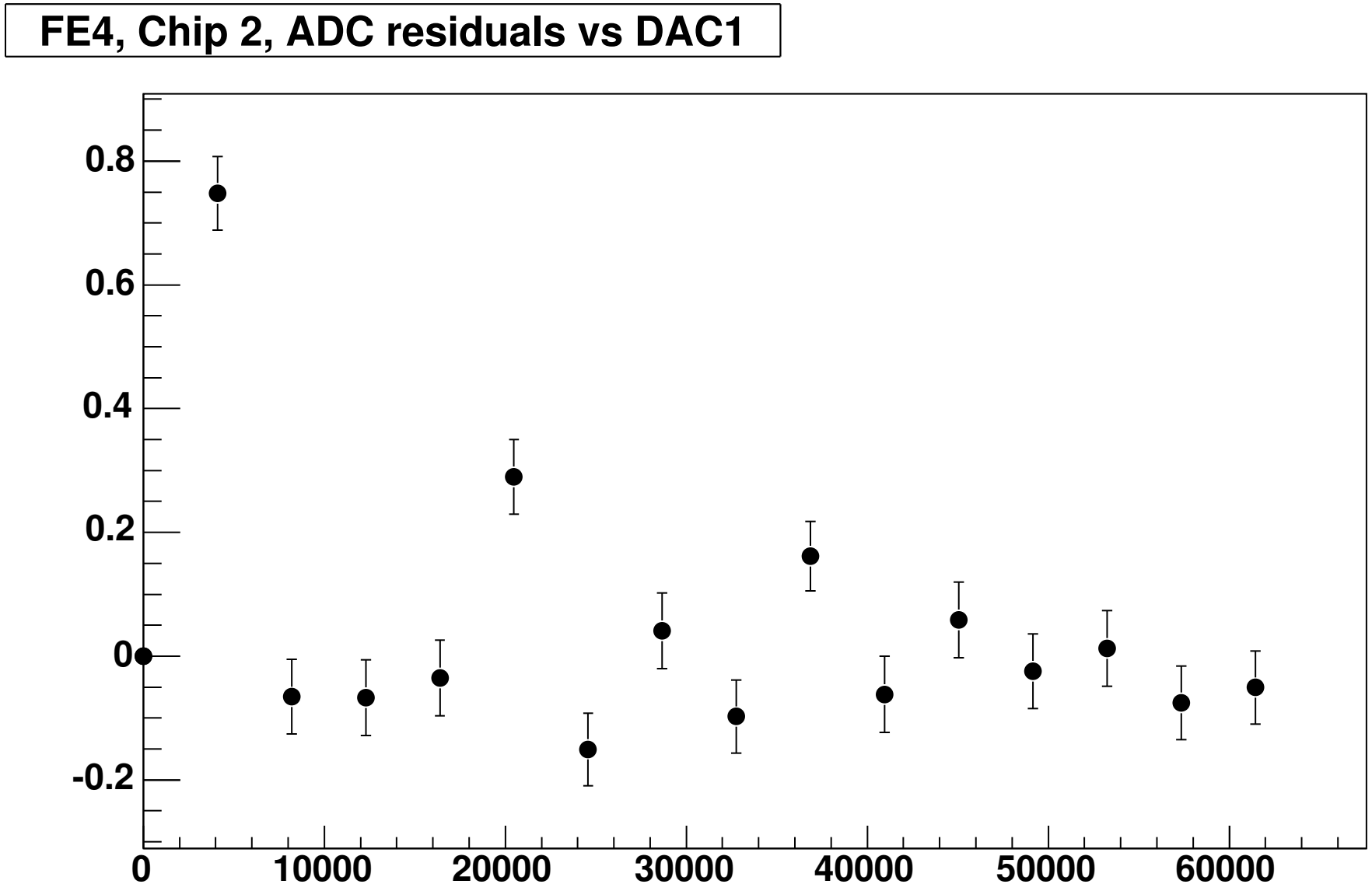

FE4, Chip 2, ADC mean vs DAC0
χ² / ndf 1706 / 11
p0 -148 ± 0.04316
p1 0.4513 ± 1.396e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

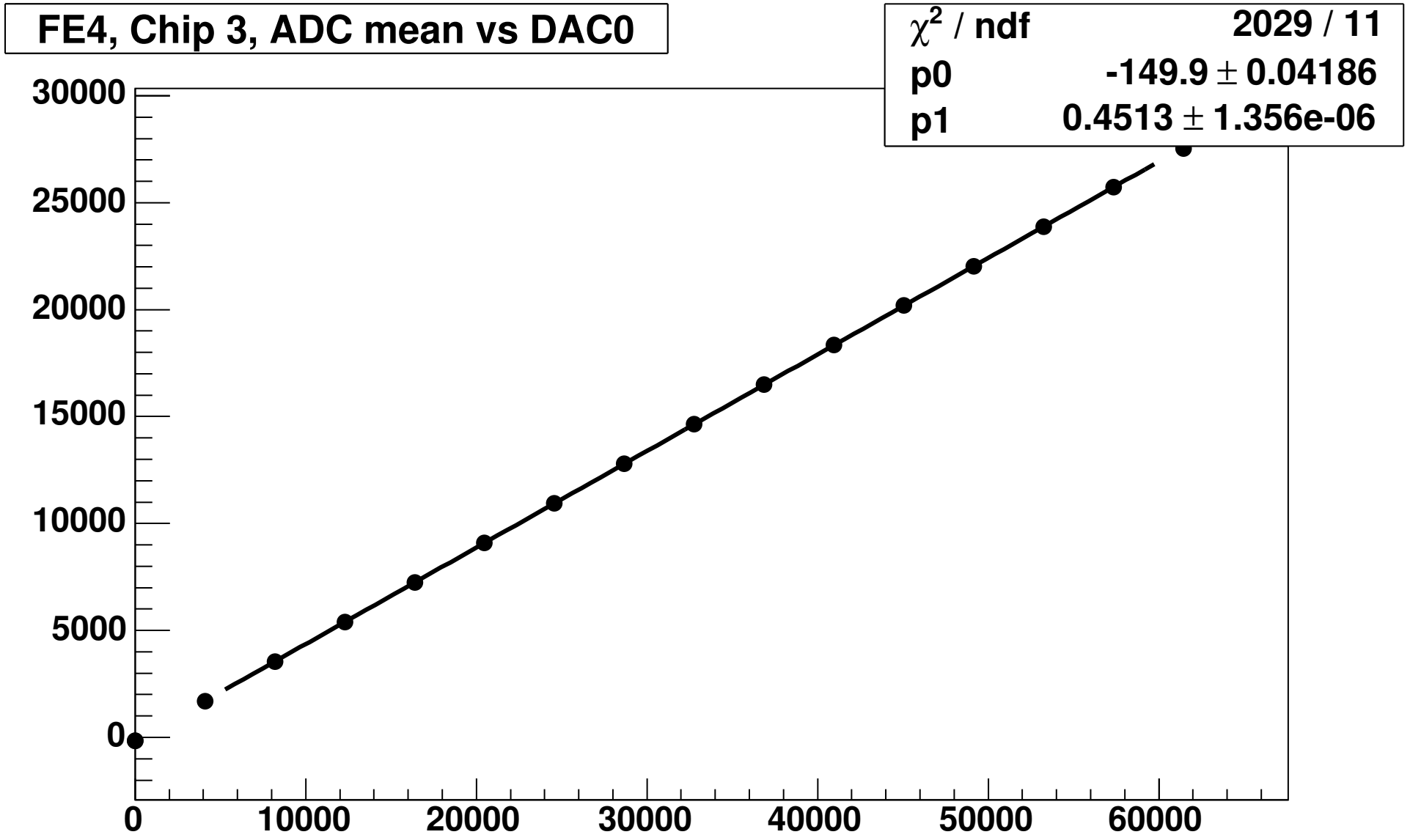

FE4, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

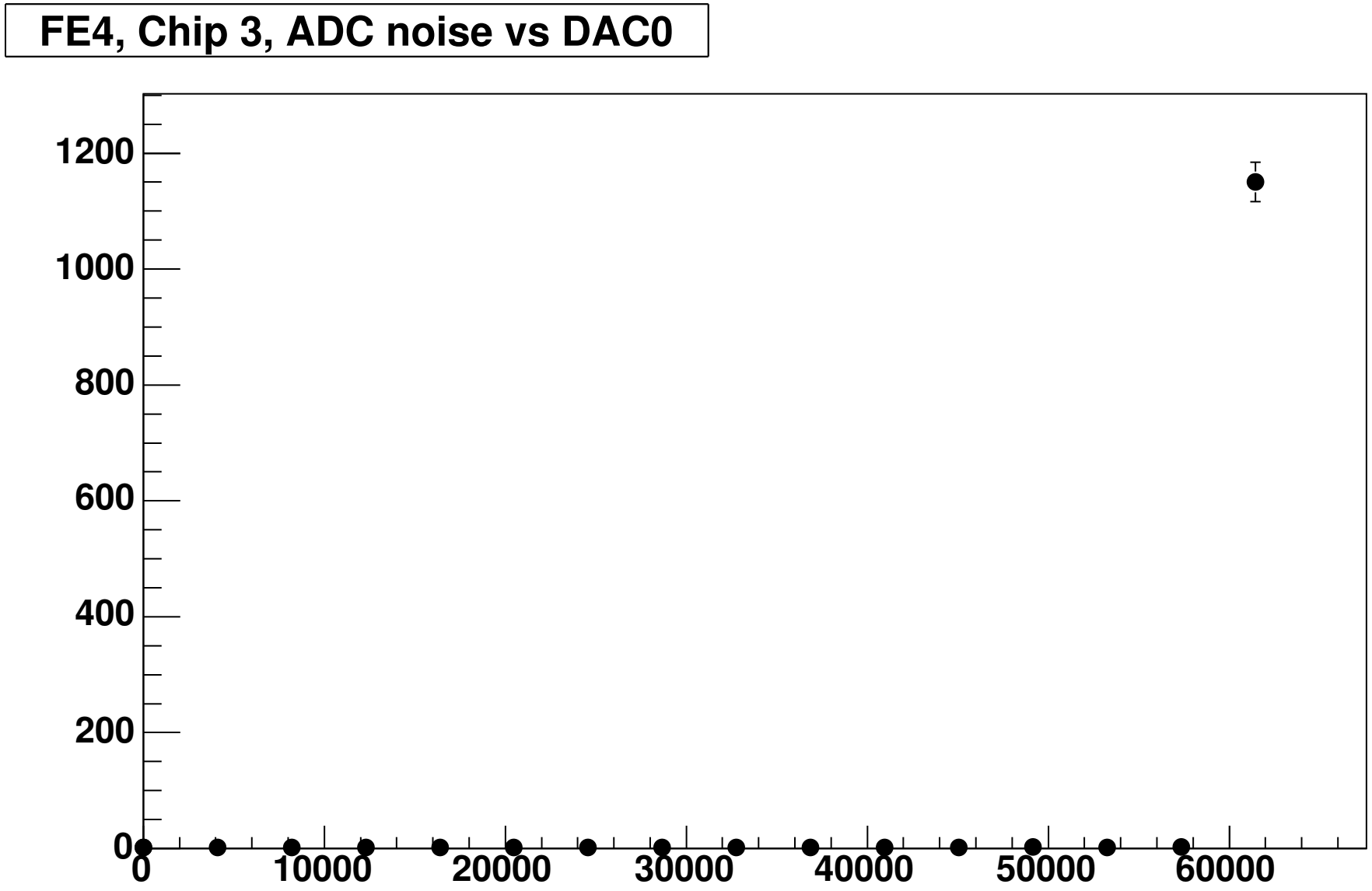

FE4, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

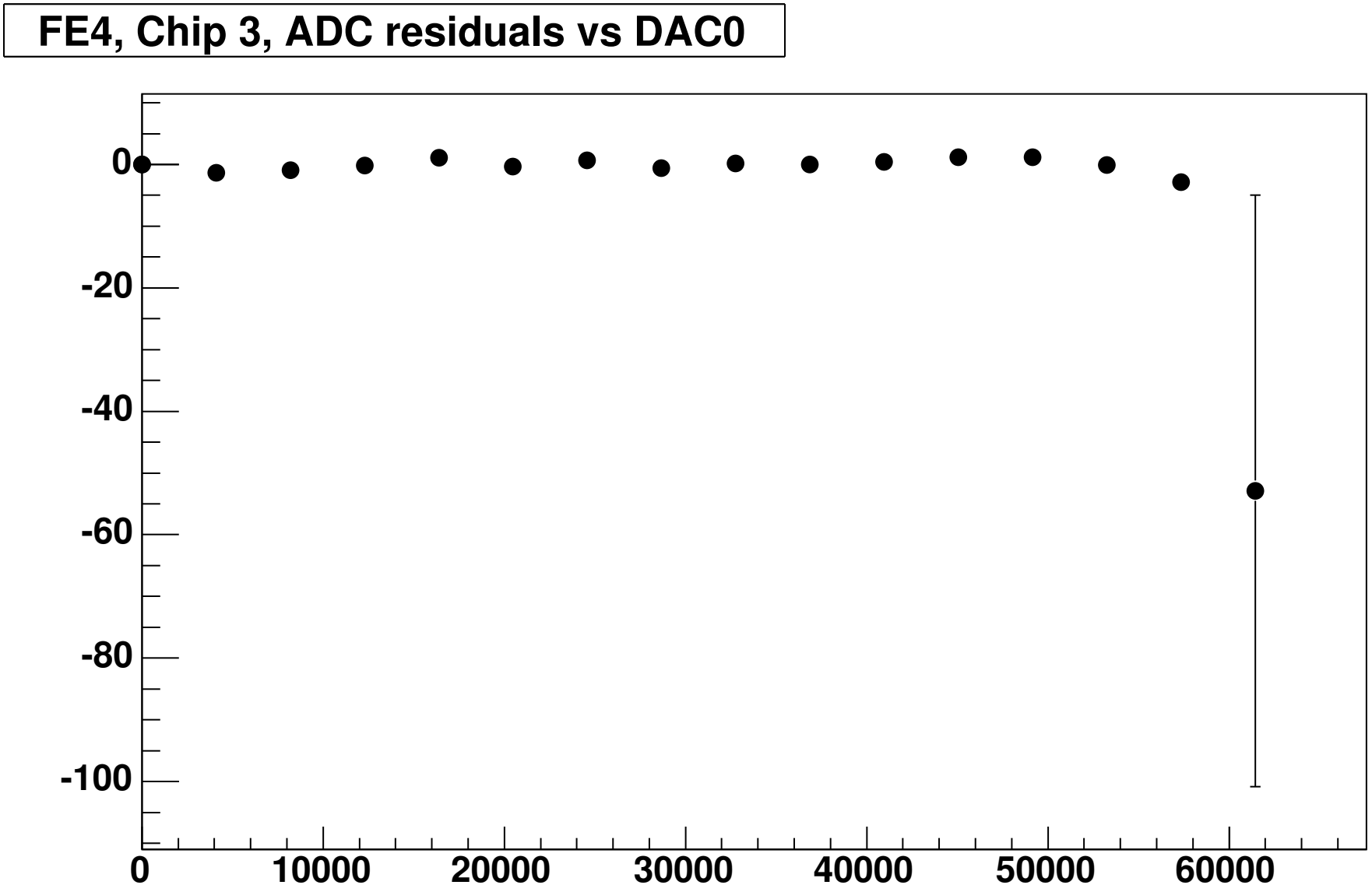

FE4, Chip 2, ADC mean vs DAC1
χ² / ndf 47.77 / 11
p0 -150.8 ± 0.03954
p1 1.217e-05 ± 1.092e-06
-150
-150.2
-150.4
-150.6
-150.8
0
10000
20000
30000
40000
50000
60000

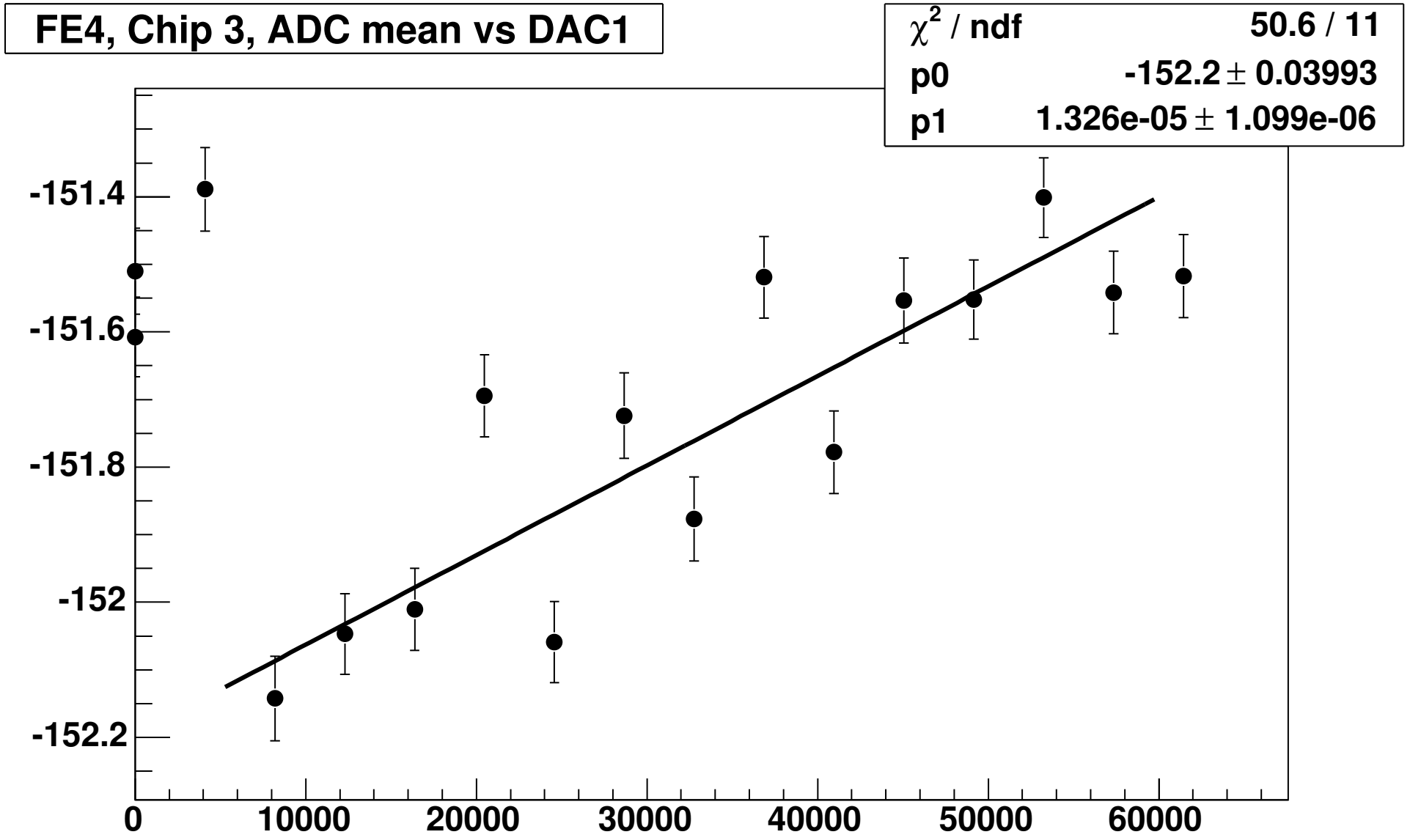

FE4, Chip 2, ADC noise vs DAC1
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

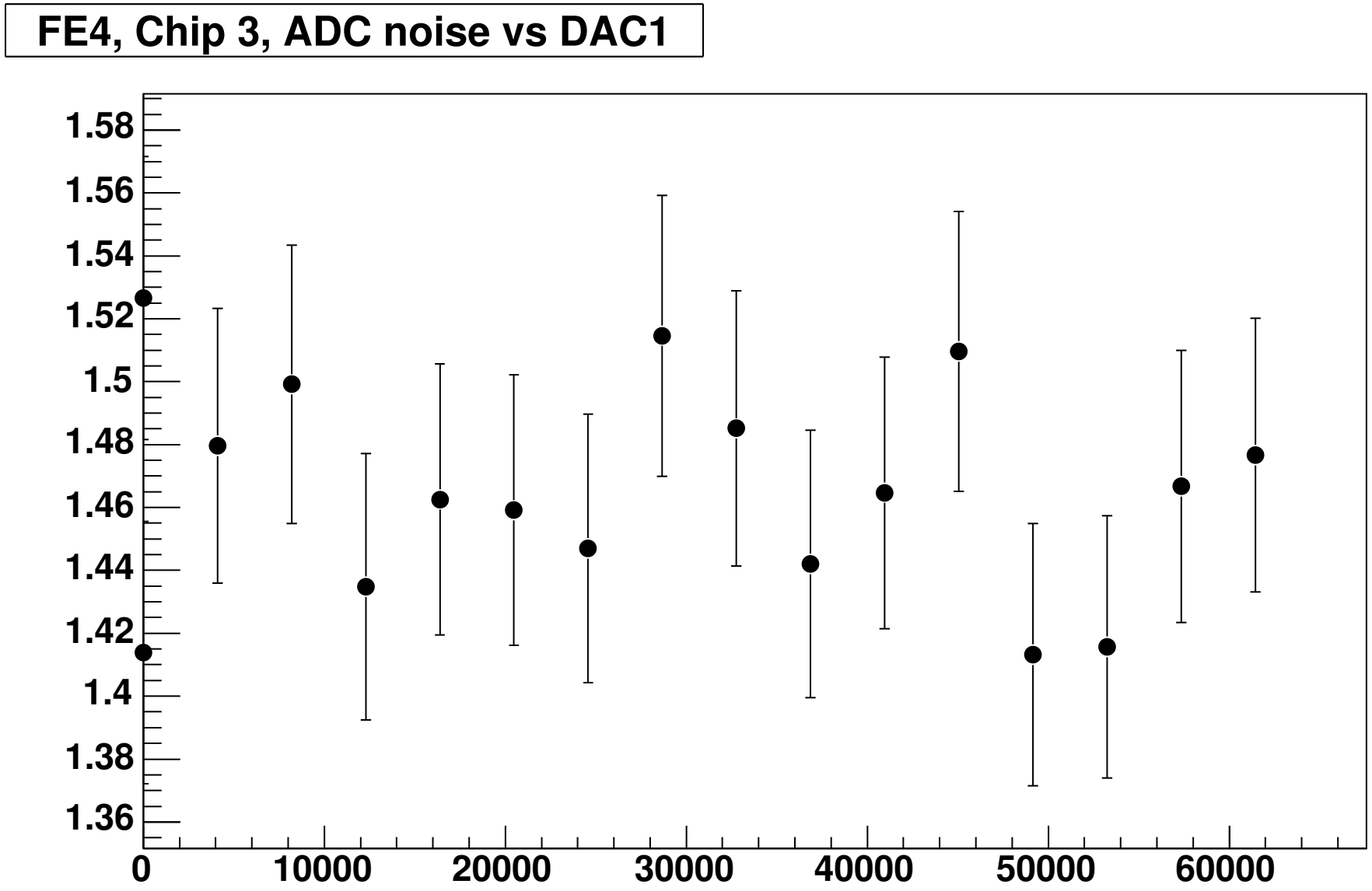

FE4, Chip 2, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
0
-0.2
0
10000
20000
30000
40000
50000
60000

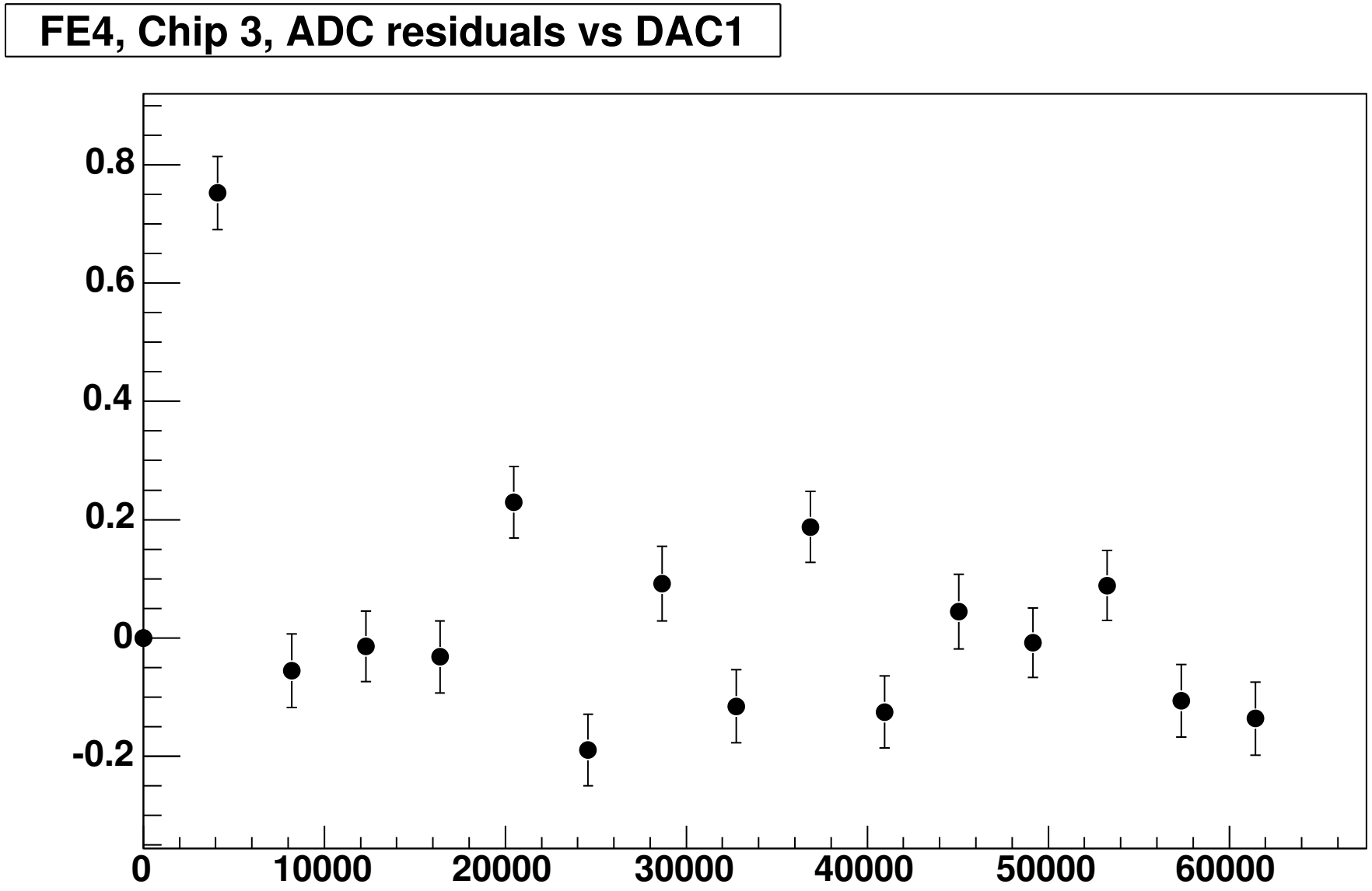

FE4, Chip 3, ADC mean vs DAC0
χ² / ndf 2029 / 11
p0 -149.9 ± 0.04186
p1 0.4513 ± 1.356e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

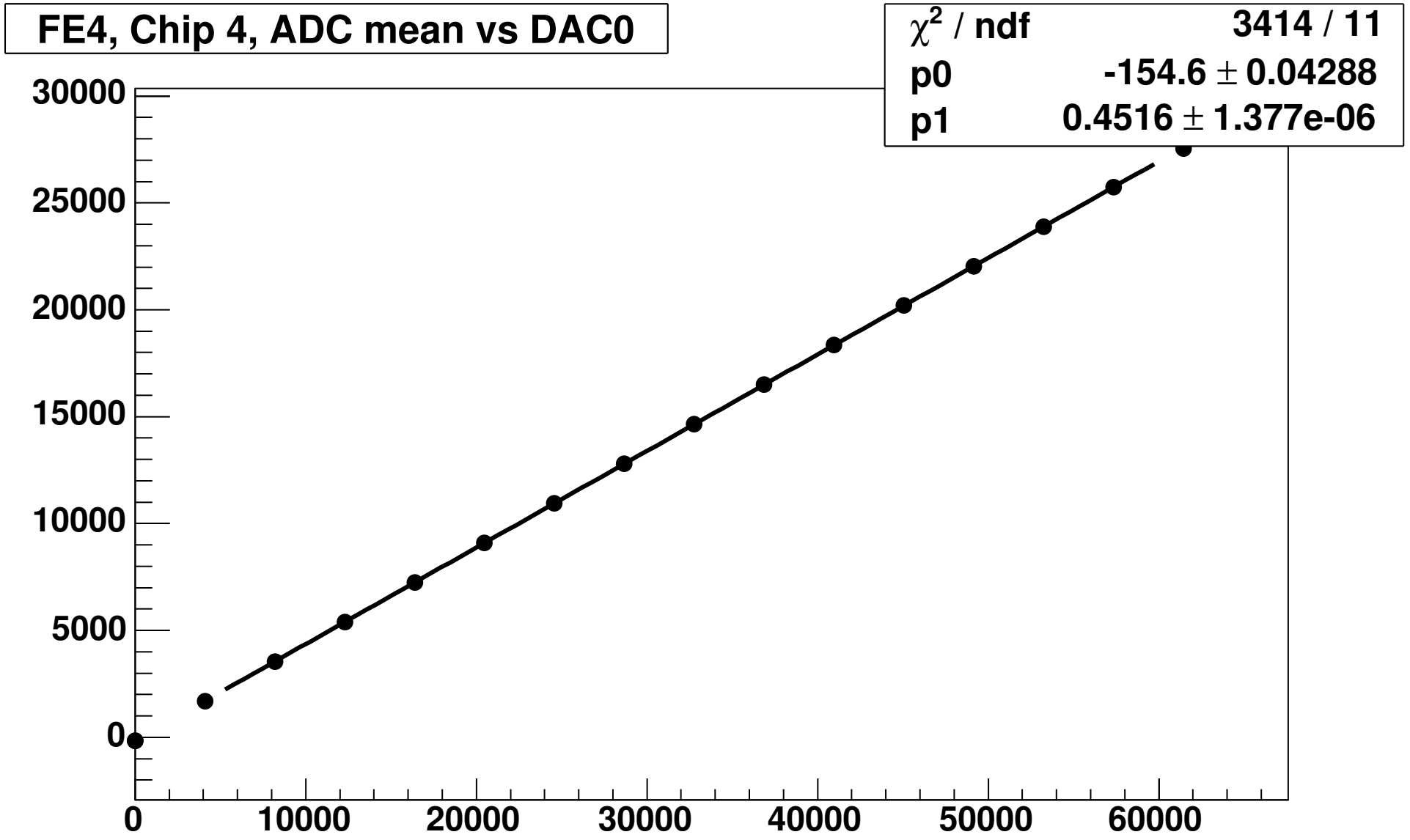

FE4, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

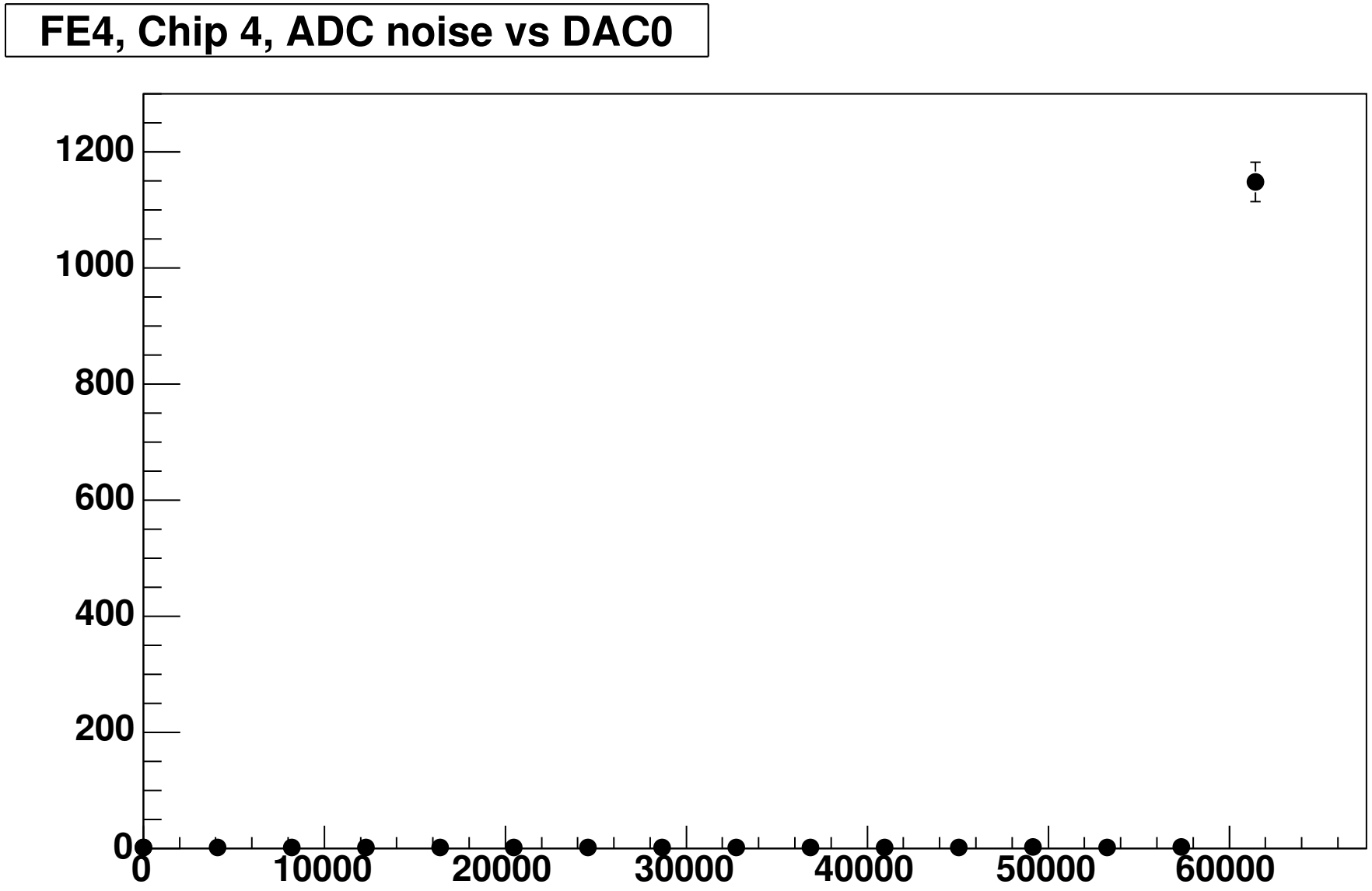

FE4, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

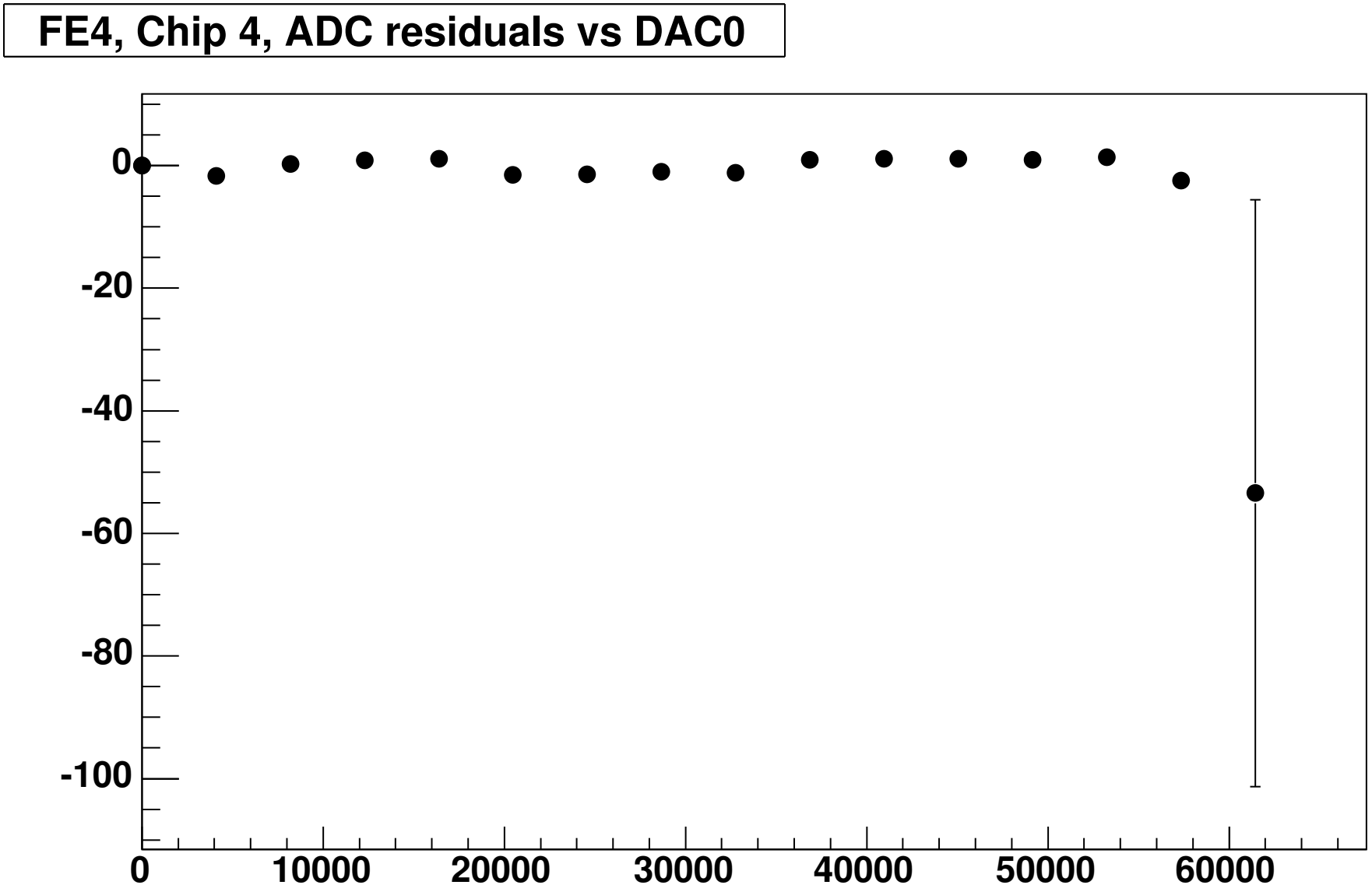

FE4, Chip 3, ADC mean vs DAC1
χ² / ndf 50.6 / 11
p0 -152.2 ± 0.03993
p1 1.326e-05 ± 1.099e-06
-151.4
-151.6
-151.8
-152
-152.2
0
10000
20000
30000
40000
50000
60000

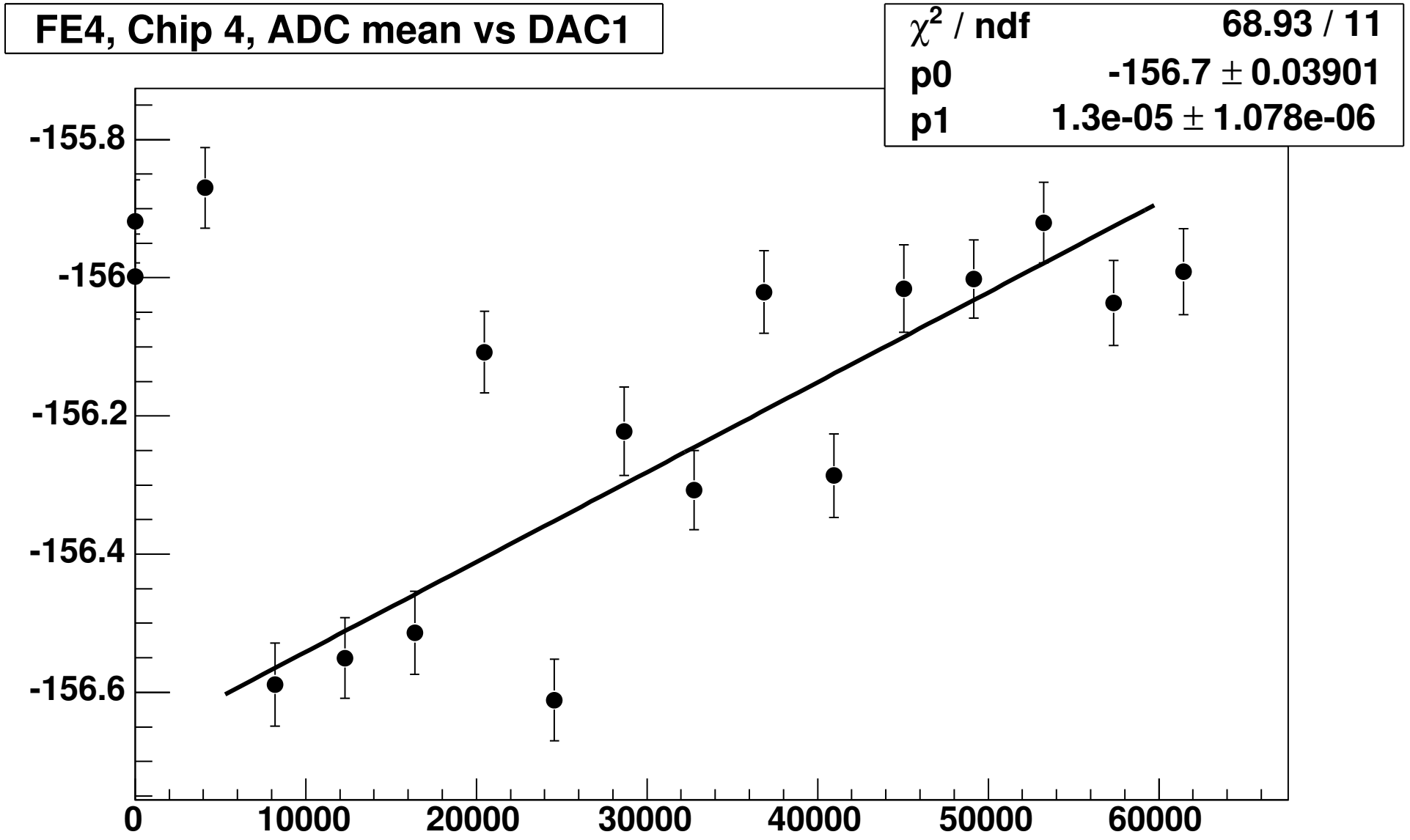

FE4, Chip 3, ADC noise vs DAC1
1.58
1.56
1.54
1.52
1.5
1.48
1.46
1.44
1.42
1.4
1.38
1.36
0
10000
20000
30000
40000
50000
60000

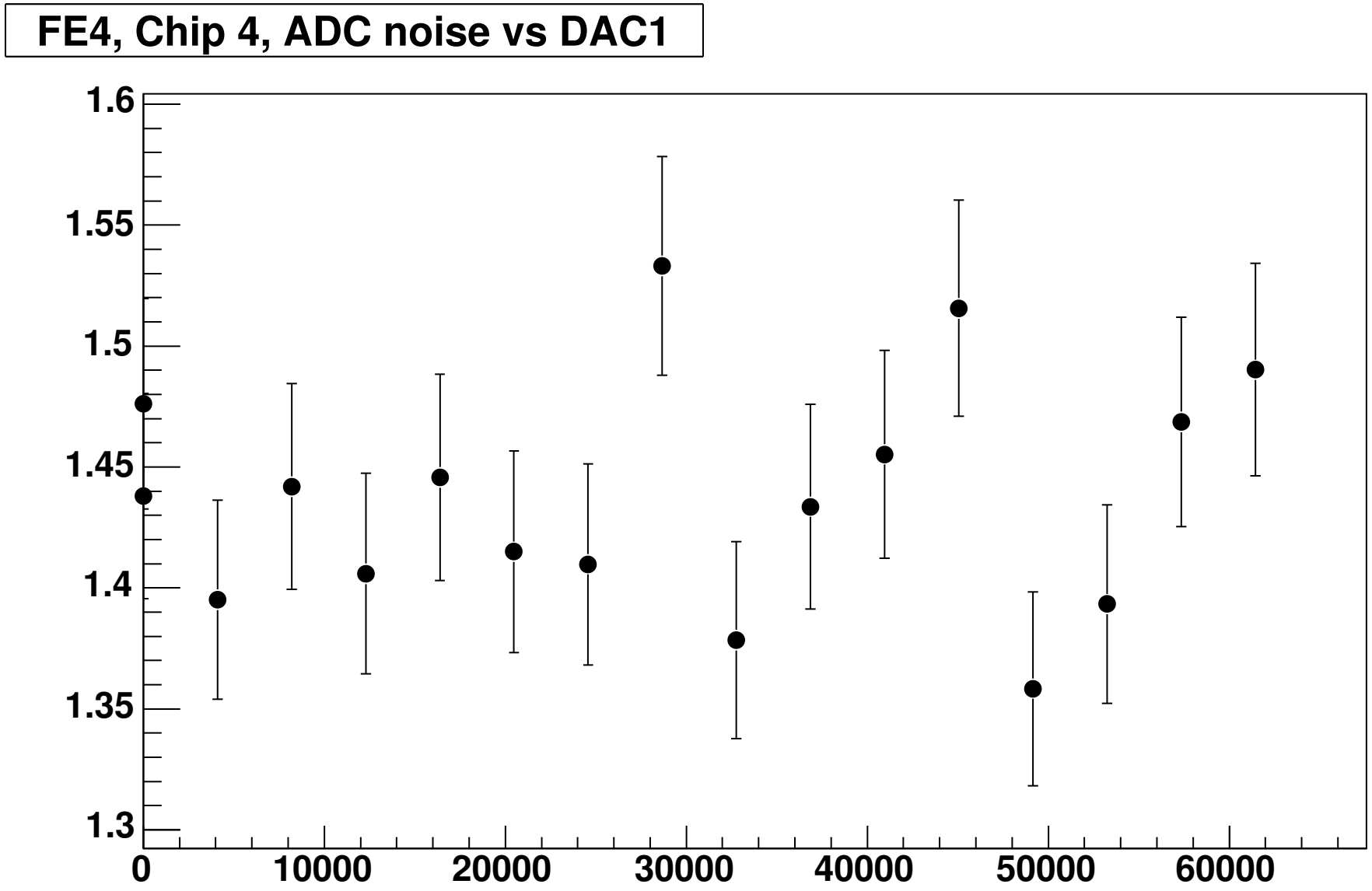

FE4, Chip 3, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
0
-0.2
0
10000
20000
30000
40000
50000
60000

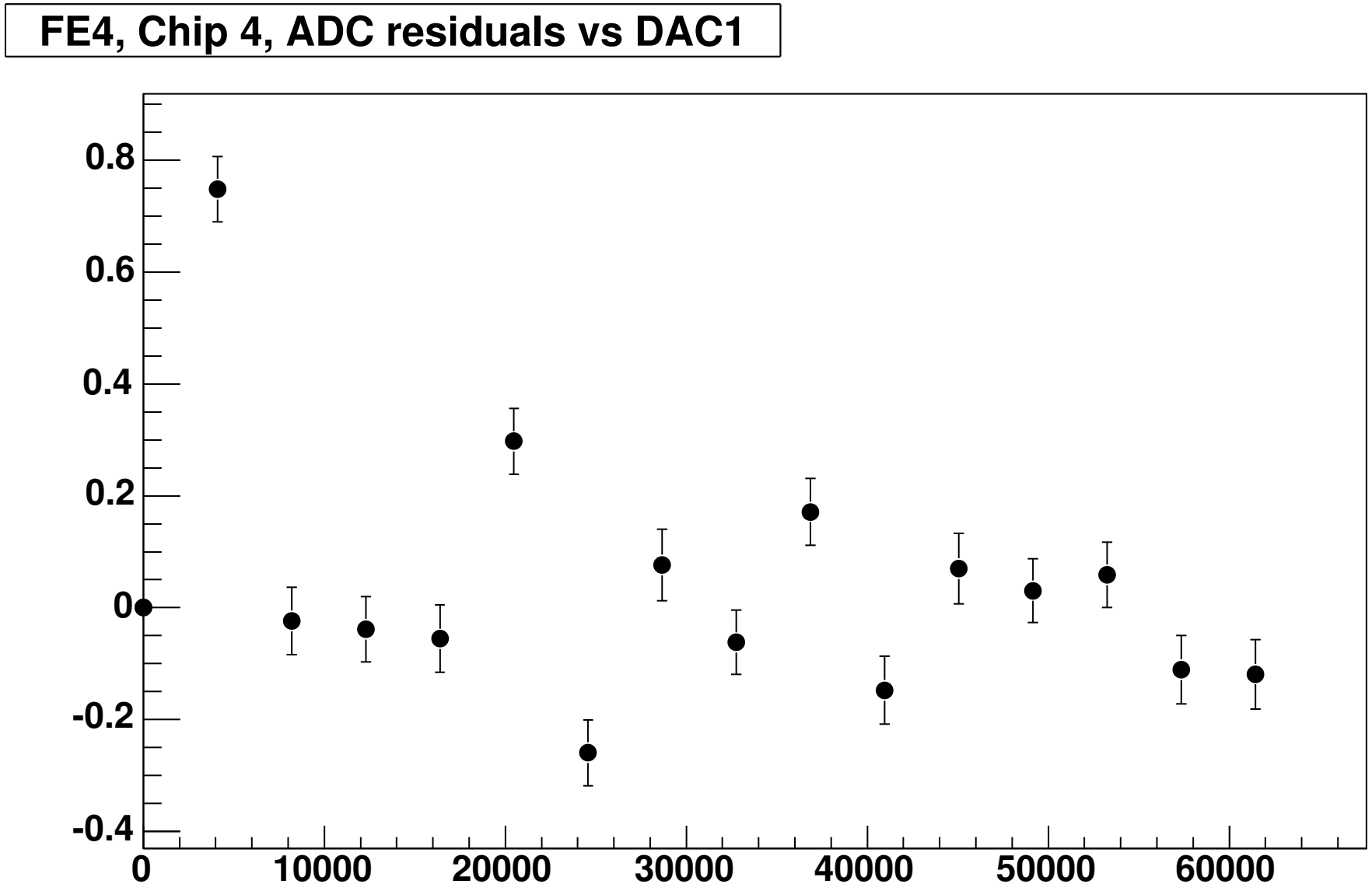

FE4, Chip 4, ADC mean vs DAC0
χ² / ndf 3414 / 11
p0 -154.6 ± 0.04288
p1 0.4516 ± 1.377e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

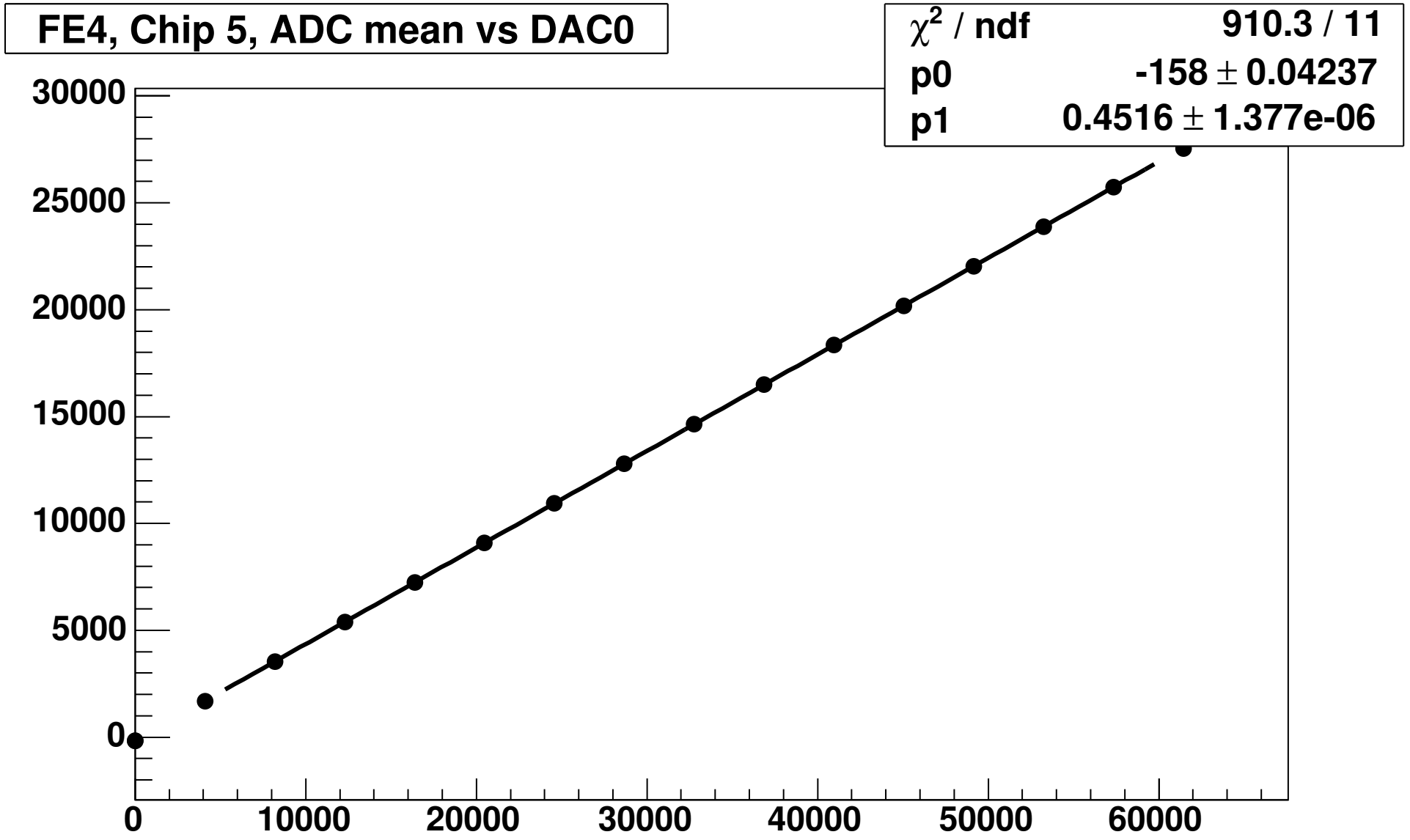

FE4, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

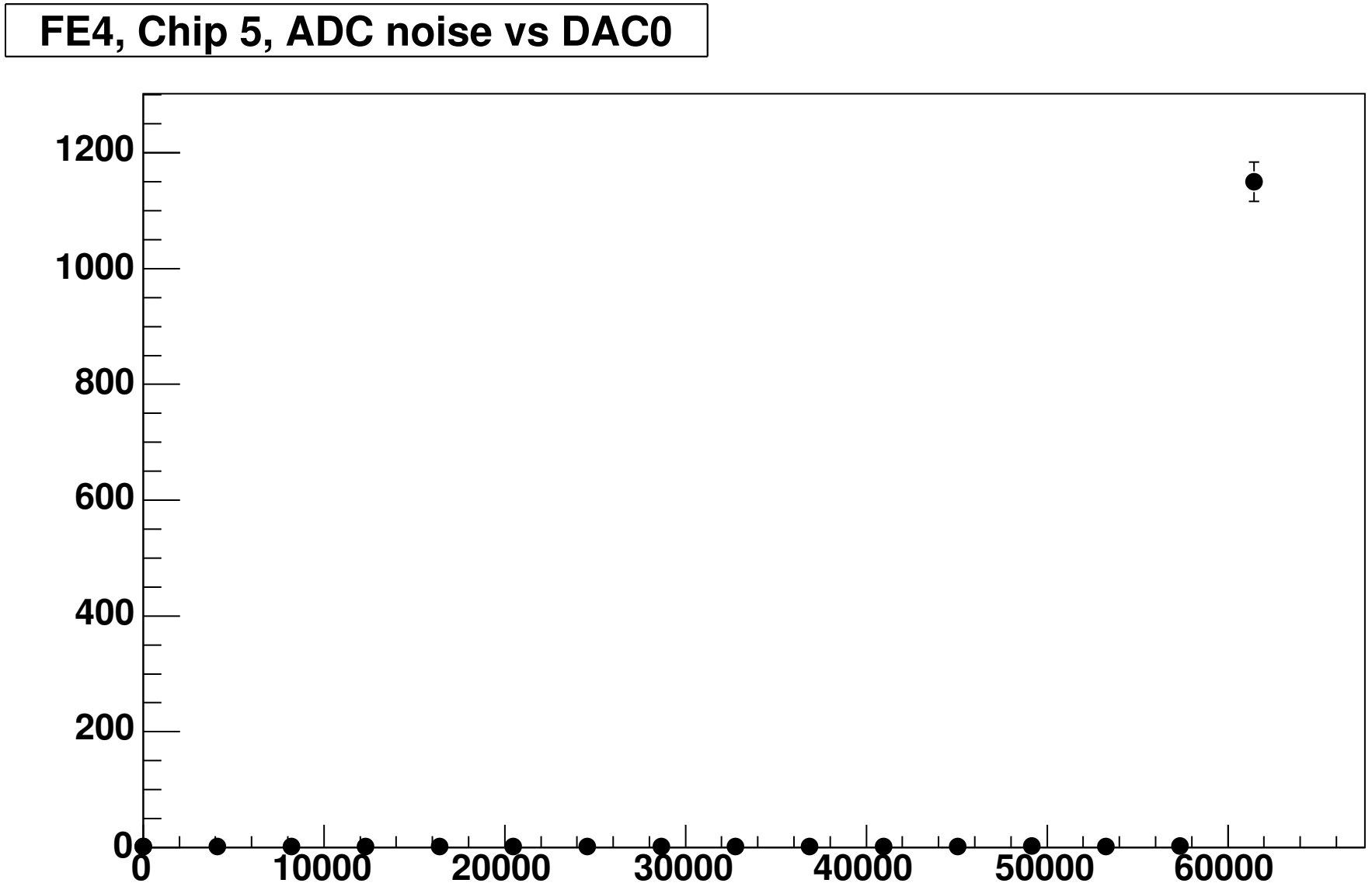

FE4, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

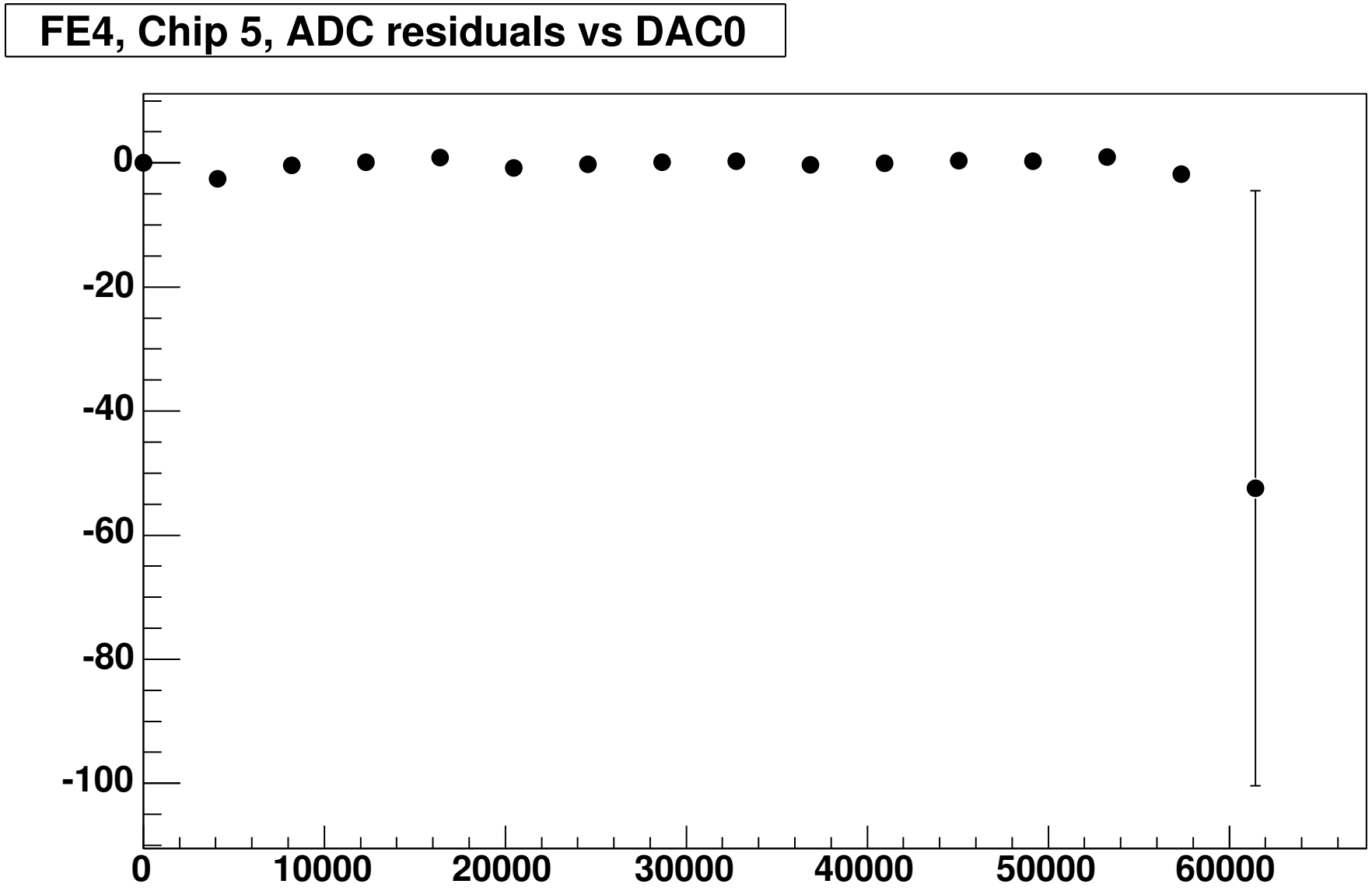

FE4, Chip 4, ADC mean vs DAC1
χ^2 / ndf 68.93 / 11
p0 -156.7 ± 0.03901
p1 1.3e-05 ± 1.078e-06
-155.8
-156
-156.2
-156.4
-156.6
0
10000
20000
30000
40000
50000
60000

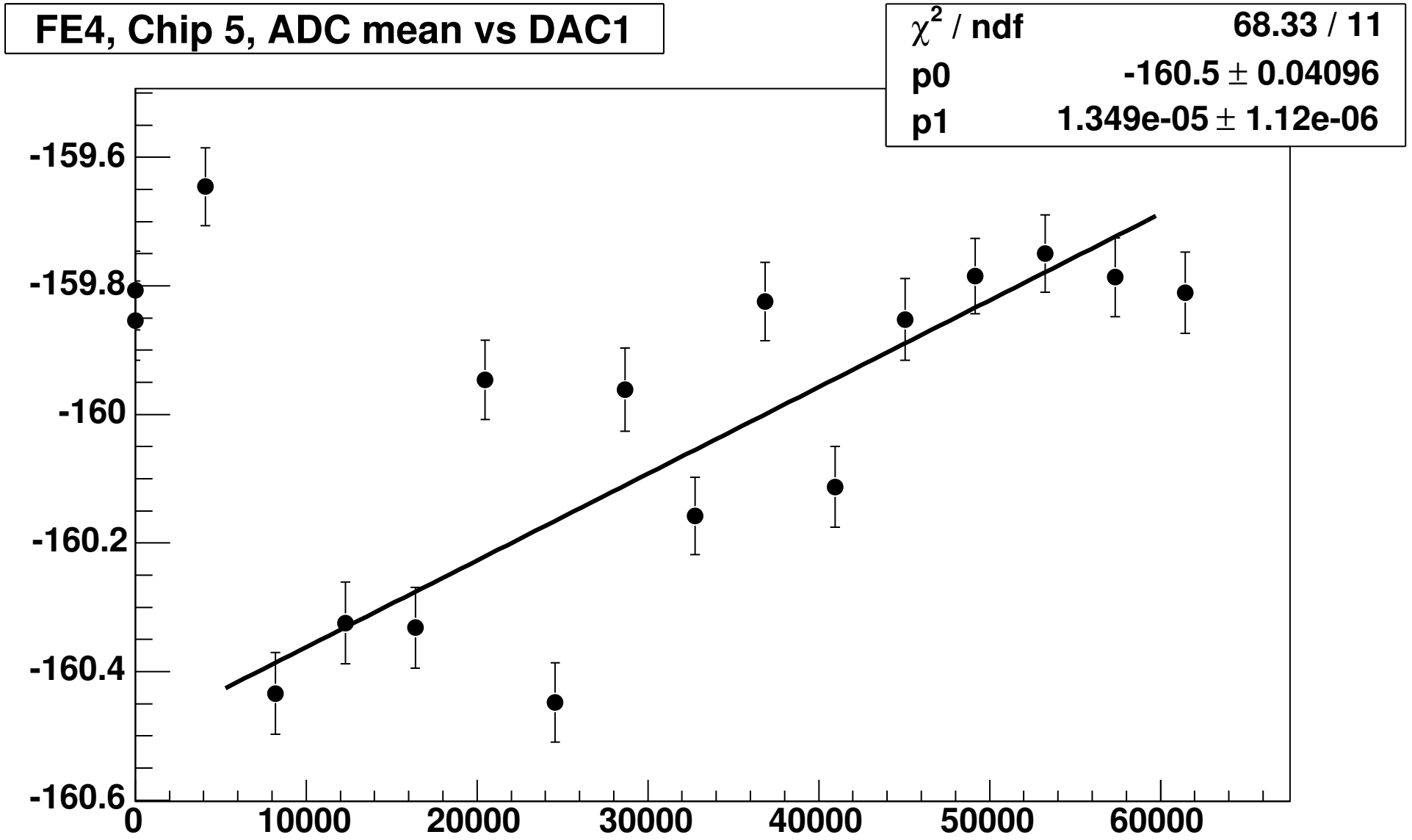

FE4, Chip 4, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

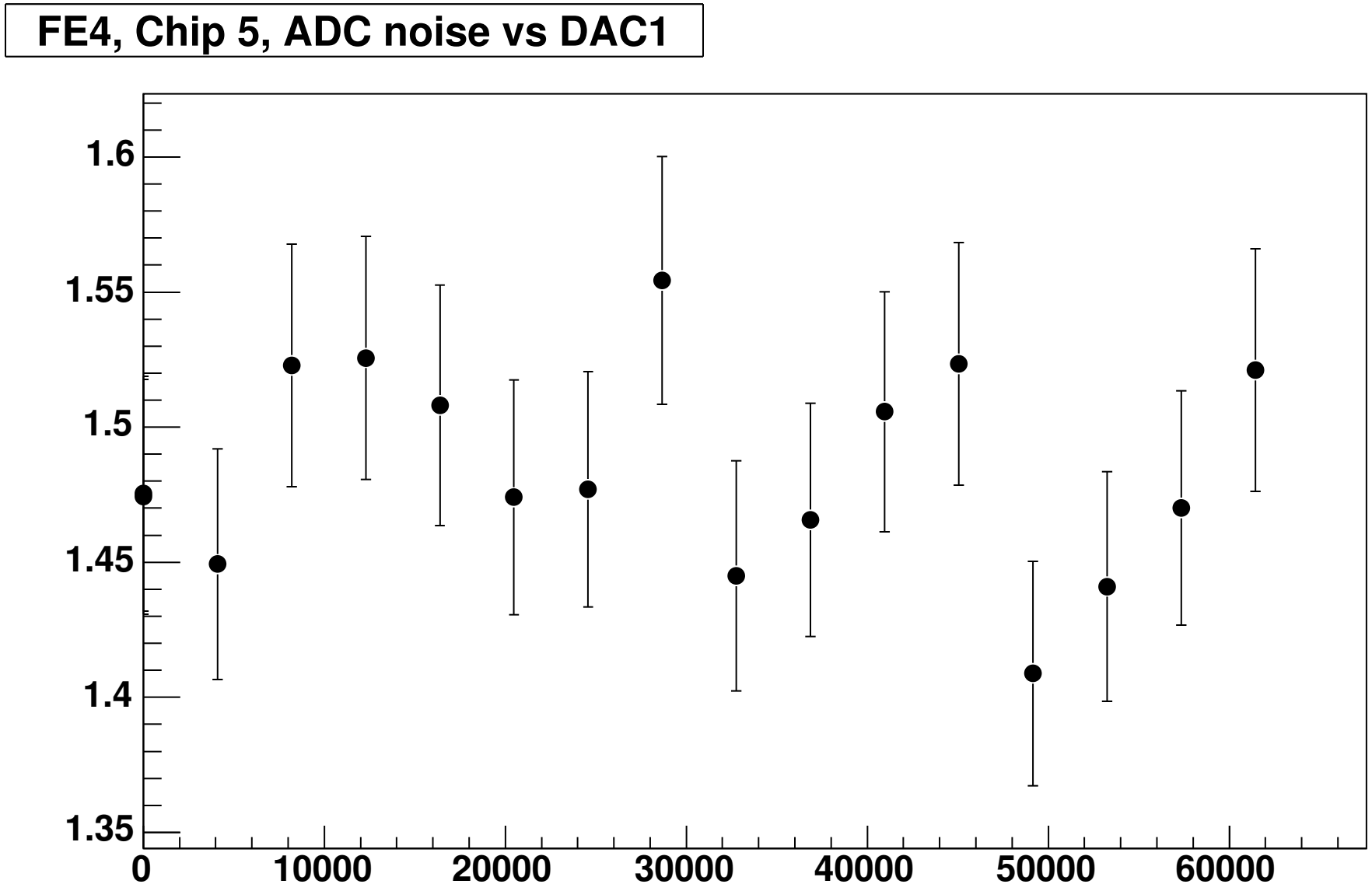

FE4, Chip 4, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
0
10000
20000
30000
40000
50000
60000

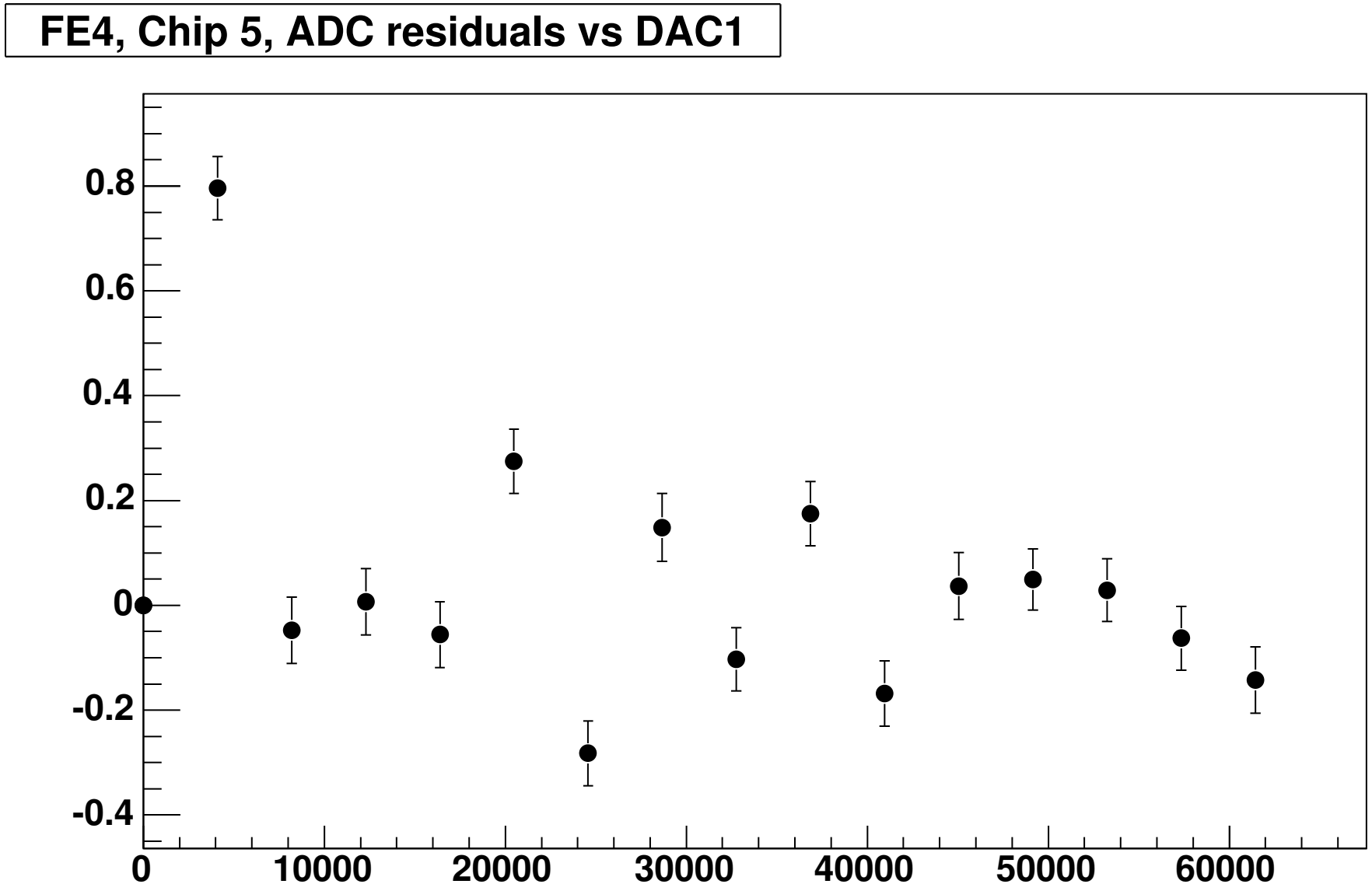

FE4, Chip 5, ADC mean vs DAC0
χ² / ndf 910.3 / 11
p0 -158 ± 0.04237
p1 0.4516 ± 1.377e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

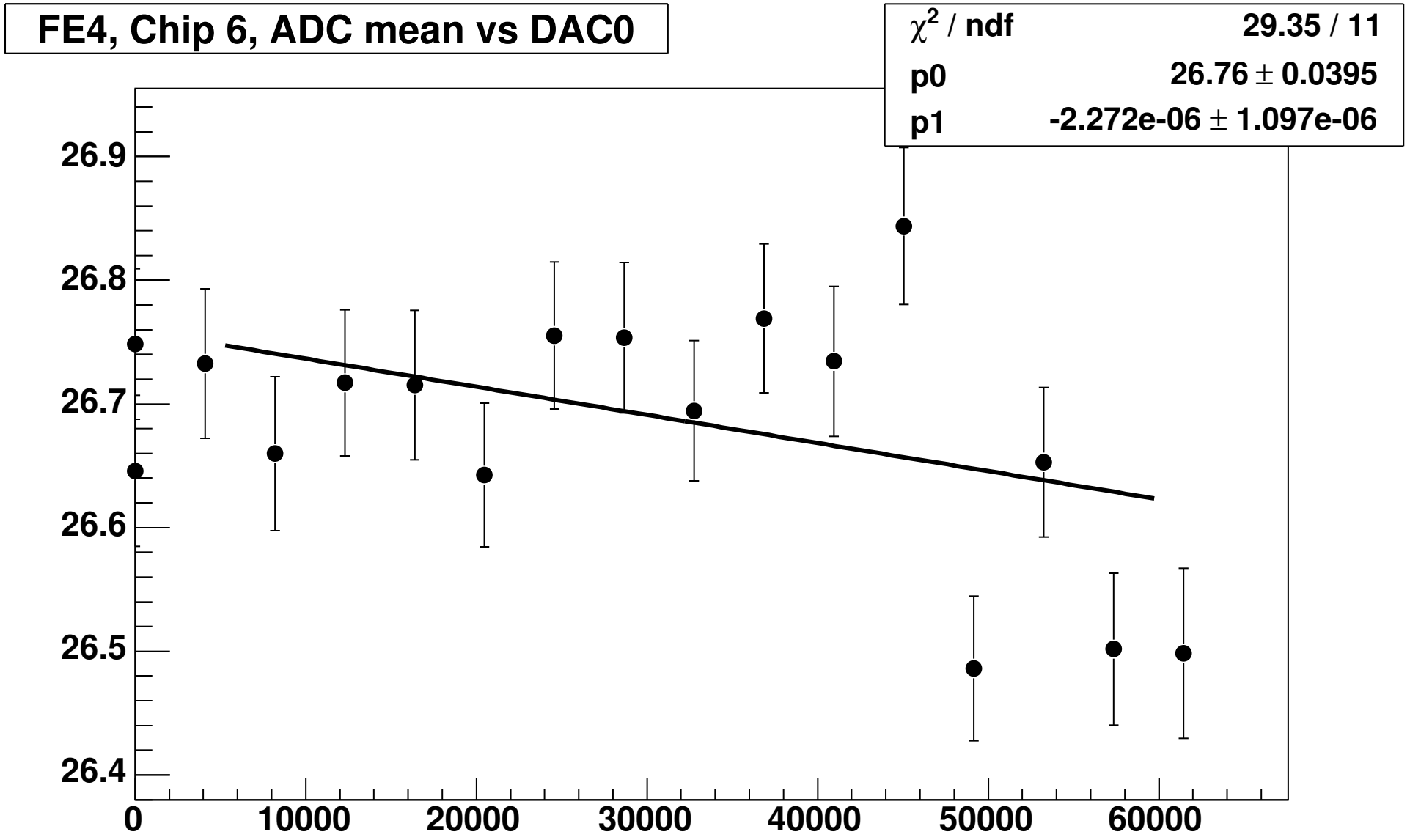

FE4, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

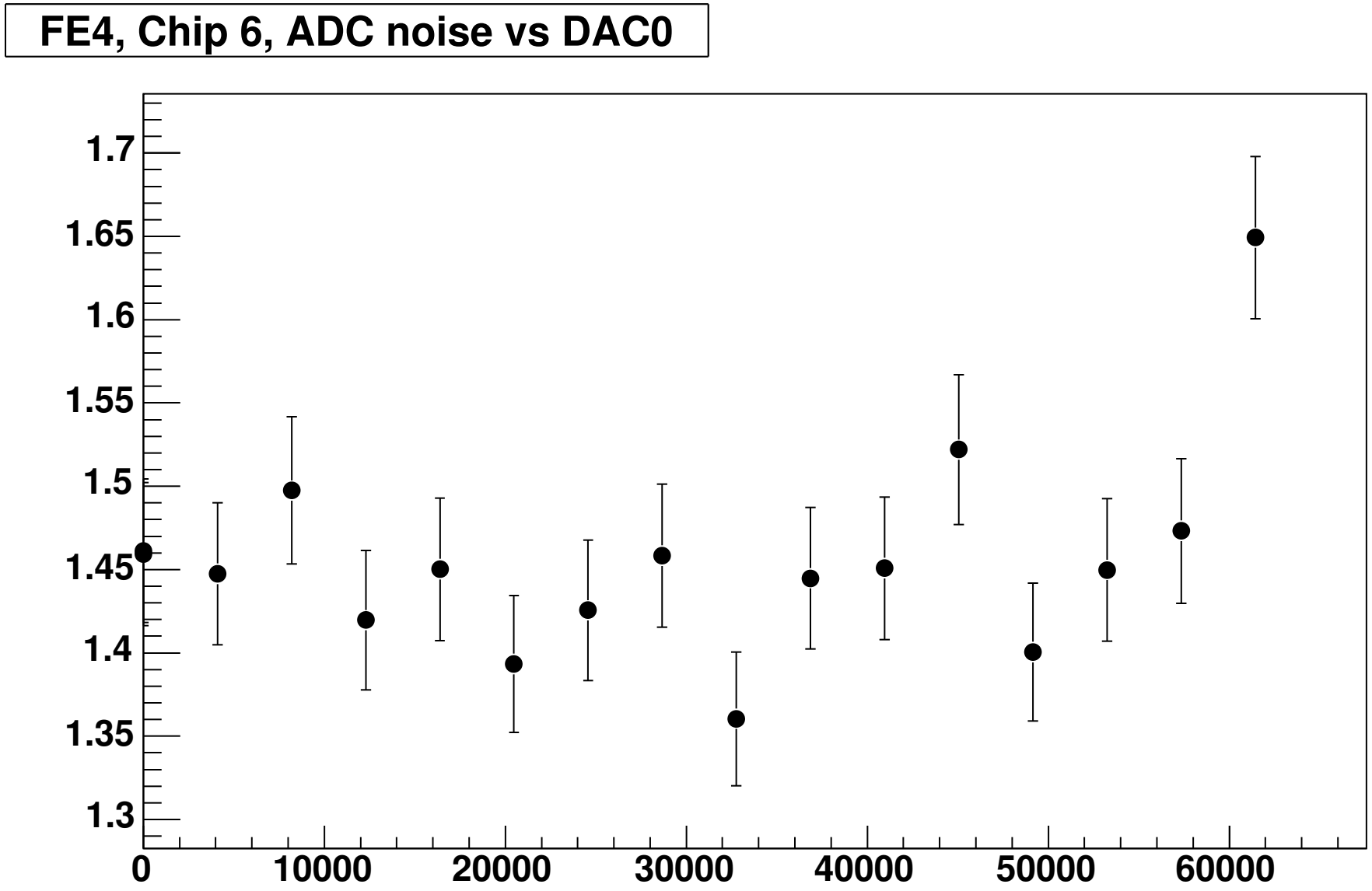

FE4, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

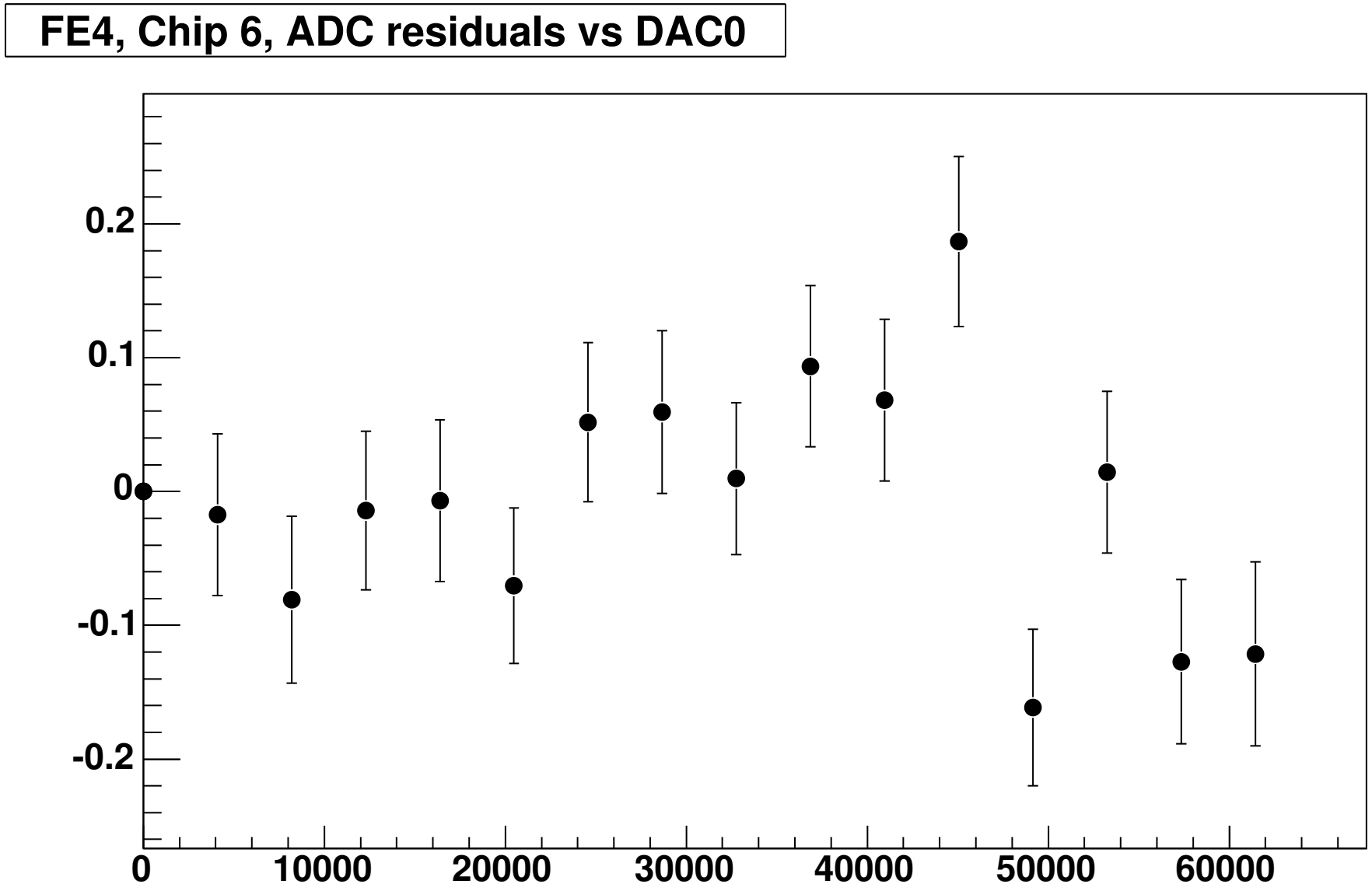

FE4, Chip 5, ADC mean vs DAC1
χ² / ndf 68.33 / 11
p0 -160.5 ± 0.04096
p1 1.349e-05 ± 1.12e-06
-159.6
-159.8
-160
-160.2
-160.4
-160.6
0
10000
20000
30000
40000
50000
60000

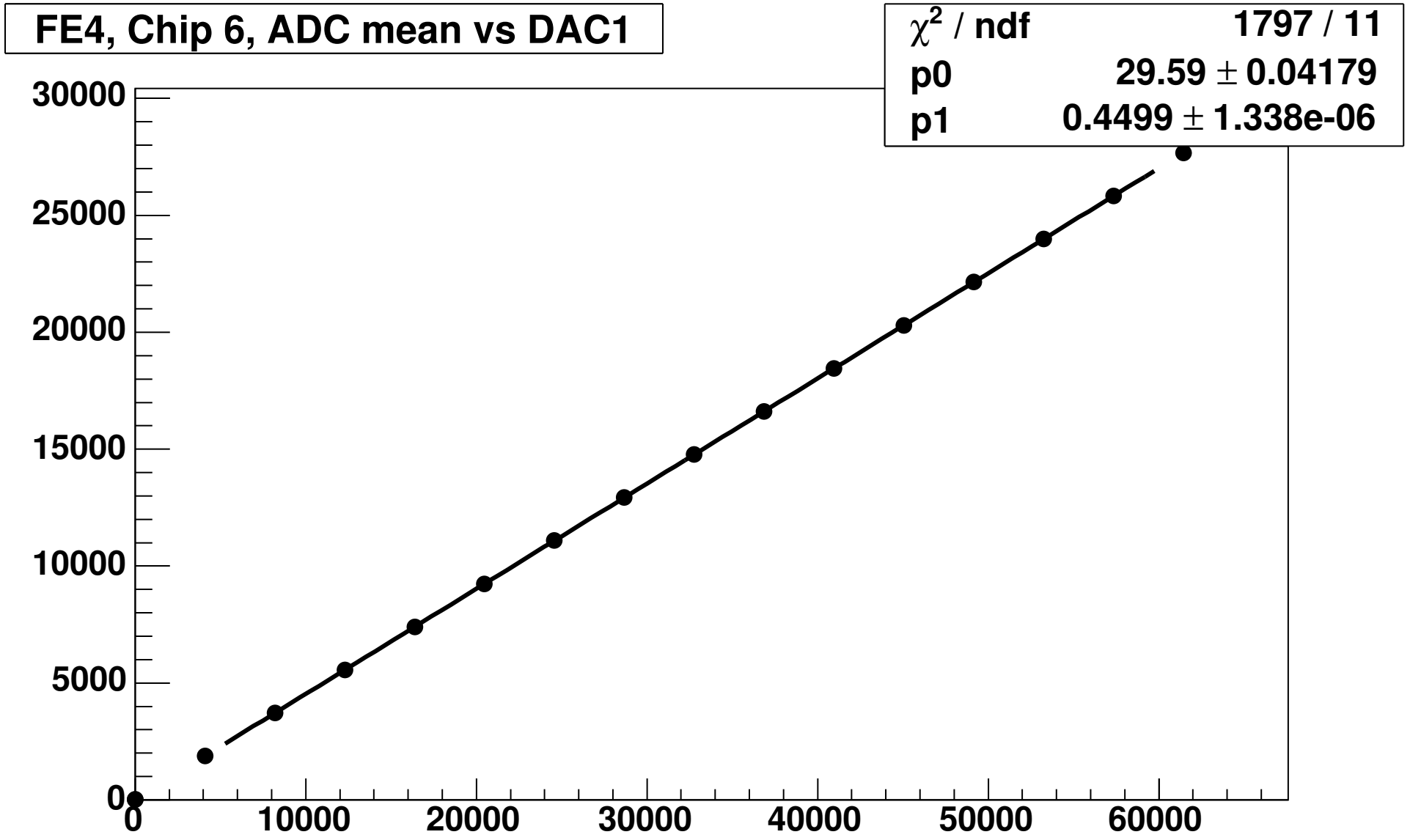

FE4, Chip 5, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

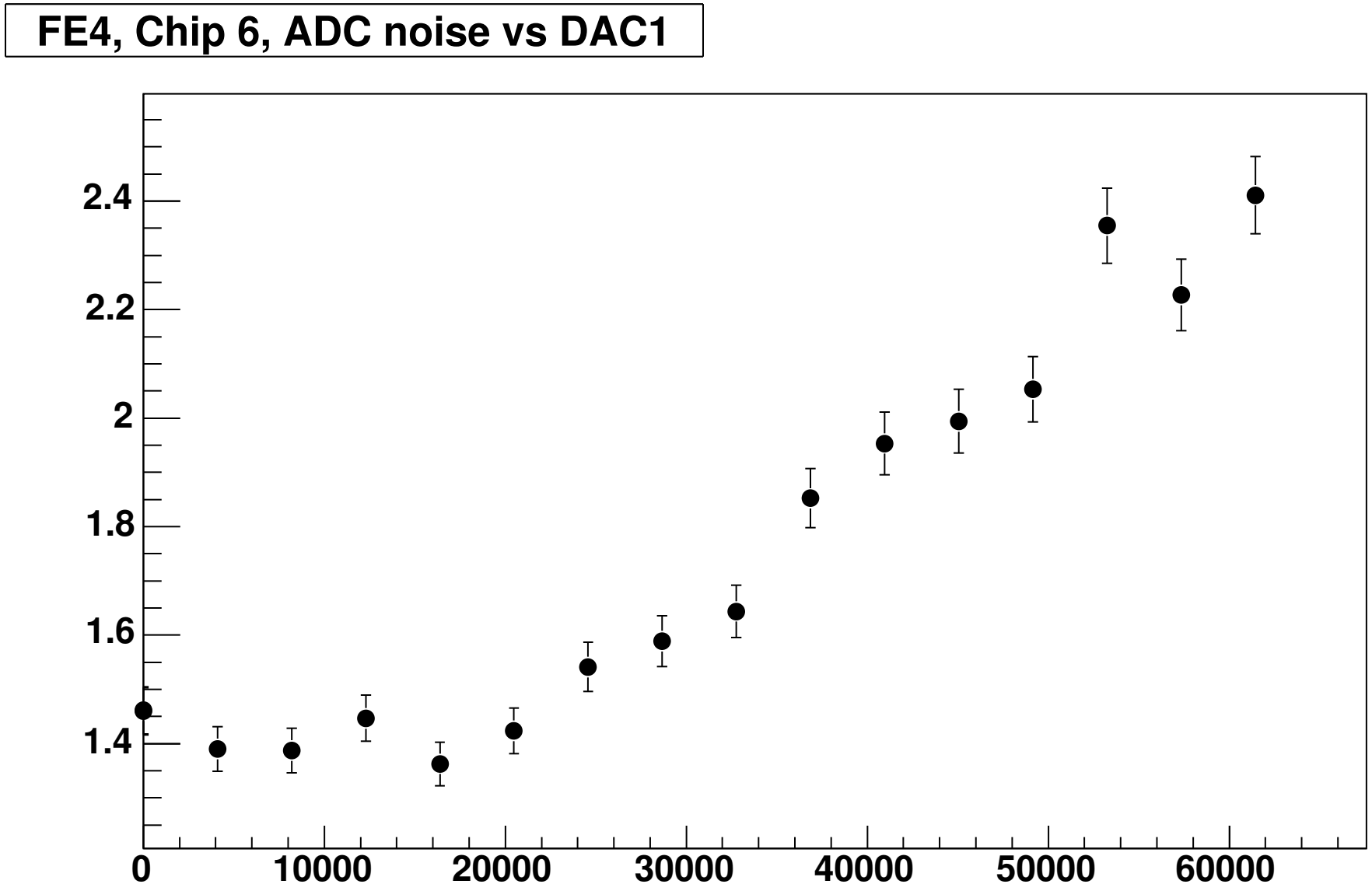

FE4, Chip 5, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
0
10000
20000
30000
40000
50000
60000

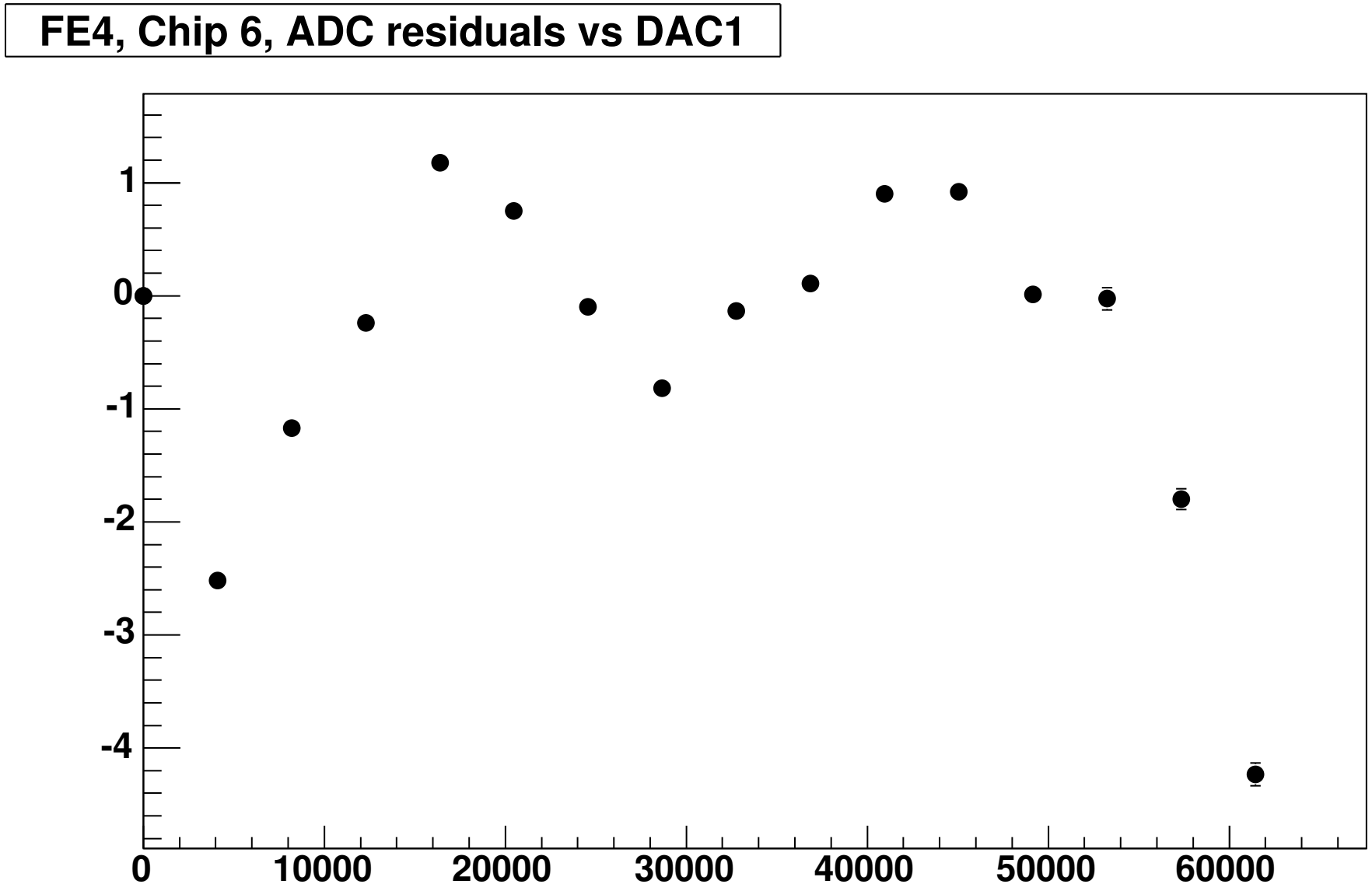

FE4, Chip 6, ADC mean vs DAC0
χ² / ndf 29.35 / 11
p0 26.76 ± 0.0395
p1 -2.272e-06 ± 1.097e-06
26.9
26.8
26.7
26.6
26.5
26.4
0
10000
20000
30000
40000
50000
60000

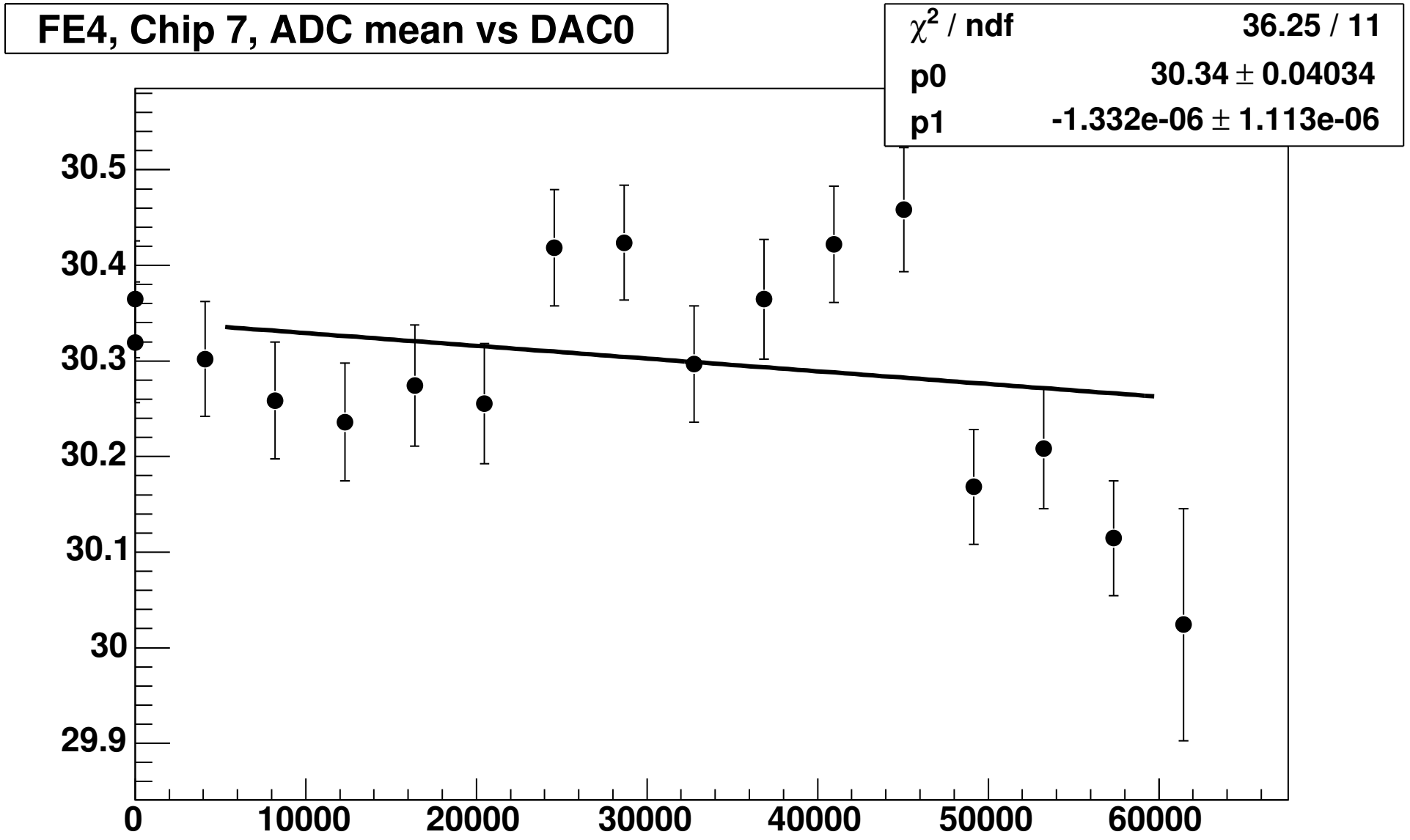

FE4, Chip 6, ADC noise vs DAC0
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000


FE4, Chip 6, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

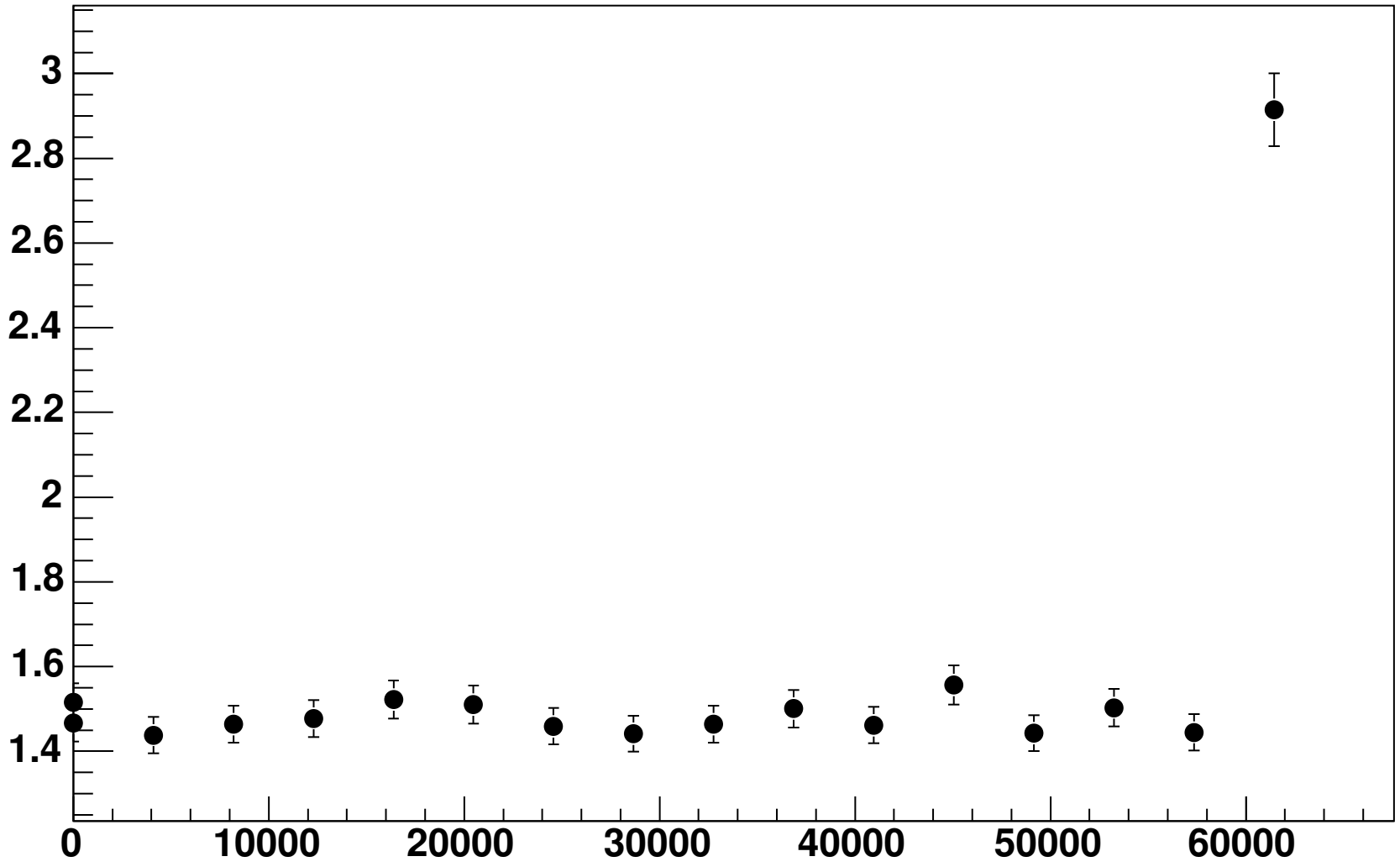

FE4, Chip 6, ADC mean vs DAC1
χ² / ndf 1797 / 11
p0 29.59 ± 0.04179
p1 0.4499 ± 1.338e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

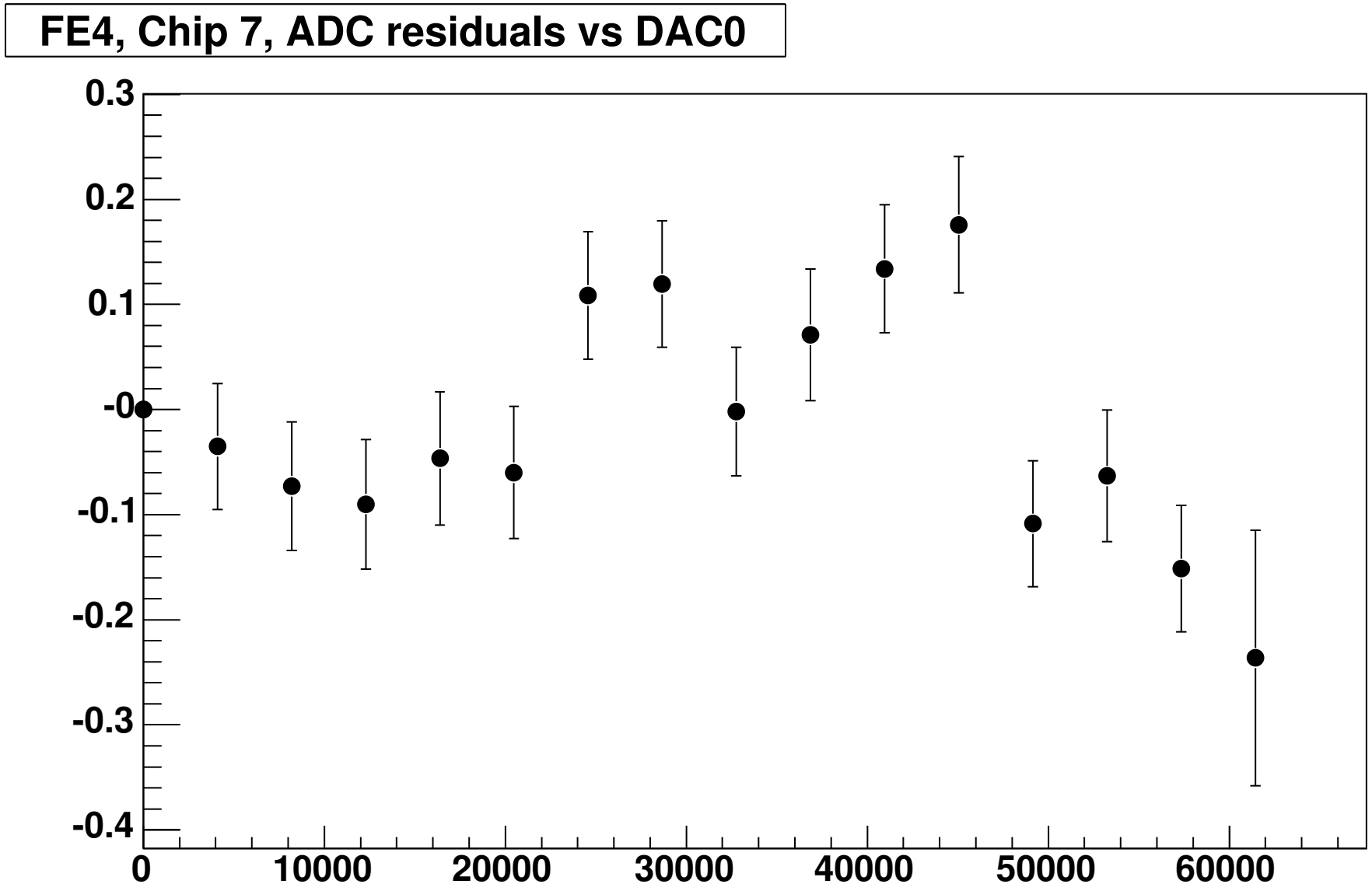

FE4, Chip 6, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

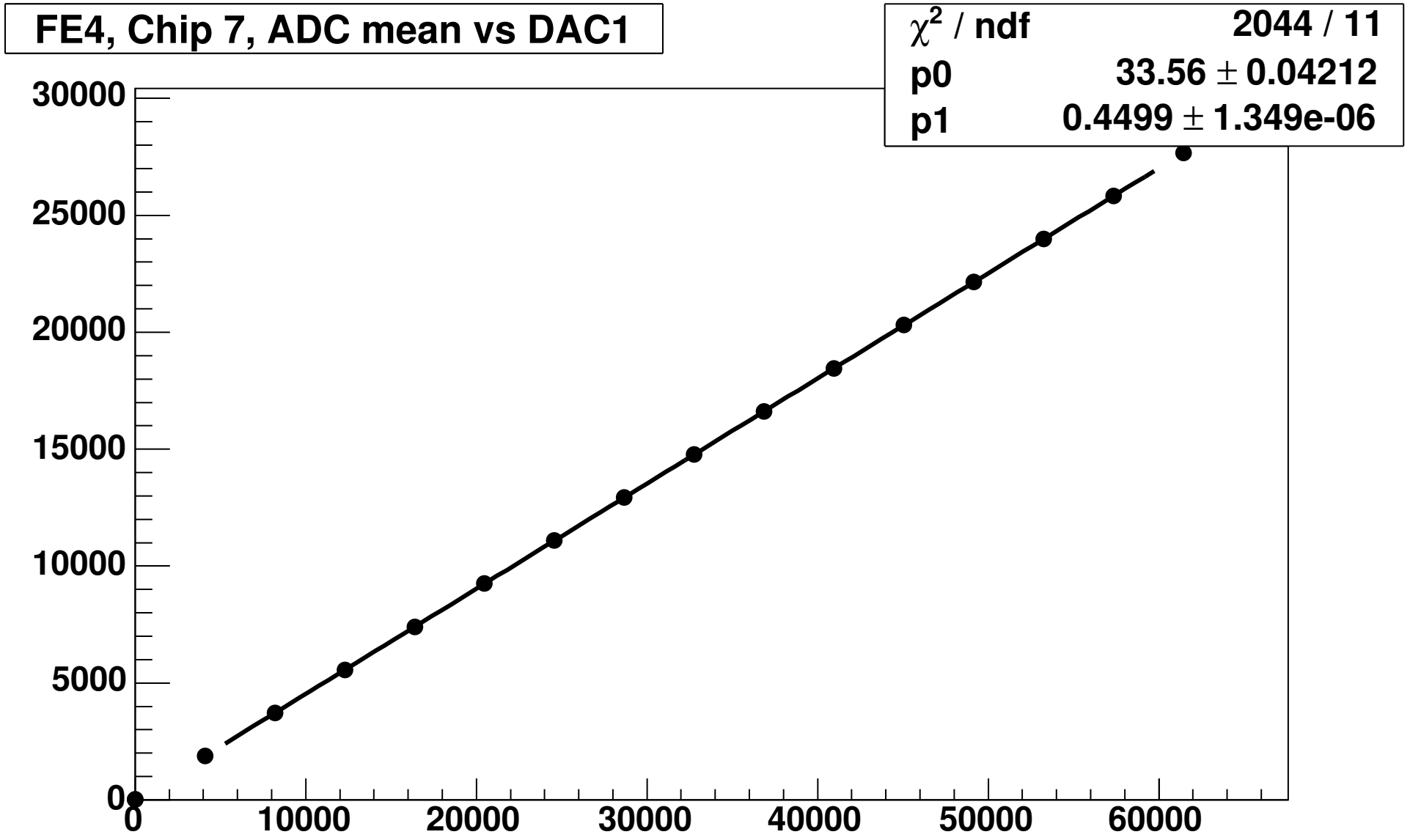

FE4, Chip 6, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000

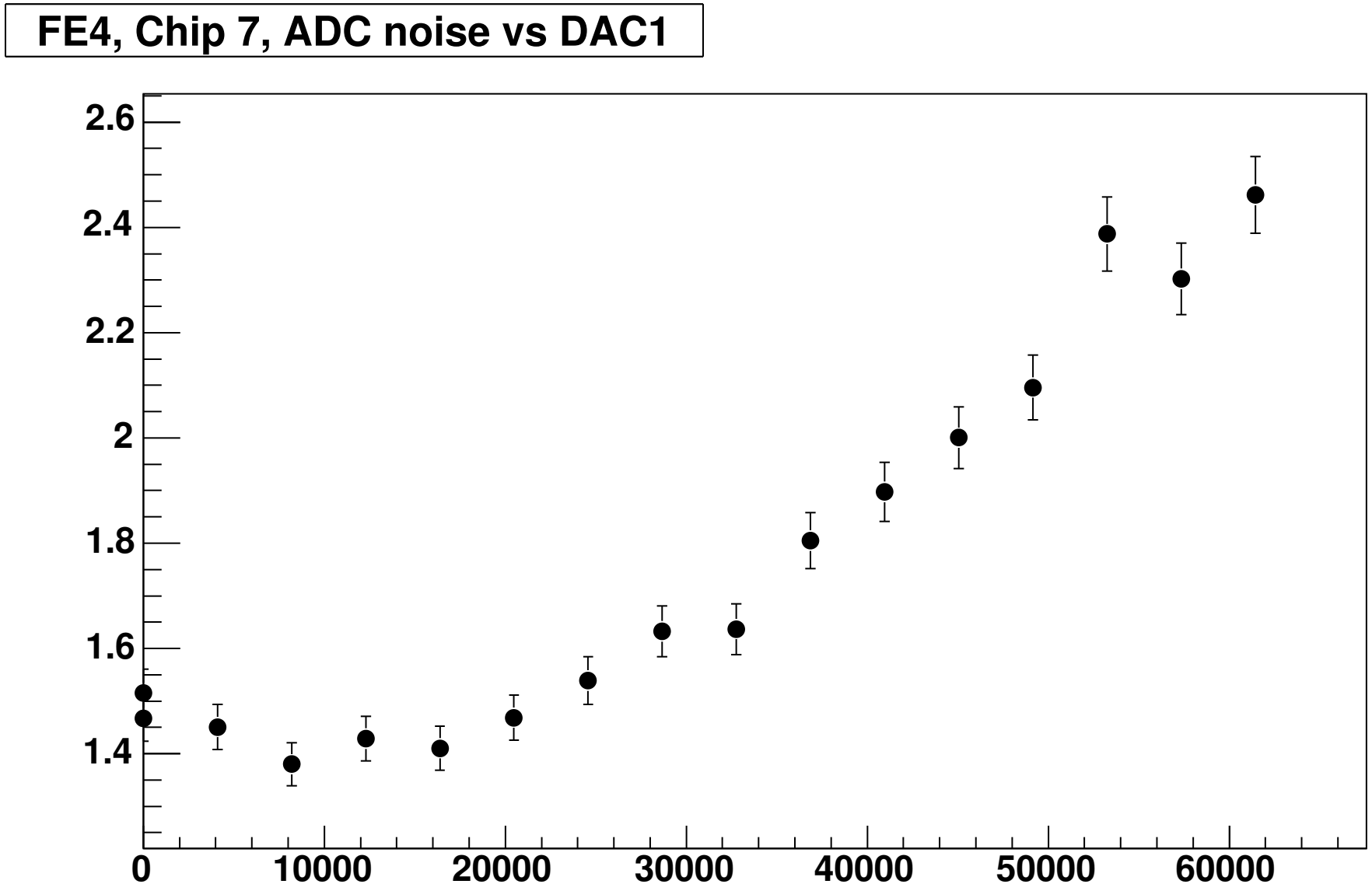

FE4, Chip 7, ADC mean vs DAC0
χ² / ndf 36.25 / 11
p0 30.34 ± 0.04034
p1 -1.332e-06 ± 1.113e-06
30.5
30.4
30.3
30.2
30.1
30
29.9
0
10000
20000
30000
40000
50000
60000

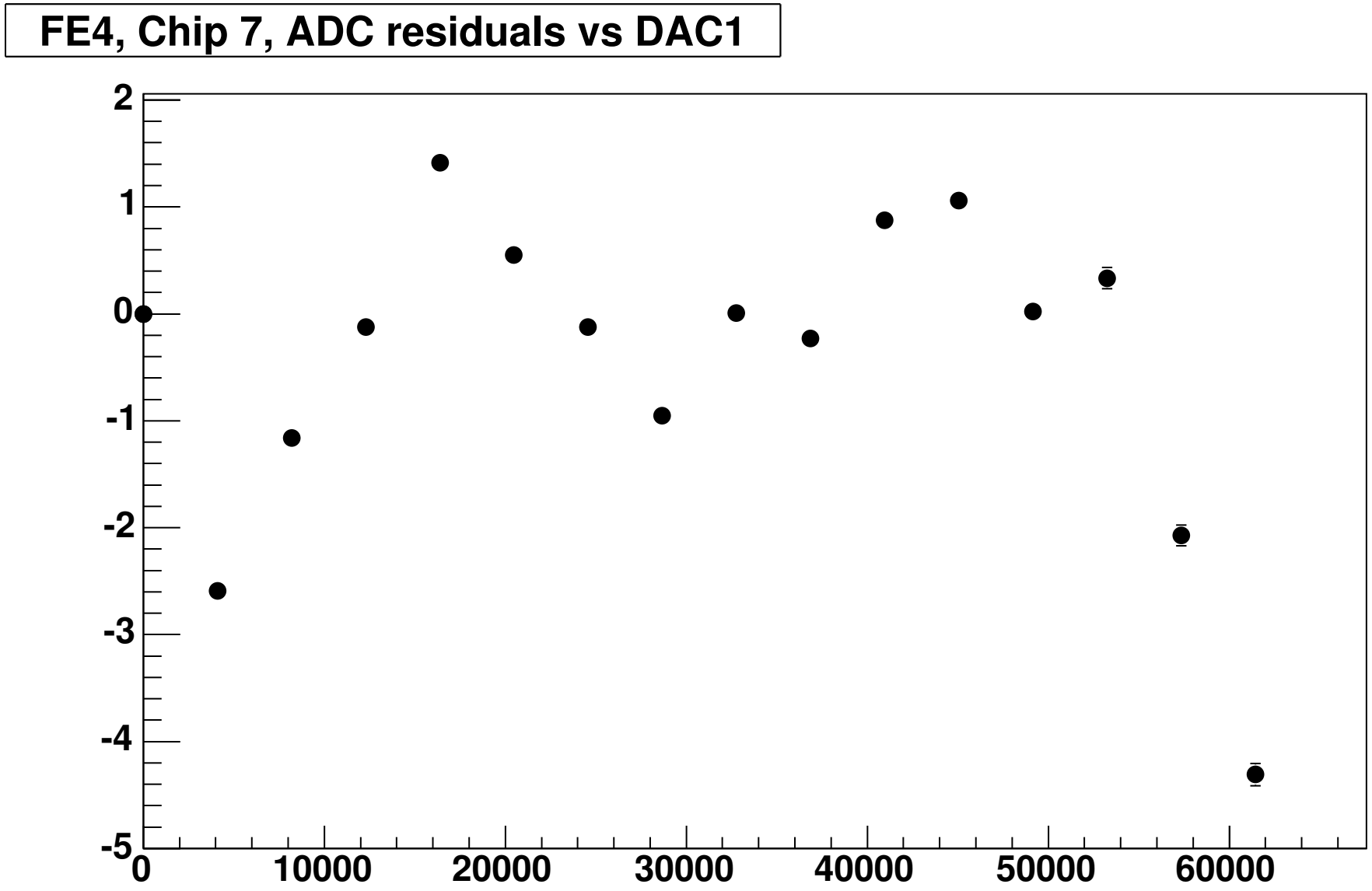
FE4, Chip 7, ADC noise vs DAC0

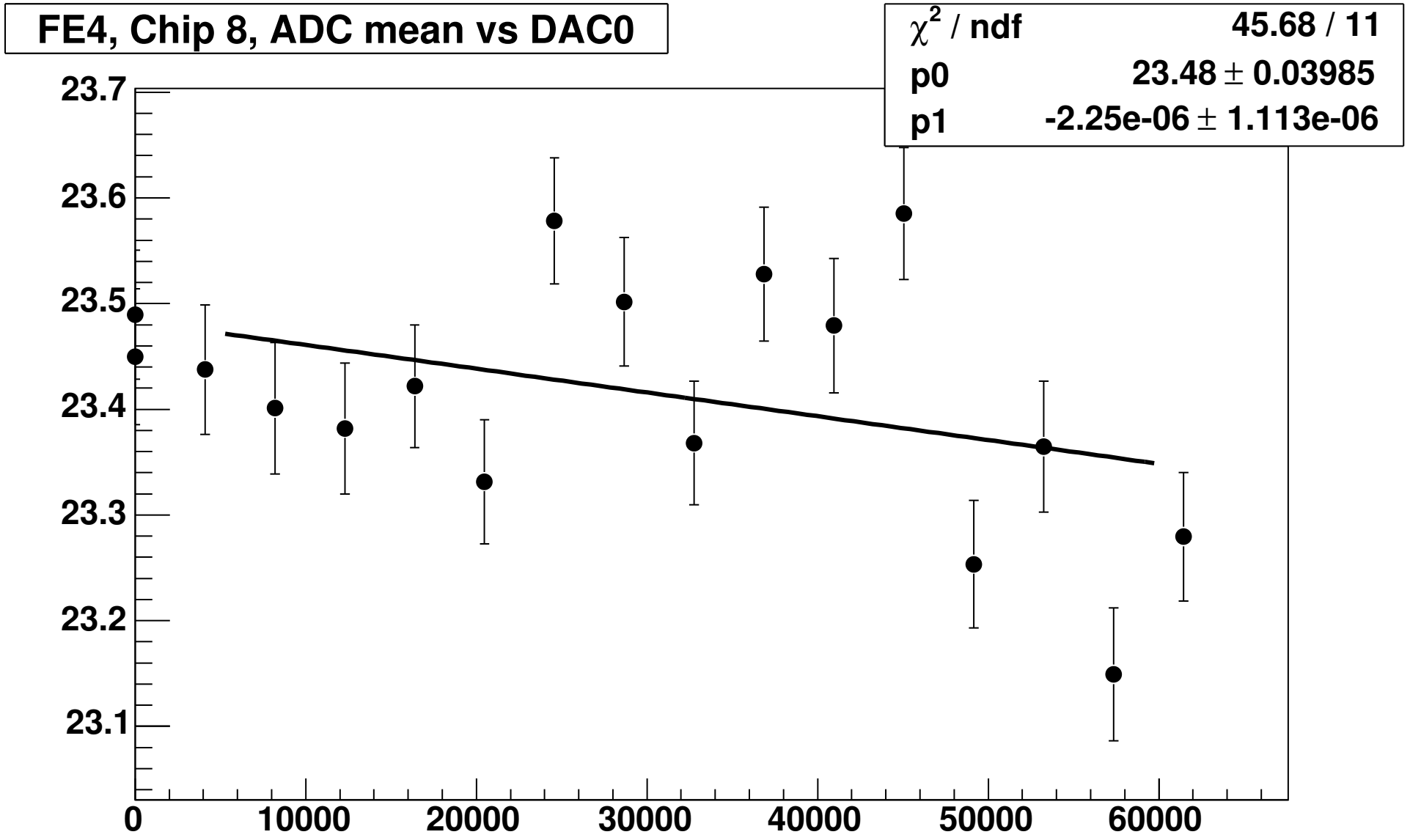


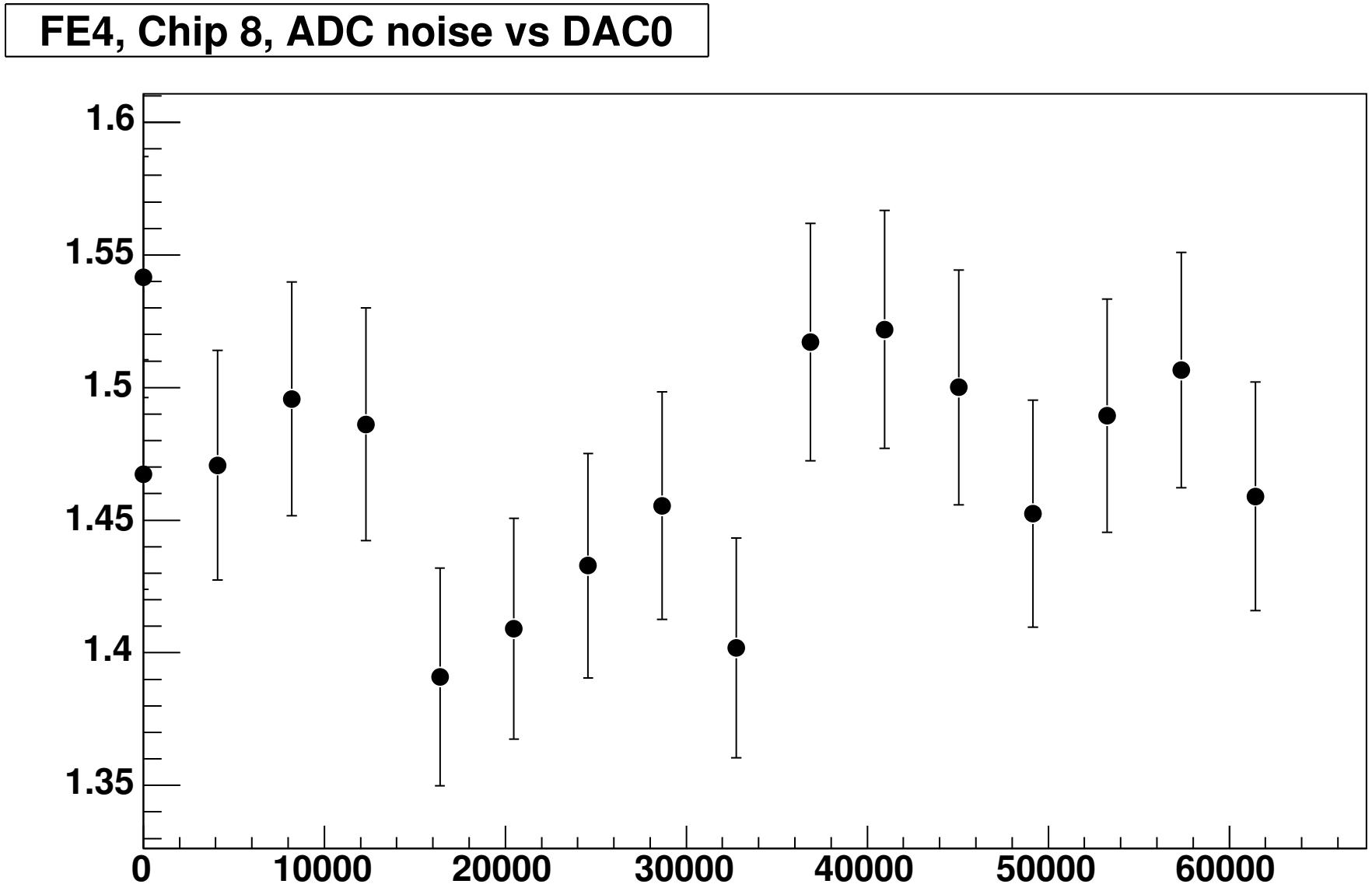

FE4, Chip 7, ADC residuals vs DAC0
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

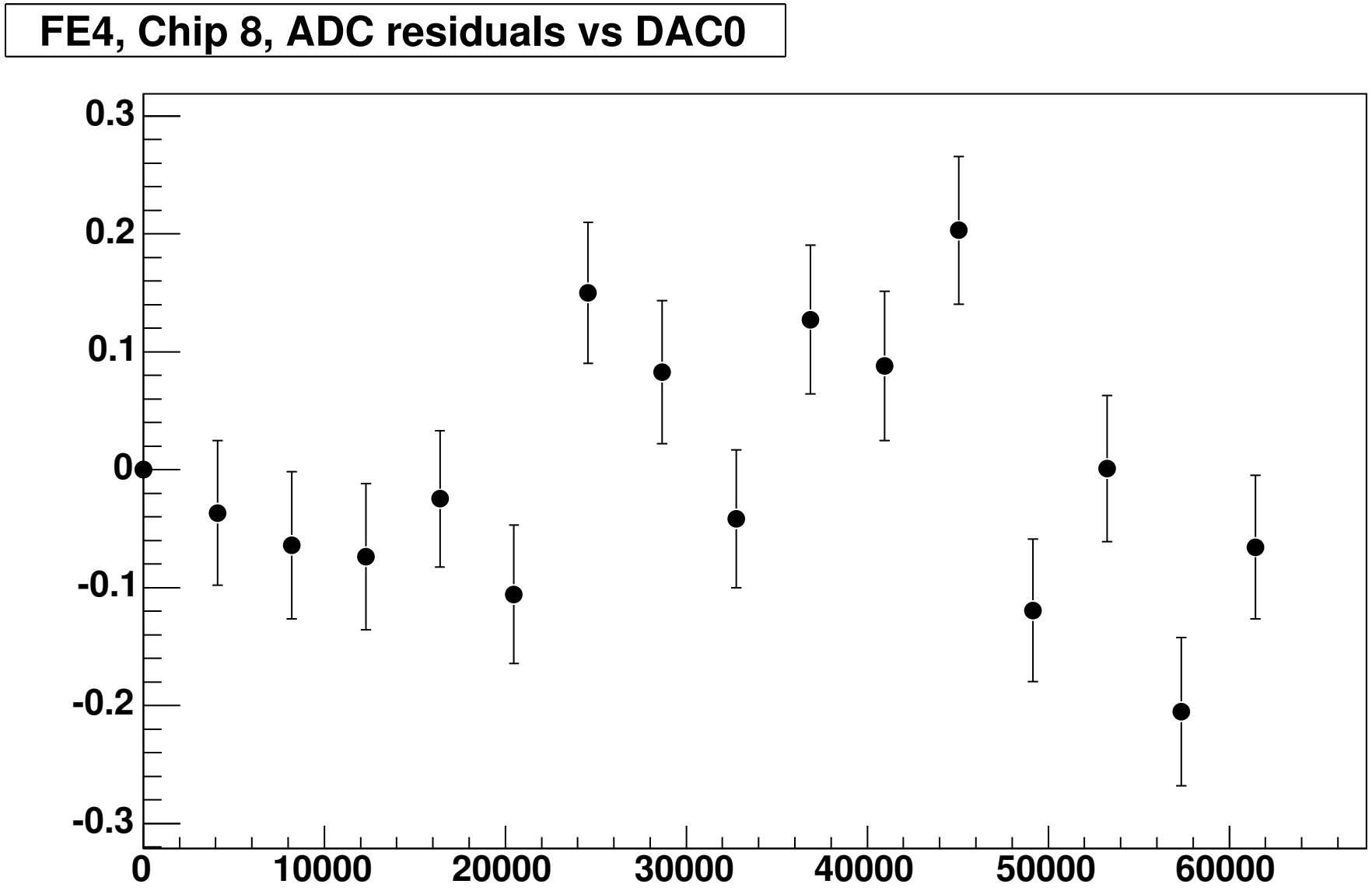

FE4, Chip 7, ADC mean vs DAC1
χ² / ndf 2044 / 11
p0 33.56 ± 0.04212
p1 0.4499 ± 1.349e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

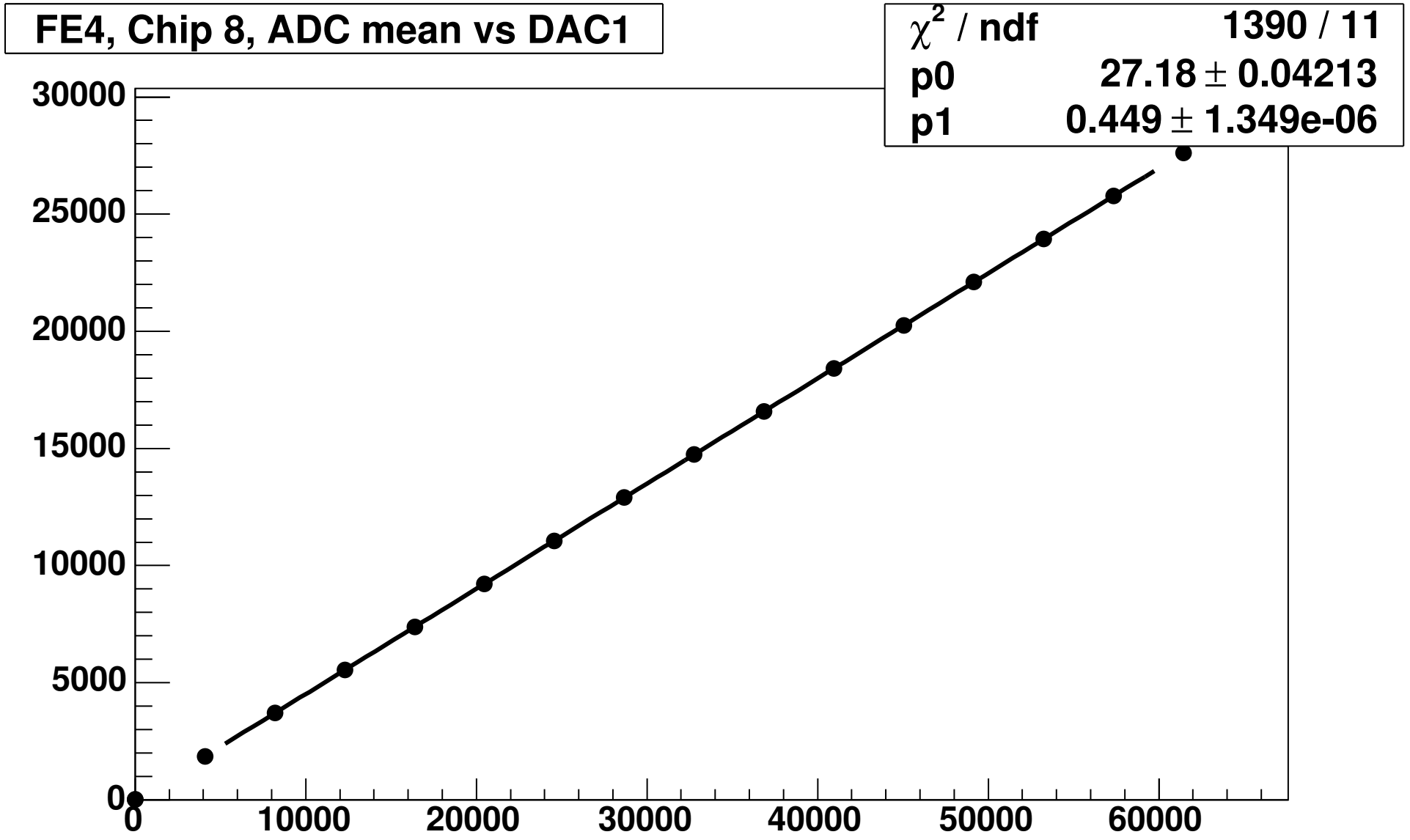

FE4, Chip 7, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

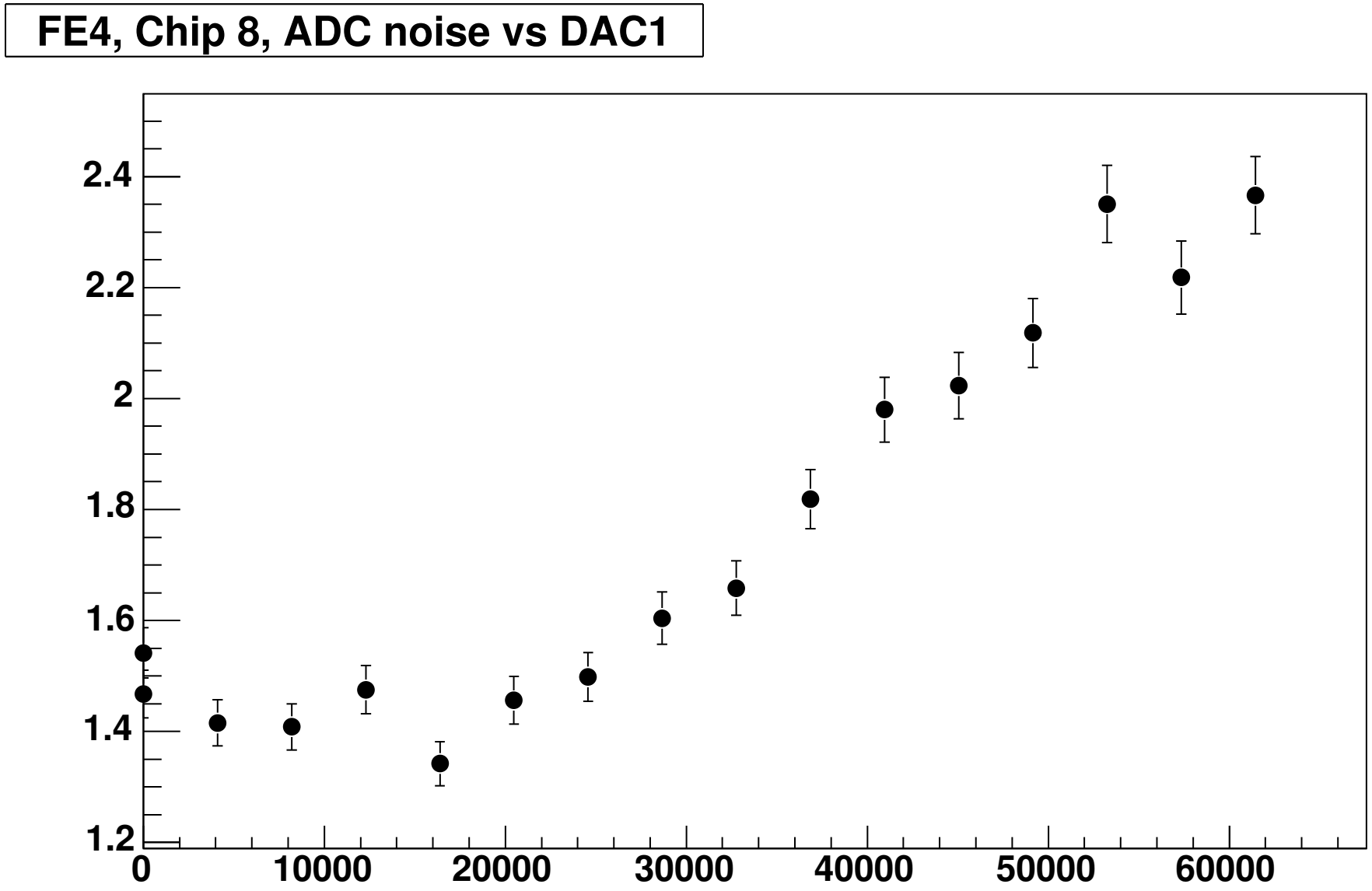

FE4, Chip 7, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

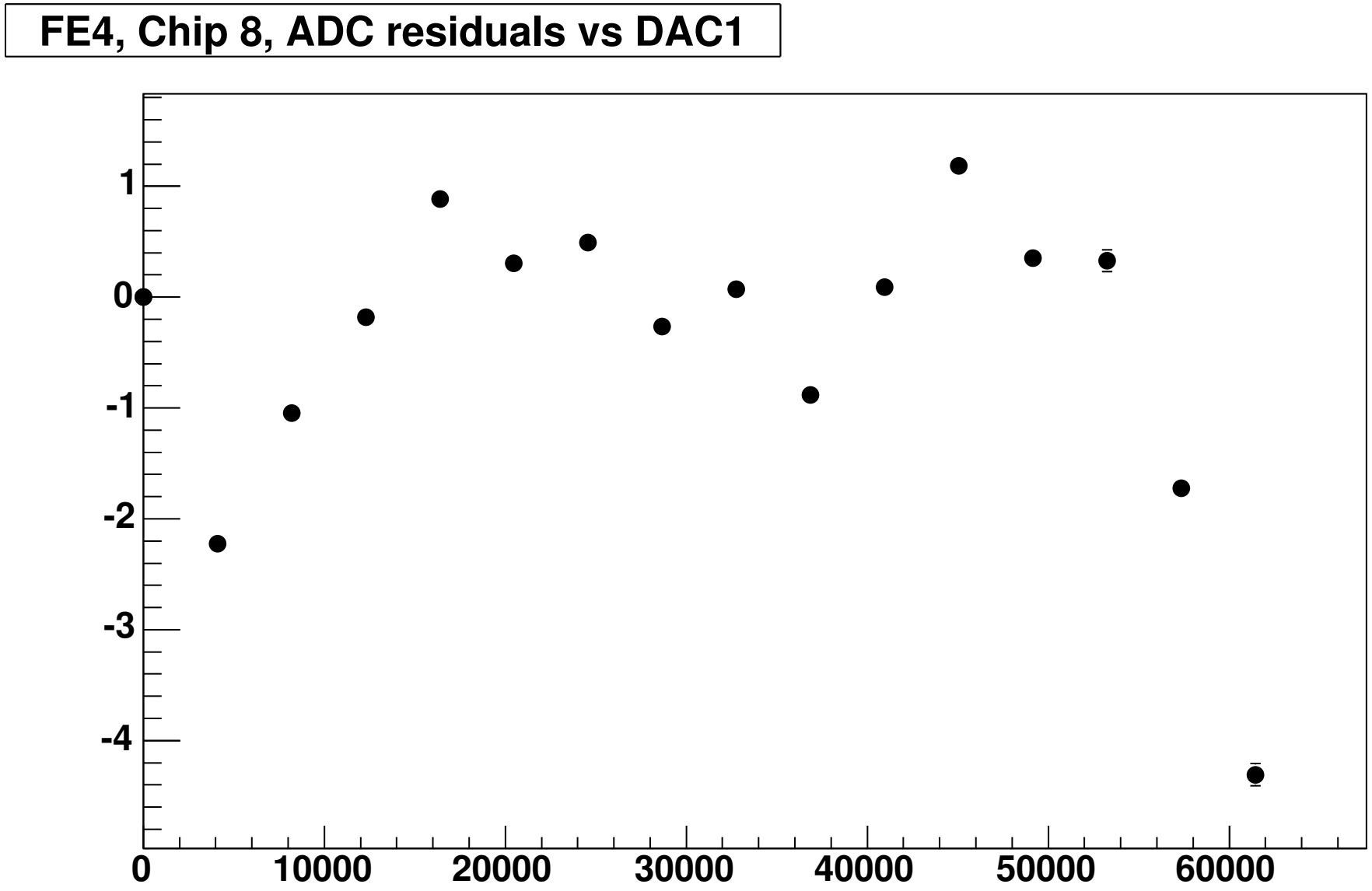

FE4, Chip 8, ADC mean vs DAC0
χ² / ndf 45.68 / 11
p0 23.48 ± 0.03985
p1 -2.25e-06 ± 1.113e-06
23.7
23.6
23.5
23.4
23.3
23.2
23.1
0
10000
20000
30000
40000
50000
60000

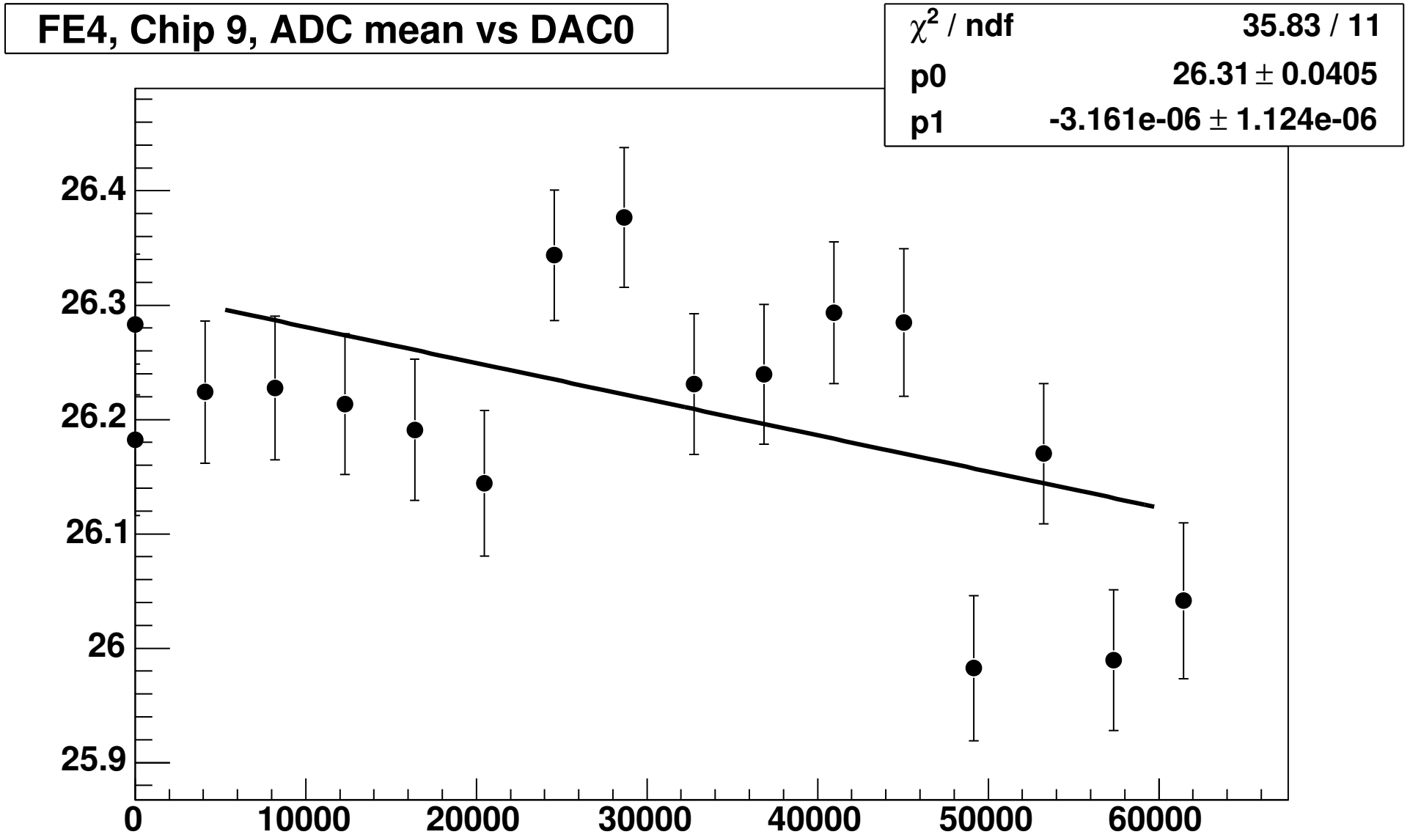

FE4, Chip 8, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

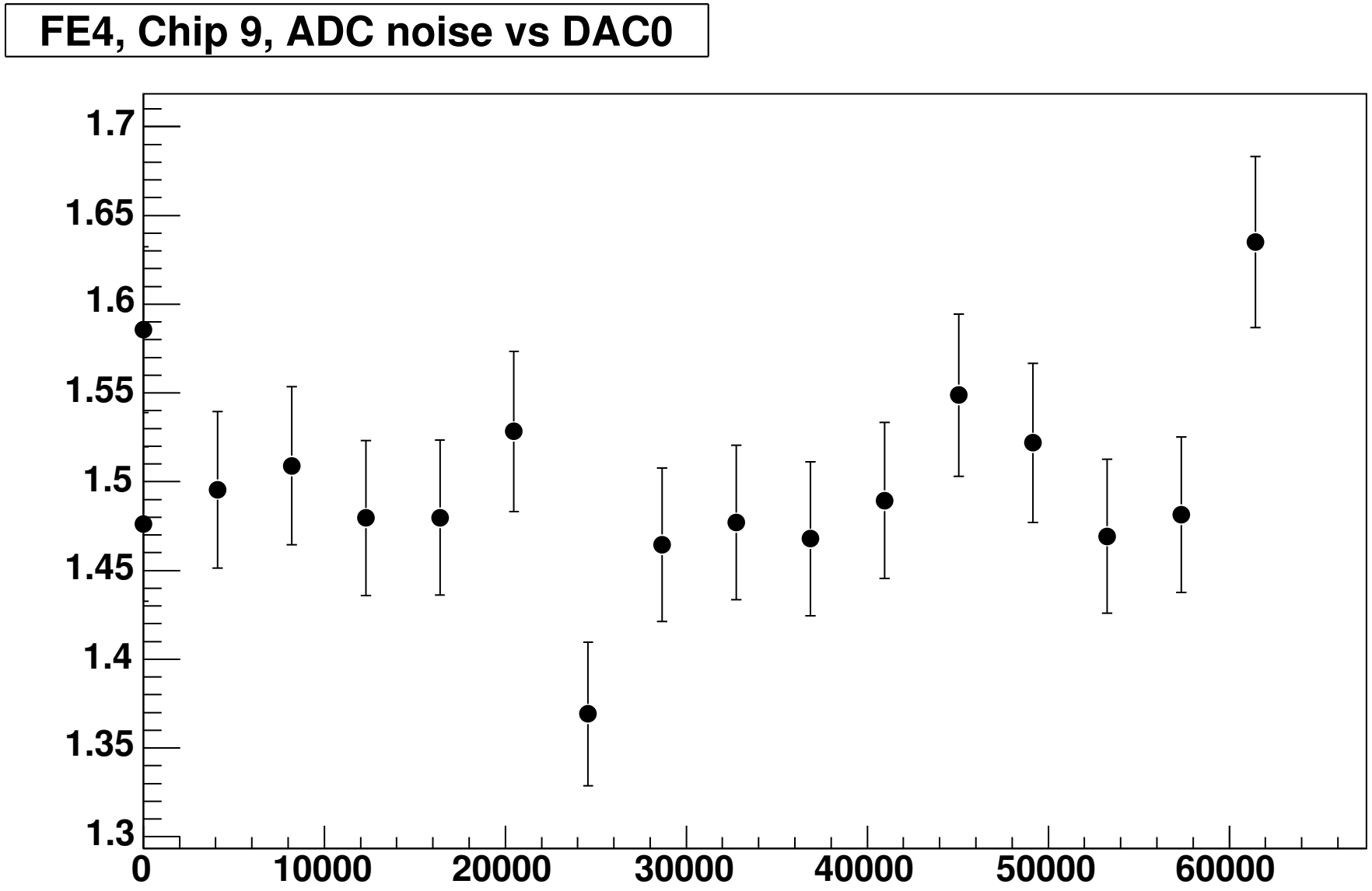

FE4, Chip 8, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

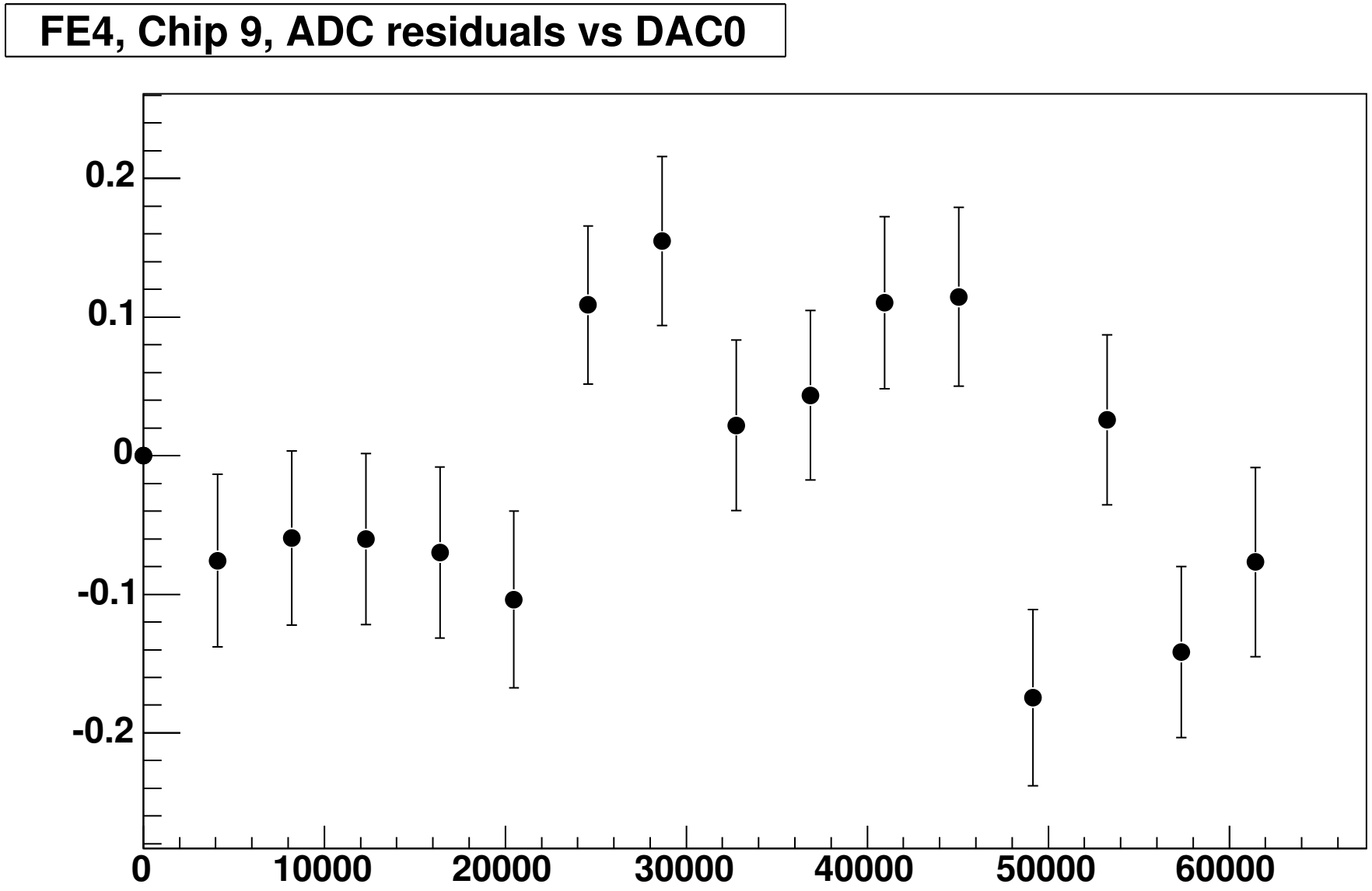

FE4, Chip 8, ADC mean vs DAC1
χ² / ndf 1390 / 11
p0 27.18 ± 0.04213
p1 0.449 ± 1.349e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

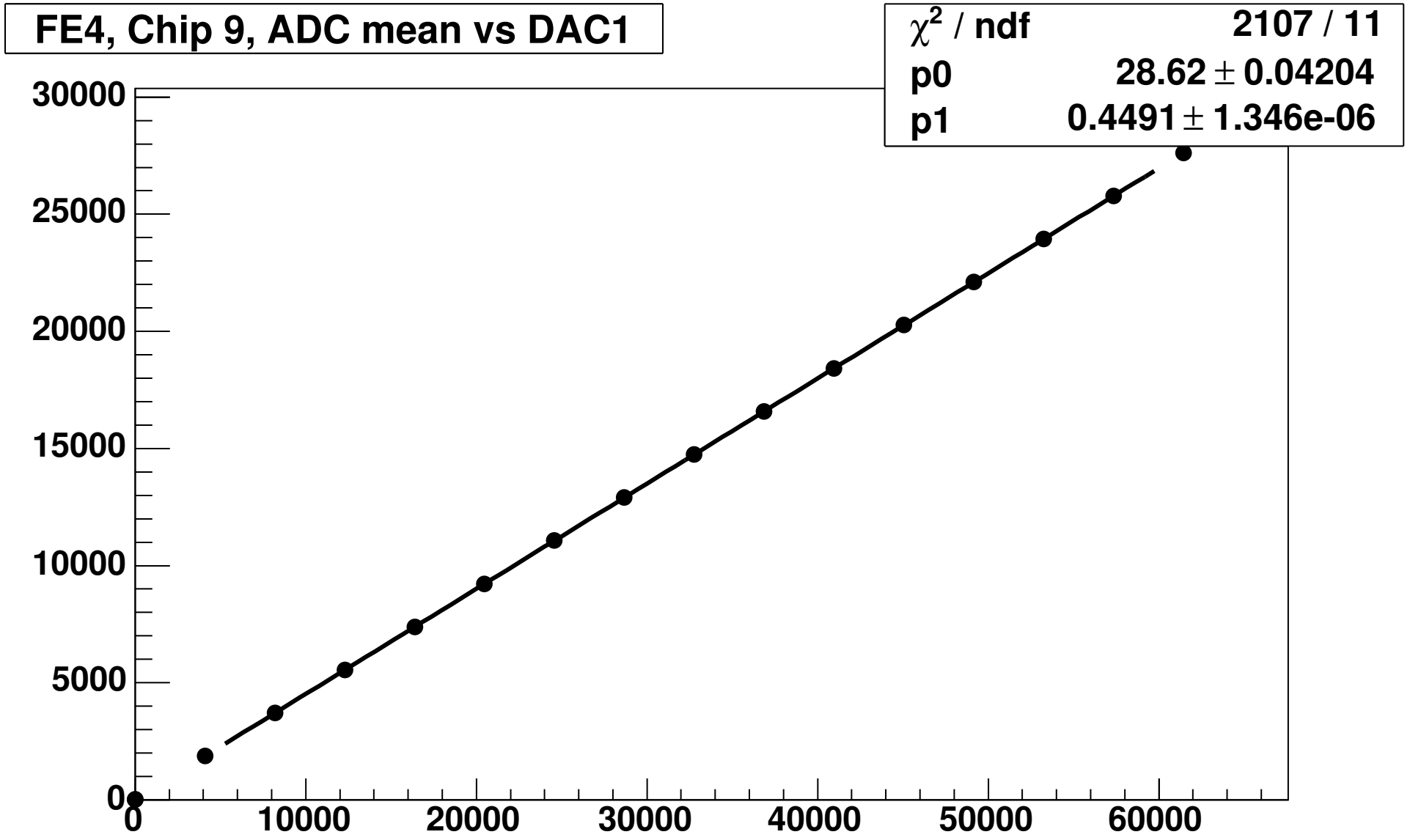

FE4, Chip 8, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

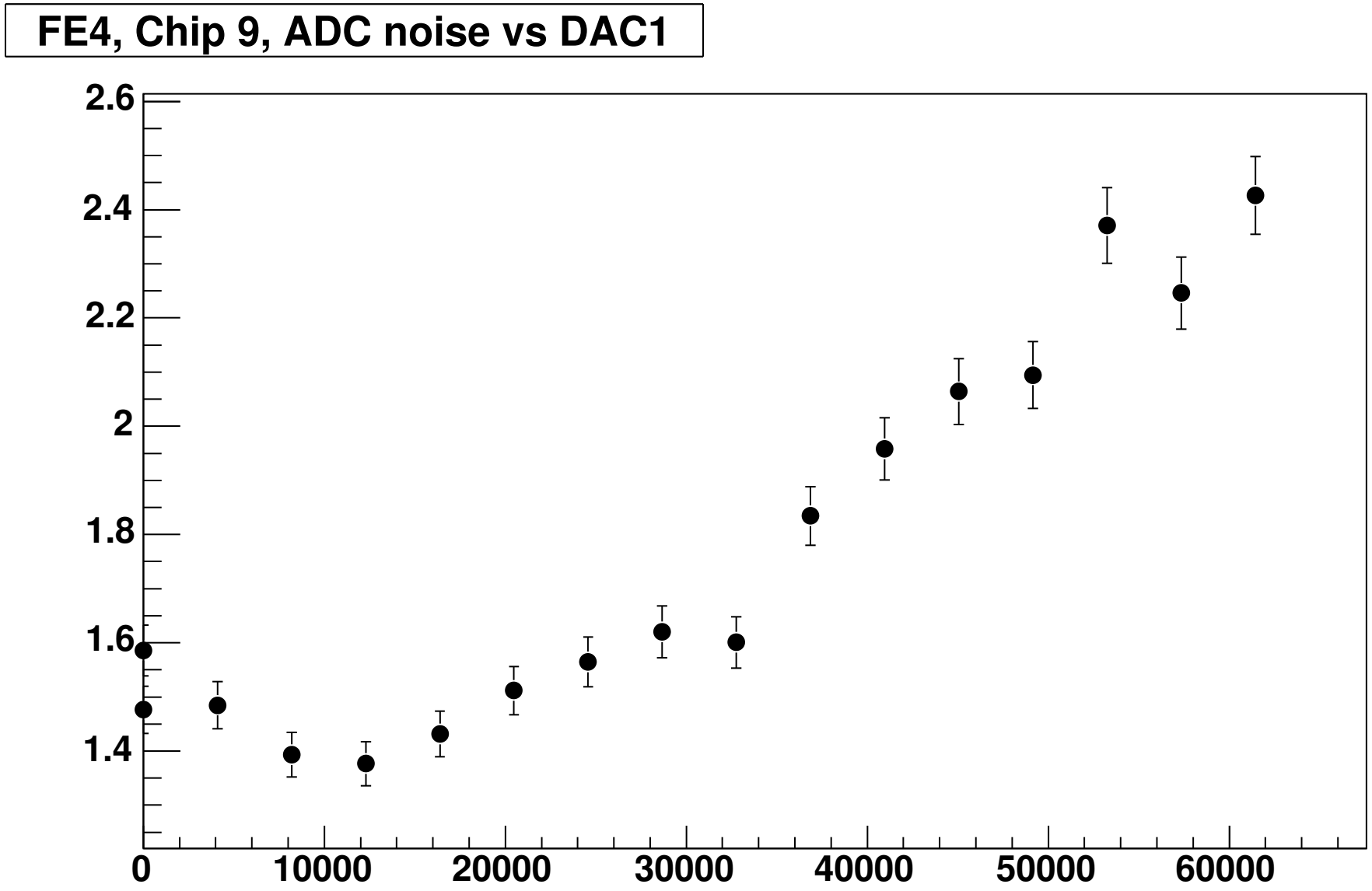

FE4, Chip 8, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000

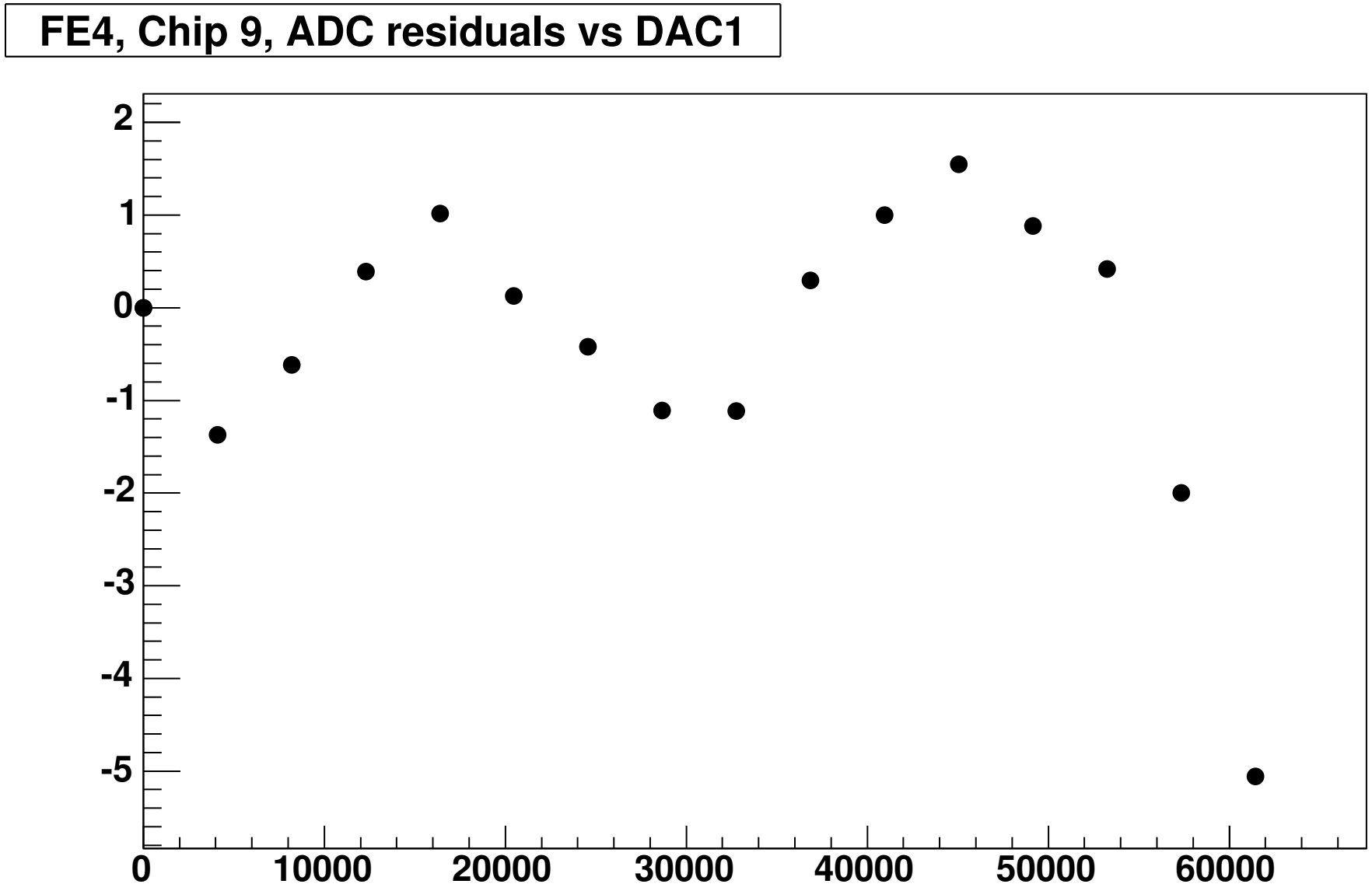

FE4, Chip 9, ADC mean vs DAC0
χ² / ndf 35.83 / 11
p0 26.31 ± 0.0405
p1 -3.161e-06 ± 1.124e-06
26.4
26.3
26.2
26.1
26
25.9
0
10000
20000
30000
40000
50000
60000

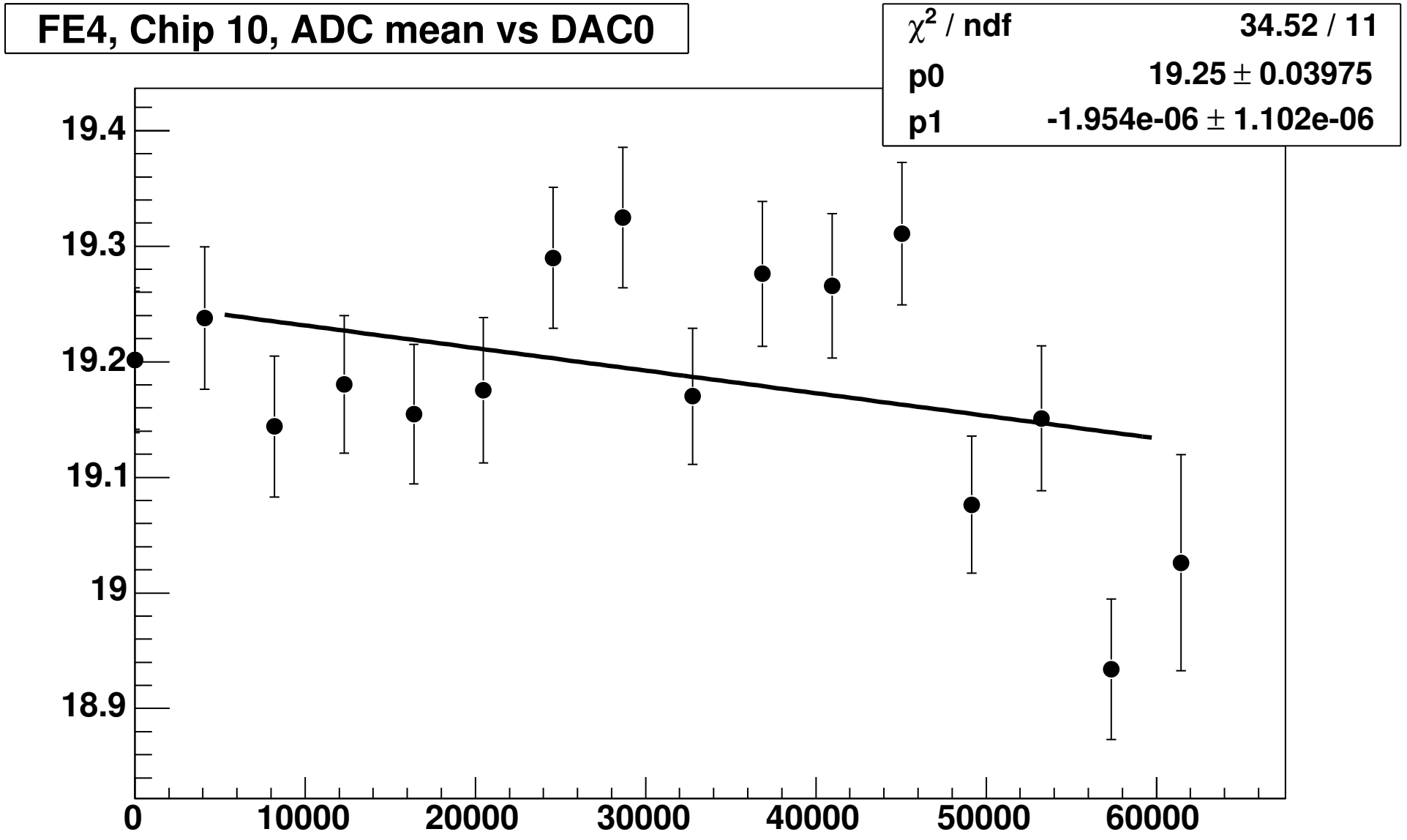

FE4, Chip 9, ADC noise vs DAC0
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

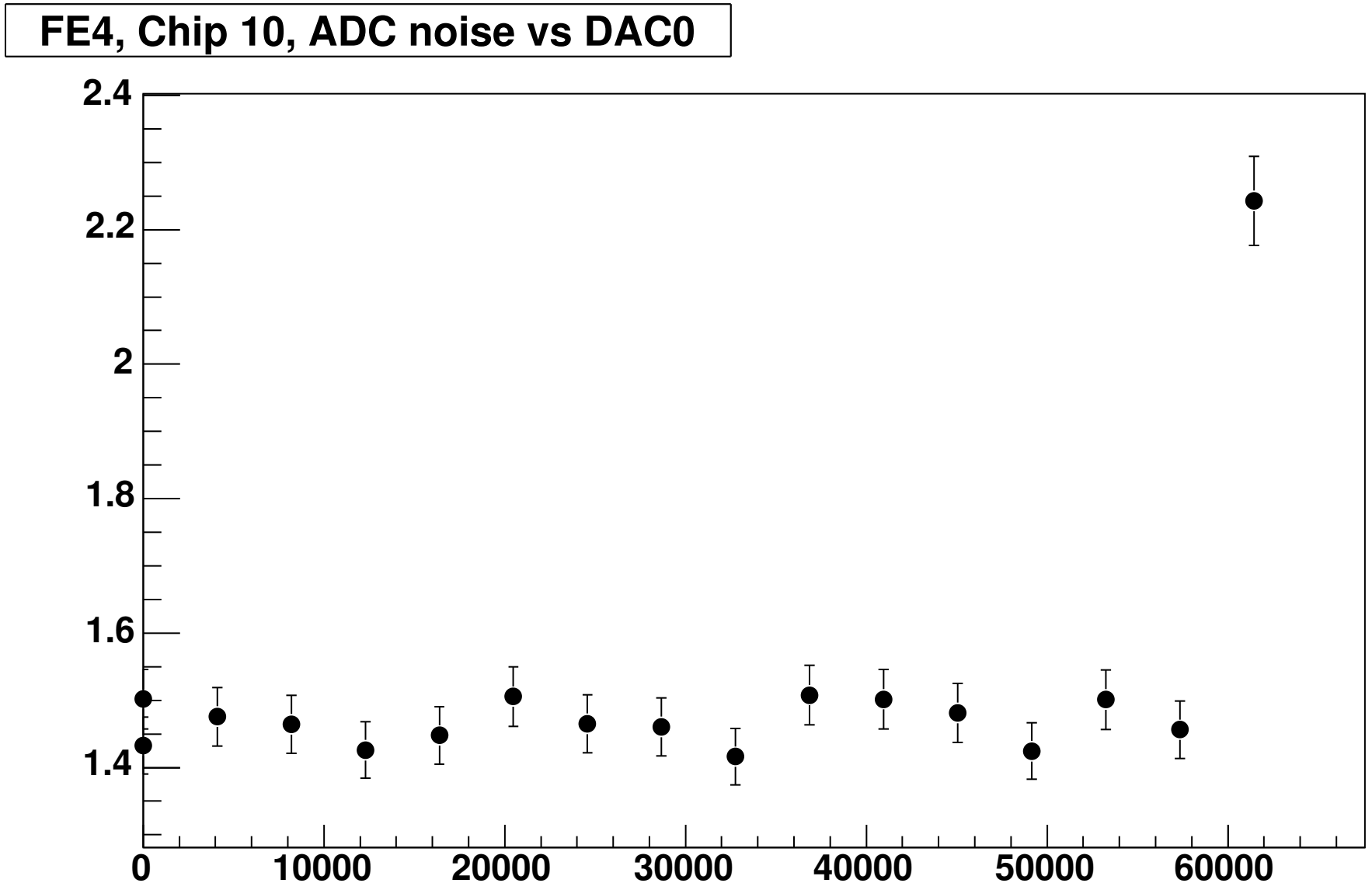

FE4, Chip 9, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

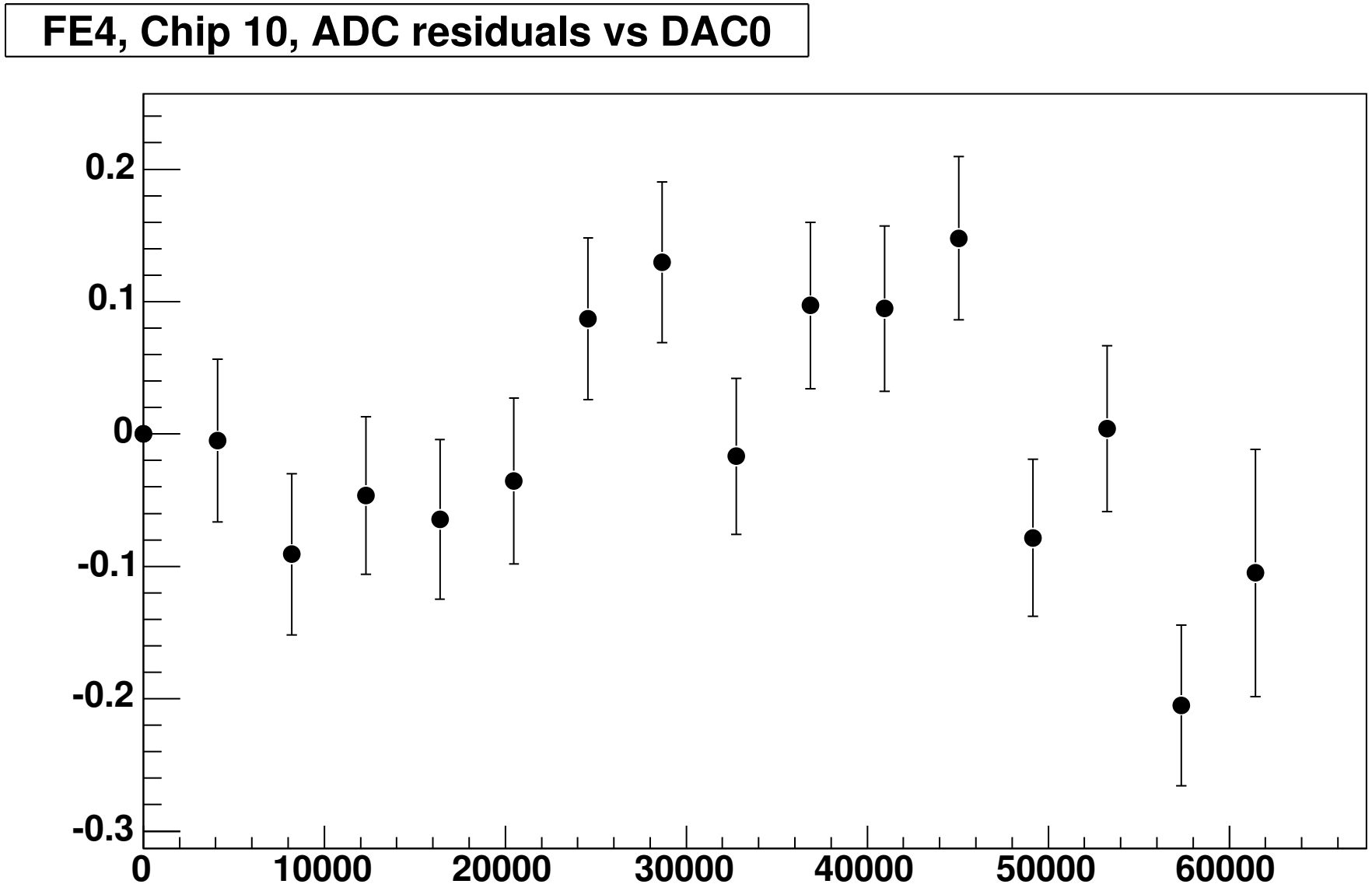

FE4, Chip 9, ADC mean vs DAC1
χ² / ndf 2107 / 11
p0 28.62 ± 0.04204
p1 0.4491 ± 1.346e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

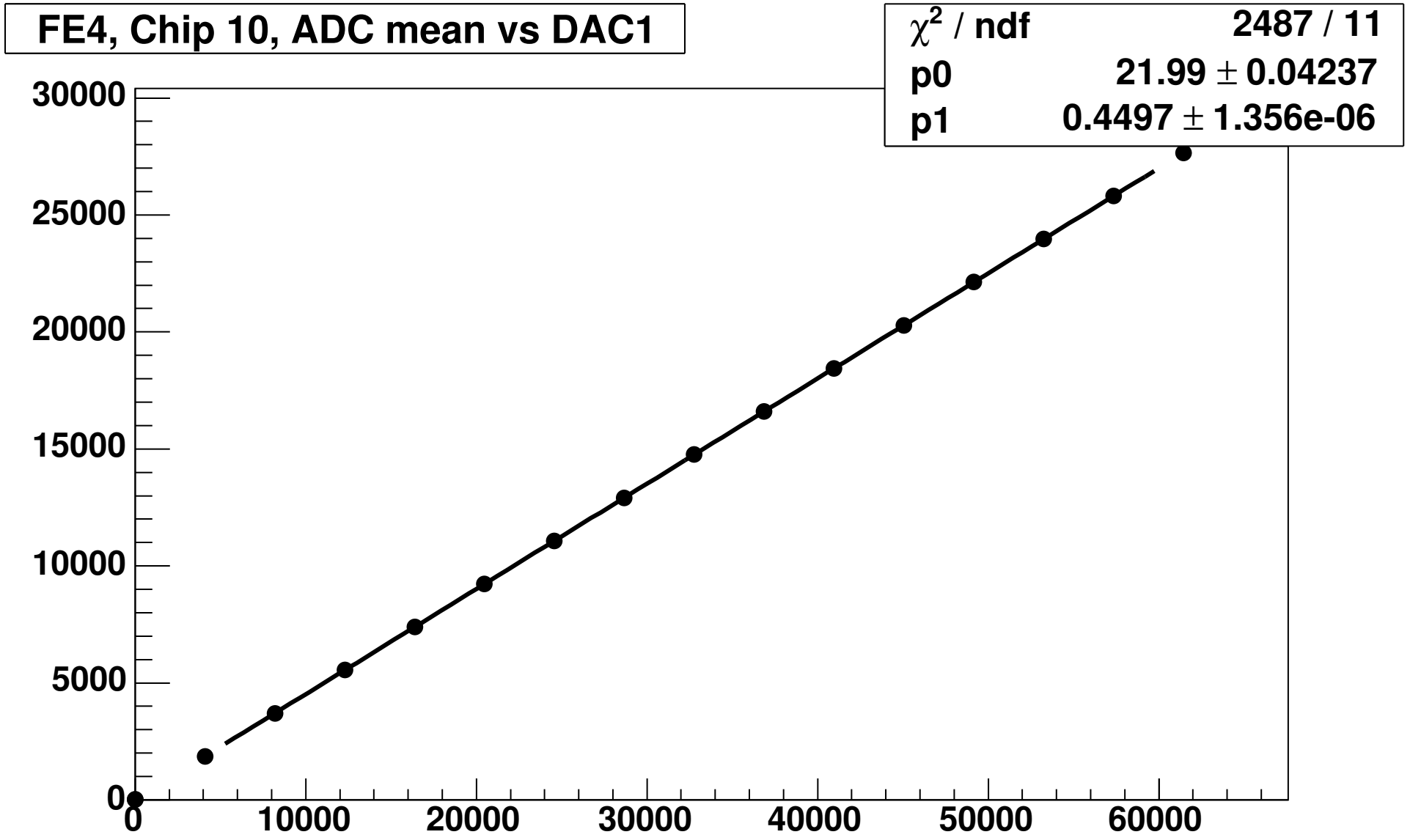

FE4, Chip 9, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

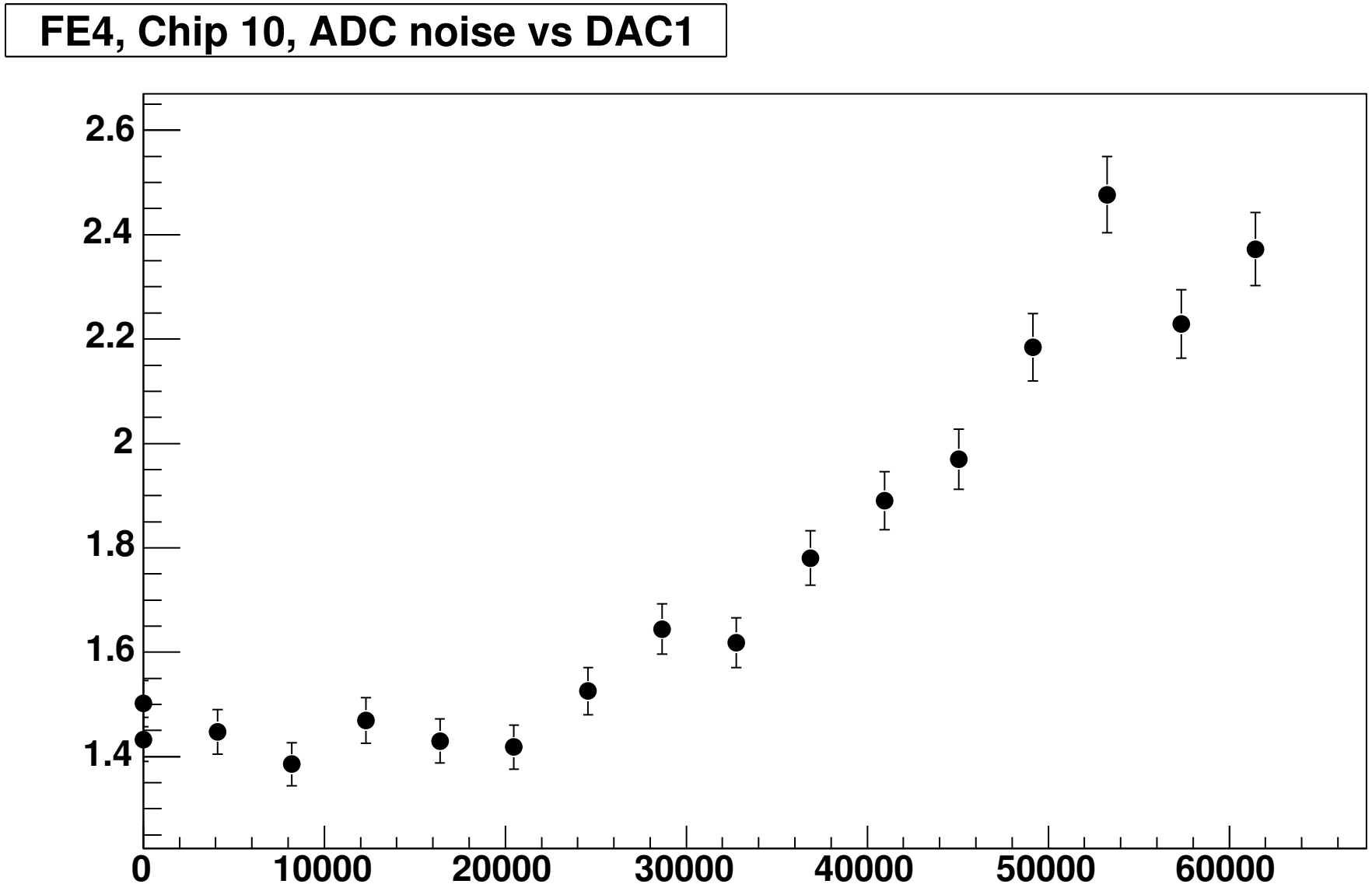

FE4, Chip 9, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

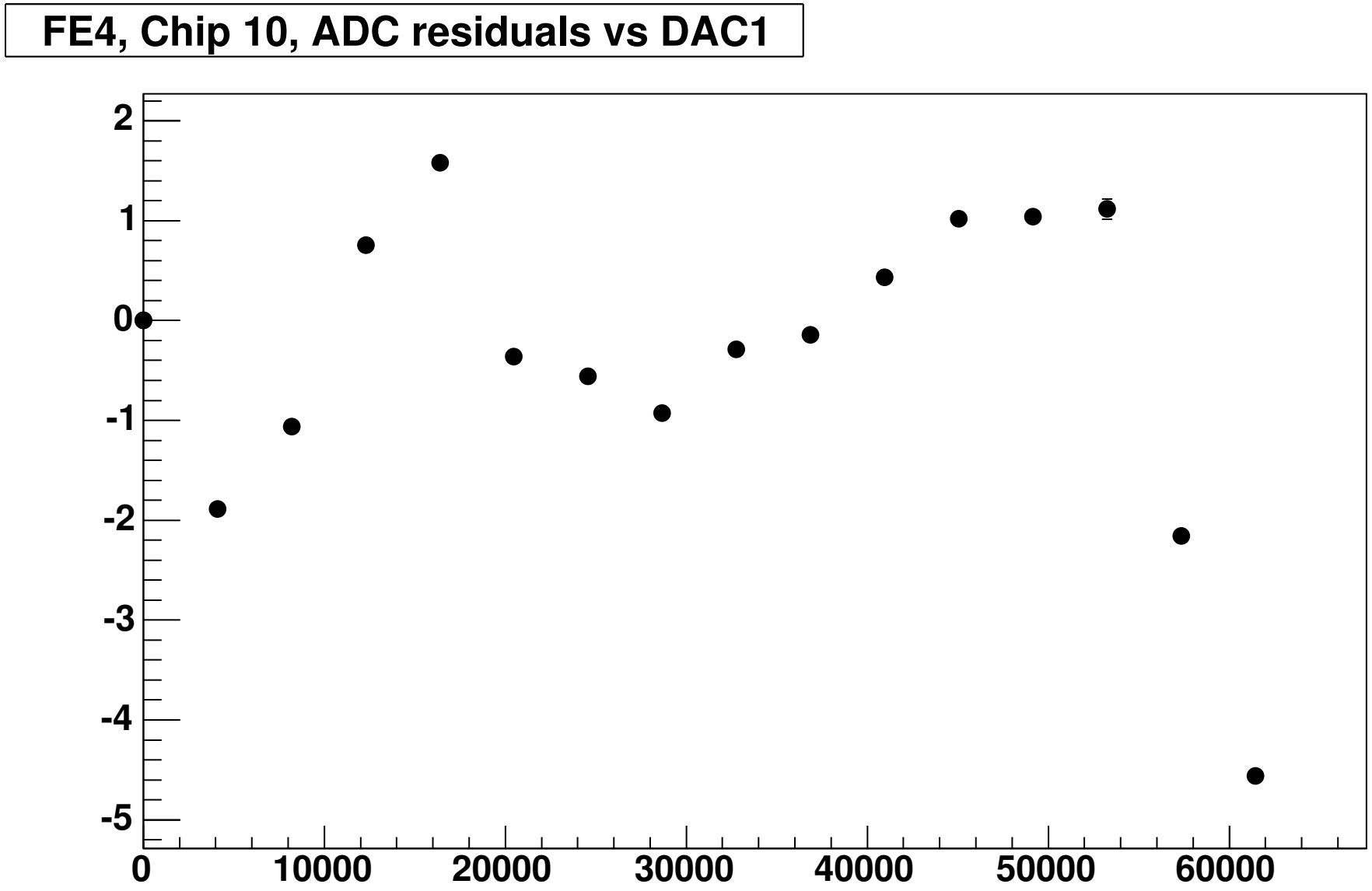

FE4, Chip 10, ADC mean vs DAC0
χ² / ndf 34.52 / 11
p0 19.25 ± 0.03975
p1 -1.954e-06 ± 1.102e-06
19.4
19.3
19.2
19.1
19
18.9
0
10000
20000
30000
40000
50000
60000

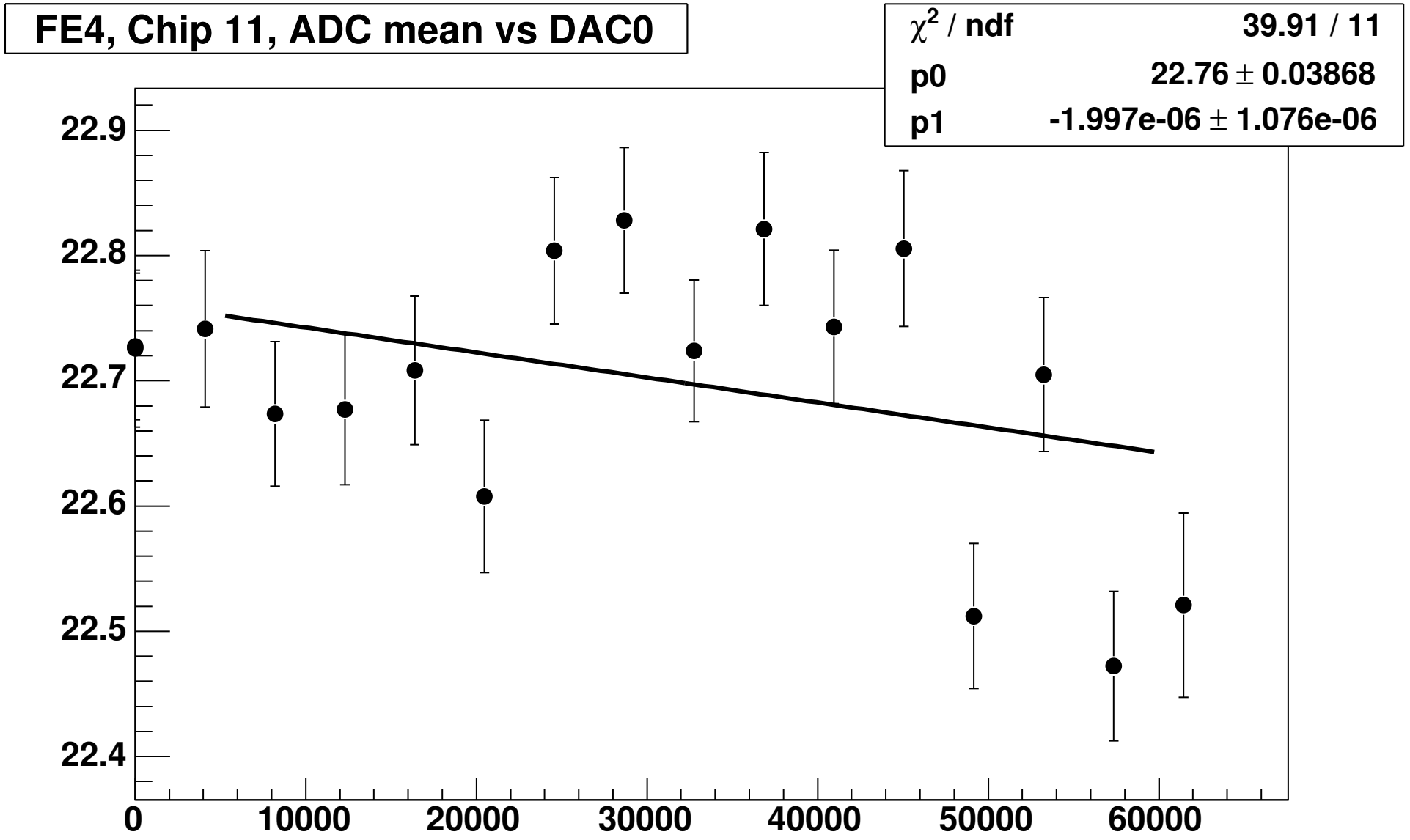

FE4, Chip 10, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

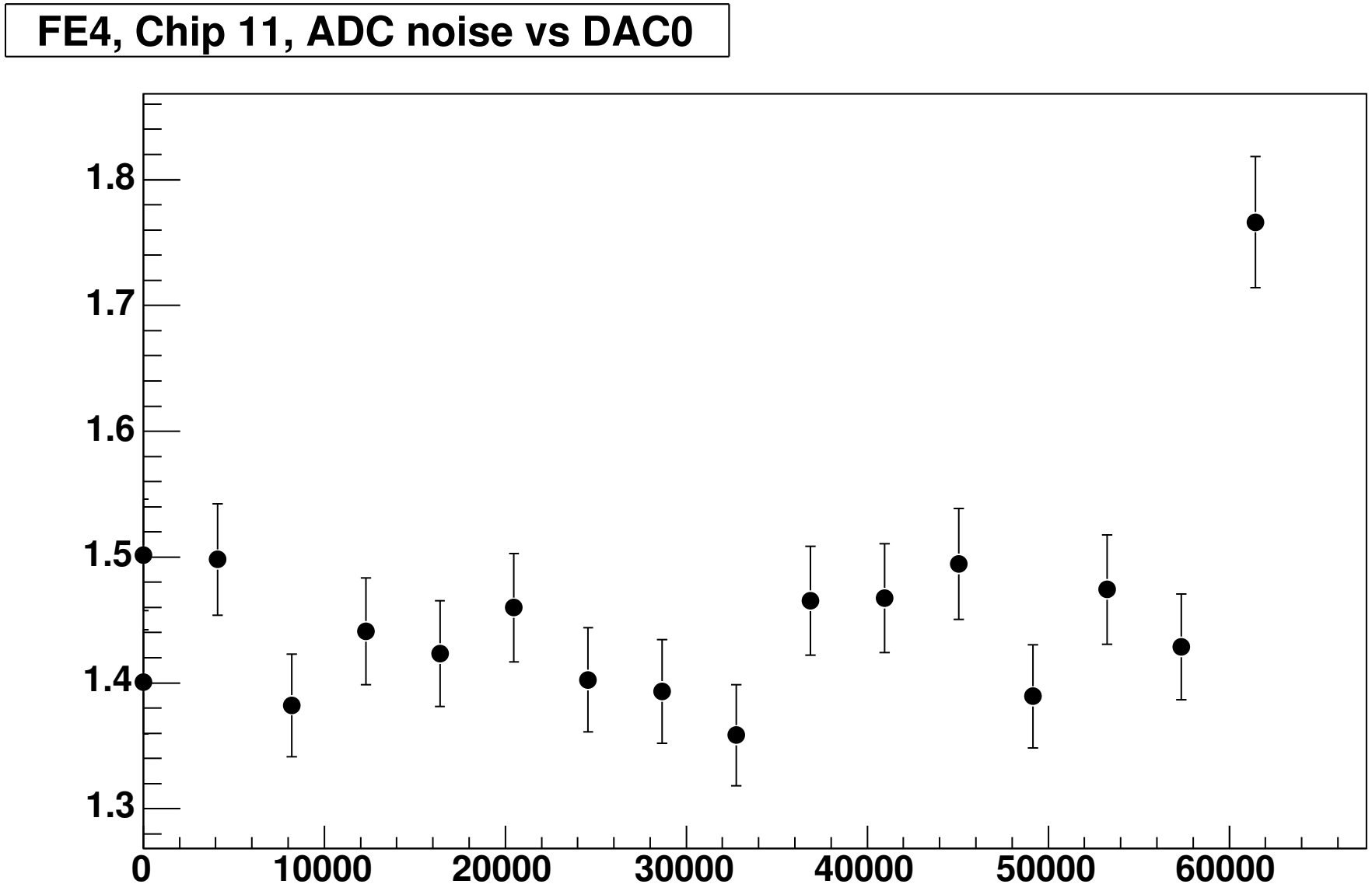

FE4, Chip 10, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

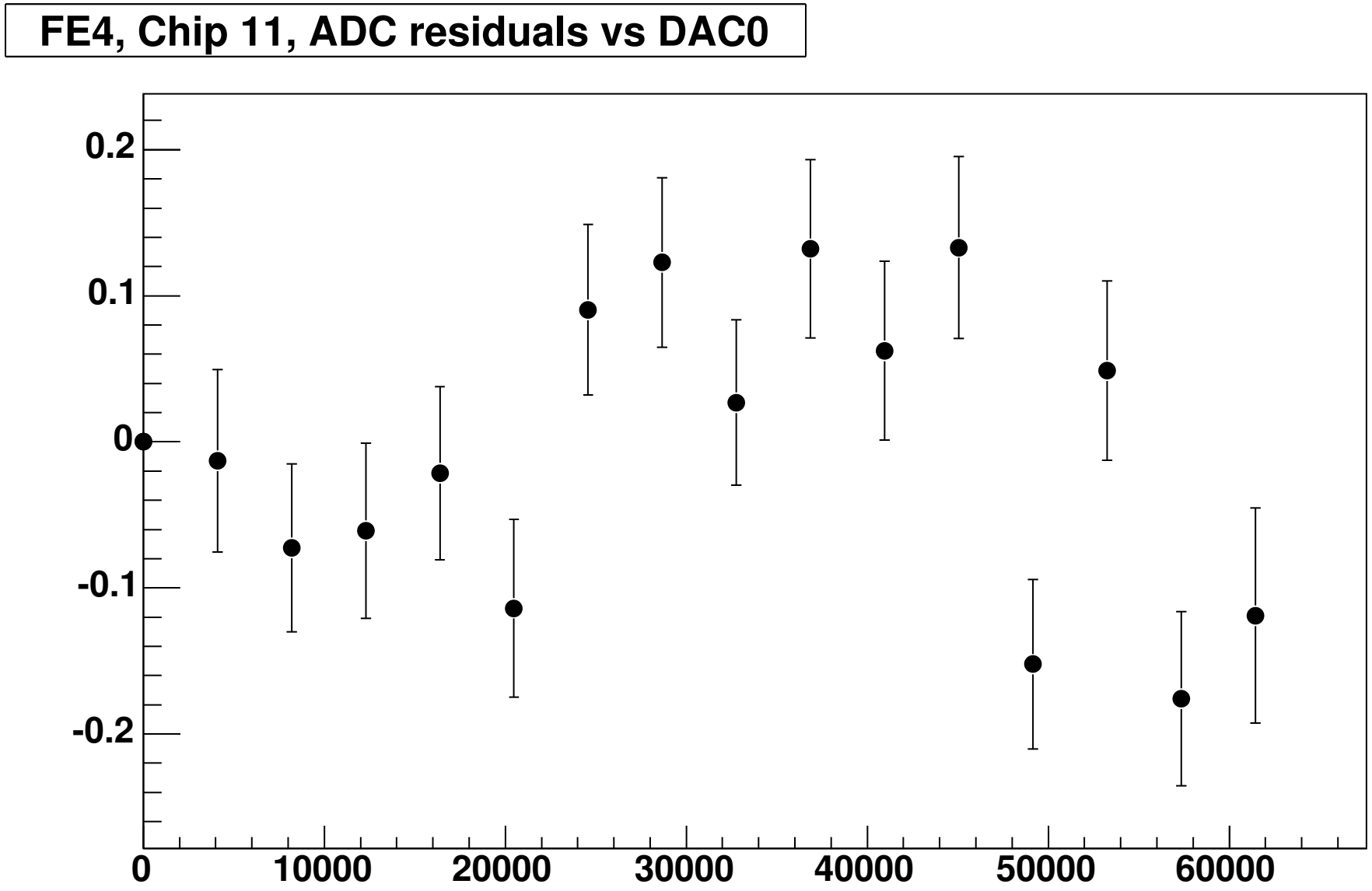

FE4, Chip 10, ADC mean vs DAC1
χ² / ndf 2487 / 11
p0 21.99 ± 0.04237
p1 0.4497 ± 1.356e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

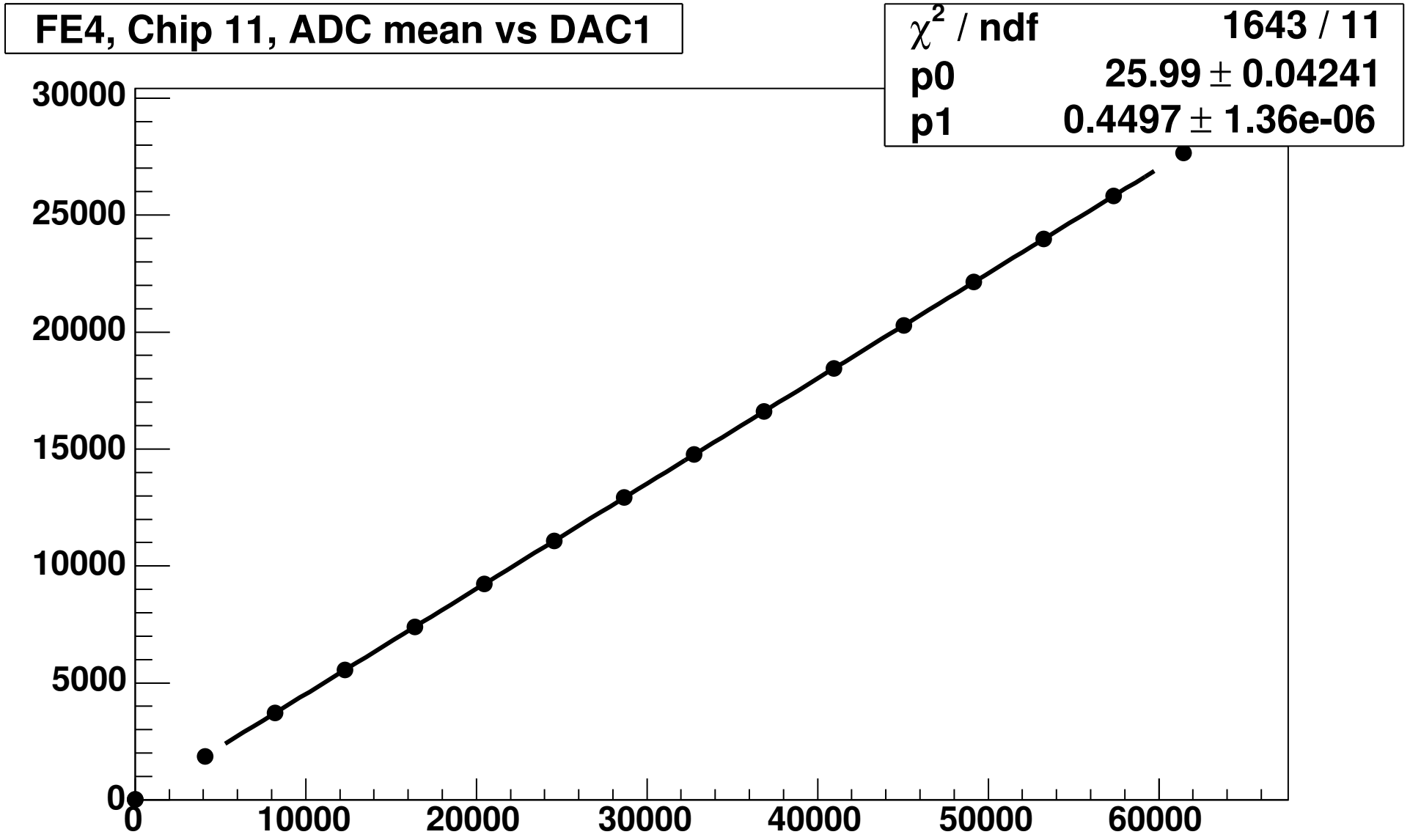

FE4, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

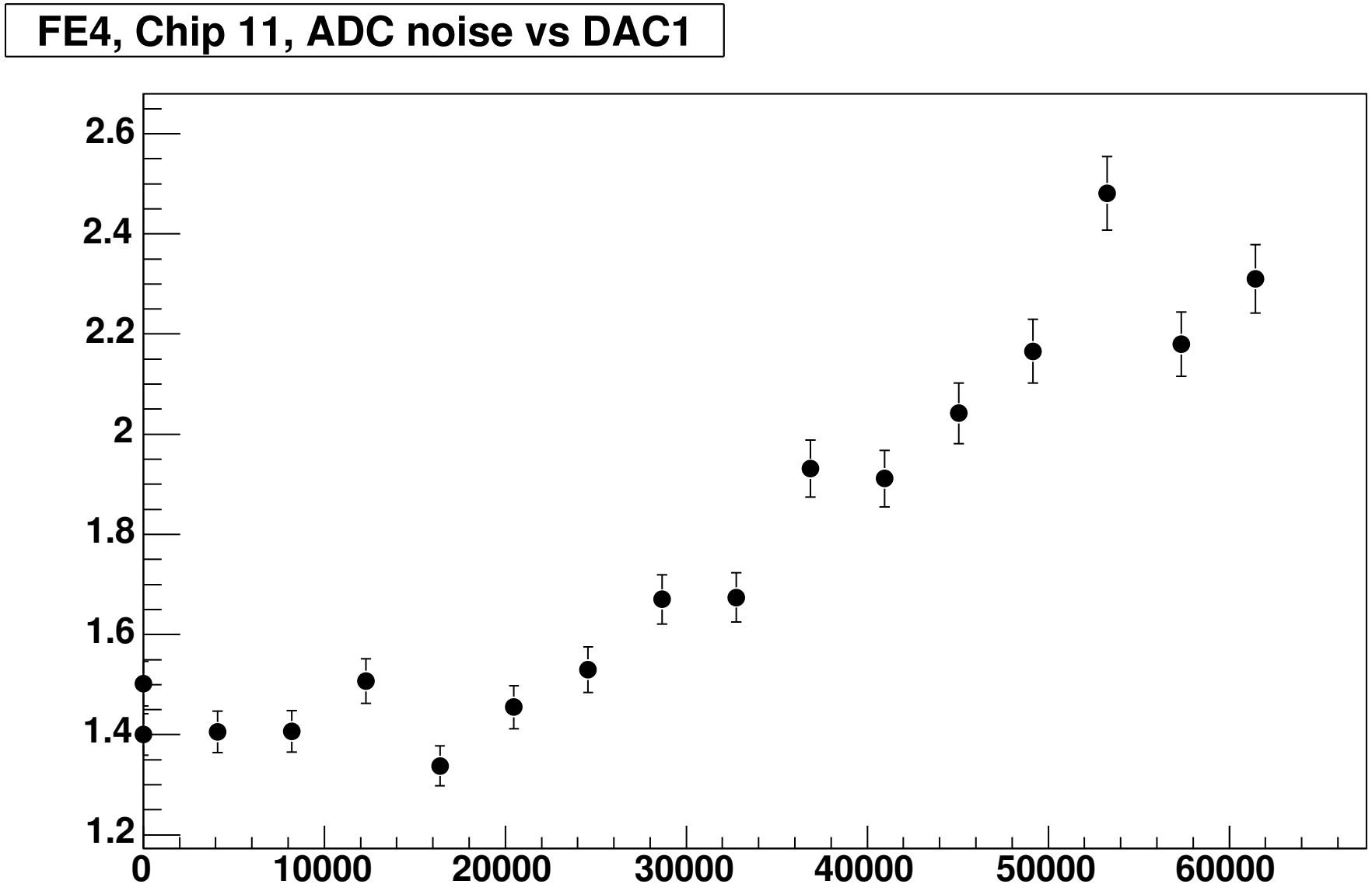

FE4, Chip 10, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000


FE4, Chip 11, ADC mean vs DAC0
χ² / ndf 39.91 / 11
p0 22.76 ± 0.03868
p1 -1.997e-06 ± 1.076e-06
22.9
22.8
22.7
22.6
22.5
22.4
0
10000
20000
30000
40000
50000
60000

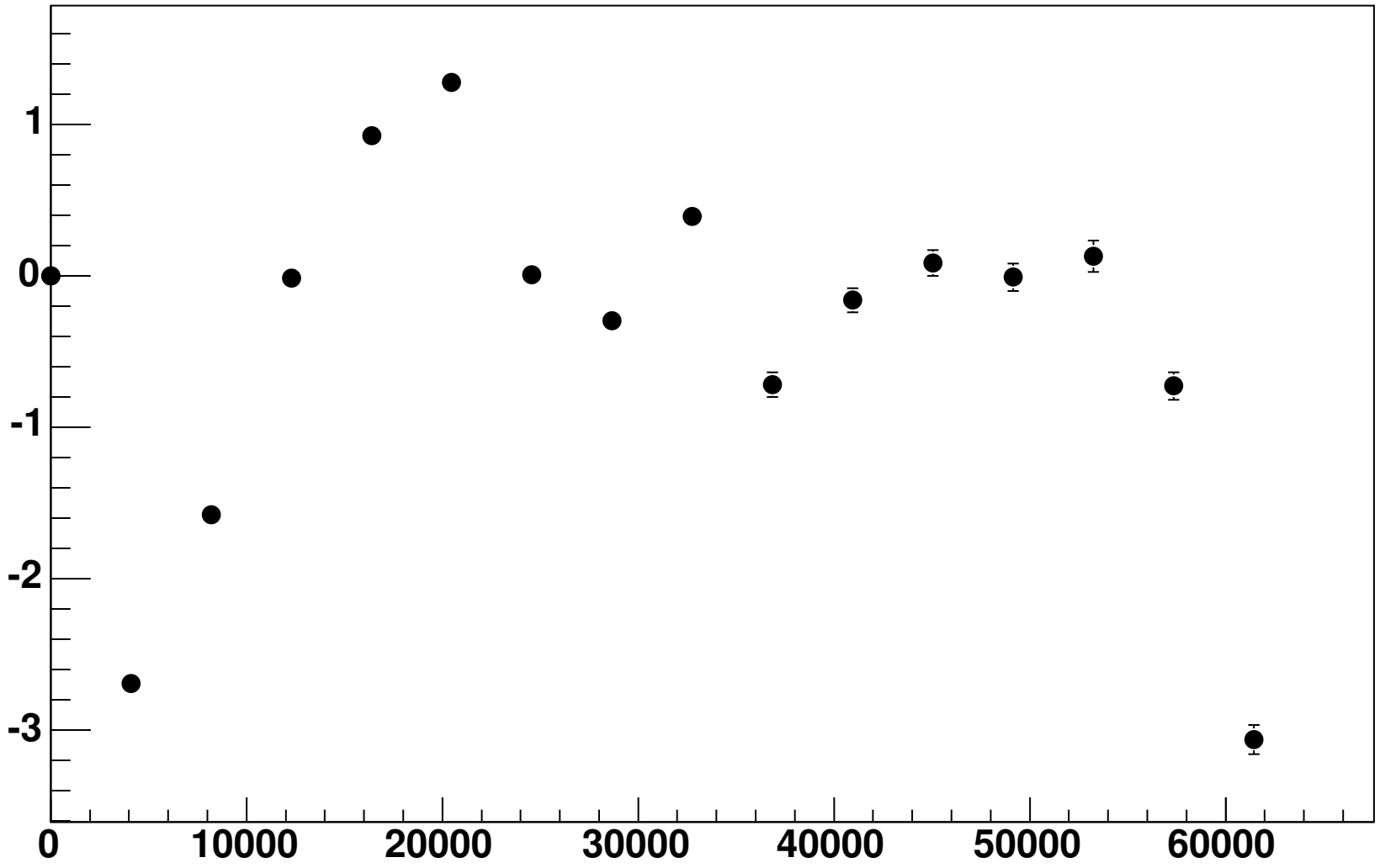

FE4, Chip 11, ADC noise vs DAC0
1.8
1.7
1.6
1.5
1.4
1.3
0
10000
20000
30000
40000
50000
60000

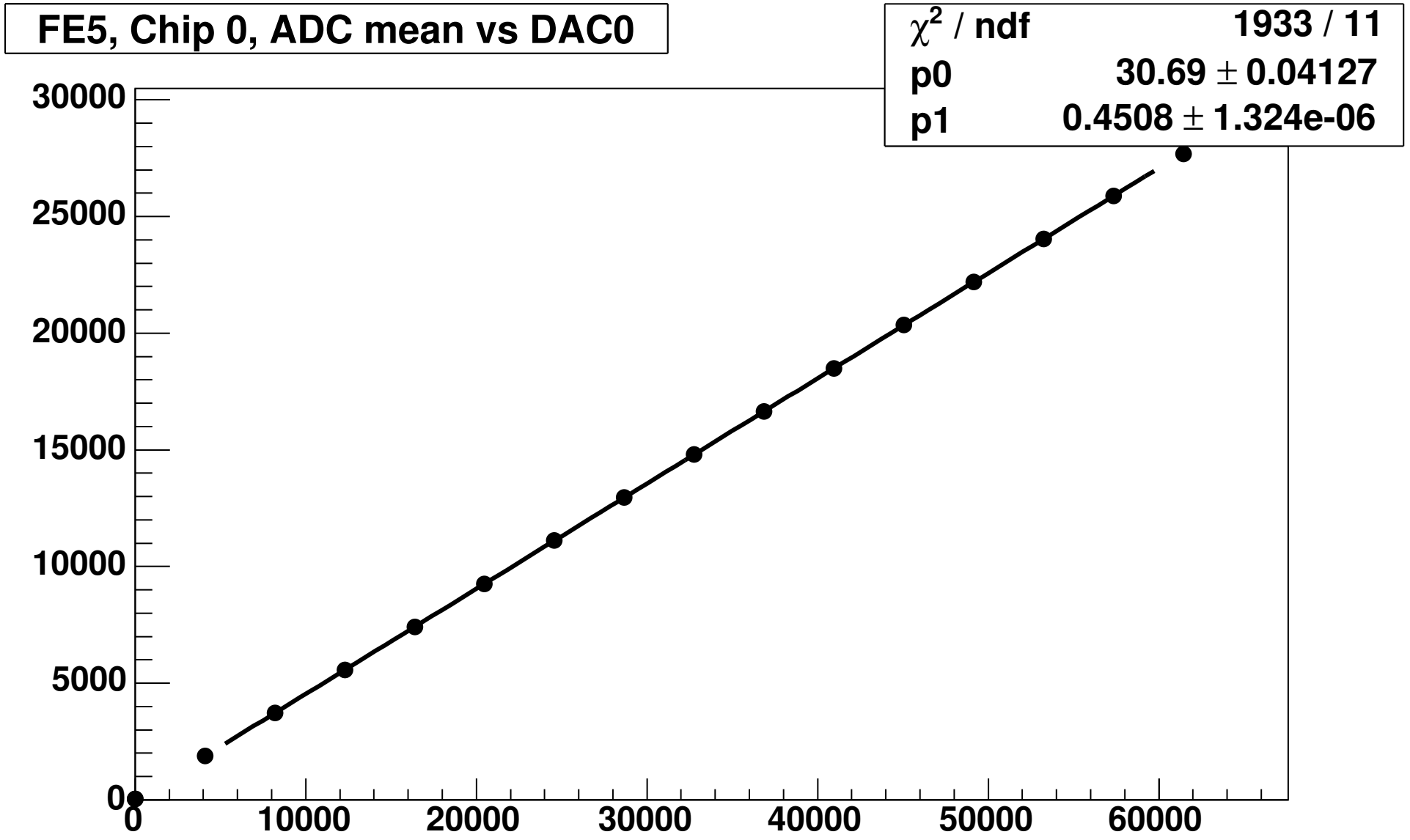

FE4, Chip 11, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

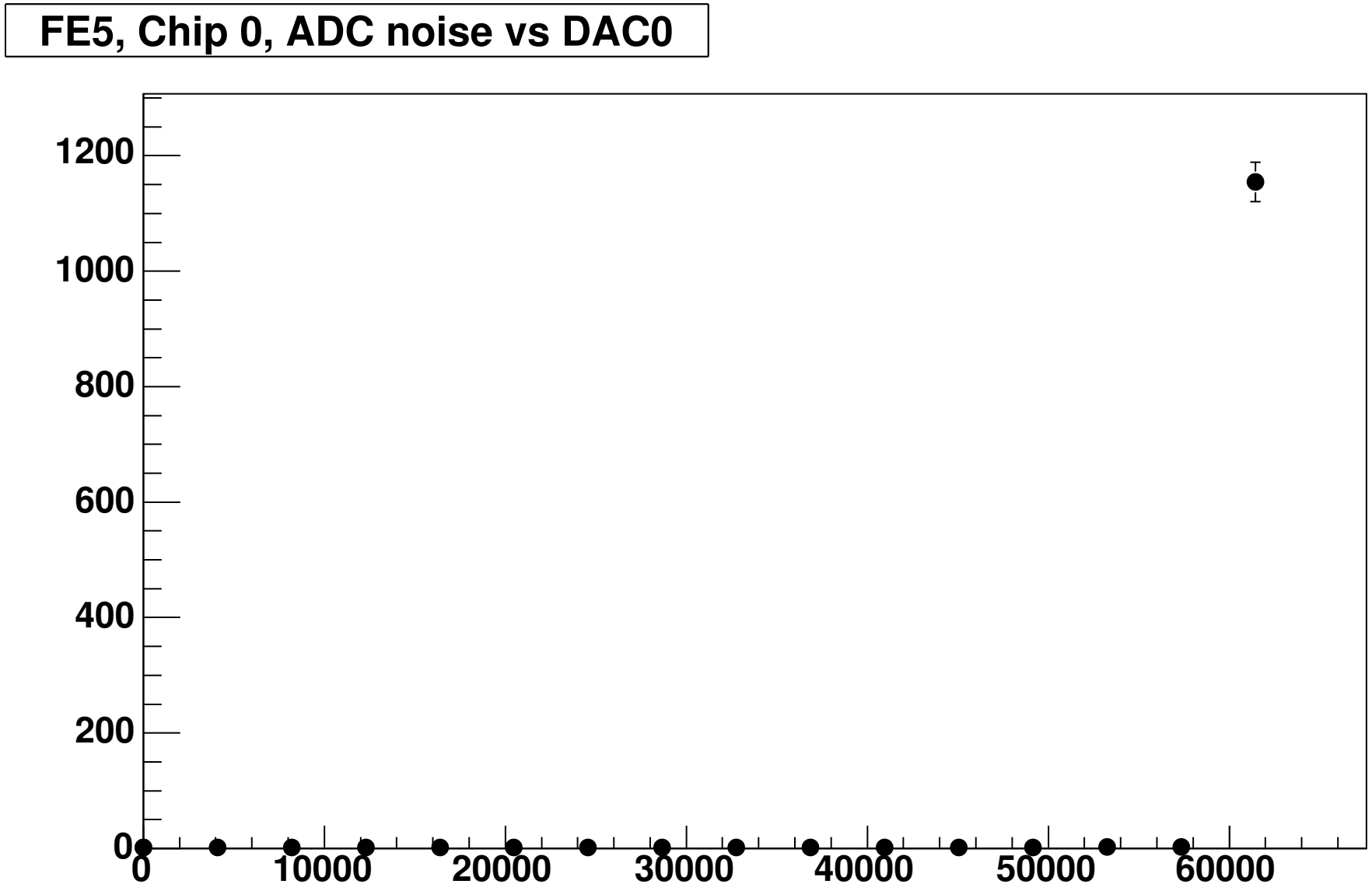

FE4, Chip 11, ADC mean vs DAC1
χ² / ndf 1643 / 11
p0 25.99 ± 0.04241
p1 0.4497 ± 1.36e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

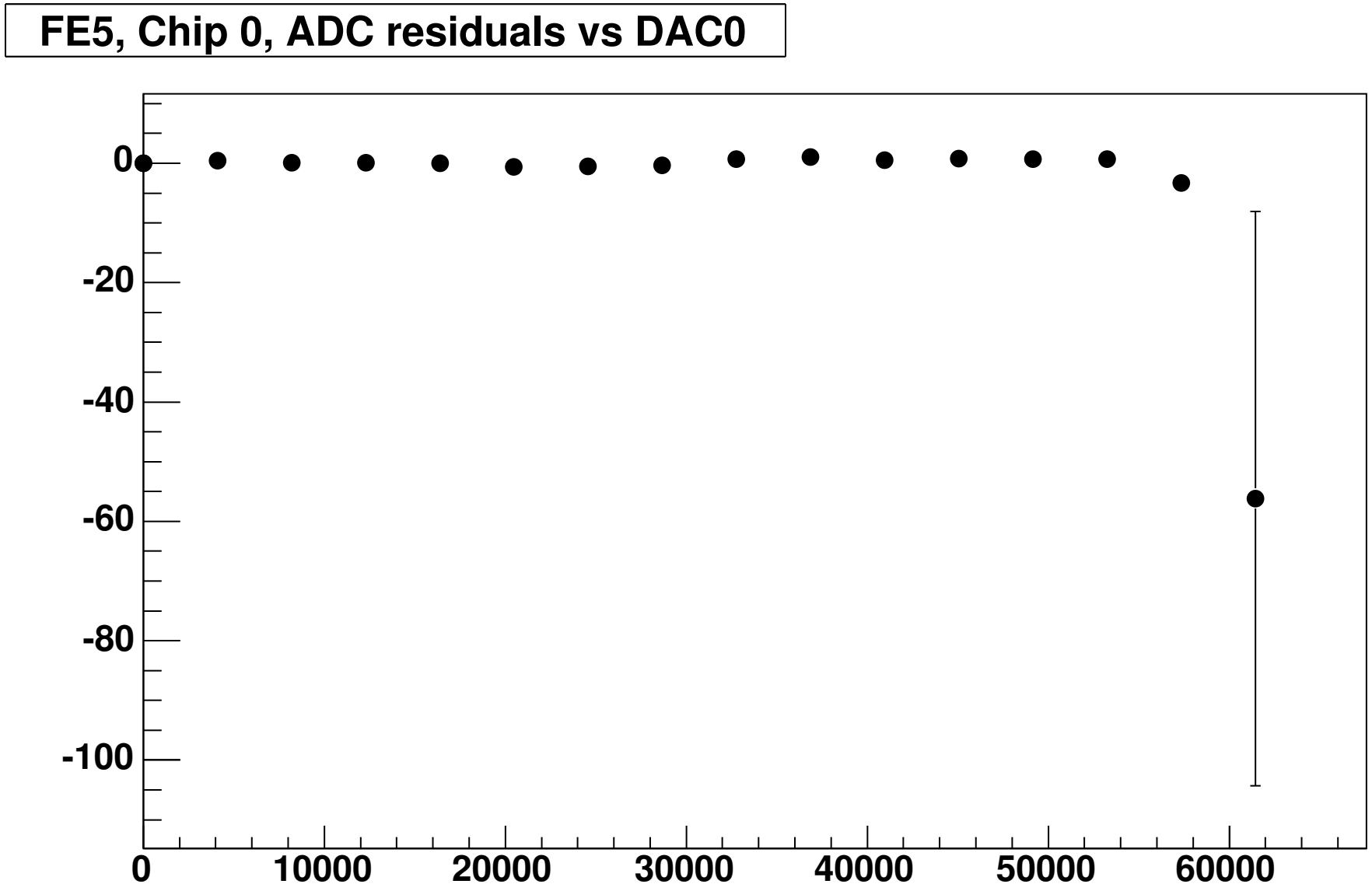

FE4, Chip 11, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

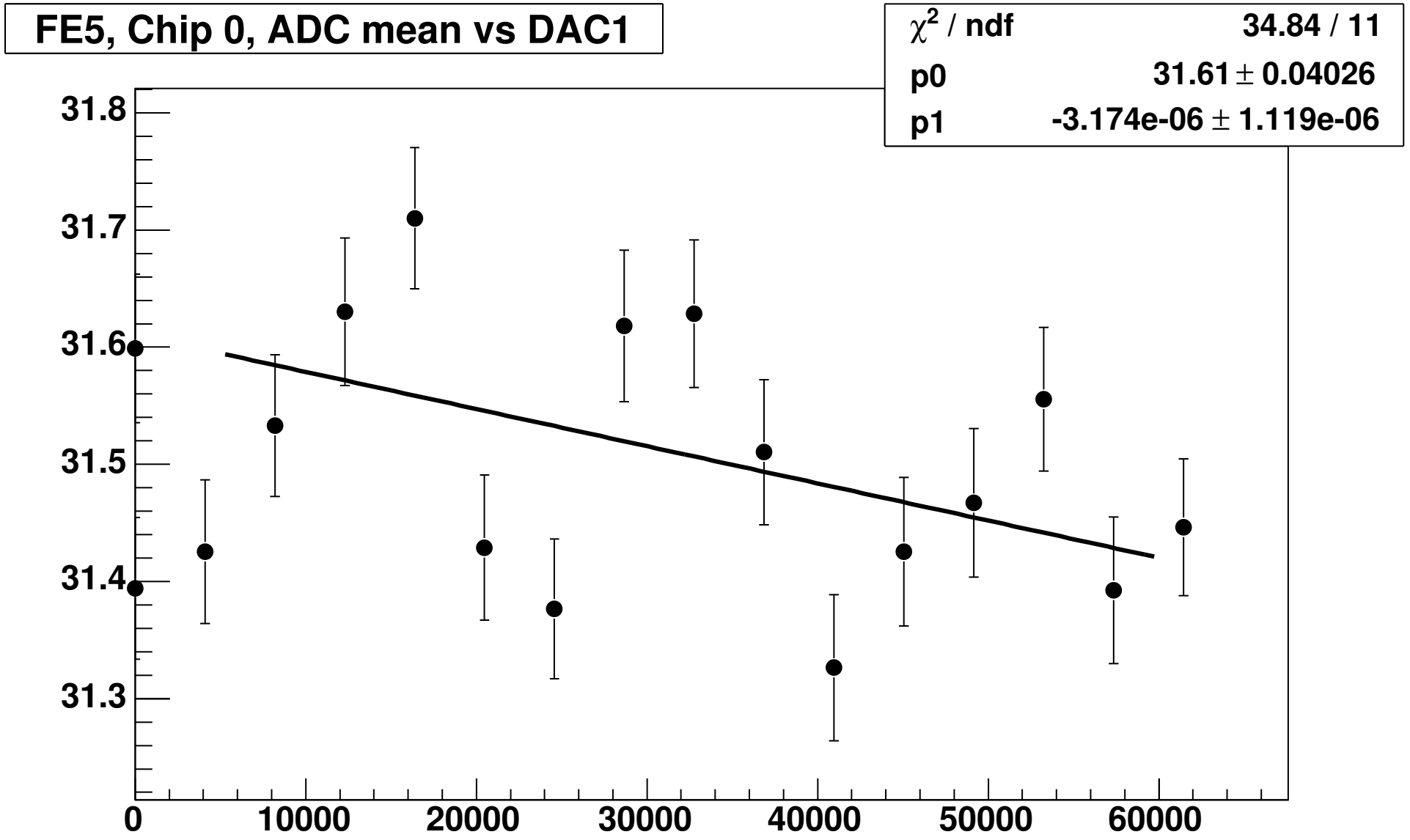
FE4, Chip 11, ADC residuals vs DAC1

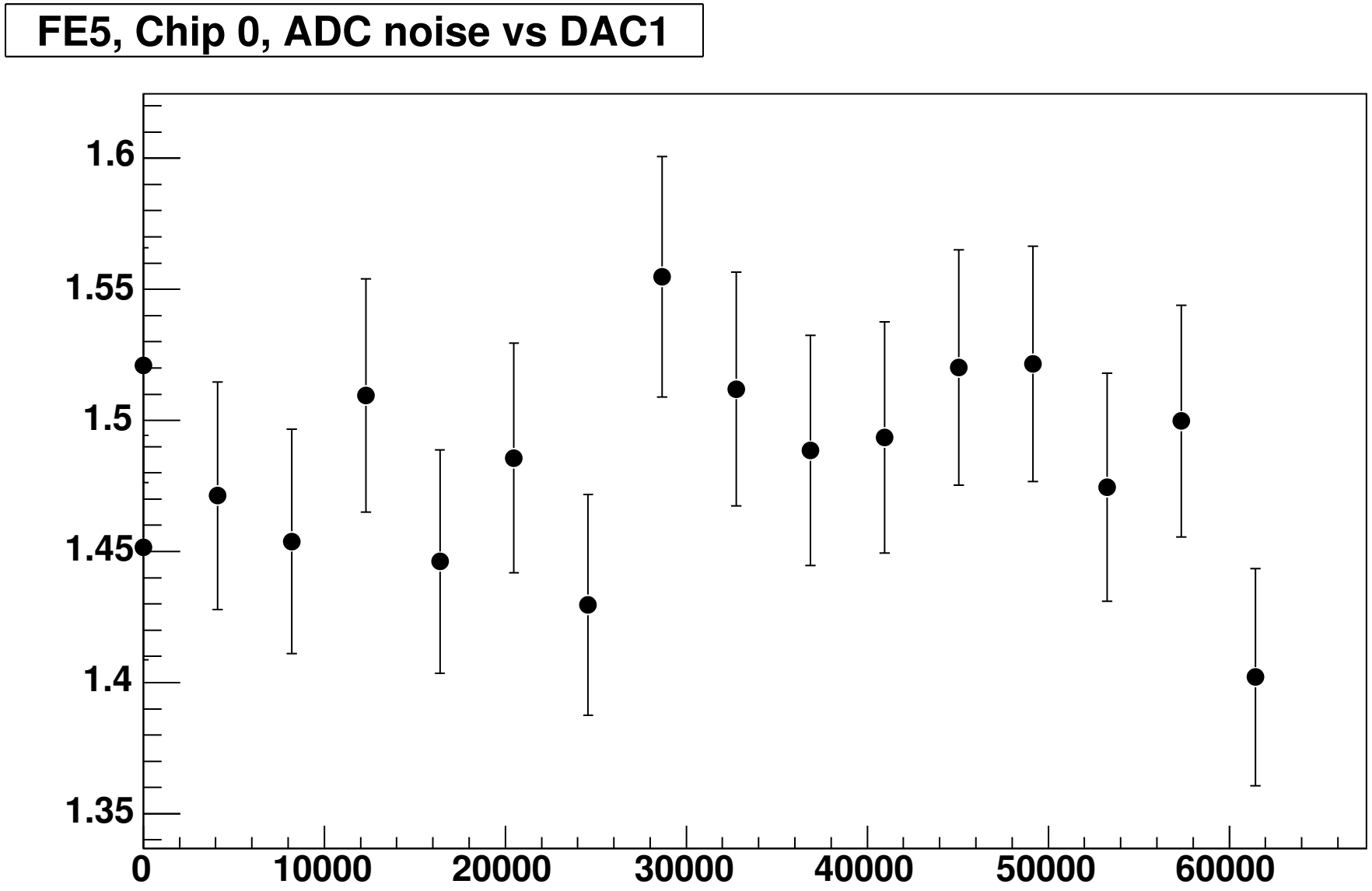


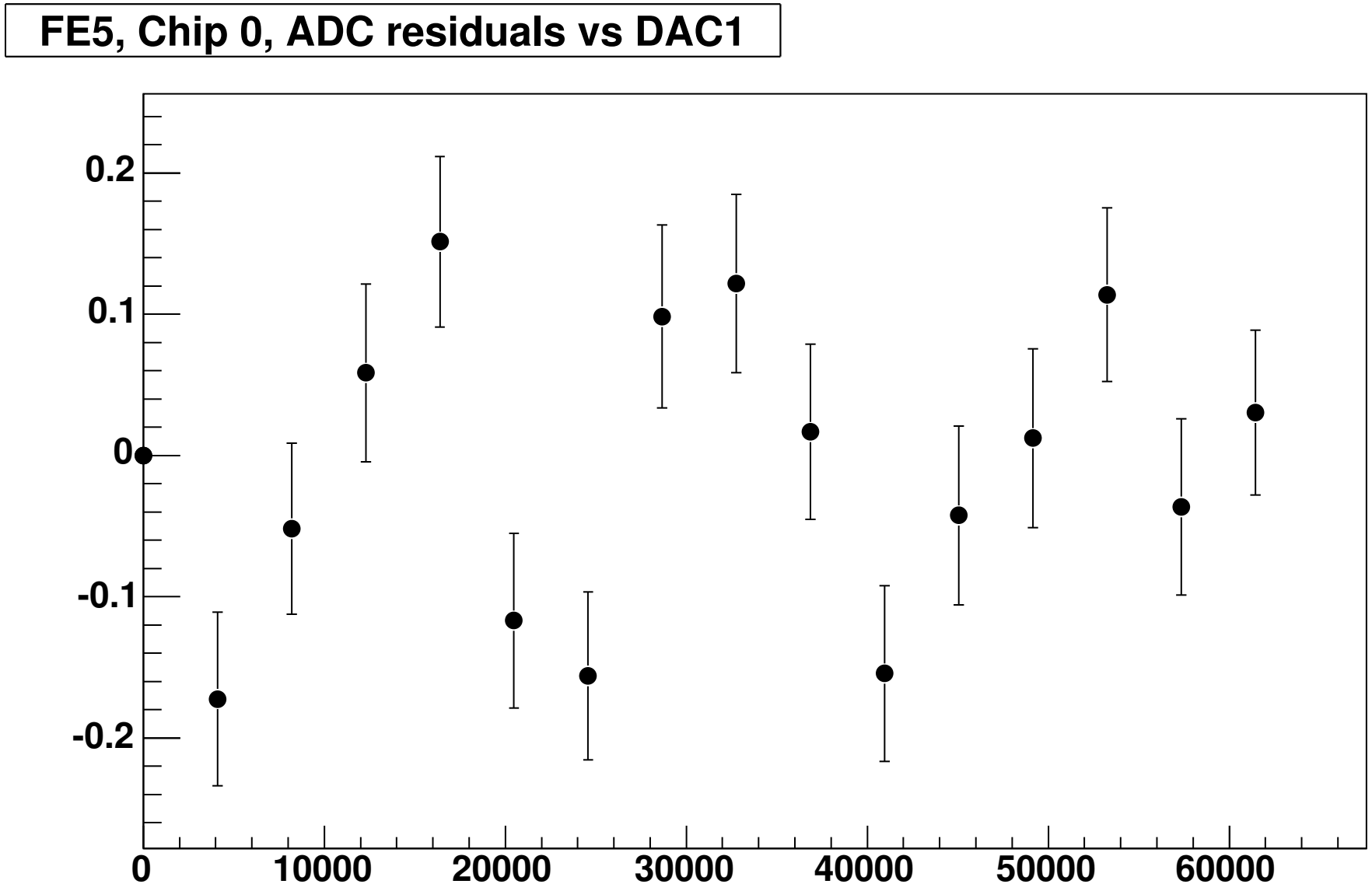

FE5, Chip 0, ADC mean vs DAC0
χ² / ndf 1933 / 11
p0 30.69 ± 0.04127
p1 0.4508 ± 1.324e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

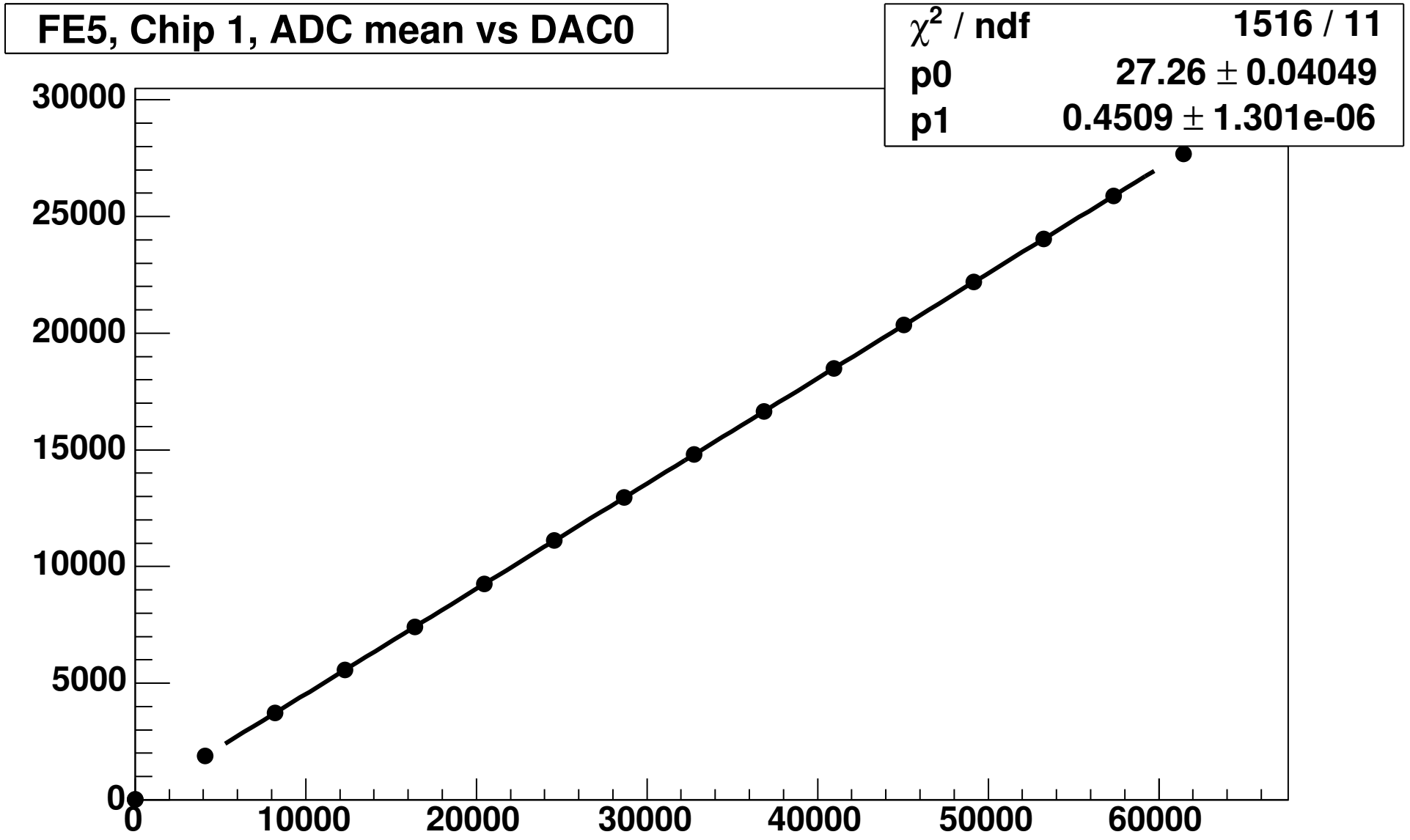

FE5, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

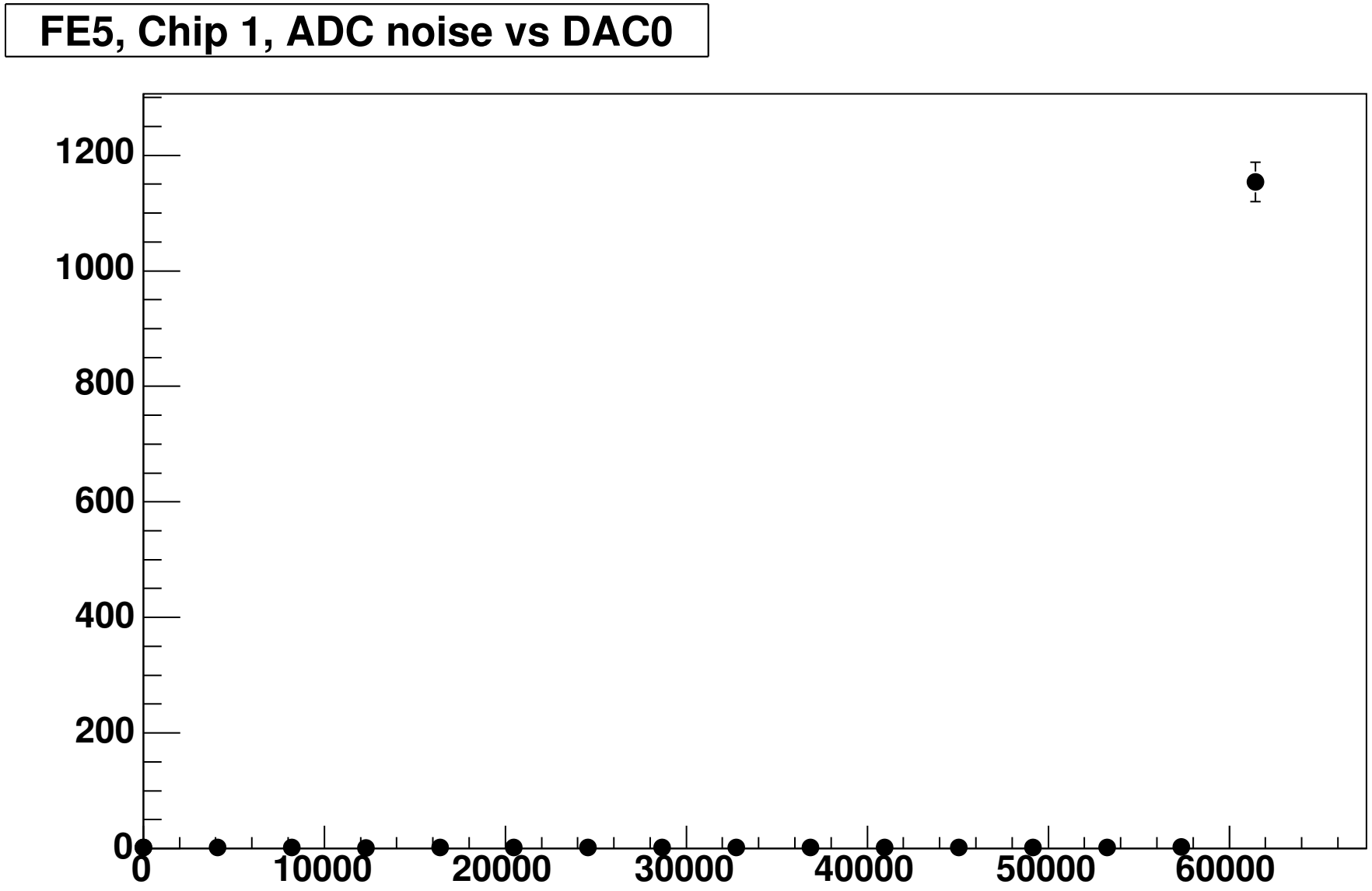

FE5, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

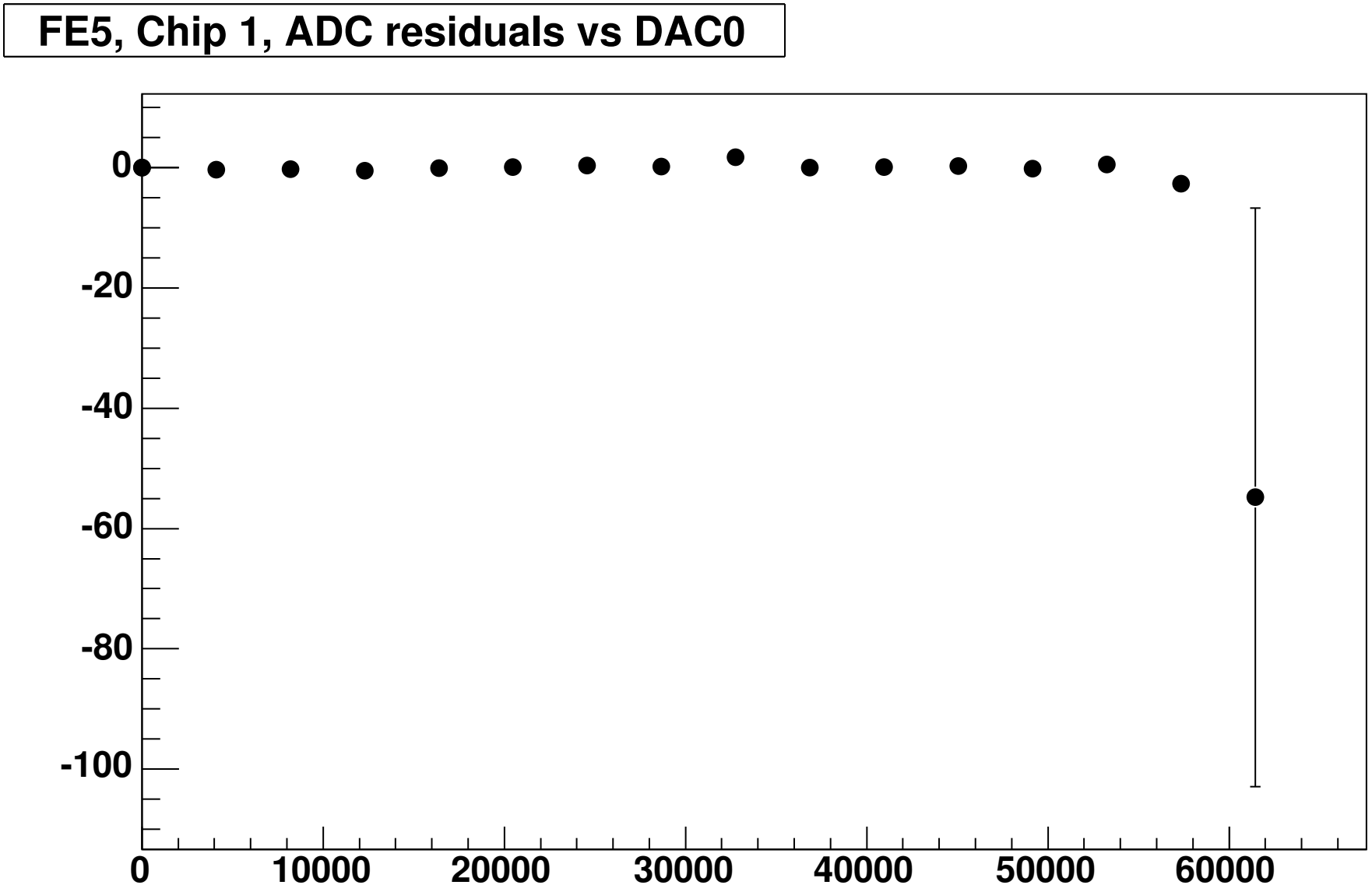

FE5, Chip 0, ADC mean vs DAC1
χ² / ndf 34.84 / 11
p0 31.61 ± 0.04026
p1 -3.174e-06 ± 1.119e-06
31.8
31.7
31.6
31.5
31.4
31.3
0
10000
20000
30000
40000
50000
60000

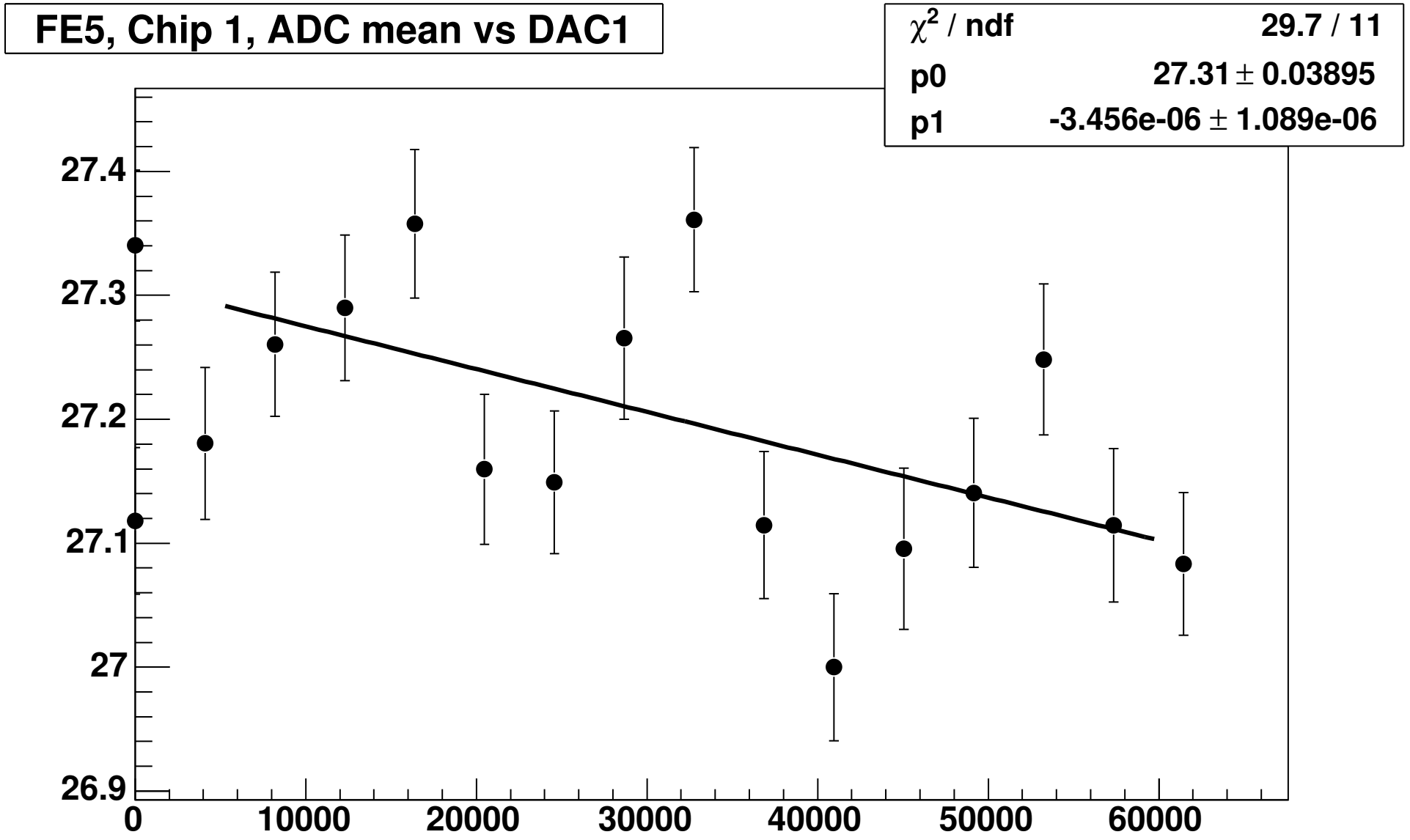

FE5, Chip 0, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

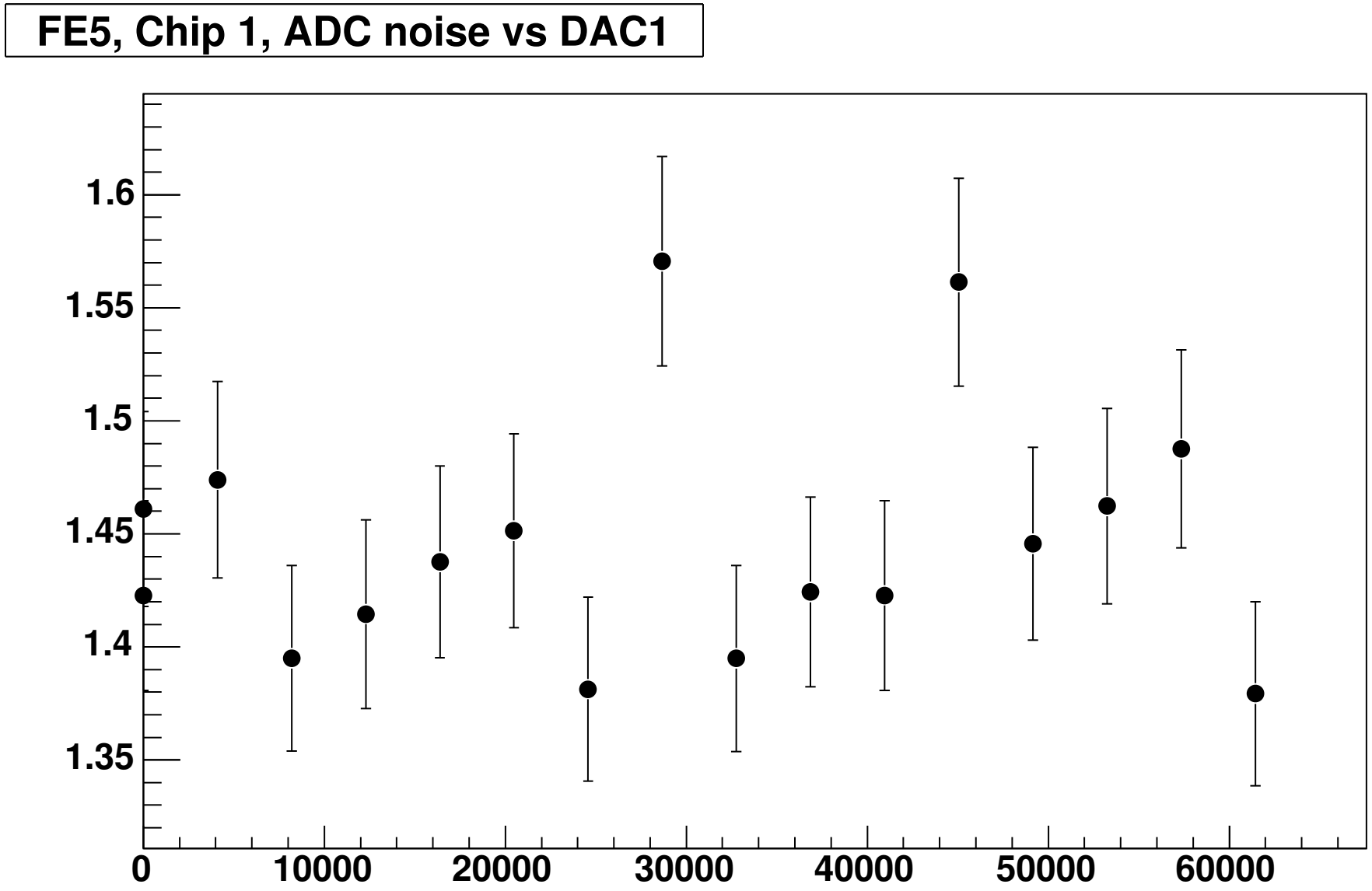

FE5, Chip 0, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

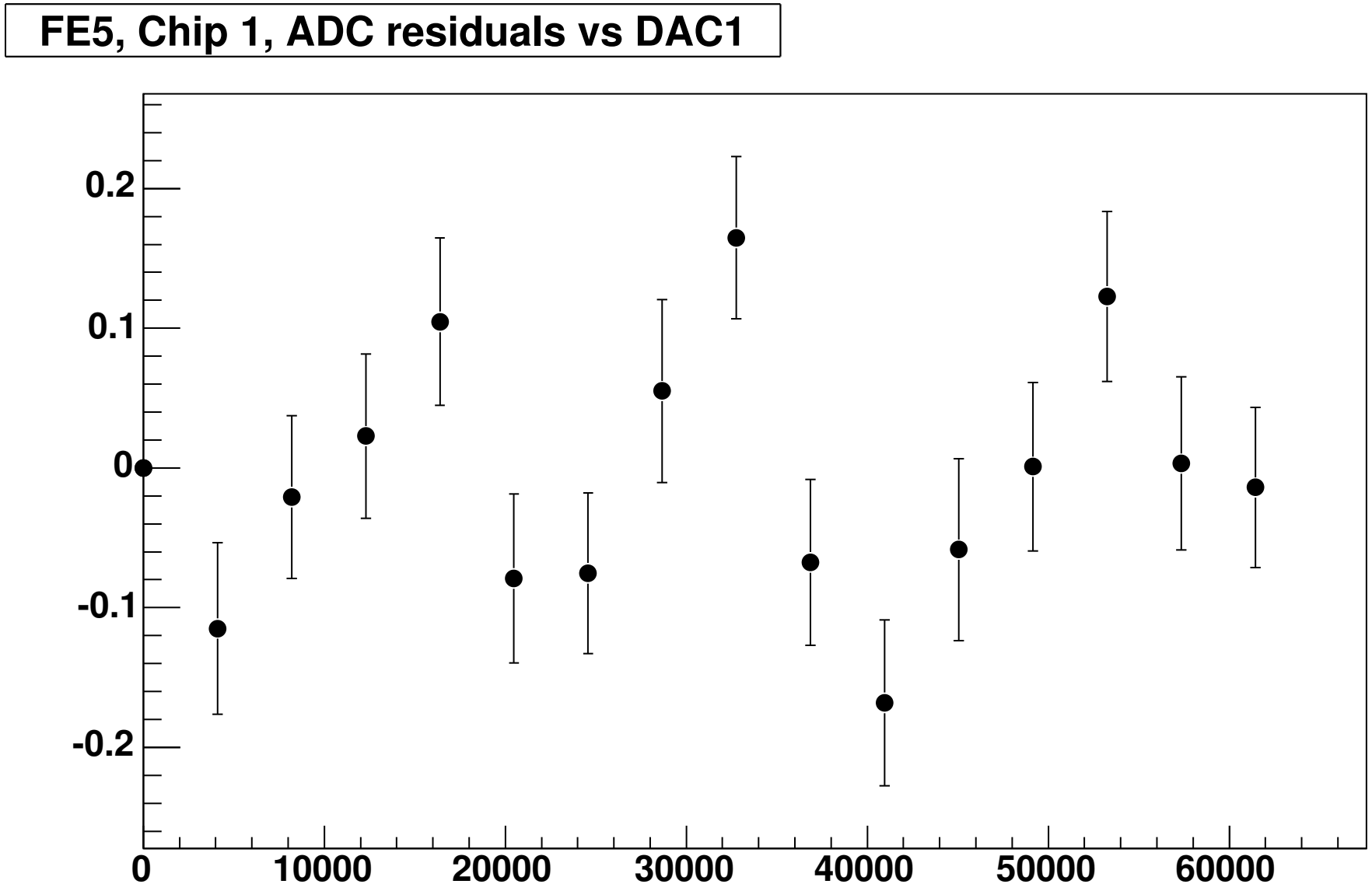

FE5, Chip 1, ADC mean vs DAC0
χ² / ndf 1516 / 11
p0 27.26 ± 0.04049
p1 0.4509 ± 1.301e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

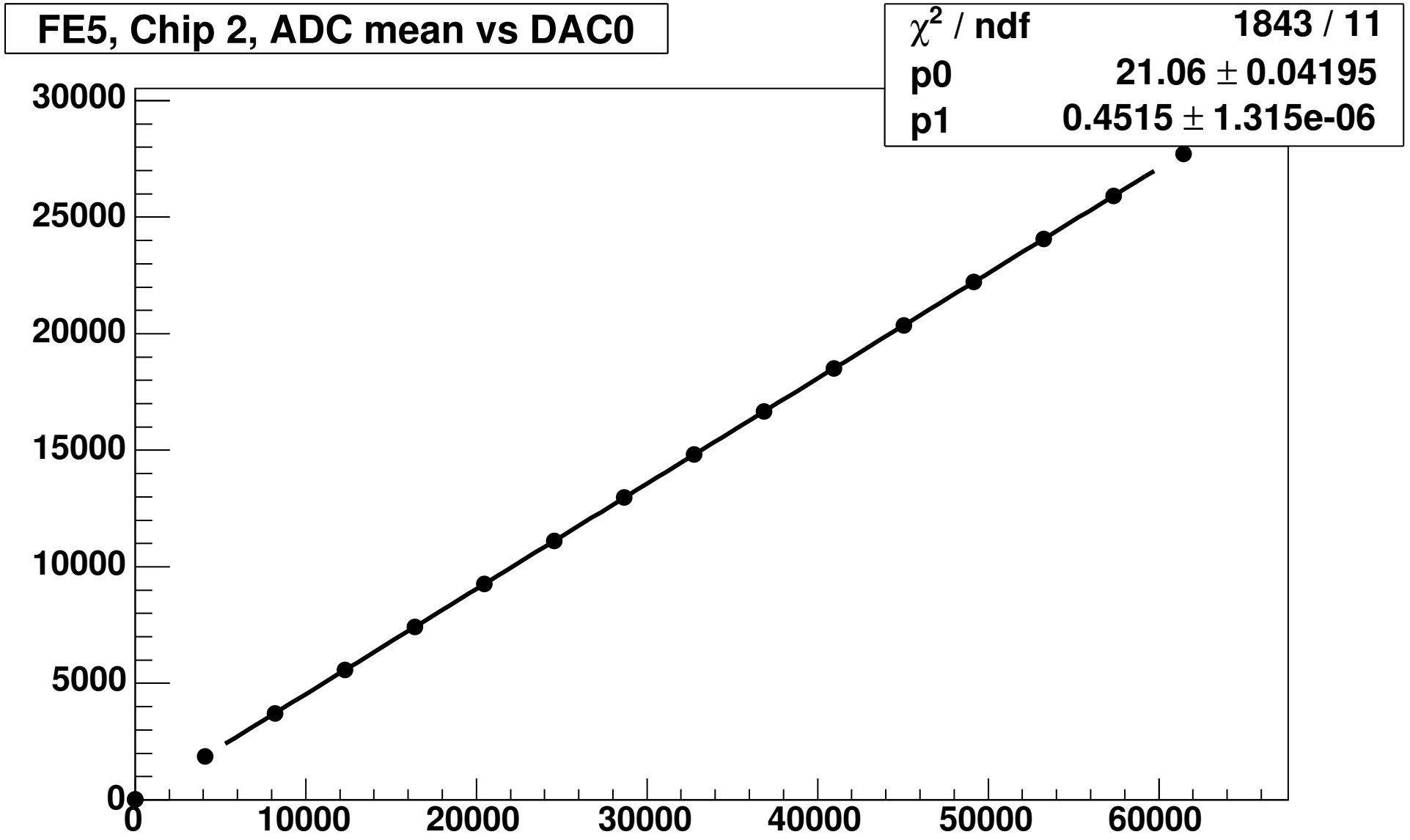

FE5, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

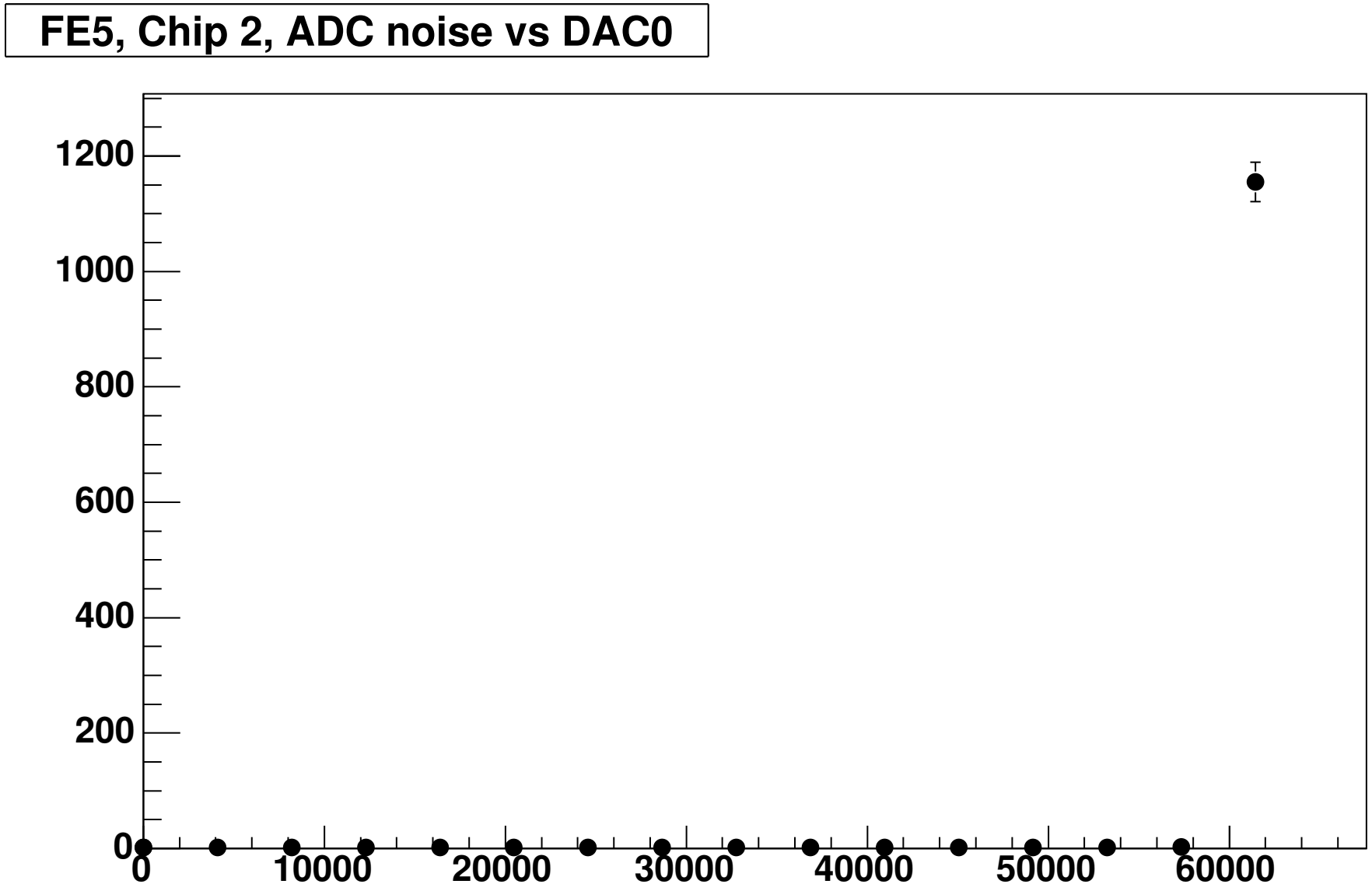

FE5, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

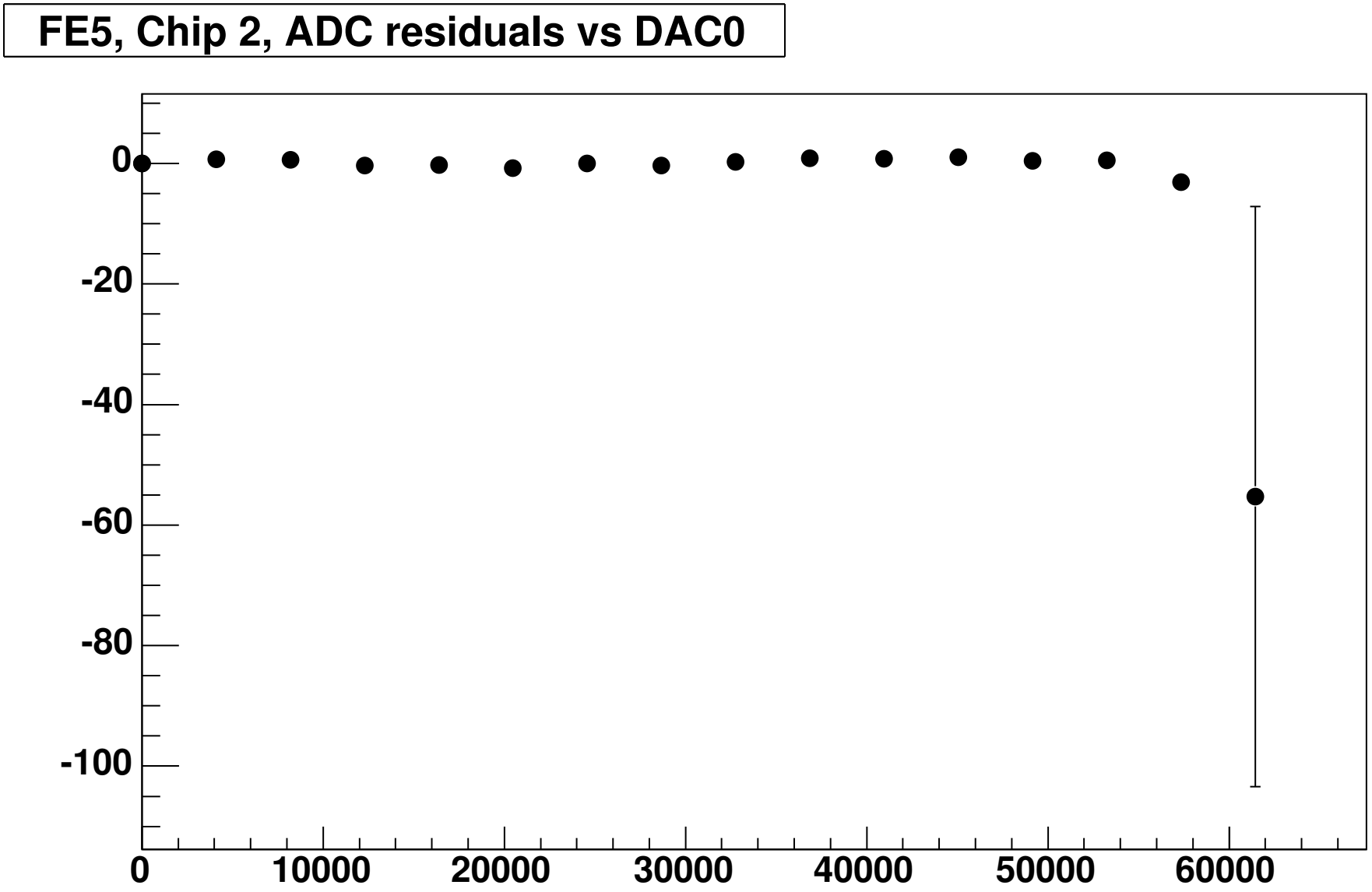

FE5, Chip 1, ADC mean vs DAC1
χ² / ndf 29.7 / 11
p0 27.31 ± 0.03895
p1 -3.456e-06 ± 1.089e-06
27.4
27.3
27.2
27.1
27
26.9
0
10000
20000
30000
40000
50000
60000

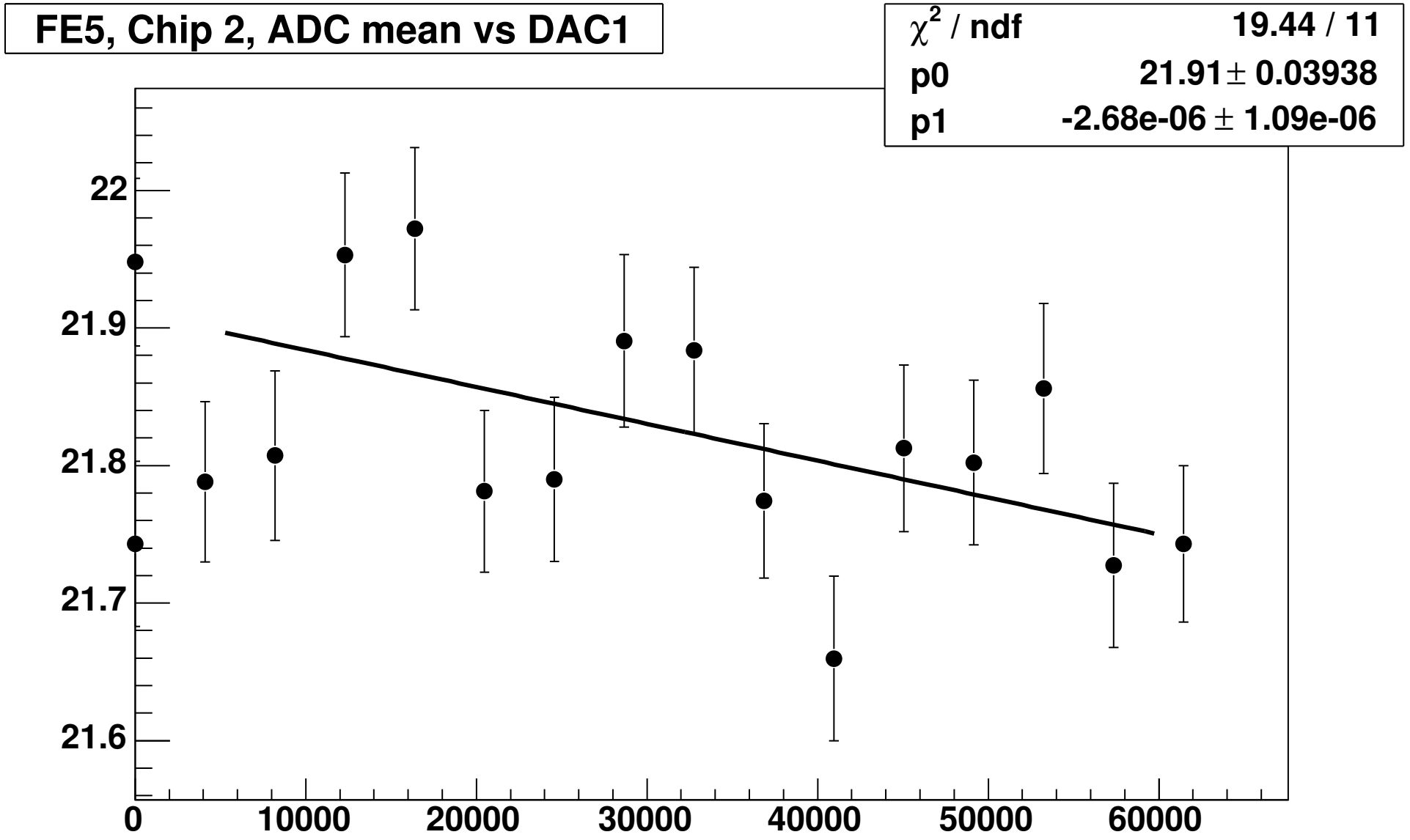

FE5, Chip 1, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

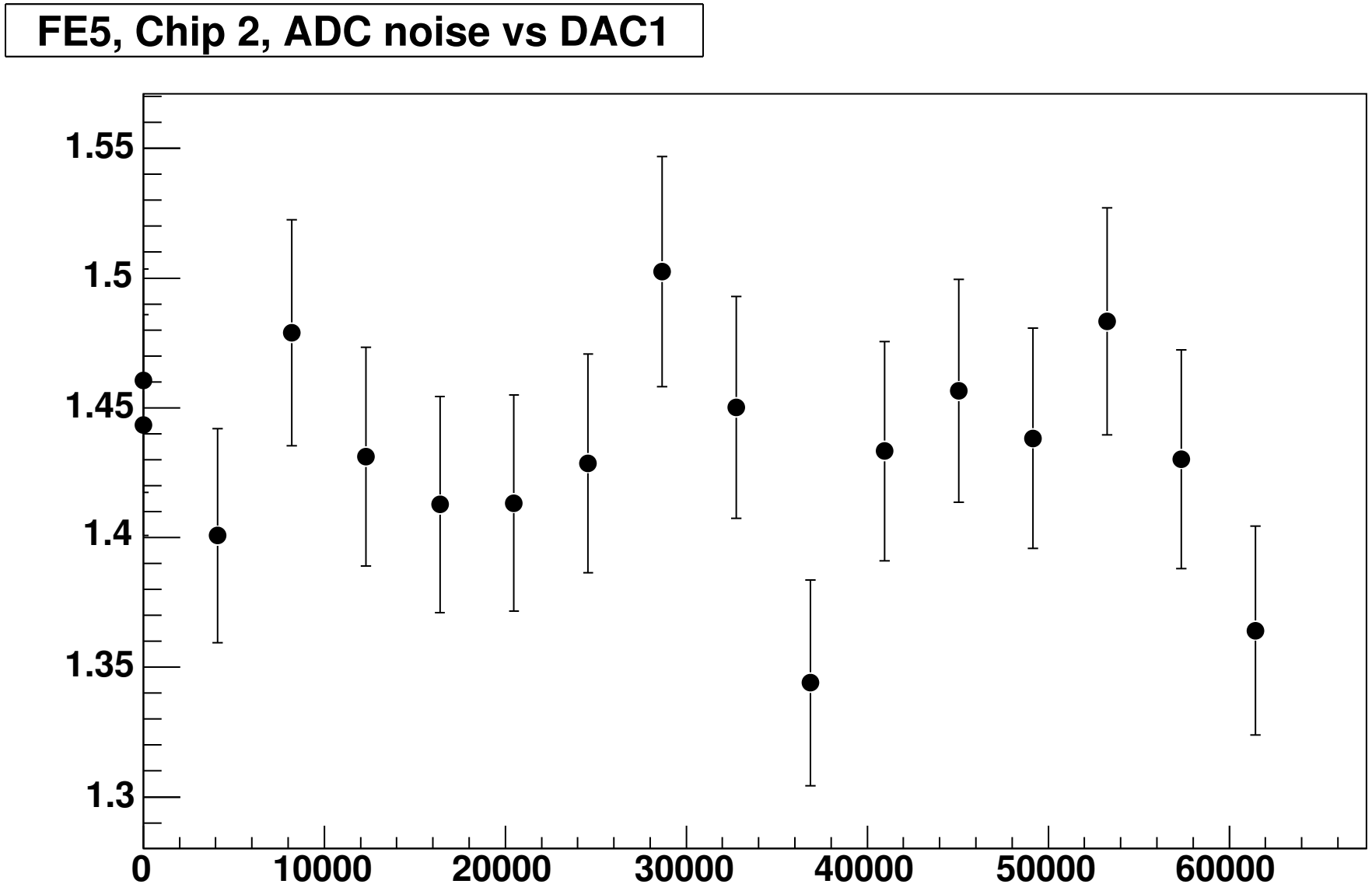

FE5, Chip 1, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

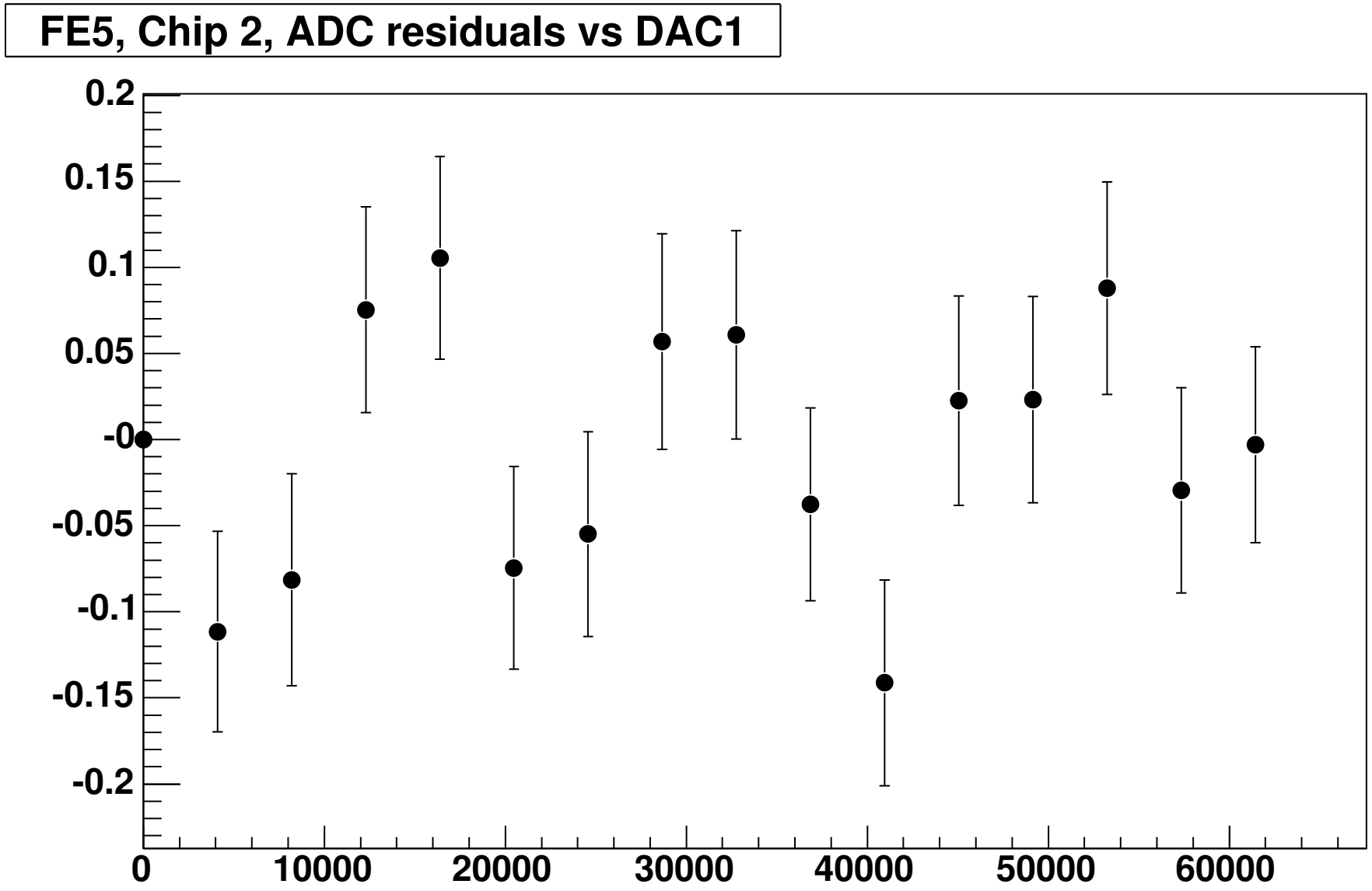

FE5, Chip 2, ADC mean vs DAC0
χ² / ndf 1843 / 11
p0 21.06 ± 0.04195
p1 0.4515 ± 1.315e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

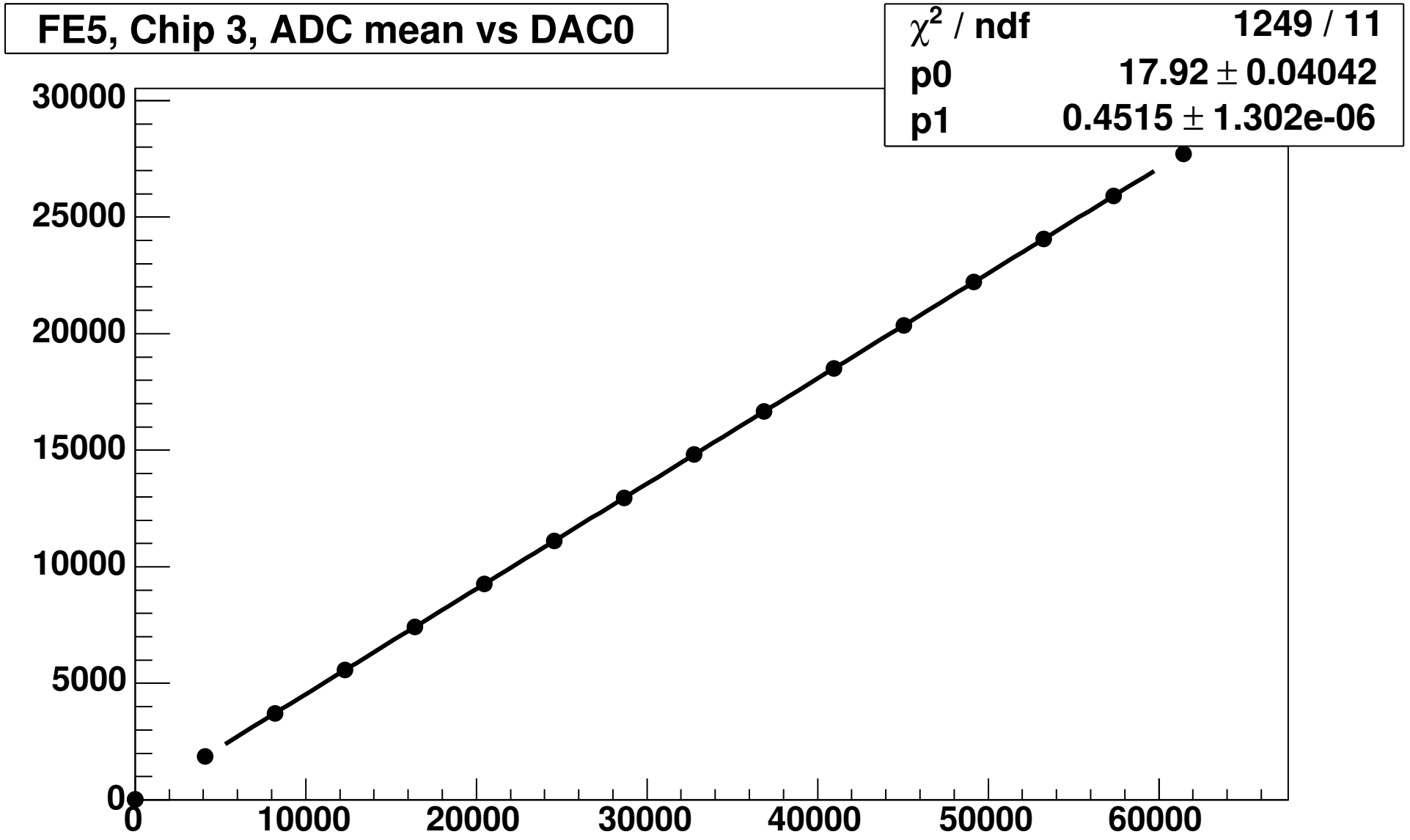

FE5, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

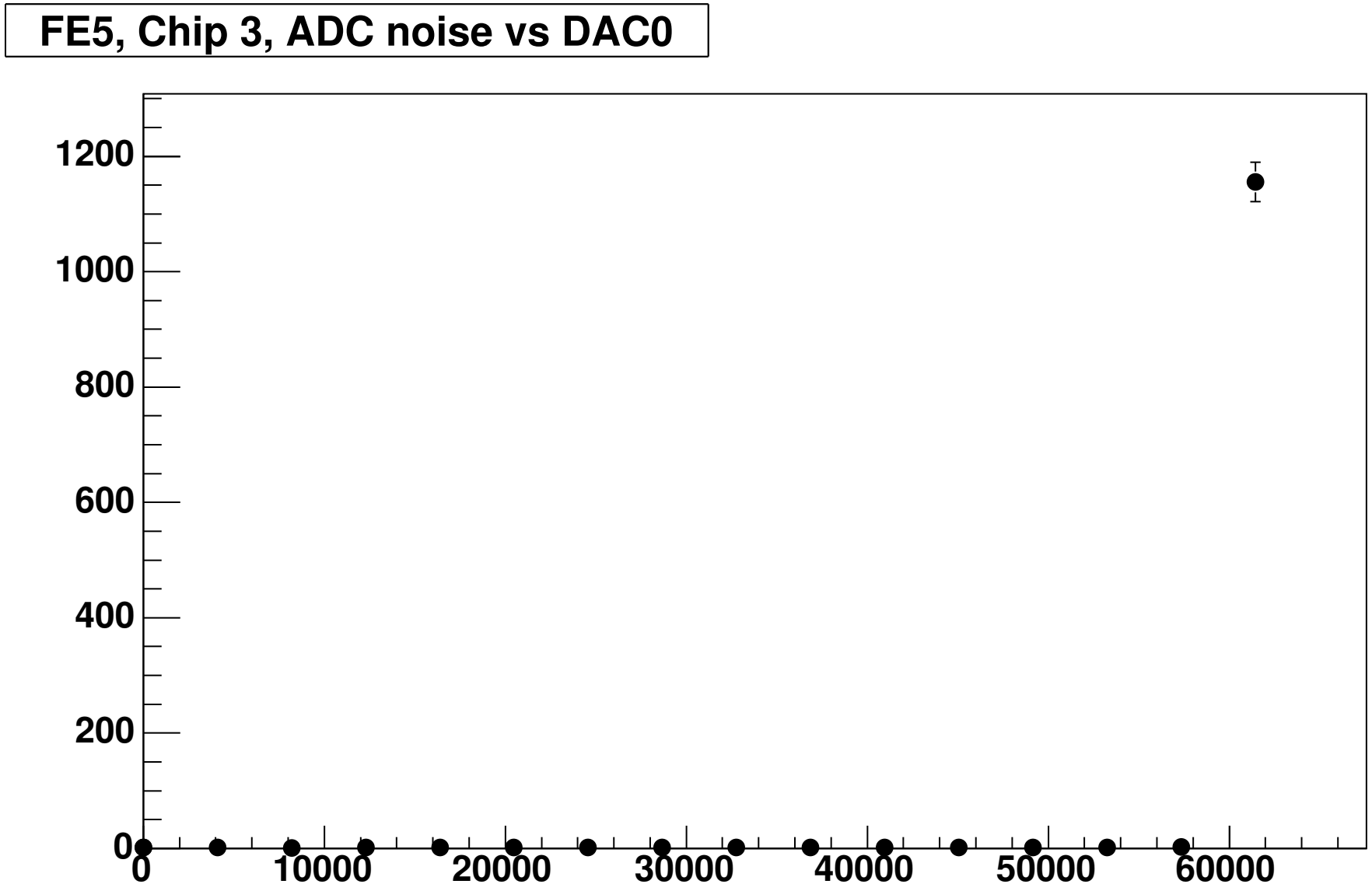

FE5, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

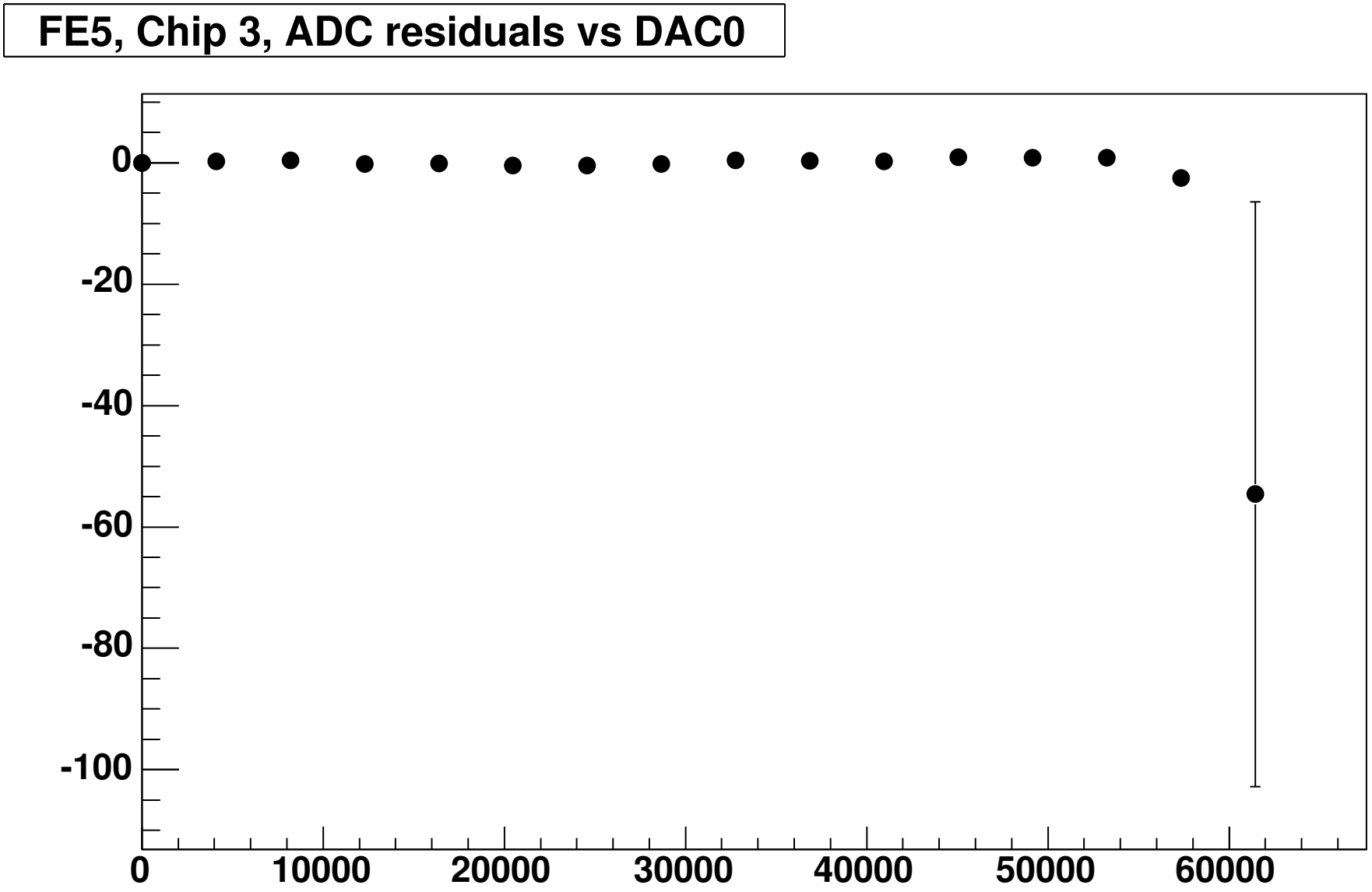

FE5, Chip 2, ADC mean vs DAC1
χ² / ndf 19.44 / 11
p0 21.91 ± 0.03938
p1 -2.68e-06 ± 1.09e-06
22
21.9
21.8
21.7
21.6
0
10000
20000
30000
40000
50000
60000

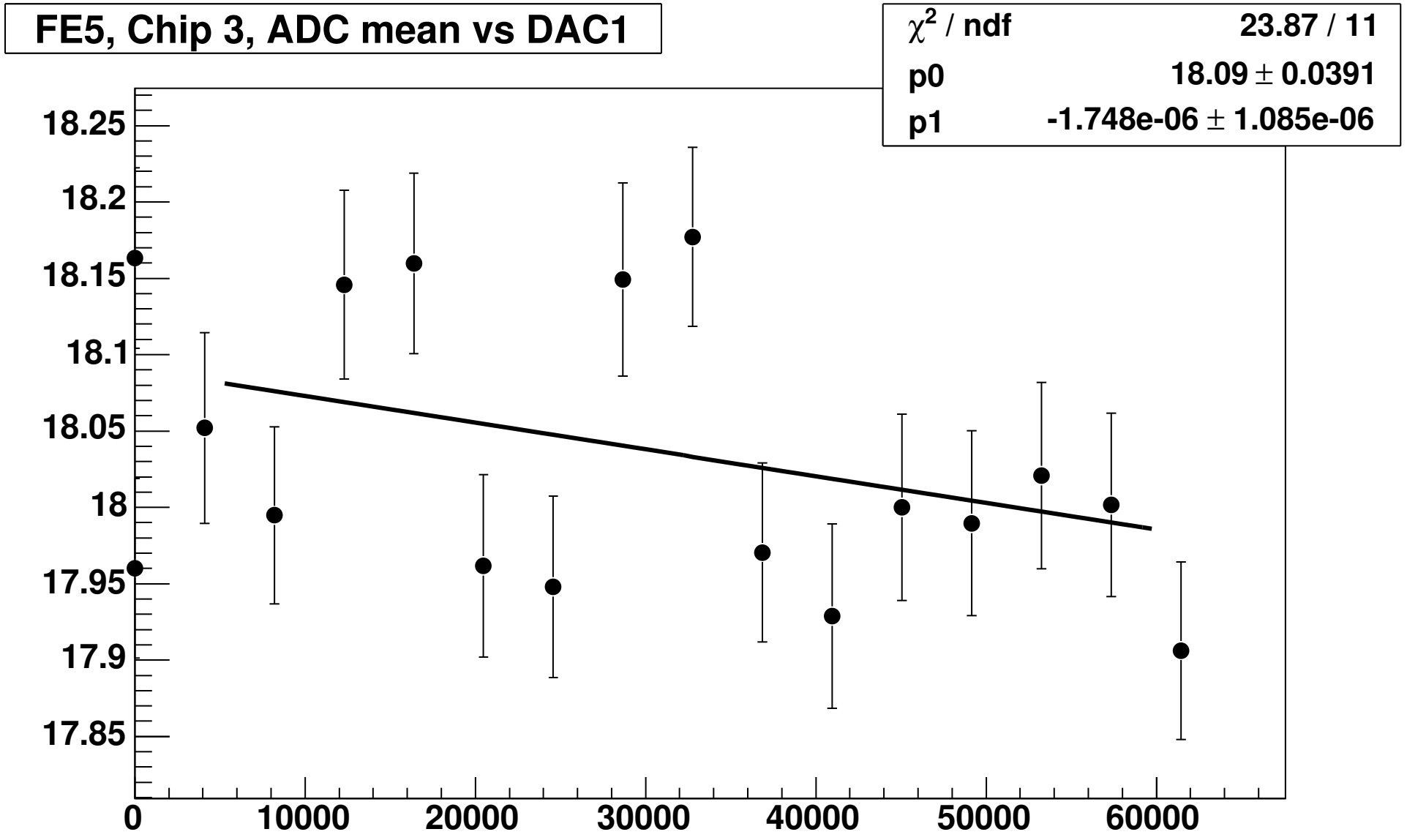

FE5, Chip 2, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

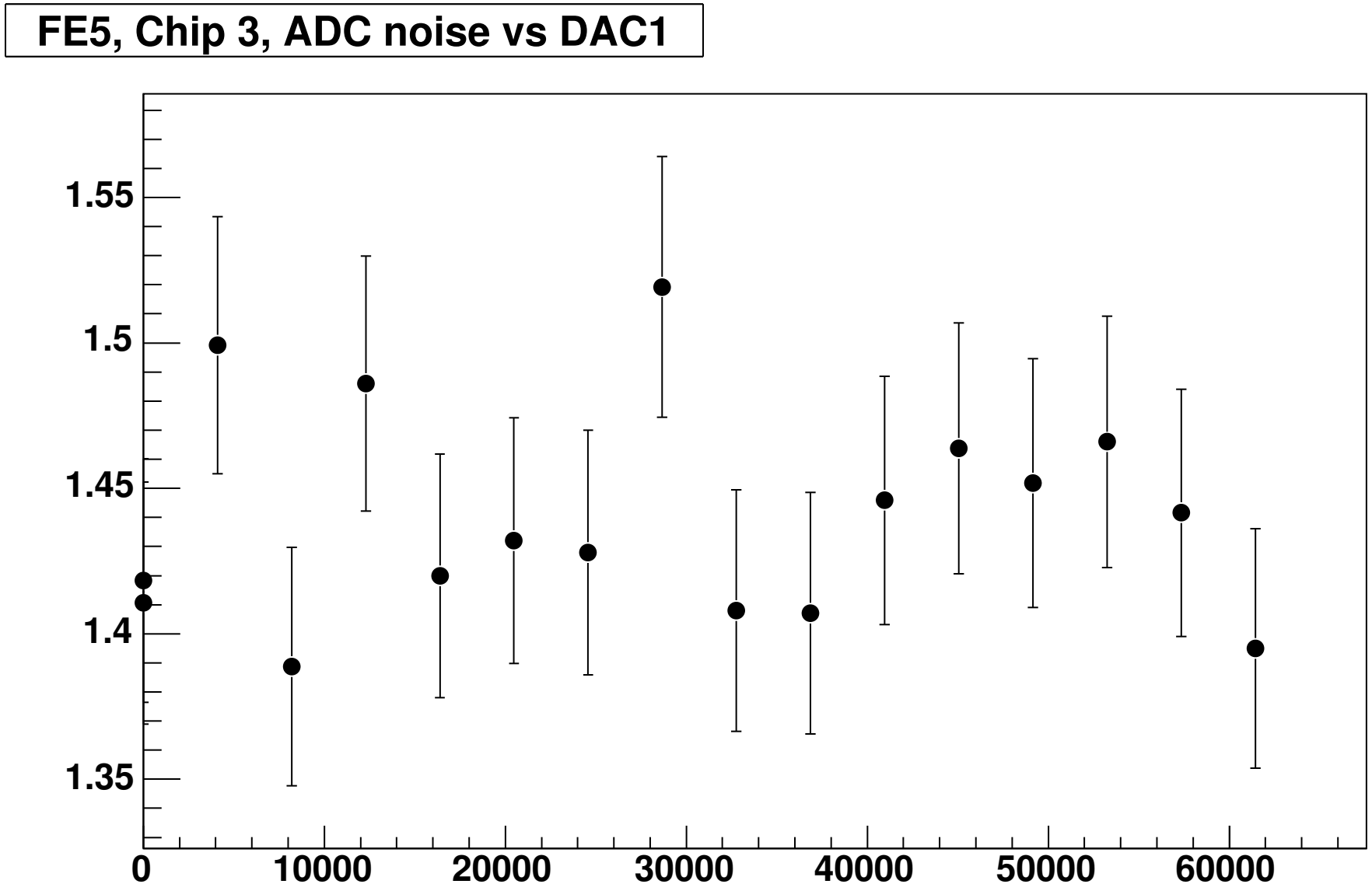

FE5, Chip 2, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

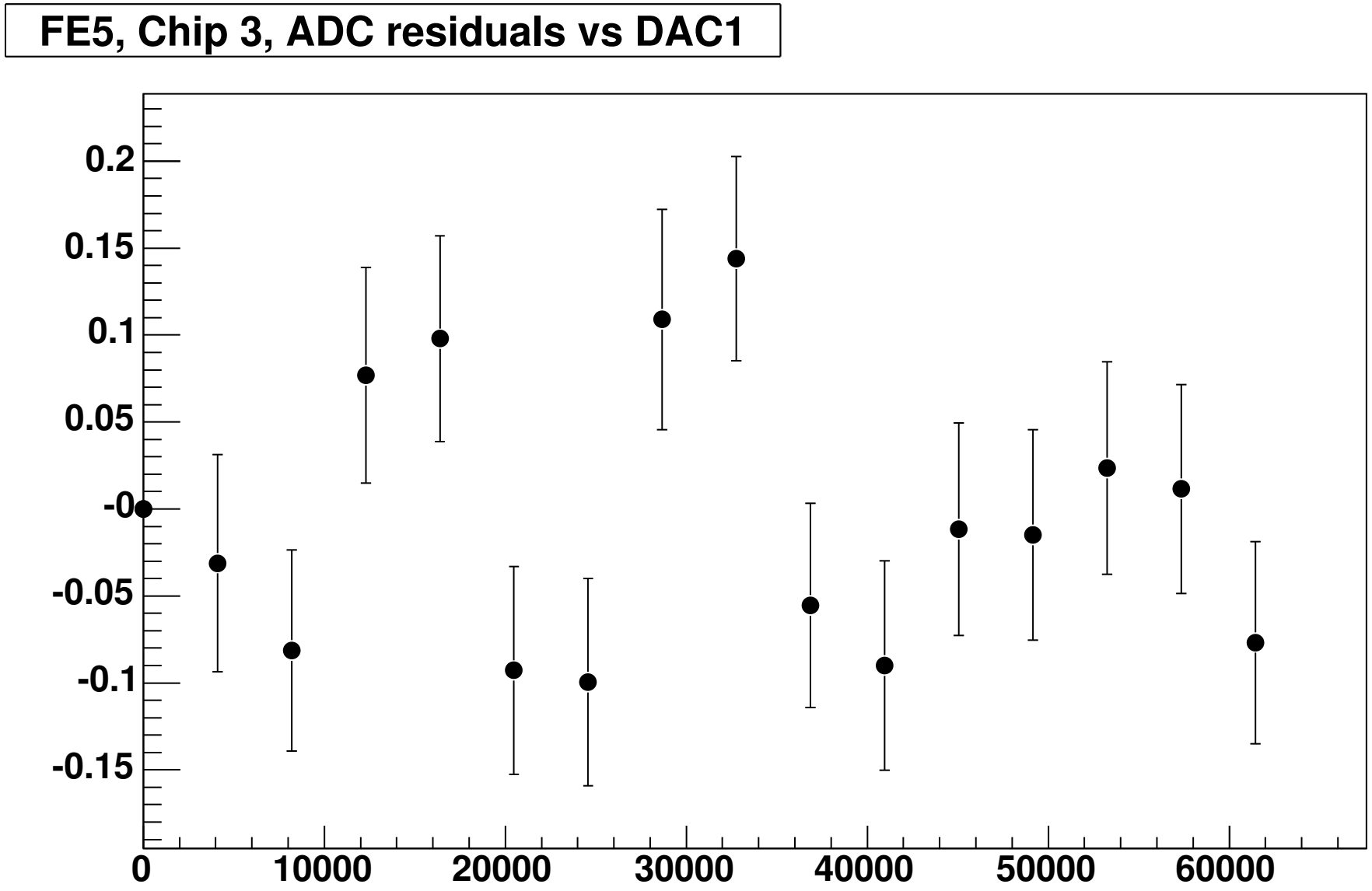

FE5, Chip 3, ADC mean vs DAC0
χ² / ndf 1249 / 11
p0 17.92 ± 0.04042
p1 0.4515 ± 1.302e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

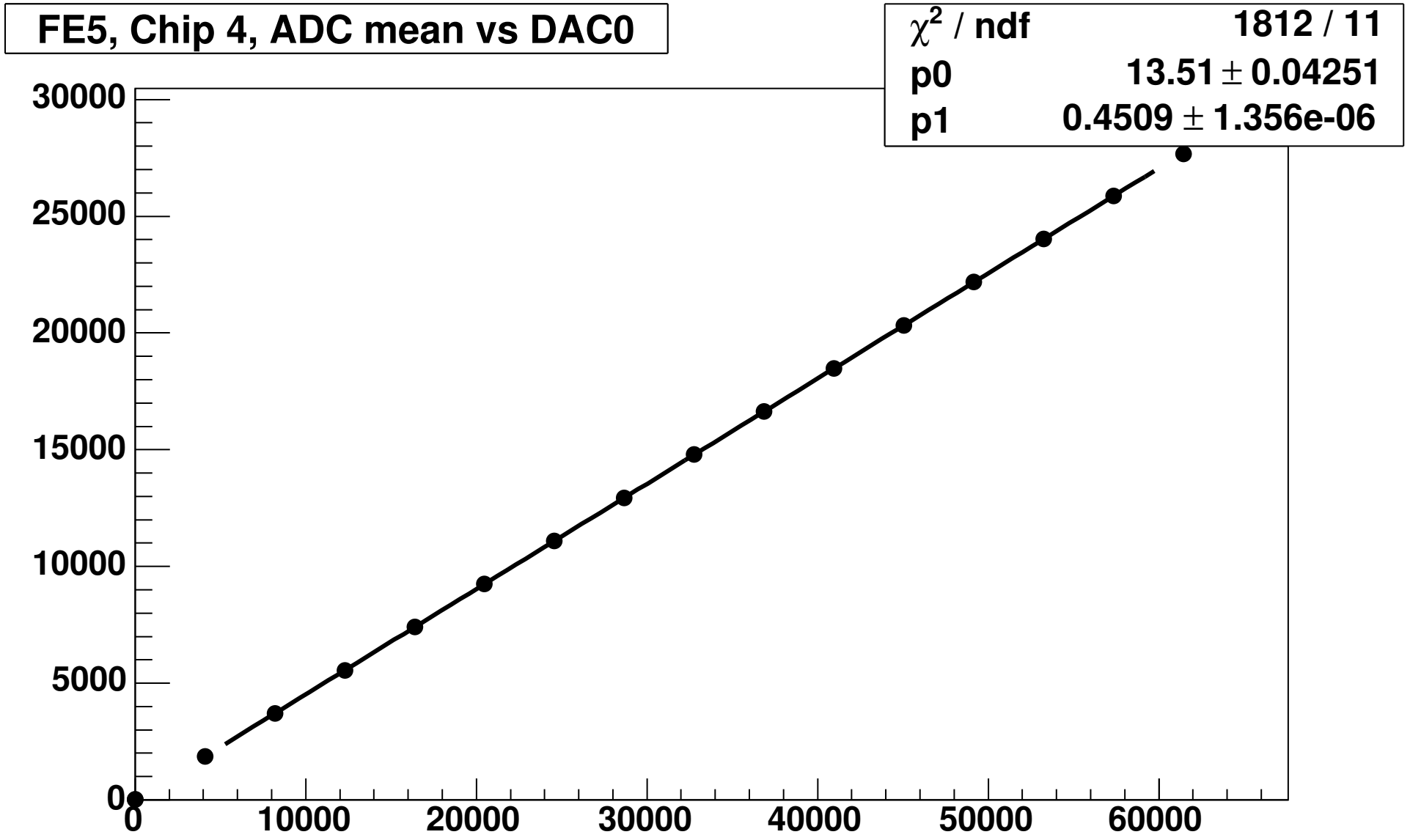

FE5, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

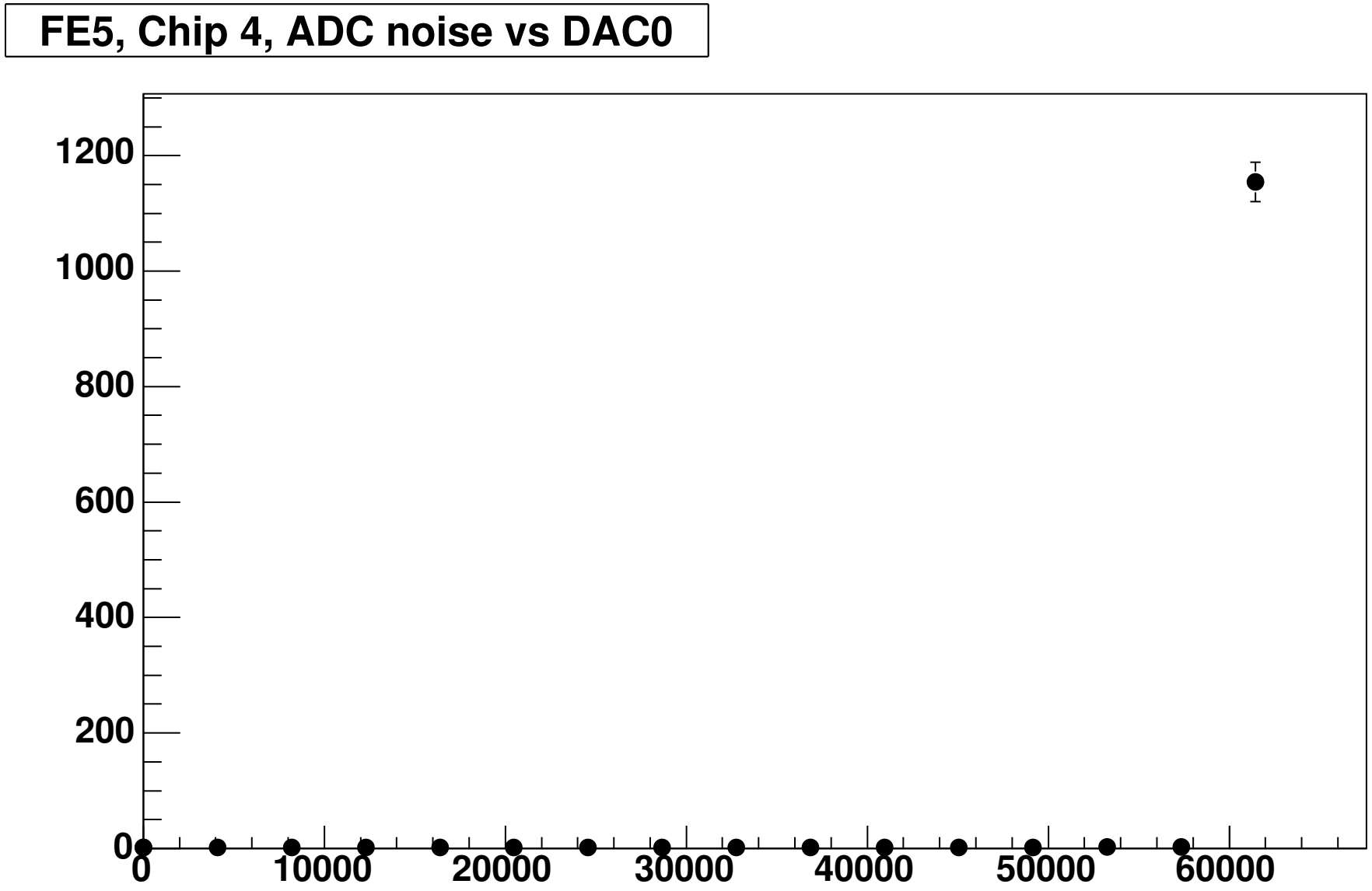

FE5, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

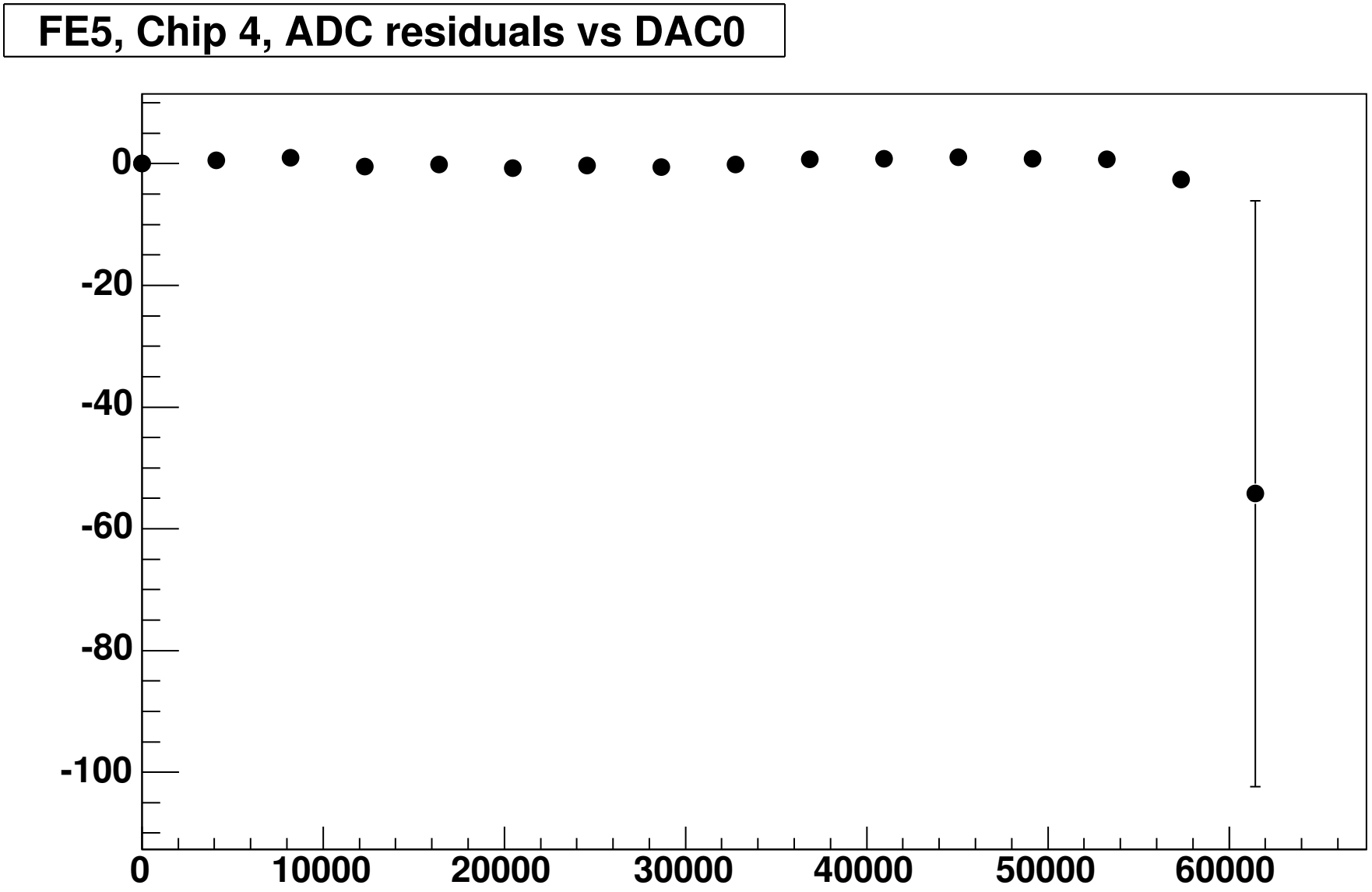

FE5, Chip 3, ADC mean vs DAC1
χ² / ndf 23.87 / 11
p0 18.09 ± 0.0391
p1 -1.748e-06 ± 1.085e-06
18.25
18.2
18.15
18.1
18.05
18
17.95
17.9
17.85
0
10000
20000
30000
40000
50000
60000

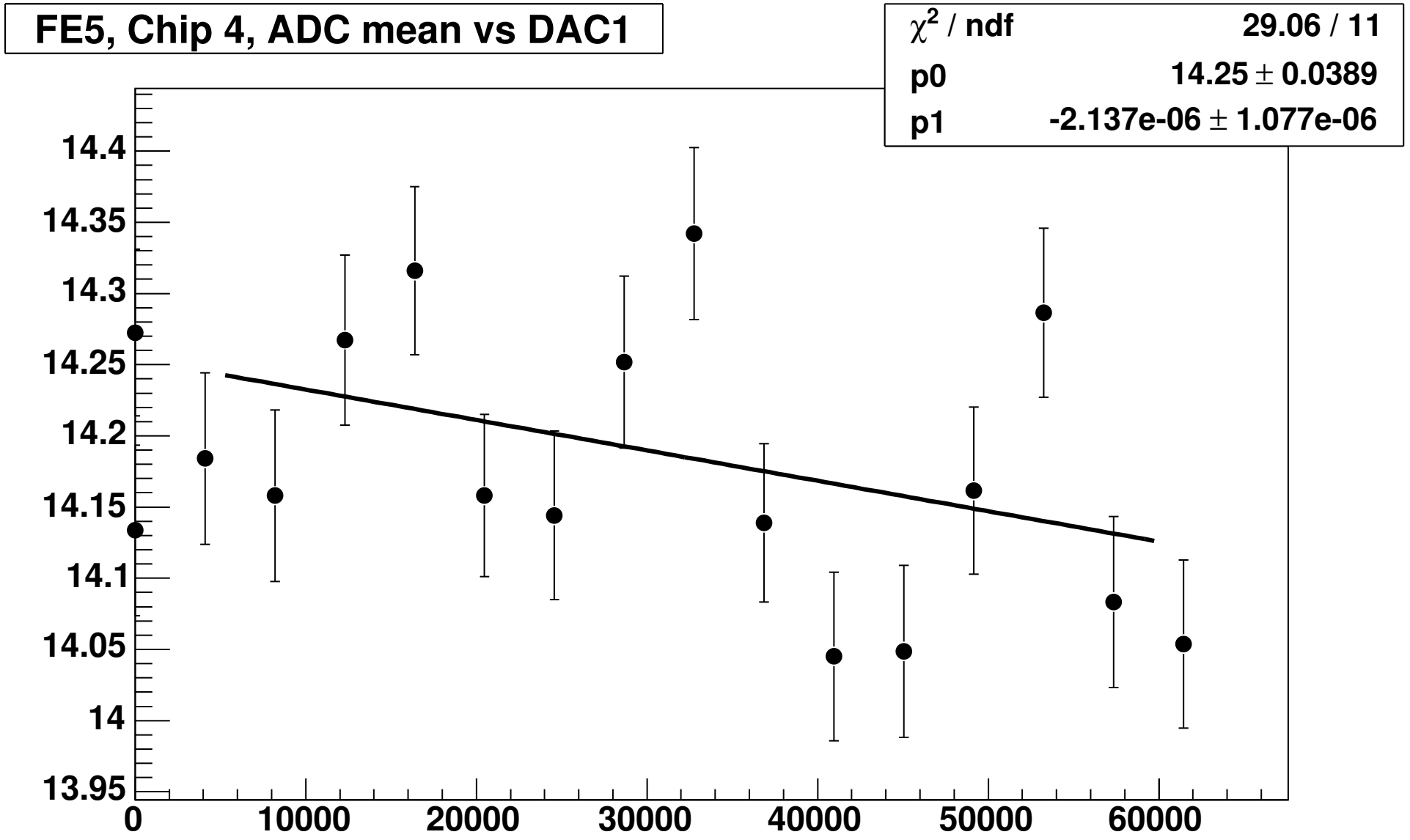

FE5, Chip 3, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

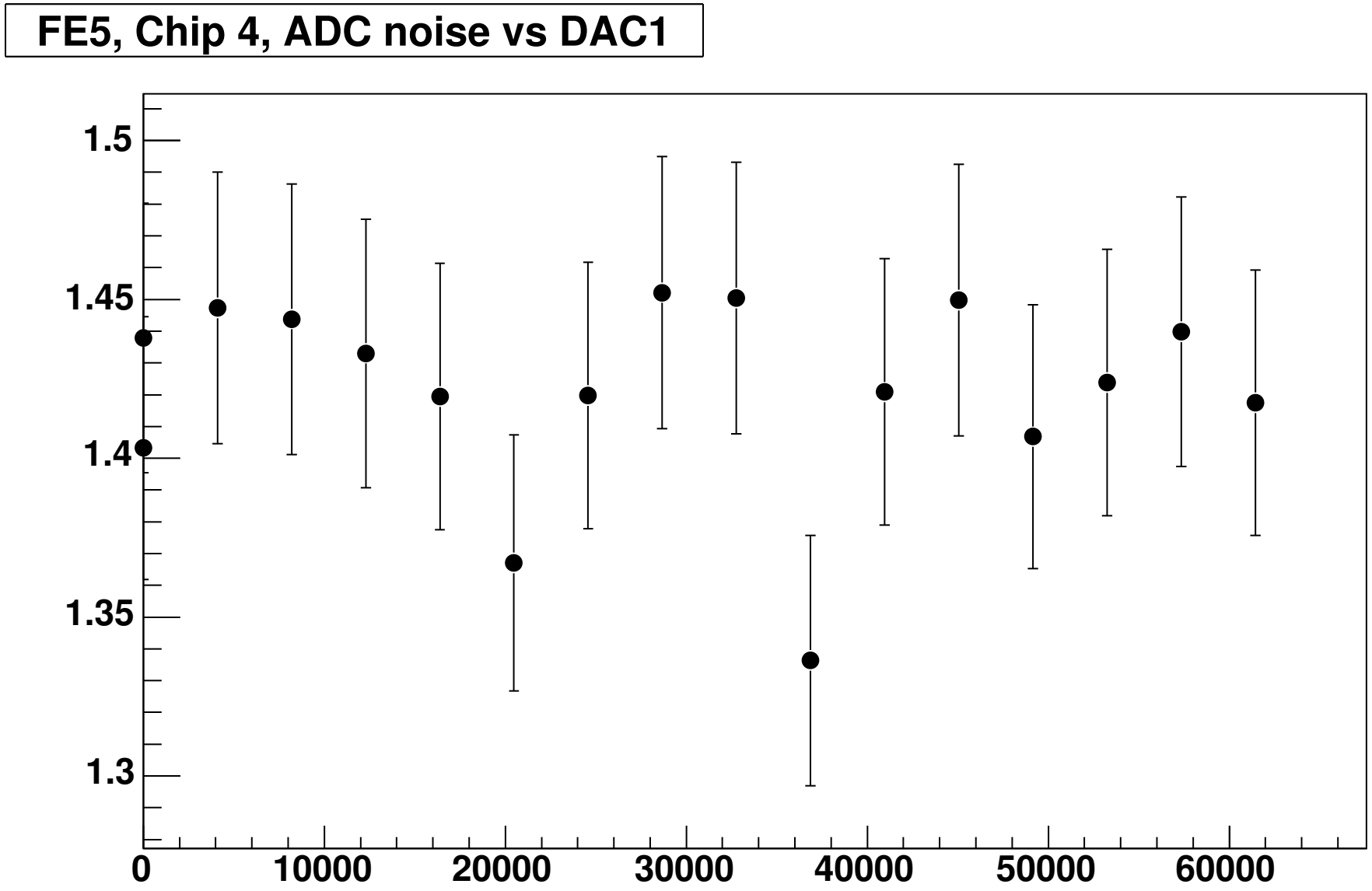

FE5, Chip 3, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

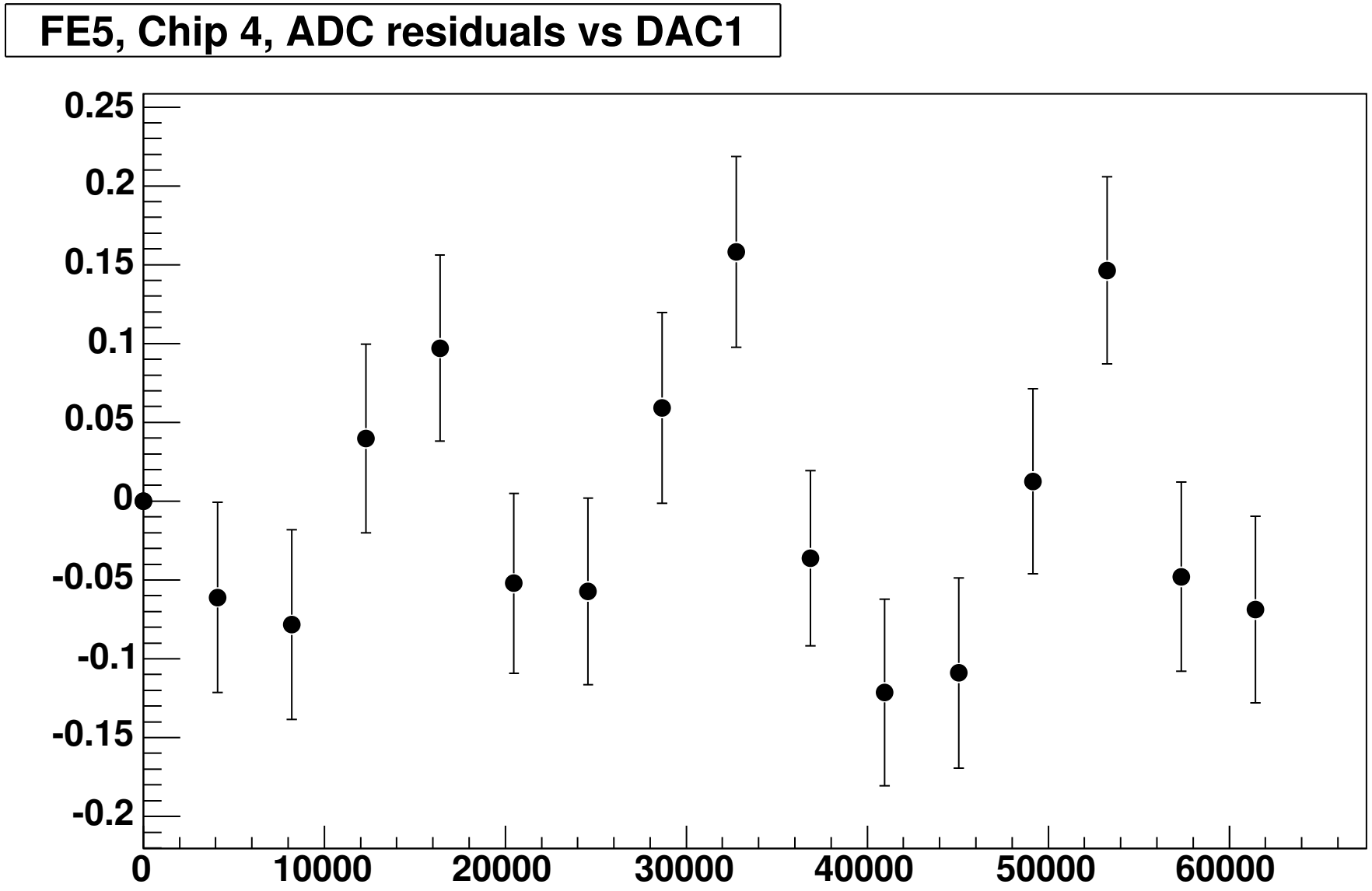

FE5, Chip 4, ADC mean vs DAC0
χ² / ndf 1812 / 11
p0 13.51 ± 0.04251
p1 0.4509 ± 1.356e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

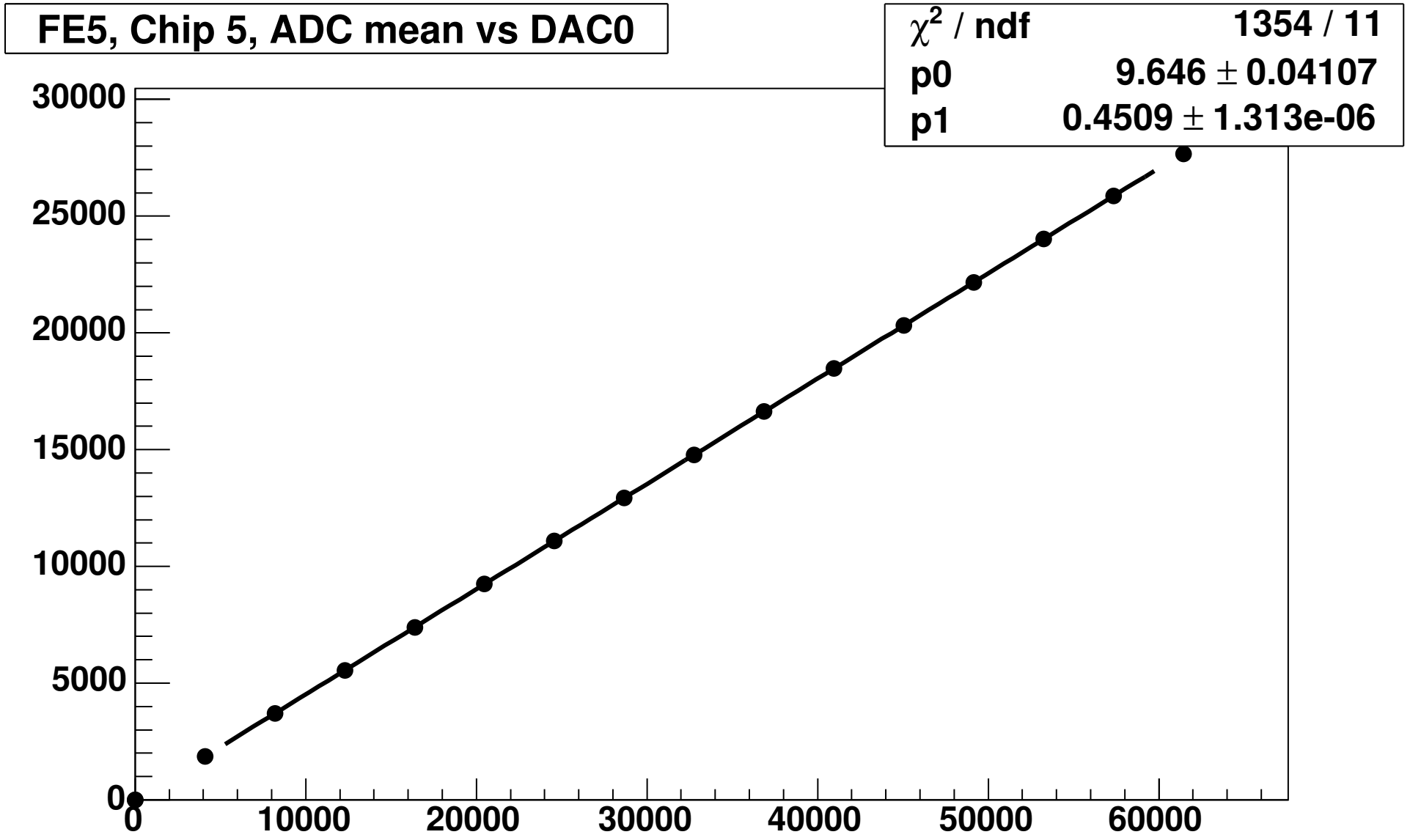

FE5, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

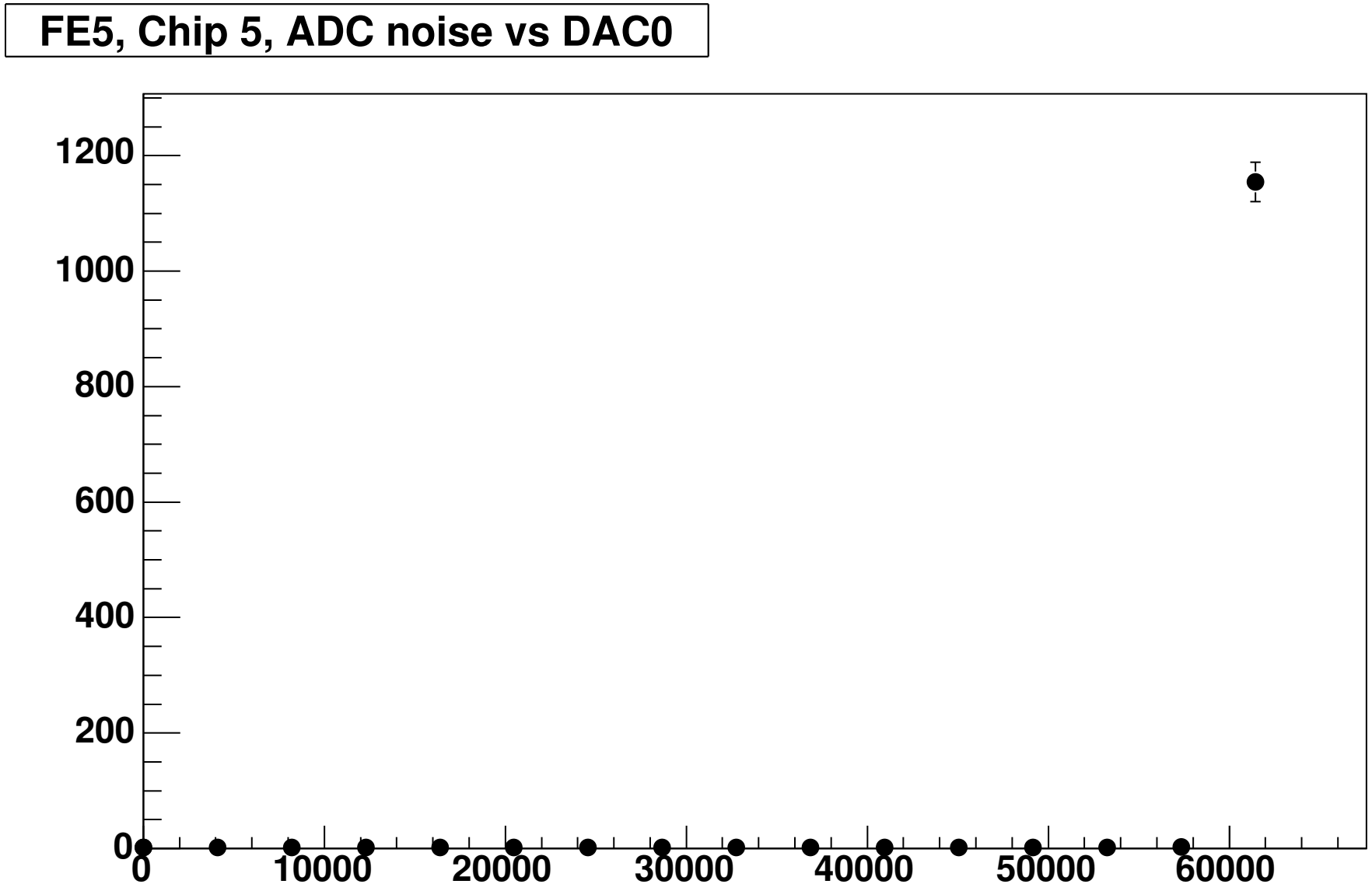

FE5, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

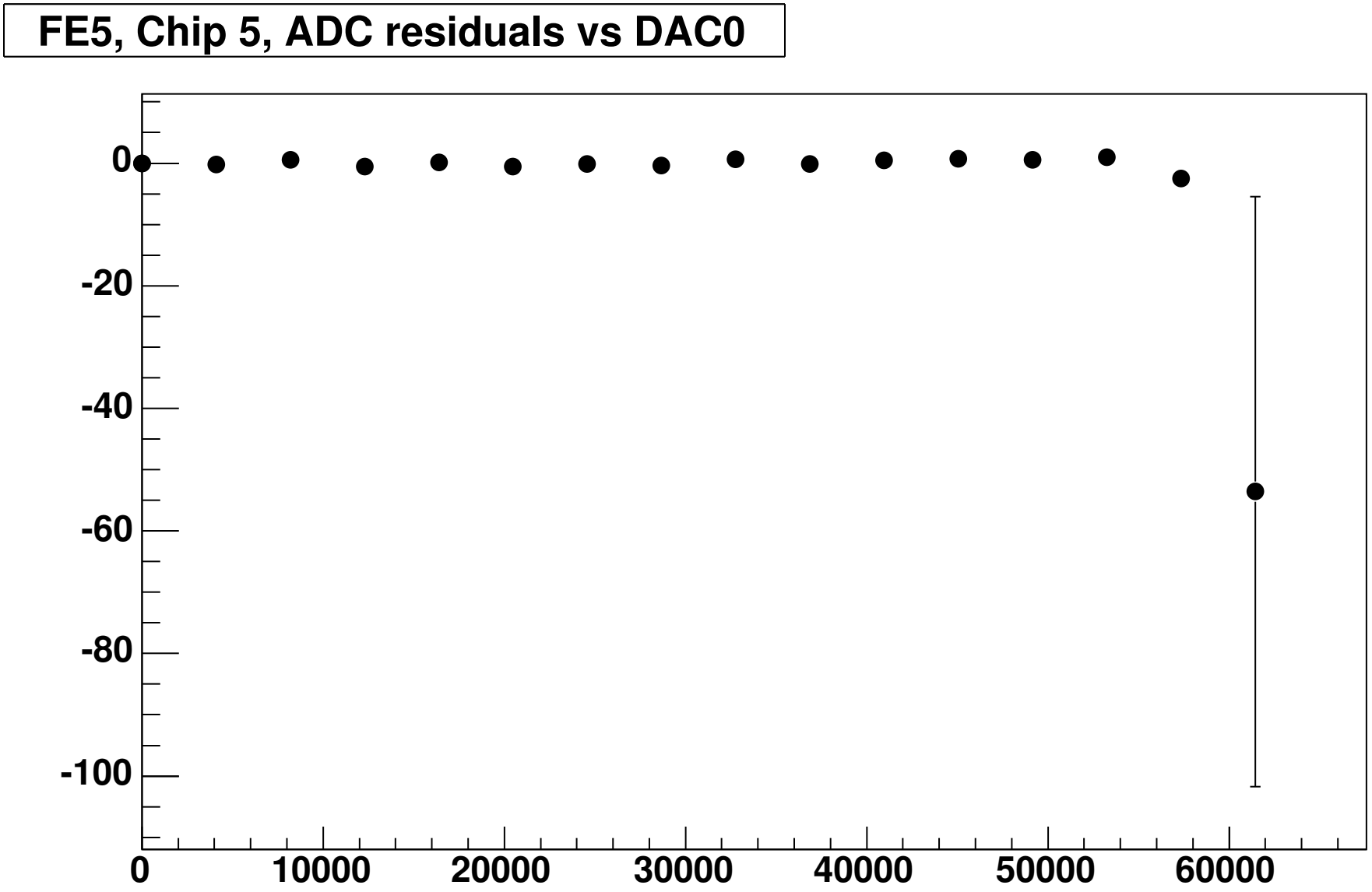

FE5, Chip 4, ADC mean vs DAC1
χ² / ndf 29.06 / 11
p0 14.25 ± 0.0389
p1 -2.137e-06 ± 1.077e-06
14.4
14.35
14.3
14.25
14.2
14.15
14.1
14.05
14
13.95
0
10000
20000
30000
40000
50000
60000

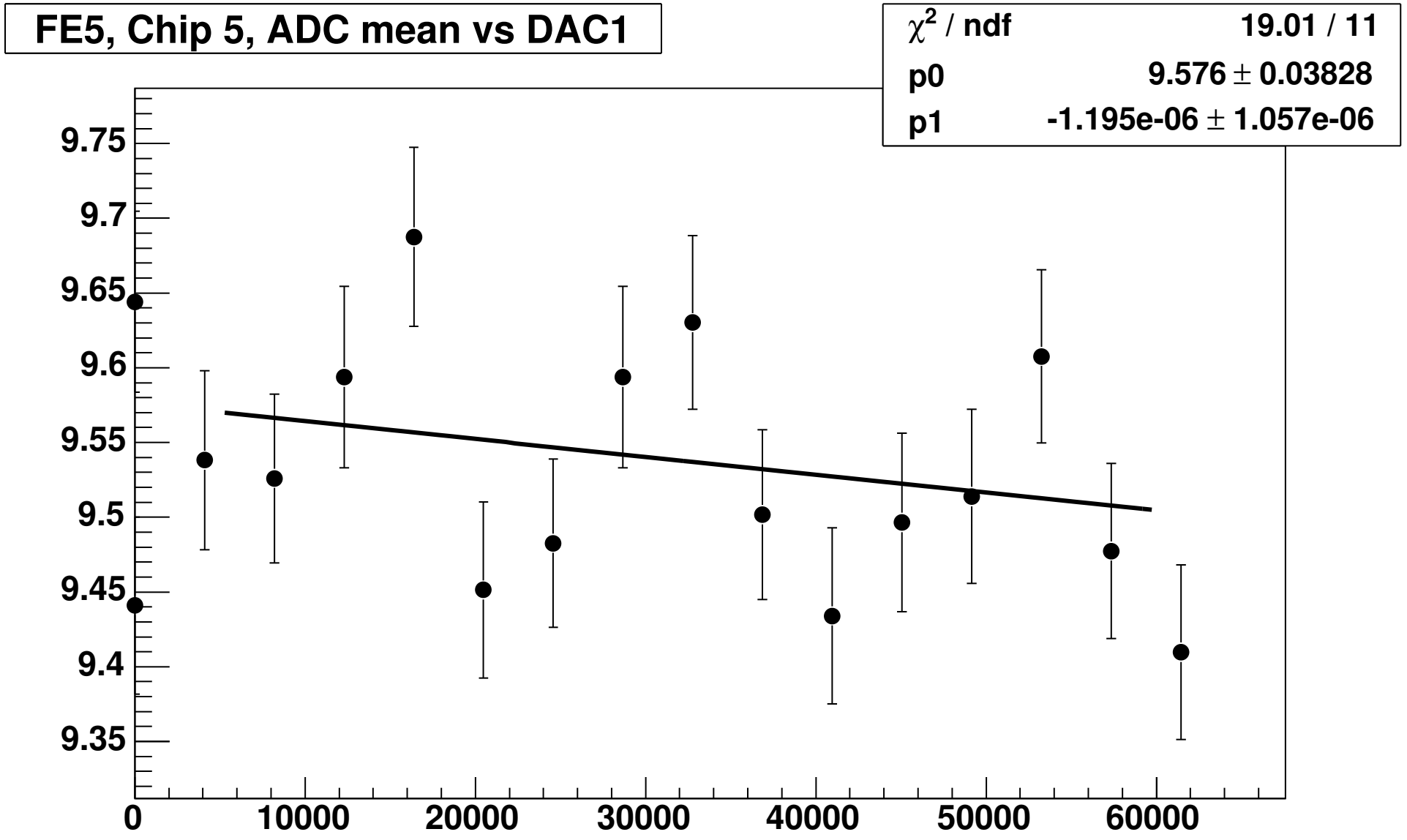

FE5, Chip 4, ADC noise vs DAC1
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

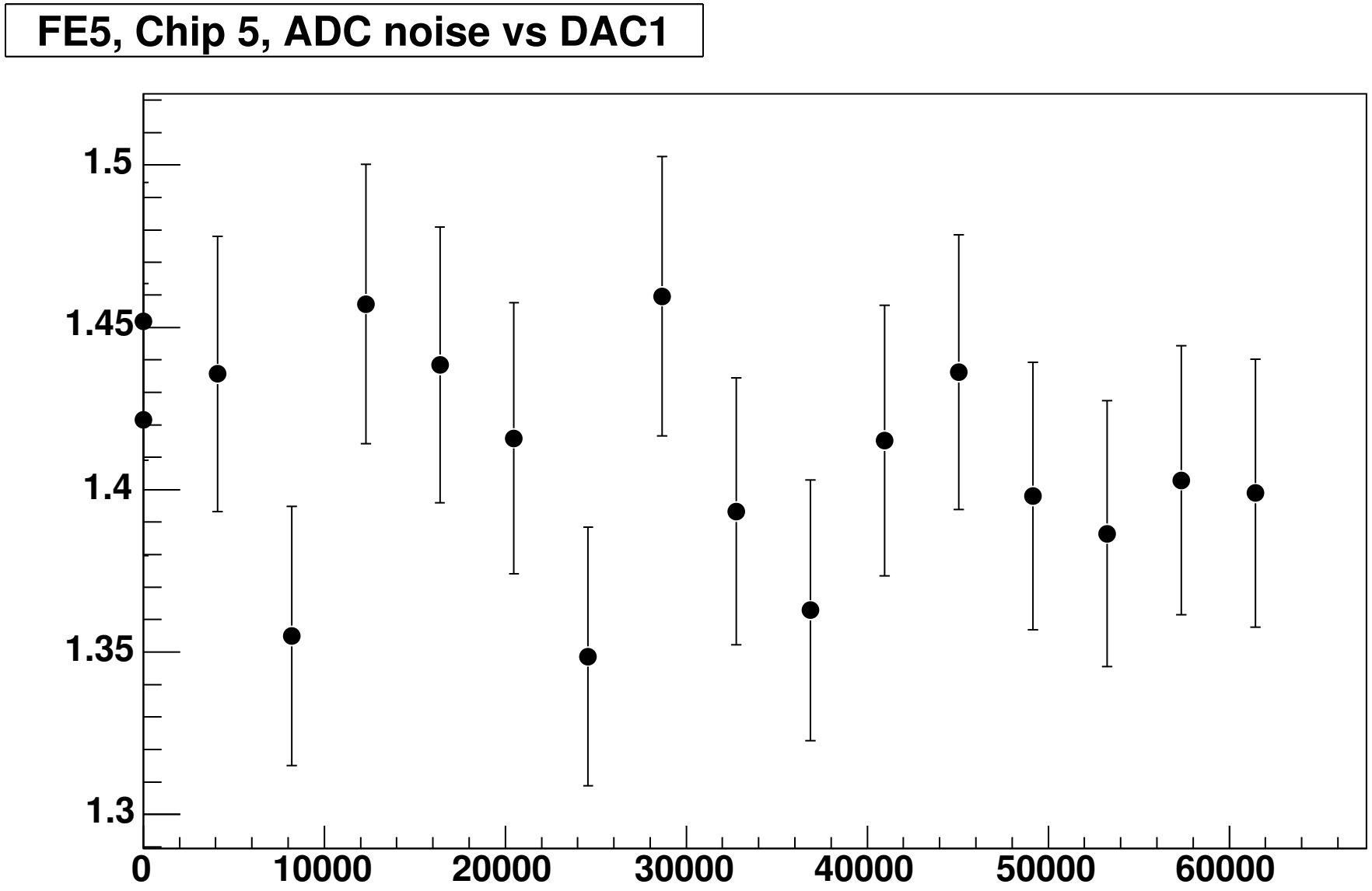

FE5, Chip 4, ADC residuals vs DAC1
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

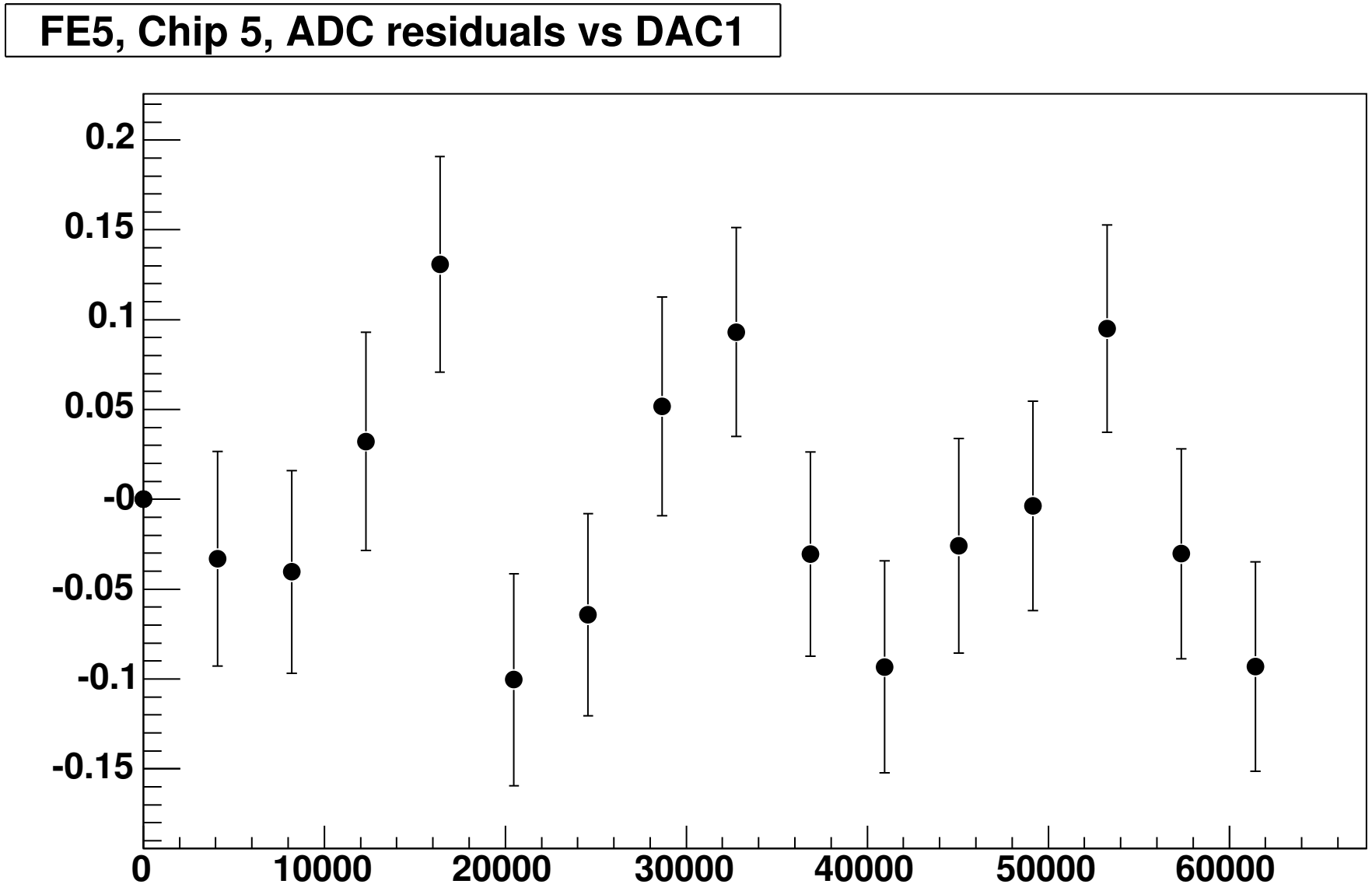

FE5, Chip 5, ADC mean vs DAC0
χ² / ndf 1354 / 11
p0 9.646 ± 0.04107
p1 0.4509 ± 1.313e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

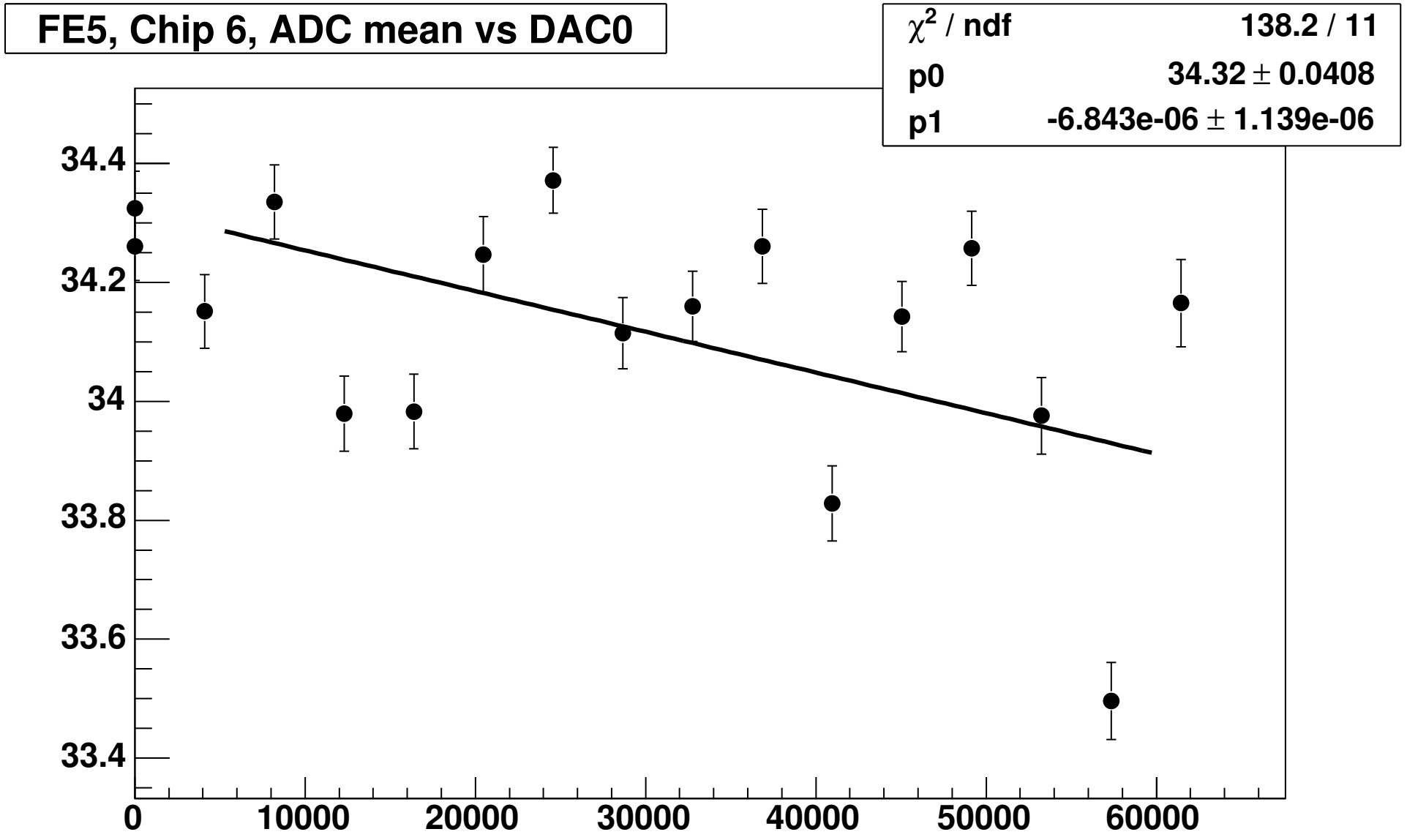

FE5, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

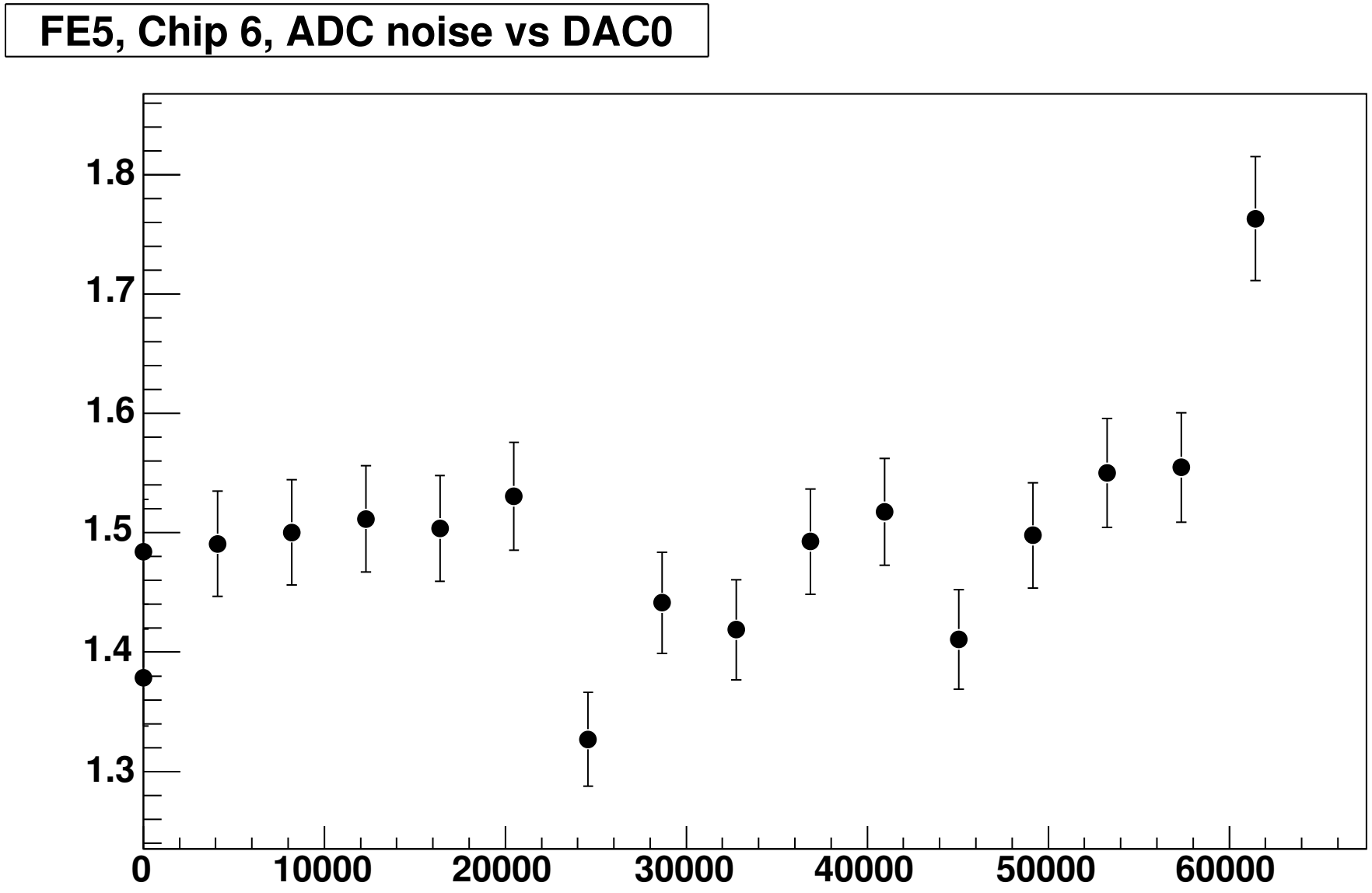

FE5, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

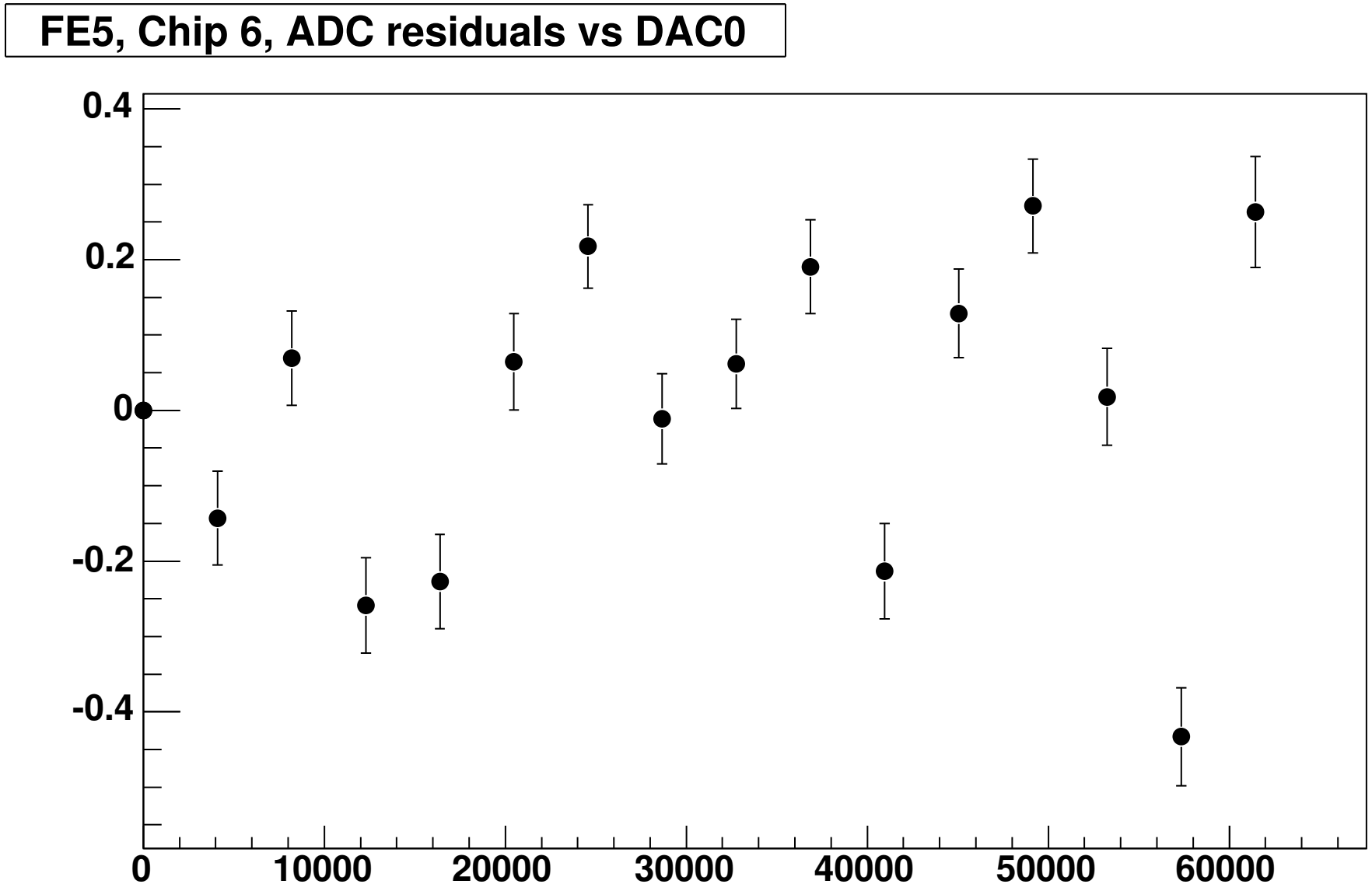

FE5, Chip 5, ADC mean vs DAC1
χ² / ndf 19.01 / 11
p0 9.576 ± 0.03828
p1 -1.195e-06 ± 1.057e-06
9.75
9.7
9.65
9.6
9.55
9.5
9.45
9.4
9.35
0
10000
20000
30000
40000
50000
60000

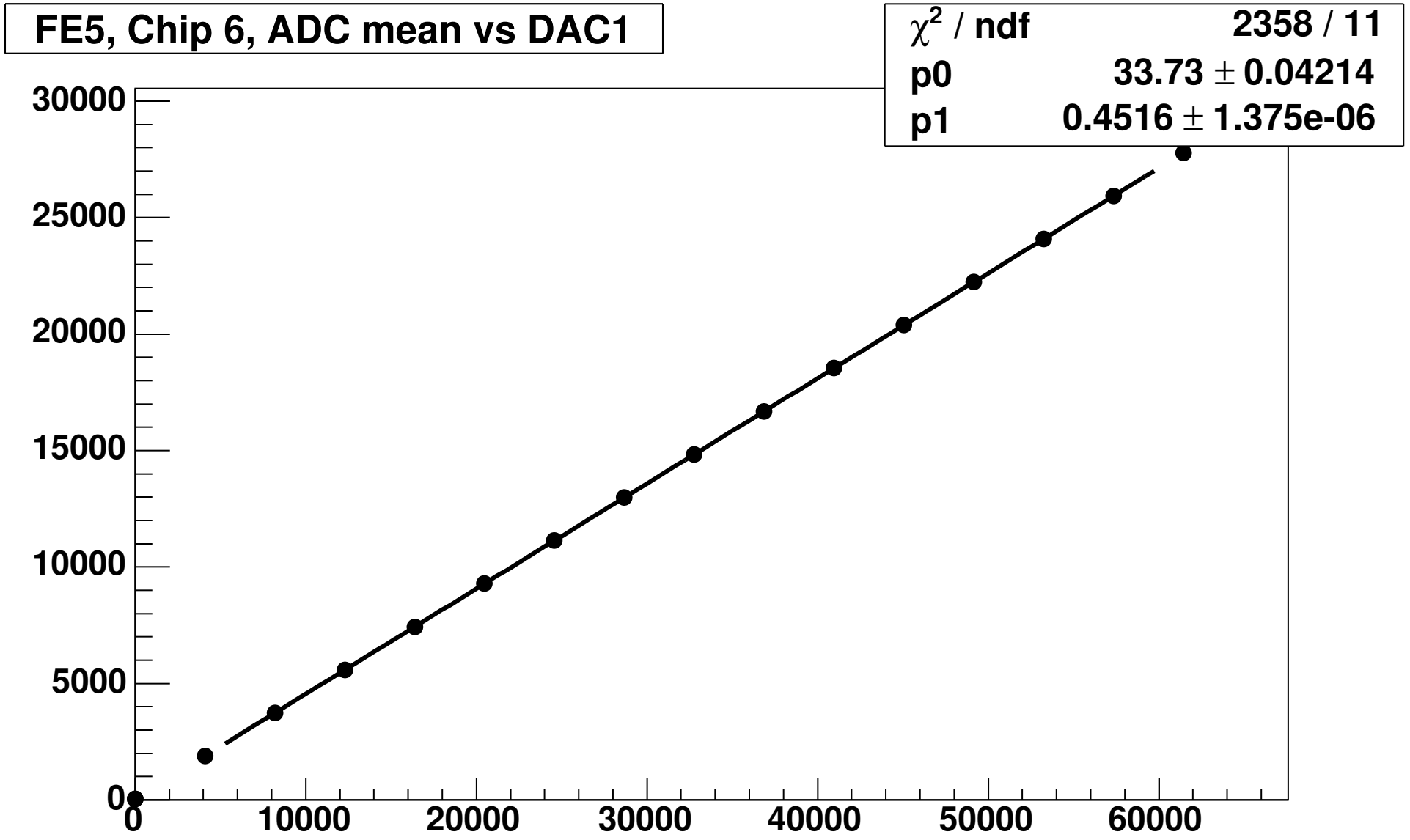

FE5, Chip 5, ADC noise vs DAC1
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

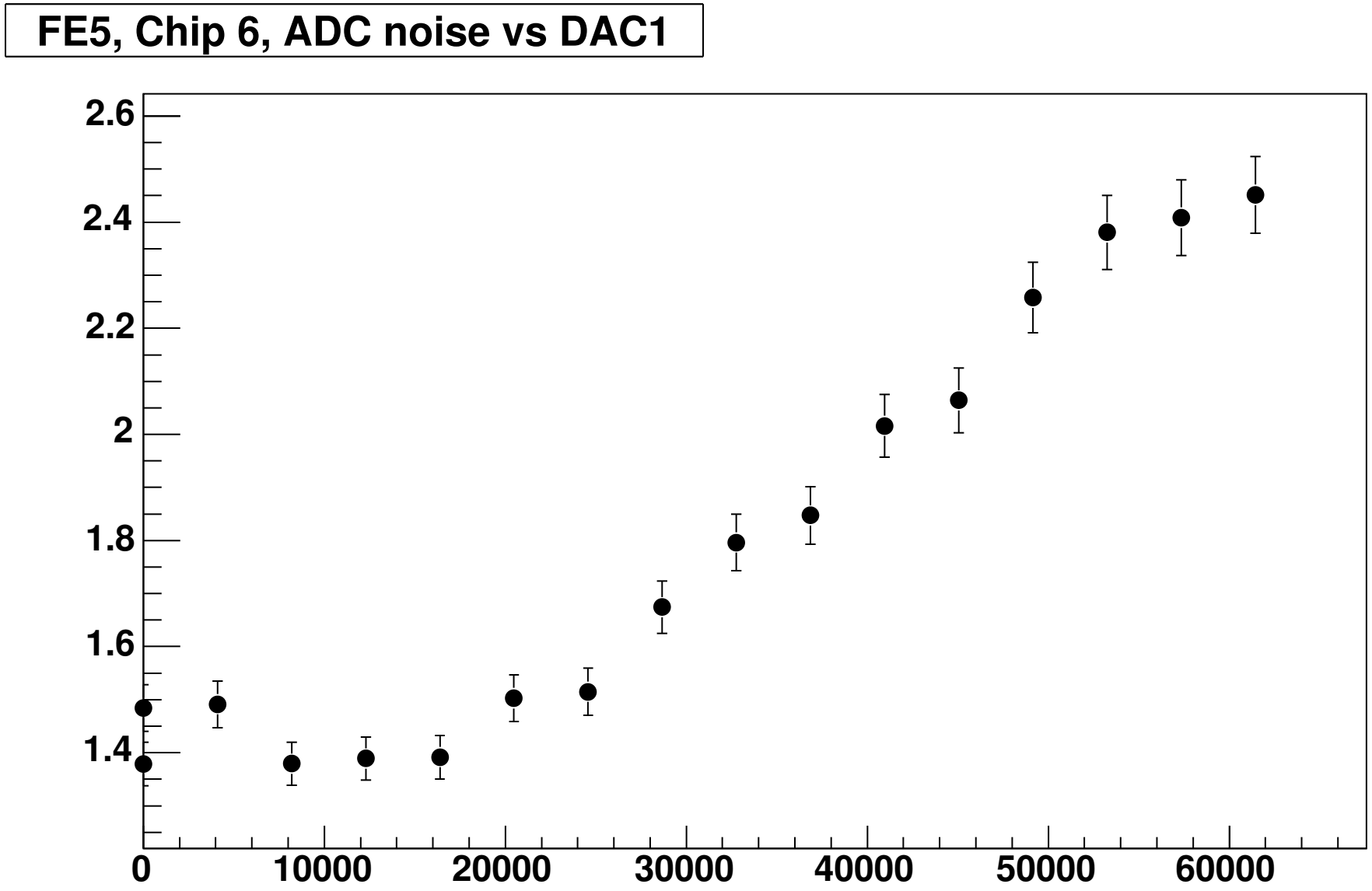

FE5, Chip 5, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

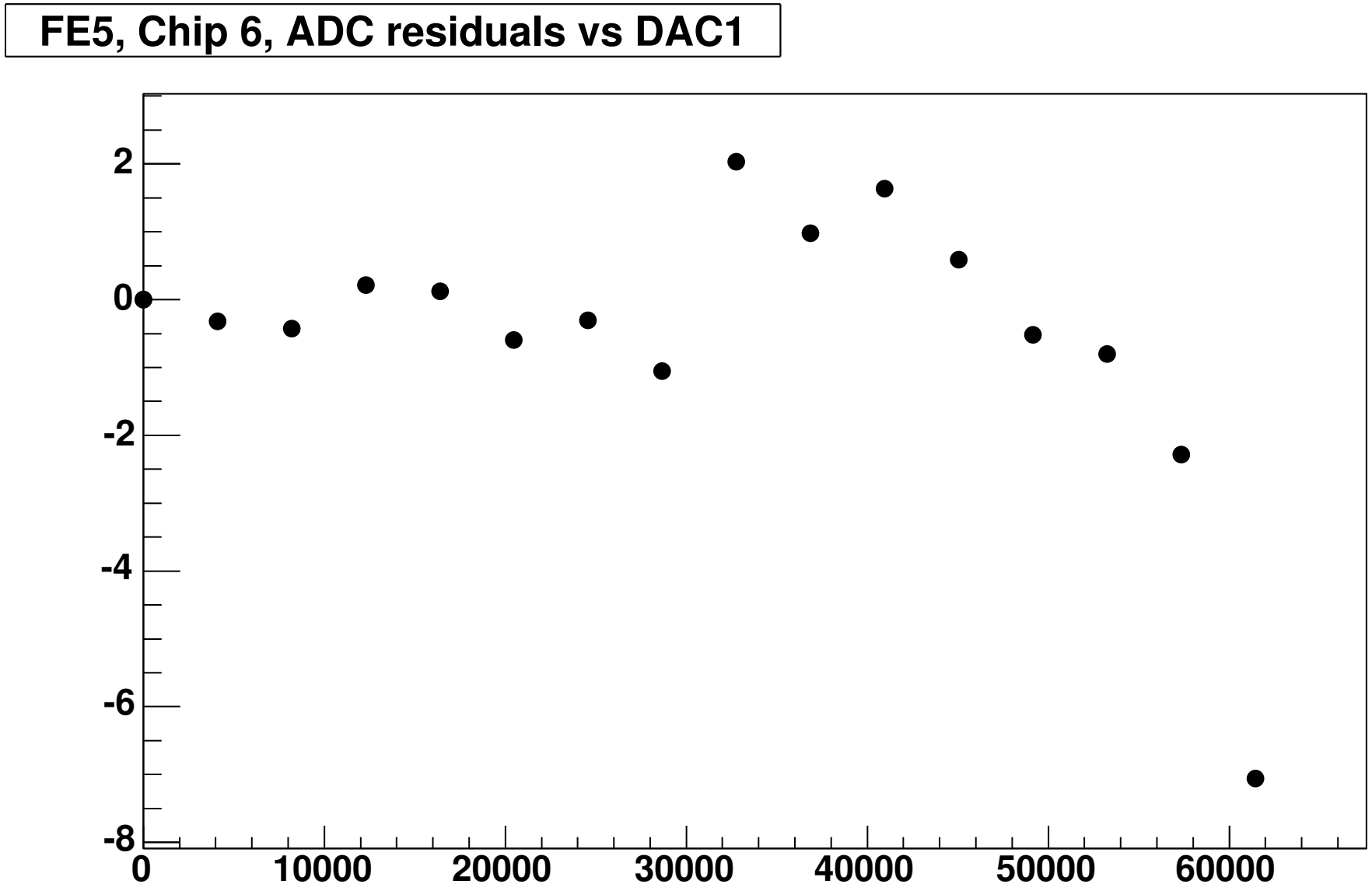

FE5, Chip 6, ADC mean vs DAC0
χ² / ndf 138.2 / 11
p0 34.32 ± 0.0408
p1 -6.843e-06 ± 1.139e-06
34.4
34.2
34
33.8
33.6
33.4
0
10000
20000
30000
40000
50000
60000

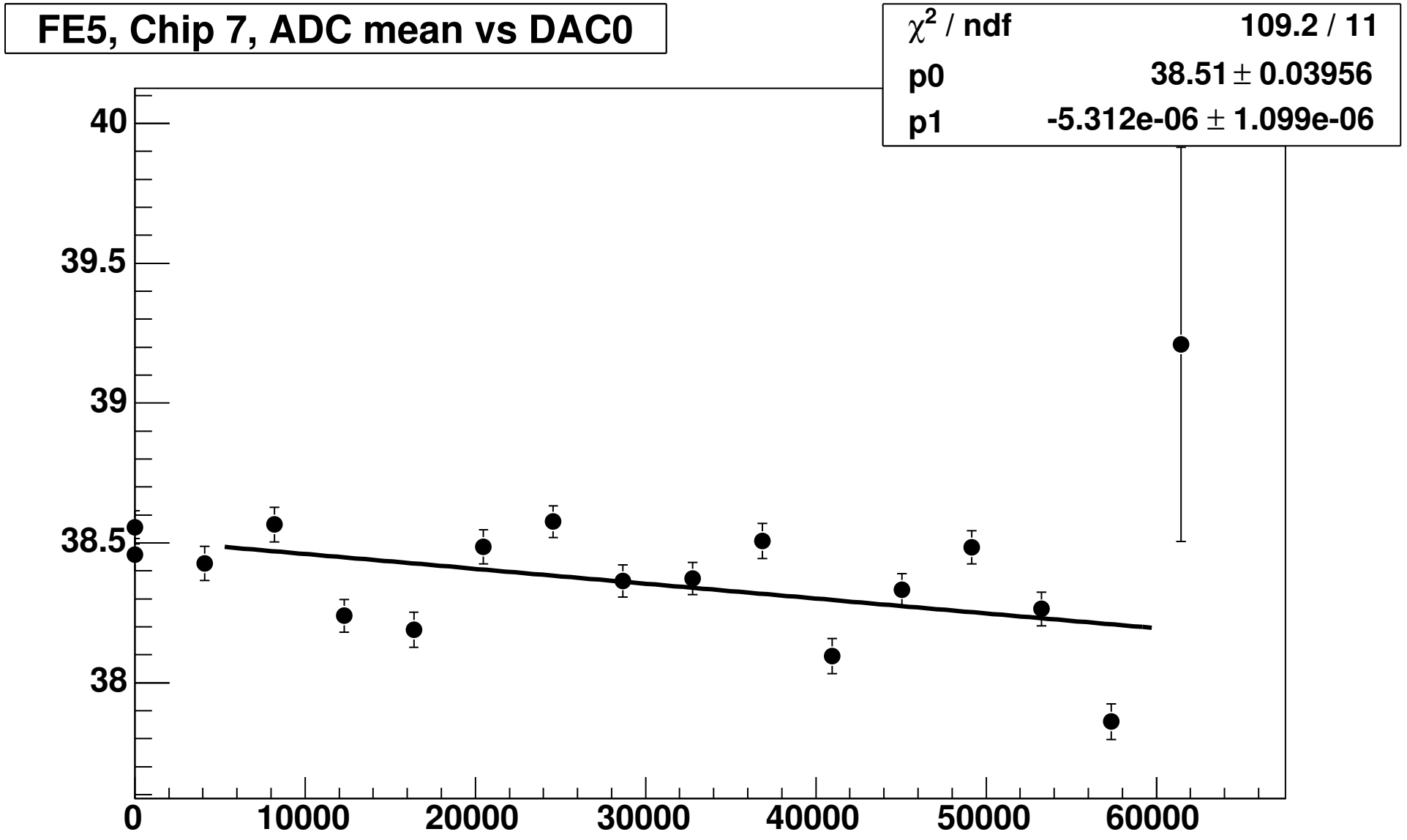

FE5, Chip 6, ADC noise vs DAC0
1.8
1.7
1.6
1.5
1.4
1.3
0
10000
20000
30000
40000
50000
60000

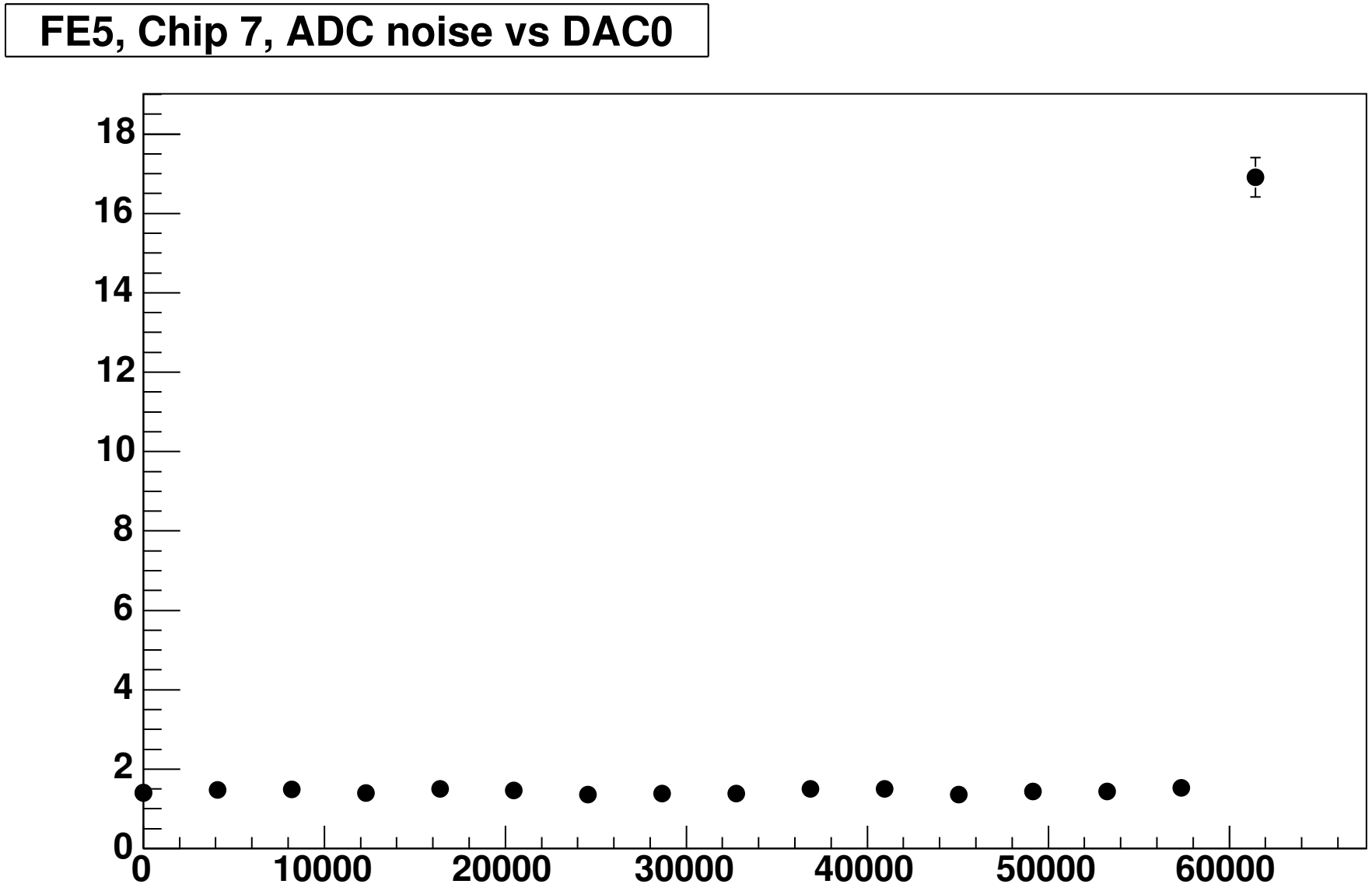

FE5, Chip 6, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
10000
20000
30000
40000
50000
60000


FE5, Chip 6, ADC mean vs DAC1
χ² / ndf 2358 / 11
p0 33.73 ± 0.04214
p1 0.4516 ± 1.375e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

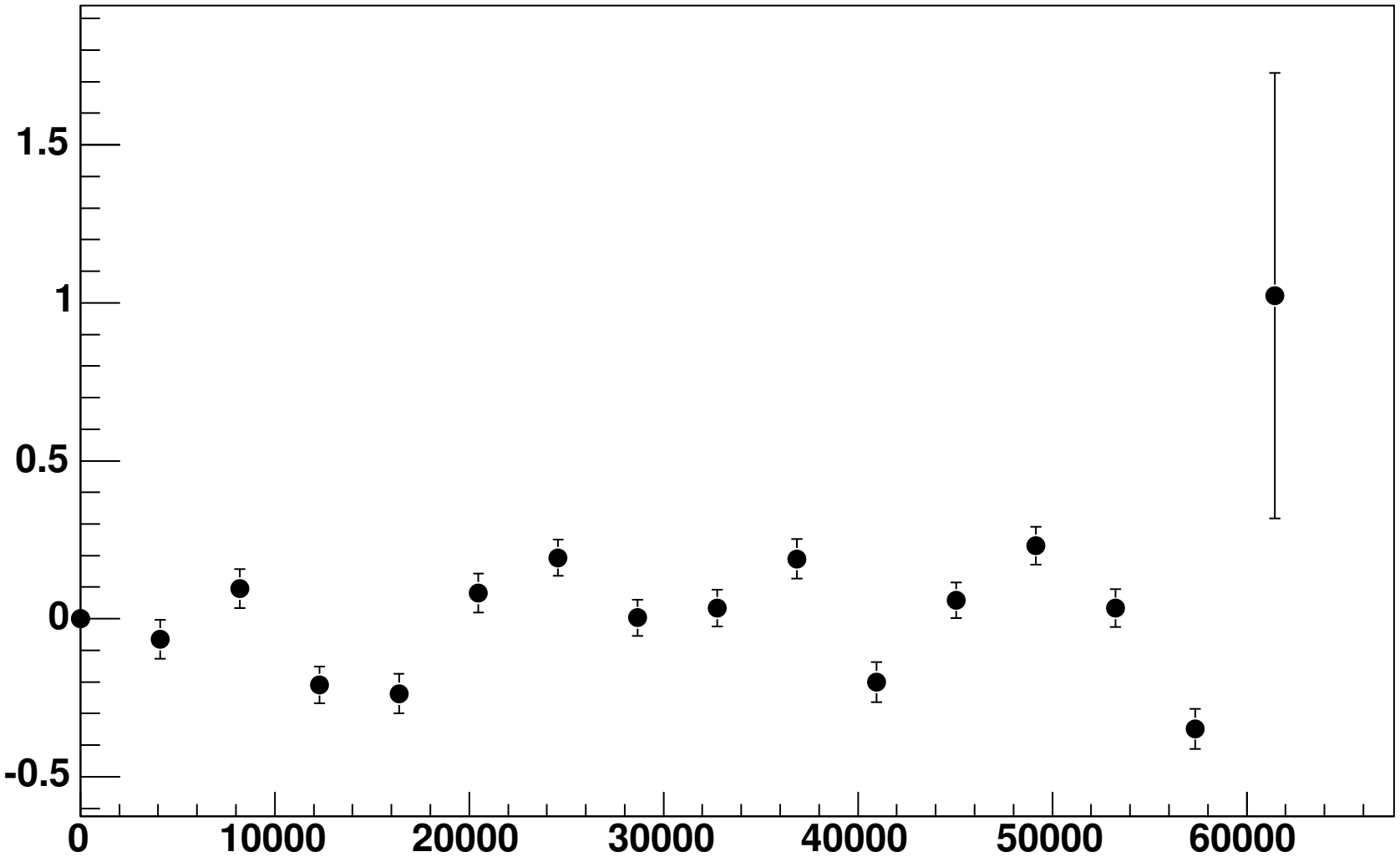

FE5, Chip 6, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

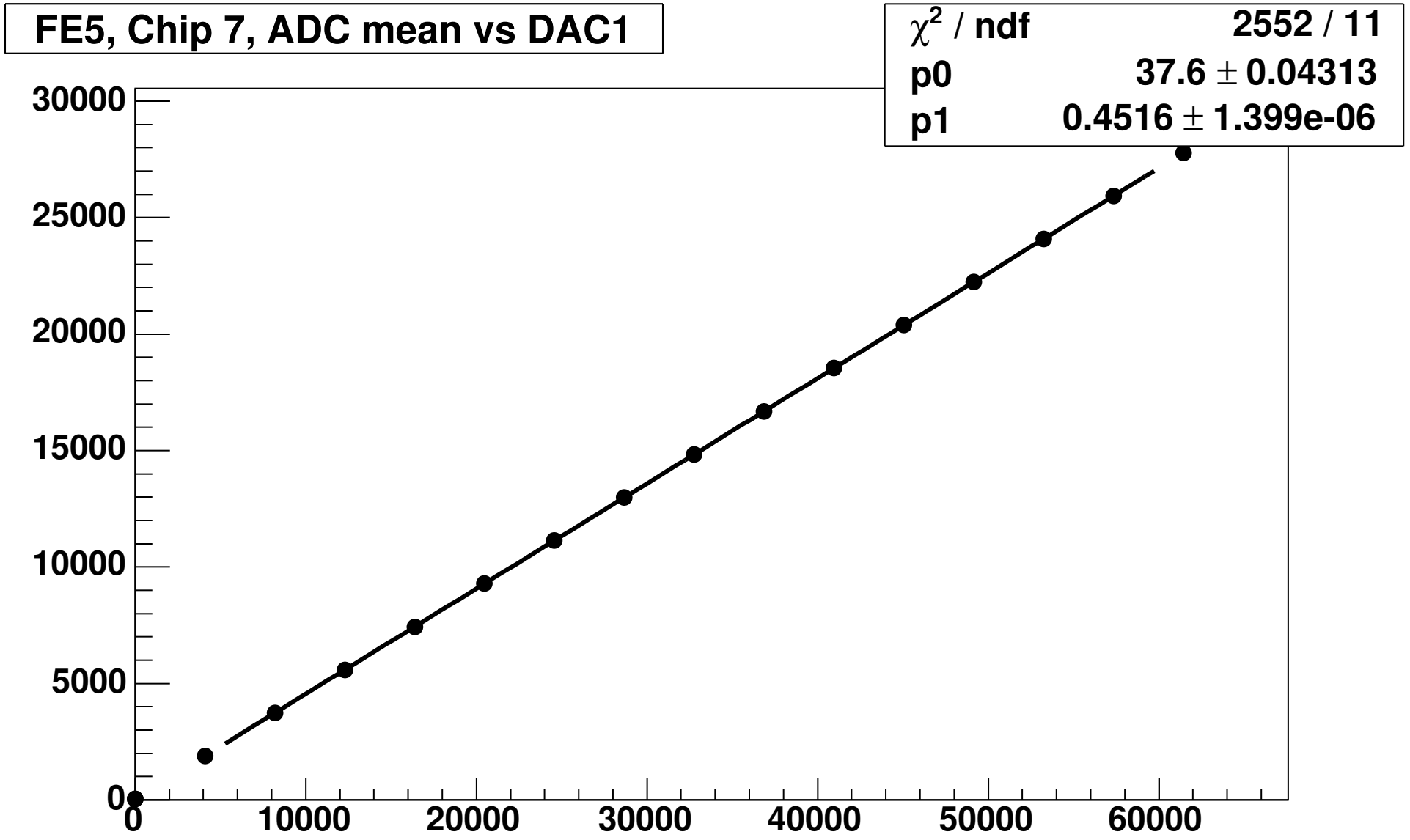

FE5, Chip 6, ADC residuals vs DAC1
2
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

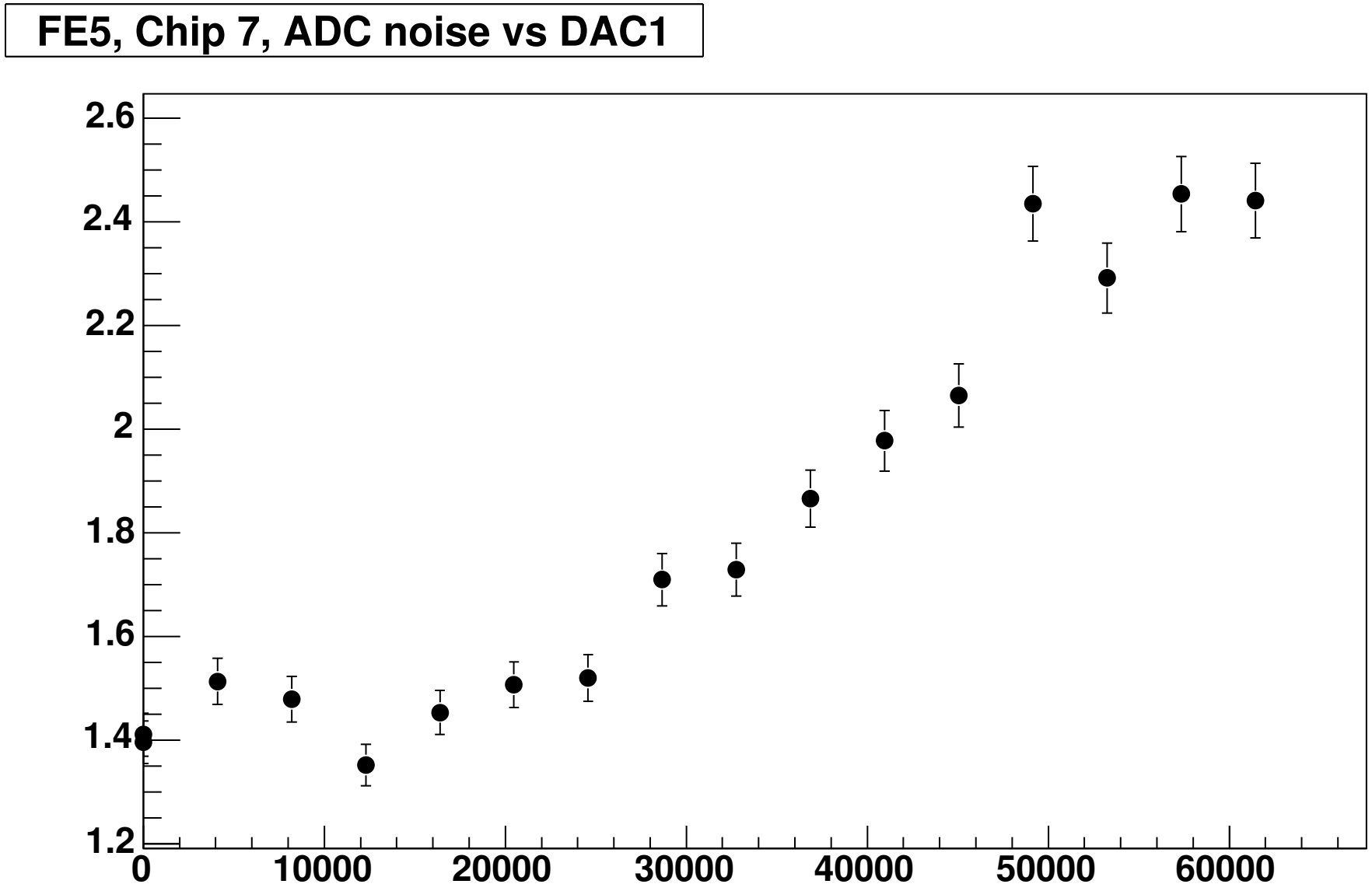

FE5, Chip 7, ADC mean vs DAC0
χ² / ndf 109.2 / 11
p0 38.51 ± 0.03956
p1 -5.312e-06 ± 1.099e-06
40
39.5
39
38.5
38
0
10000
20000
30000
40000
50000
60000


FE5, Chip 7, ADC noise vs DAC0
18
16
14
12
10
8
6
4
2
0
0
10000
20000
30000
40000
50000
60000

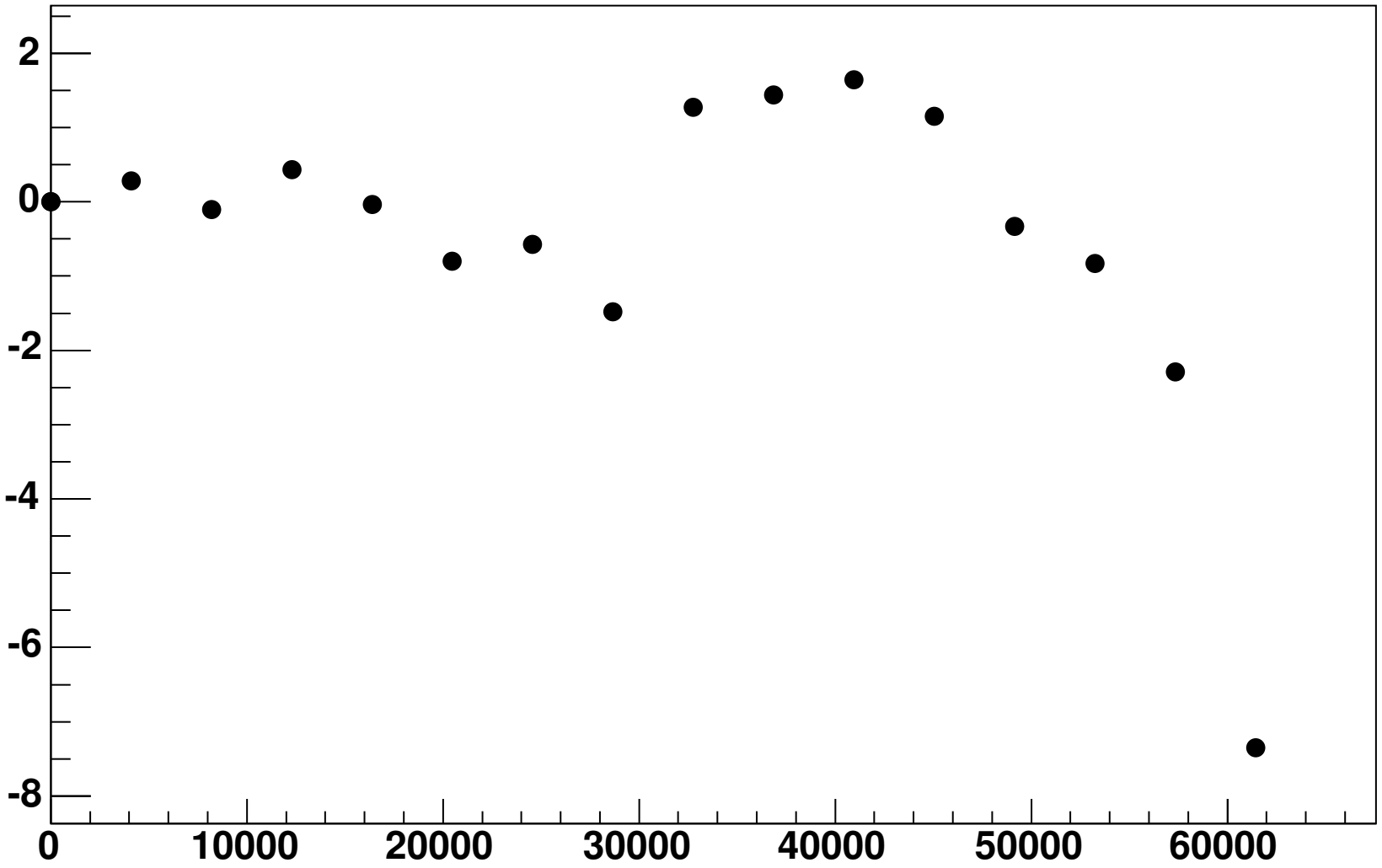
FE5, Chip 7, ADC residuals vs DAC0

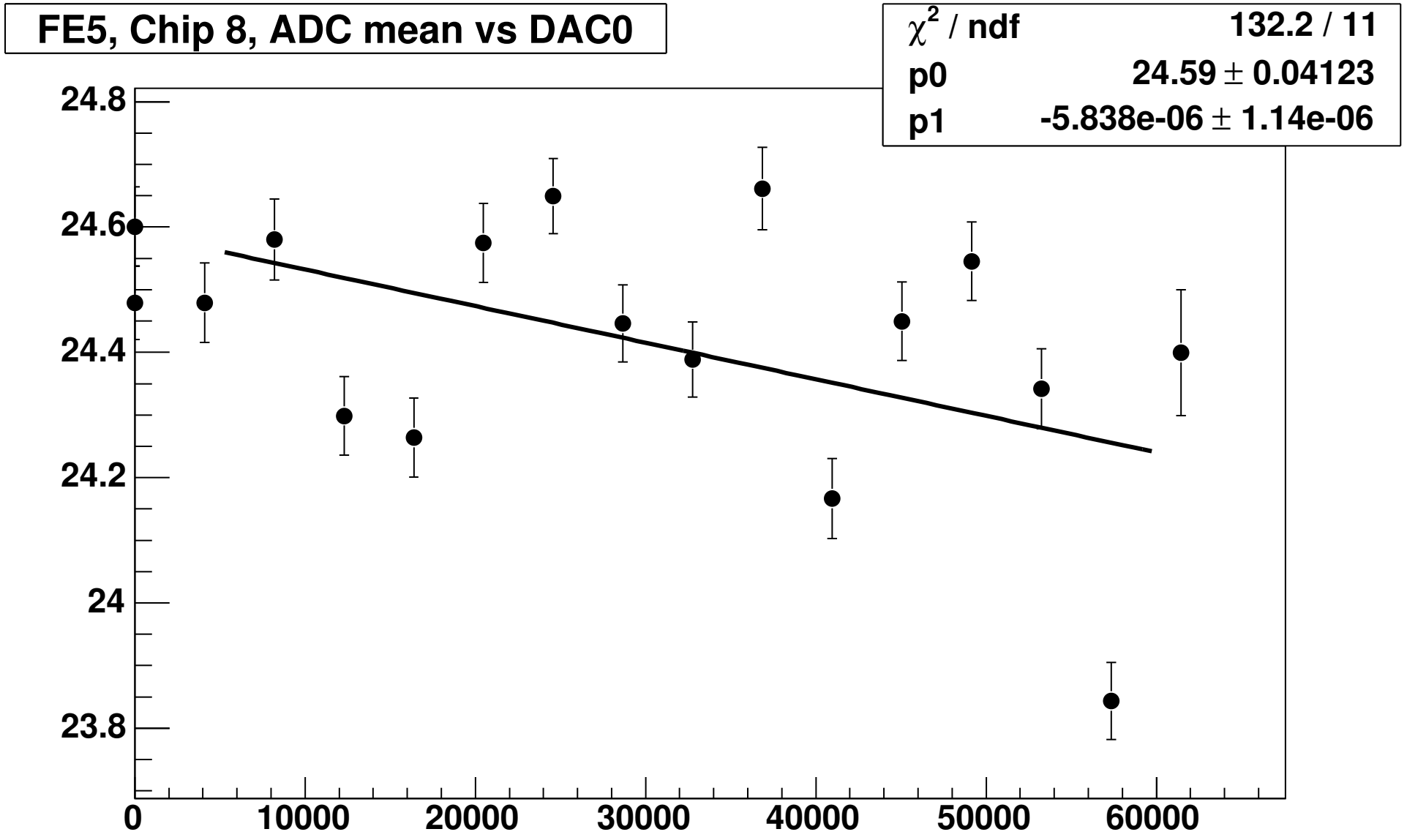


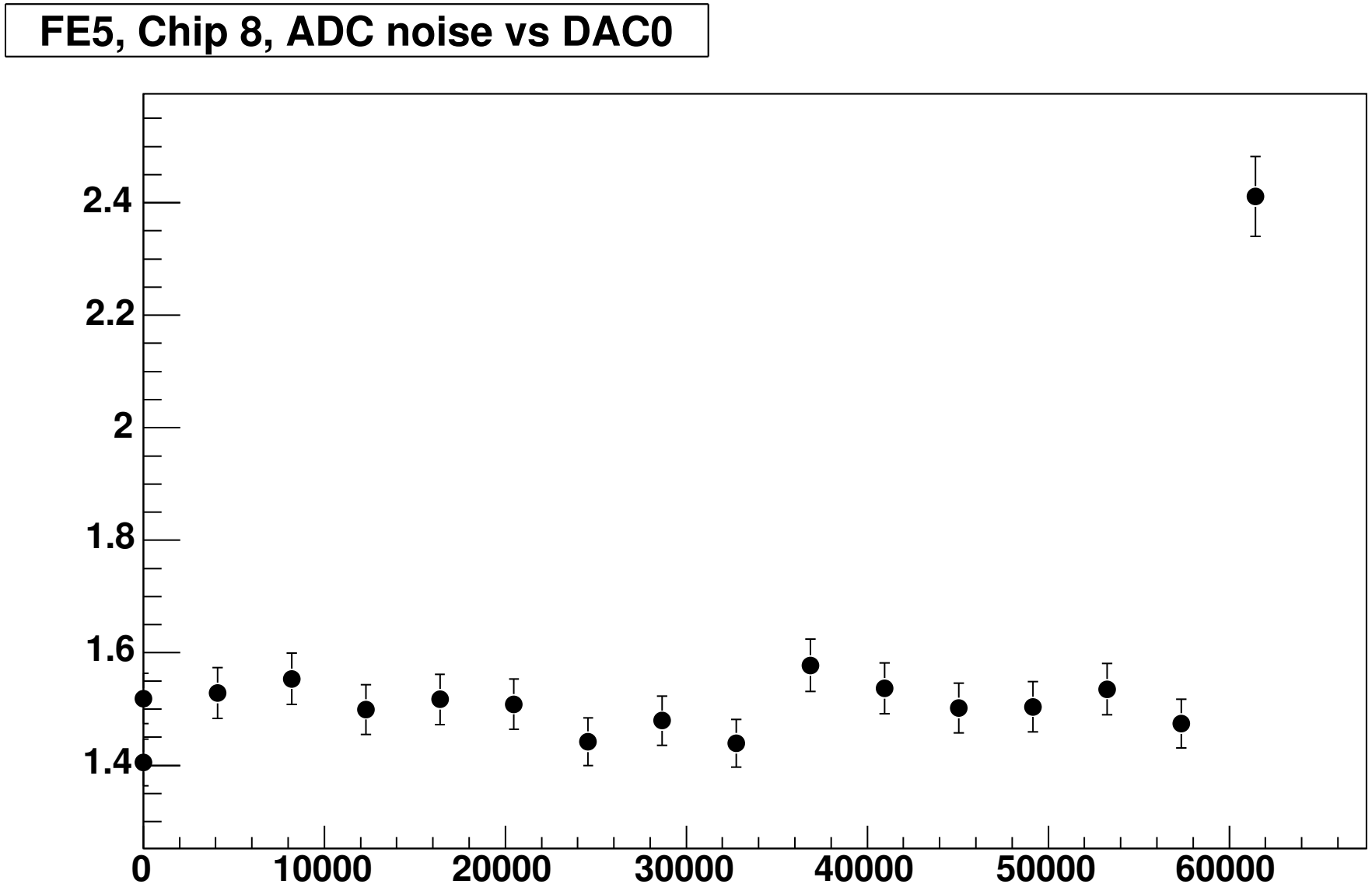

FE5, Chip 7, ADC mean vs DAC1
χ² / ndf 2552 / 11
p0 37.6 ± 0.04313
p1 0.4516 ± 1.399e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

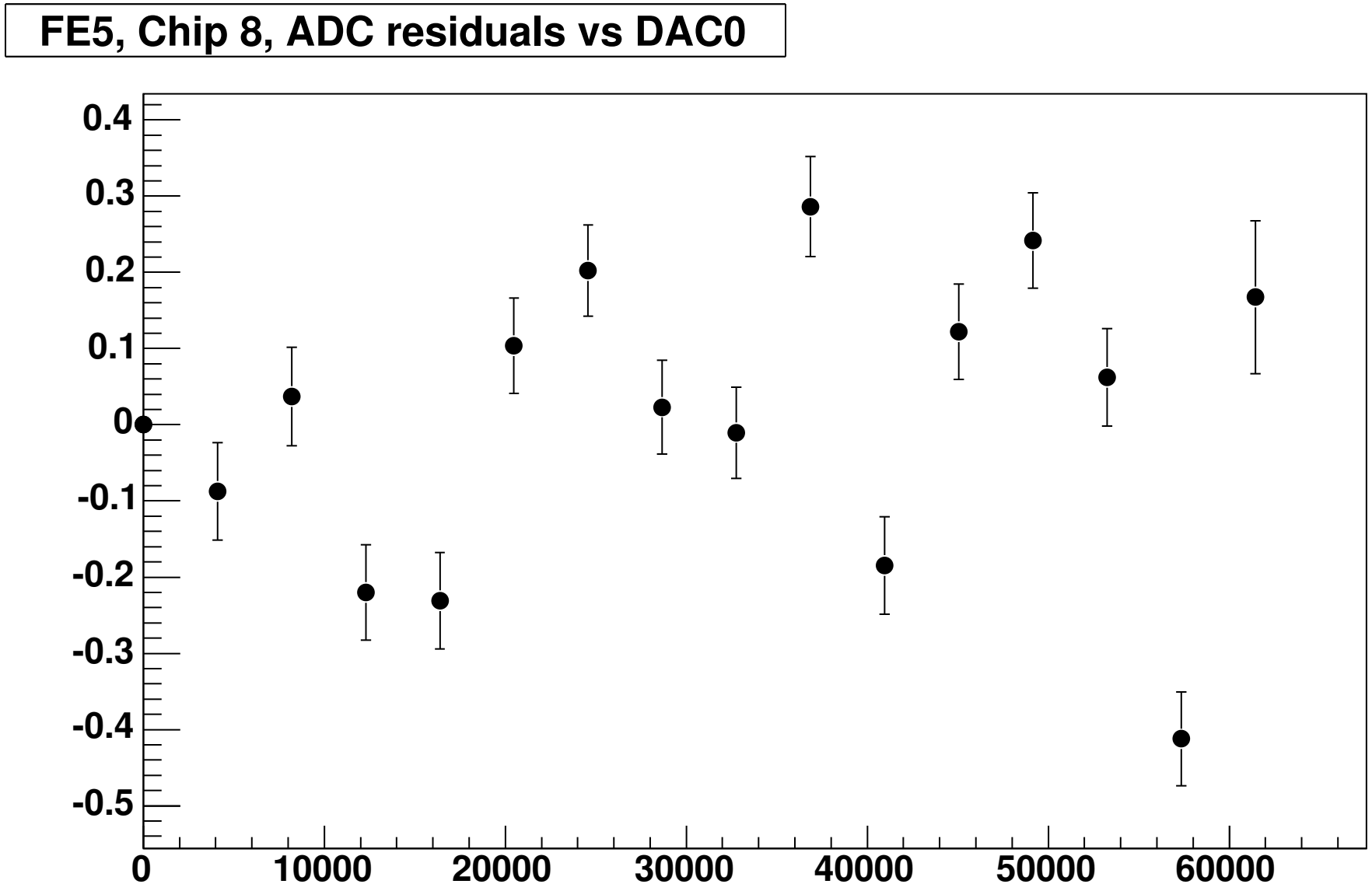

FE5, Chip 7, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

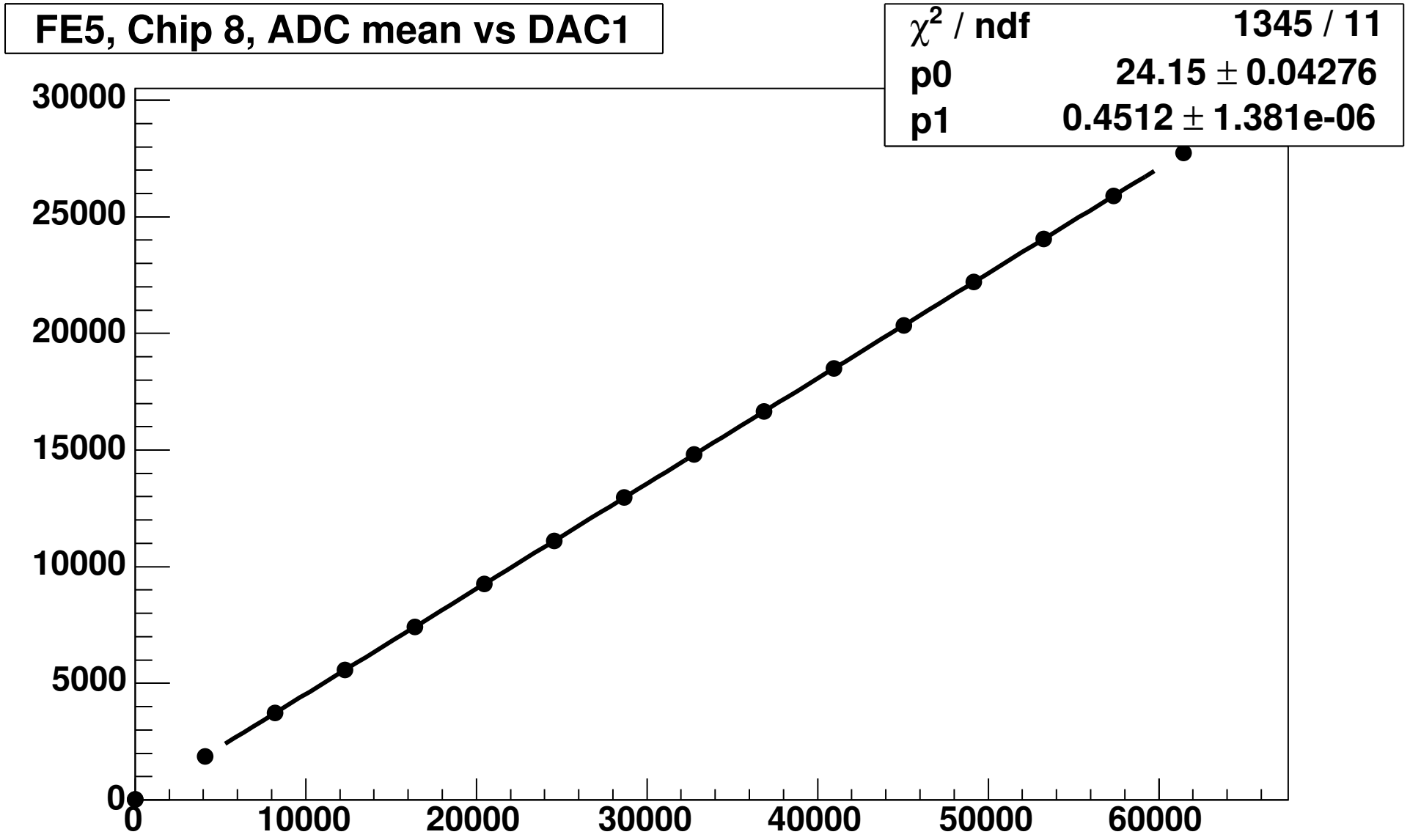
FE5, Chip 7, ADC residuals vs DAC1

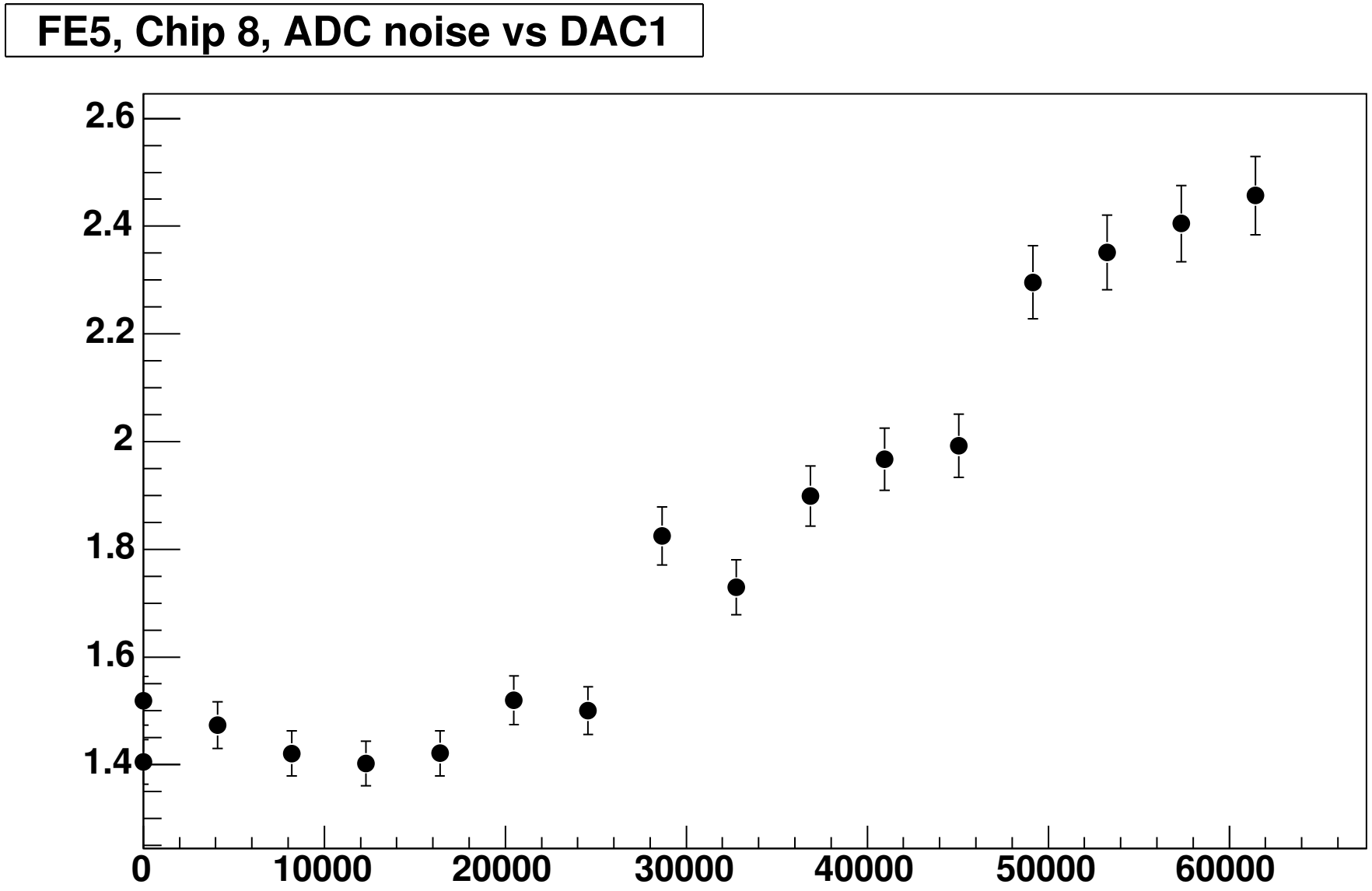


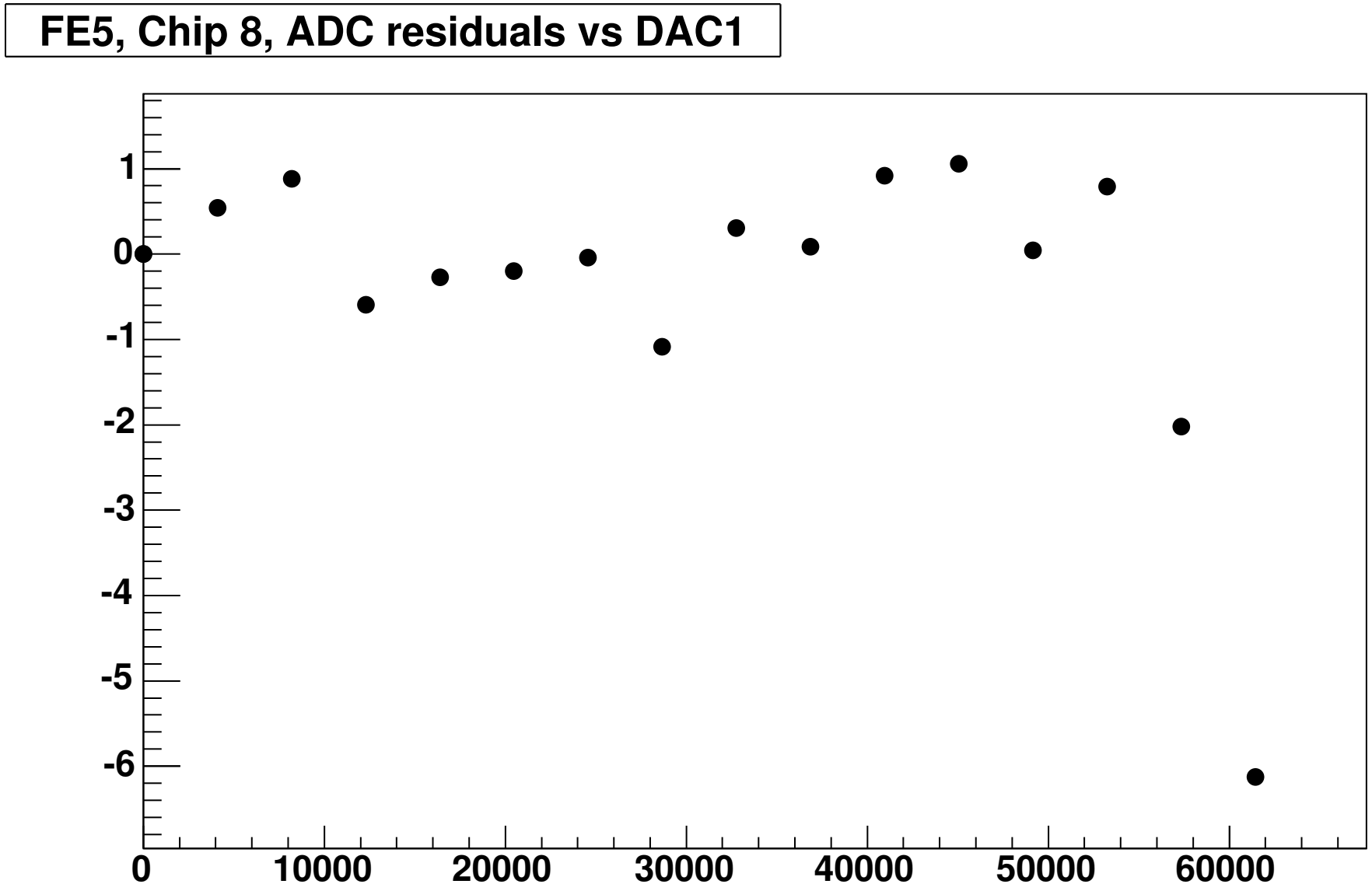

FE5, Chip 8, ADC mean vs DAC0
χ^2 / ndf 132.2 / 11
p0 24.59 ± 0.04123
p1 -5.838e-06 ± 1.14e-06
24.8
24.6
24.4
24.2
24
23.8
0
10000
20000
30000
40000
50000
60000

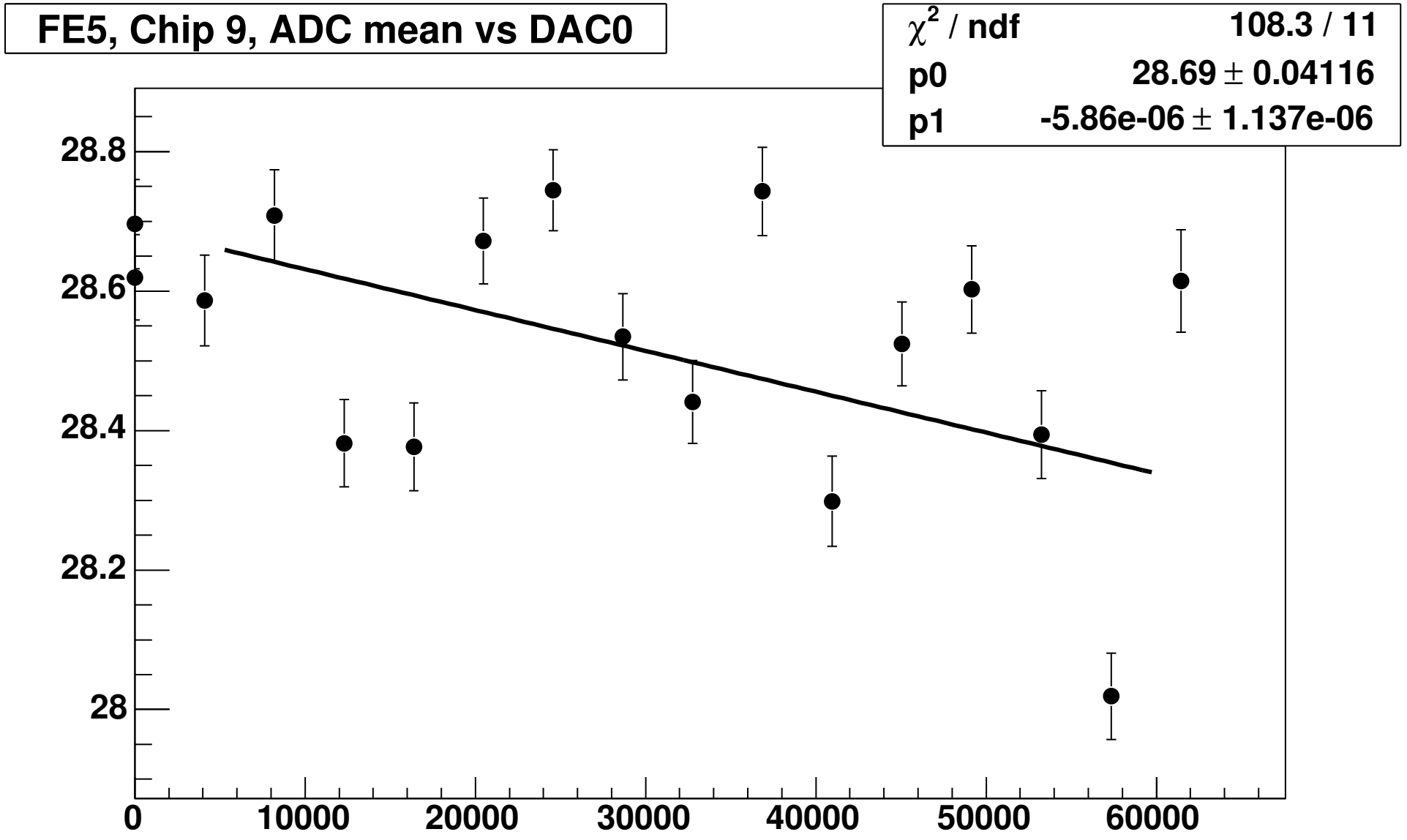

FE5, Chip 8, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

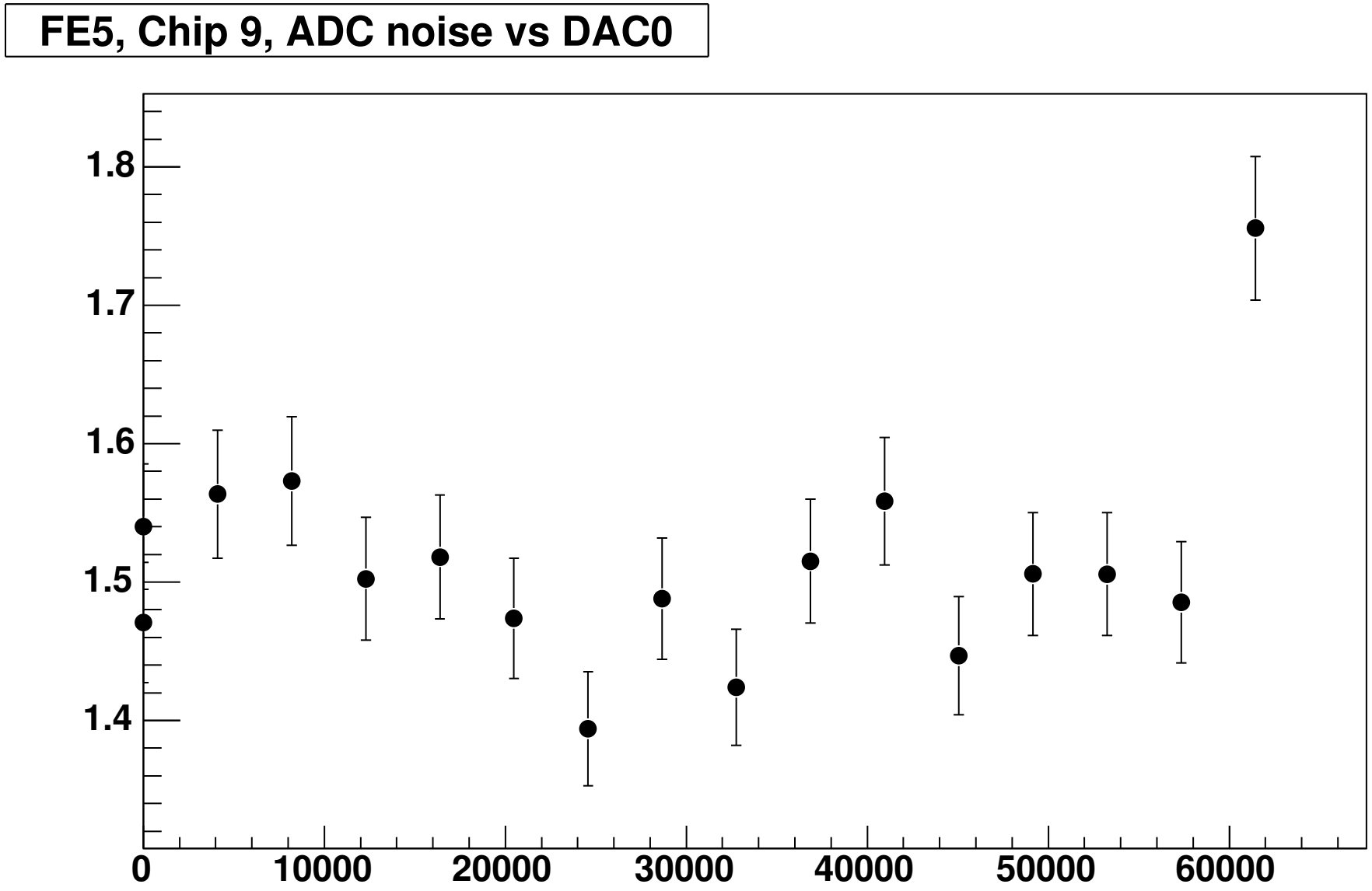

FE5, Chip 8, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
0
10000
20000
30000
40000
50000
60000

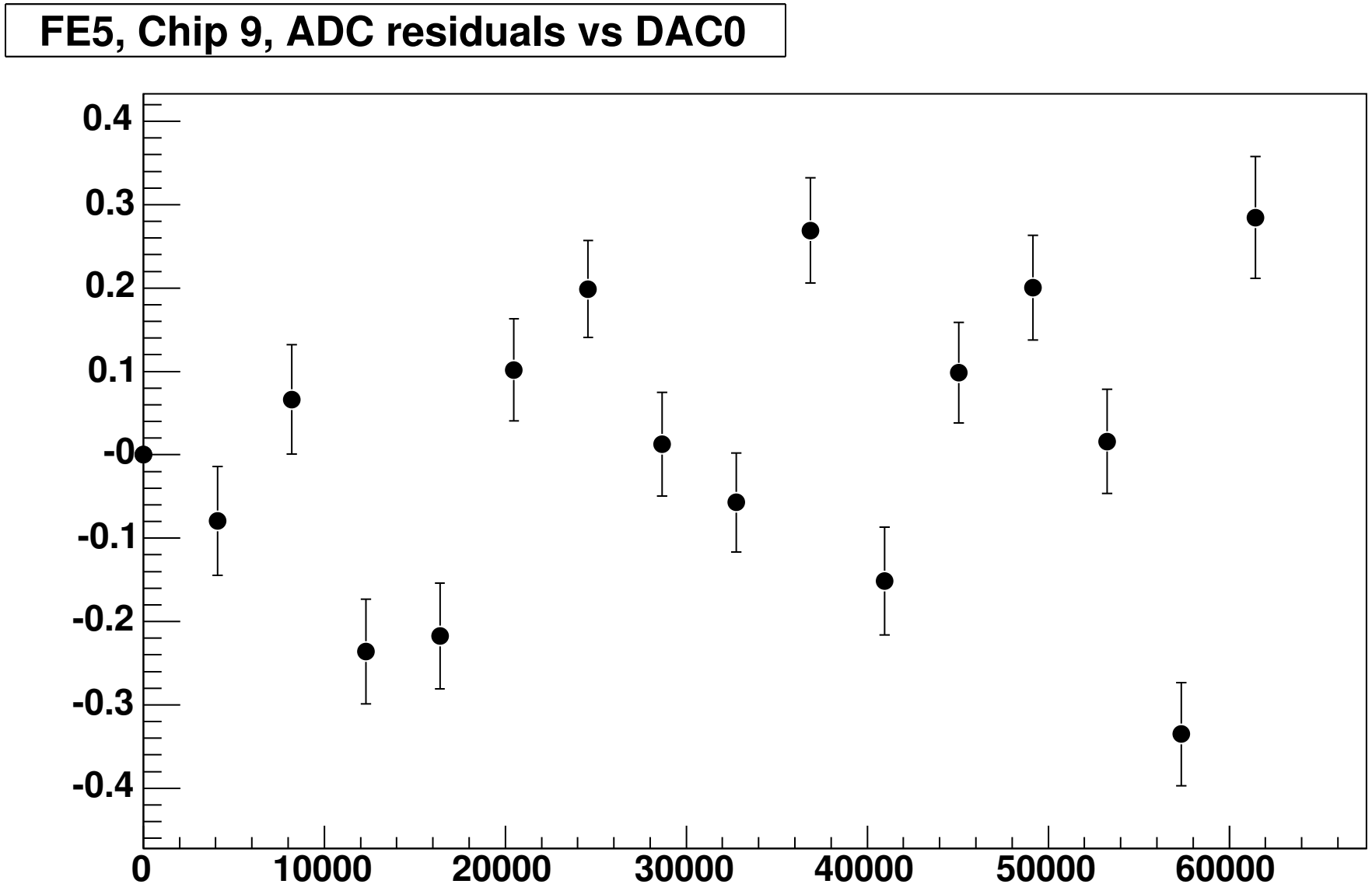

FE5, Chip 8, ADC mean vs DAC1
χ² / ndf 1345 / 11
p0 24.15 ± 0.04276
p1 0.4512 ± 1.381e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

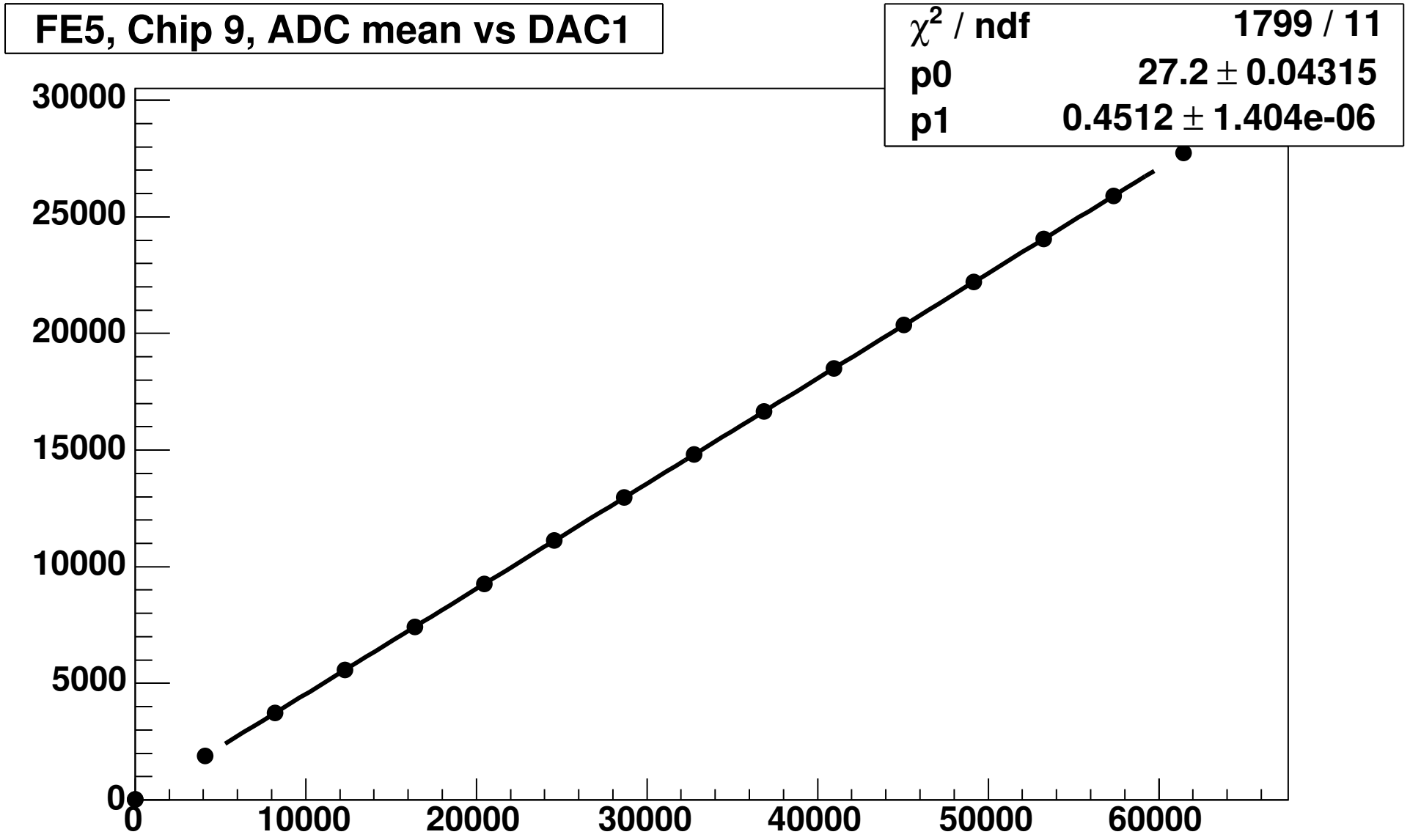

FE5, Chip 8, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

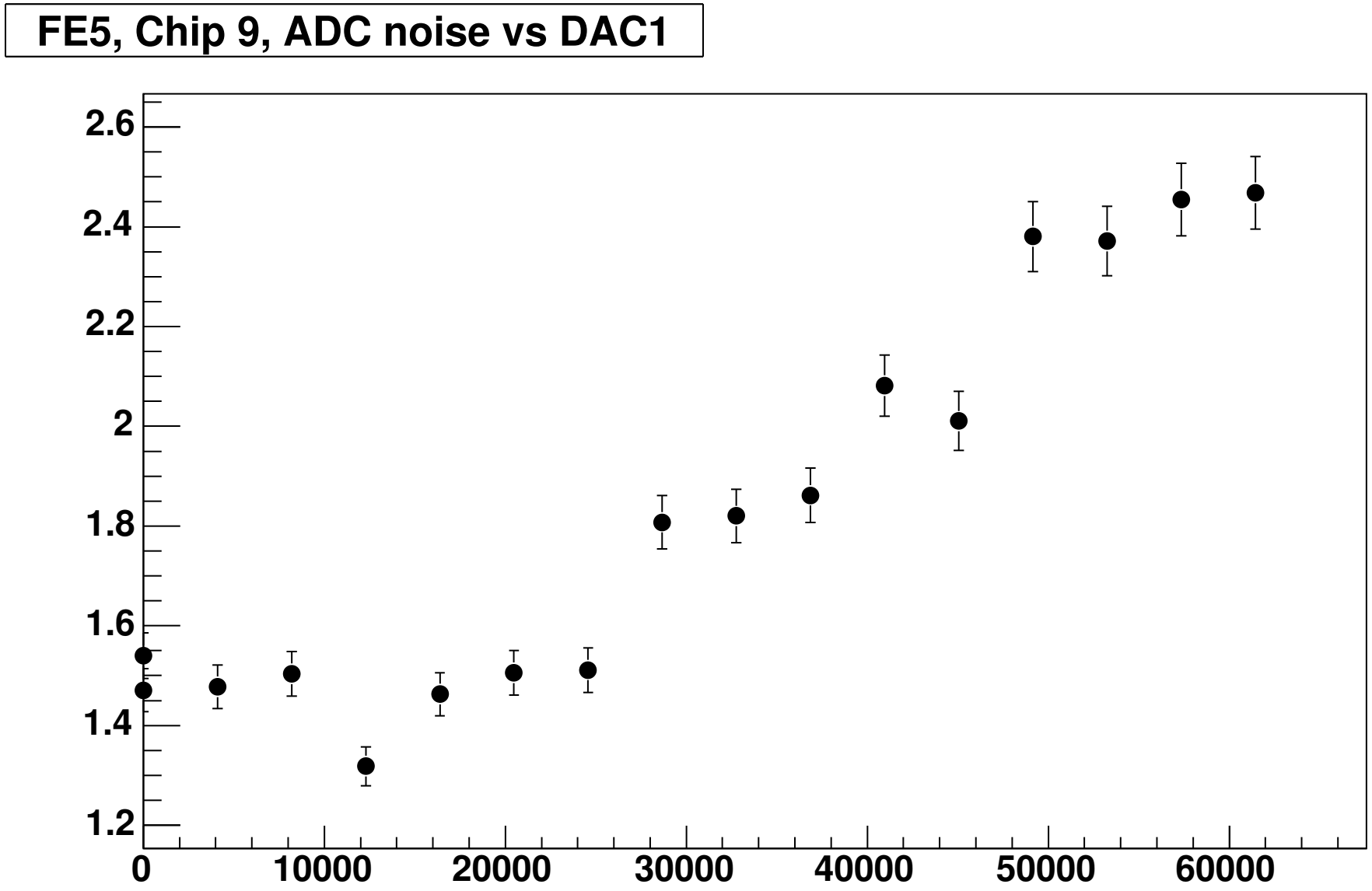

FE5, Chip 8, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

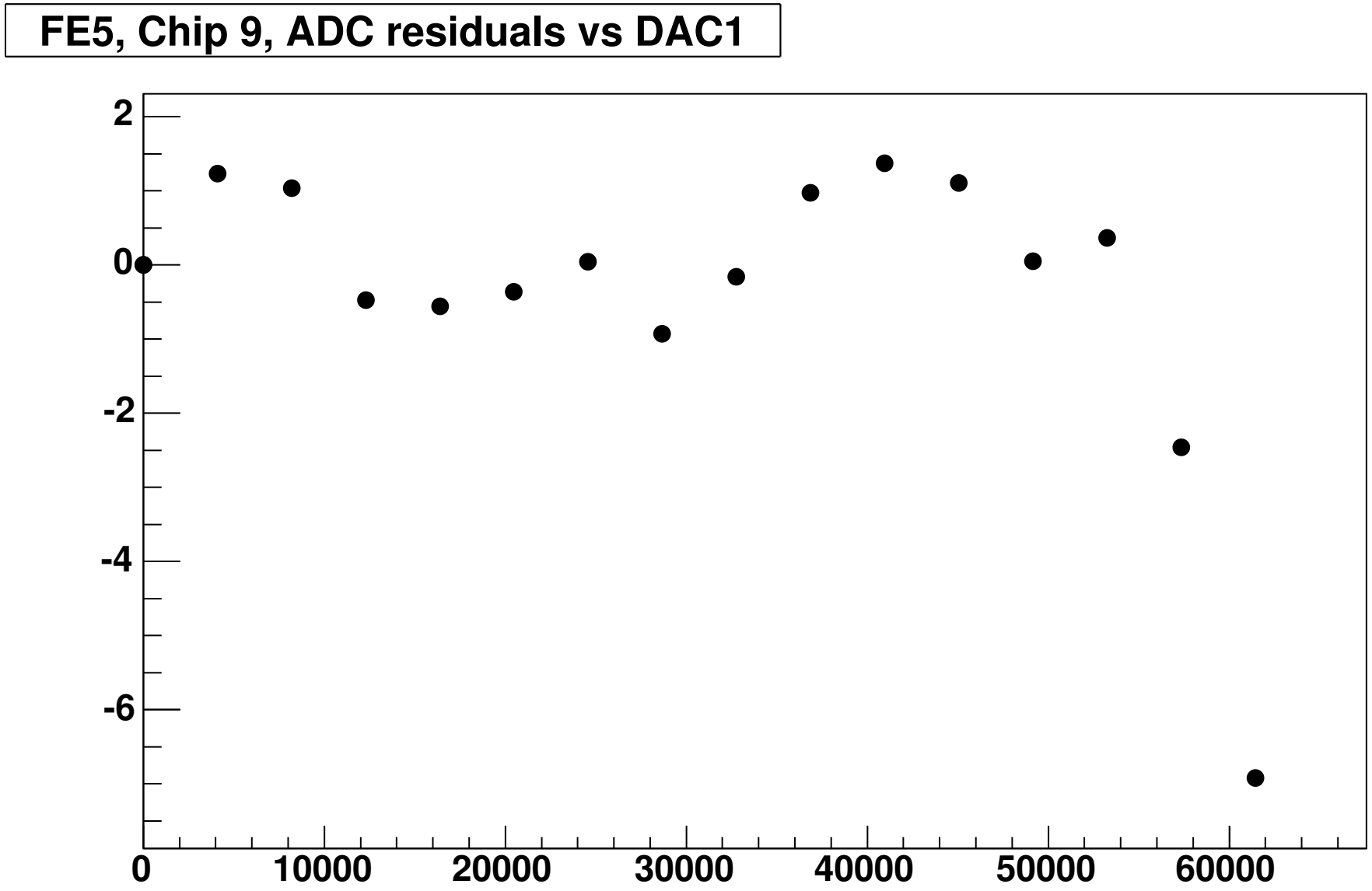

FE5, Chip 9, ADC mean vs DAC0
χ² / ndf 108.3 / 11
p0 28.69 ± 0.04116
p1 -5.86e-06 ± 1.137e-06
28.8
28.6
28.4
28.2
28
0
10000
20000
30000
40000
50000
60000

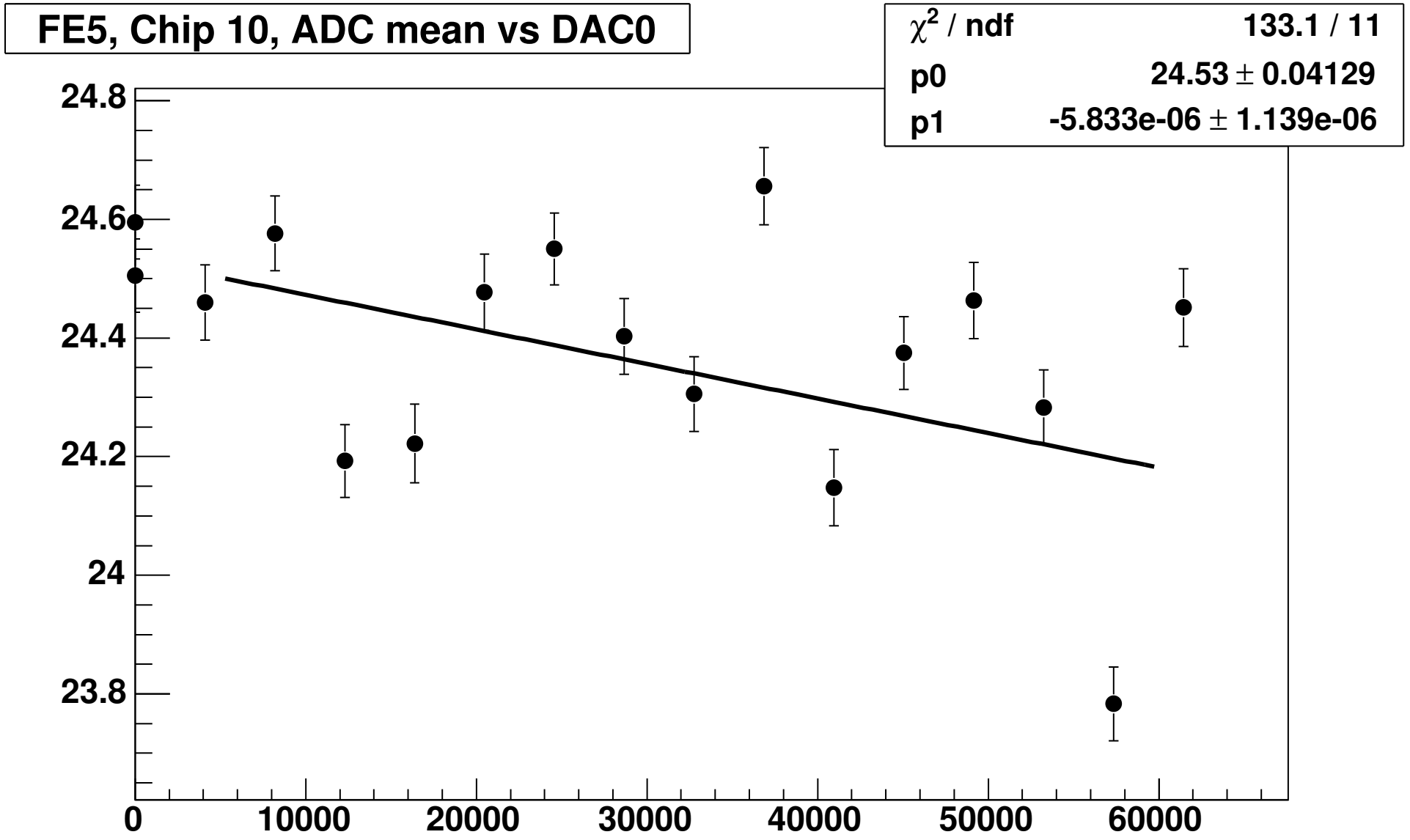

FE5, Chip 9, ADC noise vs DAC0
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

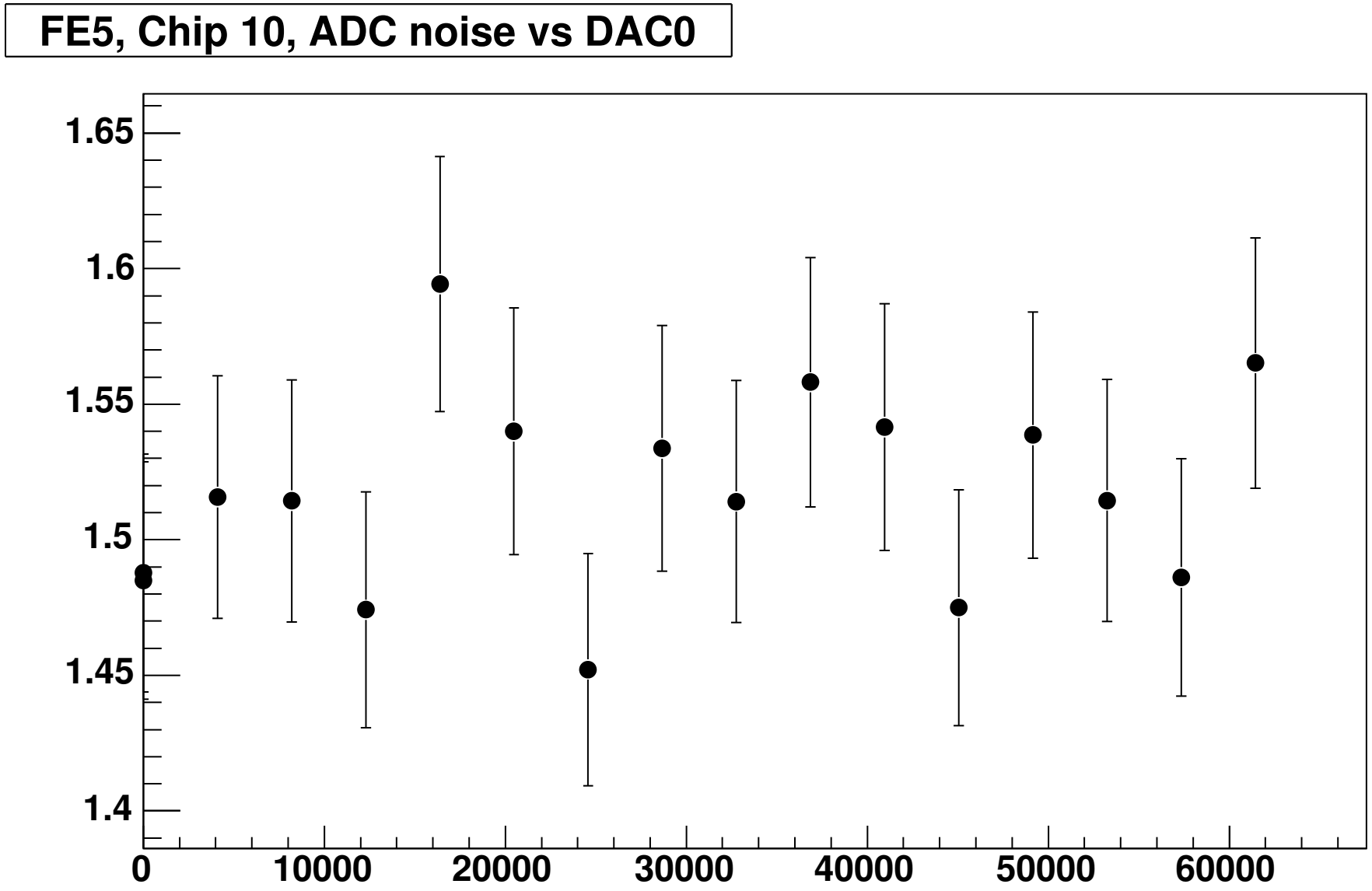

FE5, Chip 9, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

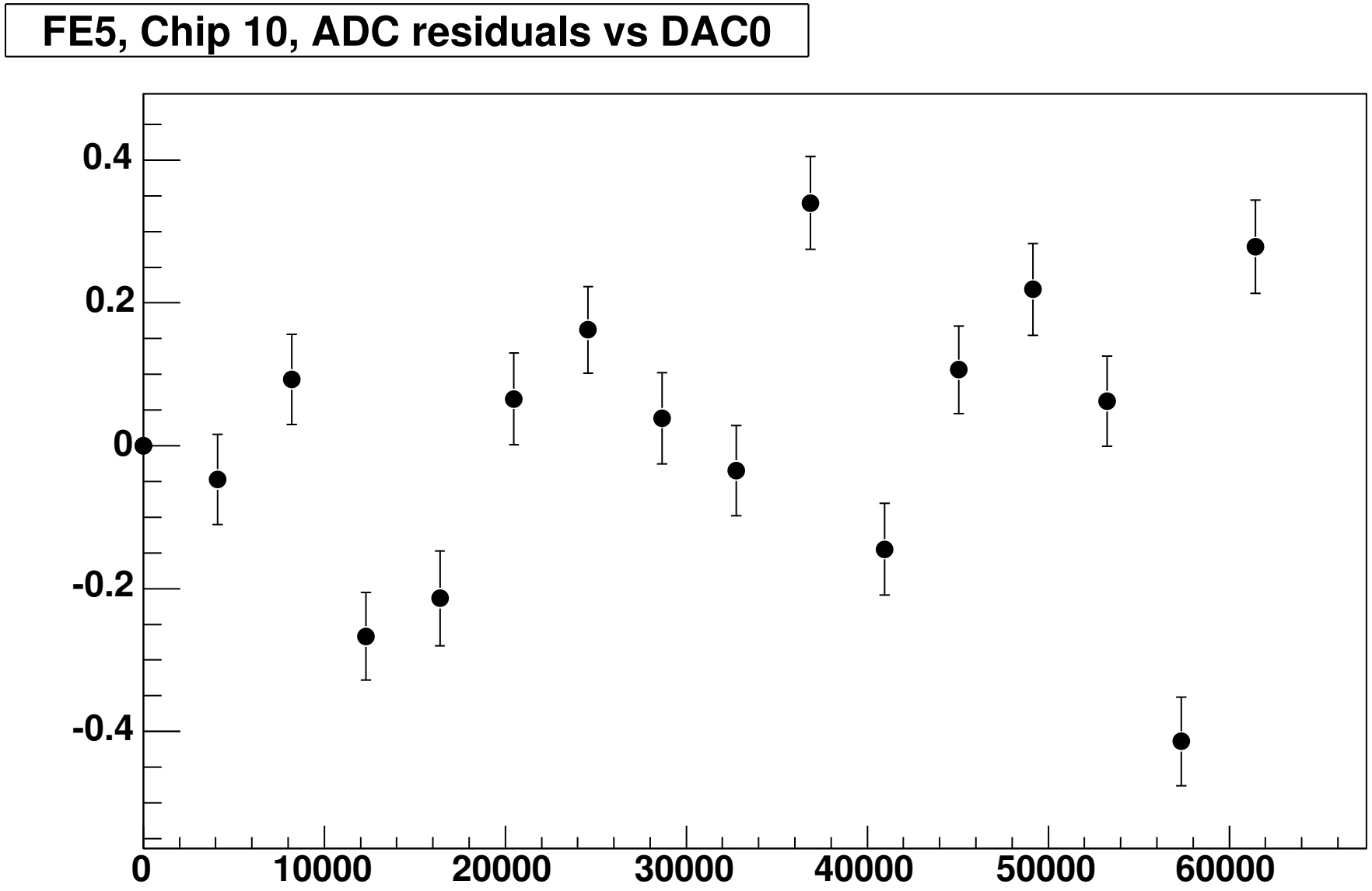

FE5, Chip 9, ADC mean vs DAC1
χ² / ndf 1799 / 11
p0 27.2 ± 0.04315
p1 0.4512 ± 1.404e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

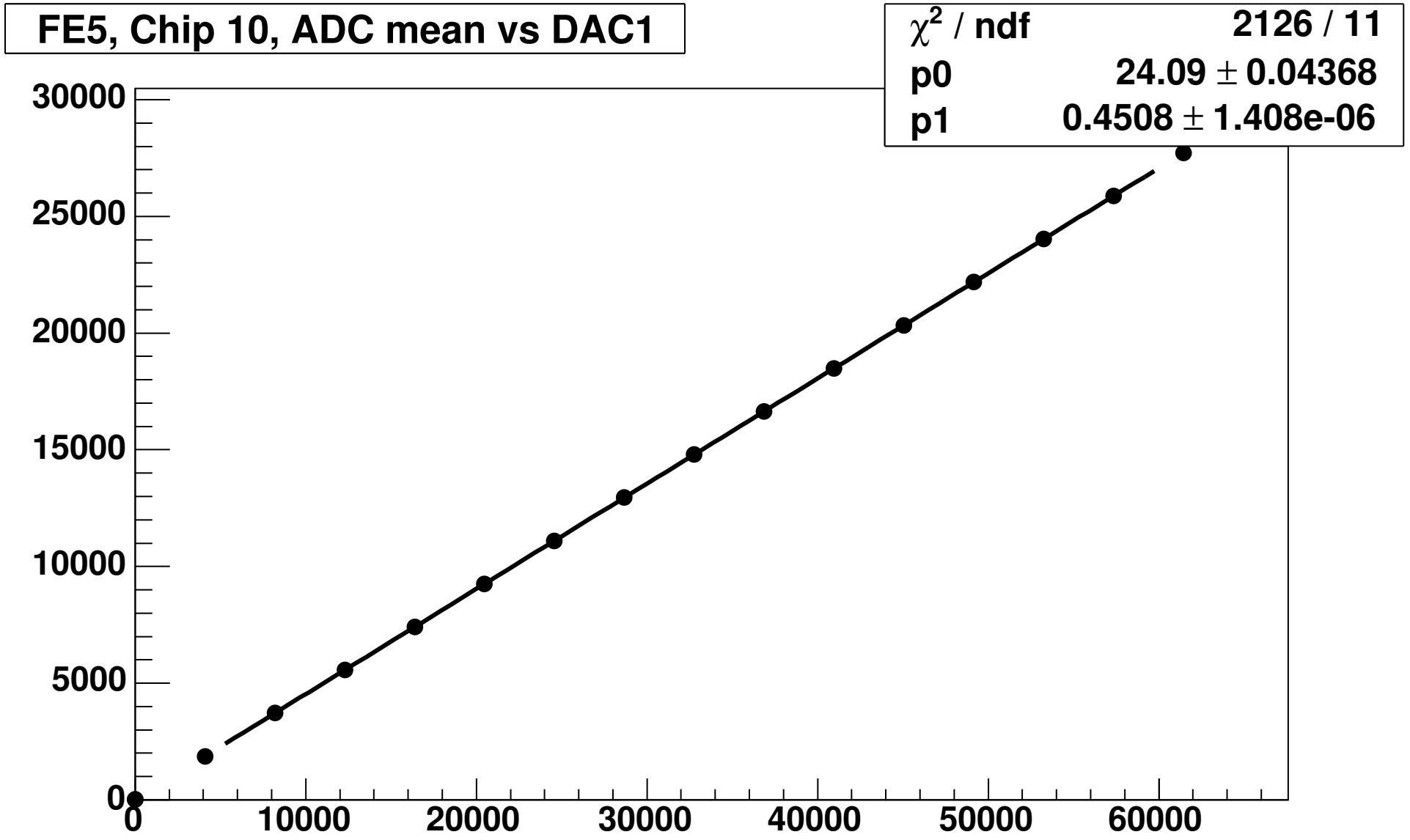

FE5, Chip 9, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

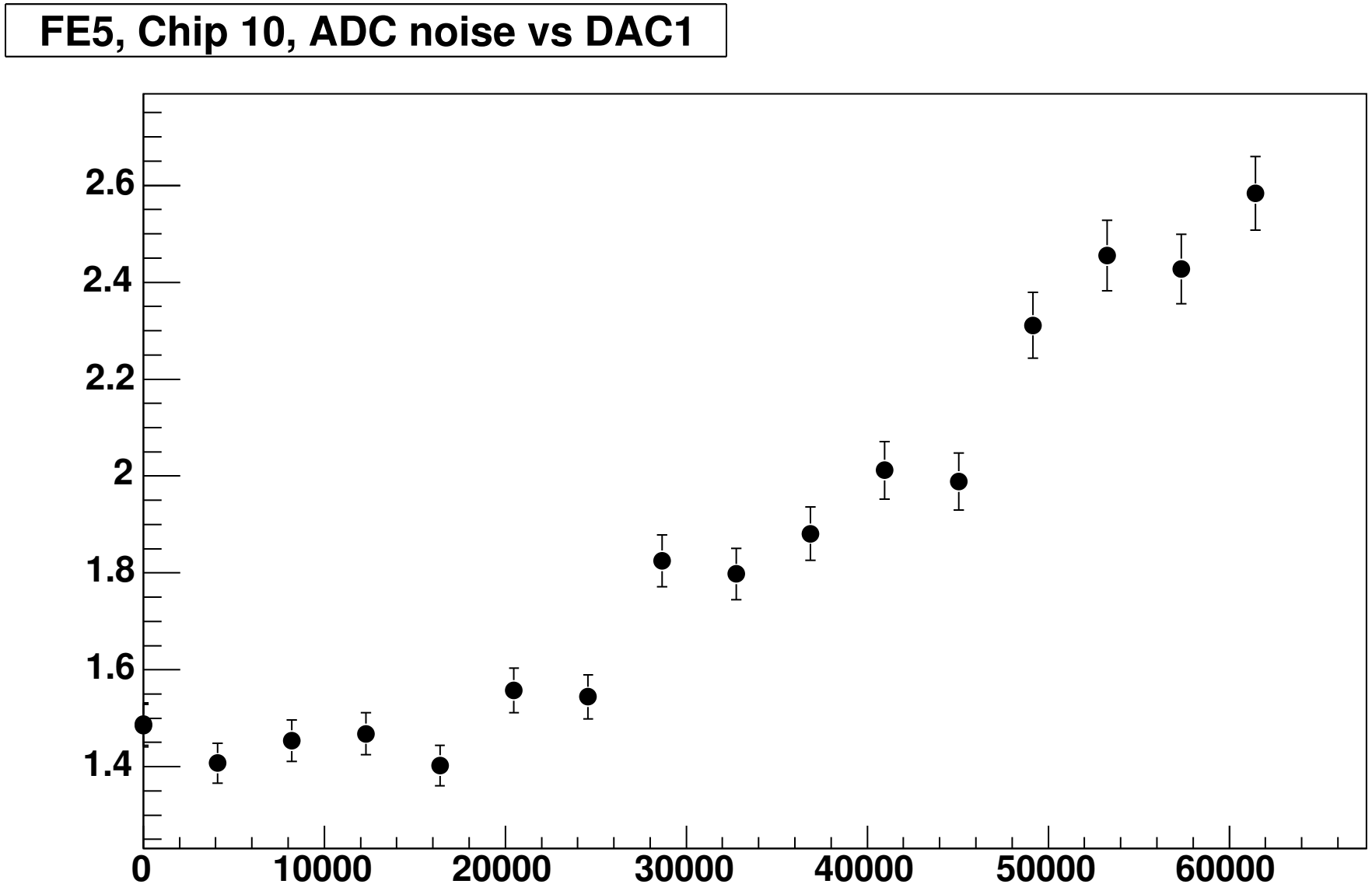

FE5, Chip 9, ADC residuals vs DAC1
2
0
-2
-4
-6
0
10000
20000
30000
40000
50000
60000

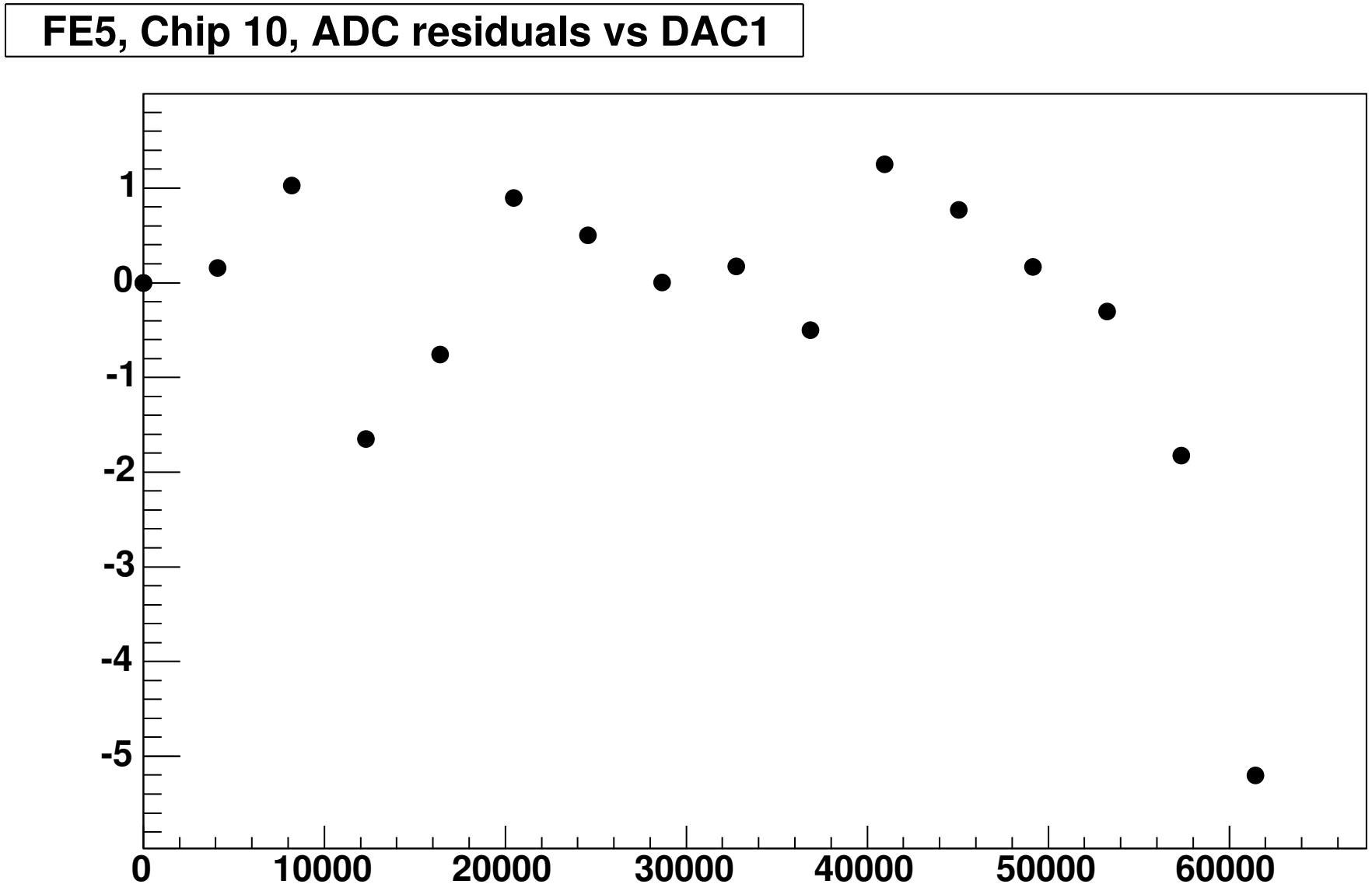

FE5, Chip 10, ADC mean vs DAC0
χ² / ndf 133.1 / 11
p0 24.53 ± 0.04129
p1 -5.833e-06 ± 1.139e-06
24.8
24.6
24.4
24.2
24
23.8
0
10000
20000
30000
40000
50000
60000

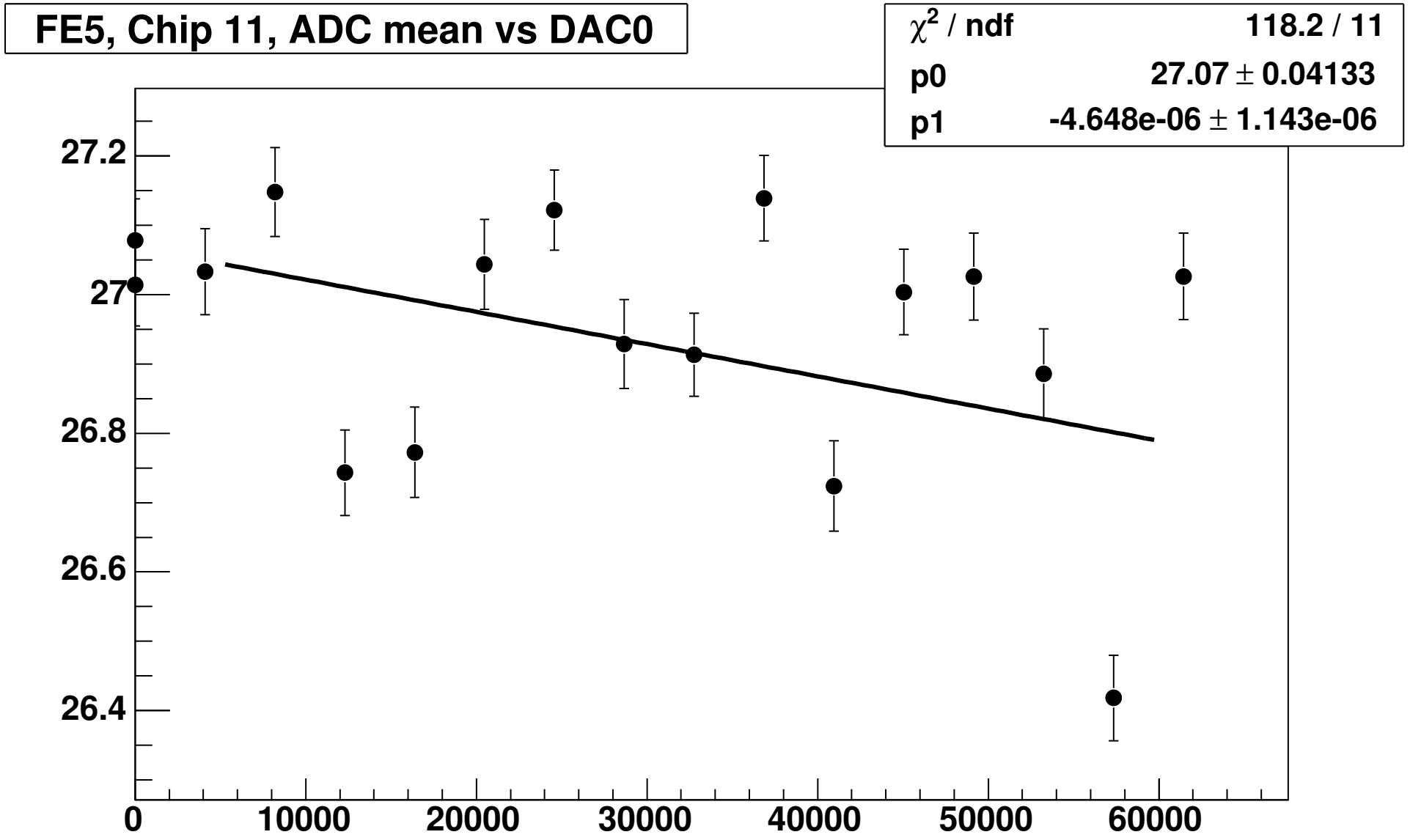

FE5, Chip 10, ADC noise vs DAC0
1.65
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

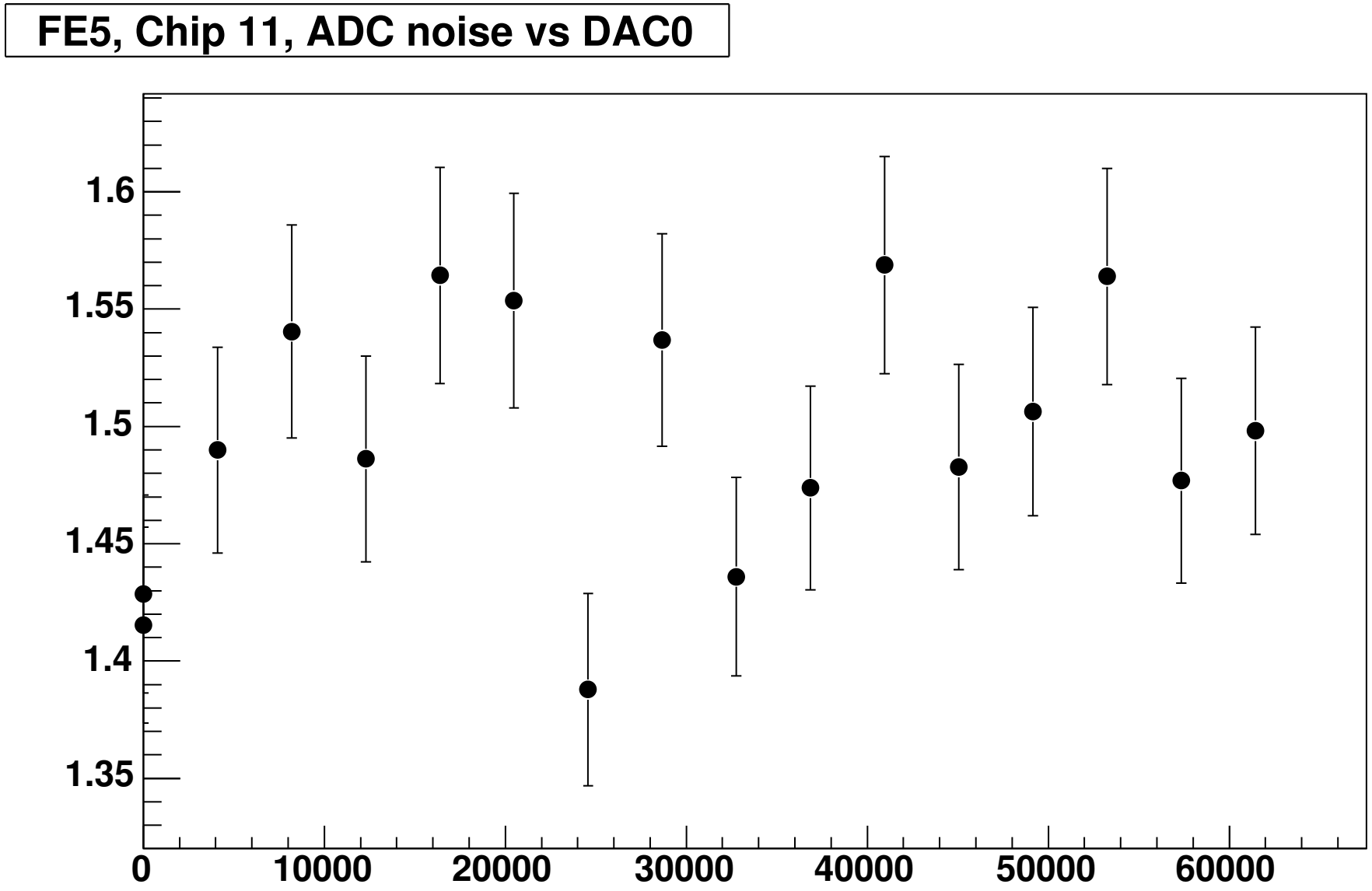

FE5, Chip 10, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
10000
20000
30000
40000
50000
60000

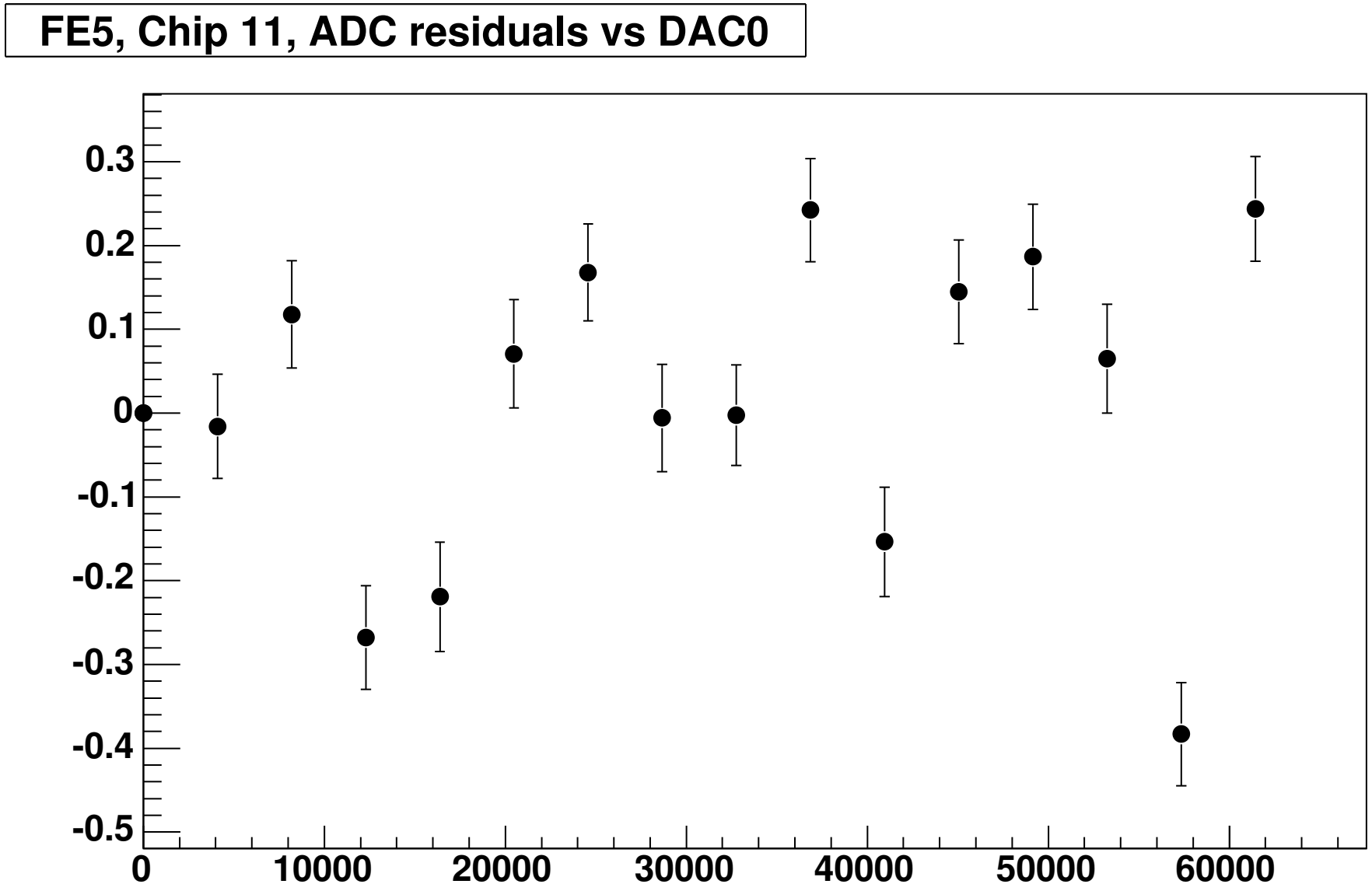

FE5, Chip 10, ADC mean vs DAC1
χ² / ndf 2126 / 11
p0 24.09 ± 0.04368
p1 0.4508 ± 1.408e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

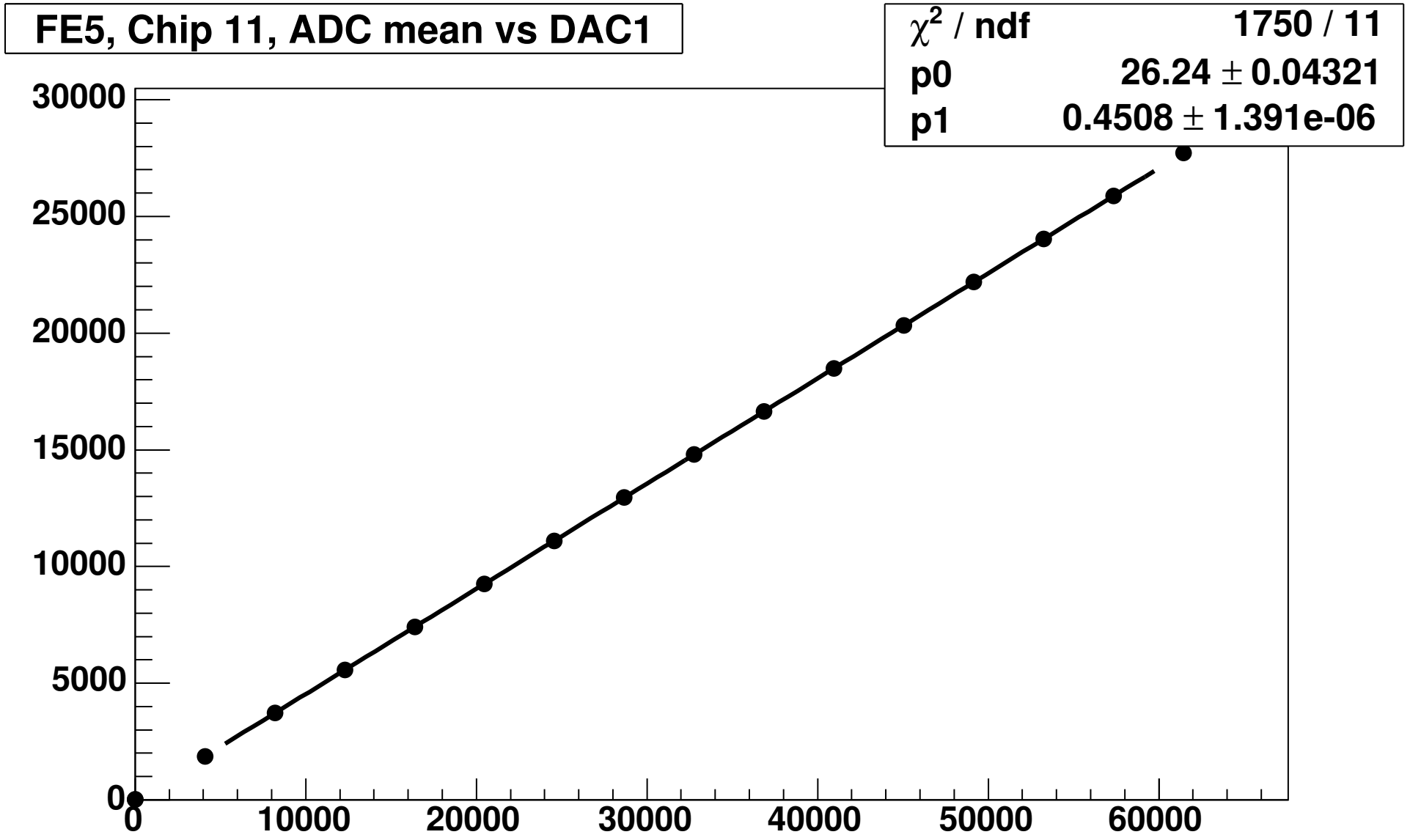

FE5, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

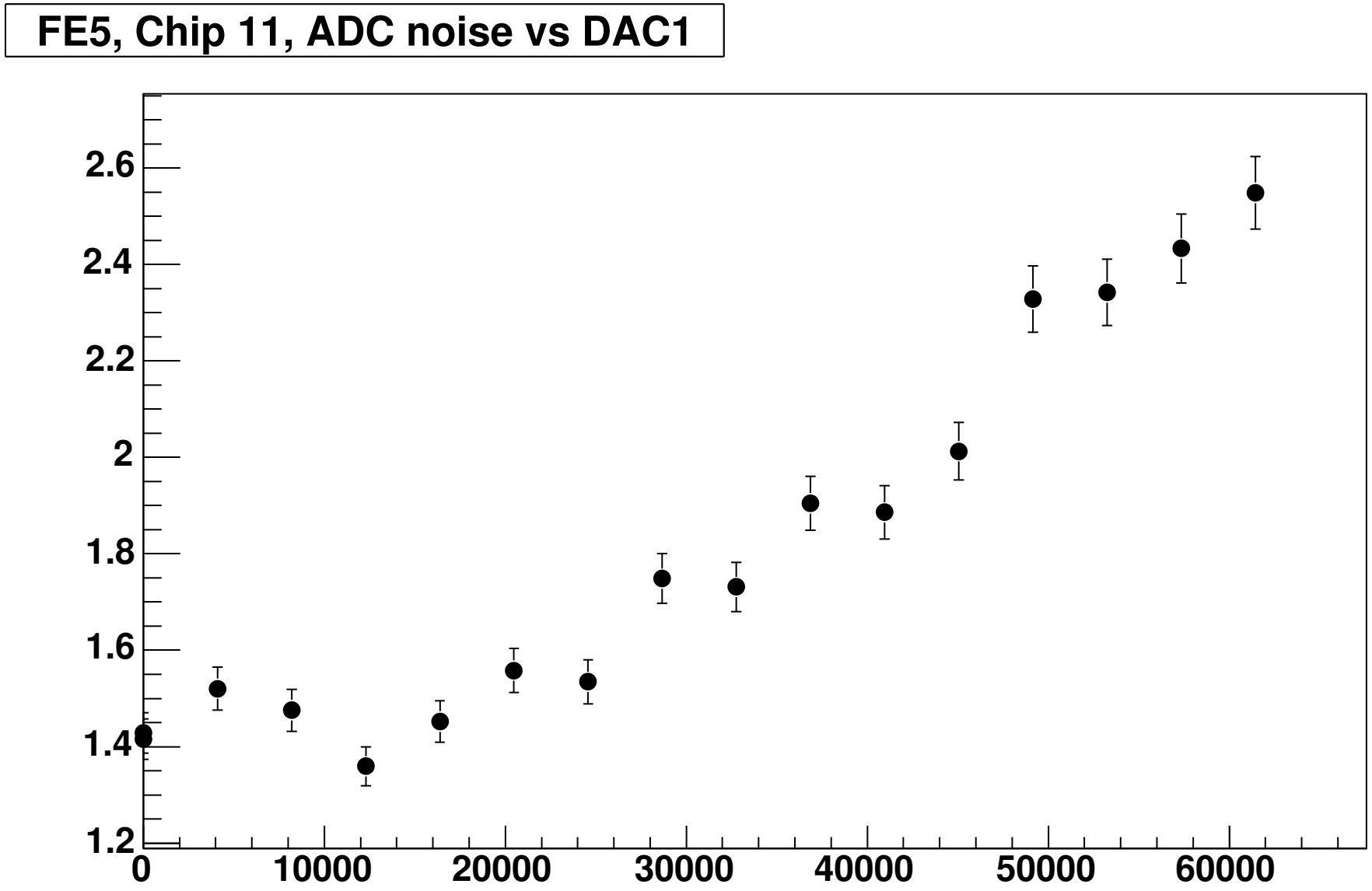

FE5, Chip 10, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

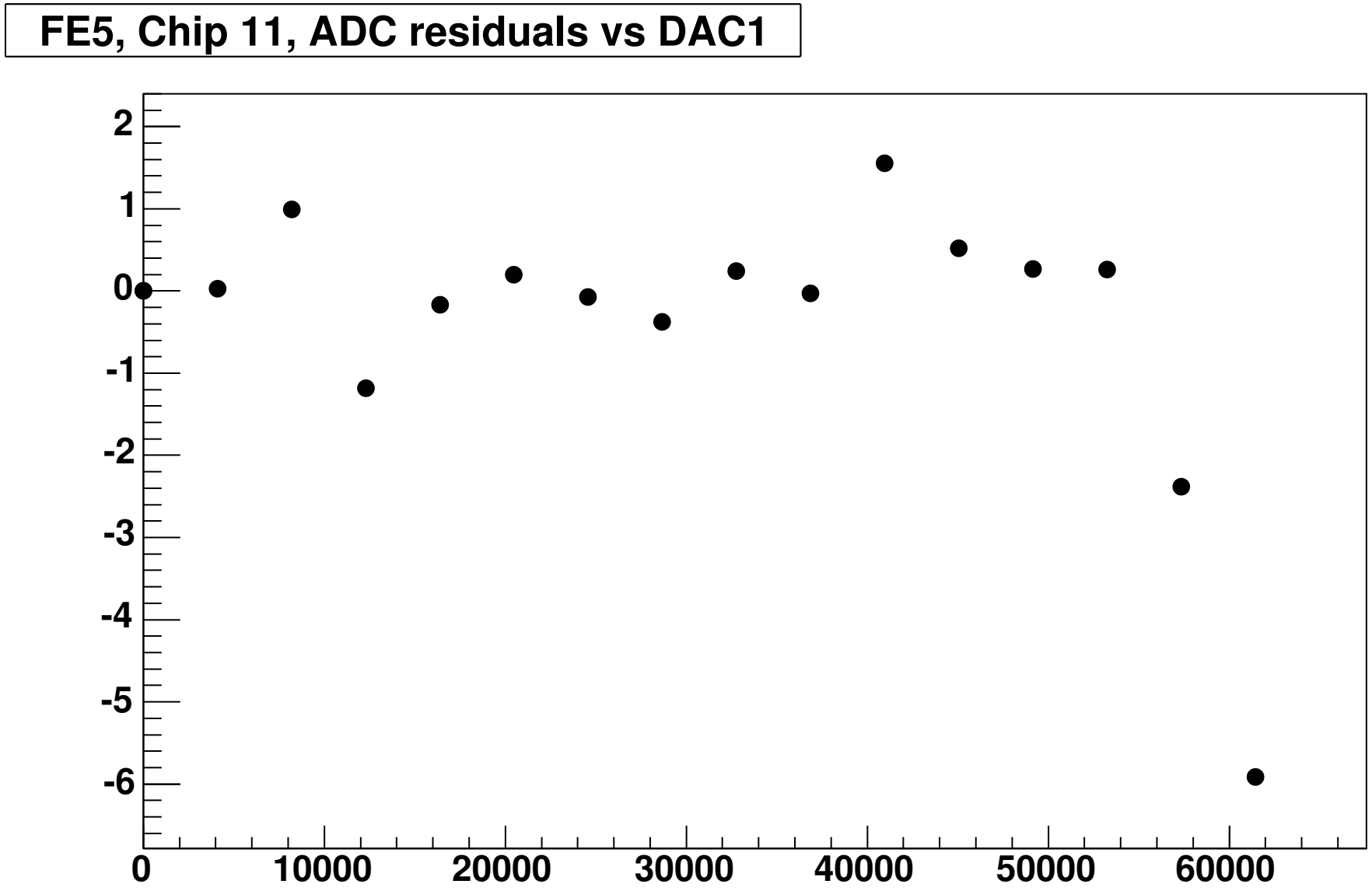

FE5, Chip 11, ADC mean vs DAC0
χ² / ndf 118.2 / 11
p0 27.07 ± 0.04133
p1 -4.648e-06 ± 1.143e-06
27.2
27
26.8
26.6
26.4
0
10000
20000
30000
40000
50000
60000

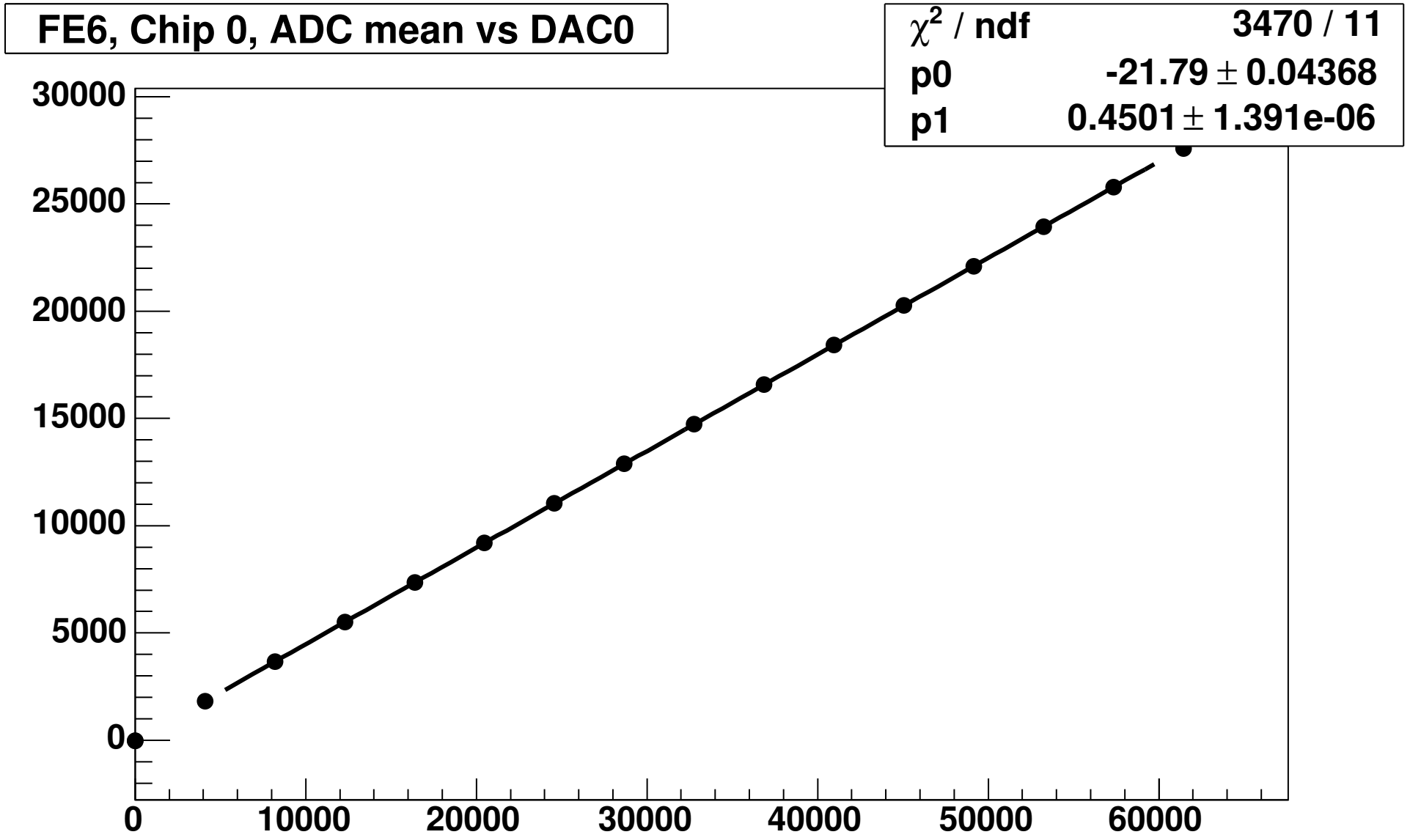

FE5, Chip 11, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

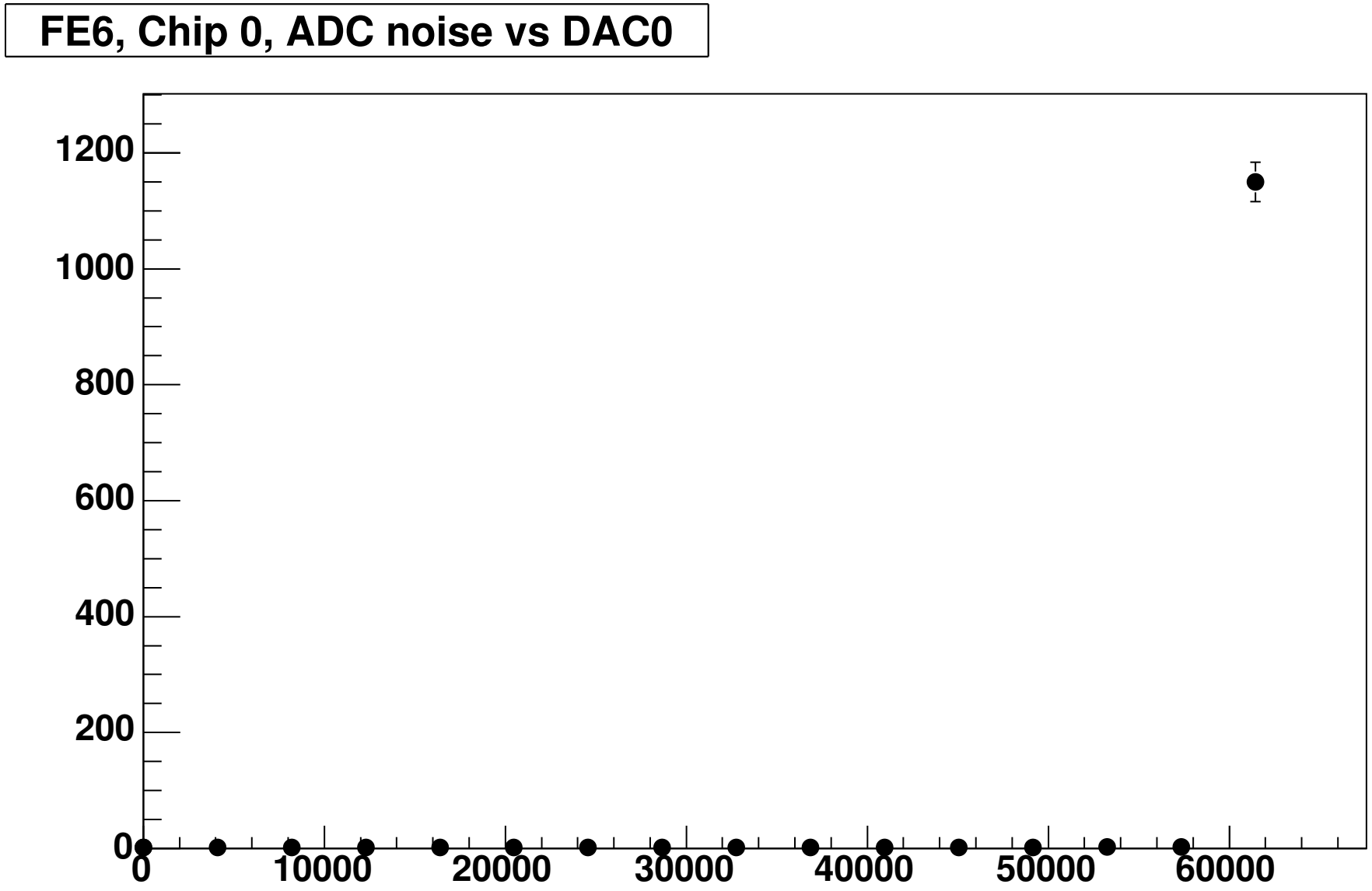

FE5, Chip 11, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
0
10000
20000
30000
40000
50000
60000

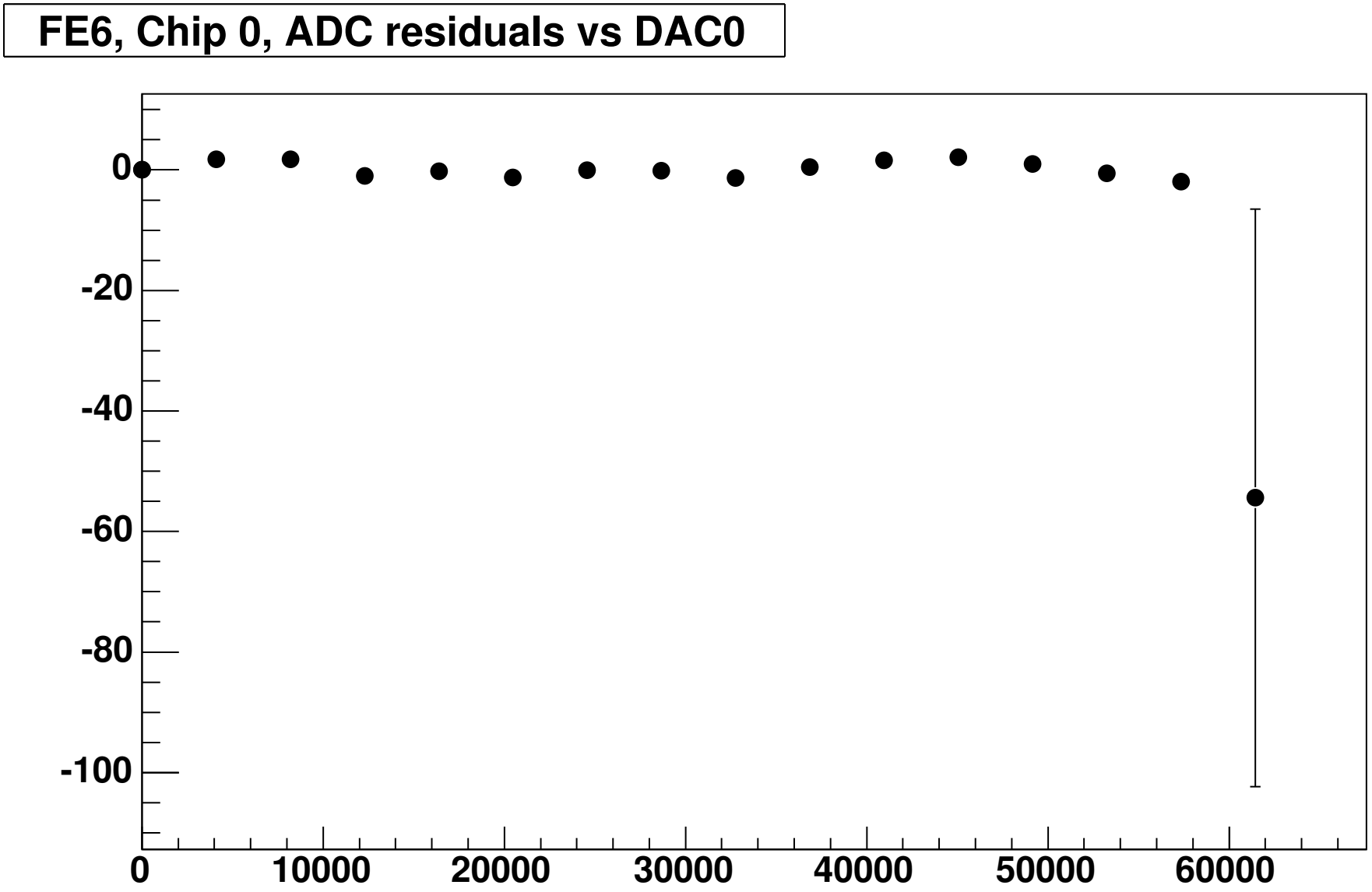

FE5, Chip 11, ADC mean vs DAC1
χ² / ndf 1750 / 11
p0 26.24 ± 0.04321
p1 0.4508 ± 1.391e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

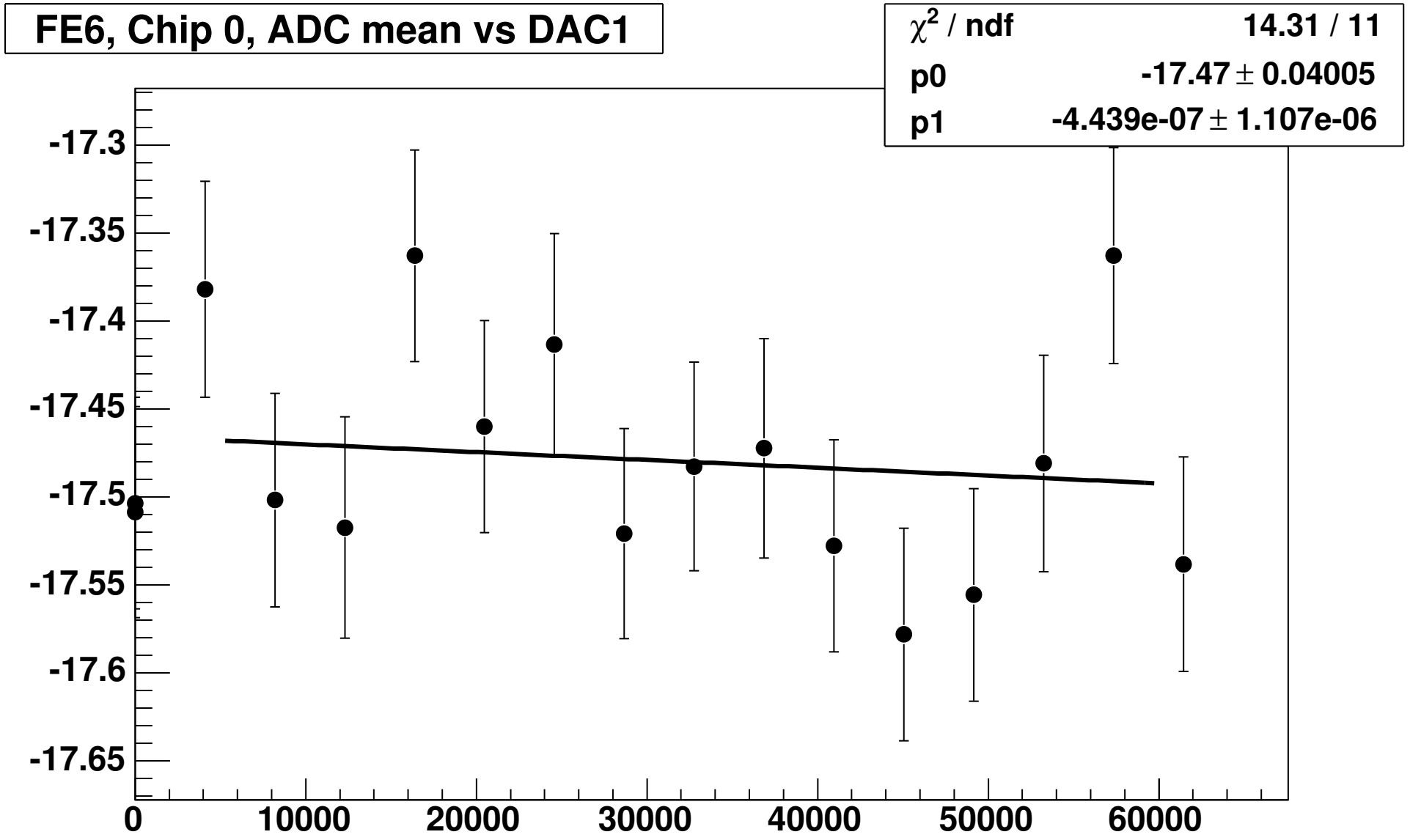

FE5, Chip 11, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

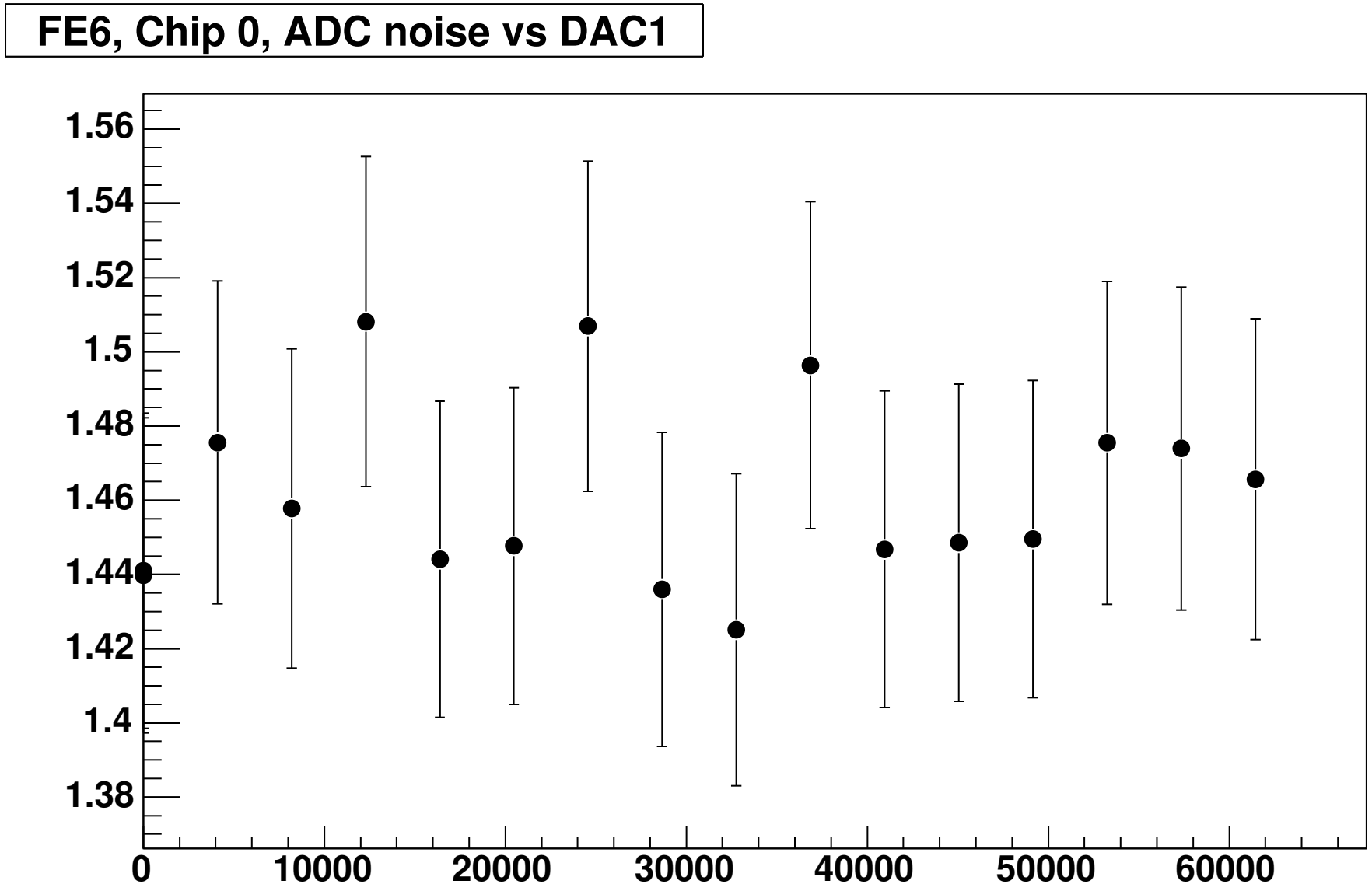

FE5, Chip 11, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

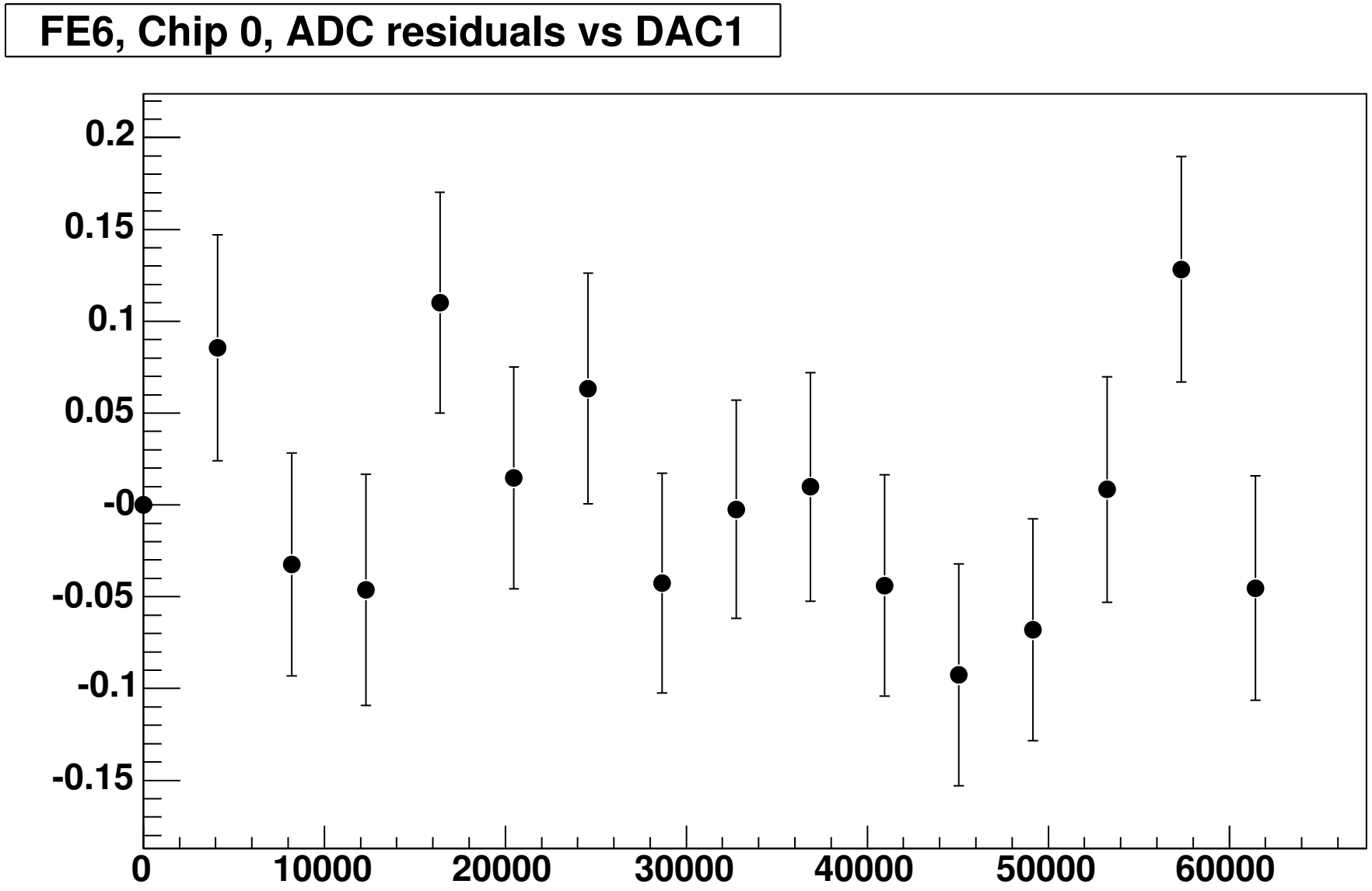

FE6, Chip 0, ADC mean vs DAC0
χ² / ndf 3470 / 11
p0 -21.79 ± 0.04368
p1 0.4501 ± 1.391e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

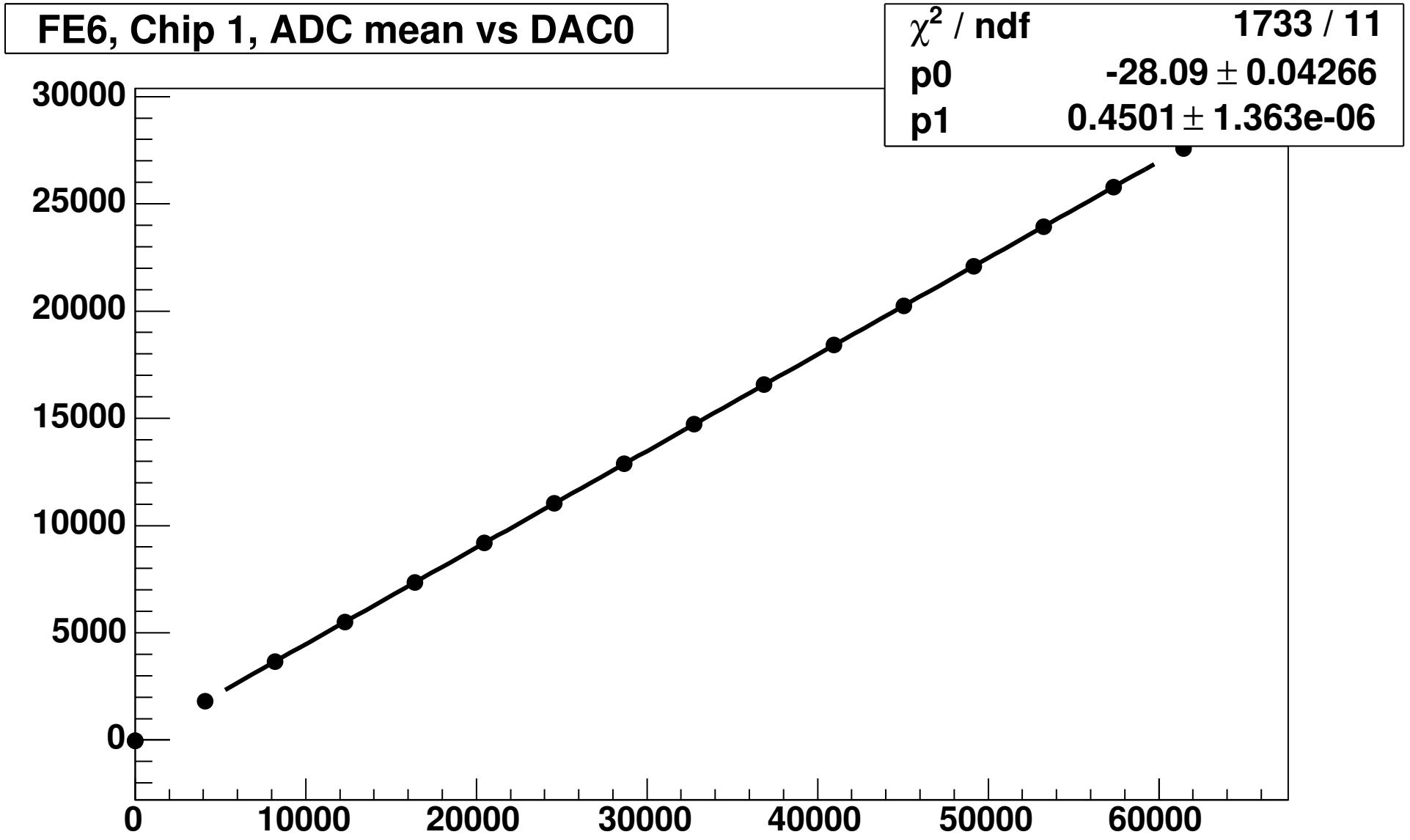

FE6, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

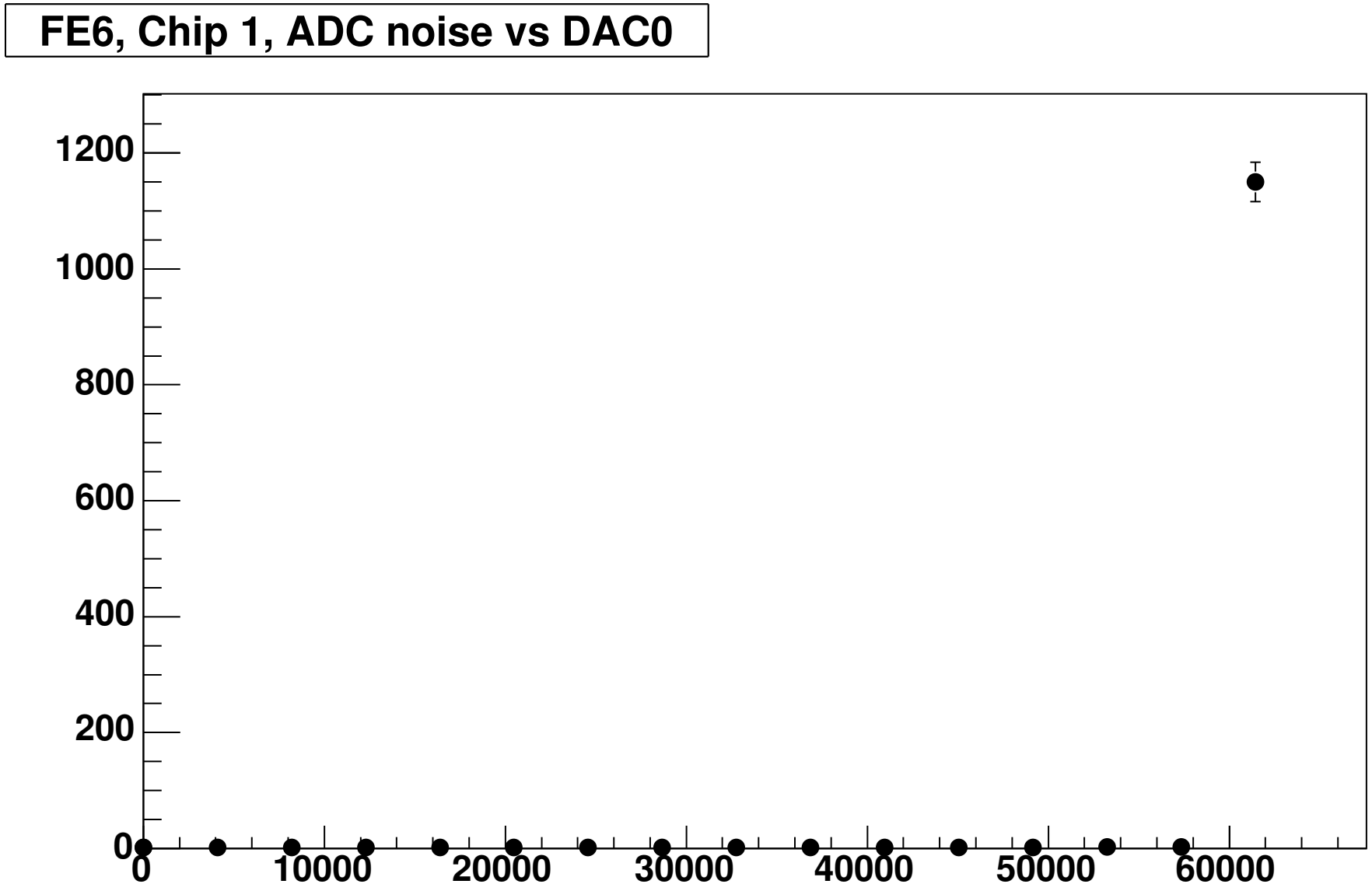

FE6, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

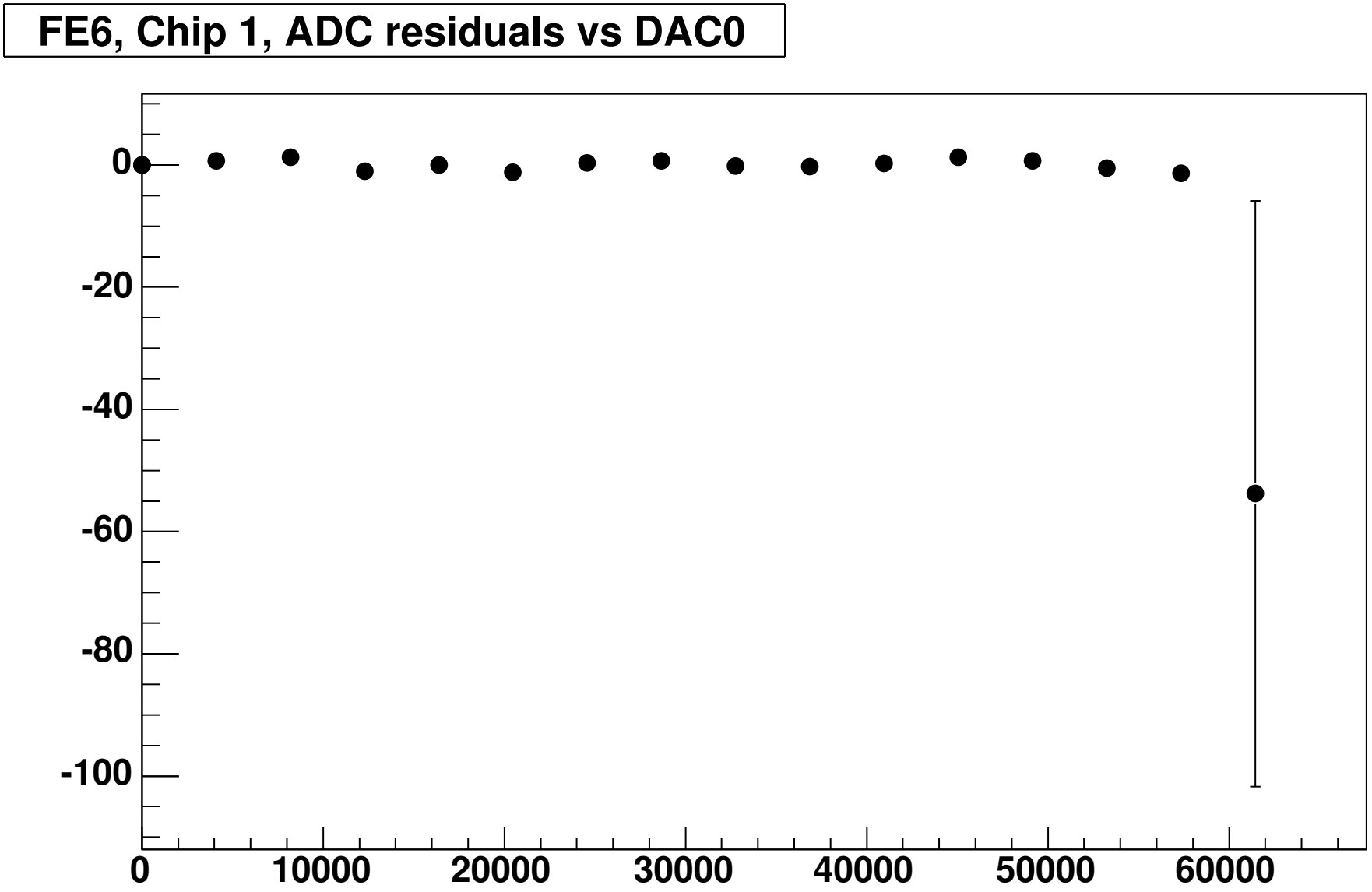

FE6, Chip 0, ADC mean vs DAC1
χ² / ndf 14.31 / 11
p0 -17.47 ± 0.04005
p1 -4.439e-07 ± 1.107e-06
-17.3
-17.35
-17.4
-17.45
-17.5
-17.55
-17.6
-17.65
0
10000
20000
30000
40000
50000
60000

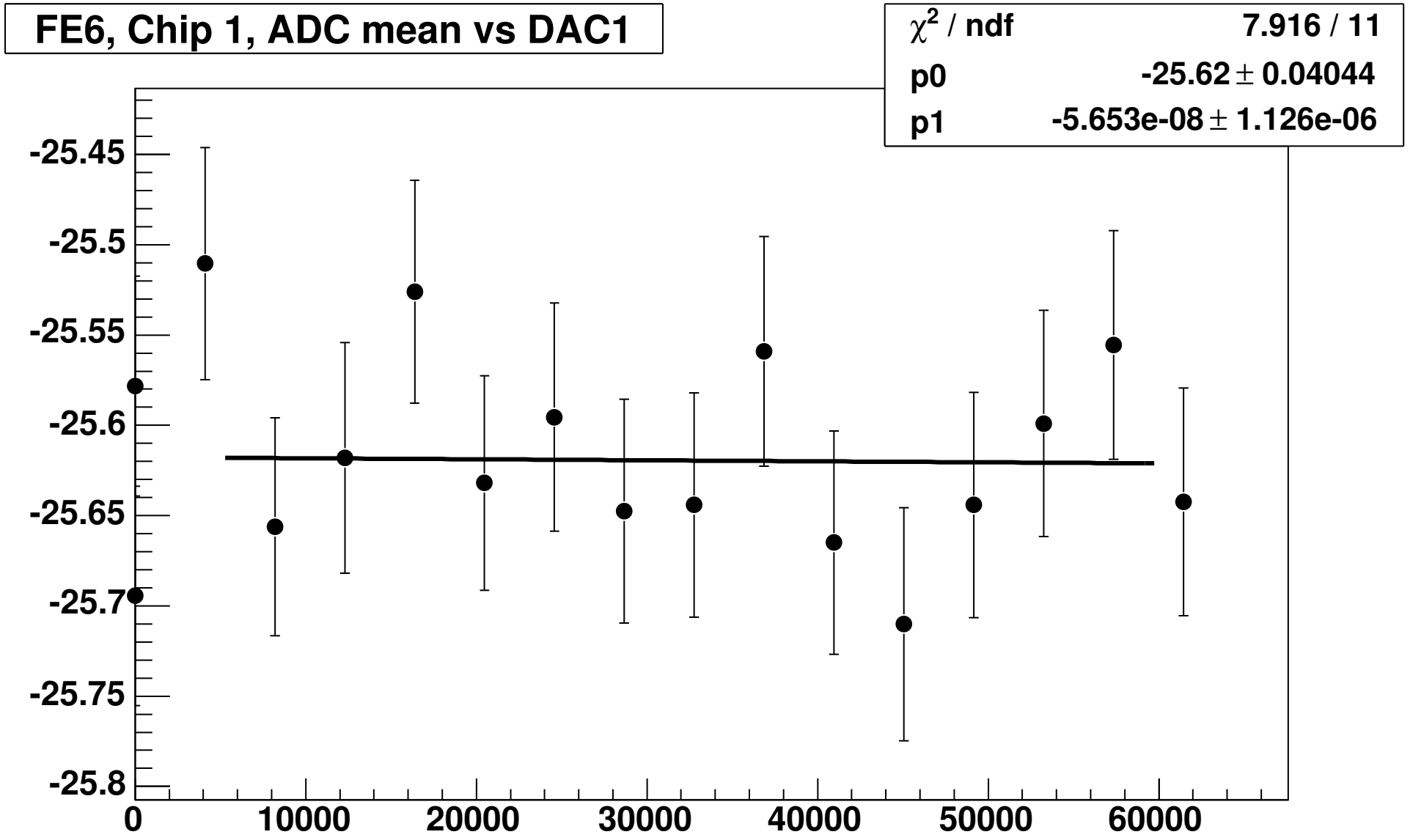

FE6, Chip 0, ADC noise vs DAC1
1.56
1.54
1.52
1.5
1.48
1.46
1.44
1.42
1.4
1.38
0
10000
20000
30000
40000
50000
60000

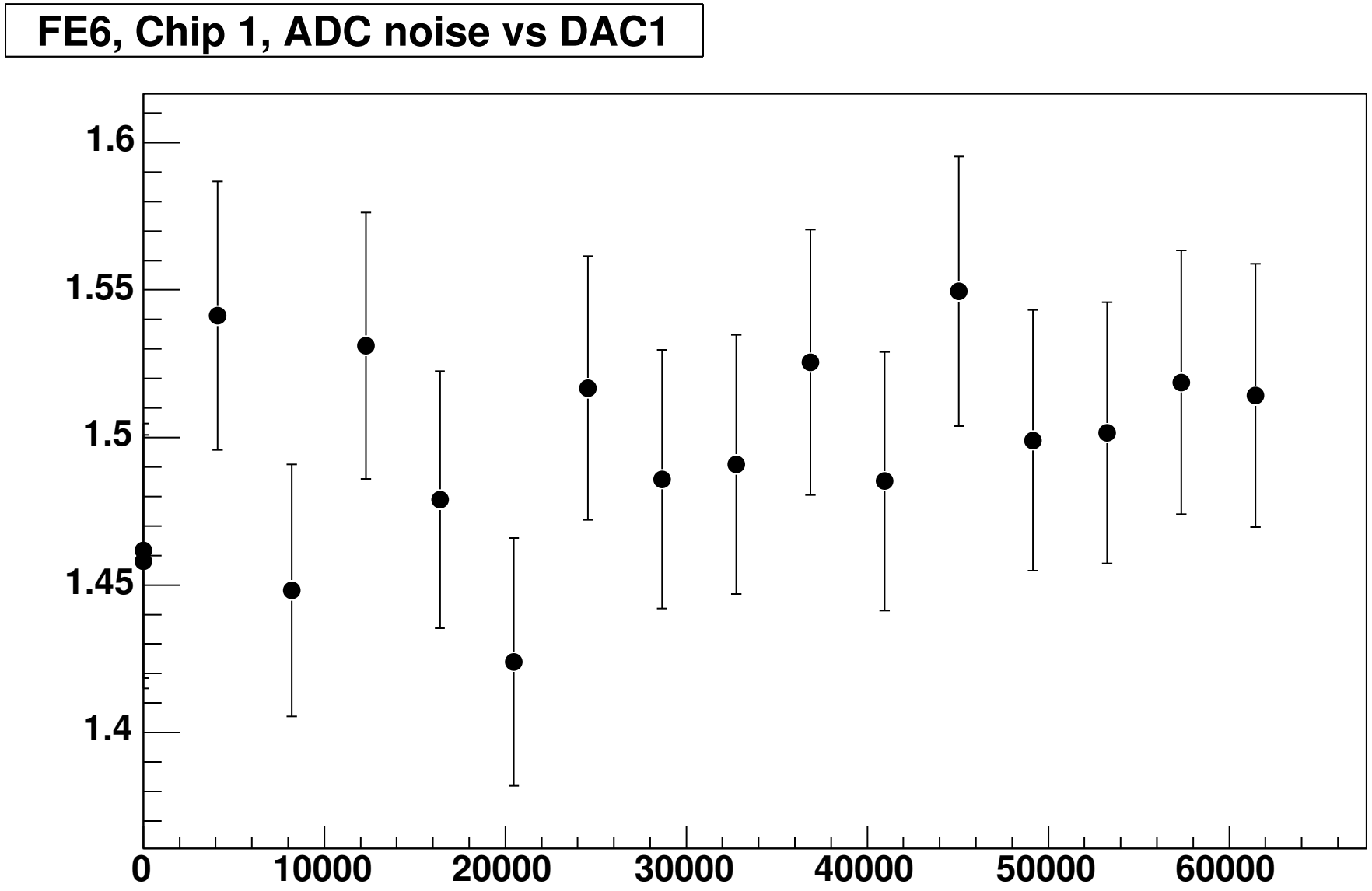

FE6, Chip 0, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

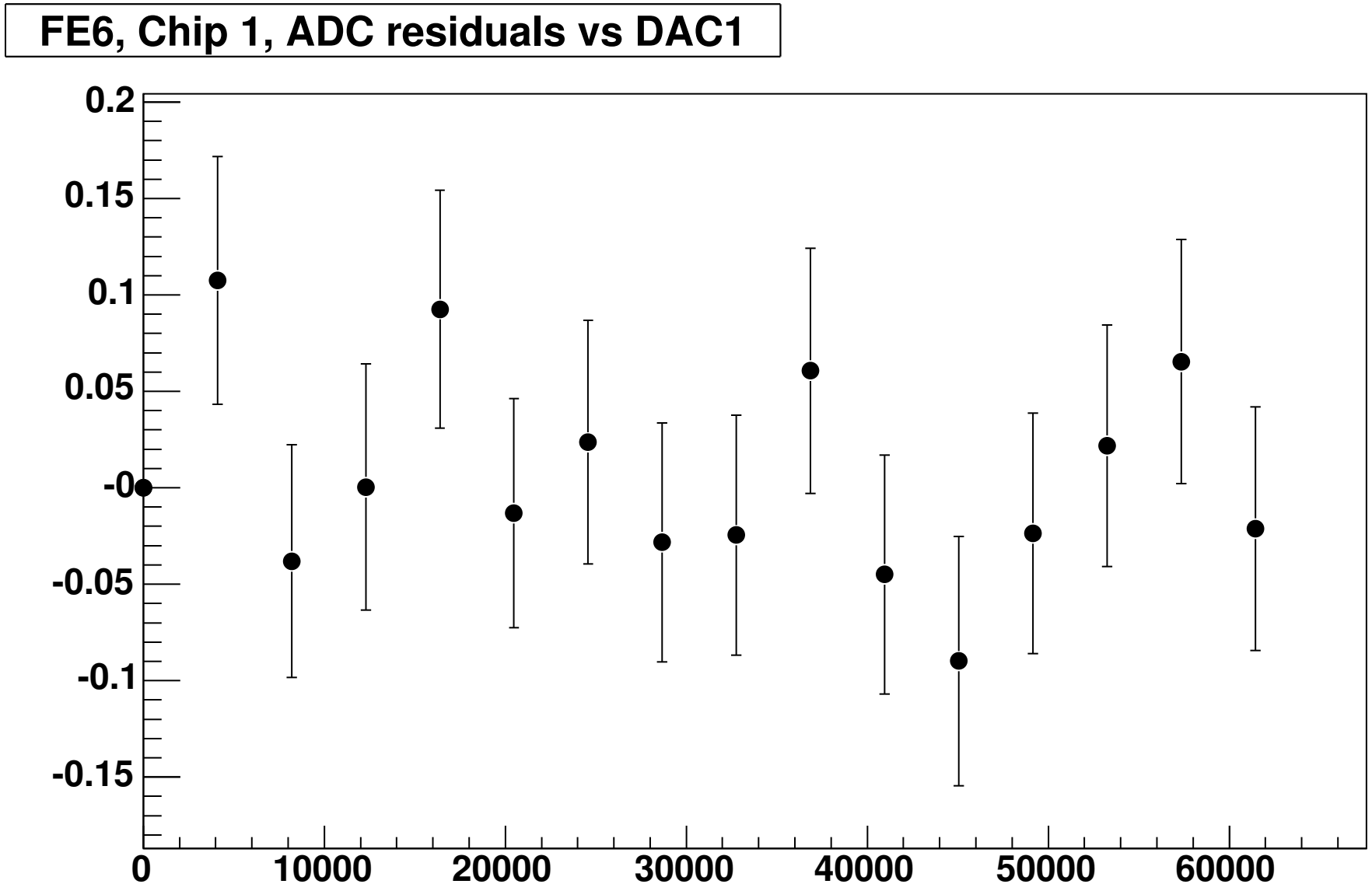

FE6, Chip 1, ADC mean vs DAC0
χ² / ndf 1733 / 11
p0 -28.09 ± 0.04266
p1 0.4501 ± 1.363e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

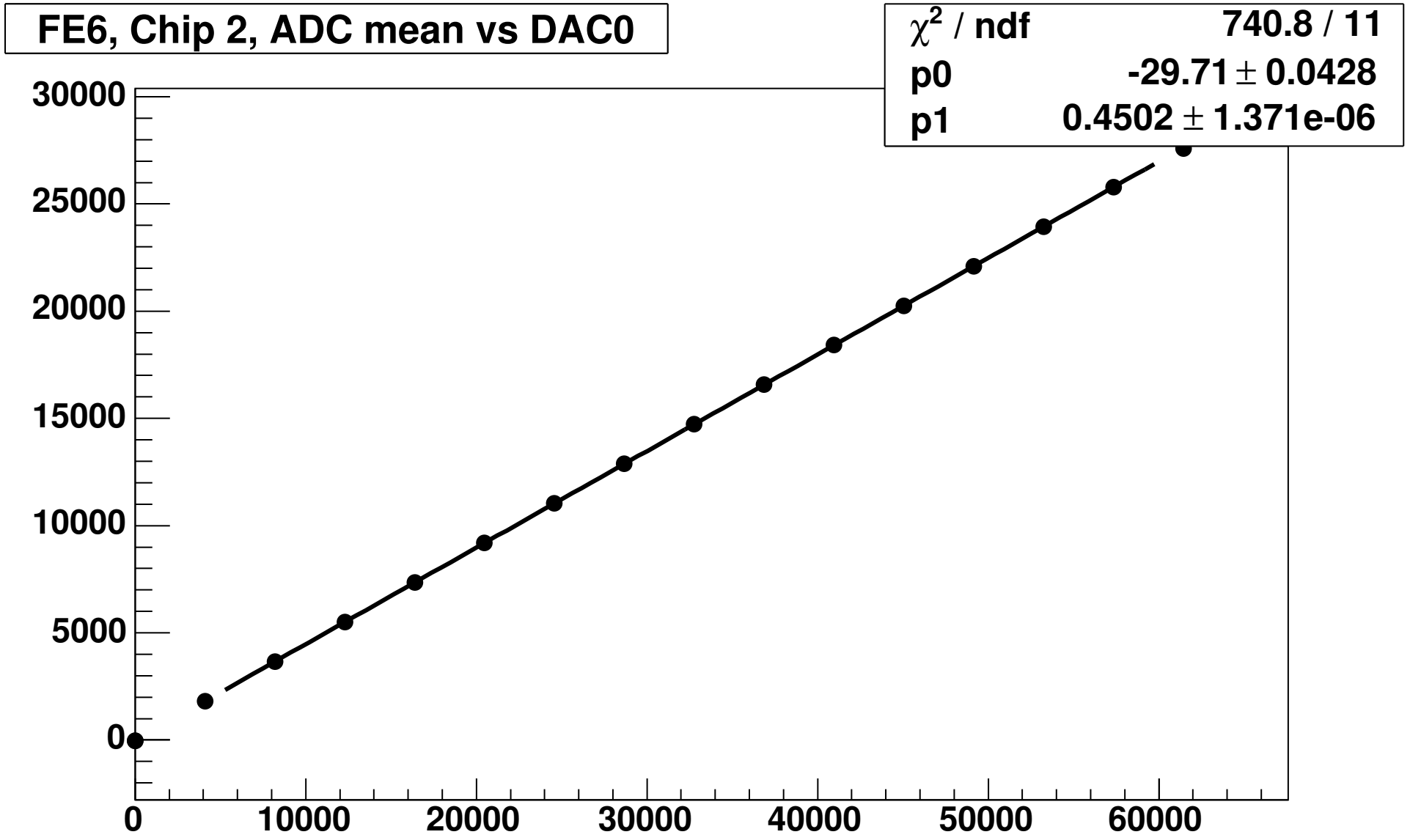

FE6, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

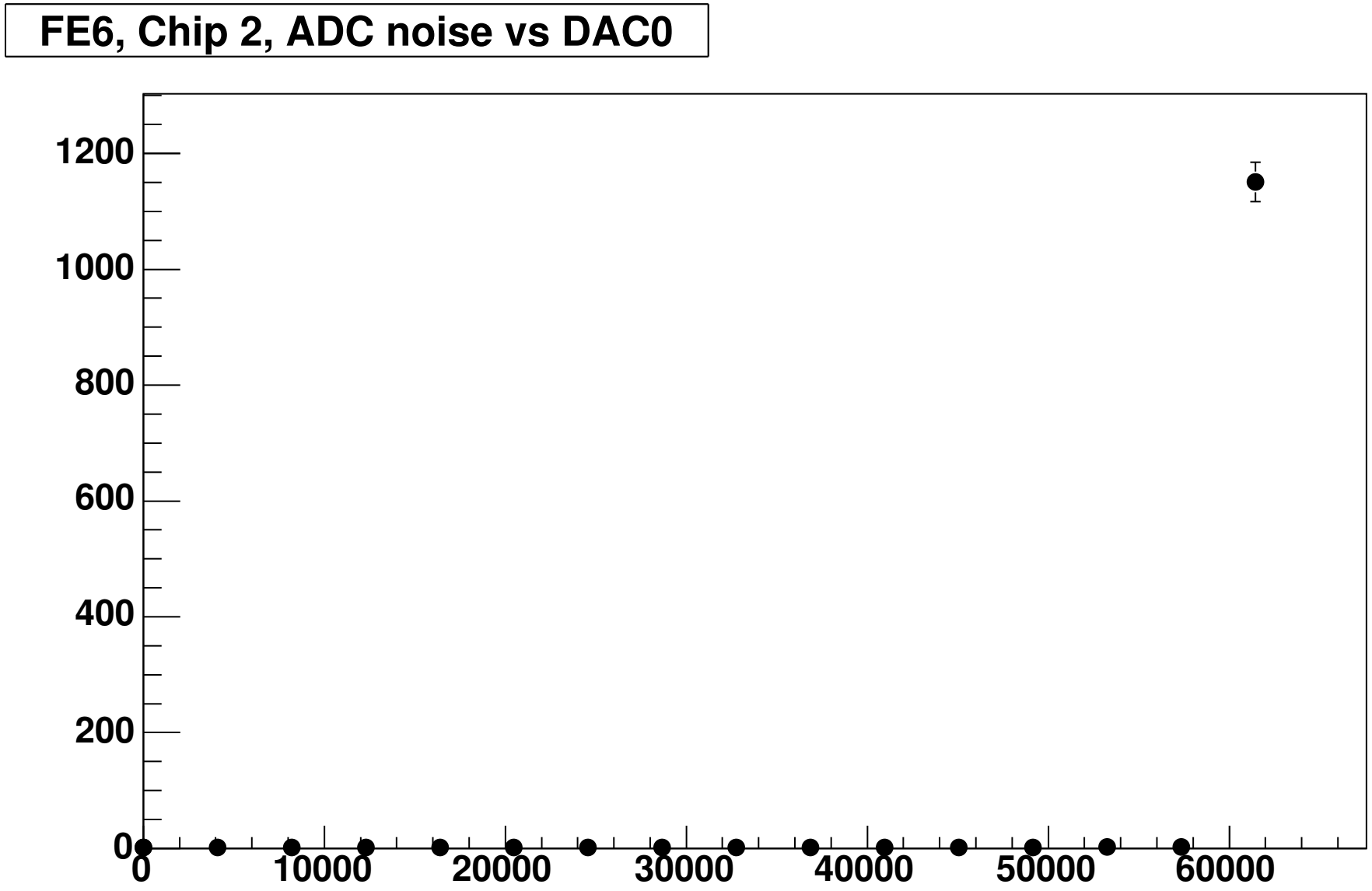

FE6, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

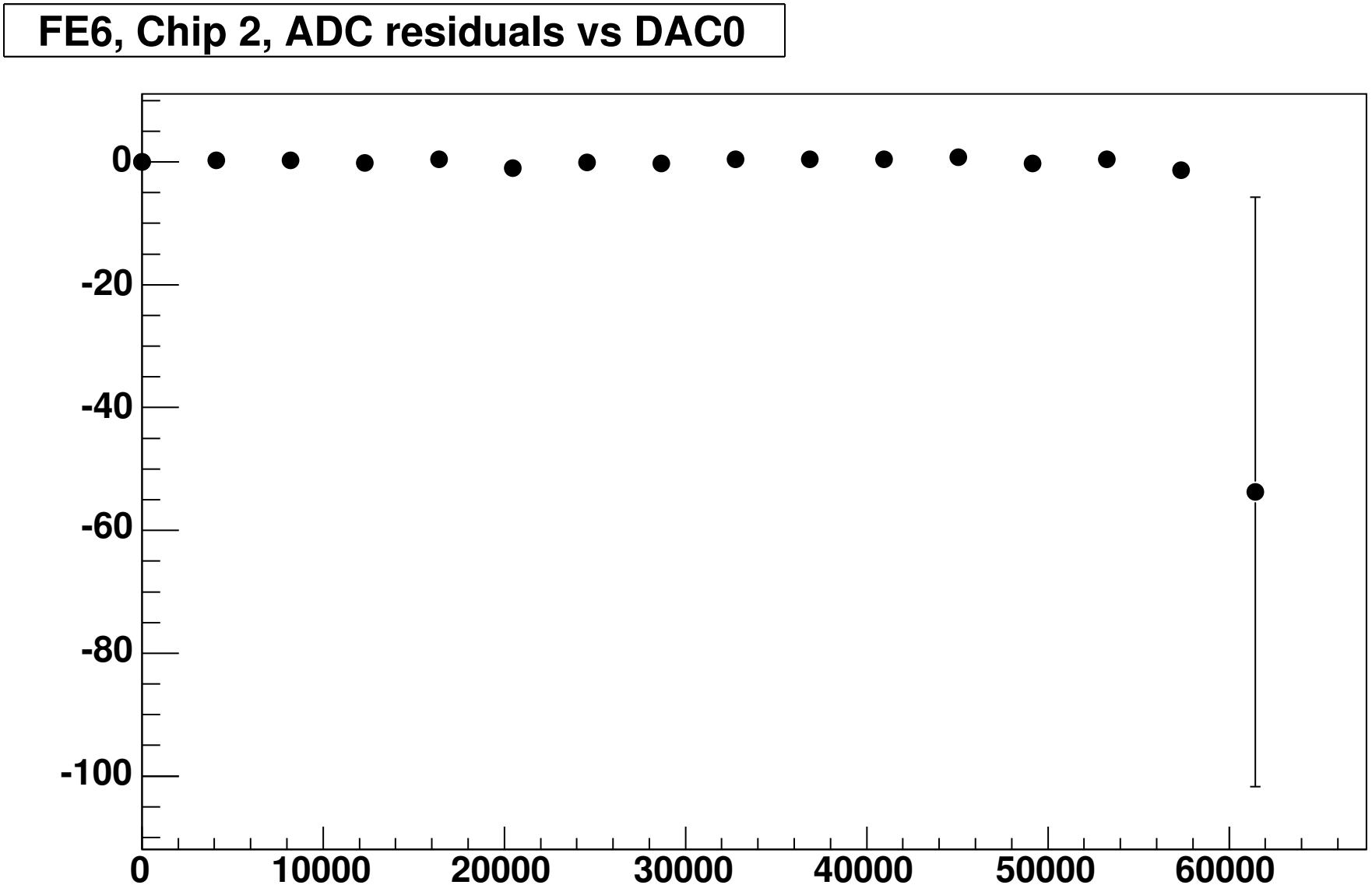

FE6, Chip 1, ADC mean vs DAC1
χ² / ndf 7.916 / 11
p0 -25.62 ± 0.04044
p1 -5.653e-08 ± 1.126e-06
-25.45
-25.5
-25.55
-25.6
-25.65
-25.7
-25.75
-25.8
0
10000
20000
30000
40000
50000
60000

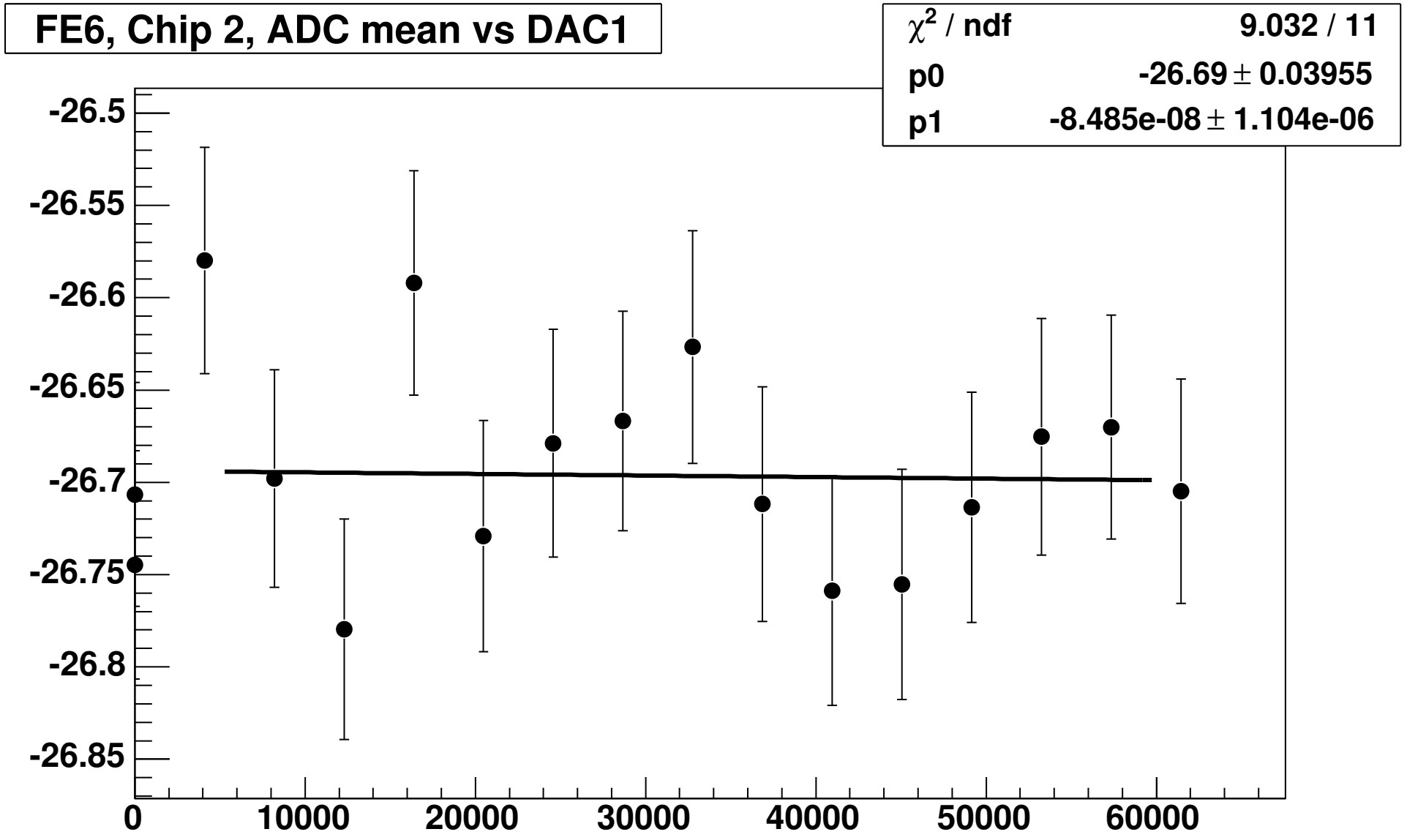

FE6, Chip 1, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

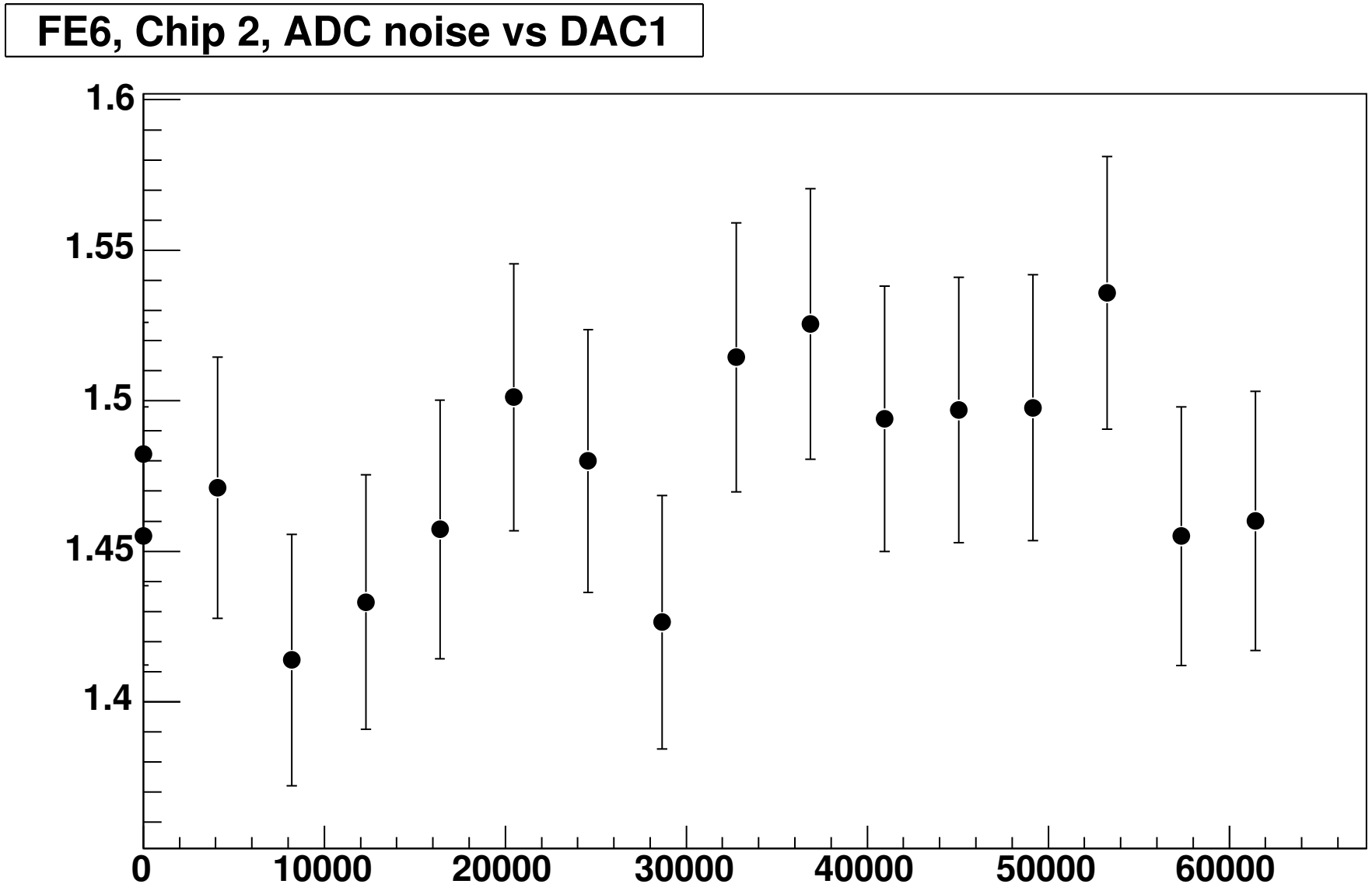

FE6, Chip 1, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

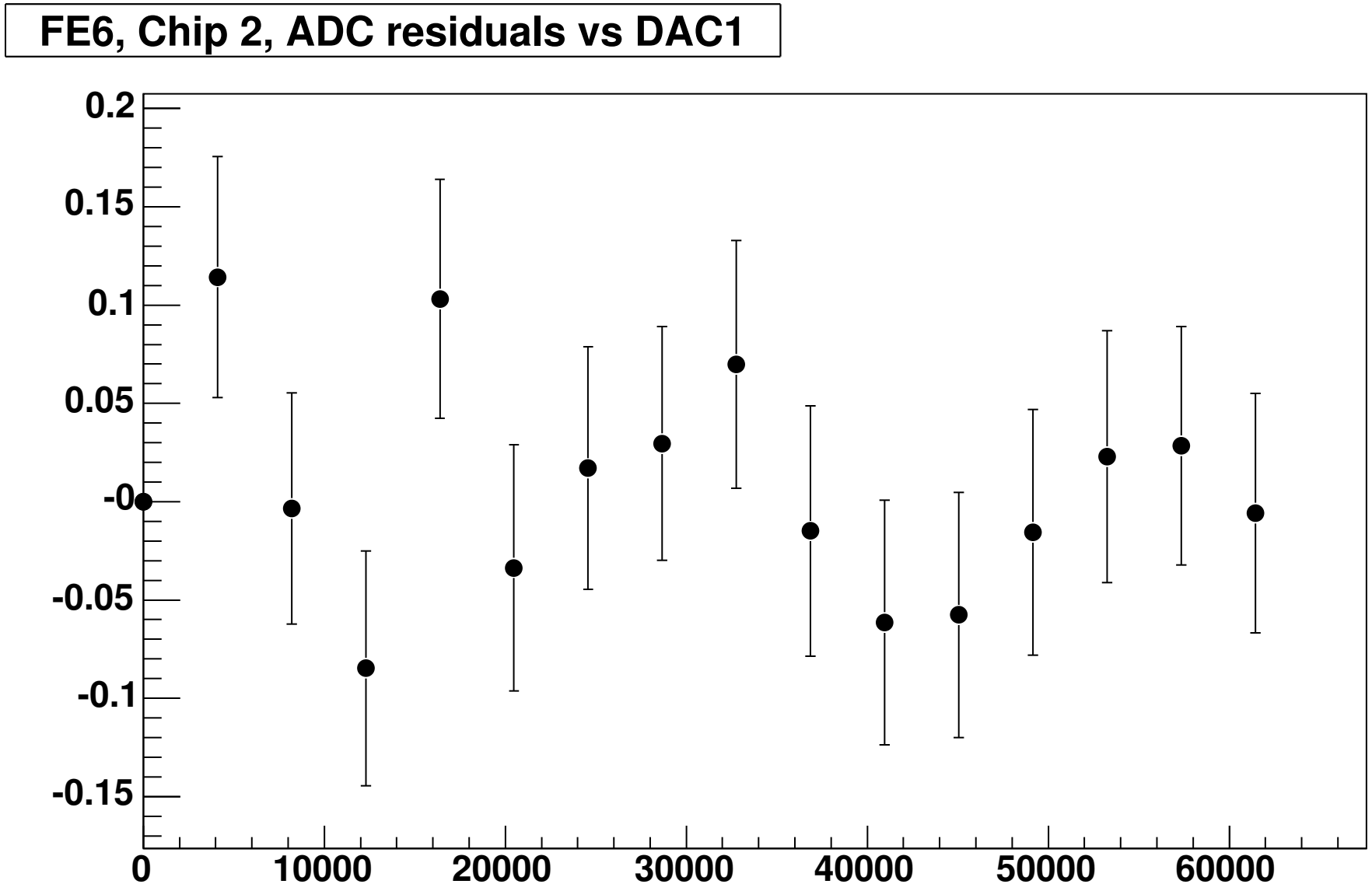

FE6, Chip 2, ADC mean vs DAC0
χ² / ndf 740.8 / 11
p0 -29.71 ± 0.0428
p1 0.4502 ± 1.371e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

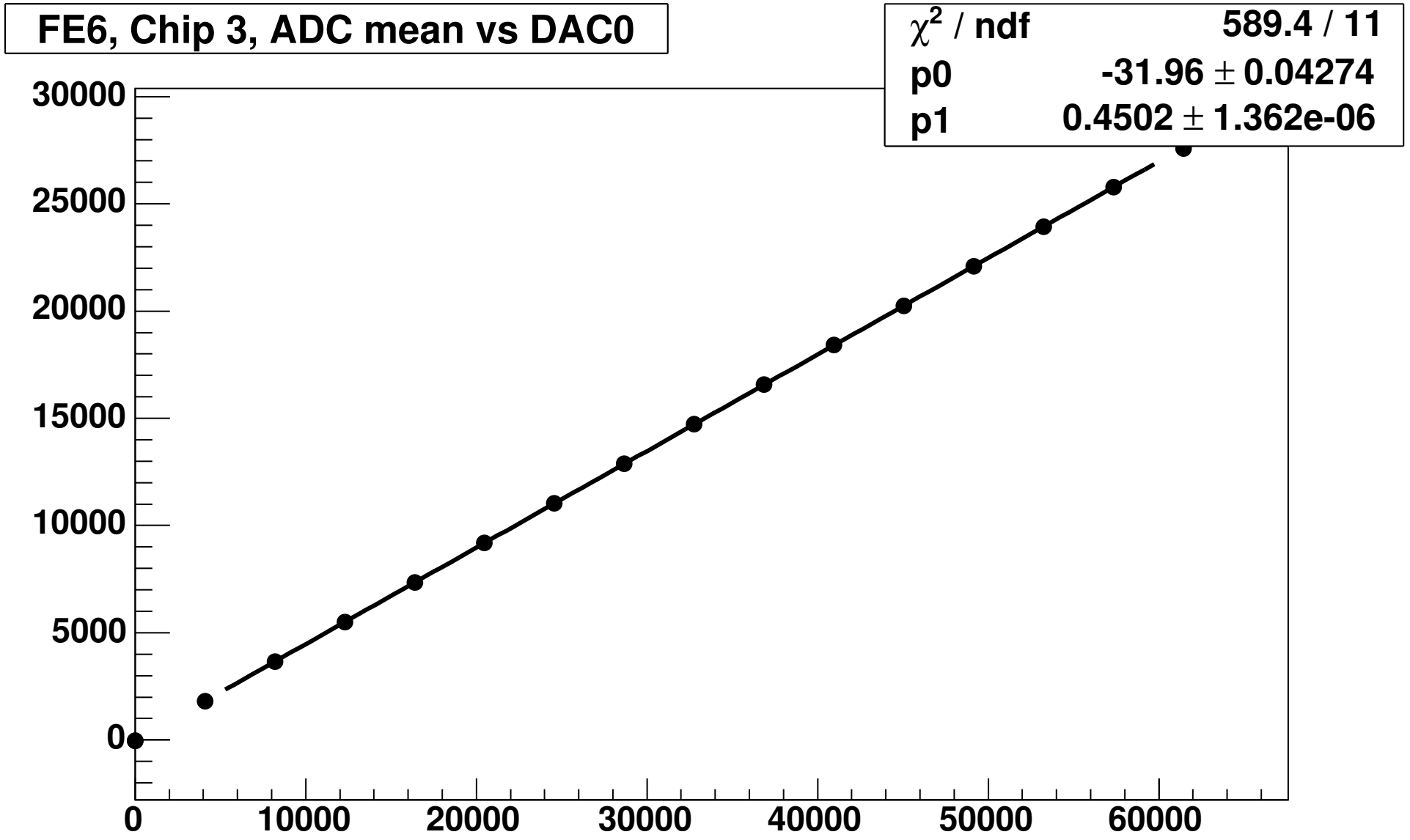

FE6, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

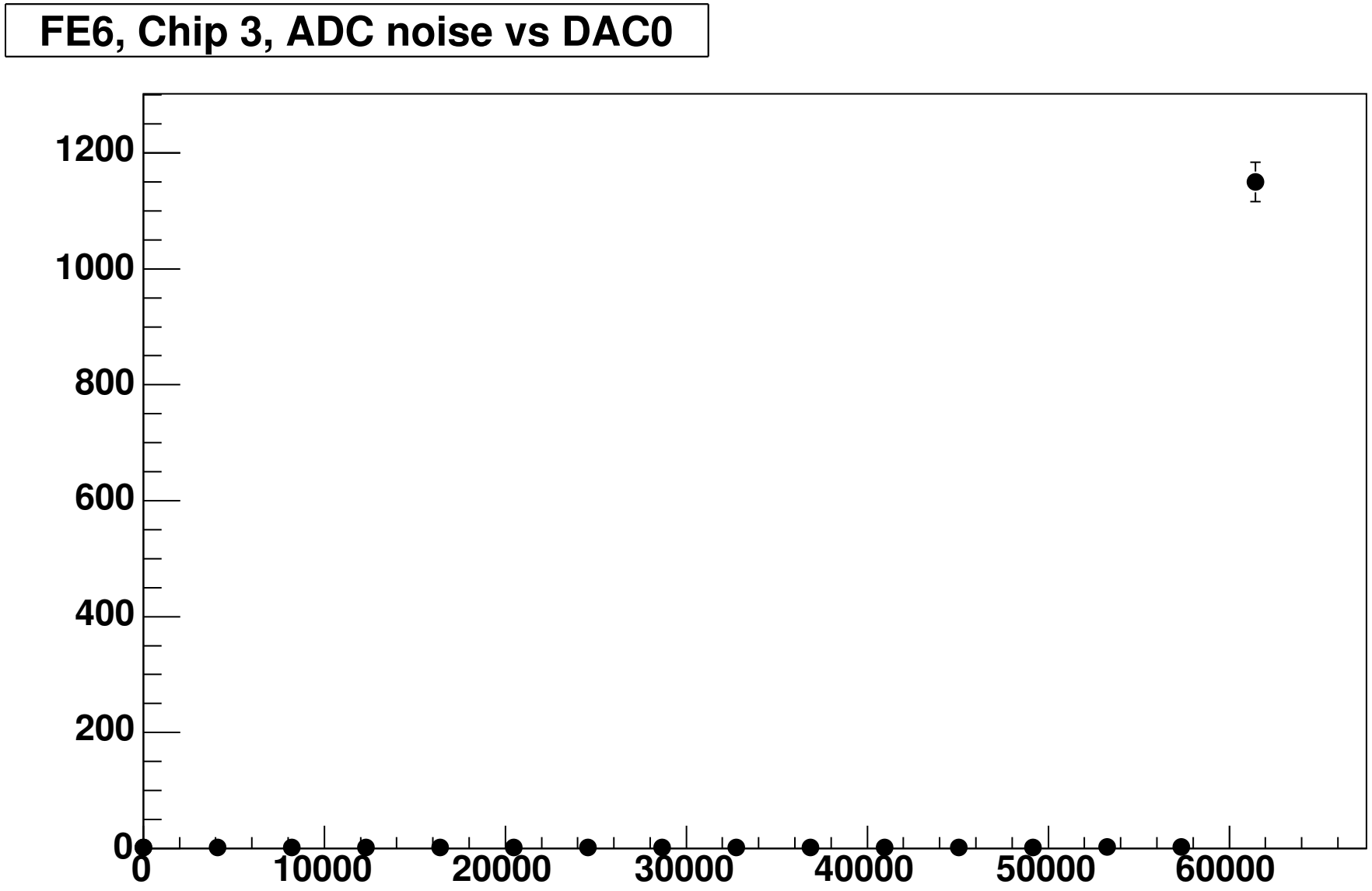

FE6, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

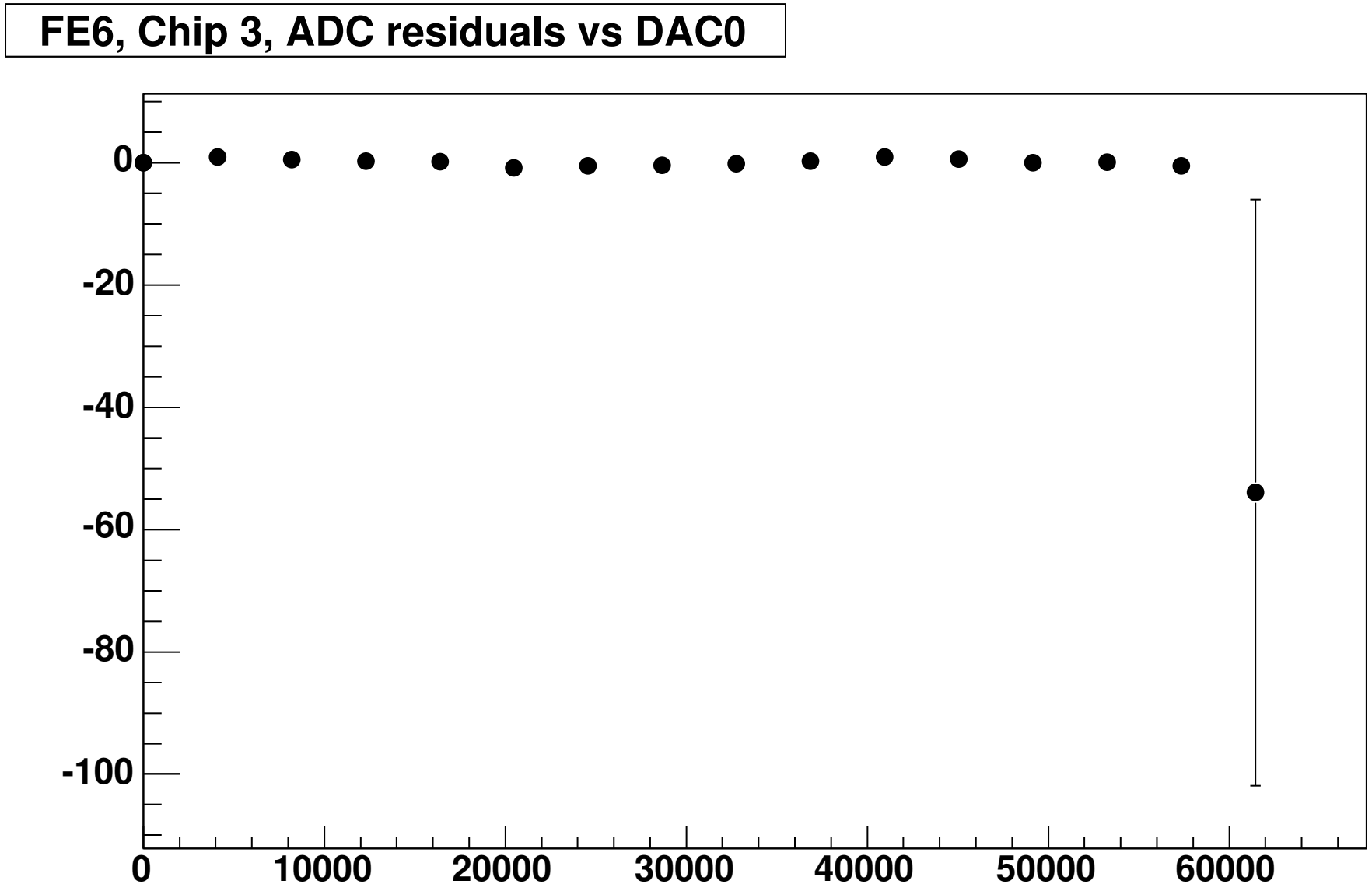

FE6, Chip 2, ADC mean vs DAC1
χ² / ndf 9.032 / 11
p0 -26.69 ± 0.03955
p1 -8.485e-08 ± 1.104e-06
-26.5
-26.55
-26.6
-26.65
-26.7
-26.75
-26.8
-26.85
0
10000
20000
30000
40000
50000
60000

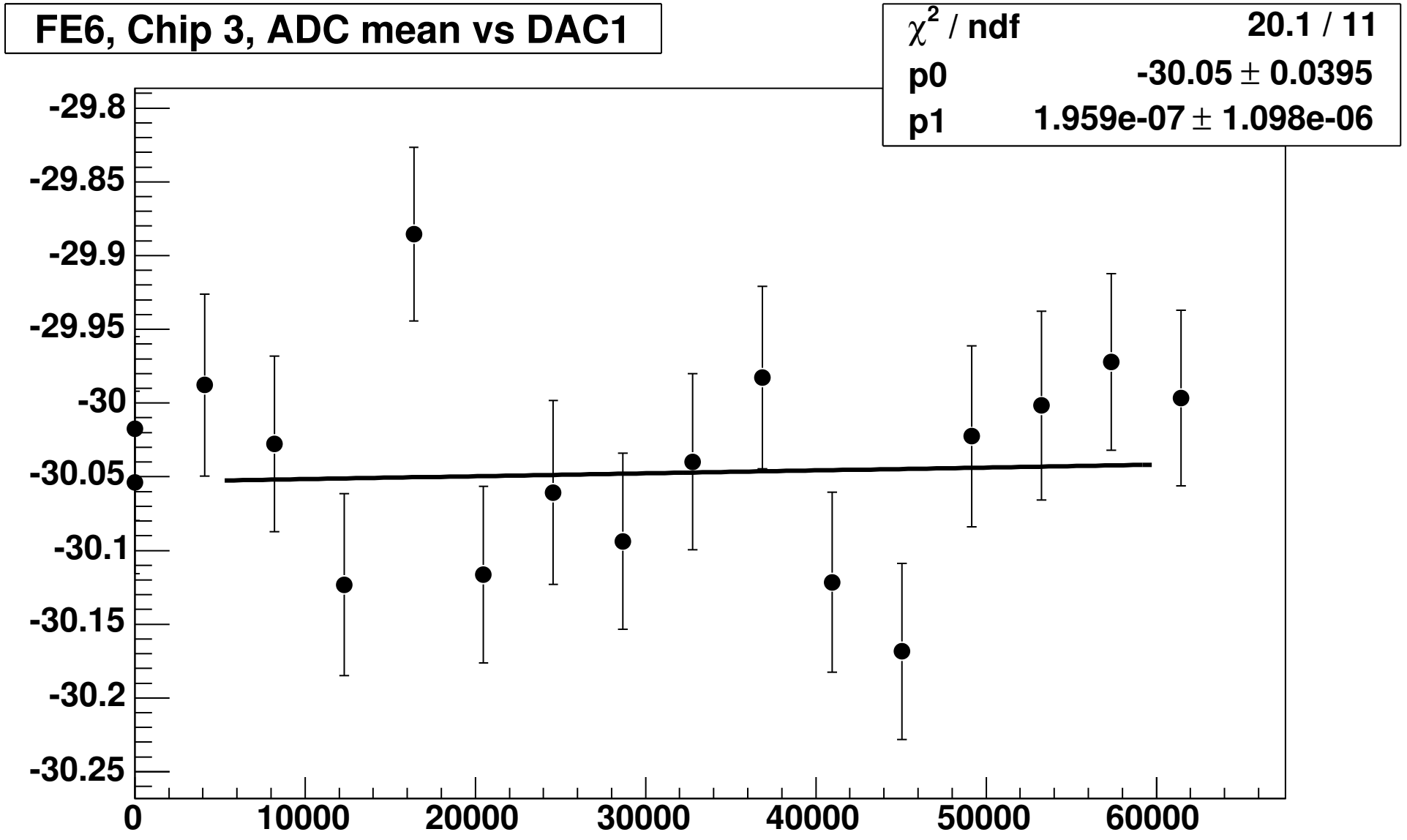

FE6, Chip 2, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

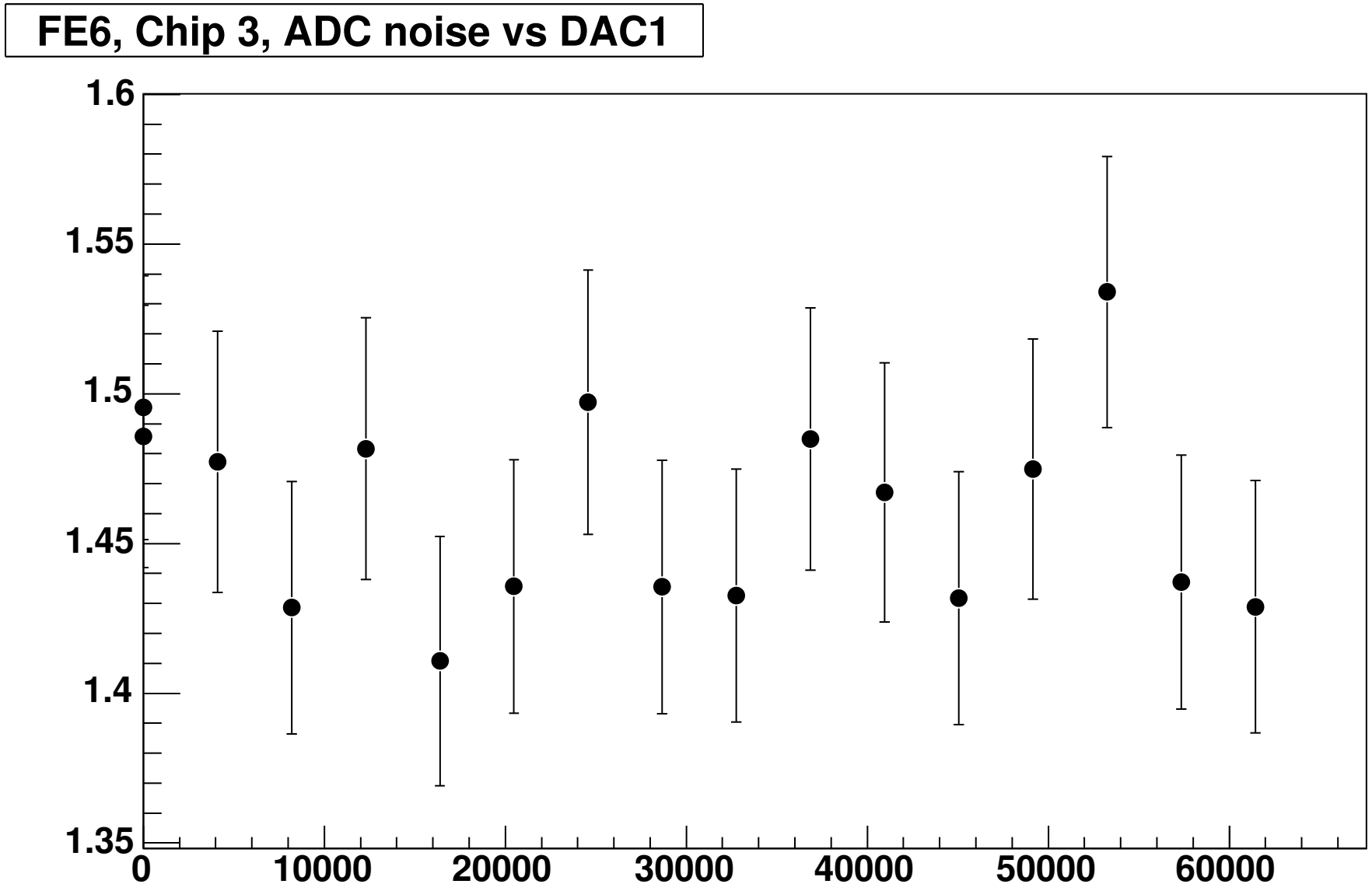

FE6, Chip 2, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

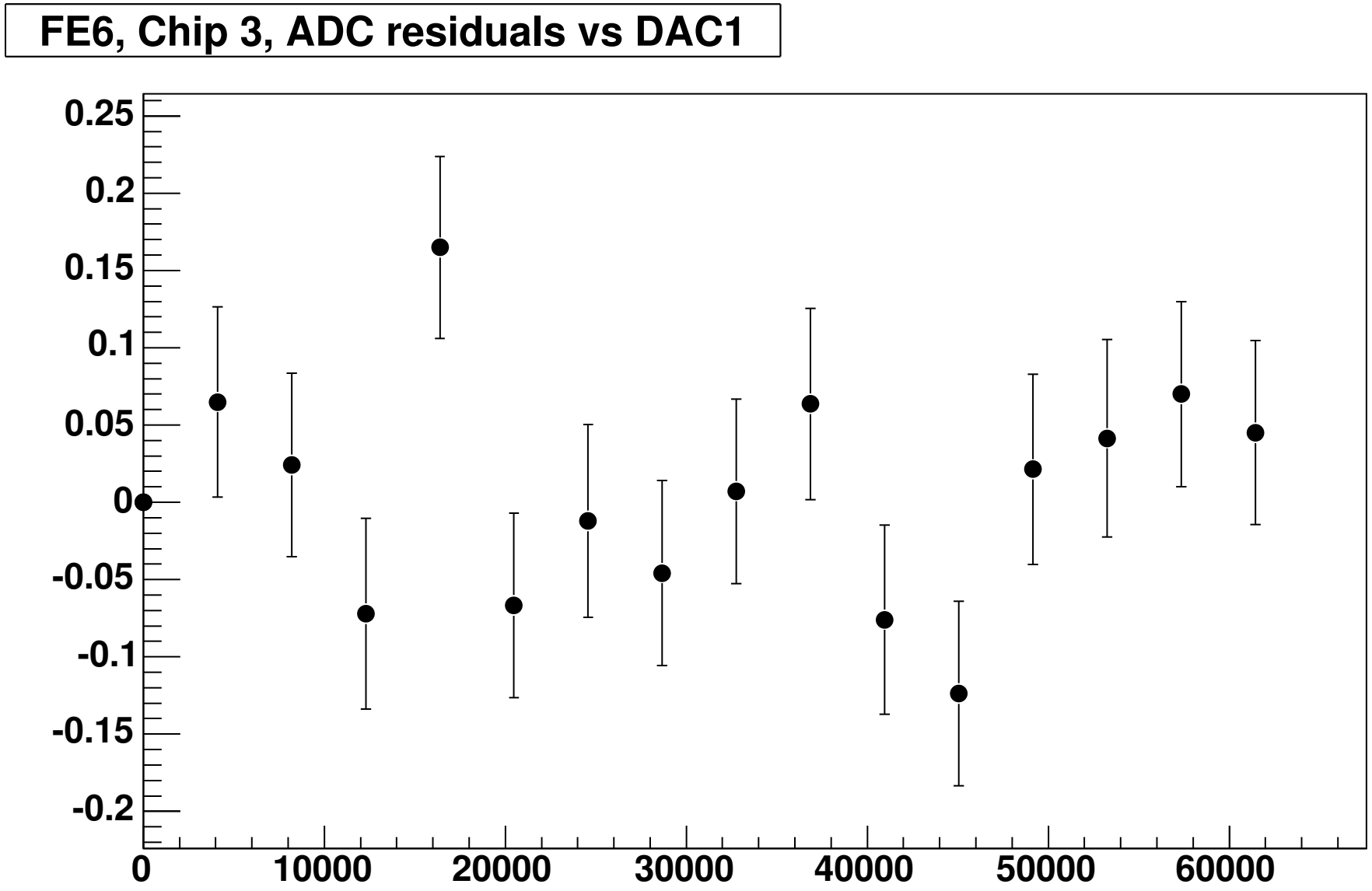

FE6, Chip 3, ADC mean vs DAC0
χ² / ndf 589.4 / 11
p0 -31.96 ± 0.04274
p1 0.4502 ± 1.362e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

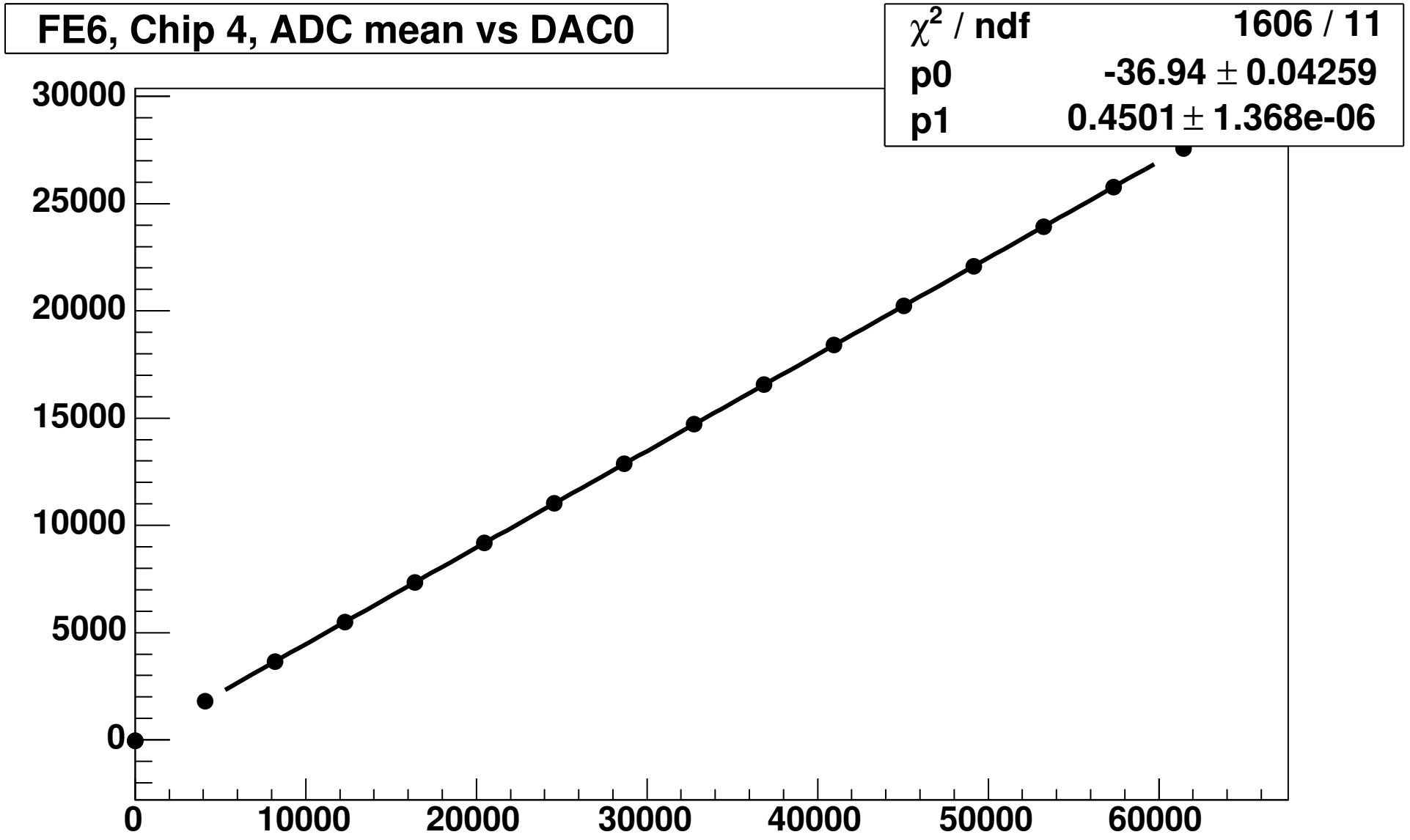

FE6, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

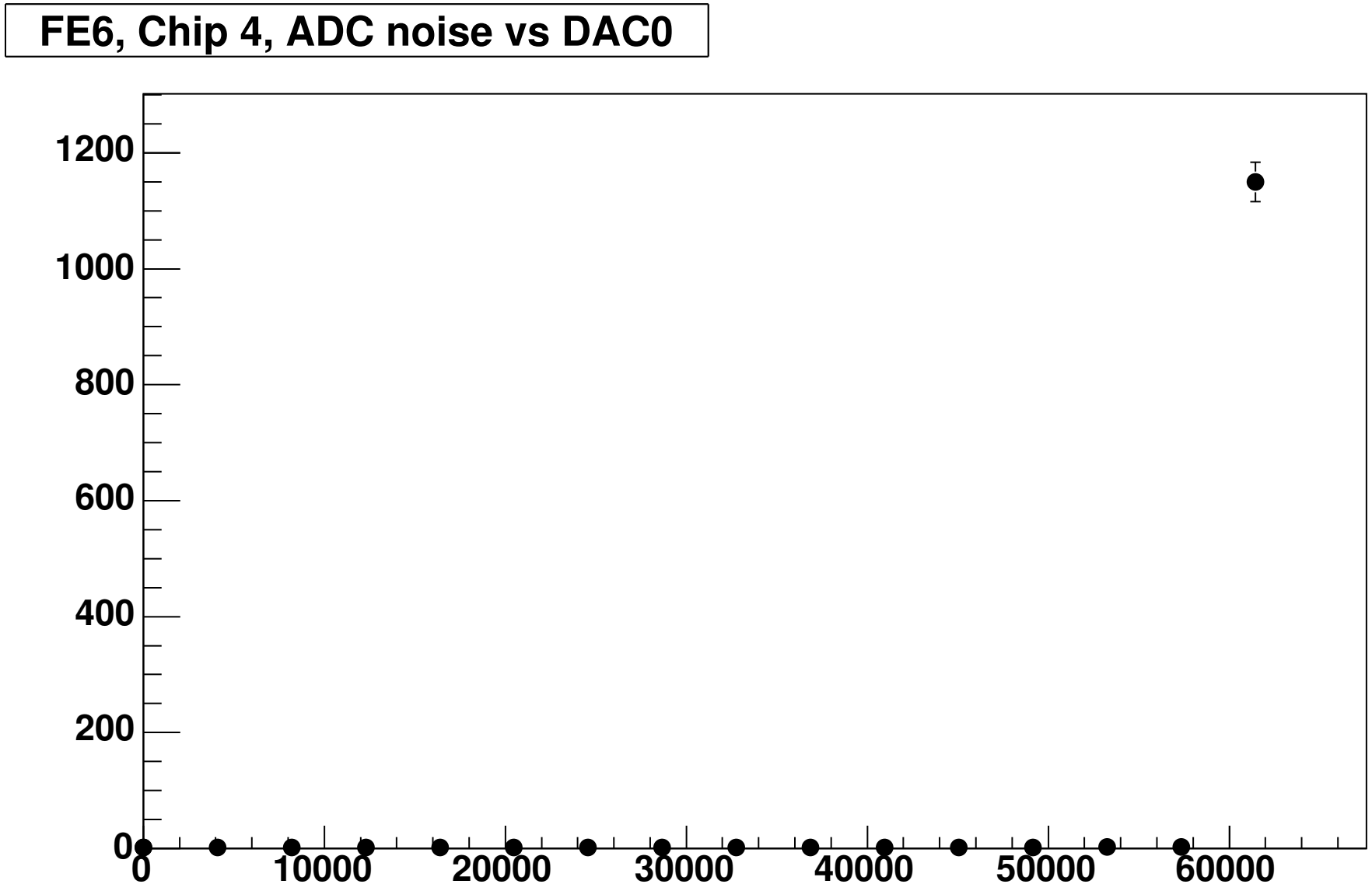

FE6, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

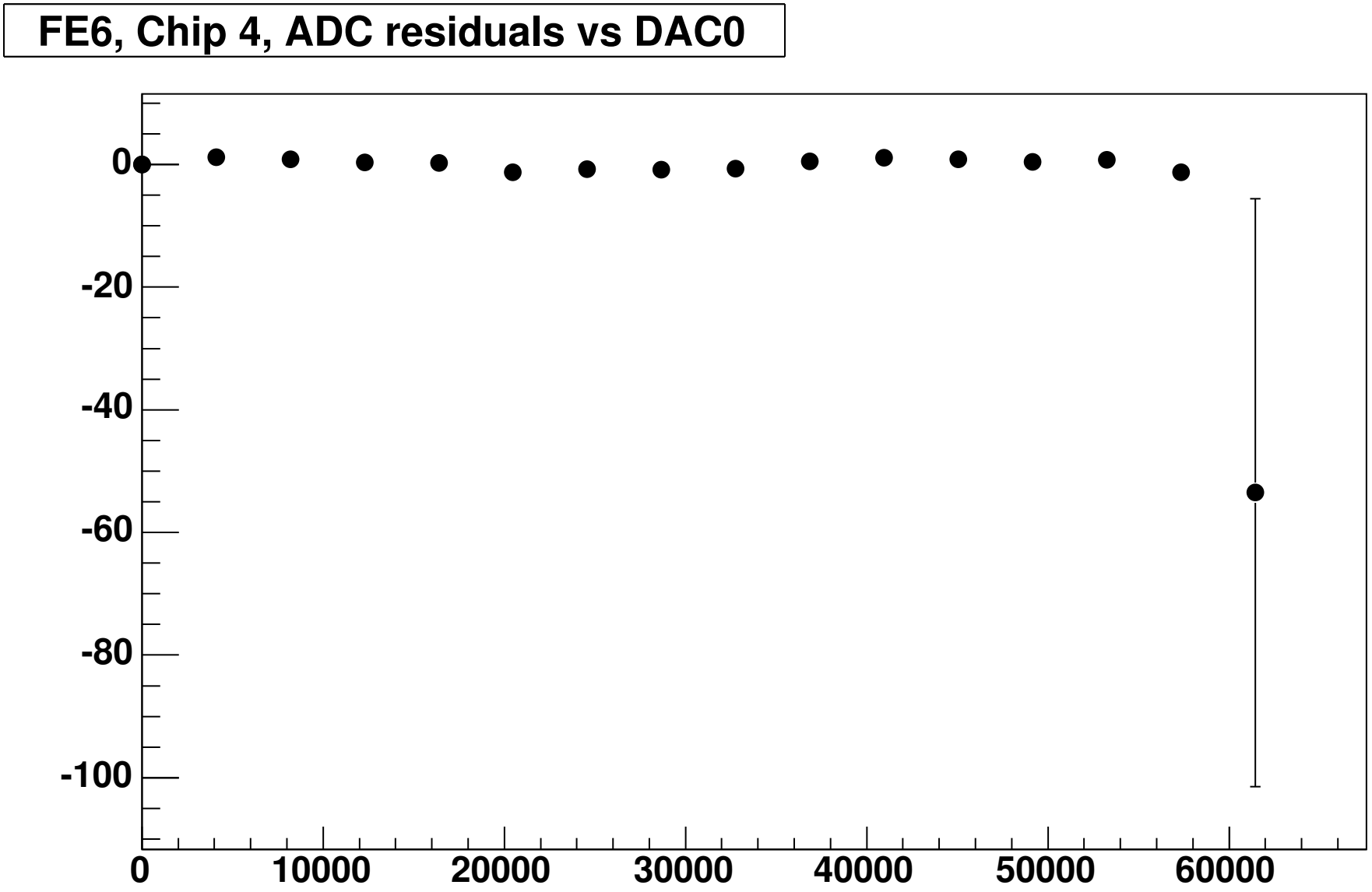

FE6, Chip 3, ADC mean vs DAC1
χ² / ndf 20.1 / 11
p0 -30.05 ± 0.0395
p1 1.959e-07 ± 1.098e-06
-29.8
-29.85
-29.9
-29.95
-30
-30.05
-30.1
-30.15
-30.2
-30.25
0
10000
20000
30000
40000
50000
60000

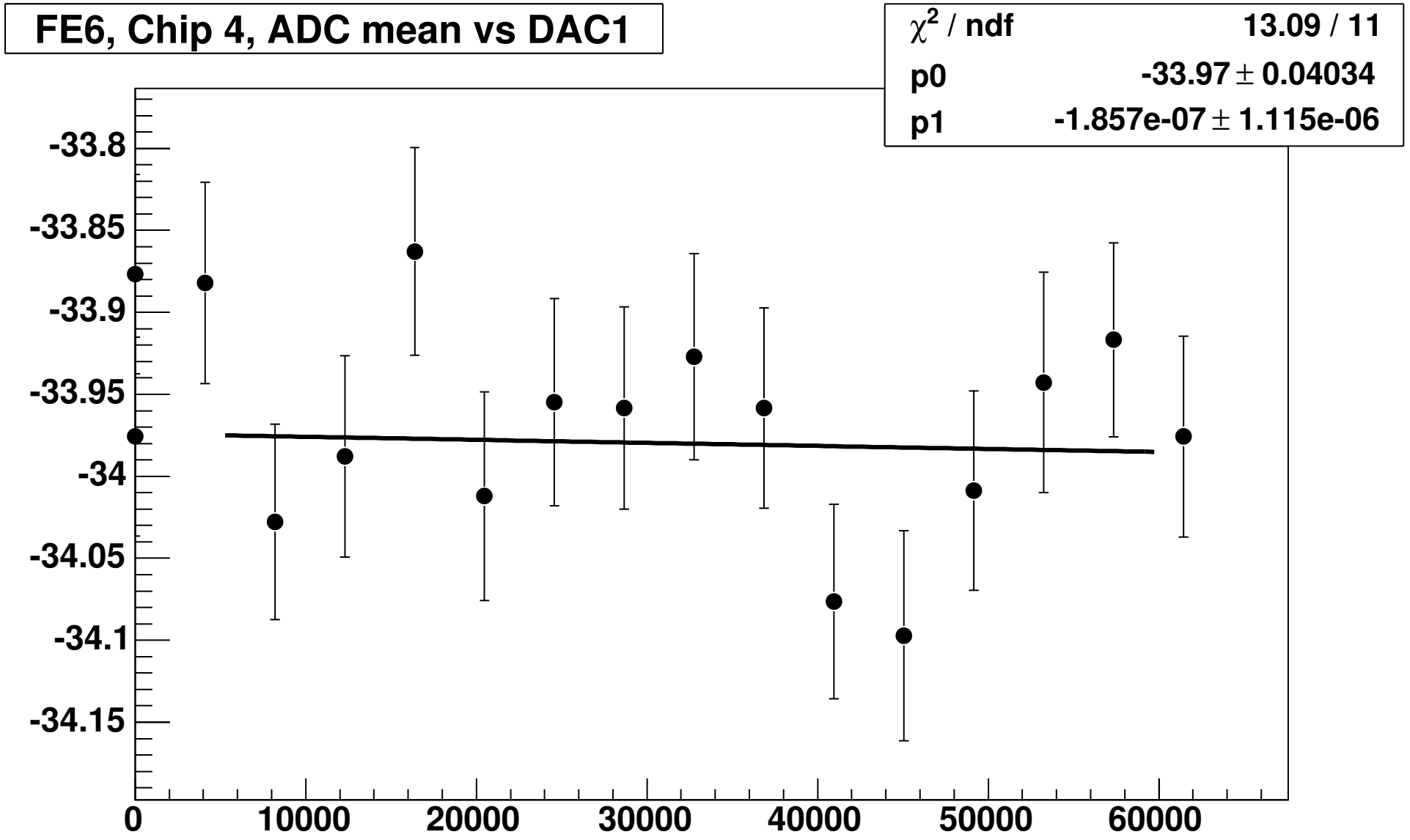

FE6, Chip 3, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

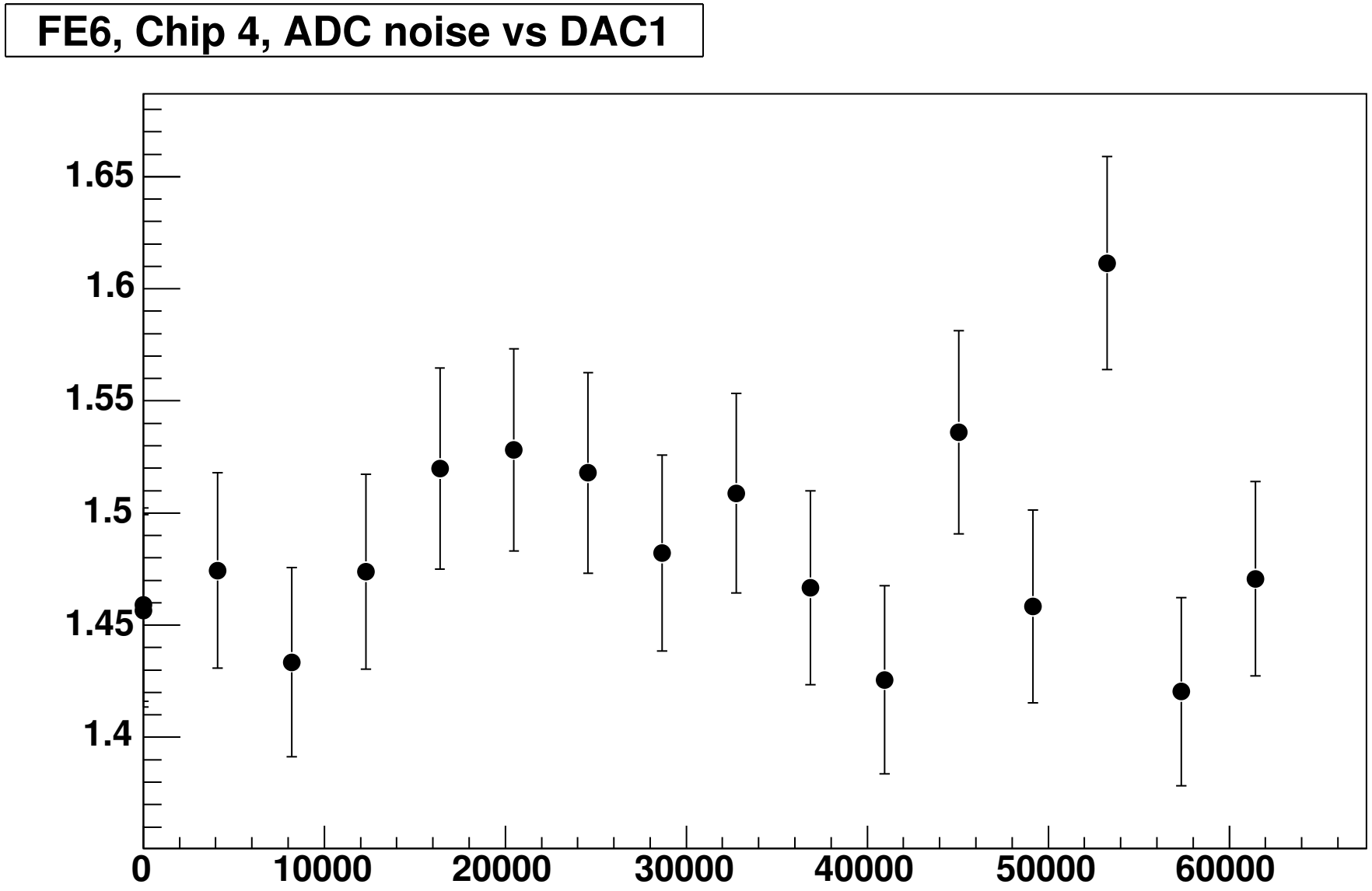

FE6, Chip 3, ADC residuals vs DAC1
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

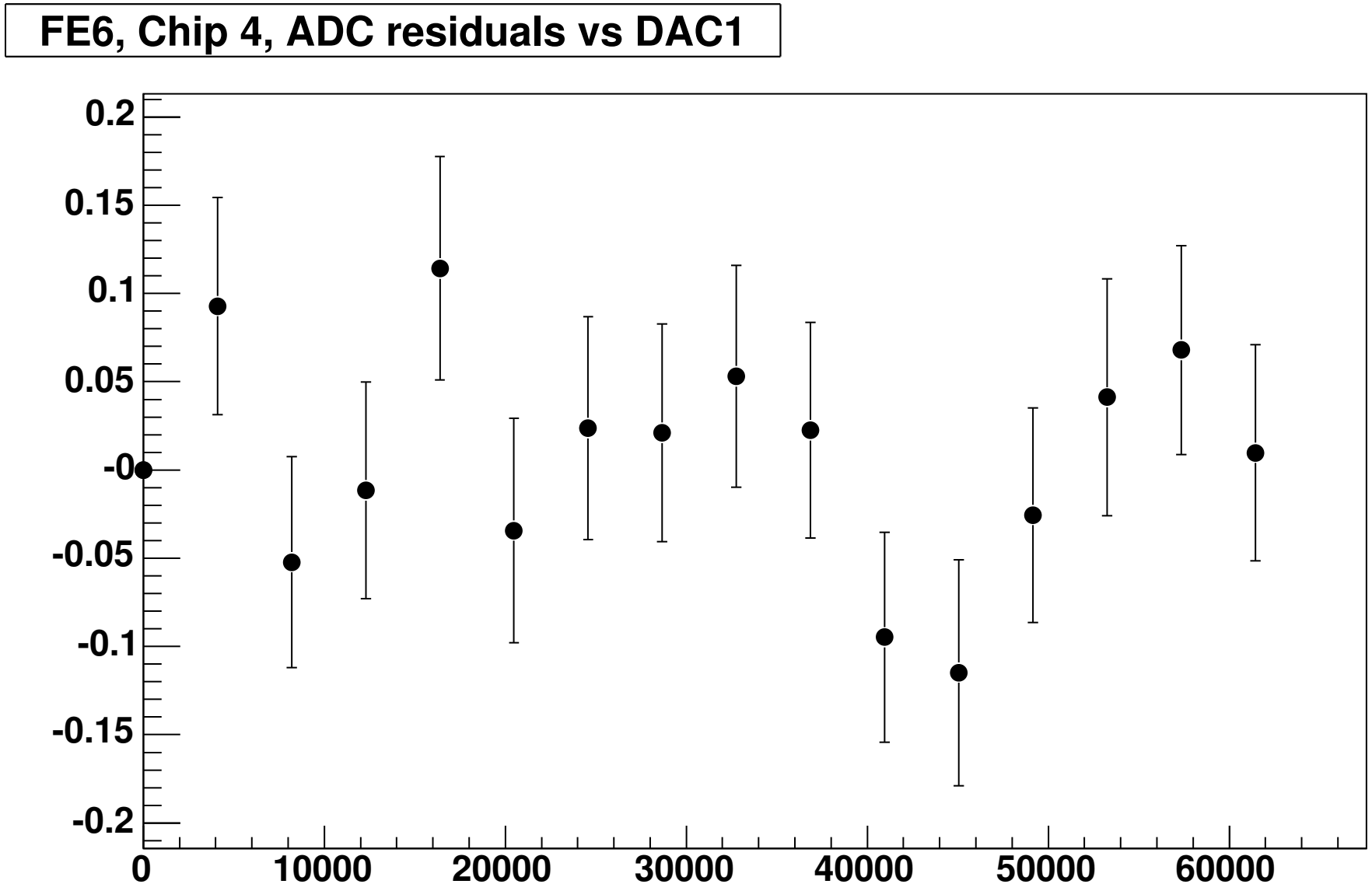

FE6, Chip 4, ADC mean vs DAC0
χ² / ndf 1606 / 11
p0 -36.94 ± 0.04259
p1 0.4501 ± 1.368e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

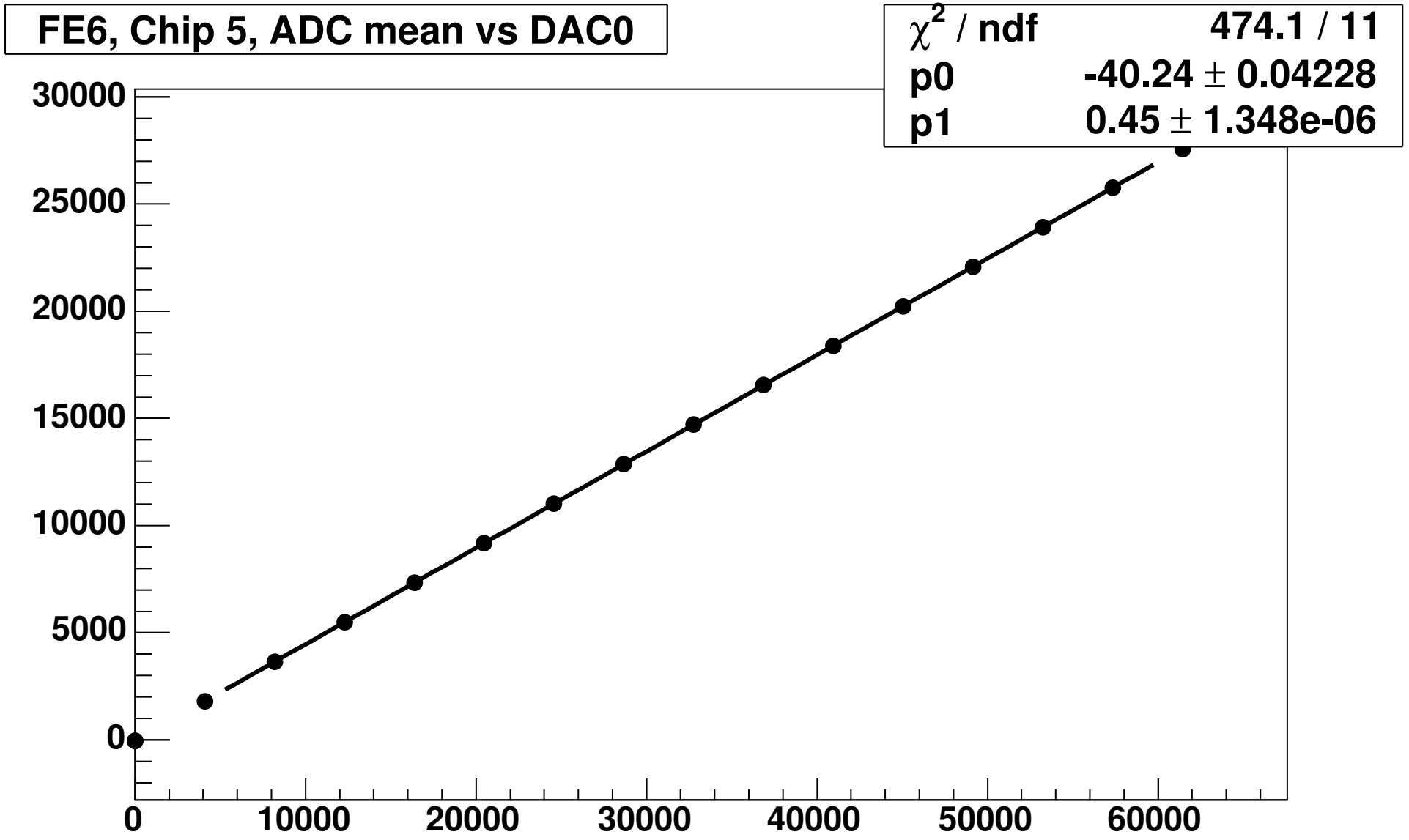

FE6, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

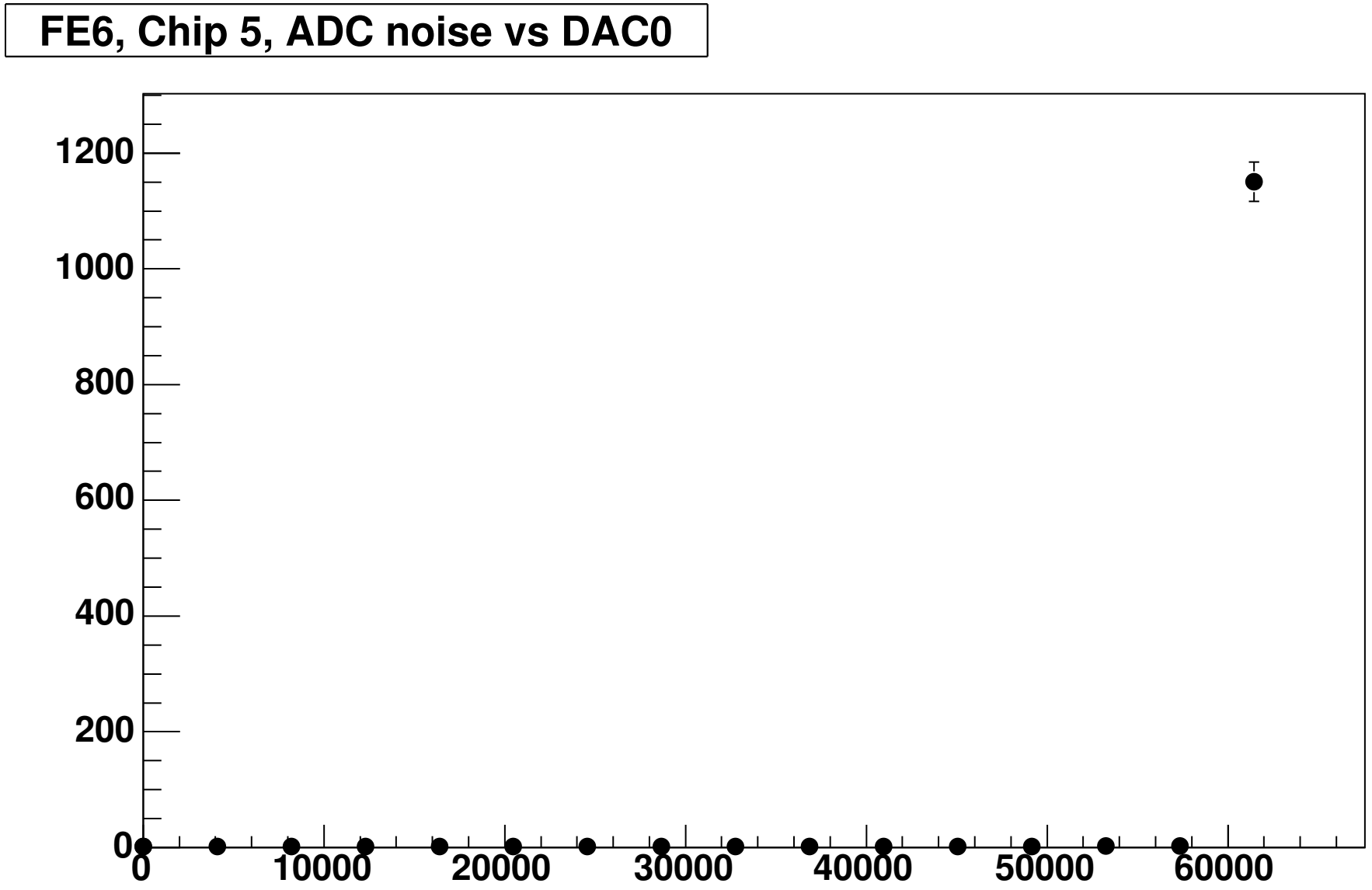

FE6, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

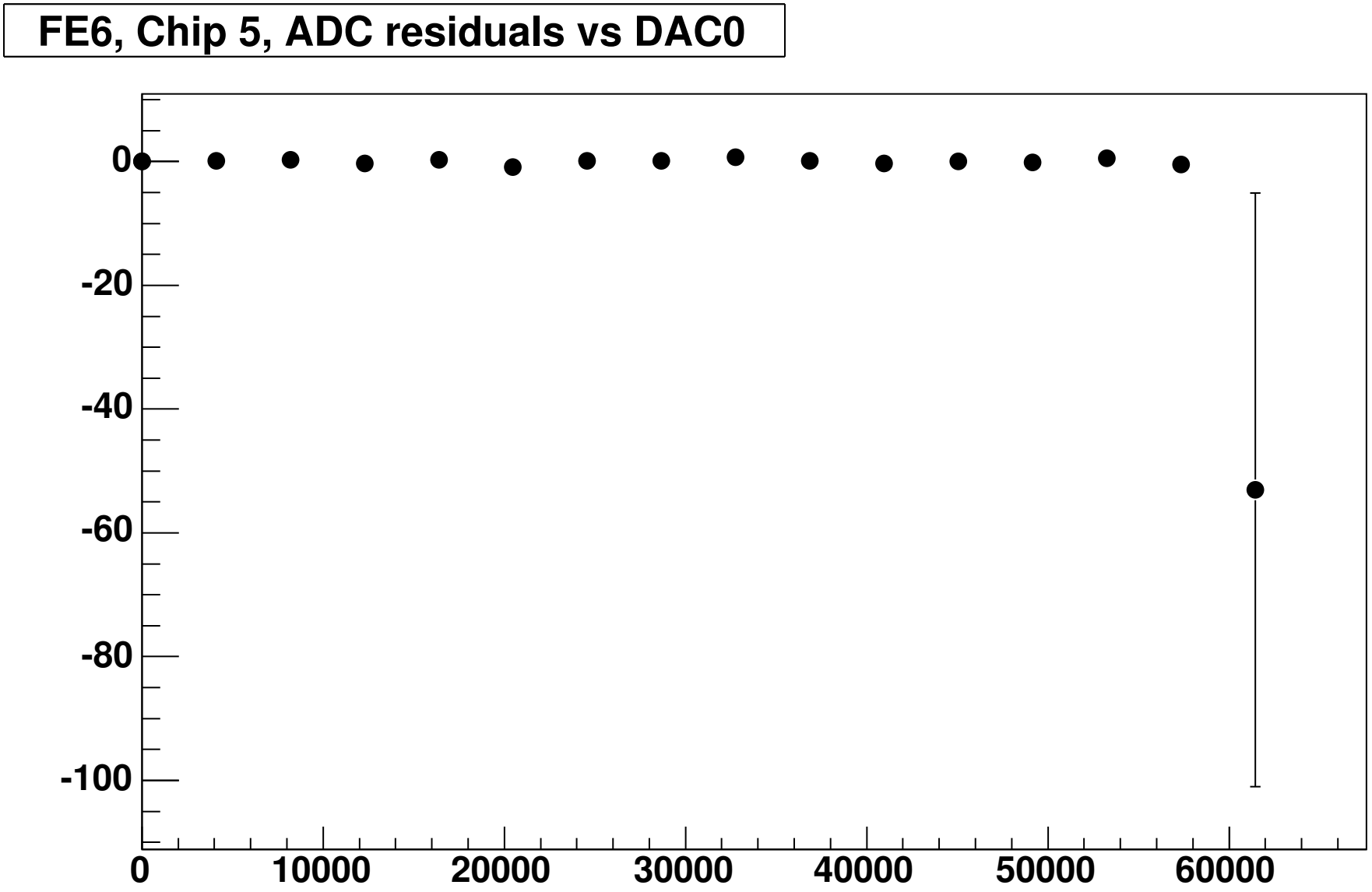

FE6, Chip 4, ADC mean vs DAC1
χ² / ndf 13.09 / 11
p0 -33.97 ± 0.04034
p1 -1.857e-07 ± 1.115e-06
-33.8
-33.85
-33.9
-33.95
-34
-34.05
-34.1
-34.15
0
10000
20000
30000
40000
50000
60000

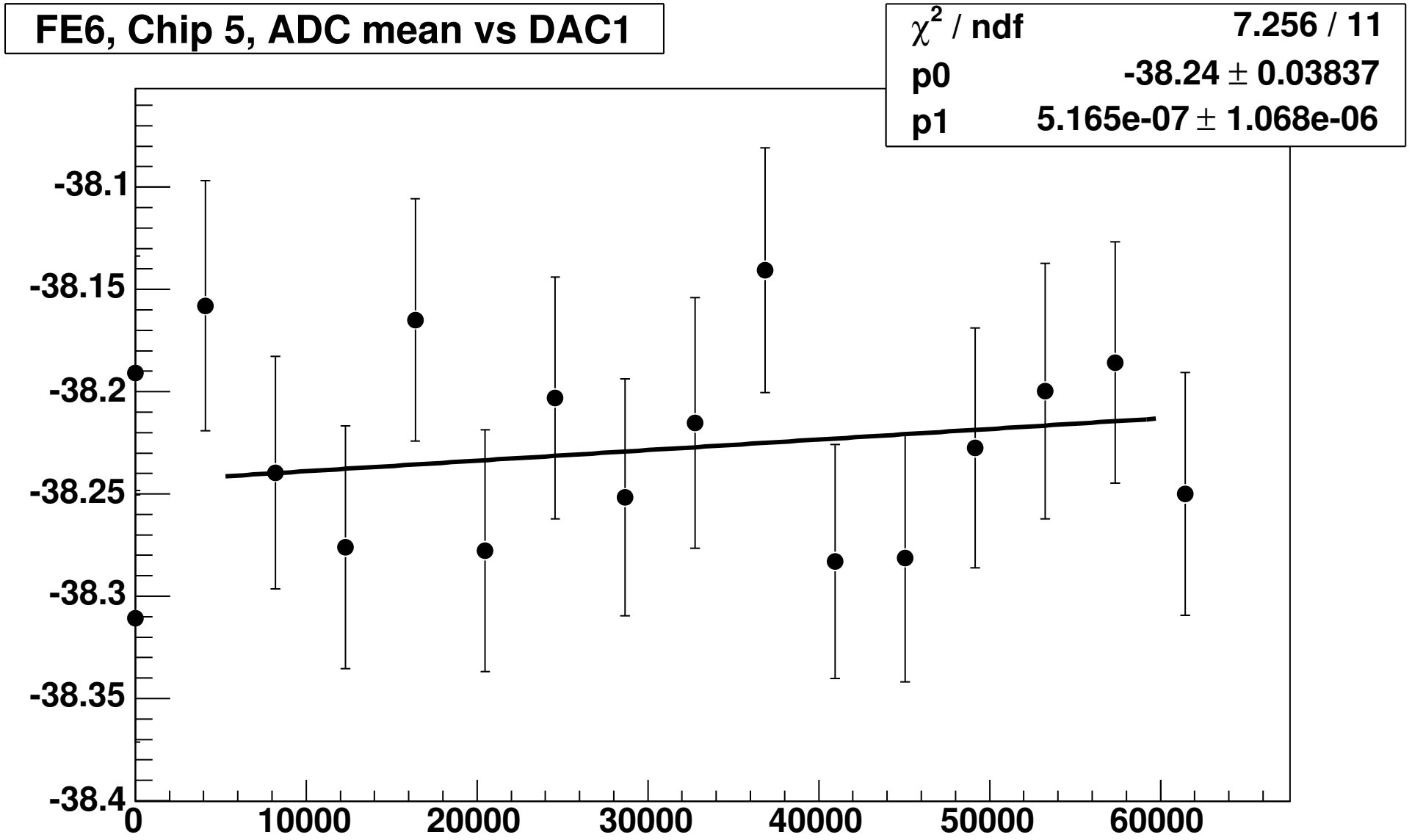

FE6, Chip 4, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

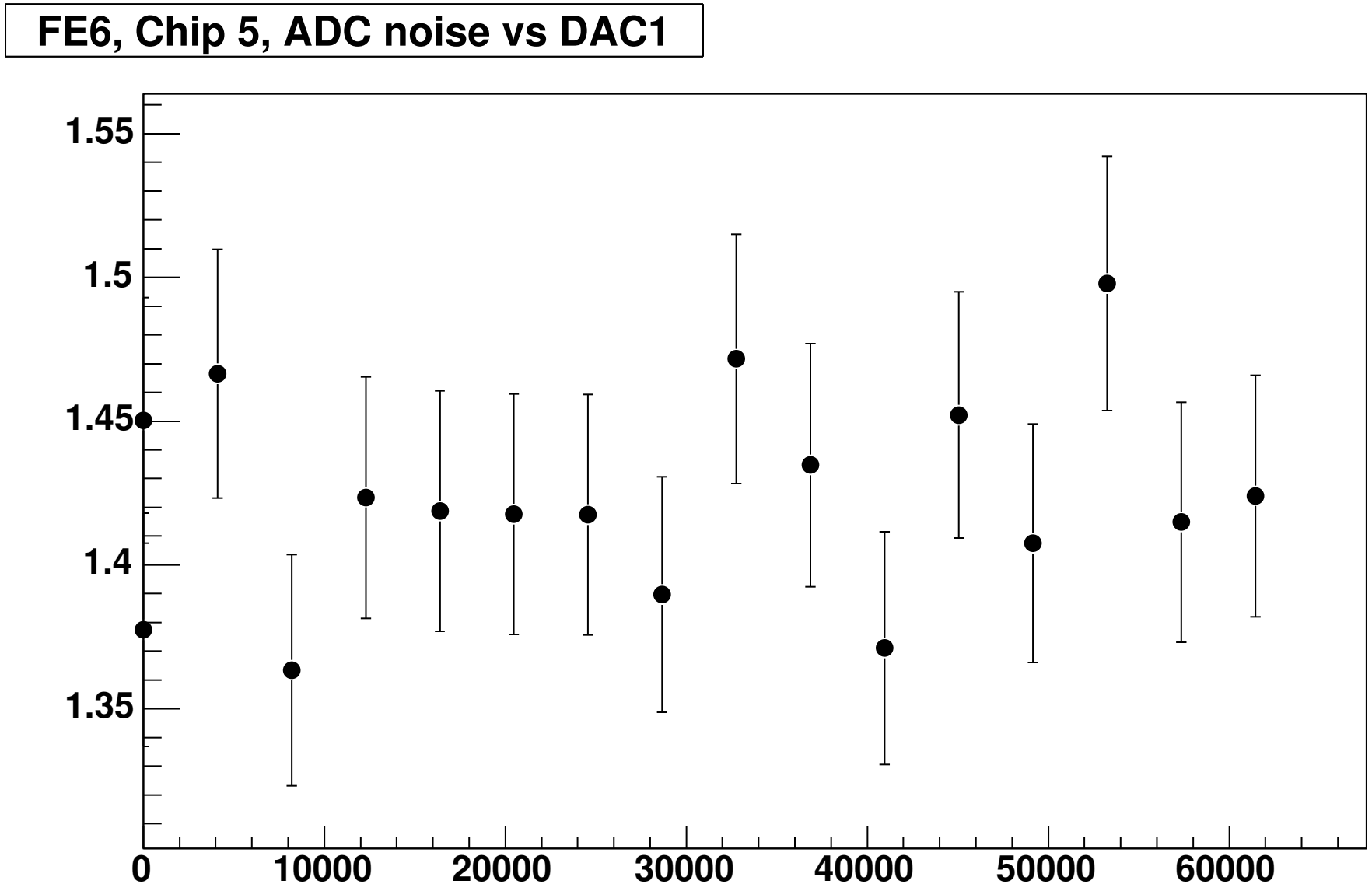

FE6, Chip 4, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

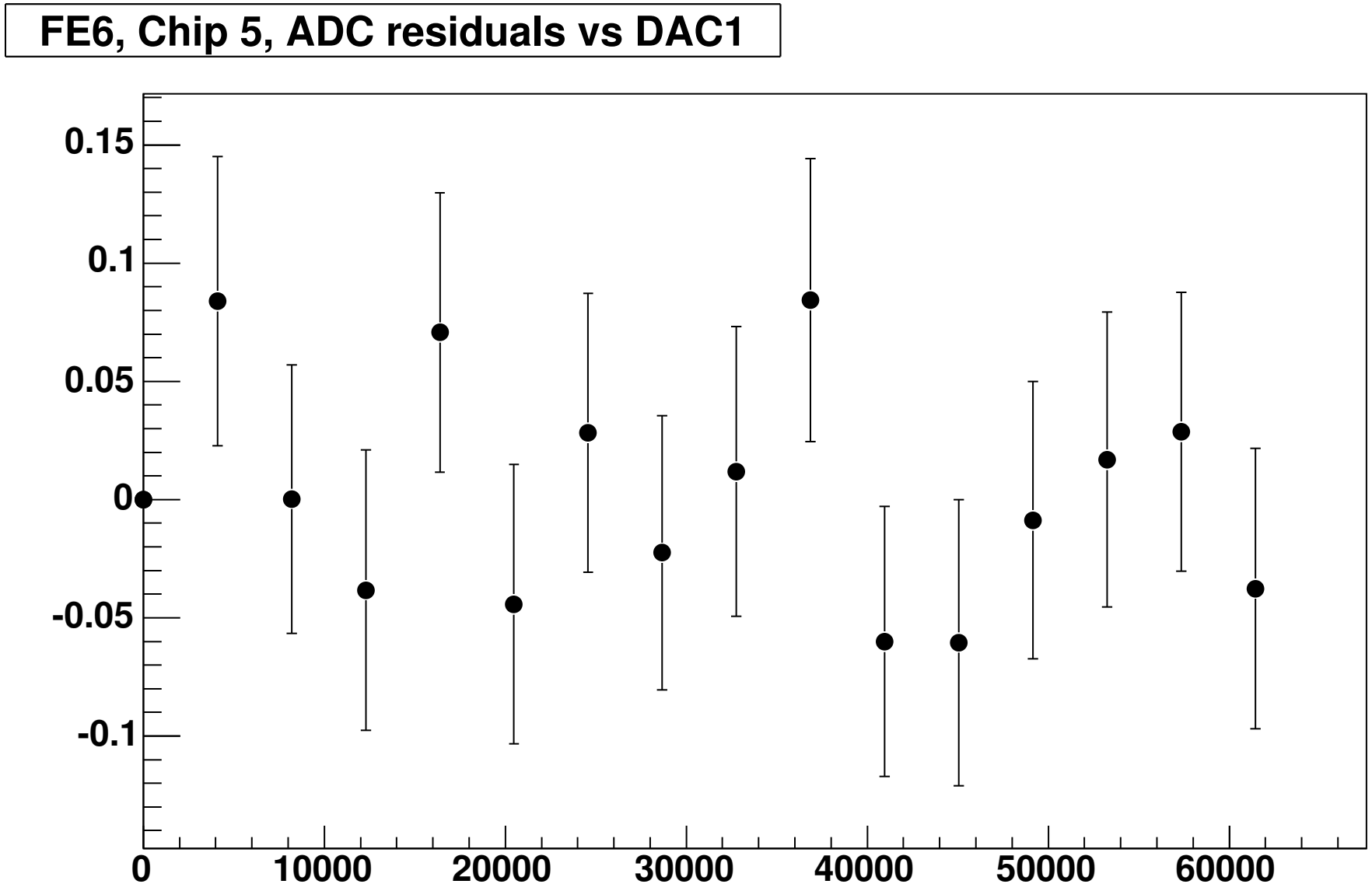

FE6, Chip 5, ADC mean vs DAC0
χ² / ndf 474.1 / 11
p0 -40.24 ± 0.04228
p1 0.45 ± 1.348e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

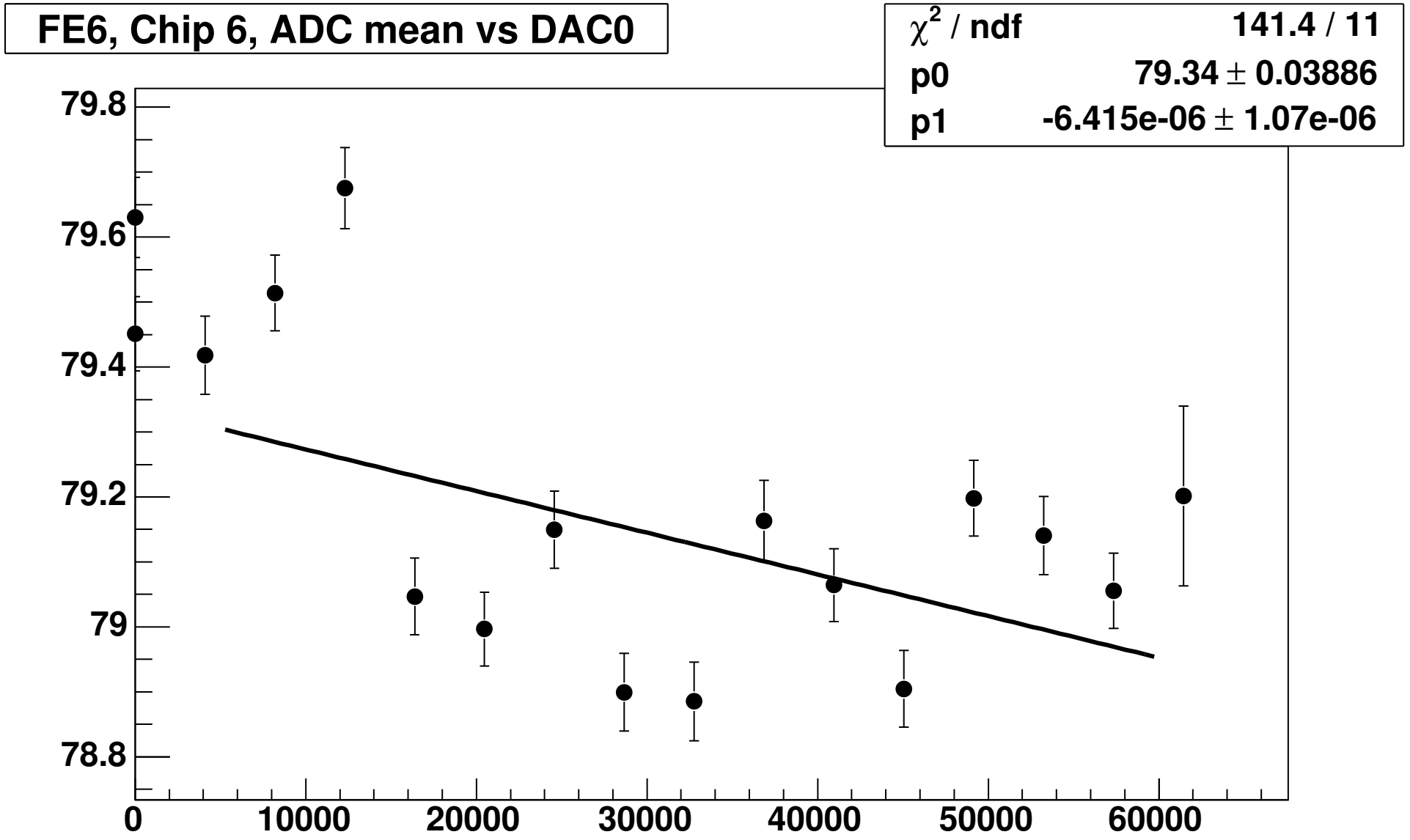

FE6, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

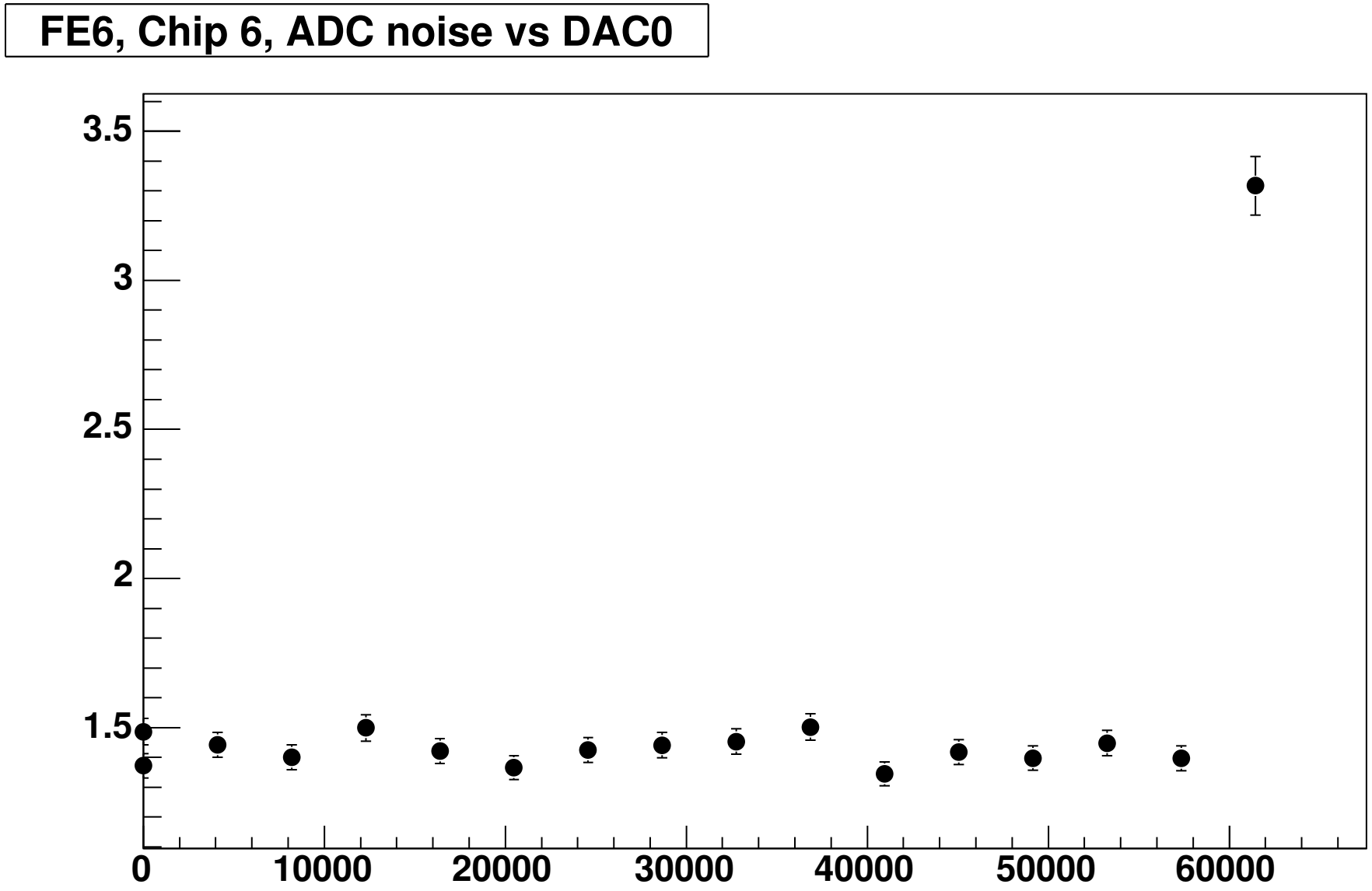

FE6, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

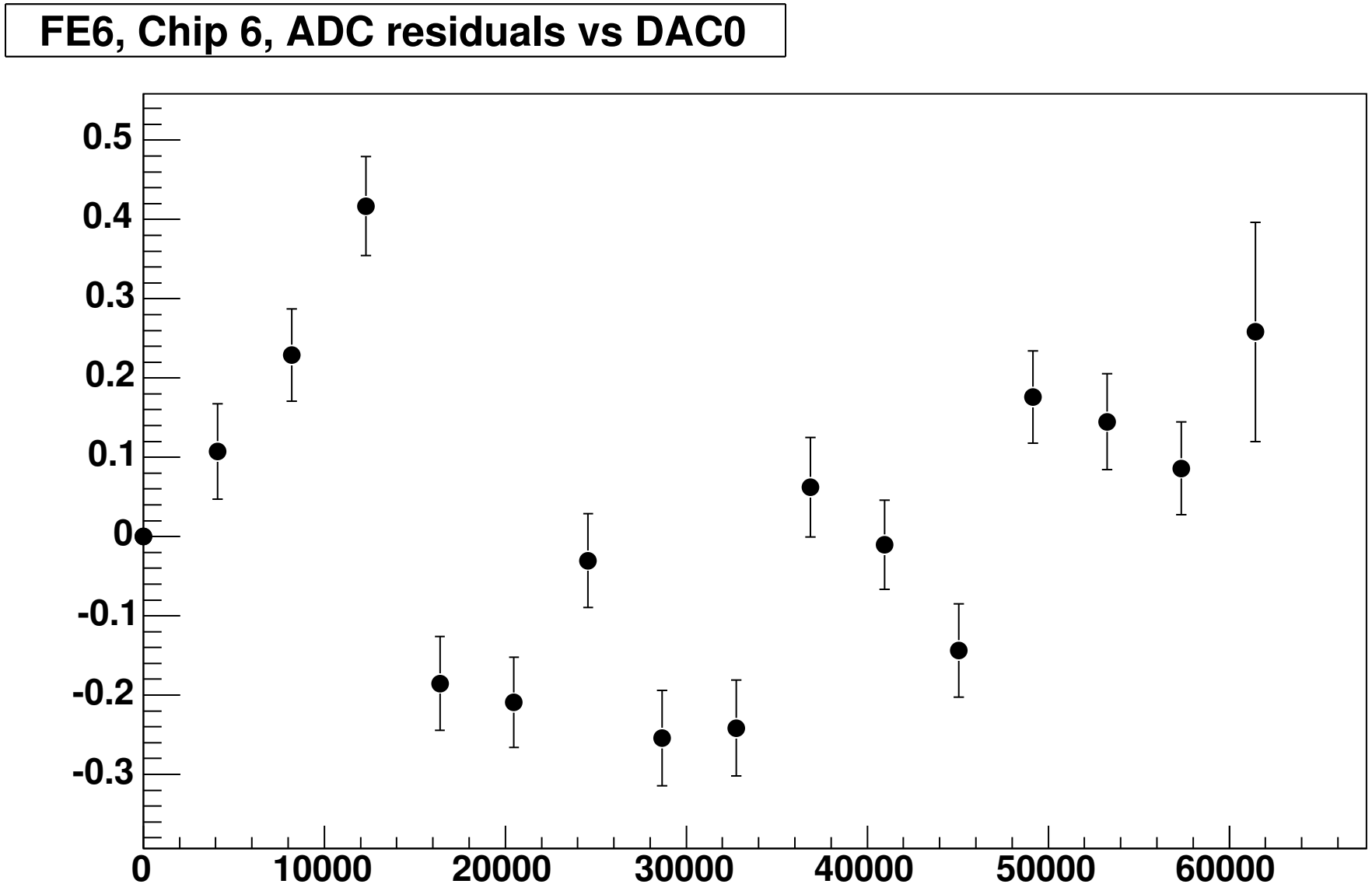

FE6, Chip 5, ADC mean vs DAC1
χ^2 / ndf 7.256 / 11
p0 -38.24 ± 0.03837
p1 5.165e-07 ± 1.068e-06
-38.1
-38.15
-38.2
-38.25
-38.3
-38.35
-38.4
0
10000
20000
30000
40000
50000
60000

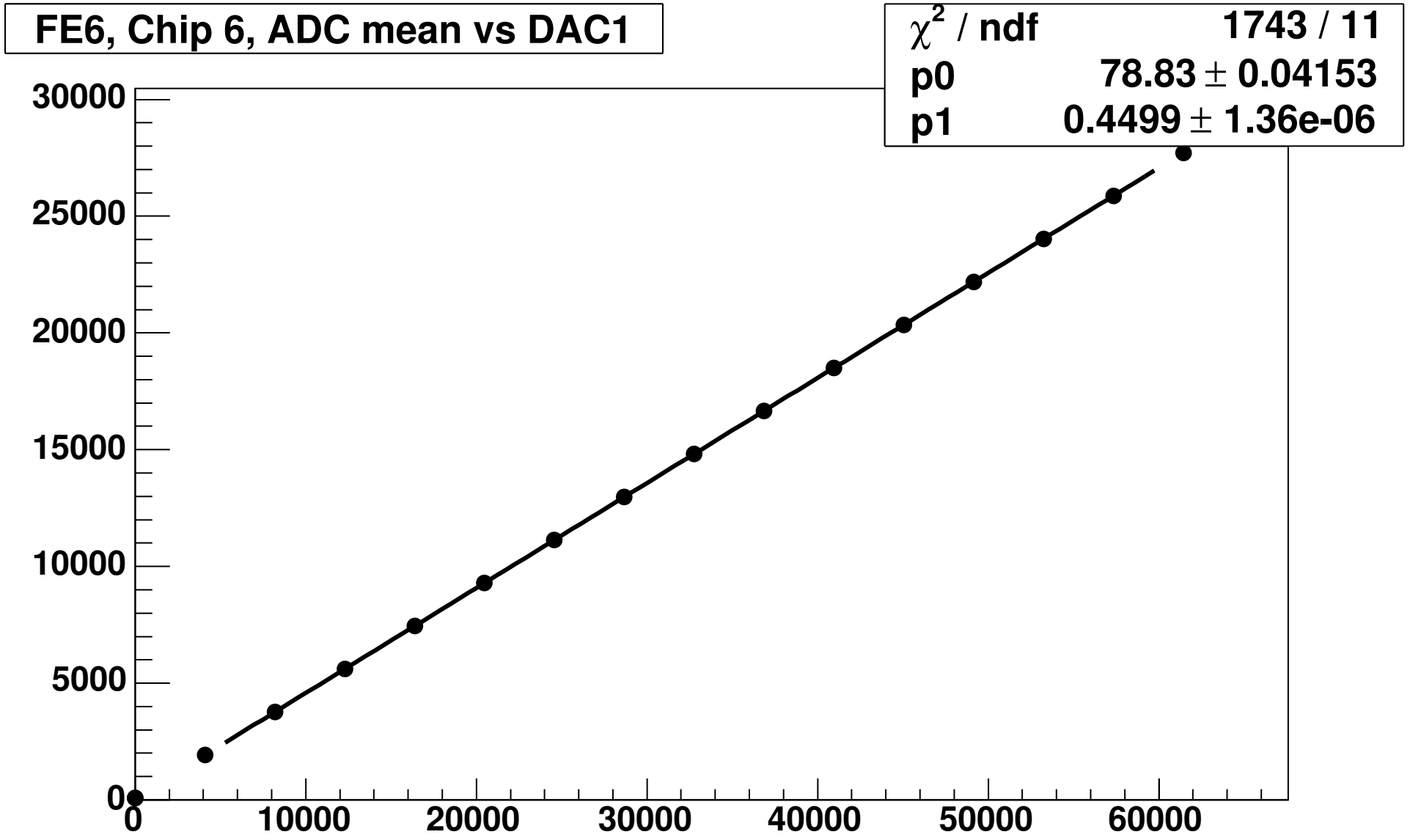

FE6, Chip 5, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

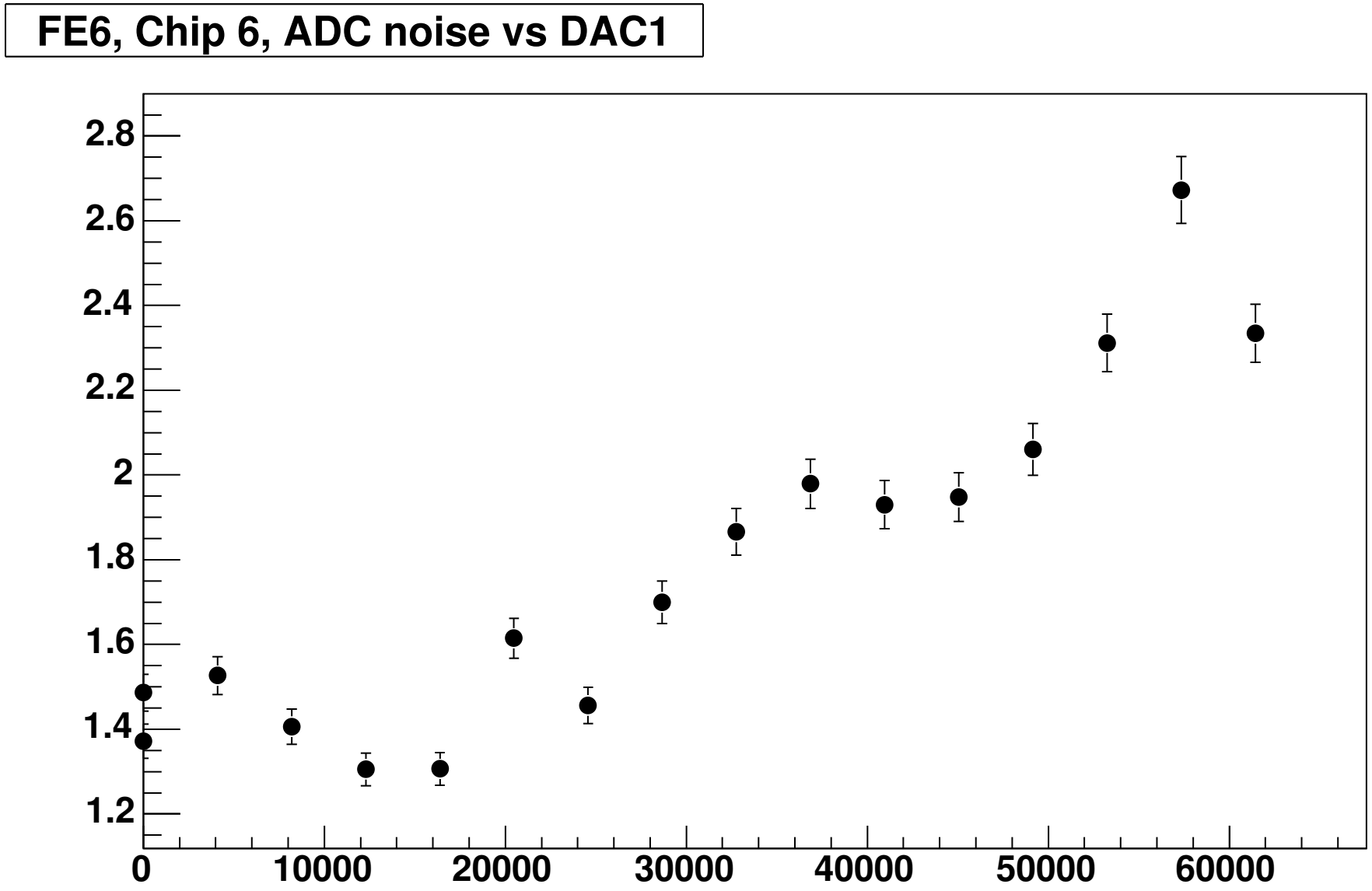

FE6, Chip 5, ADC residuals vs DAC1
0.15
0.1
0.05
0
-0.05
-0.1
0
10000
20000
30000
40000
50000
60000

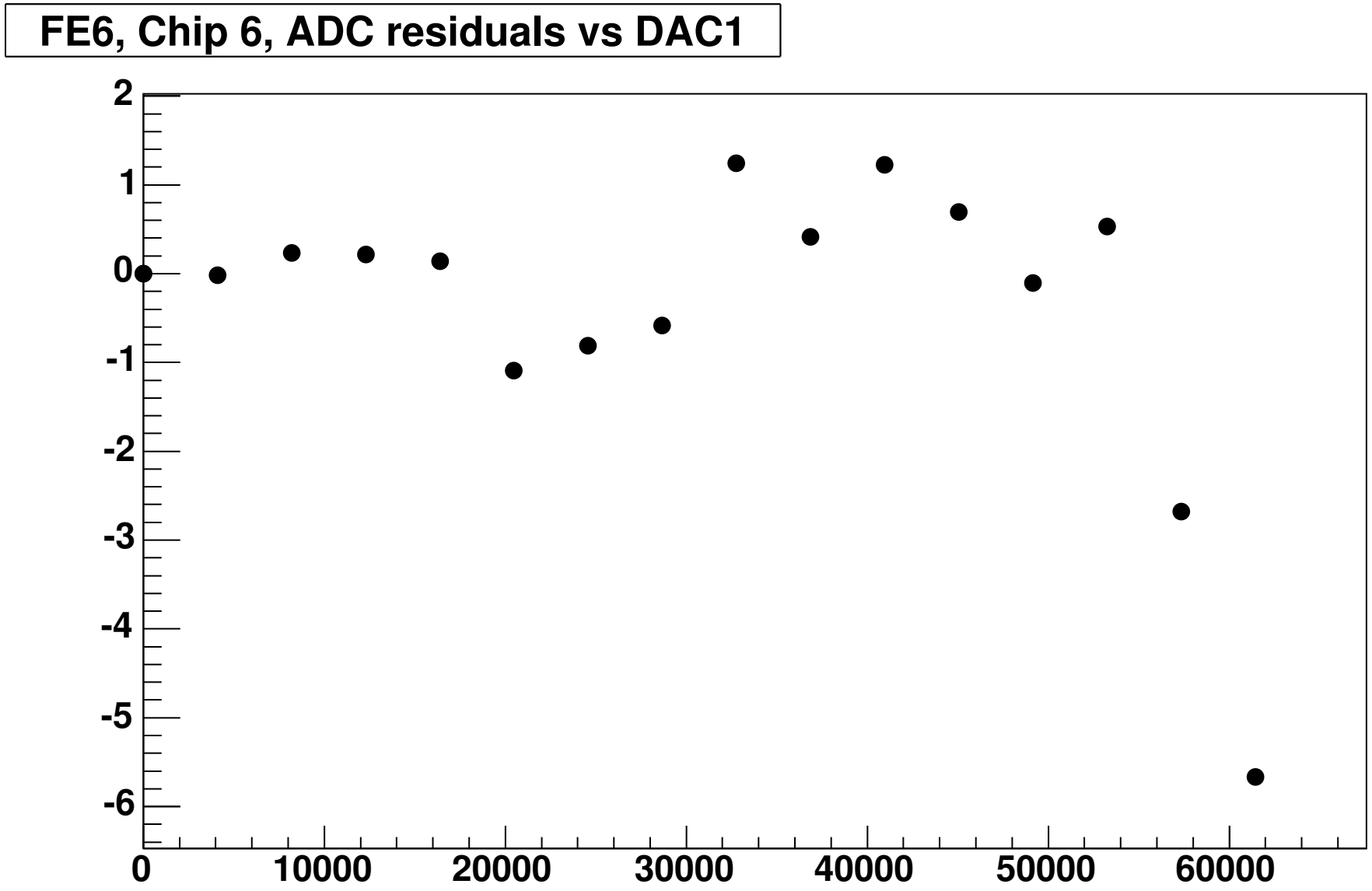

FE6, Chip 6, ADC mean vs DAC0
χ² / ndf 141.4 / 11
p0 79.34 ± 0.03886
p1 -6.415e-06 ± 1.07e-06
79.8
79.6
79.4
79.2
79
78.8
0
10000
20000
30000
40000
50000
60000

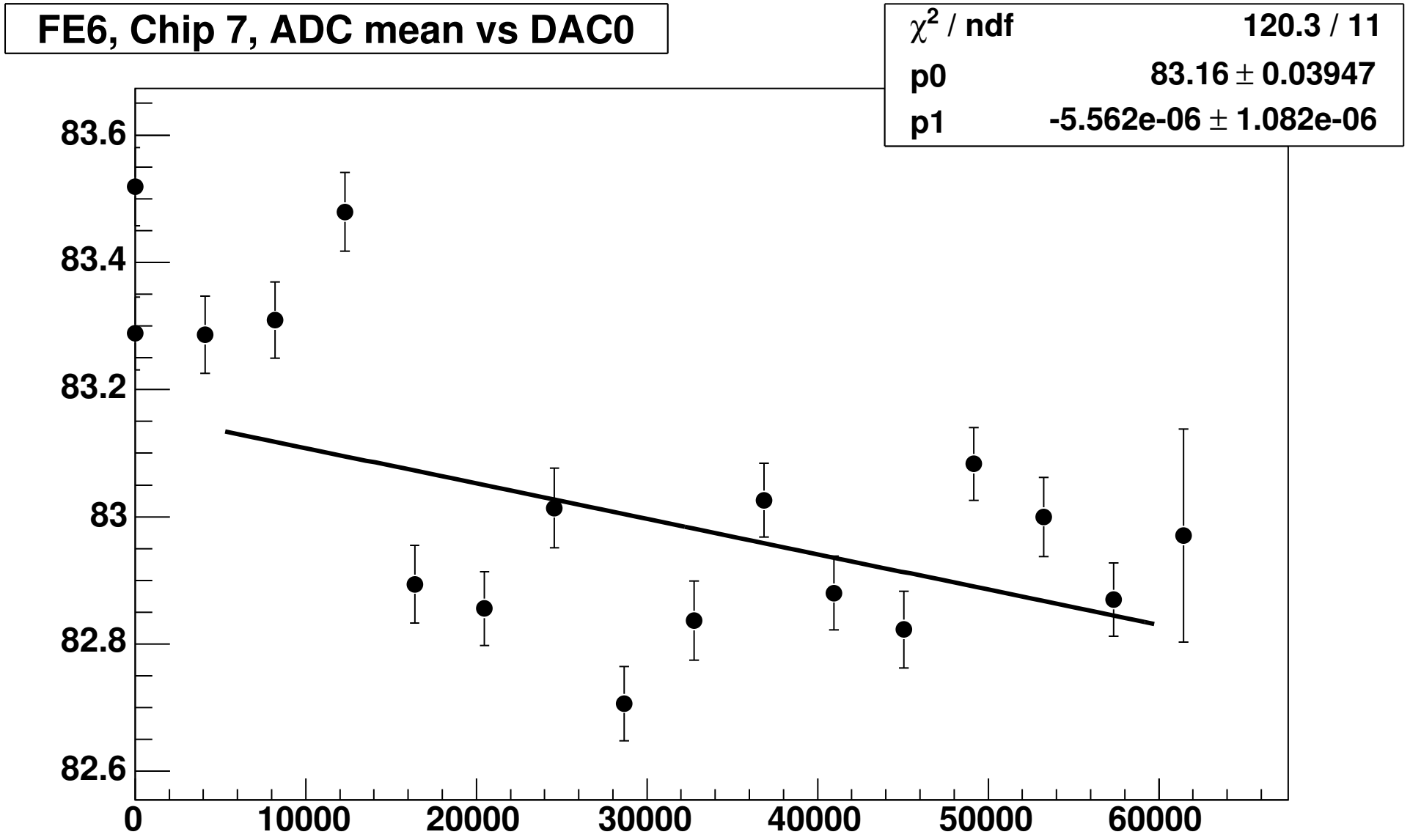

FE6, Chip 6, ADC noise vs DAC0
3.5
3
2.5
2
1.5
0
10000
20000
30000
40000
50000
60000

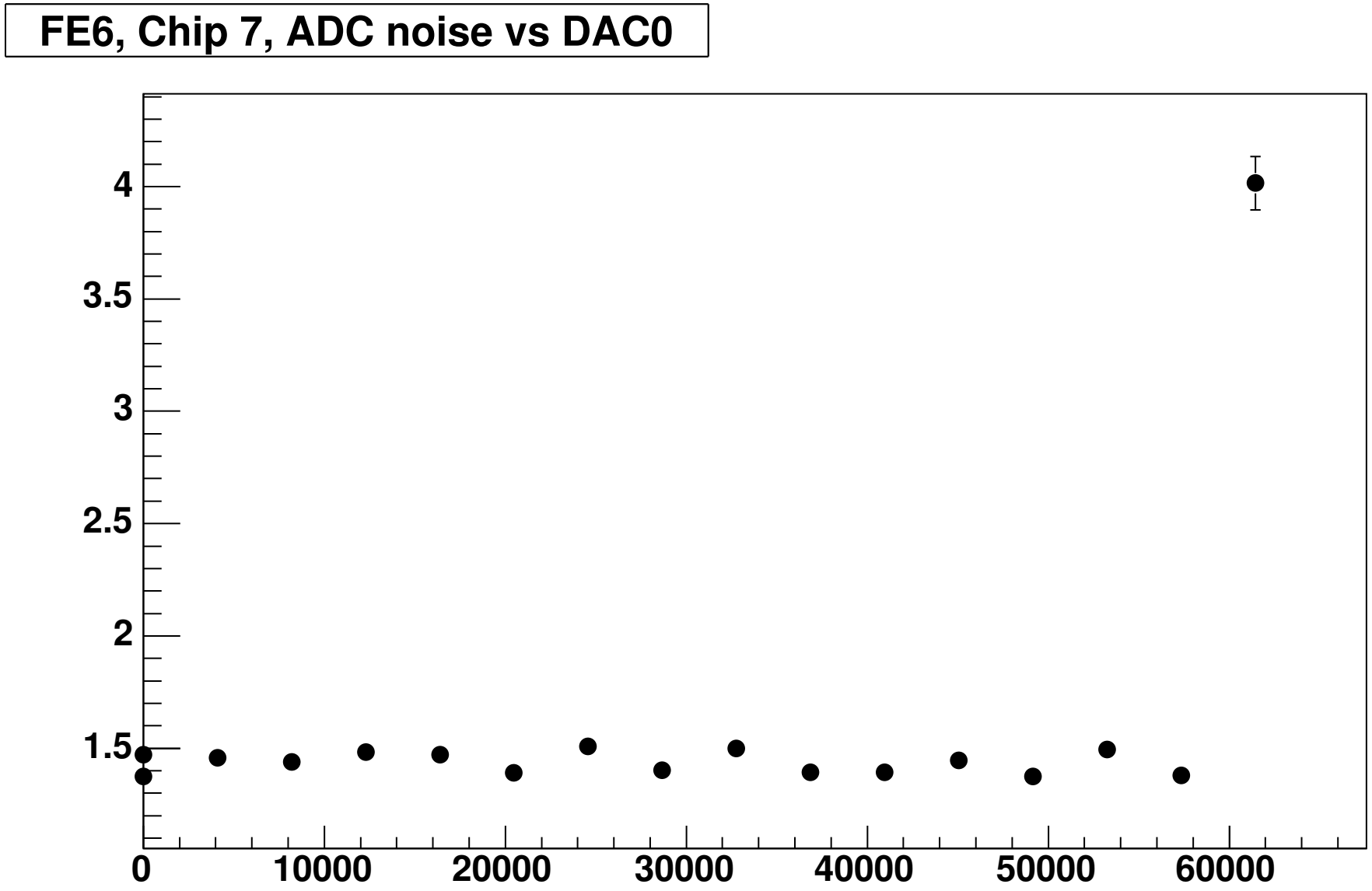

FE6, Chip 6, ADC residuals vs DAC0
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

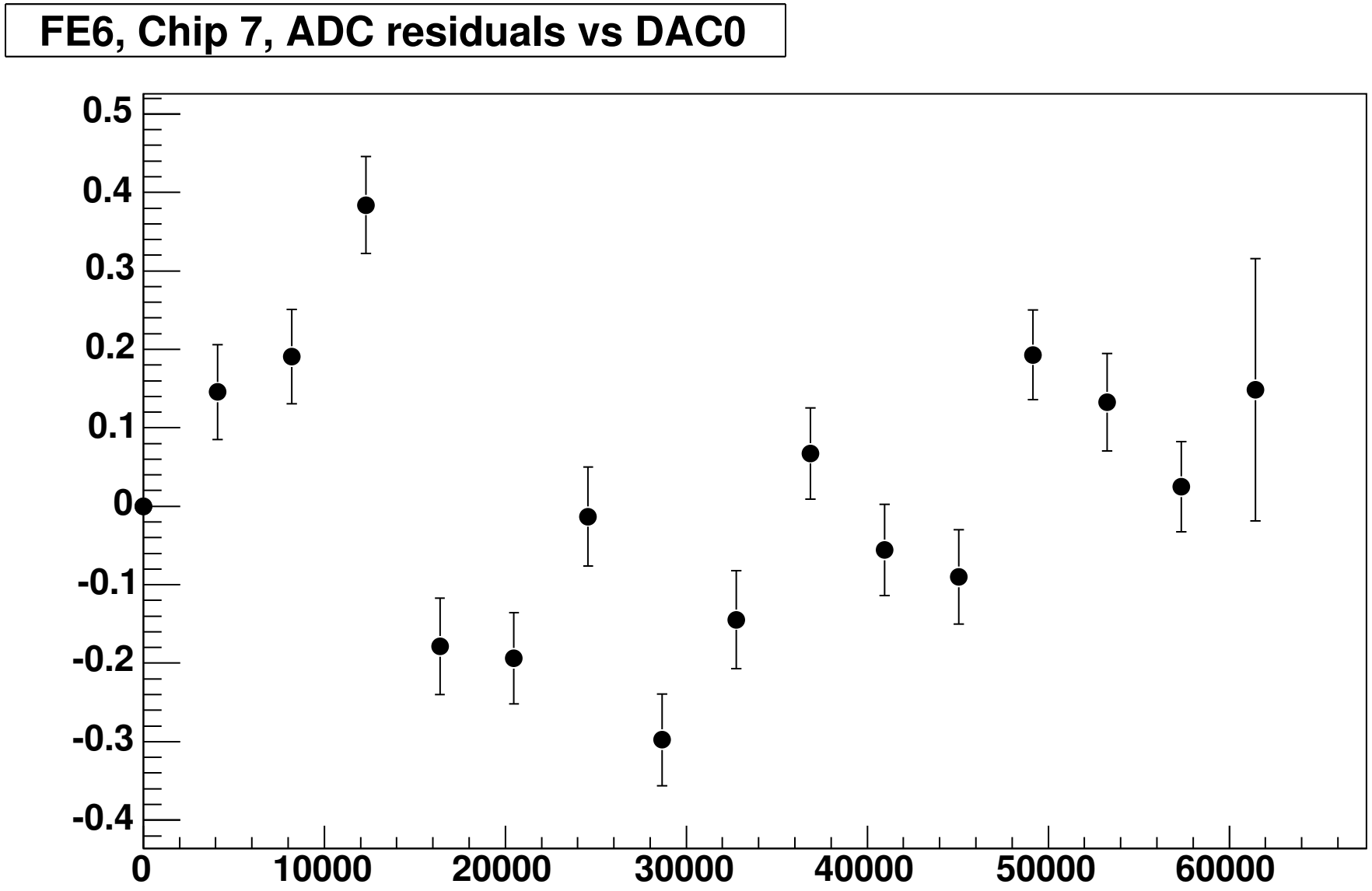

FE6, Chip 6, ADC mean vs DAC1
χ² / ndf 1743 / 11
p0 78.83 ± 0.04153
p1 0.4499 ± 1.36e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

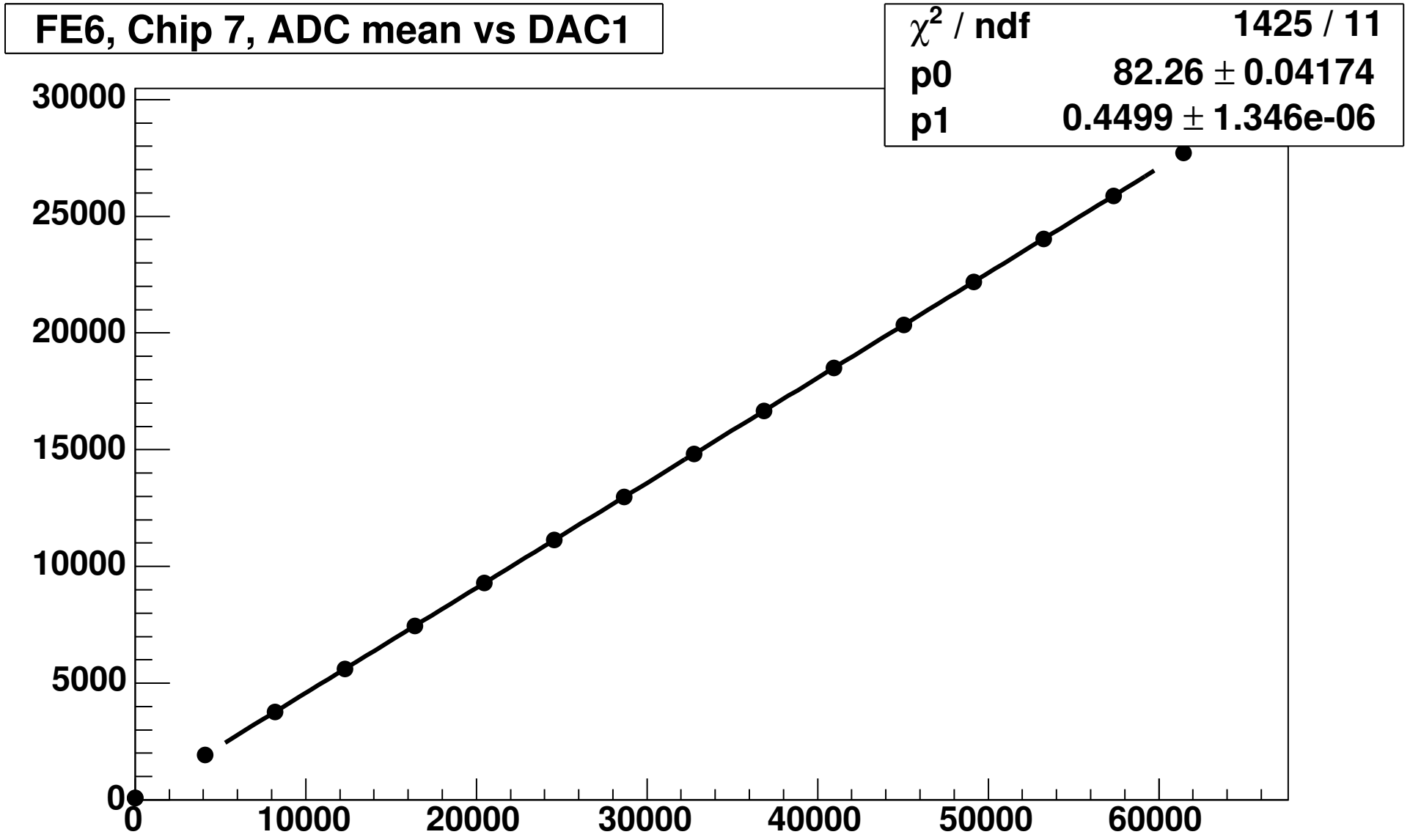

FE6, Chip 6, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

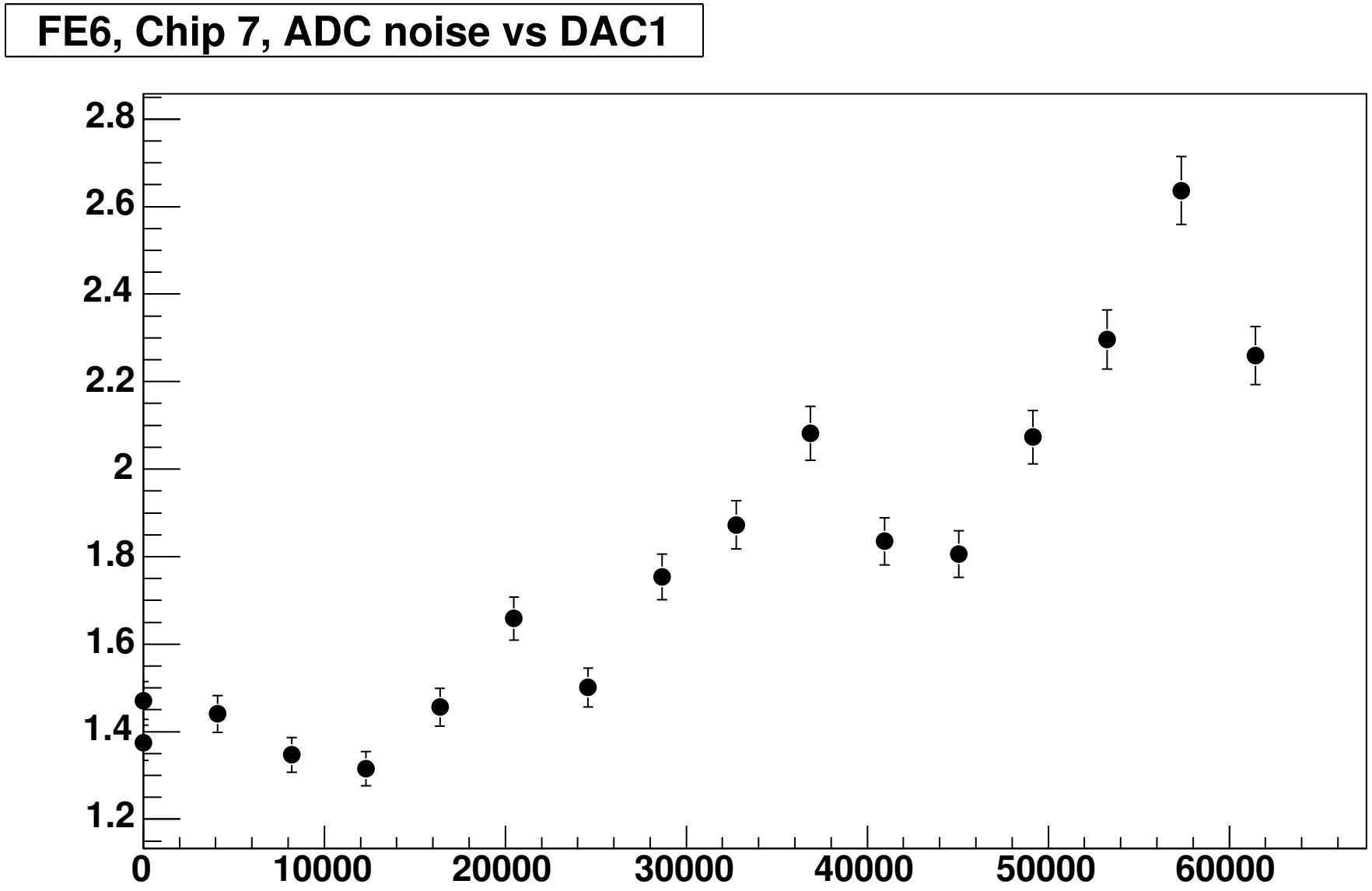

FE6, Chip 6, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

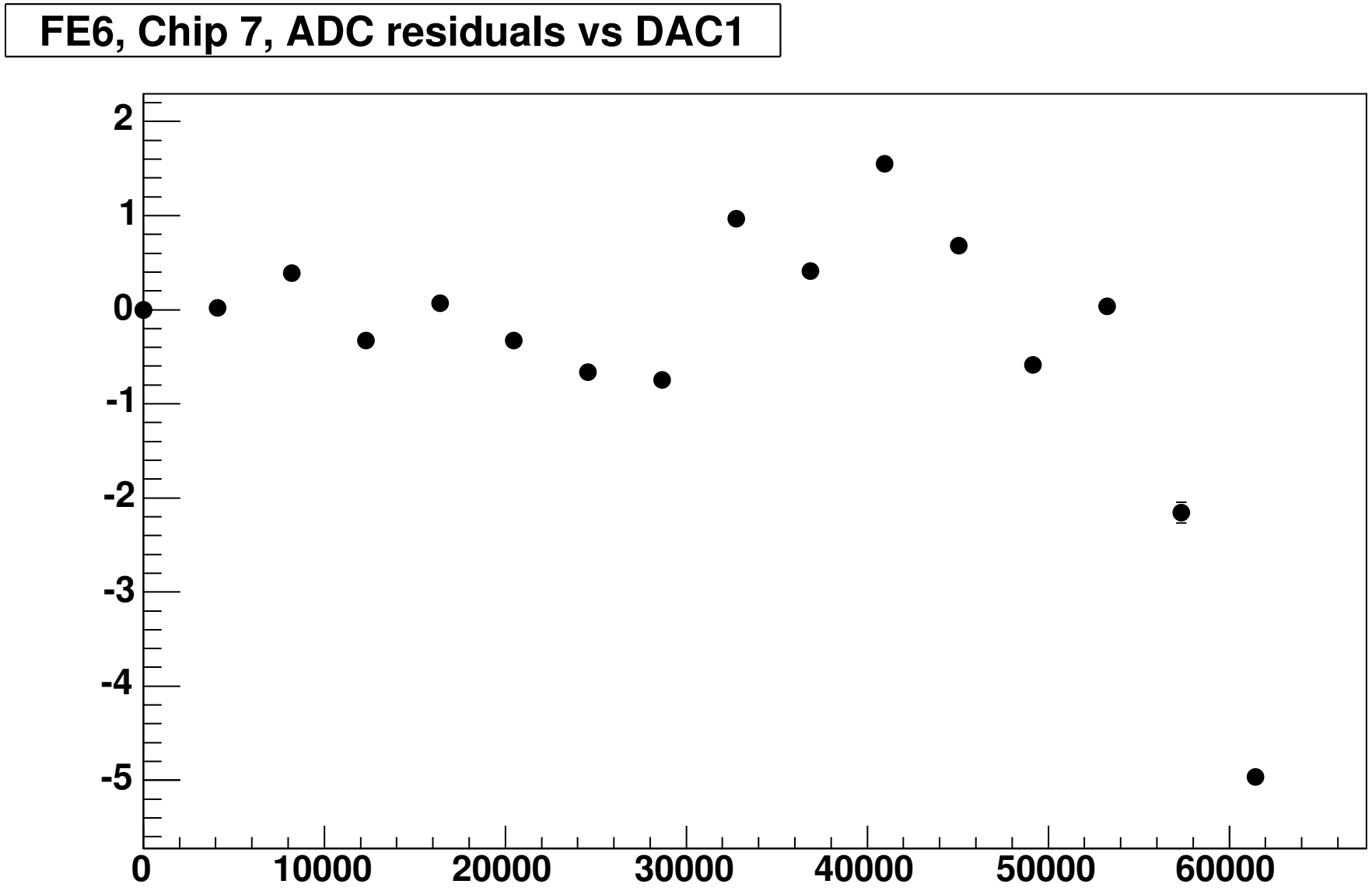

FE6, Chip 7, ADC mean vs DAC0
χ² / ndf 120.3 / 11
p0 83.16 ± 0.03947
p1 -5.562e-06 ± 1.082e-06
83.6
83.4
83.2
83
82.8
82.6
0
10000
20000
30000
40000
50000
60000

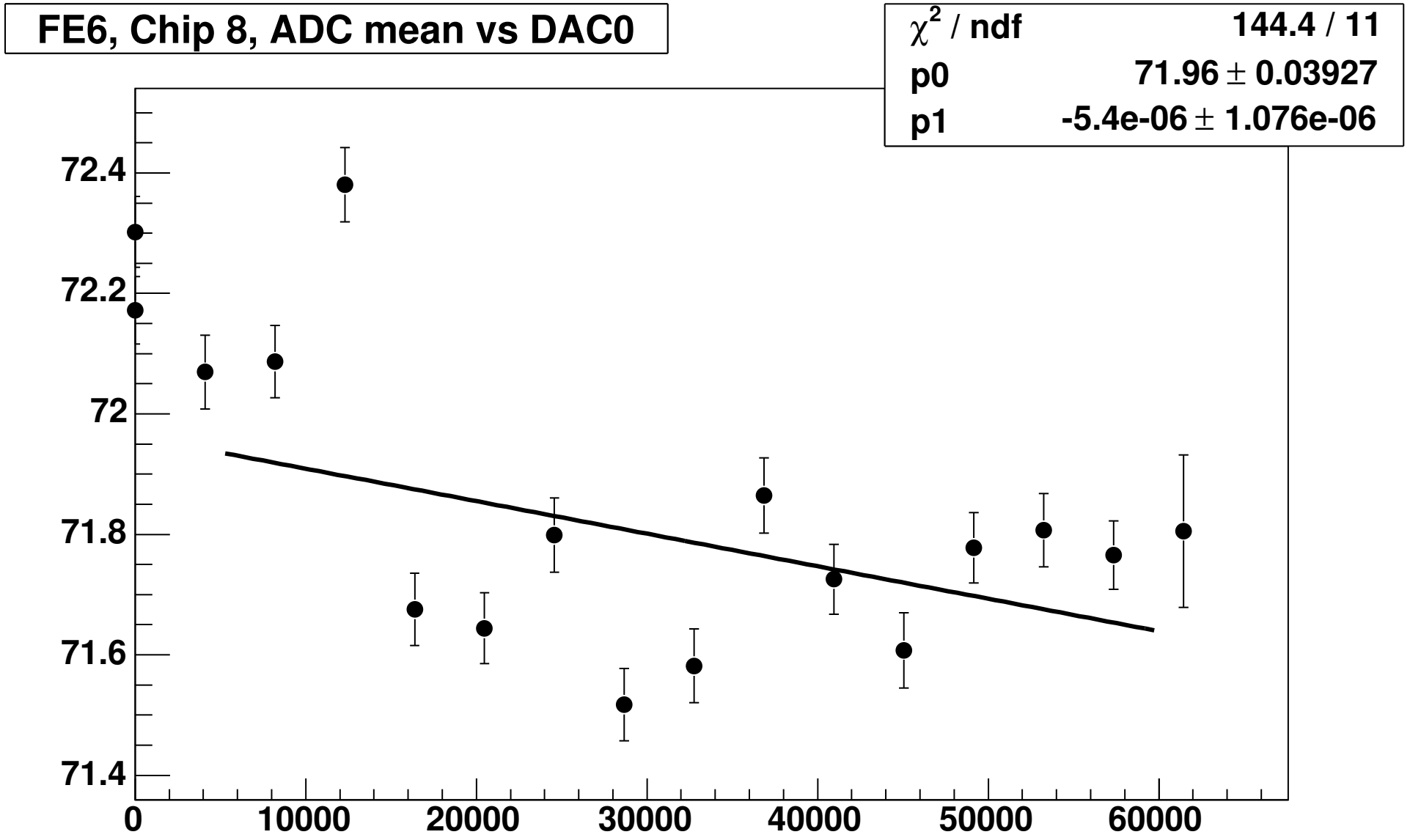

FE6, Chip 7, ADC noise vs DAC0
4
3.5
3
2.5
2
1.5
0
10000
20000
30000
40000
50000
60000


FE6, Chip 7, ADC residuals vs DAC0
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

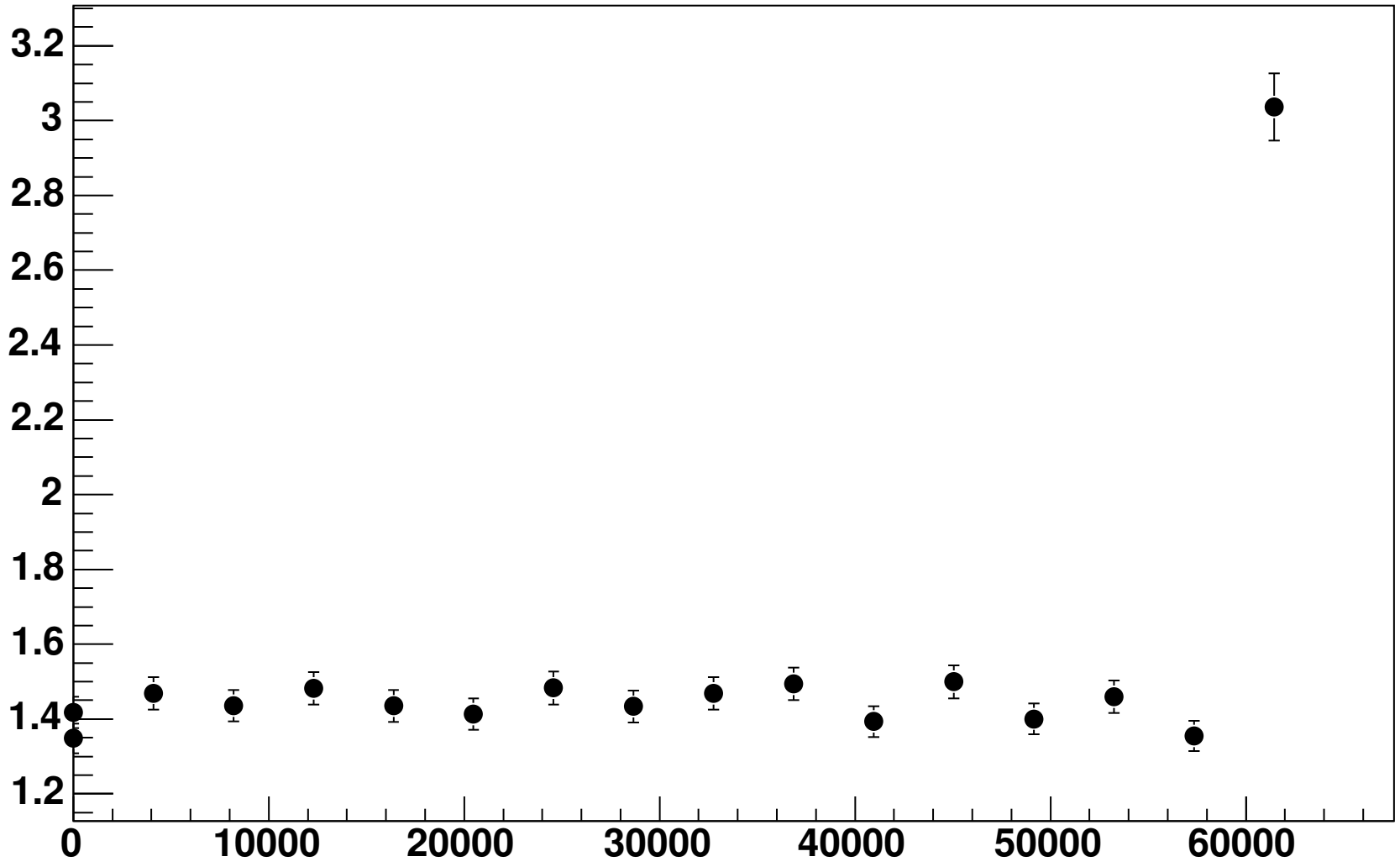

FE6, Chip 7, ADC mean vs DAC1
χ² / ndf 1425 / 11
p0 82.26 ± 0.04174
p1 0.4499 ± 1.346e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

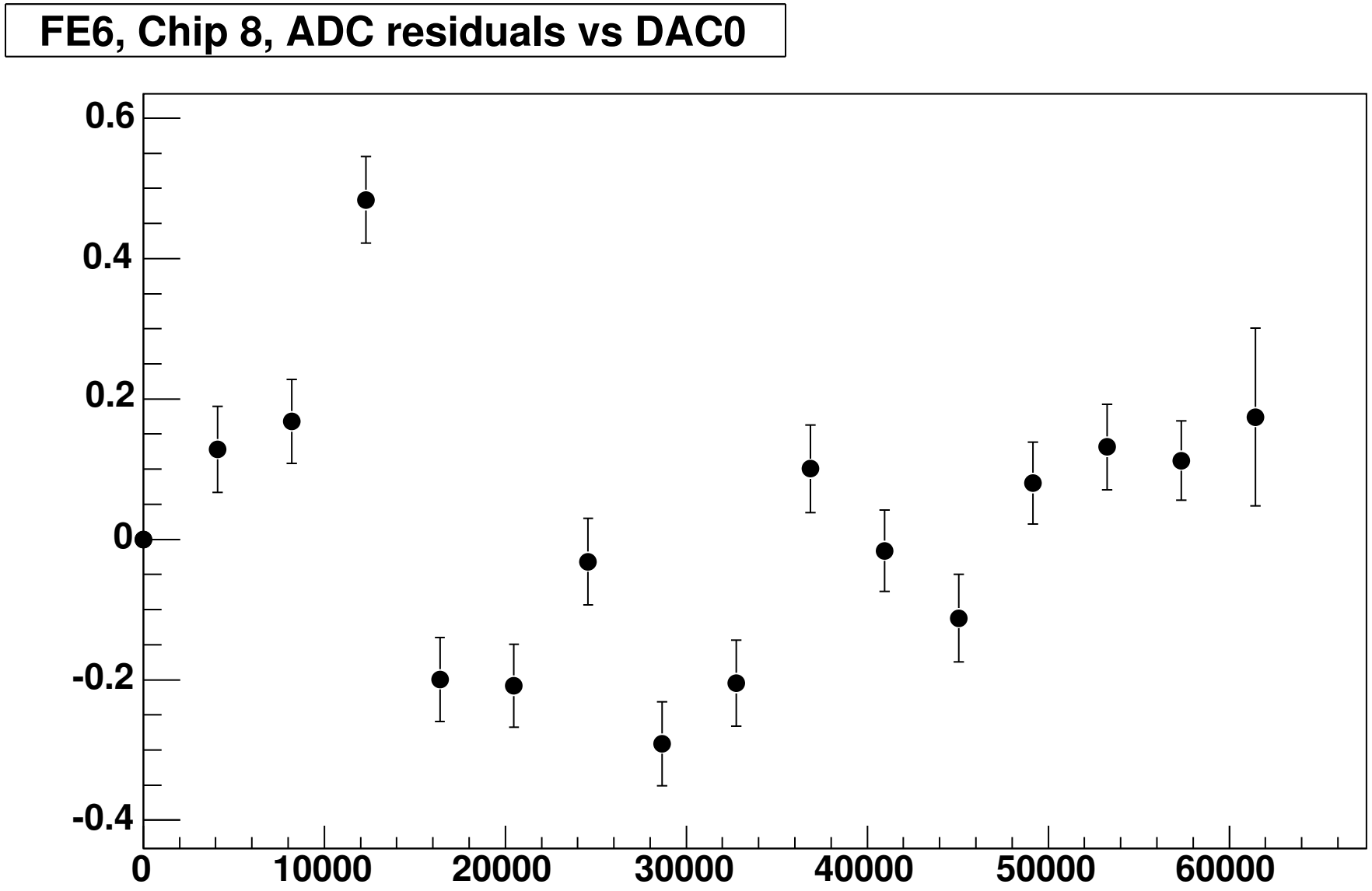

FE6, Chip 7, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

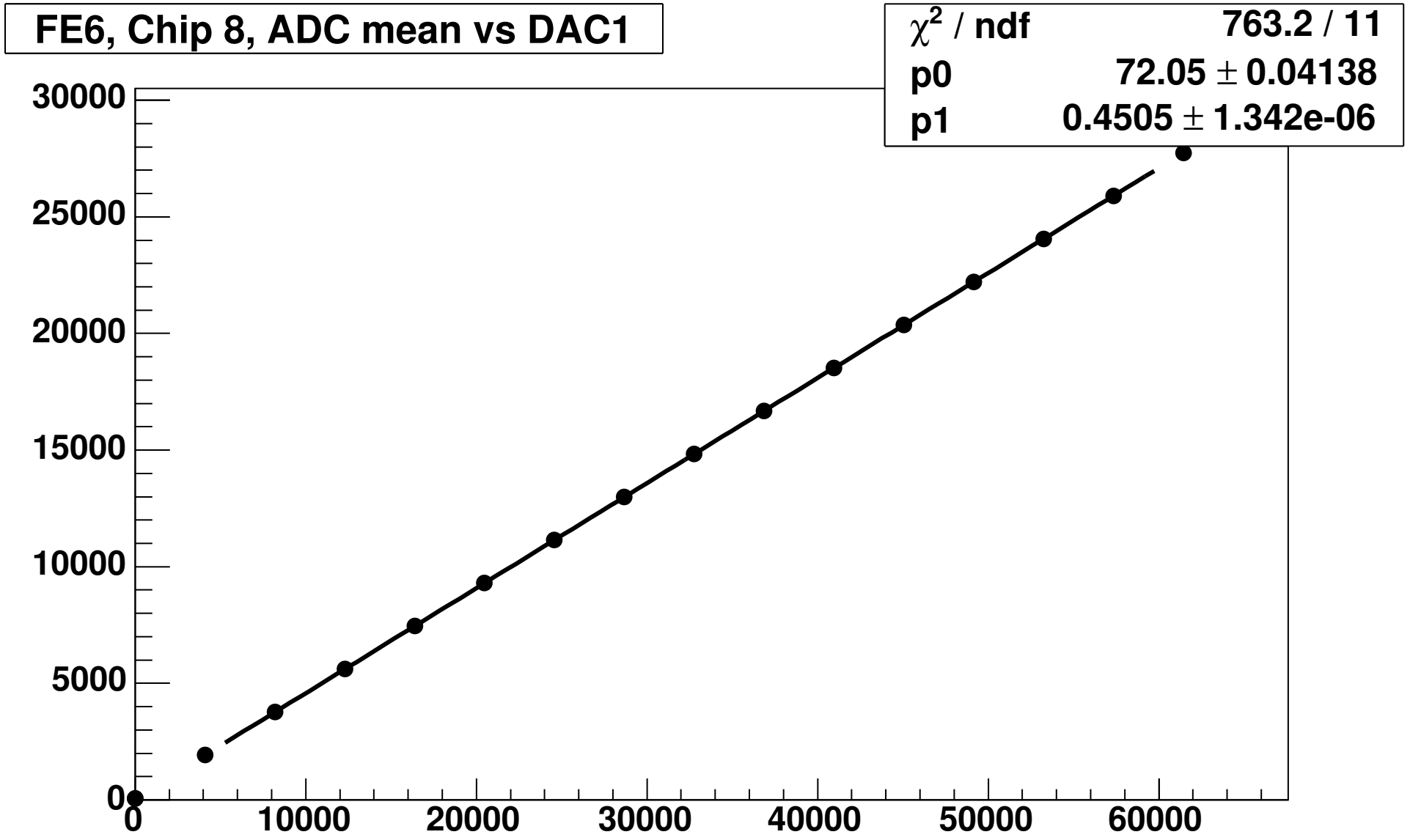

FE6, Chip 7, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

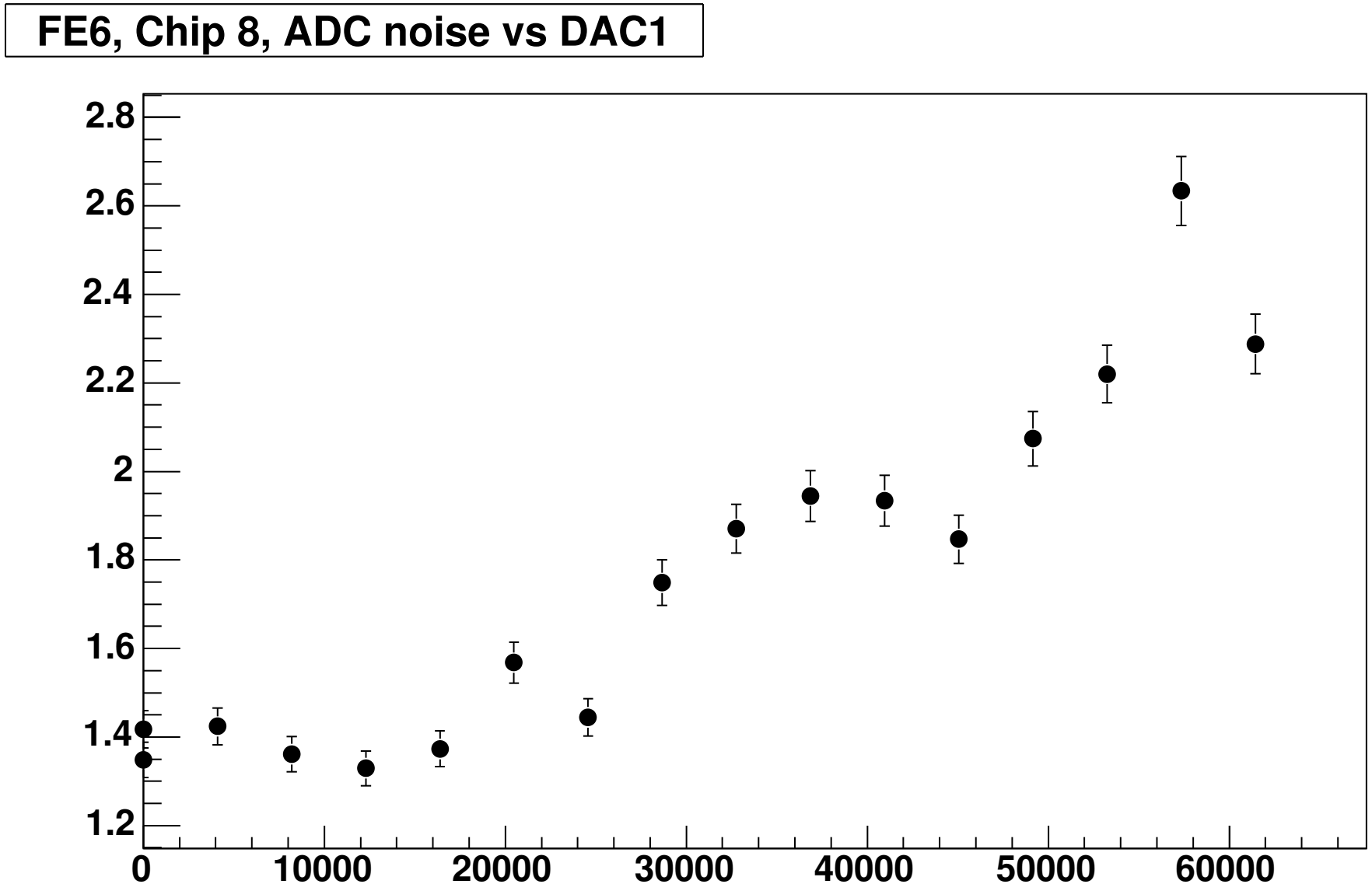

FE6, Chip 8, ADC mean vs DAC0
χ^2 / ndf 144.4 / 11
p0 71.96 ± 0.03927
p1 -5.4e-06 ± 1.076e-06
72.4
72.2
72
71.8
71.6
71.4
0
10000
20000
30000
40000
50000
60000

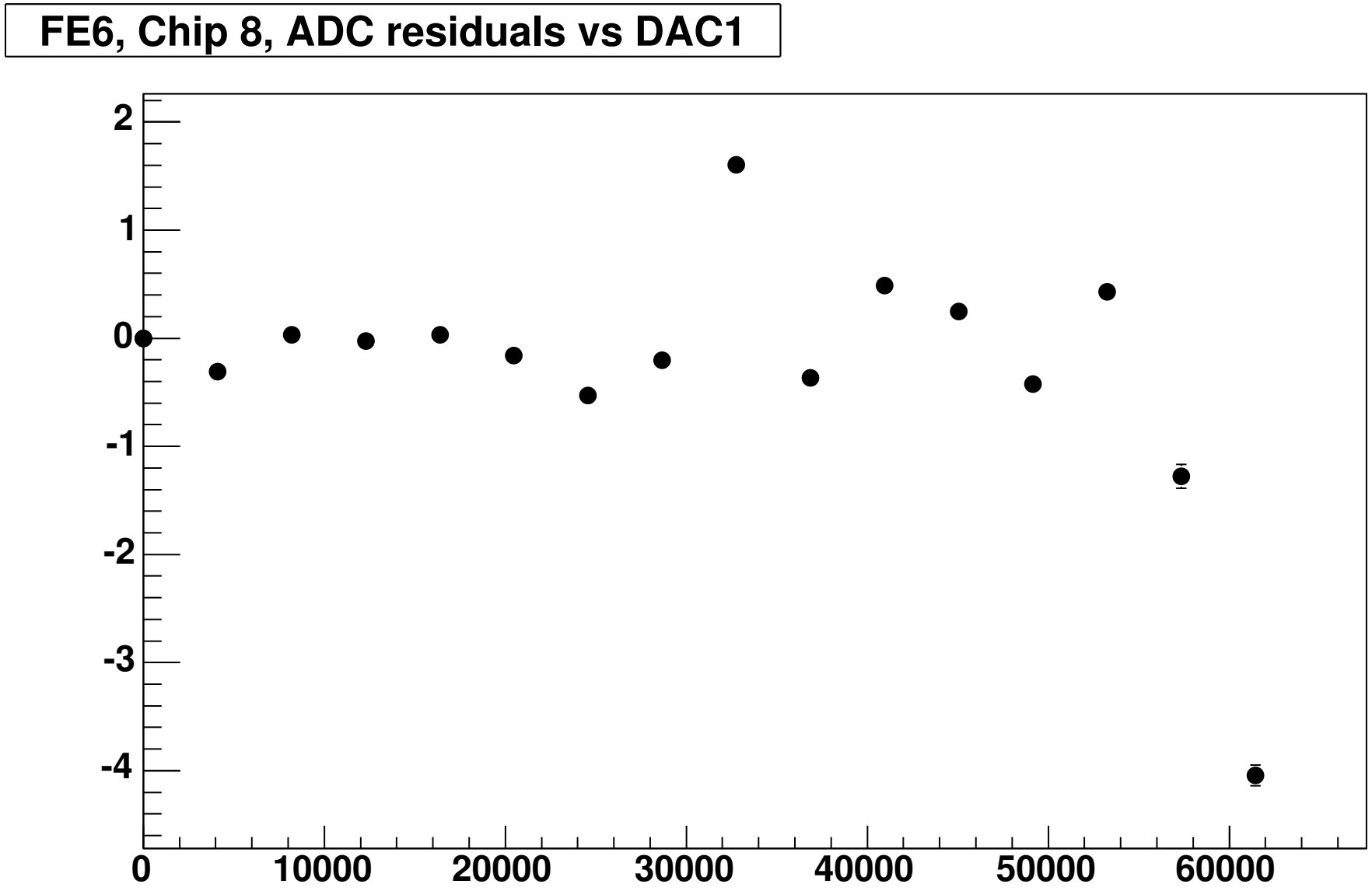
FE6, Chip 8, ADC noise vs DAC0

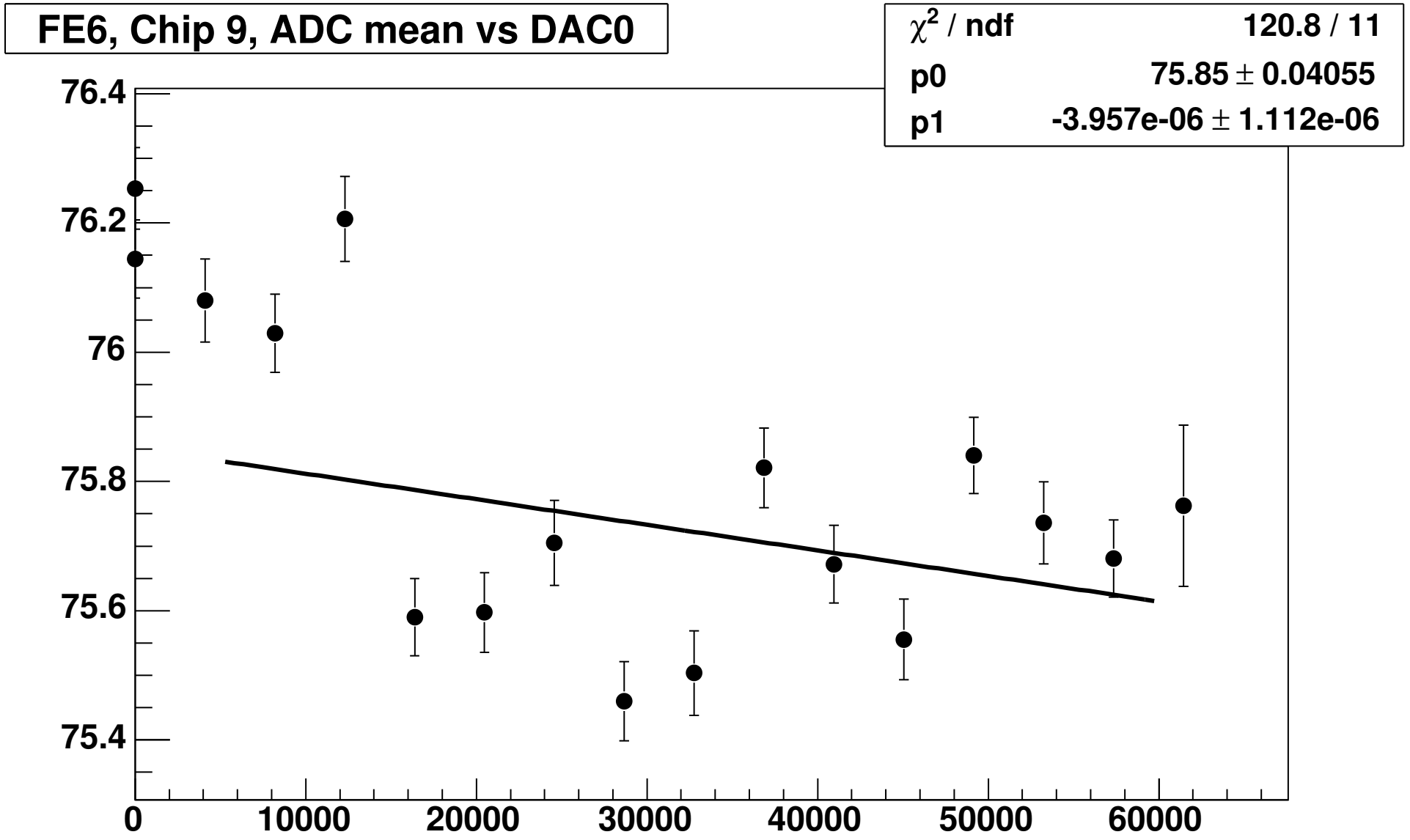


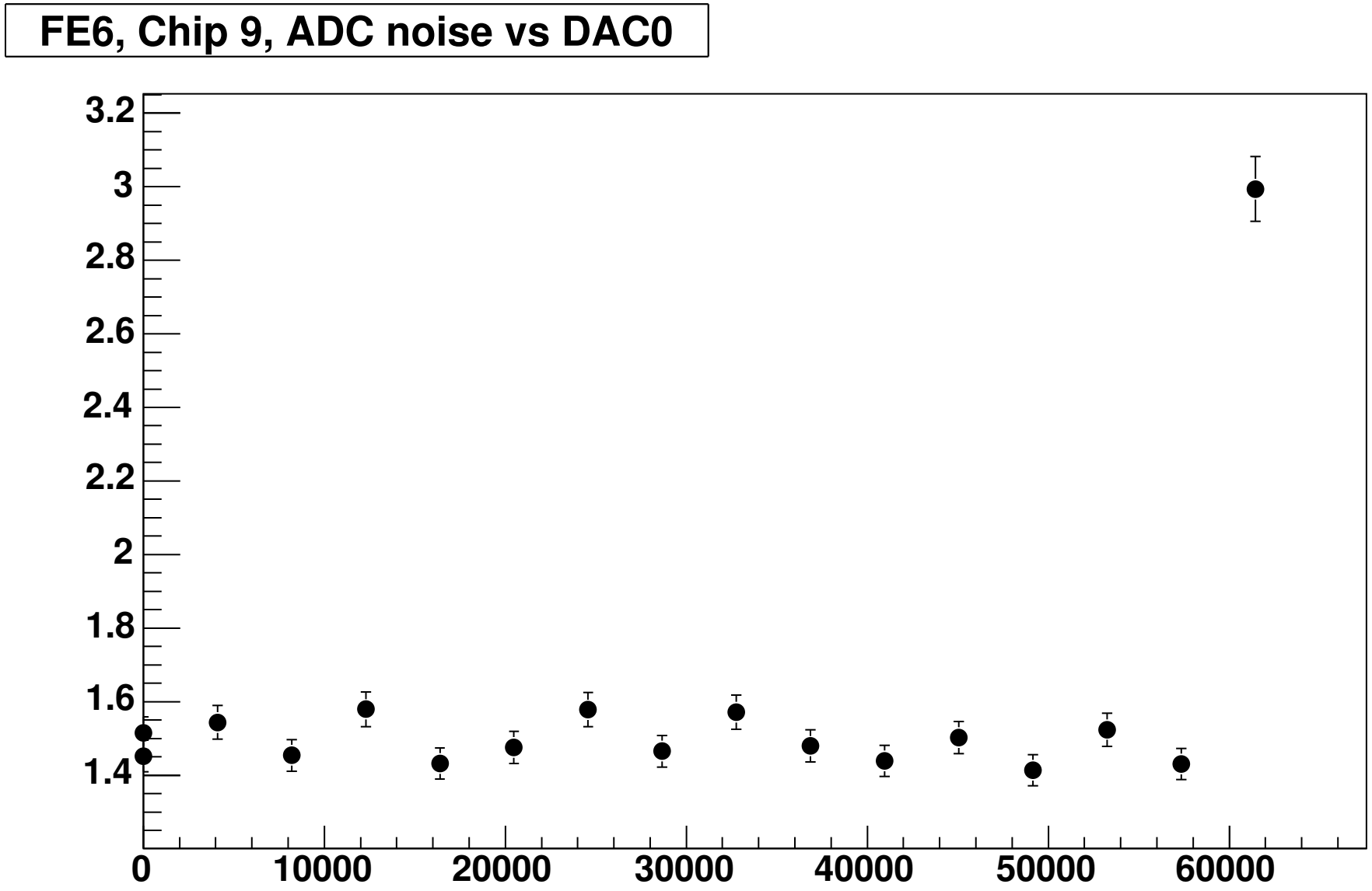

FE6, Chip 8, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
0
10000
20000
30000
40000
50000
60000

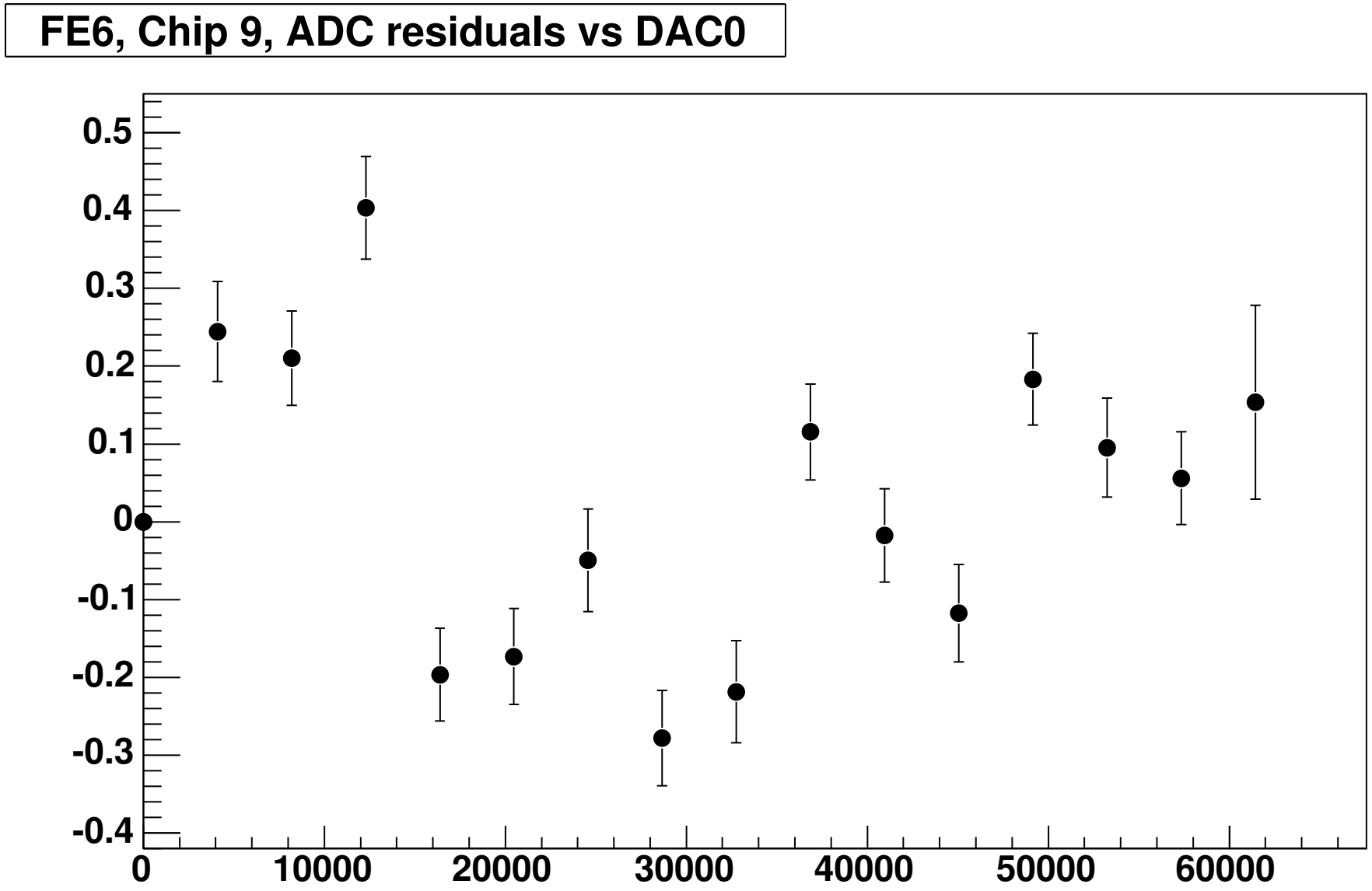

FE6, Chip 8, ADC mean vs DAC1
χ² / ndf 763.2 / 11
p0 72.05 ± 0.04138
p1 0.4505 ± 1.342e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

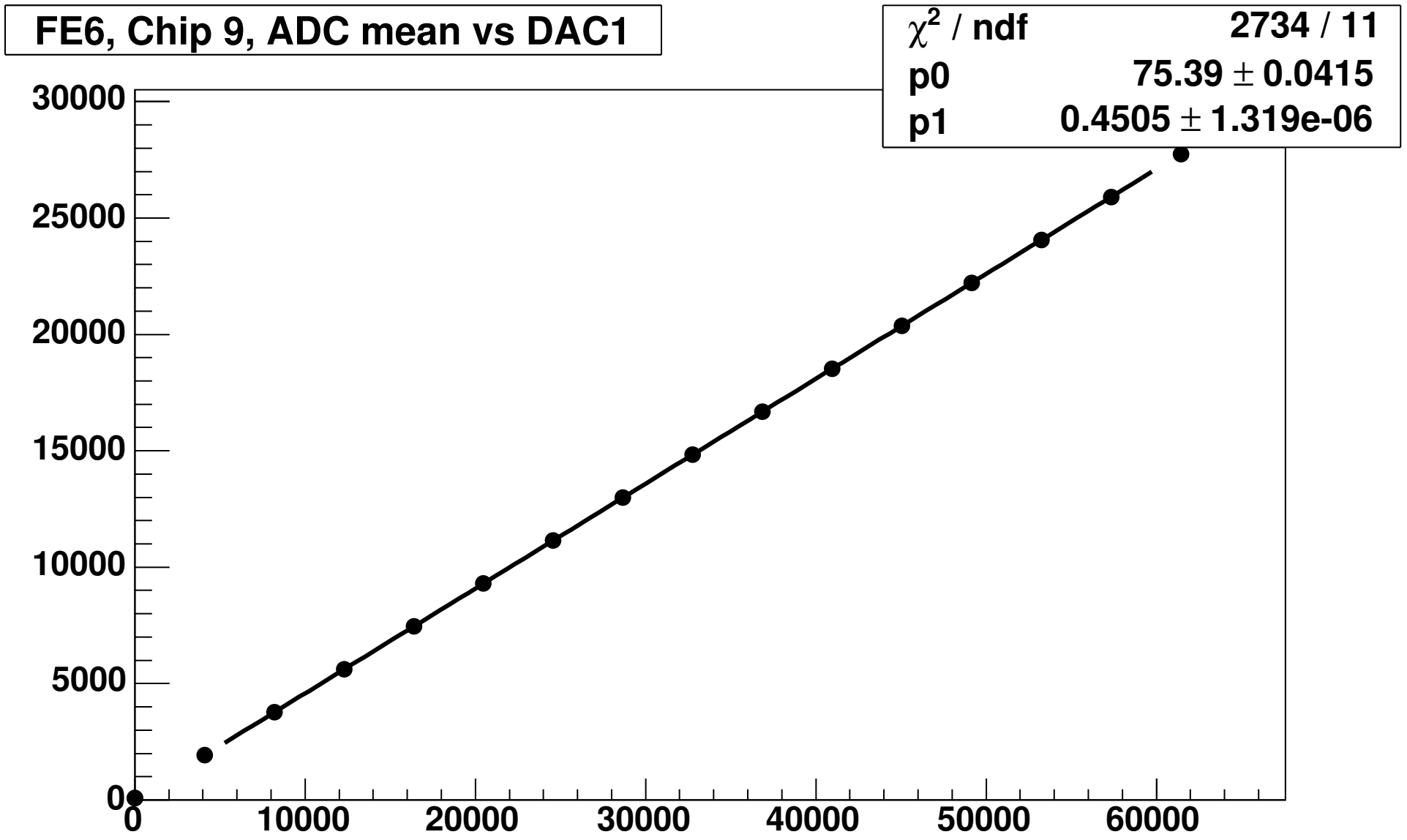

FE6, Chip 8, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

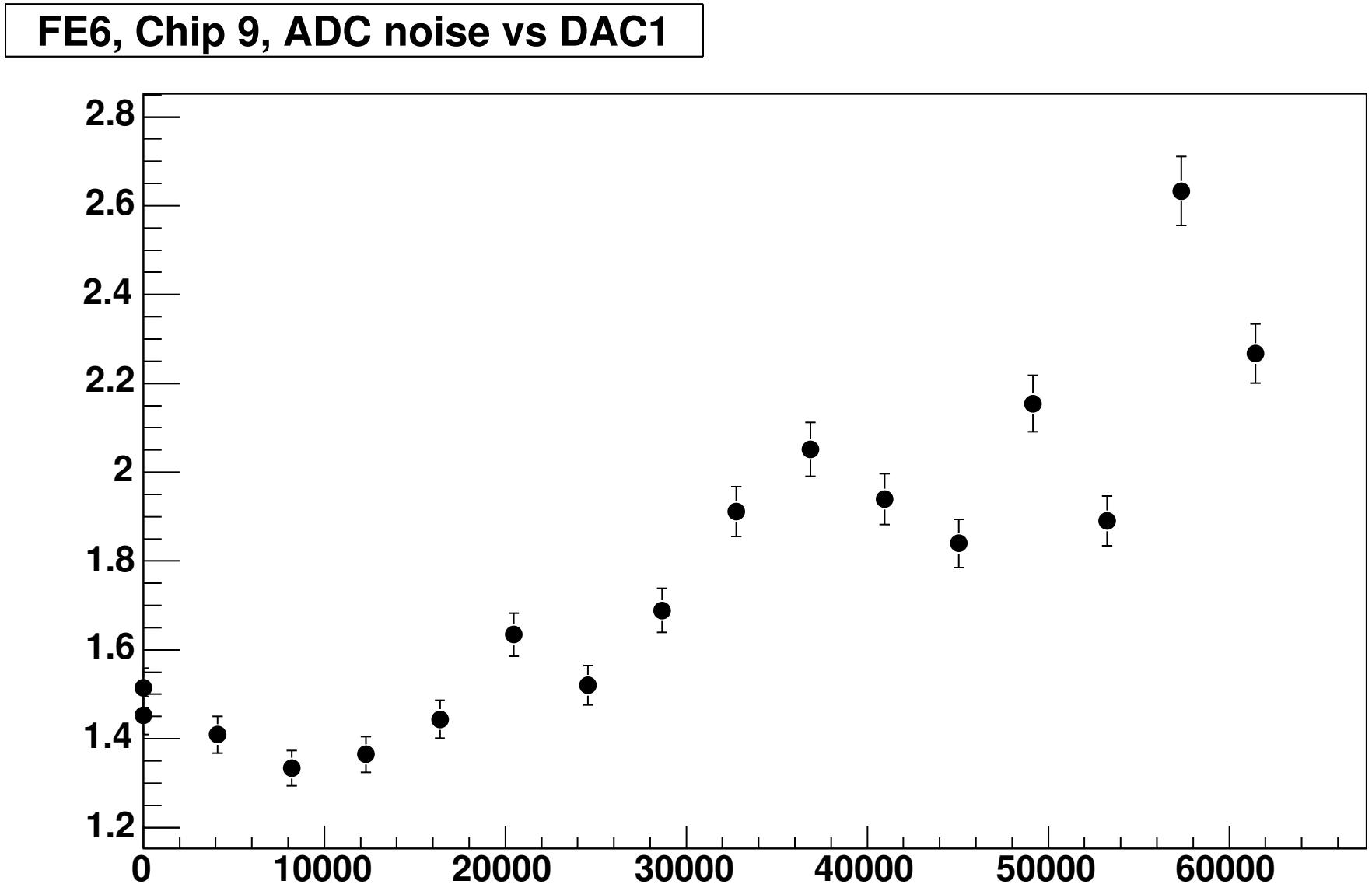

FE6, Chip 8, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000

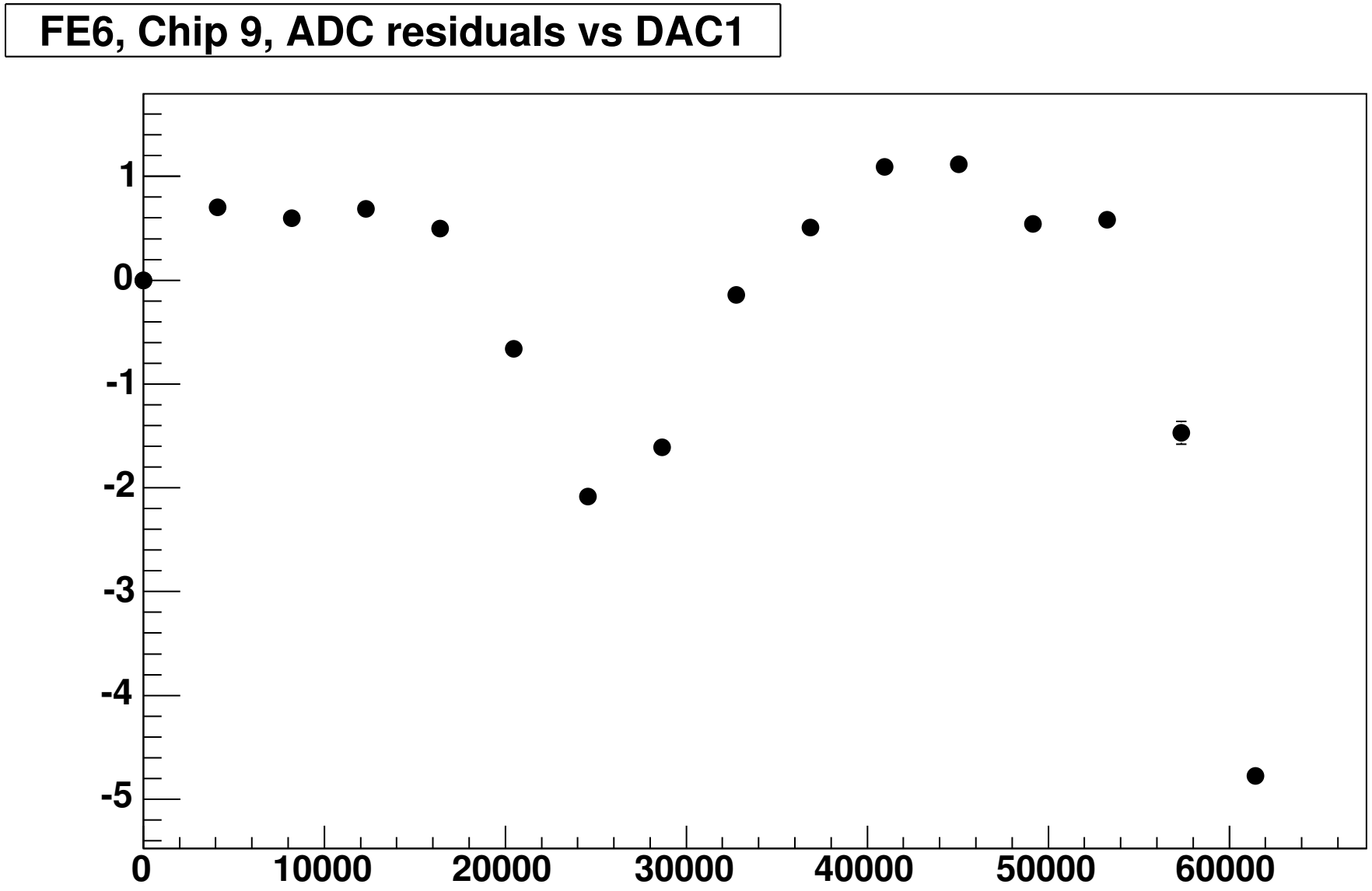

FE6, Chip 9, ADC mean vs DAC0
χ² / ndf 120.8 / 11
p0 75.85 ± 0.04055
p1 -3.957e-06 ± 1.112e-06
76.4
76.2
76
75.8
75.6
75.4
0
10000
20000
30000
40000
50000
60000

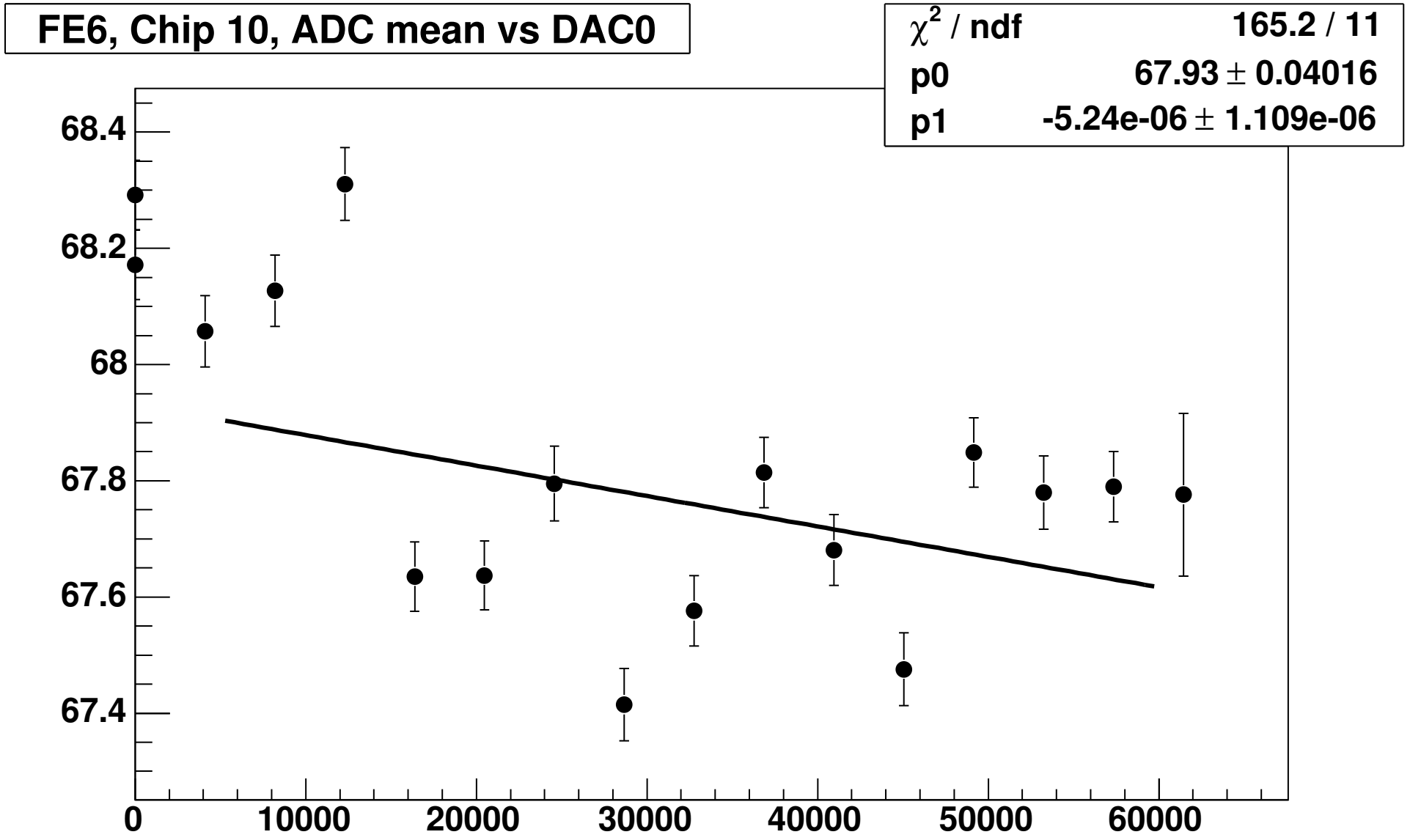

FE6, Chip 9, ADC noise vs DAC0
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

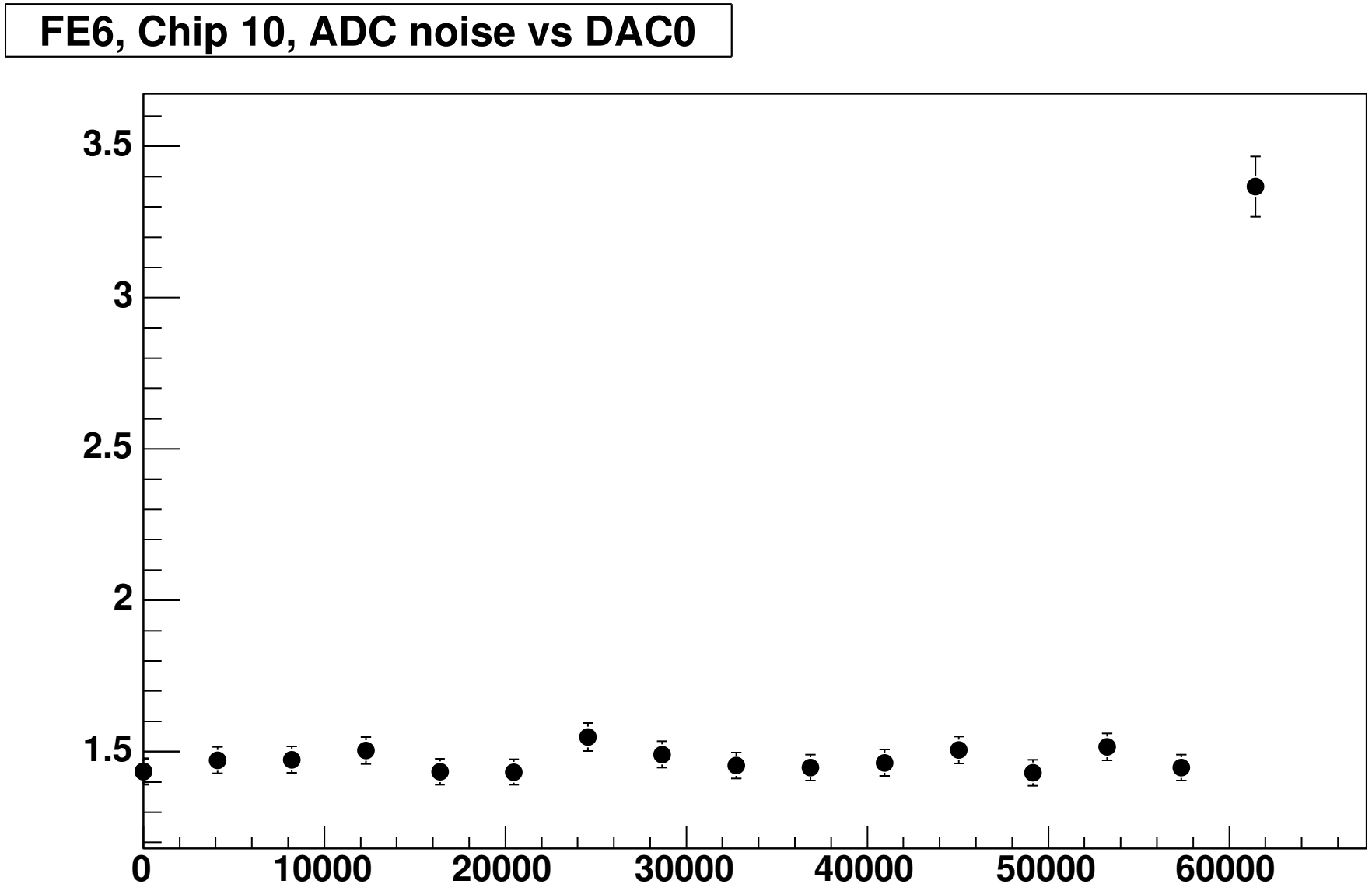

FE6, Chip 9, ADC residuals vs DAC0
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

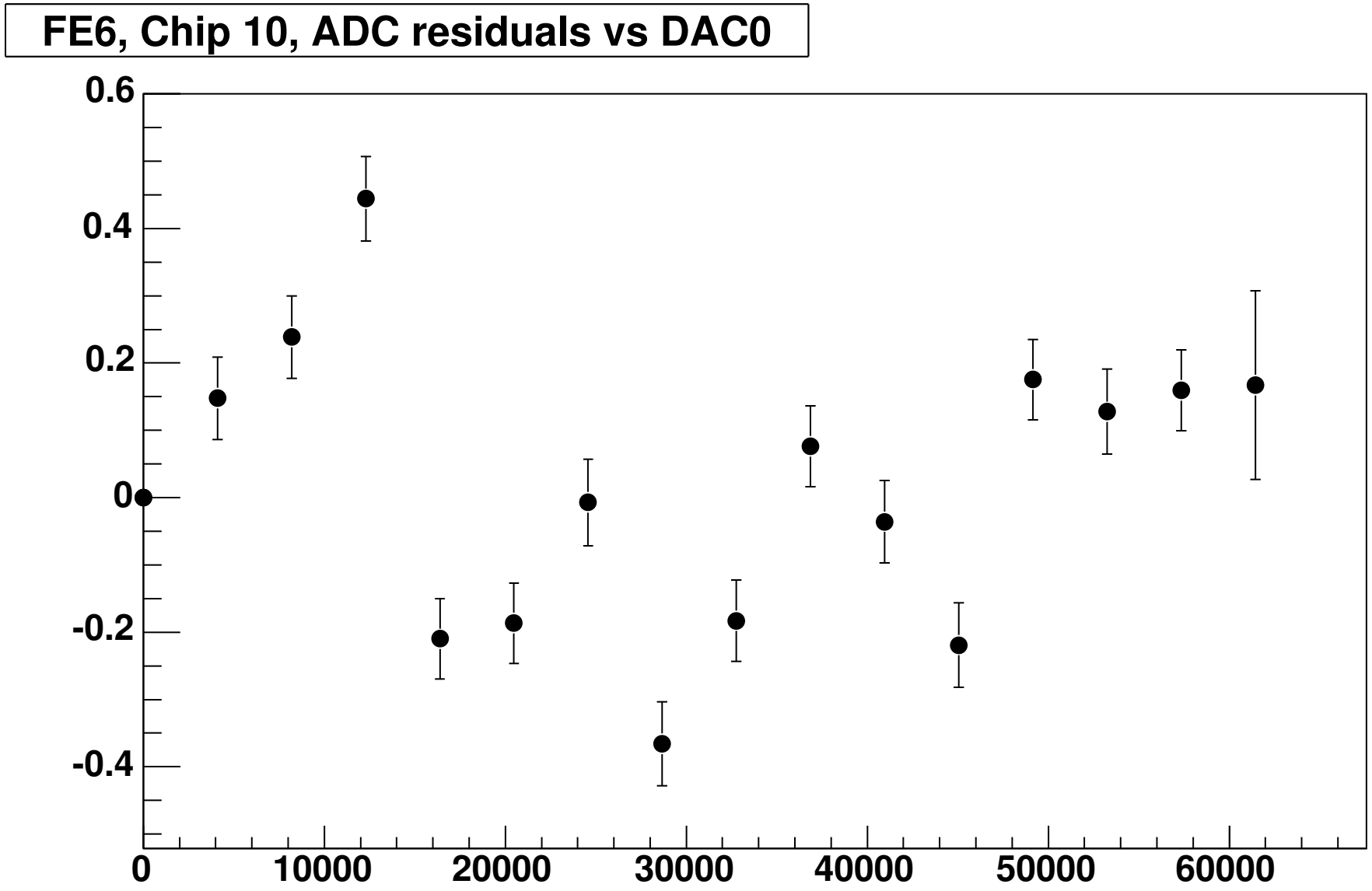

FE6, Chip 9, ADC mean vs DAC1
χ² / ndf 2734 / 11
p0 75.39 ± 0.0415
p1 0.4505 ± 1.319e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

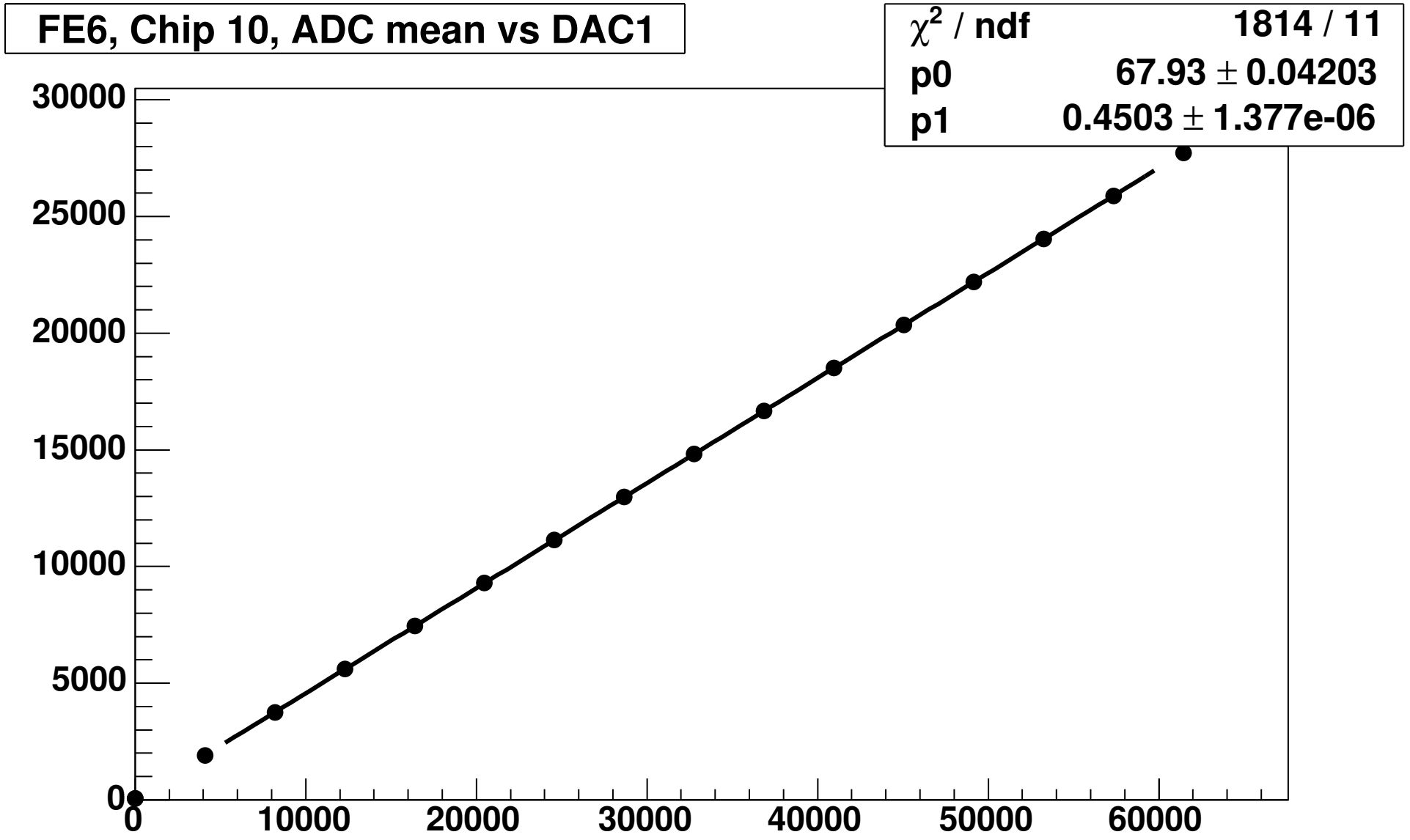

FE6, Chip 9, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

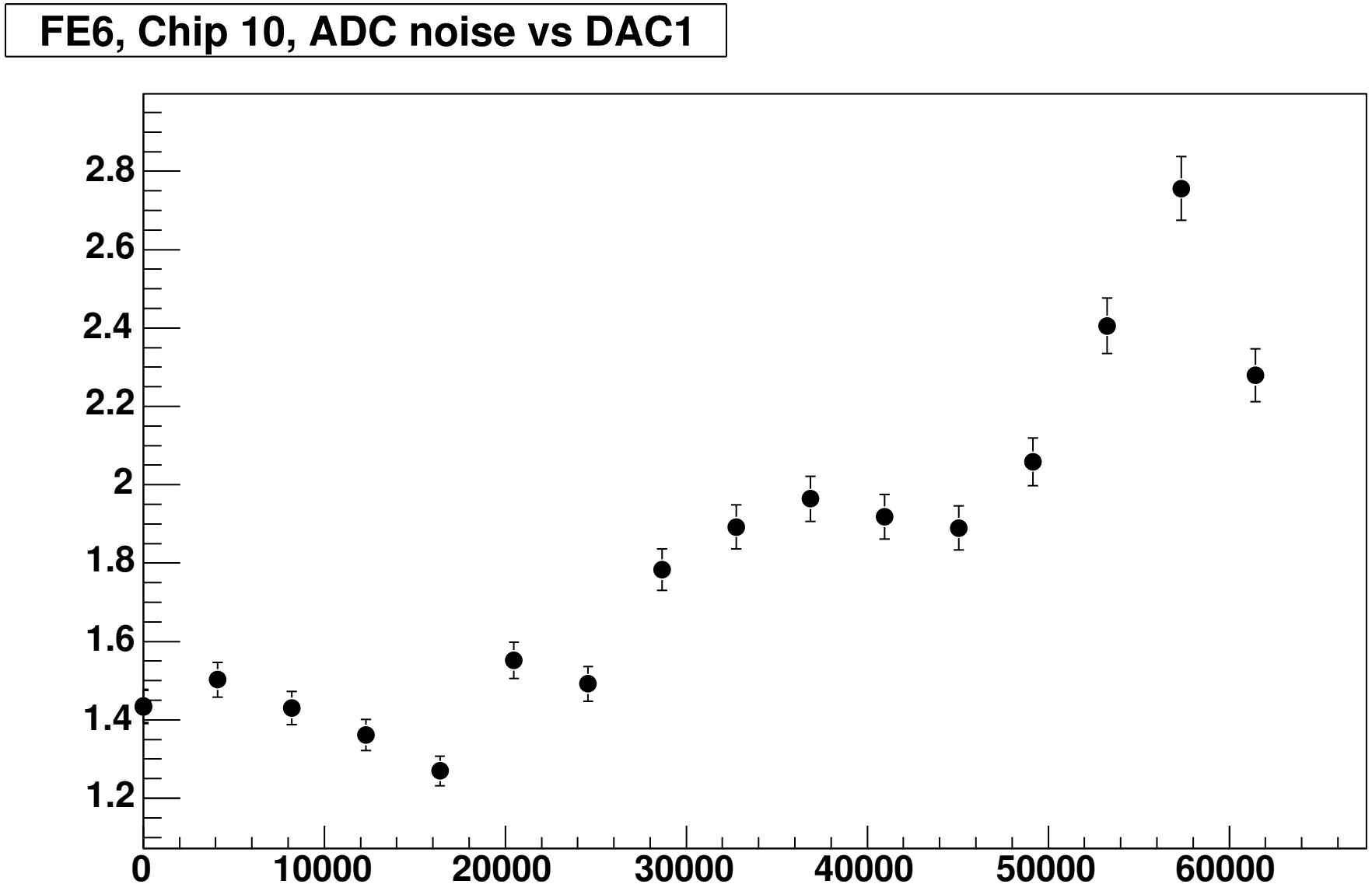

FE6, Chip 9, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

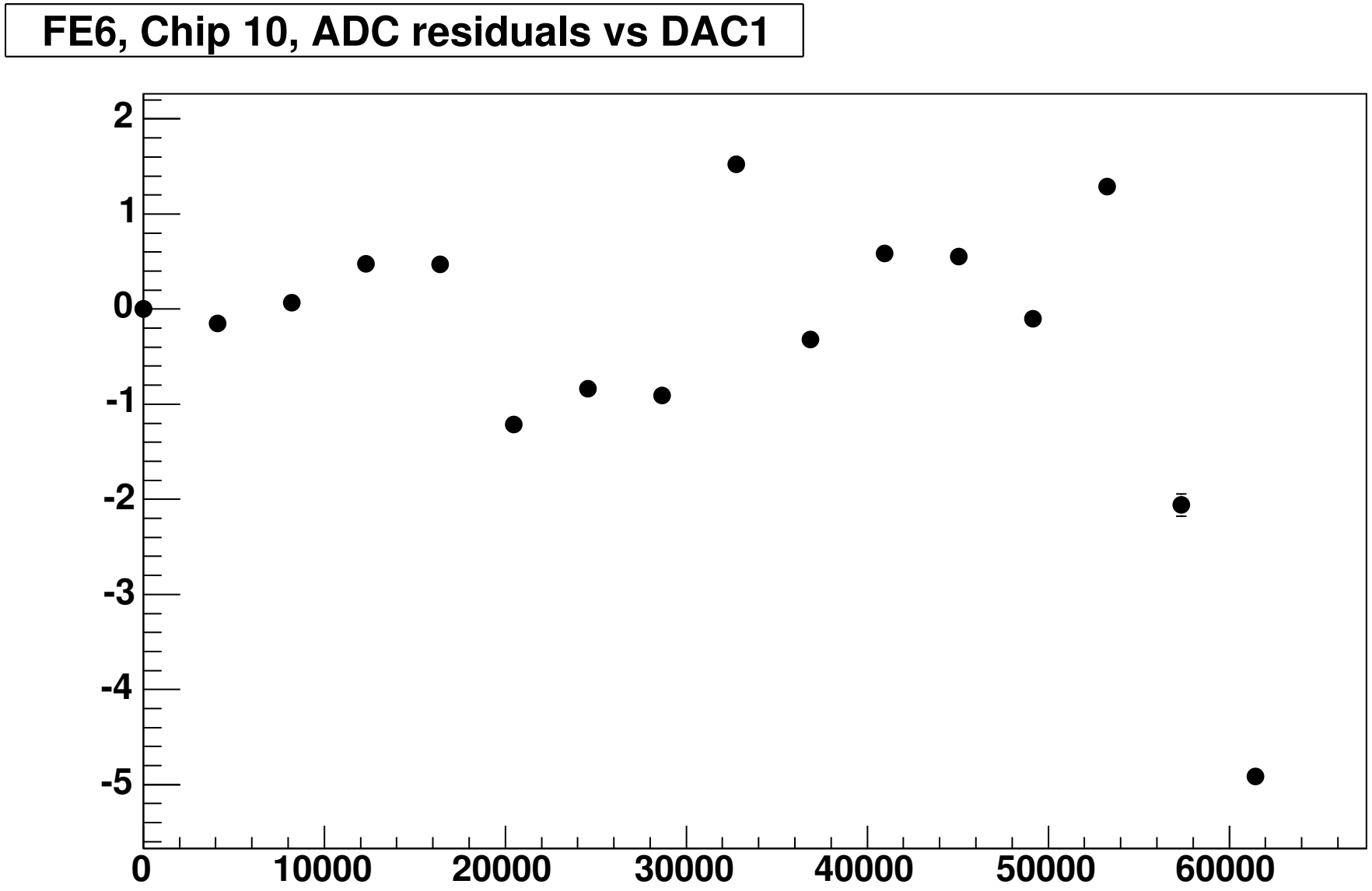

FE6, Chip 10, ADC mean vs DAC0
χ² / ndf 165.2 / 11
p0 67.93 ± 0.04016
p1 -5.24e-06 ± 1.109e-06
68.4
68.2
68
67.8
67.6
67.4
0
10000
20000
30000
40000
50000
60000

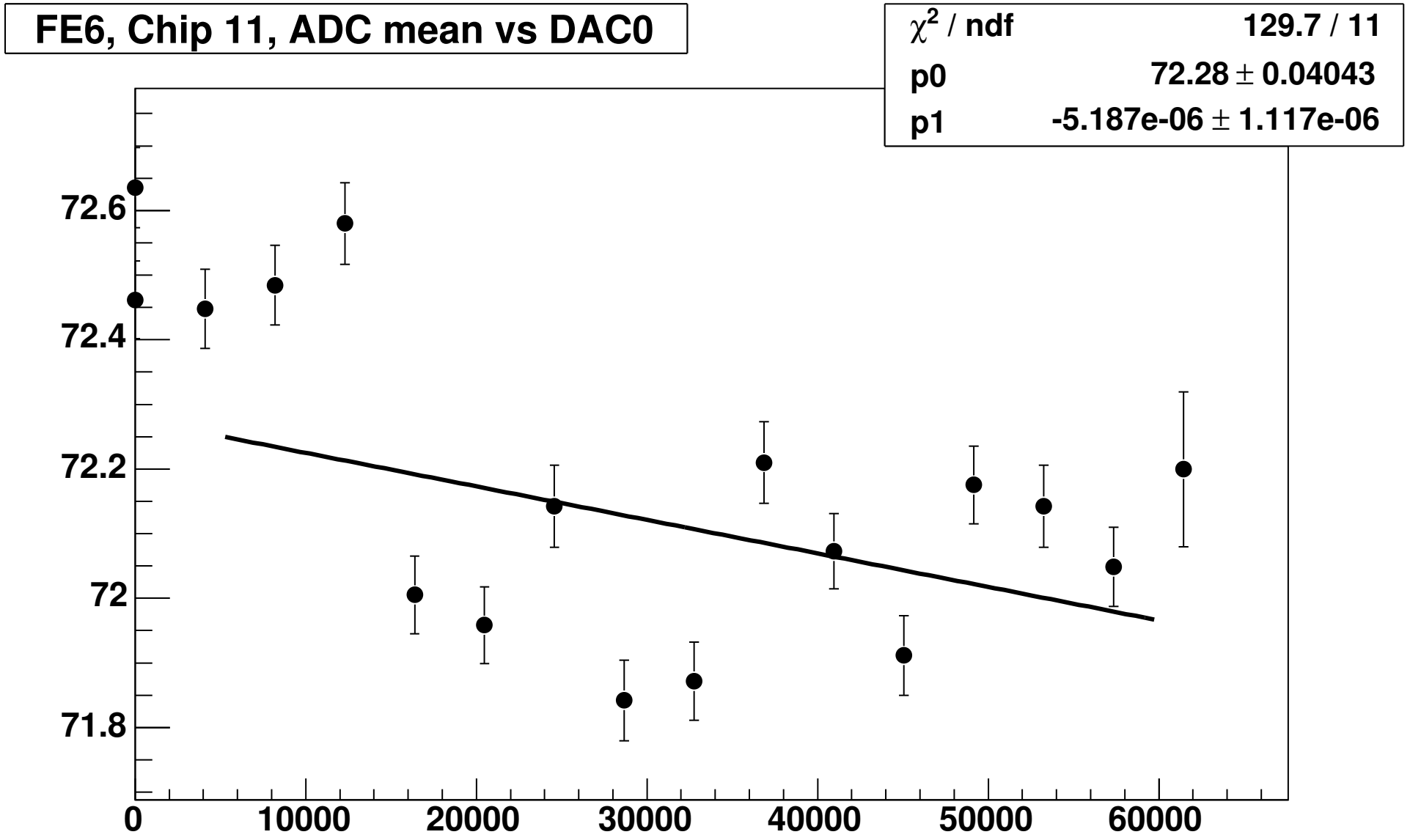

FE6, Chip 10, ADC noise vs DAC0
3.5
3
2.5
2
1.5
0
10000
20000
30000
40000
50000
60000

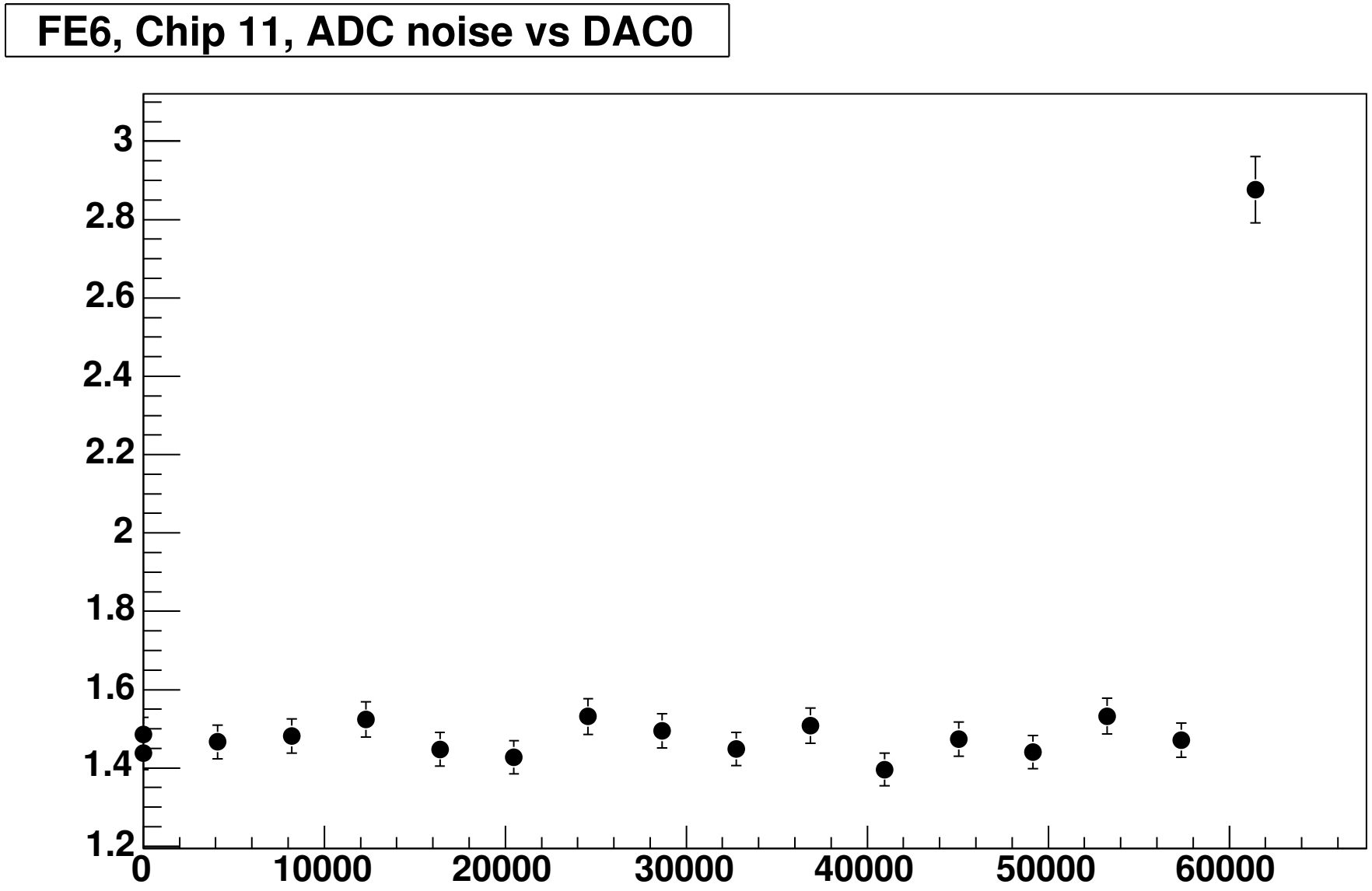

FE6, Chip 10, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
0
10000
20000
30000
40000
50000
60000

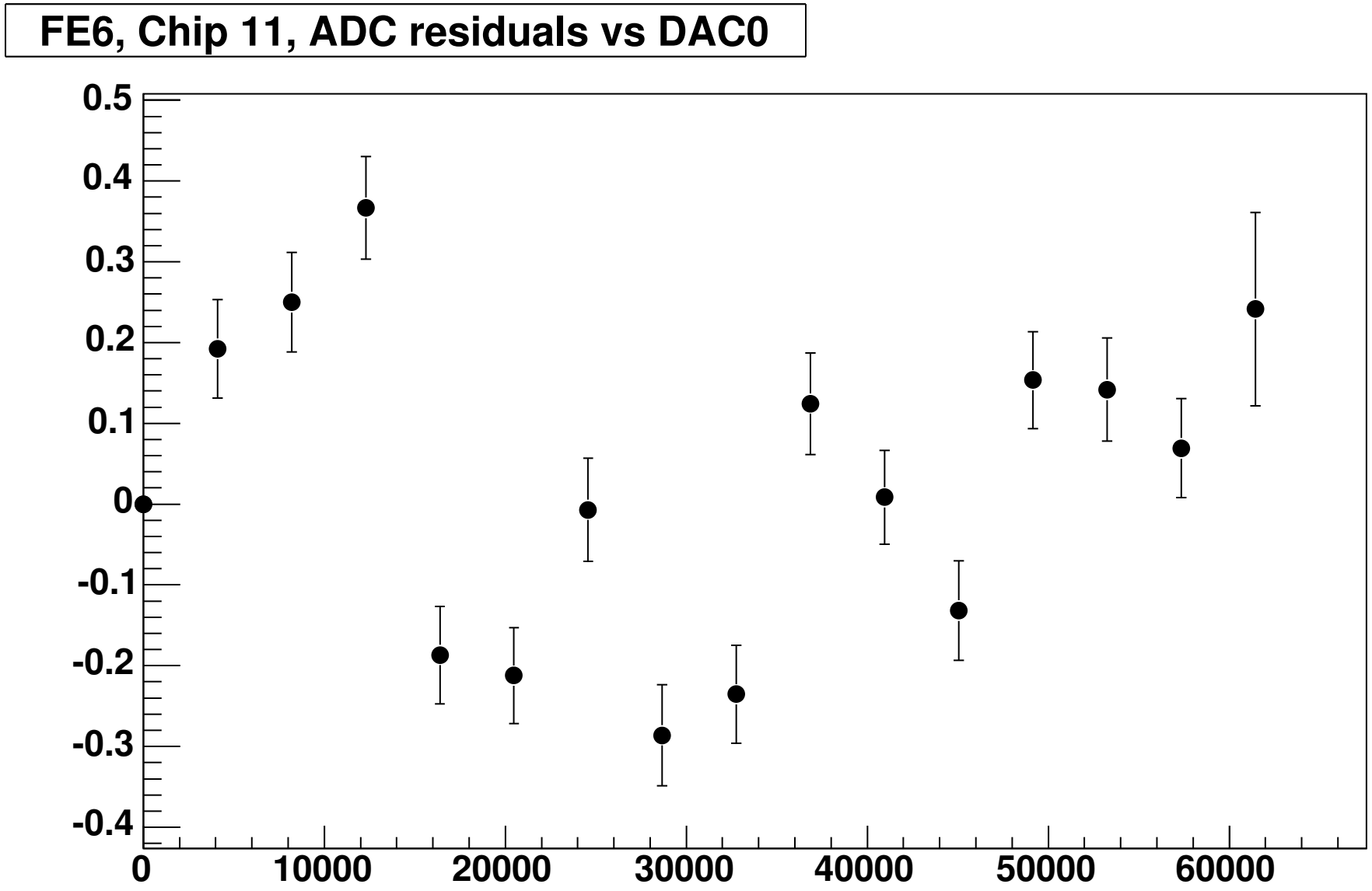

FE6, Chip 10, ADC mean vs DAC1
χ² / ndf 1814 / 11
p0 67.93 ± 0.04203
p1 0.4503 ± 1.377e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

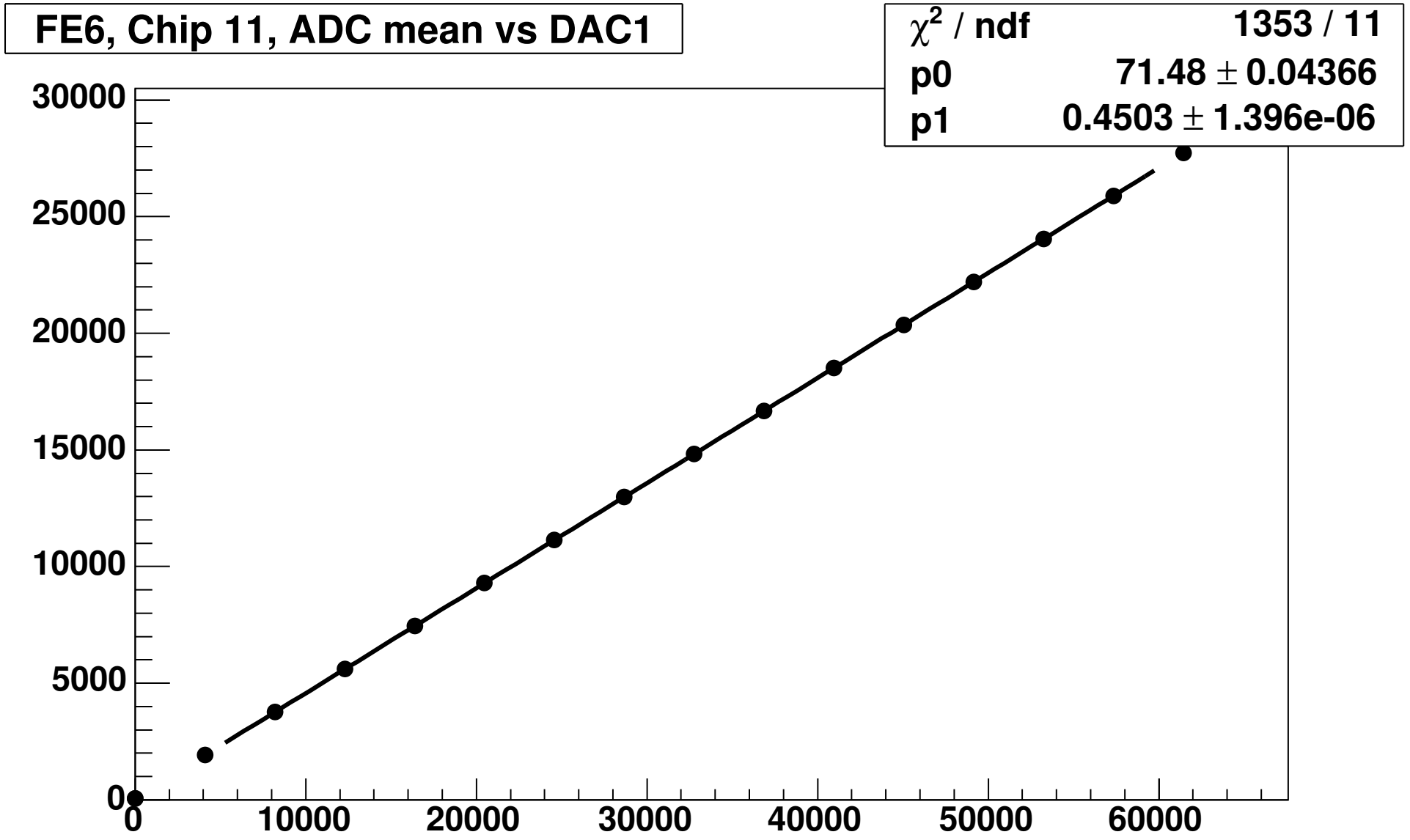

FE6, Chip 10, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

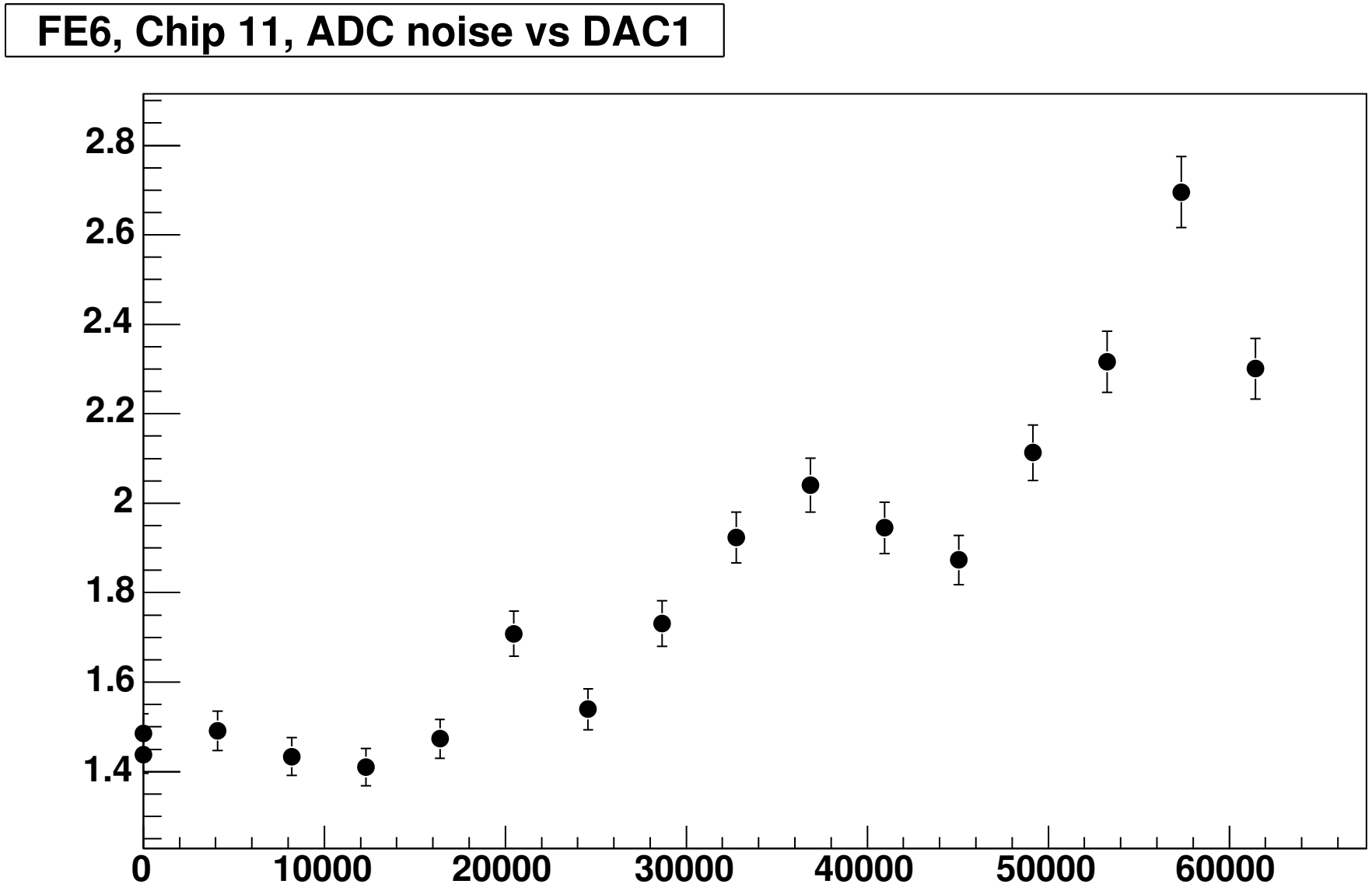

FE6, Chip 10, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

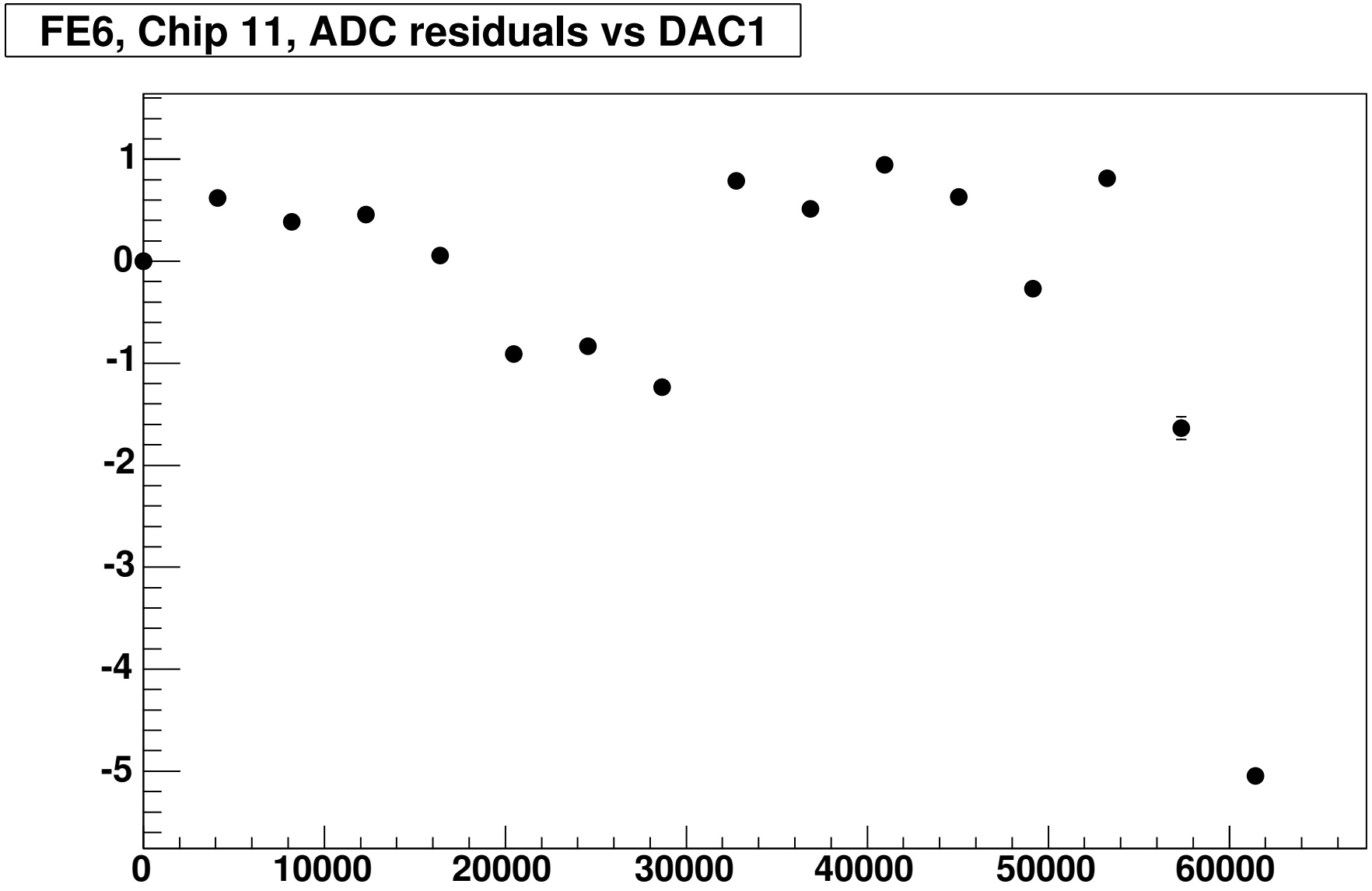

FE6, Chip 11, ADC mean vs DAC0
χ² / ndf 129.7 / 11
p0 72.28 ± 0.04043
p1 -5.187e-06 ± 1.117e-06
72.6
72.4
72.2
72
71.8
0
10000
20000
30000
40000
50000
60000

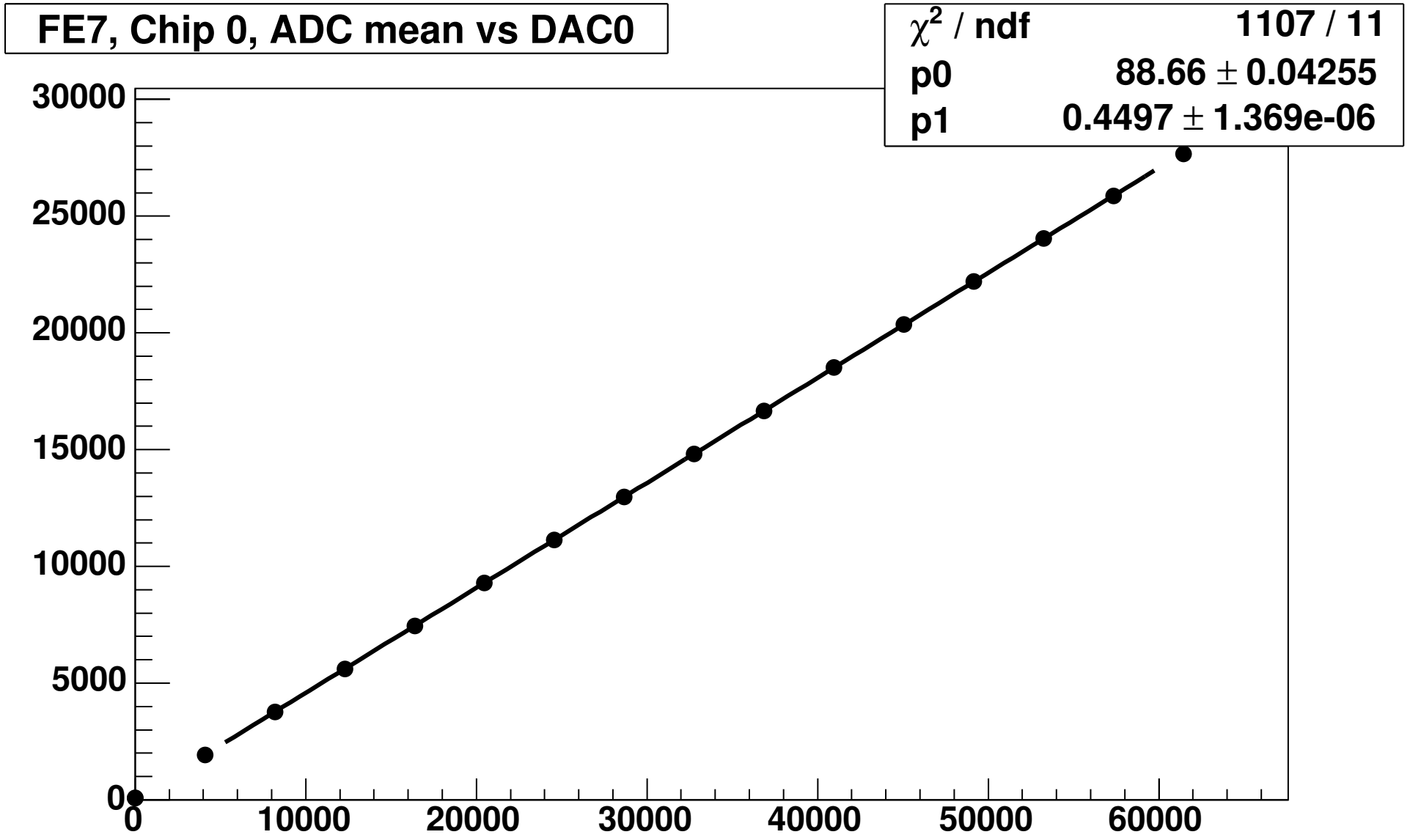

FE6, Chip 11, ADC noise vs DAC0
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

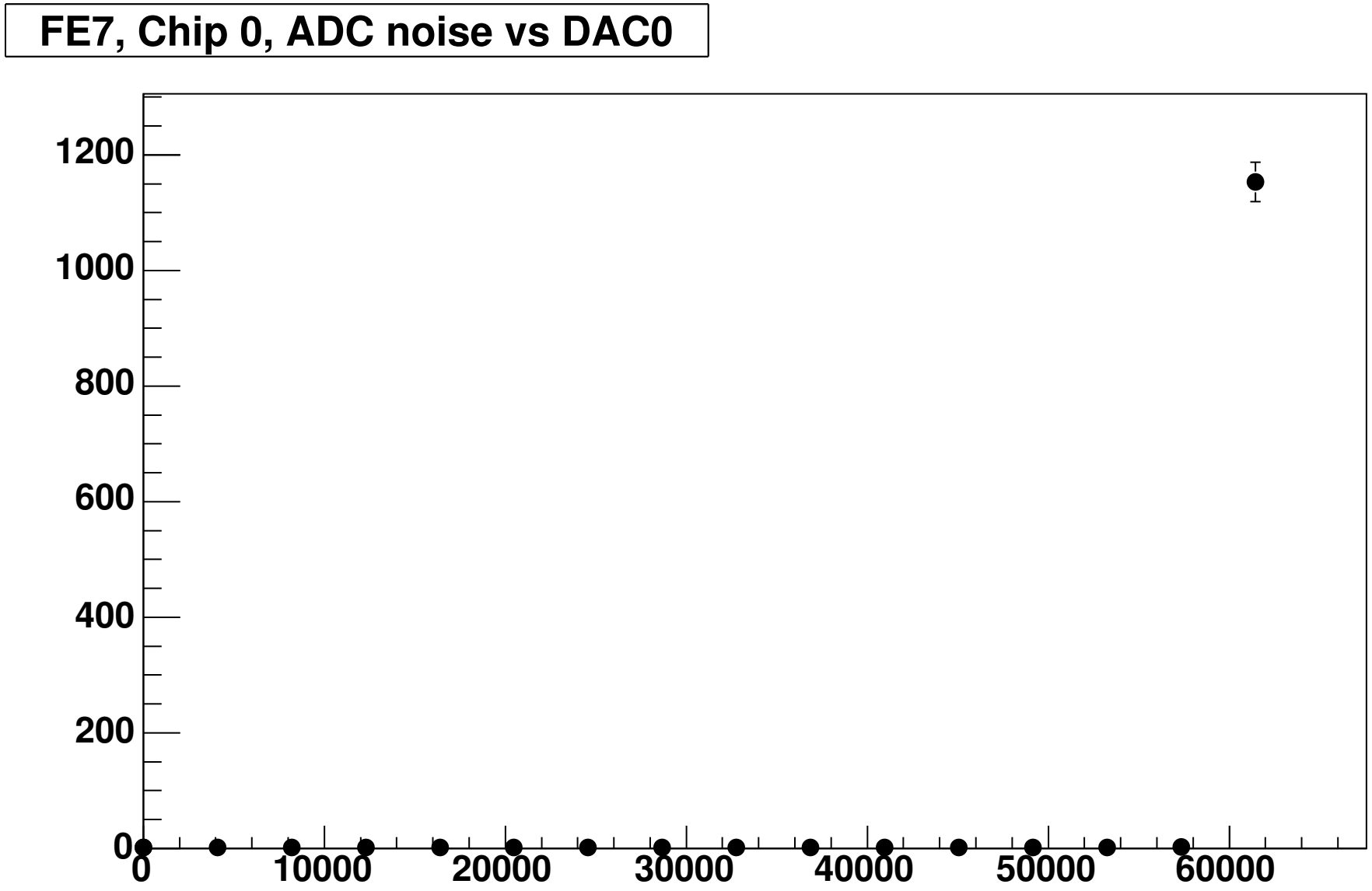

FE6, Chip 11, ADC residuals vs DAC0
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

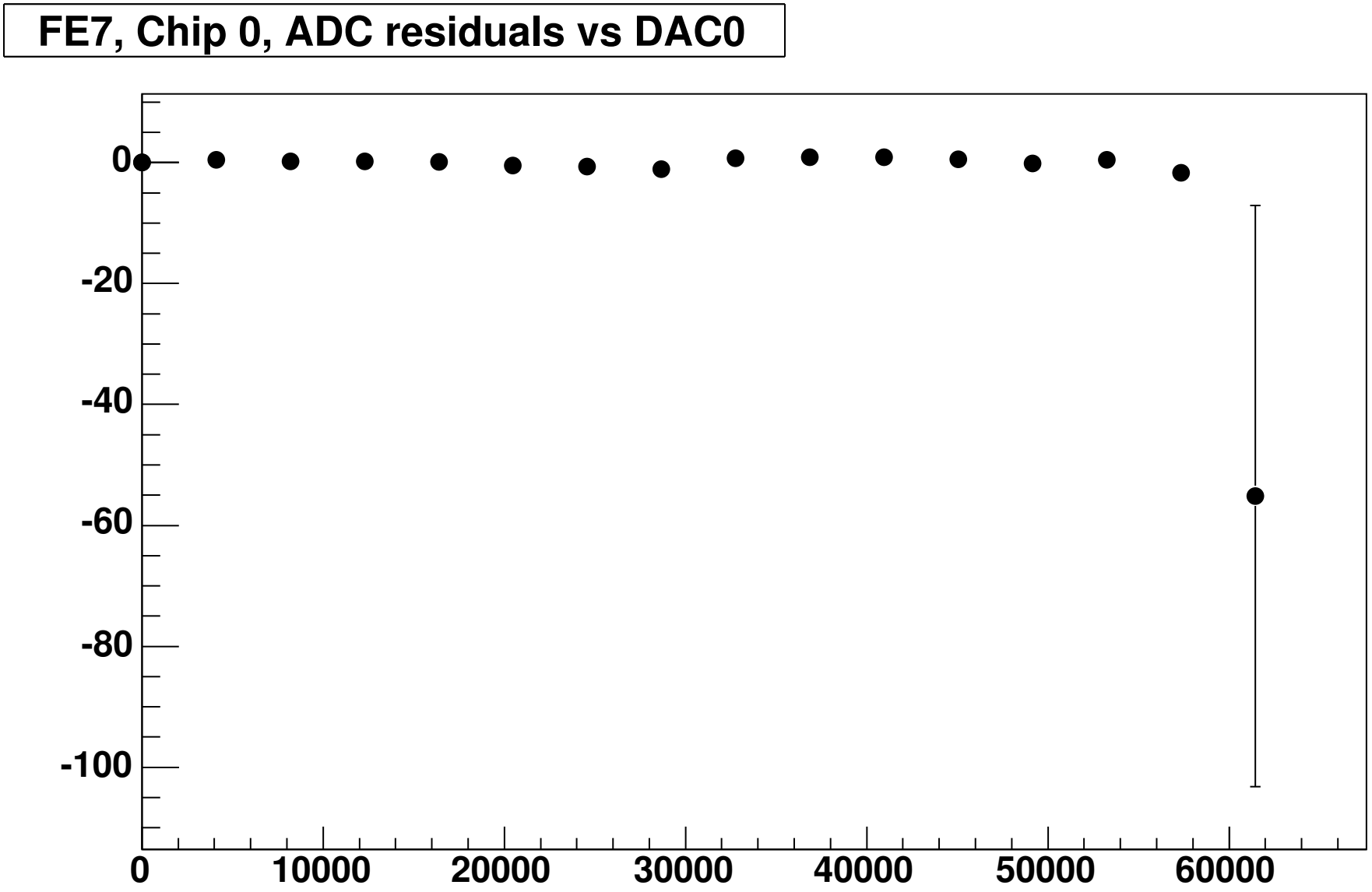

FE6, Chip 11, ADC mean vs DAC1
χ² / ndf 1353 / 11
p0 71.48 ± 0.04366
p1 0.4503 ± 1.396e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

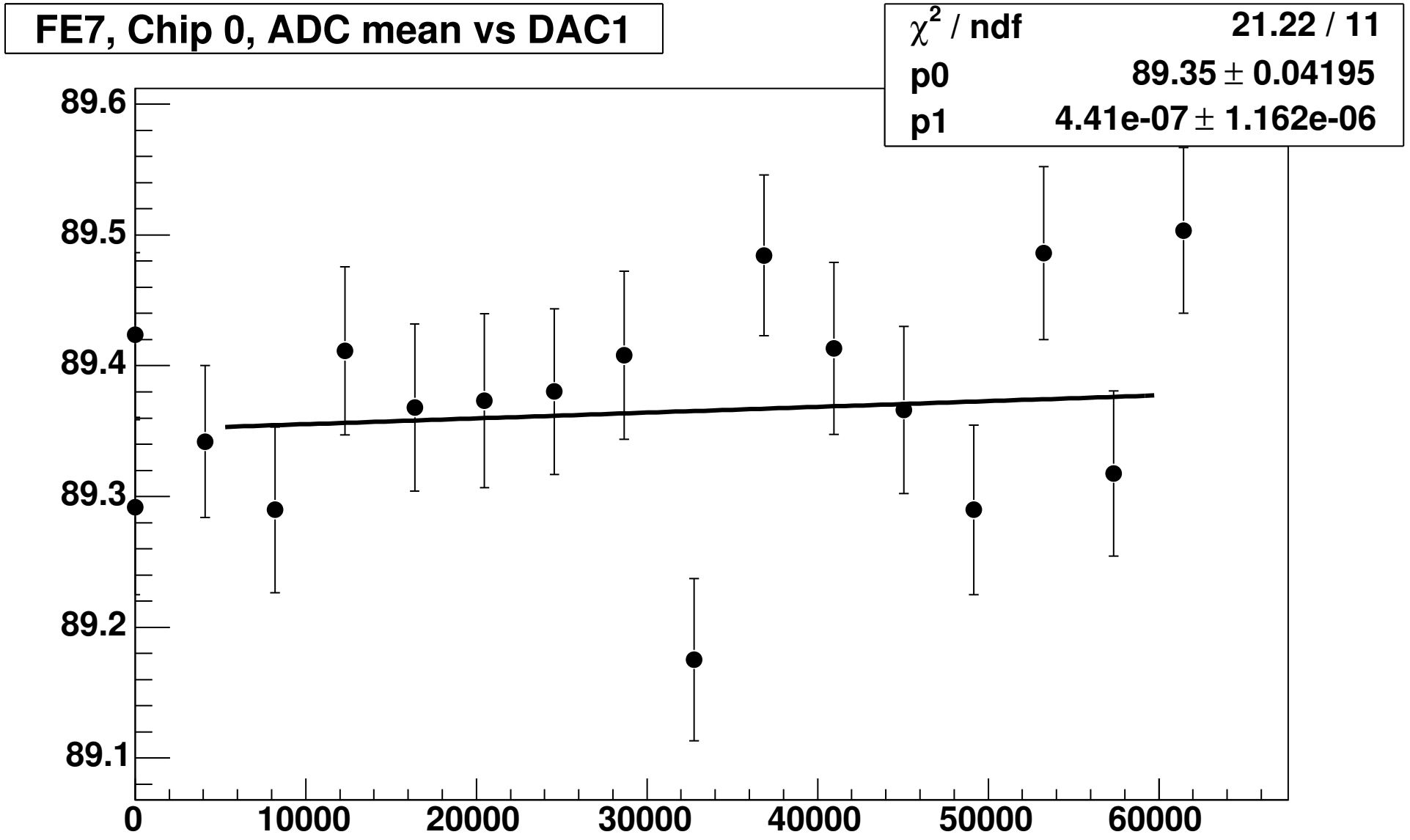

FE6, Chip 11, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

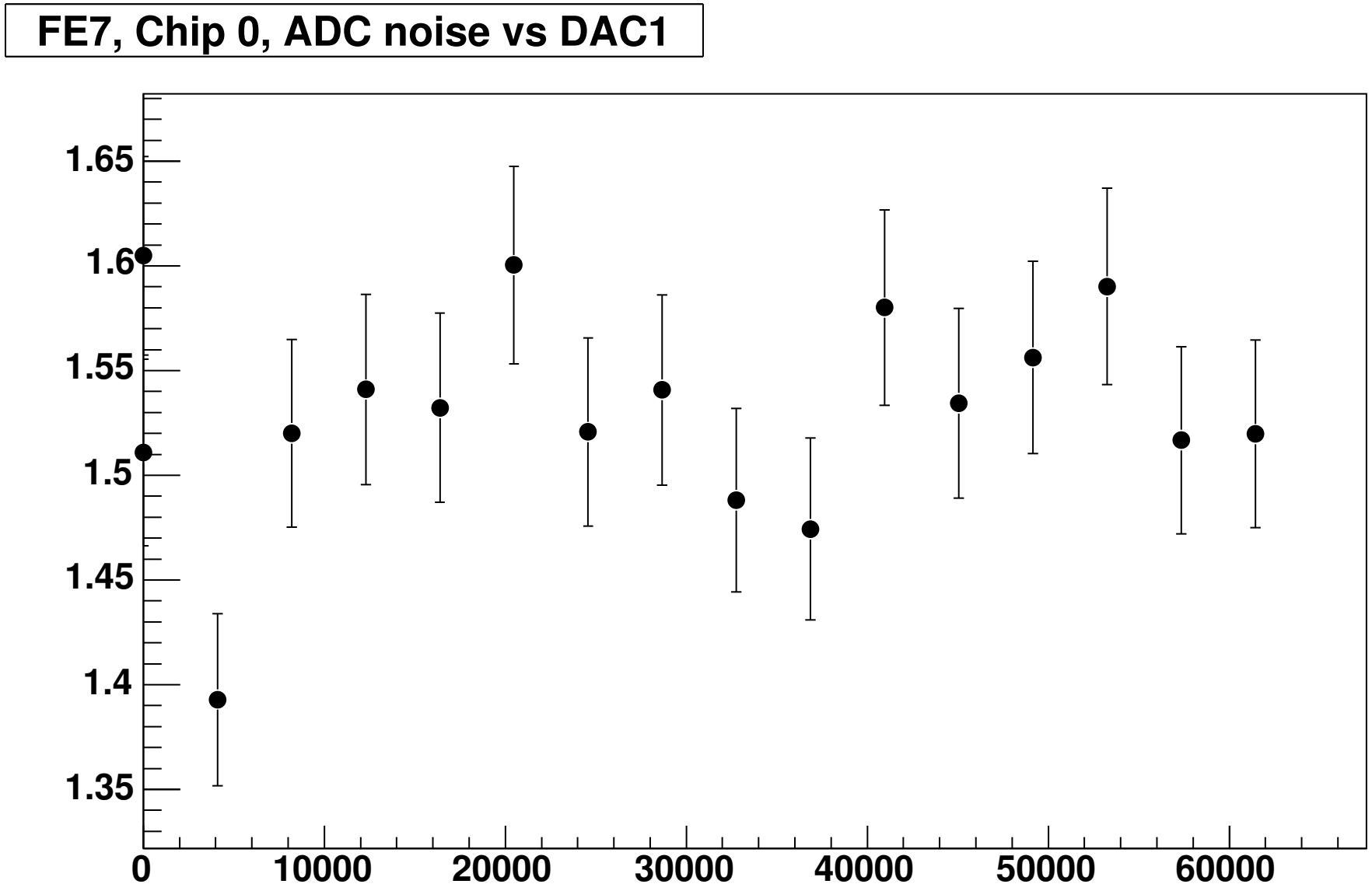

FE6, Chip 11, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

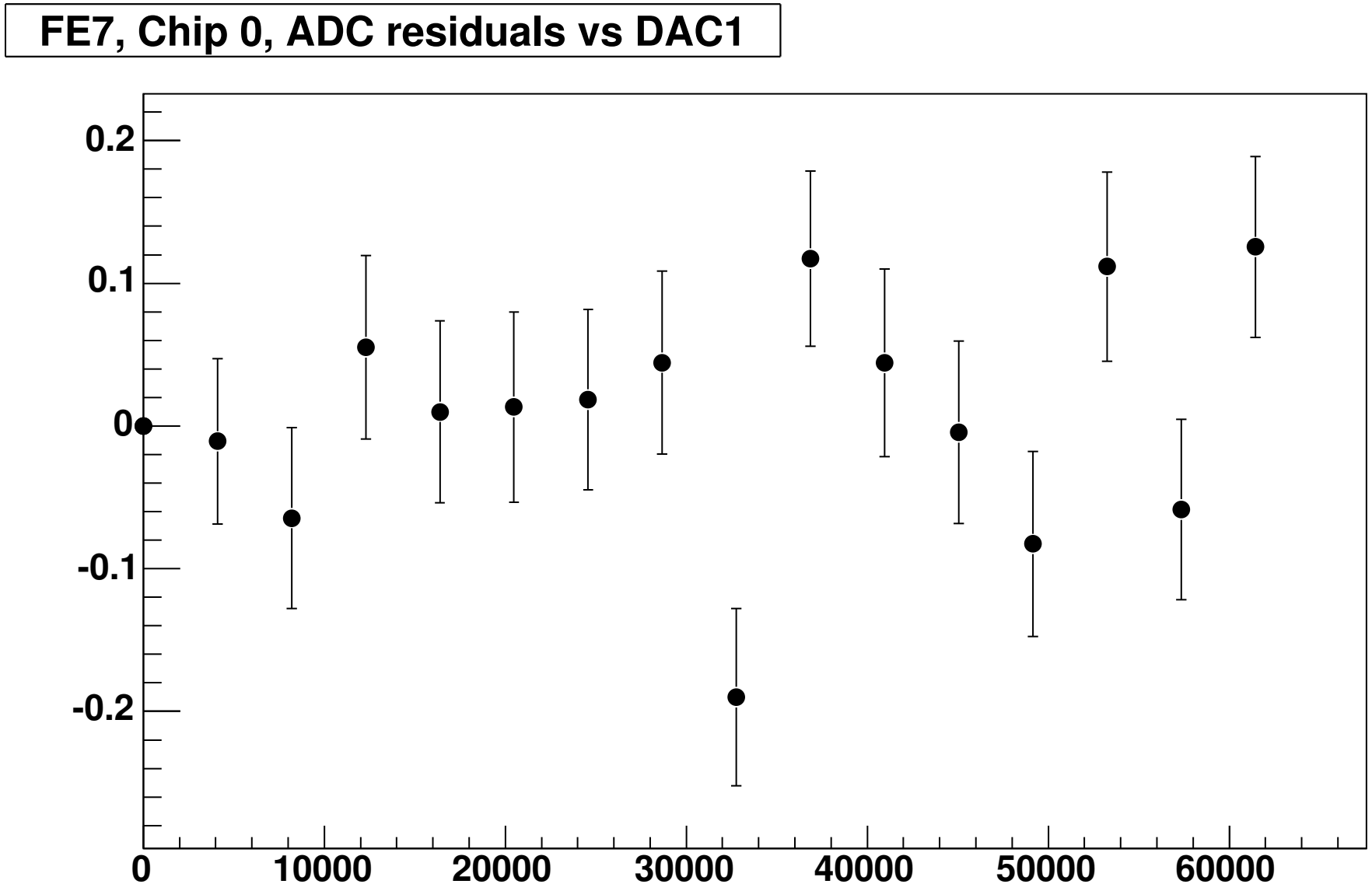

FE7, Chip 0, ADC mean vs DAC0
χ² / ndf 1107 / 11
p0 88.66 ± 0.04255
p1 0.4497 ± 1.369e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

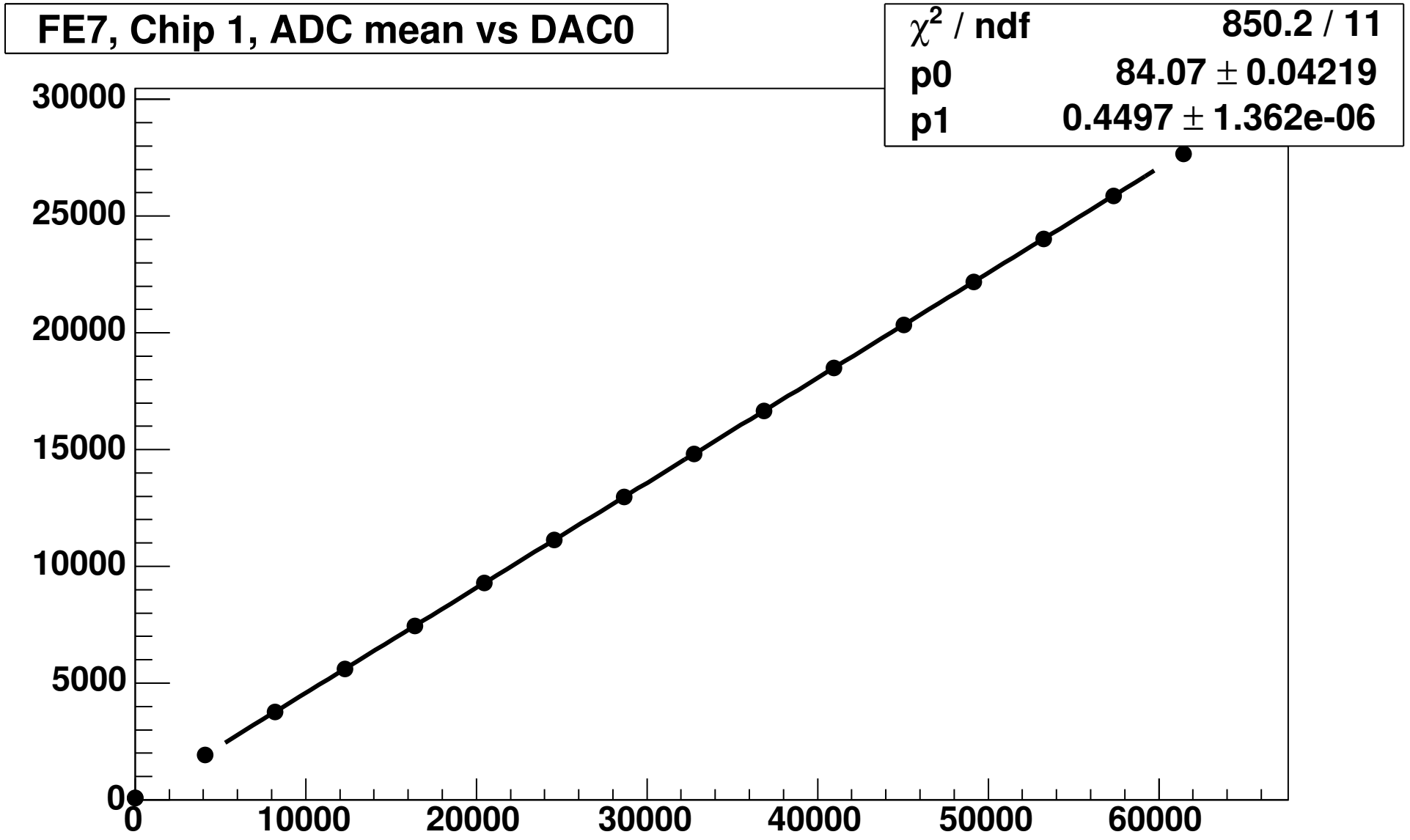

FE7, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

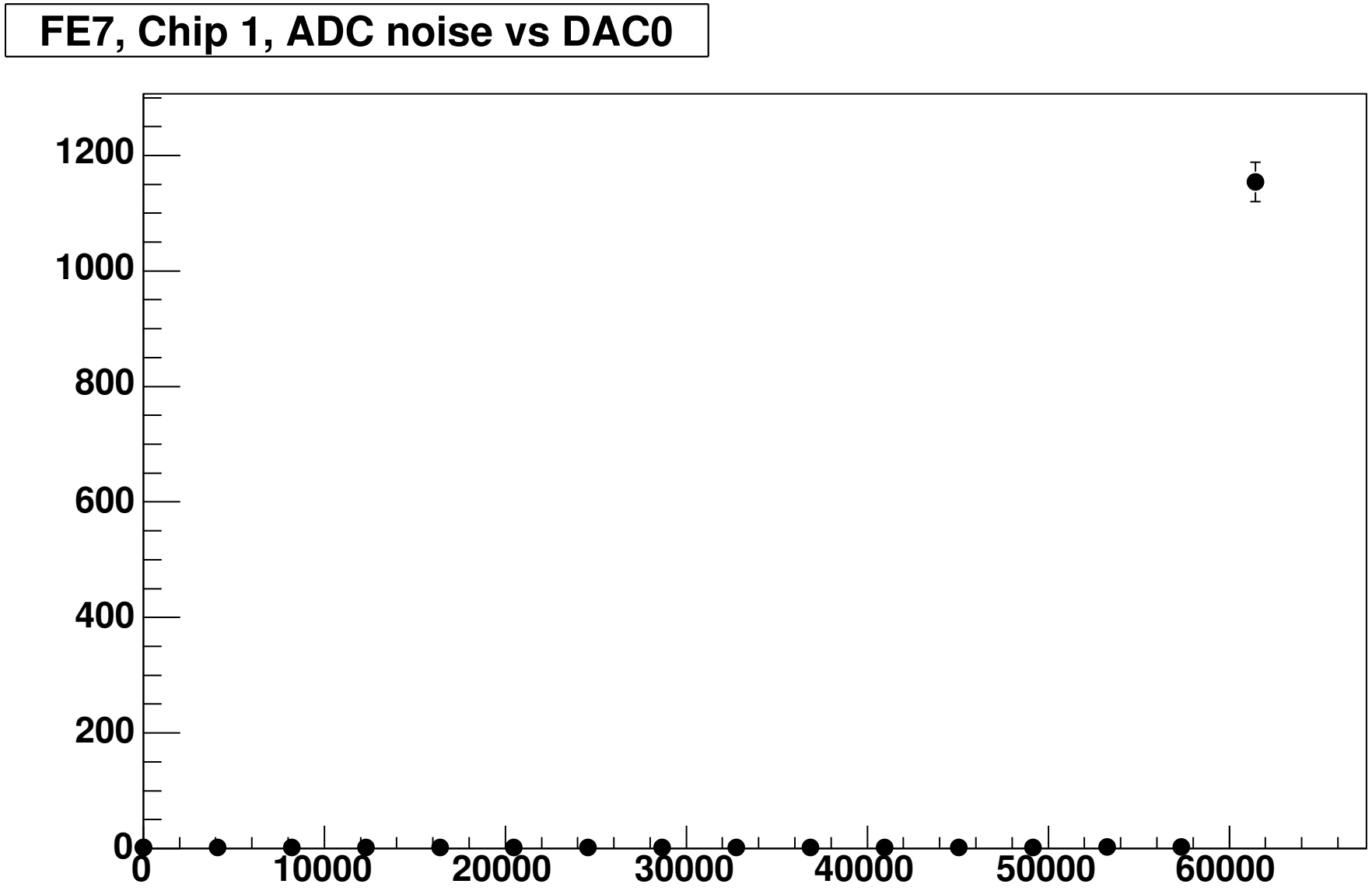

FE7, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

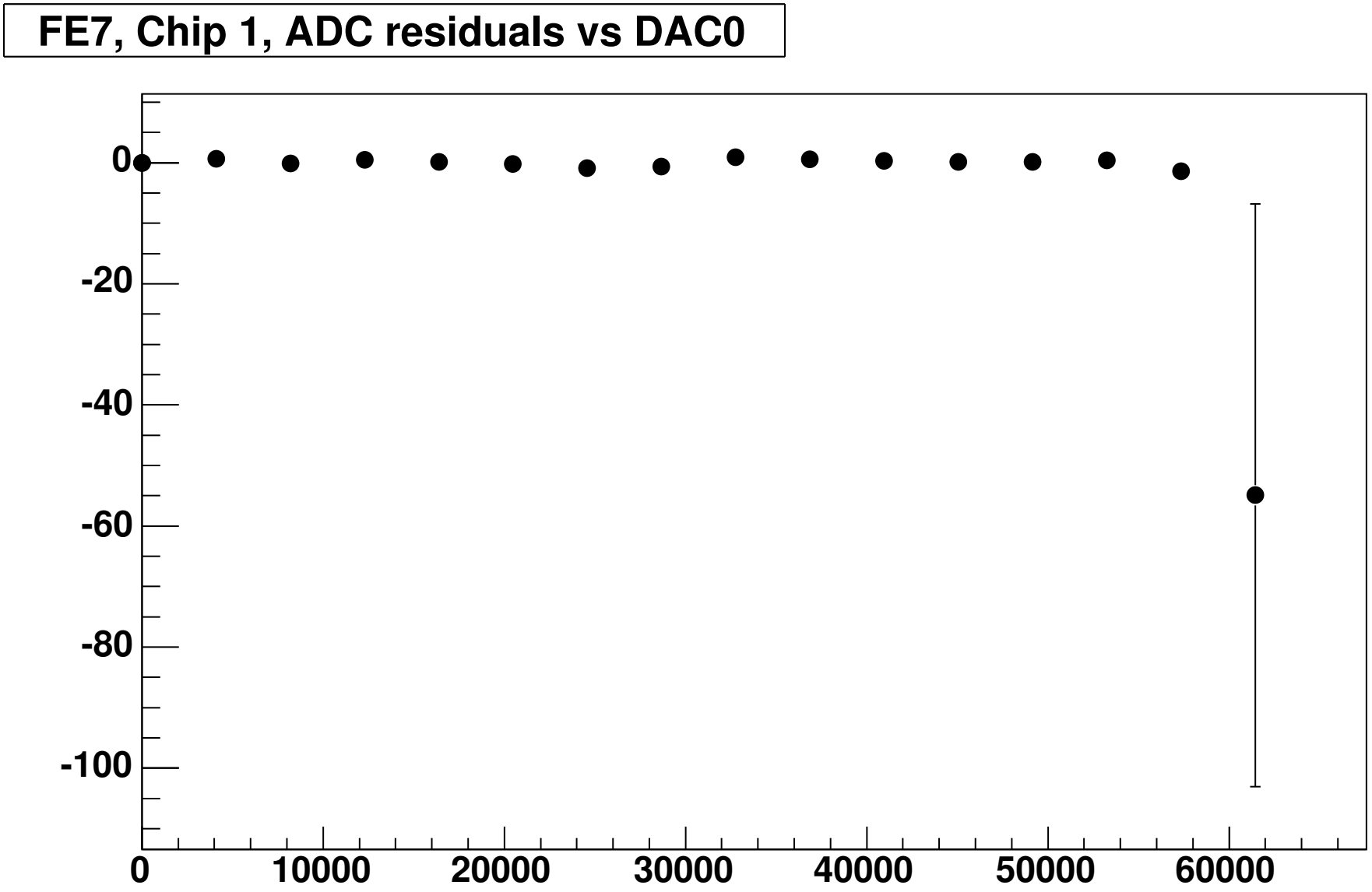

FE7, Chip 0, ADC mean vs DAC1
χ² / ndf 21.22 / 11
p0 89.35 ± 0.04195
p1 4.41e-07 ± 1.162e-06
89.6
89.5
89.4
89.3
89.2
89.1
0
10000
20000
30000
40000
50000
60000

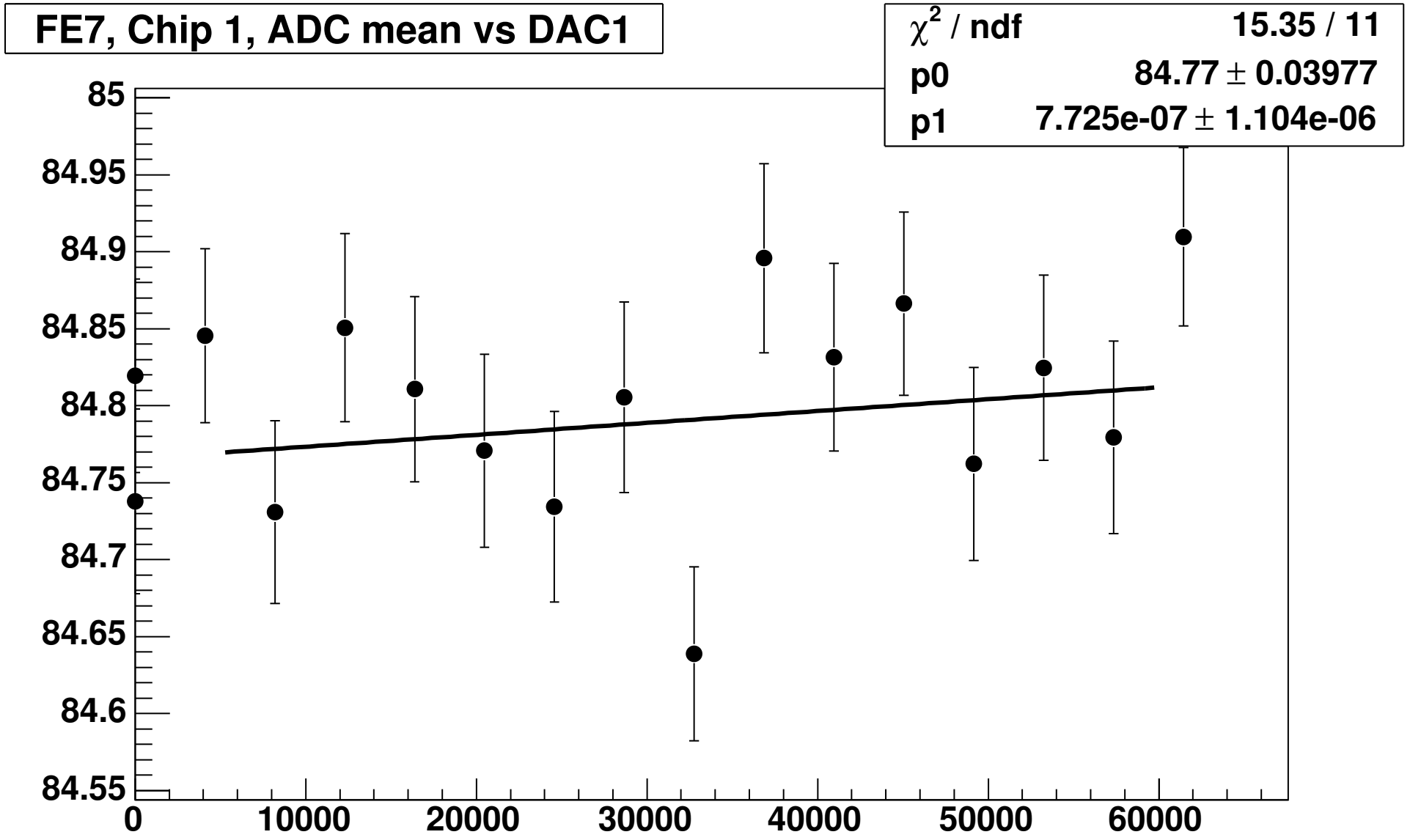

FE7, Chip 0, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

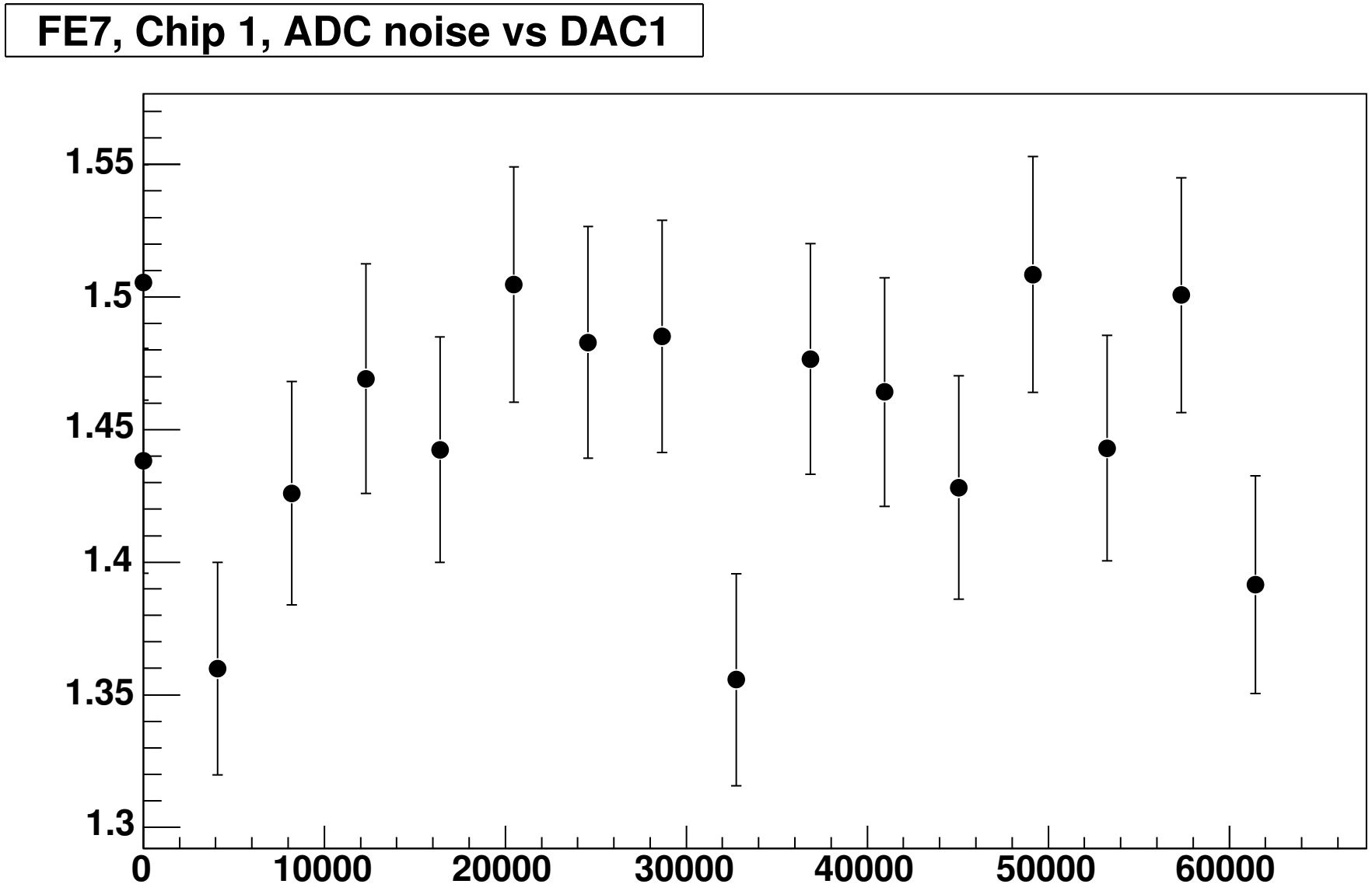

FE7, Chip 0, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

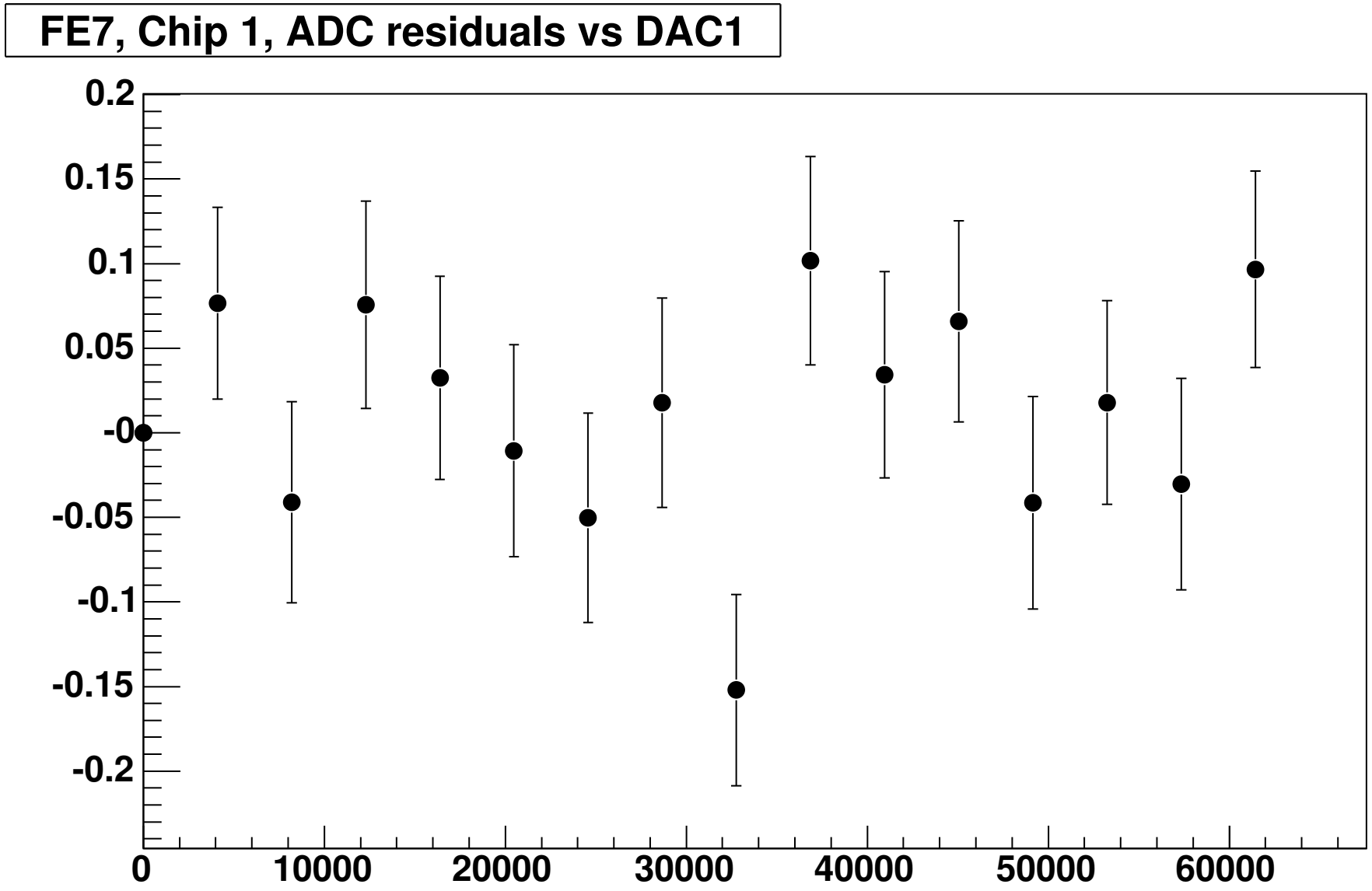

FE7, Chip 1, ADC mean vs DAC0
χ² / ndf 850.2 / 11
p0 84.07 ± 0.04219
p1 0.4497 ± 1.362e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

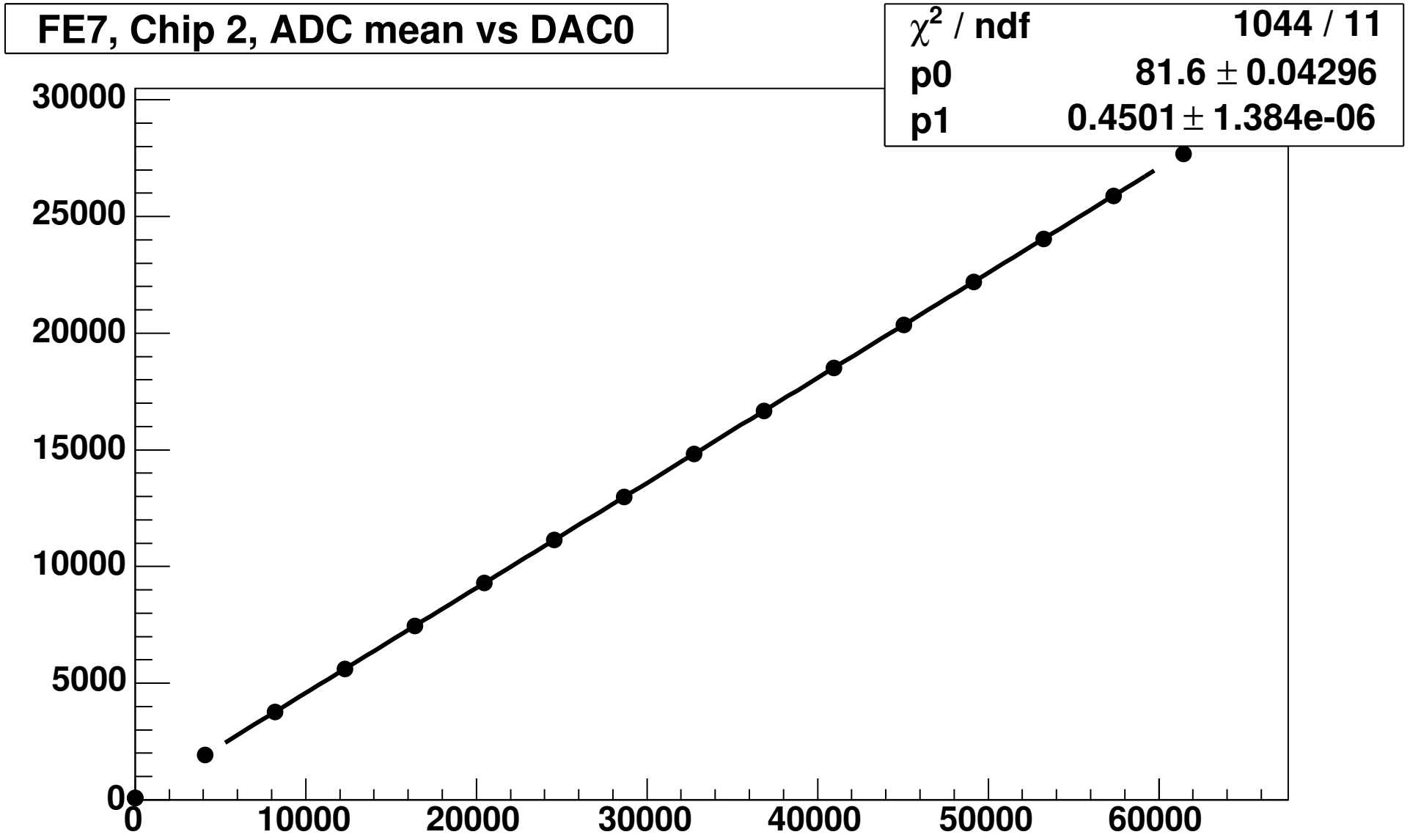

FE7, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

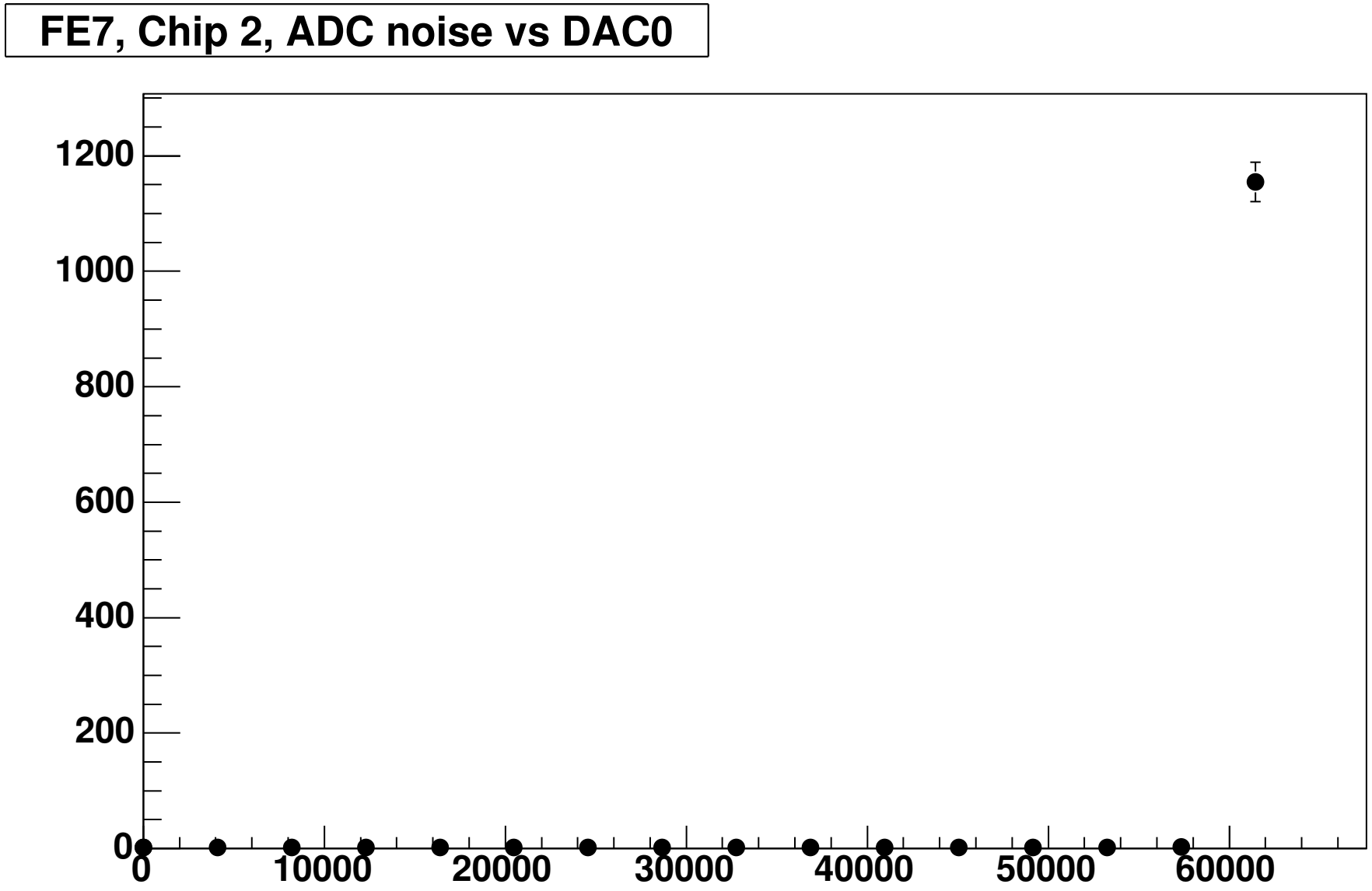

FE7, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

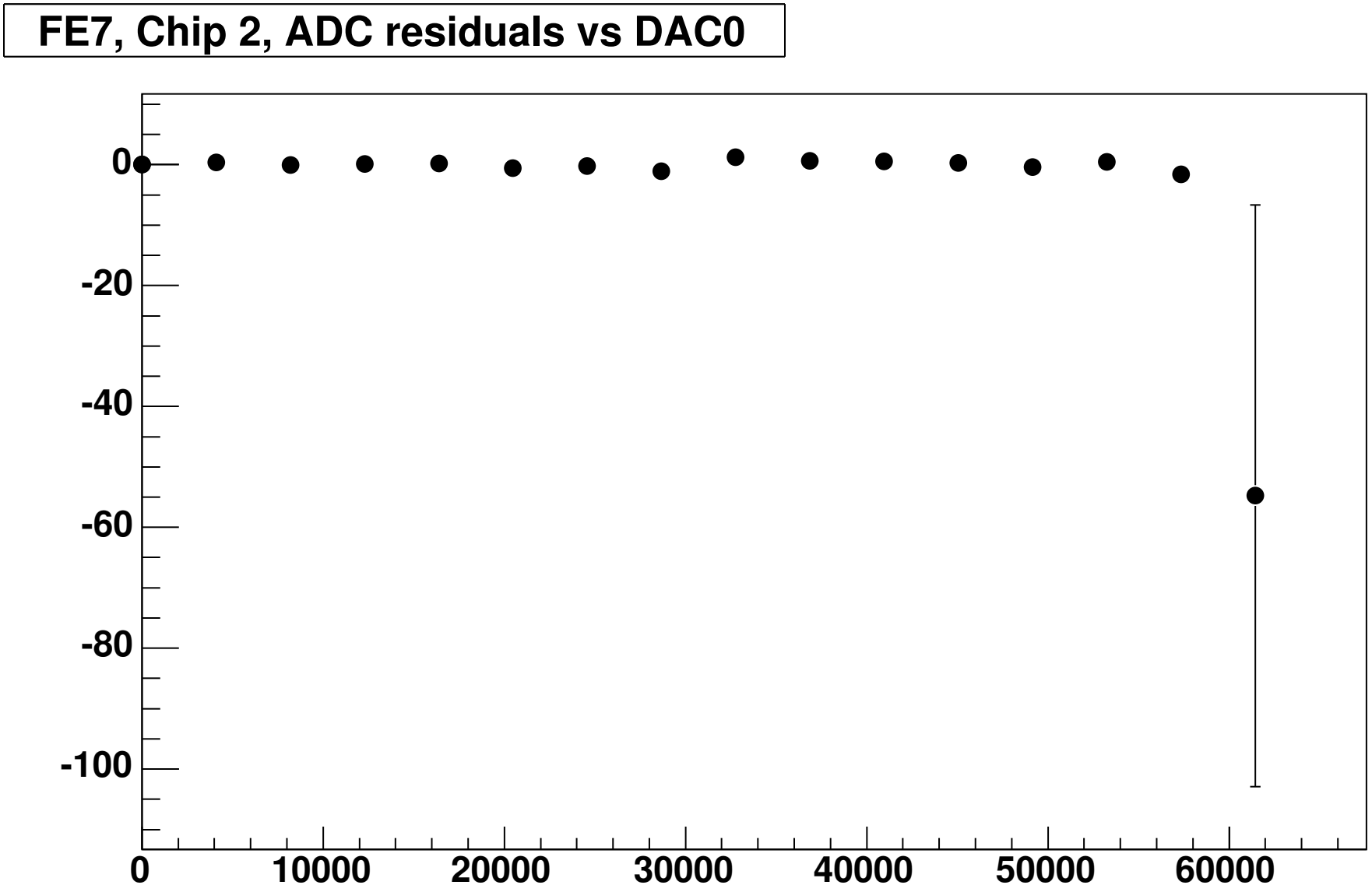

FE7, Chip 1, ADC mean vs DAC1
χ² / ndf 15.35 / 11
p0 84.77 ± 0.03977
p1 7.725e-07 ± 1.104e-06
85
84.95
84.9
84.85
84.8
84.75
84.7
84.65
84.6
84.55
0
10000
20000
30000
40000
50000
60000

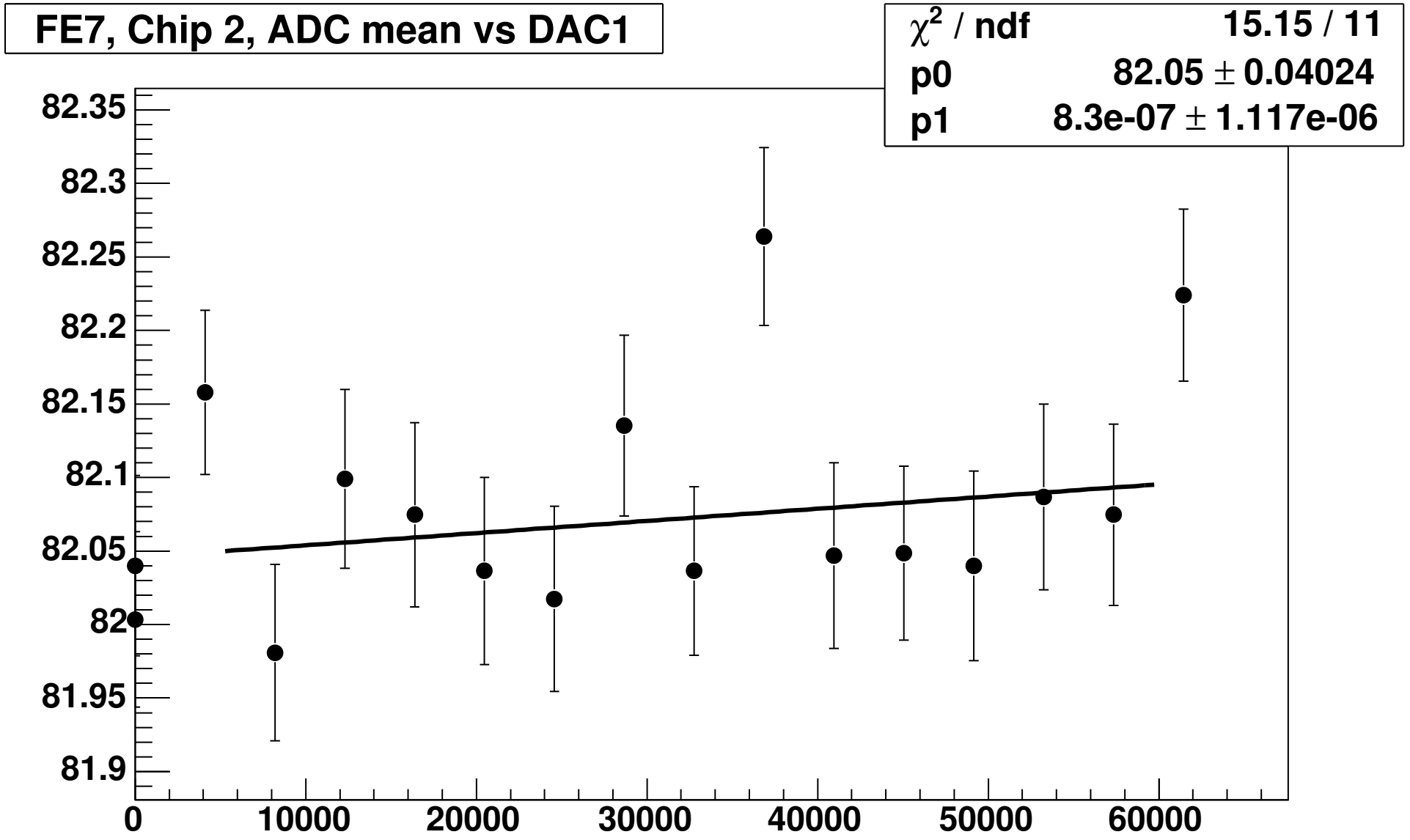

FE7, Chip 1, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

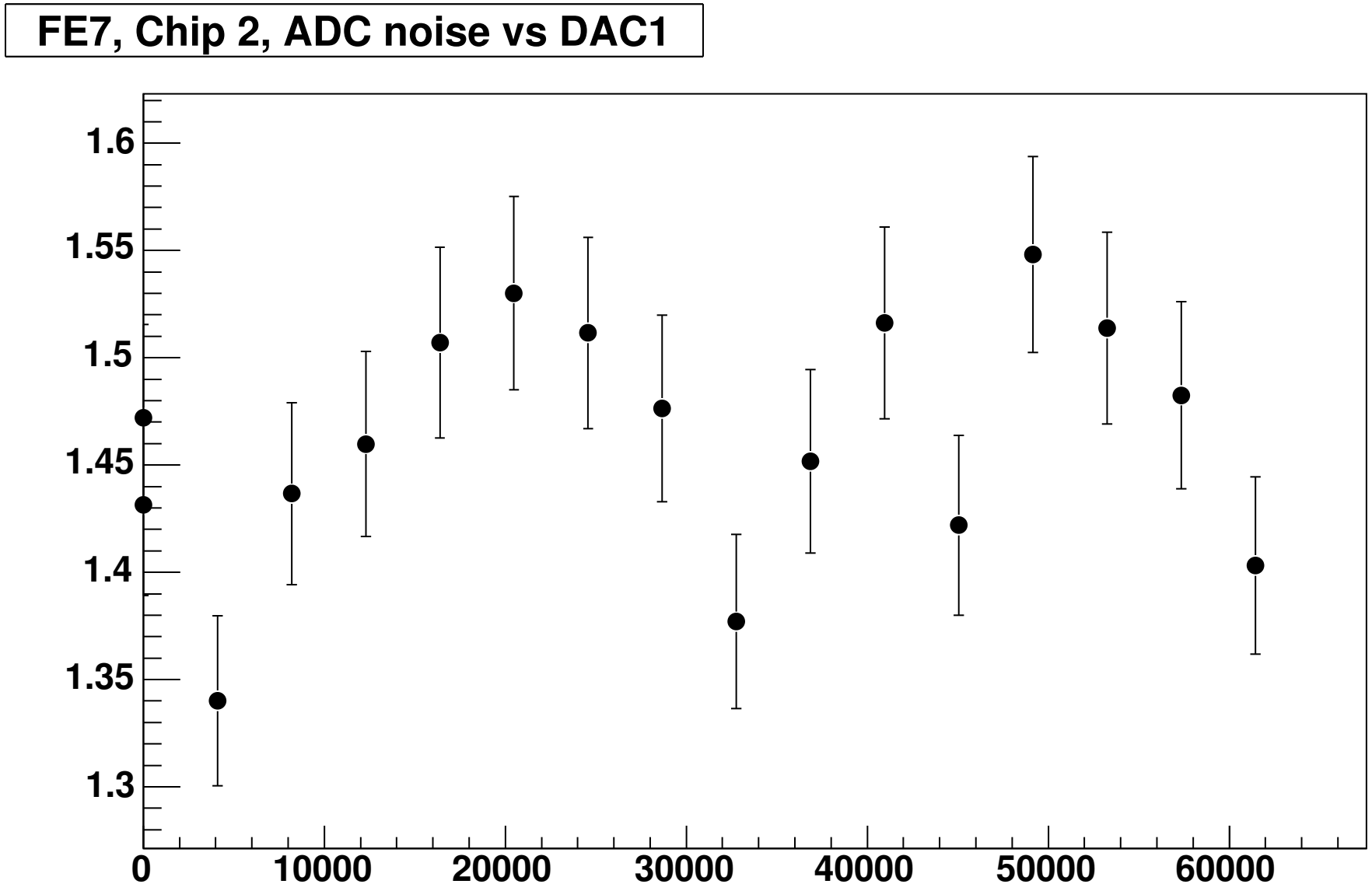

FE7, Chip 1, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

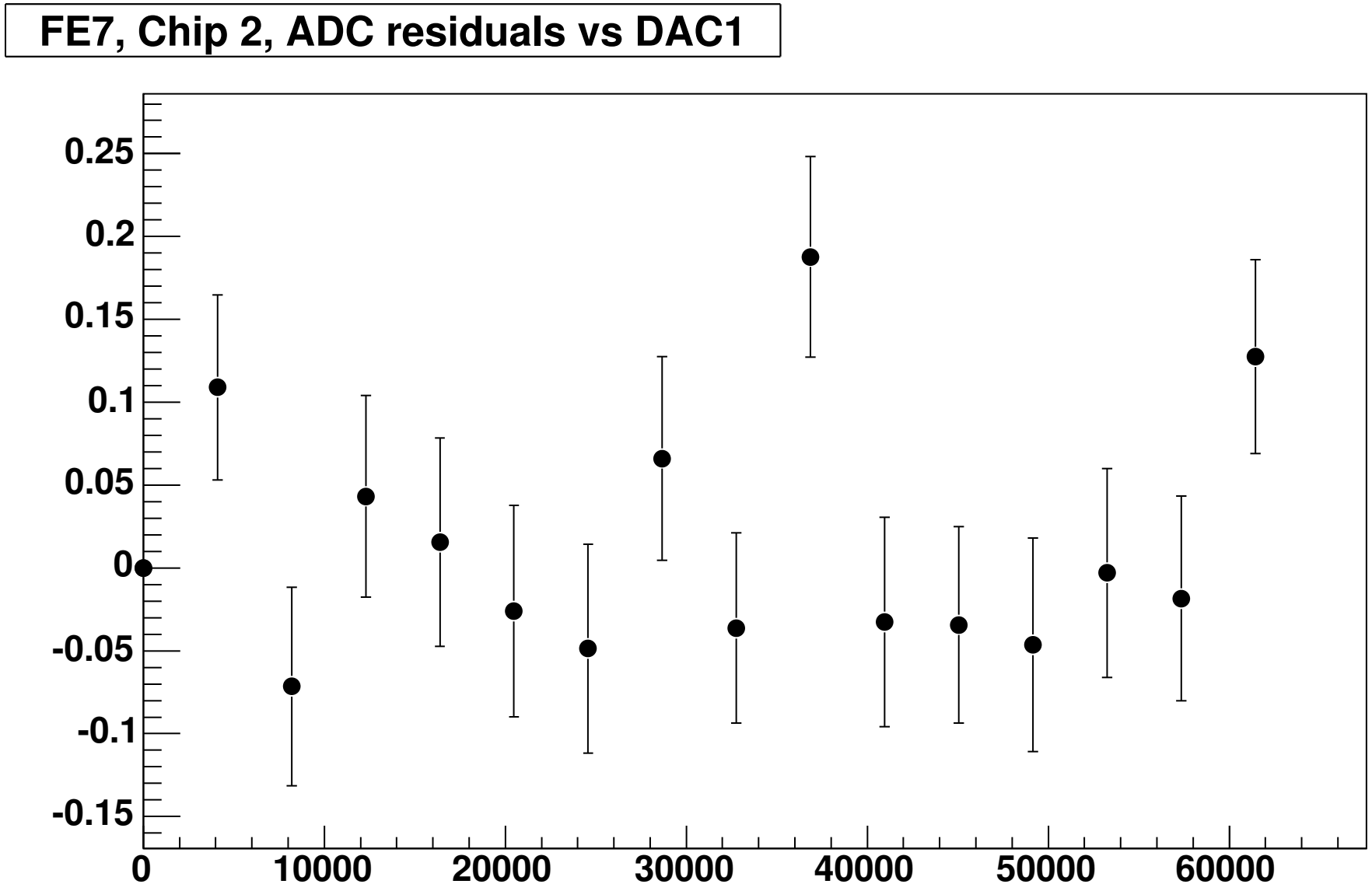

FE7, Chip 2, ADC mean vs DAC0
χ² / ndf 1044 / 11
p0 81.6 ± 0.04296
p1 0.4501 ± 1.384e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

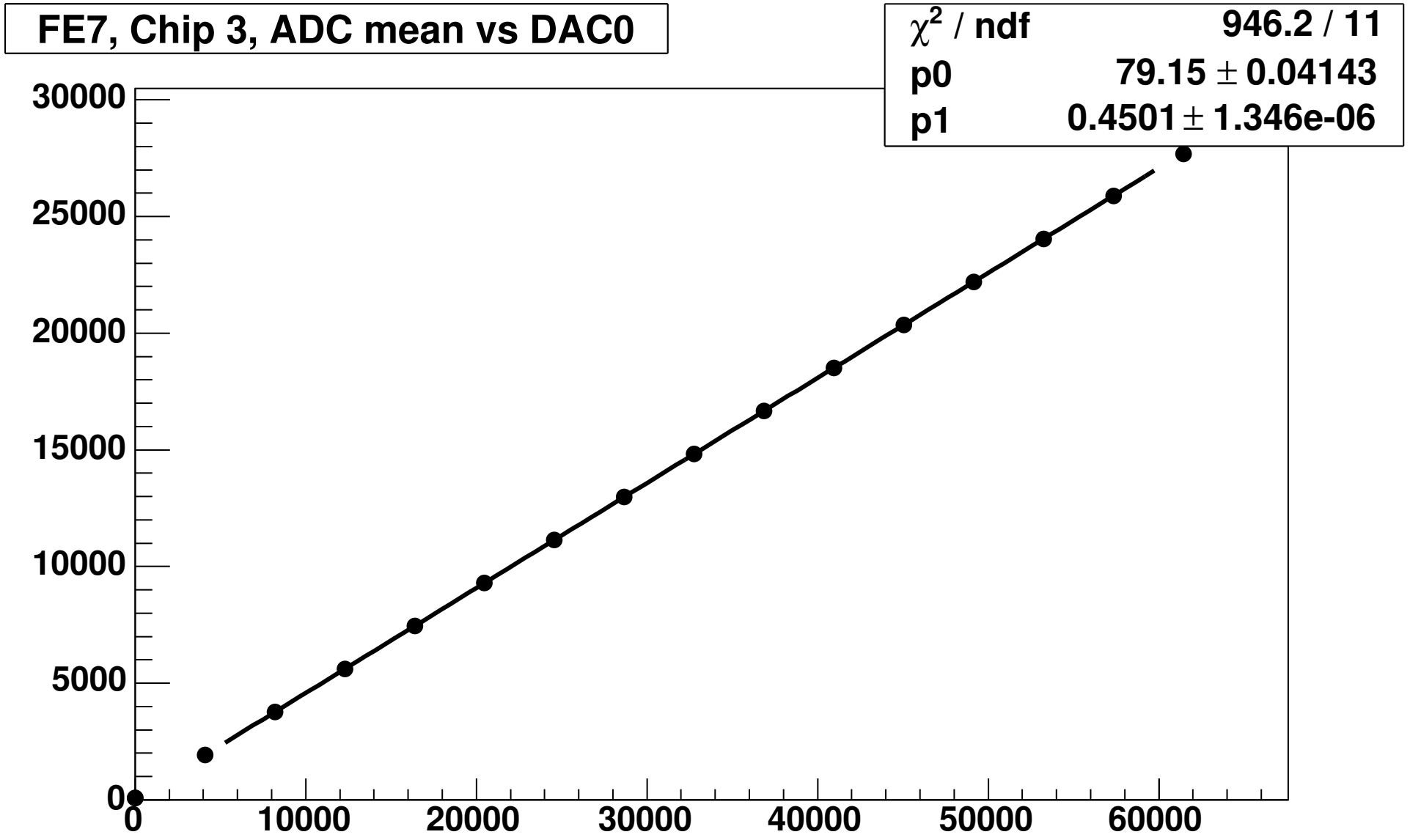

FE7, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

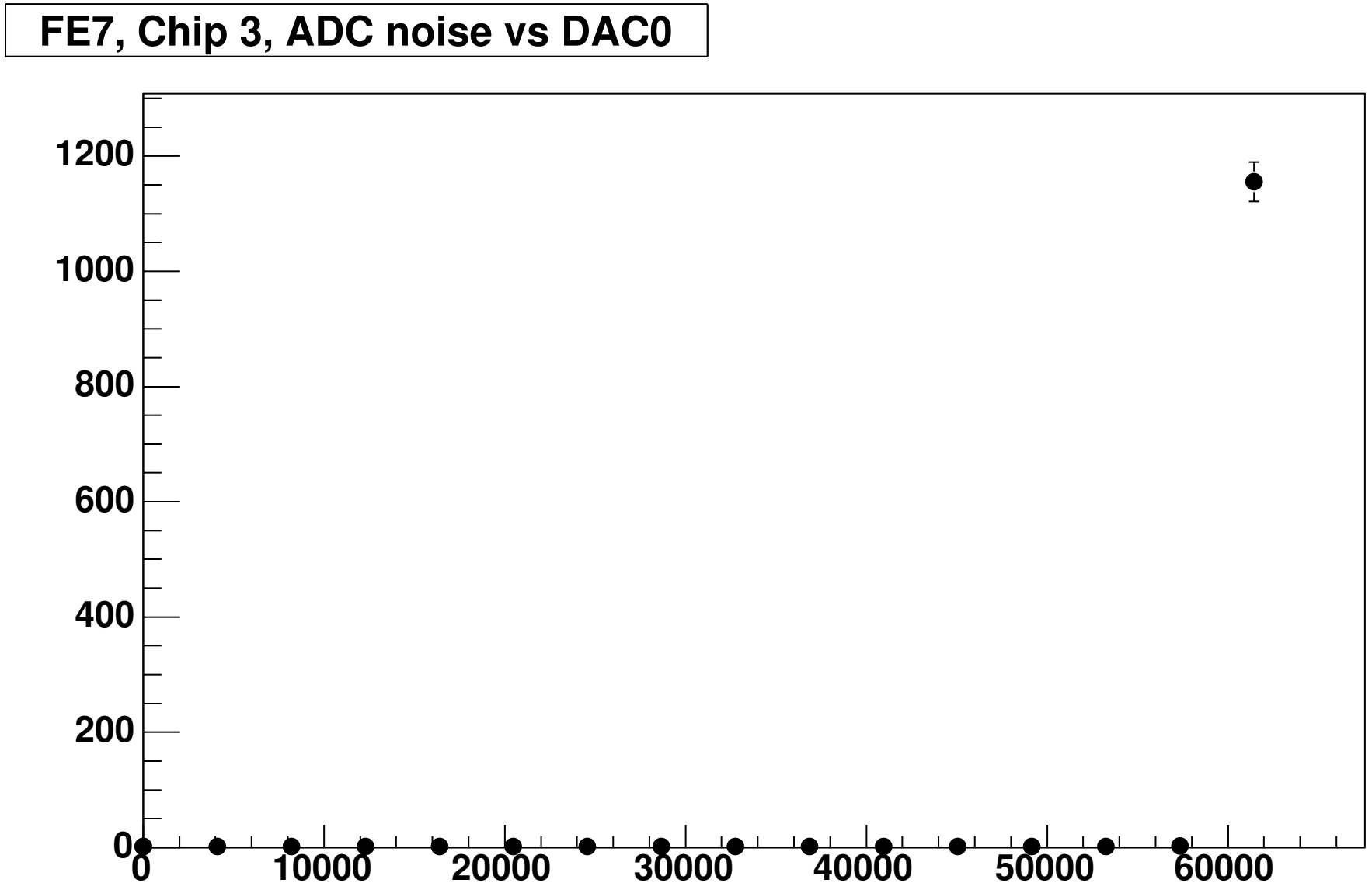

FE7, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

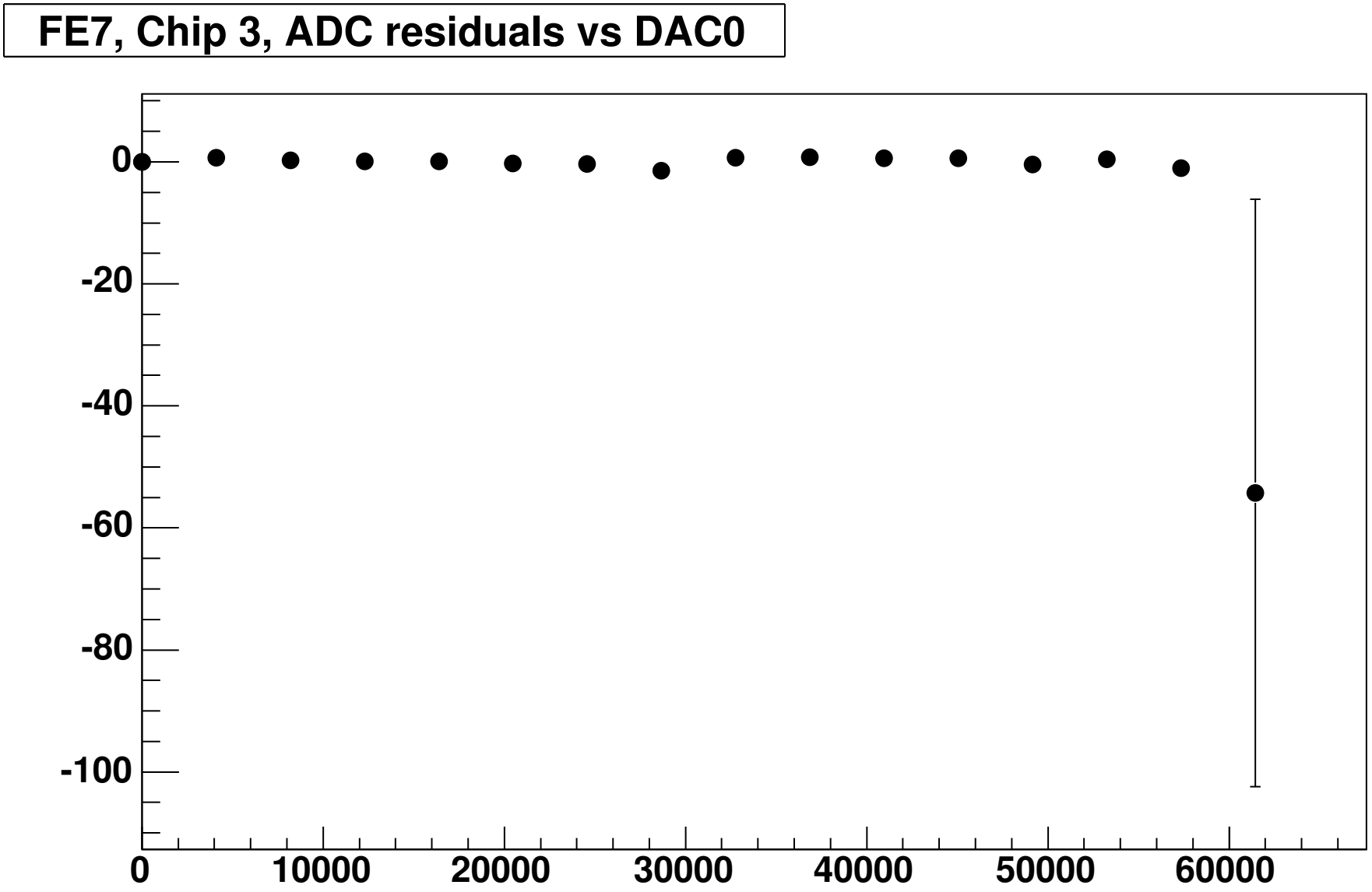

FE7, Chip 2, ADC mean vs DAC1
χ² / ndf 15.15 / 11
p0 82.05 ± 0.04024
p1 8.3e-07 ± 1.117e-06
82.35
82.3
82.25
82.2
82.15
82.1
82.05
82
81.95
81.9
0
10000
20000
30000
40000
50000
60000

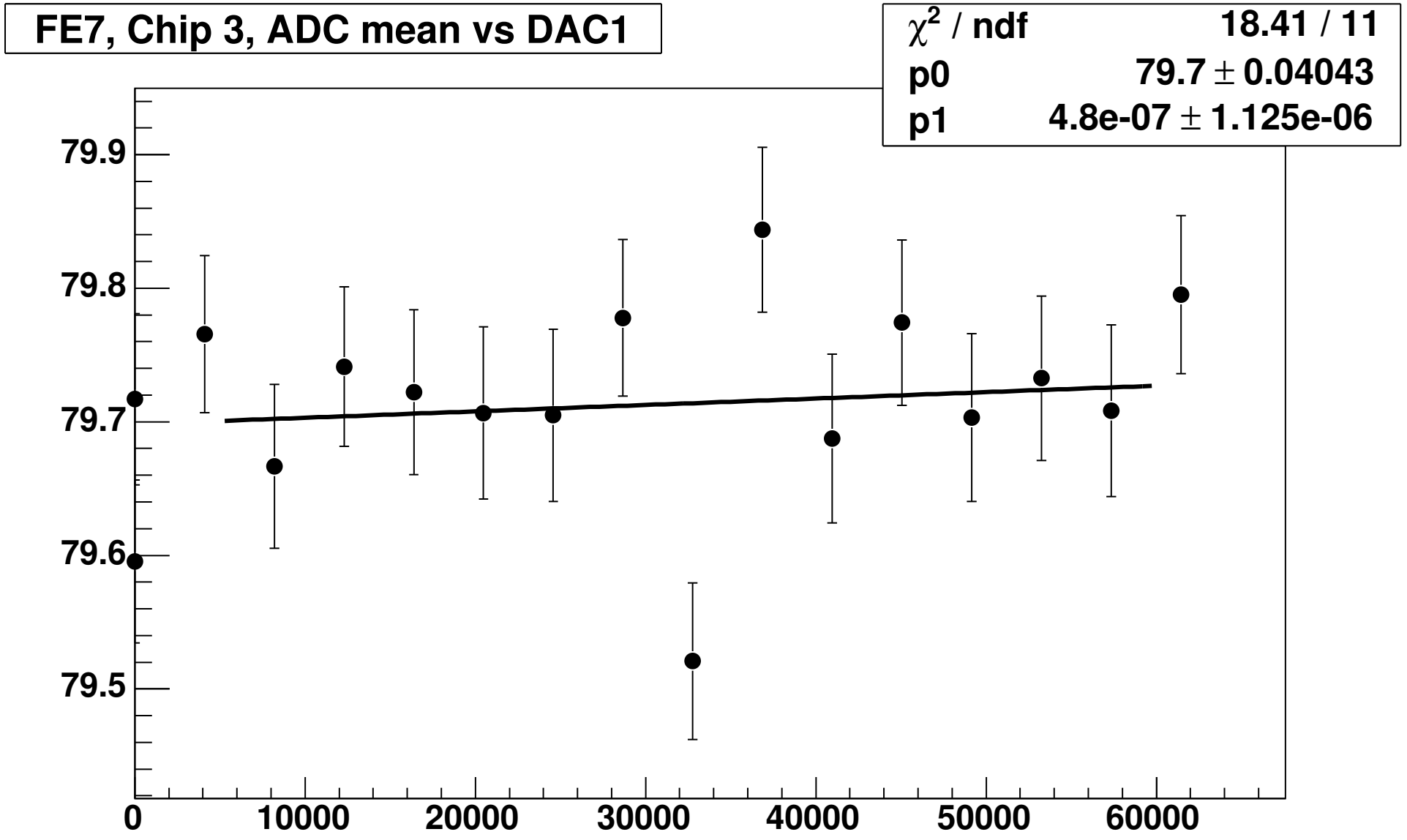

FE7, Chip 2, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

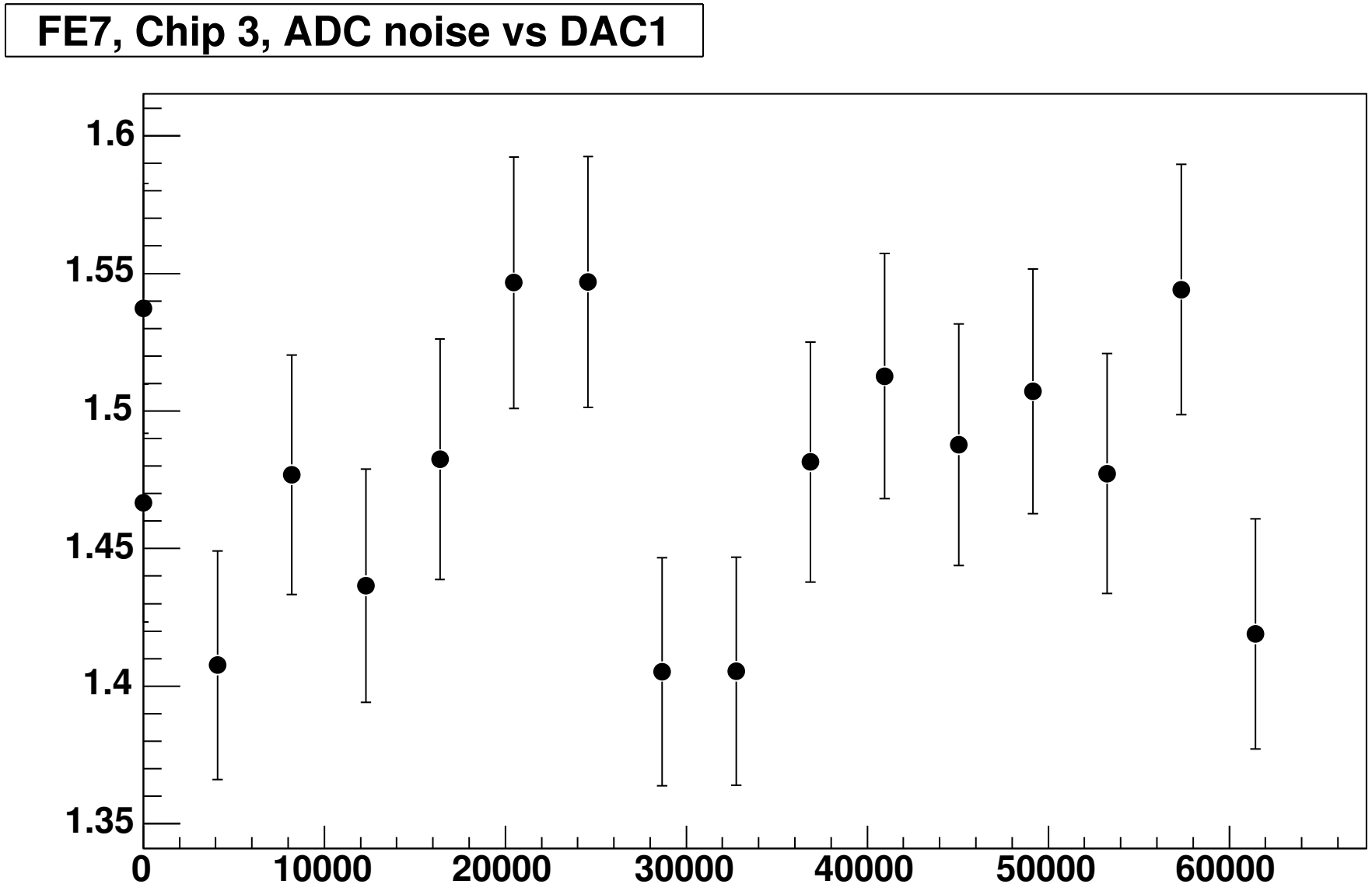

FE7, Chip 2, ADC residuals vs DAC1
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

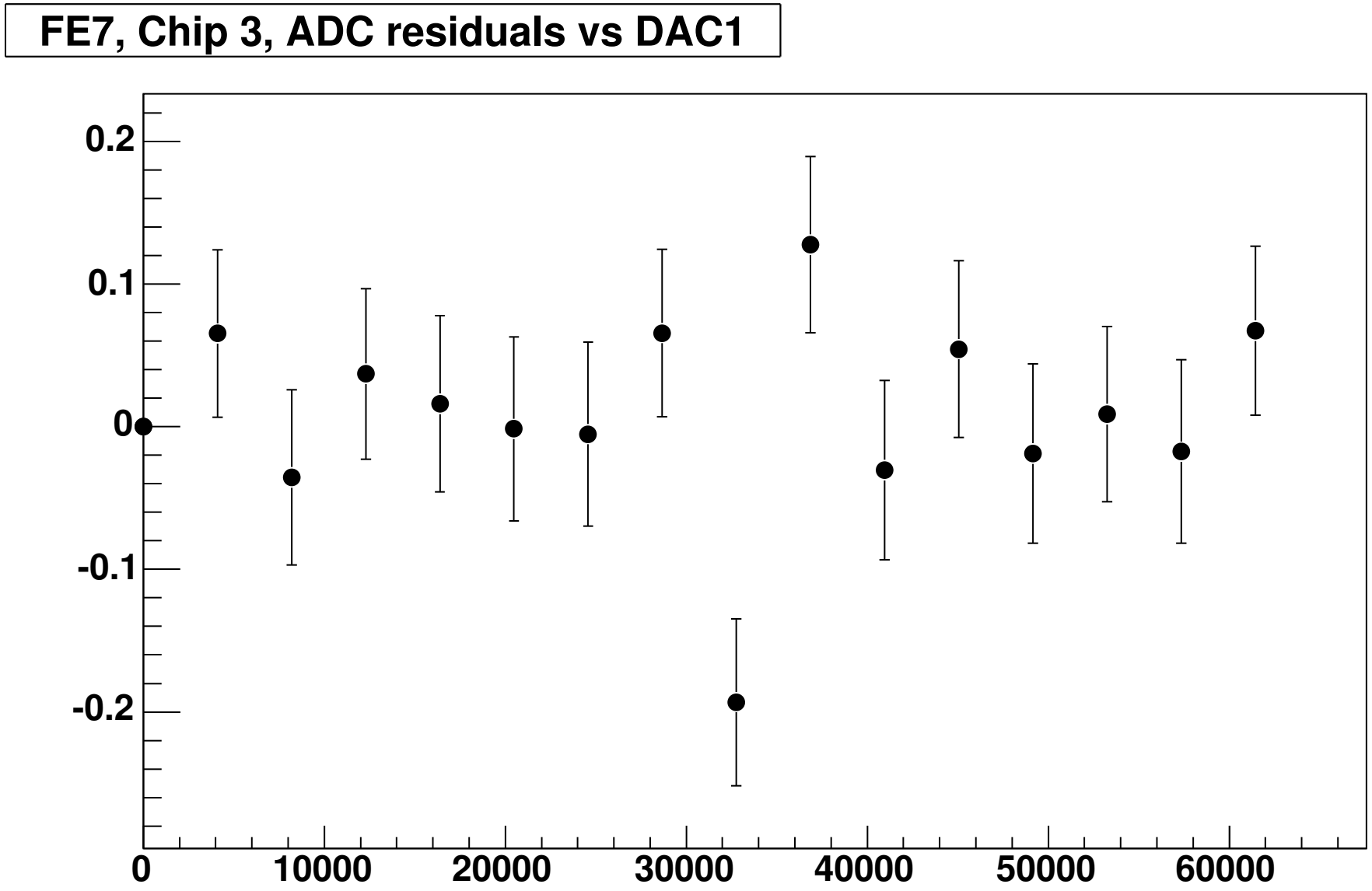

FE7, Chip 3, ADC mean vs DAC0
χ² / ndf 946.2 / 11
p0 79.15 ± 0.04143
p1 0.4501 ± 1.346e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

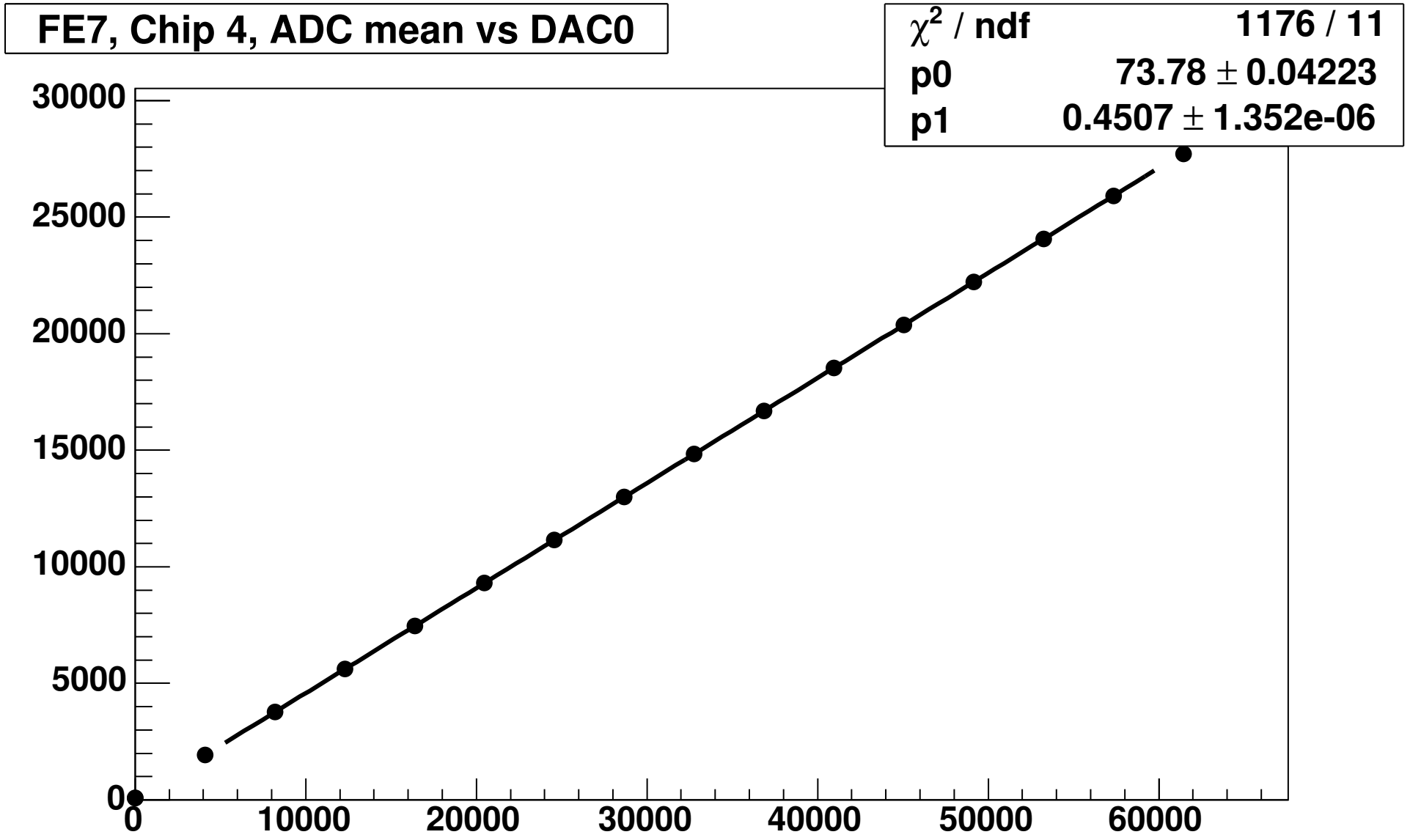

FE7, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

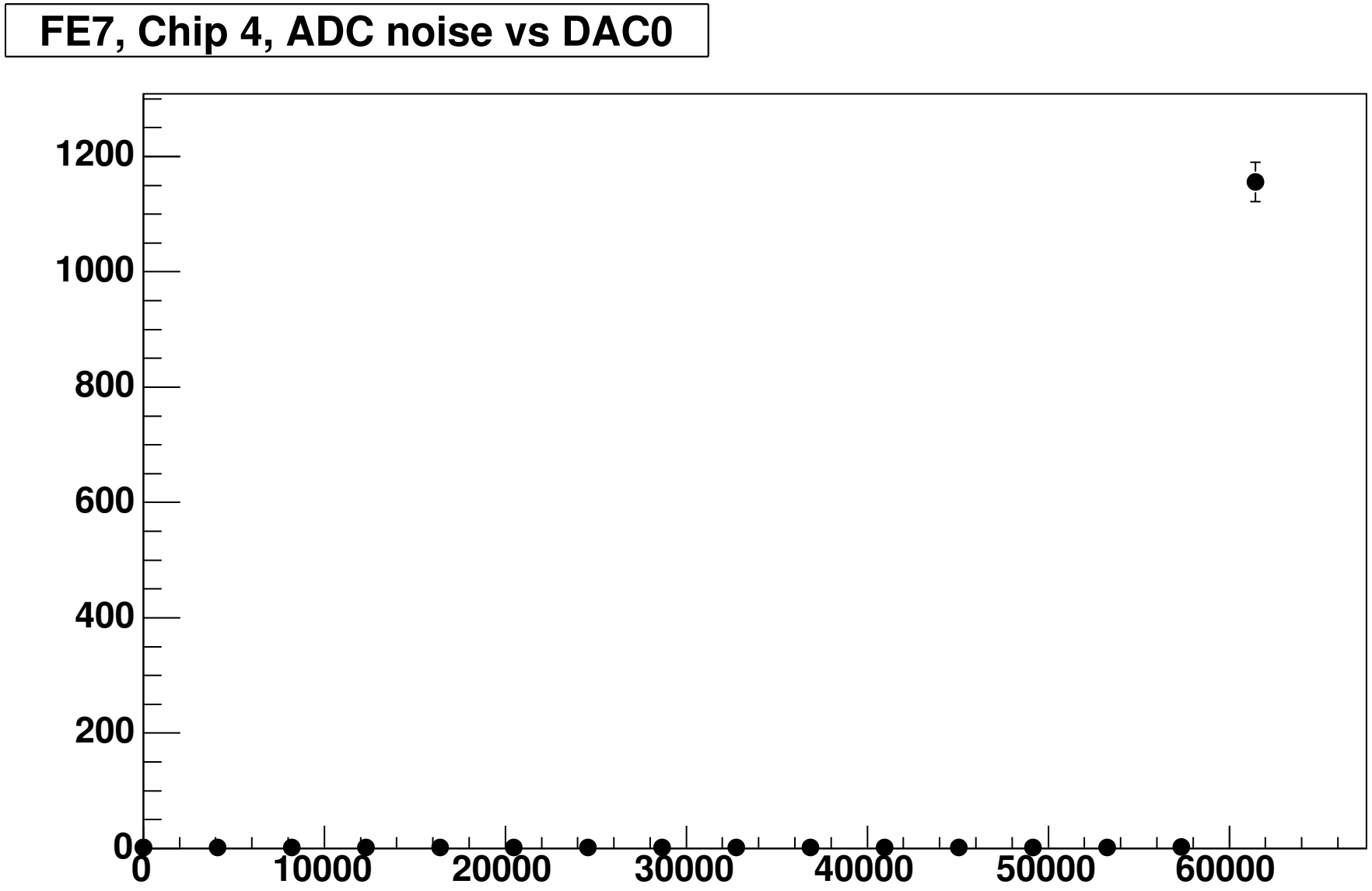

FE7, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

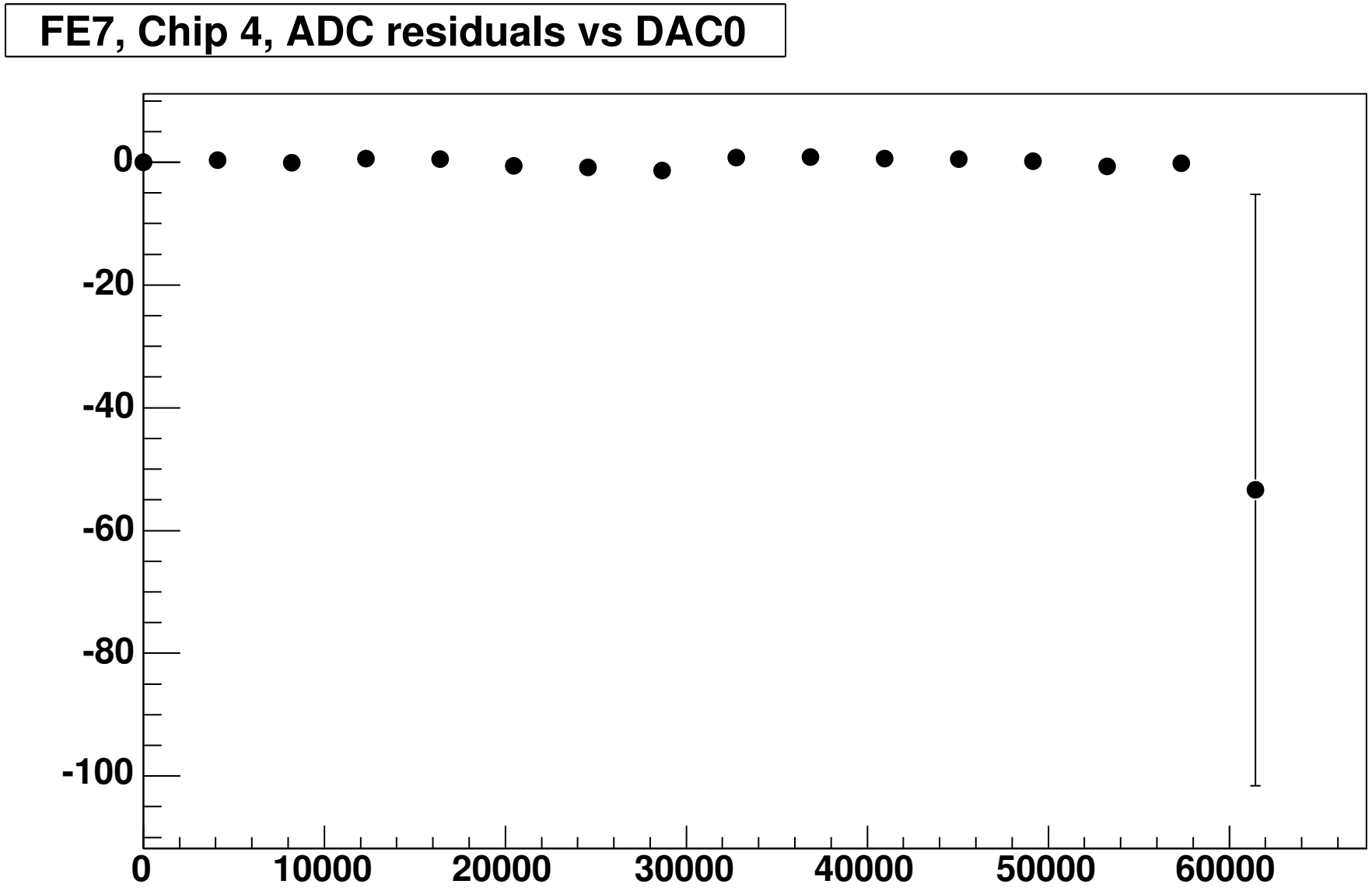

FE7, Chip 3, ADC mean vs DAC1
χ² / ndf 18.41 / 11
p0 79.7 ± 0.04043
p1 4.8e-07 ± 1.125e-06
79.9
79.8
79.7
79.6
79.5
0
10000
20000
30000
40000
50000
60000

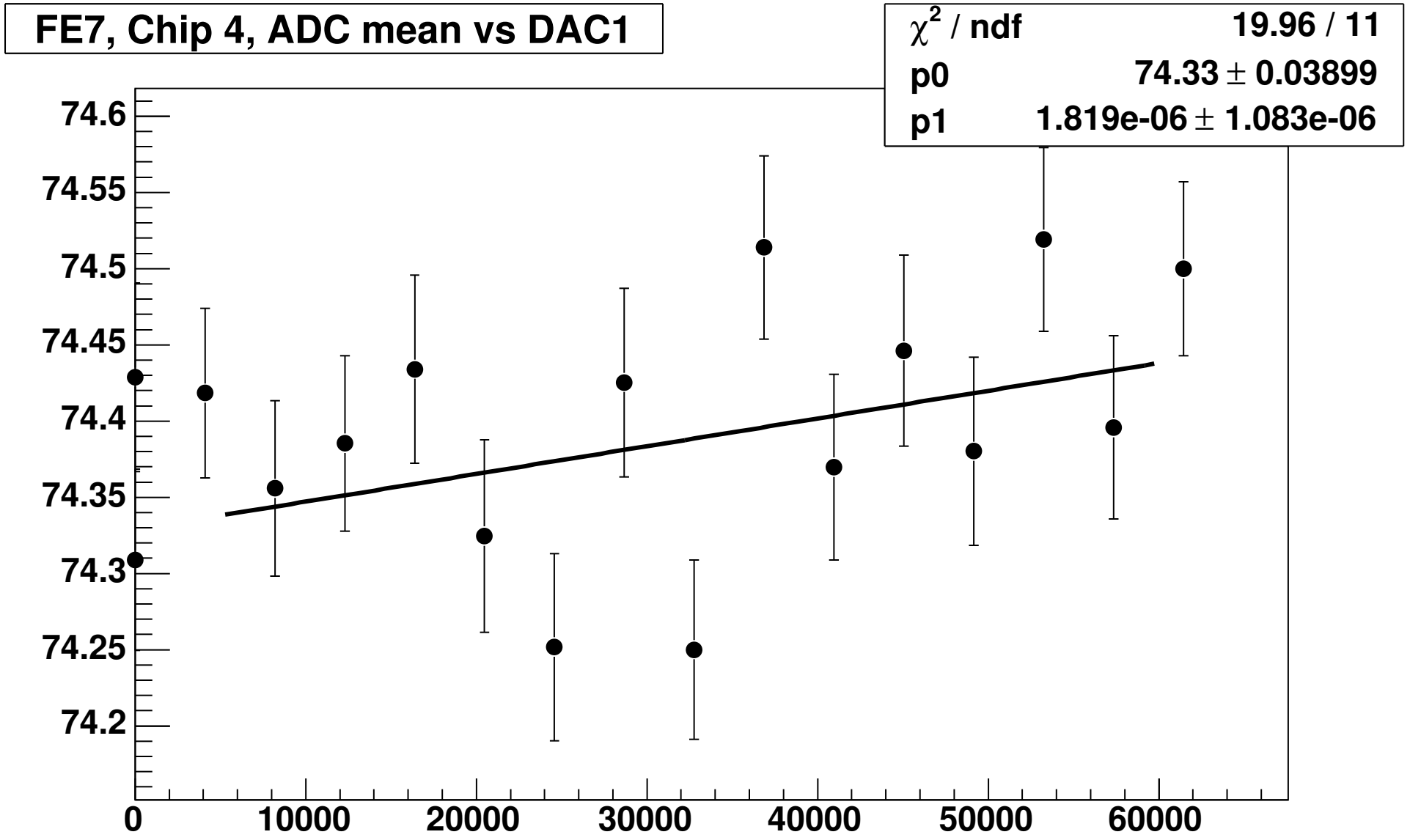

FE7, Chip 3, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

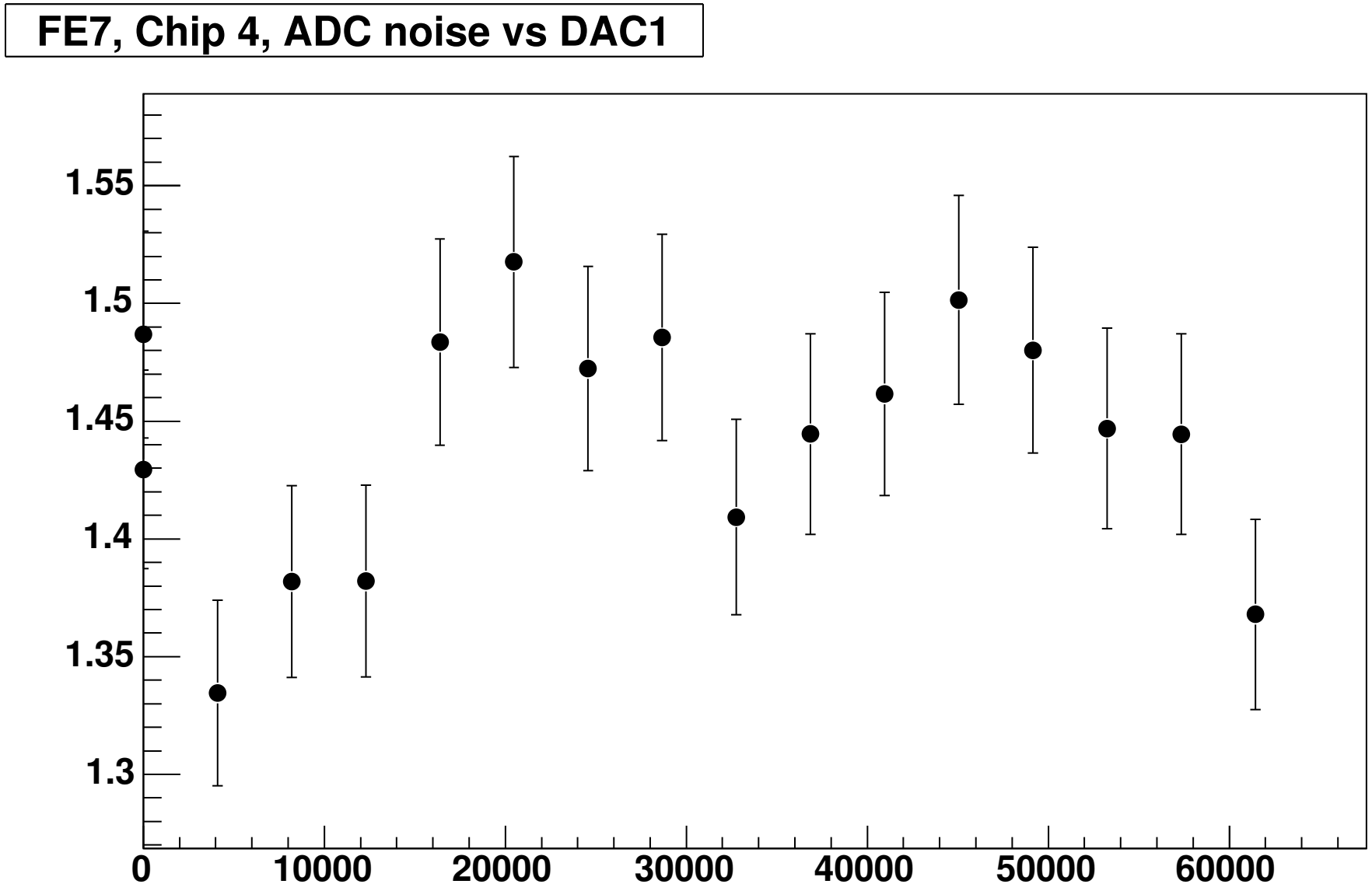

FE7, Chip 3, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

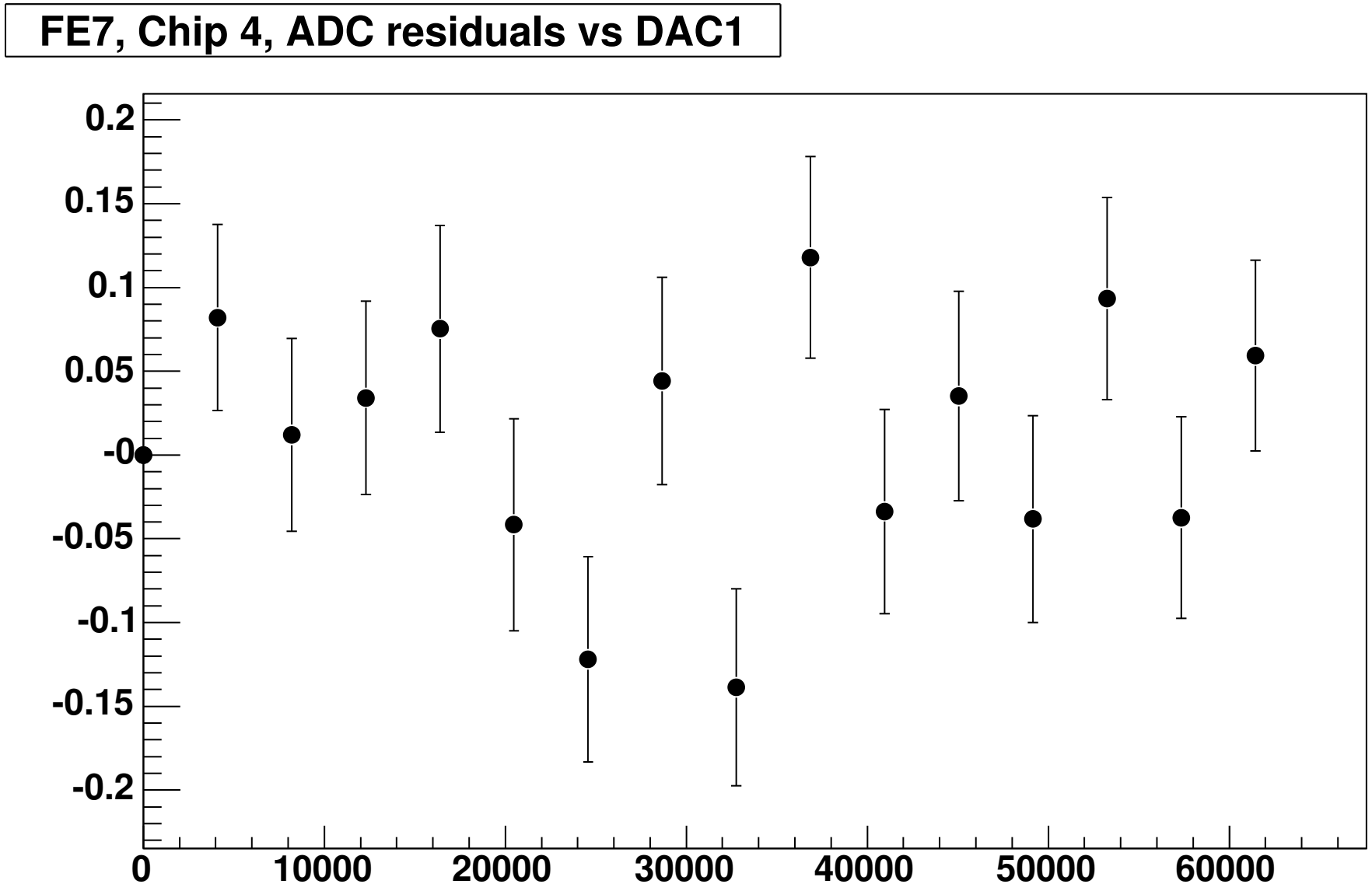

FE7, Chip 4, ADC mean vs DAC0
χ² / ndf 1176 / 11
p0 73.78 ± 0.04223
p1 0.4507 ± 1.352e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

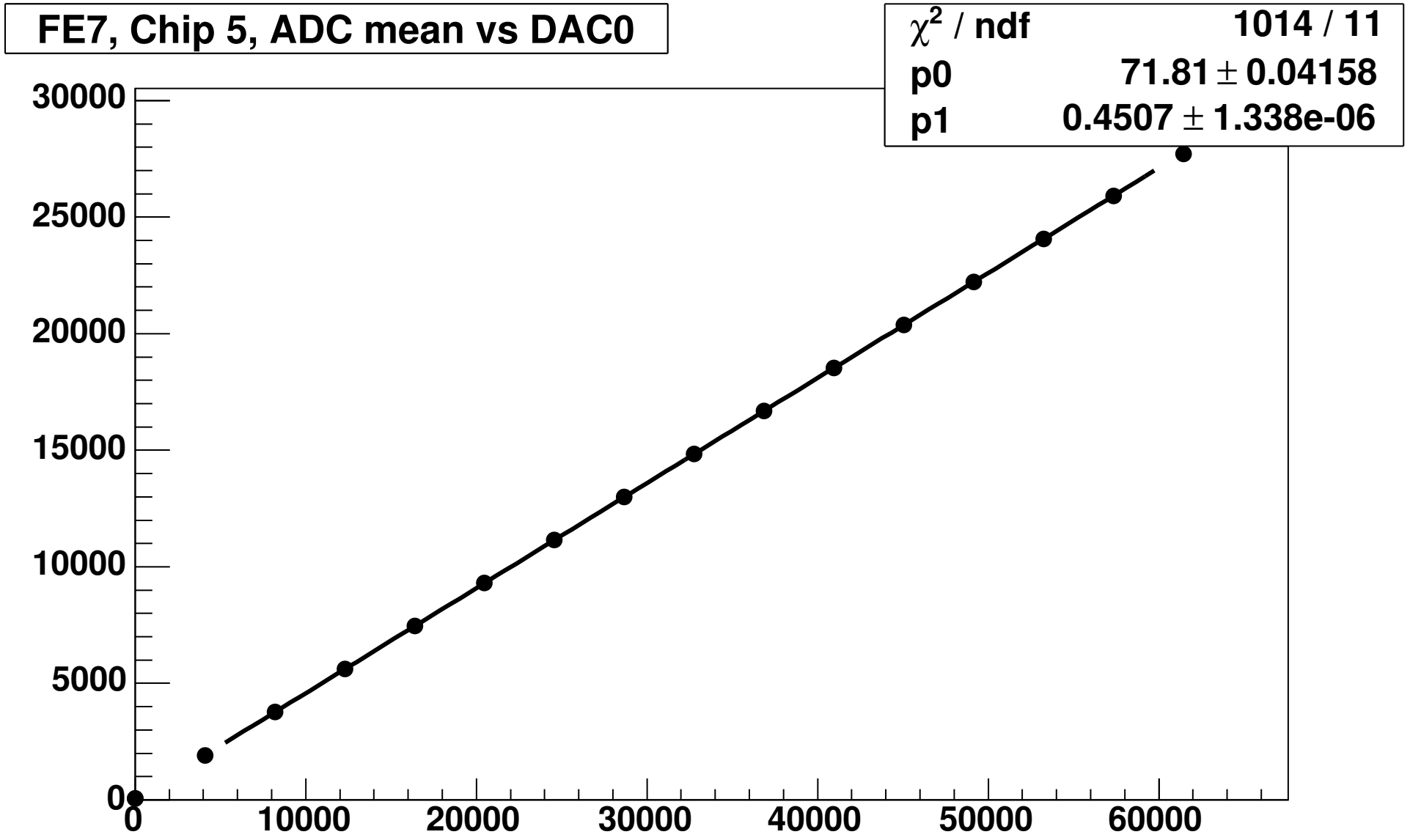

FE7, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

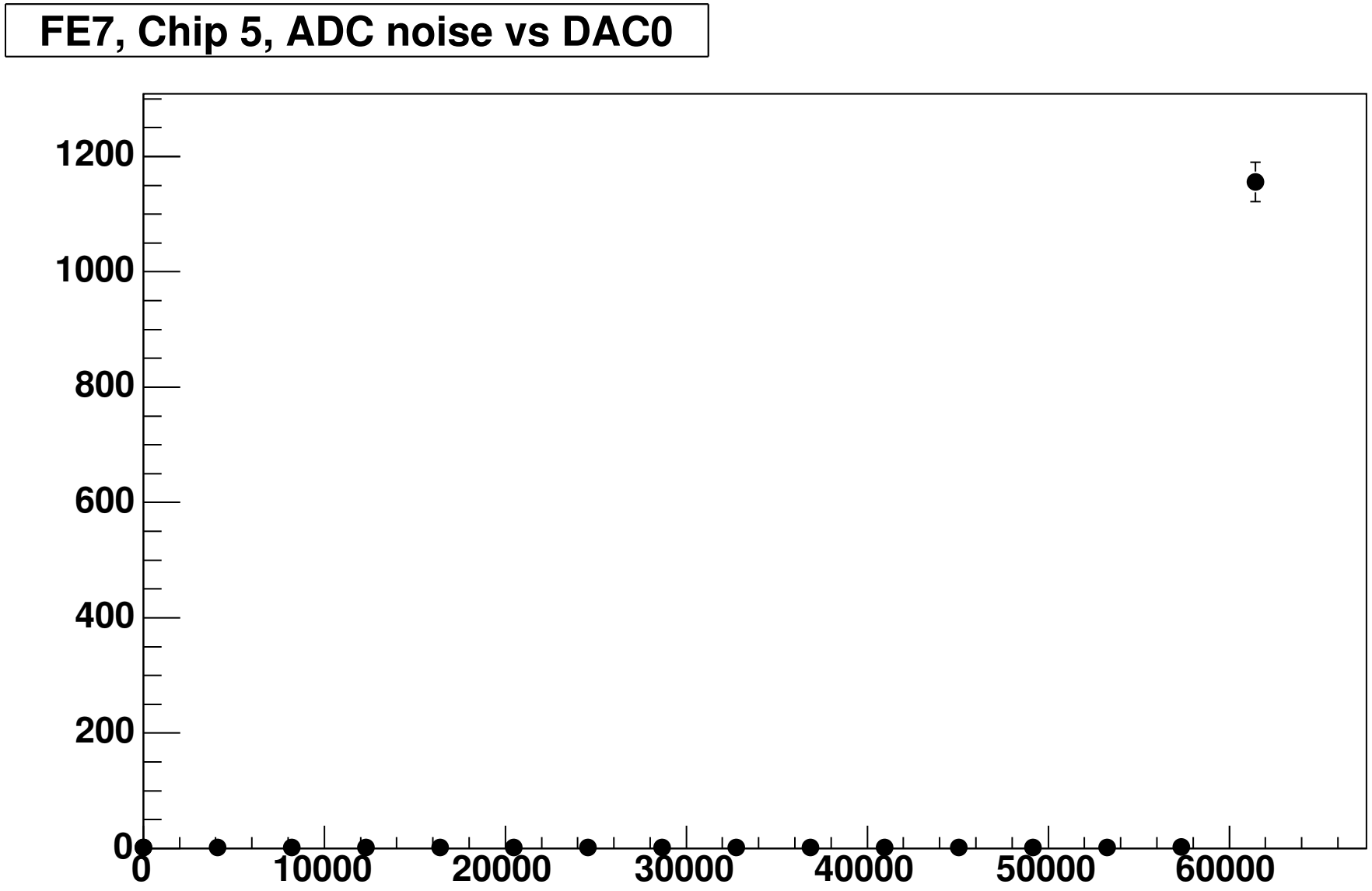

FE7, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

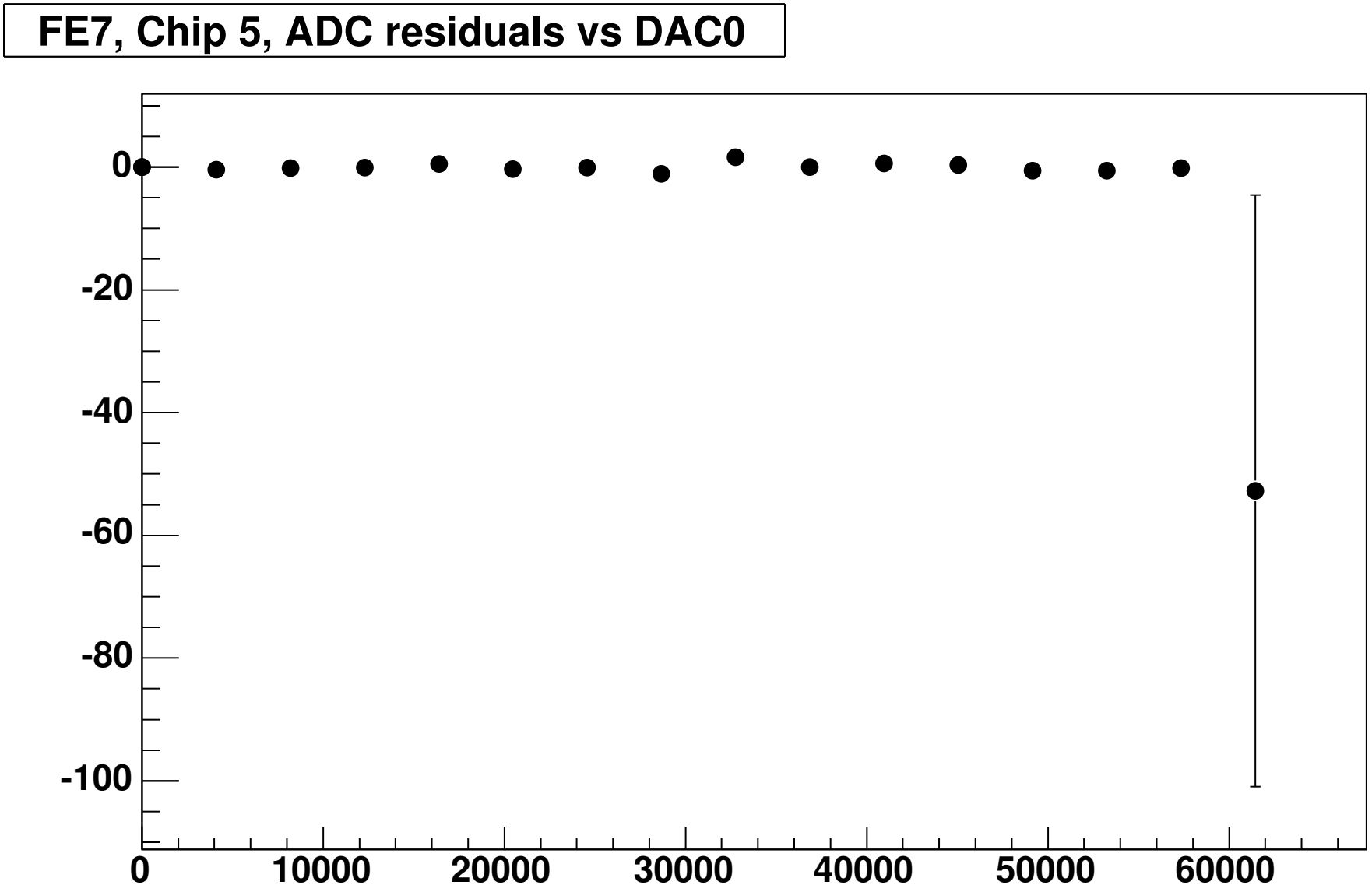

FE7, Chip 4, ADC mean vs DAC1
χ^2 / ndf 19.96 / 11
p0 74.33 ± 0.03899
p1 1.819e-06 ± 1.083e-06
74.6
74.55
74.5
74.45
74.4
74.35
74.3
74.25
74.2
0
10000
20000
30000
40000
50000
60000

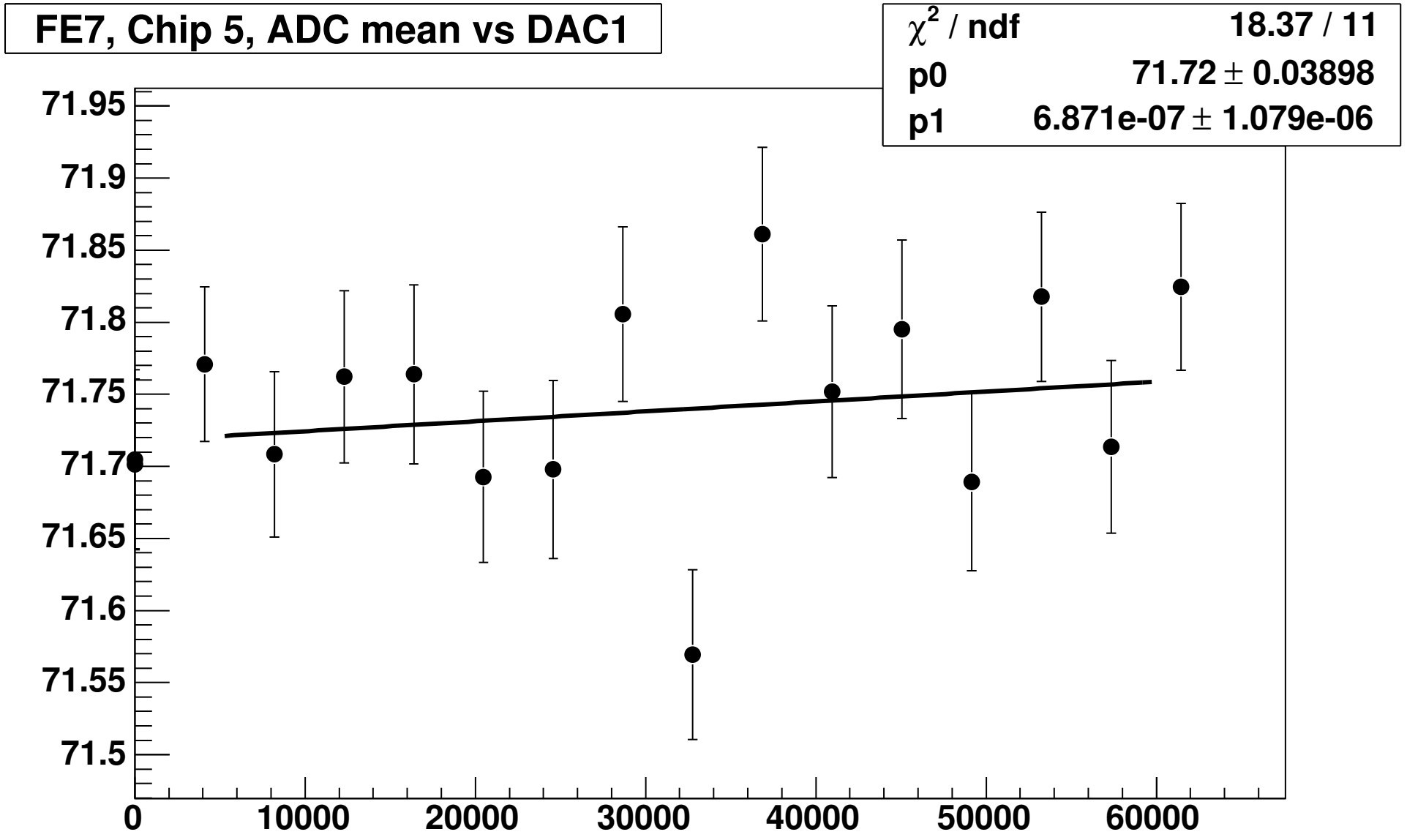

FE7, Chip 4, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

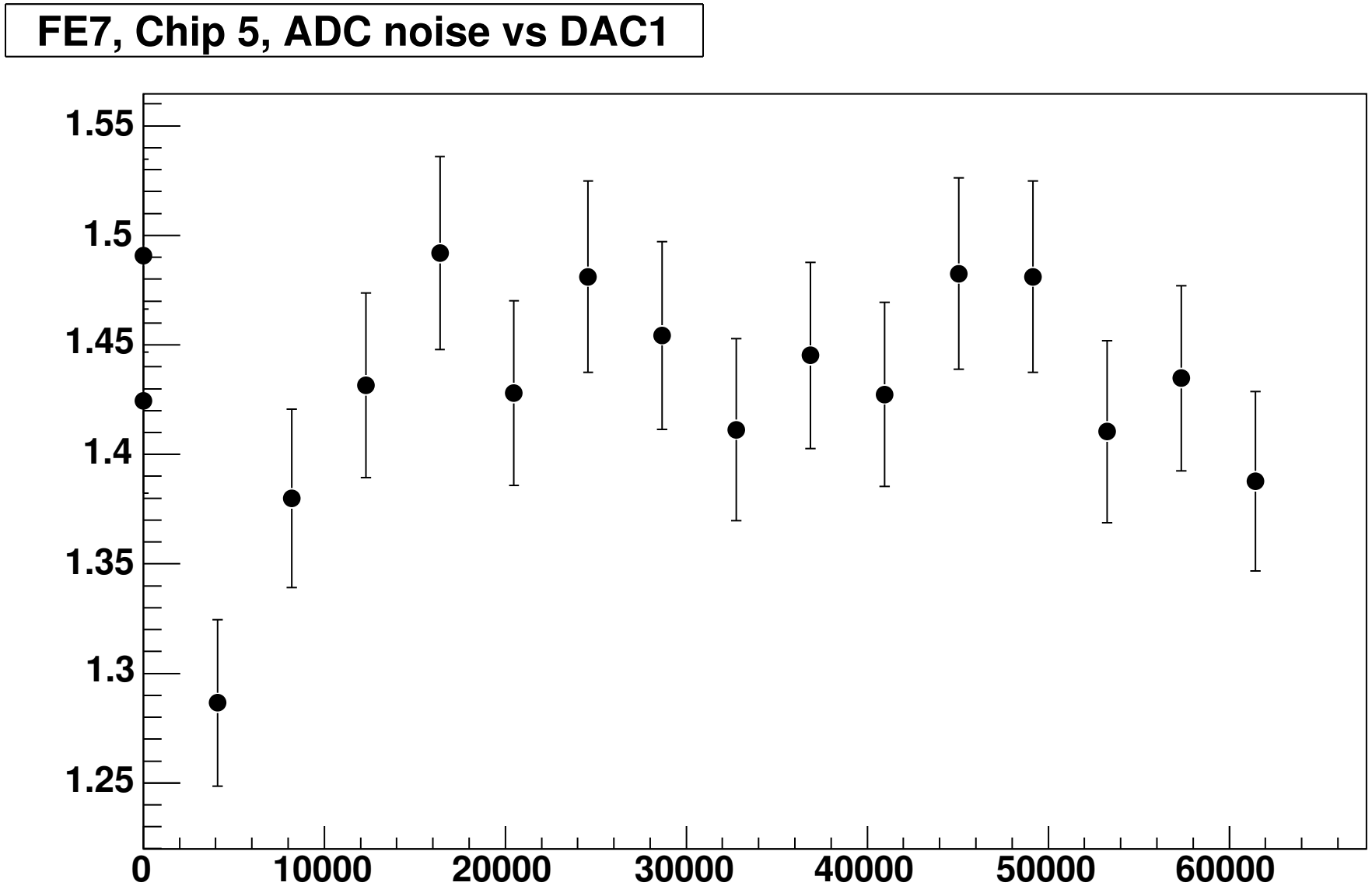

FE7, Chip 4, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

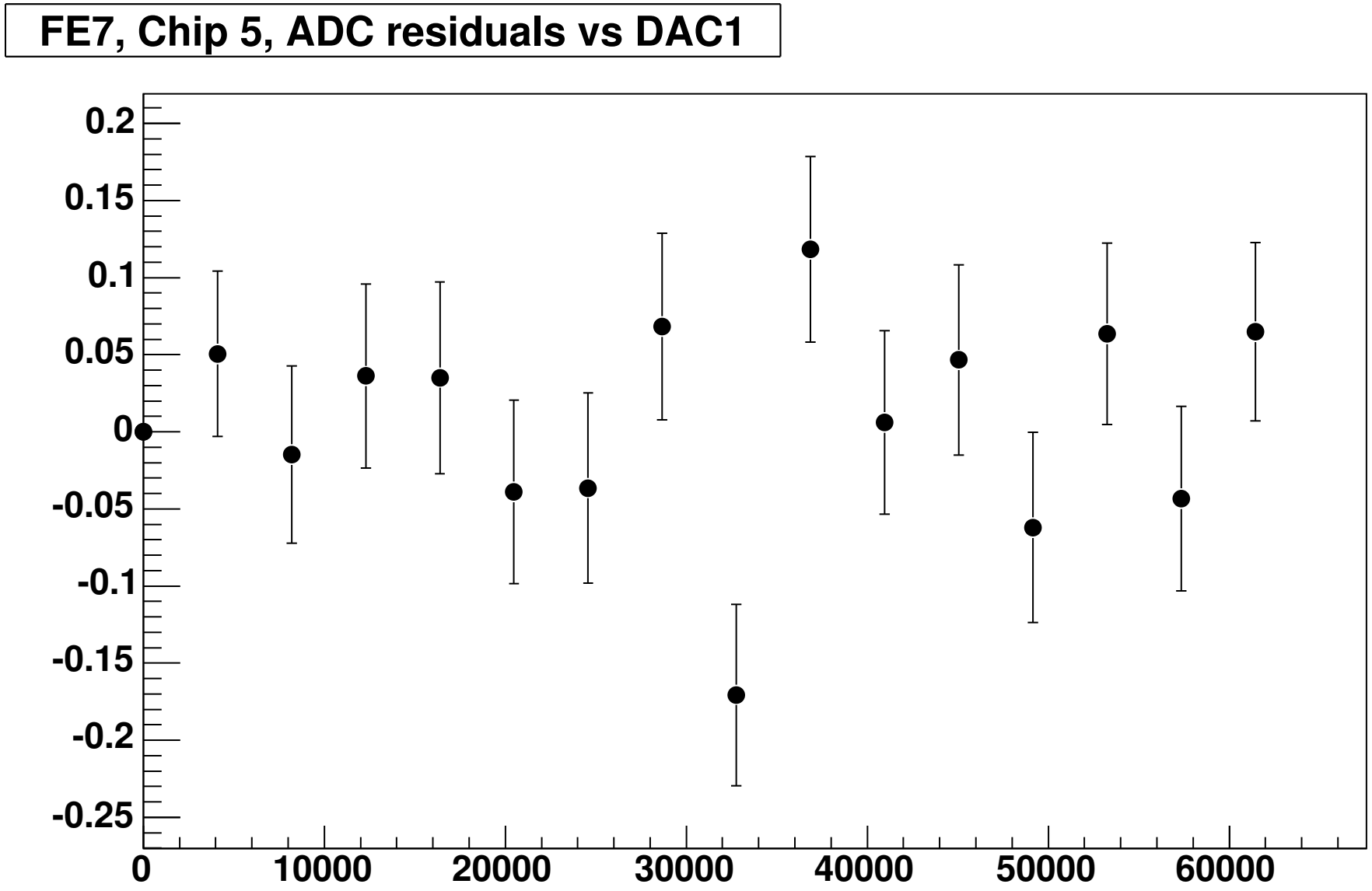

FE7, Chip 5, ADC mean vs DAC0
χ² / ndf 1014 / 11
p0 71.81 ± 0.04158
p1 0.4507 ± 1.338e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

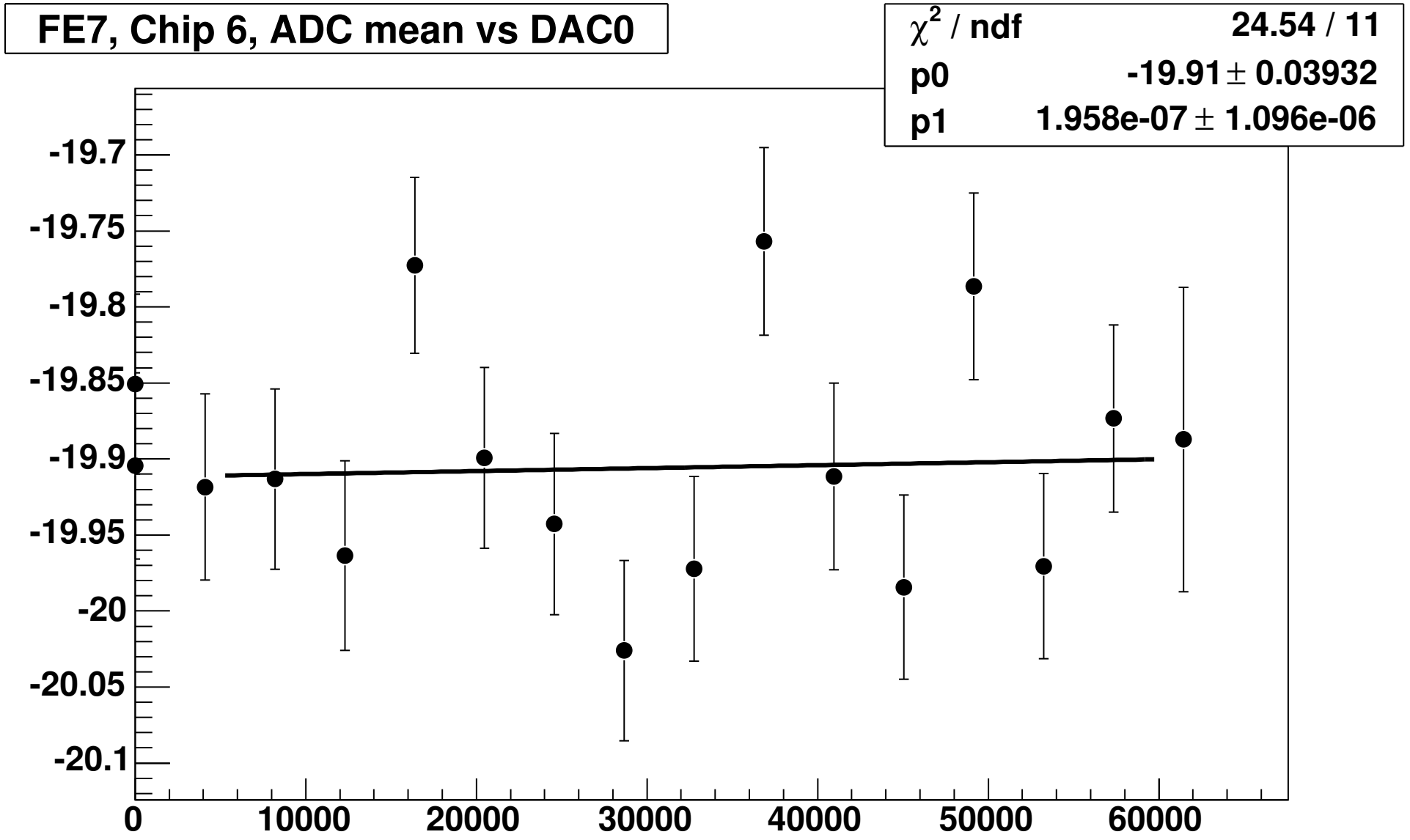

FE7, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

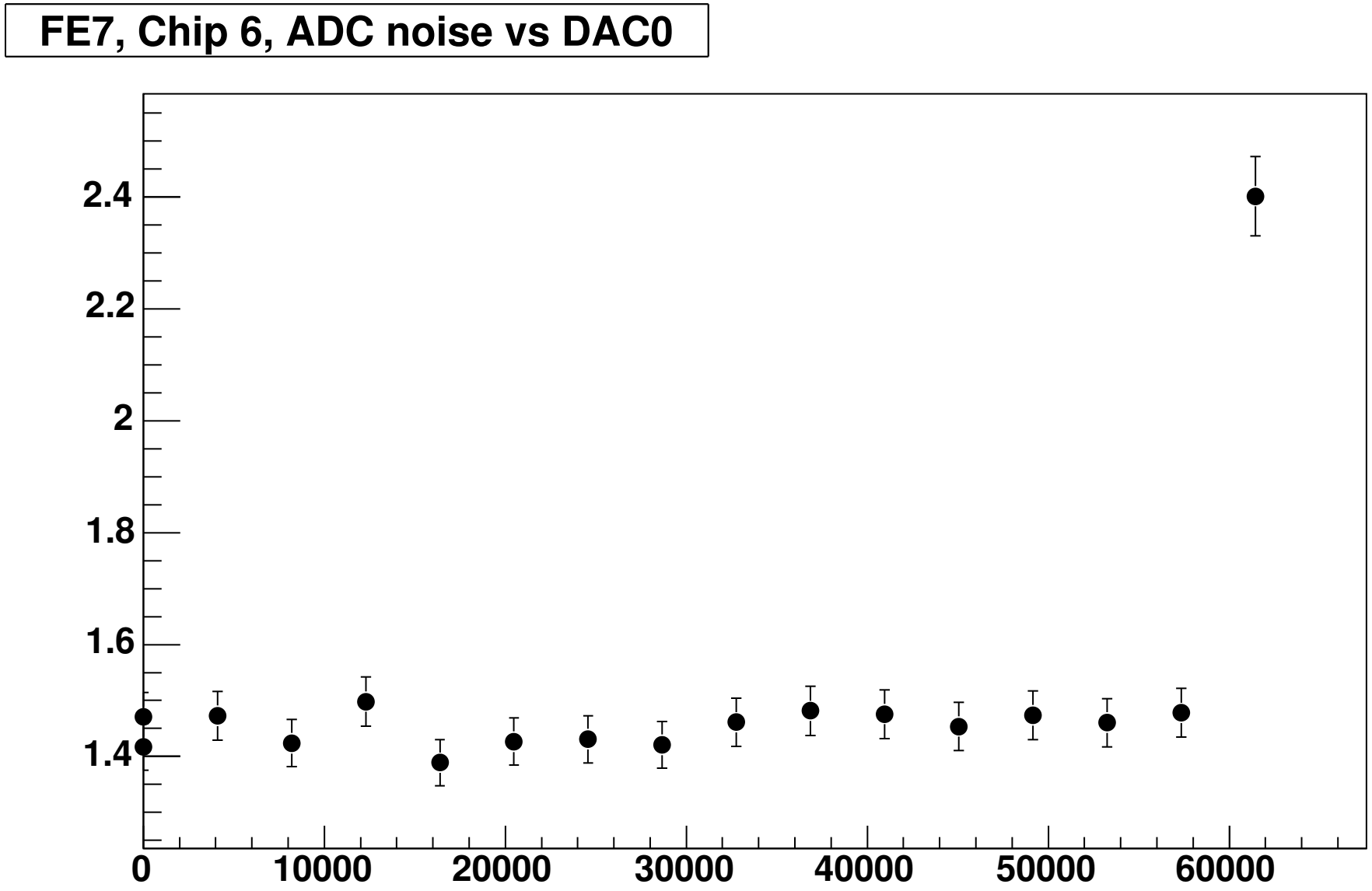

FE7, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

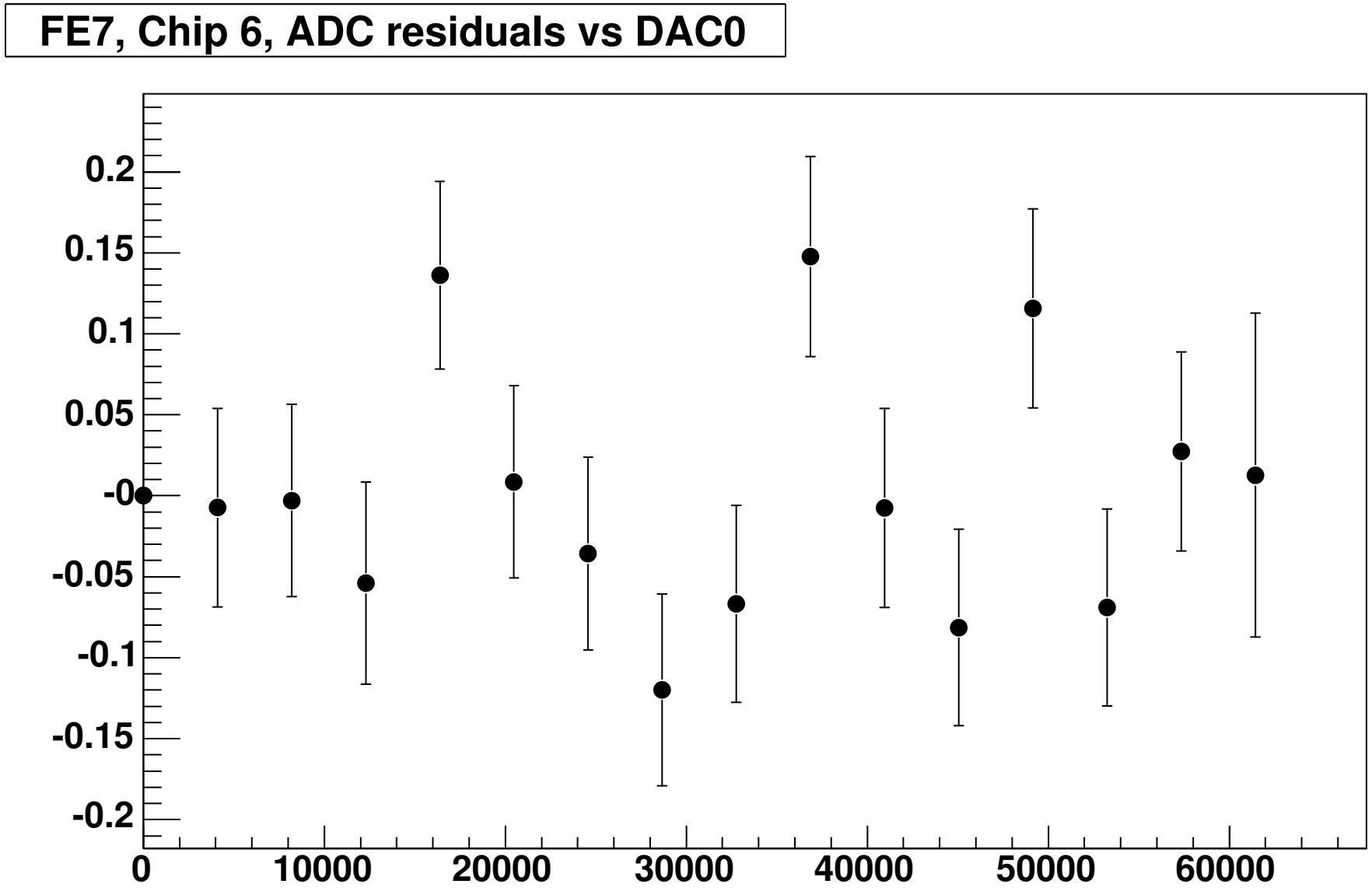

FE7, Chip 5, ADC mean vs DAC1
χ^2 / ndf 18.37 / 11
p0 71.72 ± 0.03898
p1 6.871e-07 ± 1.079e-06
71.95
71.9
71.85
71.8
71.75
71.7
71.65
71.6
71.55
71.5
0
10000
20000
30000
40000
50000
60000

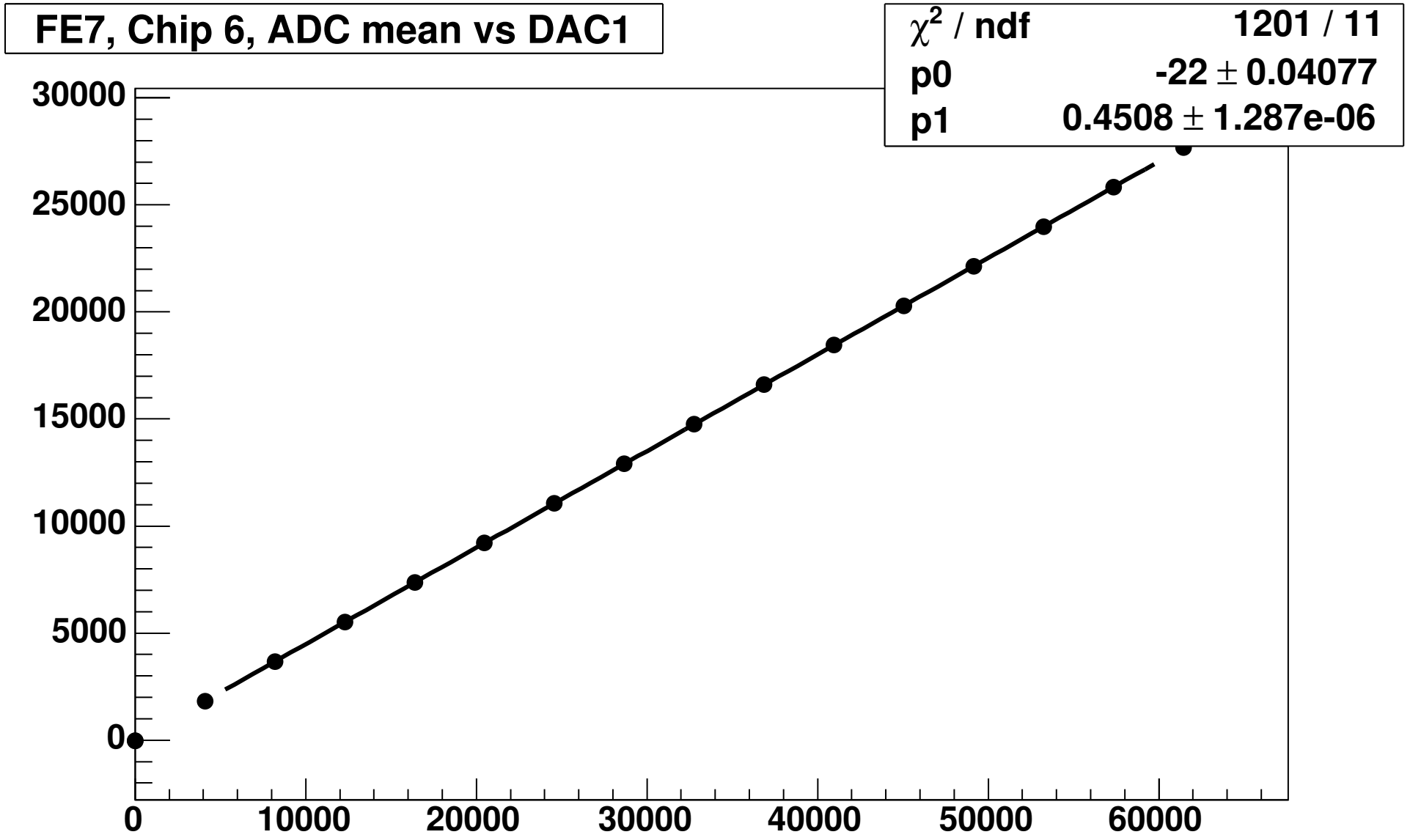

FE7, Chip 5, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
1.3
1.25
0
10000
20000
30000
40000
50000
60000


FE7, Chip 5, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

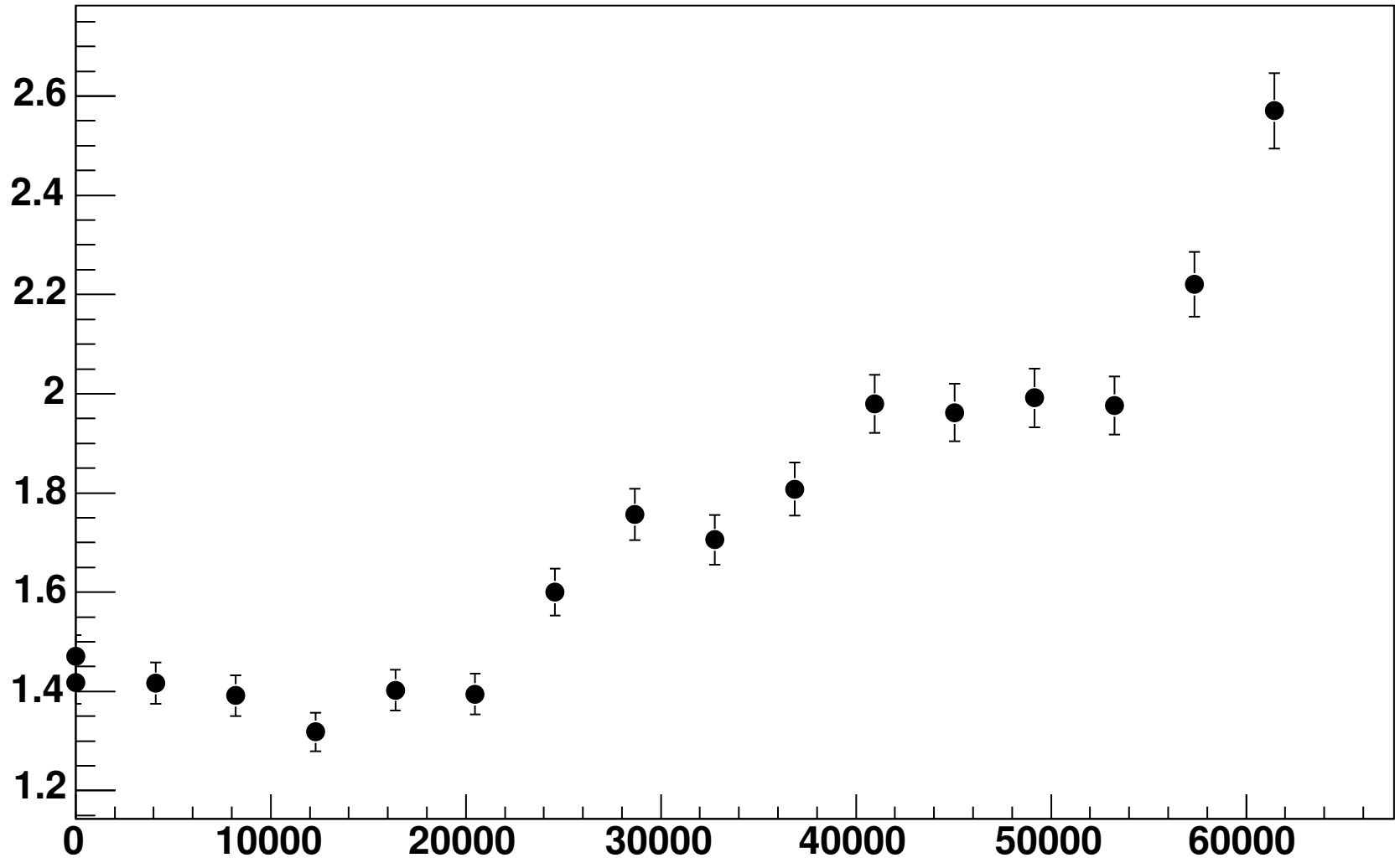

FE7, Chip 6, ADC mean vs DAC0
χ² / ndf 24.54 / 11
p0 -19.91 ± 0.03932
p1 1.958e-07 ± 1.096e-06
-19.7
-19.75
-19.8
-19.85
-19.9
-19.95
-20
-20.05
-20.1
0
10000
20000
30000
40000
50000
60000


FE7, Chip 6, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

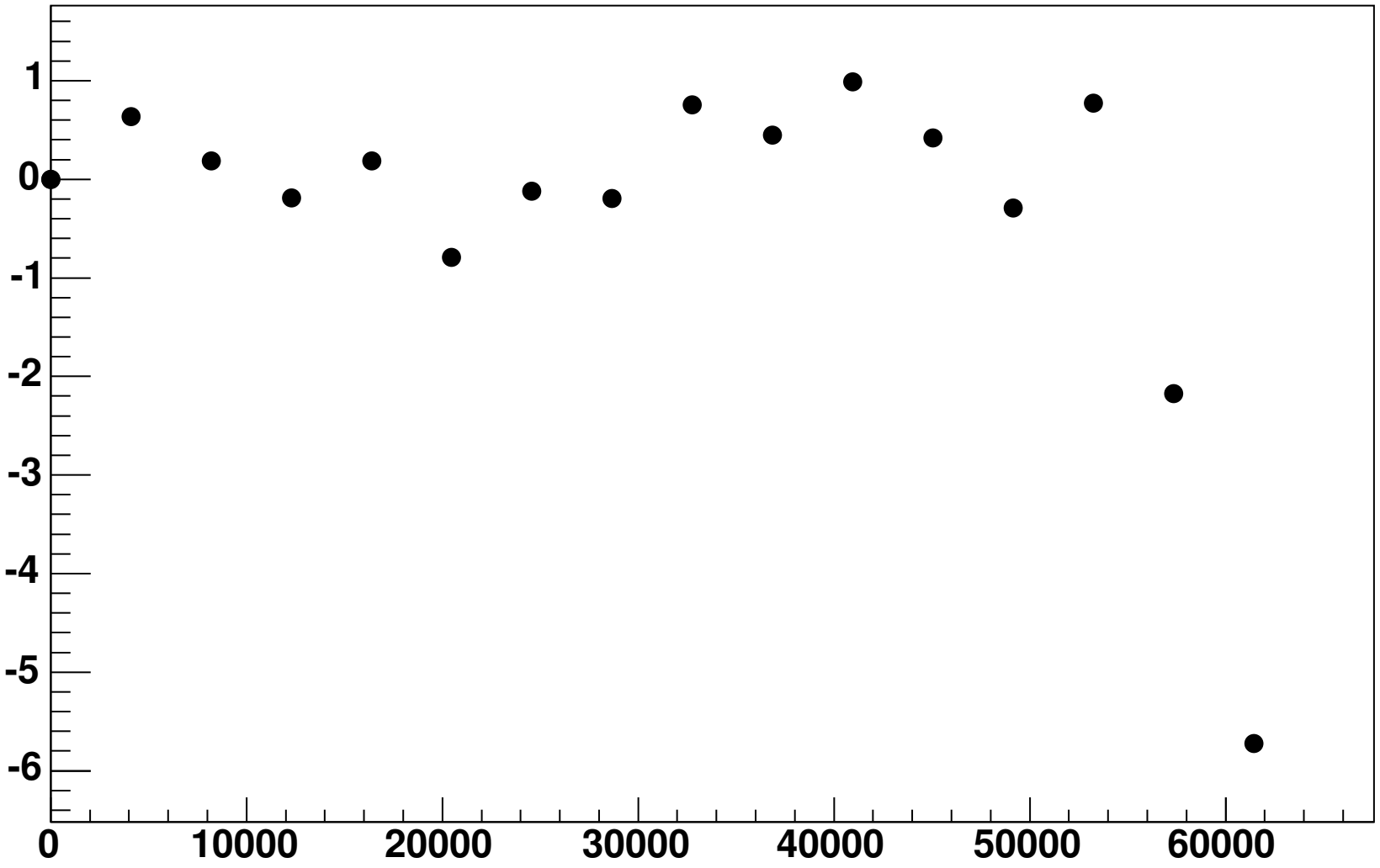

FE7, Chip 6, ADC residuals vs DAC0
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

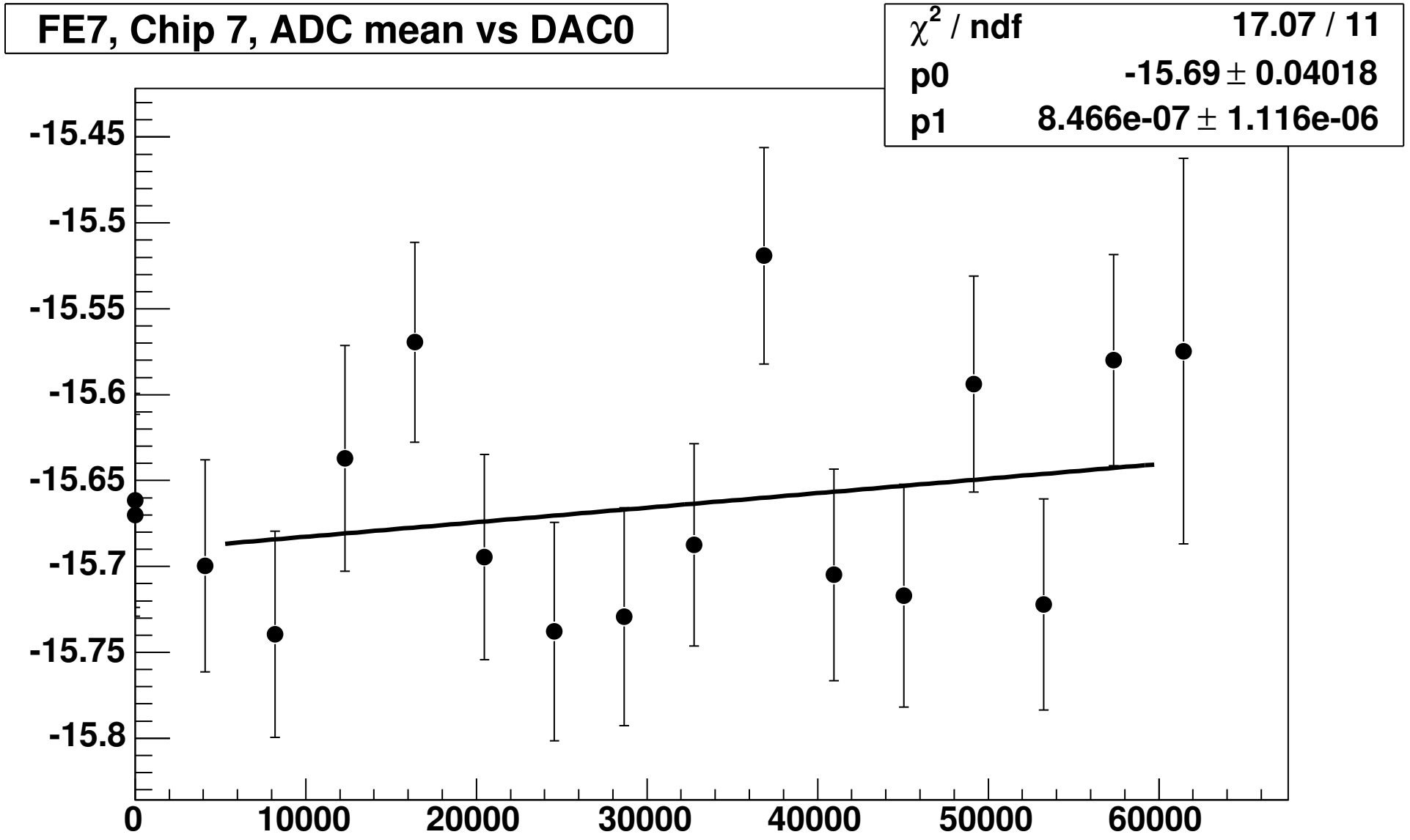

FE7, Chip 6, ADC mean vs DAC1
χ² / ndf 1201 / 11
p0 -22 ± 0.04077
p1 0.4508 ± 1.287e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

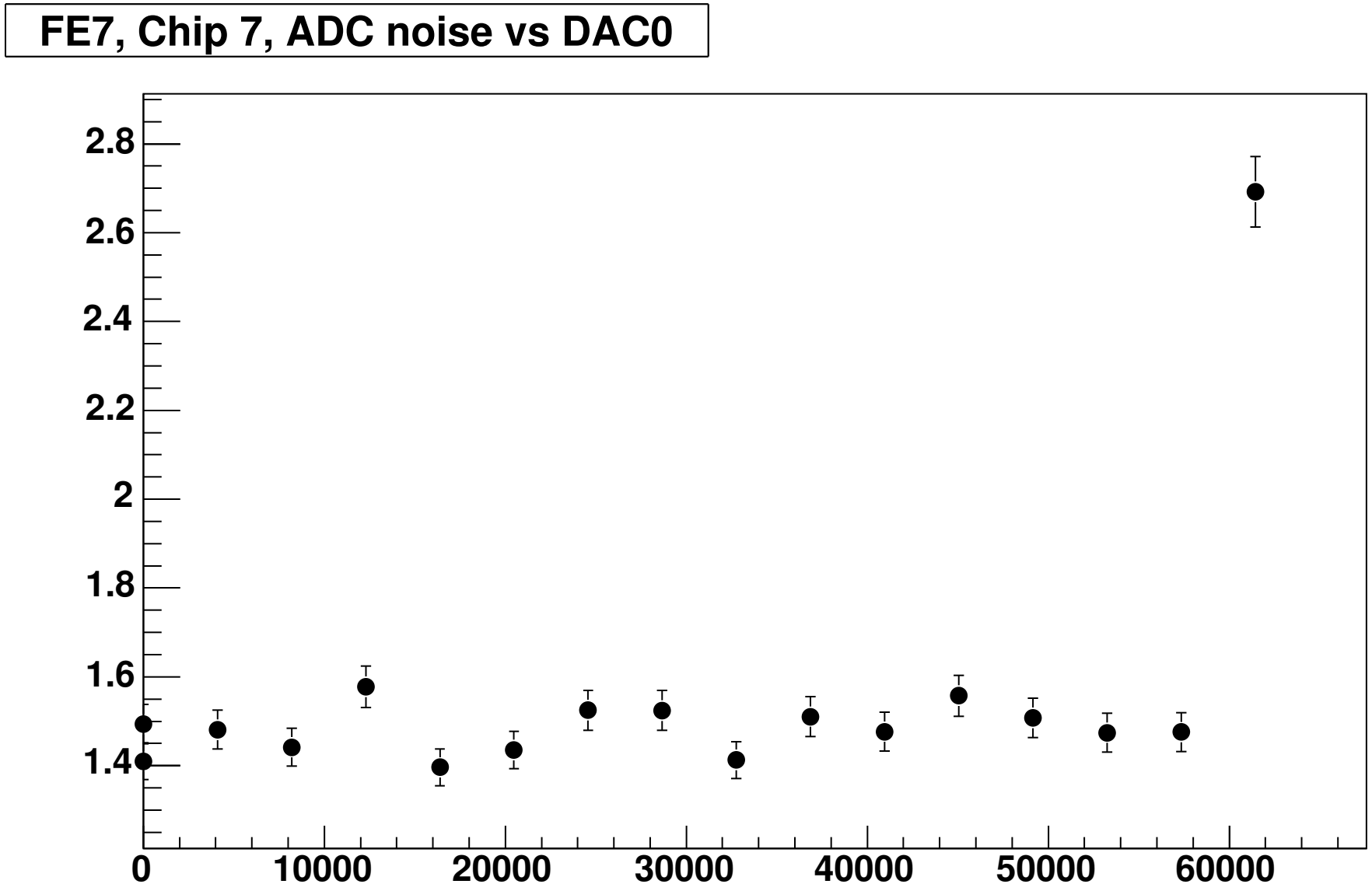
FE7, Chip 6, ADC noise vs DAC1

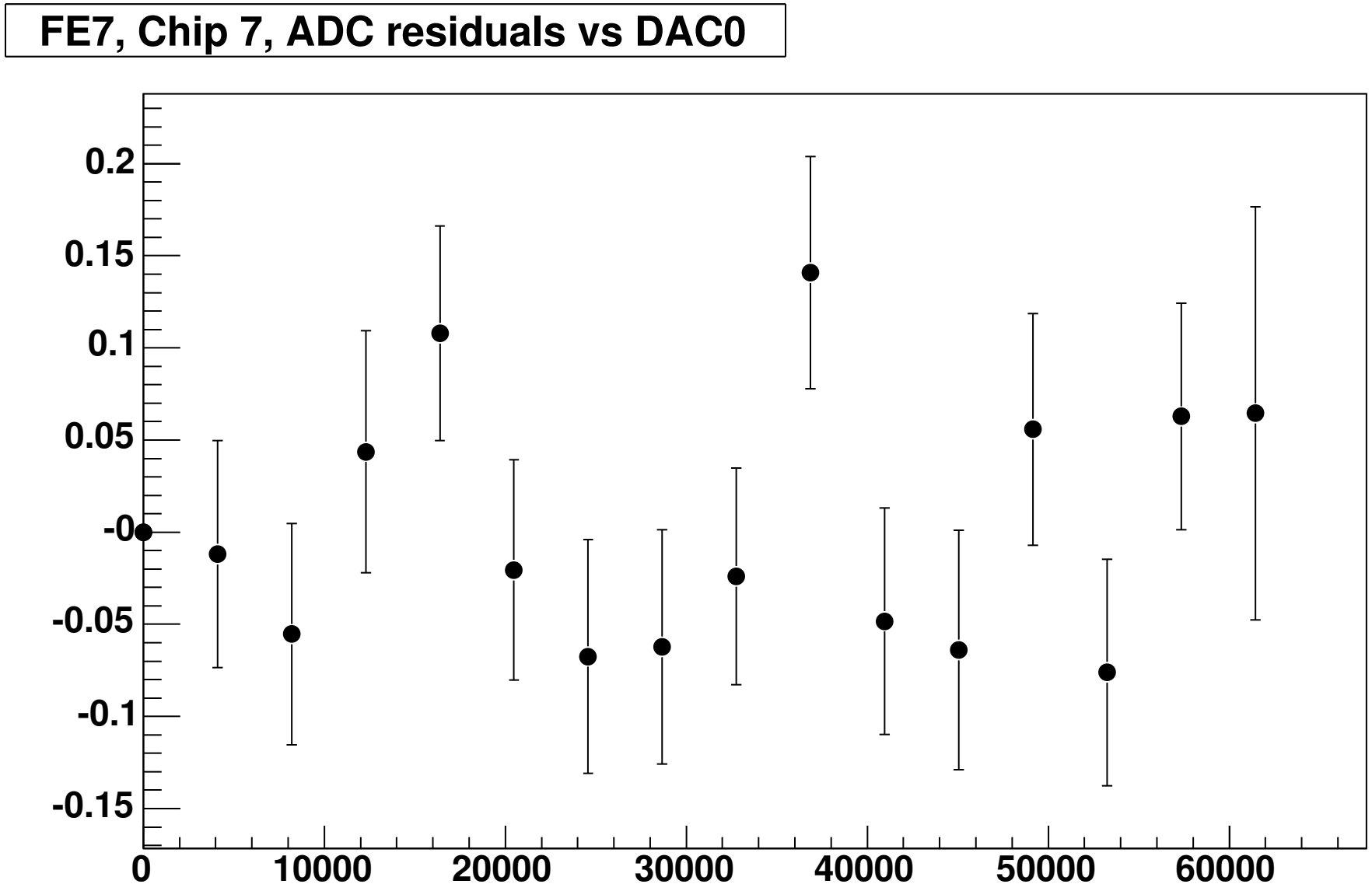


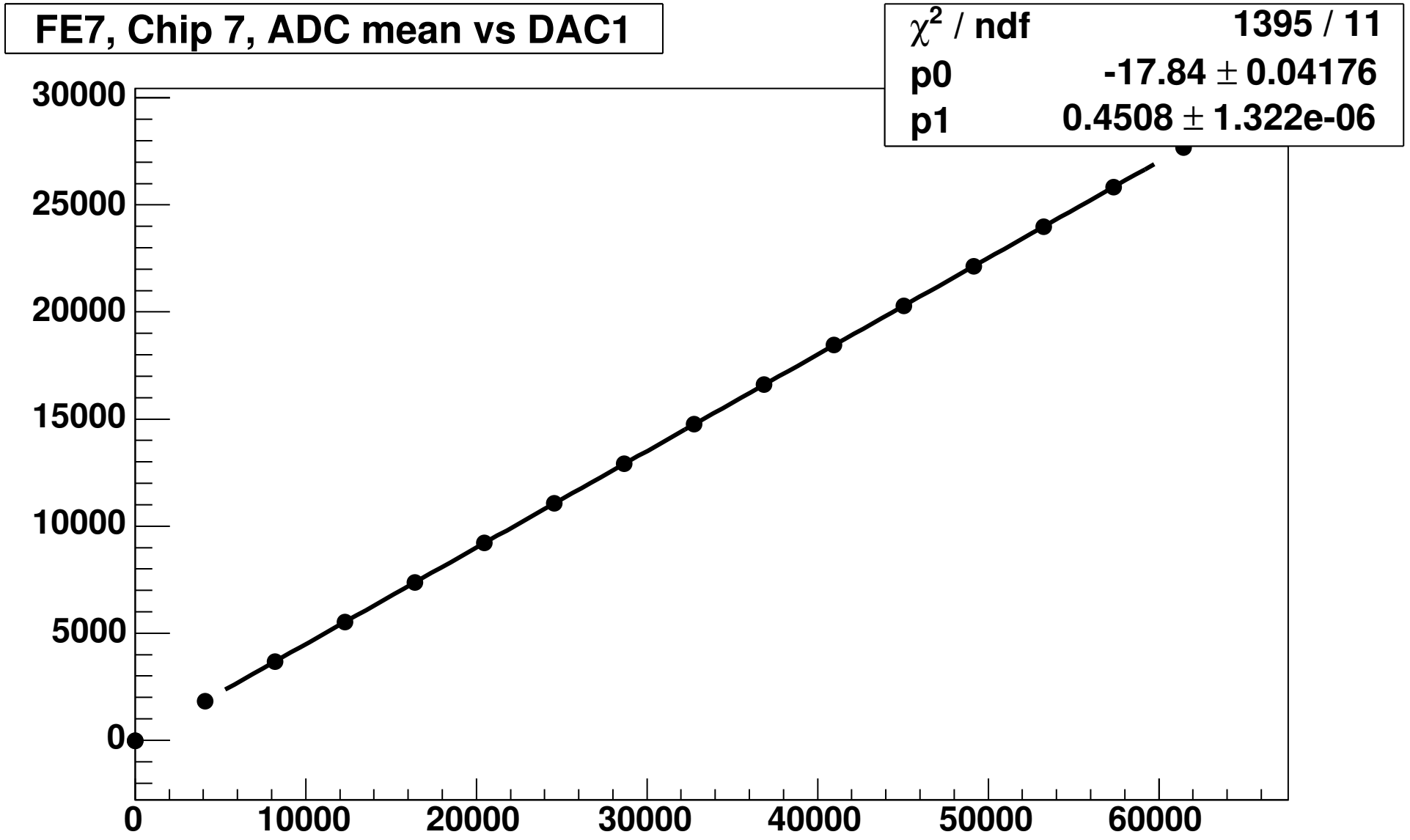
FE7, Chip 6, ADC residuals vs DAC1

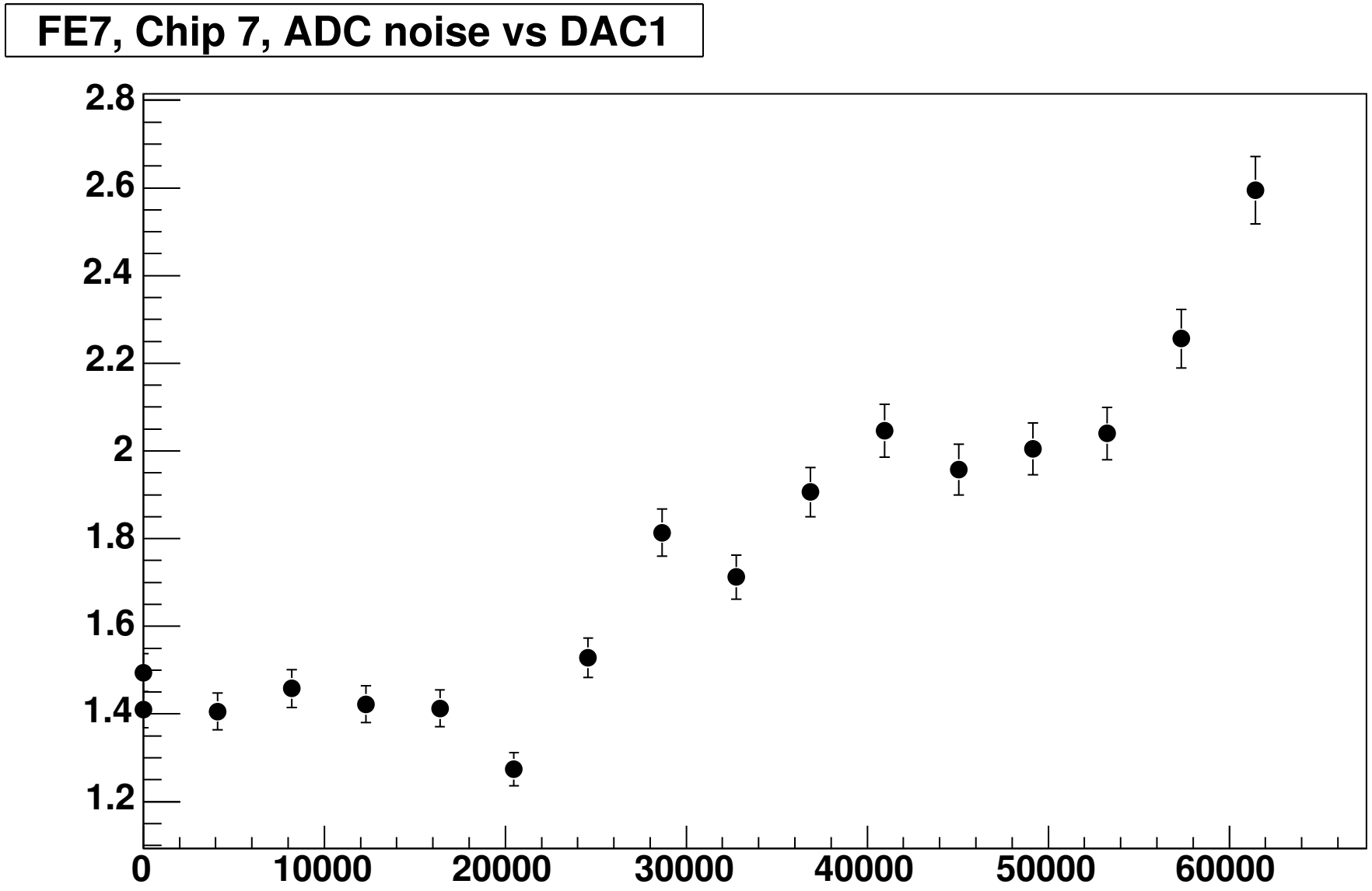


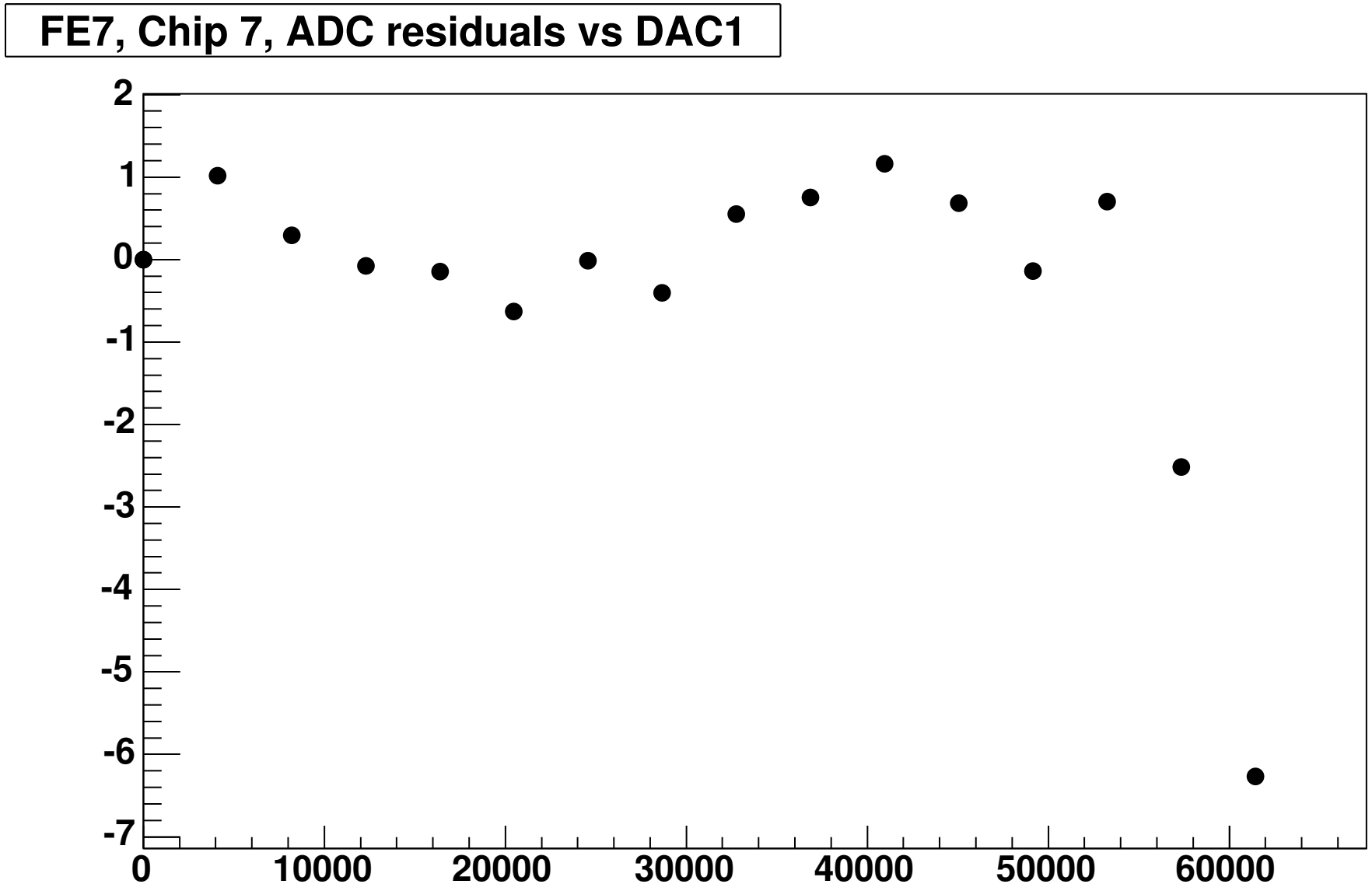

FE7, Chip 7, ADC mean vs DAC0
χ² / ndf 17.07 / 11
p0 -15.69 ± 0.04018
p1 8.466e-07 ± 1.116e-06
-15.45
-15.5
-15.55
-15.6
-15.65
-15.7
-15.75
-15.8
0
10000
20000
30000
40000
50000
60000

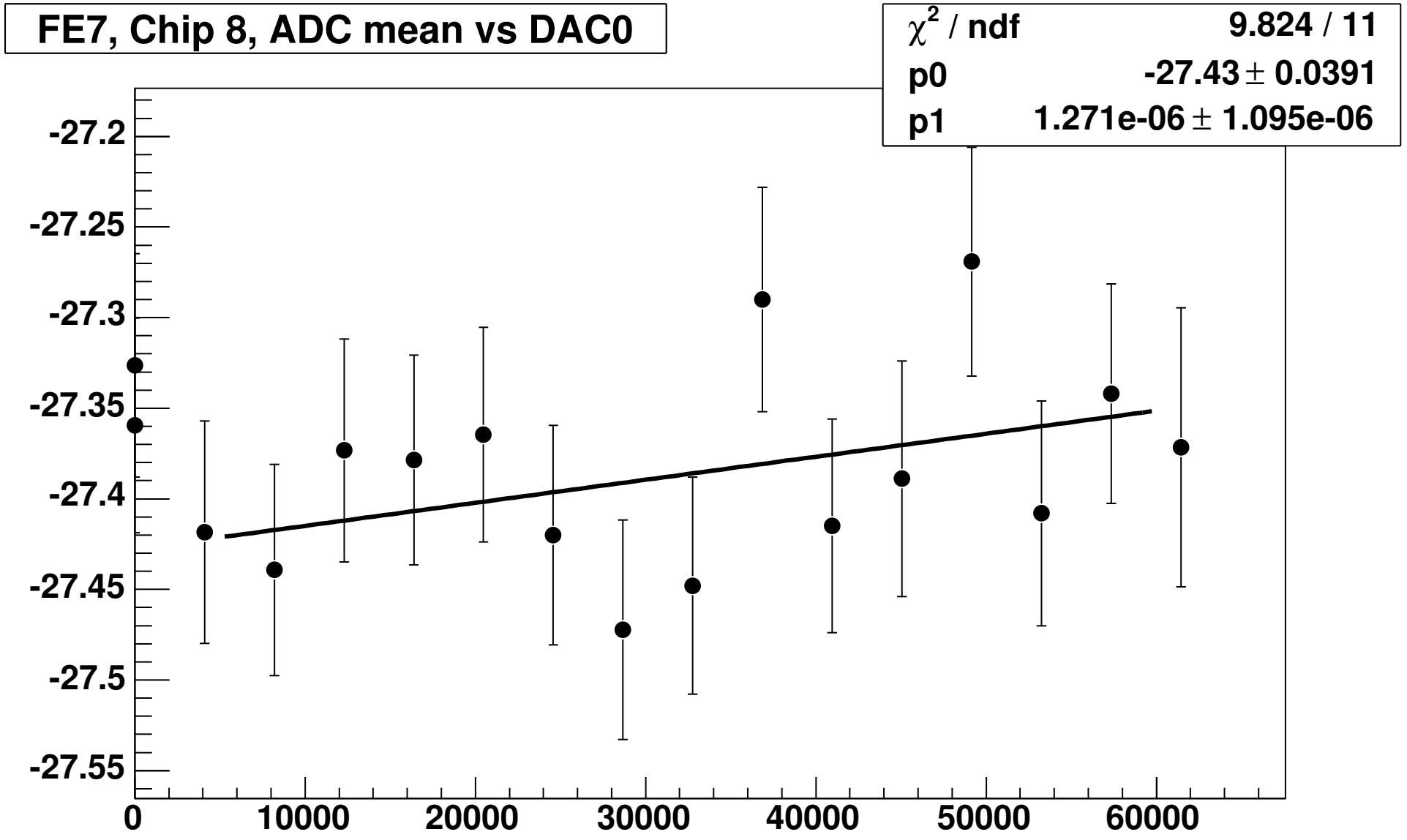

FE7, Chip 7, ADC noise vs DAC0
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

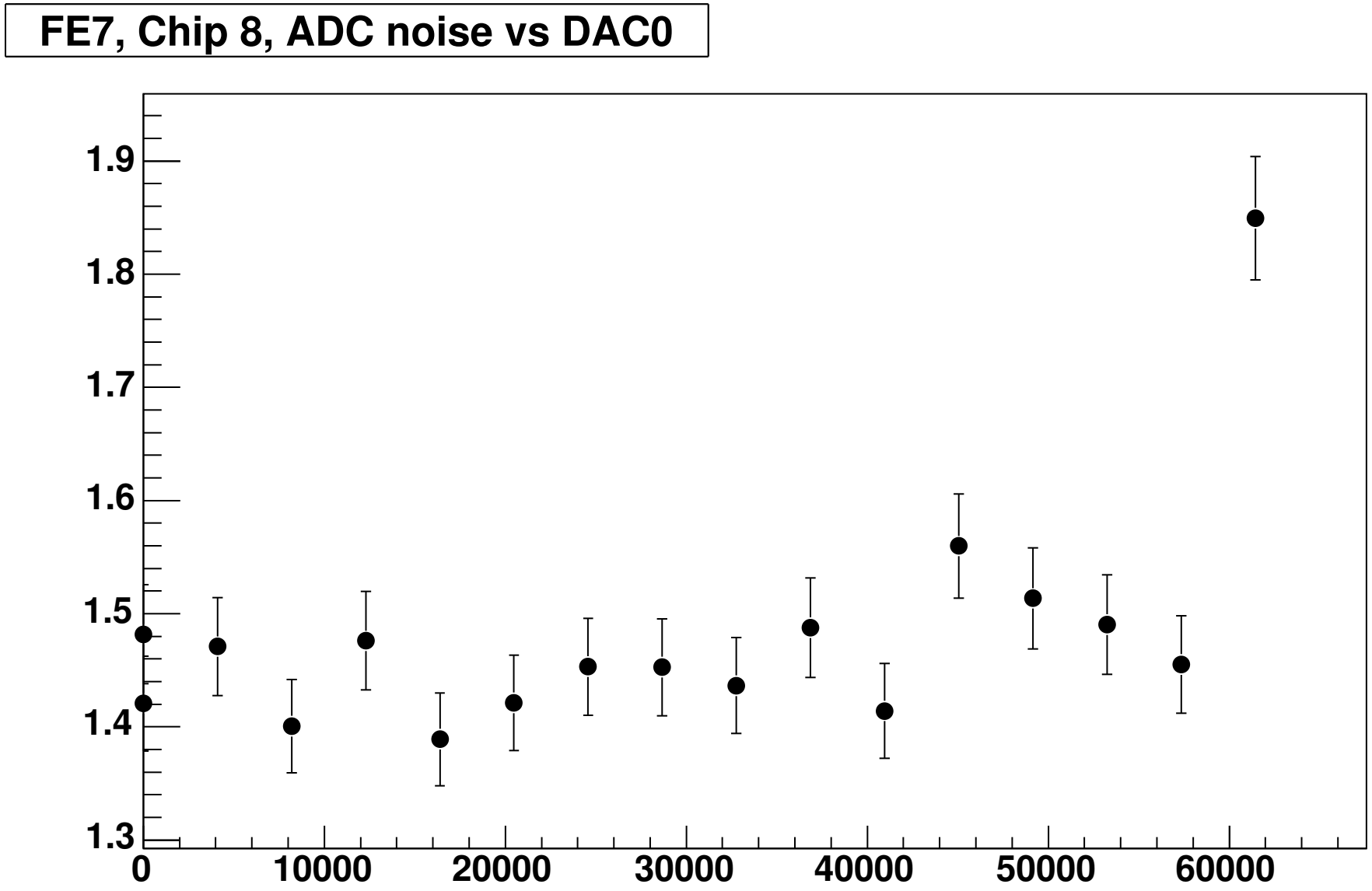

FE7, Chip 7, ADC residuals vs DAC0
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

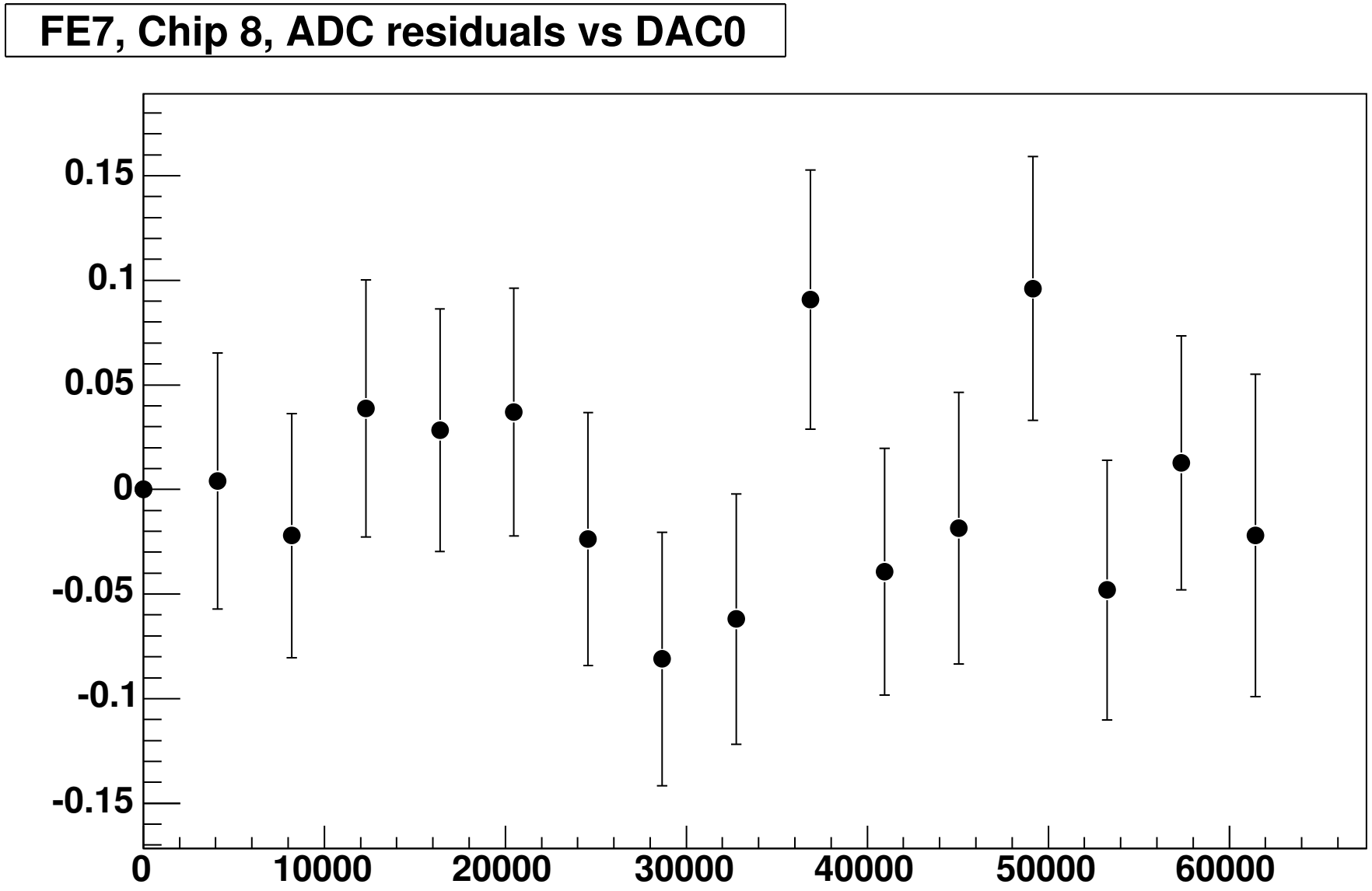

FE7, Chip 7, ADC mean vs DAC1
χ² / ndf 1395 / 11
p0 -17.84 ± 0.04176
p1 0.4508 ± 1.322e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

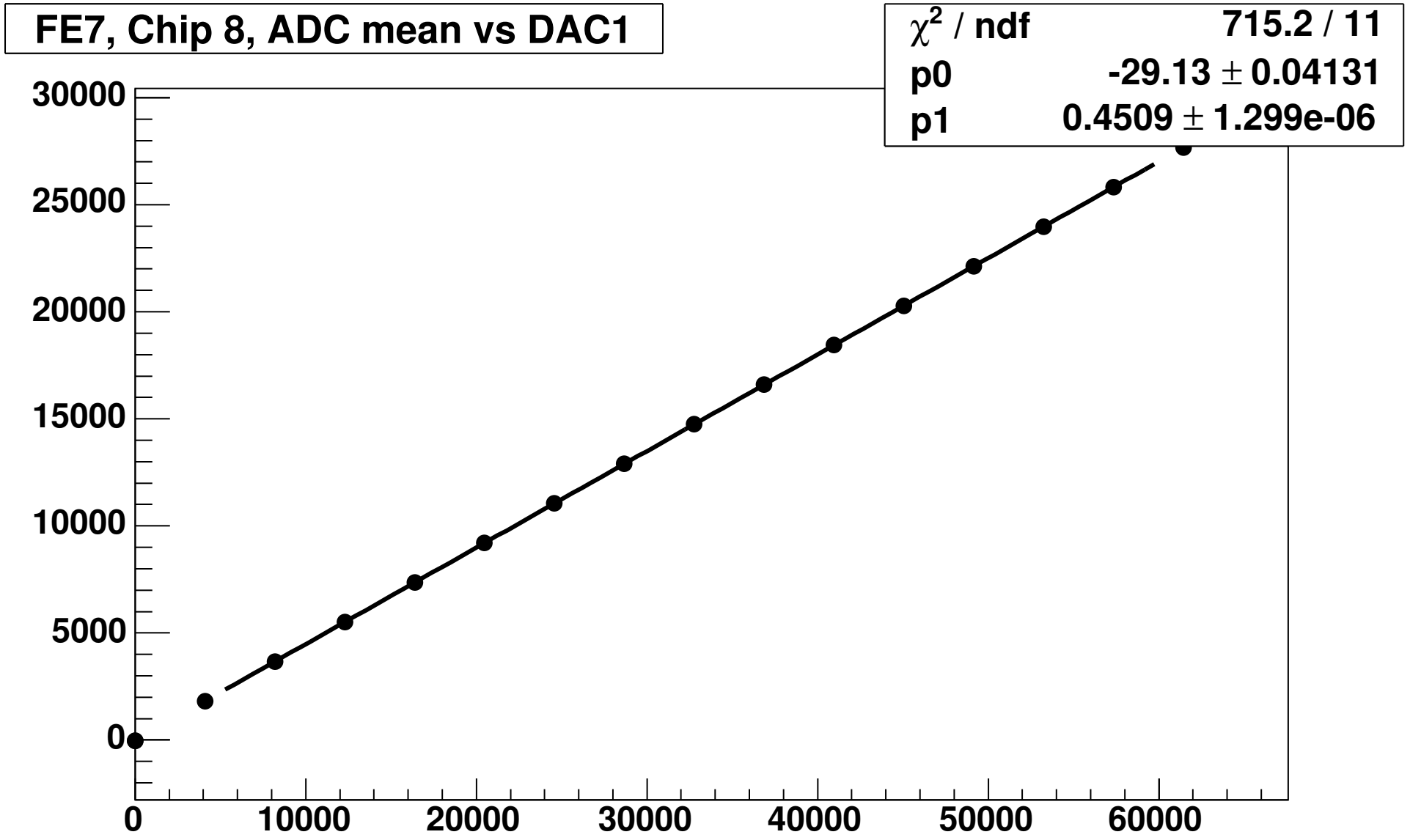

FE7, Chip 7, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

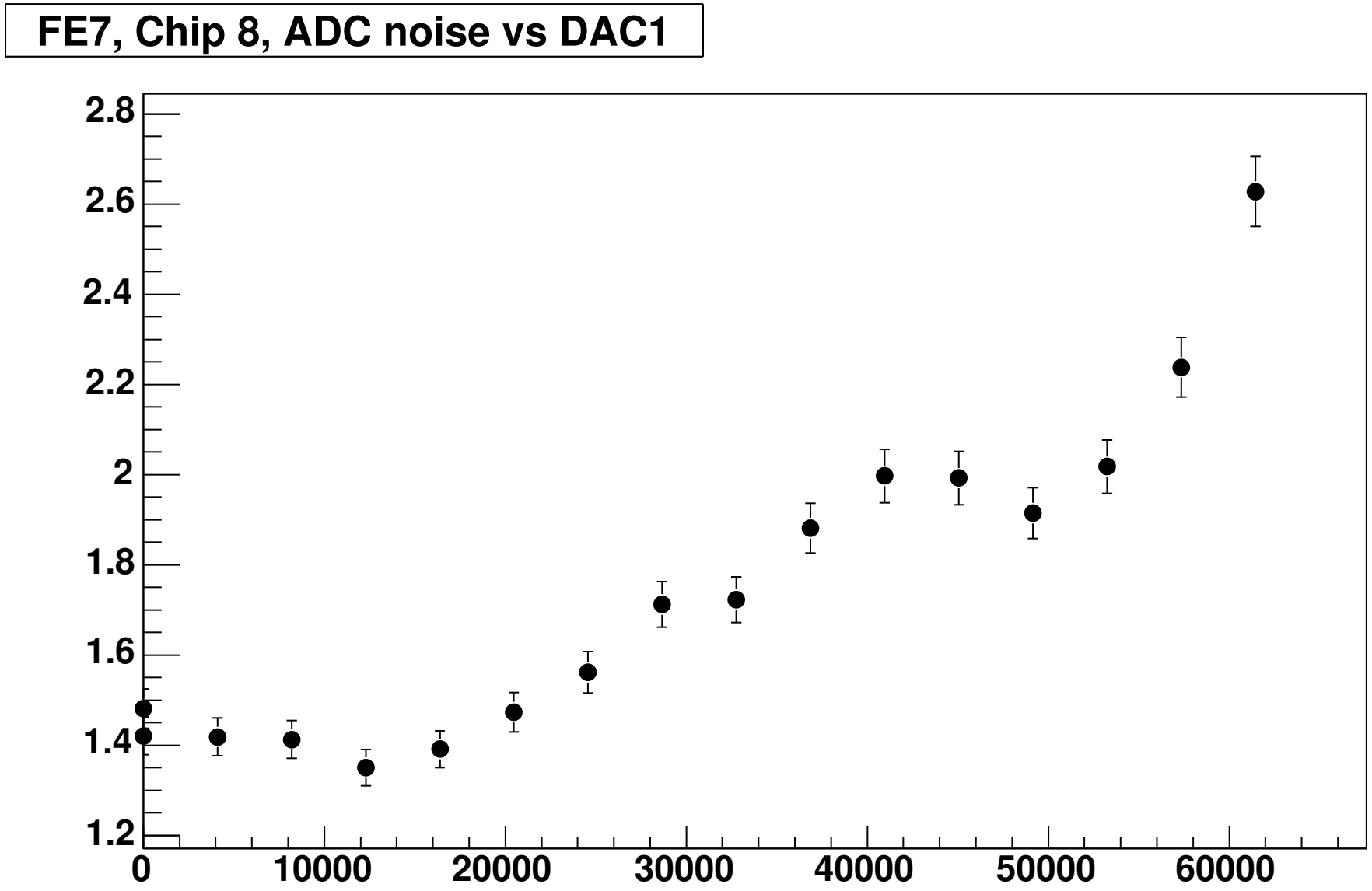

FE7, Chip 7, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
-7
0
10000
20000
30000
40000
50000
60000

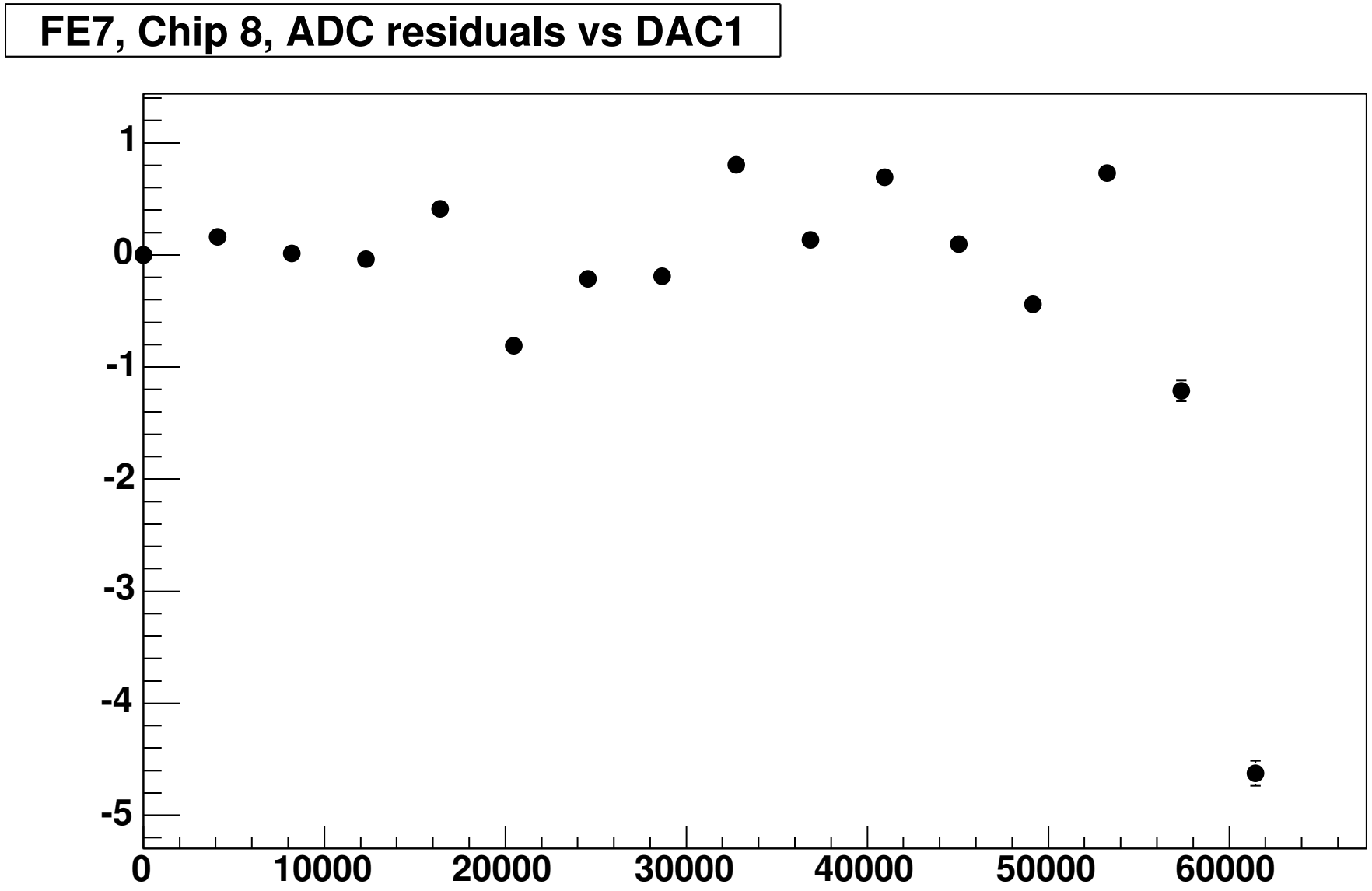

FE7, Chip 8, ADC mean vs DAC0
χ² / ndf 9.824 / 11
p0 -27.43 ± 0.0391
p1 1.271e-06 ± 1.095e-06
-27.2
-27.25
-27.3
-27.35
-27.4
-27.45
-27.5
-27.55
0
10000
20000
30000
40000
50000
60000

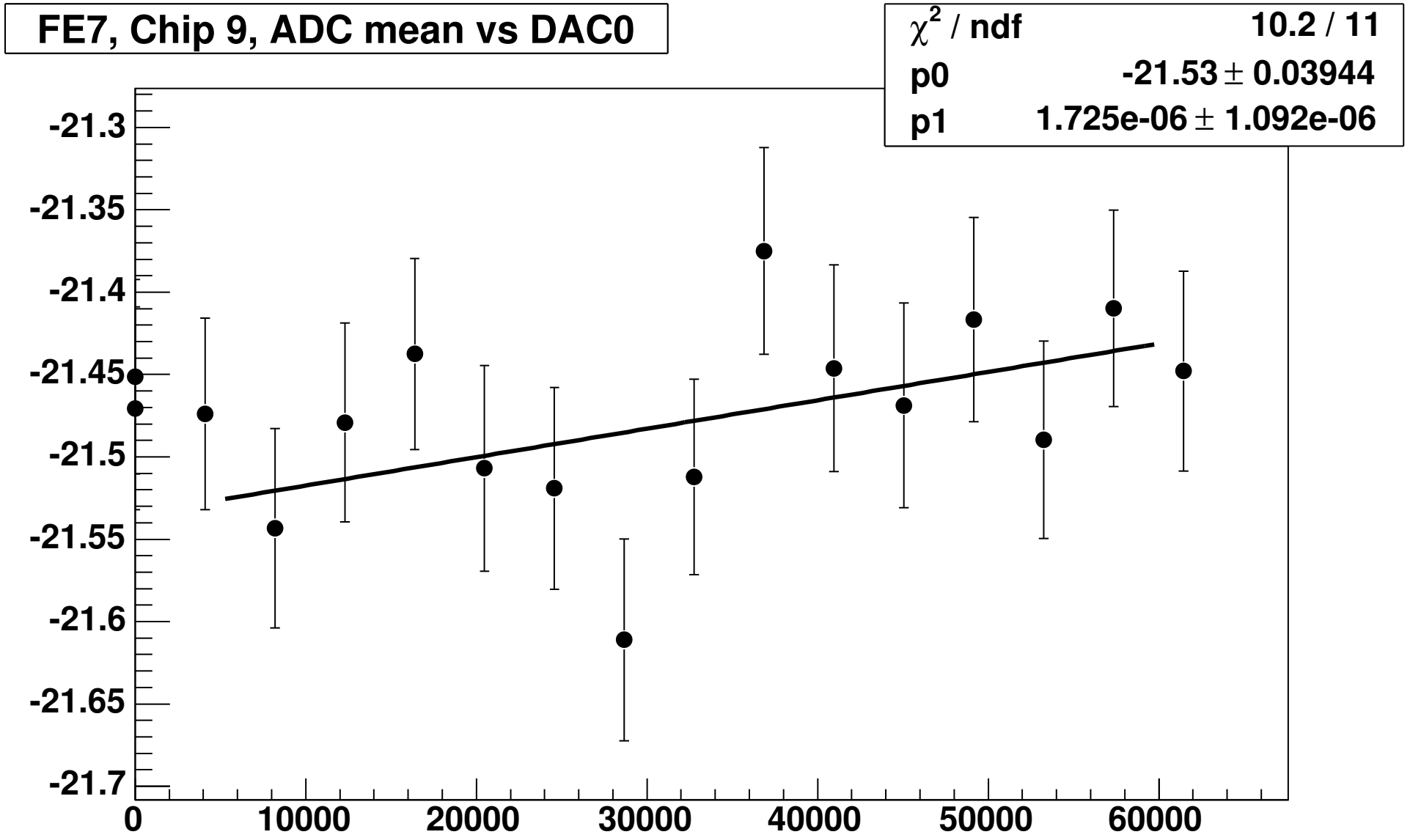

FE7, Chip 8, ADC noise vs DAC0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
0
10000
20000
30000
40000
50000
60000

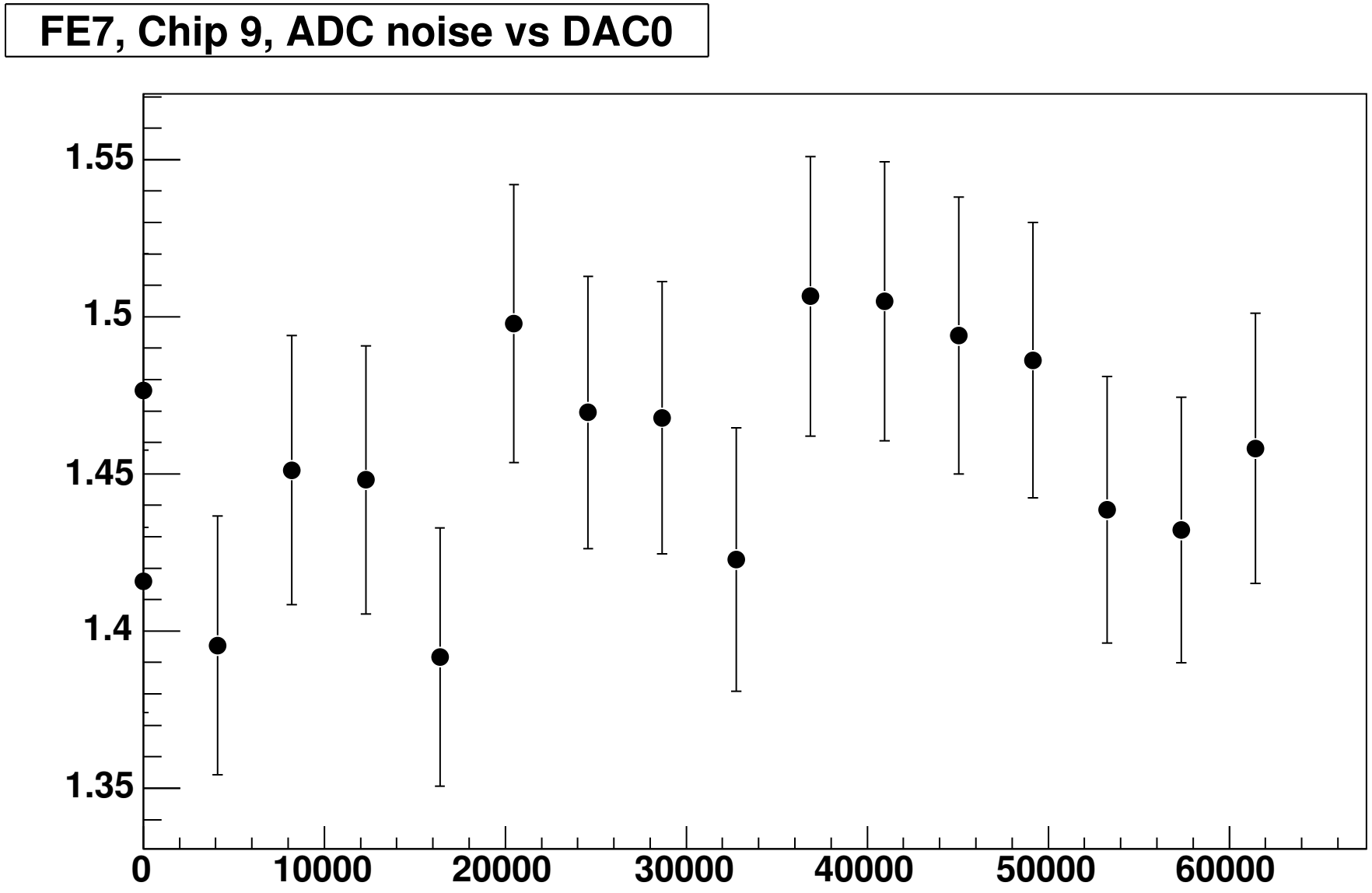

FE7, Chip 8, ADC residuals vs DAC0
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

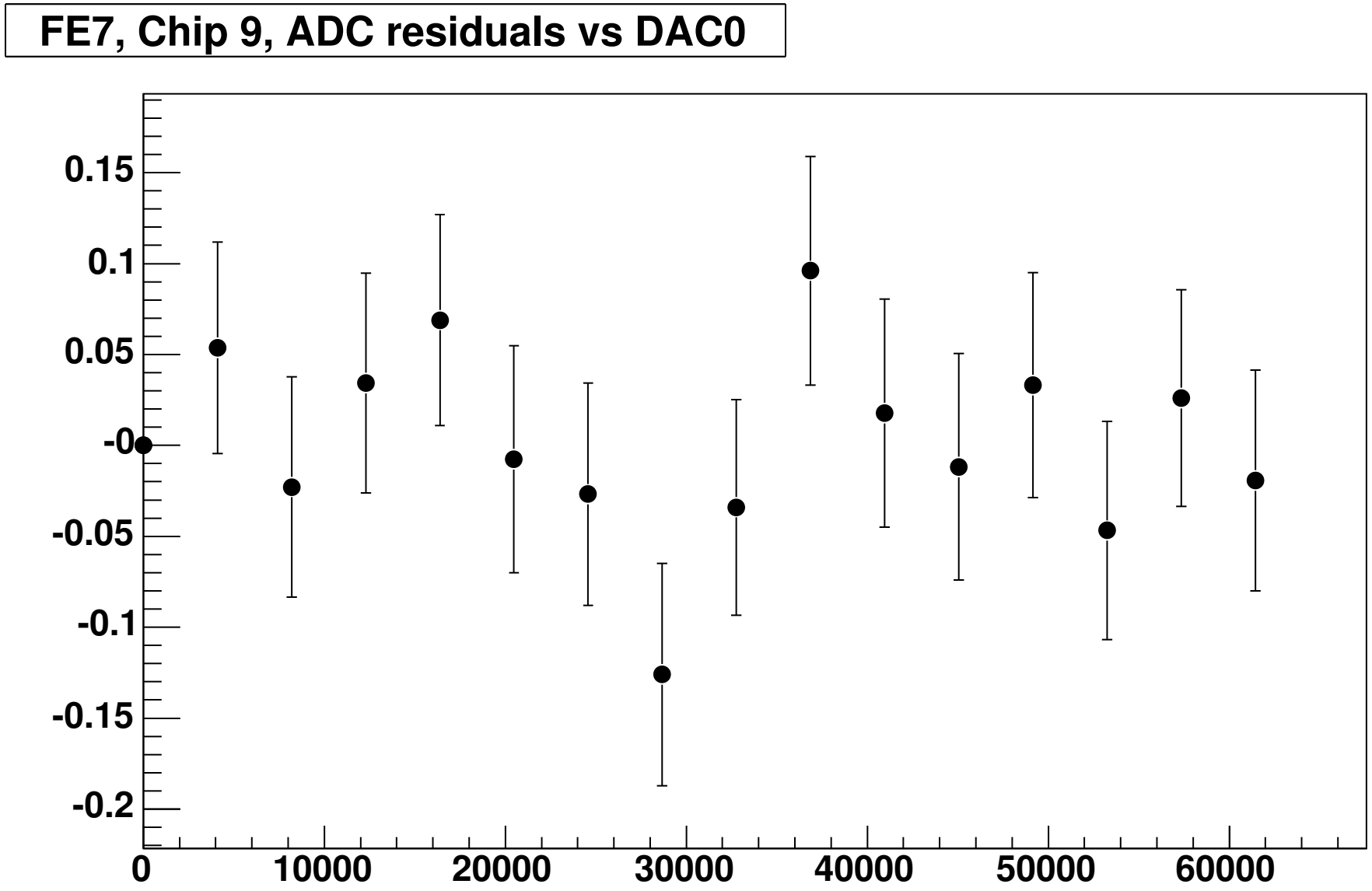

FE7, Chip 8, ADC mean vs DAC1
χ² / ndf 715.2 / 11
p0 -29.13 ± 0.04131
p1 0.4509 ± 1.299e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

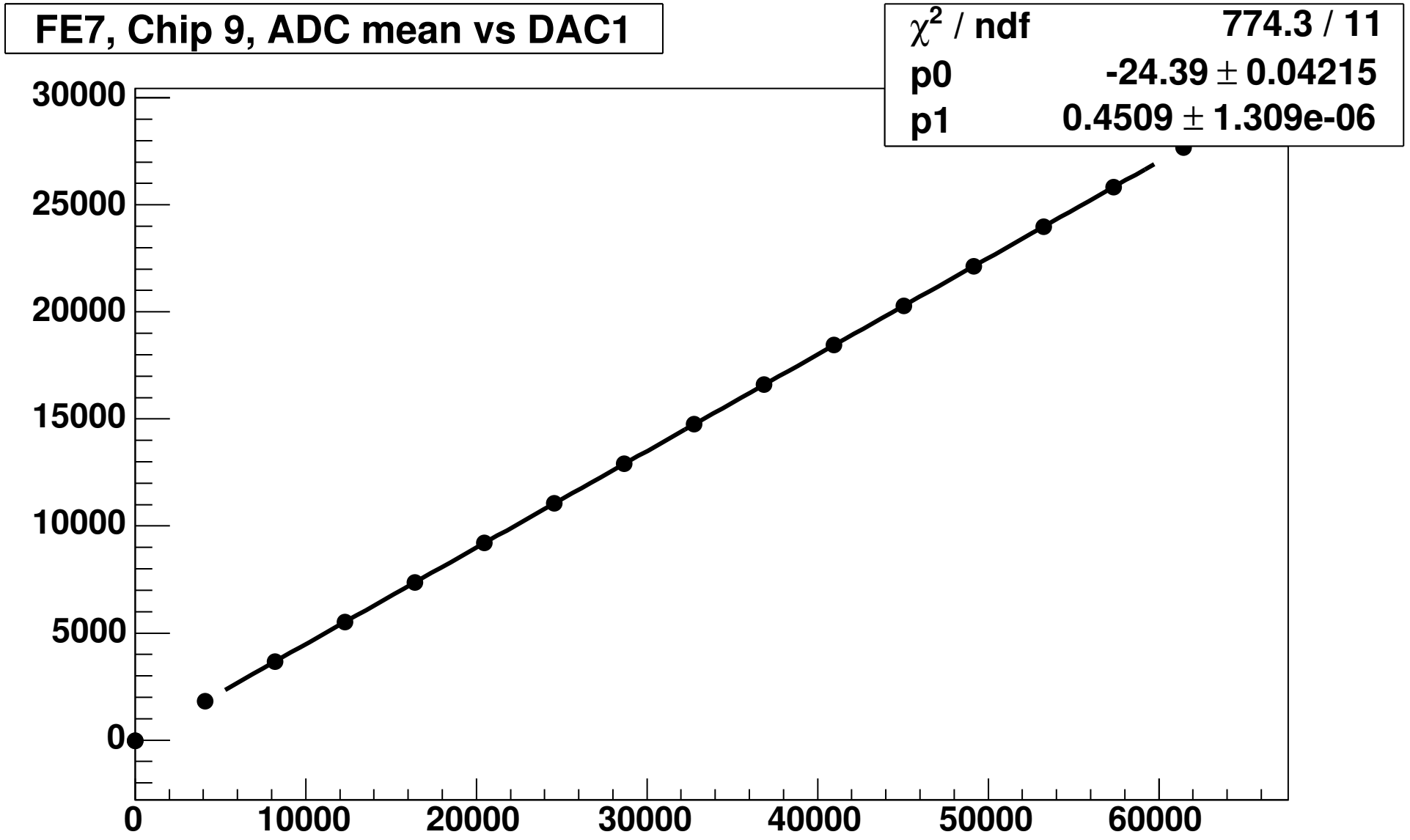

FE7, Chip 8, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

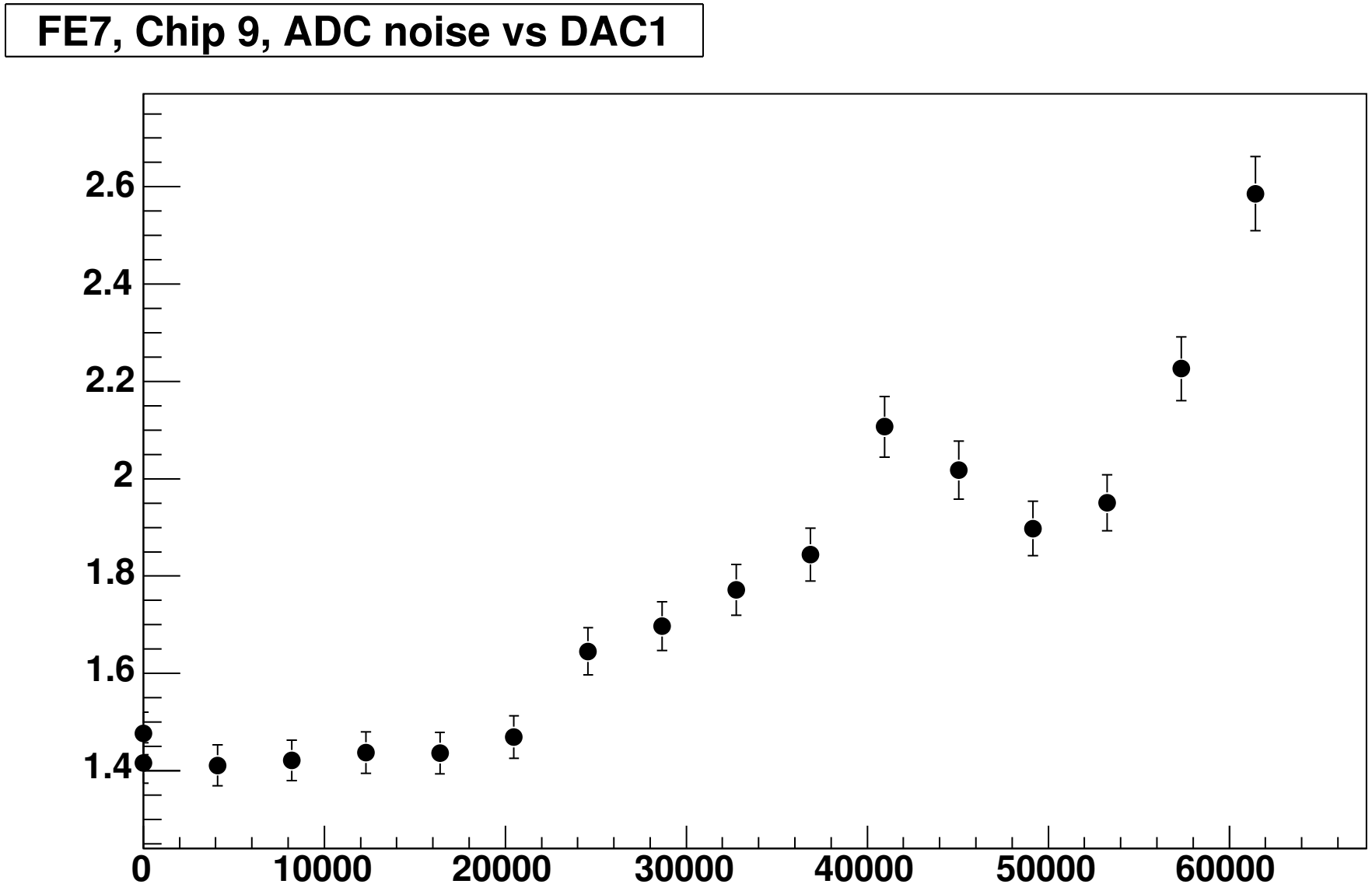

FE7, Chip 8, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

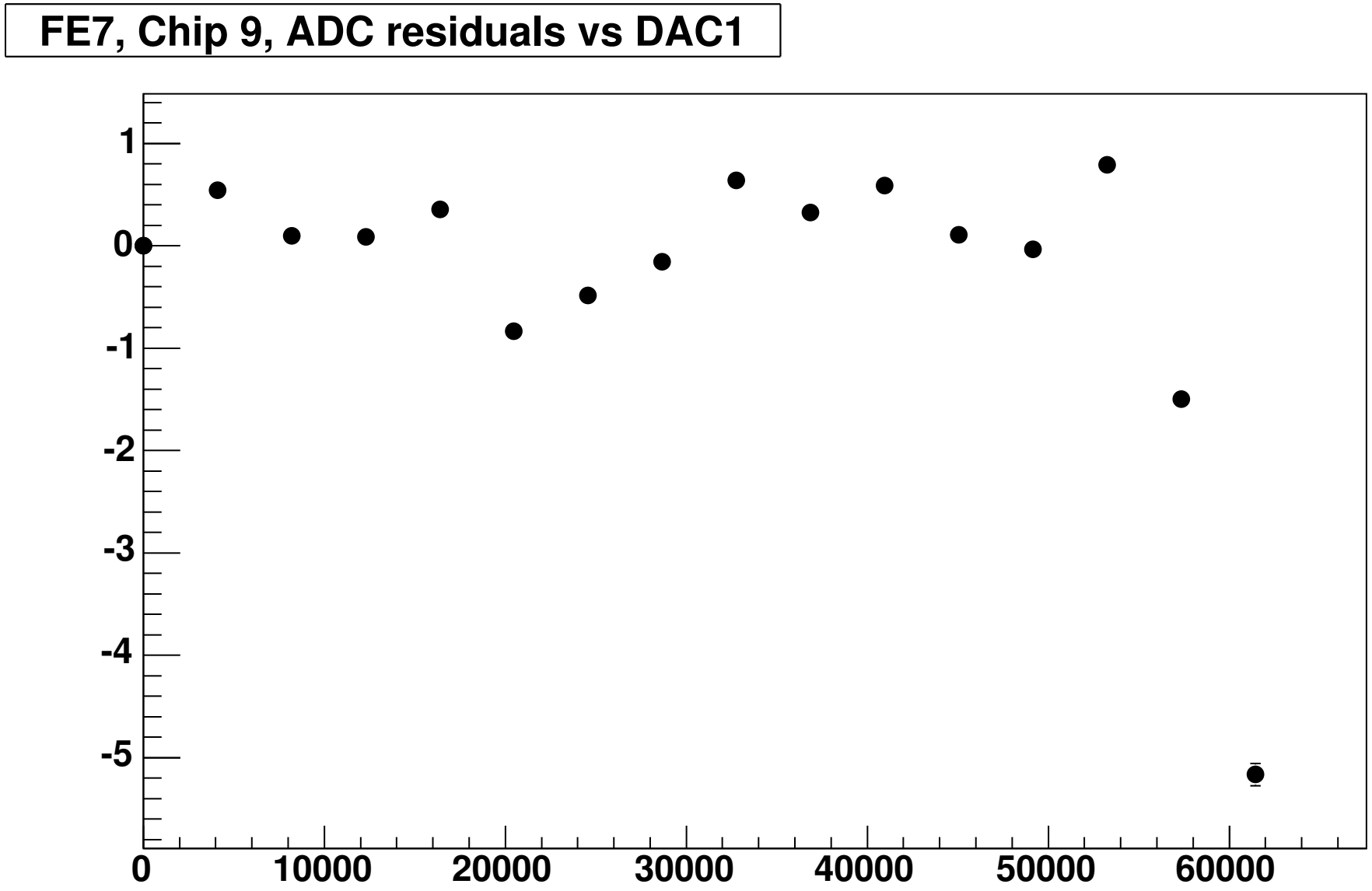

FE7, Chip 9, ADC mean vs DAC0
χ^2 / ndf 10.2 / 11
p0 -21.53 ± 0.03944
p1 1.725e-06 ± 1.092e-06
-21.3
-21.35
-21.4
-21.45
-21.5
-21.55
-21.6
-21.65
-21.7
0
10000
20000
30000
40000
50000
60000

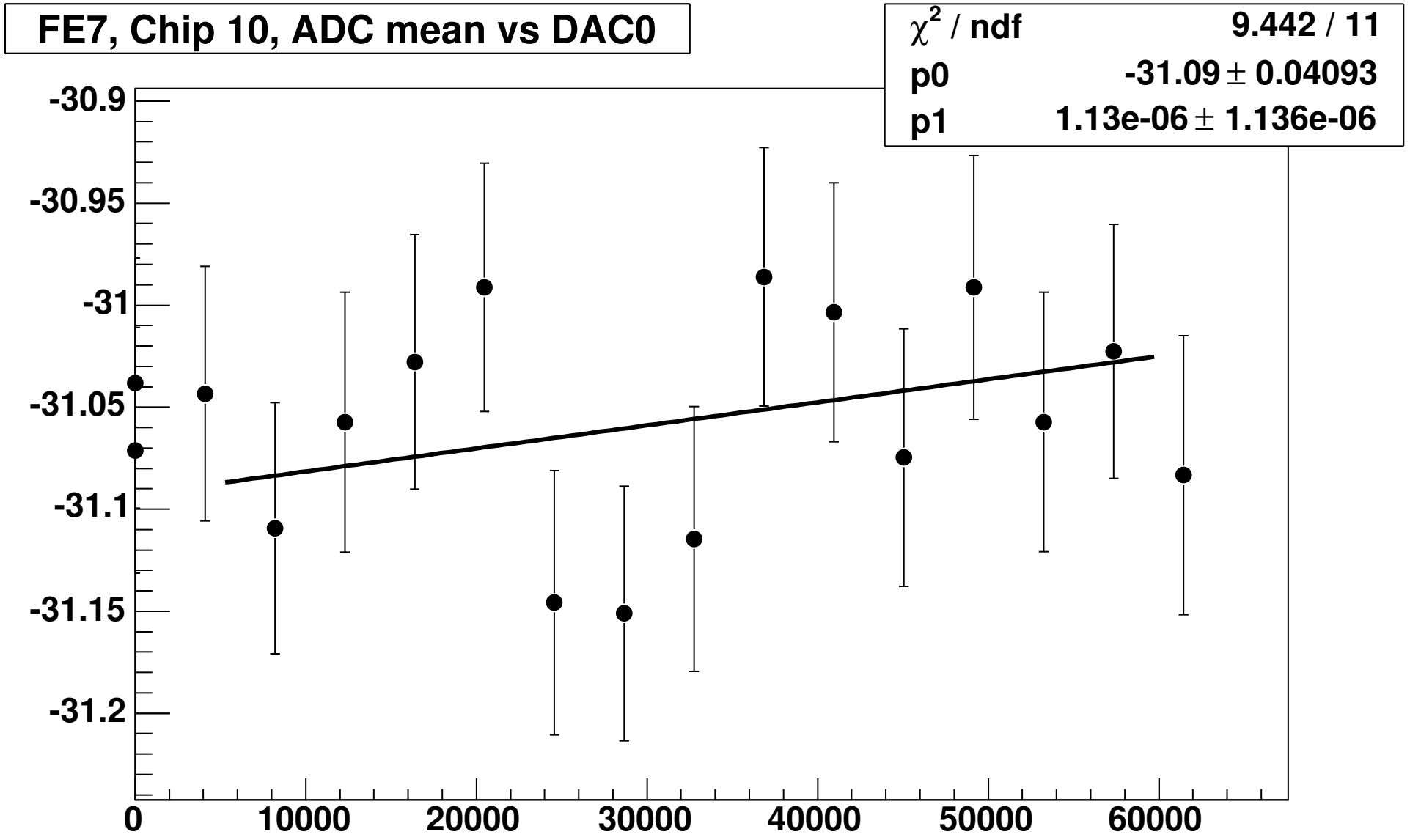

FE7, Chip 9, ADC noise vs DAC0
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

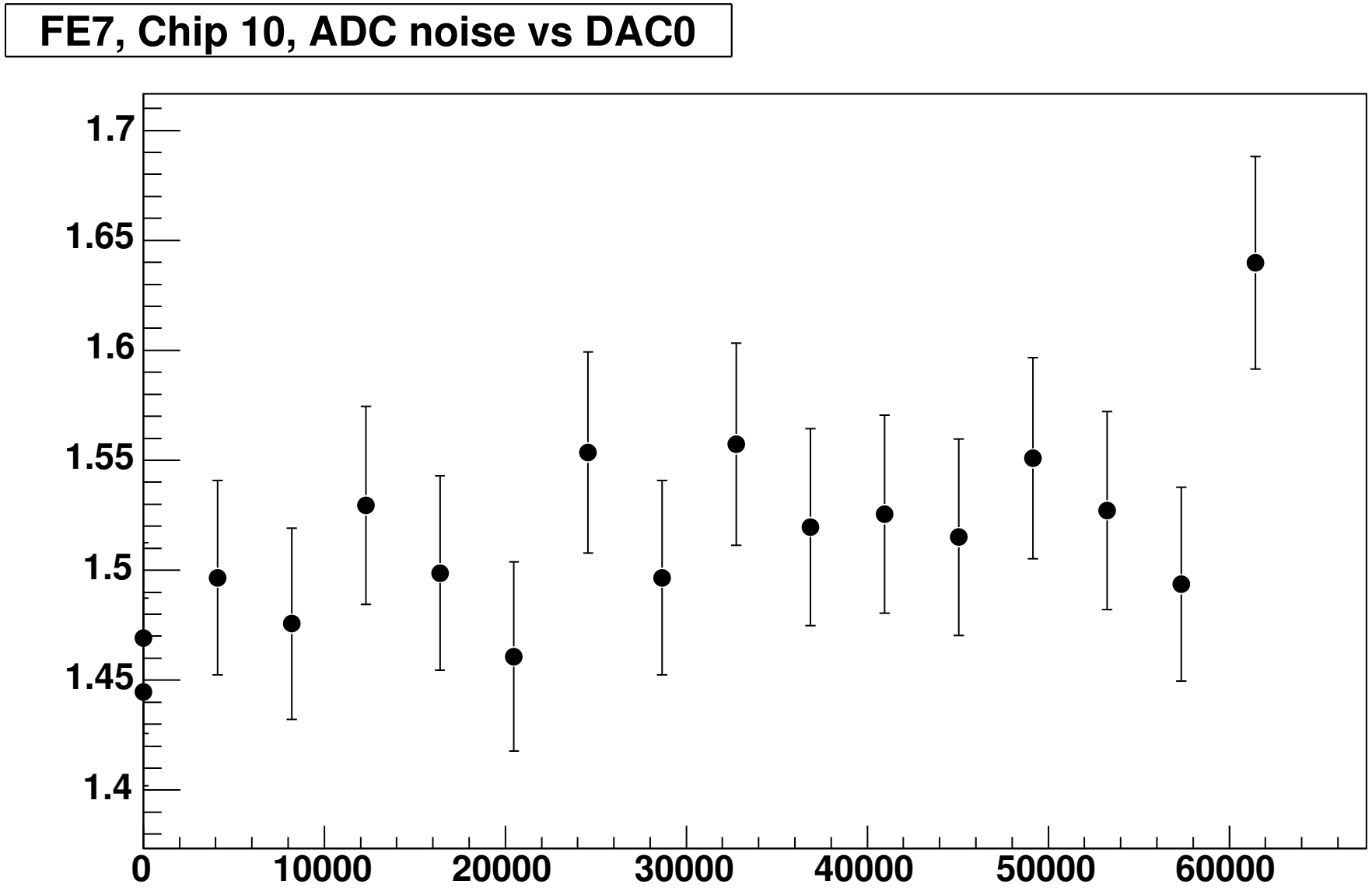

FE7, Chip 9, ADC residuals vs DAC0
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

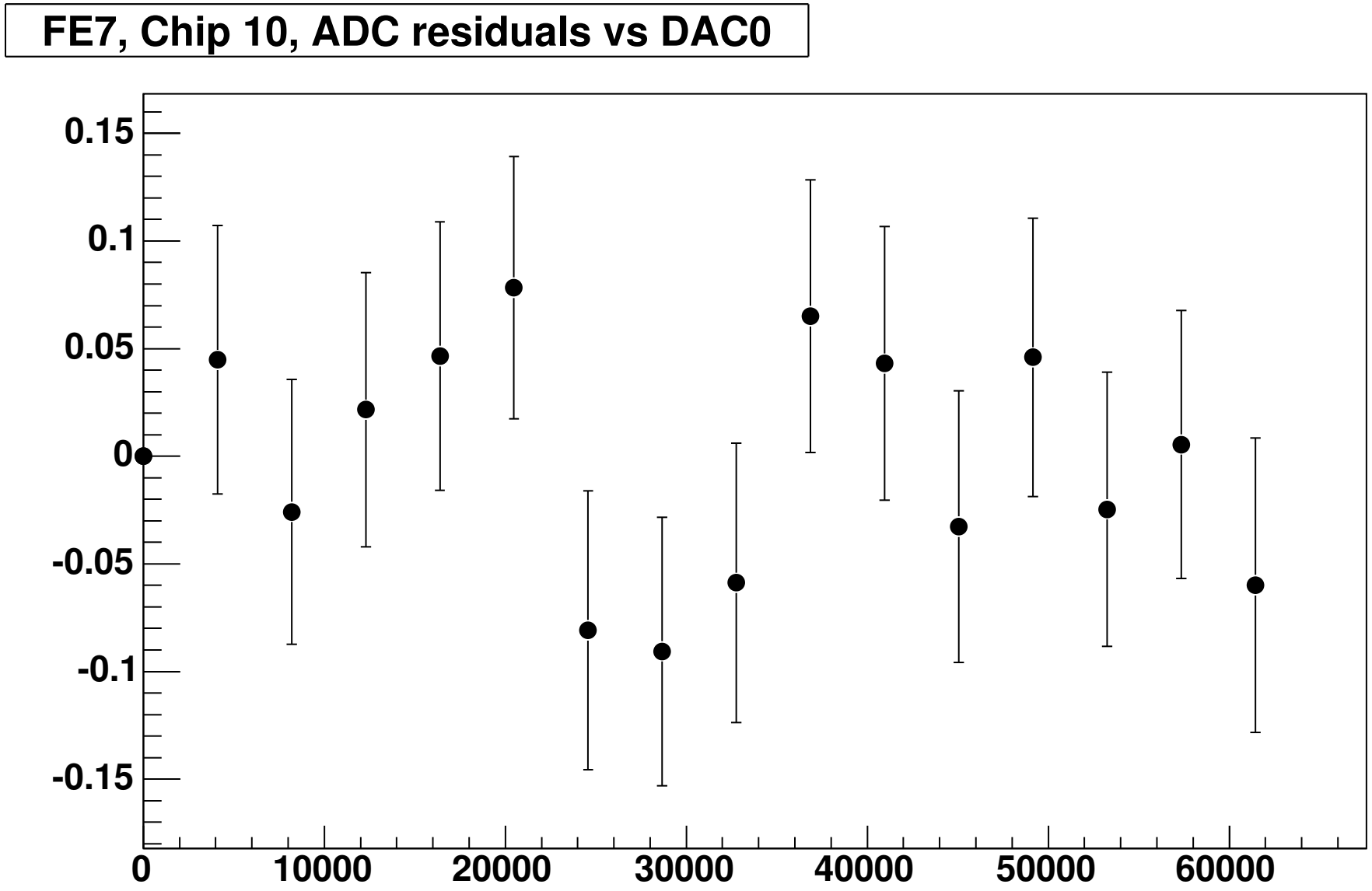

FE7, Chip 9, ADC mean vs DAC1
χ² / ndf 774.3 / 11
p0 -24.39 ± 0.04215
p1 0.4509 ± 1.309e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

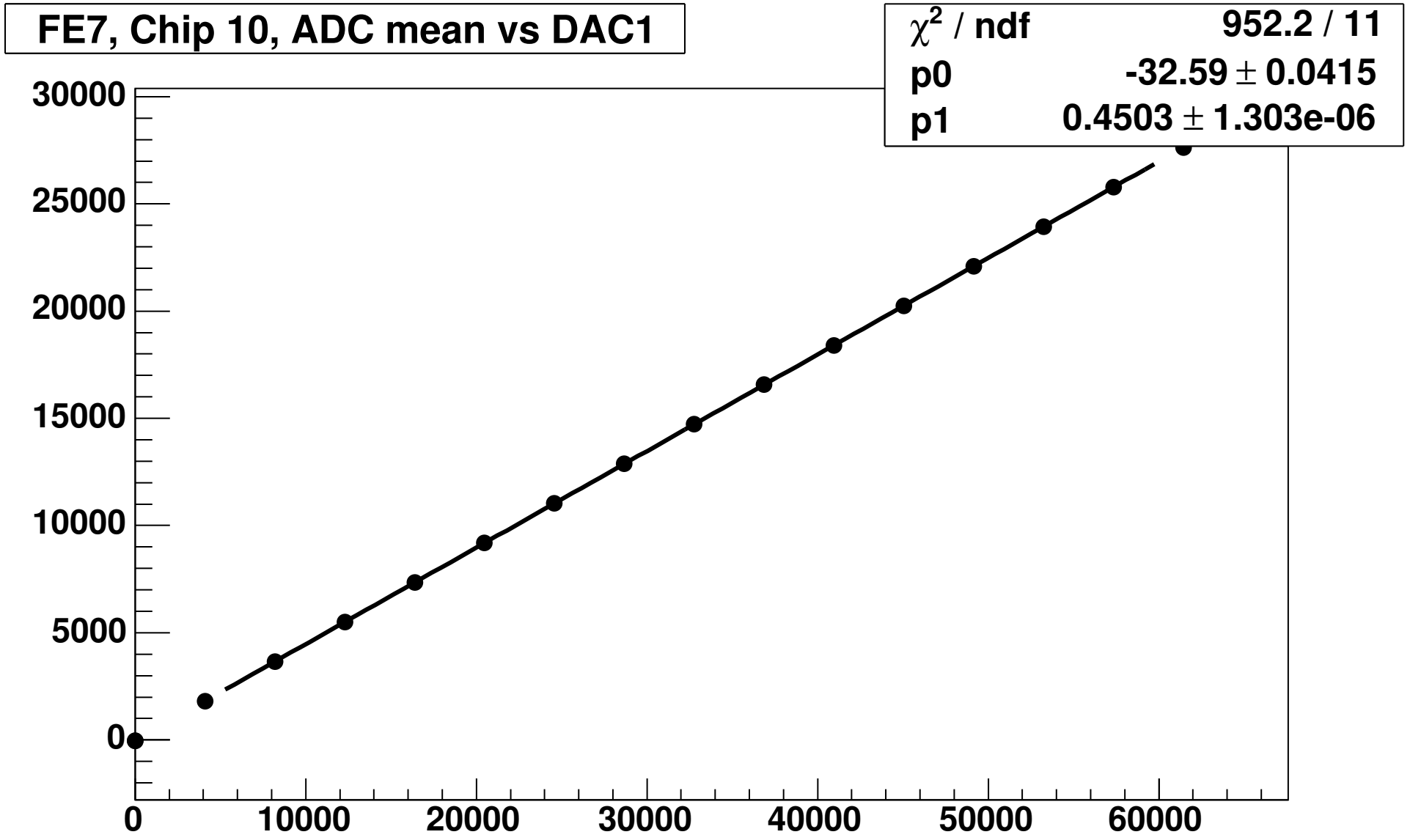

FE7, Chip 9, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

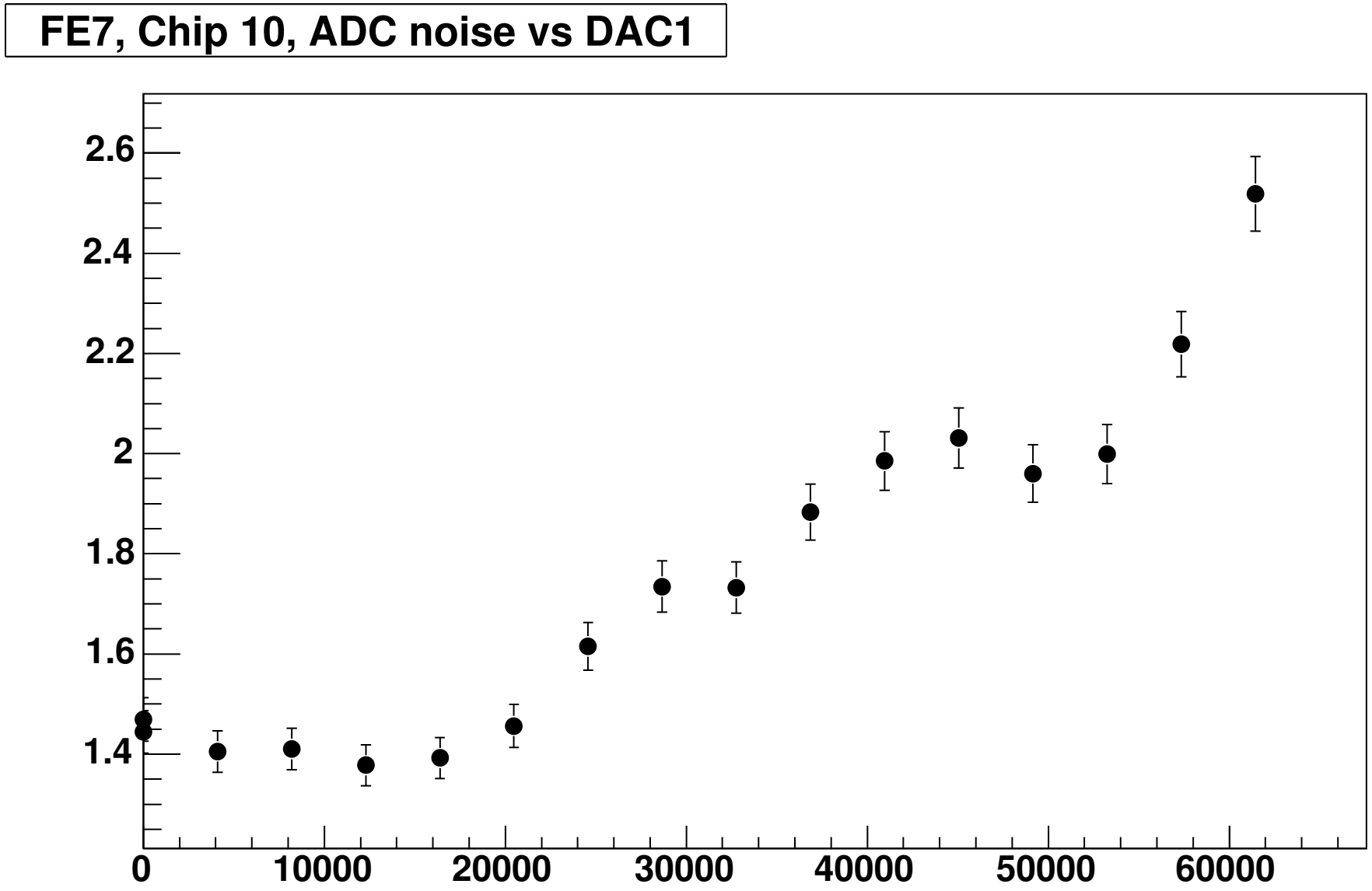

FE7, Chip 9, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000


FE7, Chip 10, ADC mean vs DAC0
χ² / ndf 9.442 / 11
p0 -31.09 ± 0.04093
p1 1.13e-06 ± 1.136e-06
-30.9
-30.95
-31
-31.05
-31.1
-31.15
-31.2
0
10000
20000
30000
40000
50000
60000

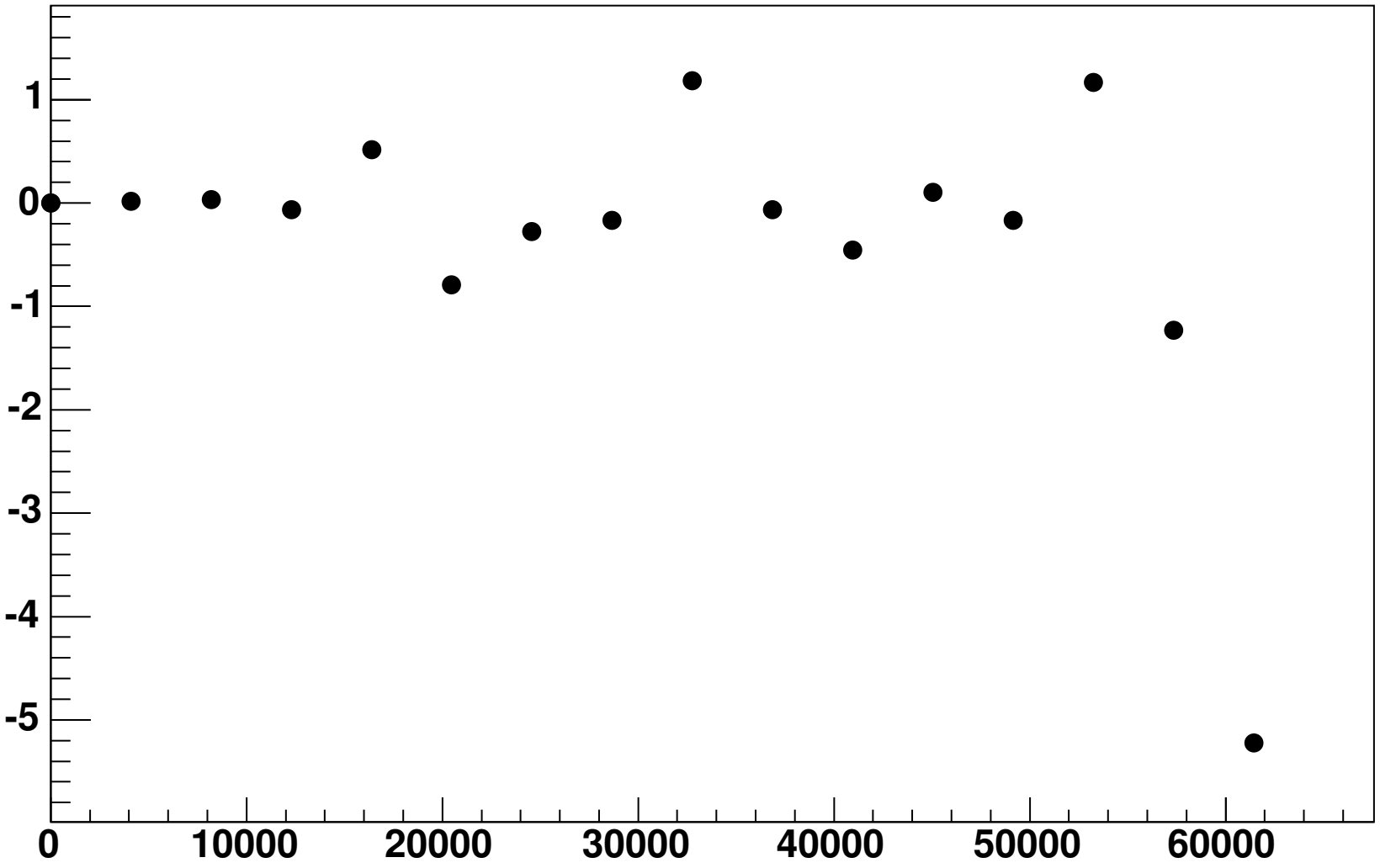

FE7, Chip 10, ADC noise vs DAC0
1.7
1.65
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

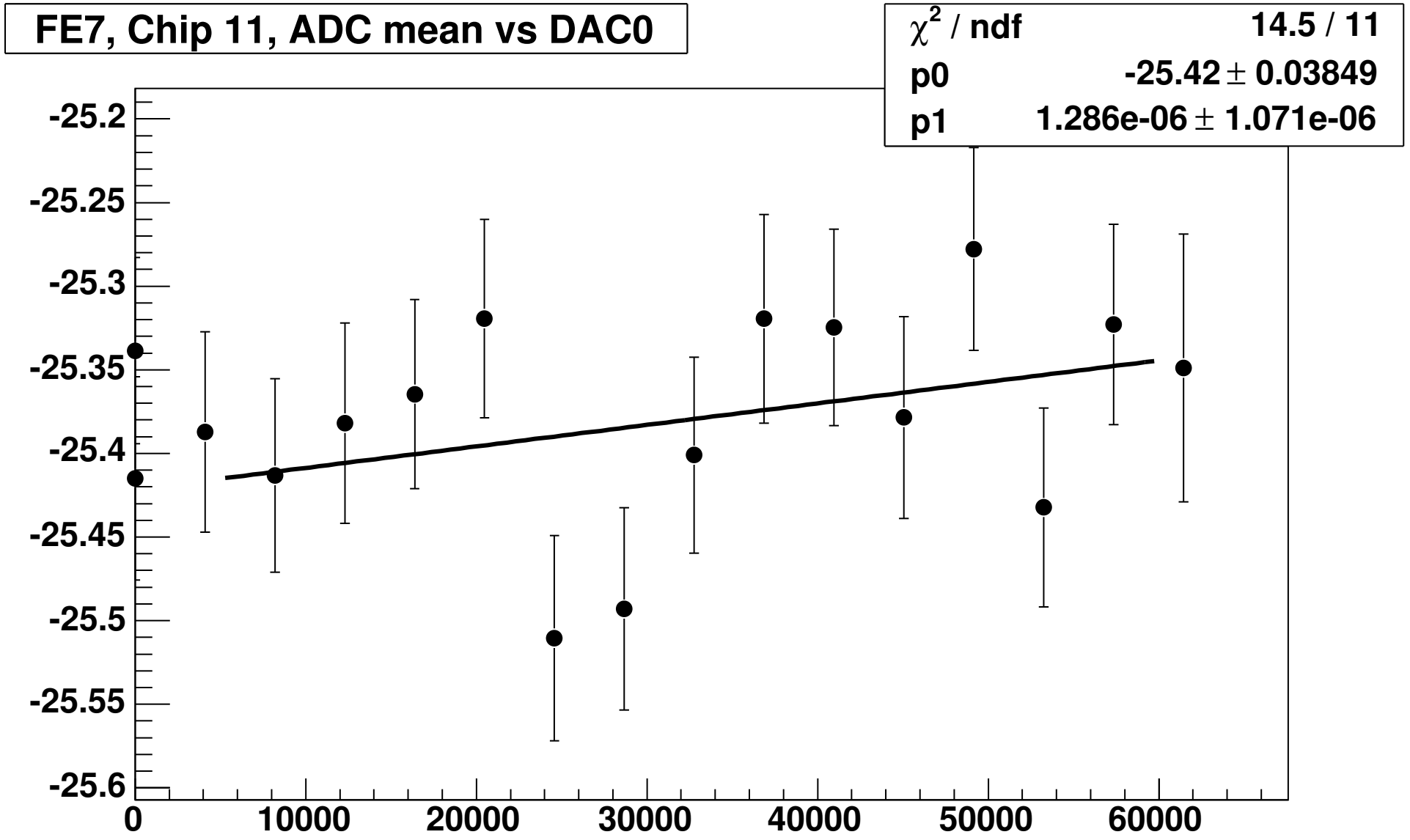

FE7, Chip 10, ADC residuals vs DAC0
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

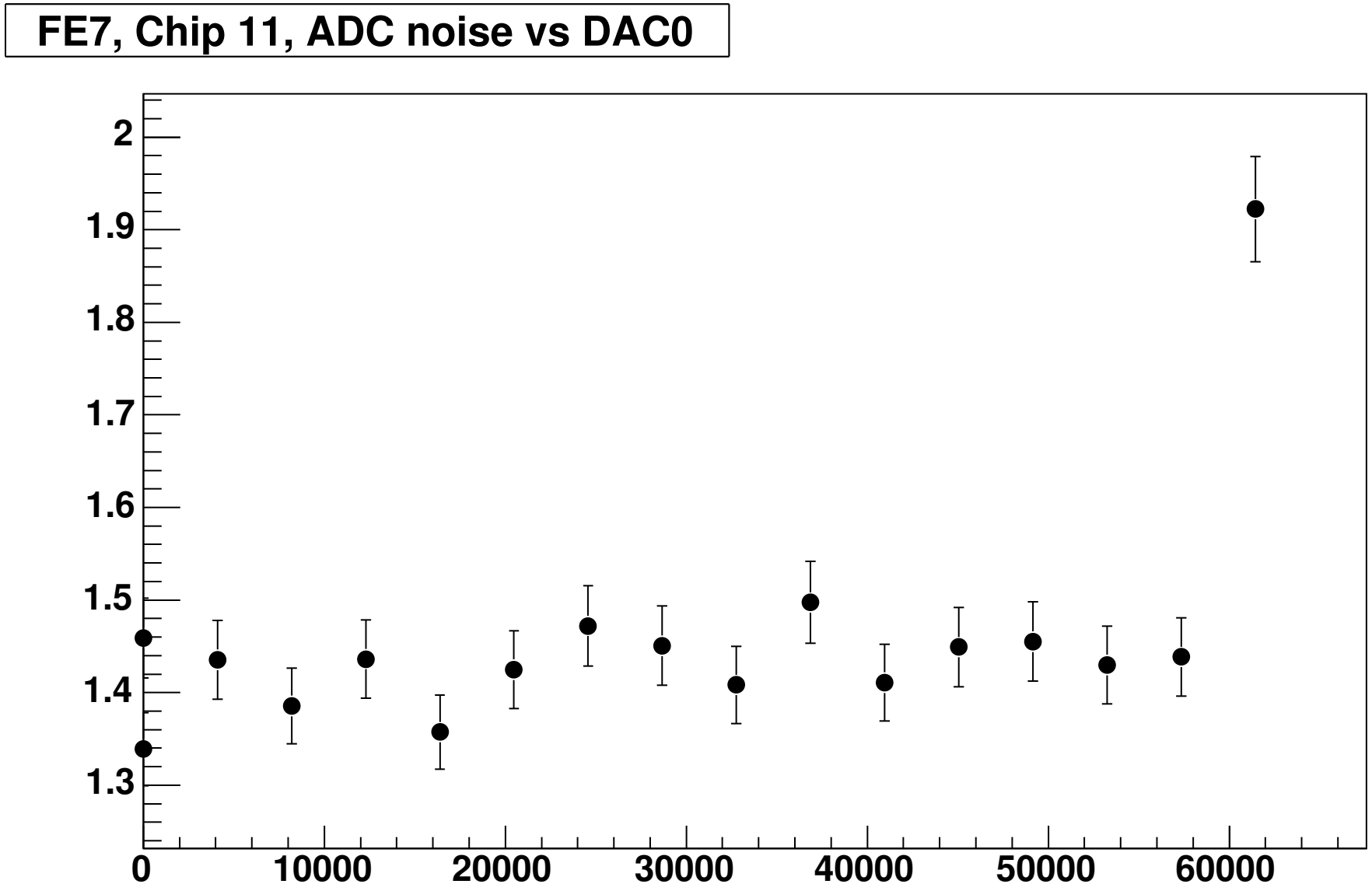

FE7, Chip 10, ADC mean vs DAC1
χ² / ndf 952.2 / 11
p0 -32.59 ± 0.0415
p1 0.4503 ± 1.303e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

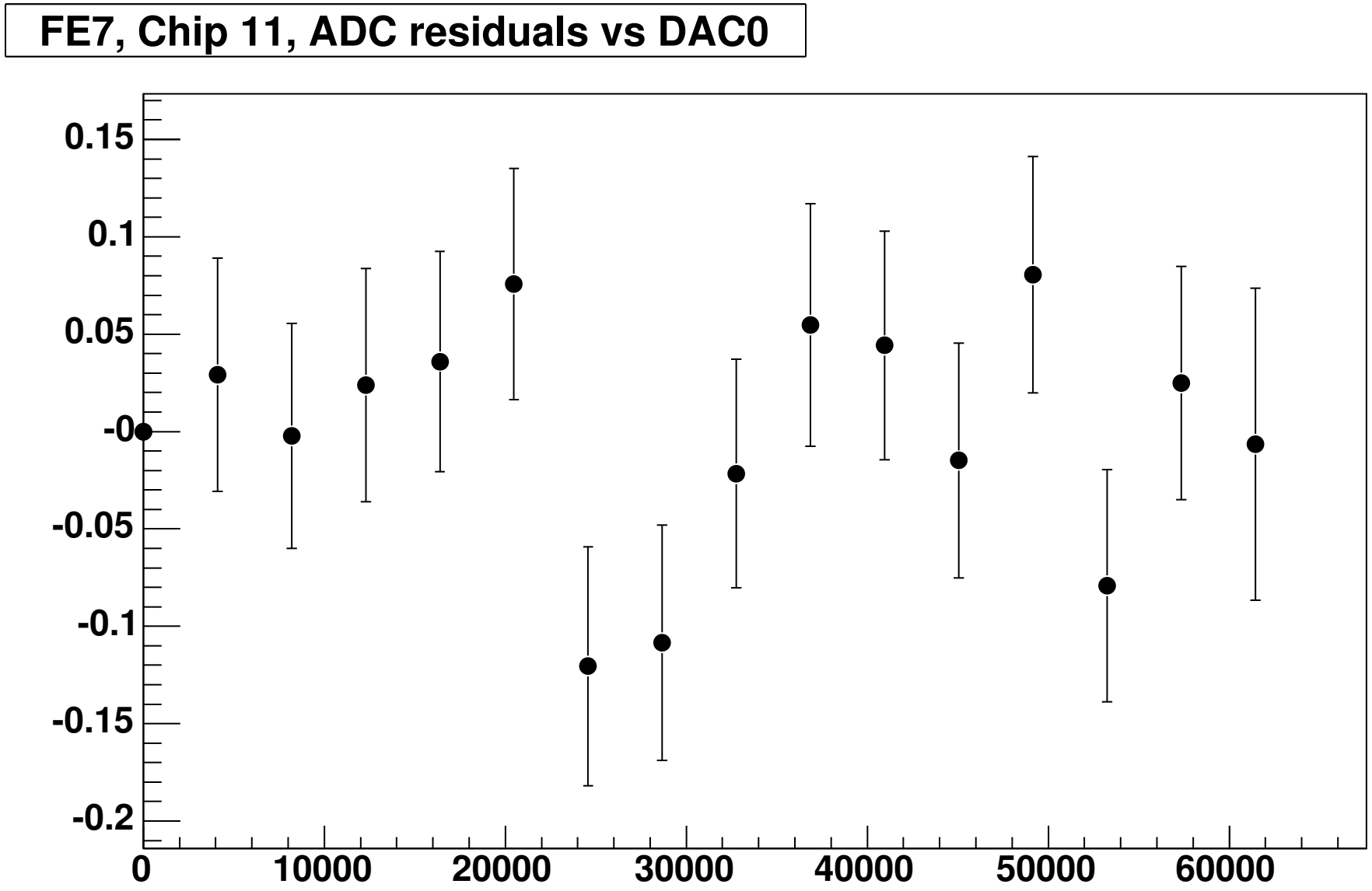

FE7, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

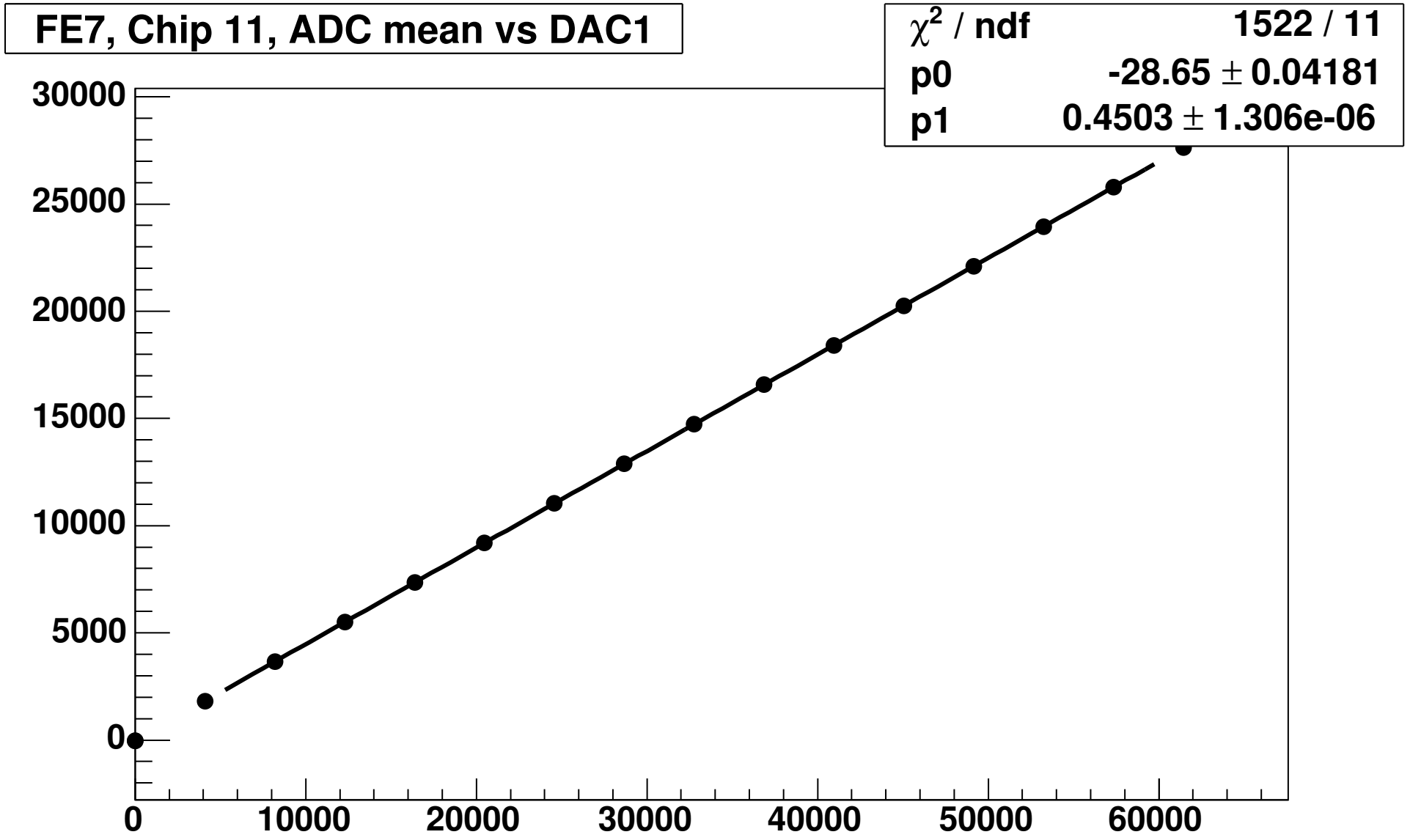
FE7, Chip 10, ADC residuals vs DAC1



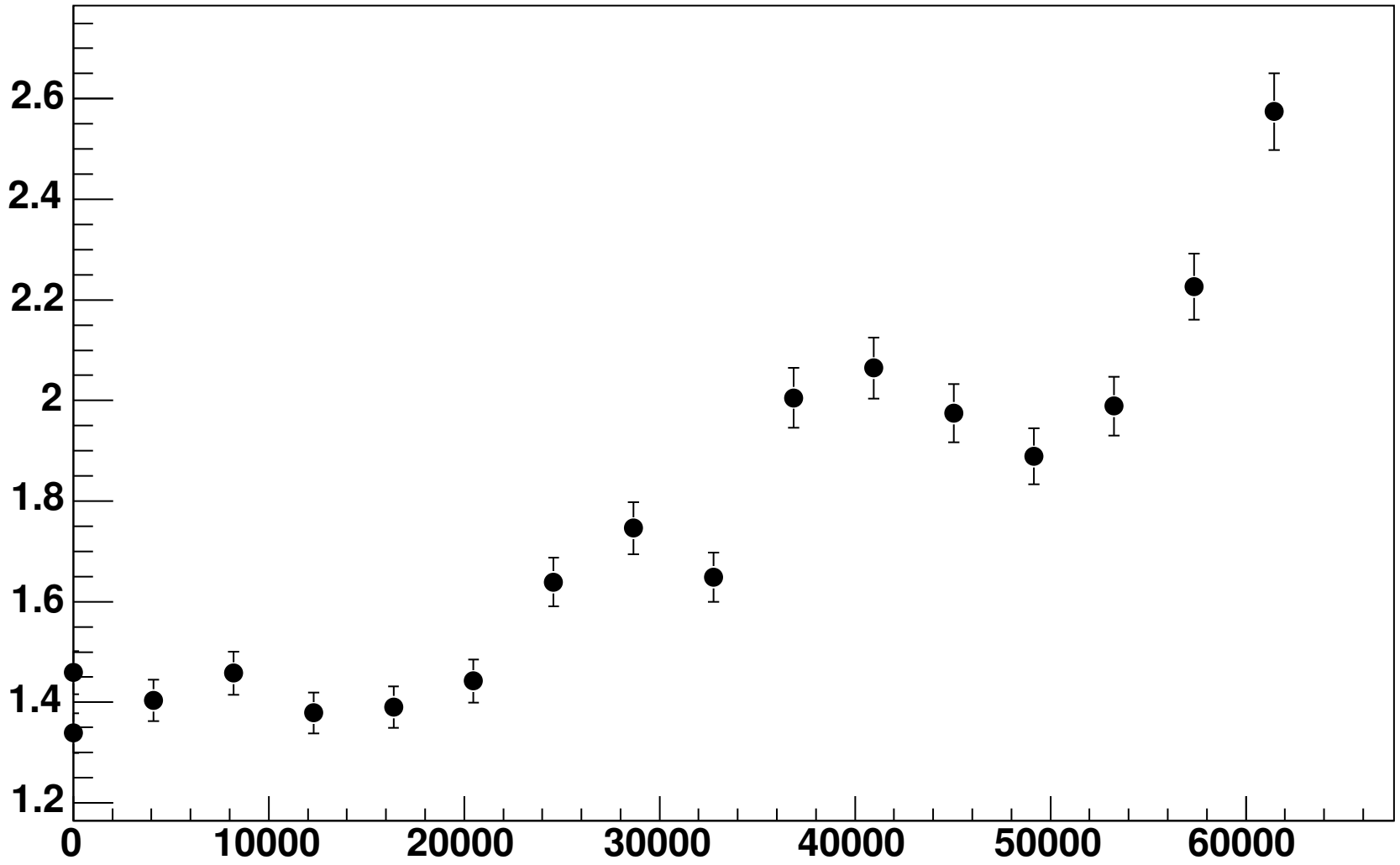

FE7, Chip 11, ADC mean vs DAC0
χ² / ndf 14.5 / 11
p0 -25.42 ± 0.03849
p1 1.286e-06 ± 1.071e-06
-25.2
-25.25
-25.3
-25.35
-25.4
-25.45
-25.5
-25.55
-25.6
0
10000
20000
30000
40000
50000
60000

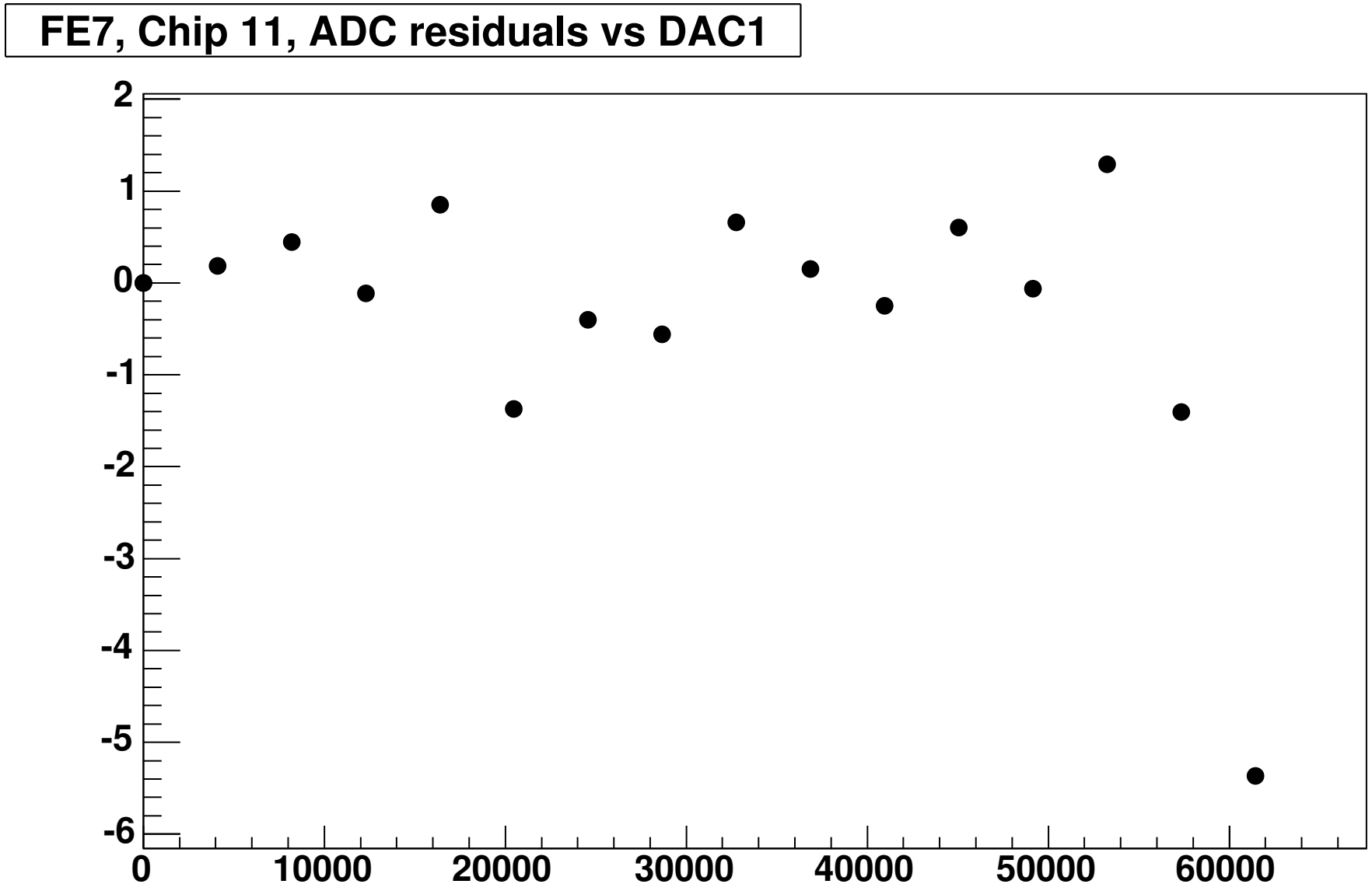

FE7, Chip 11, ADC noise vs DAC0
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
0
10000
20000
30000
40000
50000
60000

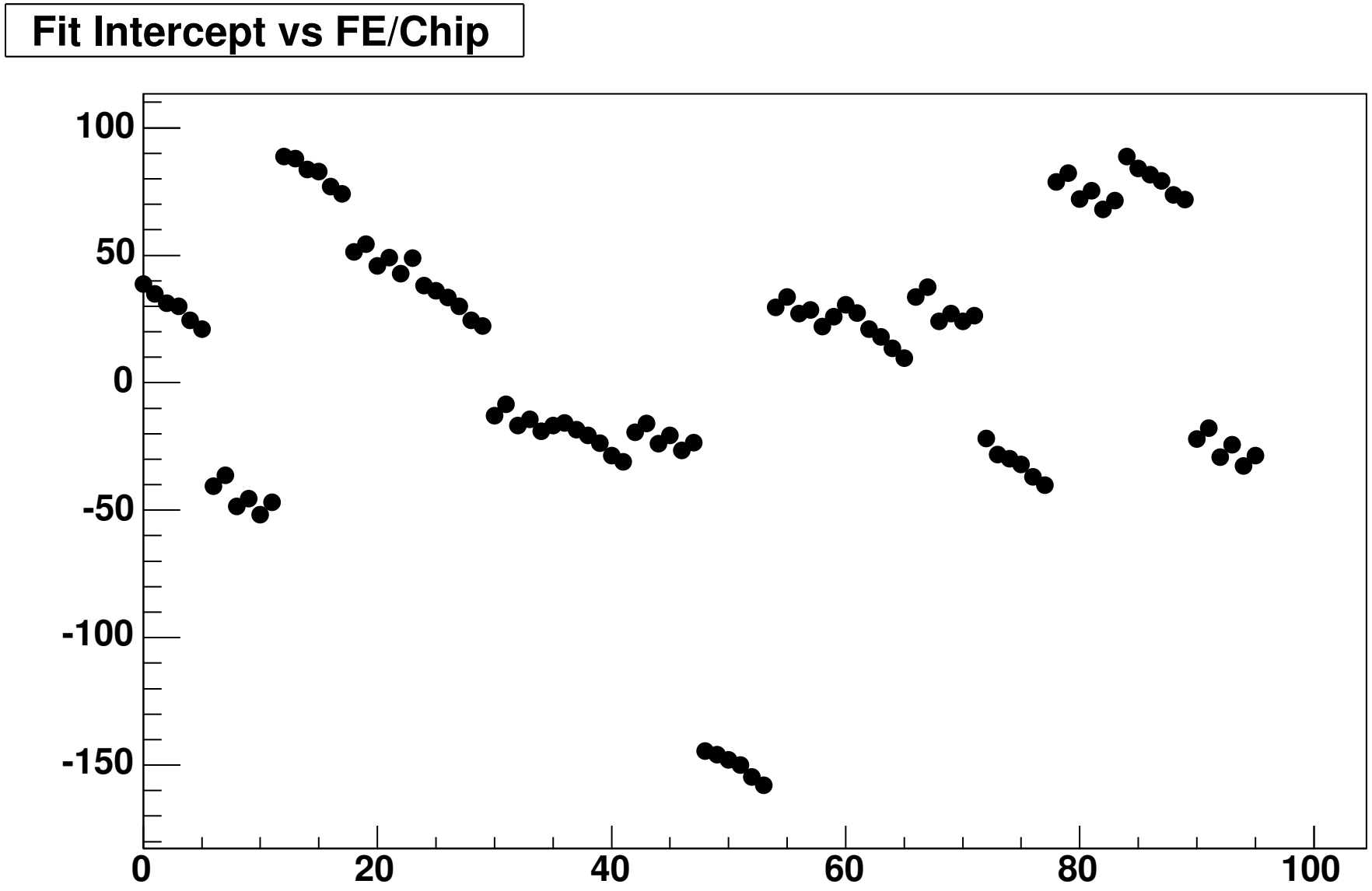

FE7, Chip 11, ADC residuals vs DAC0
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

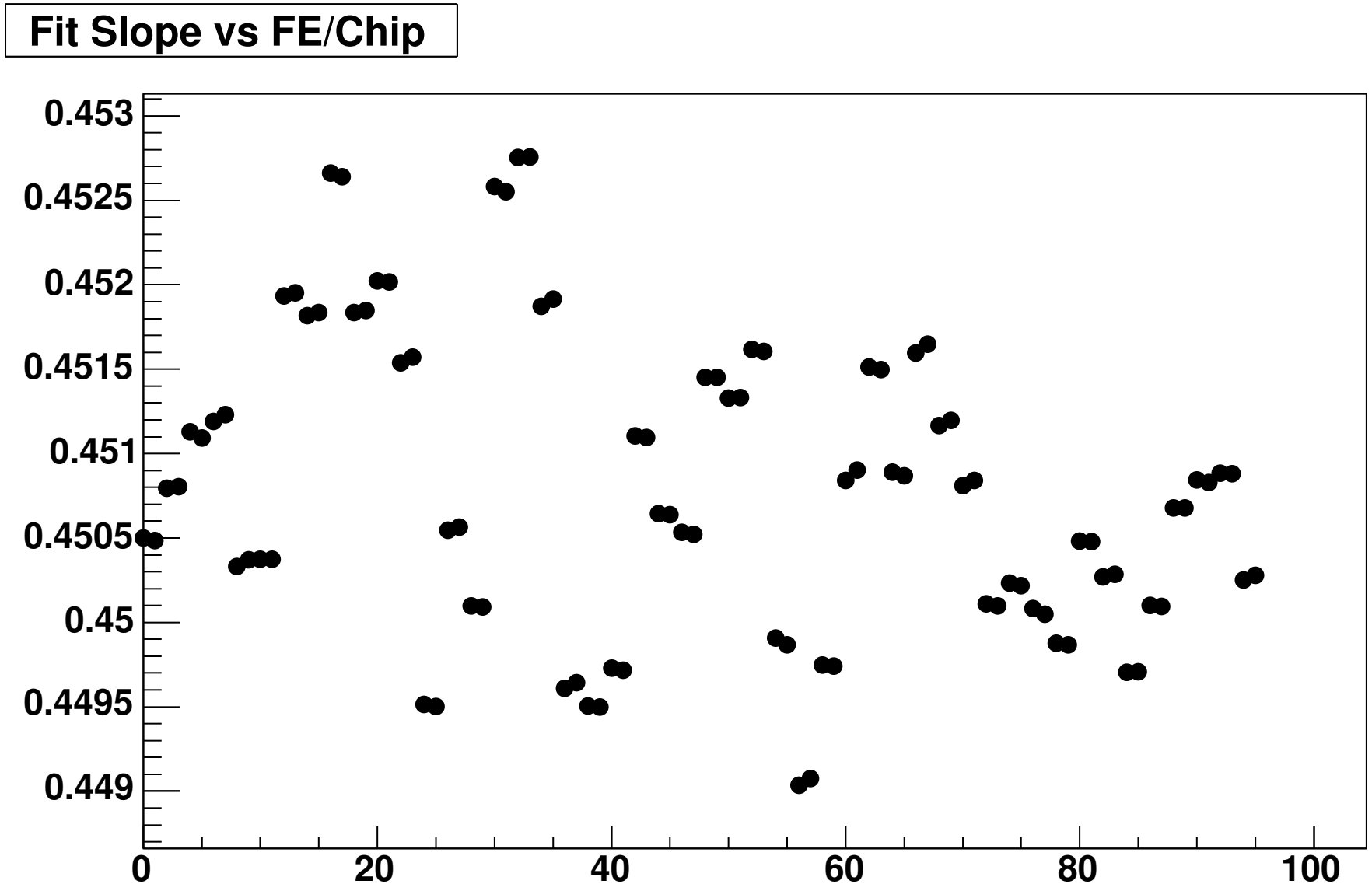

FE7, Chip 11, ADC mean vs DAC1
χ² / ndf 1522 / 11
p0 -28.65 ± 0.04181
p1 0.4503 ± 1.306e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

FE7, Chip 11, ADC noise vs DAC1




FE7, Chip 11, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000


Fit Intercept vs FE/Chip
100
50
0
-50
-100
-150
0
20
40
60
80
100


Fit Slope vs FE/Chip
0.453
0.4525
0.452
0.4515
0.451
0.4505
0.45
0.4495
0.449
0
20
40
60
80
100