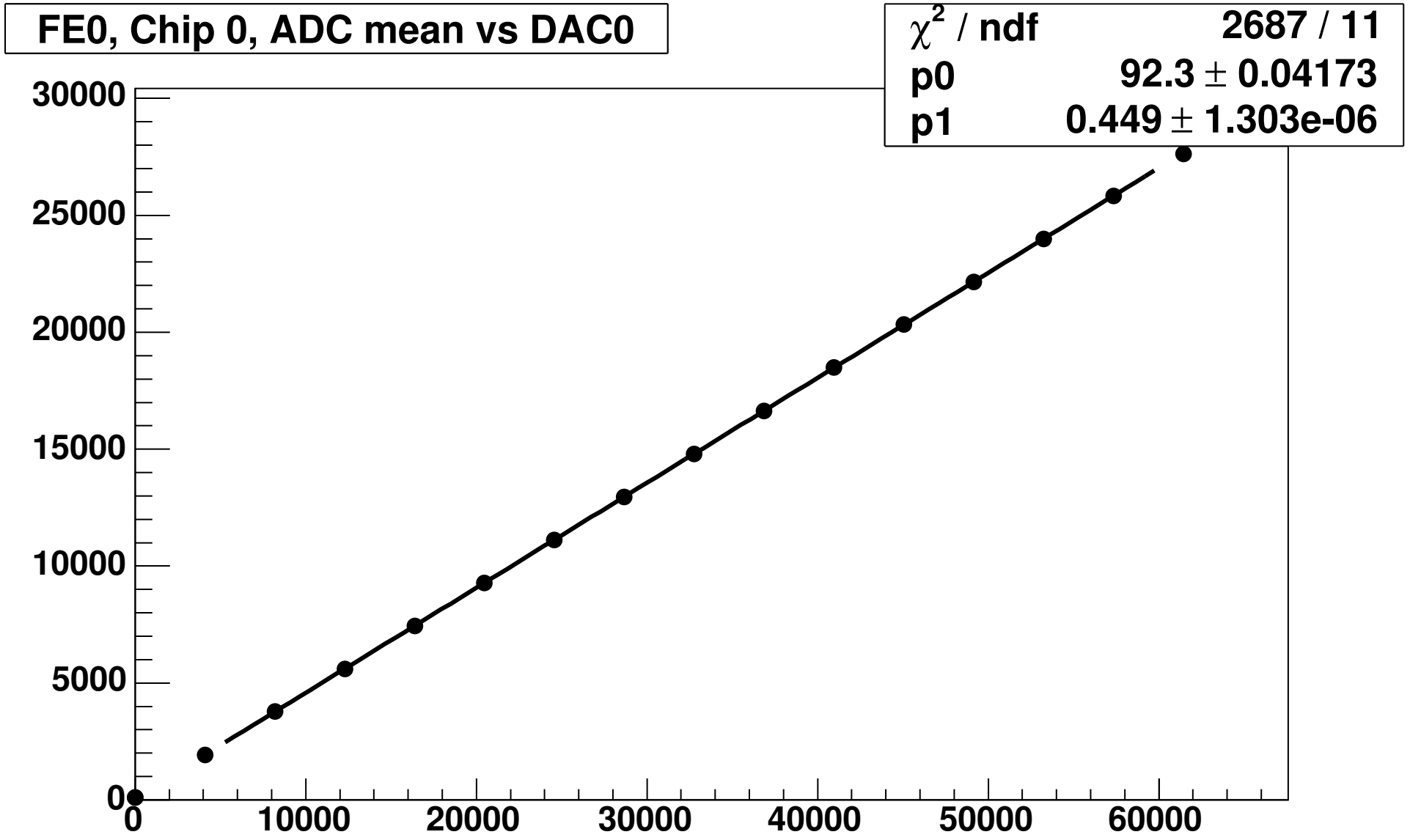
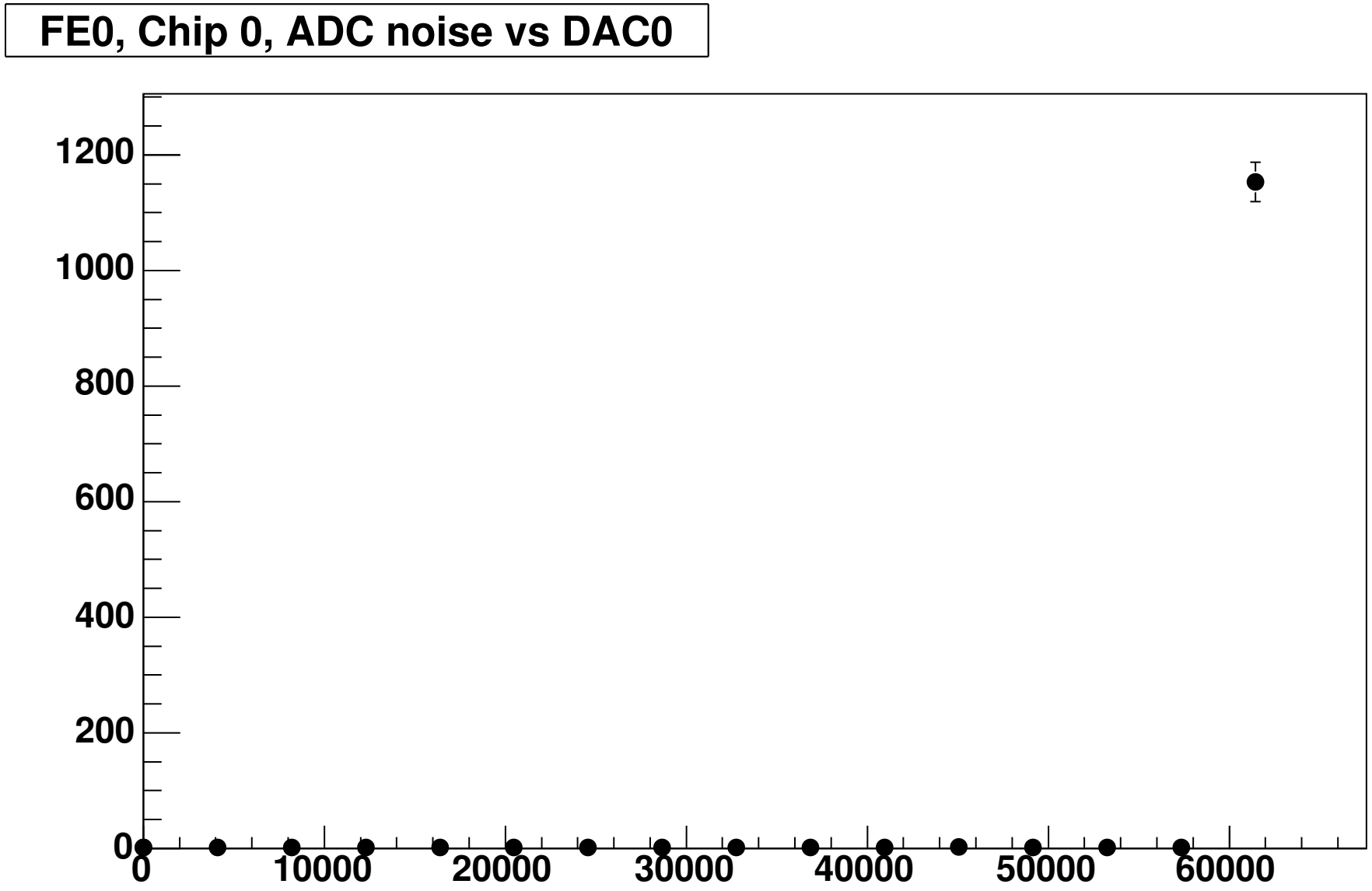
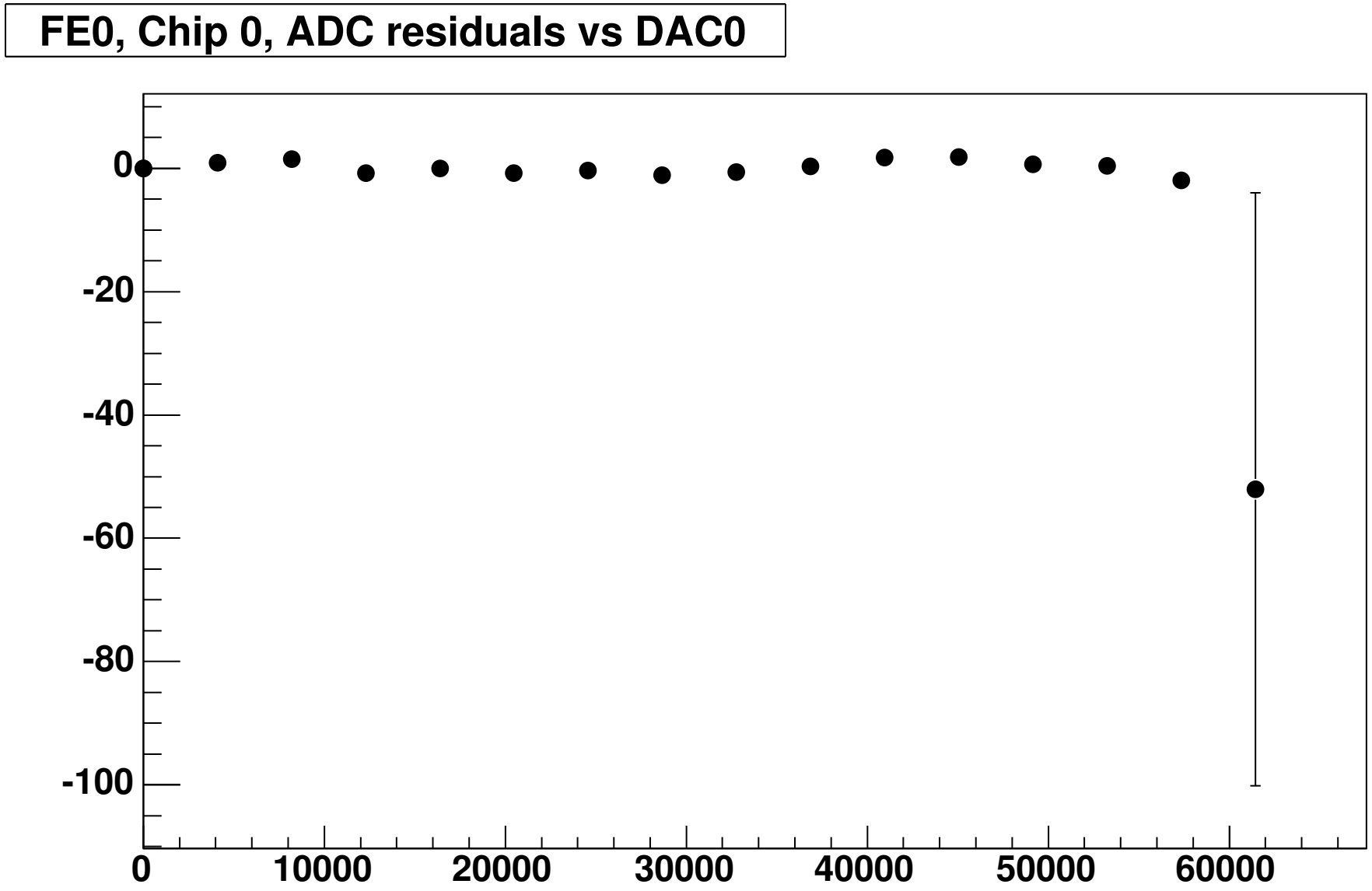
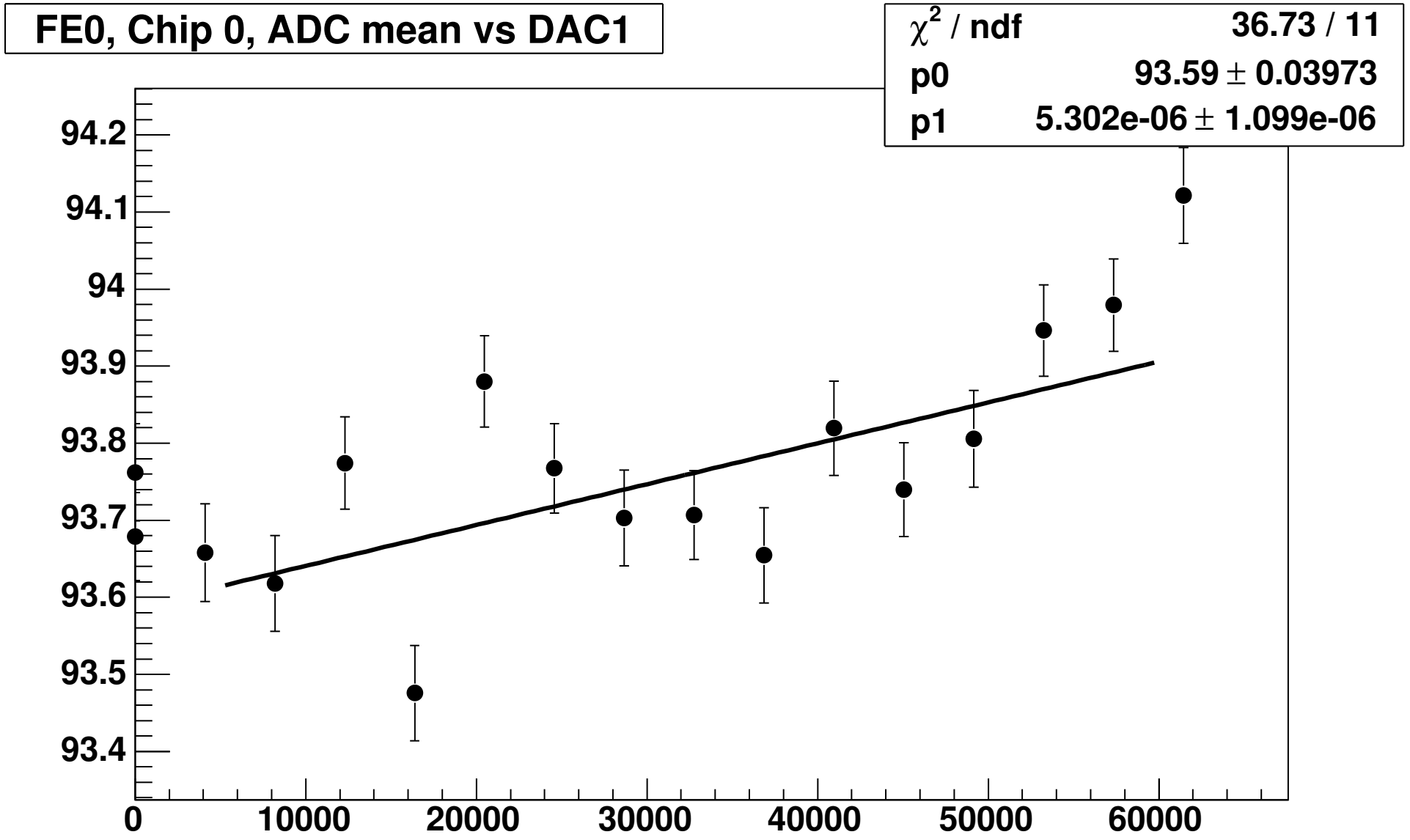
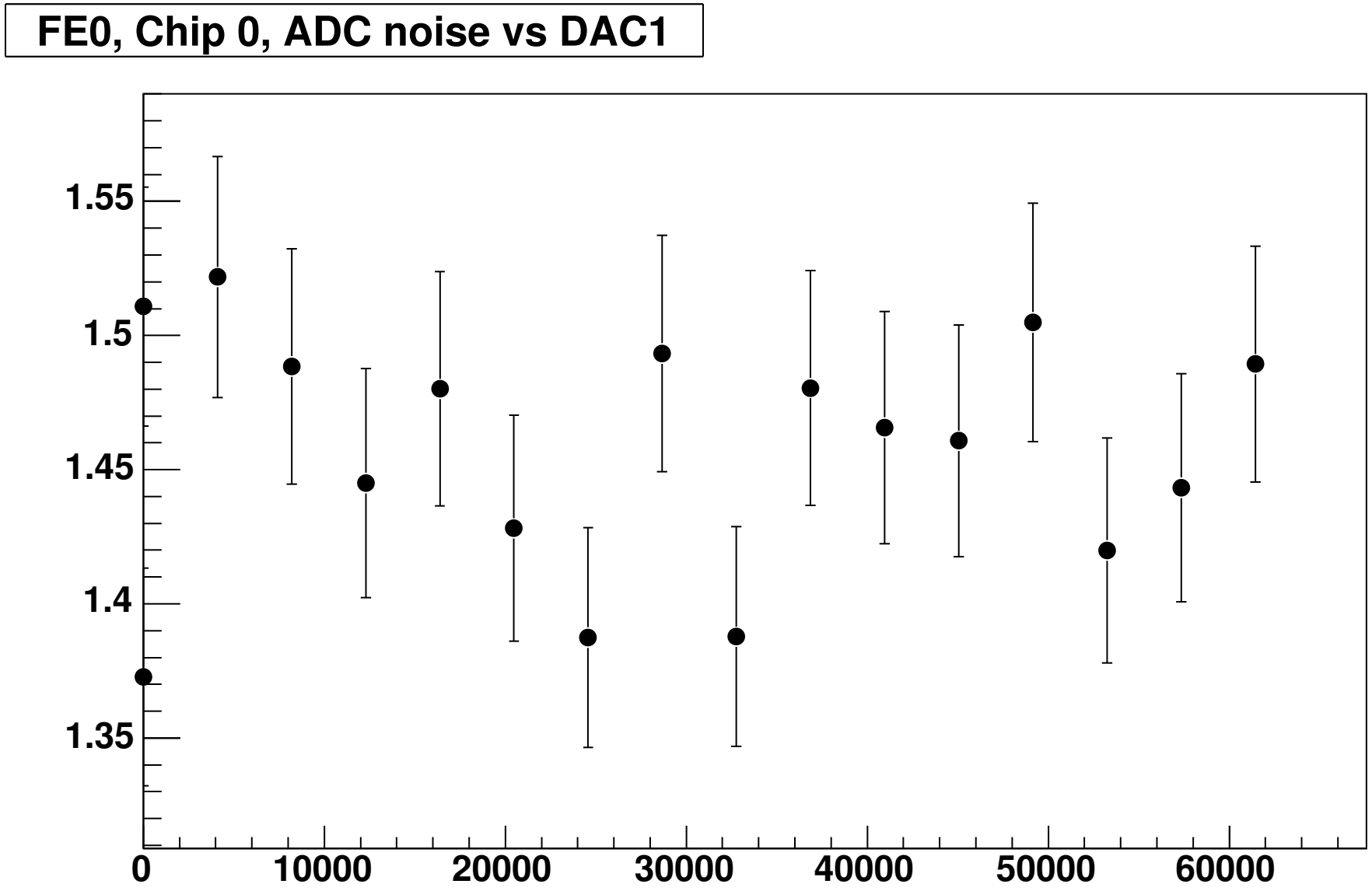
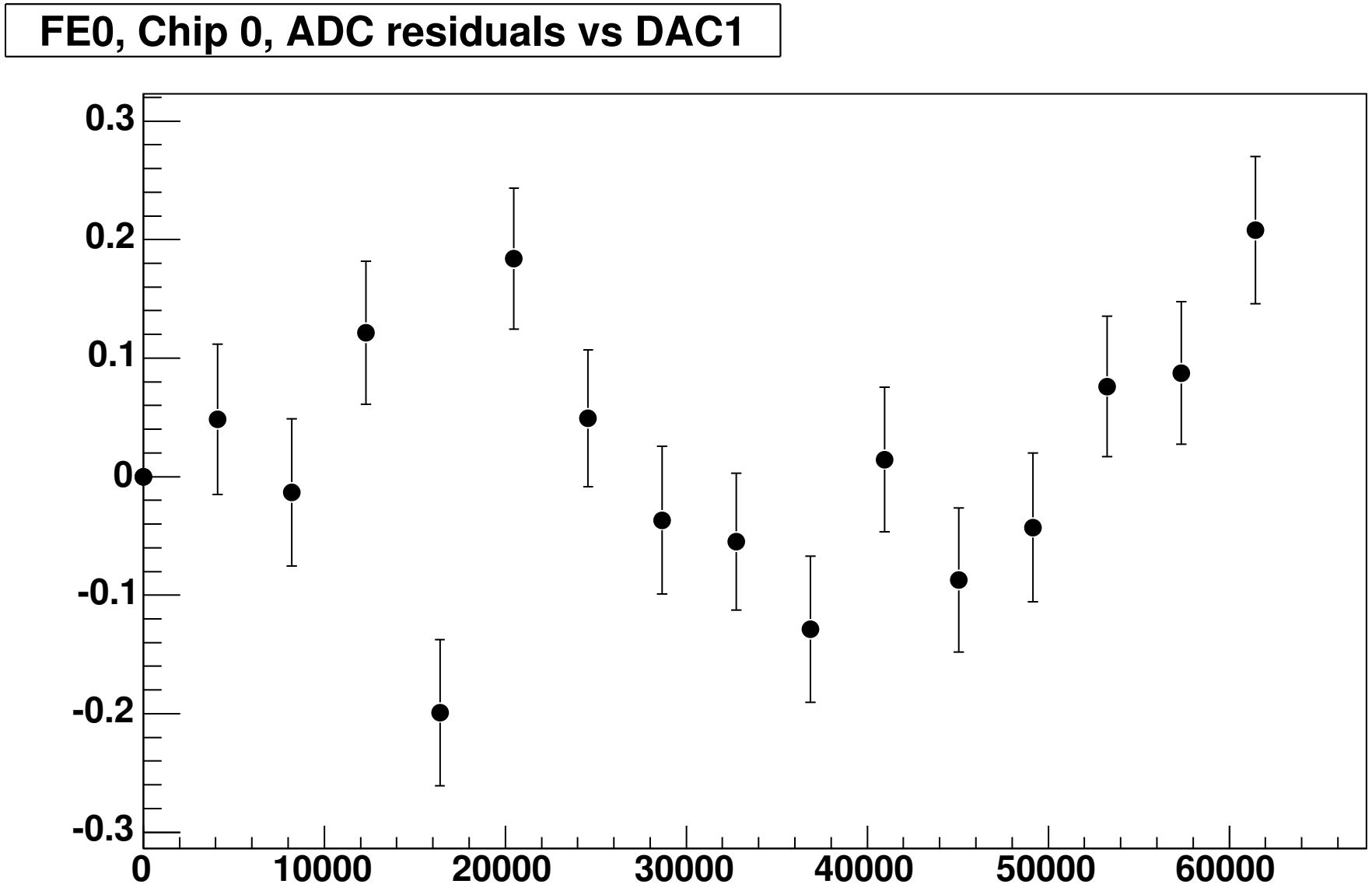

FE0, Chip 0, ADC mean vs DAC0
χ² / ndf 2687 / 11
p0 92.3 ± 0.04173
p1 0.449 ± 1.303e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

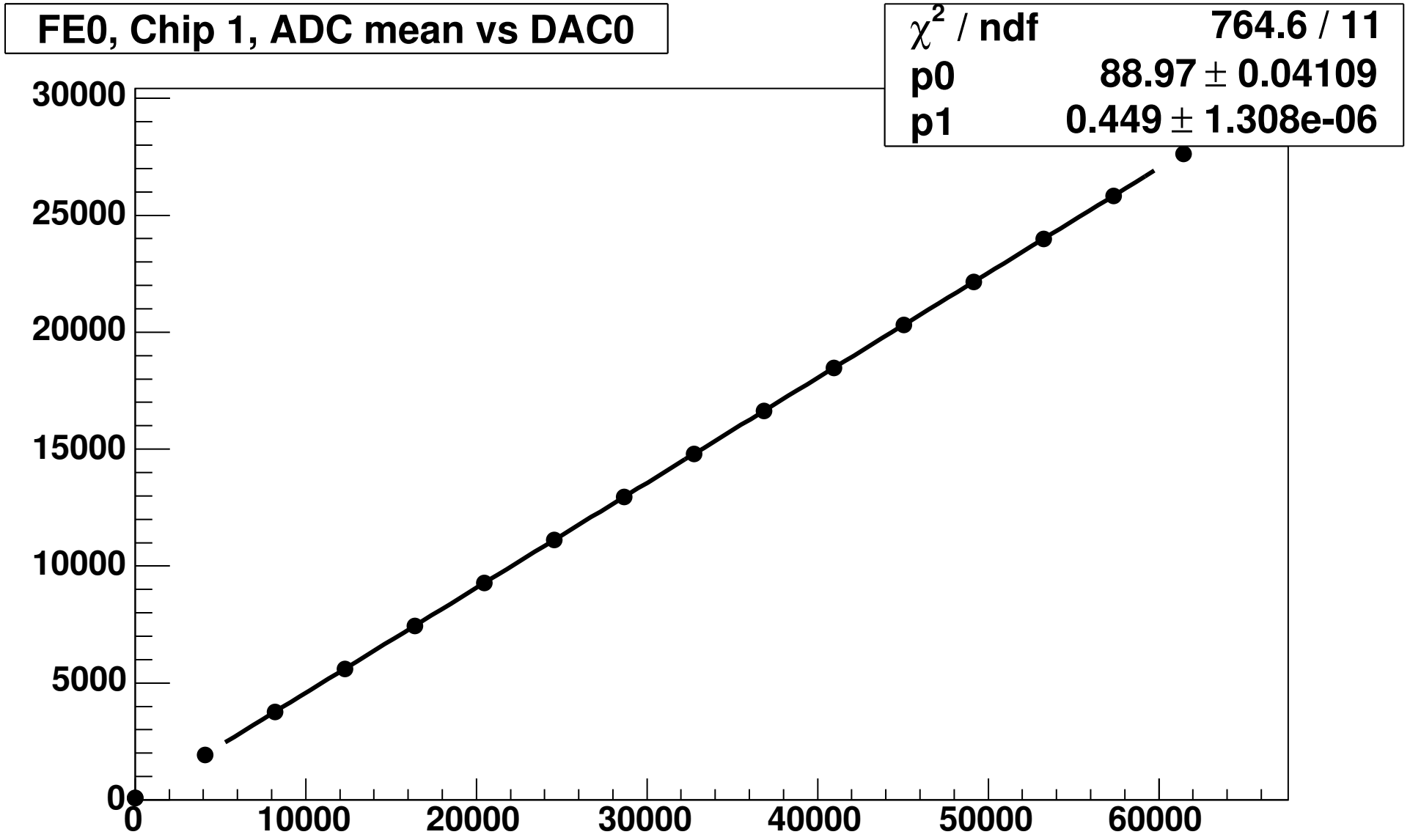

FE0, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

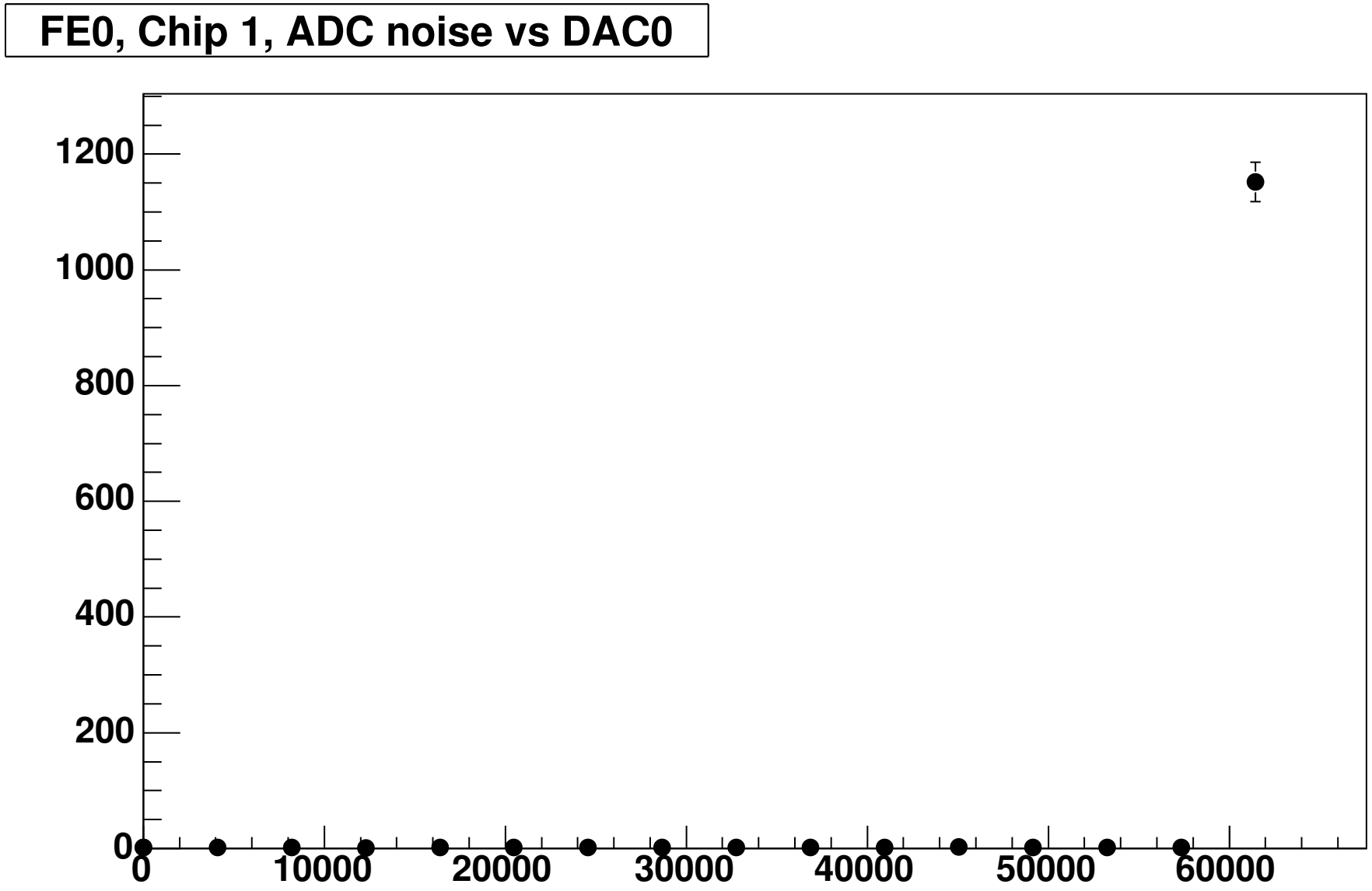

FE0, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

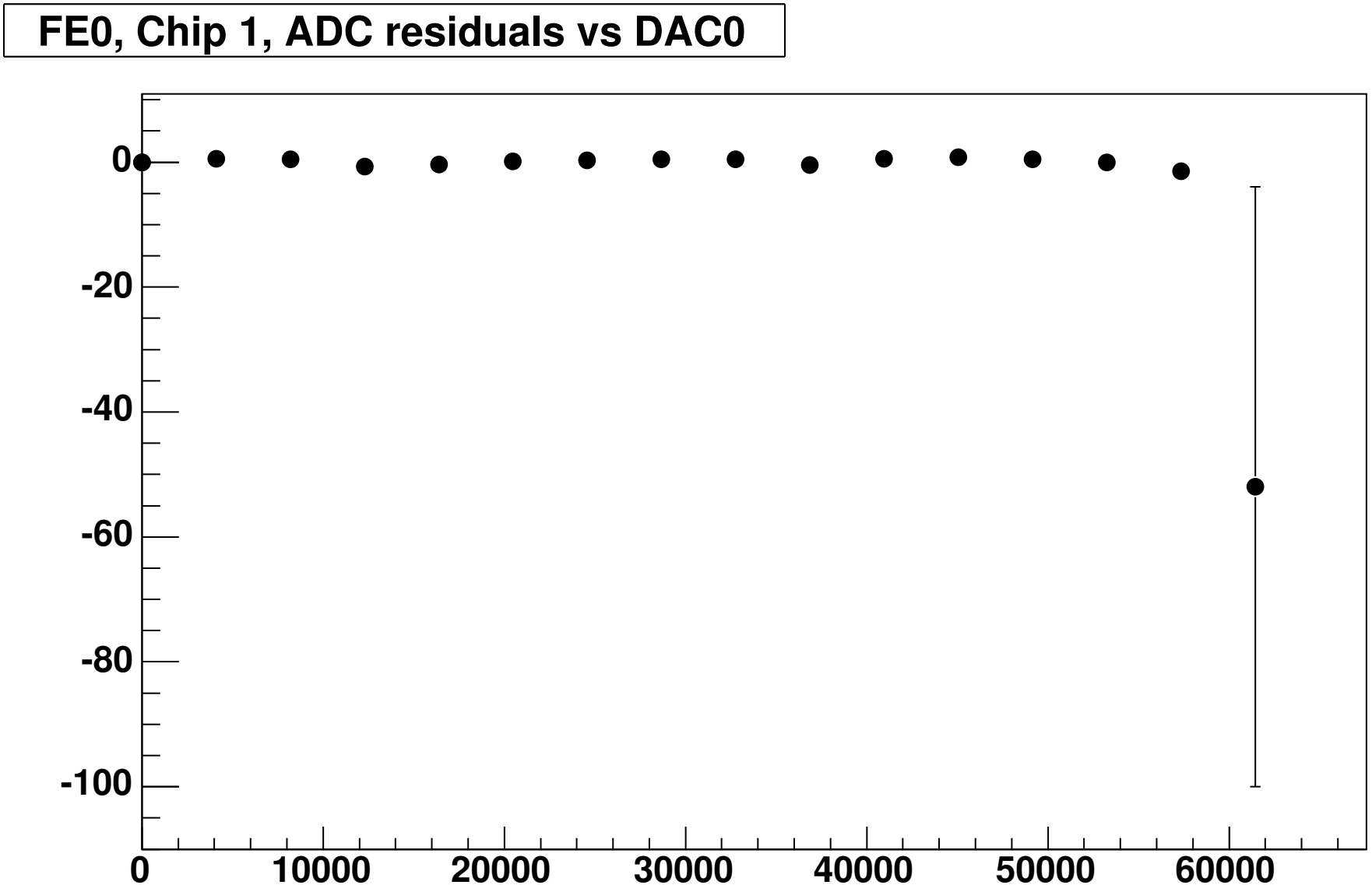

FE0, Chip 0, ADC mean vs DAC1
χ² / ndf 36.73 / 11
p0 93.59 ± 0.03973
p1 5.302e-06 ± 1.099e-06
94.2
94.1
94
93.9
93.8
93.7
93.6
93.5
93.4
0
10000
20000
30000
40000
50000
60000

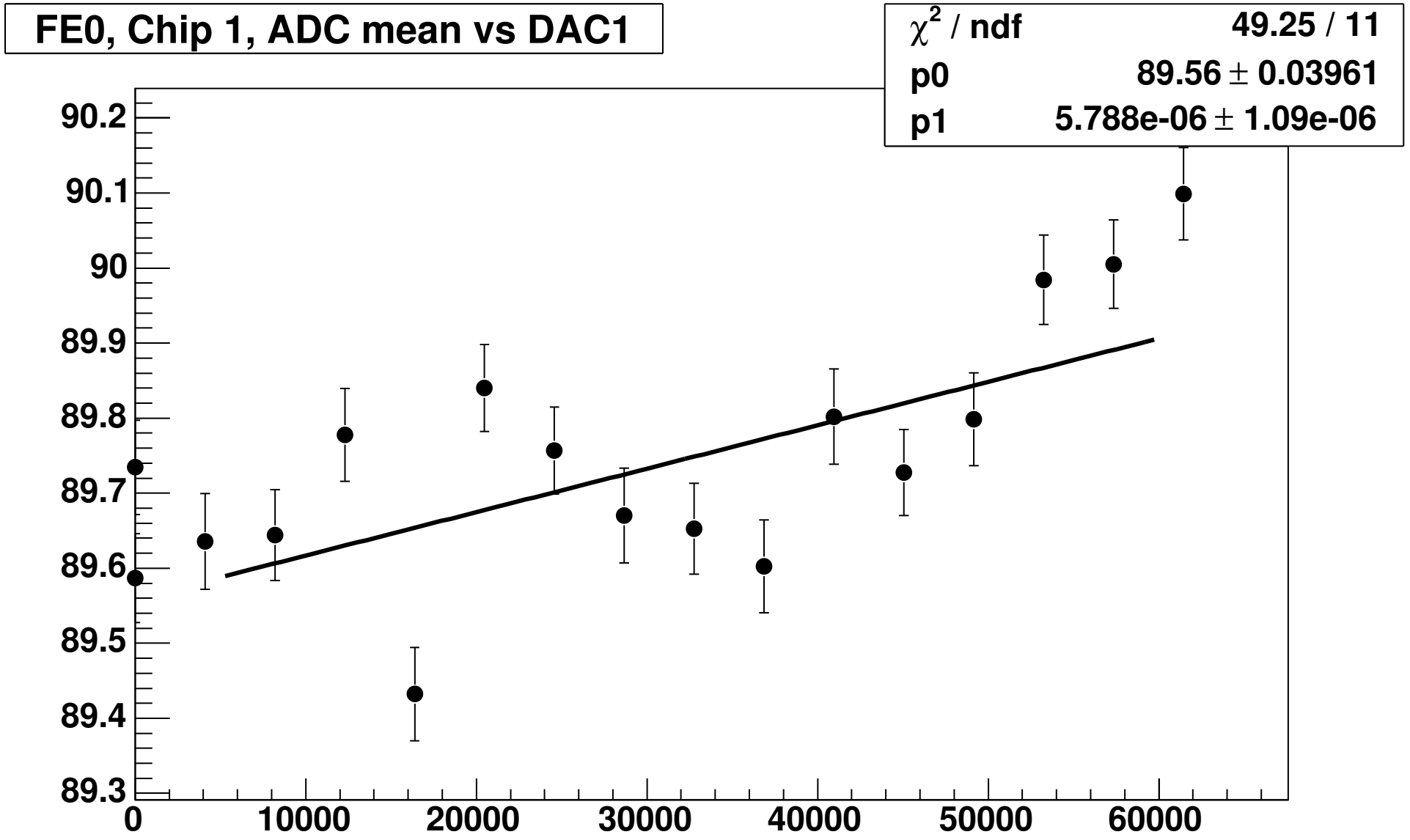

FE0, Chip 0, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

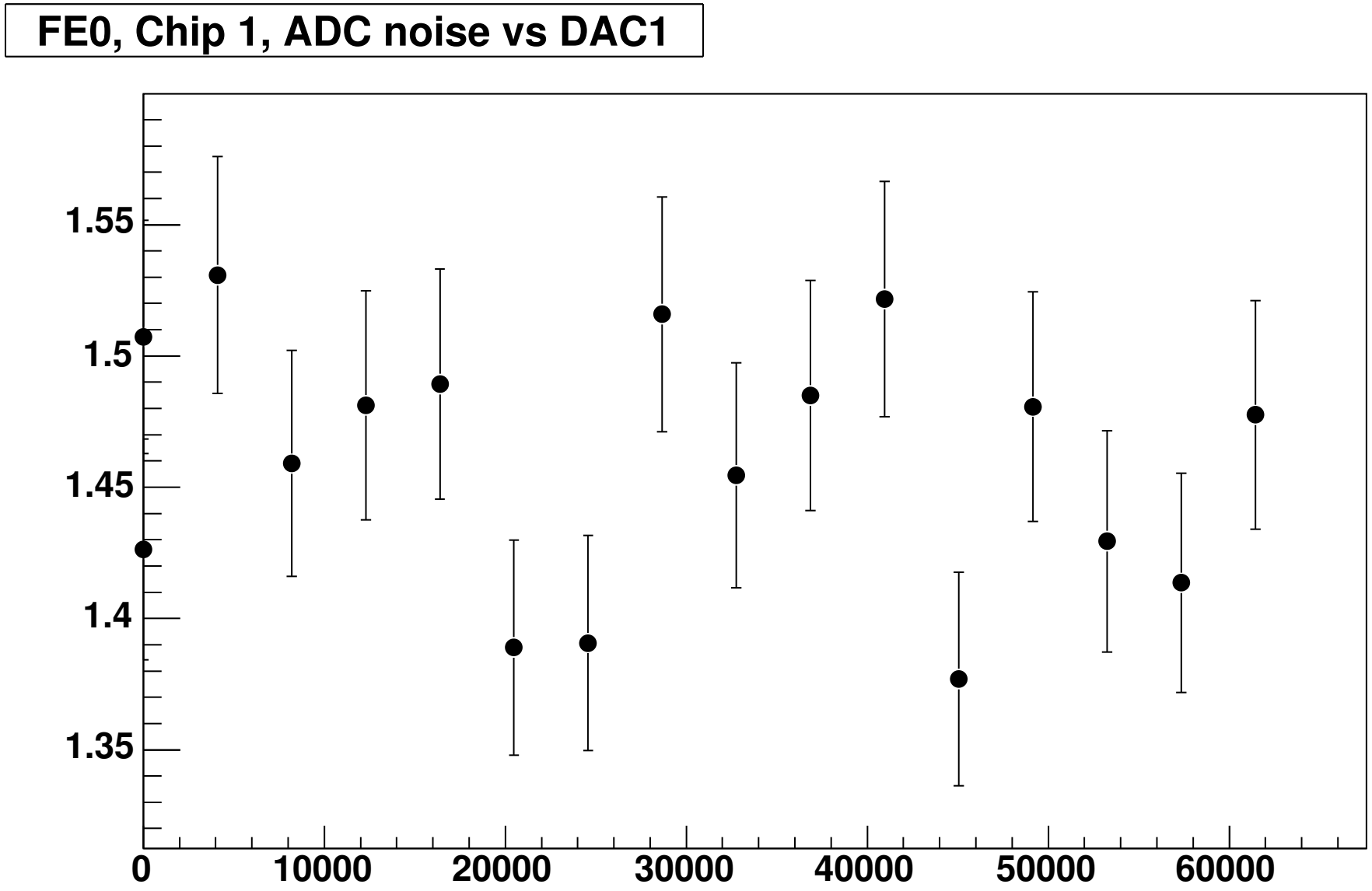

FE0, Chip 0, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

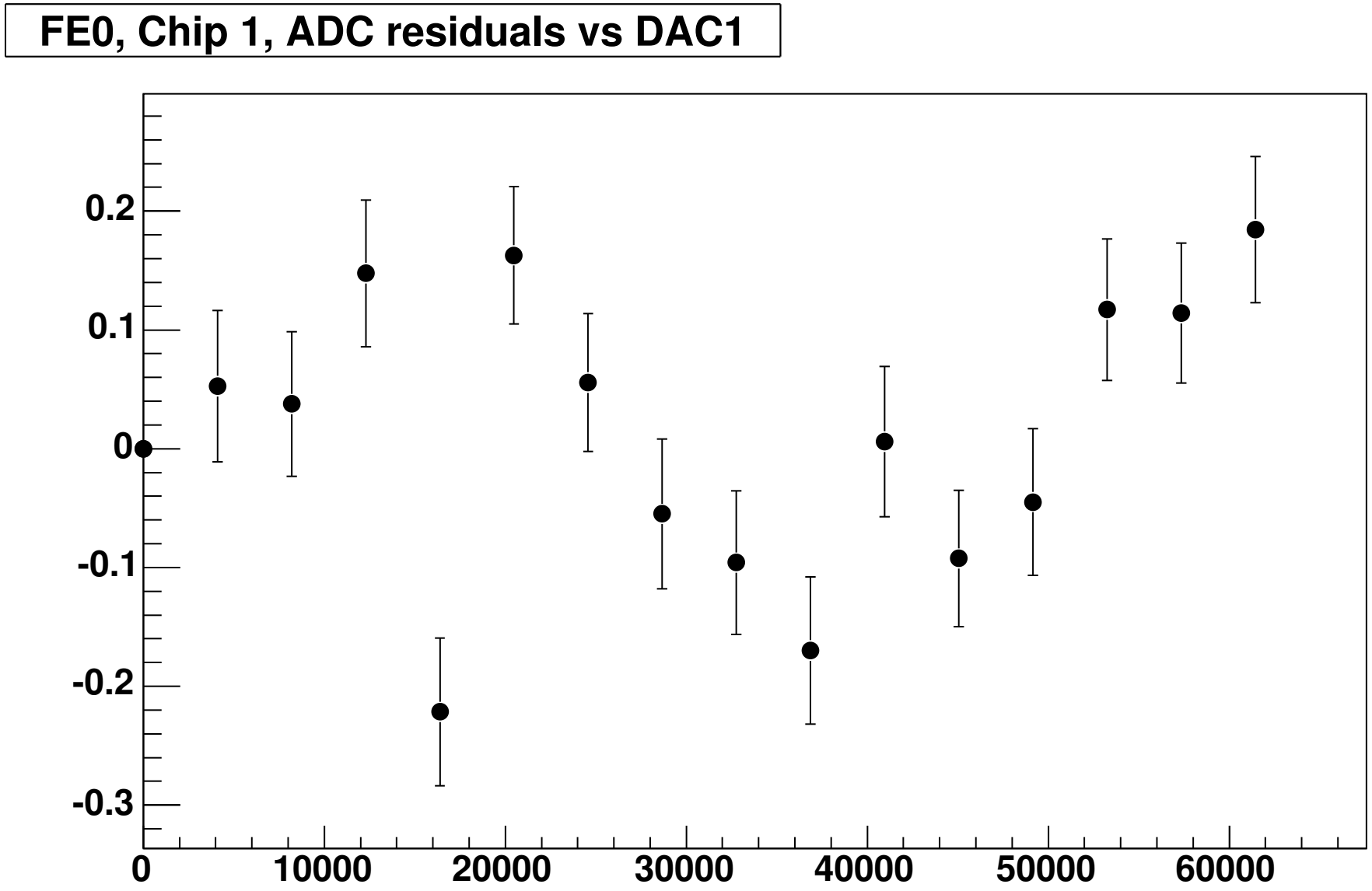

FE0, Chip 1, ADC mean vs DAC0
χ² / ndf 764.6 / 11
p0 88.97 ± 0.04109
p1 0.449 ± 1.308e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

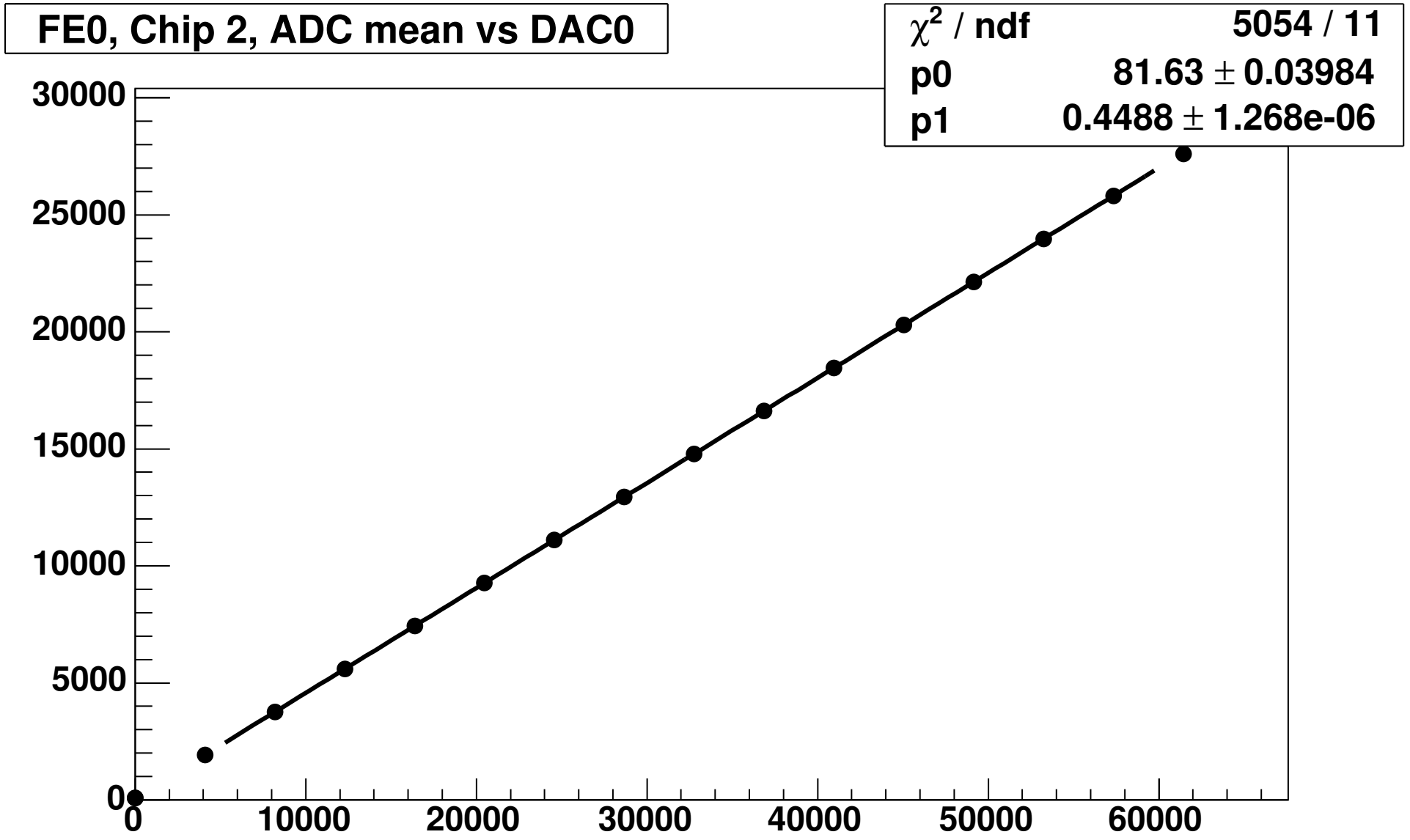

FE0, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

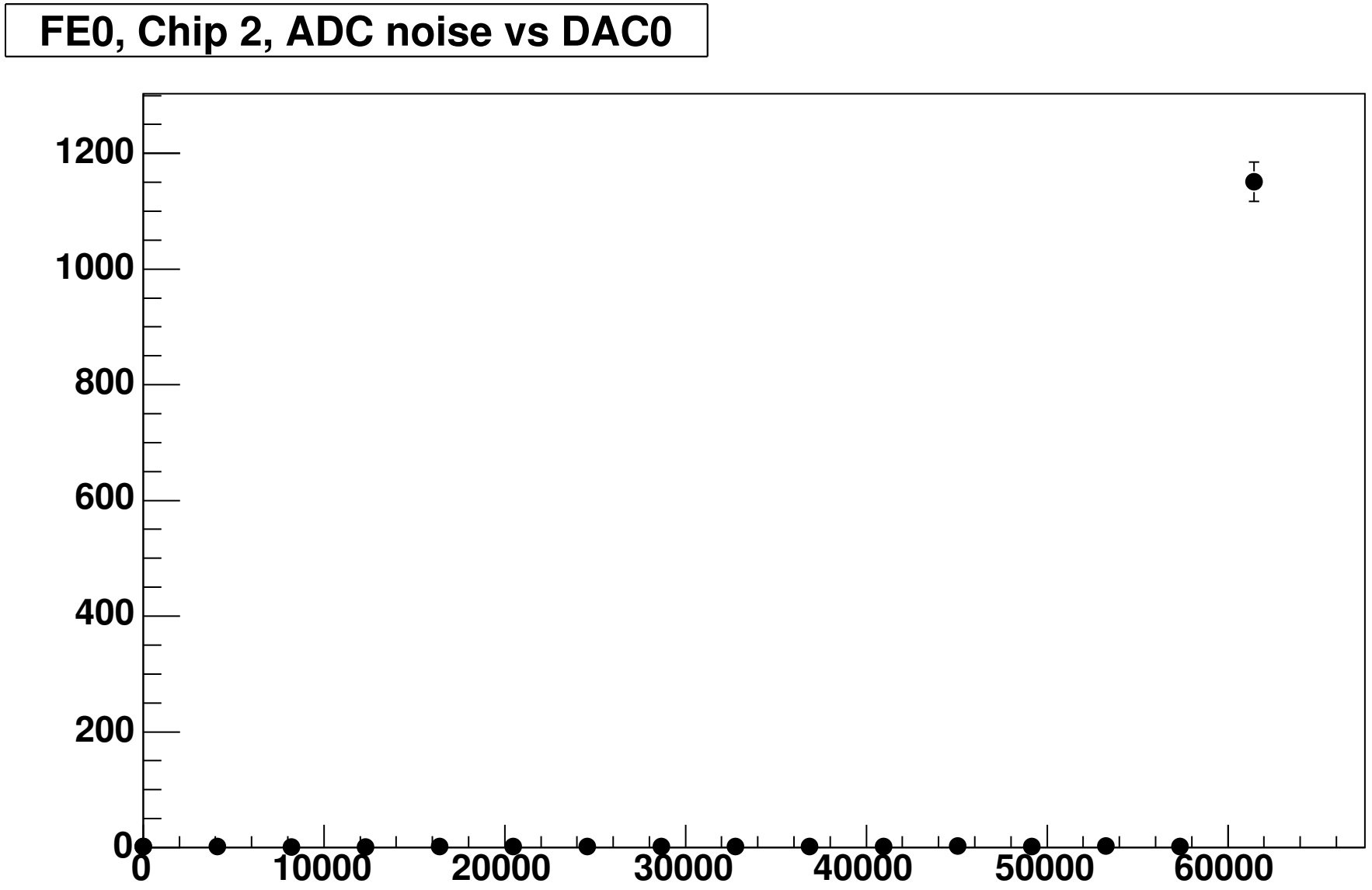

FE0, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

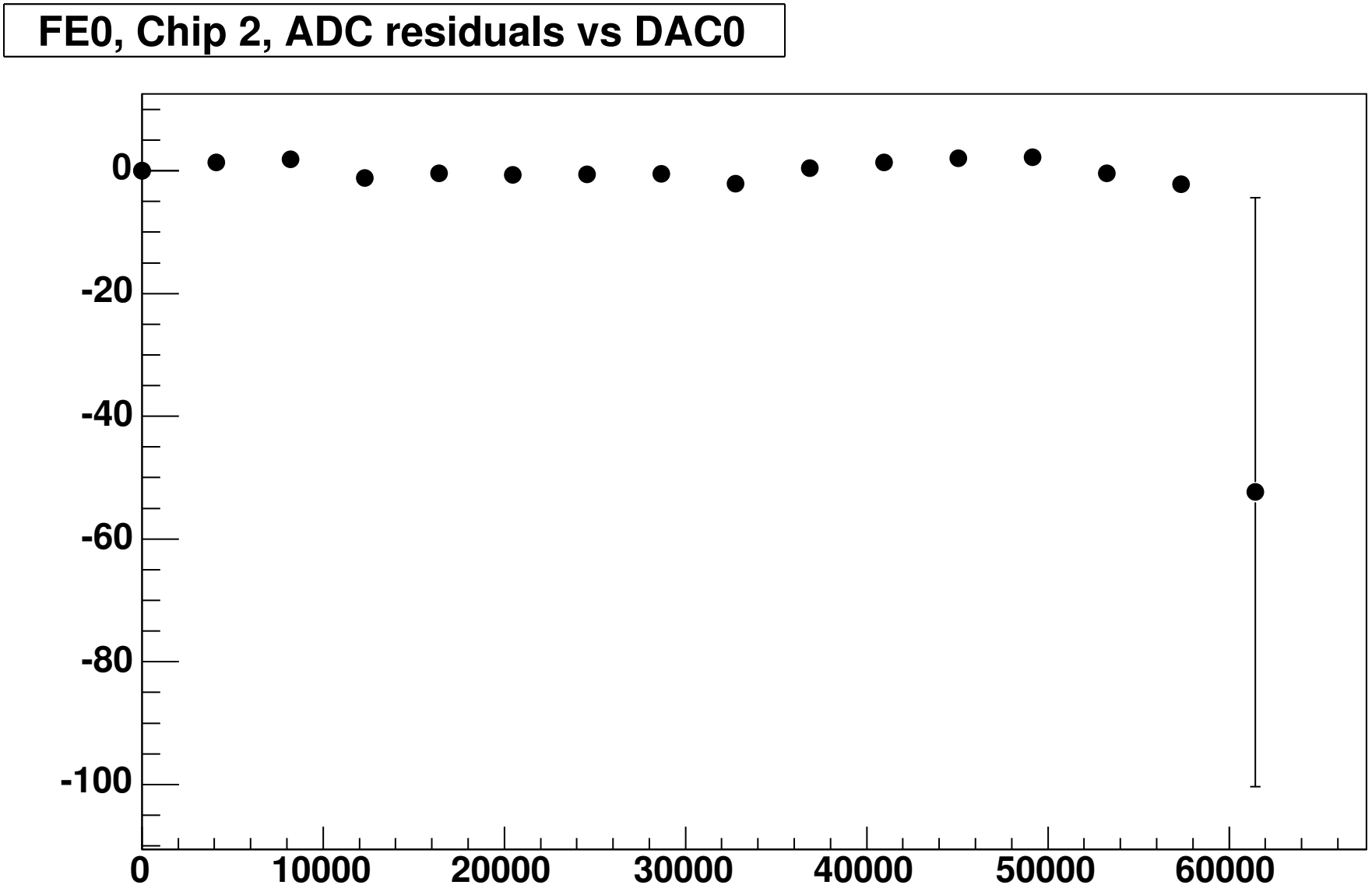

FE0, Chip 1, ADC mean vs DAC1
χ² / ndf 49.25 / 11
p0 89.56 ± 0.03961
p1 5.788e-06 ± 1.09e-06
90.2
90.1
90
89.9
89.8
89.7
89.6
89.5
89.4
89.3
0
10000
20000
30000
40000
50000
60000

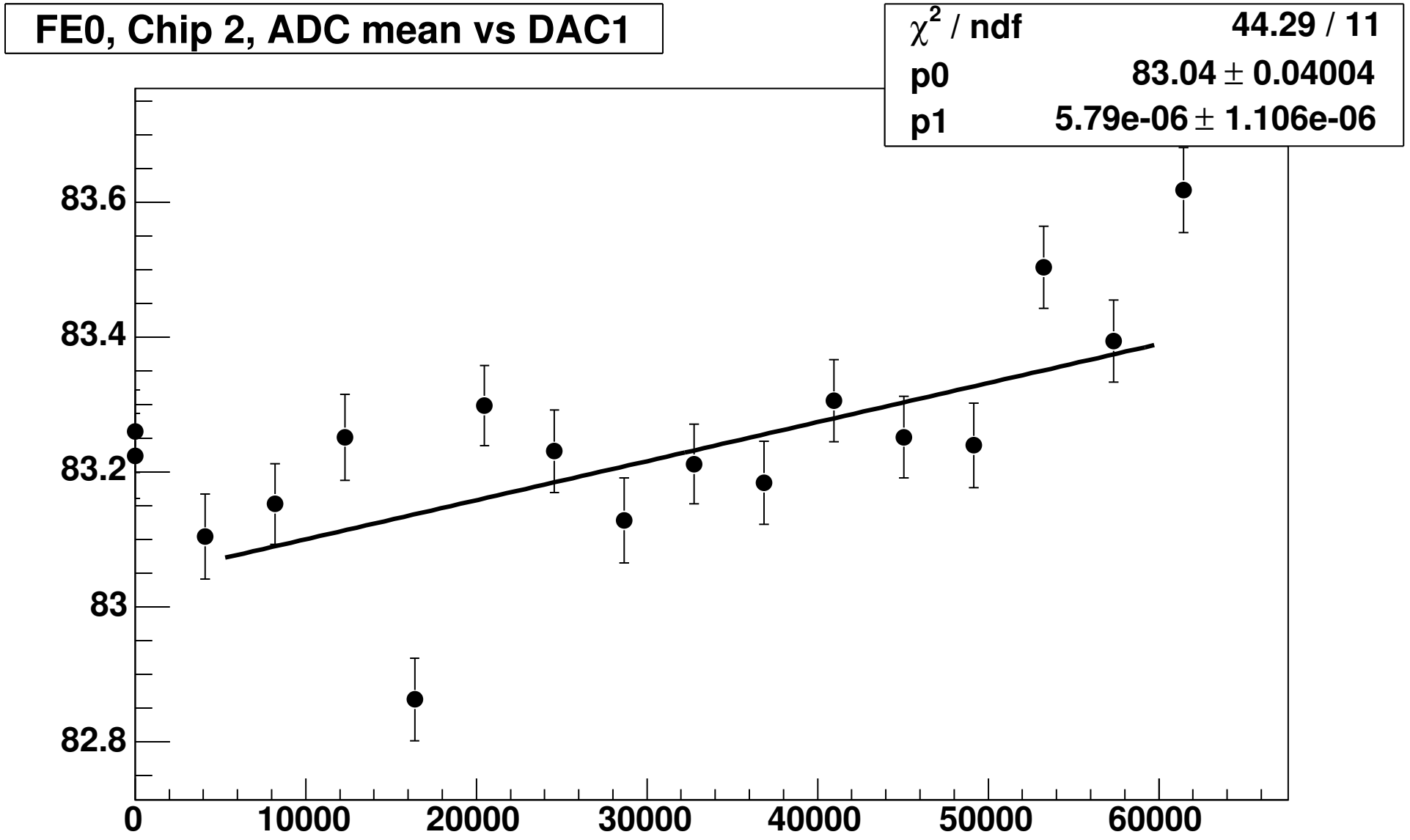

FE0, Chip 1, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

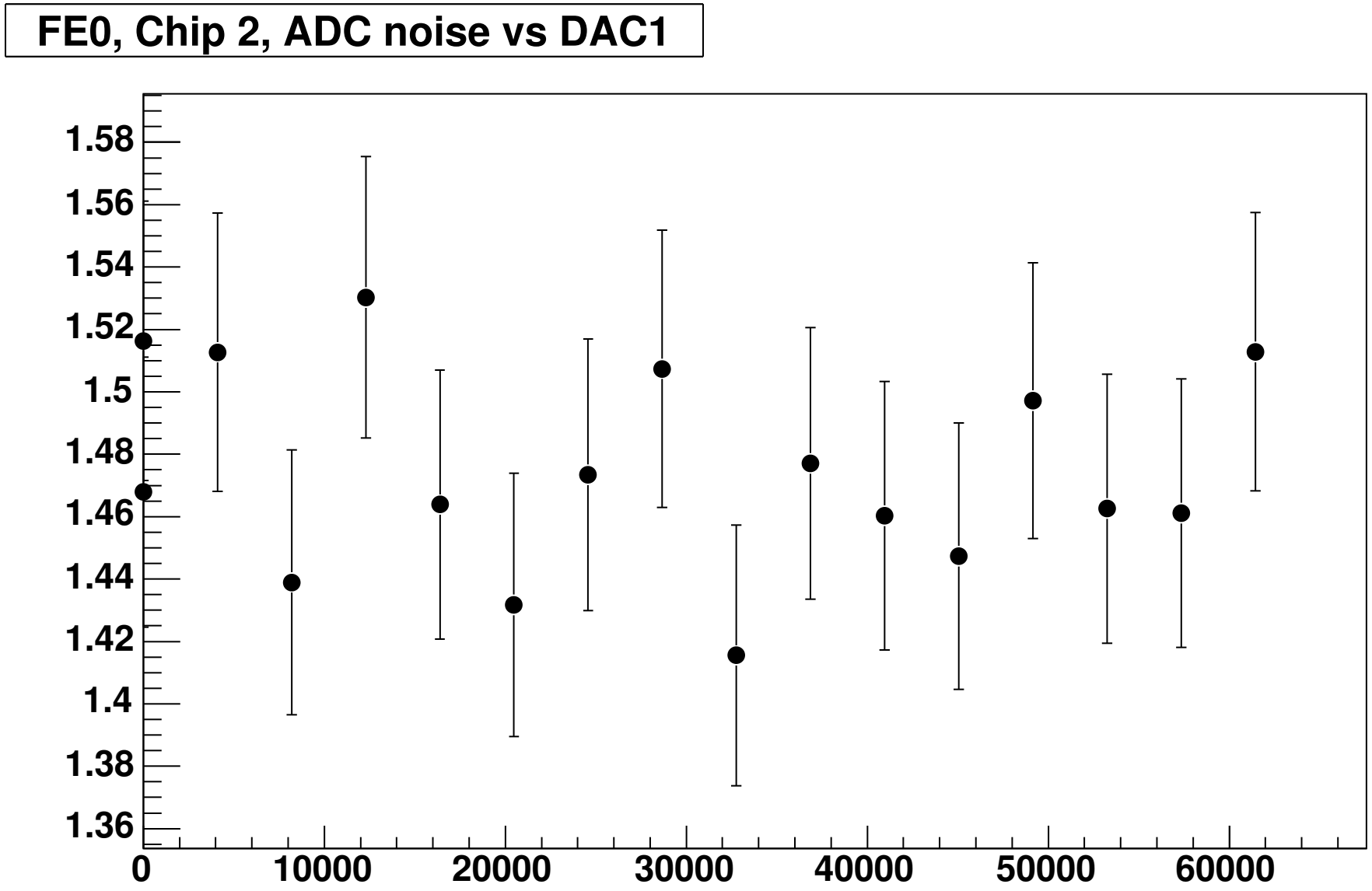

FE0, Chip 1, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

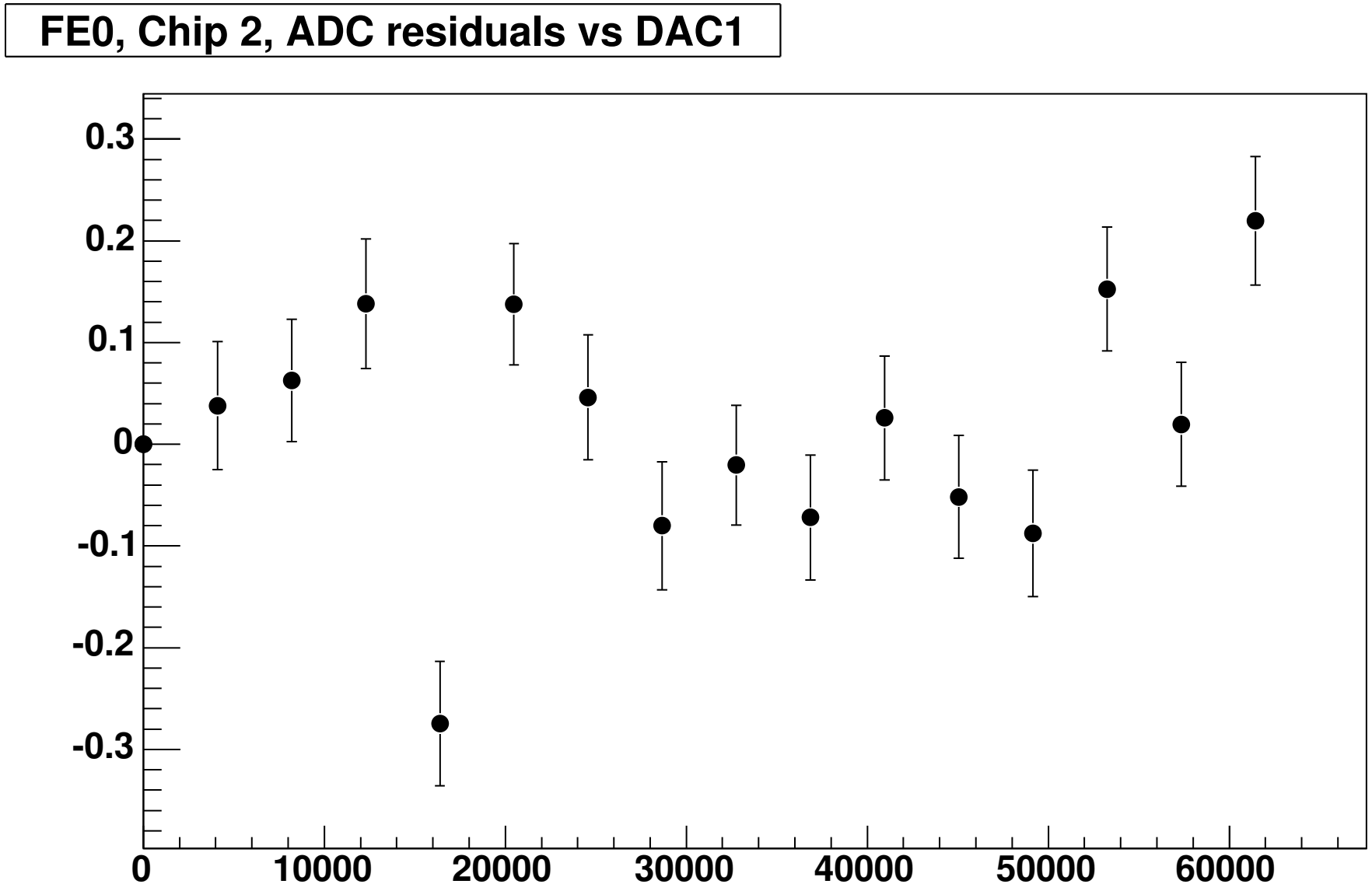

FE0, Chip 2, ADC mean vs DAC0
χ² / ndf 5054 / 11
p0 81.63 ± 0.03984
p1 0.4488 ± 1.268e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

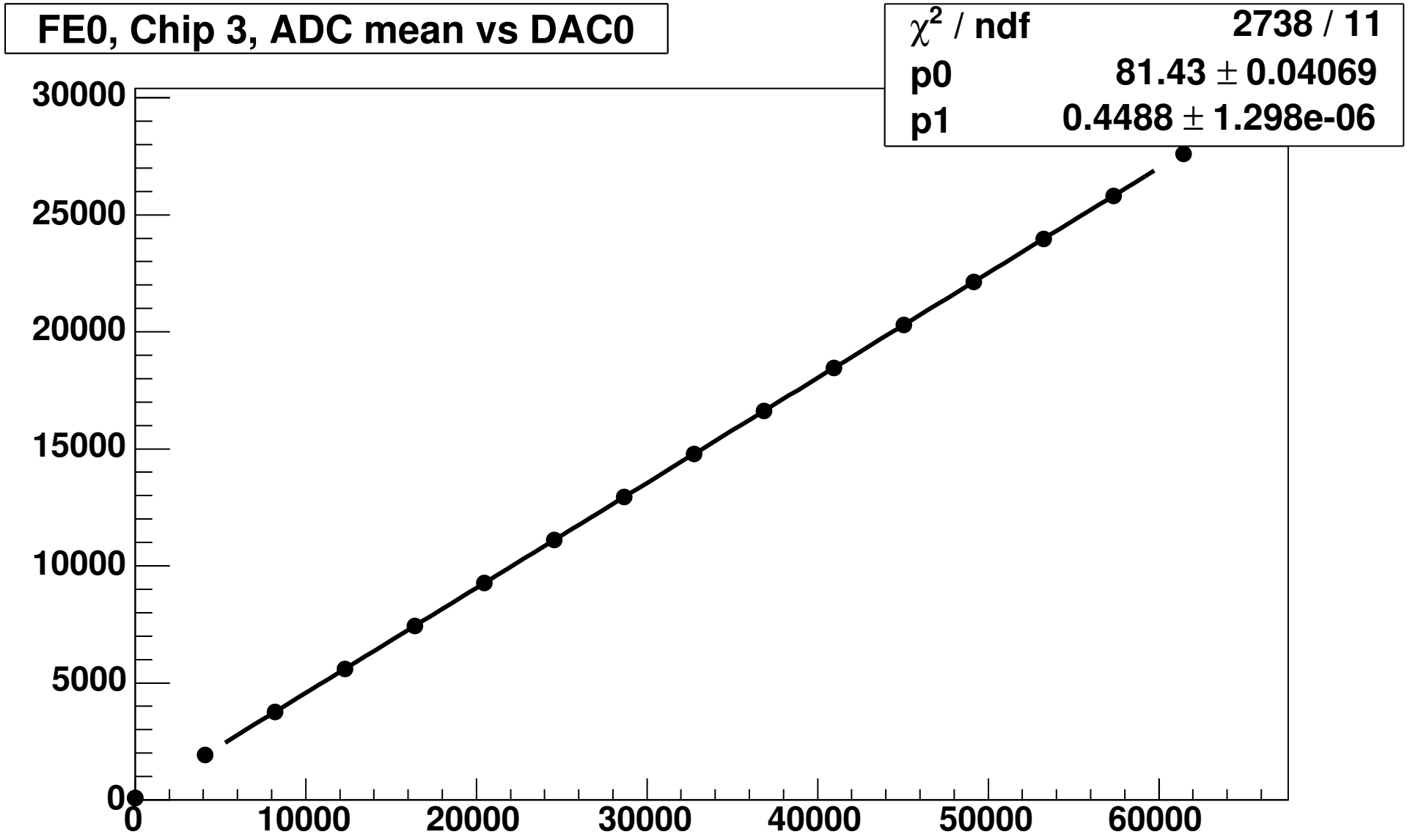

FE0, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

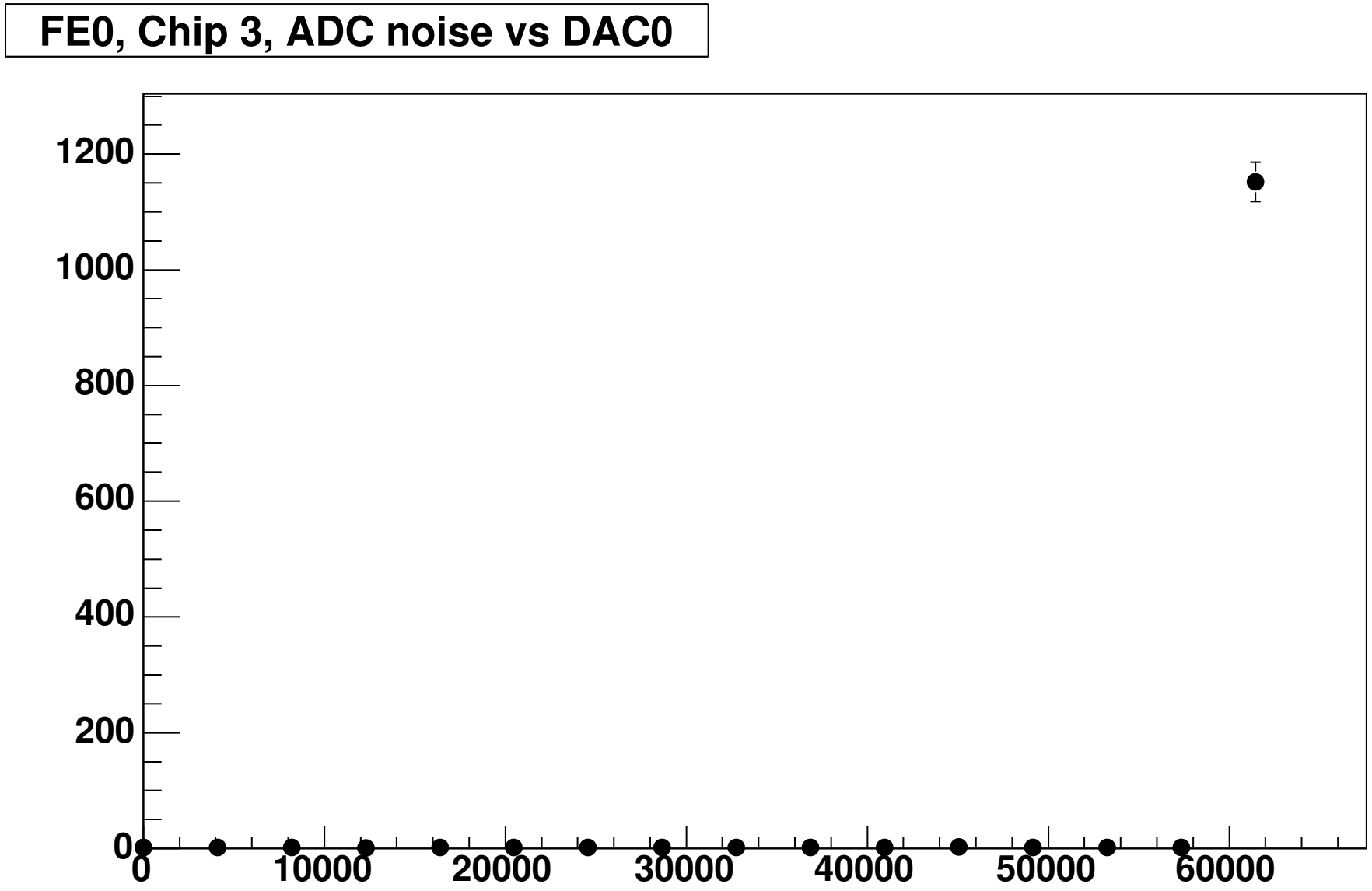

FE0, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

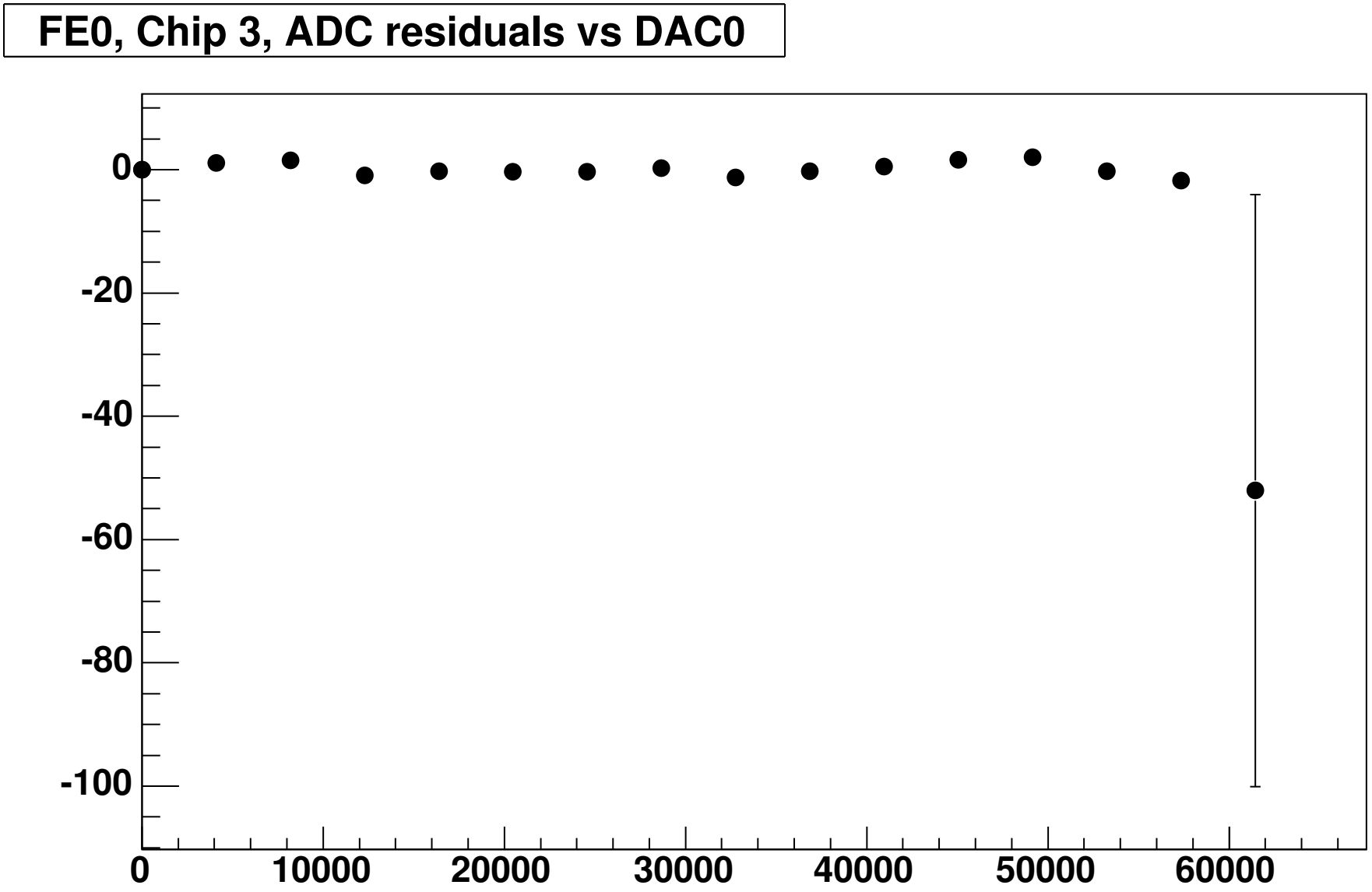

FE0, Chip 2, ADC mean vs DAC1
χ² / ndf 44.29 / 11
p0 83.04 ± 0.04004
p1 5.79e-06 ± 1.106e-06
83.6
83.4
83.2
83
82.8
0
10000
20000
30000
40000
50000
60000

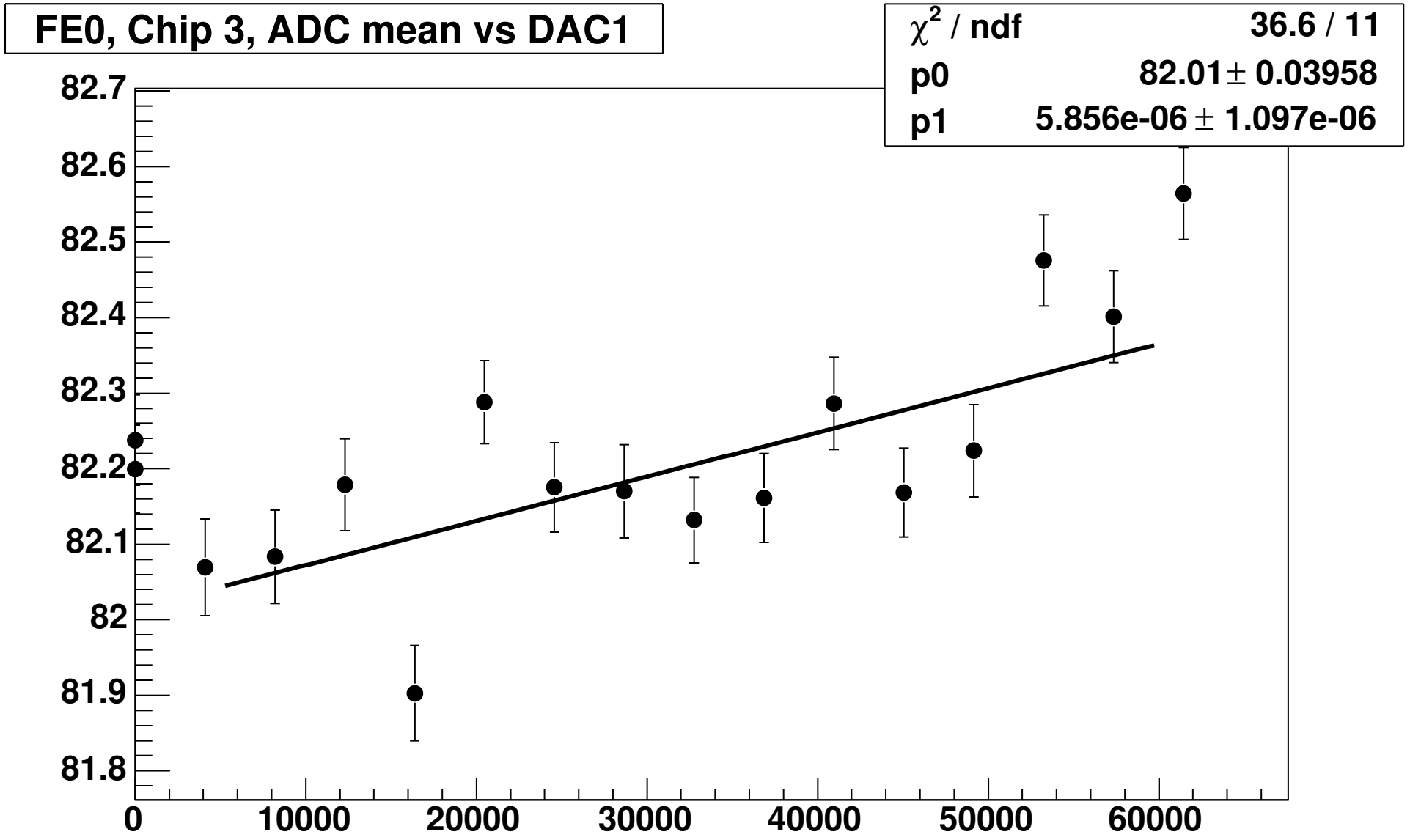

FE0, Chip 2, ADC noise vs DAC1
1.58
1.56
1.54
1.52
1.5
1.48
1.46
1.44
1.42
1.4
1.38
1.36
0
10000
20000
30000
40000
50000
60000

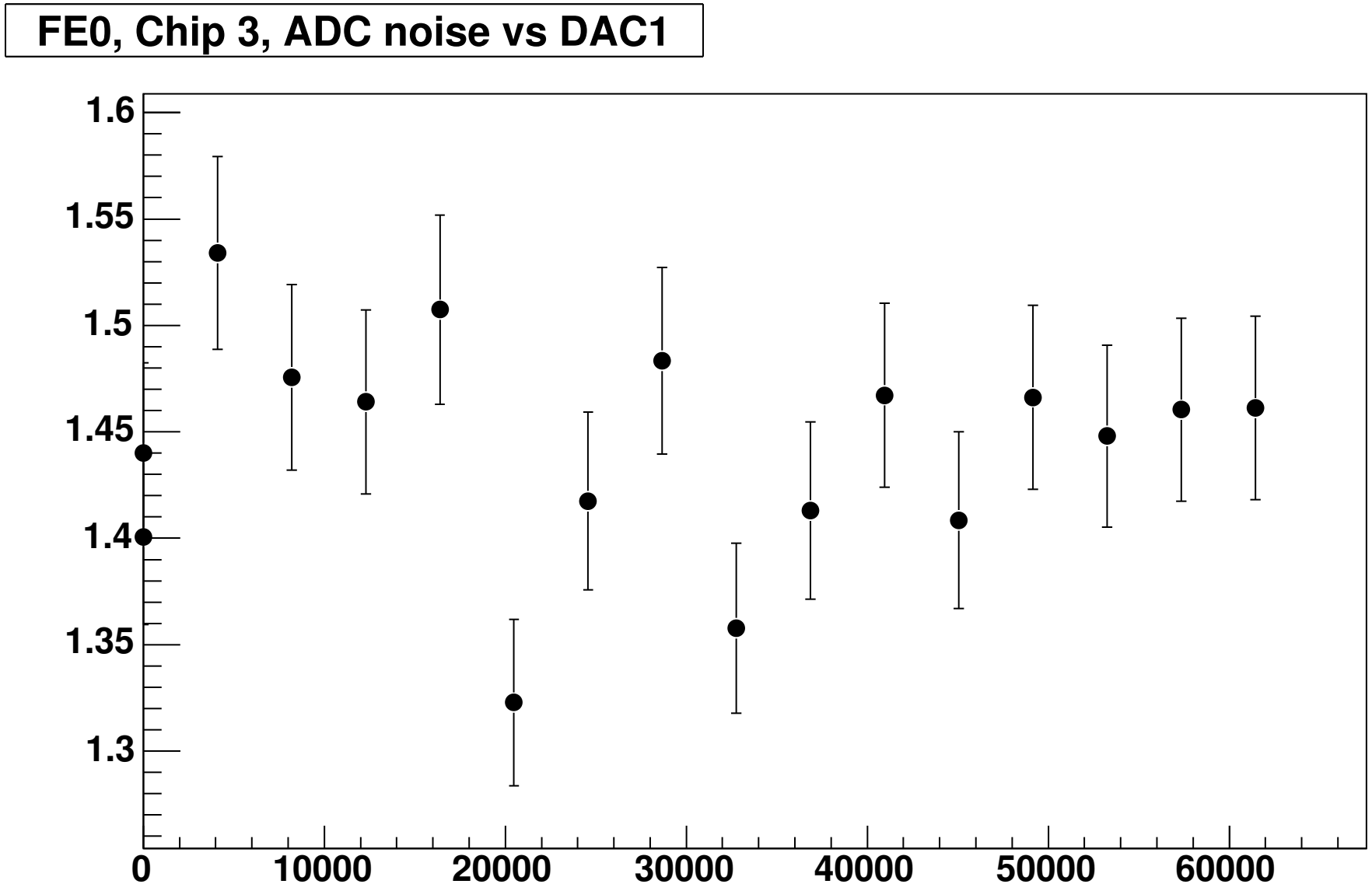

FE0, Chip 2, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

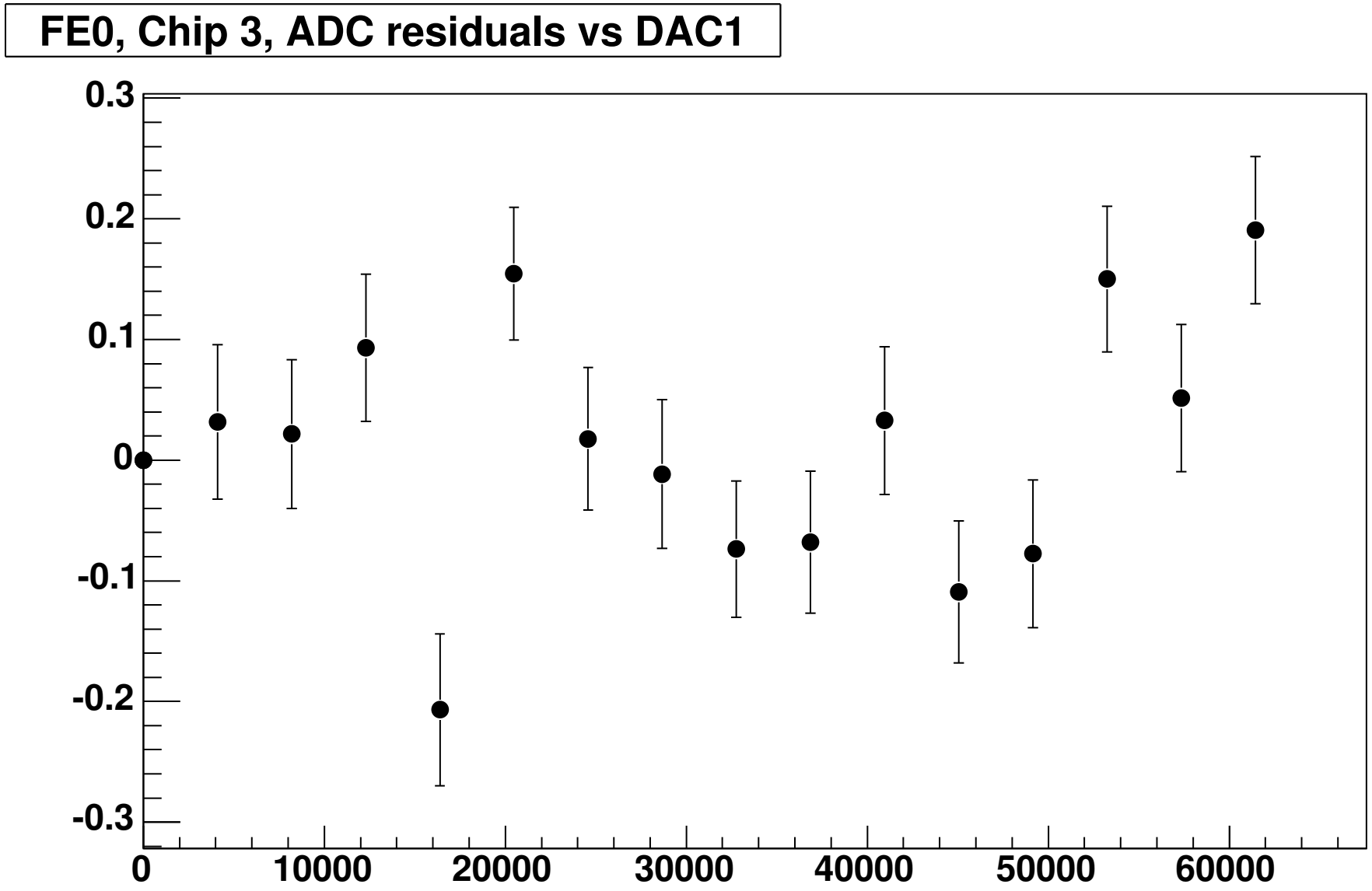

FE0, Chip 3, ADC mean vs DAC0
χ² / ndf 2738 / 11
p0 81.43 ± 0.04069
p1 0.4488 ± 1.298e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

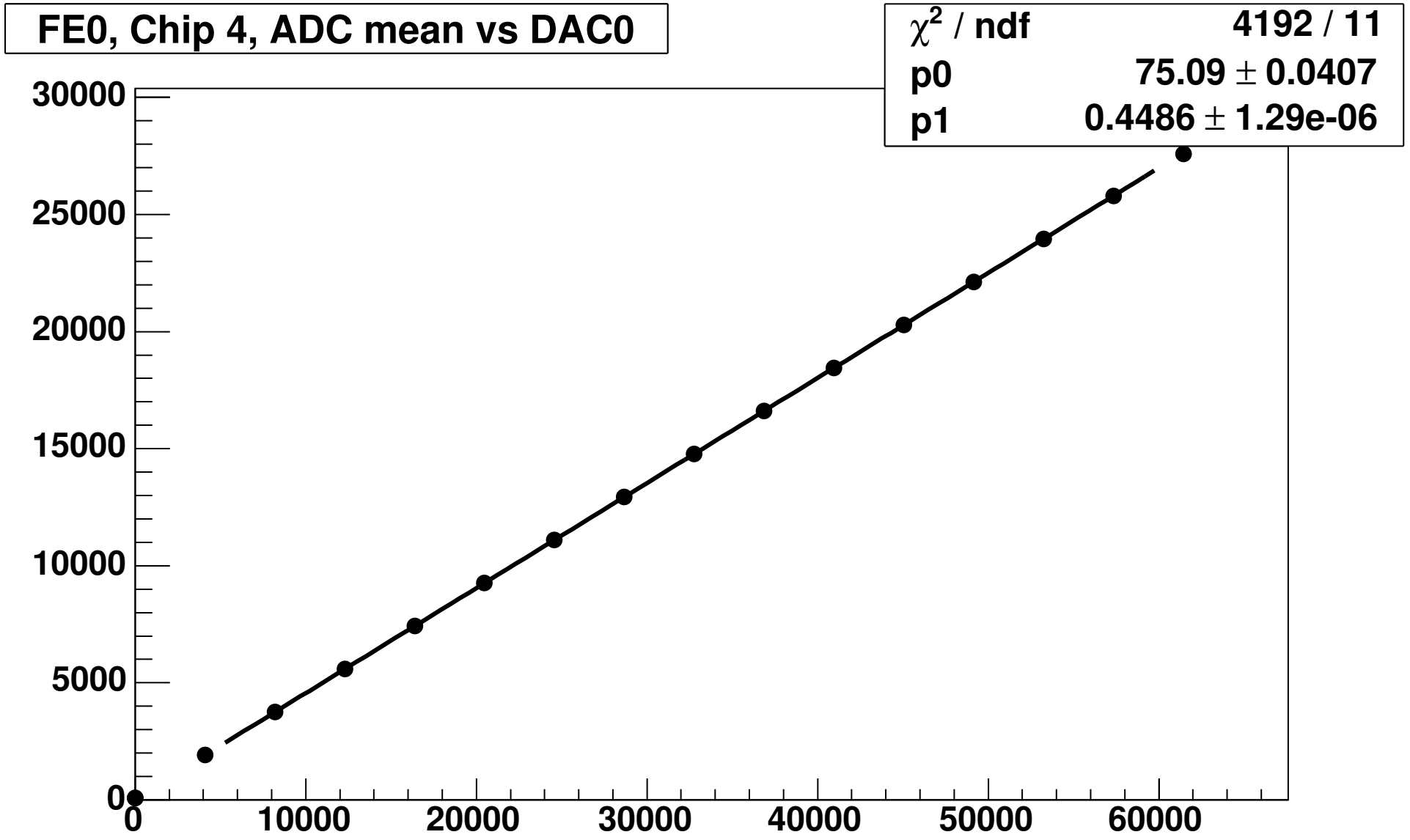

FE0, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

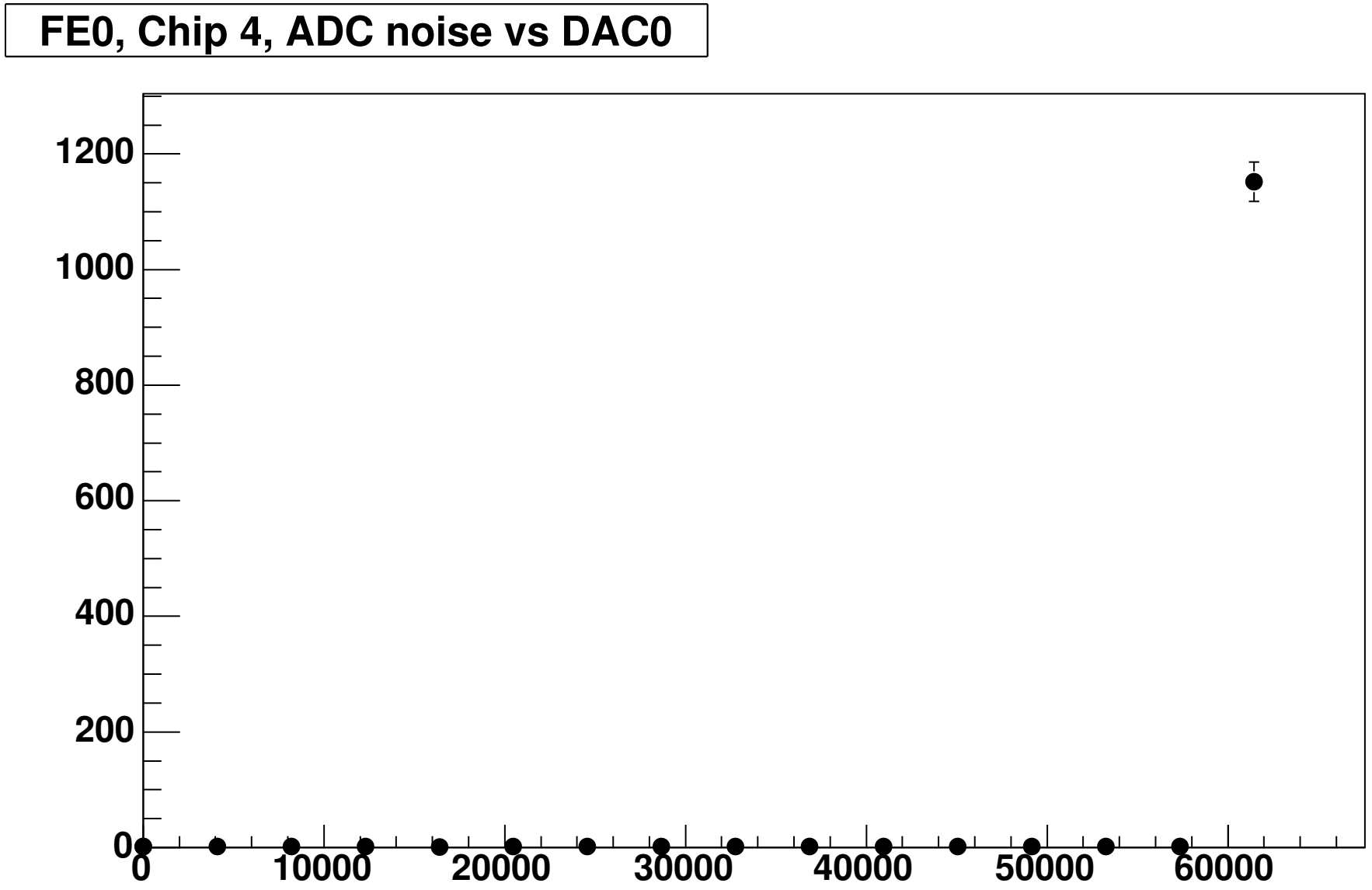

FE0, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

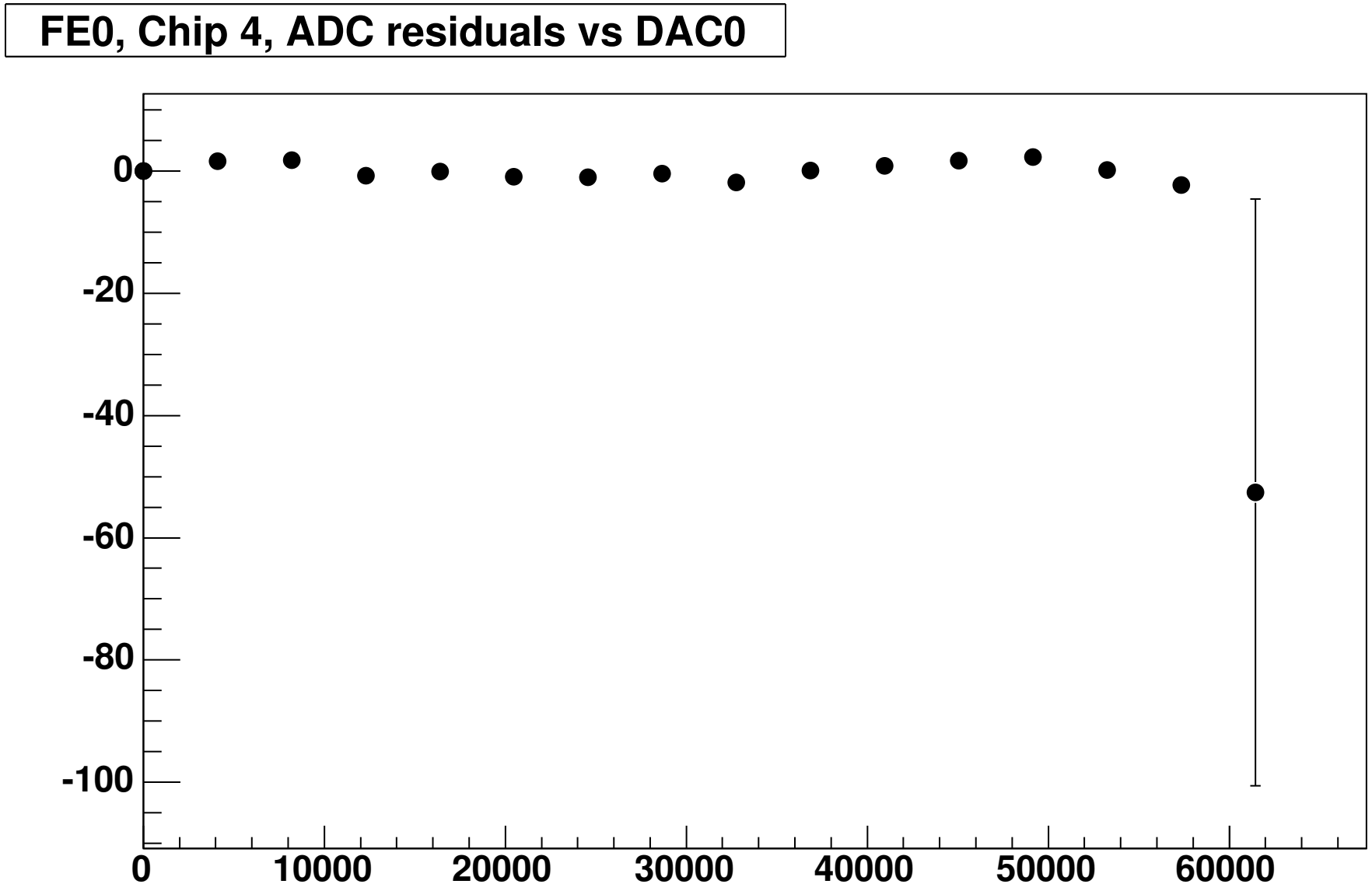

FE0, Chip 3, ADC mean vs DAC1
χ² / ndf 36.6 / 11
p0 82.01 ± 0.03958
p1 5.856e-06 ± 1.097e-06
82.7
82.6
82.5
82.4
82.3
82.2
82.1
82
81.9
81.8
0
10000
20000
30000
40000
50000
60000

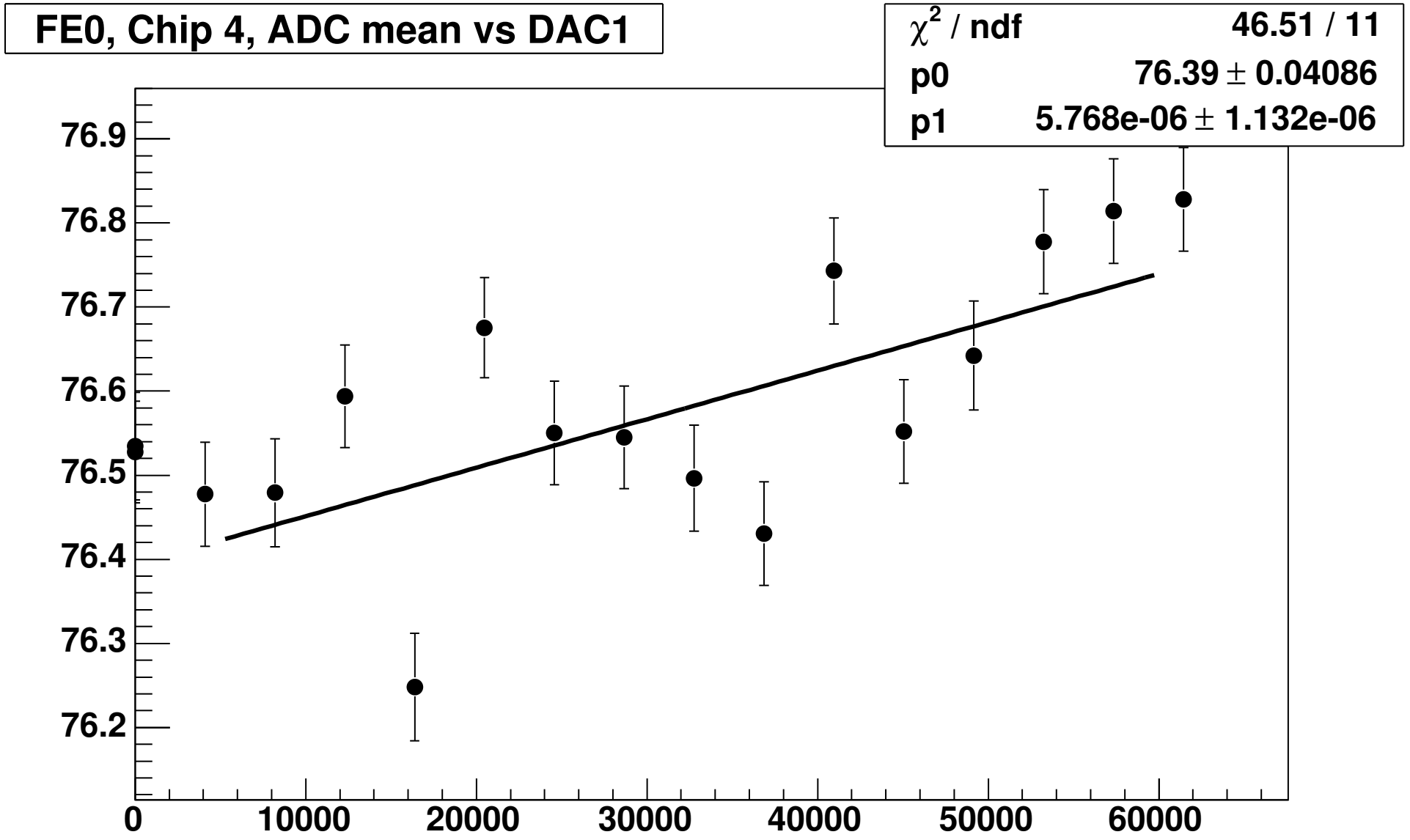

FE0, Chip 3, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

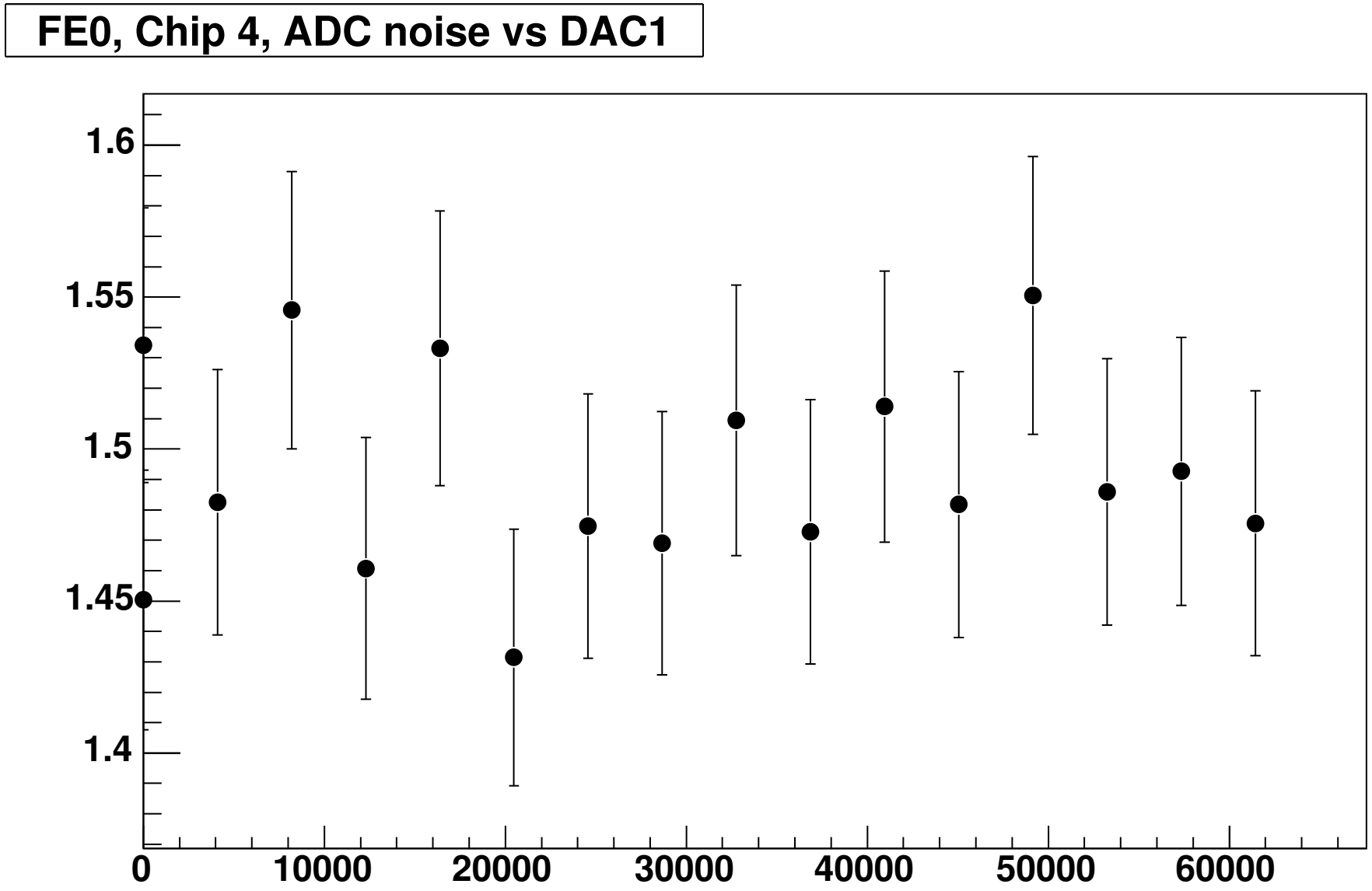

FE0, Chip 3, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

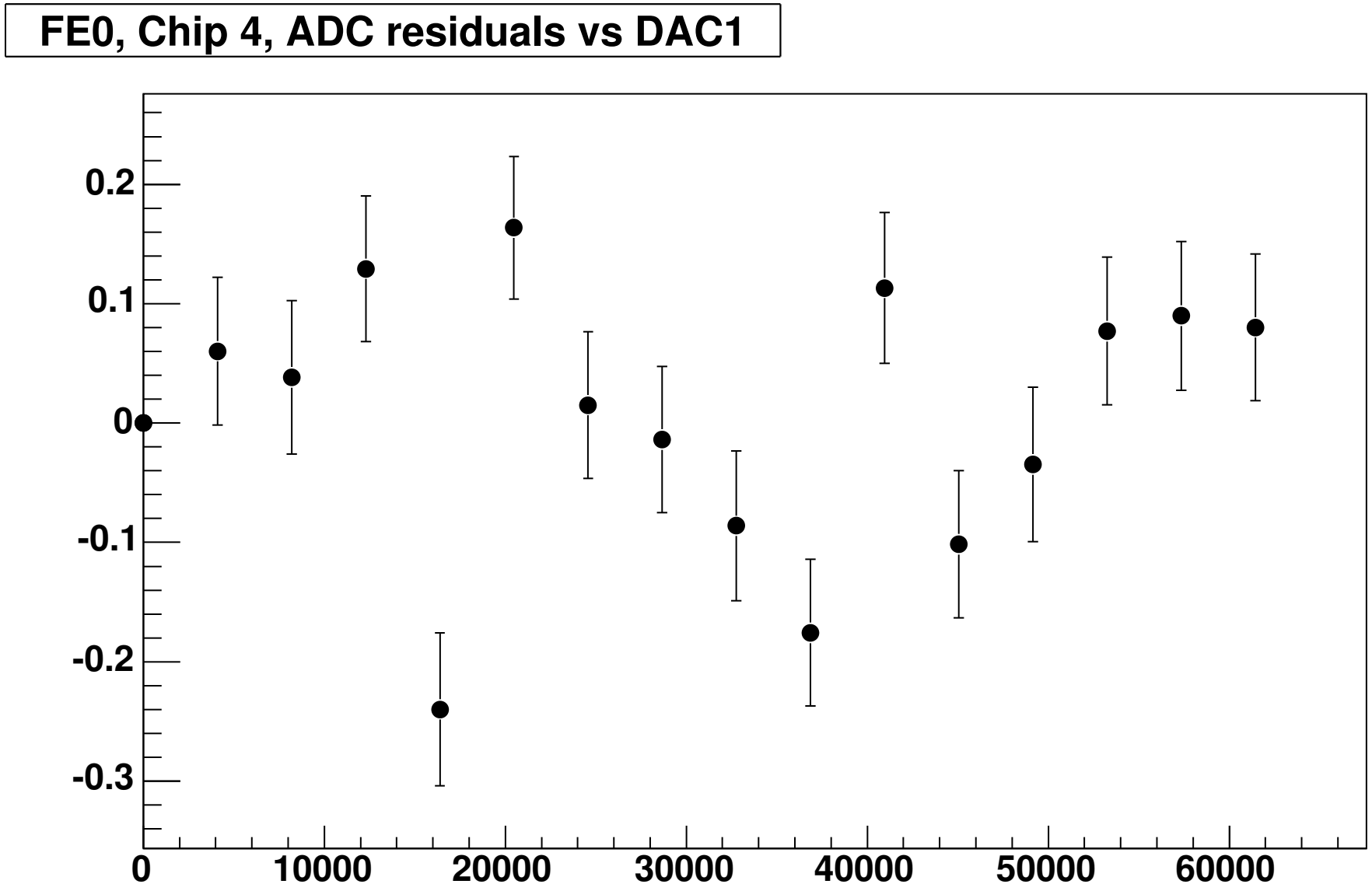

FE0, Chip 4, ADC mean vs DAC0
χ² / ndf 4192 / 11
p0 75.09 ± 0.0407
p1 0.4486 ± 1.29e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

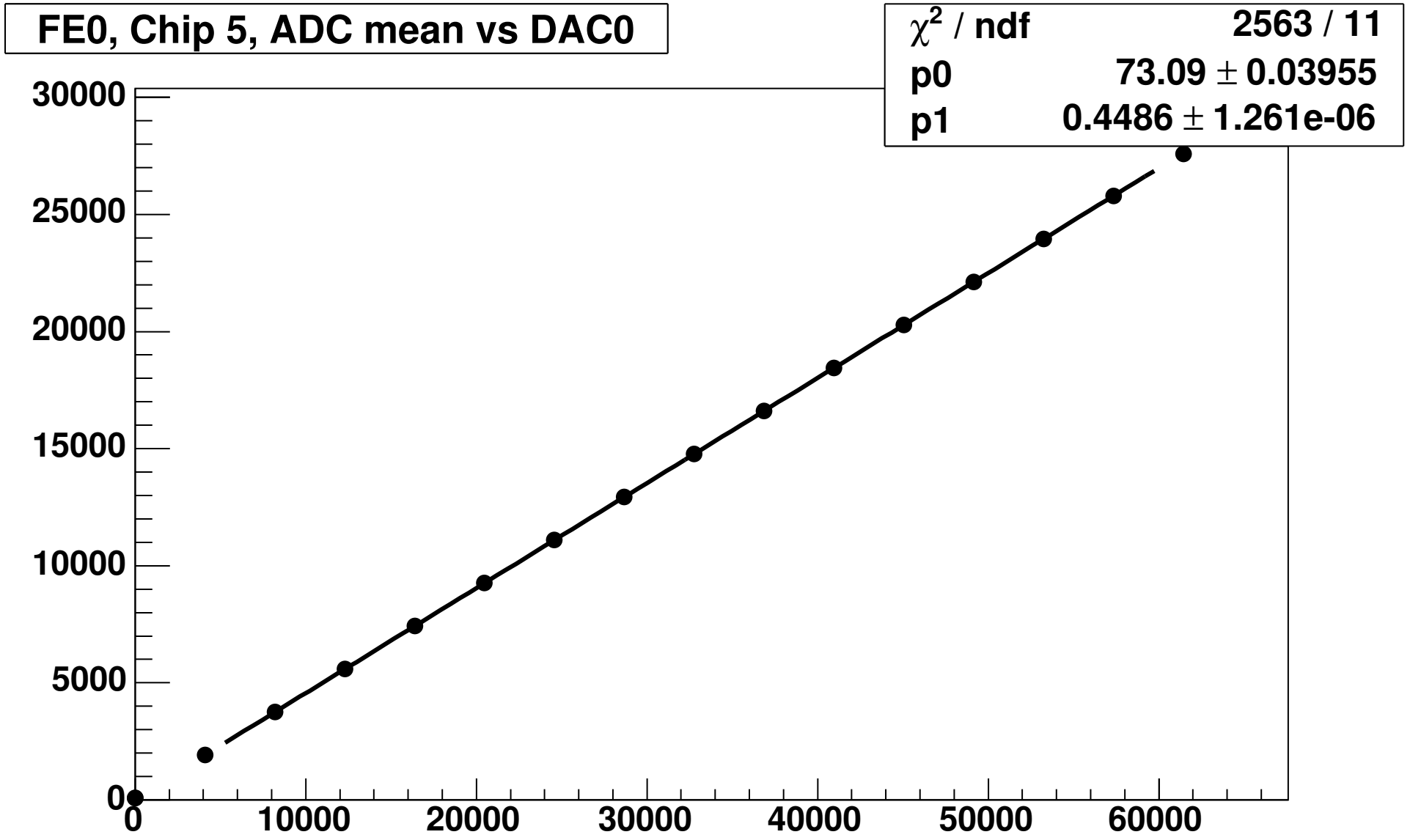

FE0, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

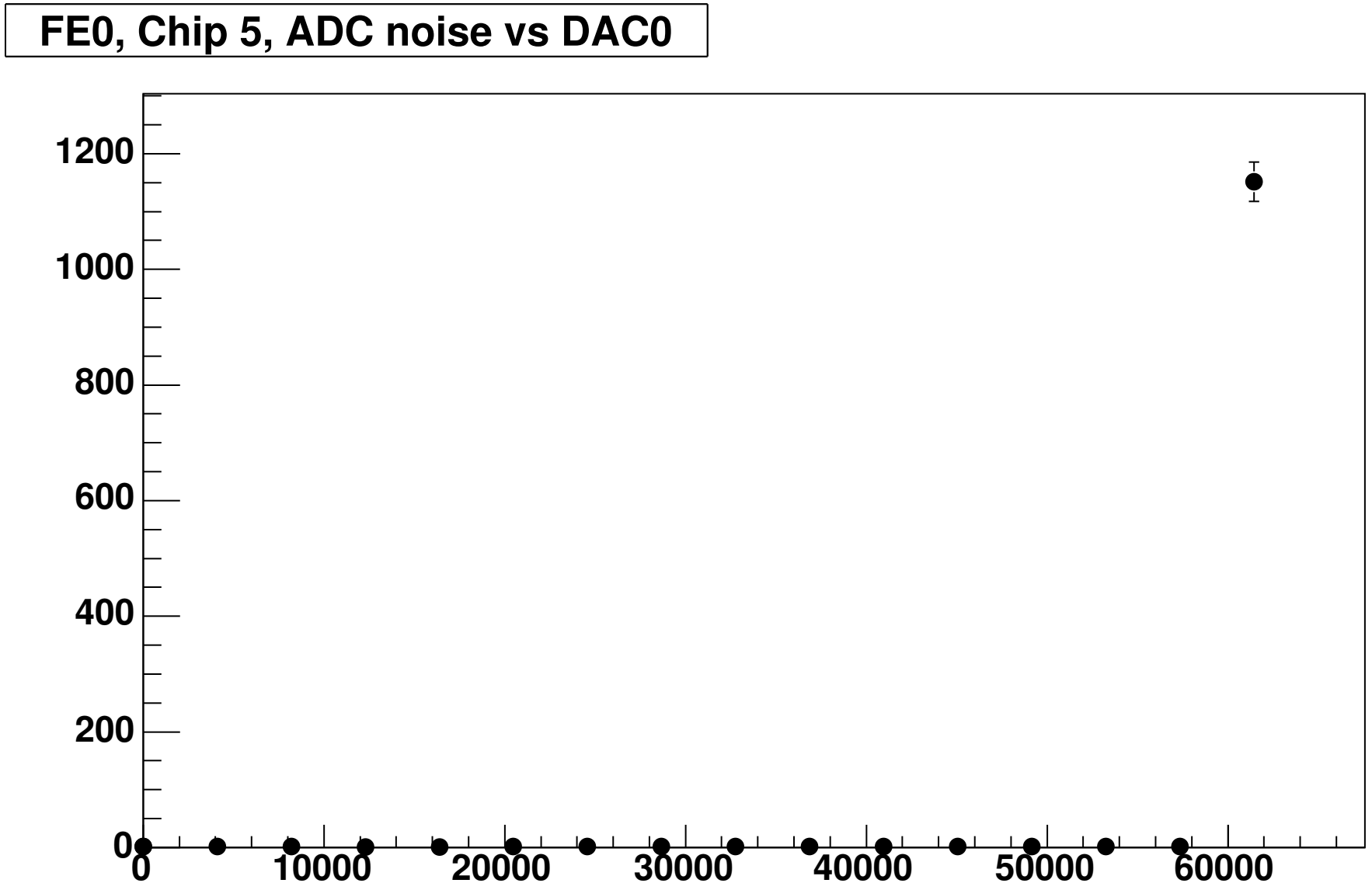

FE0, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

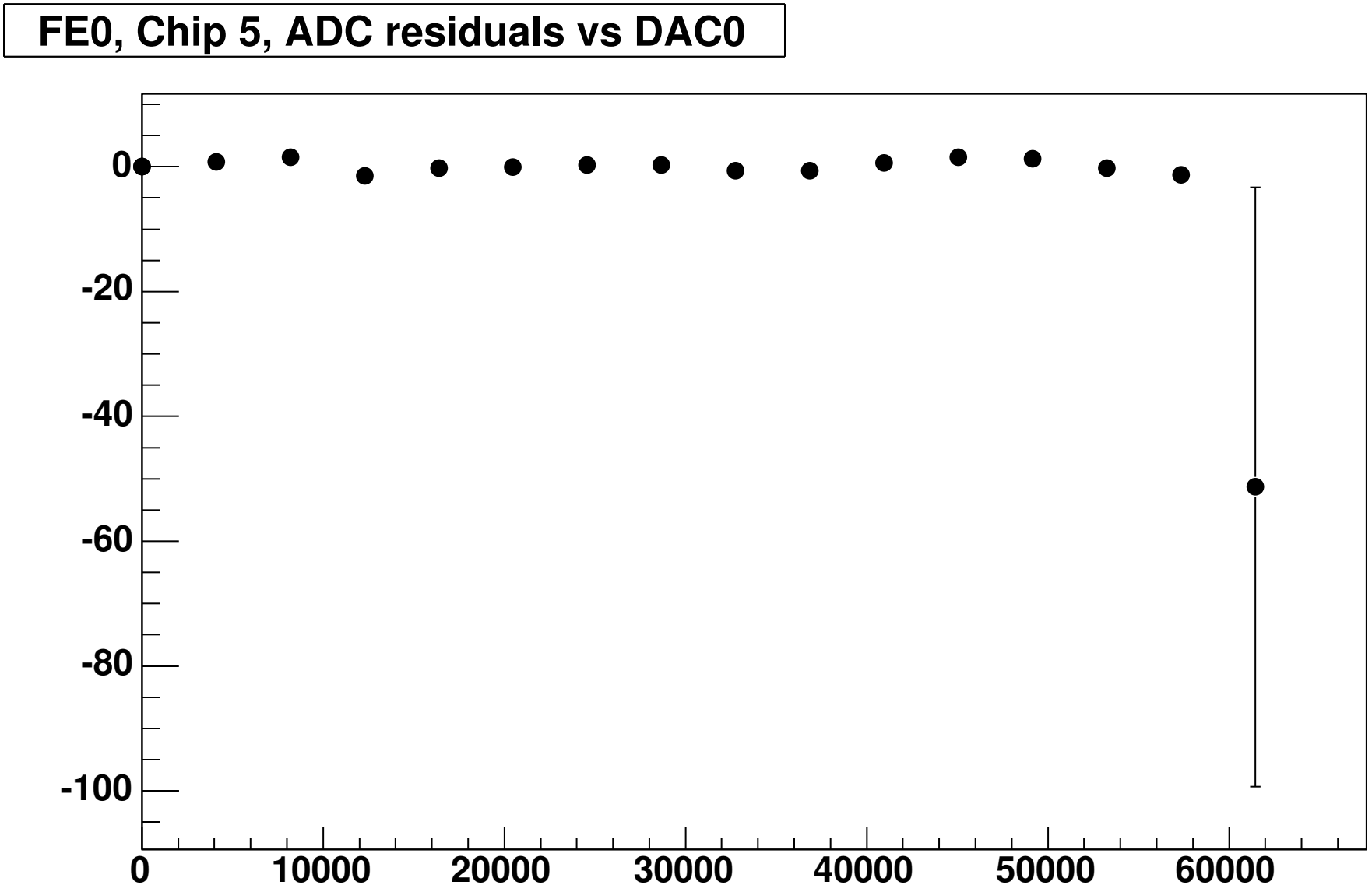

FE0, Chip 4, ADC mean vs DAC1
χ² / ndf 46.51 / 11
p0 76.39 ± 0.04086
p1 5.768e-06 ± 1.132e-06
76.9
76.8
76.7
76.6
76.5
76.4
76.3
76.2
0
10000
20000
30000
40000
50000
60000

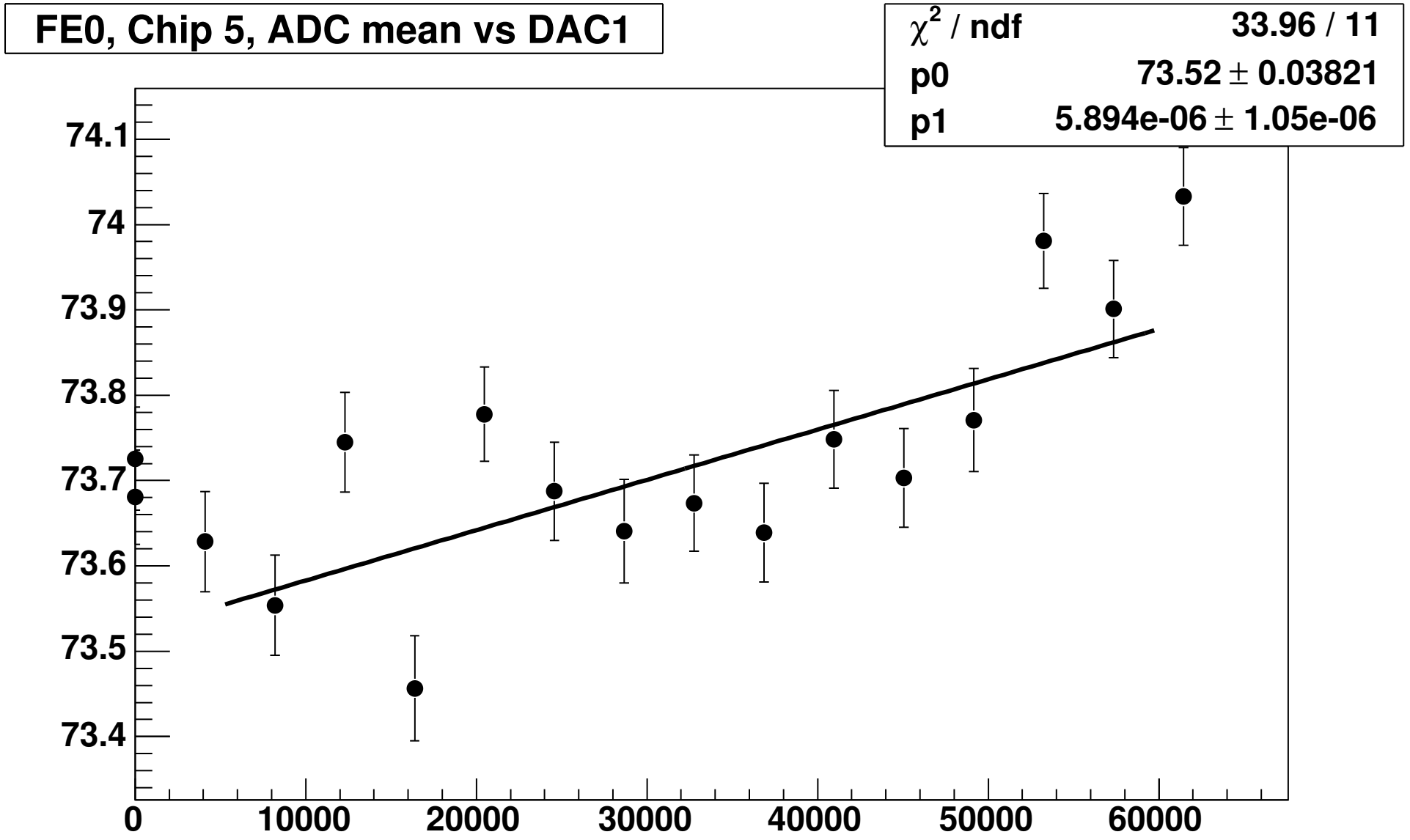

FE0, Chip 4, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

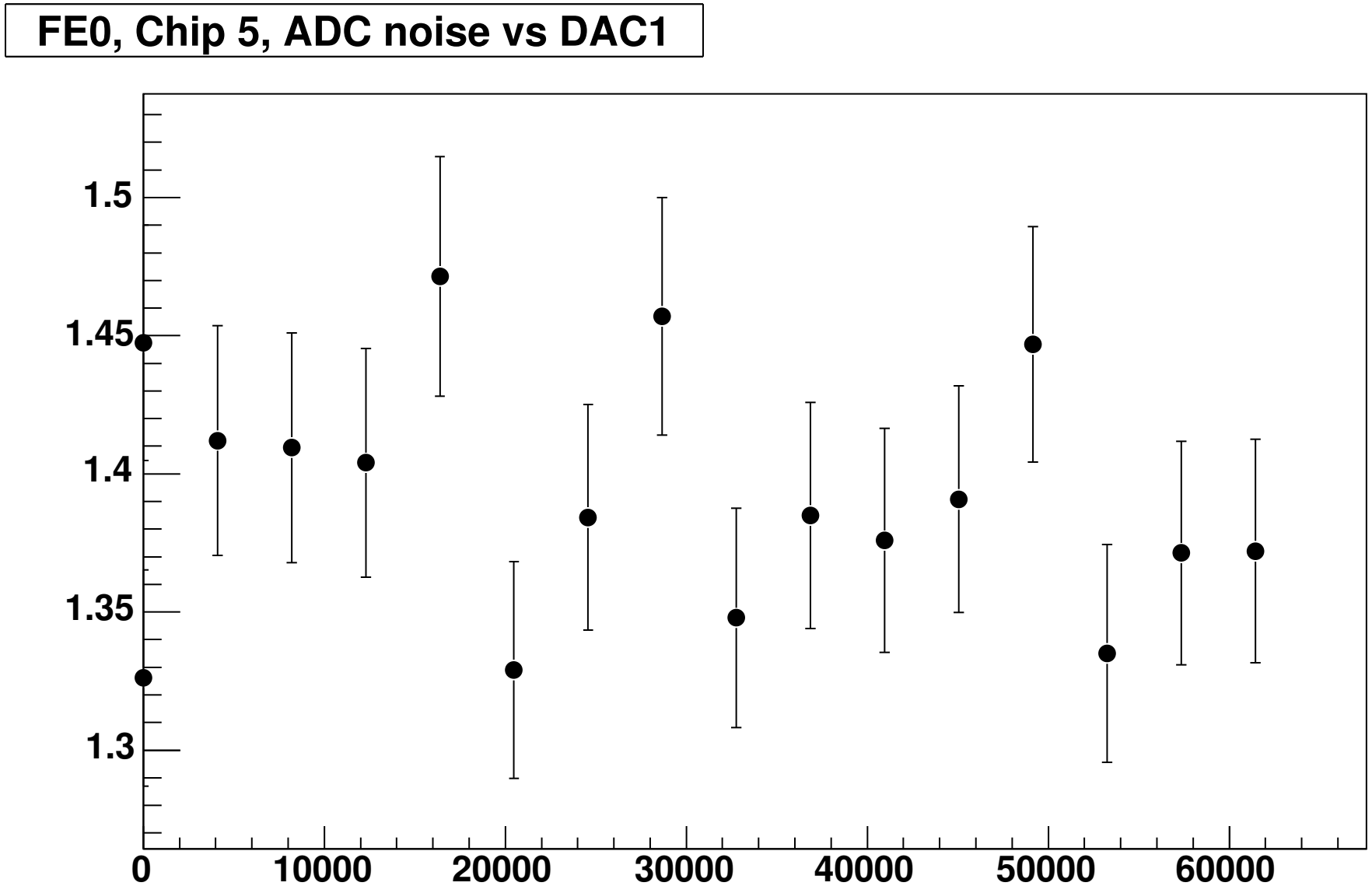

FE0, Chip 4, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

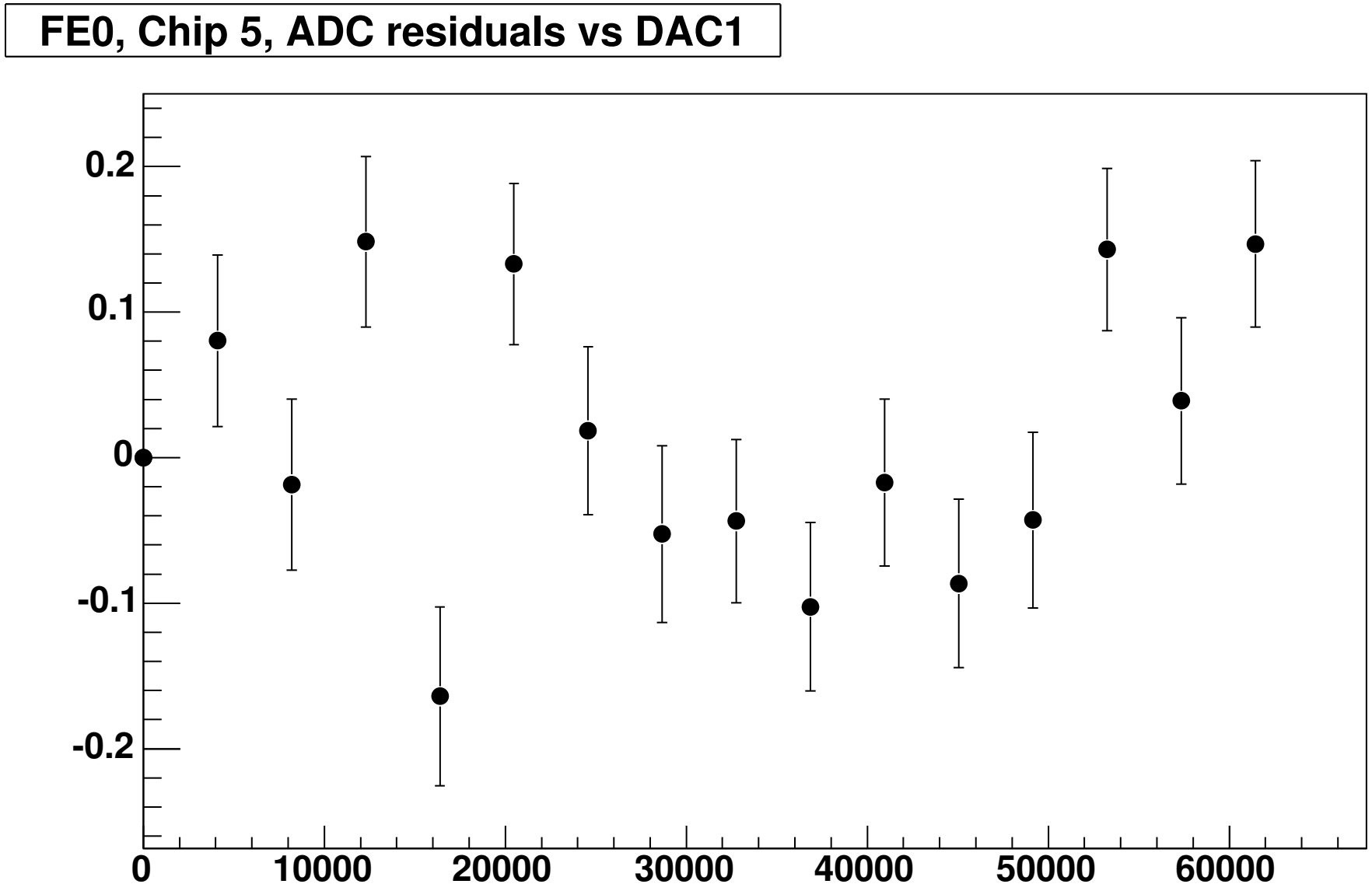

FE0, Chip 5, ADC mean vs DAC0
χ² / ndf 2563 / 11
p0 73.09 ± 0.03955
p1 0.4486 ± 1.261e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

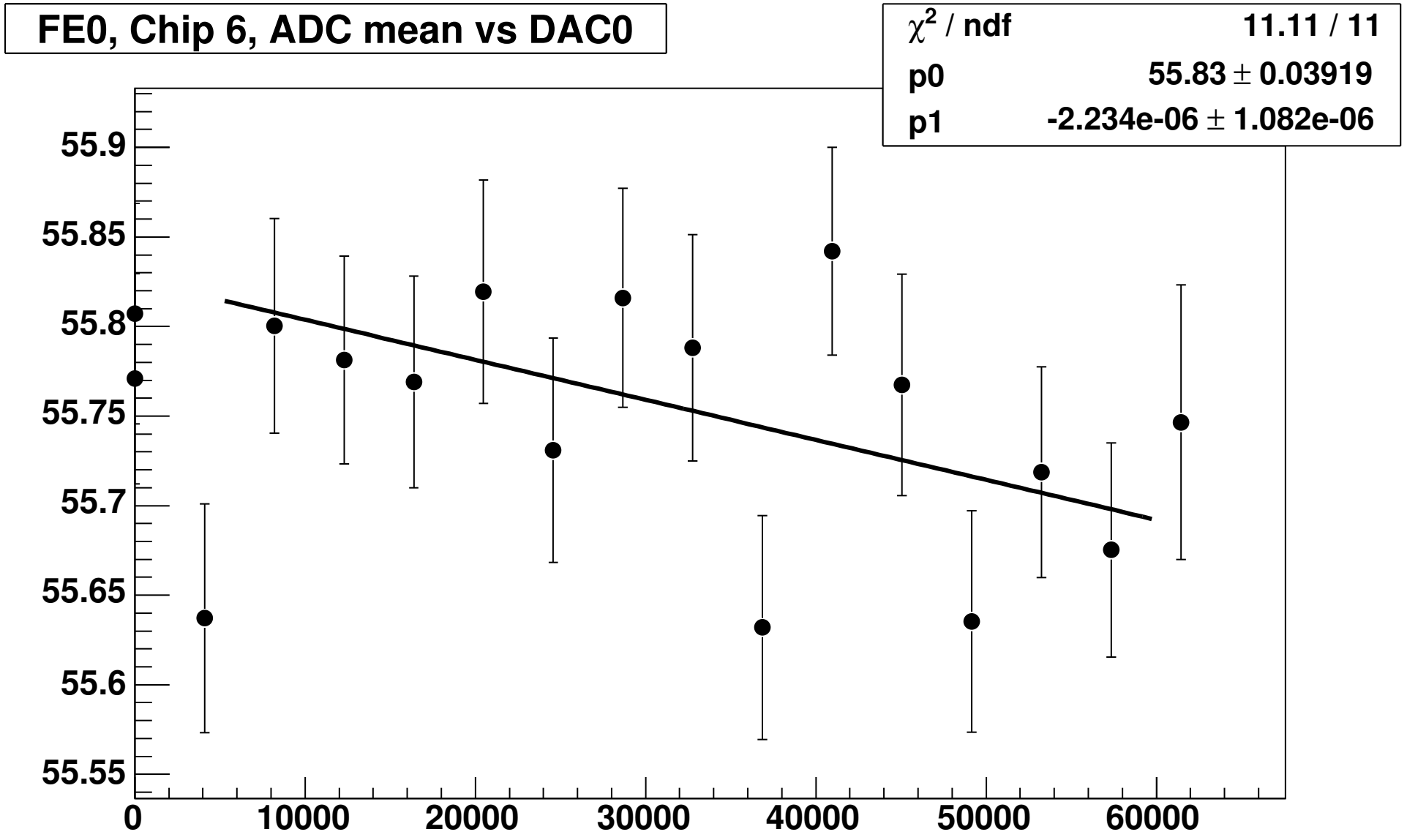

FE0, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

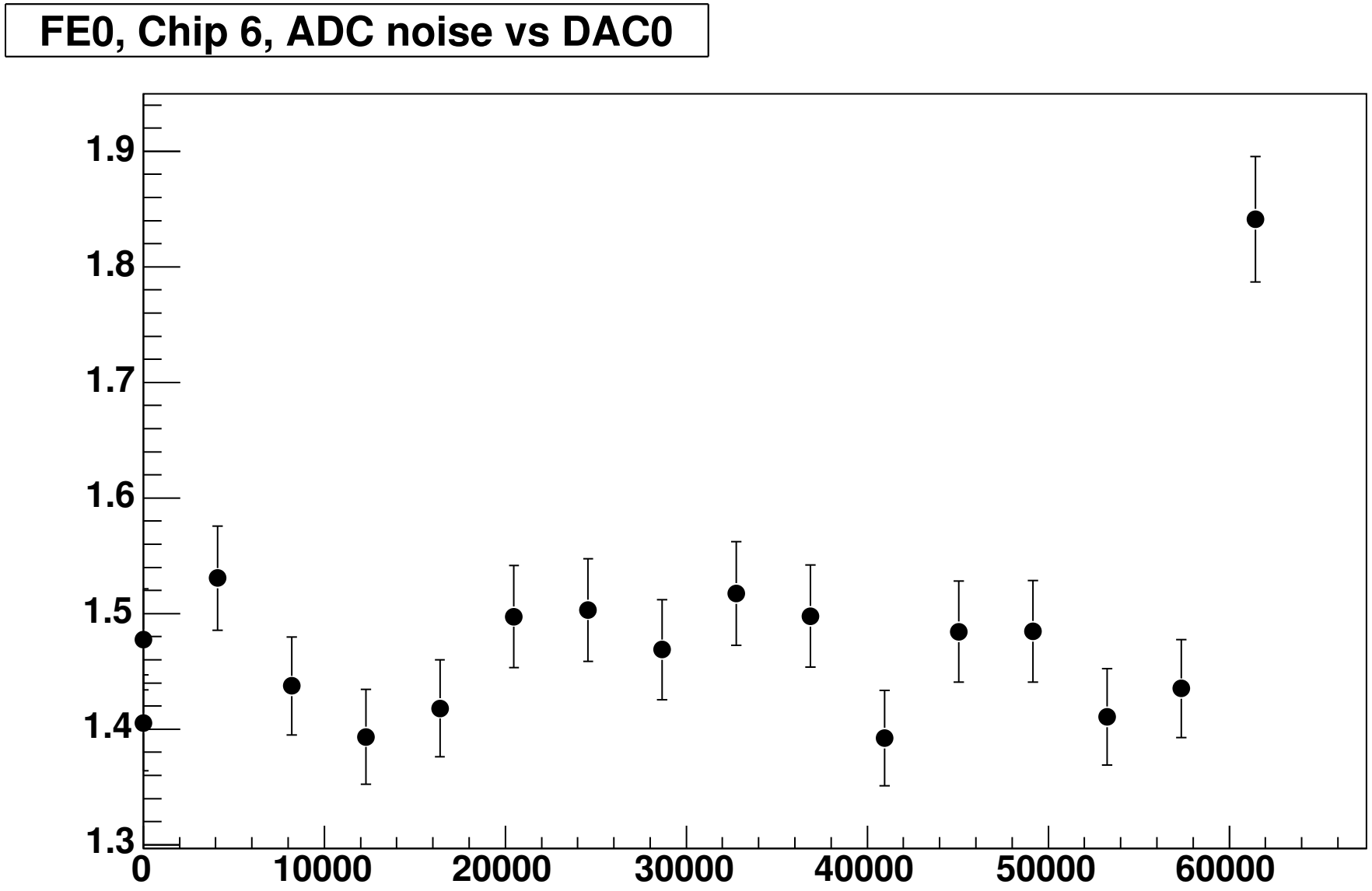

FE0, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

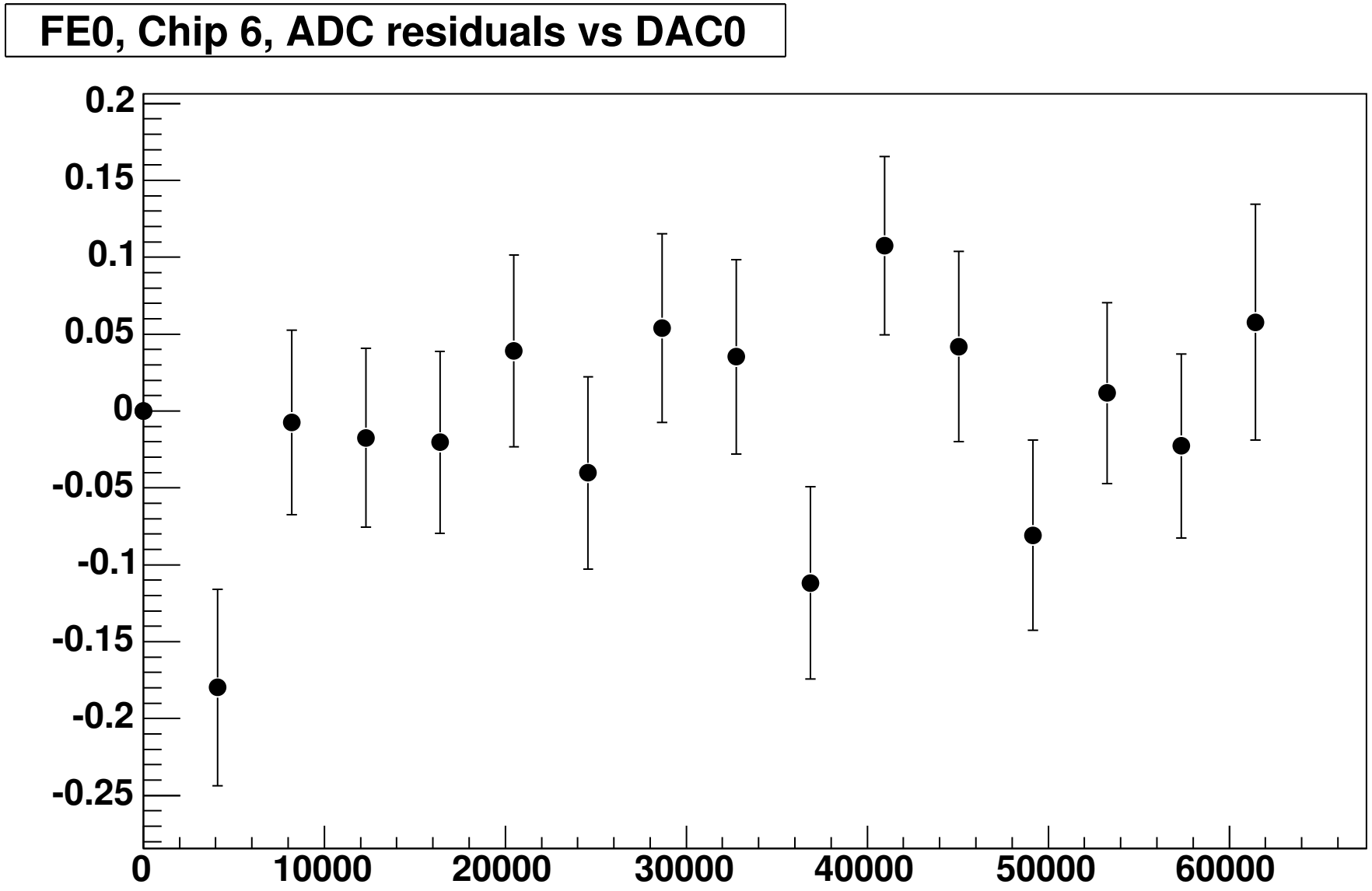

FE0, Chip 5, ADC mean vs DAC1
χ² / ndf 33.96 / 11
p0 73.52 ± 0.03821
p1 5.894e-06 ± 1.05e-06
74.1
74
73.9
73.8
73.7
73.6
73.5
73.4
0
10000
20000
30000
40000
50000
60000

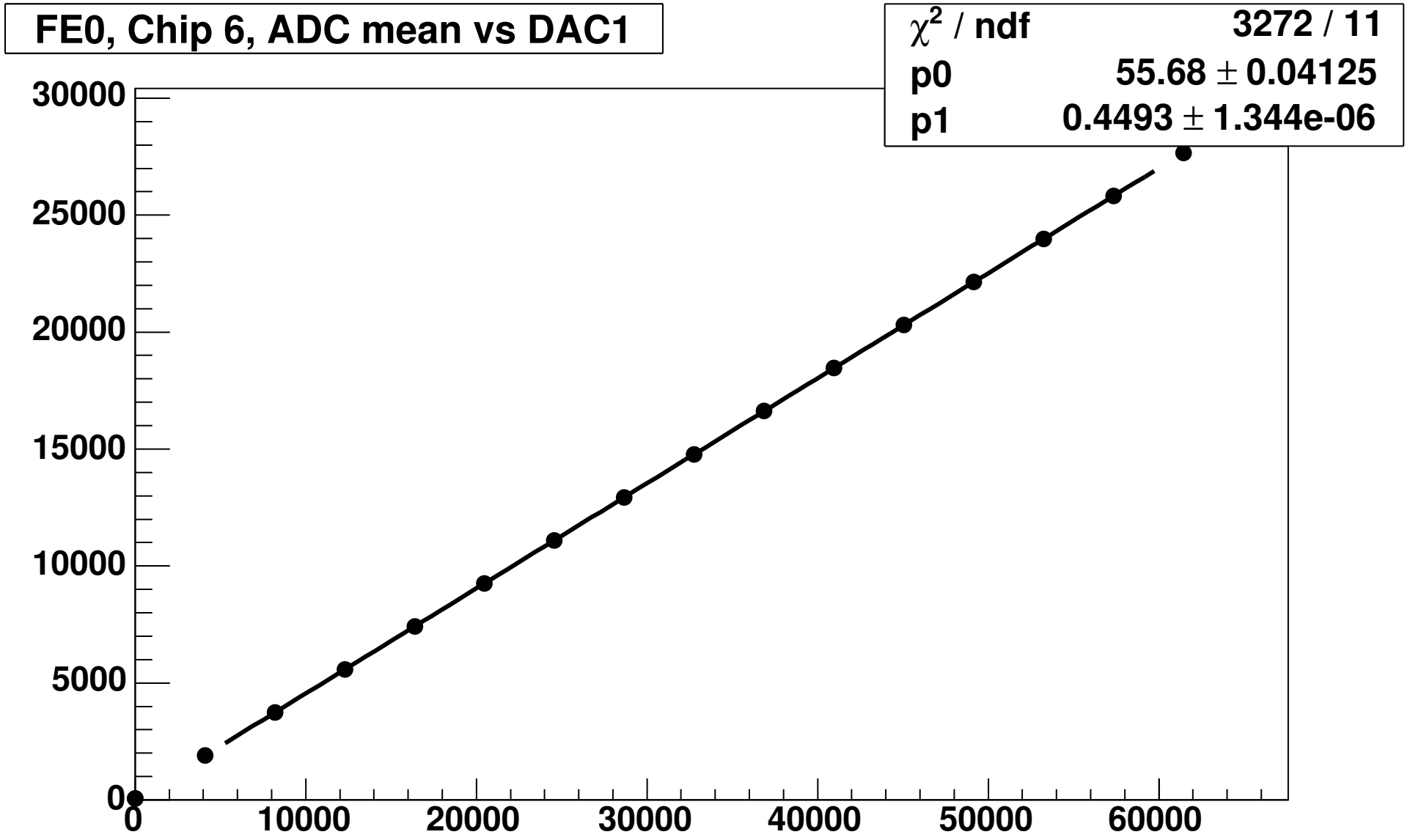

FE0, Chip 5, ADC noise vs DAC1
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

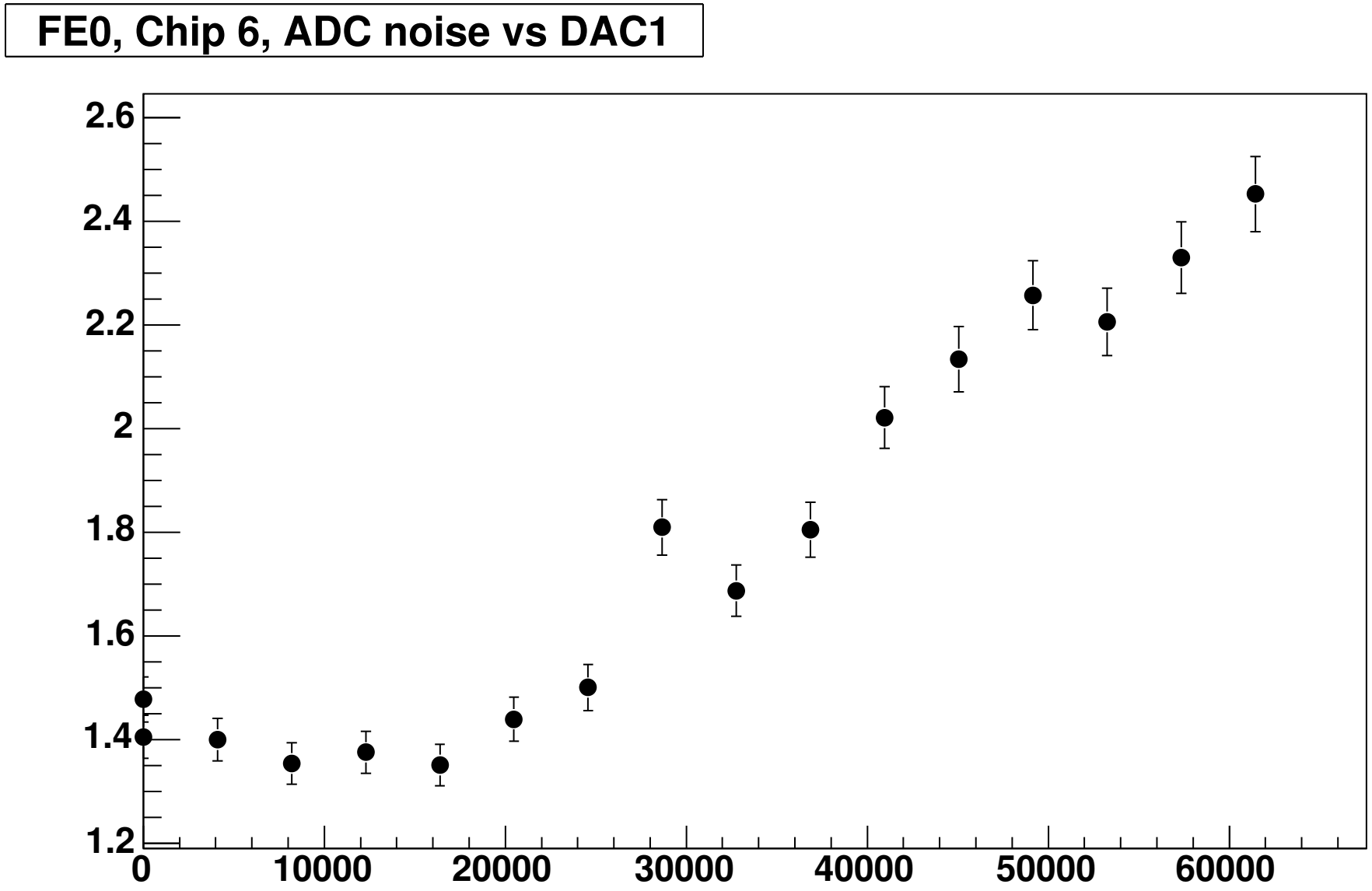

FE0, Chip 5, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000


FE0, Chip 6, ADC mean vs DAC0
χ² / ndf 11.11 / 11
p0 55.83 ± 0.03919
p1 -2.234e-06 ± 1.082e-06
55.9
55.85
55.8
55.75
55.7
55.65
55.6
55.55
0
10000
20000
30000
40000
50000
60000

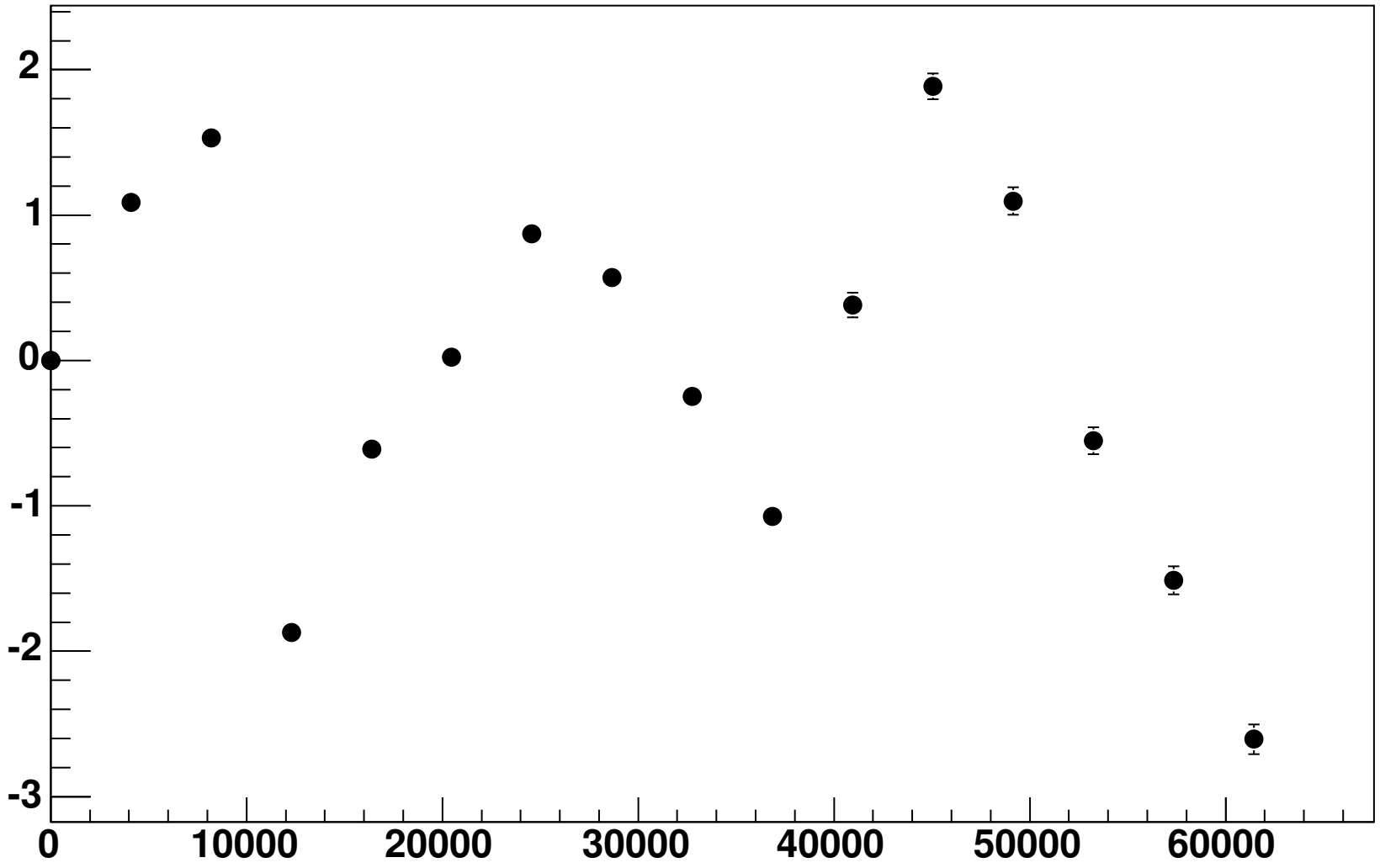

FE0, Chip 6, ADC noise vs DAC0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
0
10000
20000
30000
40000
50000
60000

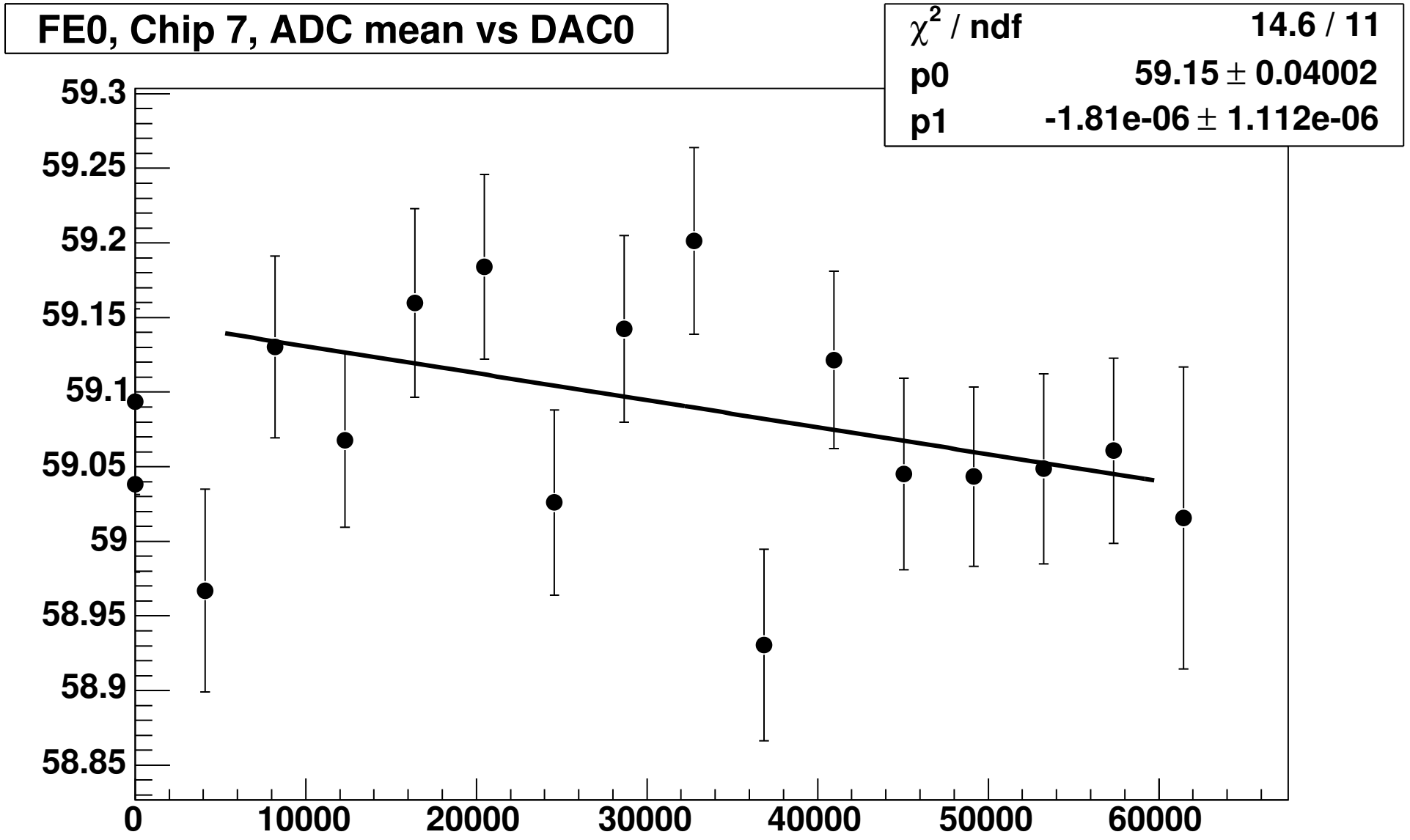

FE0, Chip 6, ADC residuals vs DAC0
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

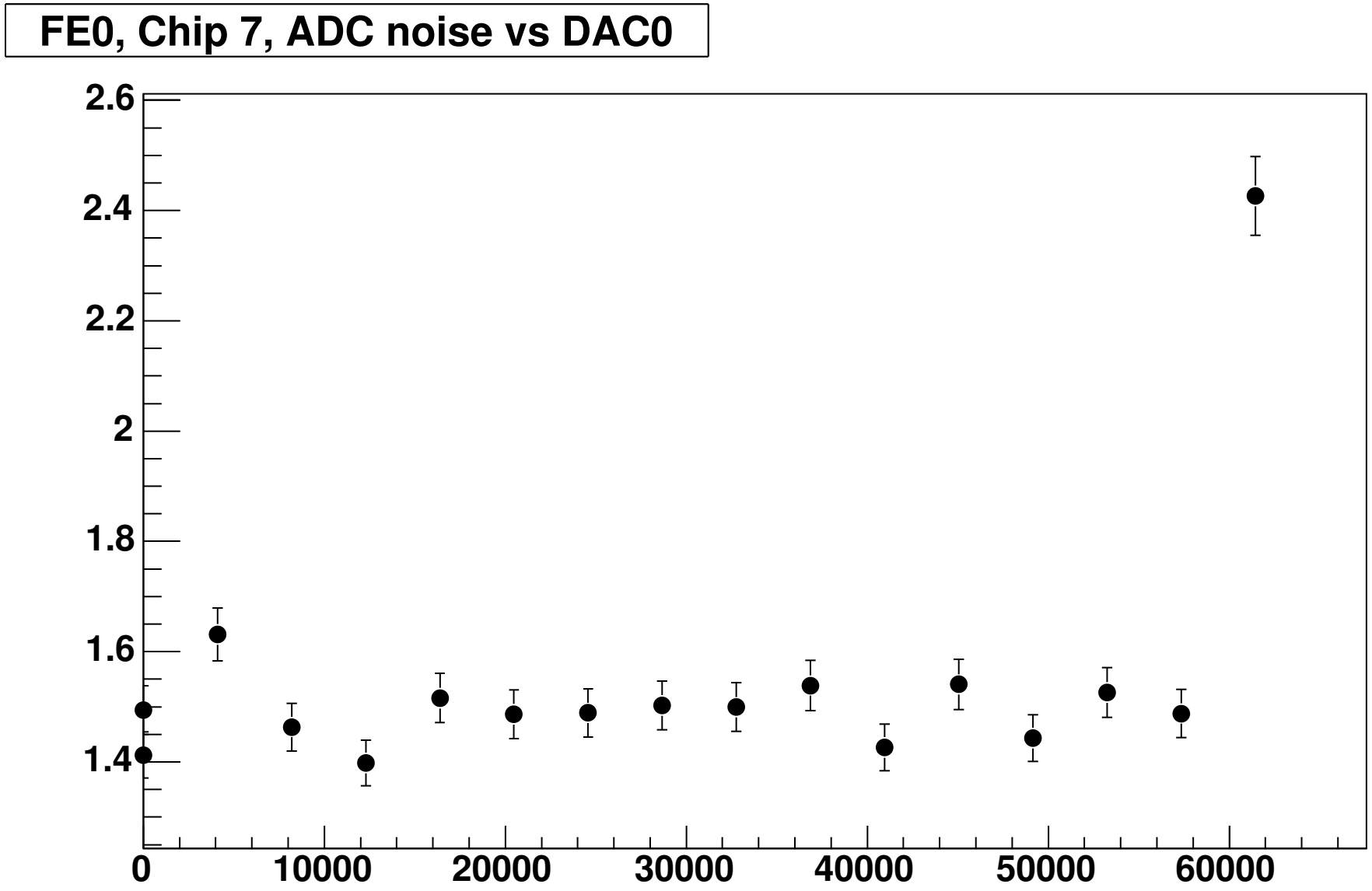

FE0, Chip 6, ADC mean vs DAC1
χ² / ndf 3272 / 11
p0 55.68 ± 0.04125
p1 0.4493 ± 1.344e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

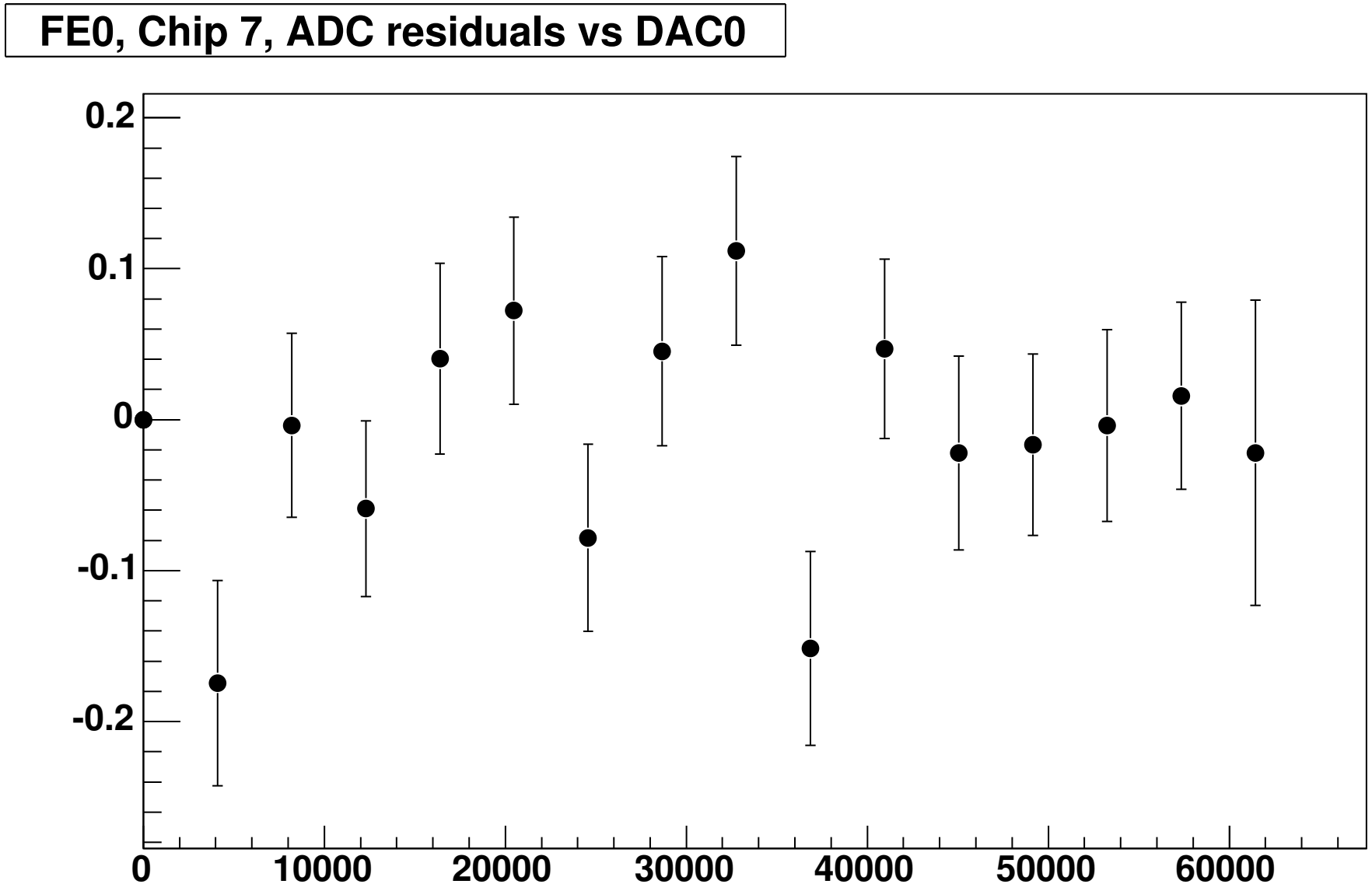

FE0, Chip 6, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

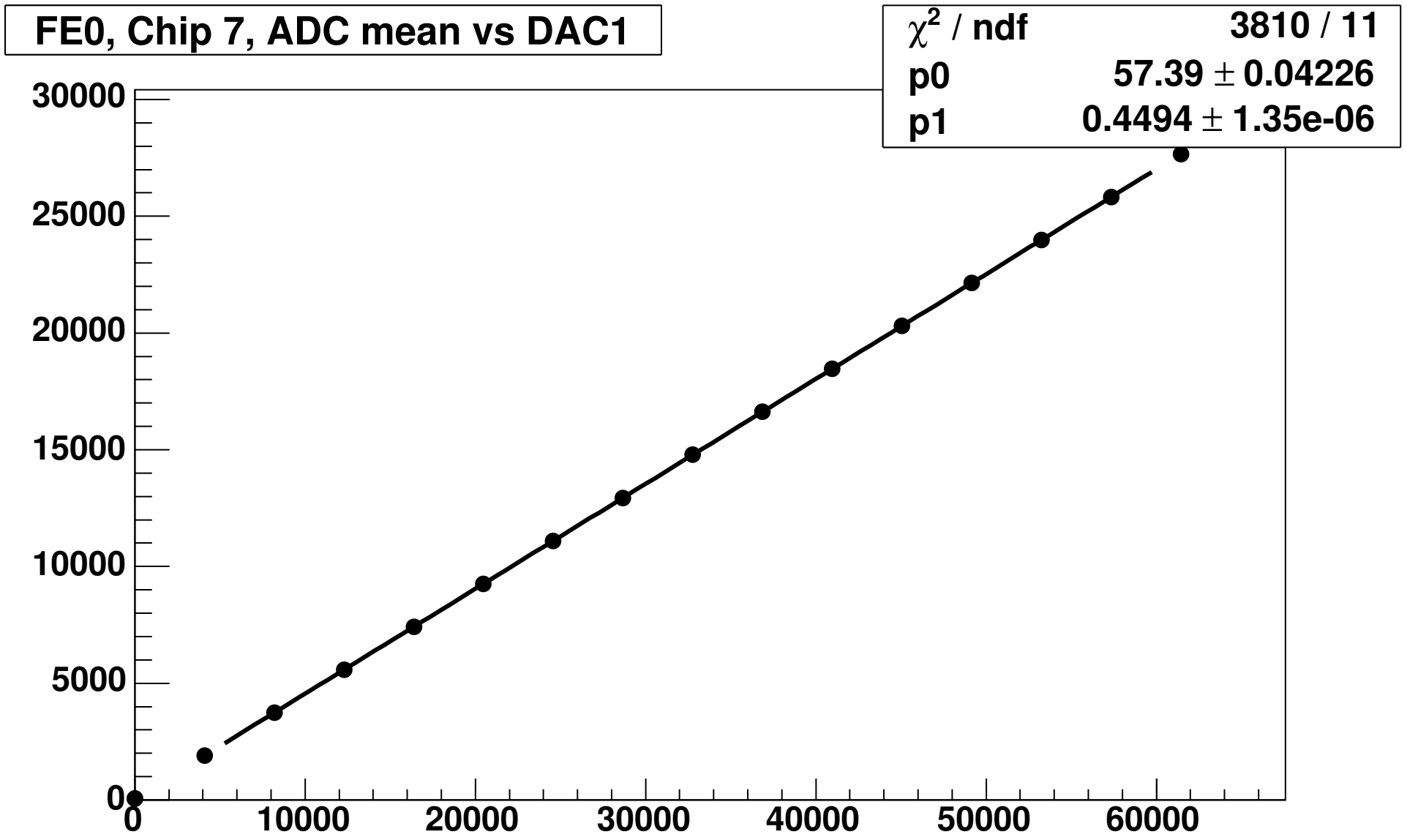
FE0, Chip 6, ADC residuals vs DAC1

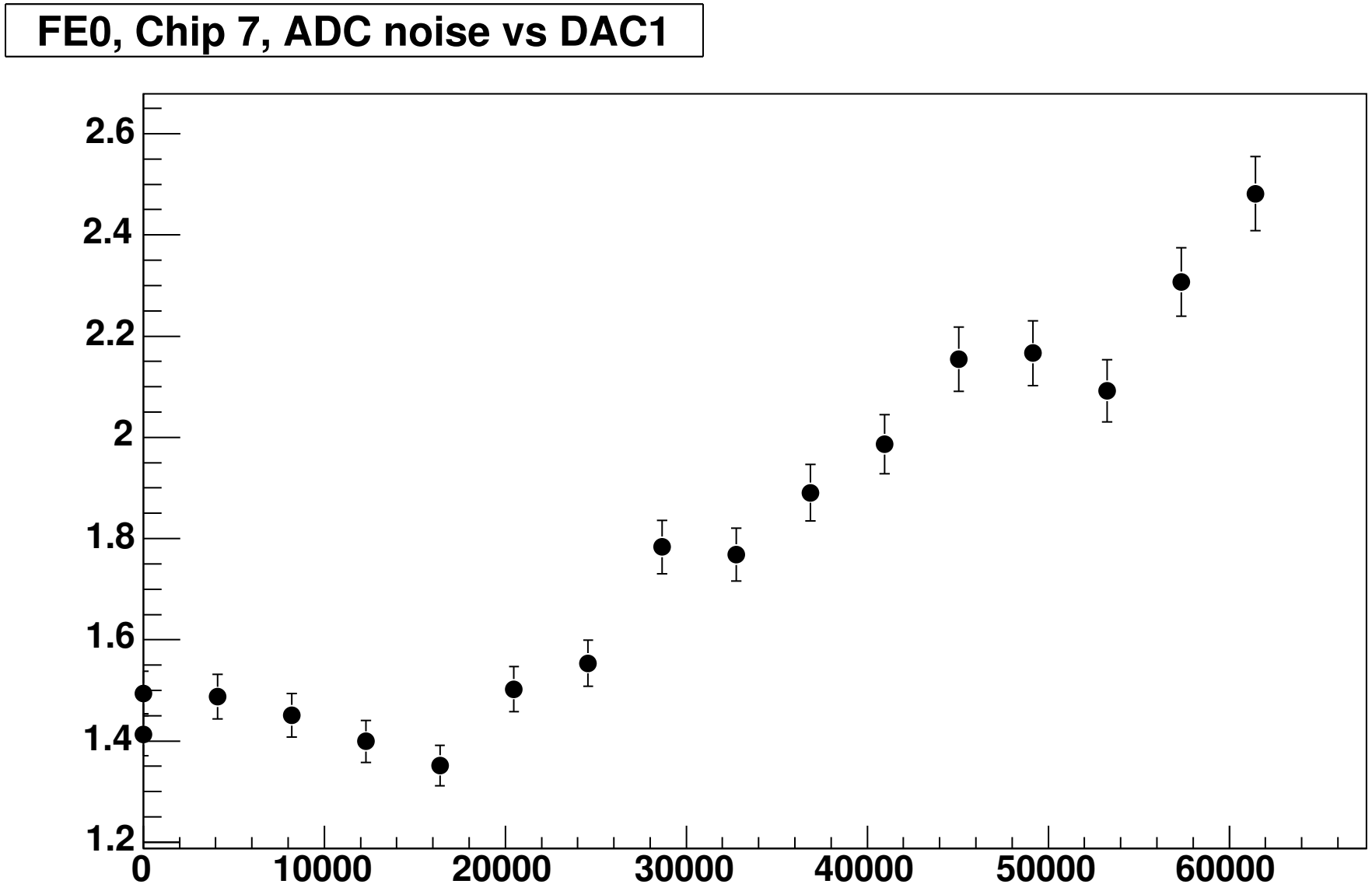



FE0, Chip 7, ADC mean vs DAC0
χ² / ndf 14.6 / 11
p0 59.15 ± 0.04002
p1 -1.81e-06 ± 1.112e-06
59.3
59.25
59.2
59.15
59.1
59.05
59
58.95
58.9
58.85
0
10000
20000
30000
40000
50000
60000

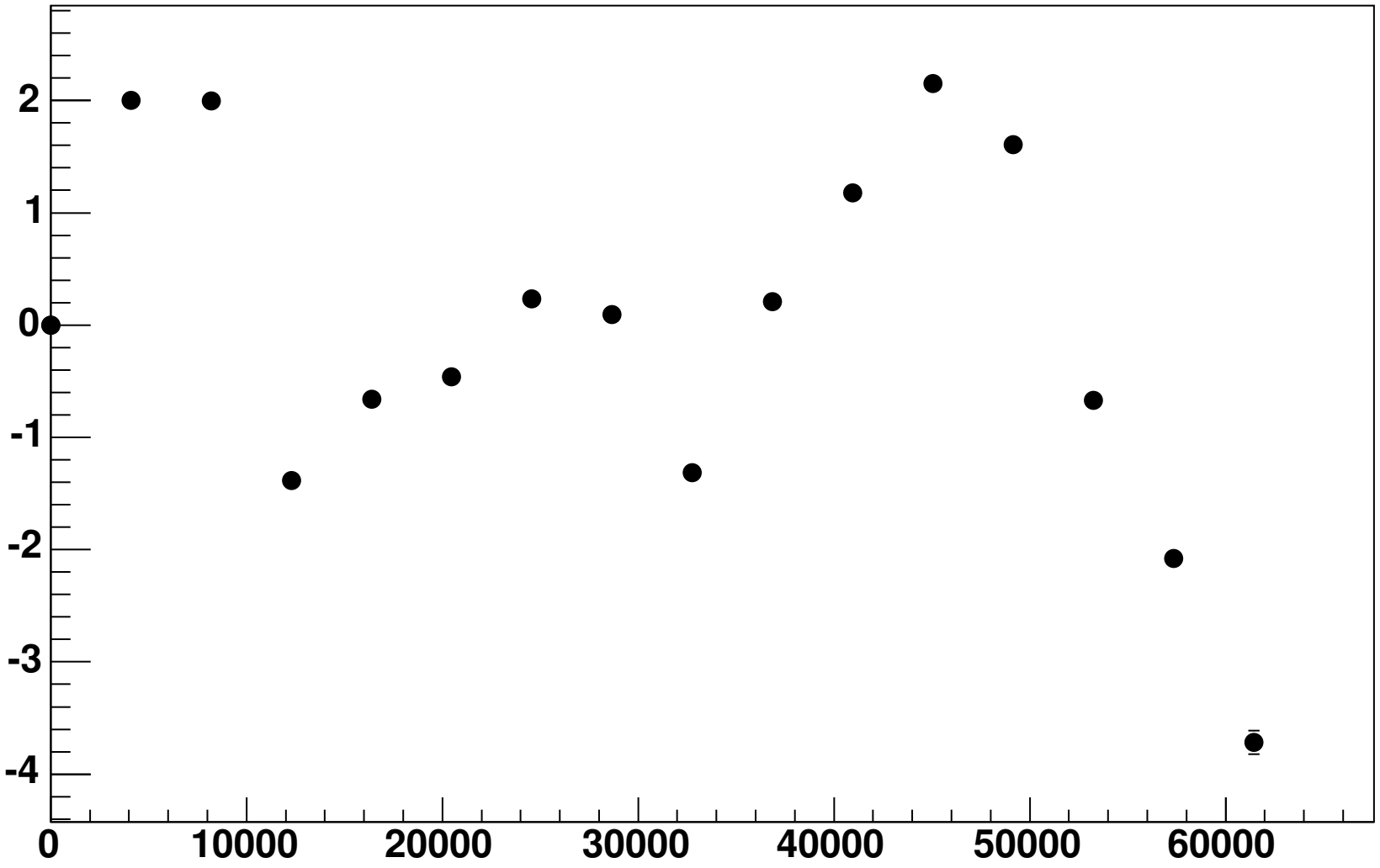

FE0, Chip 7, ADC noise vs DAC0
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

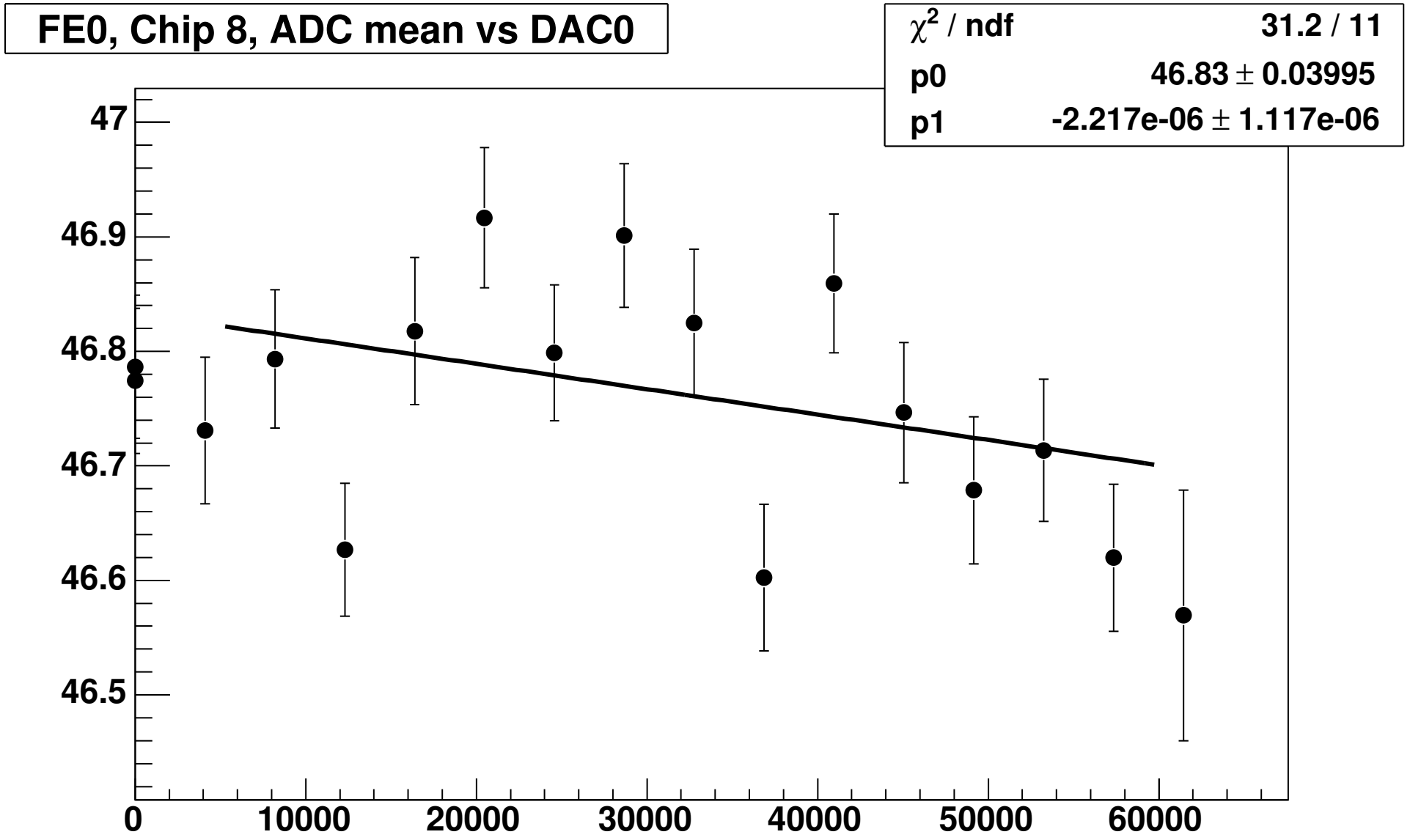

FE0, Chip 7, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

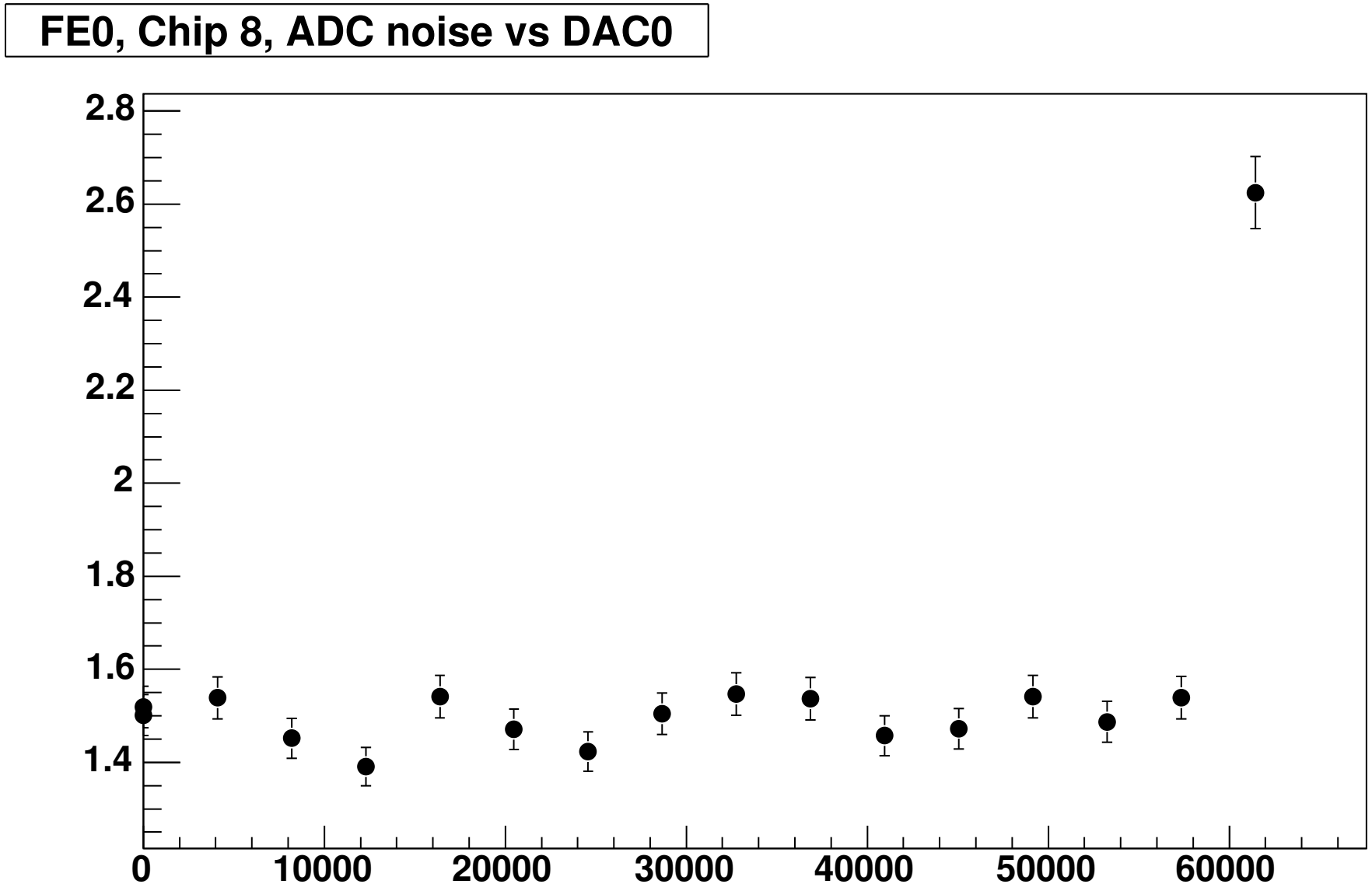

FE0, Chip 7, ADC mean vs DAC1
χ² / ndf 3810 / 11
p0 57.39 ± 0.04226
p1 0.4494 ± 1.35e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

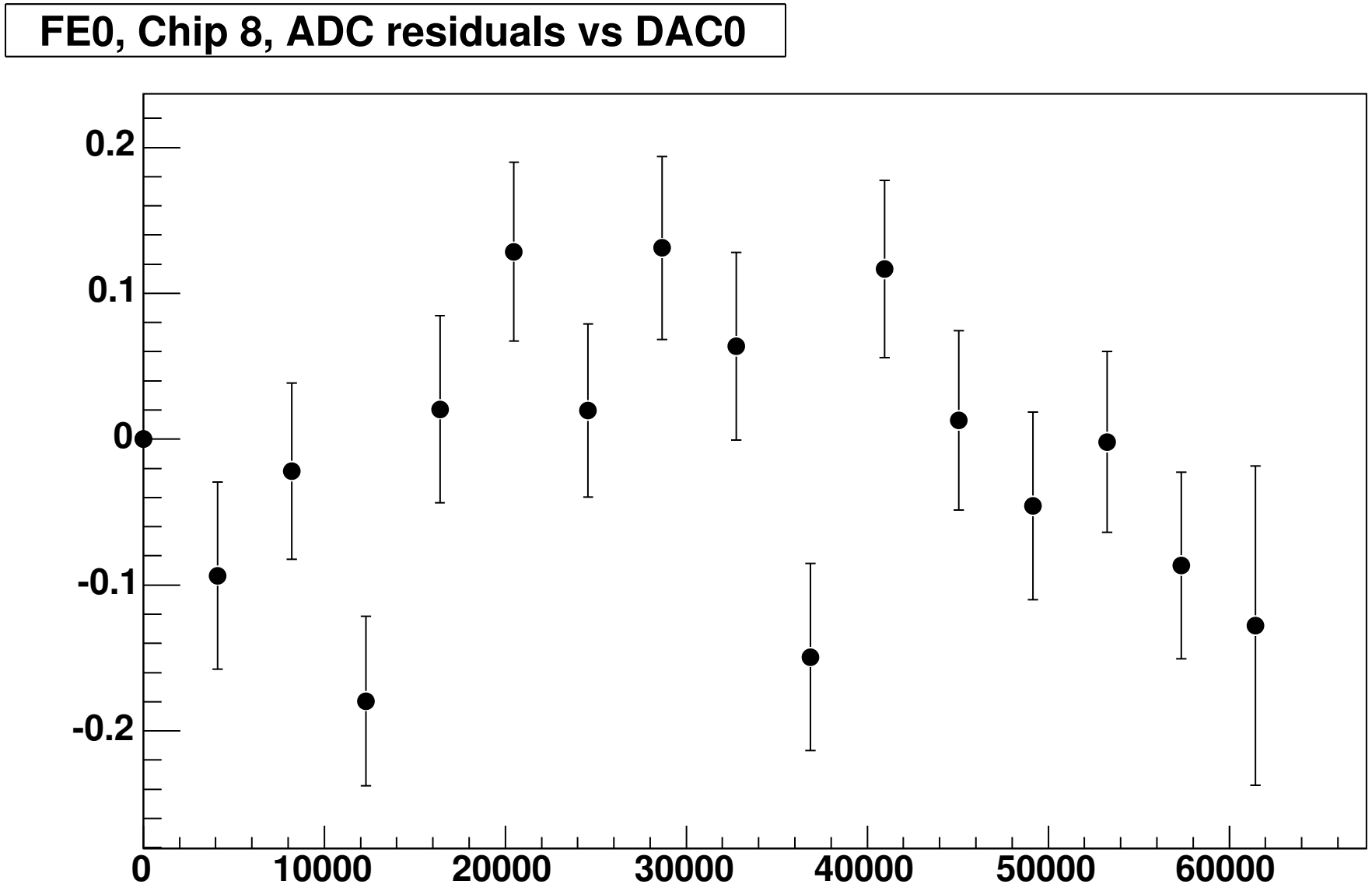

FE0, Chip 7, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

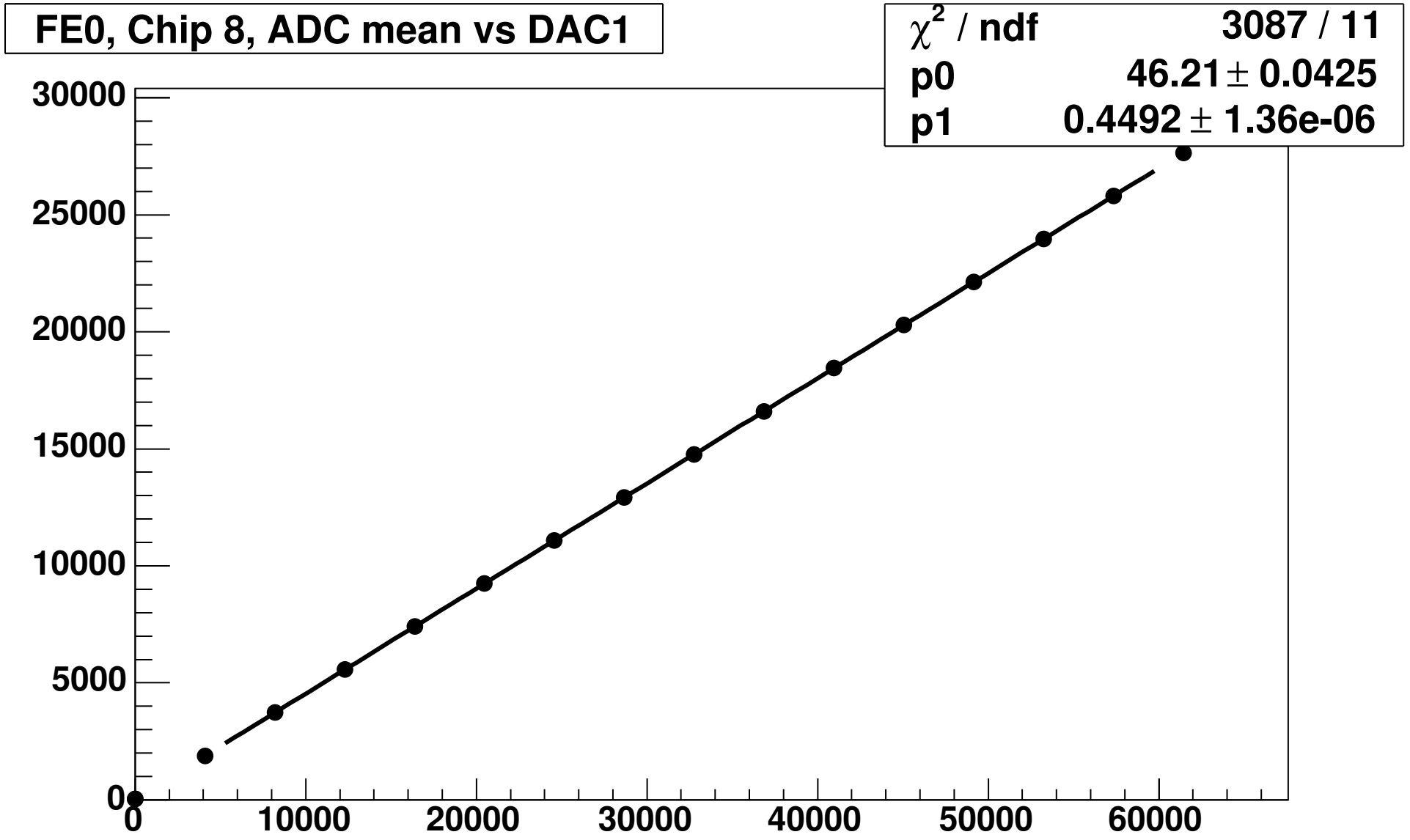
FE0, Chip 7, ADC residuals vs DAC1



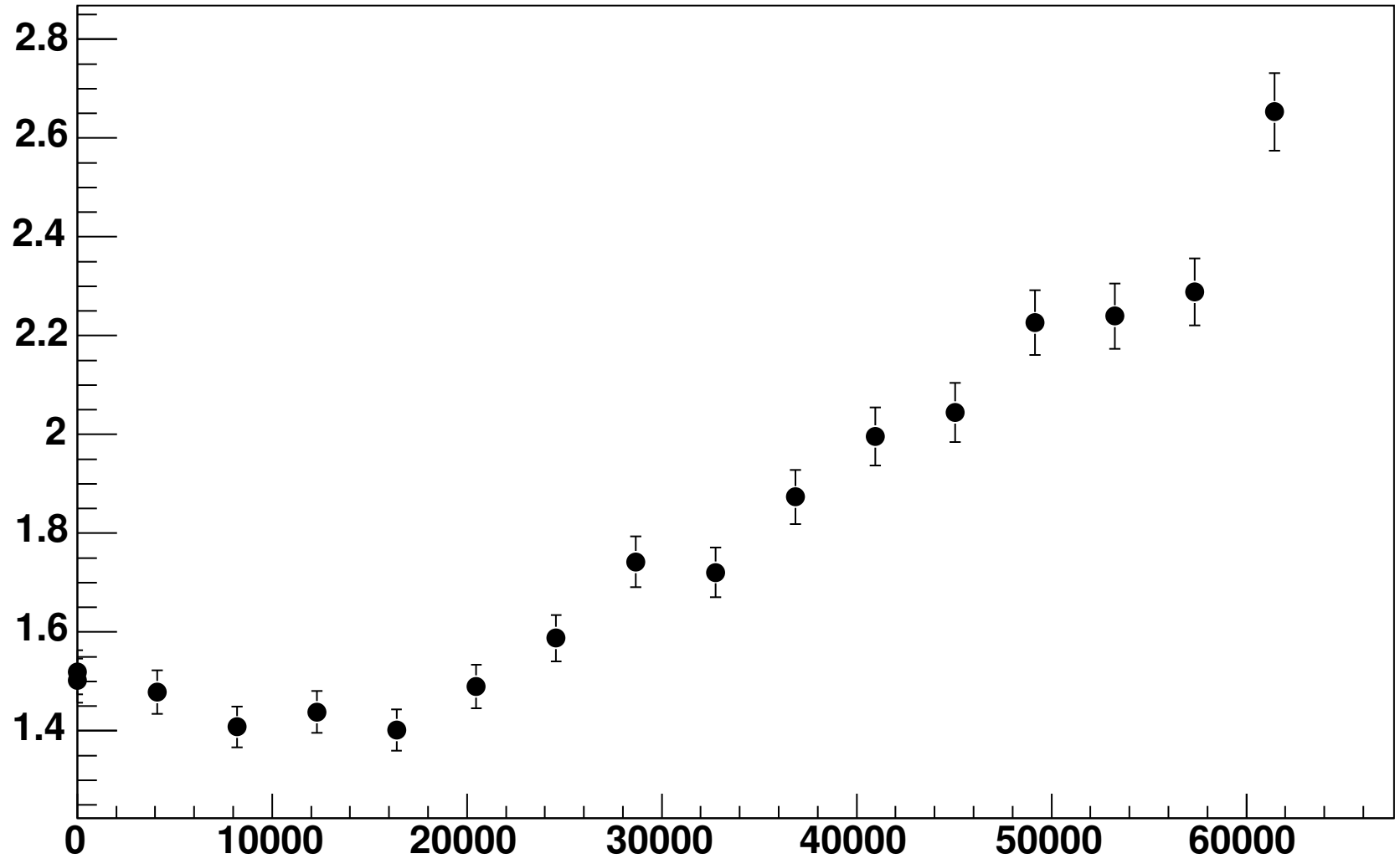

FE0, Chip 8, ADC mean vs DAC0
χ² / ndf 31.2 / 11
p0 46.83 ± 0.03995
p1 -2.217e-06 ± 1.117e-06
47
46.9
46.8
46.7
46.6
46.5
0
10000
20000
30000
40000
50000
60000

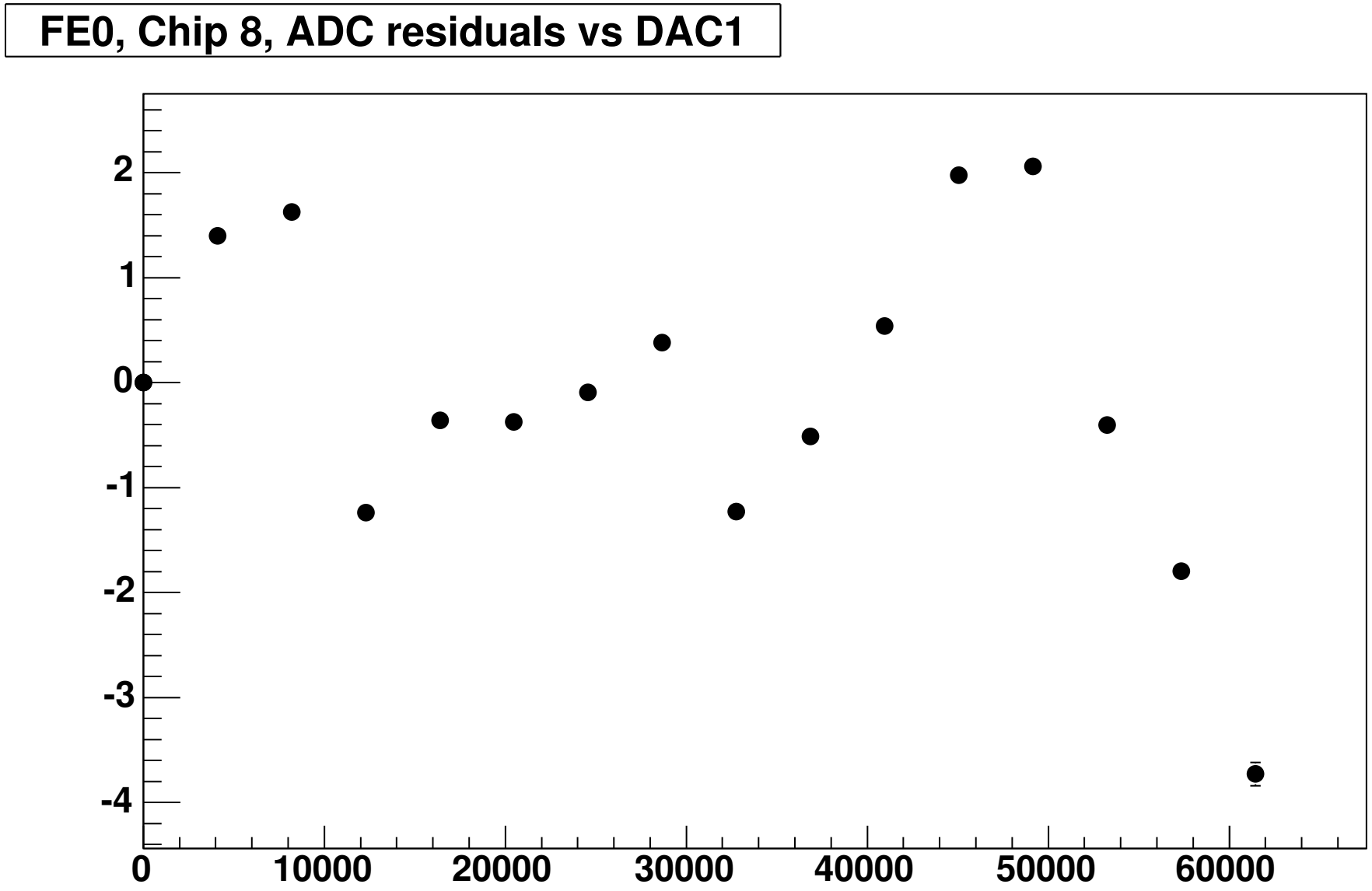

FE0, Chip 8, ADC noise vs DAC0
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

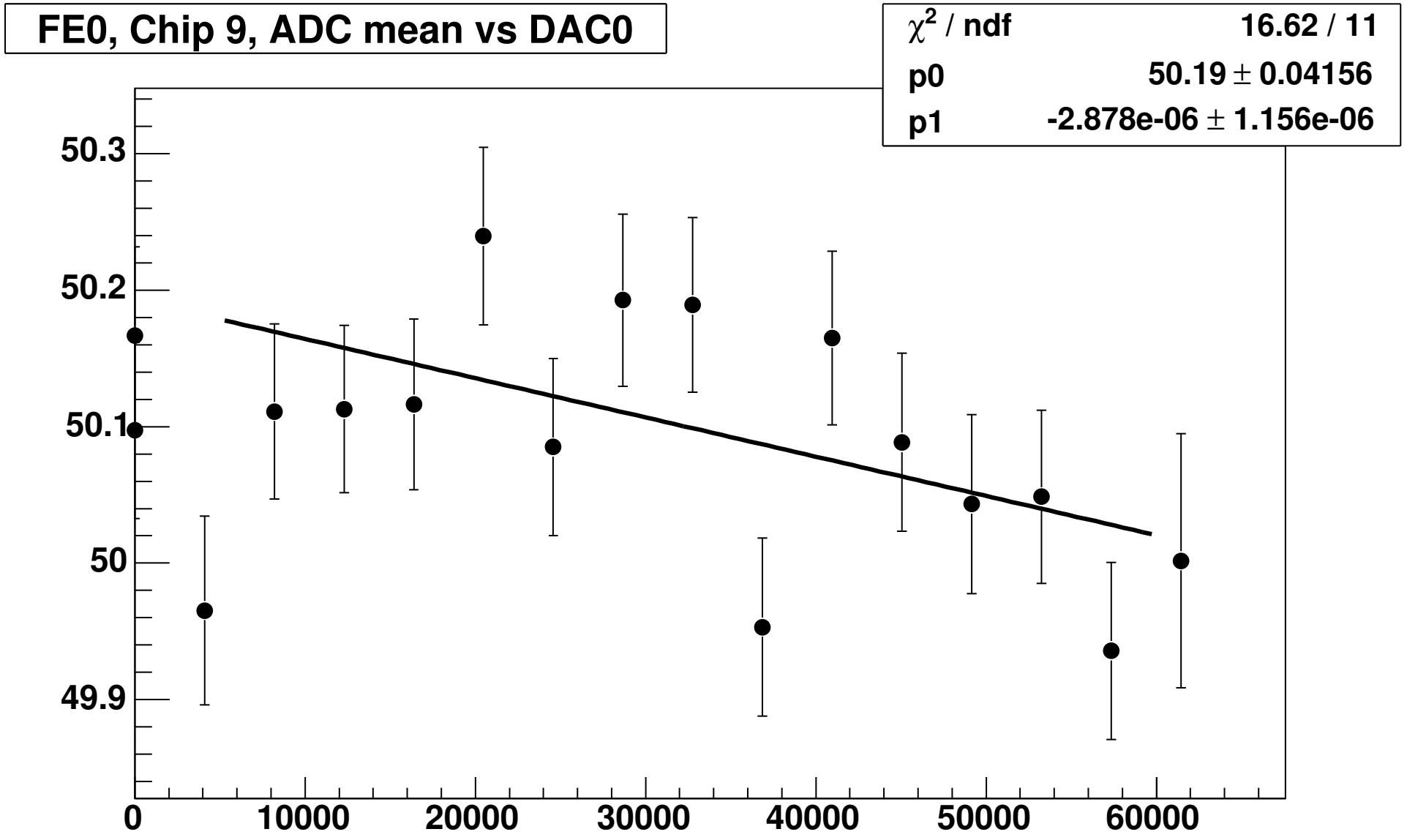

FE0, Chip 8, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

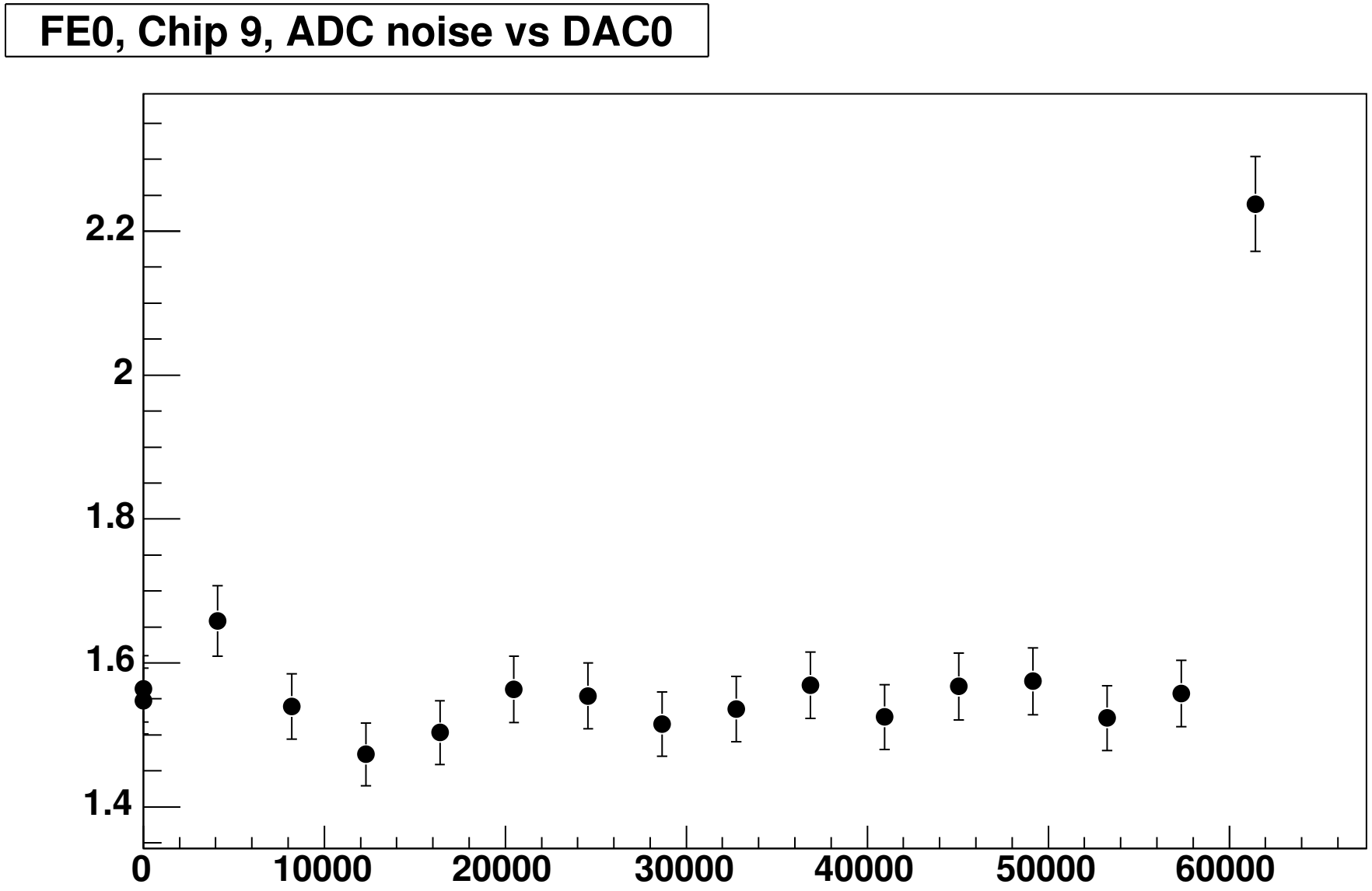

FE0, Chip 8, ADC mean vs DAC1
χ² / ndf 3087 / 11
p0 46.21 ± 0.0425
p1 0.4492 ± 1.36e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

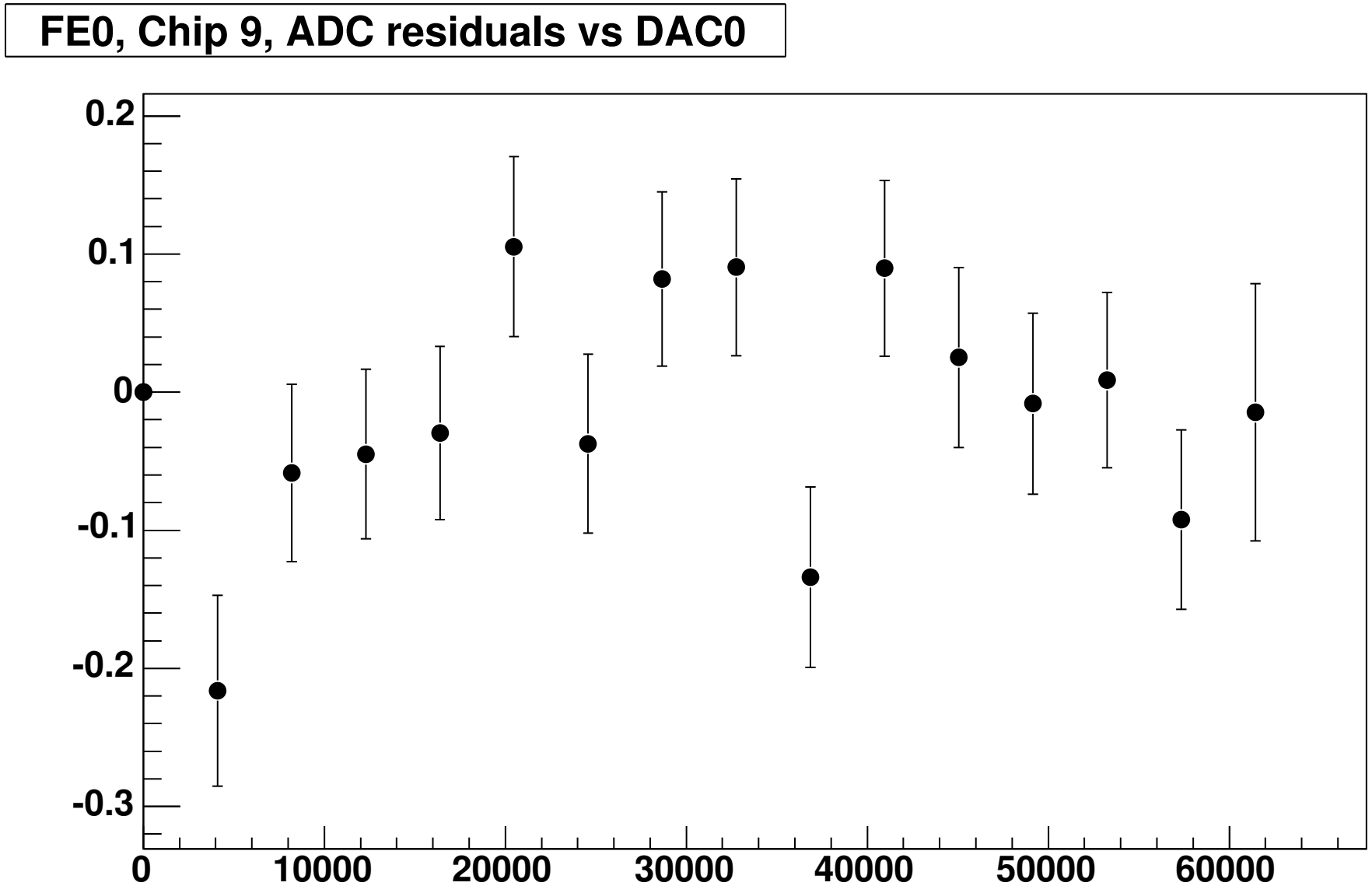
FE0, Chip 8, ADC noise vs DAC1

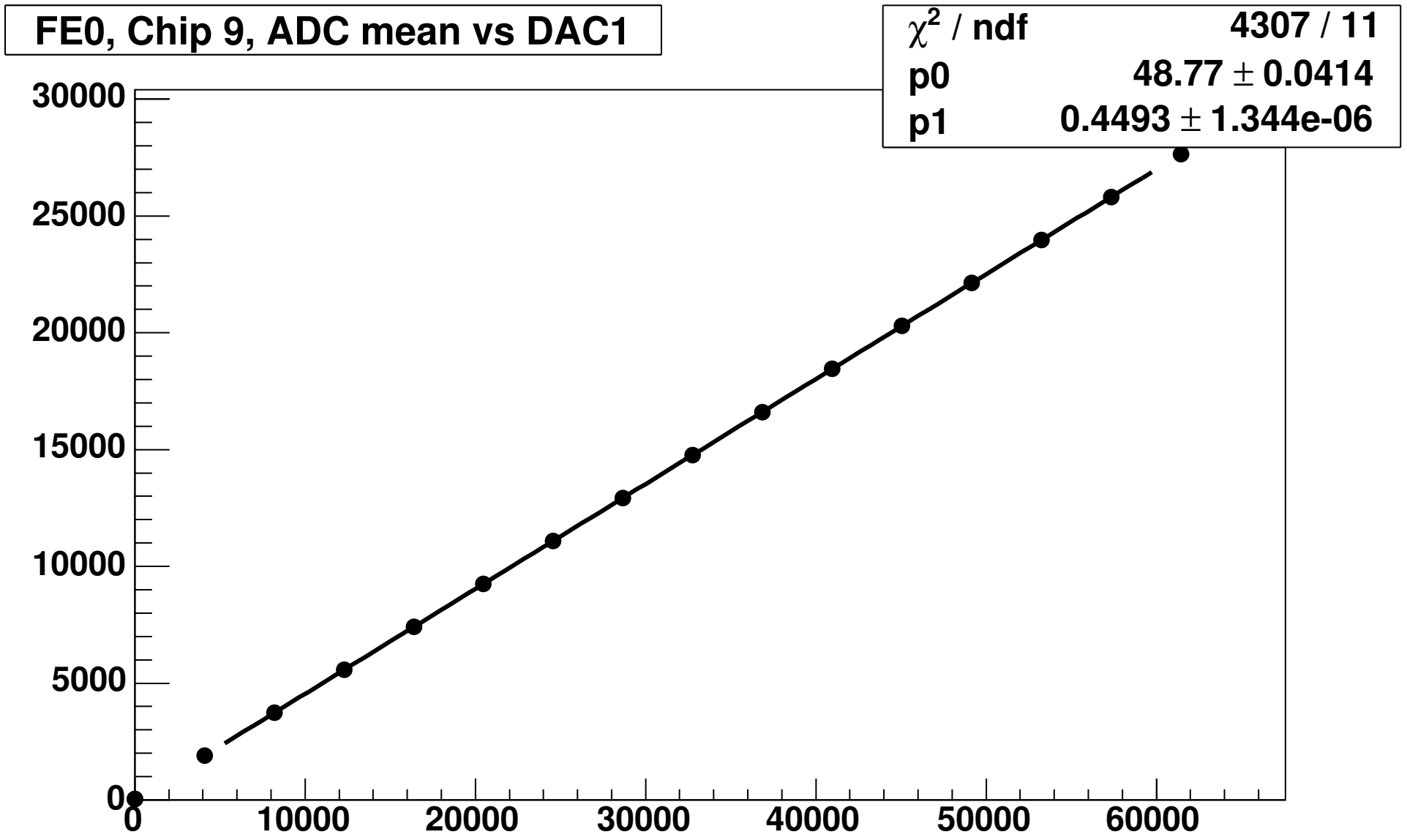


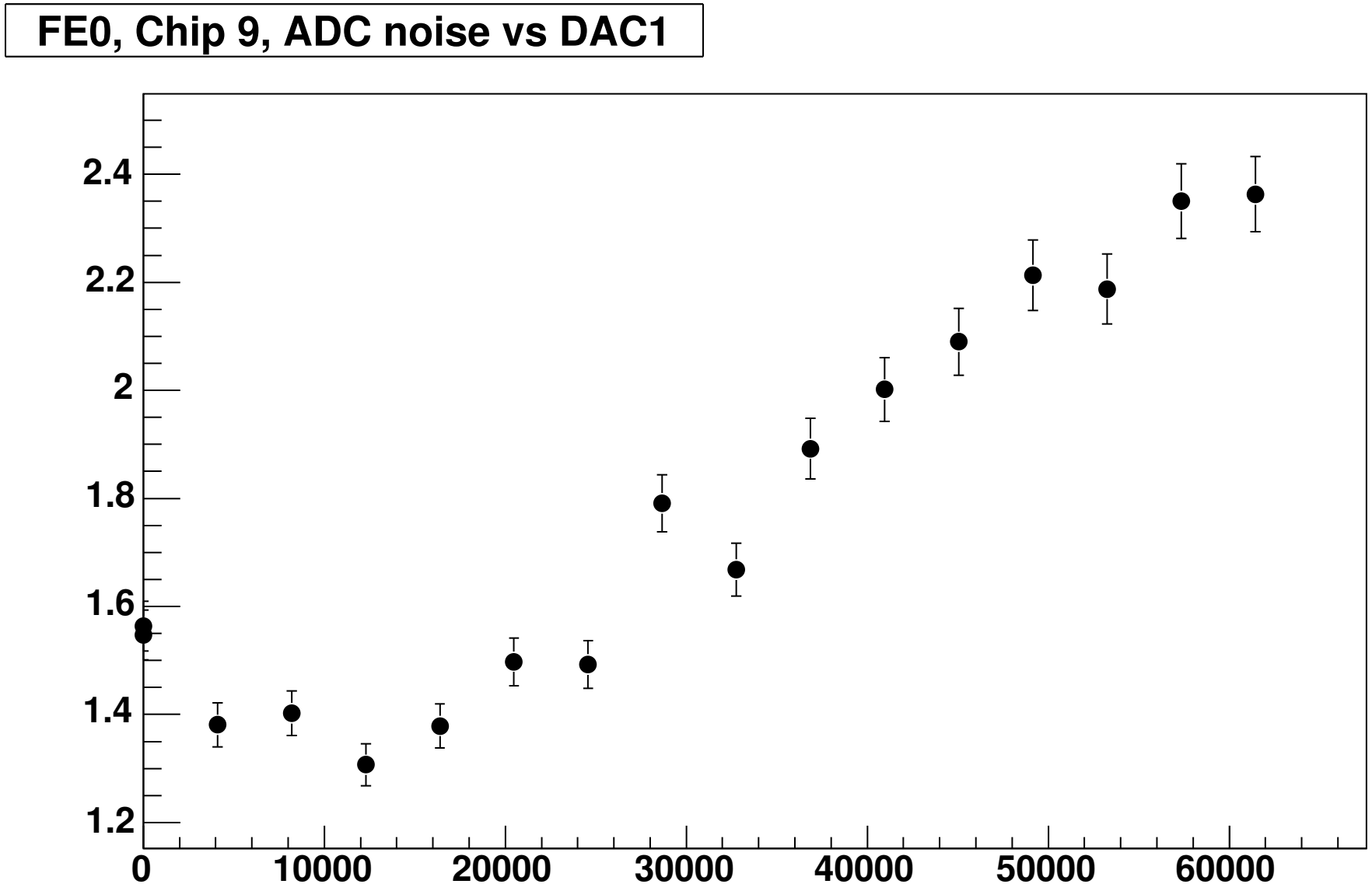

FE0, Chip 8, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
0
10000
20000
30000
40000
50000
60000


FE0, Chip 9, ADC mean vs DAC0
χ² / ndf 16.62 / 11
p0 50.19 ± 0.04156
p1 -2.878e-06 ± 1.156e-06
50.3
50.2
50.1
50
49.9
0
10000
20000
30000
40000
50000
60000

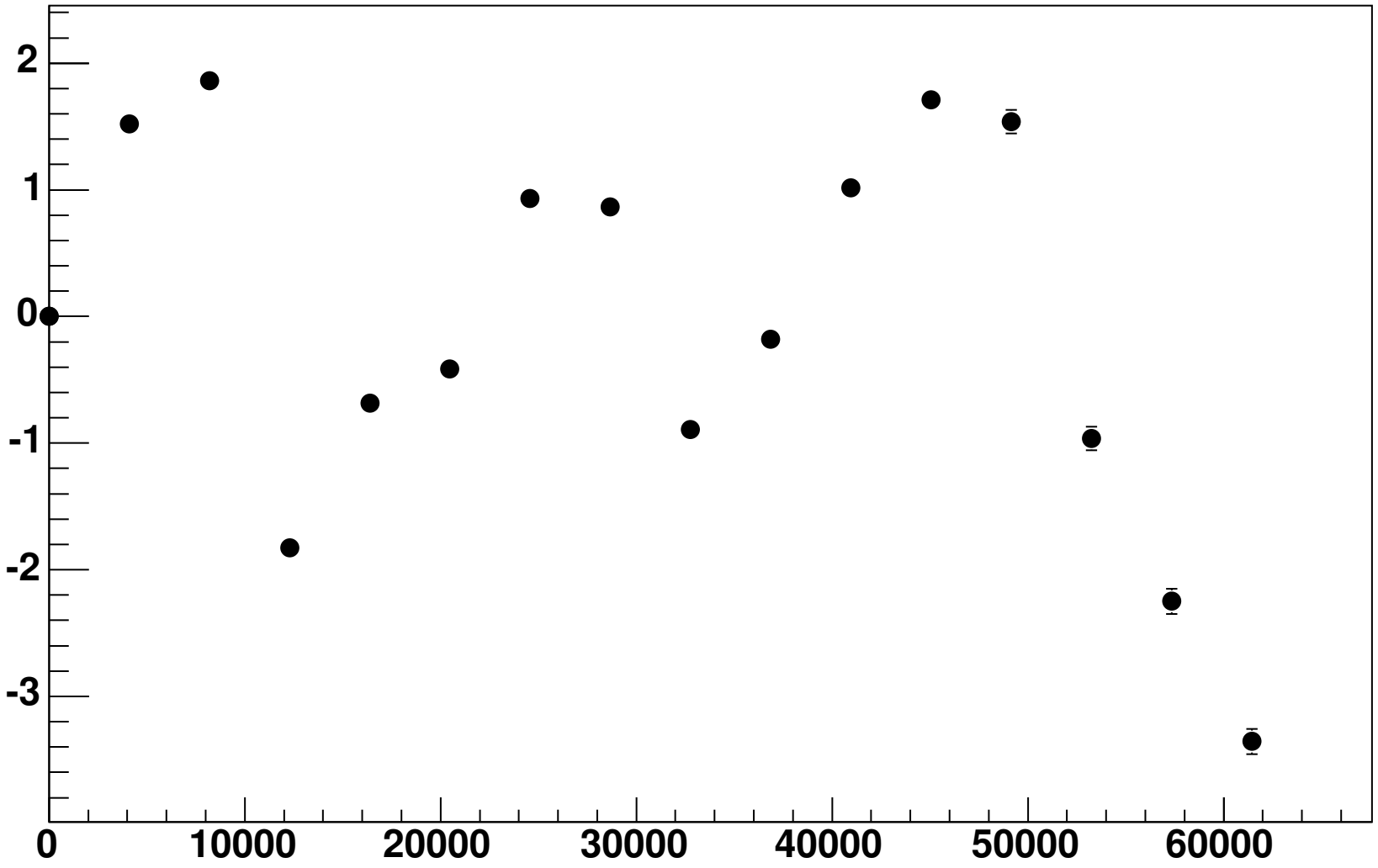

FE0, Chip 9, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

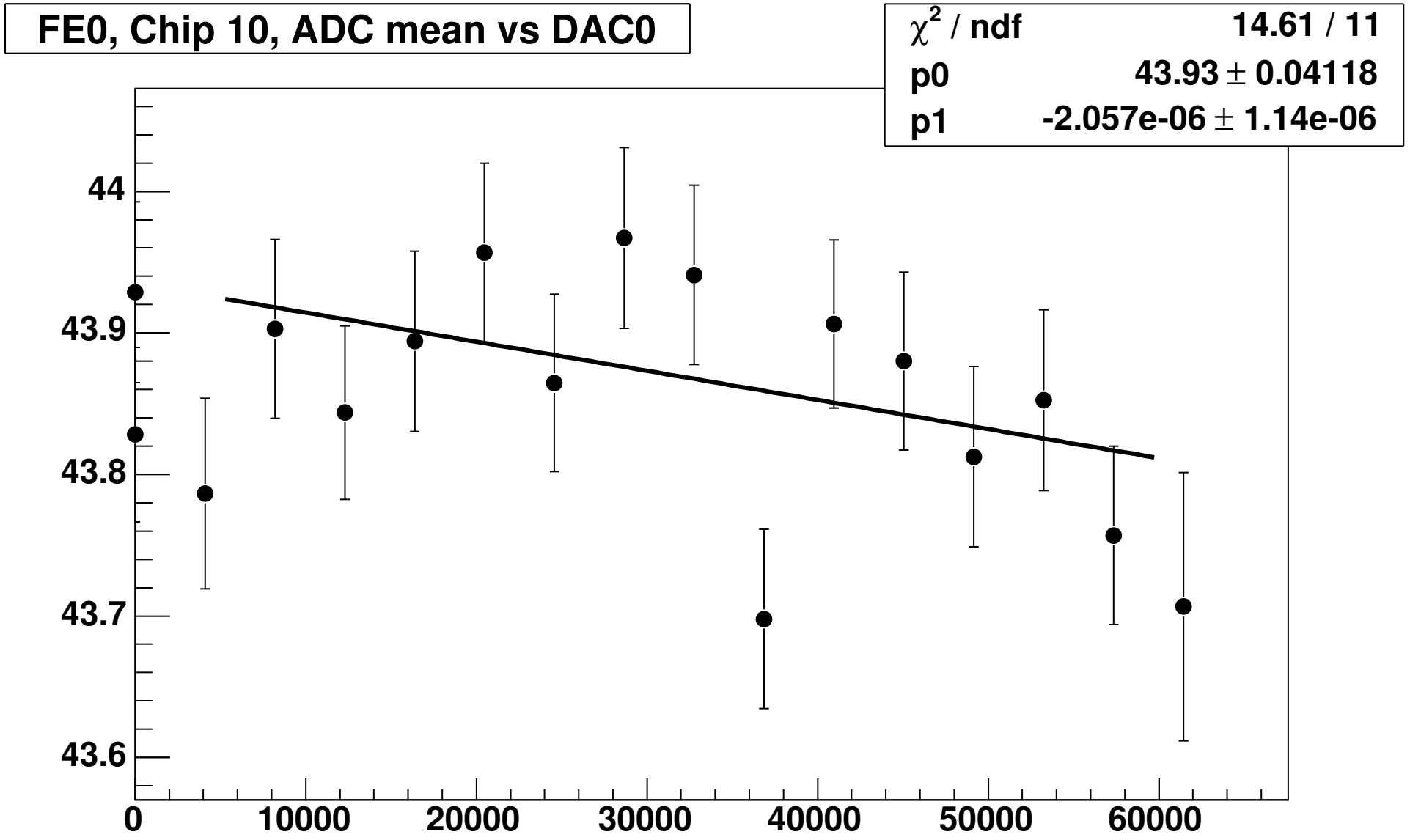

FE0, Chip 9, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000


FE0, Chip 9, ADC mean vs DAC1
χ² / ndf 4307 / 11
p0 48.77 ± 0.0414
p1 0.4493 ± 1.344e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

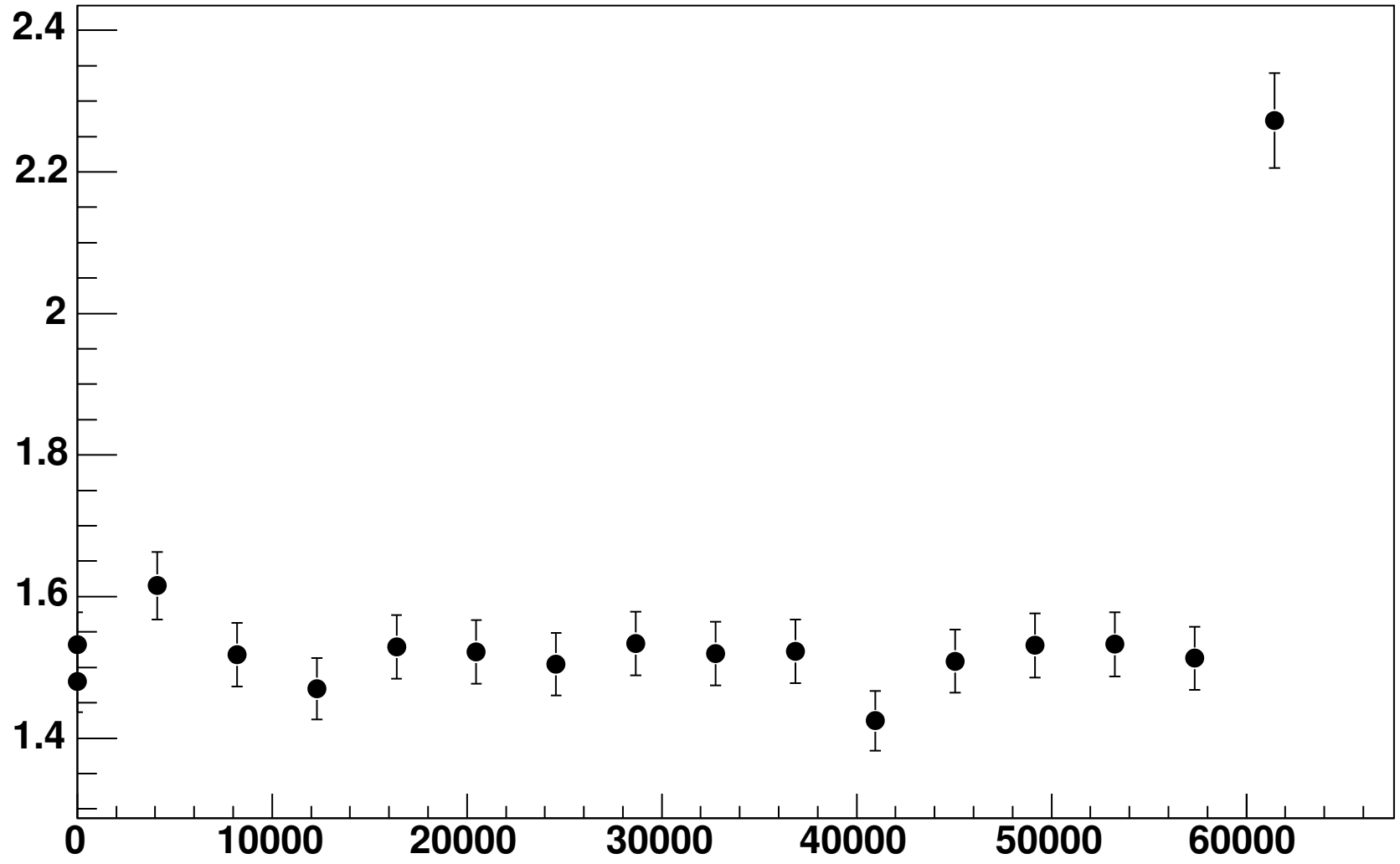

FE0, Chip 9, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

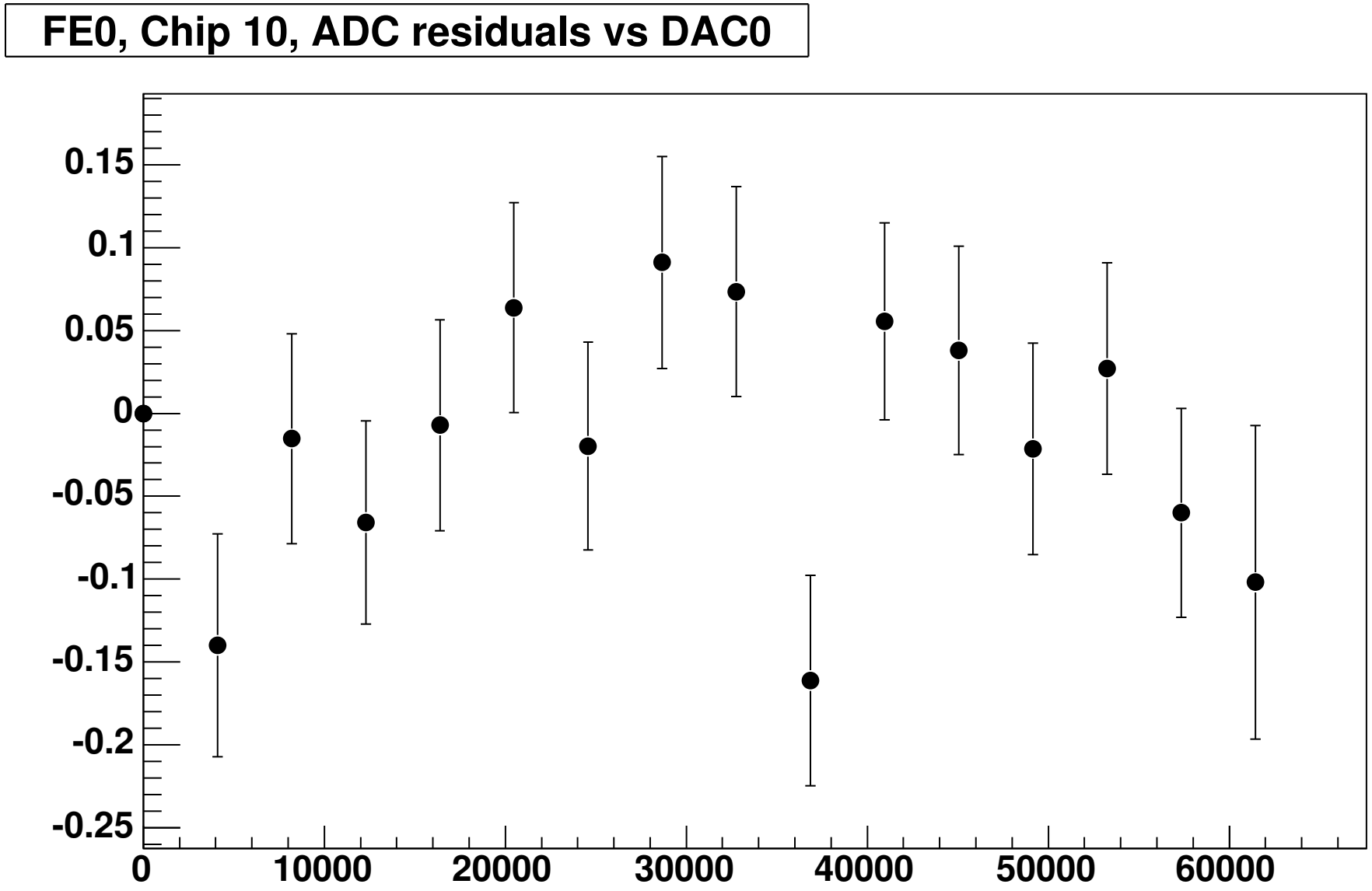
FE0, Chip 9, ADC residuals vs DAC1

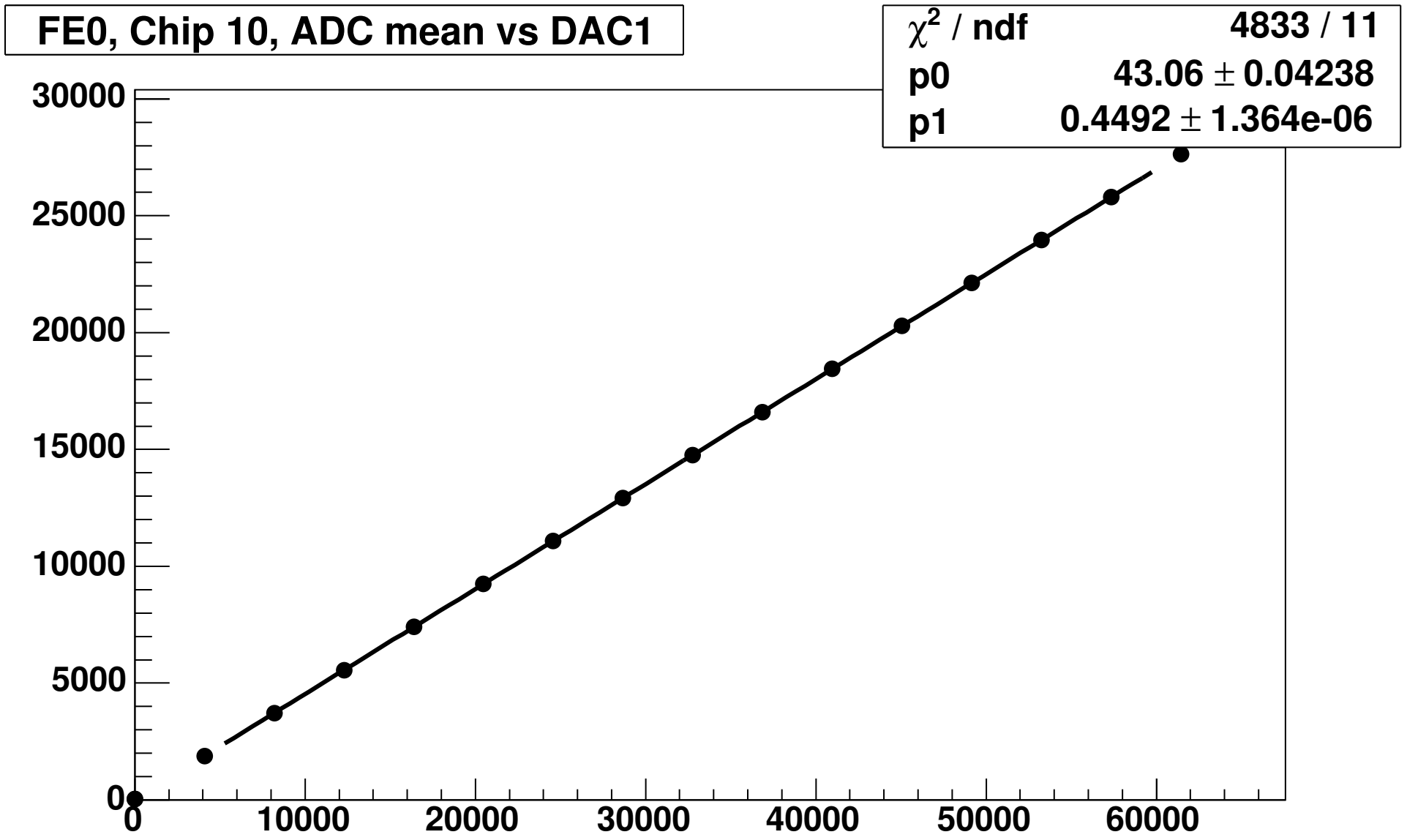


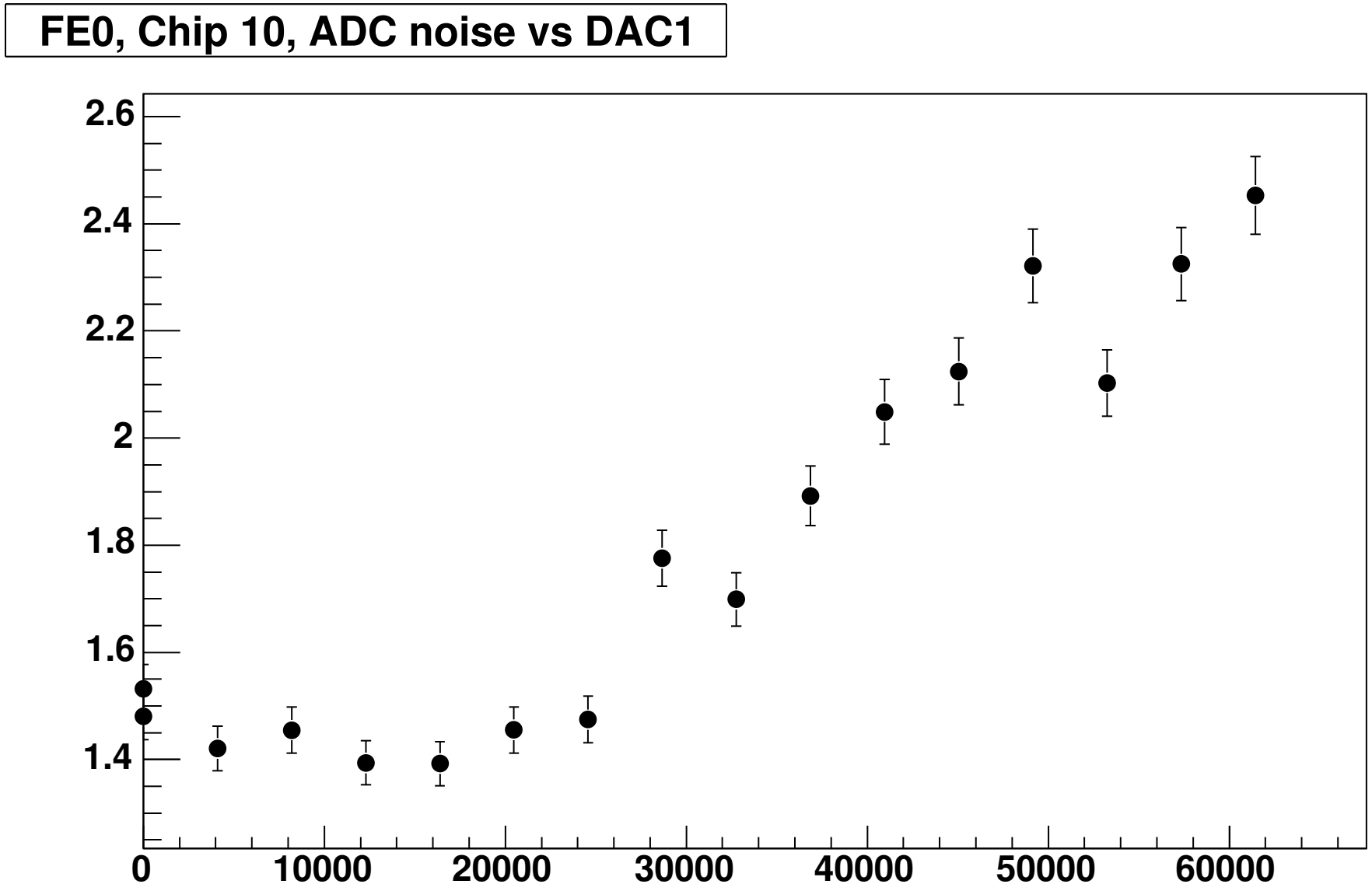

FE0, Chip 10, ADC mean vs DAC0
χ² / ndf 14.61 / 11
p0 43.93 ± 0.04118
p1 -2.057e-06 ± 1.14e-06
44
43.9
43.8
43.7
43.6
0
10000
20000
30000
40000
50000
60000

FE0, Chip 10, ADC noise vs DAC0

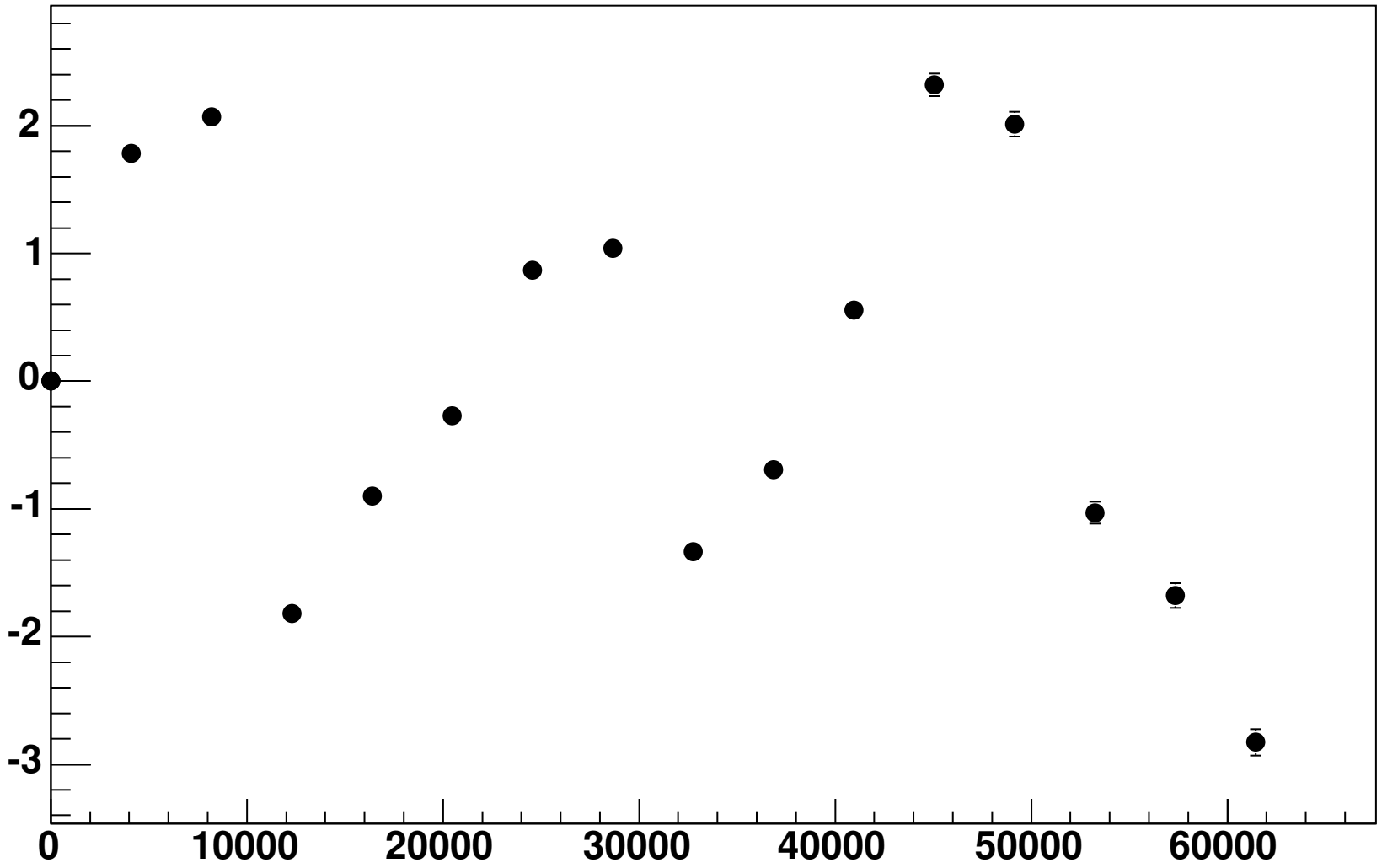


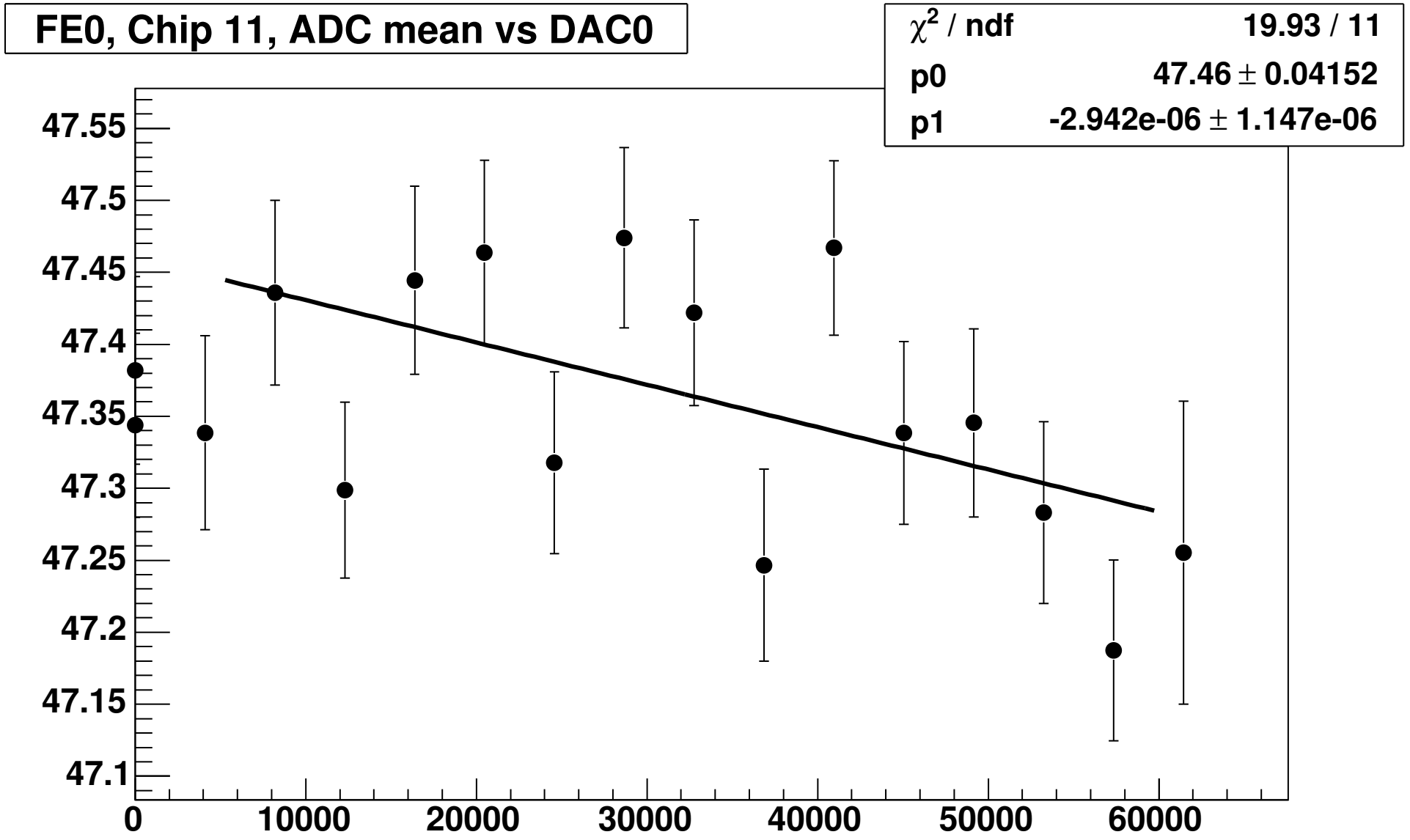

FE0, Chip 10, ADC residuals vs DAC0
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

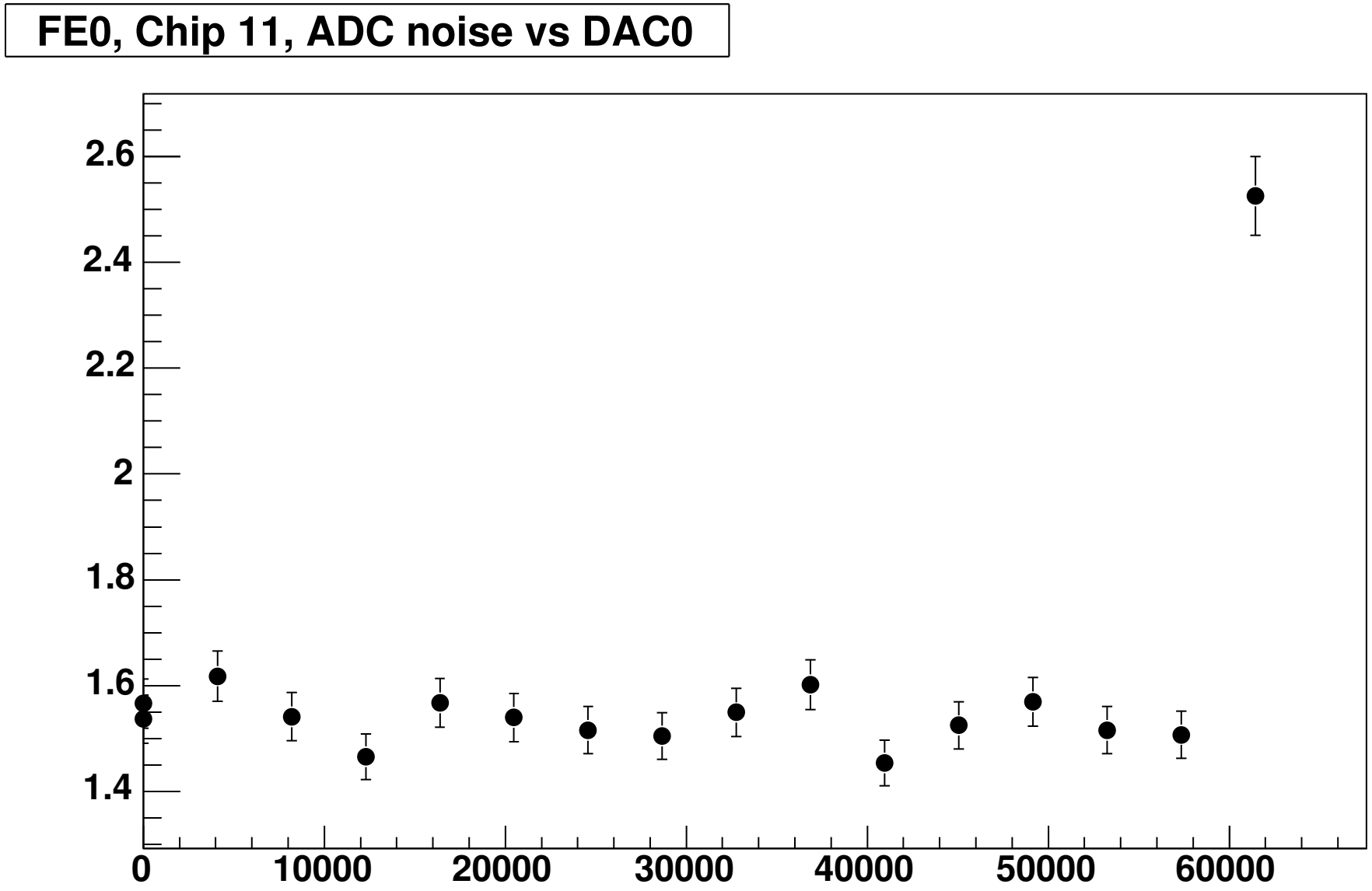

FE0, Chip 10, ADC mean vs DAC1
χ² / ndf 4833 / 11
p0 43.06 ± 0.04238
p1 0.4492 ± 1.364e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

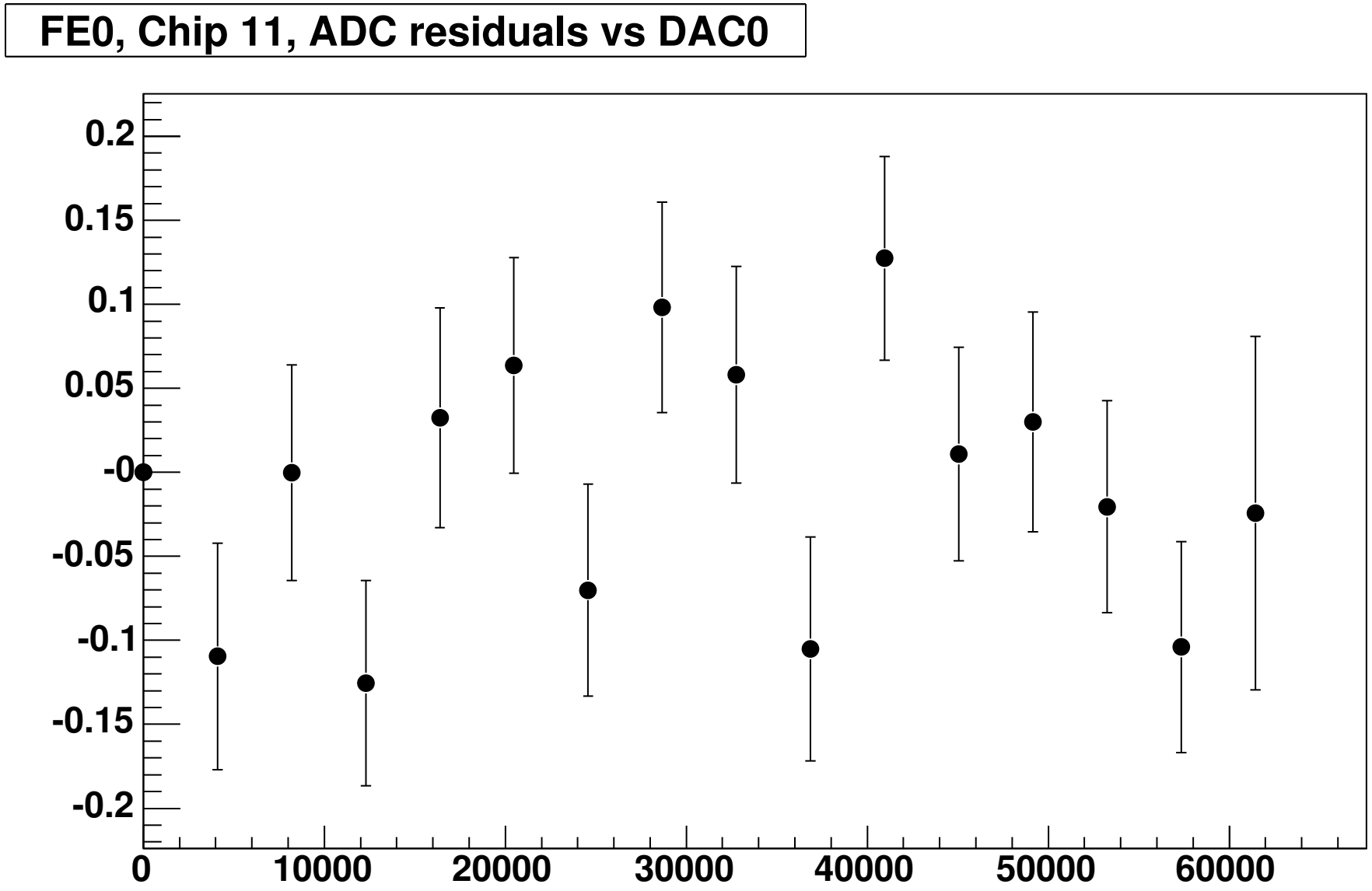

FE0, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

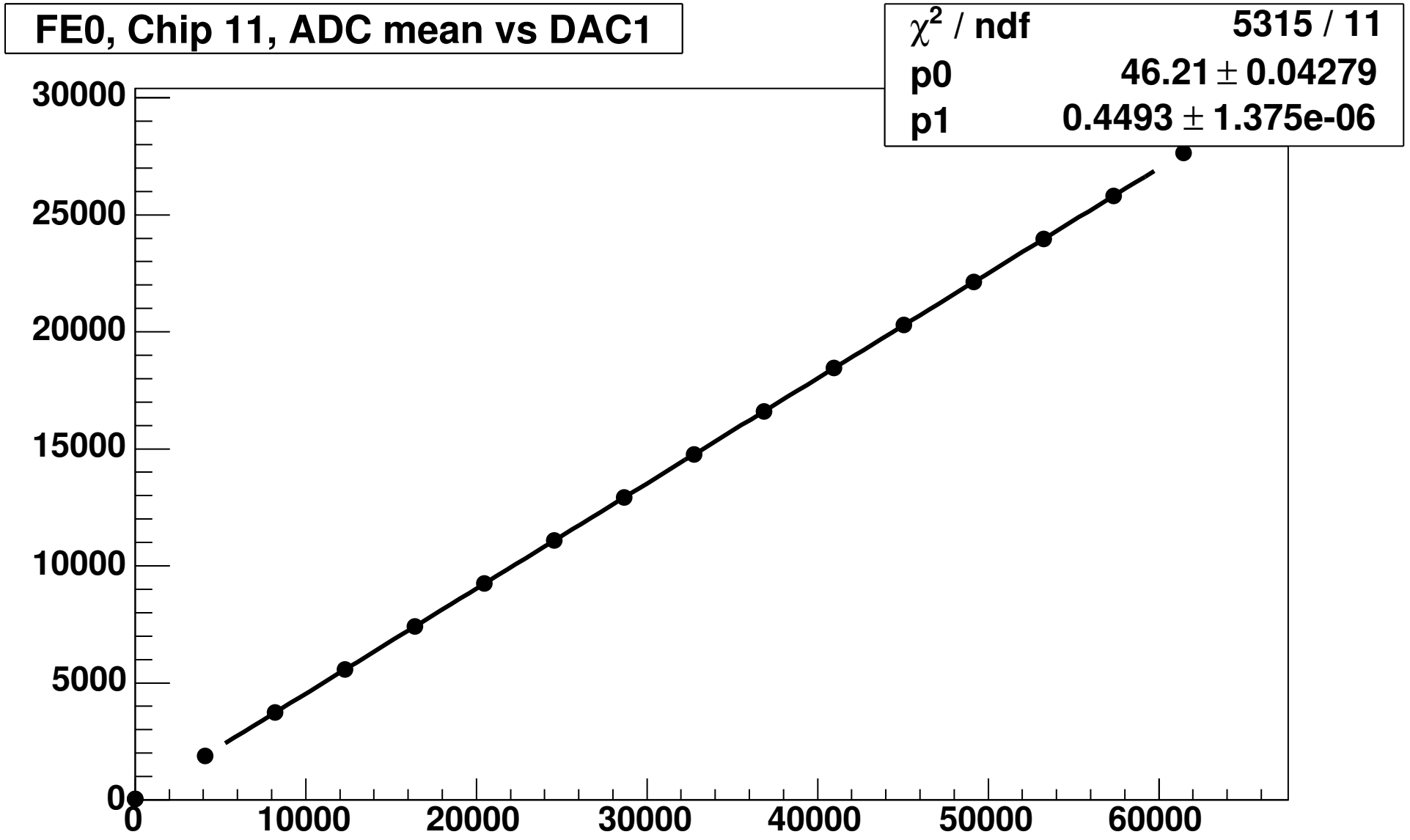
FE0, Chip 10, ADC residuals vs DAC1

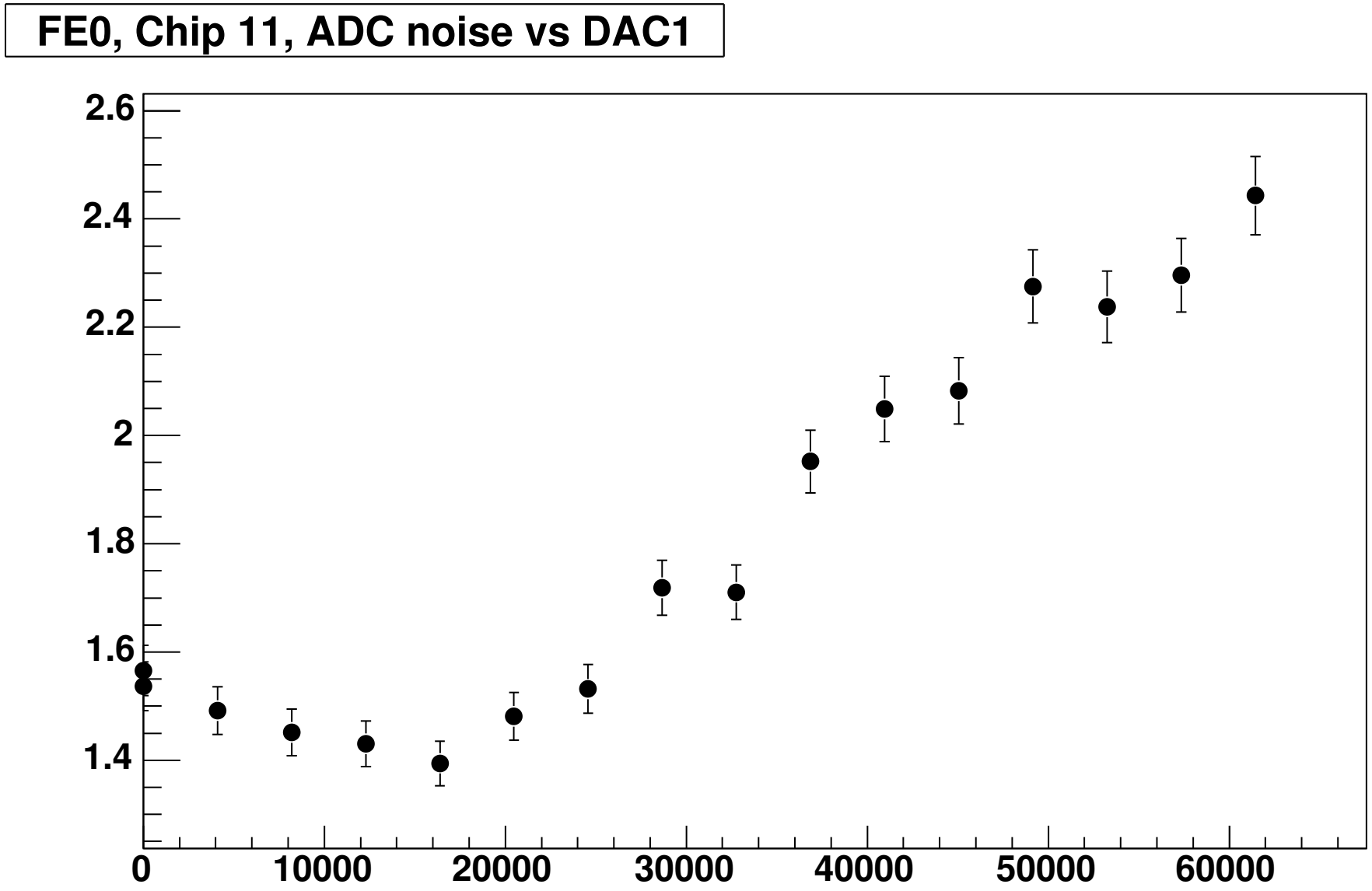



FE0, Chip 11, ADC mean vs DAC0
χ² / ndf 19.93 / 11
p0 47.46 ± 0.04152
p1 -2.942e-06 ± 1.147e-06
47.55
47.5
47.45
47.4
47.35
47.3
47.25
47.2
47.15
47.1
0
10000
20000
30000
40000
50000
60000

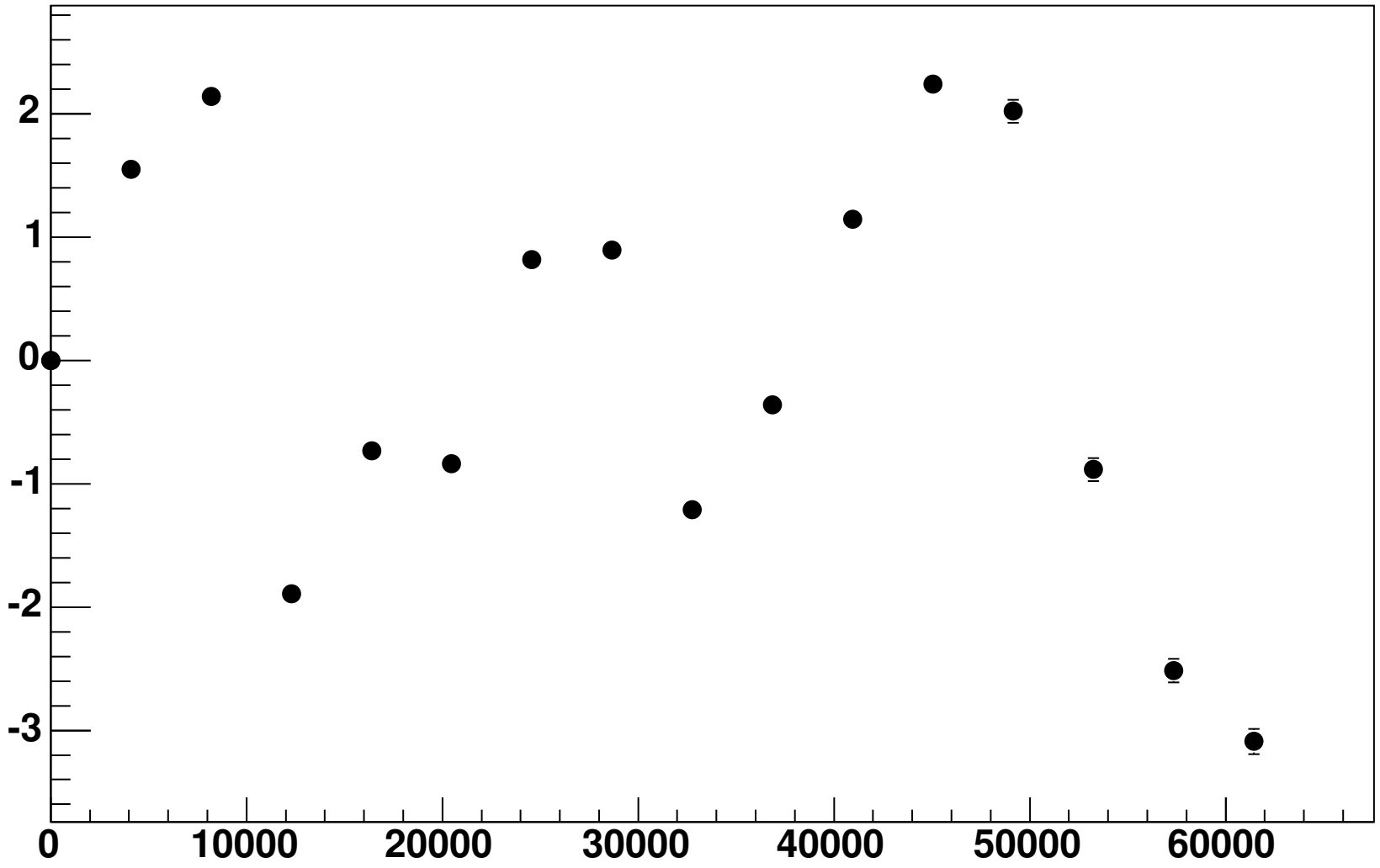

FE0, Chip 11, ADC noise vs DAC0
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

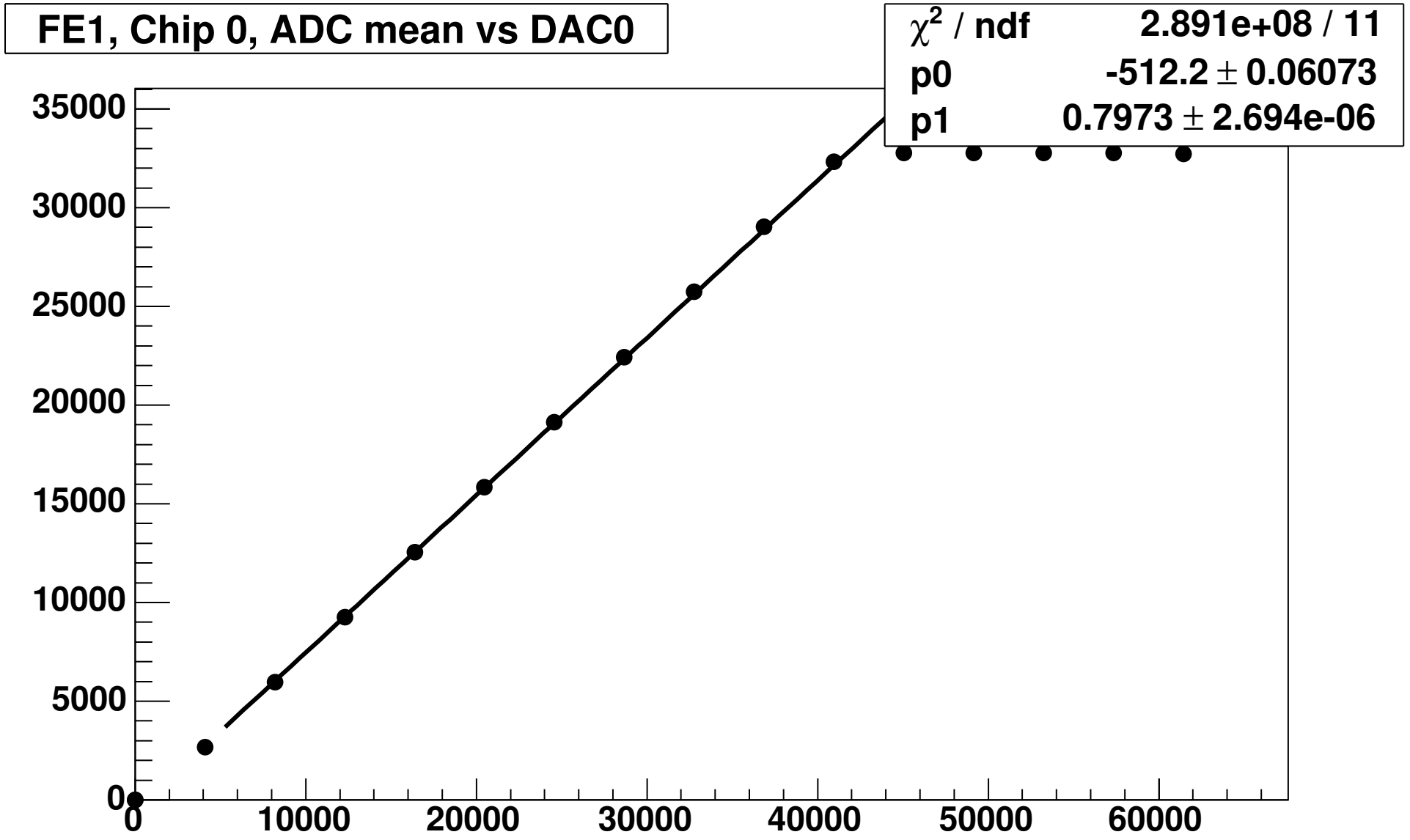

FE0, Chip 11, ADC residuals vs DAC0
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

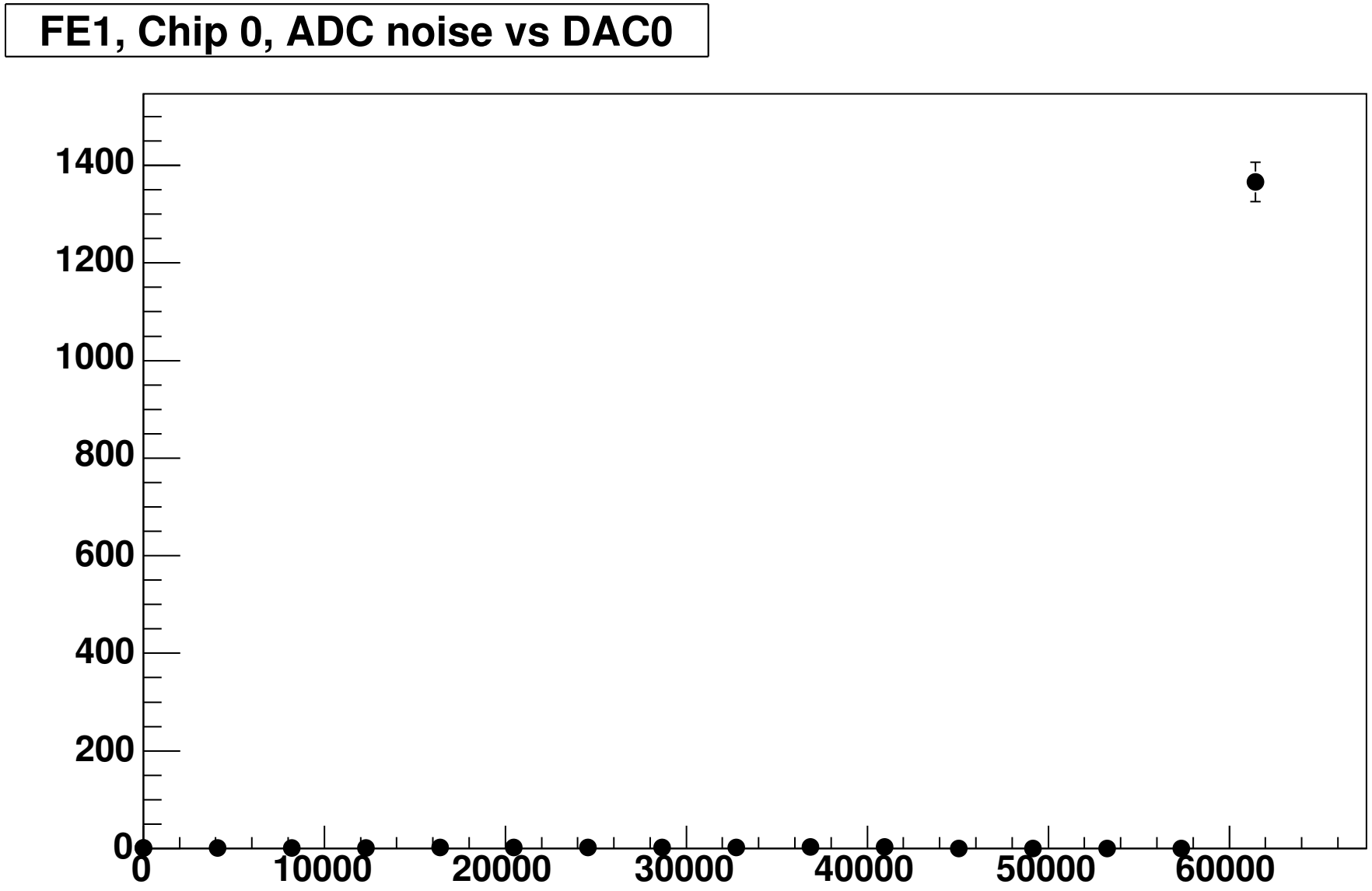

FE0, Chip 11, ADC mean vs DAC1
χ² / ndf 5315 / 11
p0 46.21 ± 0.04279
p1 0.4493 ± 1.375e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

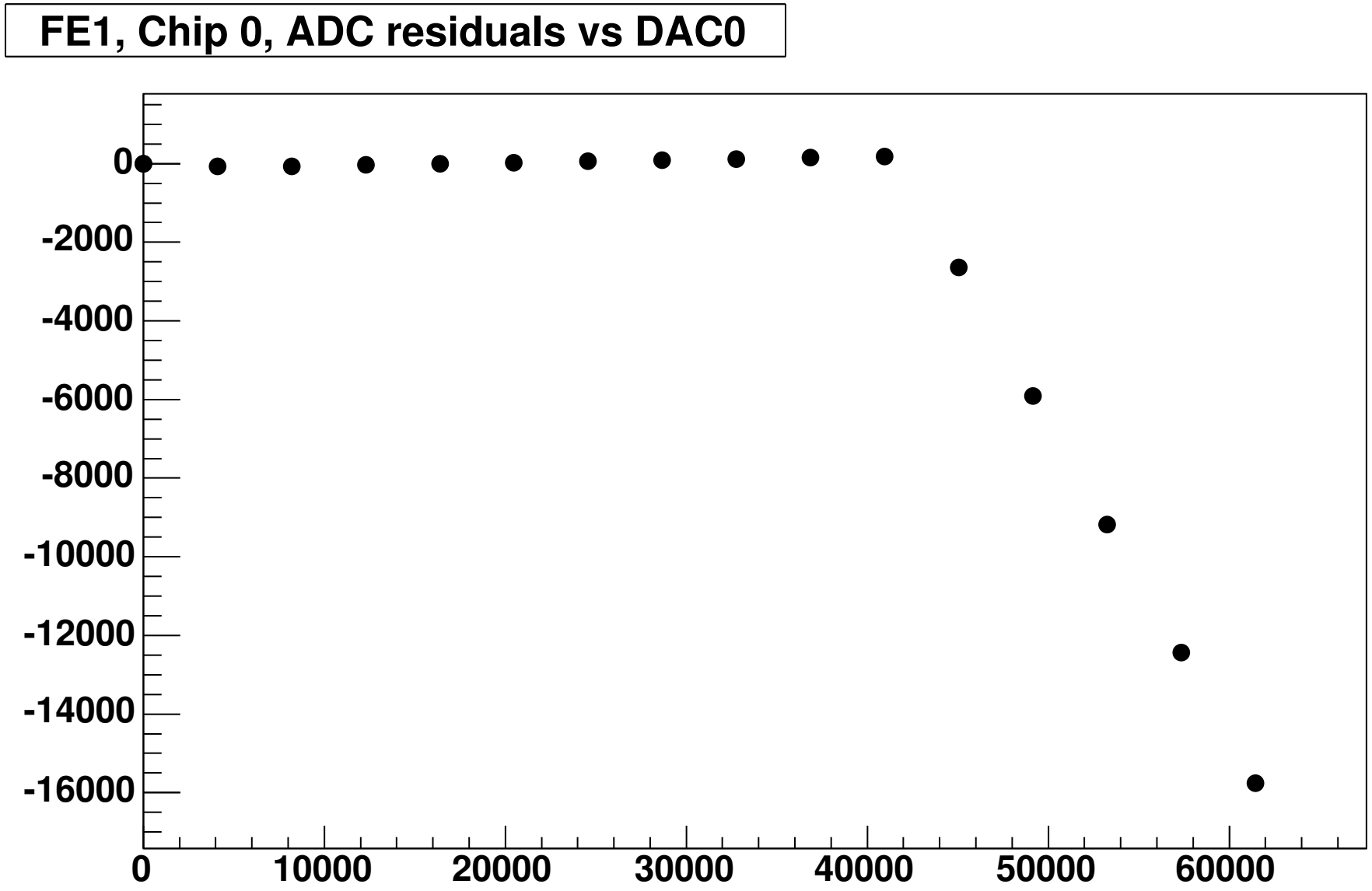

FE0, Chip 11, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

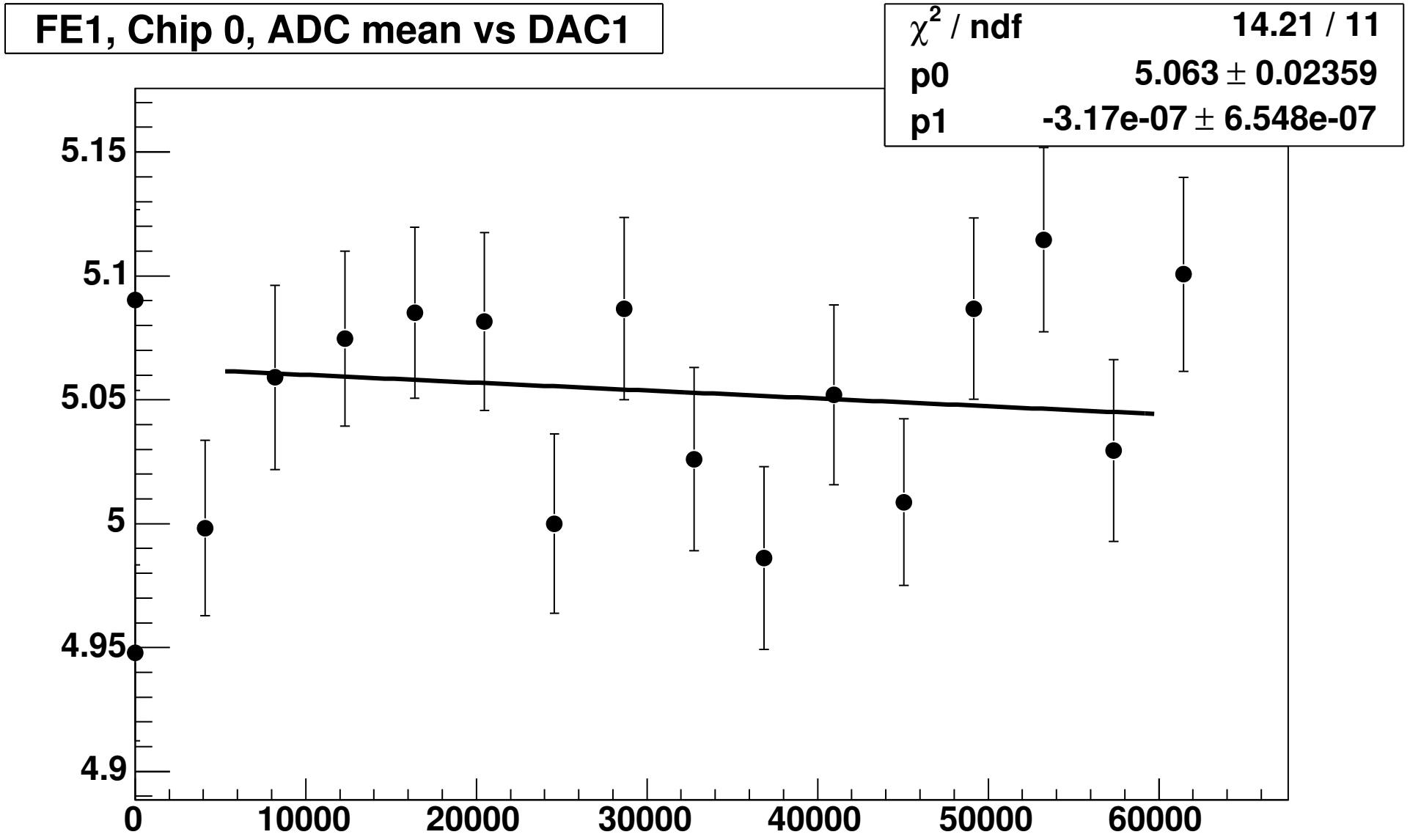
FE0, Chip 11, ADC residuals vs DAC1

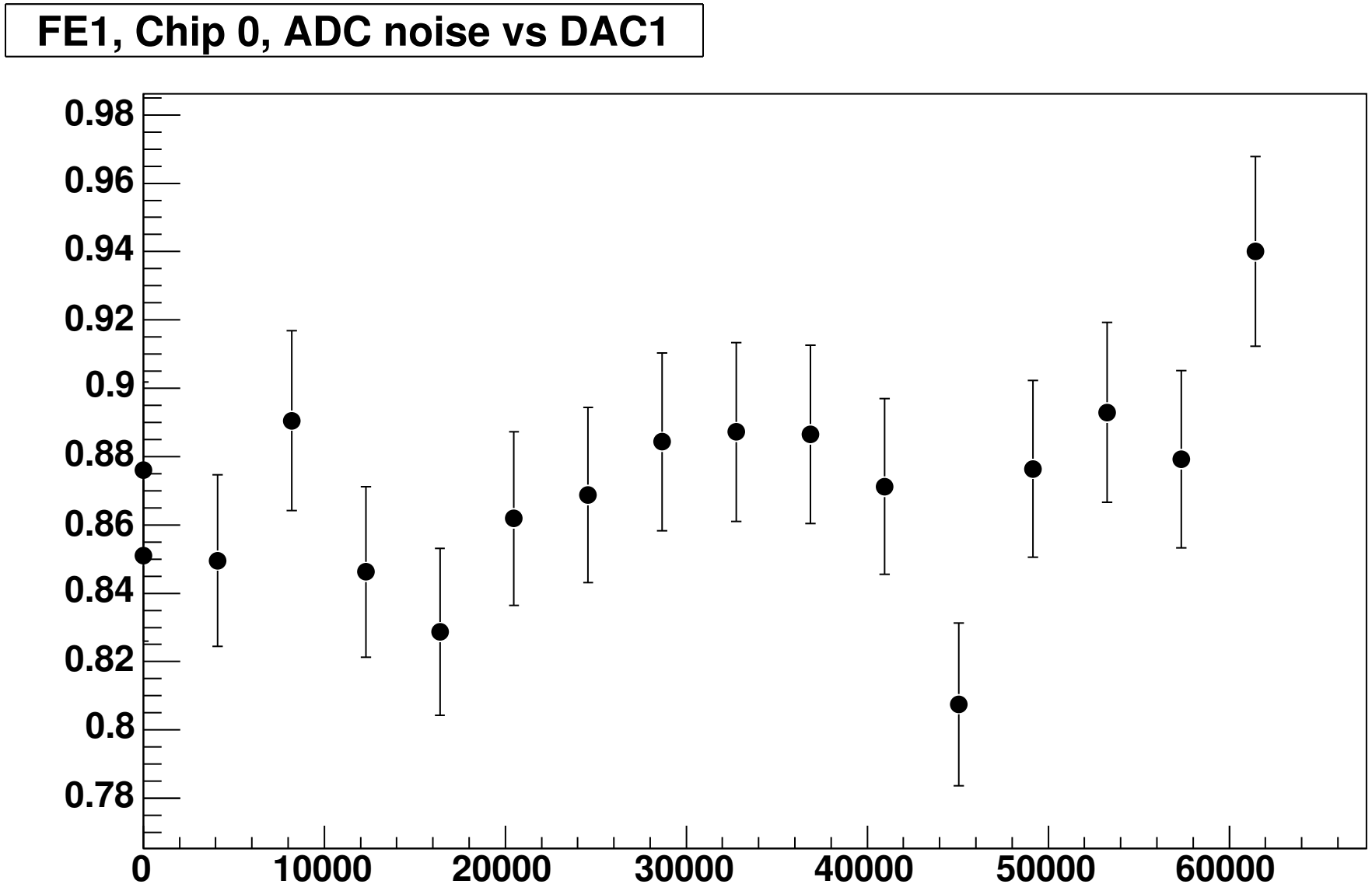


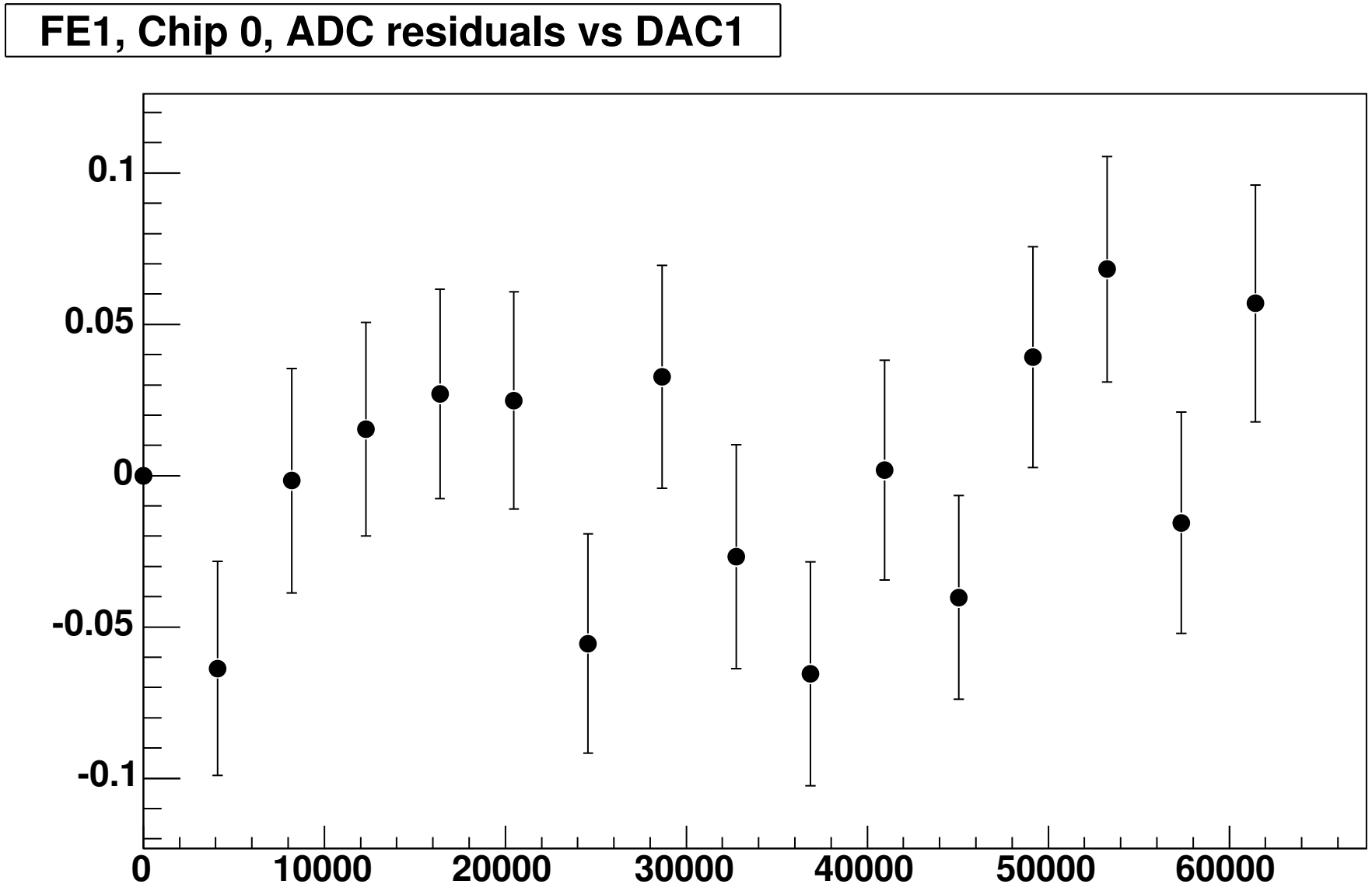

FE1, Chip 0, ADC mean vs DAC0
χ² / ndf 2.891e+08 / 11
p0 -512.2 ± 0.06073
p1 0.7973 ± 2.694e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

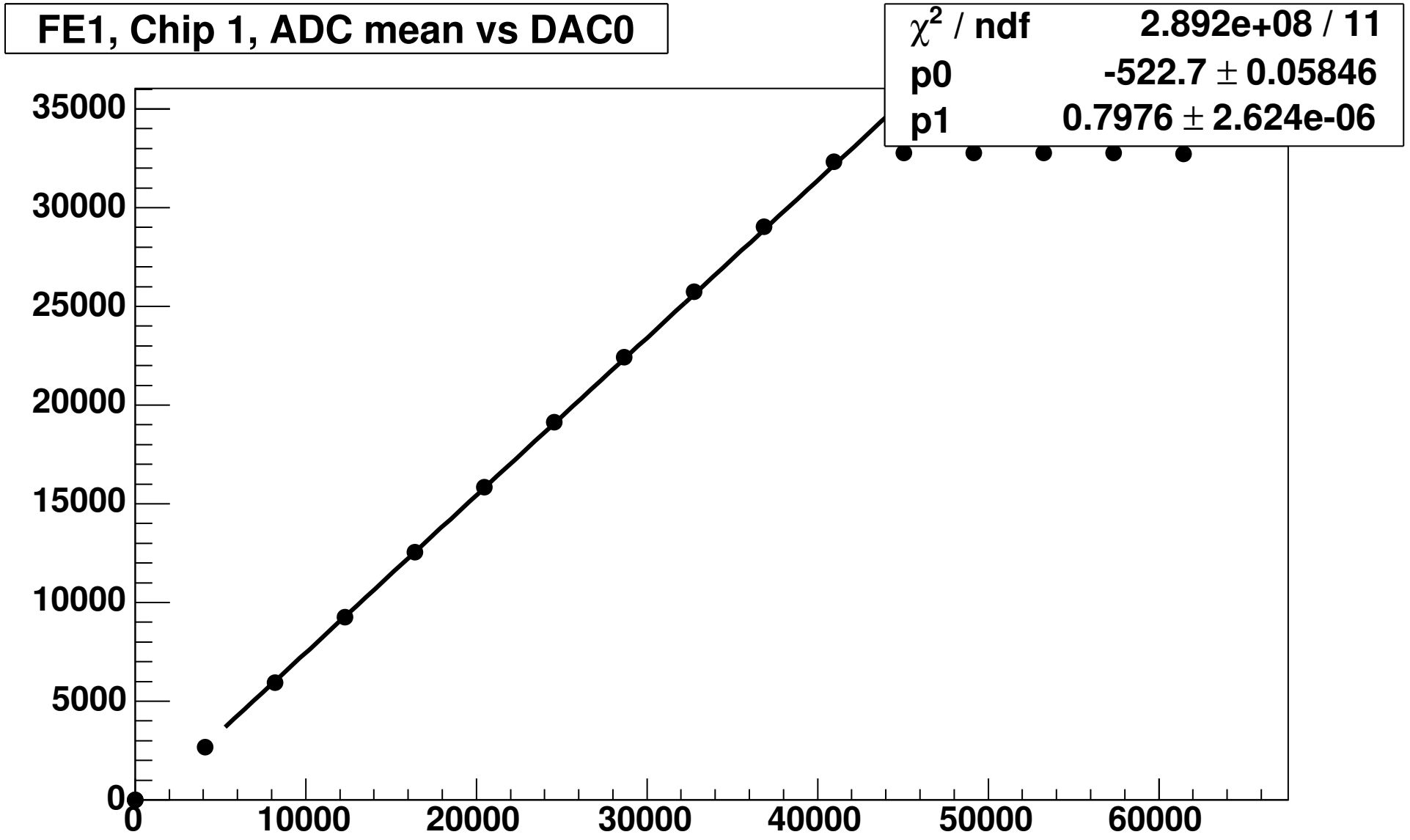

FE1, Chip 0, ADC noise vs DAC0
1400
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

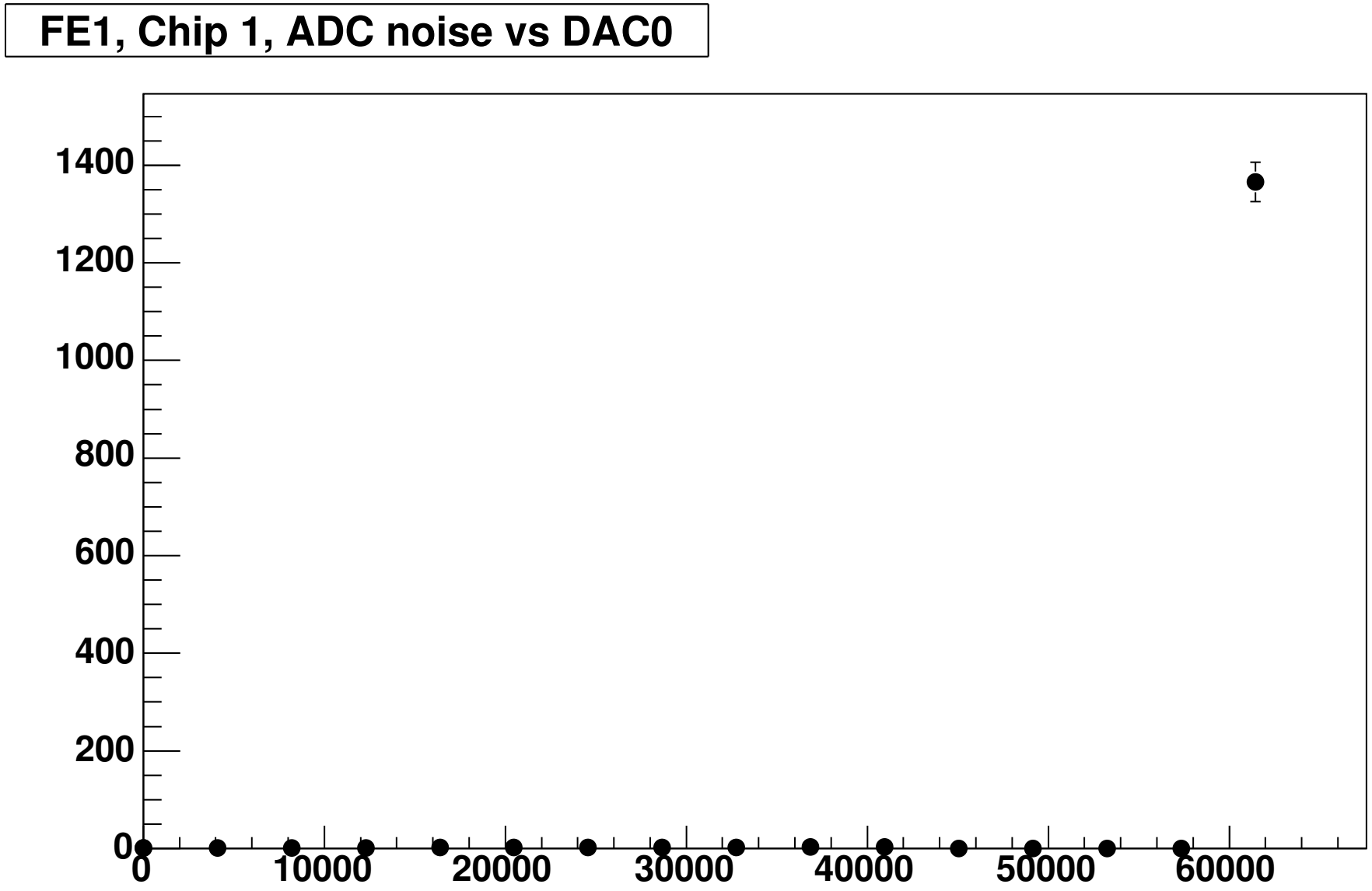

FE1, Chip 0, ADC residuals vs DAC0
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

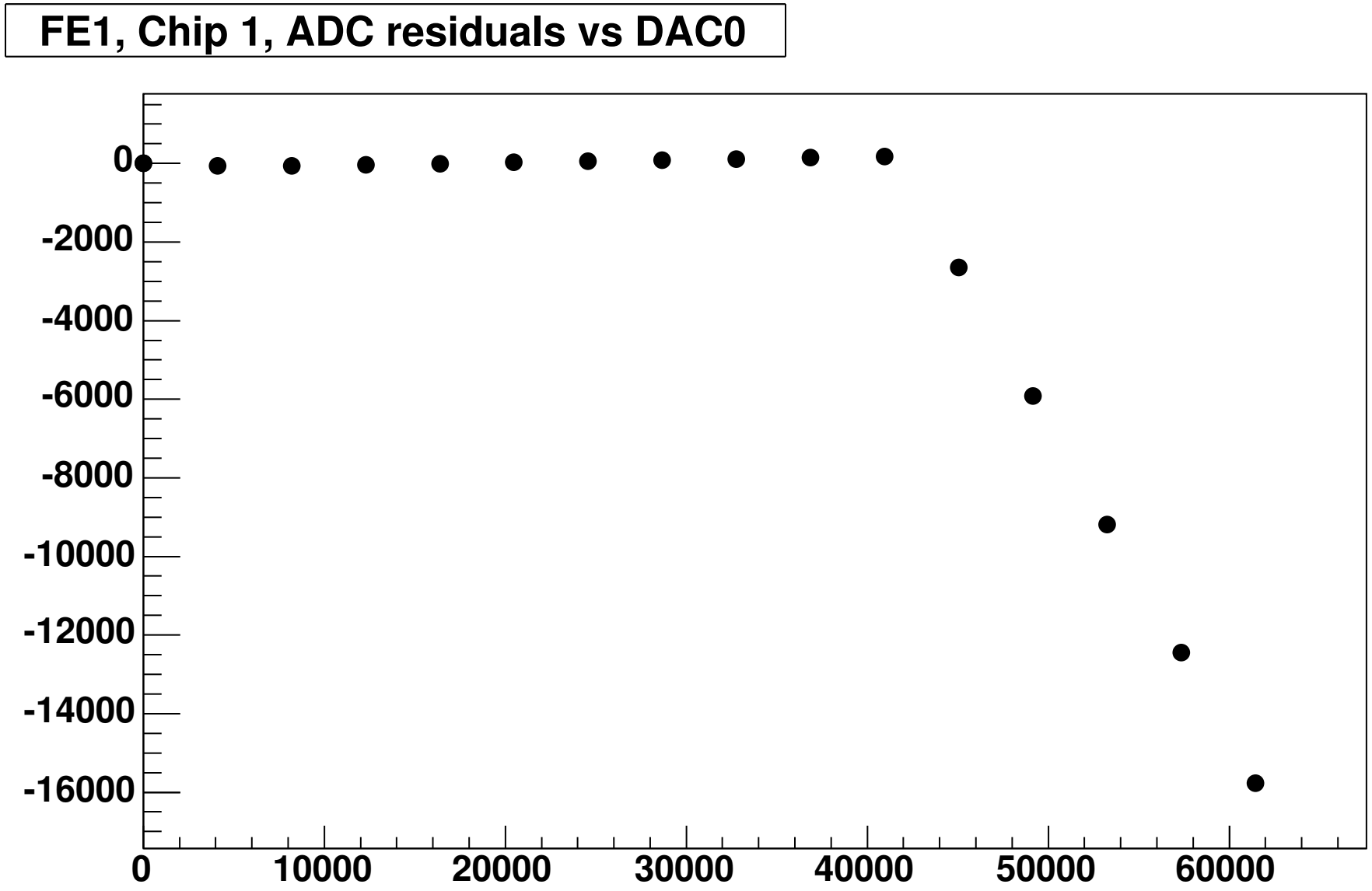

FE1, Chip 0, ADC mean vs DAC1
χ² / ndf 14.21 / 11
p0 5.063 ± 0.02359
p1 -3.17e-07 ± 6.548e-07
5.15
5.1
5.05
5
4.95
4.9
0
10000
20000
30000
40000
50000
60000

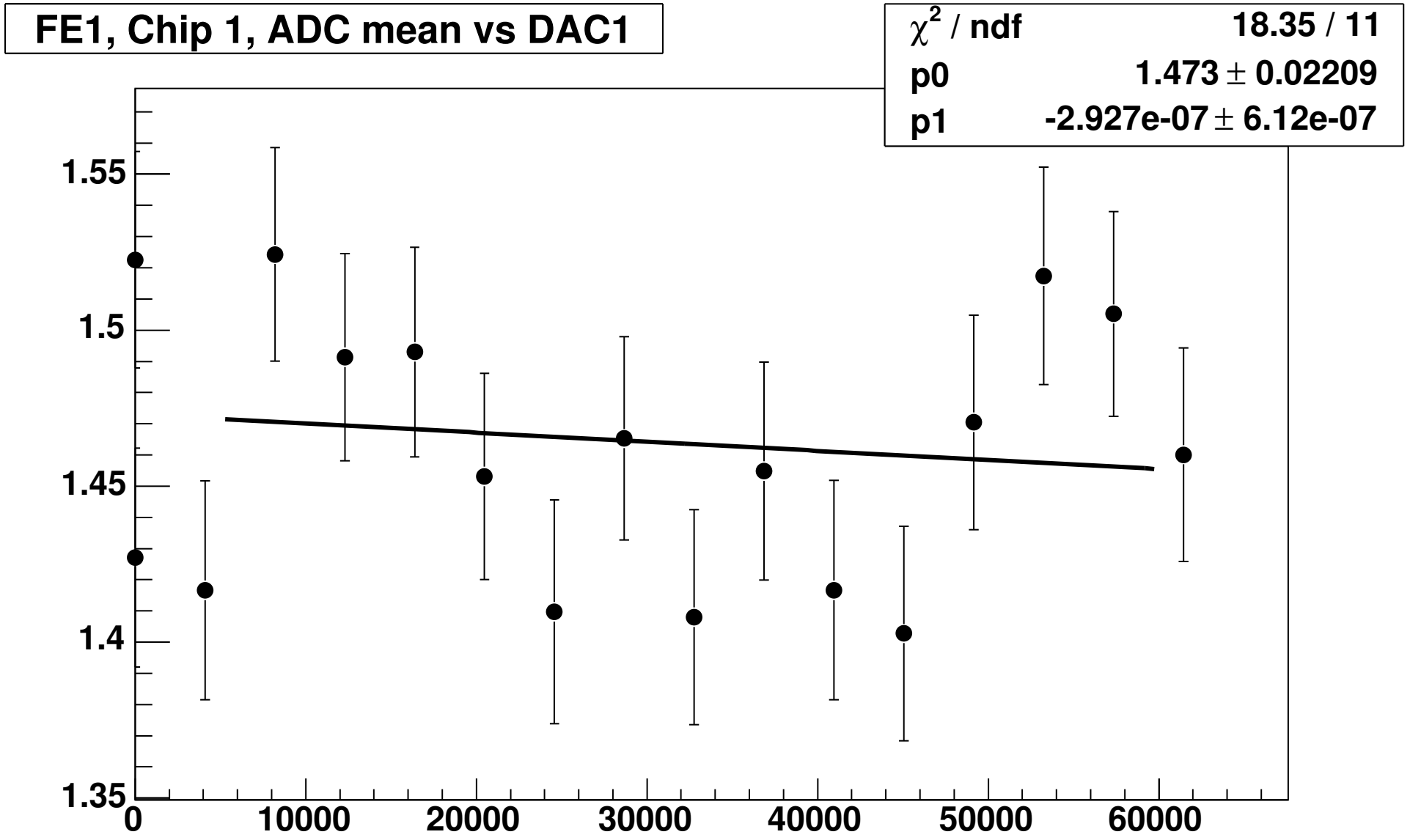

FE1, Chip 0, ADC noise vs DAC1
0.98
0.96
0.94
0.92
0.9
0.88
0.86
0.84
0.82
0.8
0.78
0
10000
20000
30000
40000
50000
60000

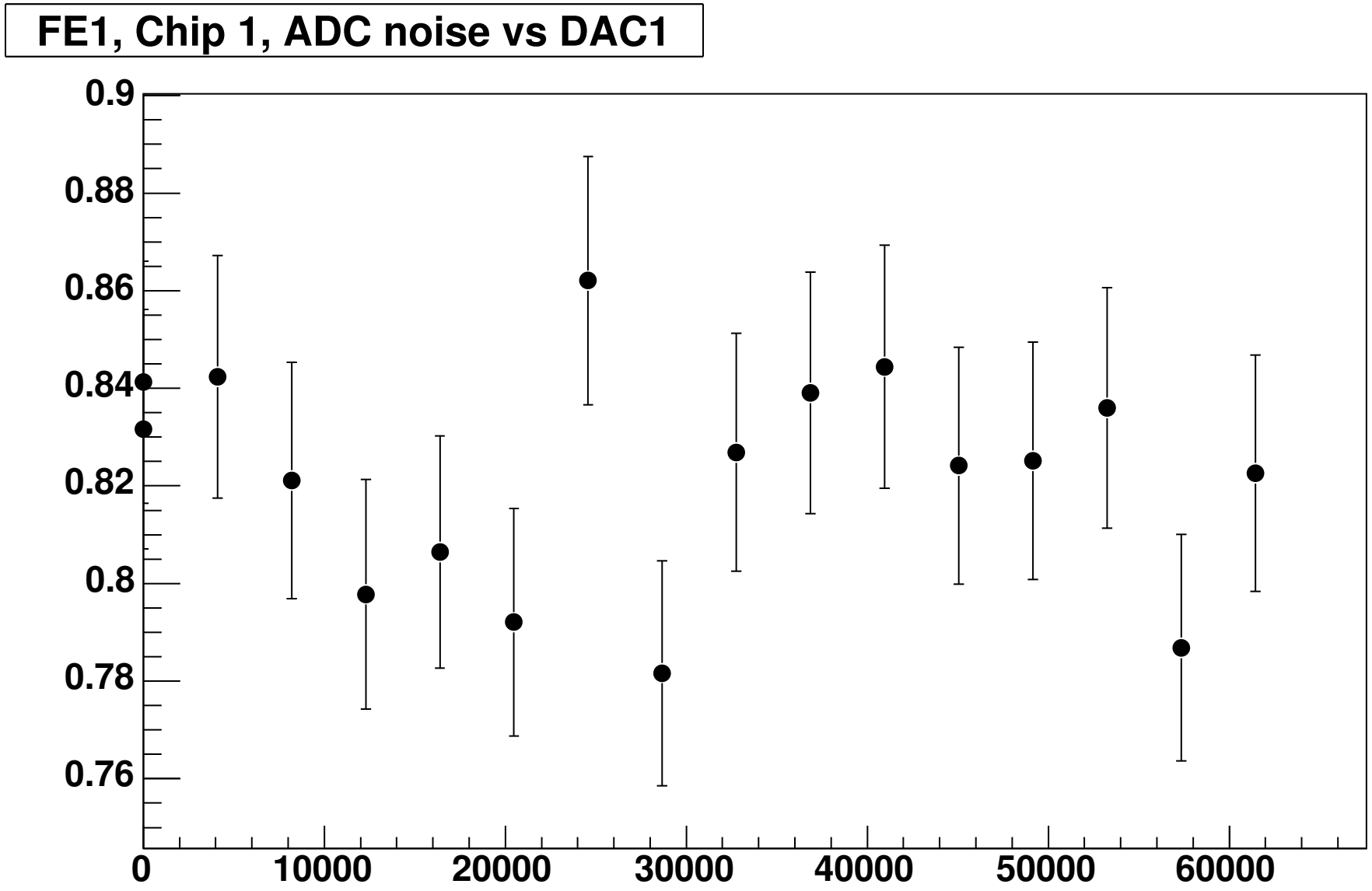

FE1, Chip 0, ADC residuals vs DAC1
0.1
0.05
0
-0.05
-0.1
0
10000
20000
30000
40000
50000
60000

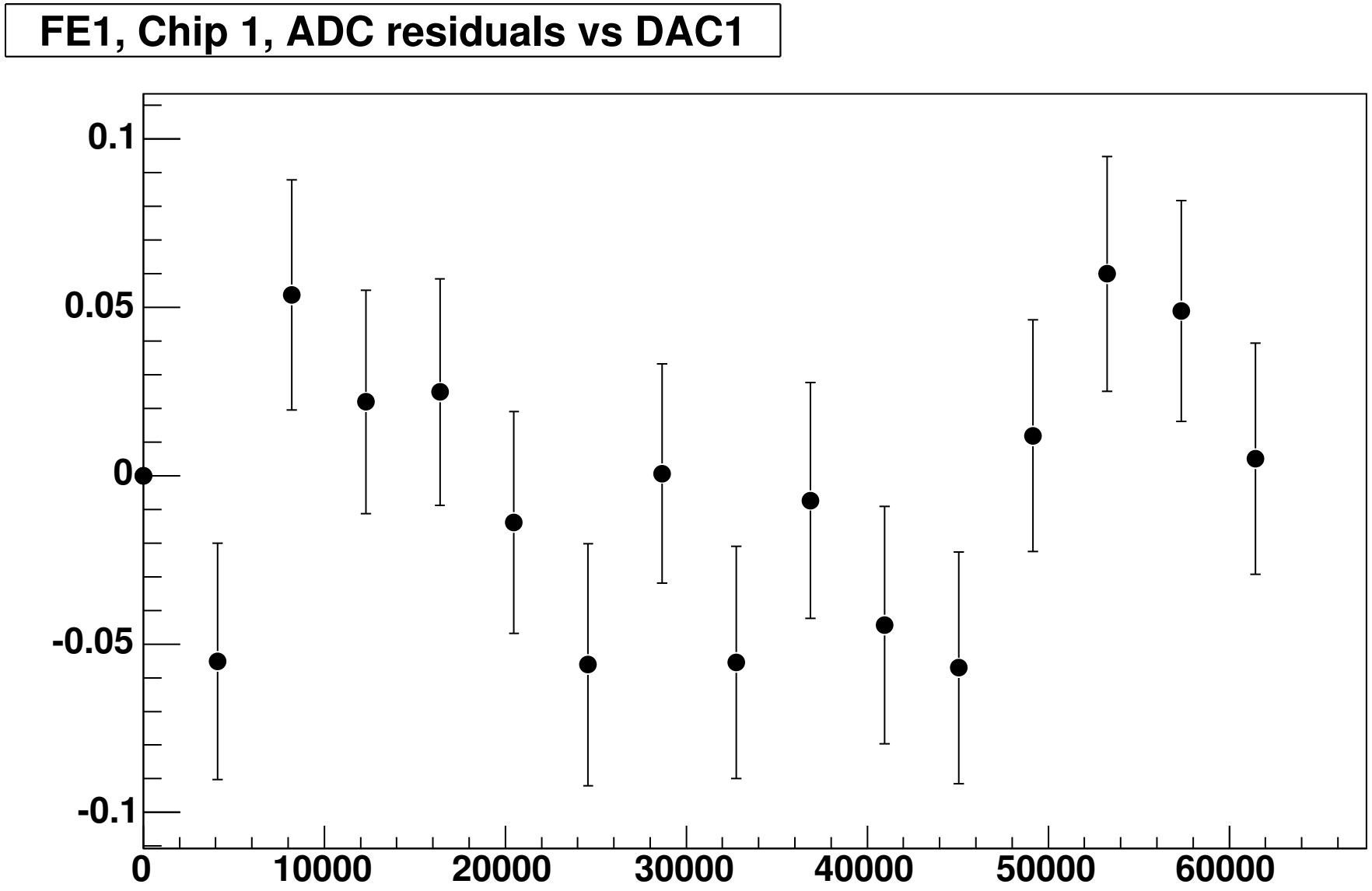

FE1, Chip 1, ADC mean vs DAC0
χ² / ndf 2.892e+08 / 11
p0 -522.7 ± 0.05846
p1 0.7976 ± 2.624e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

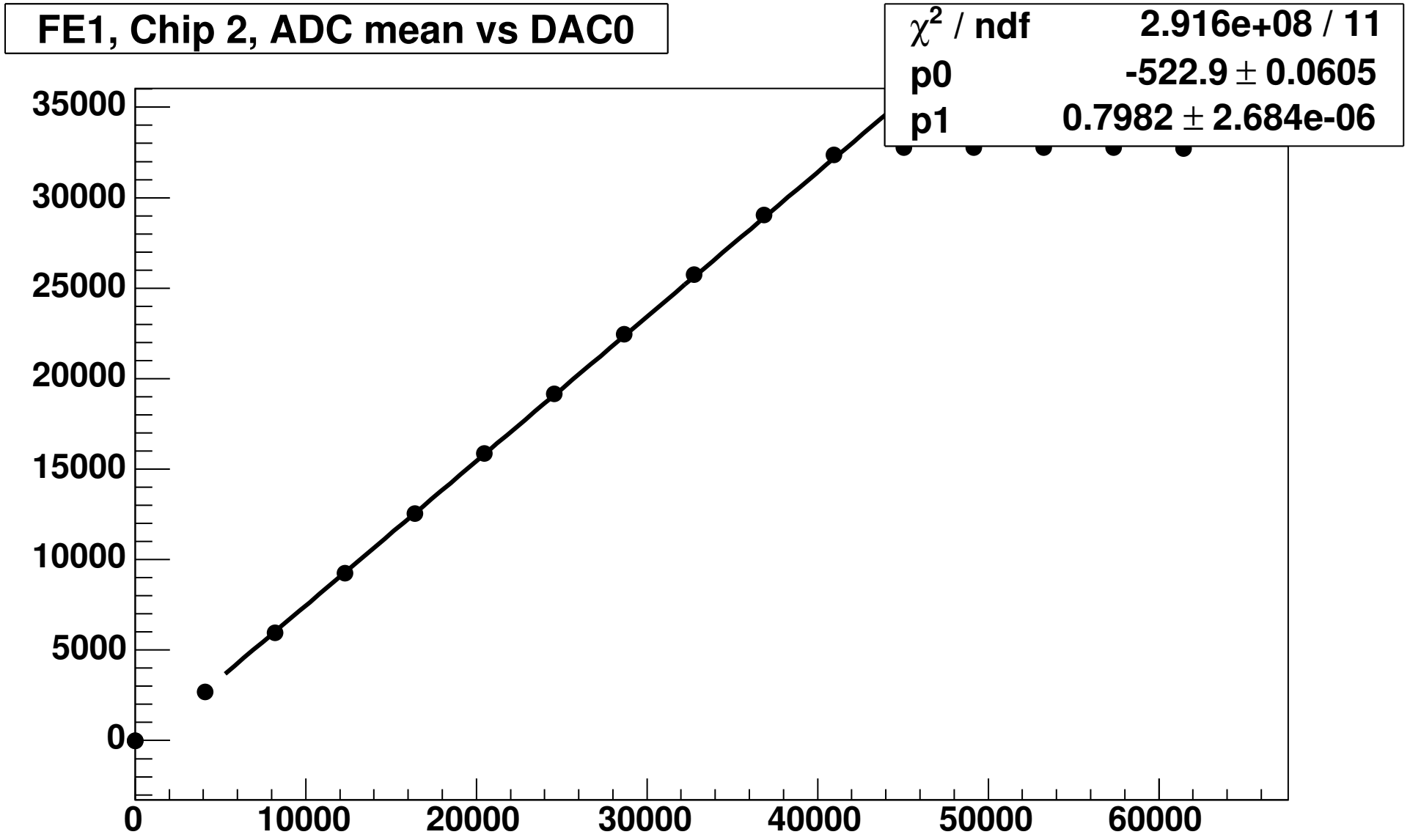

FE1, Chip 1, ADC noise vs DAC0
1400
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

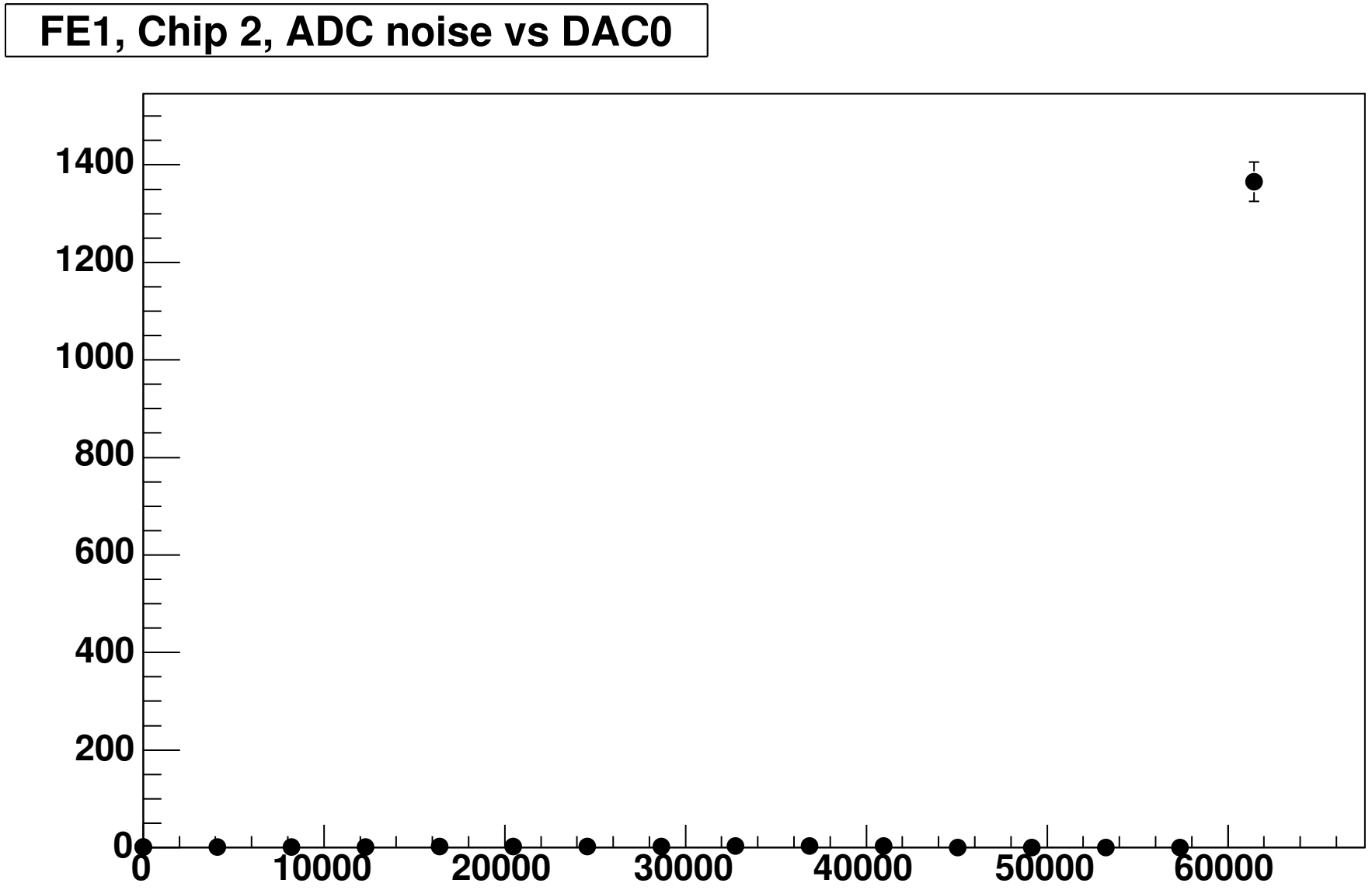

FE1, Chip 1, ADC residuals vs DAC0
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

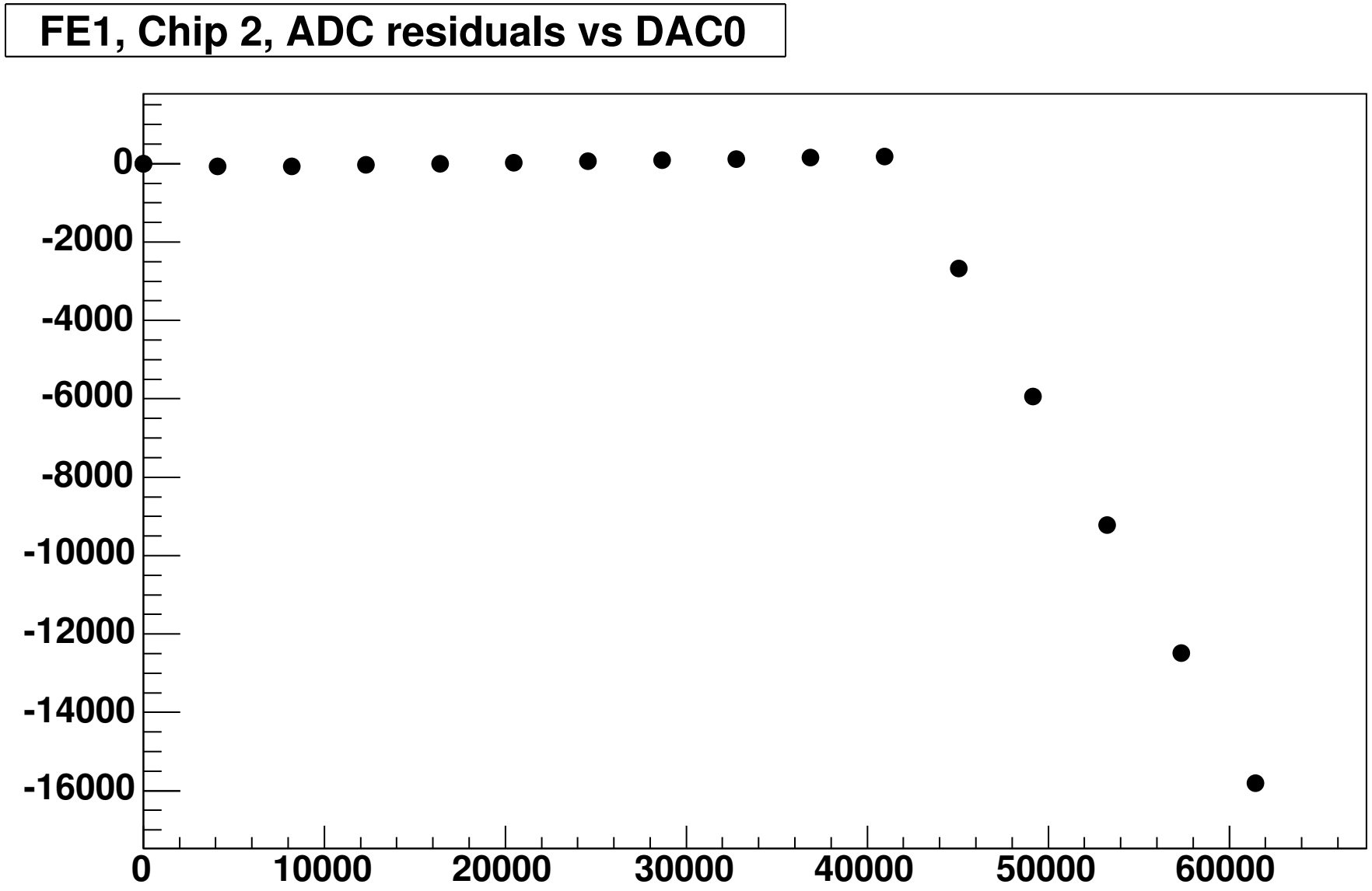

FE1, Chip 1, ADC mean vs DAC1
χ² / ndf 18.35 / 11
p0 1.473 ± 0.02209
p1 -2.927e-07 ± 6.12e-07
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

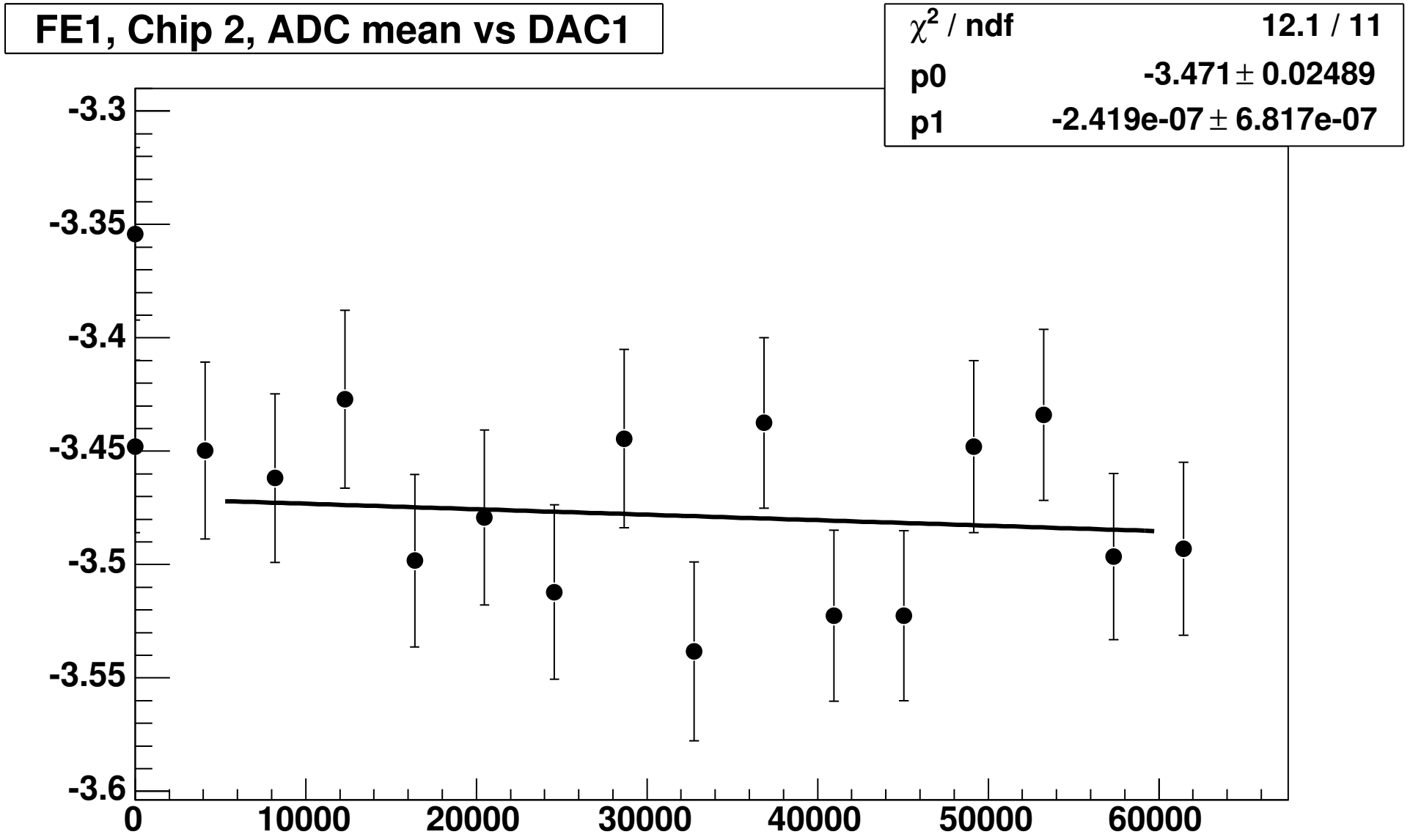

FE1, Chip 1, ADC noise vs DAC1
0.9
0.88
0.86
0.84
0.82
0.8
0.78
0.76
0
10000
20000
30000
40000
50000
60000

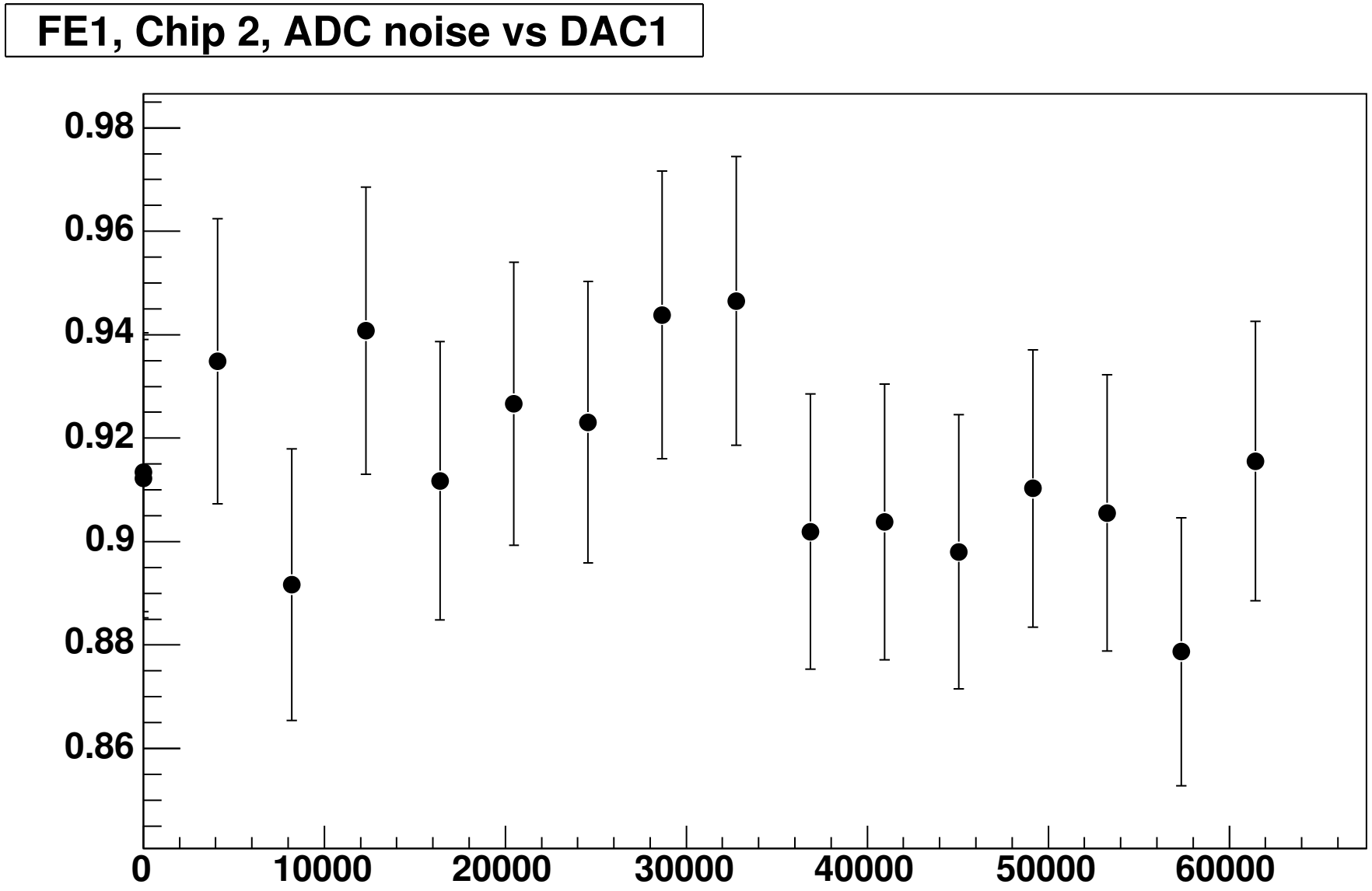

FE1, Chip 1, ADC residuals vs DAC1
0.1
0.05
0
-0.05
-0.1
0
10000
20000
30000
40000
50000
60000

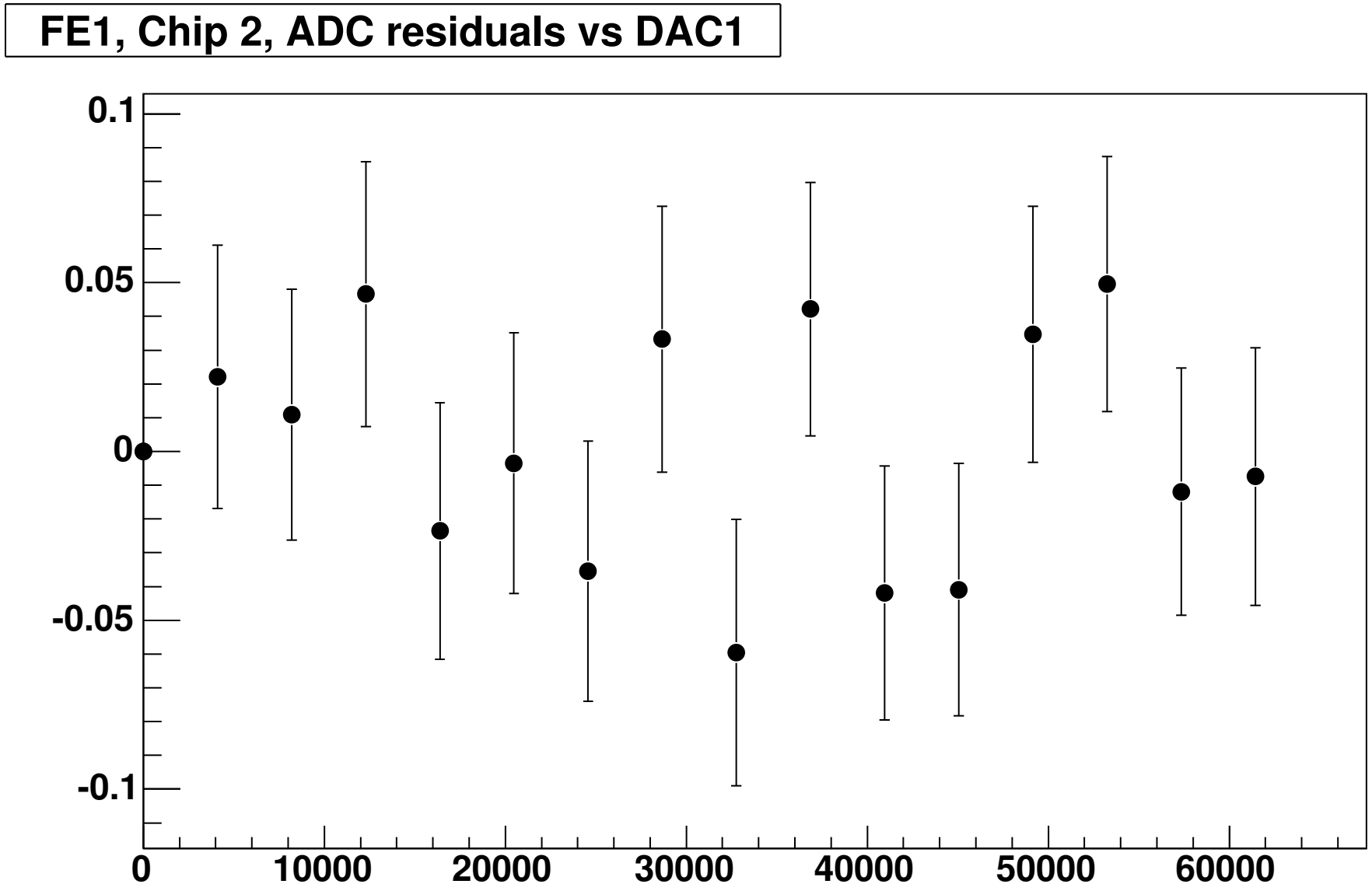

FE1, Chip 2, ADC mean vs DAC0
χ² / ndf 2.916e+08 / 11
p0 -522.9 ± 0.0605
p1 0.7982 ± 2.684e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

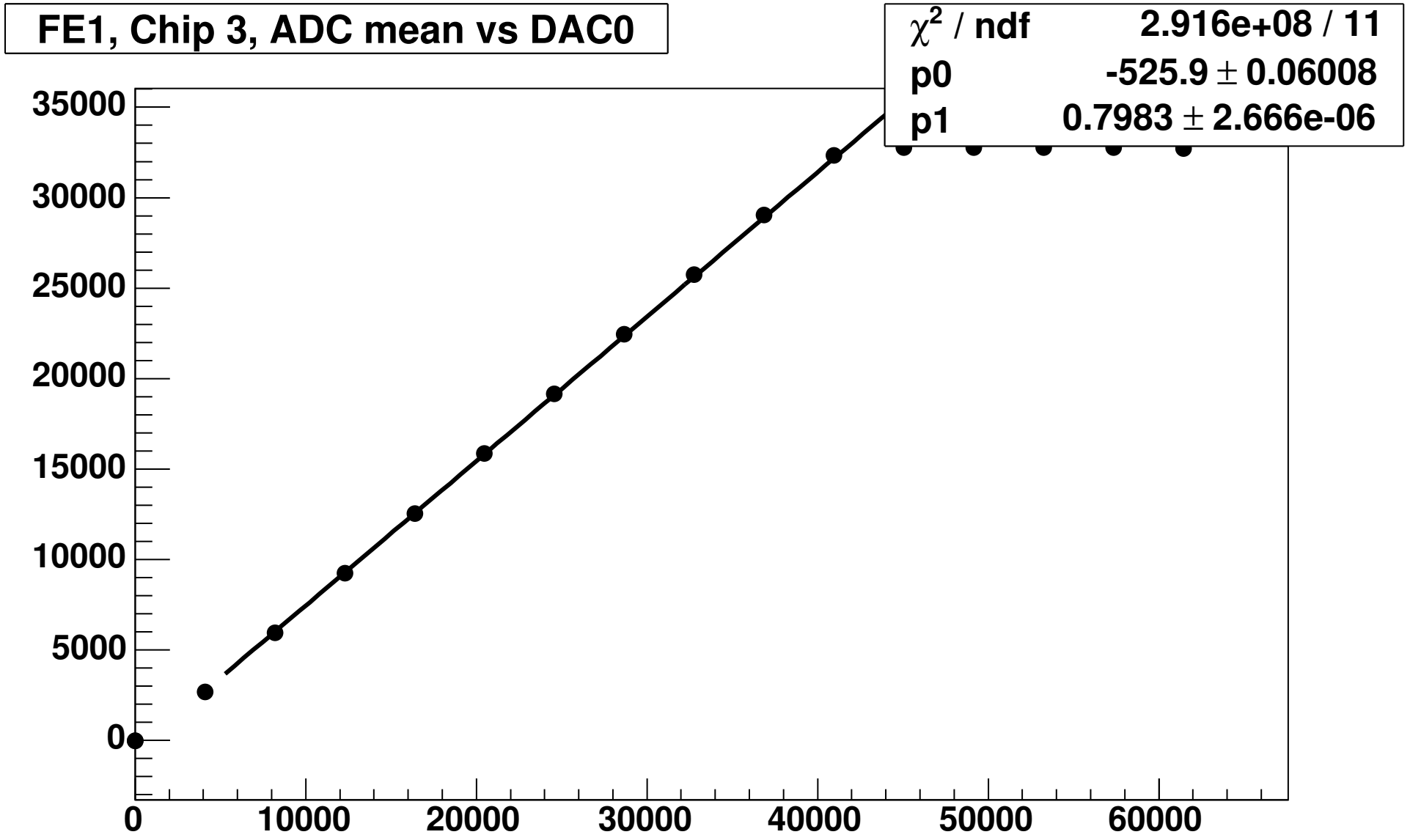

FE1, Chip 2, ADC noise vs DAC0
1400
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

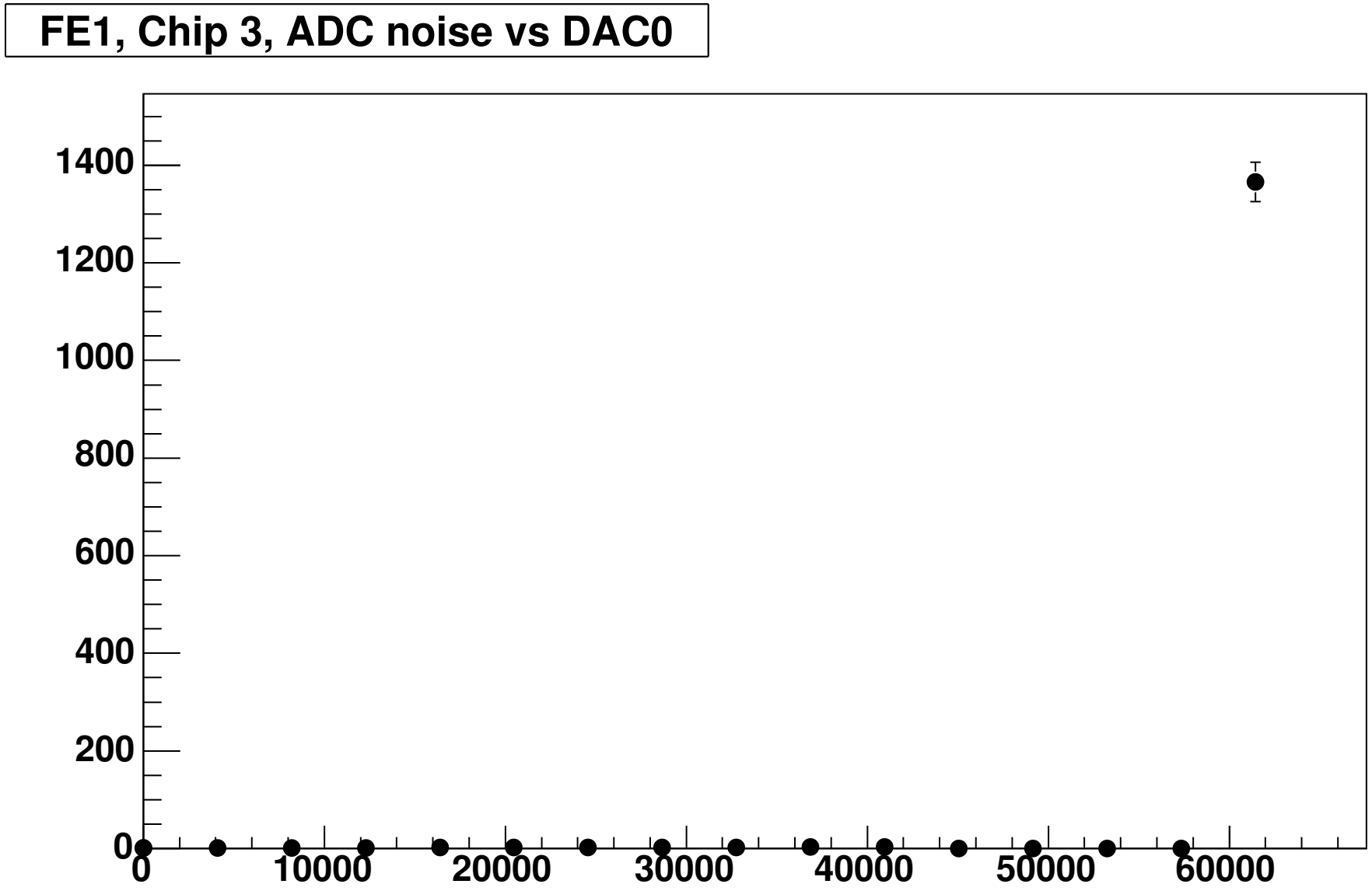

FE1, Chip 2, ADC residuals vs DAC0
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

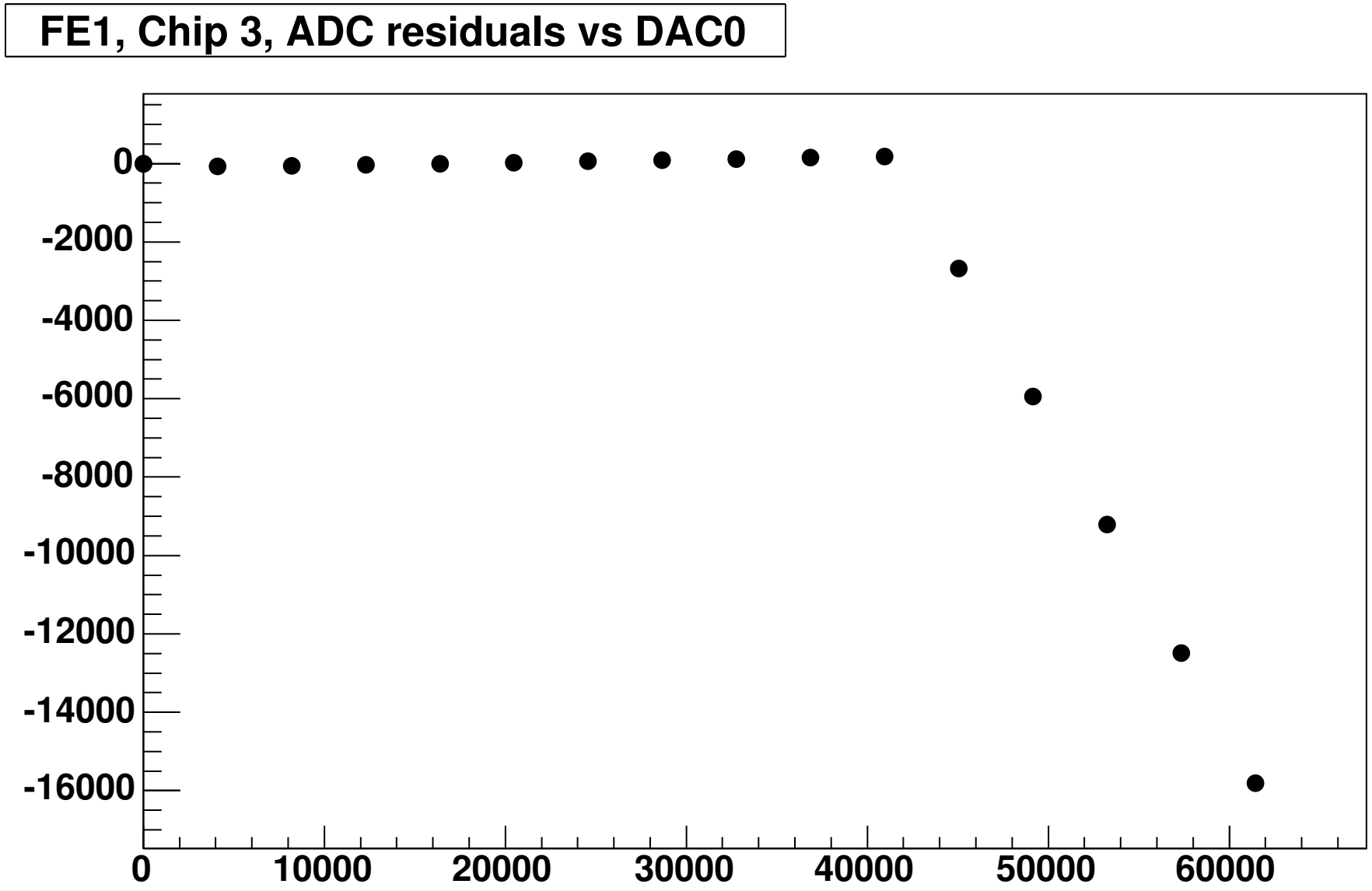

FE1, Chip 2, ADC mean vs DAC1
χ² / ndf 12.1 / 11
p0 -3.471 ± 0.02489
p1 -2.419e-07 ± 6.817e-07
-3.3
-3.35
-3.4
-3.45
-3.5
-3.55
-3.6
0
10000
20000
30000
40000
50000
60000

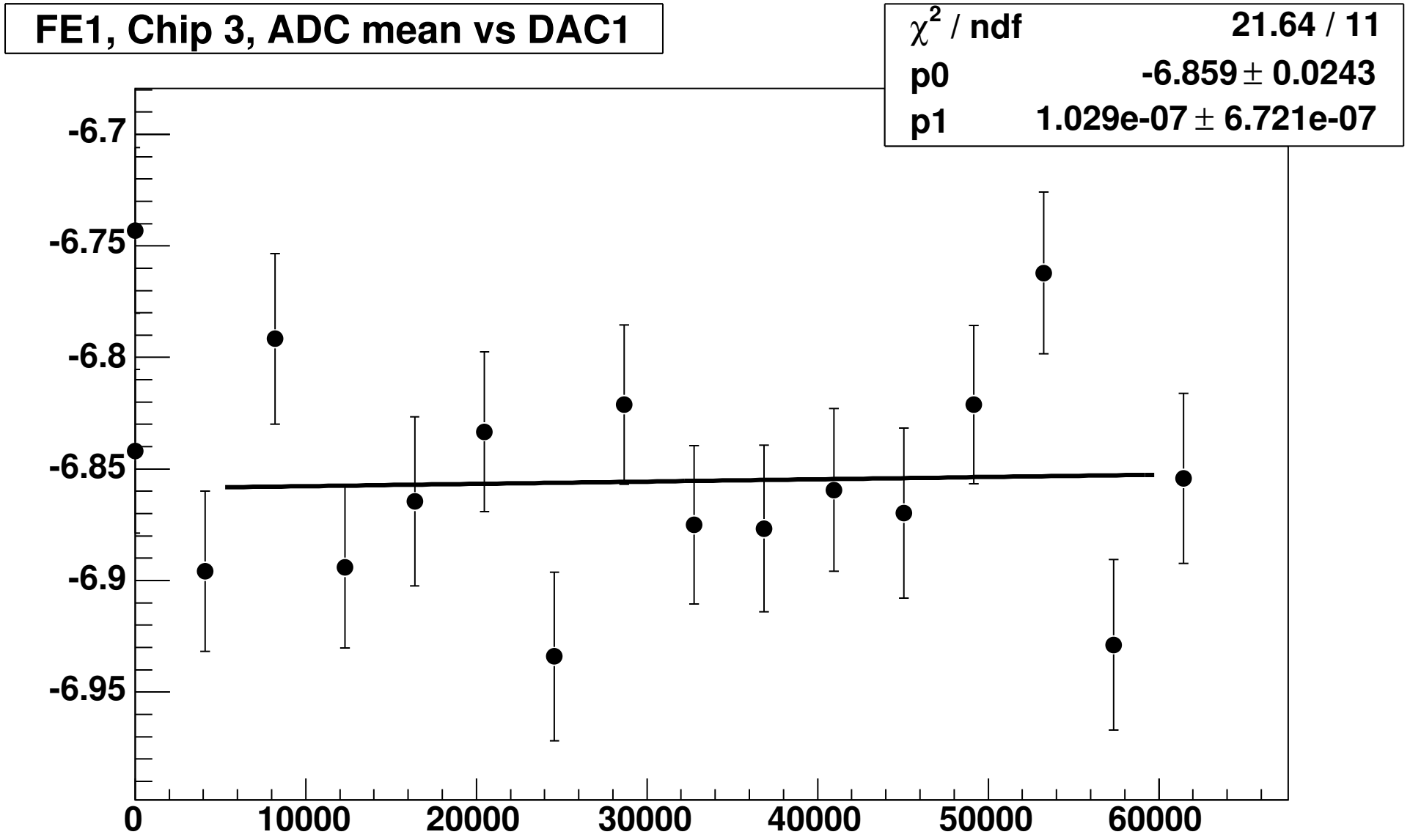

FE1, Chip 2, ADC noise vs DAC1
0.98
0.96
0.94
0.92
0.9
0.88
0.86
0
10000
20000
30000
40000
50000
60000

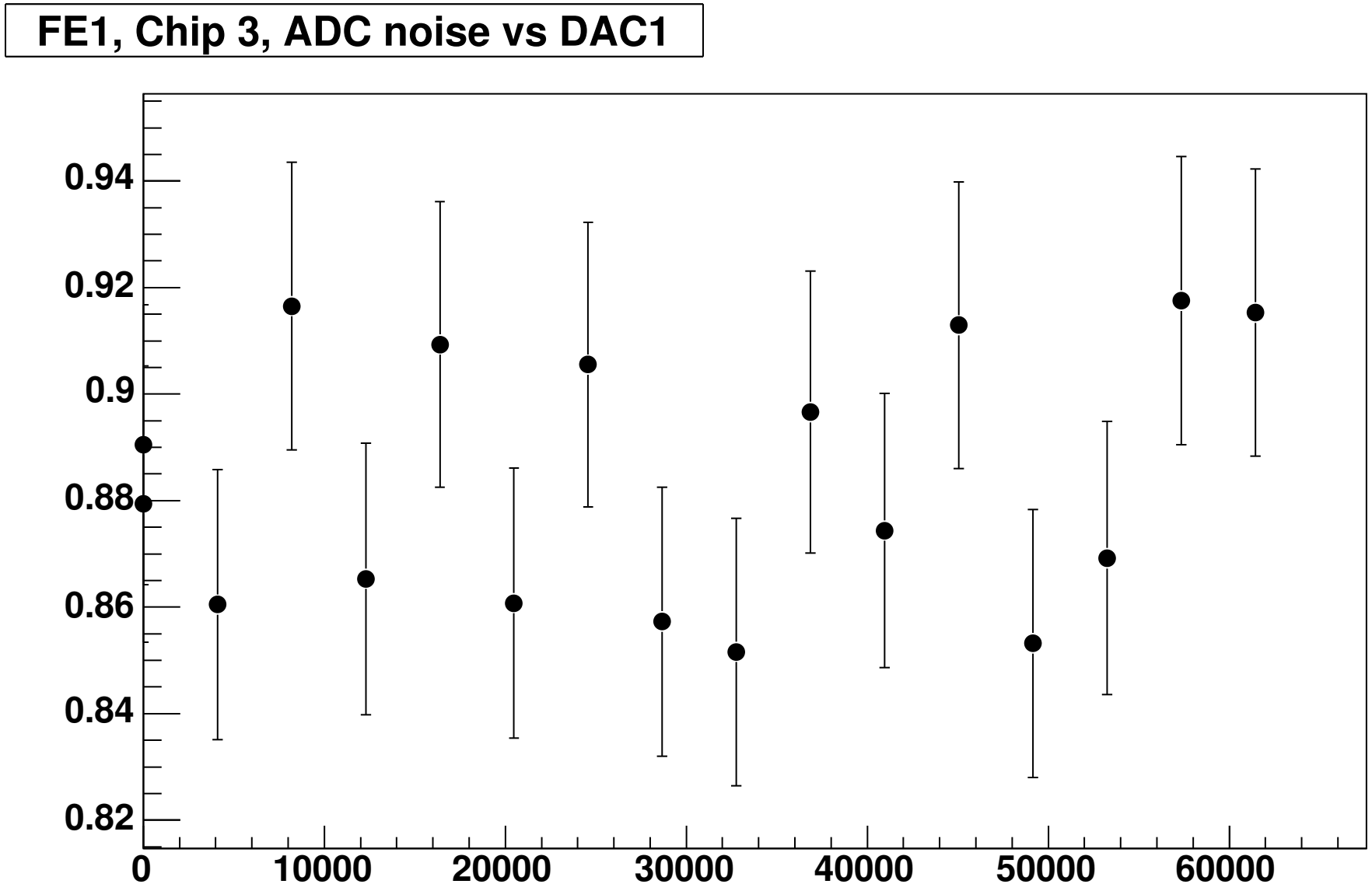

FE1, Chip 2, ADC residuals vs DAC1
0.1
0.05
0
-0.05
-0.1
0
10000
20000
30000
40000
50000
60000

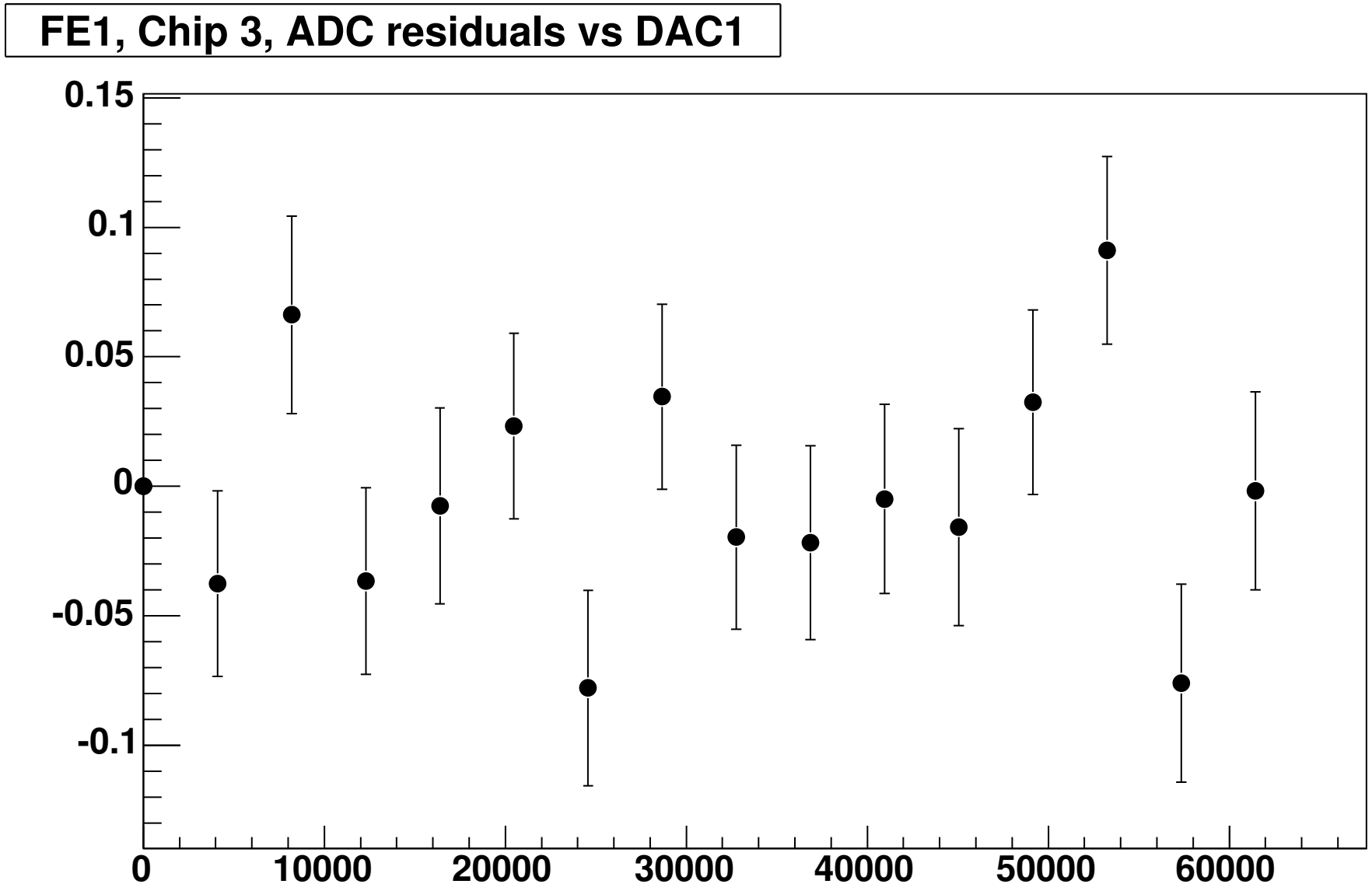

FE1, Chip 3, ADC mean vs DAC0
χ² / ndf 2.916e+08 / 11
p0 -525.9 ± 0.06008
p1 0.7983 ± 2.666e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

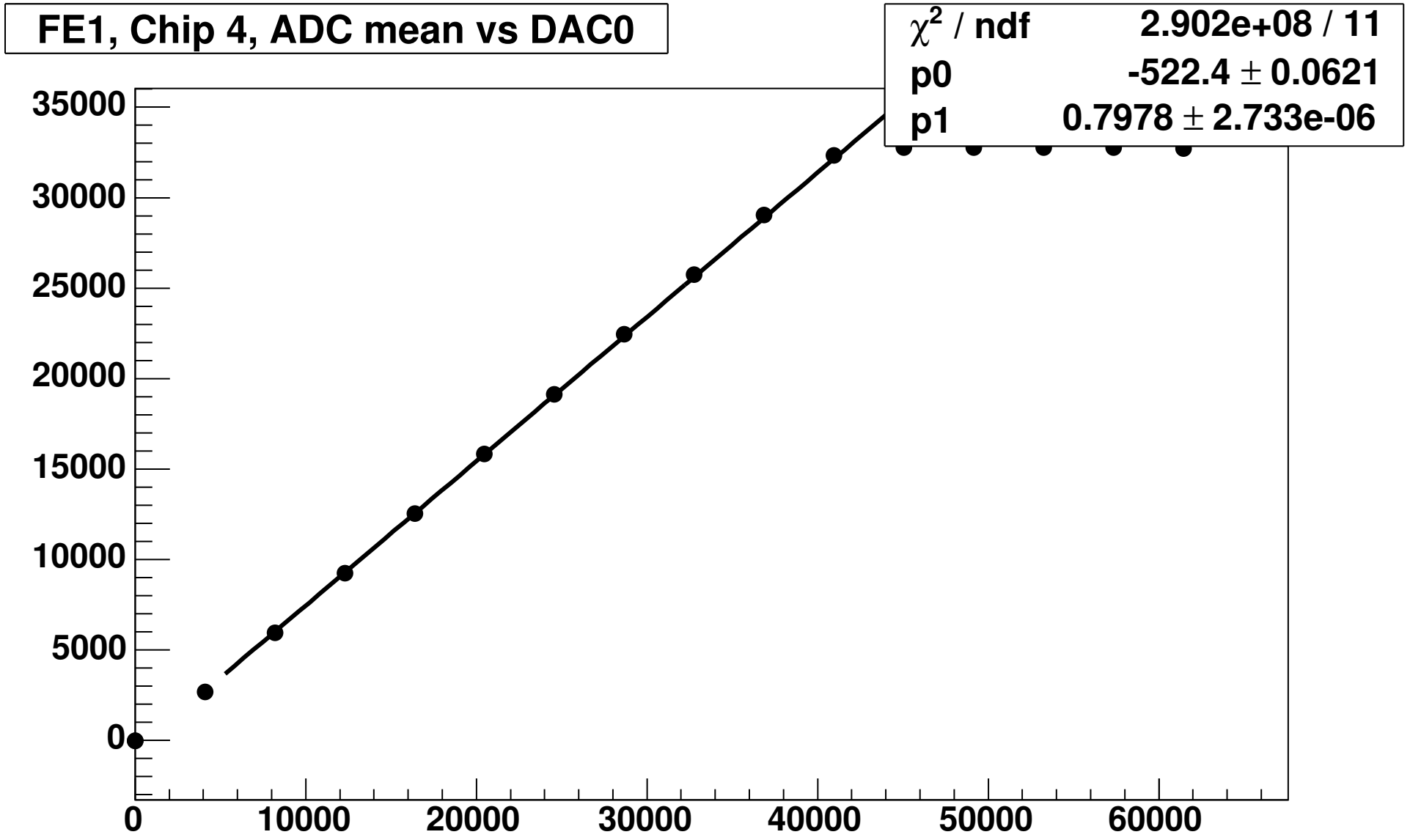

FE1, Chip 3, ADC noise vs DAC0
1400
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

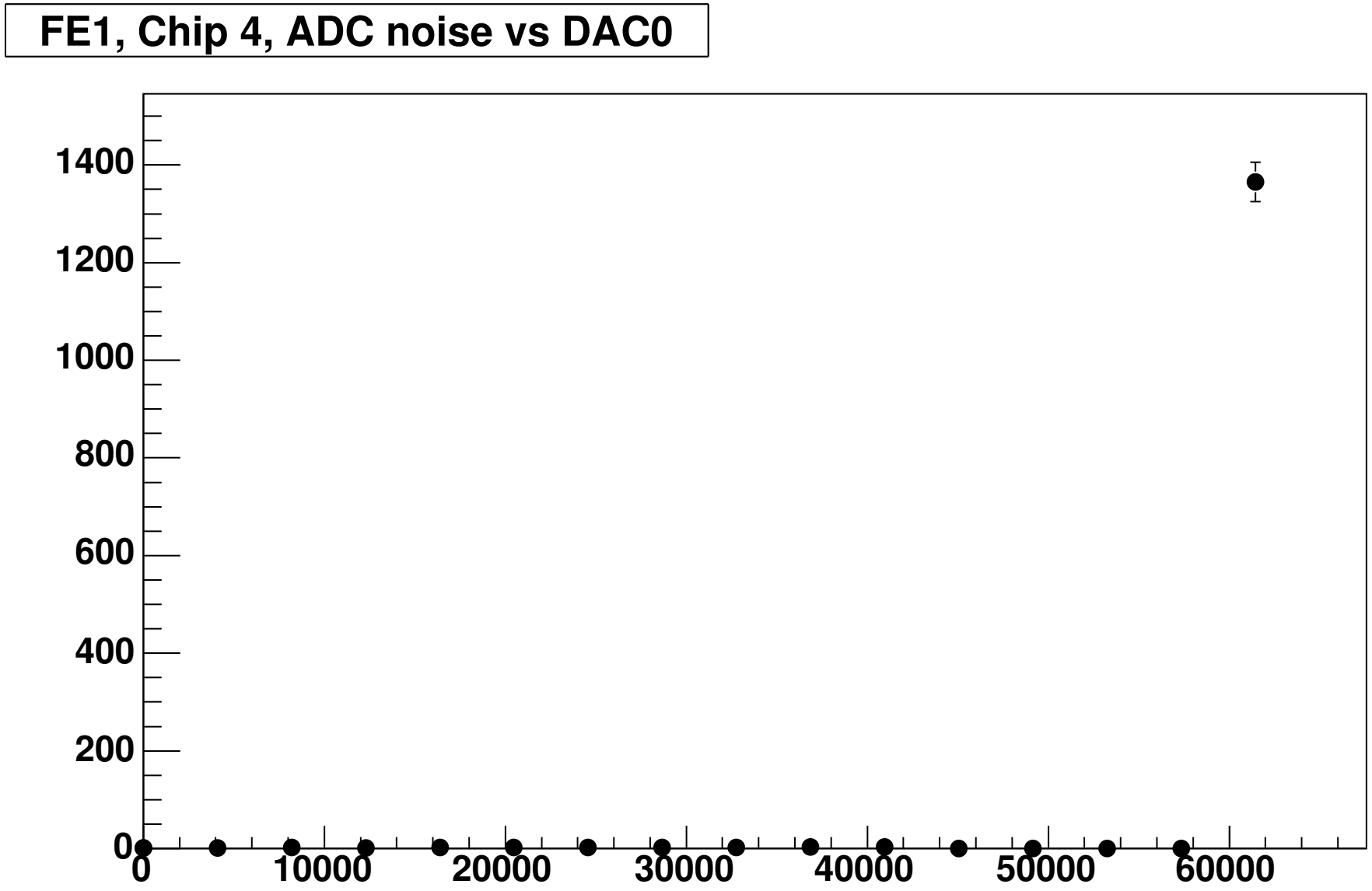

FE1, Chip 3, ADC residuals vs DAC0
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

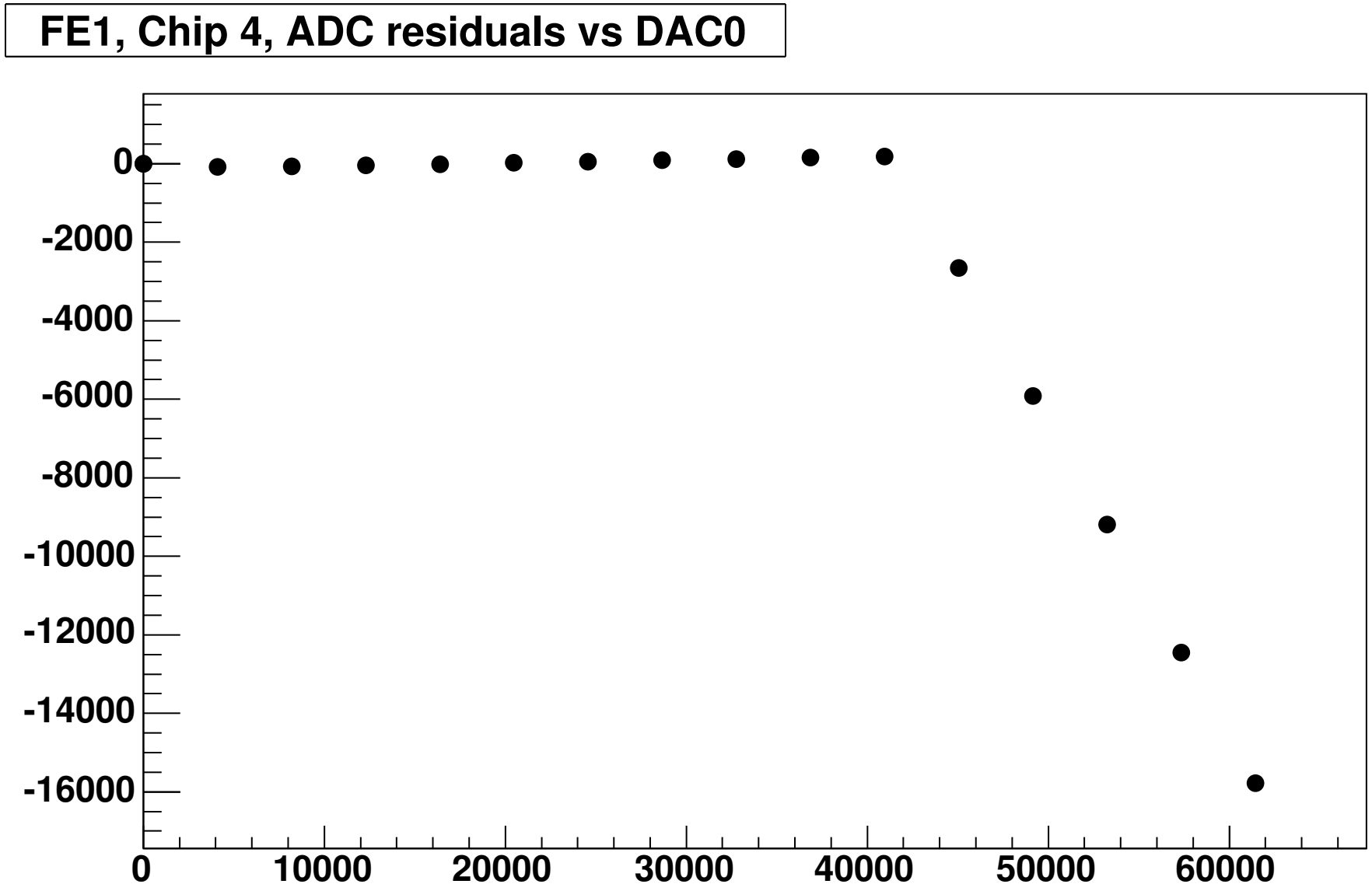

FE1, Chip 3, ADC mean vs DAC1
χ^2 / ndf 21.64 / 11
p0 -6.859 ± 0.0243
p1 1.029e-07 ± 6.721e-07
-6.7
-6.75
-6.8
-6.85
-6.9
-6.95
0
10000
20000
30000
40000
50000
60000

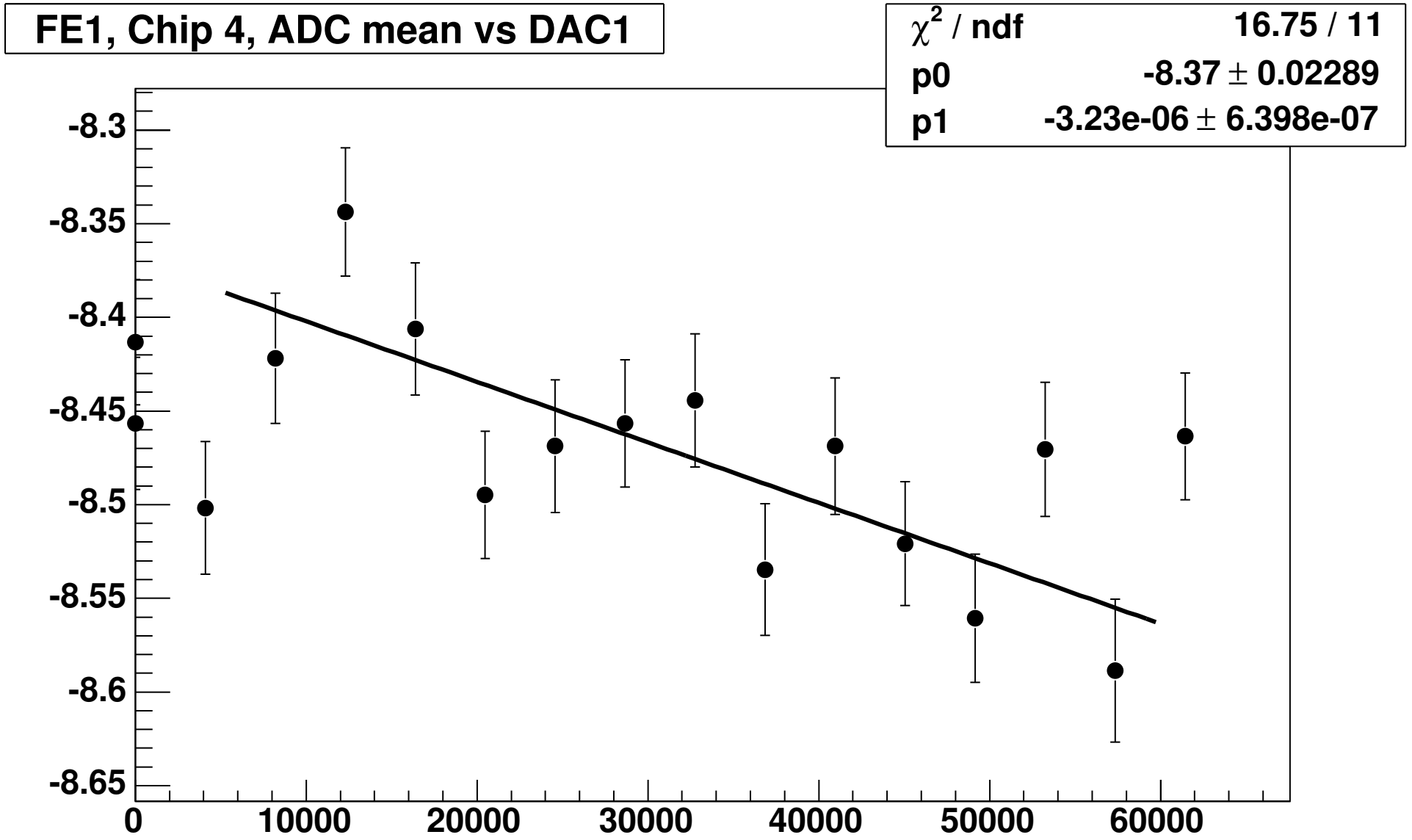

FE1, Chip 3, ADC noise vs DAC1
0.94
0.92
0.9
0.88
0.86
0.84
0.82
0
10000
20000
30000
40000
50000
60000

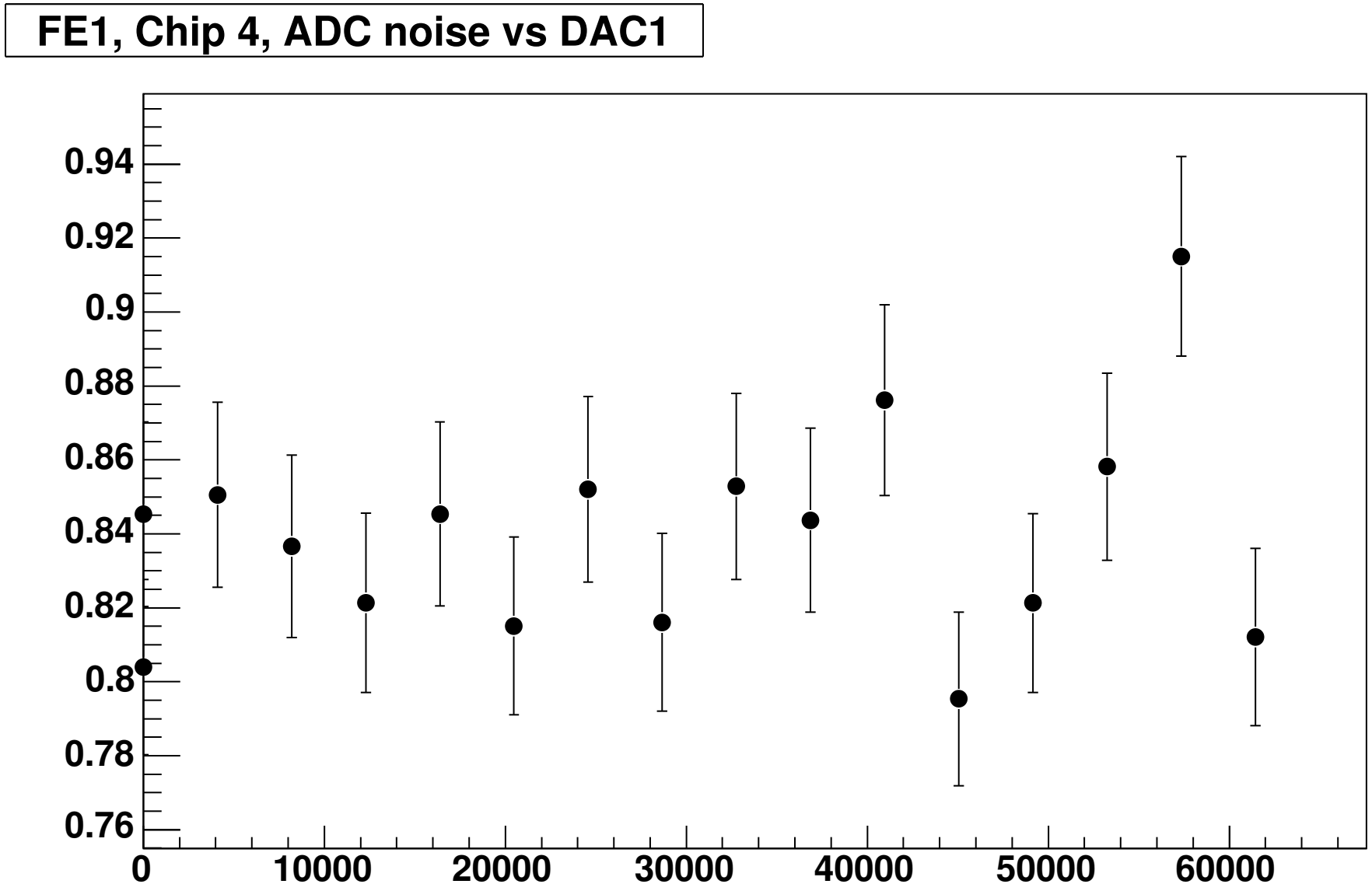

FE1, Chip 3, ADC residuals vs DAC1
0.15
0.1
0.05
0
-0.05
-0.1
0
10000
20000
30000
40000
50000
60000

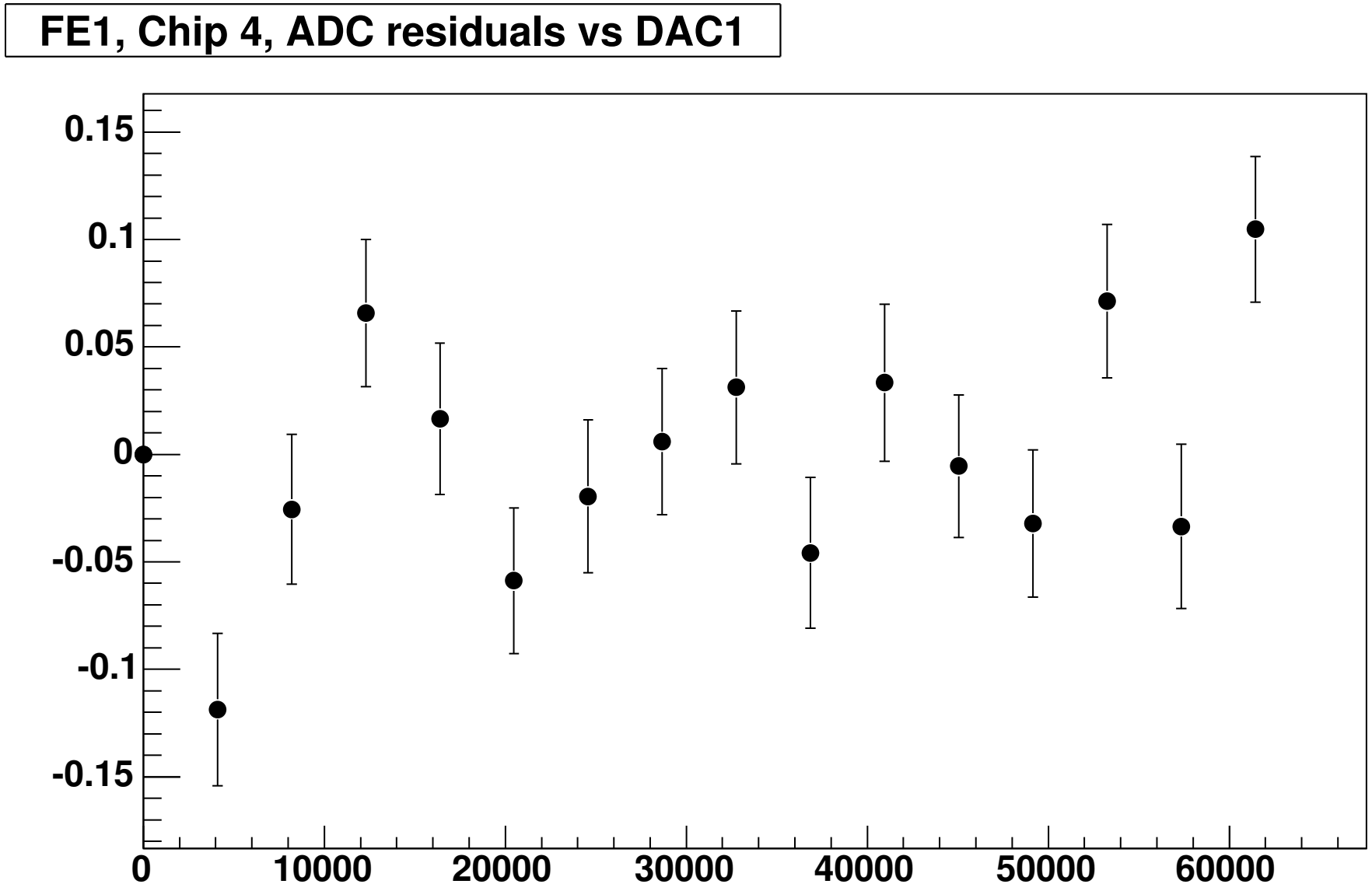

FE1, Chip 4, ADC mean vs DAC0
χ² / ndf 2.902e+08 / 11
p0 -522.4 ± 0.0621
p1 0.7978 ± 2.733e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

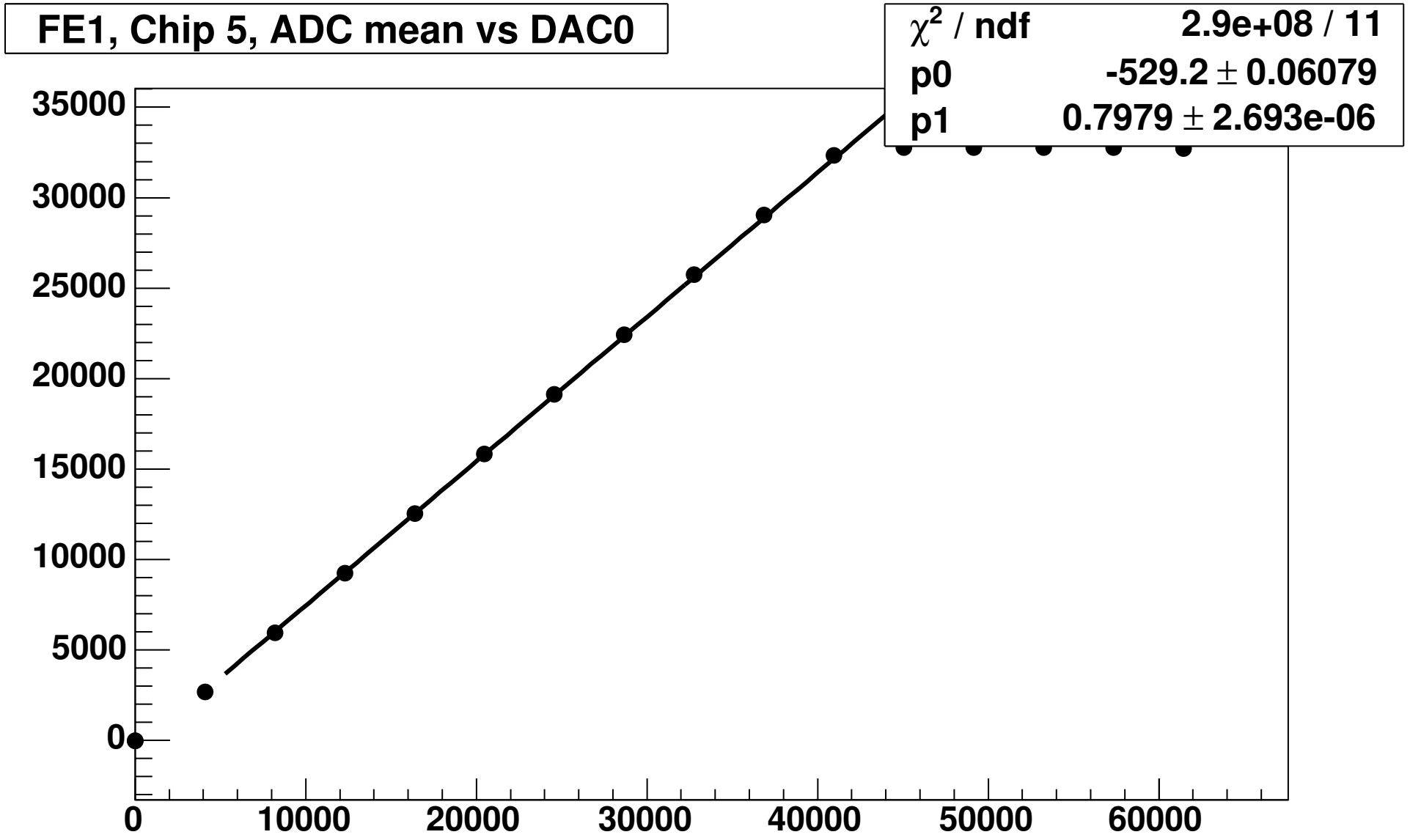

FE1, Chip 4, ADC noise vs DAC0
1400
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

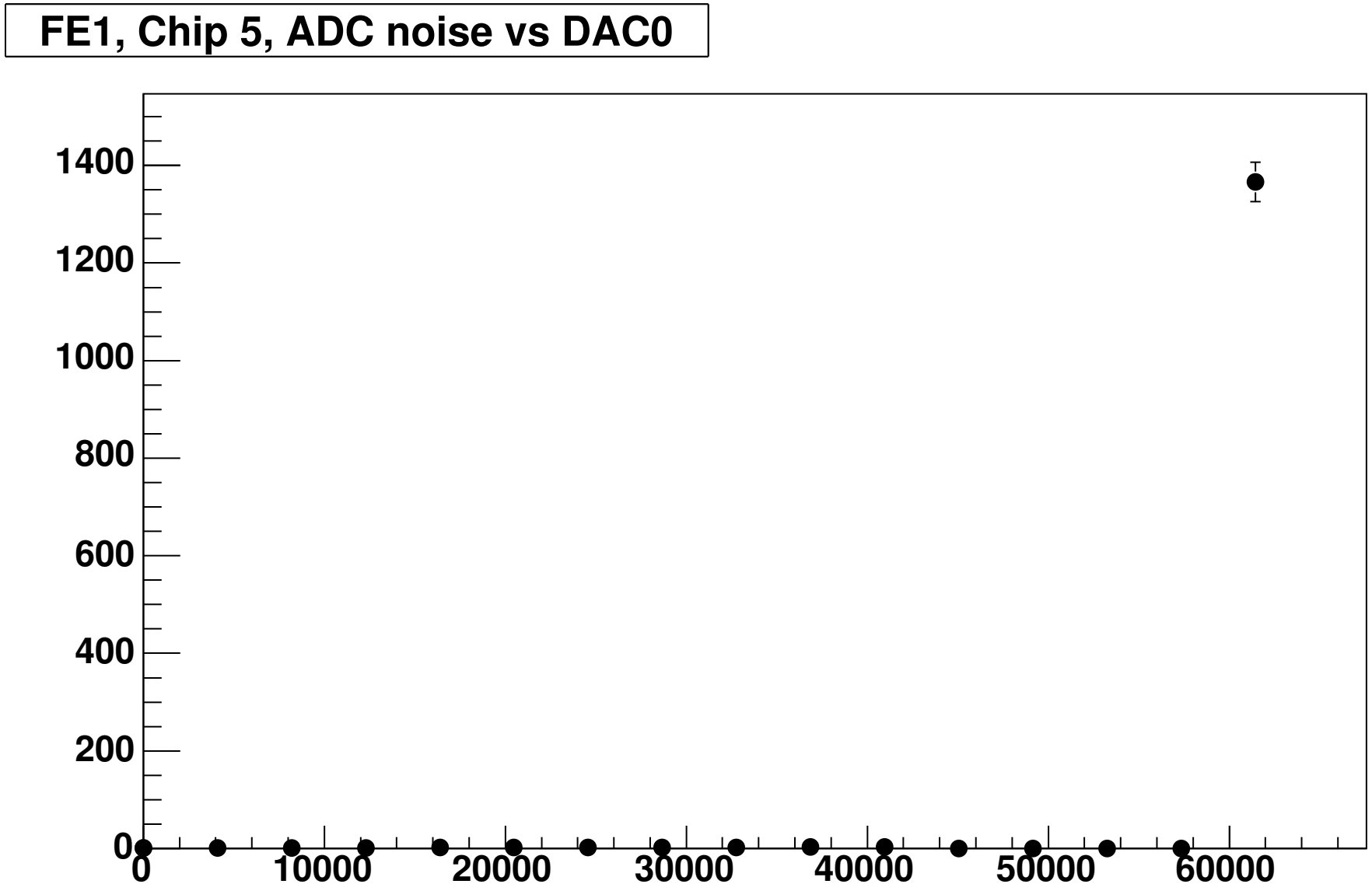

FE1, Chip 4, ADC residuals vs DAC0
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

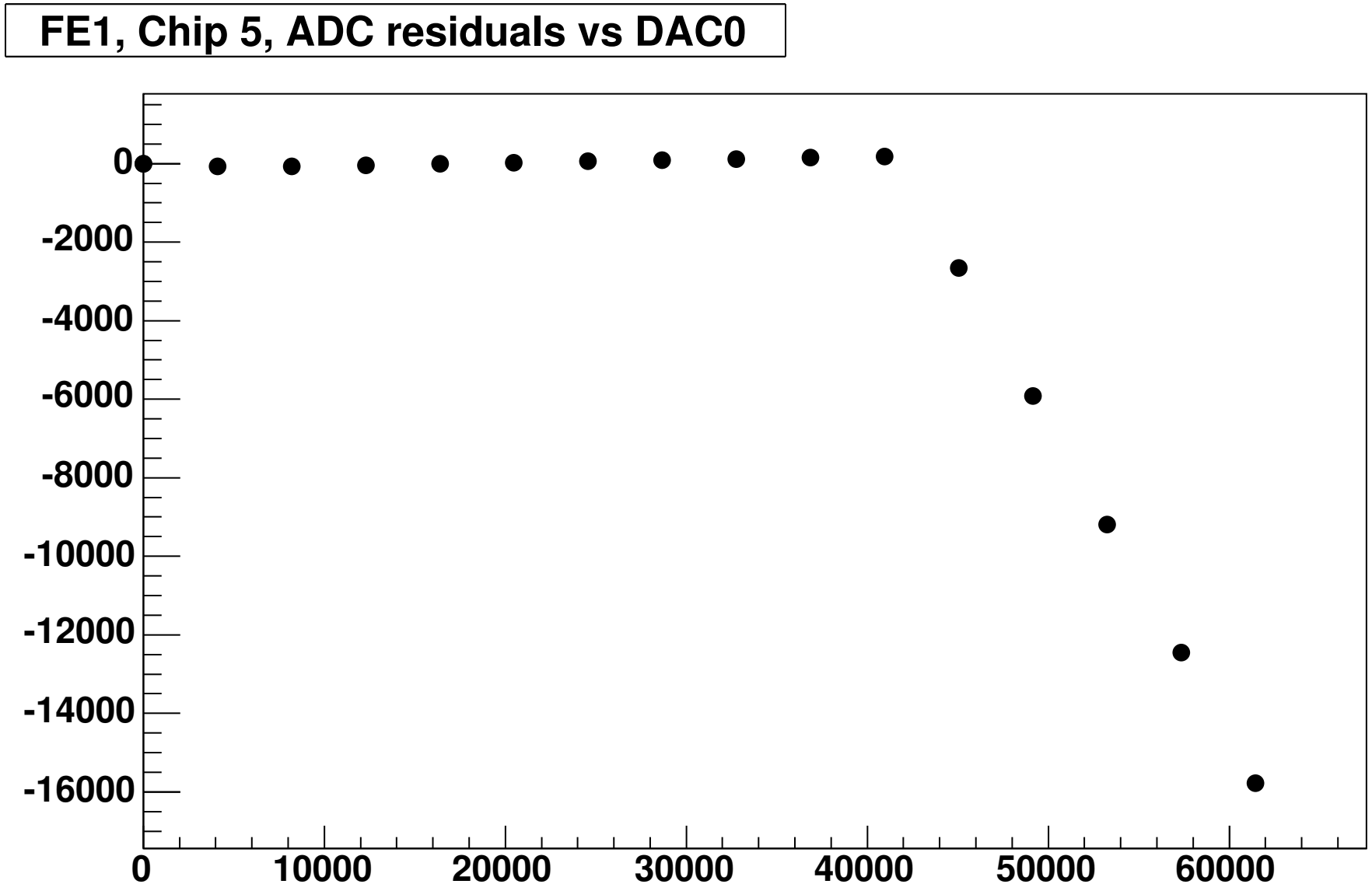

FE1, Chip 4, ADC mean vs DAC1
χ² / ndf 16.75 / 11
p0 -8.37 ± 0.02289
p1 -3.23e-06 ± 6.398e-07
-8.3
-8.35
-8.4
-8.45
-8.5
-8.55
-8.6
-8.65
0
10000
20000
30000
40000
50000
60000

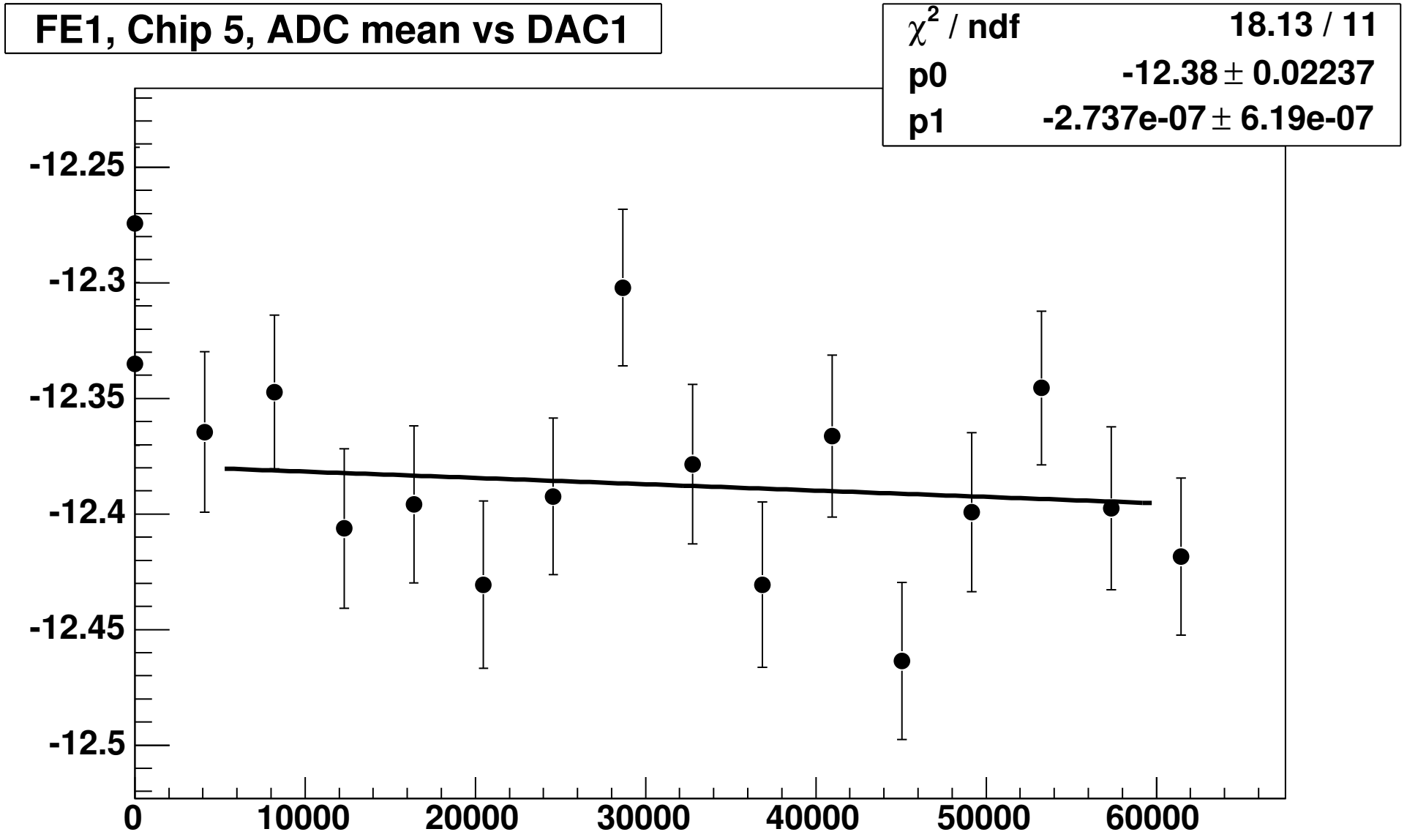

FE1, Chip 4, ADC noise vs DAC1
0.94
0.92
0.9
0.88
0.86
0.84
0.82
0.8
0.78
0.76
0
10000
20000
30000
40000
50000
60000

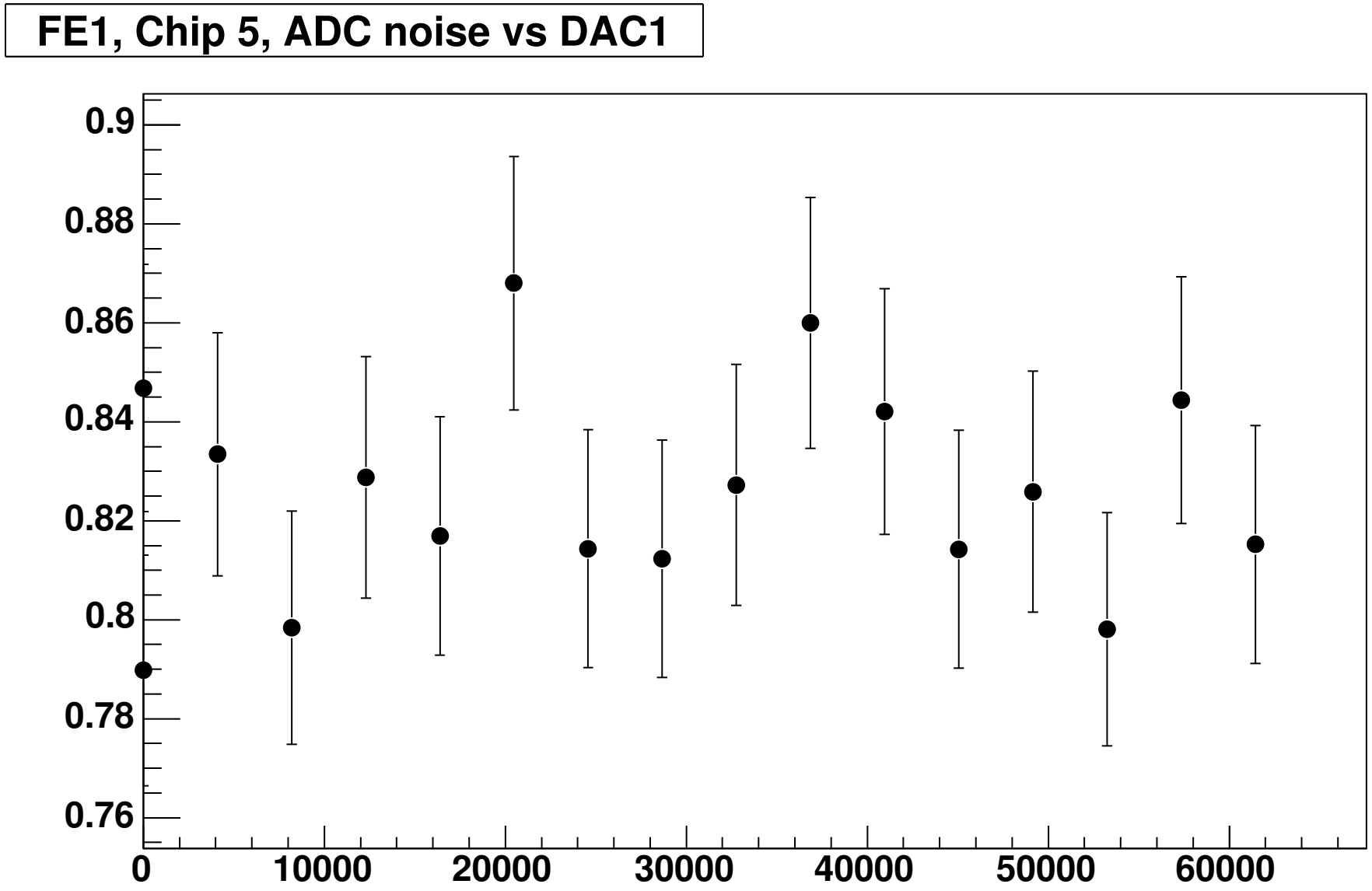

FE1, Chip 4, ADC residuals vs DAC1
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

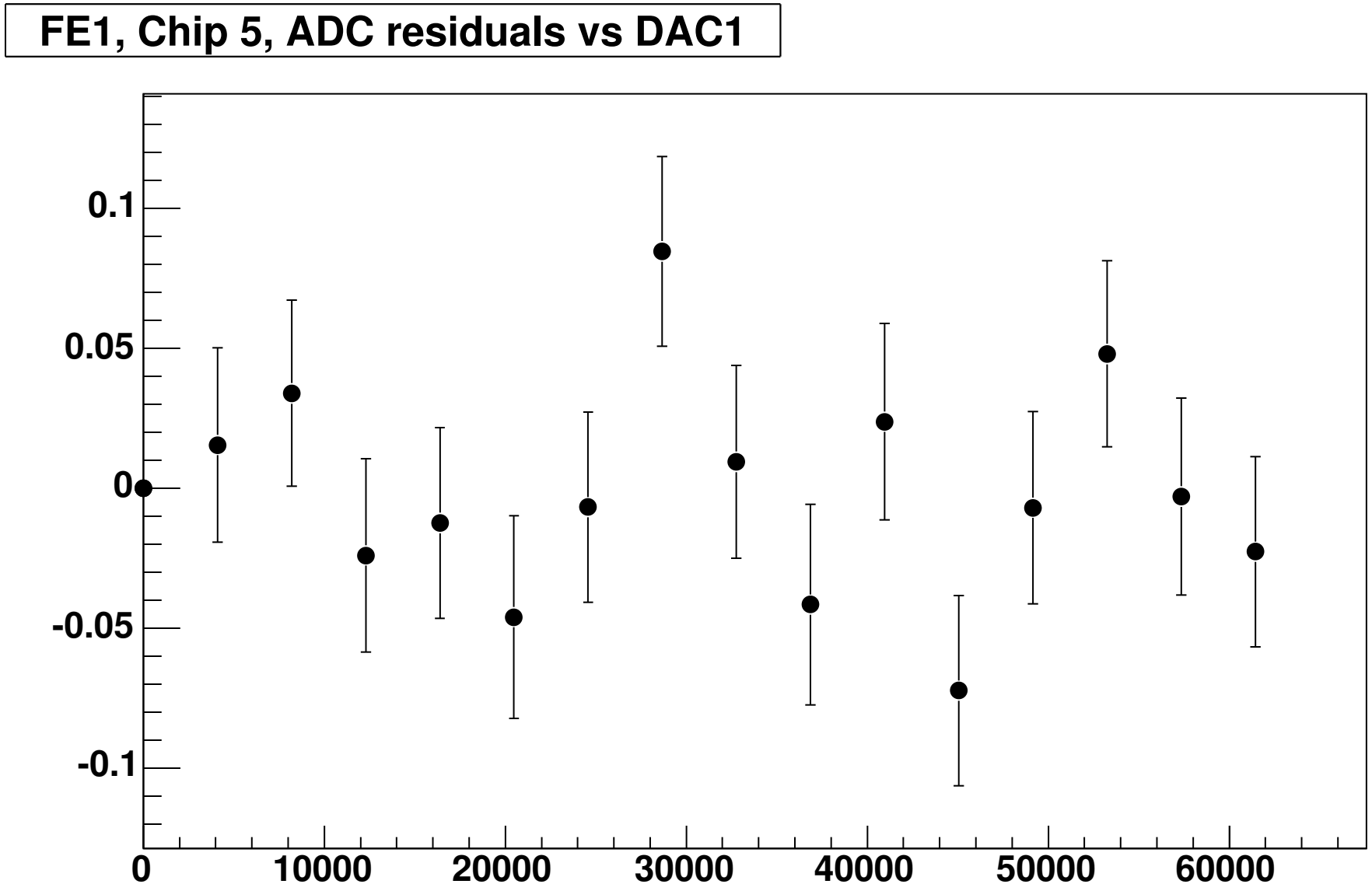

FE1, Chip 5, ADC mean vs DAC0
χ² / ndf 2.9e+08 / 11
p0 -529.2 ± 0.06079
p1 0.7979 ± 2.693e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

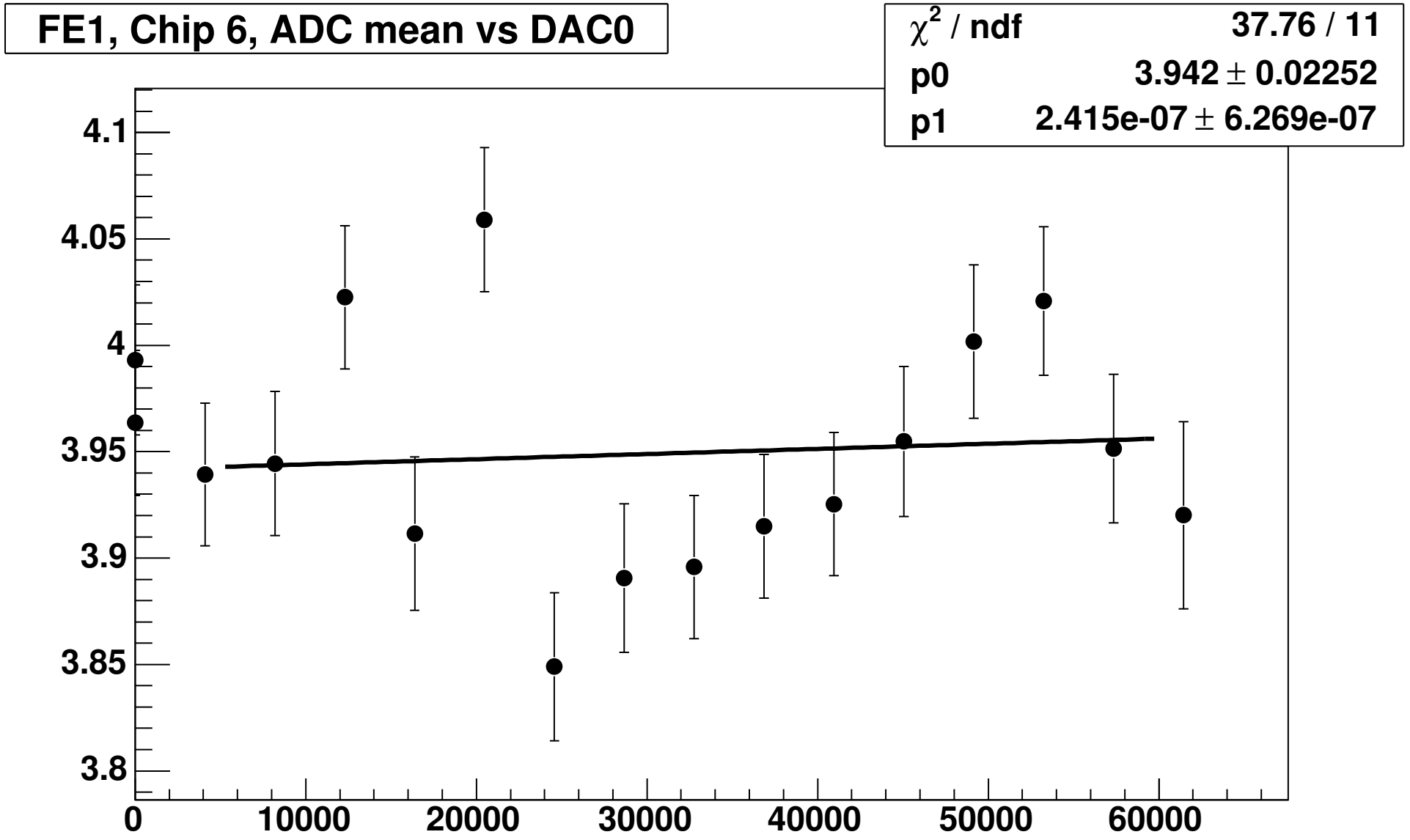

FE1, Chip 5, ADC noise vs DAC0
1400
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

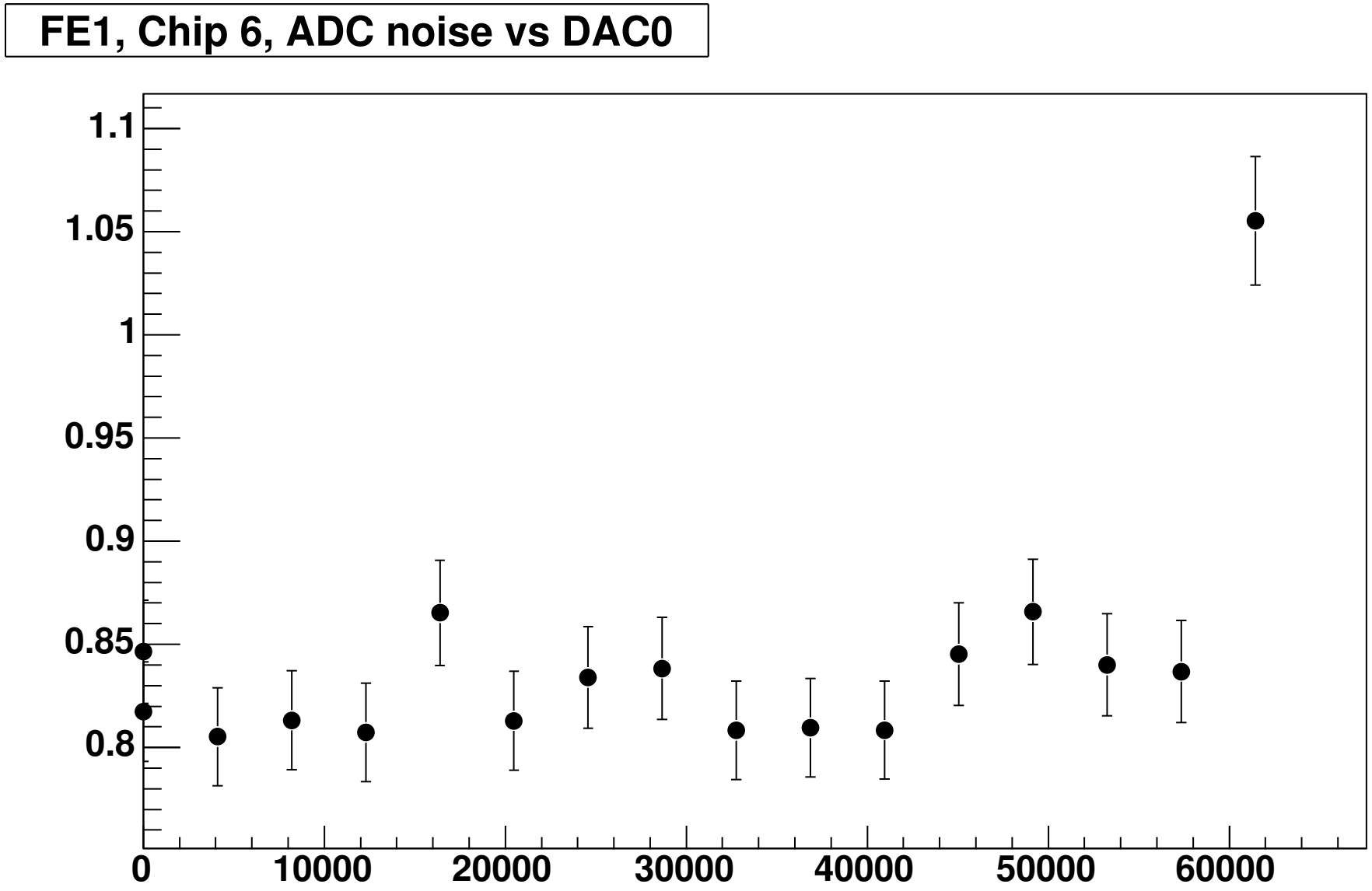

FE1, Chip 5, ADC residuals vs DAC0
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

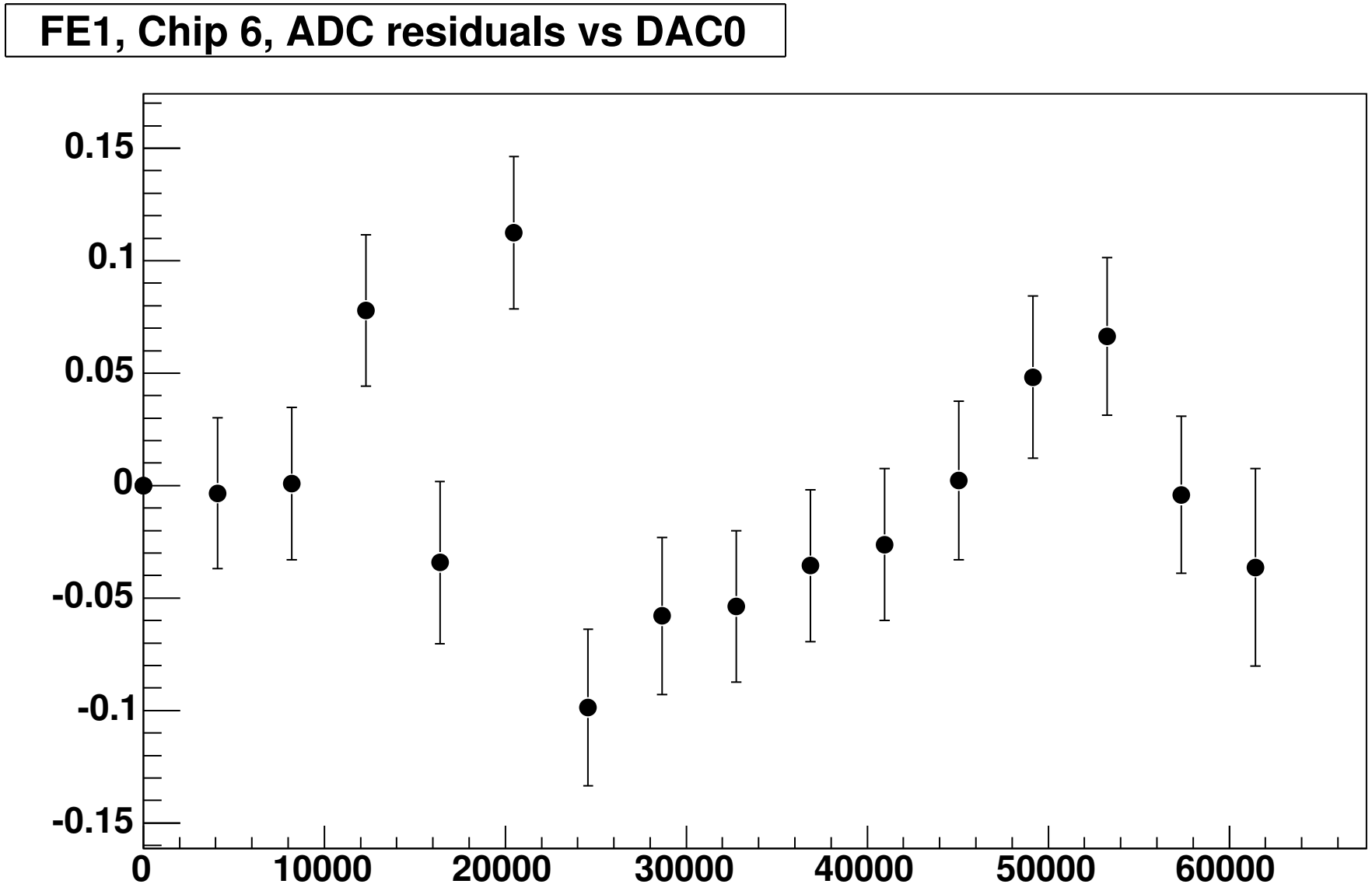

FE1, Chip 5, ADC mean vs DAC1
χ² / ndf 18.13 / 11
p0 -12.38 ± 0.02237
p1 -2.737e-07 ± 6.19e-07
-12.25
-12.3
-12.35
-12.4
-12.45
-12.5
0
10000
20000
30000
40000
50000
60000

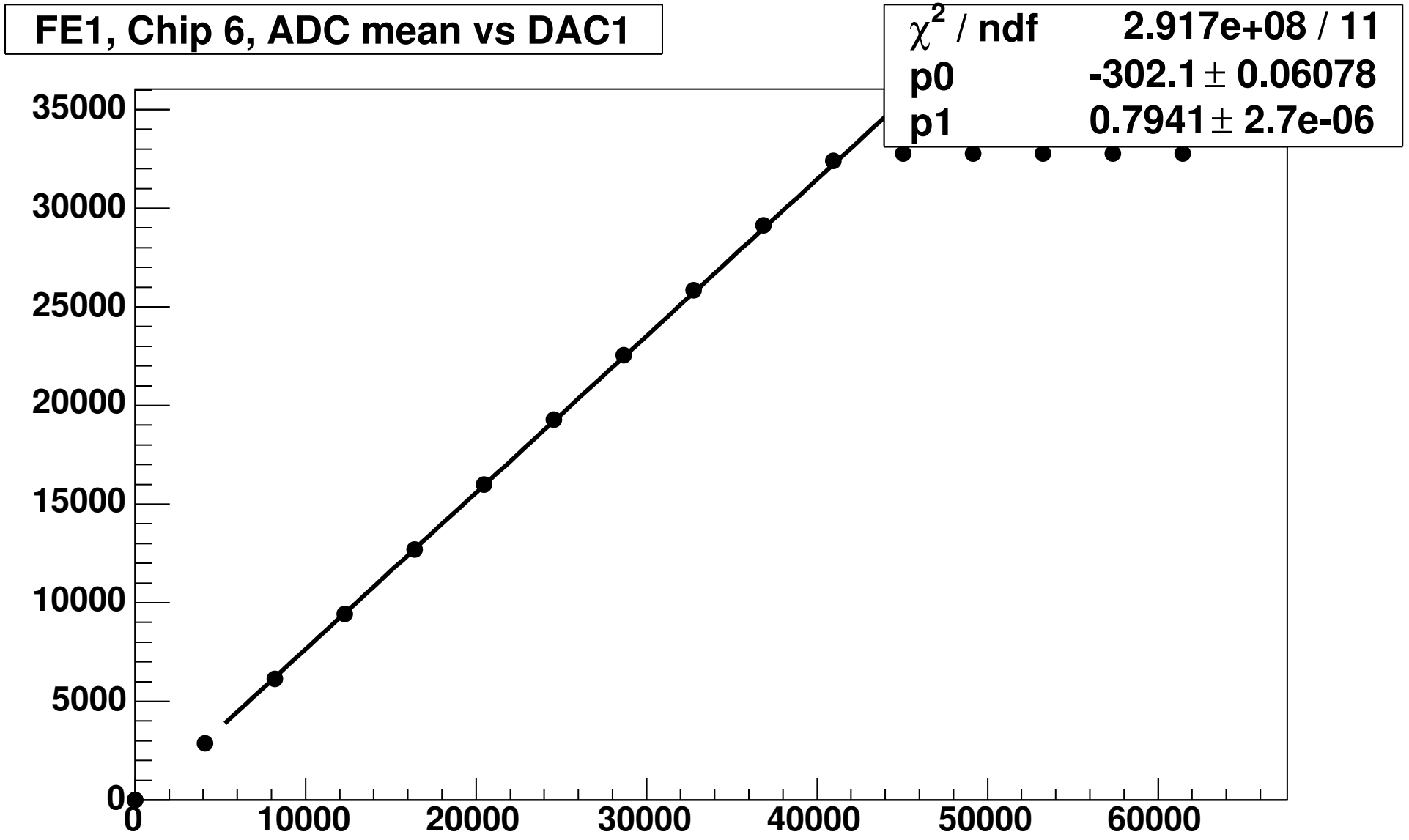

FE1, Chip 5, ADC noise vs DAC1
0.9
0.88
0.86
0.84
0.82
0.8
0.78
0.76
0
10000
20000
30000
40000
50000
60000

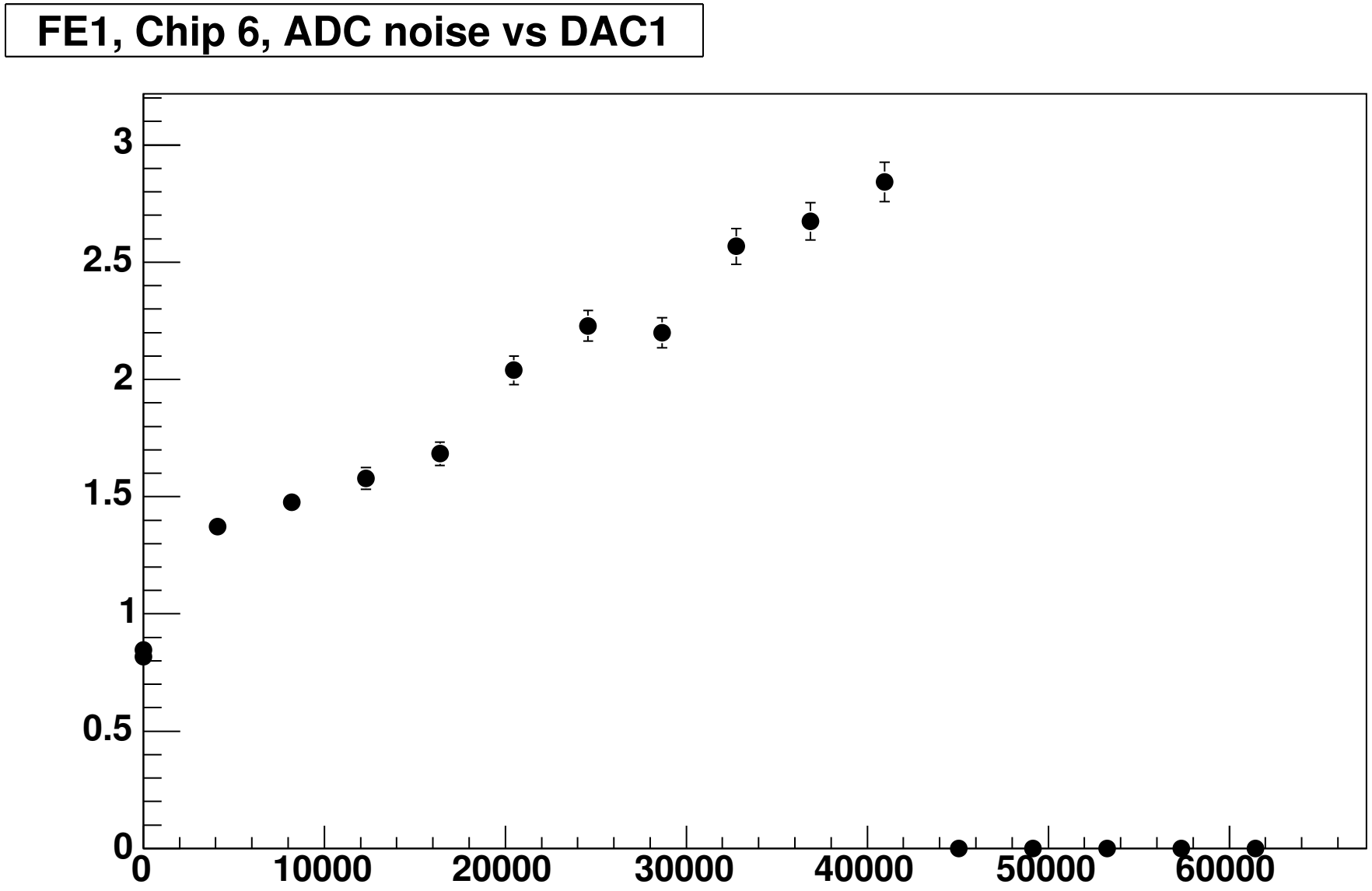

FE1, Chip 5, ADC residuals vs DAC1
0.1
0.05
0
-0.05
-0.1
0
10000
20000
30000
40000
50000
60000

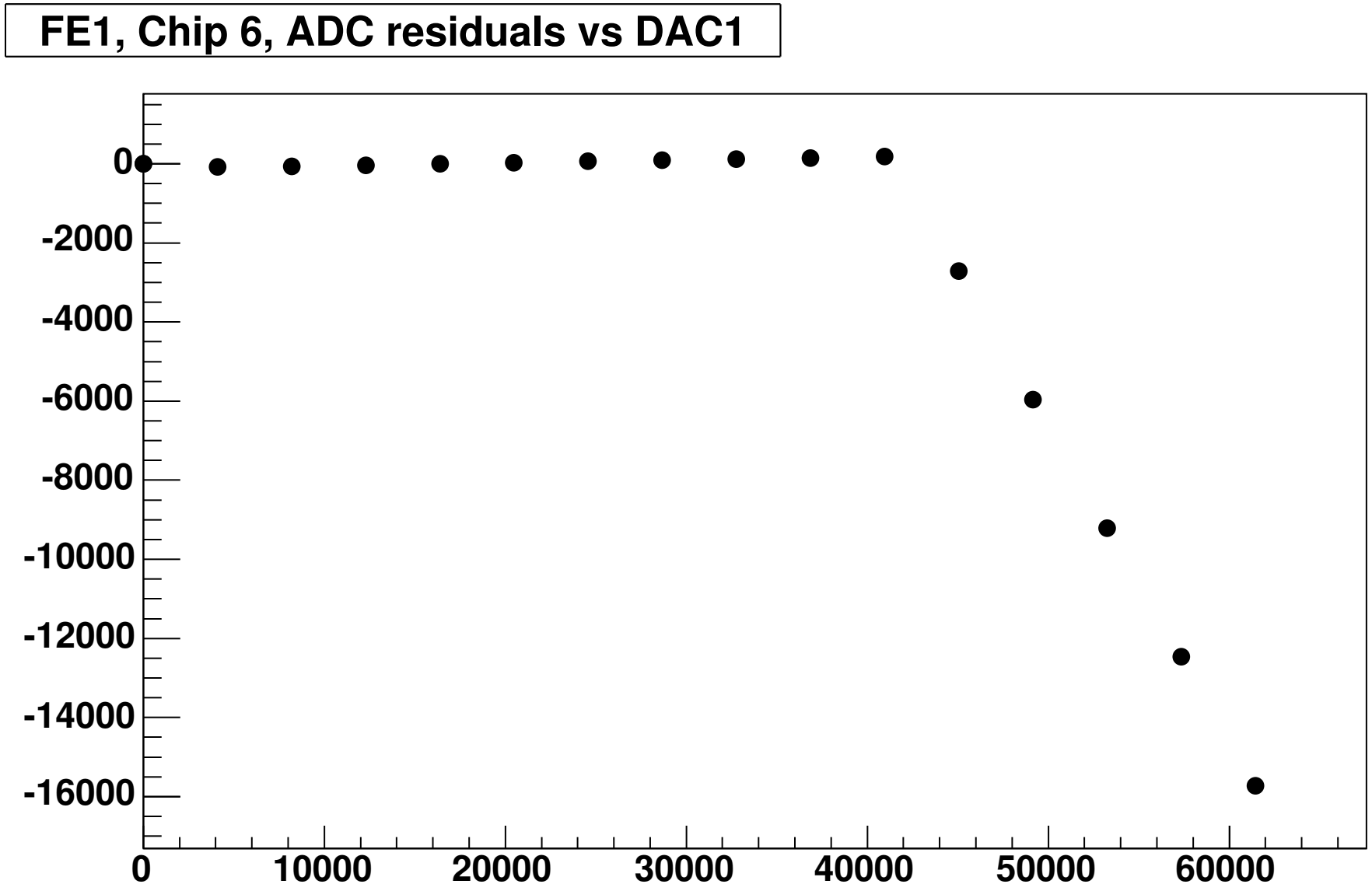

FE1, Chip 6, ADC mean vs DAC0
χ² / ndf 37.76 / 11
p0 3.942 ± 0.02252
p1 2.415e-07 ± 6.269e-07
4.1
4.05
4
3.95
3.9
3.85
3.8
0
10000
20000
30000
40000
50000
60000

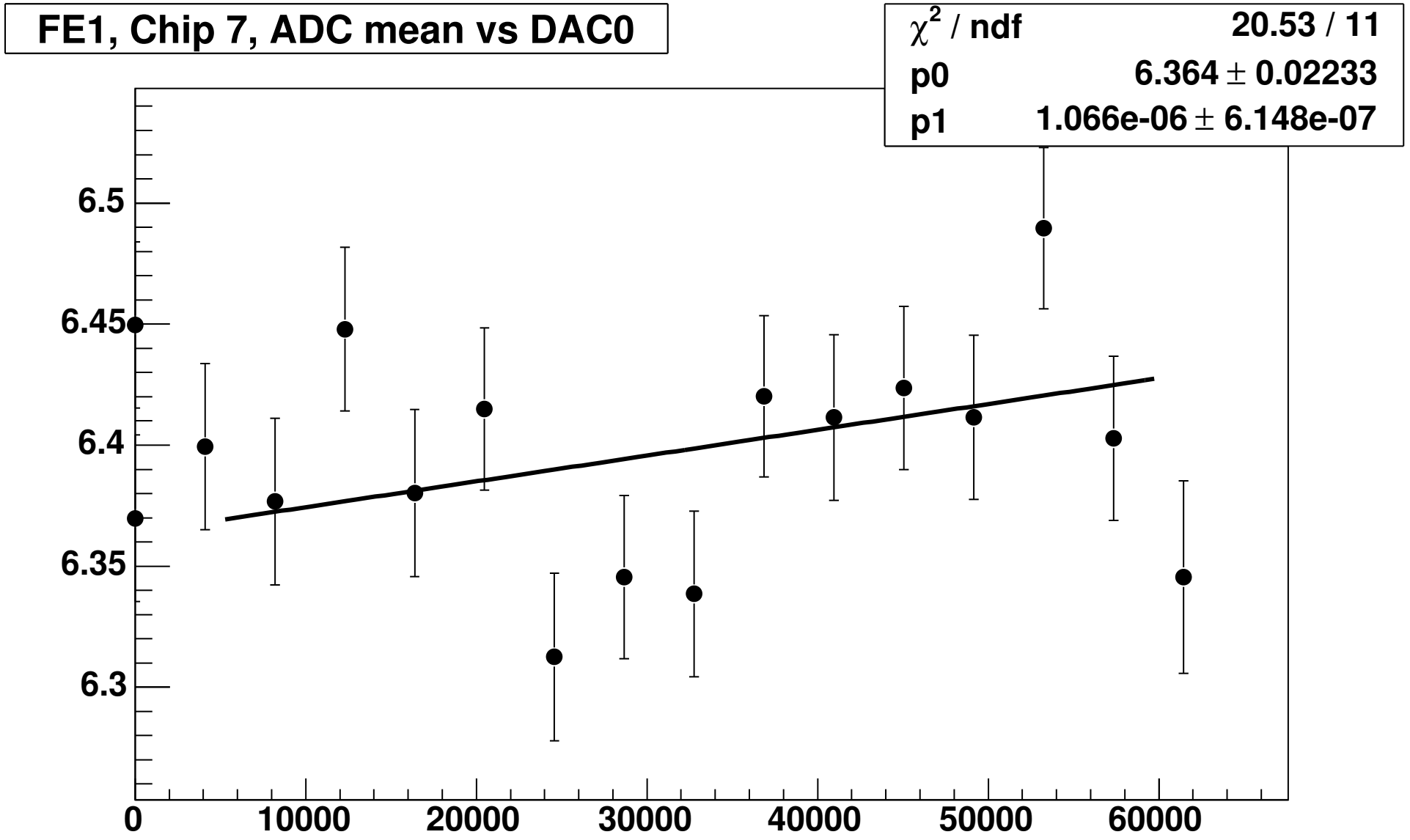

FE1, Chip 6, ADC noise vs DAC0
1.1
1.05
1
0.95
0.9
0.85
0.8
0
10000
20000
30000
40000
50000
60000

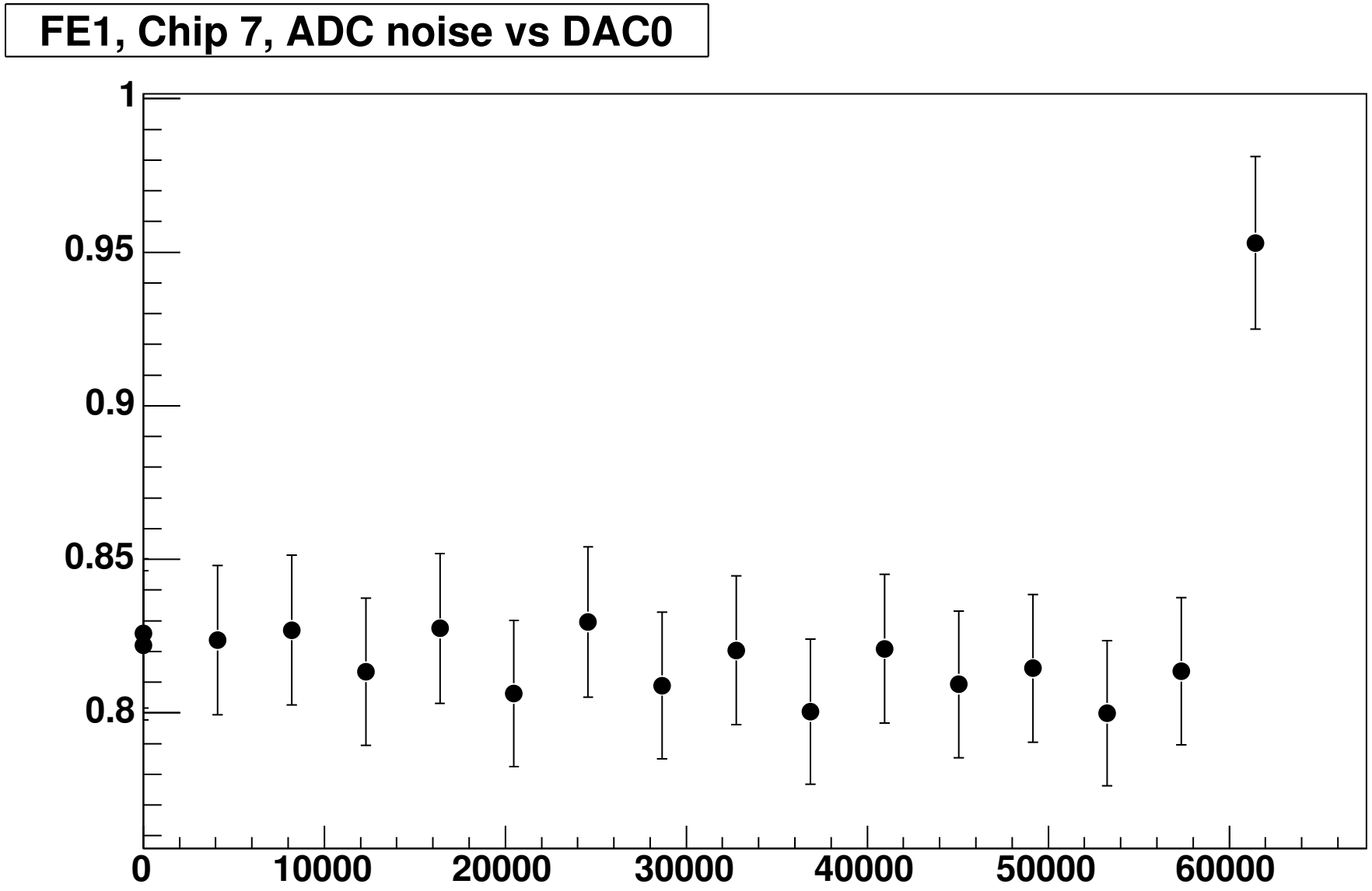

FE1, Chip 6, ADC residuals vs DAC0
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

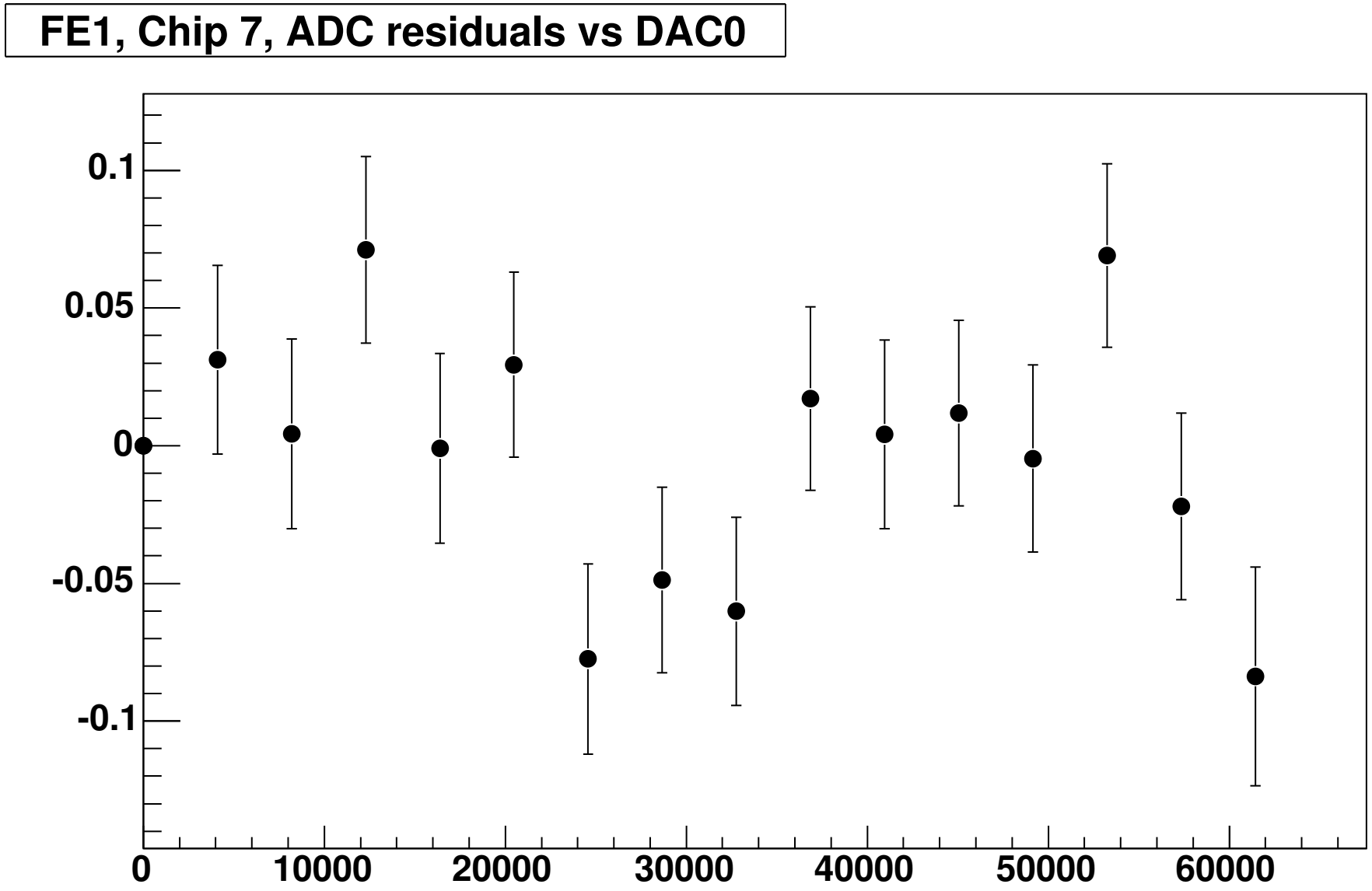

FE1, Chip 6, ADC mean vs DAC1
χ² / ndf 2.917e+08 / 11
p0 -302.1 ± 0.06078
p1 0.7941 ± 2.7e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

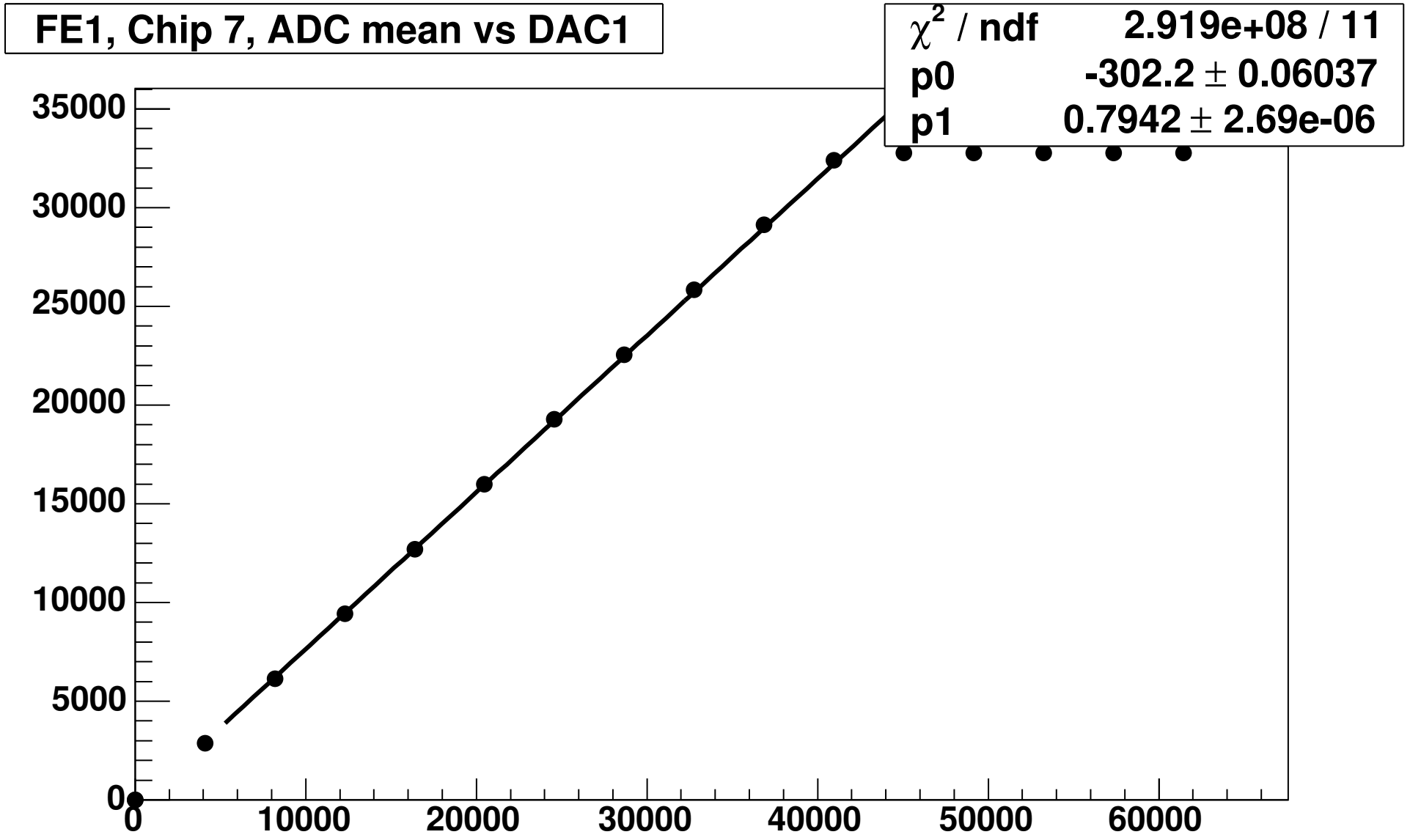

FE1, Chip 6, ADC noise vs DAC1
3
2.5
2
1.5
1
0.5
0
0
10000
20000
30000
40000
50000
60000

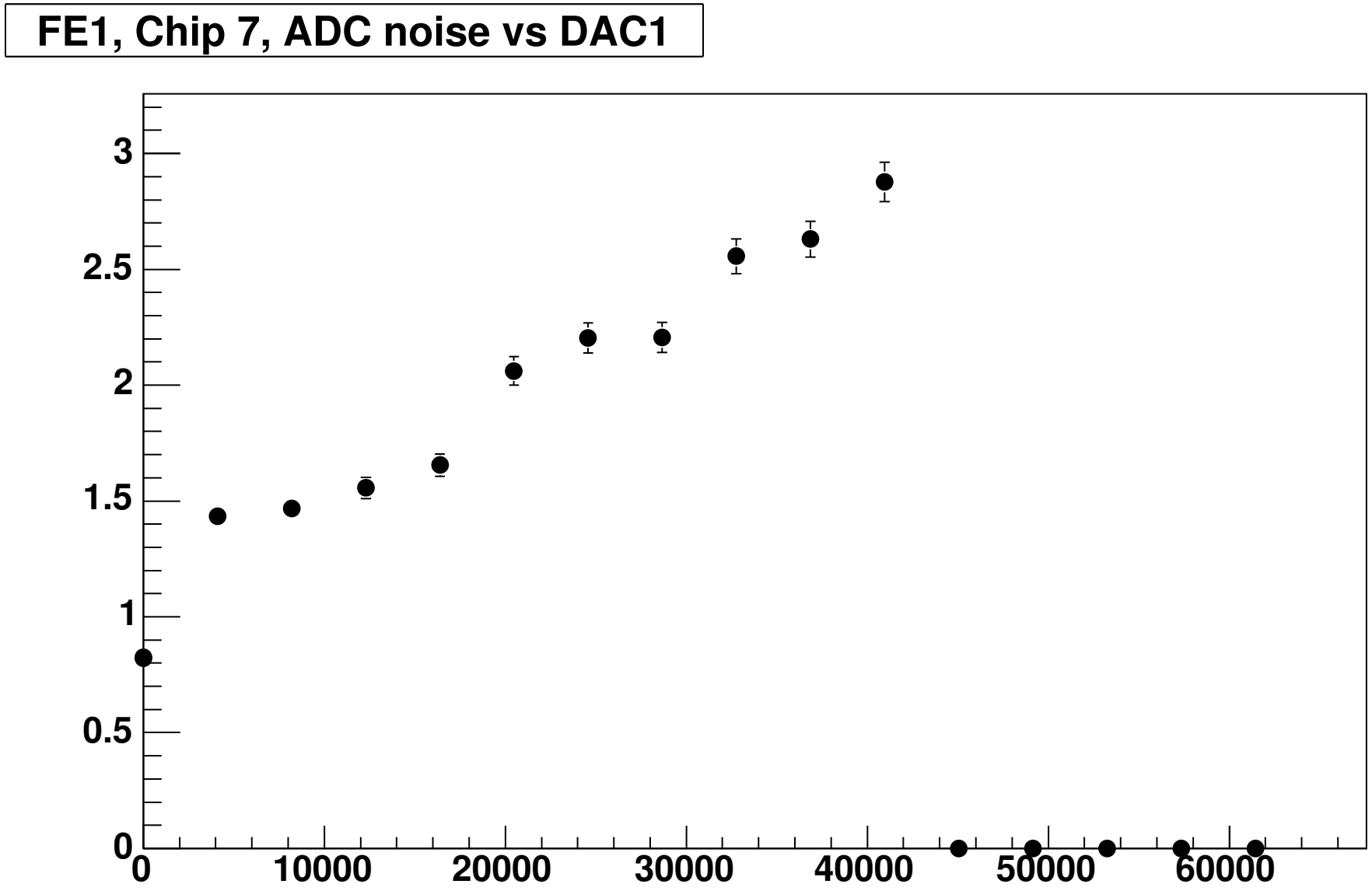

FE1, Chip 6, ADC residuals vs DAC1
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

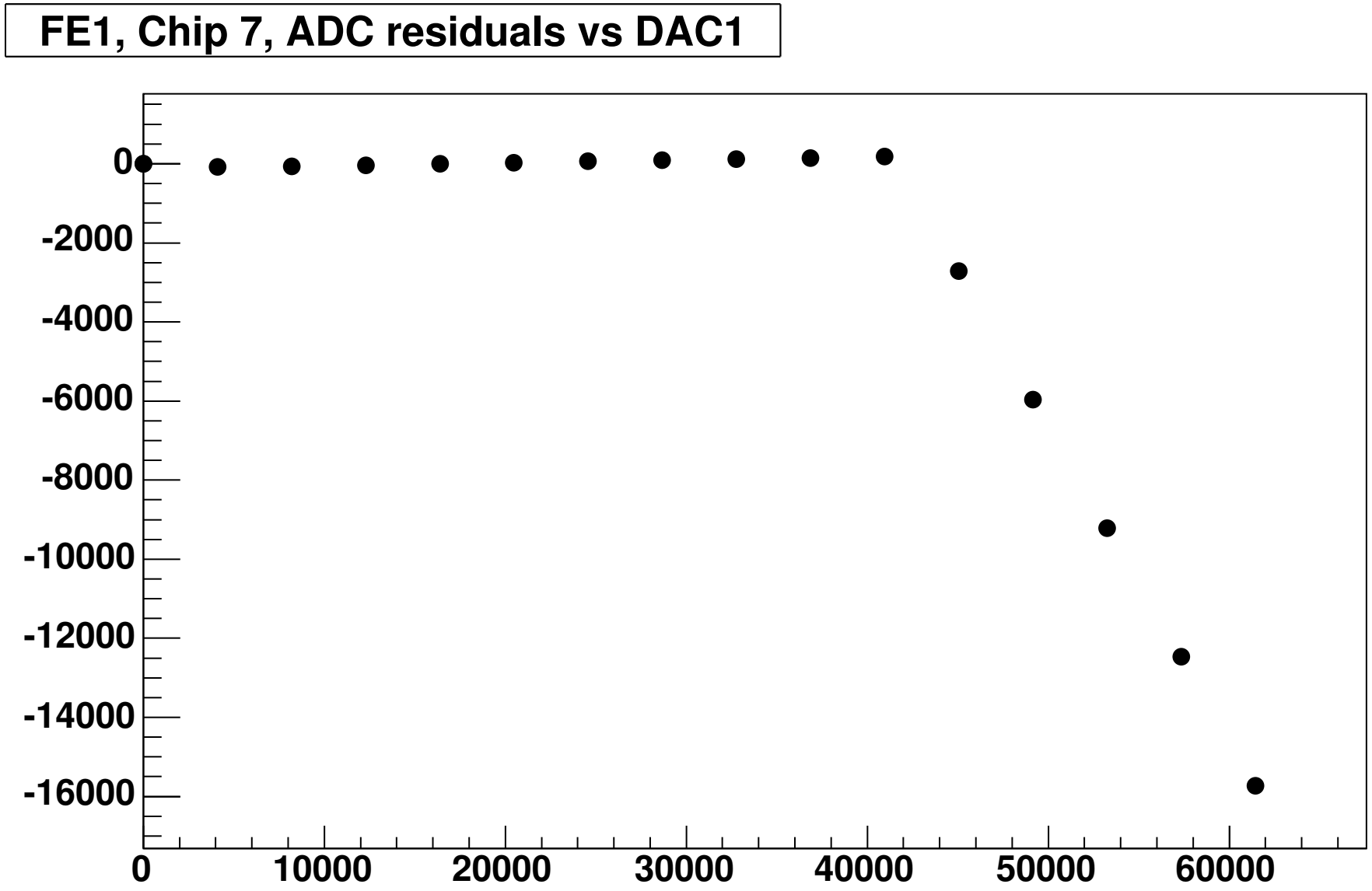

FE1, Chip 7, ADC mean vs DAC0
χ² / ndf 20.53 / 11
p0 6.364 ± 0.02233
p1 1.066e-06 ± 6.148e-07
6.5
6.45
6.4
6.35
6.3
0
10000
20000
30000
40000
50000
60000

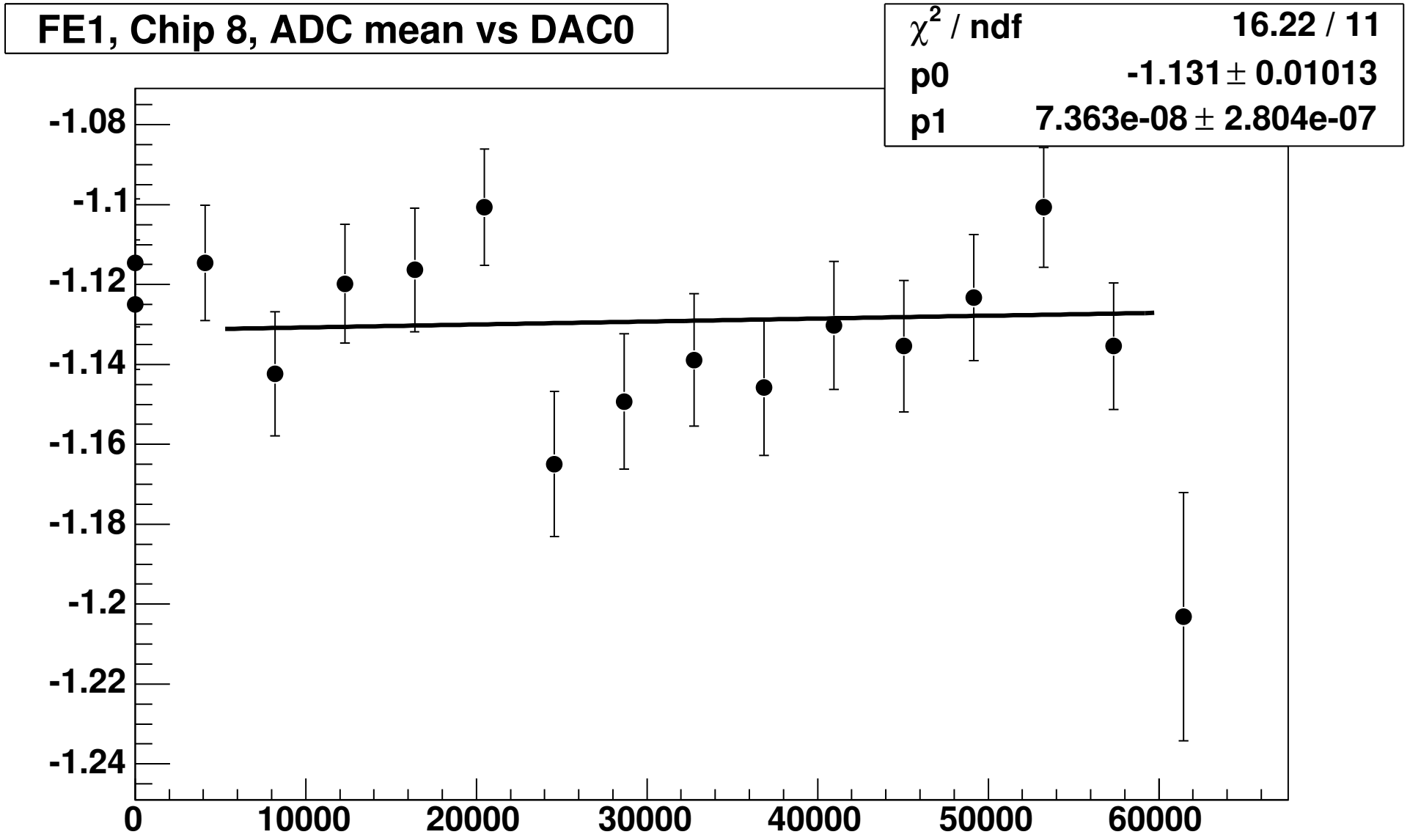

FE1, Chip 7, ADC noise vs DAC0
1
0.95
0.9
0.85
0.8
0
10000
20000
30000
40000
50000
60000

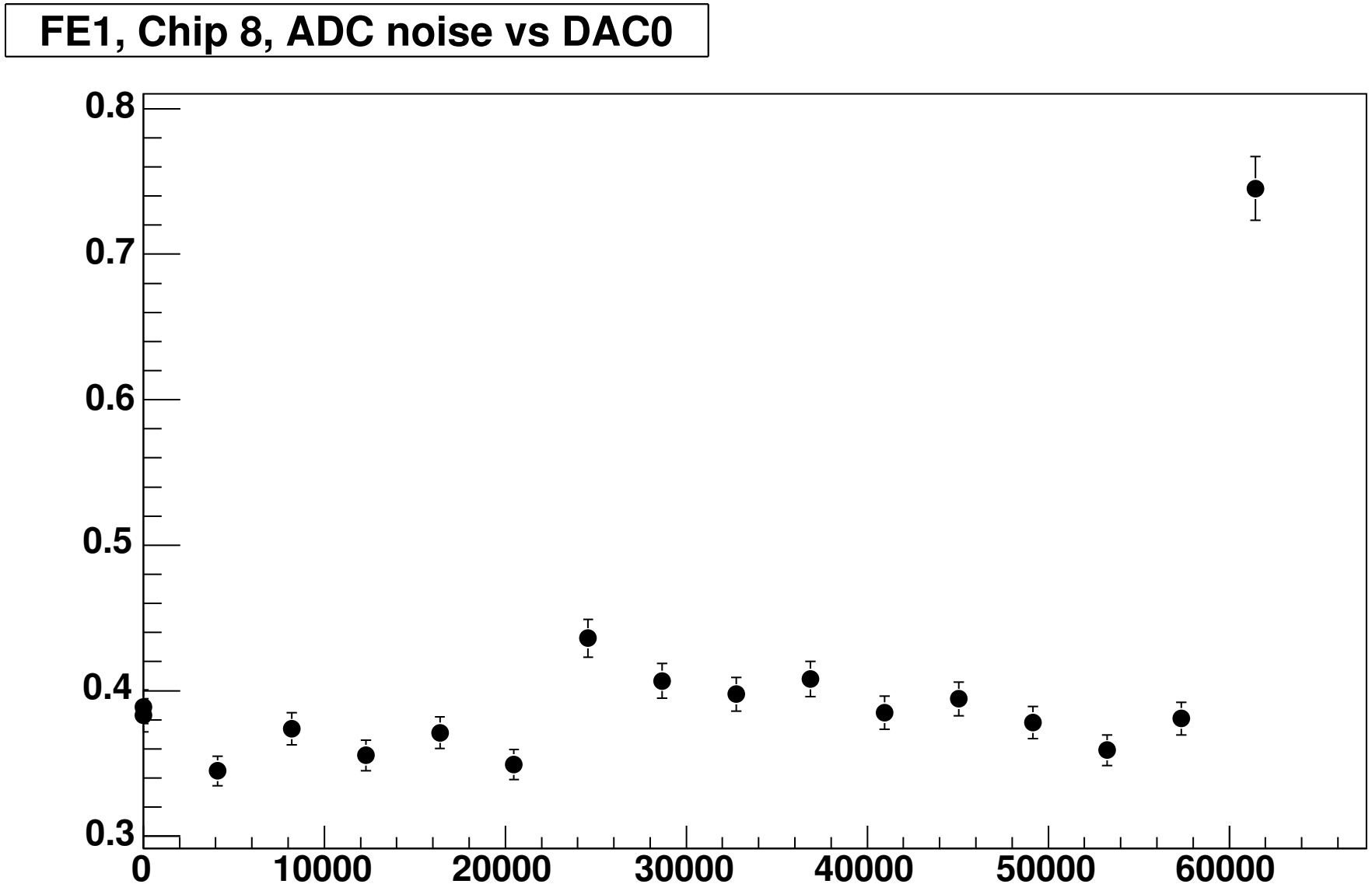

FE1, Chip 7, ADC residuals vs DAC0
0.1
0.05
0
-0.05
-0.1
0
10000
20000
30000
40000
50000
60000

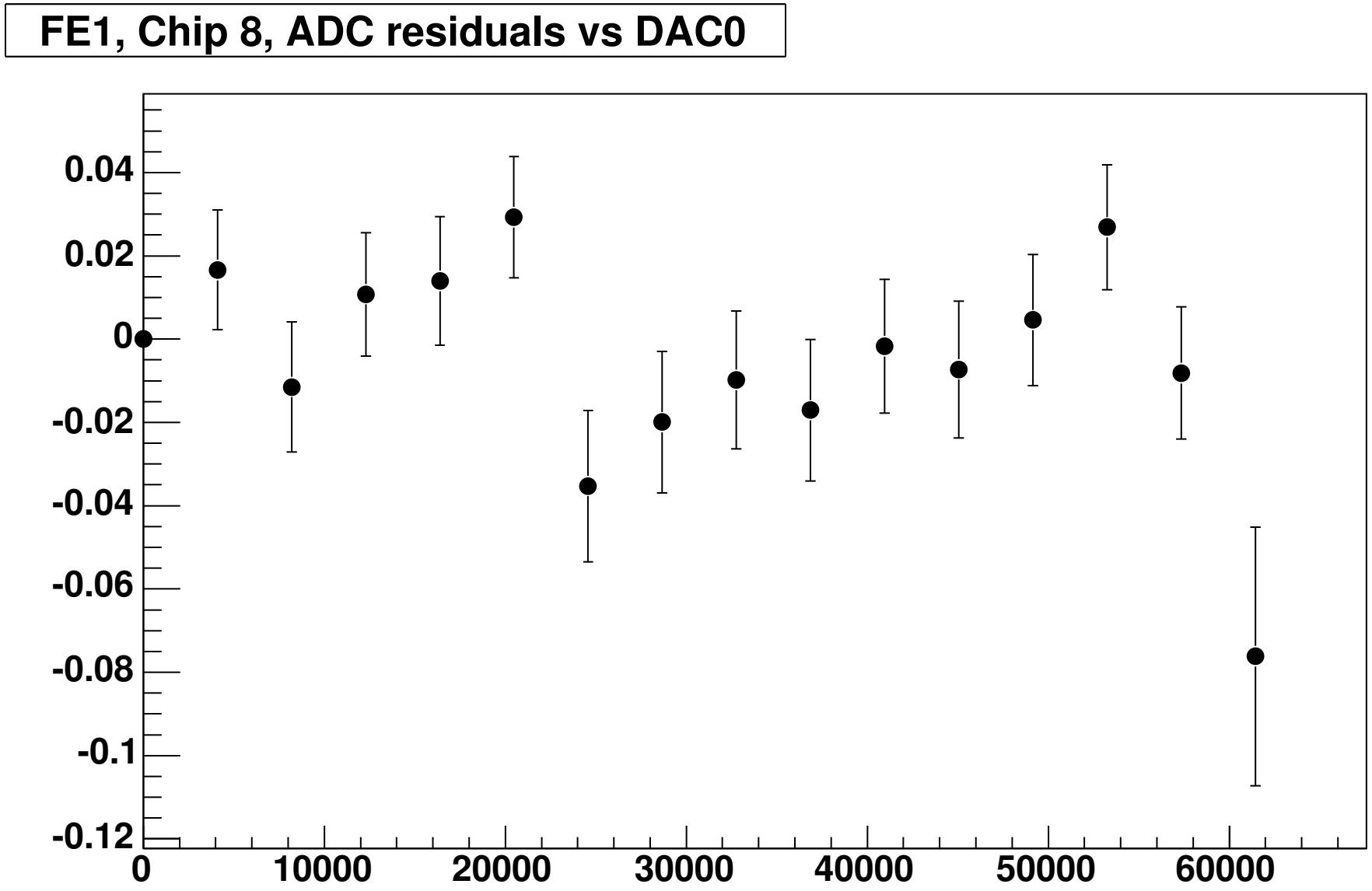

FE1, Chip 7, ADC mean vs DAC1
χ² / ndf 2.919e+08 / 11
p0 -302.2 ± 0.06037
p1 0.7942 ± 2.69e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

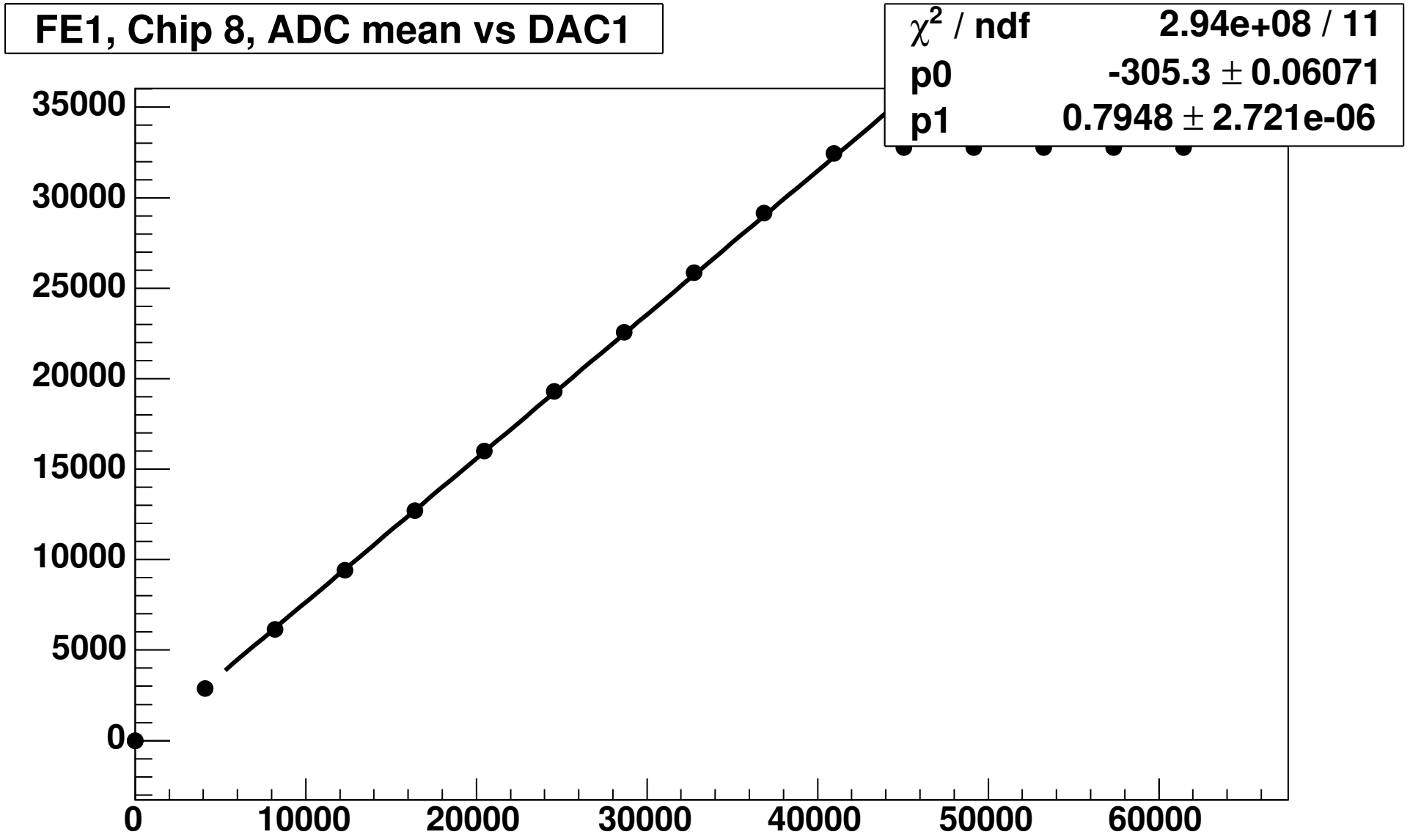

FE1, Chip 7, ADC noise vs DAC1
3
2.5
2
1.5
1
0.5
0
0
10000
20000
30000
40000
50000
60000

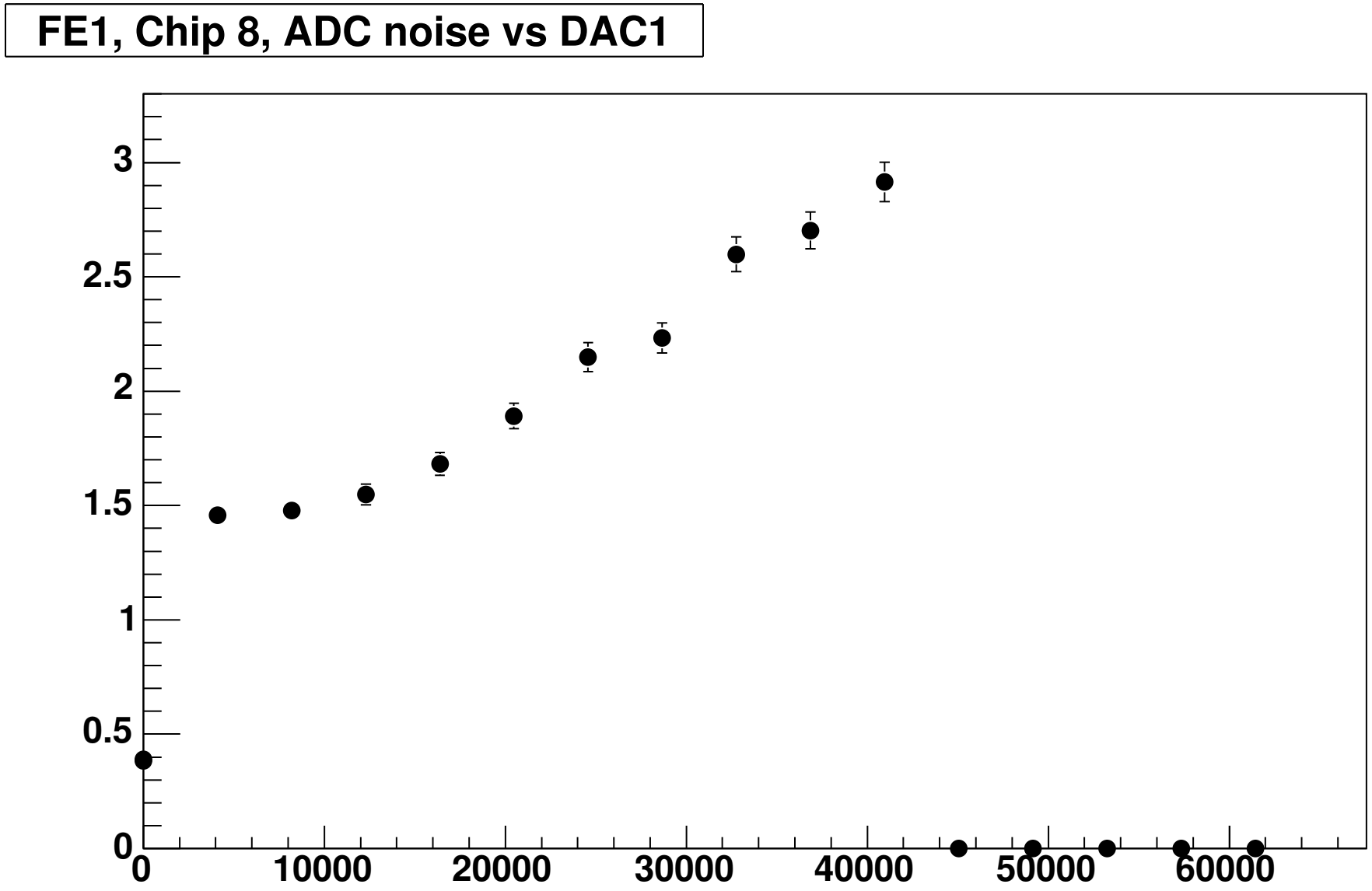

FE1, Chip 7, ADC residuals vs DAC1
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

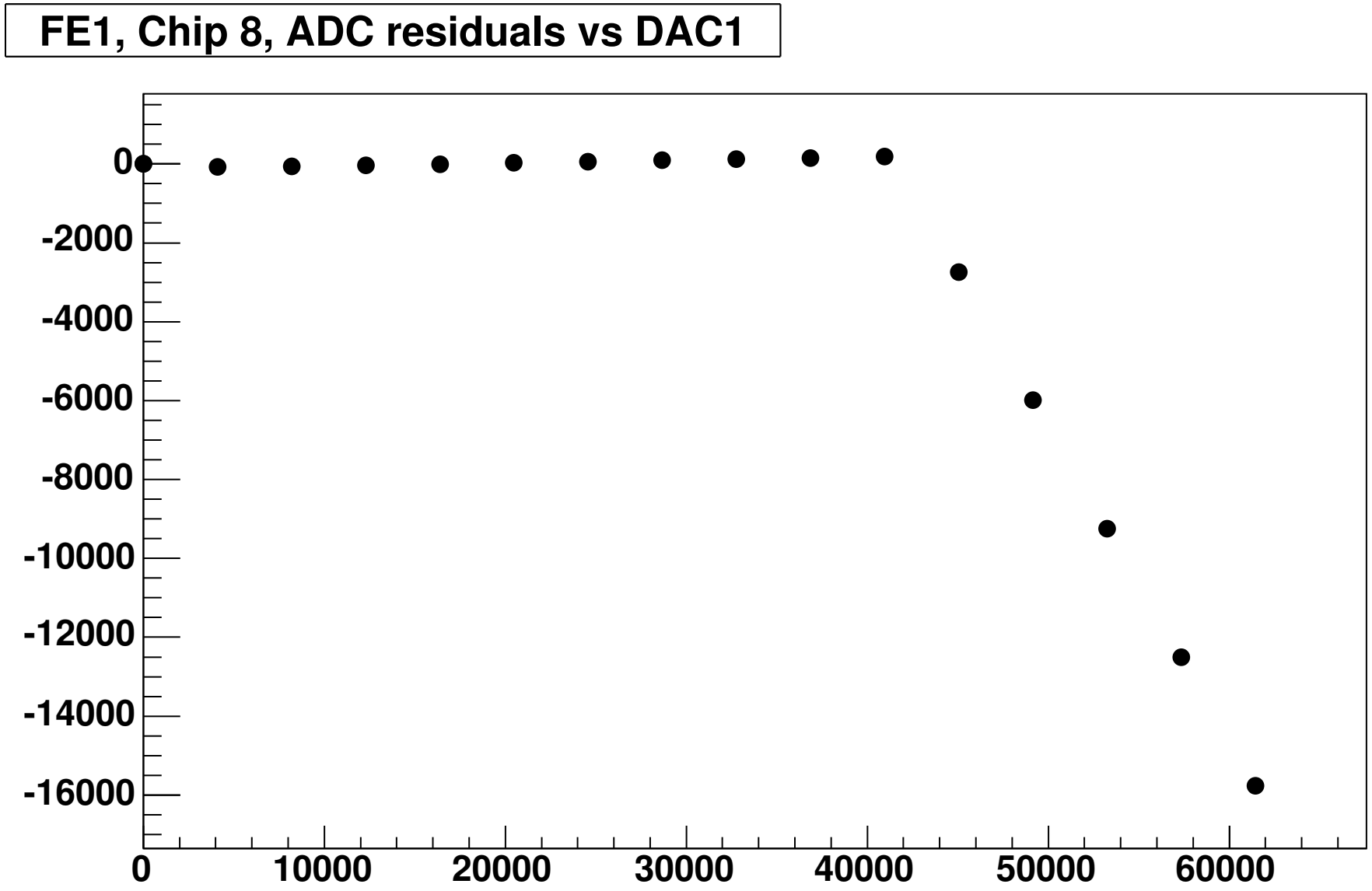

FE1, Chip 8, ADC mean vs DAC0
χ² / ndf 16.22 / 11
p0 -1.131 ± 0.01013
p1 7.363e-08 ± 2.804e-07
-1.08
-1.1
-1.12
-1.14
-1.16
-1.18
-1.2
-1.22
-1.24
0
10000
20000
30000
40000
50000
60000

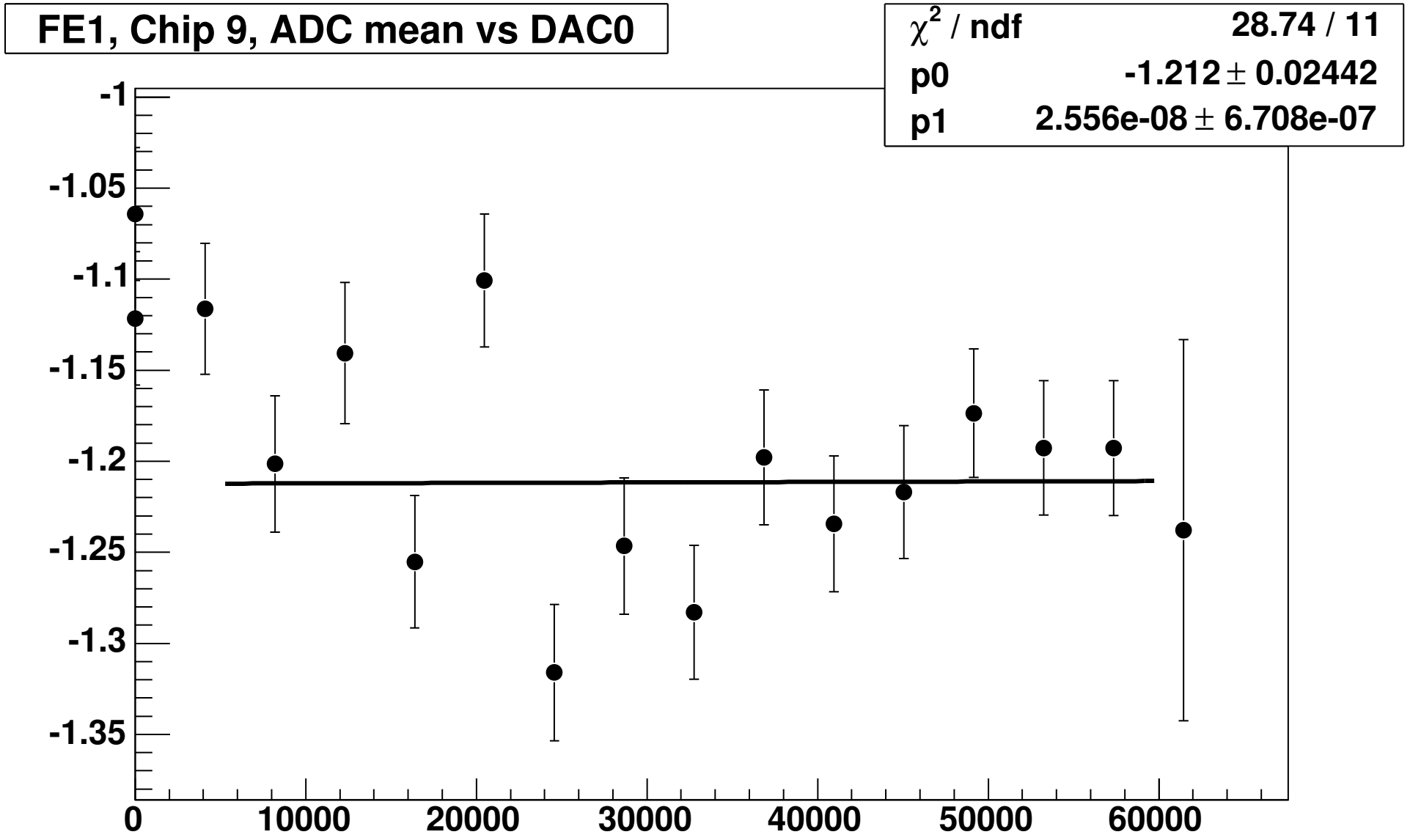

FE1, Chip 8, ADC noise vs DAC0
0.8
0.7
0.6
0.5
0.4
0.3
0
10000
20000
30000
40000
50000
60000

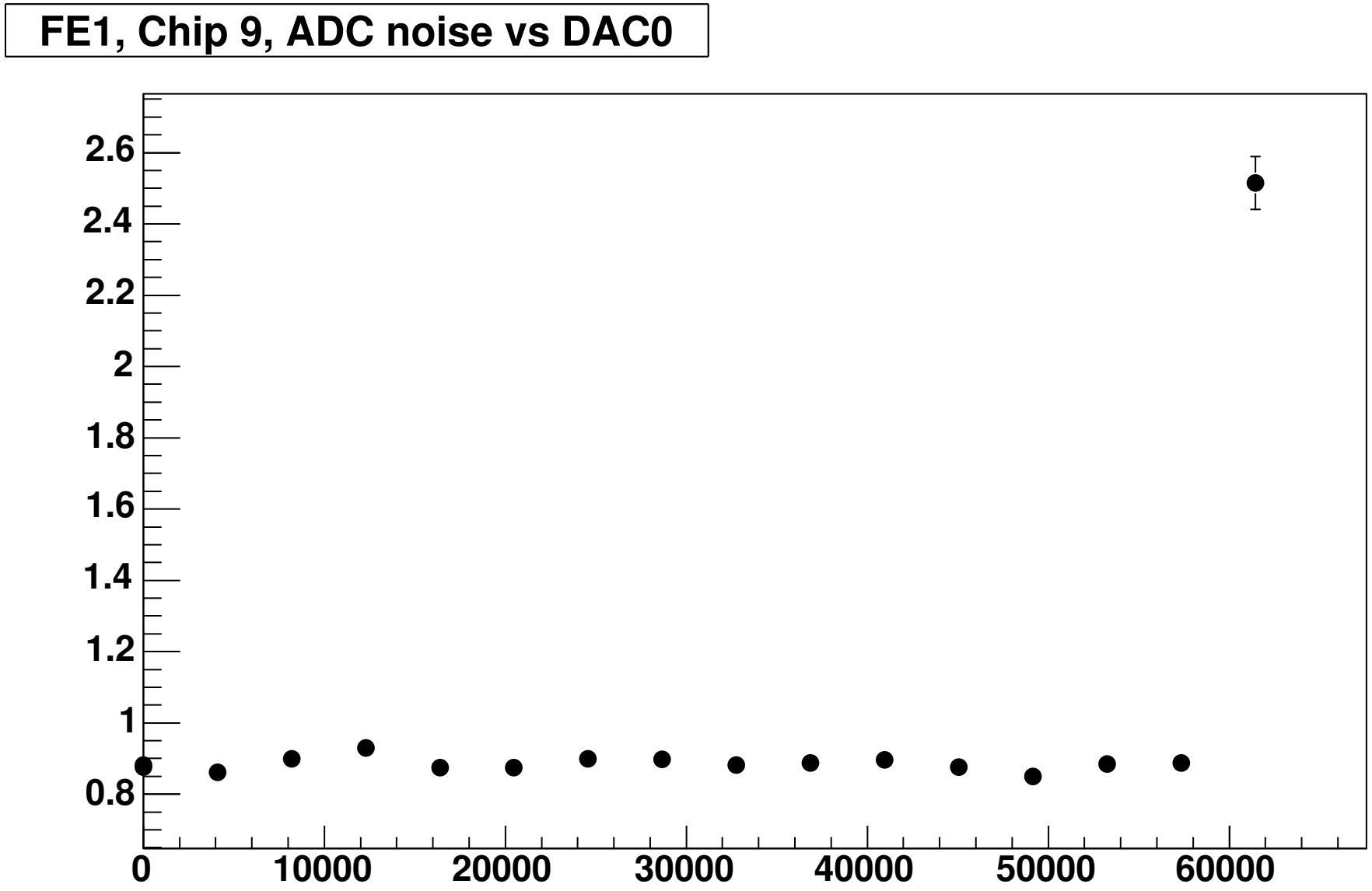

FE1, Chip 8, ADC residuals vs DAC0
0.04
0.02
0
-0.02
-0.04
-0.06
-0.08
-0.1
-0.12
0
10000
20000
30000
40000
50000
60000

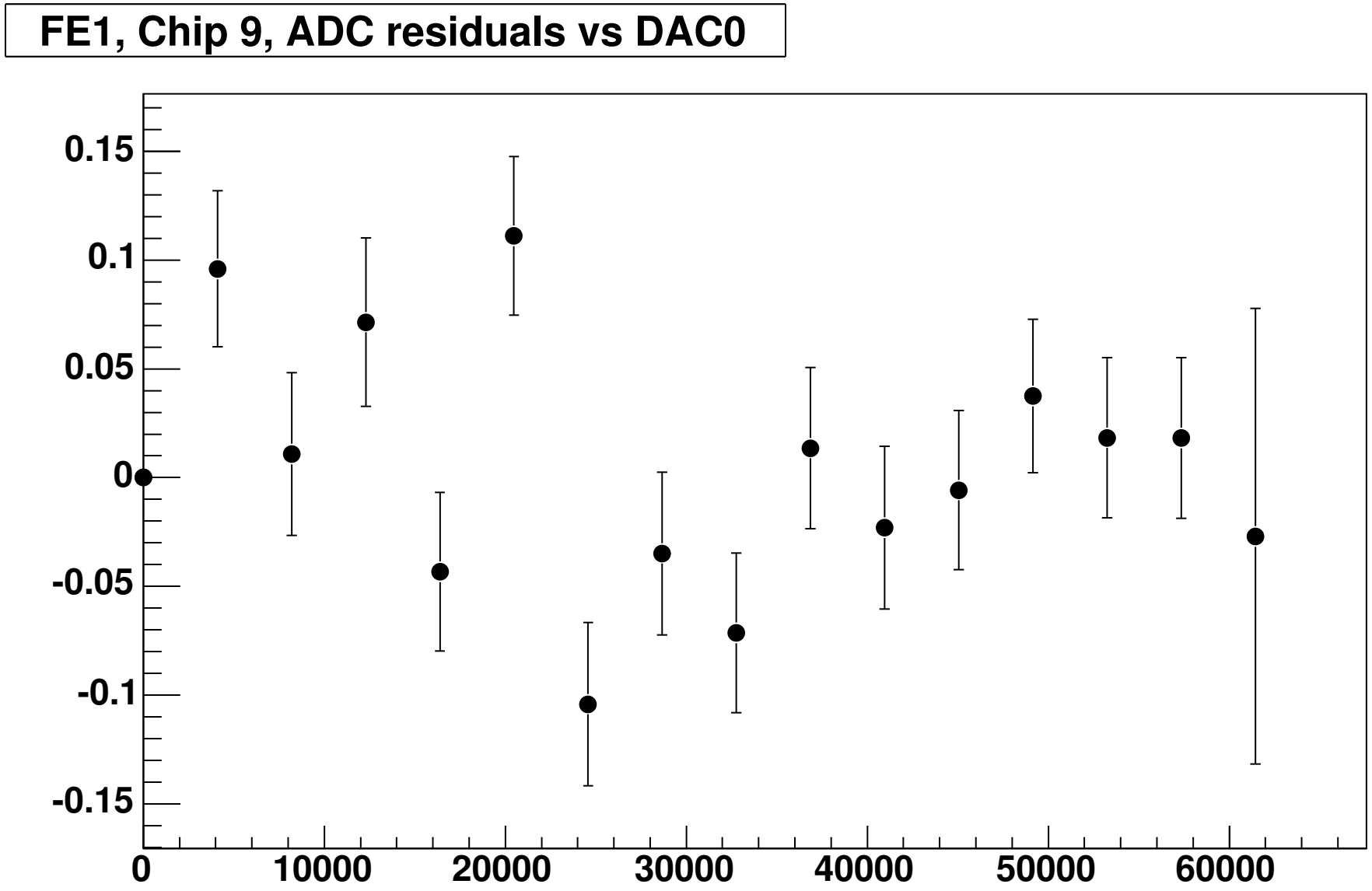

FE1, Chip 8, ADC mean vs DAC1
χ² / ndf 2.94e+08 / 11
p0 -305.3 ± 0.06071
p1 0.7948 ± 2.721e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

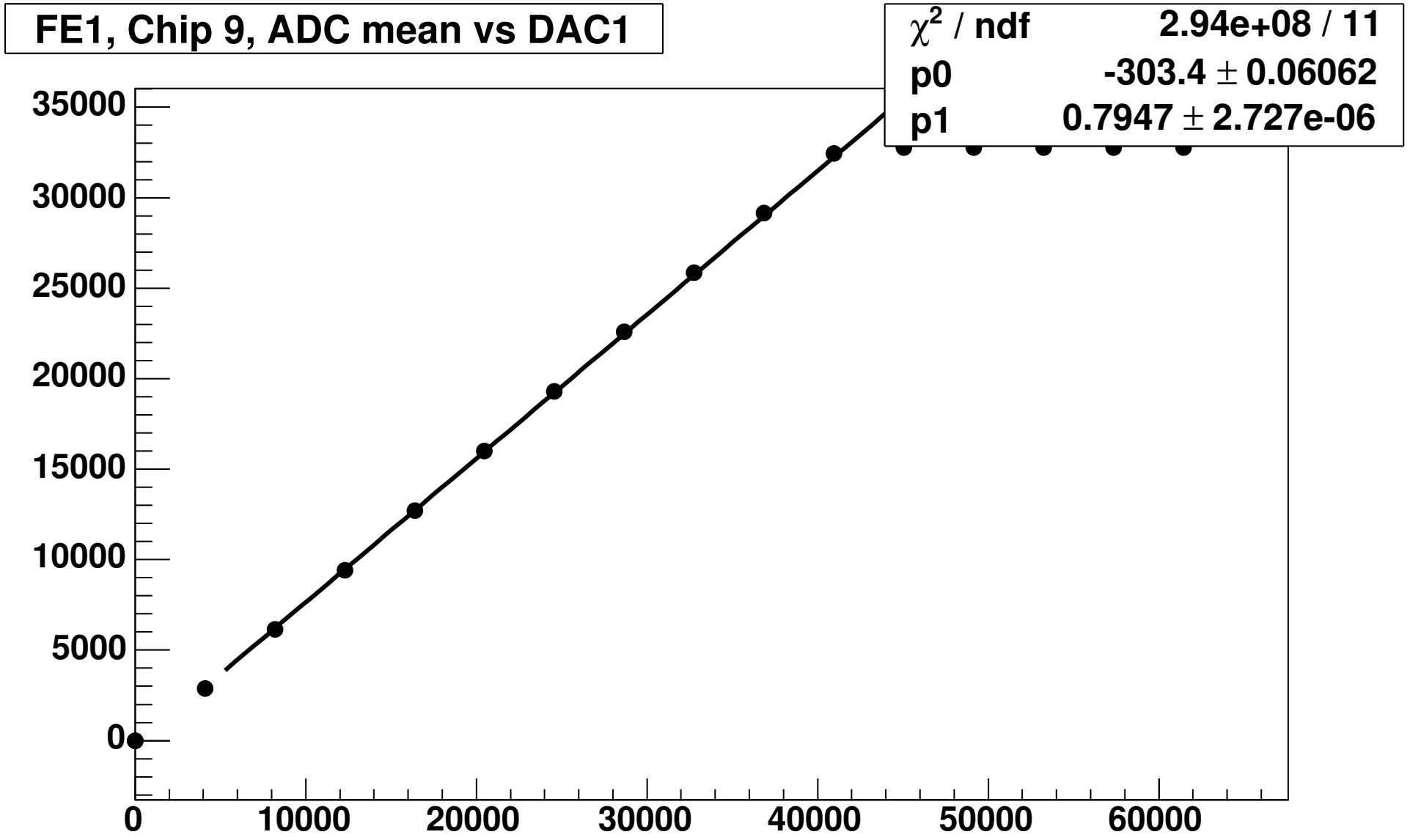

FE1, Chip 8, ADC noise vs DAC1
3
2.5
2
1.5
1
0.5
0
0
10000
20000
30000
40000
50000
60000

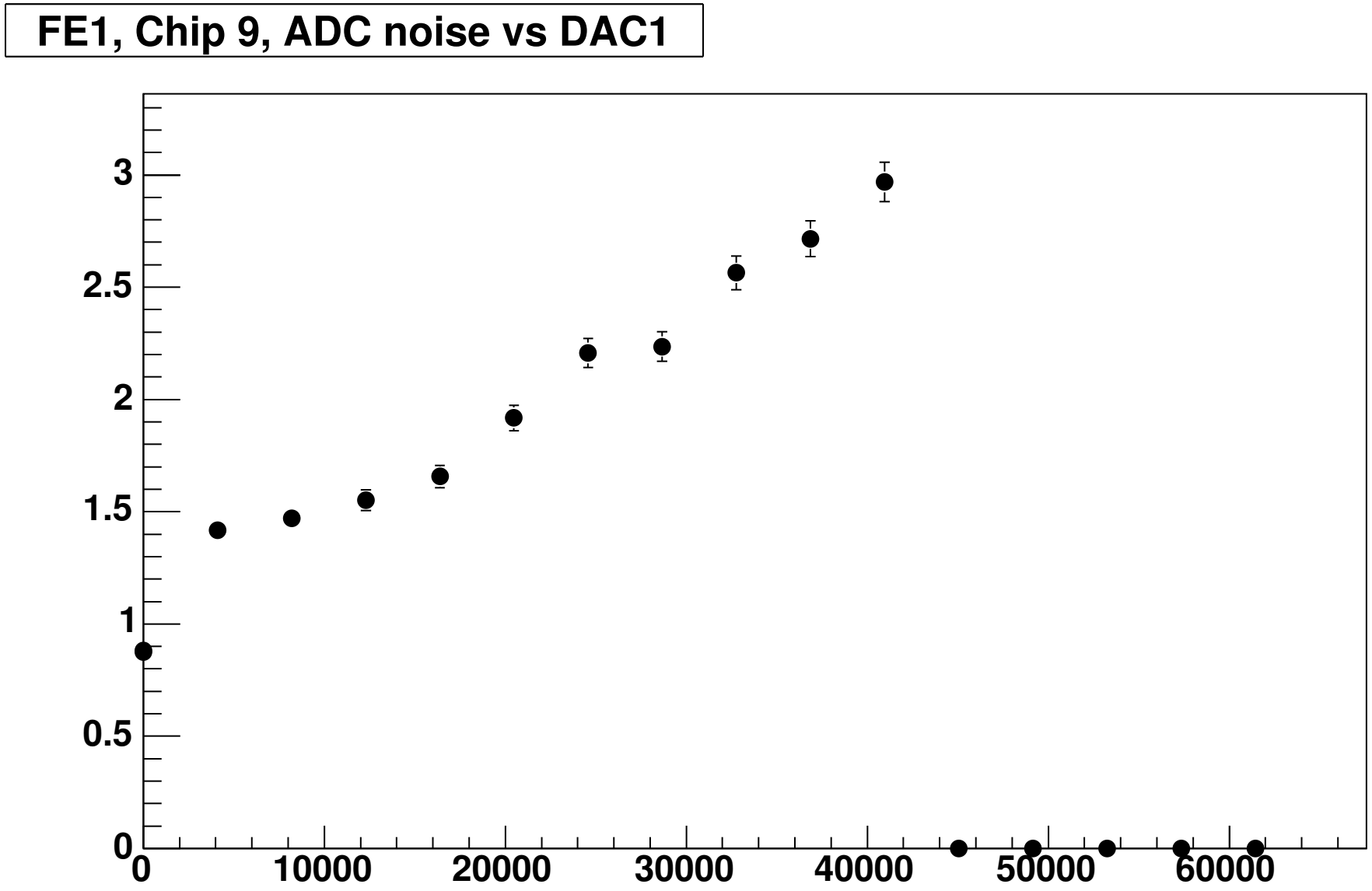

FE1, Chip 8, ADC residuals vs DAC1
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

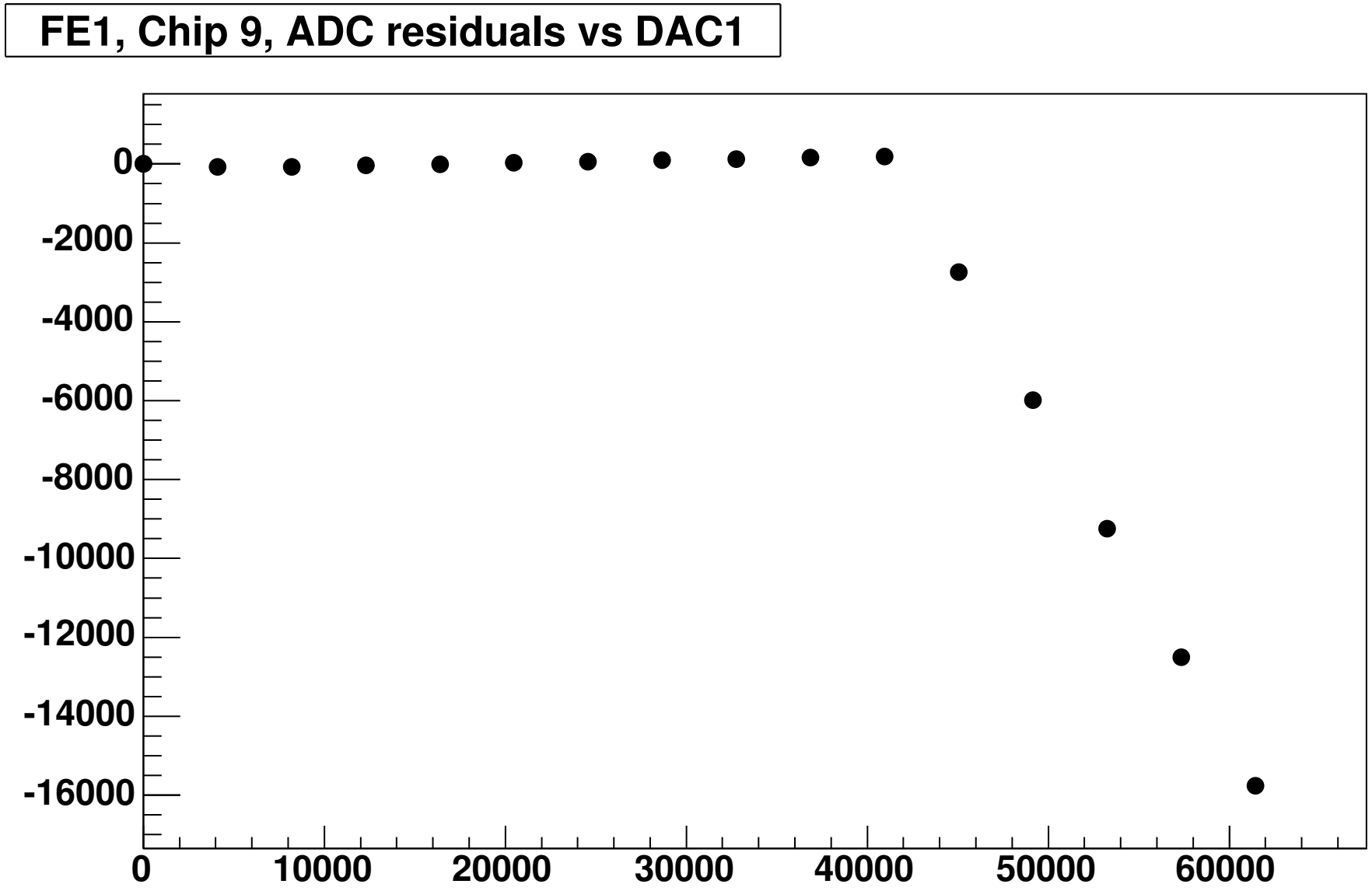

FE1, Chip 9, ADC mean vs DAC0
χ² / ndf 28.74 / 11
p0 -1.212 ± 0.02442
p1 2.556e-08 ± 6.708e-07
-1
-1.05
-1.1
-1.15
-1.2
-1.25
-1.3
-1.35
0
10000
20000
30000
40000
50000
60000

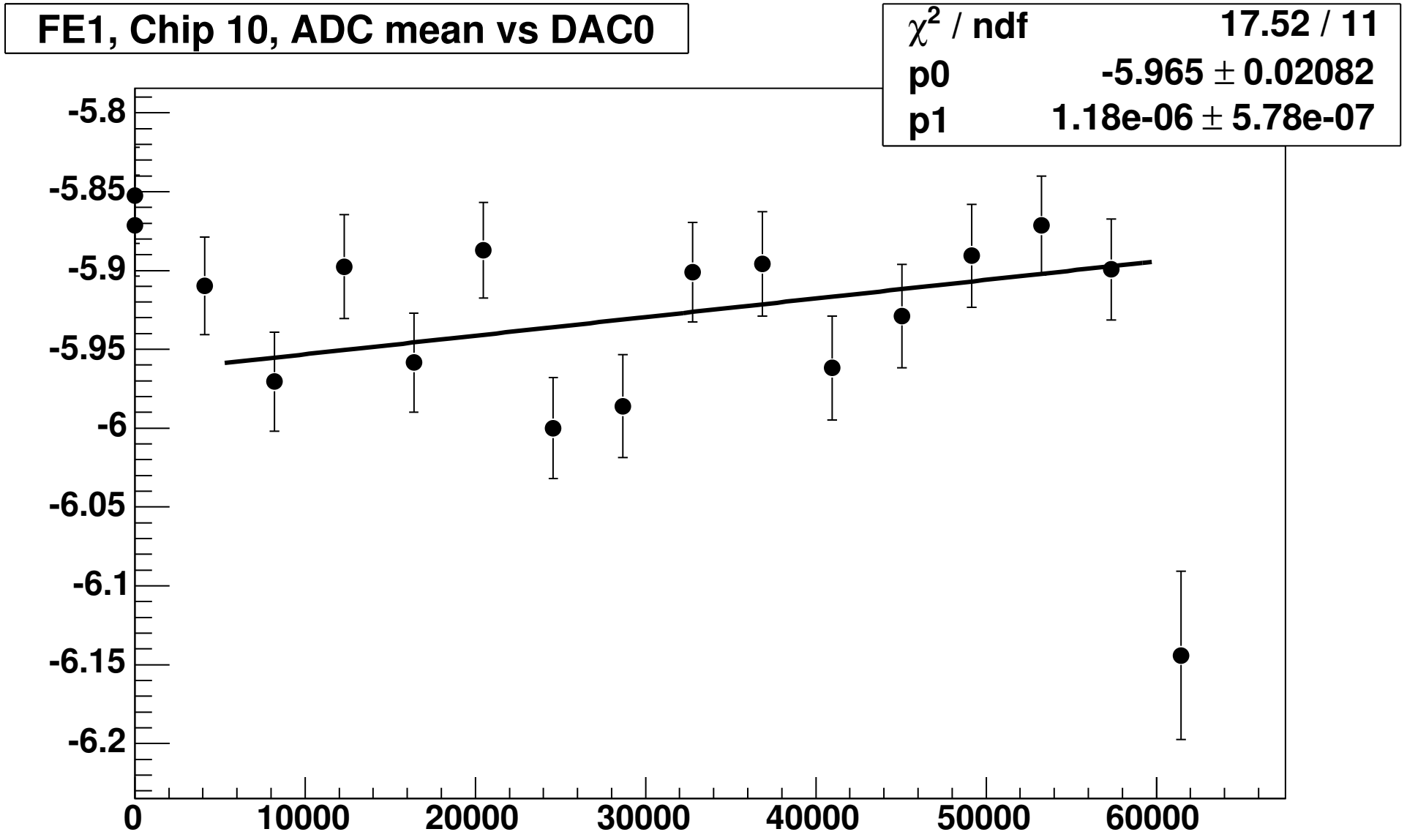

FE1, Chip 9, ADC noise vs DAC0
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
10000
20000
30000
40000
50000
60000

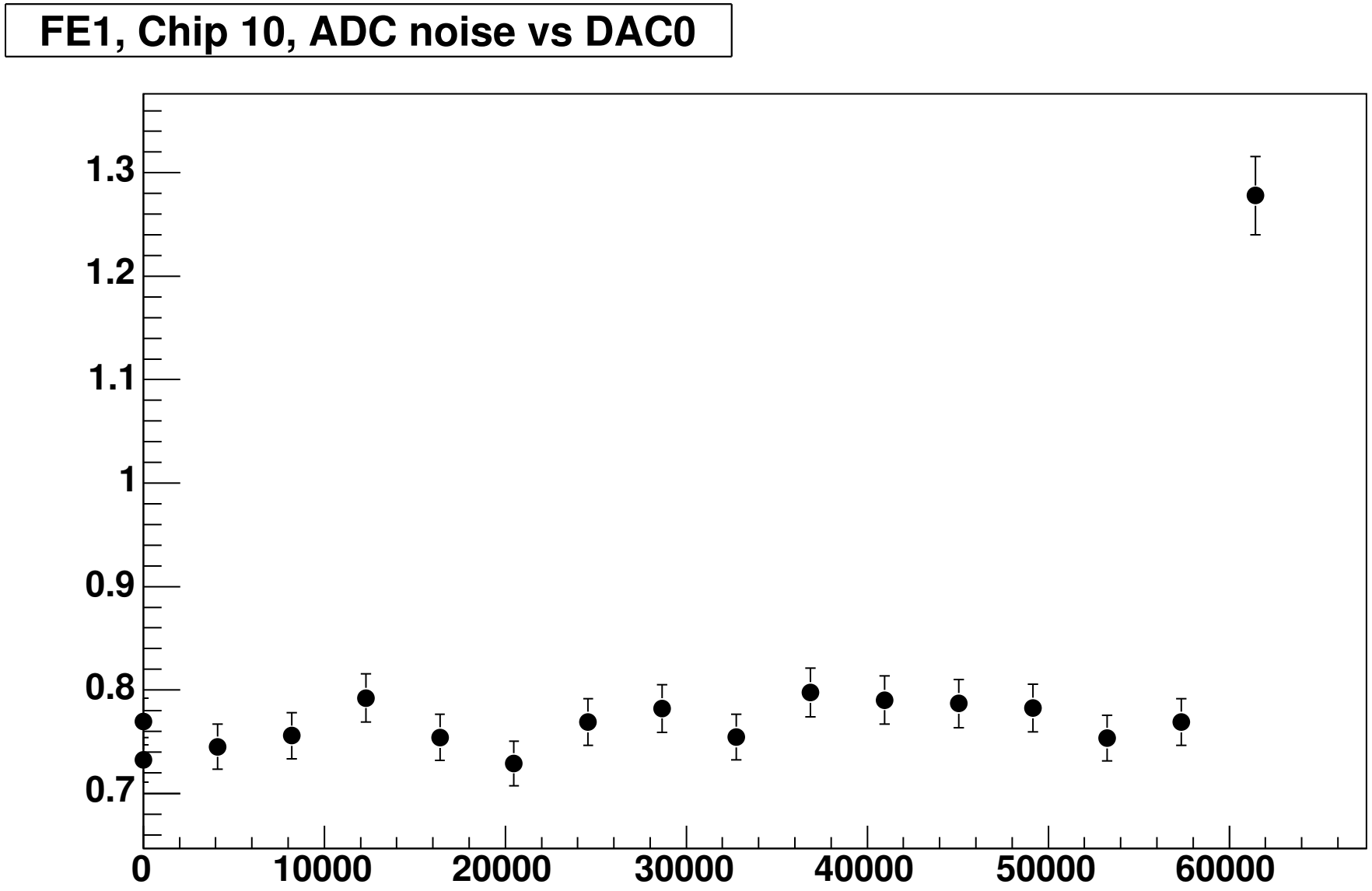

FE1, Chip 9, ADC residuals vs DAC0
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
0
10000
20000
30000
40000
50000
60000

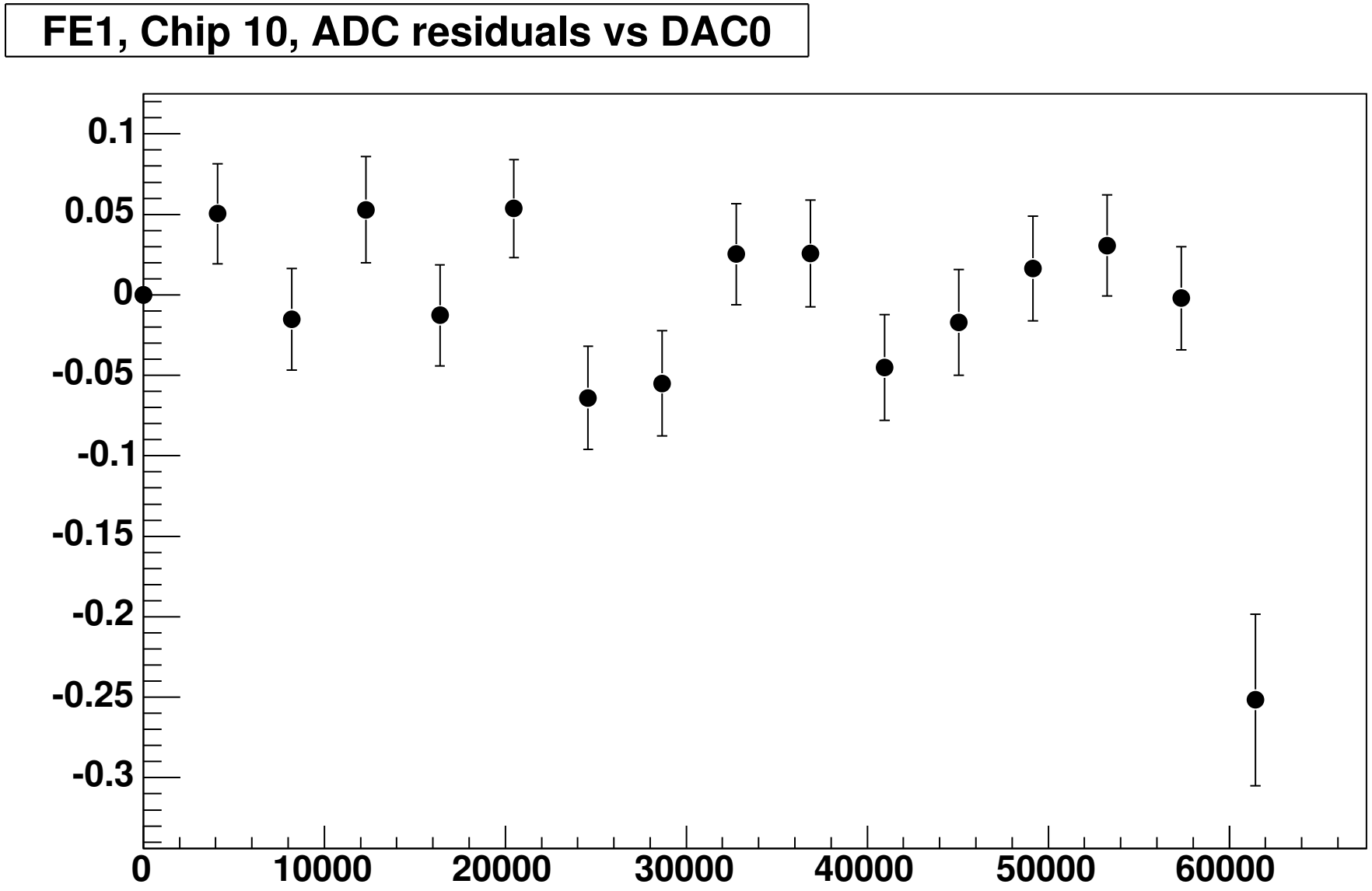

FE1, Chip 9, ADC mean vs DAC1
χ² / ndf 2.94e+08 / 11
p0 -303.4 ± 0.06062
p1 0.7947 ± 2.727e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

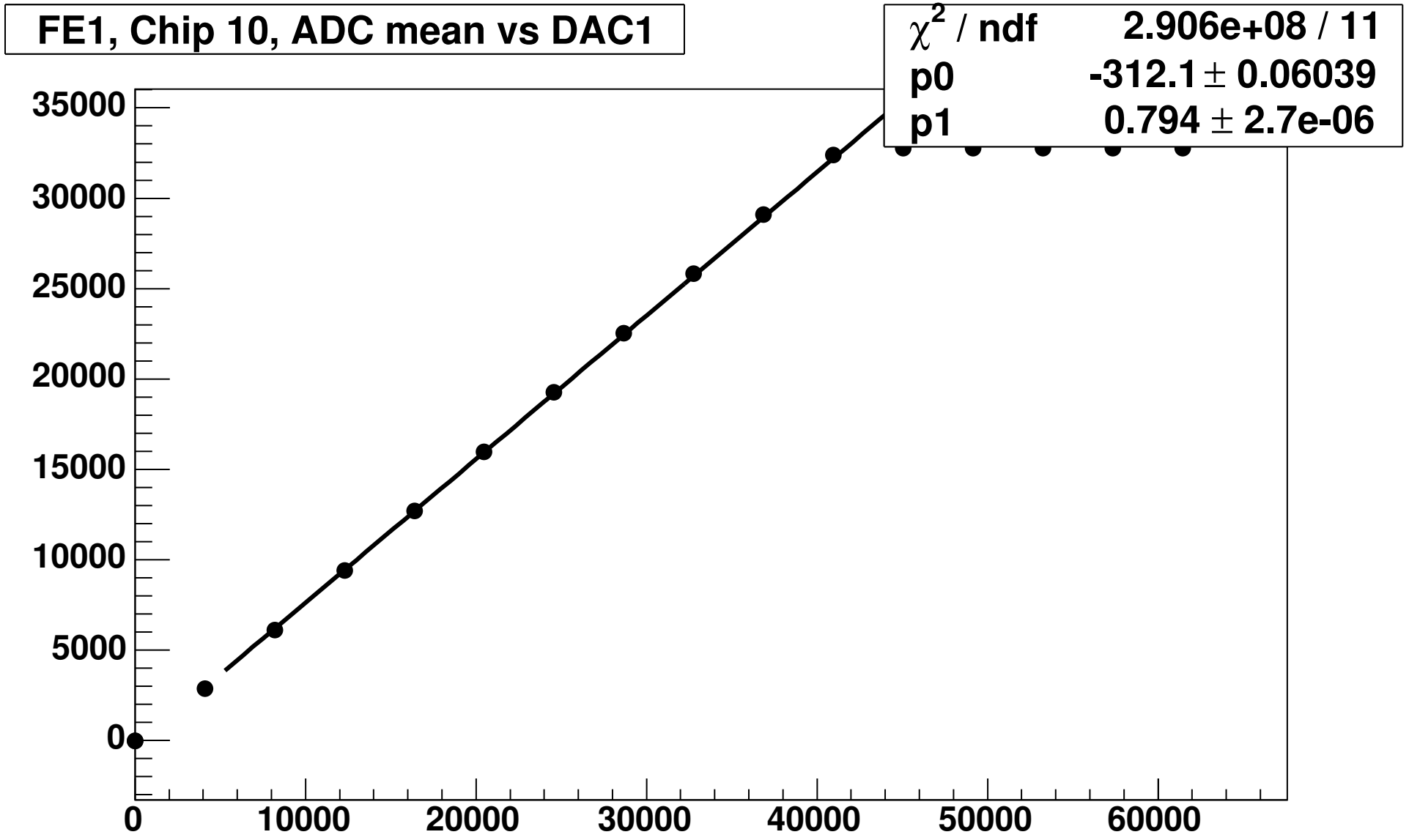

FE1, Chip 9, ADC noise vs DAC1
3
2.5
2
1.5
1
0.5
0
0
10000
20000
30000
40000
50000
60000

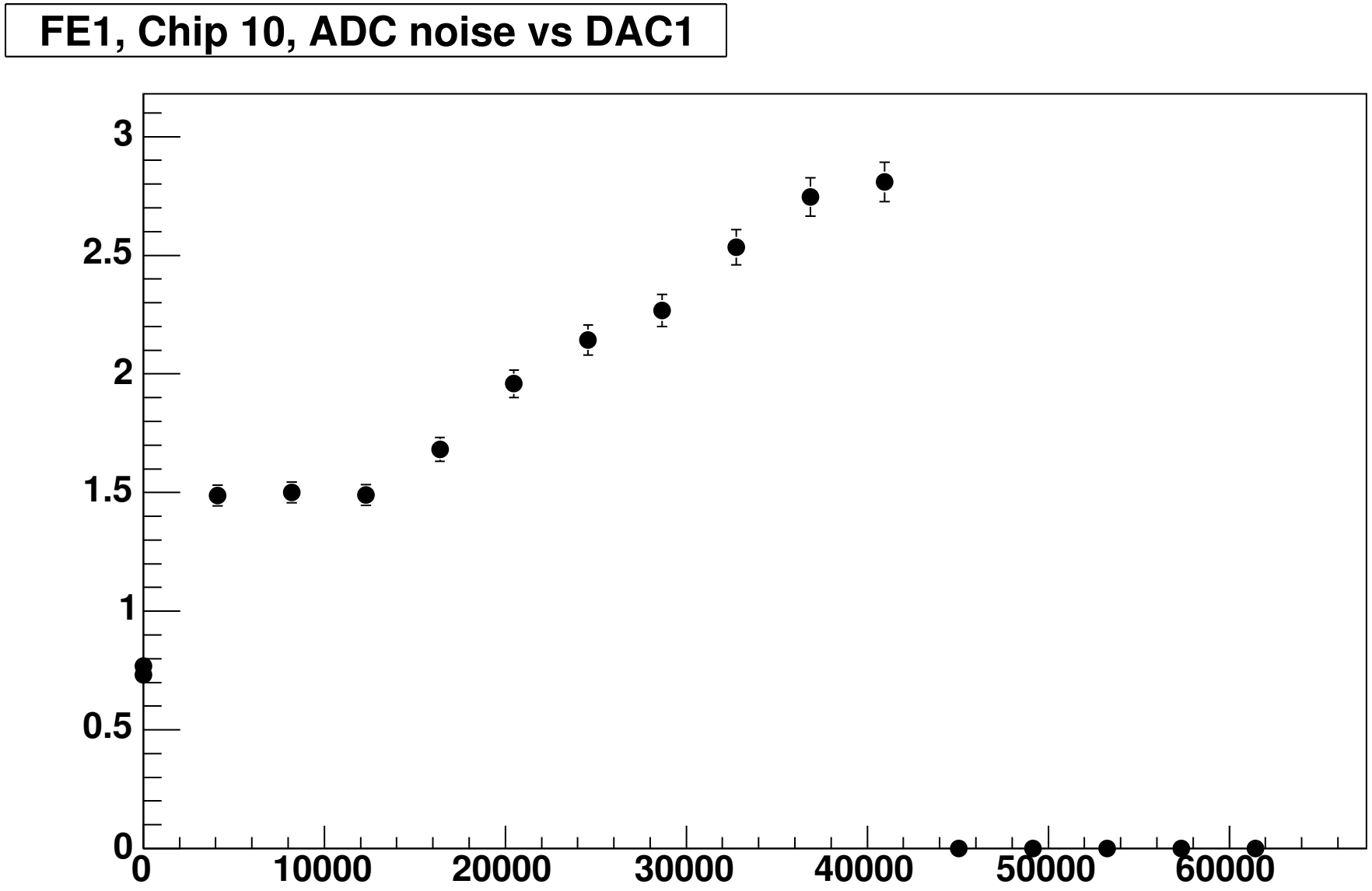

FE1, Chip 9, ADC residuals vs DAC1
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

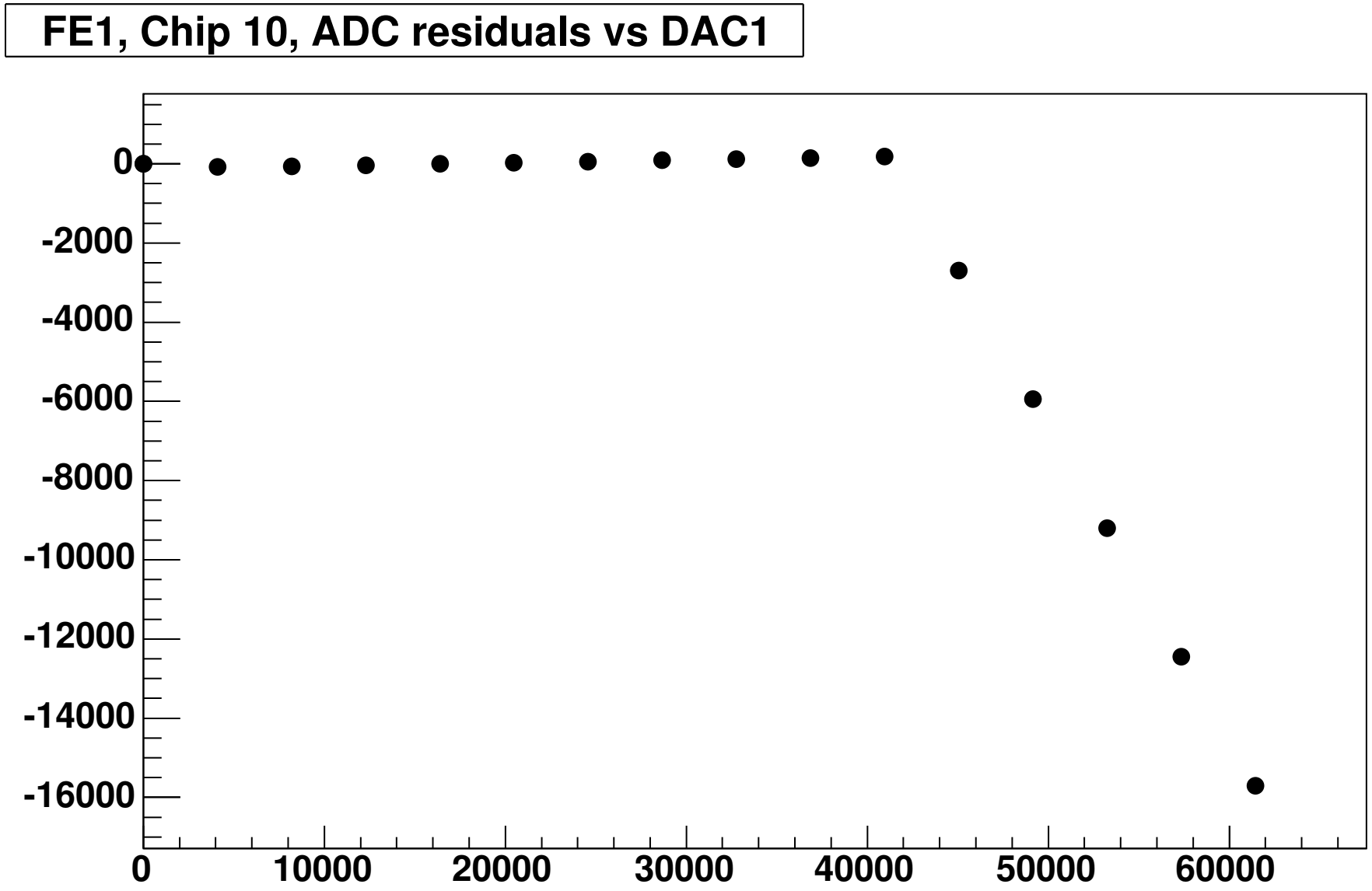

FE1, Chip 10, ADC mean vs DAC0
χ² / ndf 17.52 / 11
p0 -5.965 ± 0.02082
p1 1.18e-06 ± 5.78e-07
-5.8
-5.85
-5.9
-5.95
-6
-6.05
-6.1
-6.15
-6.2
0
10000
20000
30000
40000
50000
60000

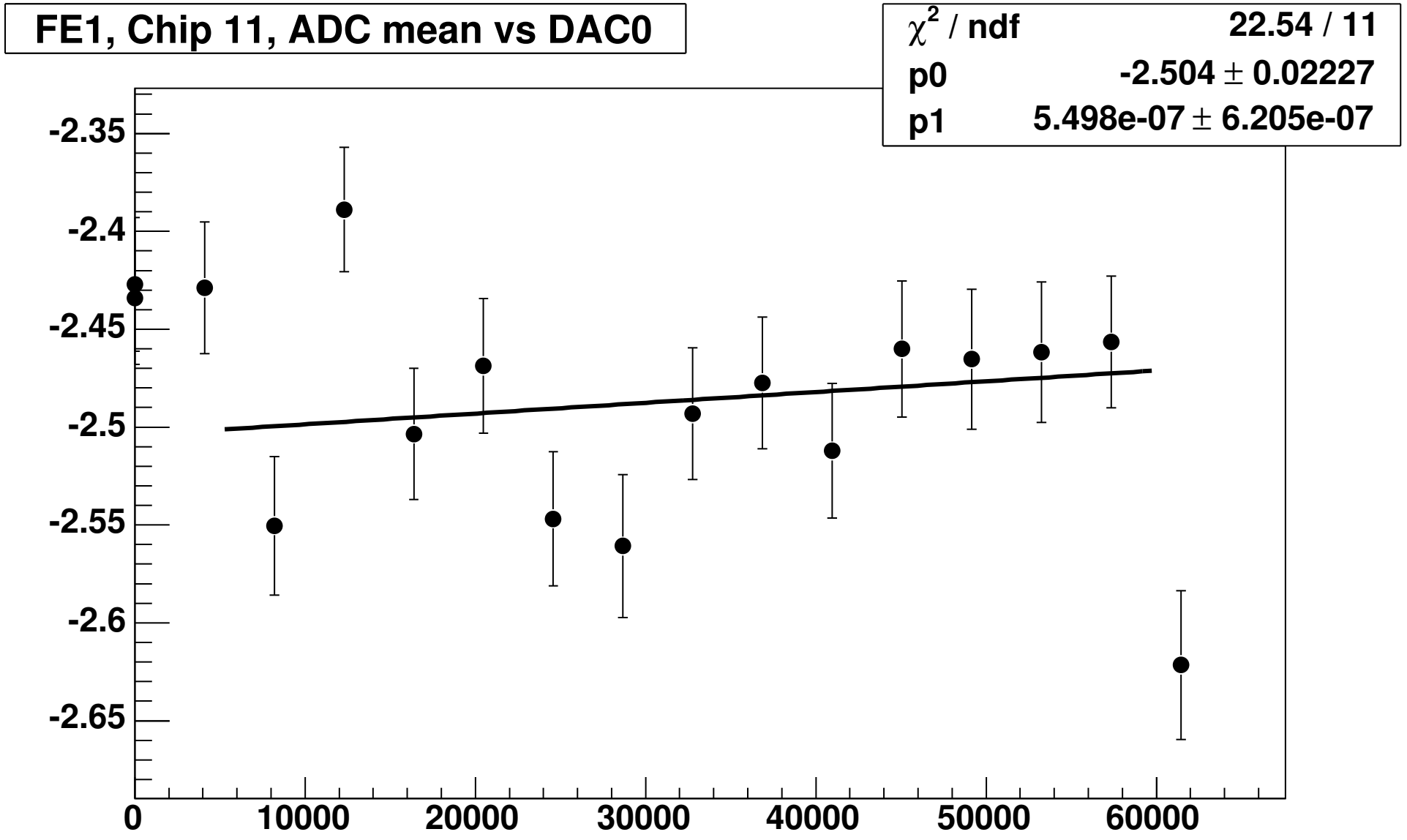

FE1, Chip 10, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0
10000
20000
30000
40000
50000
60000

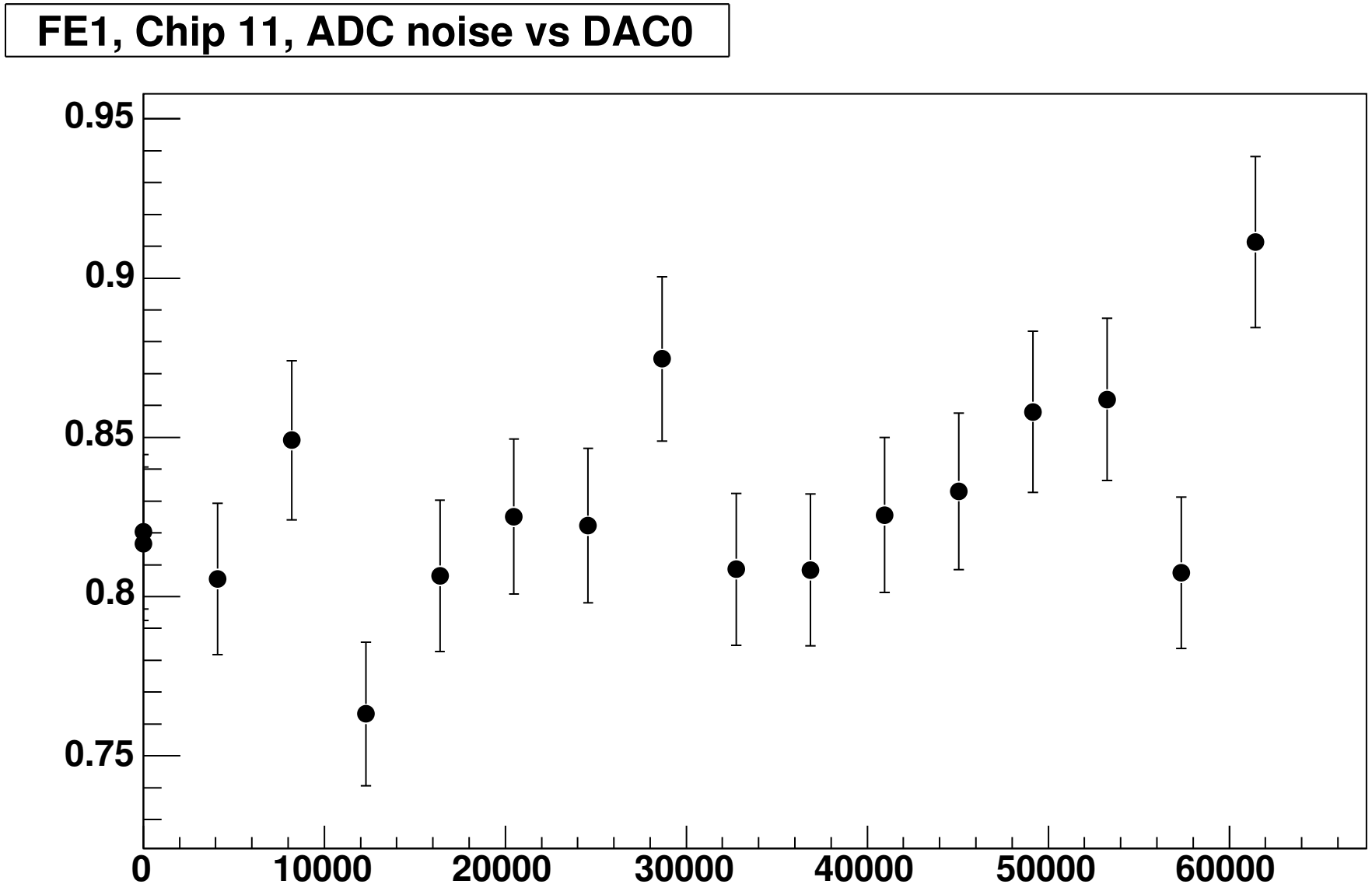

FE1, Chip 10, ADC residuals vs DAC0
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
0
10000
20000
30000
40000
50000
60000

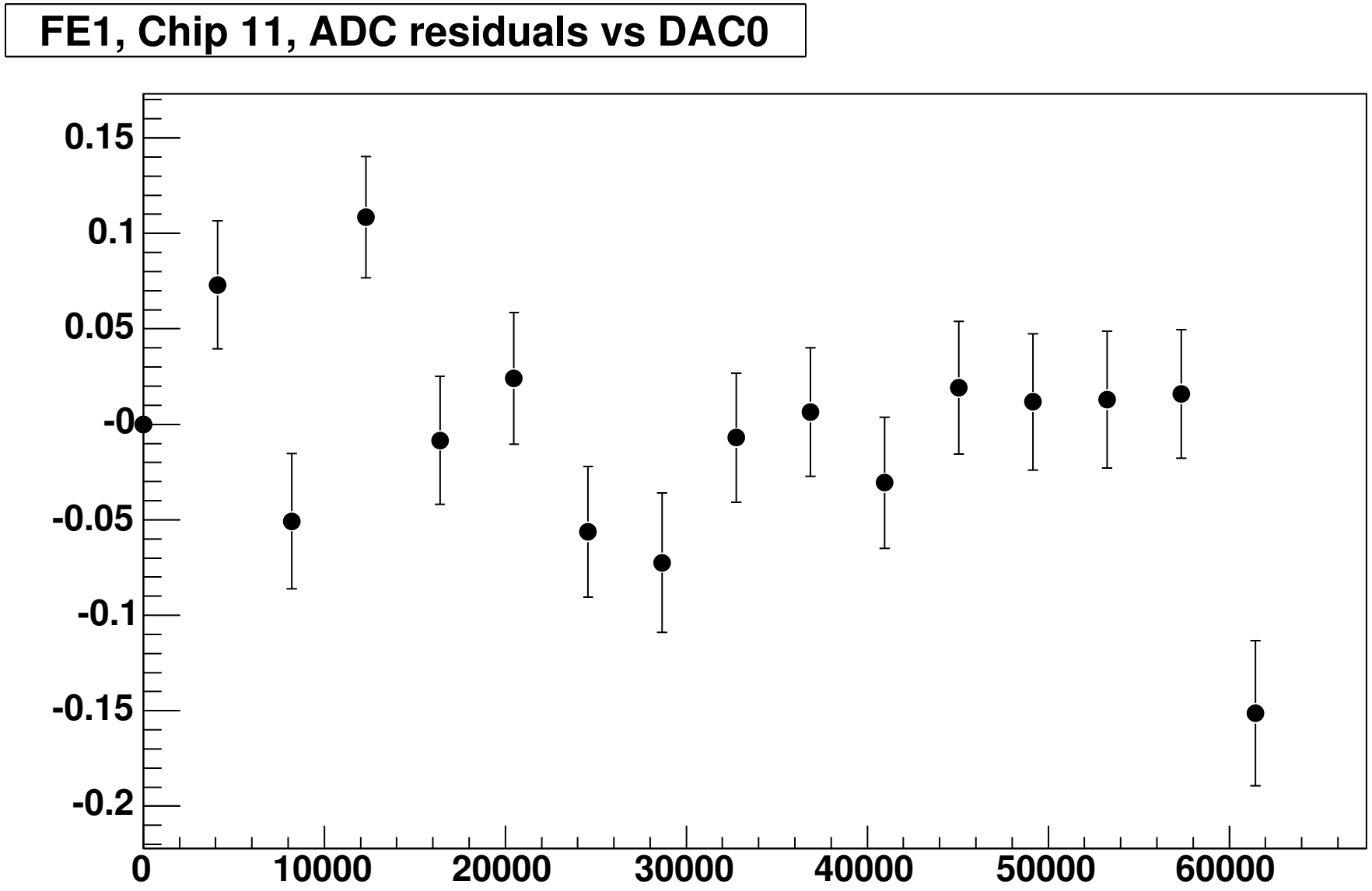

FE1, Chip 10, ADC mean vs DAC1
χ² / ndf 2.906e+08 / 11
p0 -312.1 ± 0.06039
p1 0.794 ± 2.7e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

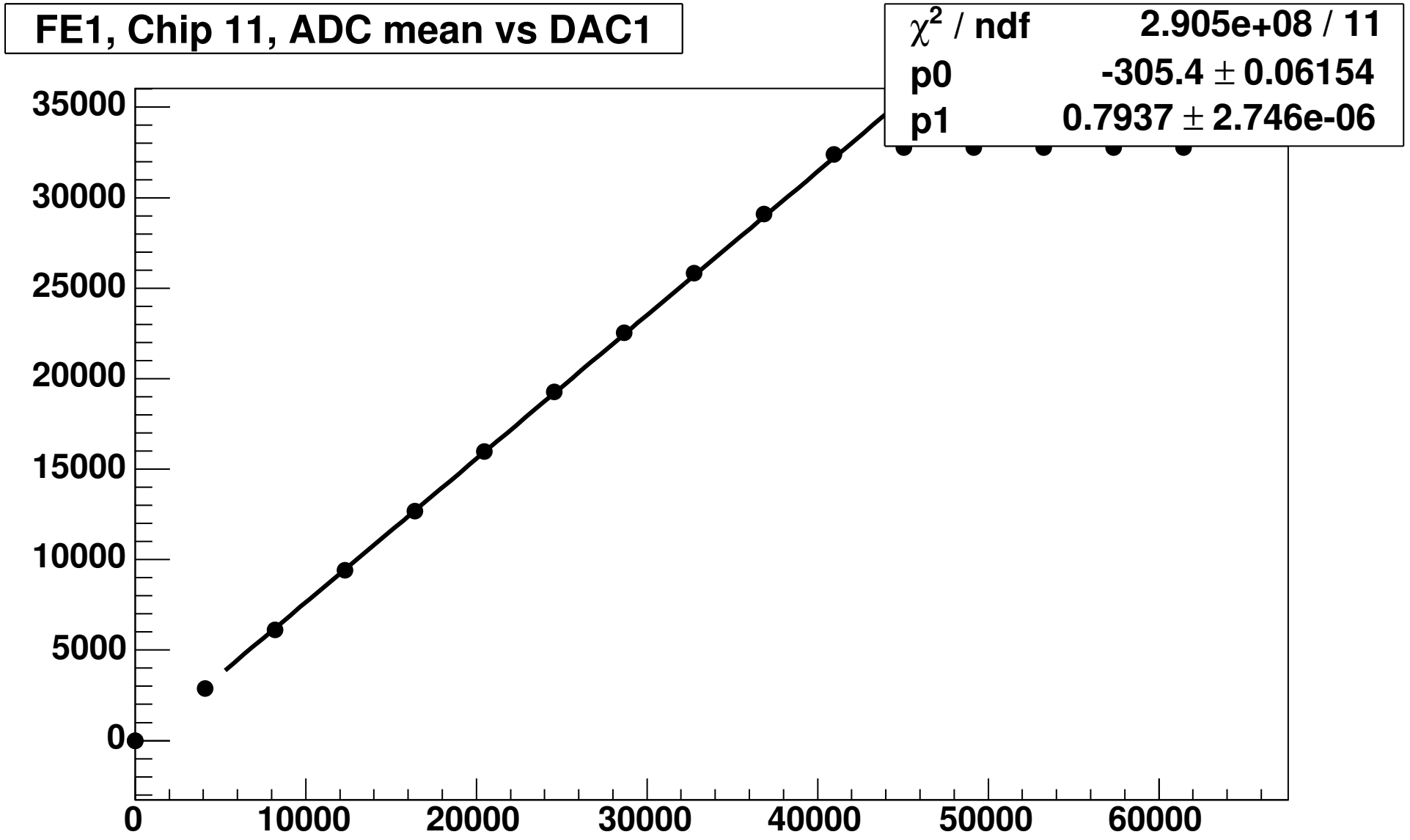

FE1, Chip 10, ADC noise vs DAC1
3
2.5
2
1.5
1
0.5
0
0
10000
20000
30000
40000
50000
60000

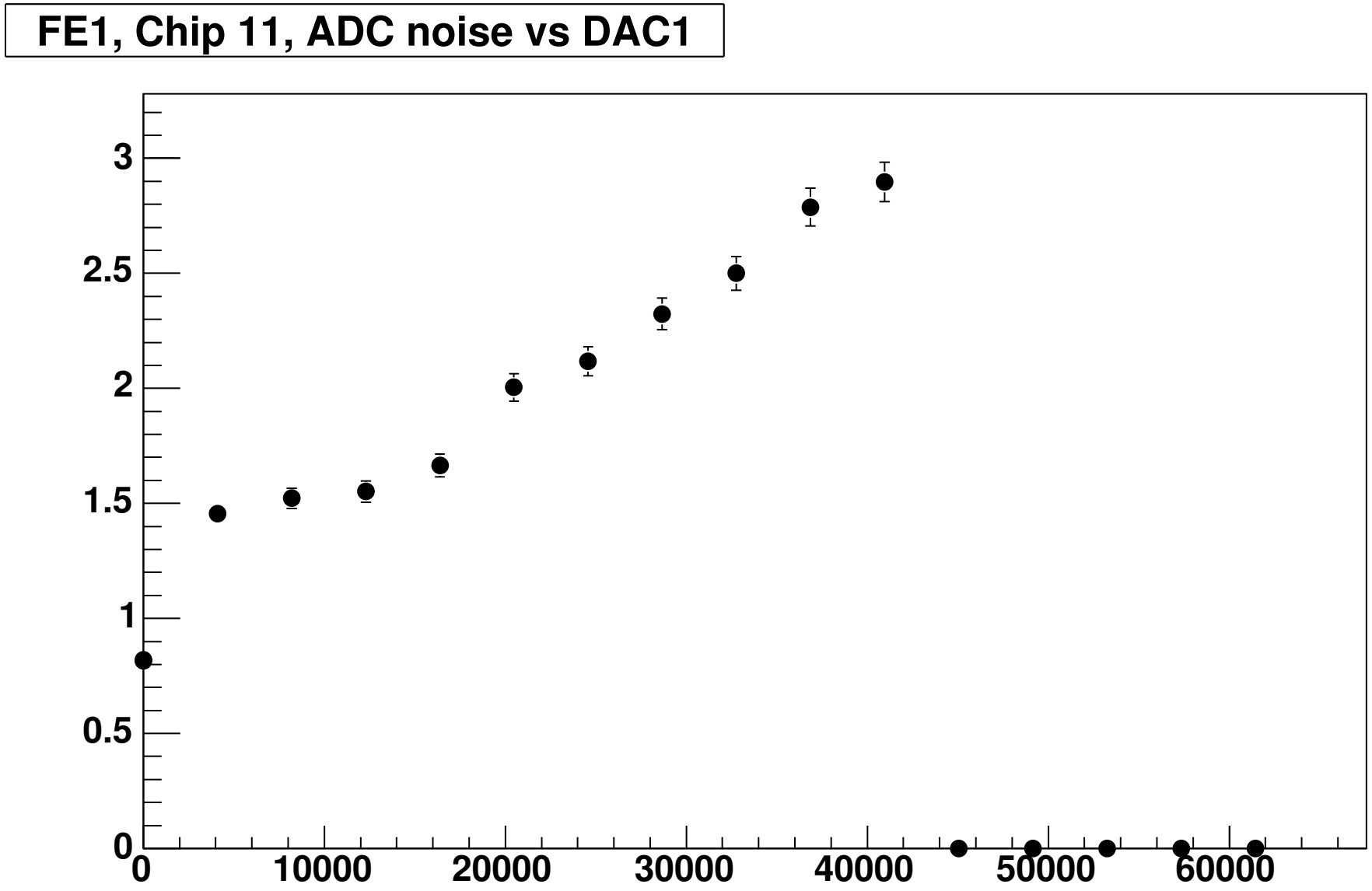

FE1, Chip 10, ADC residuals vs DAC1
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

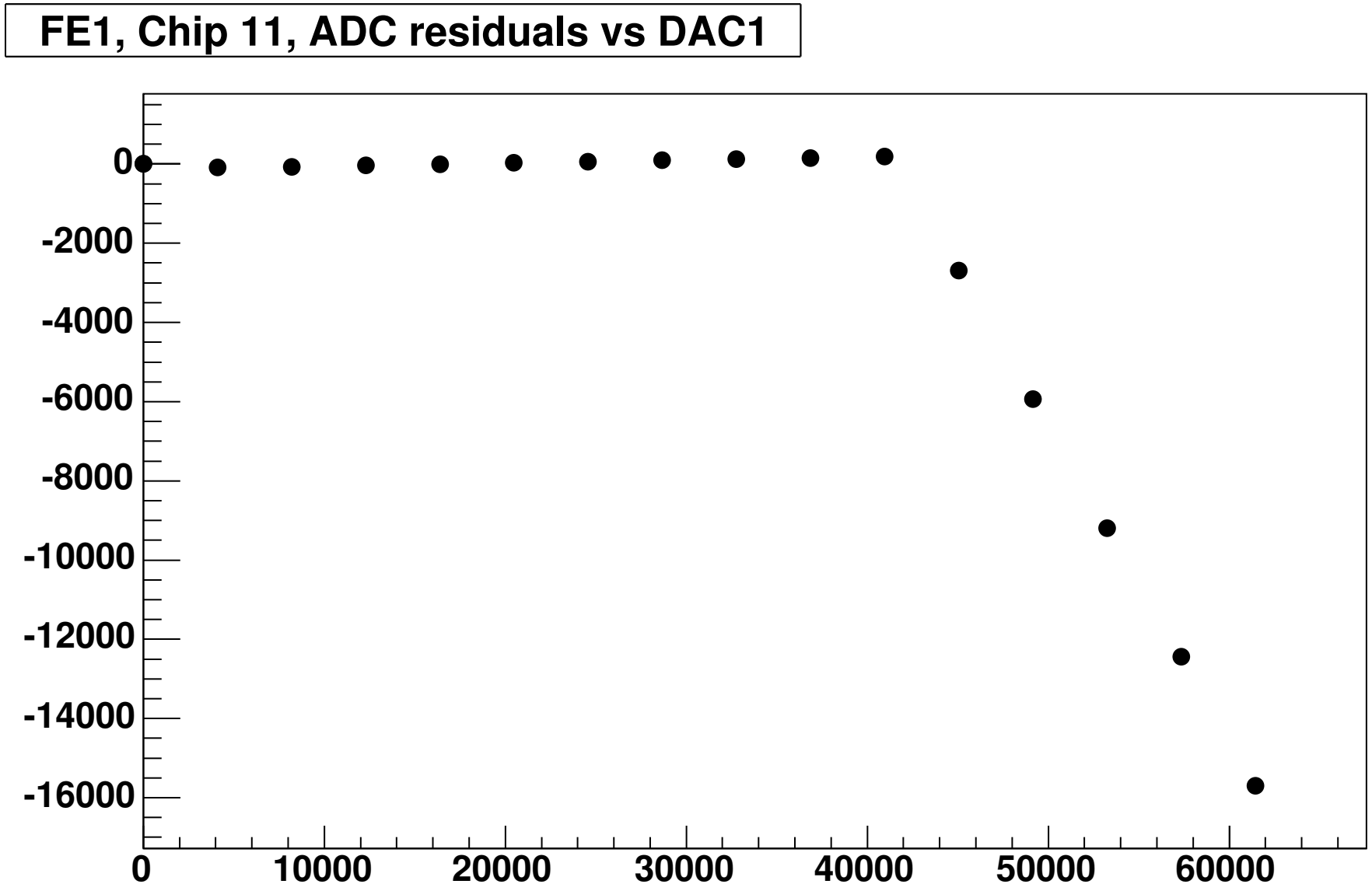

FE1, Chip 11, ADC mean vs DAC0
χ² / ndf 22.54 / 11
p0 -2.504 ± 0.02227
p1 5.498e-07 ± 6.205e-07
-2.35
-2.4
-2.45
-2.5
-2.55
-2.6
-2.65
0
10000
20000
30000
40000
50000
60000

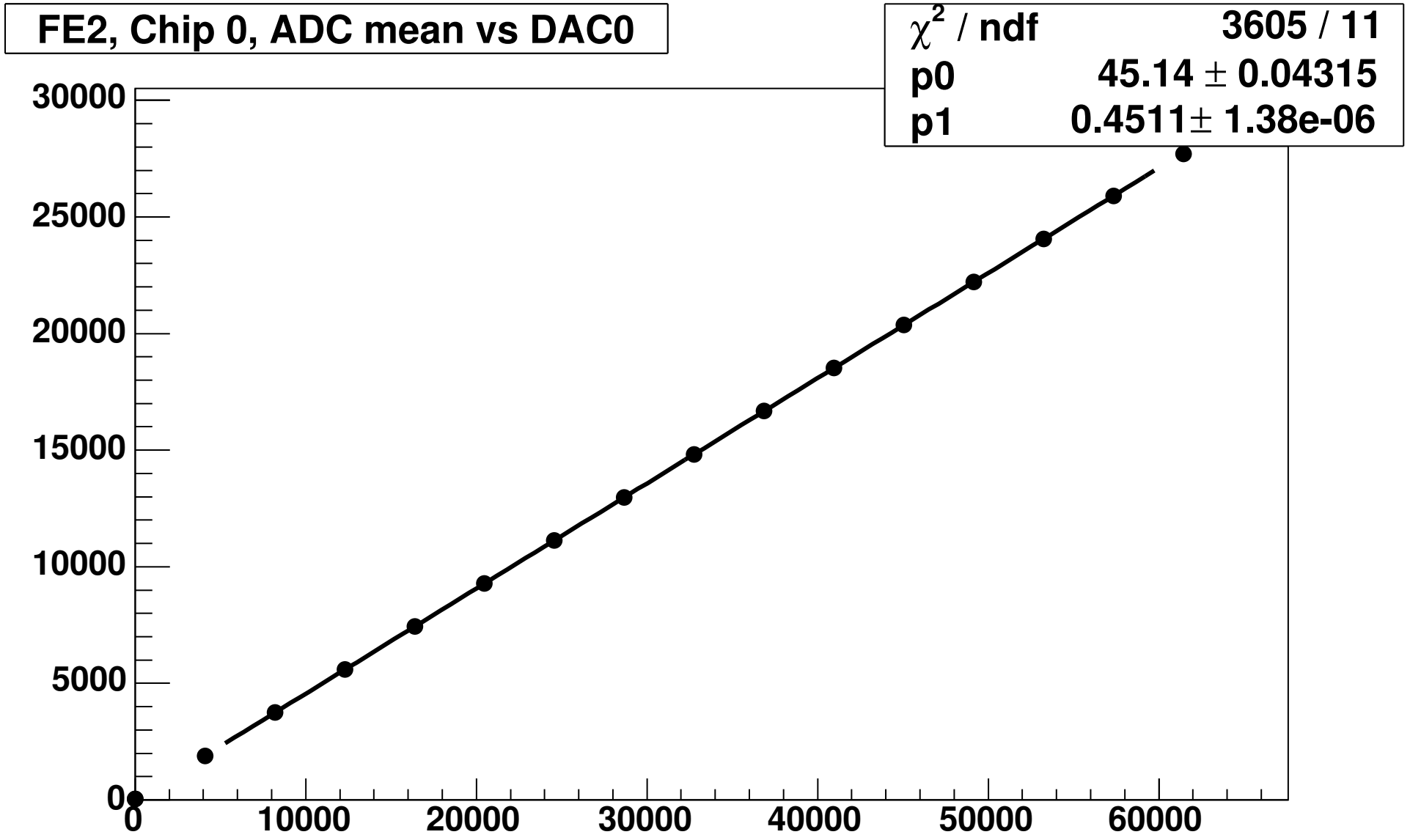

FE1, Chip 11, ADC noise vs DAC0
0.95
0.9
0.85
0.8
0.75
0
10000
20000
30000
40000
50000
60000

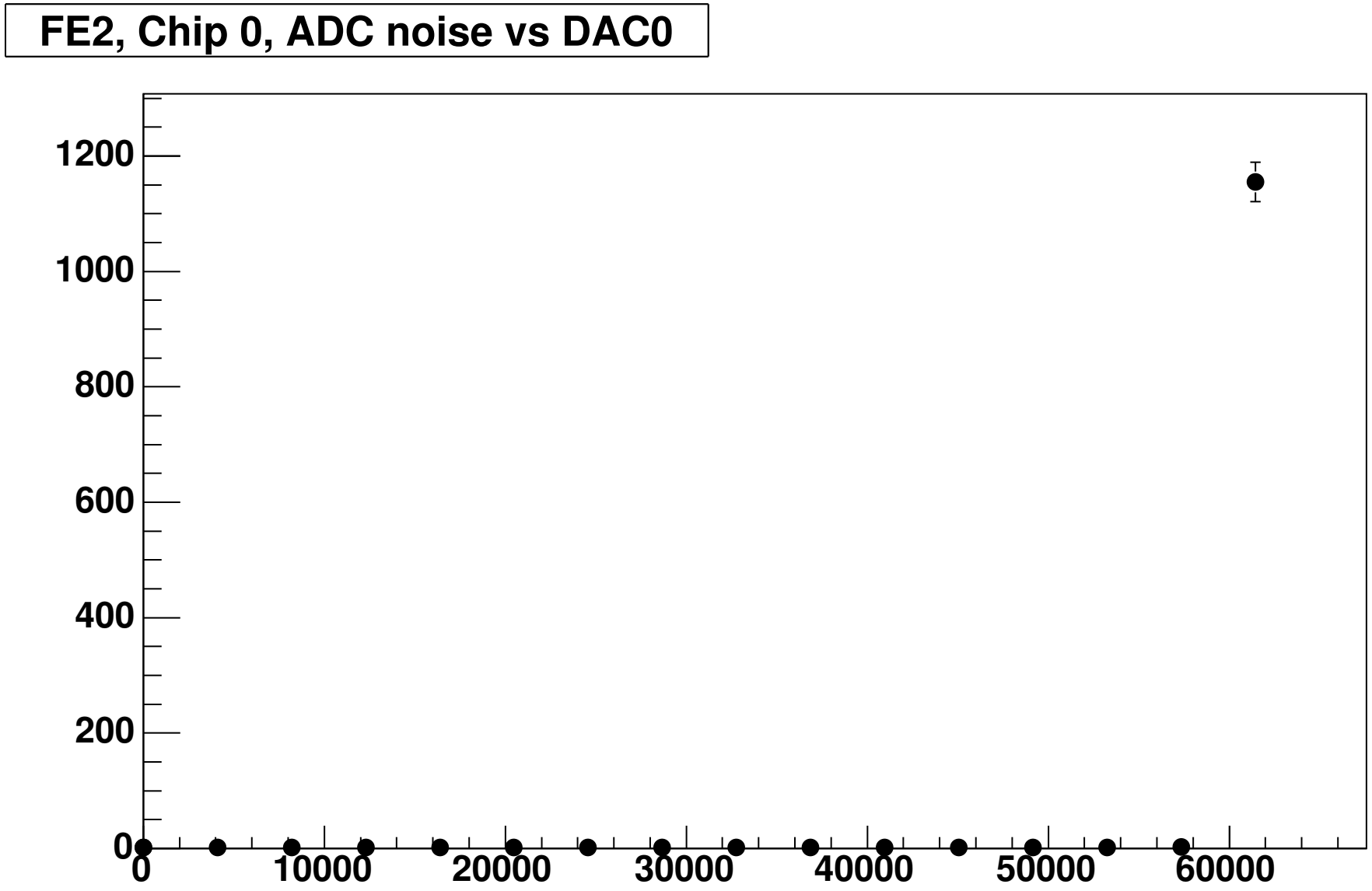

FE1, Chip 11, ADC residuals vs DAC0
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

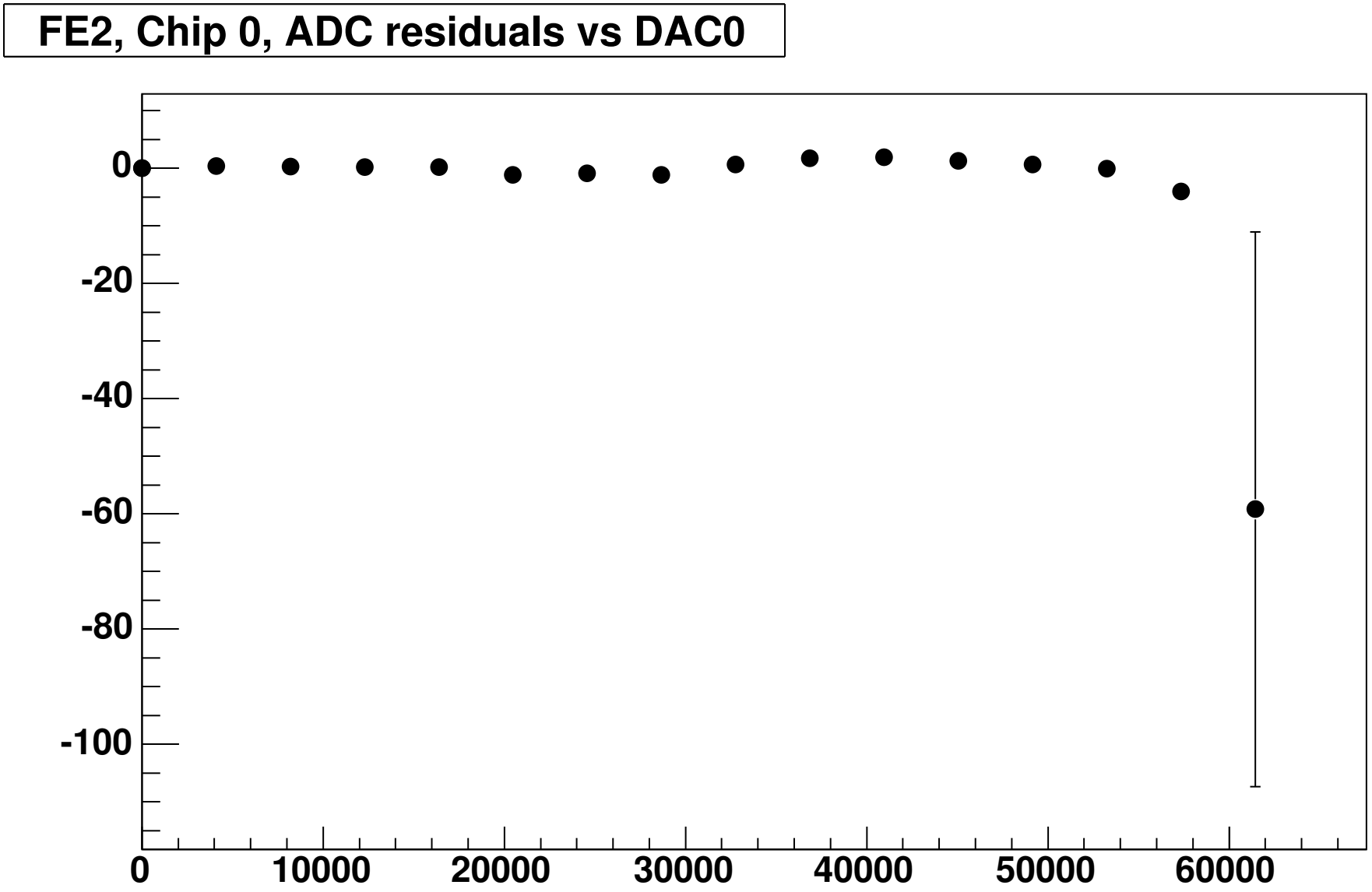

FE1, Chip 11, ADC mean vs DAC1
χ² / ndf 2.905e+08 / 11
p0 -305.4 ± 0.06154
p1 0.7937 ± 2.746e-06
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

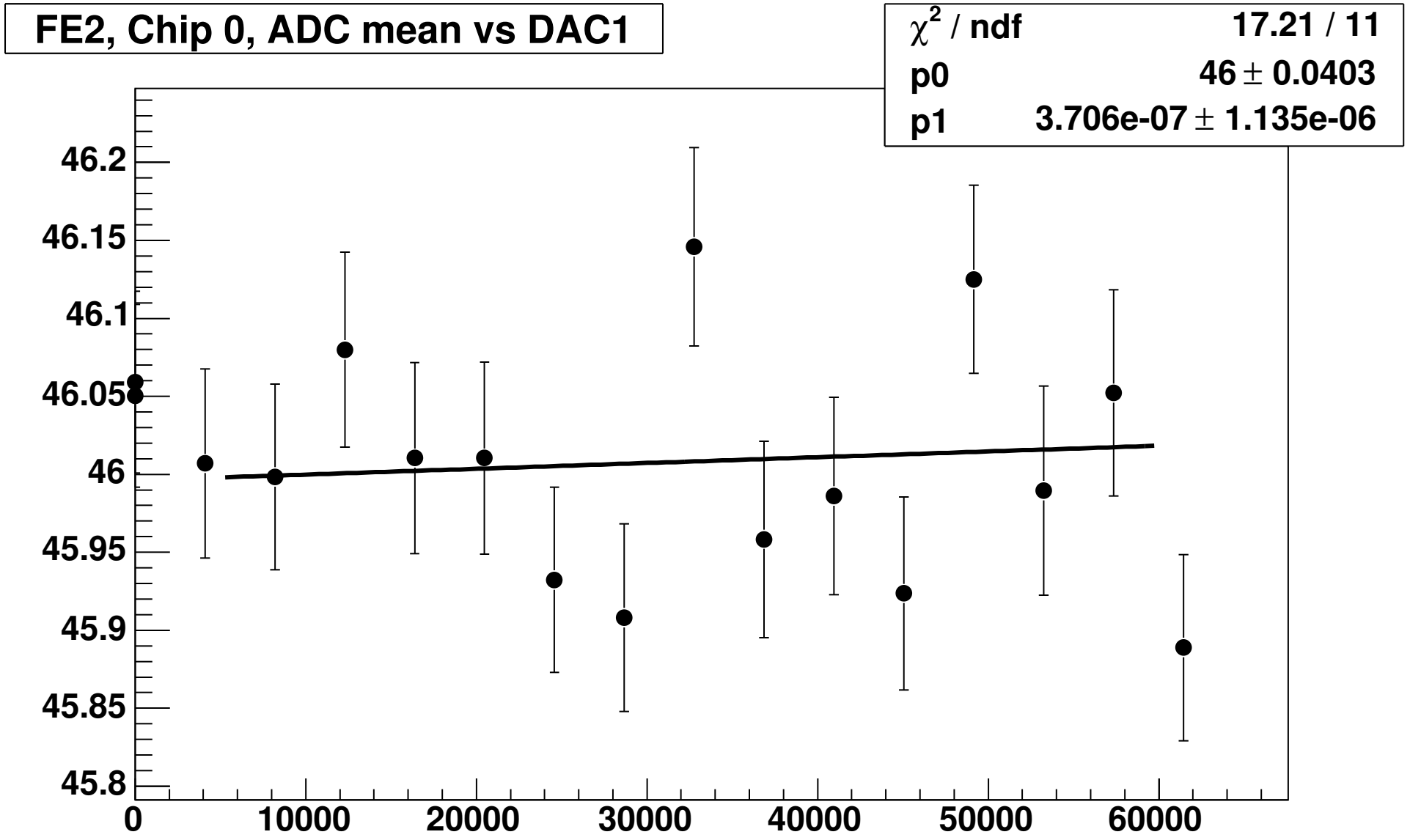

FE1, Chip 11, ADC noise vs DAC1
3
2.5
2
1.5
1
0.5
0
0
10000
20000
30000
40000
50000
60000

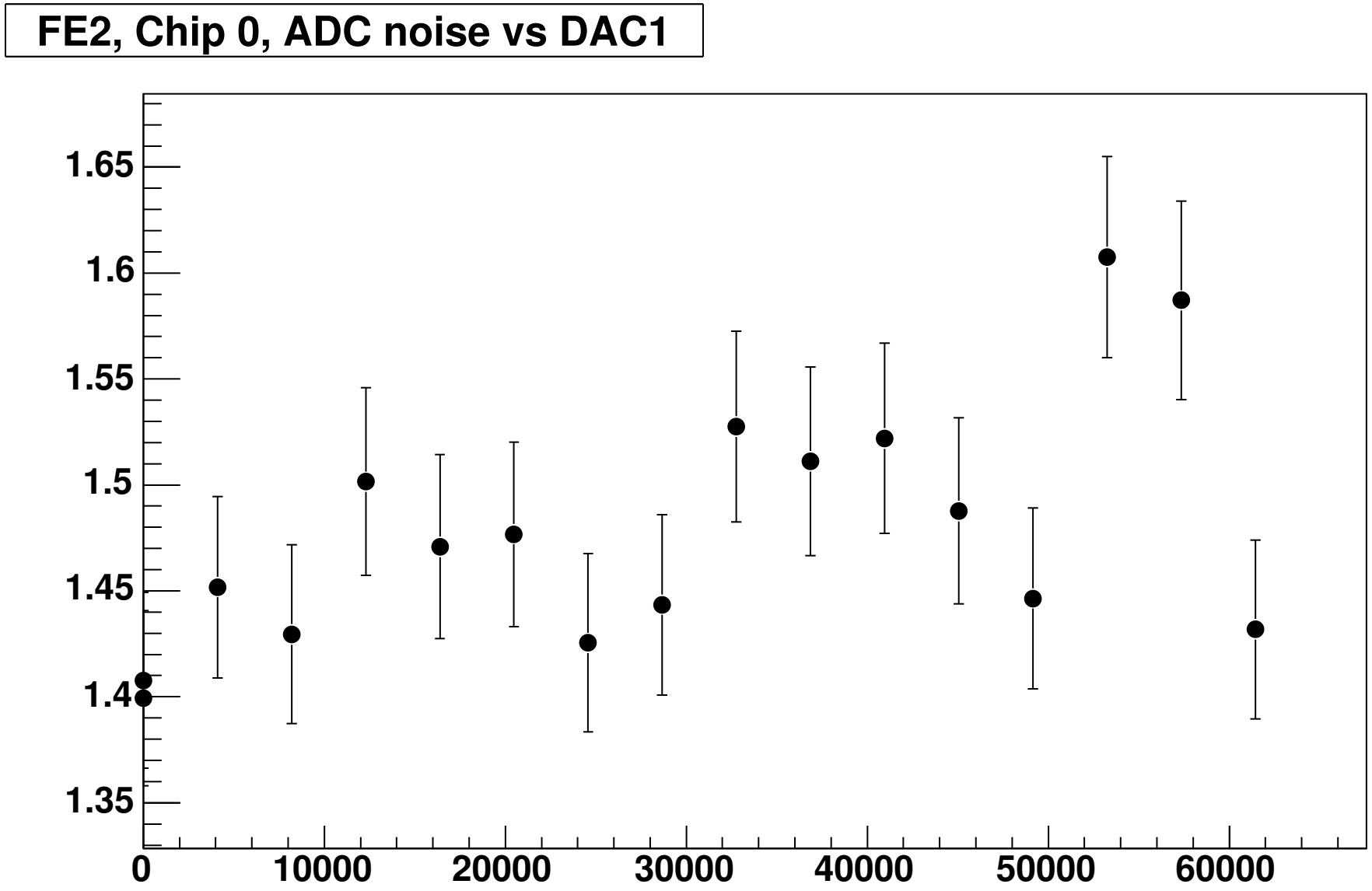

FE1, Chip 11, ADC residuals vs DAC1
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
0
10000
20000
30000
40000
50000
60000

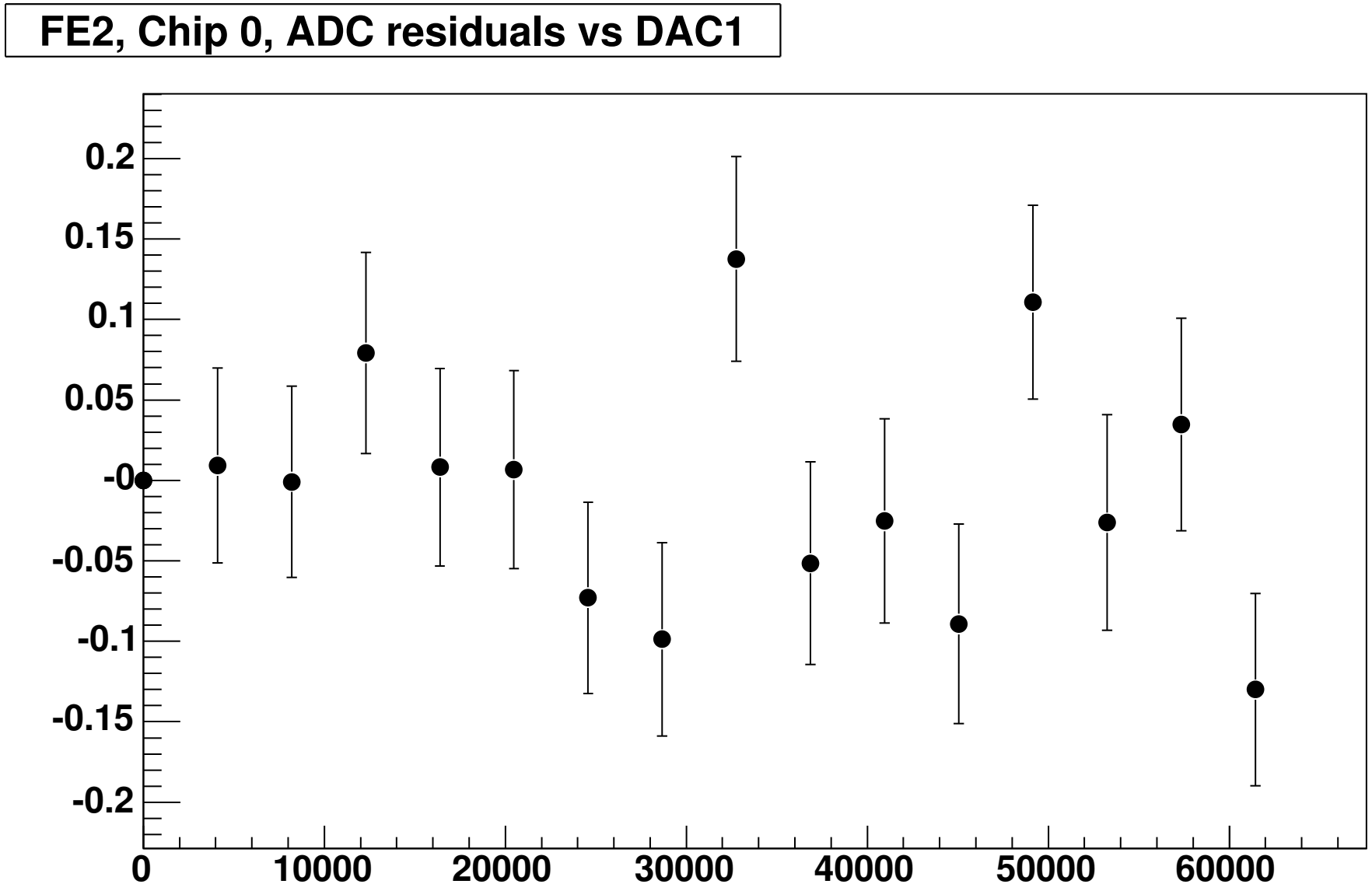

FE2, Chip 0, ADC mean vs DAC0
χ² / ndf 3605 / 11
p0 45.14 ± 0.04315
p1 0.4511± 1.38e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

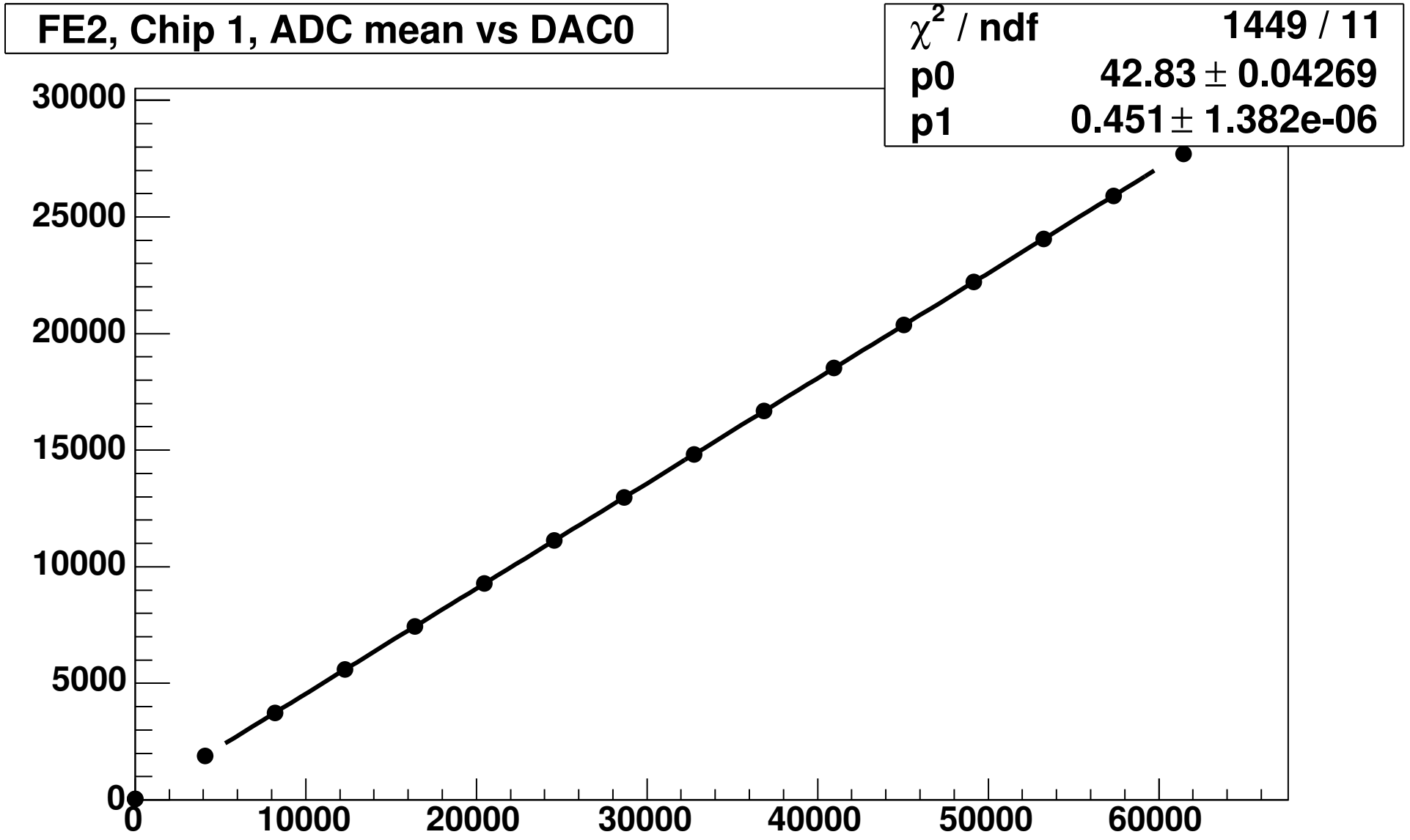

FE2, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

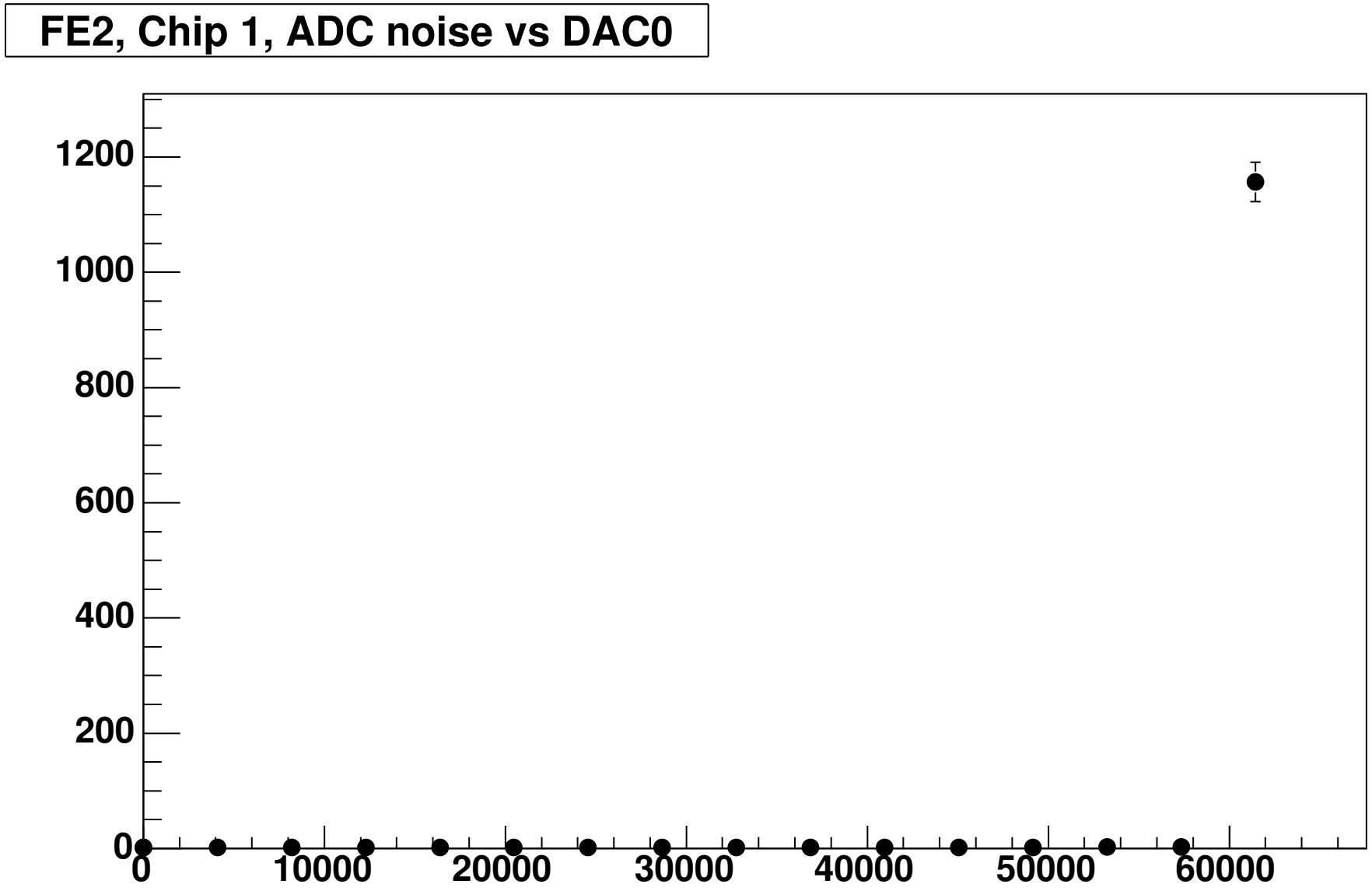

FE2, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

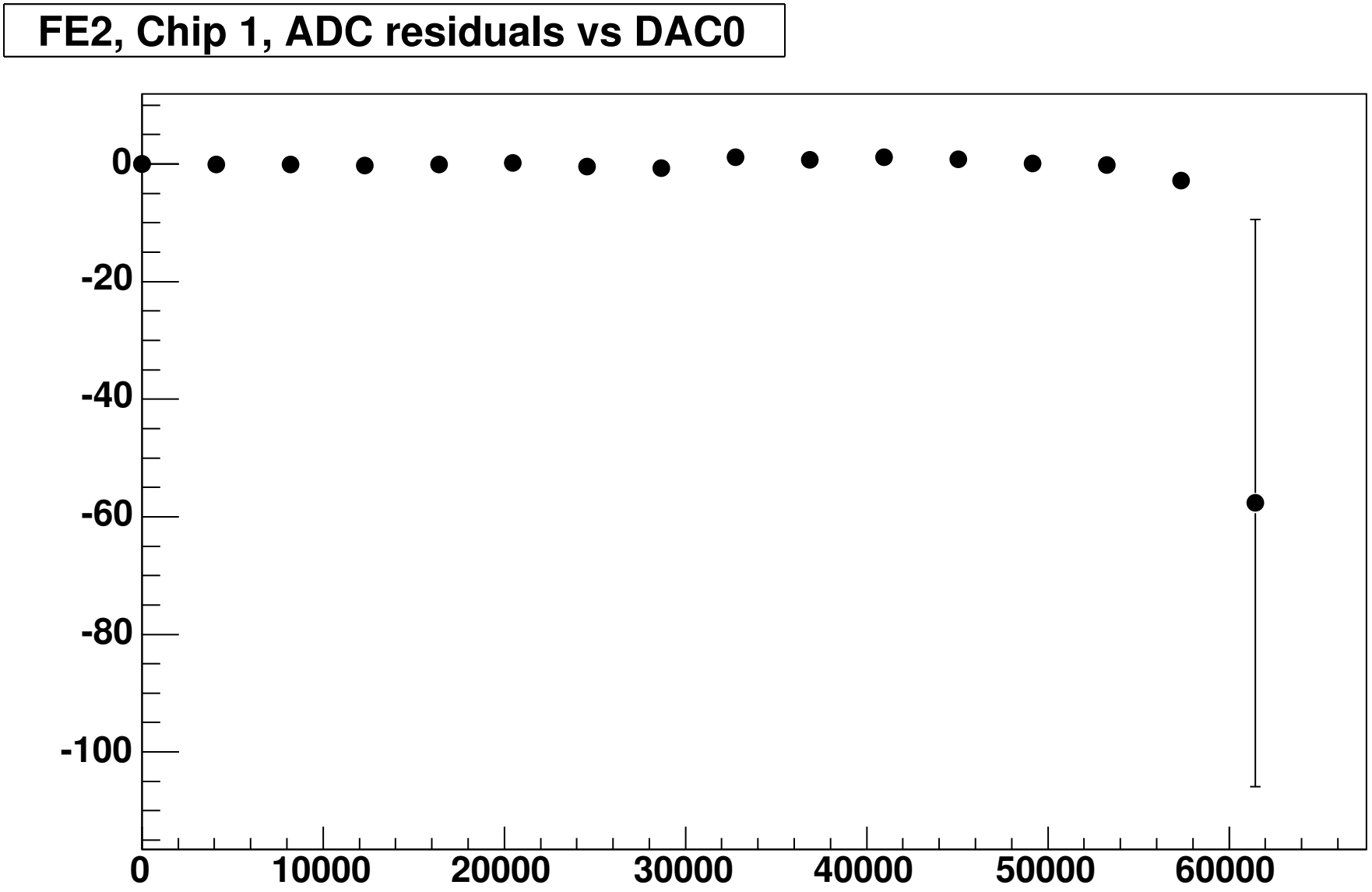

FE2, Chip 0, ADC mean vs DAC1
χ² / ndf 17.21 / 11
p0 46 ± 0.0403
p1 3.706e-07 ± 1.135e-06
46.2
46.15
46.1
46.05
46
45.95
45.9
45.85
45.8
0
10000
20000
30000
40000
50000
60000

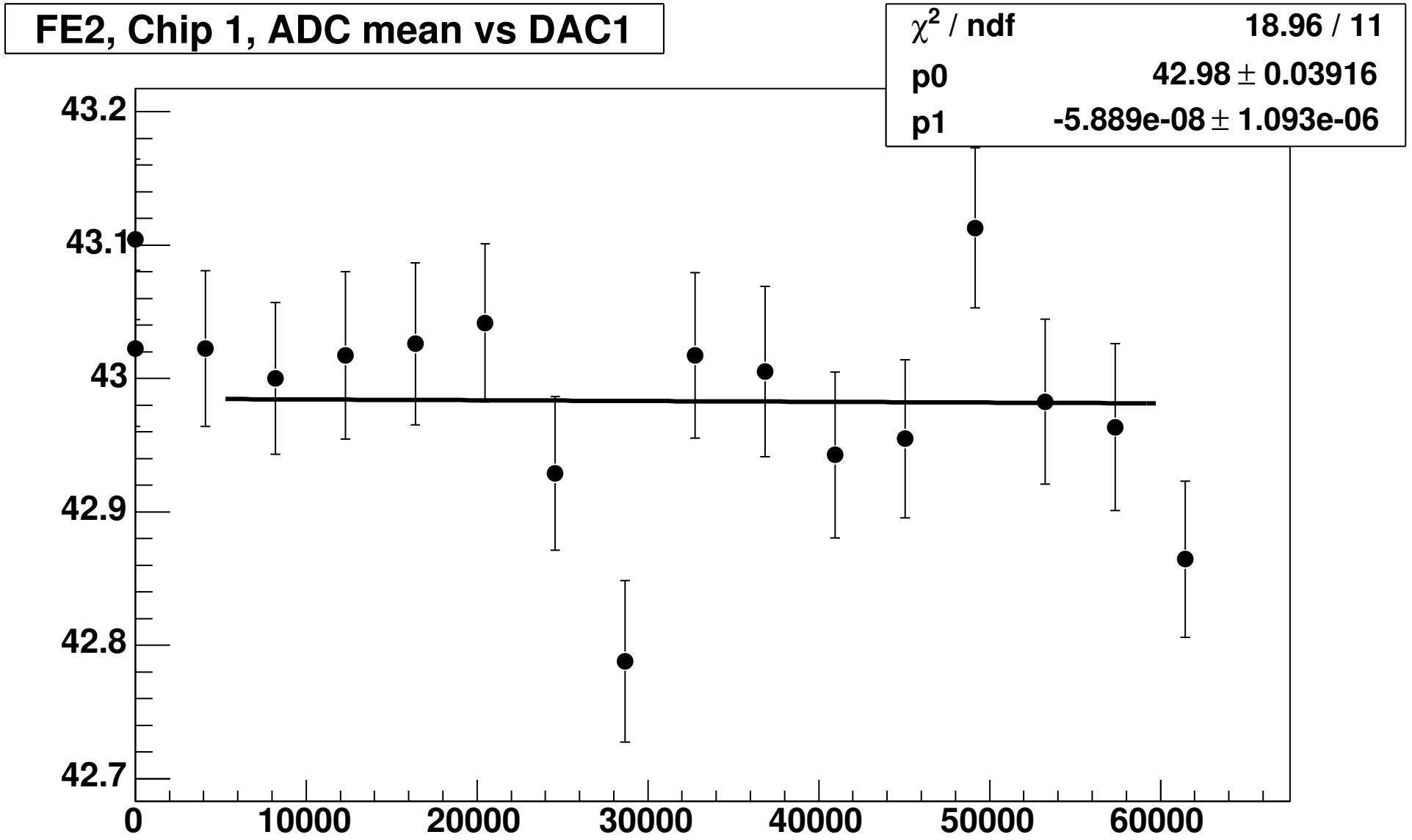

FE2, Chip 0, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

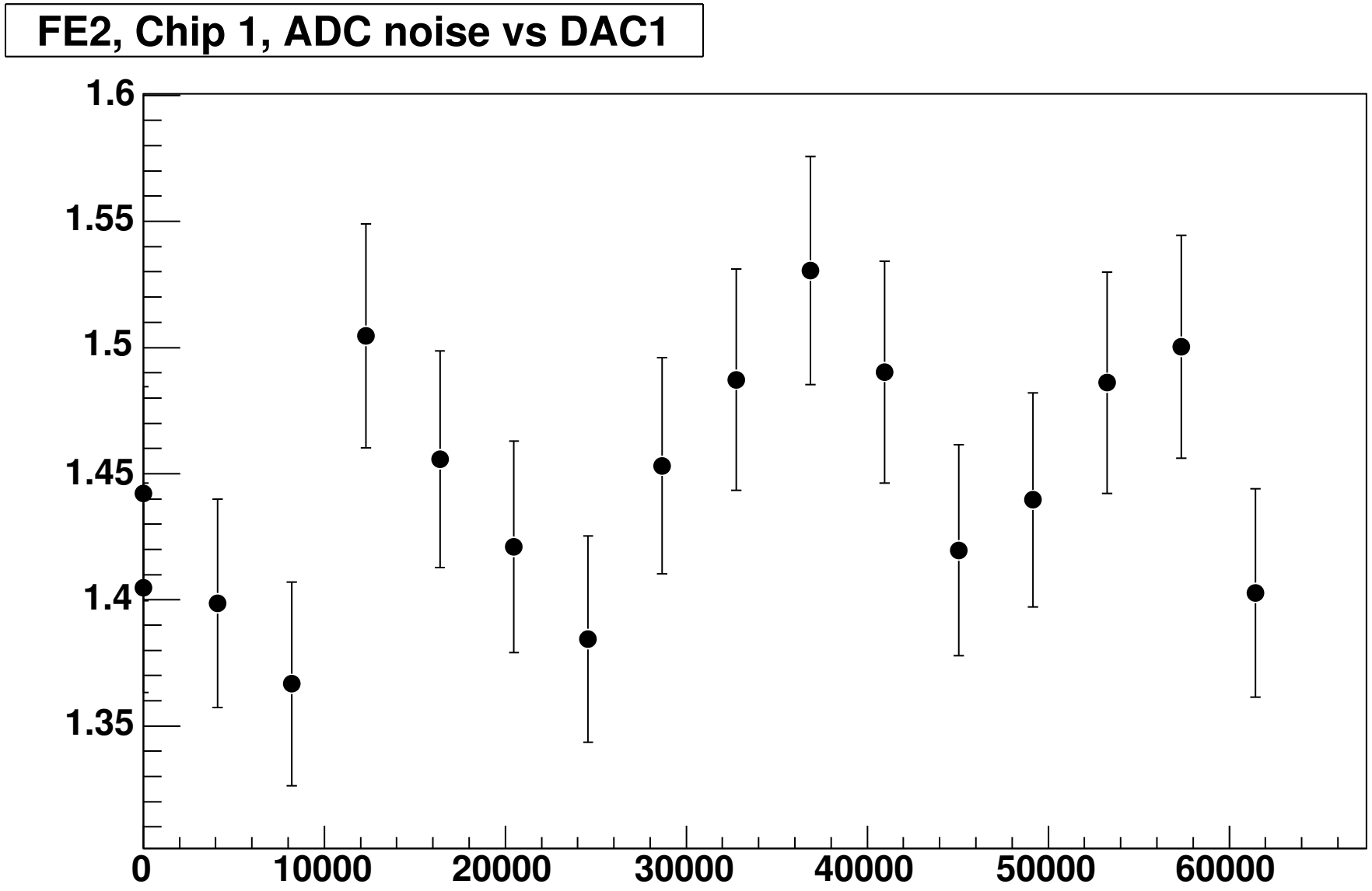

FE2, Chip 0, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

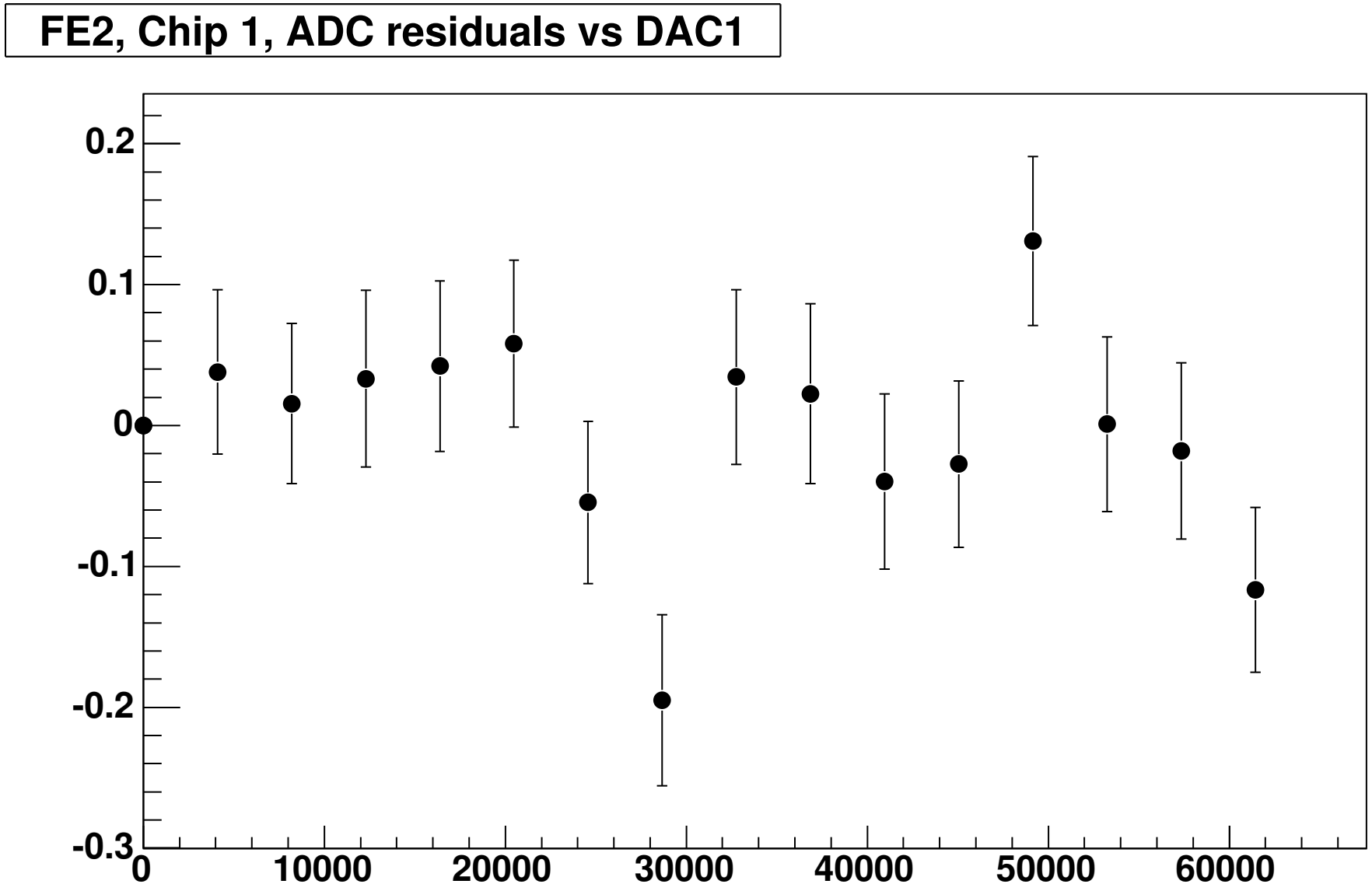

FE2, Chip 1, ADC mean vs DAC0
χ² / ndf 1449 / 11
p0 42.83 ± 0.04269
p1 0.451 ± 1.382e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

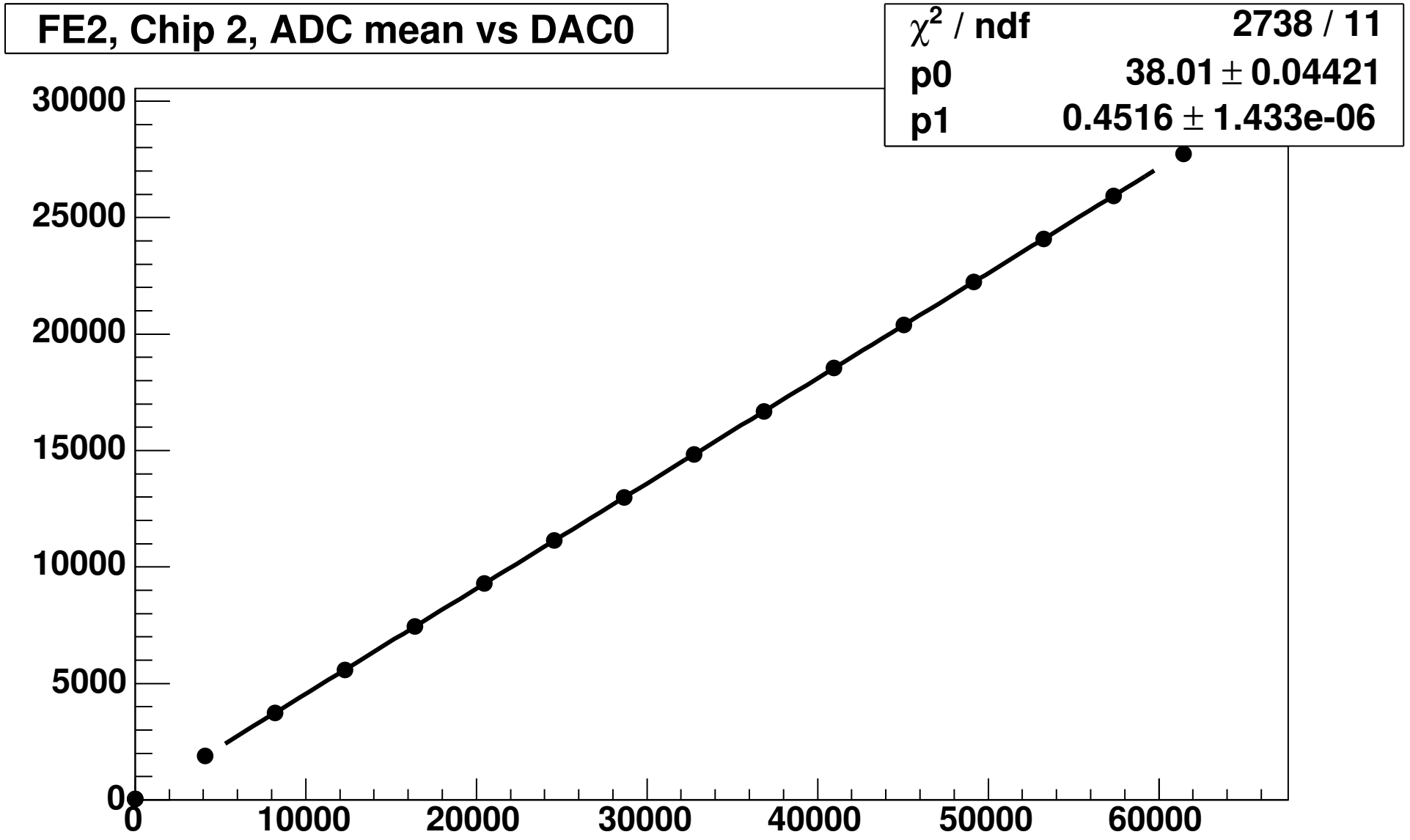

FE2, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

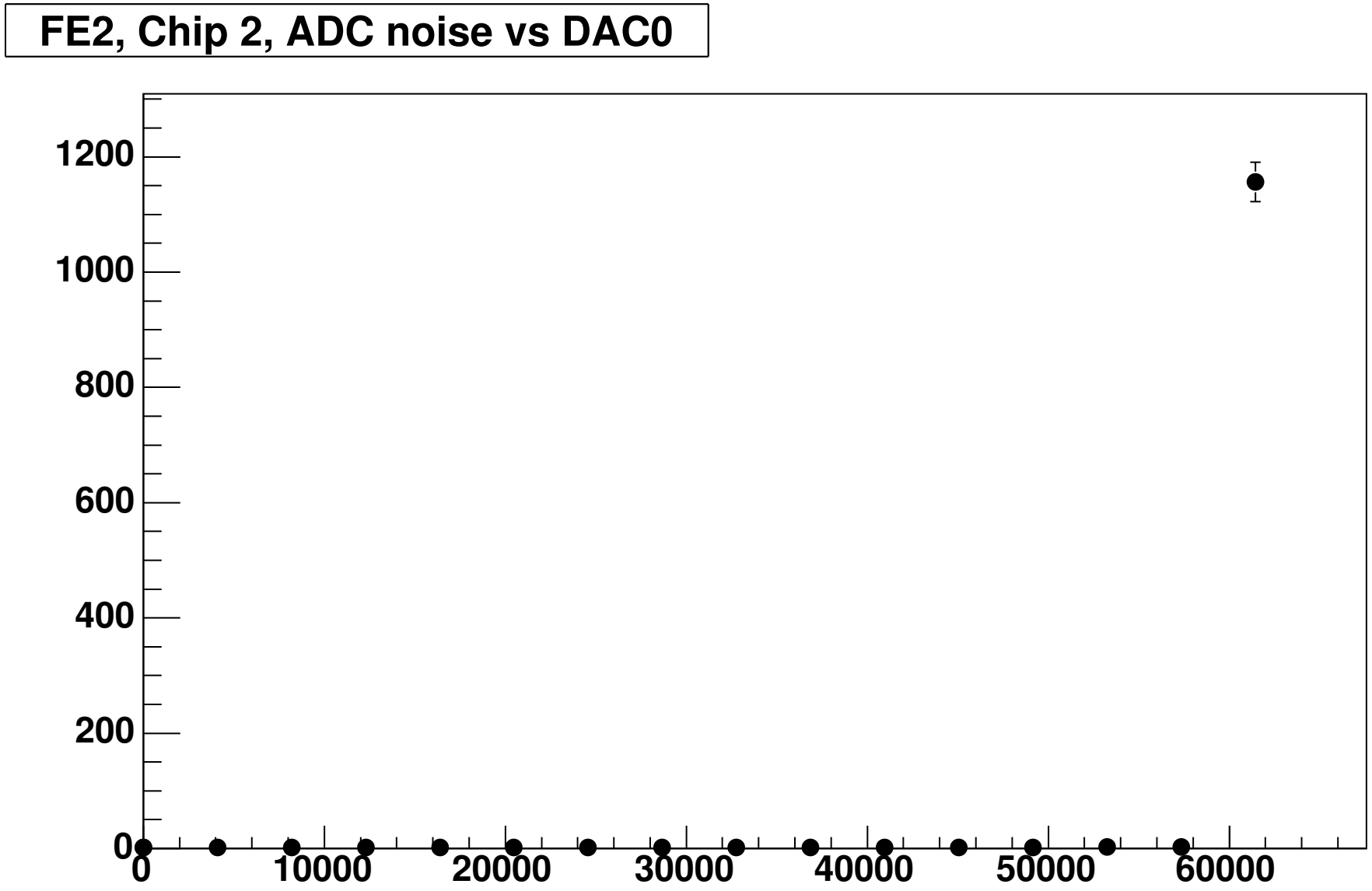

FE2, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

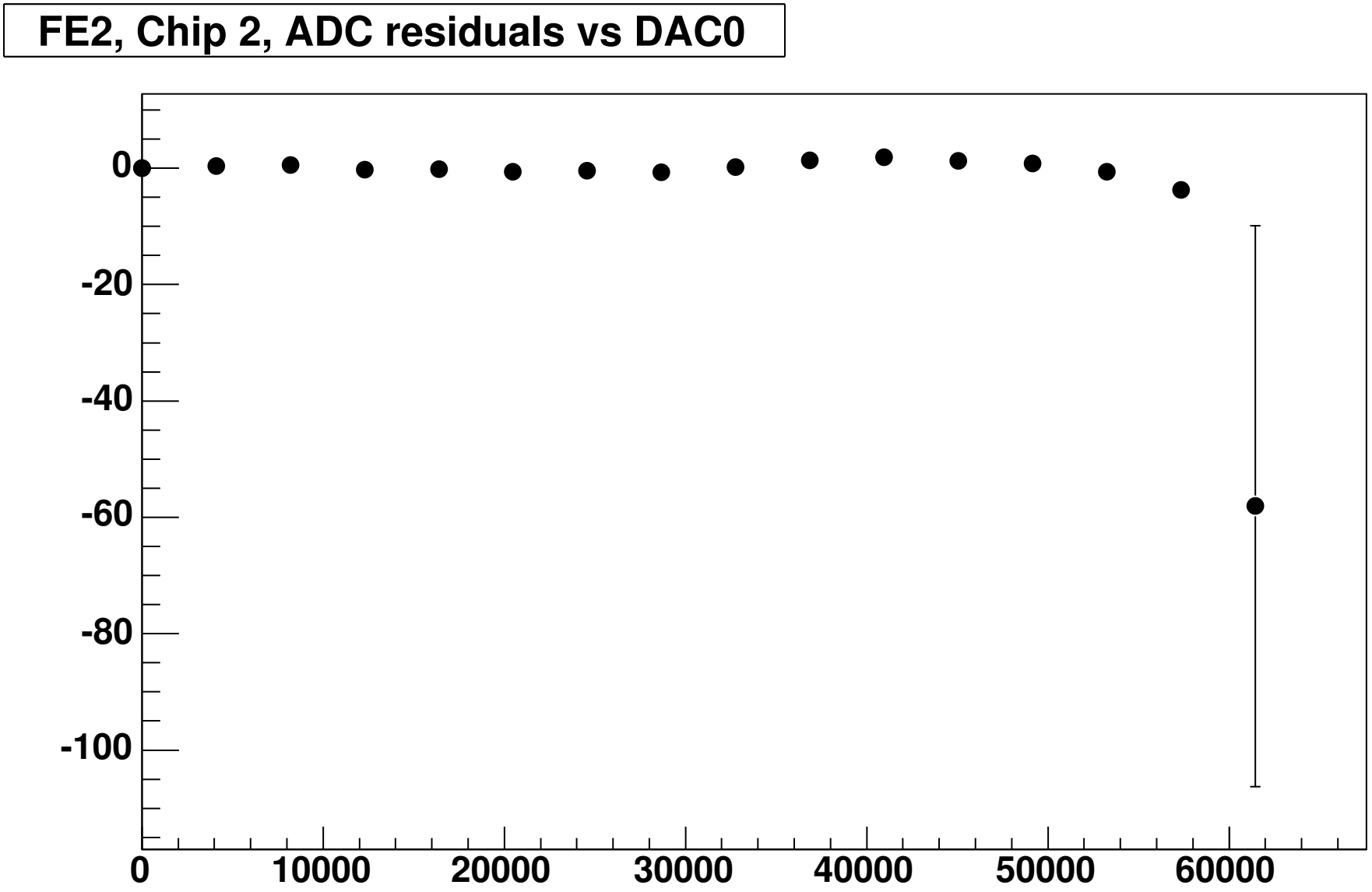

FE2, Chip 1, ADC mean vs DAC1
χ² / ndf 18.96 / 11
p0 42.98 ± 0.03916
p1 -5.889e-08 ± 1.093e-06
43.2
43.1
43
42.9
42.8
42.7
0
10000
20000
30000
40000
50000
60000

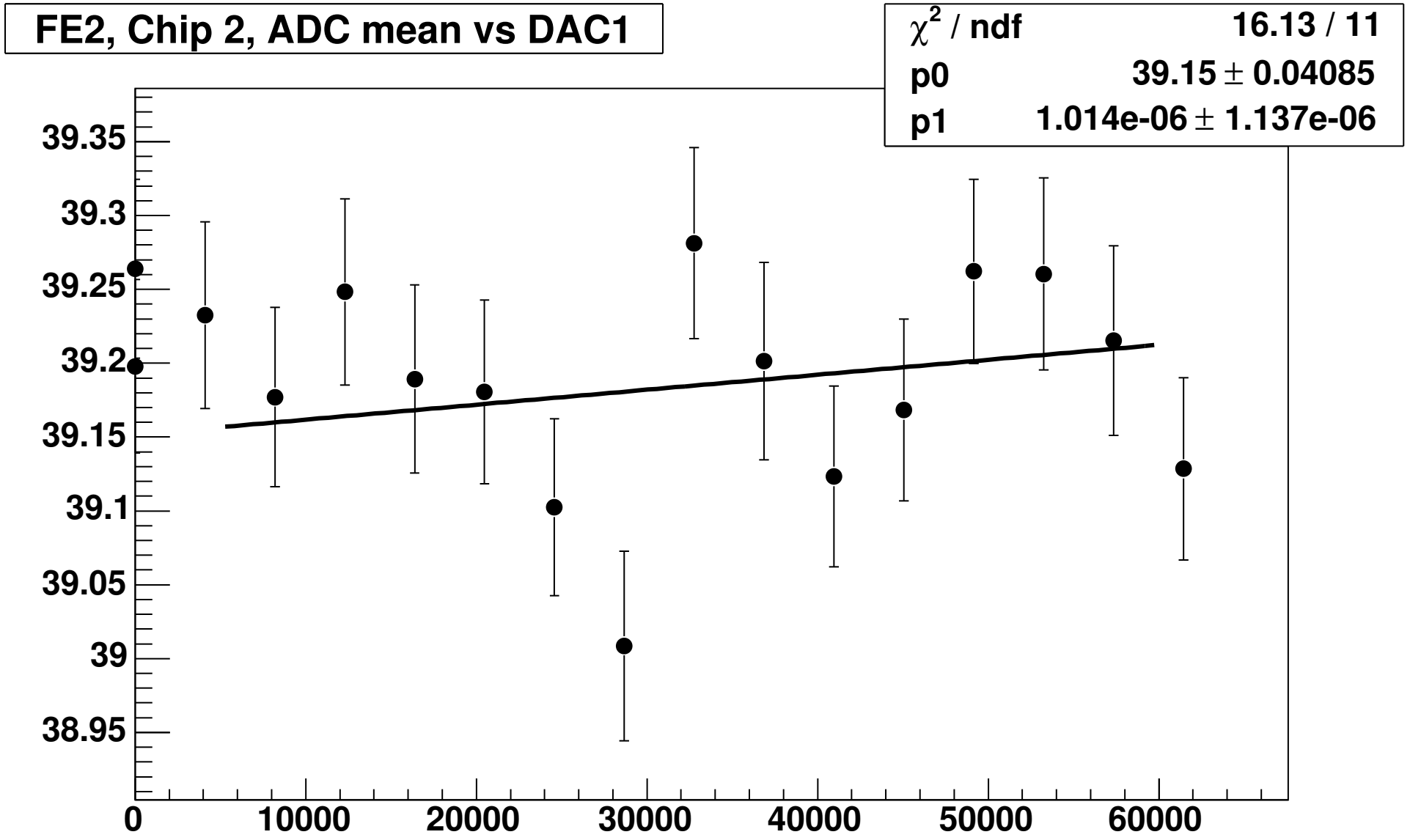

FE2, Chip 1, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

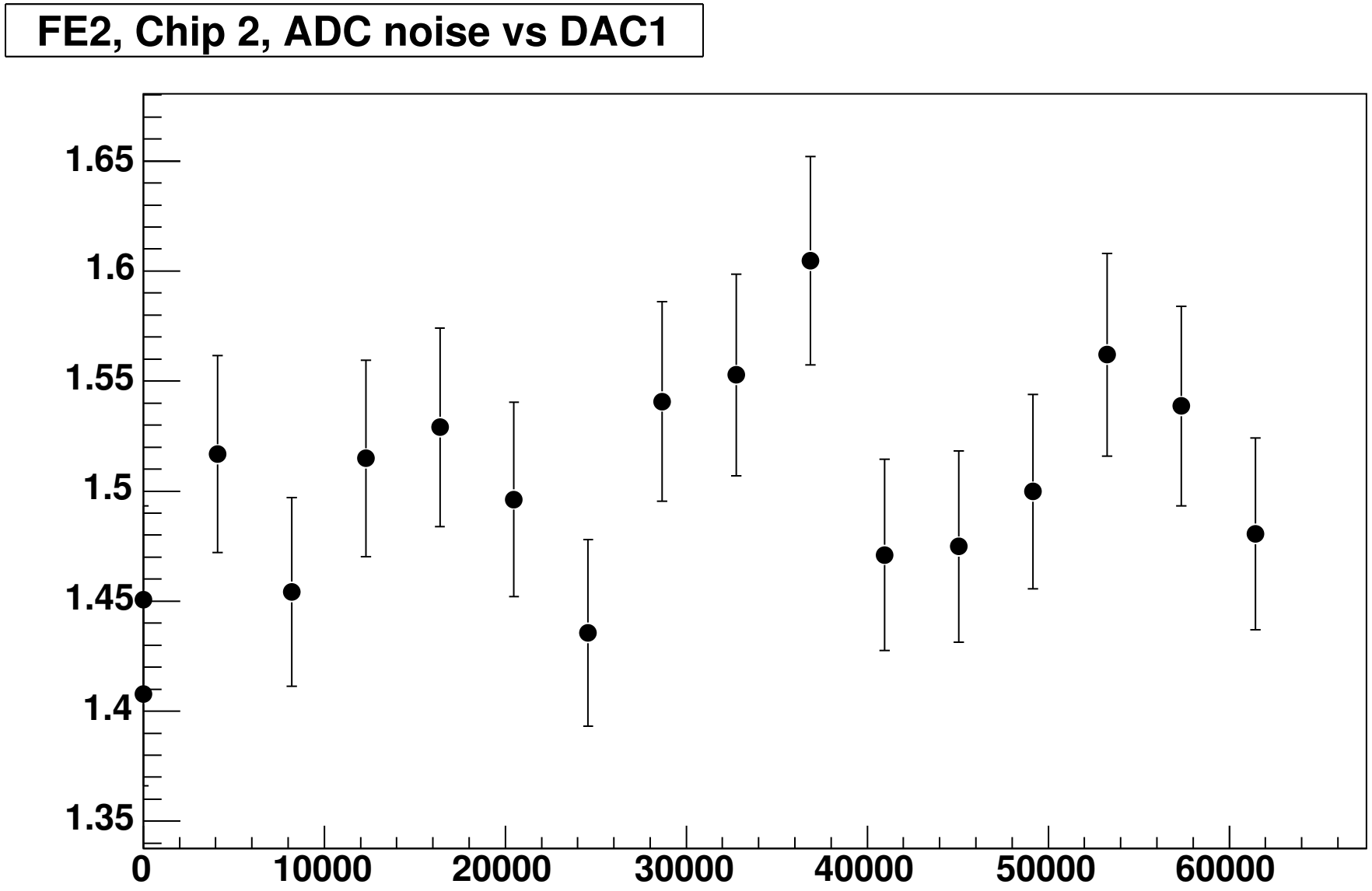

FE2, Chip 1, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

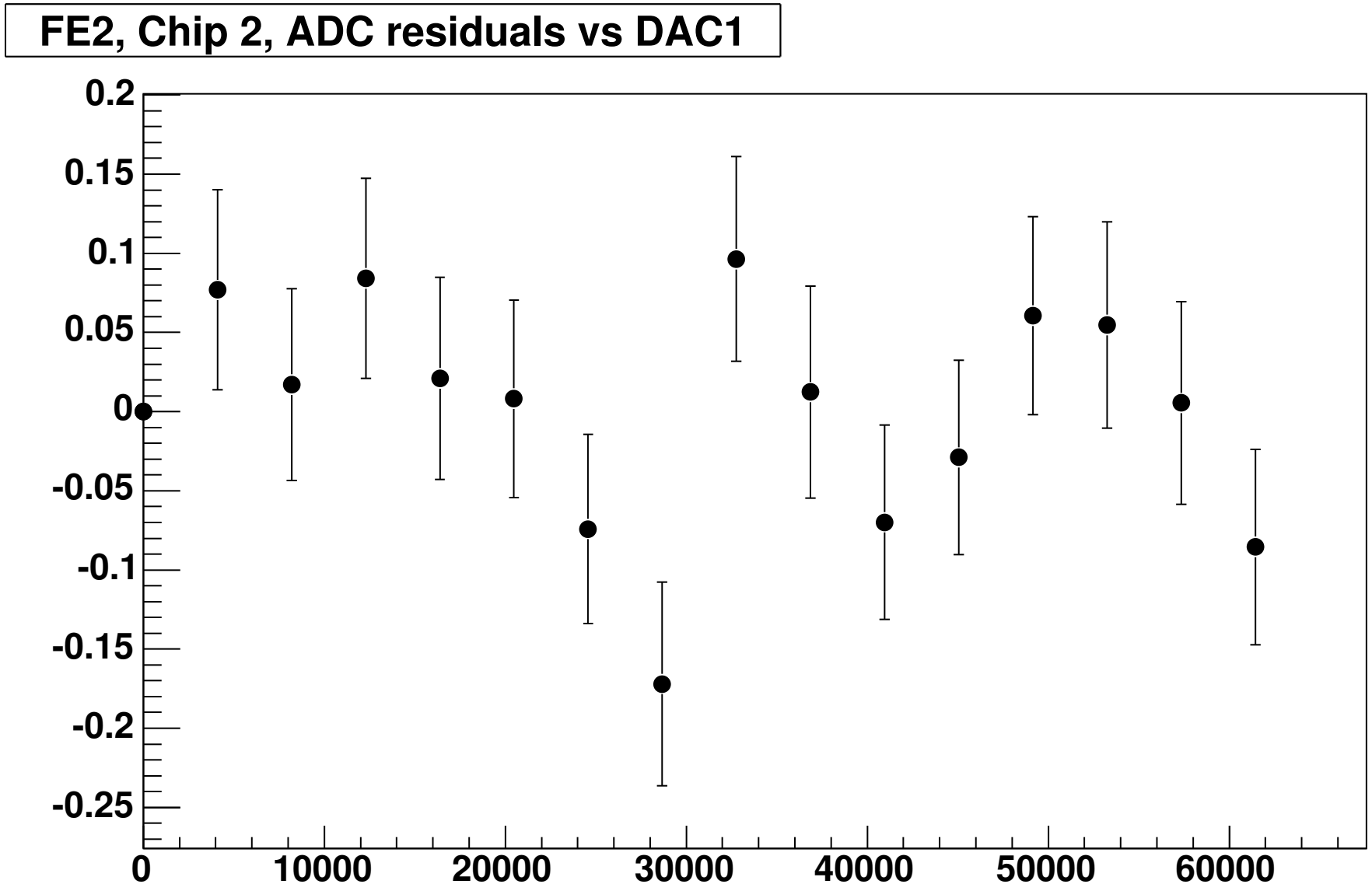

FE2, Chip 2, ADC mean vs DAC0
χ² / ndf 2738 / 11
p0 38.01 ± 0.04421
p1 0.4516 ± 1.433e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

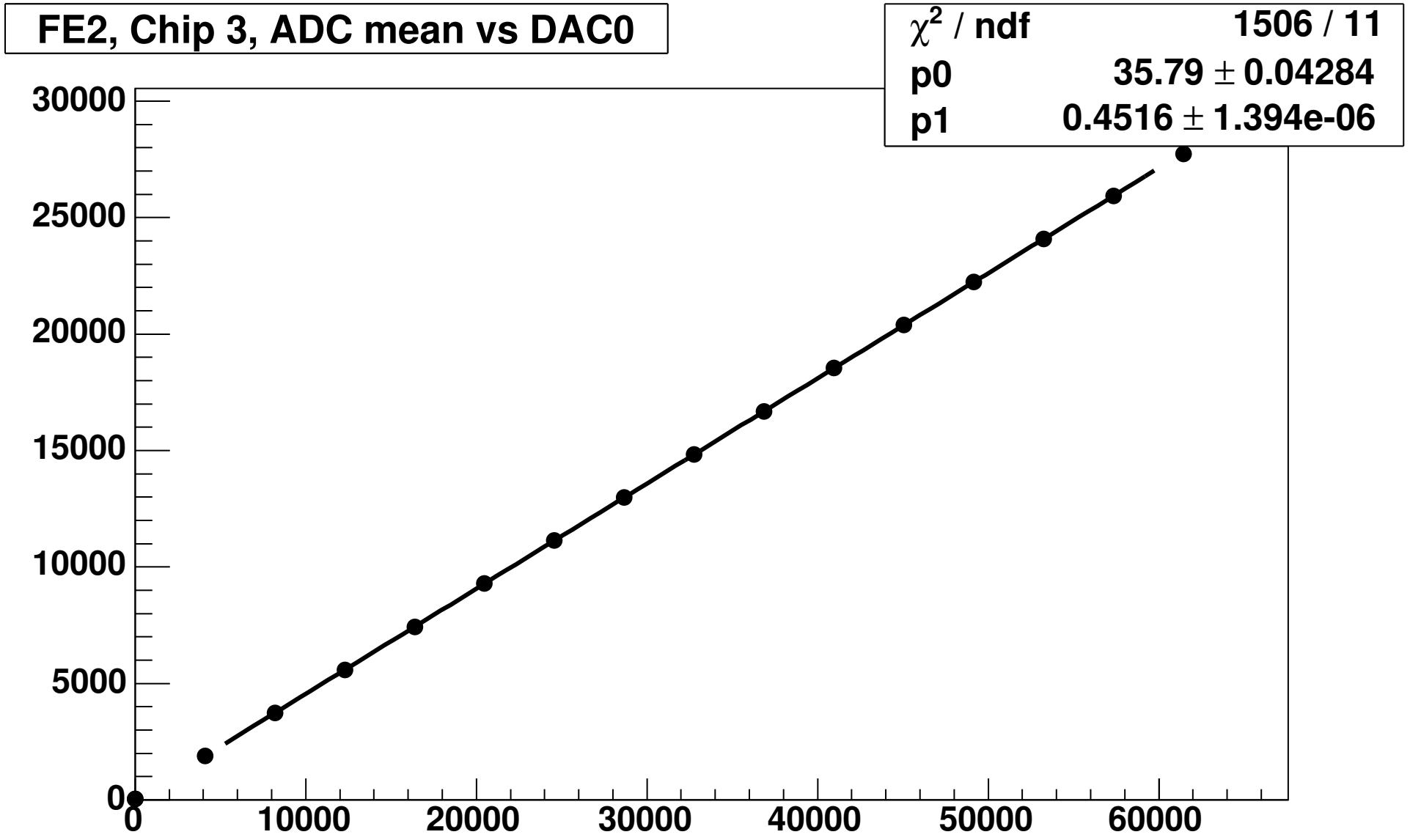

FE2, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

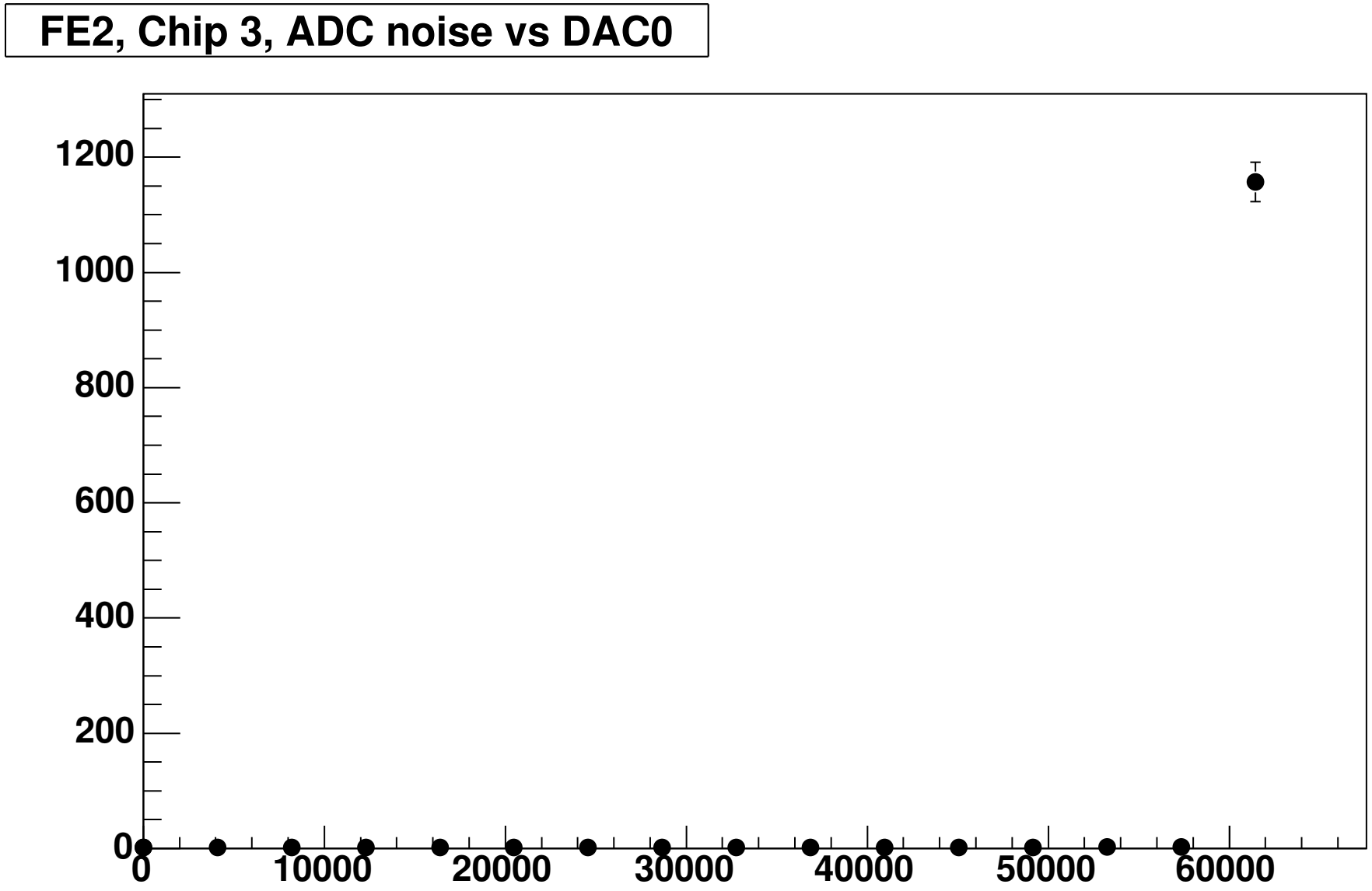

FE2, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

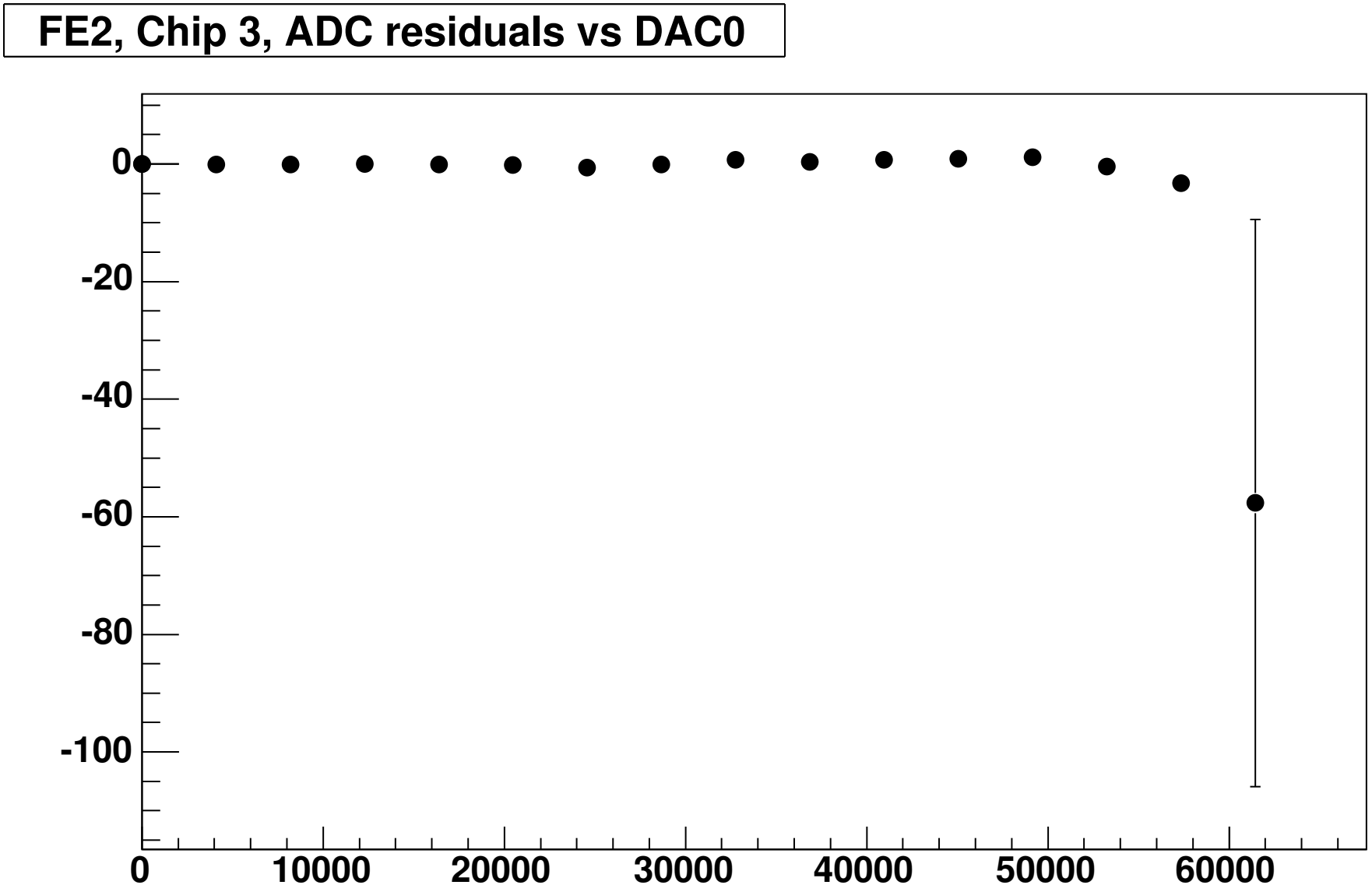

FE2, Chip 2, ADC mean vs DAC1
χ² / ndf 16.13 / 11
p0 39.15 ± 0.04085
p1 1.014e-06 ± 1.137e-06
39.35
39.3
39.25
39.2
39.15
39.1
39.05
39
38.95
0
10000
20000
30000
40000
50000
60000

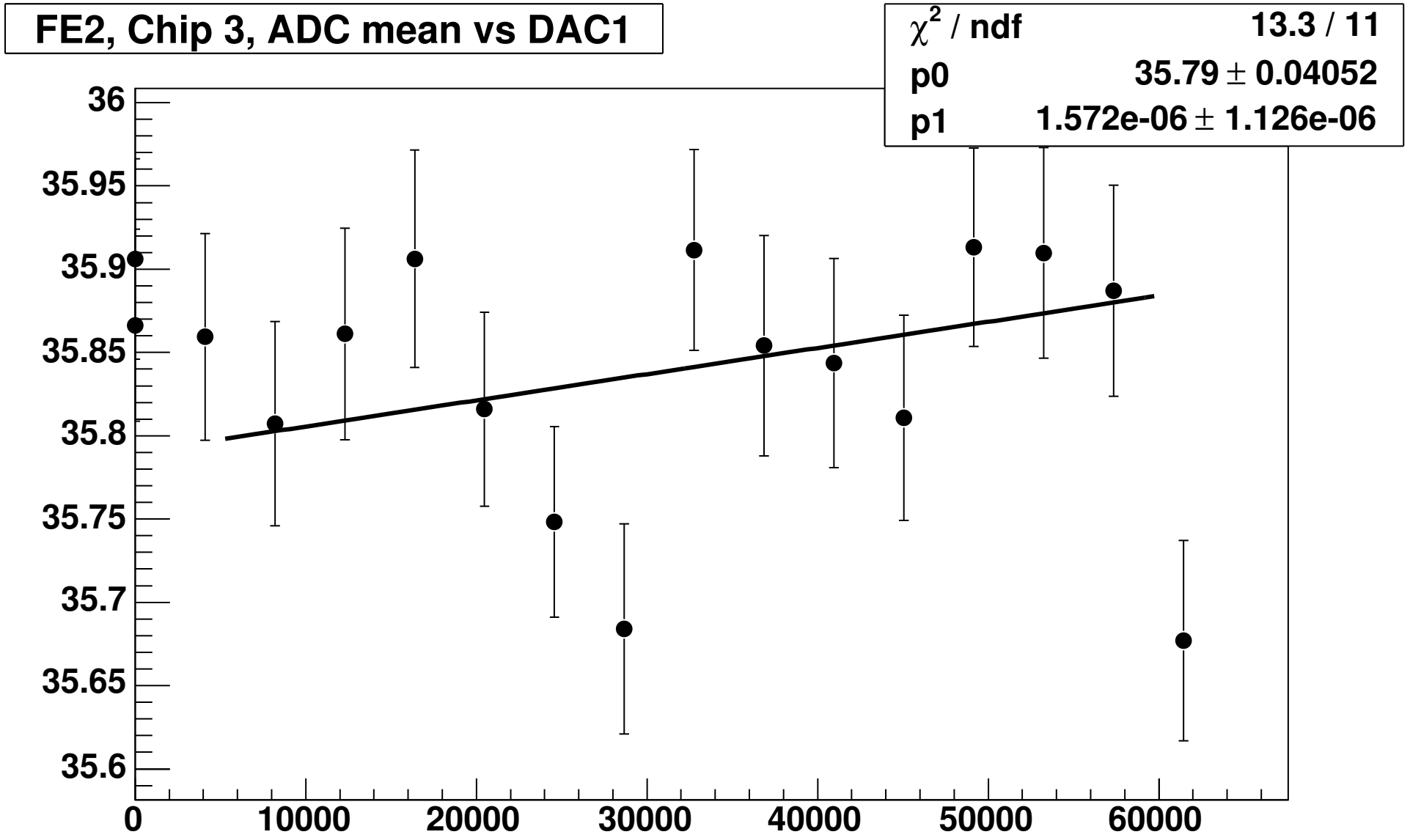

FE2, Chip 2, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

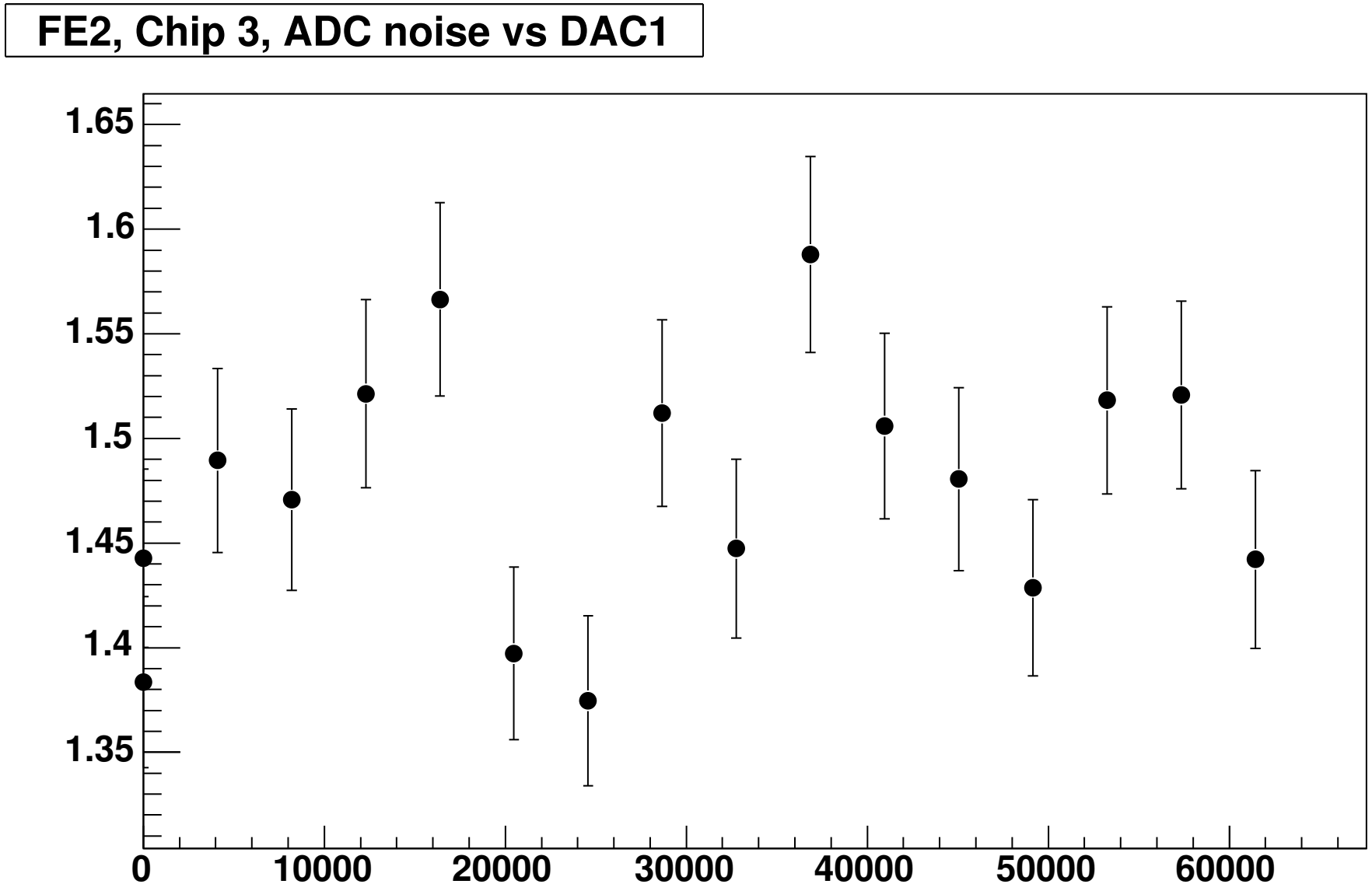

FE2, Chip 2, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

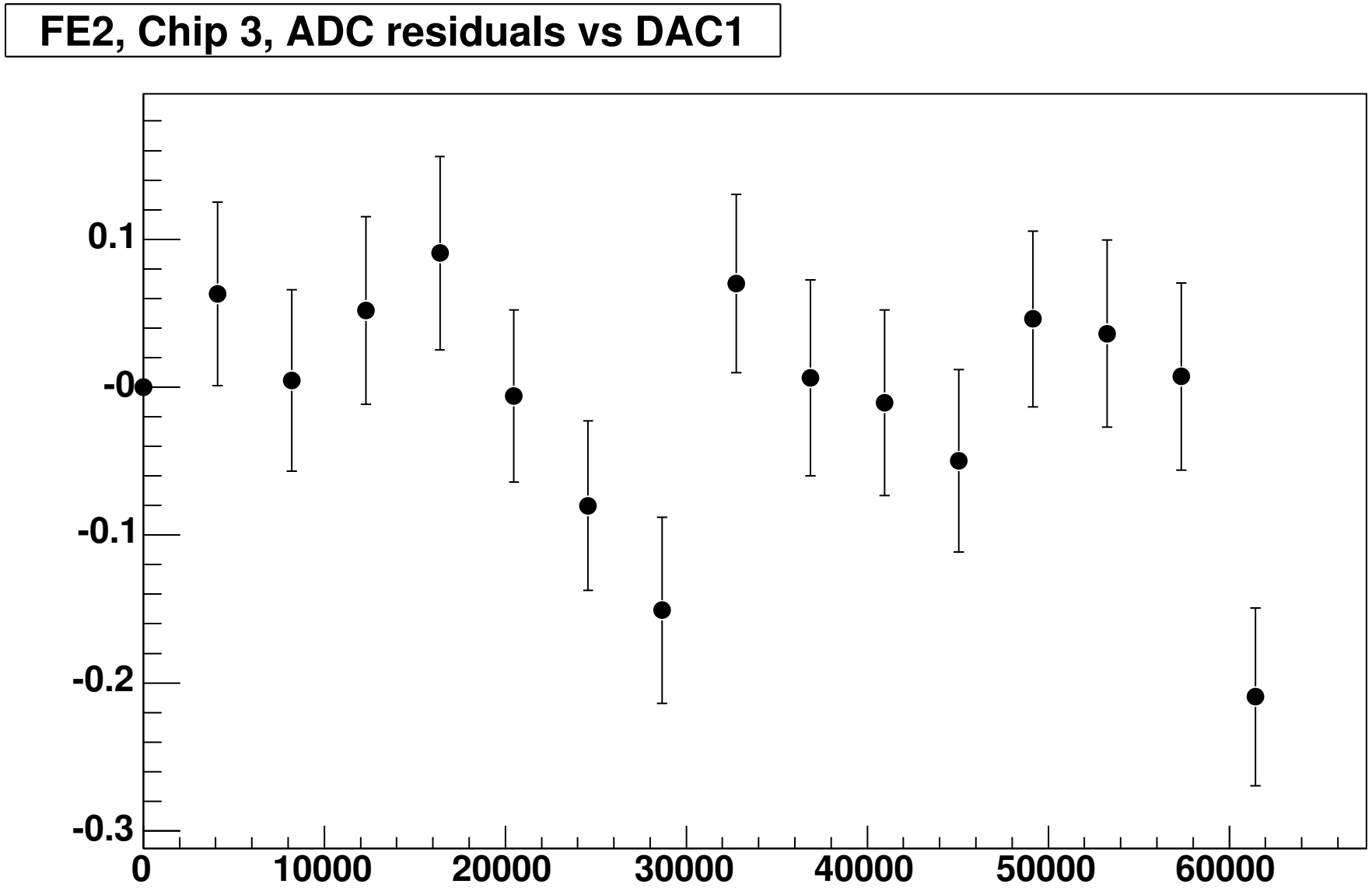

FE2, Chip 3, ADC mean vs DAC0
χ² / ndf 1506 / 11
p0 35.79 ± 0.04284
p1 0.4516 ± 1.394e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

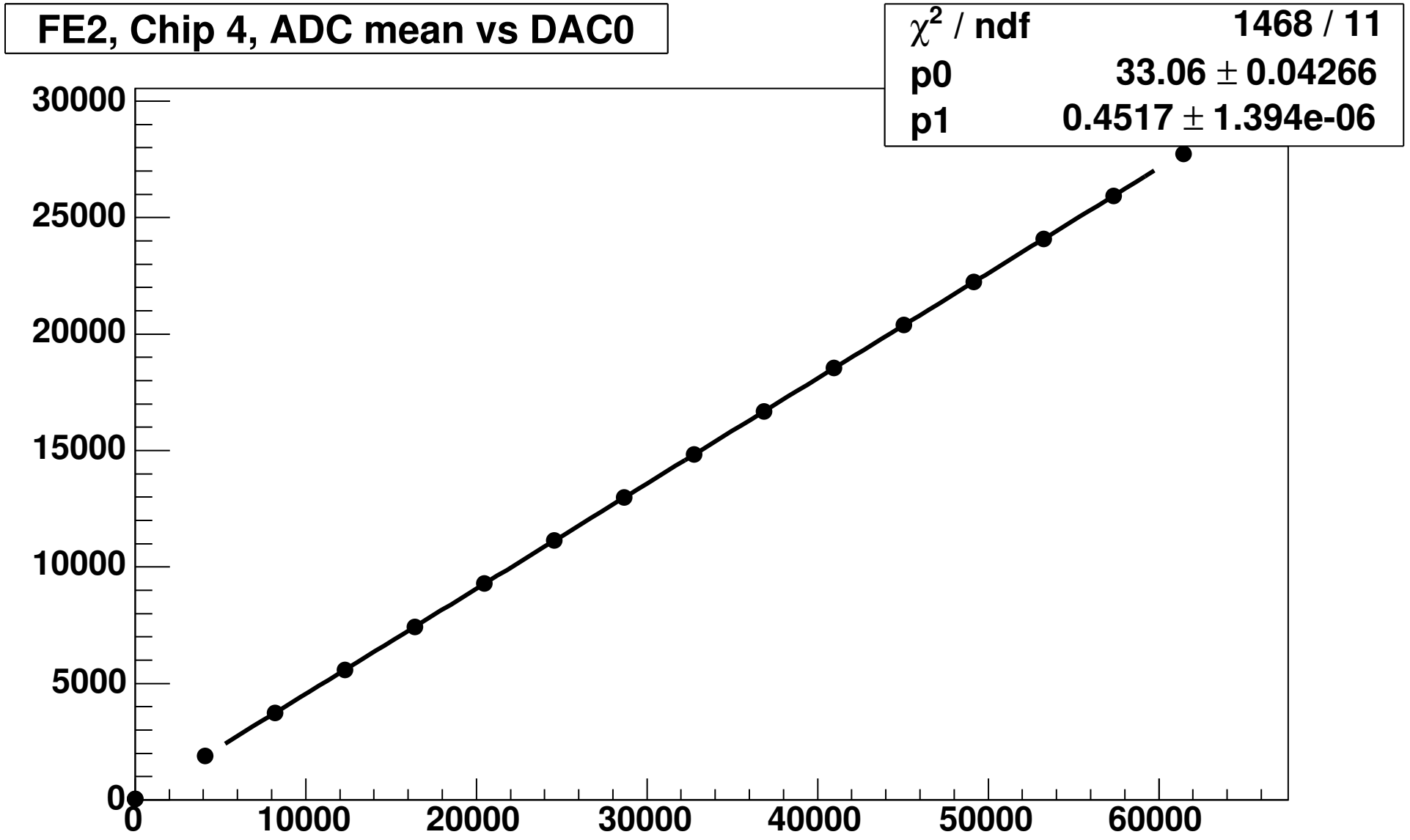

FE2, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

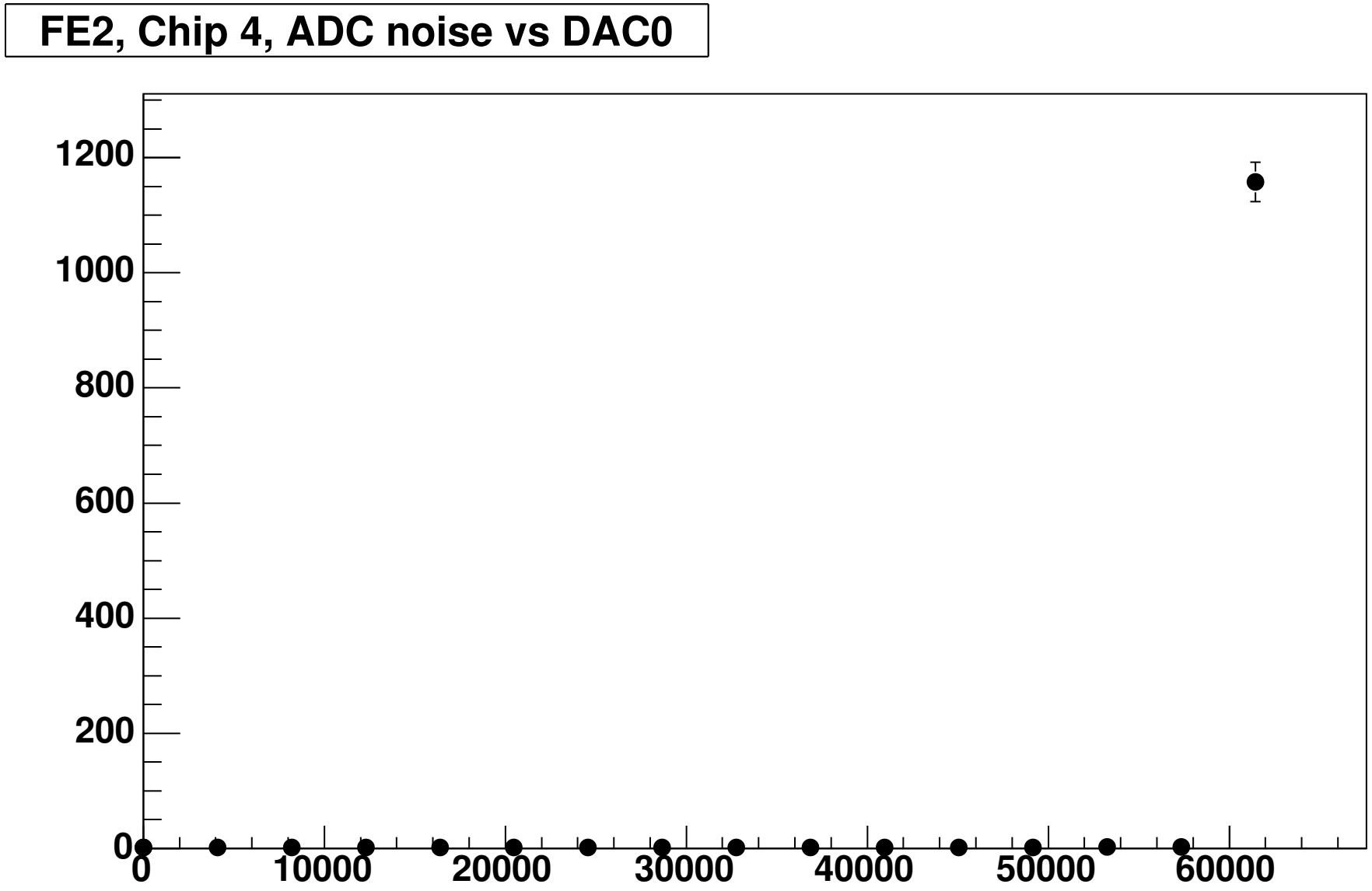

FE2, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

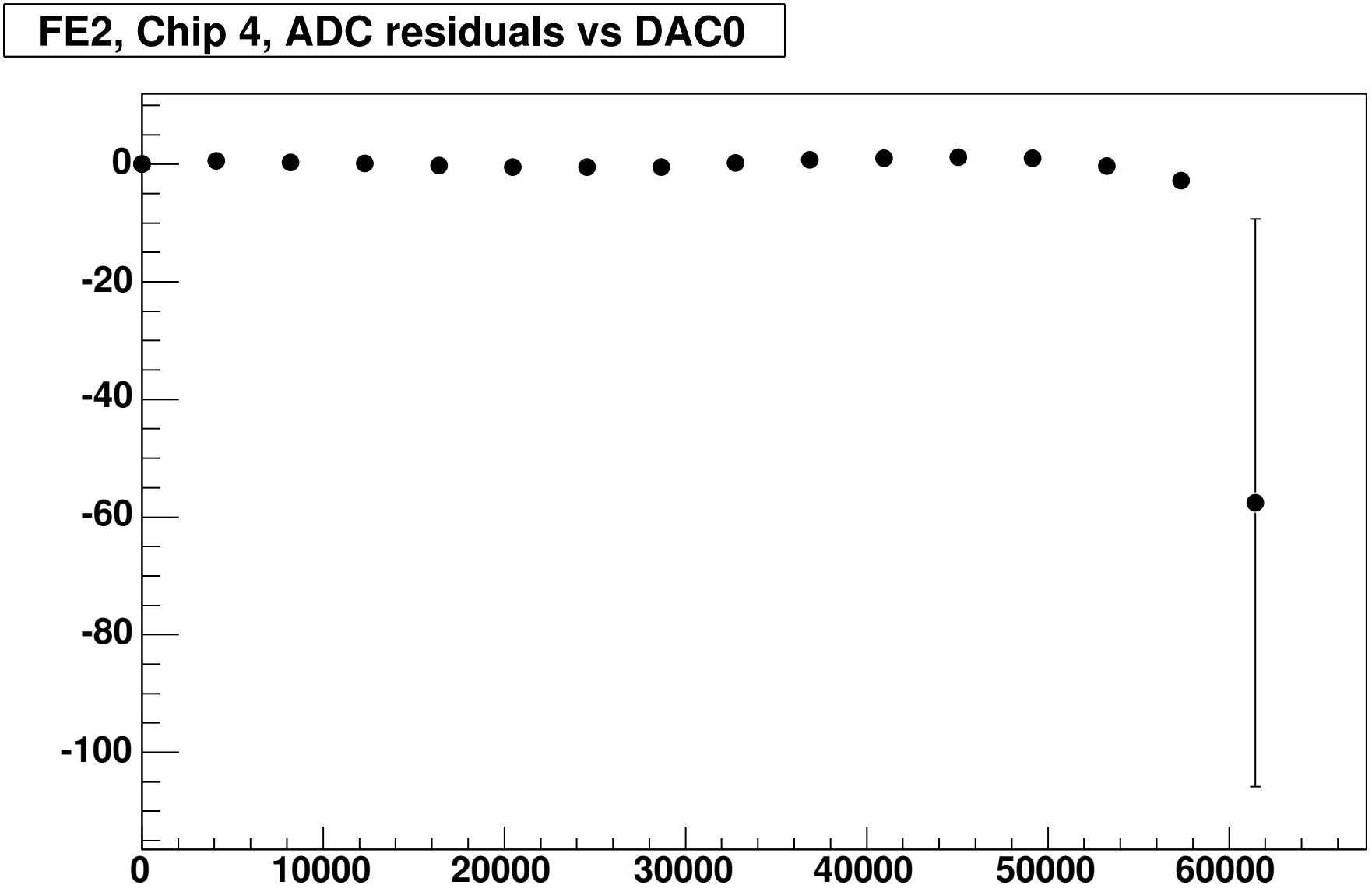

FE2, Chip 3, ADC mean vs DAC1
χ² / ndf 13.3 / 11
p0 35.79 ± 0.04052
p1 1.572e-06 ± 1.126e-06
36
35.95
35.9
35.85
35.8
35.75
35.7
35.65
35.6
0
10000
20000
30000
40000
50000
60000

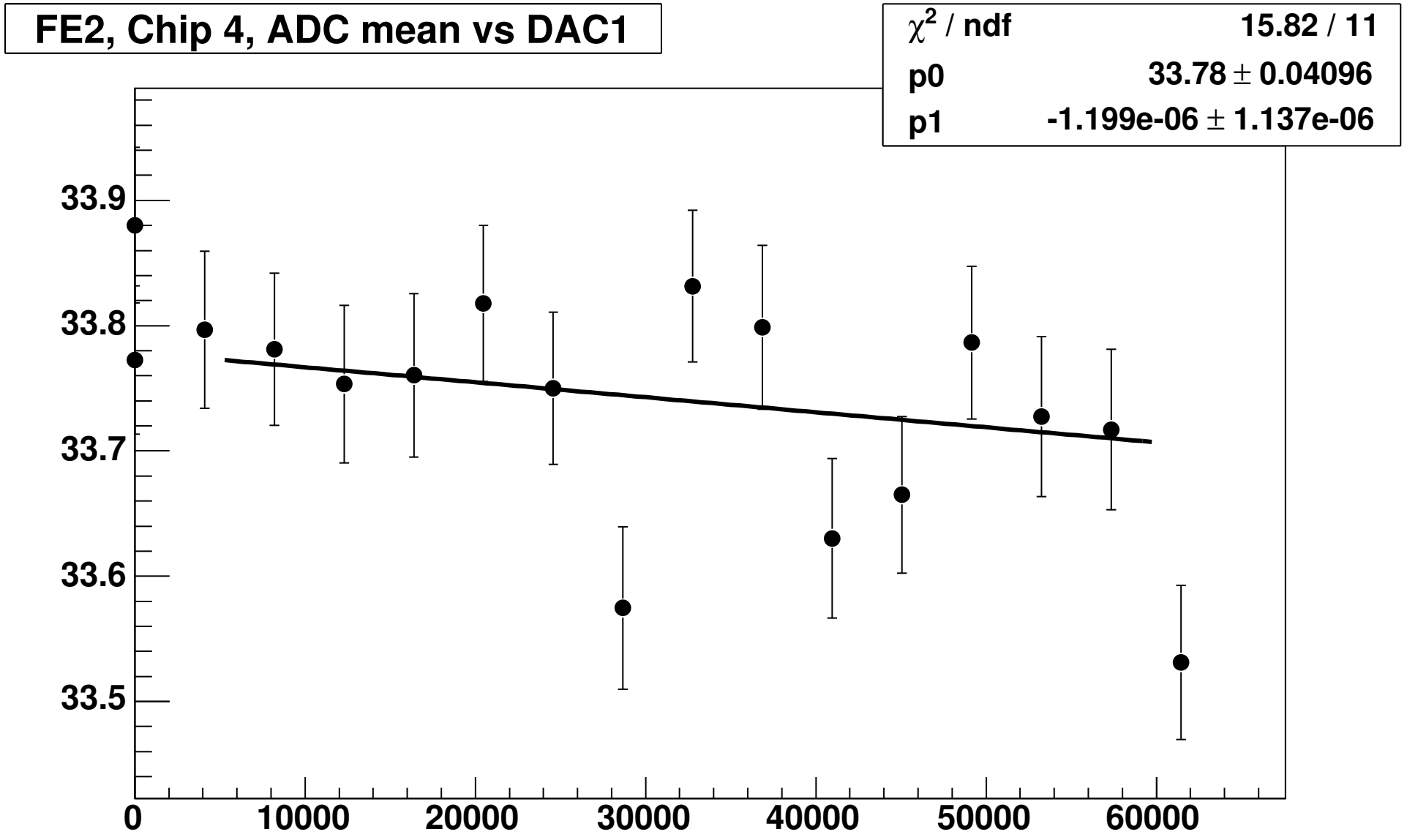

FE2, Chip 3, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

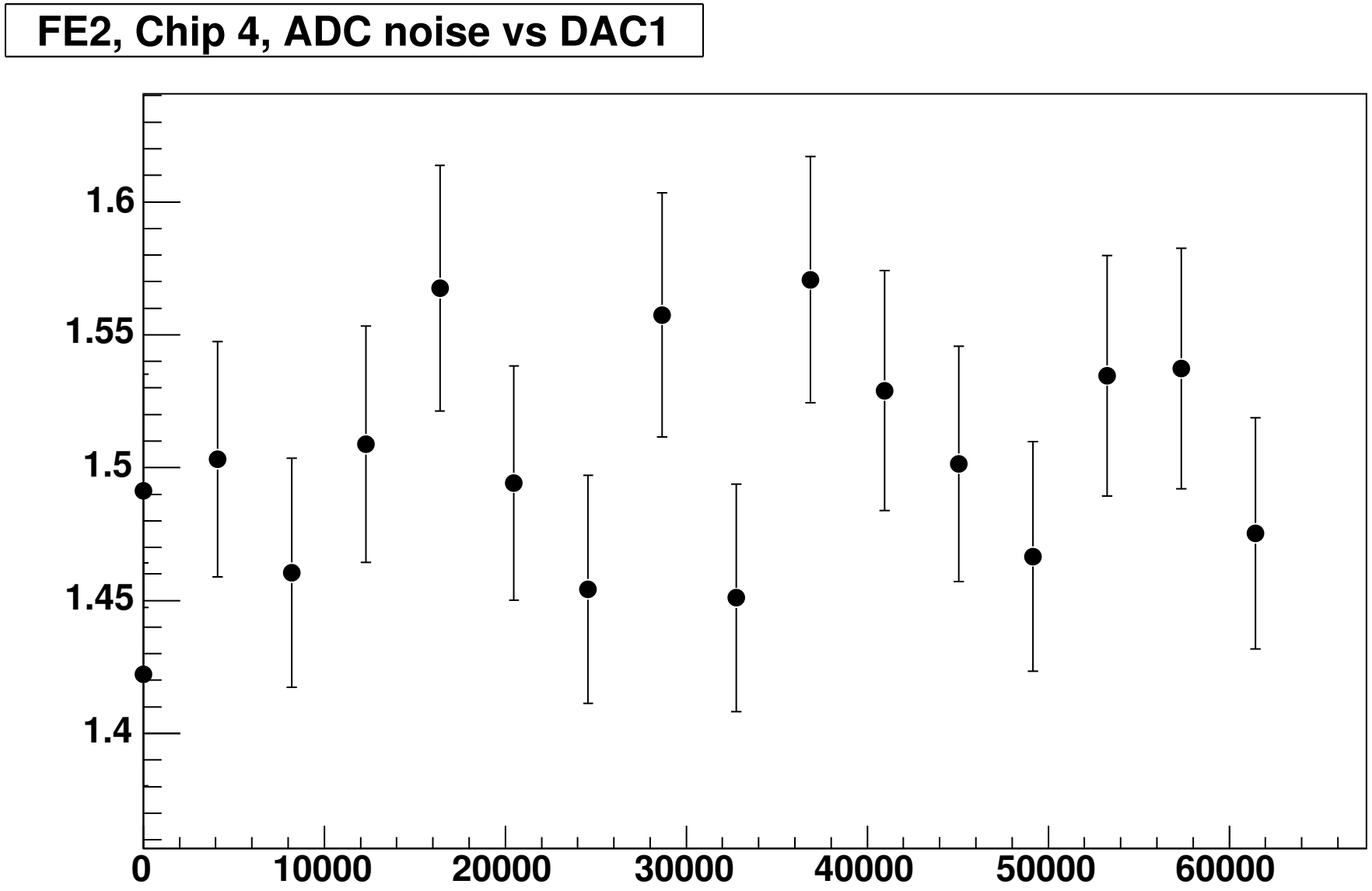

FE2, Chip 3, ADC residuals vs DAC1
0.1
-0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

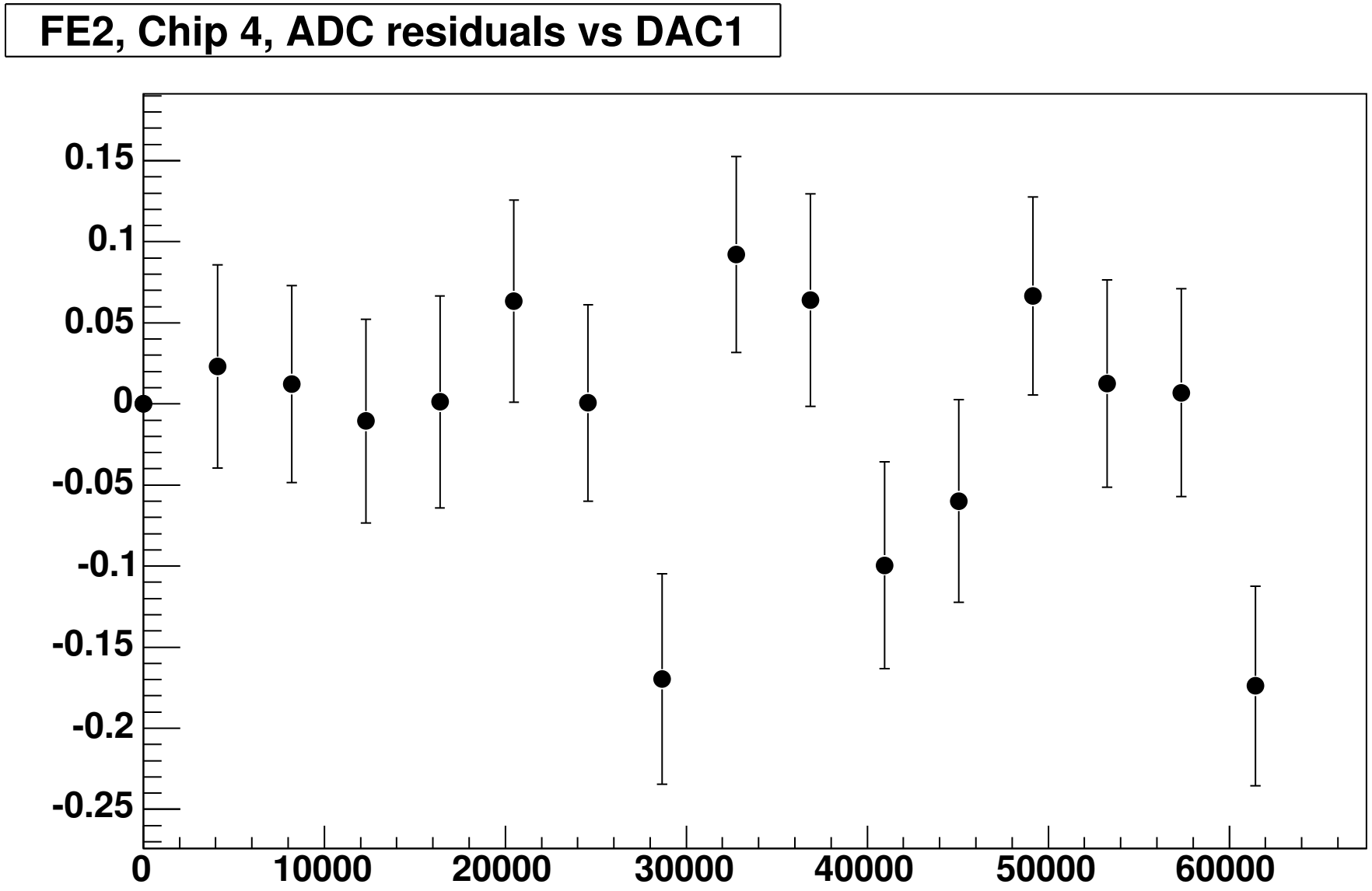

FE2, Chip 4, ADC mean vs DAC0
χ² / ndf 1468 / 11
p0 33.06 ± 0.04266
p1 0.4517 ± 1.394e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

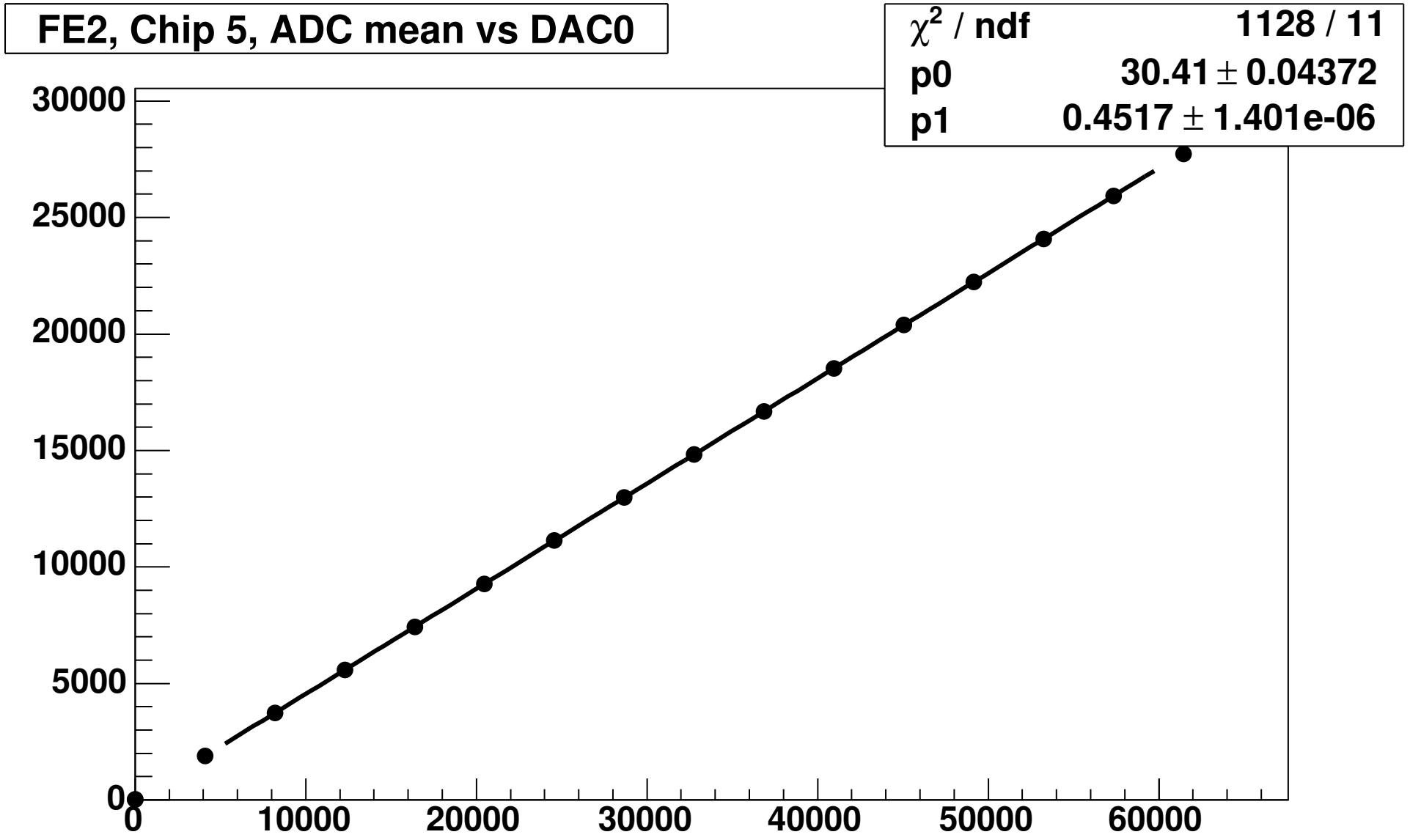

FE2, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

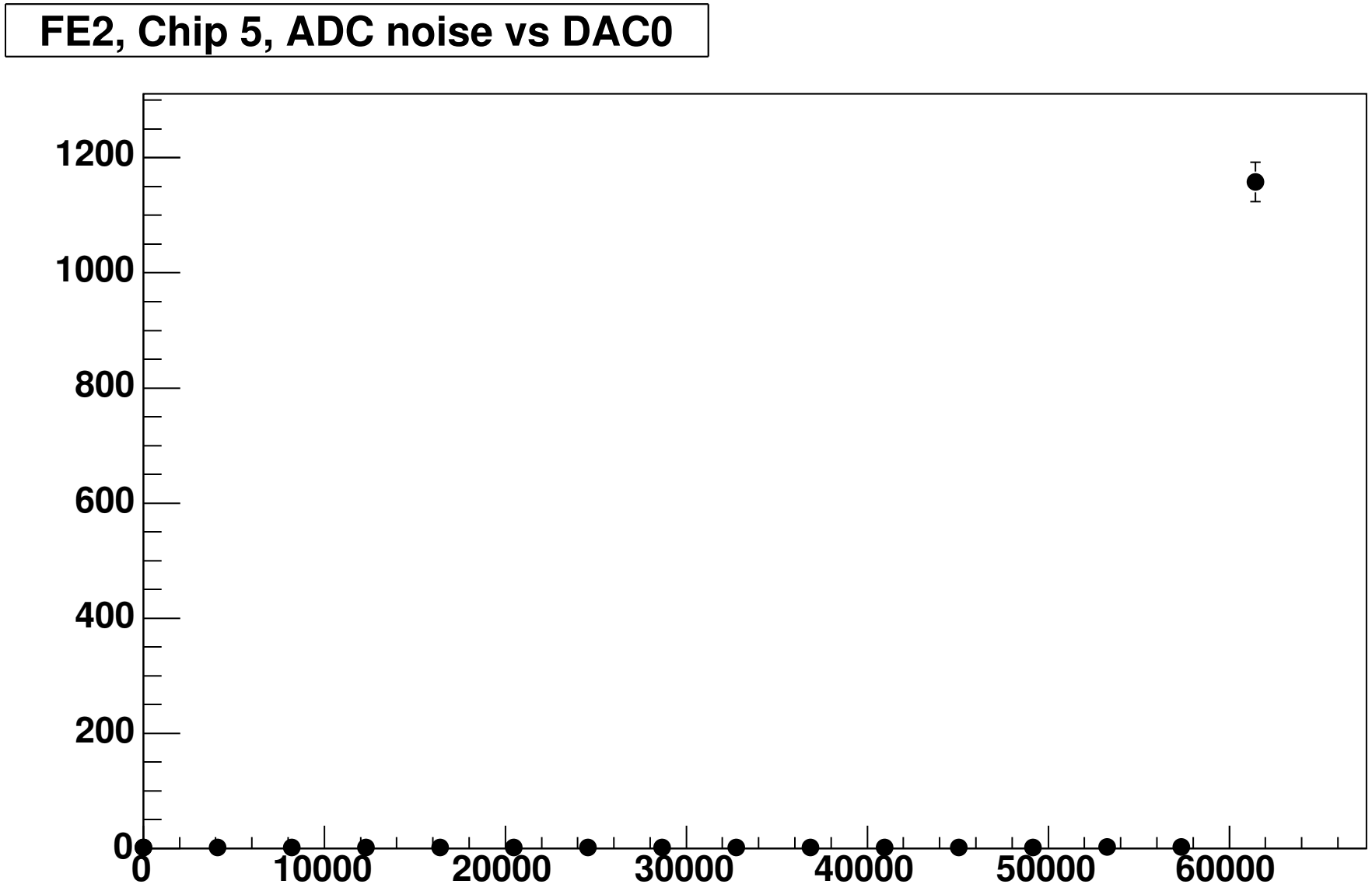

FE2, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

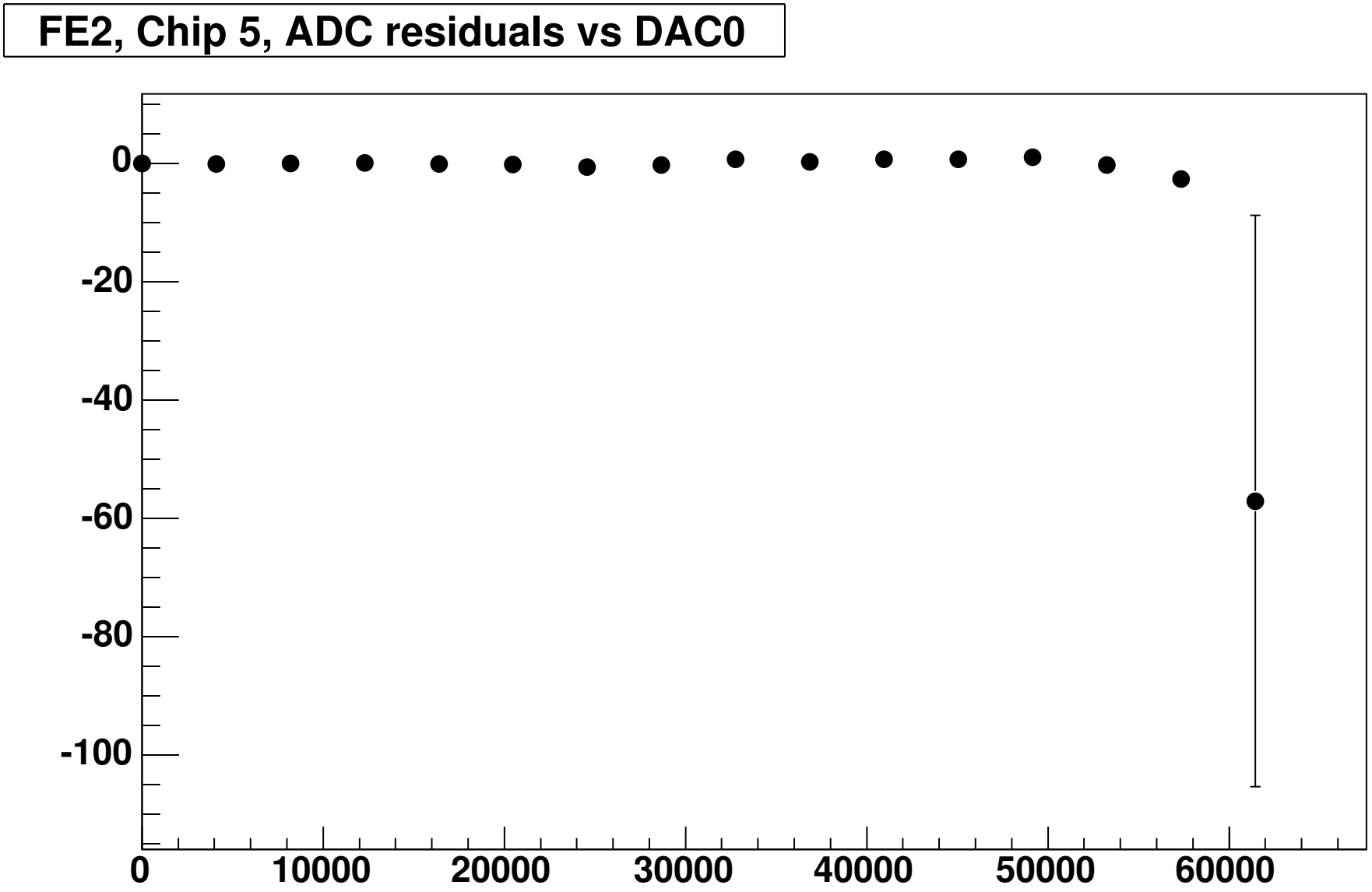

FE2, Chip 4, ADC mean vs DAC1
χ² / ndf 15.82 / 11
p0 33.78 ± 0.04096
p1 -1.199e-06 ± 1.137e-06
33.9
33.8
33.7
33.6
33.5
0
10000
20000
30000
40000
50000
60000

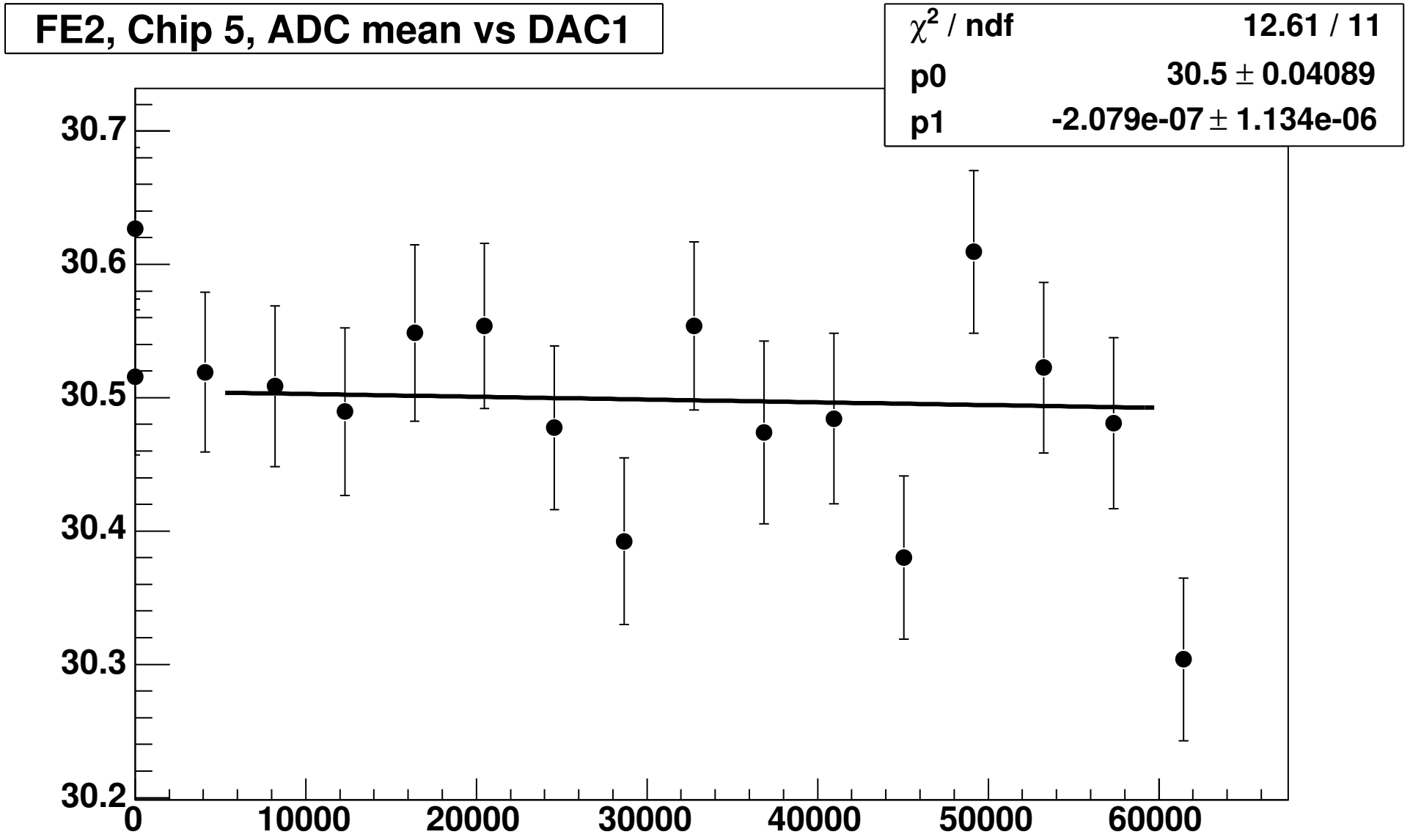

FE2, Chip 4, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

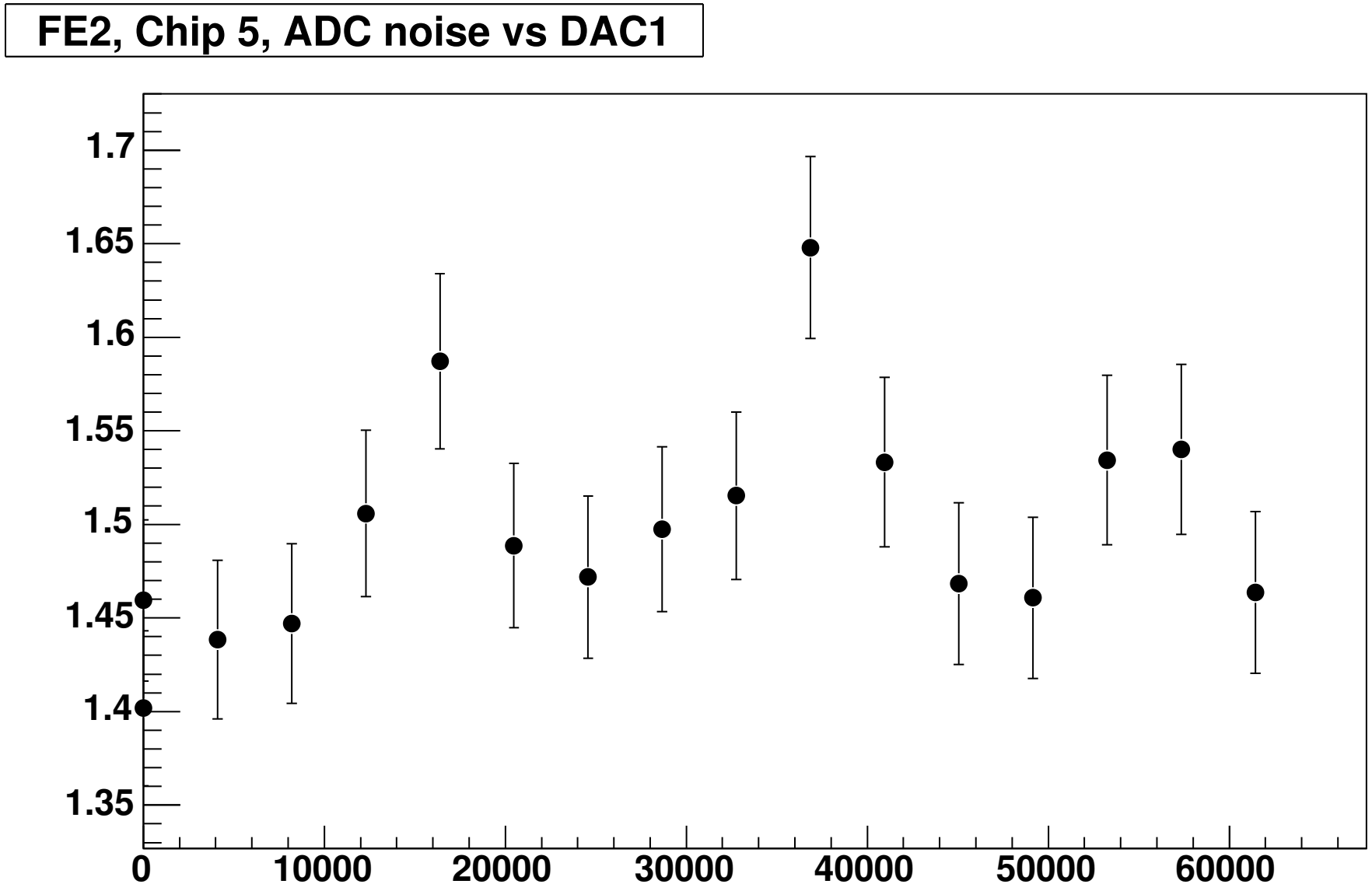

FE2, Chip 4, ADC residuals vs DAC1
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

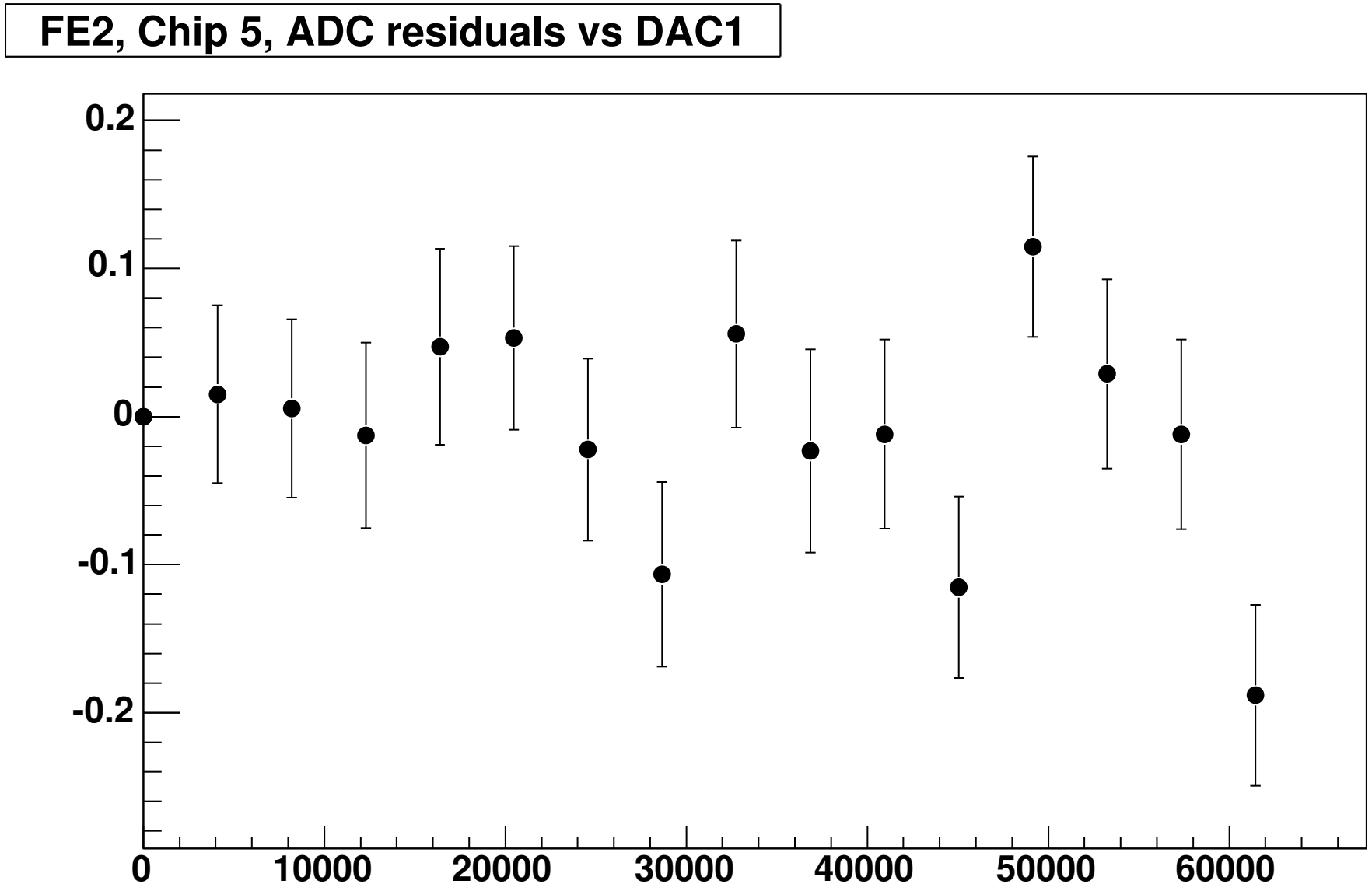

FE2, Chip 5, ADC mean vs DAC0
χ² / ndf 1128 / 11
p0 30.41 ± 0.04372
p1 0.4517 ± 1.401e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

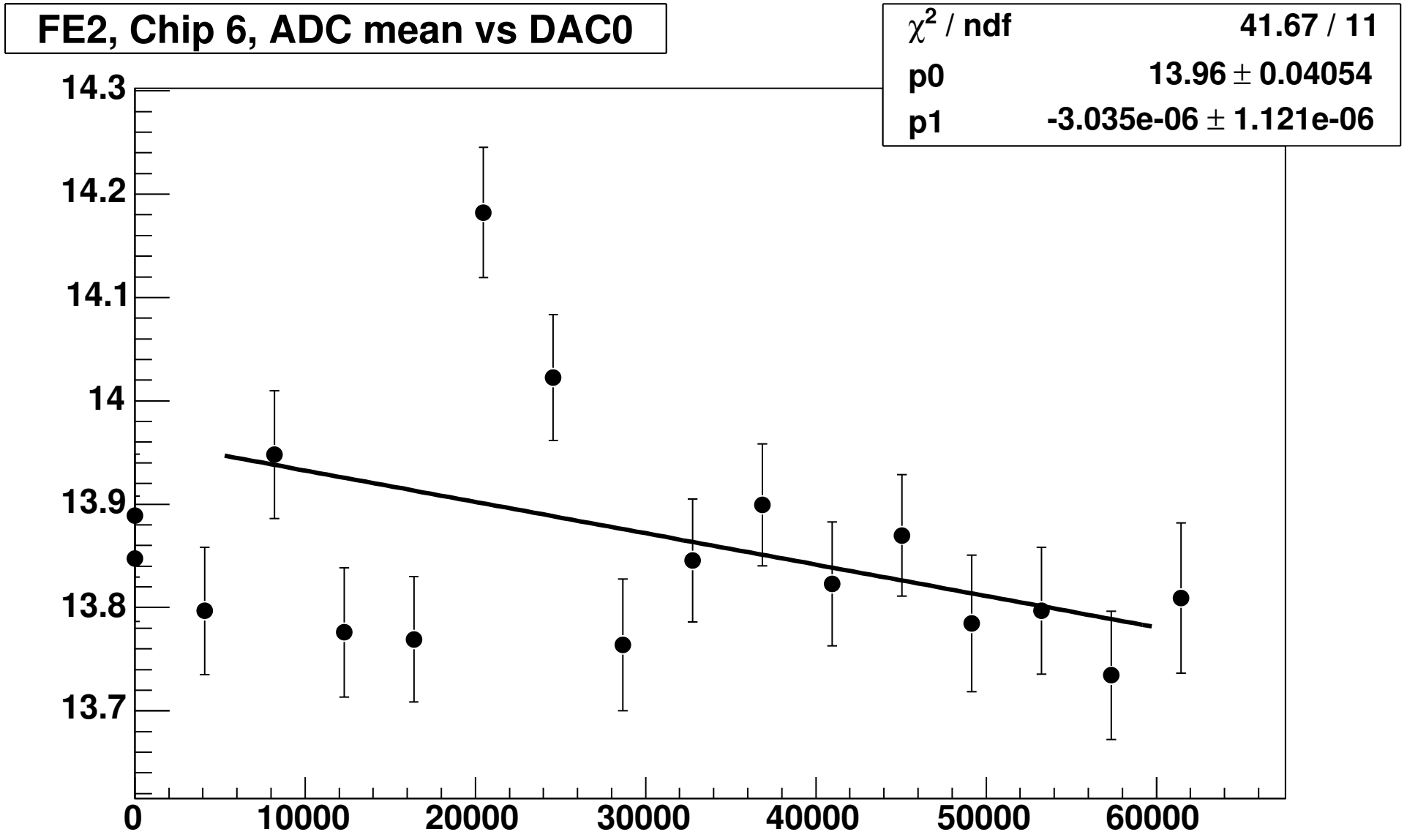

FE2, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

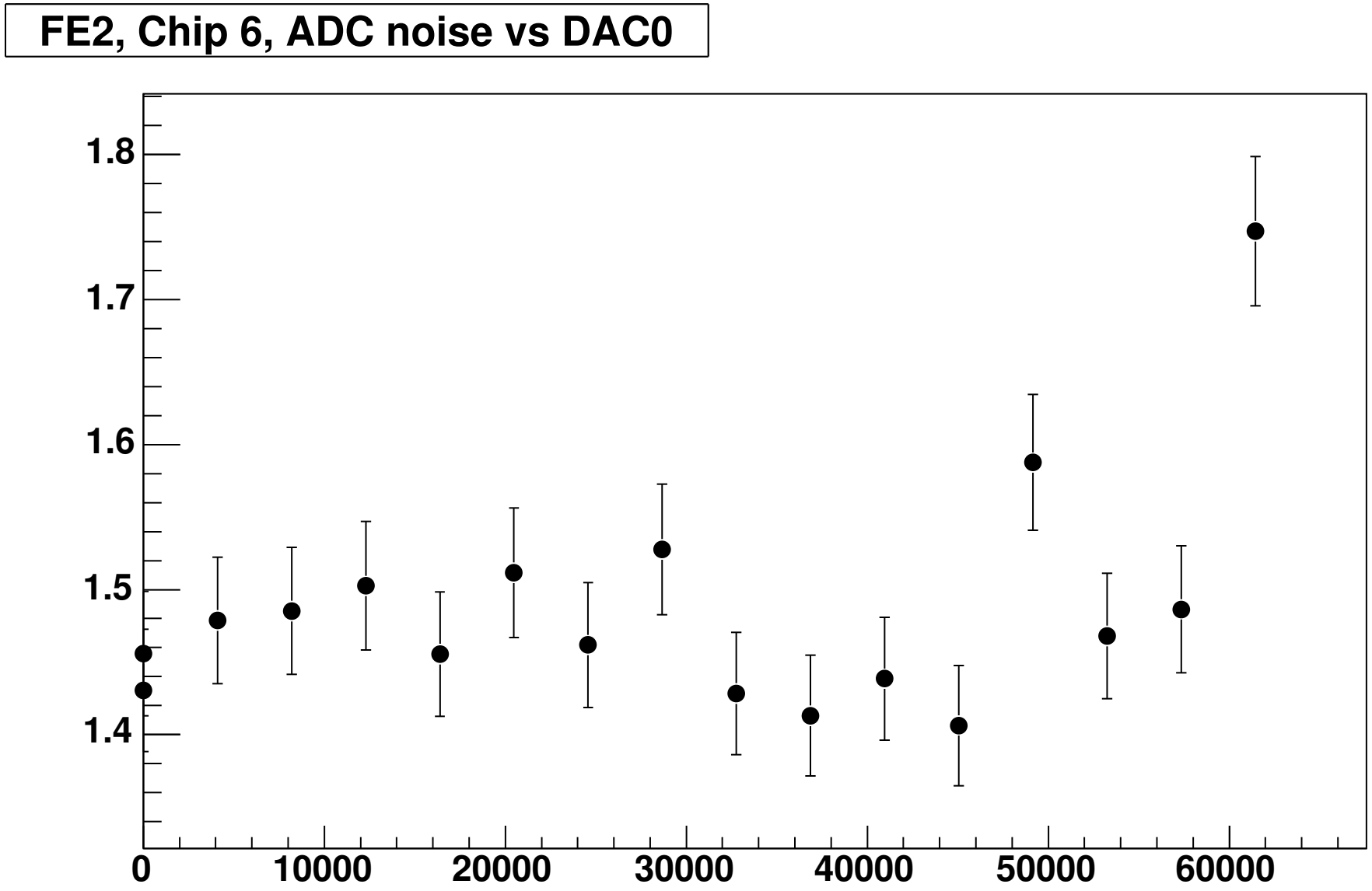

FE2, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

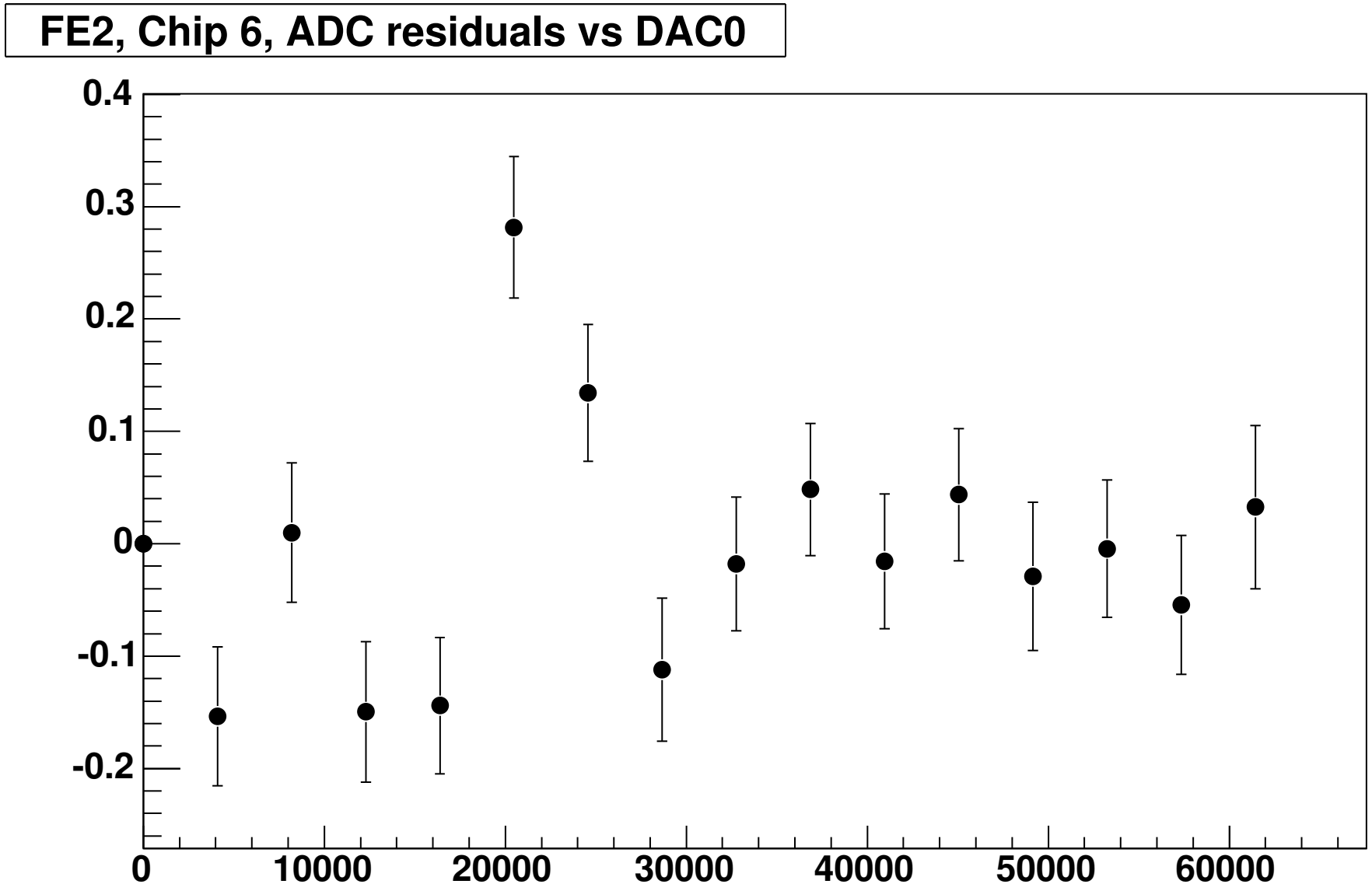

FE2, Chip 5, ADC mean vs DAC1
χ² / ndf 12.61 / 11
p0 30.5 ± 0.04089
p1 -2.079e-07 ± 1.134e-06
30.7
30.6
30.5
30.4
30.3
30.2
0
10000
20000
30000
40000
50000
60000

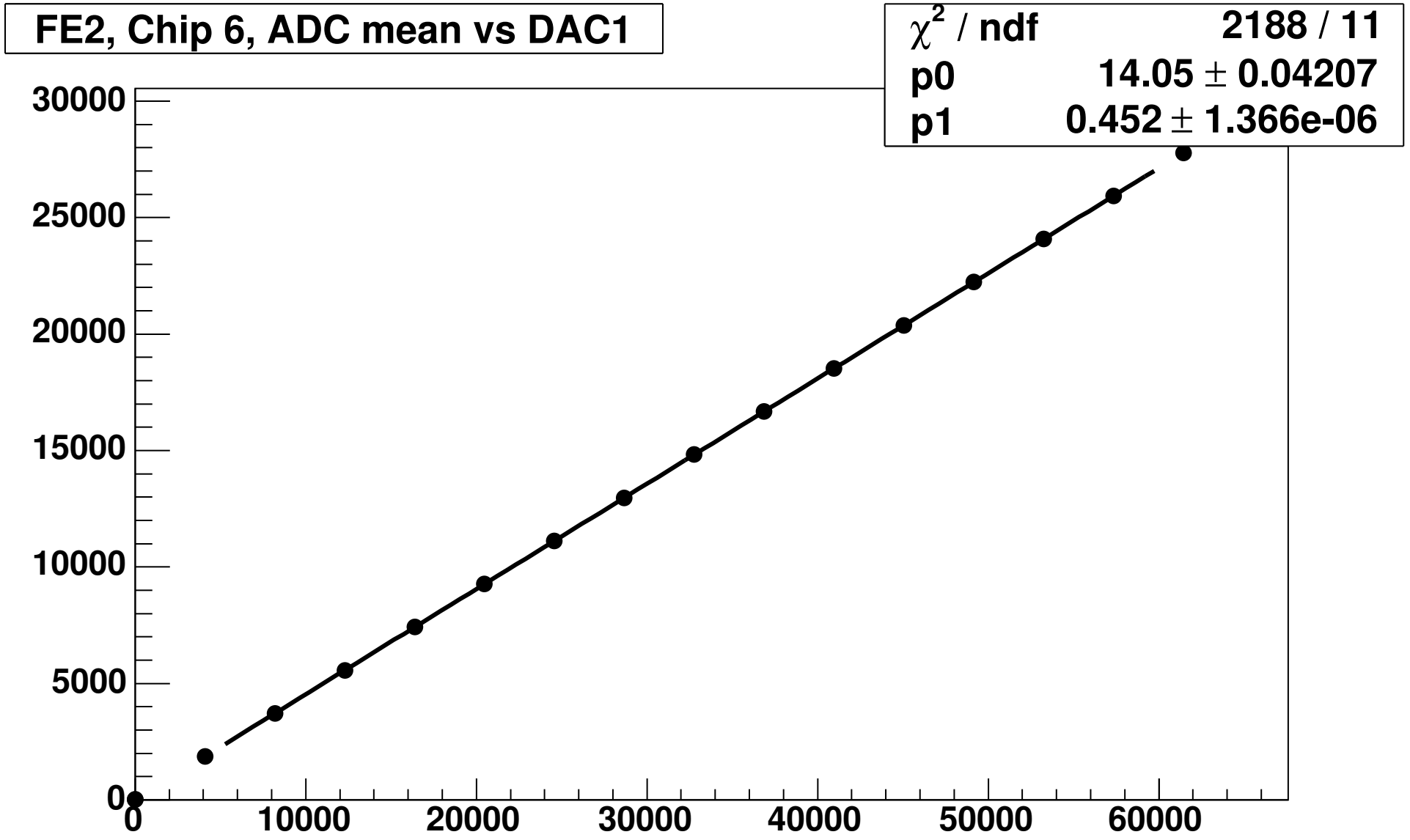

FE2, Chip 5, ADC noise vs DAC1
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

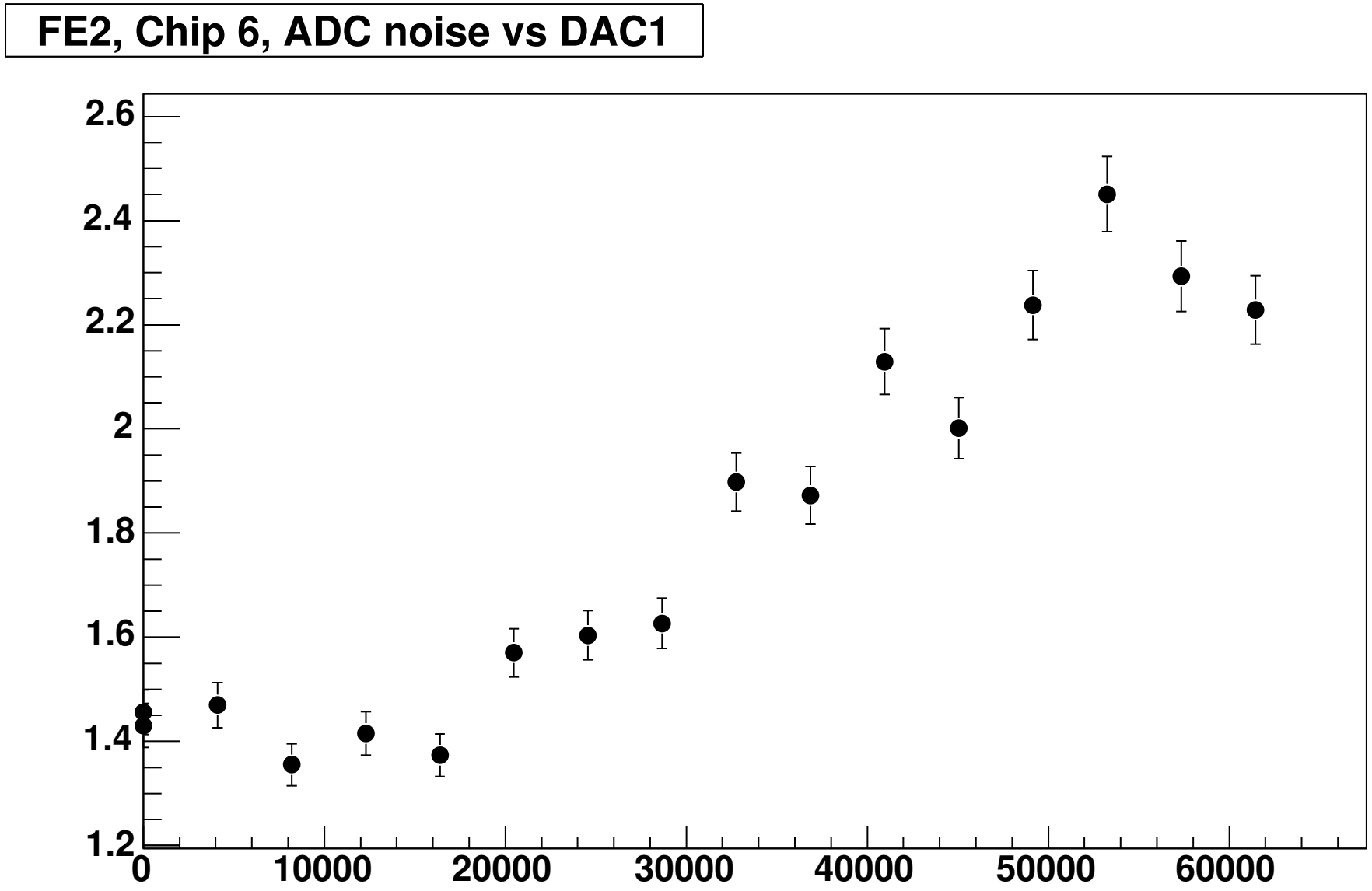

FE2, Chip 5, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

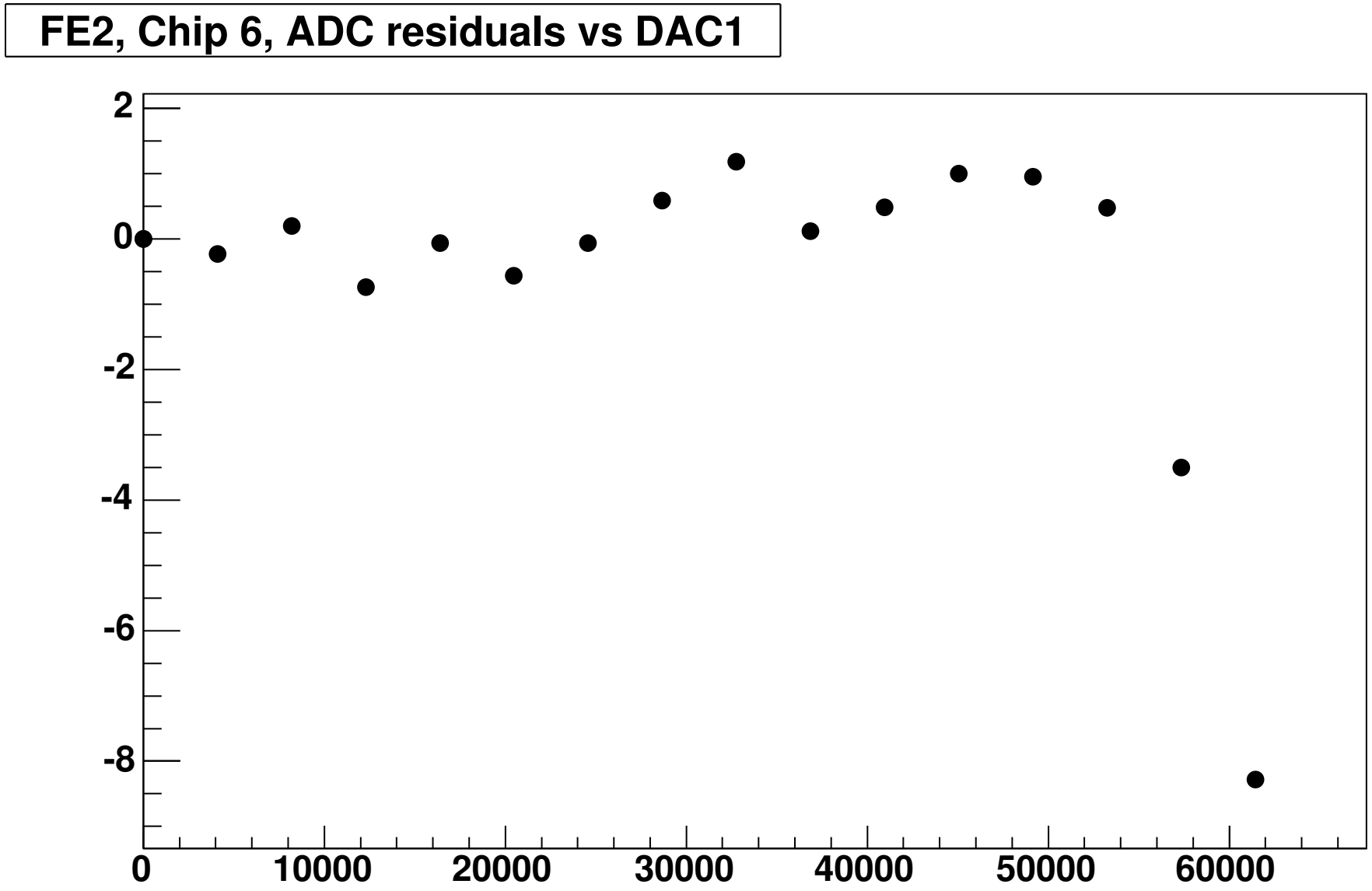

FE2, Chip 6, ADC mean vs DAC0
χ² / ndf 41.67 / 11
p0 13.96 ± 0.04054
p1 -3.035e-06 ± 1.121e-06
14.3
14.2
14.1
14
13.9
13.8
13.7
0
10000
20000
30000
40000
50000
60000

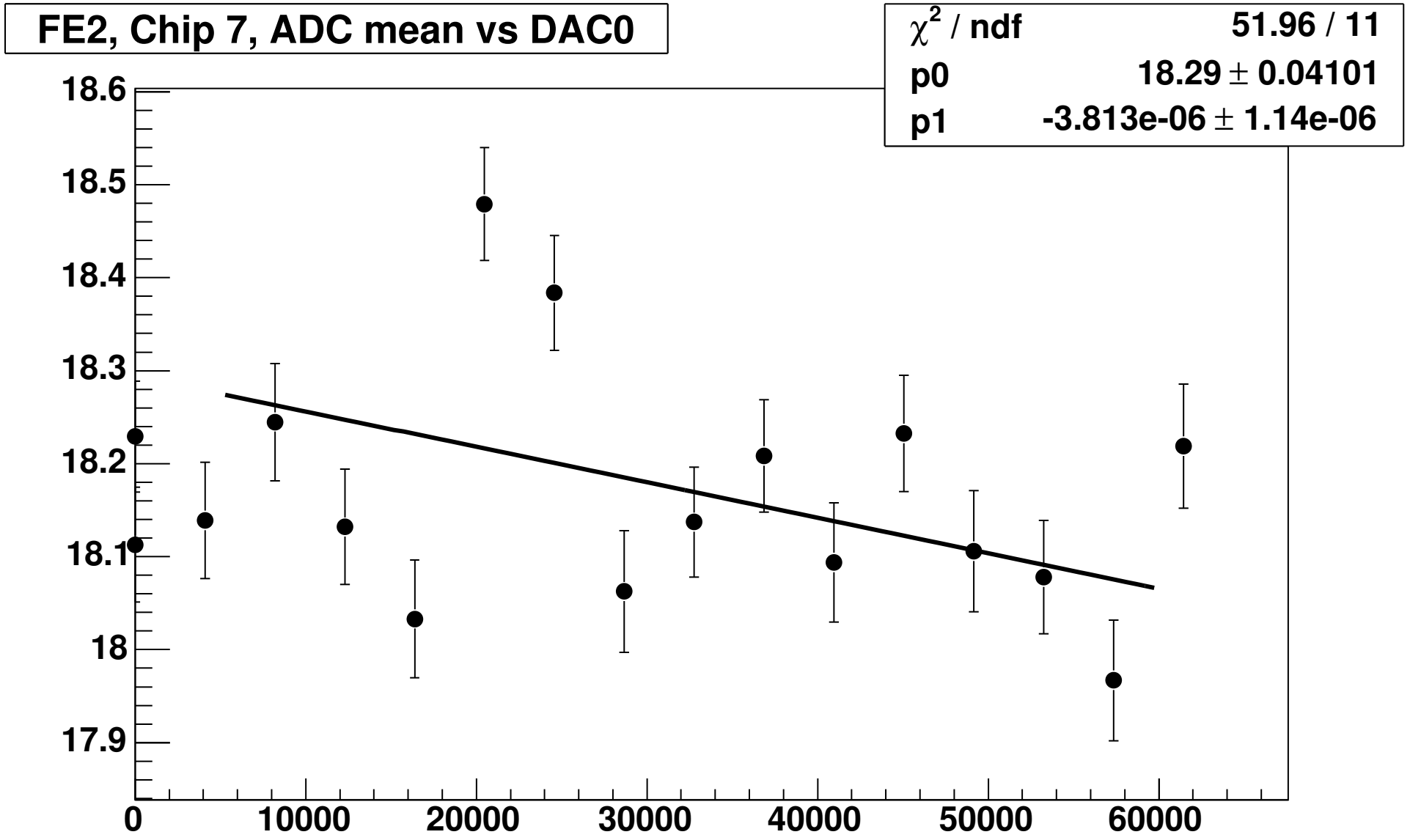

FE2, Chip 6, ADC noise vs DAC0
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

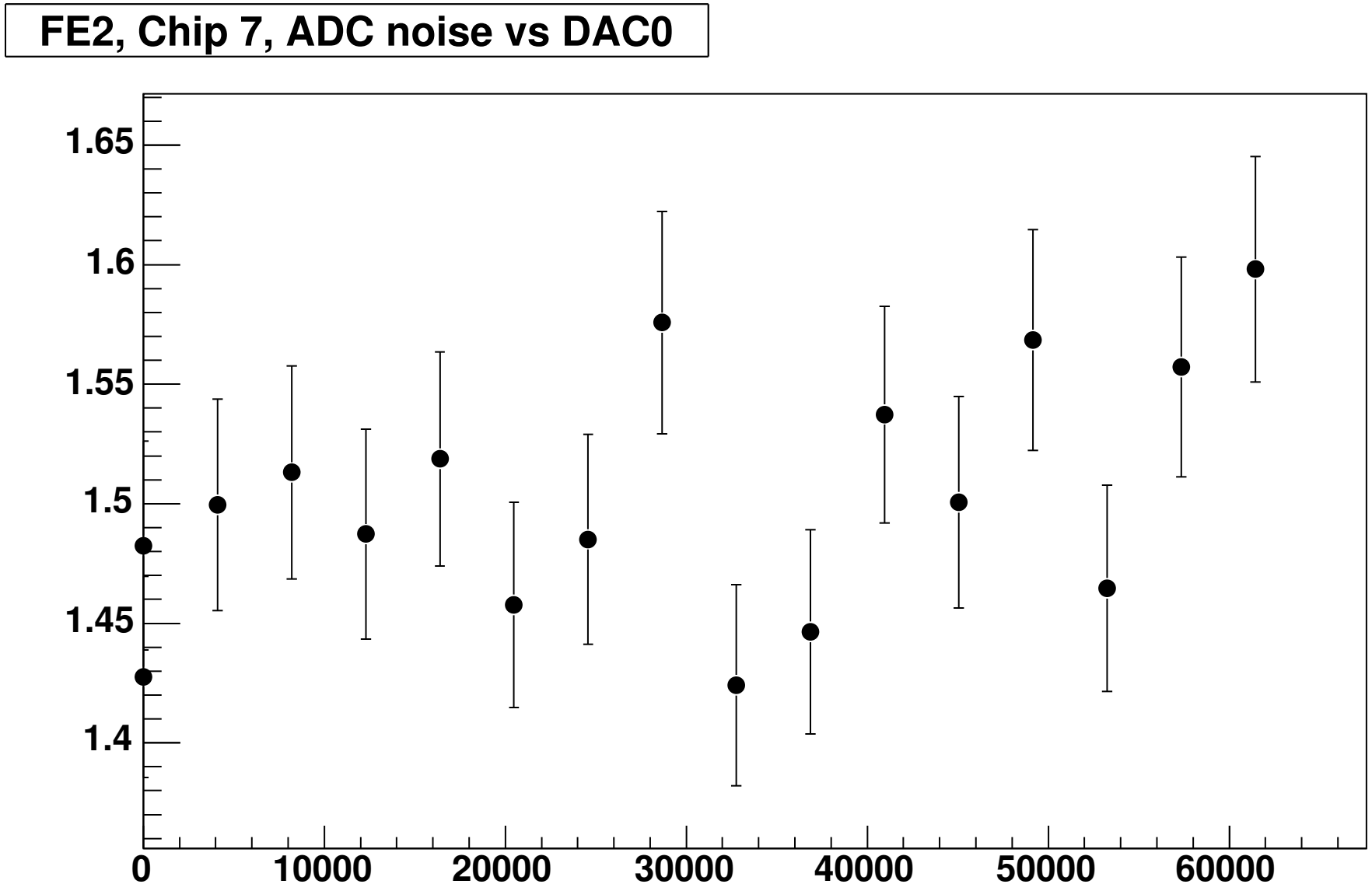

FE2, Chip 6, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

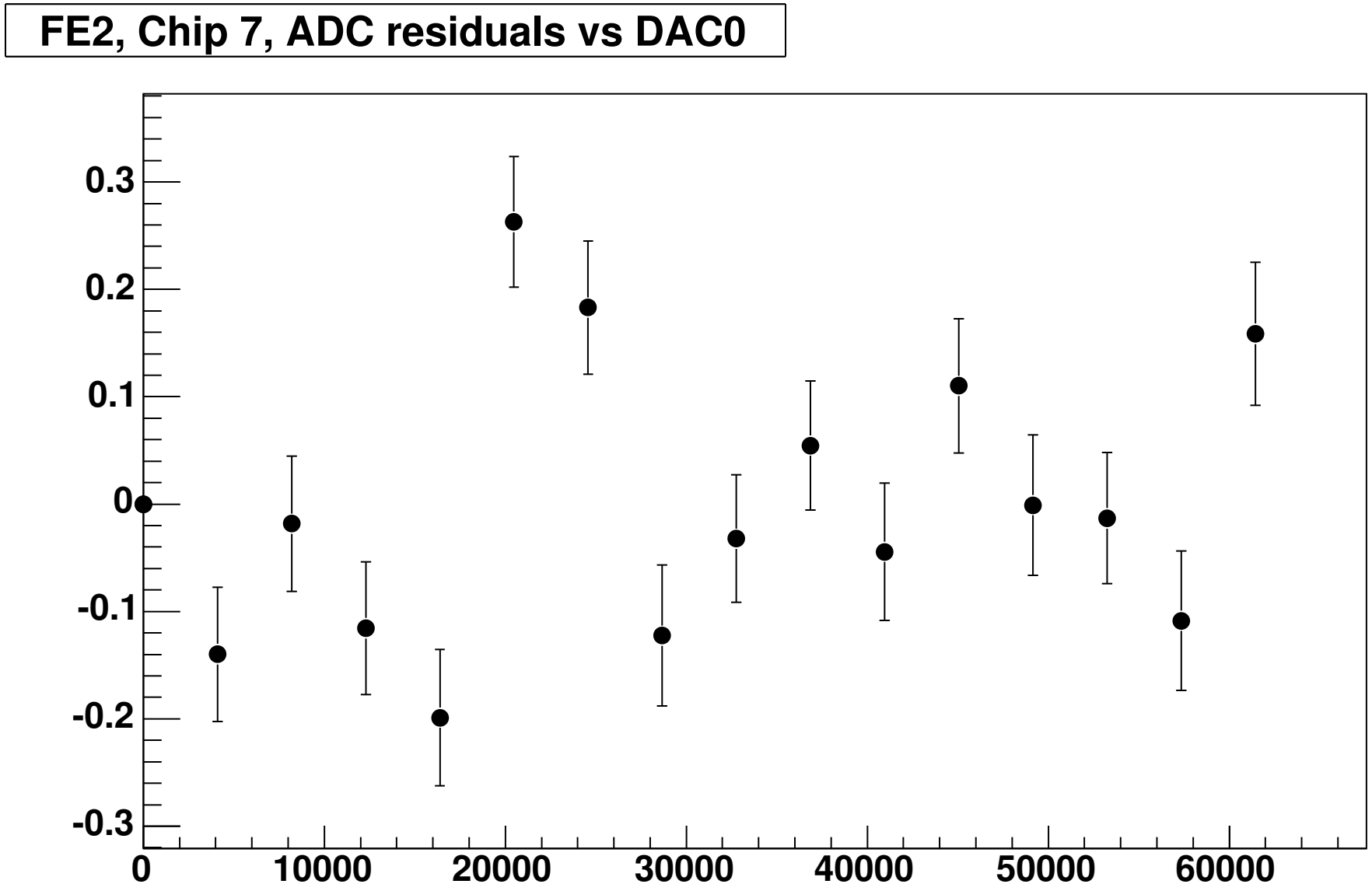

FE2, Chip 6, ADC mean vs DAC1
χ² / ndf 2188 / 11
p0 14.05 ± 0.04207
p1 0.452 ± 1.366e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

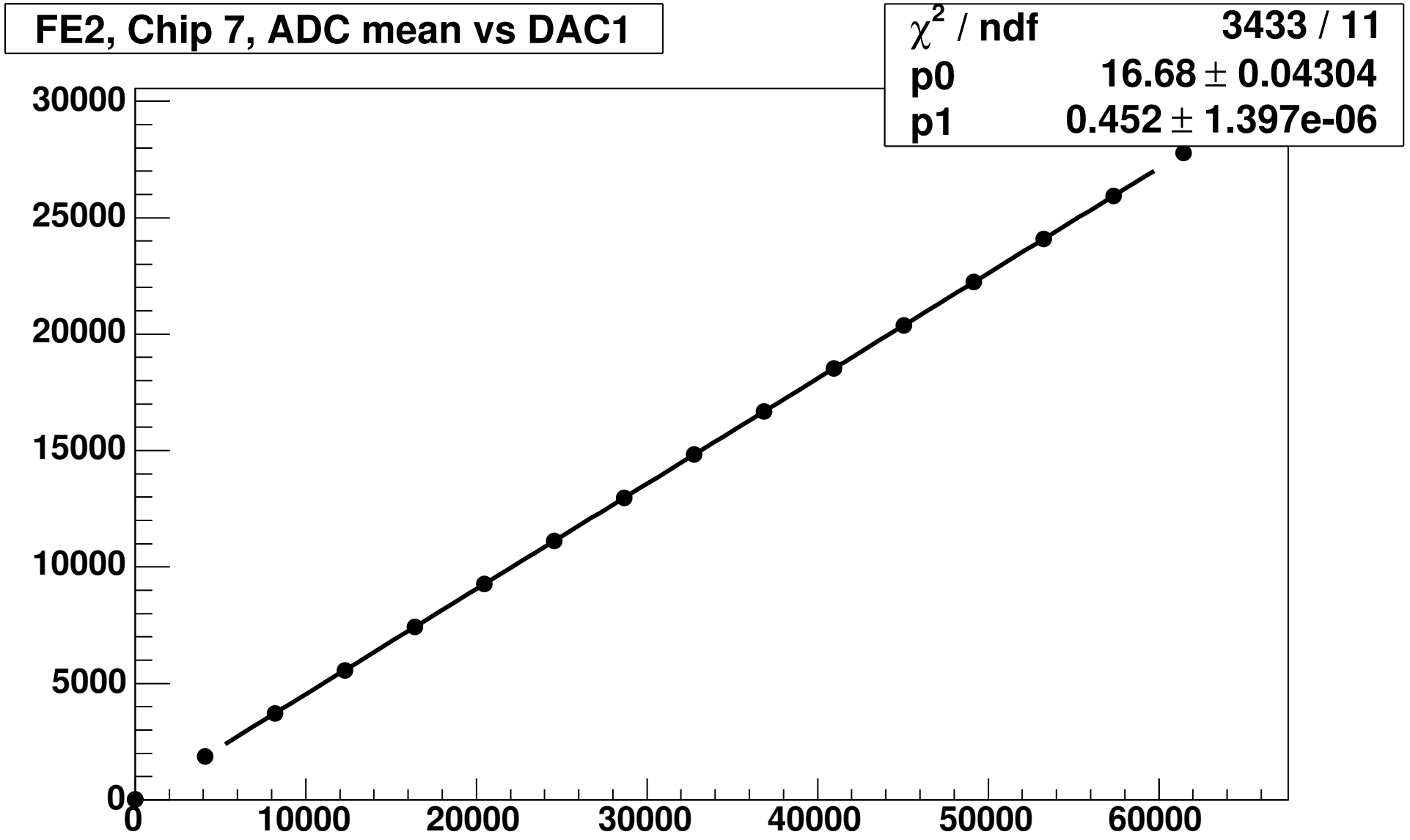

FE2, Chip 6, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

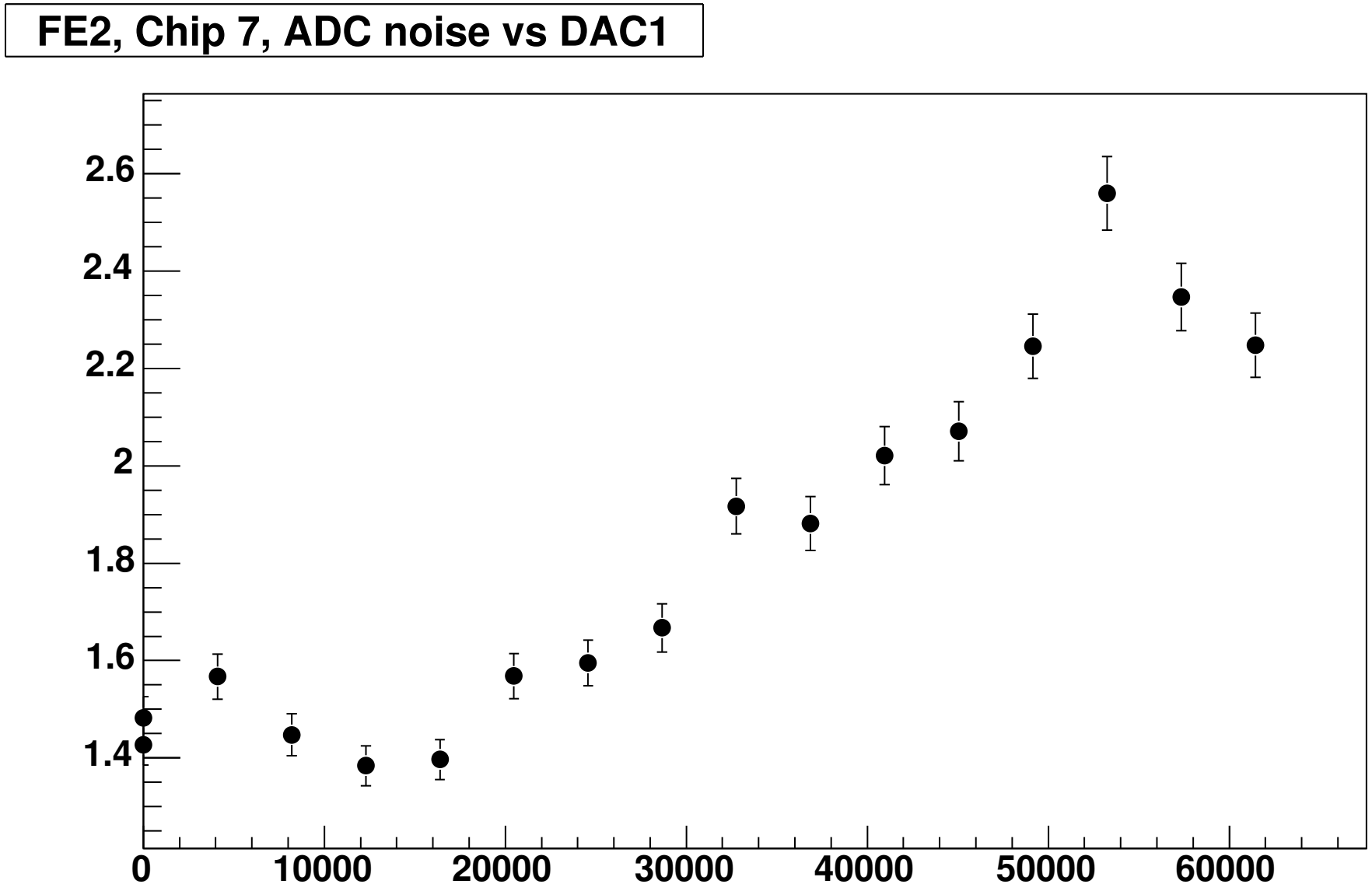

FE2, Chip 6, ADC residuals vs DAC1
2
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

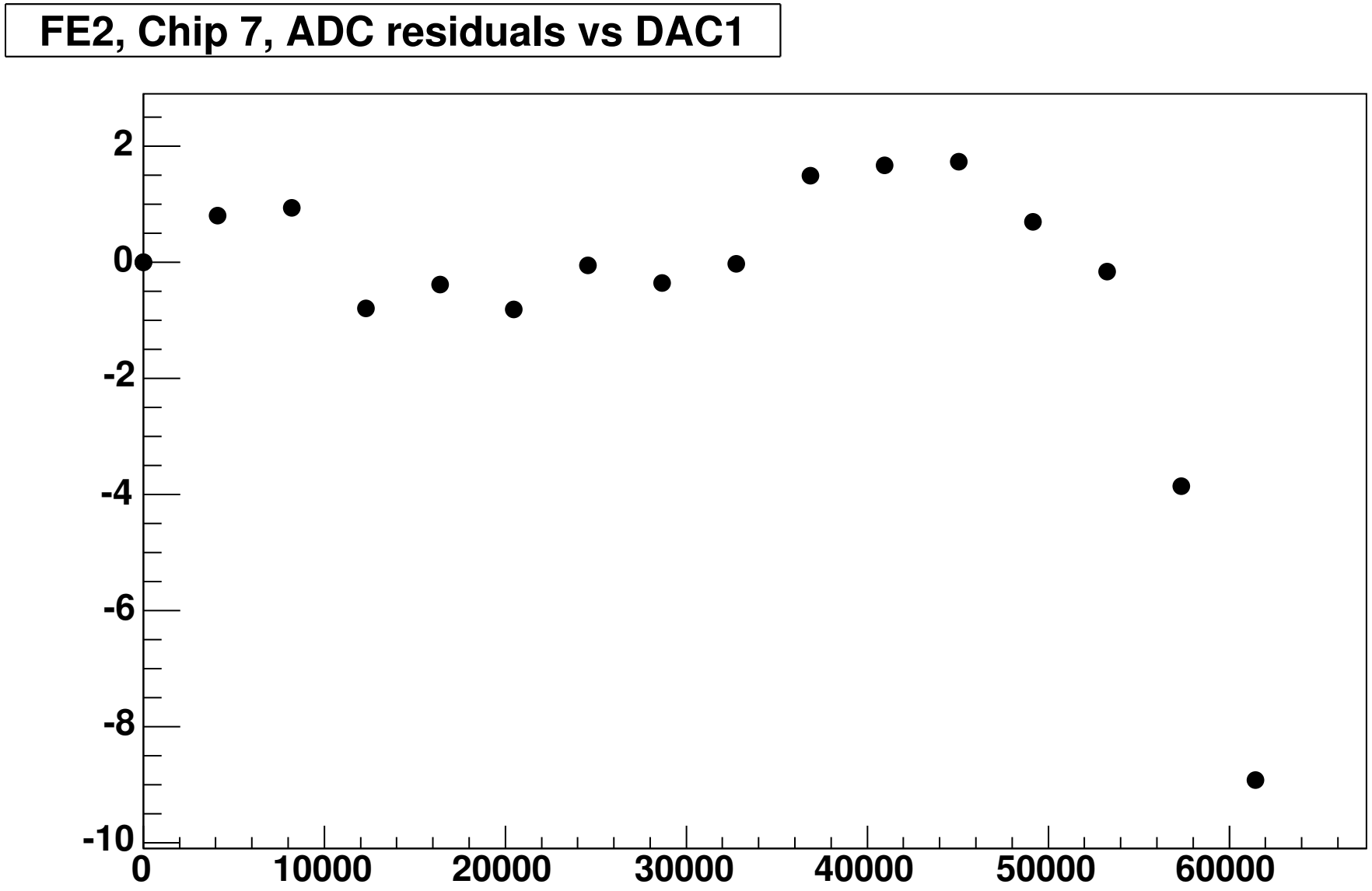

FE2, Chip 7, ADC mean vs DAC0
χ² / ndf 51.96 / 11
p0 18.29 ± 0.04101
p1 -3.813e-06 ± 1.14e-06
18.6
18.5
18.4
18.3
18.2
18.1
18
17.9
0
10000
20000
30000
40000
50000
60000

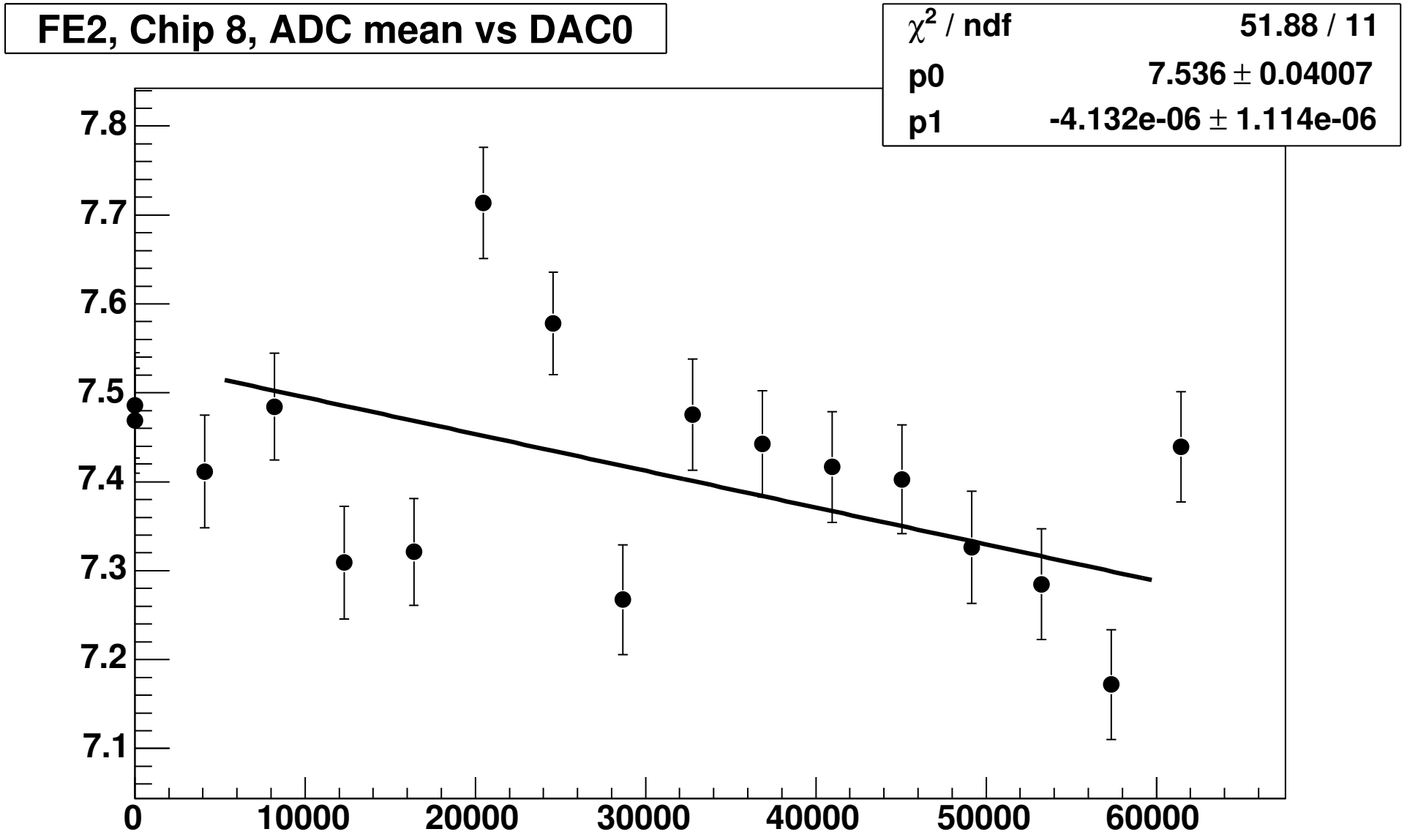

FE2, Chip 7, ADC noise vs DAC0
1.65
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

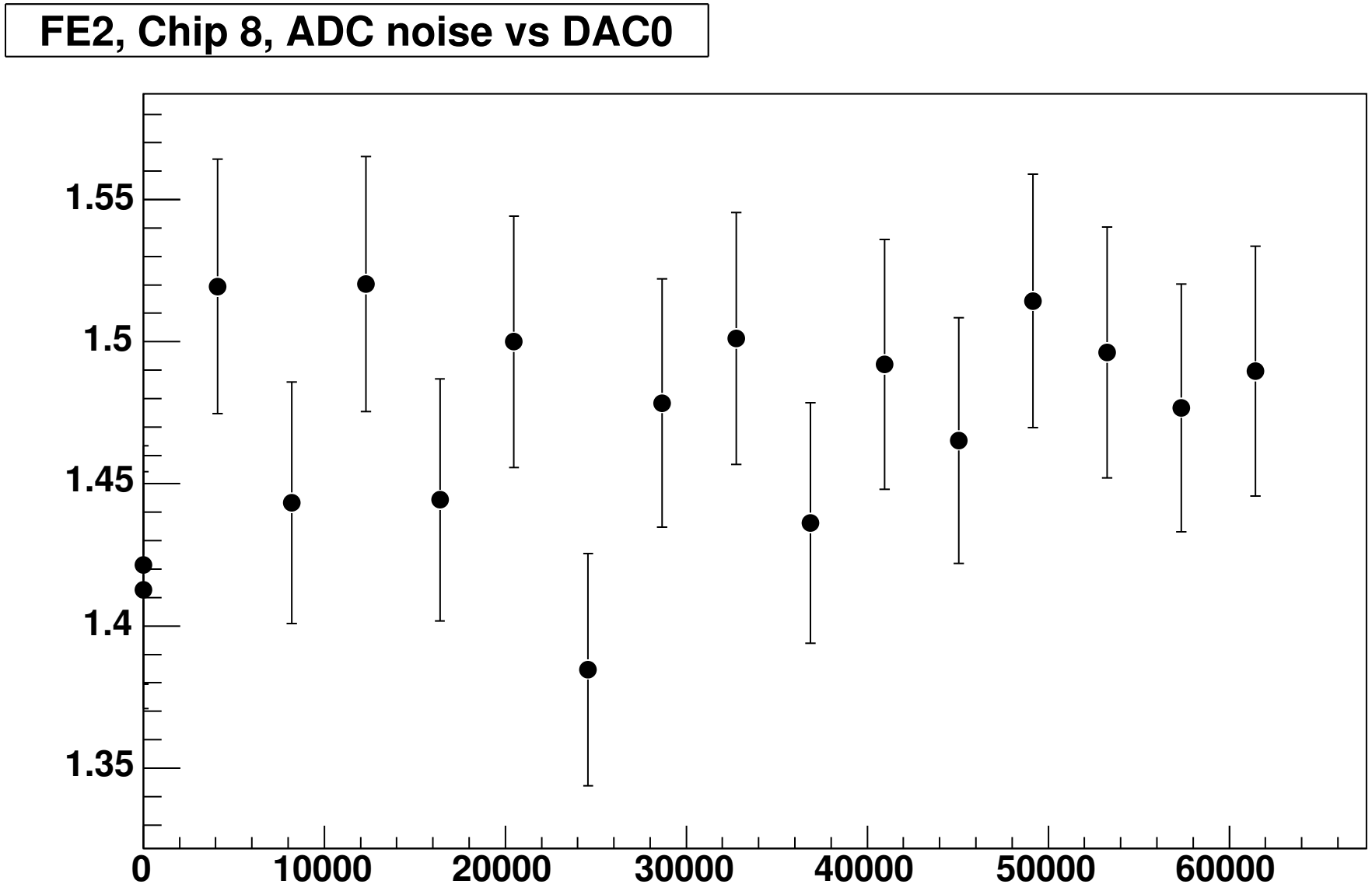

FE2, Chip 7, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

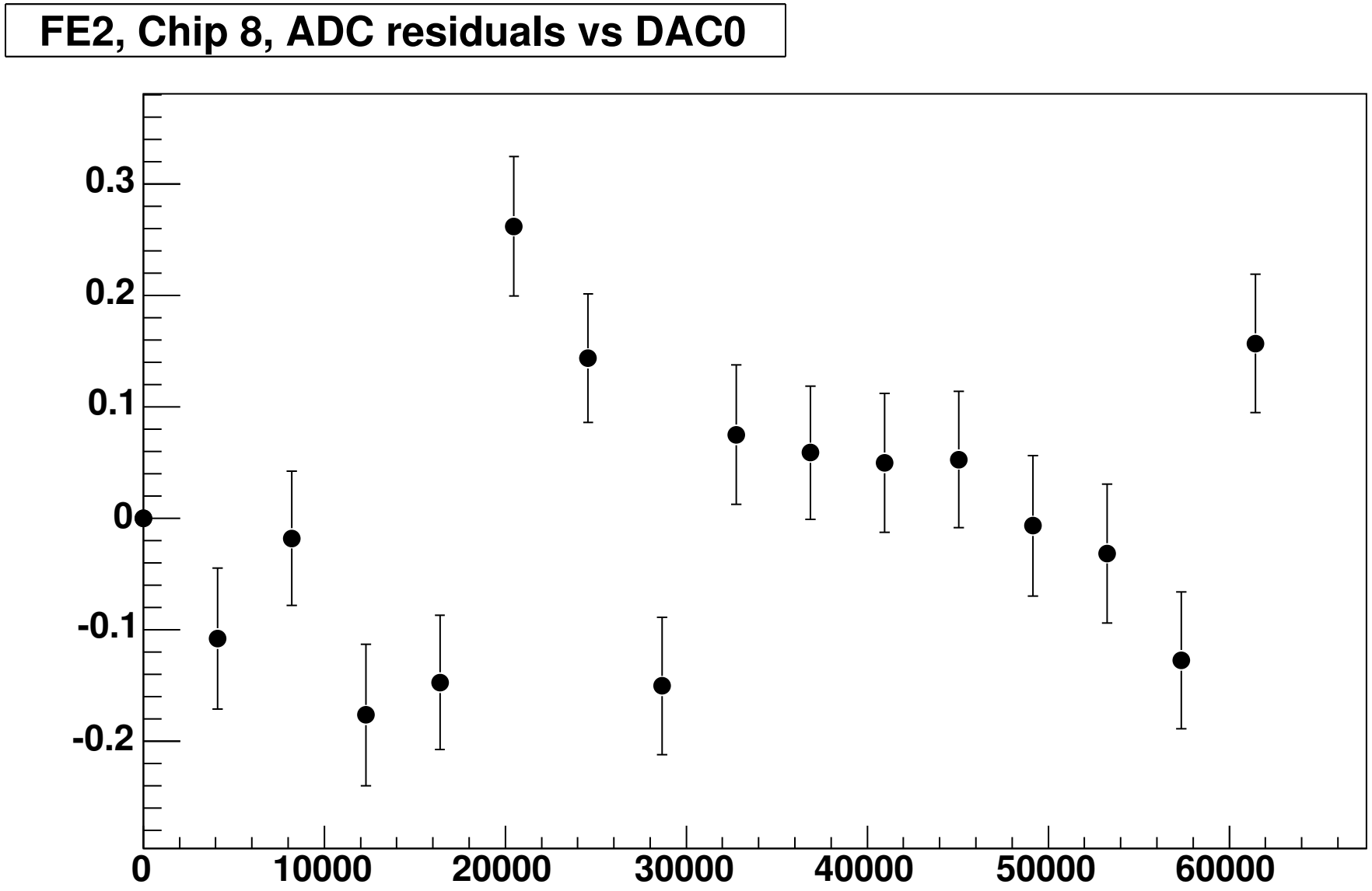

FE2, Chip 7, ADC mean vs DAC1
χ^2 / ndf 3433 / 11
p0 16.68 ± 0.04304
p1 0.452 ± 1.397e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

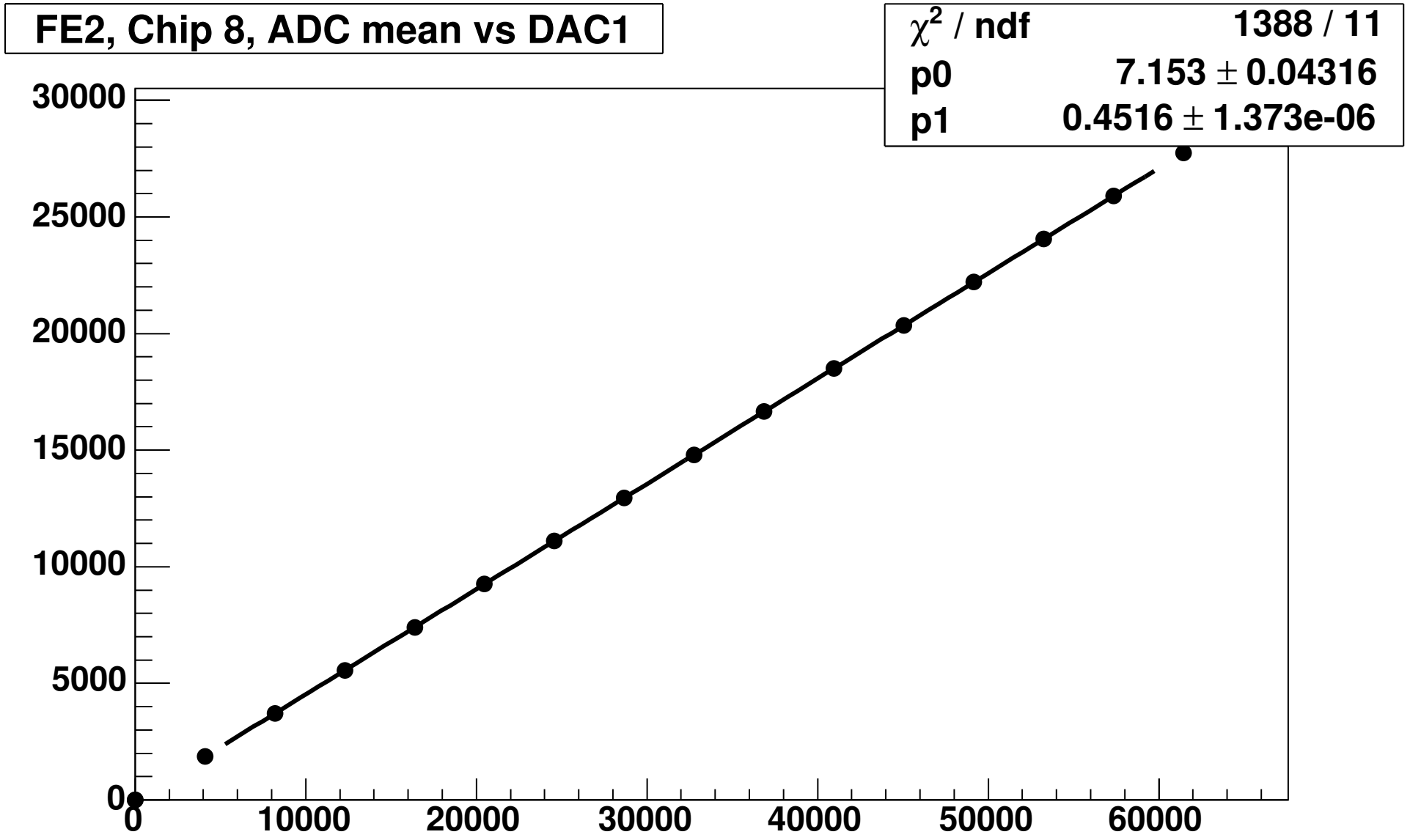

FE2, Chip 7, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

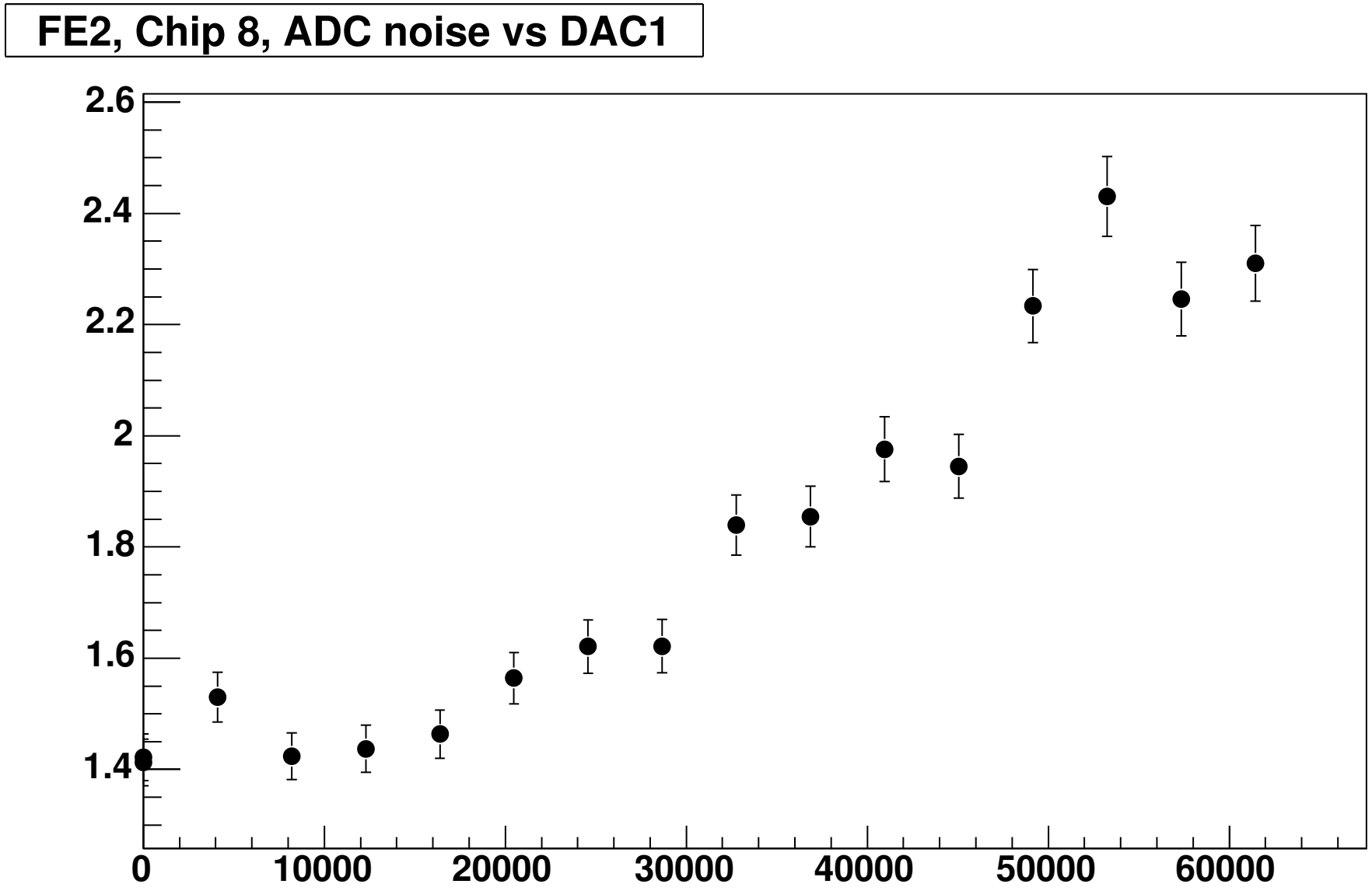

FE2, Chip 7, ADC residuals vs DAC1
2
0
-2
-4
-6
-8
-10
0
10000
20000
30000
40000
50000
60000

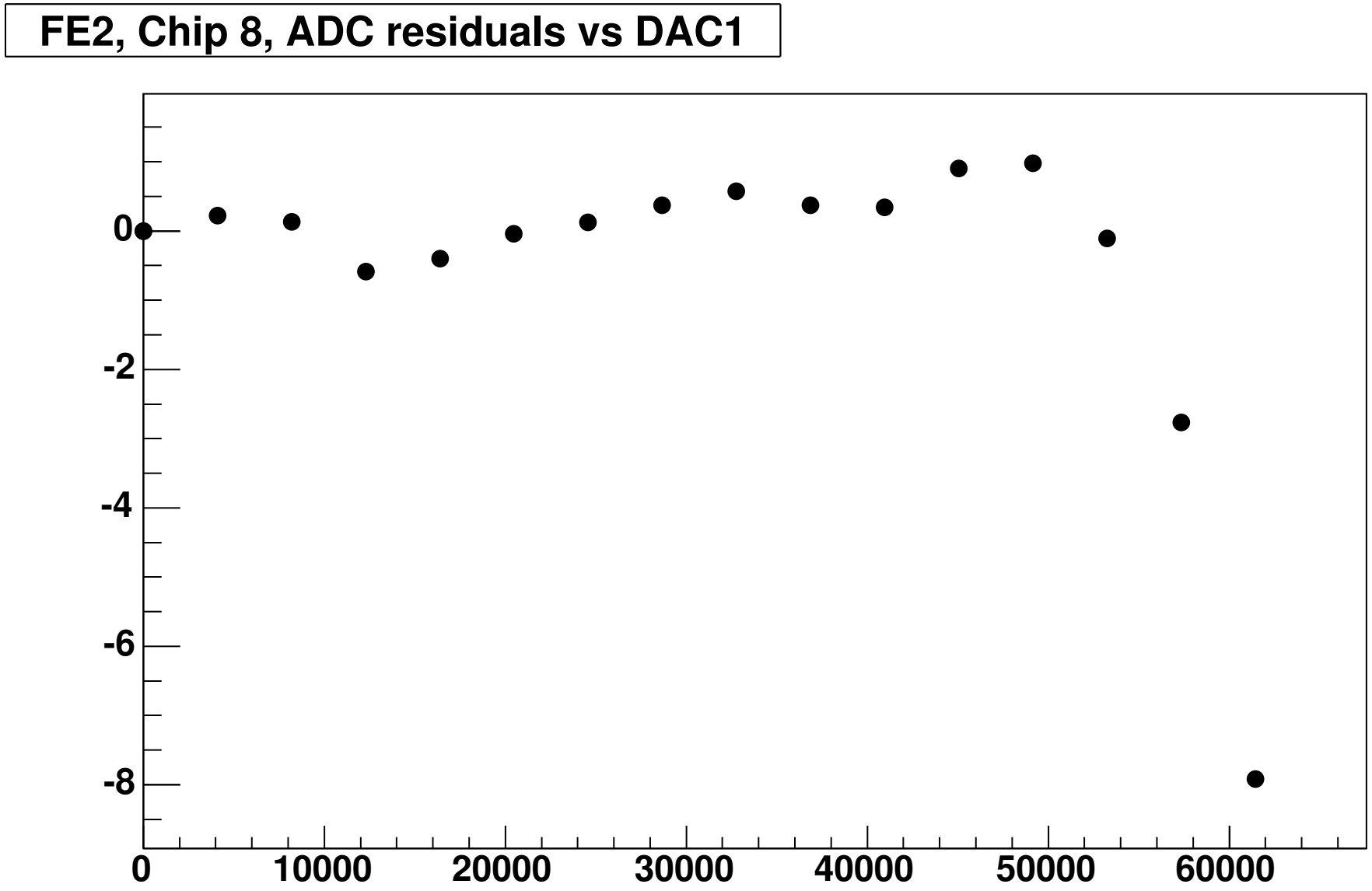

FE2, Chip 8, ADC mean vs DAC0
χ² / ndf 51.88 / 11
p0 7.536 ± 0.04007
p1 -4.132e-06 ± 1.114e-06
7.8
7.7
7.6
7.5
7.4
7.3
7.2
7.1
0
10000
20000
30000
40000
50000
60000

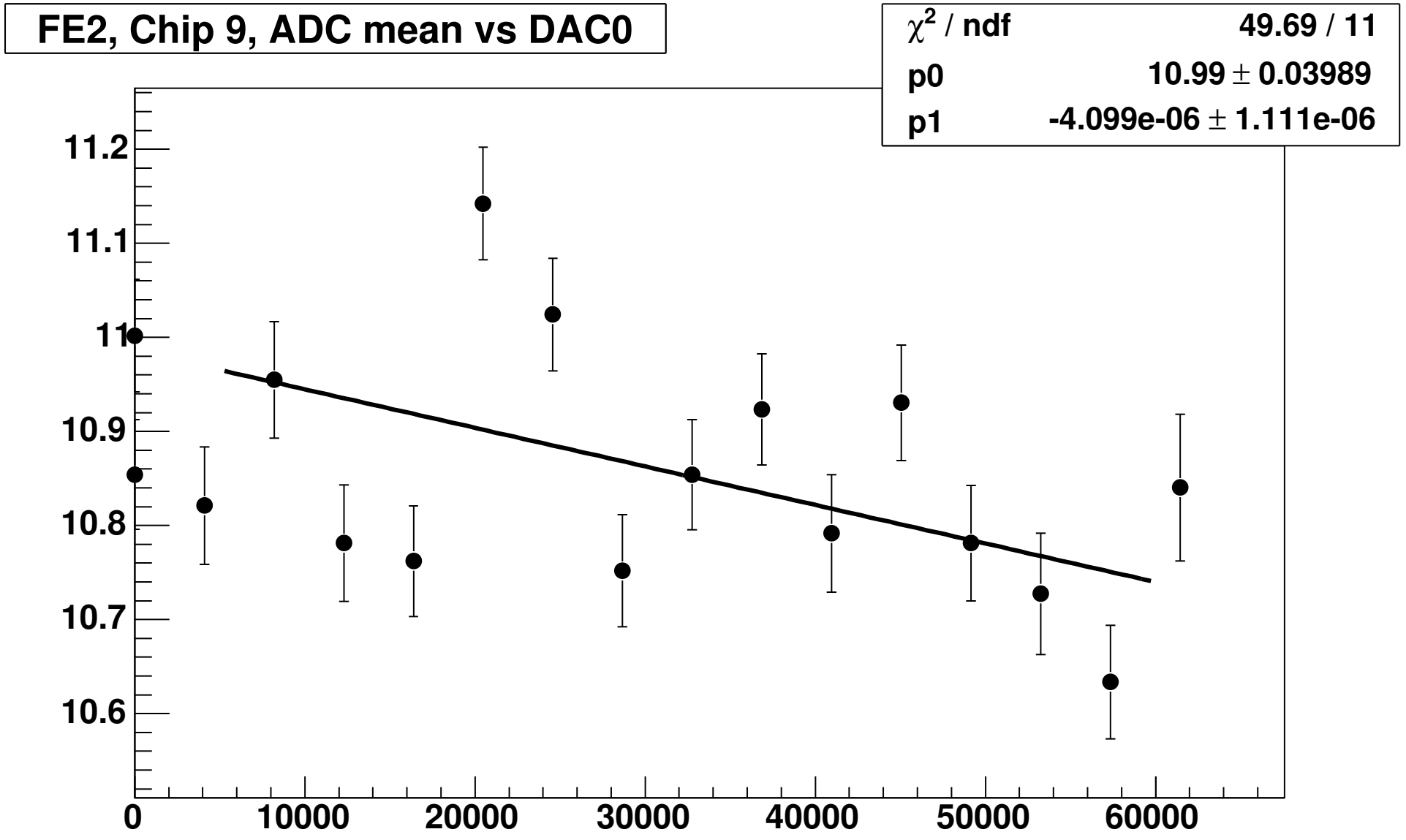

FE2, Chip 8, ADC noise vs DAC0
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

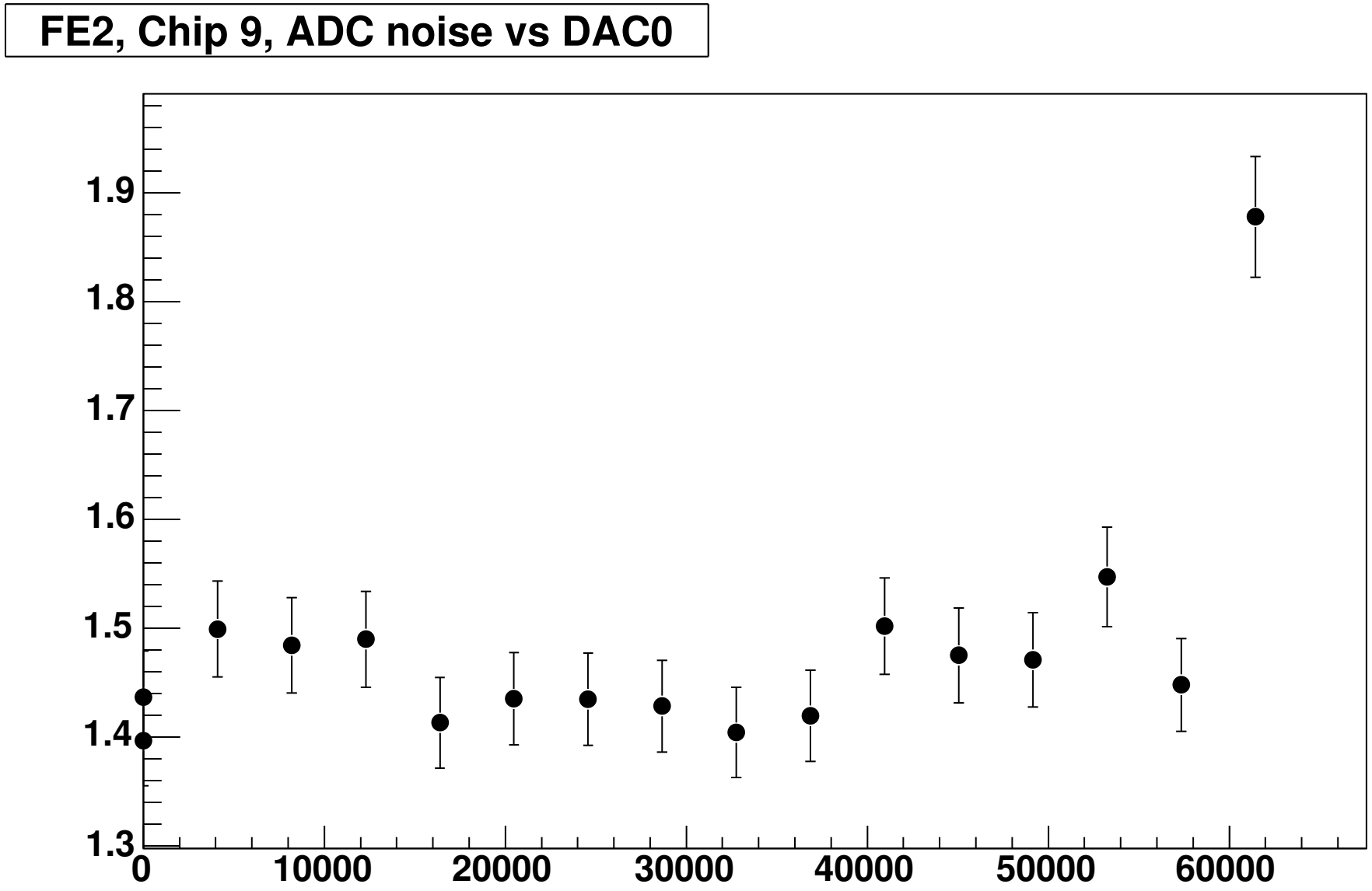

FE2, Chip 8, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

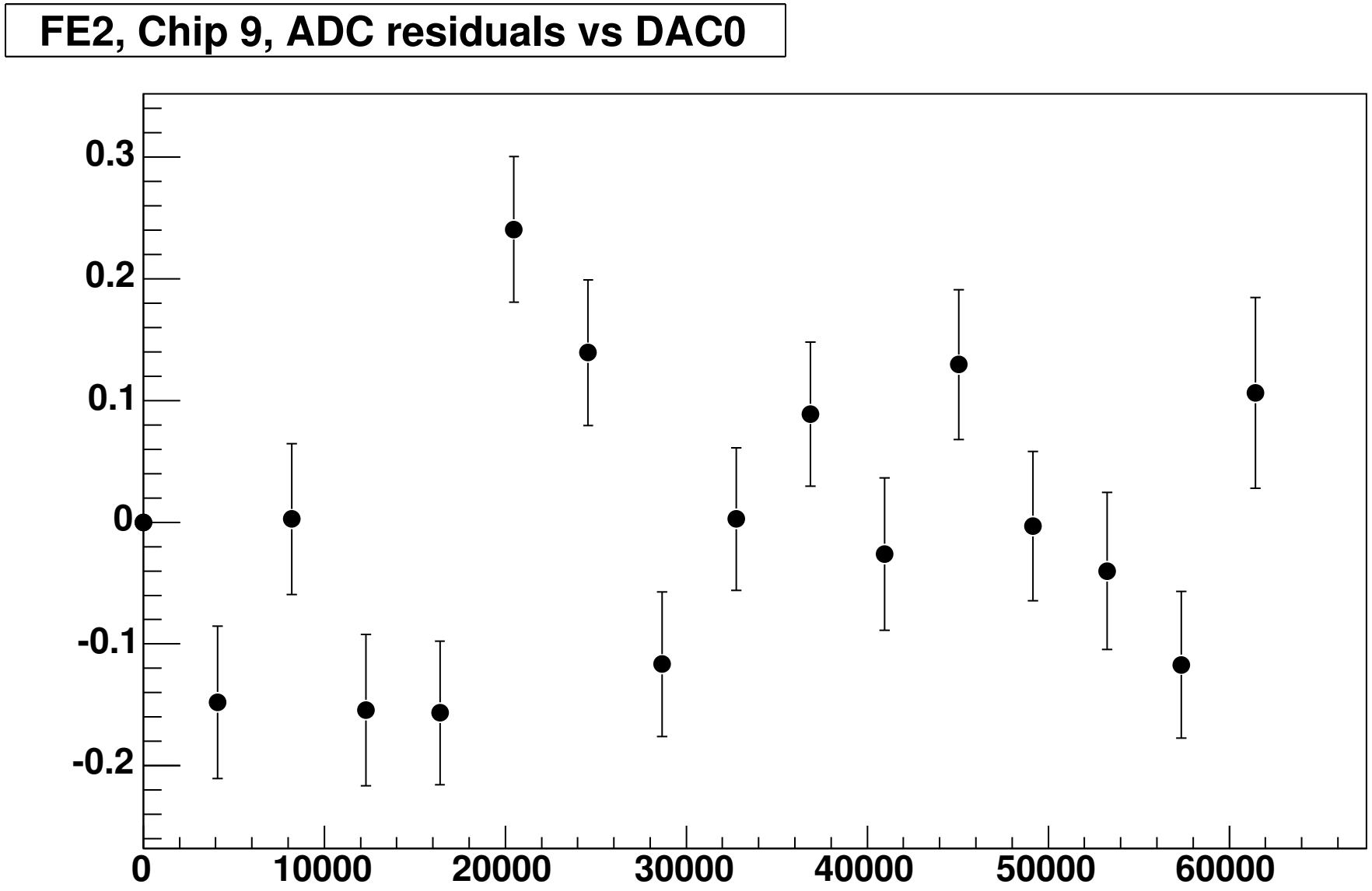

FE2, Chip 8, ADC mean vs DAC1
χ² / ndf 1388 / 11
p0 7.153 ± 0.04316
p1 0.4516 ± 1.373e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

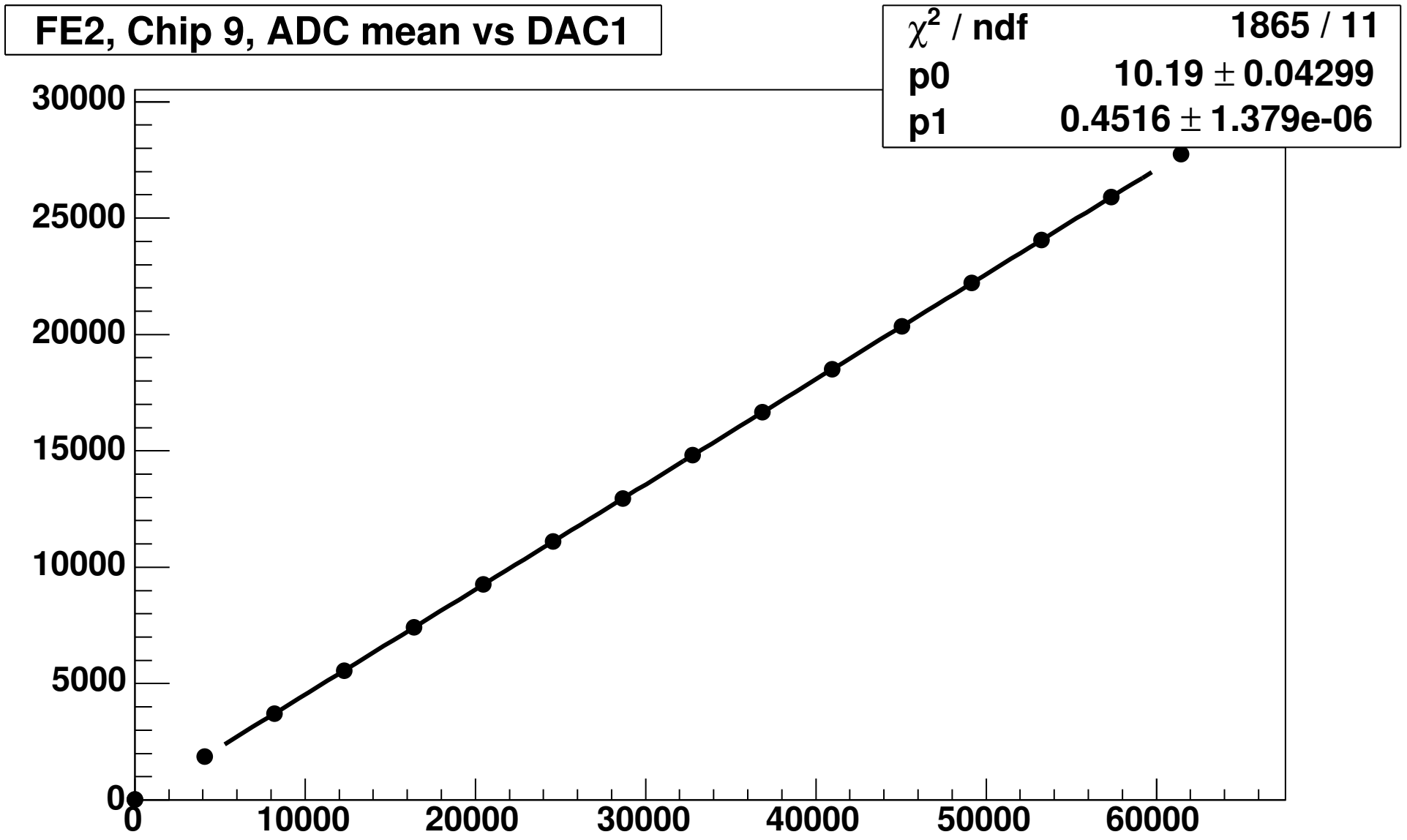

FE2, Chip 8, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000


FE2, Chip 8, ADC residuals vs DAC1
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

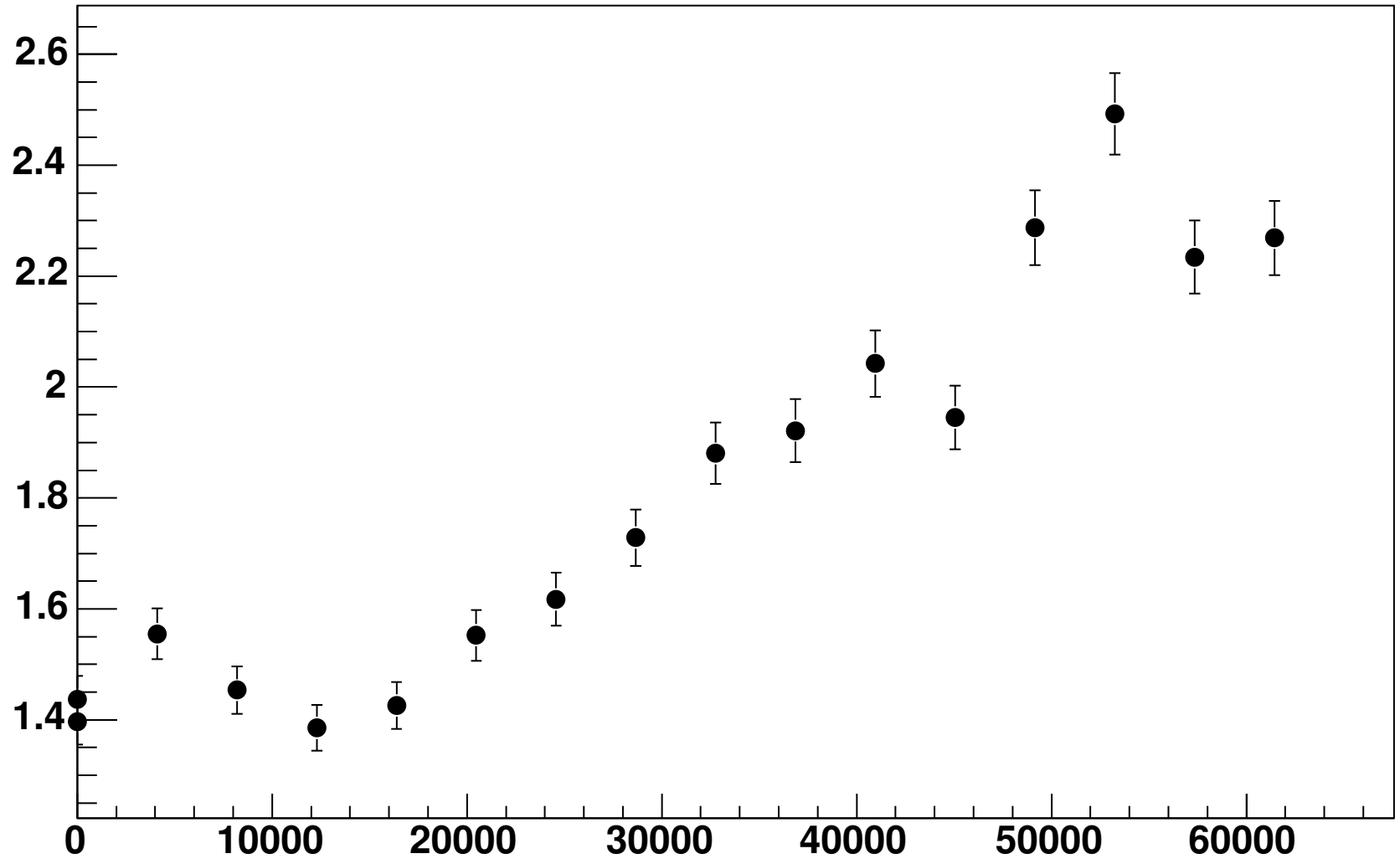

FE2, Chip 9, ADC mean vs DAC0
χ² / ndf 49.69 / 11
p0 10.99 ± 0.03989
p1 -4.099e-06 ± 1.111e-06
11.2
11.1
11
10.9
10.8
10.7
10.6
0
10000
20000
30000
40000
50000
60000

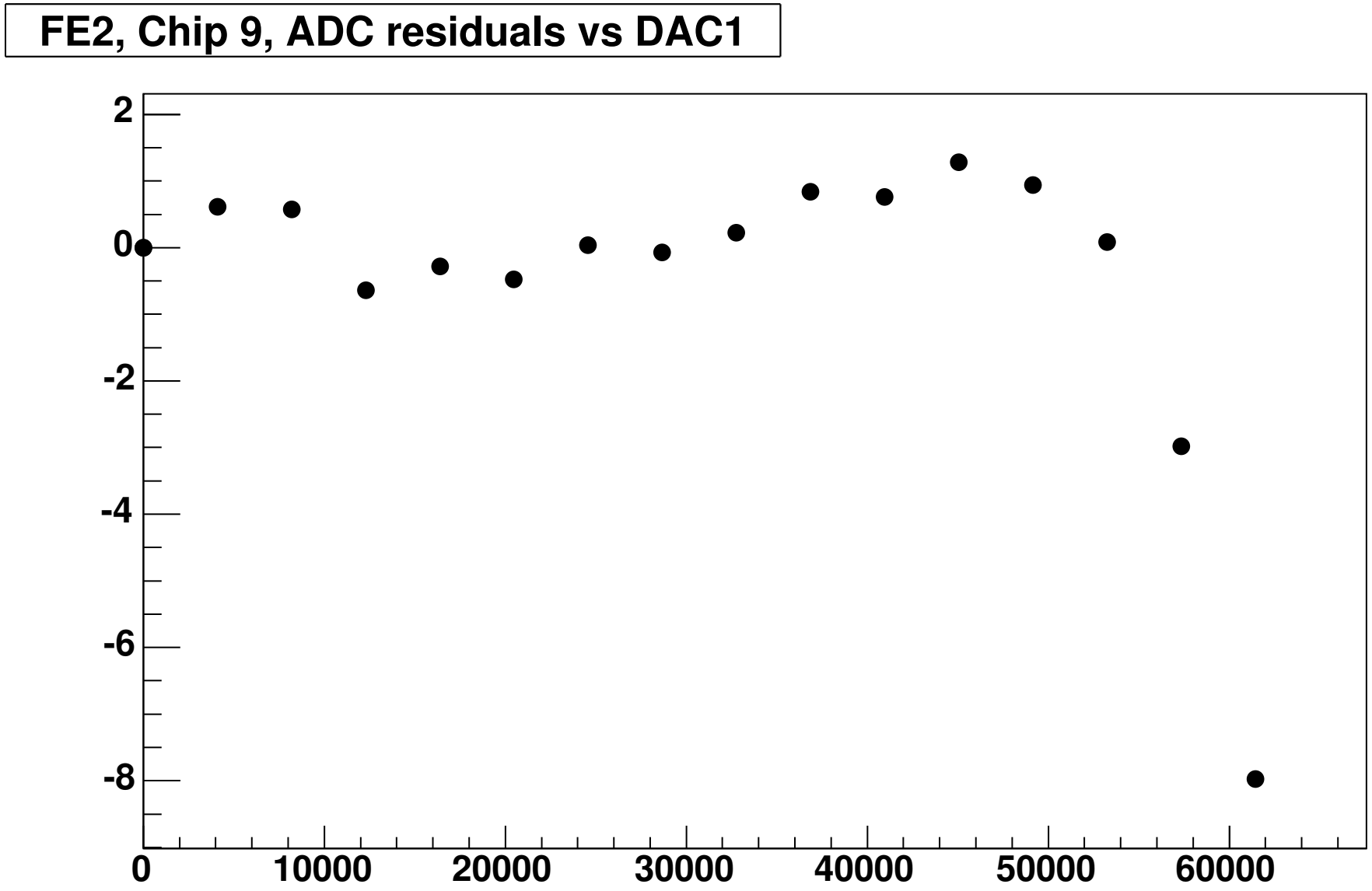

FE2, Chip 9, ADC noise vs DAC0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
0
10000
20000
30000
40000
50000
60000

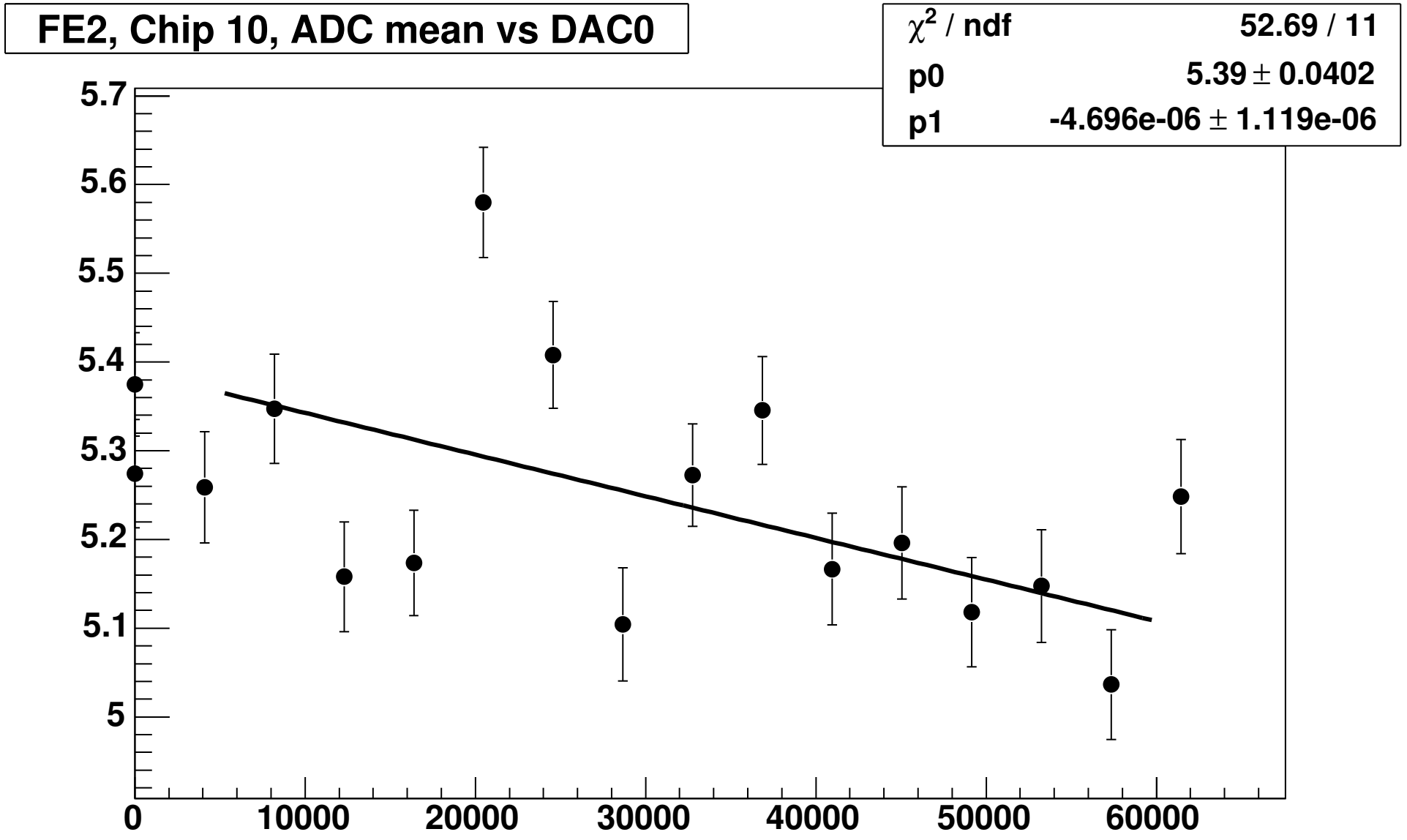

FE2, Chip 9, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

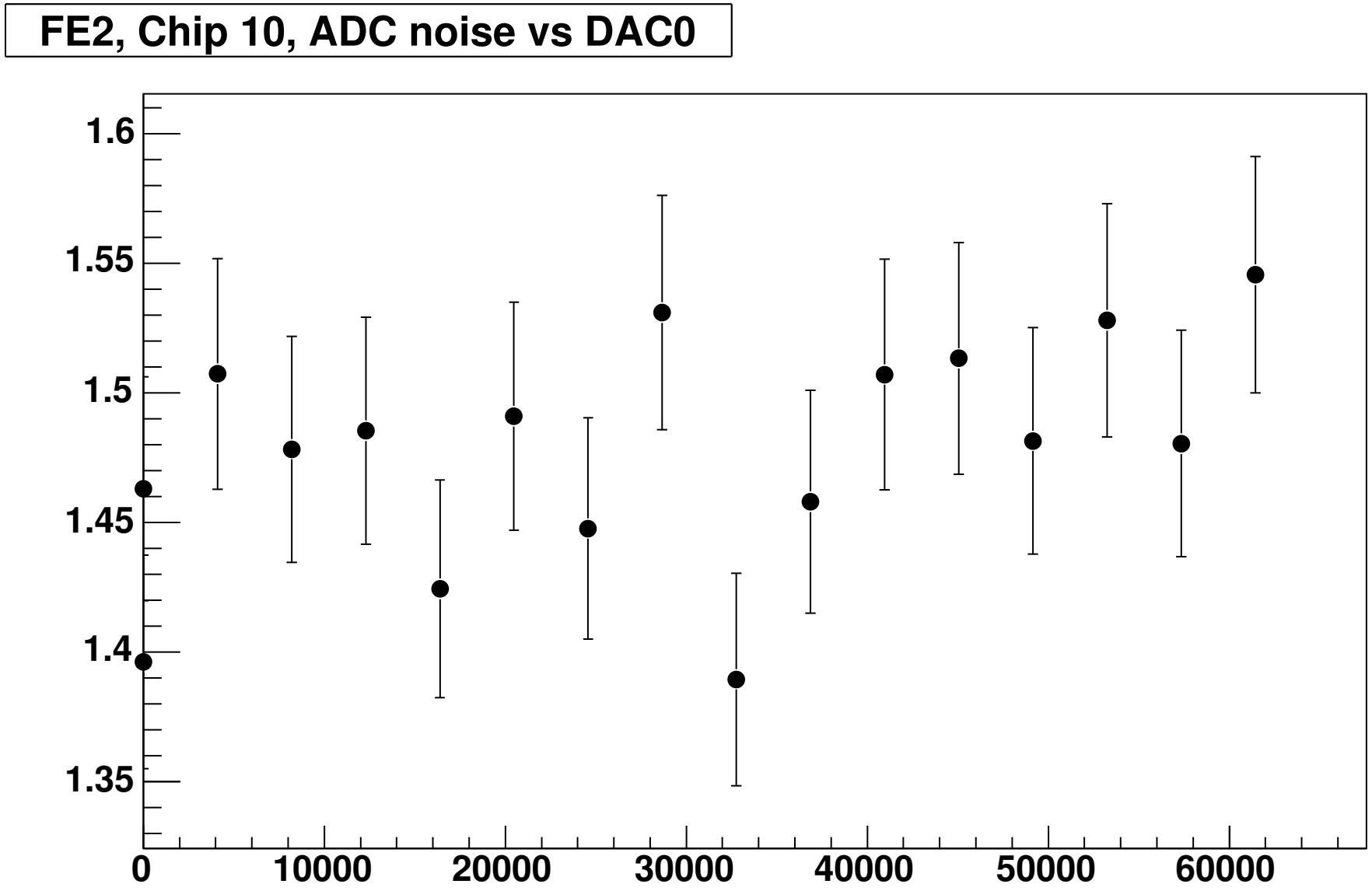

FE2, Chip 9, ADC mean vs DAC1
χ² / ndf 1865 / 11
p0 10.19 ± 0.04299
p1 0.4516 ± 1.379e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

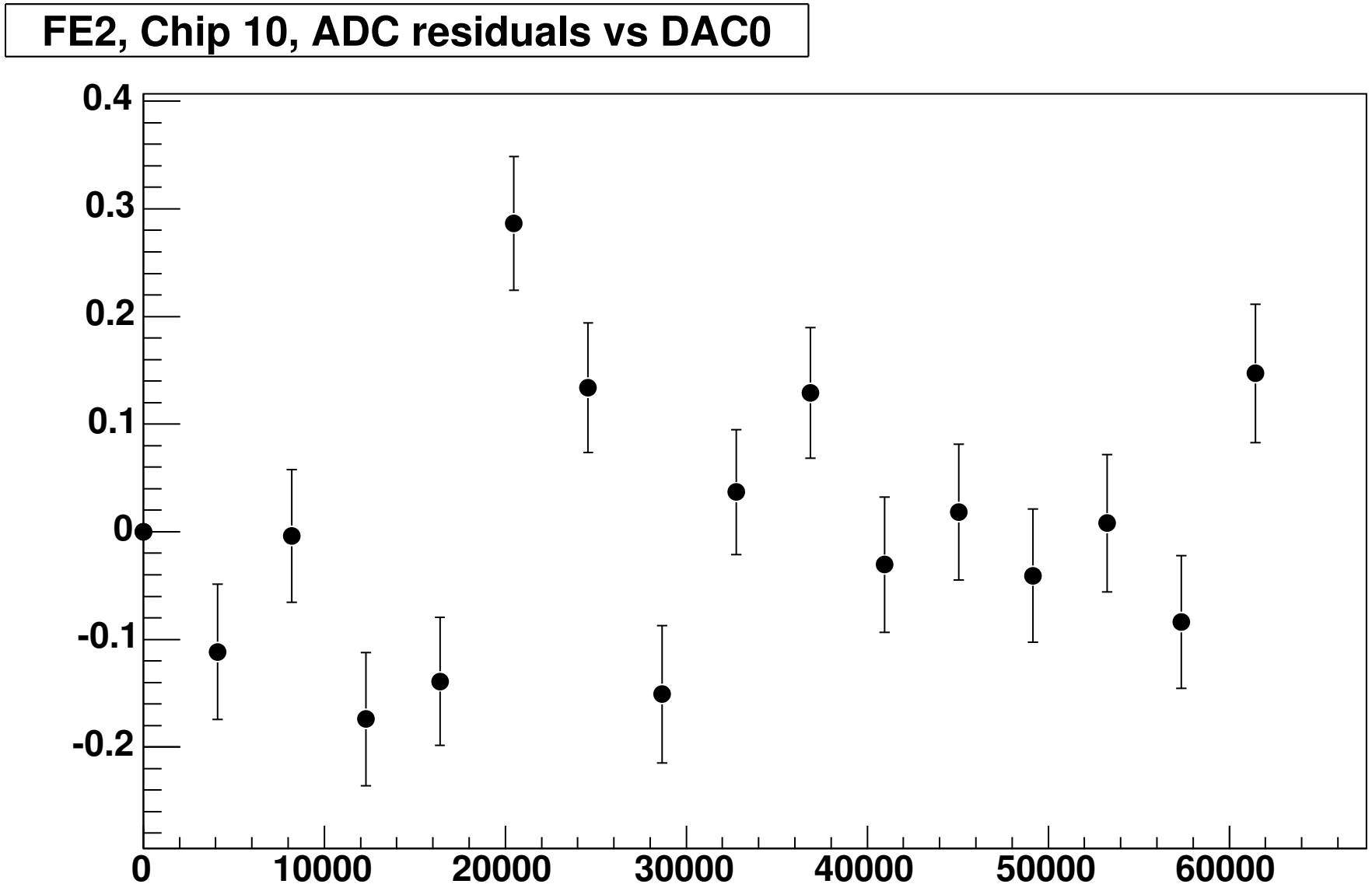
FE2, Chip 9, ADC noise vs DAC1

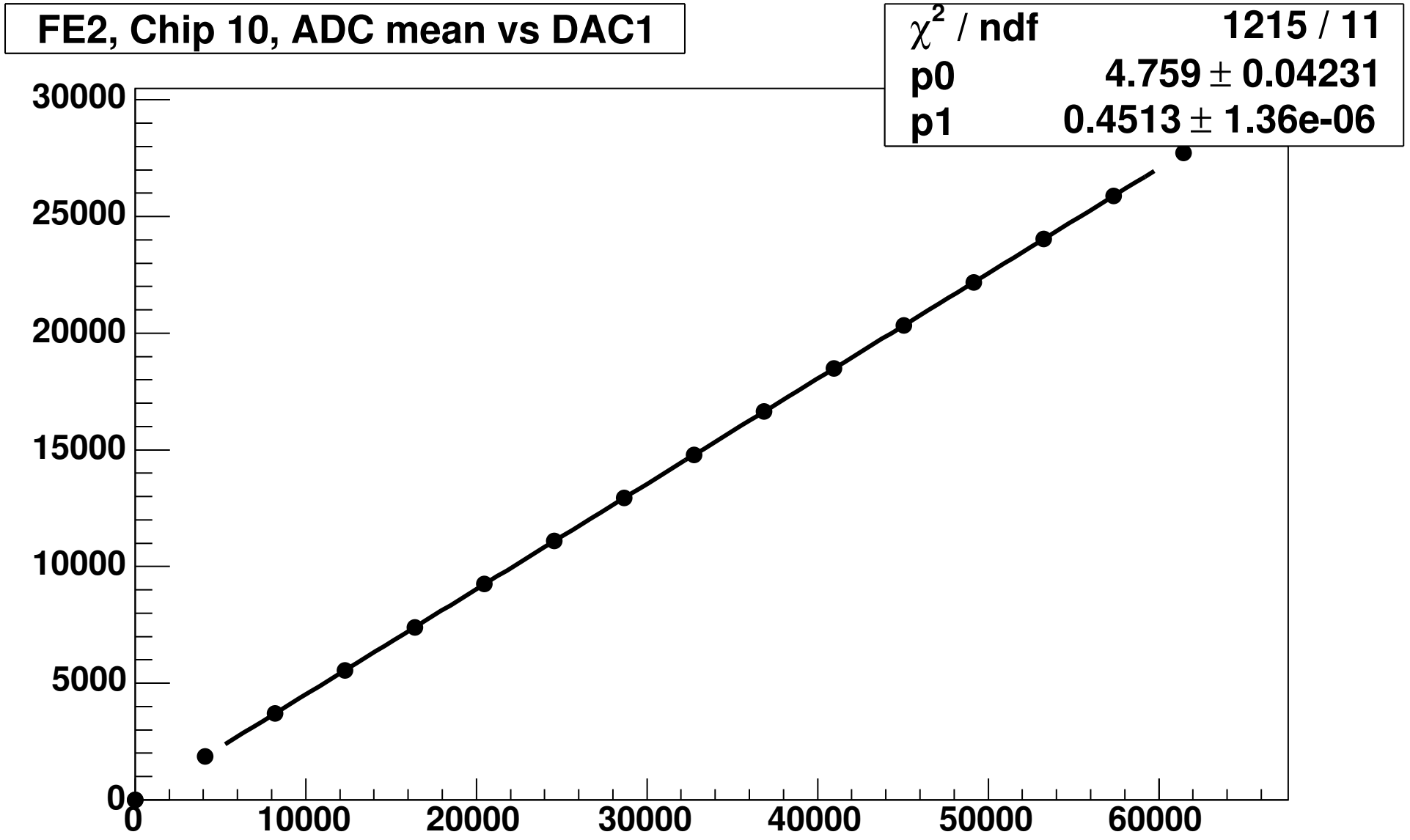


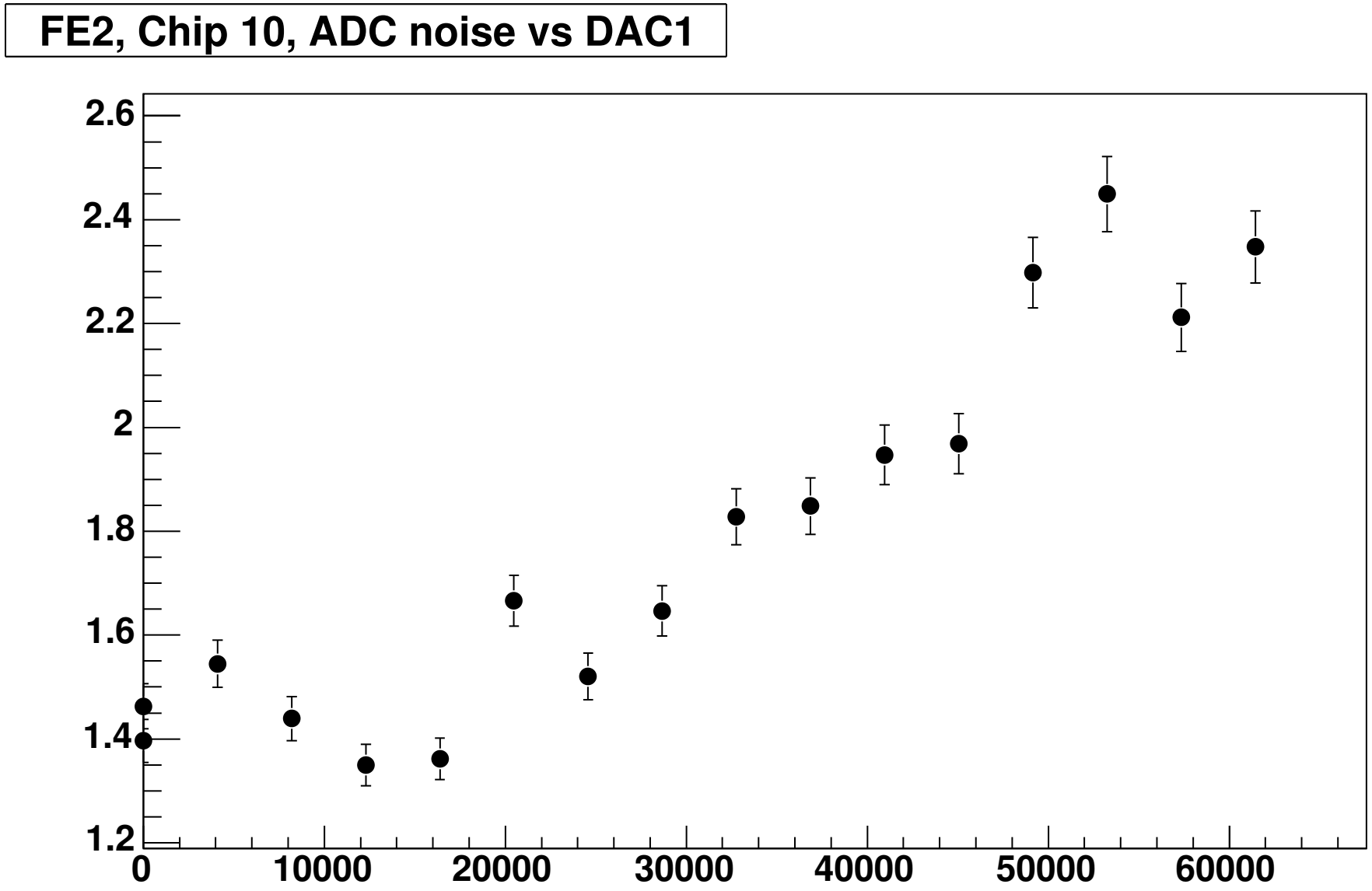

FE2, Chip 9, ADC residuals vs DAC1
2
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

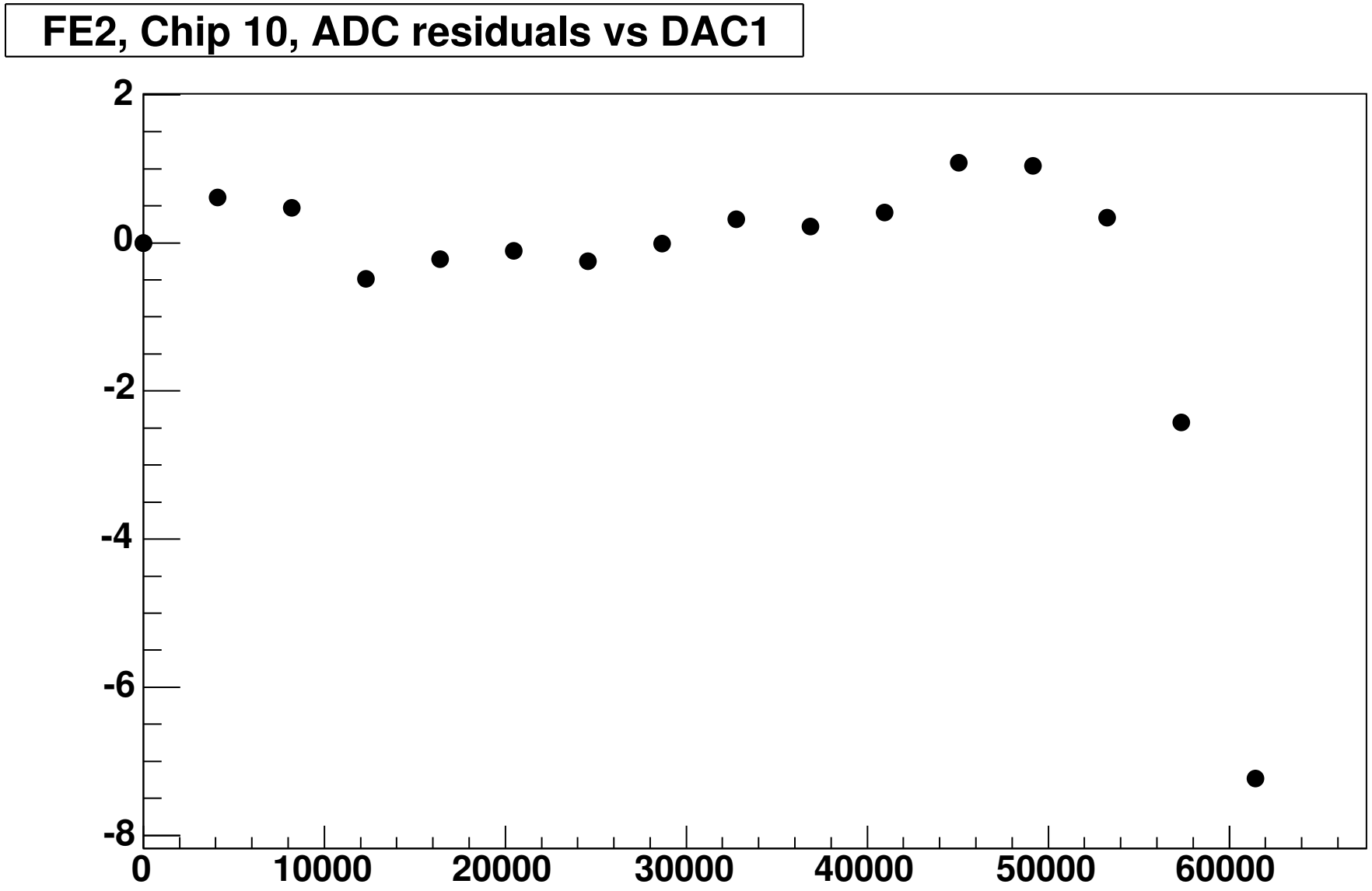

FE2, Chip 10, ADC mean vs DAC0
χ² / ndf 52.69 / 11
p0 5.39 ± 0.0402
p1 -4.696e-06 ± 1.119e-06
5.7
5.6
5.5
5.4
5.3
5.2
5.1
5
0
10000
20000
30000
40000
50000
60000

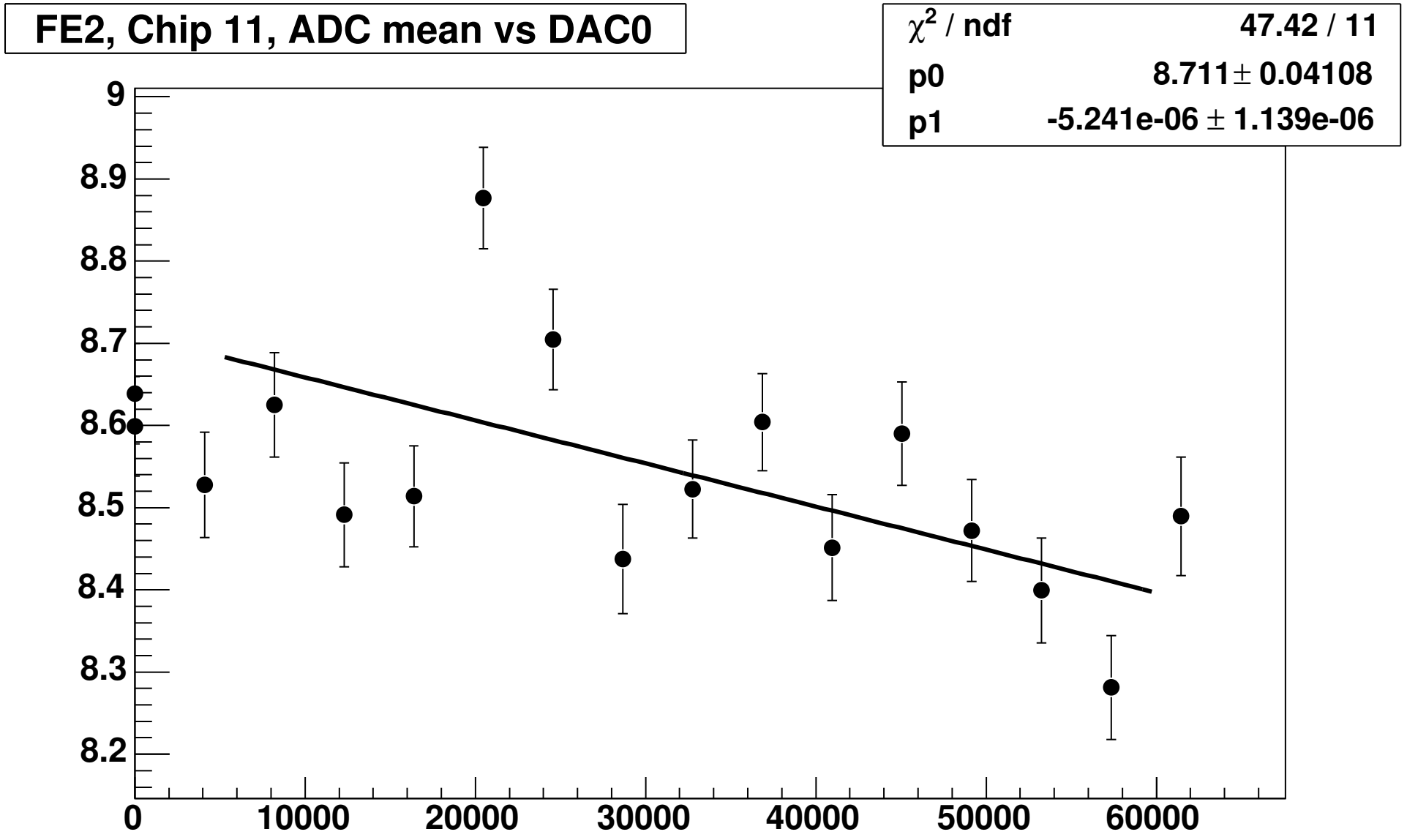

FE2, Chip 10, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

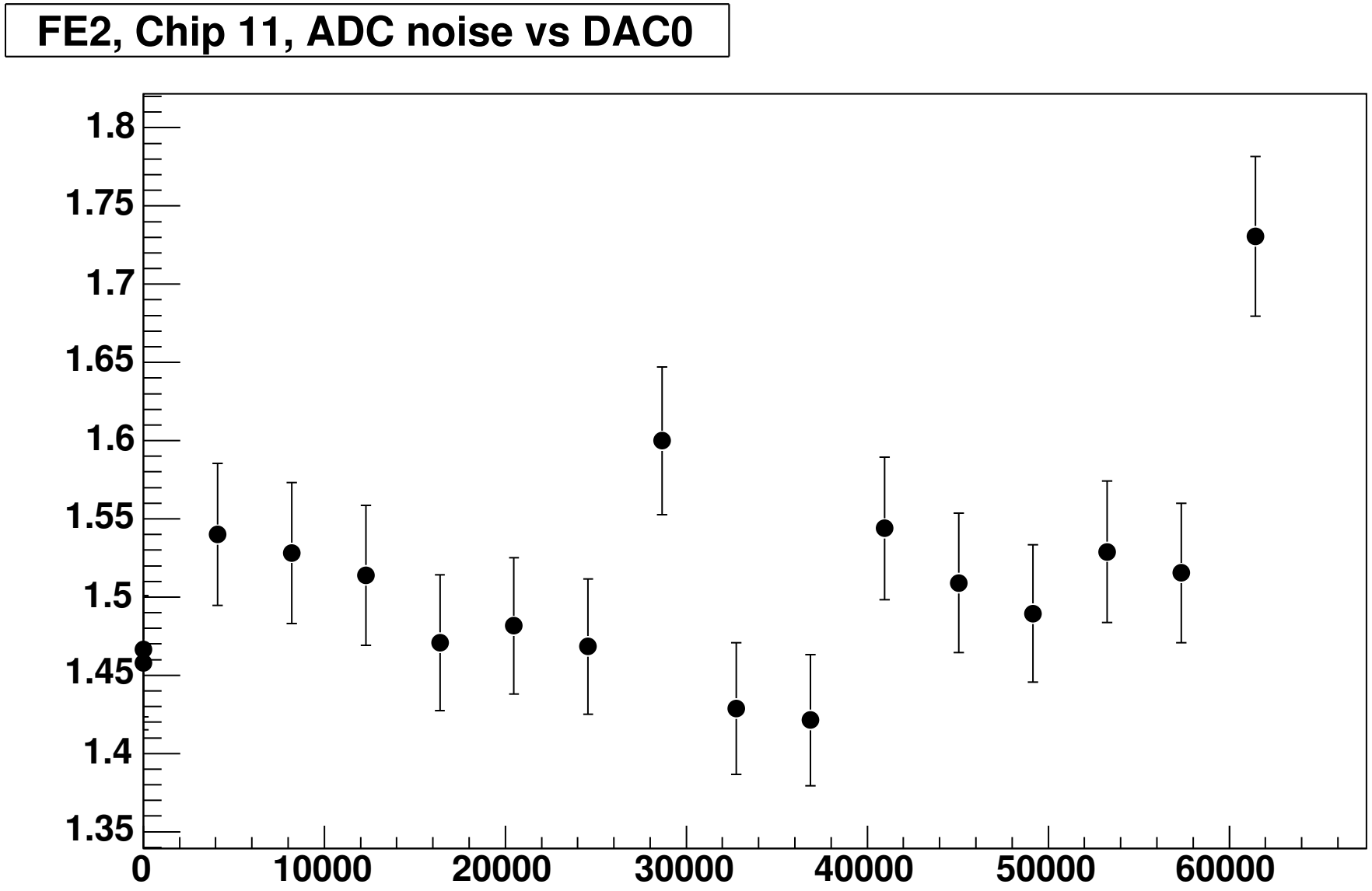

FE2, Chip 10, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

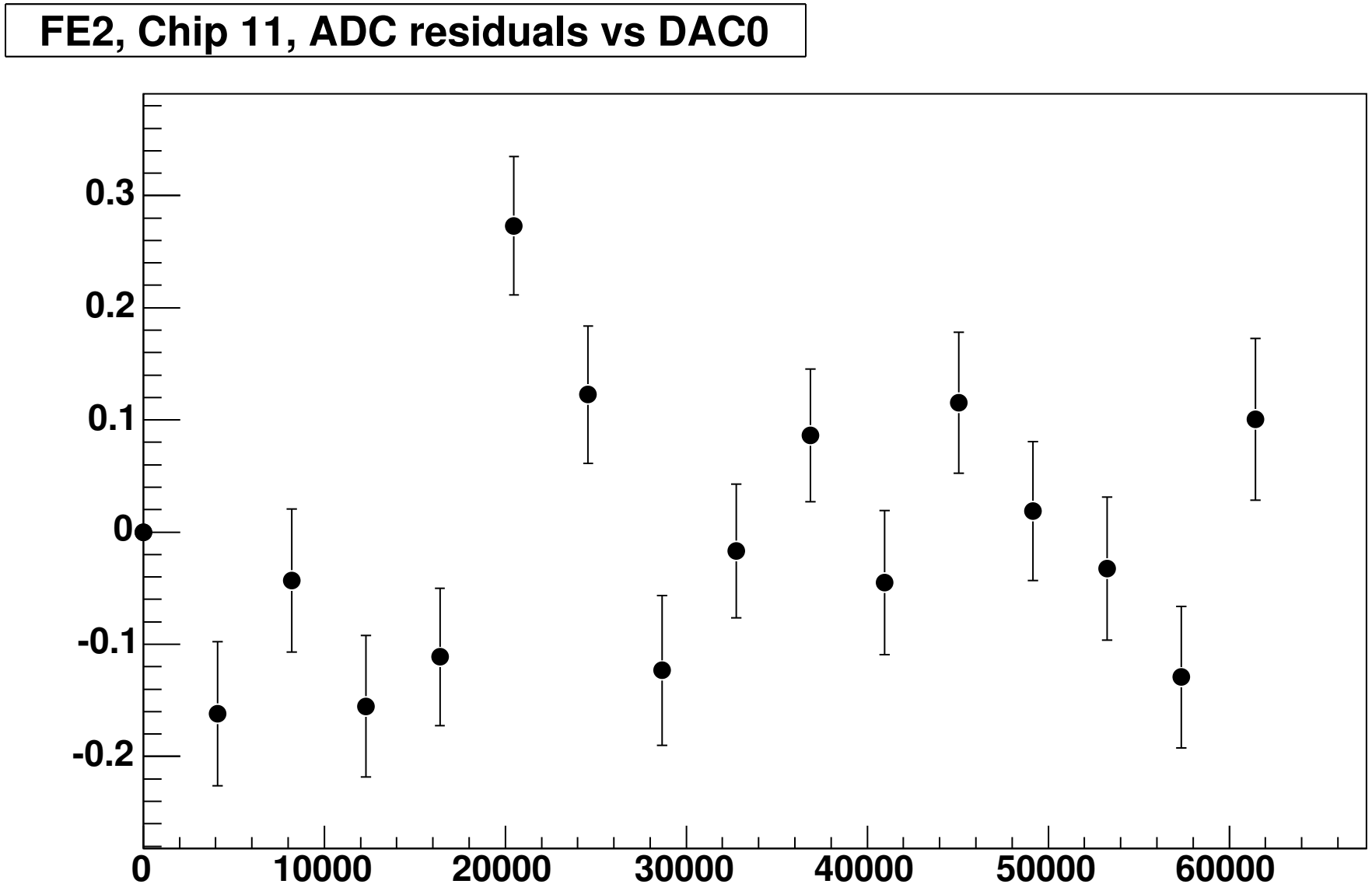

FE2, Chip 10, ADC mean vs DAC1
χ² / ndf 1215 / 11
p0 4.759 ± 0.04231
p1 0.4513 ± 1.36e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

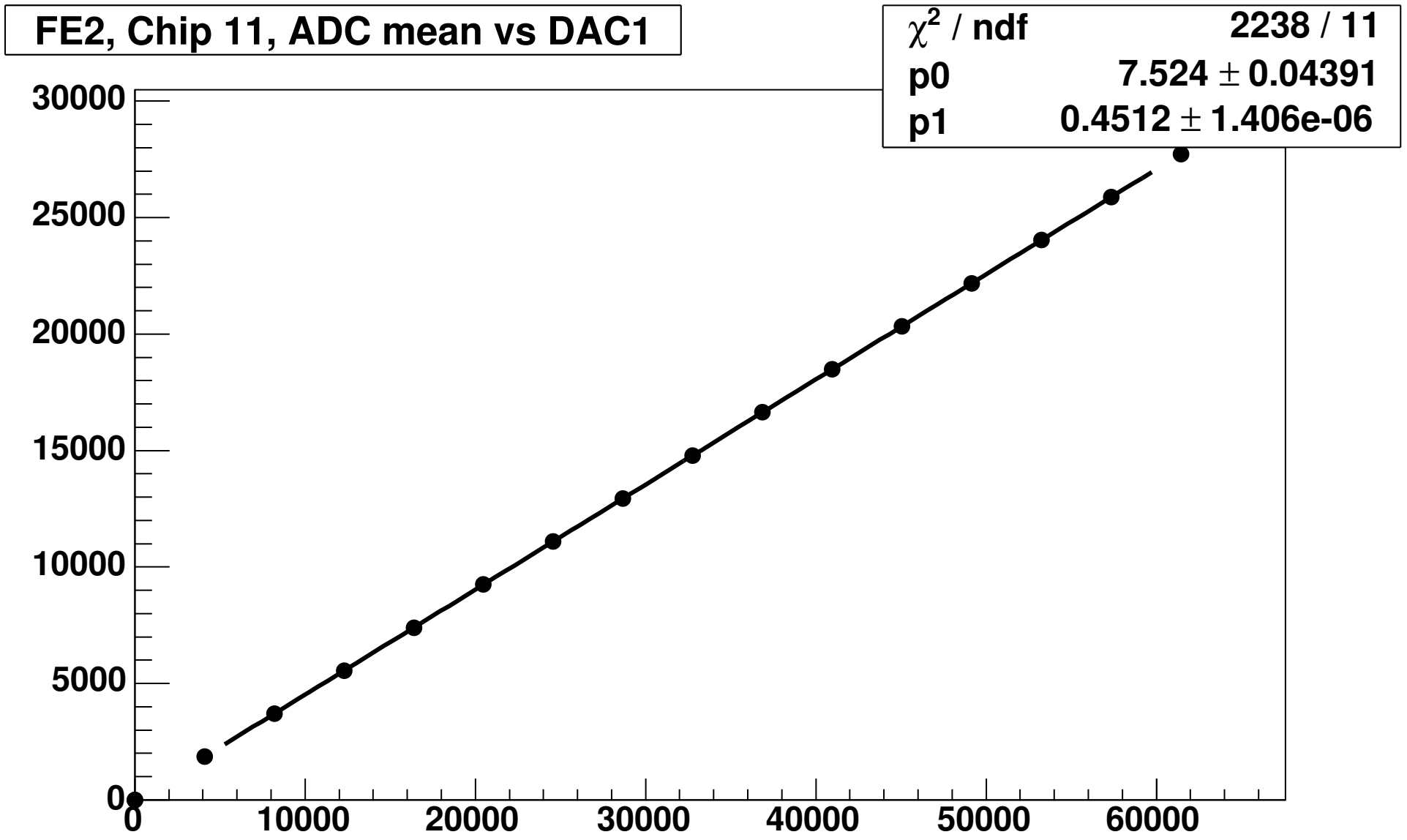

FE2, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

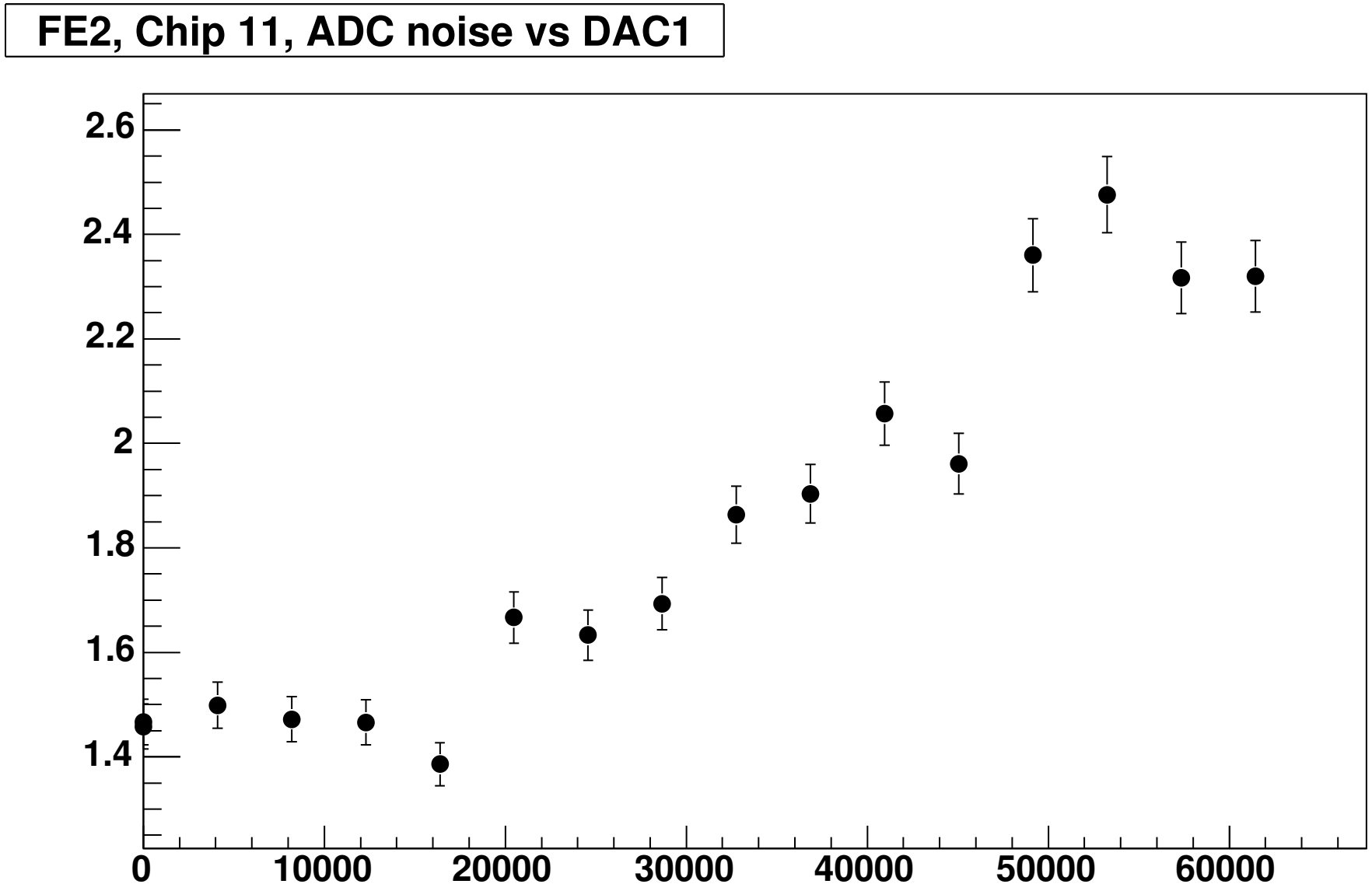

FE2, Chip 10, ADC residuals vs DAC1
2
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

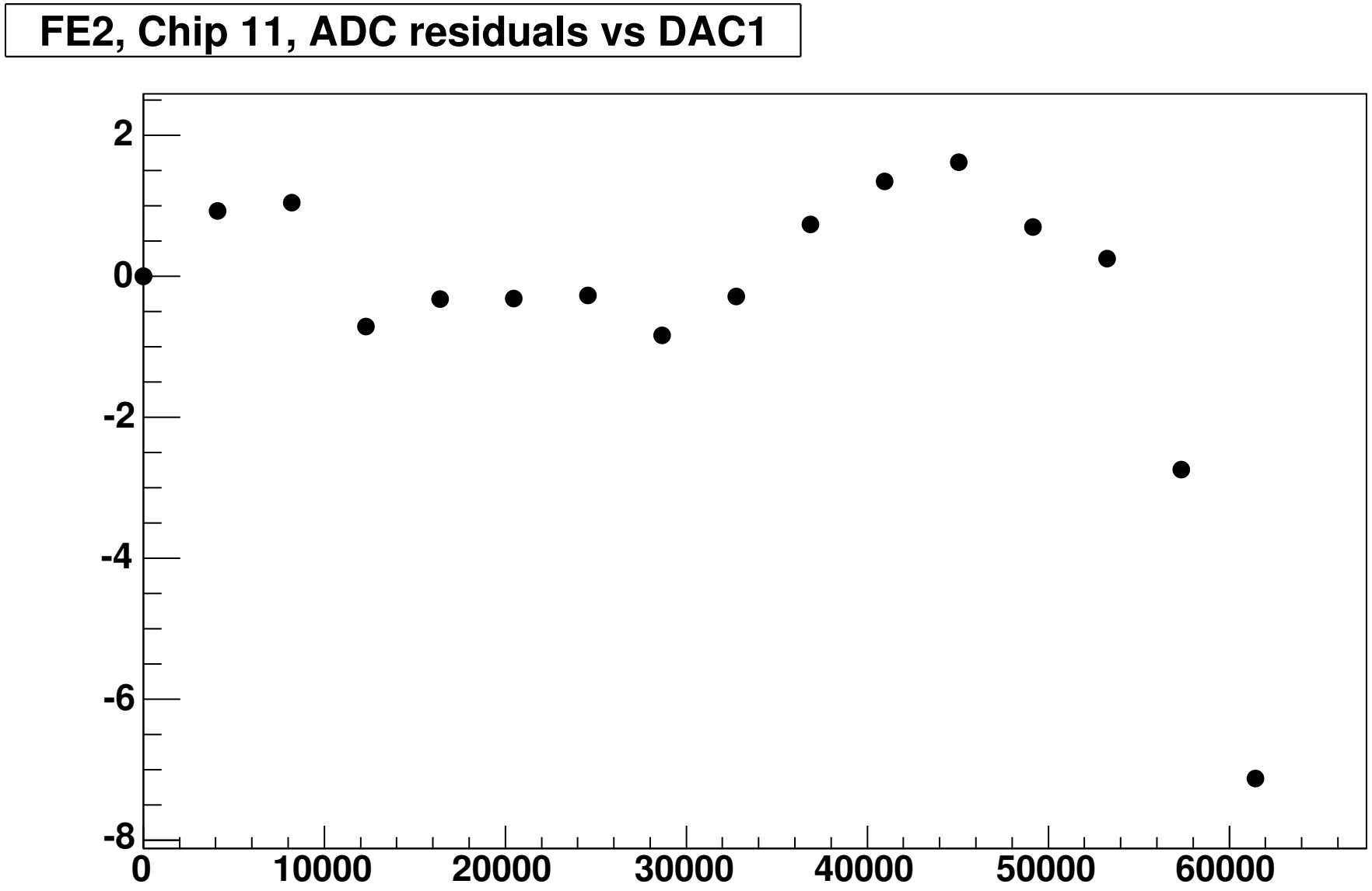

FE2, Chip 11, ADC mean vs DAC0
χ² / ndf 47.42 / 11
p0 8.711 ± 0.04108
p1 -5.241e-06 ± 1.139e-06
9
8.9
8.8
8.7
8.6
8.5
8.4
8.3
8.2
0
10000
20000
30000
40000
50000
60000

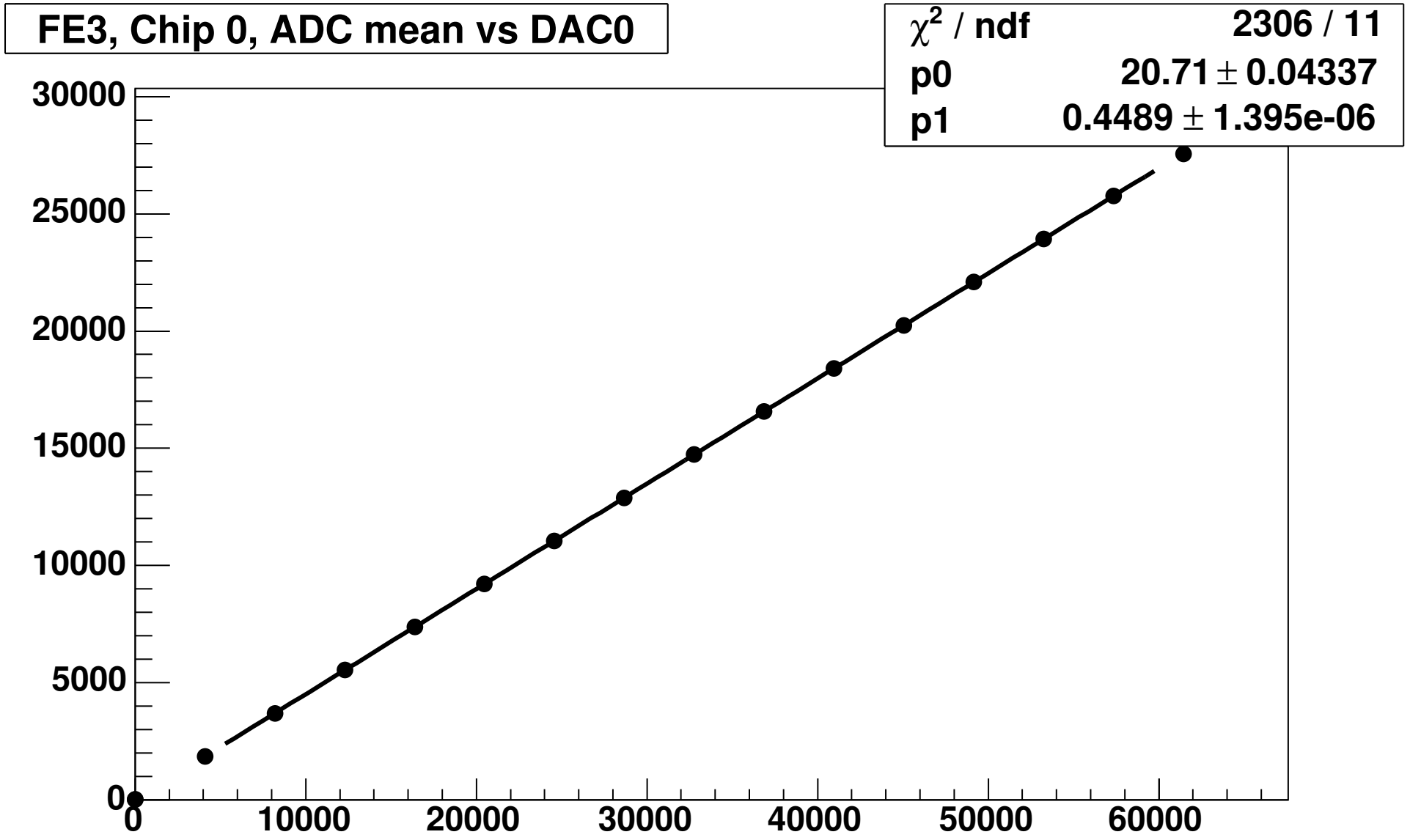

FE2, Chip 11, ADC noise vs DAC0
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

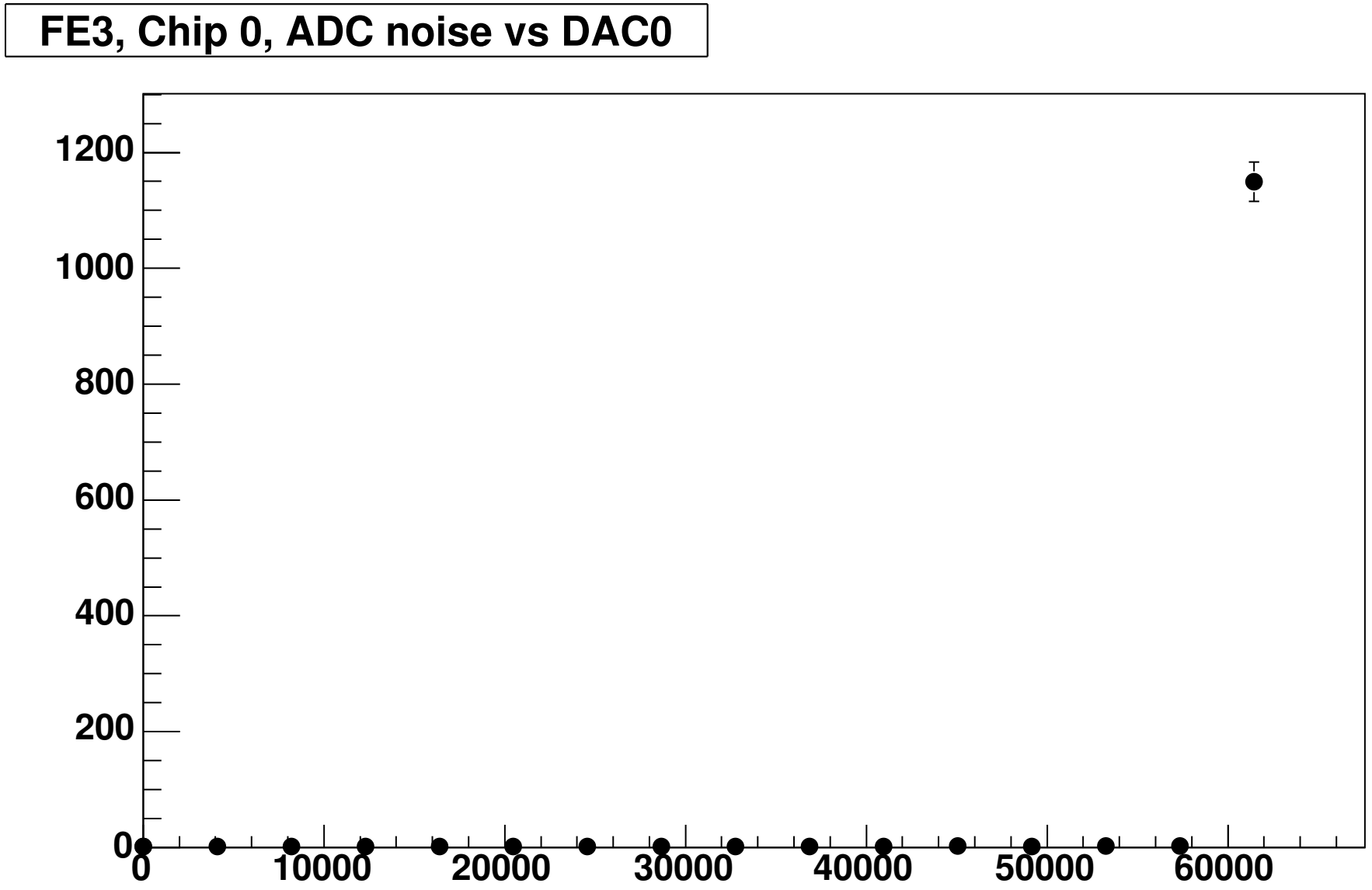

FE2, Chip 11, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

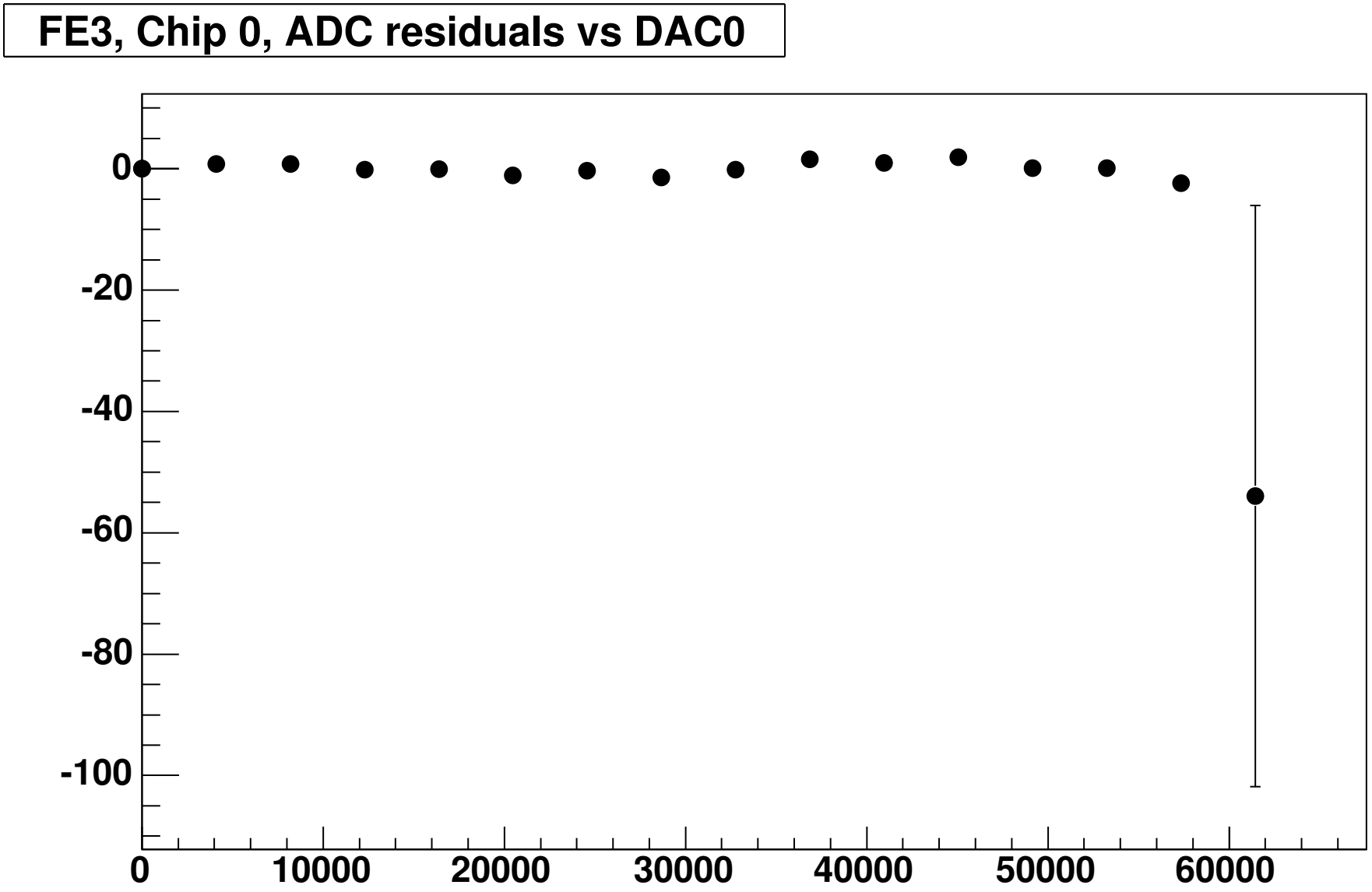

FE2, Chip 11, ADC mean vs DAC1
χ² / ndf 2238 / 11
p0 7.524 ± 0.04391
p1 0.4512 ± 1.406e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

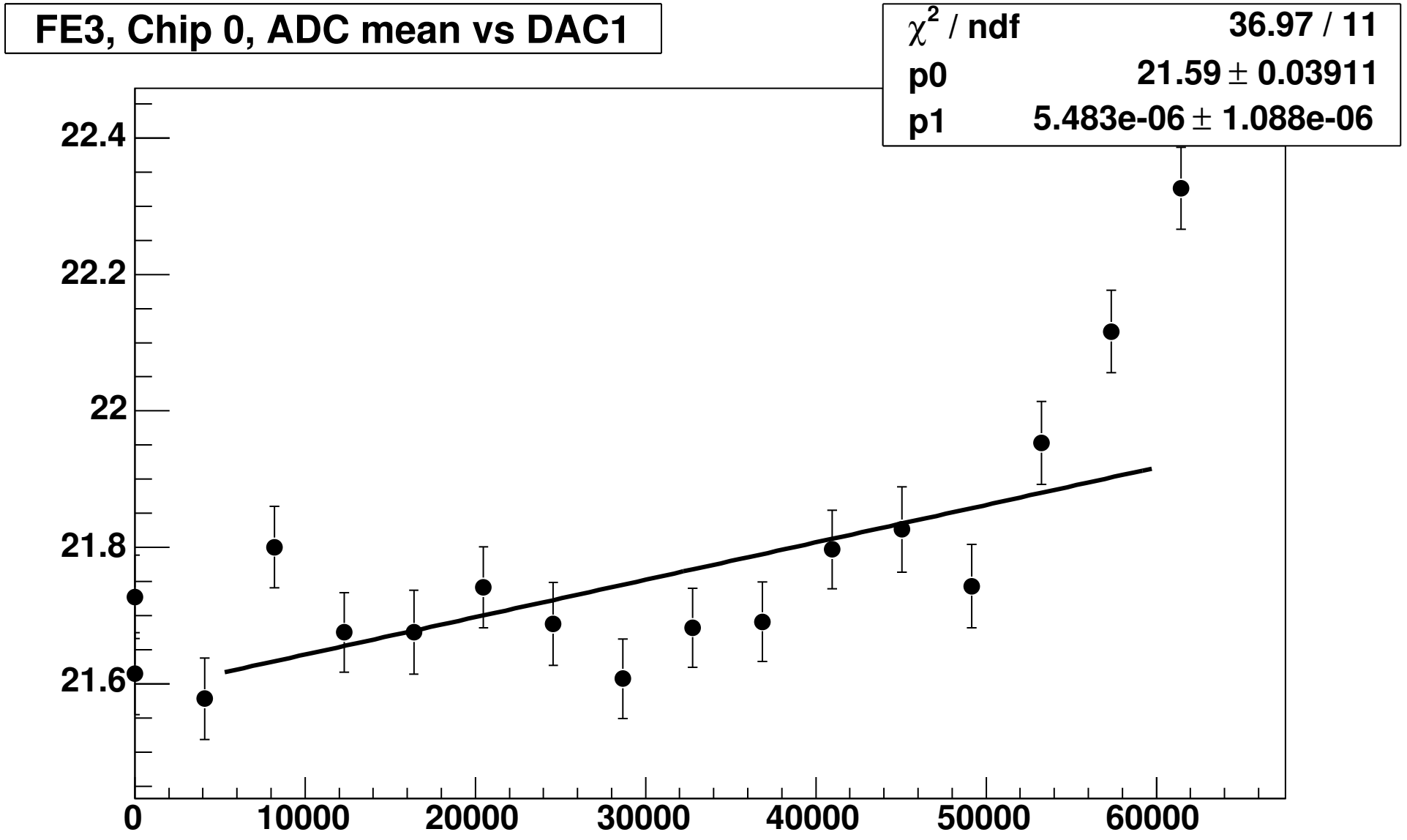

FE2, Chip 11, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

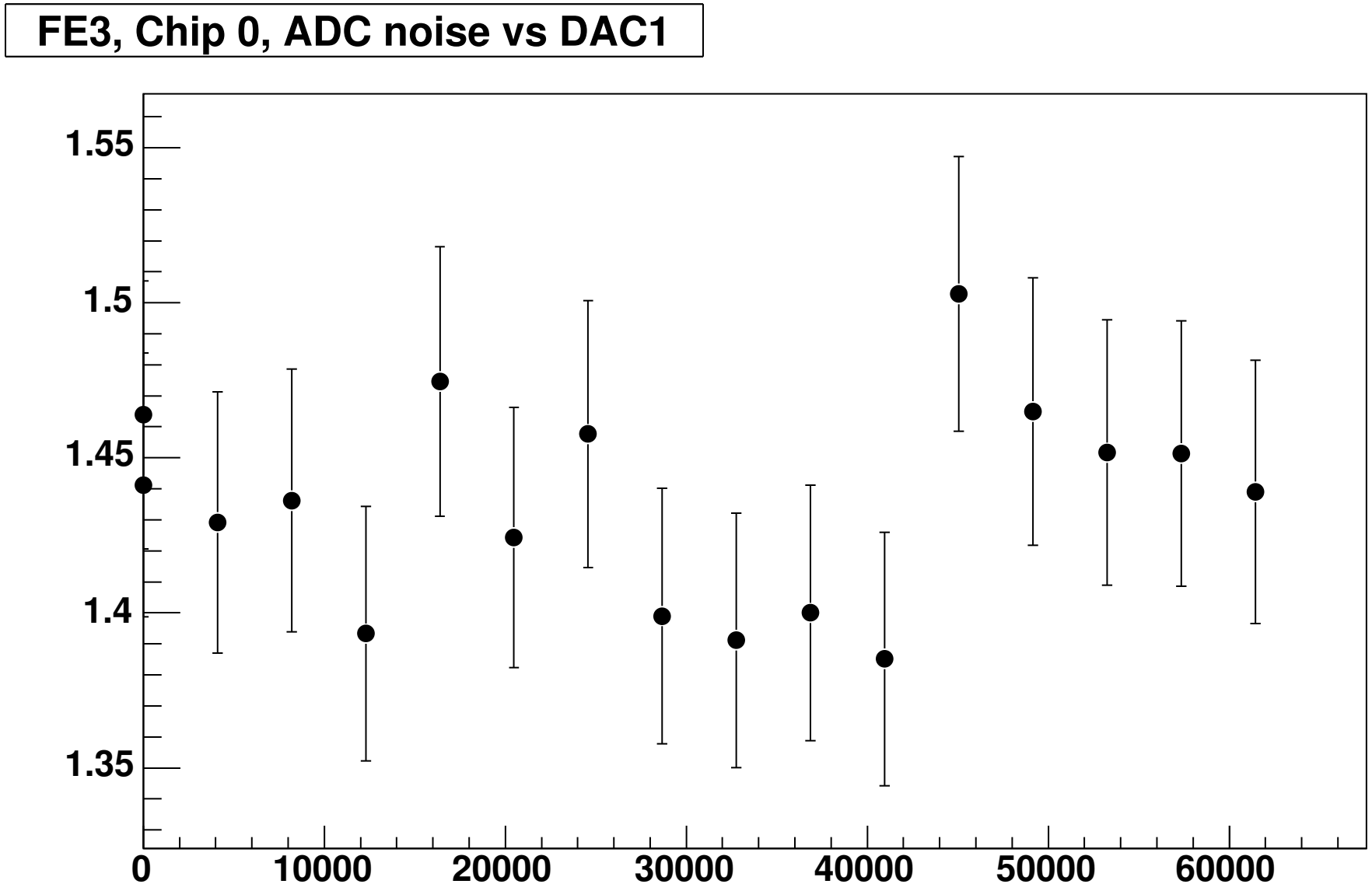

FE2, Chip 11, ADC residuals vs DAC1
2
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

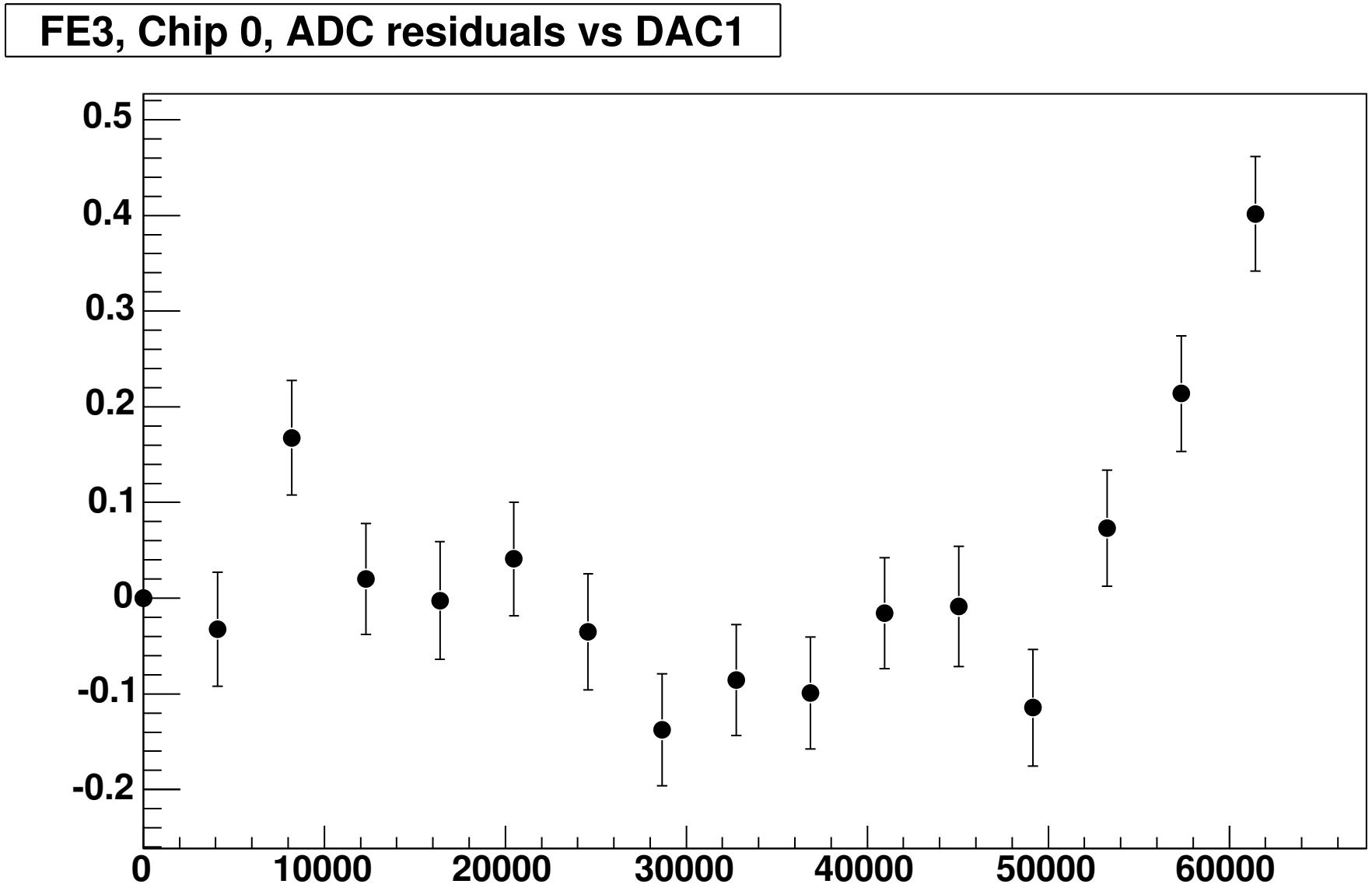

FE3, Chip 0, ADC mean vs DAC0
χ² / ndf 2306 / 11
p0 20.71 ± 0.04337
p1 0.4489 ± 1.395e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

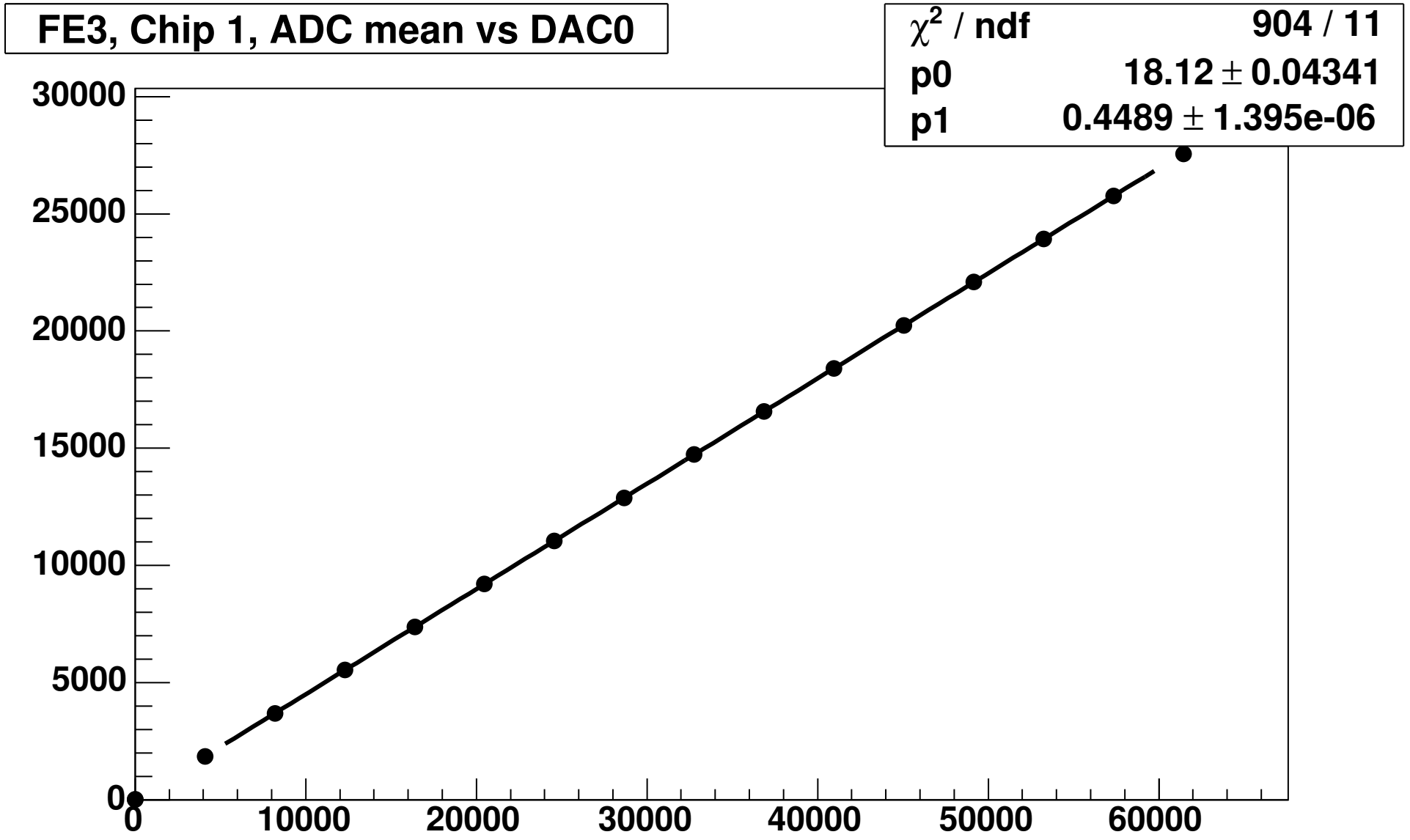

FE3, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

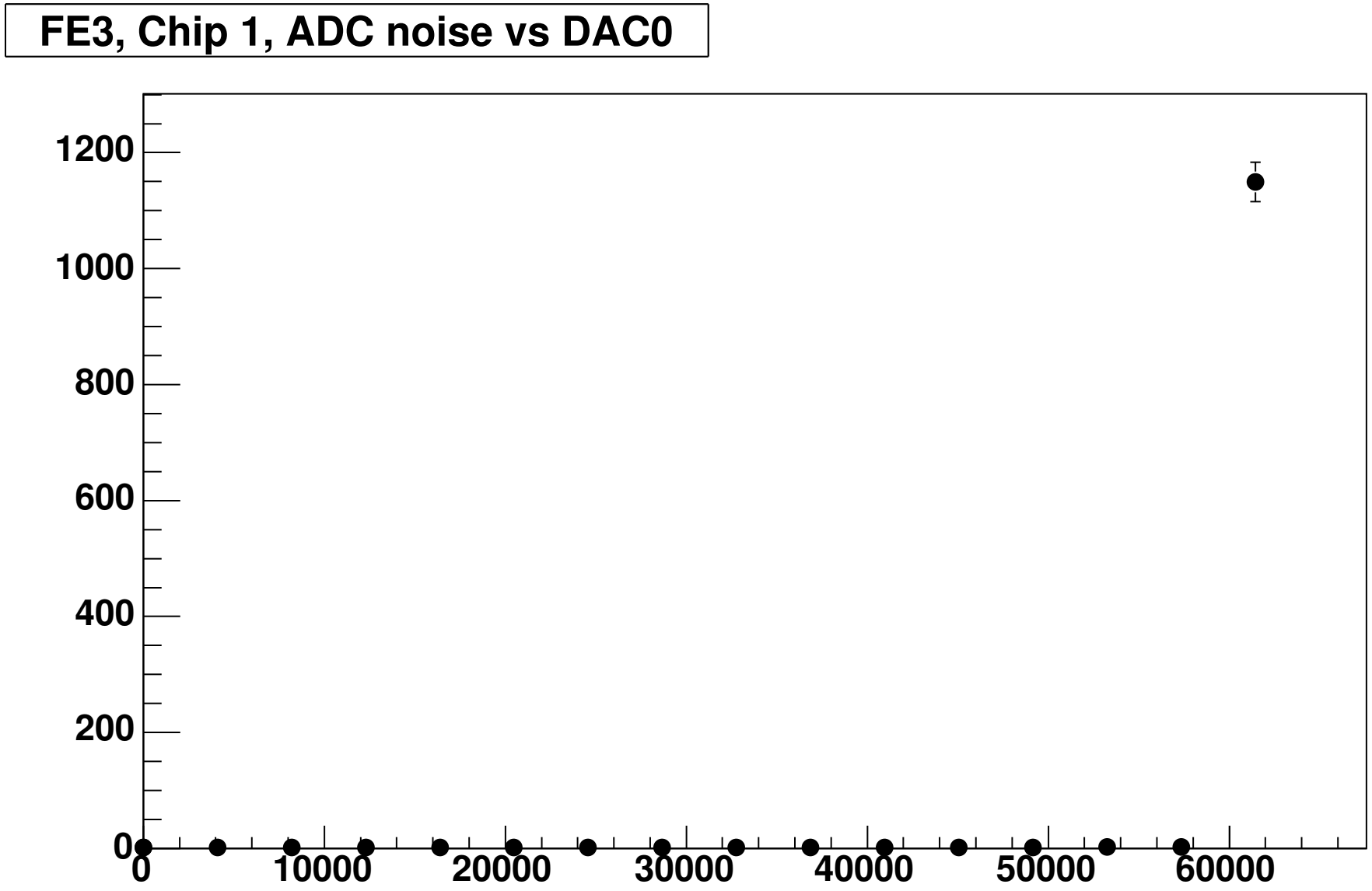

FE3, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

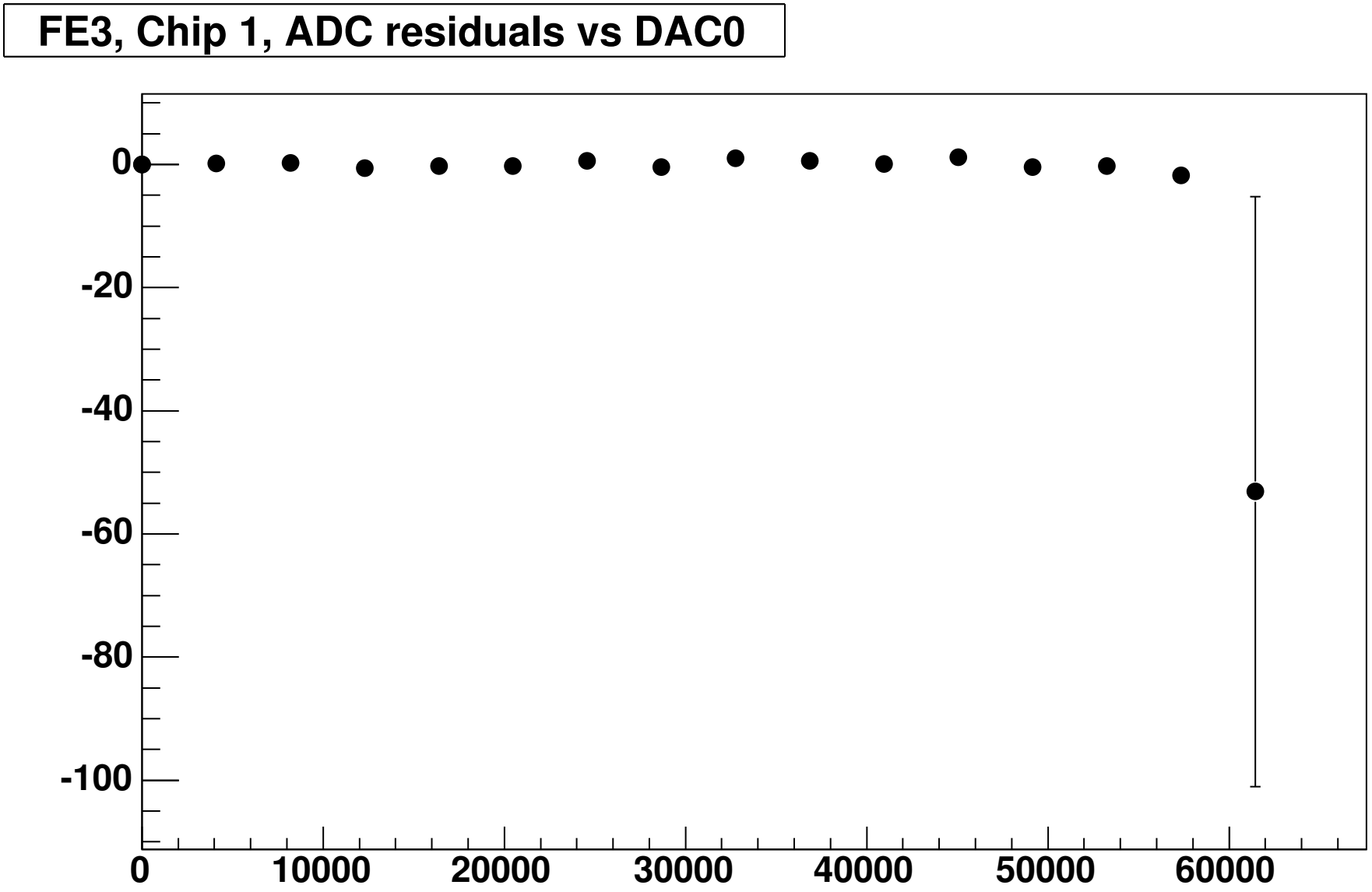

FE3, Chip 0, ADC mean vs DAC1
χ² / ndf 36.97 / 11
p0 21.59 ± 0.03911
p1 5.483e-06 ± 1.088e-06
22.4
22.2
22
21.8
21.6
0
10000
20000
30000
40000
50000
60000

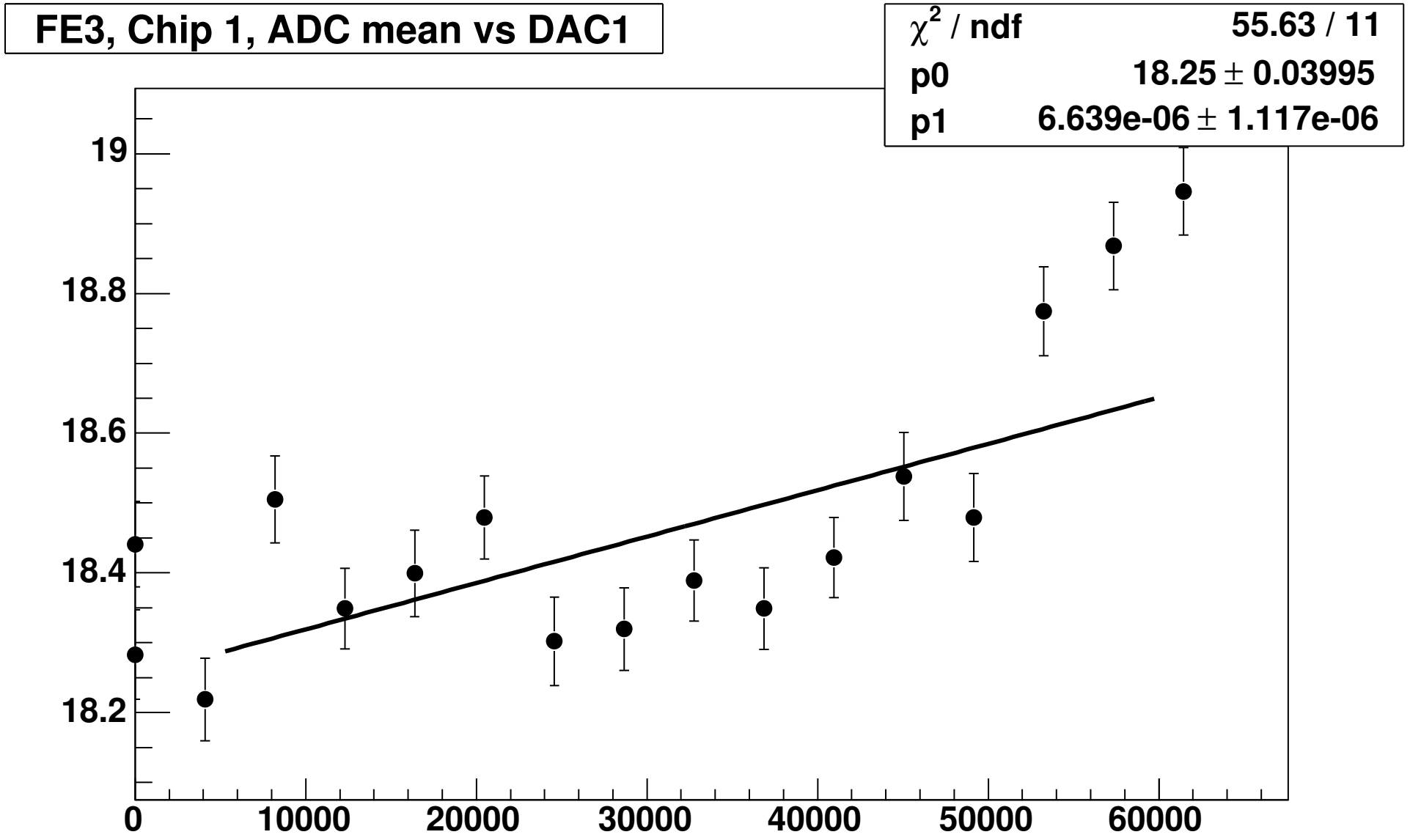

FE3, Chip 0, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

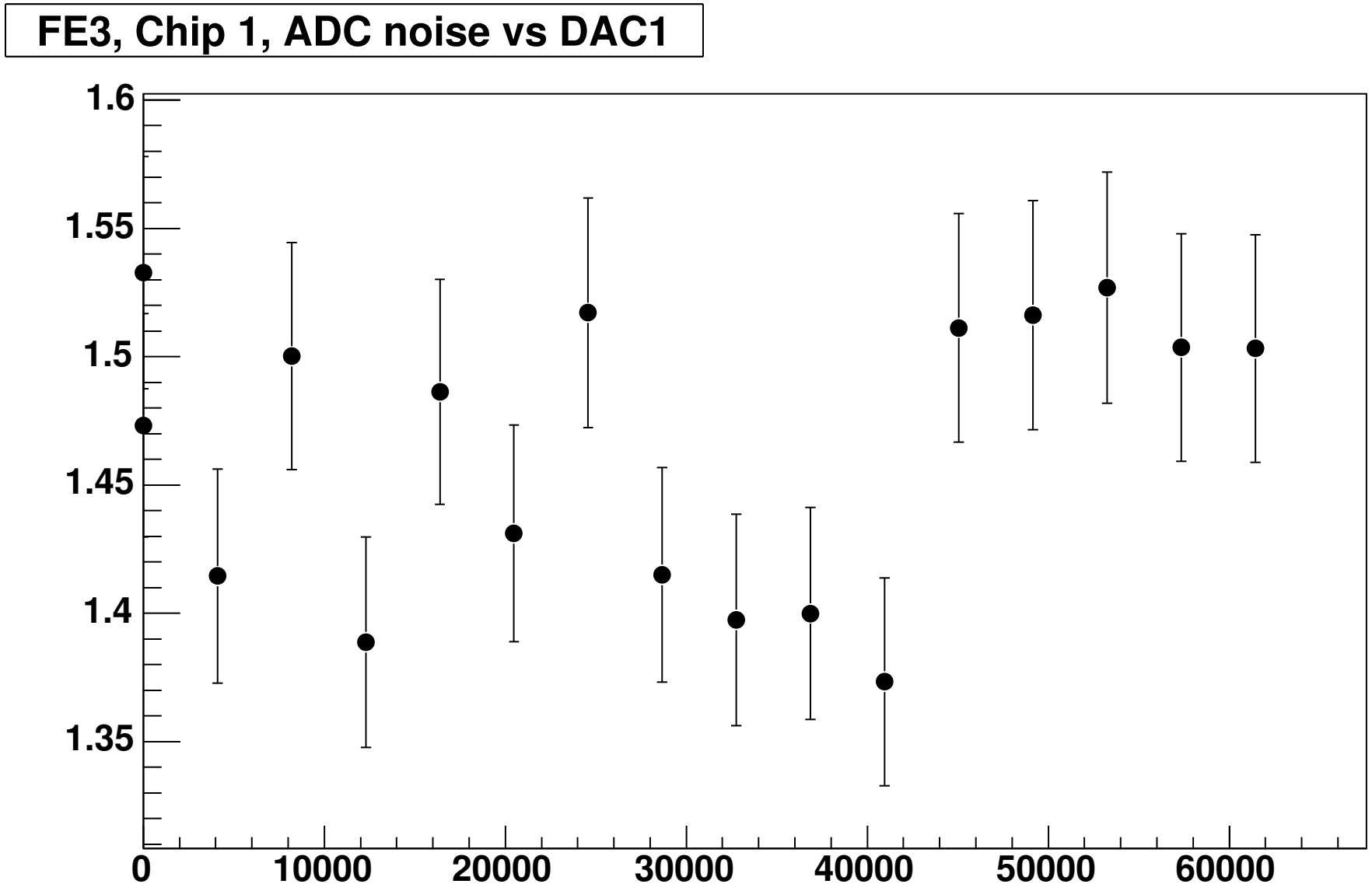

FE3, Chip 0, ADC residuals vs DAC1
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

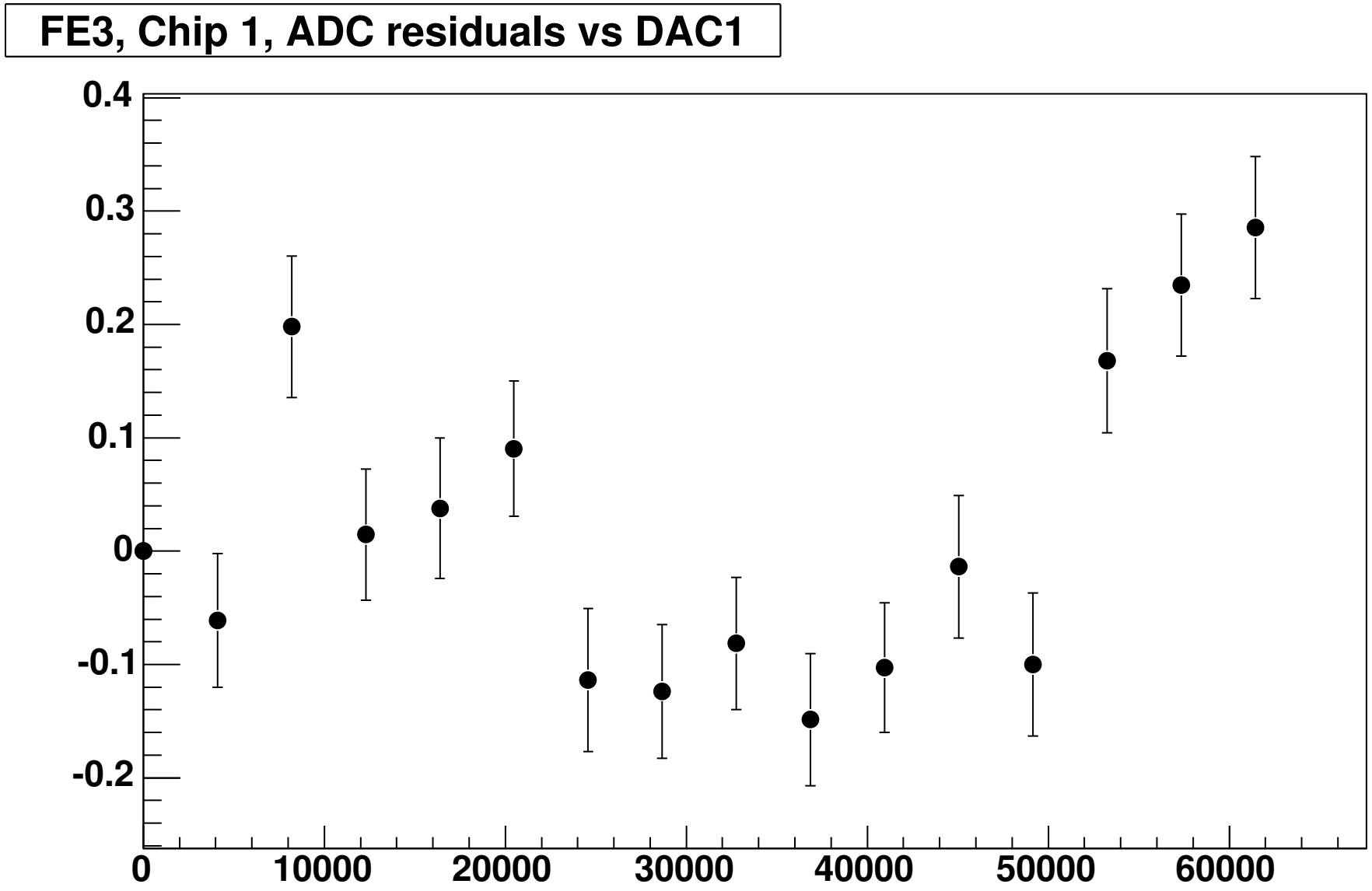

FE3, Chip 1, ADC mean vs DAC0
χ² / ndf 904 / 11
p0 18.12 ± 0.04341
p1 0.4489 ± 1.395e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

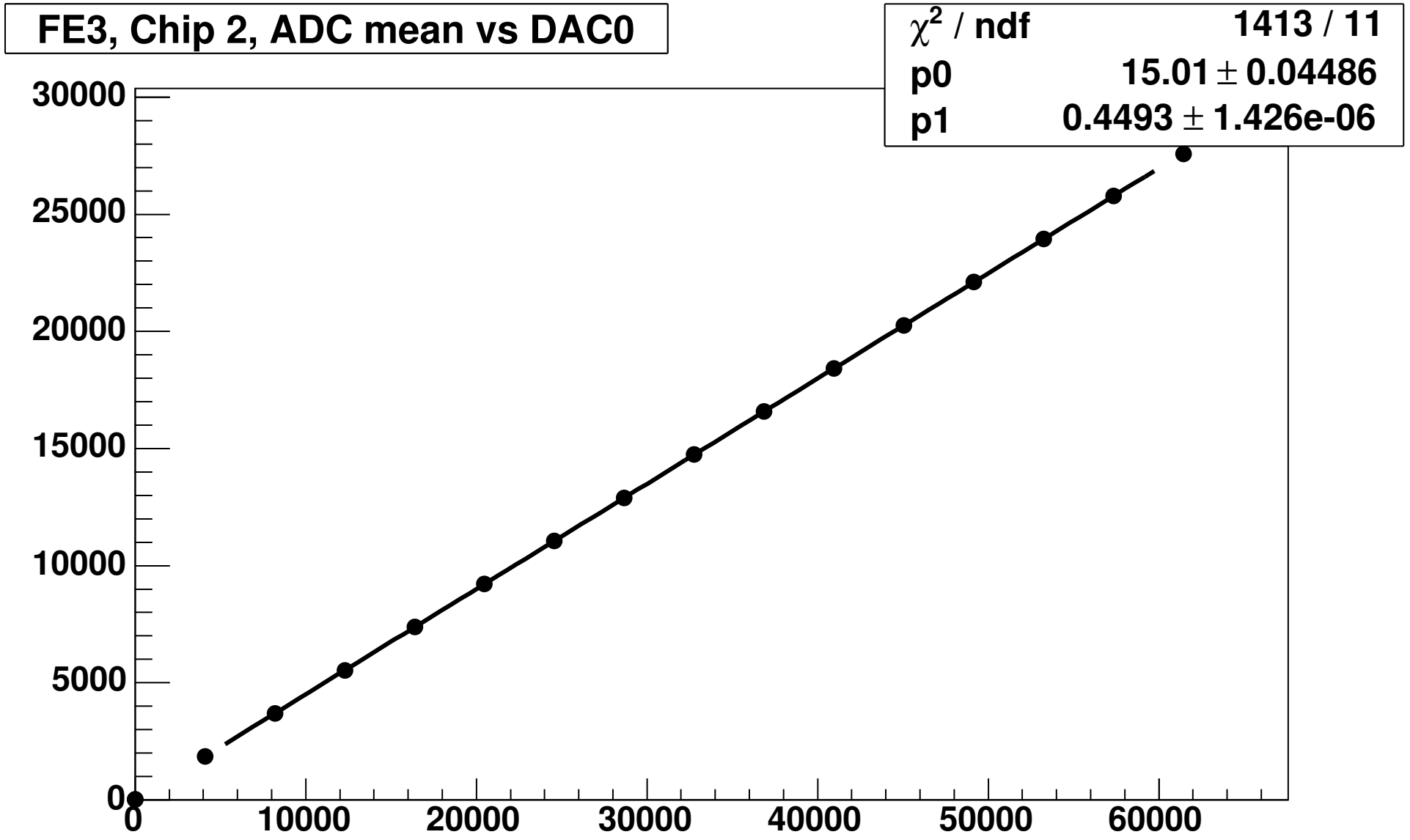

FE3, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

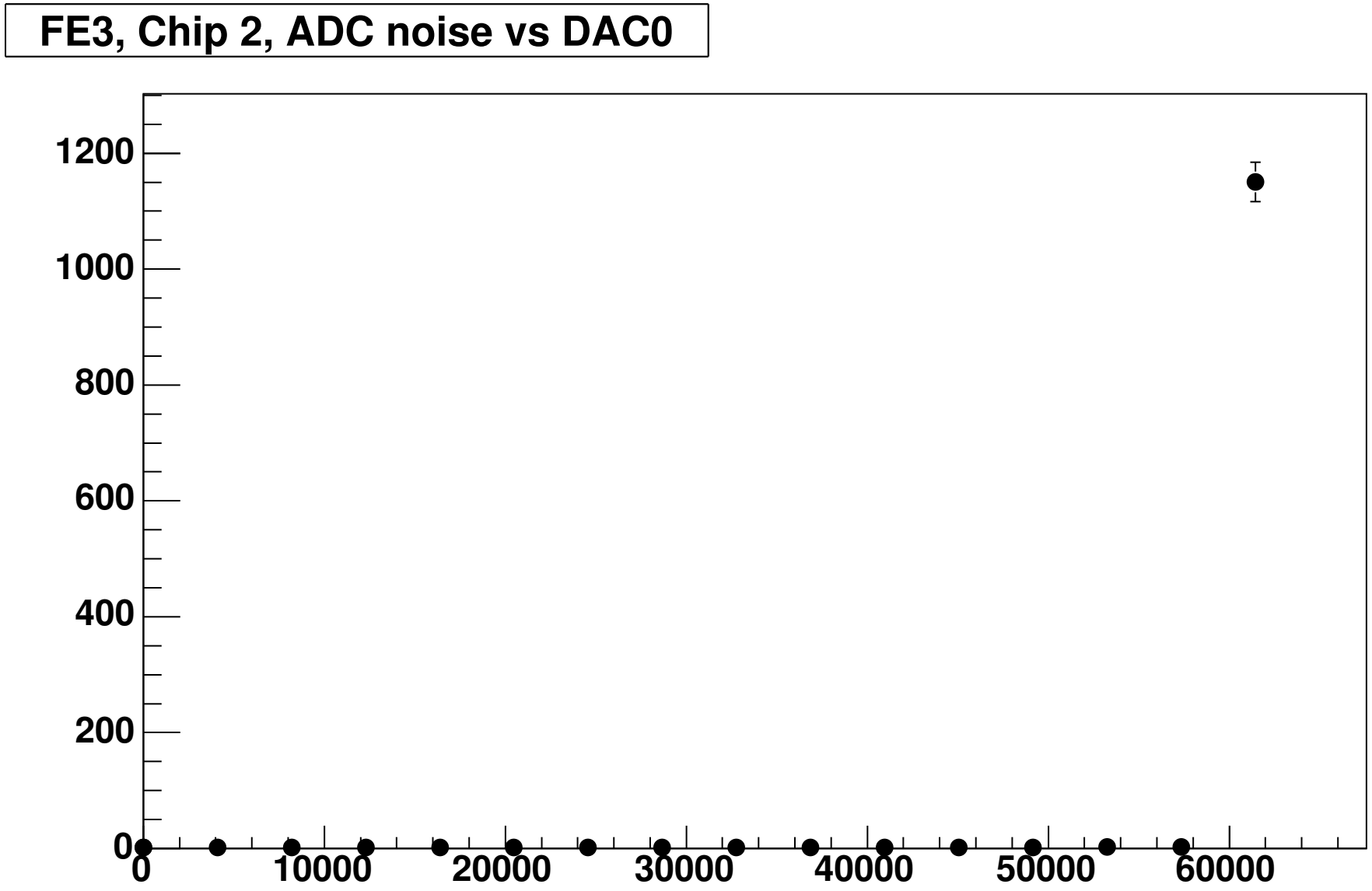

FE3, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

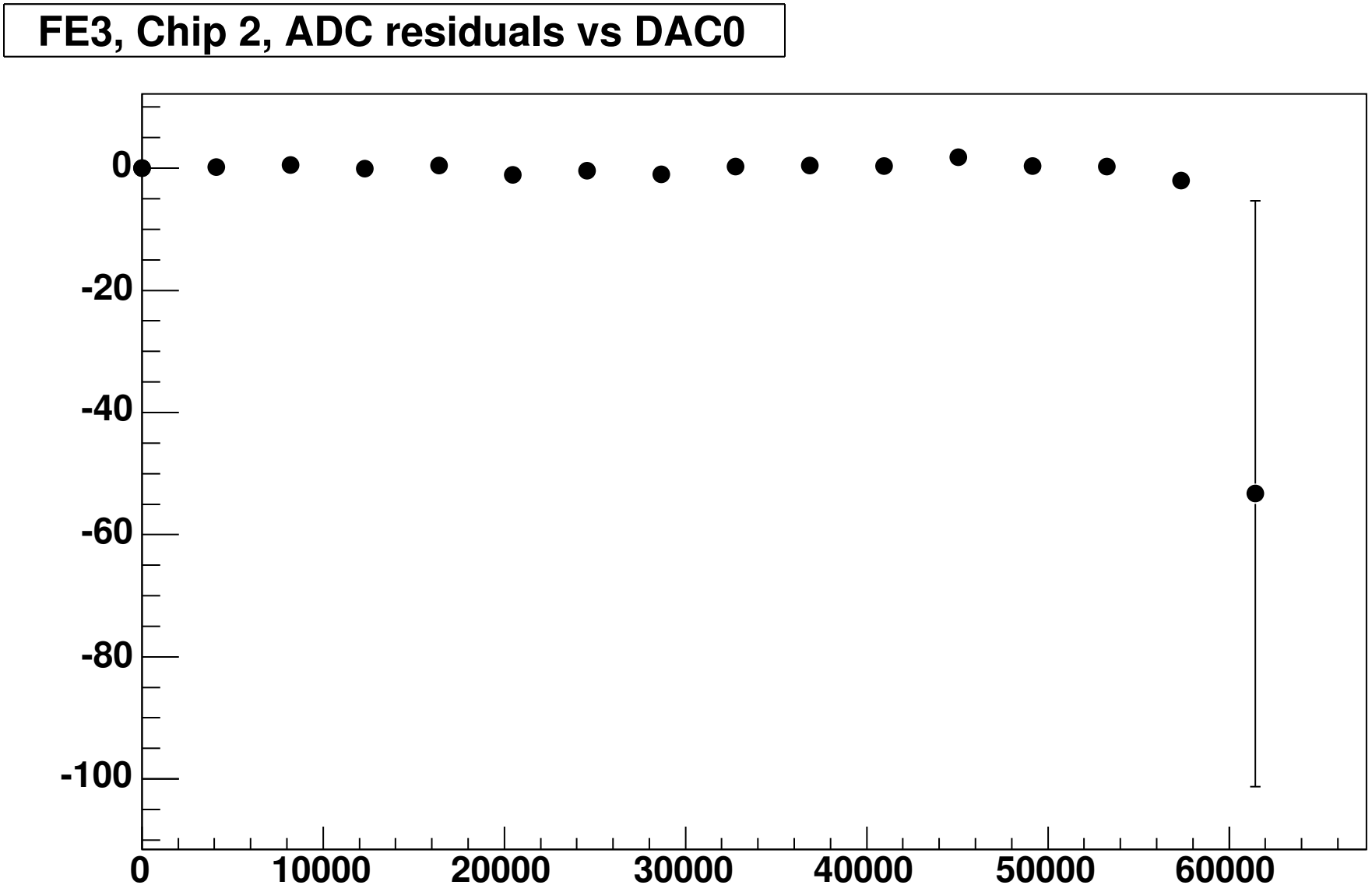

FE3, Chip 1, ADC mean vs DAC1
χ² / ndf 55.63 / 11
p0 18.25 ± 0.03995
p1 6.639e-06 ± 1.117e-06
19
18.8
18.6
18.4
18.2
0
10000
20000
30000
40000
50000
60000

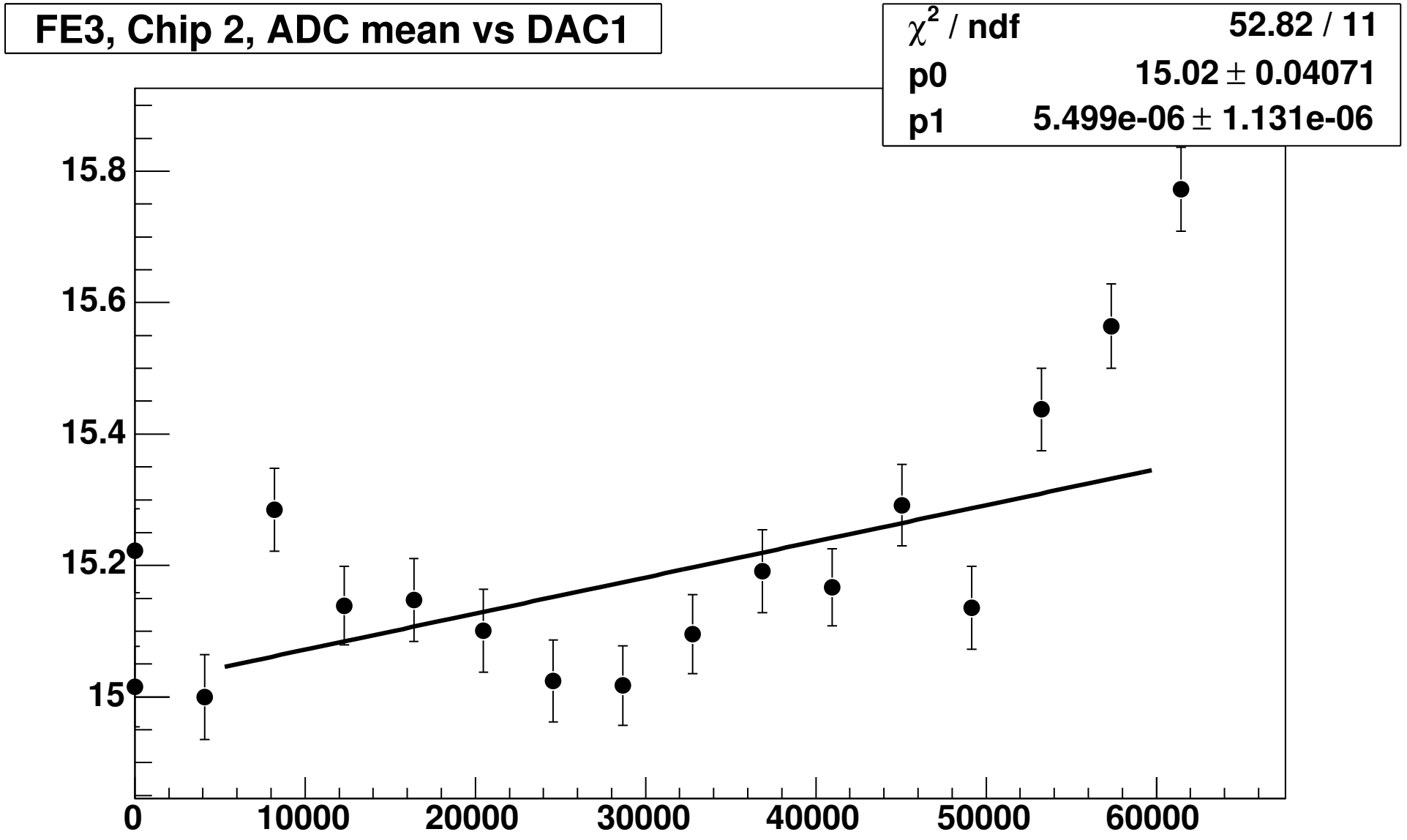

FE3, Chip 1, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

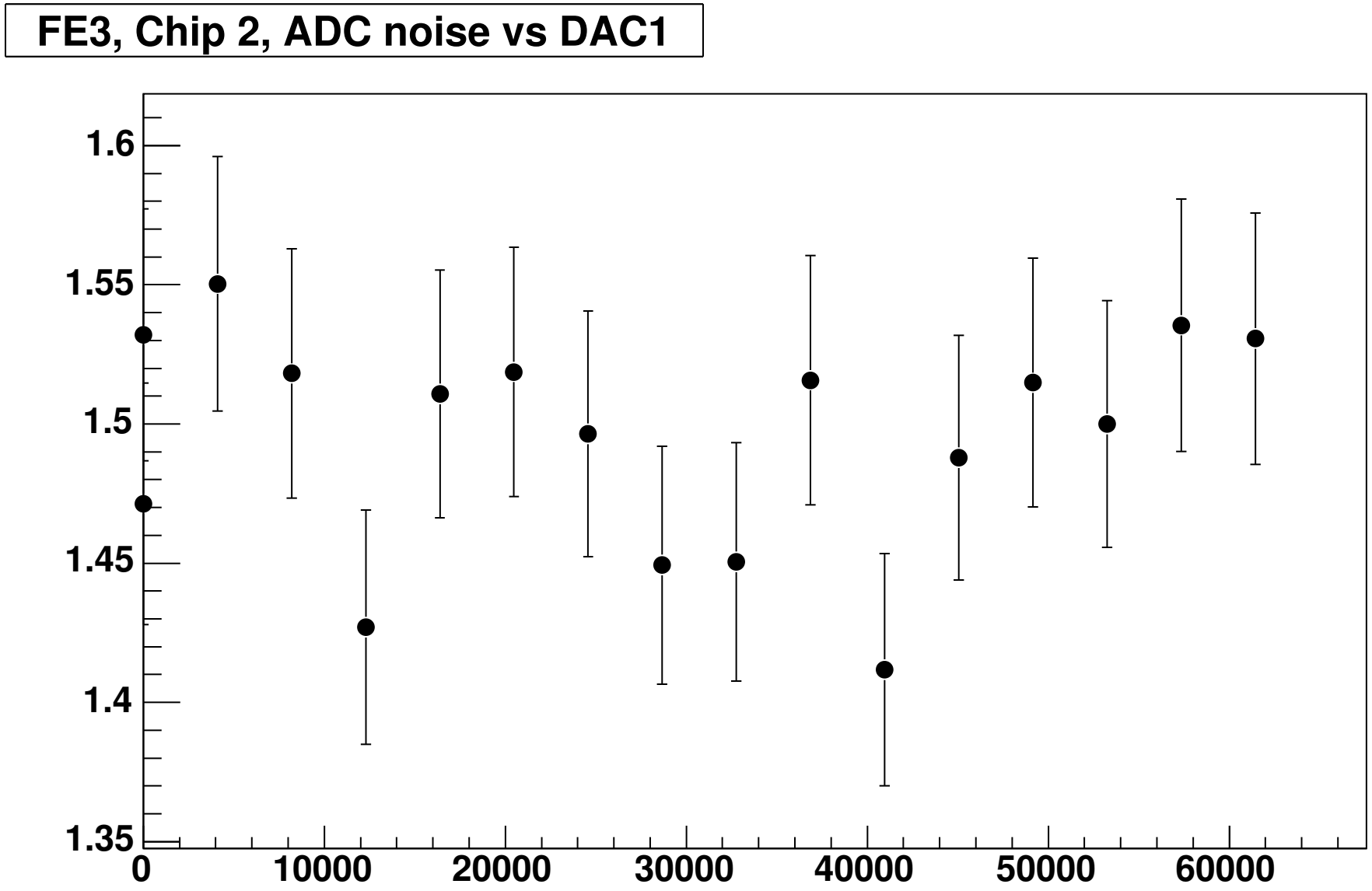

FE3, Chip 1, ADC residuals vs DAC1
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

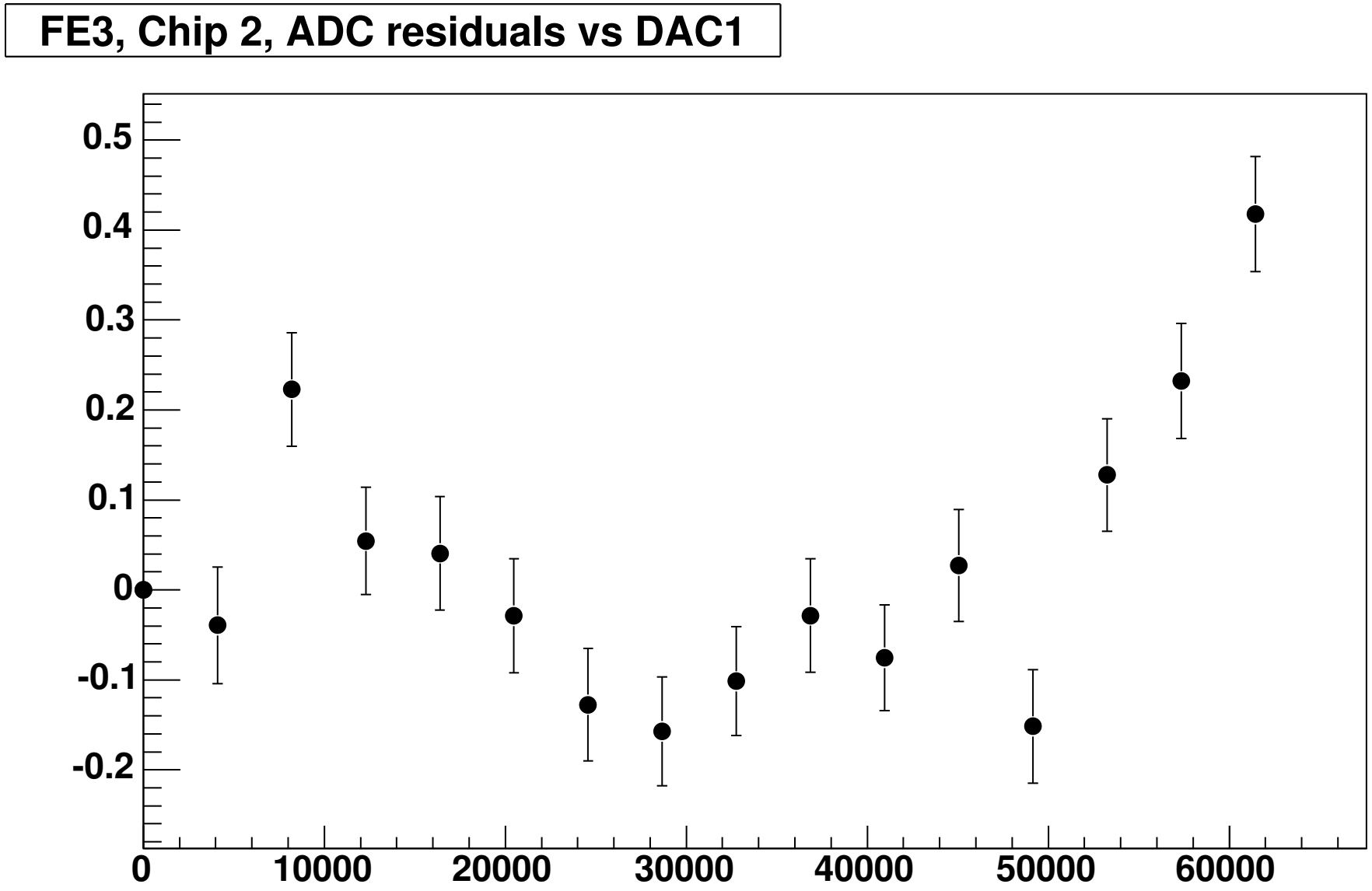

FE3, Chip 2, ADC mean vs DAC0
χ² / ndf 1413 / 11
p0 15.01 ± 0.04486
p1 0.4493 ± 1.426e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

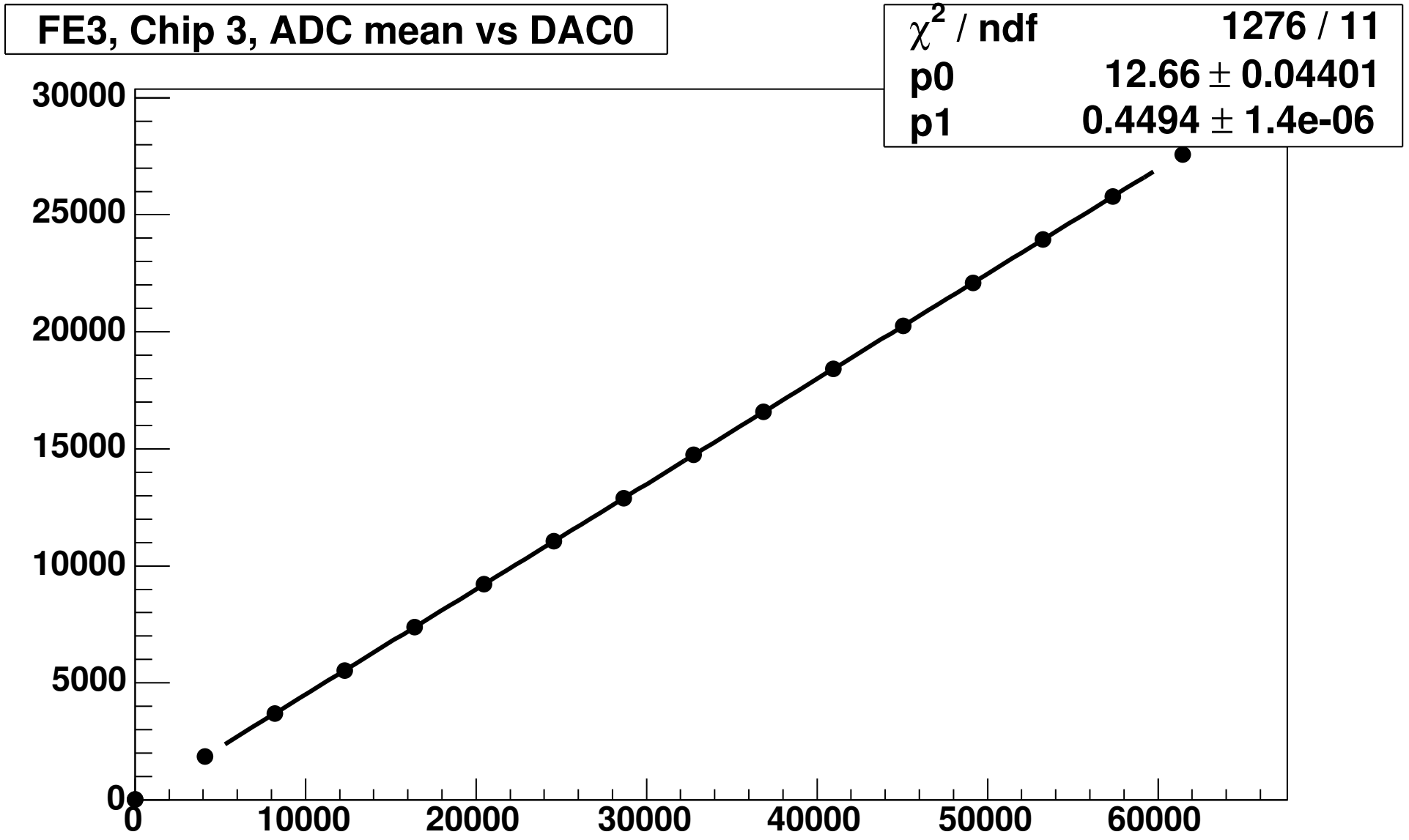

FE3, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

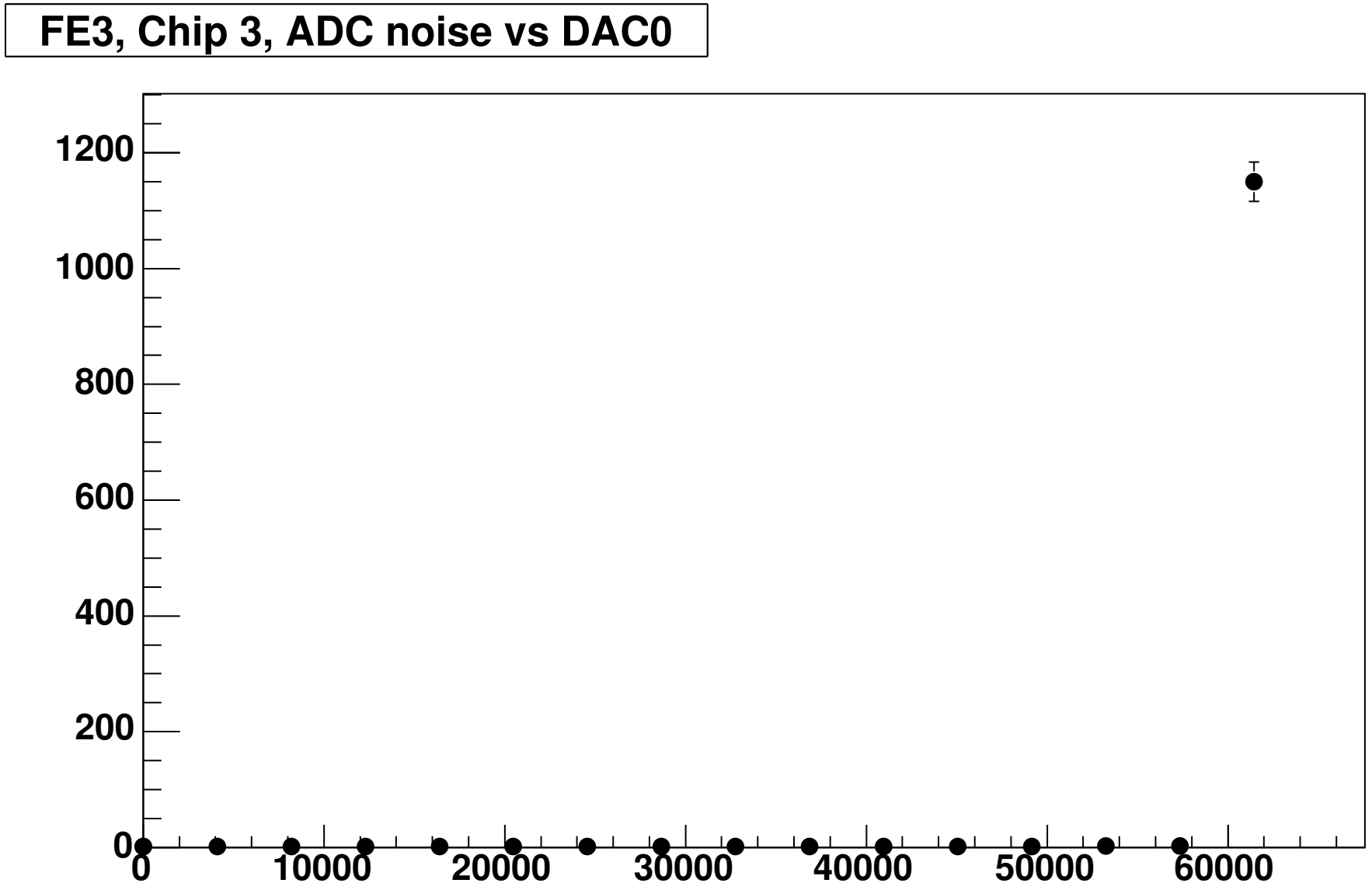

FE3, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

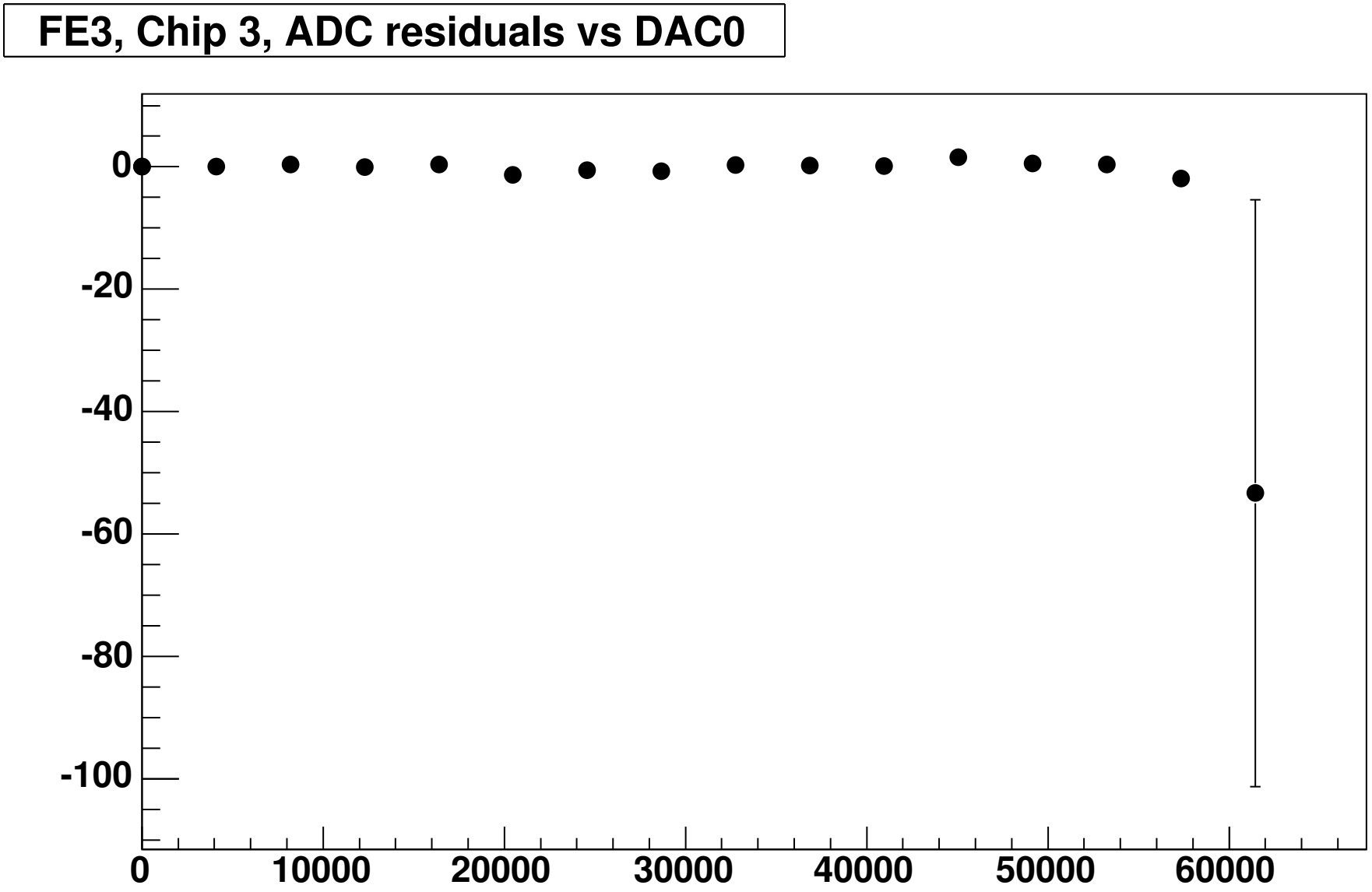

FE3, Chip 2, ADC mean vs DAC1
χ² / ndf 52.82 / 11
p0 15.02 ± 0.04071
p1 5.499e-06 ± 1.131e-06
15.8
15.6
15.4
15.2
15
0
10000
20000
30000
40000
50000
60000

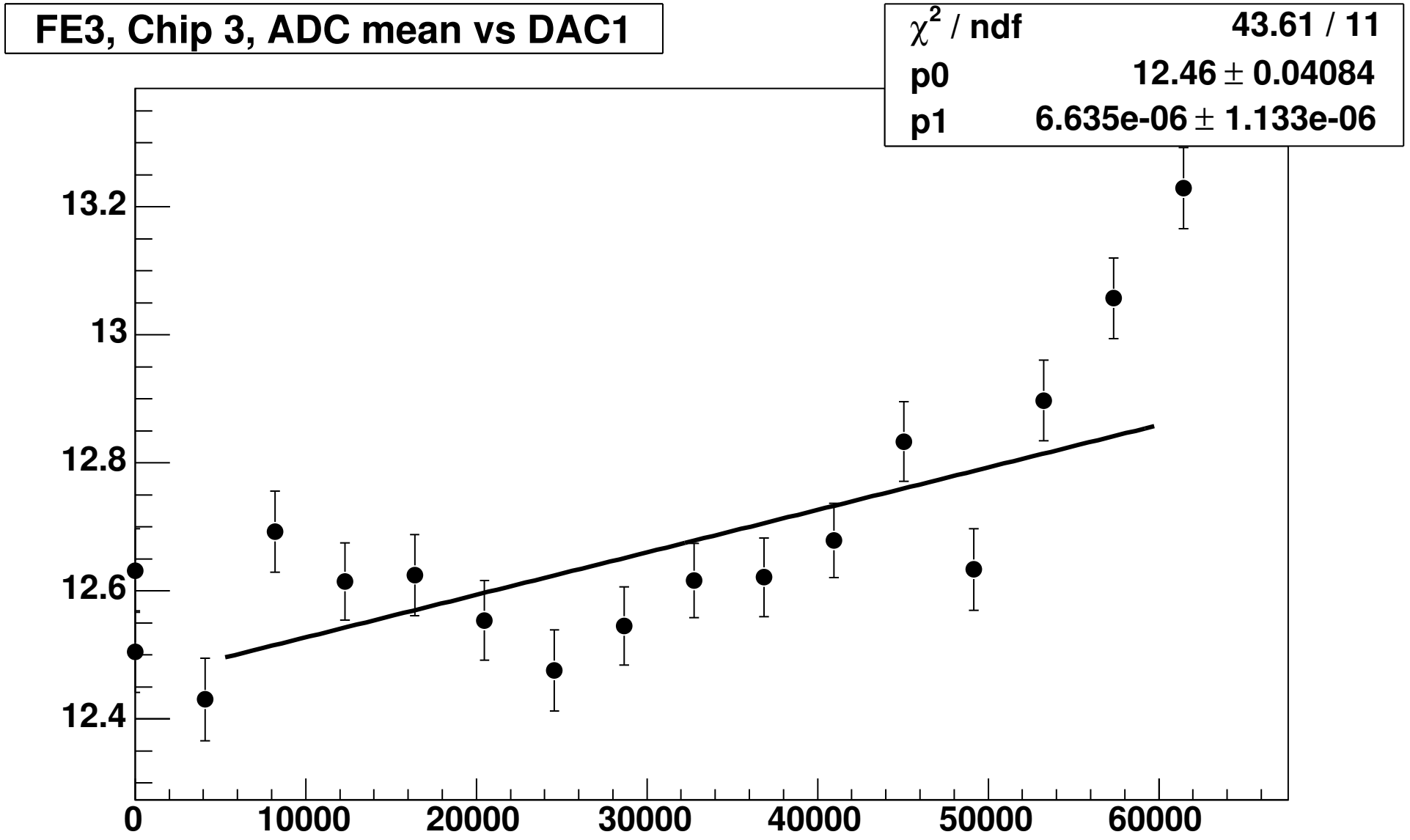

FE3, Chip 2, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

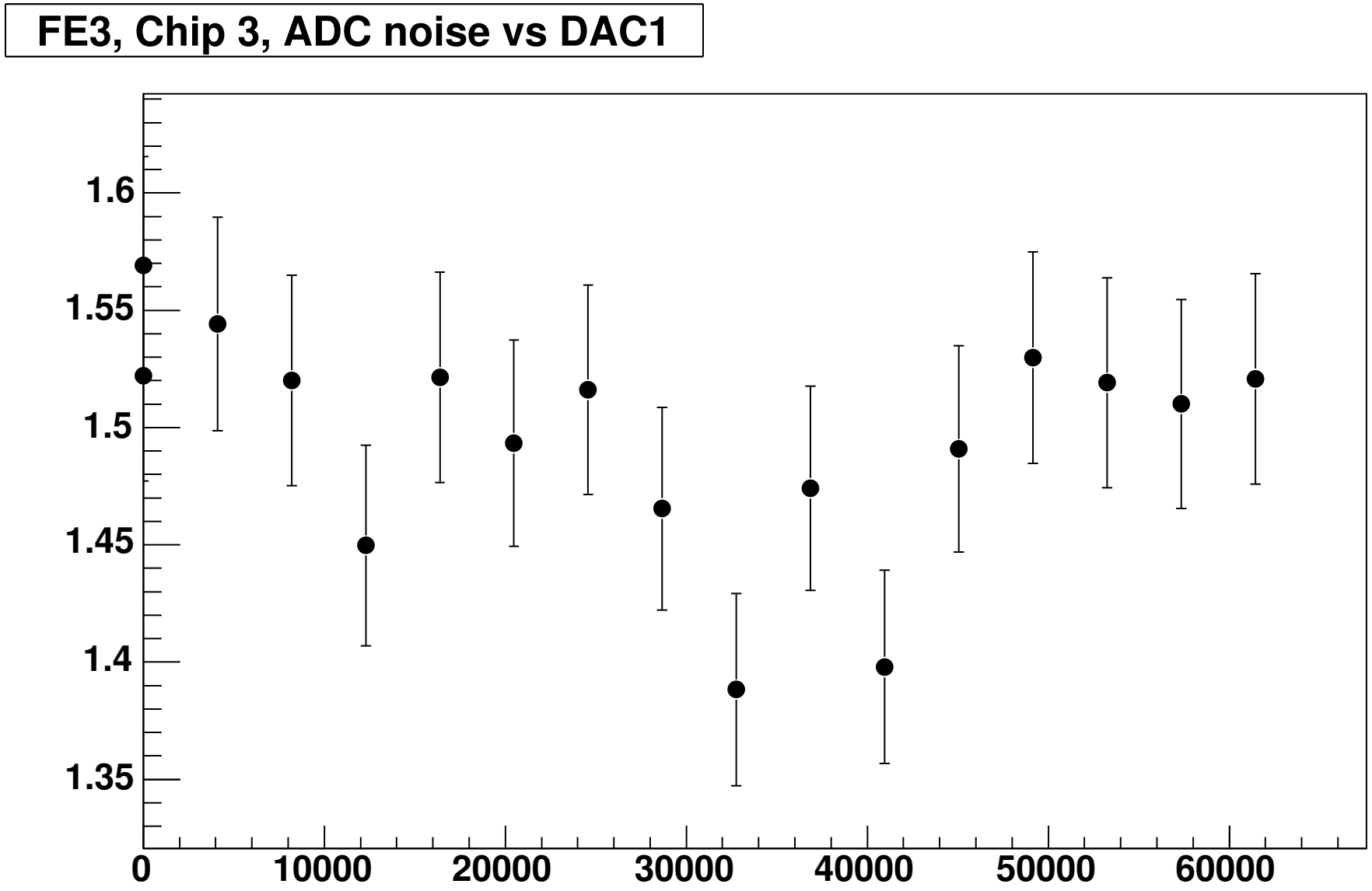

FE3, Chip 2, ADC residuals vs DAC1
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

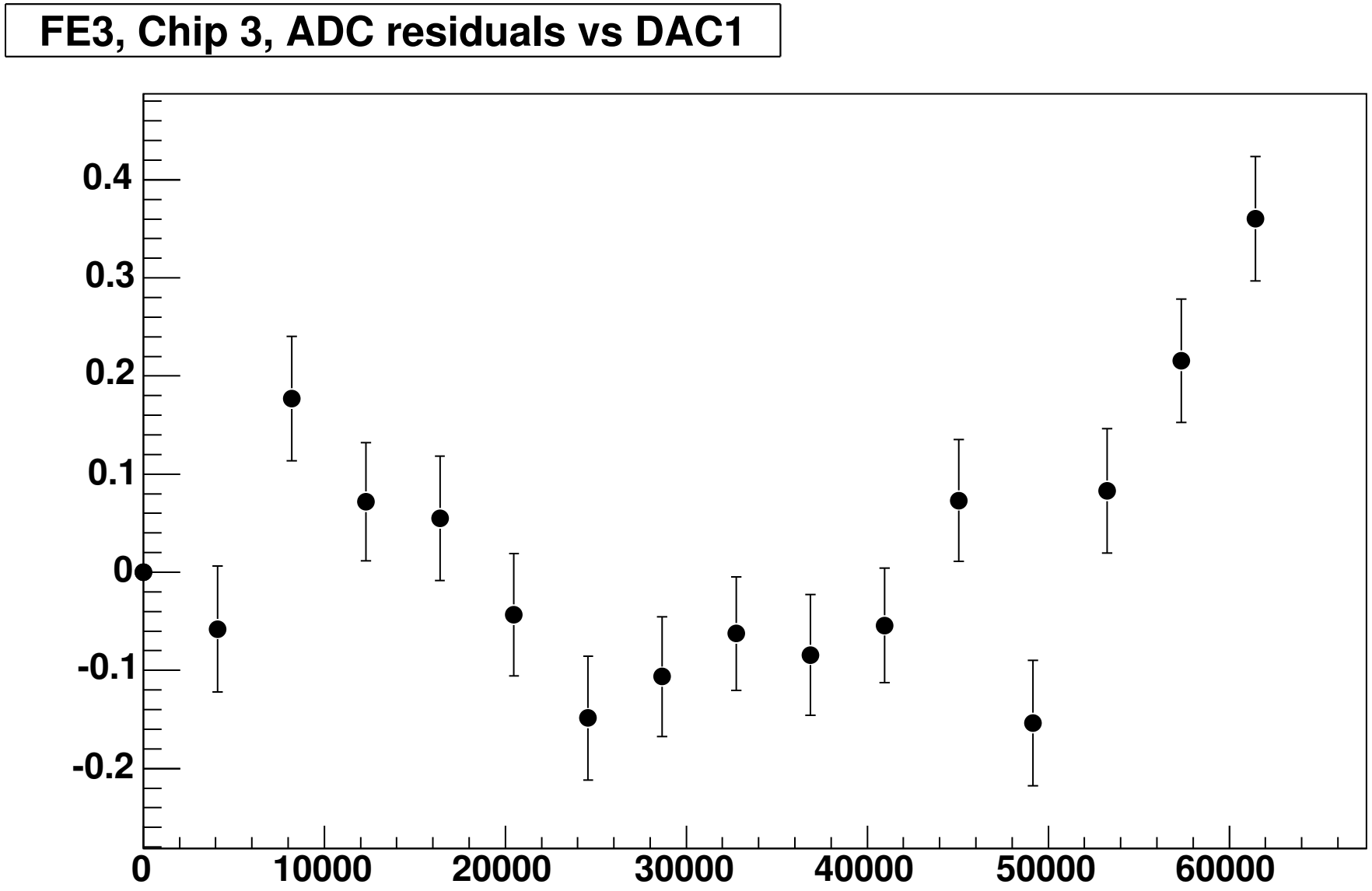

FE3, Chip 3, ADC mean vs DAC0
χ² / ndf 1276 / 11
p0 12.66 ± 0.04401
p1 0.4494 ± 1.4e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

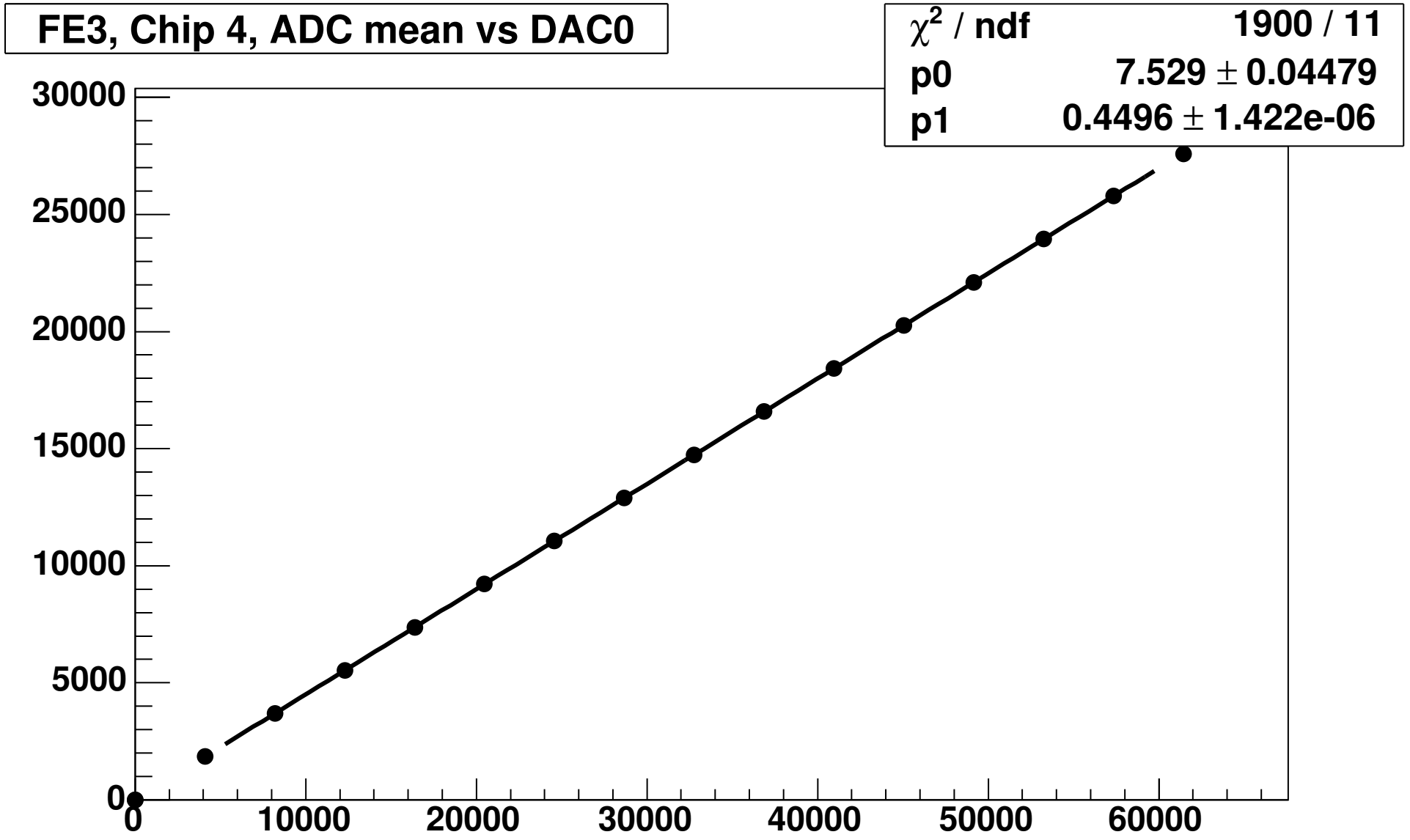

FE3, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

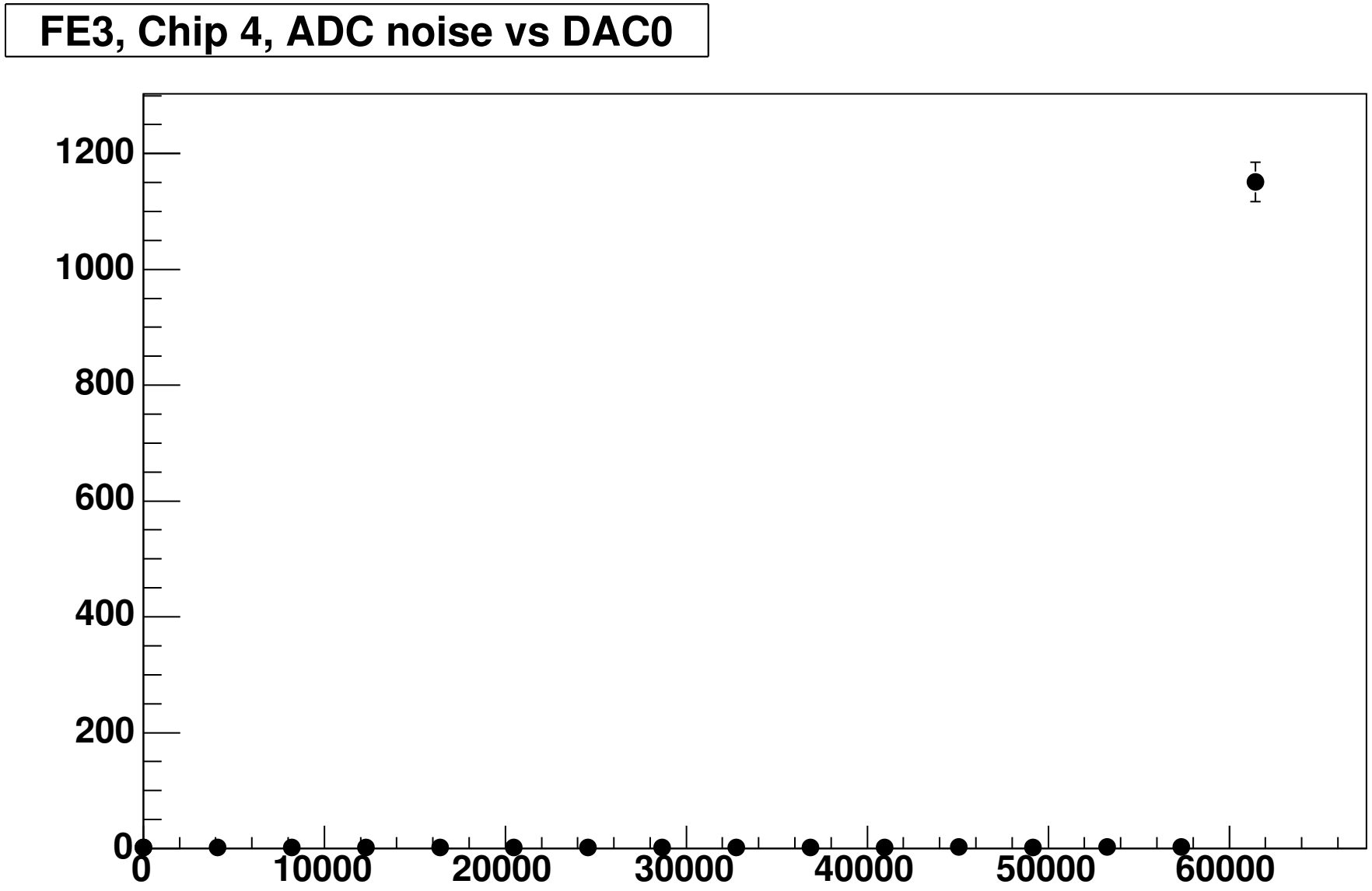

FE3, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

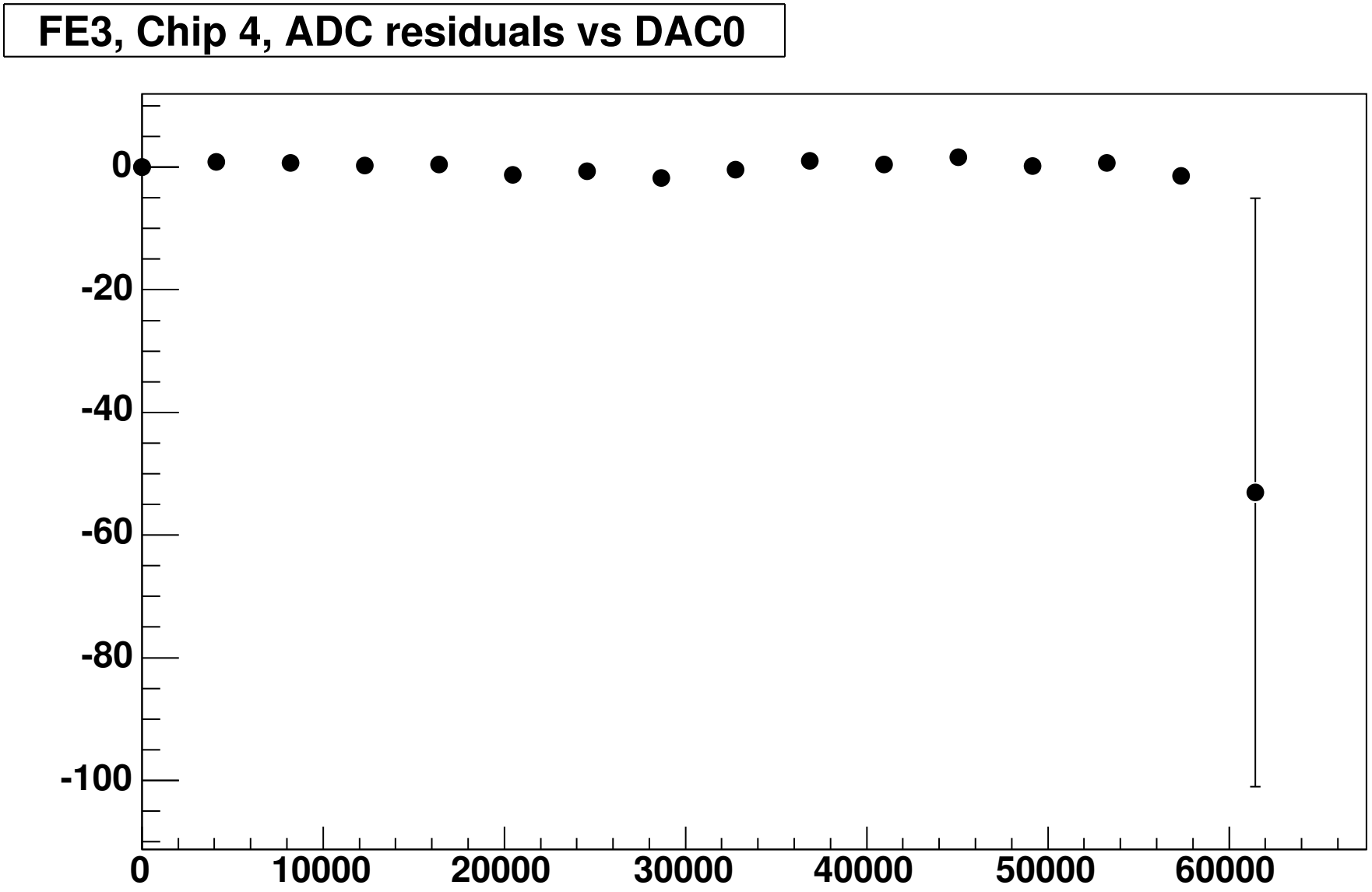

FE3, Chip 3, ADC mean vs DAC1
χ² / ndf 43.61 / 11
p0 12.46 ± 0.04084
p1 6.635e-06 ± 1.133e-06
13.2
13
12.8
12.6
12.4
0
10000
20000
30000
40000
50000
60000

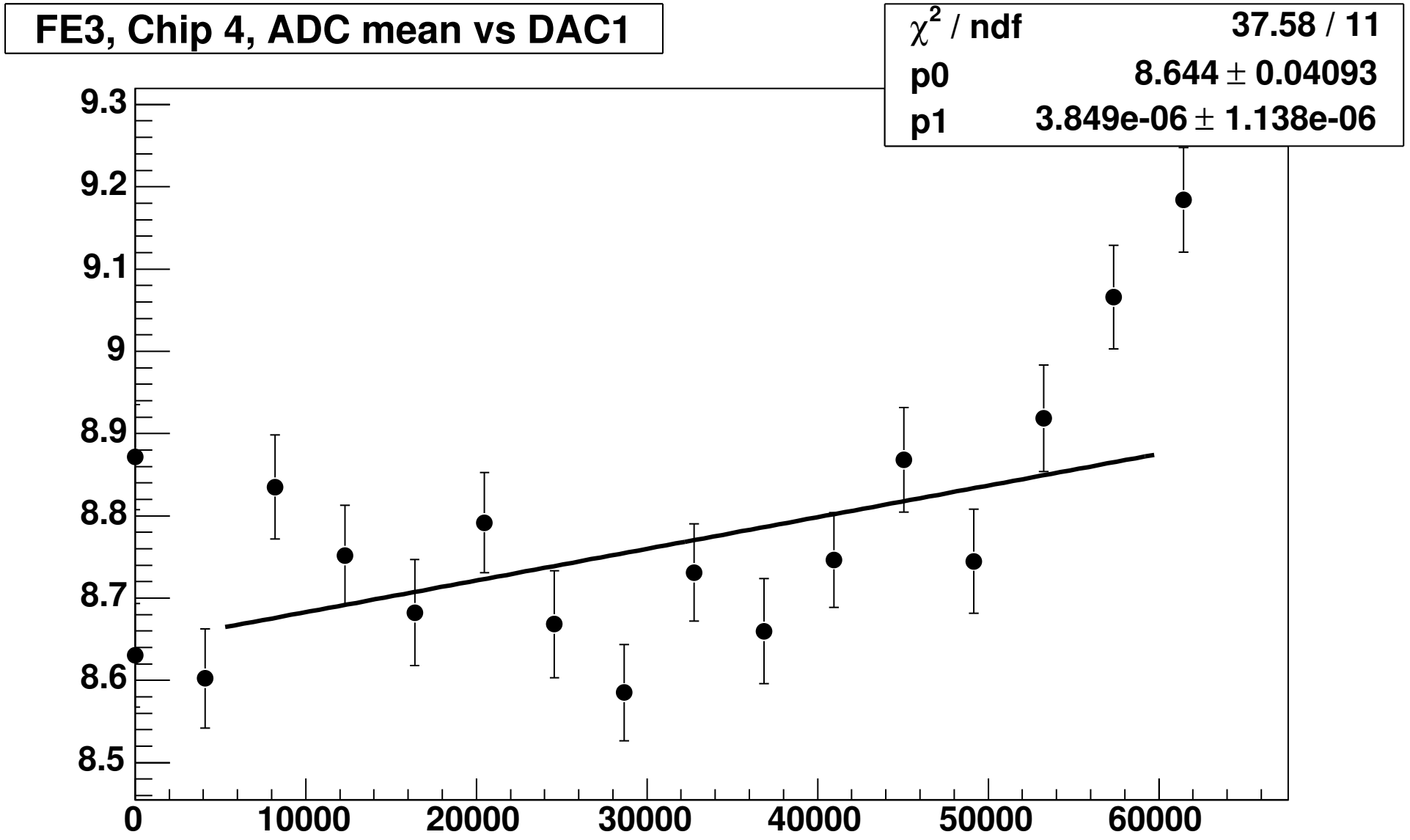

FE3, Chip 3, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

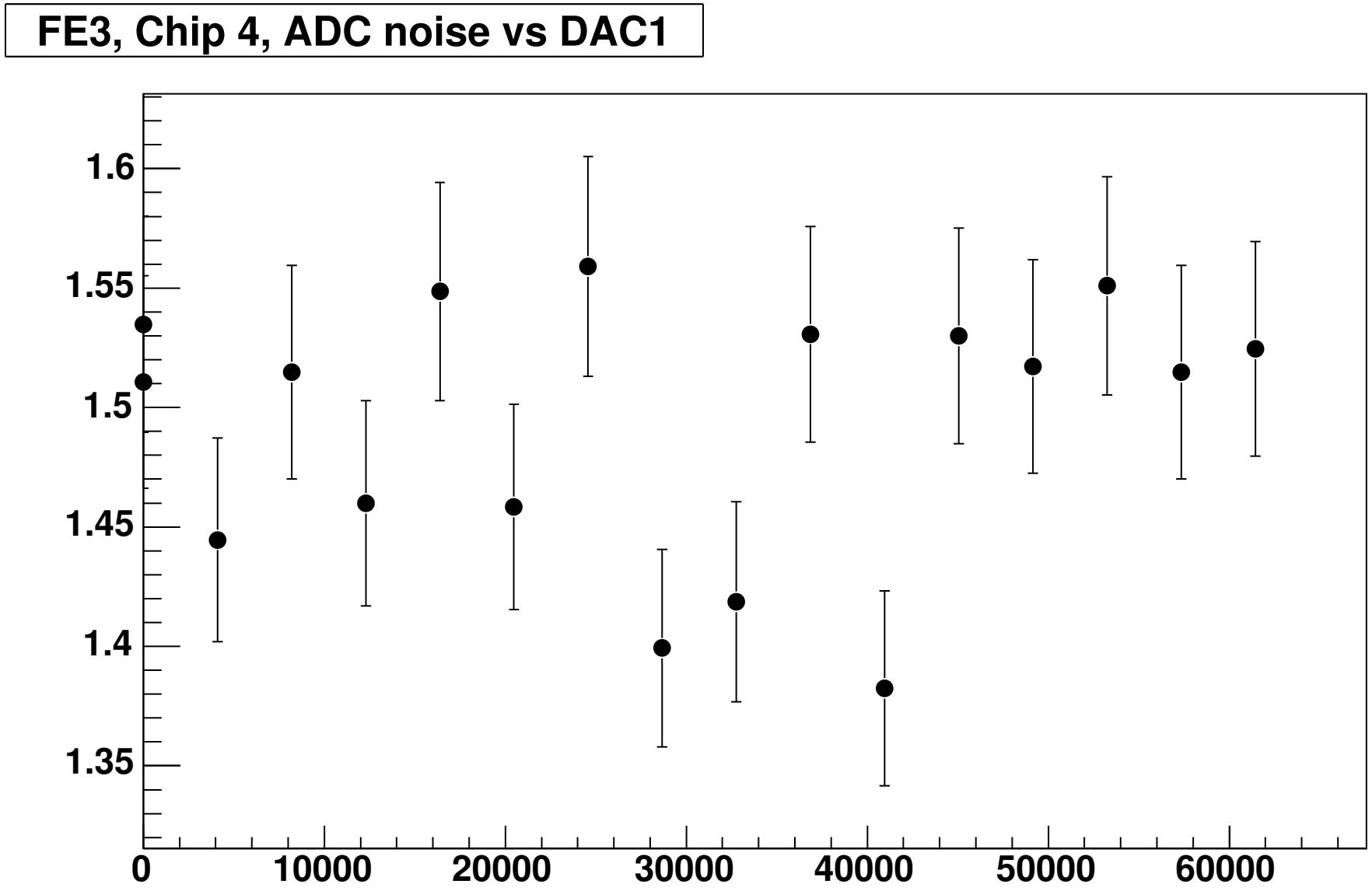

FE3, Chip 3, ADC residuals vs DAC1
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

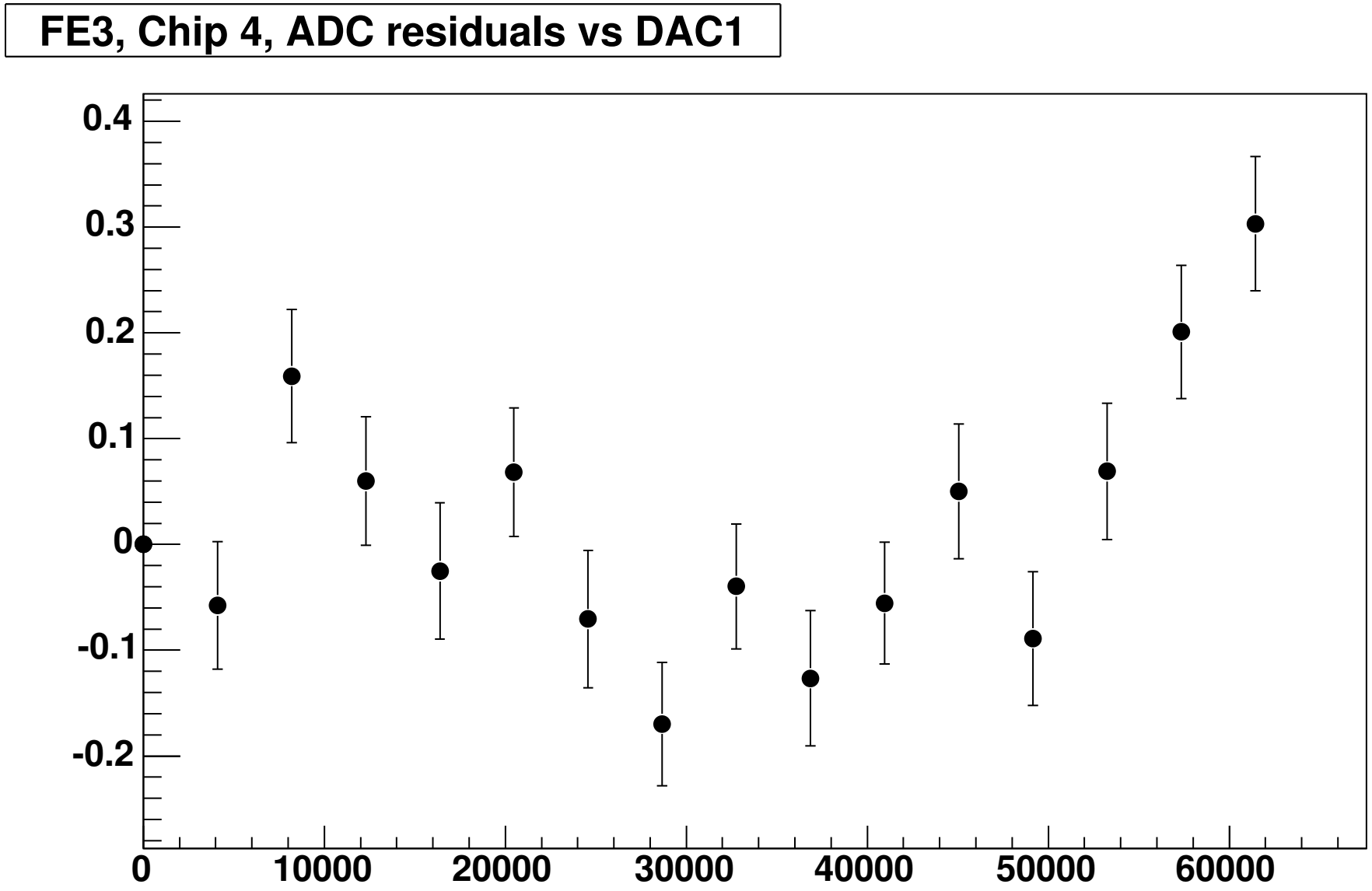

FE3, Chip 4, ADC mean vs DAC0
χ² / ndf 1900 / 11
p0 7.529 ± 0.04479
p1 0.4496 ± 1.422e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

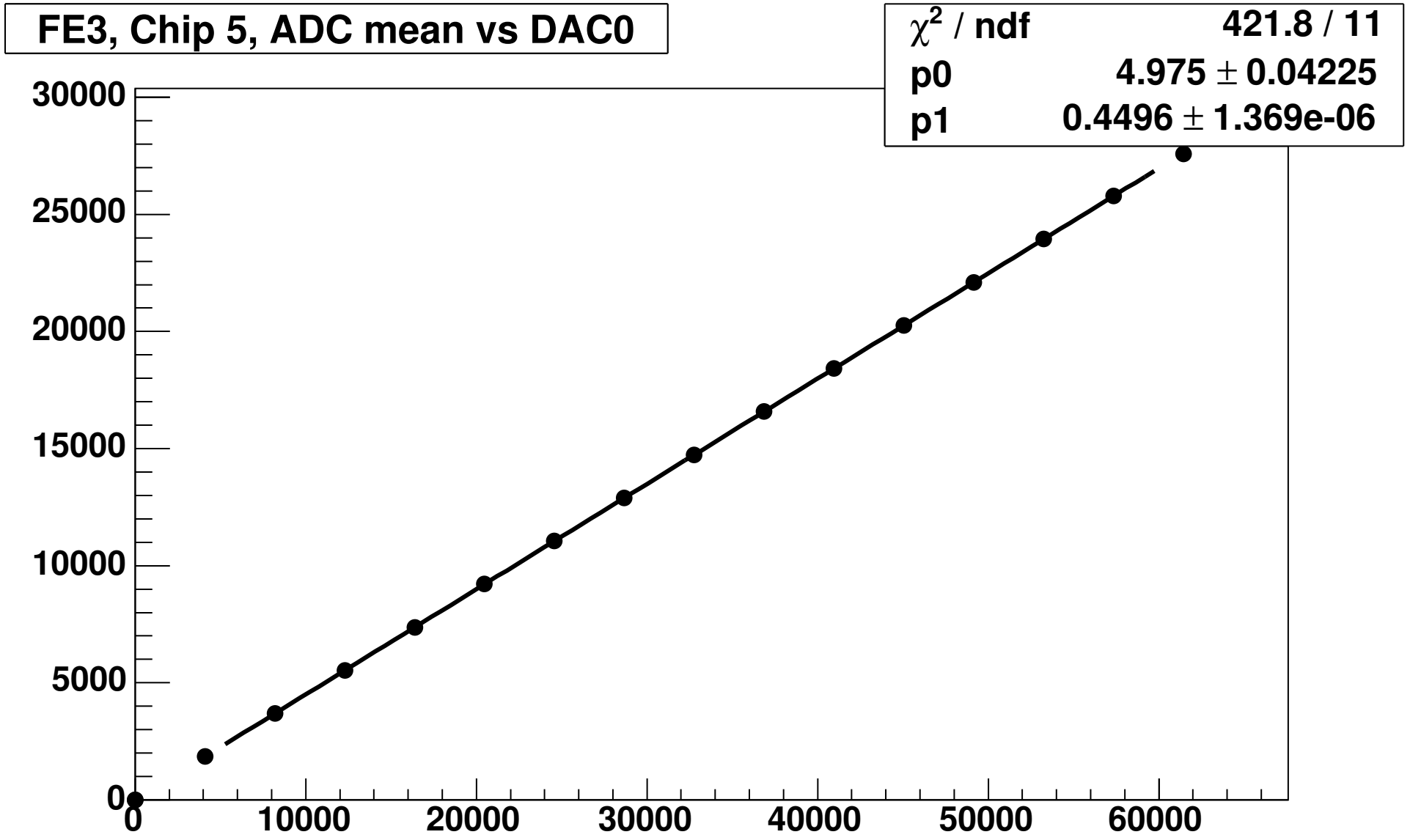

FE3, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

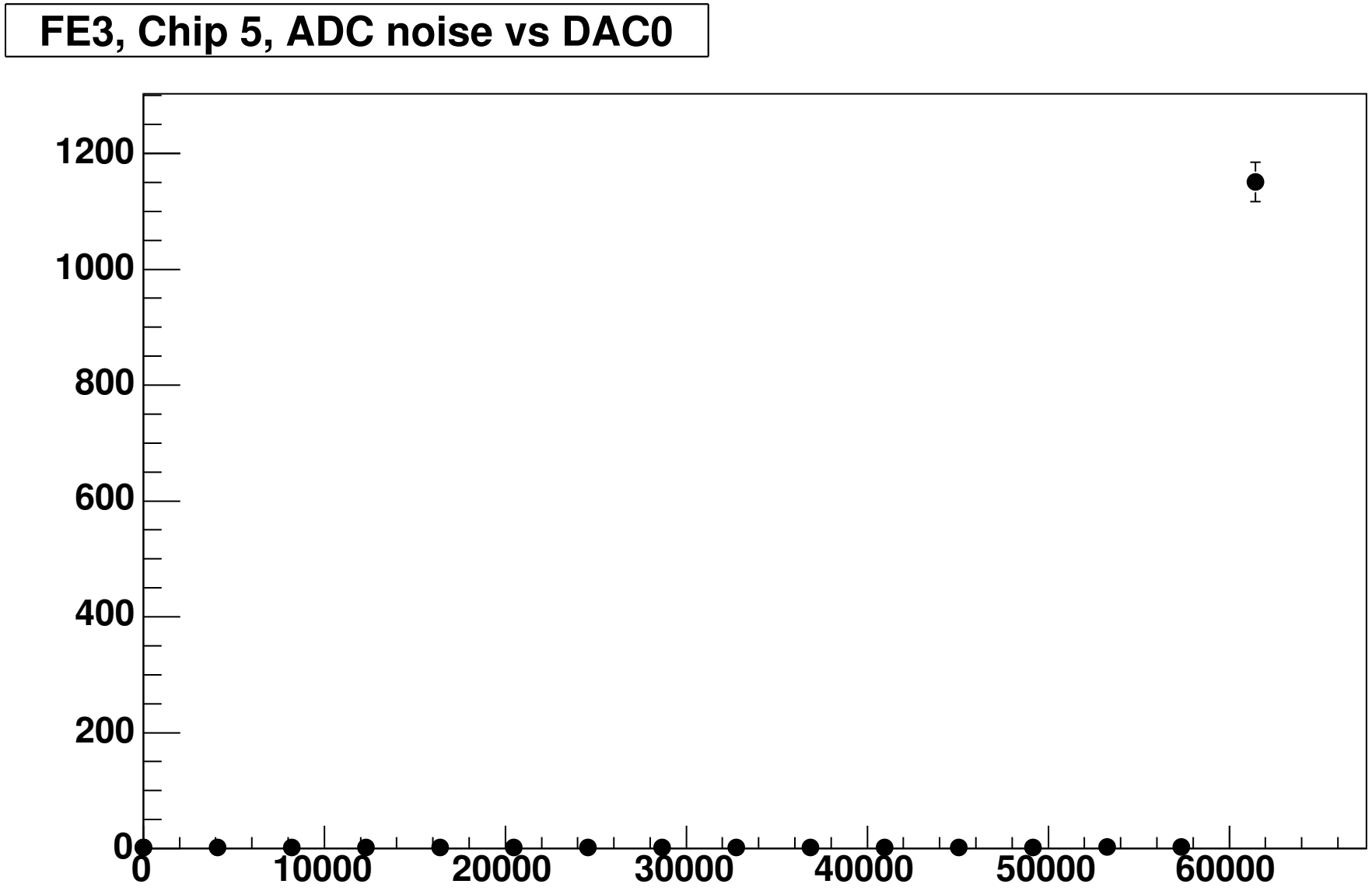

FE3, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

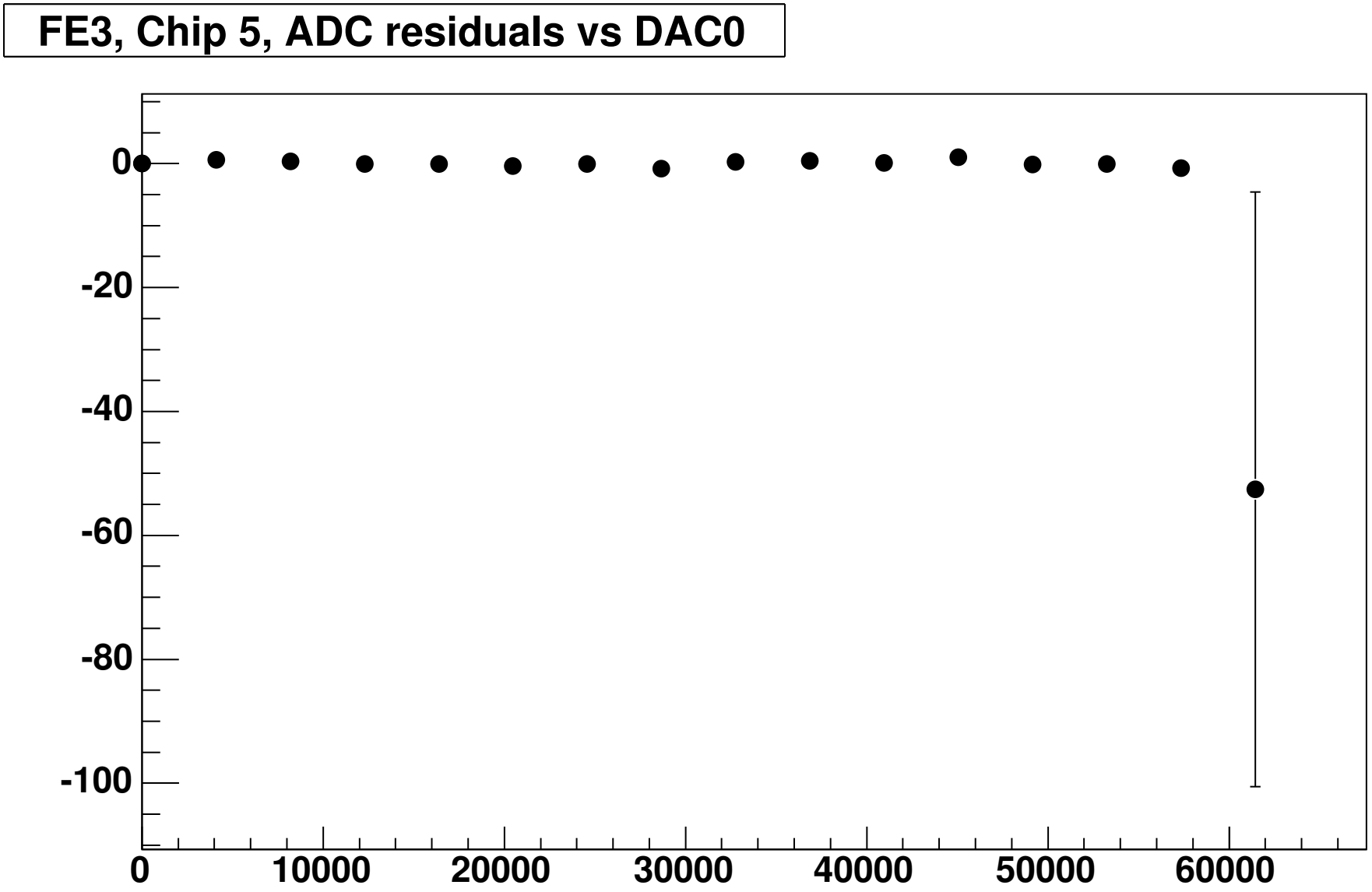

FE3, Chip 4, ADC mean vs DAC1
χ² / ndf 37.58 / 11
p0 8.644 ± 0.04093
p1 3.849e-06 ± 1.138e-06
9.3
9.2
9.1
9
8.9
8.8
8.7
8.6
8.5
0
10000
20000
30000
40000
50000
60000

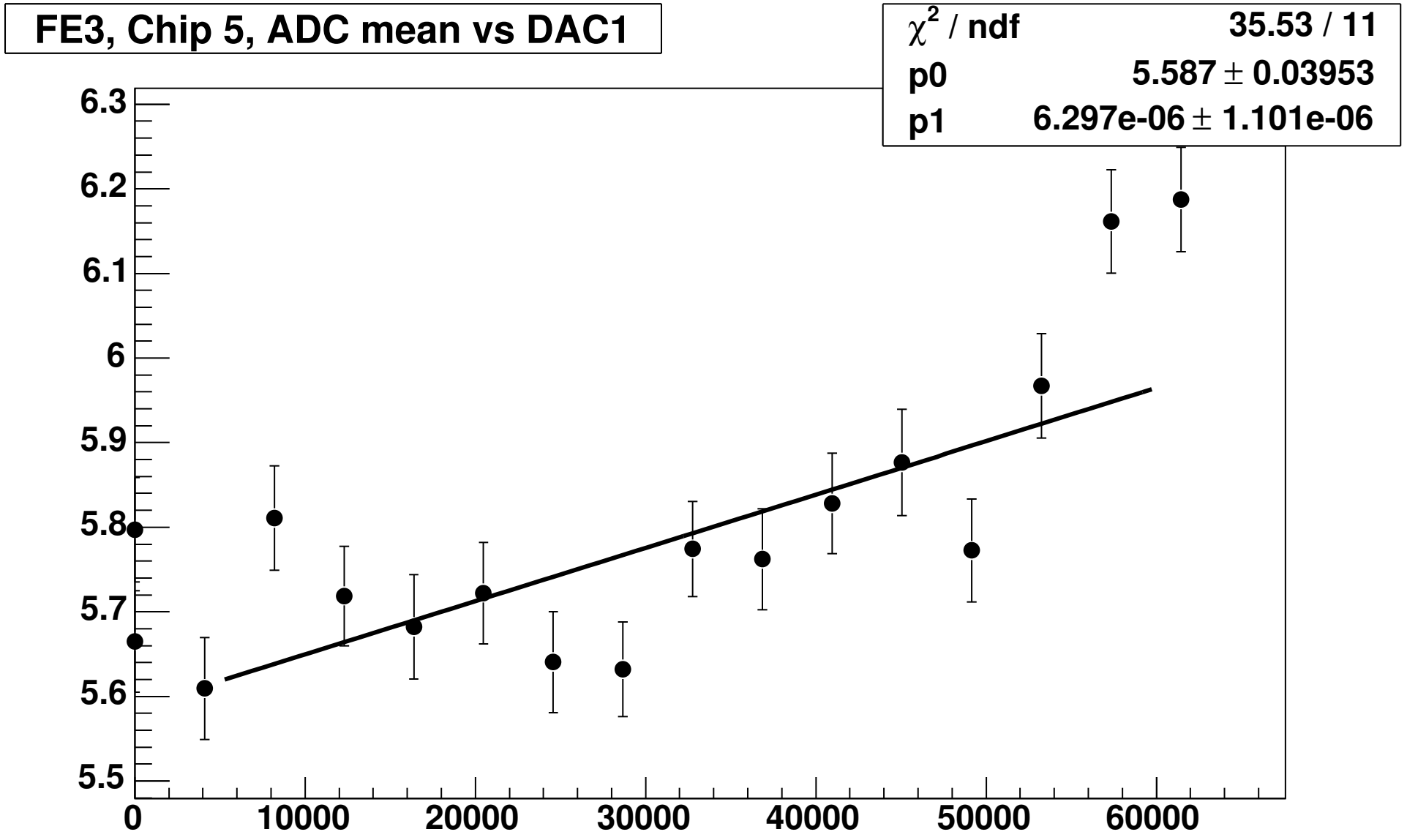

FE3, Chip 4, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

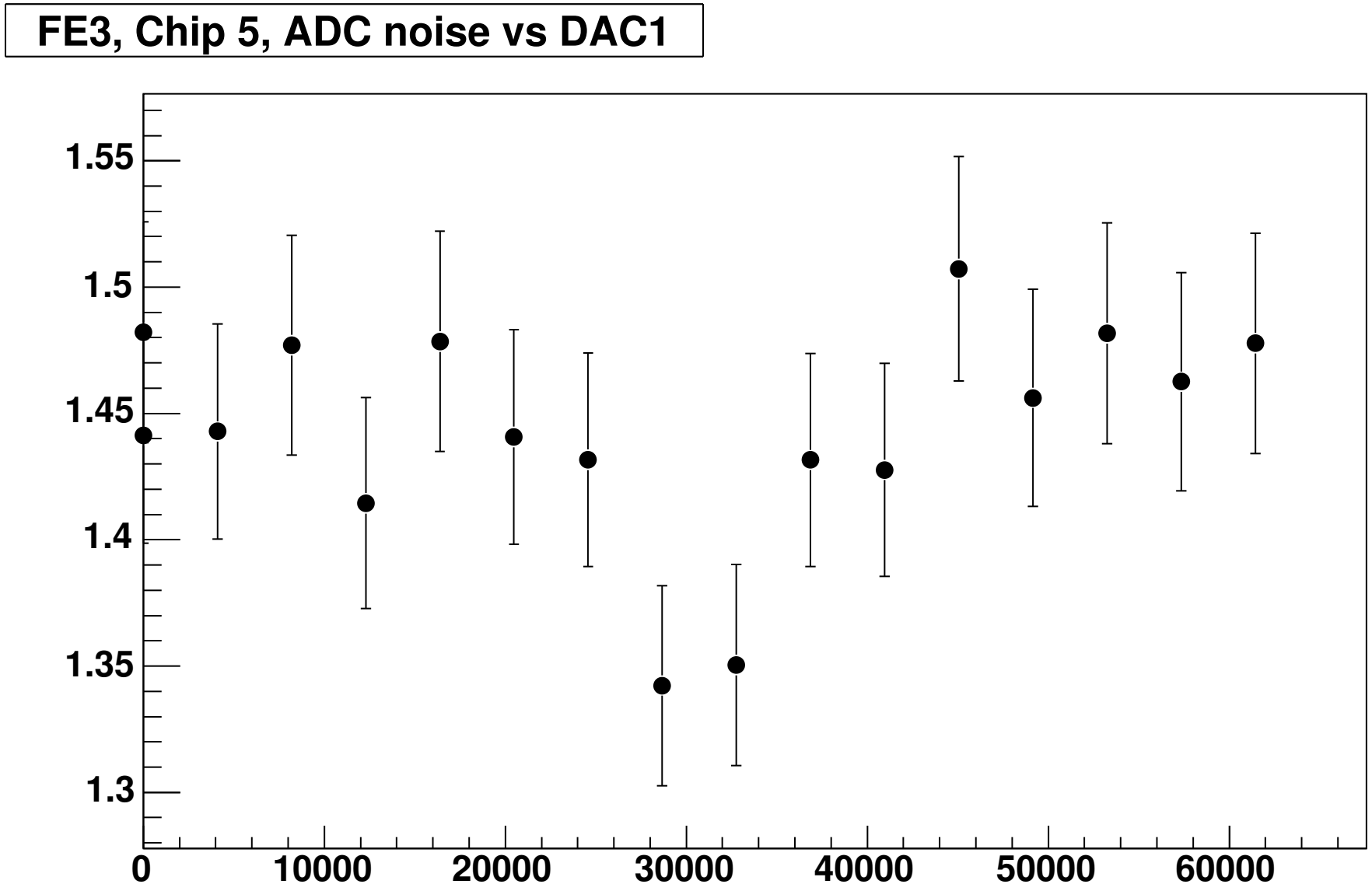

FE3, Chip 4, ADC residuals vs DAC1
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

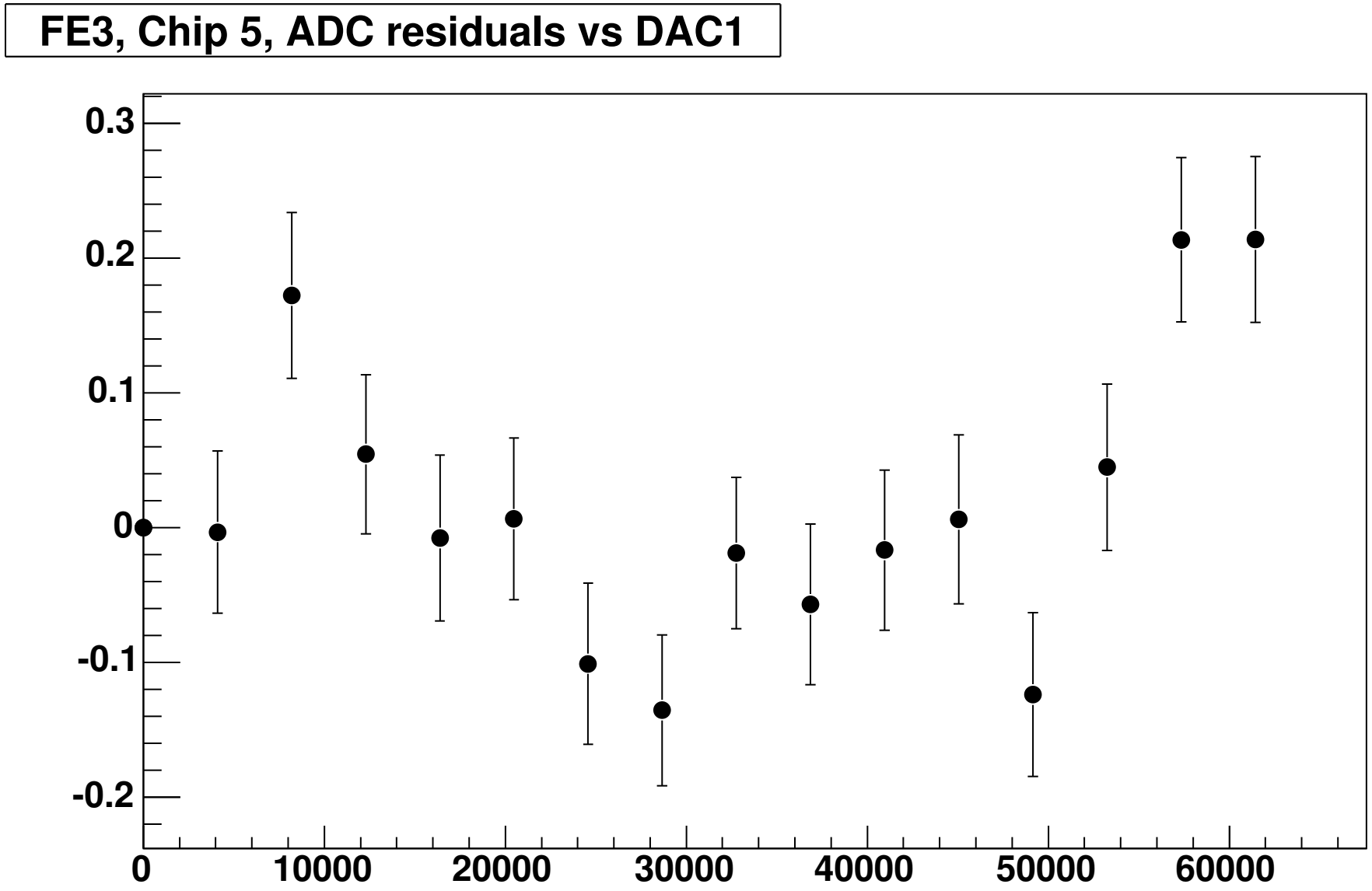

FE3, Chip 5, ADC mean vs DAC0
χ² / ndf 421.8 / 11
p0 4.975 ± 0.04225
p1 0.4496 ± 1.369e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

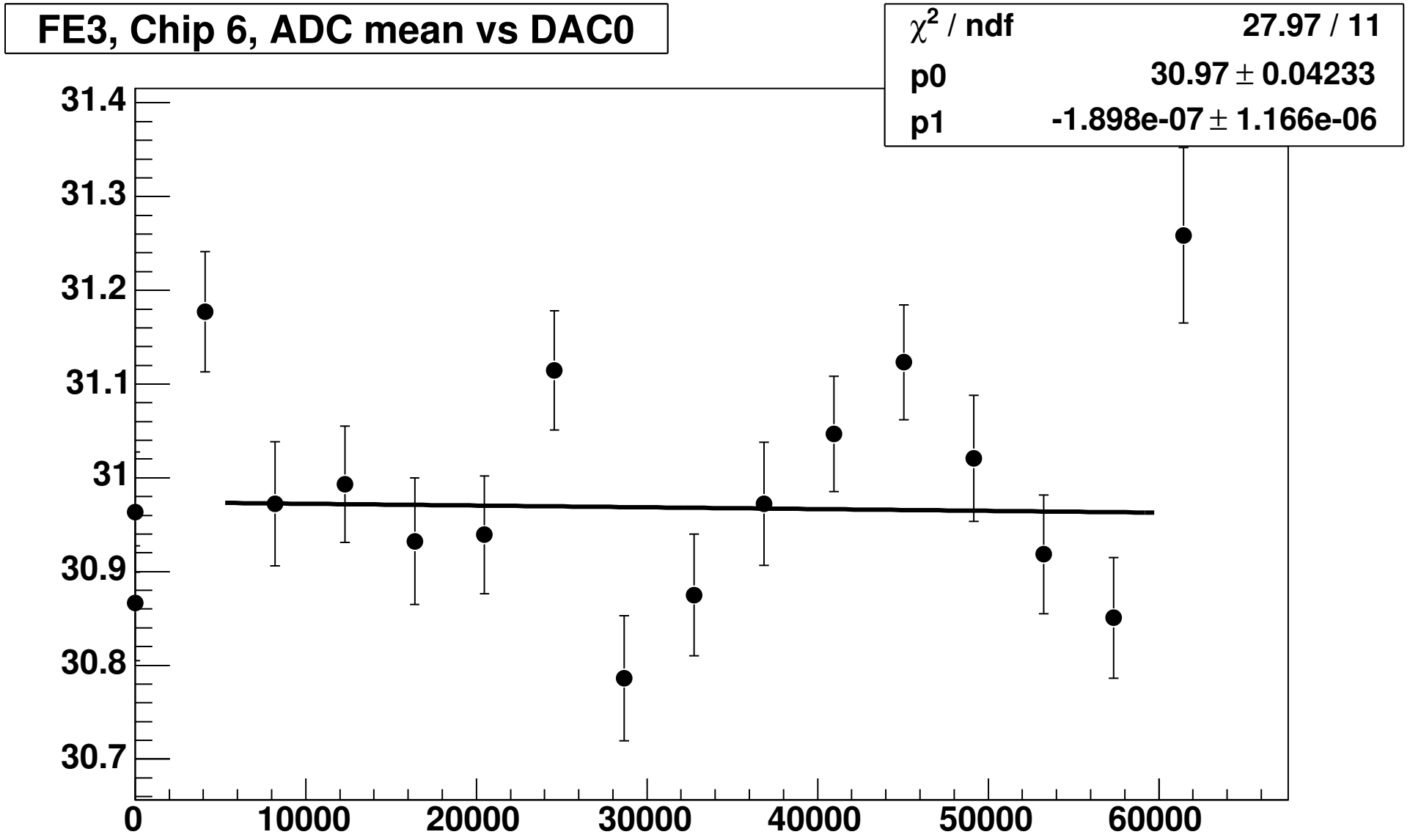

FE3, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

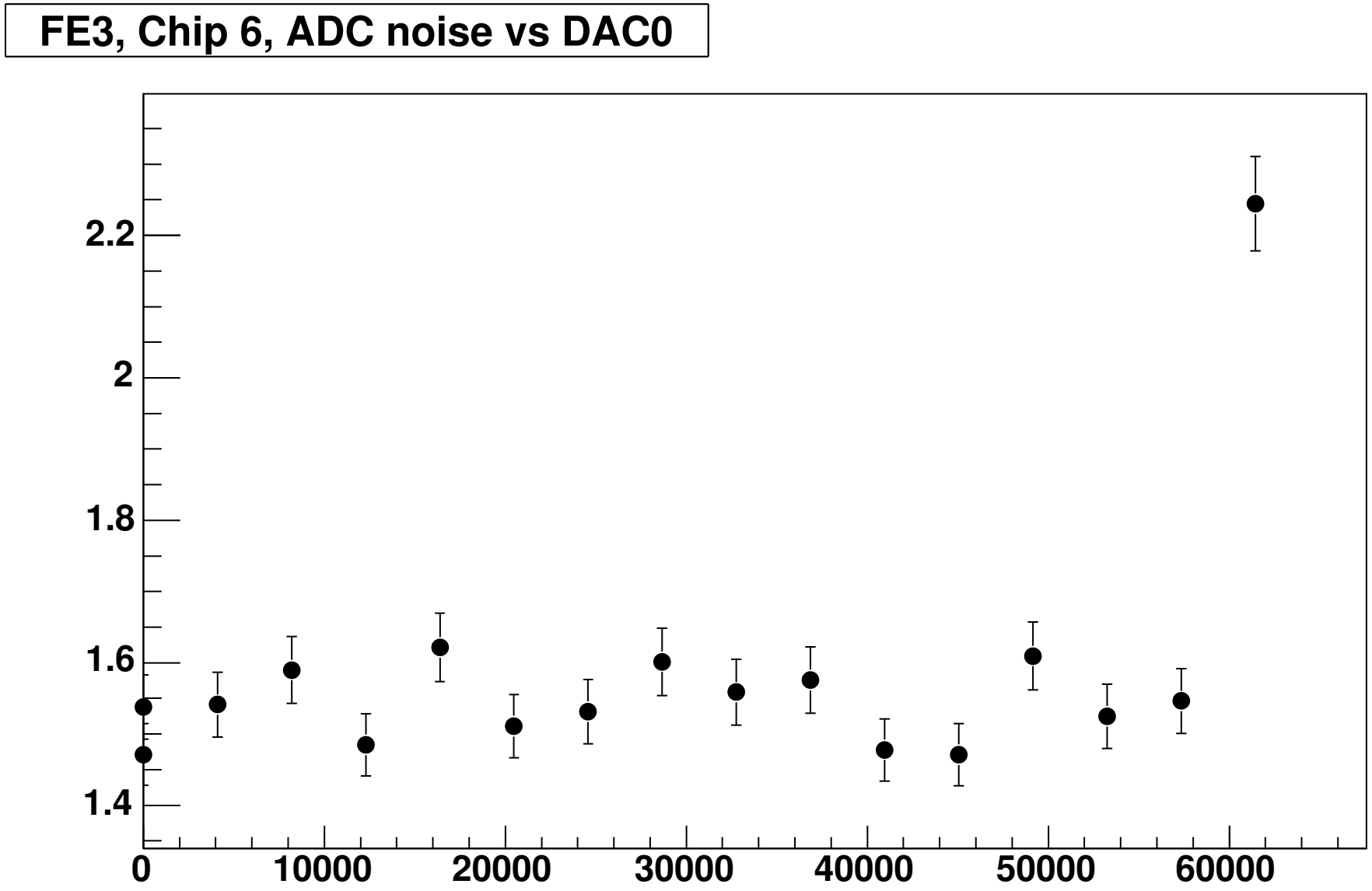

FE3, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

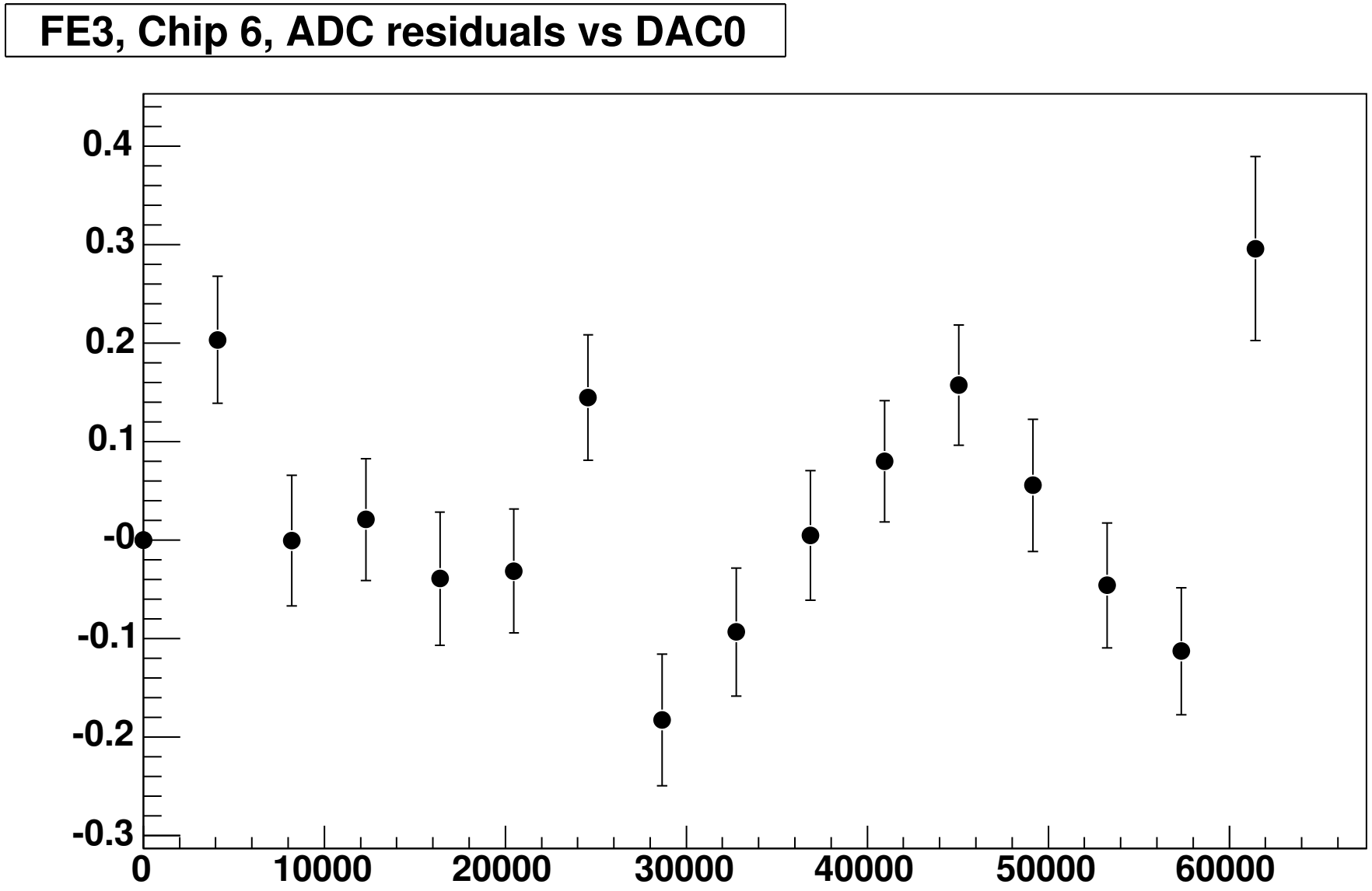

FE3, Chip 5, ADC mean vs DAC1
χ² / ndf 35.53 / 11
p0 5.587 ± 0.03953
p1 6.297e-06 ± 1.101e-06
6.3
6.2
6.1
6
5.9
5.8
5.7
5.6
5.5
0
10000
20000
30000
40000
50000
60000

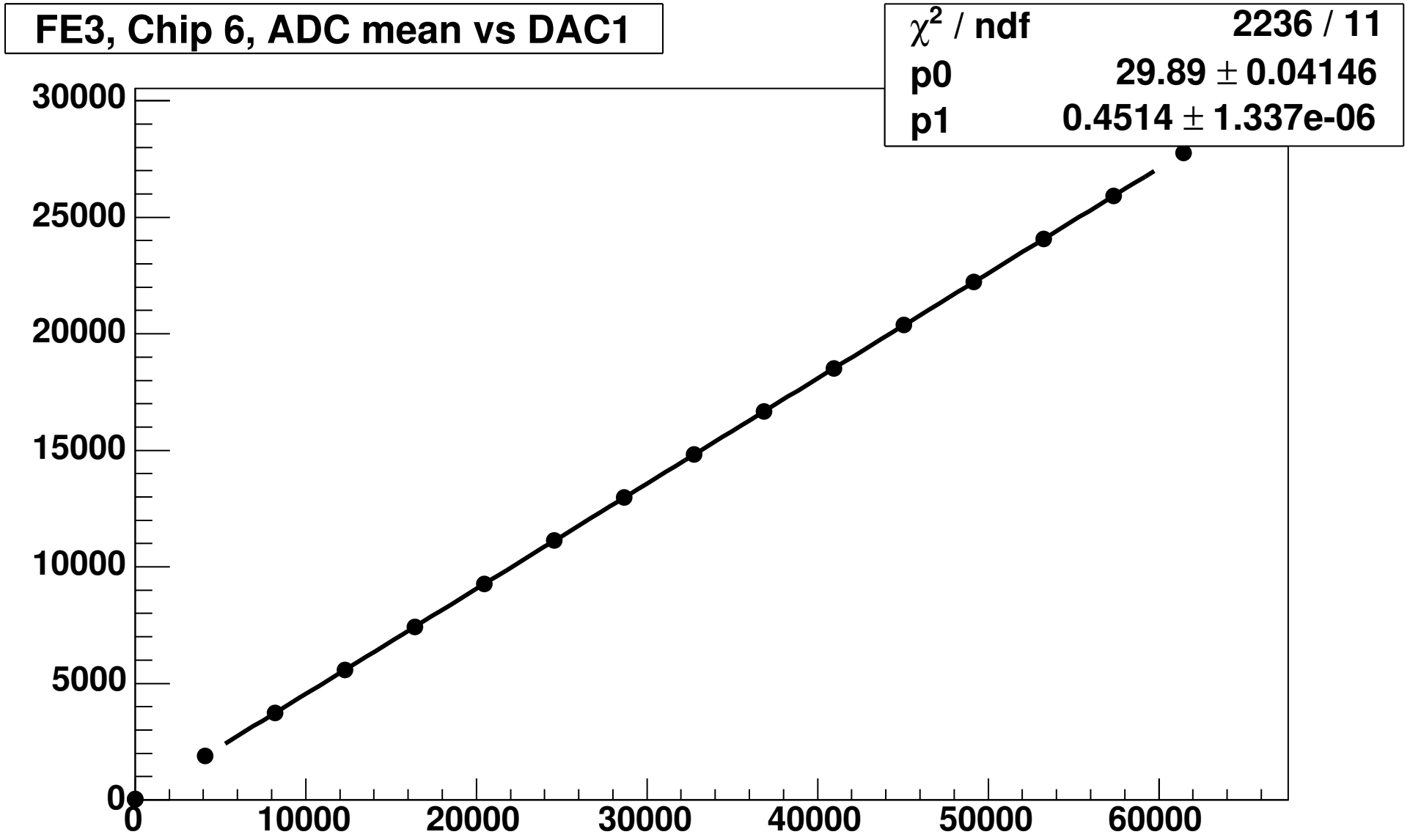

FE3, Chip 5, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000


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

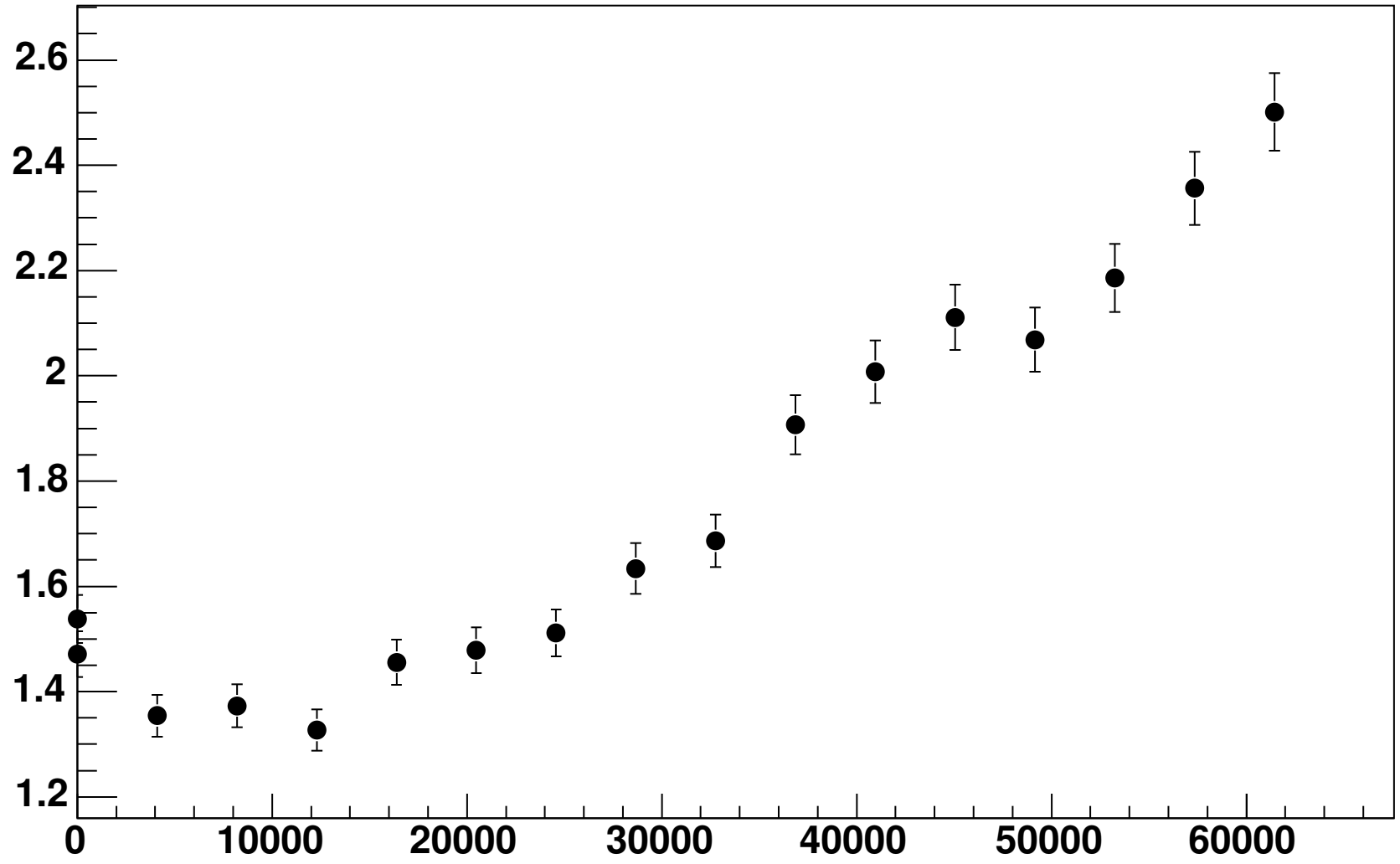

FE3, Chip 6, ADC mean vs DAC0
χ² / ndf 27.97 / 11
p0 30.97 ± 0.04233
p1 -1.898e-07 ± 1.166e-06
31.4
31.3
31.2
31.1
31
30.9
30.8
30.7
0
10000
20000
30000
40000
50000
60000

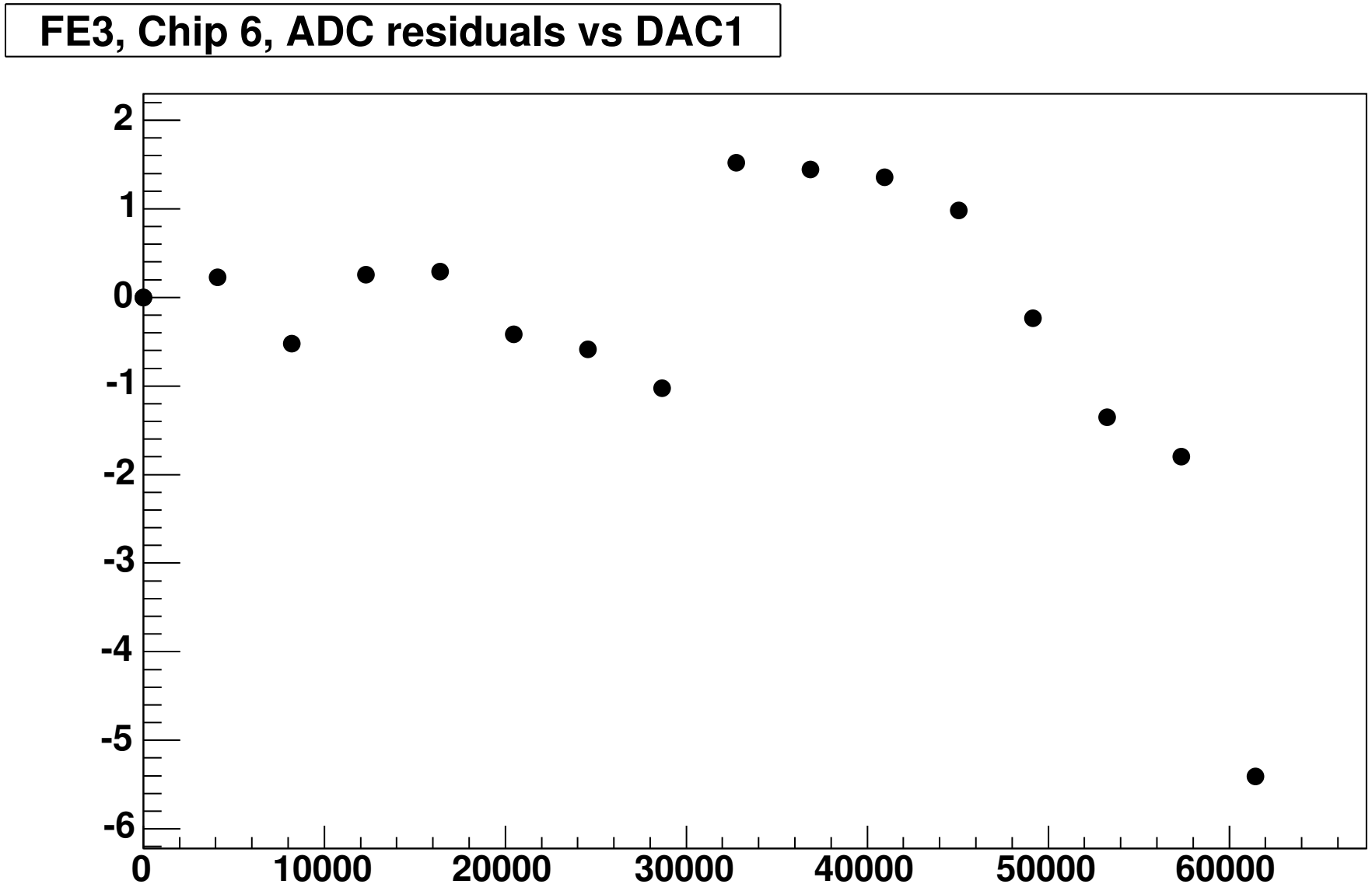

FE3, Chip 6, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

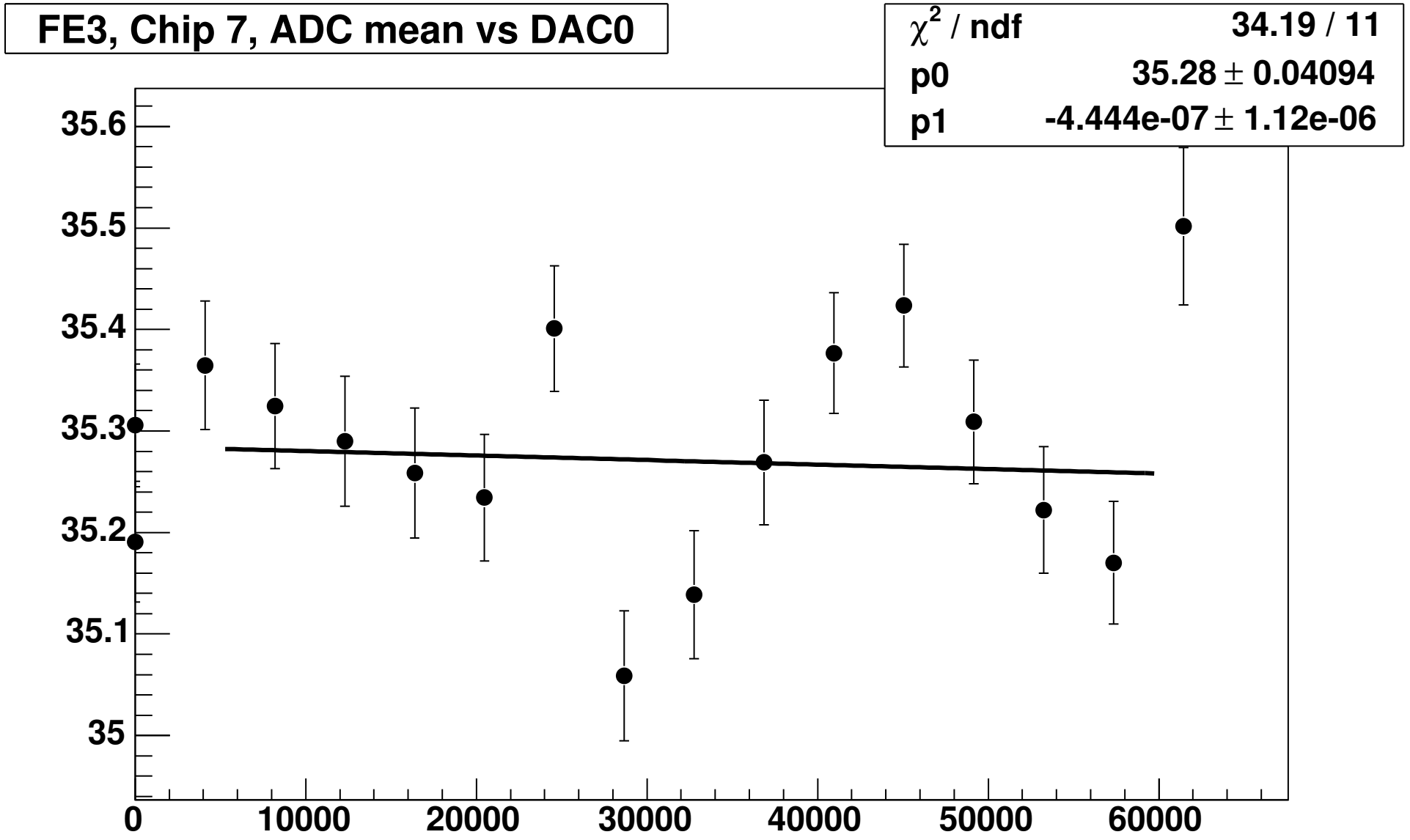

FE3, Chip 6, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

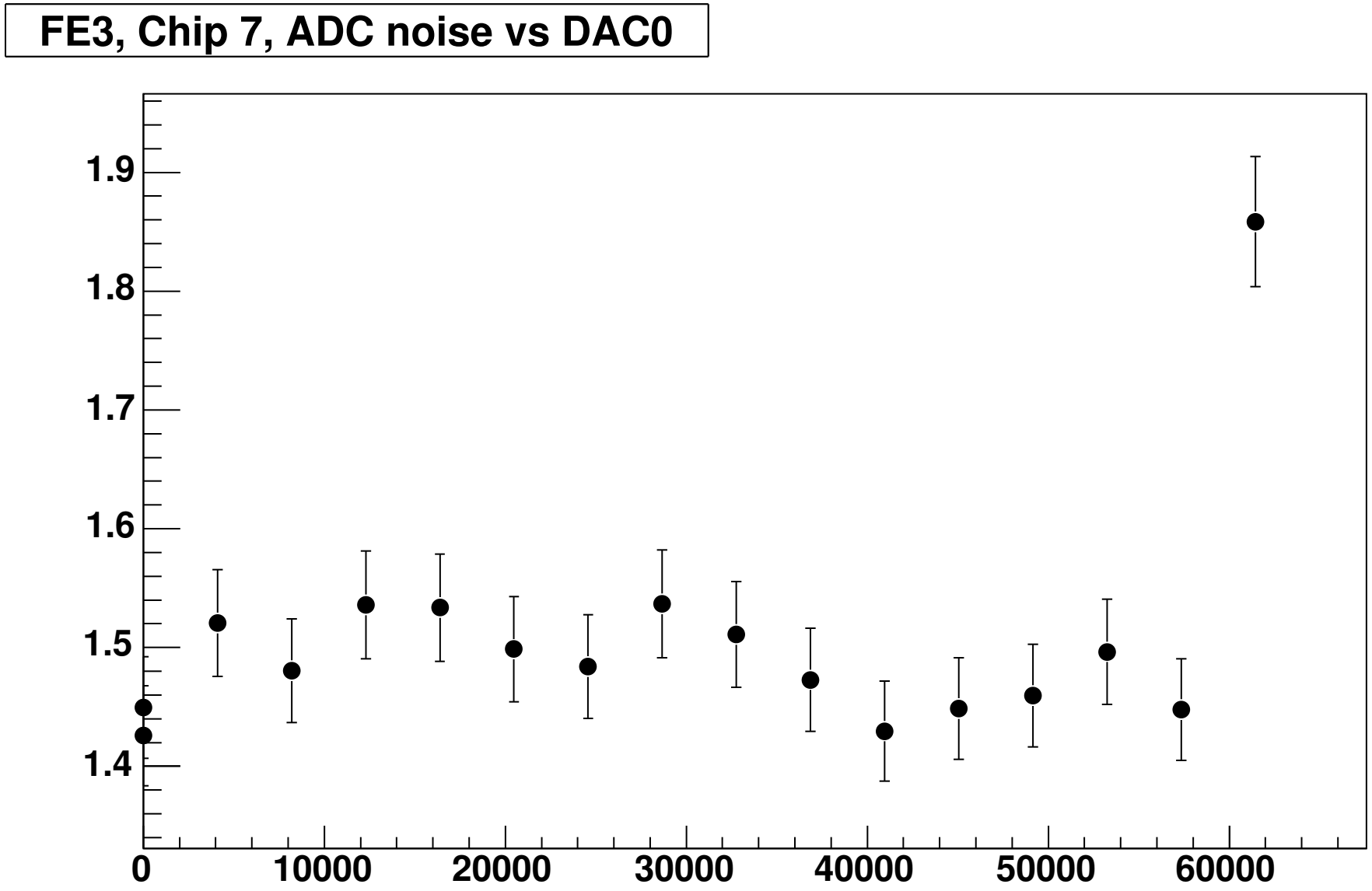

FE3, Chip 6, ADC mean vs DAC1
χ² / ndf 2236 / 11
p0 29.89 ± 0.04146
p1 0.4514 ± 1.337e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

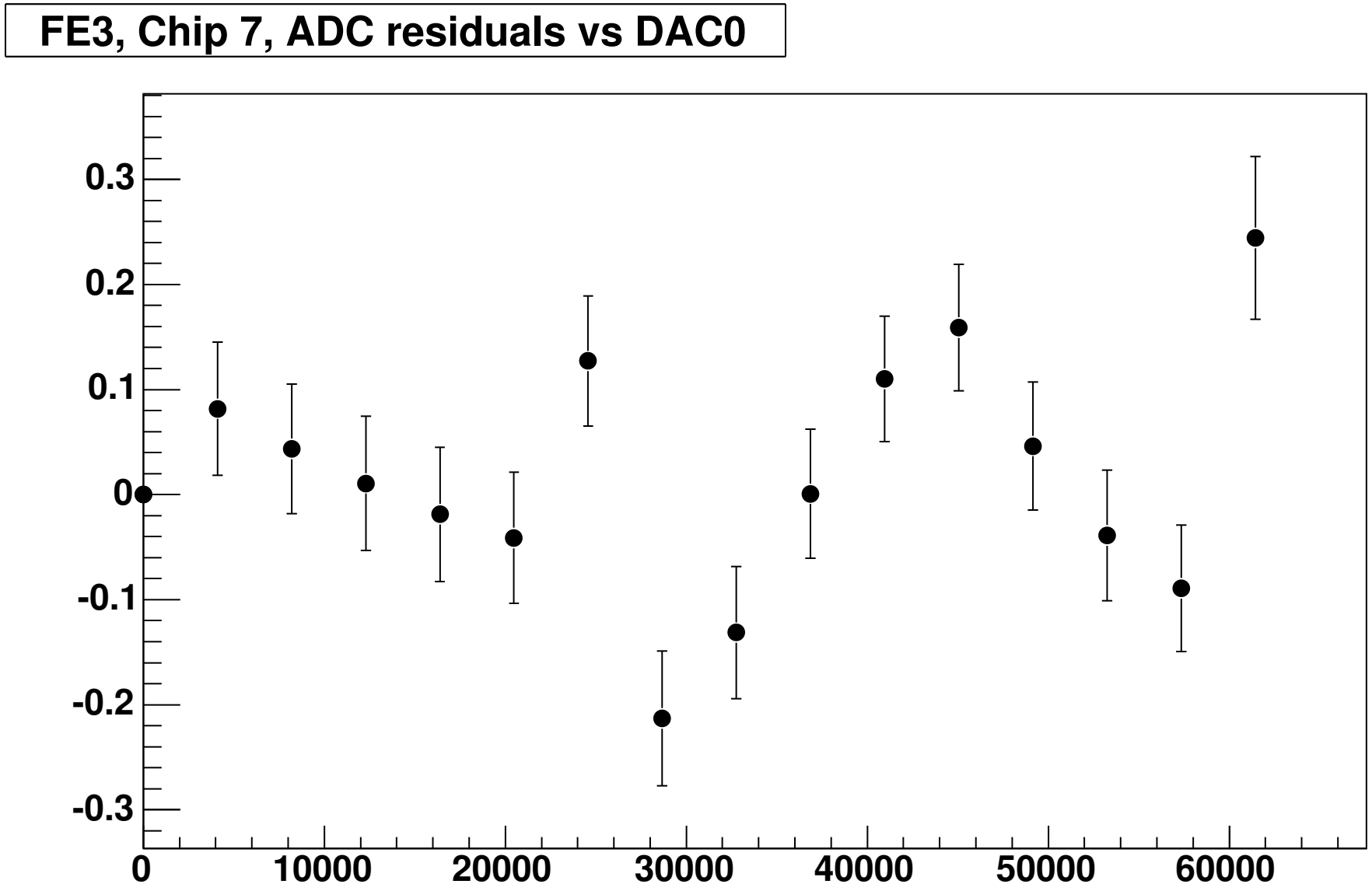
FE3, Chip 6, ADC noise vs DAC1

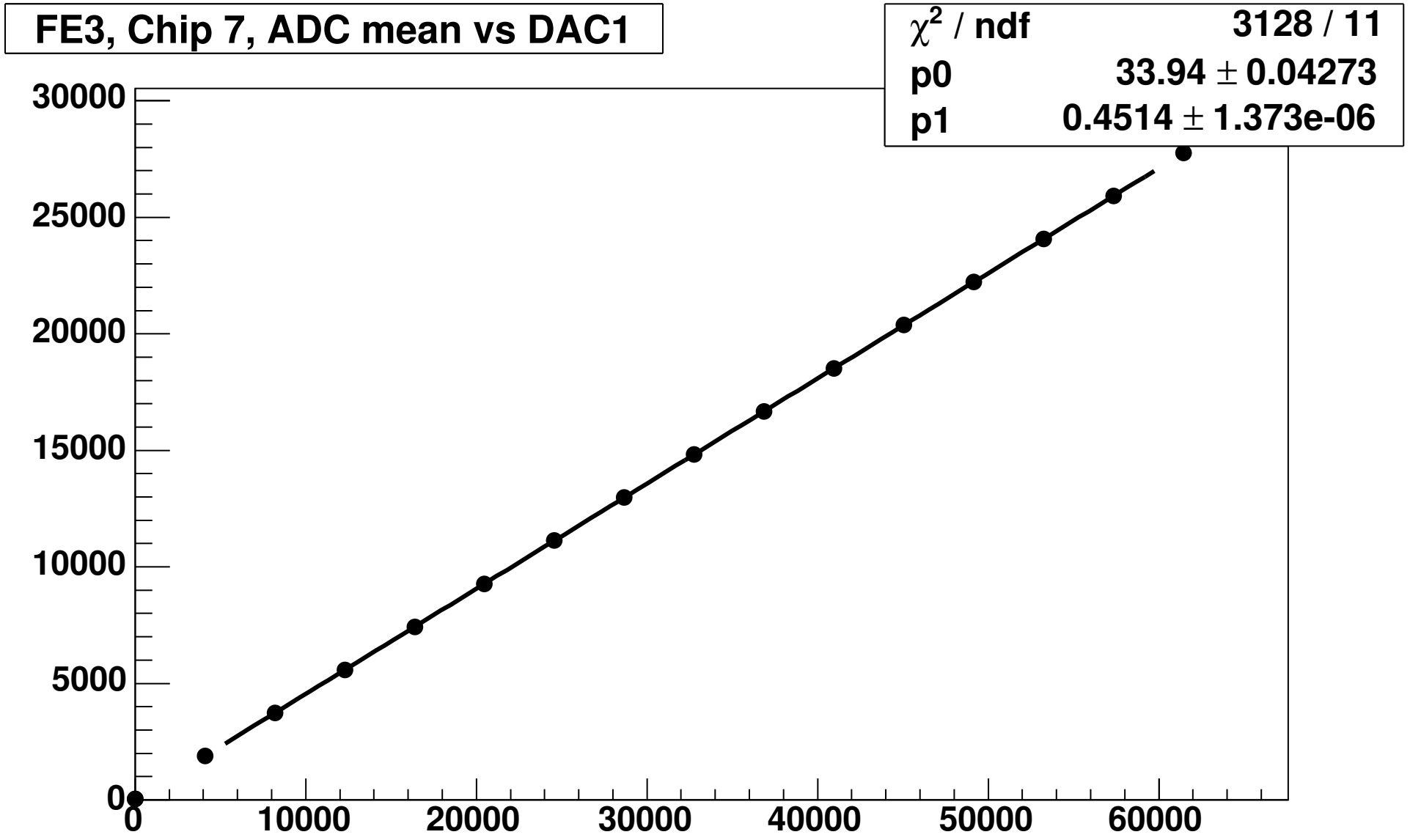


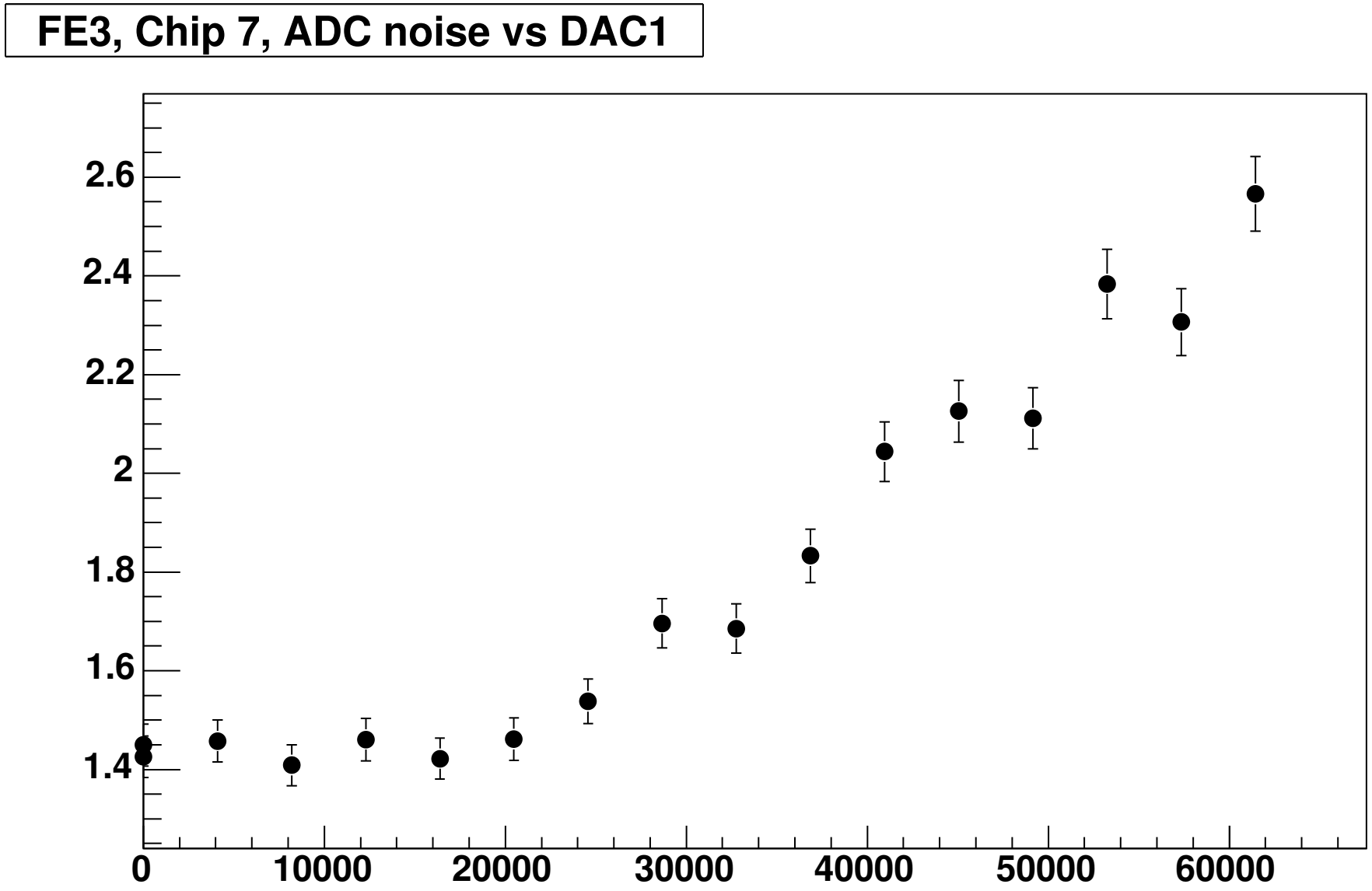

FE3, Chip 6, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

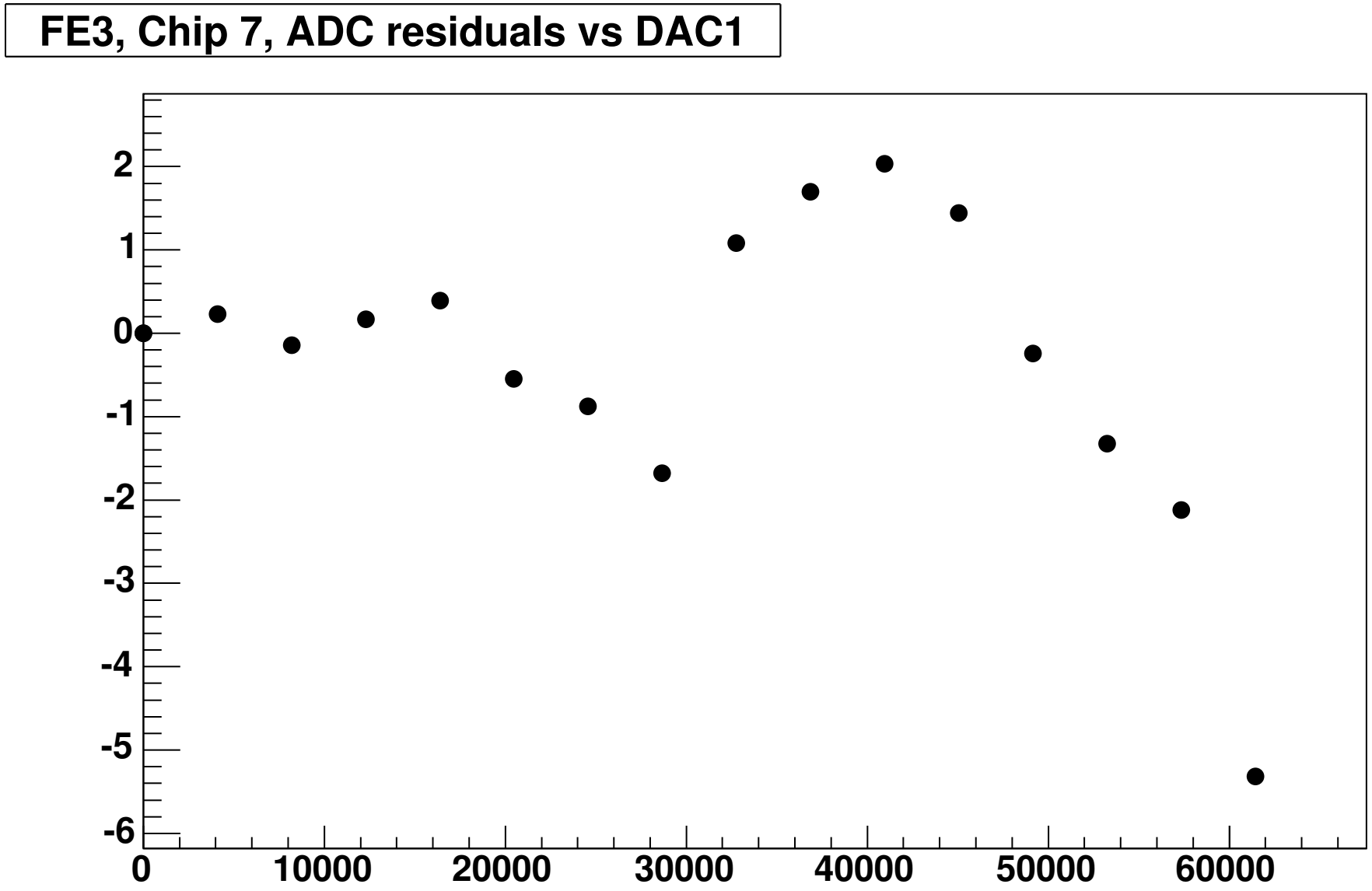

FE3, Chip 7, ADC mean vs DAC0
χ² / ndf 34.19 / 11
p0 35.28 ± 0.04094
p1 -4.444e-07 ± 1.12e-06
35.6
35.5
35.4
35.3
35.2
35.1
35
0
10000
20000
30000
40000
50000
60000

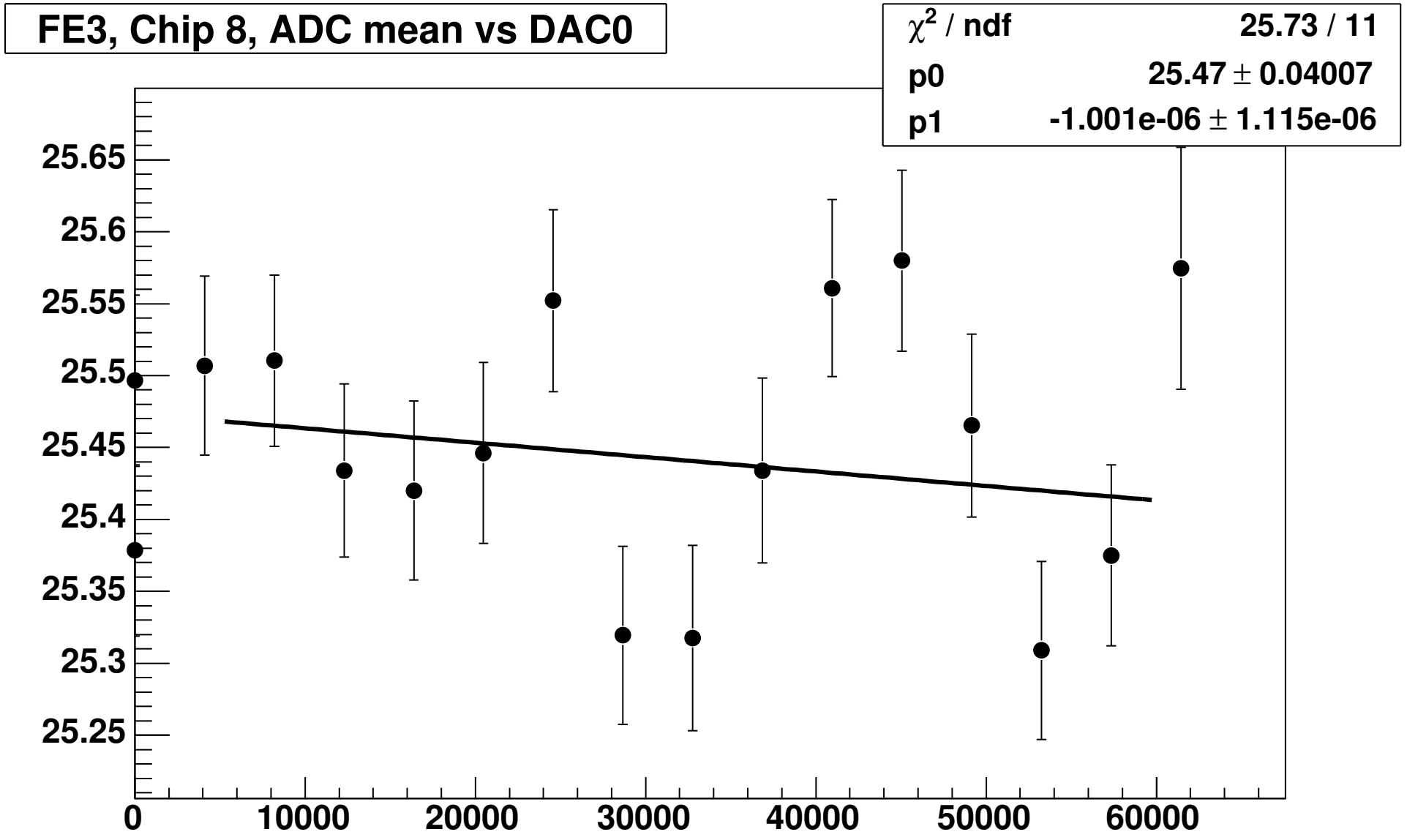

FE3, Chip 7, ADC noise vs DAC0
1.9
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

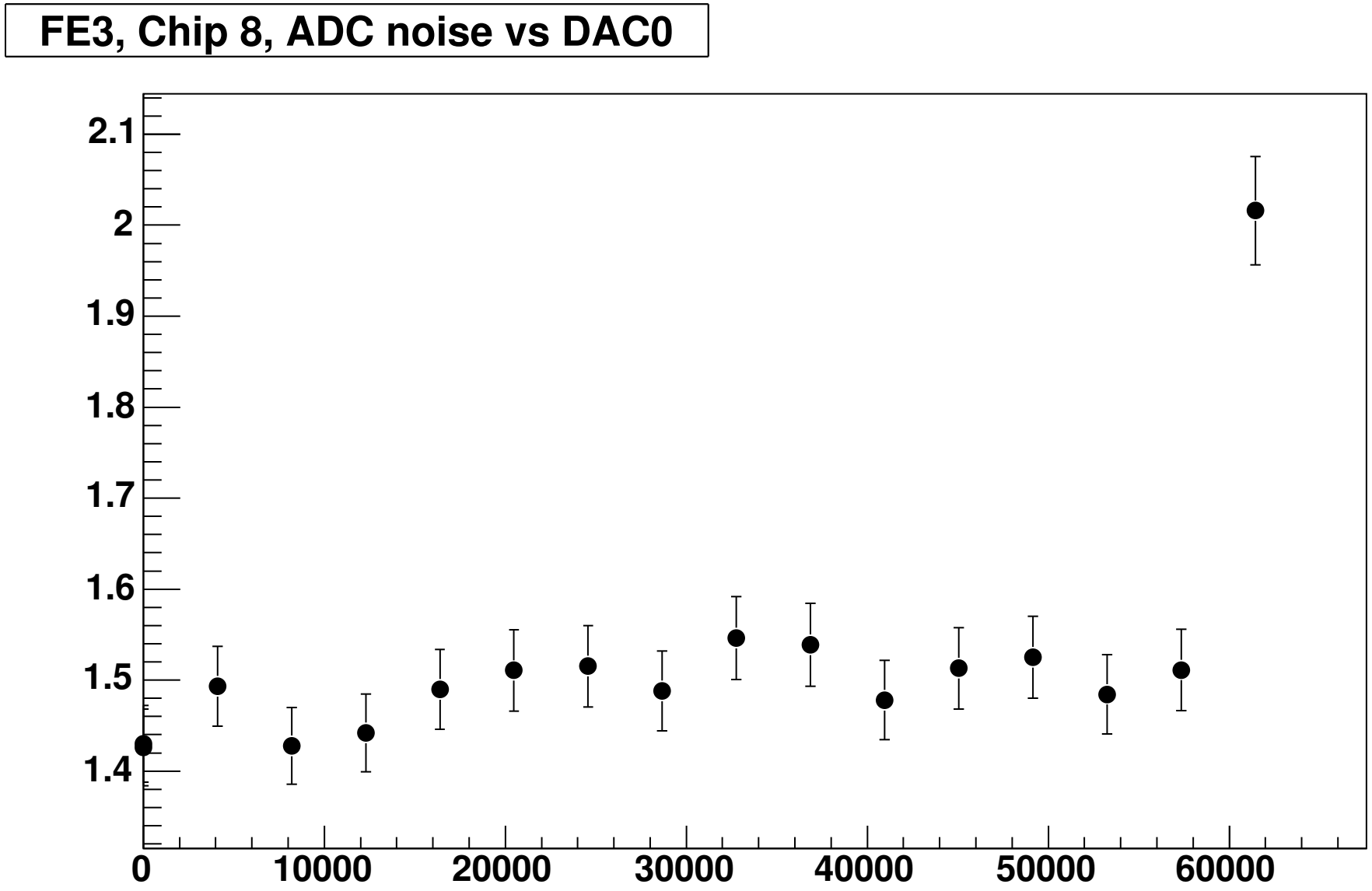

FE3, Chip 7, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

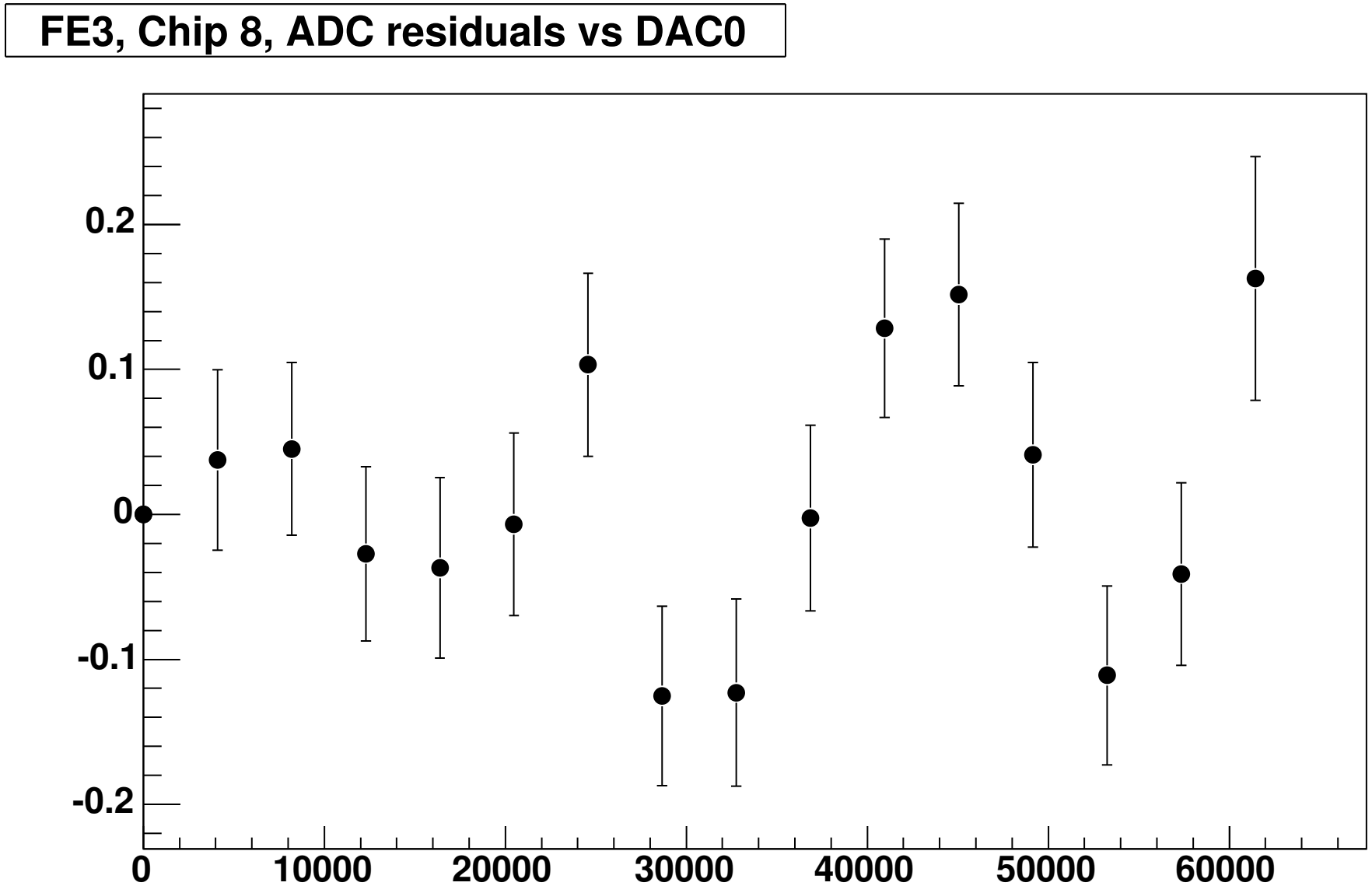

FE3, Chip 7, ADC mean vs DAC1
χ² / ndf 3128 / 11
p0 33.94 ± 0.04273
p1 0.4514 ± 1.373e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

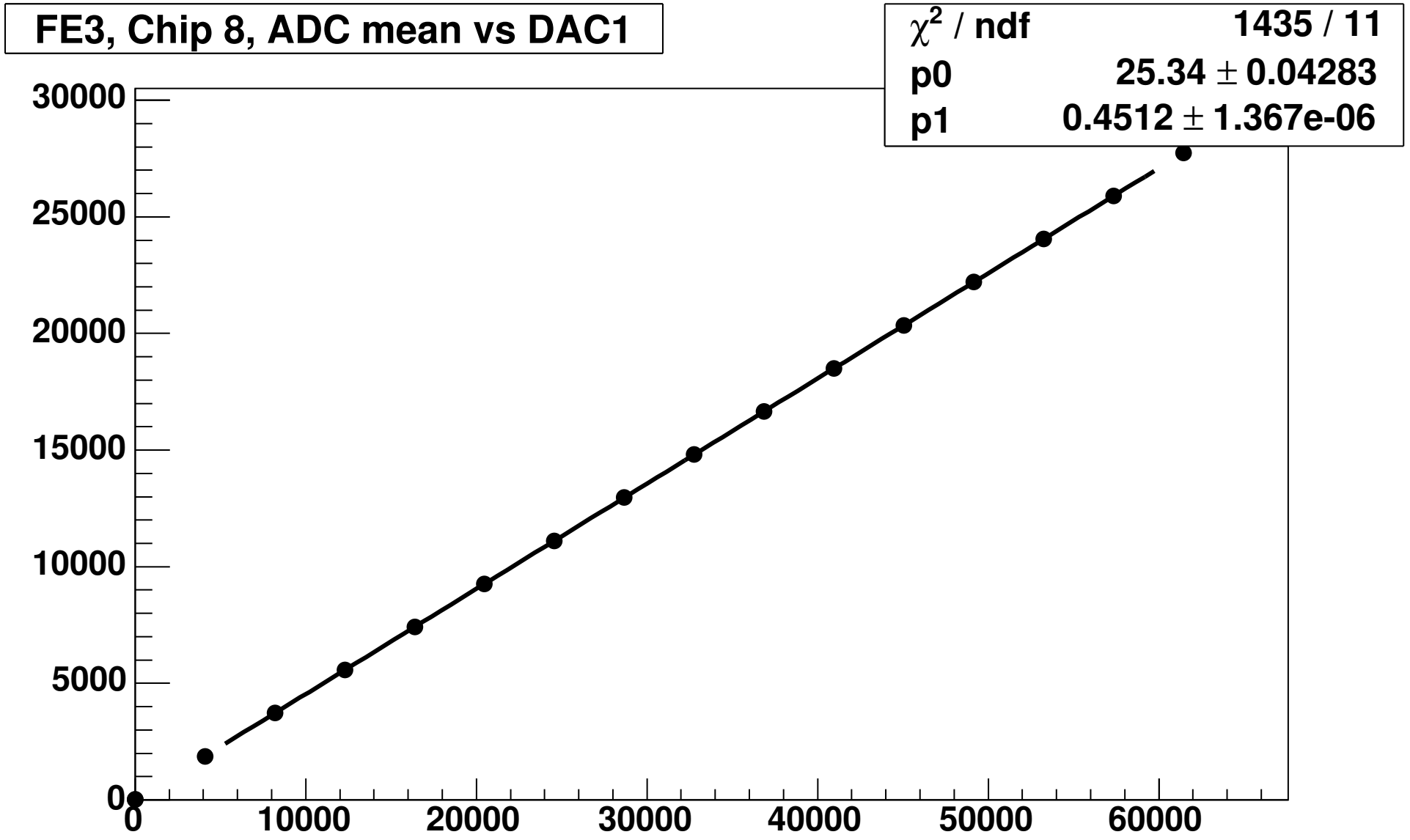

FE3, Chip 7, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

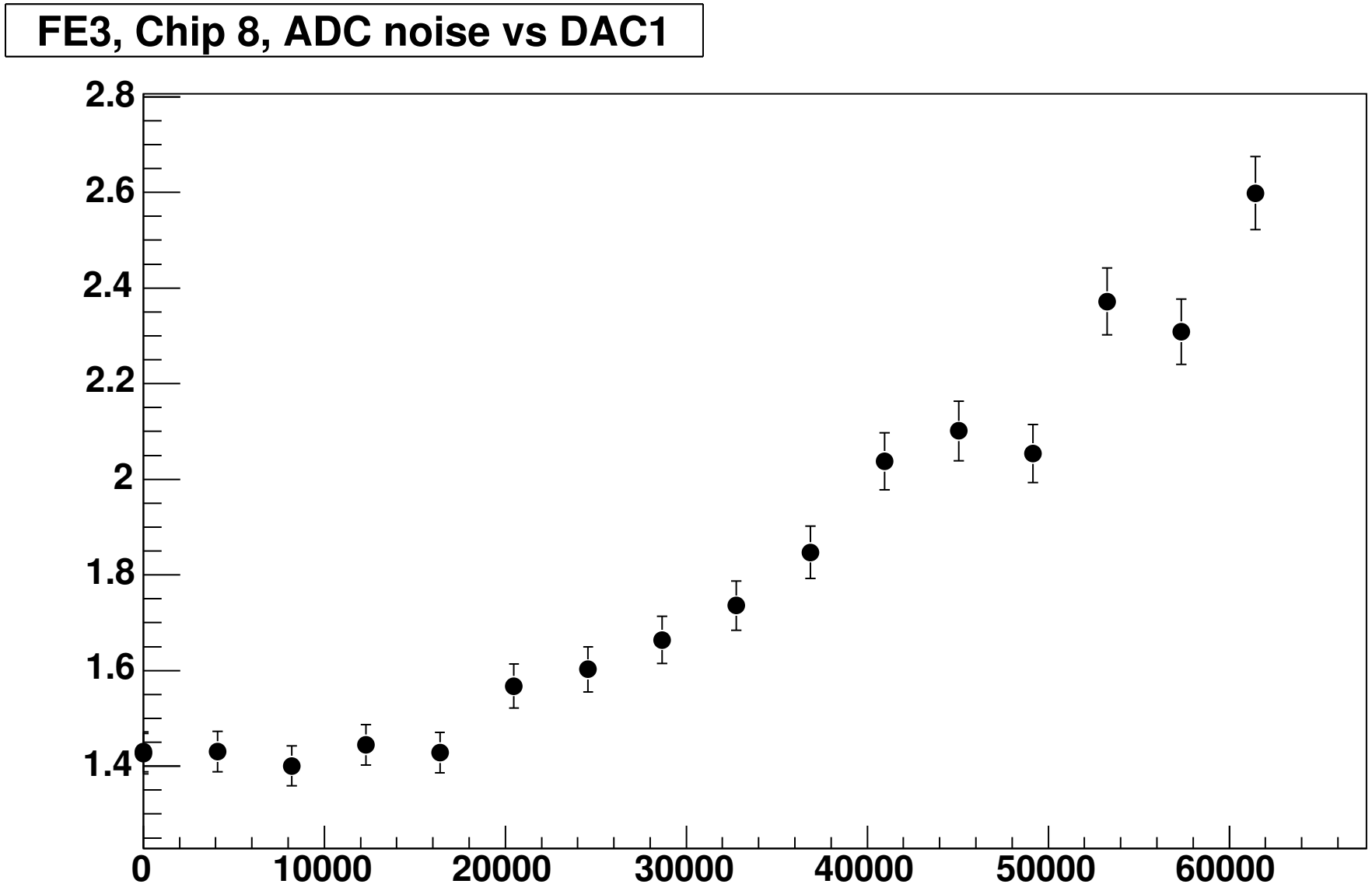

FE3, Chip 7, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

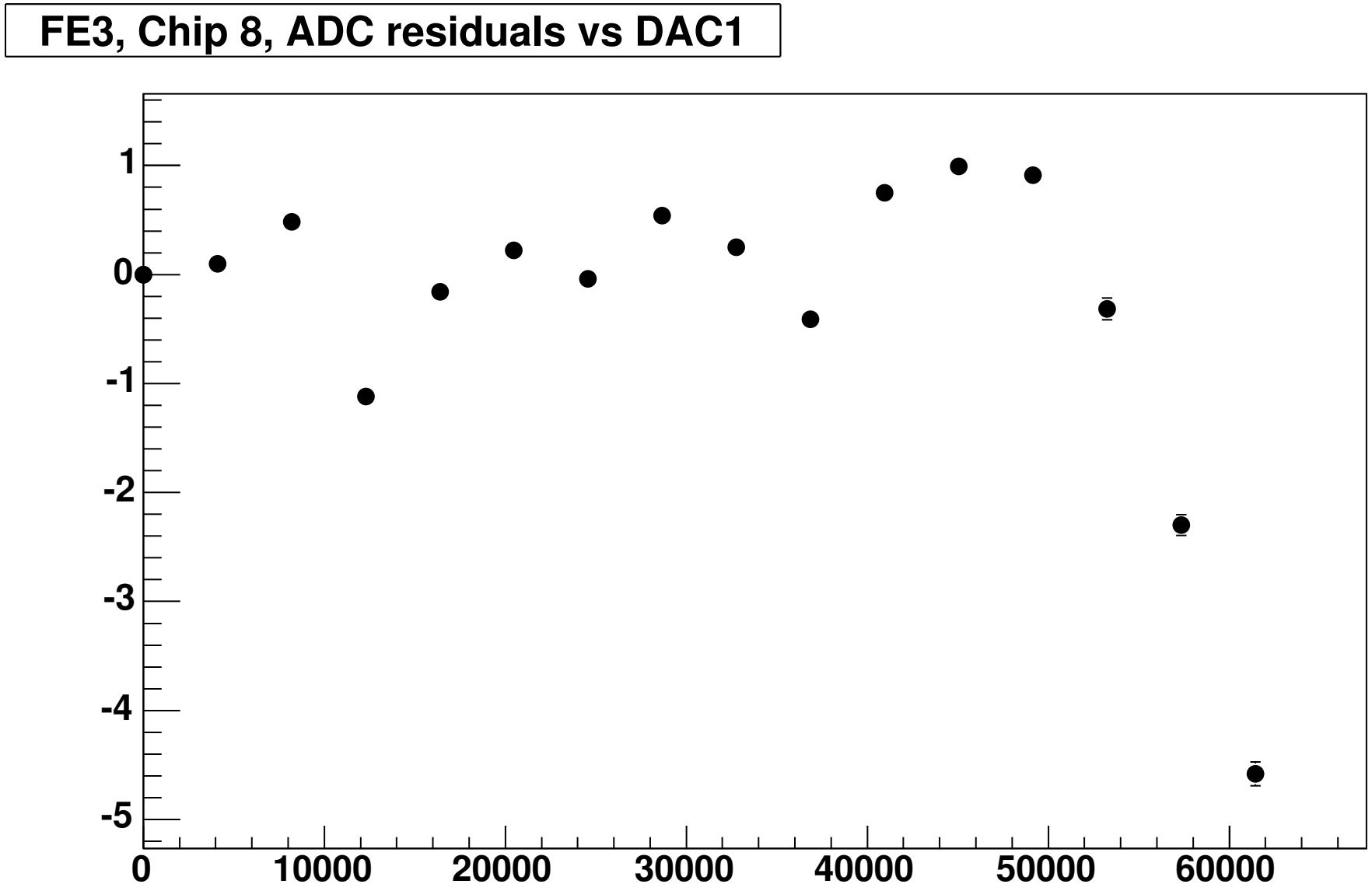

FE3, Chip 8, ADC mean vs DAC0
χ² / ndf 25.73 / 11
p0 25.47 ± 0.04007
p1 -1.001e-06 ± 1.115e-06
25.65
25.6
25.55
25.5
25.45
25.4
25.35
25.3
25.25
0
10000
20000
30000
40000
50000
60000

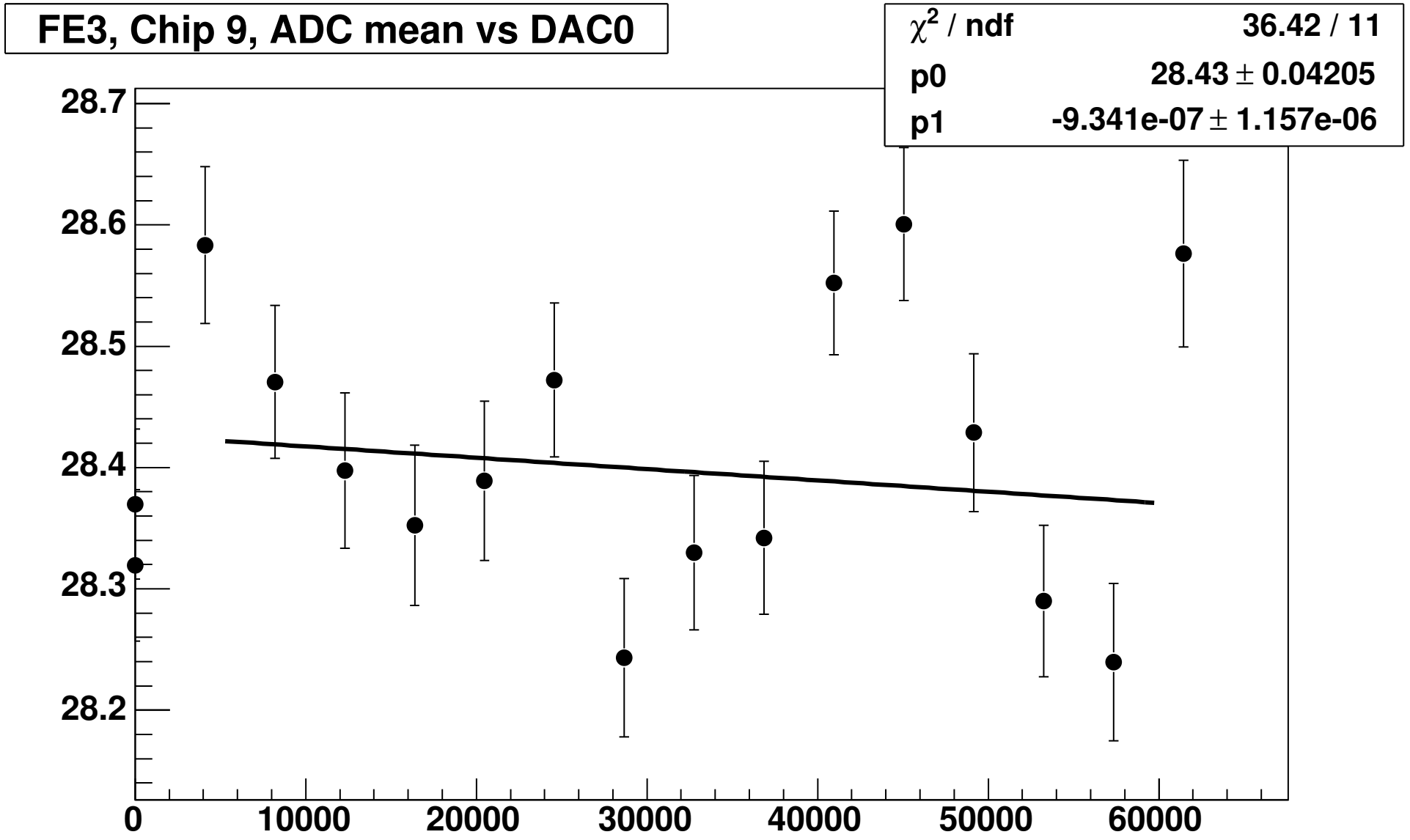

FE3, Chip 8, ADC noise vs DAC0
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

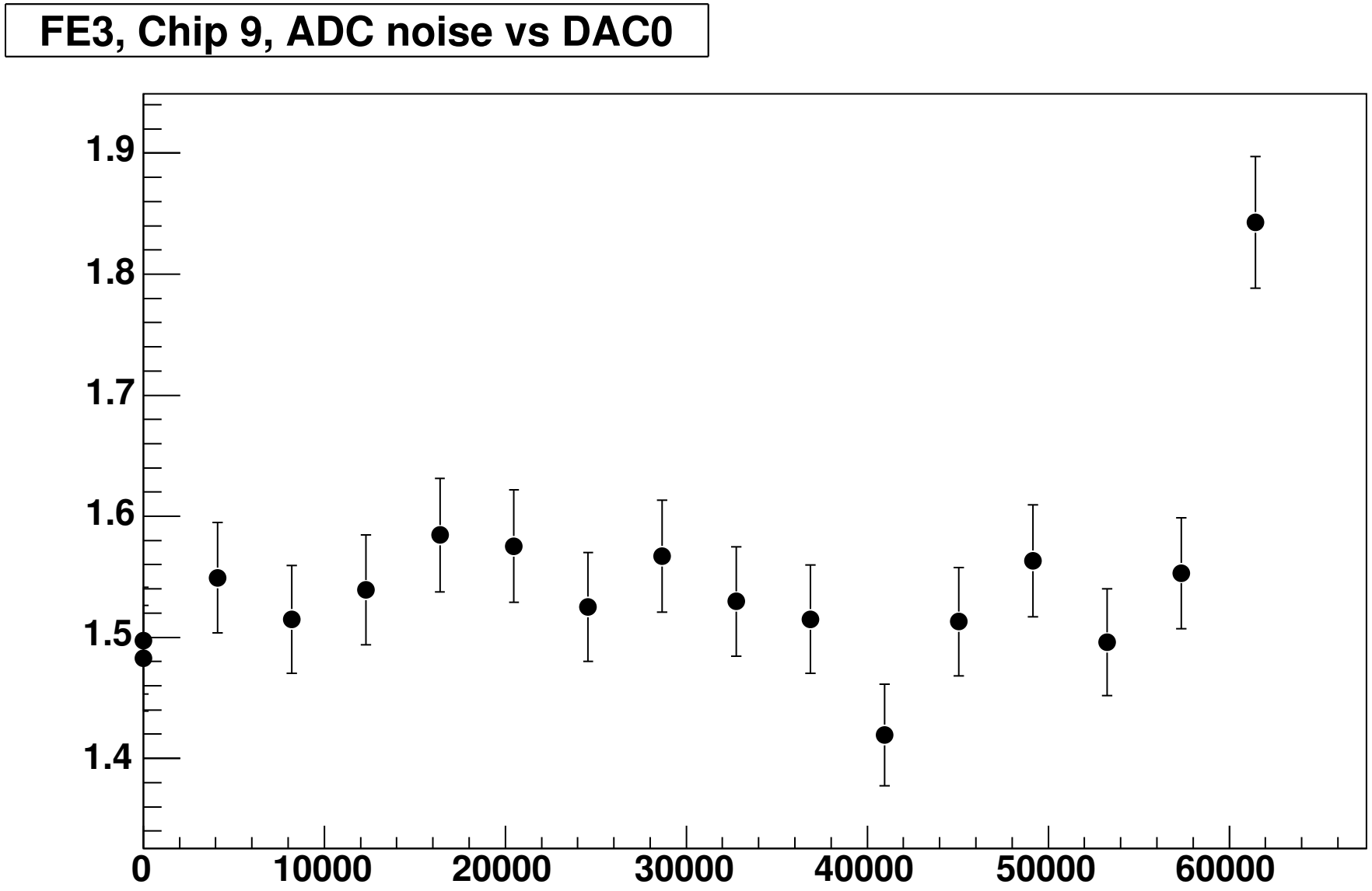

FE3, Chip 8, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

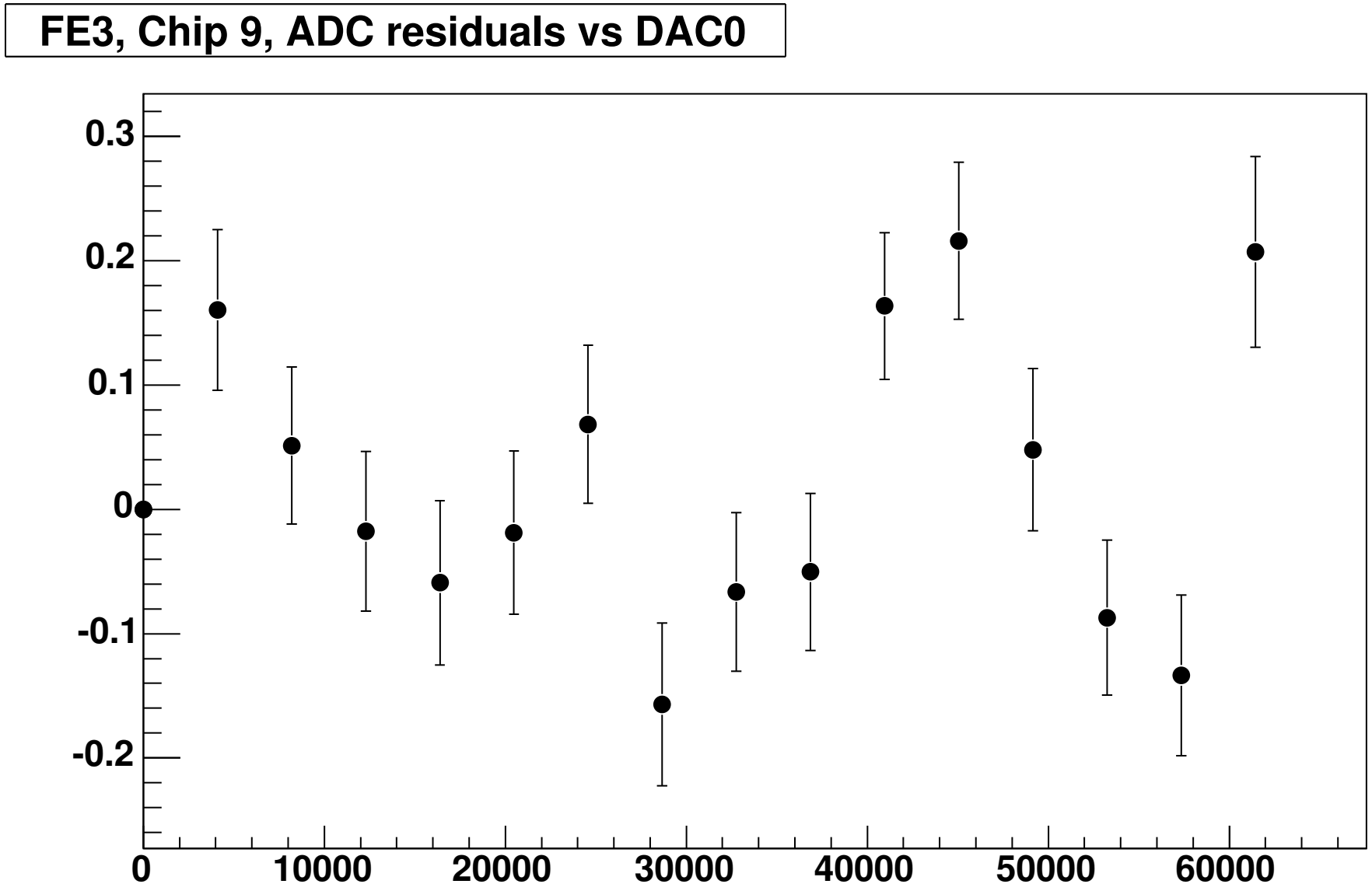

FE3, Chip 8, ADC mean vs DAC1
χ² / ndf 1435 / 11
p0 25.34 ± 0.04283
p1 0.4512 ± 1.367e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

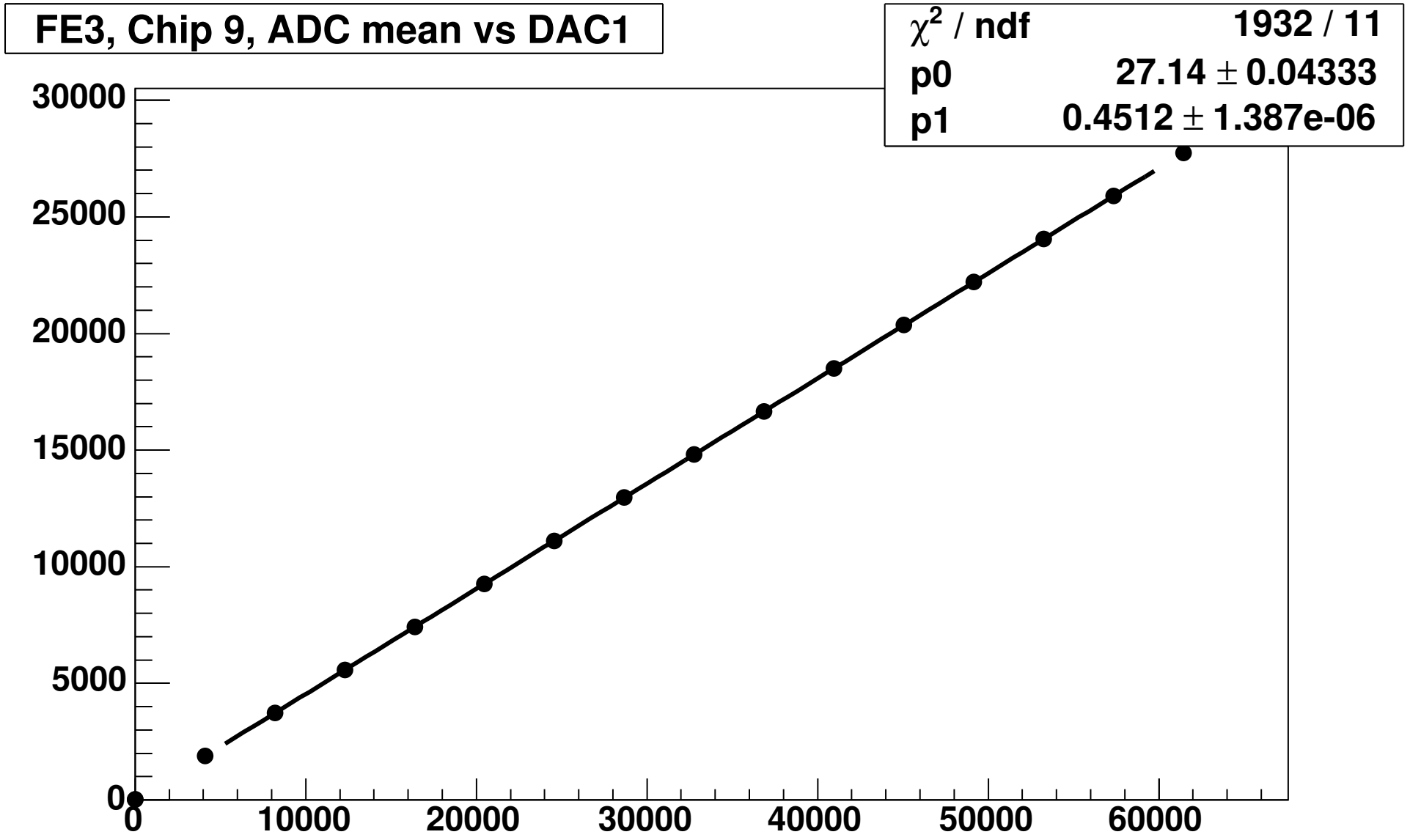

FE3, Chip 8, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

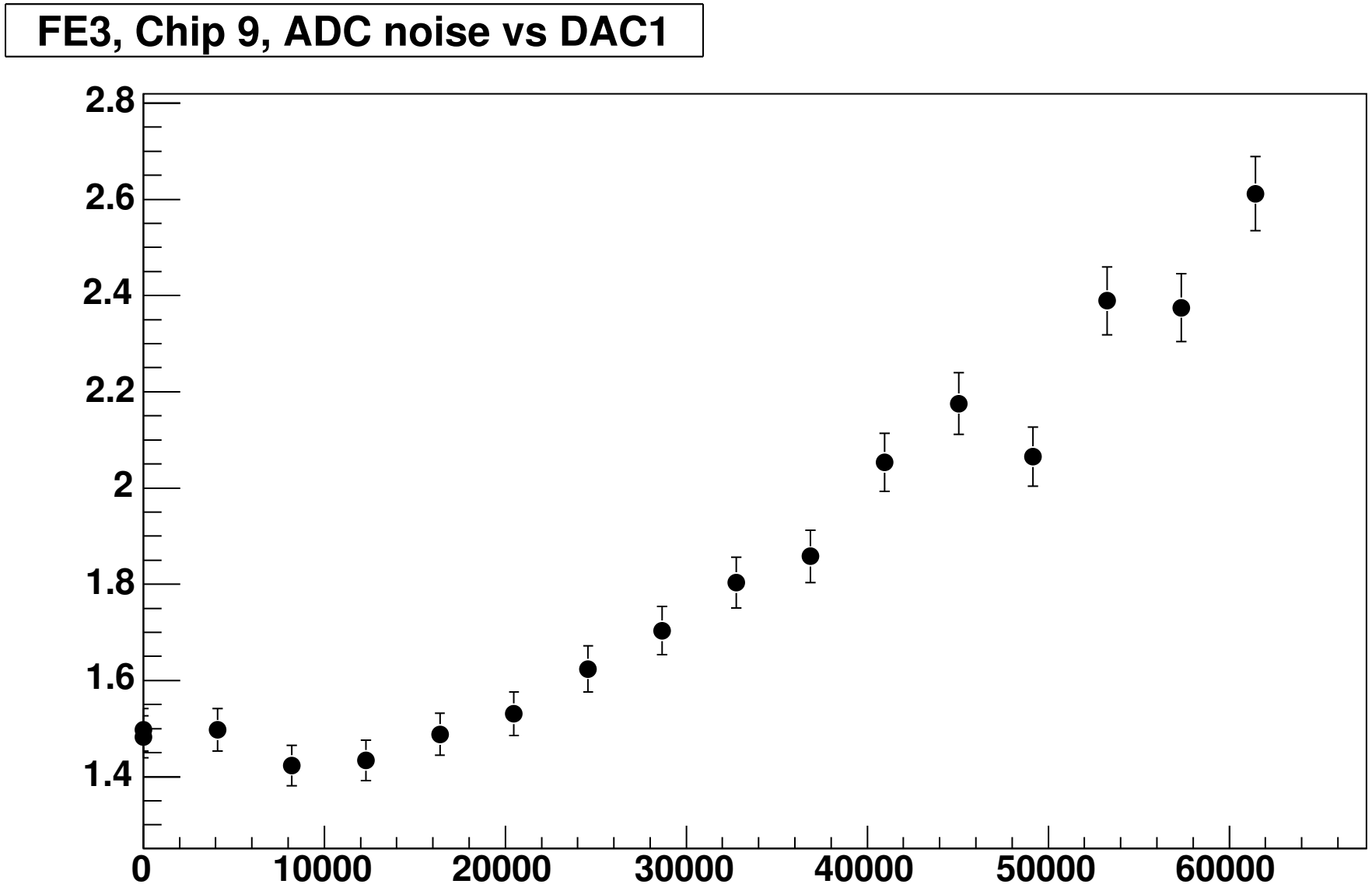

FE3, Chip 8, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

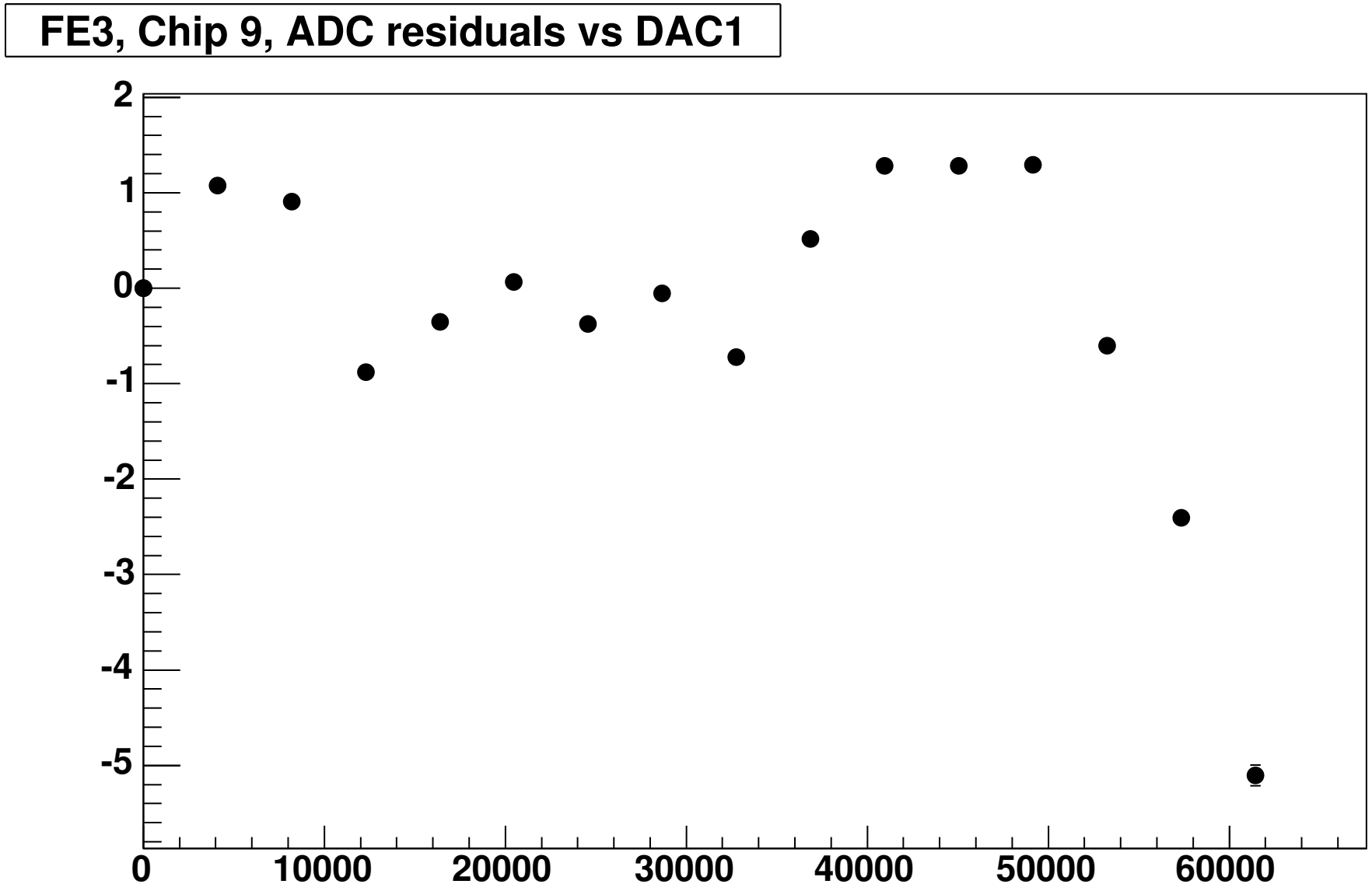

FE3, Chip 9, ADC mean vs DAC0
χ² / ndf 36.42 / 11
p0 28.43 ± 0.04205
p1 -9.341e-07 ± 1.157e-06
28.7
28.6
28.5
28.4
28.3
28.2
0
10000
20000
30000
40000
50000
60000

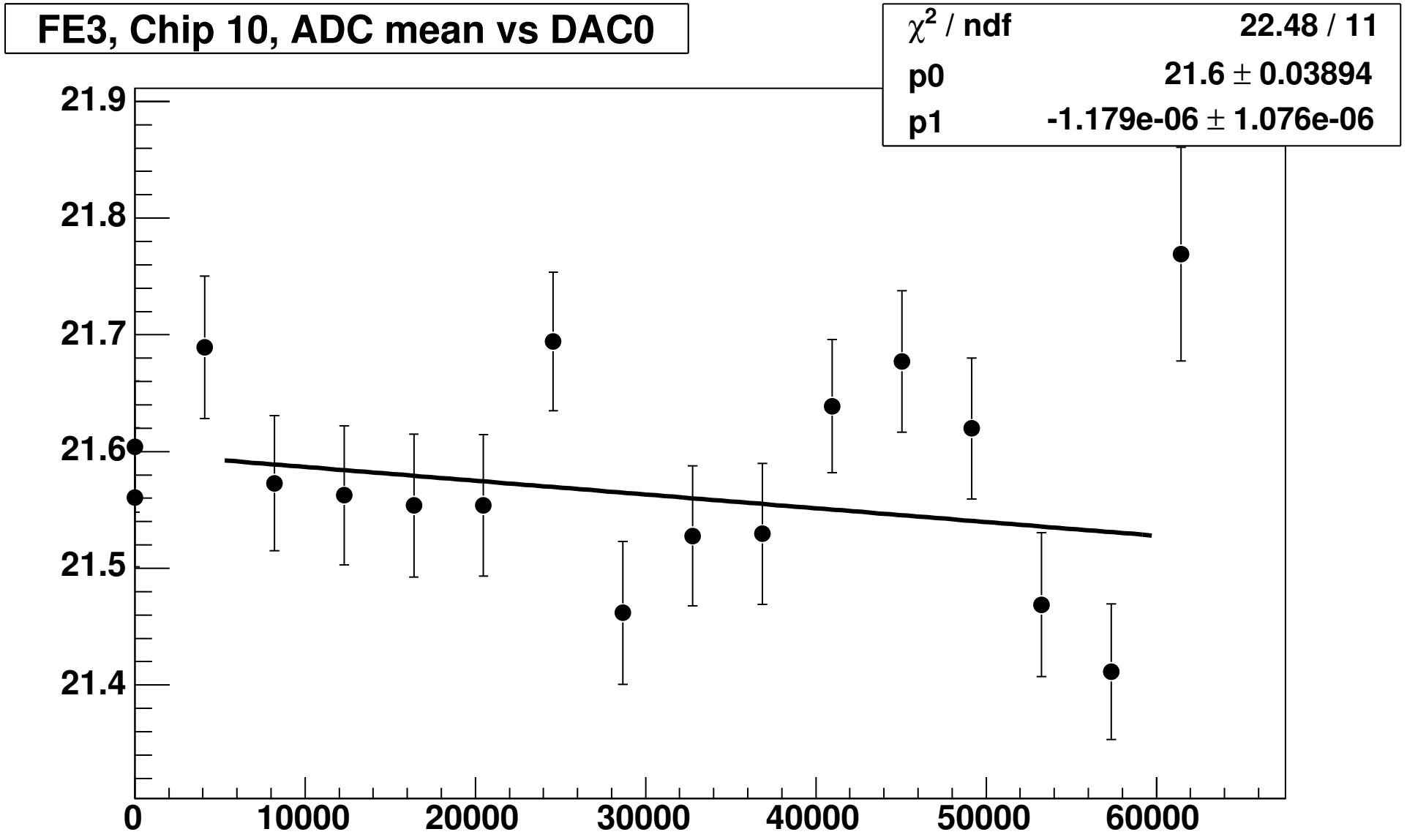

FE3, Chip 9, ADC noise vs DAC0
1.9
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

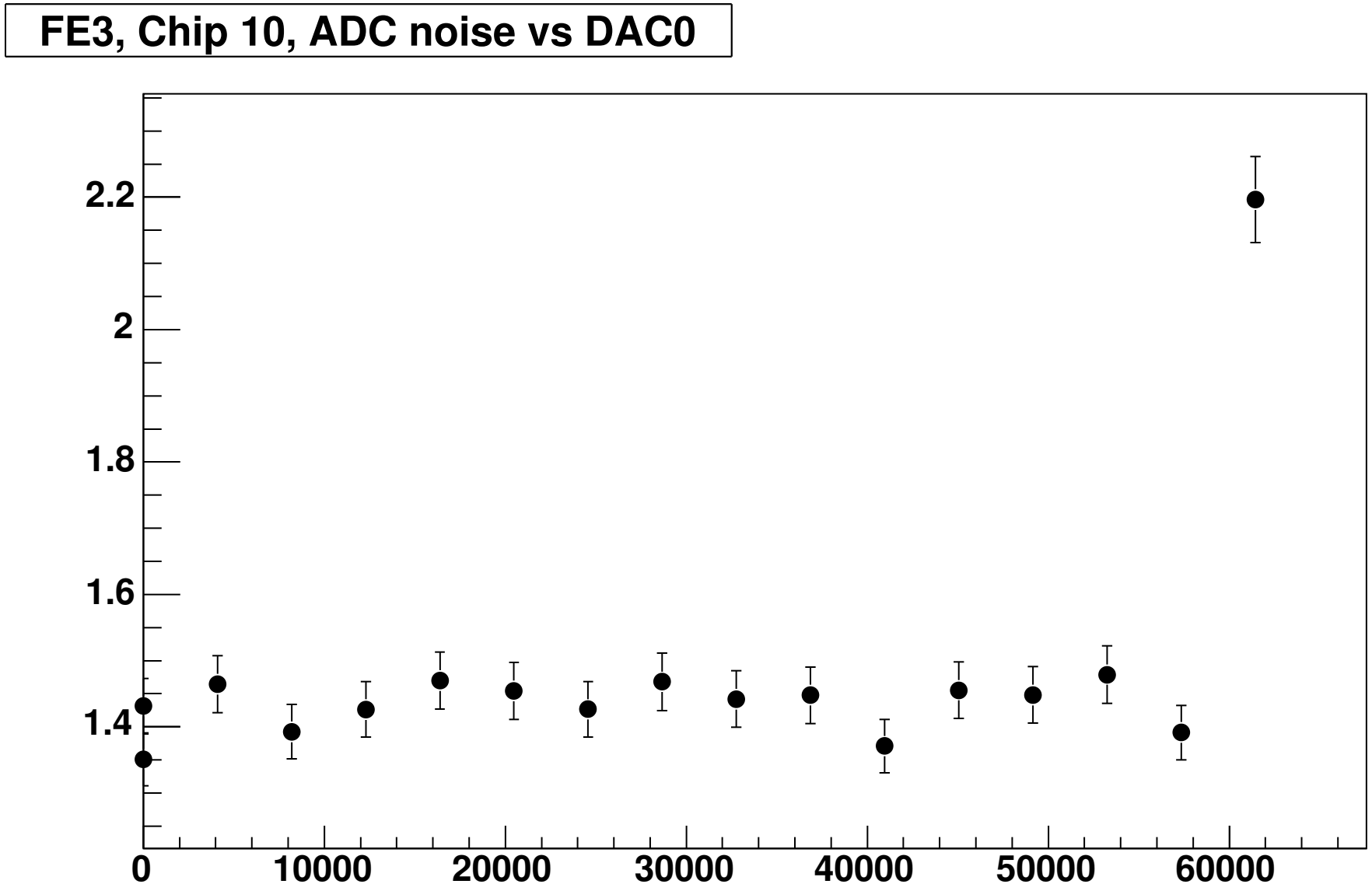

FE3, Chip 9, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

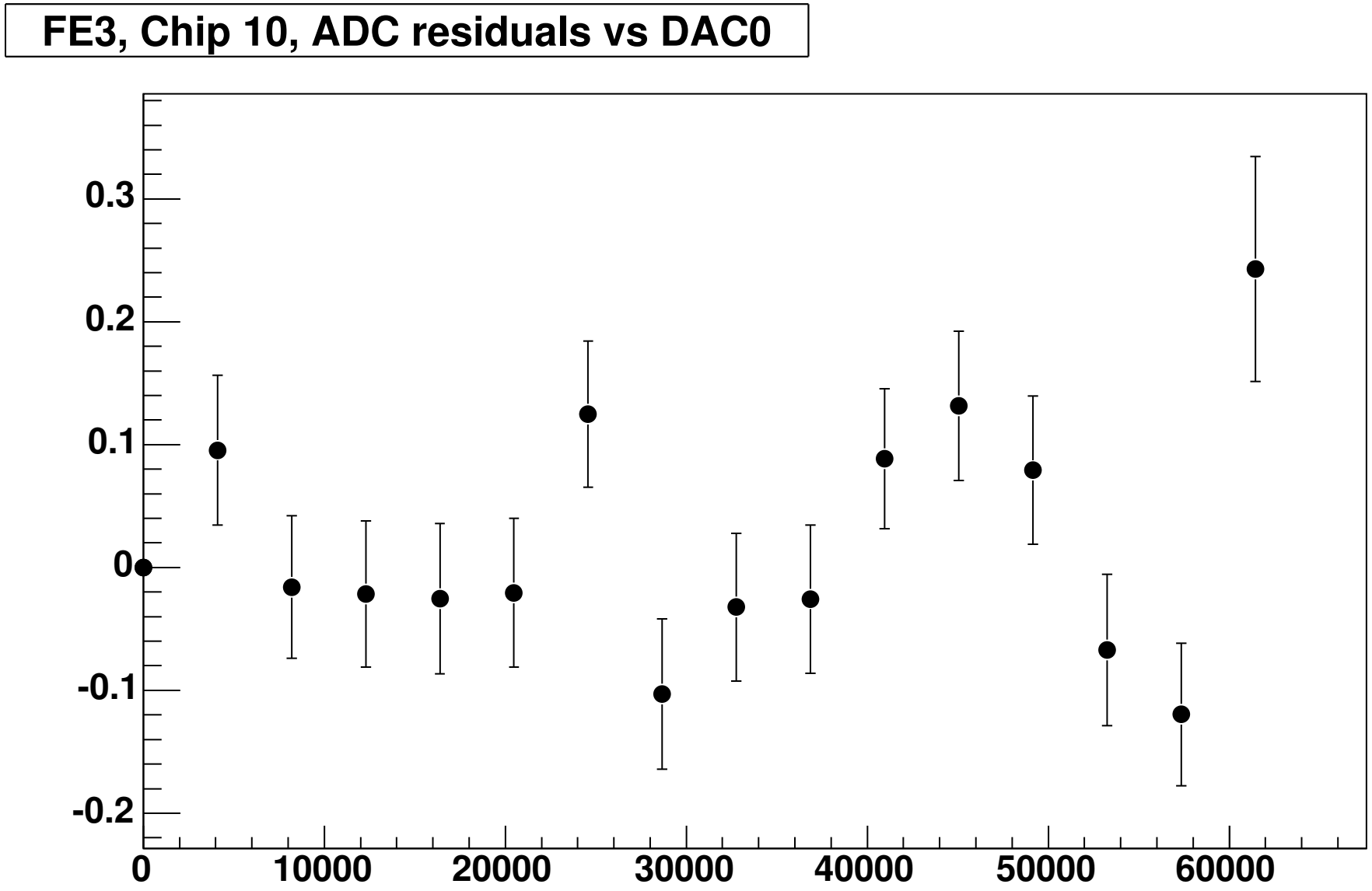

FE3, Chip 9, ADC mean vs DAC1
χ² / ndf 1932 / 11
p0 27.14 ± 0.04333
p1 0.4512 ± 1.387e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

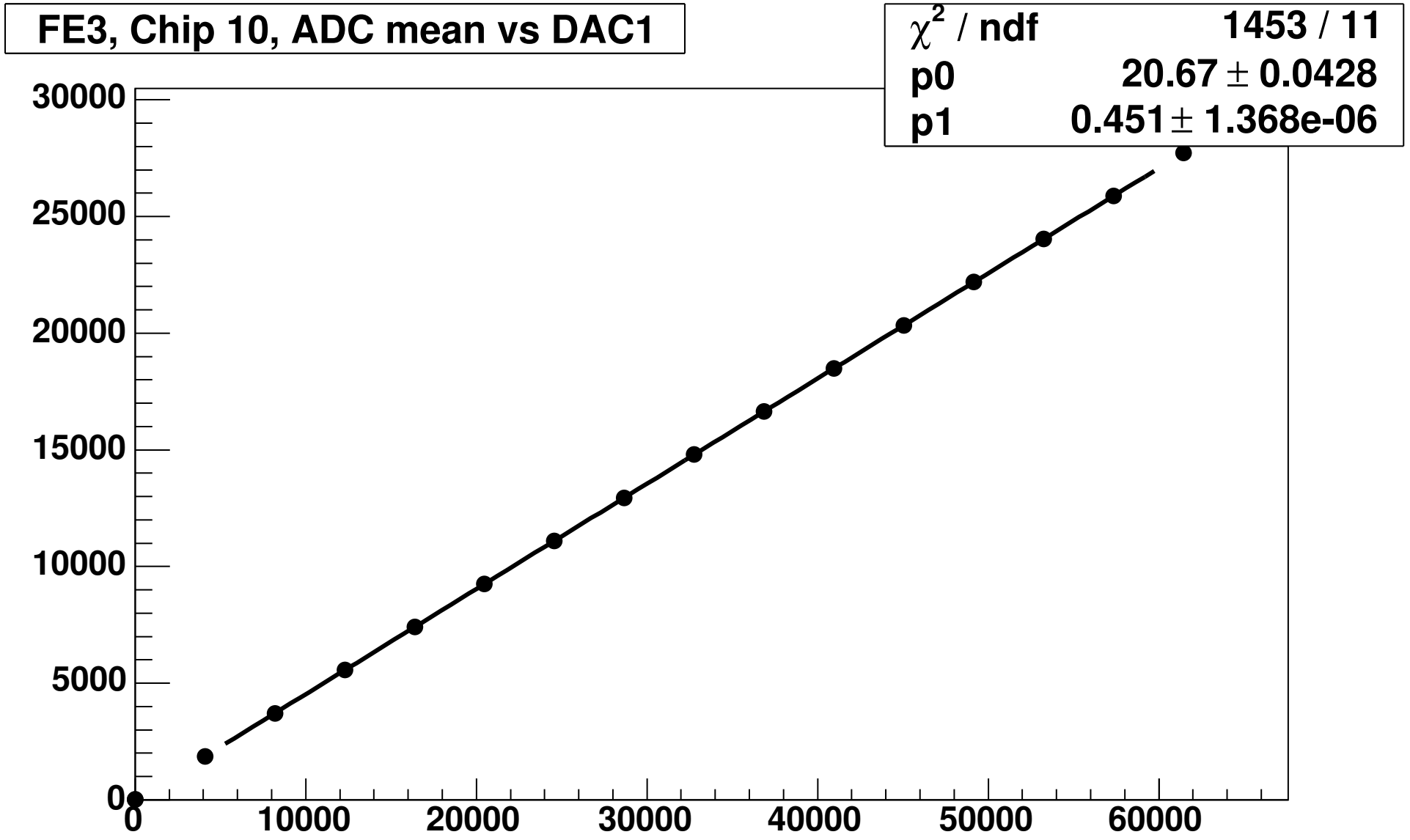

FE3, Chip 9, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

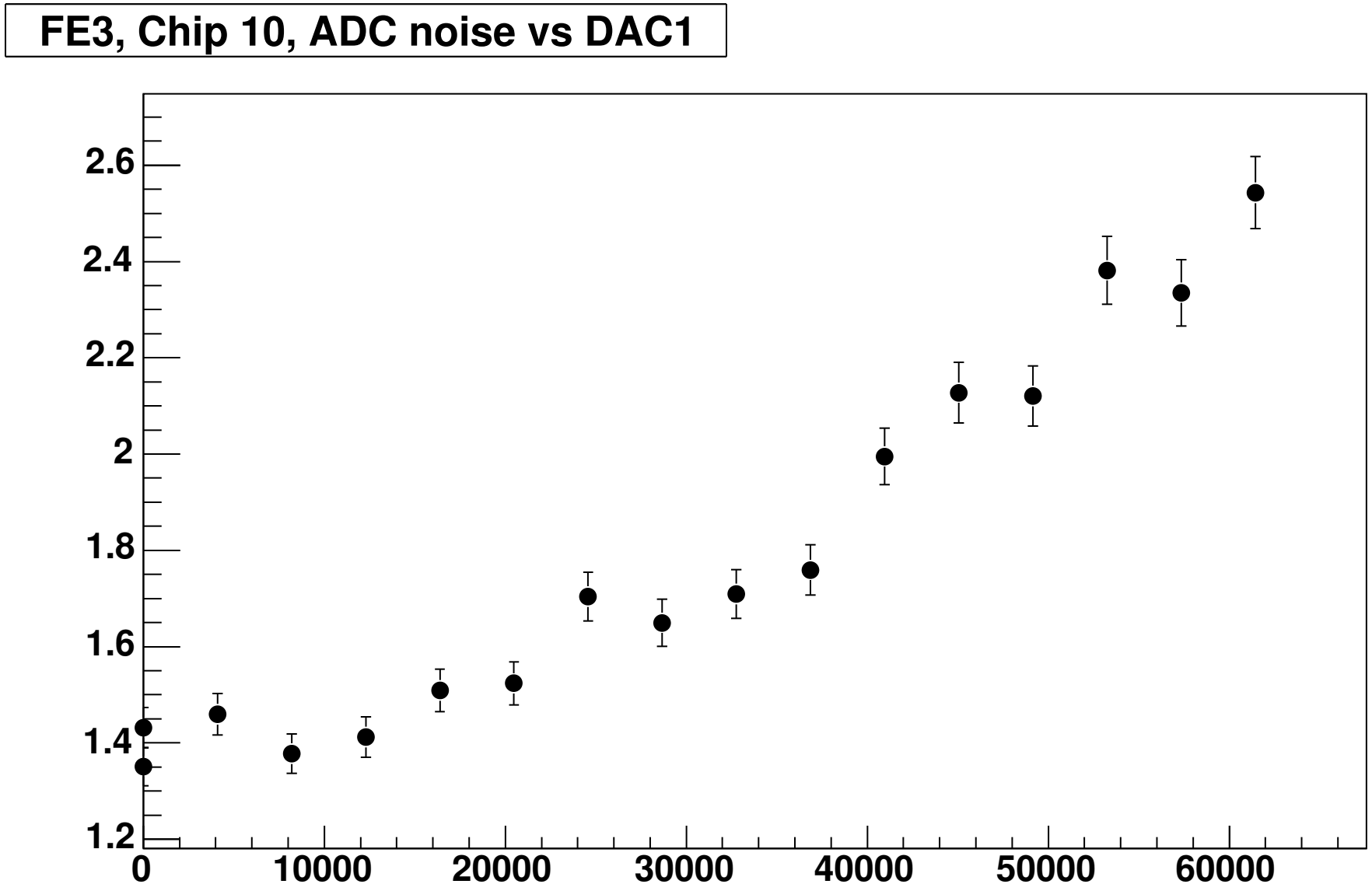

FE3, Chip 9, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

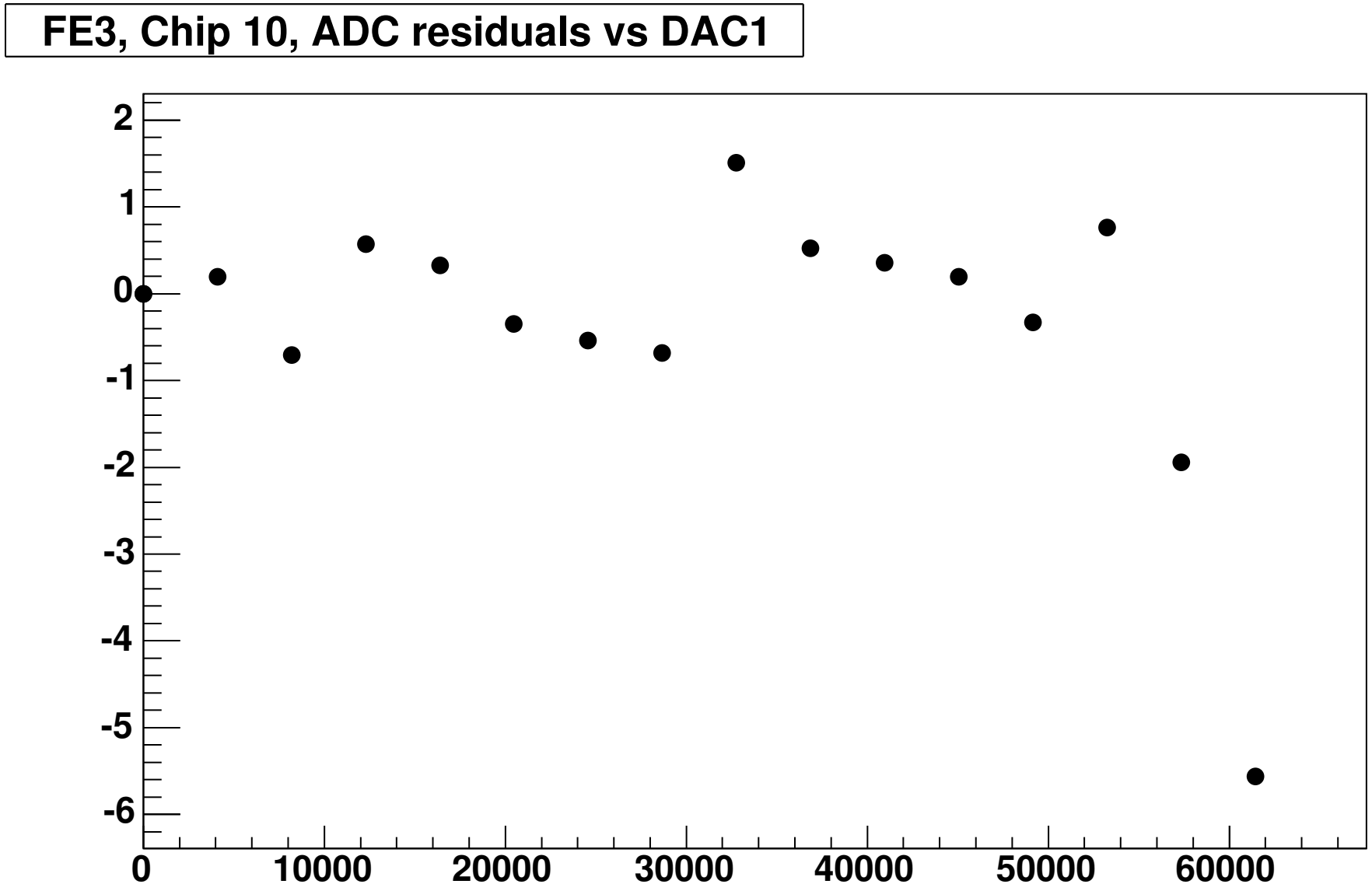

FE3, Chip 10, ADC mean vs DAC0
χ² / ndf 22.48 / 11
p0 21.6 ± 0.03894
p1 -1.179e-06 ± 1.076e-06
21.9
21.8
21.7
21.6
21.5
21.4
0
10000
20000
30000
40000
50000
60000

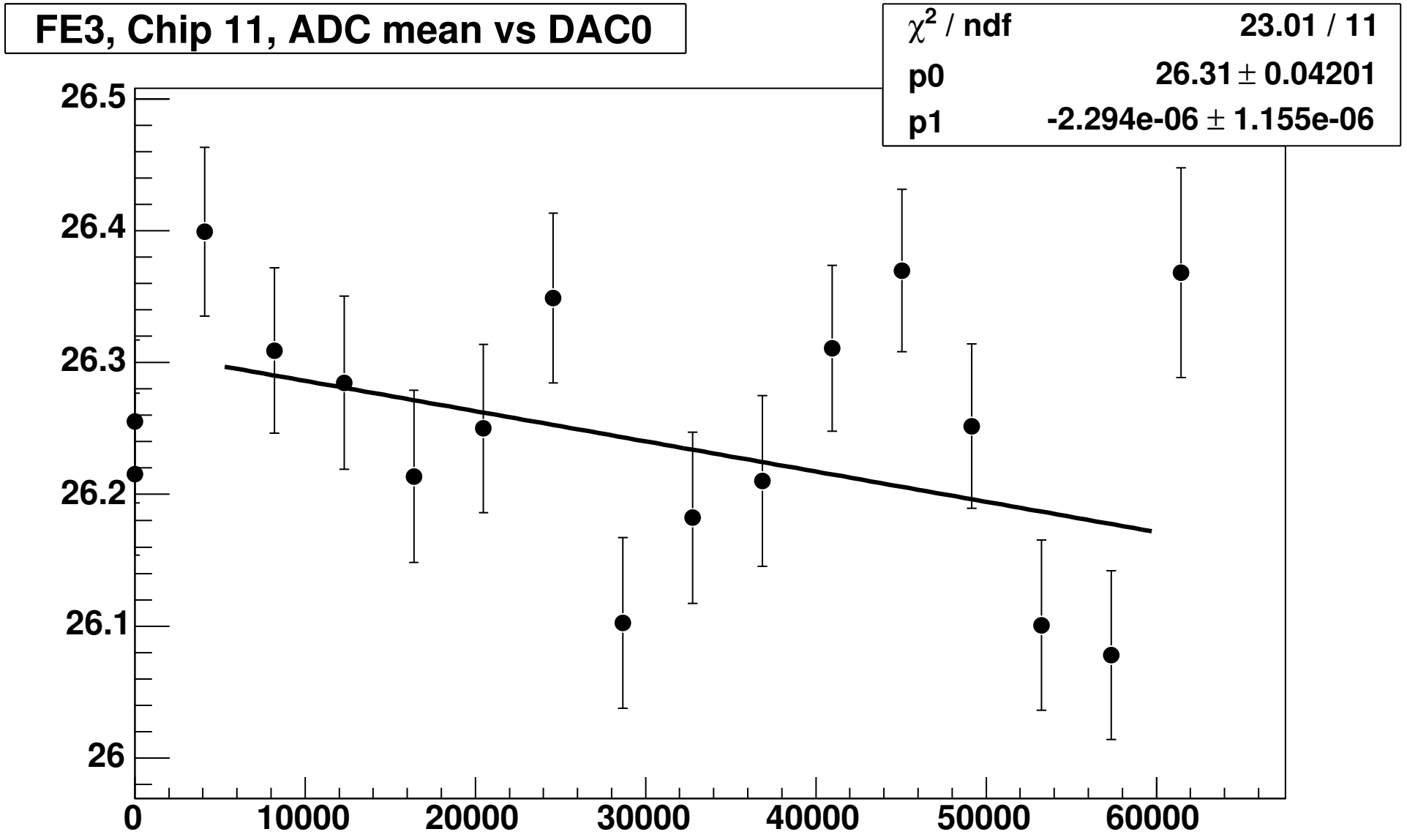

FE3, Chip 10, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

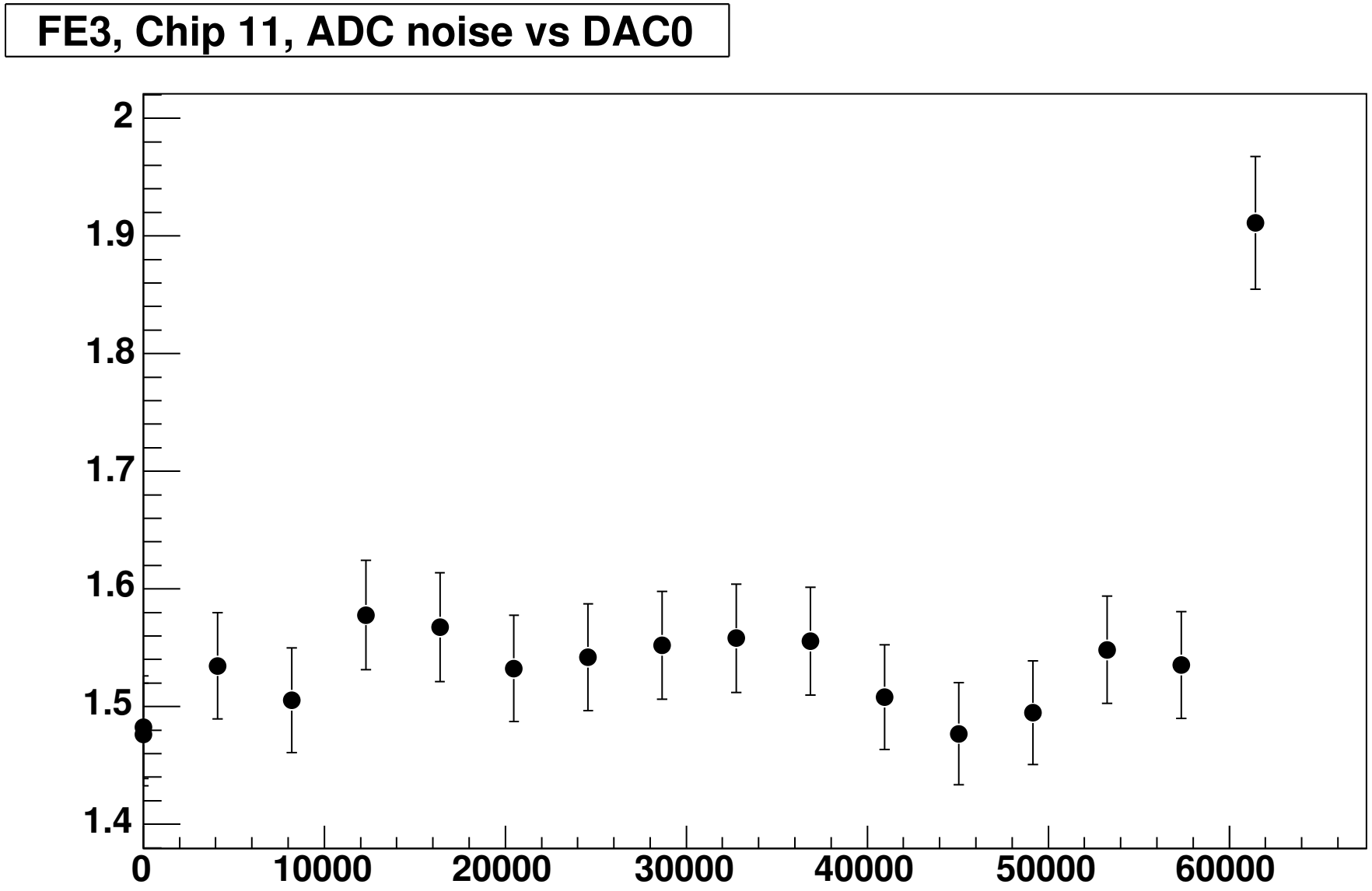

FE3, Chip 10, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

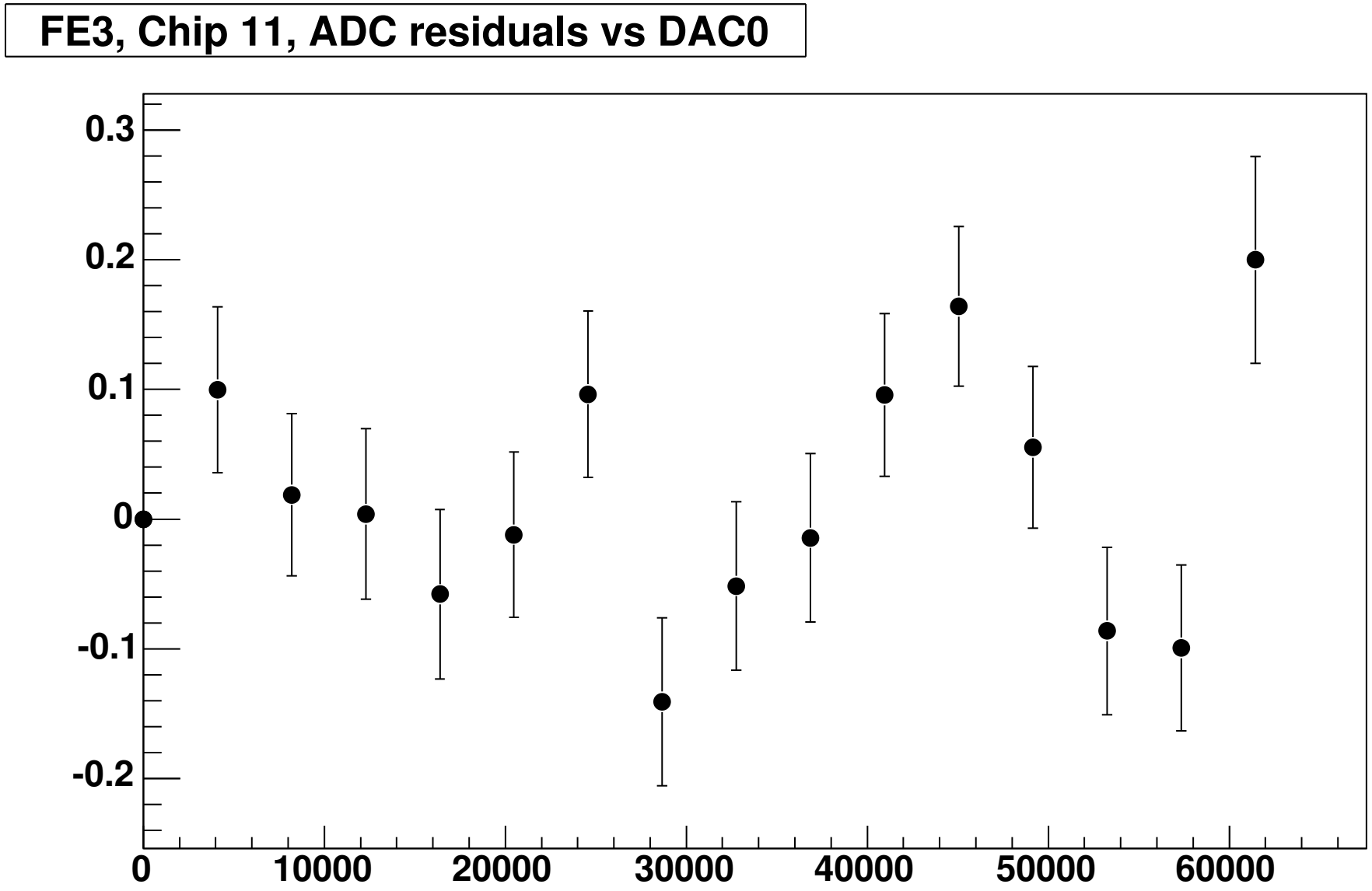

FE3, Chip 10, ADC mean vs DAC1
χ² / ndf 1453 / 11
p0 20.67 ± 0.0428
p1 0.451 ± 1.368e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

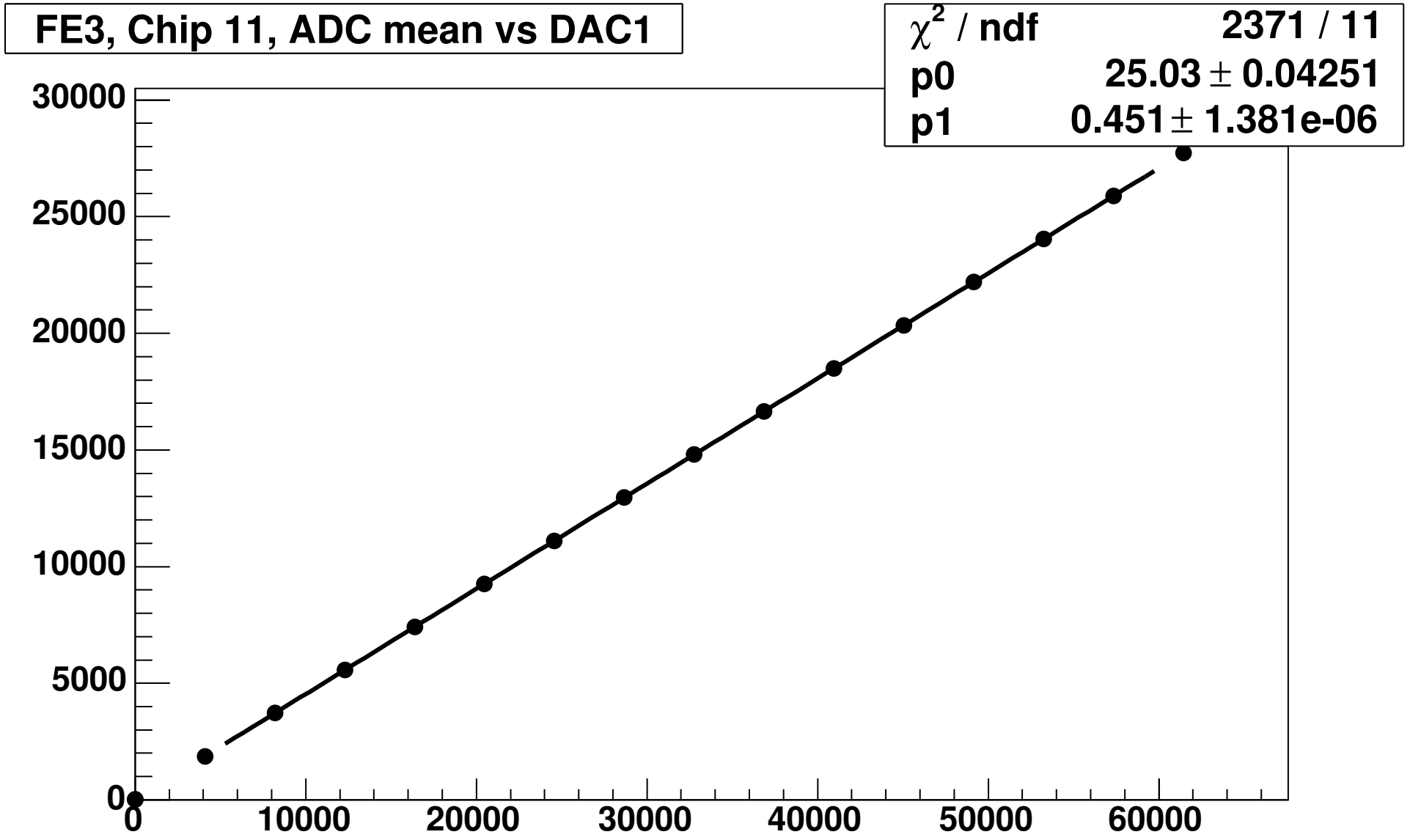

FE3, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

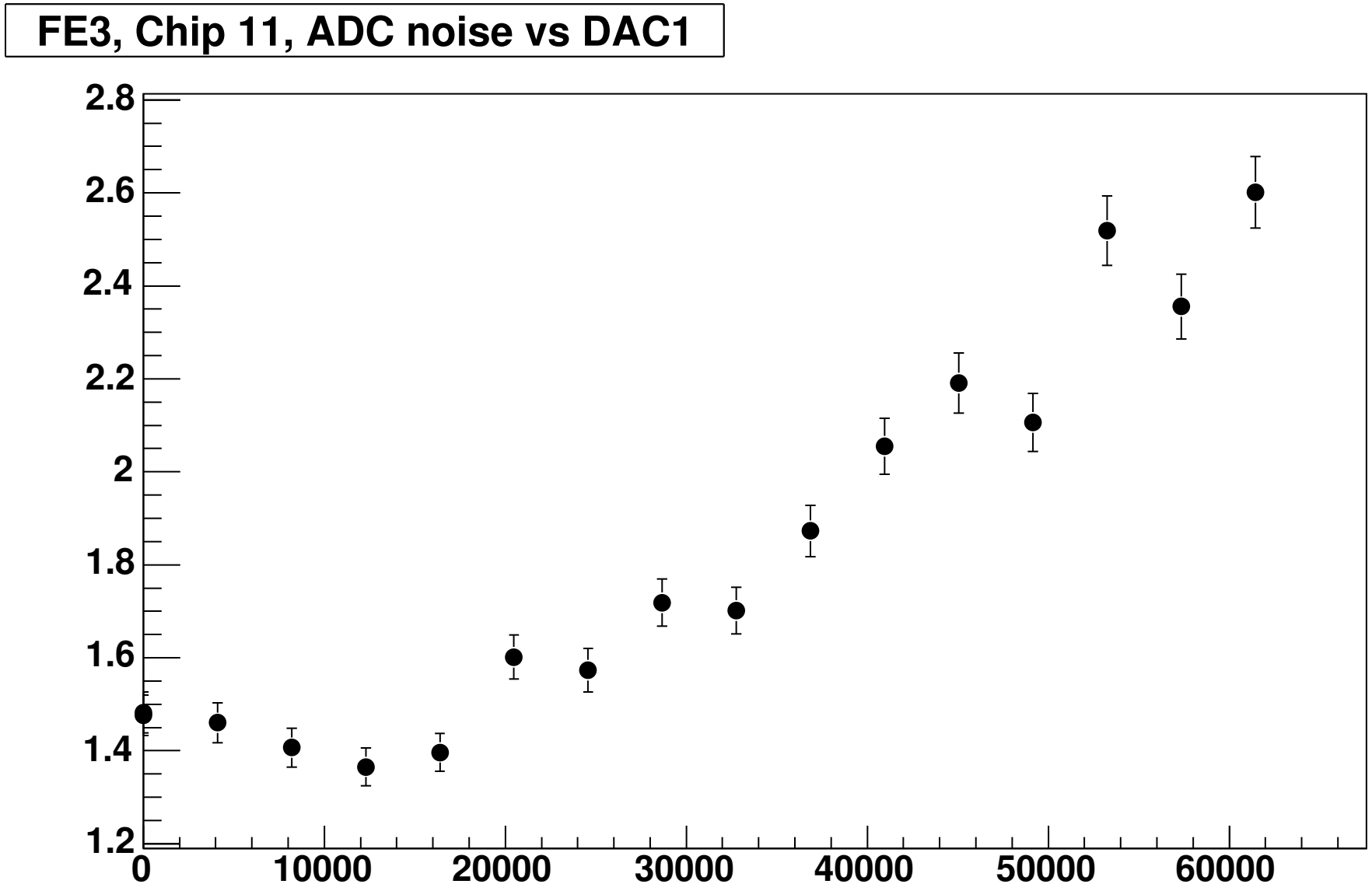

FE3, Chip 10, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

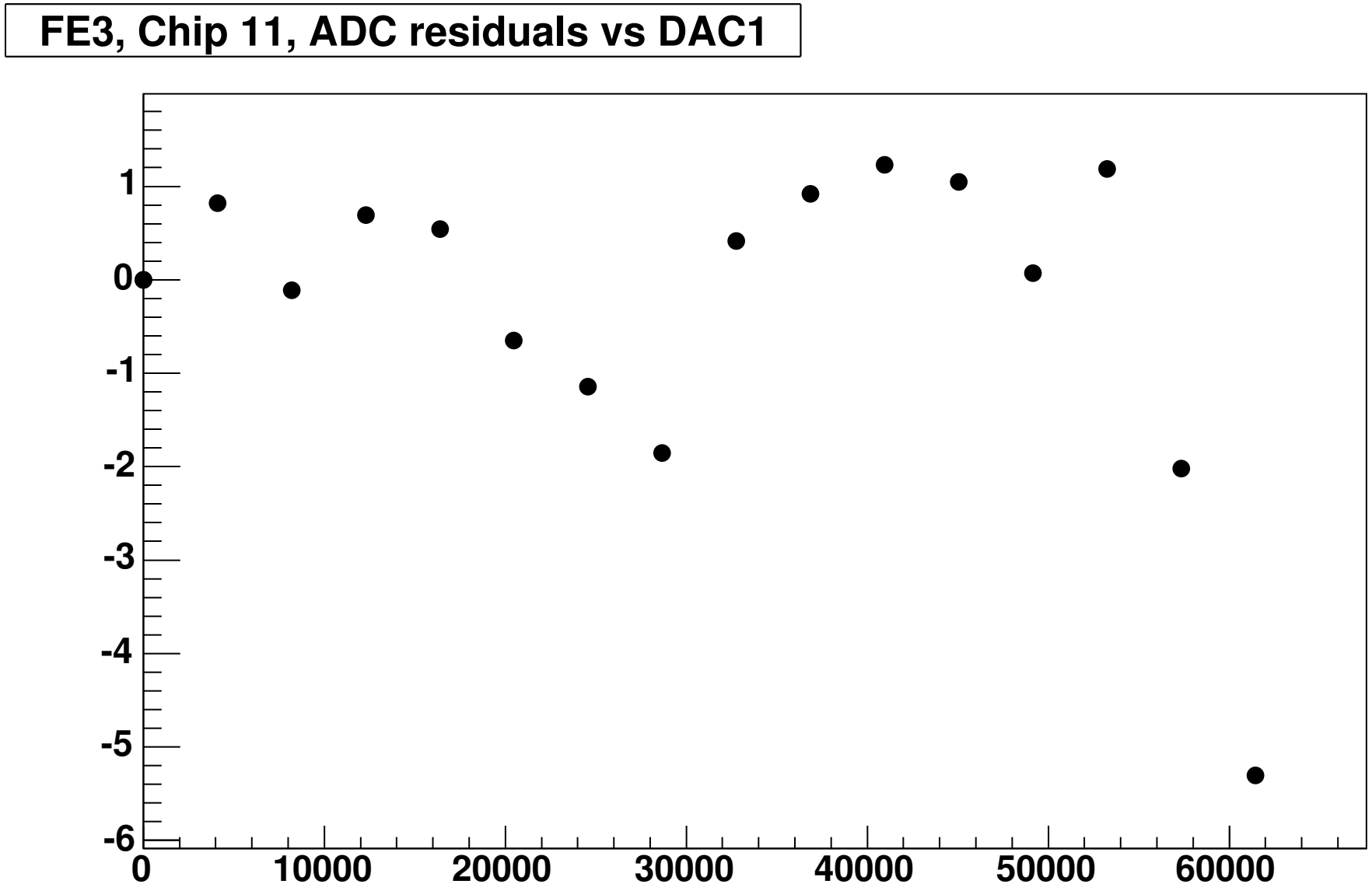

FE3, Chip 11, ADC mean vs DAC0
χ² / ndf 23.01 / 11
p0 26.31 ± 0.04201
p1 -2.294e-06 ± 1.155e-06
26.5
26.4
26.3
26.2
26.1
26
0
10000
20000
30000
40000
50000
60000

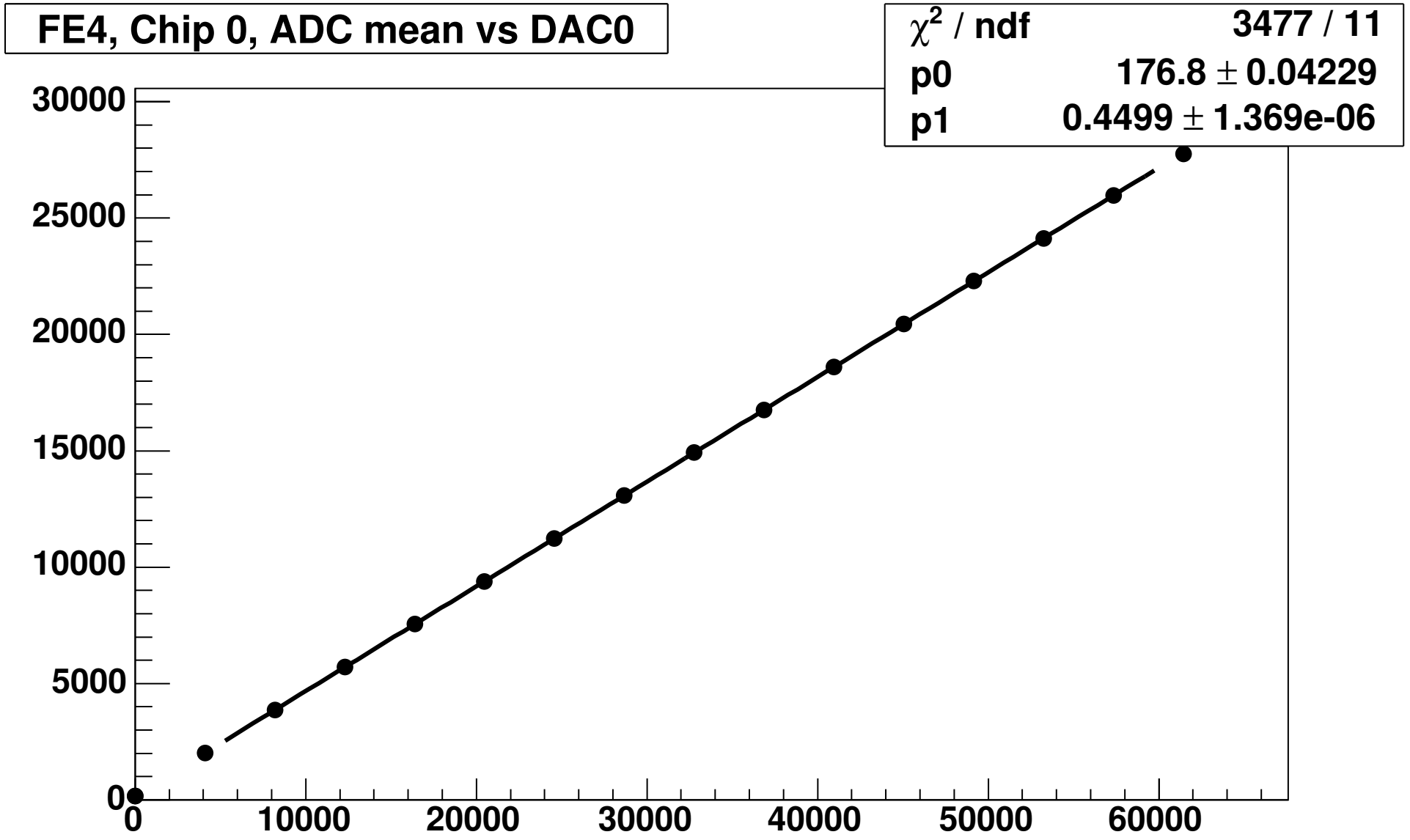

FE3, Chip 11, ADC noise vs DAC0
2
1.9
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

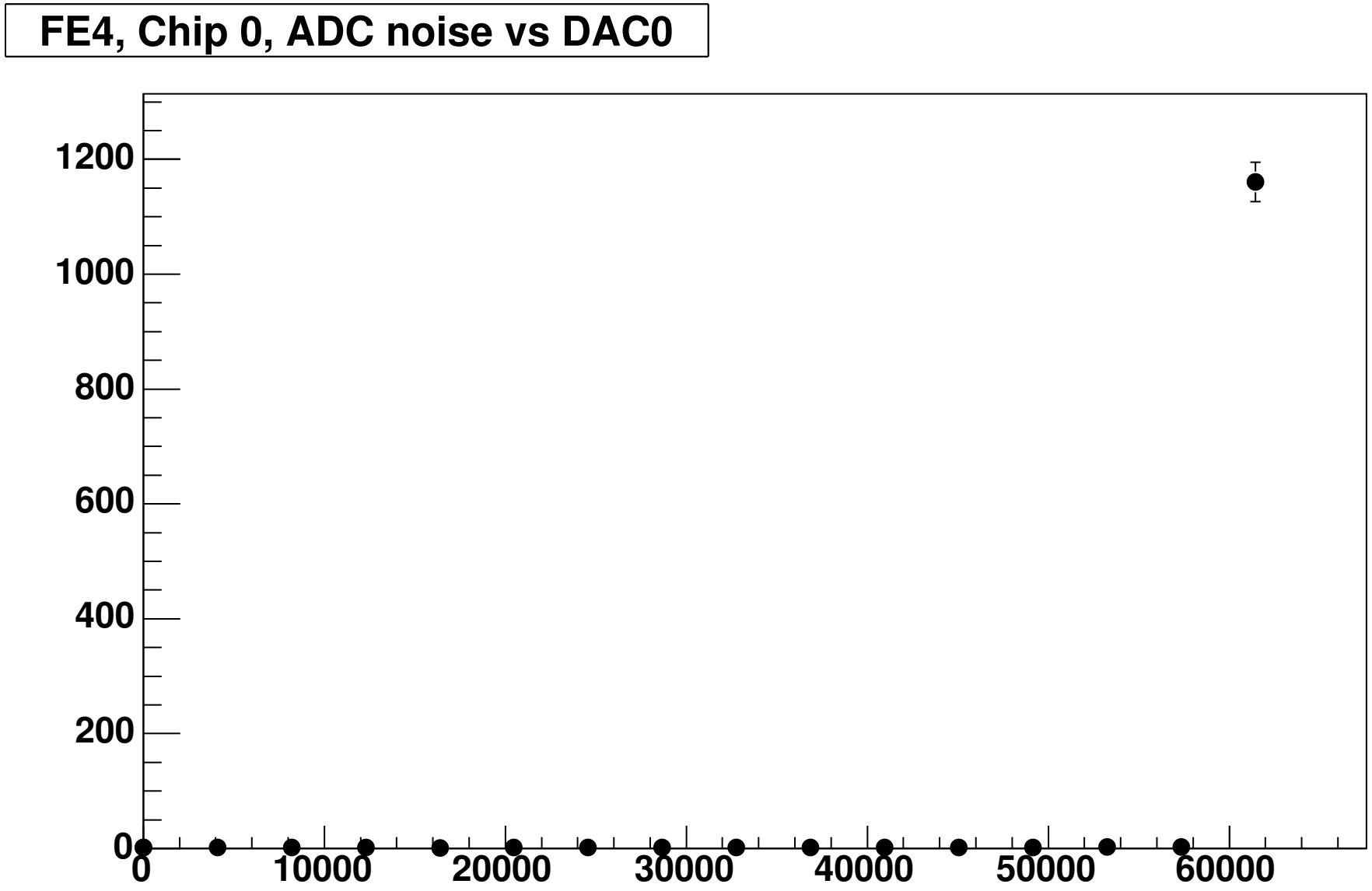

FE3, Chip 11, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

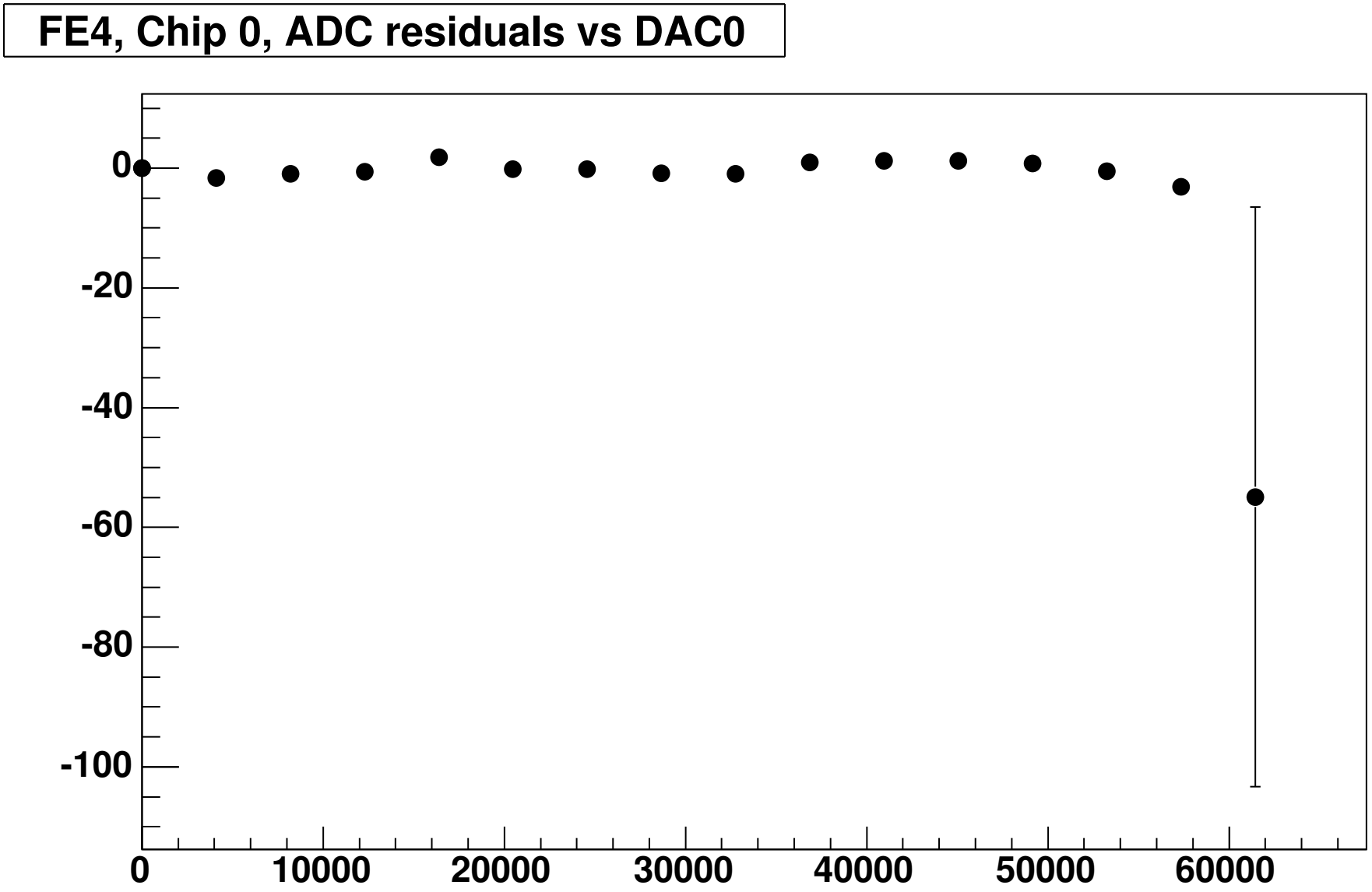

FE3, Chip 11, ADC mean vs DAC1
χ² / ndf 2371 / 11
p0 25.03 ± 0.04251
p1 0.451 ± 1.381e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

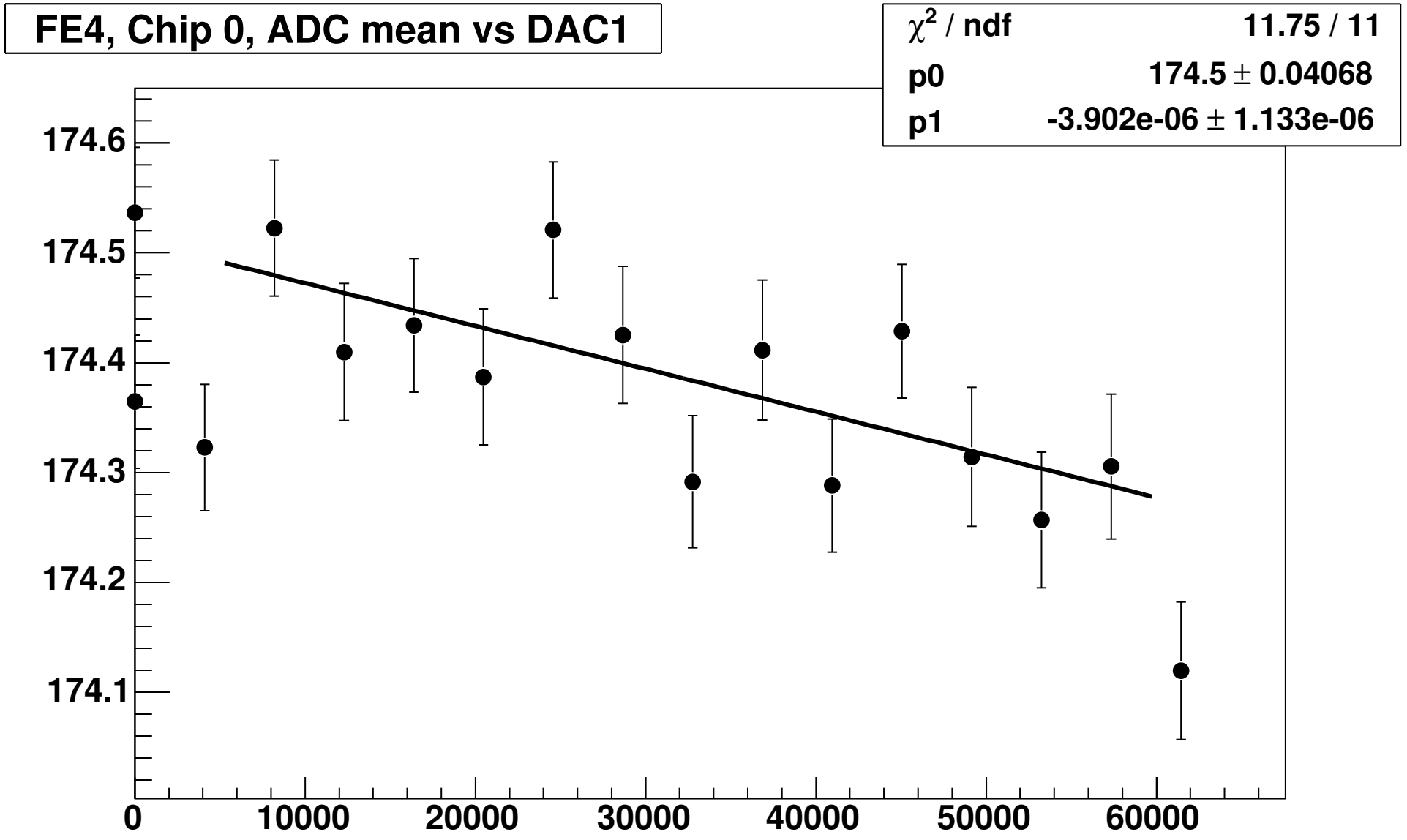

FE3, Chip 11, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

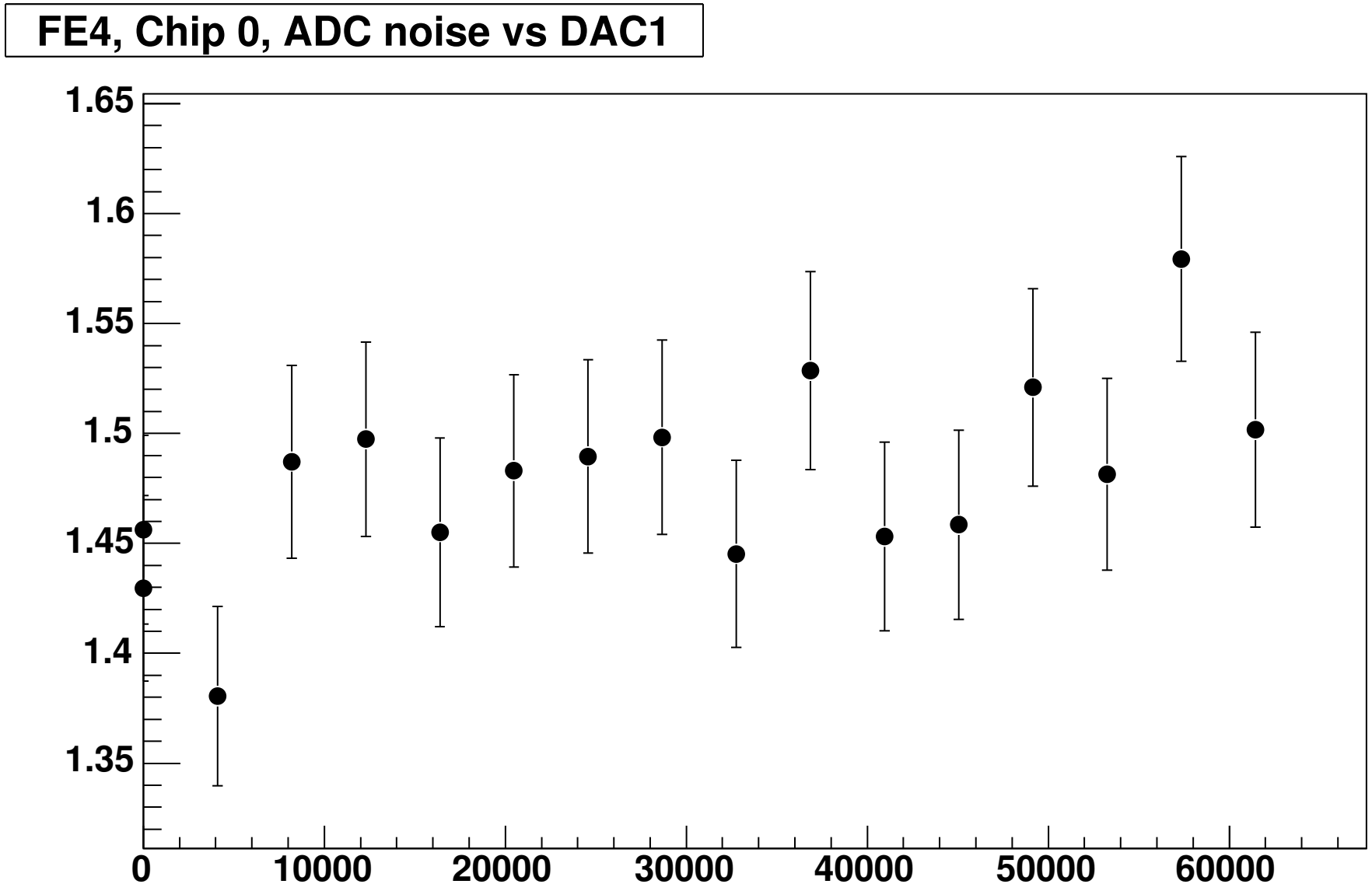

FE3, Chip 11, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

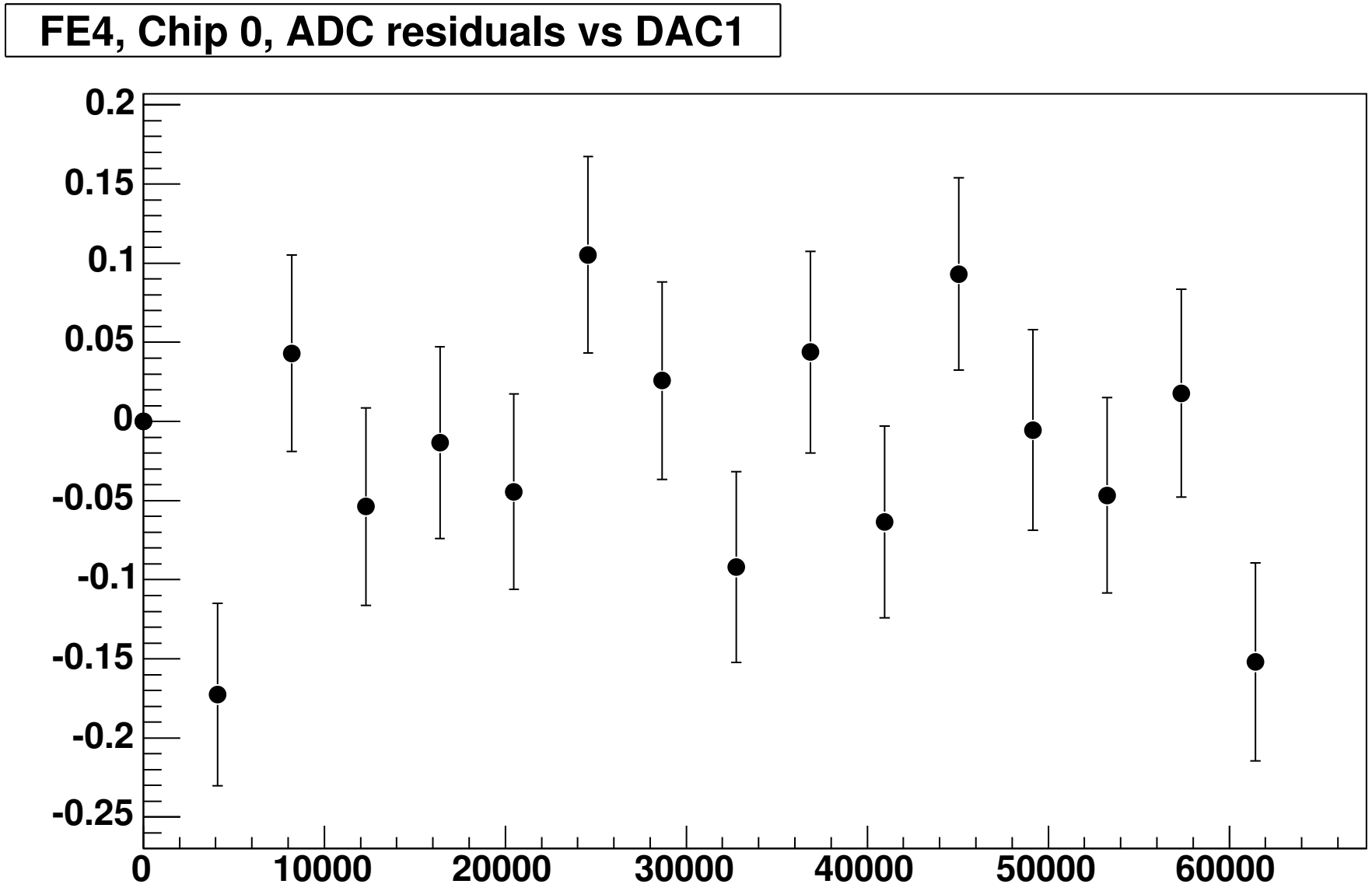

FE4, Chip 0, ADC mean vs DAC0
χ² / ndf 3477 / 11
p0 176.8 ± 0.04229
p1 0.4499 ± 1.369e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

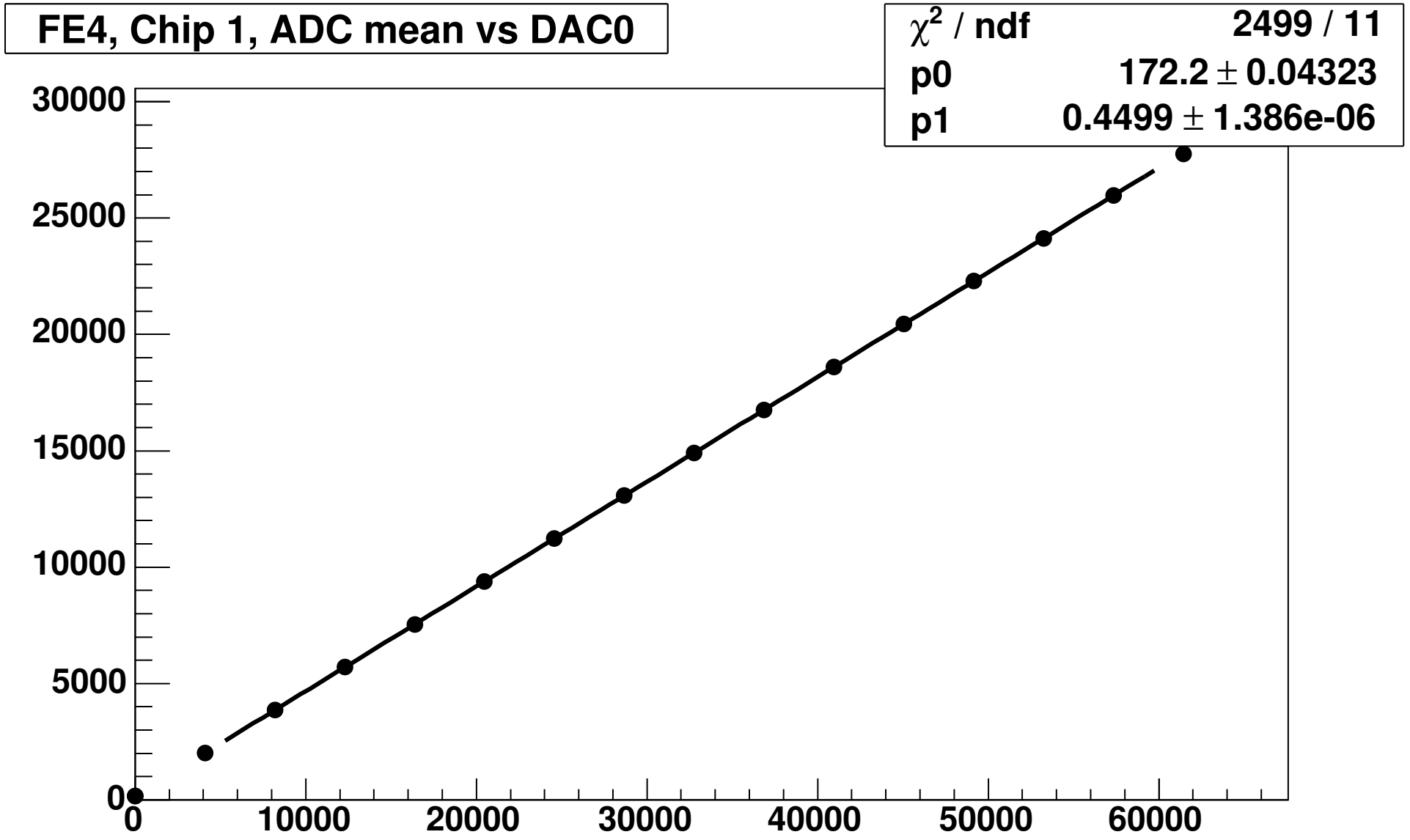

FE4, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

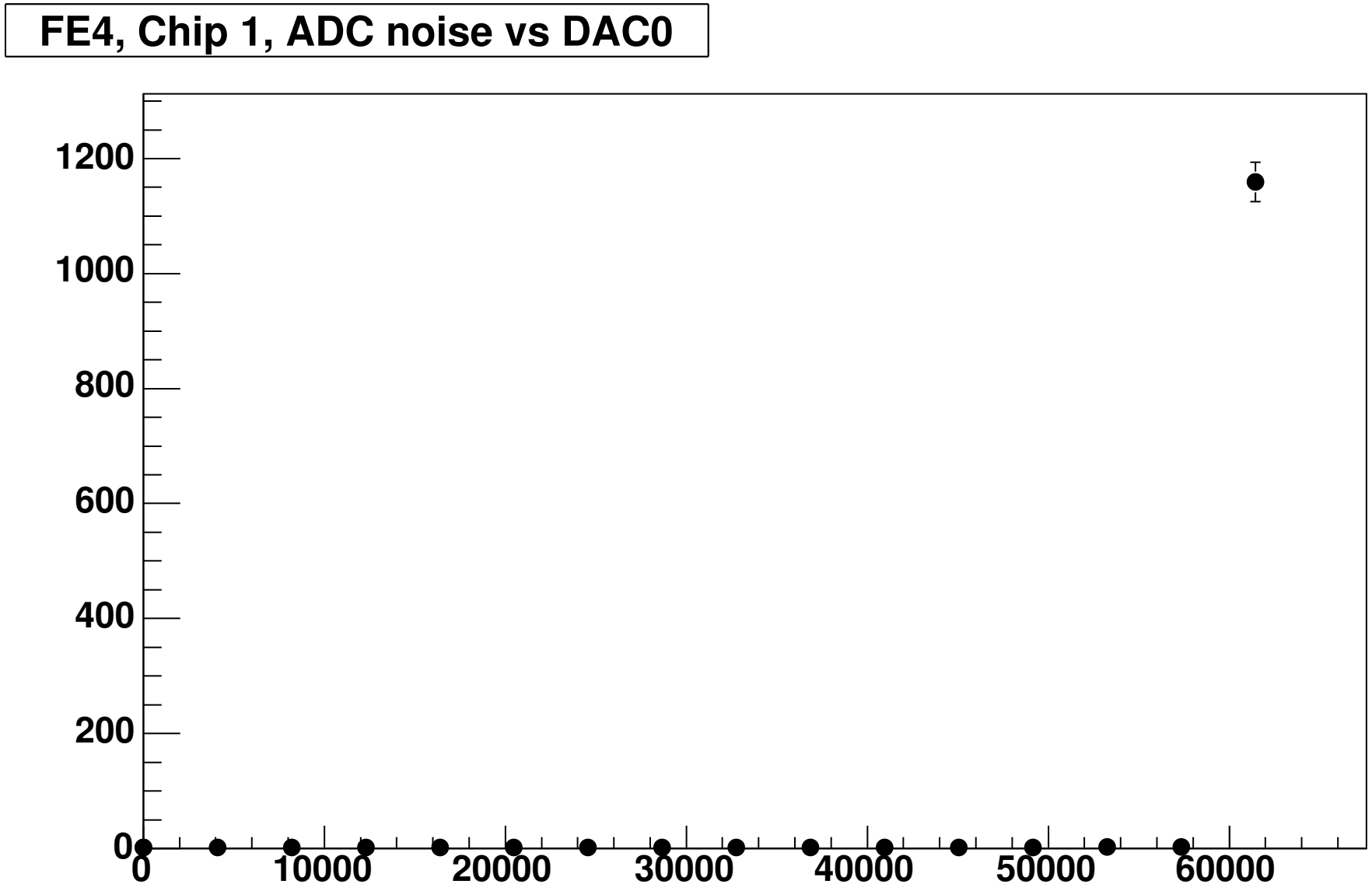

FE4, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

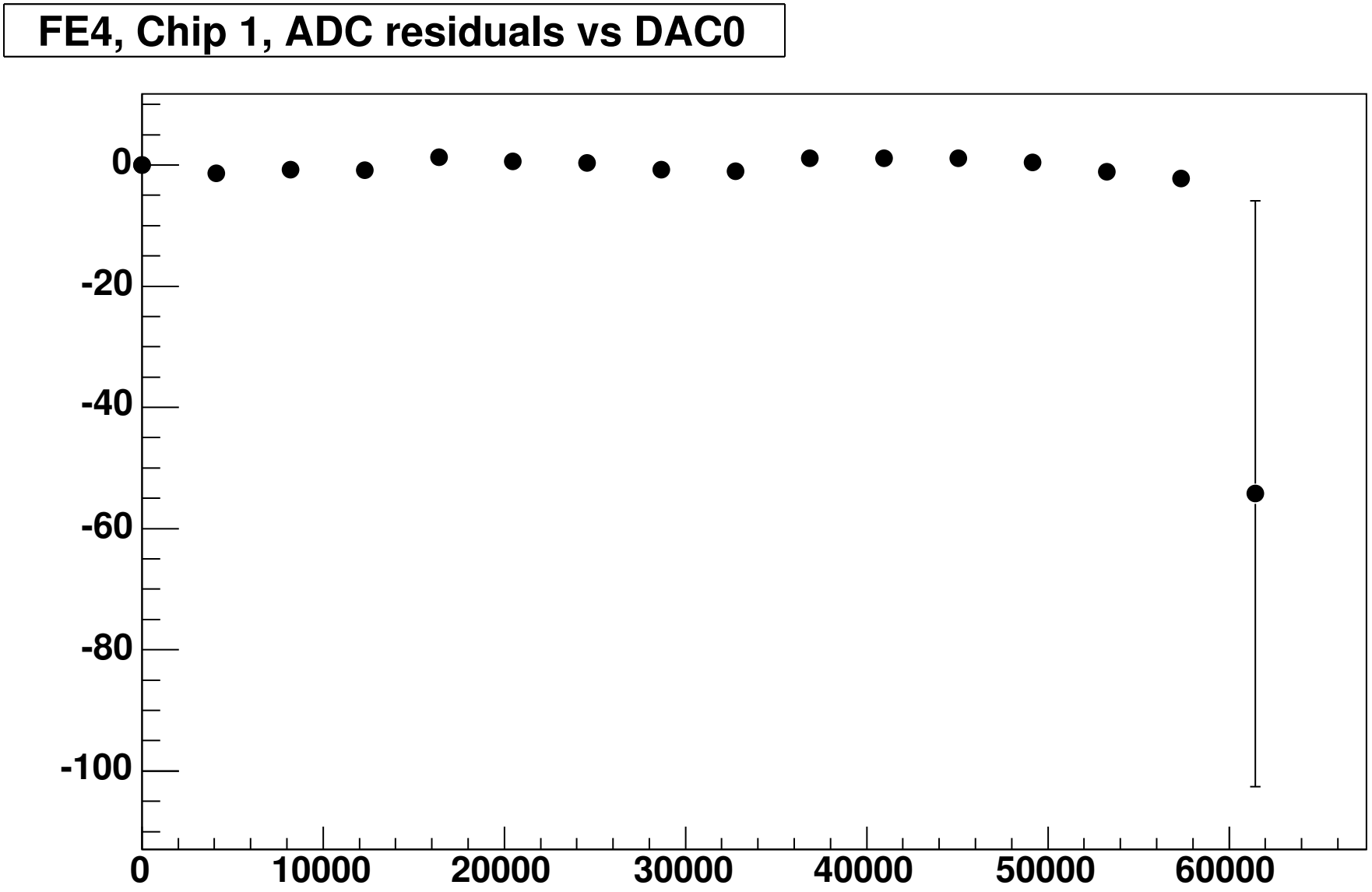

FE4, Chip 0, ADC mean vs DAC1
χ² / ndf 11.75 / 11
p0 174.5 ± 0.04068
p1 -3.902e-06 ± 1.133e-06
174.6
174.5
174.4
174.3
174.2
174.1
0
10000
20000
30000
40000
50000
60000

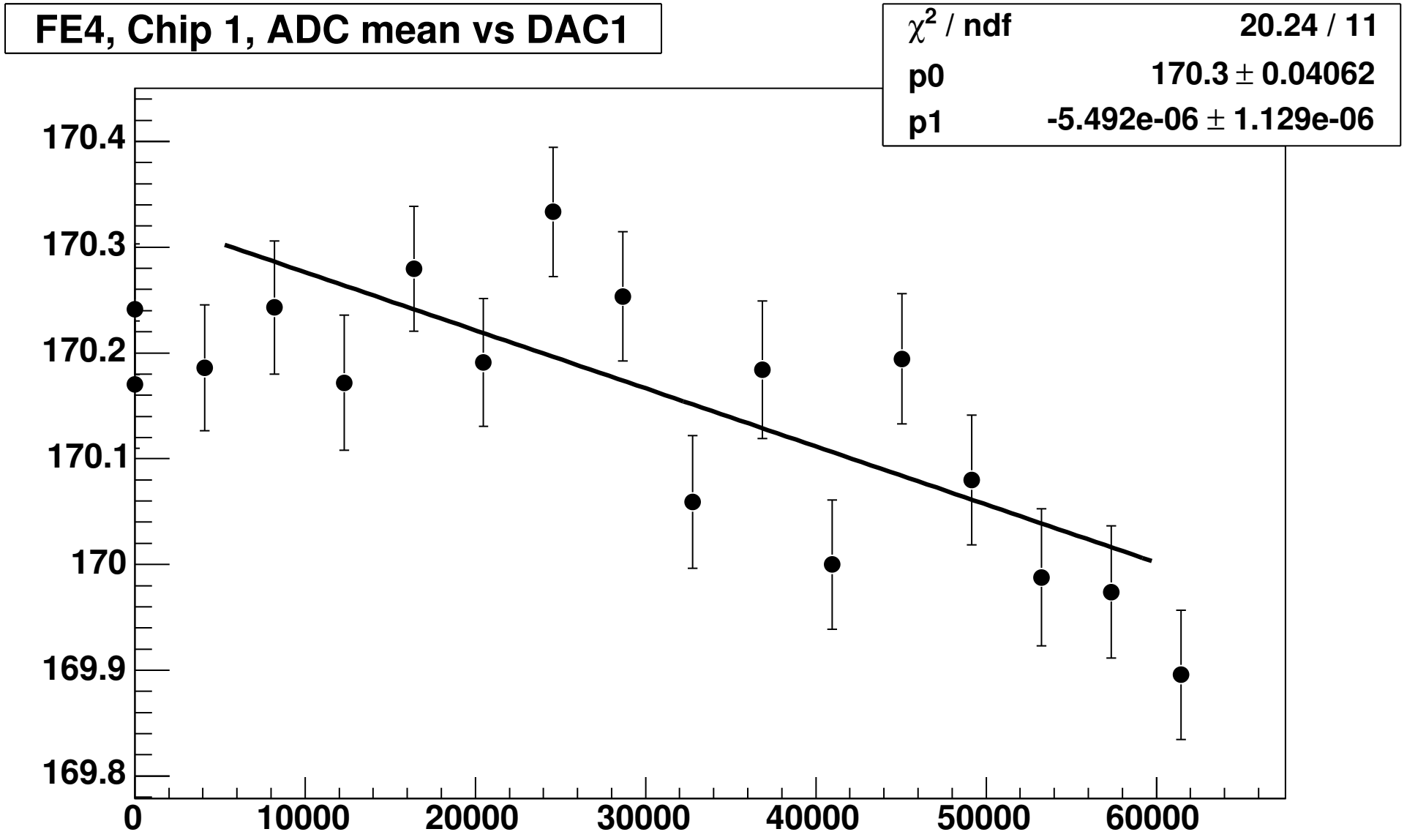

FE4, Chip 0, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

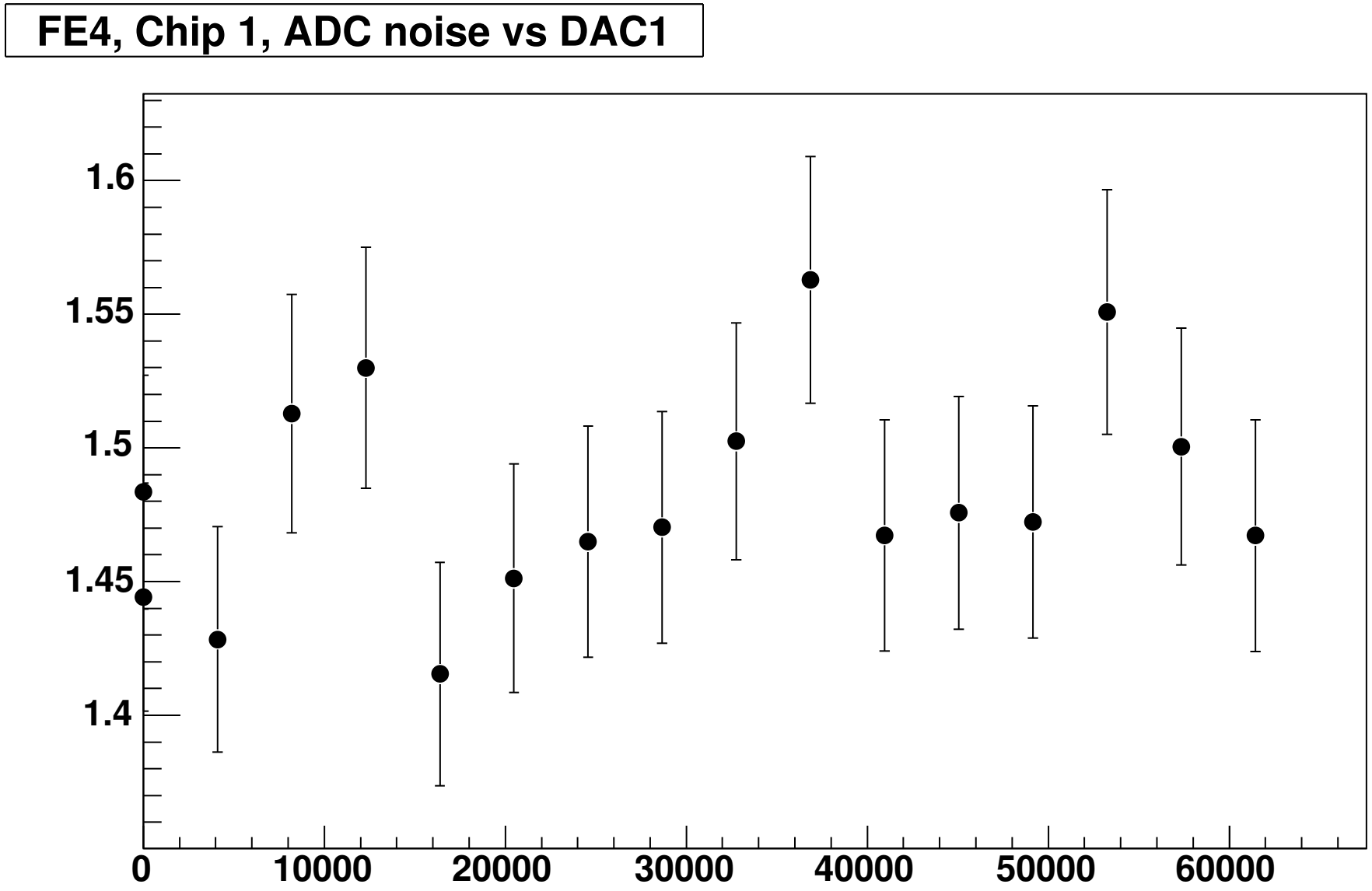

FE4, Chip 0, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

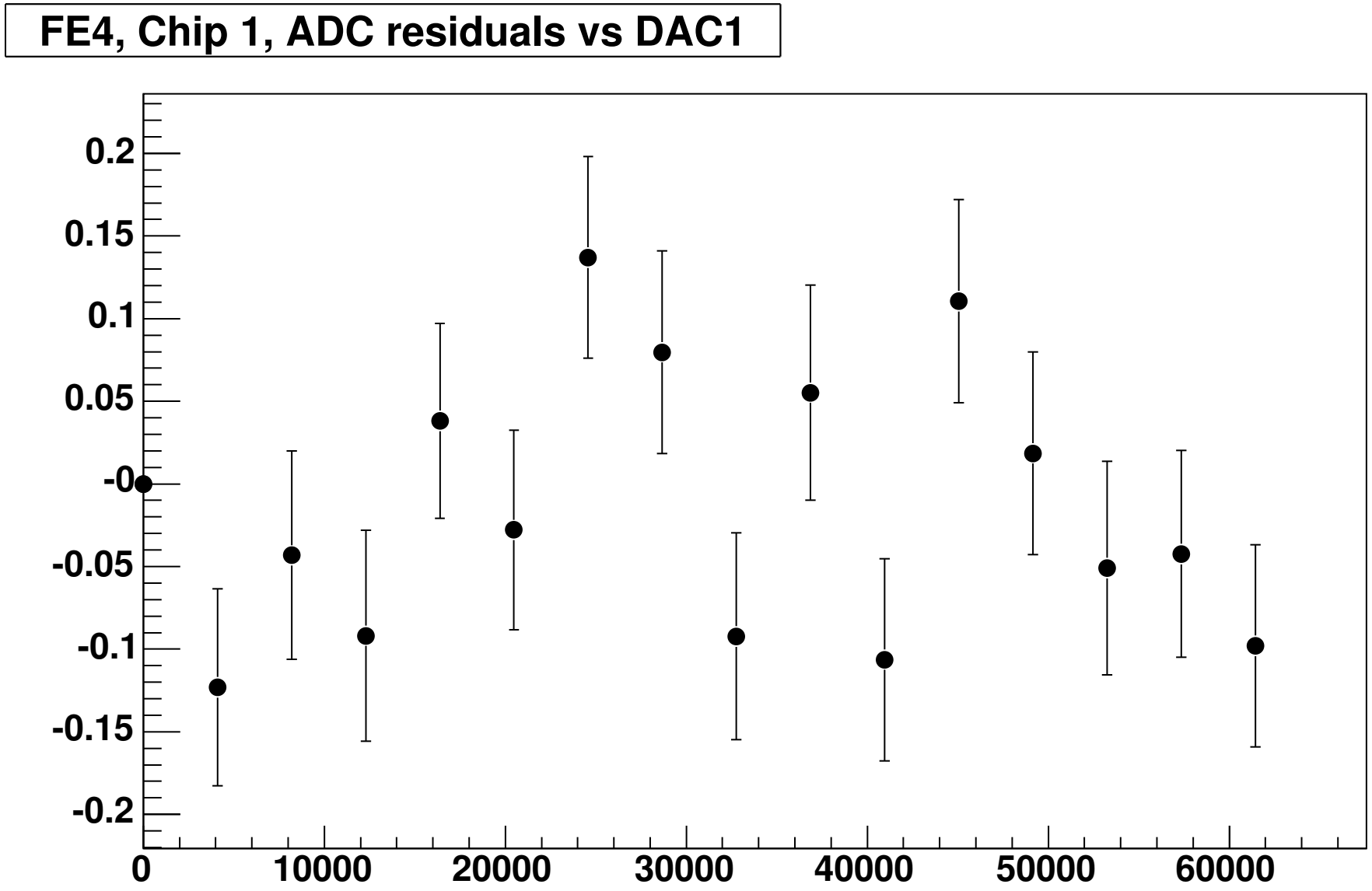

FE4, Chip 1, ADC mean vs DAC0
χ² / ndf 2499 / 11
p0 172.2 ± 0.04323
p1 0.4499 ± 1.386e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

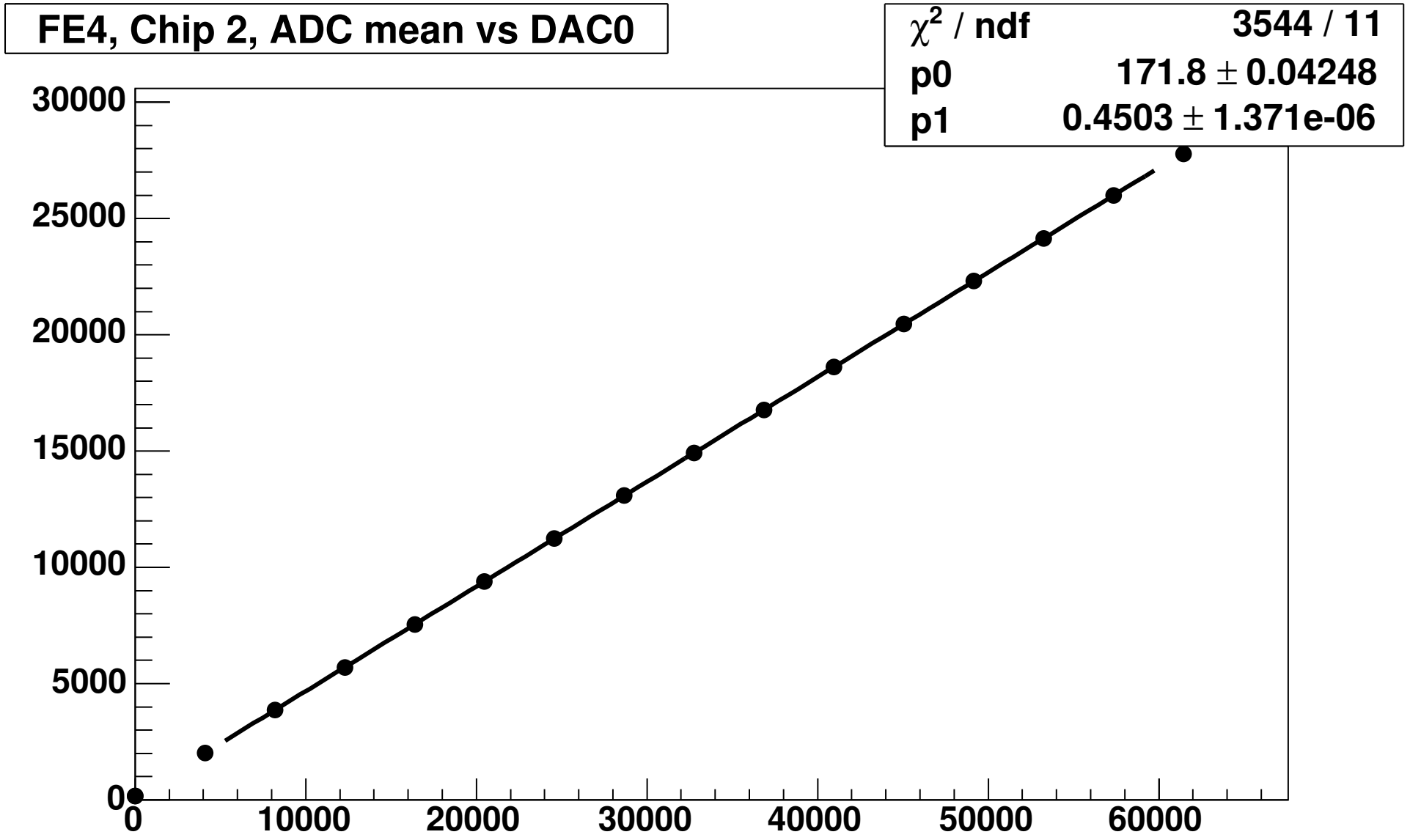

FE4, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

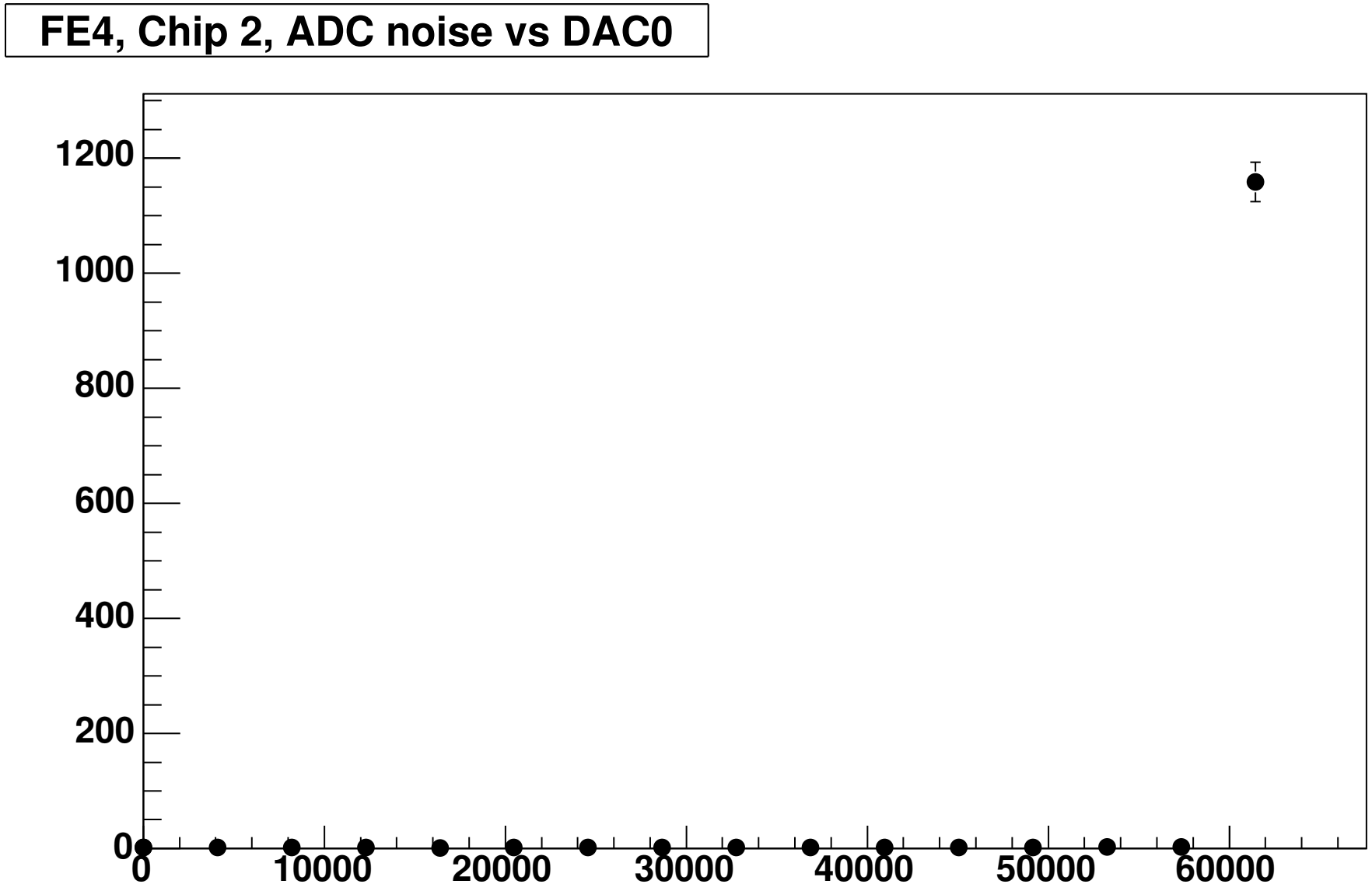

FE4, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

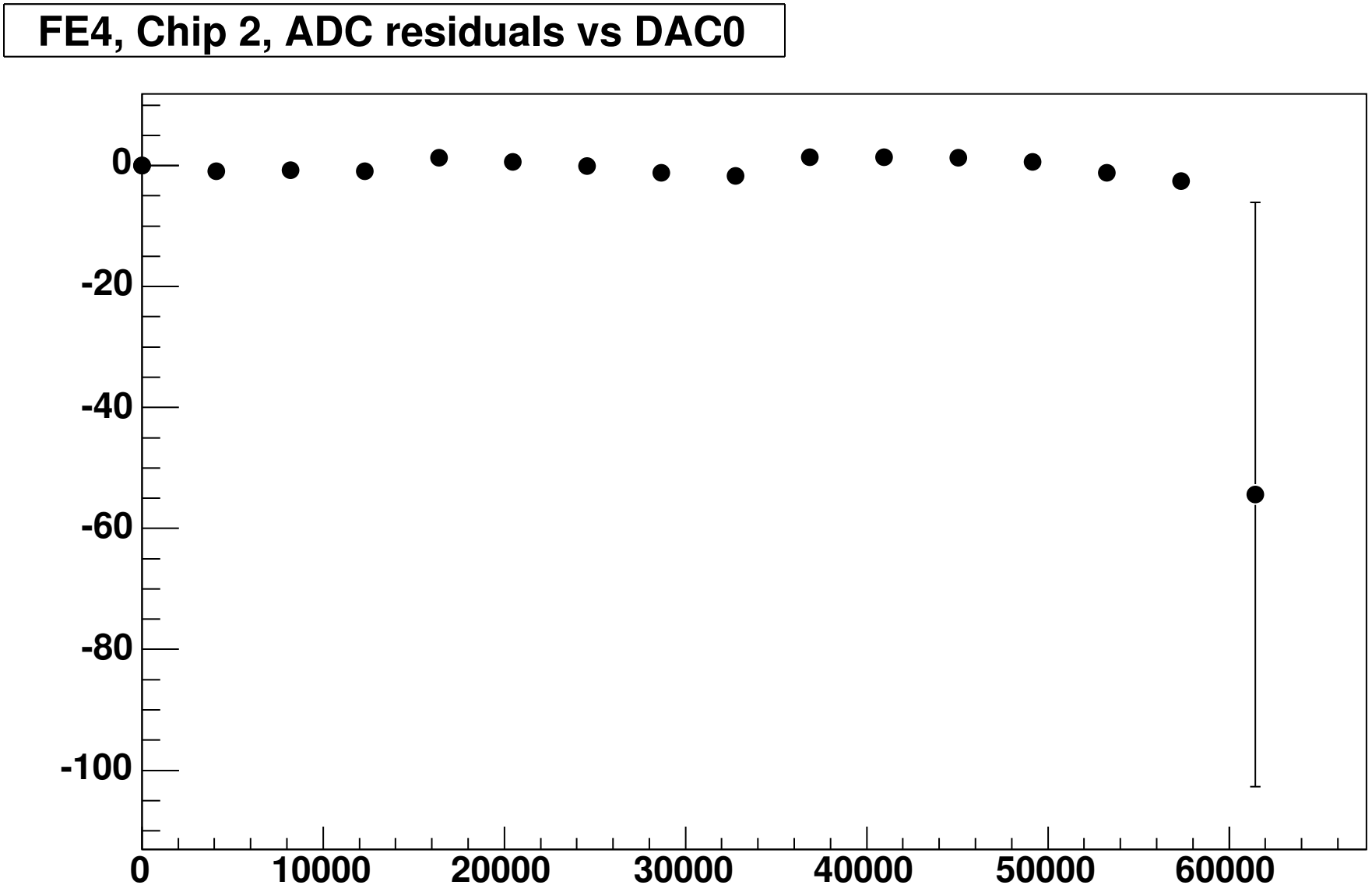

FE4, Chip 1, ADC mean vs DAC1
χ² / ndf 20.24 / 11
p0 170.3 ± 0.04062
p1 -5.492e-06 ± 1.129e-06
170.4
170.3
170.2
170.1
170
169.9
169.8
0
10000
20000
30000
40000
50000
60000

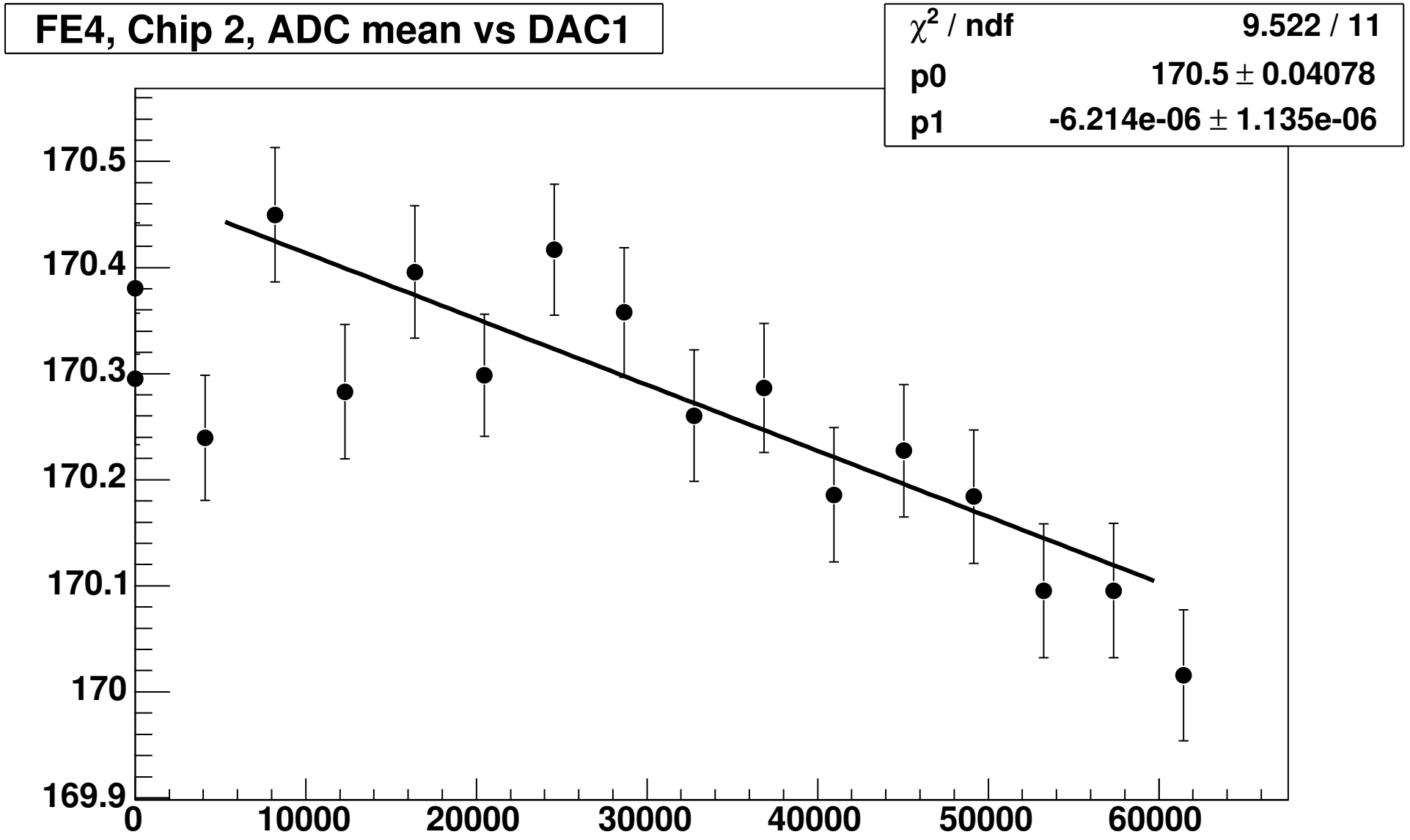

FE4, Chip 1, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

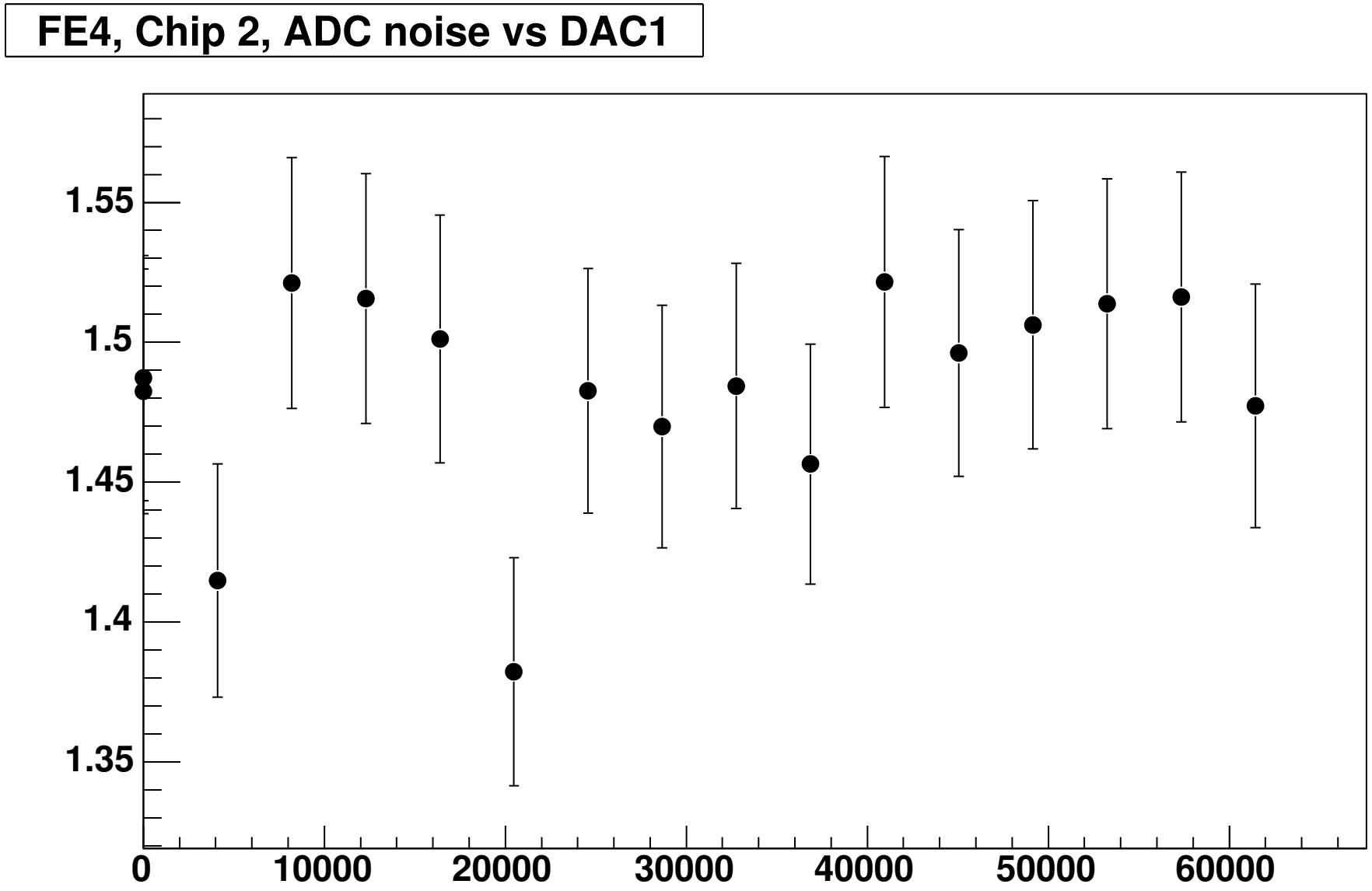

FE4, Chip 1, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

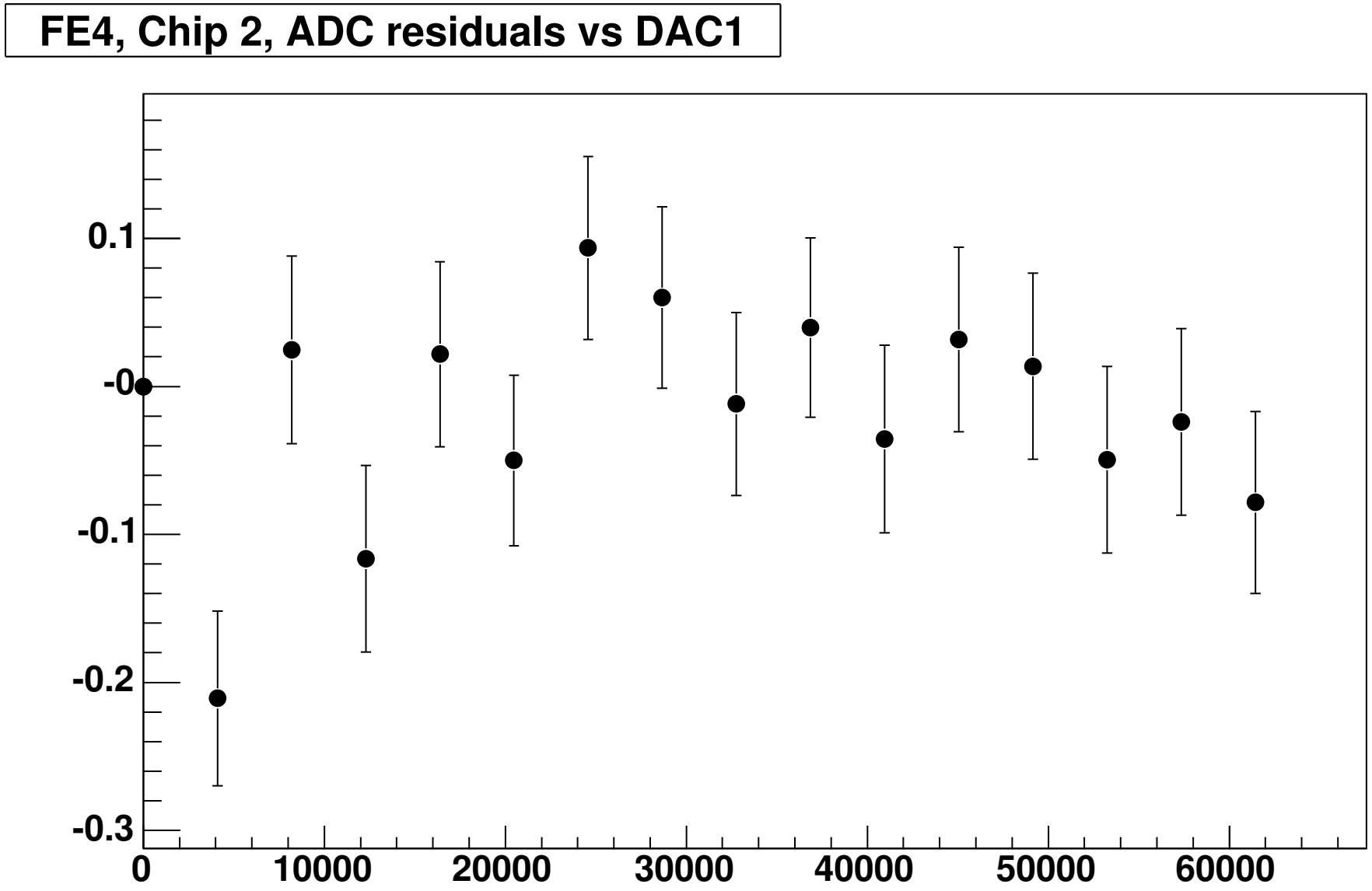

FE4, Chip 2, ADC mean vs DAC0
χ² / ndf 3544 / 11
p0 171.8 ± 0.04248
p1 0.4503 ± 1.371e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

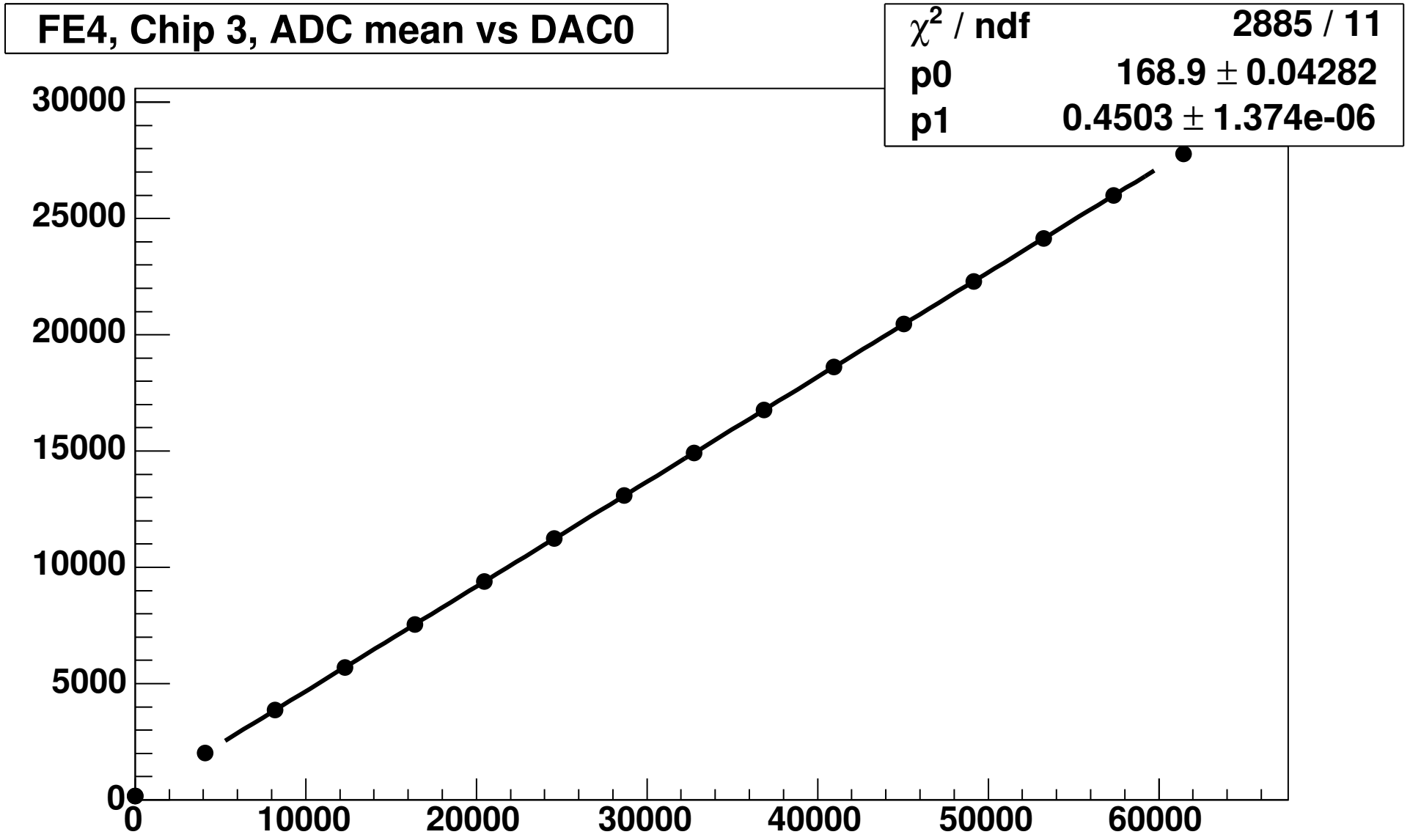

FE4, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

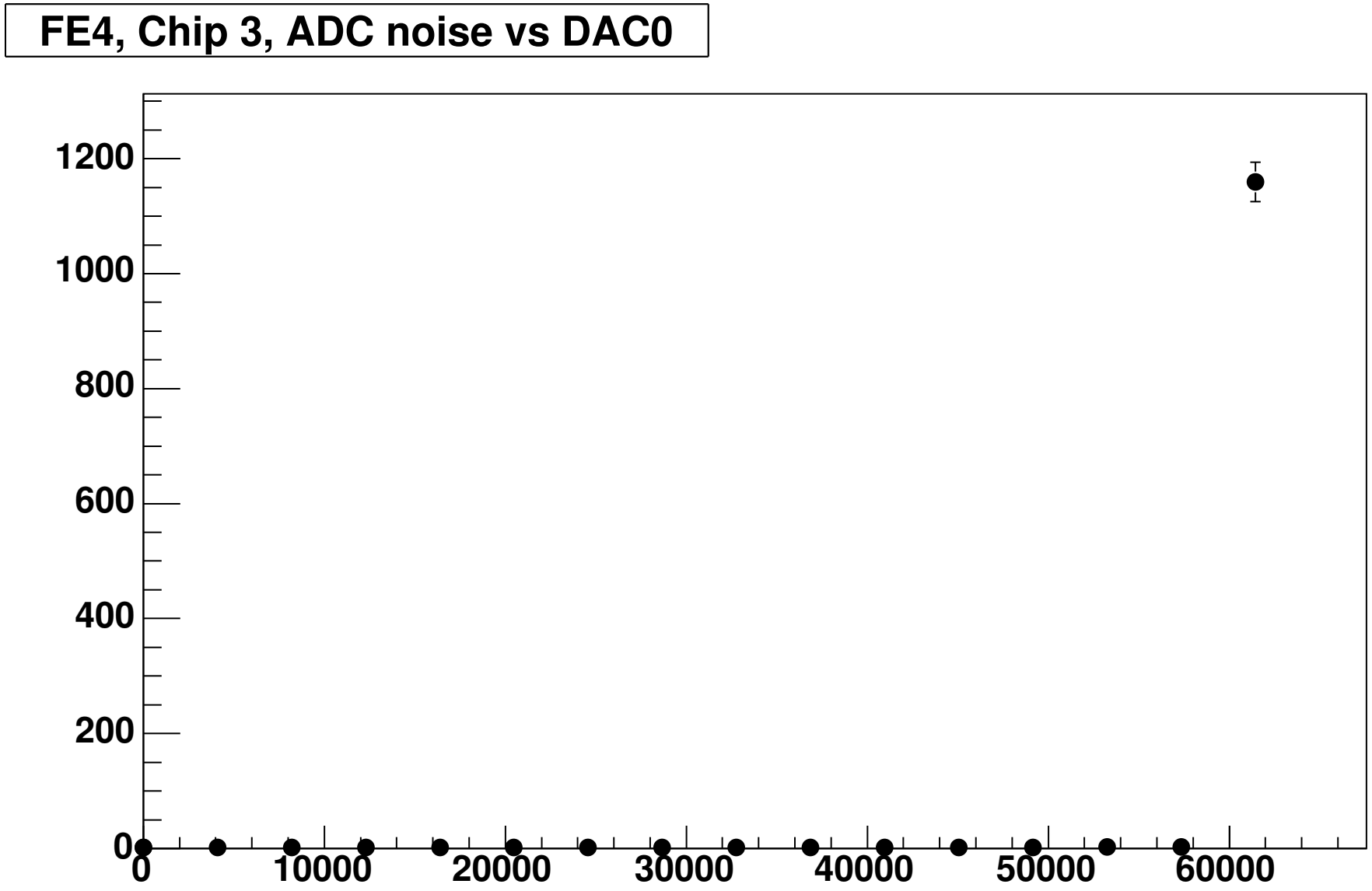

FE4, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

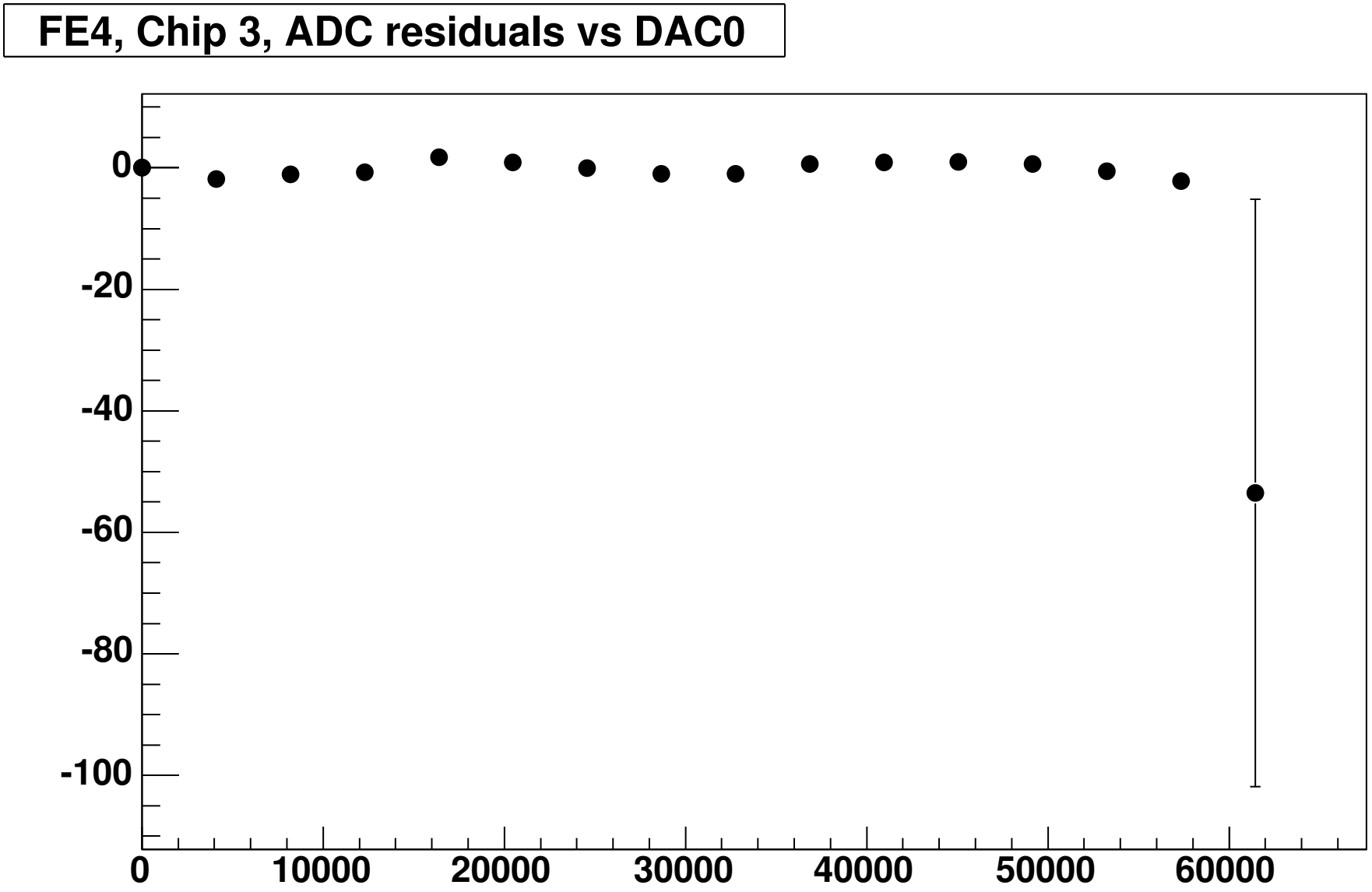

FE4, Chip 2, ADC mean vs DAC1
χ² / ndf 9.522 / 11
p0 170.5 ± 0.04078
p1 -6.214e-06 ± 1.135e-06
170.5
170.4
170.3
170.2
170.1
170
169.9
0
10000
20000
30000
40000
50000
60000

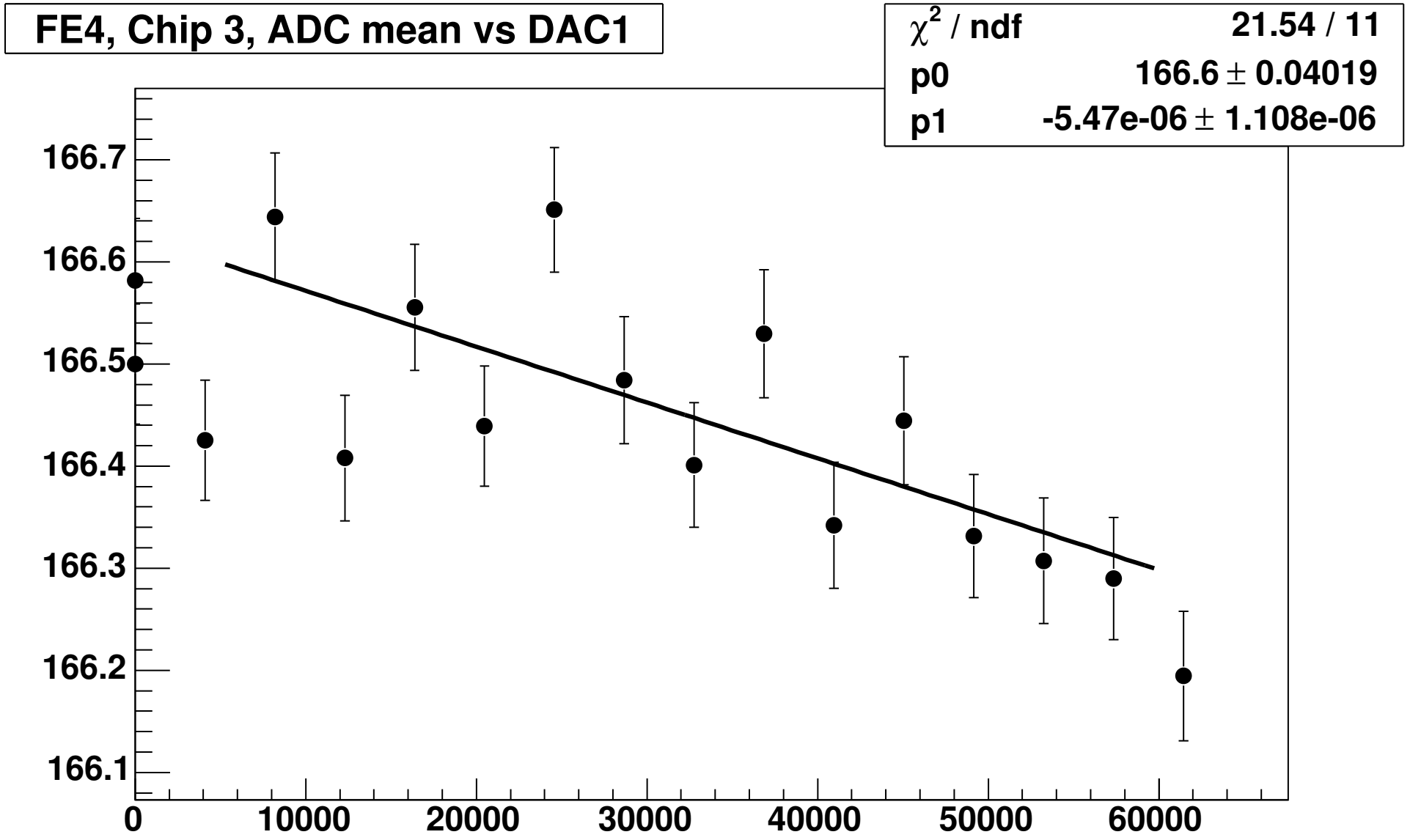

FE4, Chip 2, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

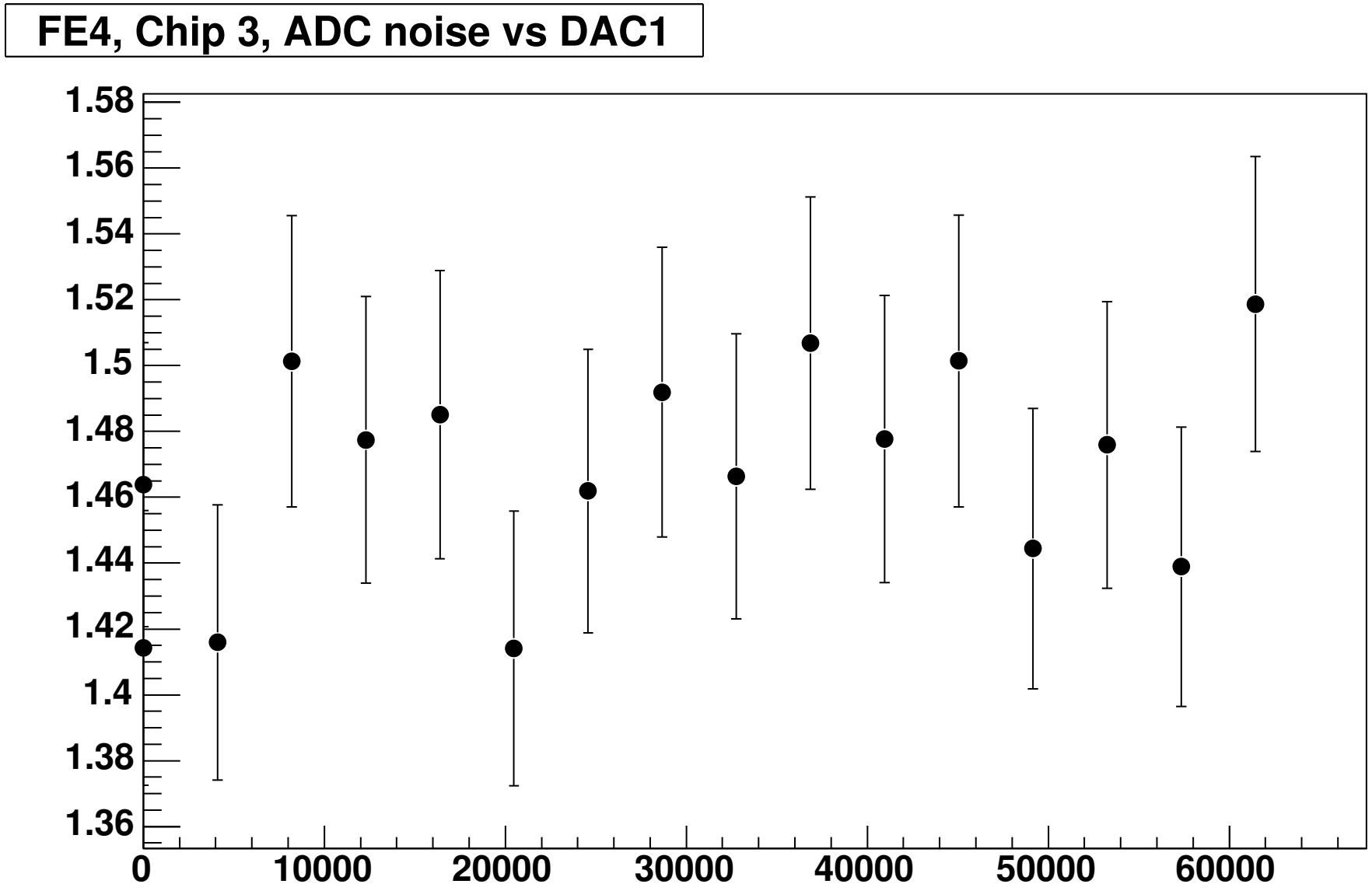

FE4, Chip 2, ADC residuals vs DAC1
0.1
-0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

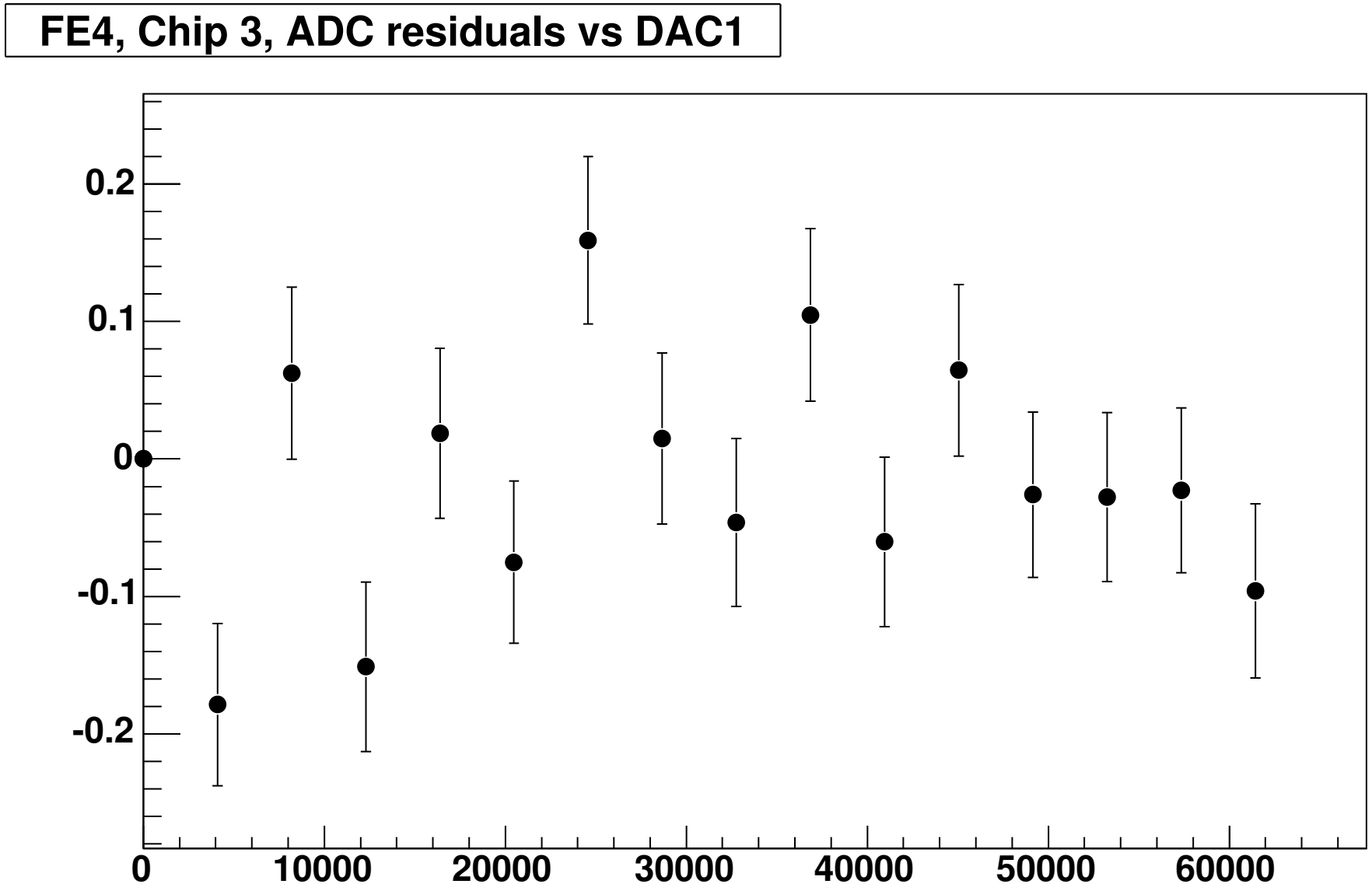

FE4, Chip 3, ADC mean vs DAC0
χ² / ndf 2885 / 11
p0 168.9 ± 0.04282
p1 0.4503 ± 1.374e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

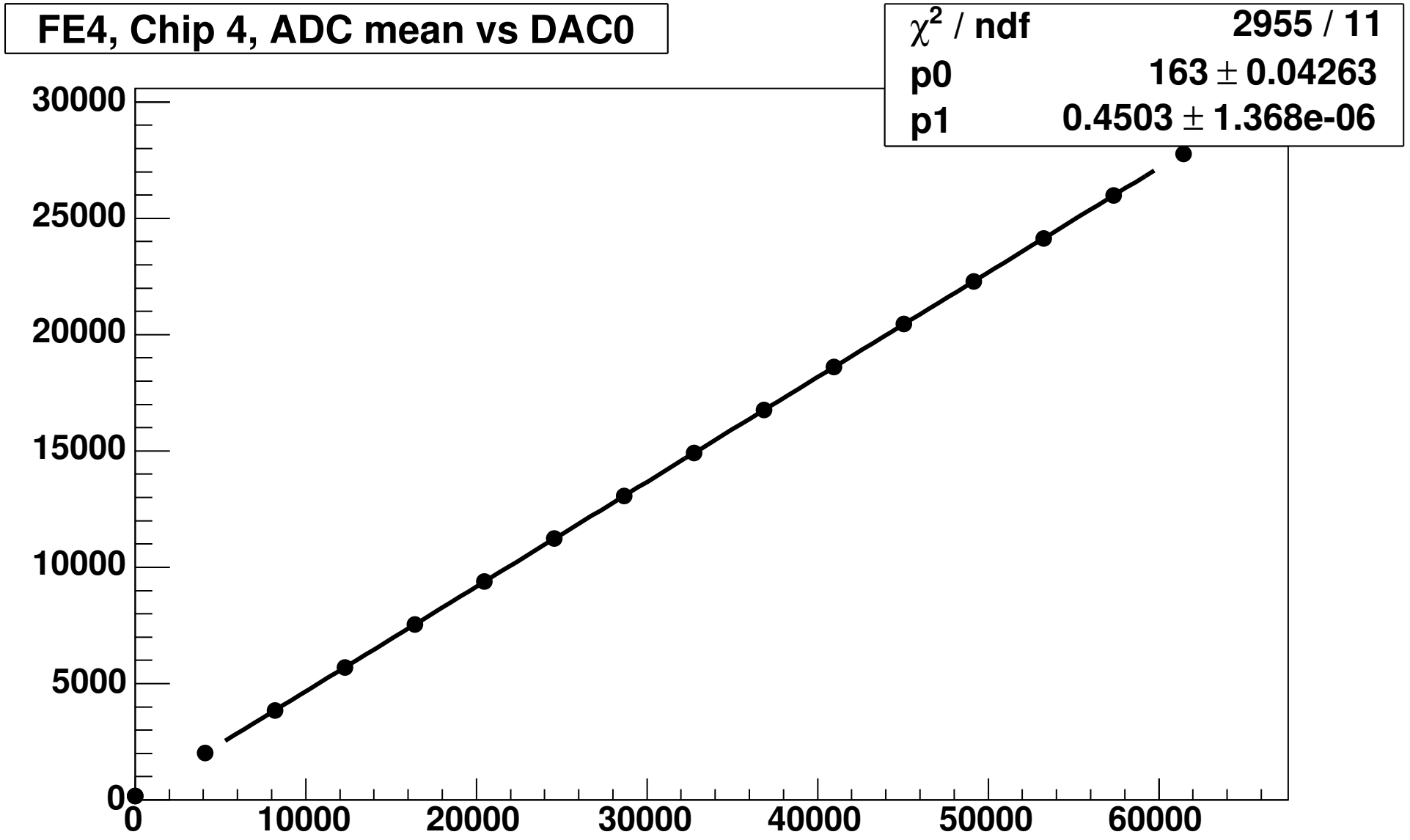

FE4, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

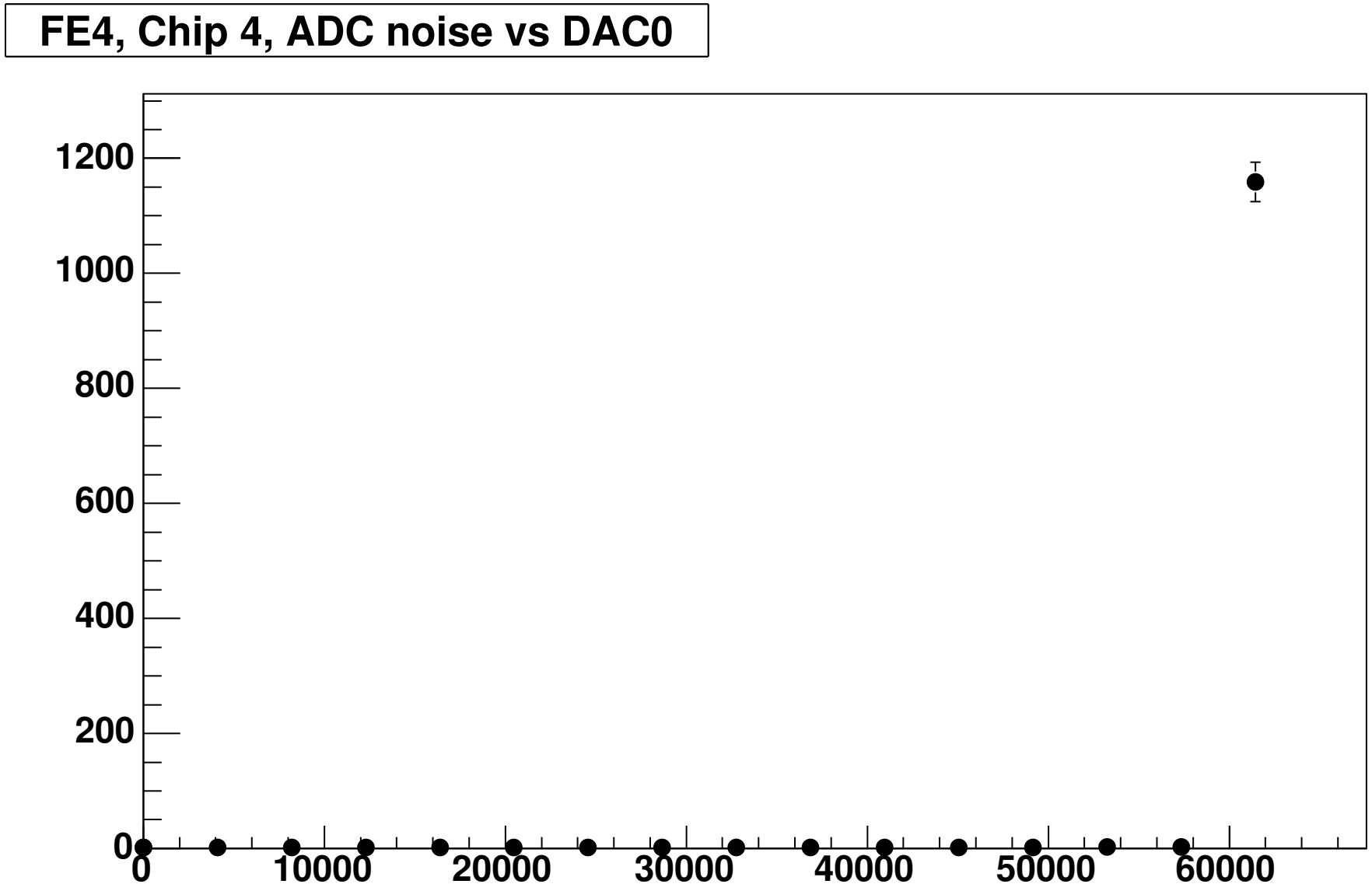

FE4, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

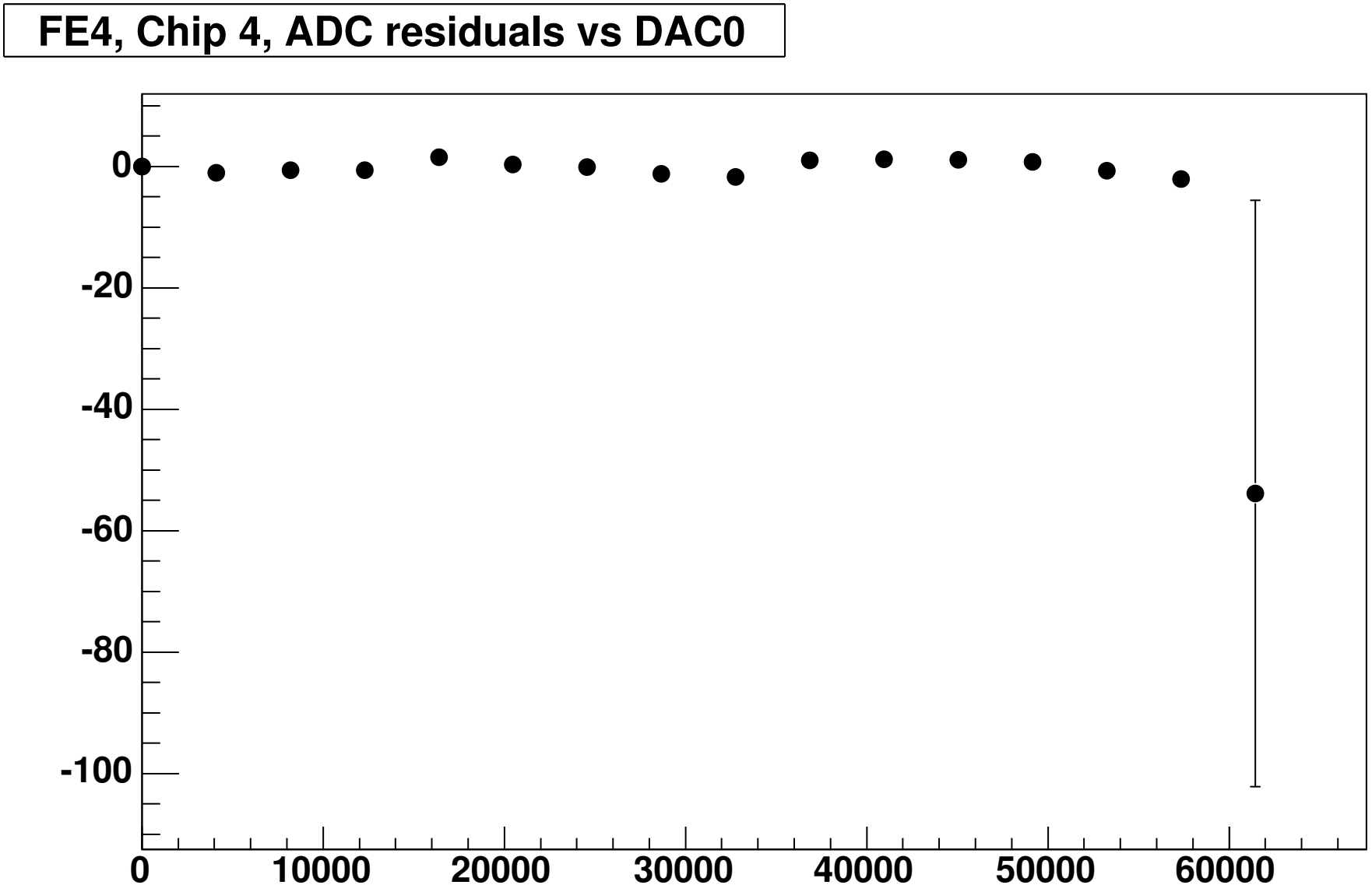

FE4, Chip 3, ADC mean vs DAC1
χ² / ndf 21.54 / 11
p0 166.6 ± 0.04019
p1 -5.47e-06 ± 1.108e-06
166.7
166.6
166.5
166.4
166.3
166.2
166.1
0
10000
20000
30000
40000
50000
60000

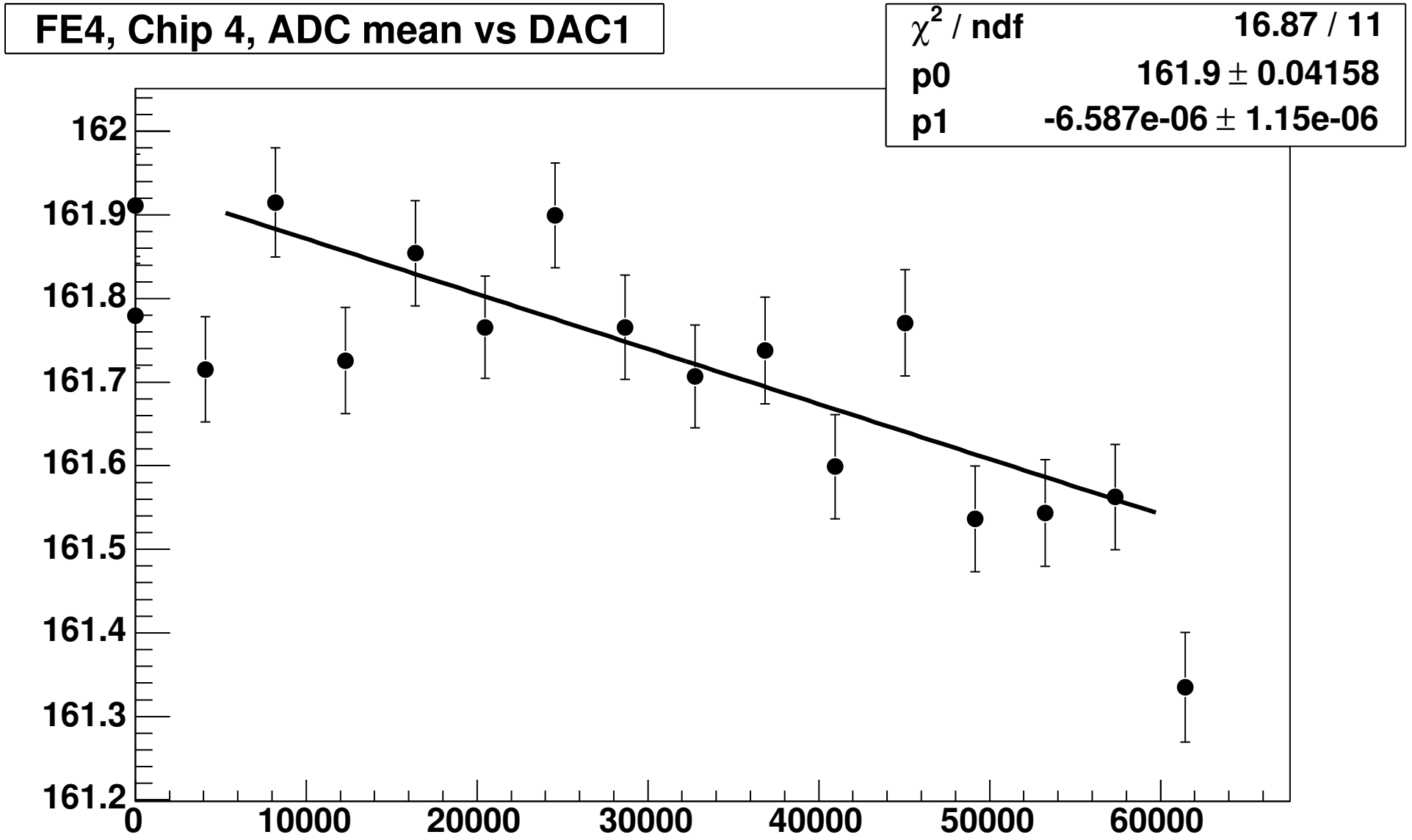

FE4, Chip 3, ADC noise vs DAC1
1.58
1.56
1.54
1.52
1.5
1.48
1.46
1.44
1.42
1.4
1.38
1.36
0
10000
20000
30000
40000
50000
60000

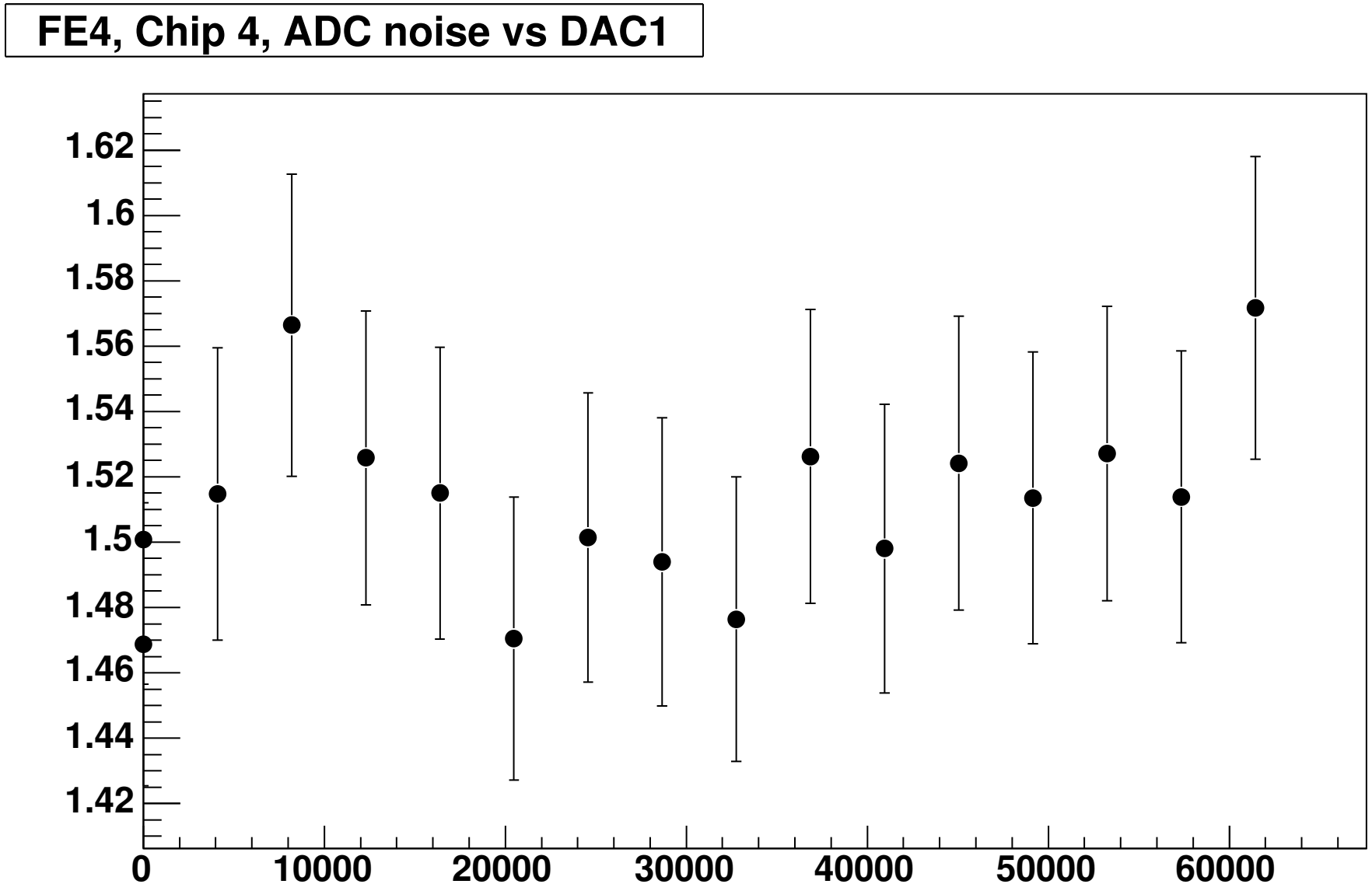

FE4, Chip 3, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

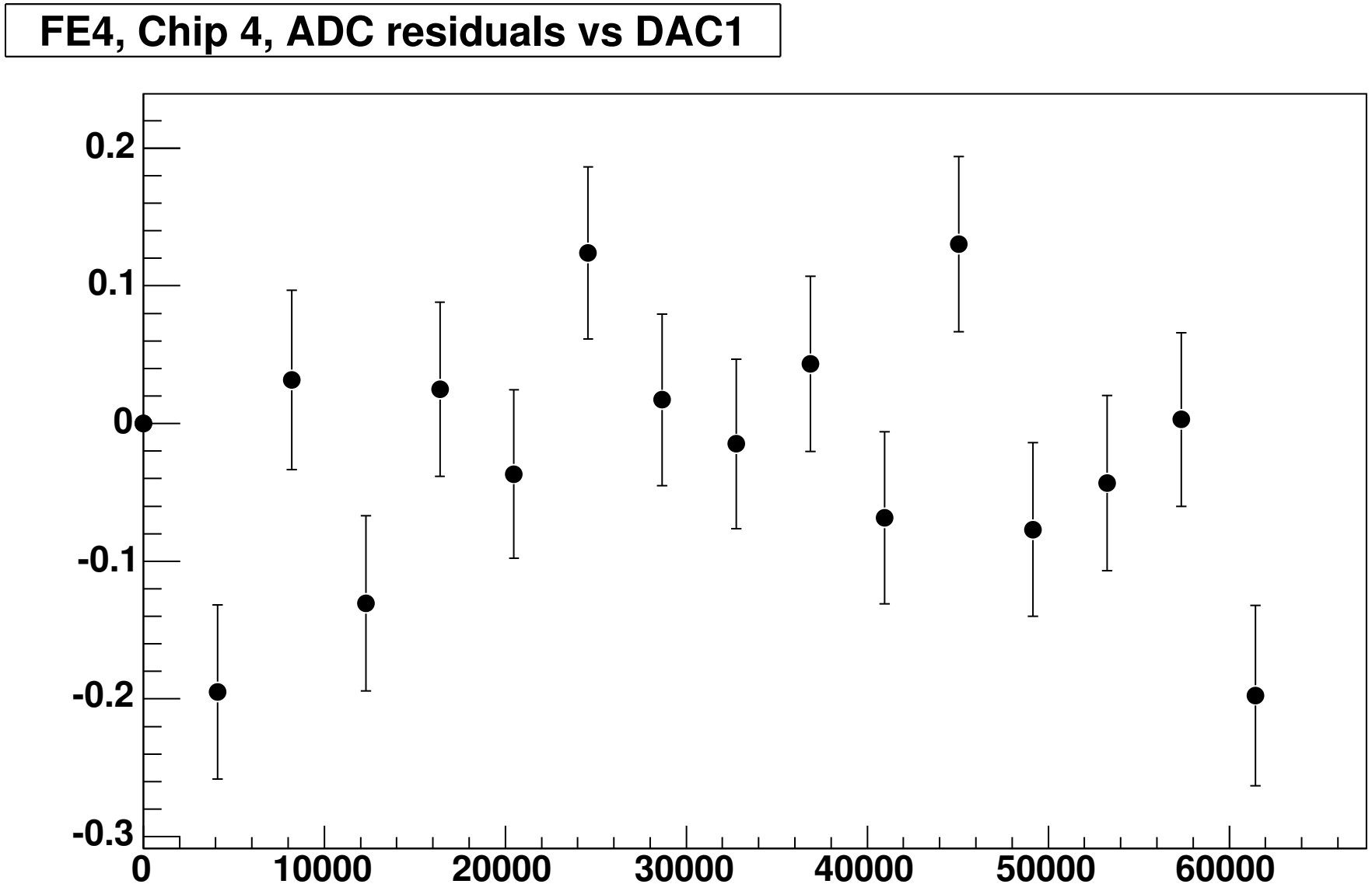

FE4, Chip 4, ADC mean vs DAC0
χ² / ndf 2955 / 11
p0 163 ± 0.04263
p1 0.4503 ± 1.368e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

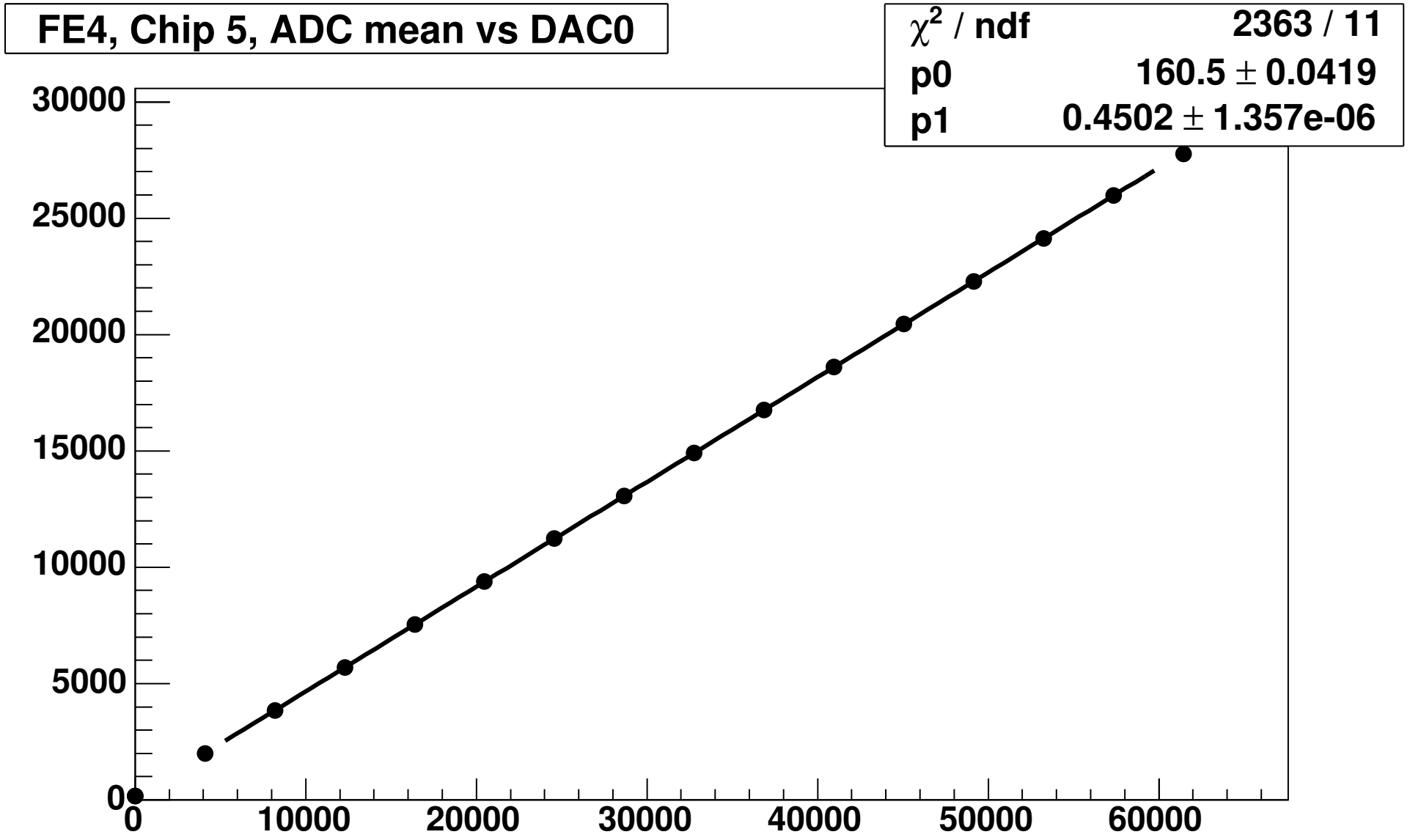

FE4, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

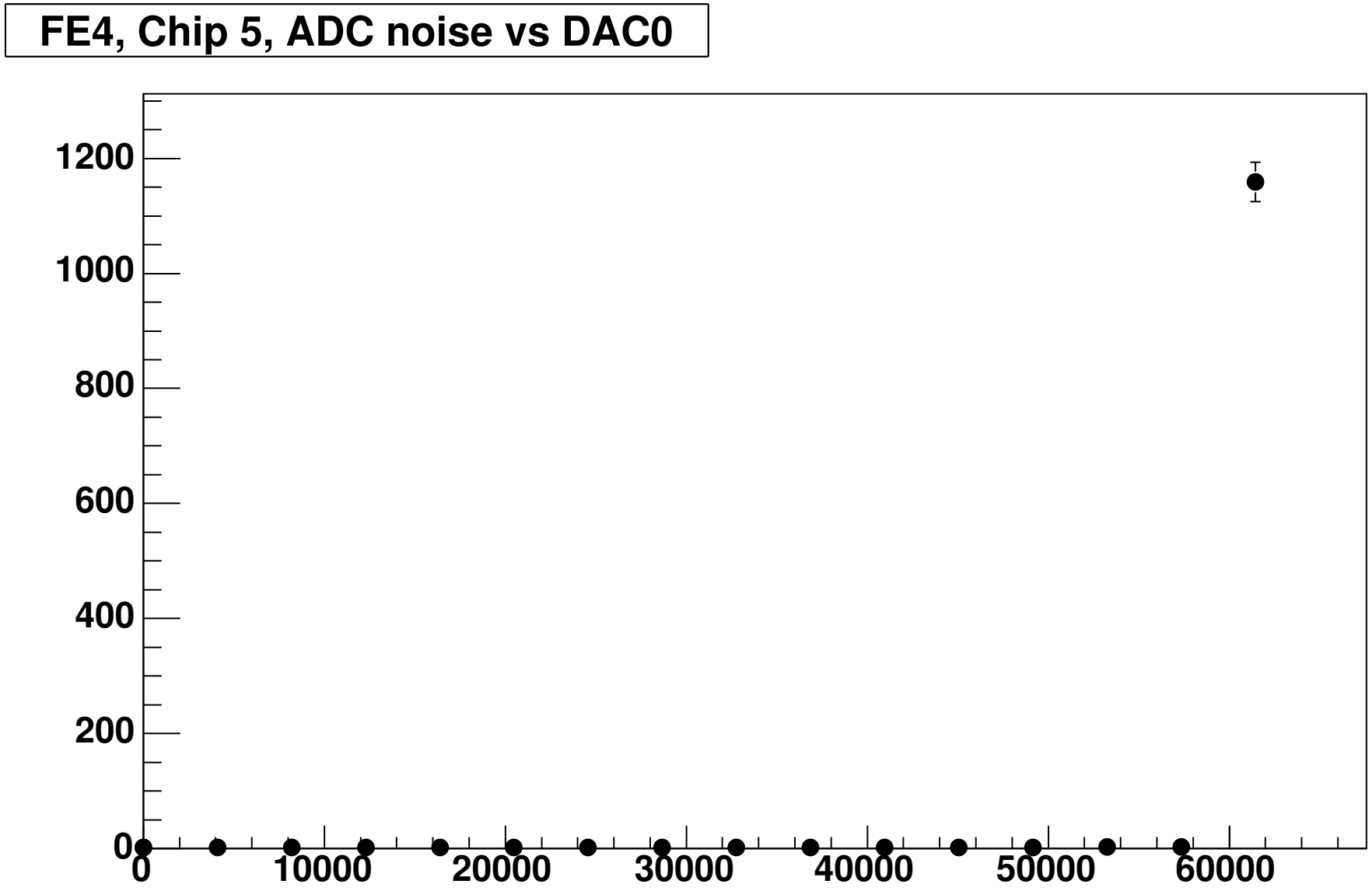

FE4, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

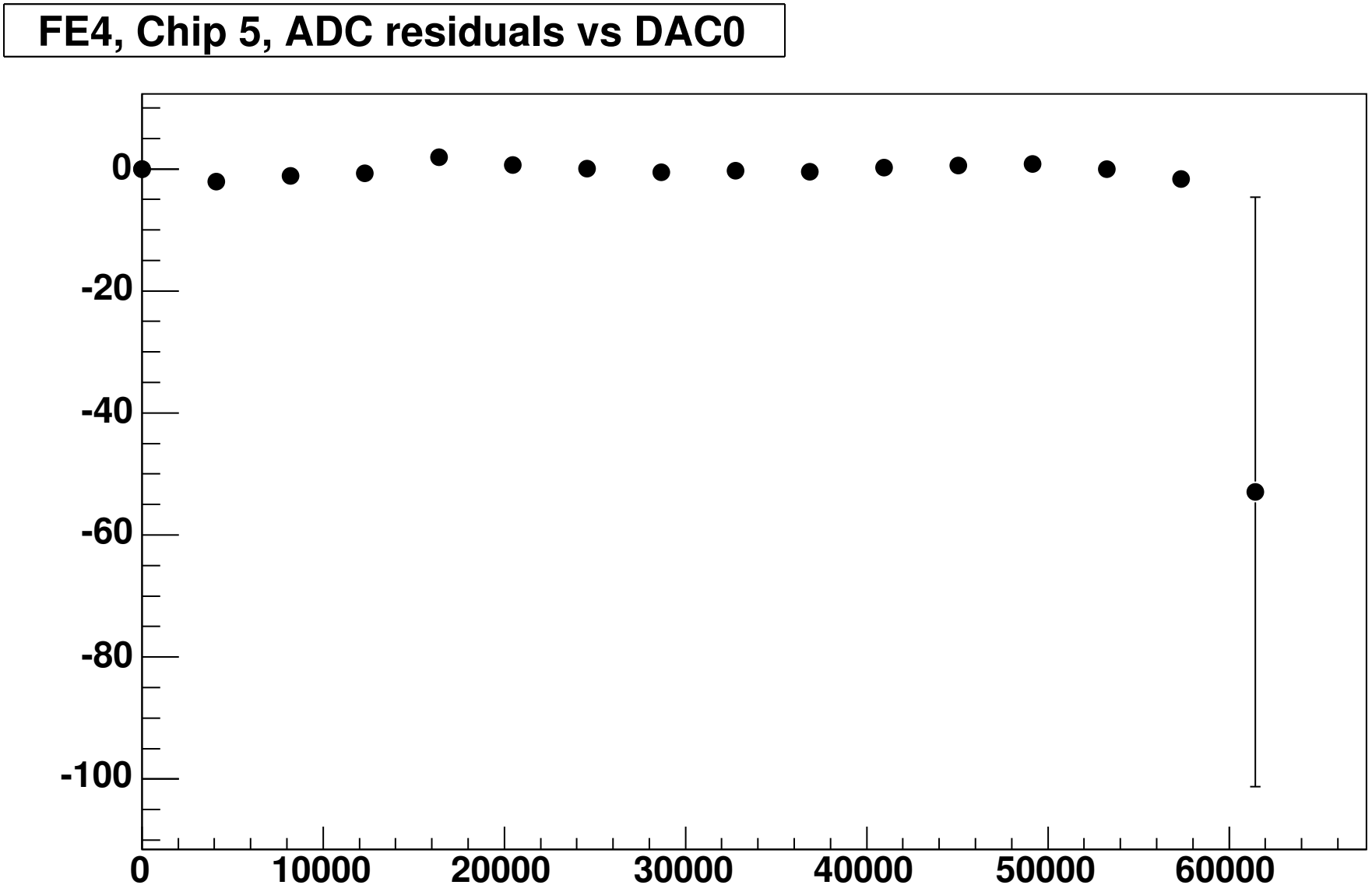

FE4, Chip 4, ADC mean vs DAC1
χ^2 / ndf 16.87 / 11
p0 161.9 ± 0.04158
p1 -6.587e-06 ± 1.15e-06
162
161.9
161.8
161.7
161.6
161.5
161.4
161.3
161.2
0
10000
20000
30000
40000
50000
60000

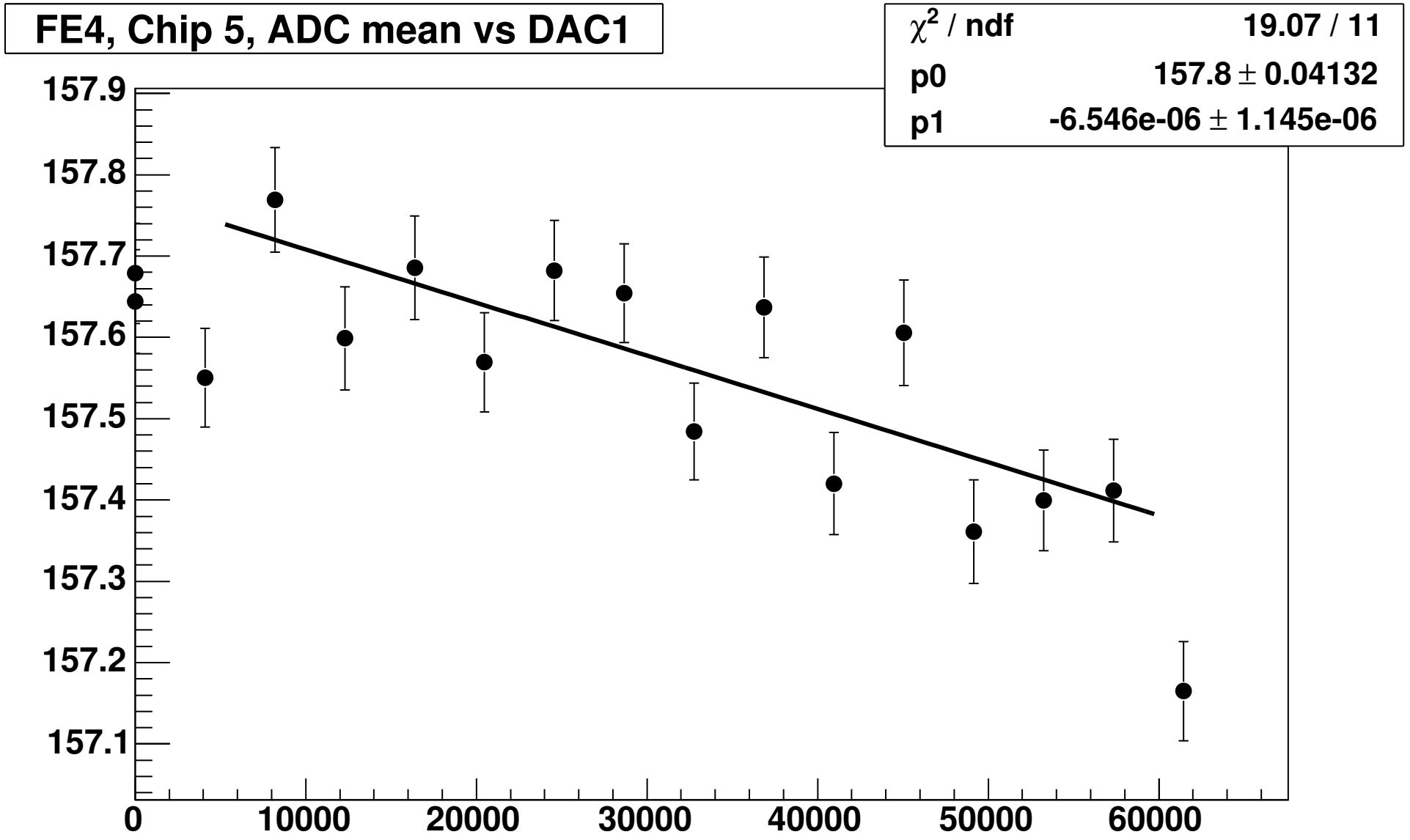

FE4, Chip 4, ADC noise vs DAC1
1.62
1.6
1.58
1.56
1.54
1.52
1.5
1.48
1.46
1.44
1.42
0
10000
20000
30000
40000
50000
60000

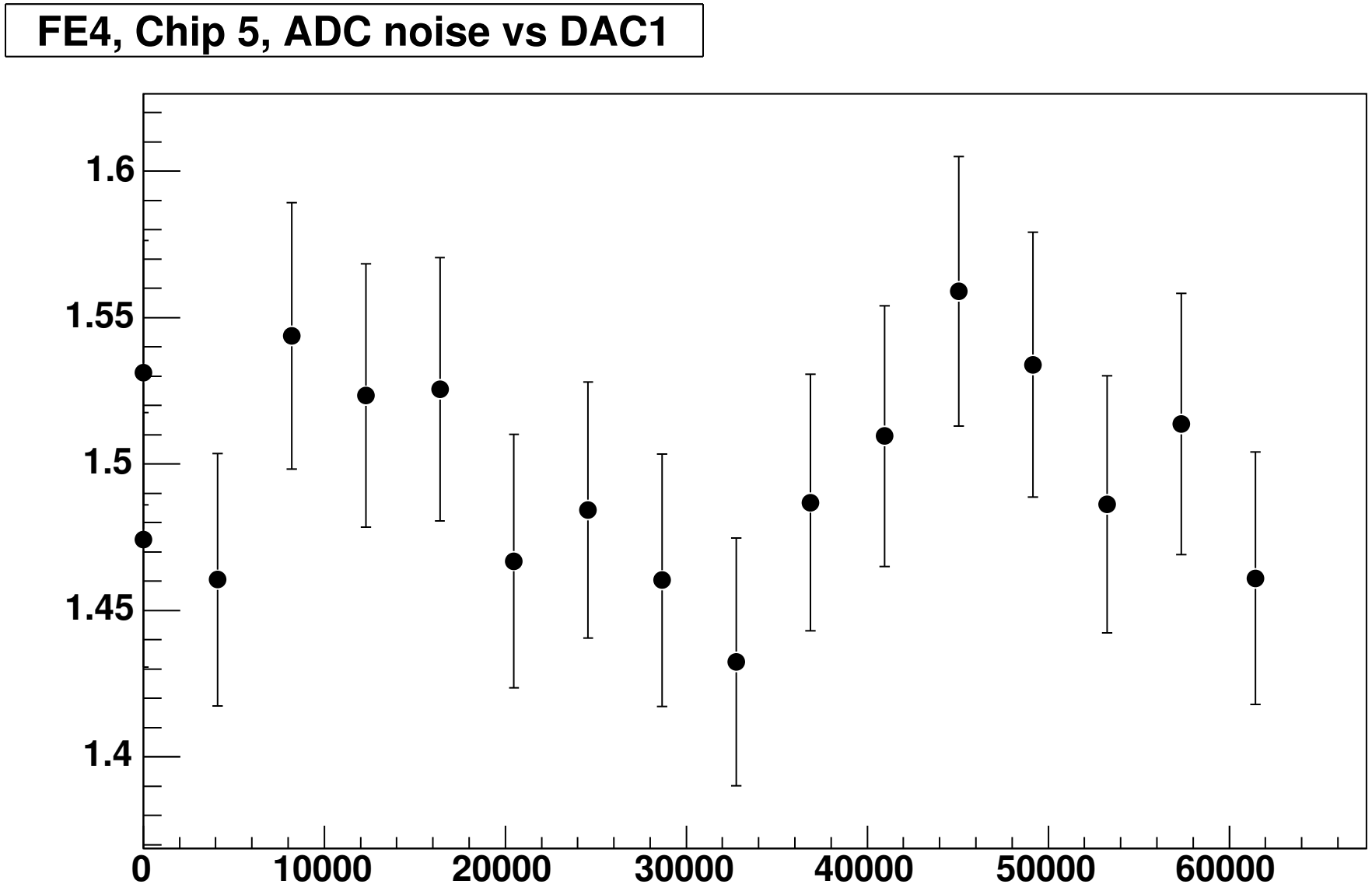

FE4, Chip 4, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

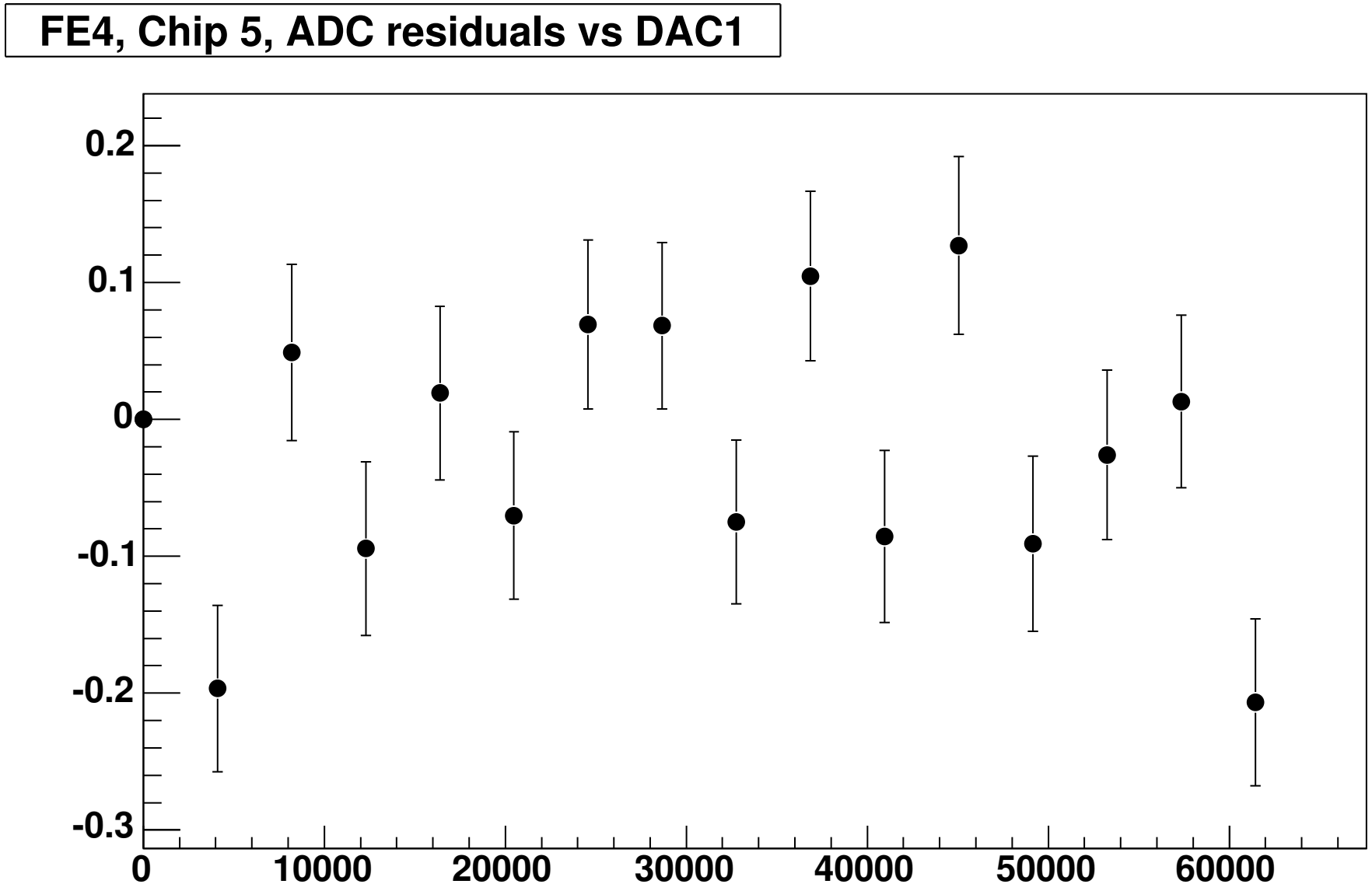

FE4, Chip 5, ADC mean vs DAC0
χ² / ndf 2363 / 11
p0 160.5 ± 0.0419
p1 0.4502 ± 1.357e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

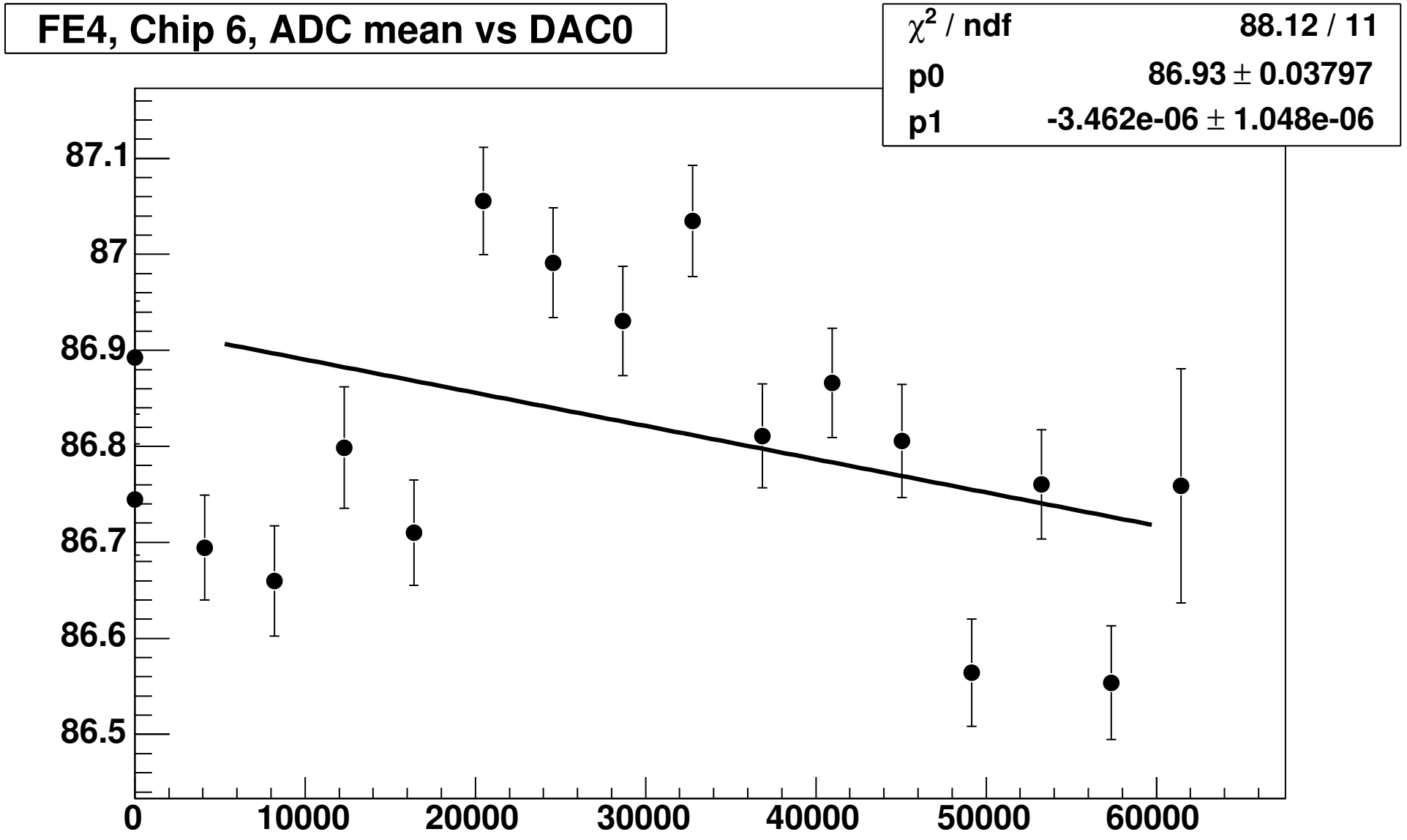

FE4, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

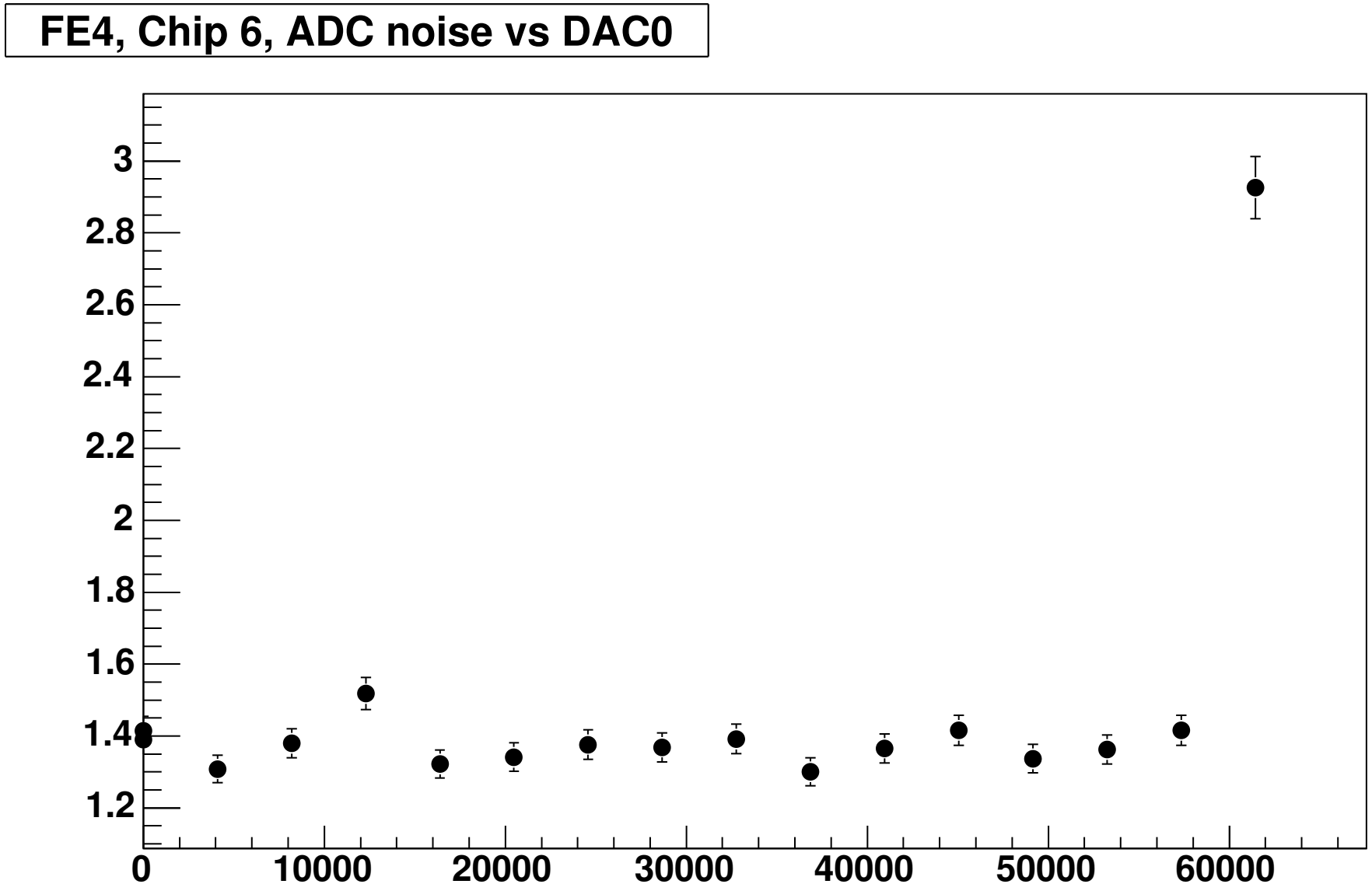

FE4, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

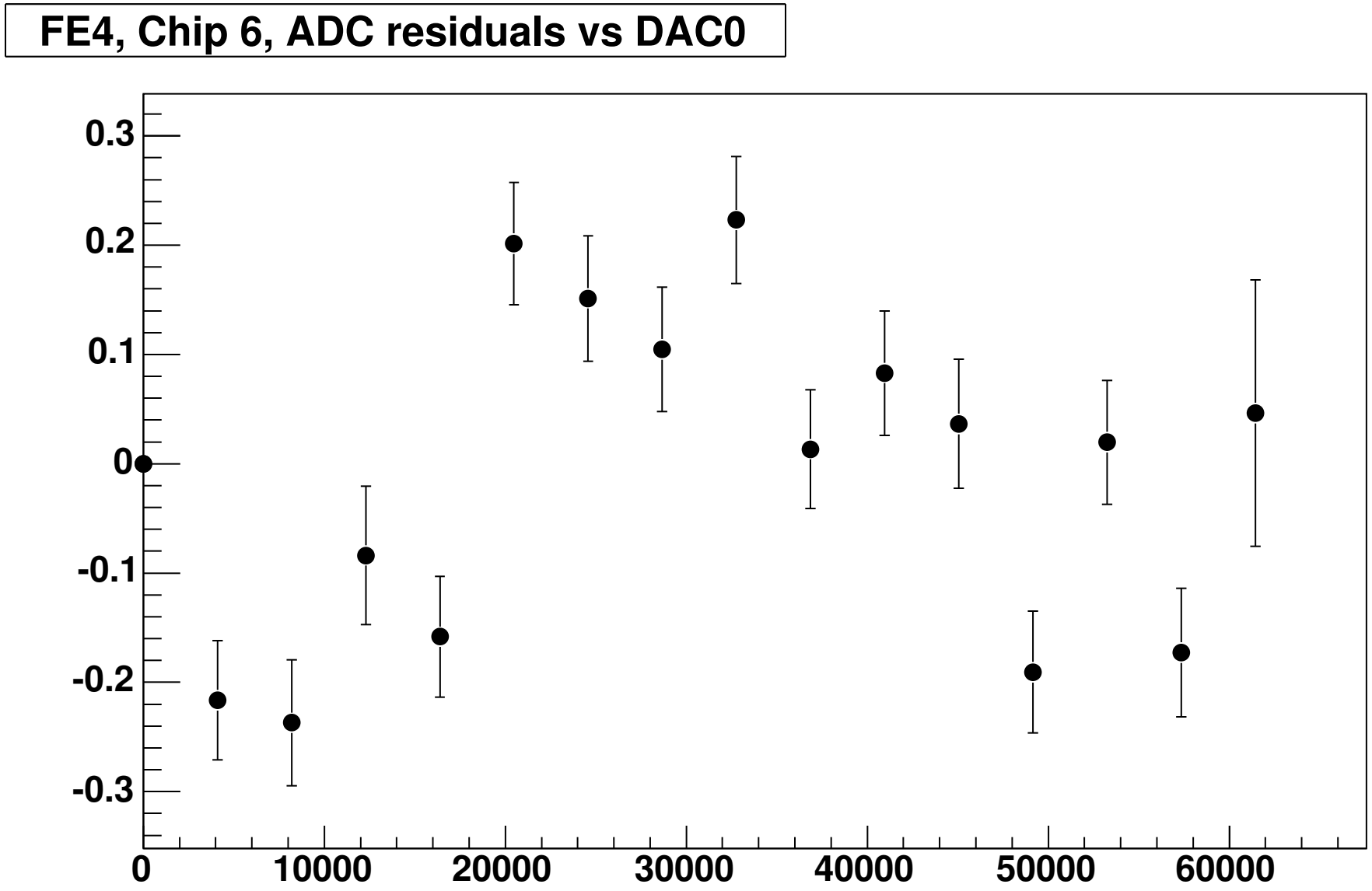

FE4, Chip 5, ADC mean vs DAC1
χ² / ndf 19.07 / 11
p0 157.8 ± 0.04132
p1 -6.546e-06 ± 1.145e-06
157.9
157.8
157.7
157.6
157.5
157.4
157.3
157.2
157.1
0
10000
20000
30000
40000
50000
60000

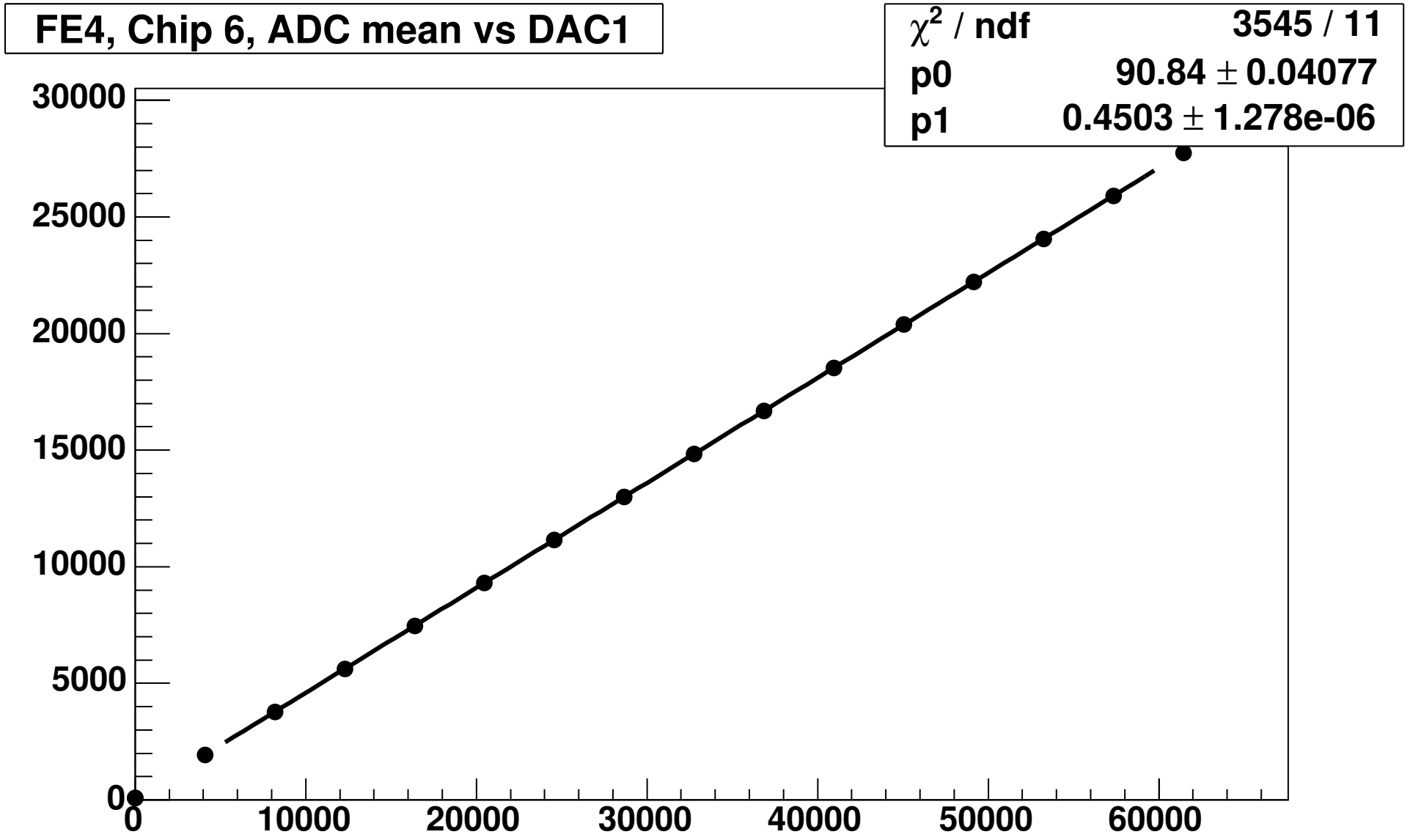

FE4, Chip 5, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

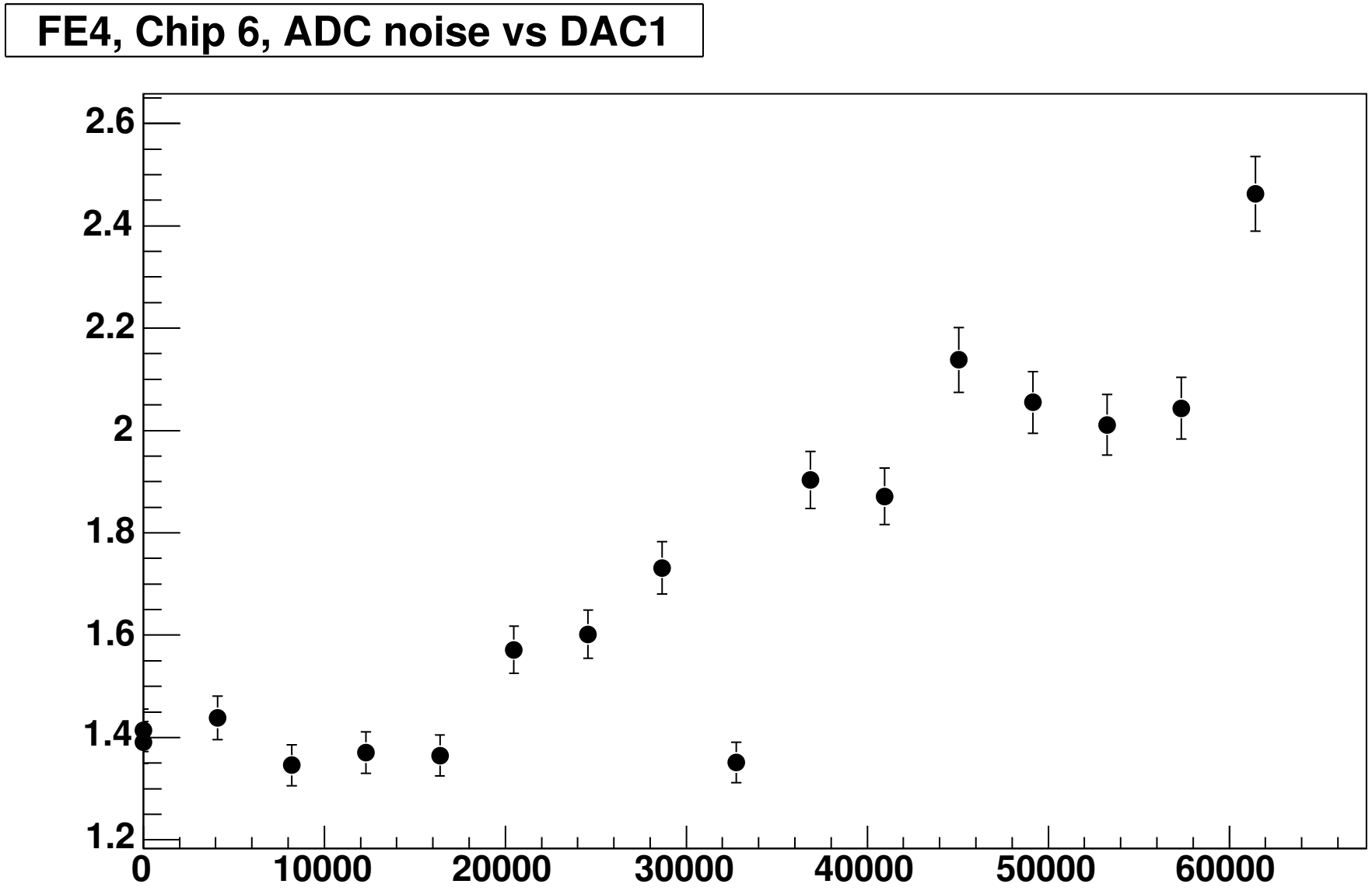

FE4, Chip 5, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

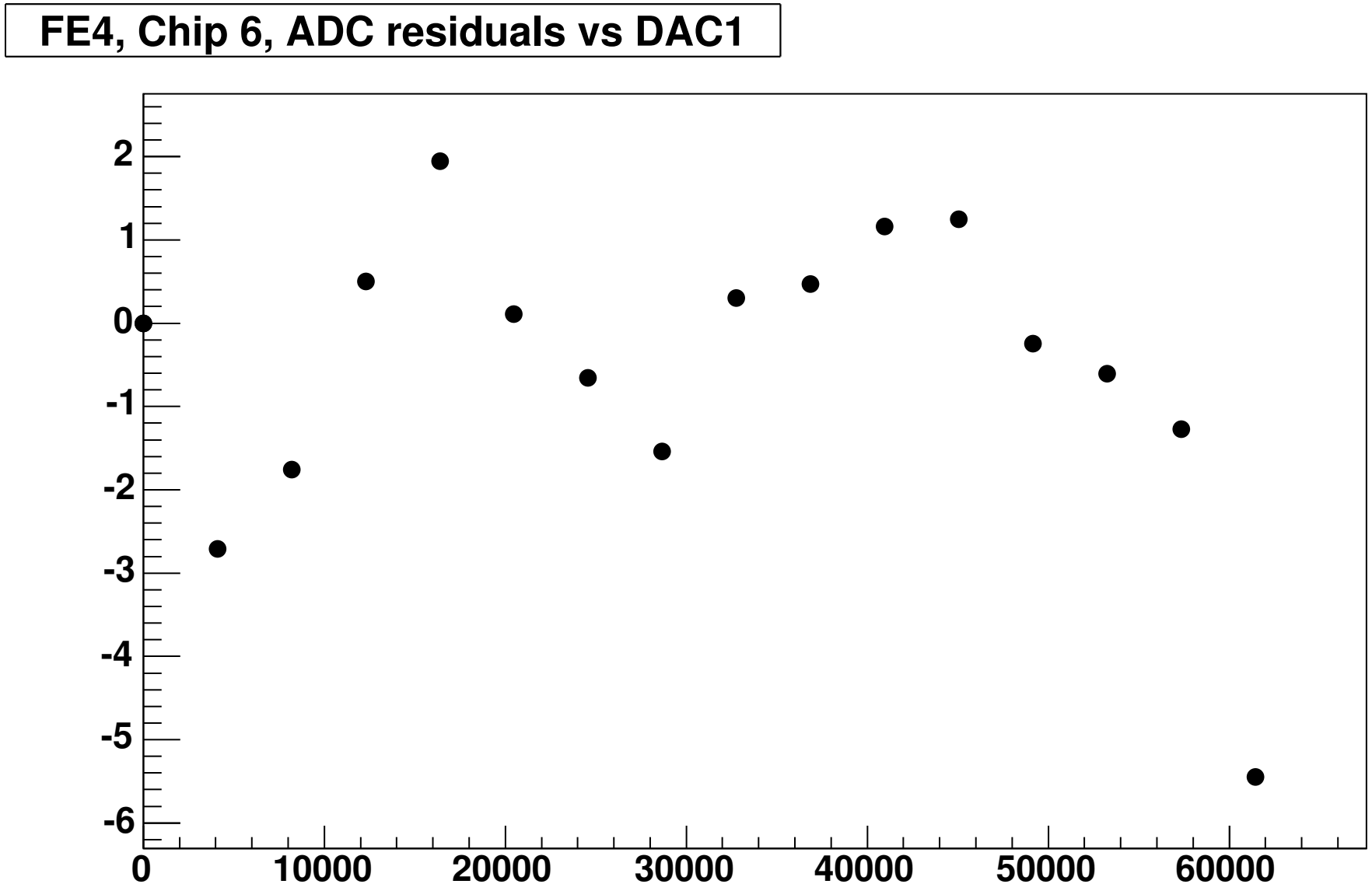

FE4, Chip 6, ADC mean vs DAC0
χ² / ndf 88.12 / 11
p0 86.93 ± 0.03797
p1 -3.462e-06 ± 1.048e-06
87.1
87
86.9
86.8
86.7
86.6
86.5
0
10000
20000
30000
40000
50000
60000

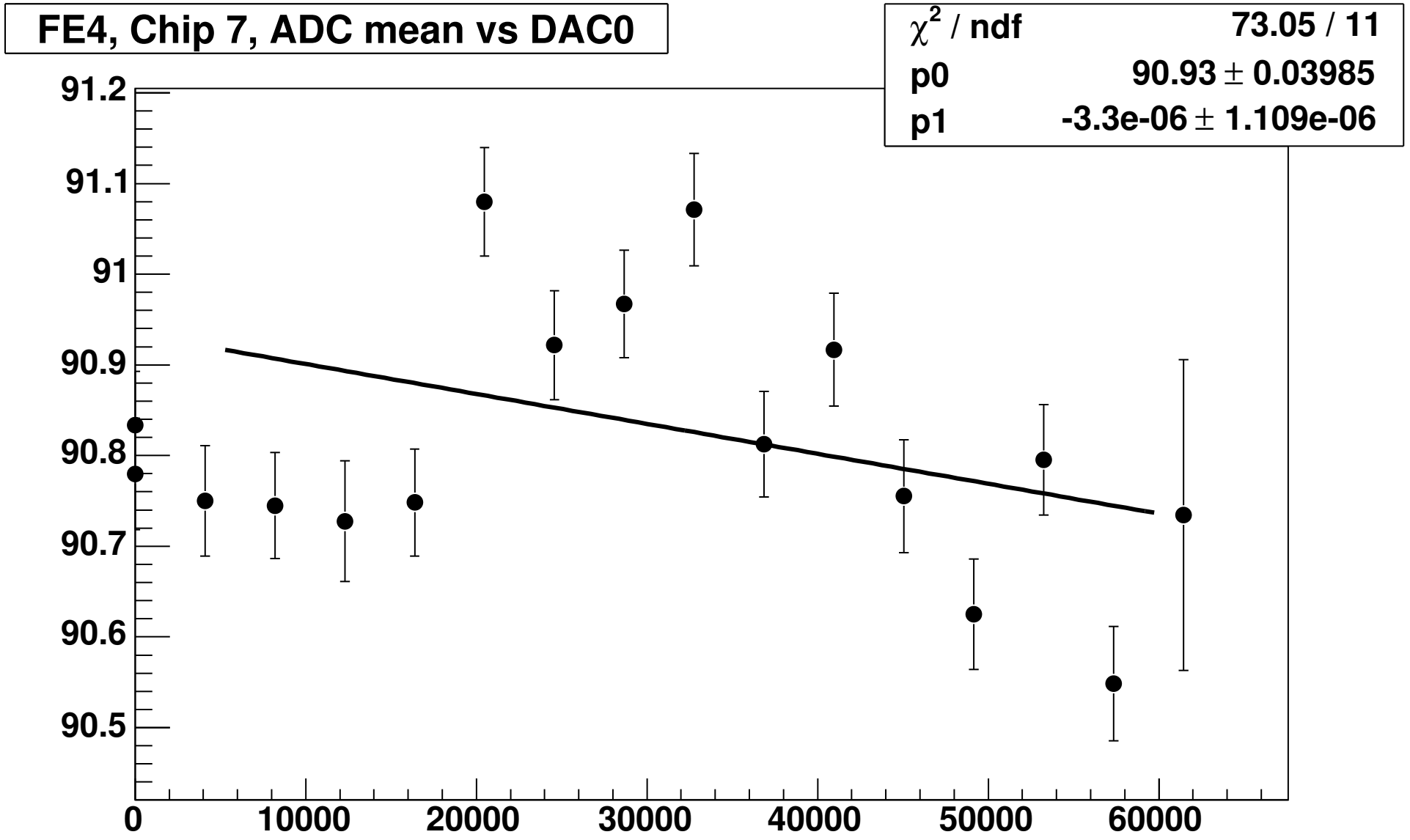

FE4, Chip 6, ADC noise vs DAC0
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

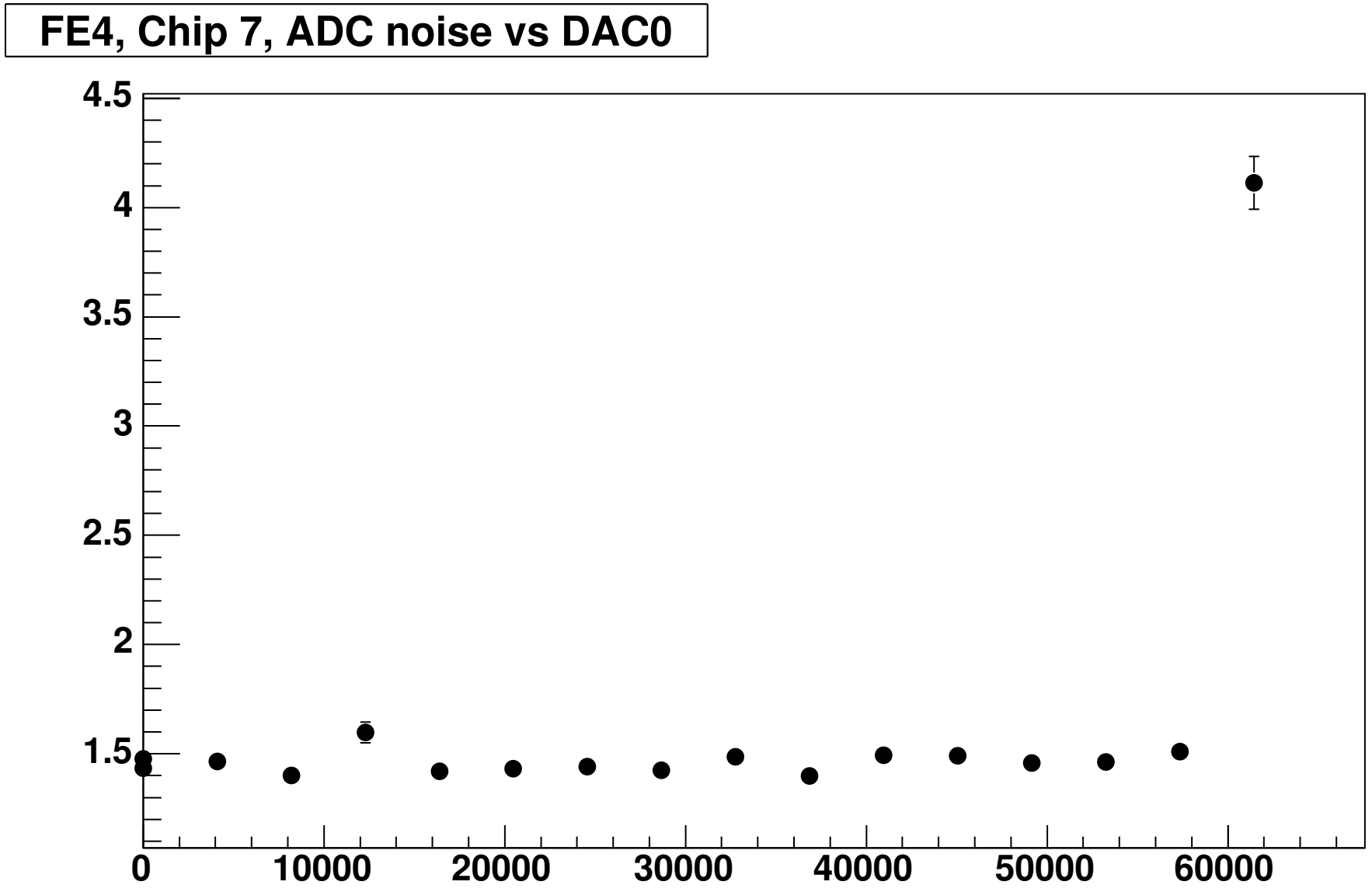

FE4, Chip 6, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

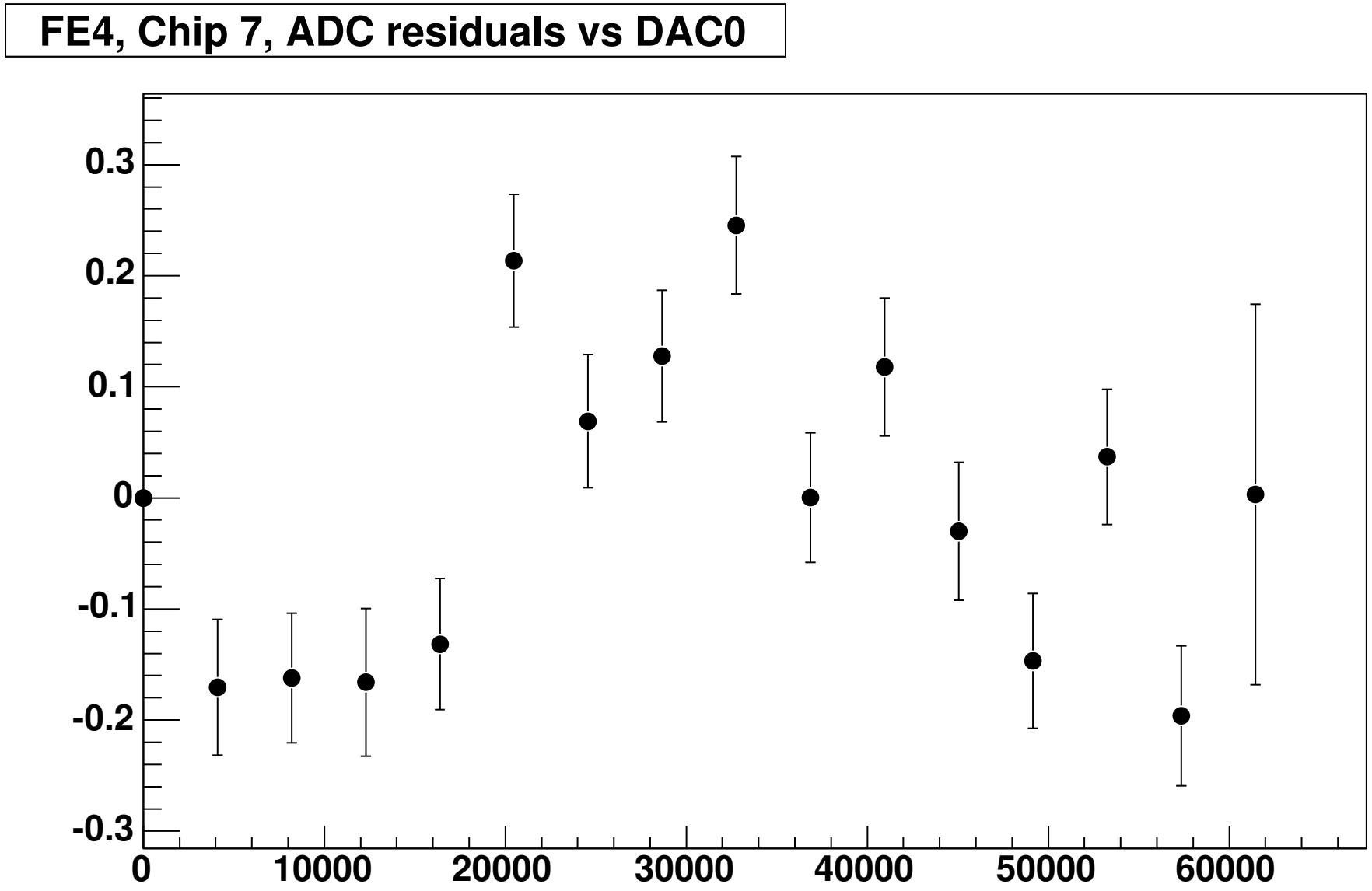

FE4, Chip 6, ADC mean vs DAC1
χ² / ndf 3545 / 11
p0 90.84 ± 0.04077
p1 0.4503 ± 1.278e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

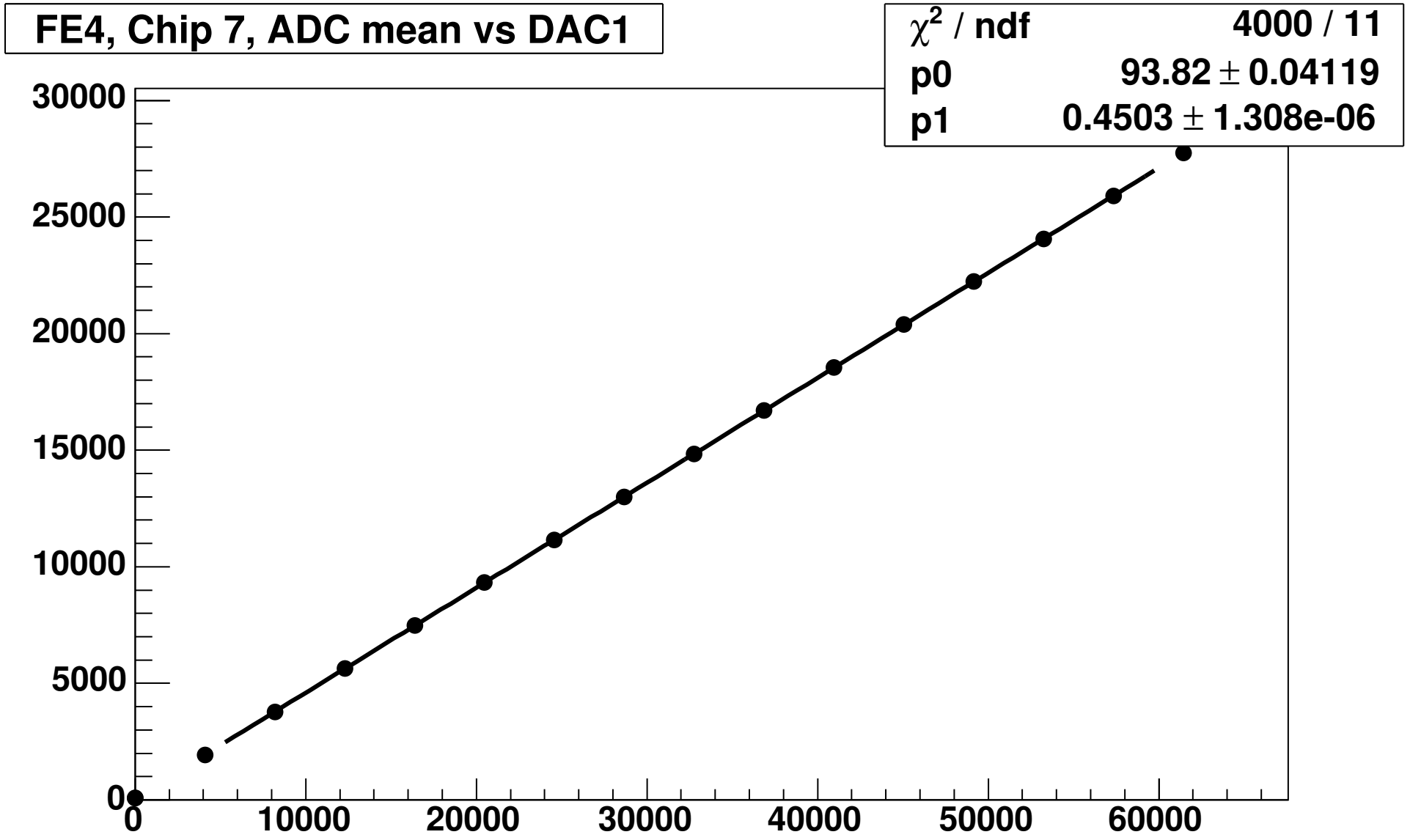

FE4, Chip 6, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

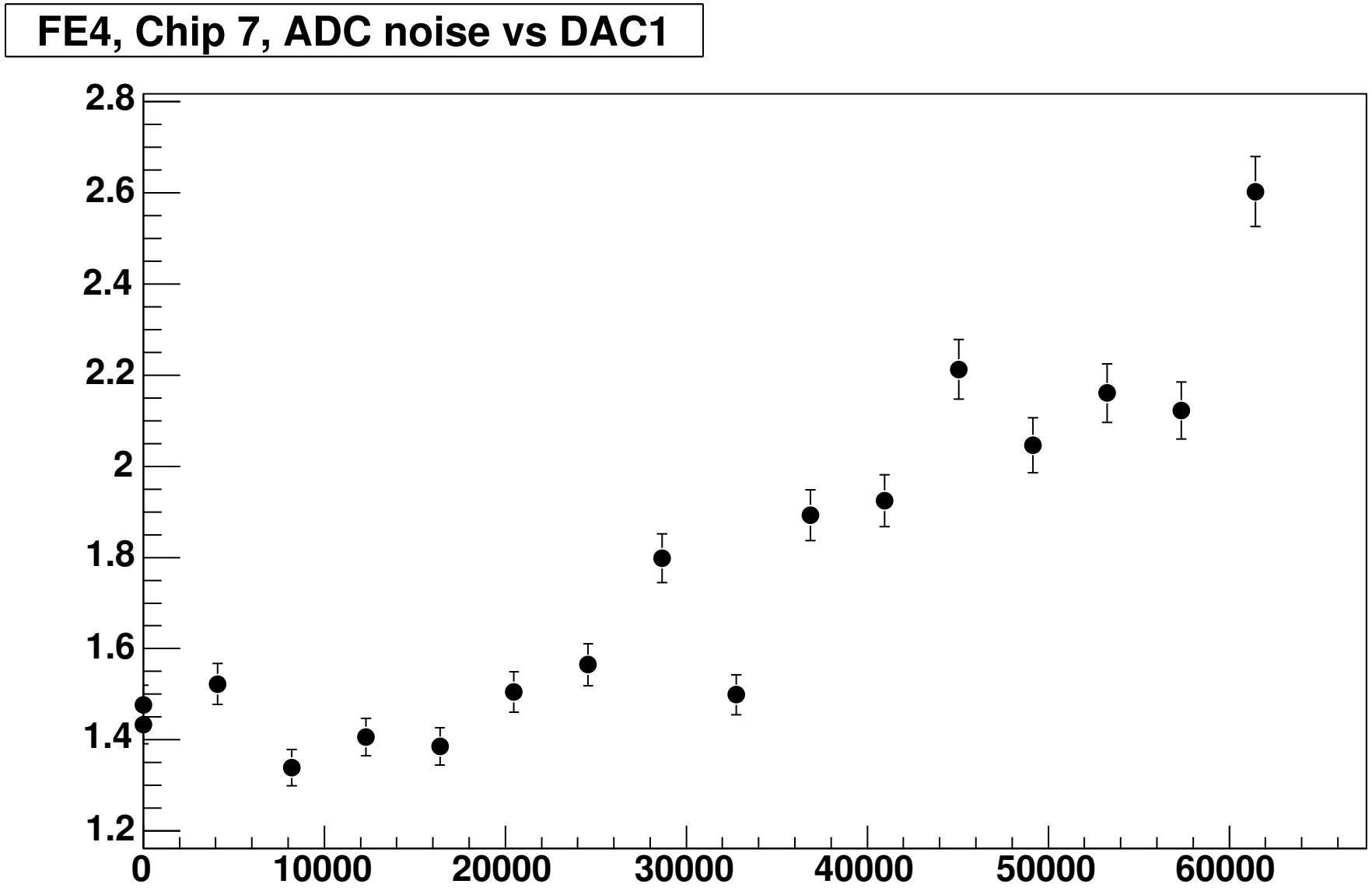

FE4, Chip 6, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

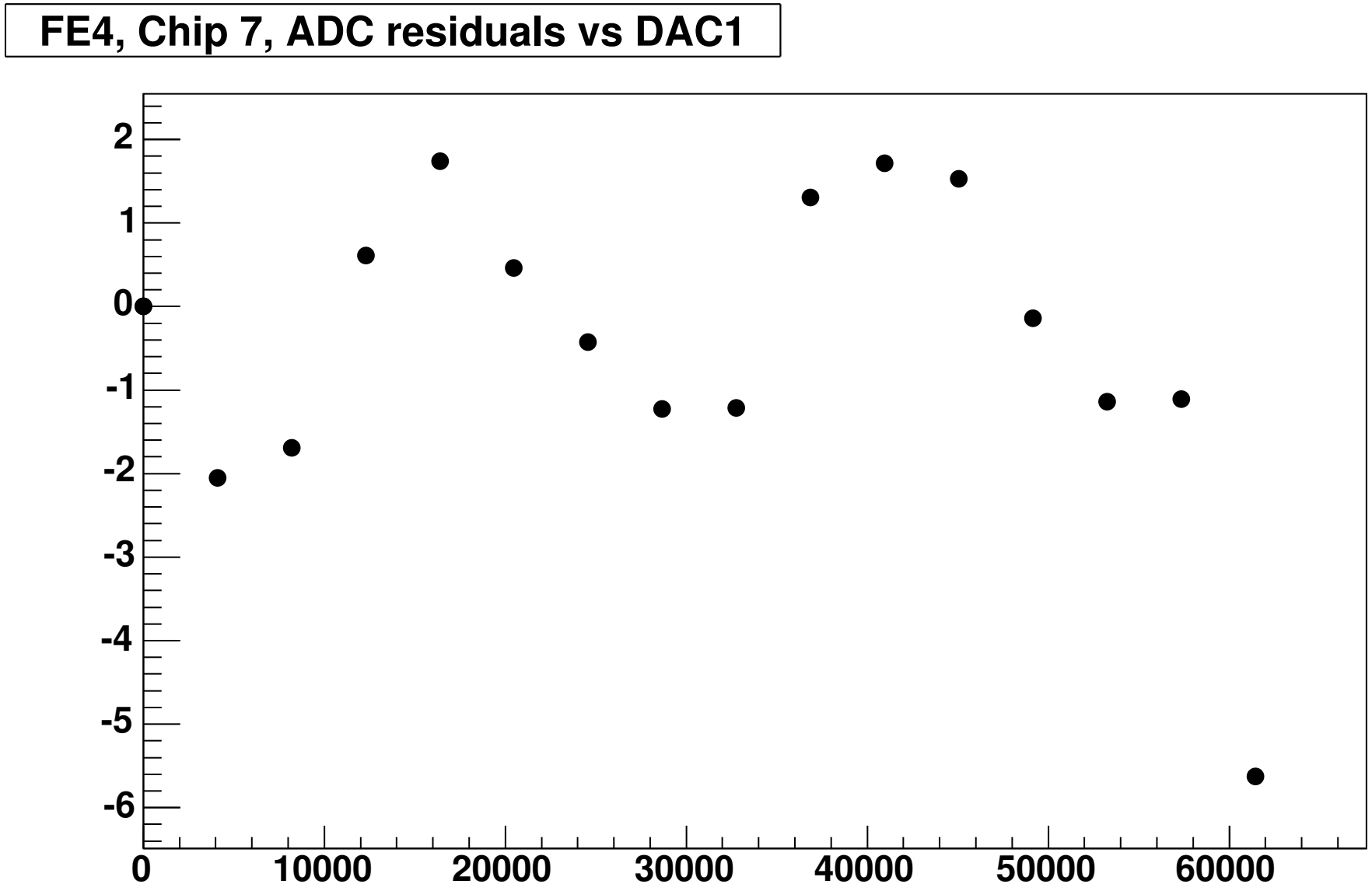

FE4, Chip 7, ADC mean vs DAC0
χ^2 / ndf 73.05 / 11
p0 90.93 ± 0.03985
p1 -3.3e-06 ± 1.109e-06
91.2
91.1
91
90.9
90.8
90.7
90.6
90.5
0
10000
20000
30000
40000
50000
60000

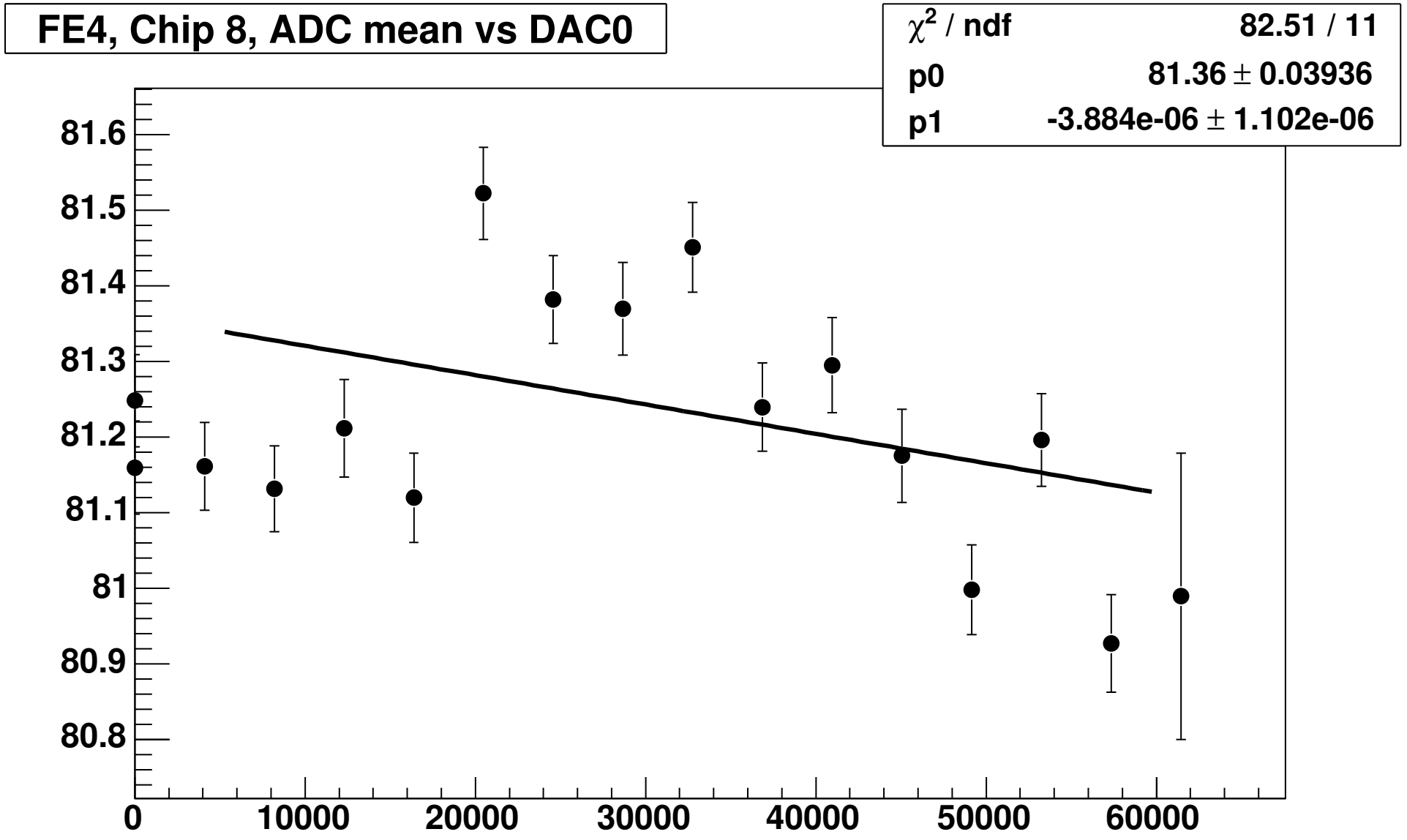

FE4, Chip 7, ADC noise vs DAC0
4.5
4
3.5
3
2.5
2
1.5
0
10000
20000
30000
40000
50000
60000

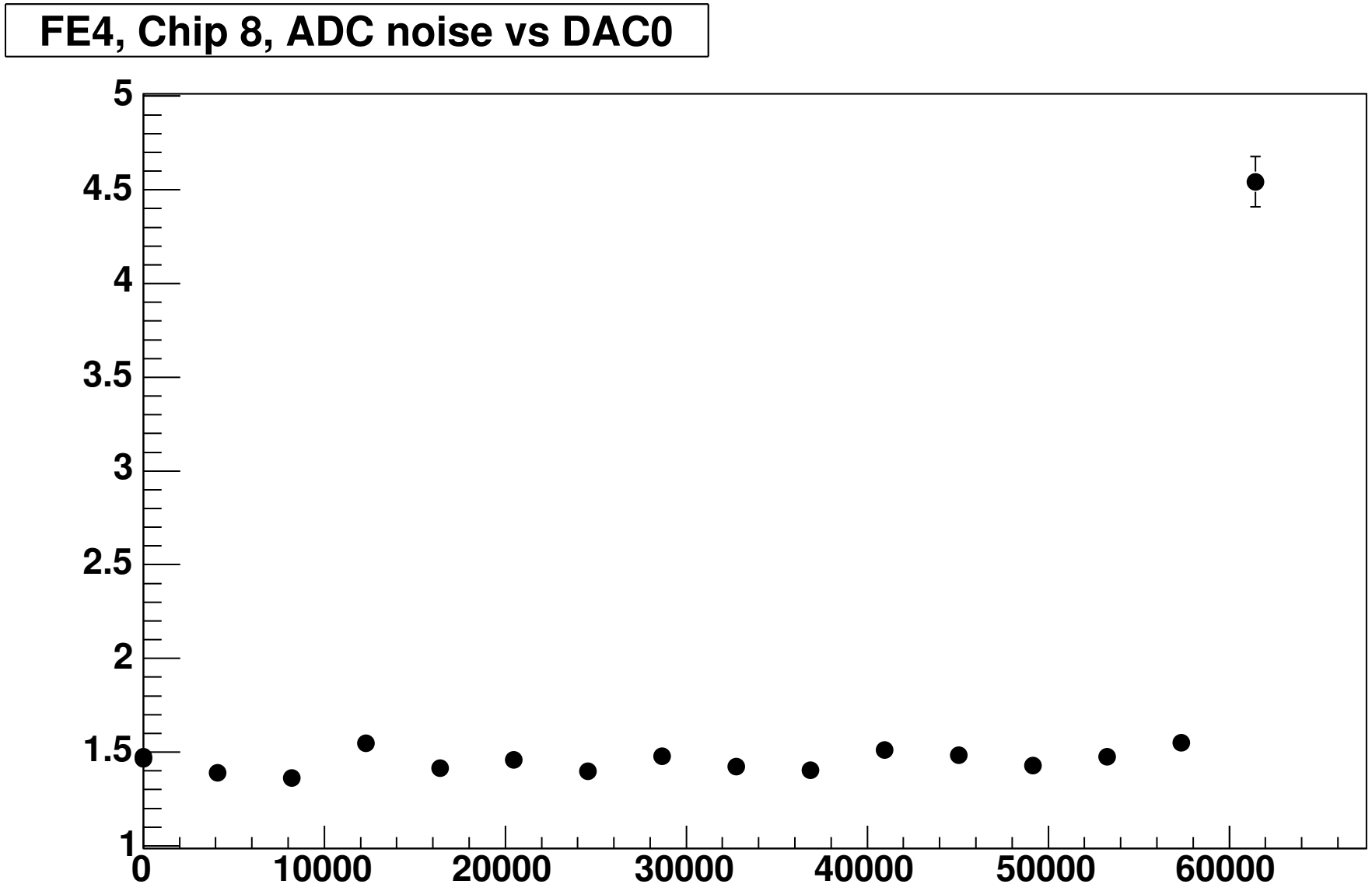

FE4, Chip 7, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

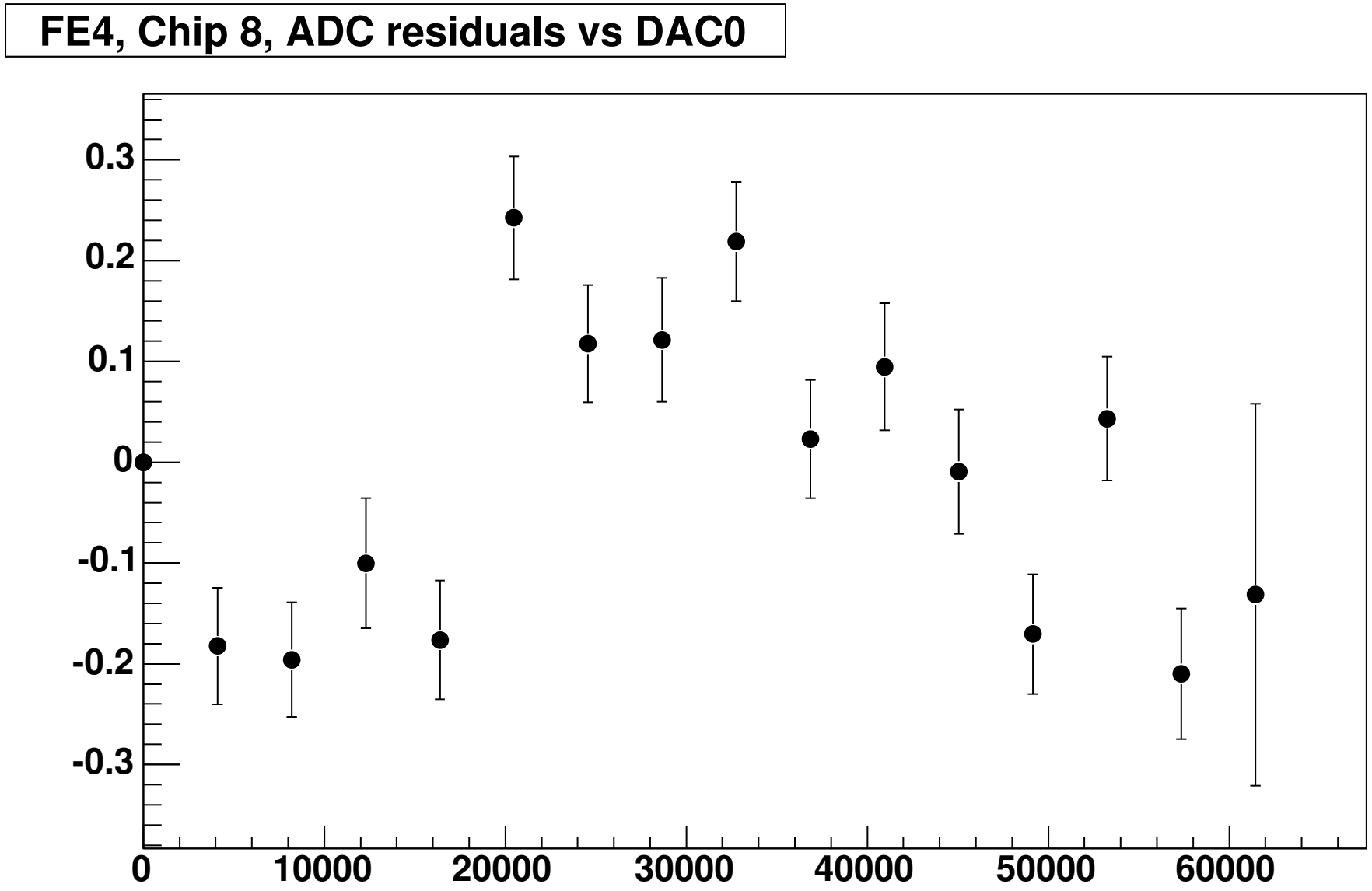

FE4, Chip 7, ADC mean vs DAC1
χ² / ndf 4000 / 11
p0 93.82 ± 0.04119
p1 0.4503 ± 1.308e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

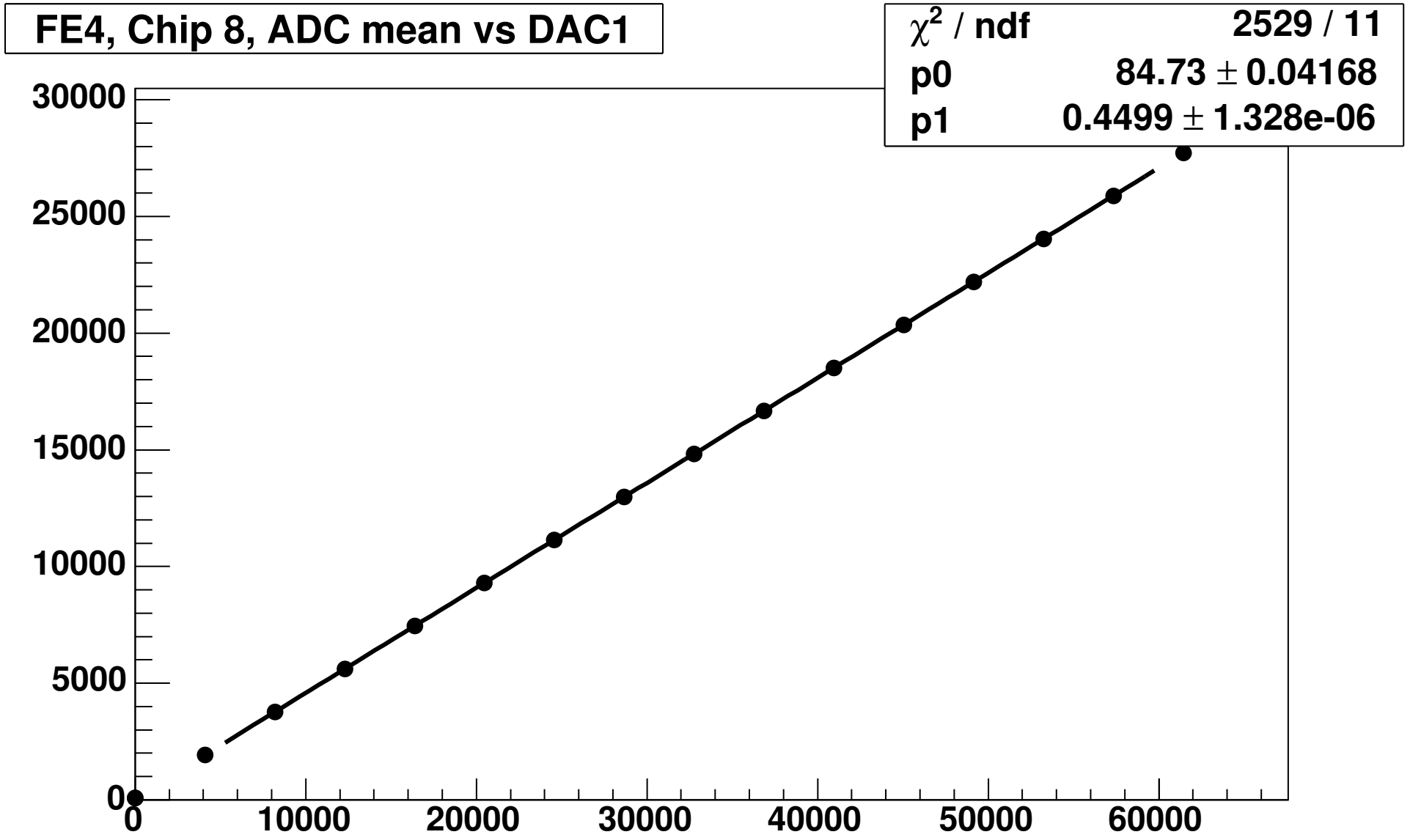

FE4, Chip 7, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000


FE4, Chip 7, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

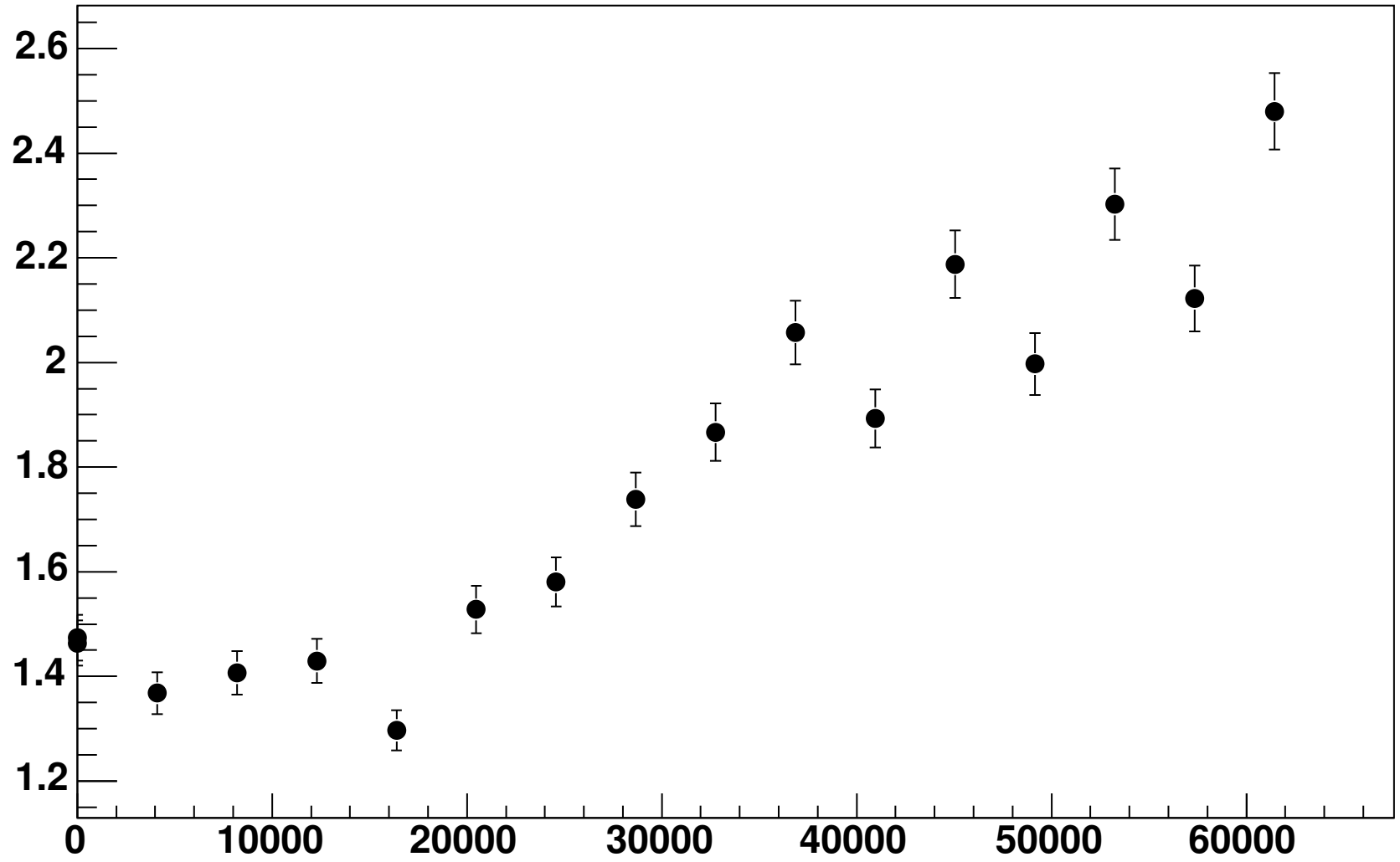

FE4, Chip 8, ADC mean vs DAC0
χ² / ndf 82.51 / 11
p0 81.36 ± 0.03936
p1 -3.884e-06 ± 1.102e-06
81.6
81.5
81.4
81.3
81.2
81.1
81
80.9
80.8
0
10000
20000
30000
40000
50000
60000

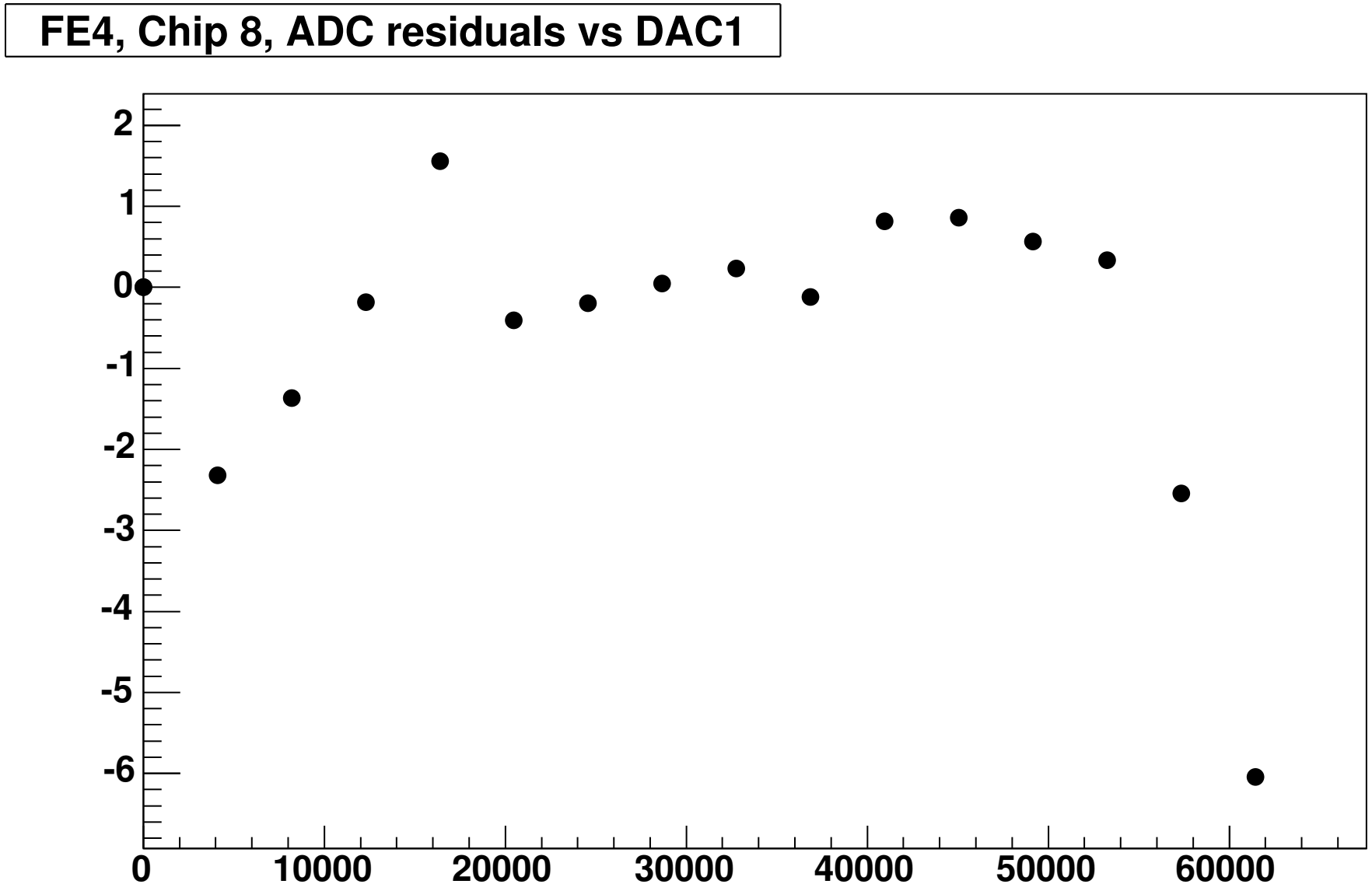

FE4, Chip 8, ADC noise vs DAC0
5
4.5
4
3.5
3
2.5
2
1.5
1
0
10000
20000
30000
40000
50000
60000

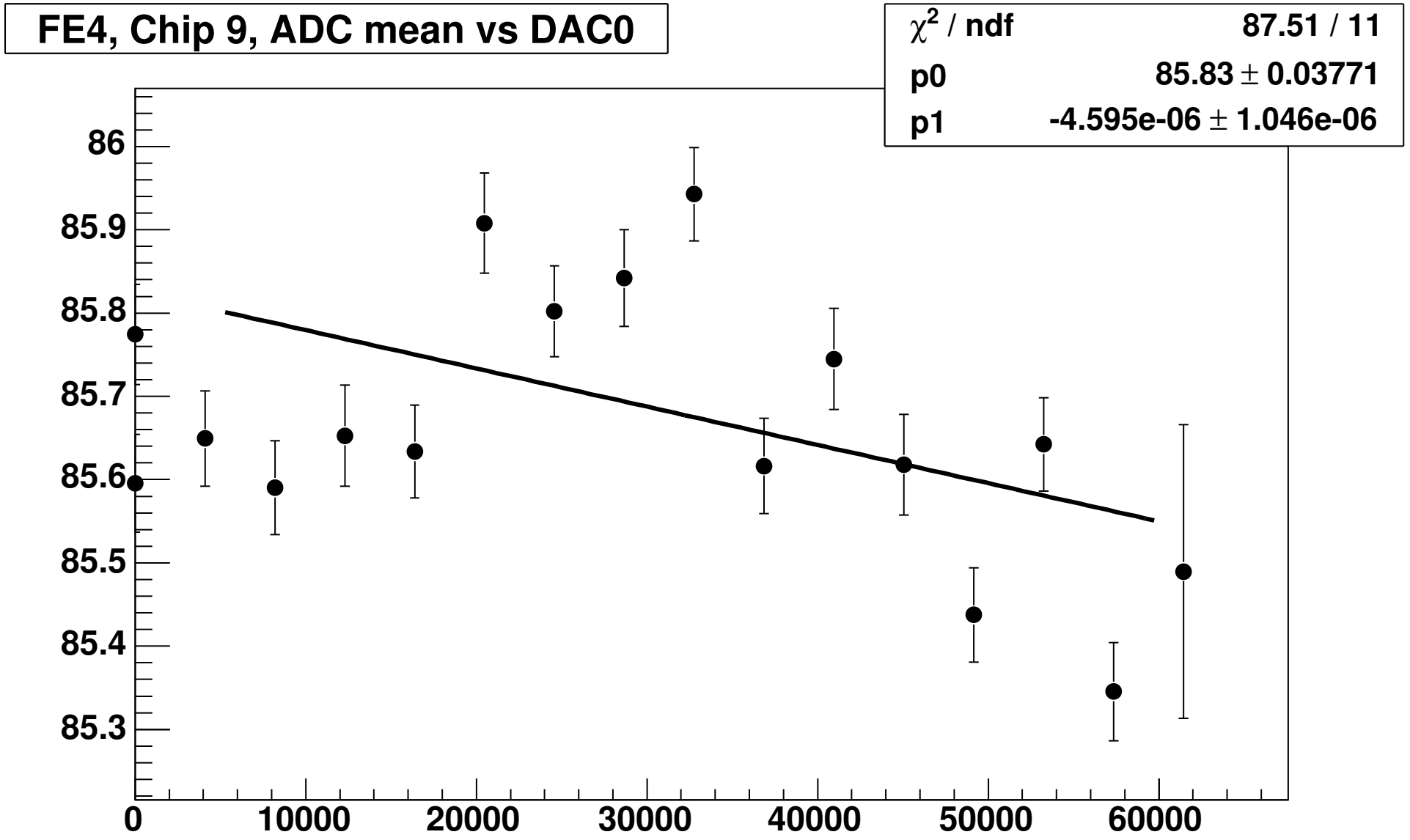

FE4, Chip 8, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

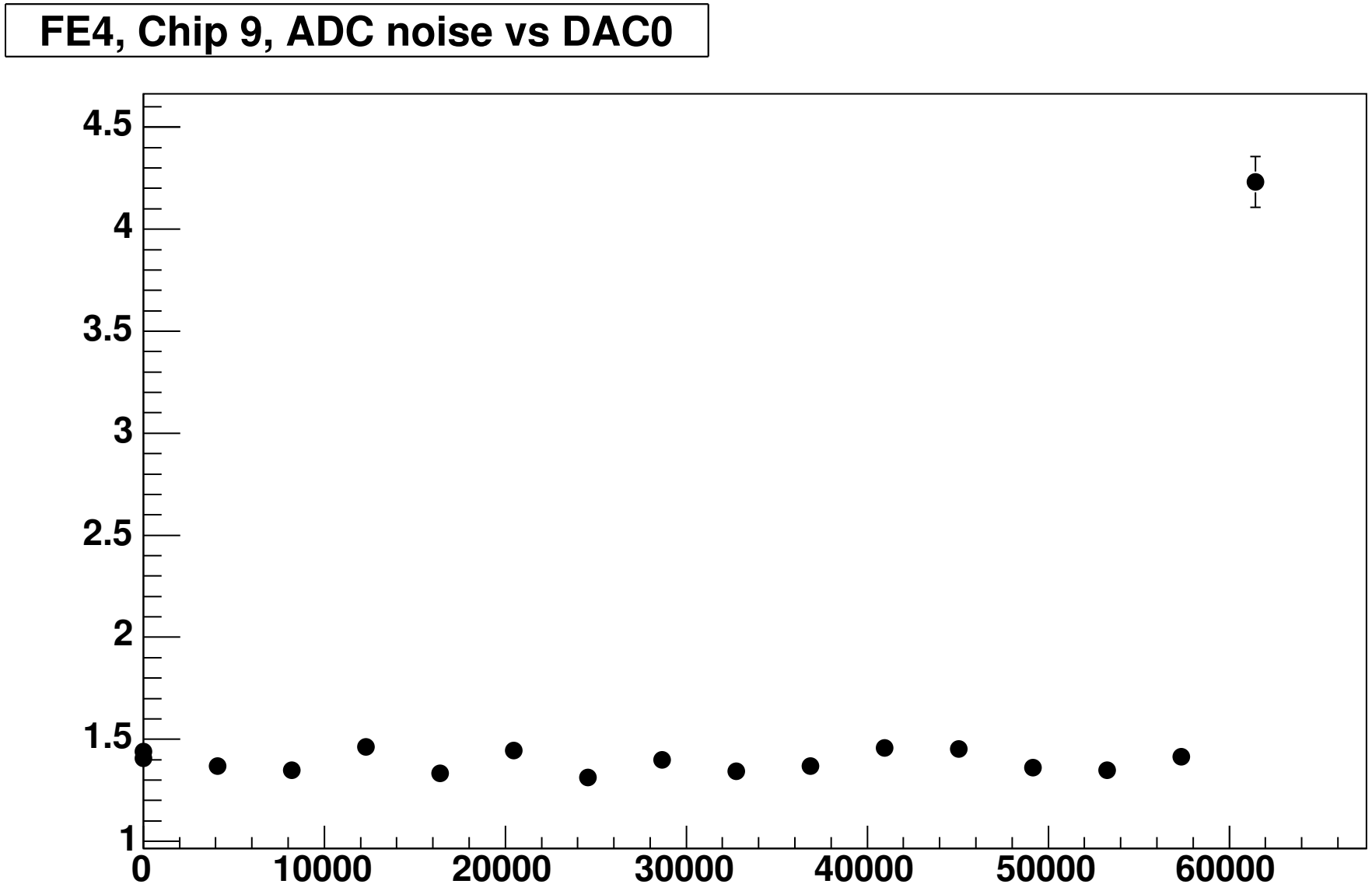

FE4, Chip 8, ADC mean vs DAC1
χ² / ndf 2529 / 11
p0 84.73 ± 0.04168
p1 0.4499 ± 1.328e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

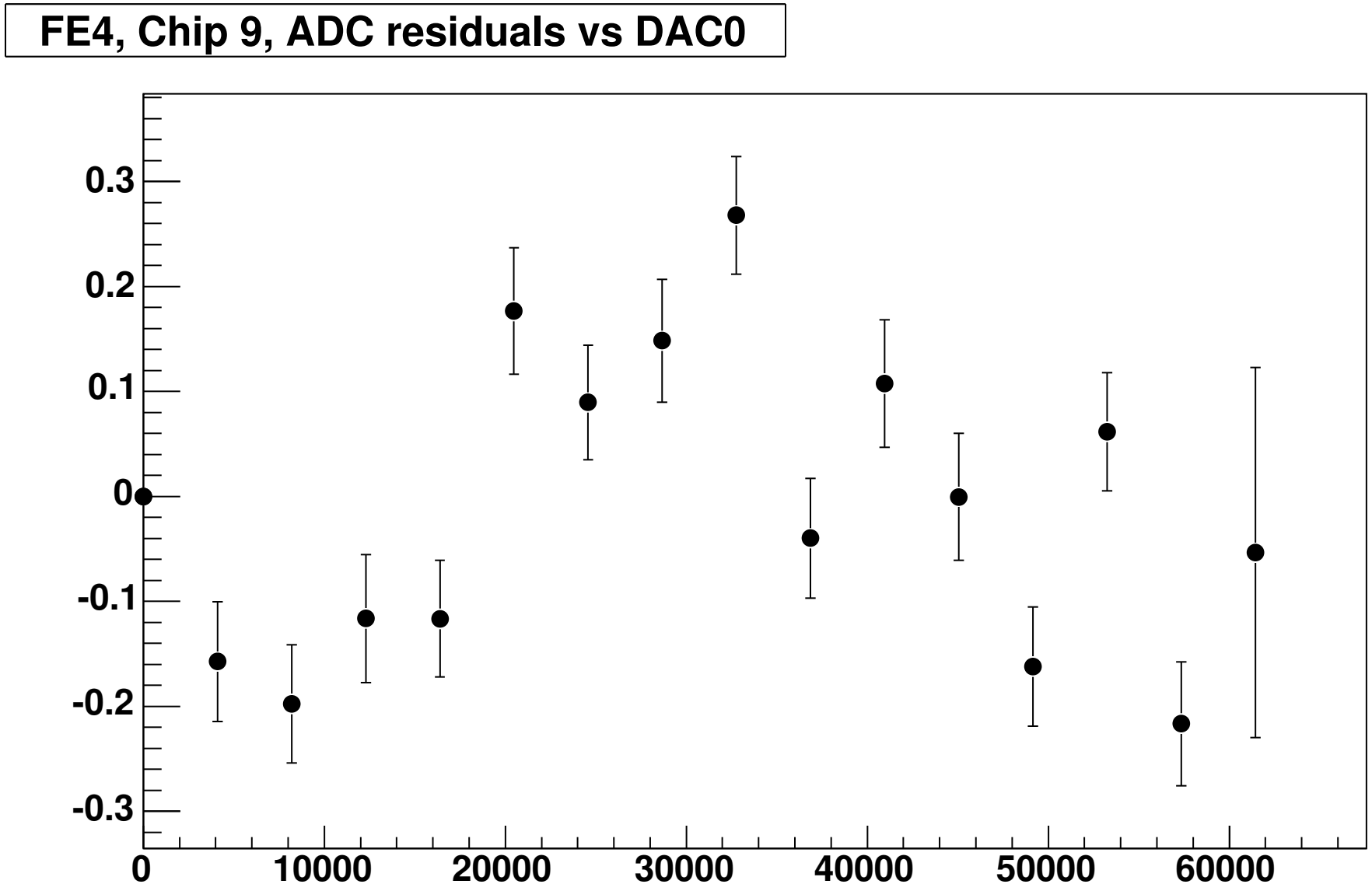
FE4, Chip 8, ADC noise vs DAC1

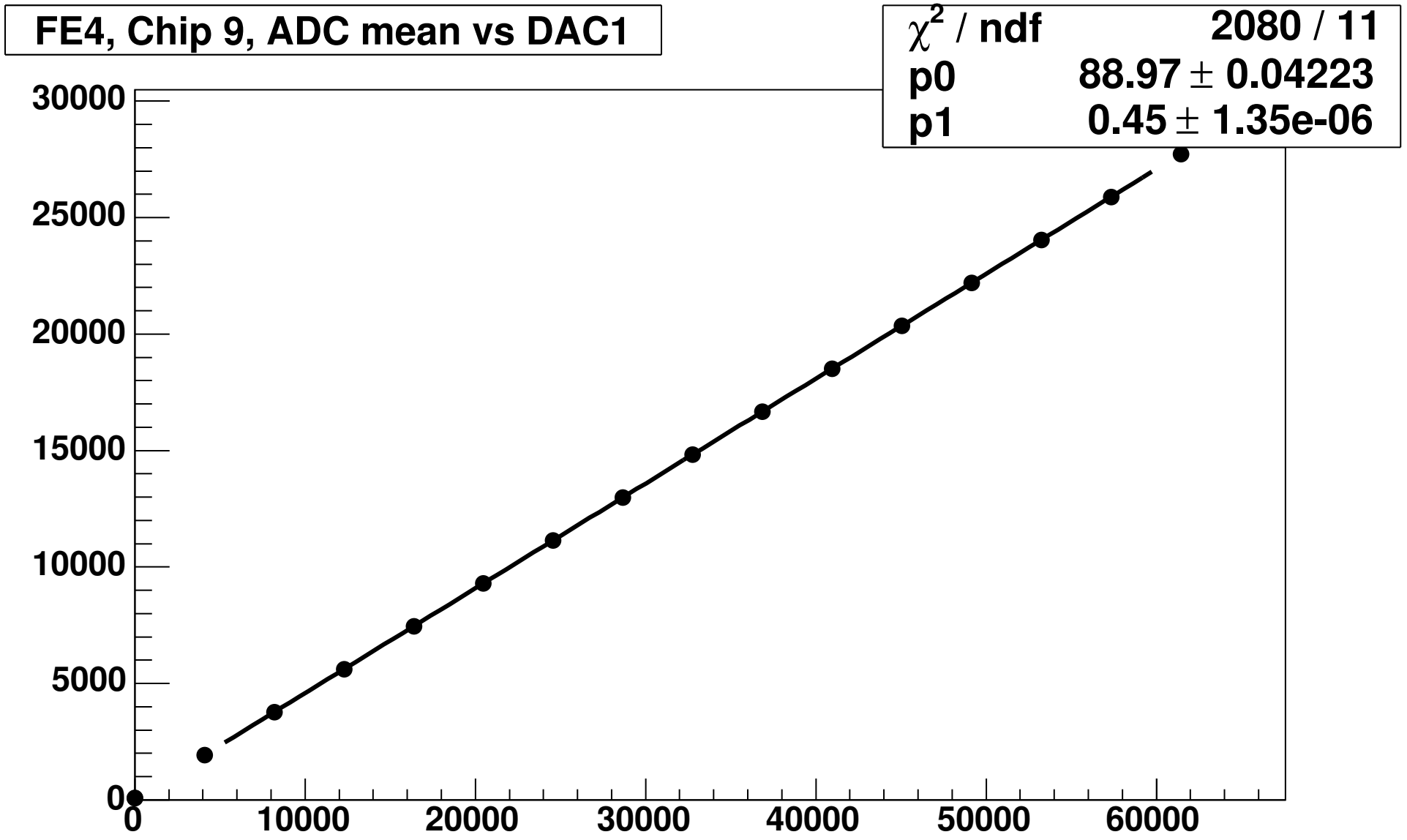


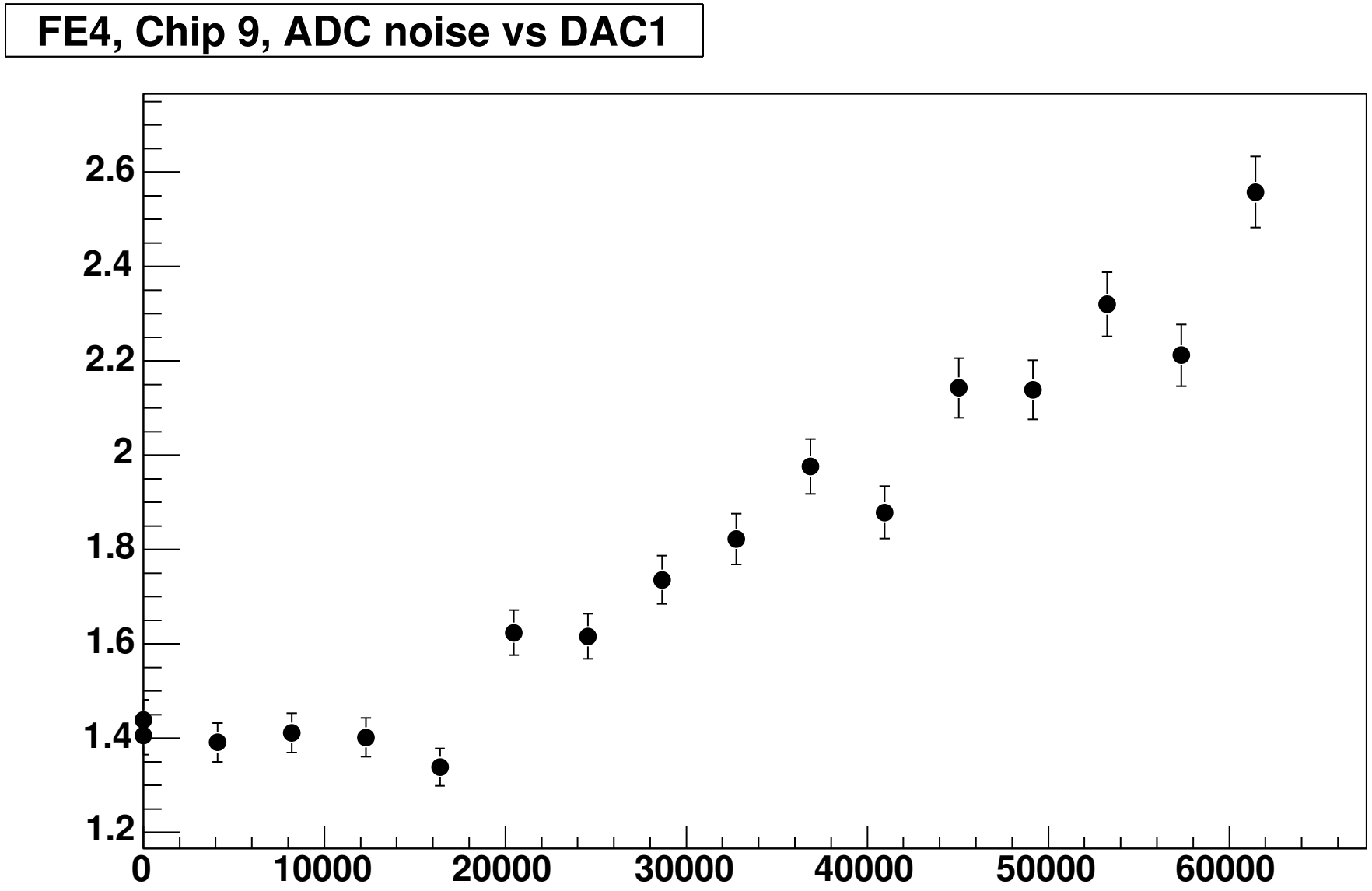

FE4, Chip 8, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

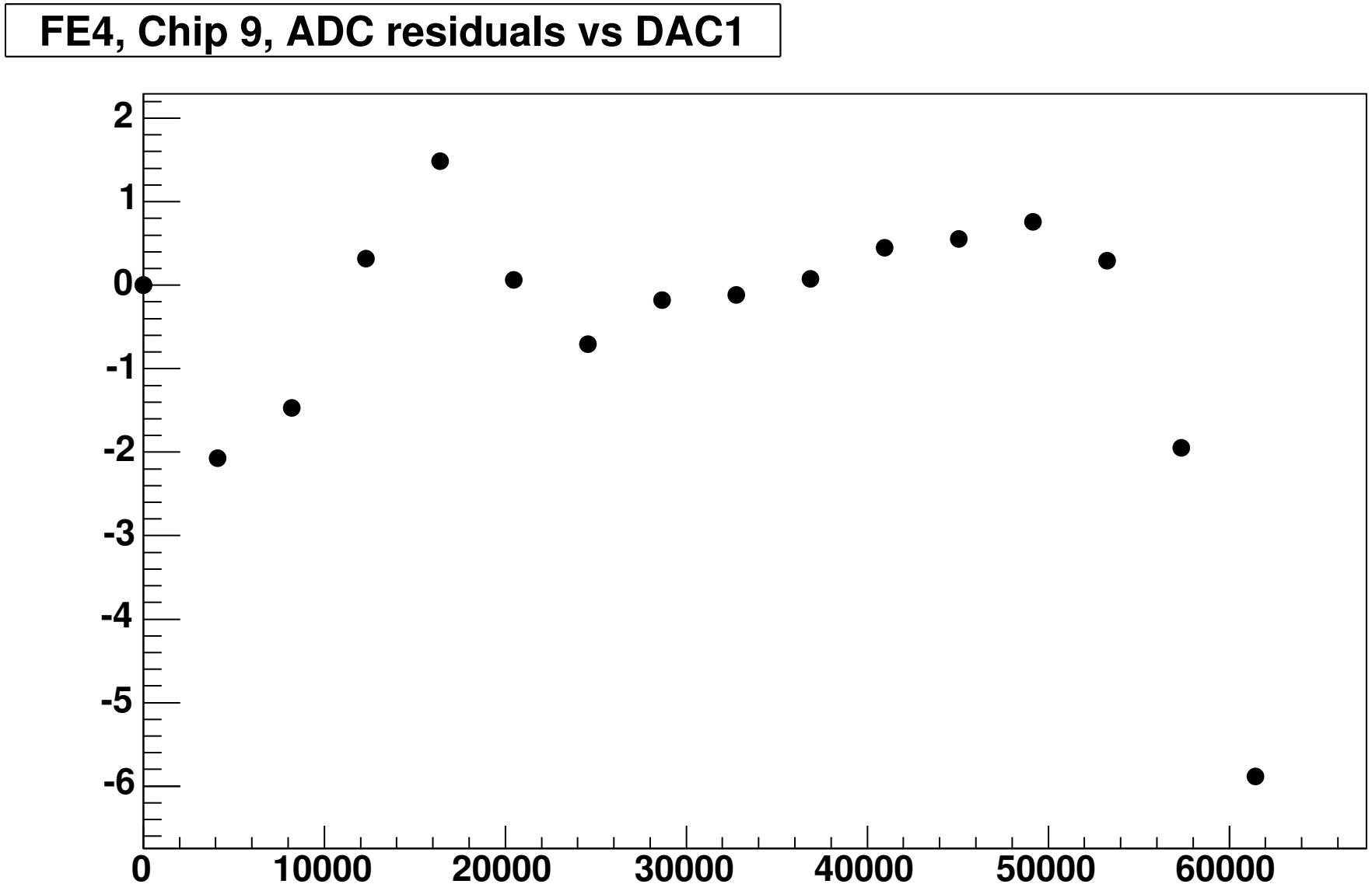

FE4, Chip 9, ADC mean vs DAC0
χ² / ndf 87.51 / 11
p0 85.83 ± 0.03771
p1 -4.595e-06 ± 1.046e-06
86
85.9
85.8
85.7
85.6
85.5
85.4
85.3
0
10000
20000
30000
40000
50000
60000

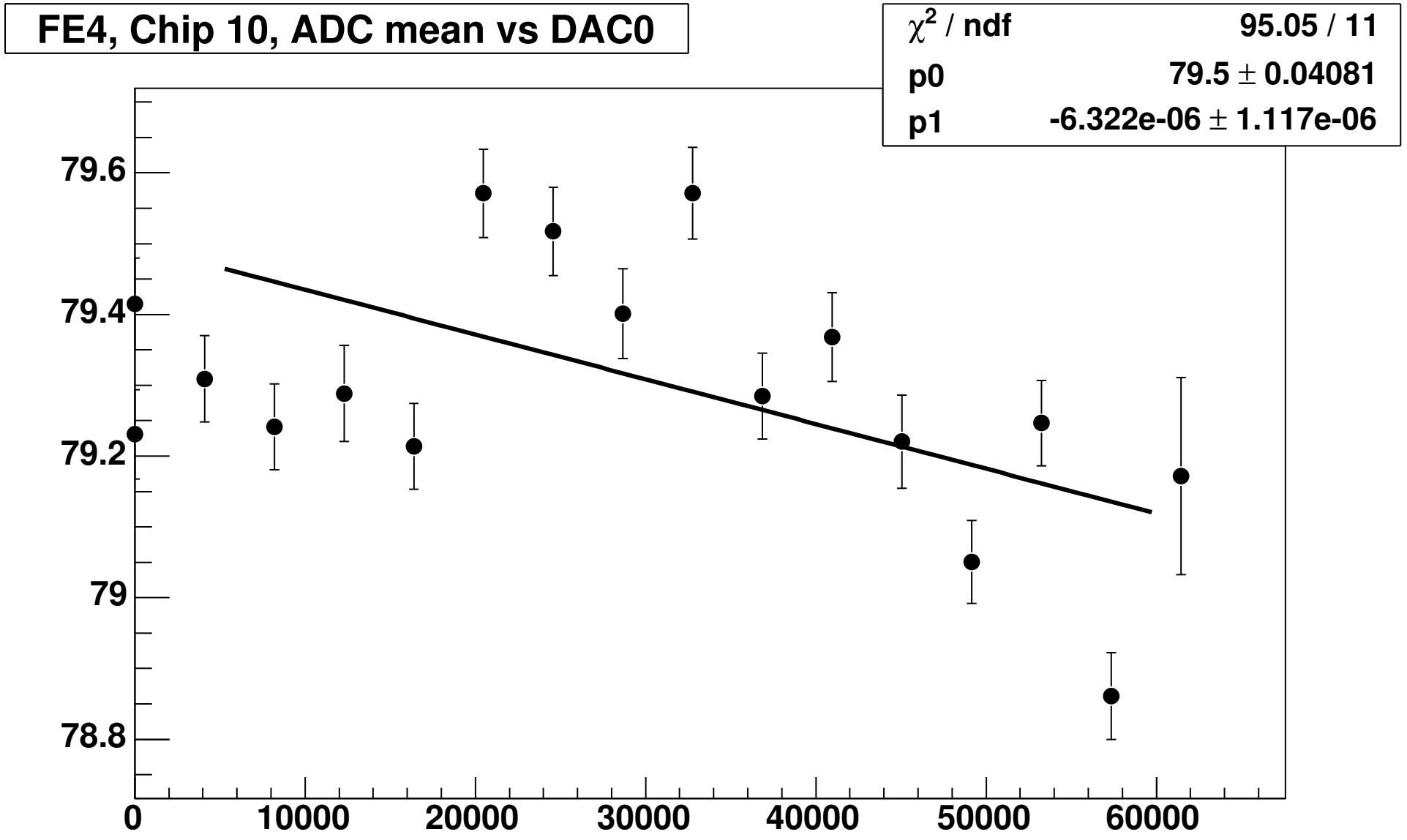

FE4, Chip 9, ADC noise vs DAC0
4.5
4
3.5
3
2.5
2
1.5
1
0
10000
20000
30000
40000
50000
60000

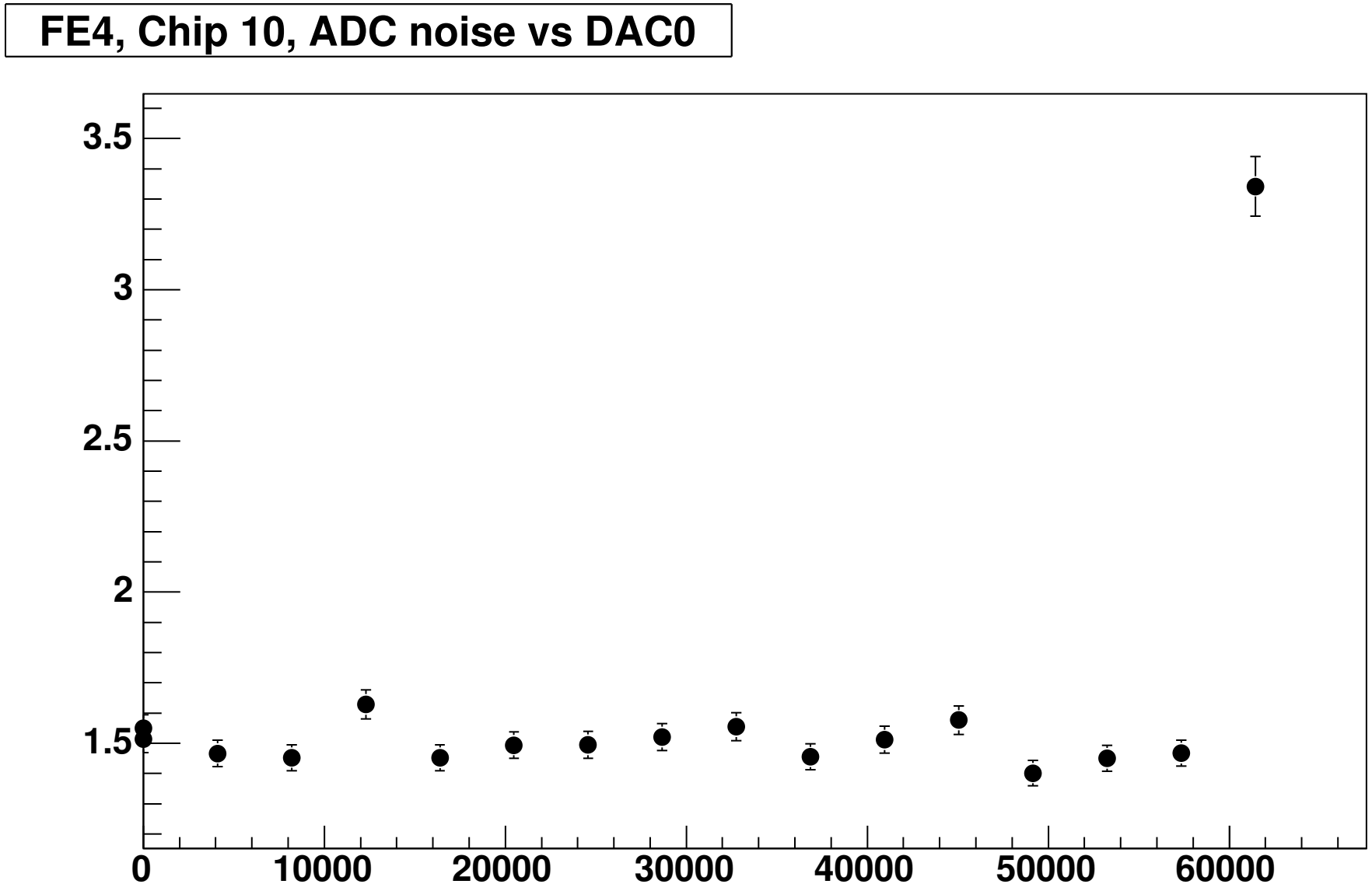

FE4, Chip 9, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

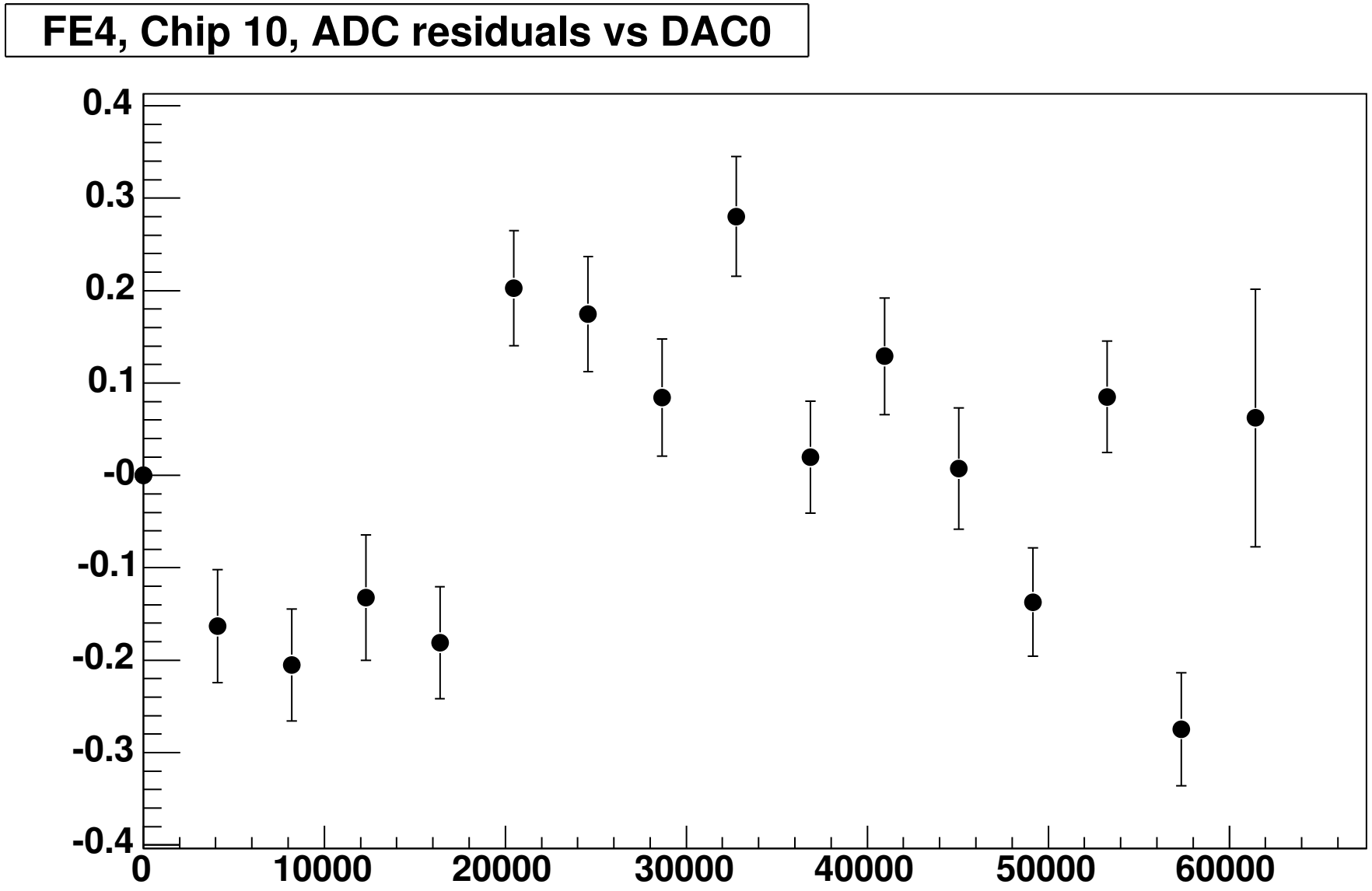

FE4, Chip 9, ADC mean vs DAC1
χ² / ndf 2080 / 11
p0 88.97 ± 0.04223
p1 0.45 ± 1.35e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

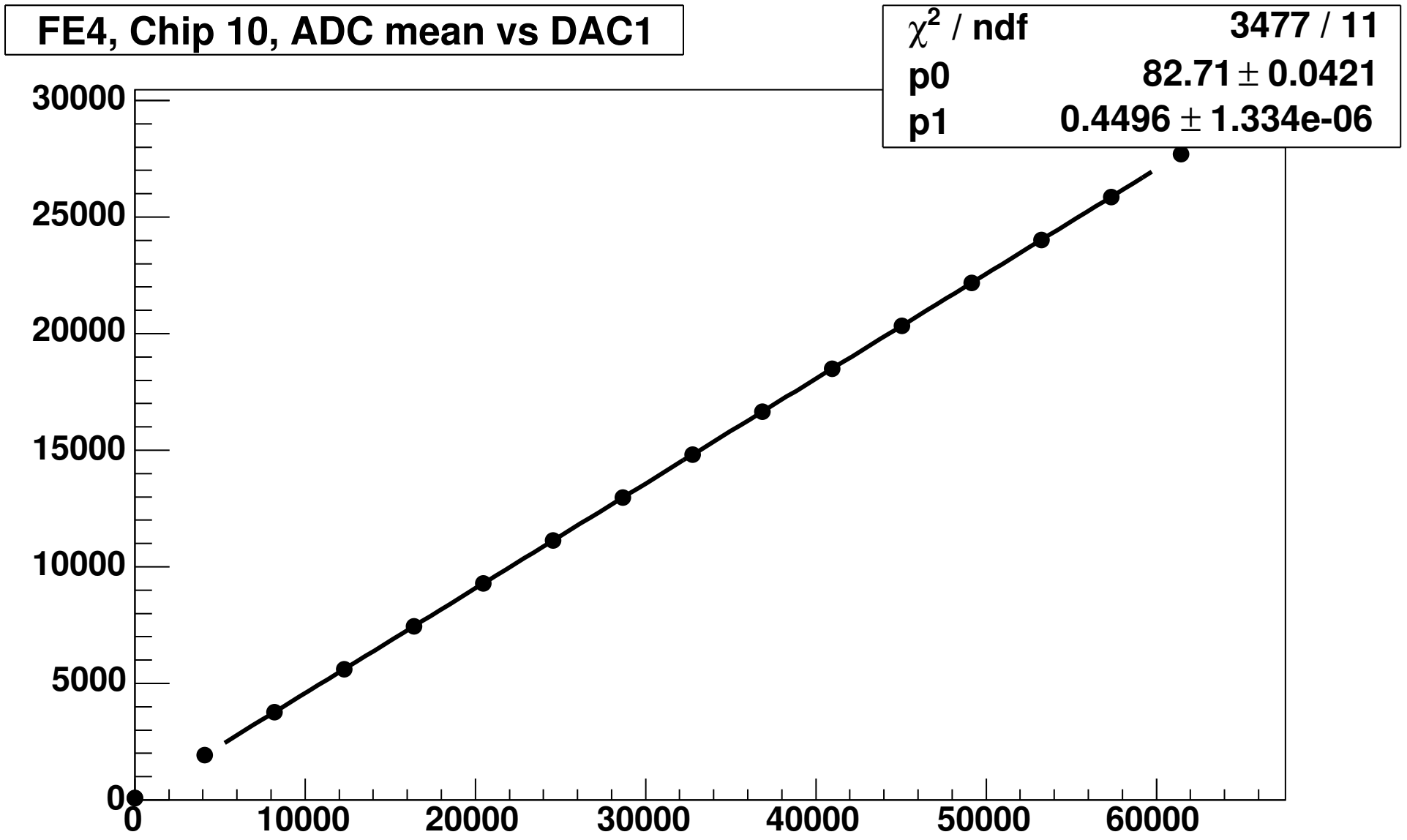

FE4, Chip 9, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

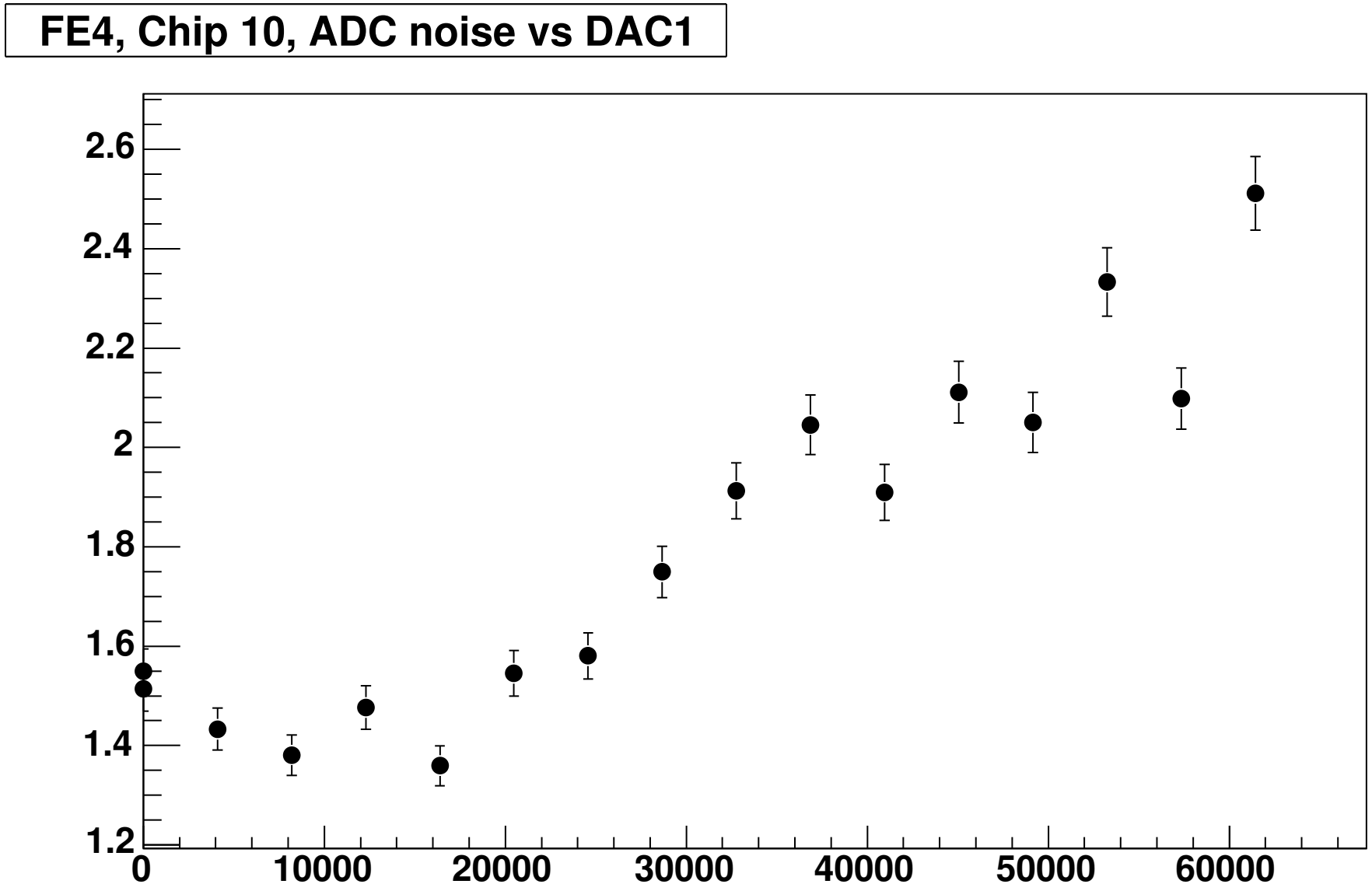

FE4, Chip 9, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

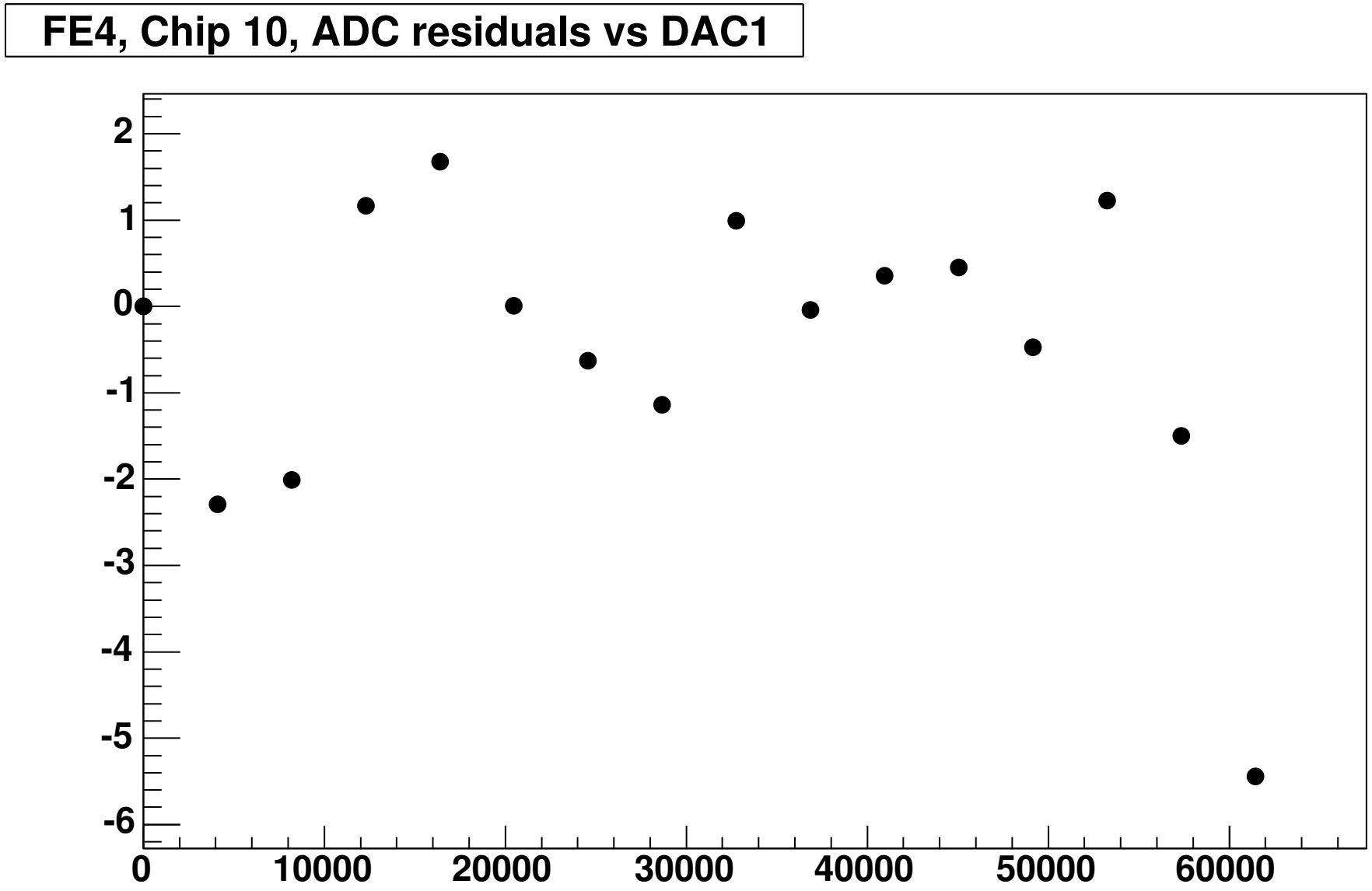

FE4, Chip 10, ADC mean vs DAC0
χ² / ndf 95.05 / 11
p0 79.5 ± 0.04081
p1 -6.322e-06 ± 1.117e-06
79.6
79.4
79.2
79
78.8
0
10000
20000
30000
40000
50000
60000

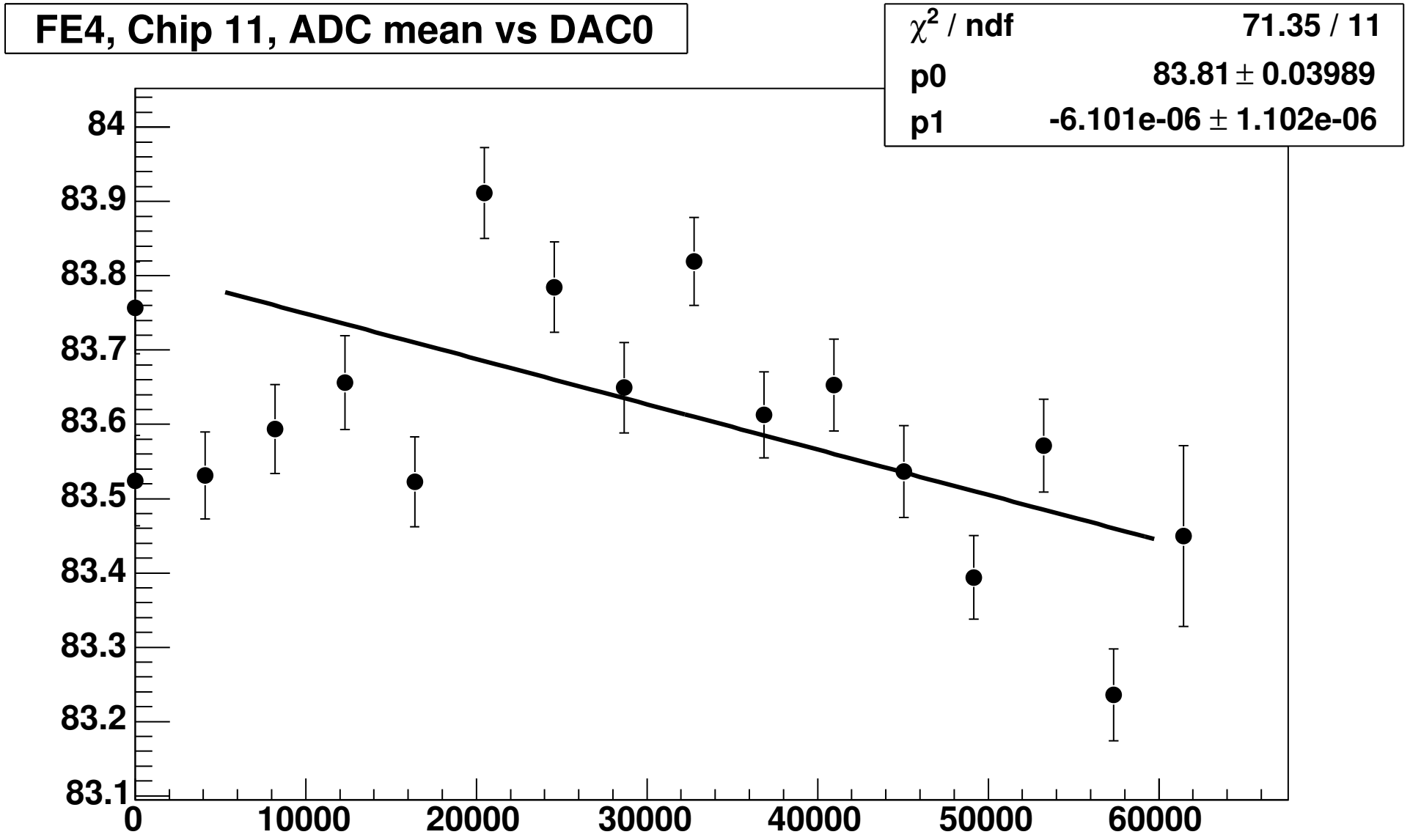

FE4, Chip 10, ADC noise vs DAC0
3.5
3
2.5
2
1.5
0
10000
20000
30000
40000
50000
60000

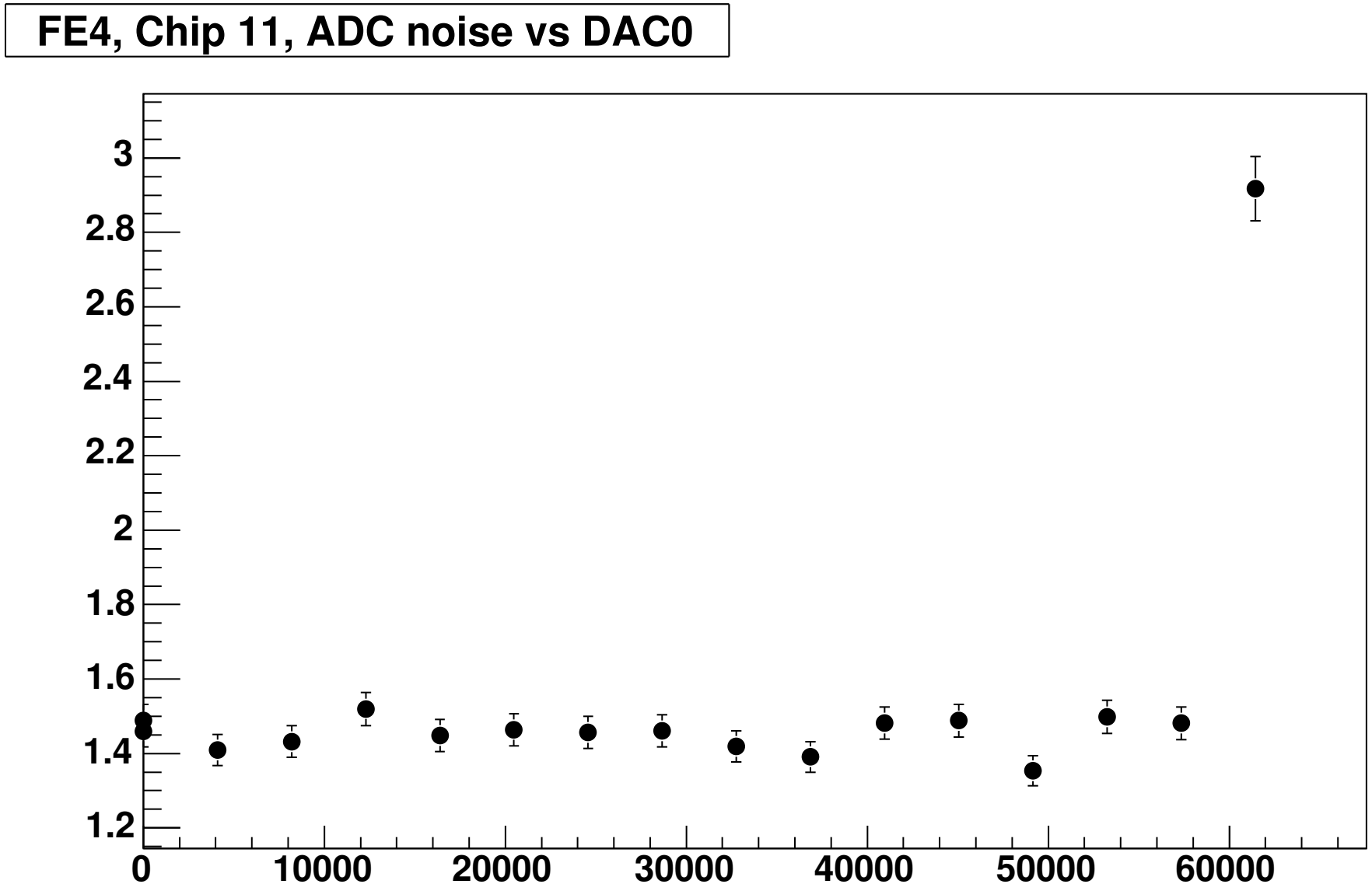

FE4, Chip 10, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

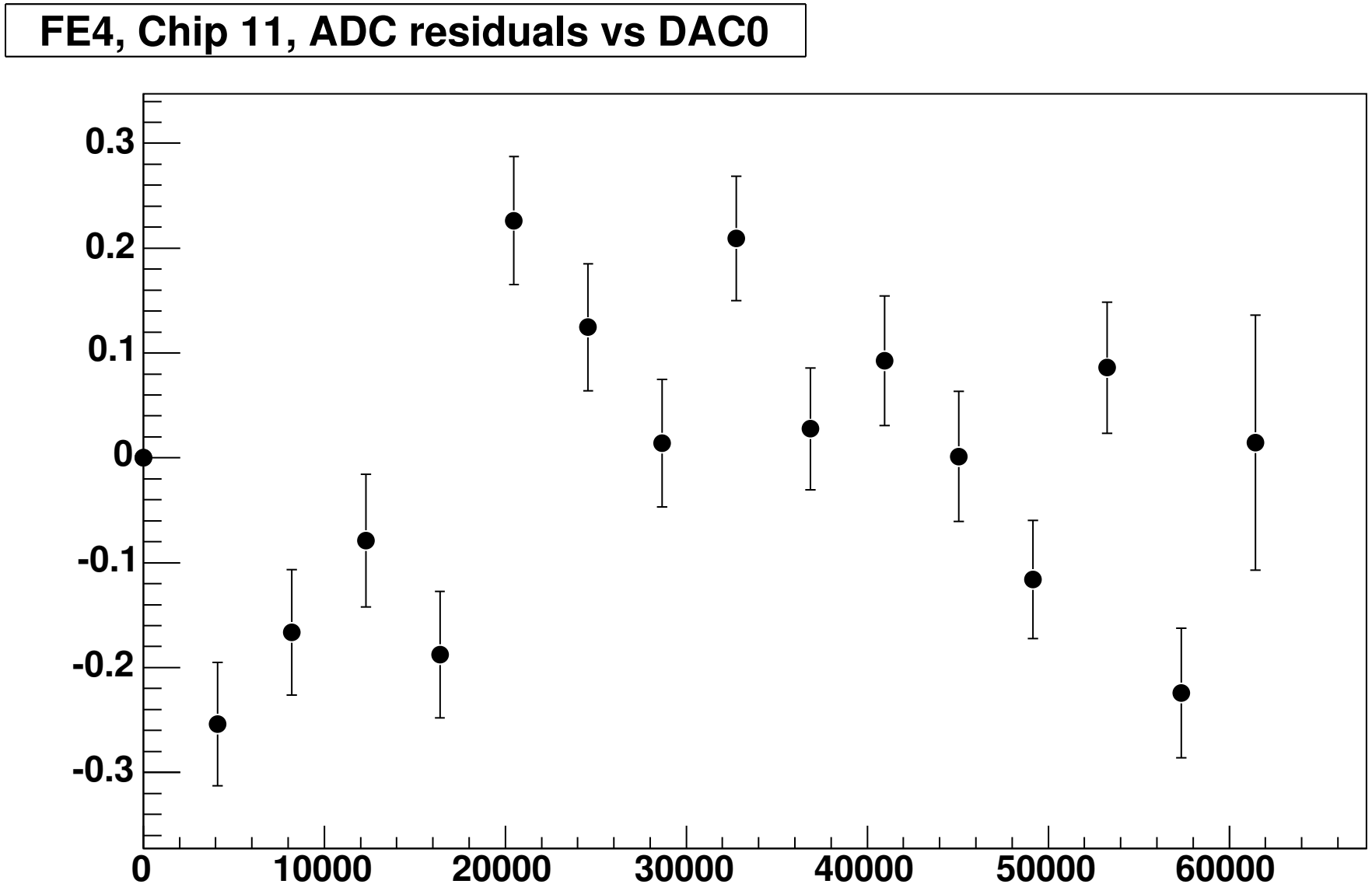

FE4, Chip 10, ADC mean vs DAC1
χ² / ndf 3477 / 11
p0 82.71 ± 0.0421
p1 0.4496 ± 1.334e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

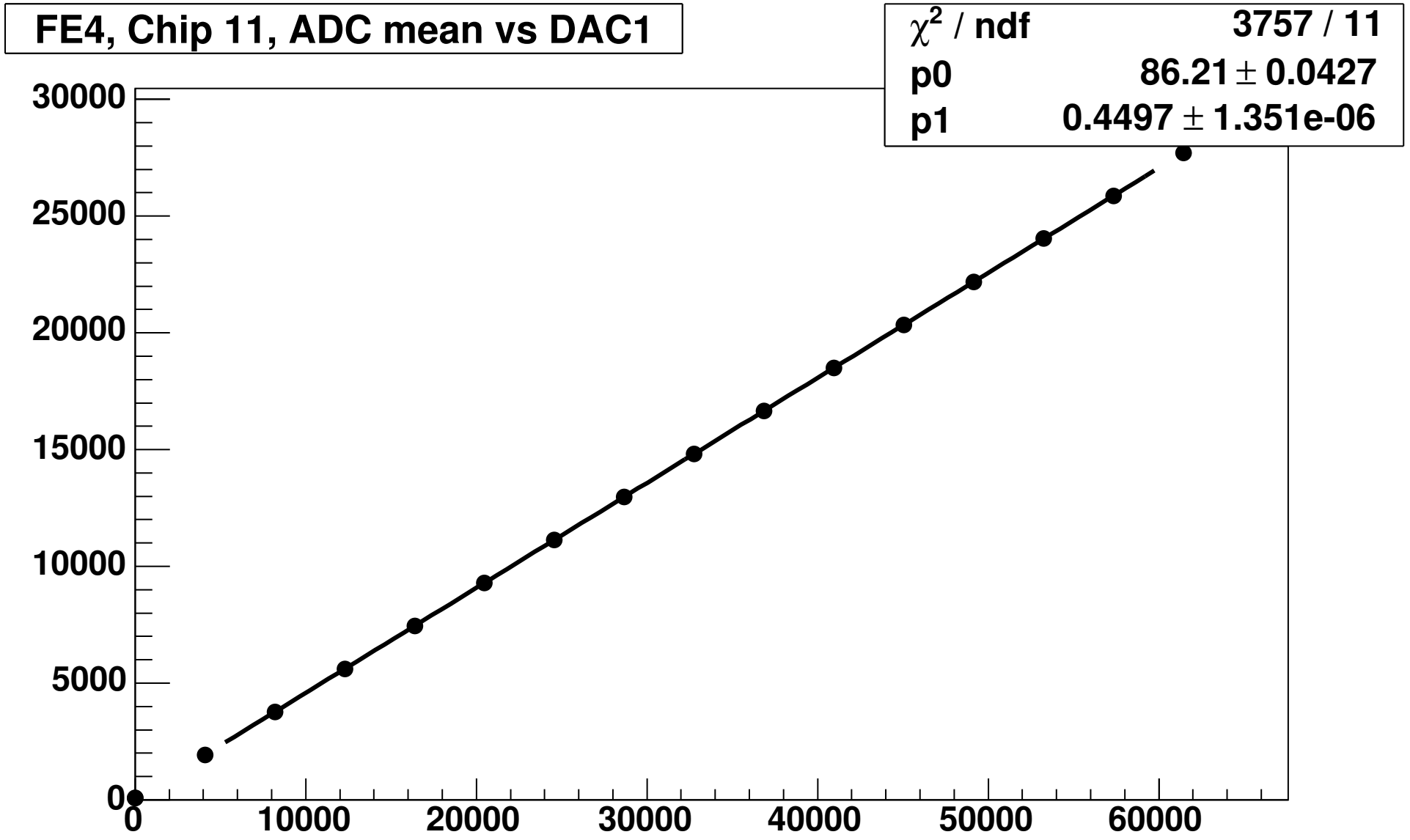

FE4, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

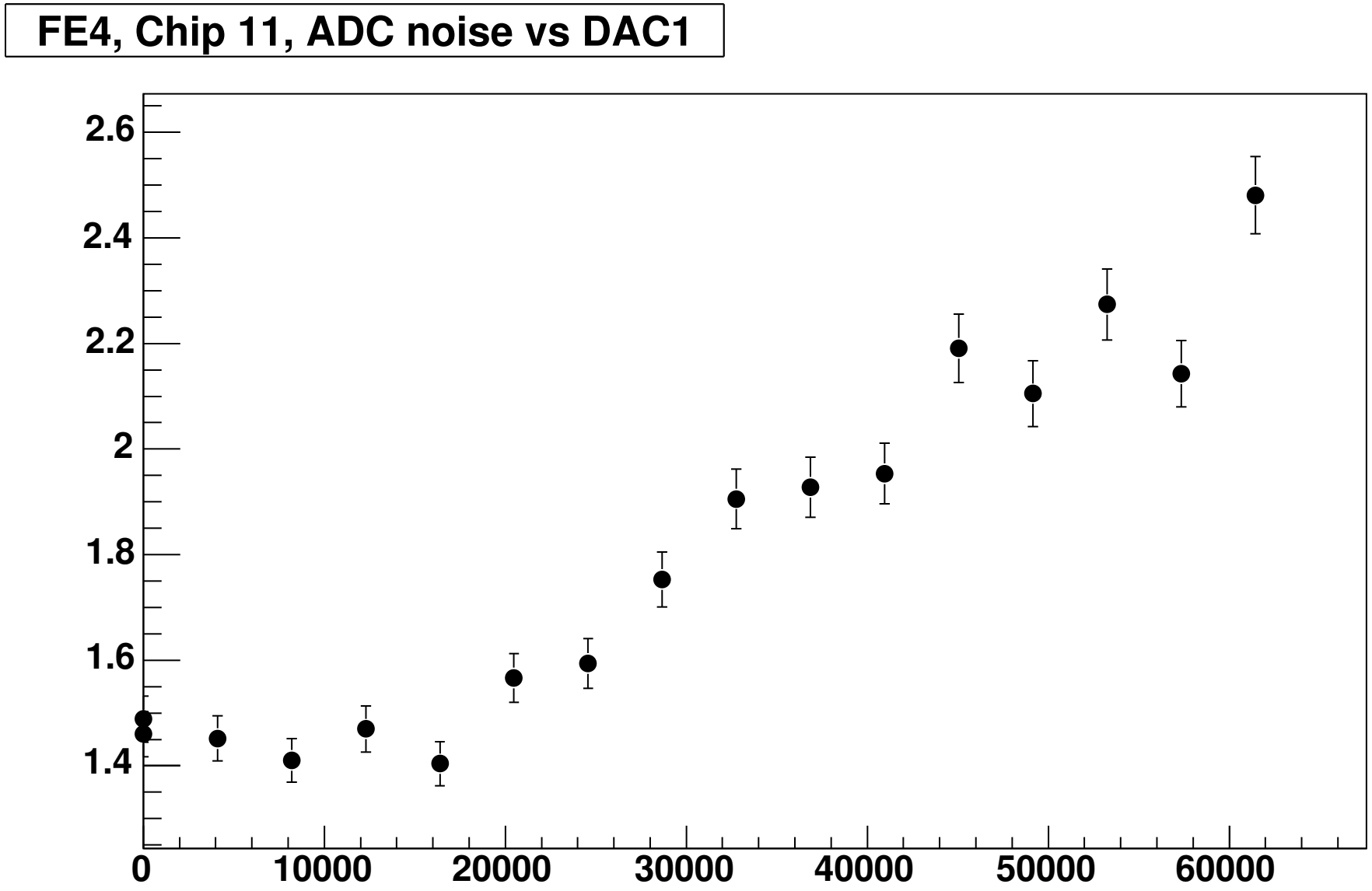

FE4, Chip 10, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

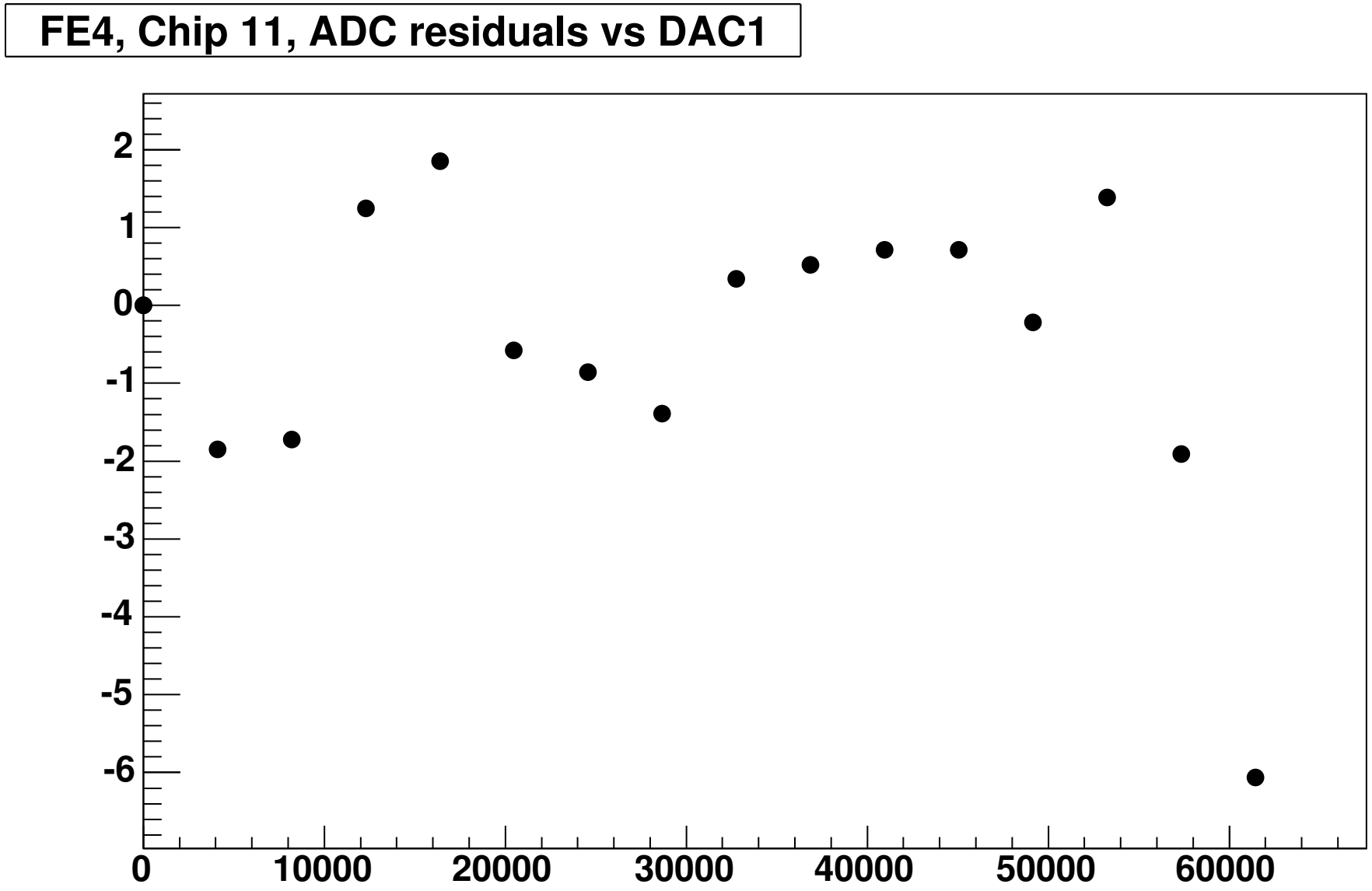

FE4, Chip 11, ADC mean vs DAC0
χ² / ndf 71.35 / 11
p0 83.81 ± 0.03989
p1 -6.101e-06 ± 1.102e-06
84
83.9
83.8
83.7
83.6
83.5
83.4
83.3
83.2
83.1
0
10000
20000
30000
40000
50000
60000

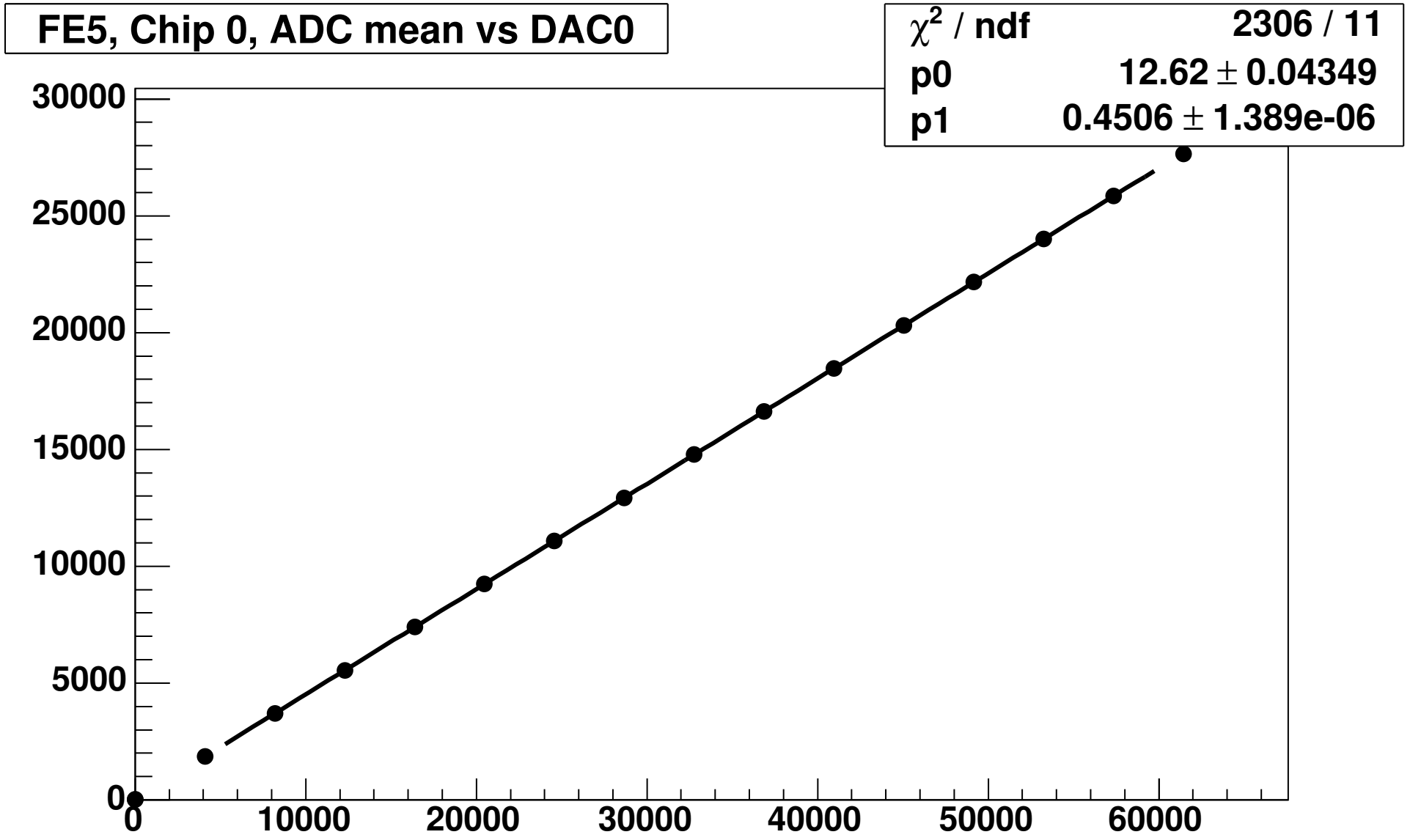

FE4, Chip 11, ADC noise vs DAC0
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

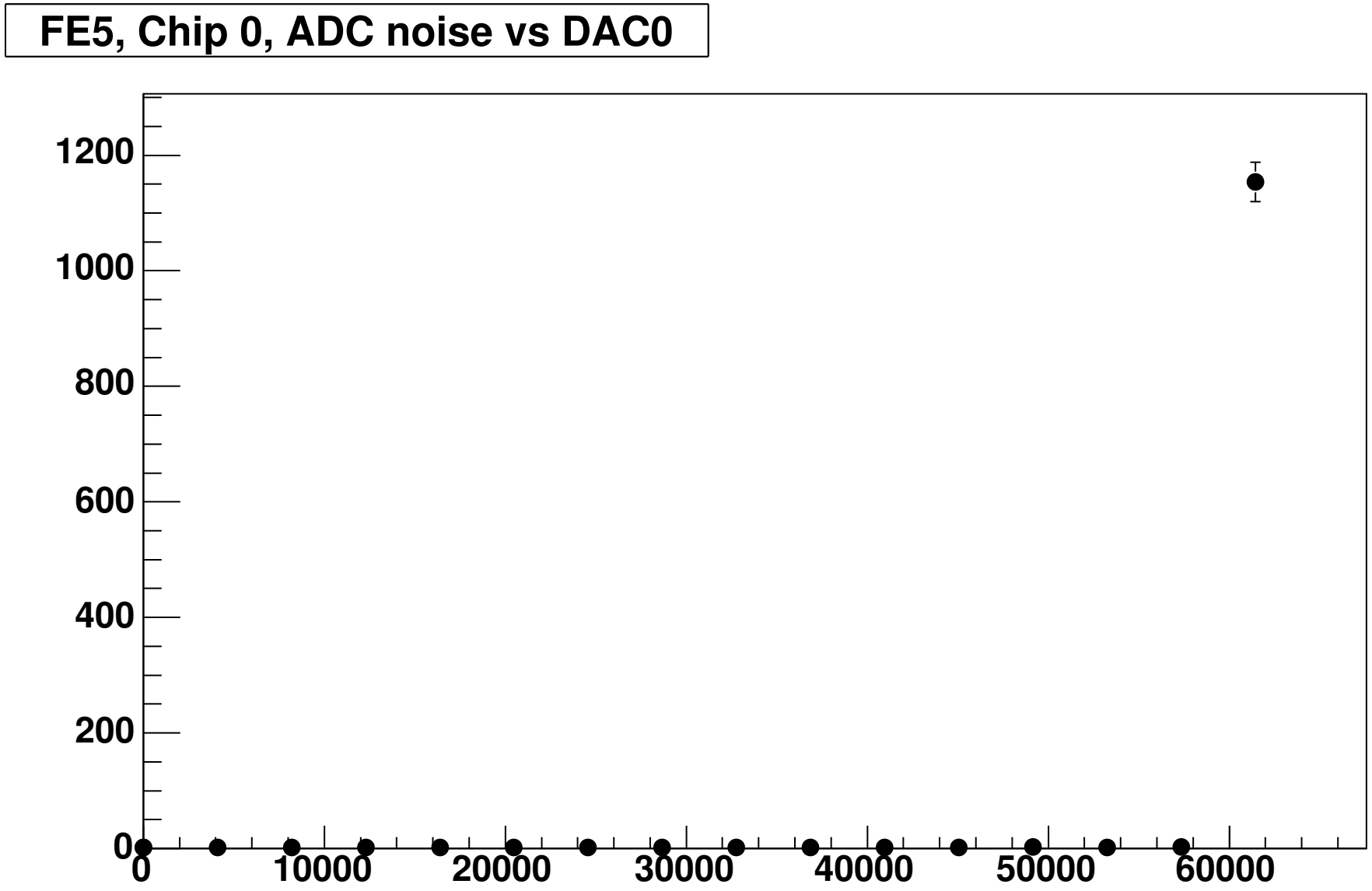

FE4, Chip 11, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

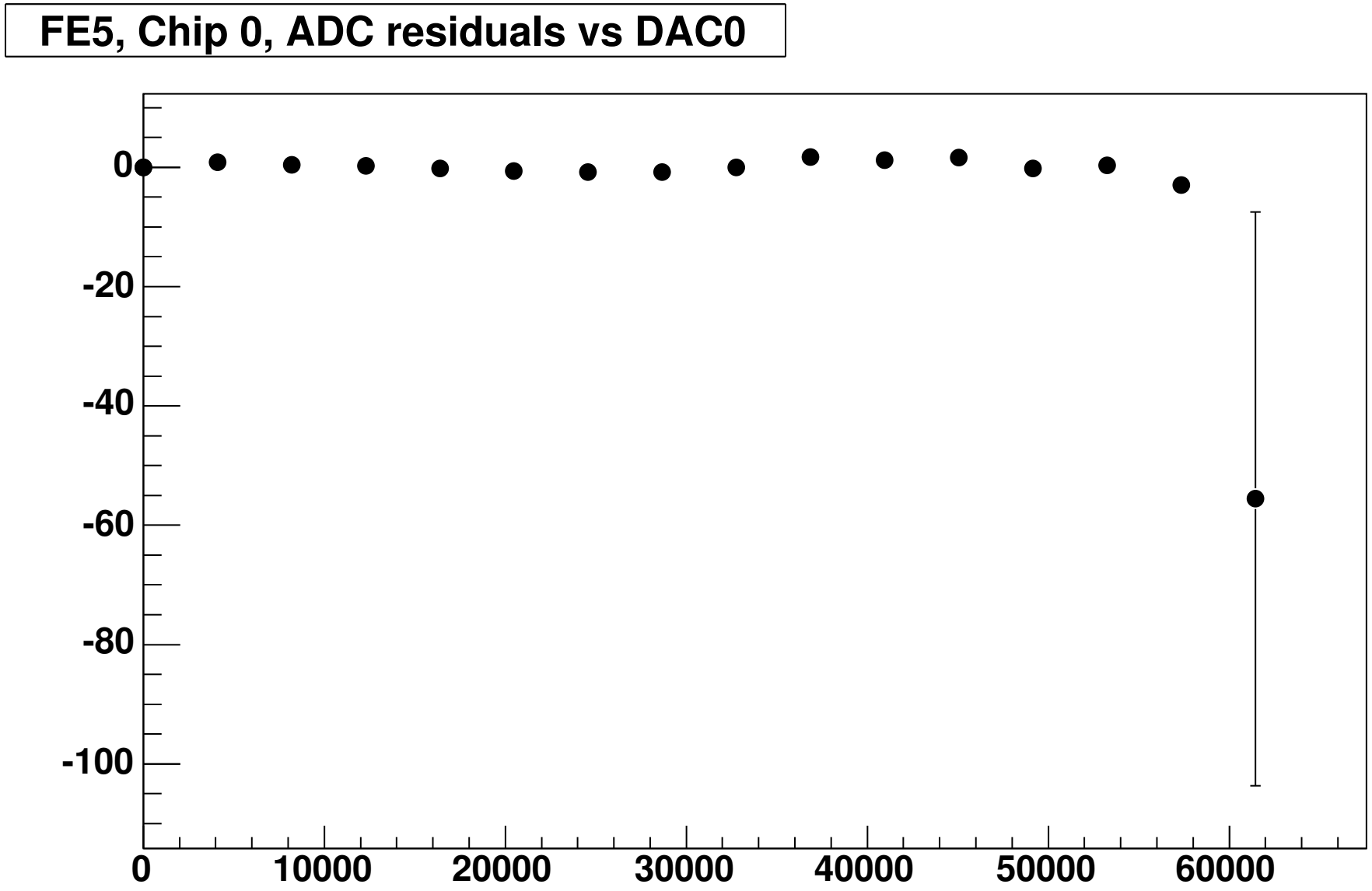

FE4, Chip 11, ADC mean vs DAC1
χ² / ndf 3757 / 11
p0 86.21 ± 0.0427
p1 0.4497 ± 1.351e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

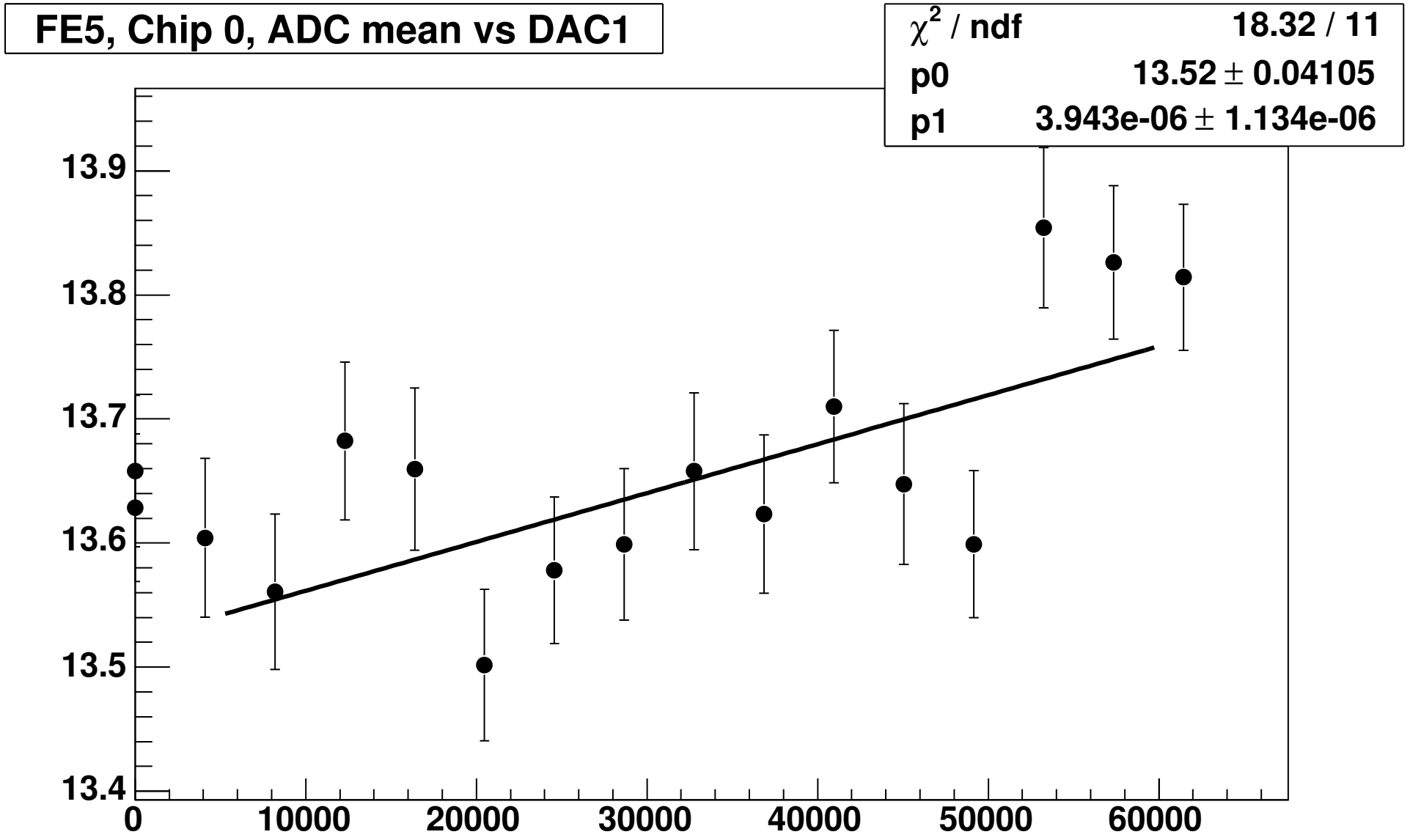

FE4, Chip 11, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

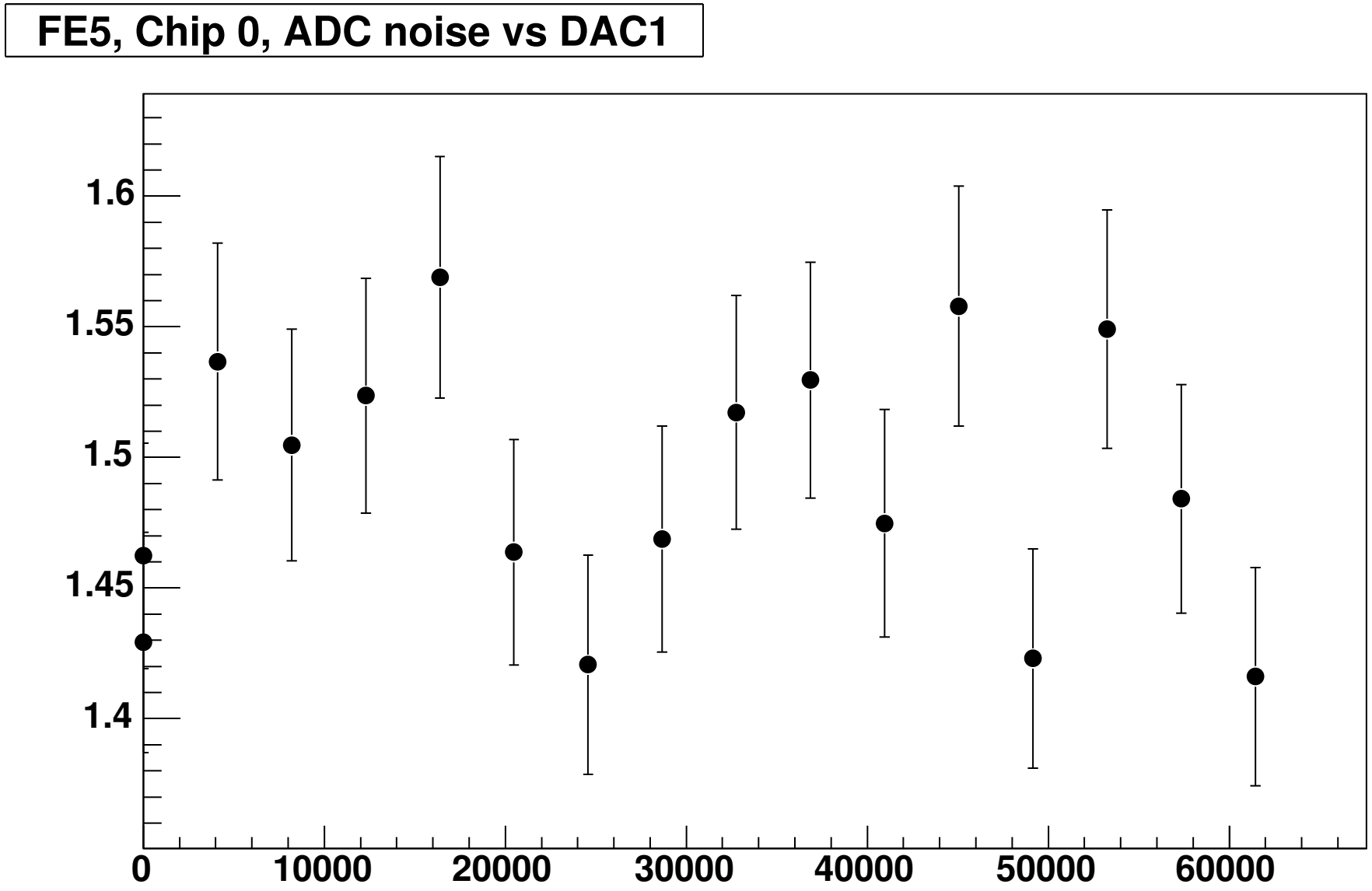

FE4, Chip 11, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

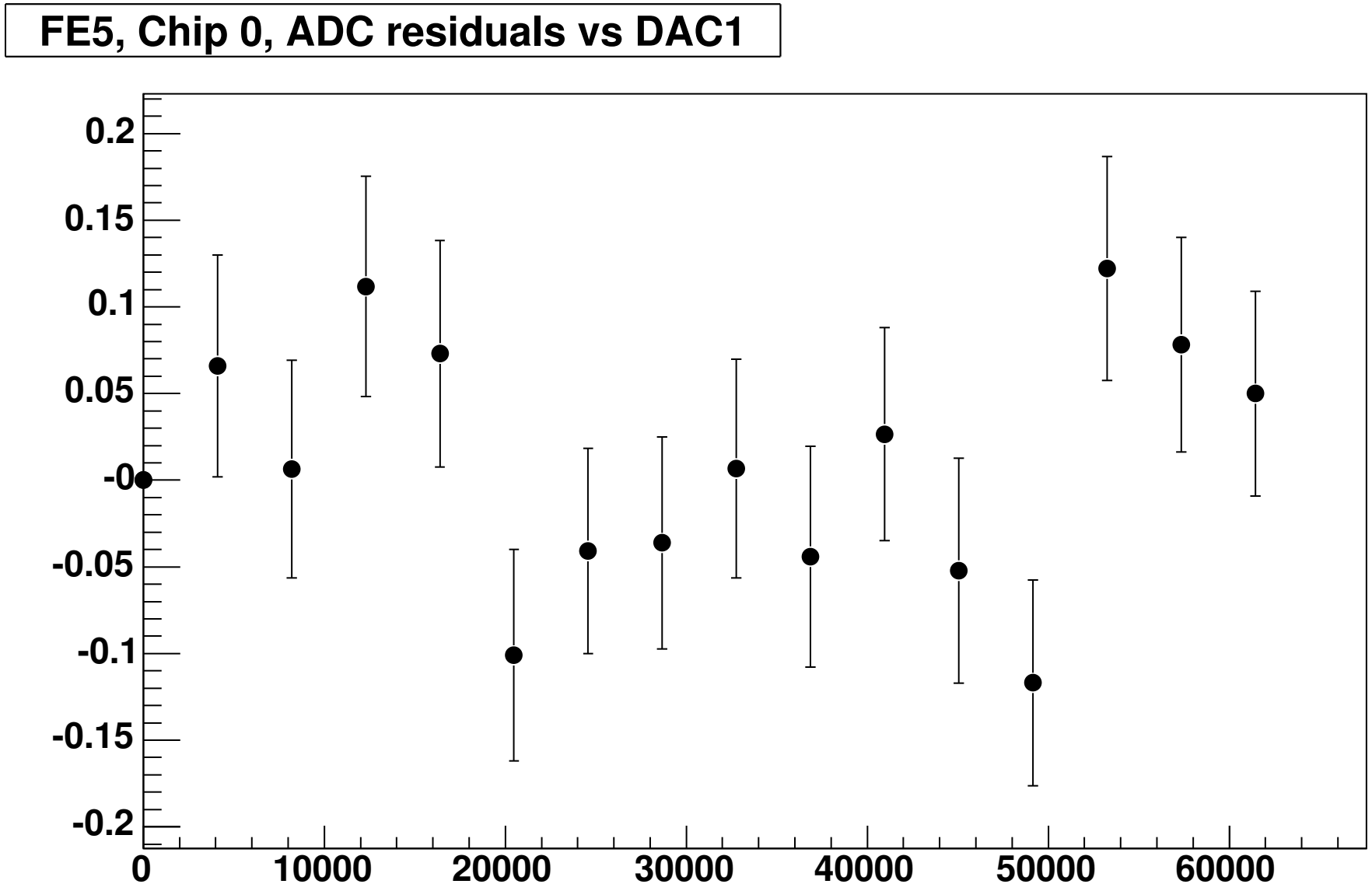

FE5, Chip 0, ADC mean vs DAC0
χ² / ndf 2306 / 11
p0 12.62 ± 0.04349
p1 0.4506 ± 1.389e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

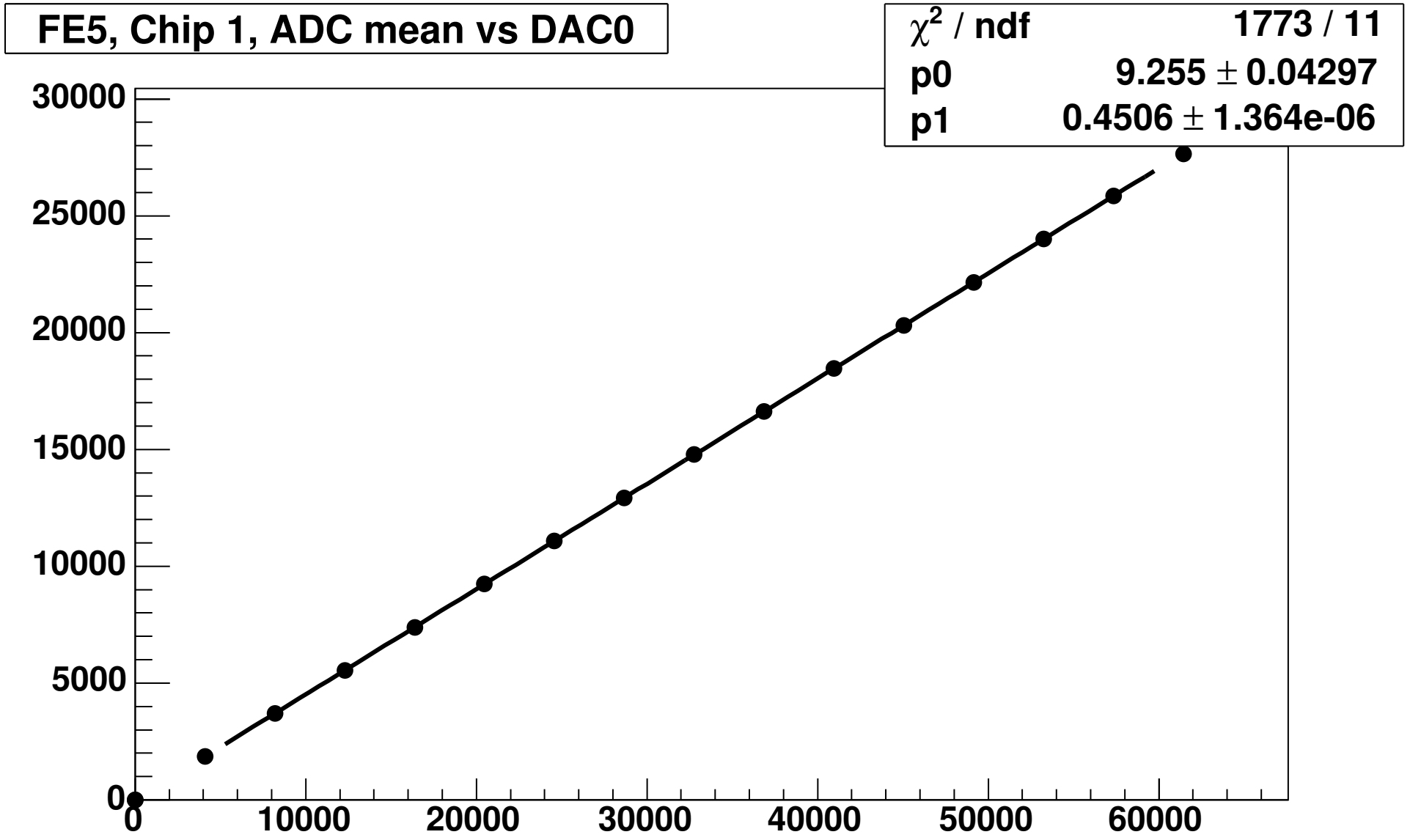

FE5, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

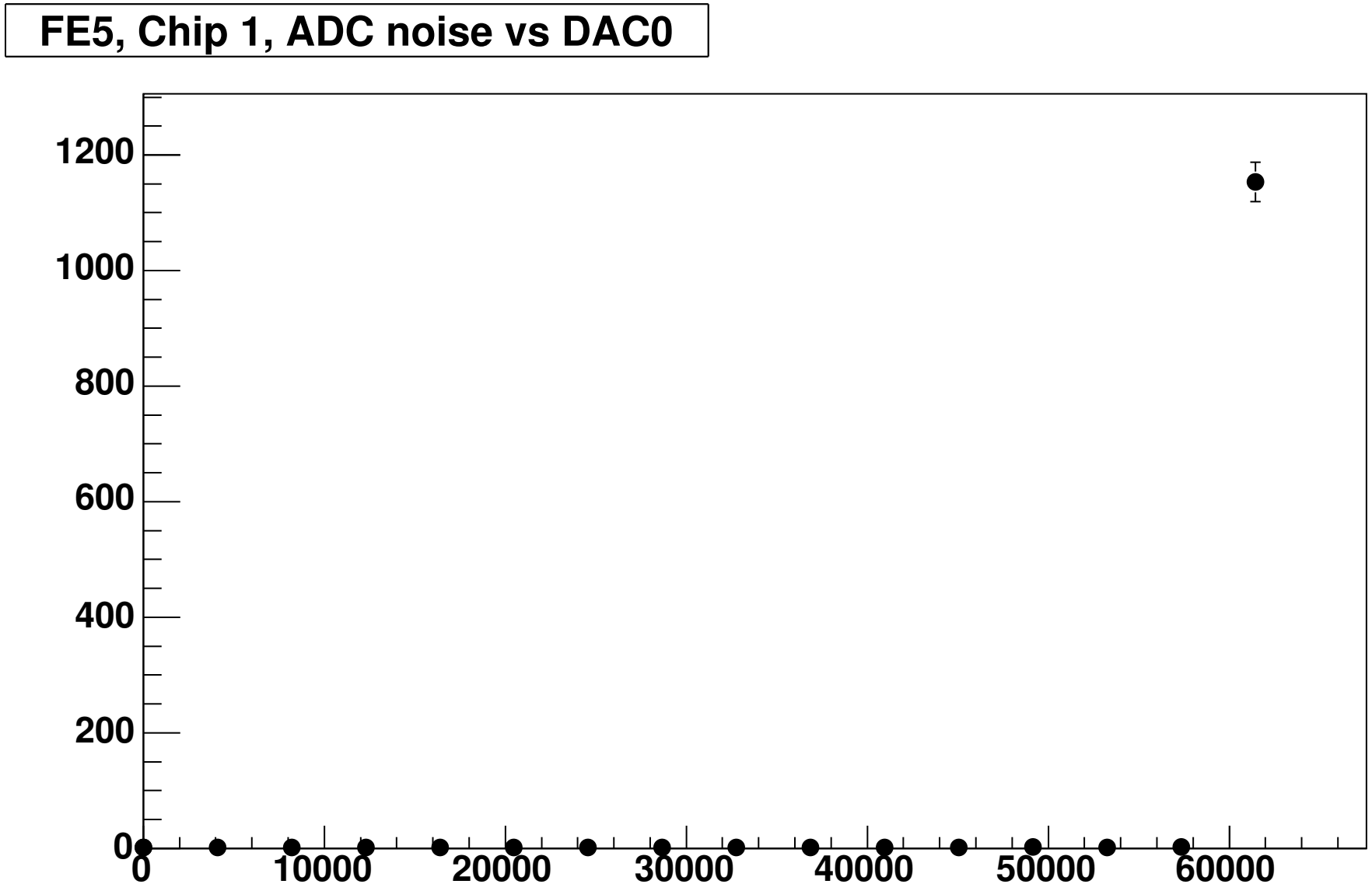

FE5, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

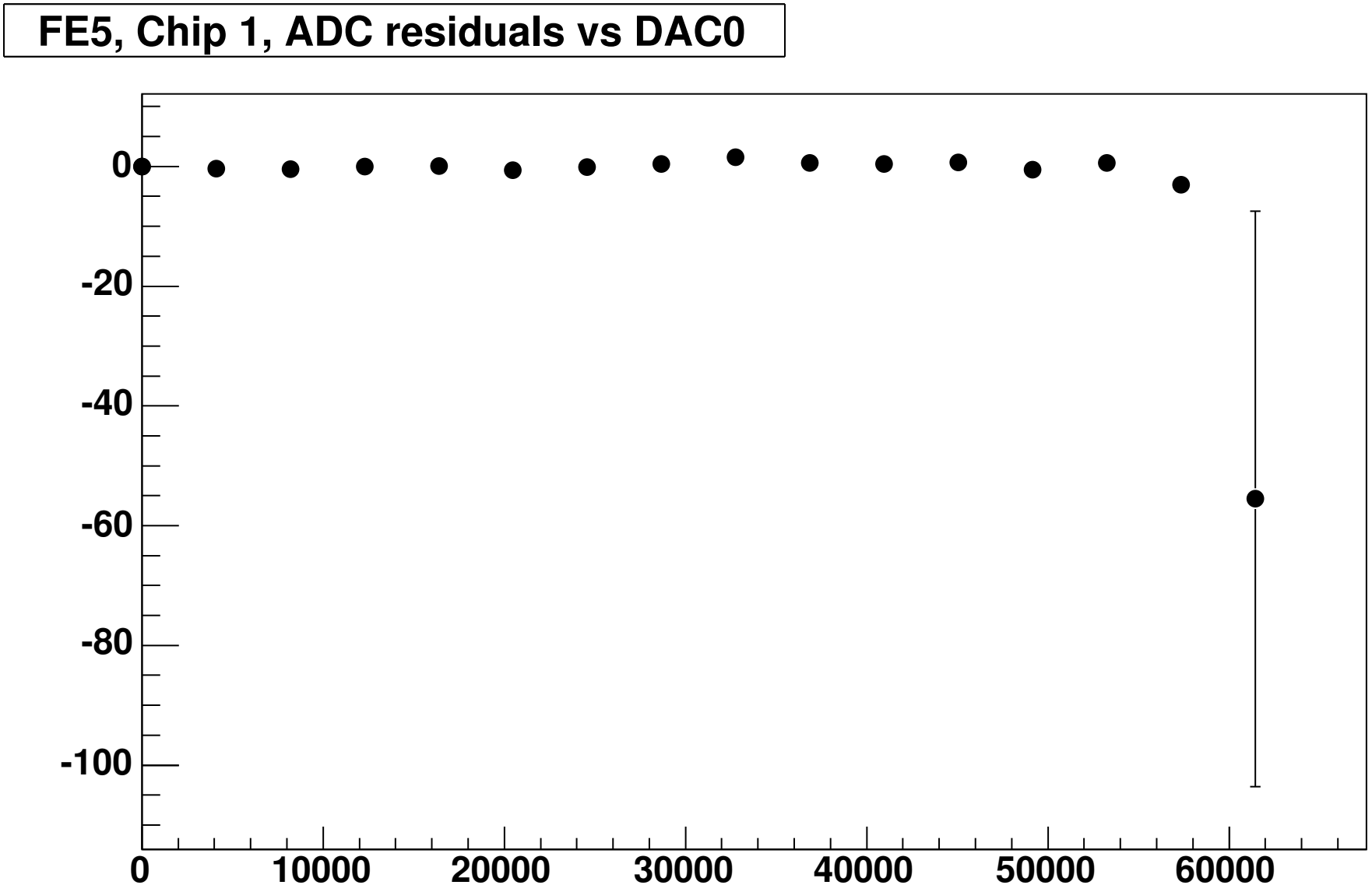

FE5, Chip 0, ADC mean vs DAC1
χ² / ndf 18.32 / 11
p0 13.52 ± 0.04105
p1 3.943e-06 ± 1.134e-06
13.9
13.8
13.7
13.6
13.5
13.4
0
10000
20000
30000
40000
50000
60000

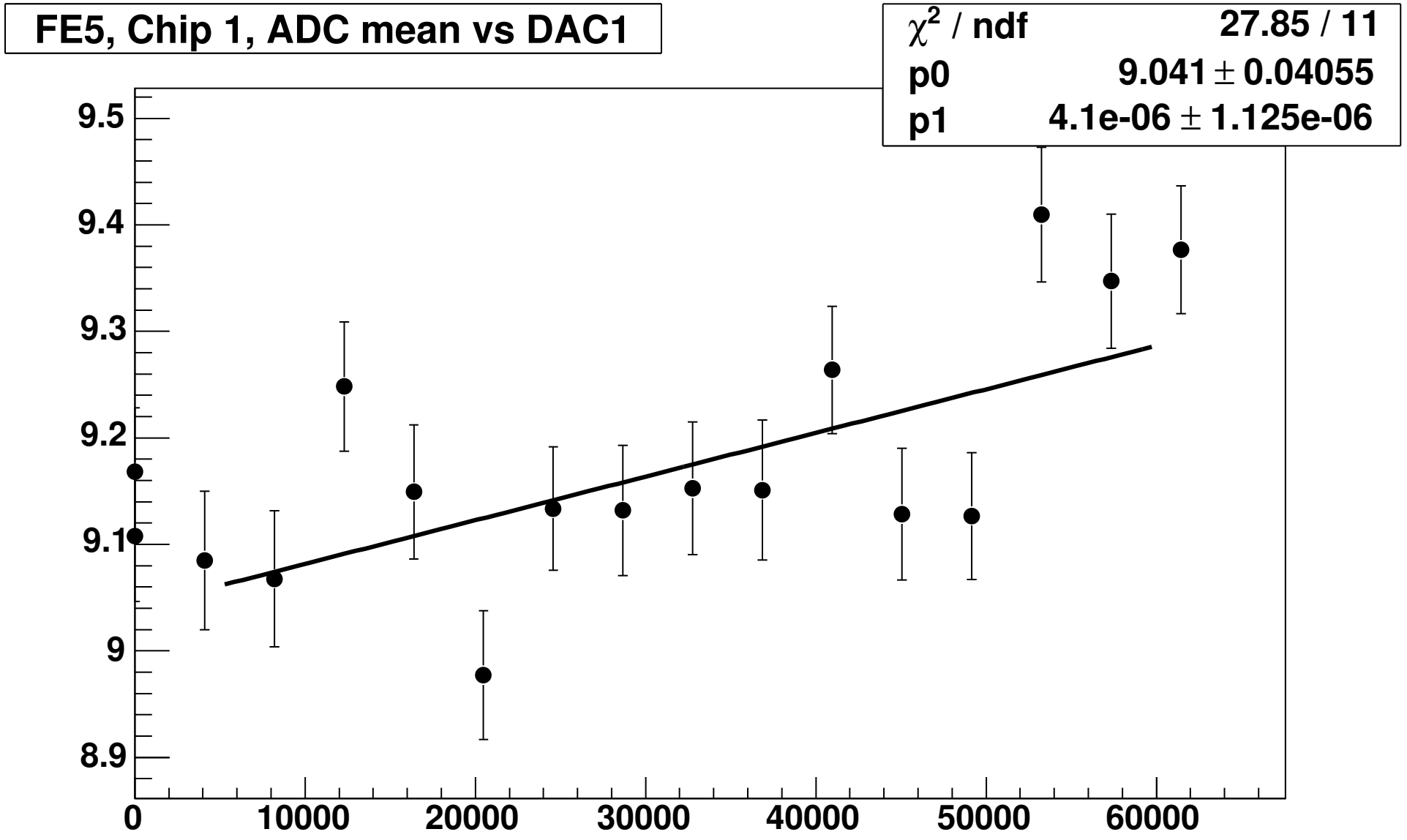

FE5, Chip 0, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

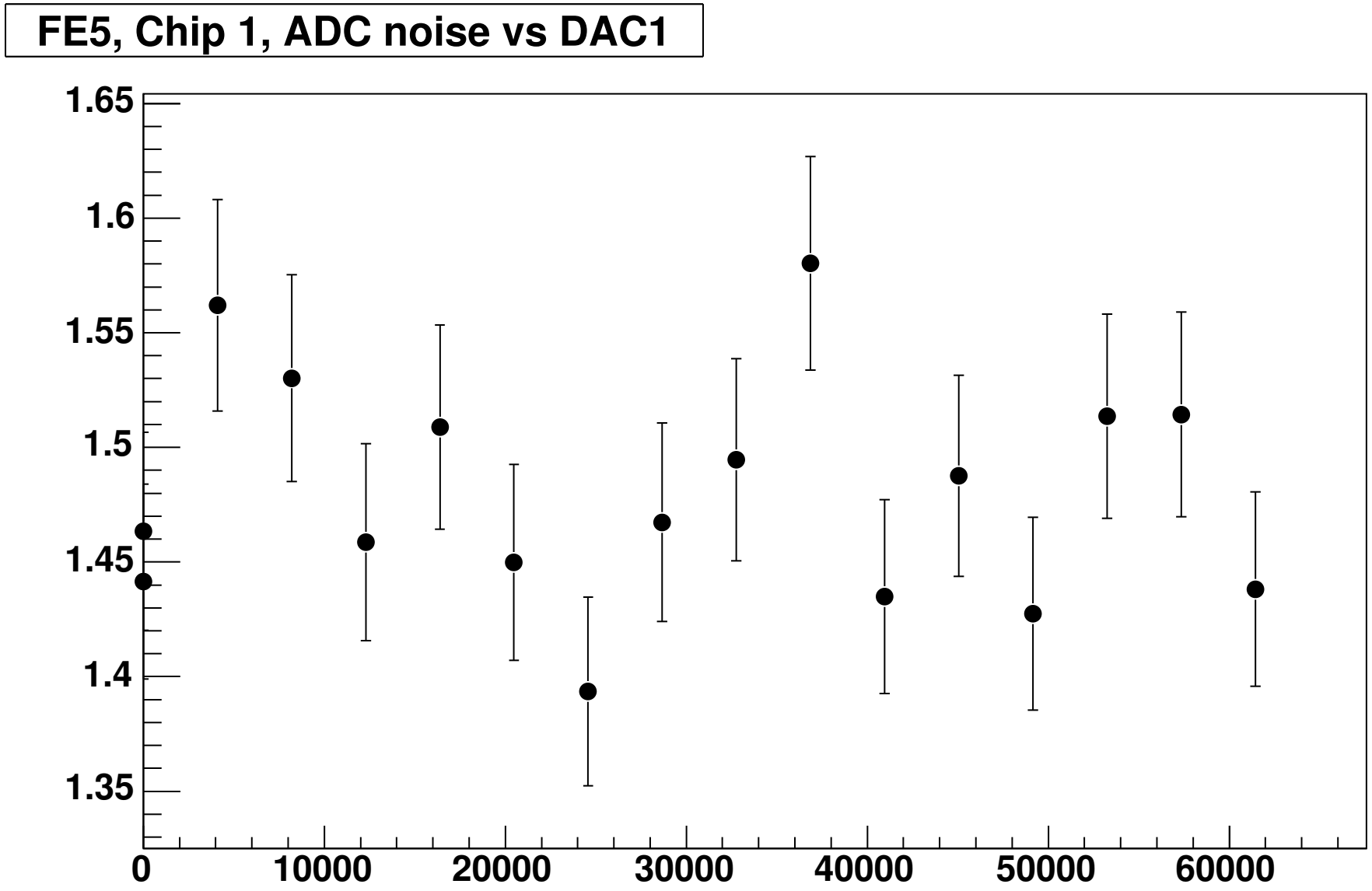

FE5, Chip 0, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

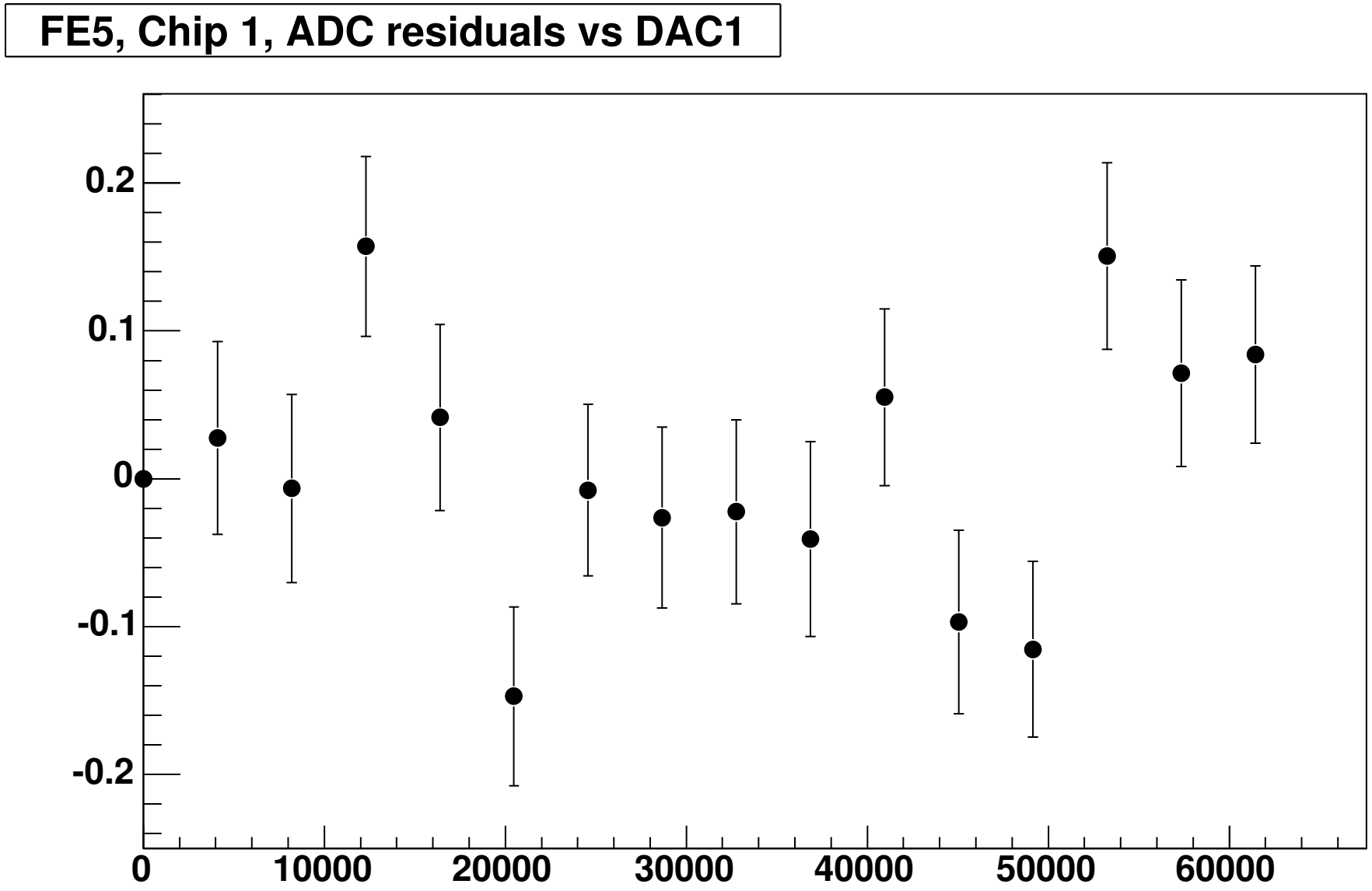

FE5, Chip 1, ADC mean vs DAC0
χ² / ndf 1773 / 11
p0 9.255 ± 0.04297
p1 0.4506 ± 1.364e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

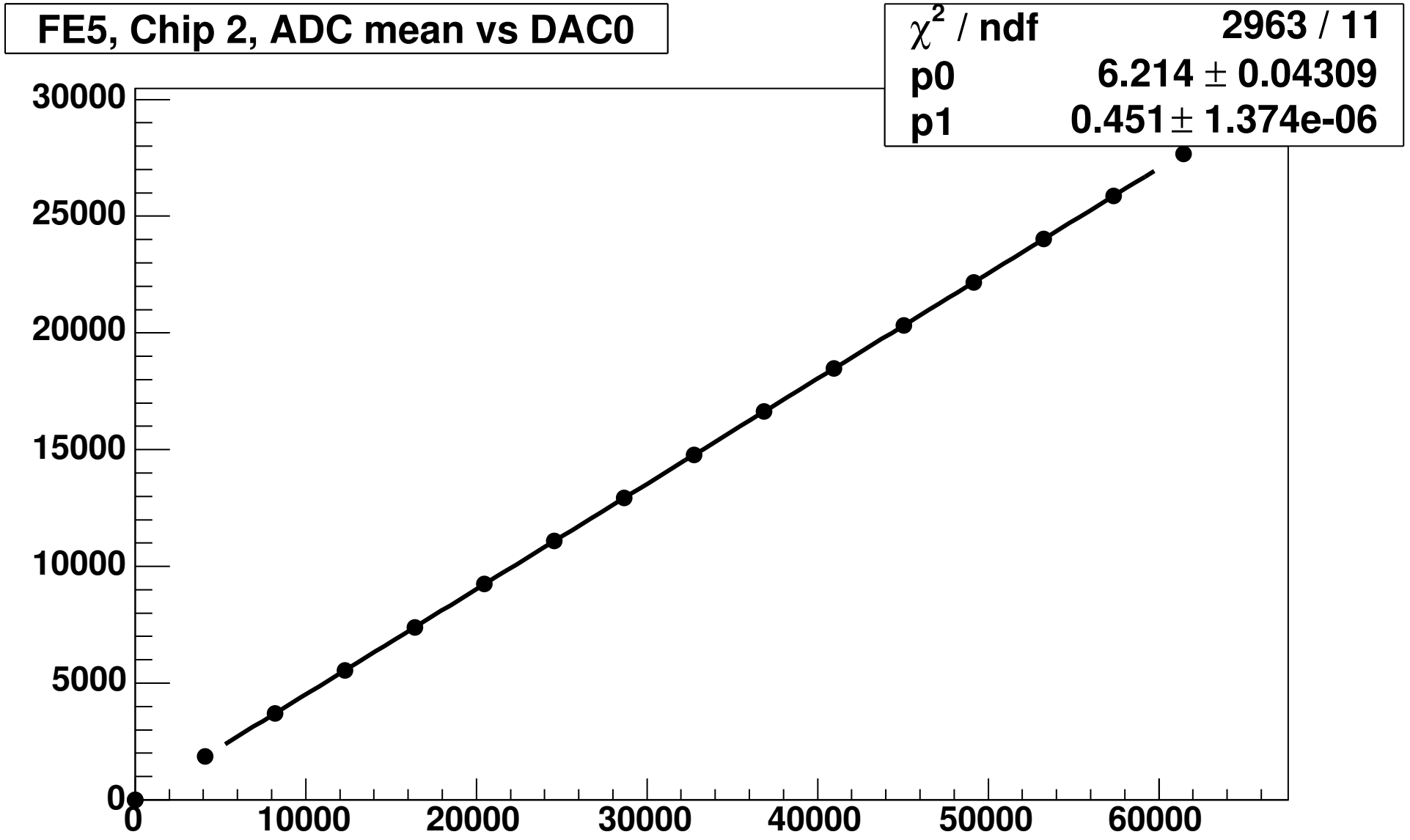

FE5, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

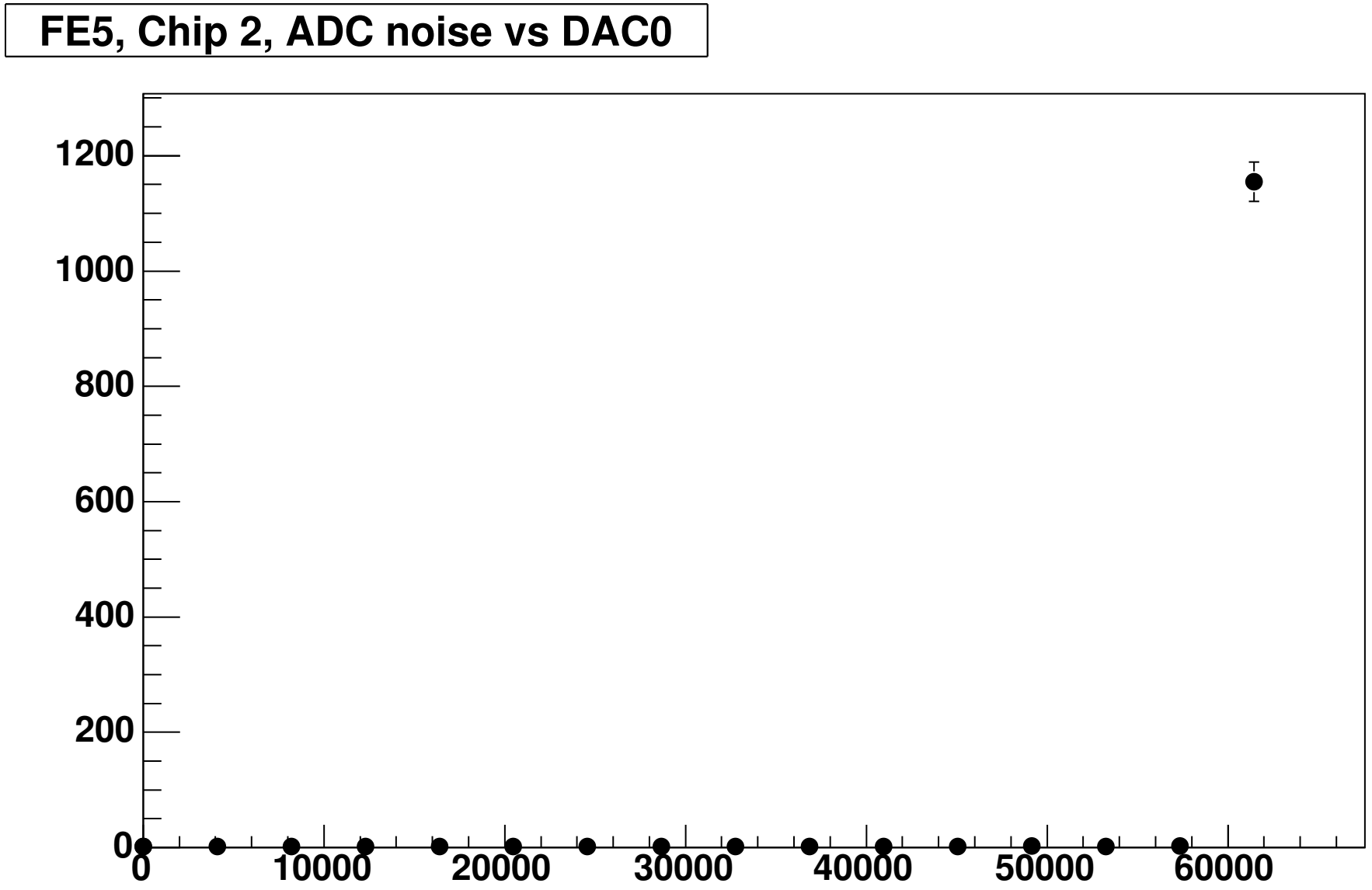

FE5, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

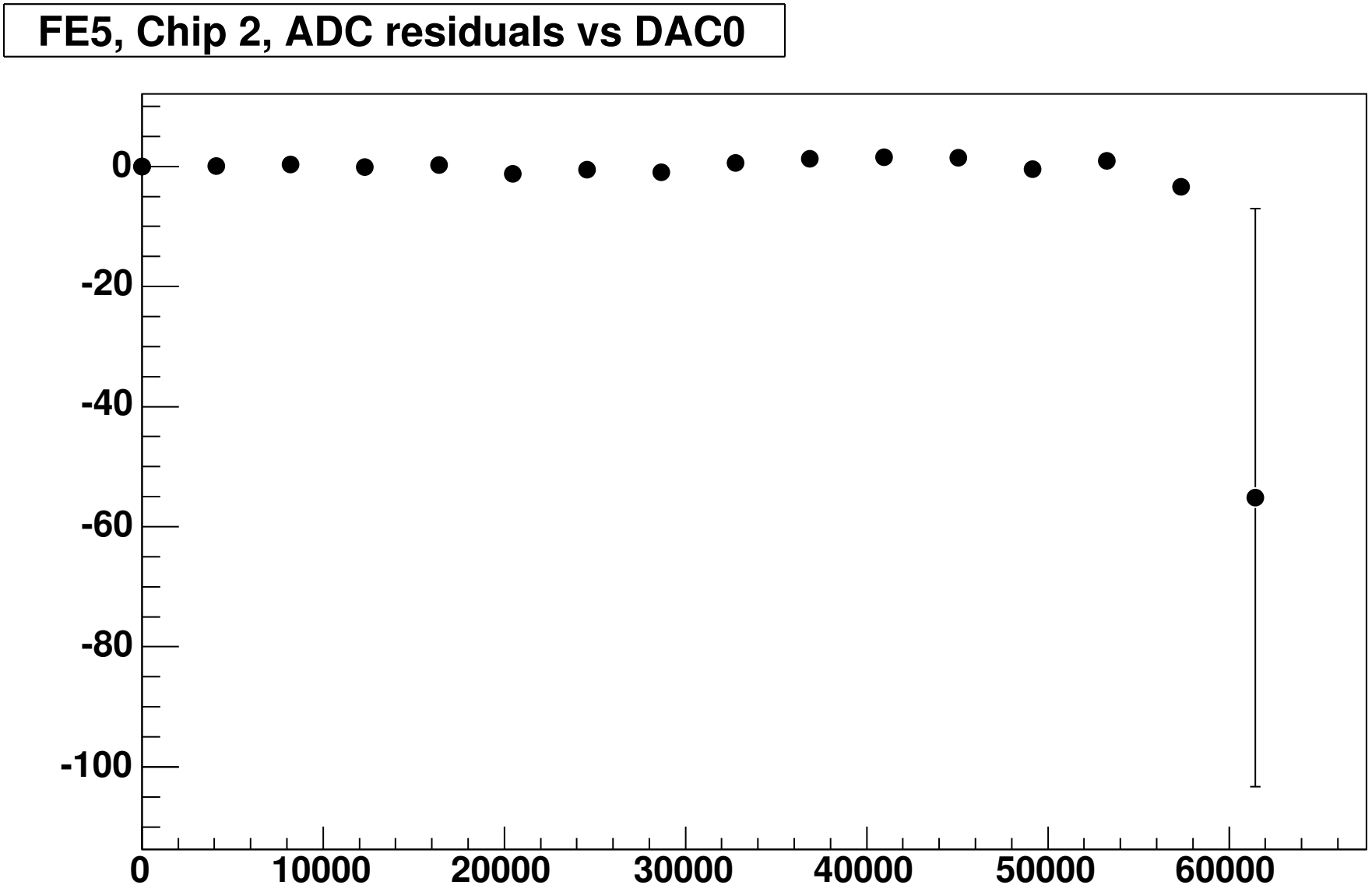

FE5, Chip 1, ADC mean vs DAC1
χ² / ndf 27.85 / 11
p0 9.041 ± 0.04055
p1 4.1e-06 ± 1.125e-06
9.5
9.4
9.3
9.2
9.1
9
8.9
0
10000
20000
30000
40000
50000
60000

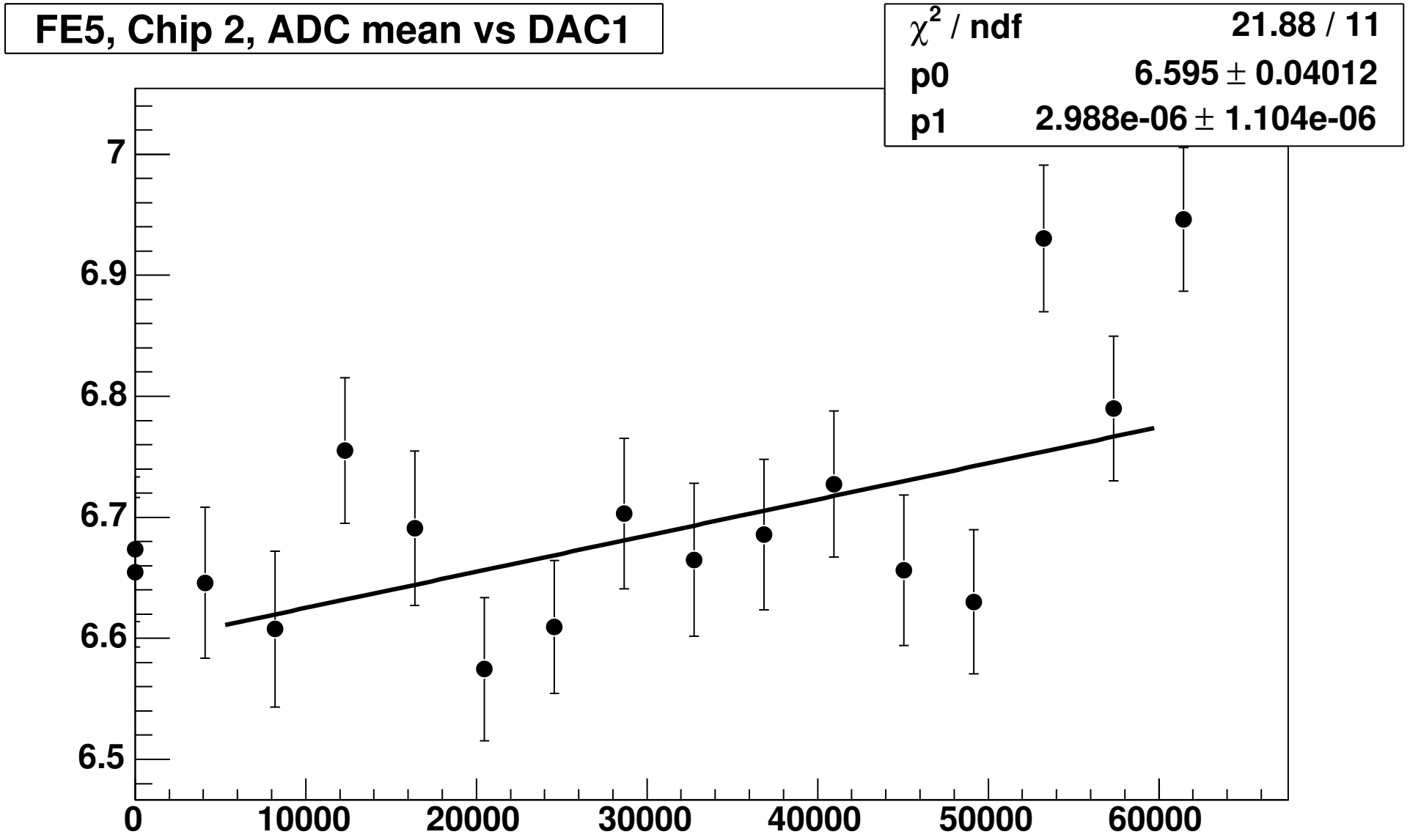

FE5, Chip 1, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

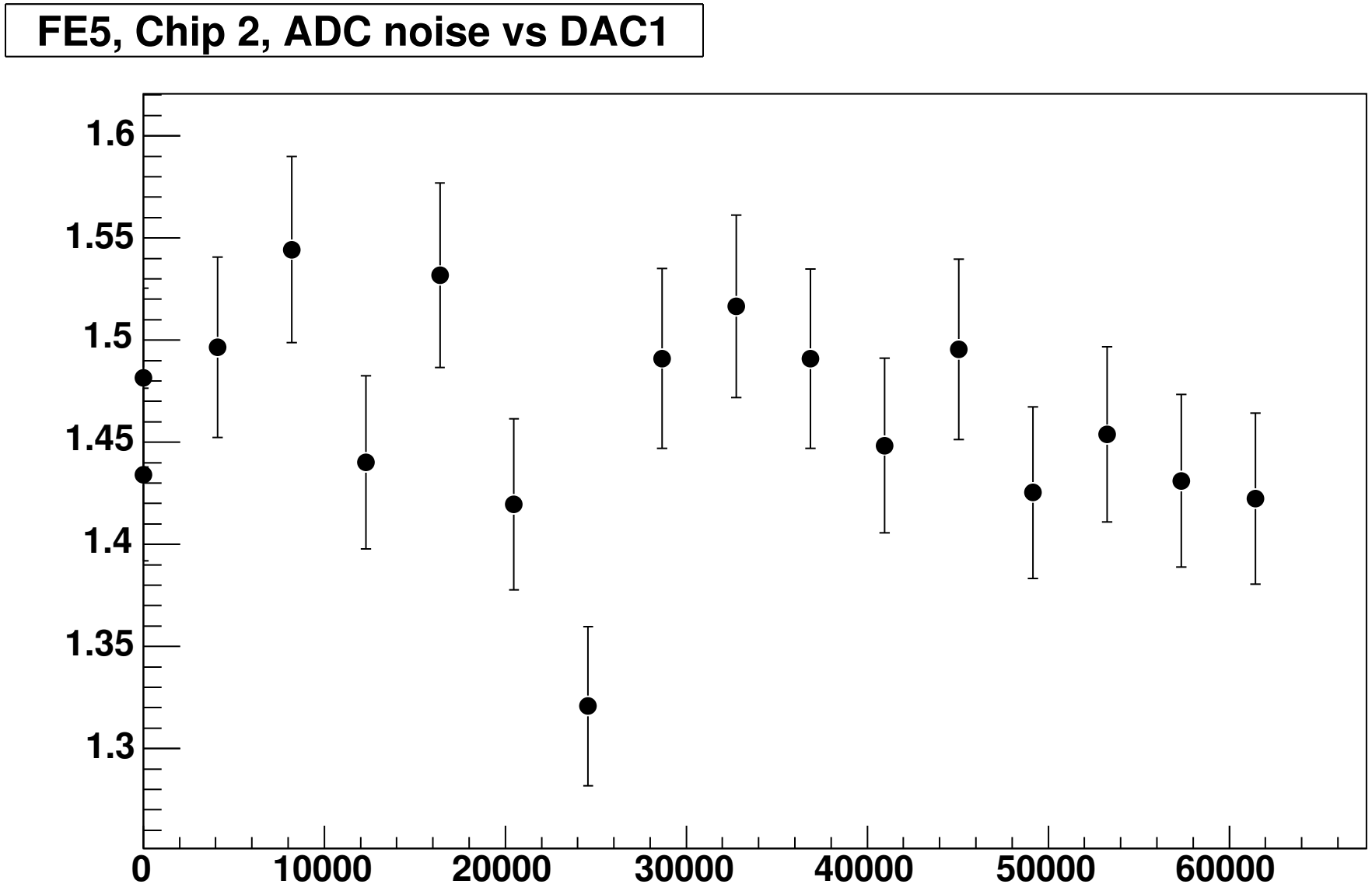

FE5, Chip 1, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

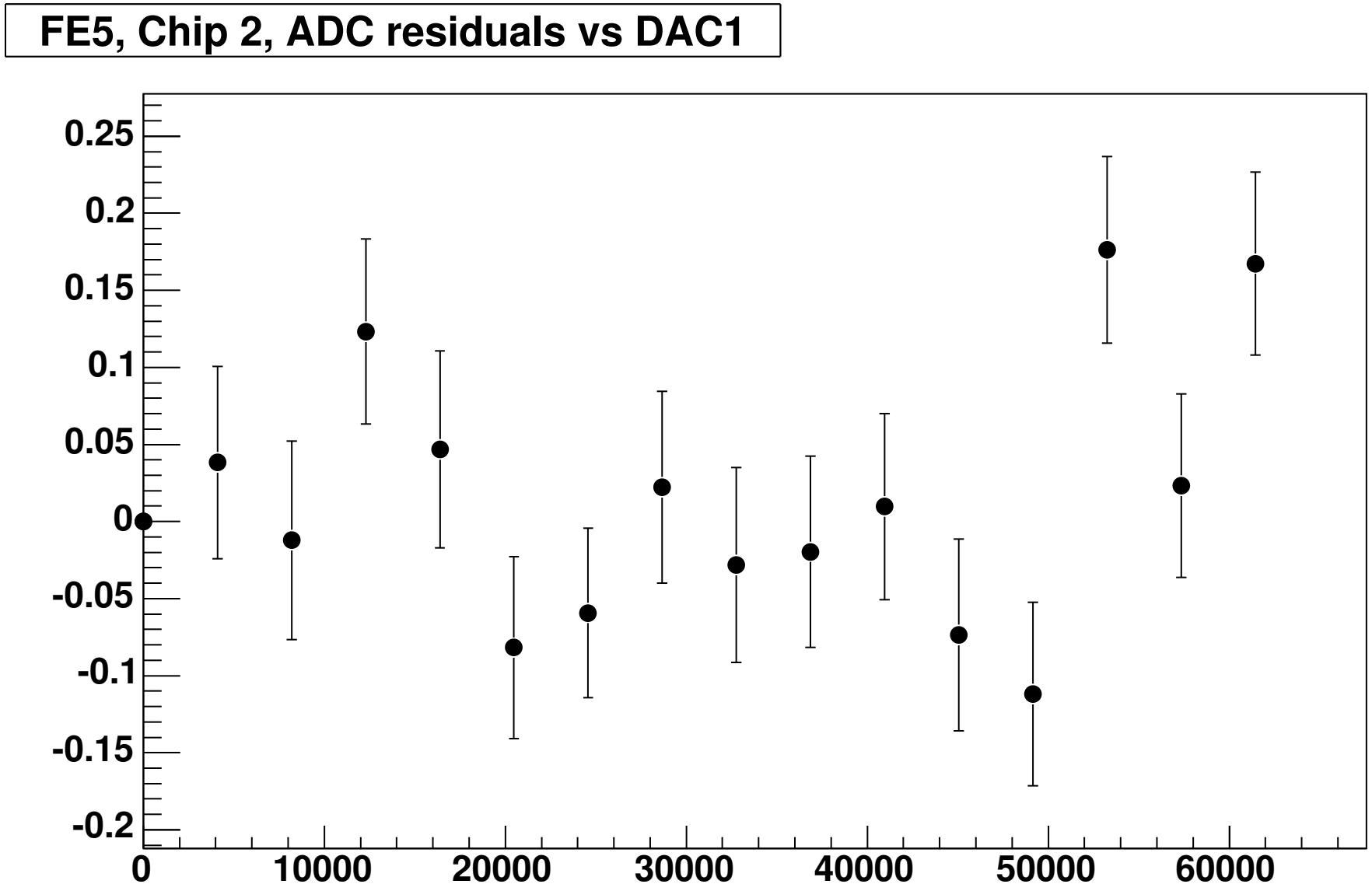

FE5, Chip 2, ADC mean vs DAC0
χ² / ndf 2963 / 11
p0 6.214 ± 0.04309
p1 0.451 ± 1.374e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

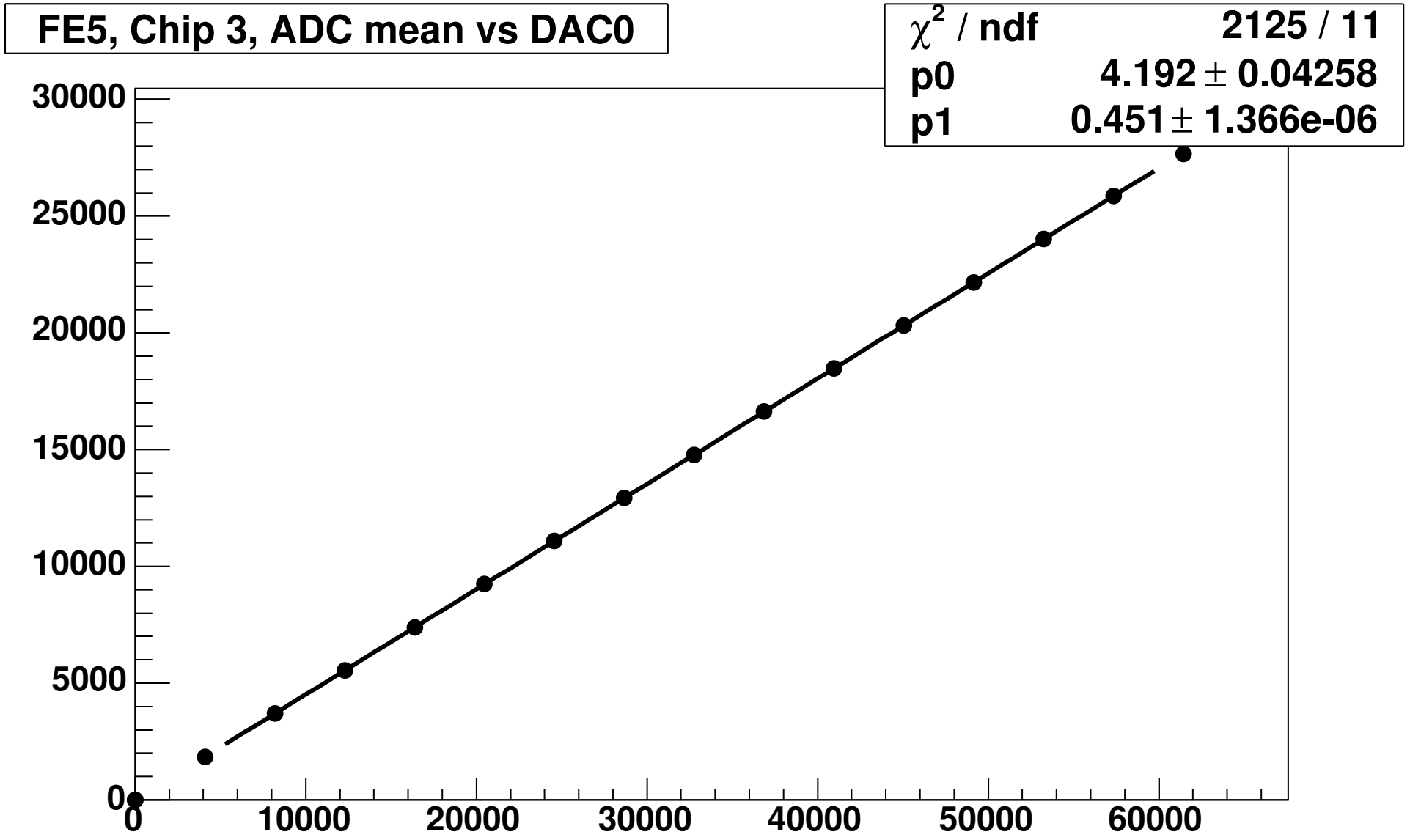

FE5, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

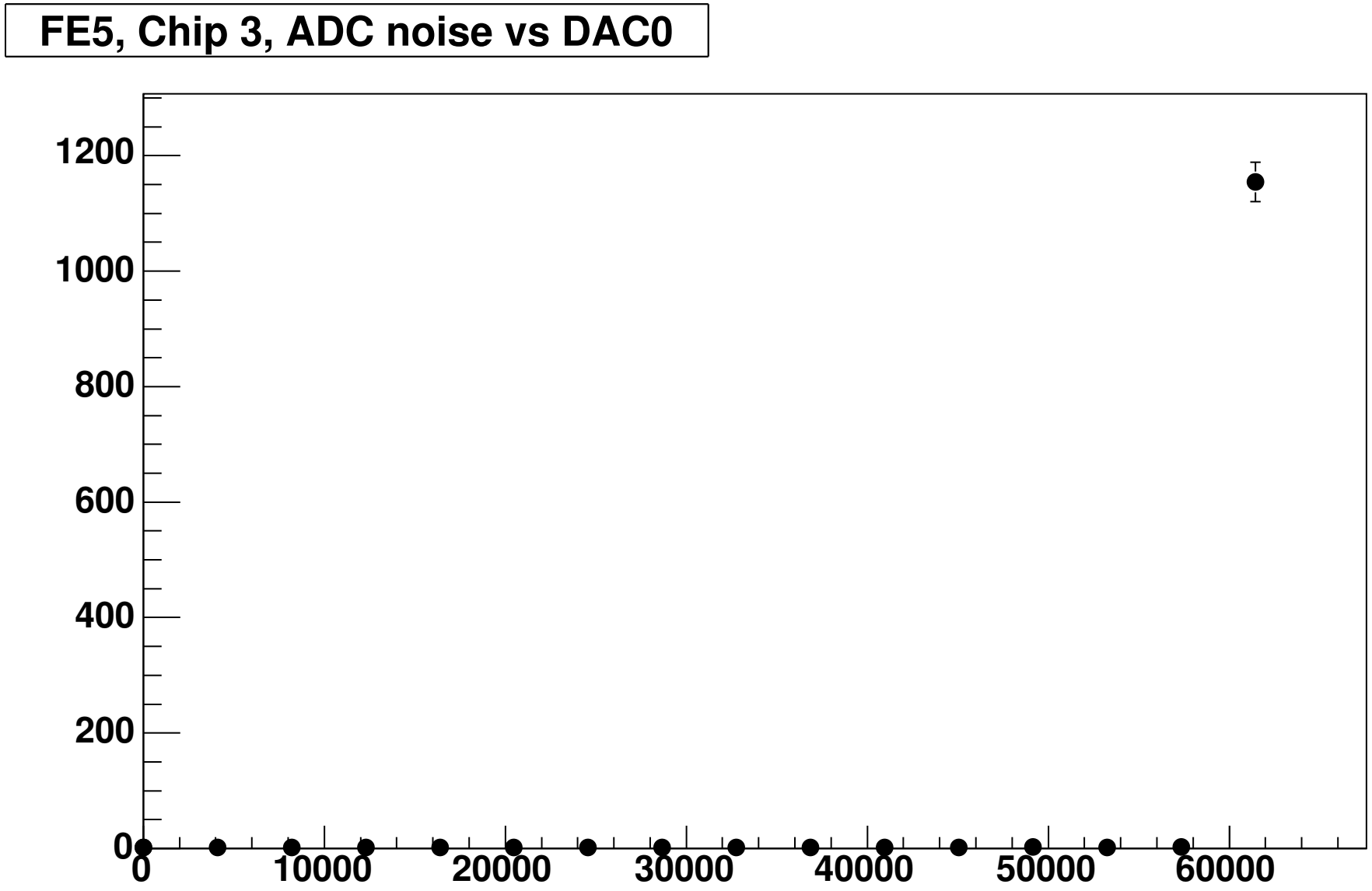

FE5, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

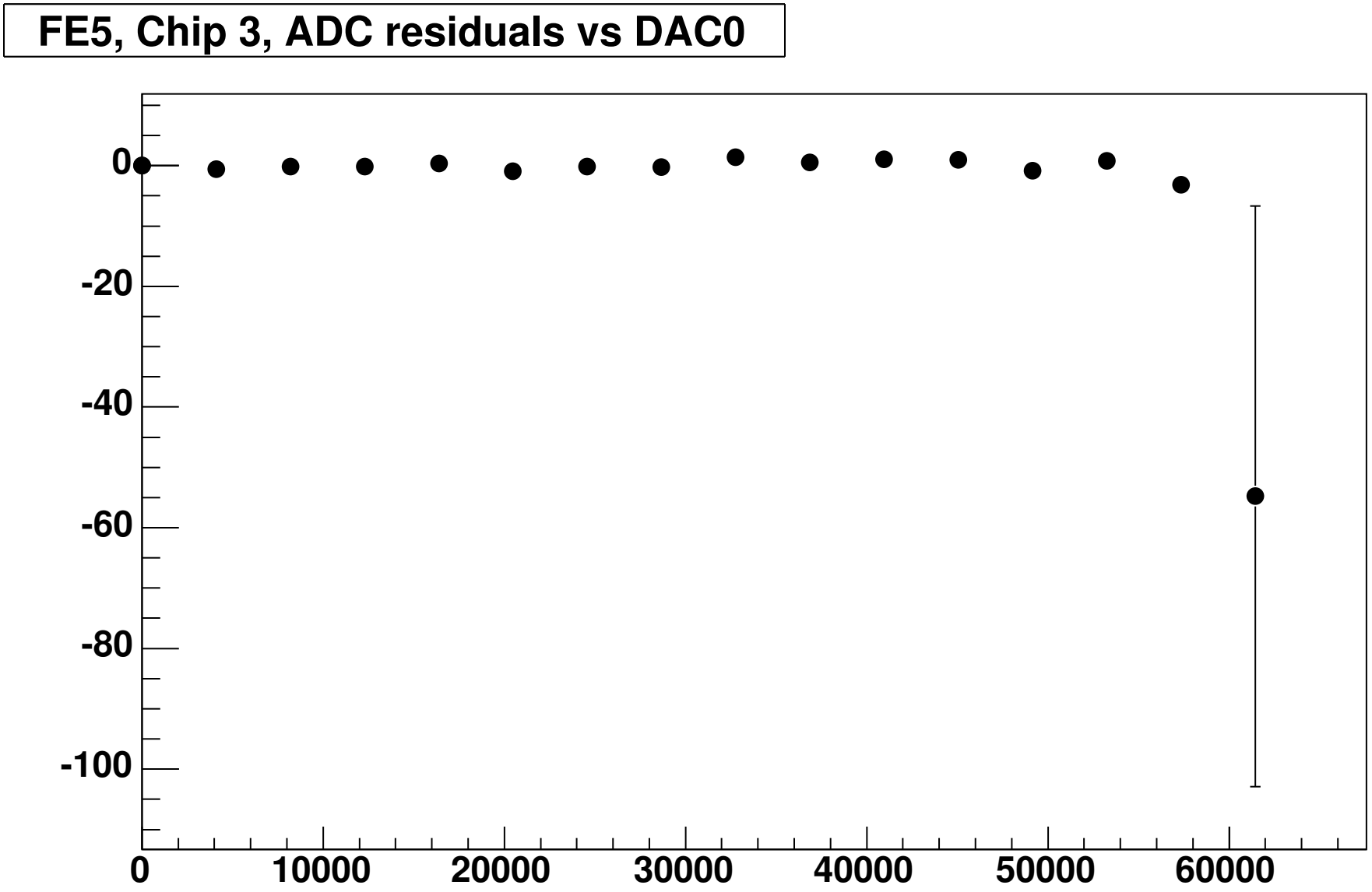

FE5, Chip 2, ADC mean vs DAC1
χ^2 / ndf 21.88 / 11
p0 6.595 ± 0.04012
p1 2.988e-06 ± 1.104e-06
7
6.9
6.8
6.7
6.6
6.5
0
10000
20000
30000
40000
50000
60000

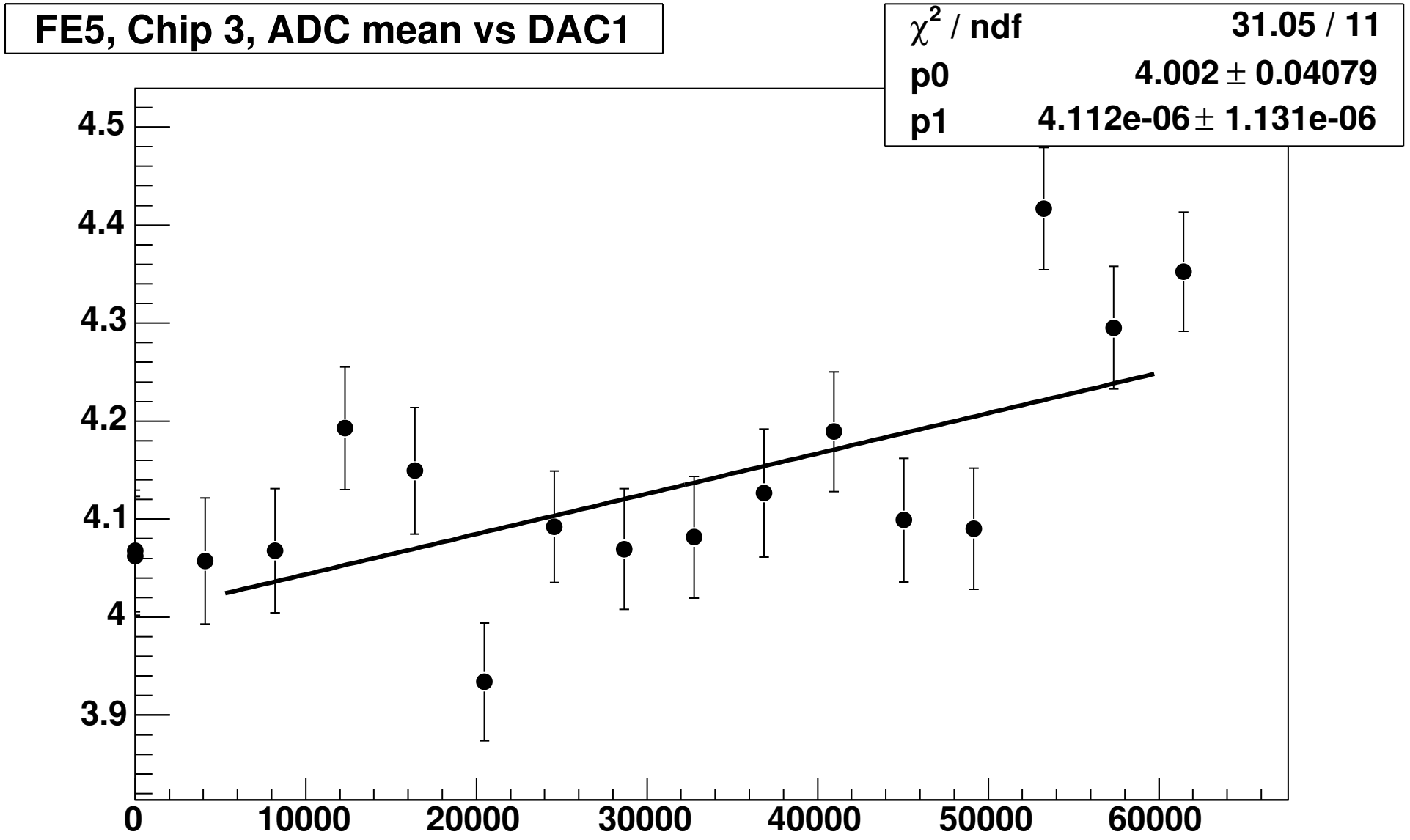

FE5, Chip 2, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

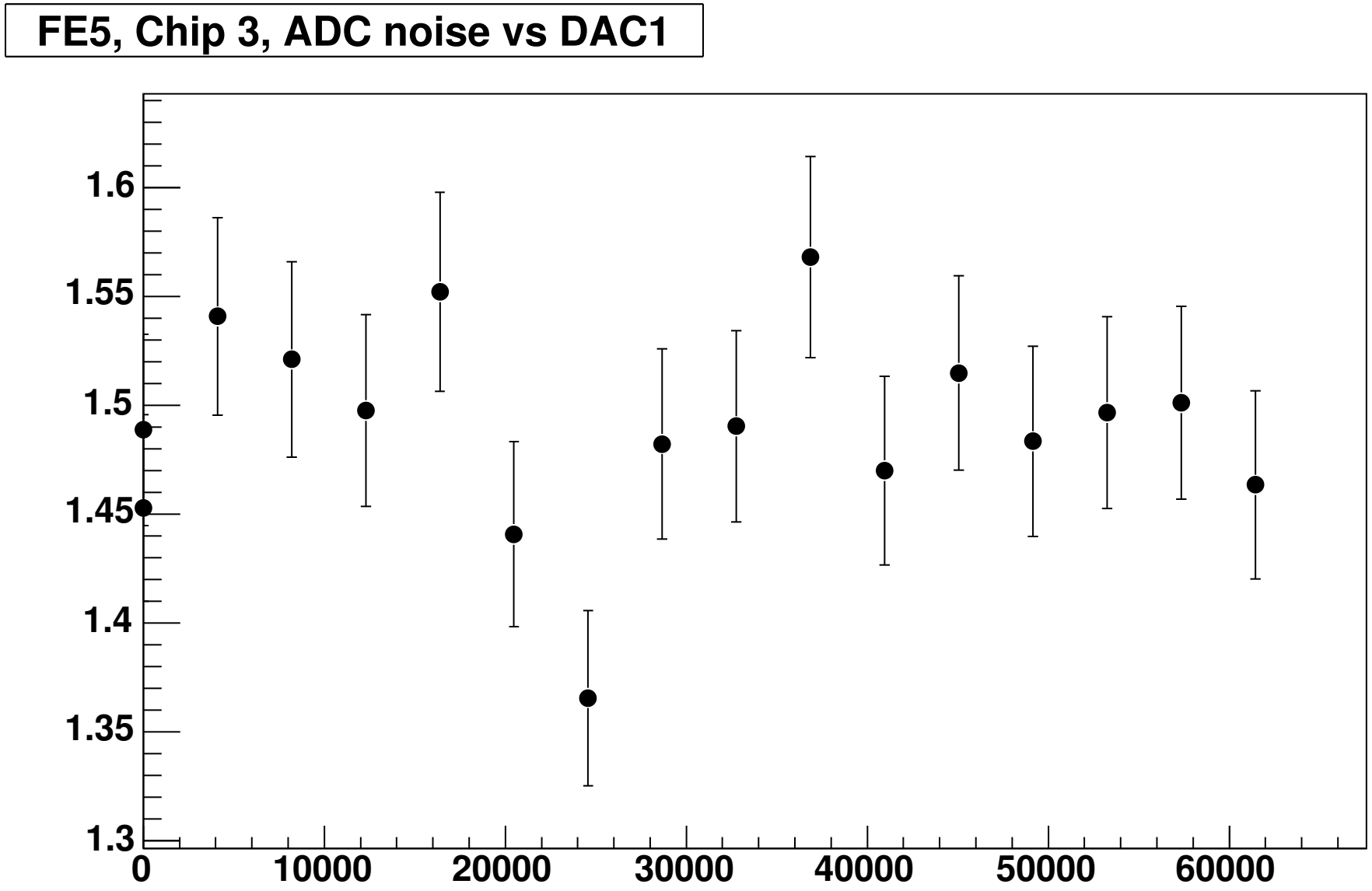

FE5, Chip 2, ADC residuals vs DAC1
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

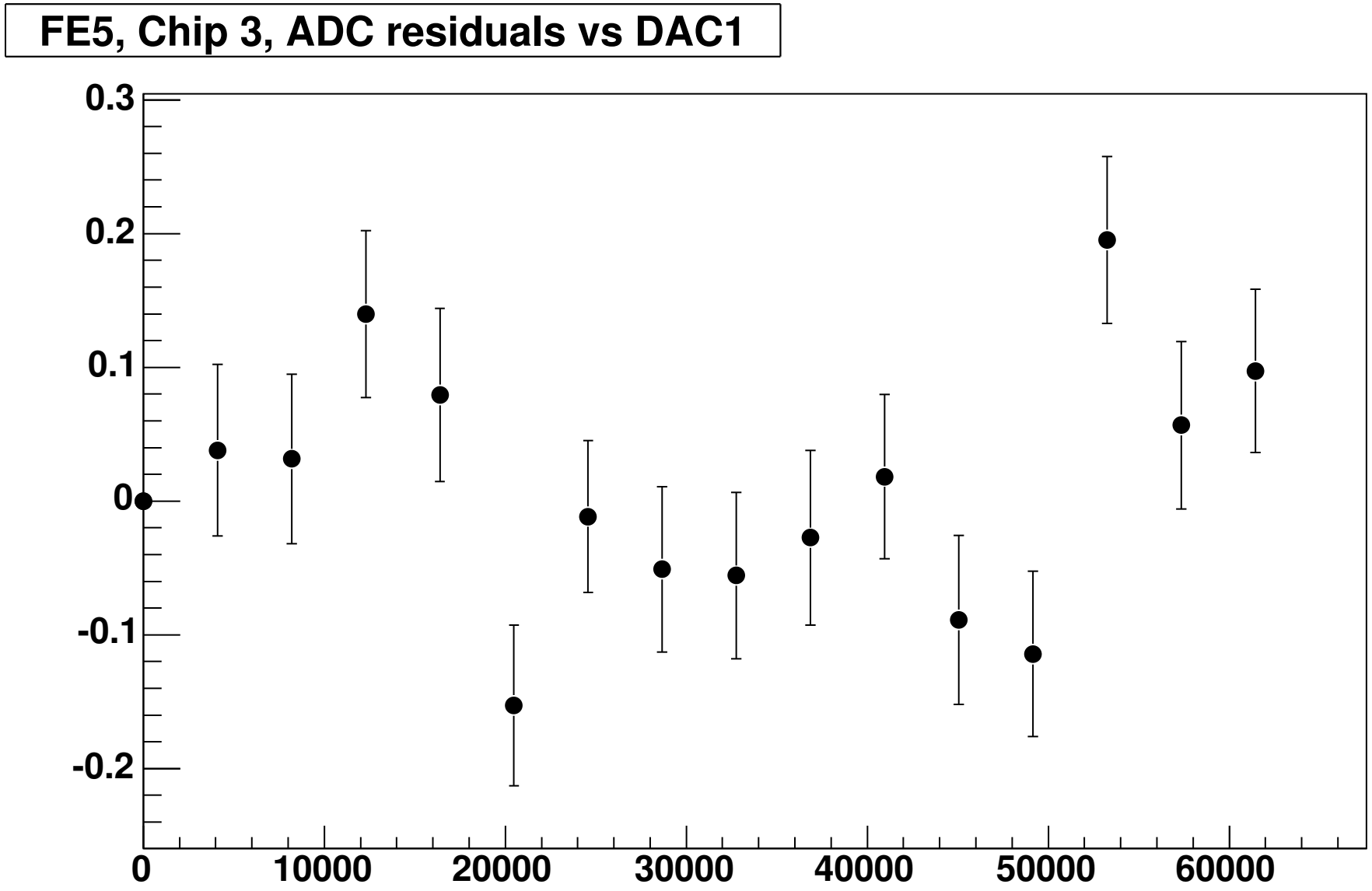

FE5, Chip 3, ADC mean vs DAC0
χ² / ndf 2125 / 11
p0 4.192 ± 0.04258
p1 0.451 ± 1.366e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

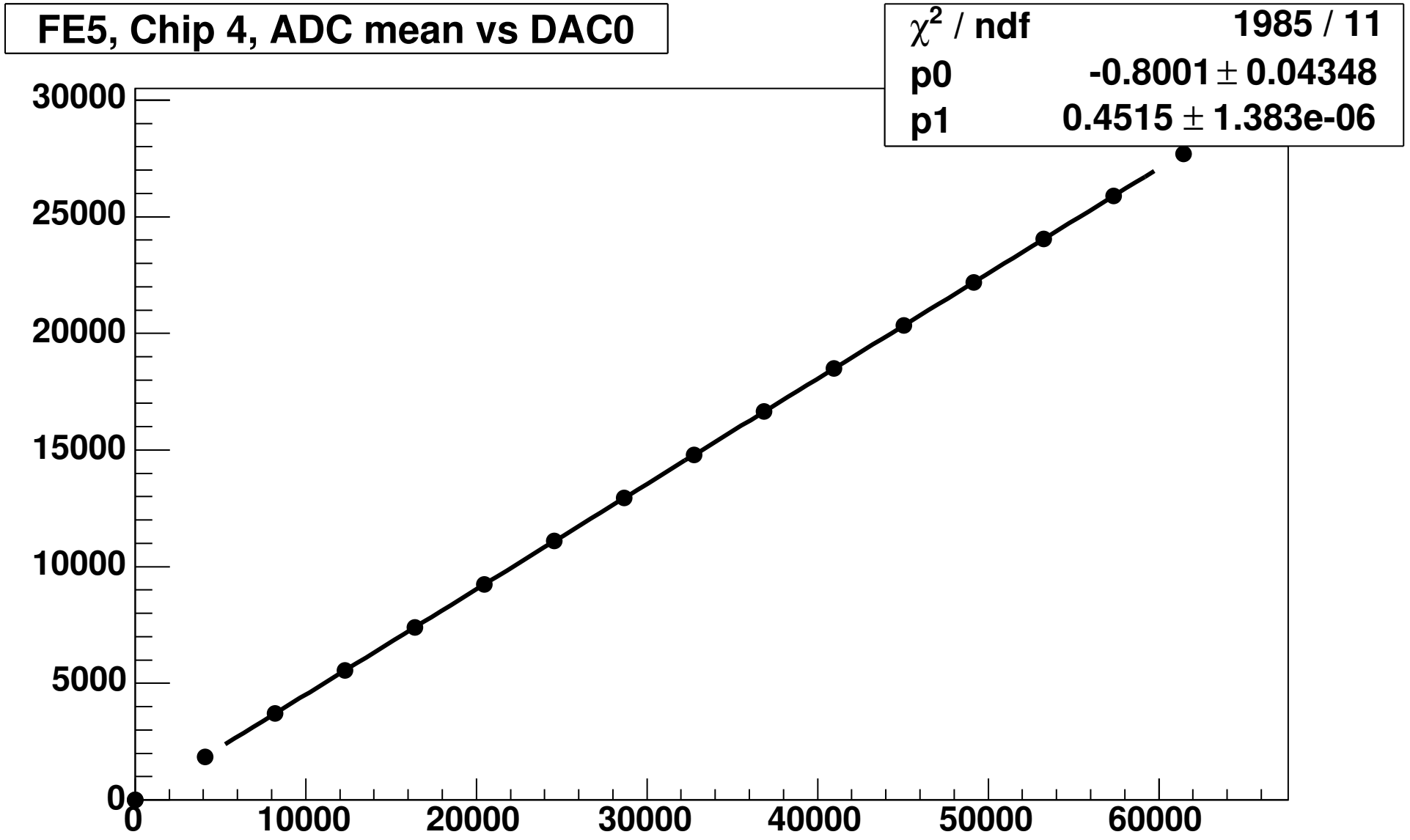

FE5, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

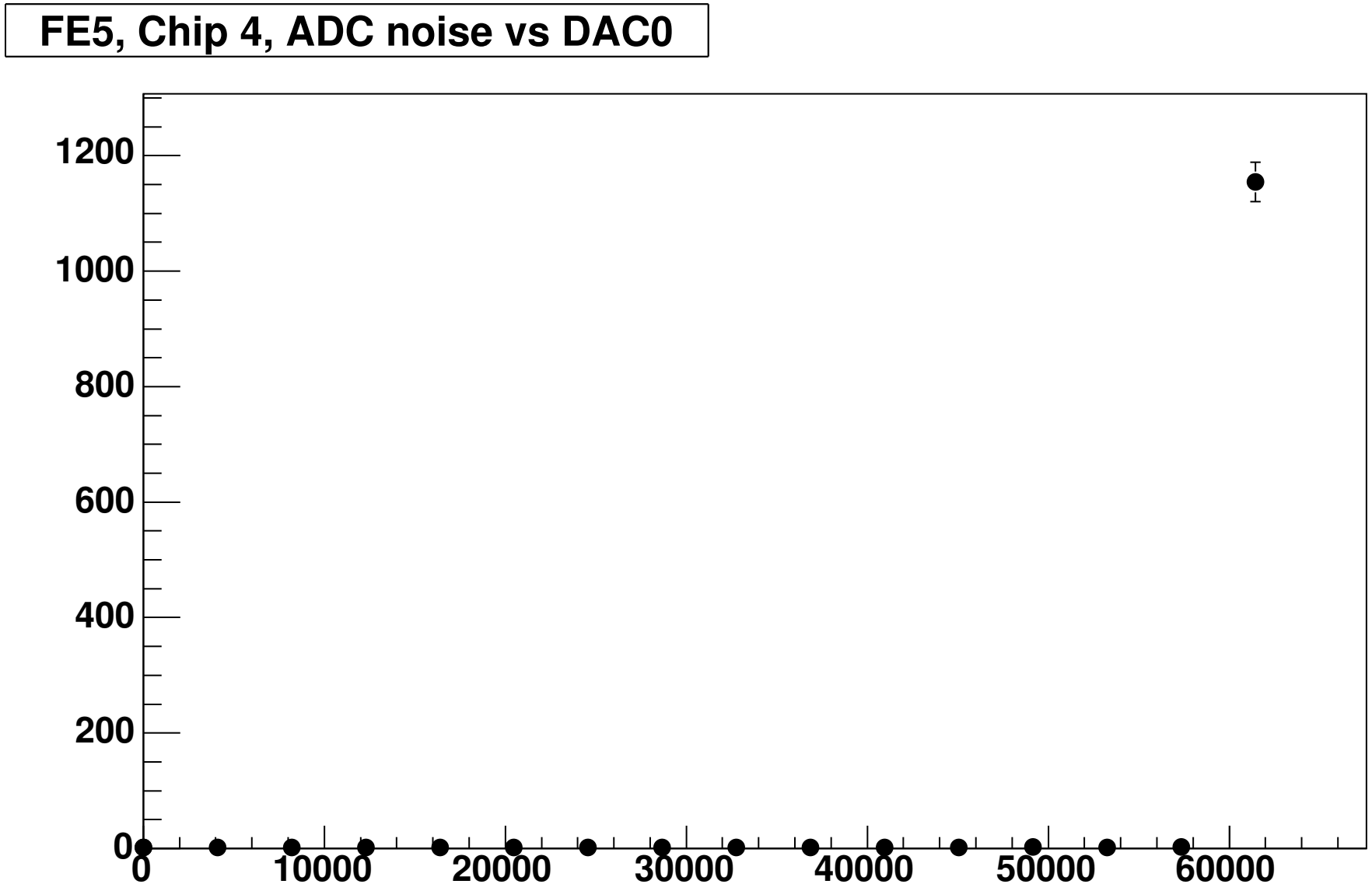

FE5, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

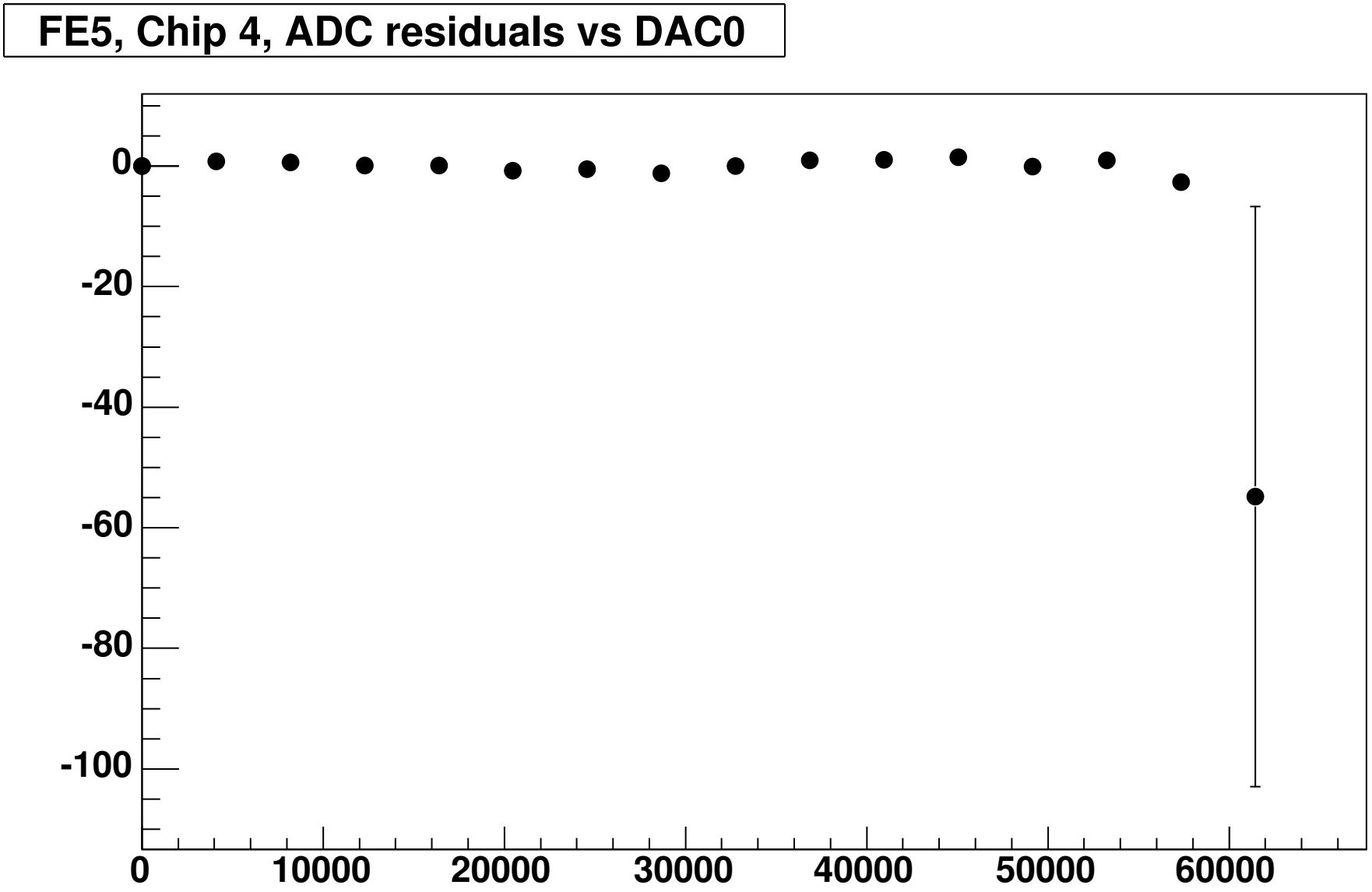

FE5, Chip 3, ADC mean vs DAC1
χ² / ndf 31.05 / 11
p0 4.002 ± 0.04079
p1 4.112e-06 ± 1.131e-06
4.5
4.4
4.3
4.2
4.1
4
3.9
0
10000
20000
30000
40000
50000
60000

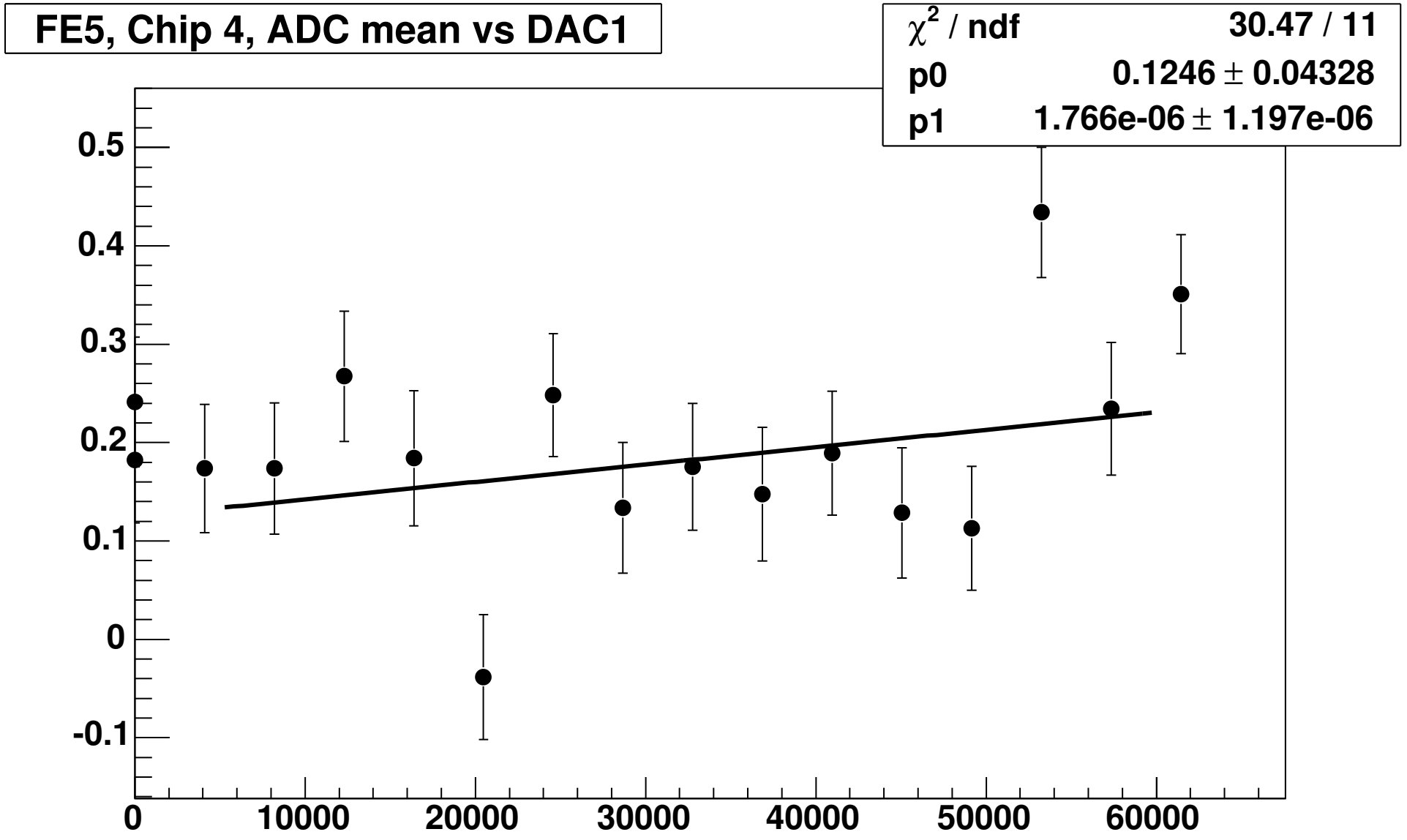

FE5, Chip 3, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

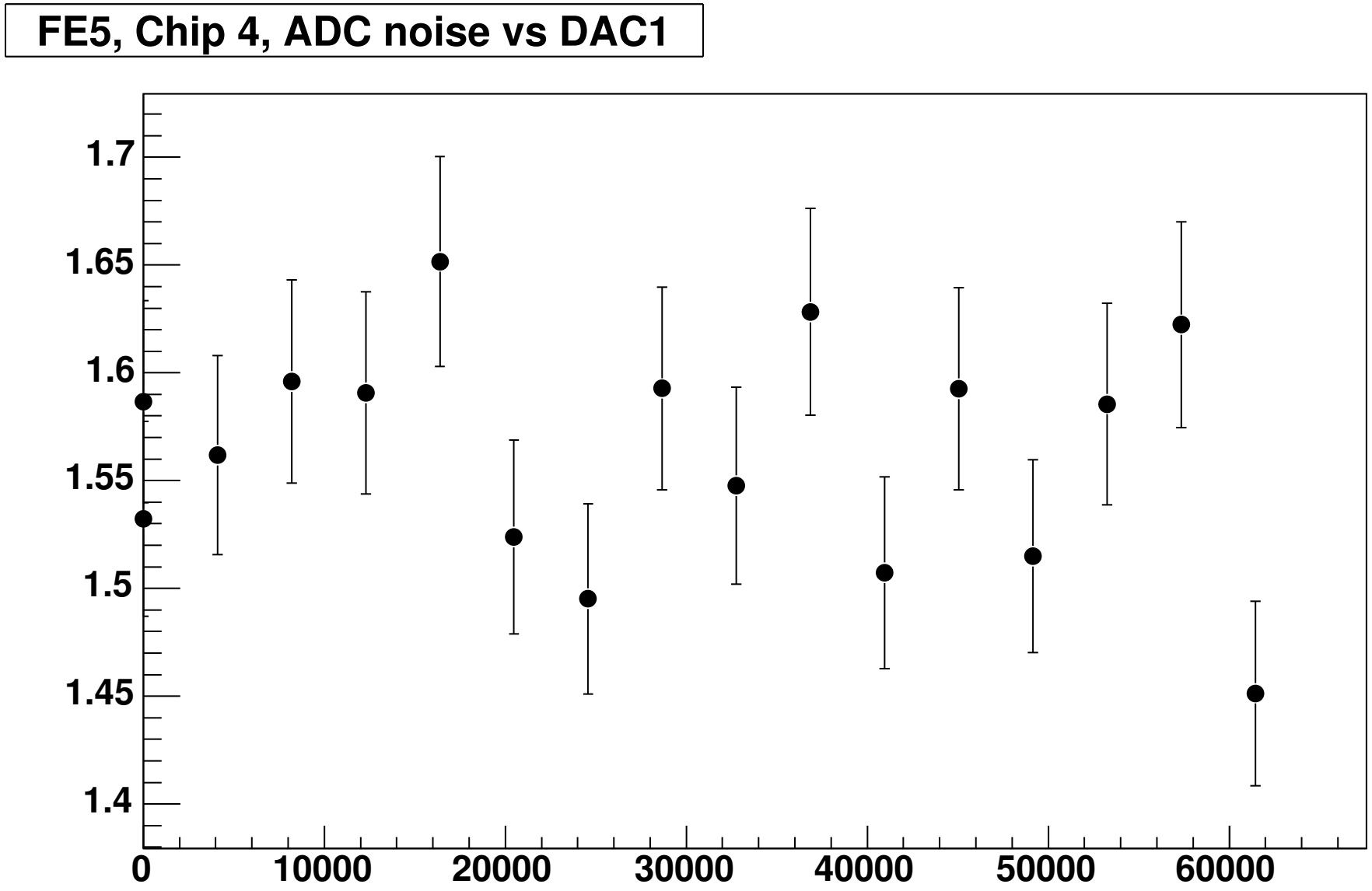

FE5, Chip 3, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

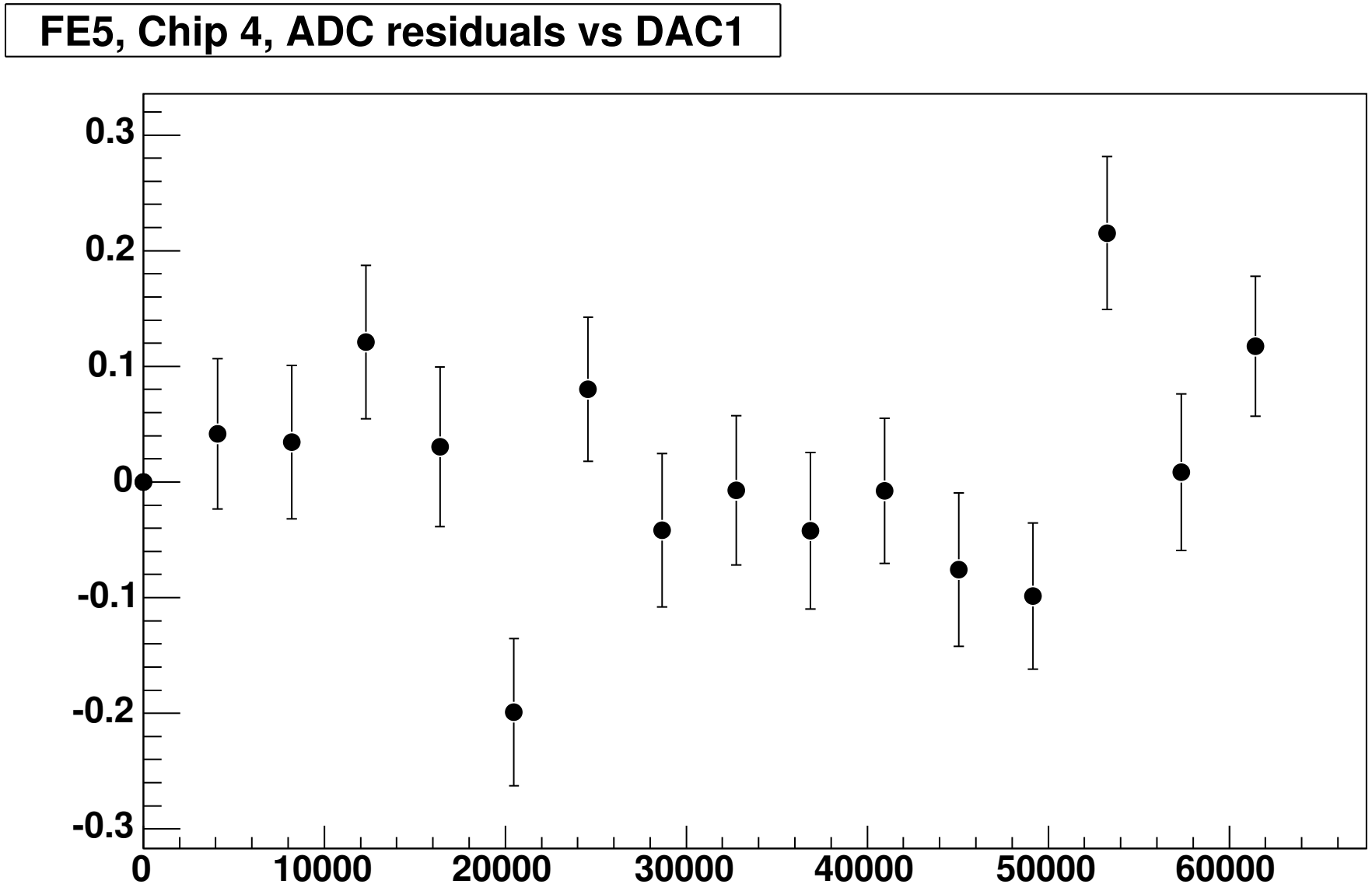

FE5, Chip 4, ADC mean vs DAC0
χ² / ndf 1985 / 11
p0 -0.8001 ± 0.04348
p1 0.4515 ± 1.383e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

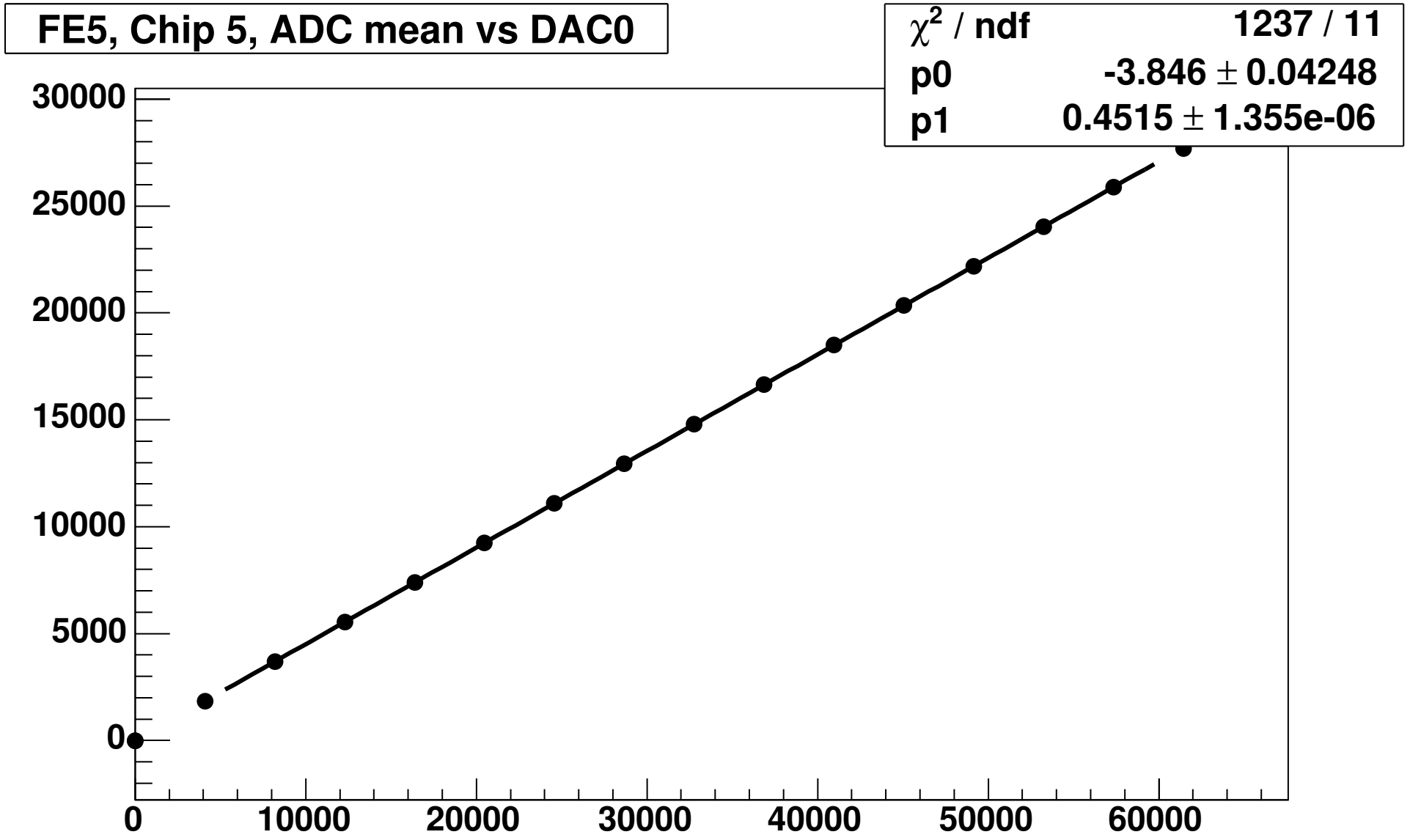

FE5, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

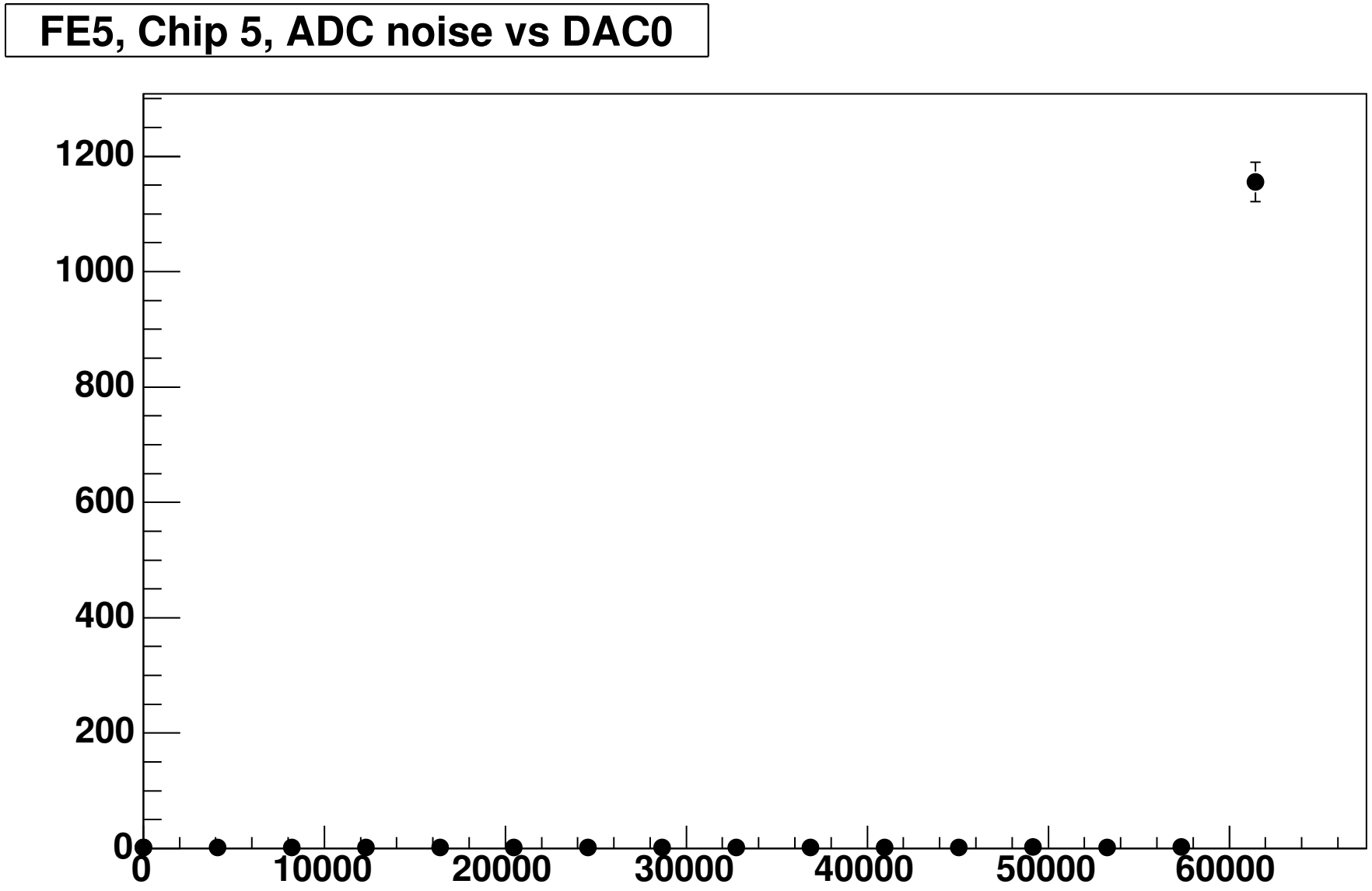

FE5, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

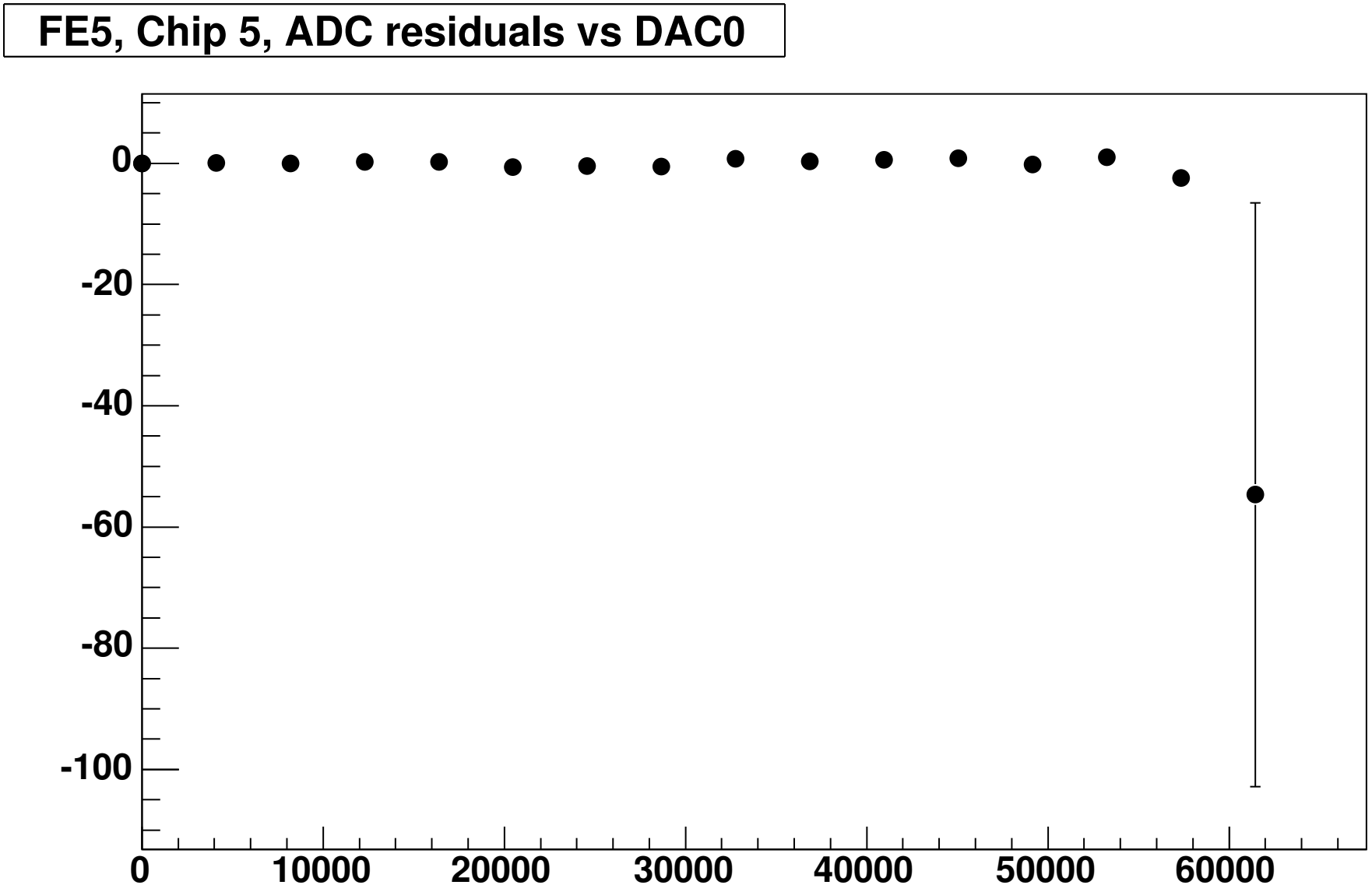

FE5, Chip 4, ADC mean vs DAC1
χ^2 / ndf 30.47 / 11
p0 0.1246 ± 0.04328
p1 1.766e-06 ± 1.197e-06
0.5
0.4
0.3
0.2
0.1
0
-0.1
0
10000
20000
30000
40000
50000
60000

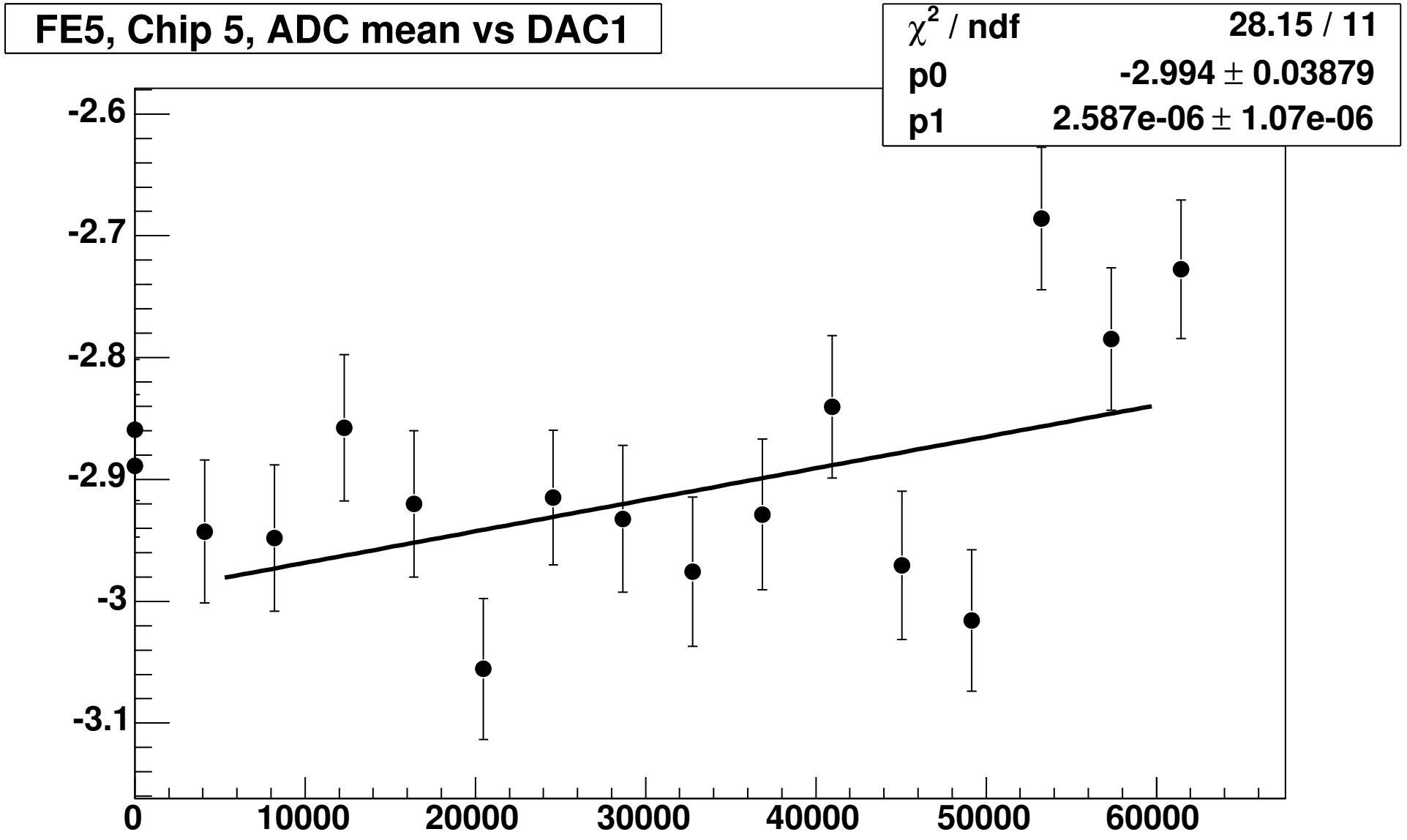

FE5, Chip 4, ADC noise vs DAC1
1.7
1.65
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

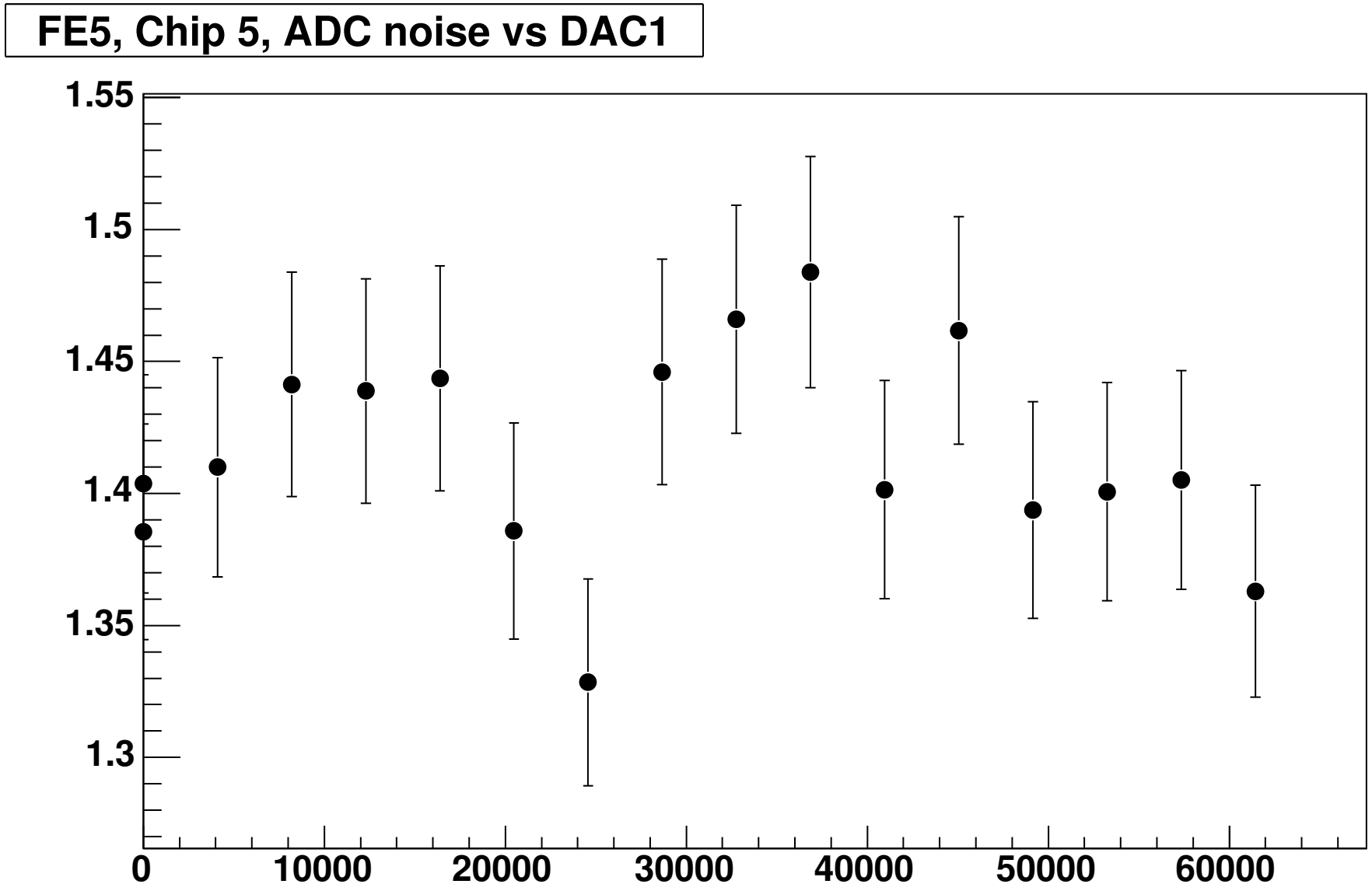

FE5, Chip 4, ADC residuals vs DAC1
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

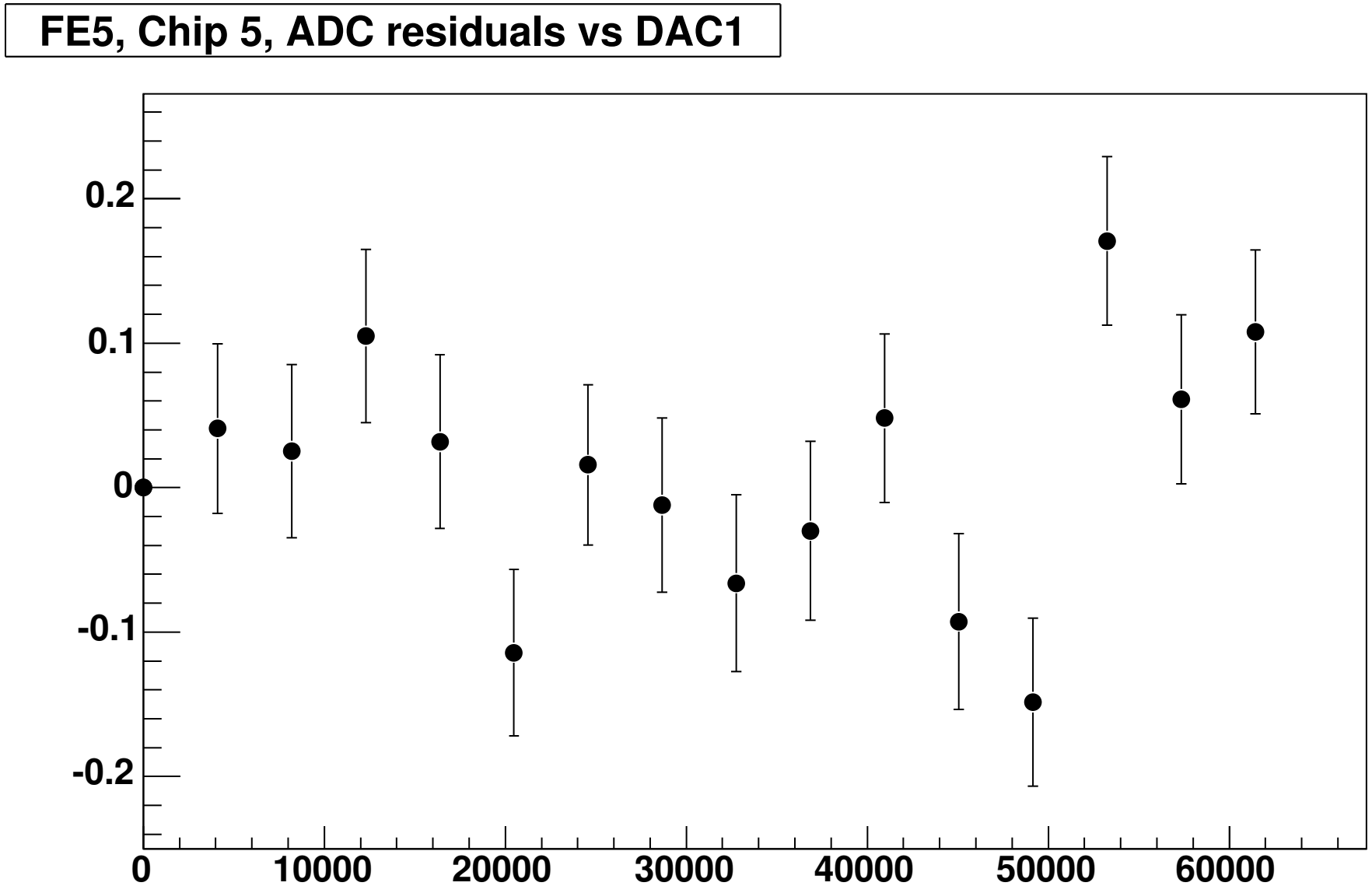

FE5, Chip 5, ADC mean vs DAC0
χ² / ndf 1237 / 11
p0 -3.846 ± 0.04248
p1 0.4515 ± 1.355e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

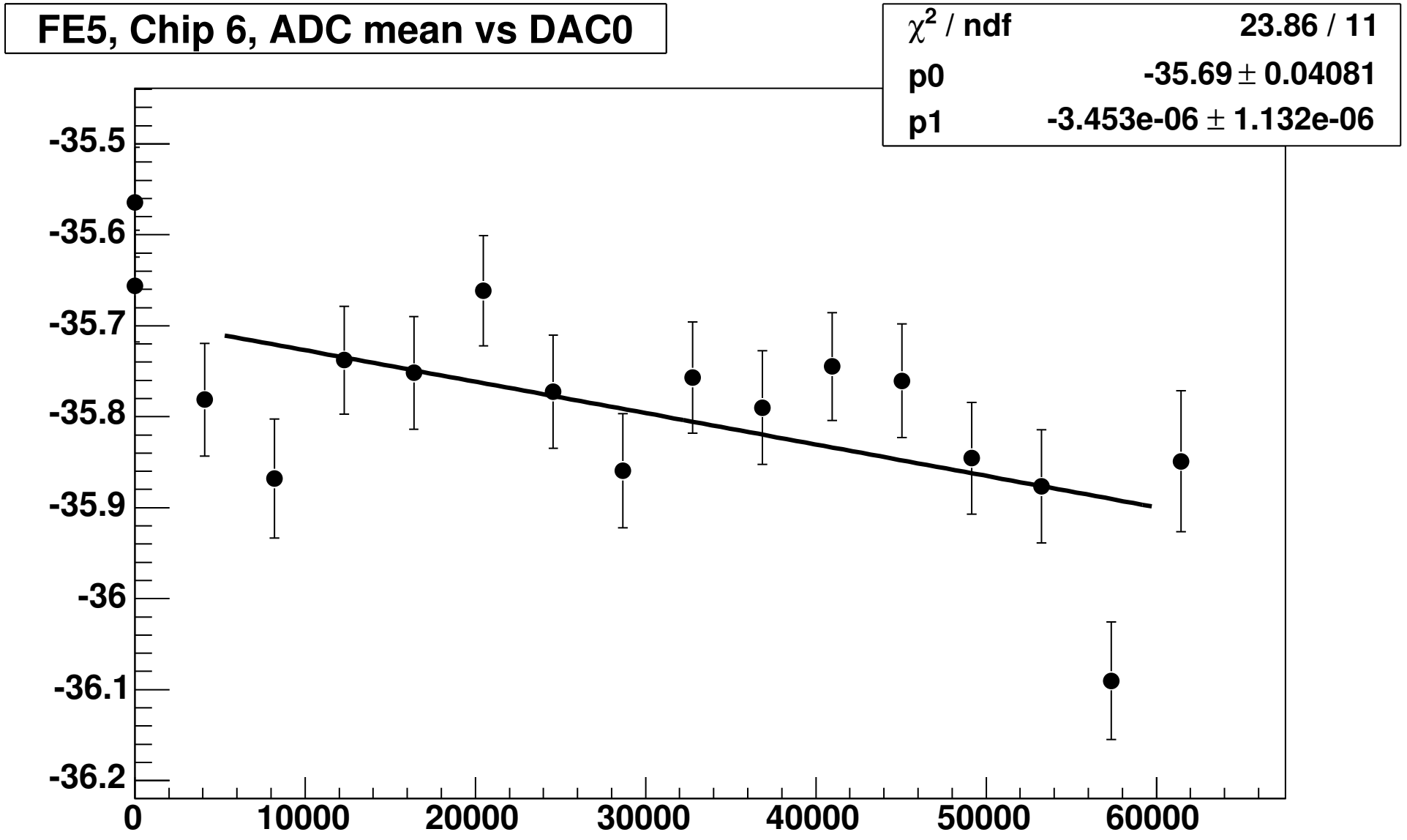

FE5, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

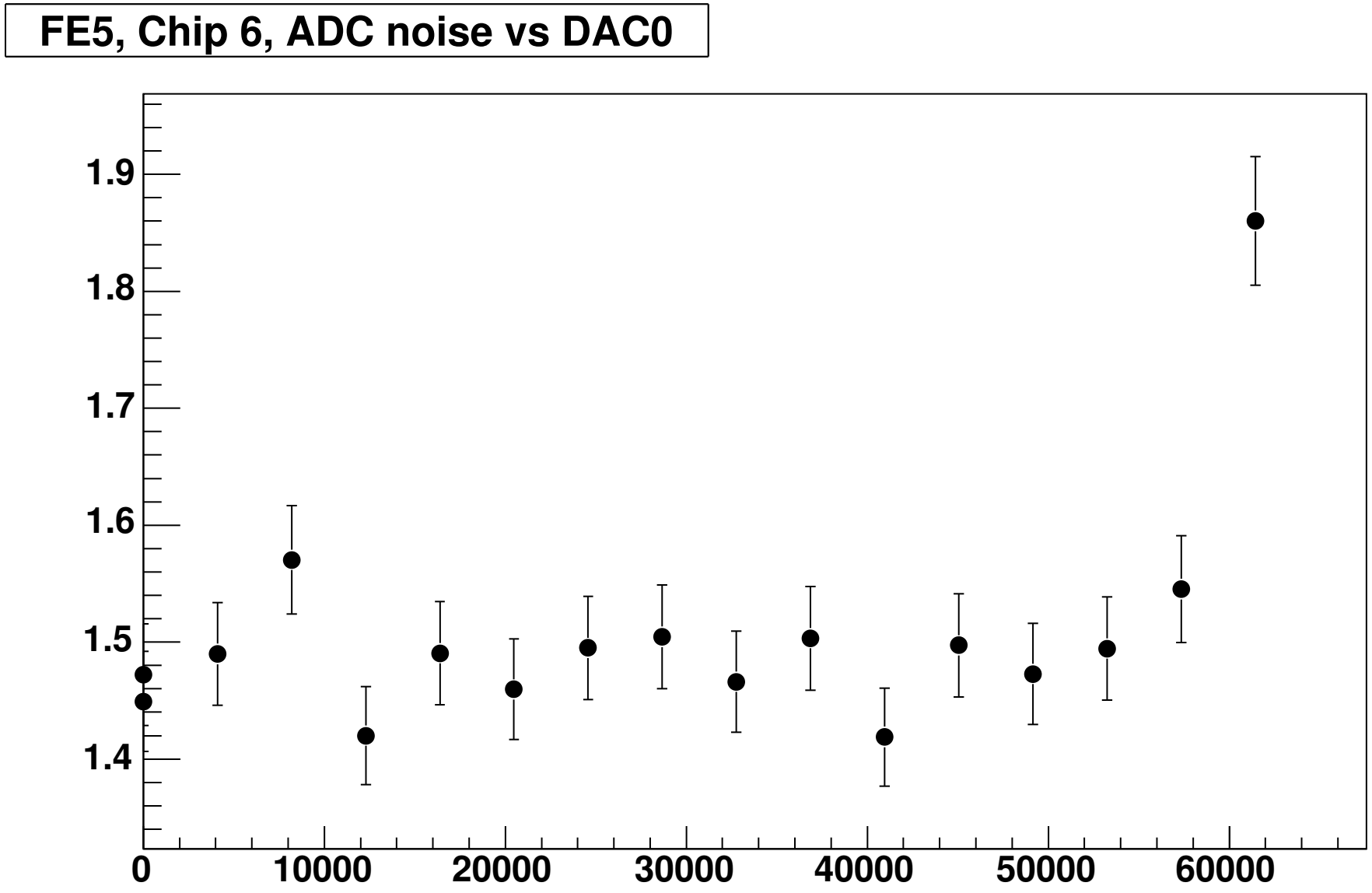

FE5, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

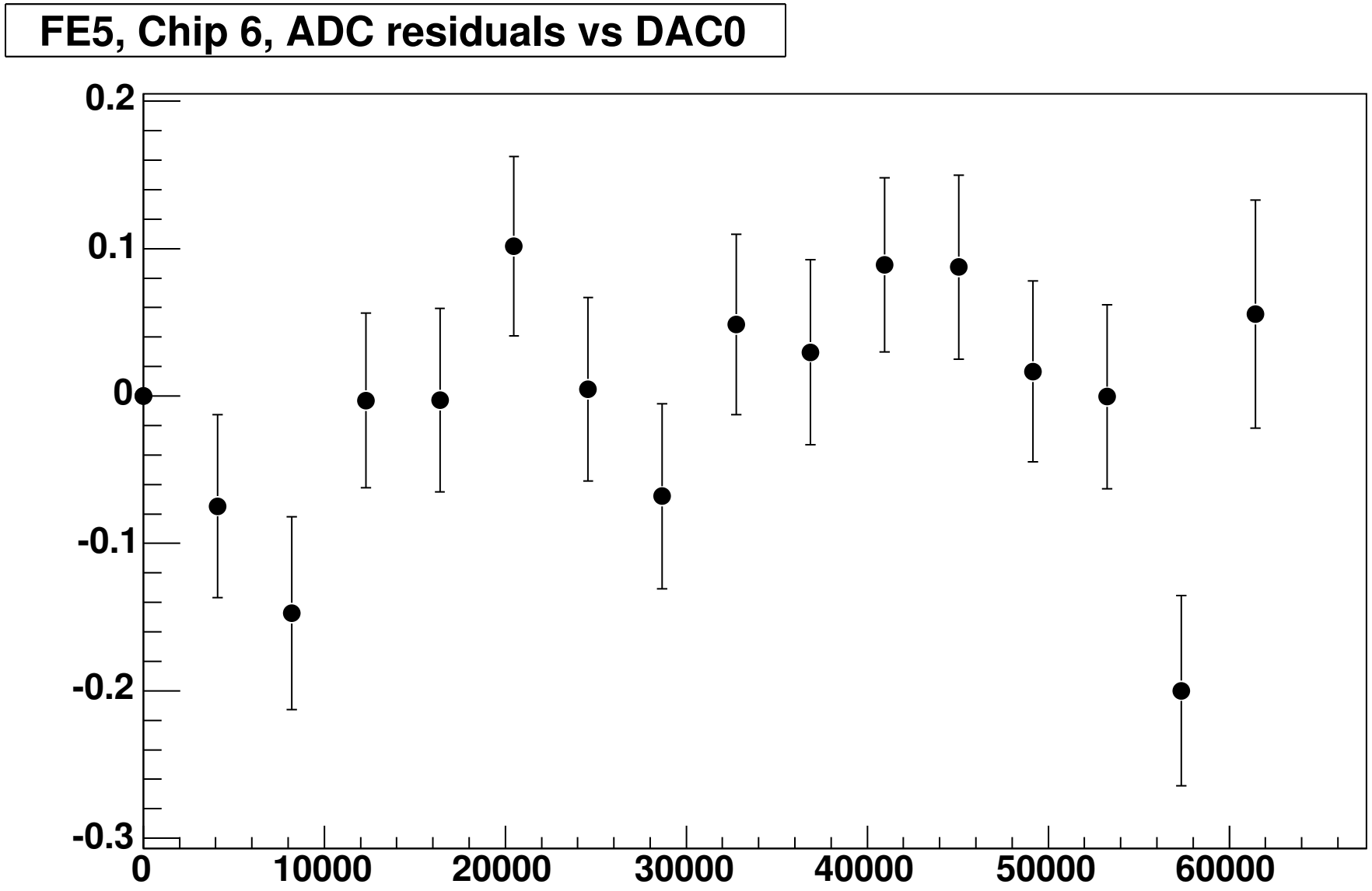

FE5, Chip 5, ADC mean vs DAC1
χ^2 / ndf 28.15 / 11
p0 -2.994 ± 0.03879
p1 2.587e-06 ± 1.07e-06
-2.6
-2.7
-2.8
-2.9
-3
-3.1
0
10000
20000
30000
40000
50000
60000

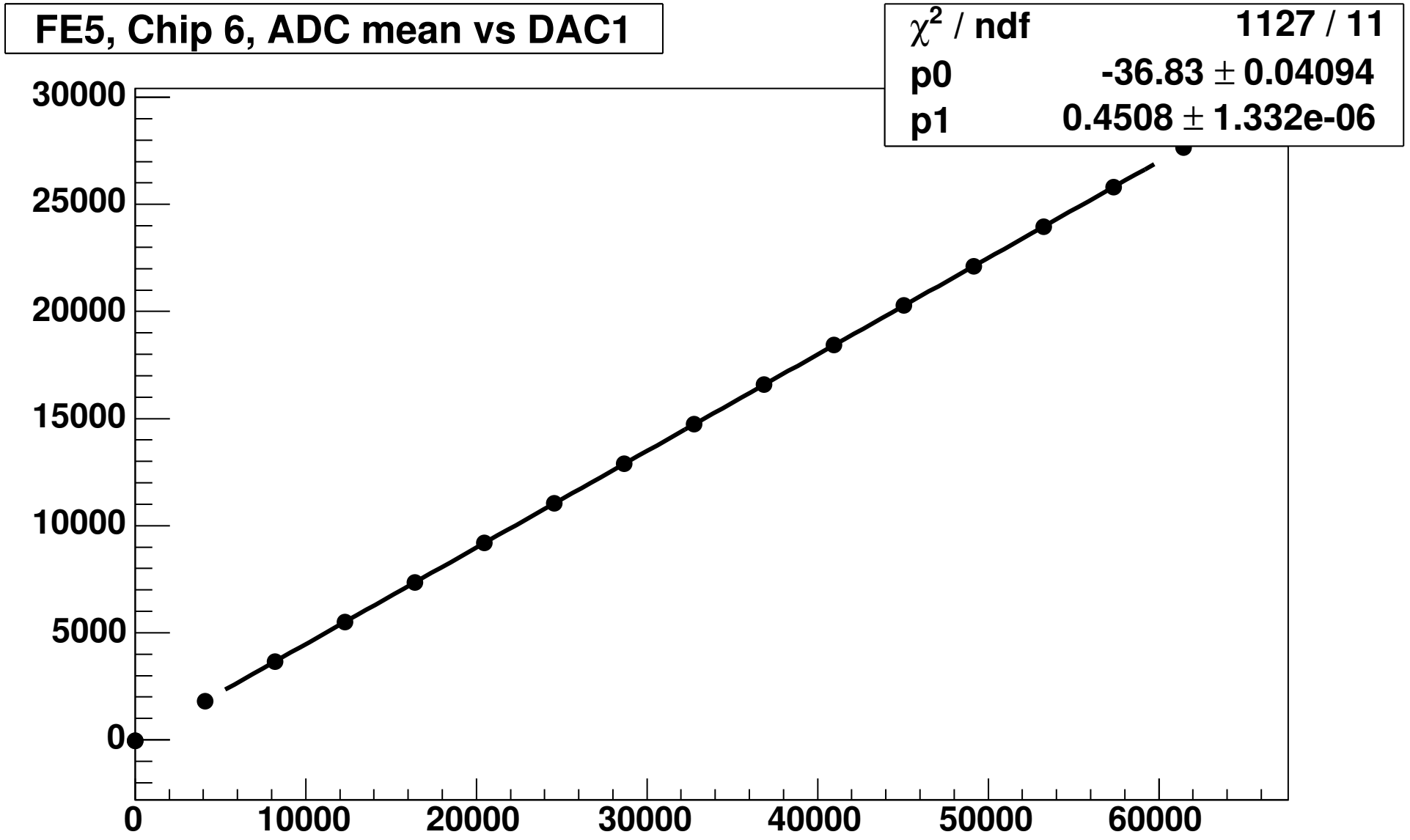

FE5, Chip 5, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

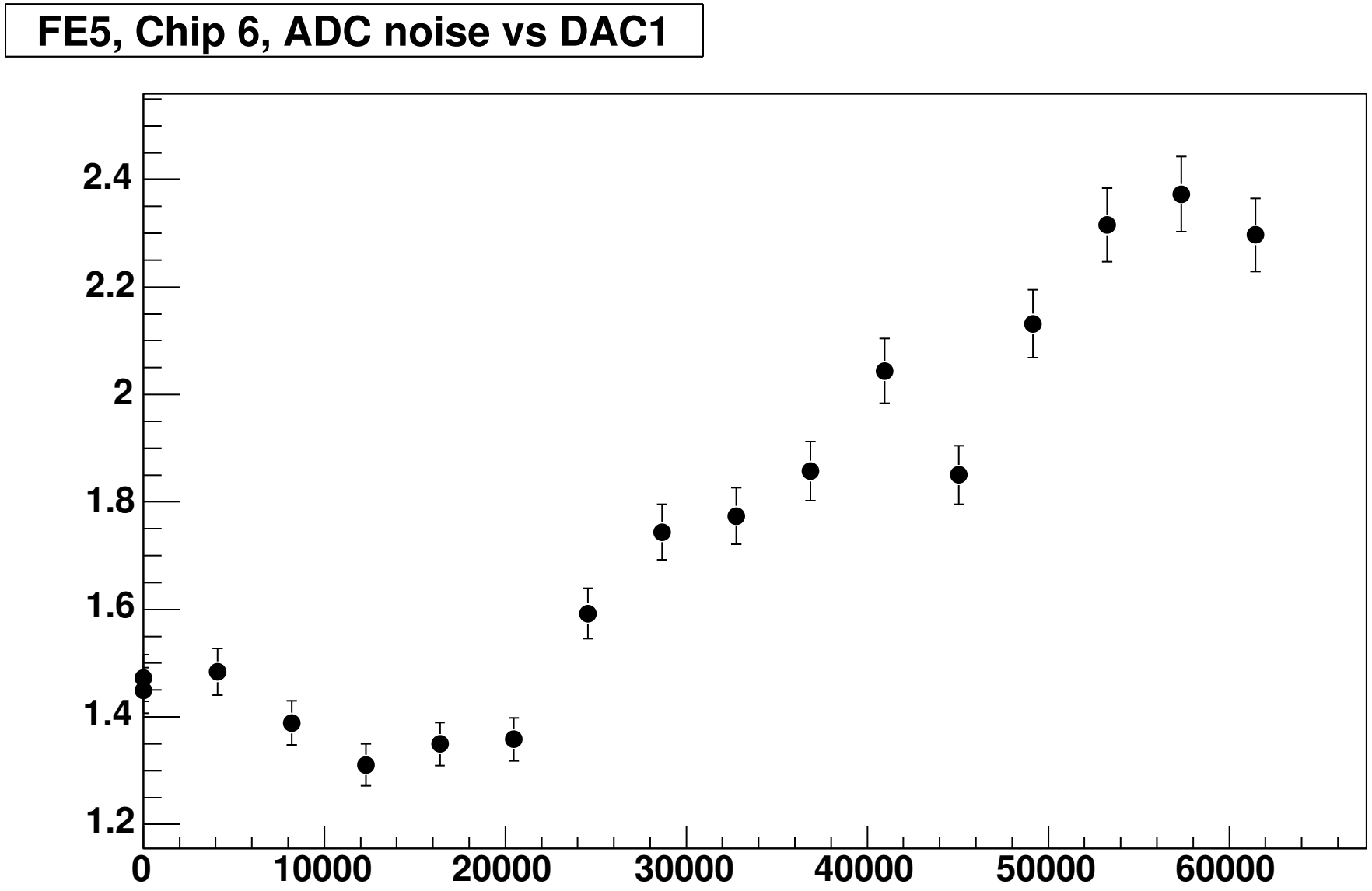

FE5, Chip 5, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

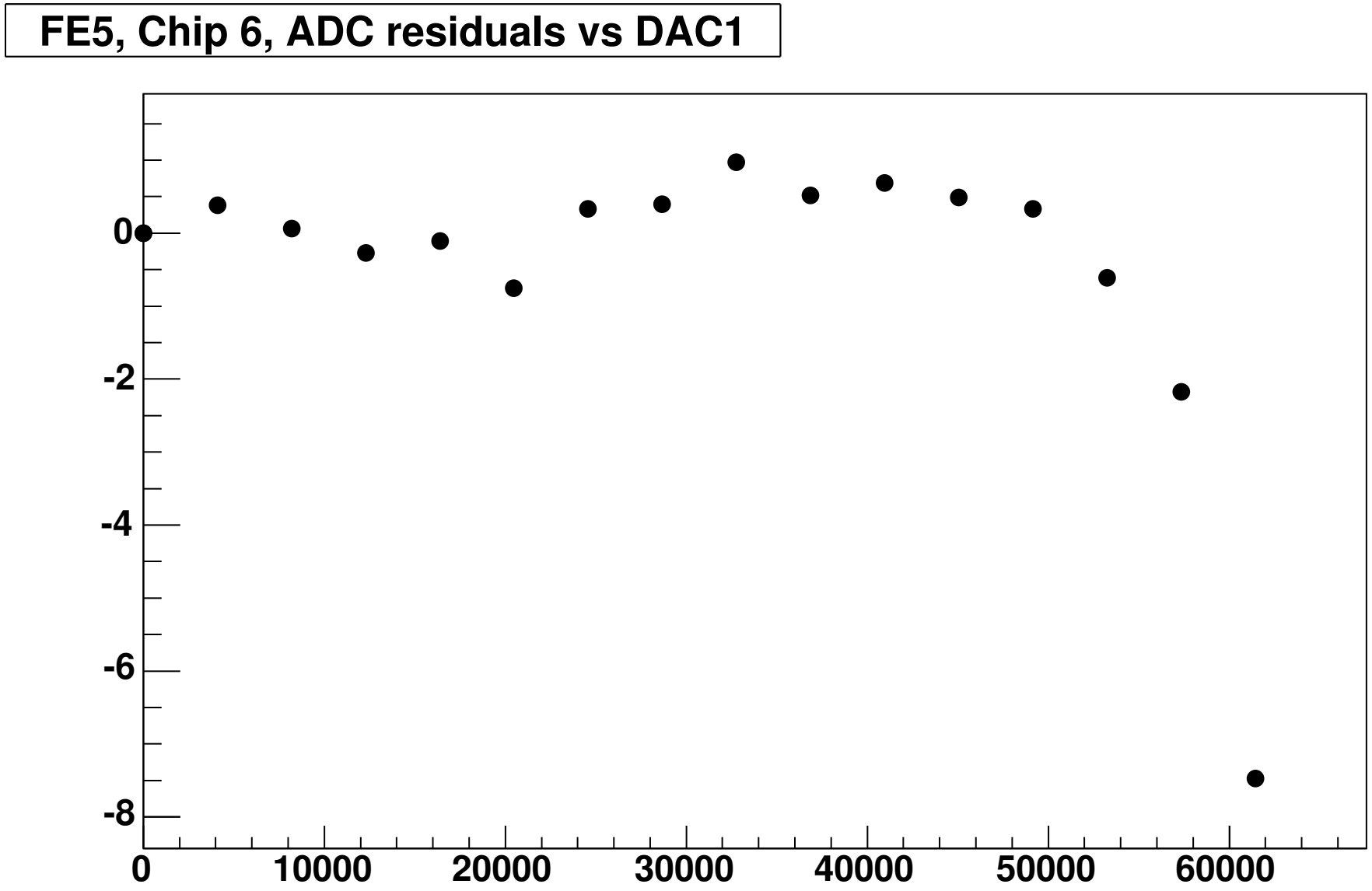

FE5, Chip 6, ADC mean vs DAC0
χ² / ndf 23.86 / 11
p0 -35.69 ± 0.04081
p1 -3.453e-06 ± 1.132e-06
-35.5
-35.6
-35.7
-35.8
-35.9
-36
-36.1
-36.2
0
10000
20000
30000
40000
50000
60000

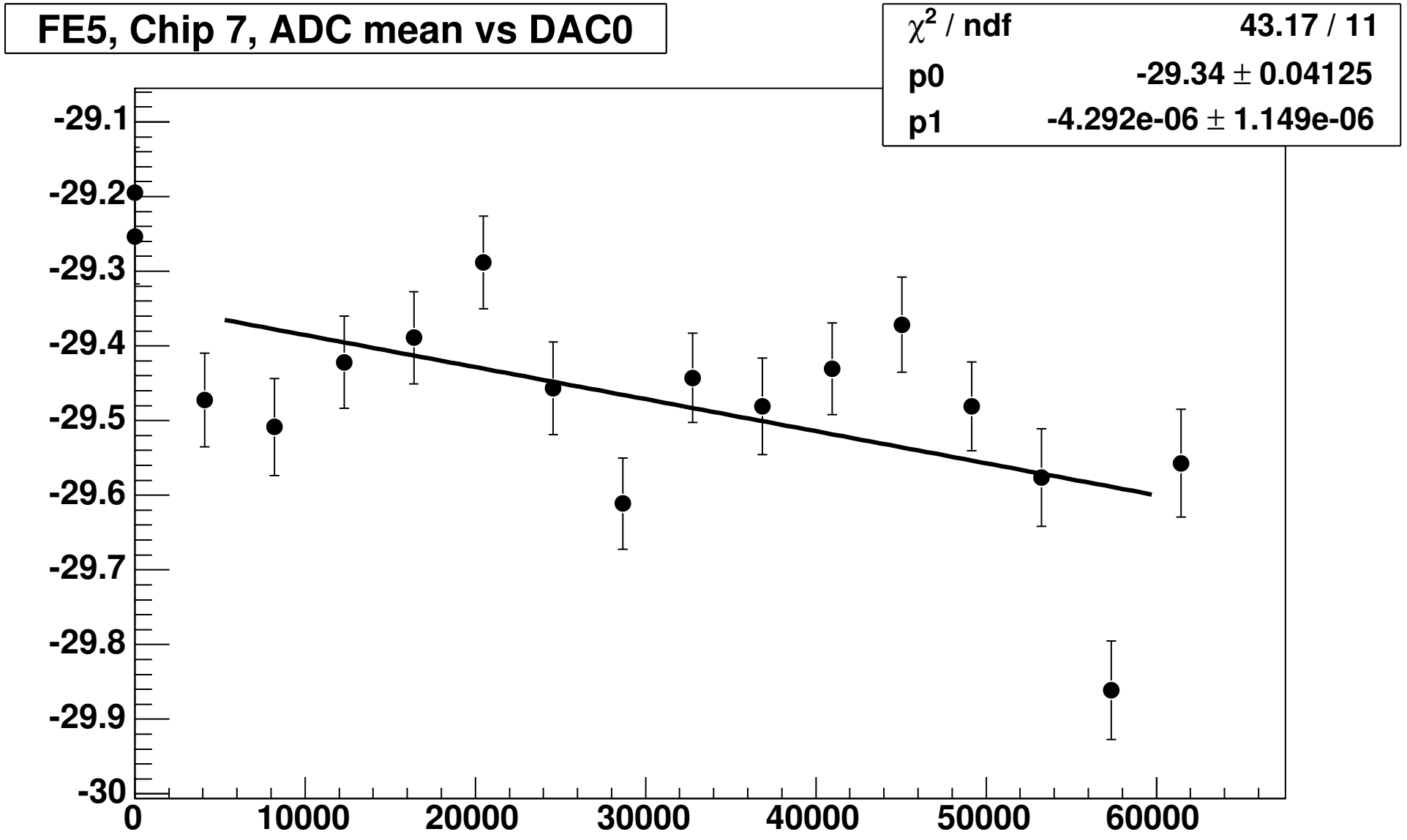

FE5, Chip 6, ADC noise vs DAC0
1.9
1.8
1.7
1.6
1.5
1.4
0
10000
20000
30000
40000
50000
60000

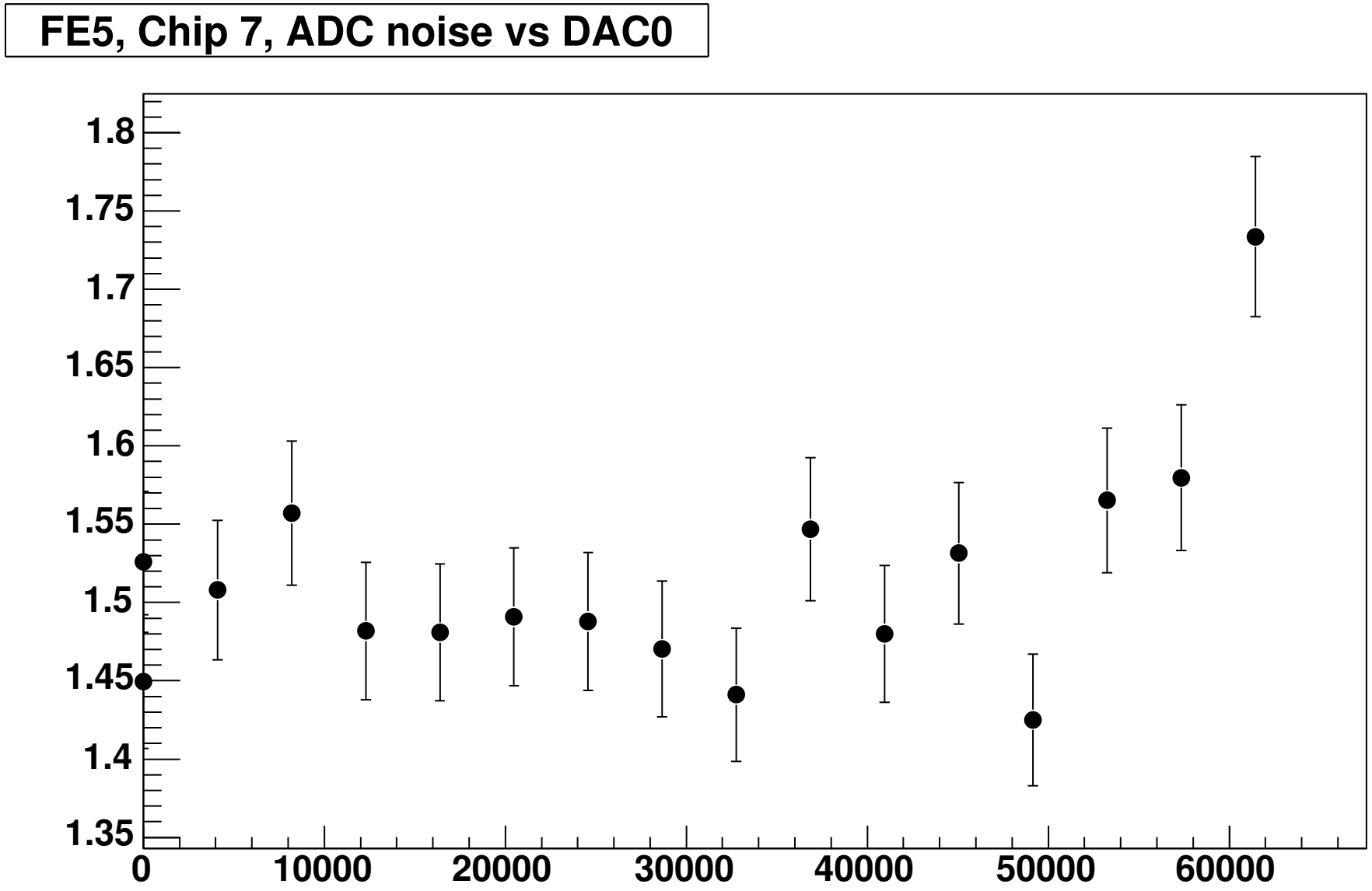

FE5, Chip 6, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

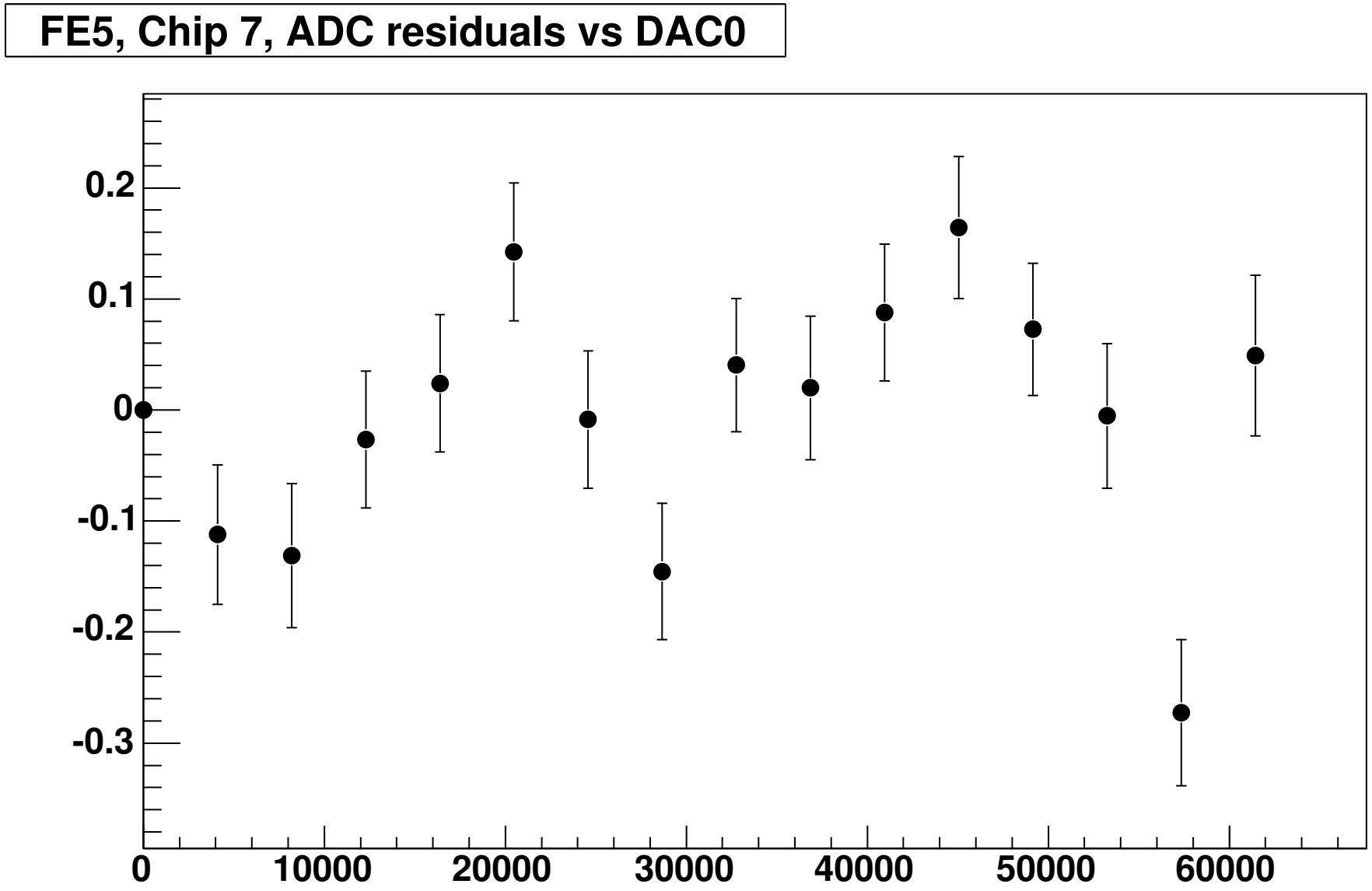

FE5, Chip 6, ADC mean vs DAC1
χ² / ndf 1127 / 11
p0 -36.83 ± 0.04094
p1 0.4508 ± 1.332e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

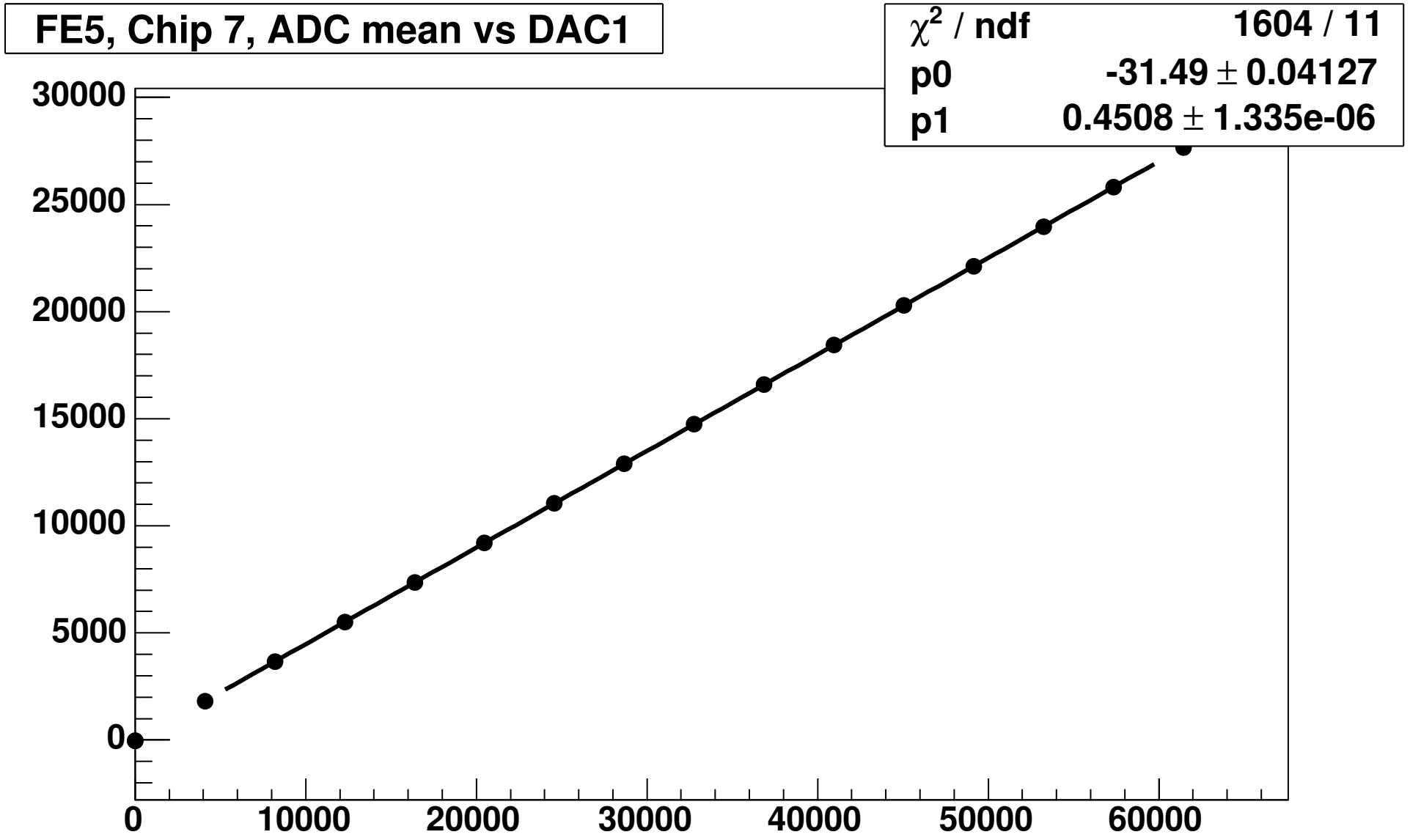

FE5, Chip 6, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

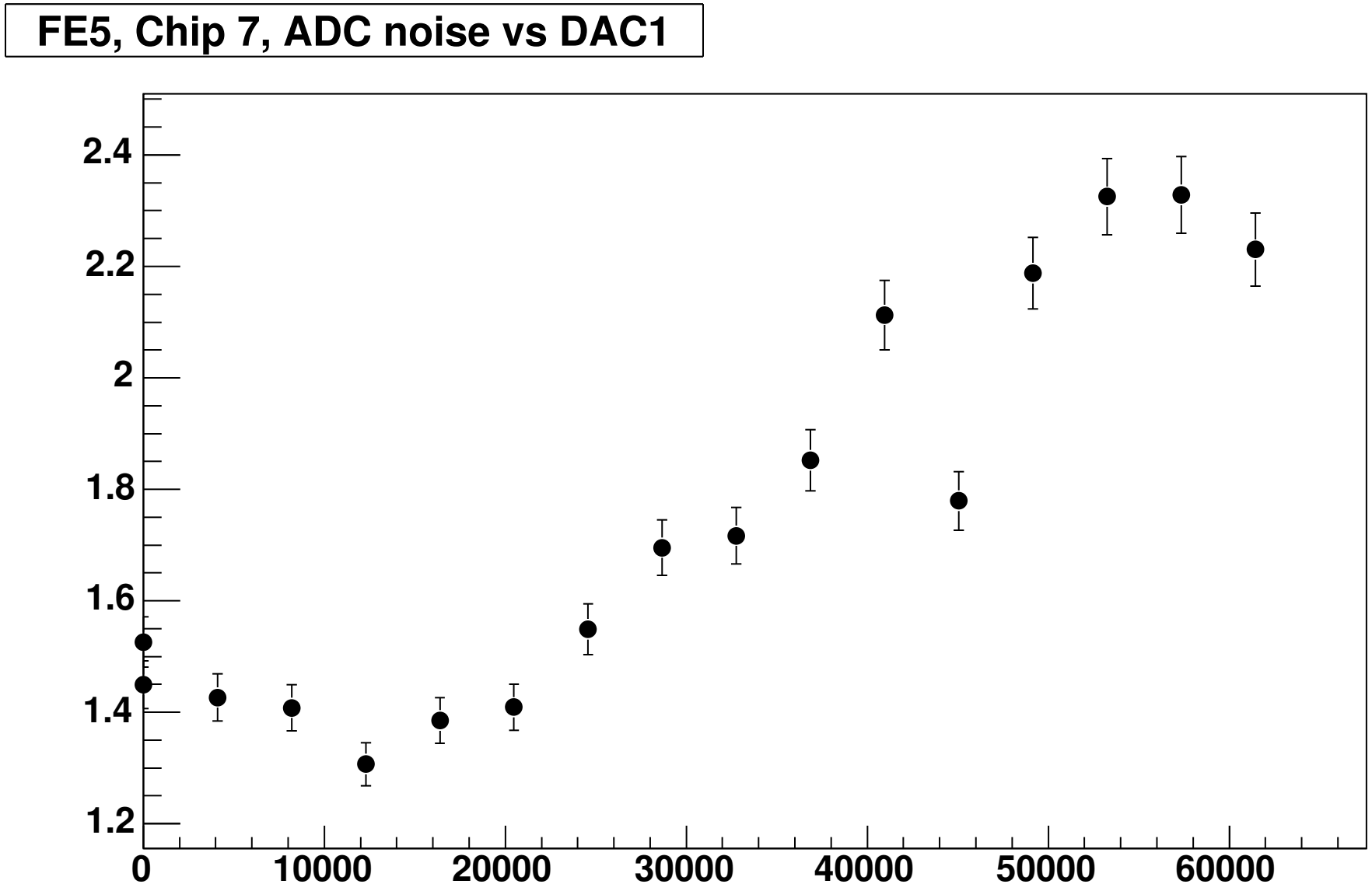

FE5, Chip 6, ADC residuals vs DAC1
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

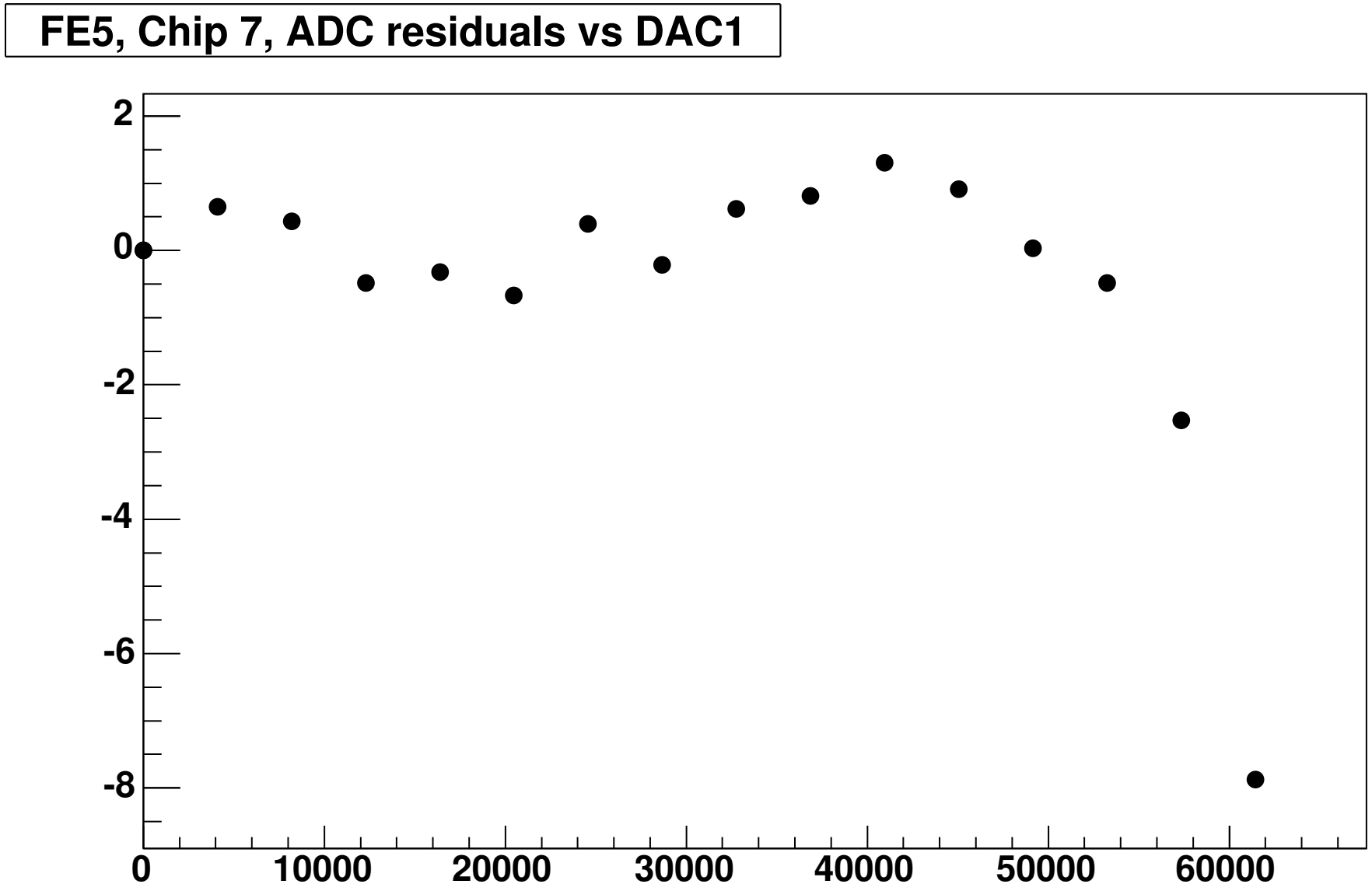

FE5, Chip 7, ADC mean vs DAC0
χ² / ndf 43.17 / 11
p0 -29.34 ± 0.04125
p1 -4.292e-06 ± 1.149e-06
-29.1
-29.2
-29.3
-29.4
-29.5
-29.6
-29.7
-29.8
-29.9
-30
0
10000
20000
30000
40000
50000
60000

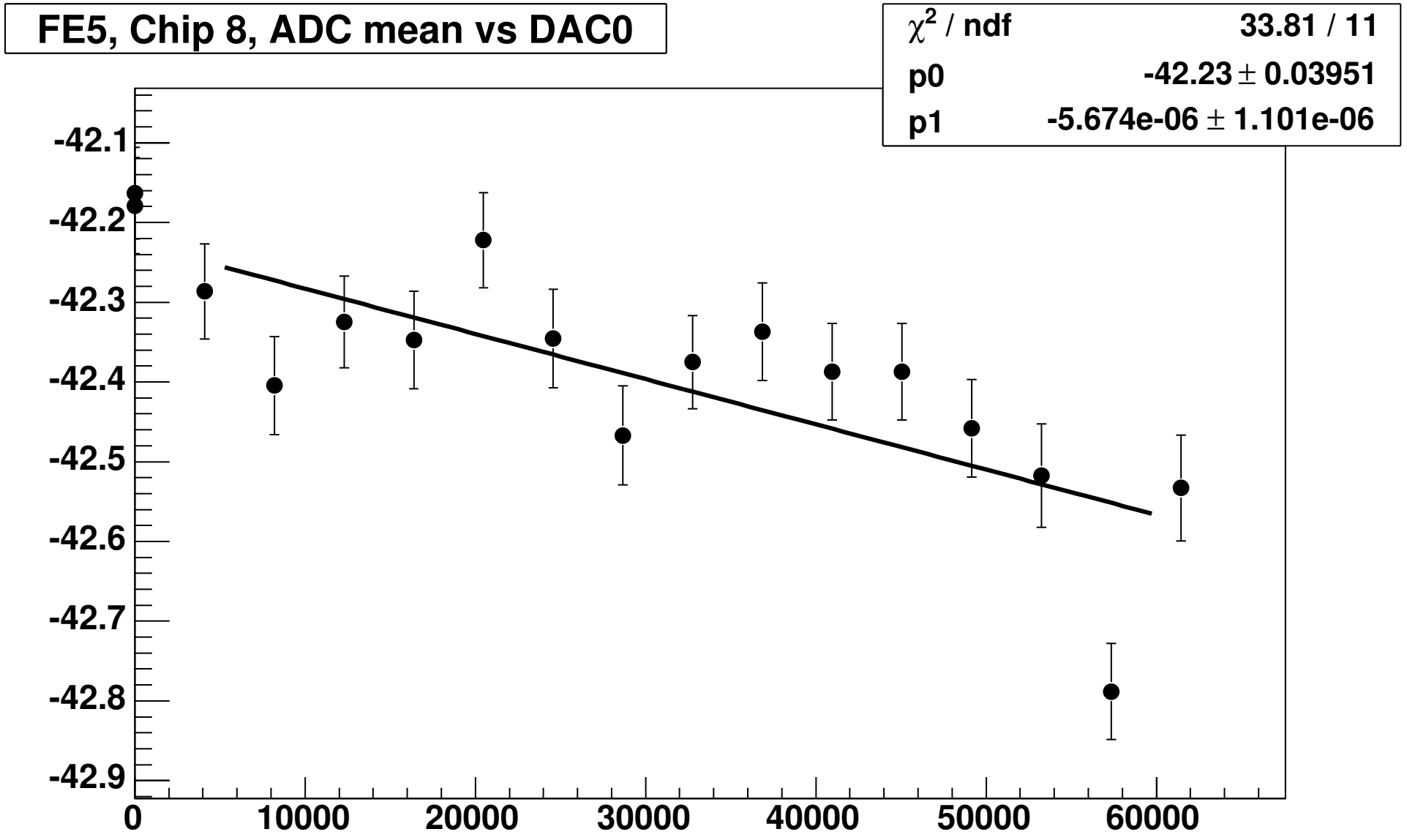

FE5, Chip 7, ADC noise vs DAC0
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

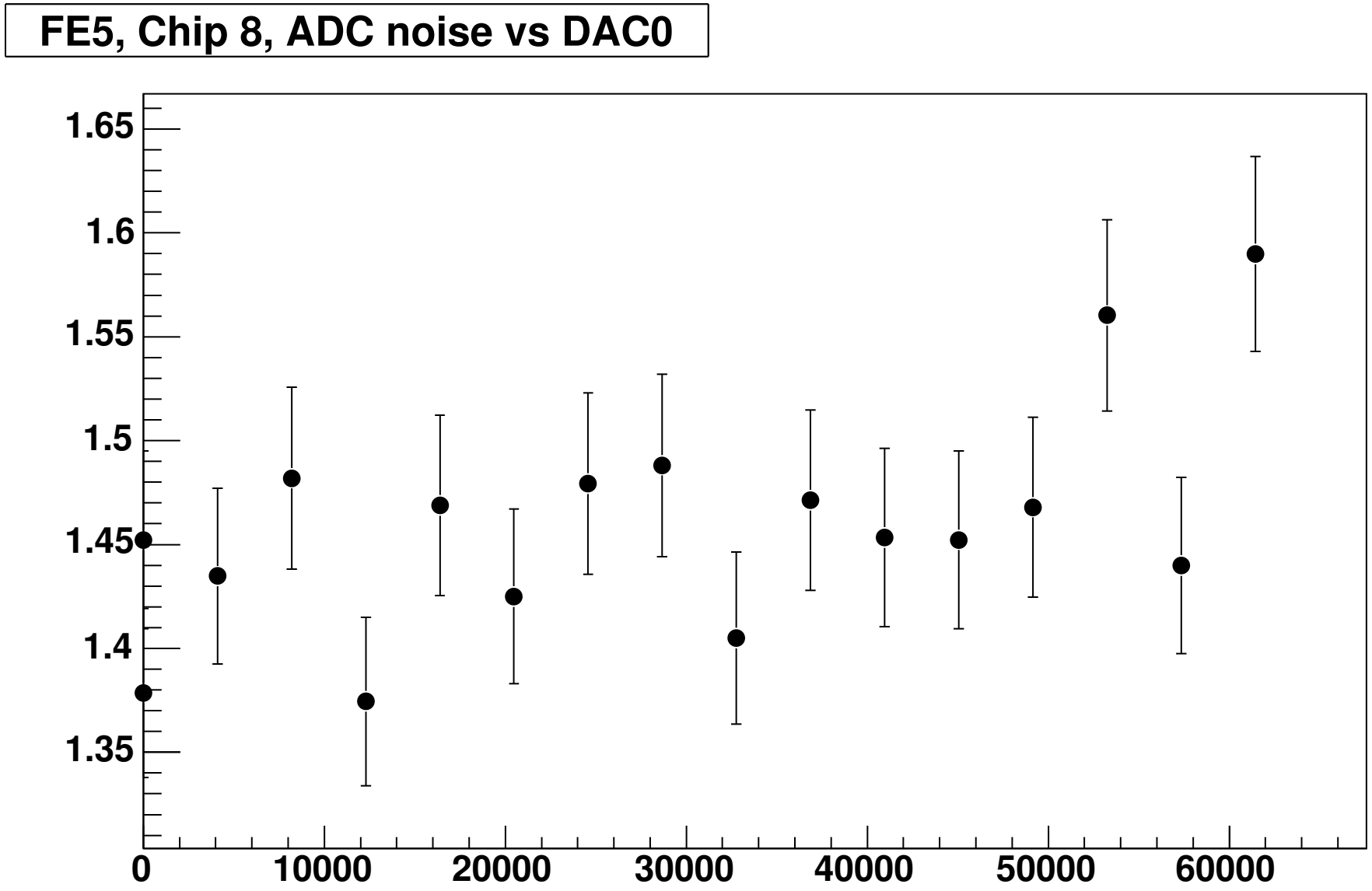

FE5, Chip 7, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

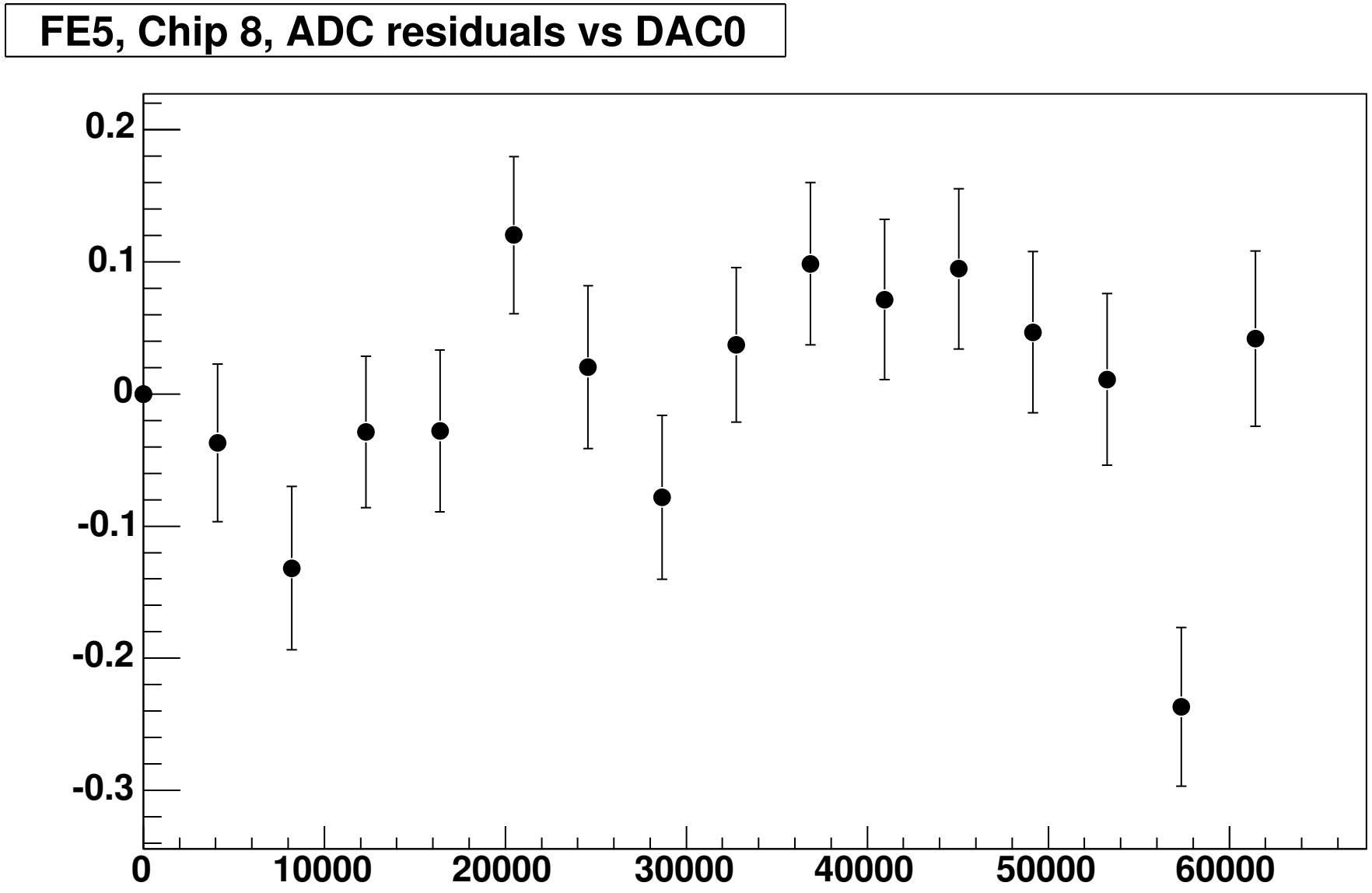

FE5, Chip 7, ADC mean vs DAC1
χ² / ndf 1604 / 11
p0 -31.49 ± 0.04127
p1 0.4508 ± 1.335e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

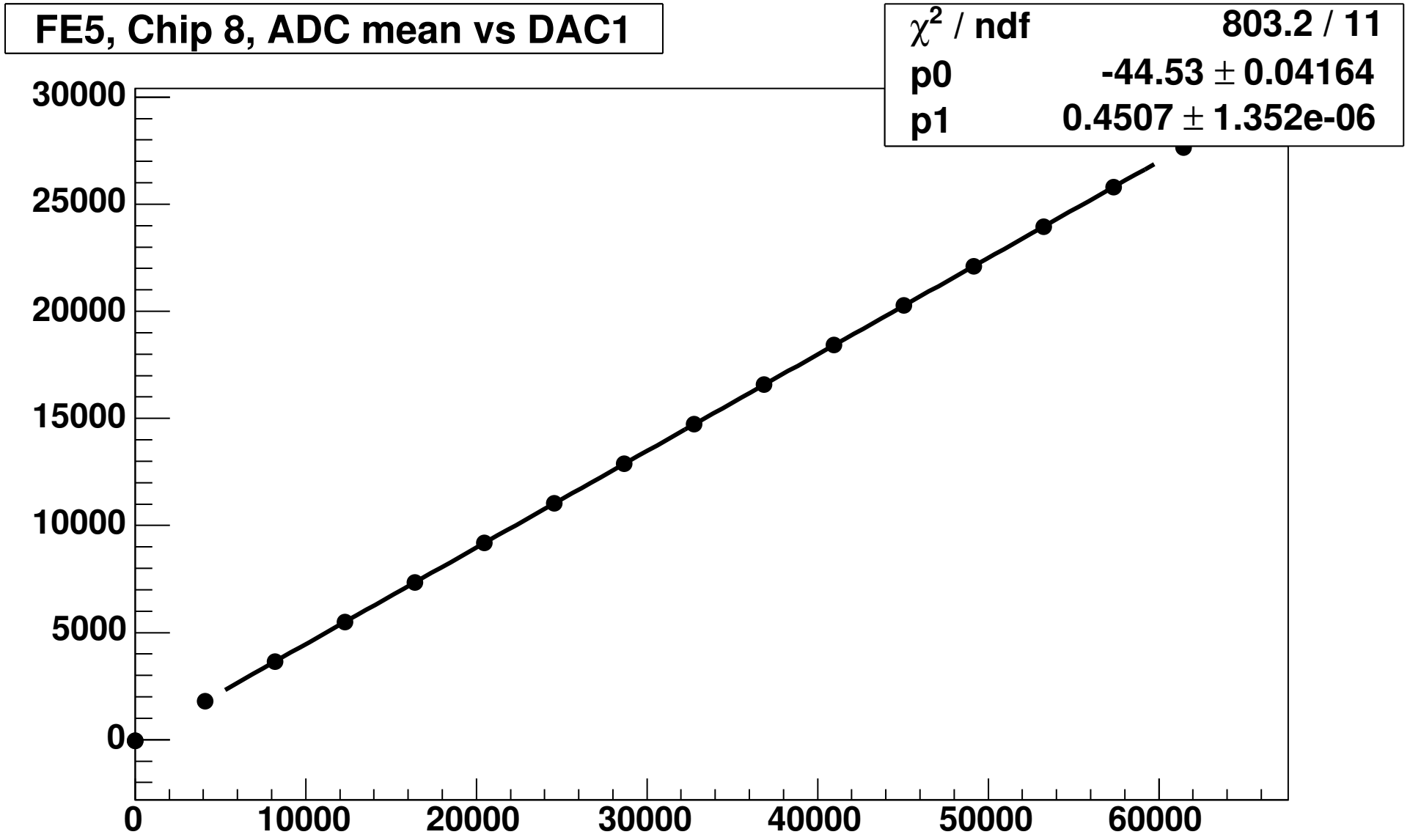

FE5, Chip 7, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

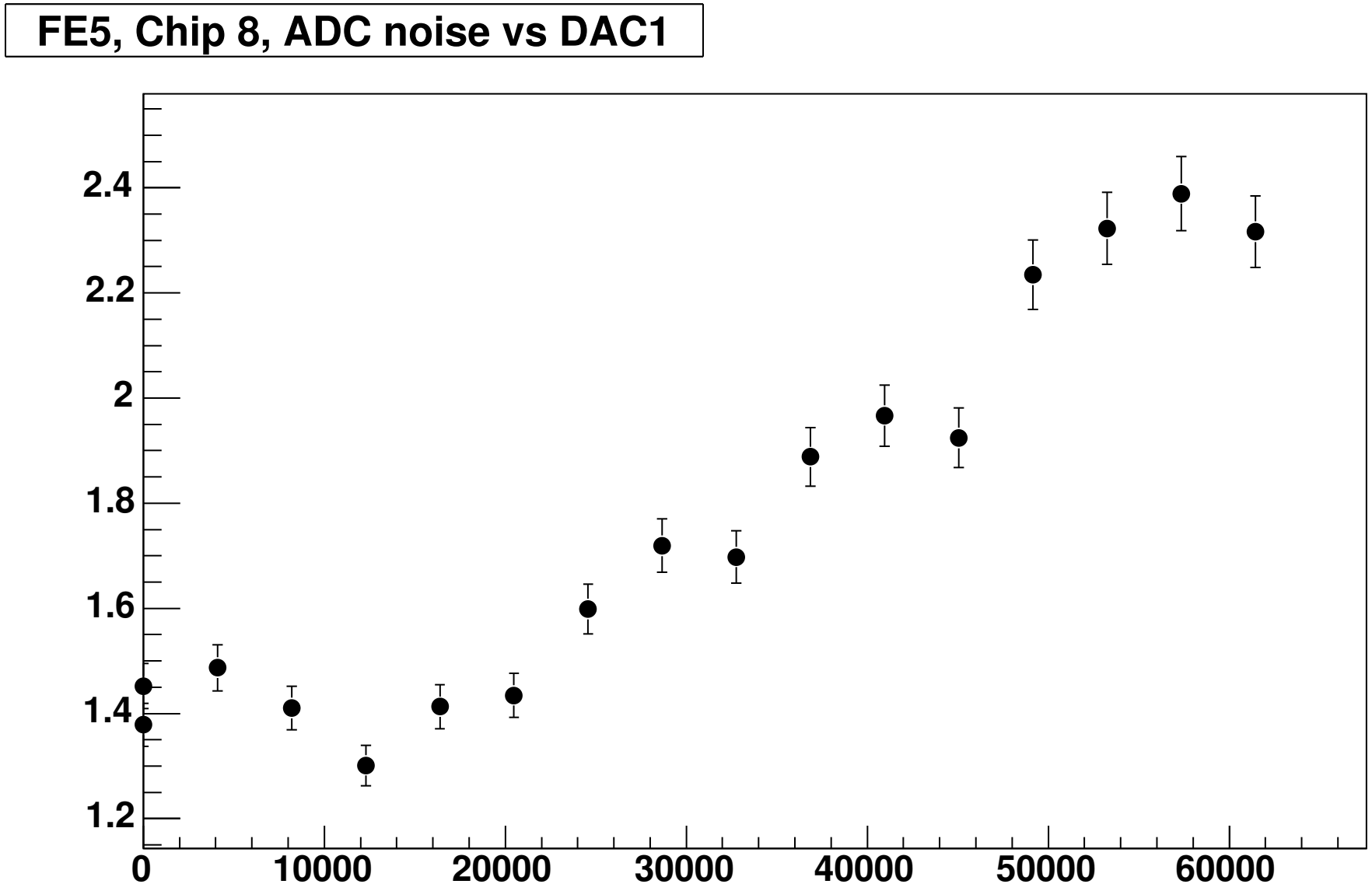

FE5, Chip 7, ADC residuals vs DAC1
2
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

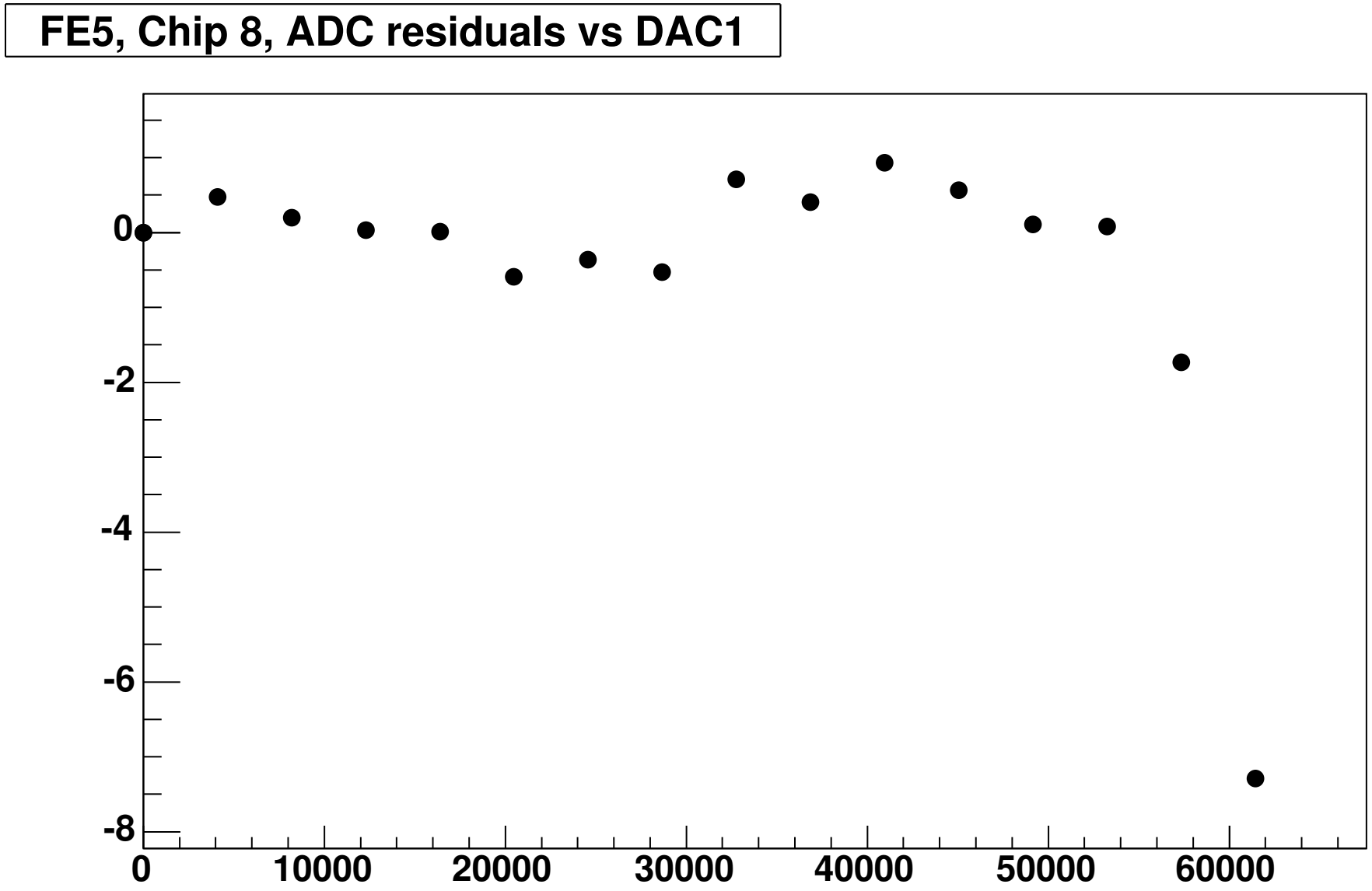

FE5, Chip 8, ADC mean vs DAC0
χ² / ndf 33.81 / 11
p0 -42.23 ± 0.03951
p1 -5.674e-06 ± 1.101e-06
-42.1
-42.2
-42.3
-42.4
-42.5
-42.6
-42.7
-42.8
-42.9
0
10000
20000
30000
40000
50000
60000

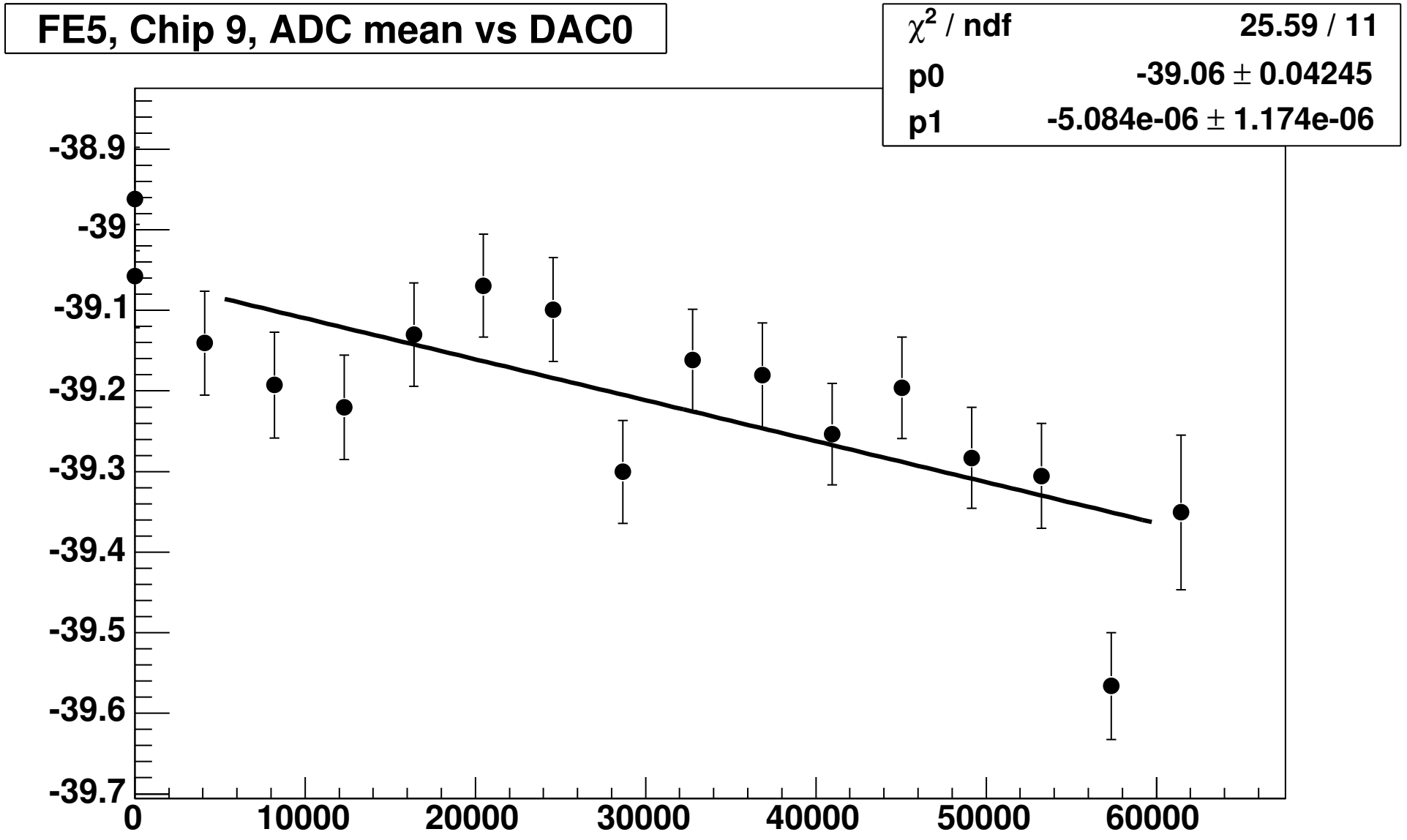

FE5, Chip 8, ADC noise vs DAC0
1.65
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

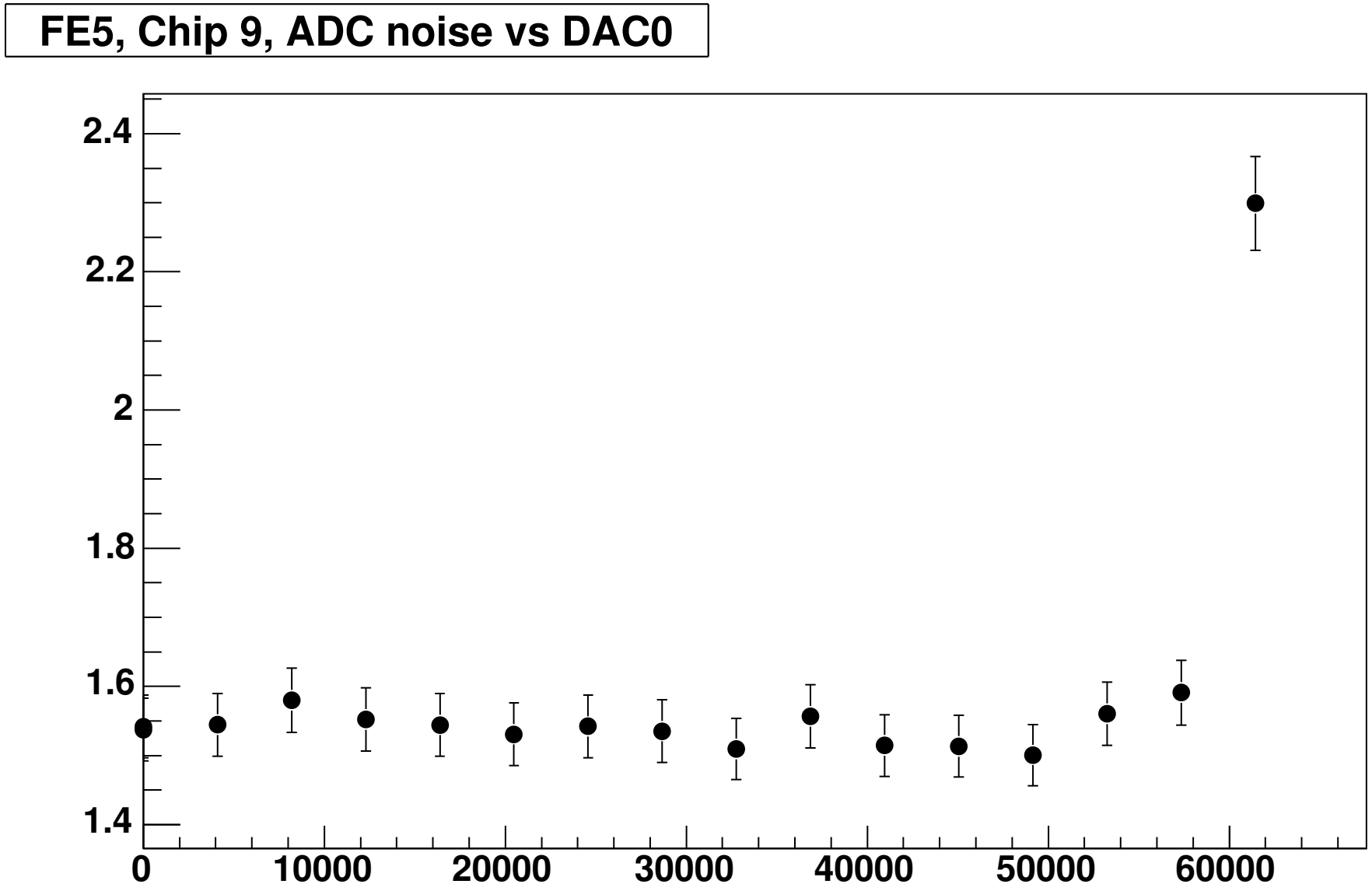

FE5, Chip 8, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

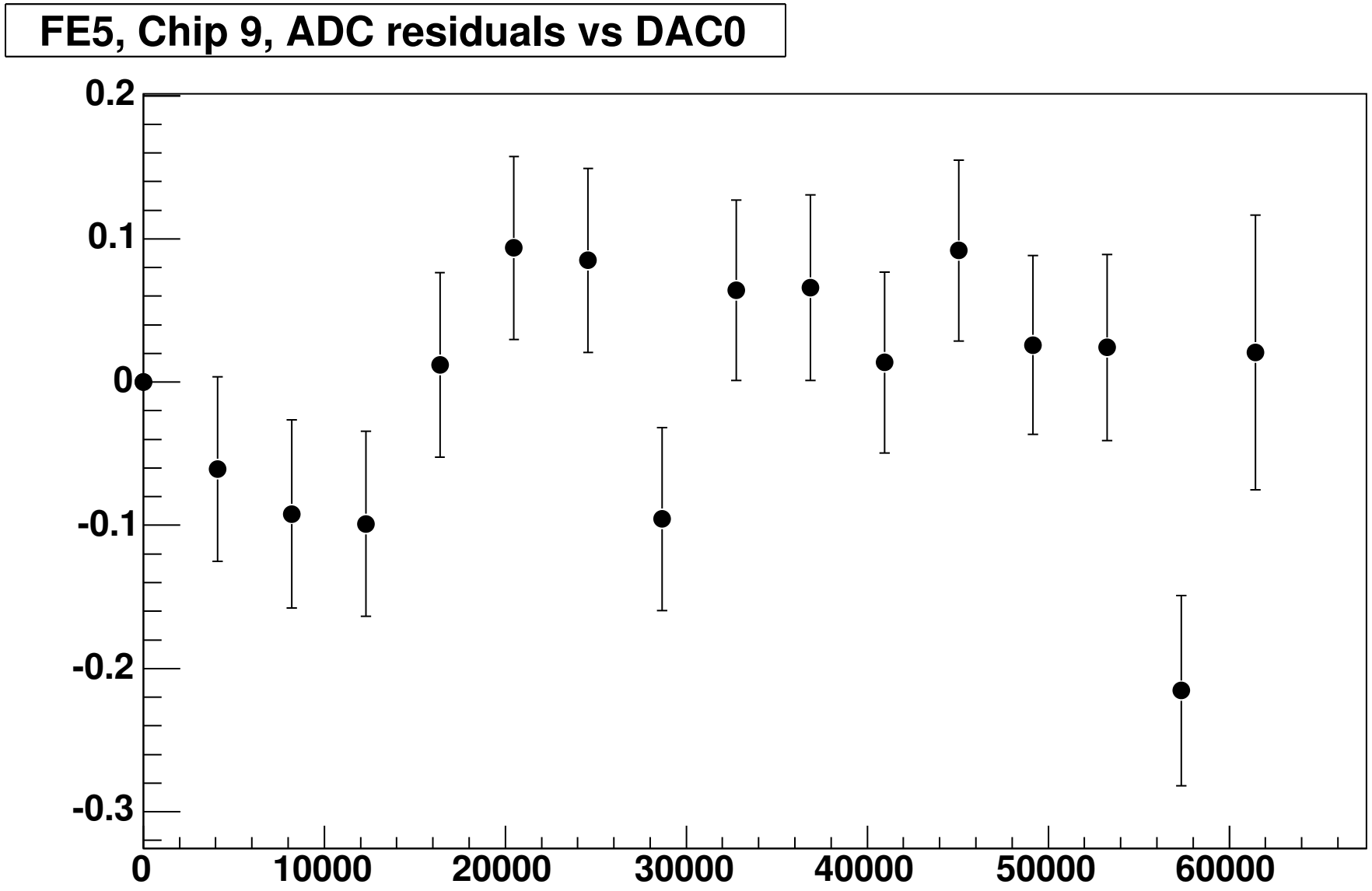

FE5, Chip 8, ADC mean vs DAC1
χ² / ndf 803.2 / 11
p0 -44.53 ± 0.04164
p1 0.4507 ± 1.352e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

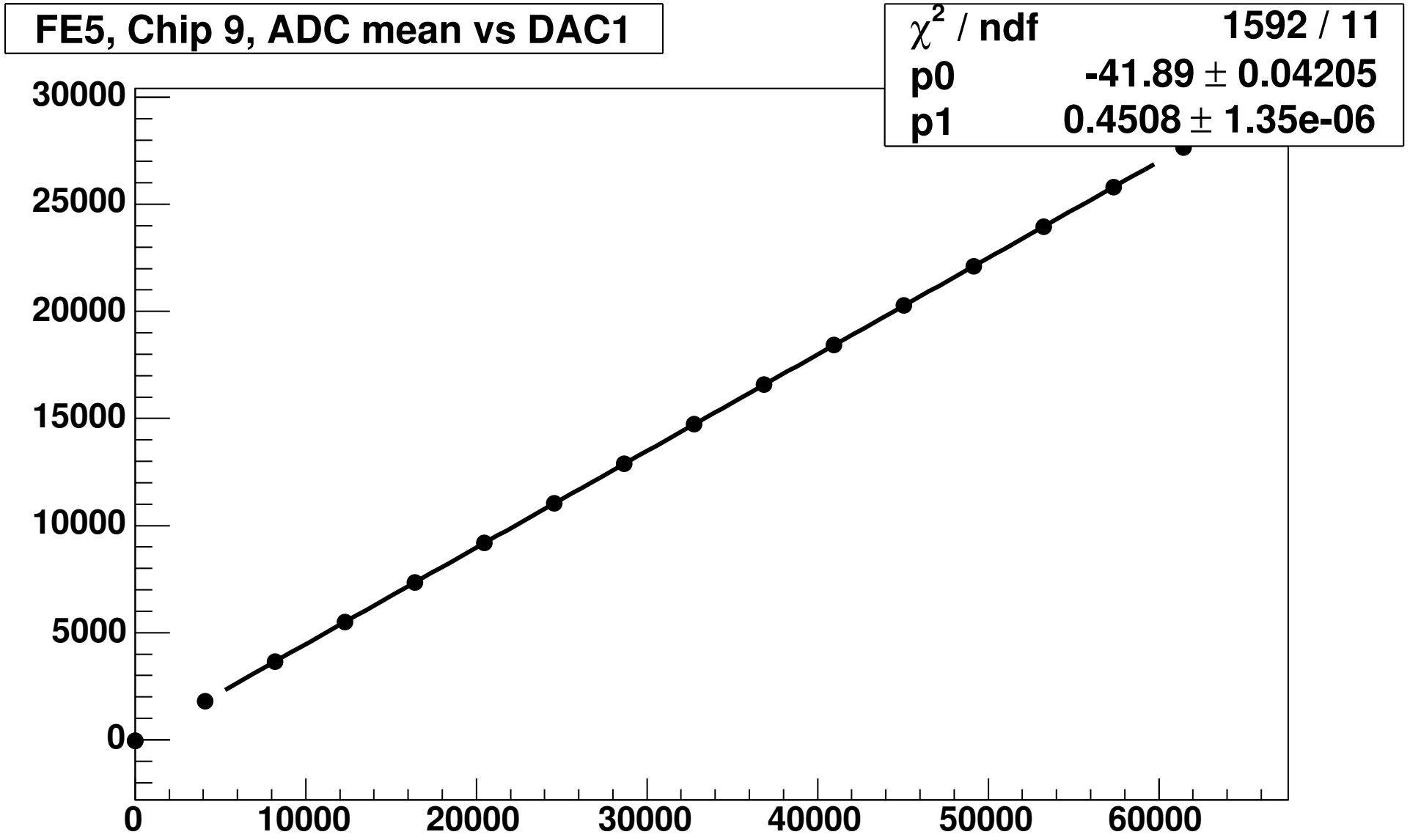

FE5, Chip 8, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

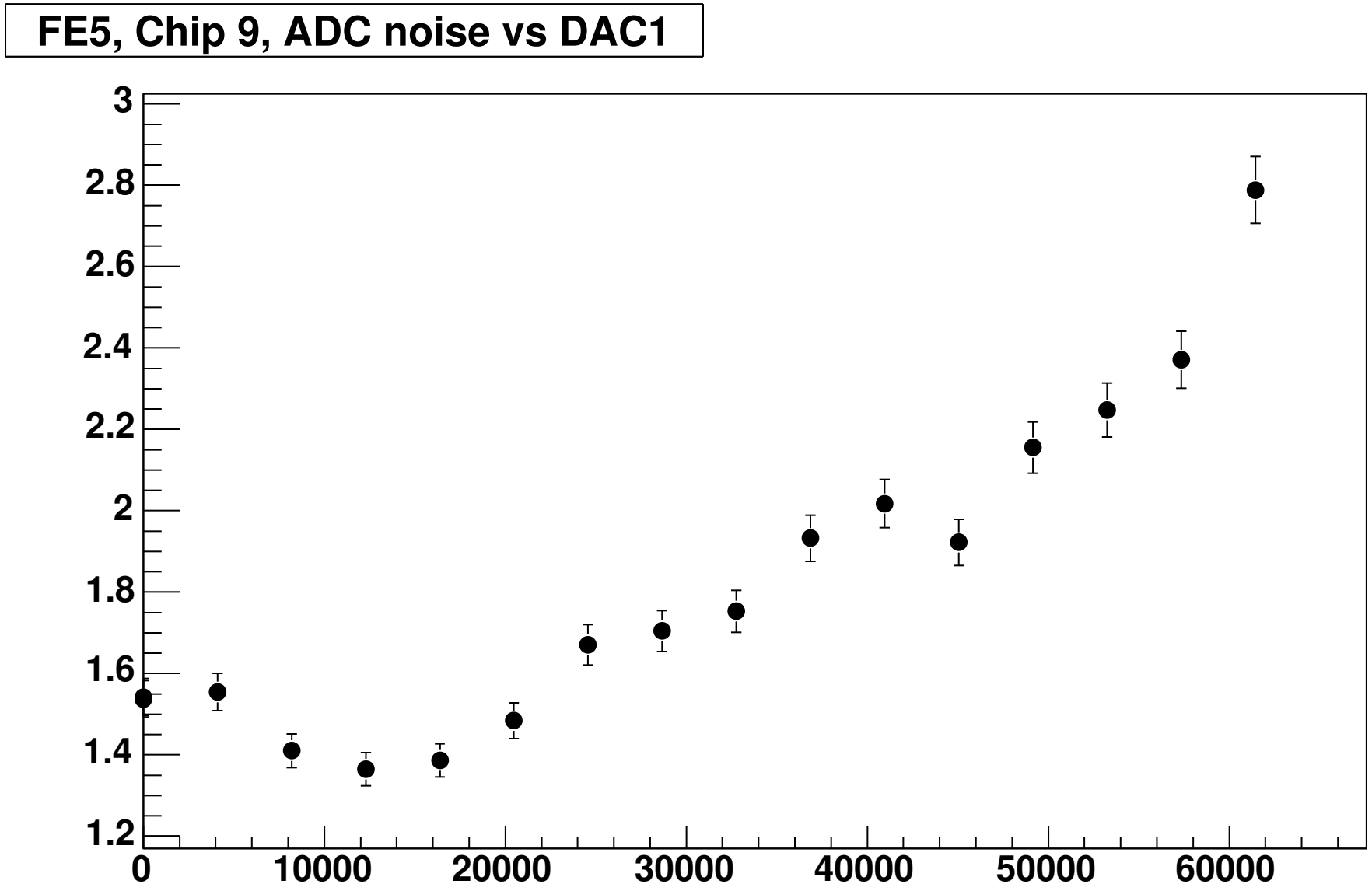

FE5, Chip 8, ADC residuals vs DAC1
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

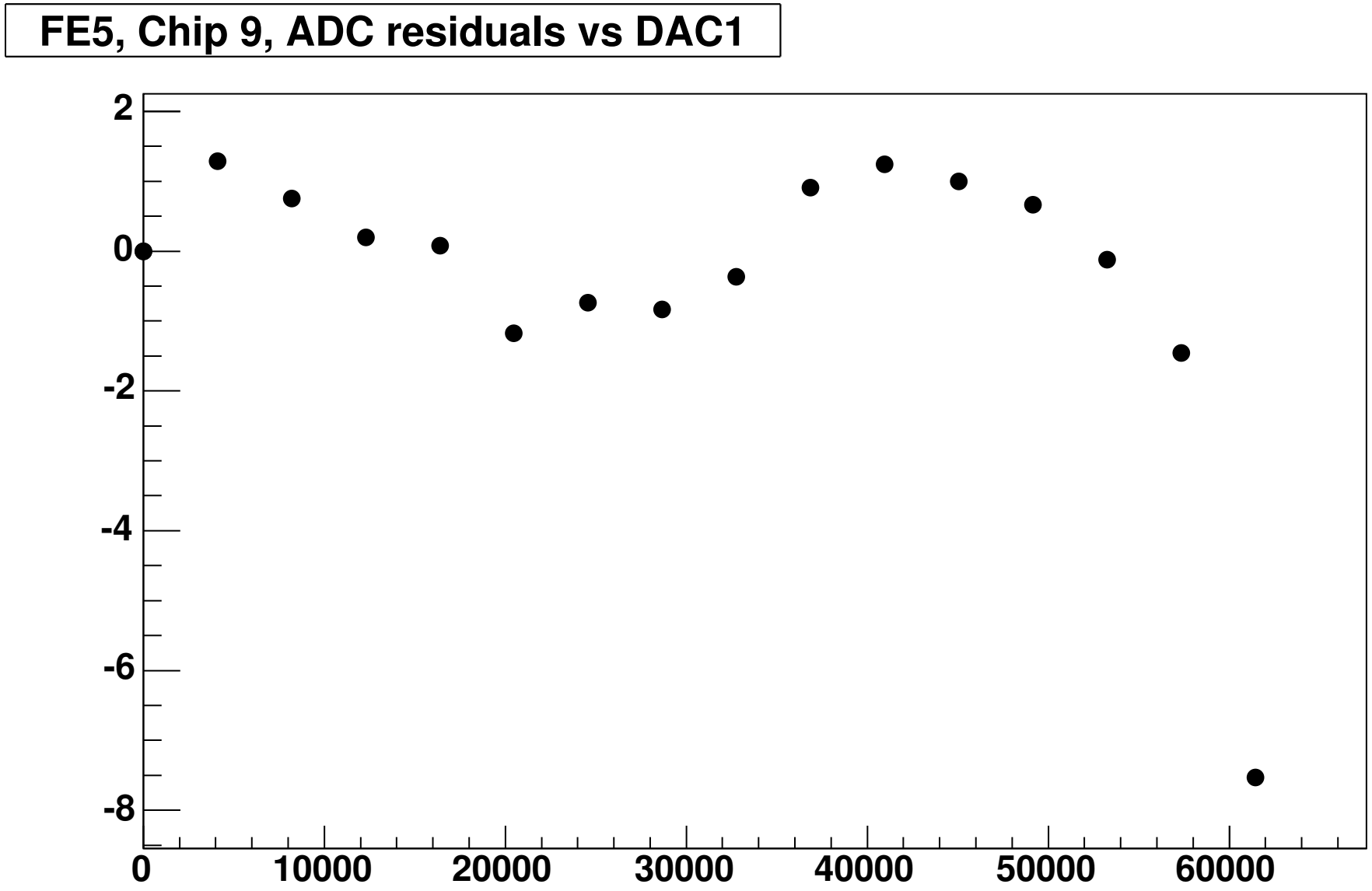

FE5, Chip 9, ADC mean vs DAC0
χ² / ndf 25.59 / 11
p0 -39.06 ± 0.04245
p1 -5.084e-06 ± 1.174e-06
-38.9
-39
-39.1
-39.2
-39.3
-39.4
-39.5
-39.6
-39.7
0
10000
20000
30000
40000
50000
60000

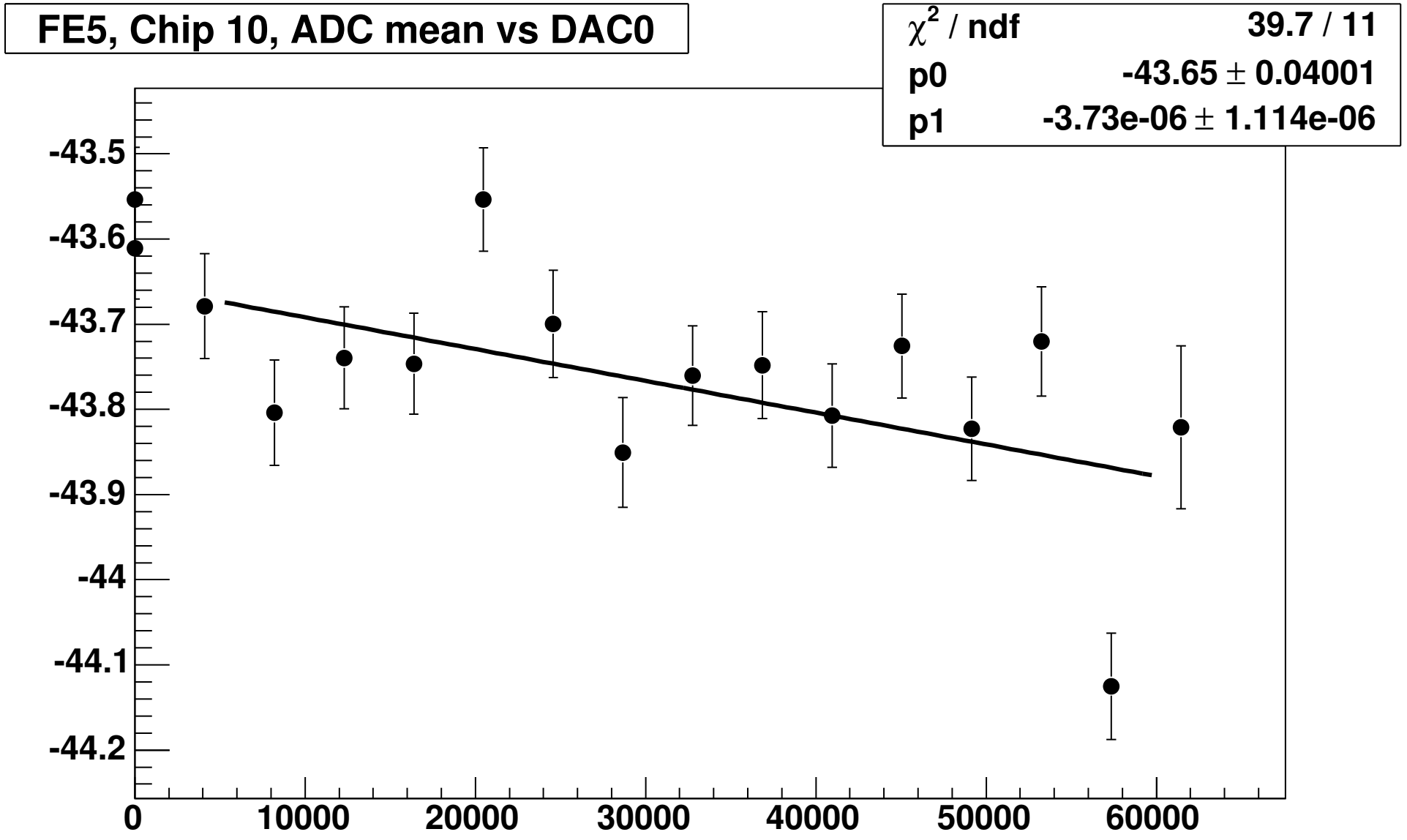

FE5, Chip 9, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

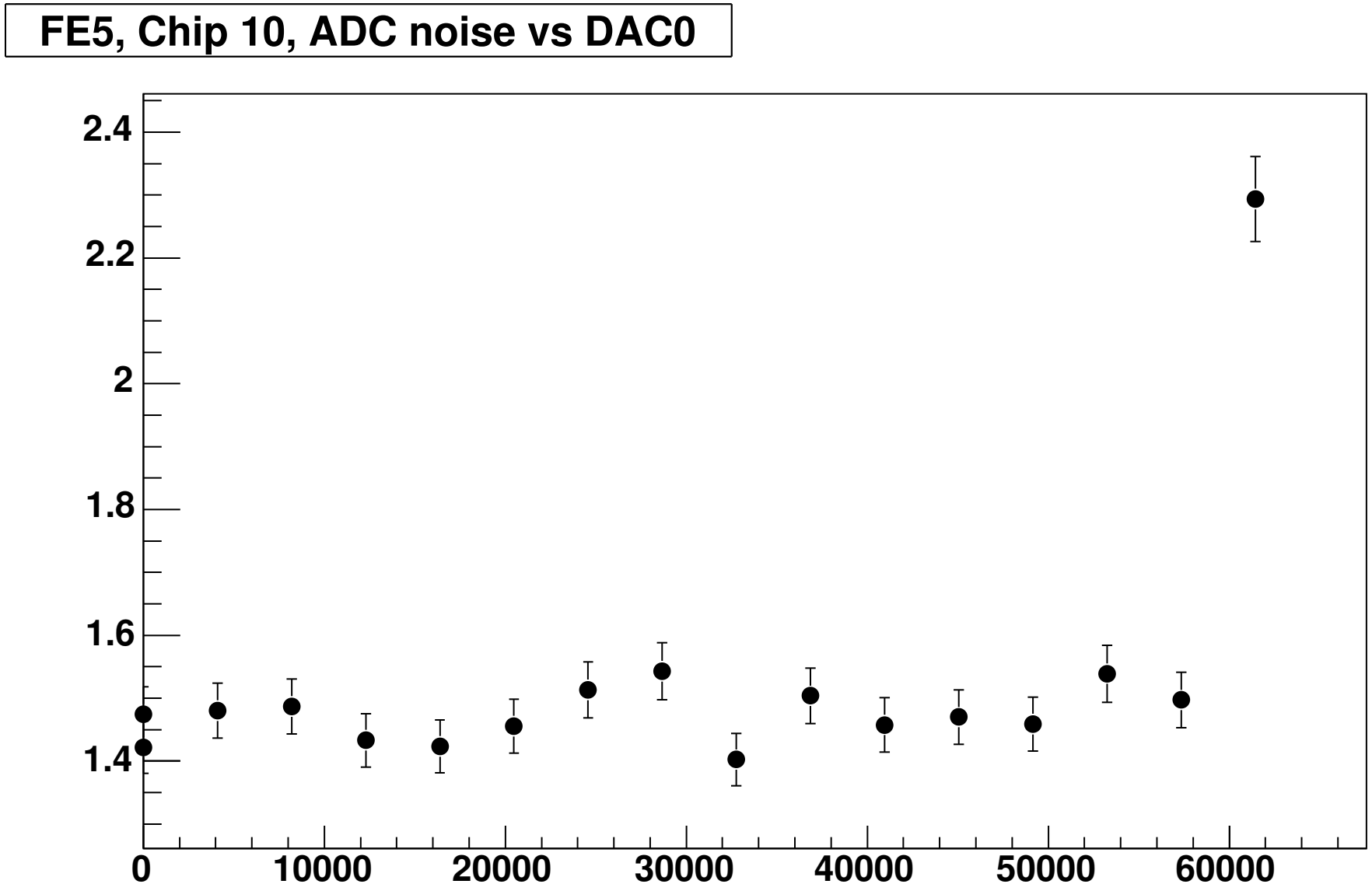

FE5, Chip 9, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

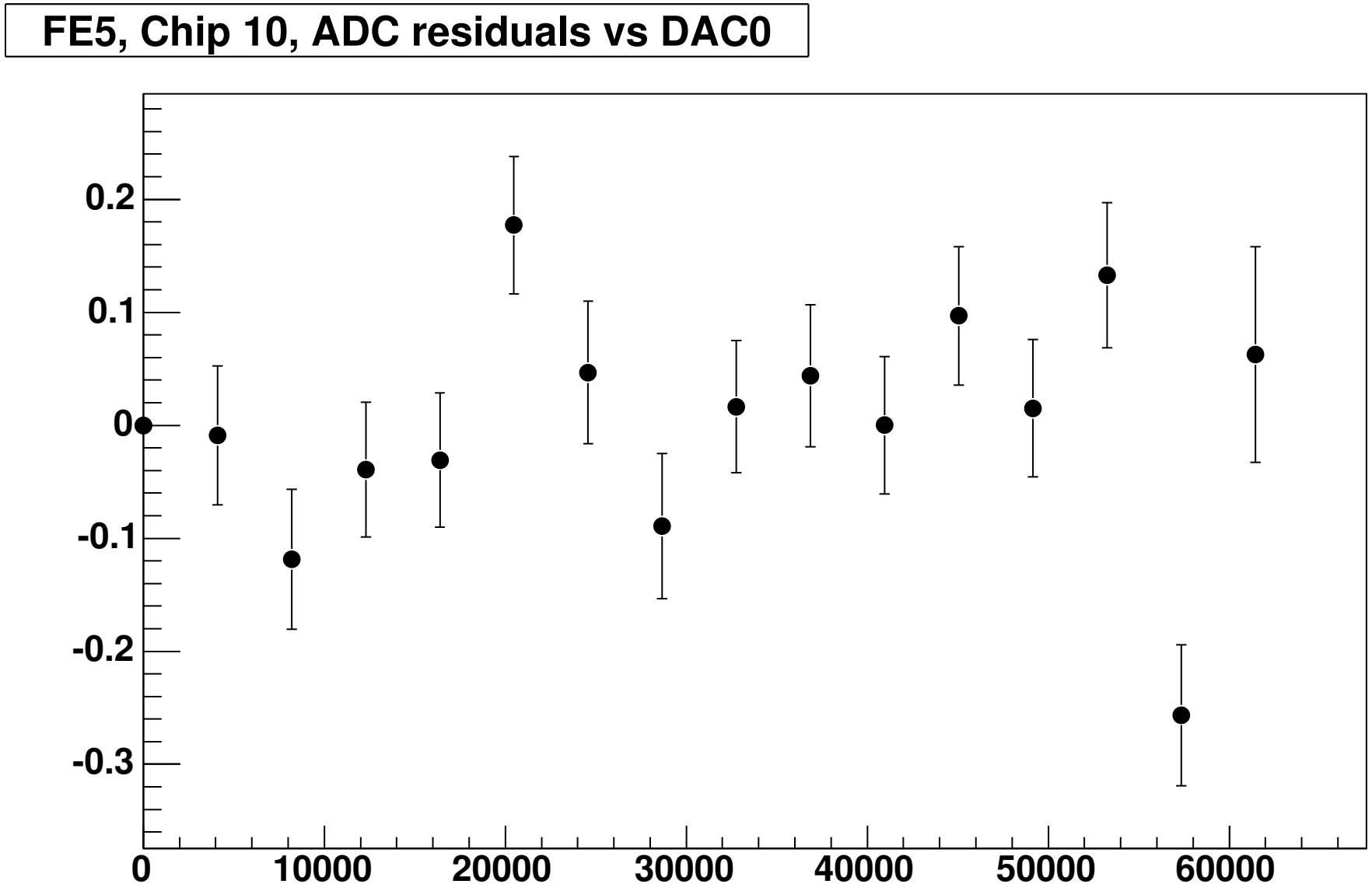

FE5, Chip 9, ADC mean vs DAC1
χ² / ndf 1592 / 11
p0 -41.89 ± 0.04205
p1 0.4508 ± 1.35e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

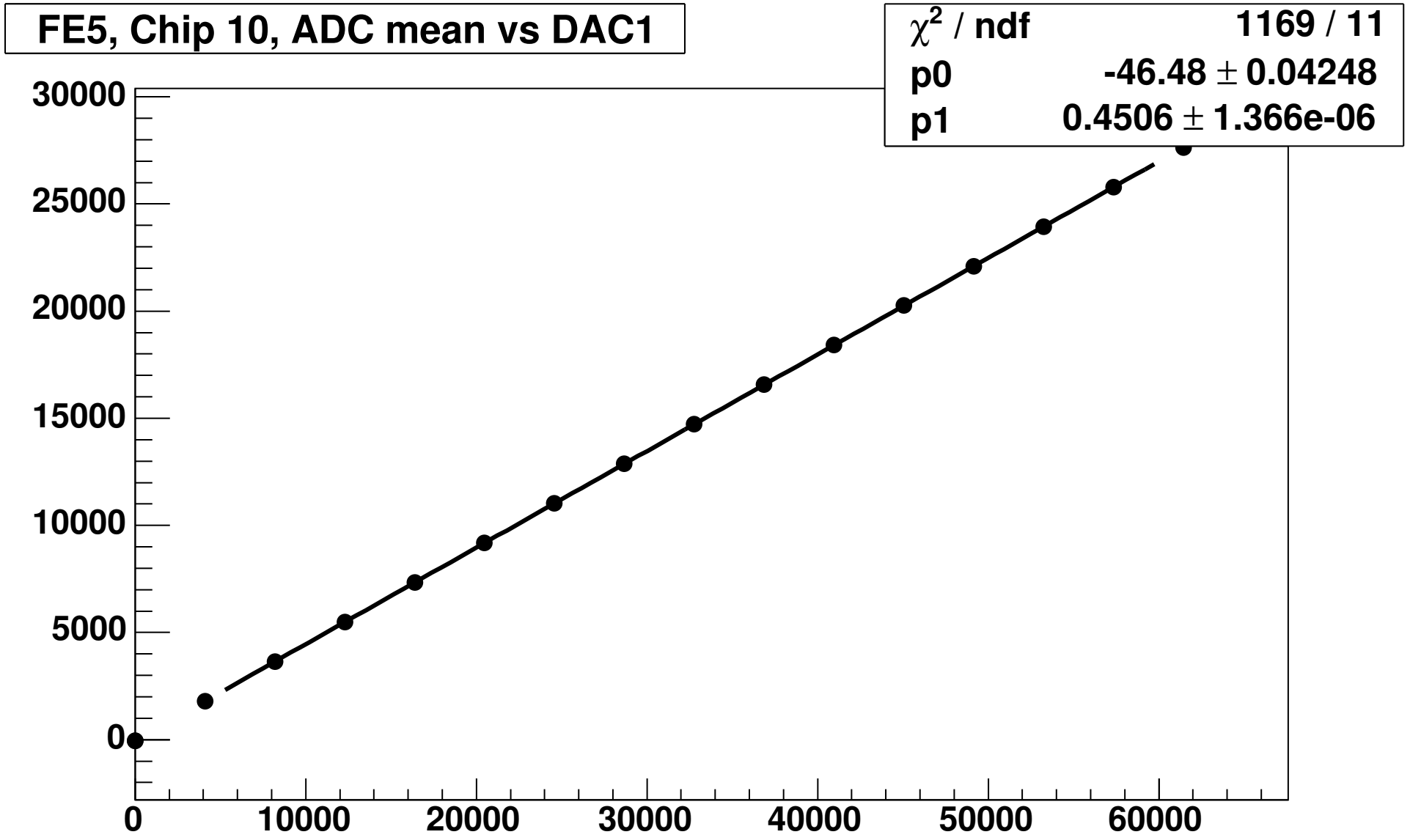

FE5, Chip 9, ADC noise vs DAC1
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

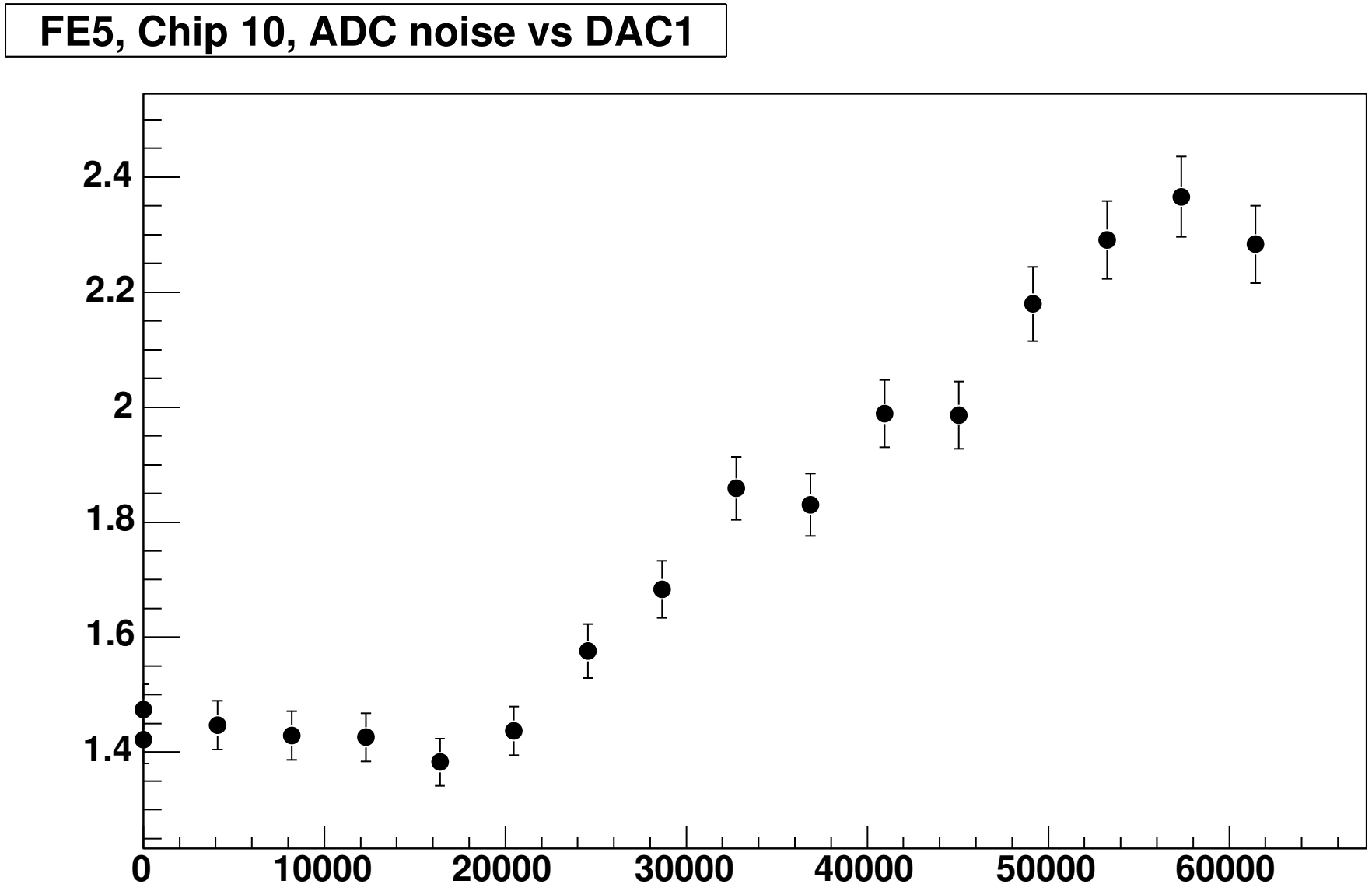

FE5, Chip 9, ADC residuals vs DAC1
2
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

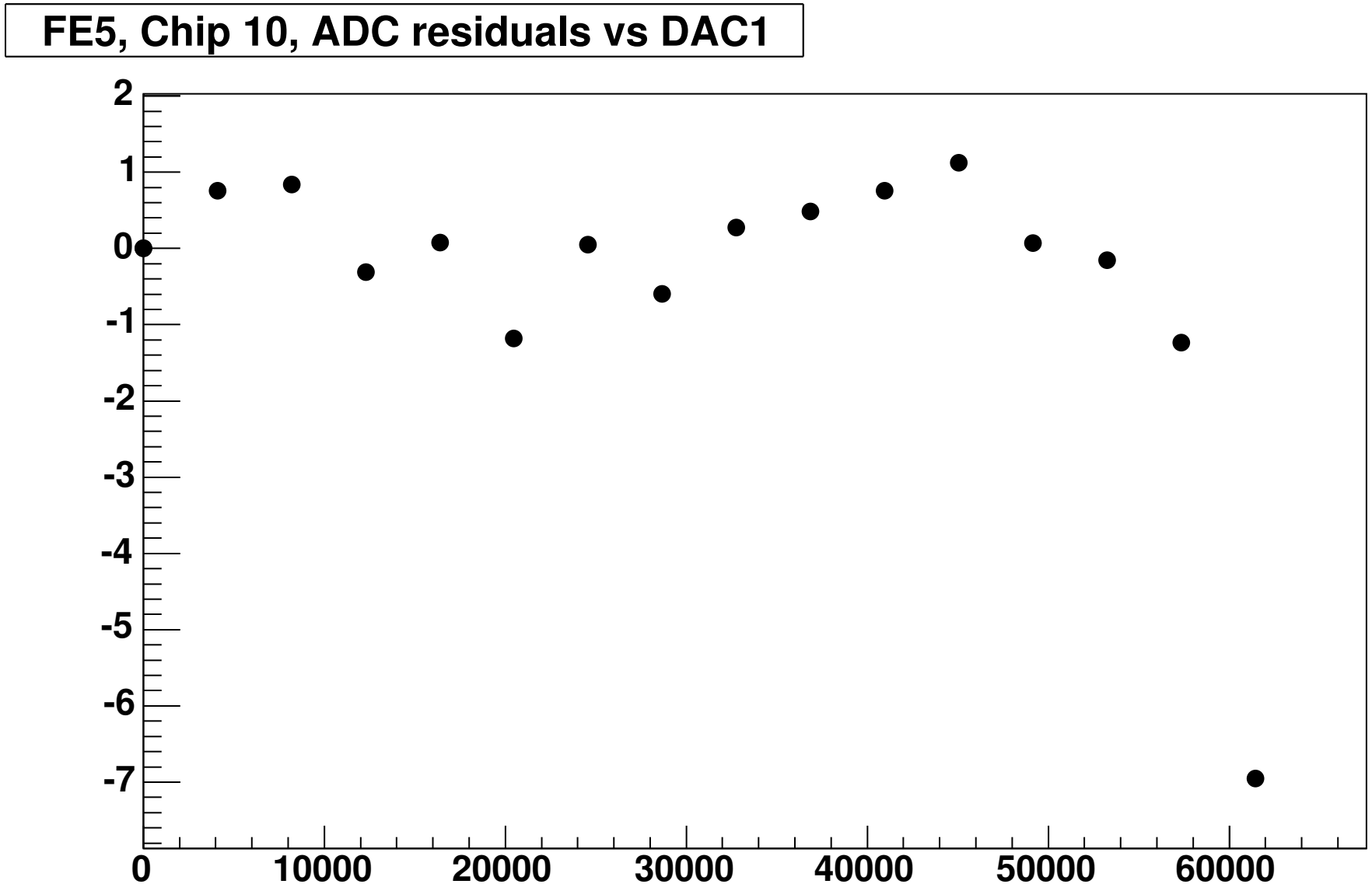

FE5, Chip 10, ADC mean vs DAC0
χ² / ndf 39.7 / 11
p0 -43.65 ± 0.04001
p1 -3.73e-06 ± 1.114e-06
-43.5
-43.6
-43.7
-43.8
-43.9
-44
-44.1
-44.2
0
10000
20000
30000
40000
50000
60000

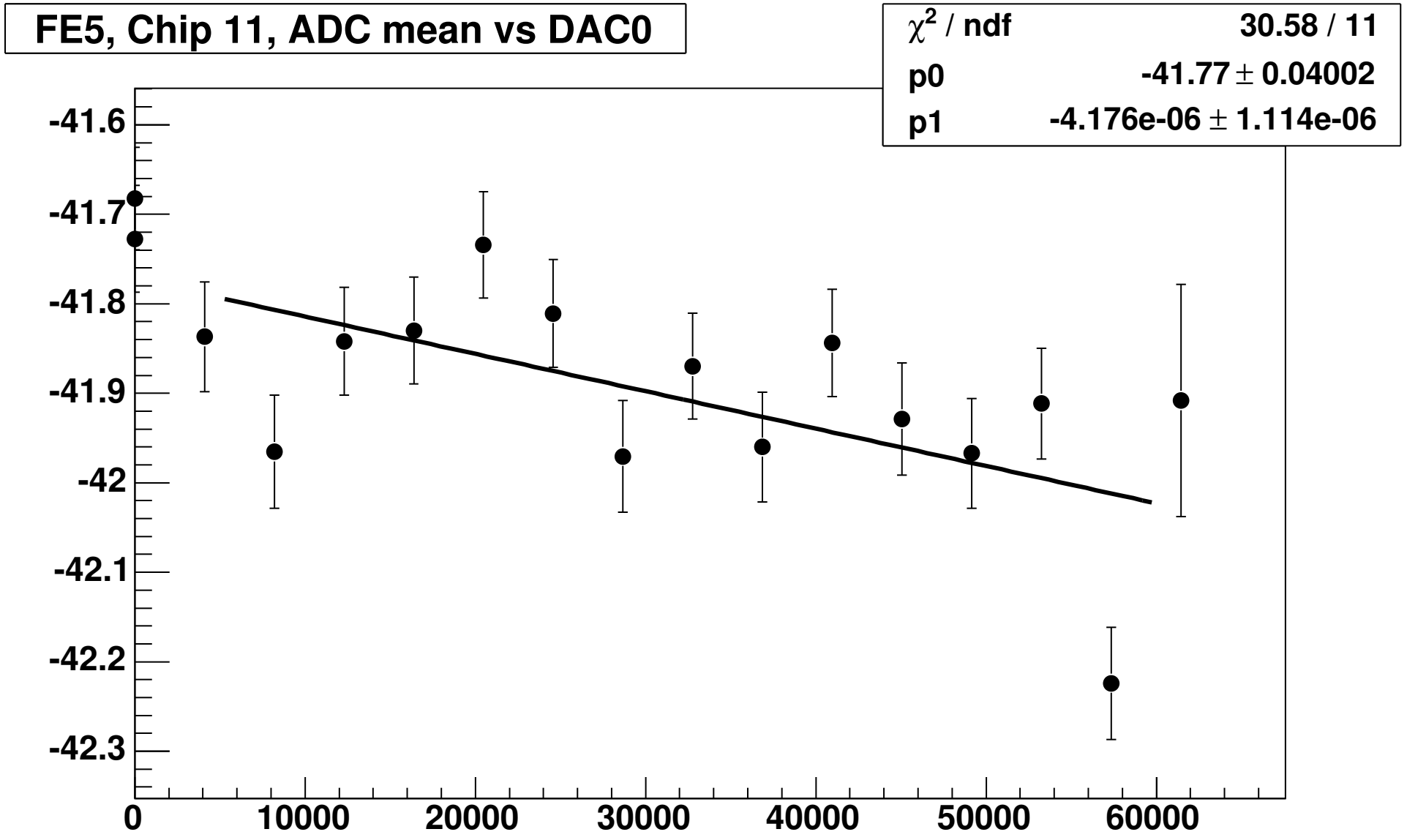

FE5, Chip 10, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

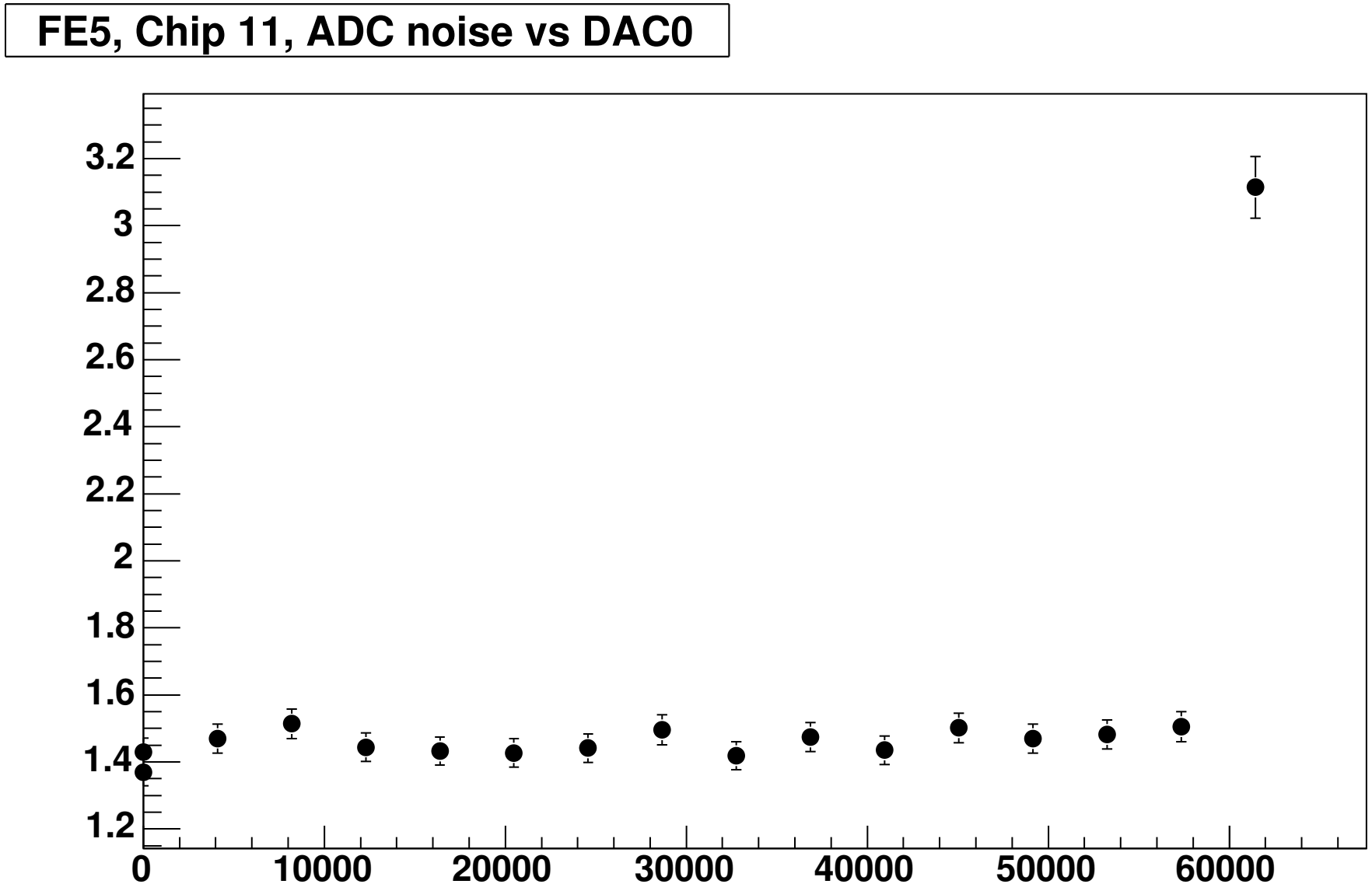

FE5, Chip 10, ADC residuals vs DAC0
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

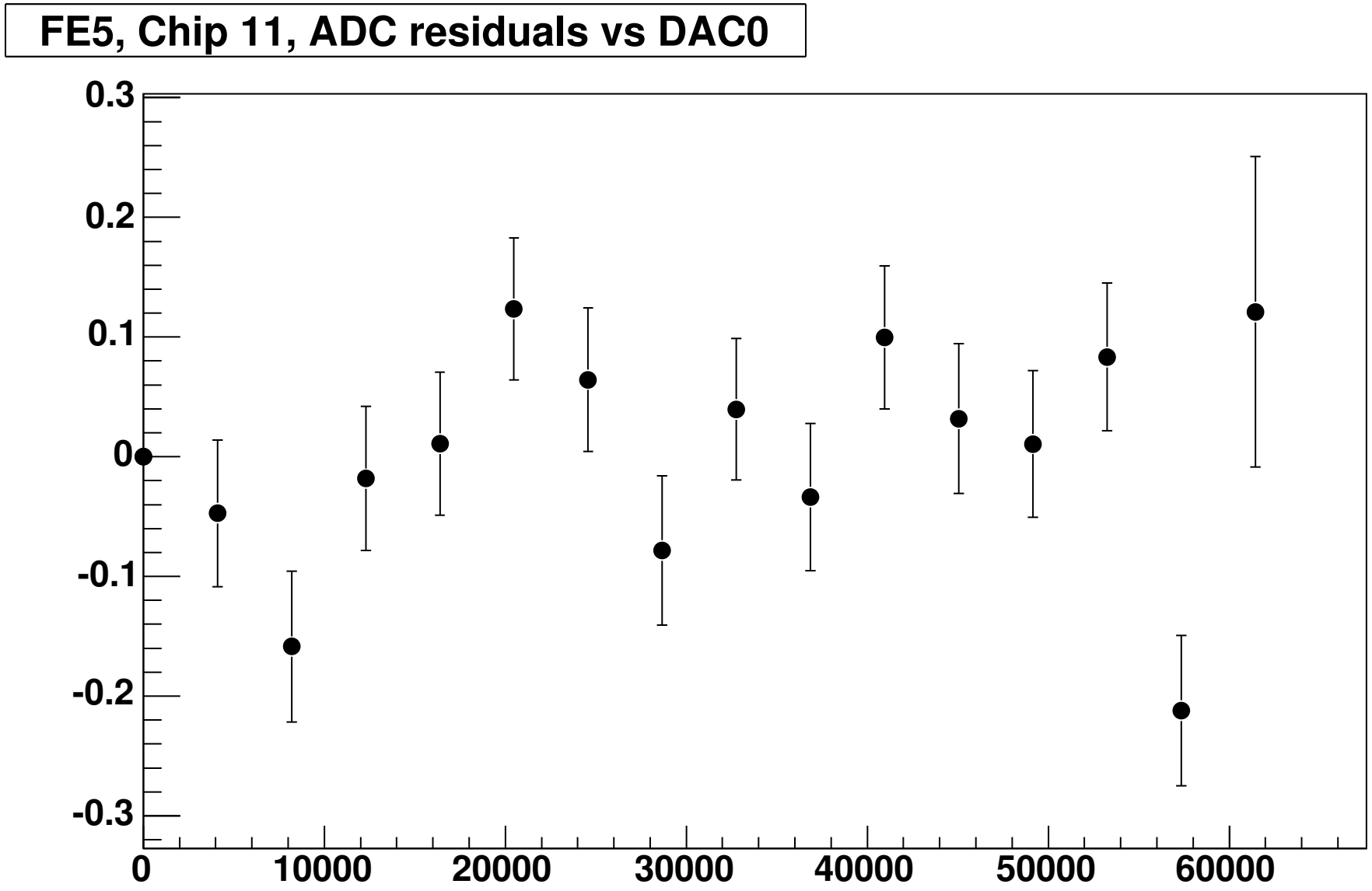

FE5, Chip 10, ADC mean vs DAC1
χ² / ndf 1169 / 11
p0 -46.48 ± 0.04248
p1 0.4506 ± 1.366e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

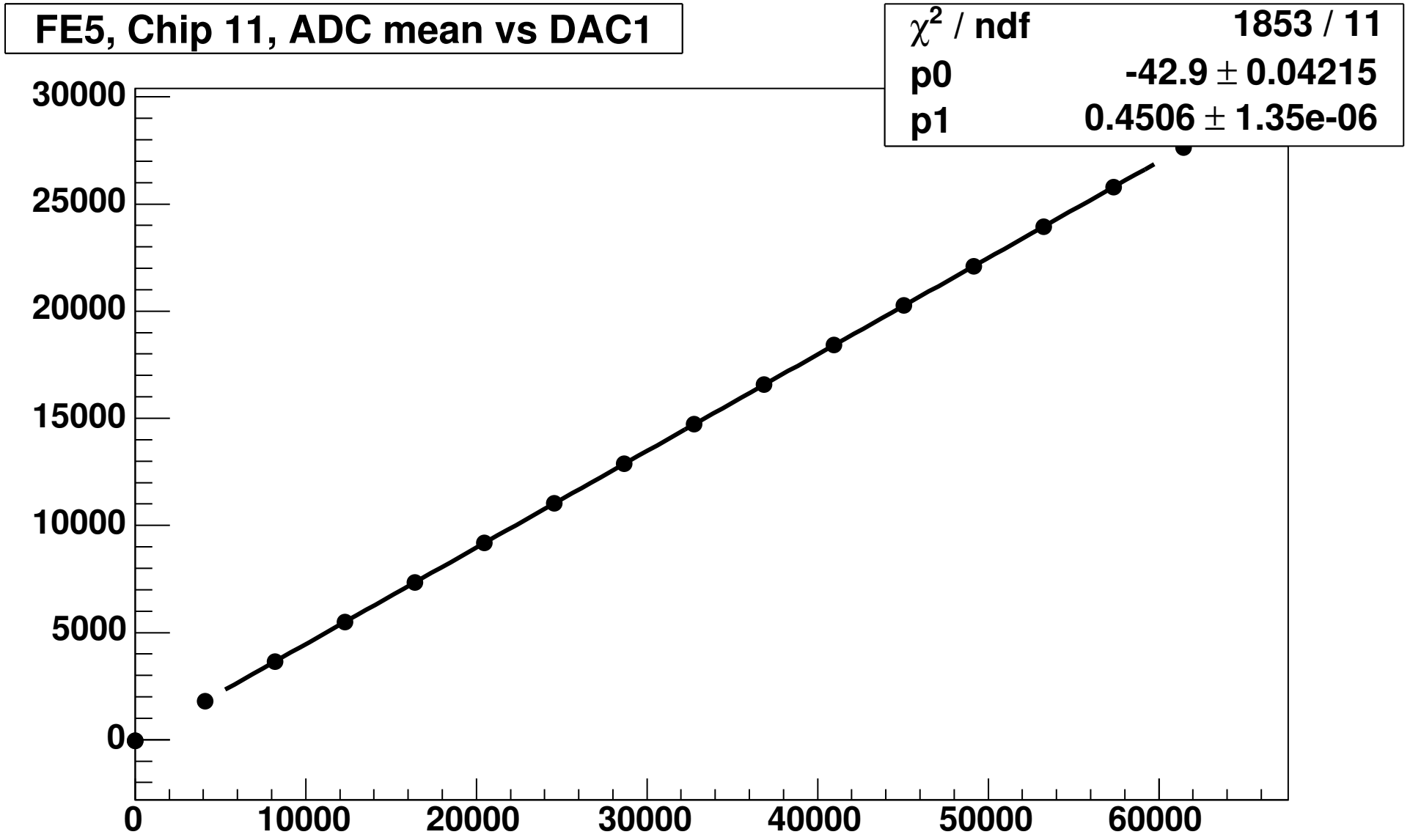

FE5, Chip 10, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

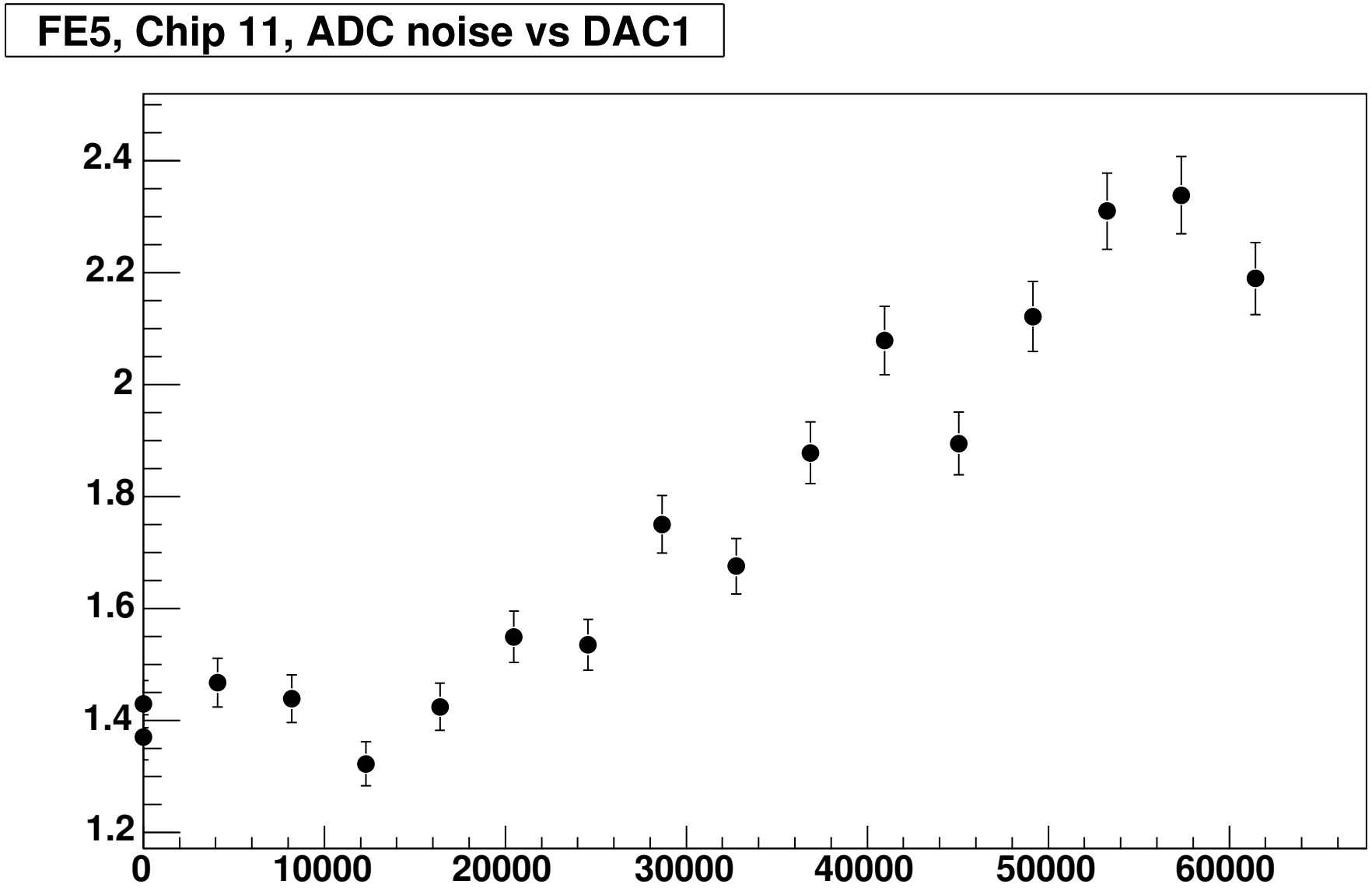

FE5, Chip 10, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
-7
0
10000
20000
30000
40000
50000
60000

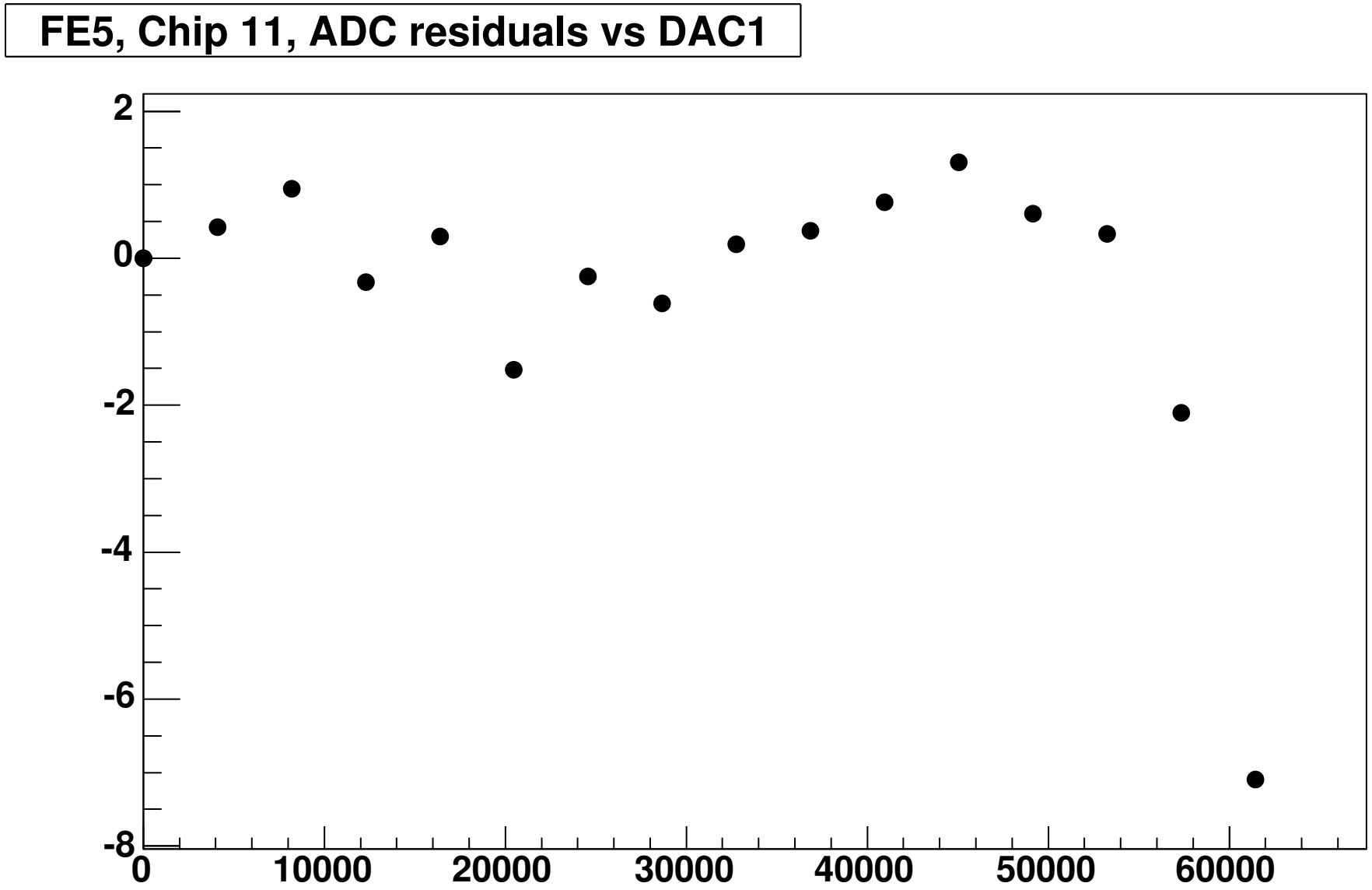

FE5, Chip 11, ADC mean vs DAC0
χ² / ndf 30.58 / 11
p0 -41.77 ± 0.04002
p1 -4.176e-06 ± 1.114e-06
-41.6
-41.7
-41.8
-41.9
-42
-42.1
-42.2
-42.3
0
10000
20000
30000
40000
50000
60000

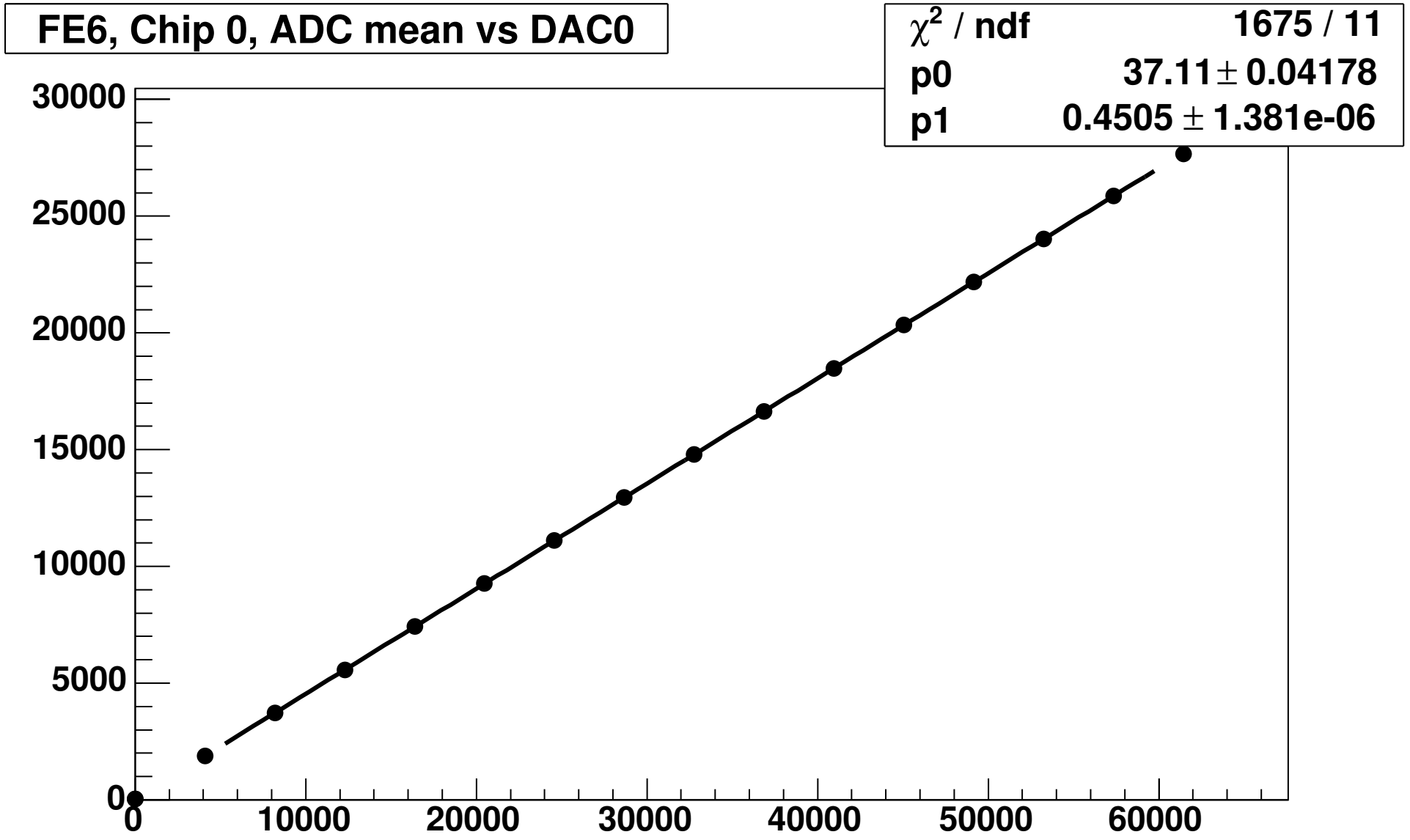

FE5, Chip 11, ADC noise vs DAC0
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

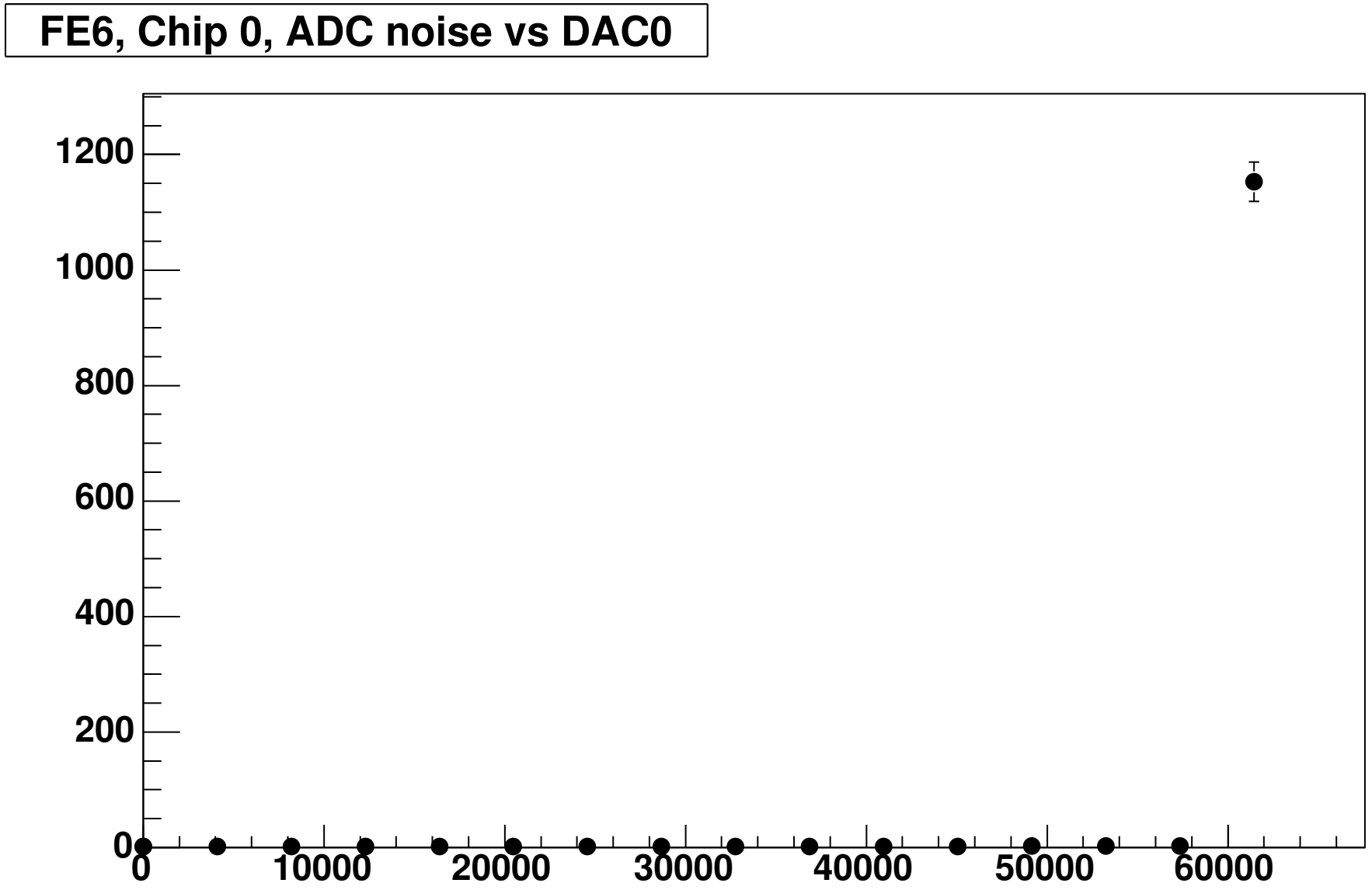

FE5, Chip 11, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

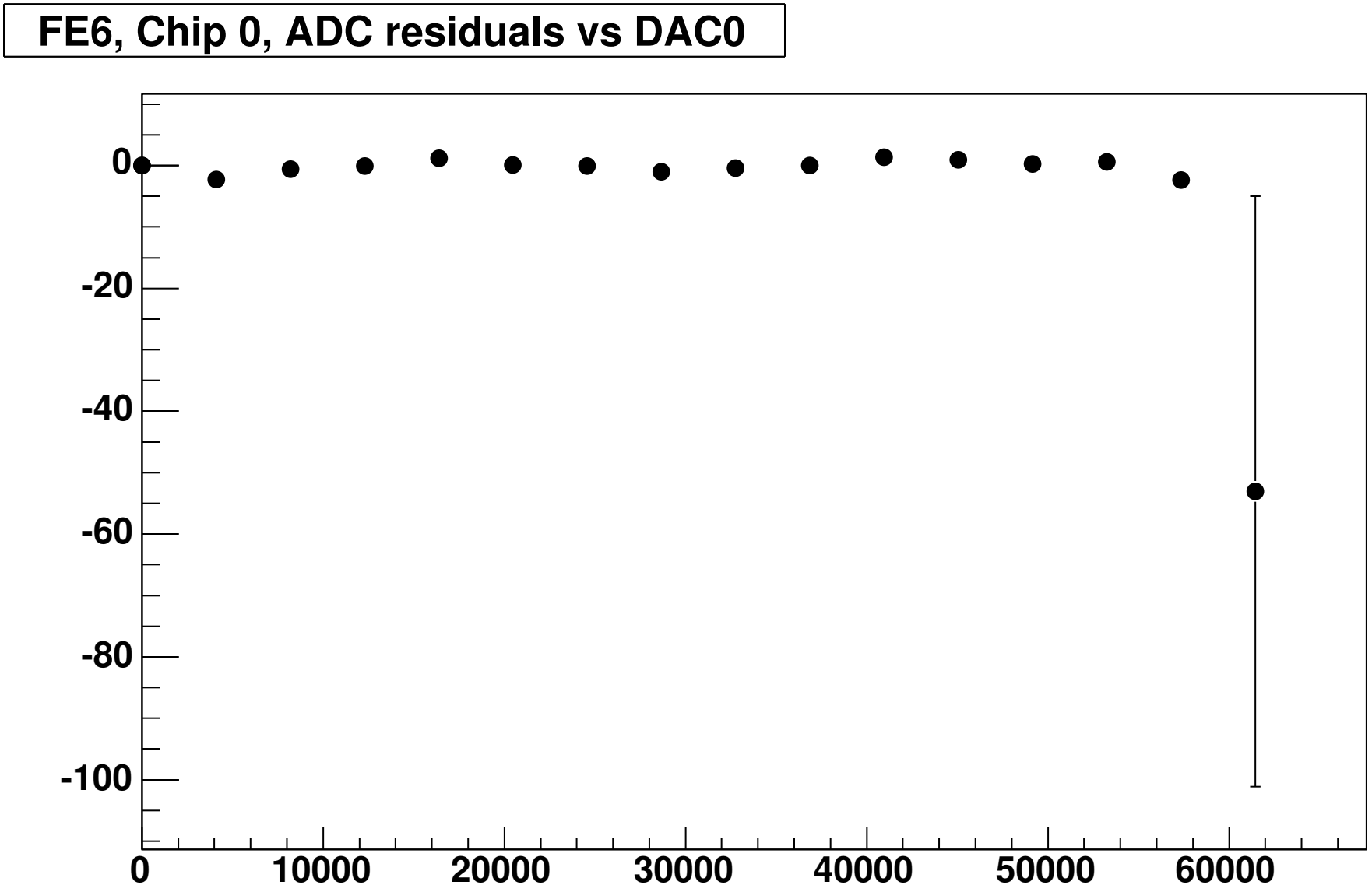

FE5, Chip 11, ADC mean vs DAC1
χ² / ndf 1853 / 11
p0 -42.9 ± 0.04215
p1 0.4506 ± 1.35e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

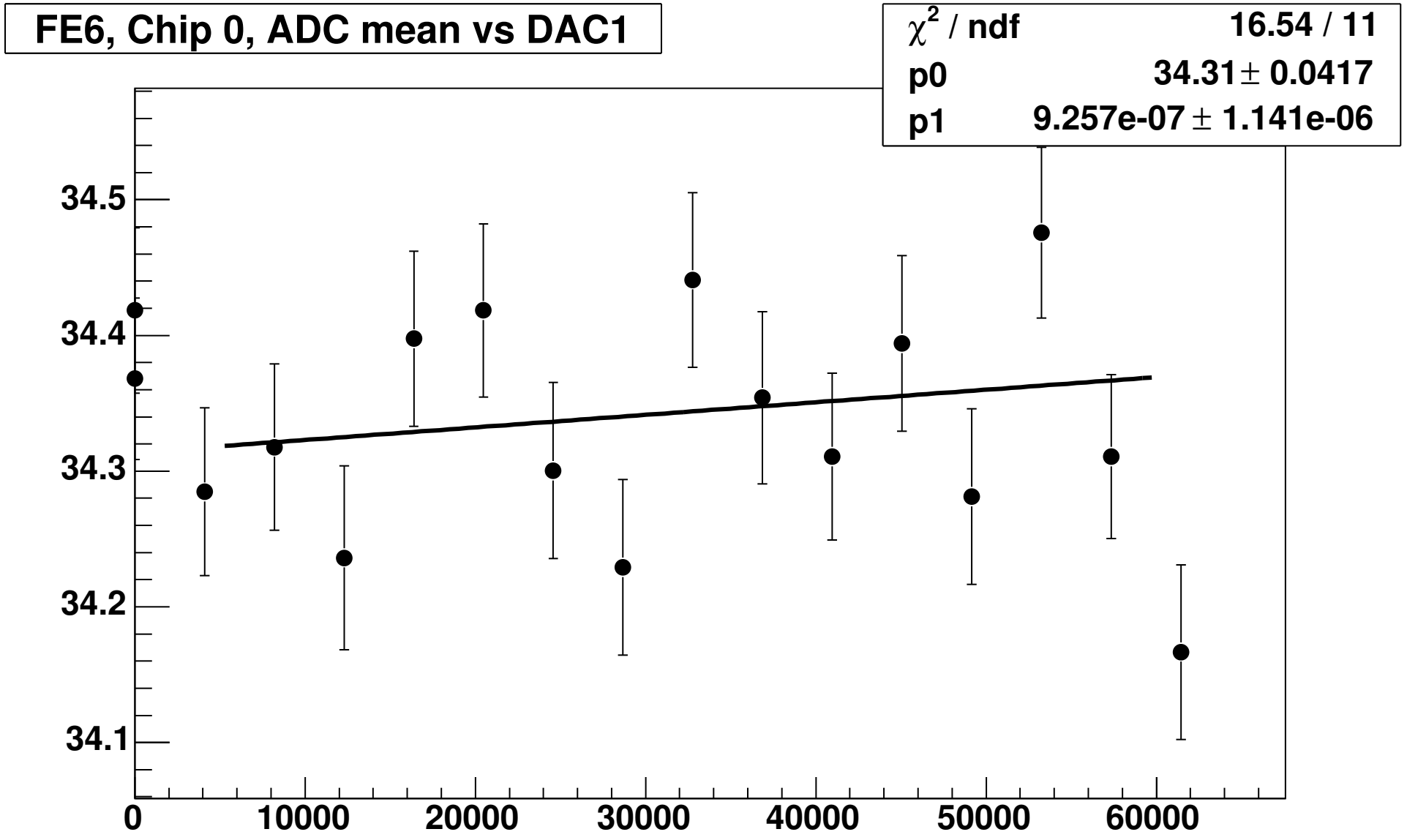

FE5, Chip 11, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

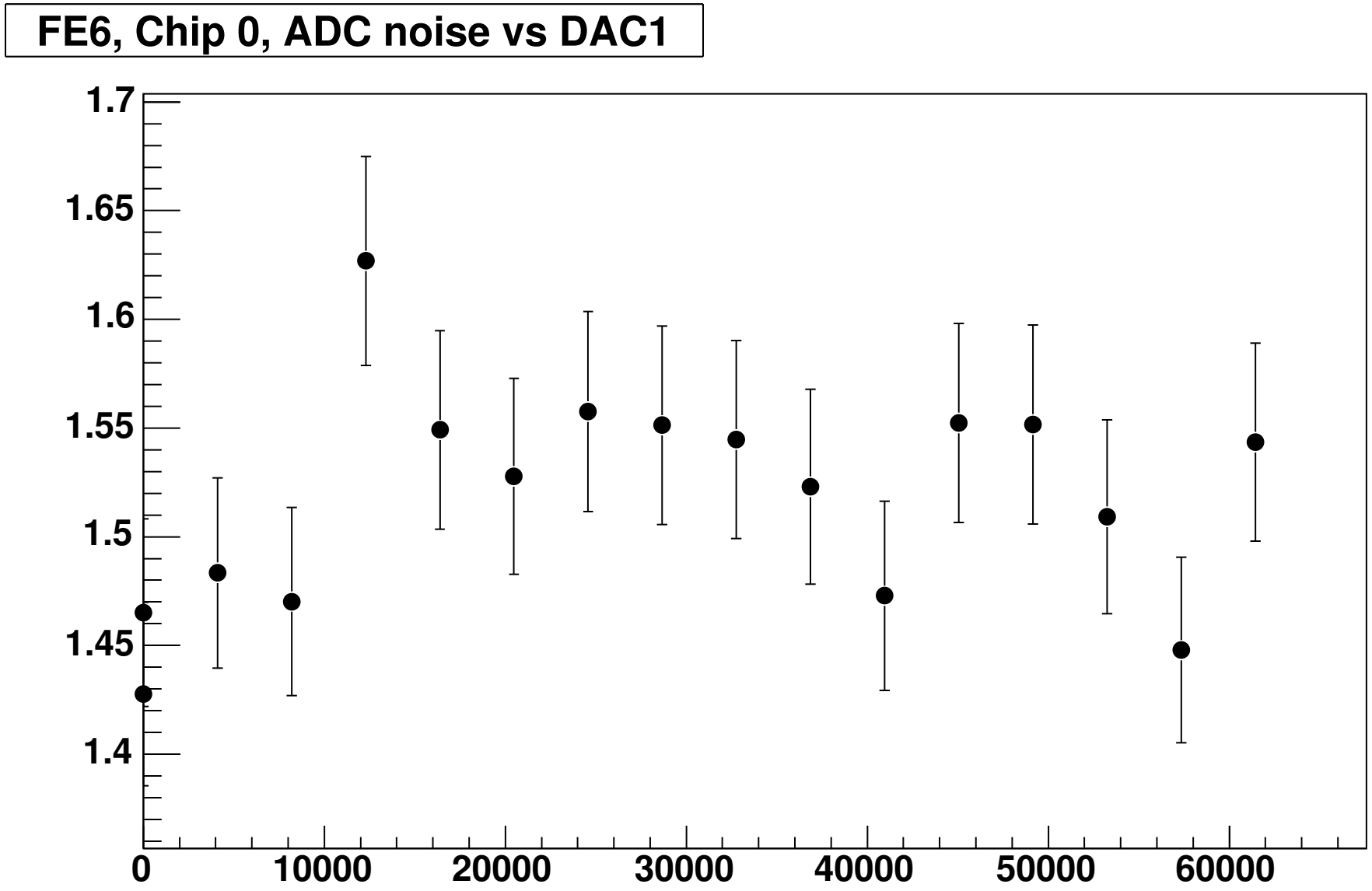

FE5, Chip 11, ADC residuals vs DAC1
2
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

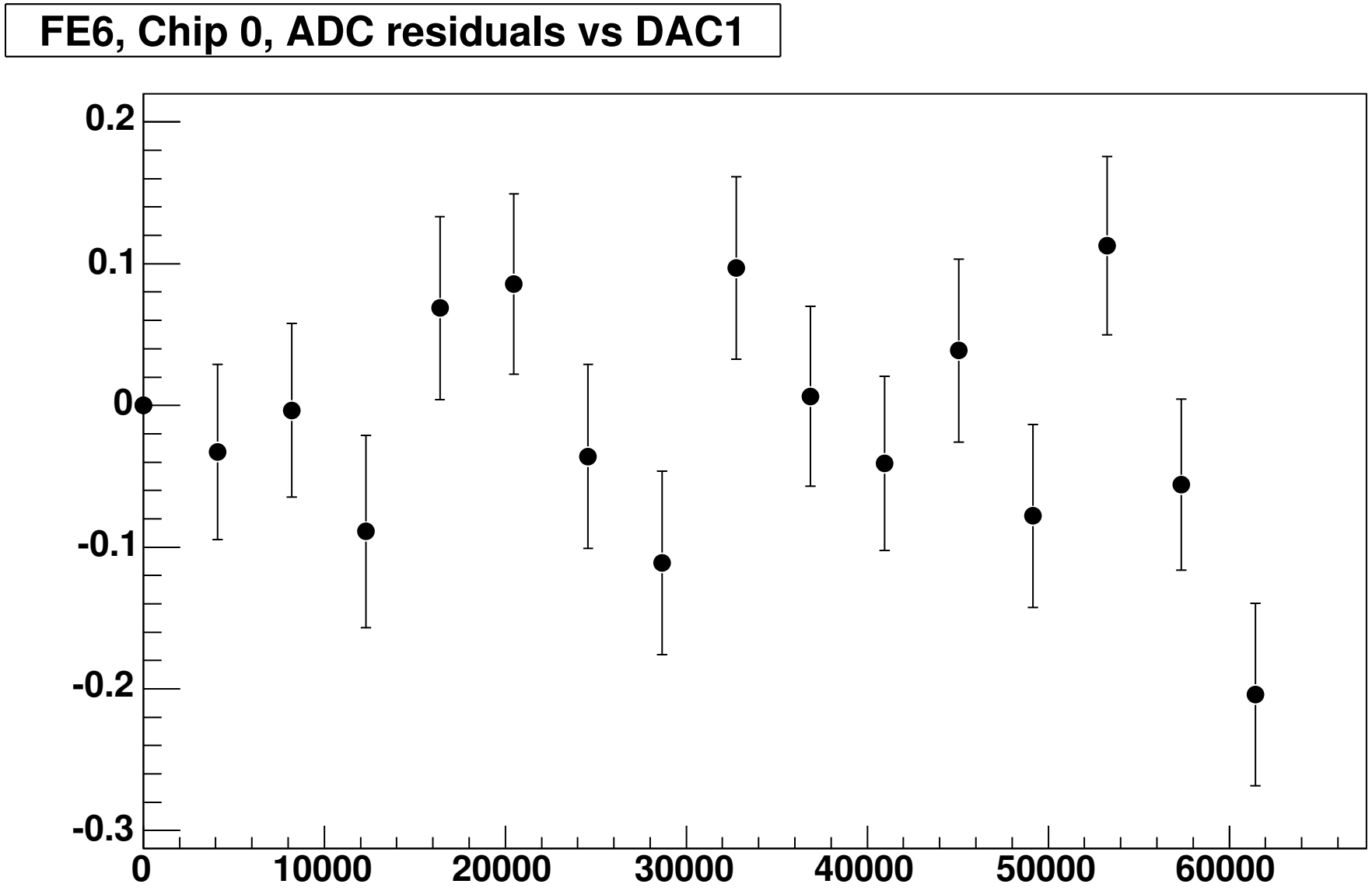

FE6, Chip 0, ADC mean vs DAC0
χ² / ndf 1675 / 11
p0 37.11 ± 0.04178
p1 0.4505 ± 1.381e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

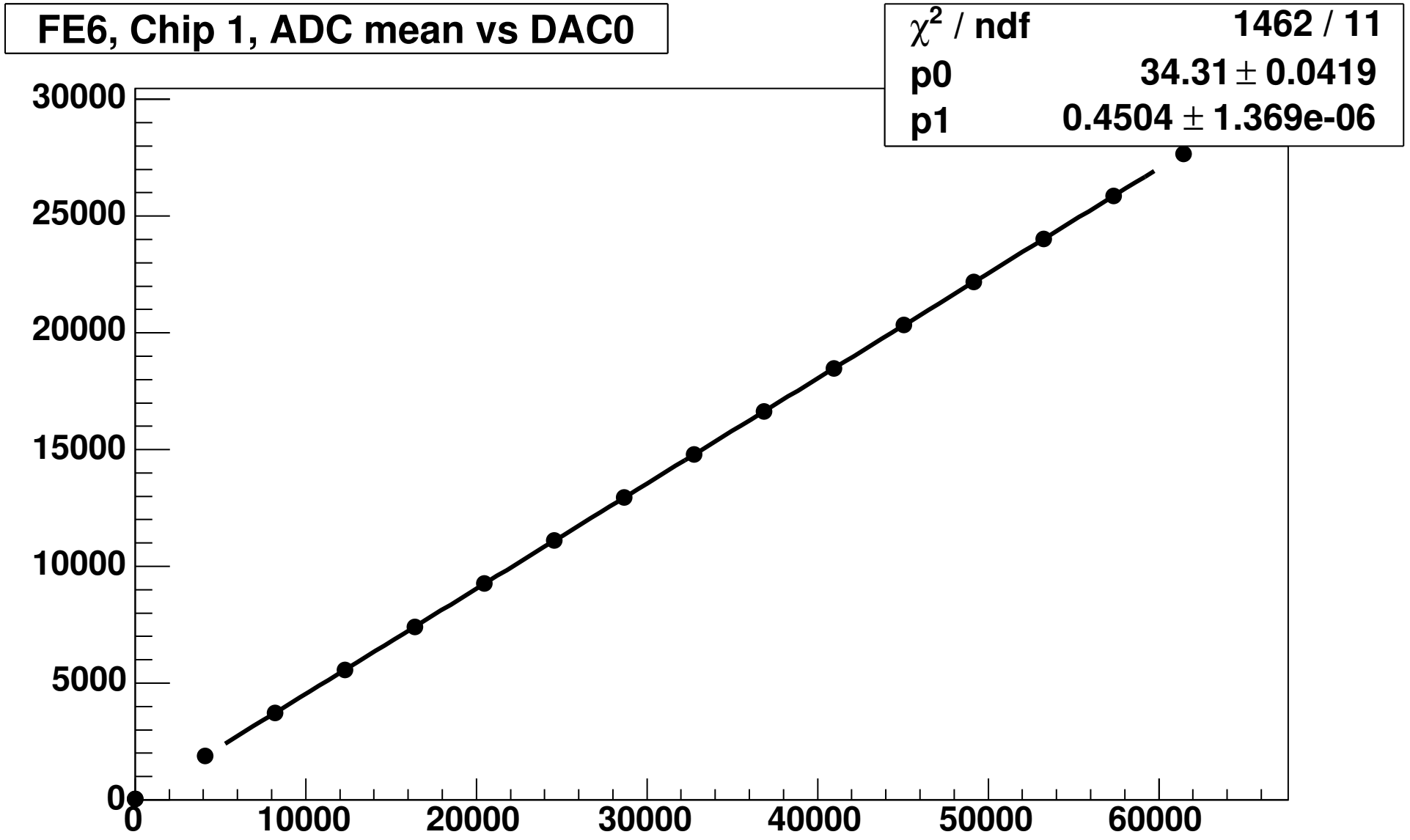

FE6, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

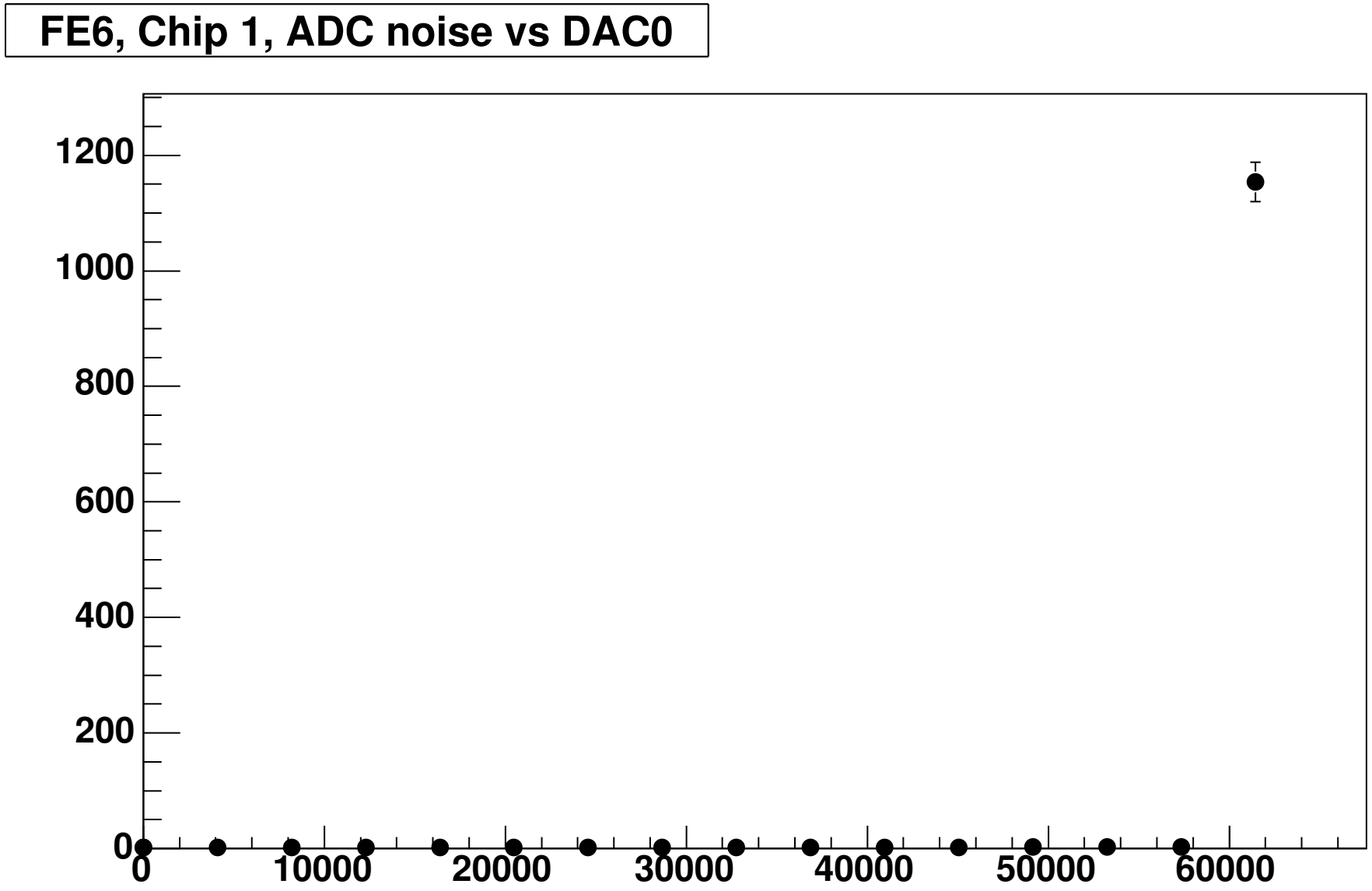

FE6, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

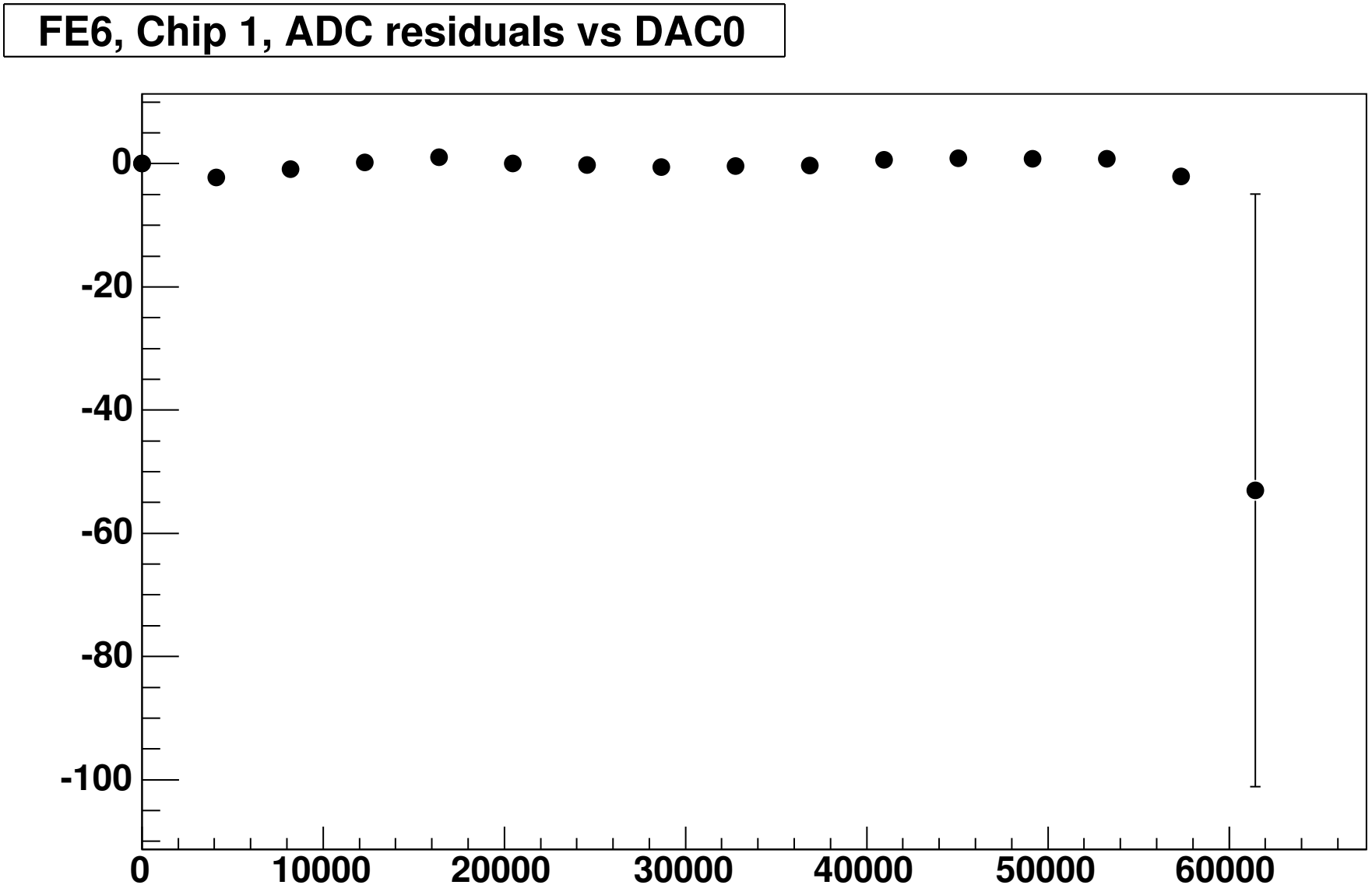

FE6, Chip 0, ADC mean vs DAC1
χ² / ndf 16.54 / 11
p0 34.31 ± 0.0417
p1 9.257e-07 ± 1.141e-06
34.5
34.4
34.3
34.2
34.1
0
10000
20000
30000
40000
50000
60000

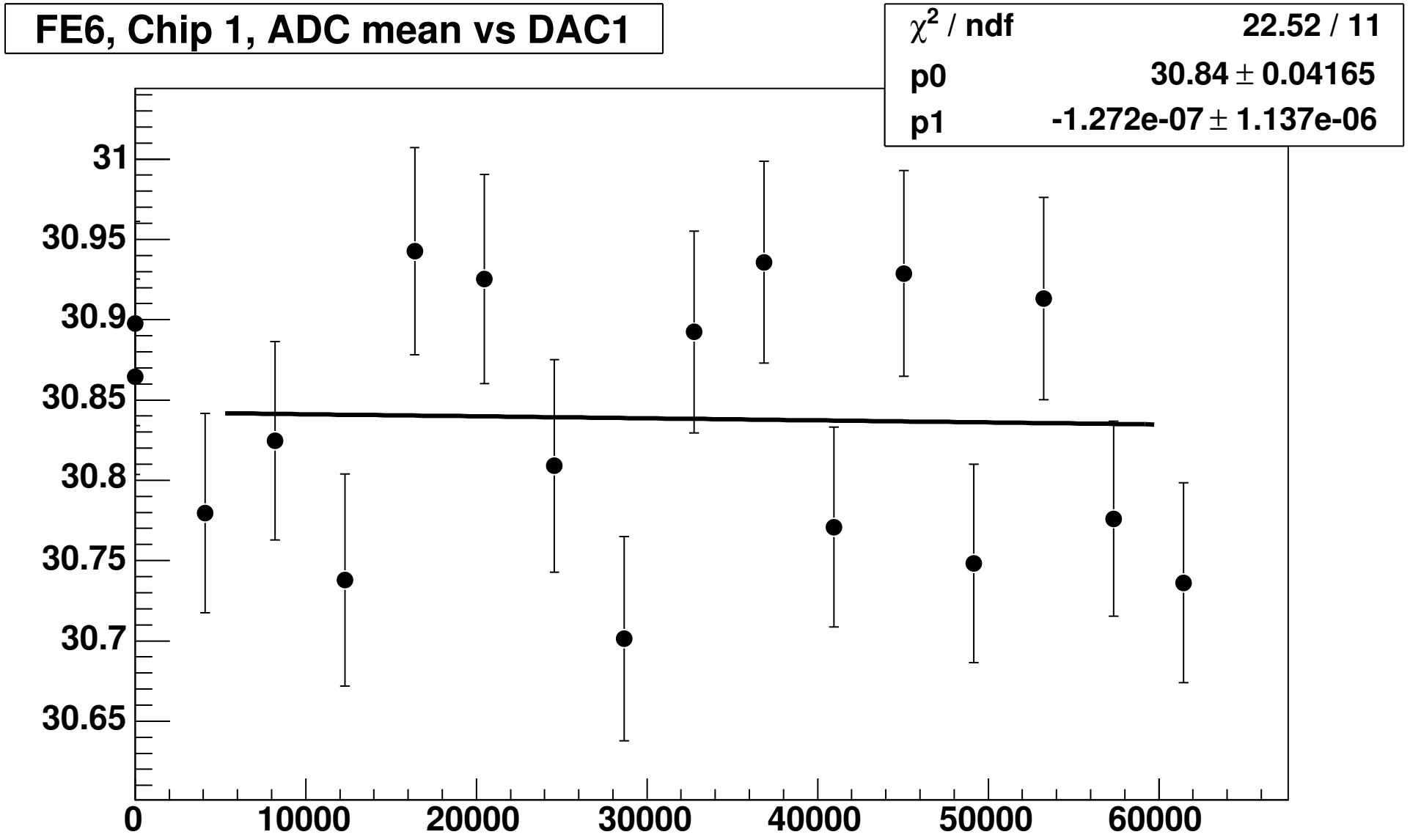

FE6, Chip 0, ADC noise vs DAC1
1.7
1.65
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

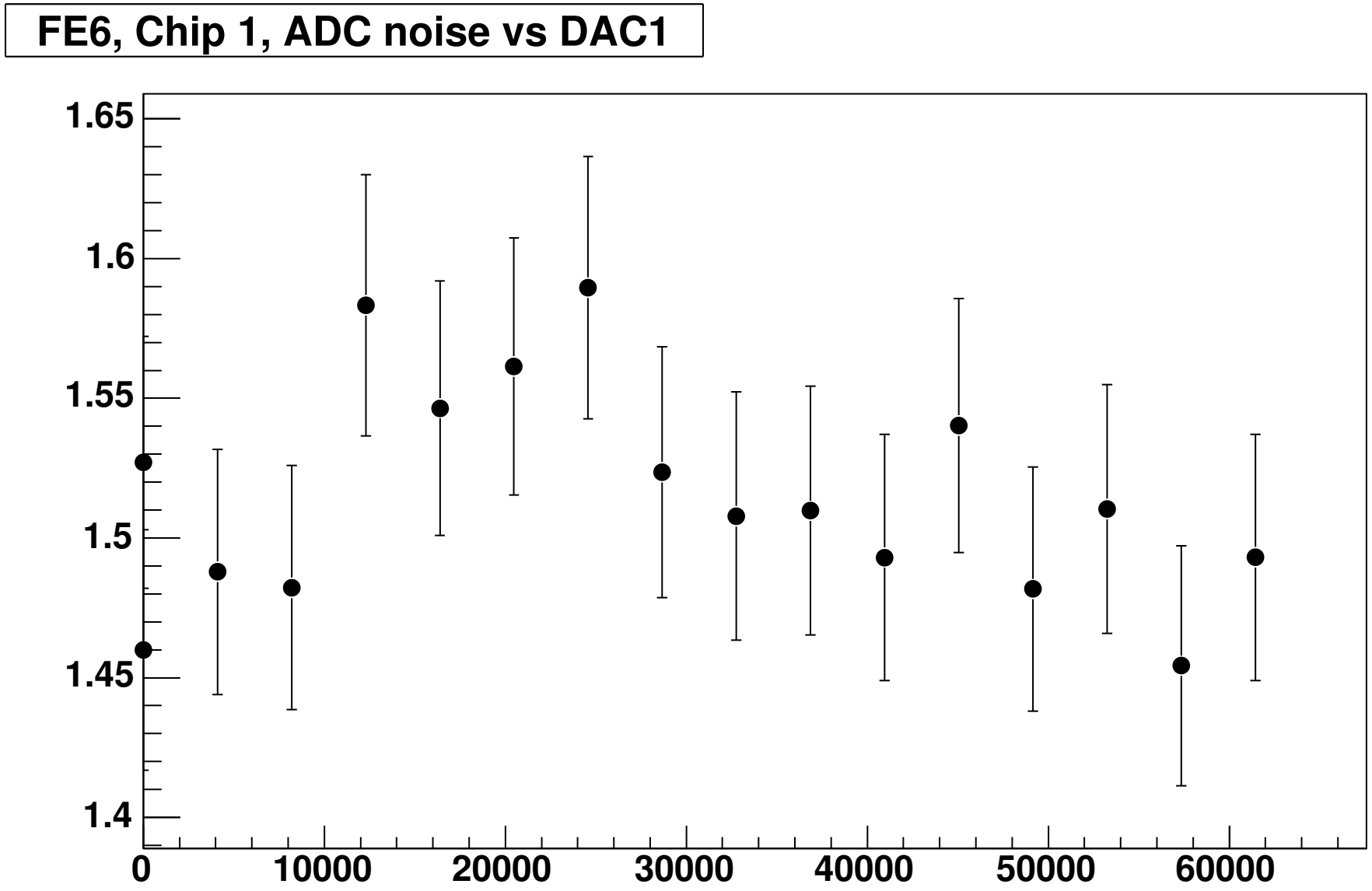

FE6, Chip 0, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

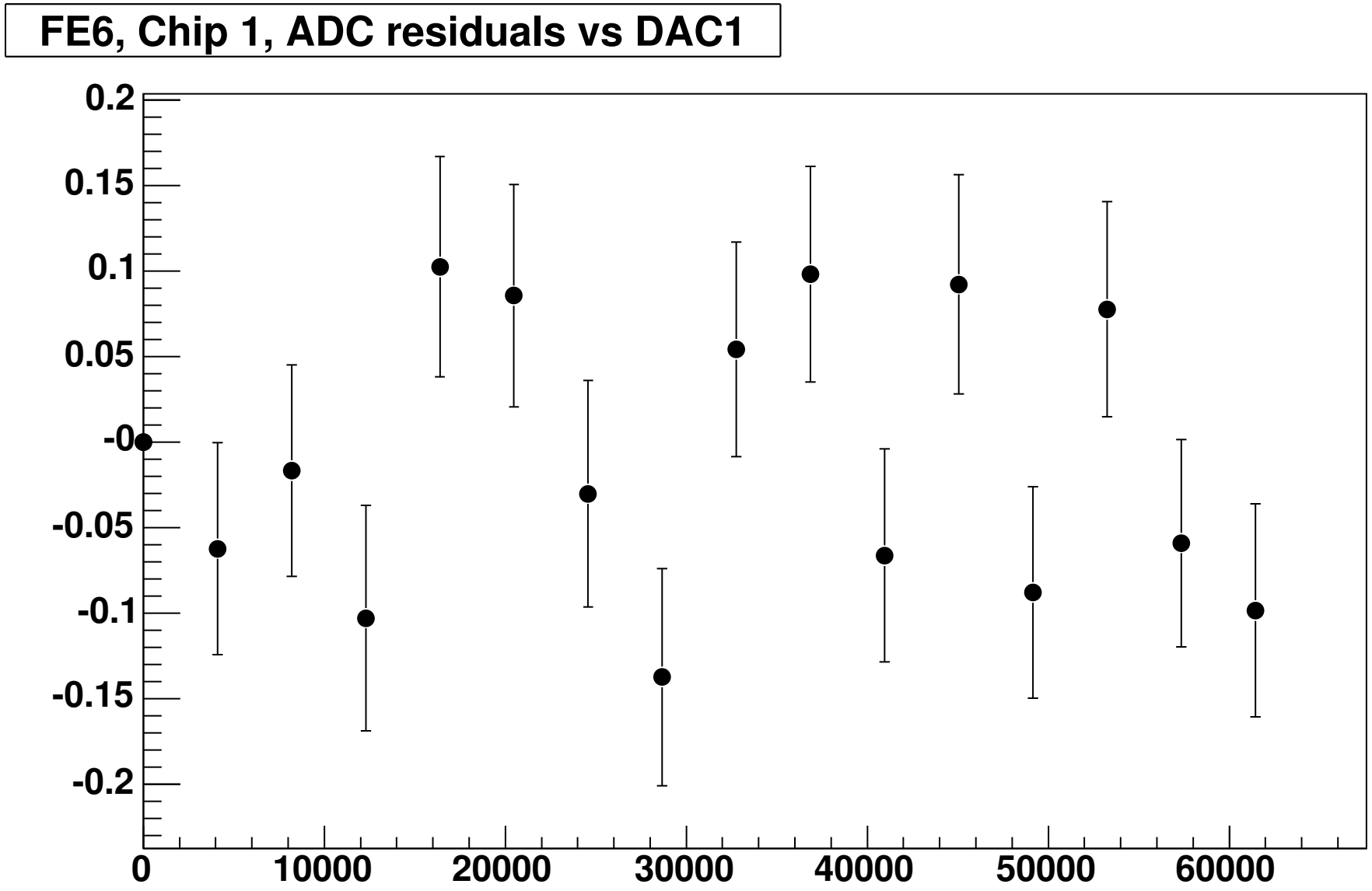

FE6, Chip 1, ADC mean vs DAC0
χ² / ndf 1462 / 11
p0 34.31 ± 0.0419
p1 0.4504 ± 1.369e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

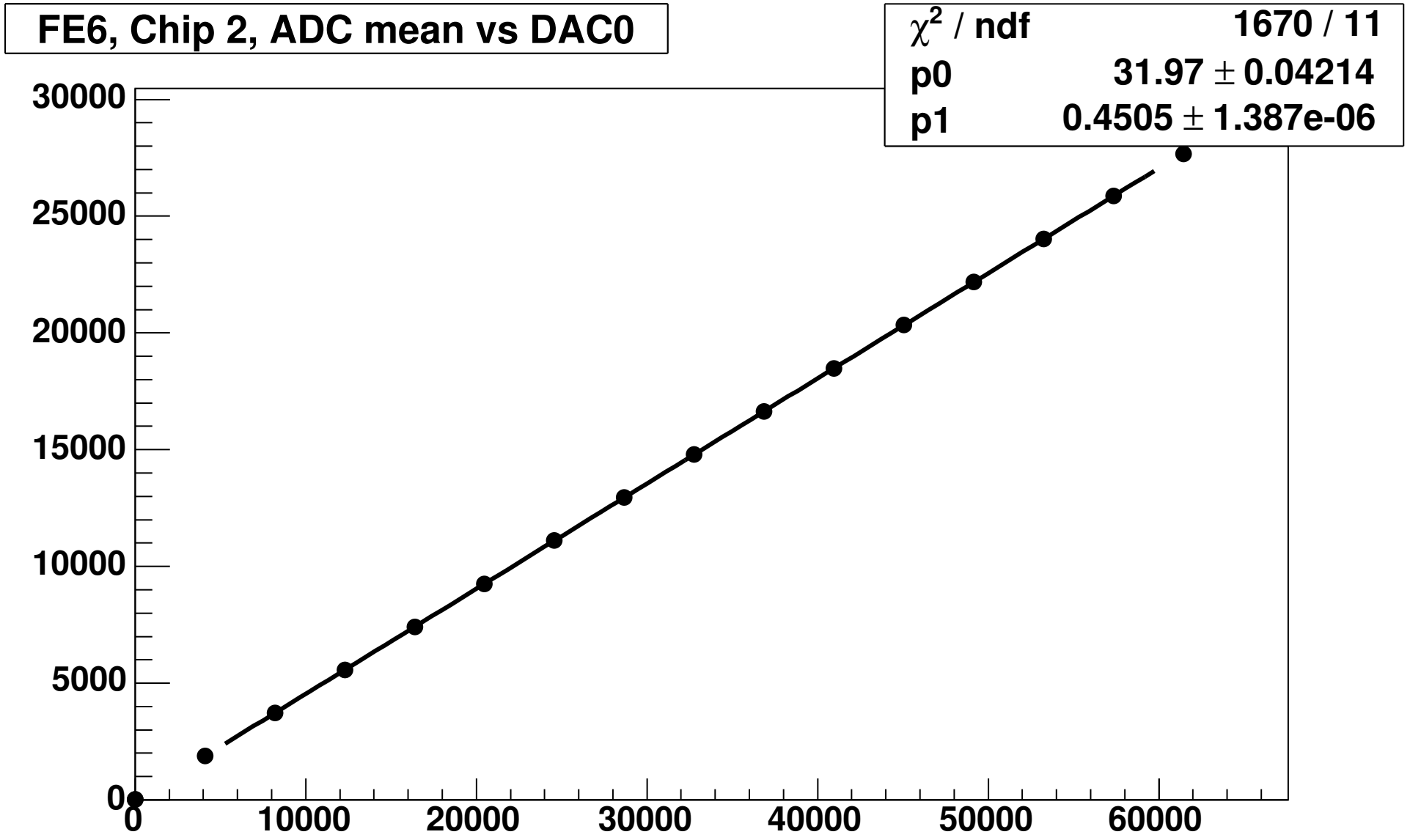

FE6, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

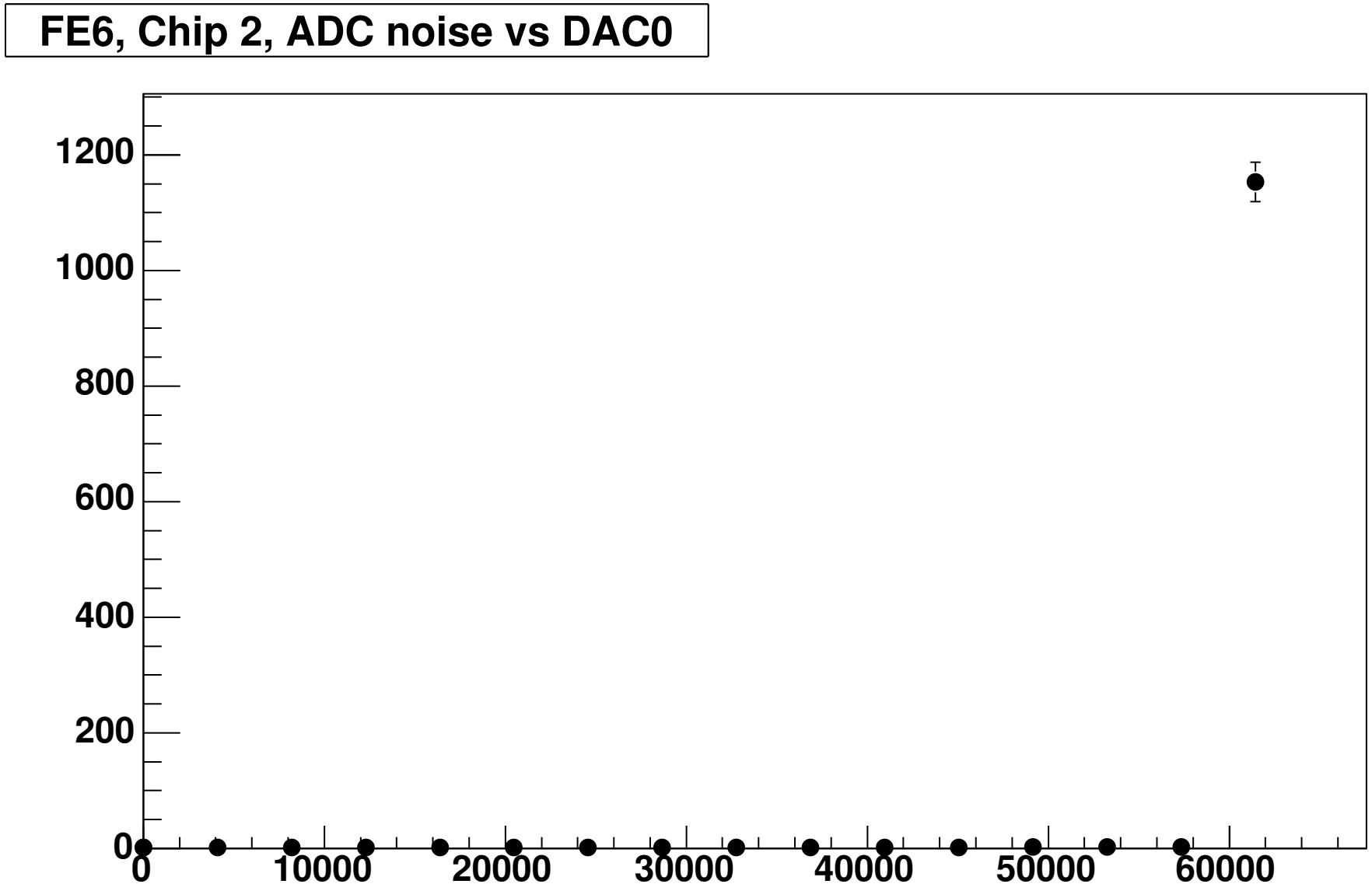

FE6, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

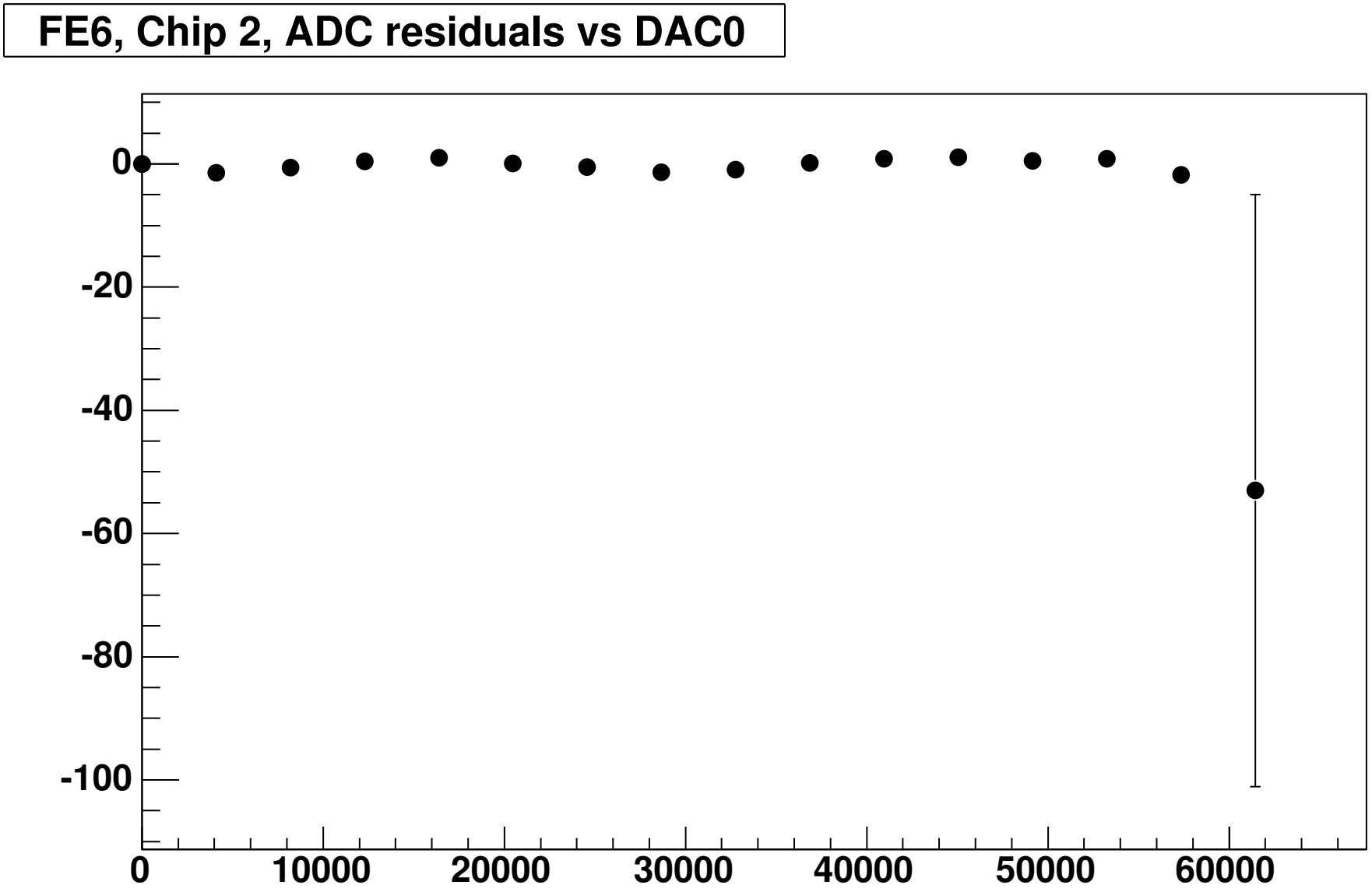

FE6, Chip 1, ADC mean vs DAC1
χ² / ndf 22.52 / 11
p0 30.84 ± 0.04165
p1 -1.272e-07 ± 1.137e-06
31
30.95
30.9
30.85
30.8
30.75
30.7
30.65
0
10000
20000
30000
40000
50000
60000

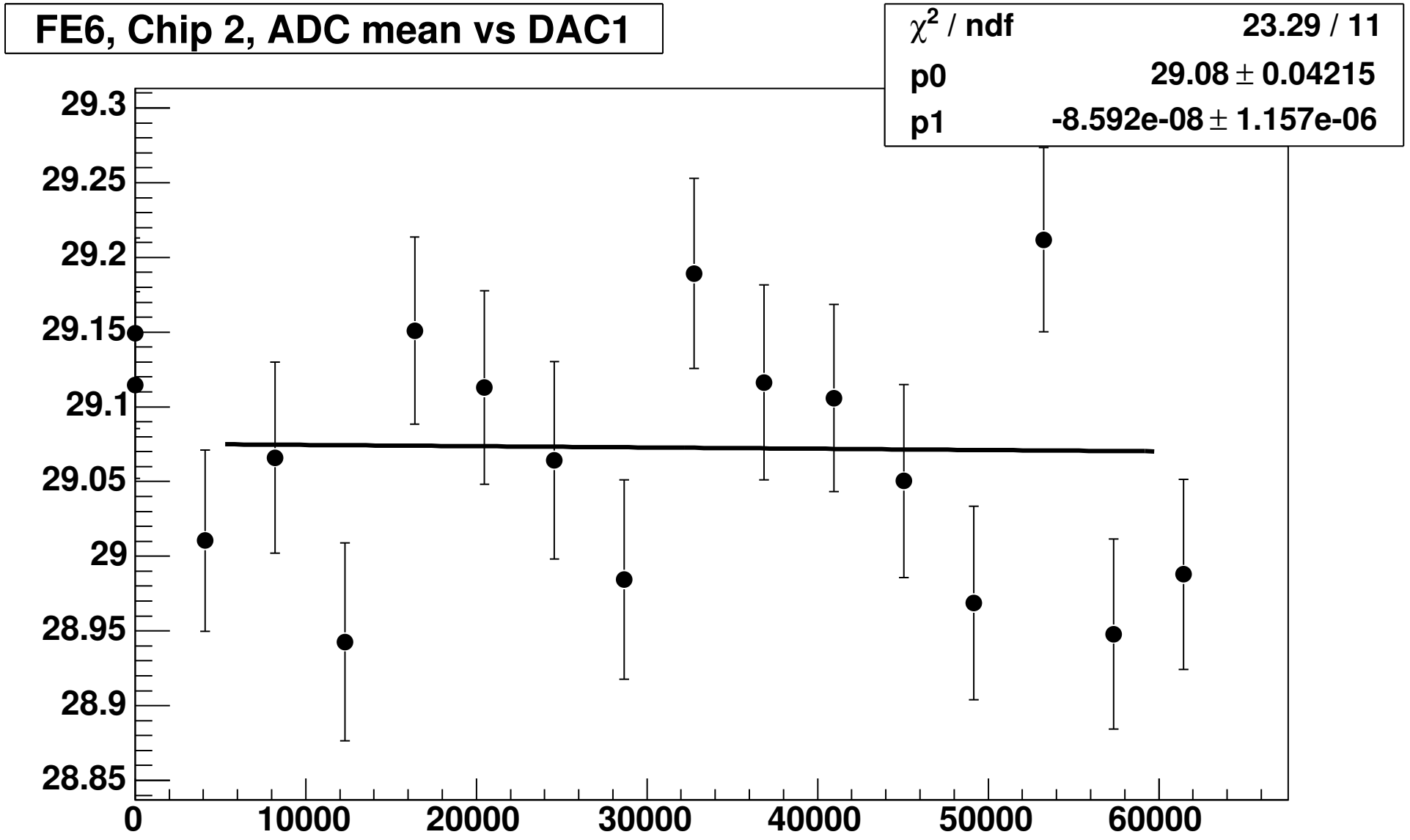

FE6, Chip 1, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

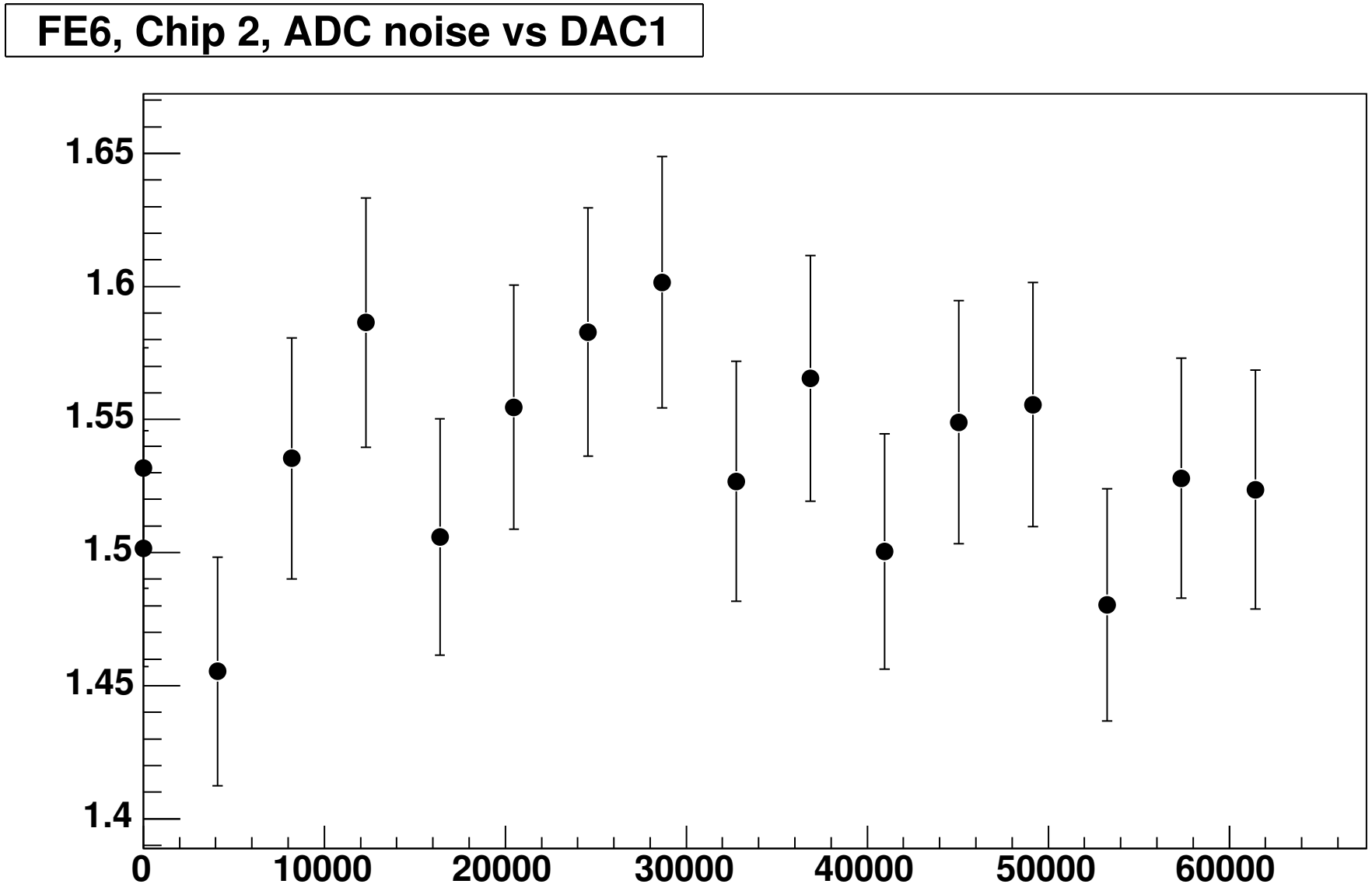

FE6, Chip 1, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

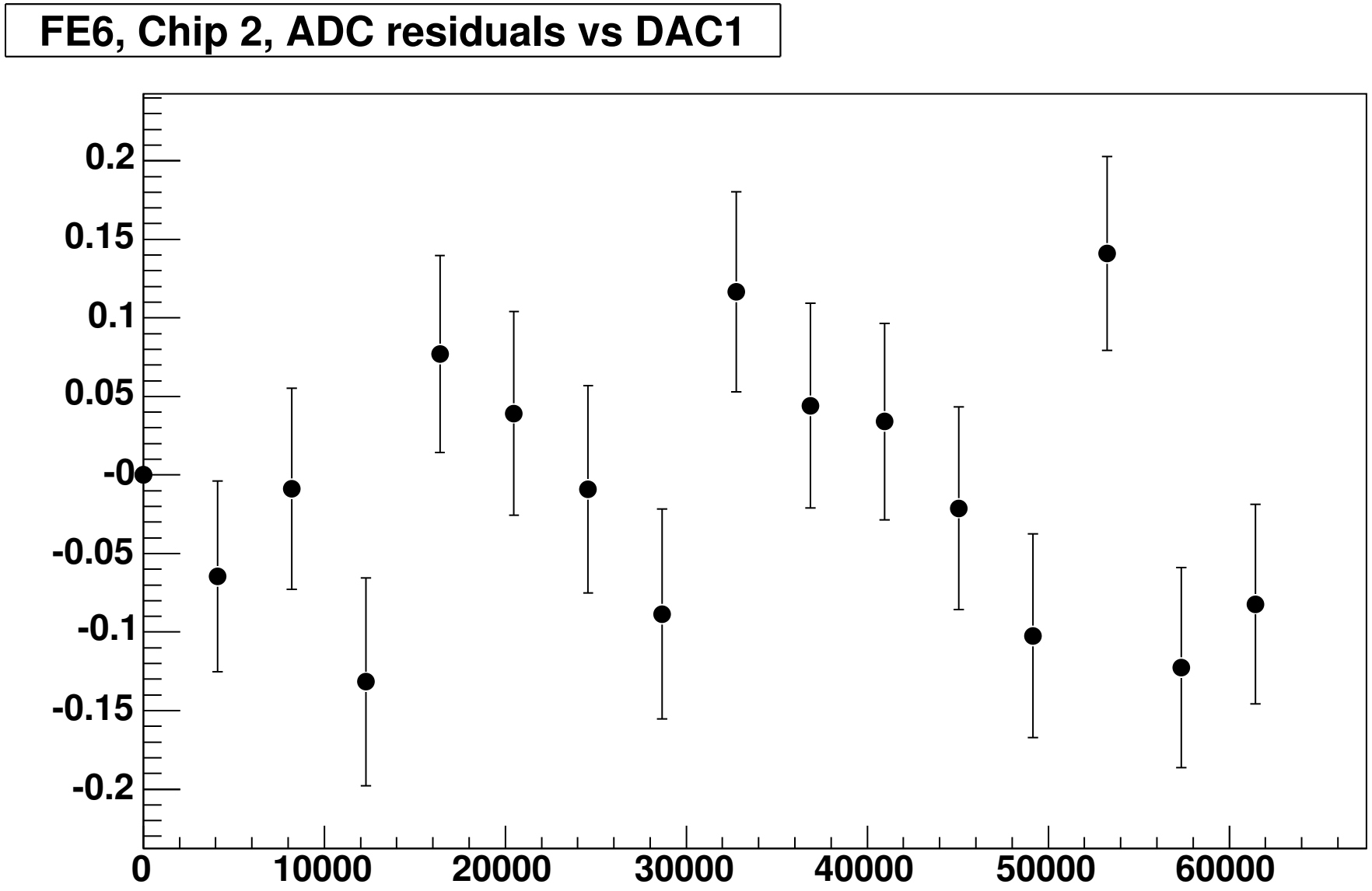

FE6, Chip 2, ADC mean vs DAC0
χ² / ndf 1670 / 11
p0 31.97 ± 0.04214
p1 0.4505 ± 1.387e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

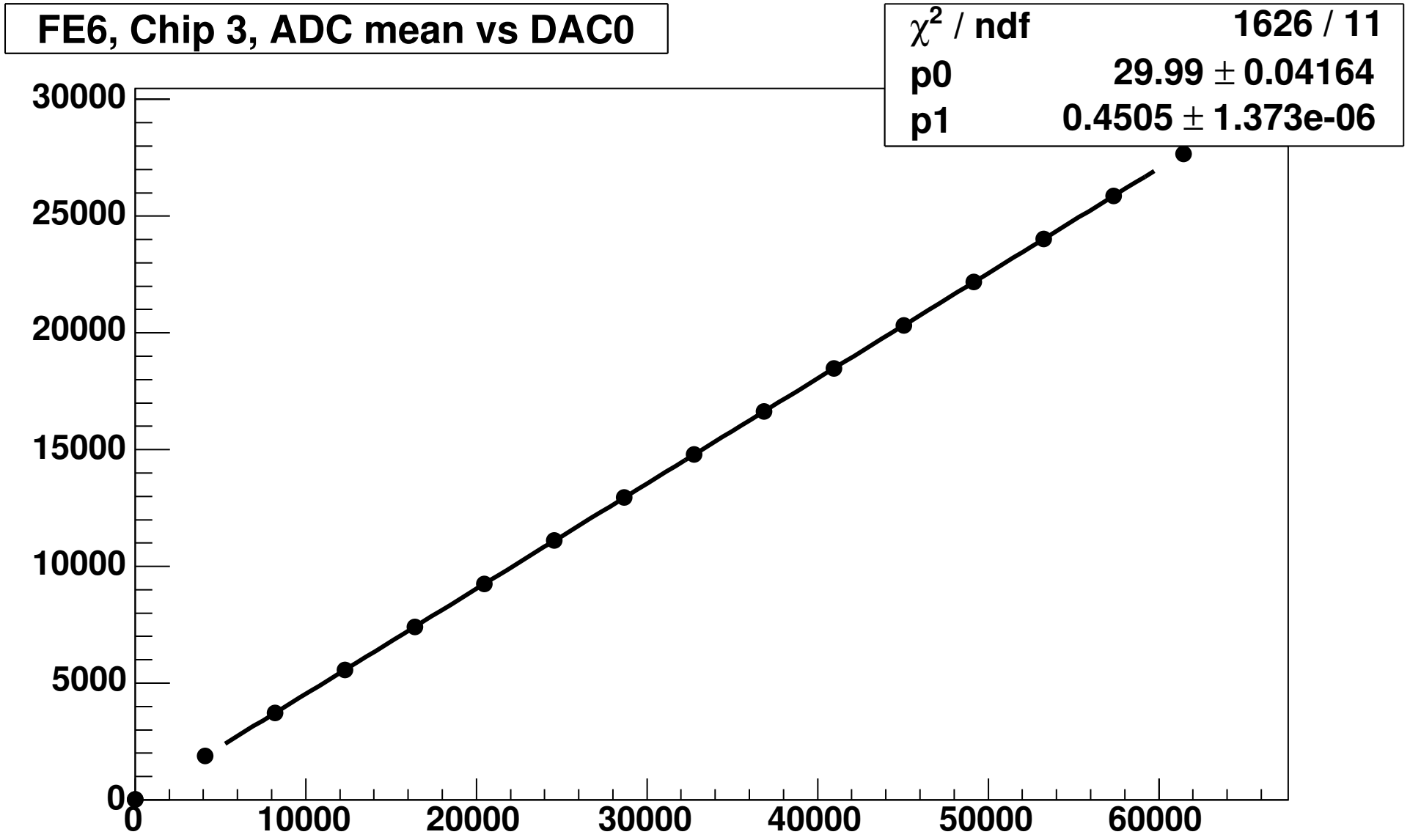

FE6, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

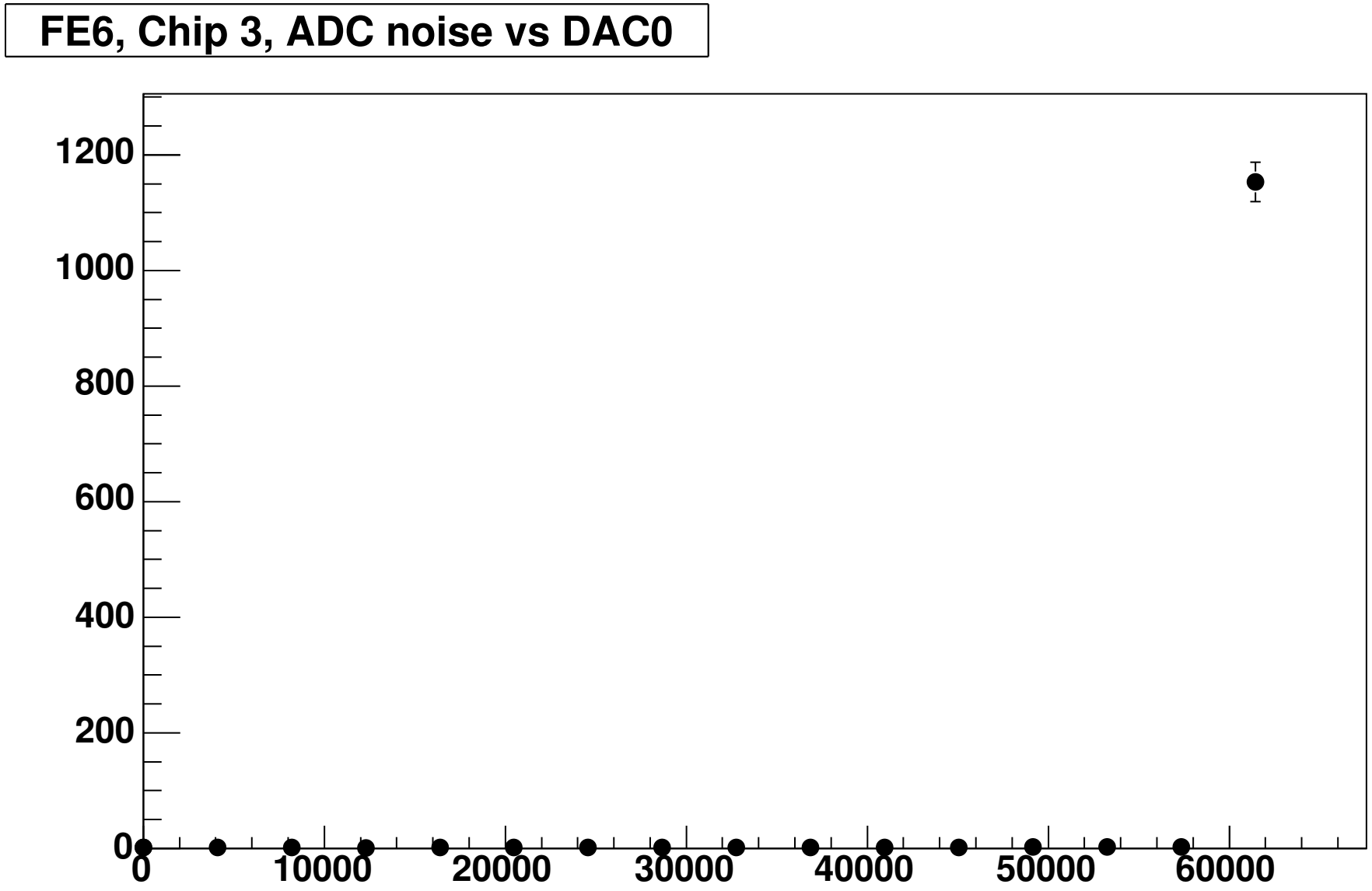

FE6, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

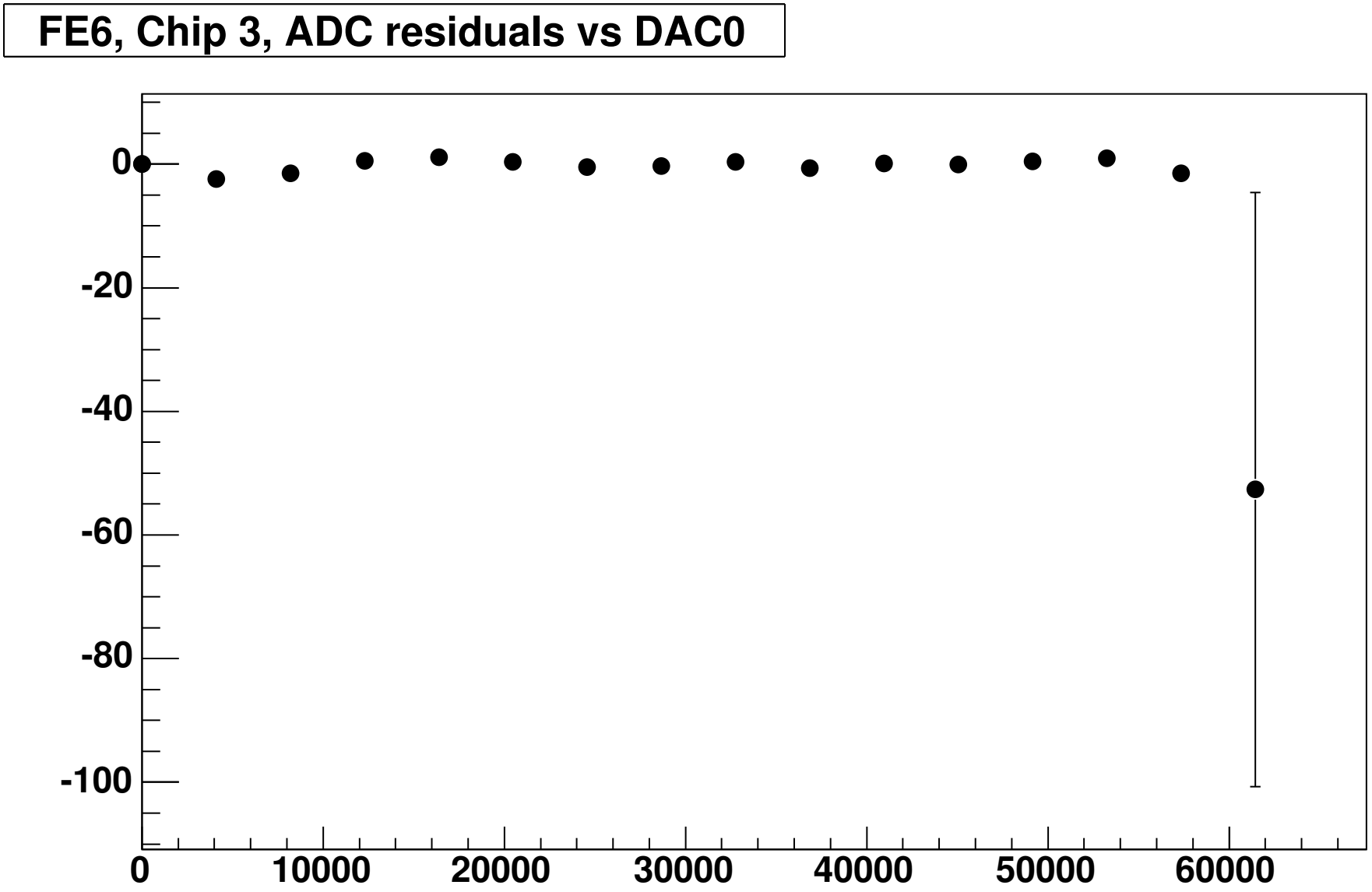

FE6, Chip 2, ADC mean vs DAC1
χ² / ndf 23.29 / 11
p0 29.08 ± 0.04215
p1 -8.592e-08 ± 1.157e-06
29.3
29.25
29.2
29.15
29.1
29.05
29
28.95
28.9
28.85
0
10000
20000
30000
40000
50000
60000

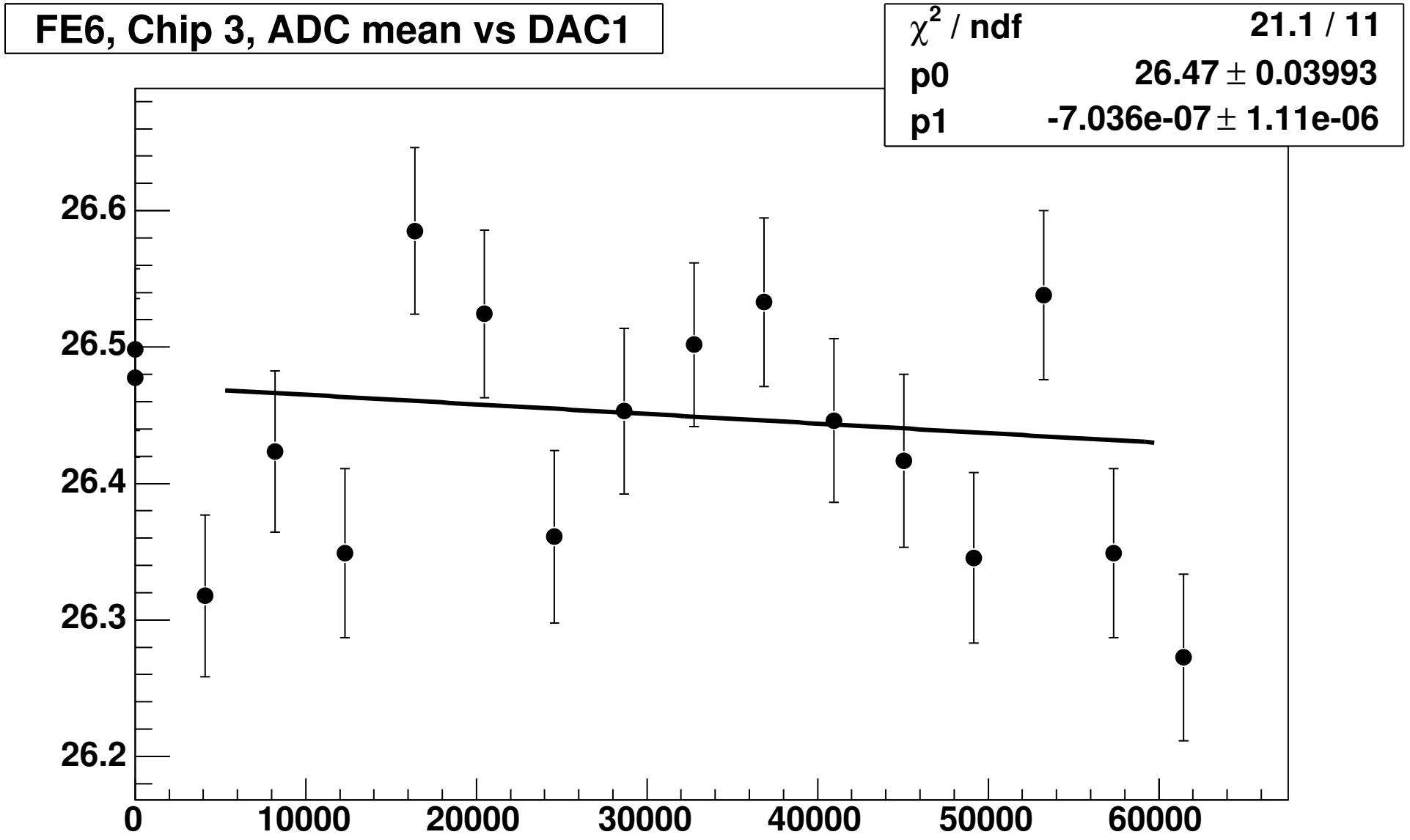

FE6, Chip 2, ADC noise vs DAC1
1.65
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

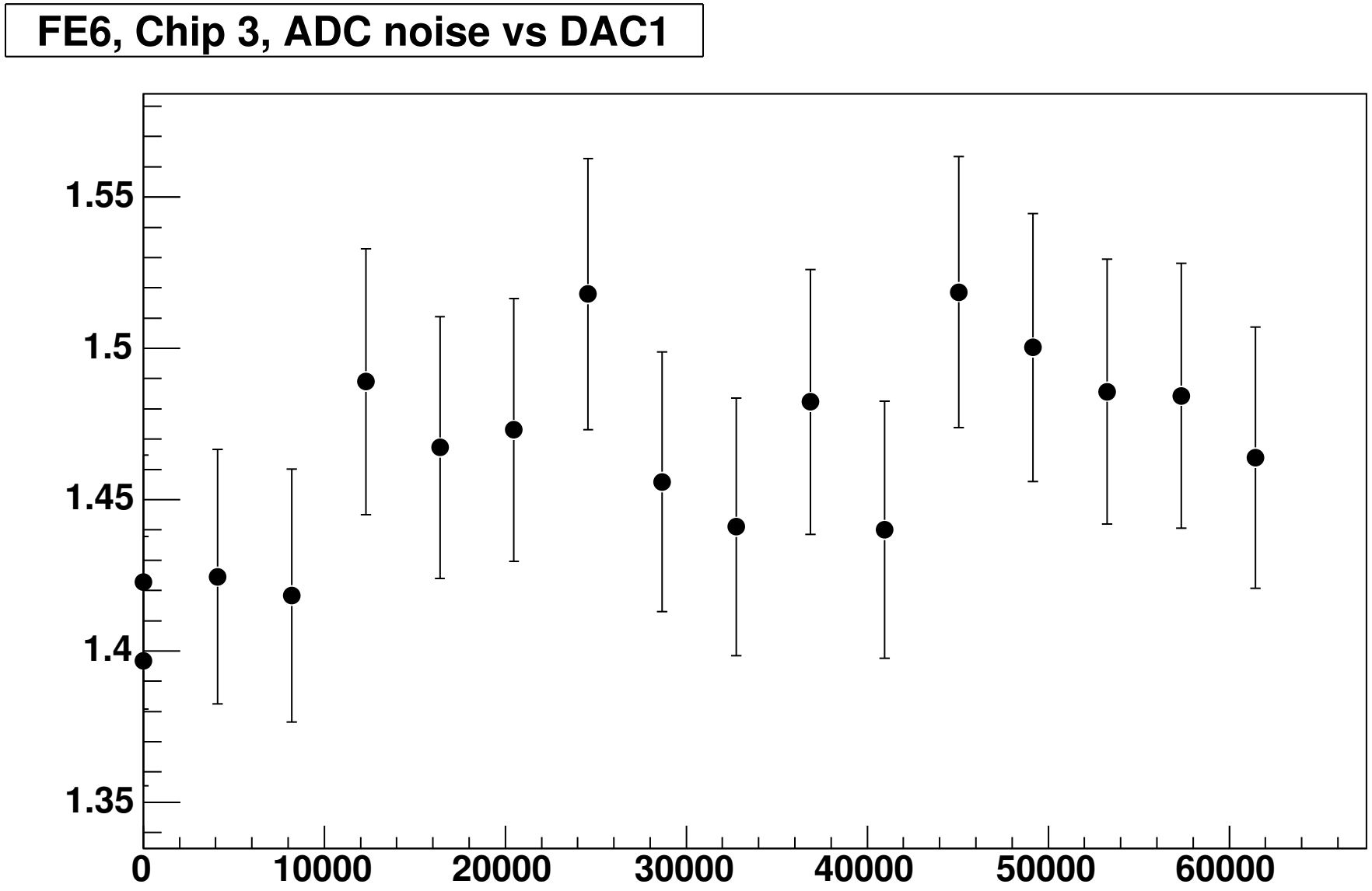

FE6, Chip 2, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
-0
-0.05
-0.1
-0.15
-0.2
0
10000
20000
30000
40000
50000
60000

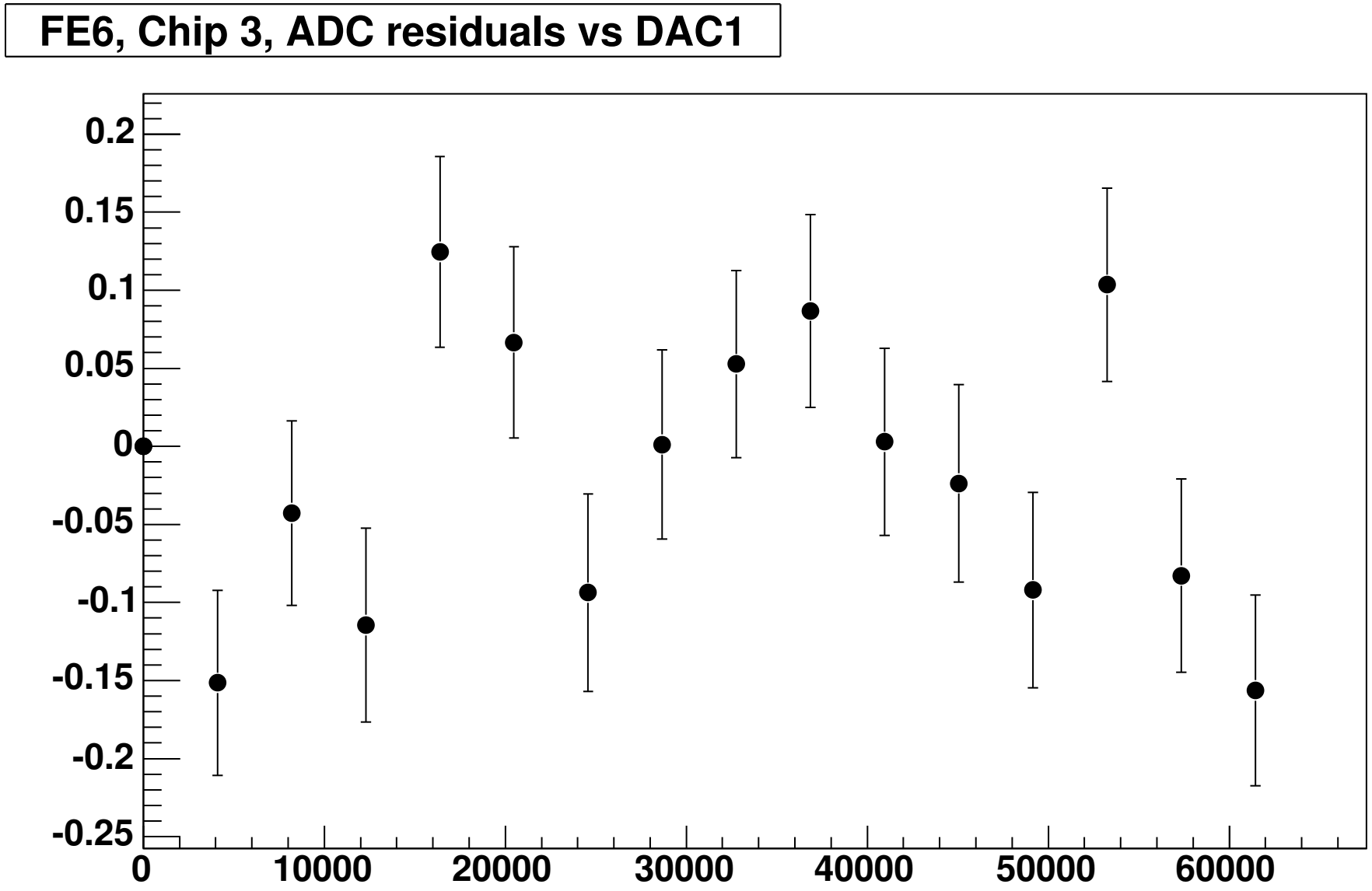

FE6, Chip 3, ADC mean vs DAC0
χ² / ndf 1626 / 11
p0 29.99 ± 0.04164
p1 0.4505 ± 1.373e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

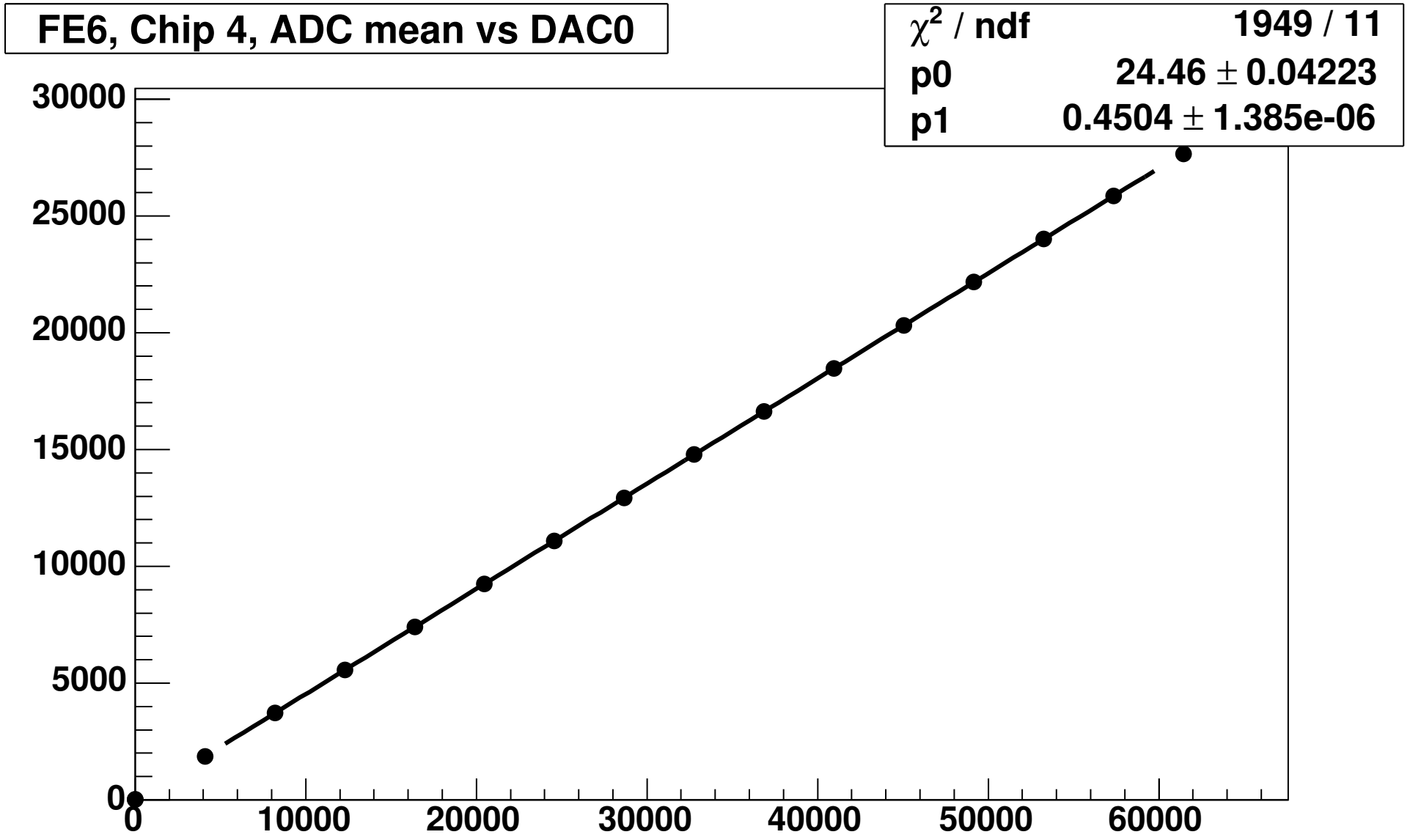

FE6, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

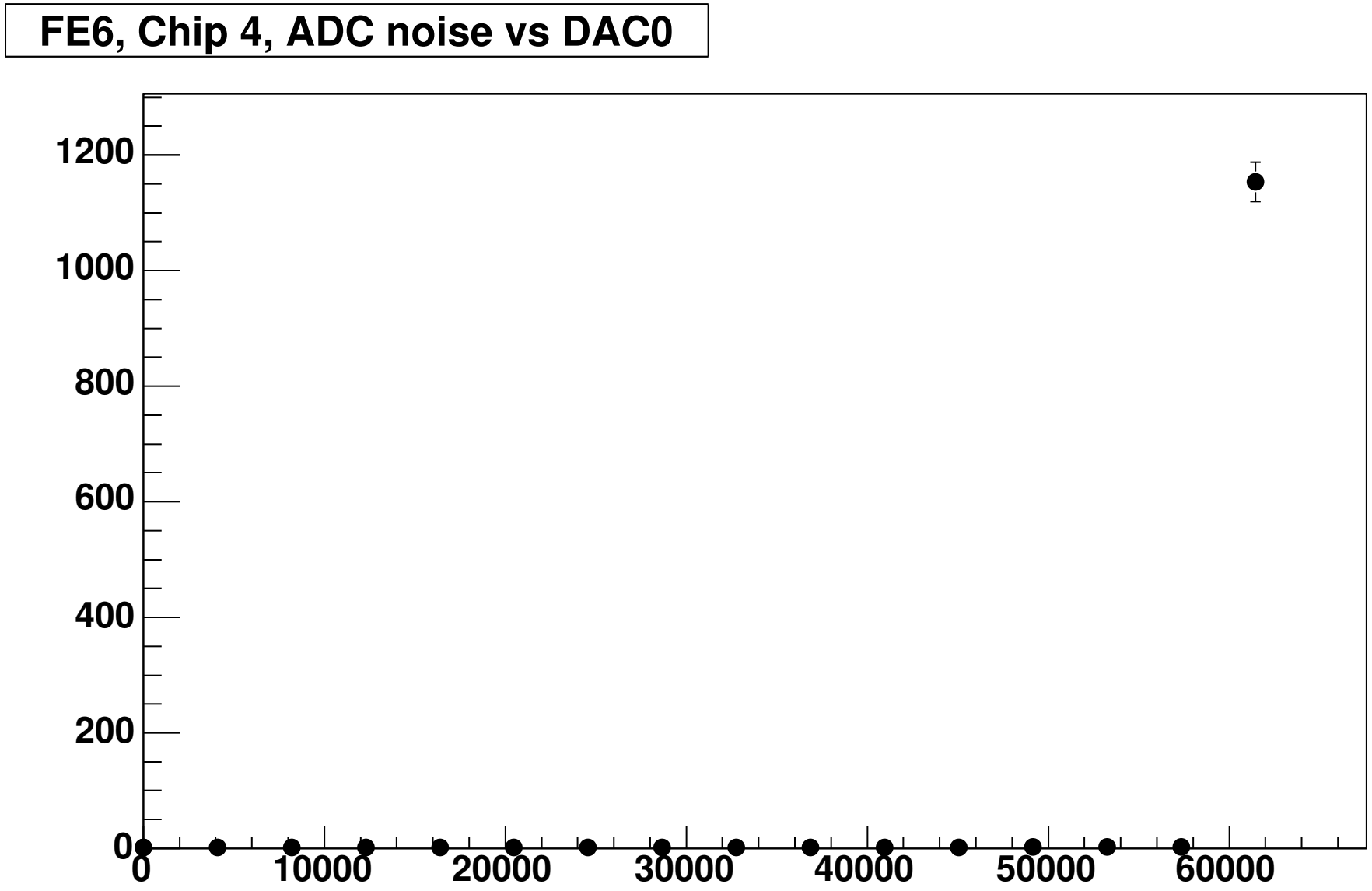

FE6, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

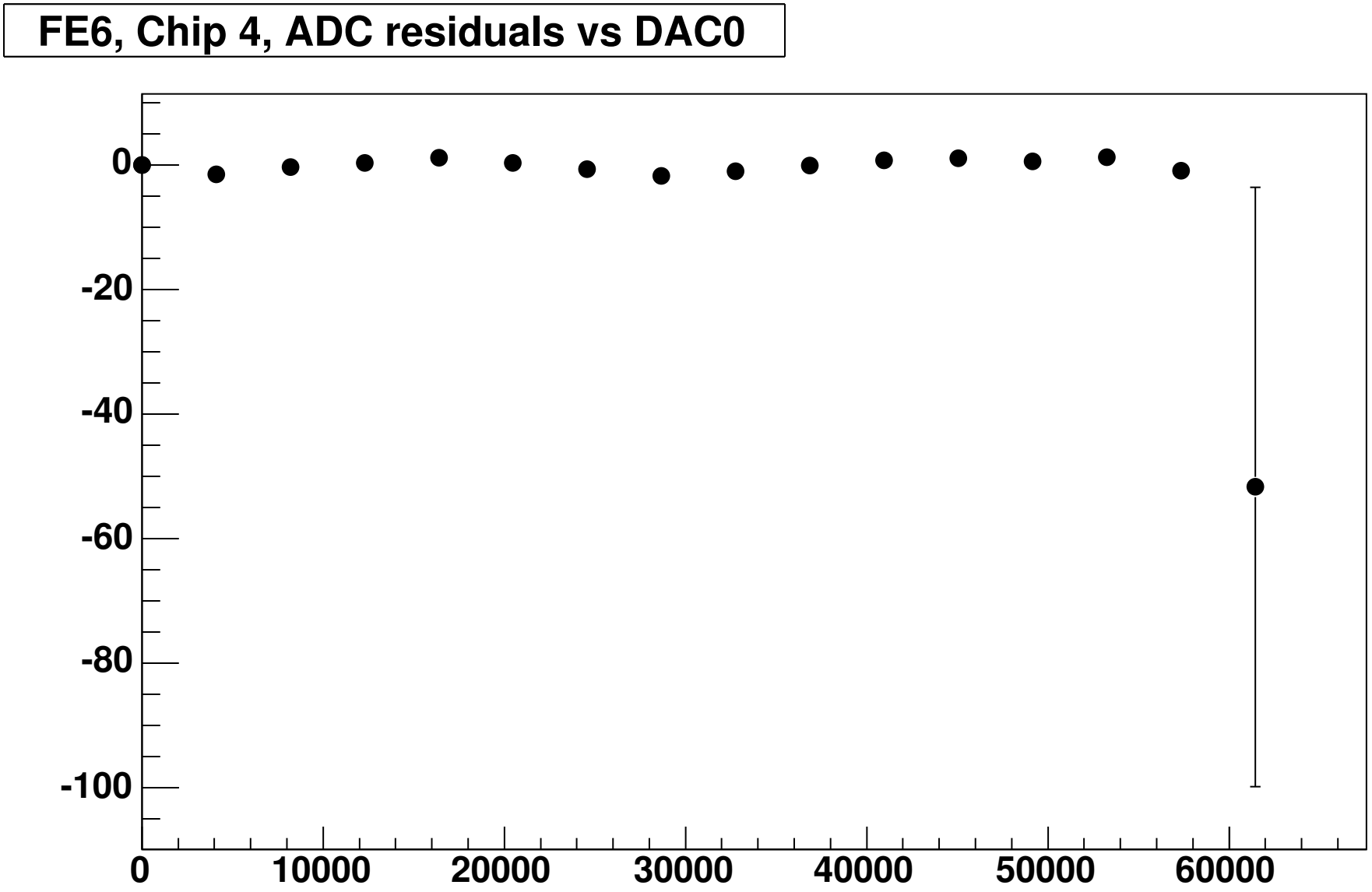

FE6, Chip 3, ADC mean vs DAC1
χ² / ndf 21.1 / 11
p0 26.47 ± 0.03993
p1 -7.036e-07 ± 1.11e-06
26.6
26.5
26.4
26.3
26.2
0
10000
20000
30000
40000
50000
60000

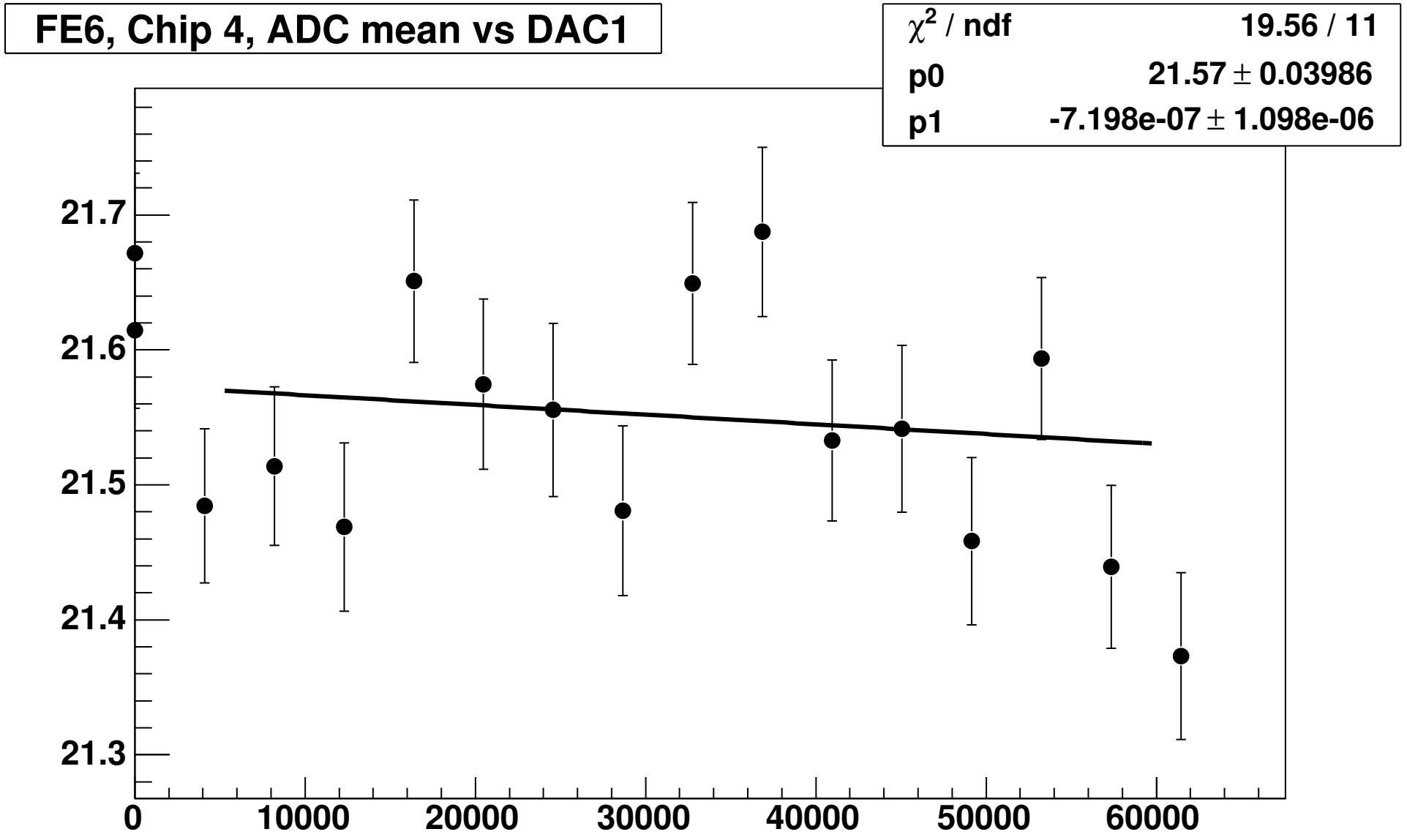

FE6, Chip 3, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

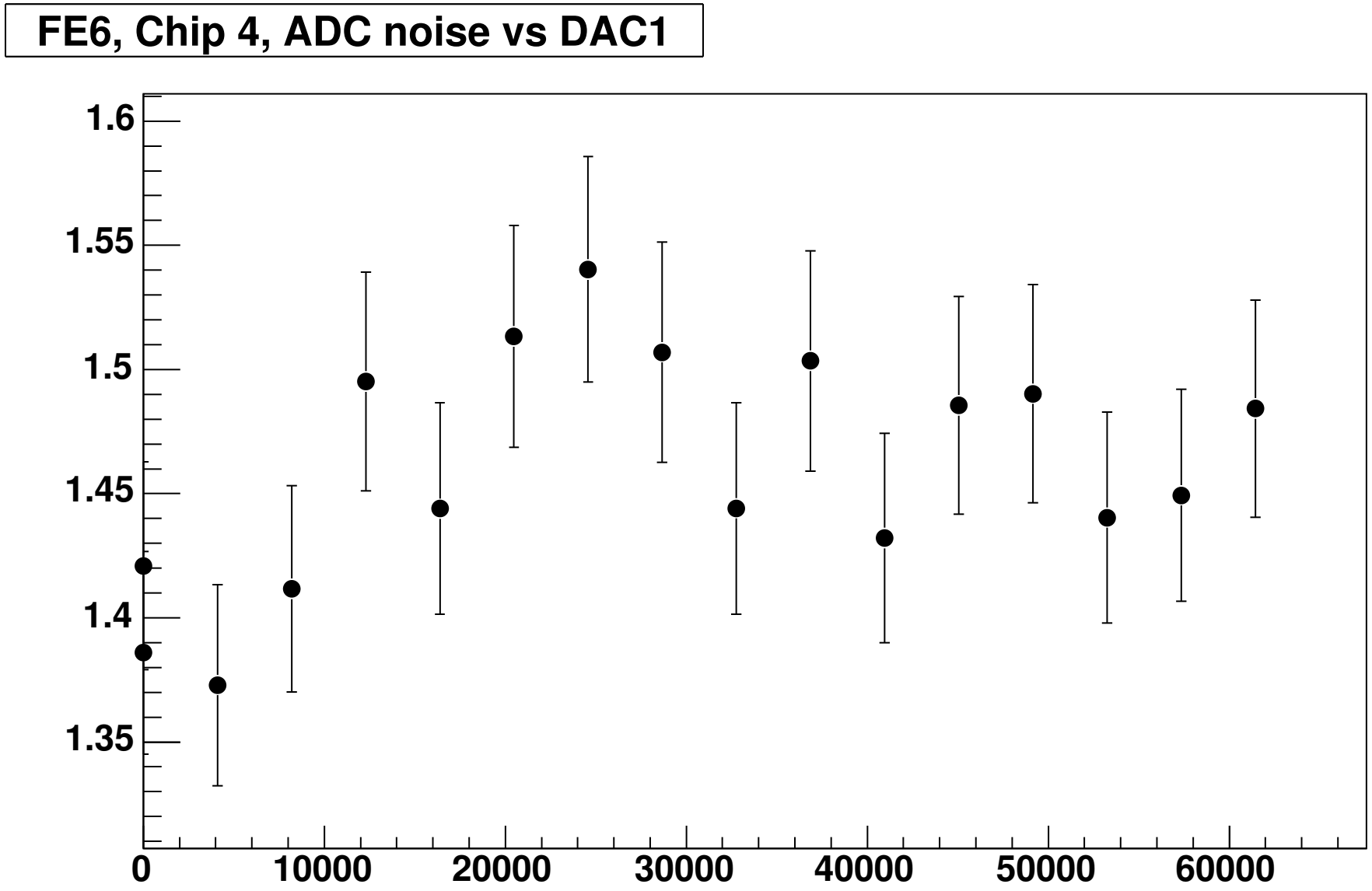

FE6, Chip 3, ADC residuals vs DAC1
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0
10000
20000
30000
40000
50000
60000

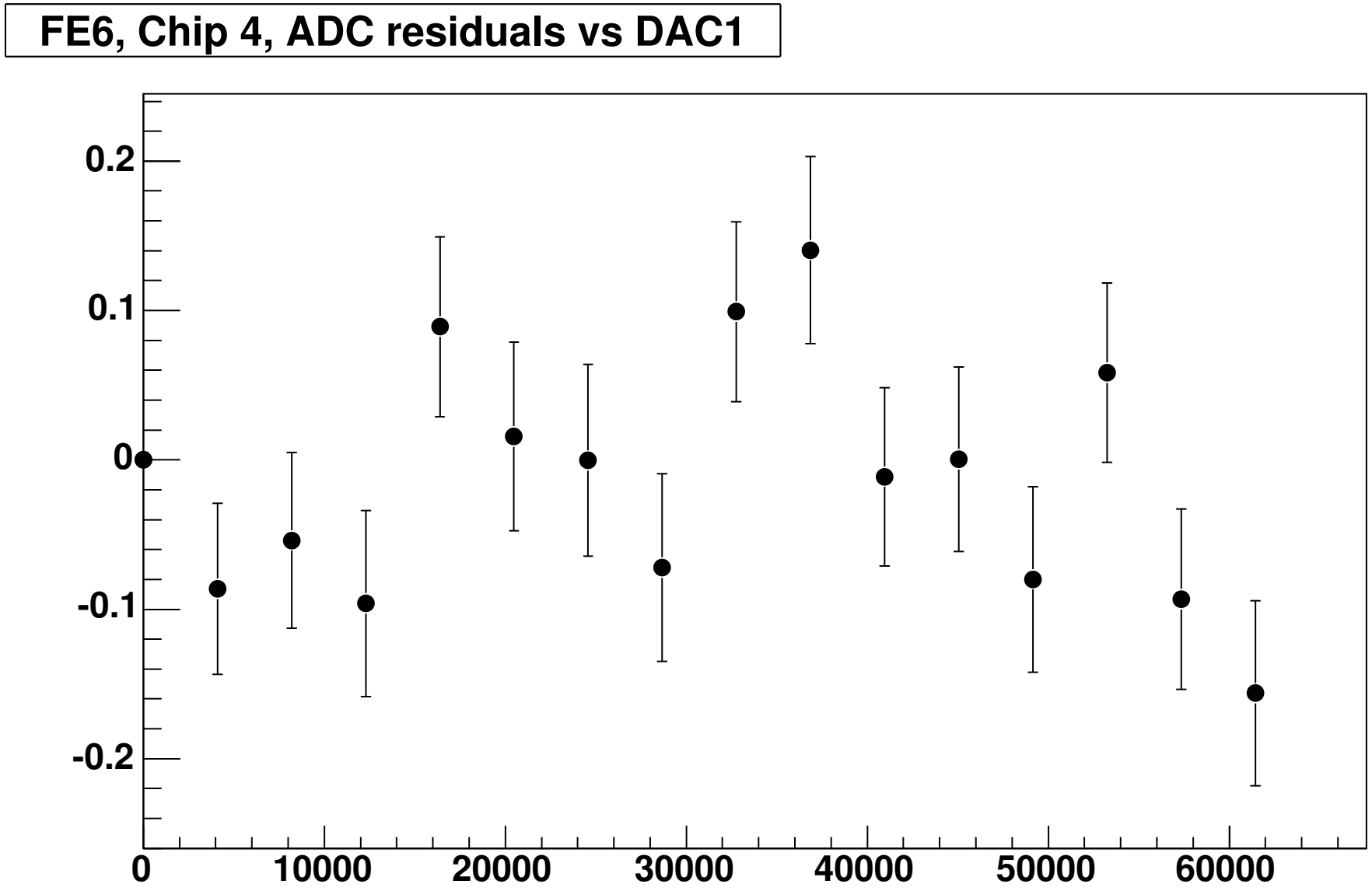

FE6, Chip 4, ADC mean vs DAC0
χ² / ndf 1949 / 11
p0 24.46 ± 0.04223
p1 0.4504 ± 1.385e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

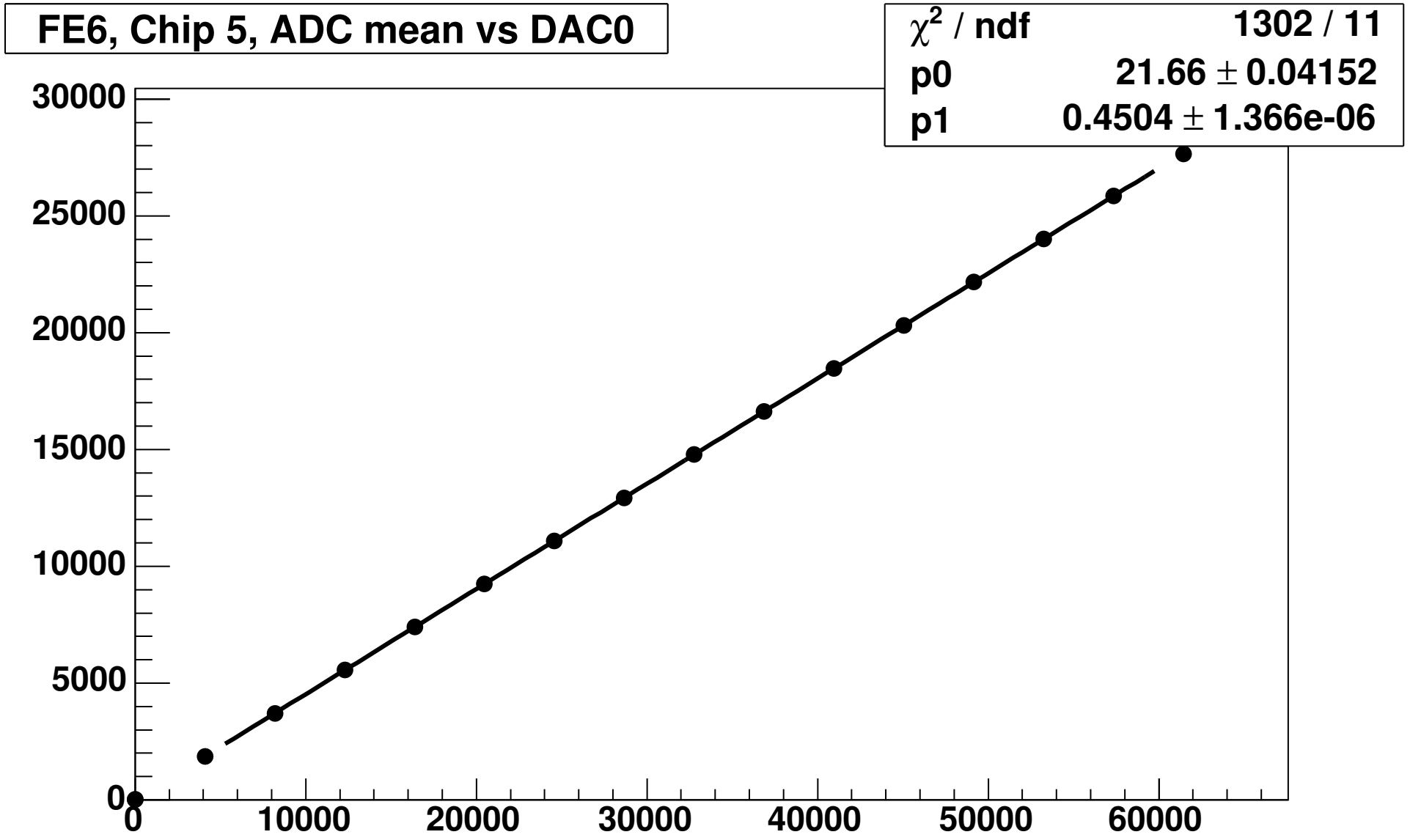

FE6, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

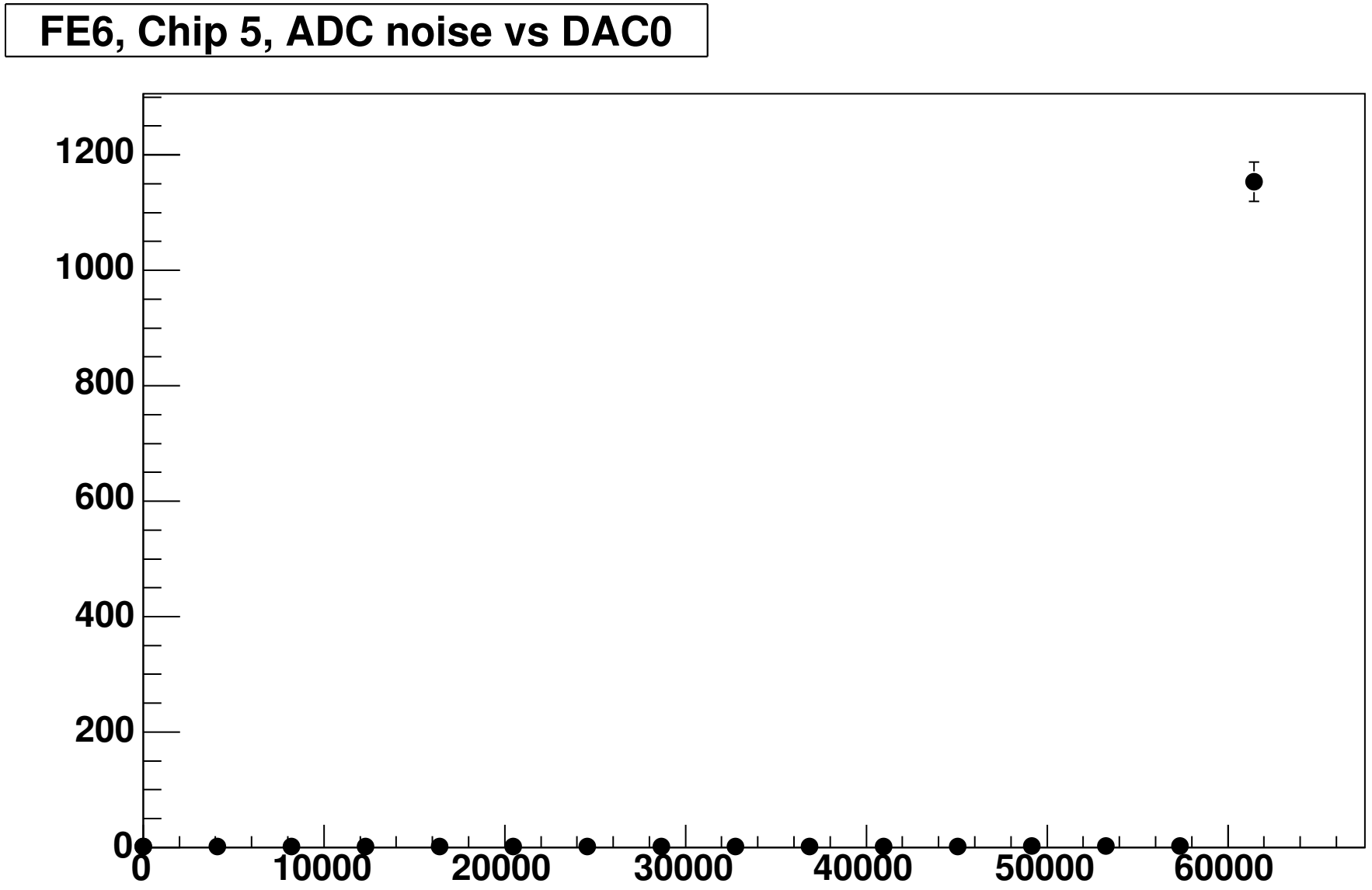

FE6, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

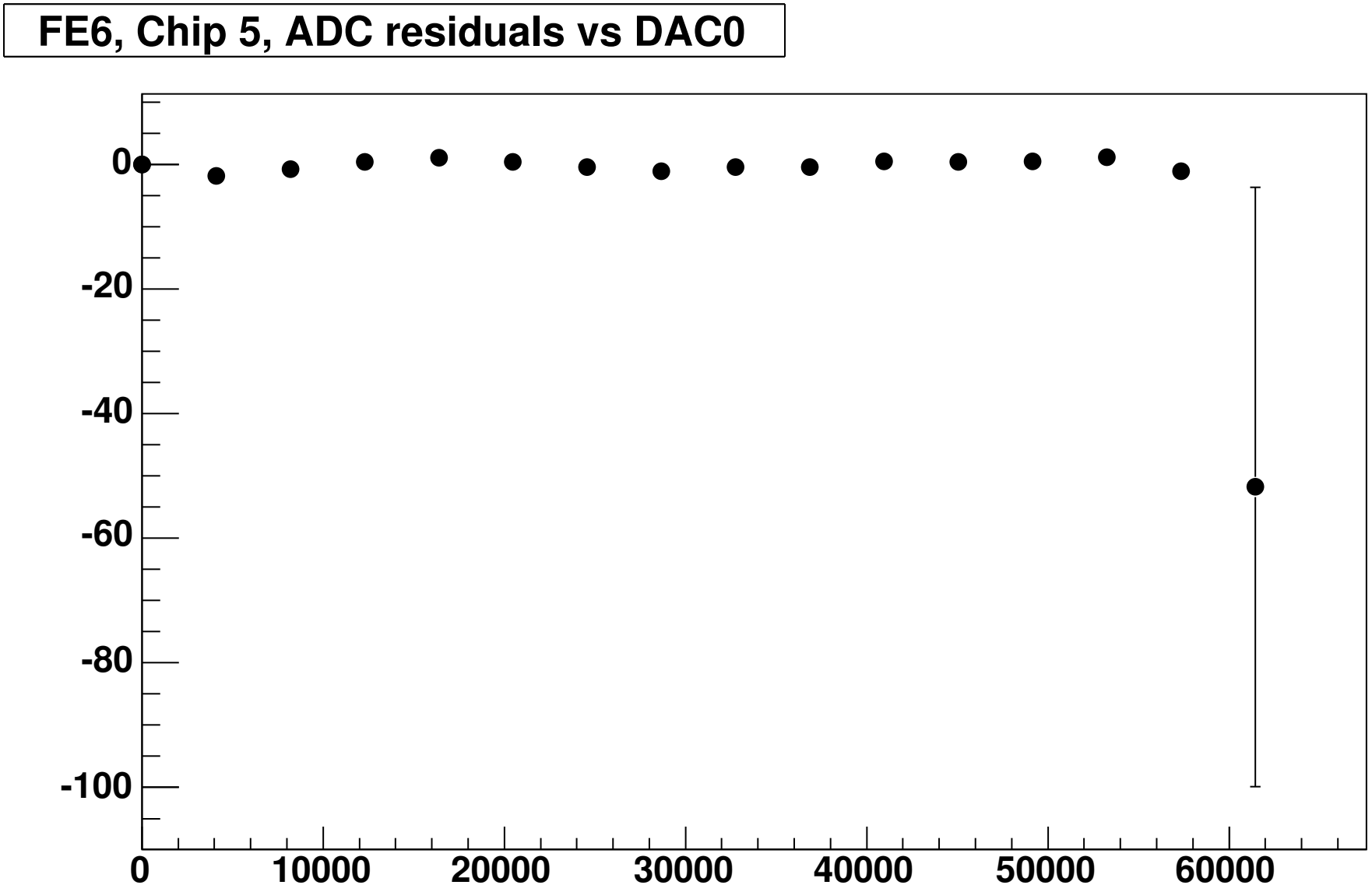

FE6, Chip 4, ADC mean vs DAC1
χ² / ndf 19.56 / 11
p0 21.57 ± 0.03986
p1 -7.198e-07 ± 1.098e-06
21.7
21.6
21.5
21.4
21.3
0
10000
20000
30000
40000
50000
60000

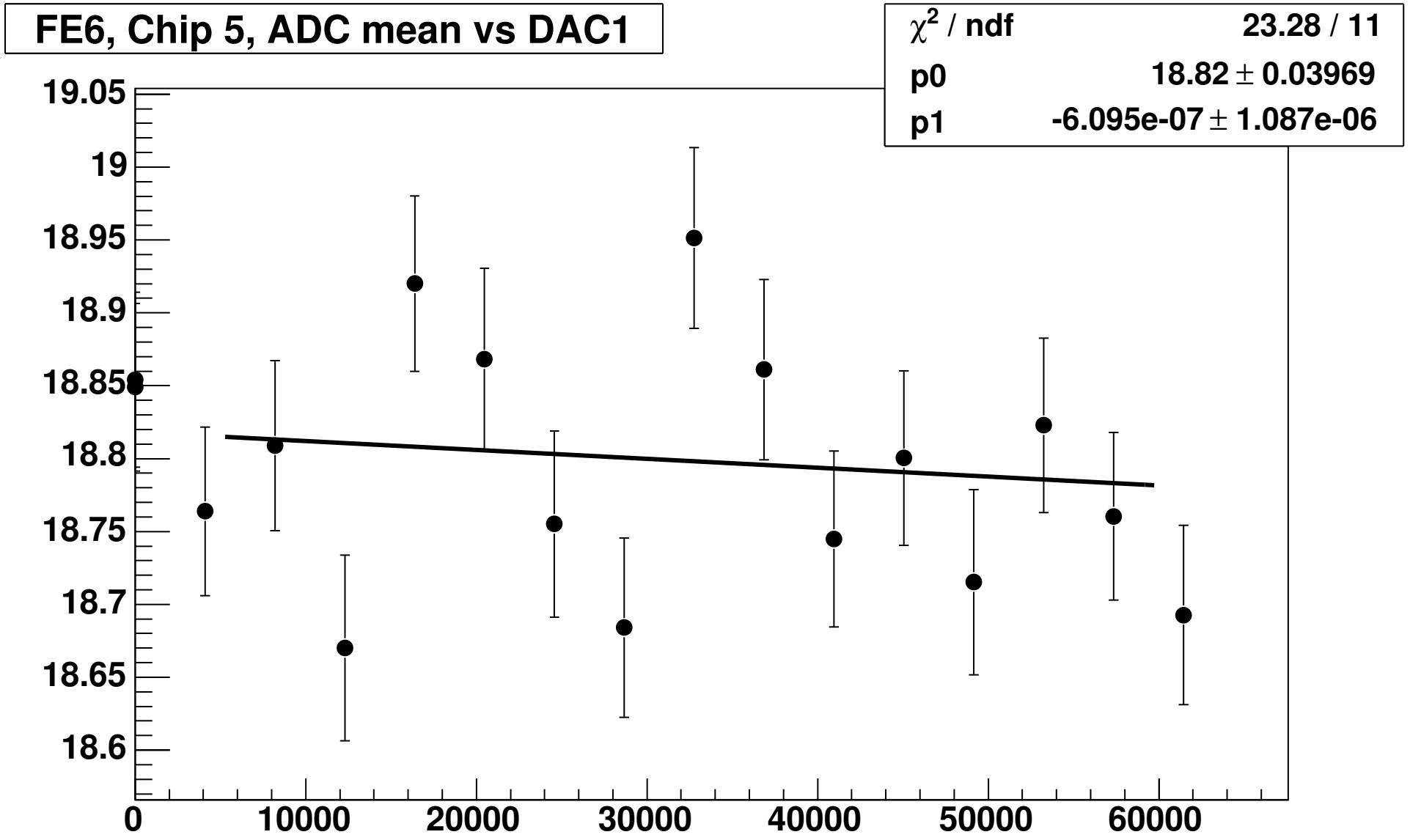

FE6, Chip 4, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

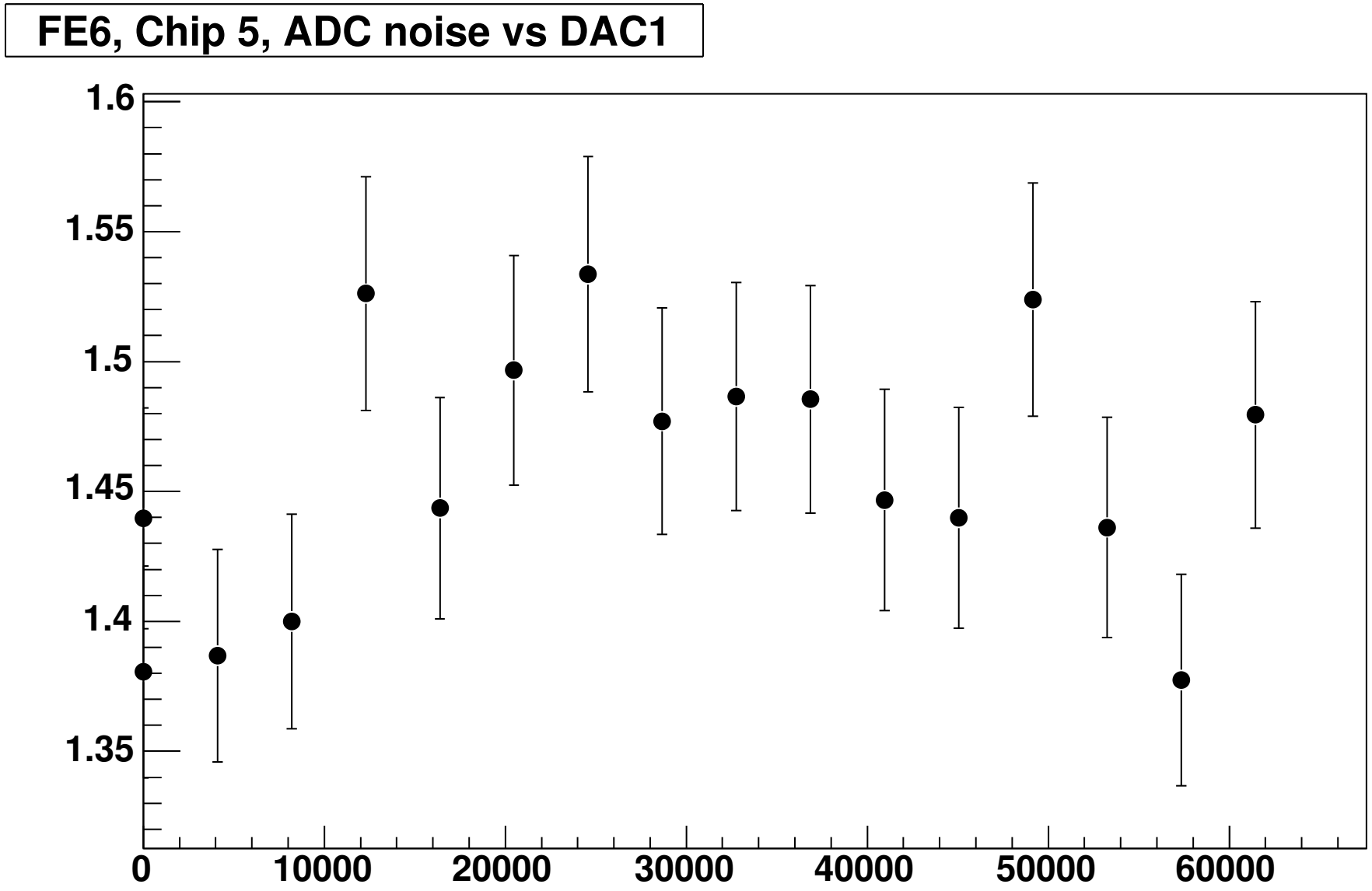

FE6, Chip 4, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

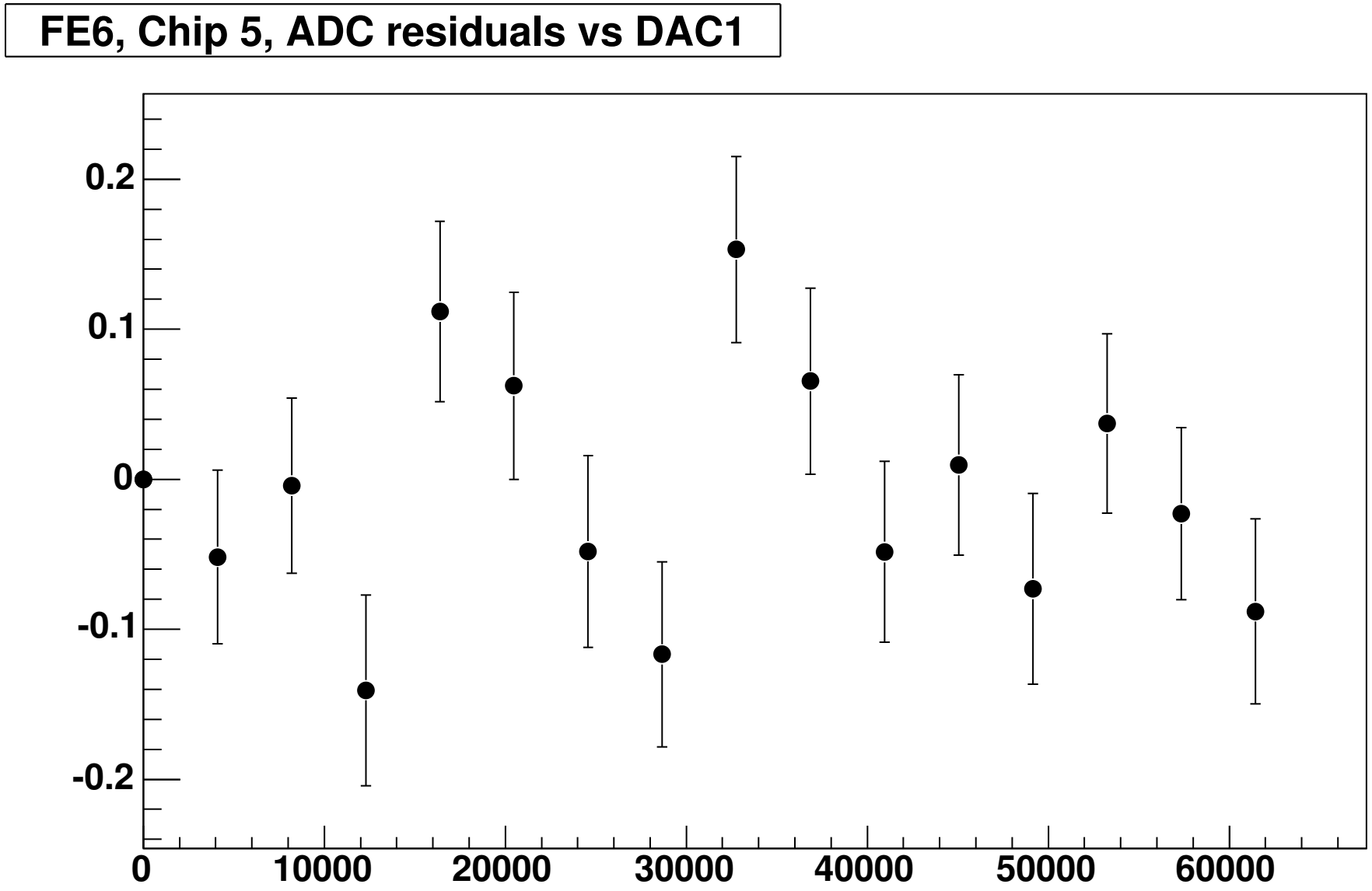

FE6, Chip 5, ADC mean vs DAC0
χ² / ndf 1302 / 11
p0 21.66 ± 0.04152
p1 0.4504 ± 1.366e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

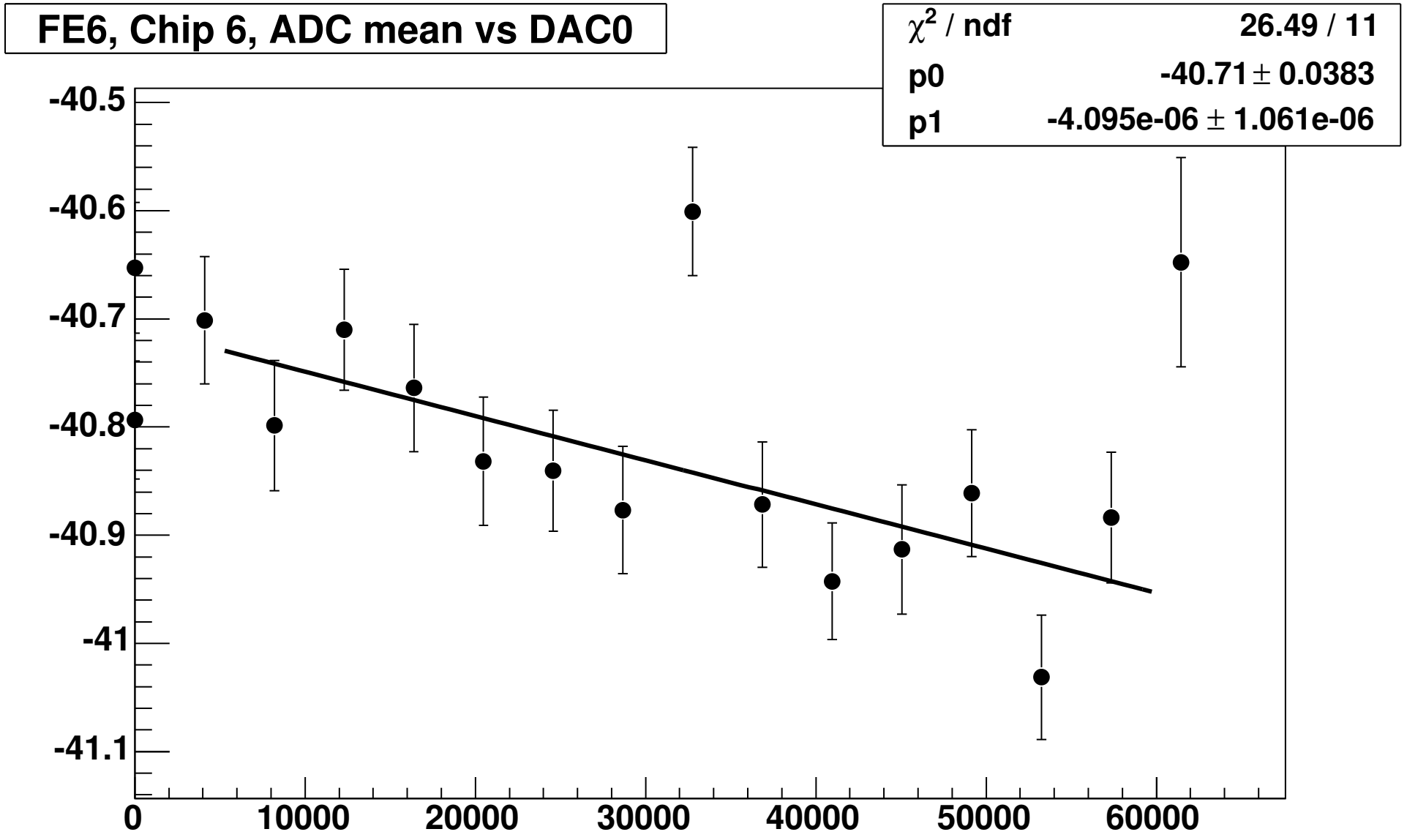

FE6, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

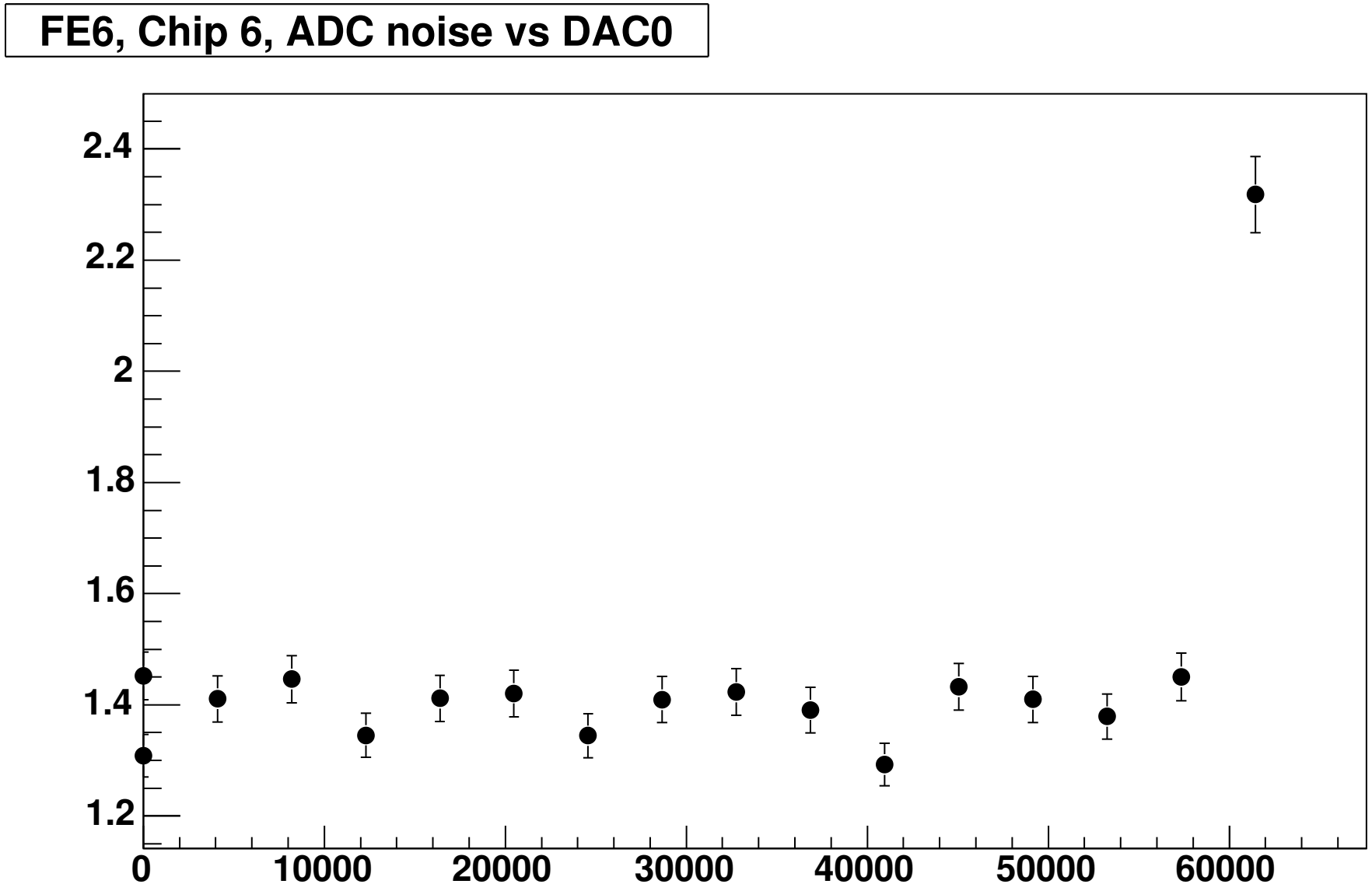

FE6, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

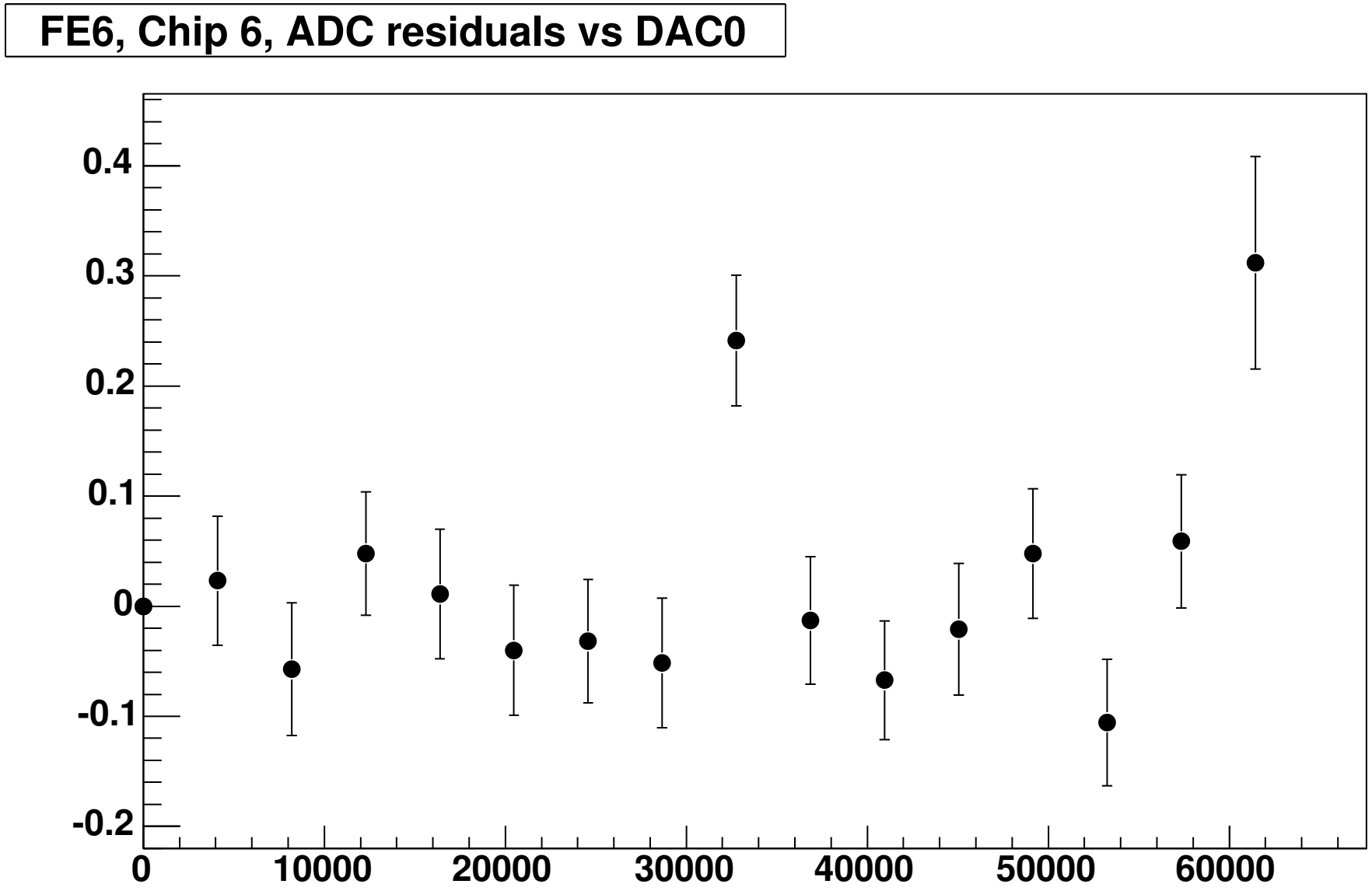

FE6, Chip 5, ADC mean vs DAC1
χ² / ndf 23.28 / 11
p0 18.82 ± 0.03969
p1 -6.095e-07 ± 1.087e-06
19.05
19
18.95
18.9
18.85
18.8
18.75
18.7
18.65
18.6
0
10000
20000
30000
40000
50000
60000

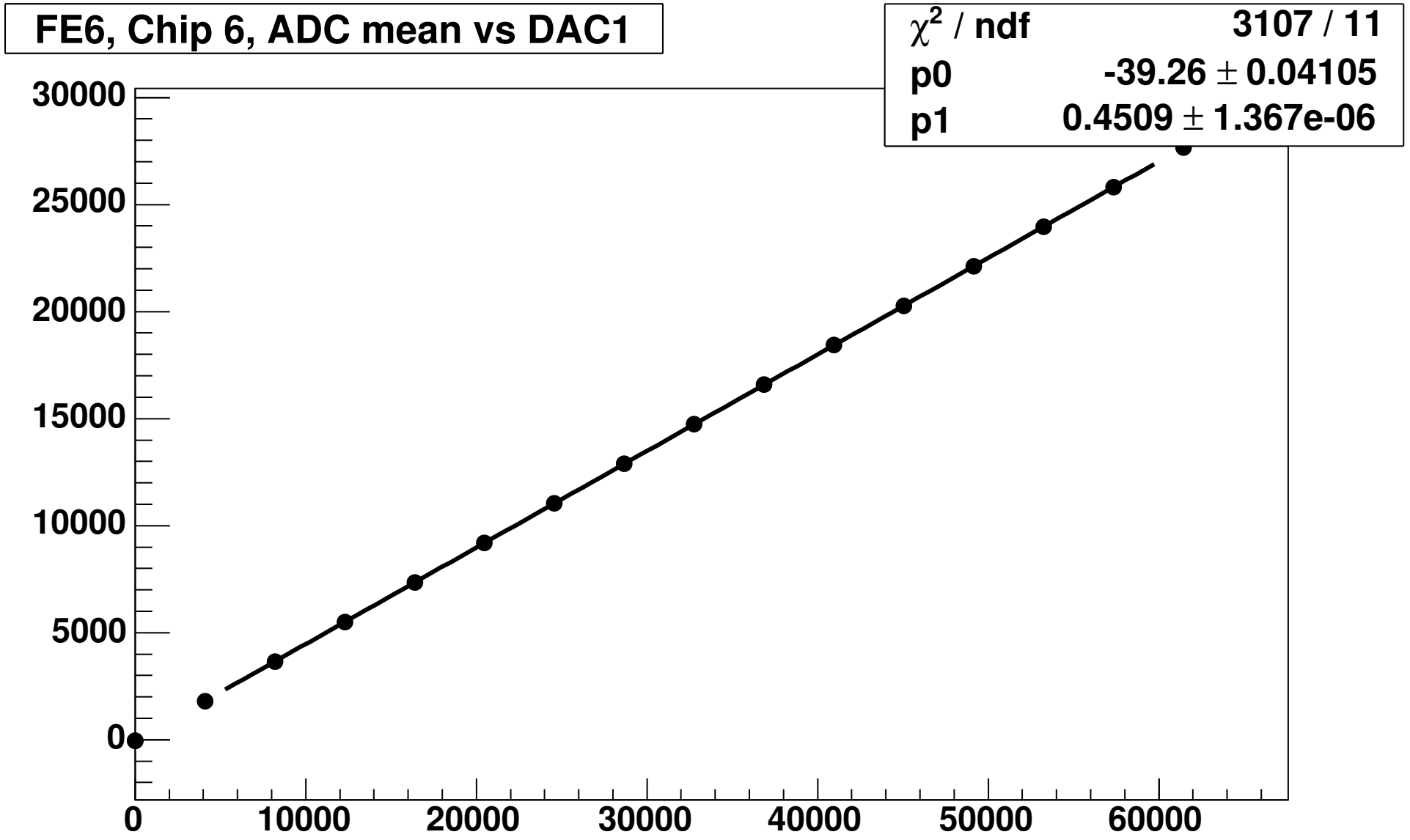

FE6, Chip 5, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000


FE6, Chip 5, ADC residuals vs DAC1
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

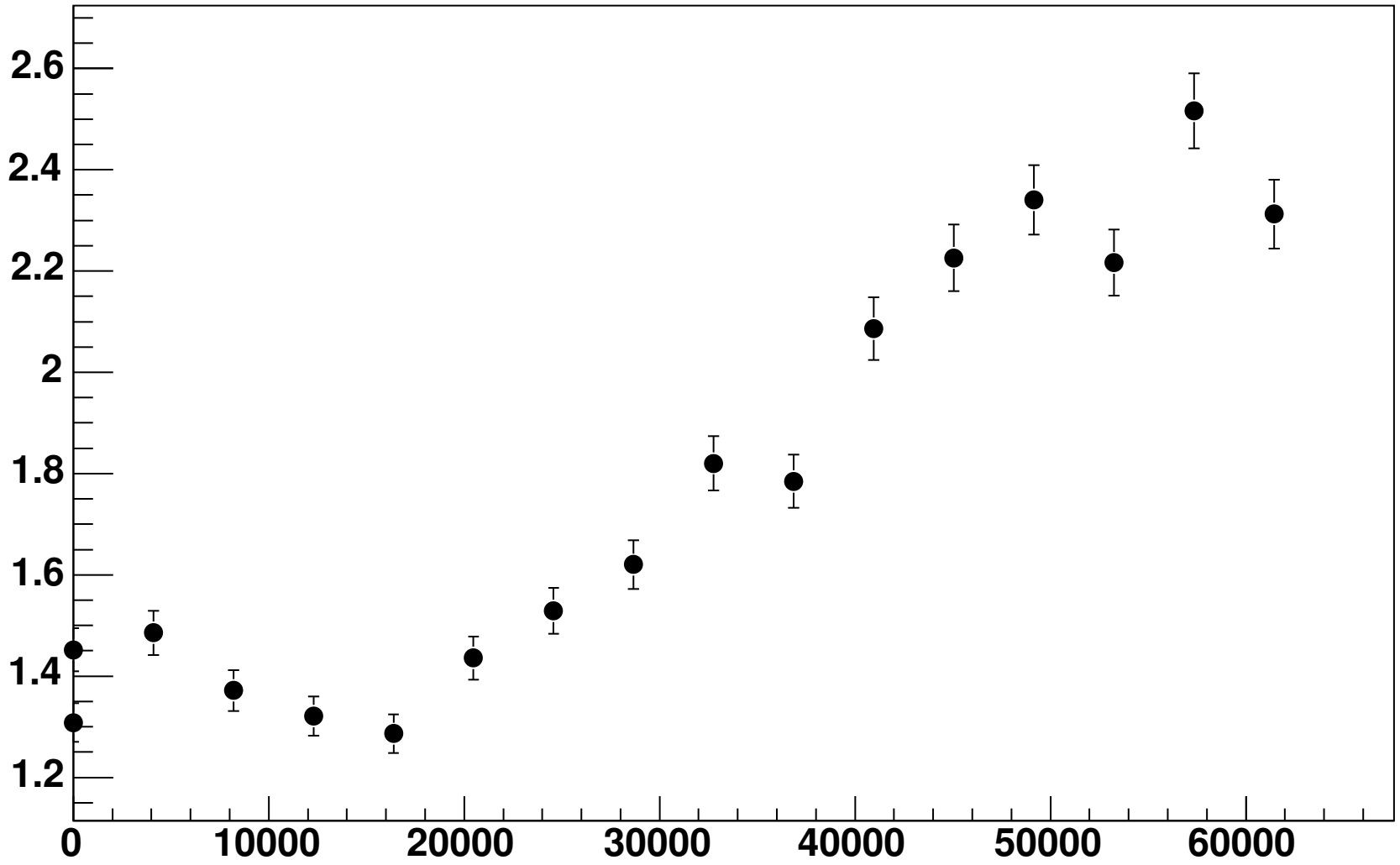

FE6, Chip 6, ADC mean vs DAC0
χ² / ndf 26.49 / 11
p0 -40.71 ± 0.0383
p1 -4.095e-06 ± 1.061e-06
-40.5
-40.6
-40.7
-40.8
-40.9
-41
-41.1
0
10000
20000
30000
40000
50000
60000

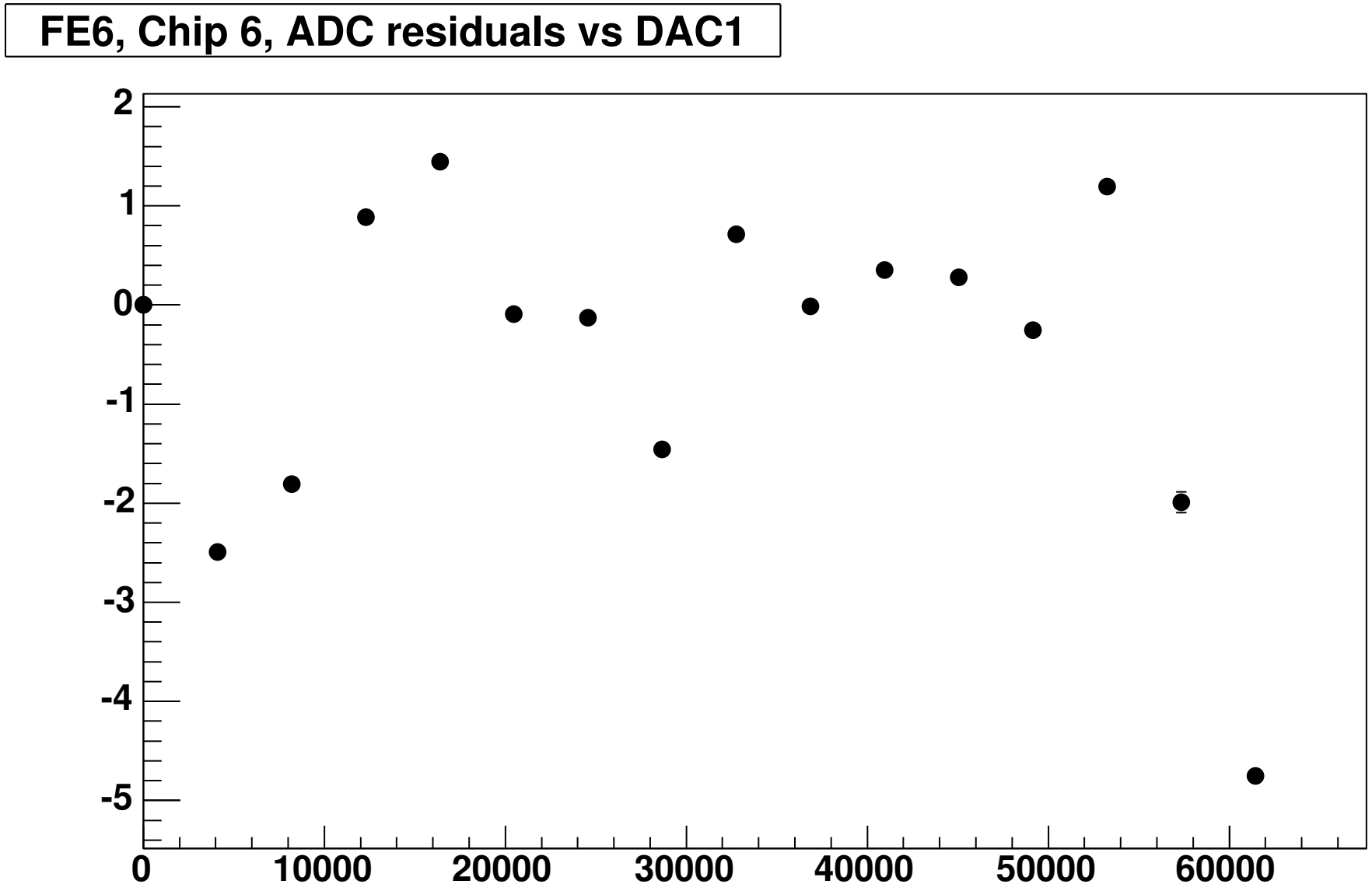

FE6, Chip 6, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

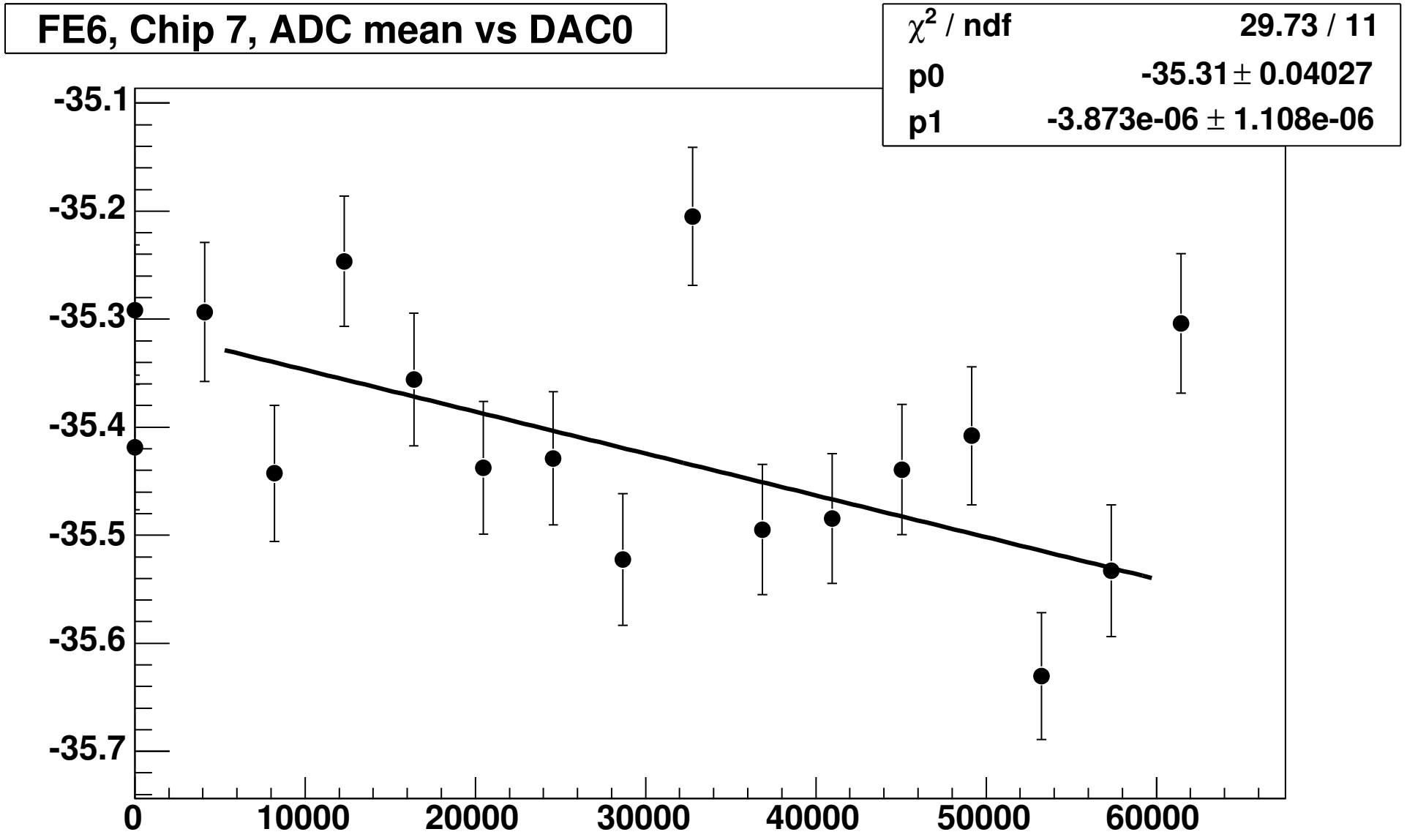

FE6, Chip 6, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

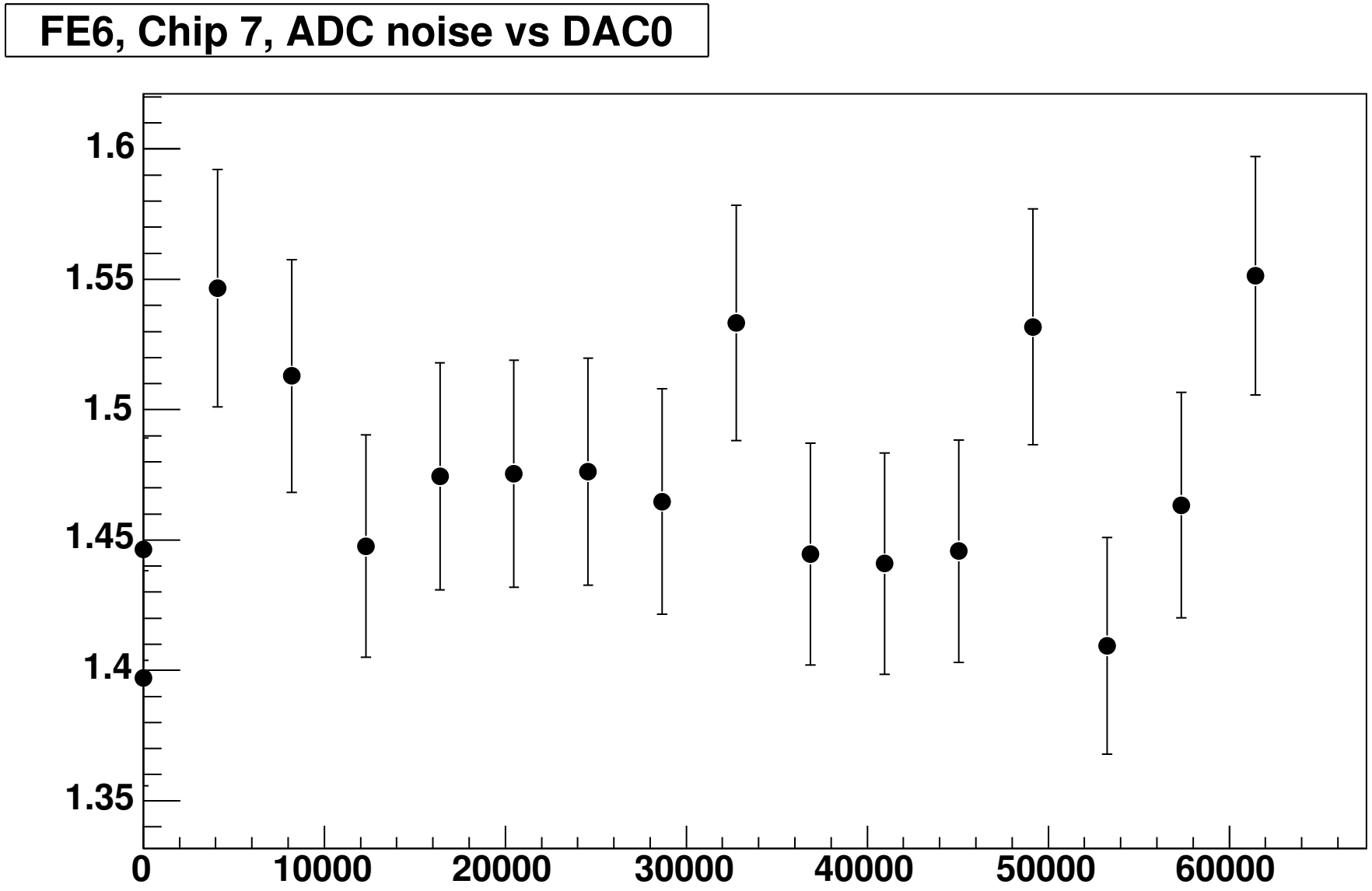

FE6, Chip 6, ADC mean vs DAC1
χ² / ndf 3107 / 11
p0 -39.26 ± 0.04105
p1 0.4509 ± 1.367e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

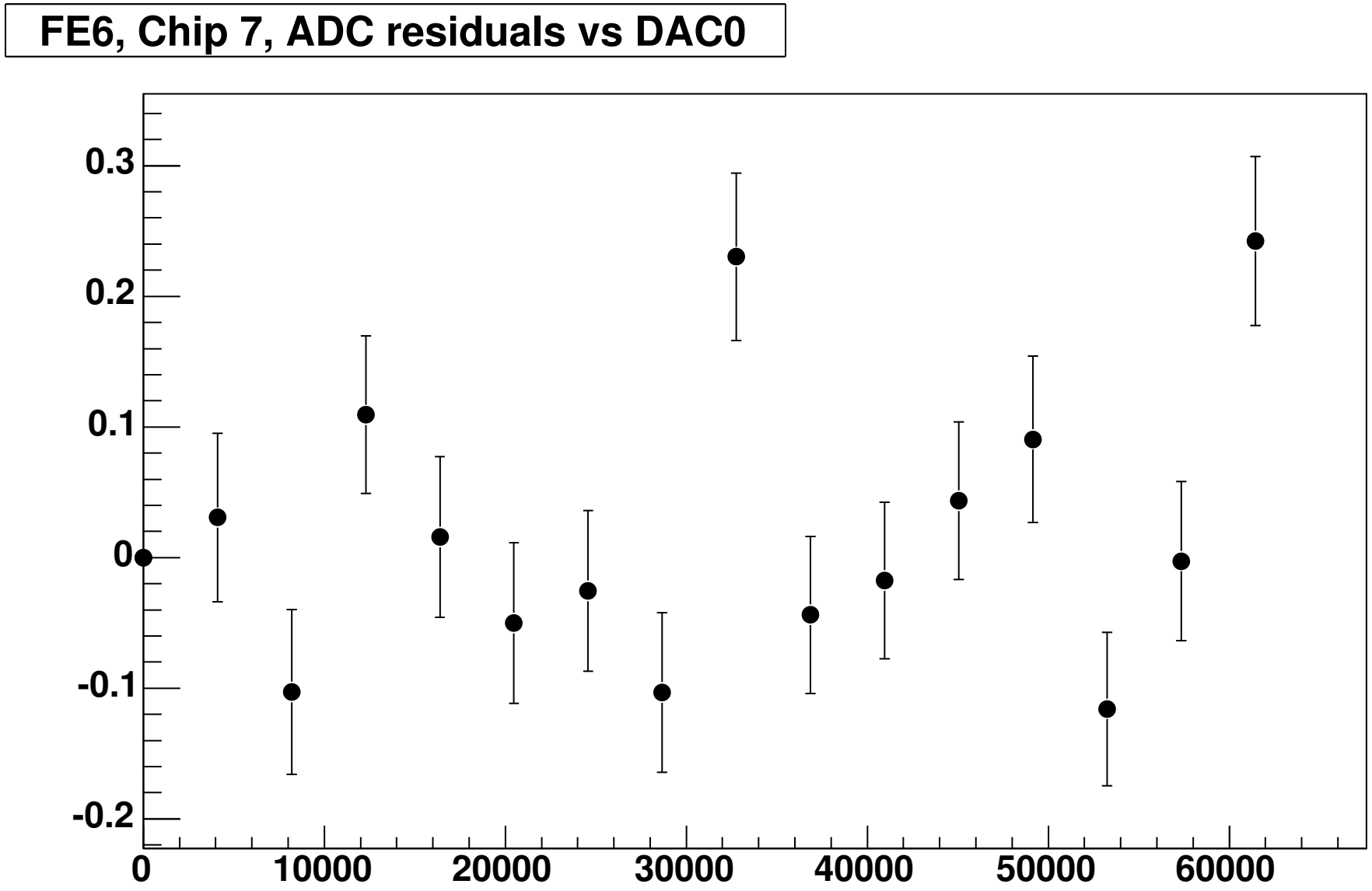
FE6, Chip 6, ADC noise vs DAC1

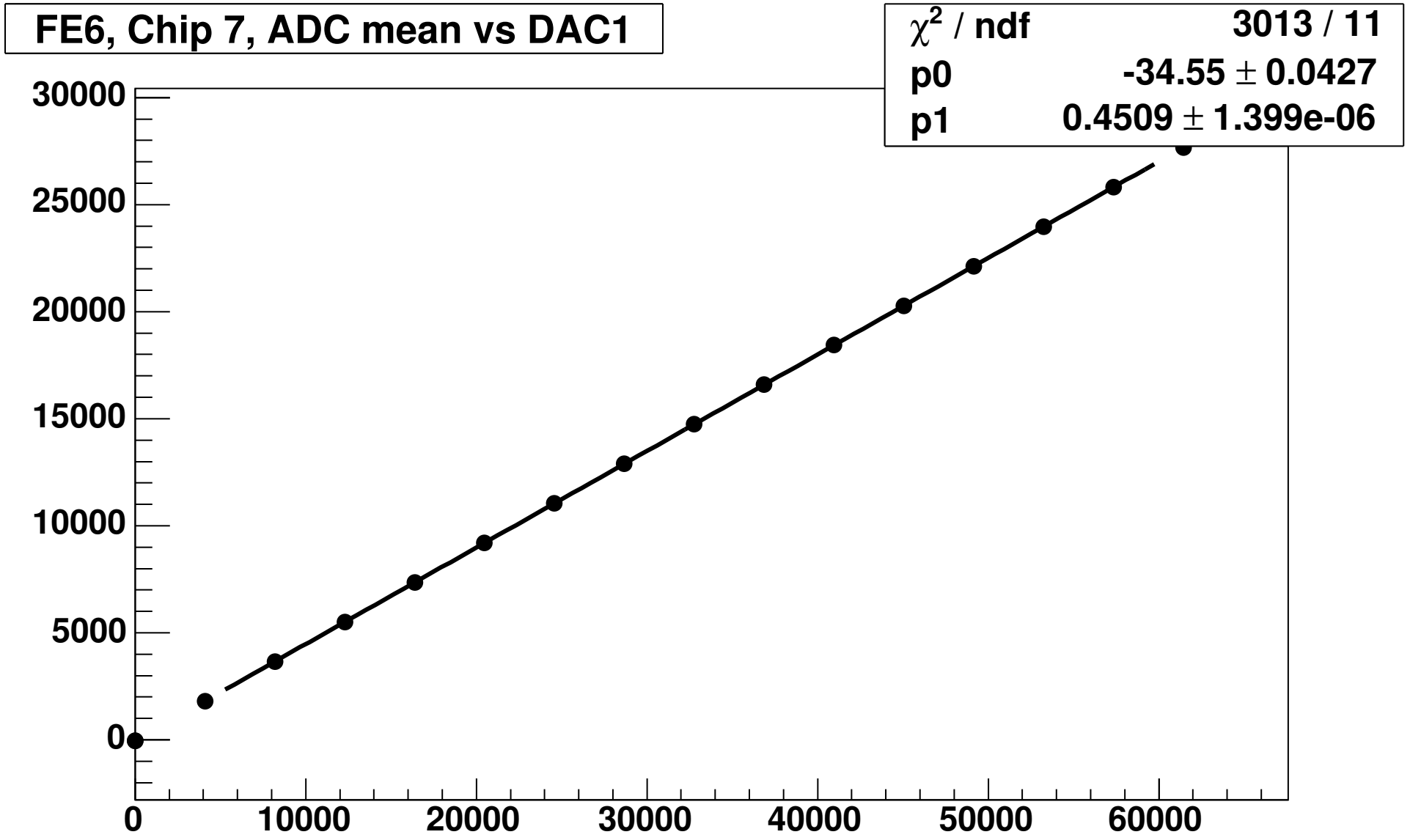



FE6, Chip 6, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

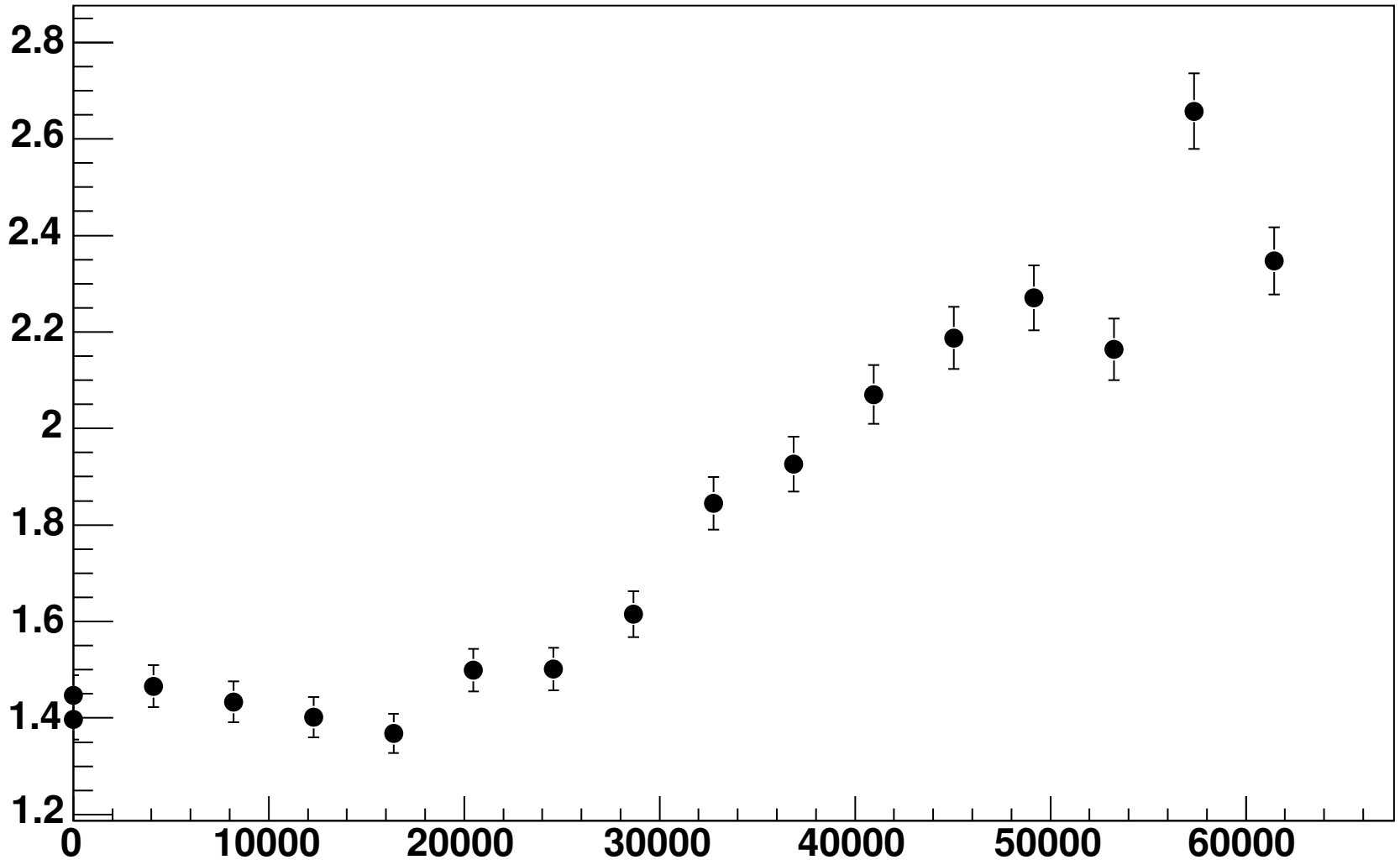

FE6, Chip 7, ADC mean vs DAC0
χ² / ndf 29.73 / 11
p0 -35.31 ± 0.04027
p1 -3.873e-06 ± 1.108e-06
-35.1
-35.2
-35.3
-35.4
-35.5
-35.6
-35.7
0
10000
20000
30000
40000
50000
60000

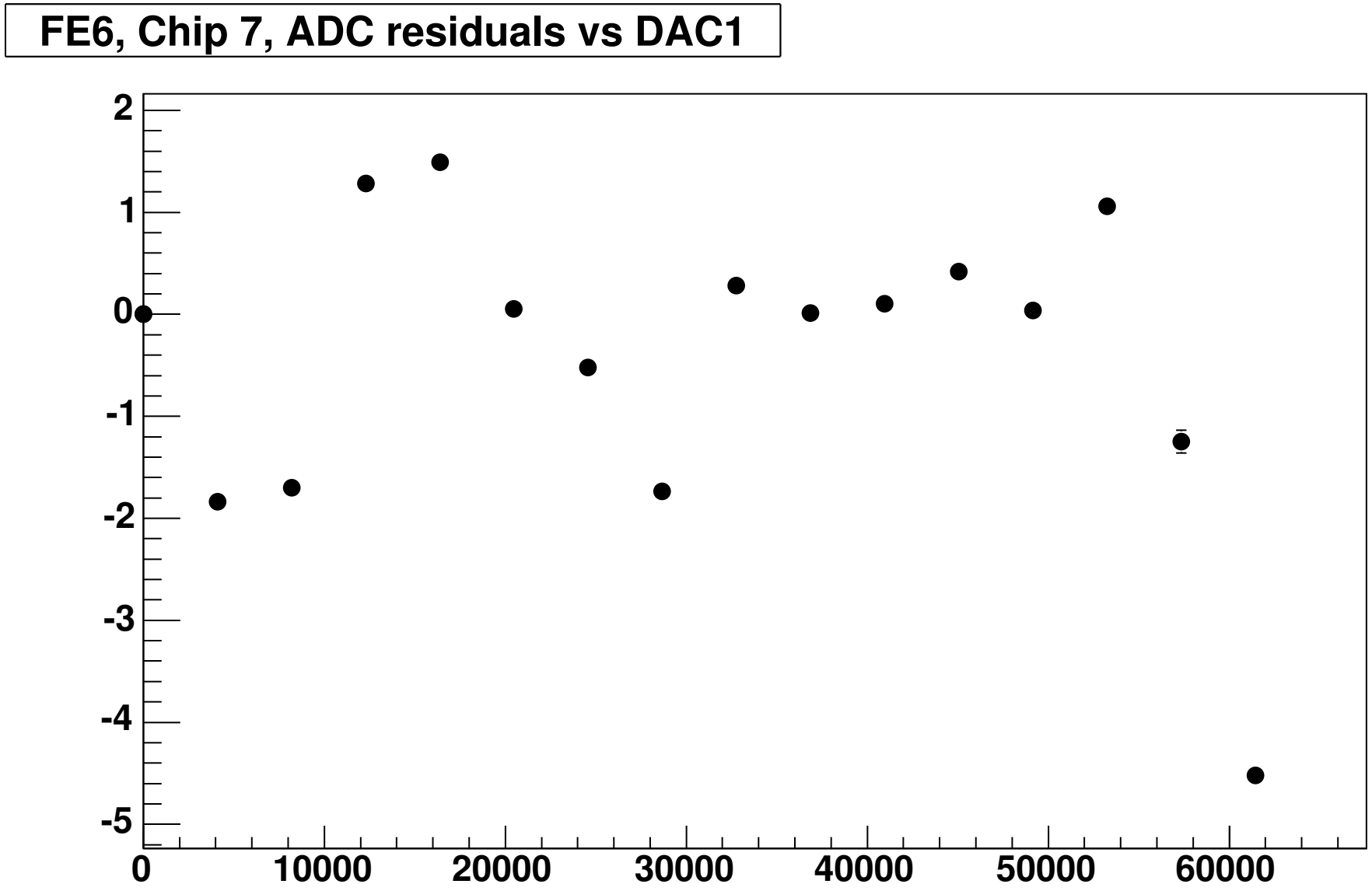

FE6, Chip 7, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

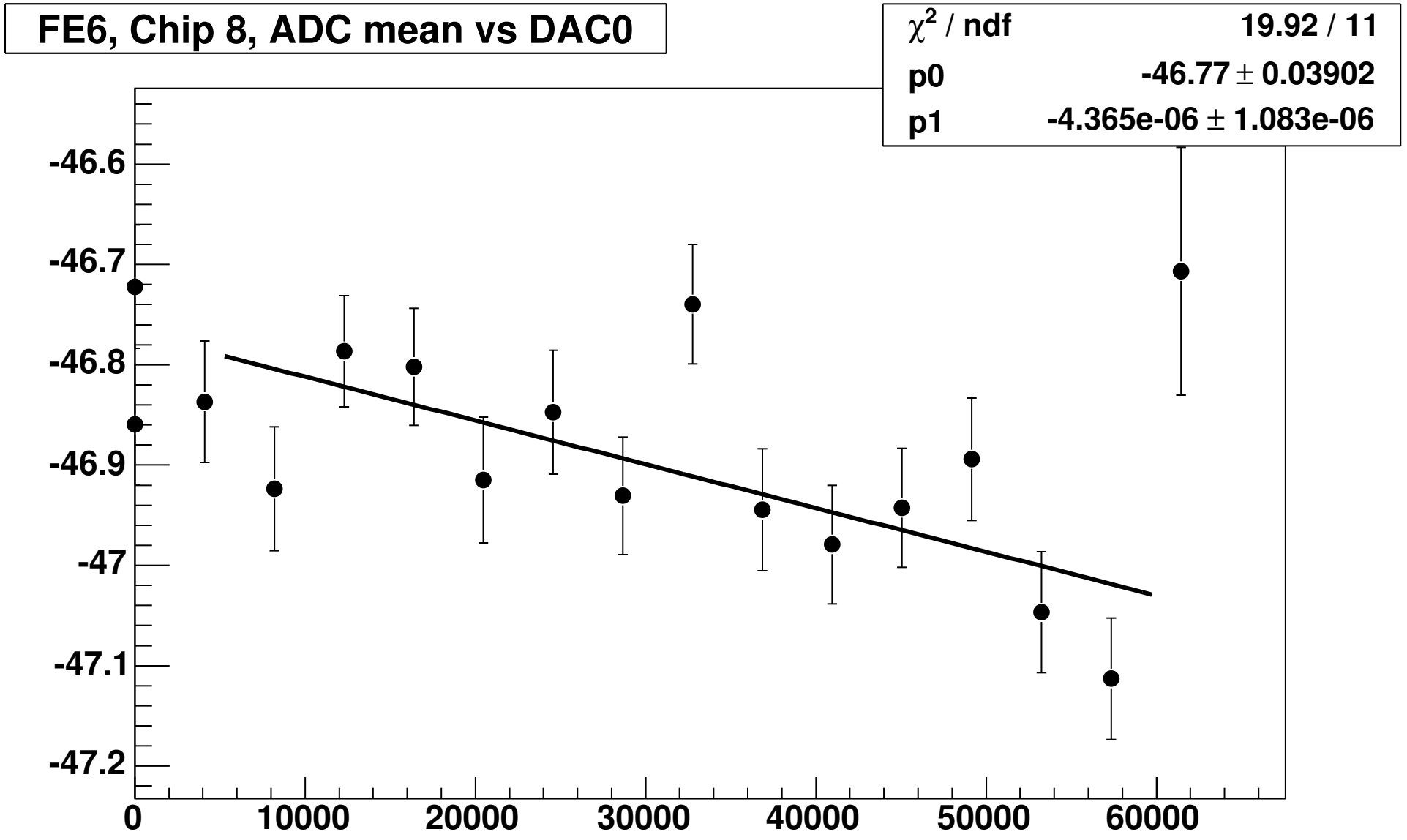

FE6, Chip 7, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

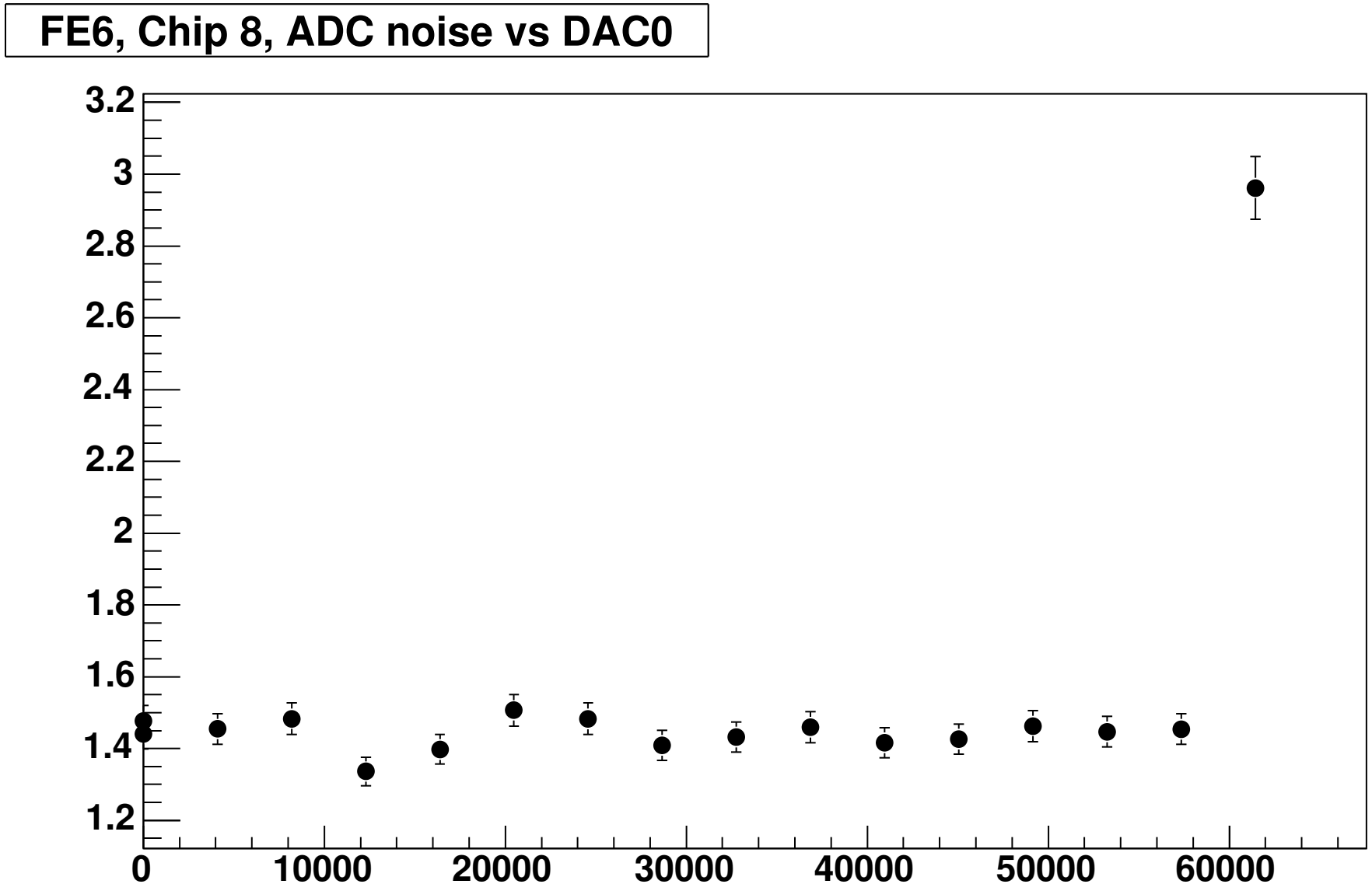

FE6, Chip 7, ADC mean vs DAC1
χ² / ndf 3013 / 11
p0 -34.55 ± 0.0427
p1 0.4509 ± 1.399e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

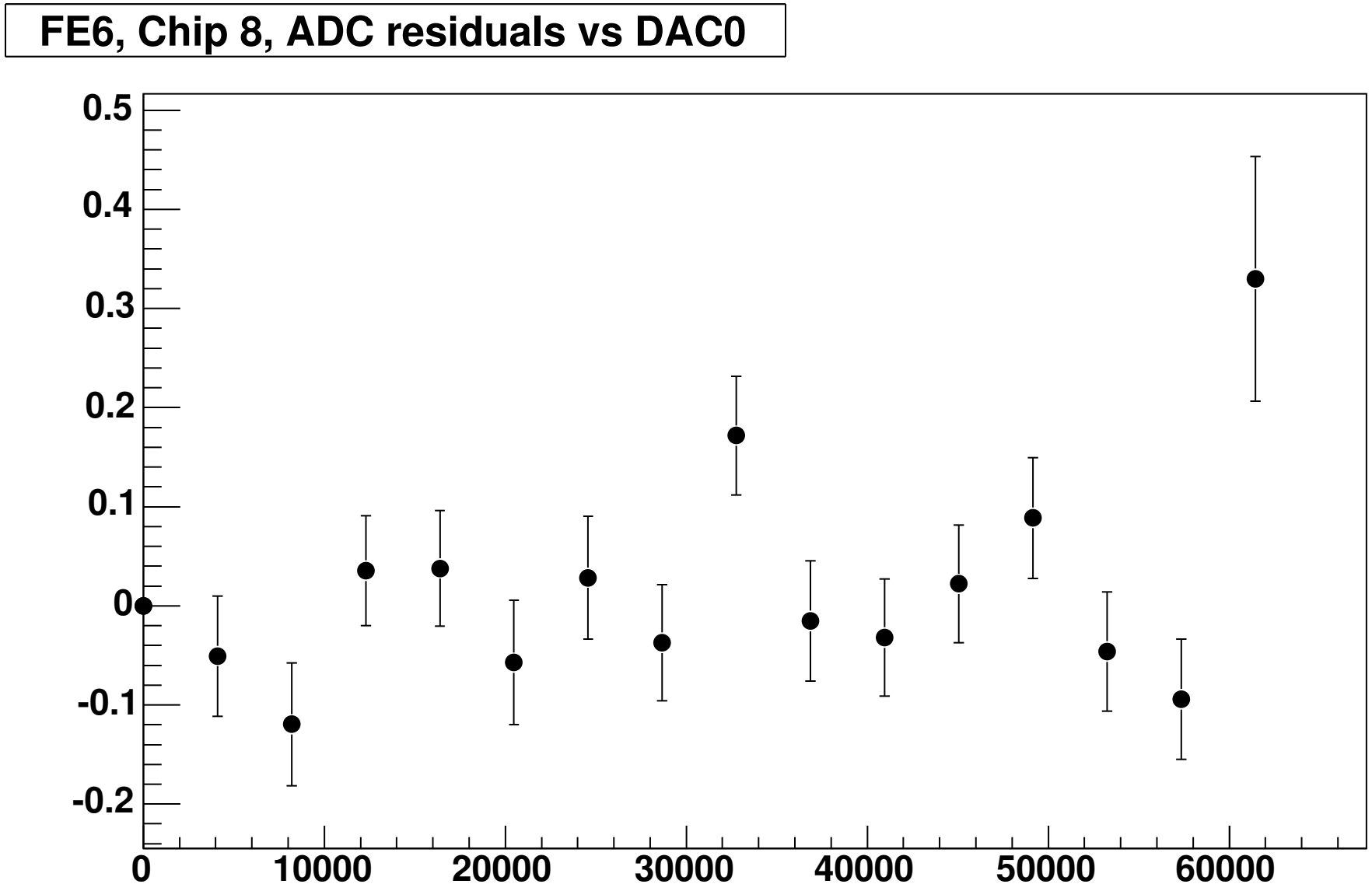
FE6, Chip 7, ADC noise vs DAC1

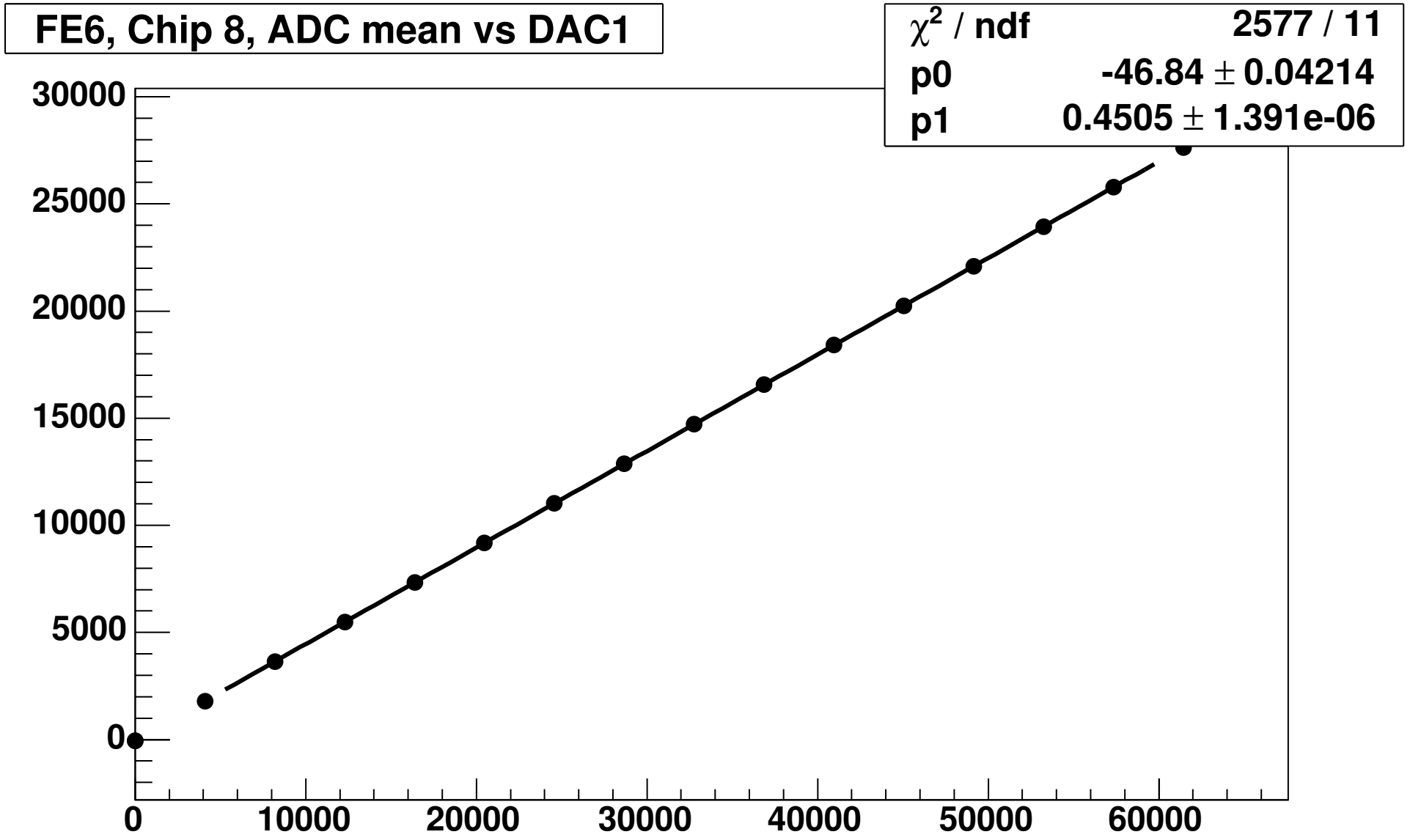


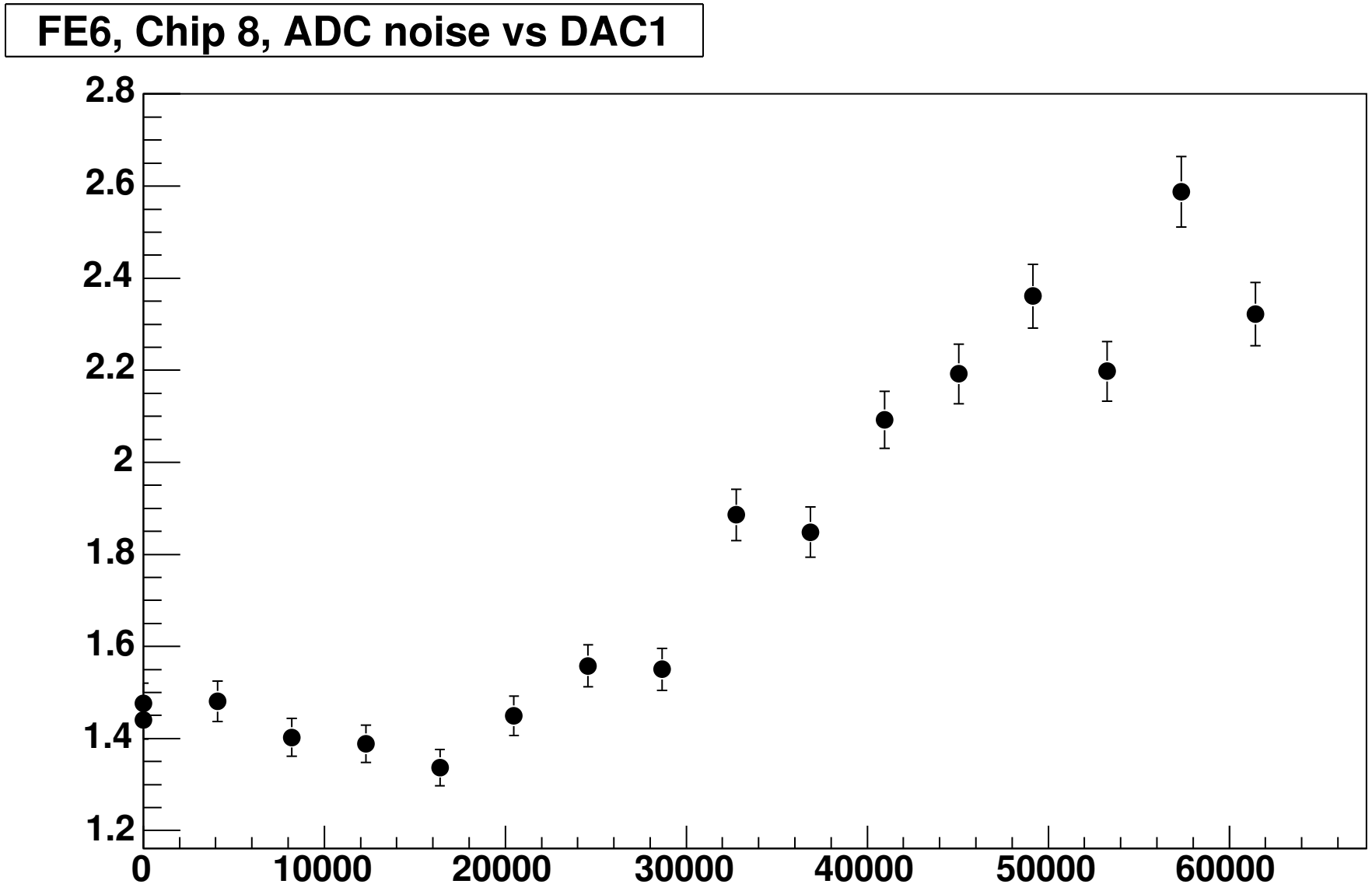

FE6, Chip 7, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

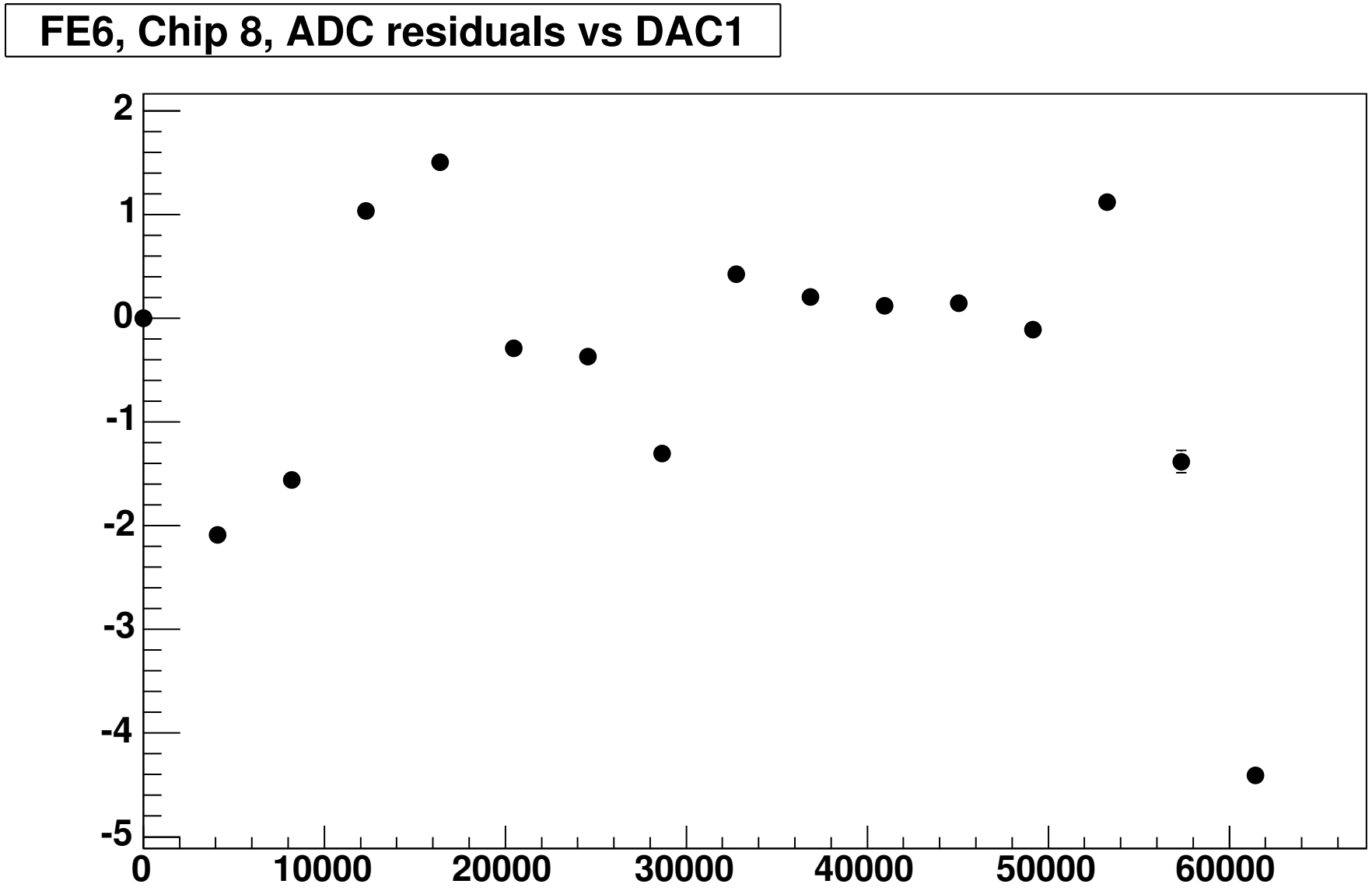

FE6, Chip 8, ADC mean vs DAC0
χ² / ndf 19.92 / 11
p0 -46.77 ± 0.03902
p1 -4.365e-06 ± 1.083e-06
-46.6
-46.7
-46.8
-46.9
-47
-47.1
-47.2
0
10000
20000
30000
40000
50000
60000

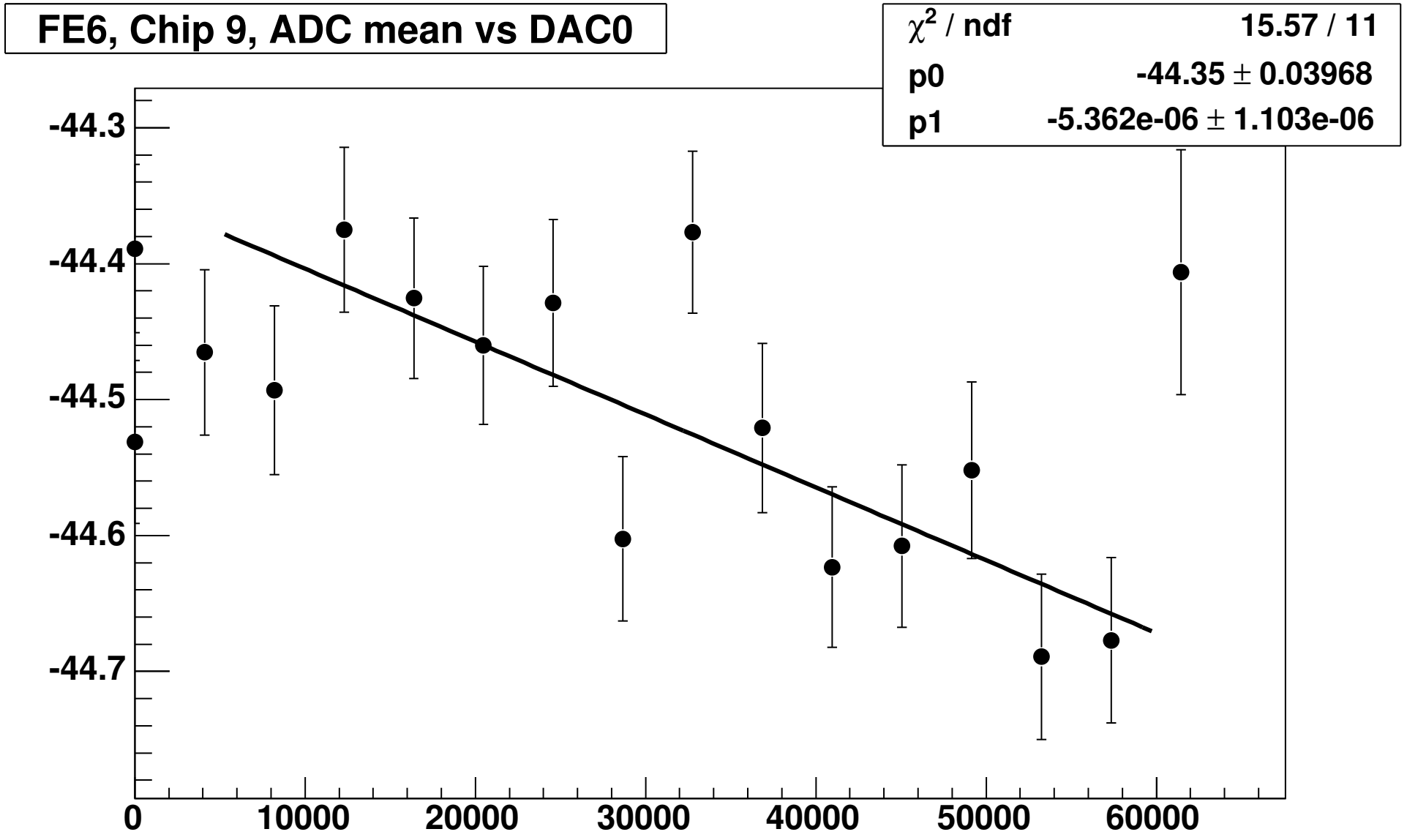

FE6, Chip 8, ADC noise vs DAC0
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

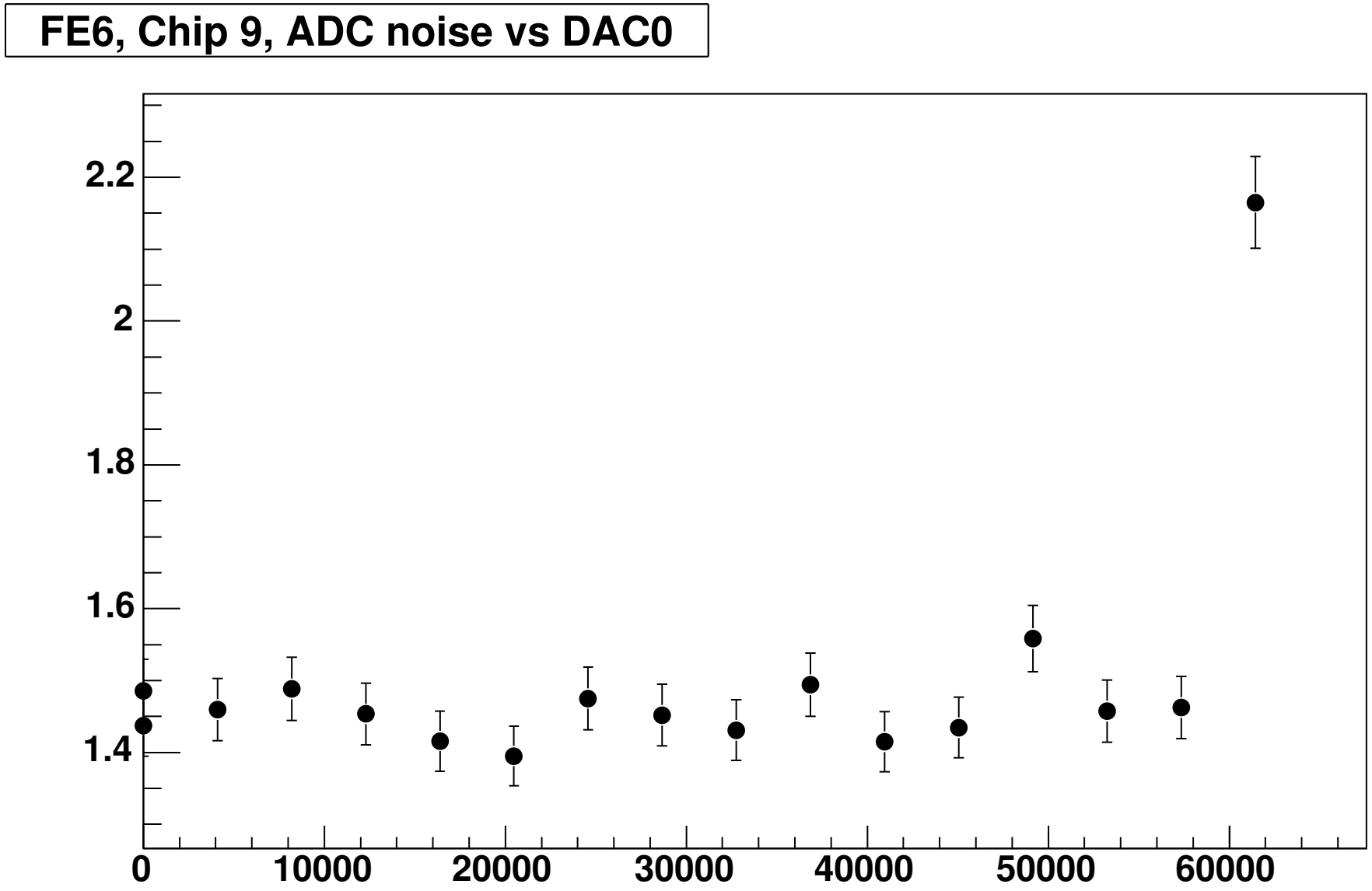

FE6, Chip 8, ADC residuals vs DAC0
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

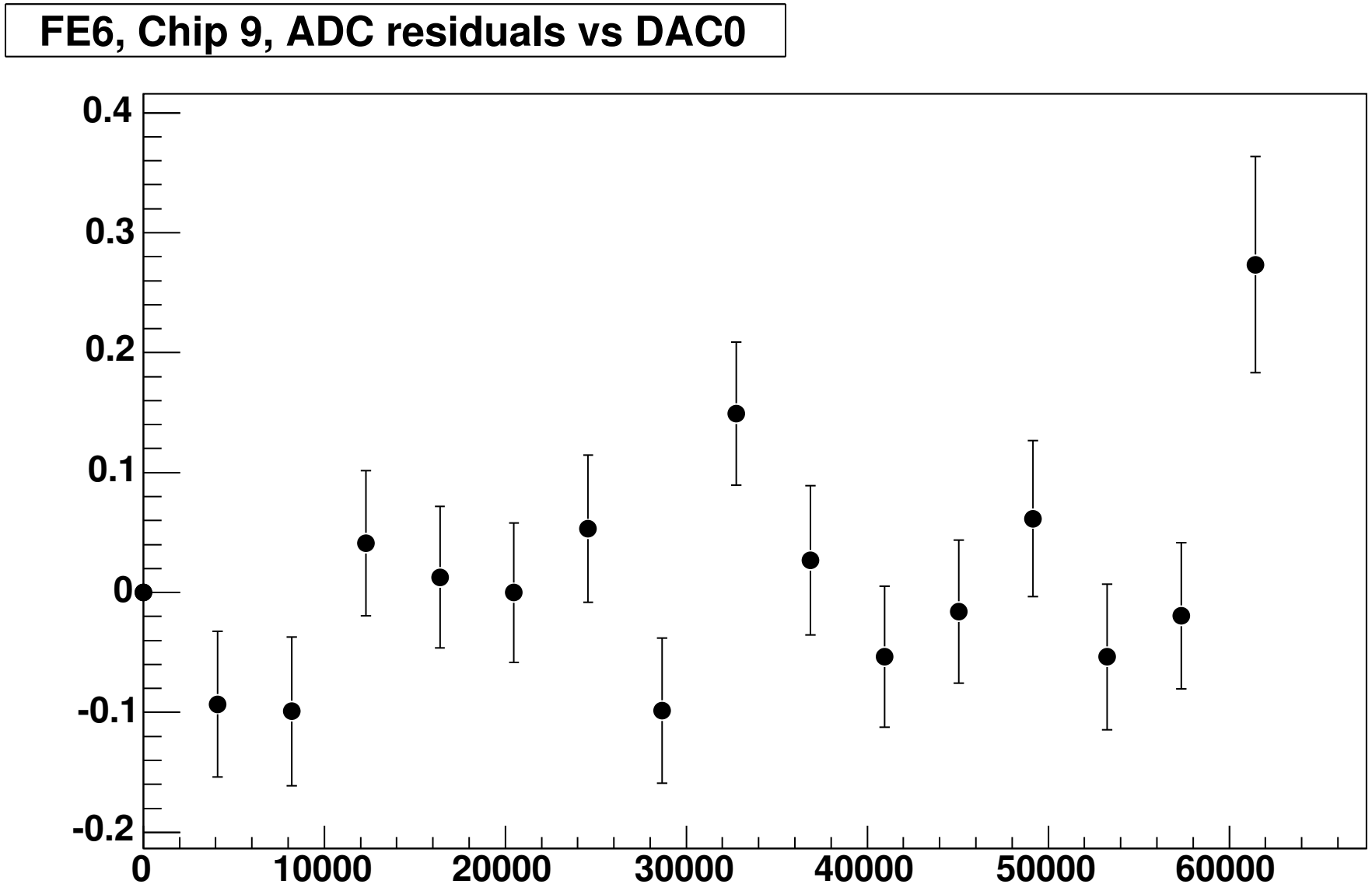

FE6, Chip 8, ADC mean vs DAC1
χ² / ndf 2577 / 11
p0 -46.84 ± 0.04214
p1 0.4505 ± 1.391e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

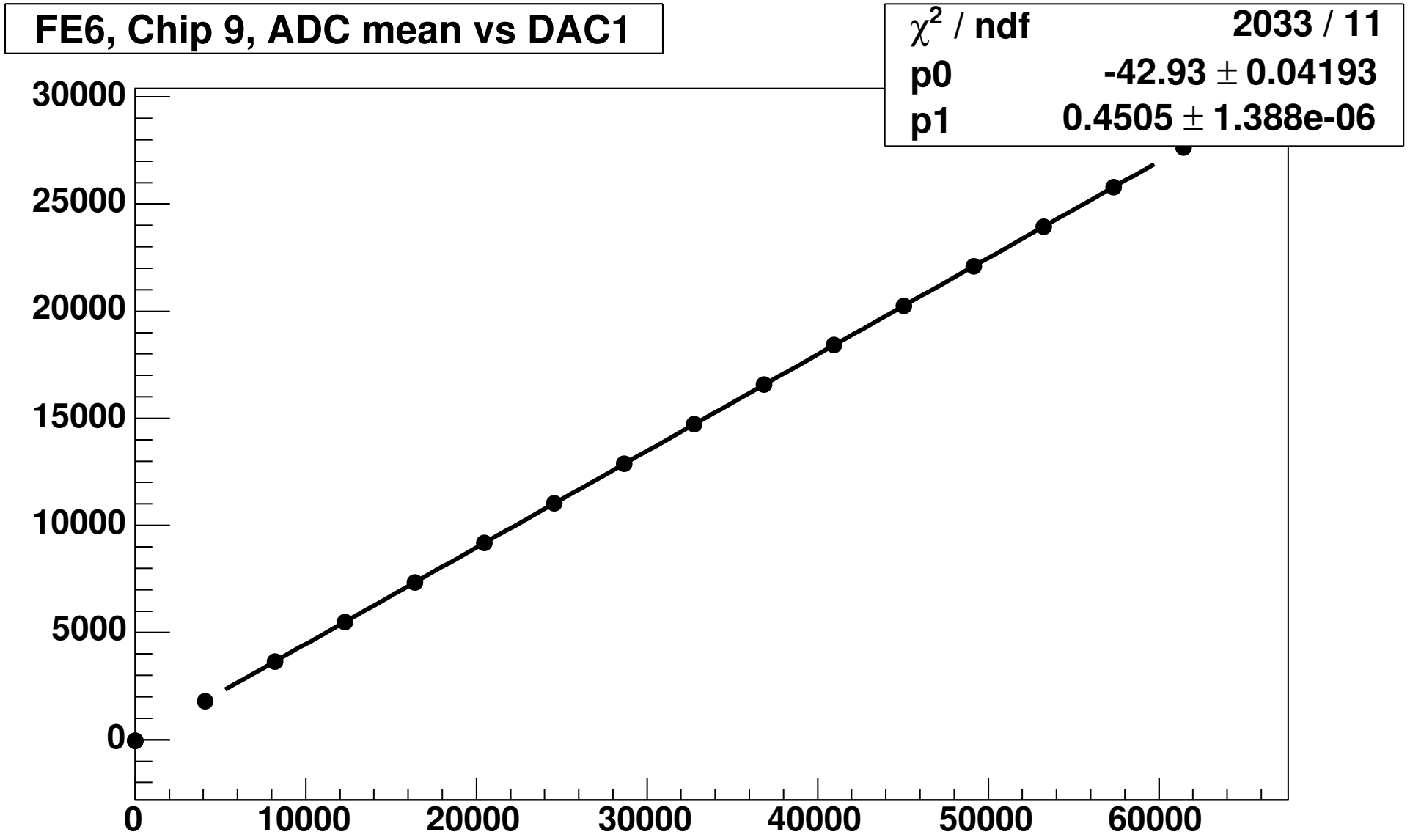

FE6, Chip 8, ADC noise vs DAC1
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000


FE6, Chip 8, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
0
10000
20000
30000
40000
50000
60000

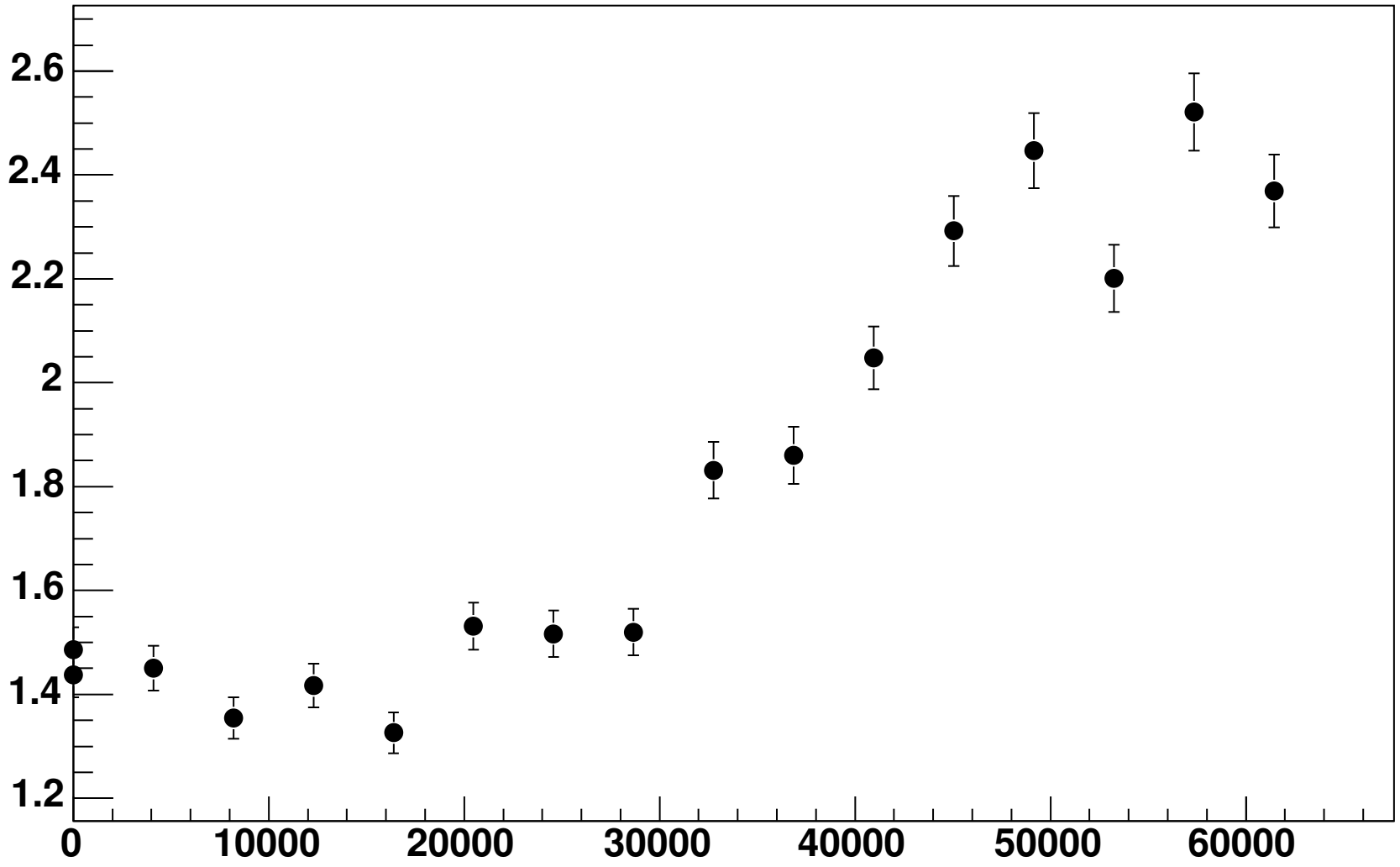

FE6, Chip 9, ADC mean vs DAC0
χ² / ndf 15.57 / 11
p0 -44.35 ± 0.03968
p1 -5.362e-06 ± 1.103e-06
-44.3
-44.4
-44.5
-44.6
-44.7
0
10000
20000
30000
40000
50000
60000


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

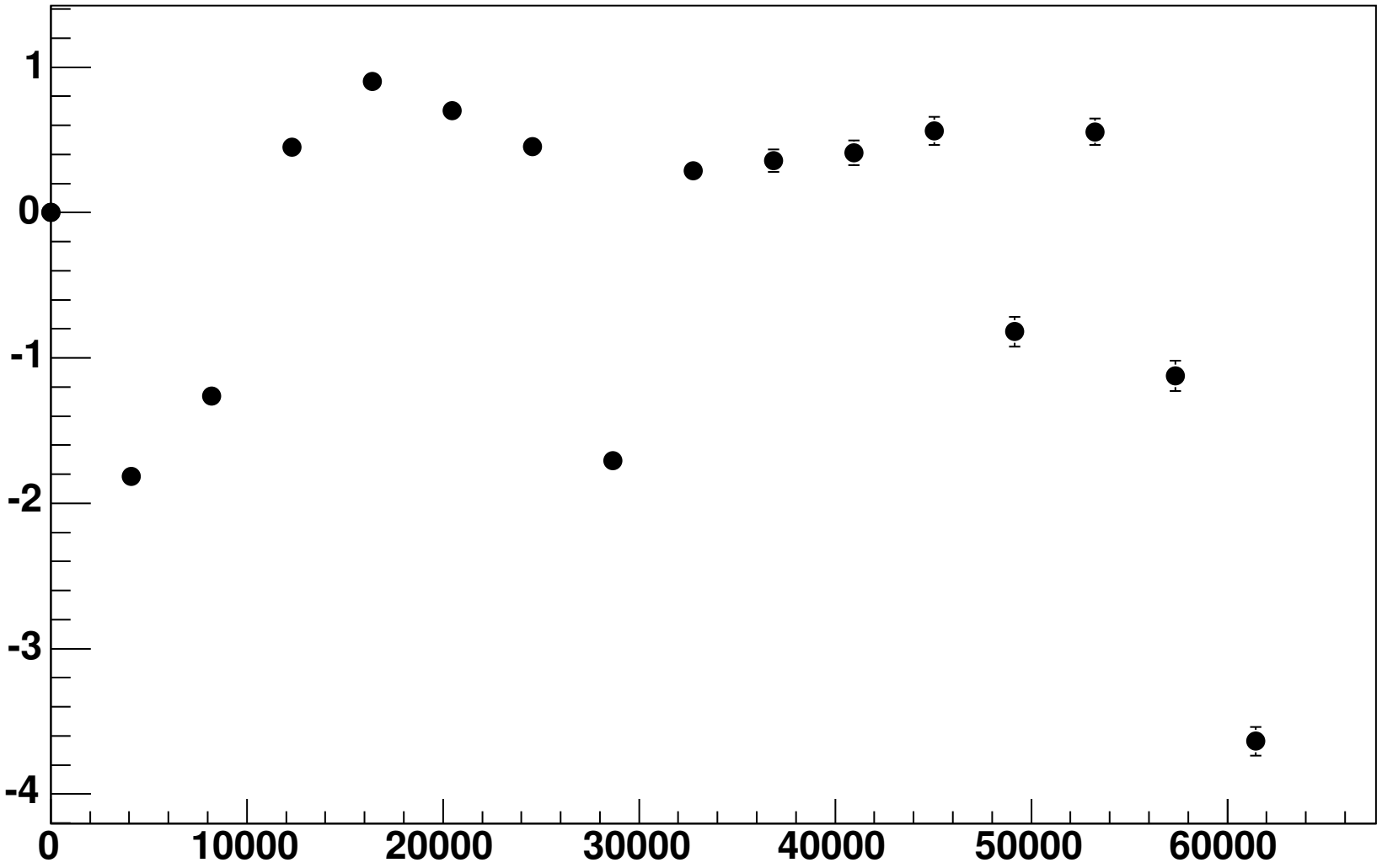

FE6, Chip 9, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

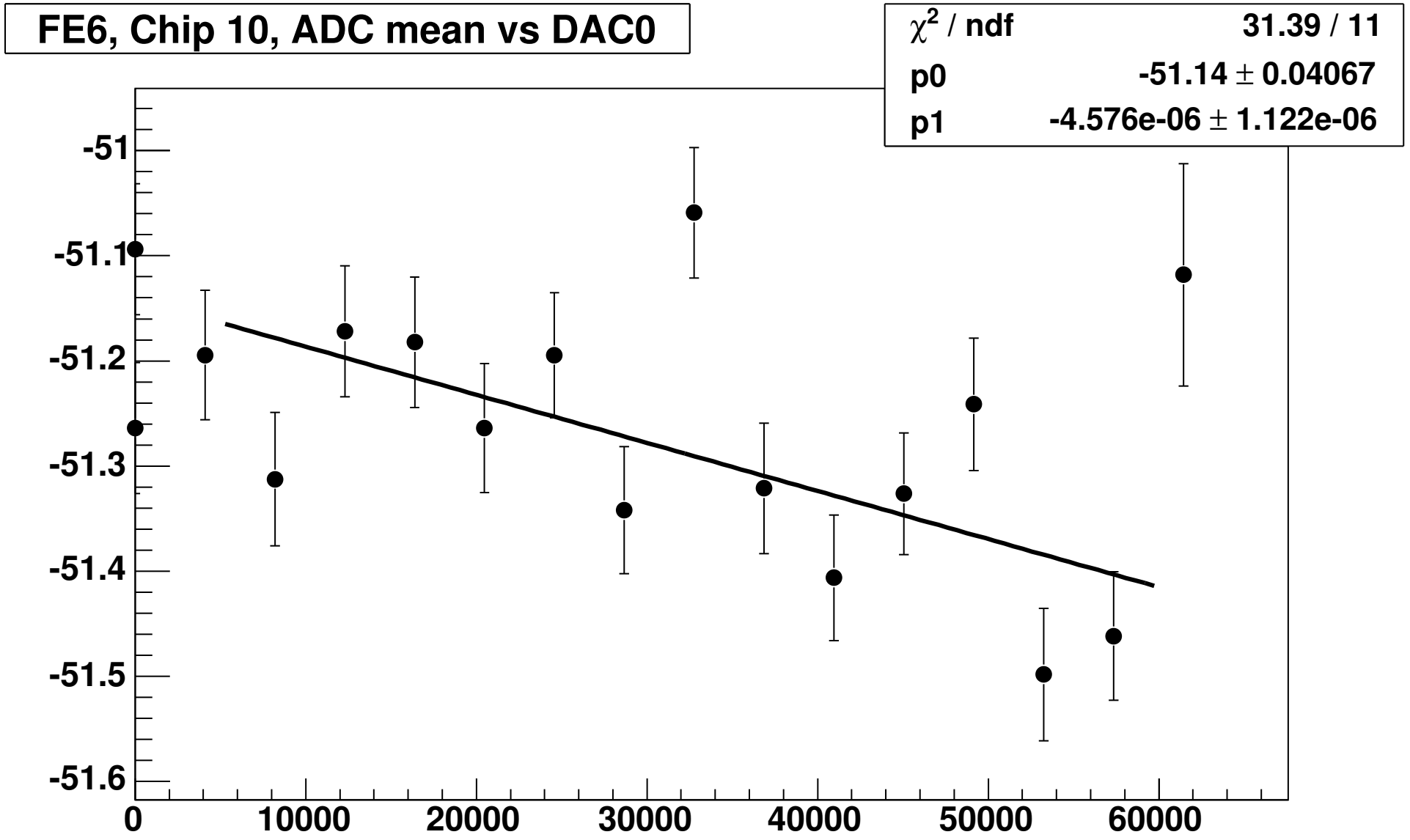

FE6, Chip 9, ADC mean vs DAC1
χ² / ndf 2033 / 11
p0 -42.93 ± 0.04193
p1 0.4505 ± 1.388e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

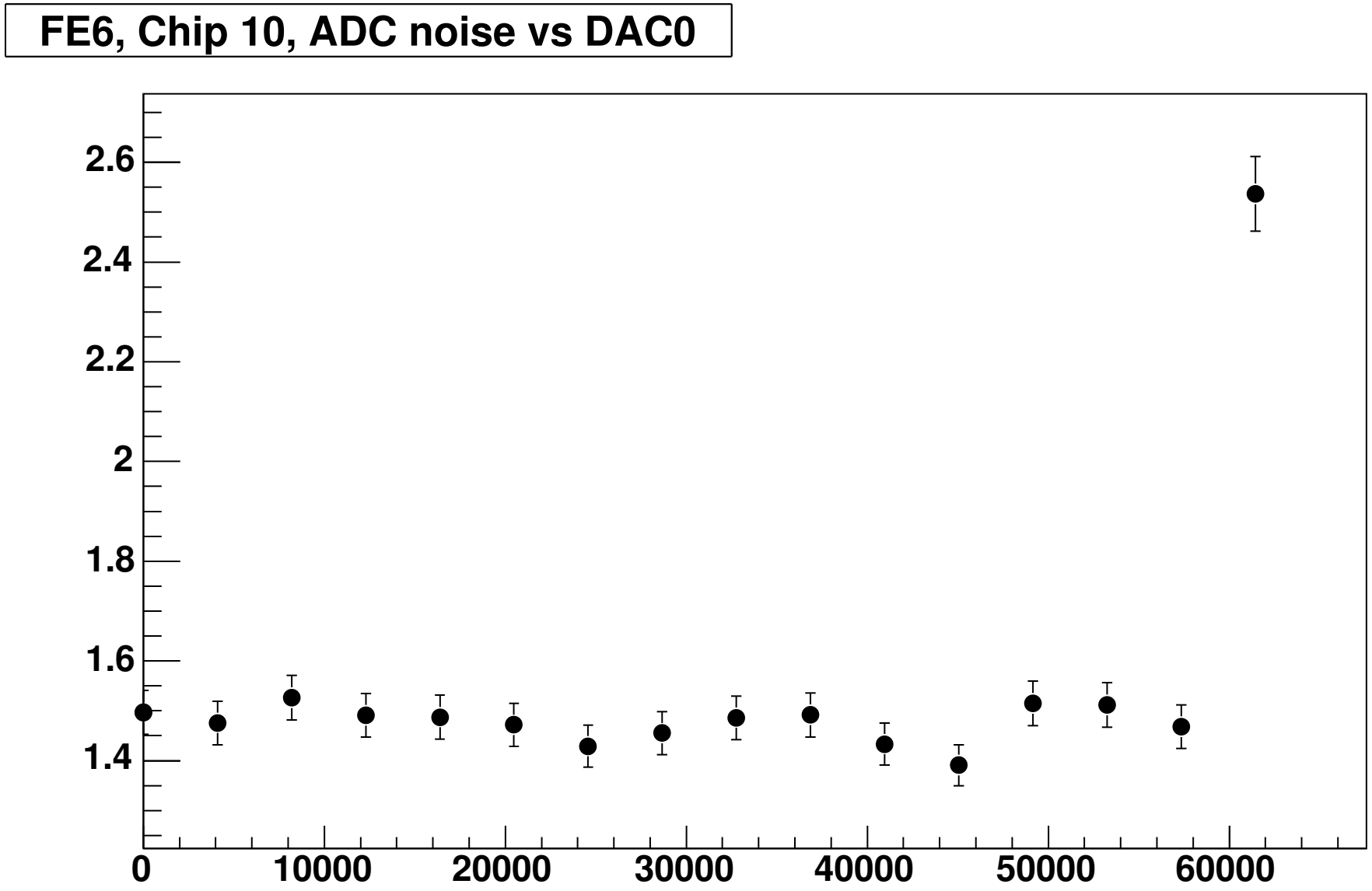
FE6, Chip 9, ADC noise vs DAC1

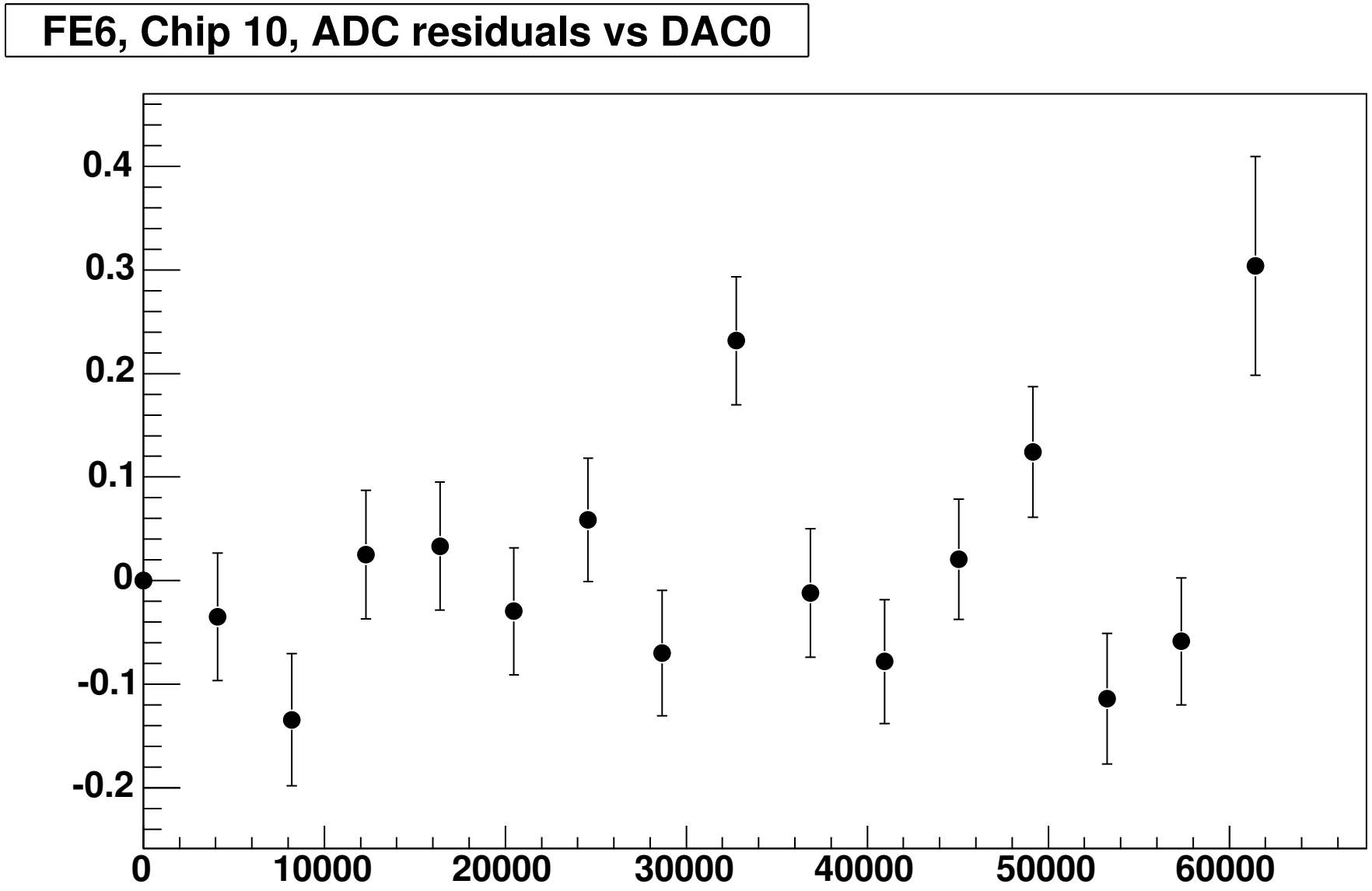


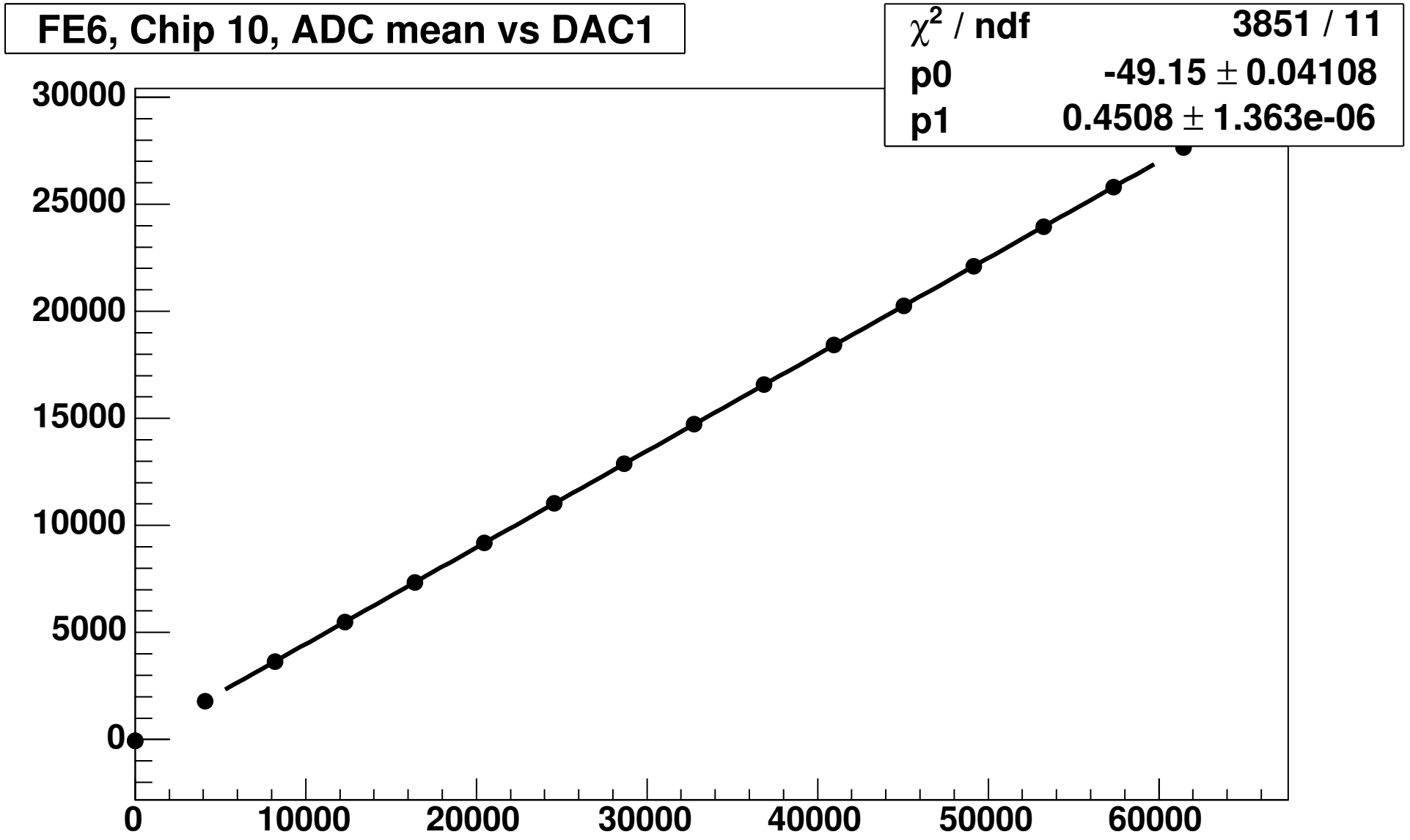
FE6, Chip 9, ADC residuals vs DAC1

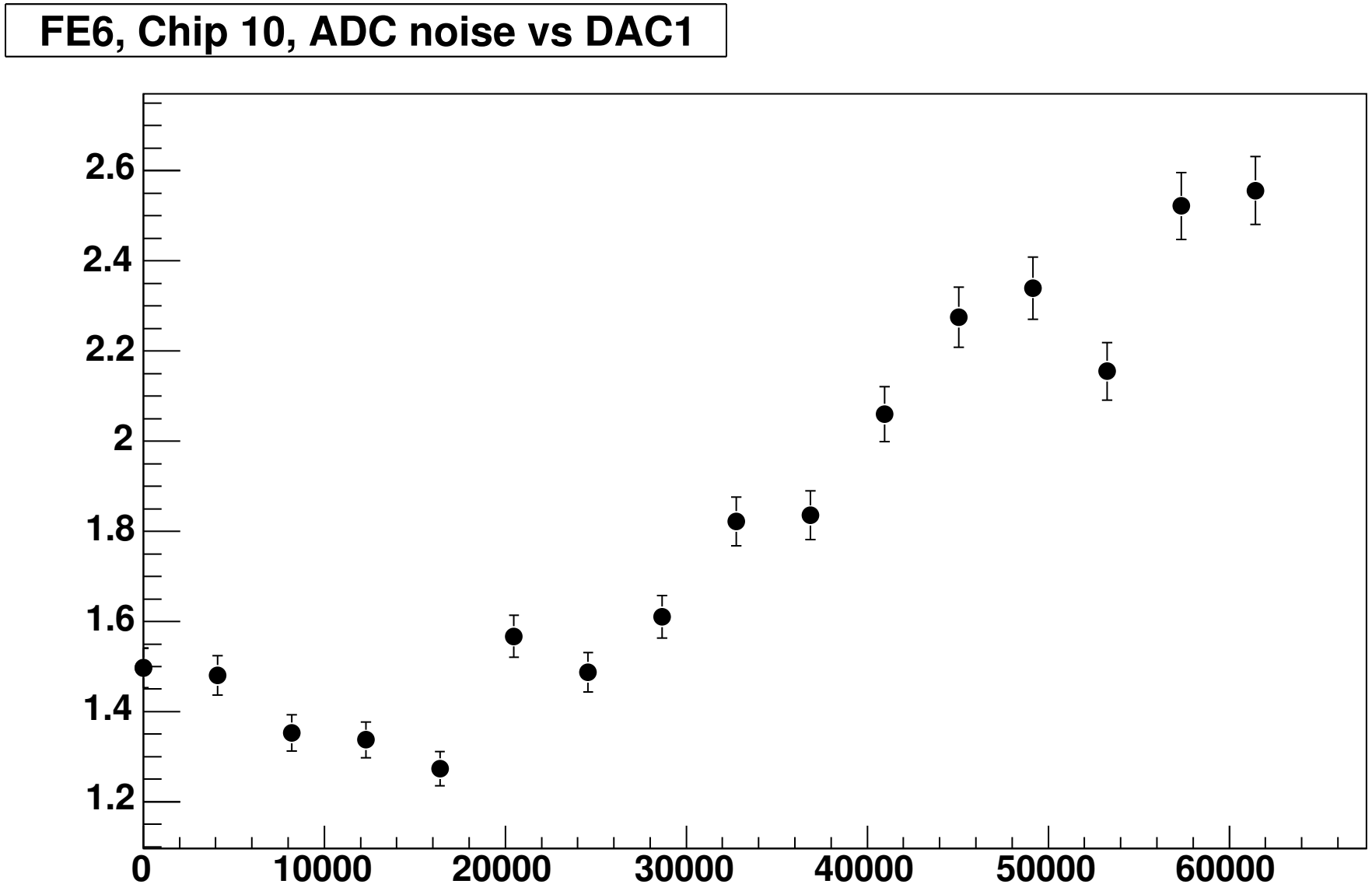



FE6, Chip 10, ADC mean vs DAC0
χ² / ndf 31.39 / 11
p0 -51.14 ± 0.04067
p1 -4.576e-06 ± 1.122e-06
-51
-51.1
-51.2
-51.3
-51.4
-51.5
-51.6
0
10000
20000
30000
40000
50000
60000

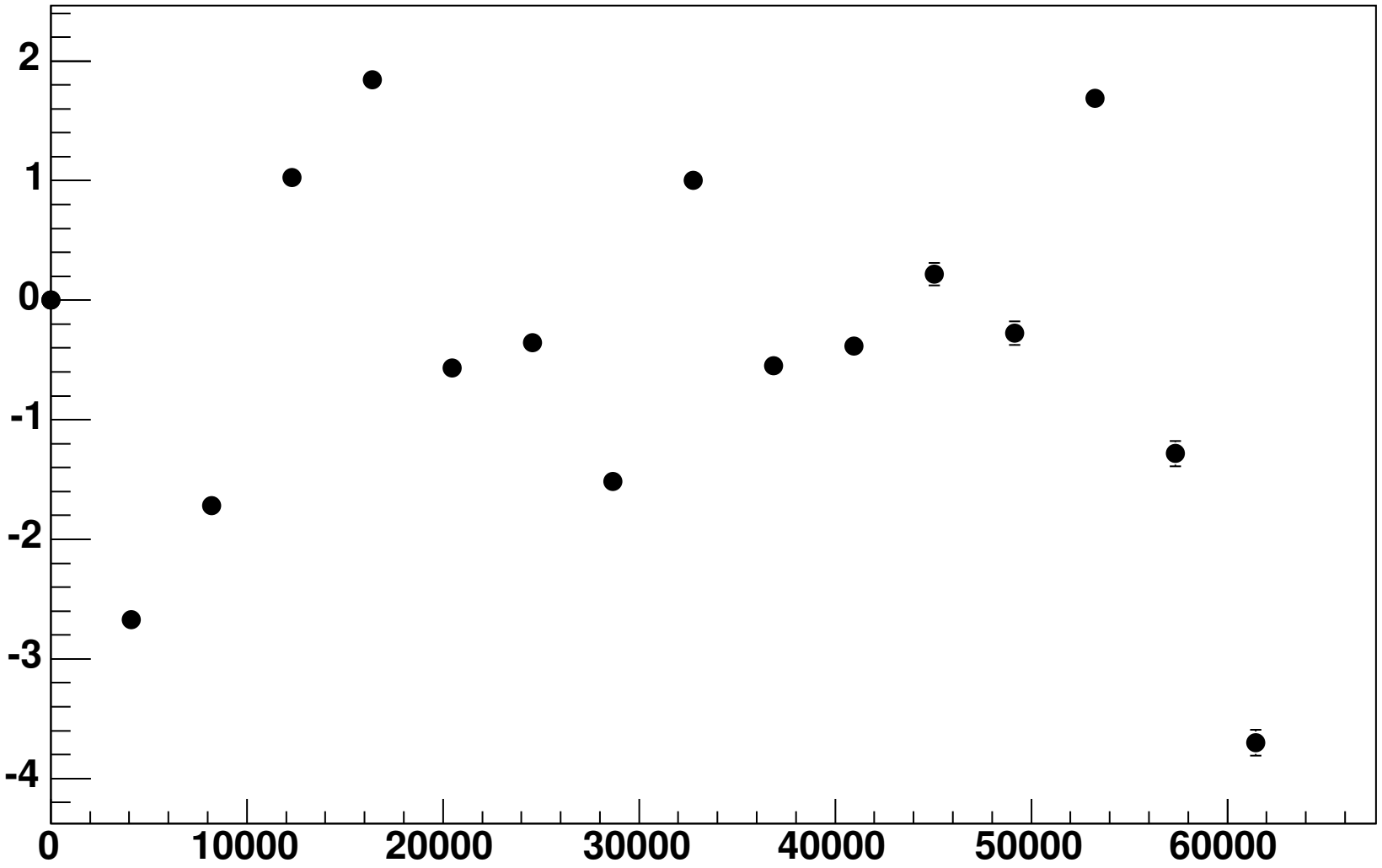

FE6, Chip 10, ADC noise vs DAC0
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

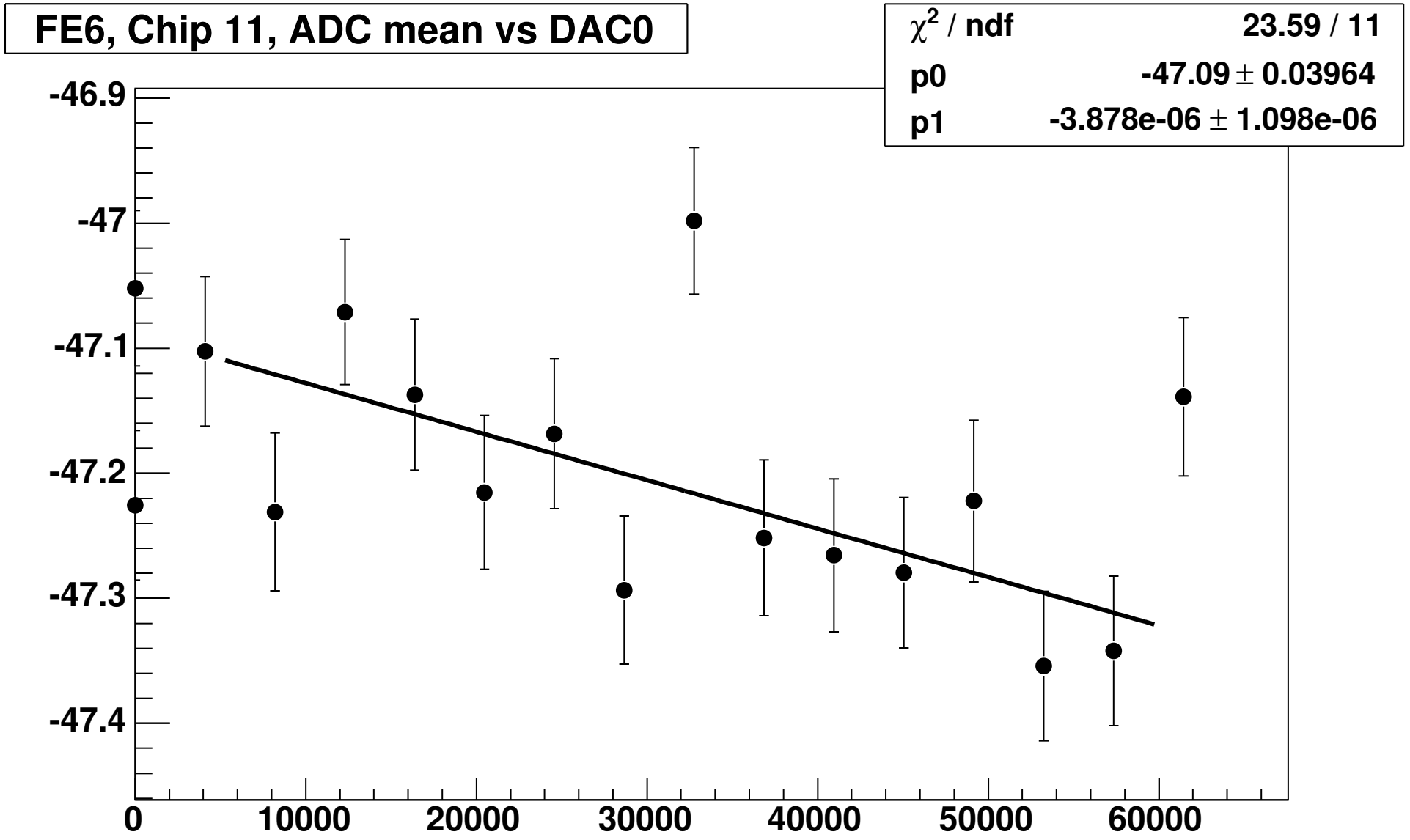

FE6, Chip 10, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

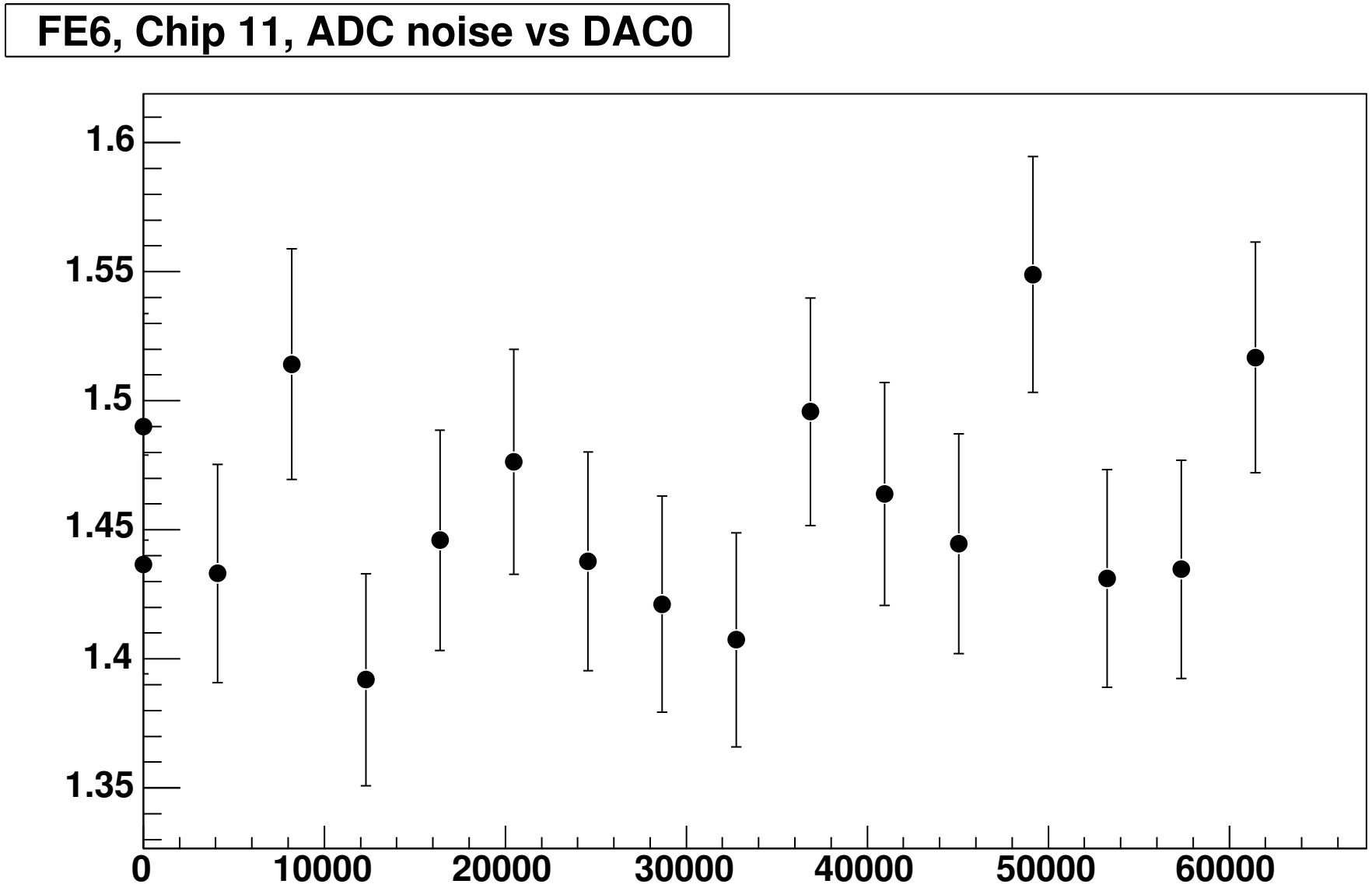

FE6, Chip 10, ADC mean vs DAC1
χ^2 / ndf 3851 / 11
p0 -49.15 ± 0.04108
p1 0.4508 ± 1.363e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

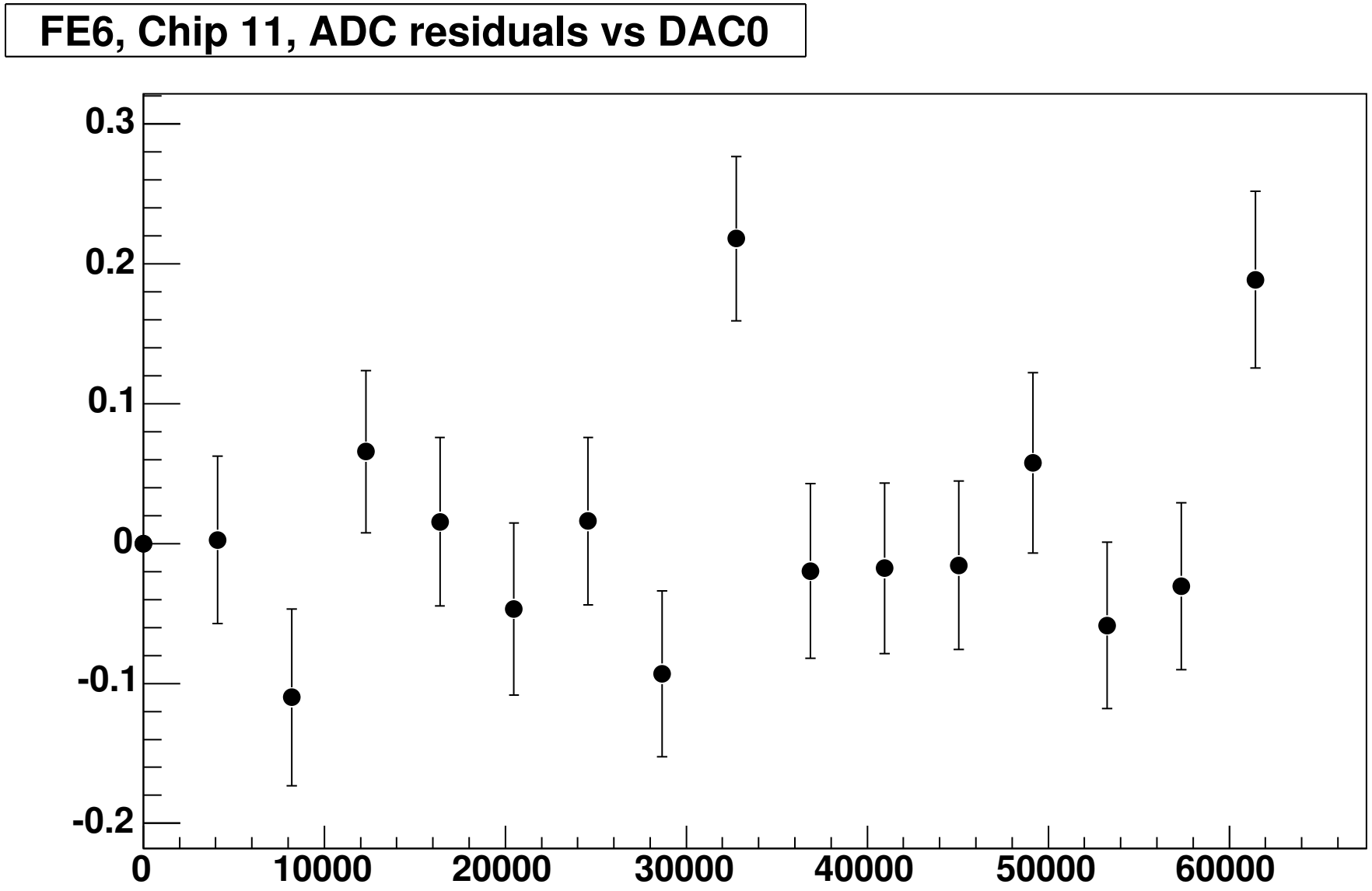

FE6, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

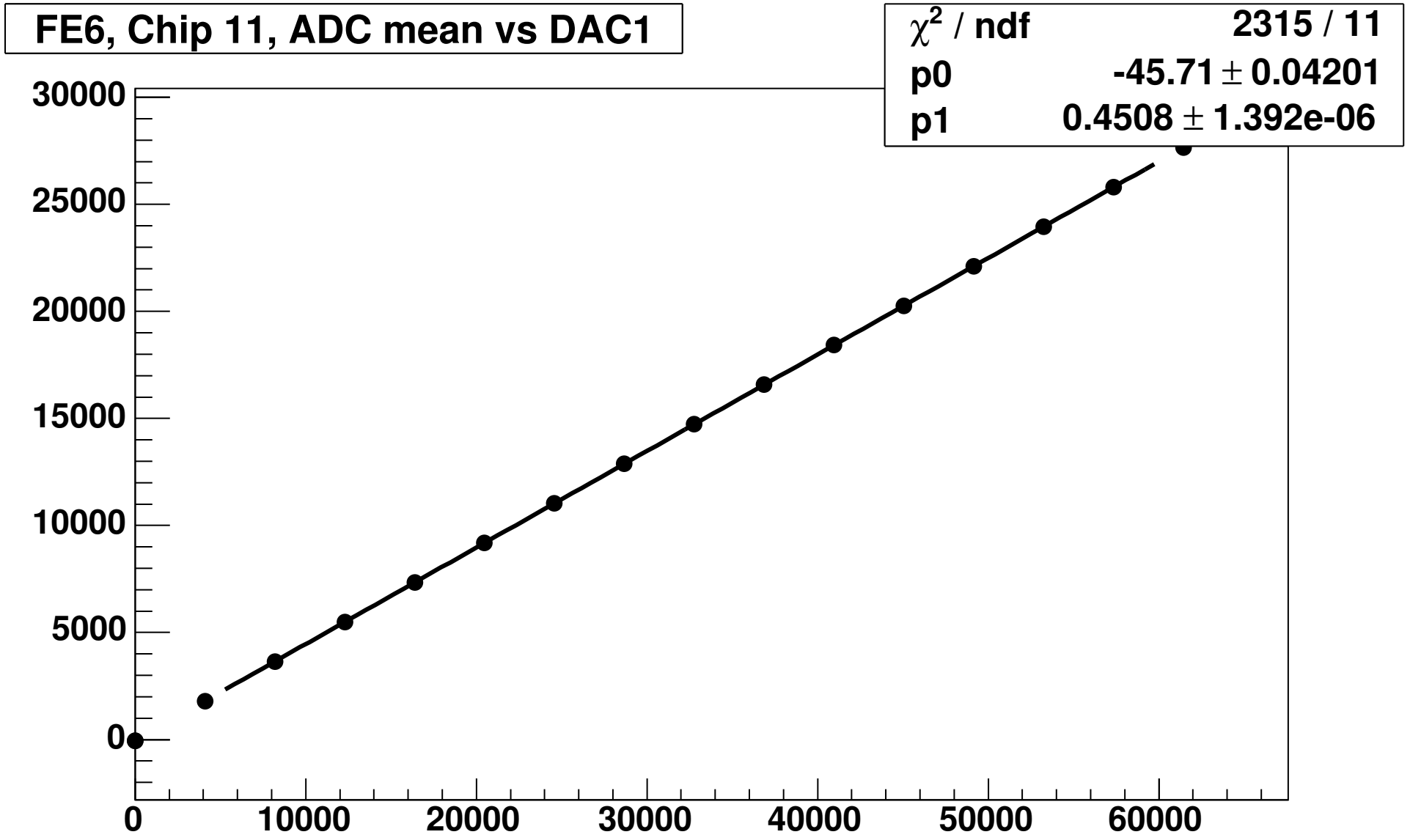
FE6, Chip 10, ADC residuals vs DAC1

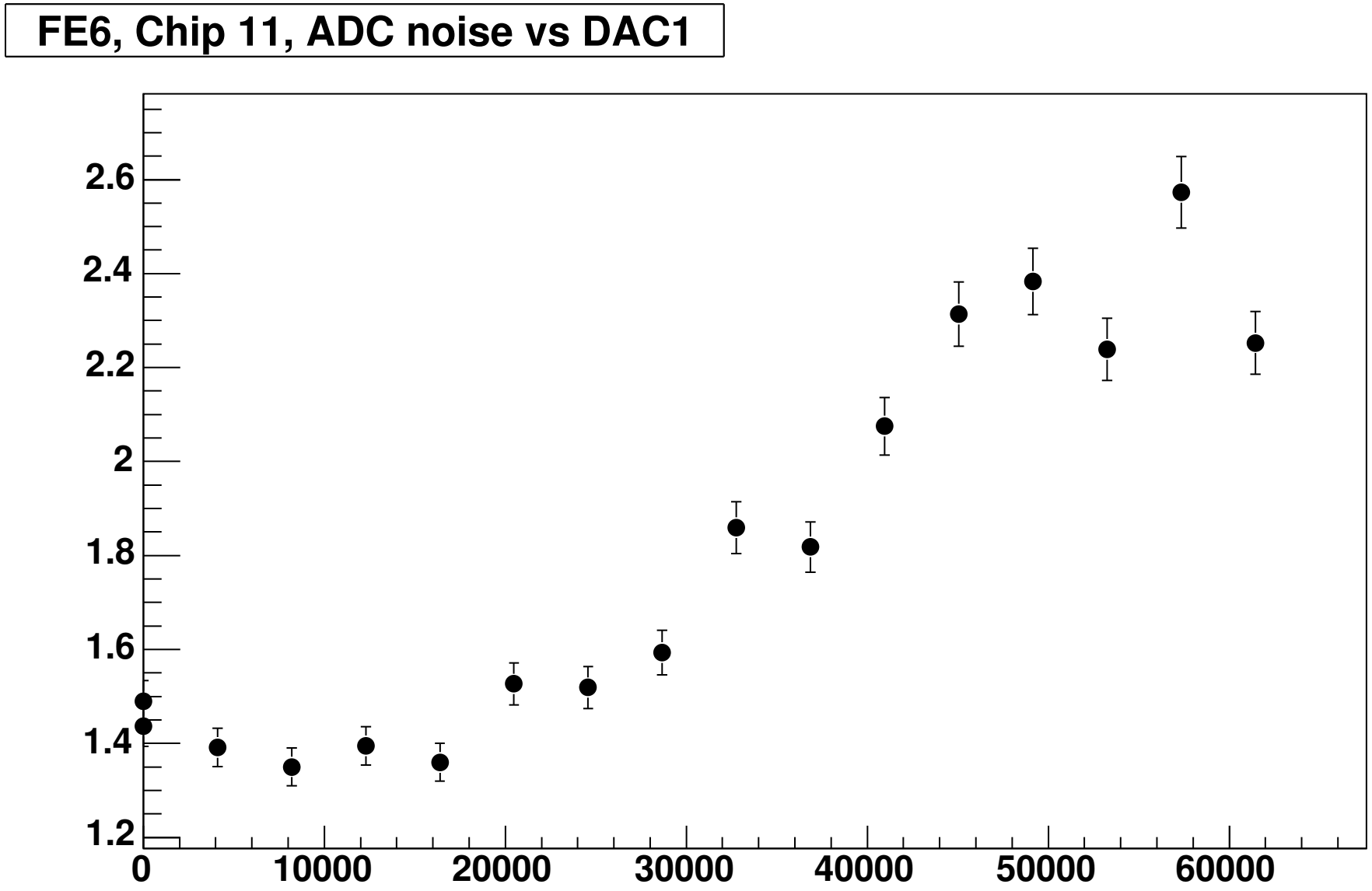



FE6, Chip 11, ADC mean vs DAC0
χ² / ndf 23.59 / 11
p0 -47.09 ± 0.03964
p1 -3.878e-06 ± 1.098e-06
-46.9
-47
-47.1
-47.2
-47.3
-47.4
0
10000
20000
30000
40000
50000
60000

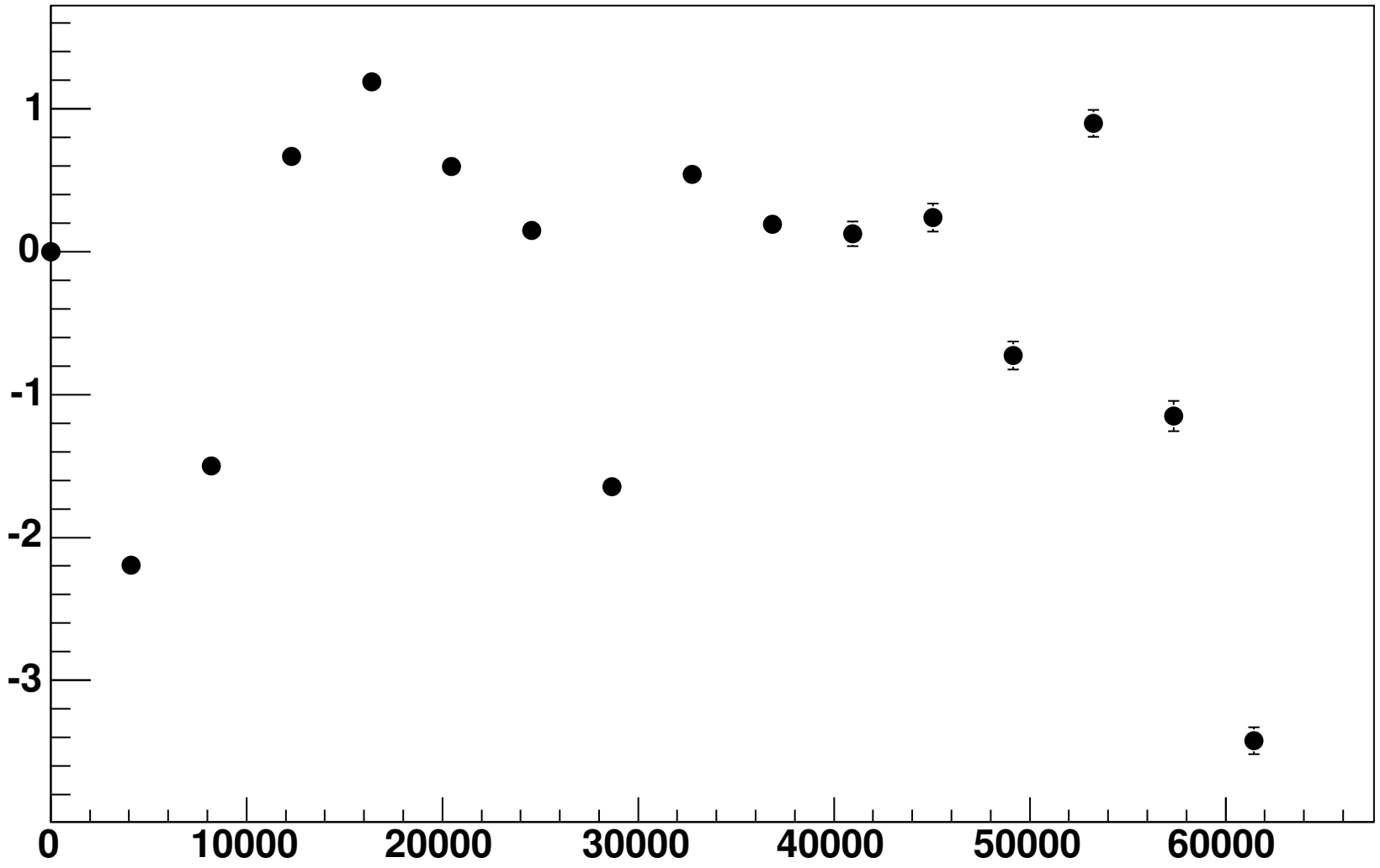

FE6, Chip 11, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

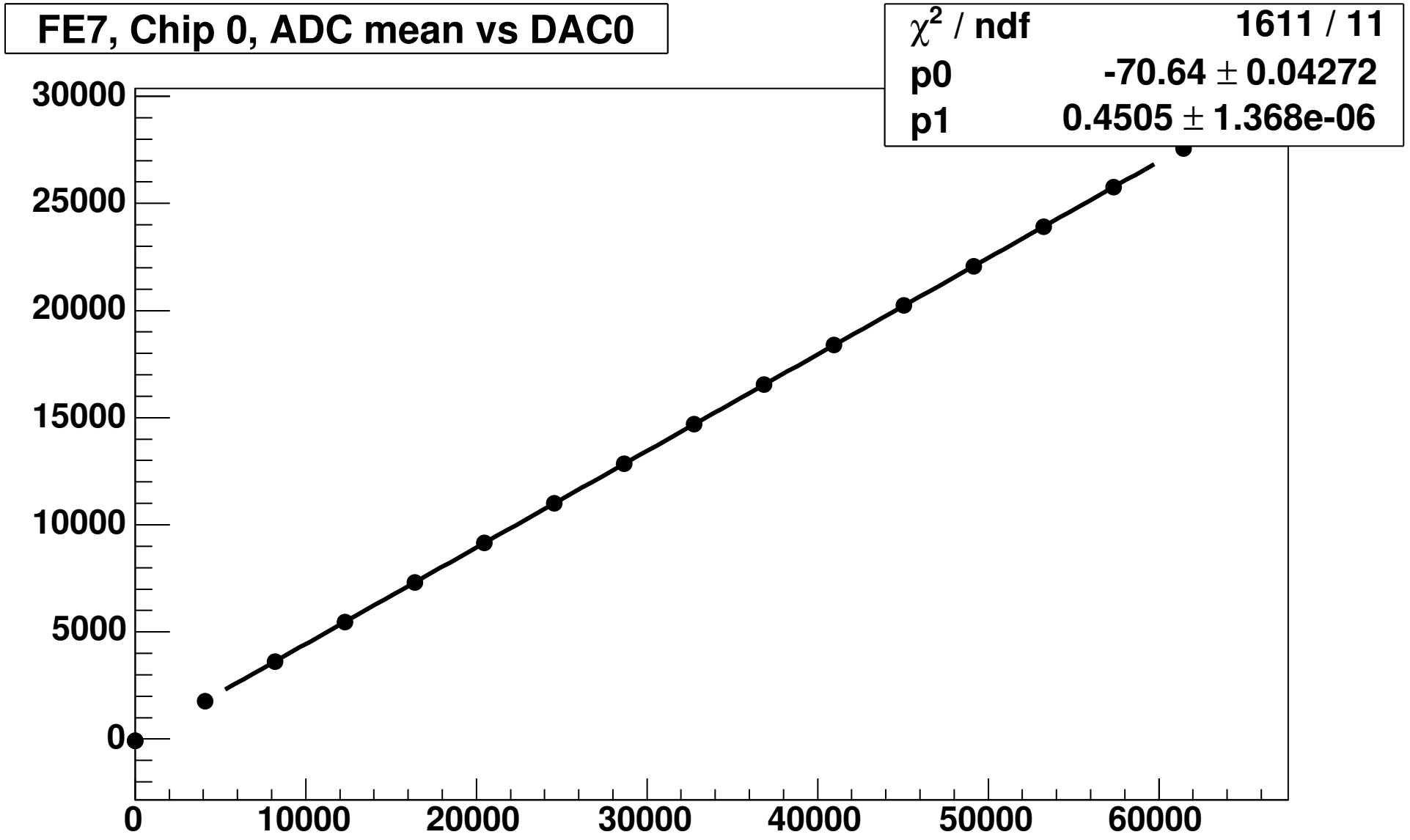

FE6, Chip 11, ADC residuals vs DAC0
0.3
0.2
0.1
0
-0.1
-0.2
0
10000
20000
30000
40000
50000
60000

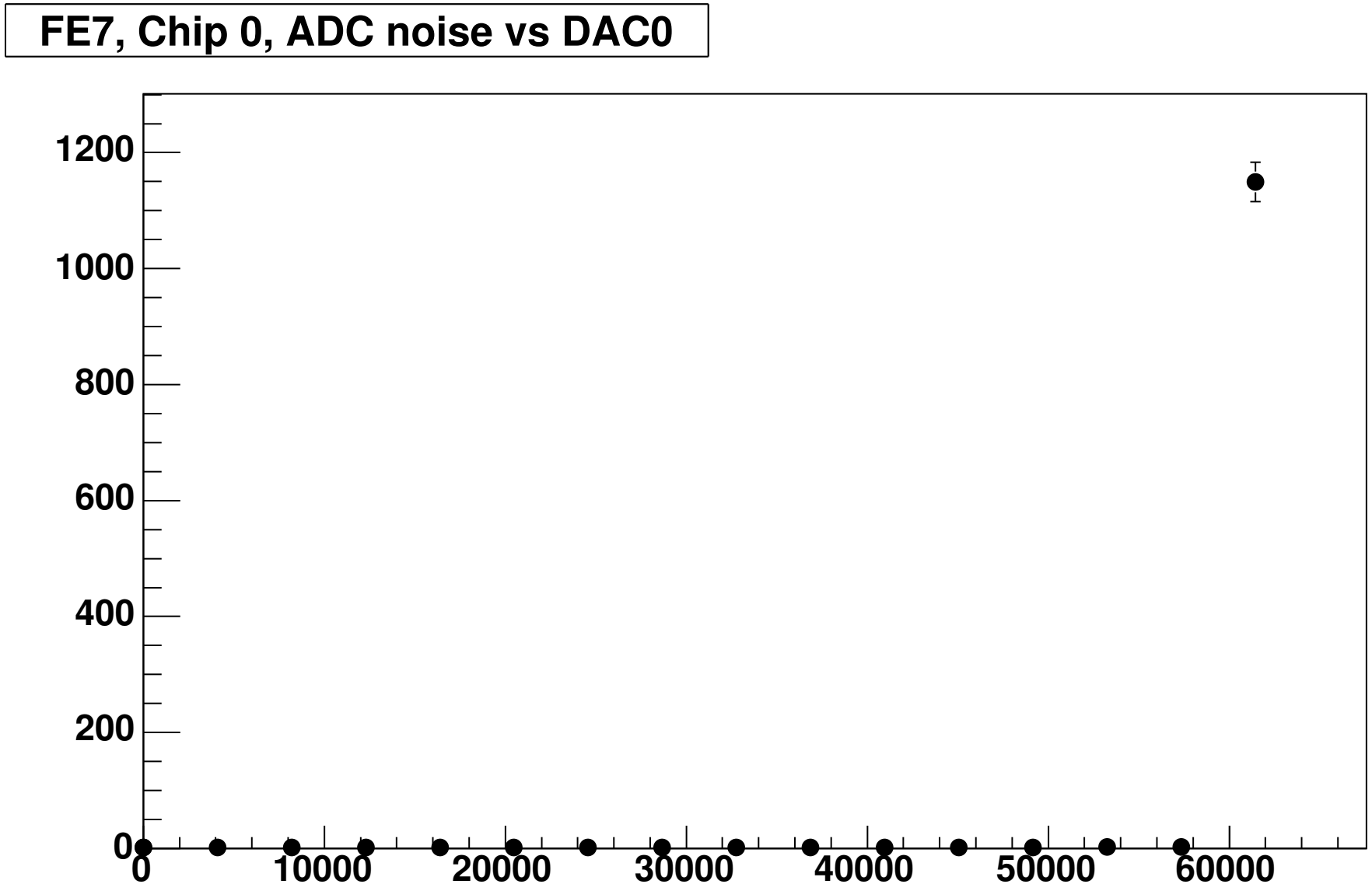

FE6, Chip 11, ADC mean vs DAC1
χ² / ndf 2315 / 11
p0 -45.71 ± 0.04201
p1 0.4508 ± 1.392e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

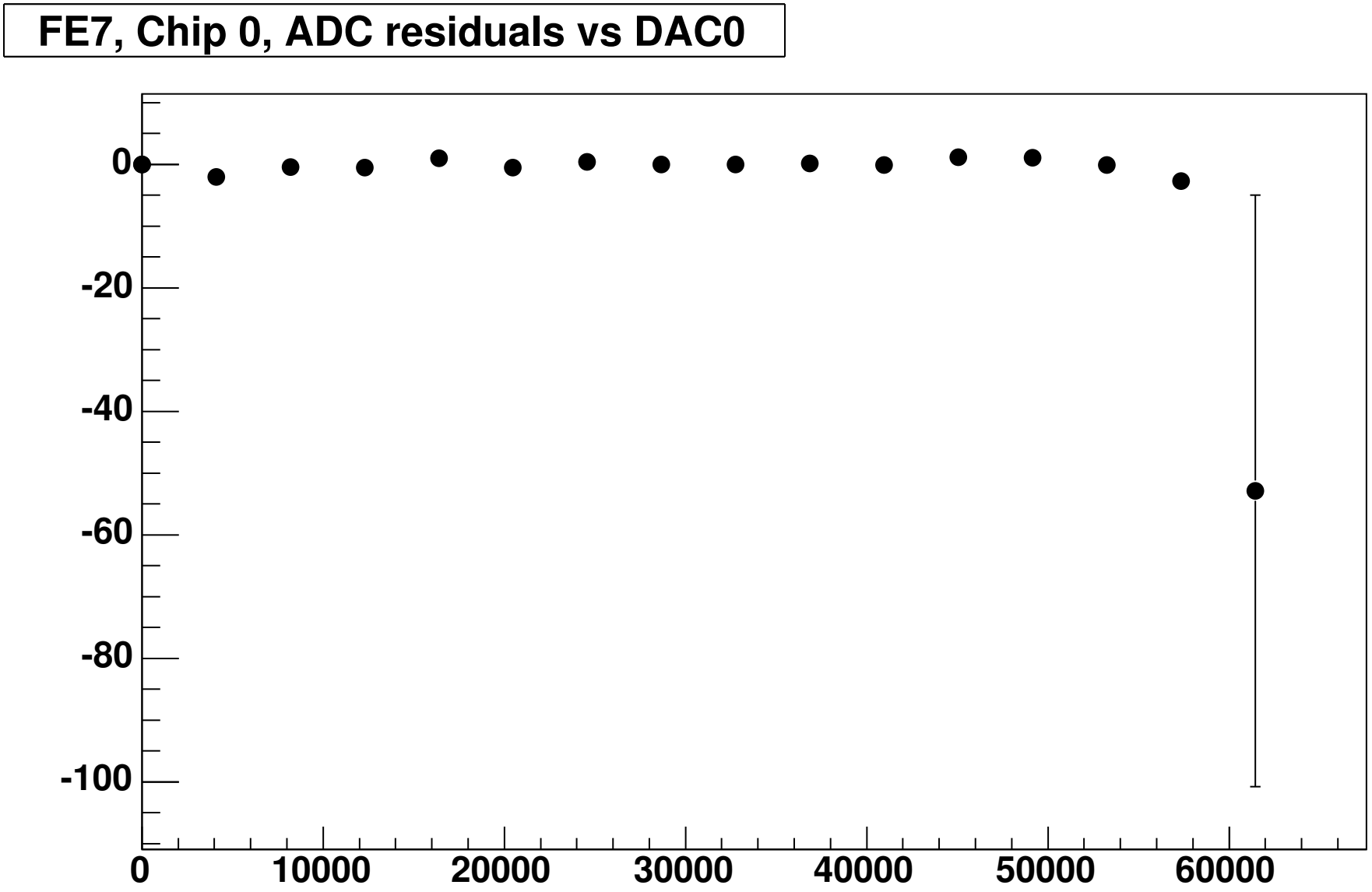

FE6, Chip 11, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000

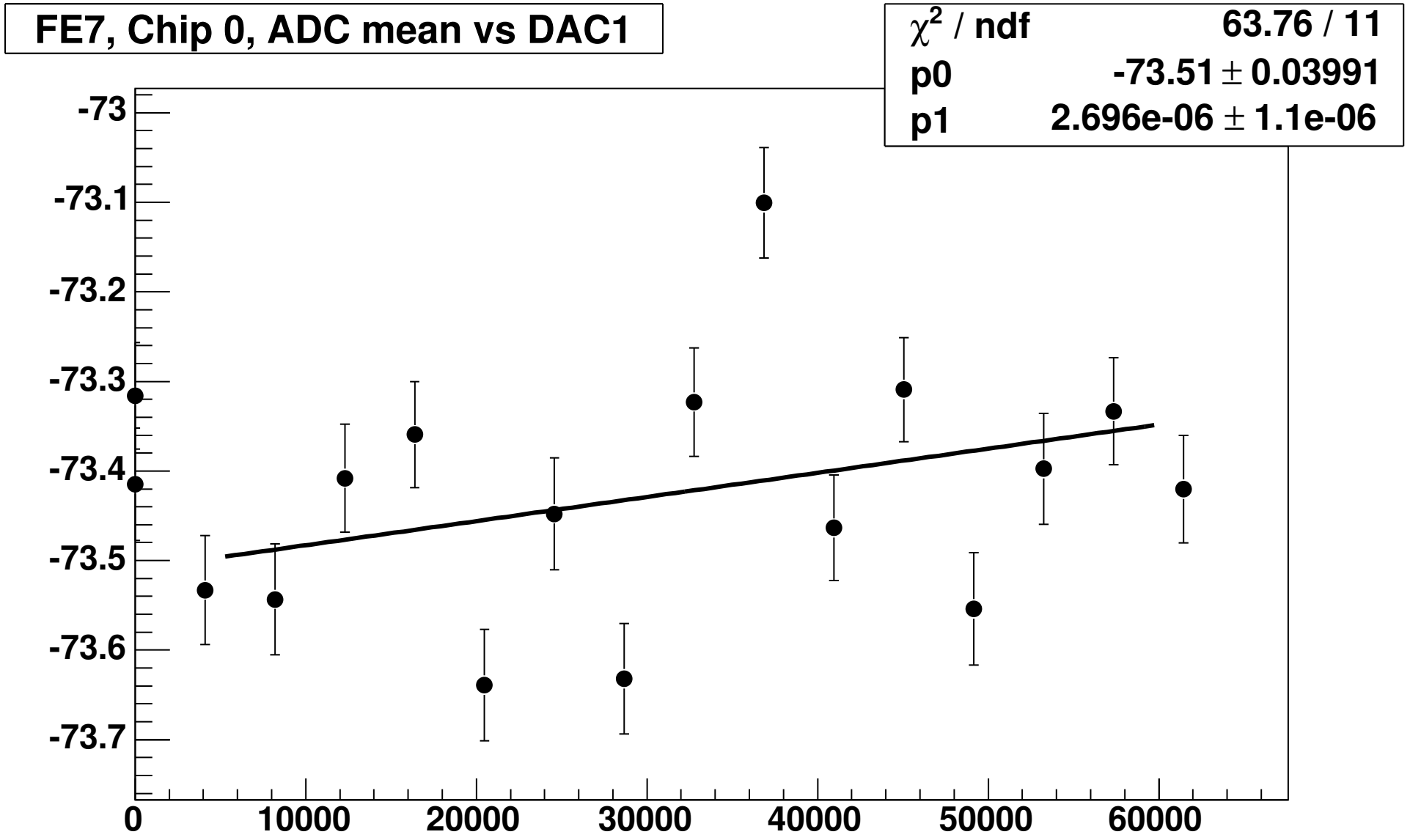
FE6, Chip 11, ADC residuals vs DAC1

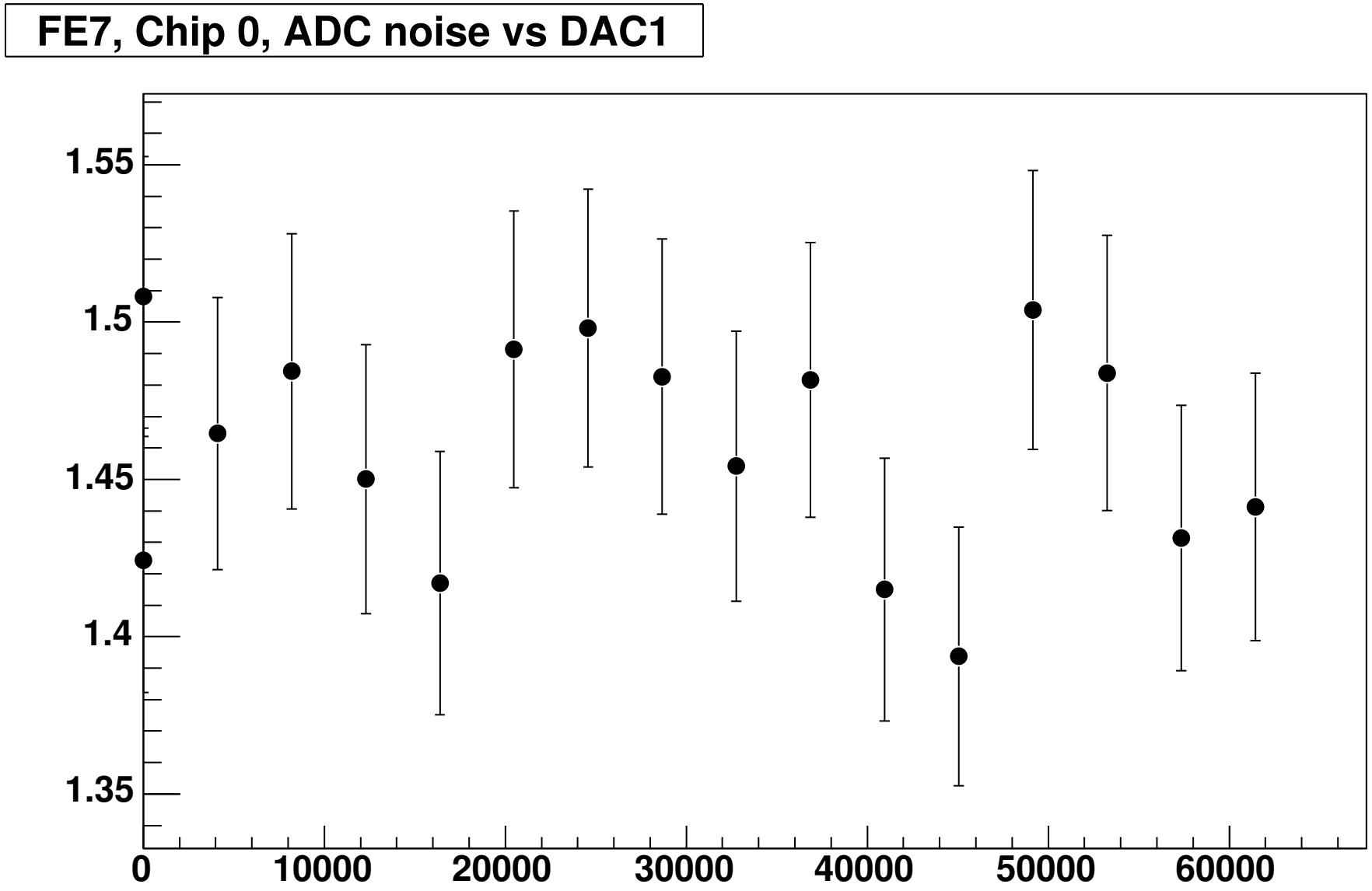


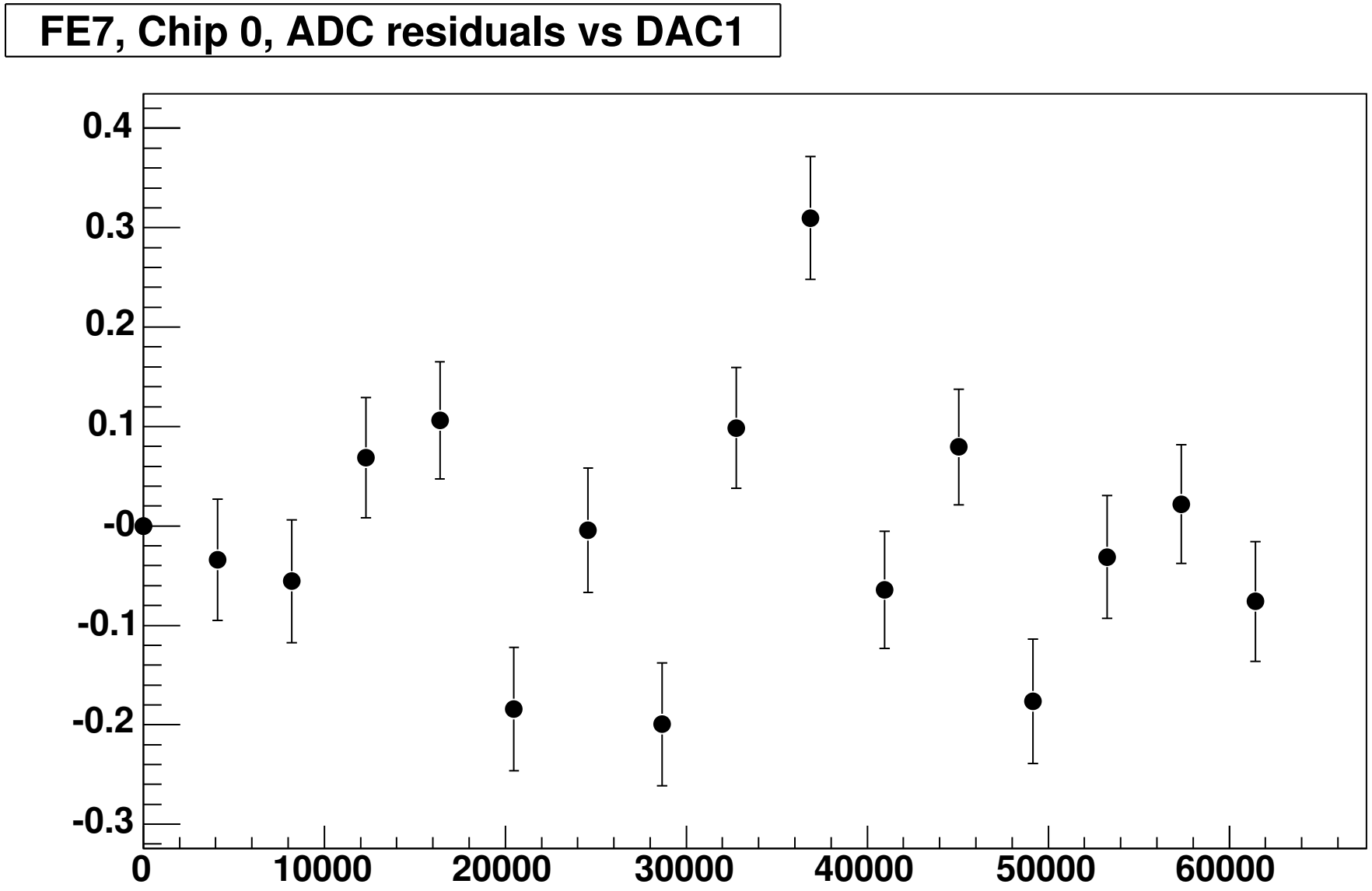

FE7, Chip 0, ADC mean vs DAC0
χ² / ndf 1611 / 11
p0 -70.64 ± 0.04272
p1 0.4505 ± 1.368e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

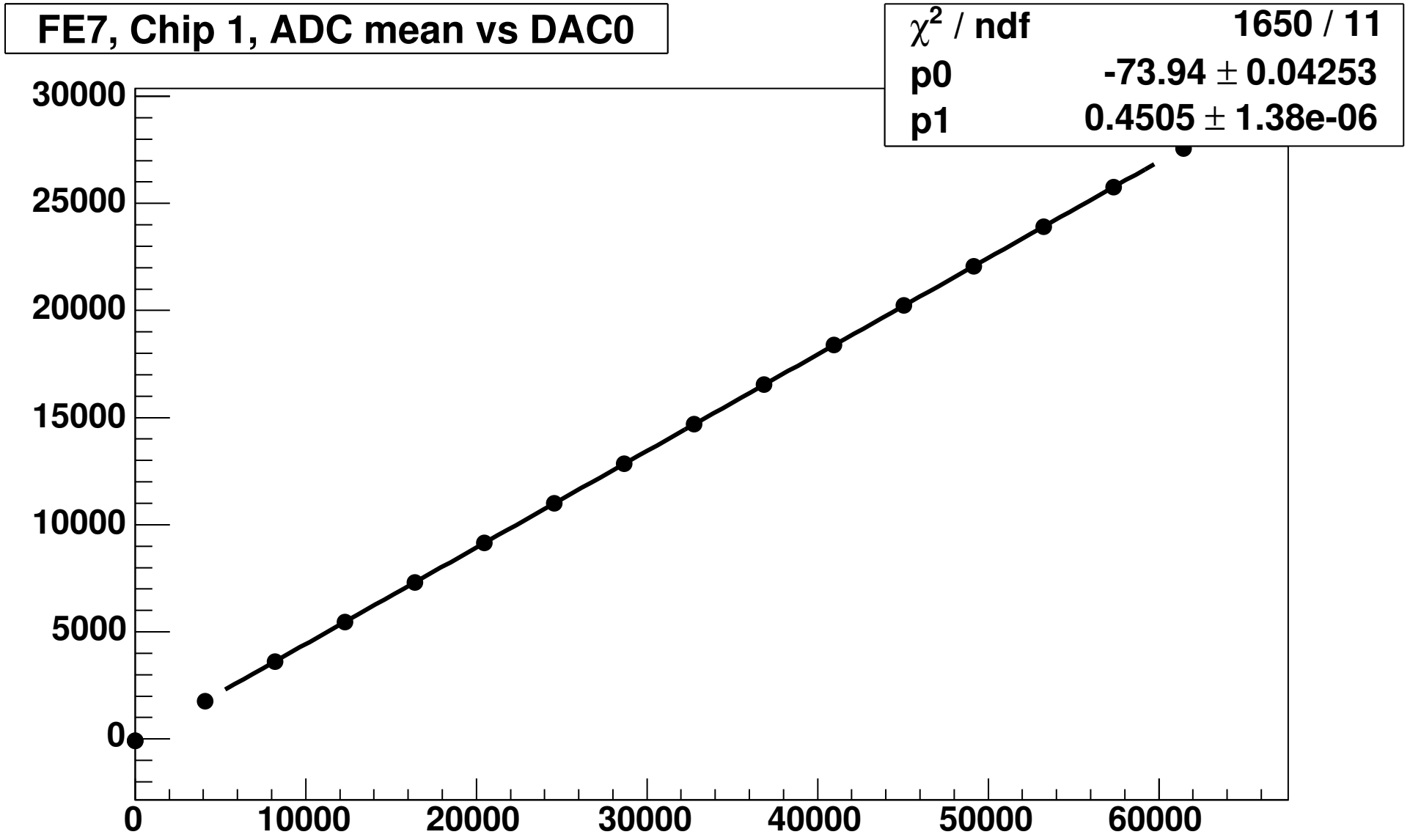

FE7, Chip 0, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

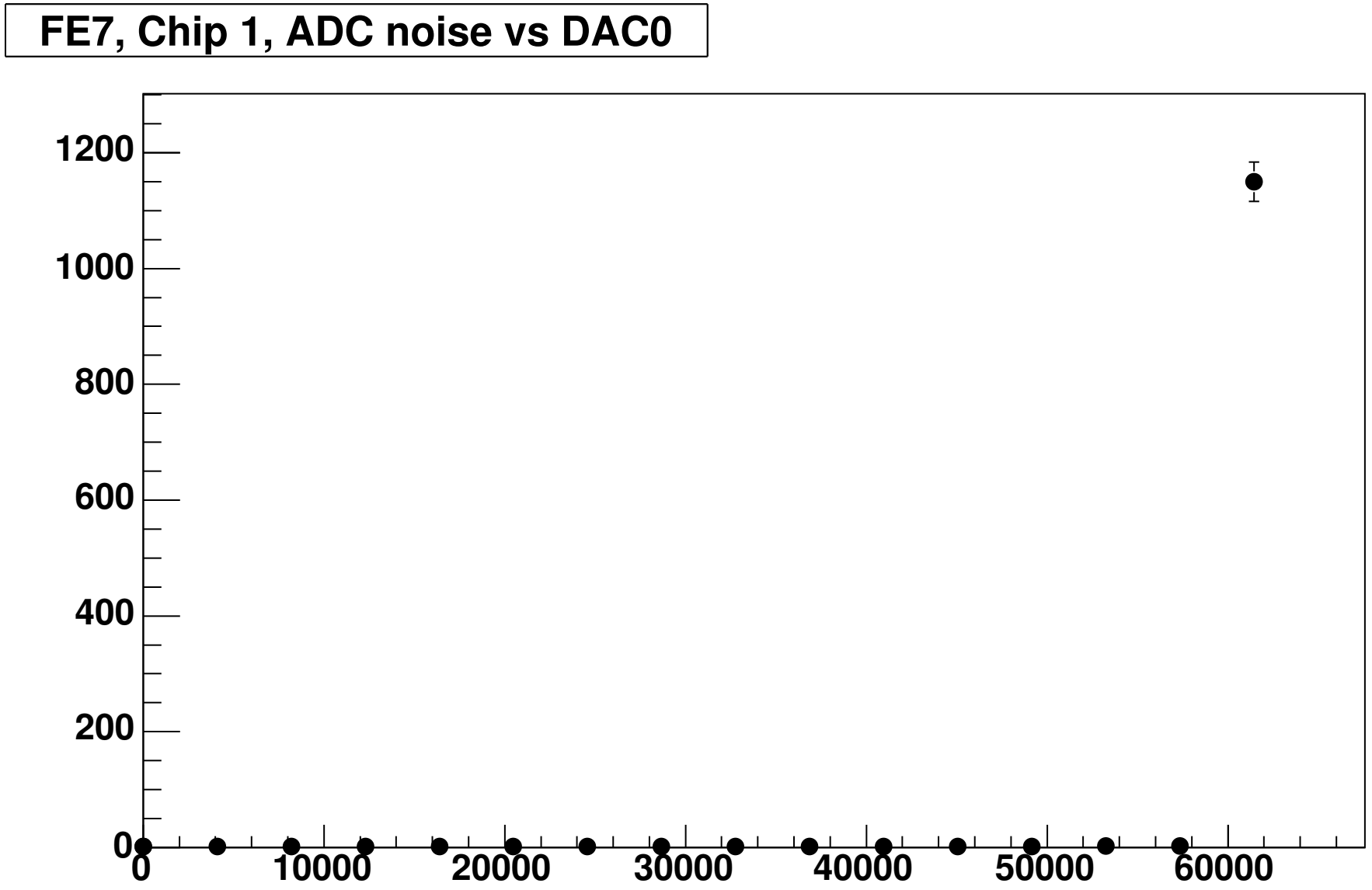

FE7, Chip 0, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

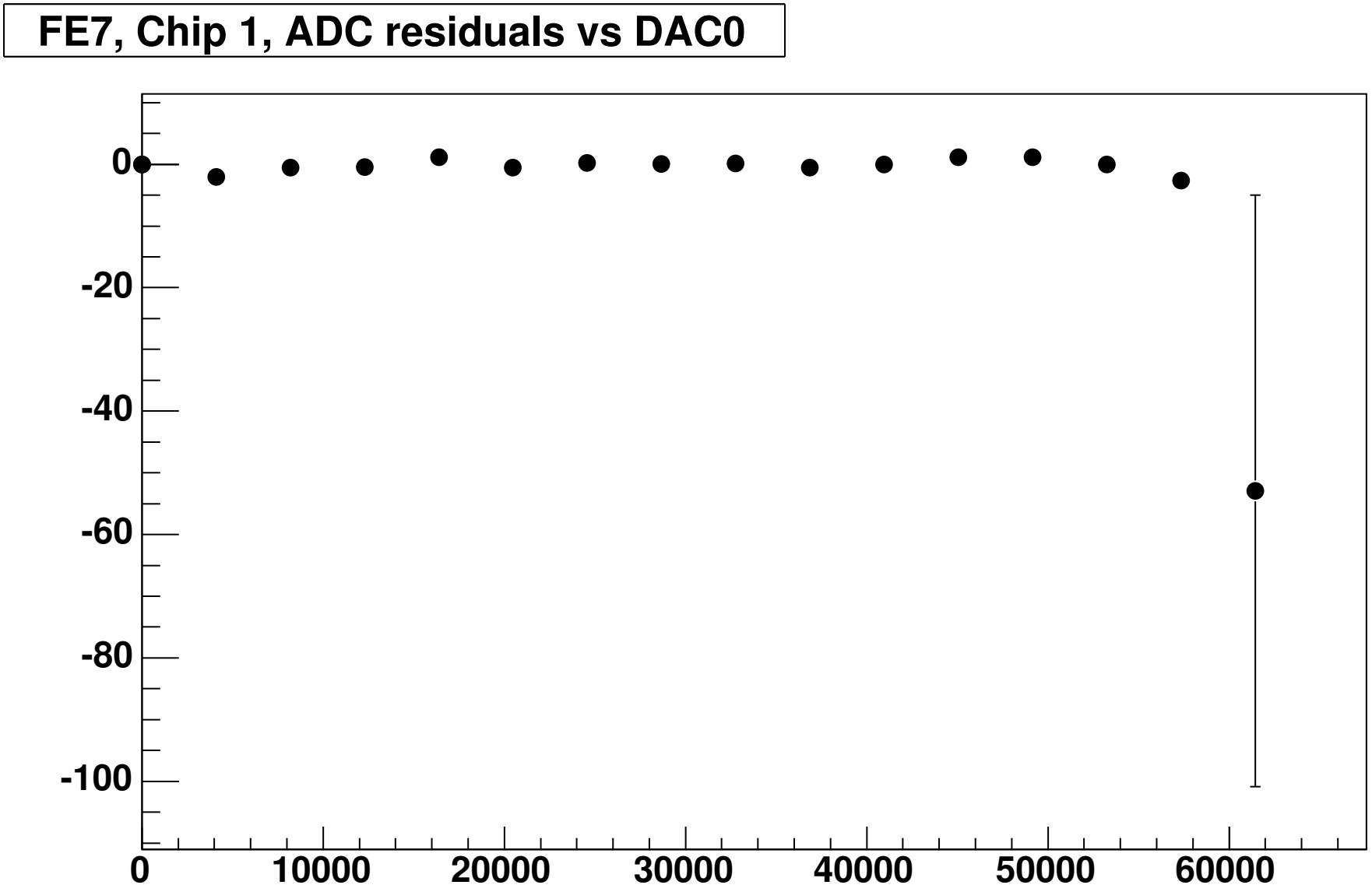

FE7, Chip 0, ADC mean vs DAC1
χ² / ndf 63.76 / 11
p0 -73.51 ± 0.03991
p1 2.696e-06 ± 1.1e-06
-73
-73.1
-73.2
-73.3
-73.4
-73.5
-73.6
-73.7
0
10000
20000
30000
40000
50000
60000

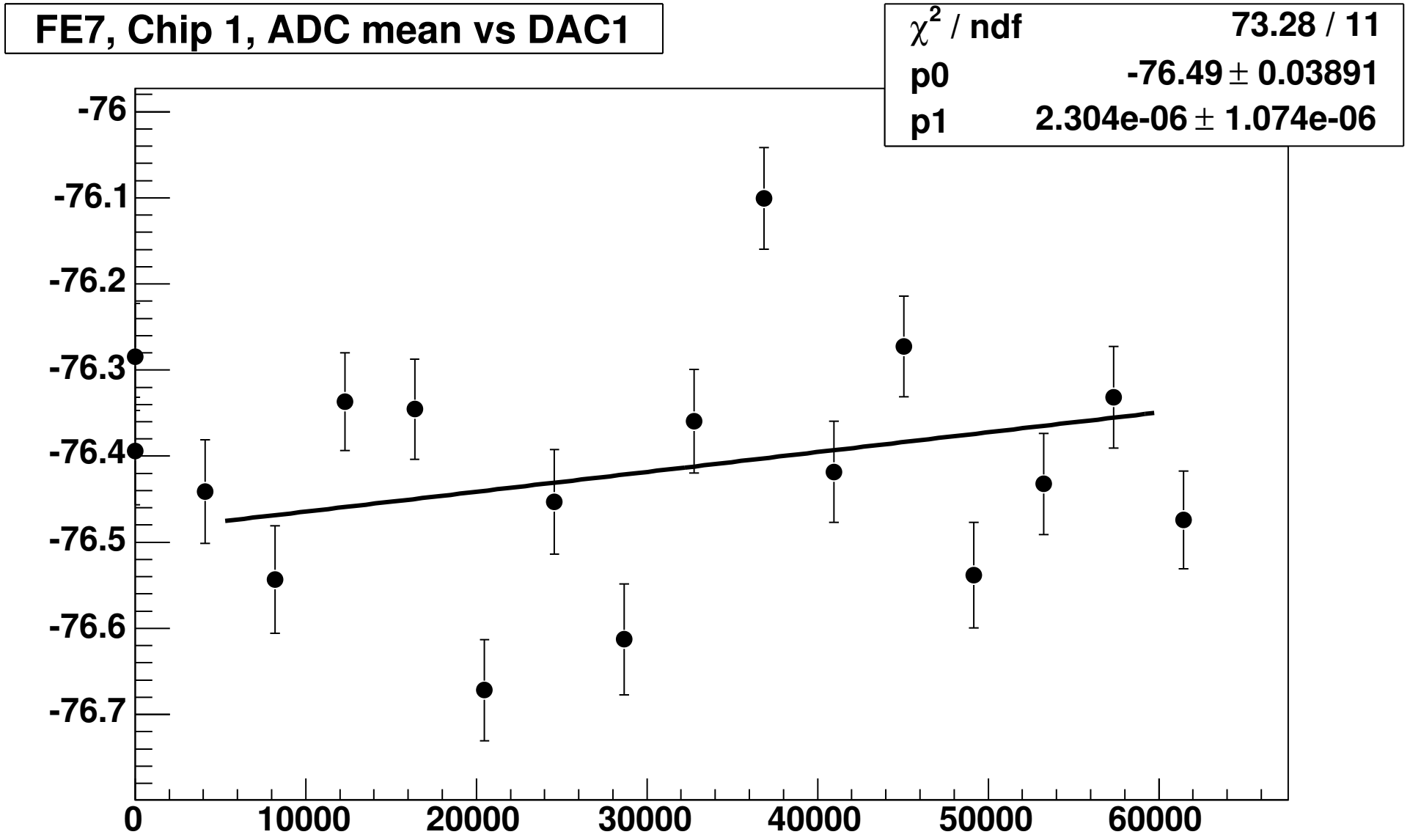

FE7, Chip 0, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

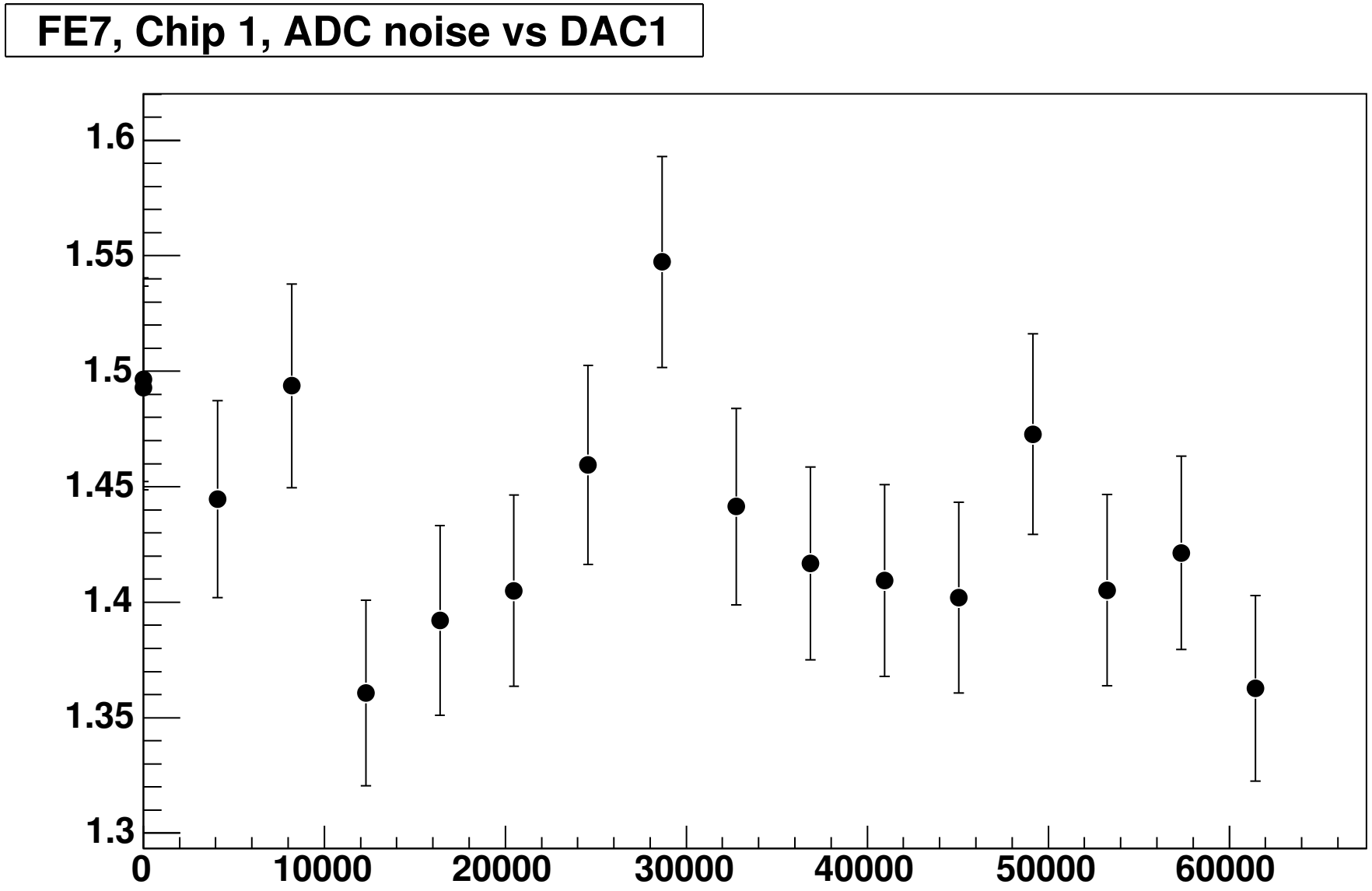

FE7, Chip 0, ADC residuals vs DAC1
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

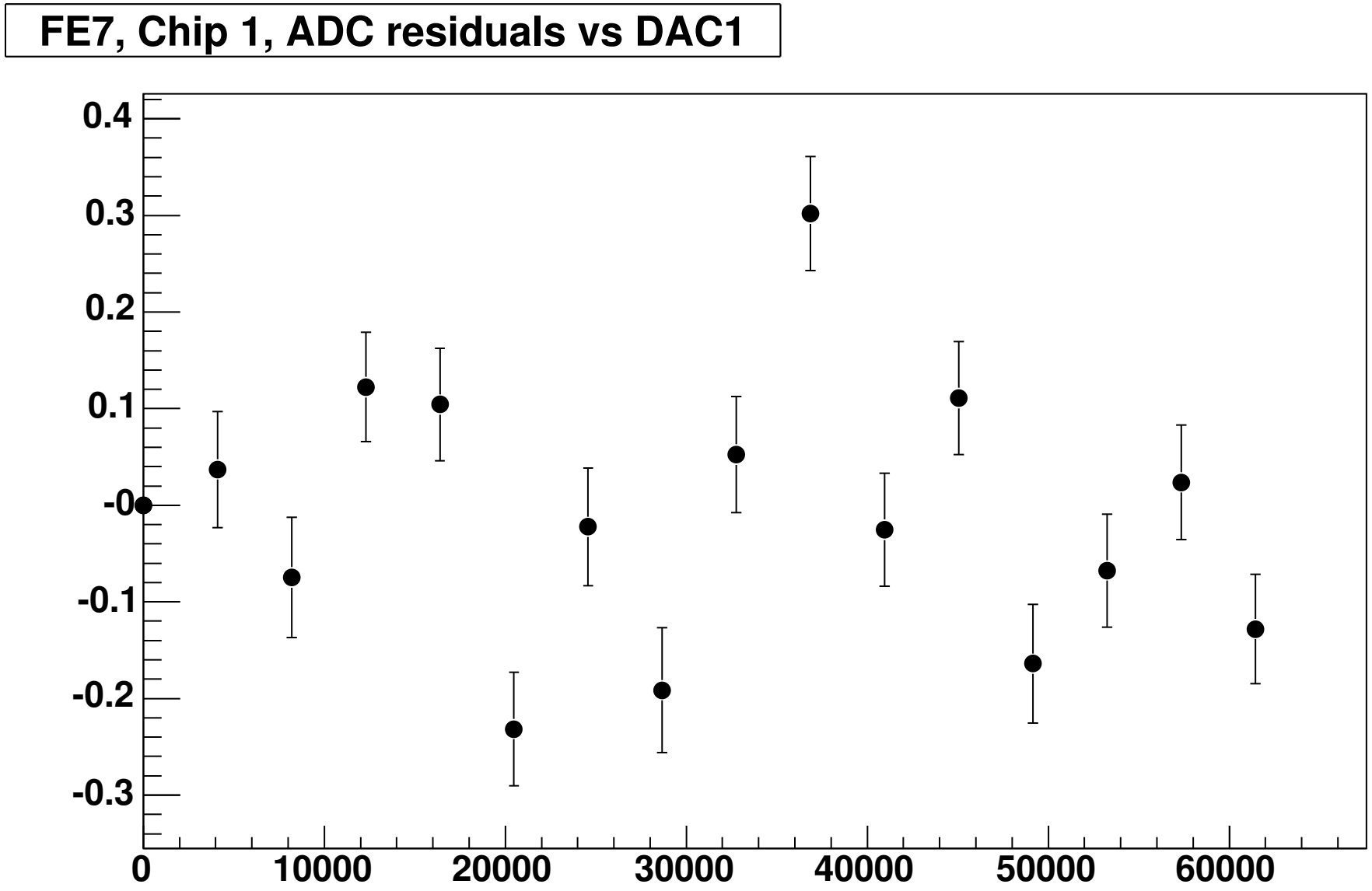

FE7, Chip 1, ADC mean vs DAC0
χ² / ndf 1650 / 11
p0 -73.94 ± 0.04253
p1 0.4505 ± 1.38e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

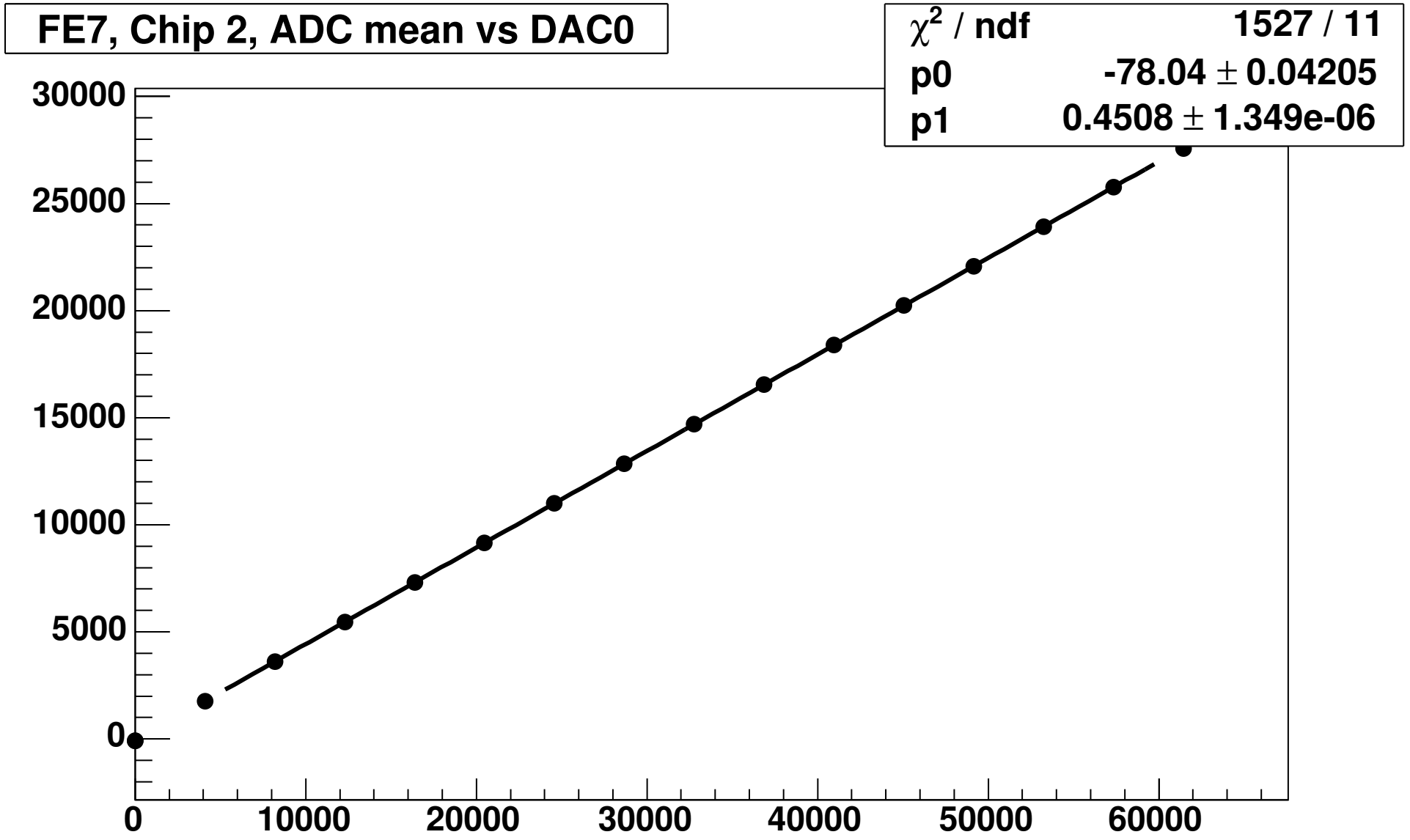

FE7, Chip 1, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

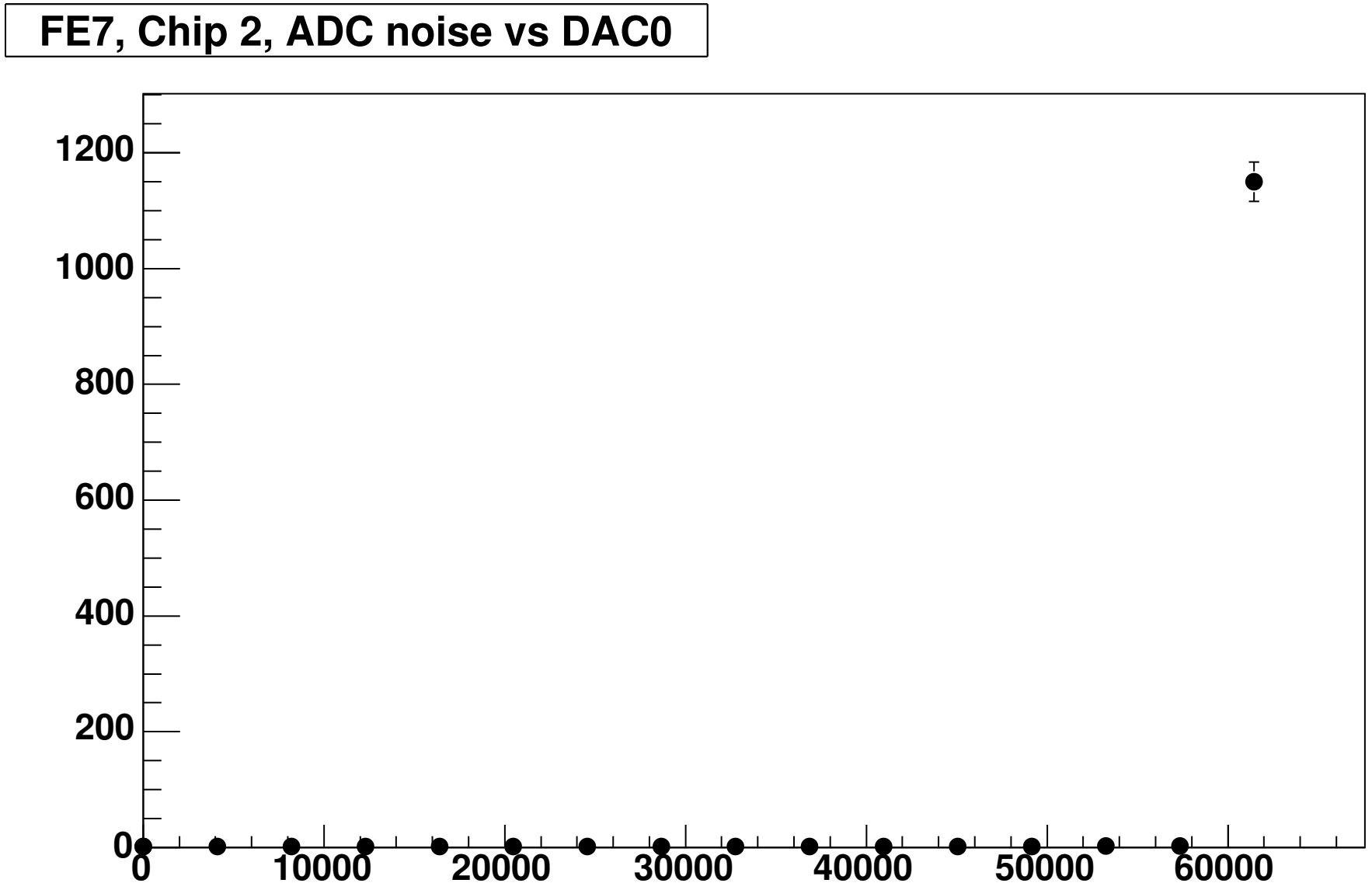

FE7, Chip 1, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

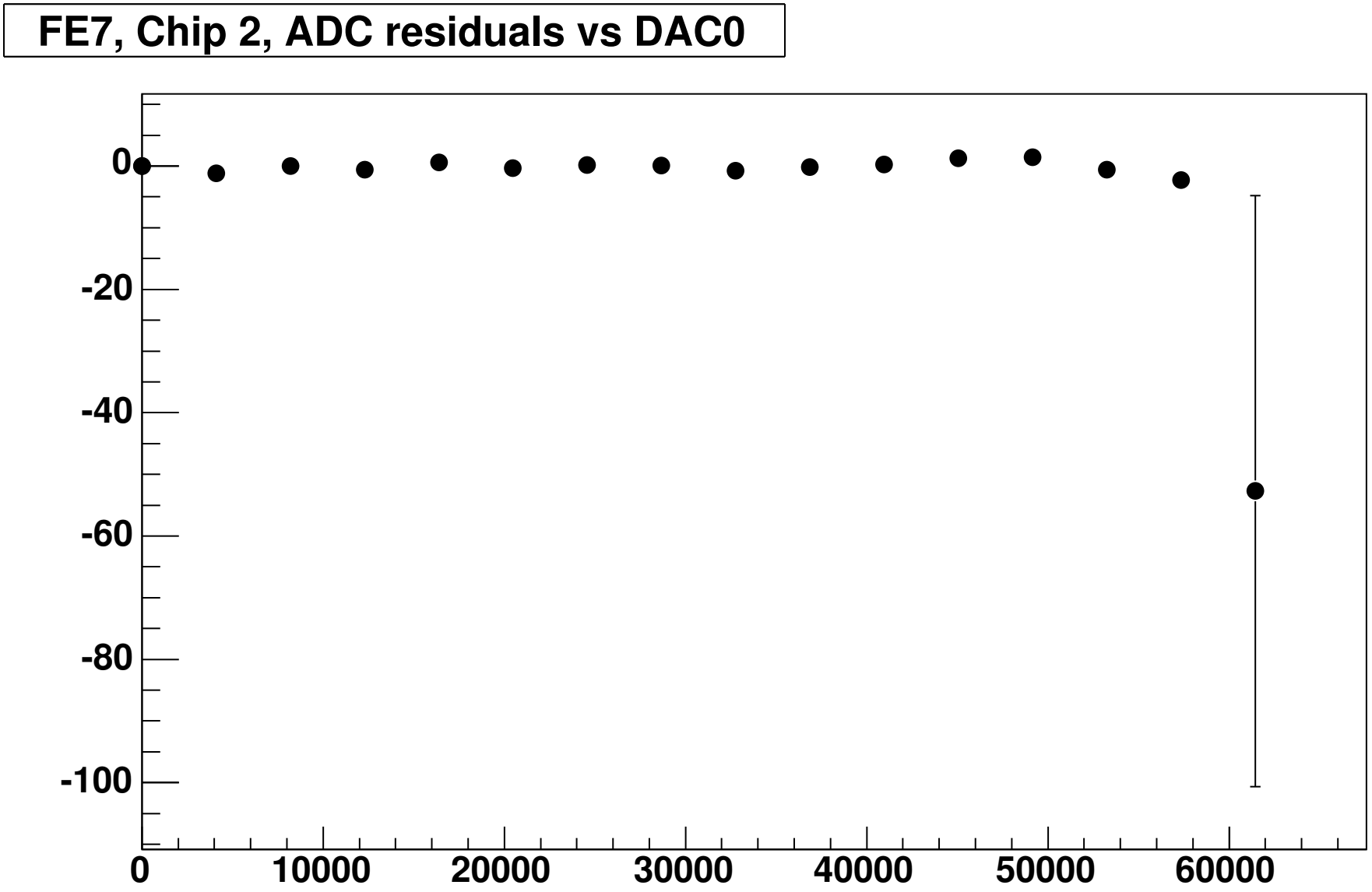

FE7, Chip 1, ADC mean vs DAC1
χ² / ndf 73.28 / 11
p0 -76.49 ± 0.03891
p1 2.304e-06 ± 1.074e-06
-76
-76.1
-76.2
-76.3
-76.4
-76.5
-76.6
-76.7
0
10000
20000
30000
40000
50000
60000

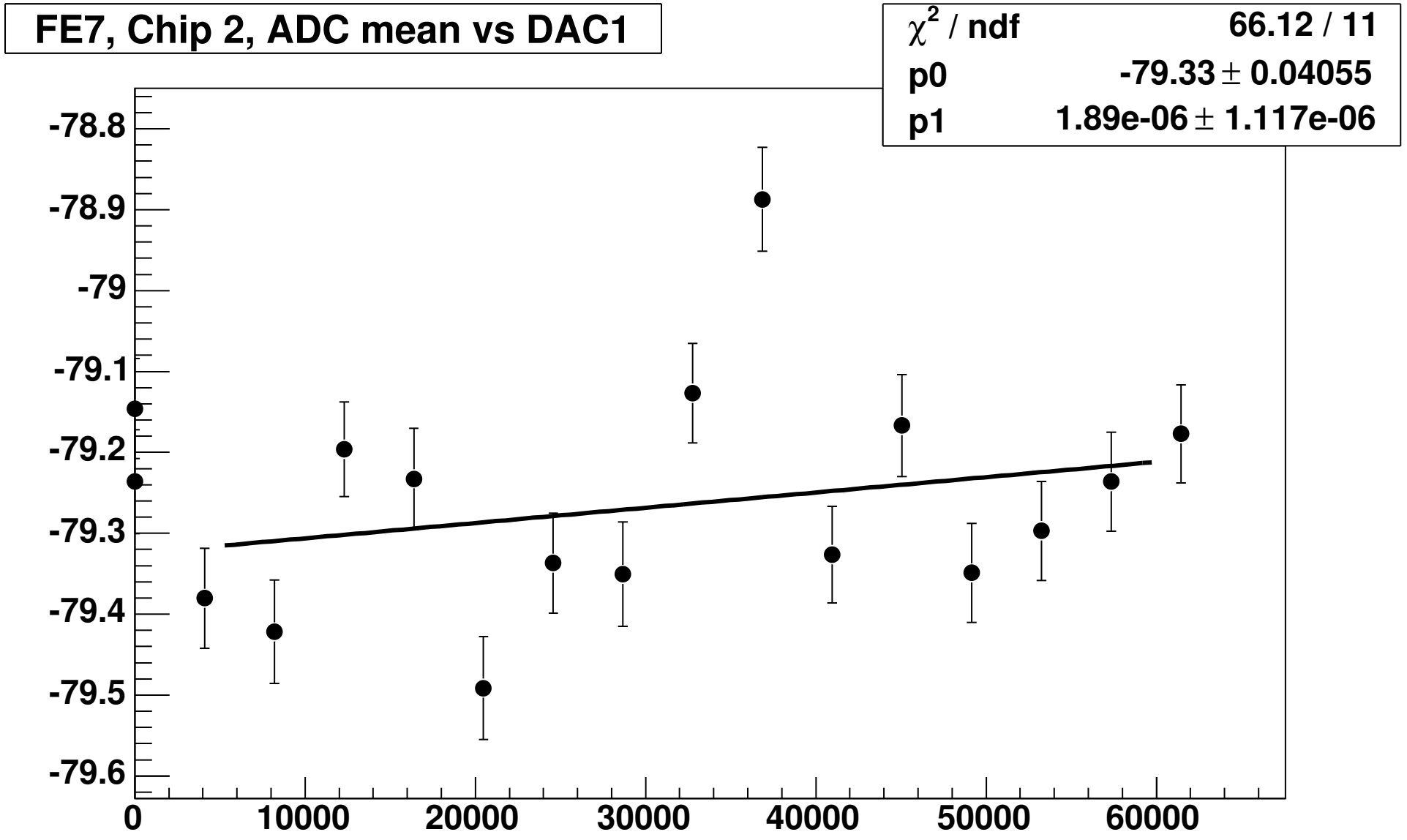

FE7, Chip 1, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

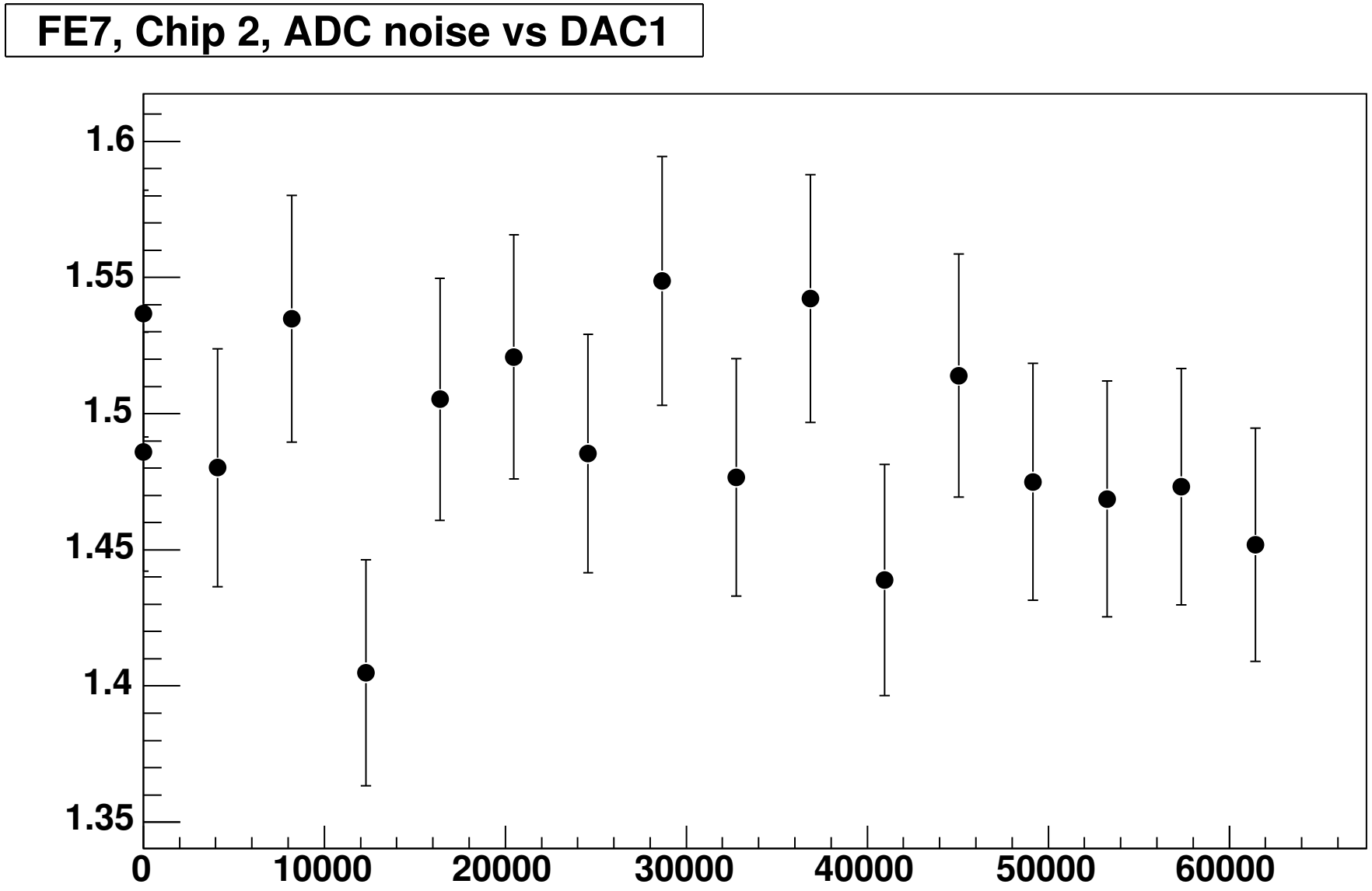

FE7, Chip 1, ADC residuals vs DAC1
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

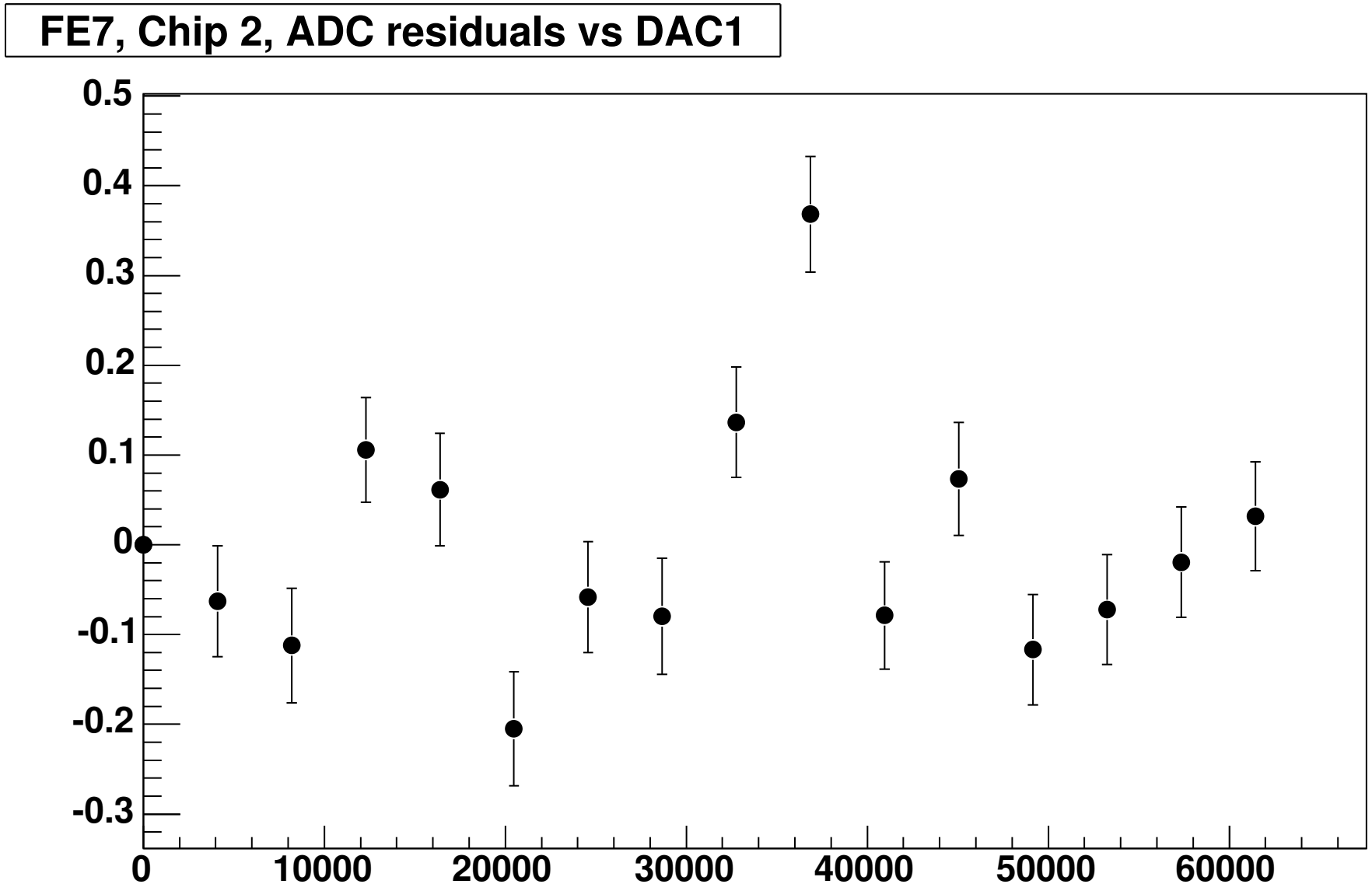

FE7, Chip 2, ADC mean vs DAC0
χ² / ndf 1527 / 11
p0 -78.04 ± 0.04205
p1 0.4508 ± 1.349e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

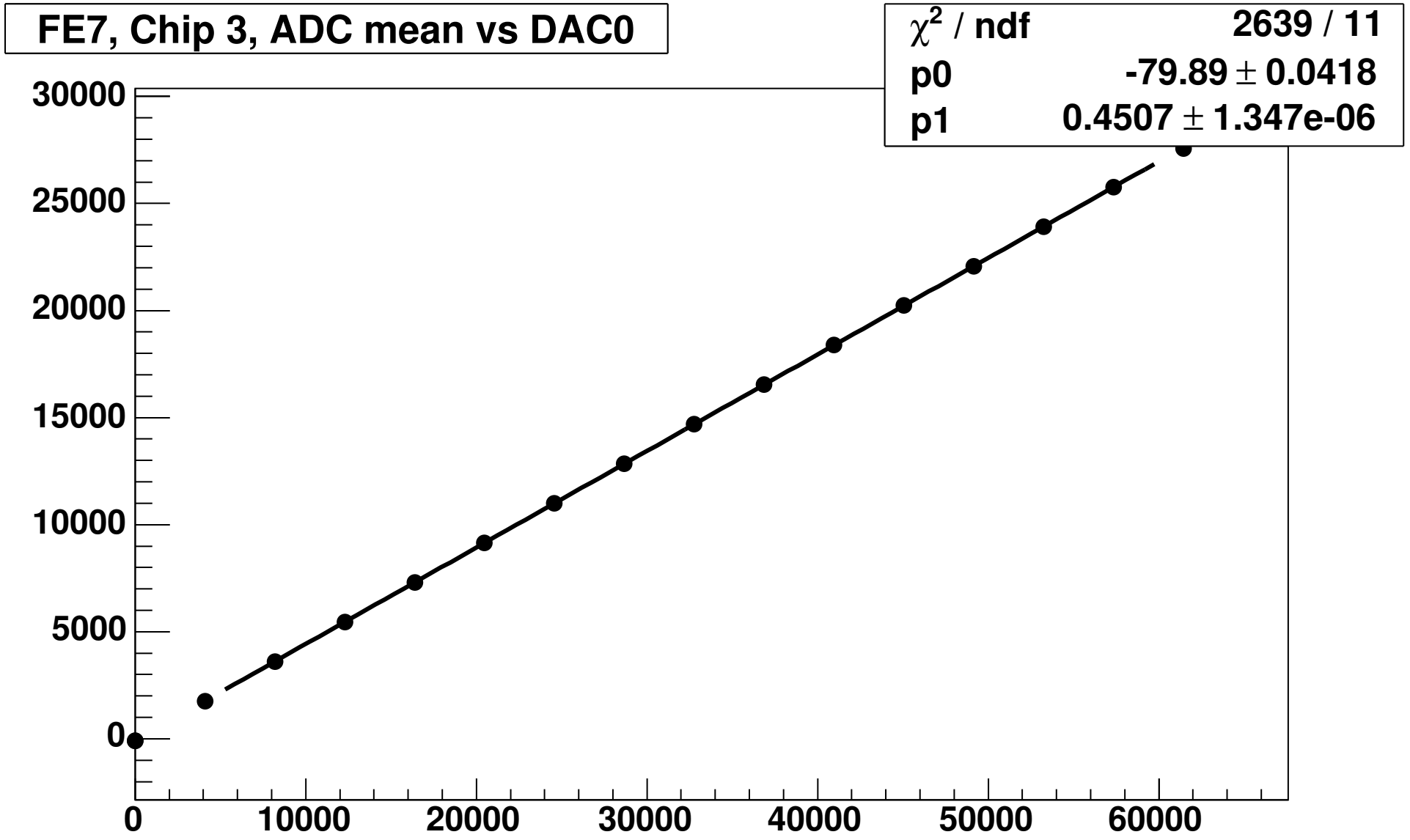

FE7, Chip 2, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

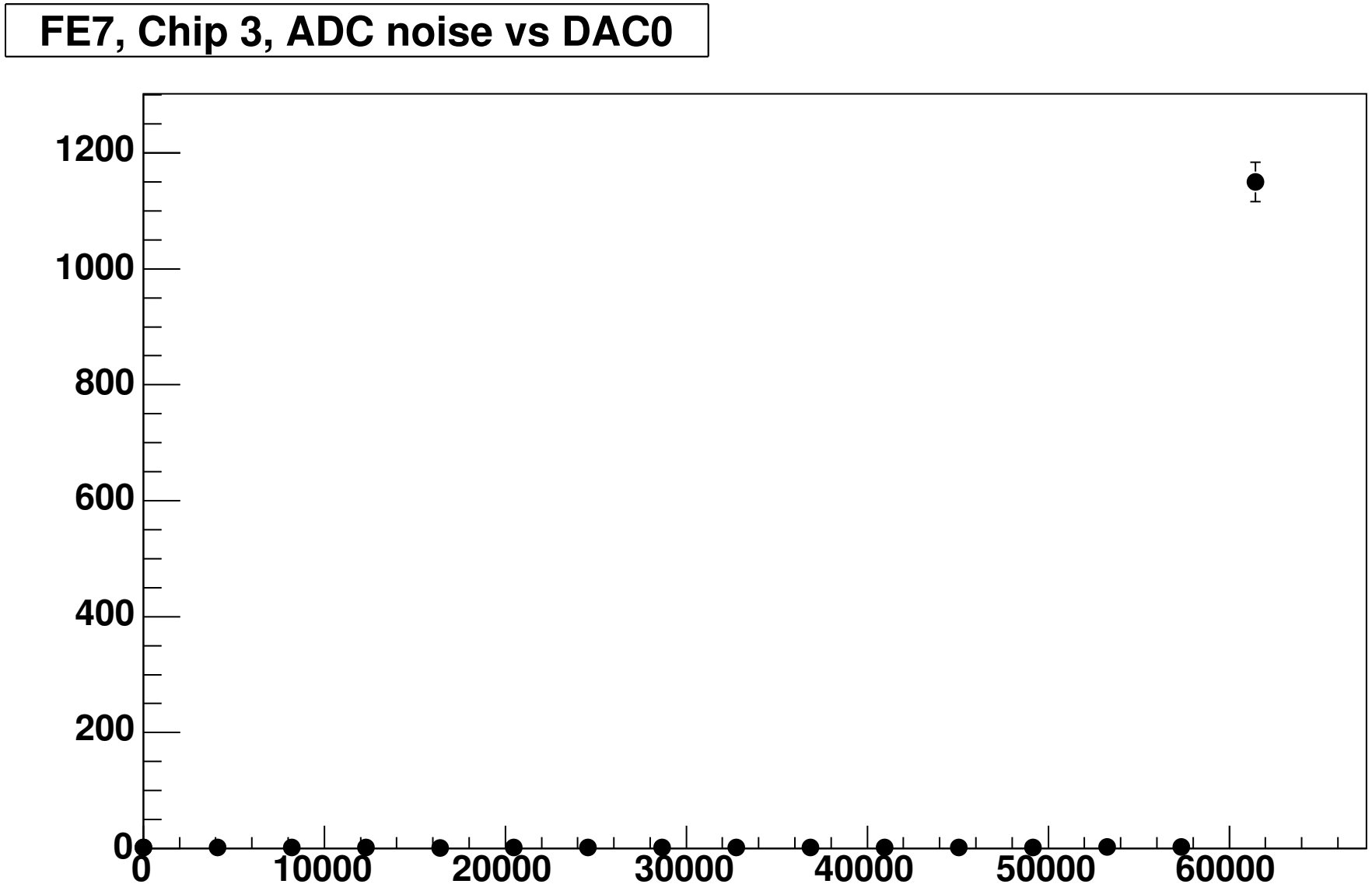

FE7, Chip 2, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

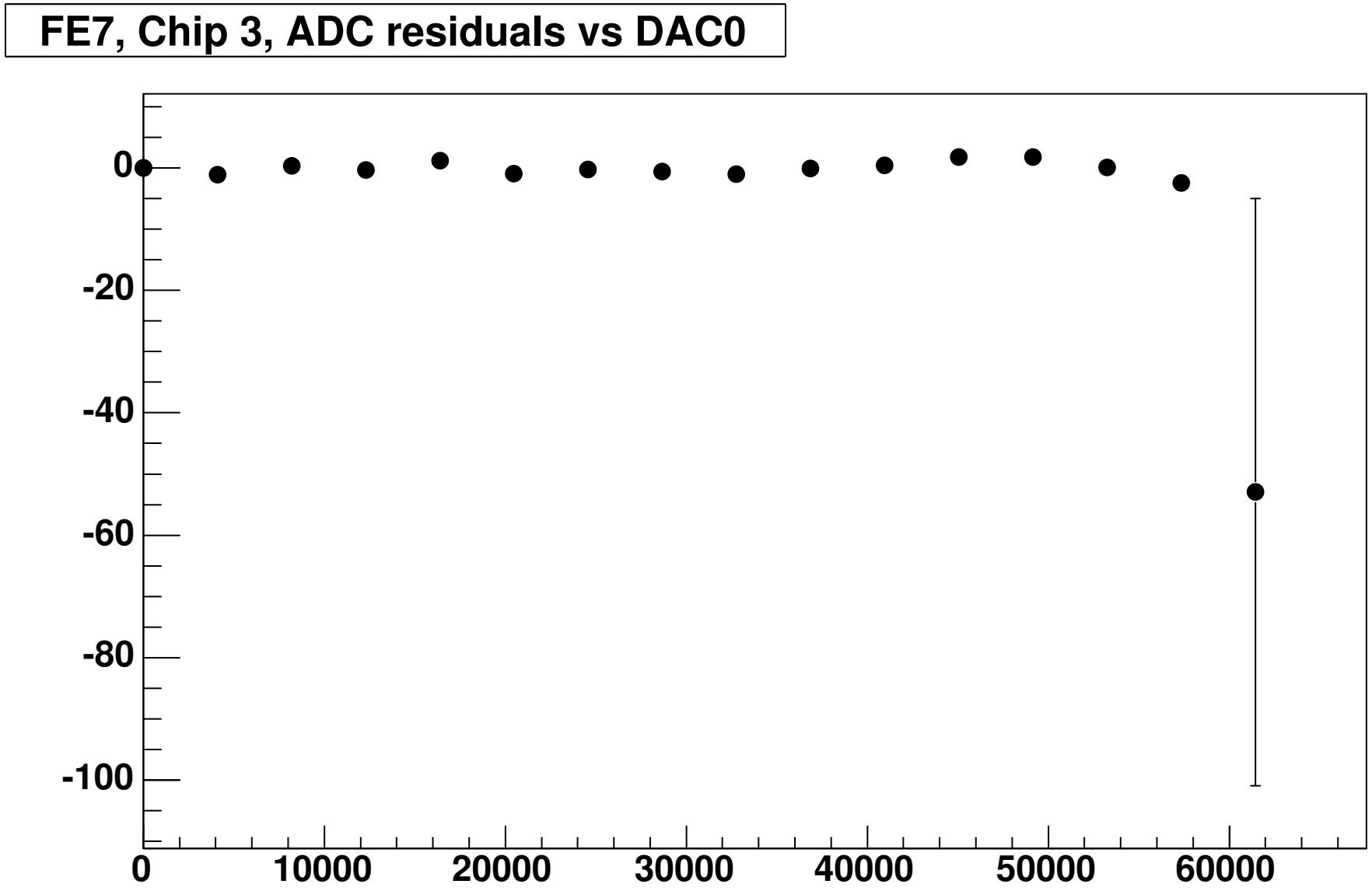

FE7, Chip 2, ADC mean vs DAC1
χ² / ndf 66.12 / 11
p0 -79.33 ± 0.04055
p1 1.89e-06 ± 1.117e-06
-78.8
-78.9
-79
-79.1
-79.2
-79.3
-79.4
-79.5
-79.6
0
10000
20000
30000
40000
50000
60000

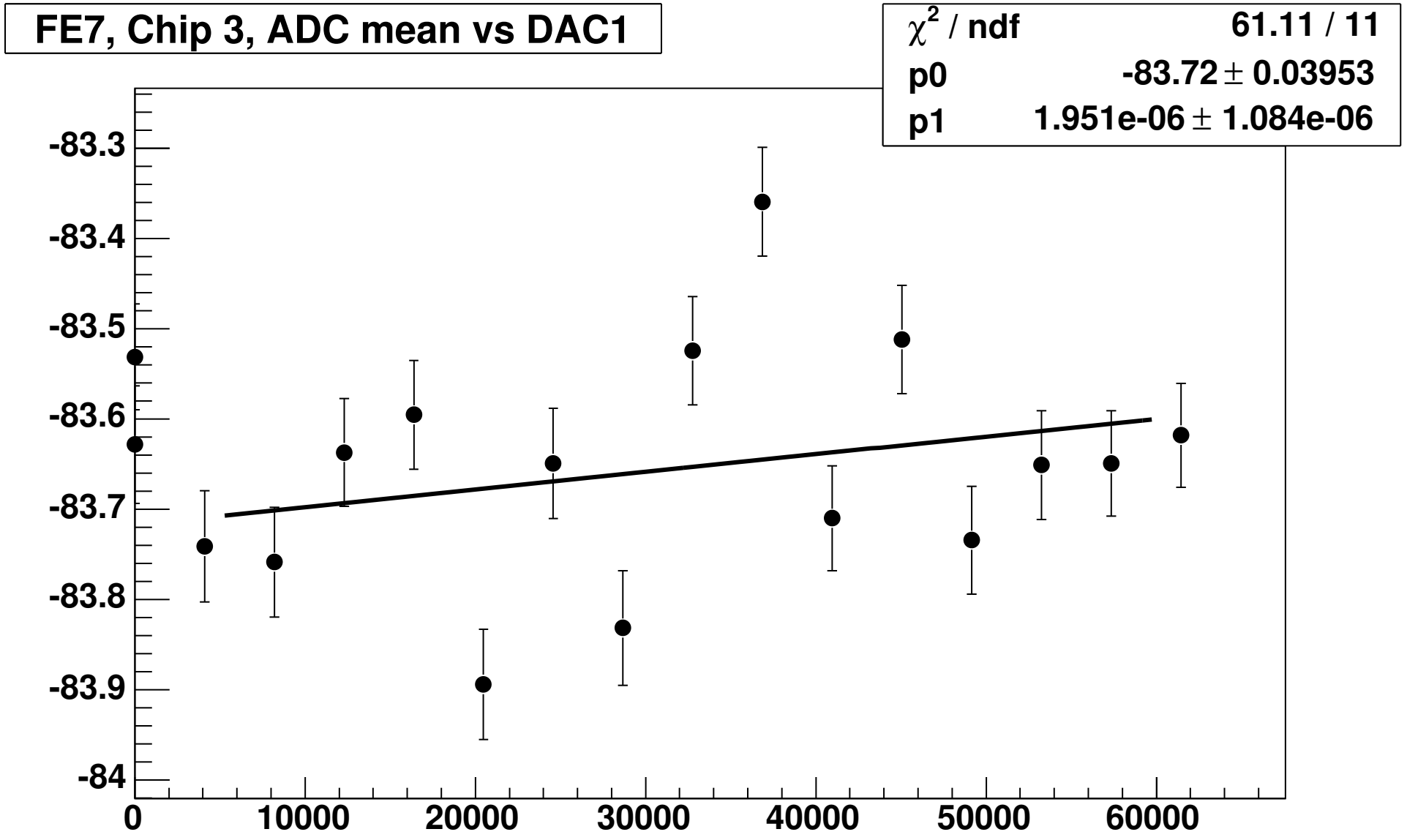

FE7, Chip 2, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

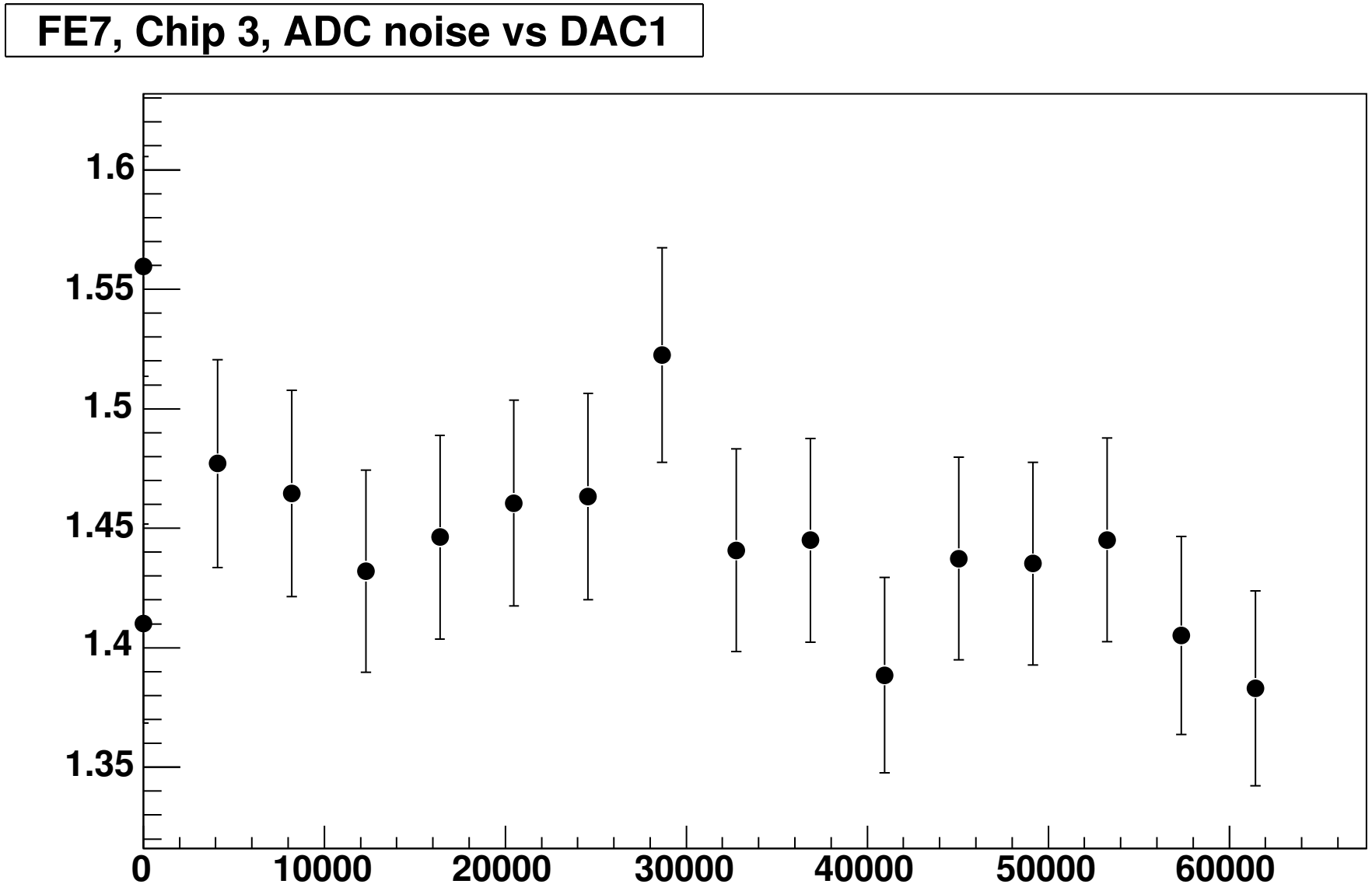

FE7, Chip 2, ADC residuals vs DAC1
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

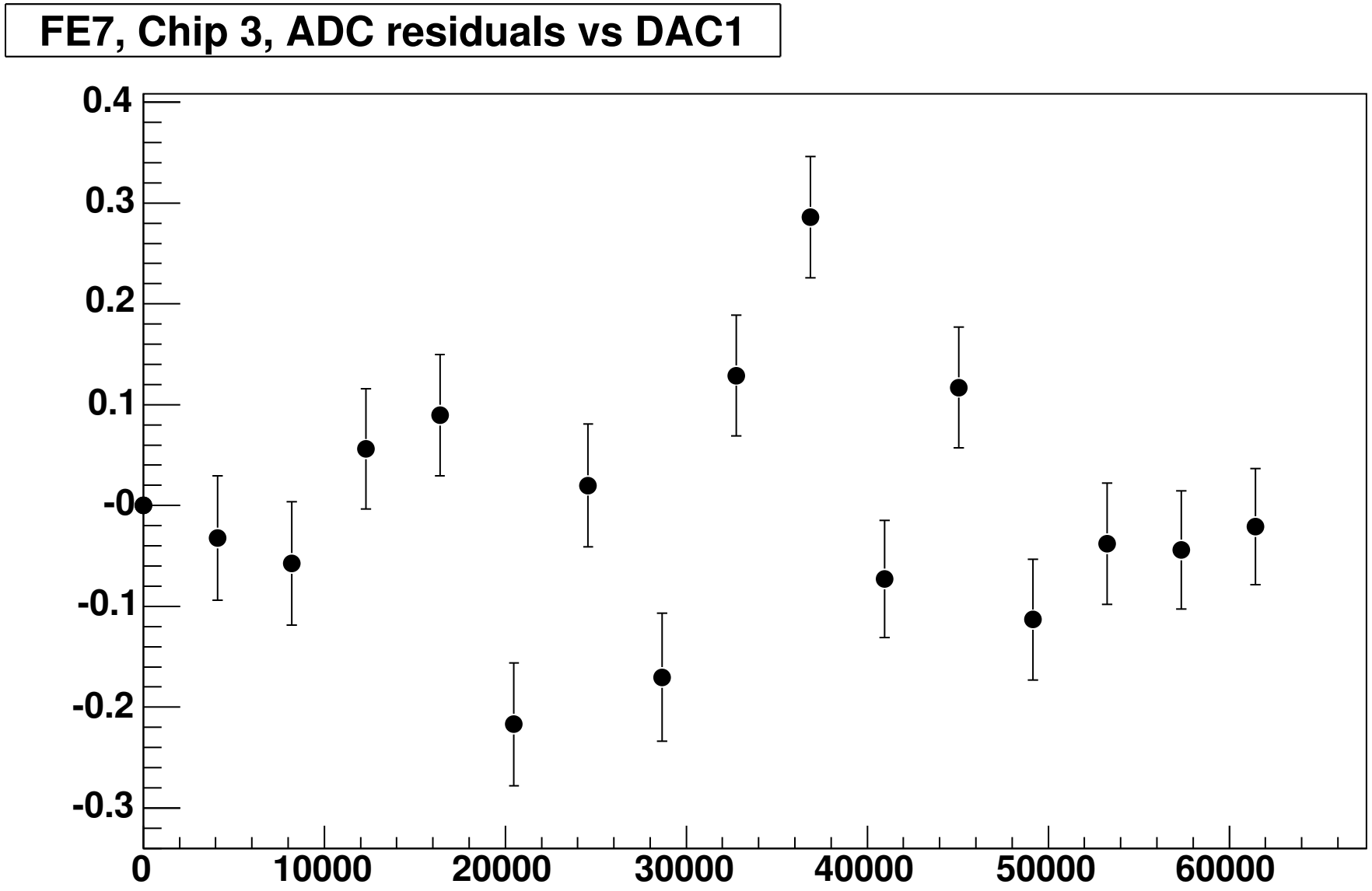

FE7, Chip 3, ADC mean vs DAC0
χ² / ndf 2639 / 11
p0 -79.89 ± 0.0418
p1 0.4507 ± 1.347e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

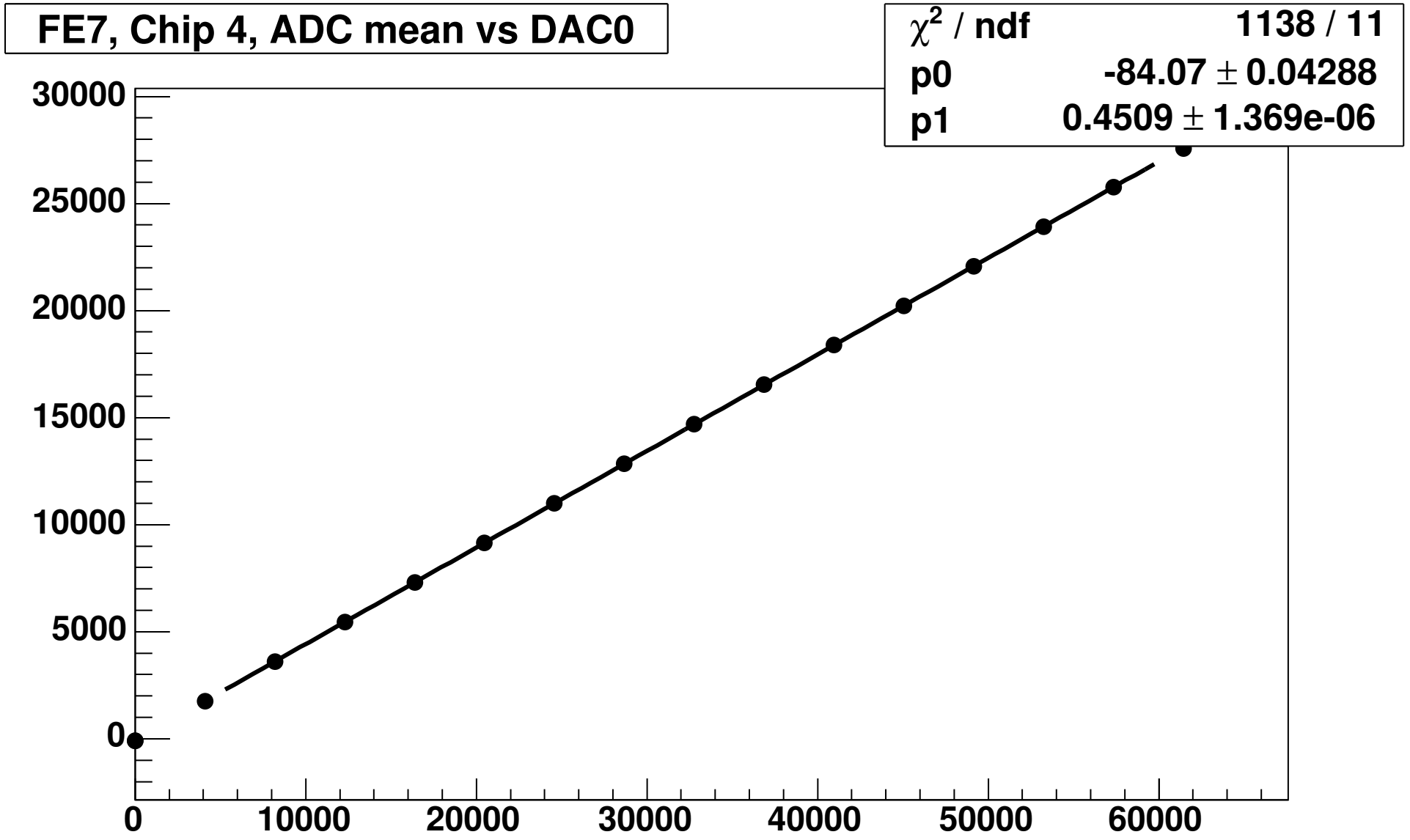

FE7, Chip 3, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

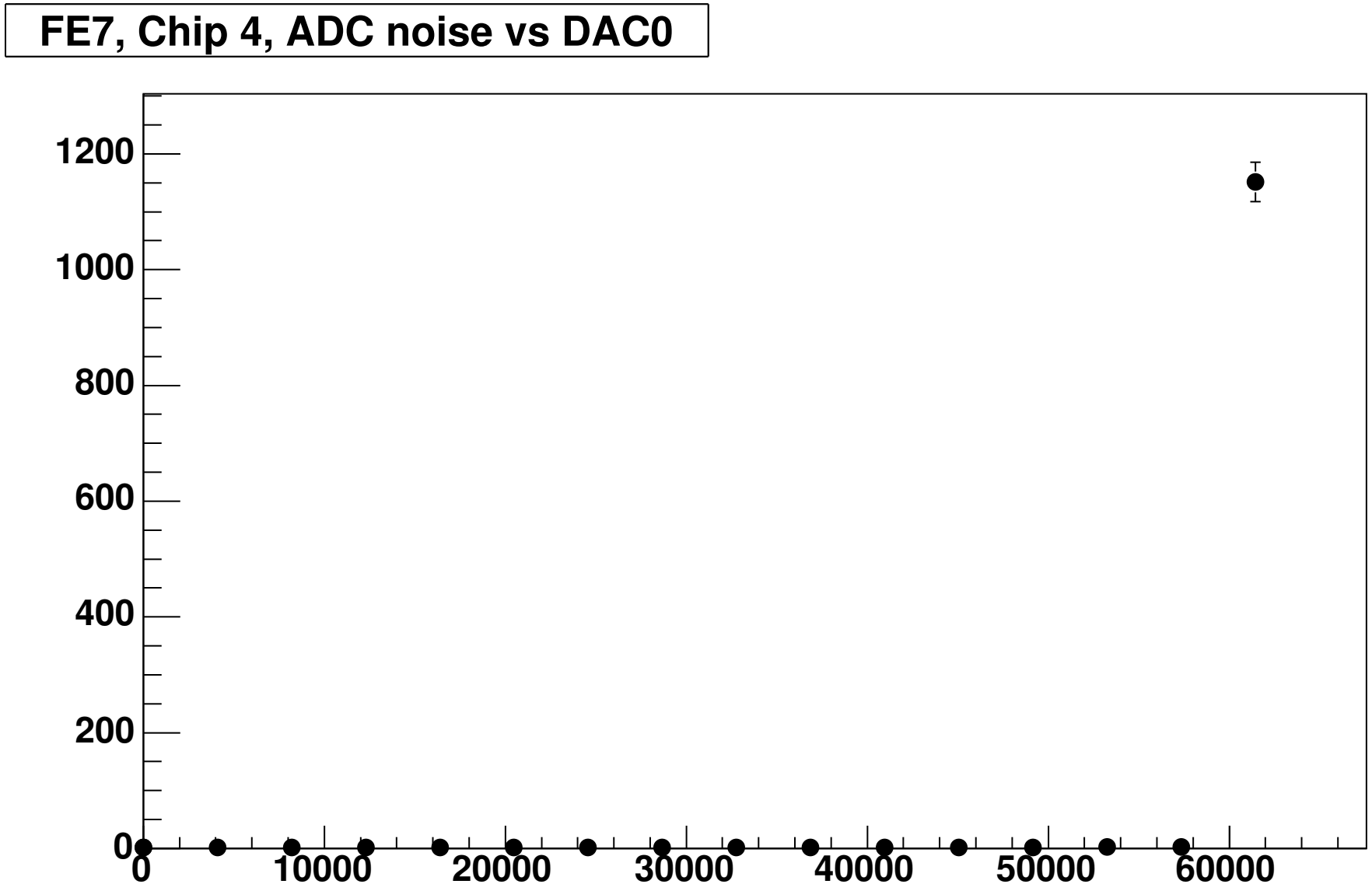

FE7, Chip 3, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

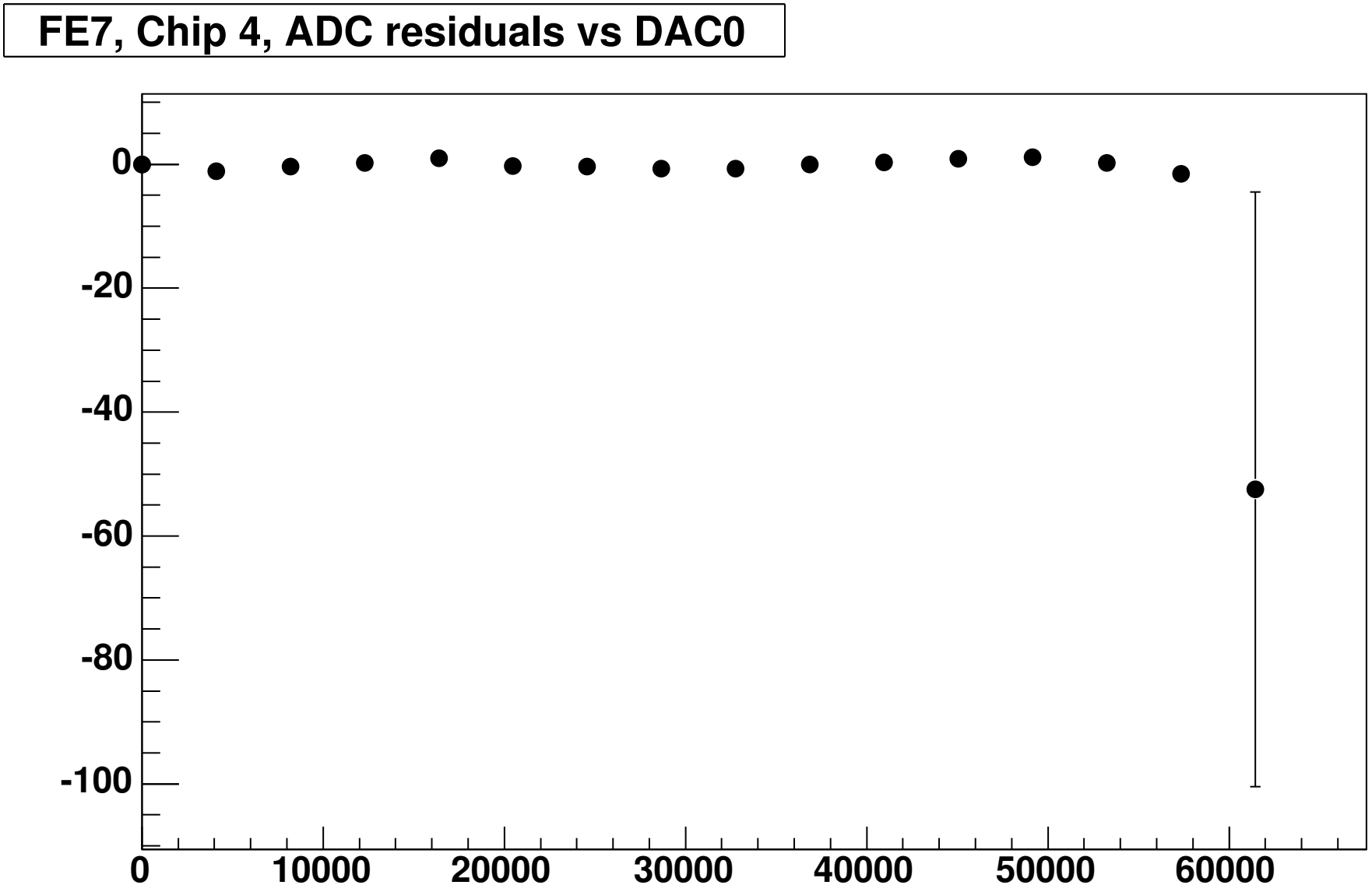

FE7, Chip 3, ADC mean vs DAC1
χ² / ndf 61.11 / 11
p0 -83.72 ± 0.03953
p1 1.951e-06 ± 1.084e-06
-83.3
-83.4
-83.5
-83.6
-83.7
-83.8
-83.9
-84
0
10000
20000
30000
40000
50000
60000

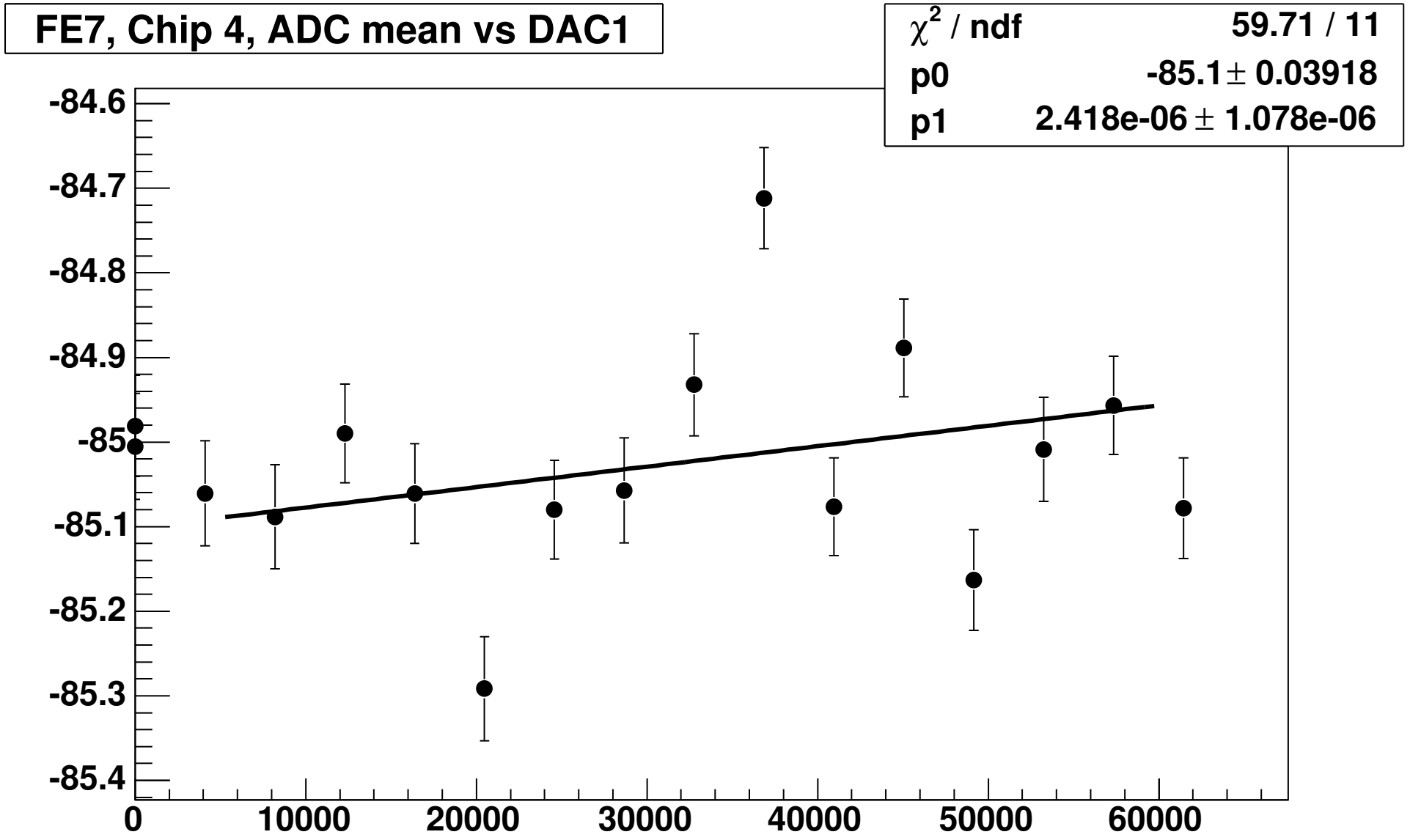

FE7, Chip 3, ADC noise vs DAC1
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

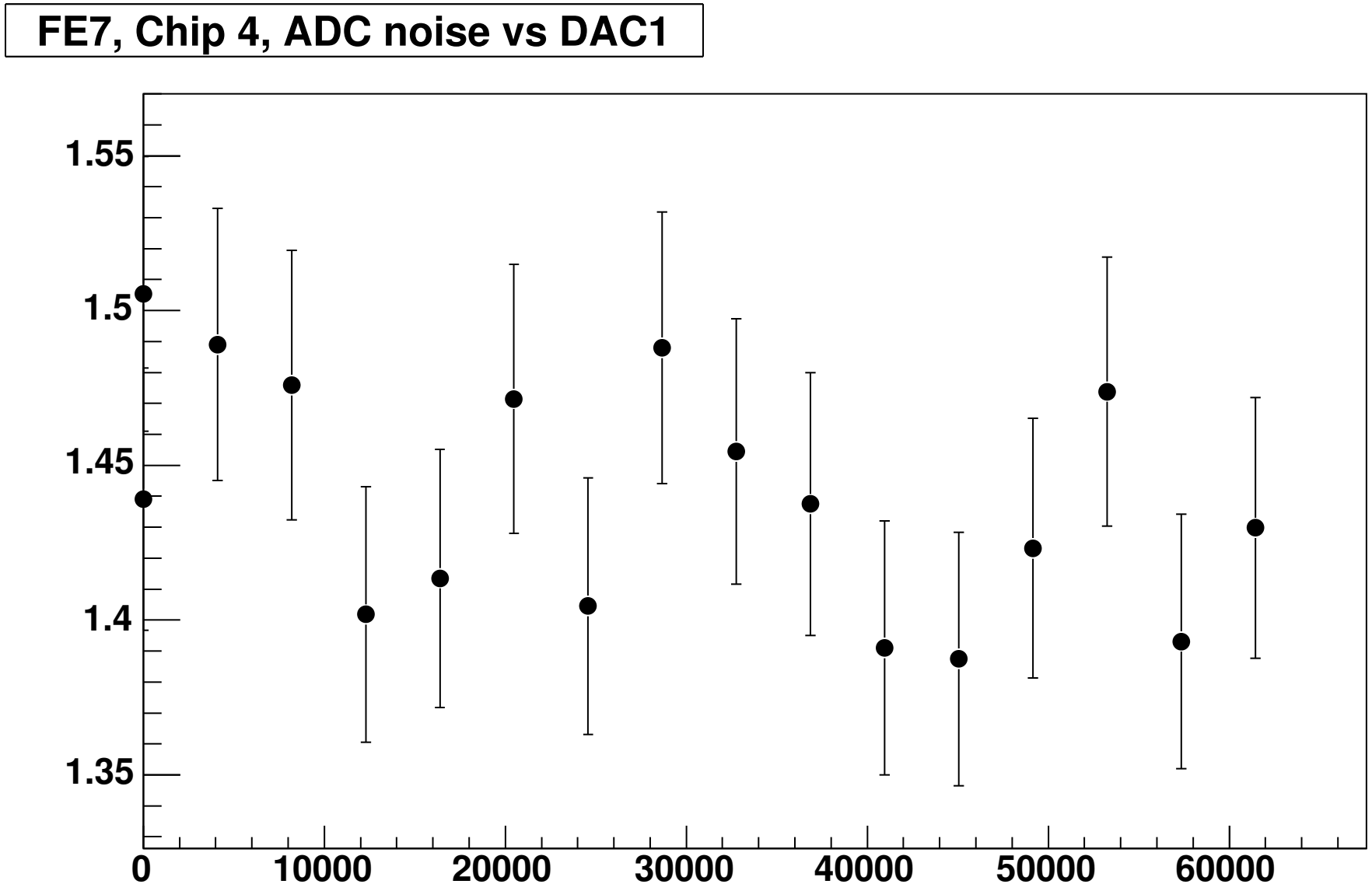

FE7, Chip 3, ADC residuals vs DAC1
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

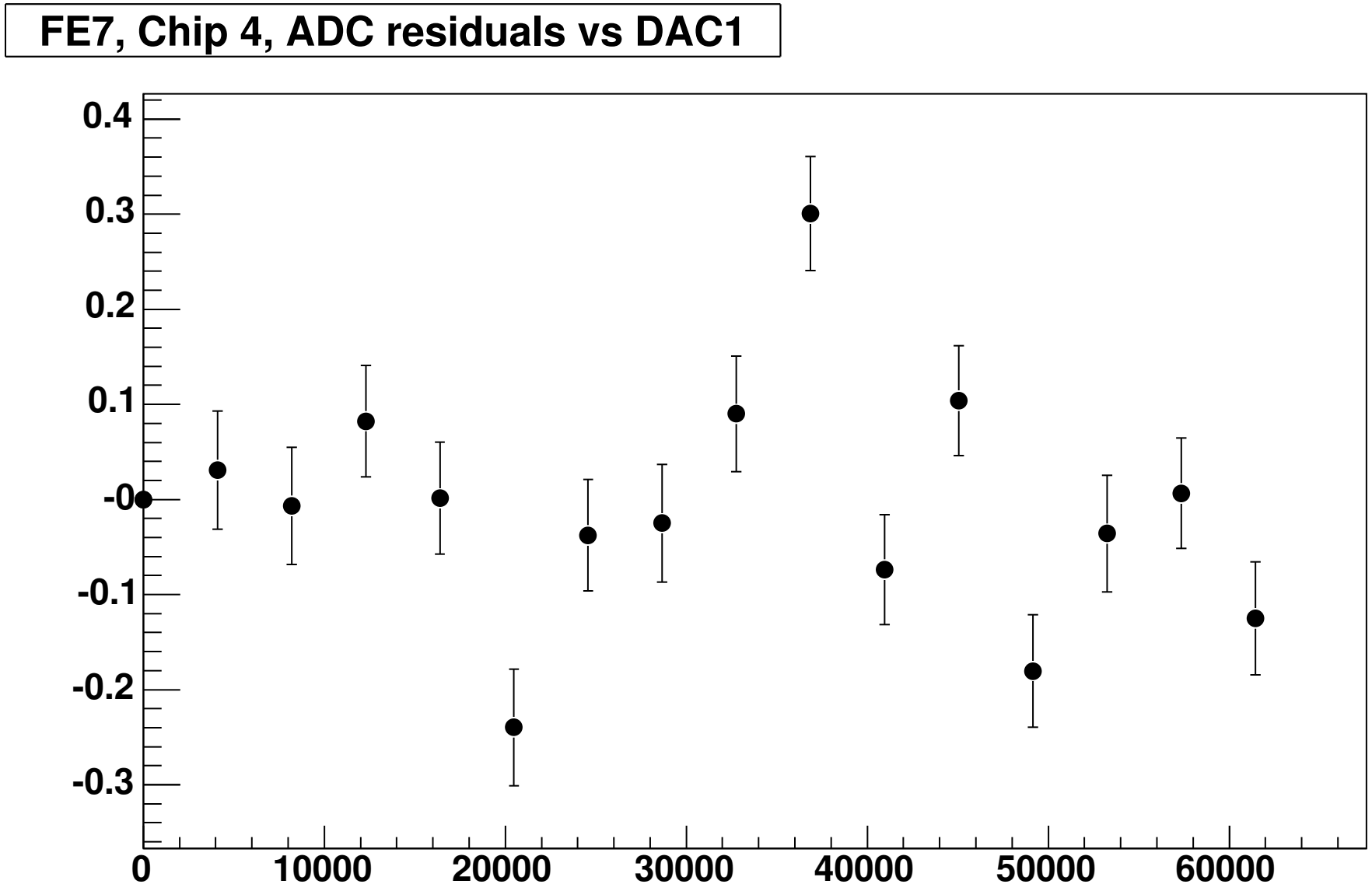

FE7, Chip 4, ADC mean vs DAC0
χ² / ndf 1138 / 11
p0 -84.07 ± 0.04288
p1 0.4509 ± 1.369e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

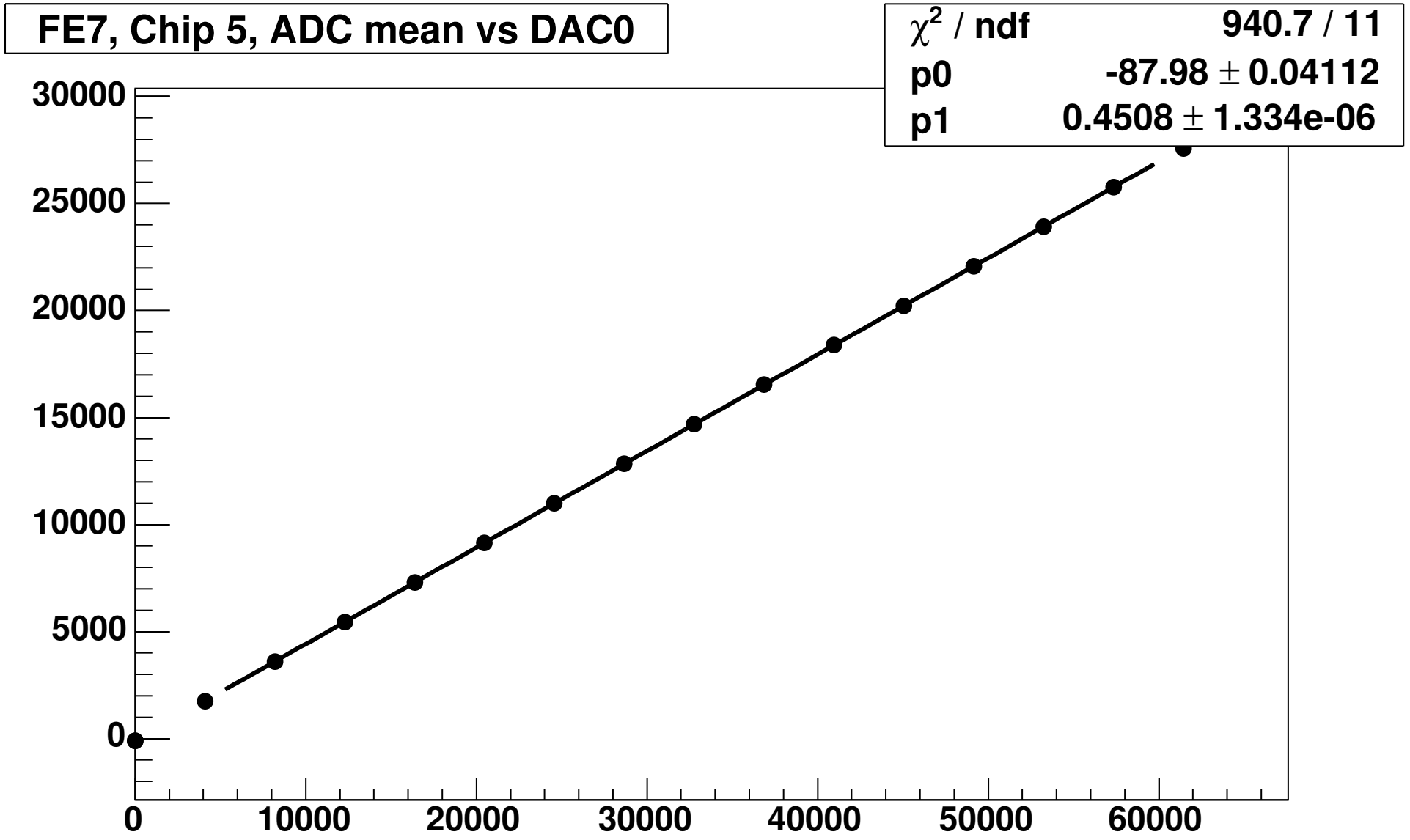

FE7, Chip 4, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

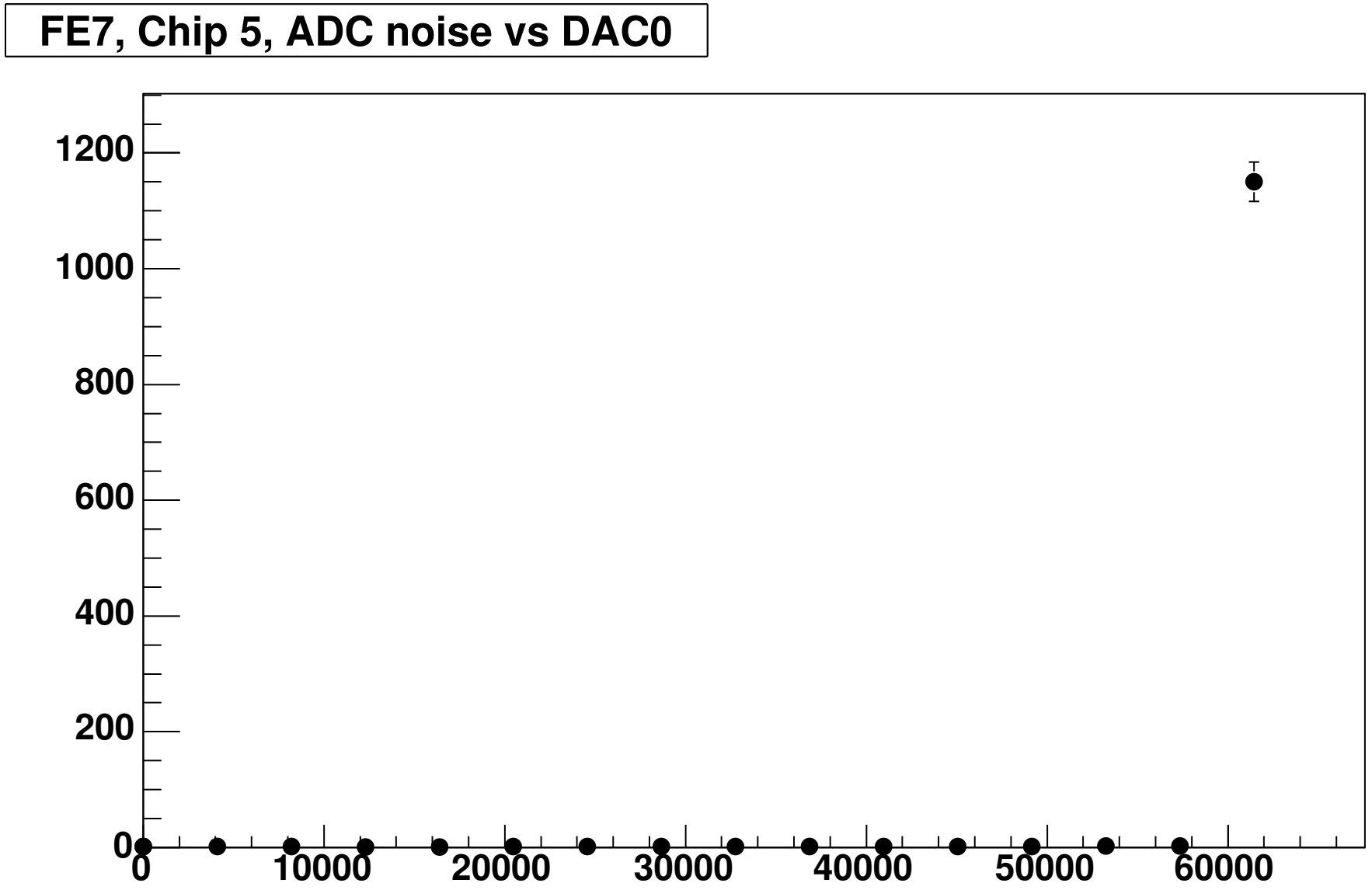

FE7, Chip 4, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

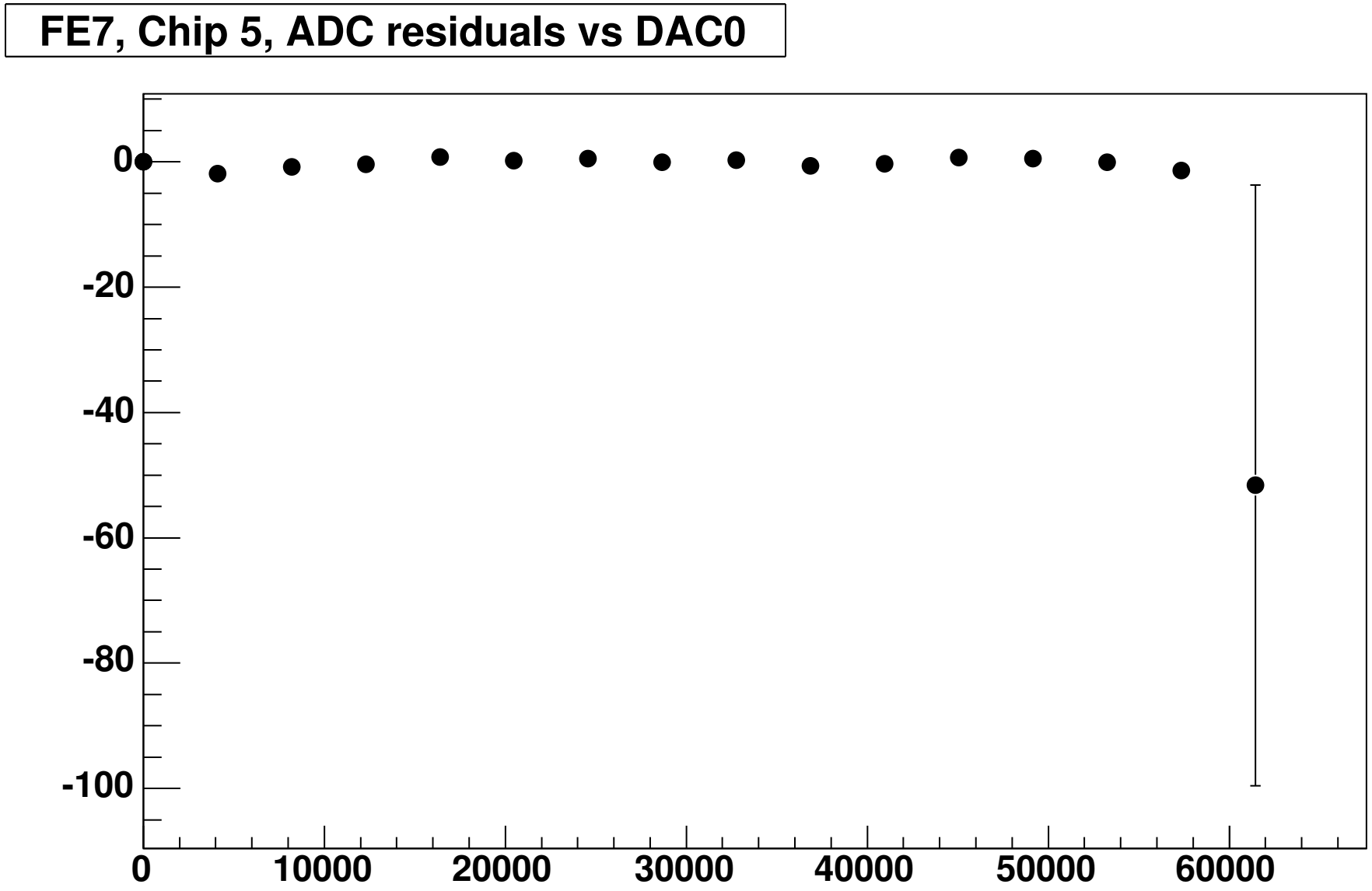

FE7, Chip 4, ADC mean vs DAC1
χ^2 / ndf 59.71 / 11
p0 -85.1 ± 0.03918
p1 2.418e-06 ± 1.078e-06
-84.6
-84.7
-84.8
-84.9
-85
-85.1
-85.2
-85.3
-85.4
0
10000
20000
30000
40000
50000
60000

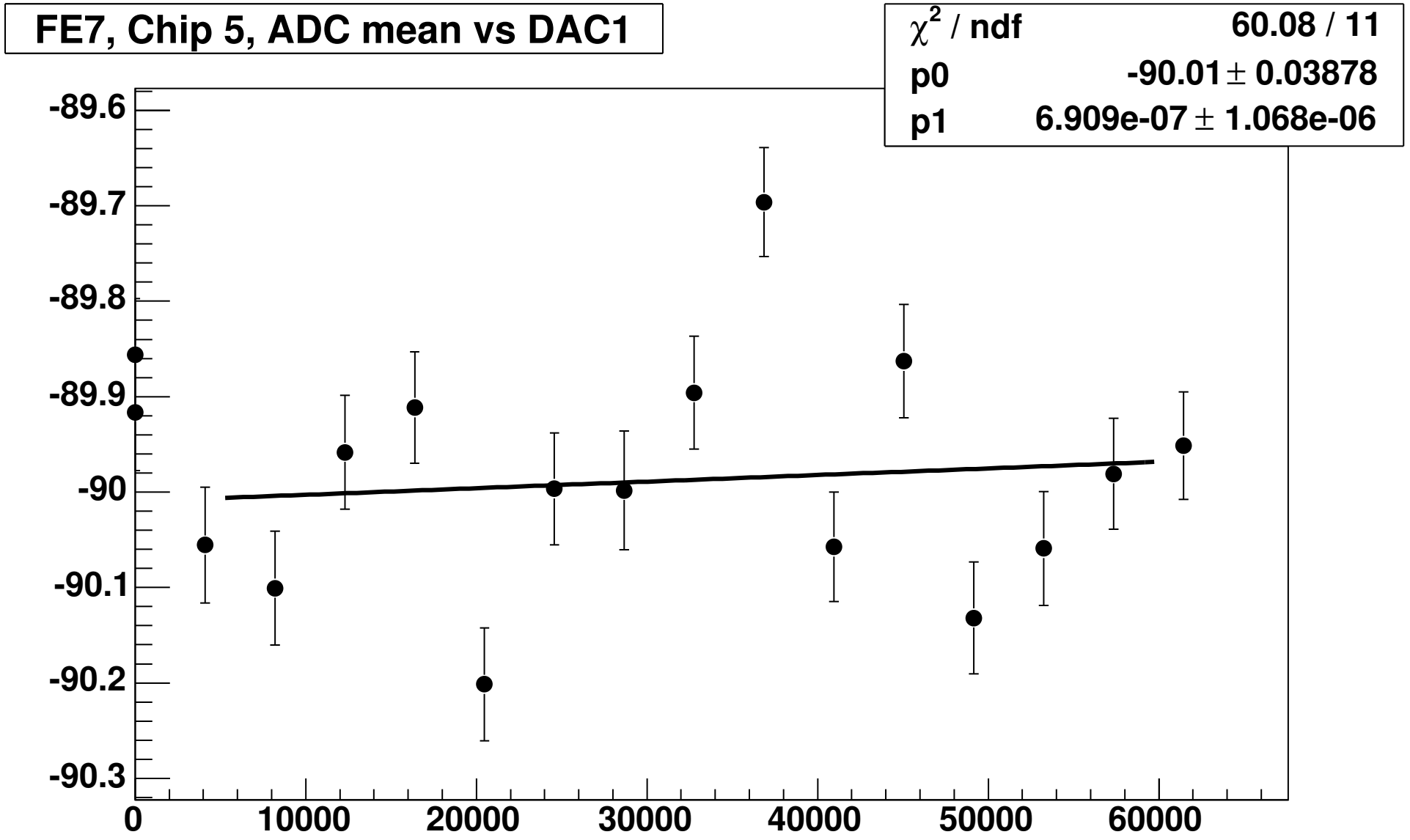

FE7, Chip 4, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

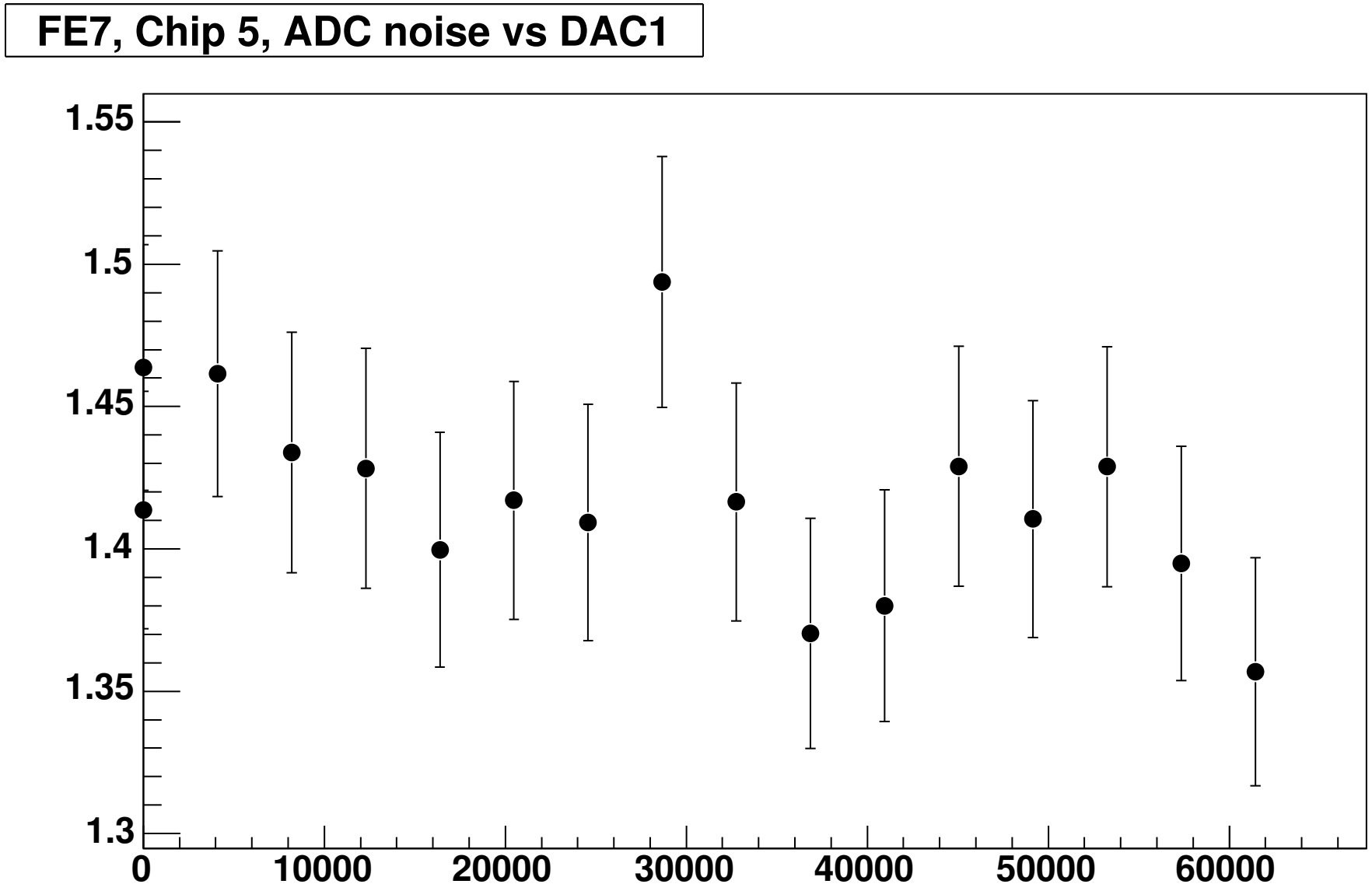

FE7, Chip 4, ADC residuals vs DAC1
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

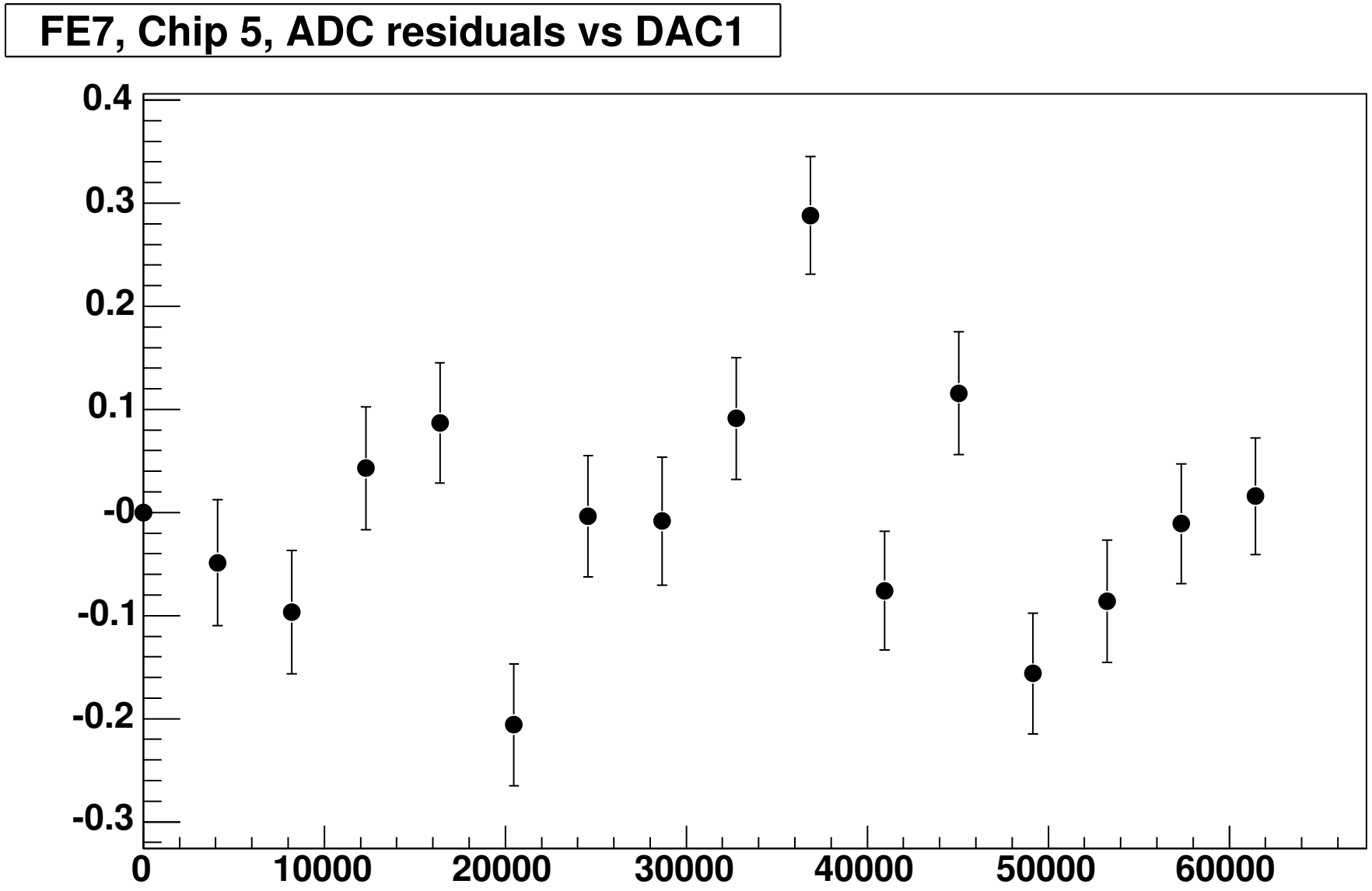

FE7, Chip 5, ADC mean vs DAC0
χ² / ndf 940.7 / 11
p0 -87.98 ± 0.04112
p1 0.4508 ± 1.334e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

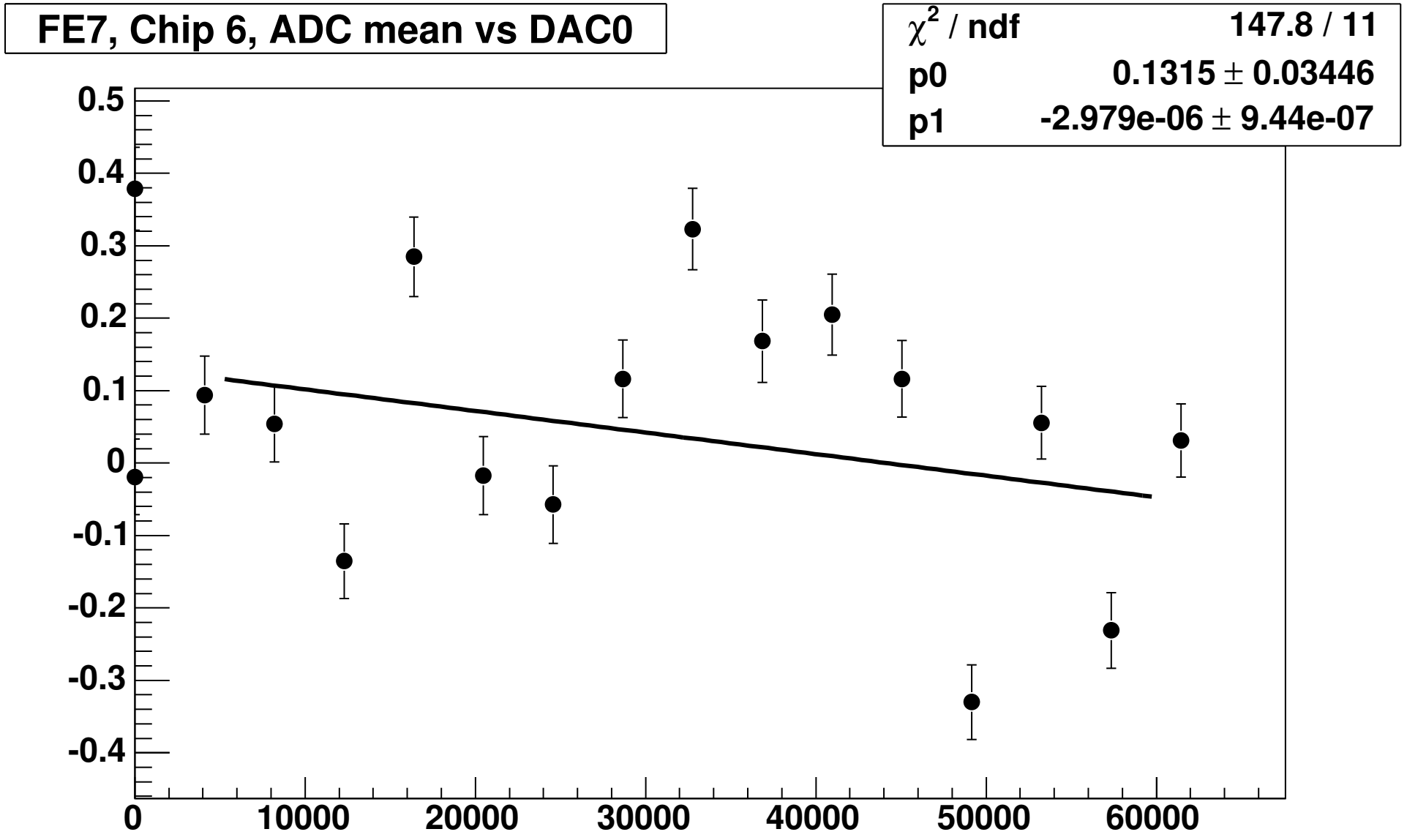

FE7, Chip 5, ADC noise vs DAC0
1200
1000
800
600
400
200
0
0
10000
20000
30000
40000
50000
60000

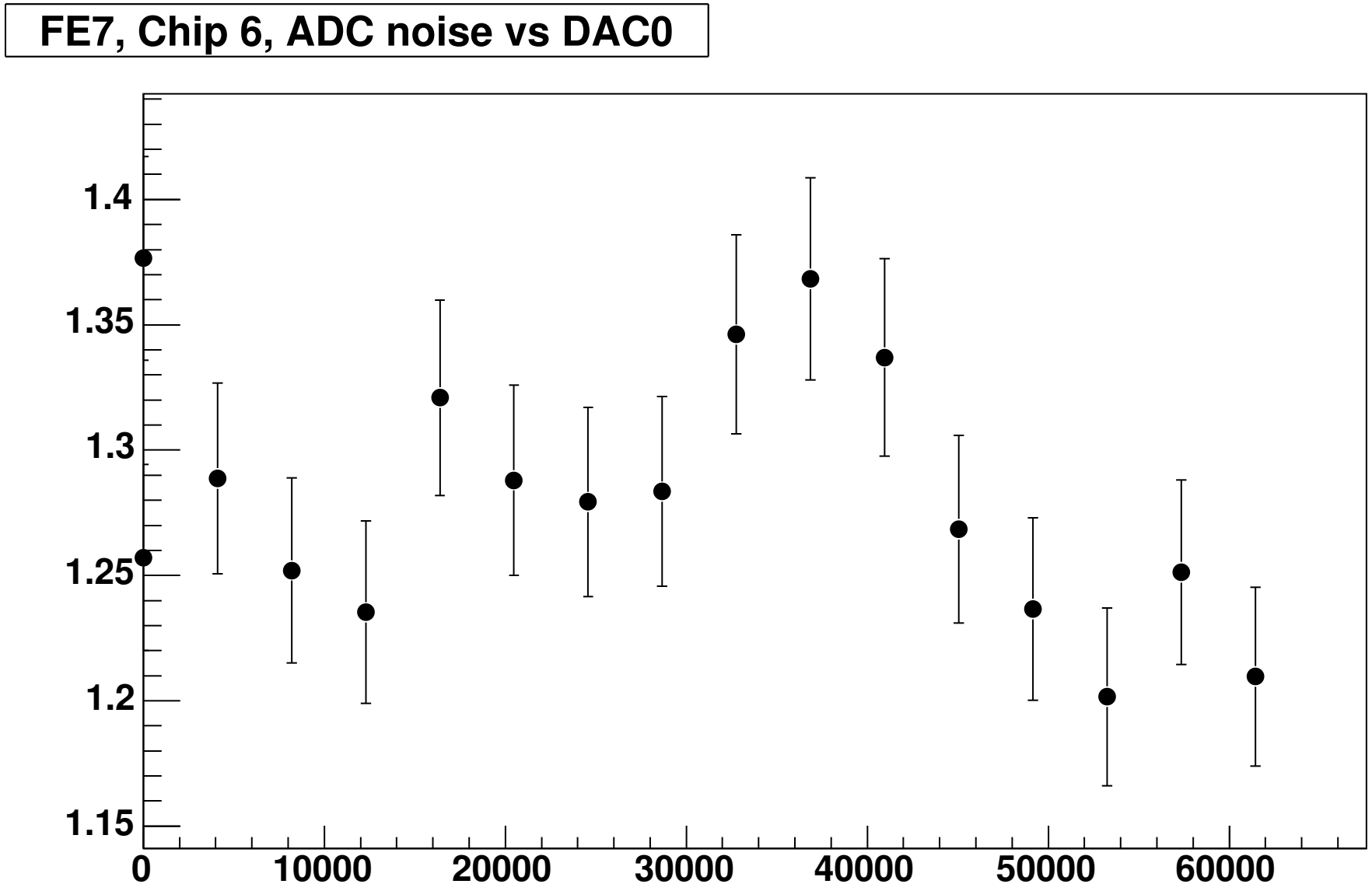

FE7, Chip 5, ADC residuals vs DAC0
0
-20
-40
-60
-80
-100
0
10000
20000
30000
40000
50000
60000

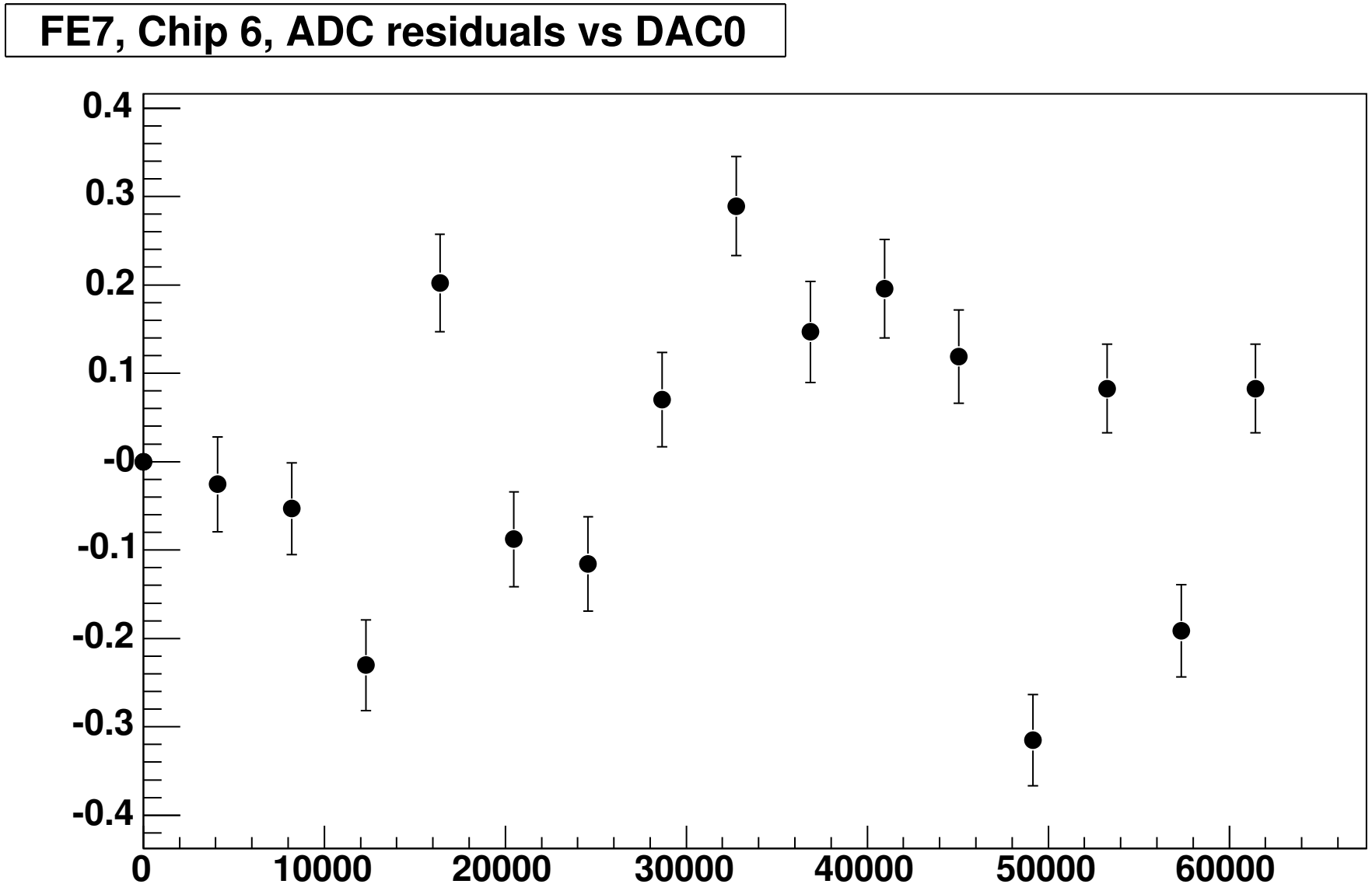

FE7, Chip 5, ADC mean vs DAC1
χ² / ndf 60.08 / 11
p0 -90.01 ± 0.03878
p1 6.909e-07 ± 1.068e-06
-89.6
-89.7
-89.8
-89.9
-90
-90.1
-90.2
-90.3
0
10000
20000
30000
40000
50000
60000

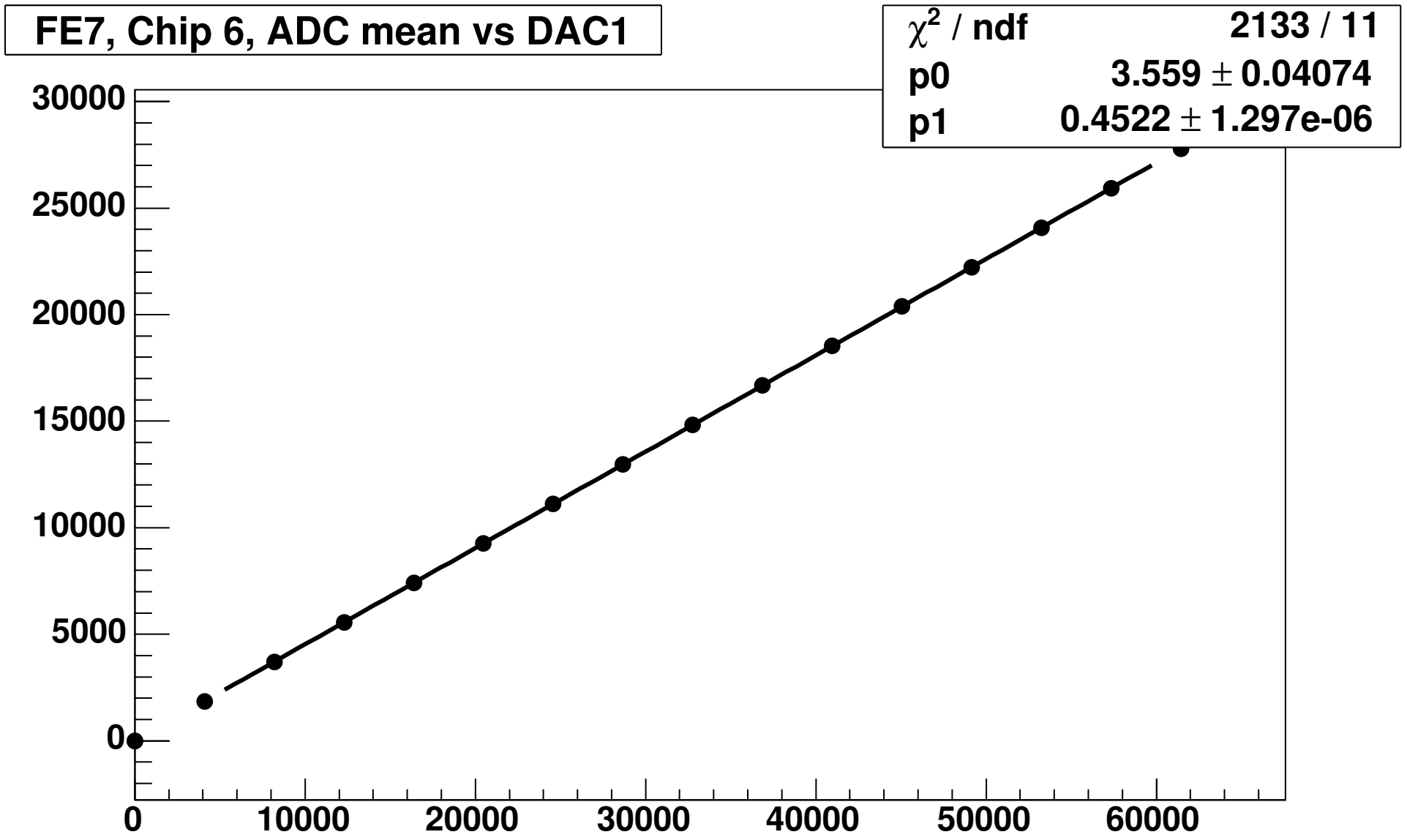

FE7, Chip 5, ADC noise vs DAC1
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

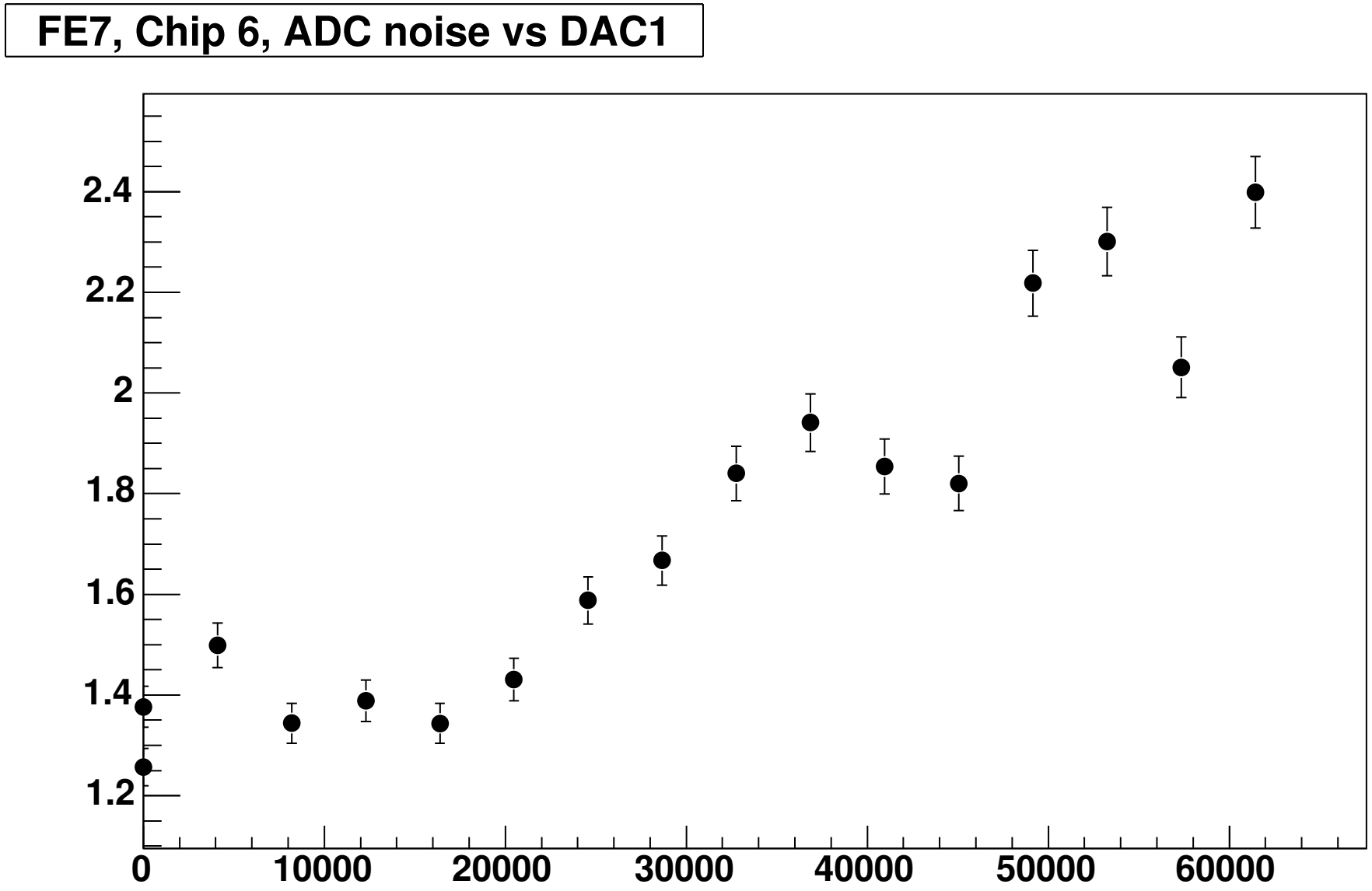

FE7, Chip 5, ADC residuals vs DAC1
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
0
10000
20000
30000
40000
50000
60000

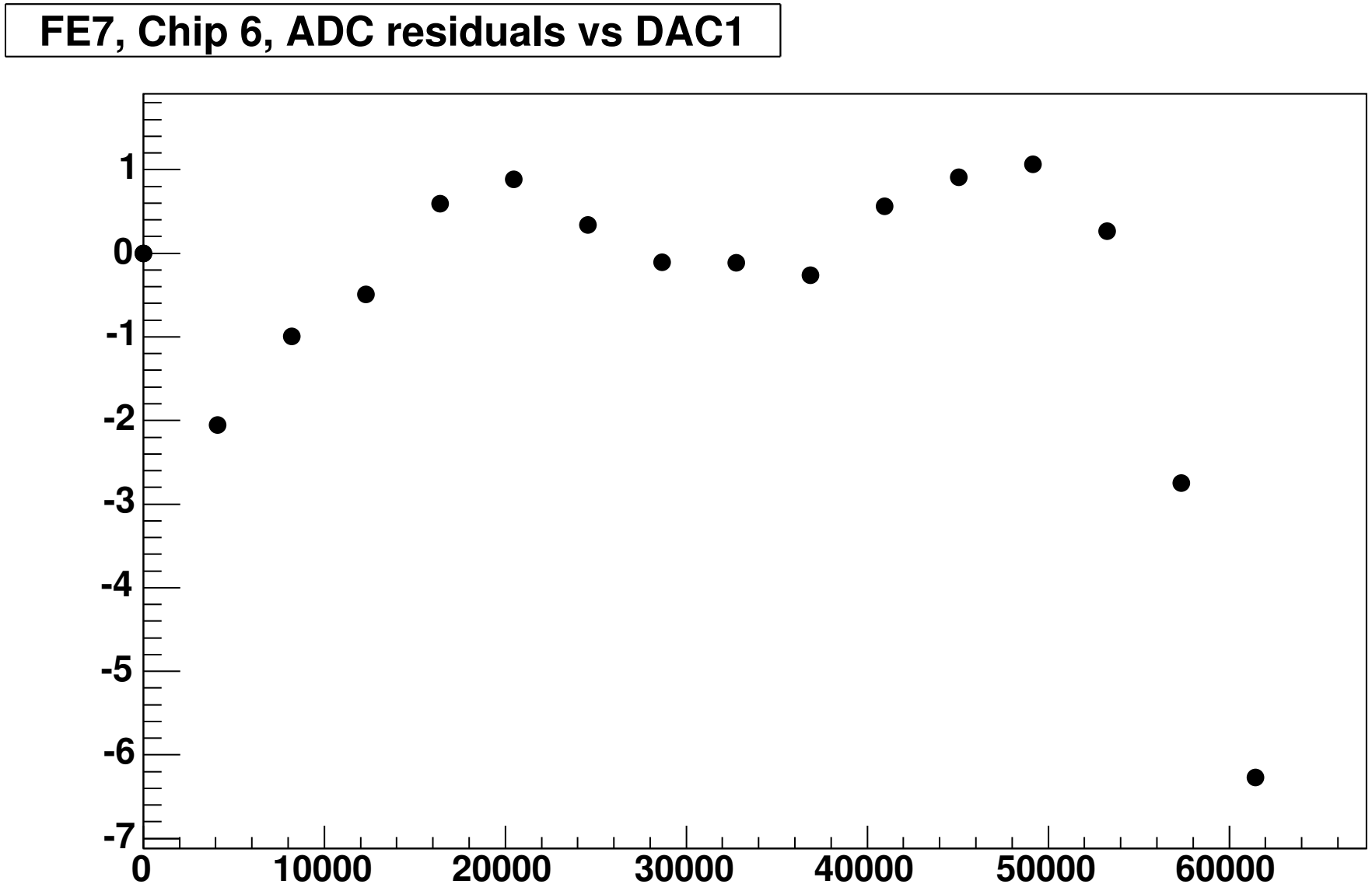

FE7, Chip 6, ADC mean vs DAC0
χ² / ndf 147.8 / 11
p0 0.1315 ± 0.03446
p1 -2.979e-06 ± 9.44e-07
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

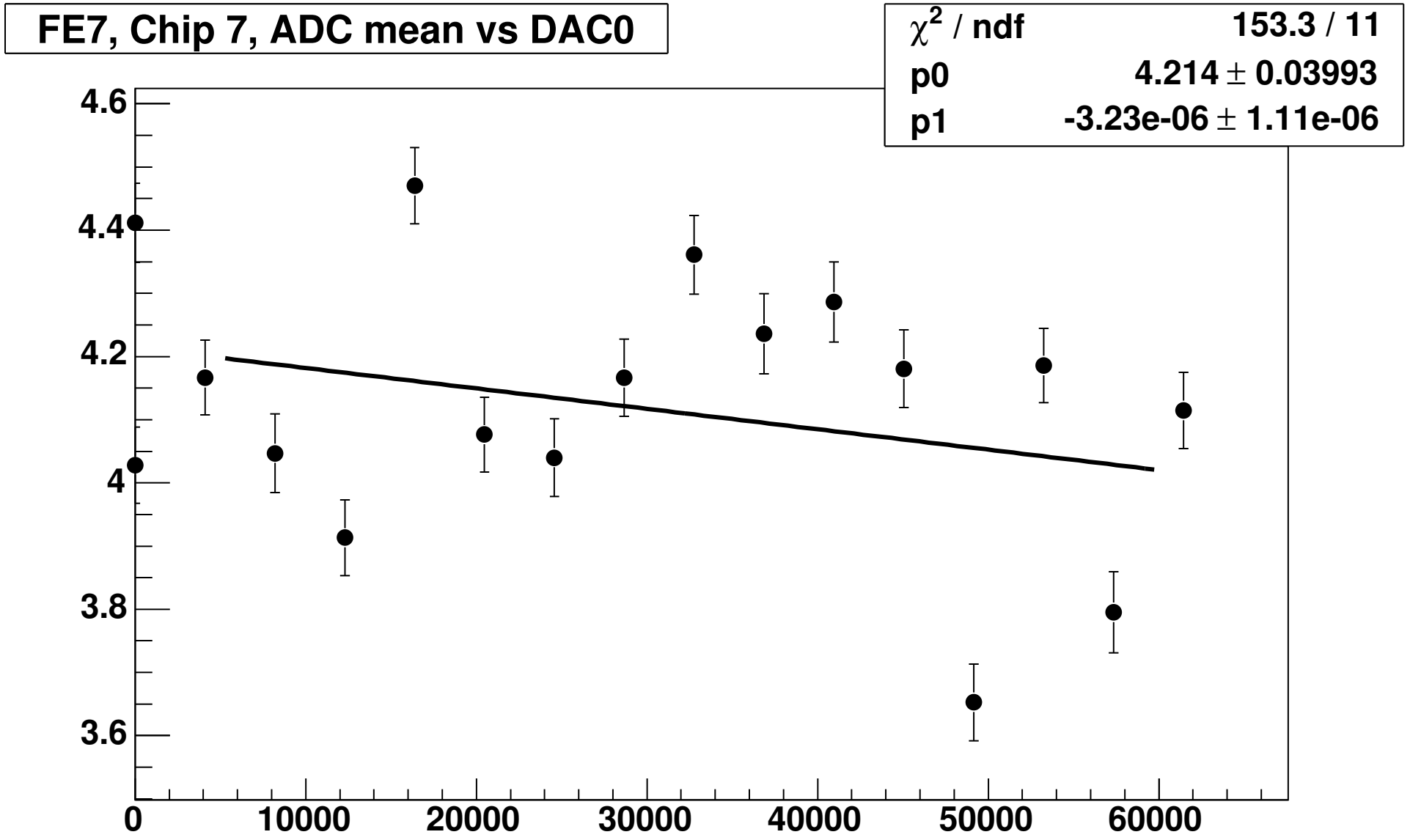

FE7, Chip 6, ADC noise vs DAC0
1.4
1.35
1.3
1.25
1.2
1.15
0
10000
20000
30000
40000
50000
60000

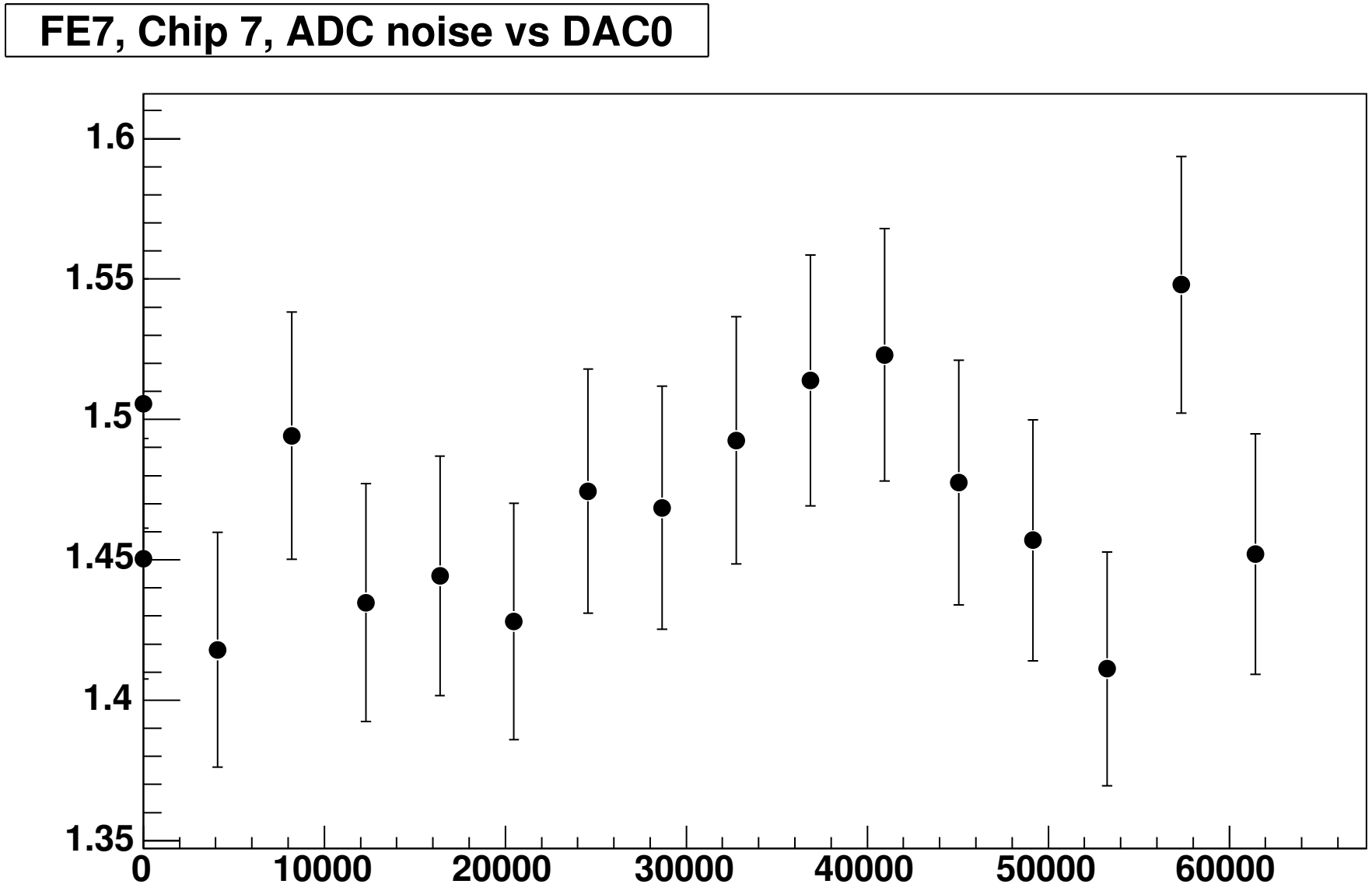

FE7, Chip 6, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

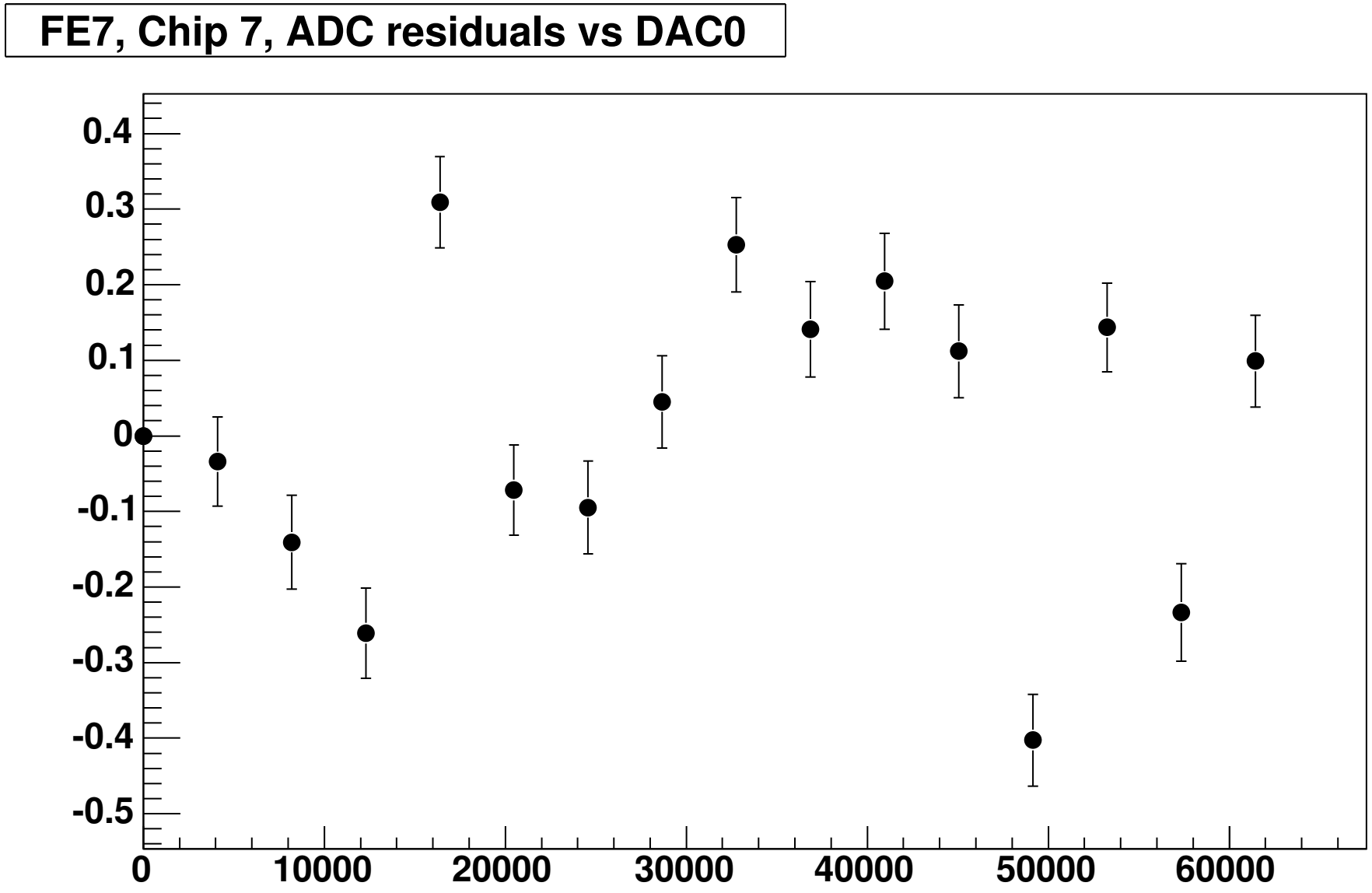

FE7, Chip 6, ADC mean vs DAC1
χ² / ndf 2133 / 11
p0 3.559 ± 0.04074
p1 0.4522 ± 1.297e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

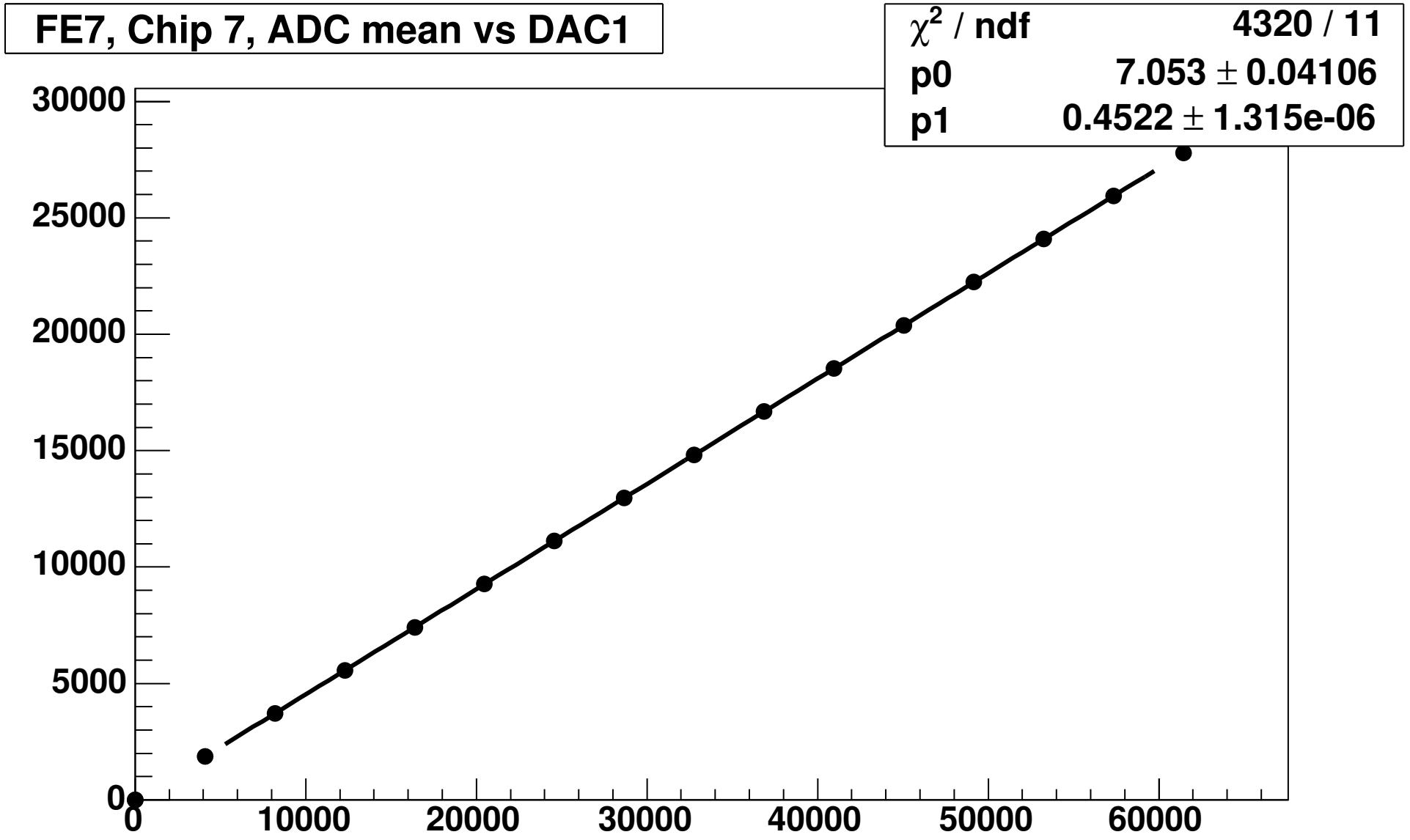

FE7, Chip 6, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
0
10000
20000
30000
40000
50000
60000


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

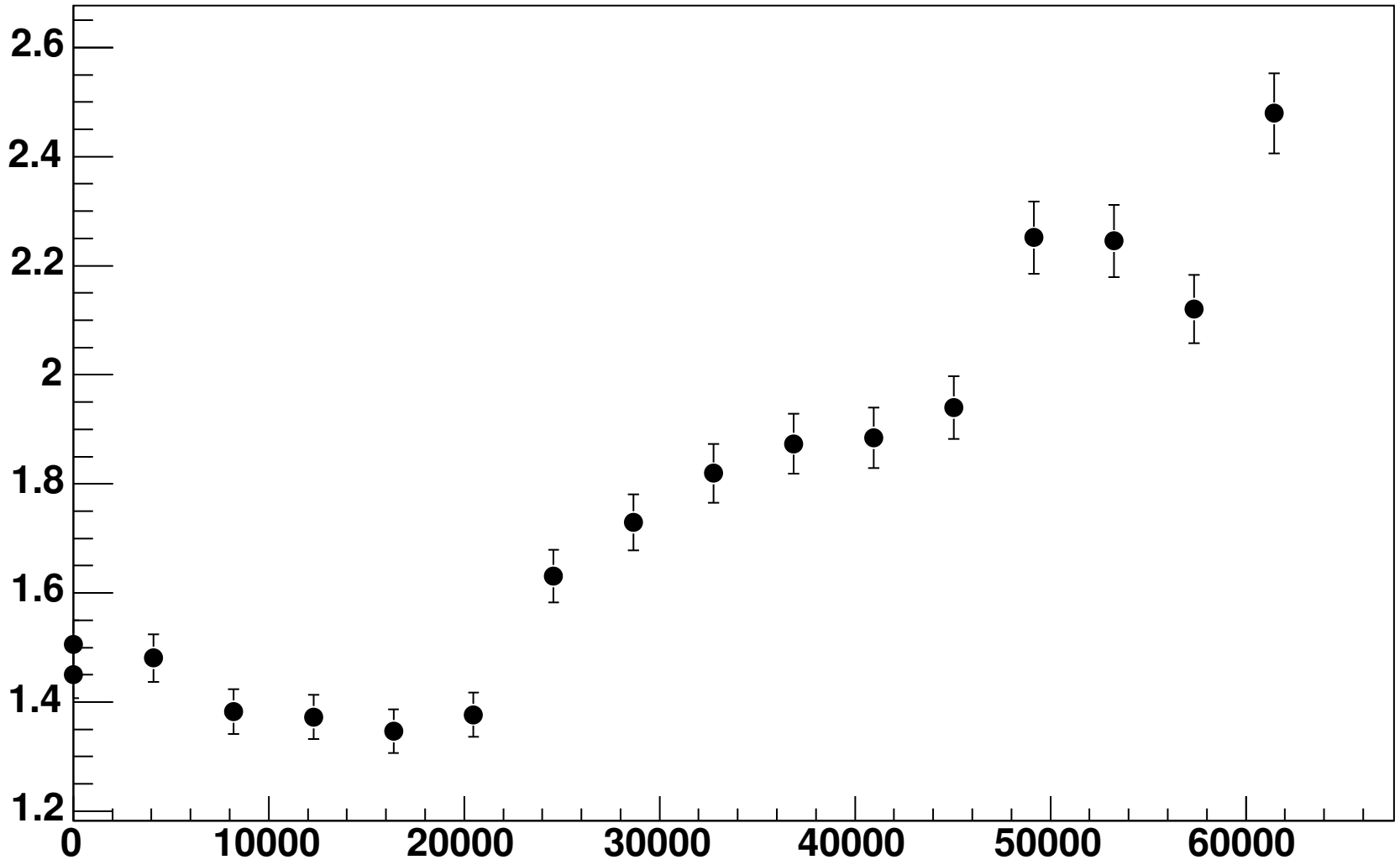

FE7, Chip 7, ADC mean vs DAC0
χ² / ndf 153.3 / 11
p0 4.214 ± 0.03993
p1 -3.23e-06 ± 1.11e-06
4.6
4.4
4.2
4
3.8
3.6
0
10000
20000
30000
40000
50000
60000

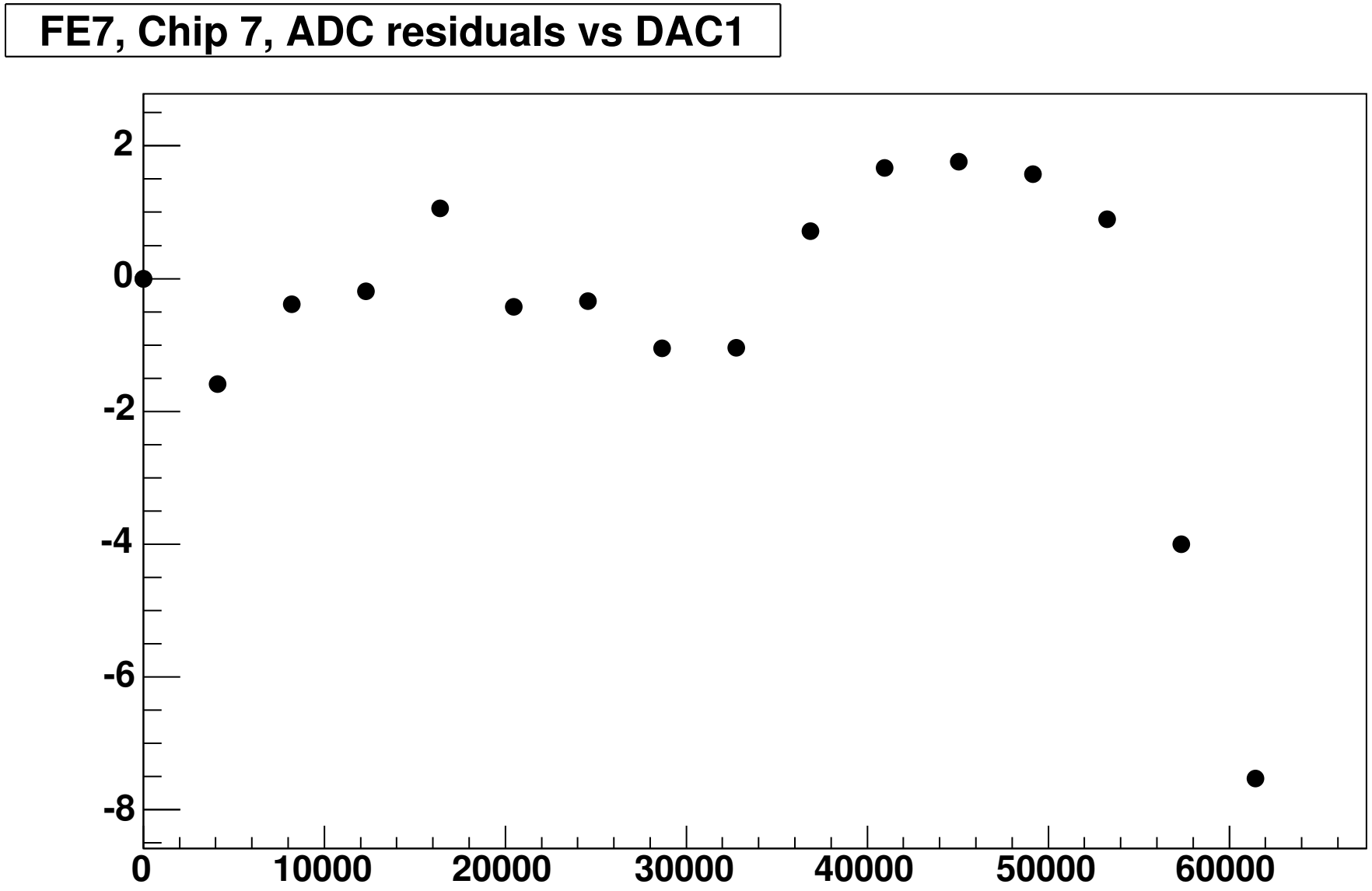

FE7, Chip 7, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
1.35
0
10000
20000
30000
40000
50000
60000

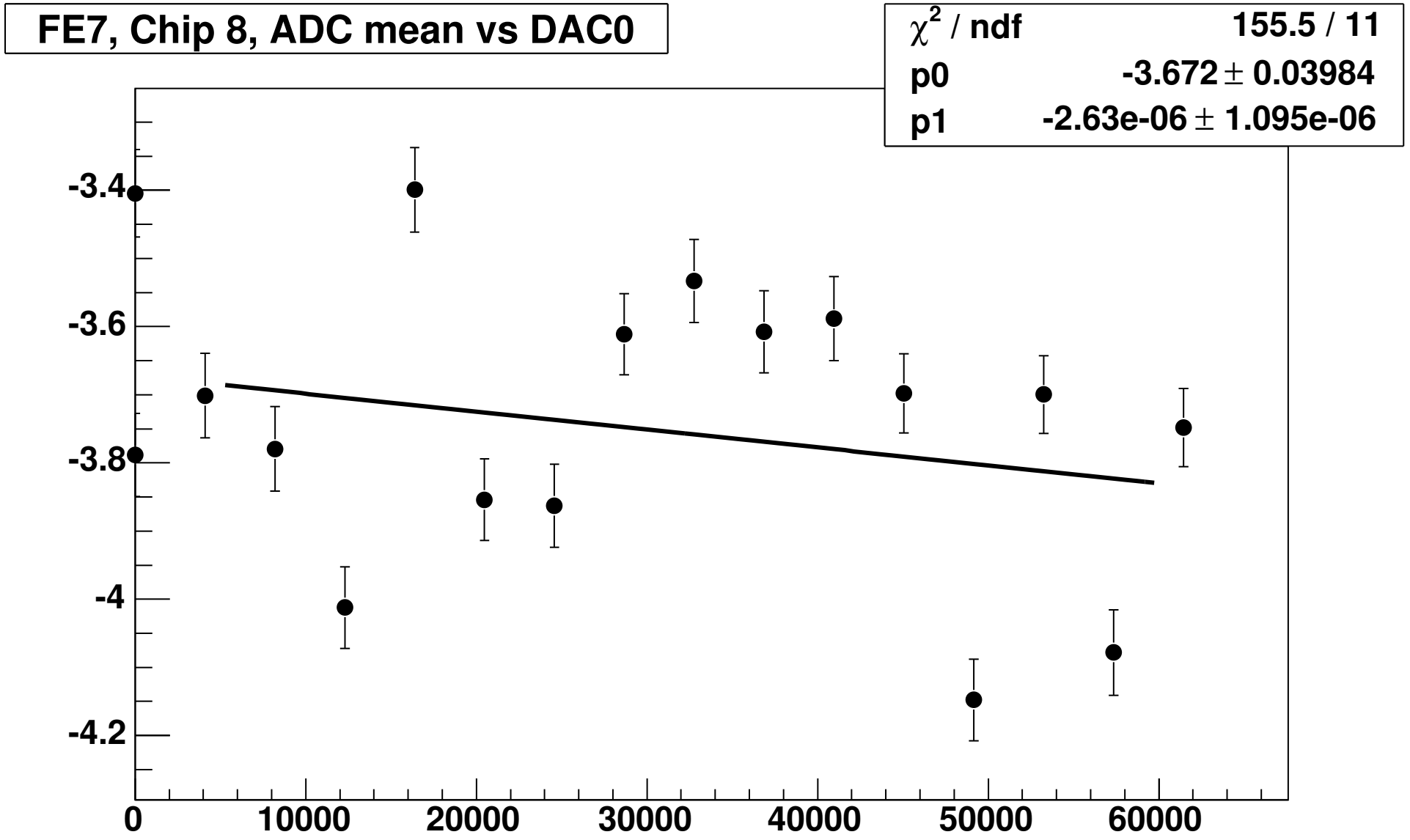

FE7, Chip 7, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
0
10000
20000
30000
40000
50000
60000

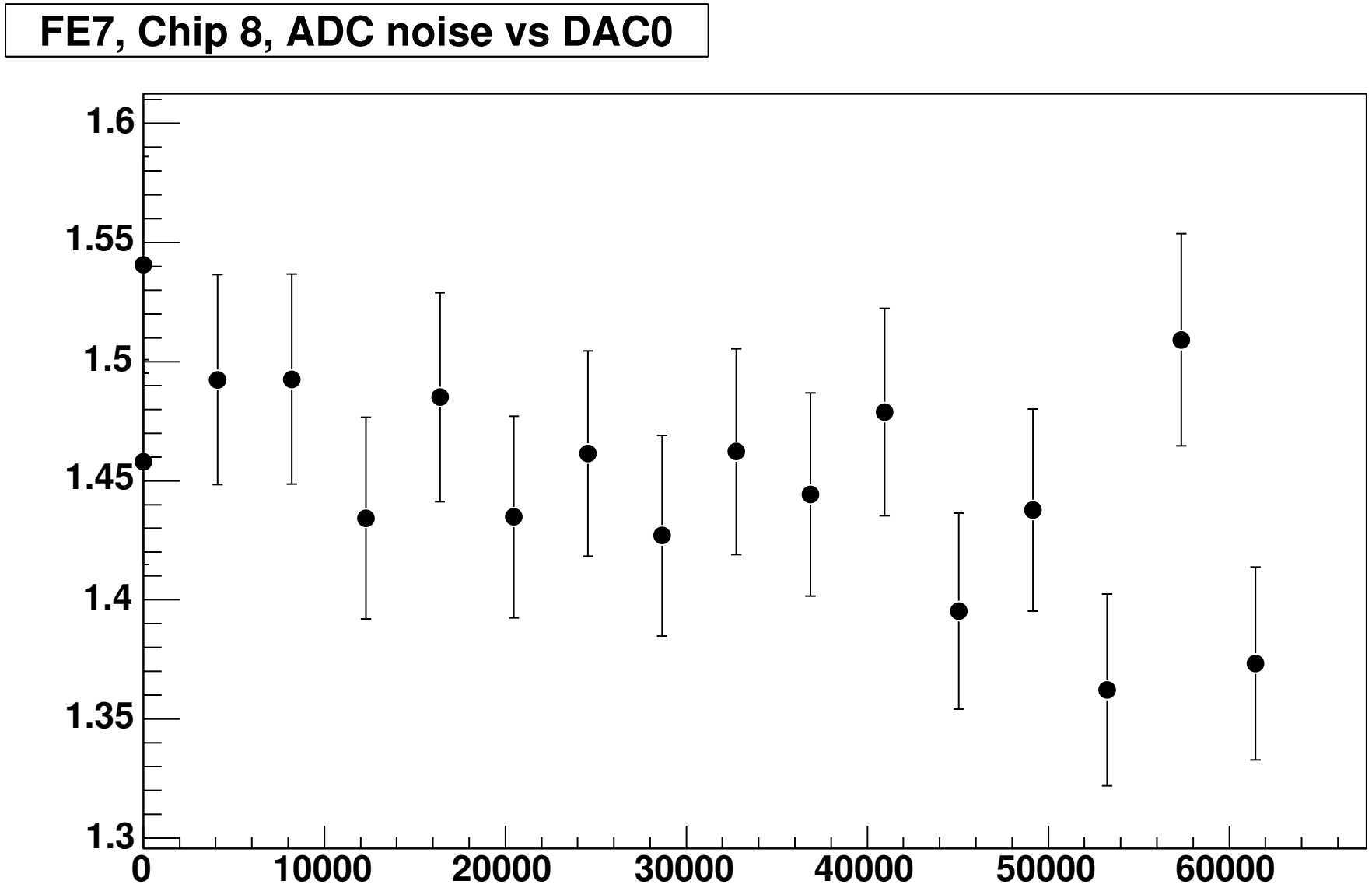

FE7, Chip 7, ADC mean vs DAC1
χ² / ndf 4320 / 11
p0 7.053 ± 0.04106
p1 0.4522 ± 1.315e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

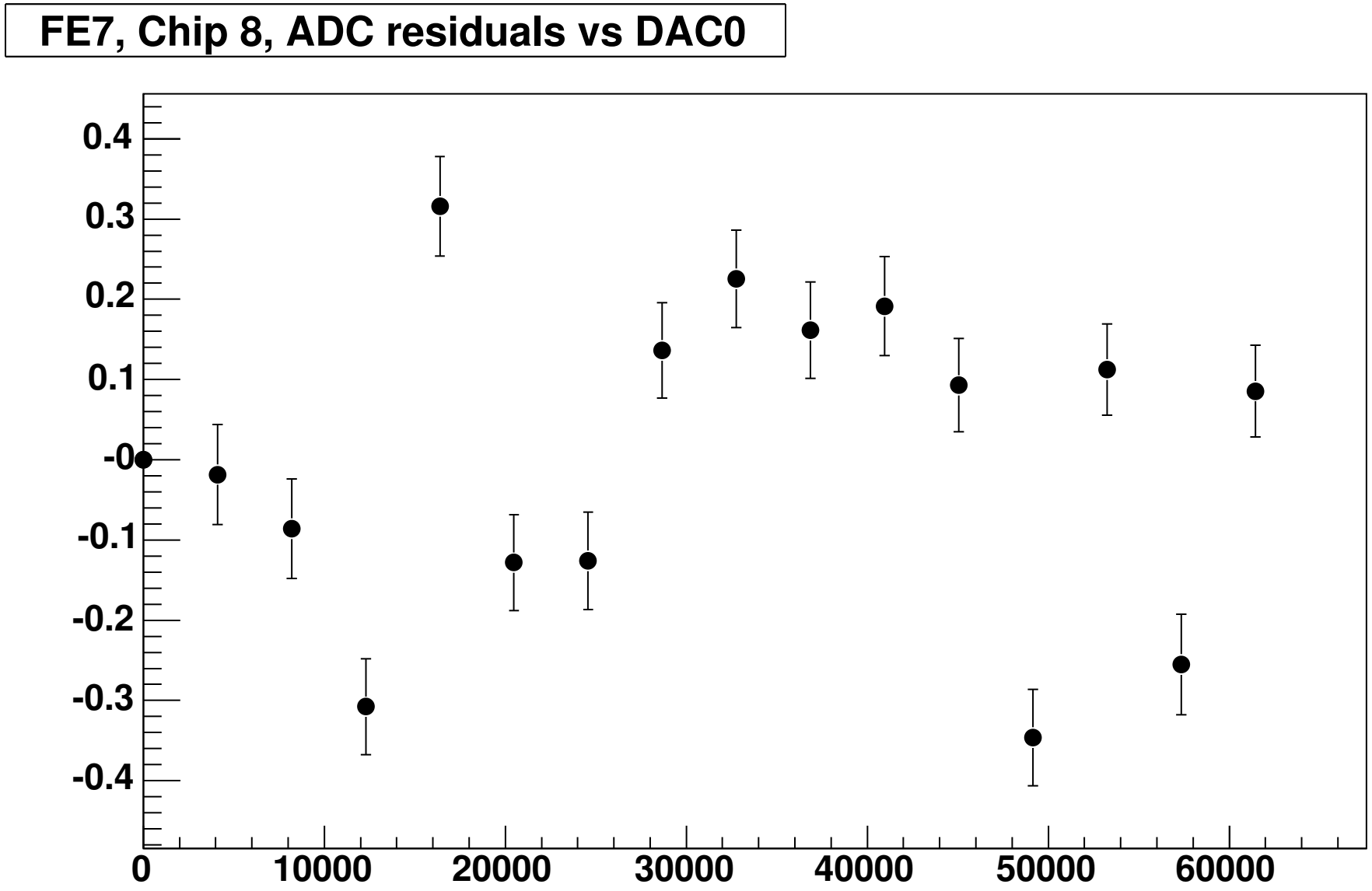
FE7, Chip 7, ADC noise vs DAC1

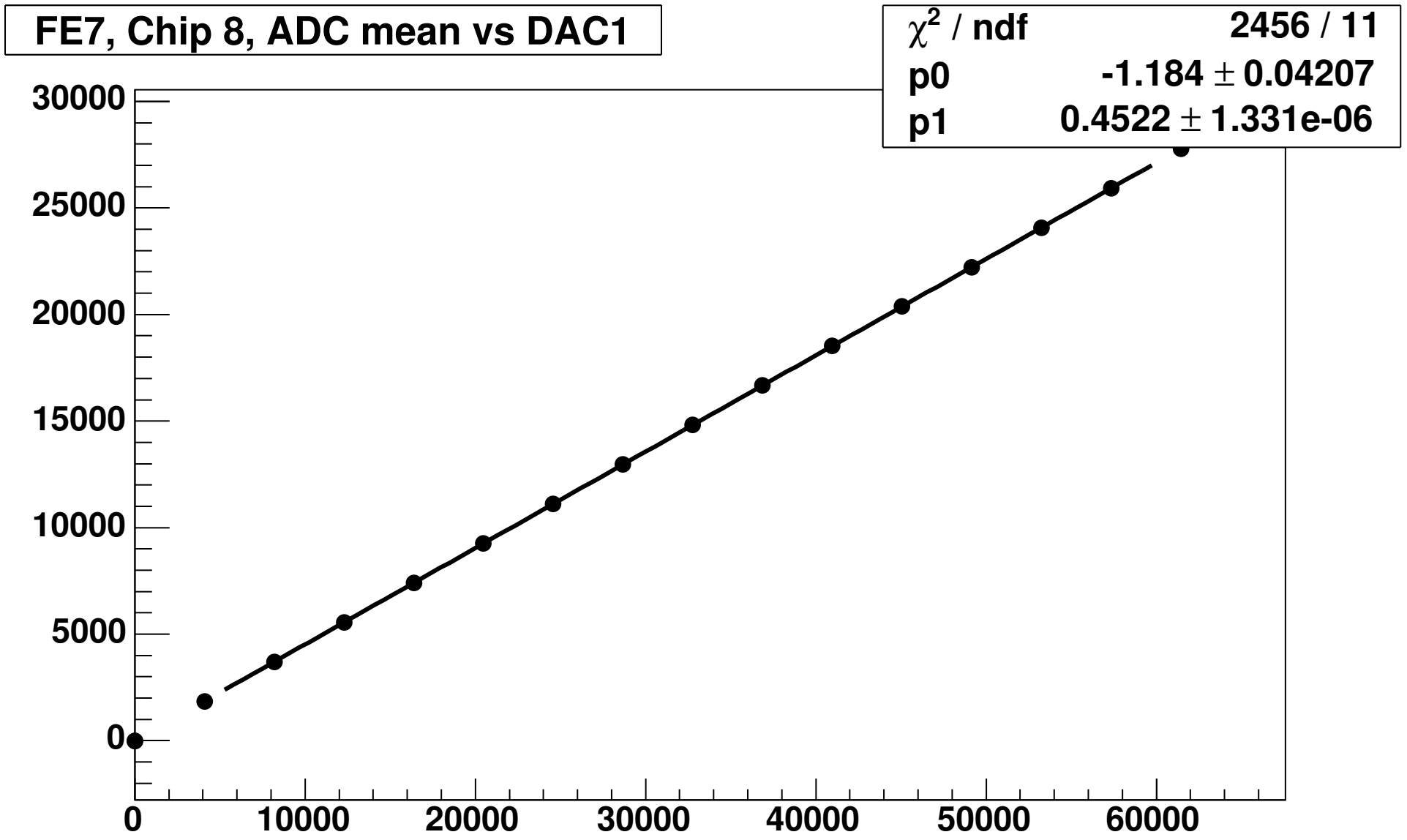


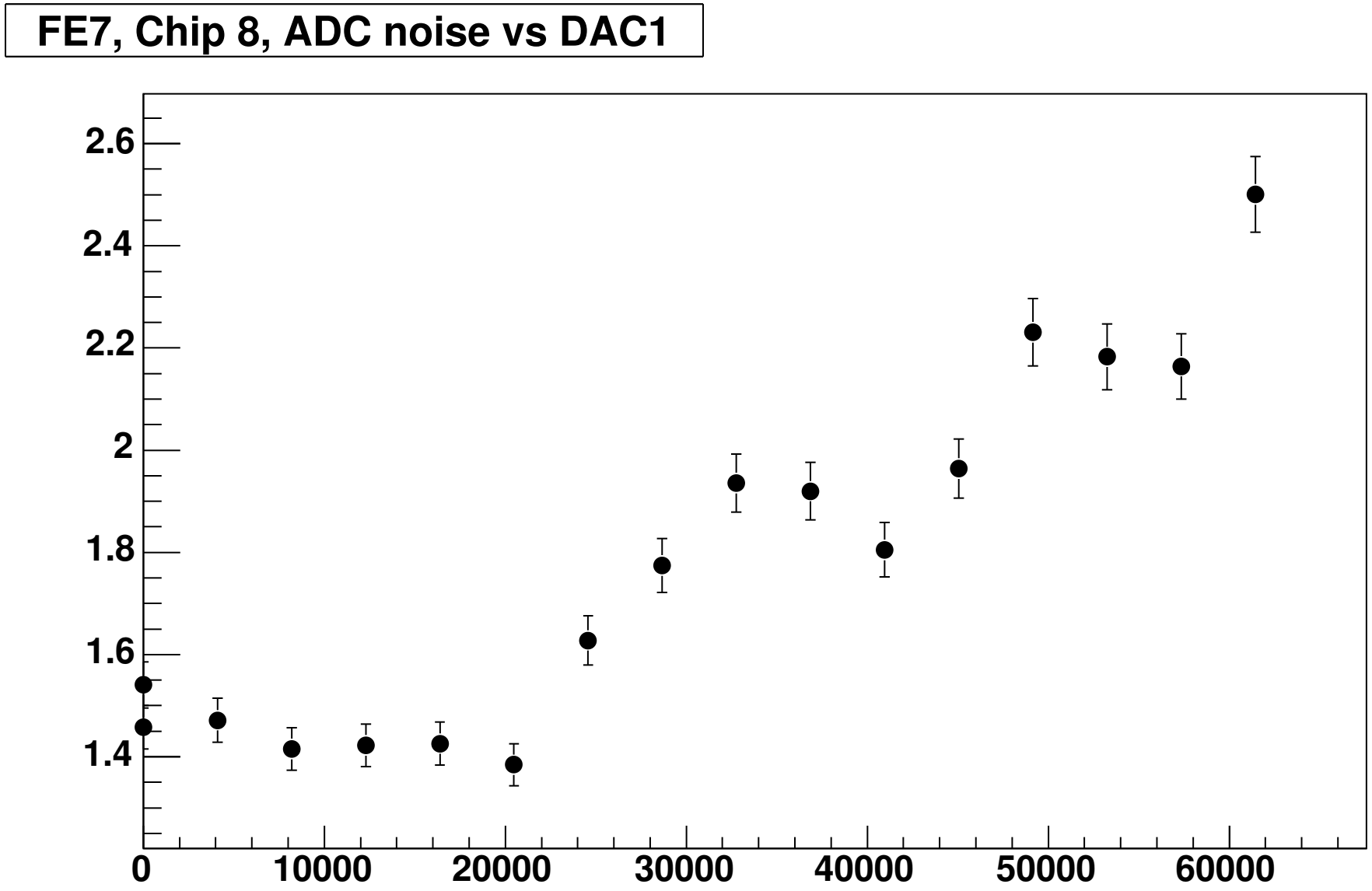

FE7, Chip 7, ADC residuals vs DAC1
2
0
-2
-4
-6
-8
0
10000
20000
30000
40000
50000
60000

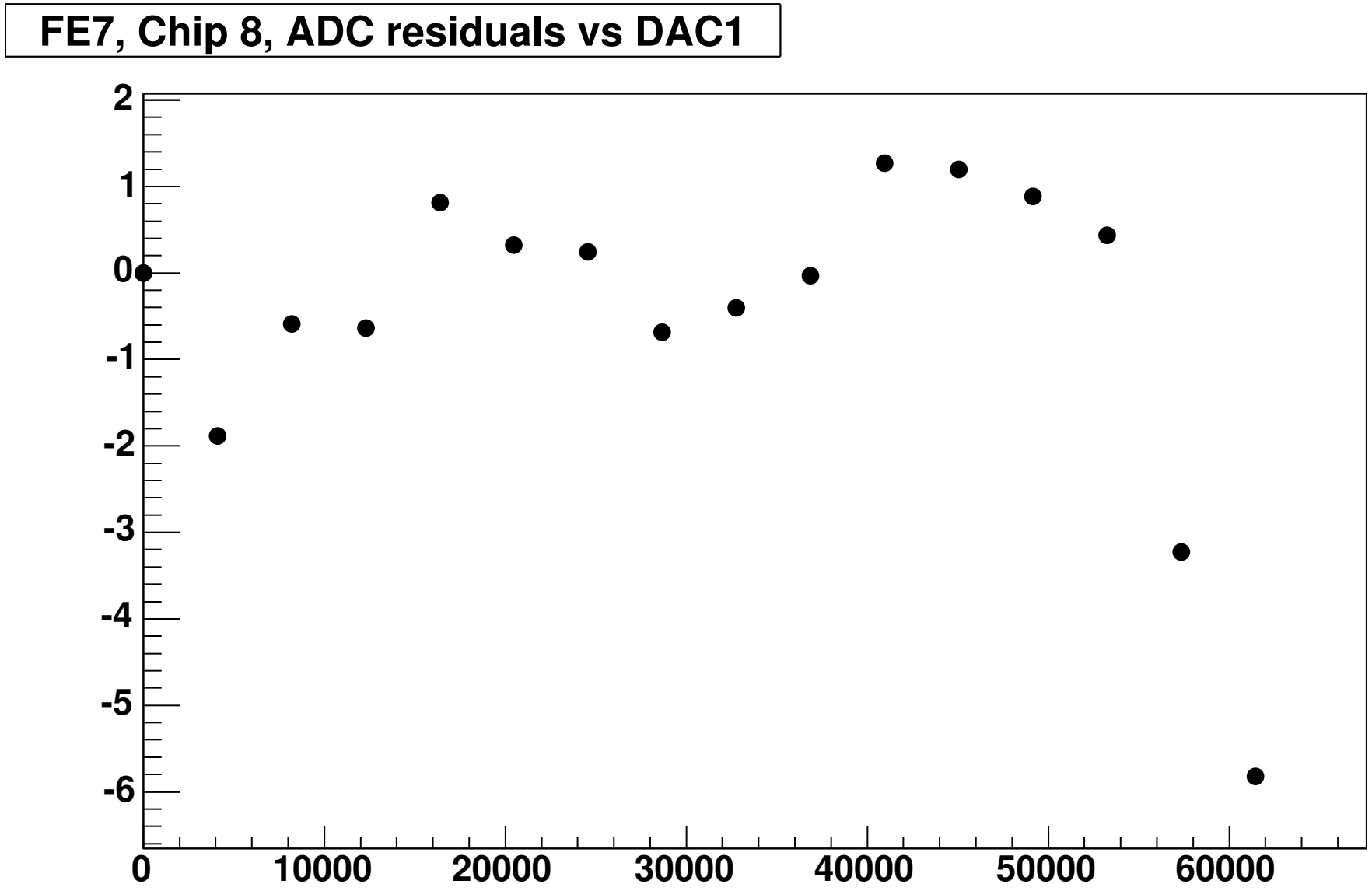

FE7, Chip 8, ADC mean vs DAC0
χ² / ndf 155.5 / 11
p0 -3.672 ± 0.03984
p1 -2.63e-06 ± 1.095e-06
-3.4
-3.6
-3.8
-4
-4.2
0
10000
20000
30000
40000
50000
60000

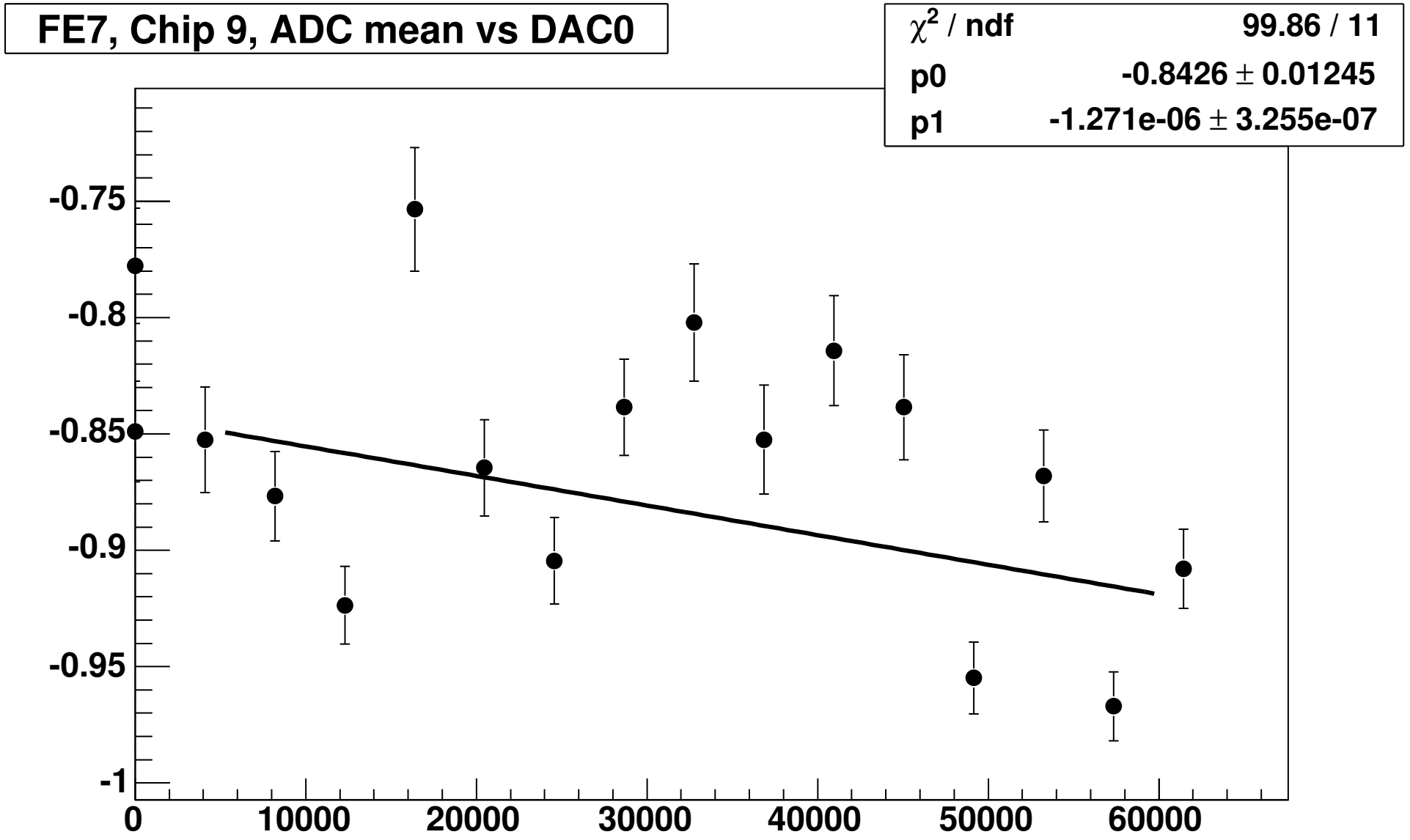

FE7, Chip 8, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
1.35
1.3
0
10000
20000
30000
40000
50000
60000

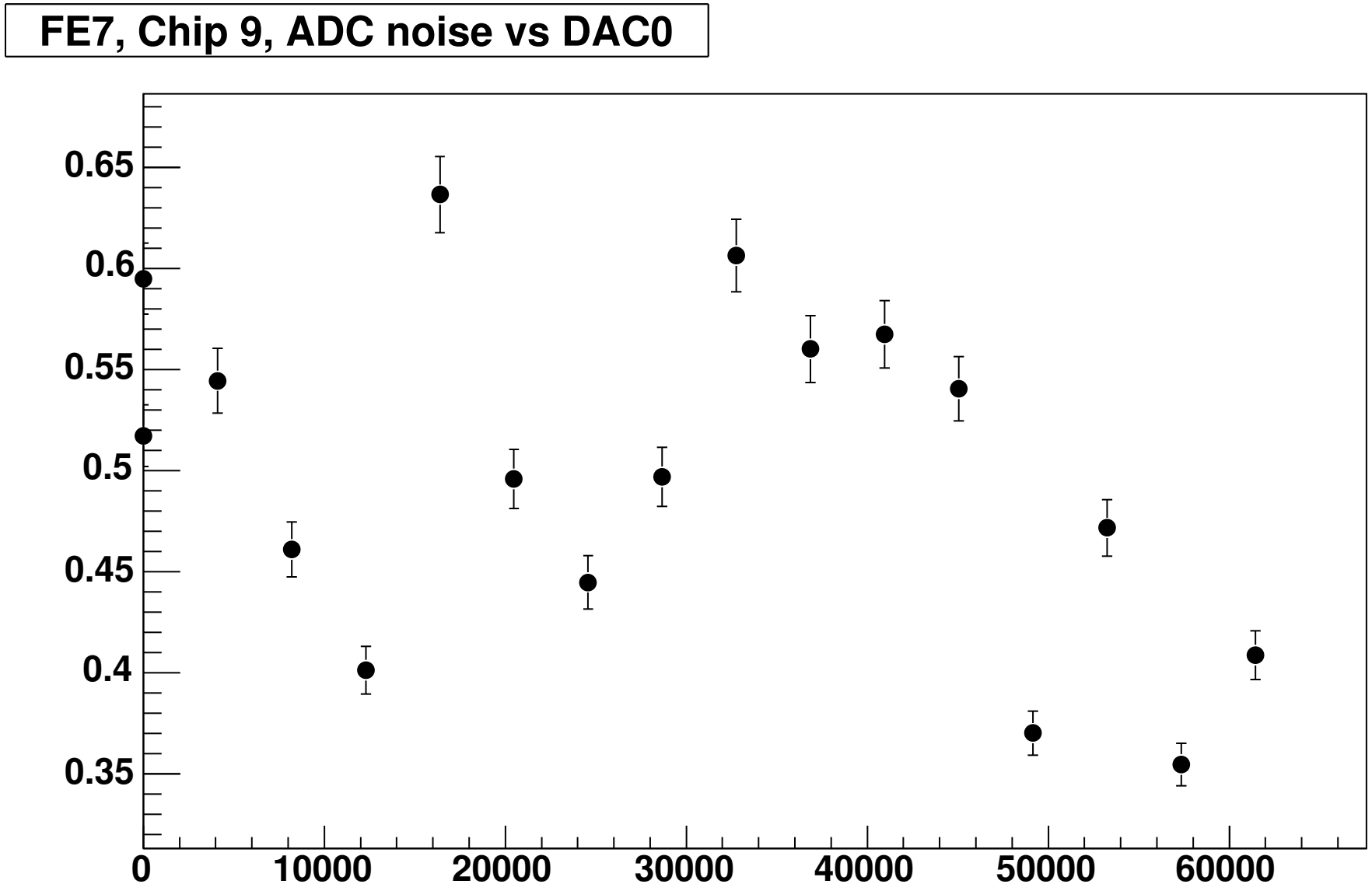

FE7, Chip 8, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000

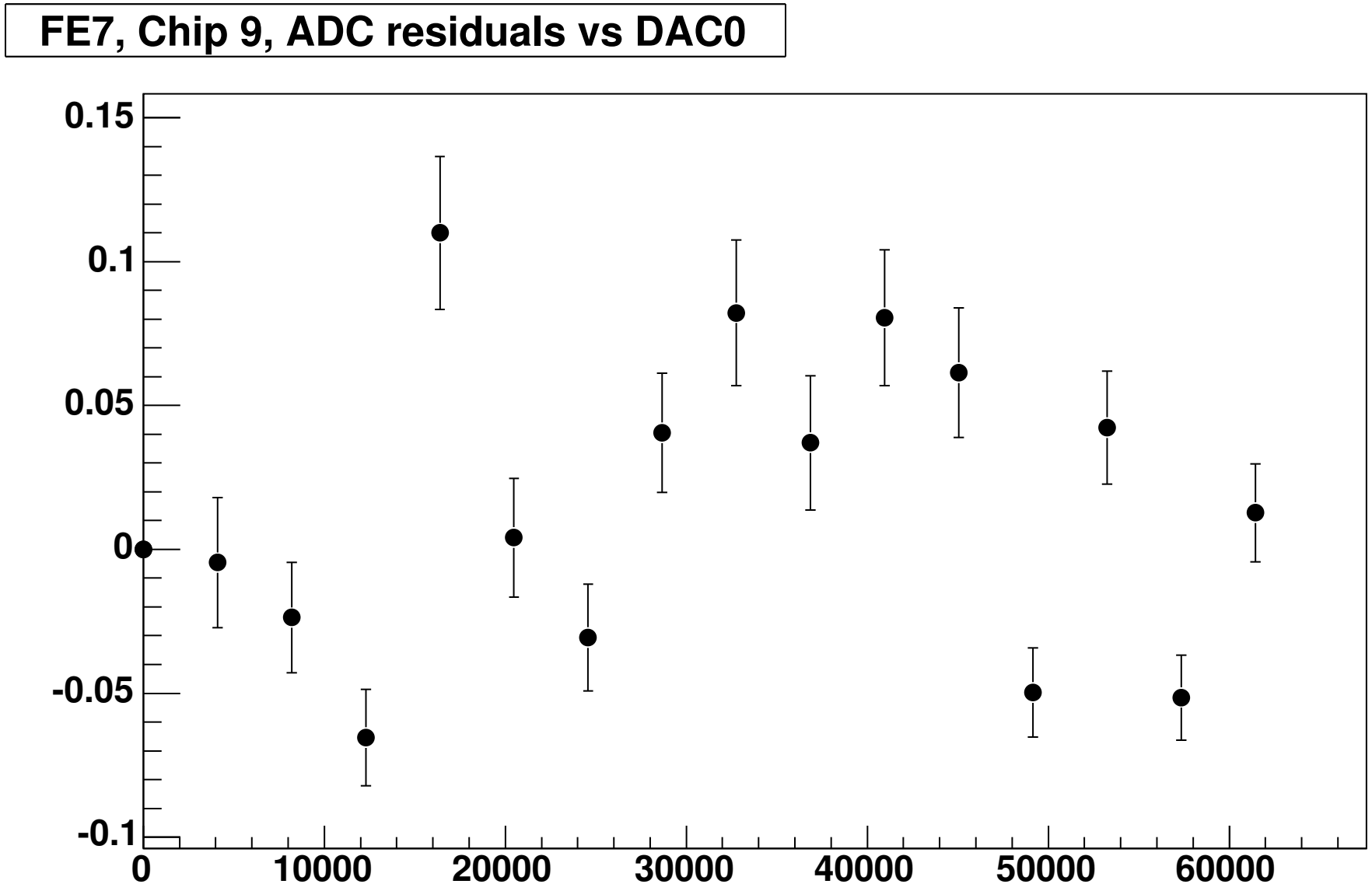

FE7, Chip 8, ADC mean vs DAC1
χ² / ndf 2456 / 11
p0 -1.184 ± 0.04207
p1 0.4522 ± 1.331e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

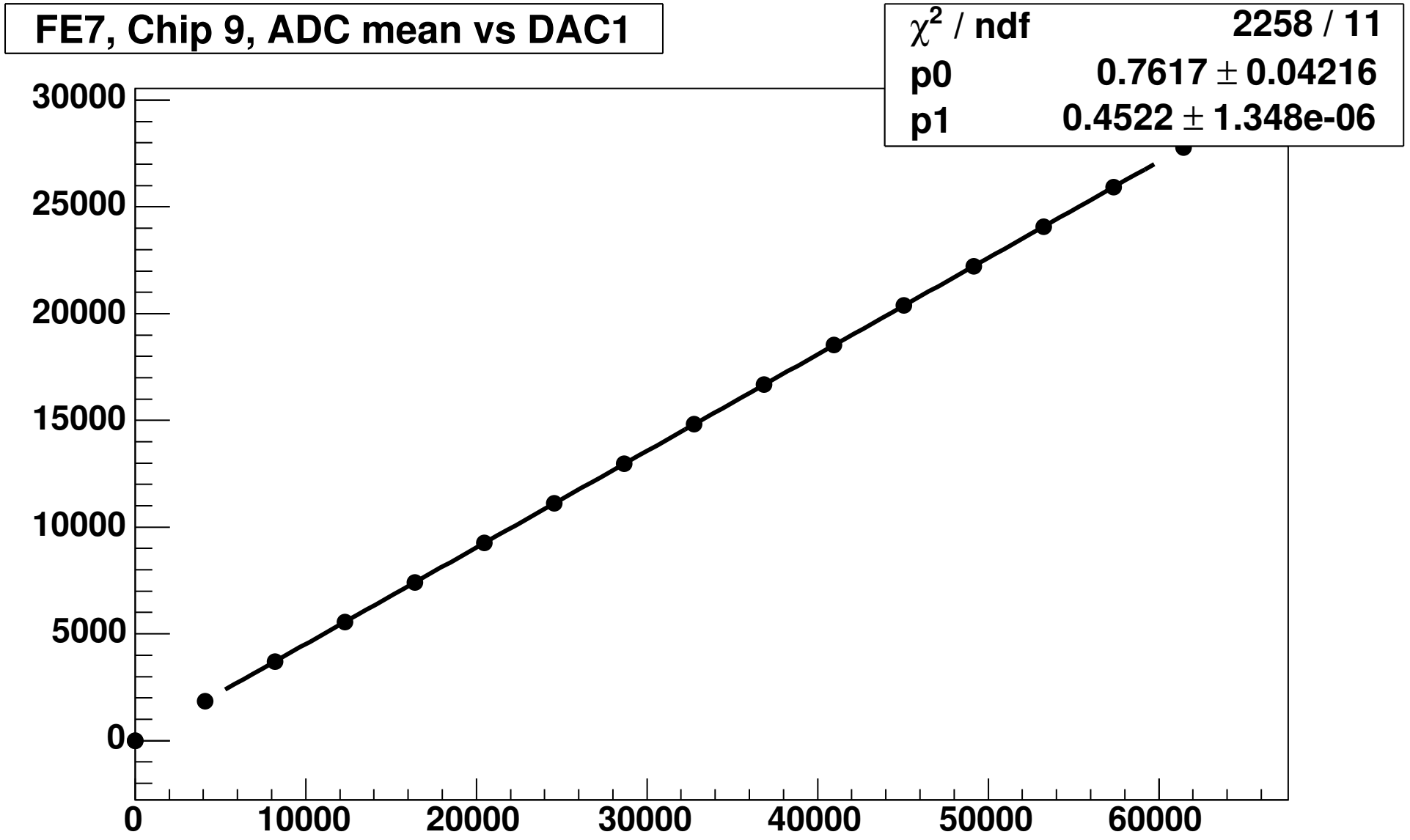

FE7, Chip 8, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

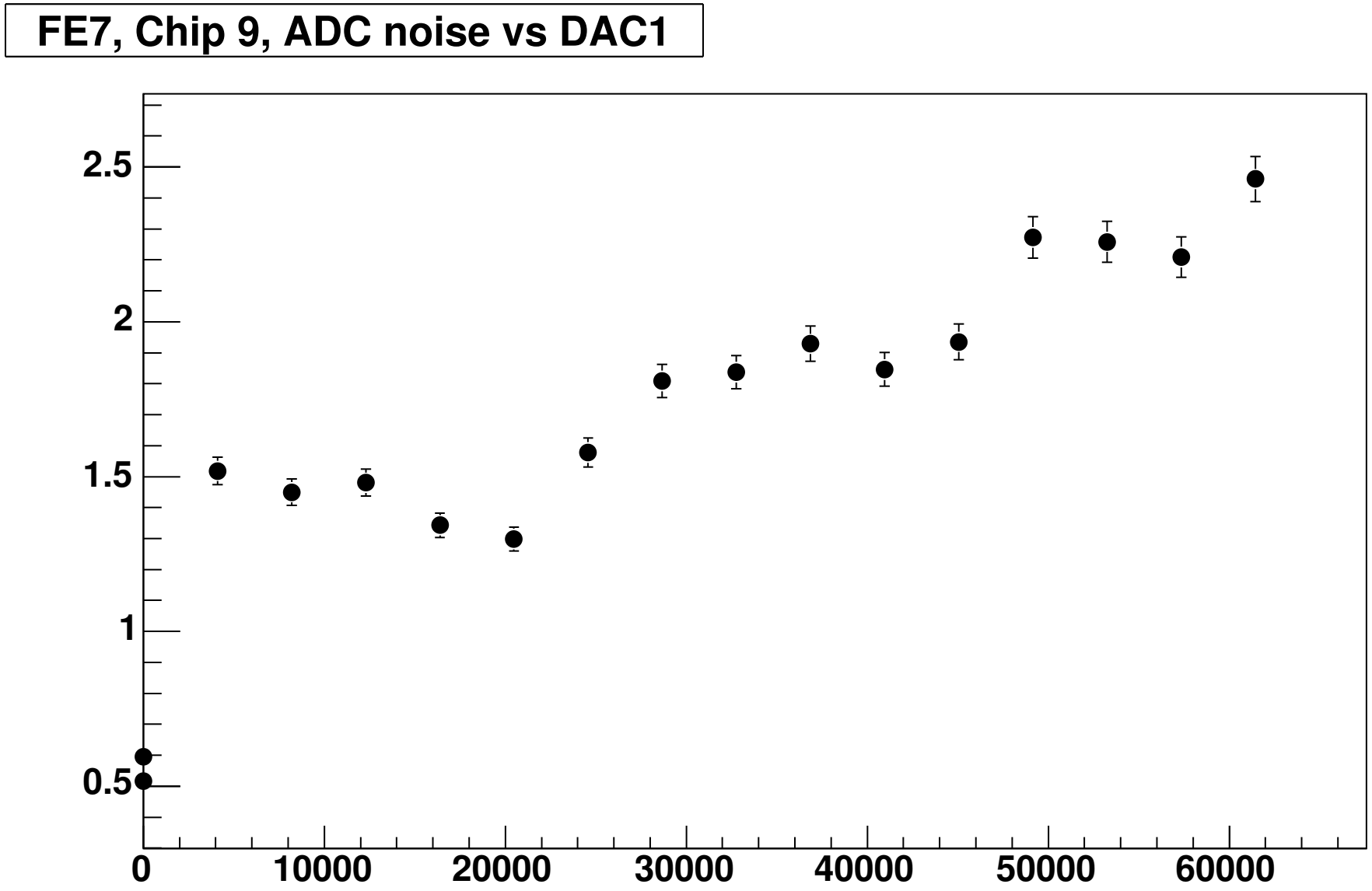

FE7, Chip 8, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

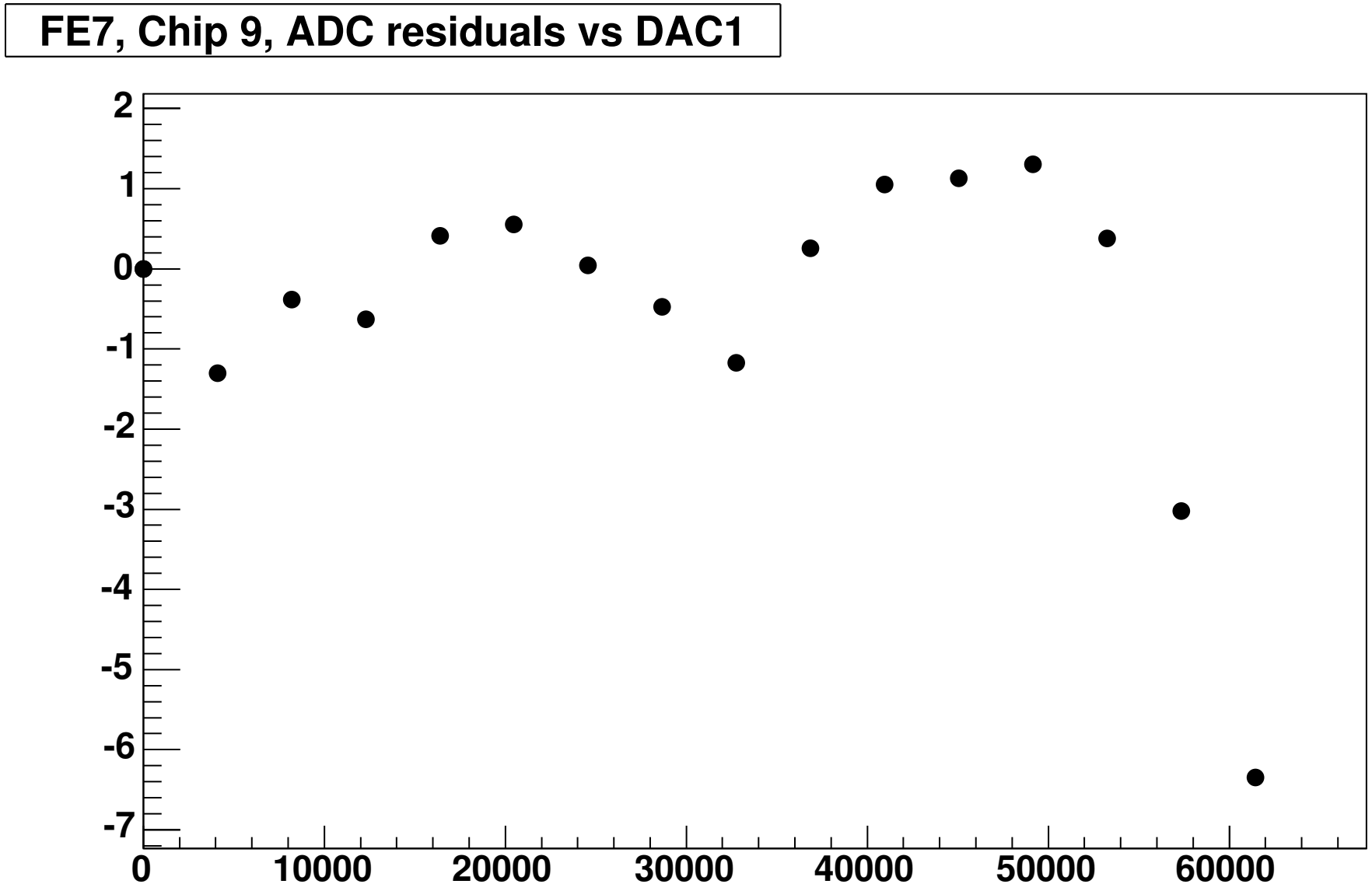

FE7, Chip 9, ADC mean vs DAC0
χ² / ndf 99.86 / 11
p0 -0.8426 ± 0.01245
p1 -1.271e-06 ± 3.255e-07
-0.75
-0.8
-0.85
-0.9
-0.95
-1
0
10000
20000
30000
40000
50000
60000

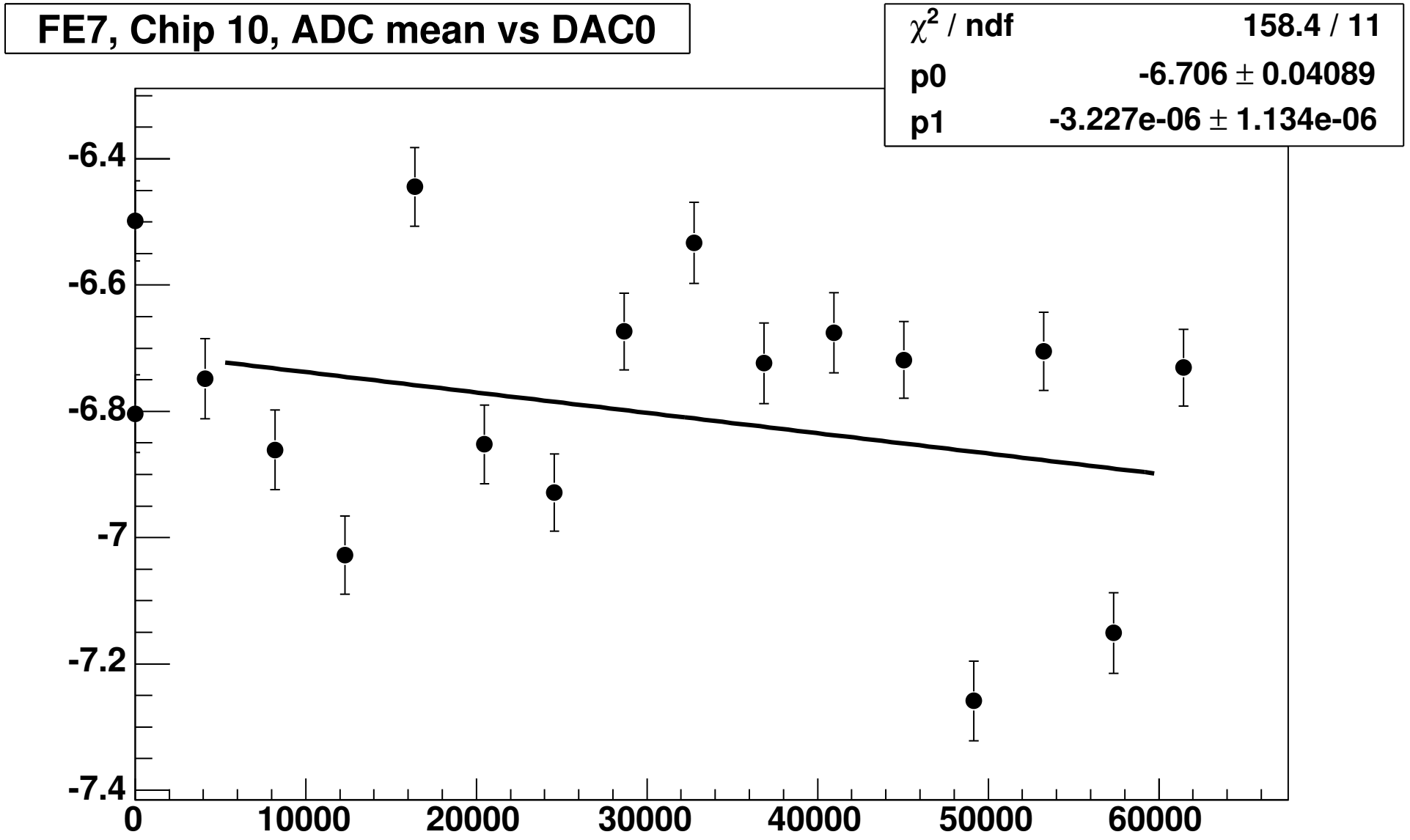

FE7, Chip 9, ADC noise vs DAC0
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0
10000
20000
30000
40000
50000
60000

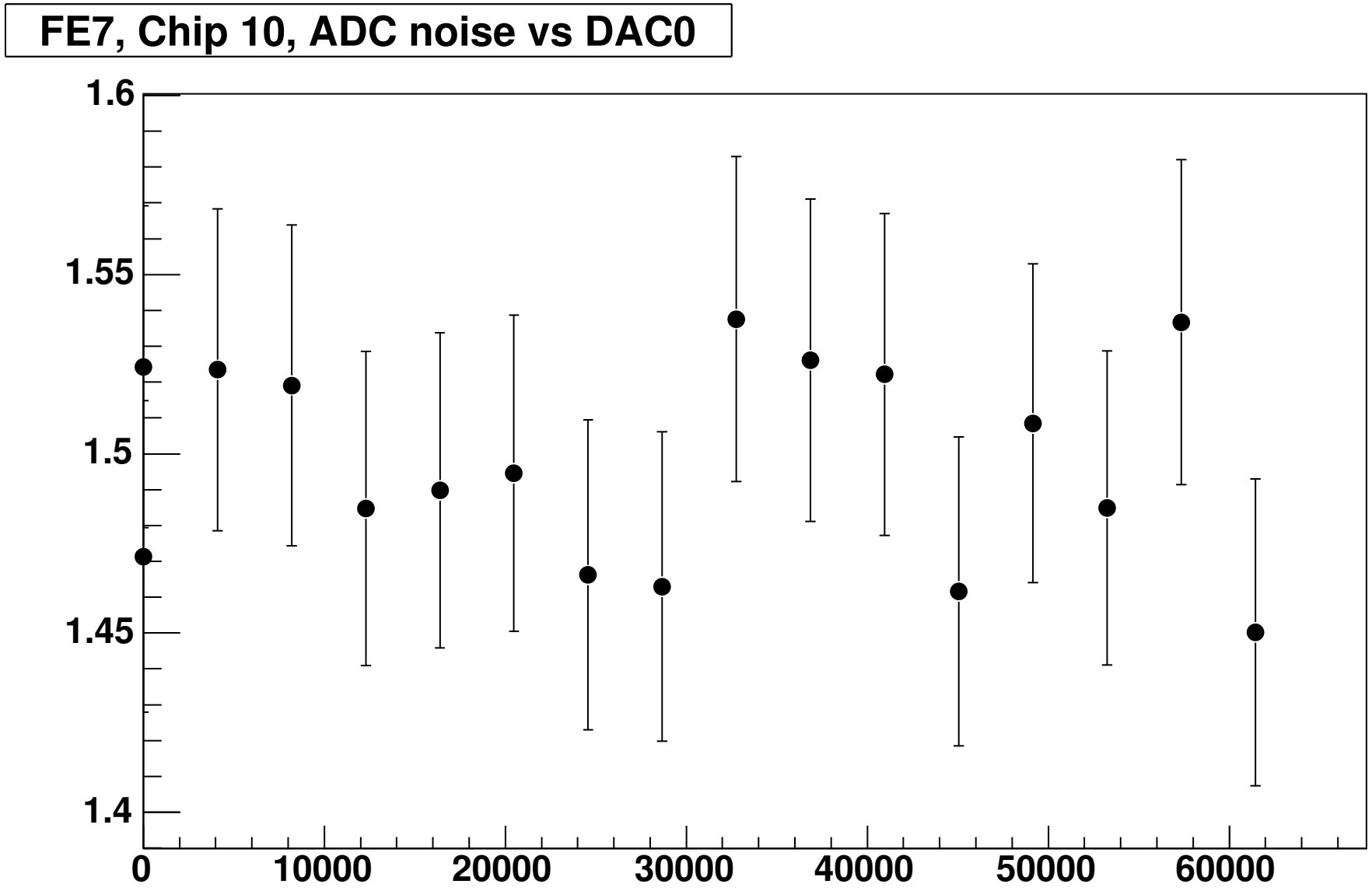

FE7, Chip 9, ADC residuals vs DAC0
0.15
0.1
0.05
0
-0.05
-0.1
0
10000
20000
30000
40000
50000
60000

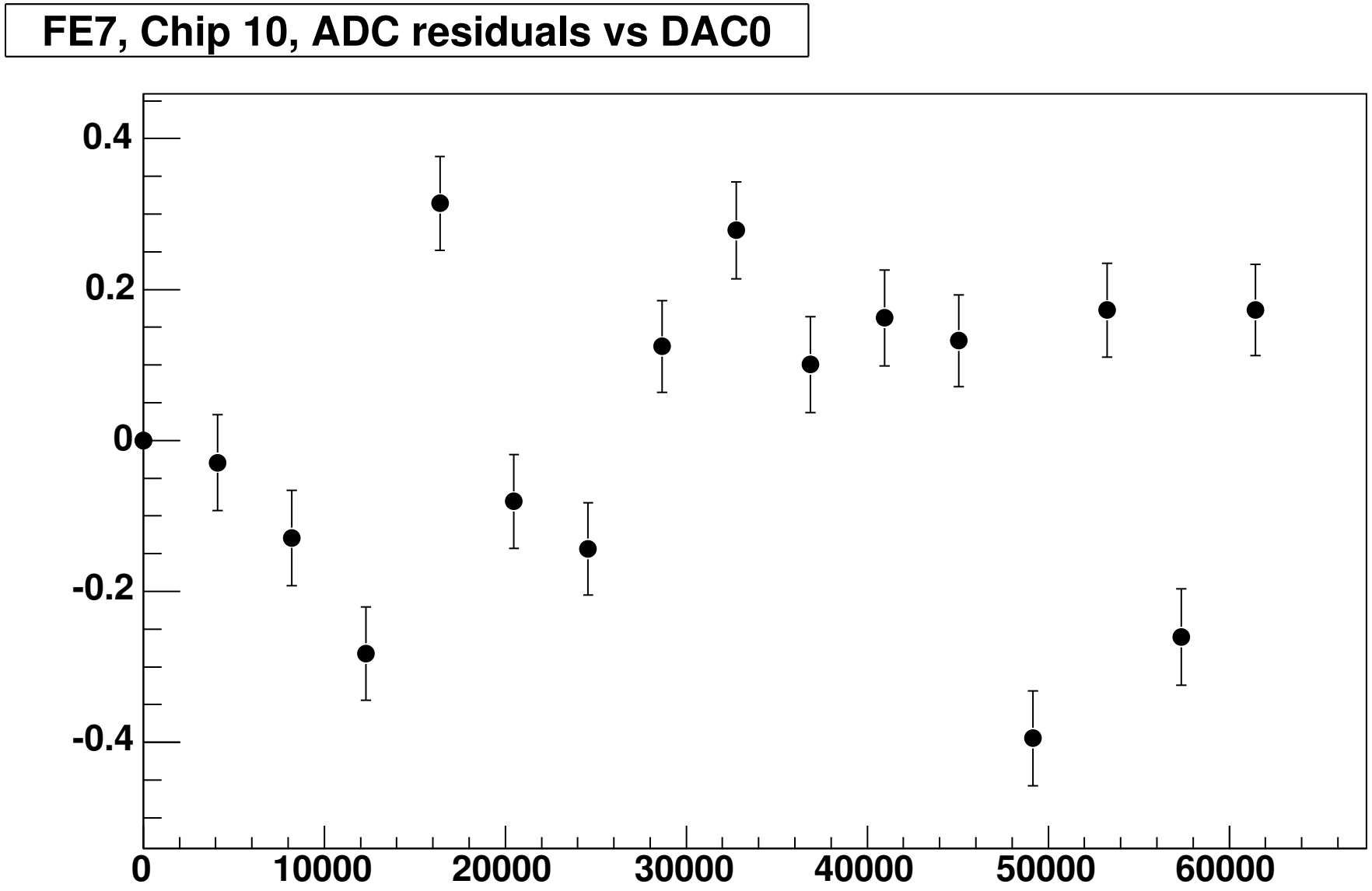

FE7, Chip 9, ADC mean vs DAC1
χ² / ndf 2258 / 11
p0 0.7617 ± 0.04216
p1 0.4522 ± 1.348e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

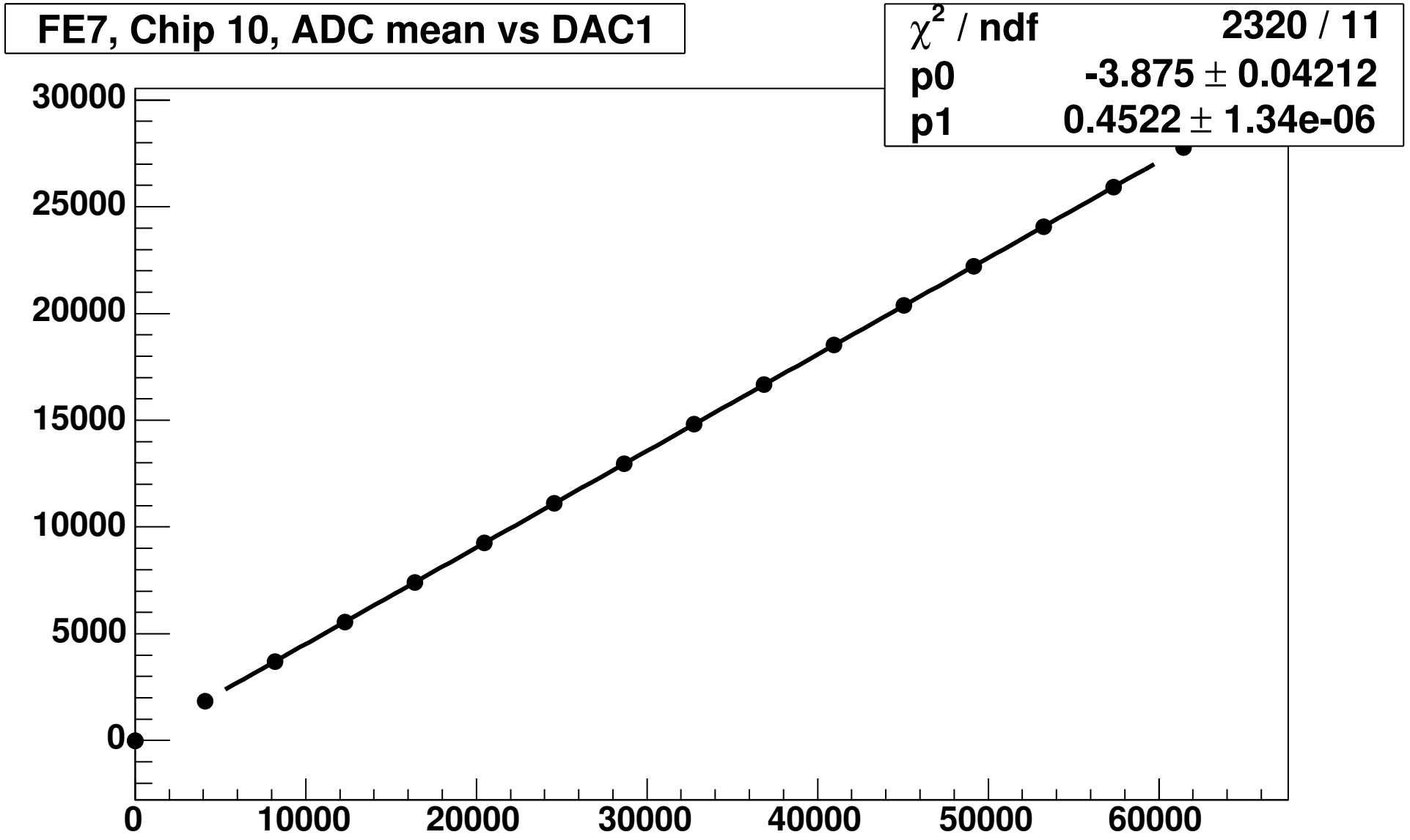

FE7, Chip 9, ADC noise vs DAC1
2.5
2
1.5
1
0.5
0
10000
20000
30000
40000
50000
60000

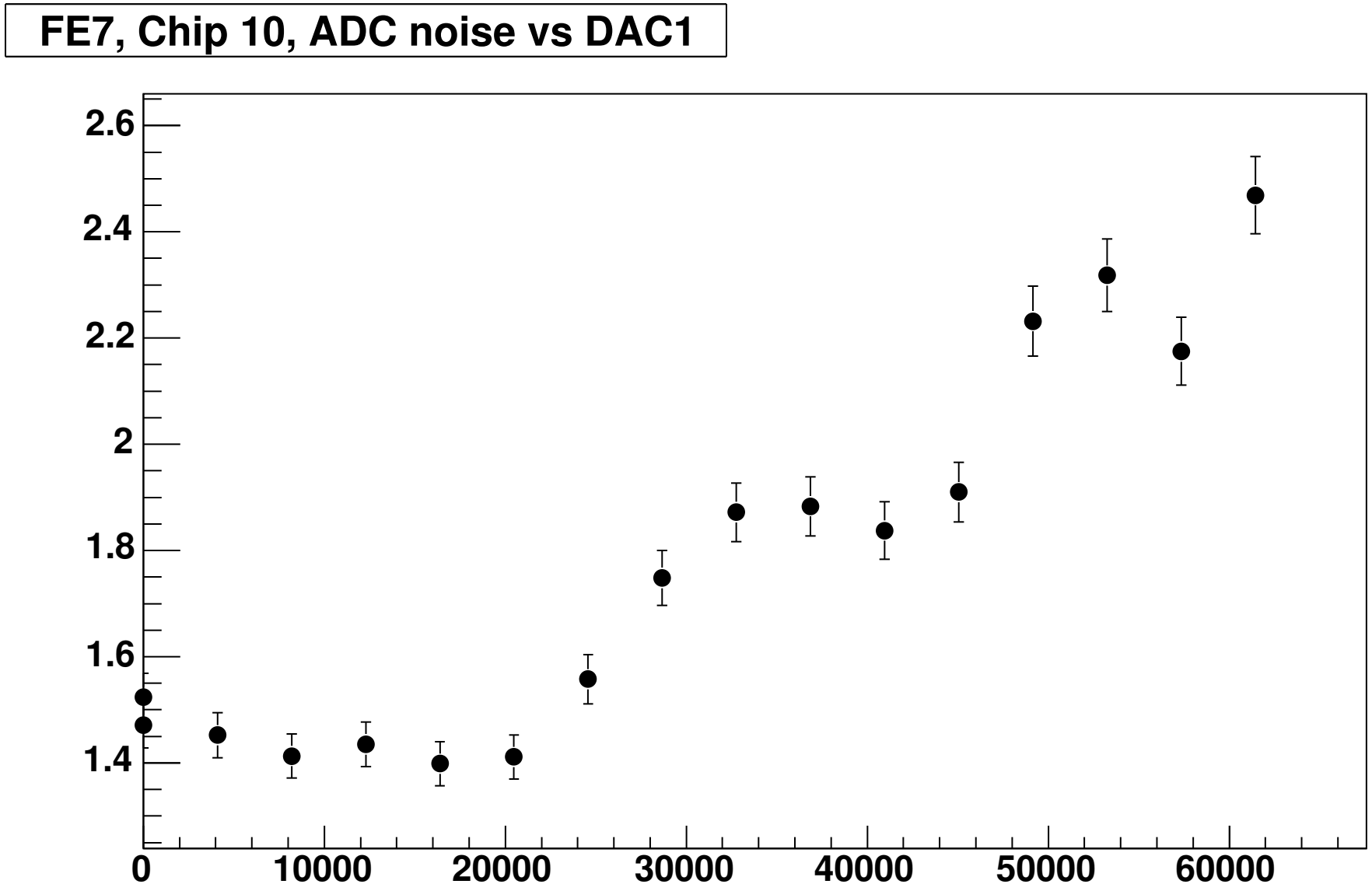

FE7, Chip 9, ADC residuals vs DAC1
2
1
0
-1
-2
-3
-4
-5
-6
-7
0
10000
20000
30000
40000
50000
60000

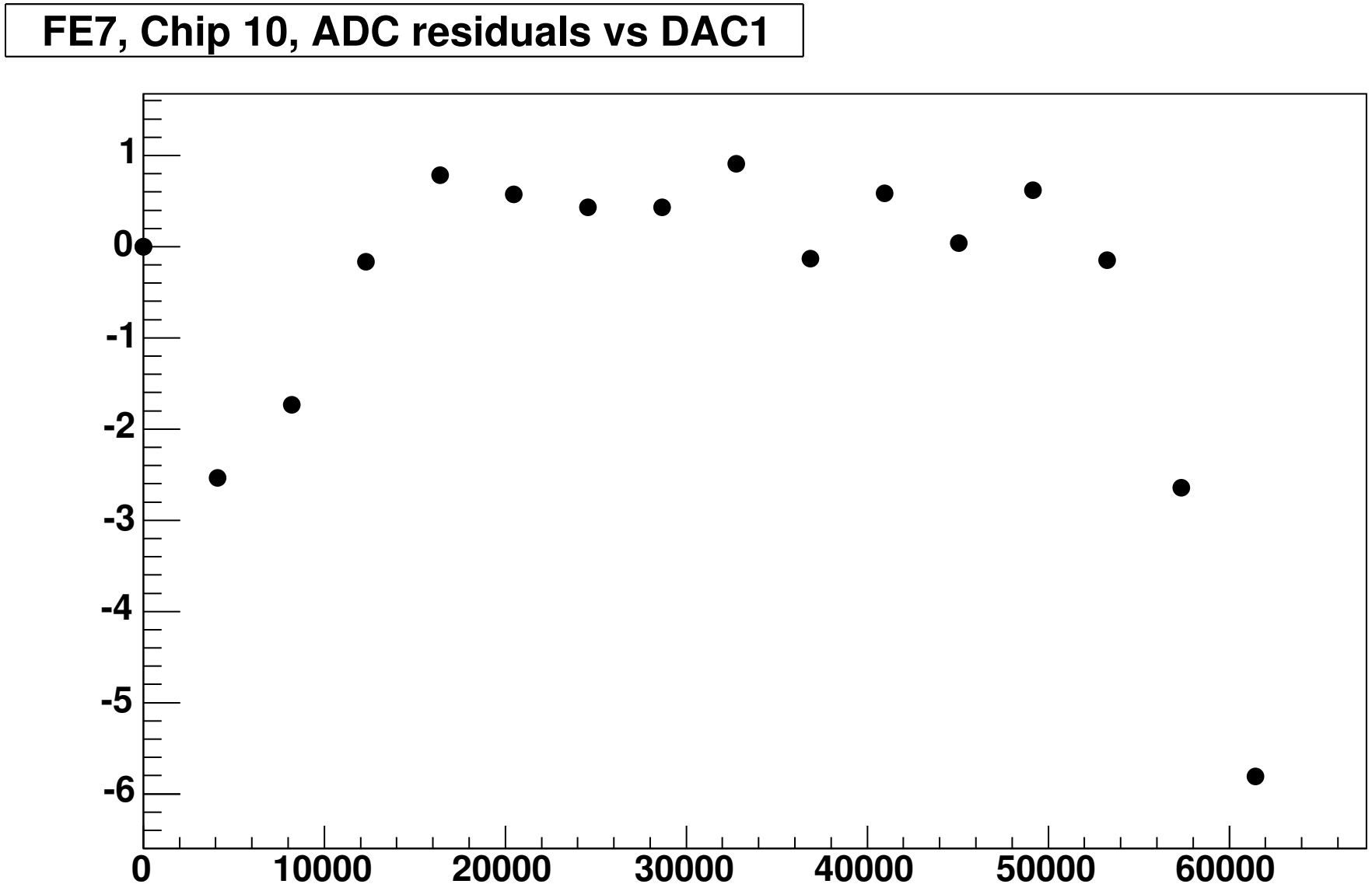

FE7, Chip 10, ADC mean vs DAC0
χ² / ndf 158.4 / 11
p0 -6.706 ± 0.04089
p1 -3.227e-06 ± 1.134e-06
-6.4
-6.6
-6.8
-7
-7.2
-7.4
0
10000
20000
30000
40000
50000
60000

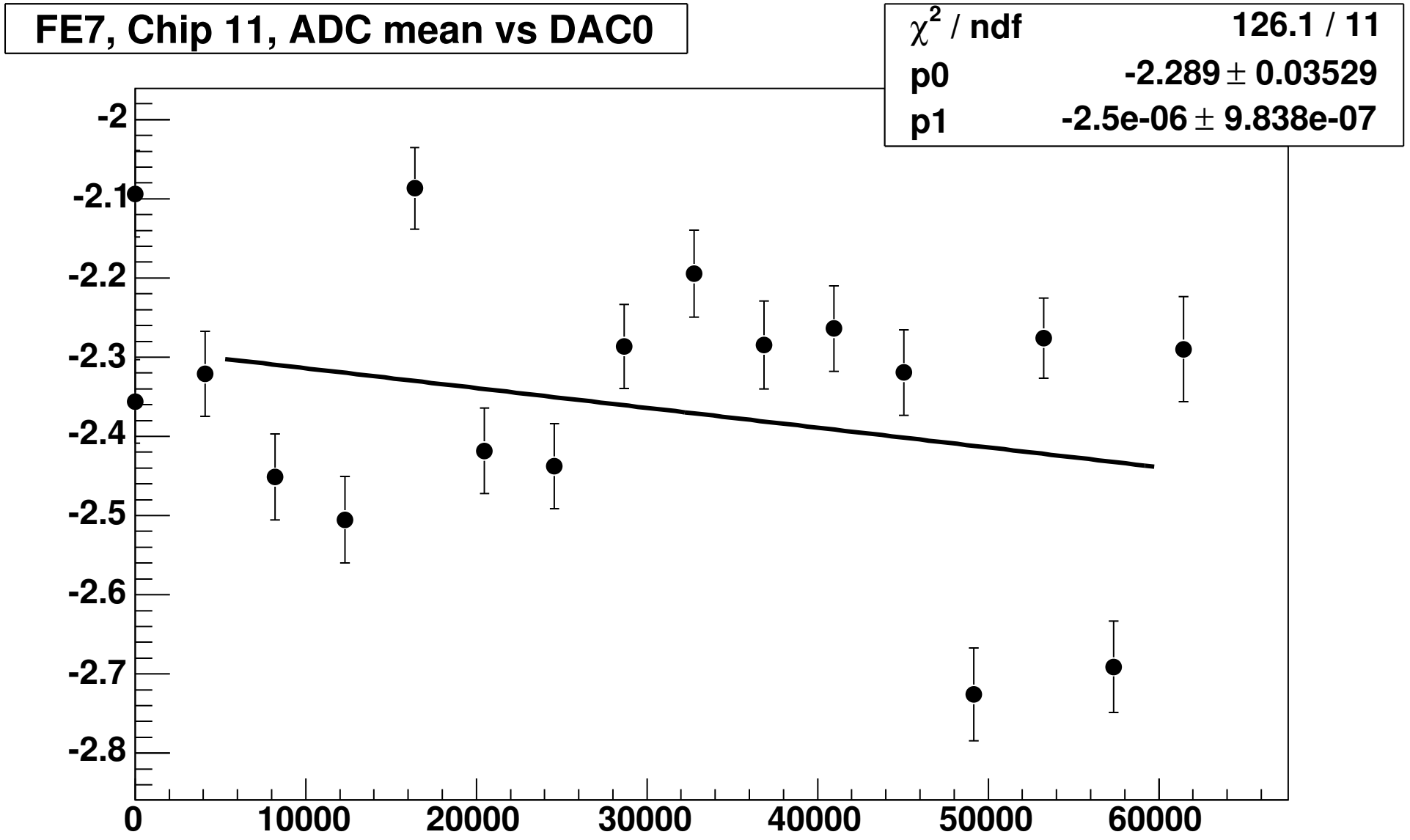

FE7, Chip 10, ADC noise vs DAC0
1.6
1.55
1.5
1.45
1.4
0
10000
20000
30000
40000
50000
60000

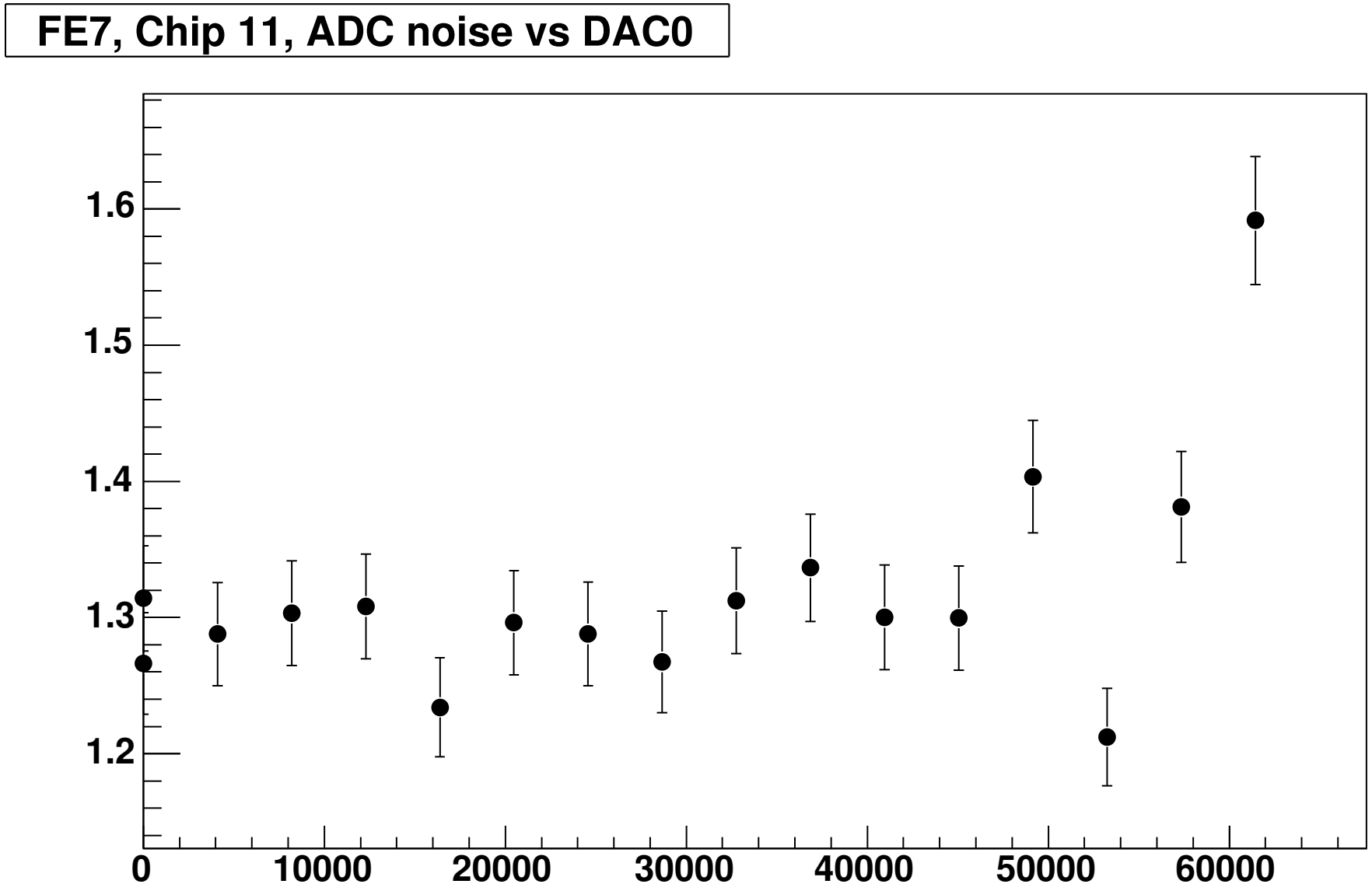

FE7, Chip 10, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
10000
20000
30000
40000
50000
60000

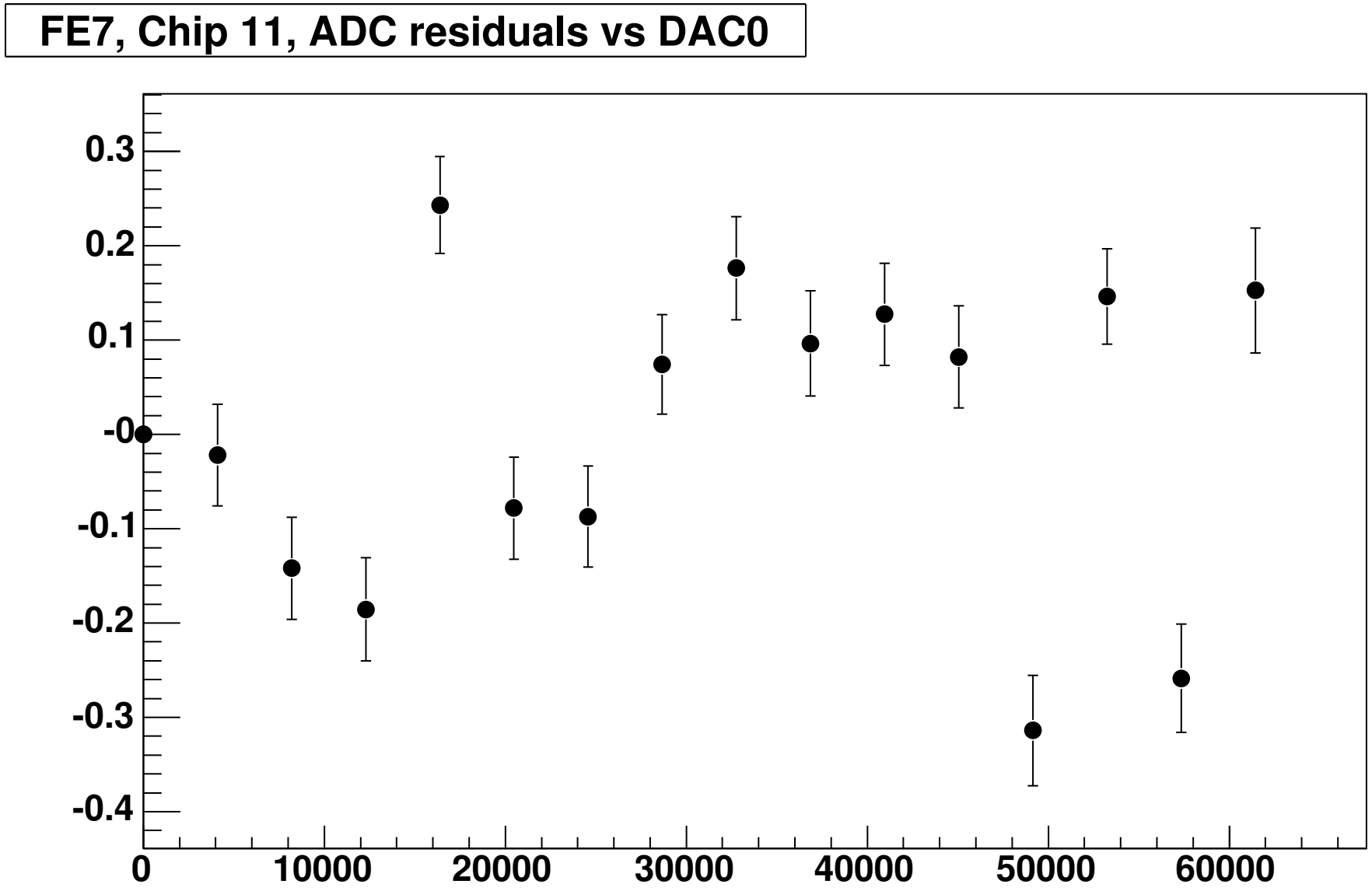

FE7, Chip 10, ADC mean vs DAC1
χ² / ndf 2320 / 11
p0 -3.875 ± 0.04212
p1 0.4522 ± 1.34e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000

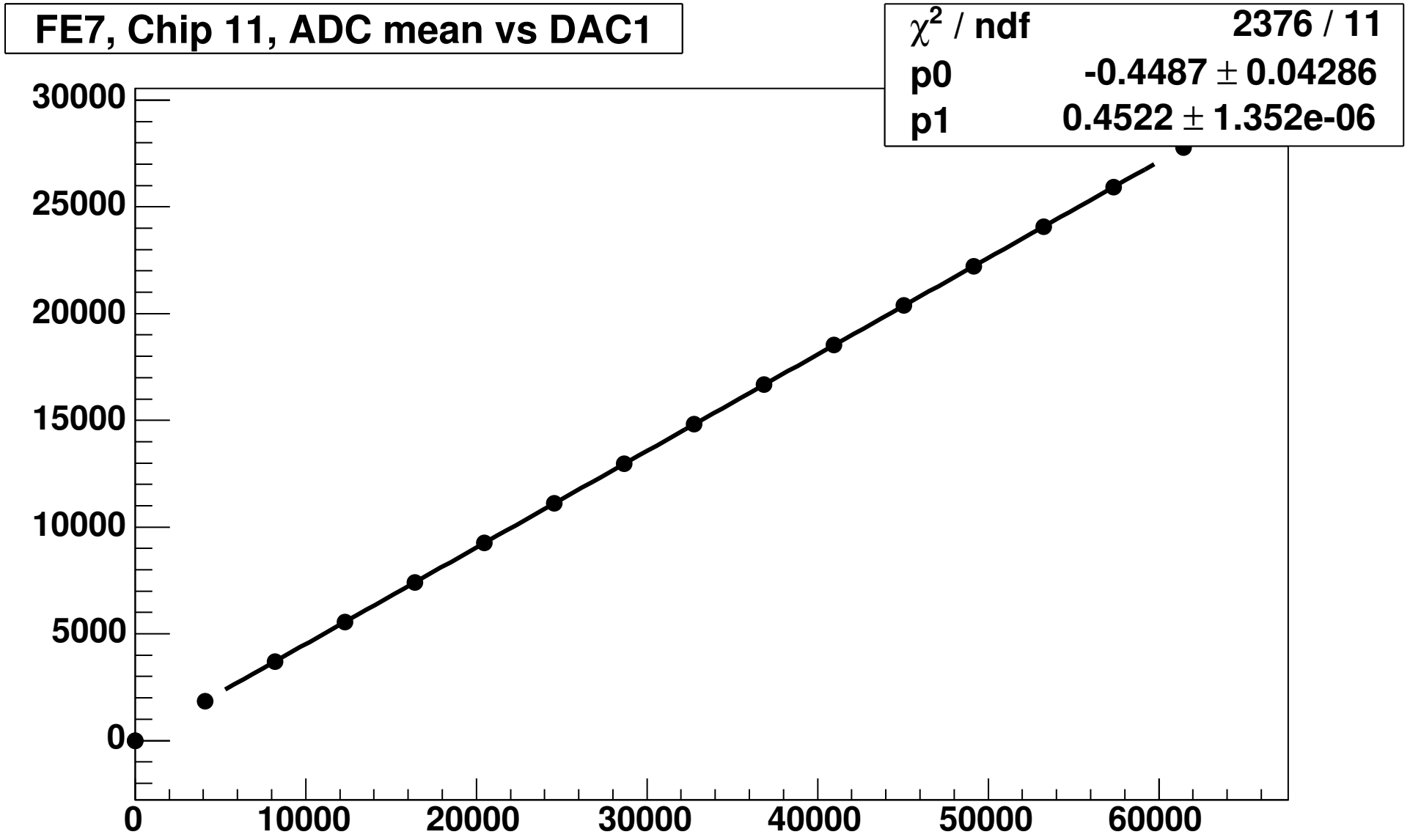

FE7, Chip 10, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
0
10000
20000
30000
40000
50000
60000

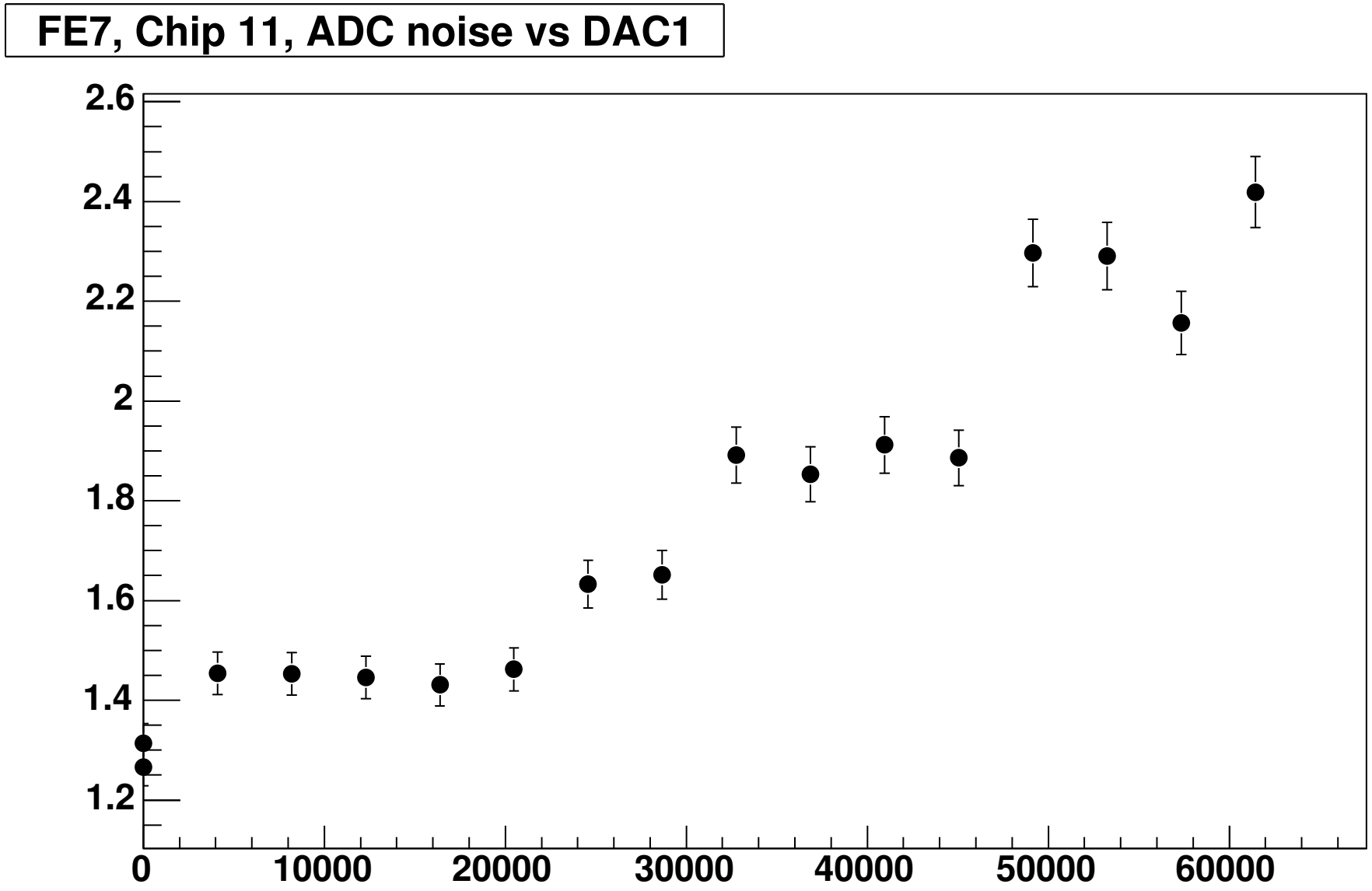

FE7, Chip 10, ADC residuals vs DAC1
1
0
-1
-2
-3
-4
-5
-6
0
10000
20000
30000
40000
50000
60000

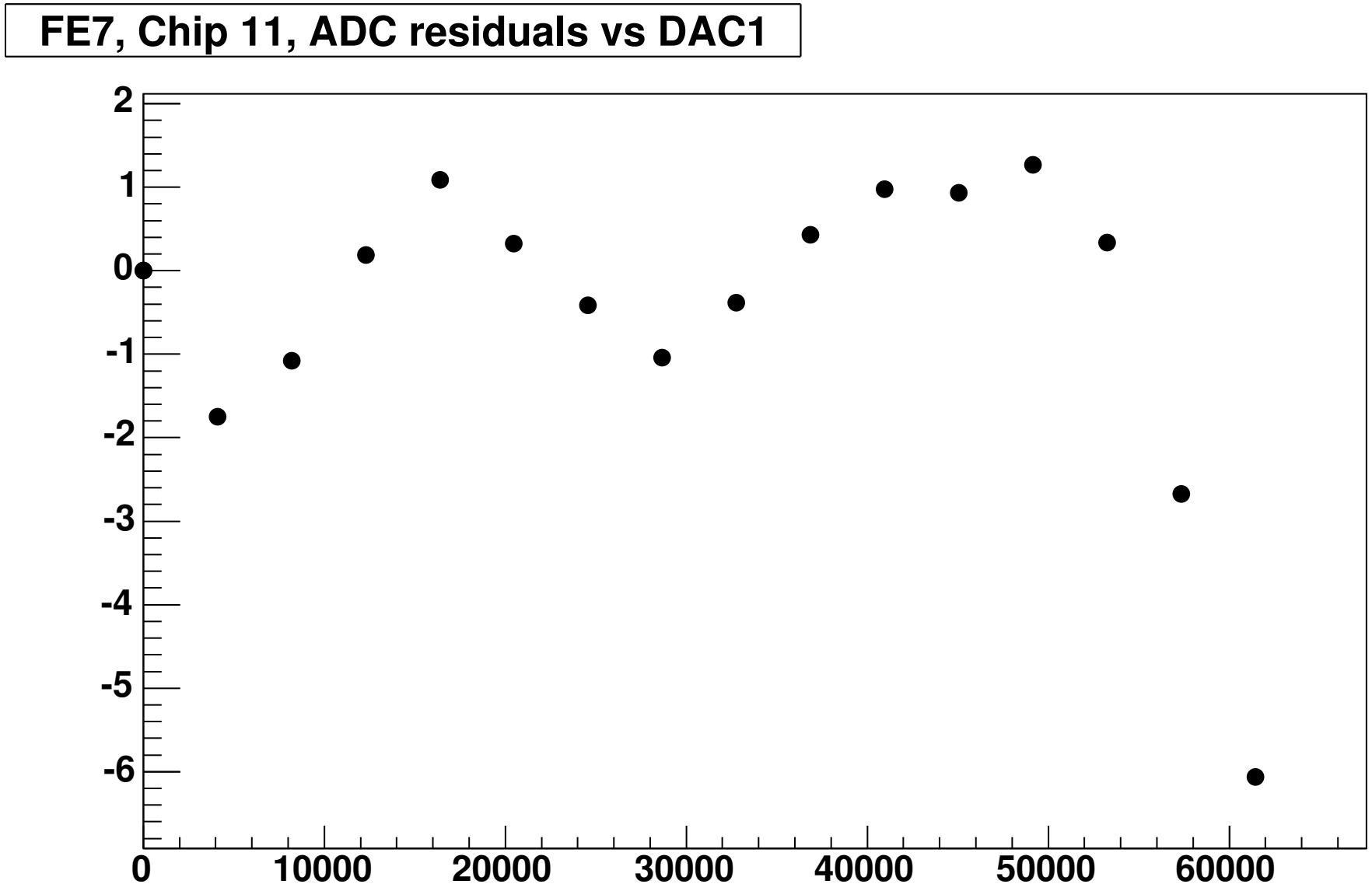

FE7, Chip 11, ADC mean vs DAC0
χ² / ndf 126.1 / 11
p0 -2.289 ± 0.03529
p1 -2.5e-06 ± 9.838e-07
-2
-2.1
-2.2
-2.3
-2.4
-2.5
-2.6
-2.7
-2.8
0
10000
20000
30000
40000
50000
60000

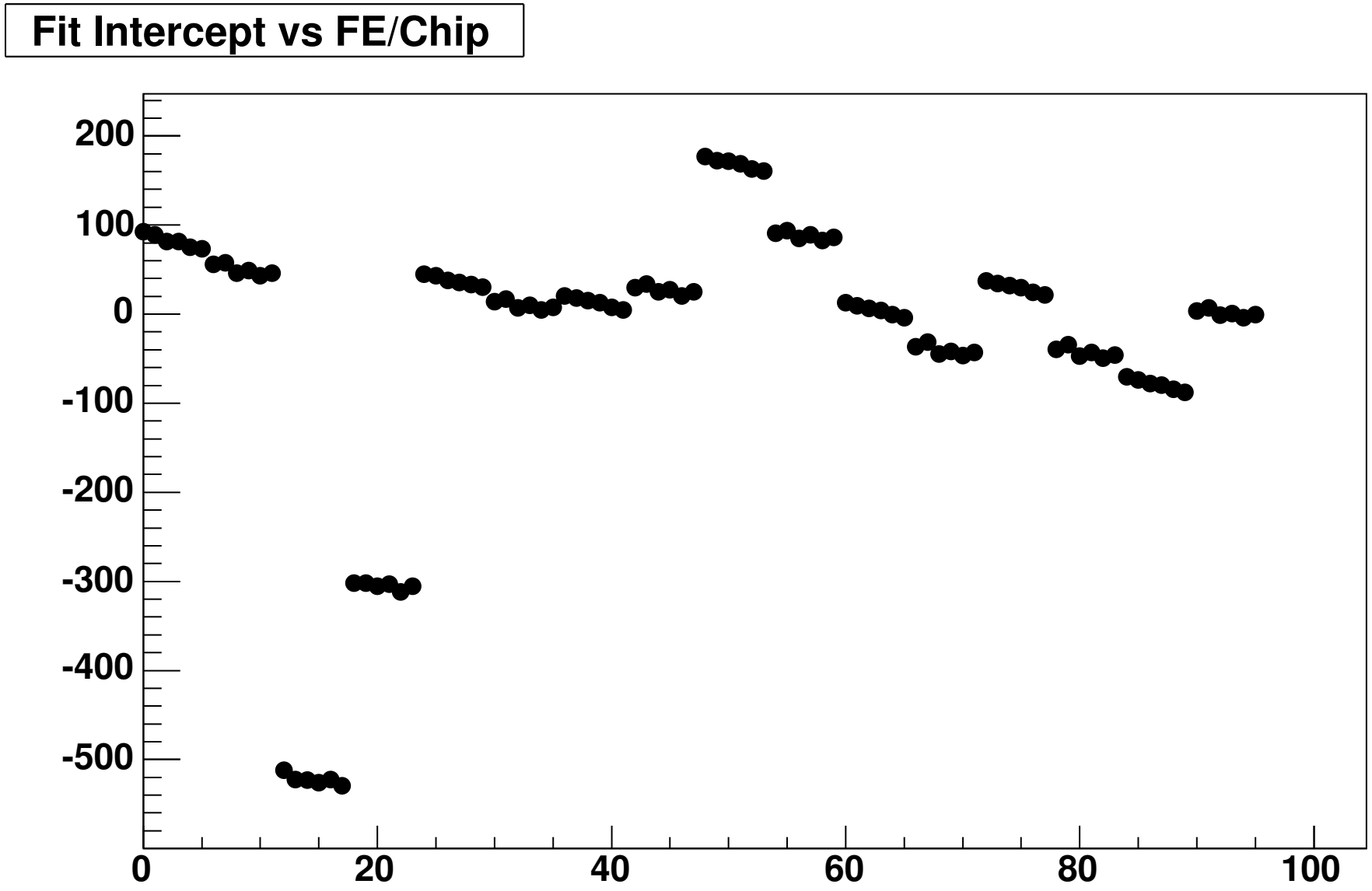

FE7, Chip 11, ADC noise vs DAC0
1.6
1.5
1.4
1.3
1.2
0
10000
20000
30000
40000
50000
60000

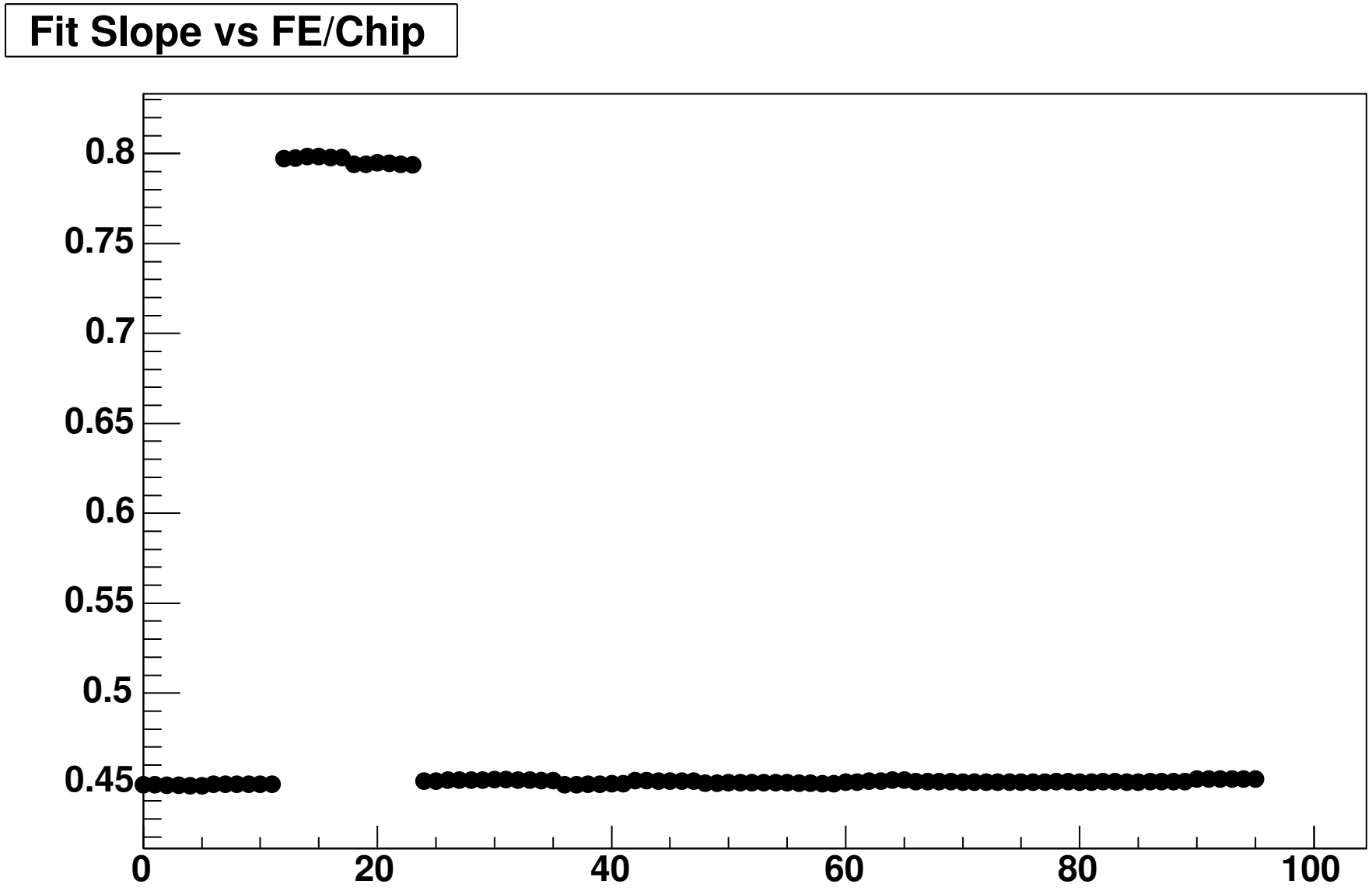

FE7, Chip 11, ADC residuals vs DAC0
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
10000
20000
30000
40000
50000
60000


FE7, Chip 11, ADC mean vs DAC1
χ² / ndf 2376 / 11
p0 -0.4487 ± 0.04286
p1 0.4522 ± 1.352e-06
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000


FE7, 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


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
200
100
0
-100
-200
-300
-400
-500
0
20
40
60
80
100


Fit Slope vs FE/Chip
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0
20
40
60
80
100