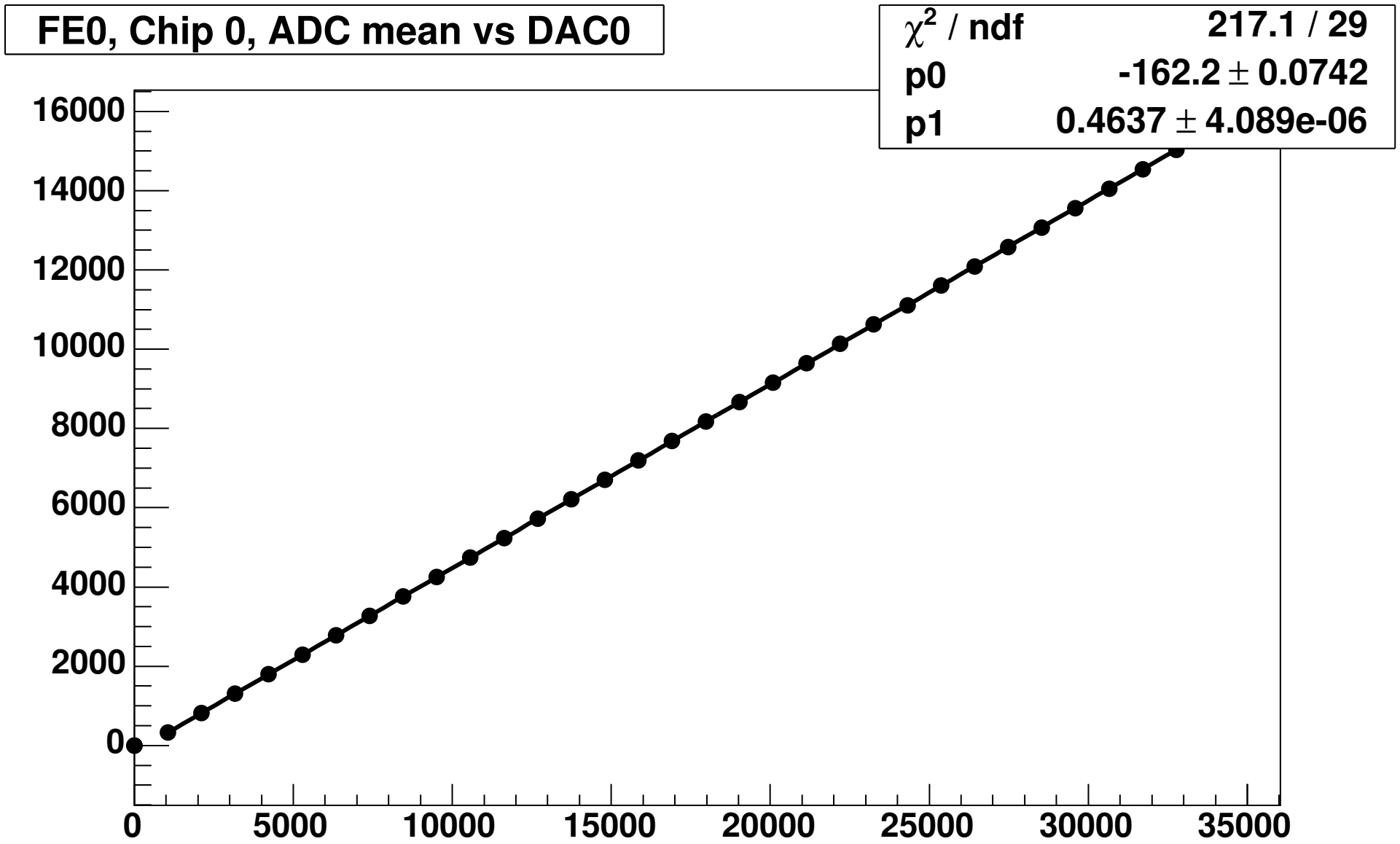
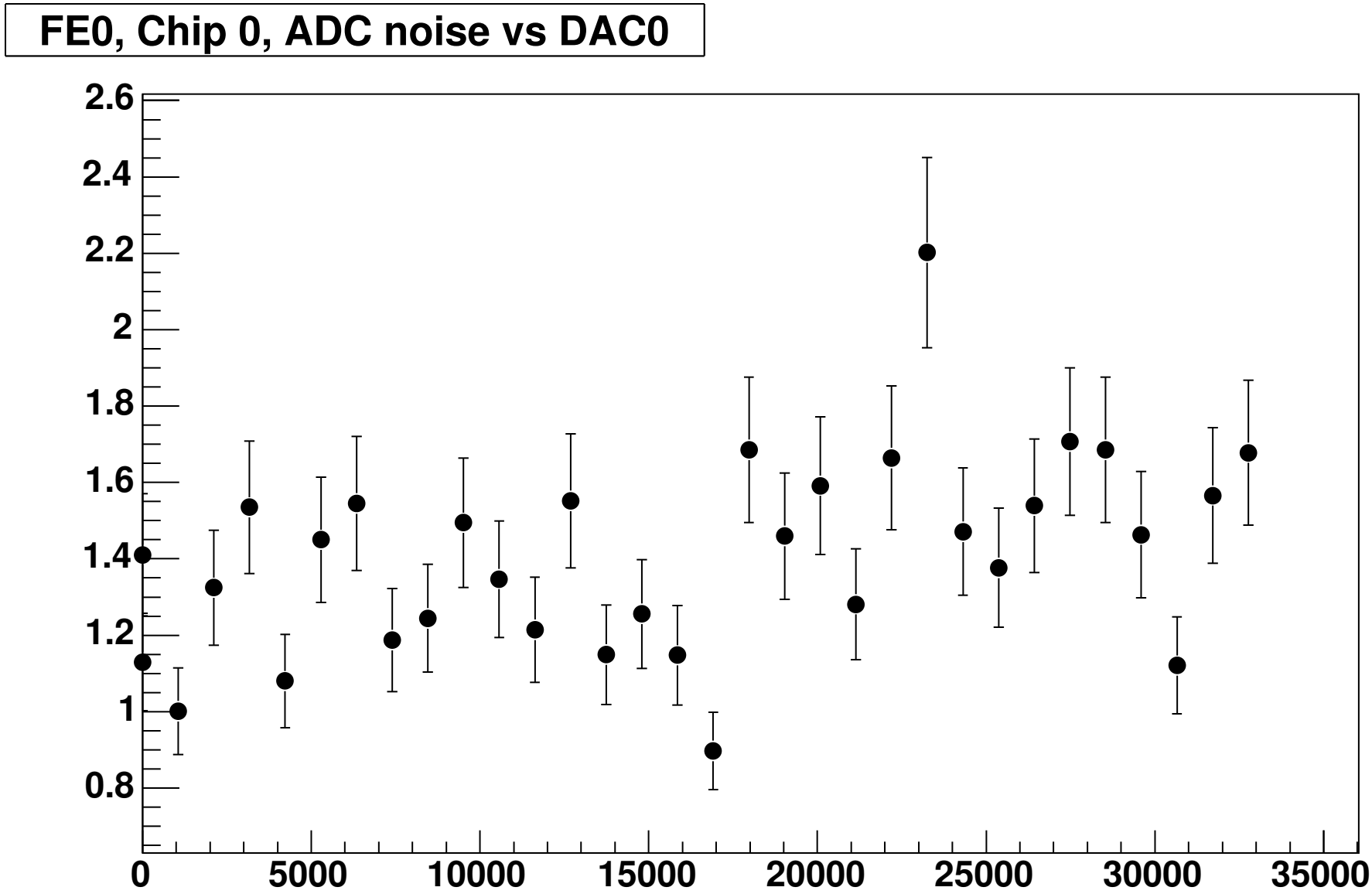
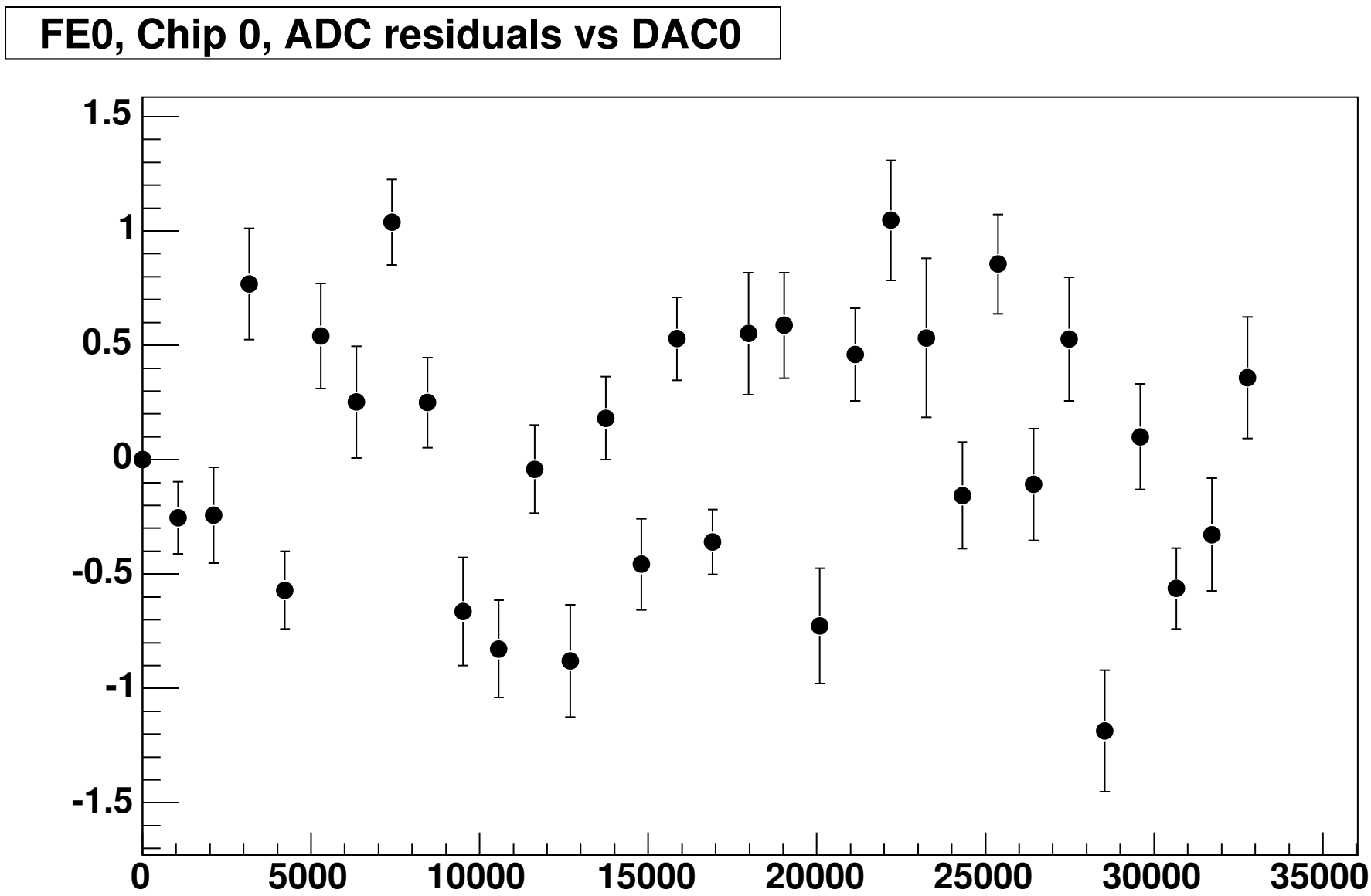
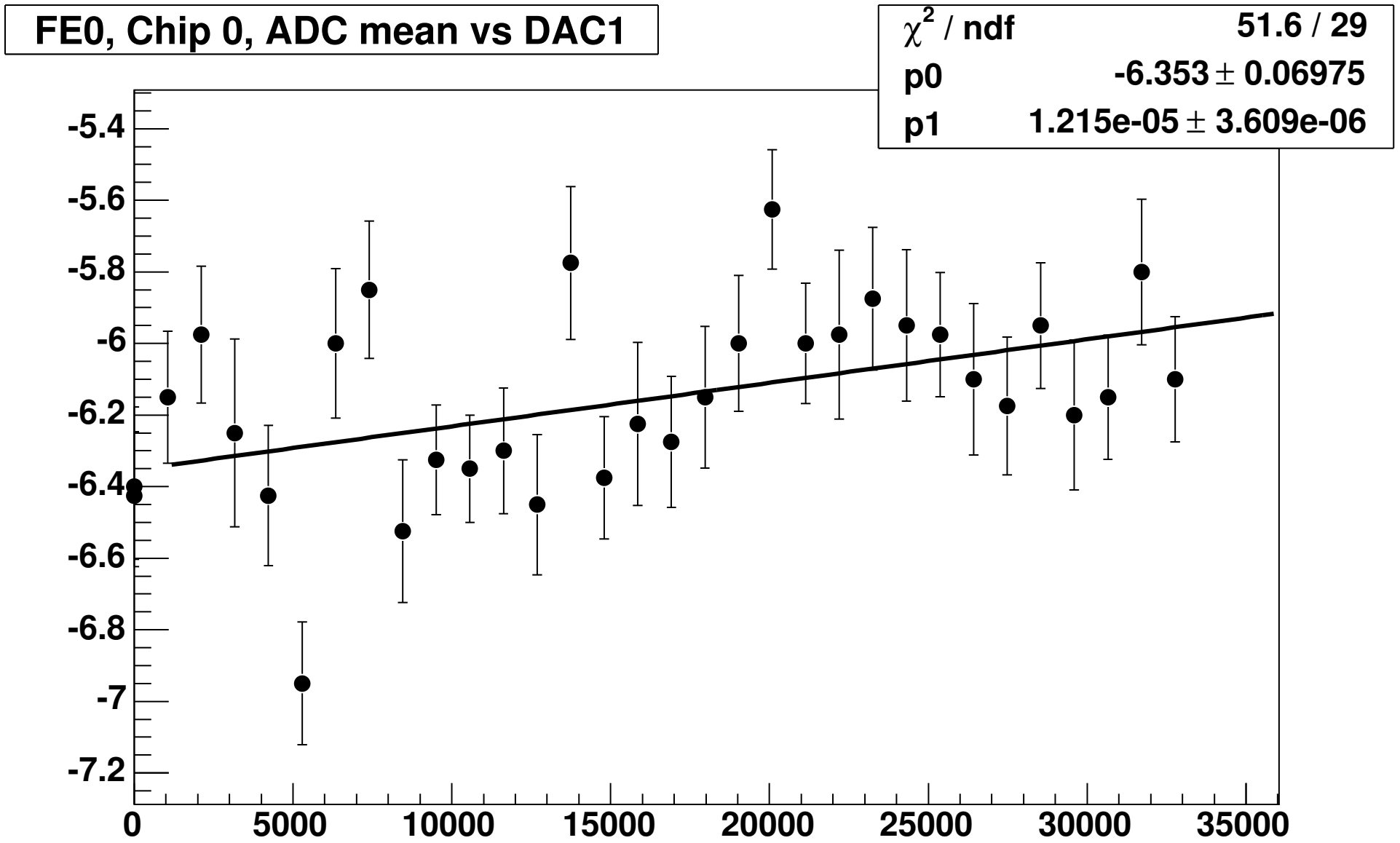
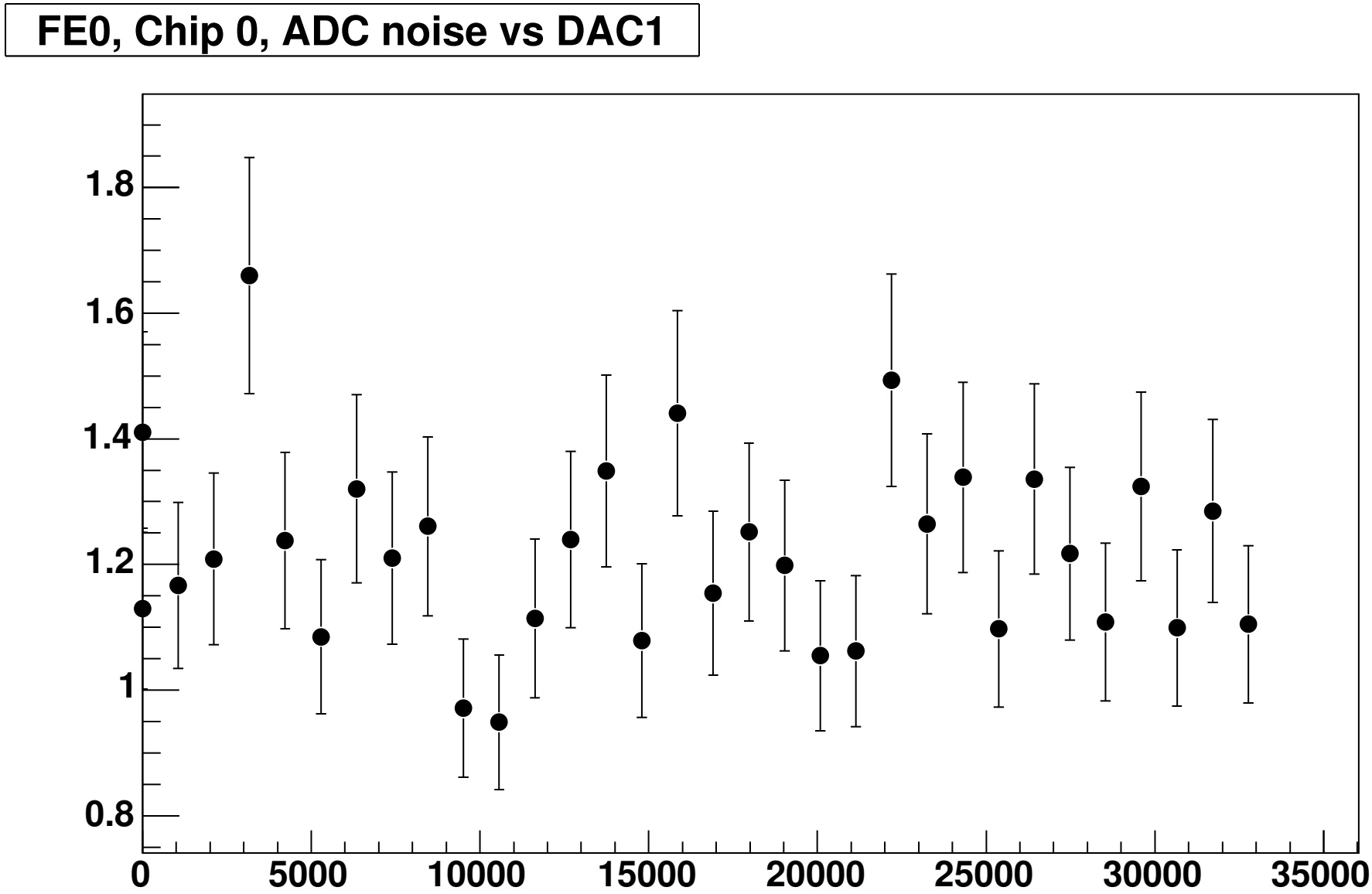
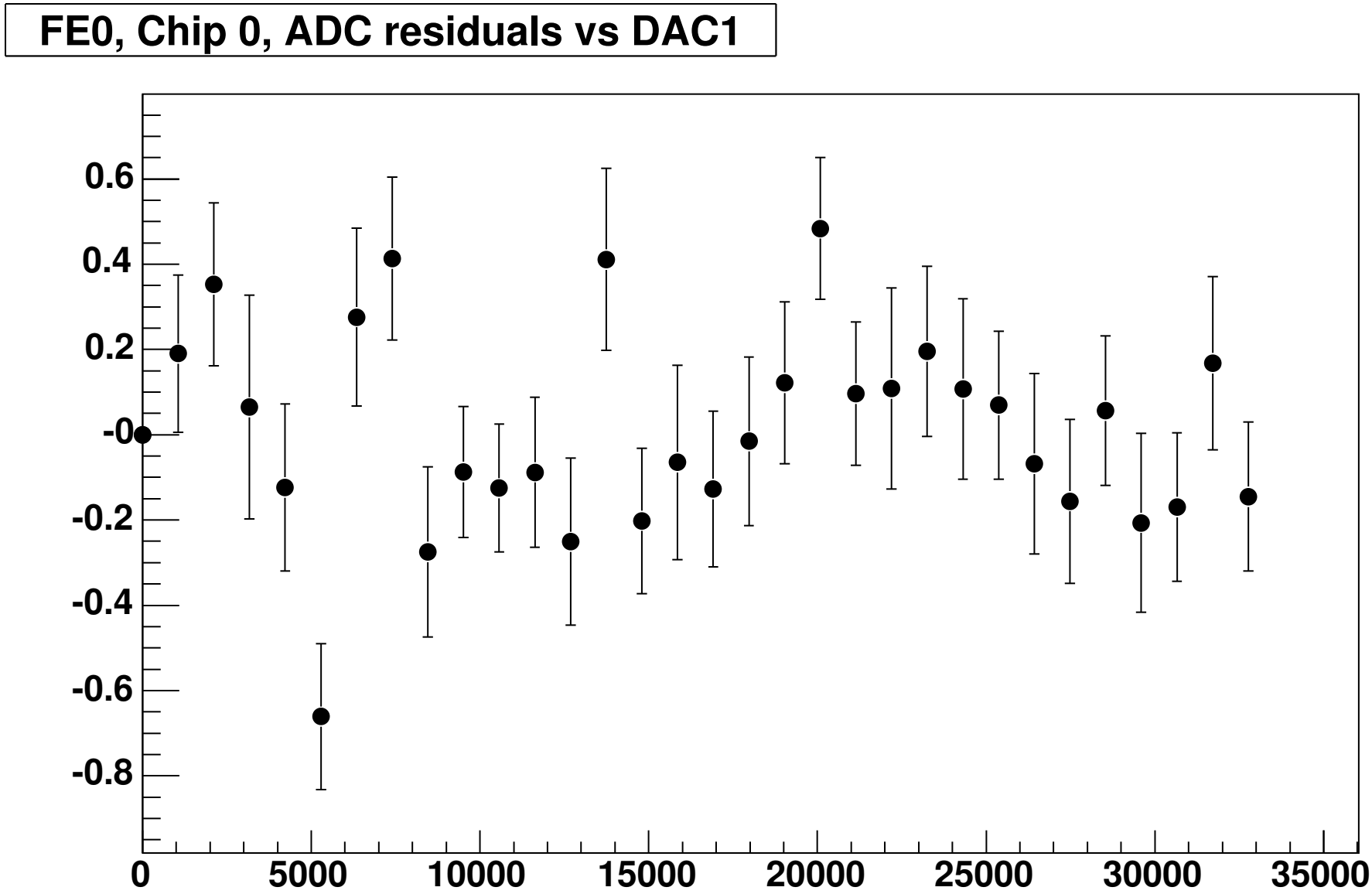

FE0, Chip 0, ADC mean vs DAC0
χ² / ndf 217.1 / 29
p0 -162.2 ± 0.0742
p1 0.4637 ± 4.089e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

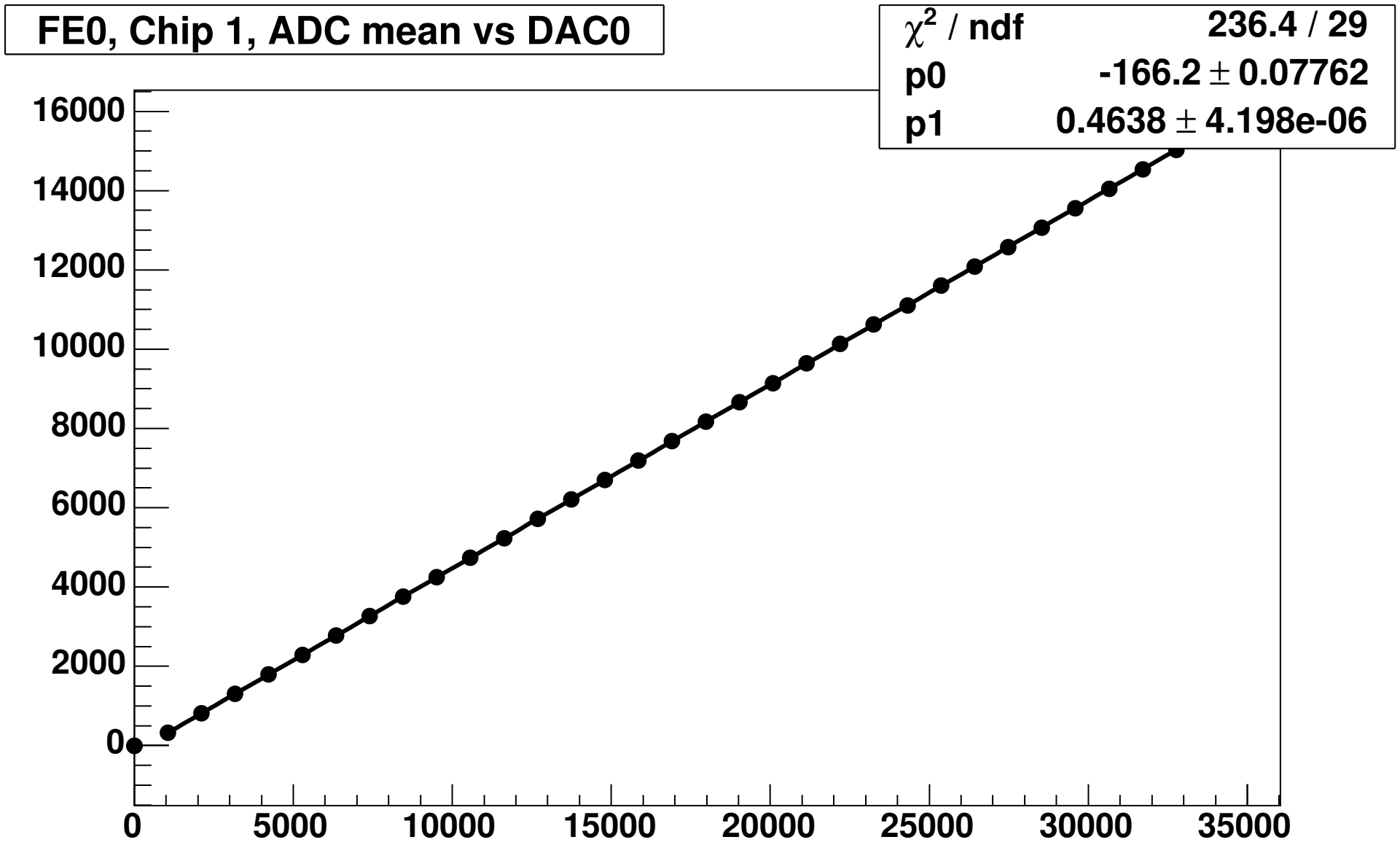

FE0, Chip 0, ADC noise vs DAC0
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

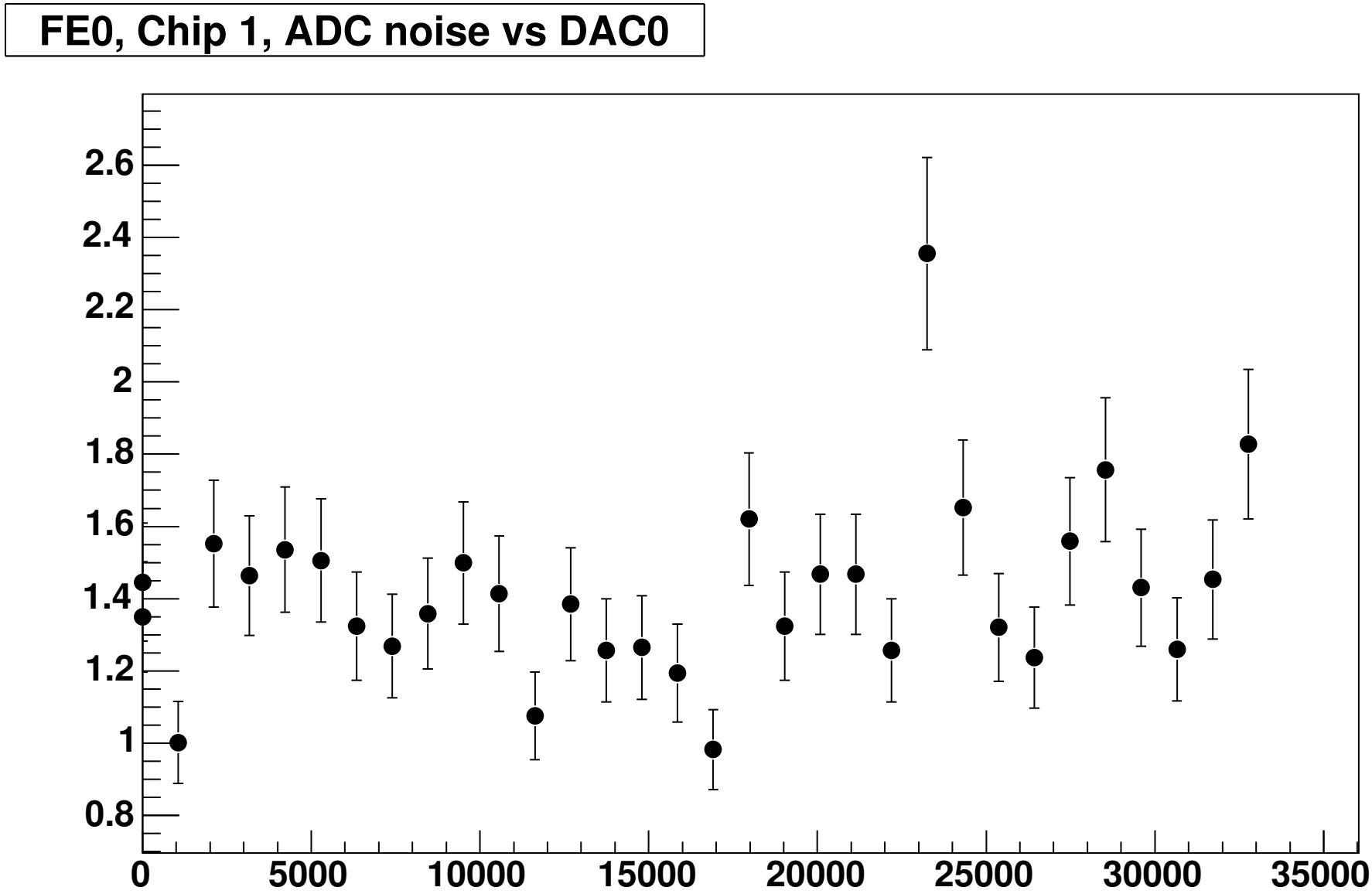

FE0, Chip 0, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

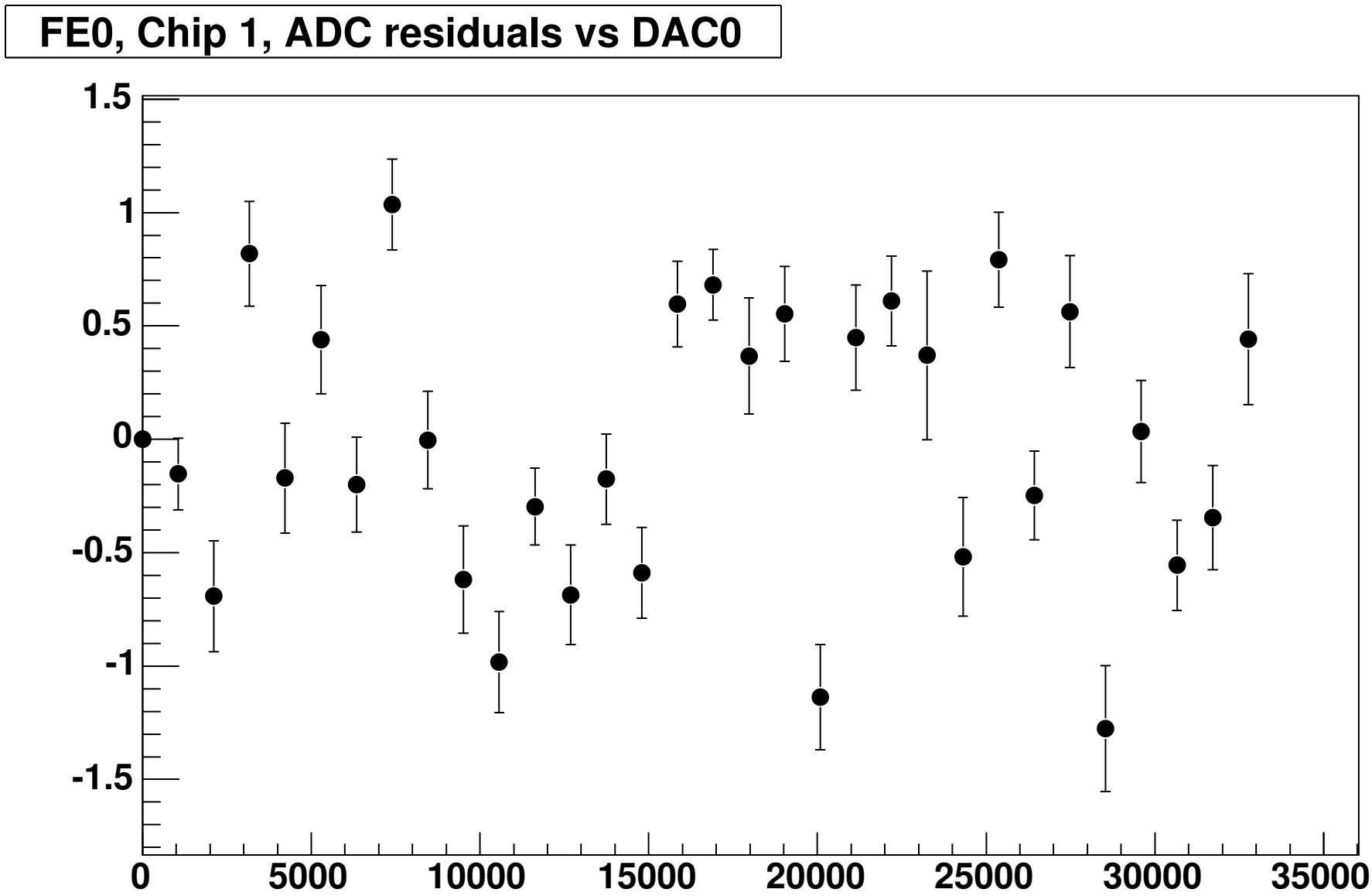

FE0, Chip 0, ADC mean vs DAC1
χ² / ndf 51.6 / 29
p0 -6.353 ± 0.06975
p1 1.215e-05 ± 3.609e-06
-5.4
-5.6
-5.8
-6
-6.2
-6.4
-6.6
-6.8
-7
-7.2
0
5000
10000
15000
20000
25000
30000
35000

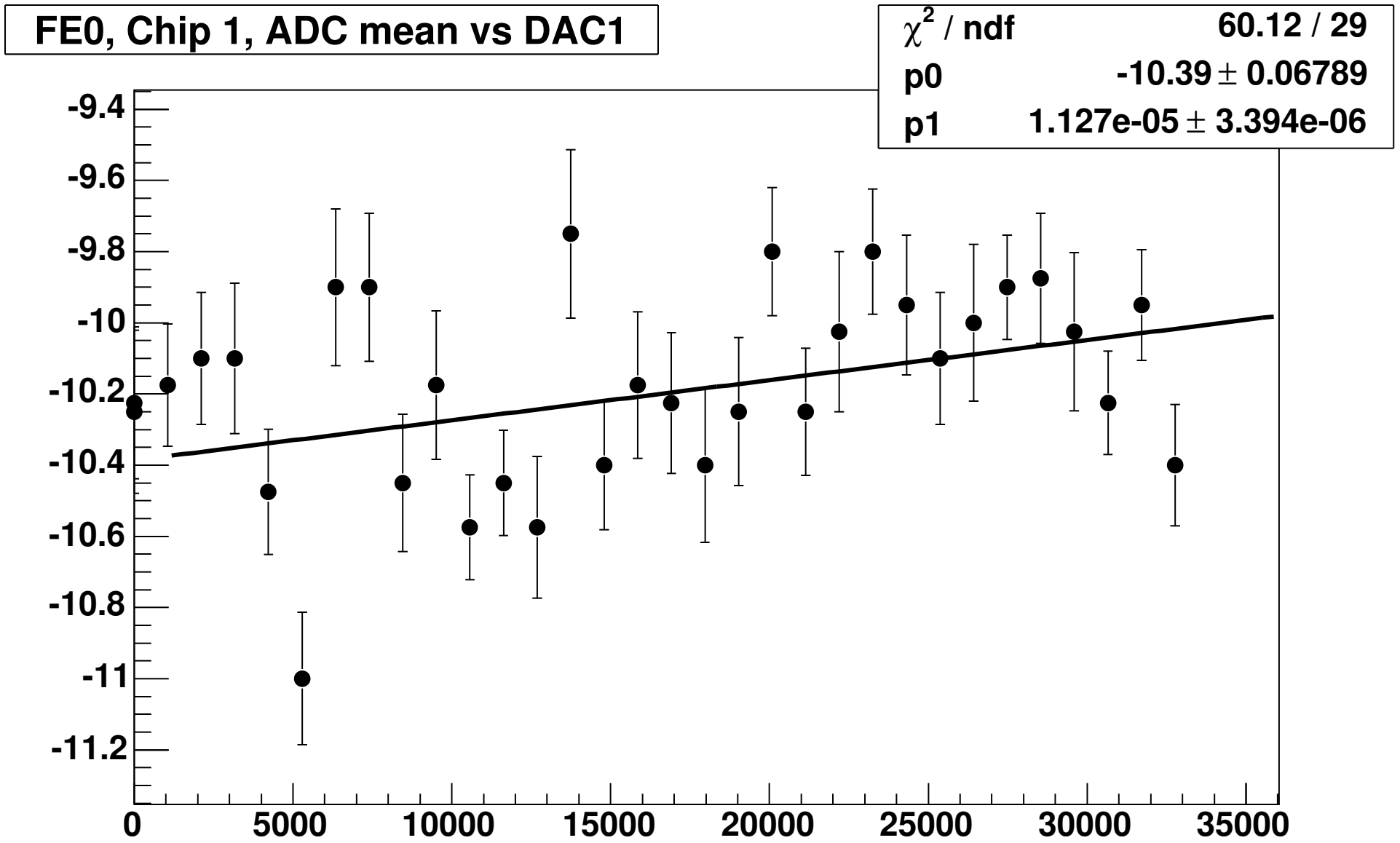

FE0, Chip 0, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

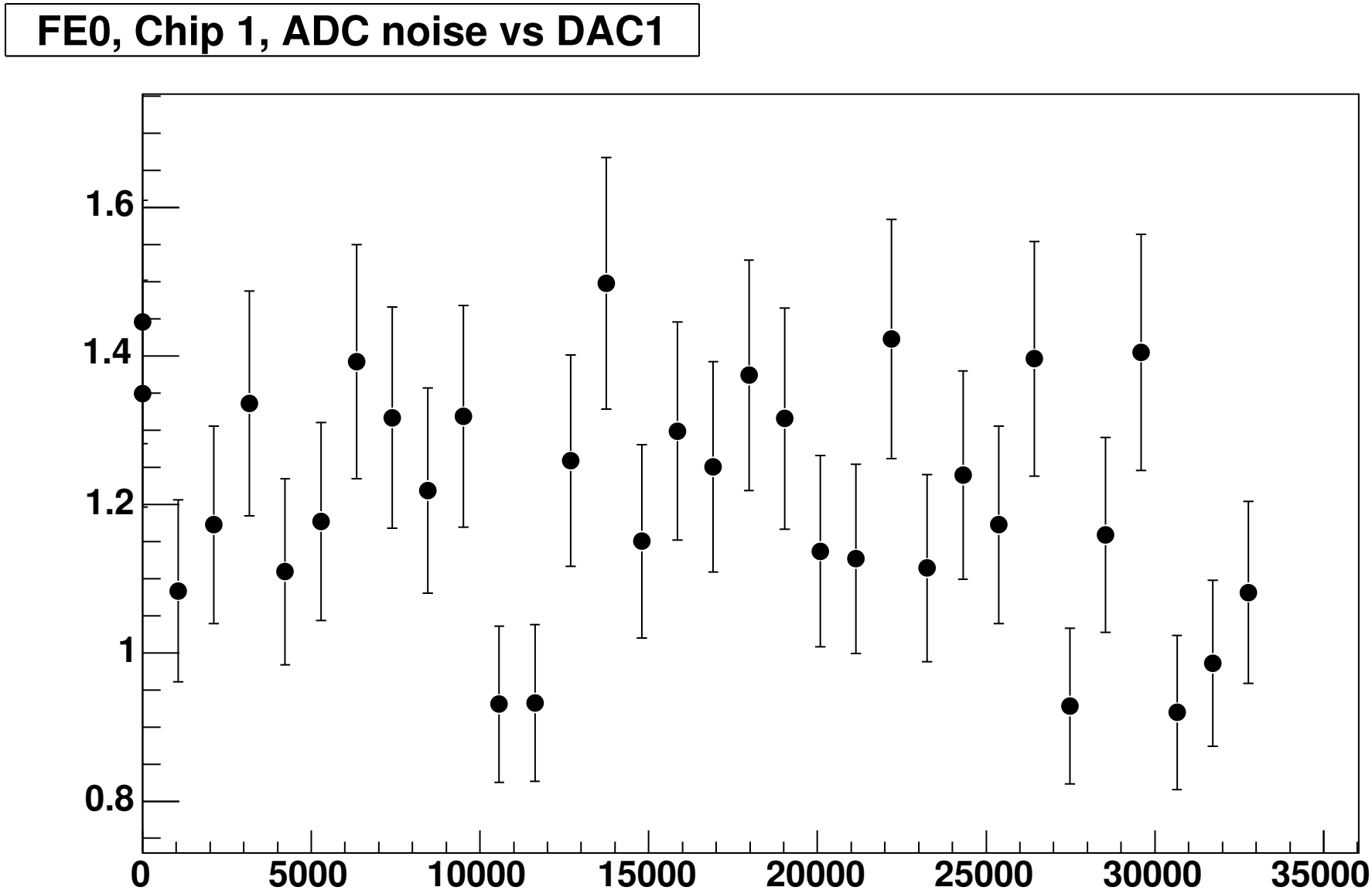

FE0, Chip 0, ADC residuals vs DAC1
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

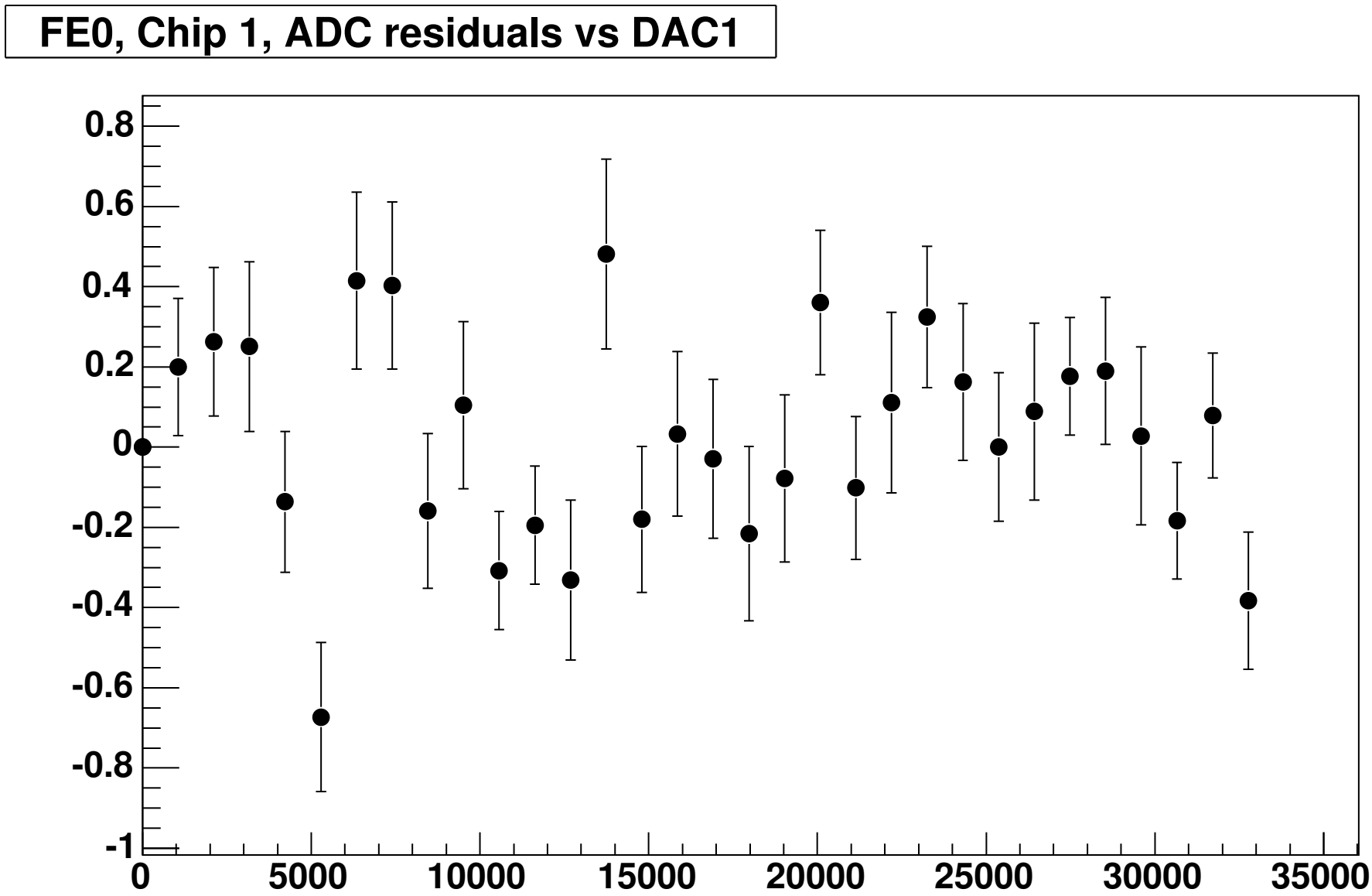

FE0, Chip 1, ADC mean vs DAC0
χ² / ndf 236.4 / 29
p0 -166.2 ± 0.07762
p1 0.4638 ± 4.198e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

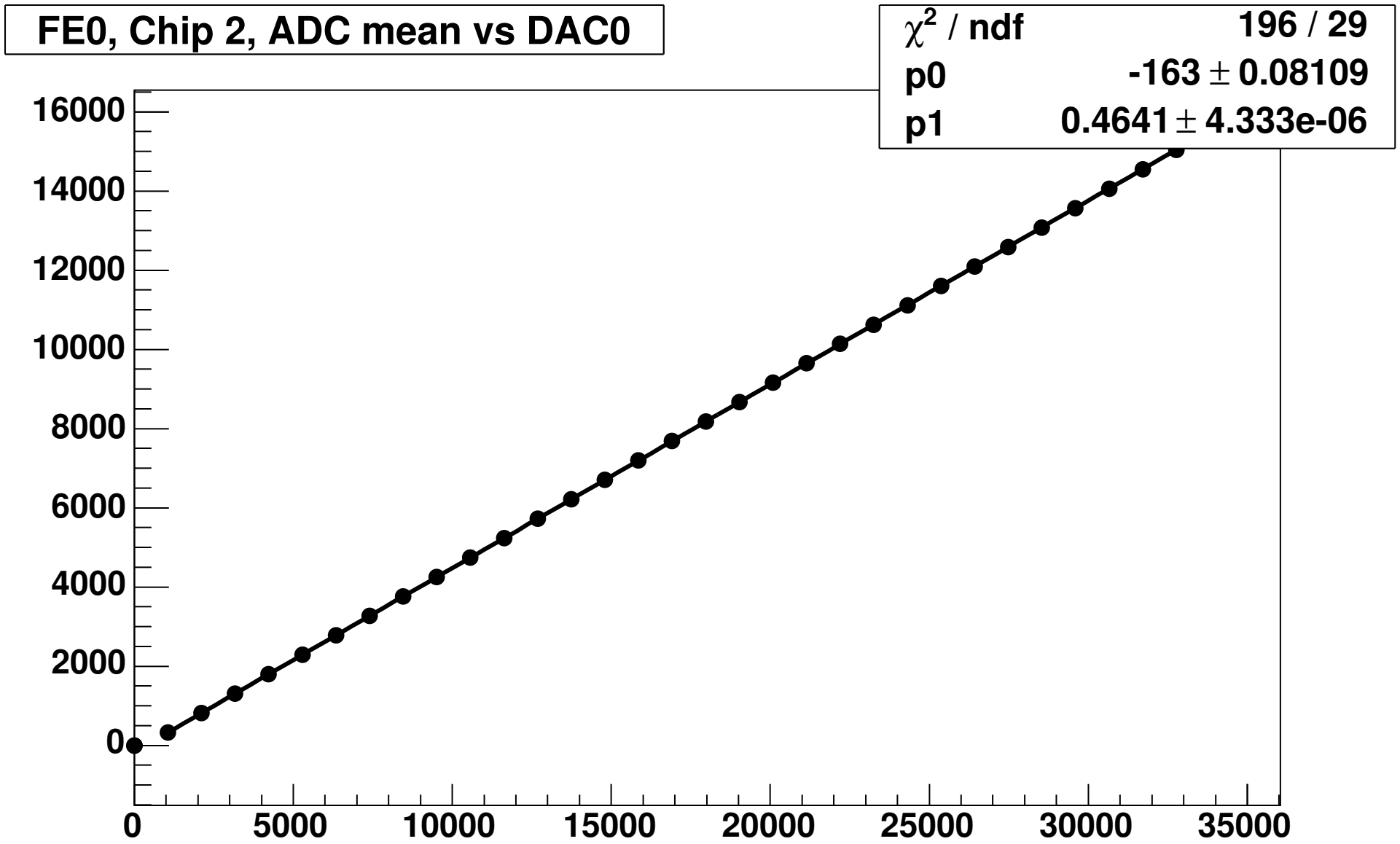

FE0, Chip 1, ADC noise vs DAC0
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

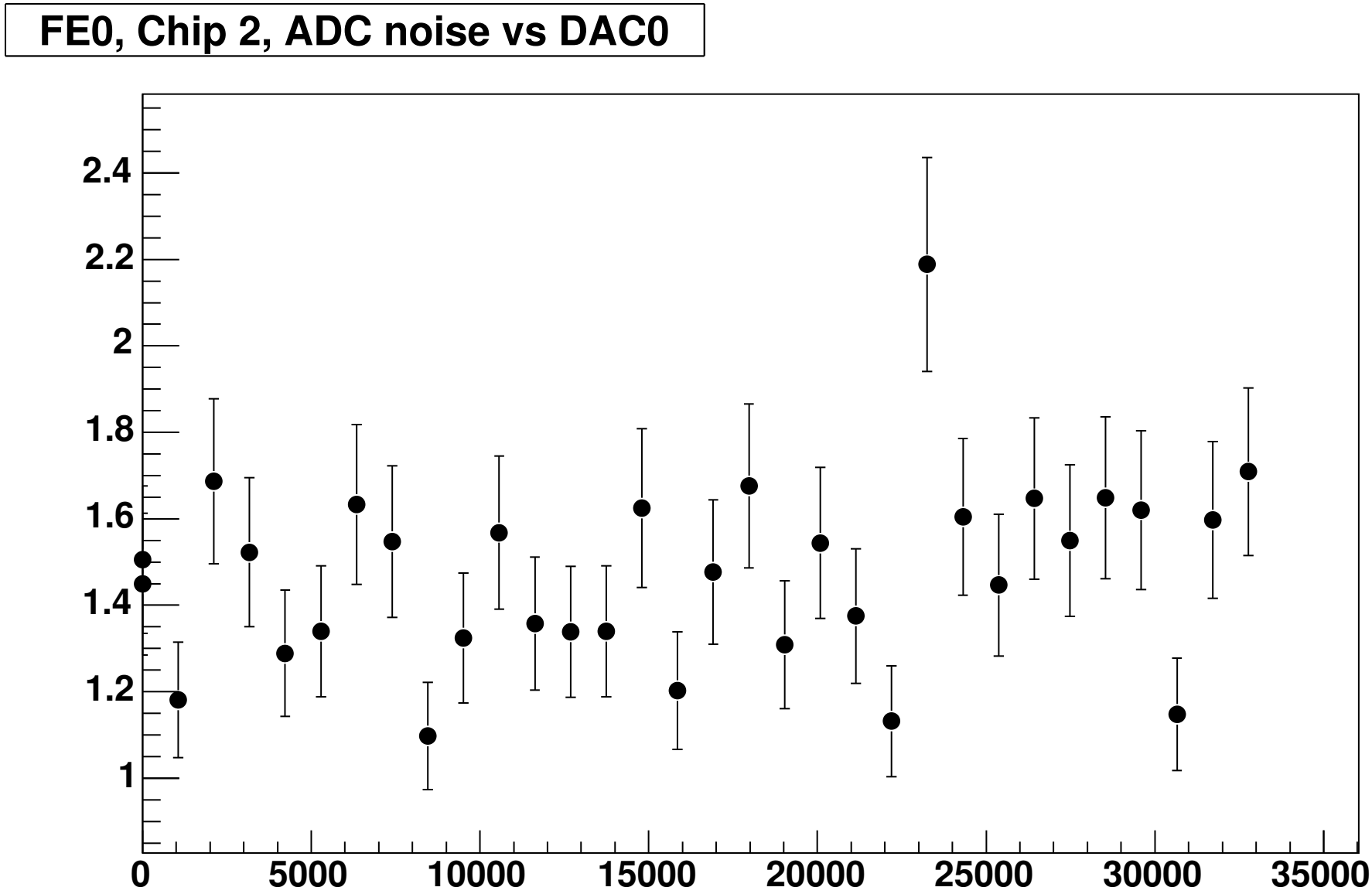

FE0, Chip 1, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

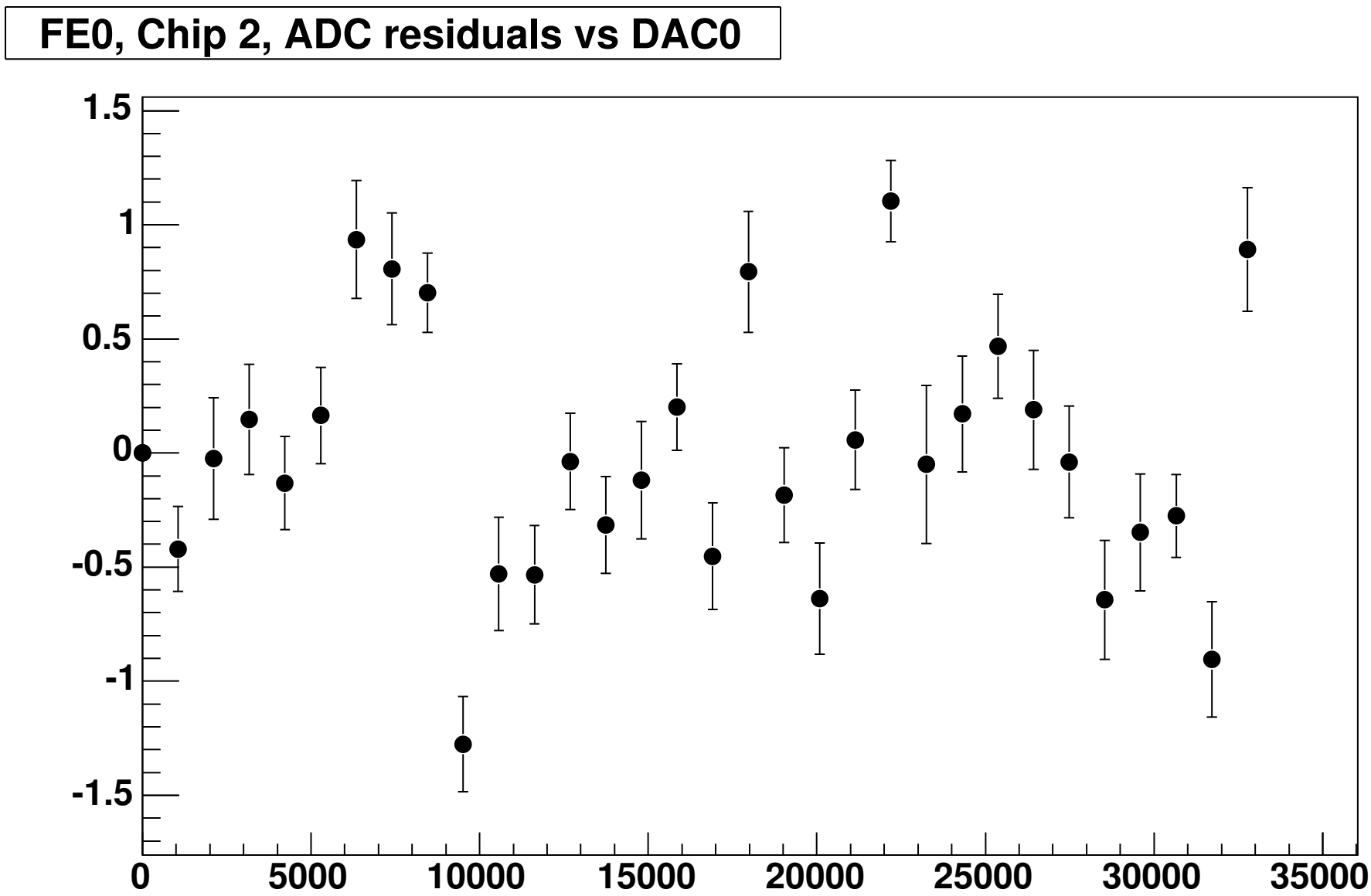

FE0, Chip 1, ADC mean vs DAC1
χ² / ndf 60.12 / 29
p0 -10.39 ± 0.06789
p1 1.127e-05 ± 3.394e-06
-9.4
-9.6
-9.8
-10
-10.2
-10.4
-10.6
-10.8
-11
-11.2
0
5000
10000
15000
20000
25000
30000
35000

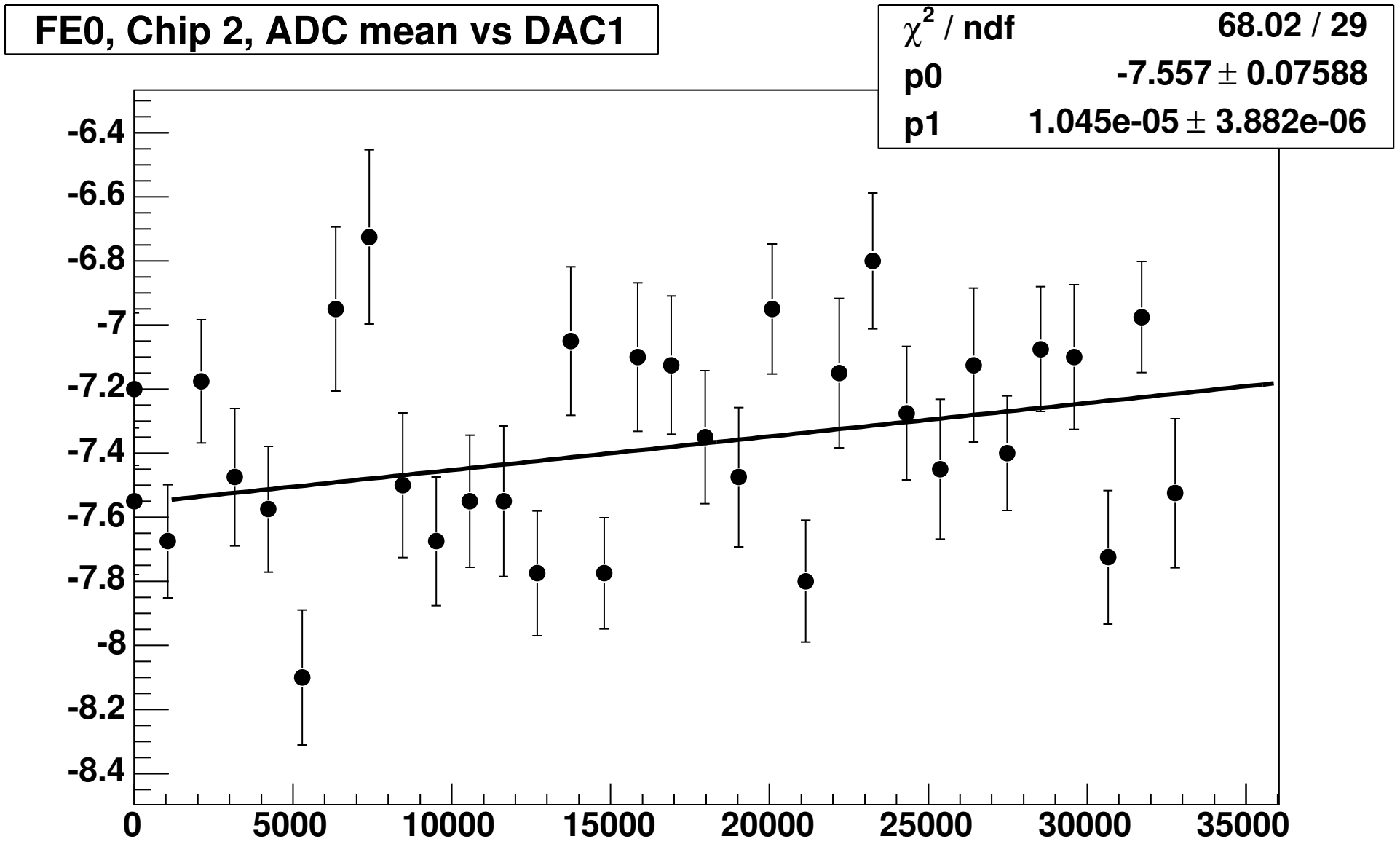

FE0, Chip 1, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

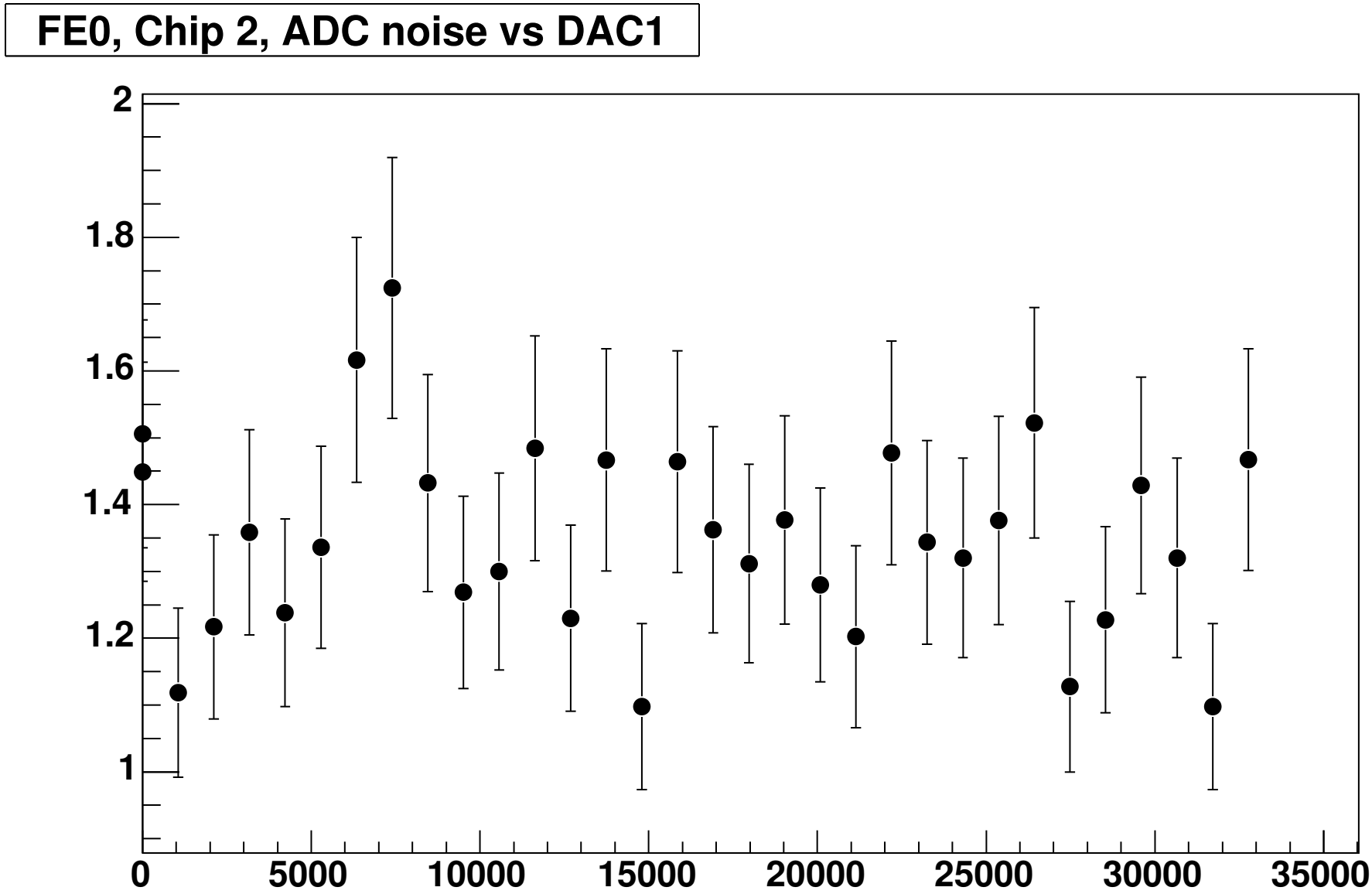

FE0, Chip 1, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
0
5000
10000
15000
20000
25000
30000
35000

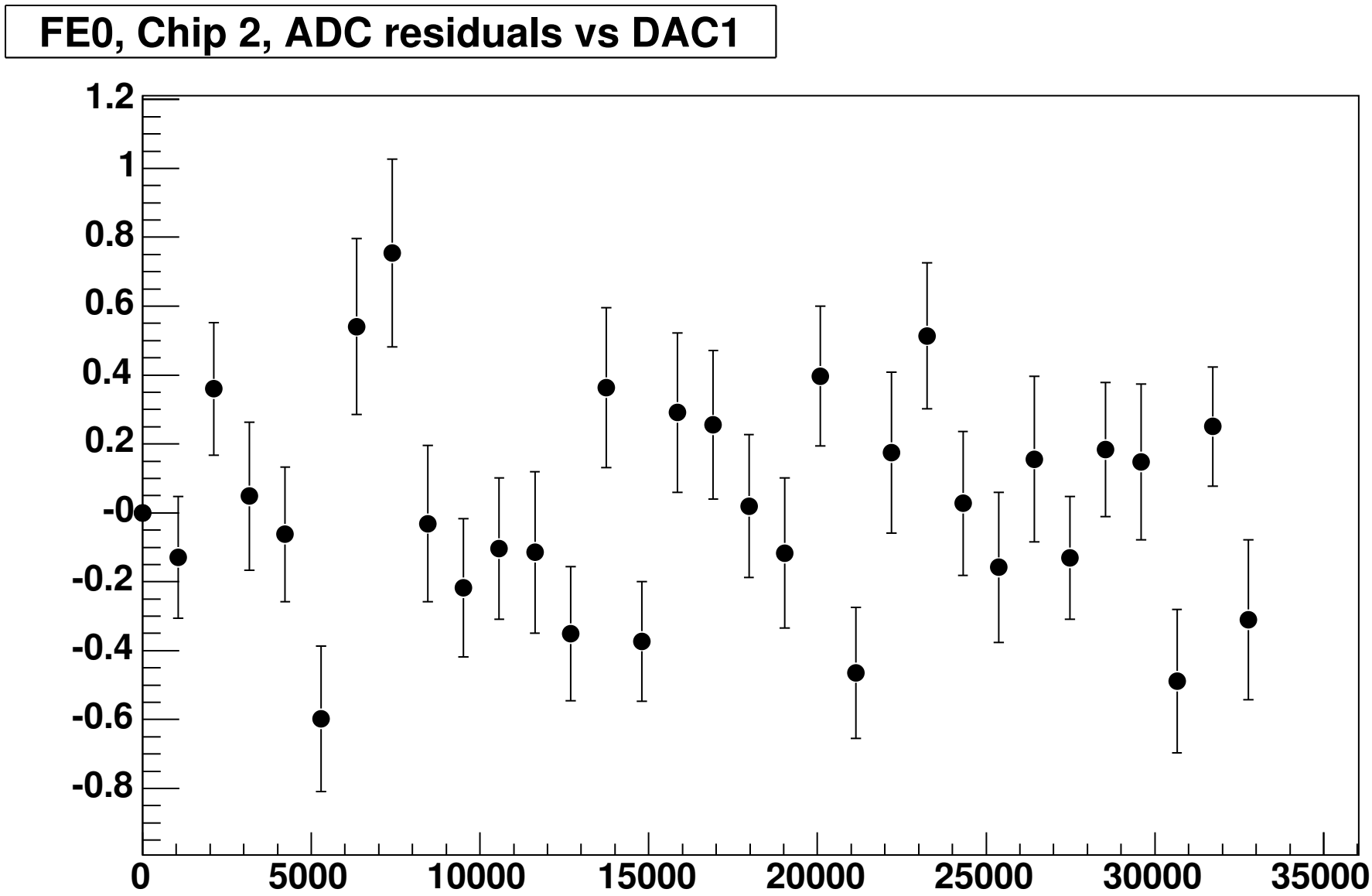

FE0, Chip 2, ADC mean vs DAC0
χ² / ndf 196 / 29
p0 -163 ± 0.08109
p1 0.4641 ± 4.333e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

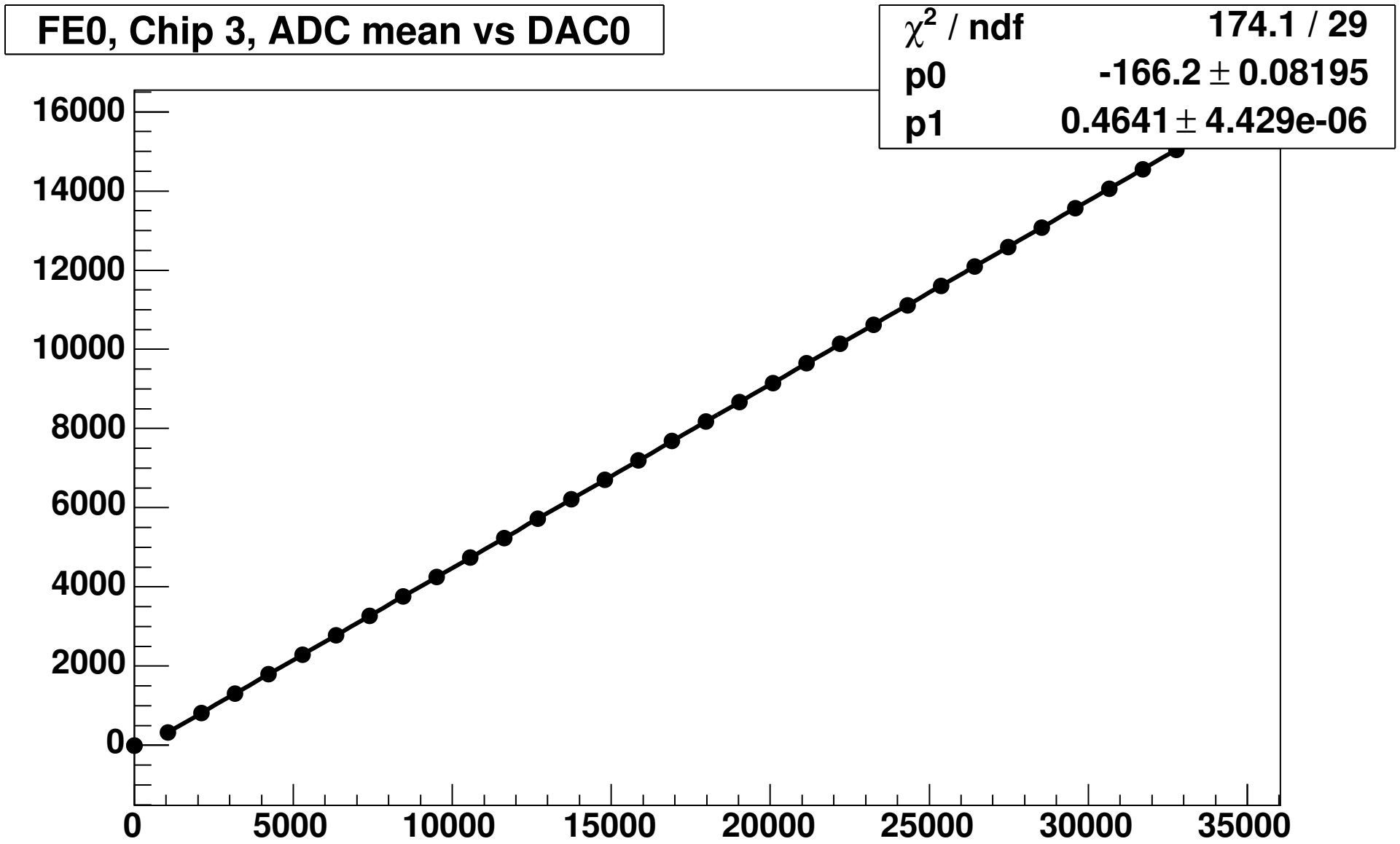

FE0, Chip 2, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

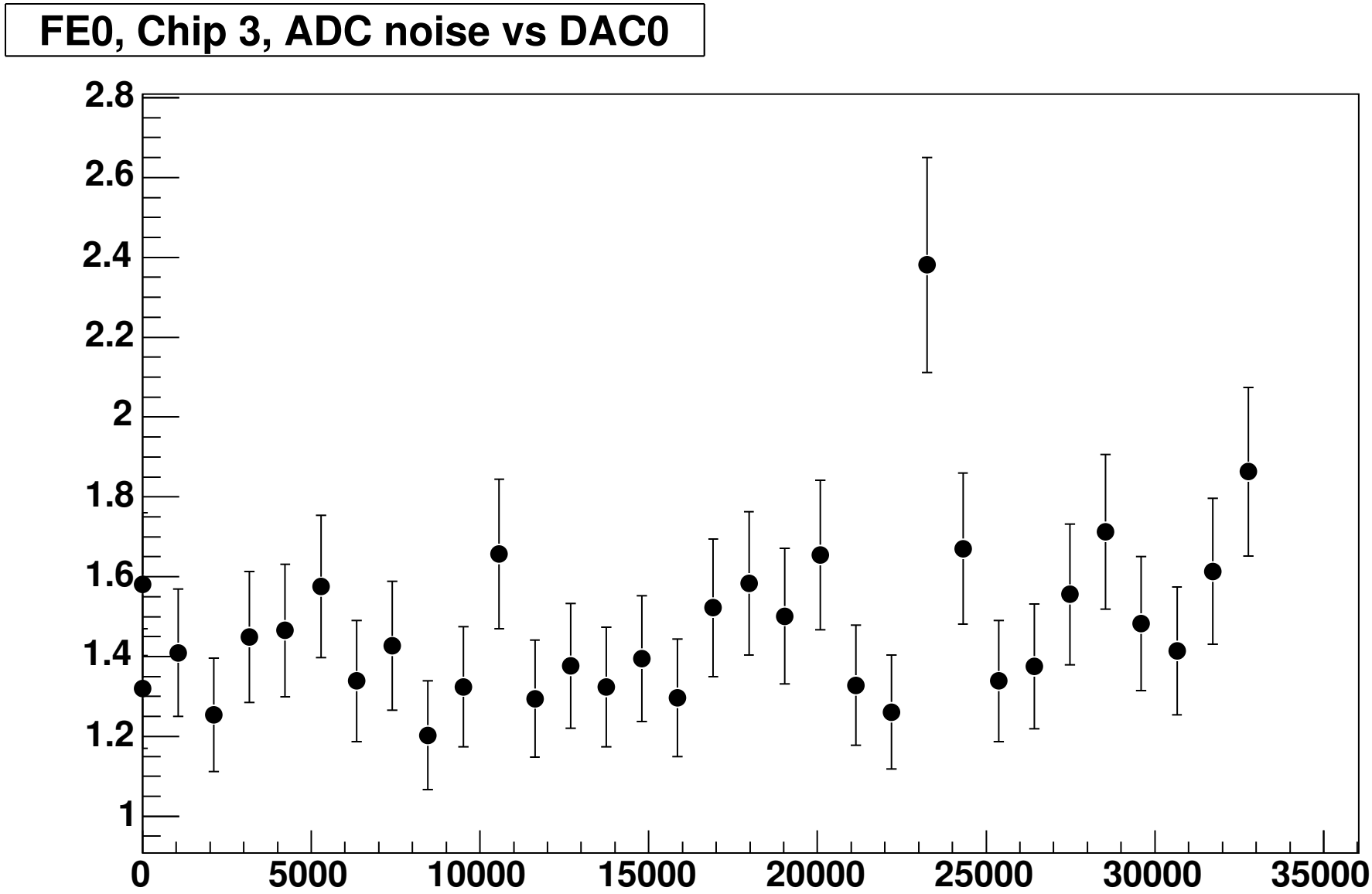

FE0, Chip 2, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

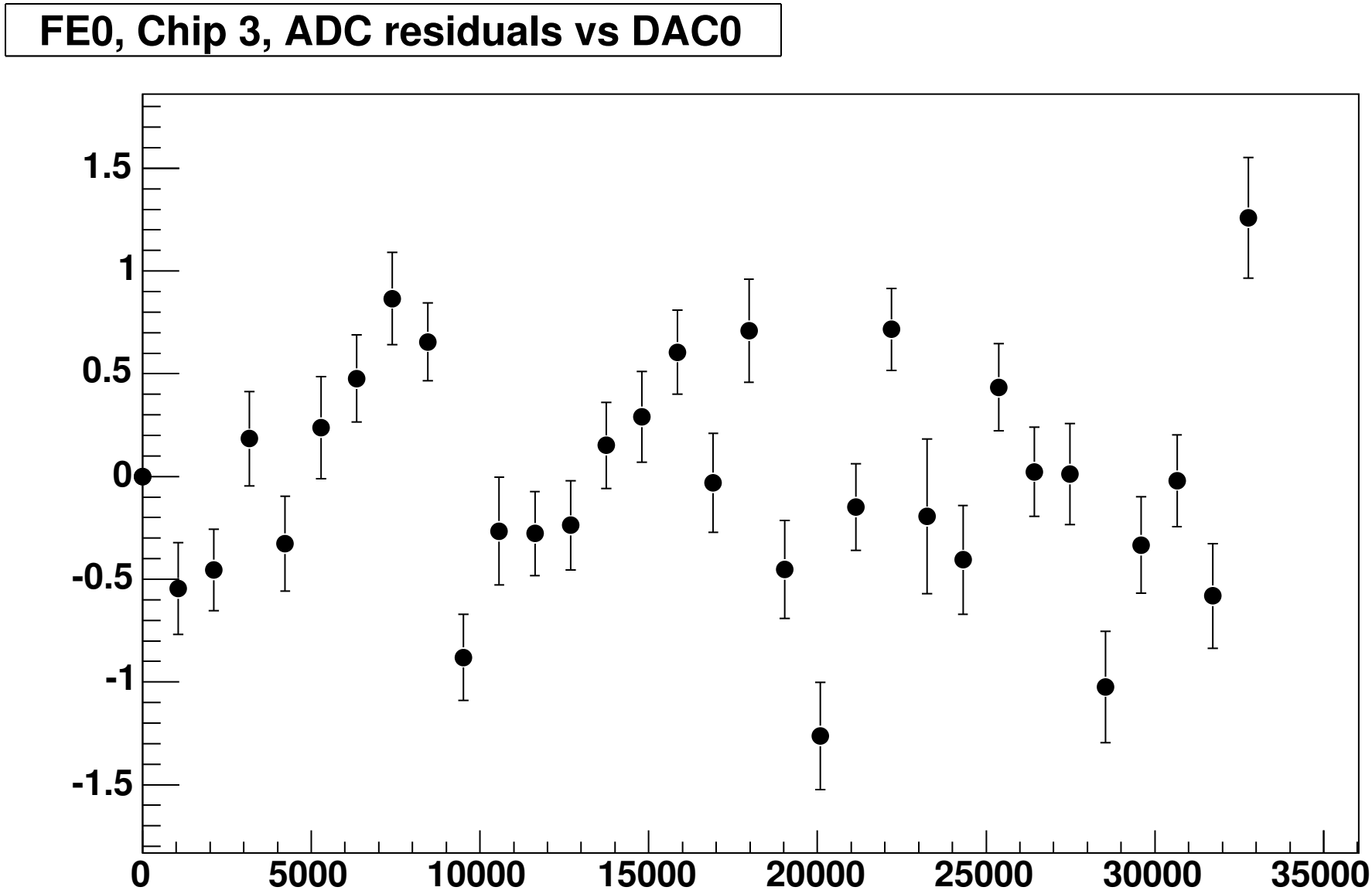

FE0, Chip 2, ADC mean vs DAC1
χ² / ndf 68.02 / 29
p0 -7.557 ± 0.07588
p1 1.045e-05 ± 3.882e-06
-6.4
-6.6
-6.8
-7
-7.2
-7.4
-7.6
-7.8
-8
-8.2
-8.4
0
5000
10000
15000
20000
25000
30000
35000

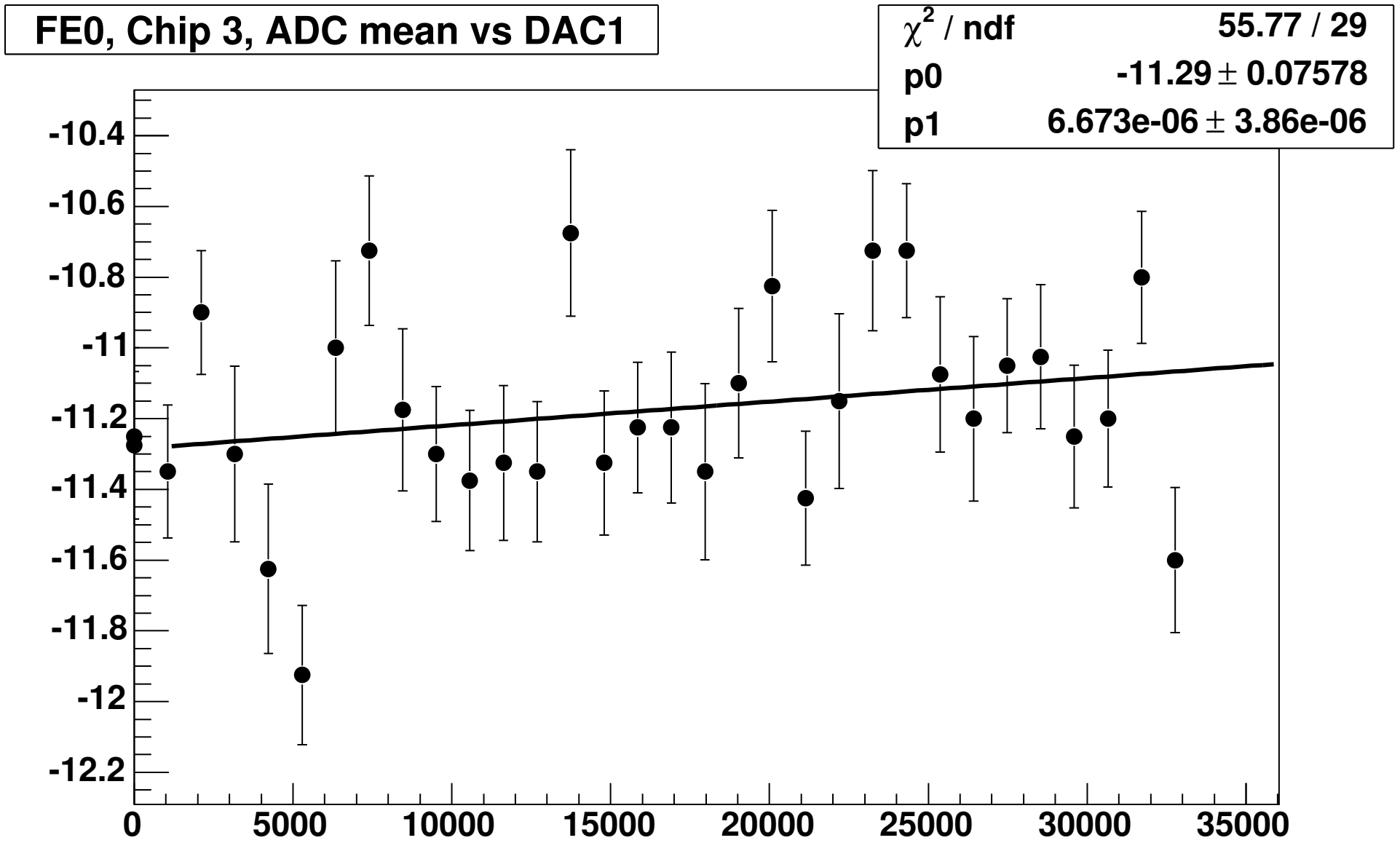

FE0, Chip 2, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

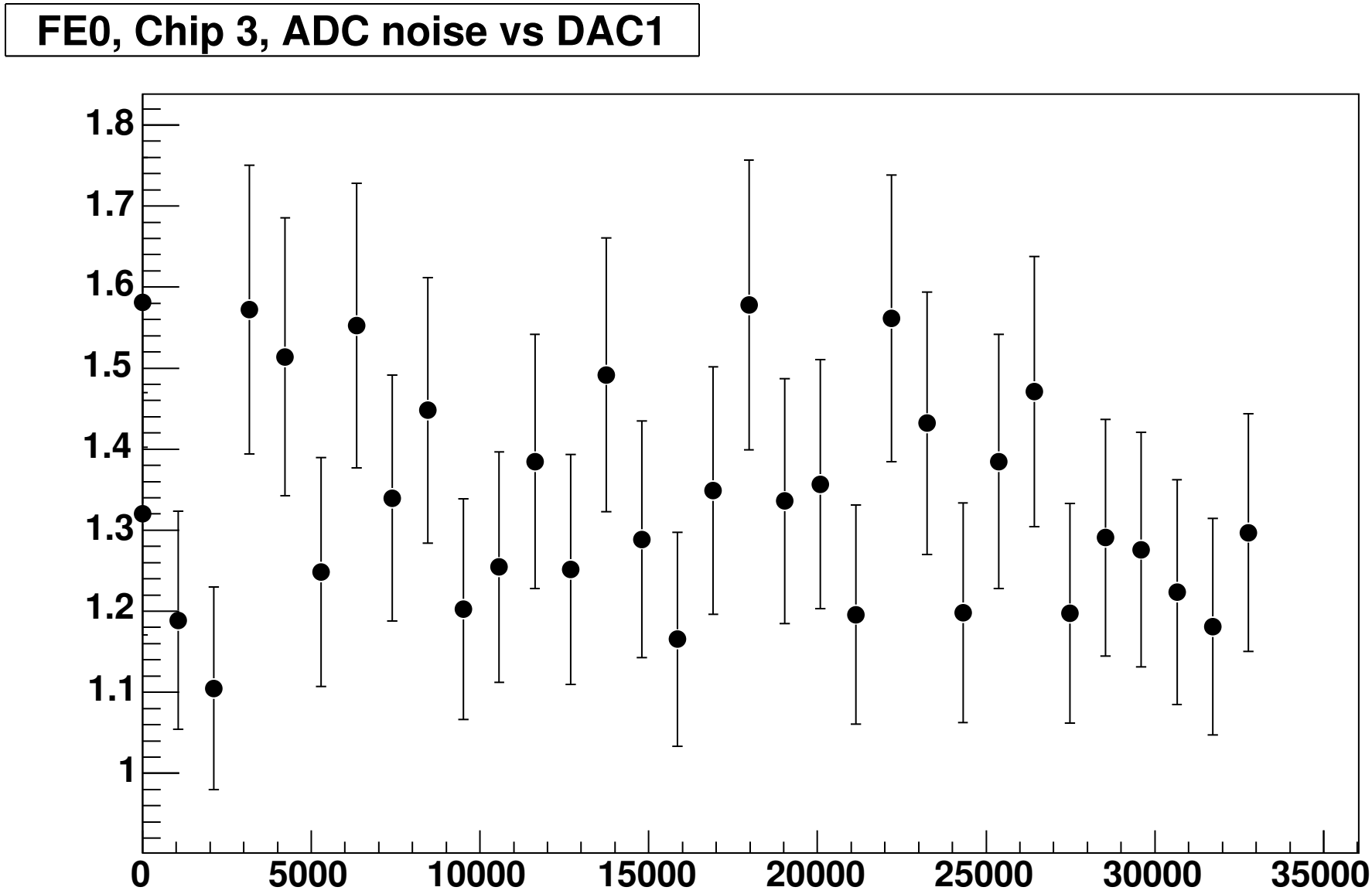

FE0, Chip 2, ADC residuals vs DAC1
1.2
1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

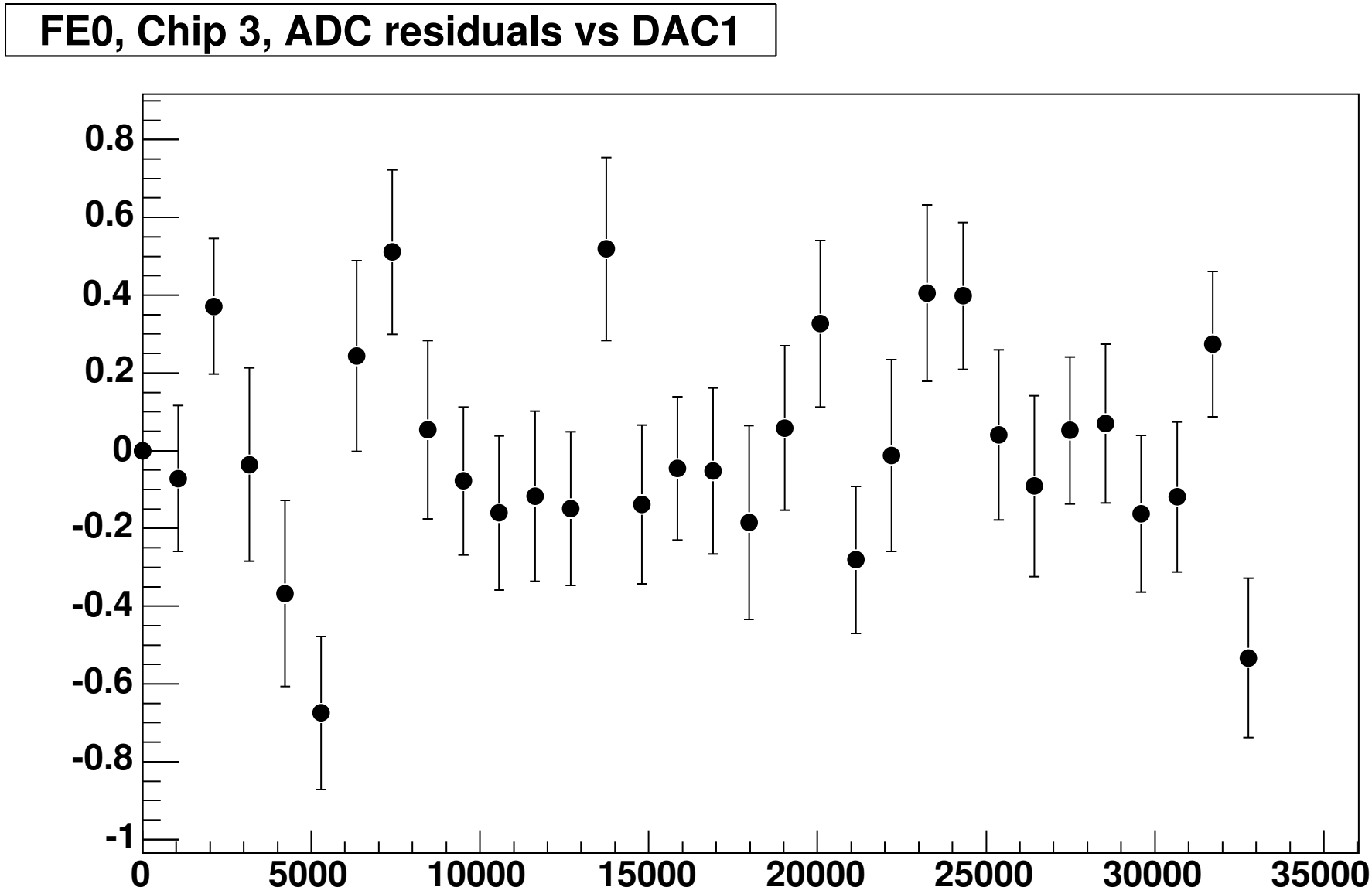

FE0, Chip 3, ADC mean vs DAC0
χ² / ndf 174.1 / 29
p0 -166.2 ± 0.08195
p1 0.4641 ± 4.429e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

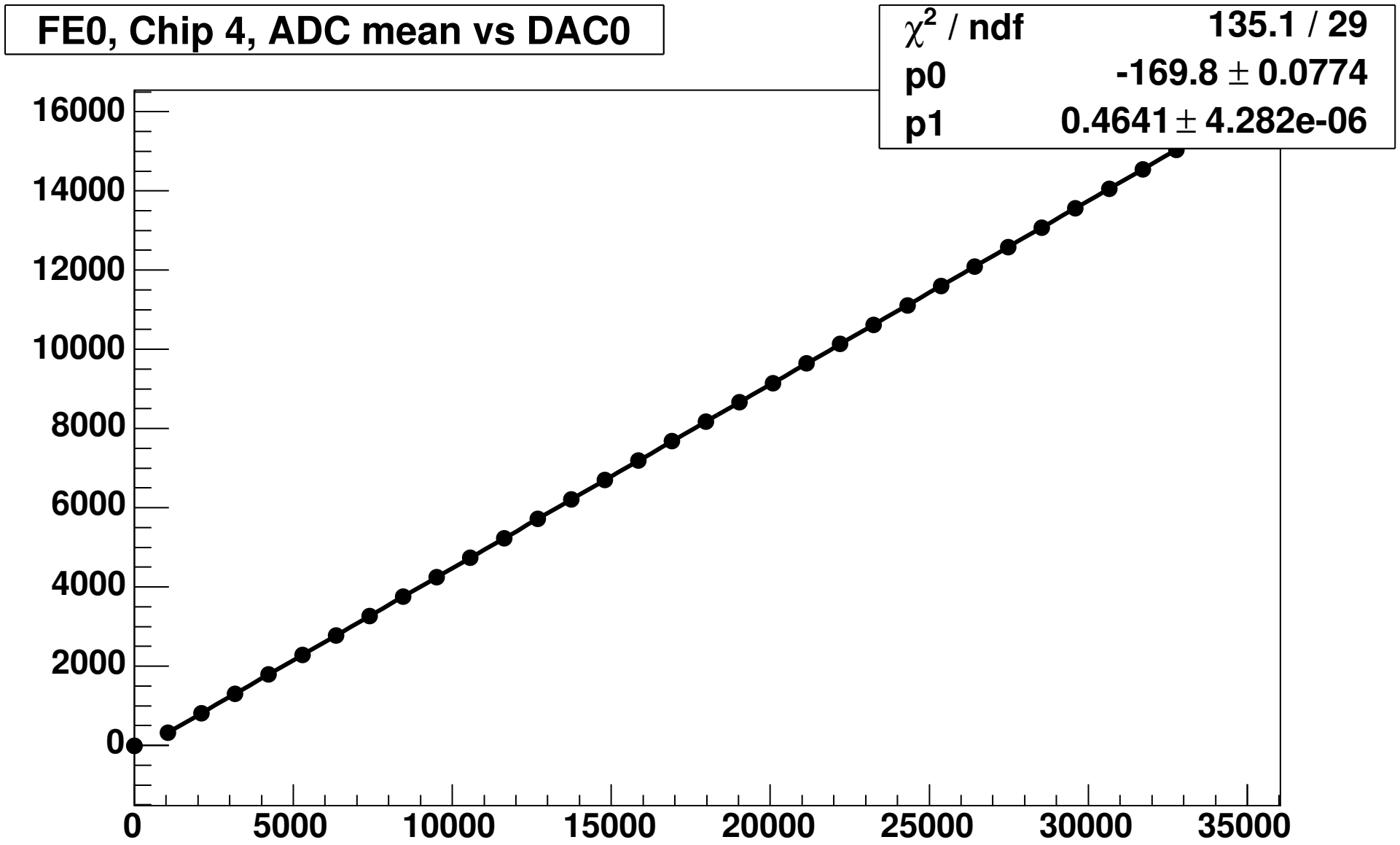

FE0, Chip 3, ADC noise vs DAC0
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

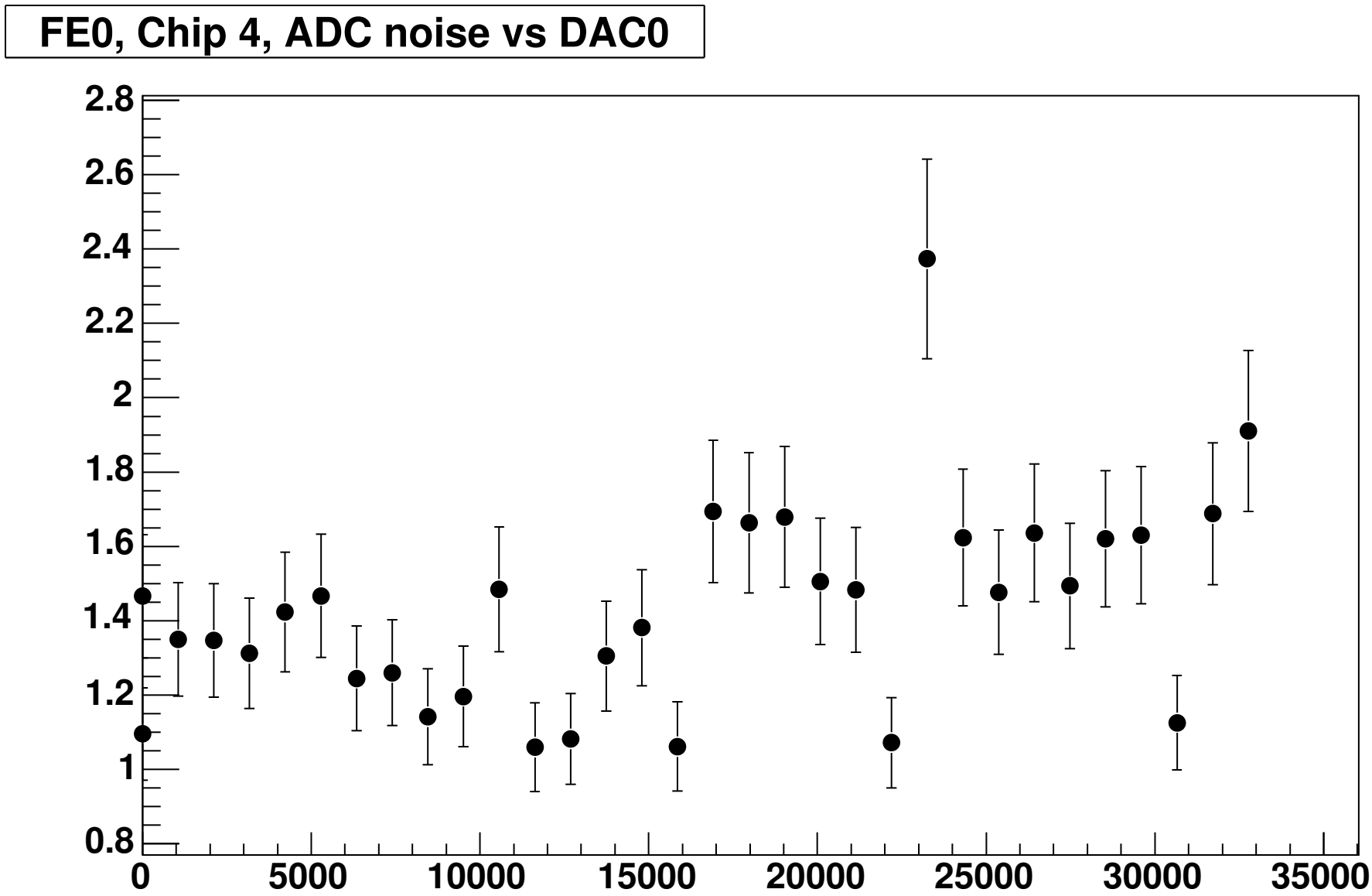

FE0, Chip 3, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000


FE0, Chip 3, ADC mean vs DAC1
χ² / ndf 55.77 / 29
p0 -11.29 ± 0.07578
p1 6.673e-06 ± 3.86e-06
-10.4
-10.6
-10.8
-11
-11.2
-11.4
-11.6
-11.8
-12
-12.2
0
5000
10000
15000
20000
25000
30000
35000

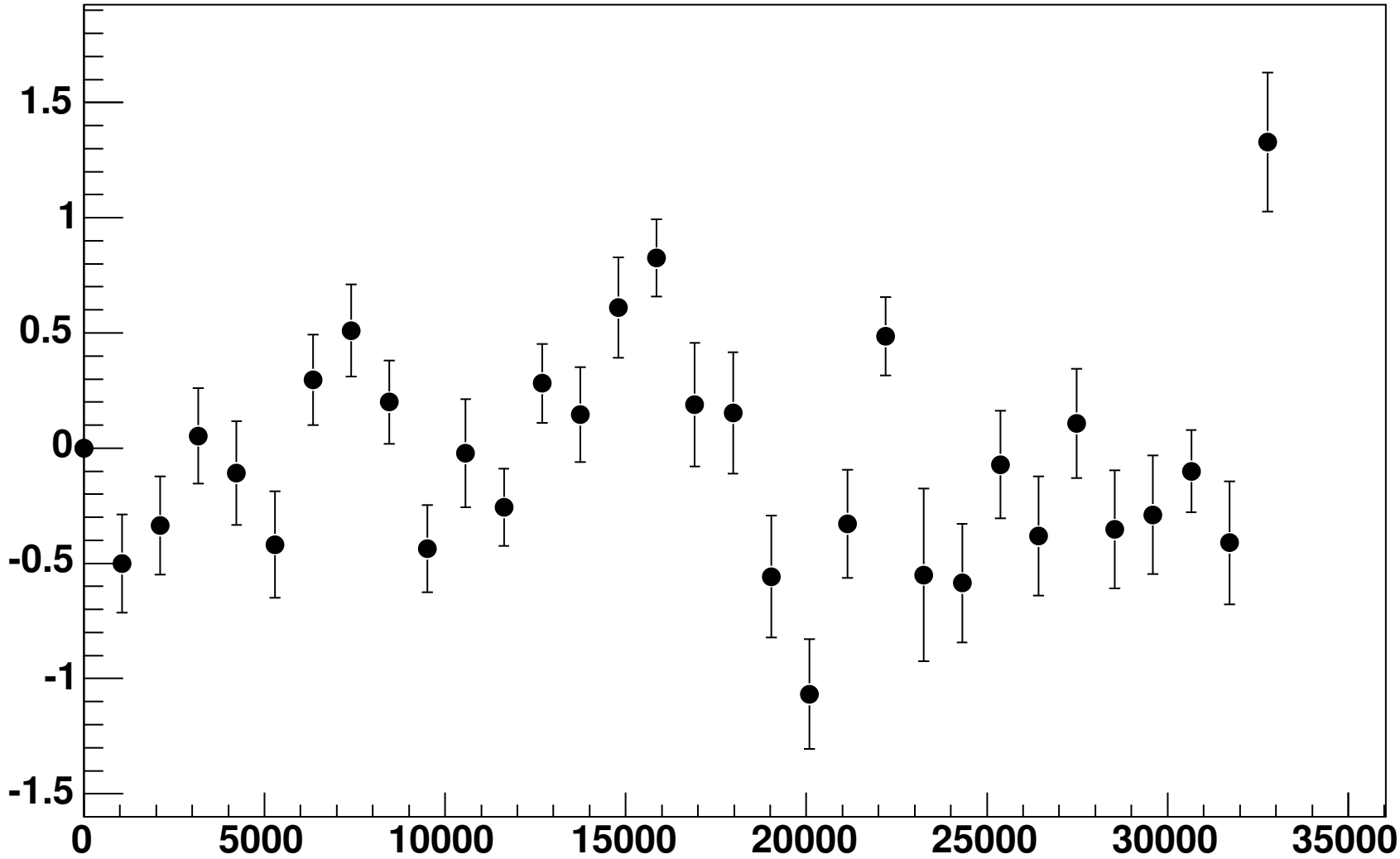

FE0, Chip 3, ADC noise vs DAC1
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0
5000
10000
15000
20000
25000
30000
35000

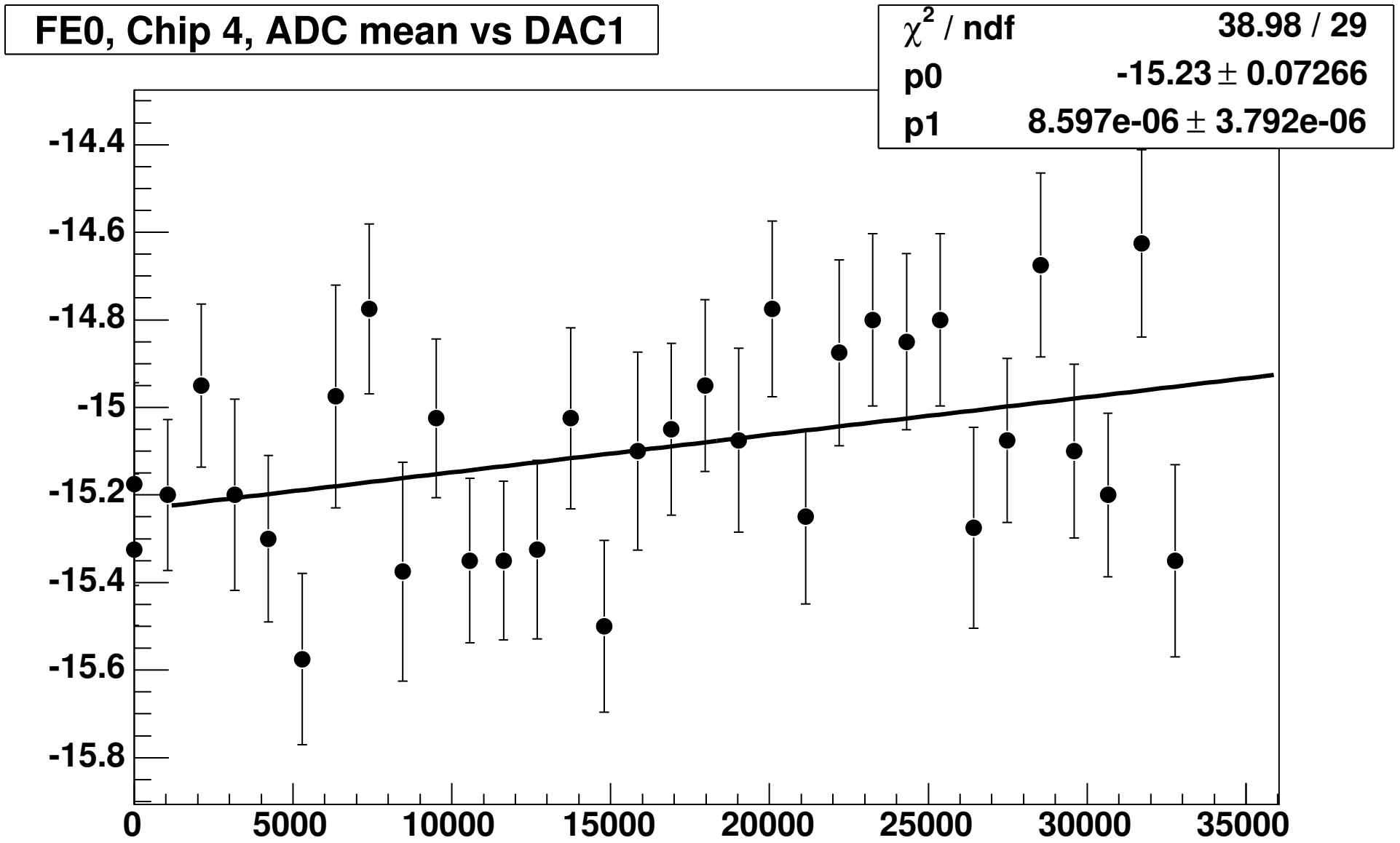

FE0, Chip 3, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
0
5000
10000
15000
20000
25000
30000
35000

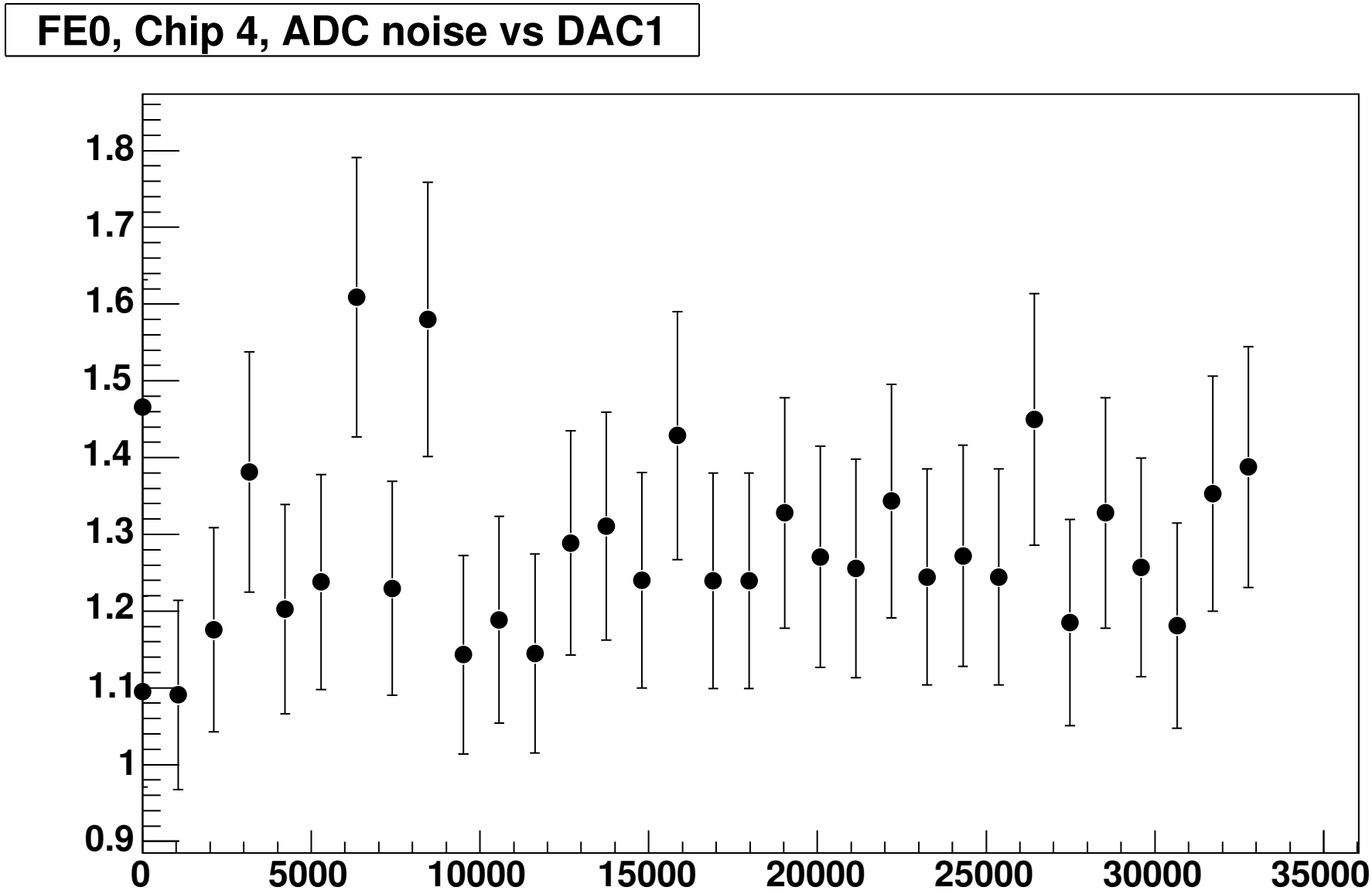

FE0, Chip 4, ADC mean vs DAC0
χ² / ndf 135.1 / 29
p0 -169.8 ± 0.0774
p1 0.4641 ± 4.282e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

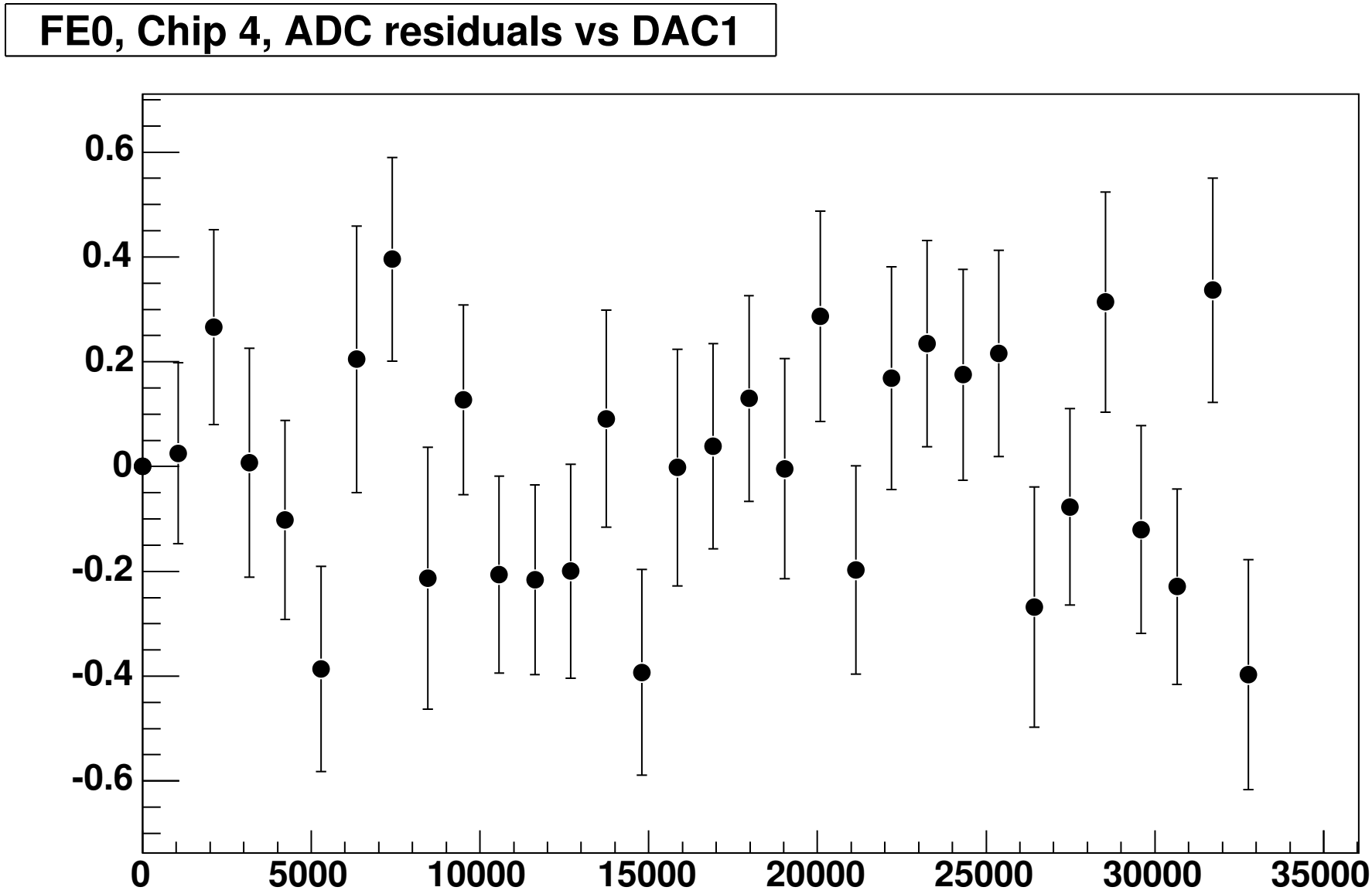

FE0, Chip 4, ADC noise vs DAC0
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

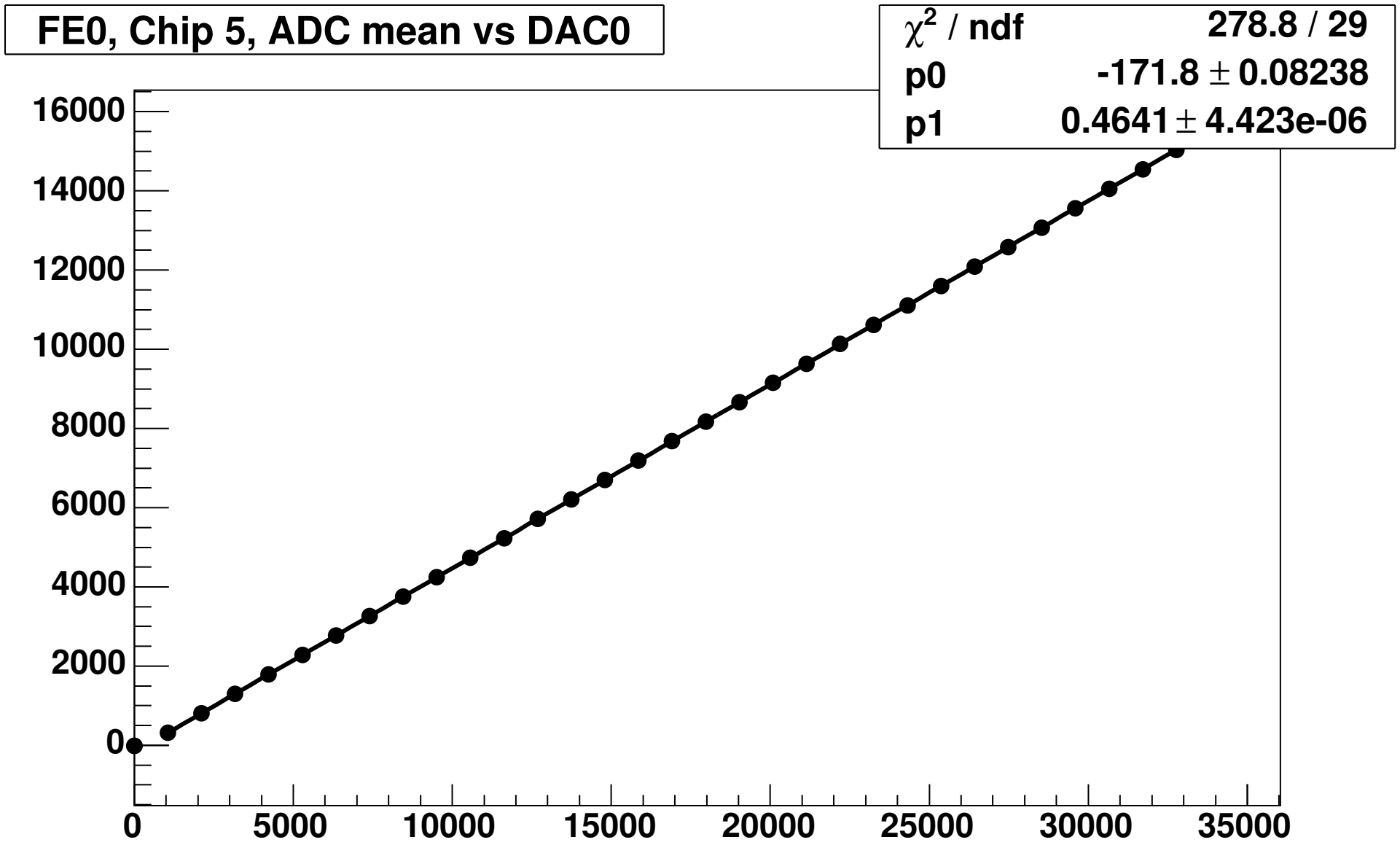
FE0, Chip 4, ADC residuals vs DAC0

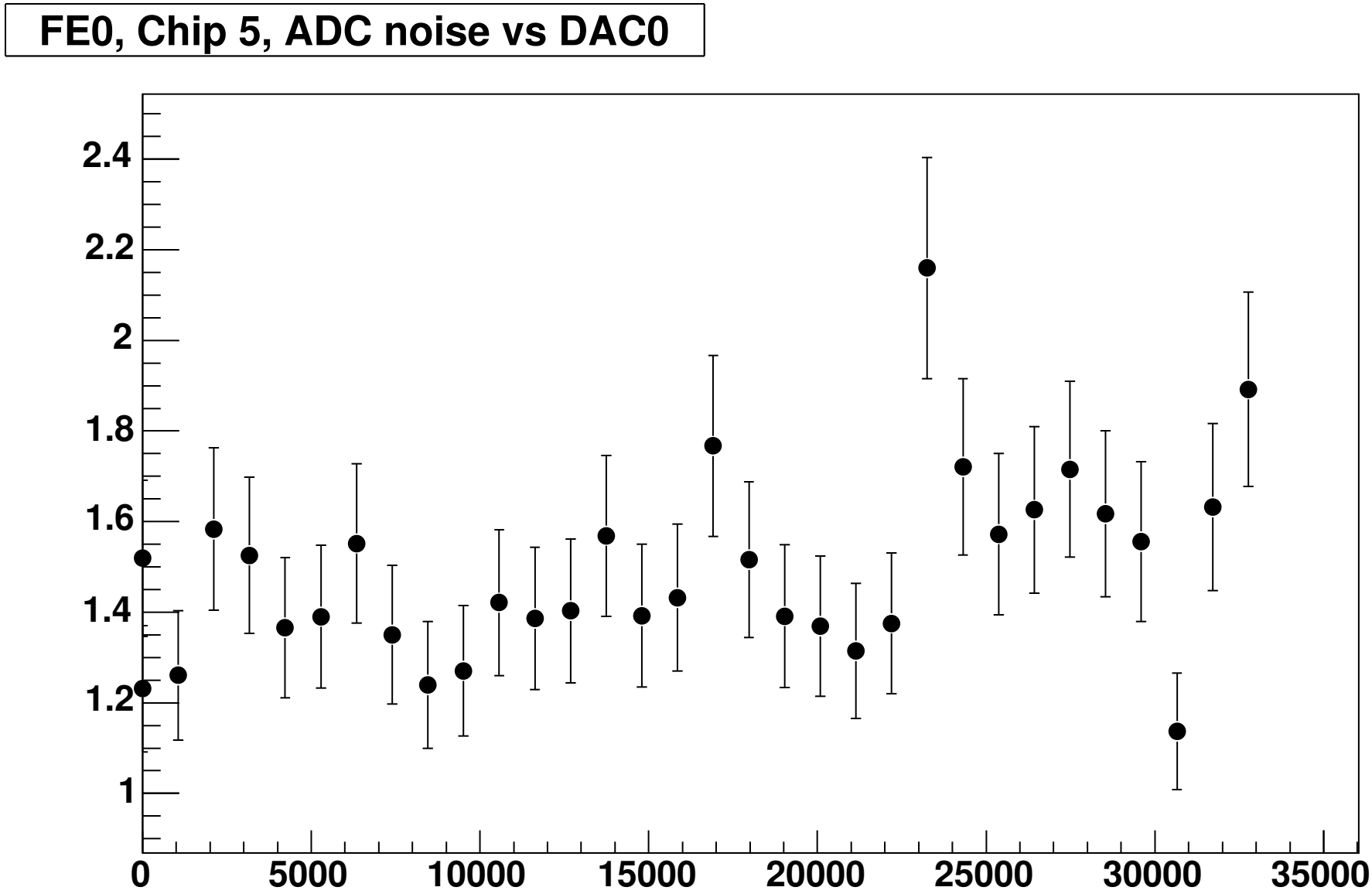


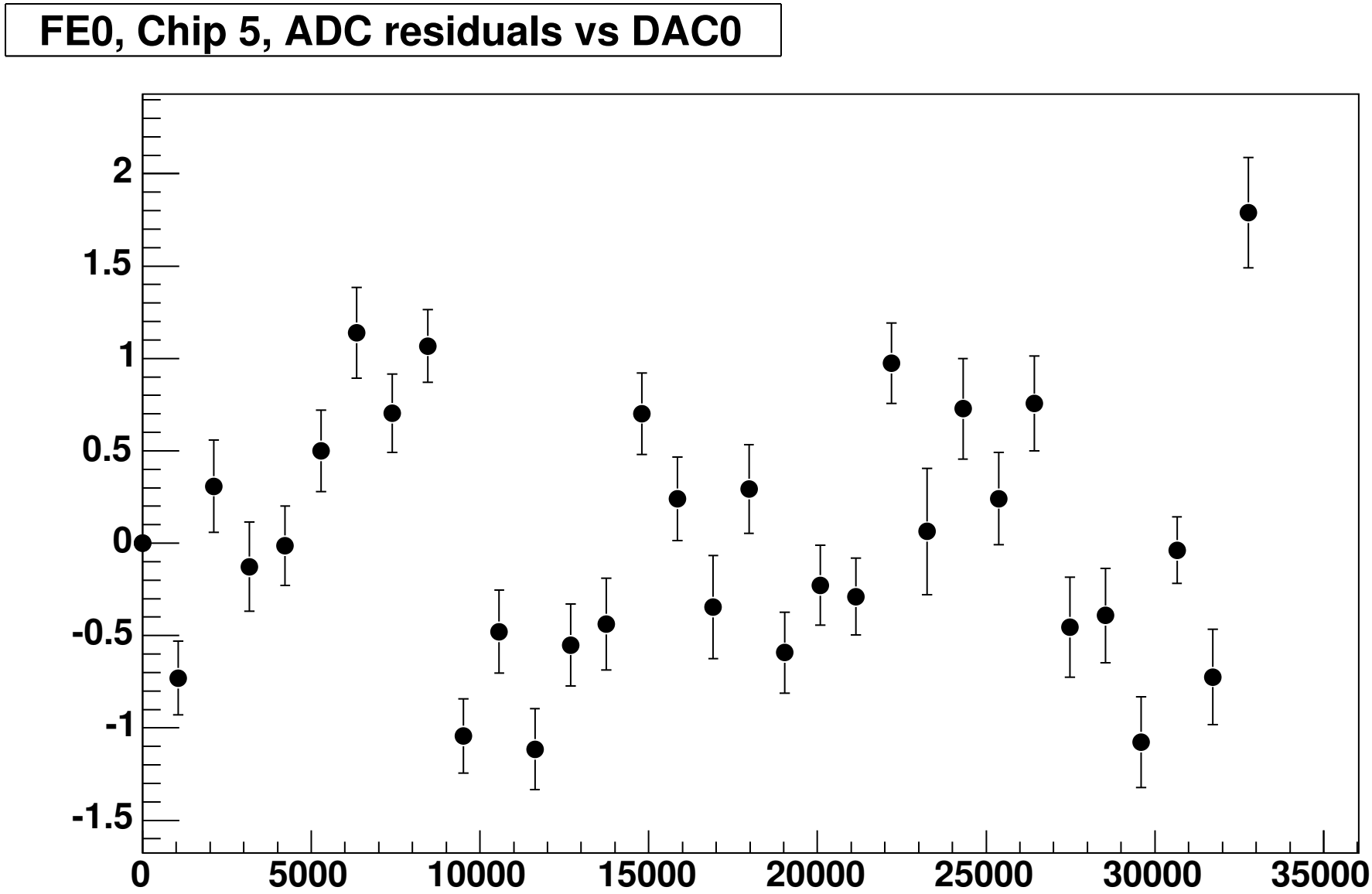

FE0, Chip 4, ADC mean vs DAC1
χ² / ndf 38.98 / 29
p0 -15.23 ± 0.07266
p1 8.597e-06 ± 3.792e-06
-14.4
-14.6
-14.8
-15
-15.2
-15.4
-15.6
-15.8
0
5000
10000
15000
20000
25000
30000
35000

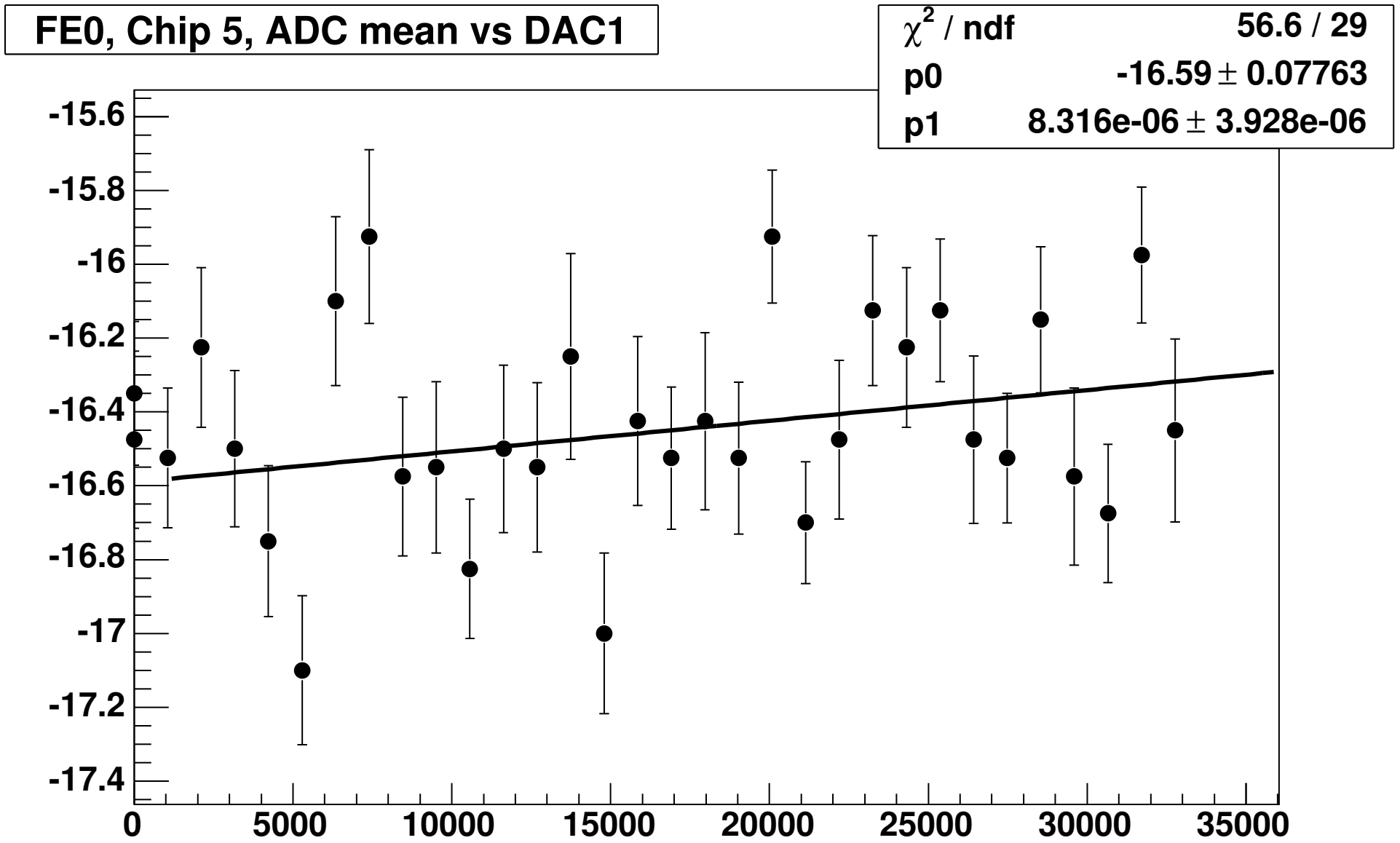

FE0, Chip 4, ADC noise vs DAC1
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0
5000
10000
15000
20000
25000
30000
35000

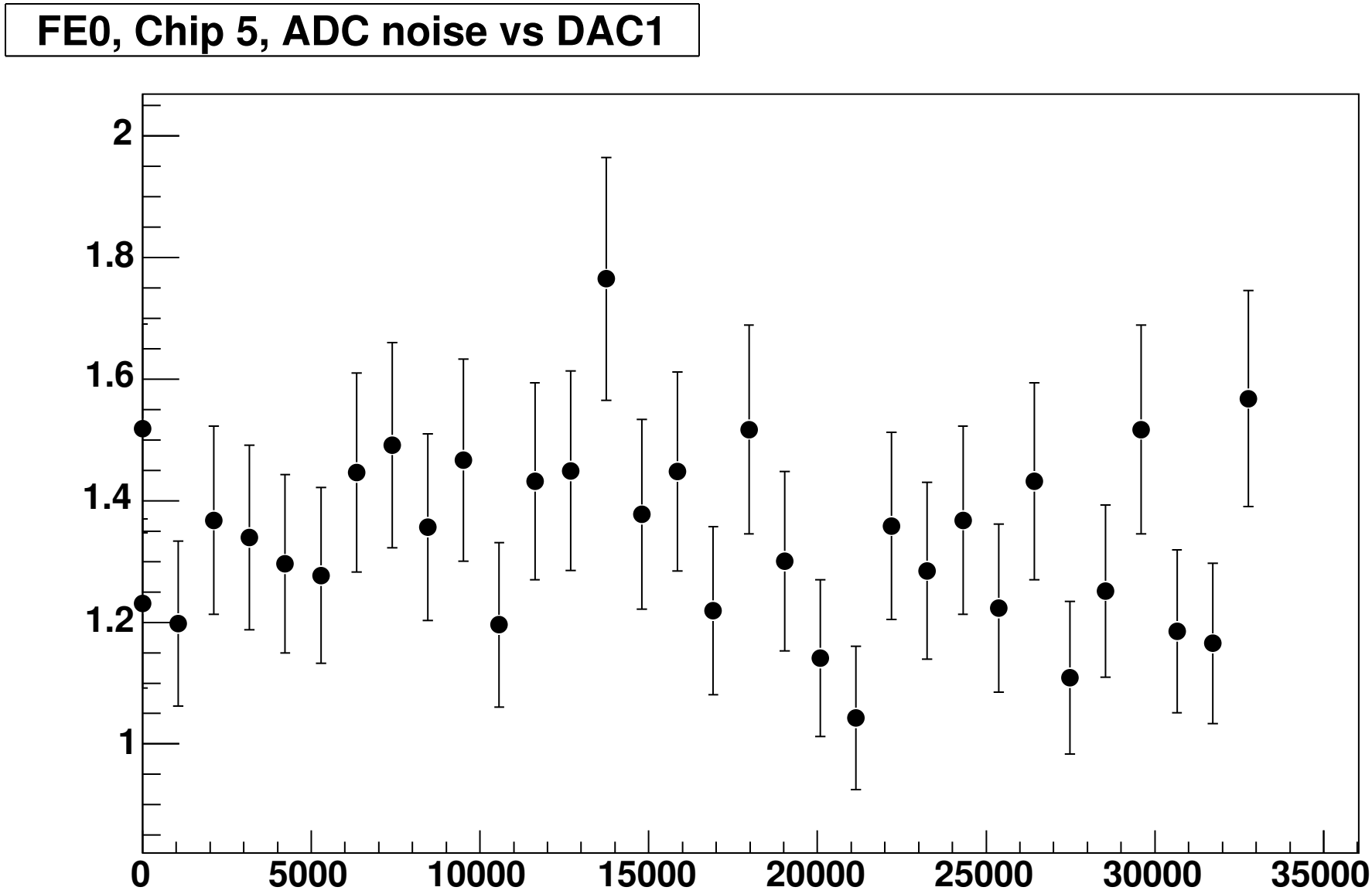

FE0, Chip 4, ADC residuals vs DAC1
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

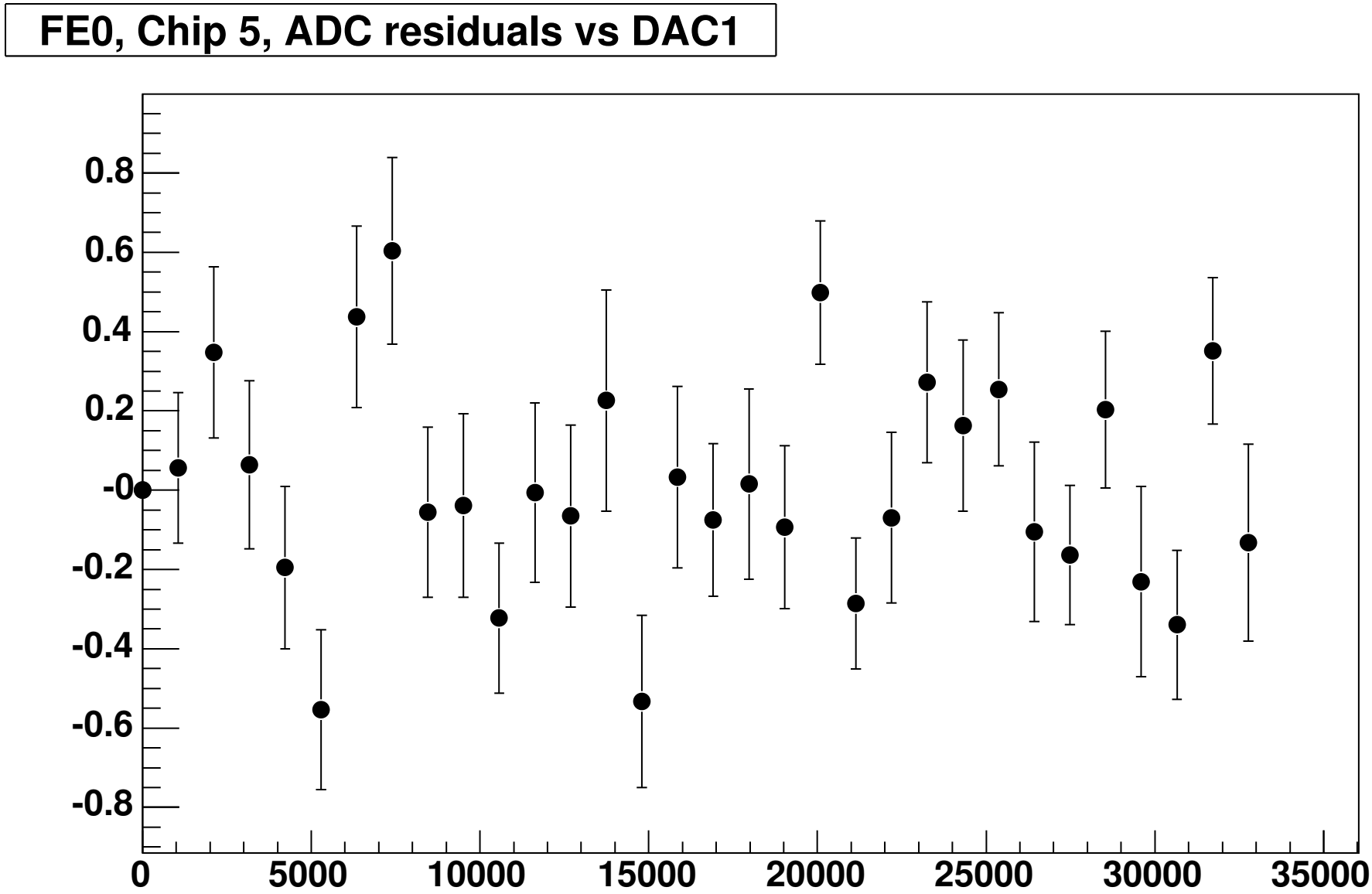

FE0, Chip 5, ADC mean vs DAC0
χ² / ndf 278.8 / 29
p0 -171.8 ± 0.08238
p1 0.4641 ± 4.423e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

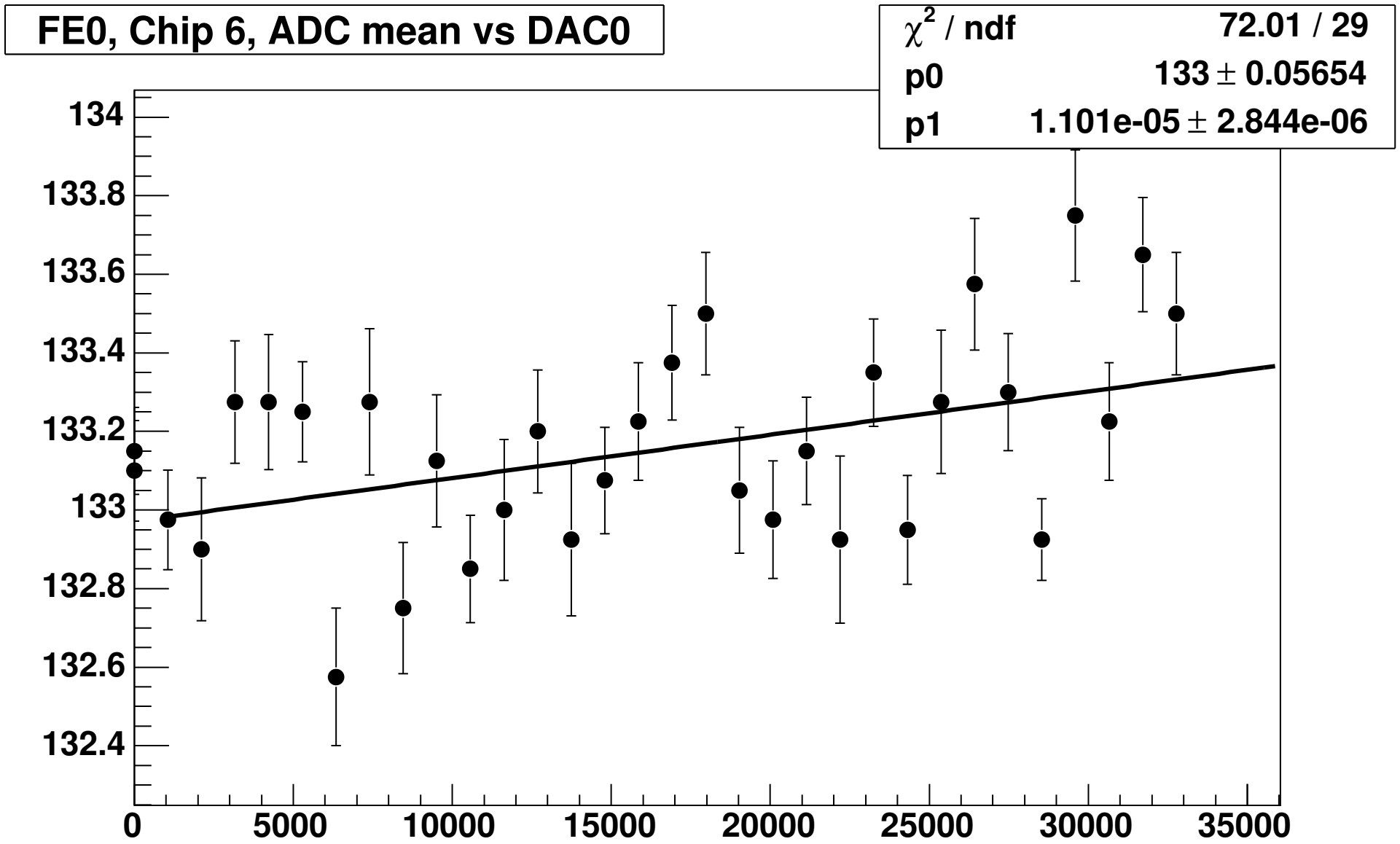

FE0, Chip 5, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000


FE0, Chip 5, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

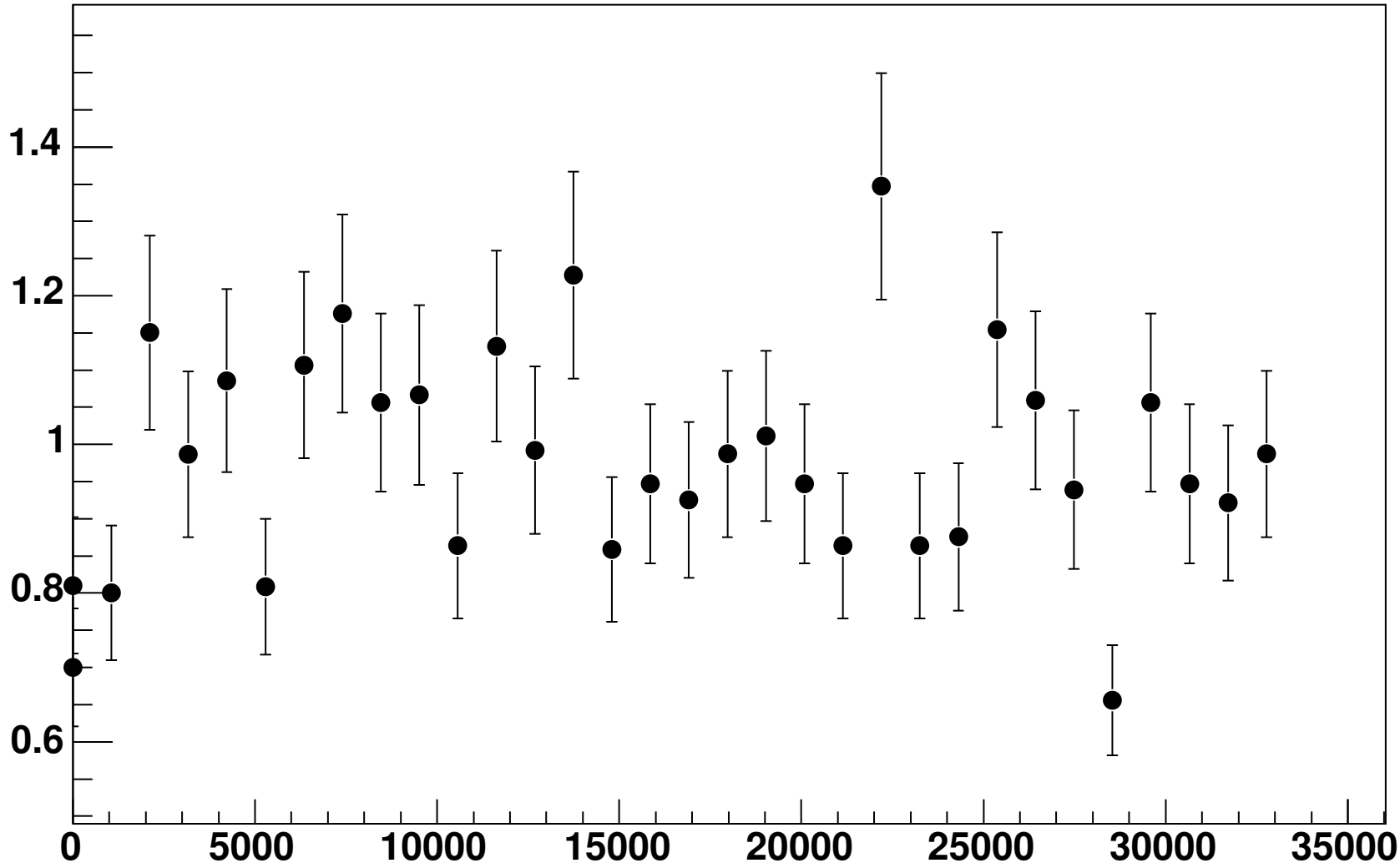

FE0, Chip 5, ADC mean vs DAC1
χ² / ndf 56.6 / 29
p0 -16.59 ± 0.07763
p1 8.316e-06 ± 3.928e-06
-15.6
-15.8
-16
-16.2
-16.4
-16.6
-16.8
-17
-17.2
-17.4
0
5000
10000
15000
20000
25000
30000
35000

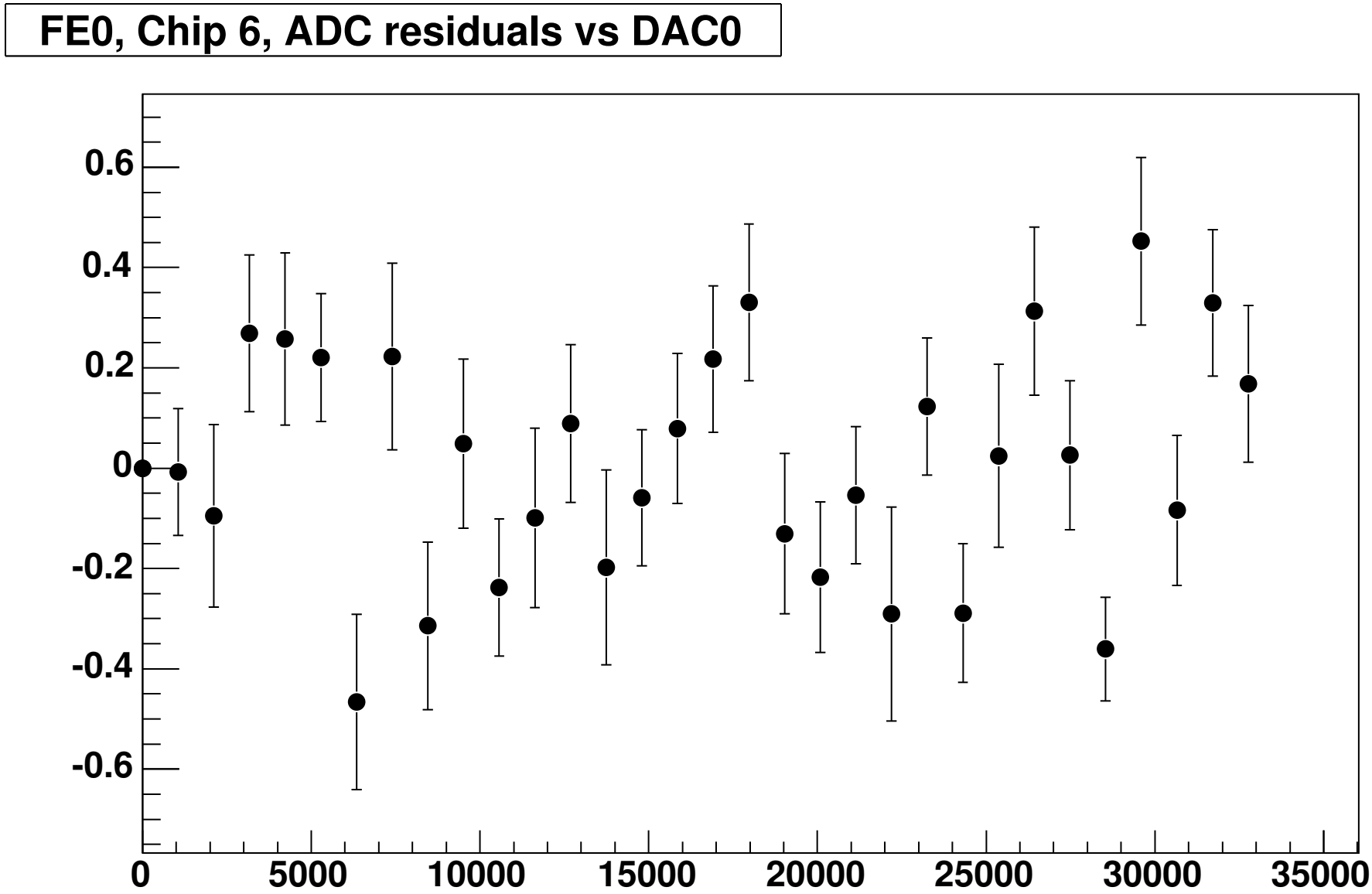

FE0, Chip 5, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

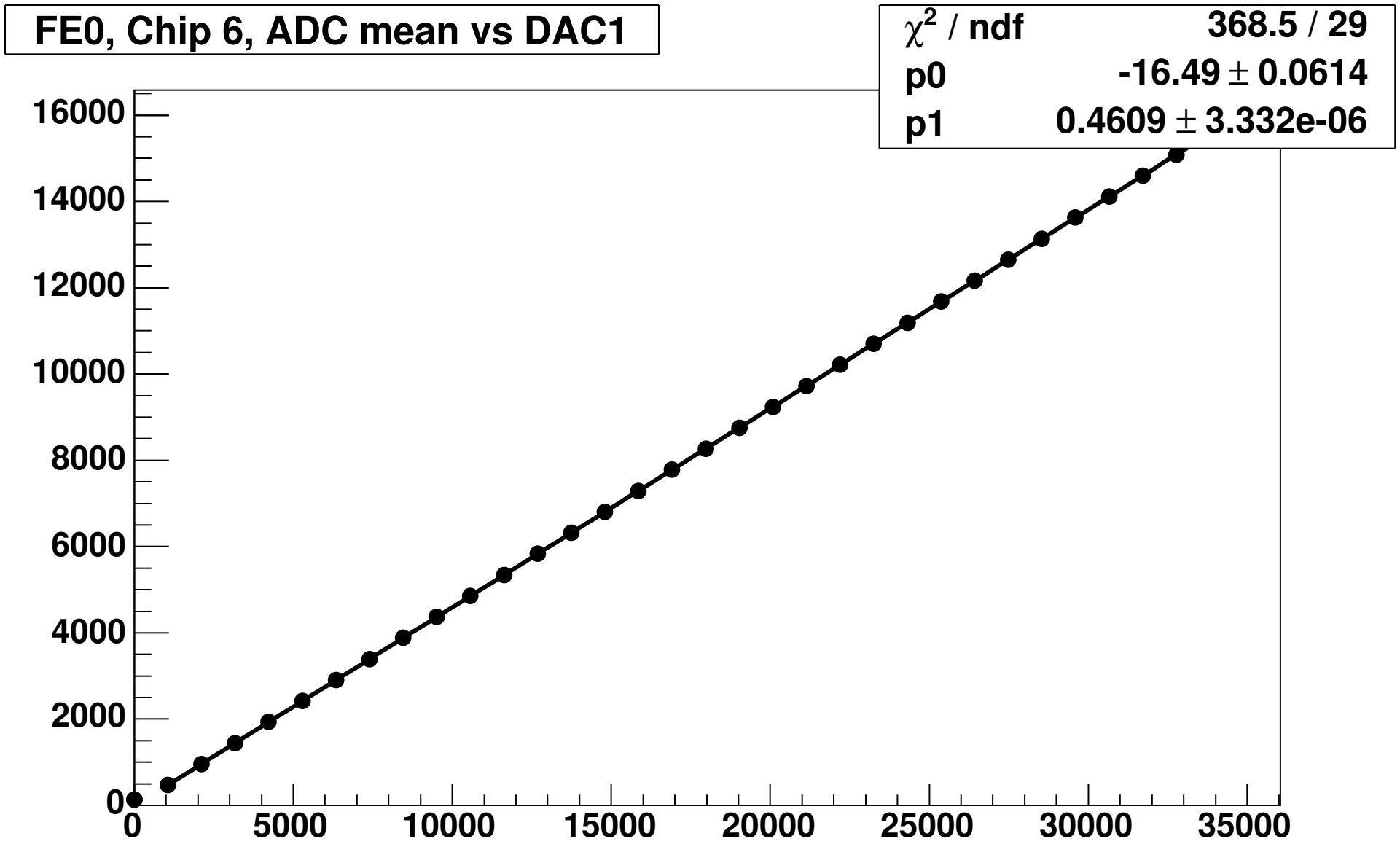

FE0, Chip 5, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

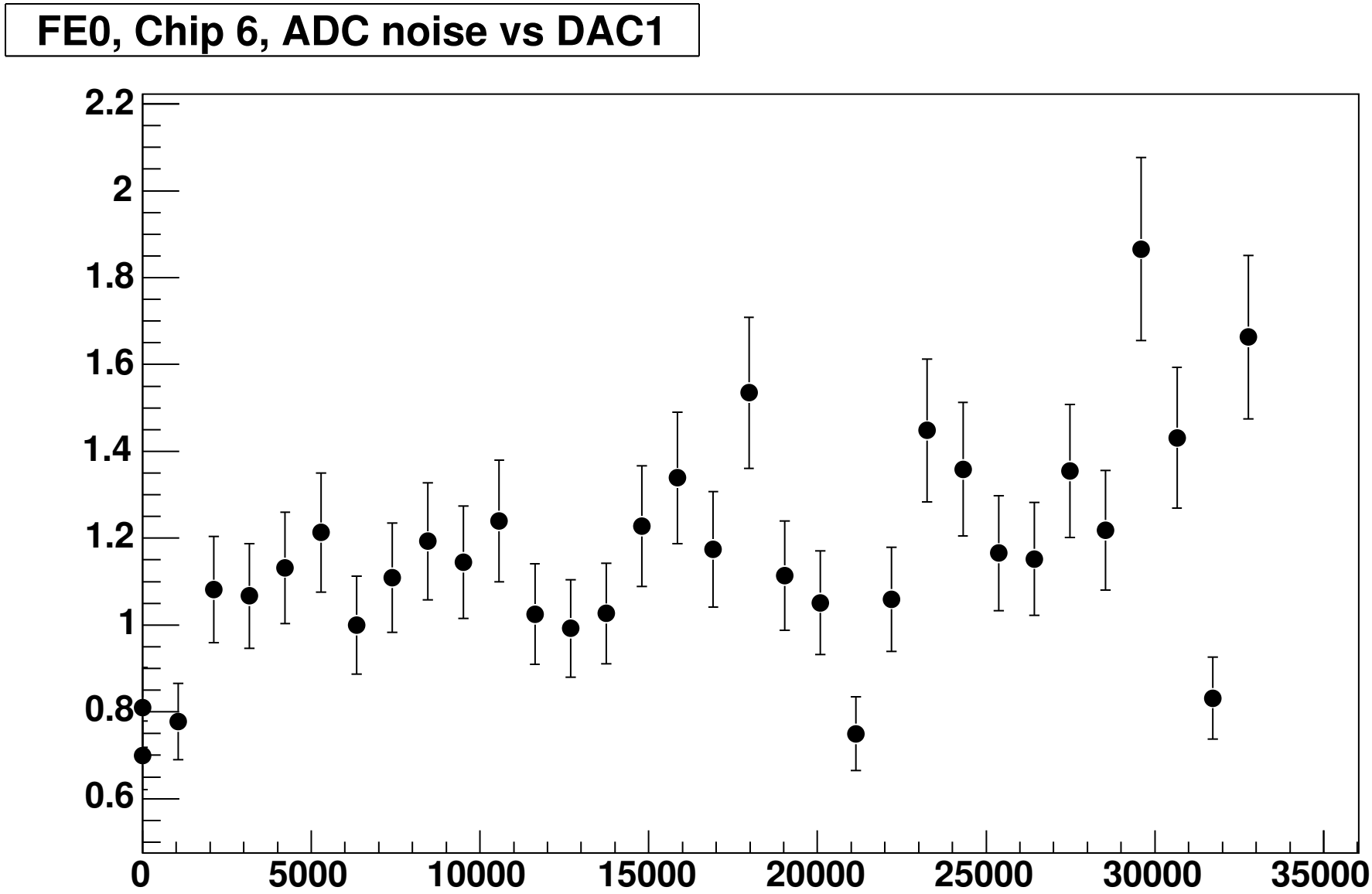

FE0, Chip 6, ADC mean vs DAC0
χ² / ndf 72.01 / 29
p0 133 ± 0.05654
p1 1.101e-05 ± 2.844e-06
134
133.8
133.6
133.4
133.2
133
132.8
132.6
132.4
0
5000
10000
15000
20000
25000
30000
35000

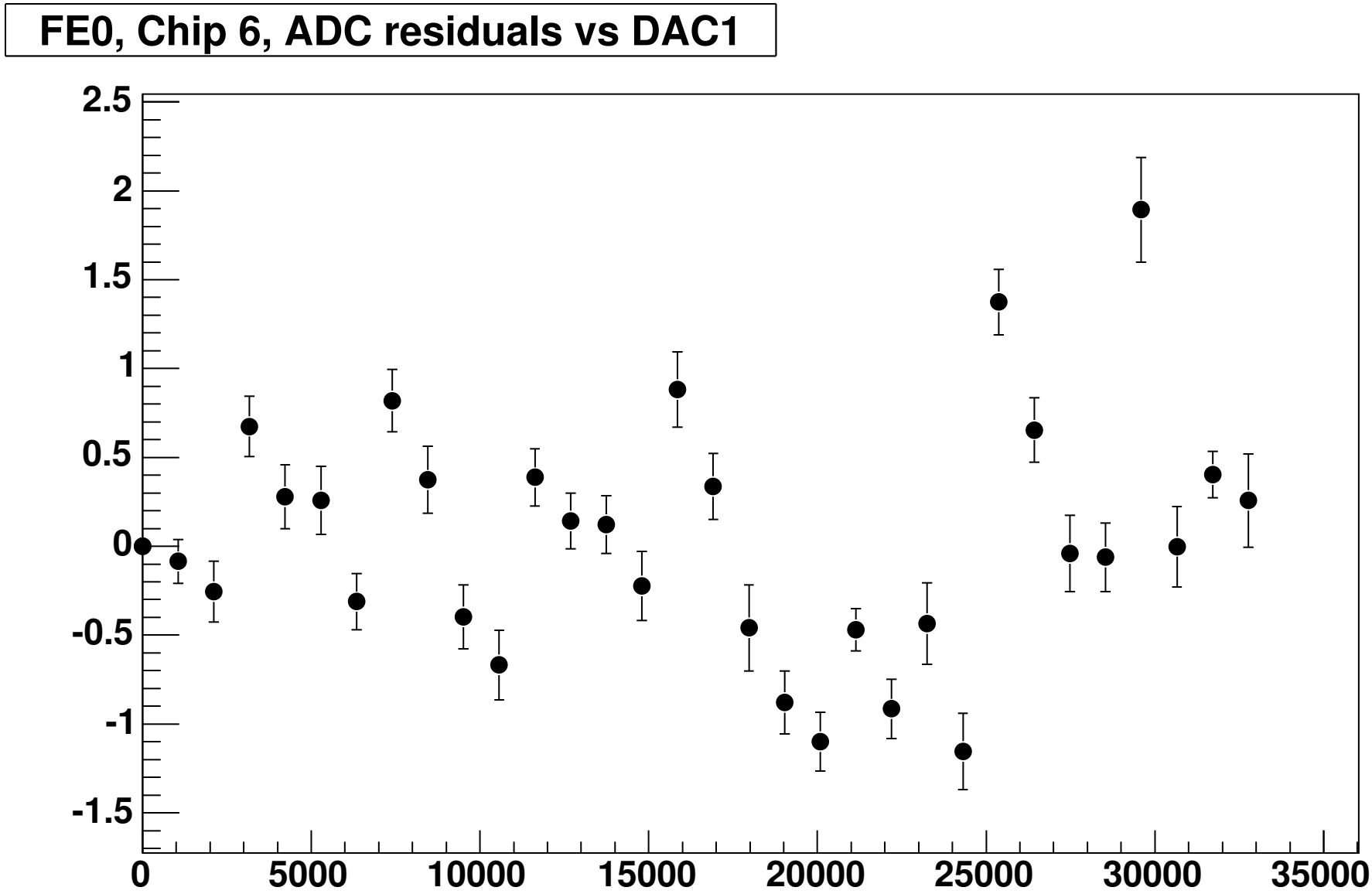
FE0, Chip 6, ADC noise vs DAC0

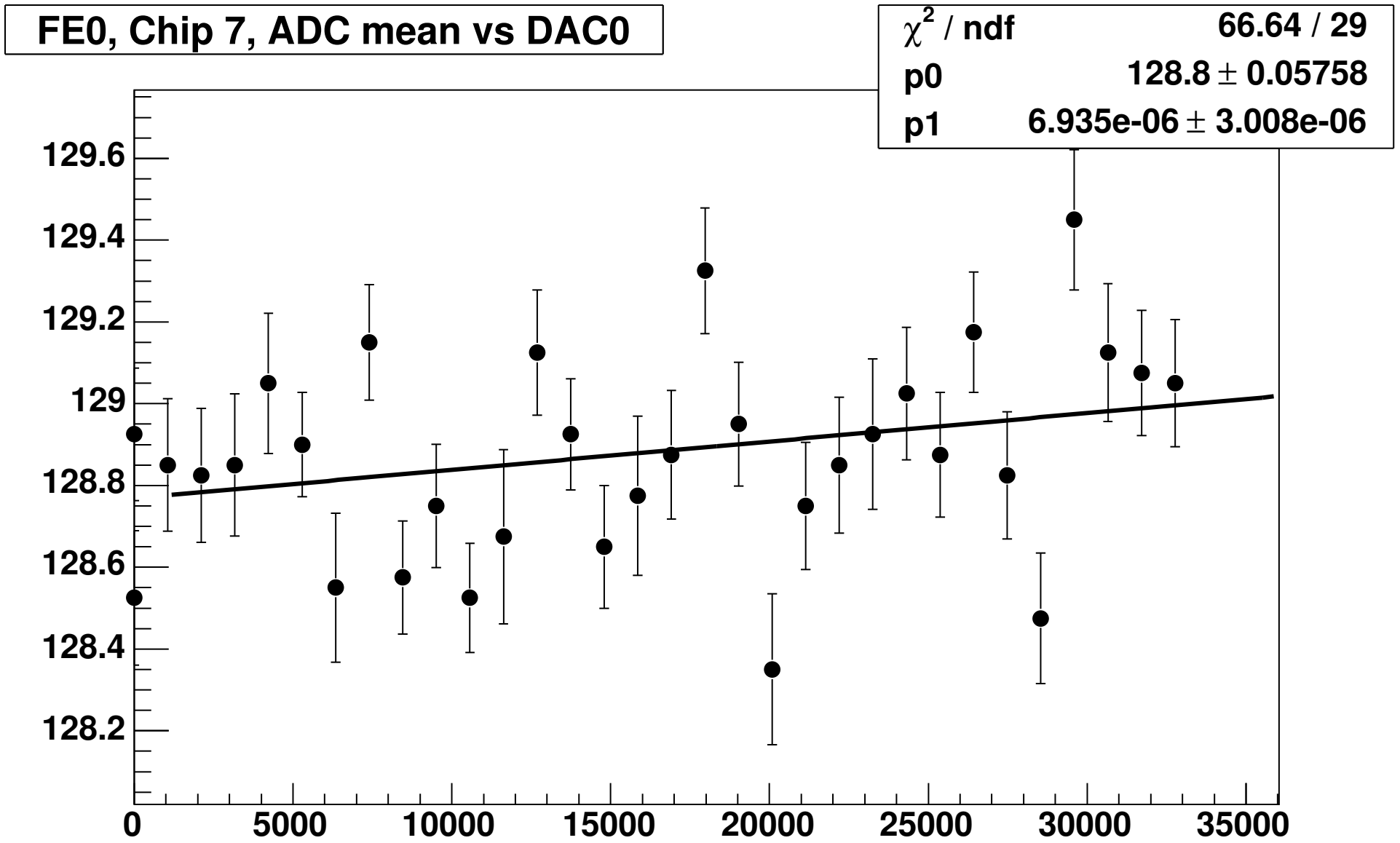


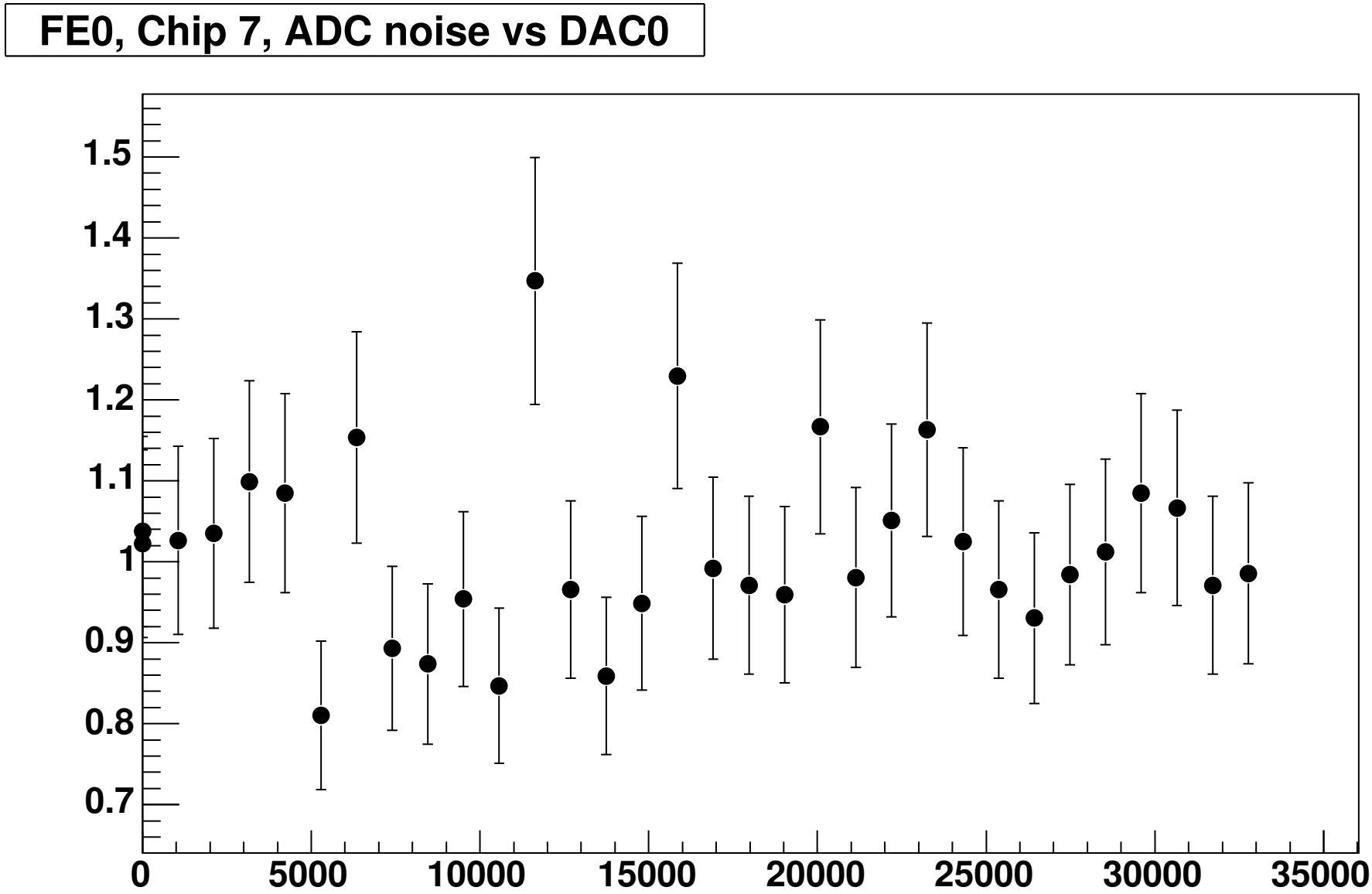

FE0, Chip 6, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

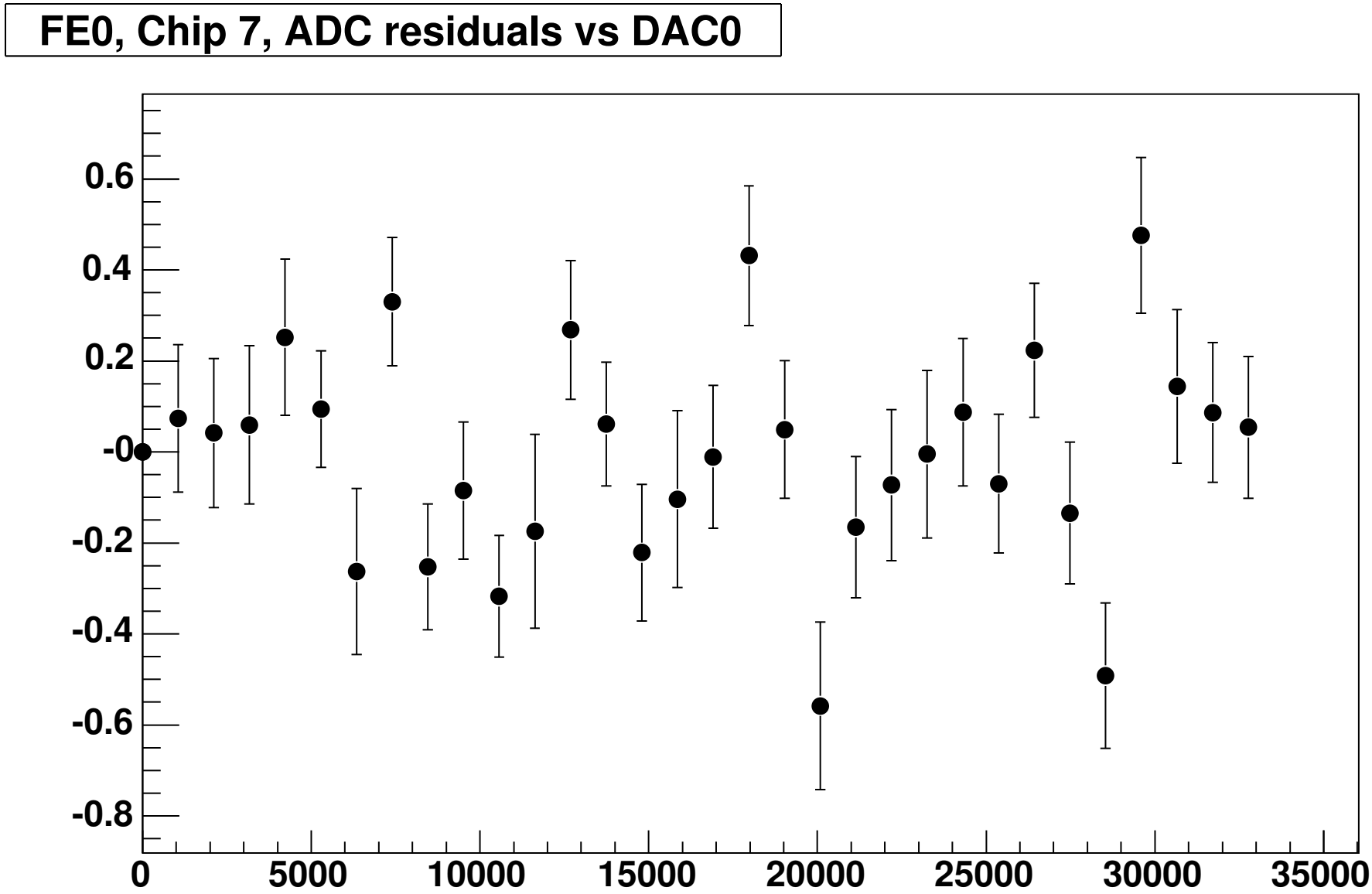

FE0, Chip 6, ADC mean vs DAC1
χ² / ndf 368.5 / 29
p0 -16.49 ± 0.0614
p1 0.4609 ± 3.332e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

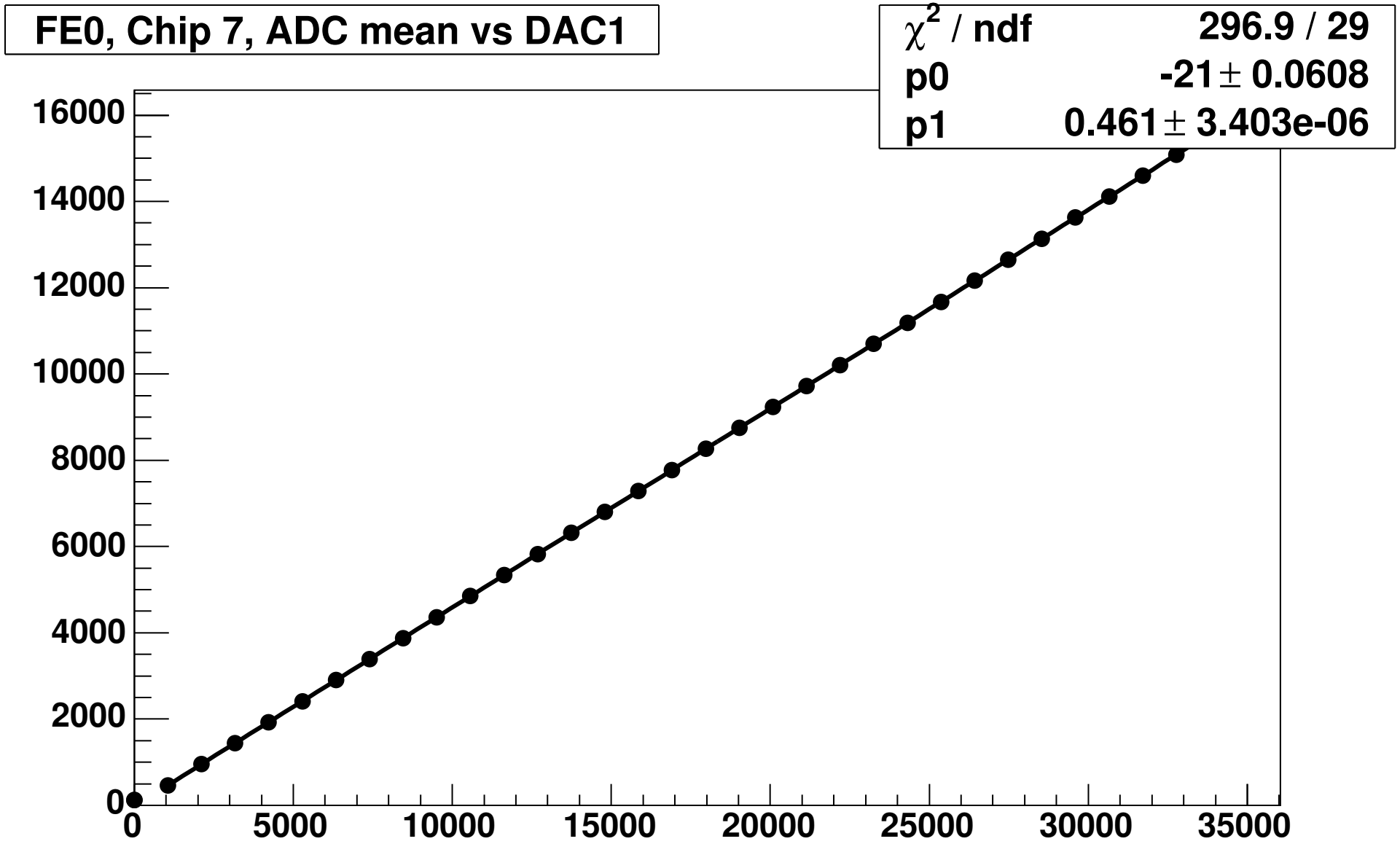

FE0, Chip 6, ADC noise vs DAC1
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

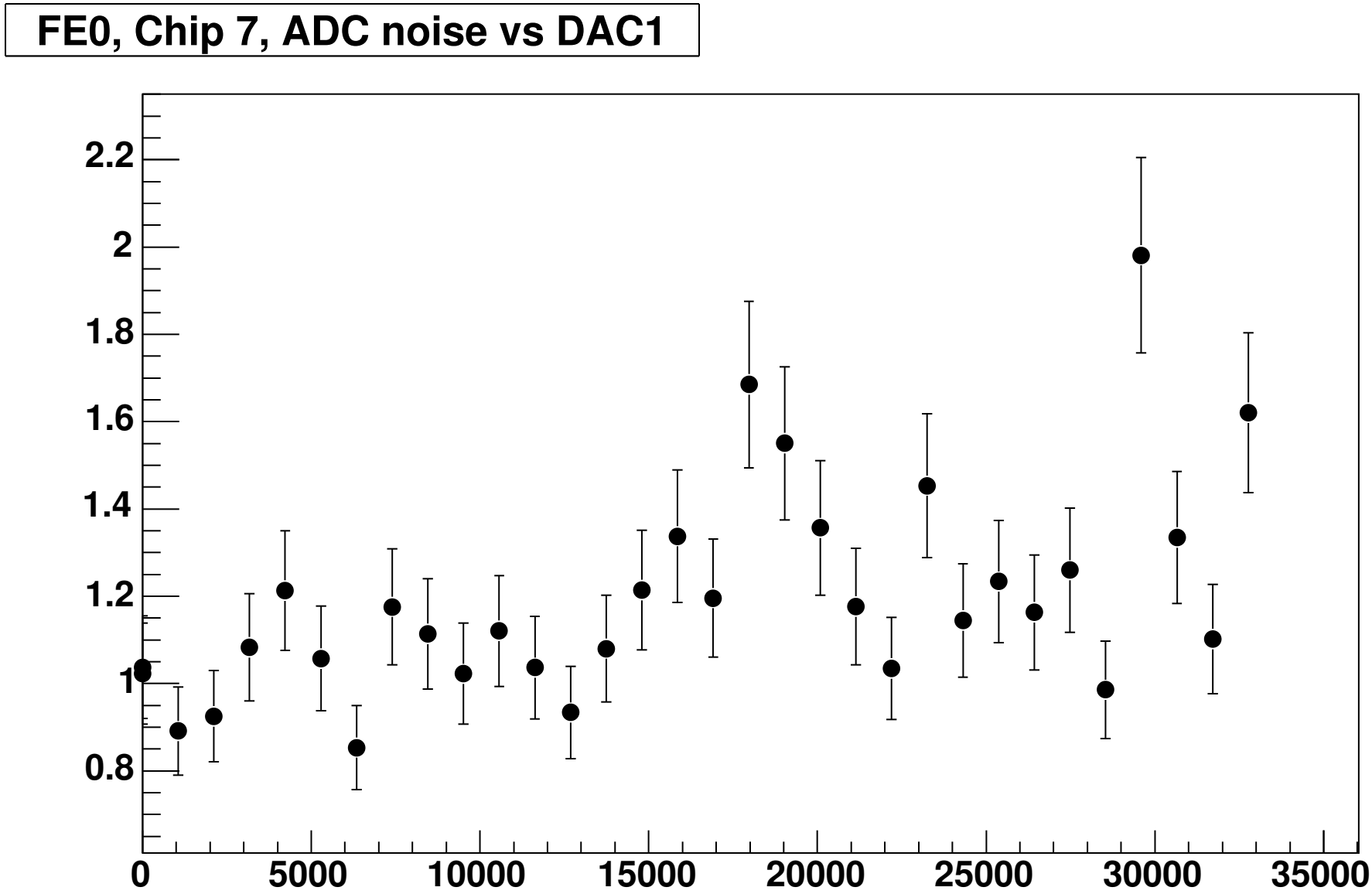

FE0, Chip 6, ADC residuals vs DAC1
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

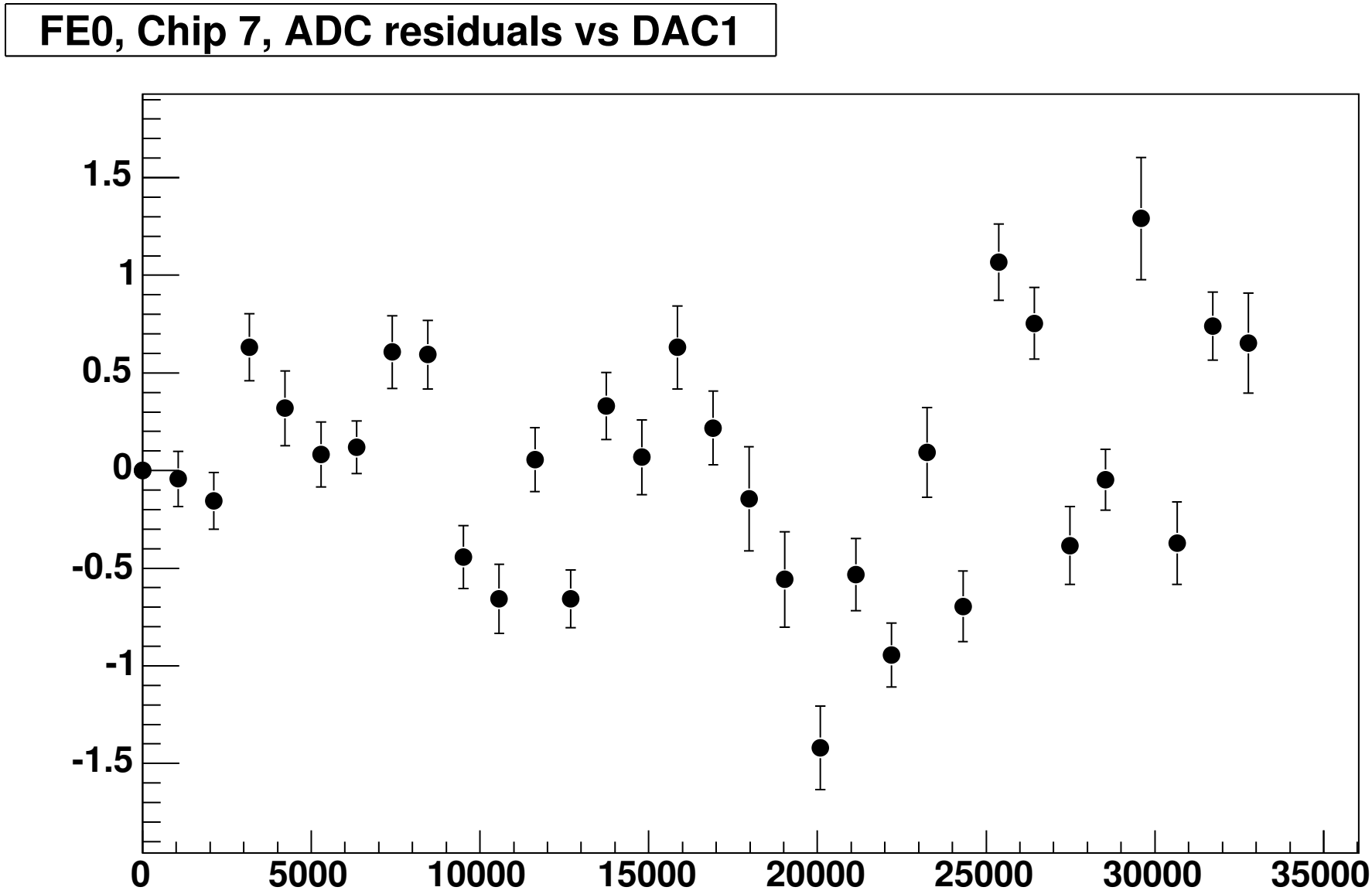

FE0, Chip 7, ADC mean vs DAC0
χ² / ndf 66.64 / 29
p0 128.8 ± 0.05758
p1 6.935e-06 ± 3.008e-06
129.6
129.4
129.2
129
128.8
128.6
128.4
128.2
0
5000
10000
15000
20000
25000
30000
35000

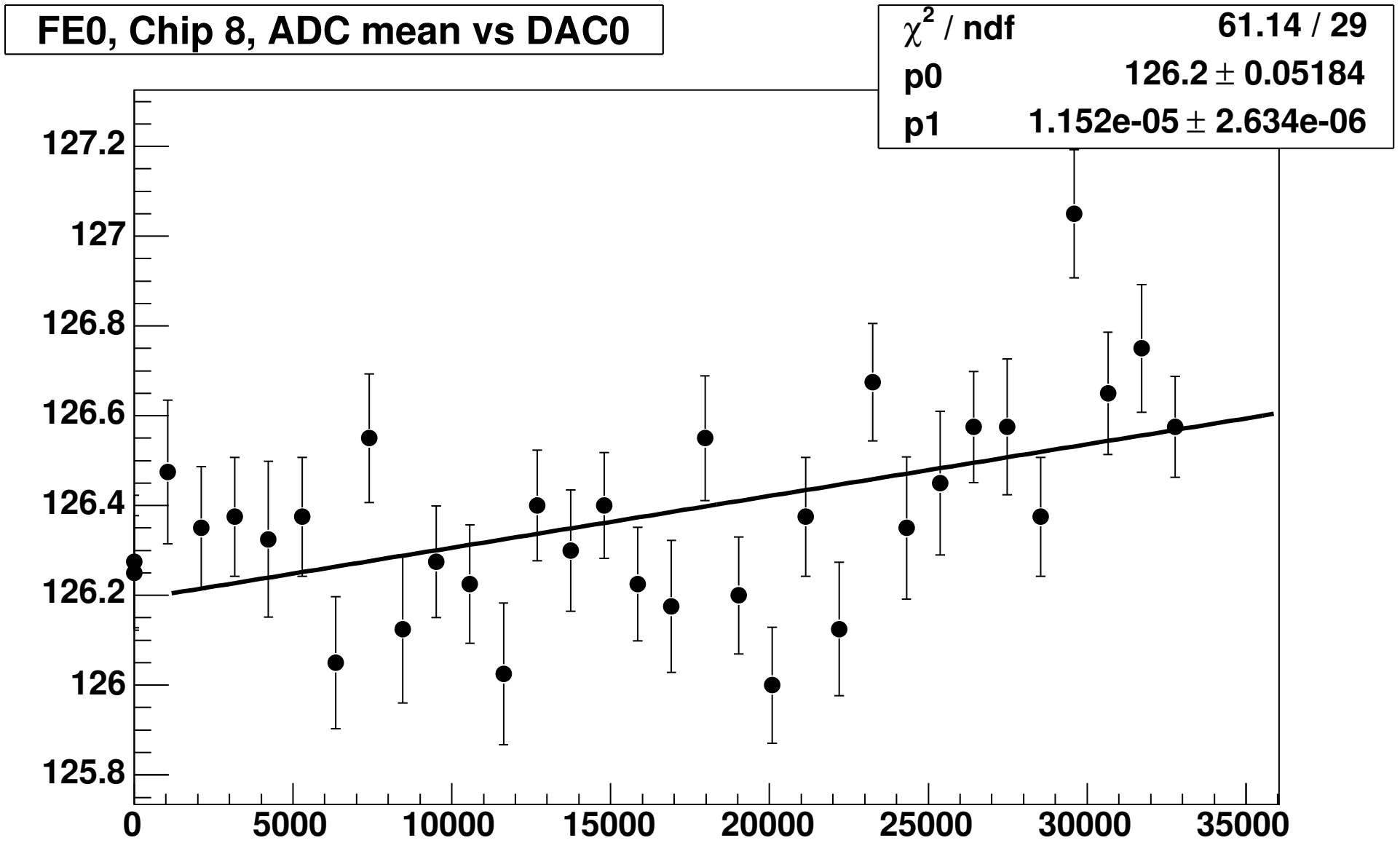

FE0, Chip 7, ADC noise vs DAC0
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

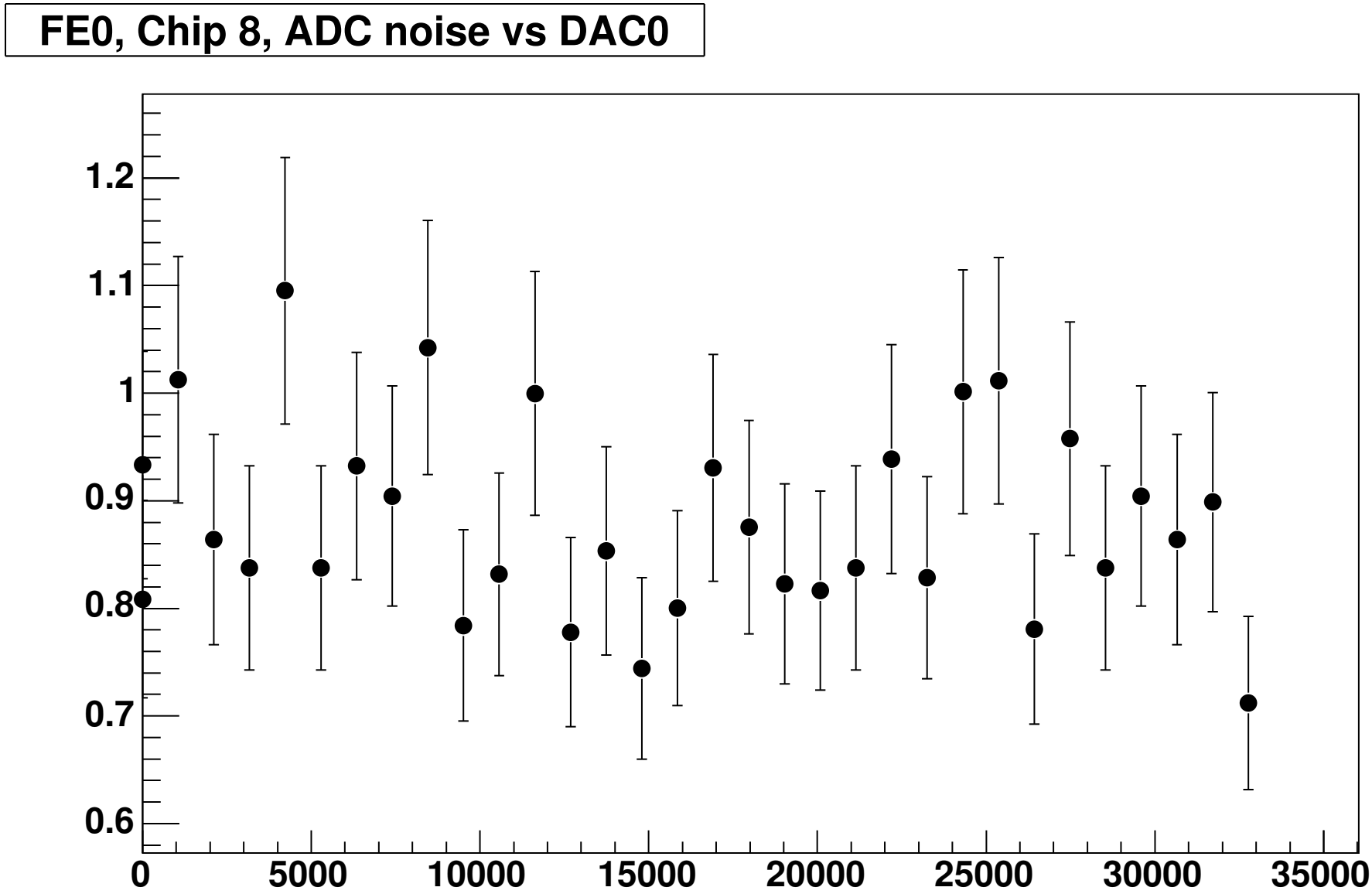

FE0, Chip 7, ADC residuals vs DAC0
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

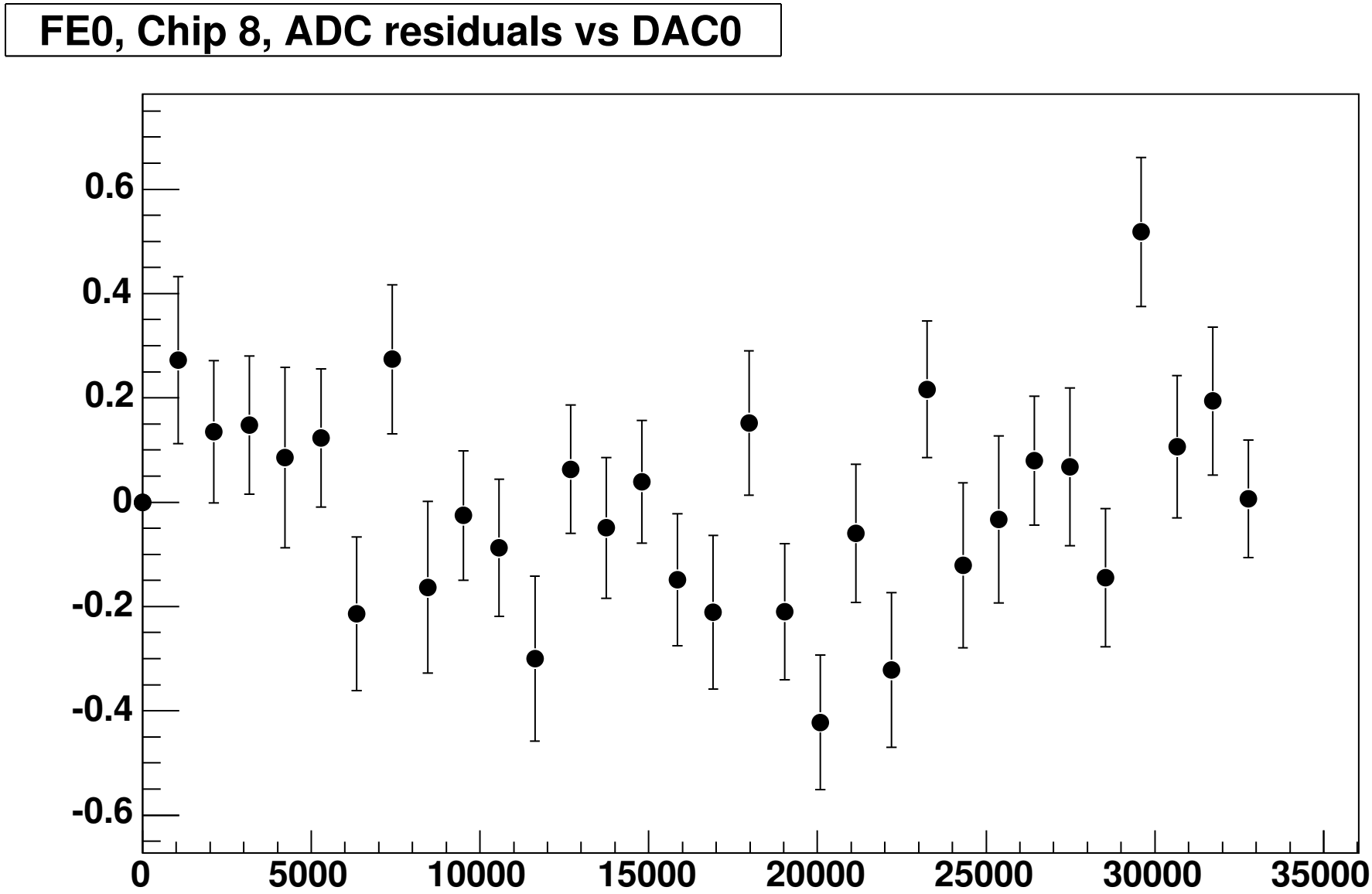

FE0, Chip 7, ADC mean vs DAC1
χ² / ndf 296.9 / 29
p0 -21 ± 0.0608
p1 0.461 ± 3.403e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

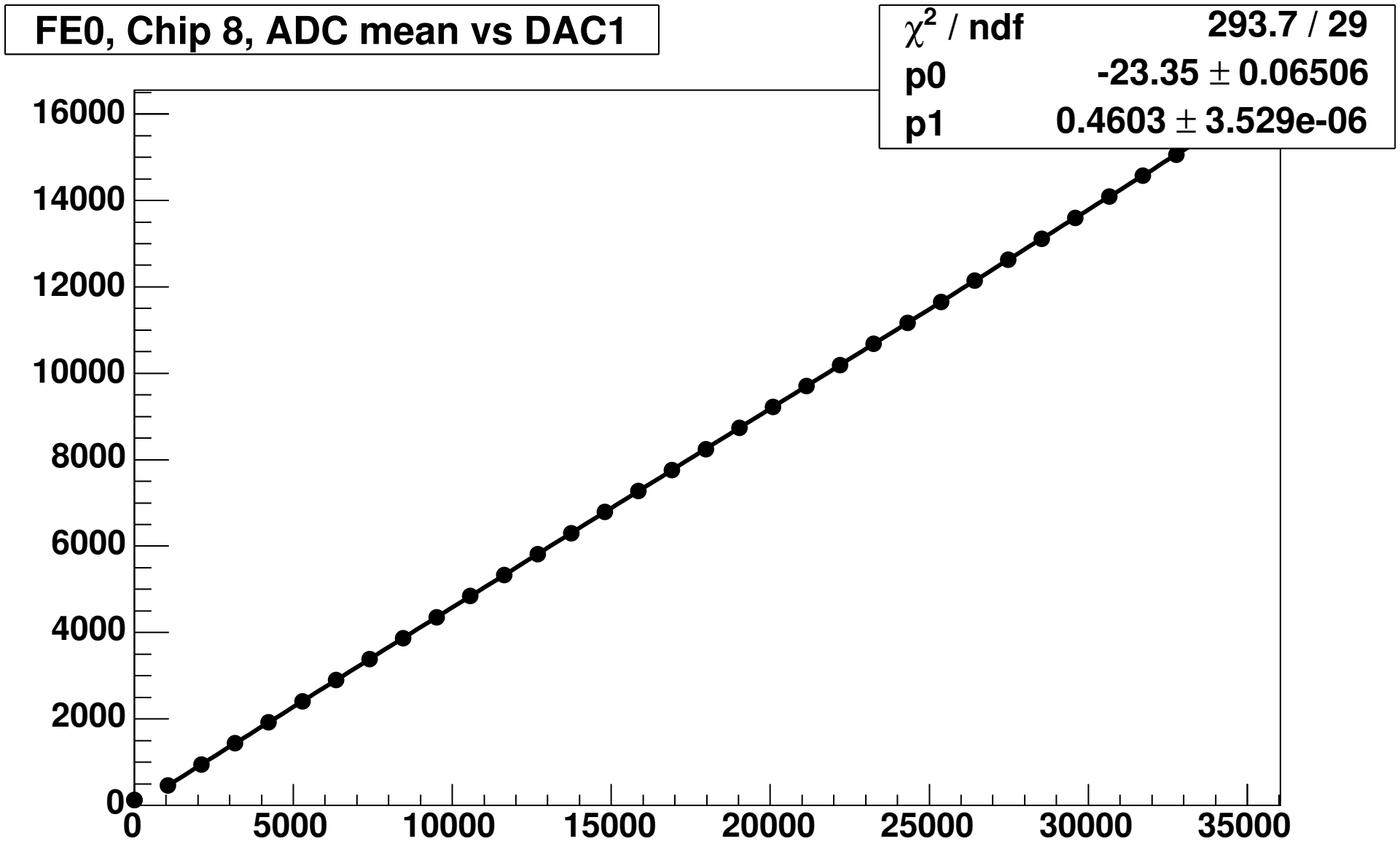

FE0, Chip 7, ADC noise vs DAC1
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

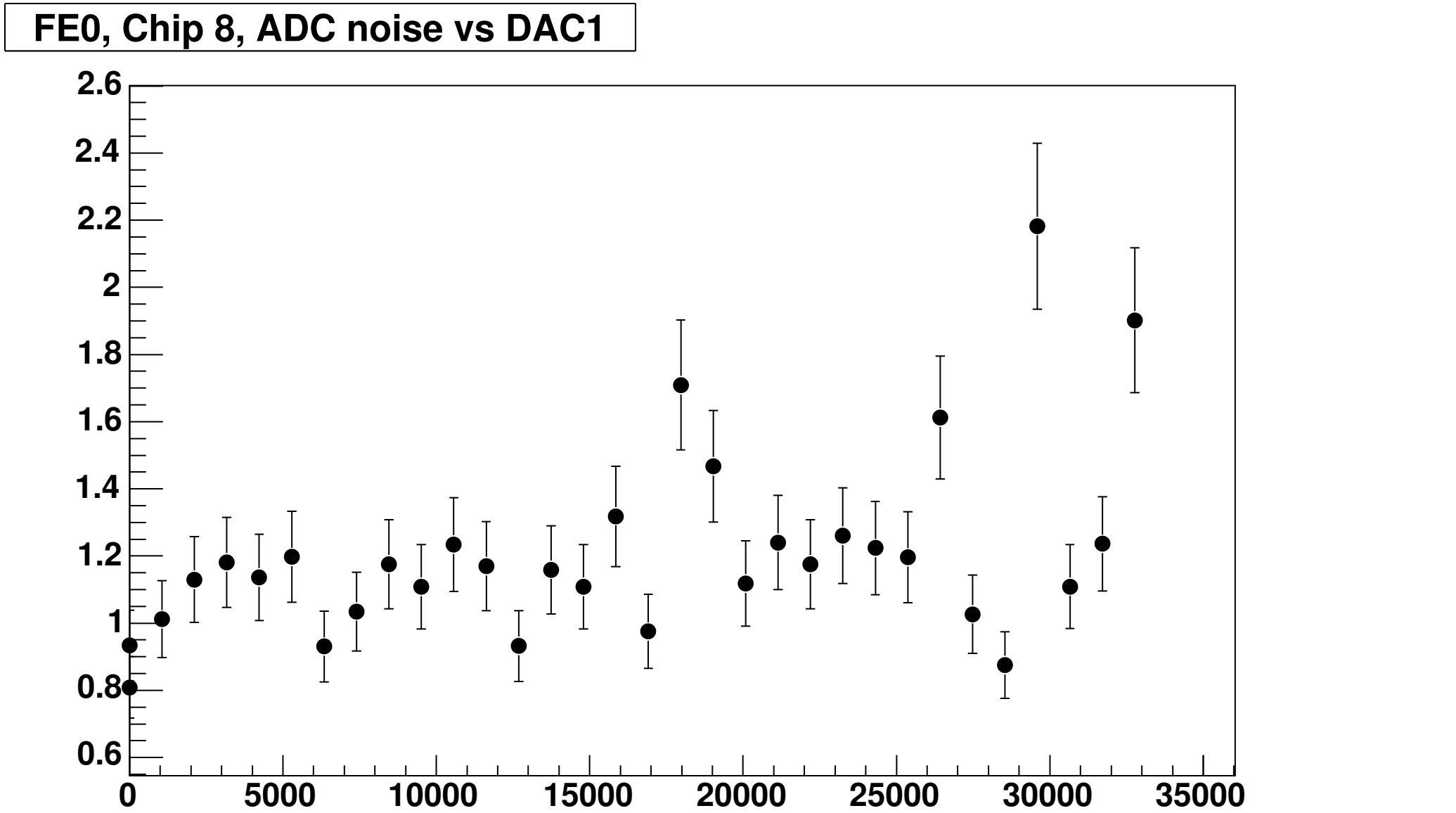

FE0, Chip 7, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

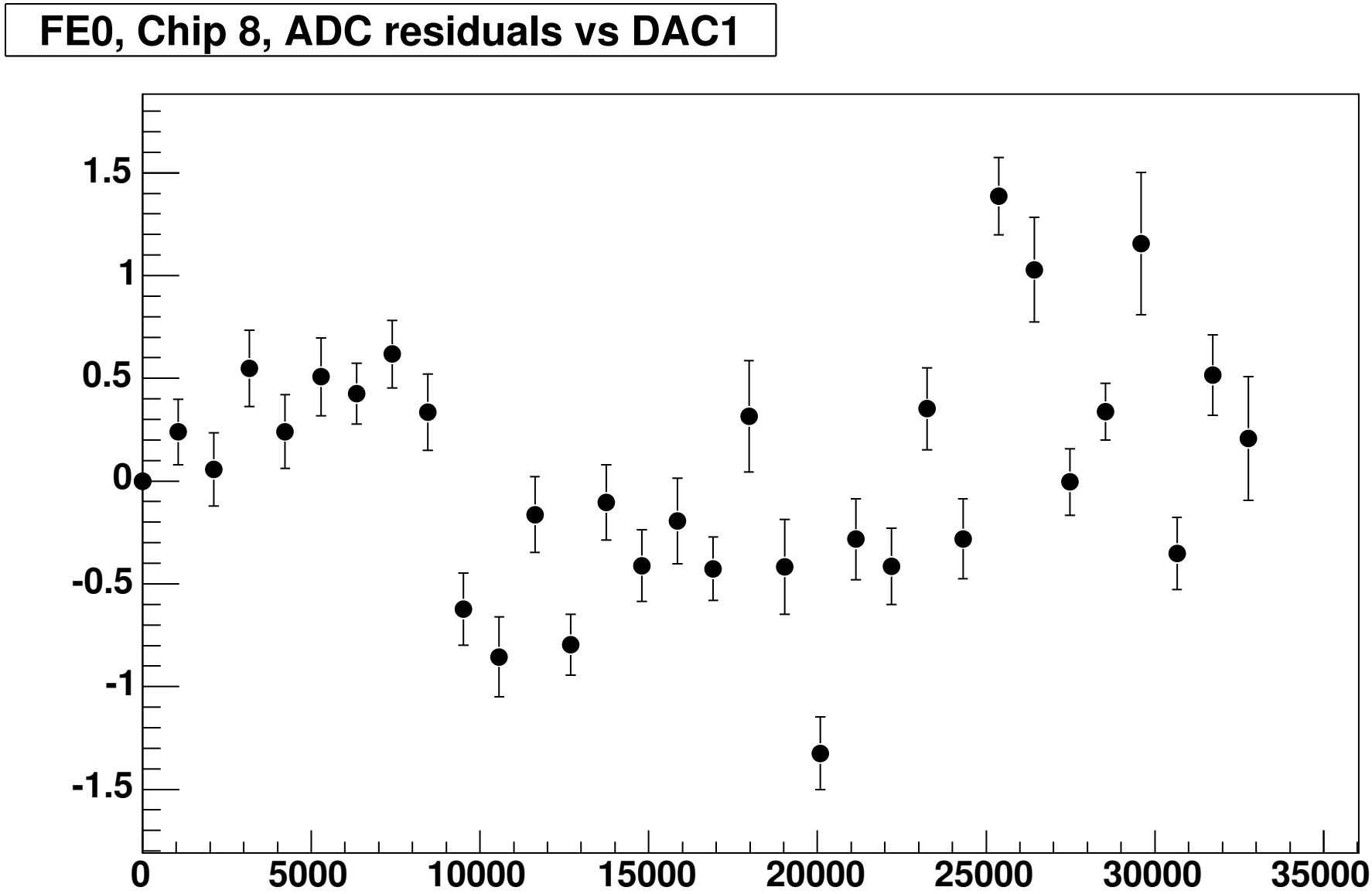

FE0, Chip 8, ADC mean vs DAC0
χ² / ndf 61.14 / 29
p0 126.2 ± 0.05184
p1 1.152e-05 ± 2.634e-06
127.2
127
126.8
126.6
126.4
126.2
126
125.8
0
5000
10000
15000
20000
25000
30000
35000

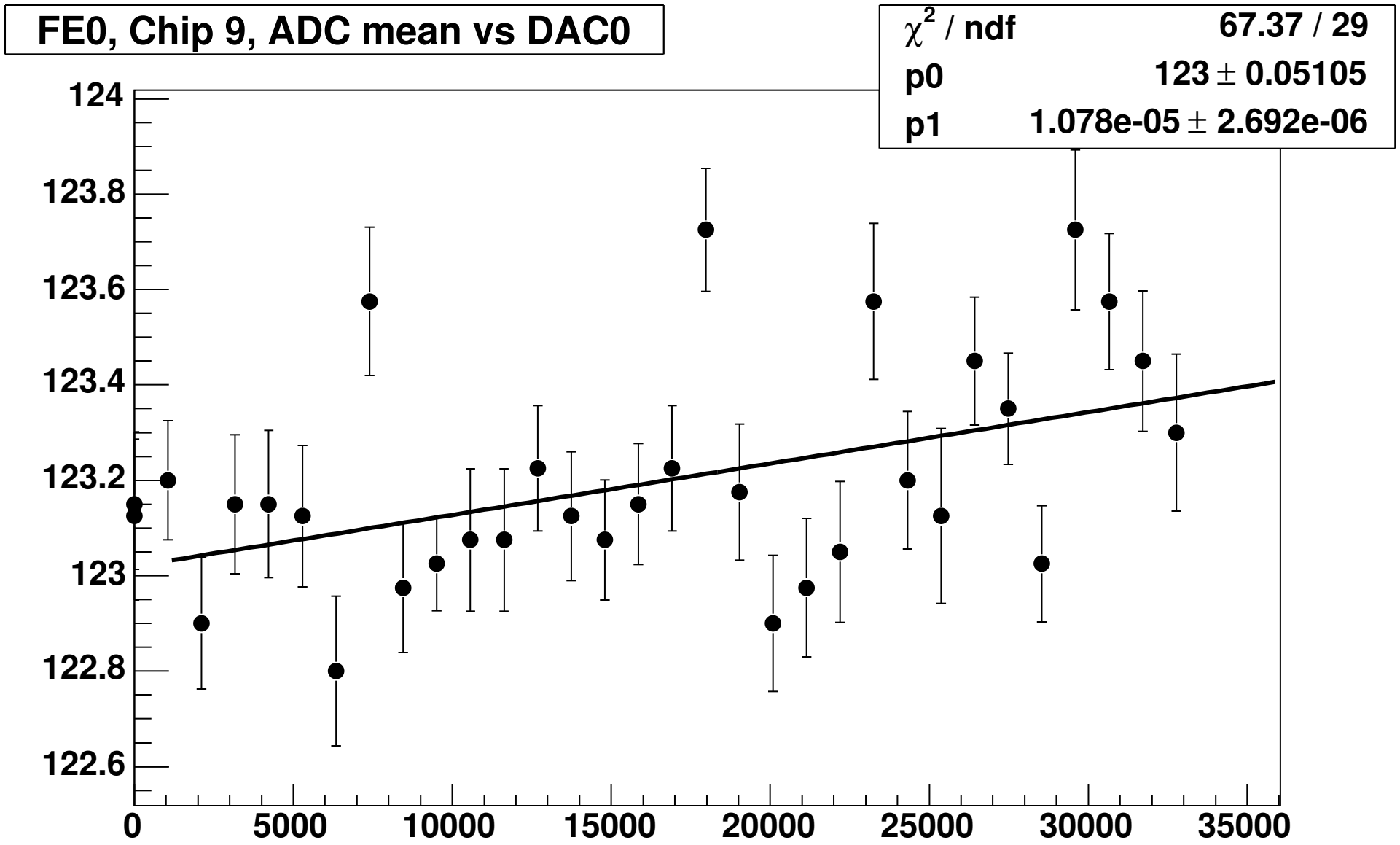

FE0, Chip 8, ADC noise vs DAC0
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

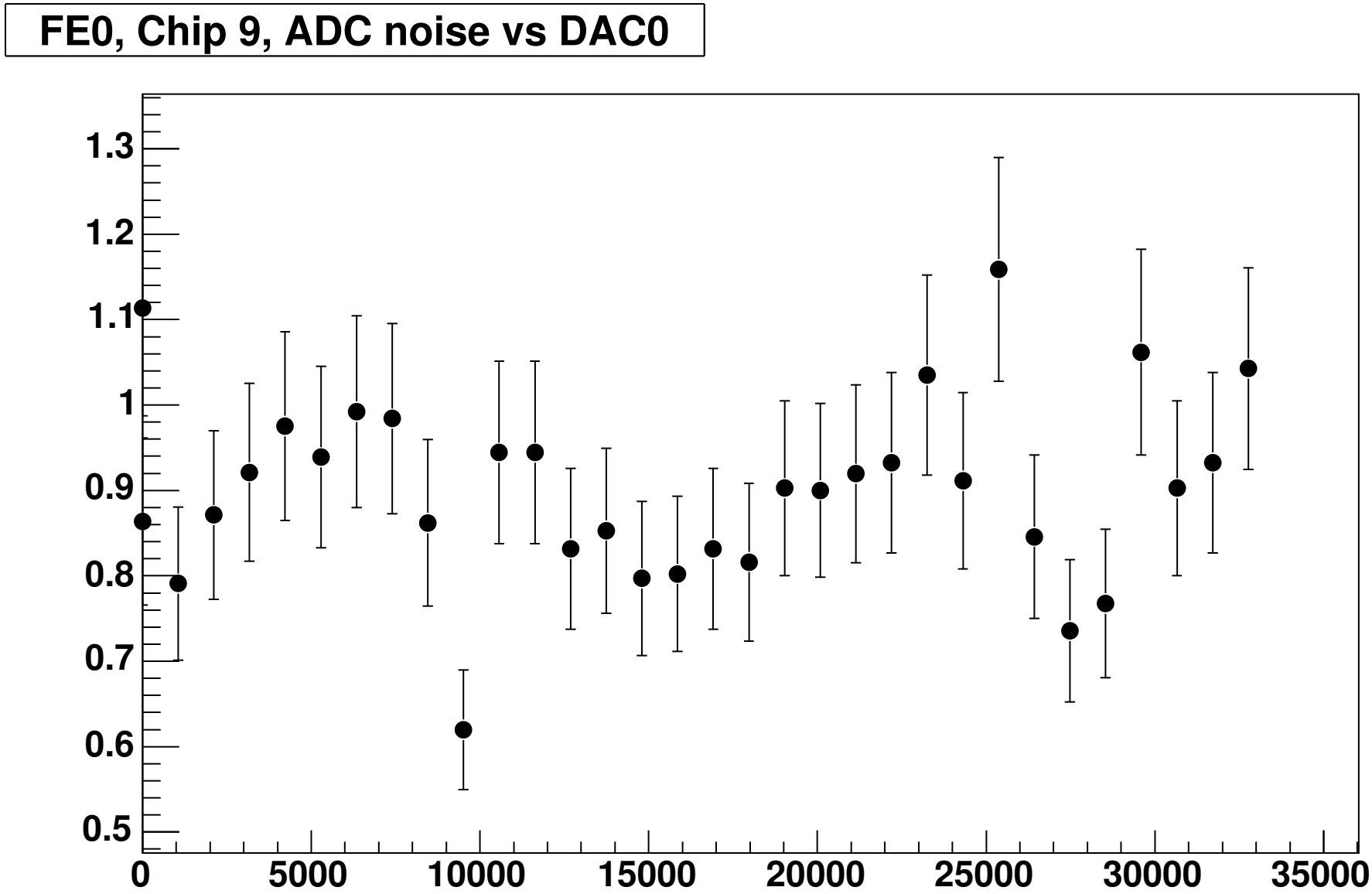

FE0, Chip 8, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

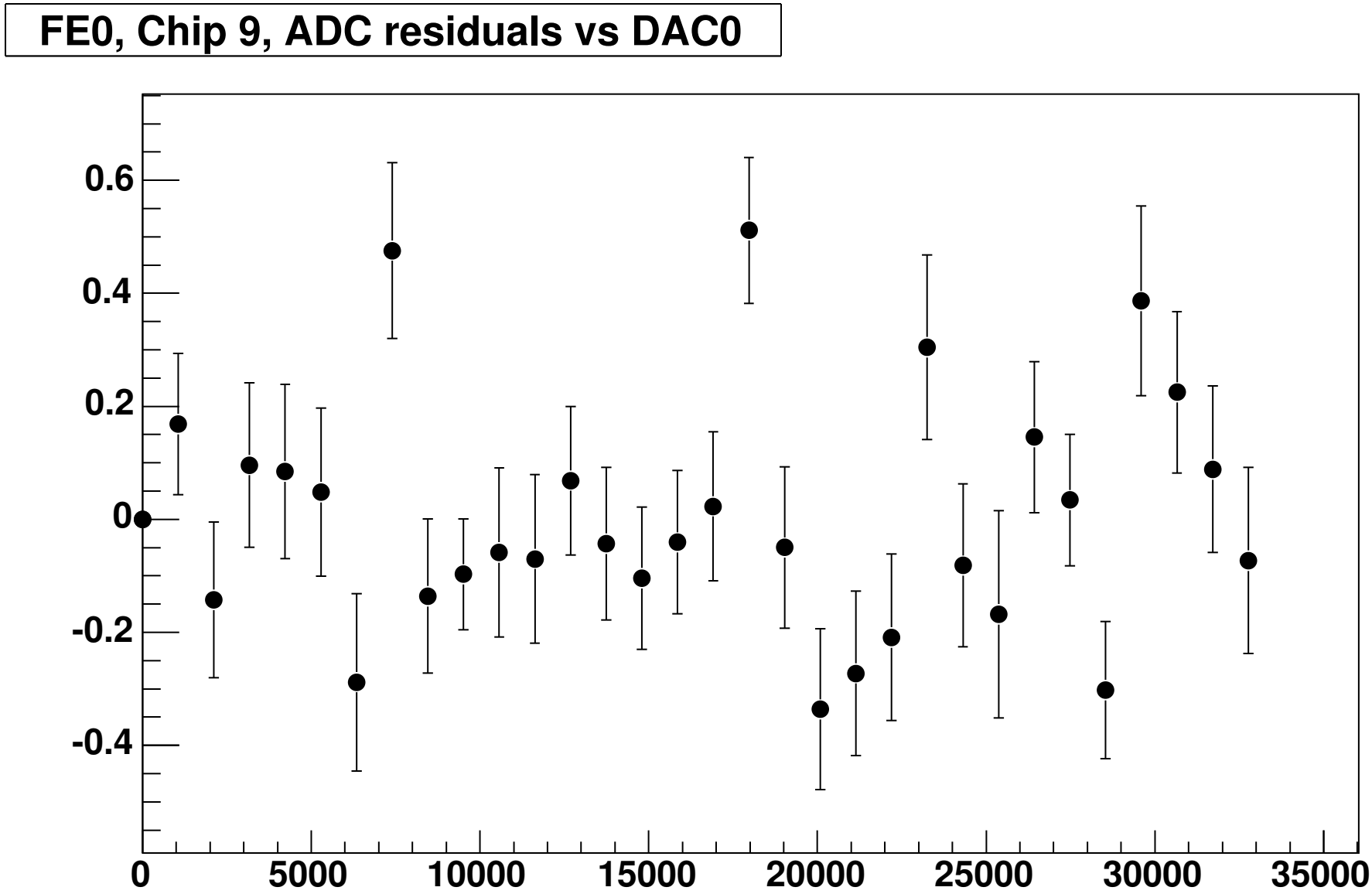

FE0, Chip 8, ADC mean vs DAC1
χ² / ndf 293.7 / 29
p0 -23.35 ± 0.06506
p1 0.4603 ± 3.529e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

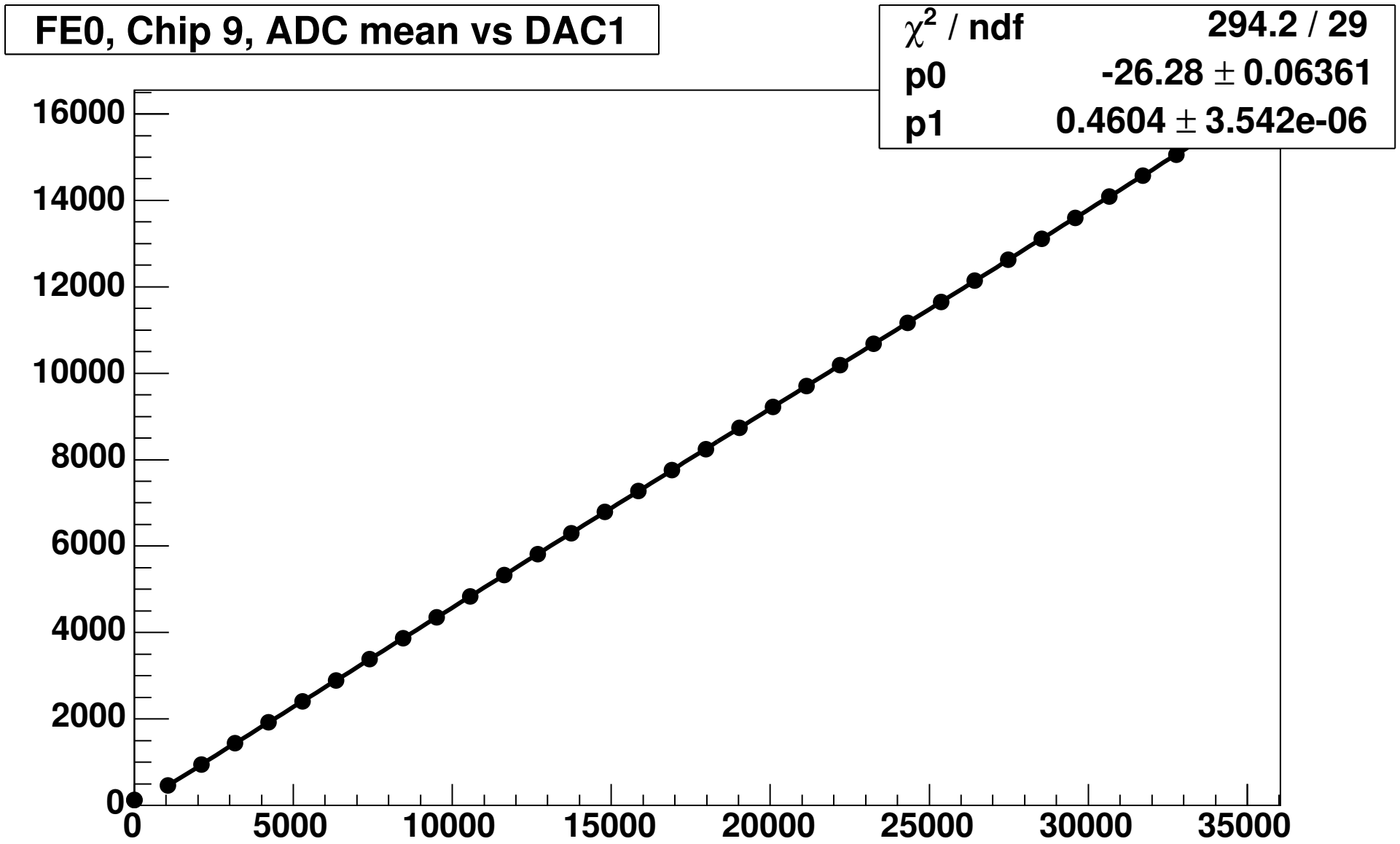

FE0, Chip 8, ADC noise vs DAC1
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

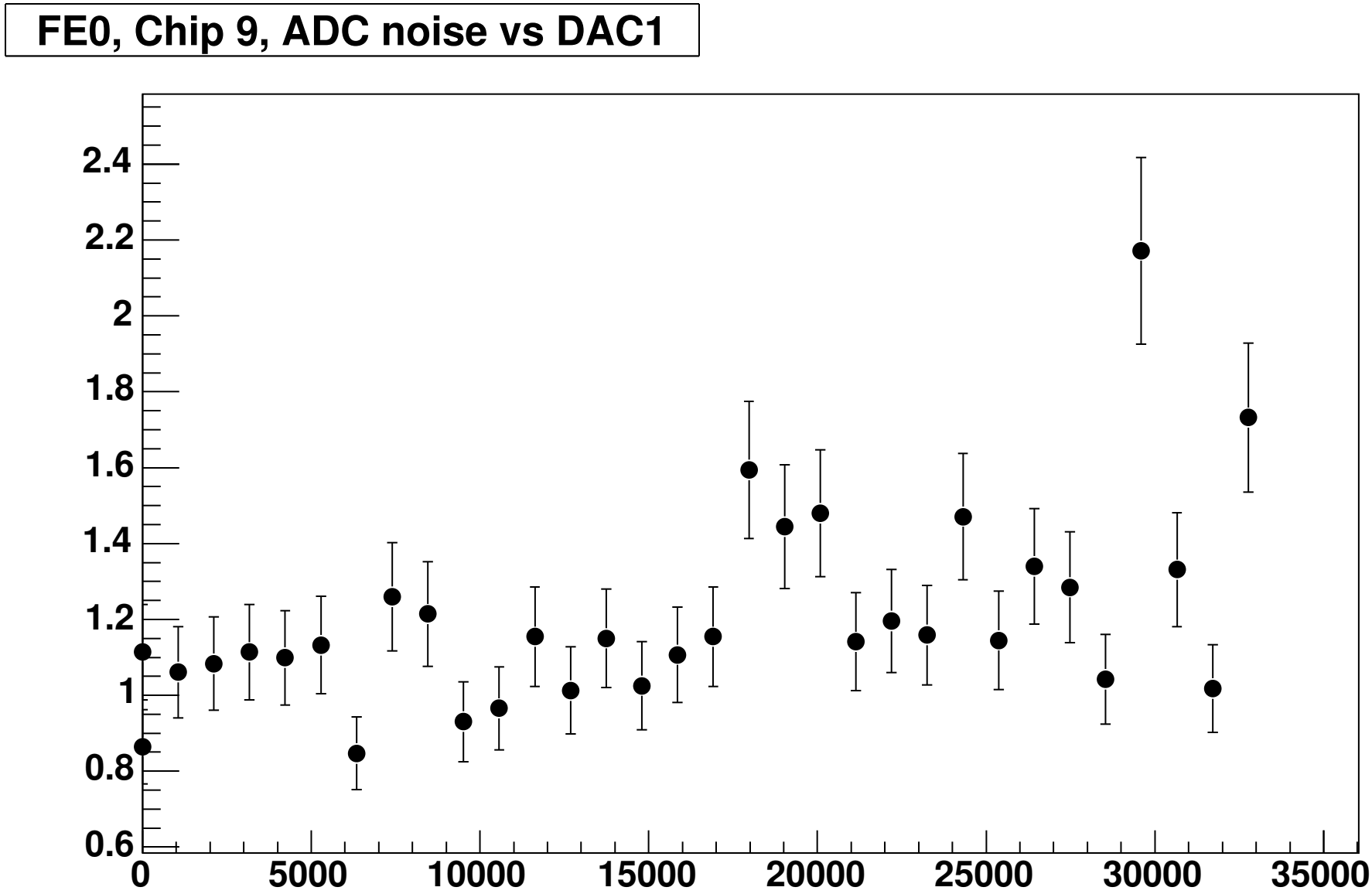

FE0, Chip 8, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

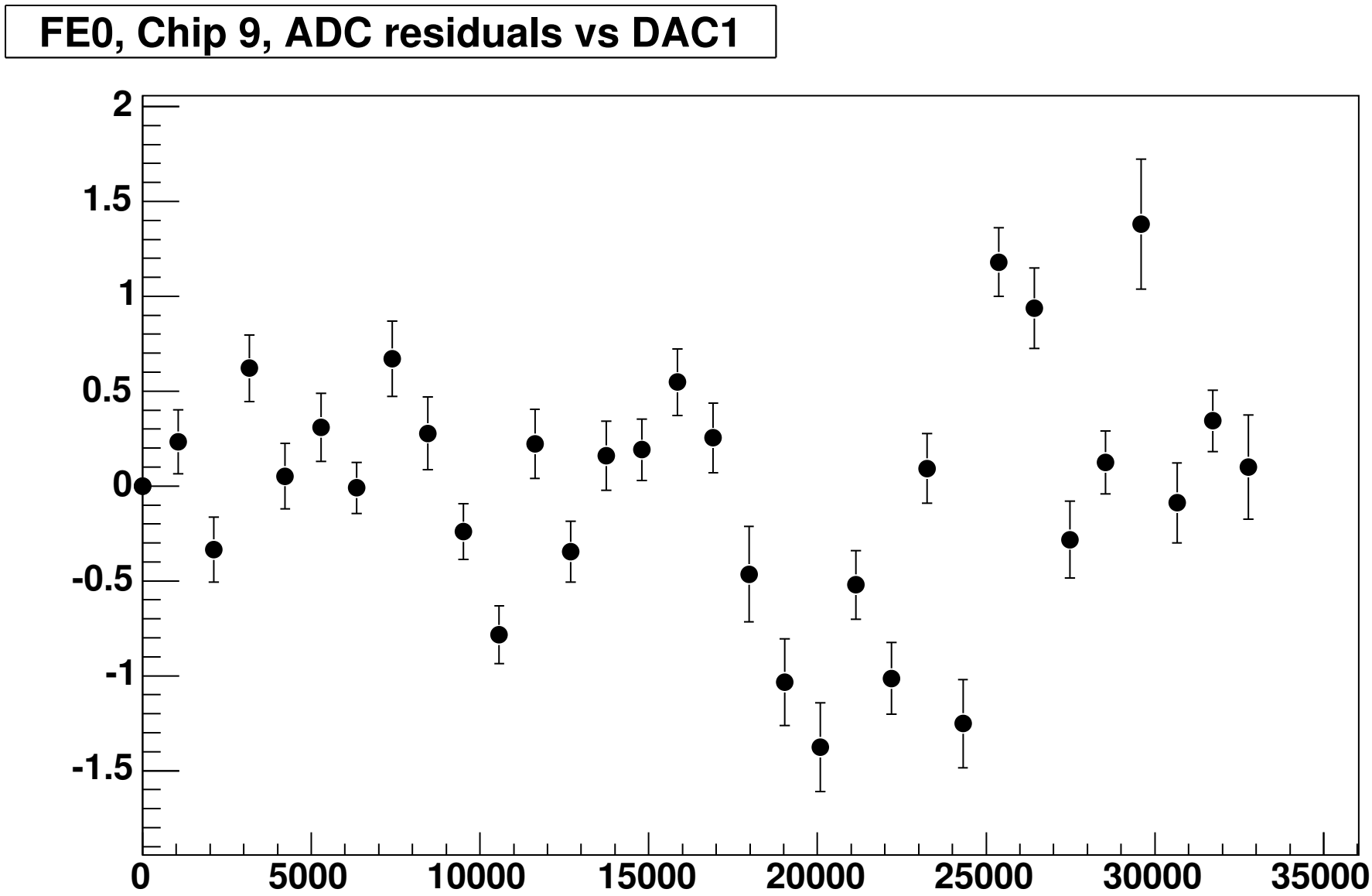

FE0, Chip 9, ADC mean vs DAC0
χ² / ndf 67.37 / 29
p0 123 ± 0.05105
p1 1.078e-05 ± 2.692e-06
124
123.8
123.6
123.4
123.2
123
122.8
122.6
0
5000
10000
15000
20000
25000
30000
35000

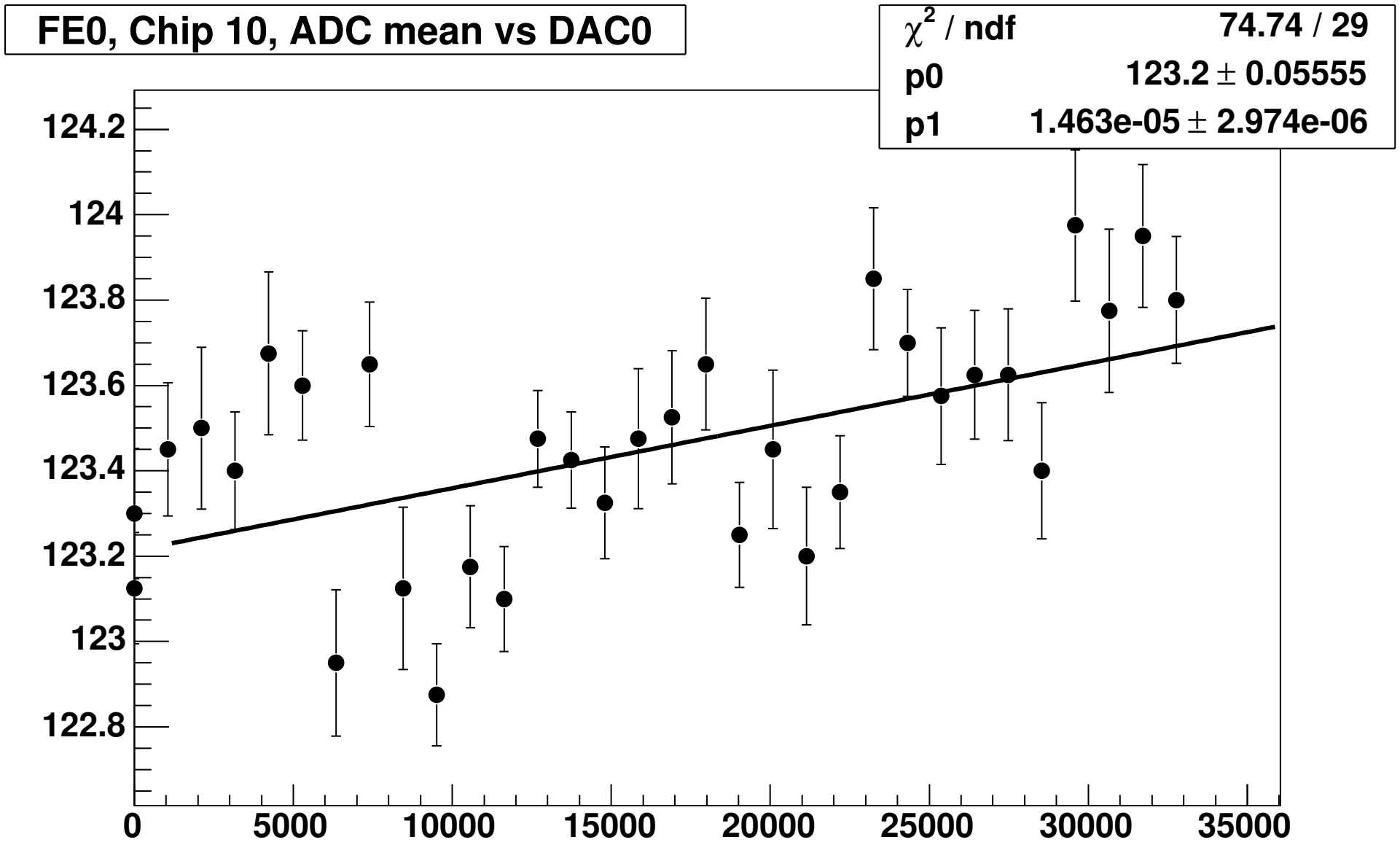

FE0, Chip 9, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0
5000
10000
15000
20000
25000
30000
35000

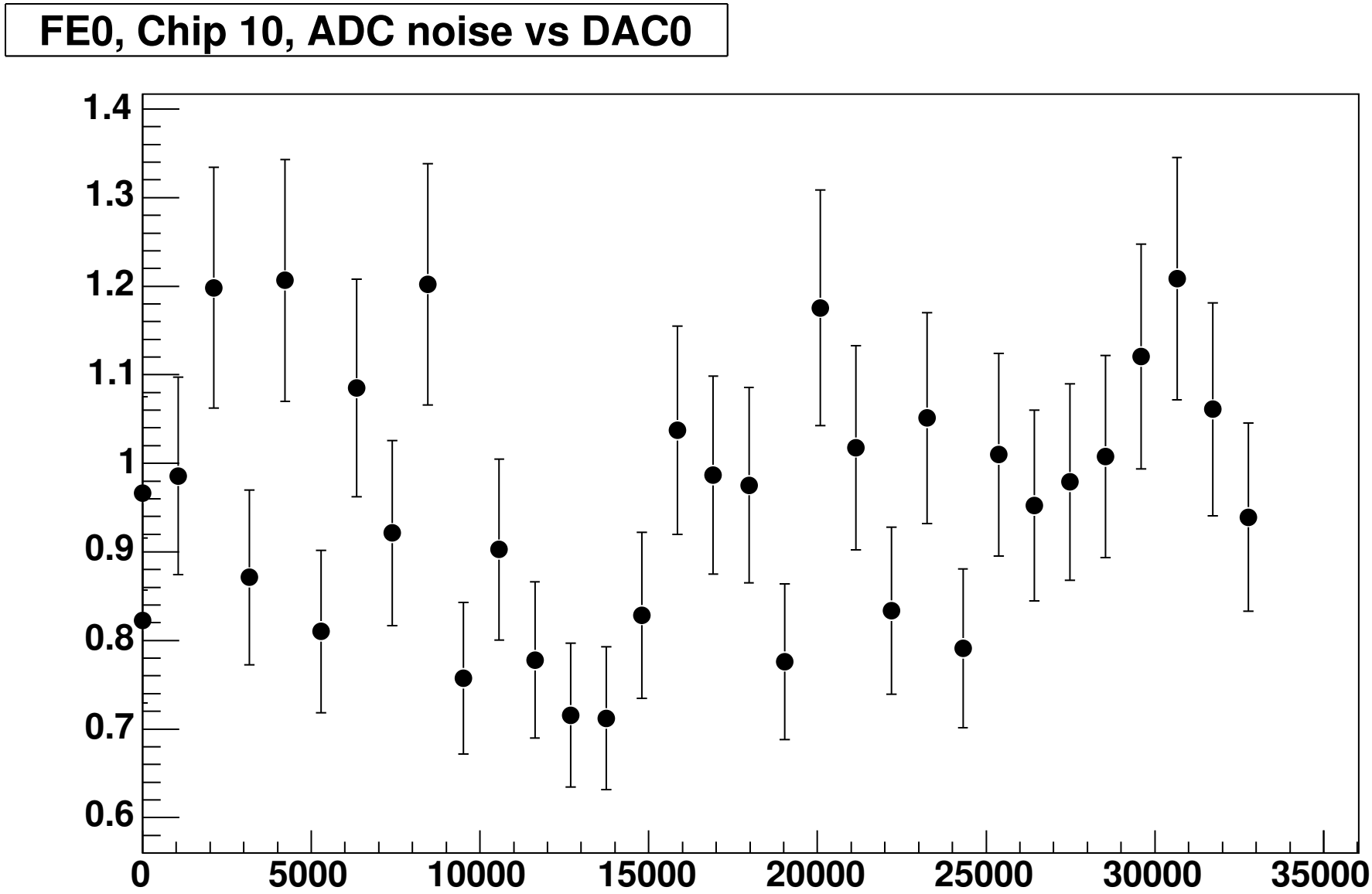

FE0, Chip 9, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

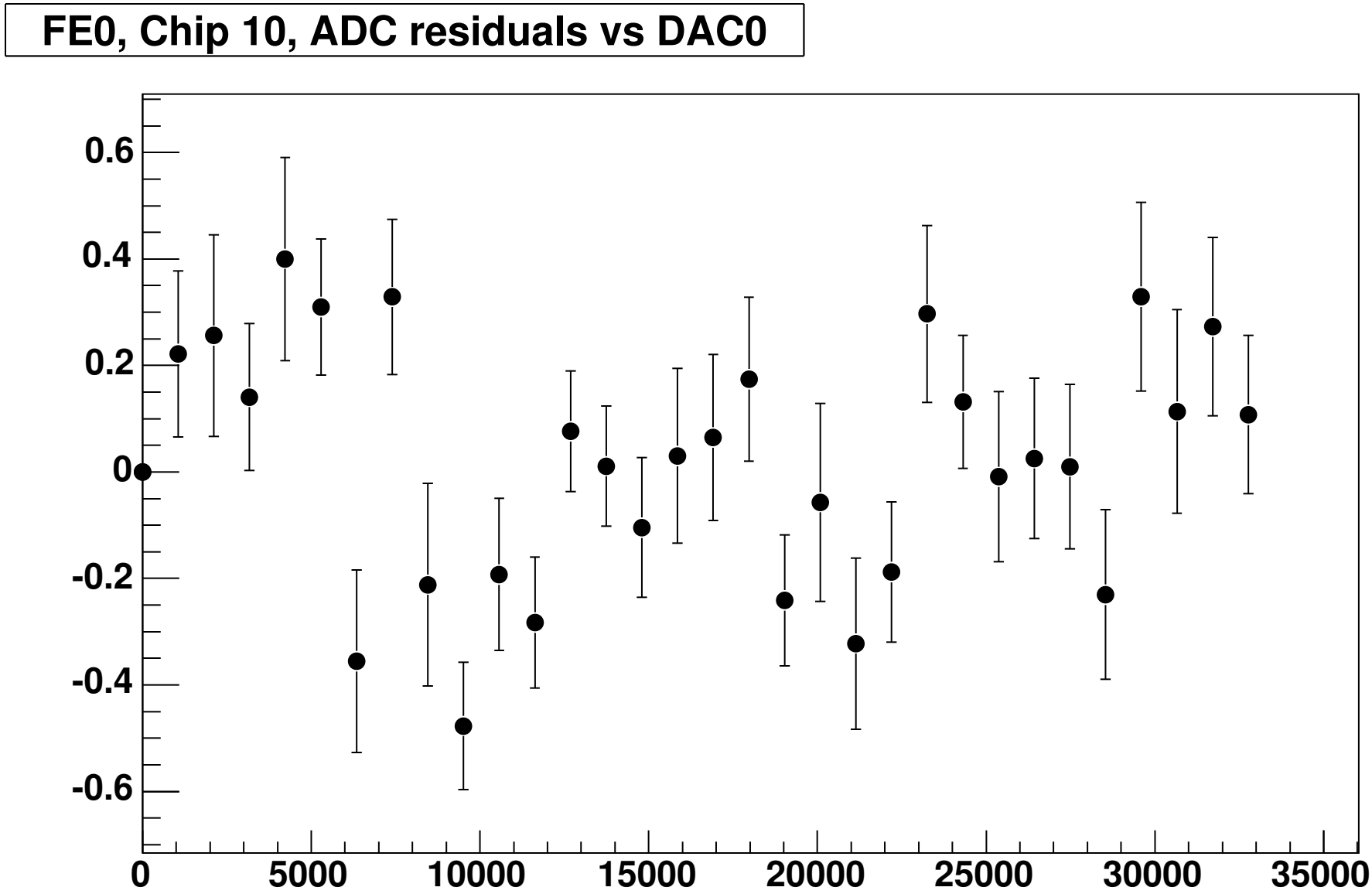

FE0, Chip 9, ADC mean vs DAC1
χ² / ndf 294.2 / 29
p0 -26.28 ± 0.06361
p1 0.4604 ± 3.542e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

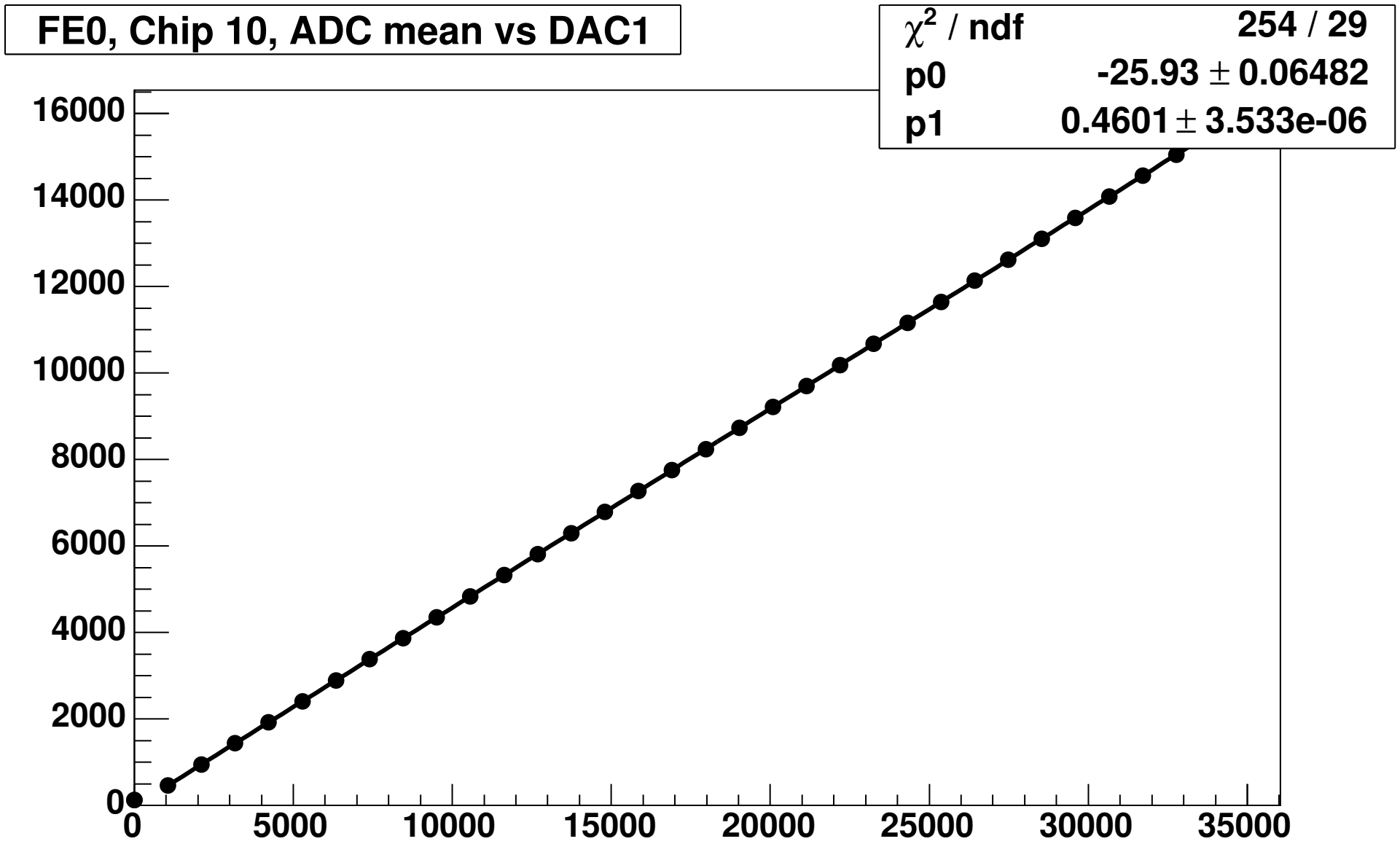

FE0, Chip 9, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

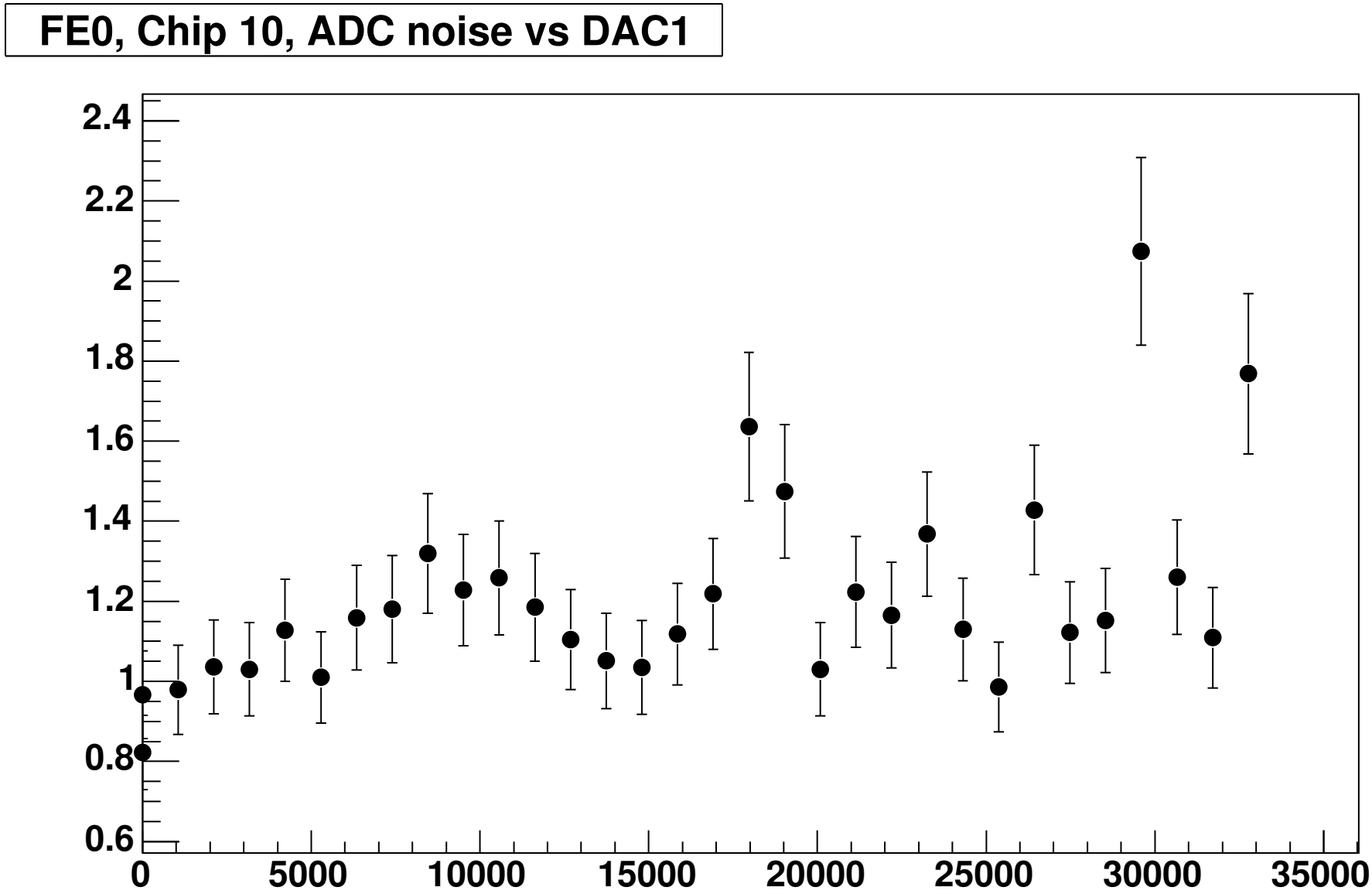

FE0, Chip 9, ADC residuals vs DAC1
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

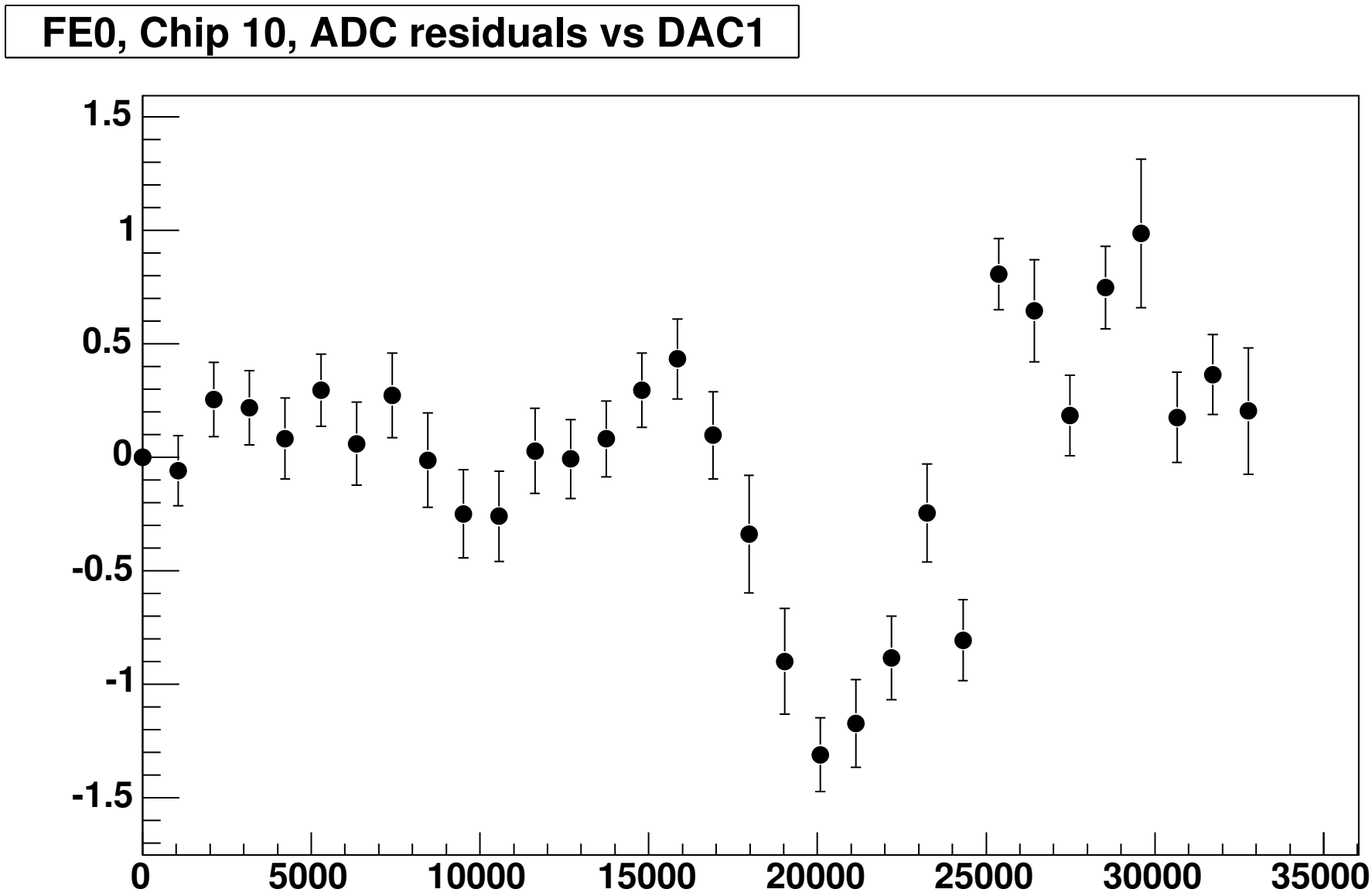

FE0, Chip 10, ADC mean vs DAC0
χ^2 / ndf 74.74 / 29
p0 123.2 ± 0.05555
p1 1.463e-05 ± 2.974e-06
124.2
124
123.8
123.6
123.4
123.2
123
122.8
0
5000
10000
15000
20000
25000
30000
35000

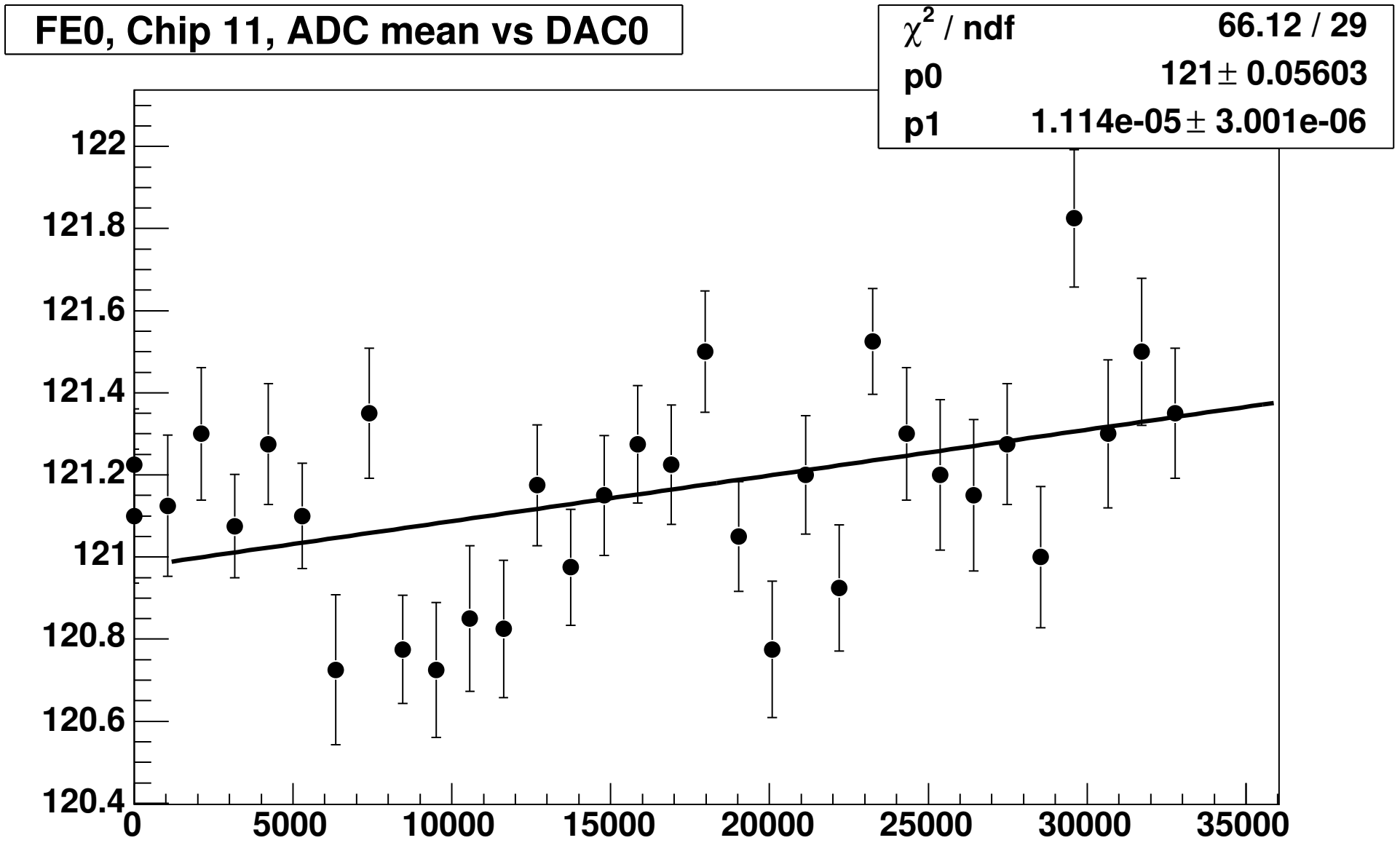

FE0, Chip 10, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

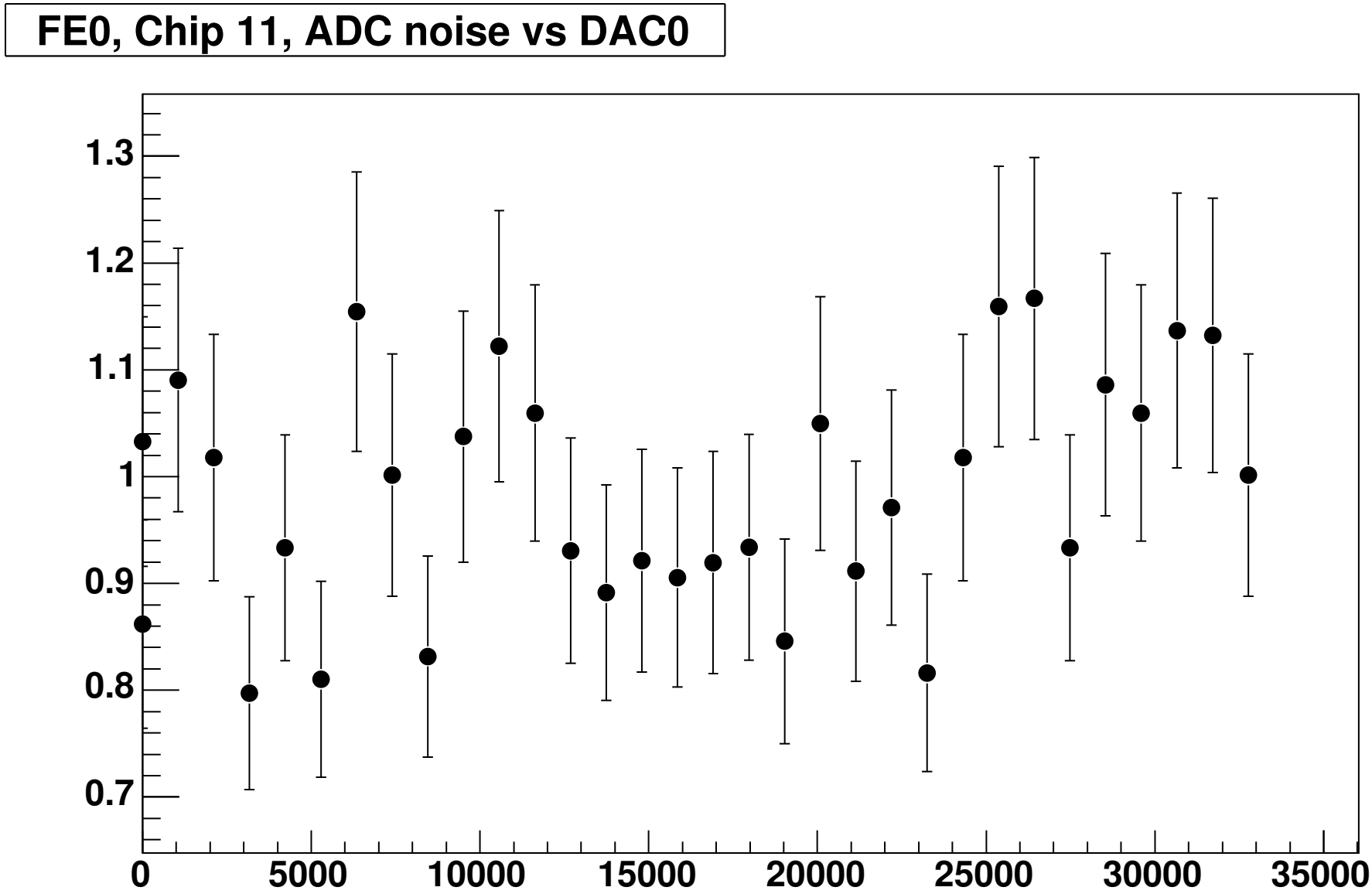

FE0, Chip 10, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

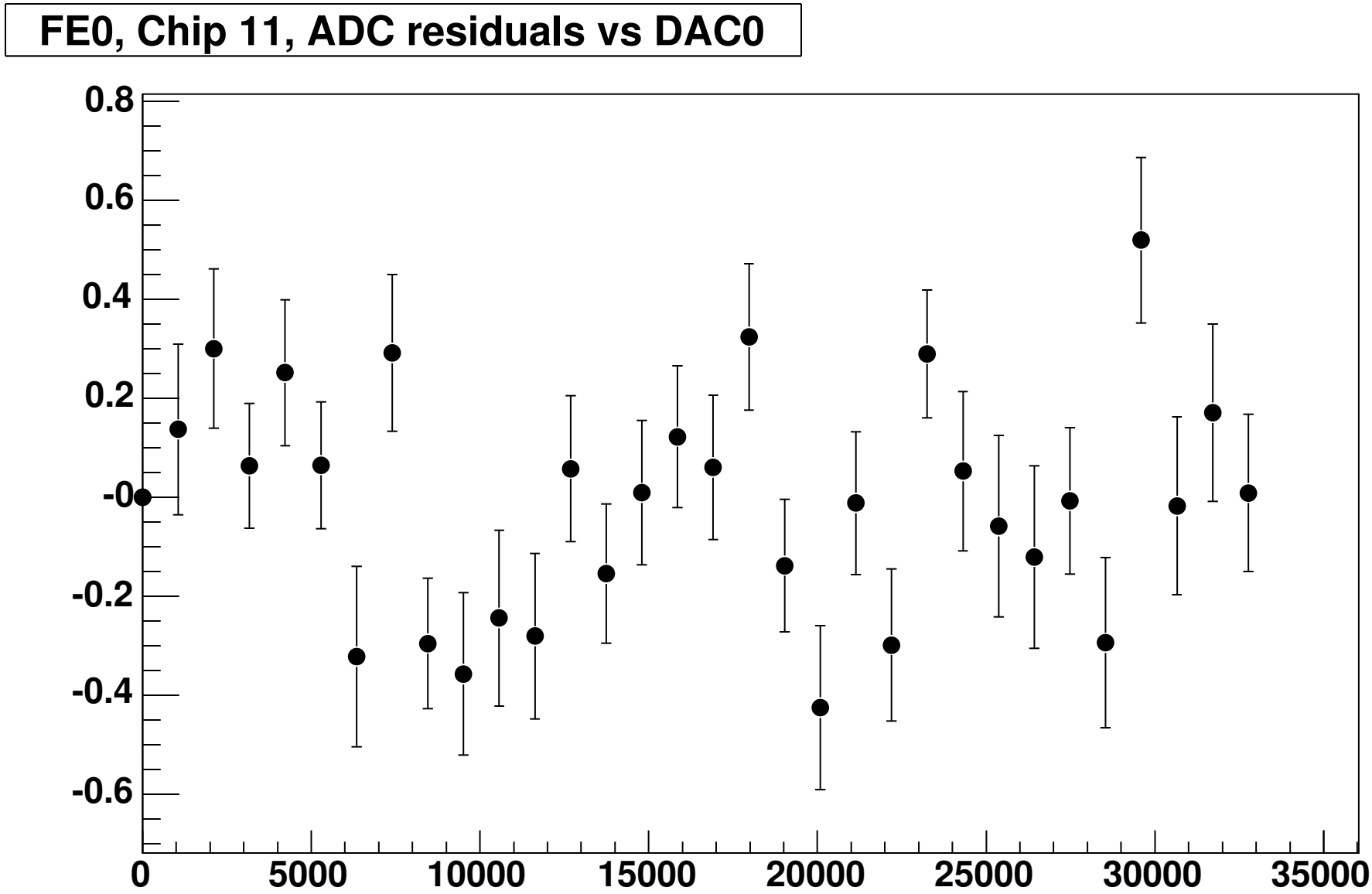

FE0, Chip 10, ADC mean vs DAC1
χ² / ndf 254 / 29
p0 -25.93 ± 0.06482
p1 0.4601 ± 3.533e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

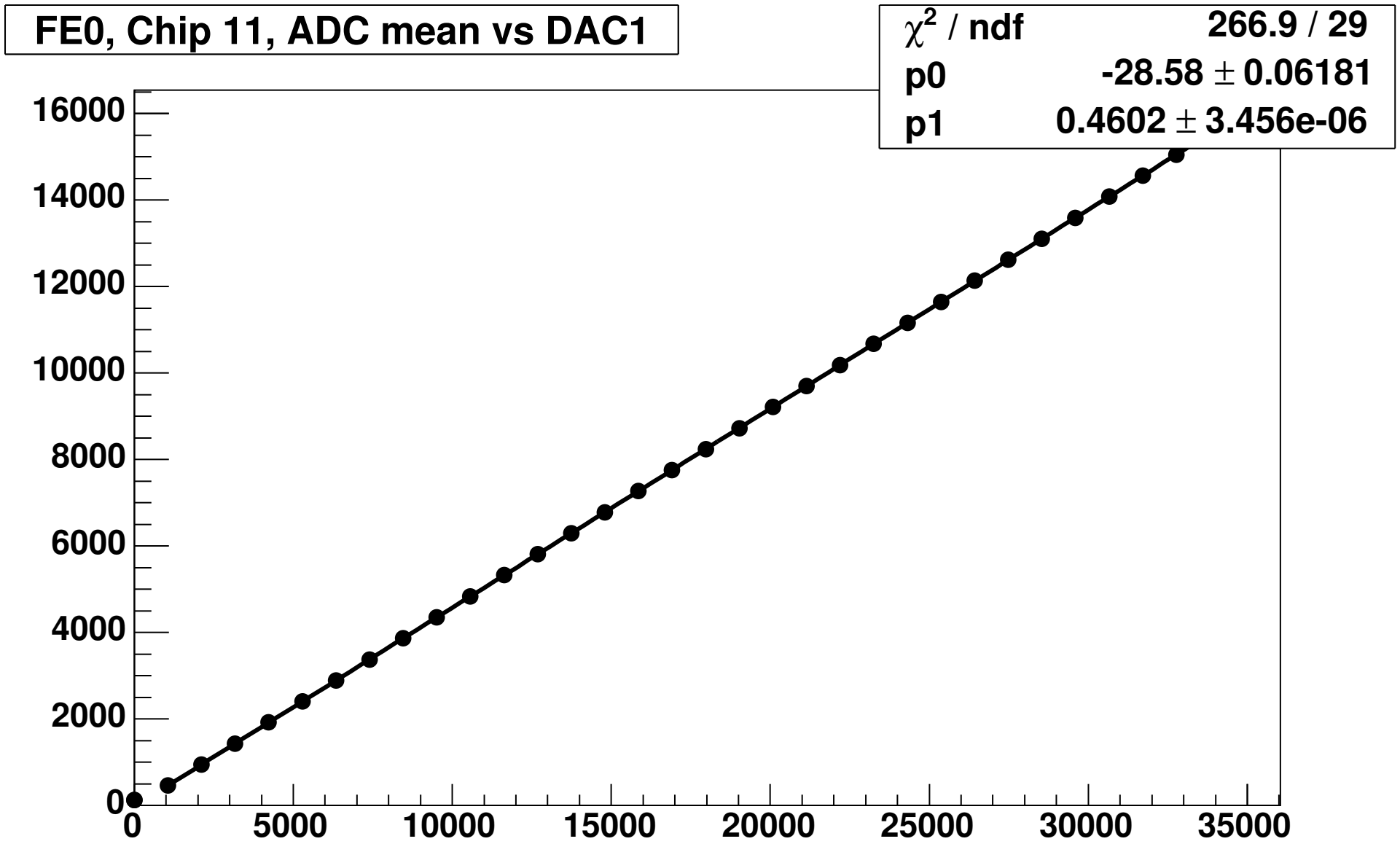

FE0, Chip 10, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

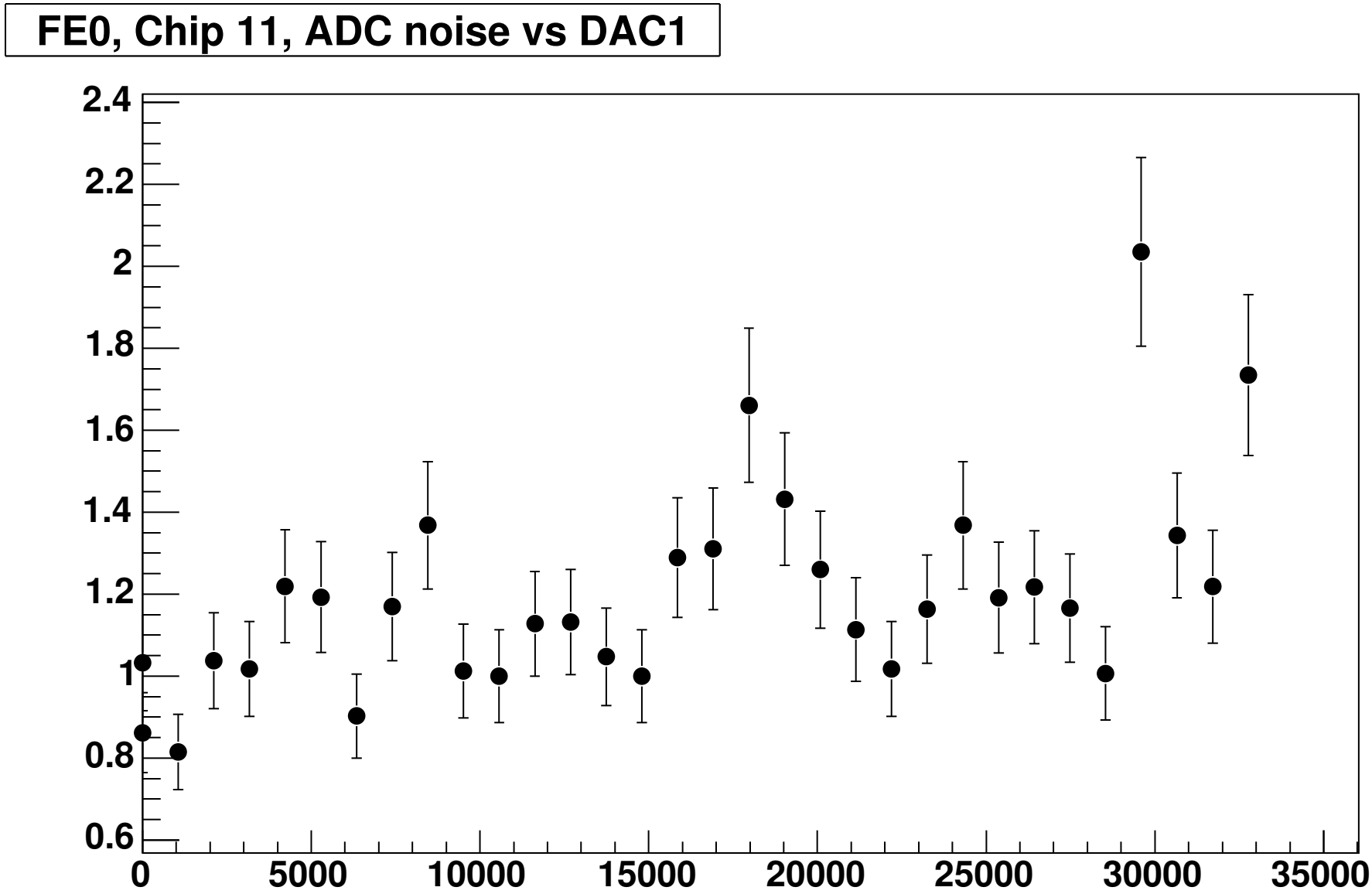

FE0, Chip 10, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

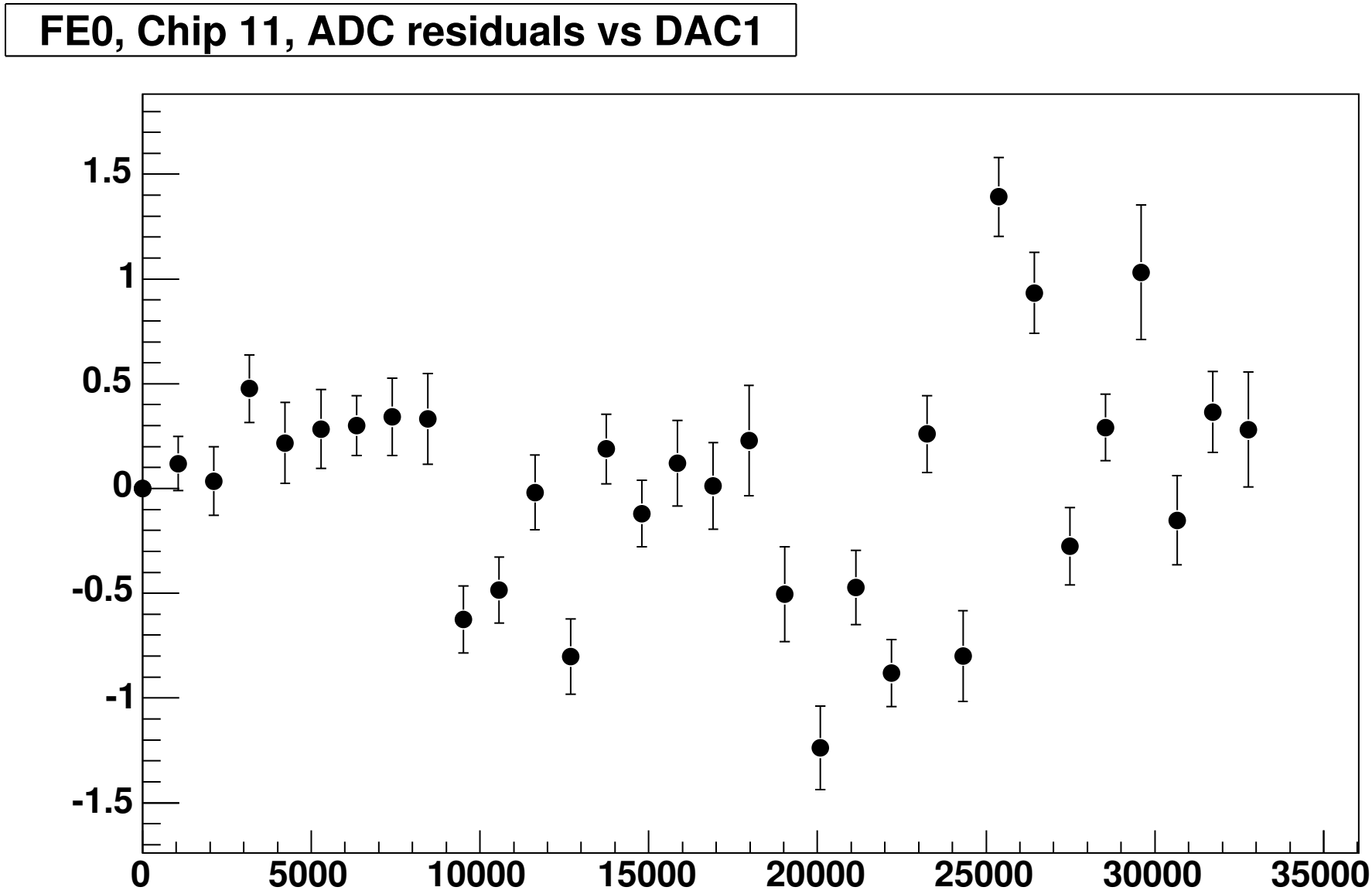

FE0, Chip 11, ADC mean vs DAC0
χ² / ndf 66.12 / 29
p0 121 ± 0.05603
p1 1.114e-05 ± 3.001e-06
122
121.8
121.6
121.4
121.2
121
120.8
120.6
120.4
0
5000
10000
15000
20000
25000
30000
35000

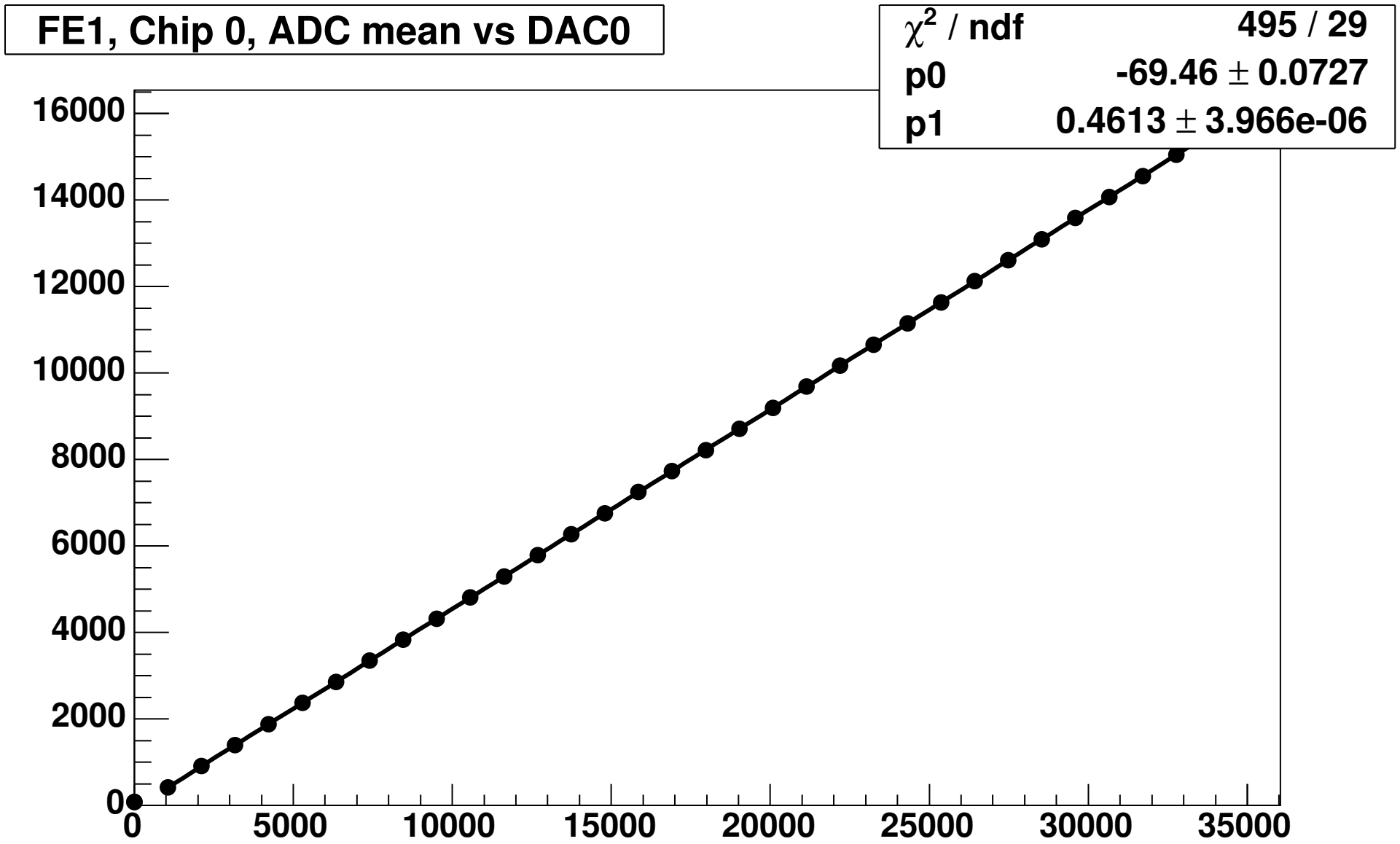

FE0, Chip 11, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

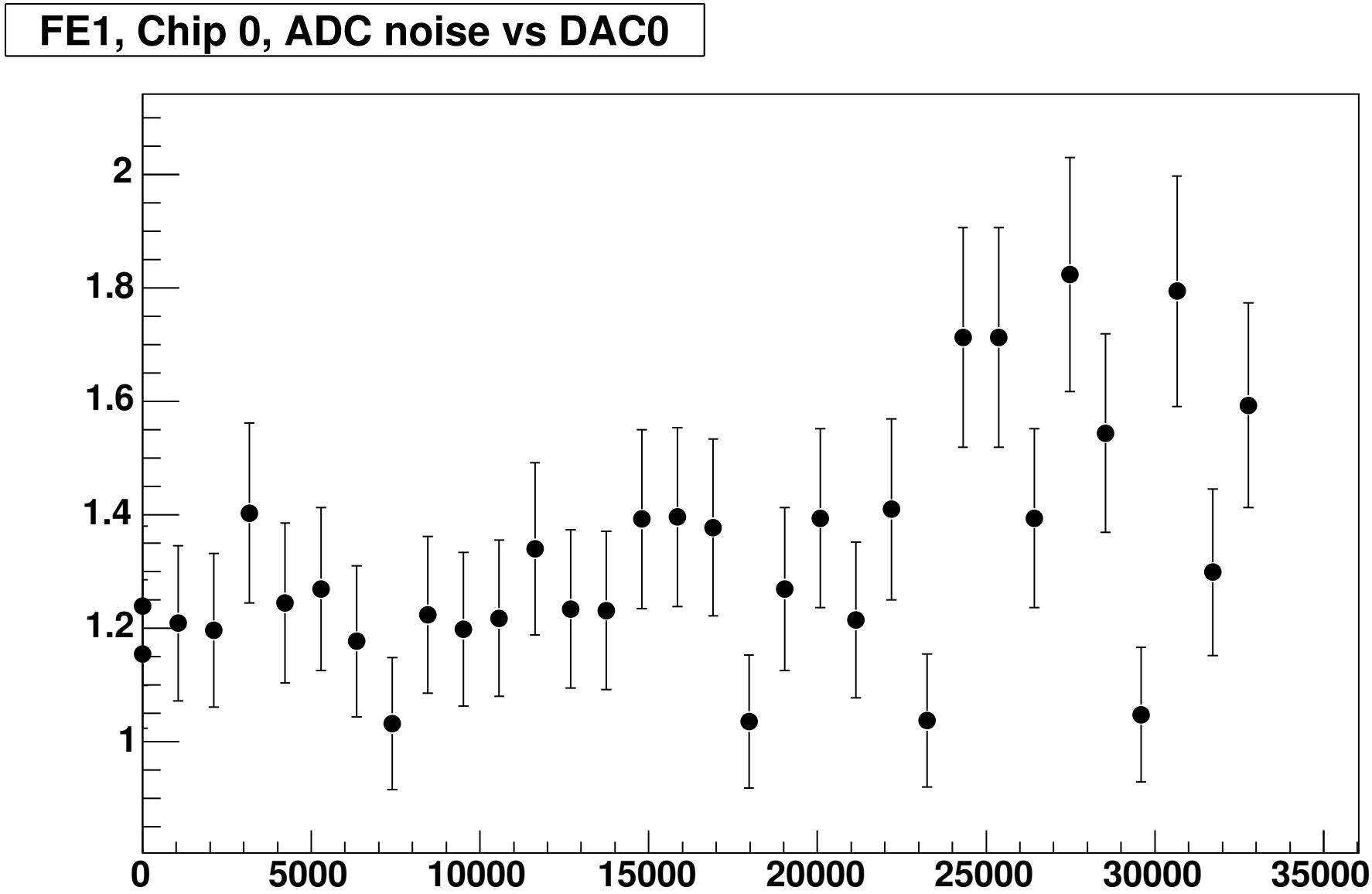

FE0, Chip 11, ADC residuals vs DAC0
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

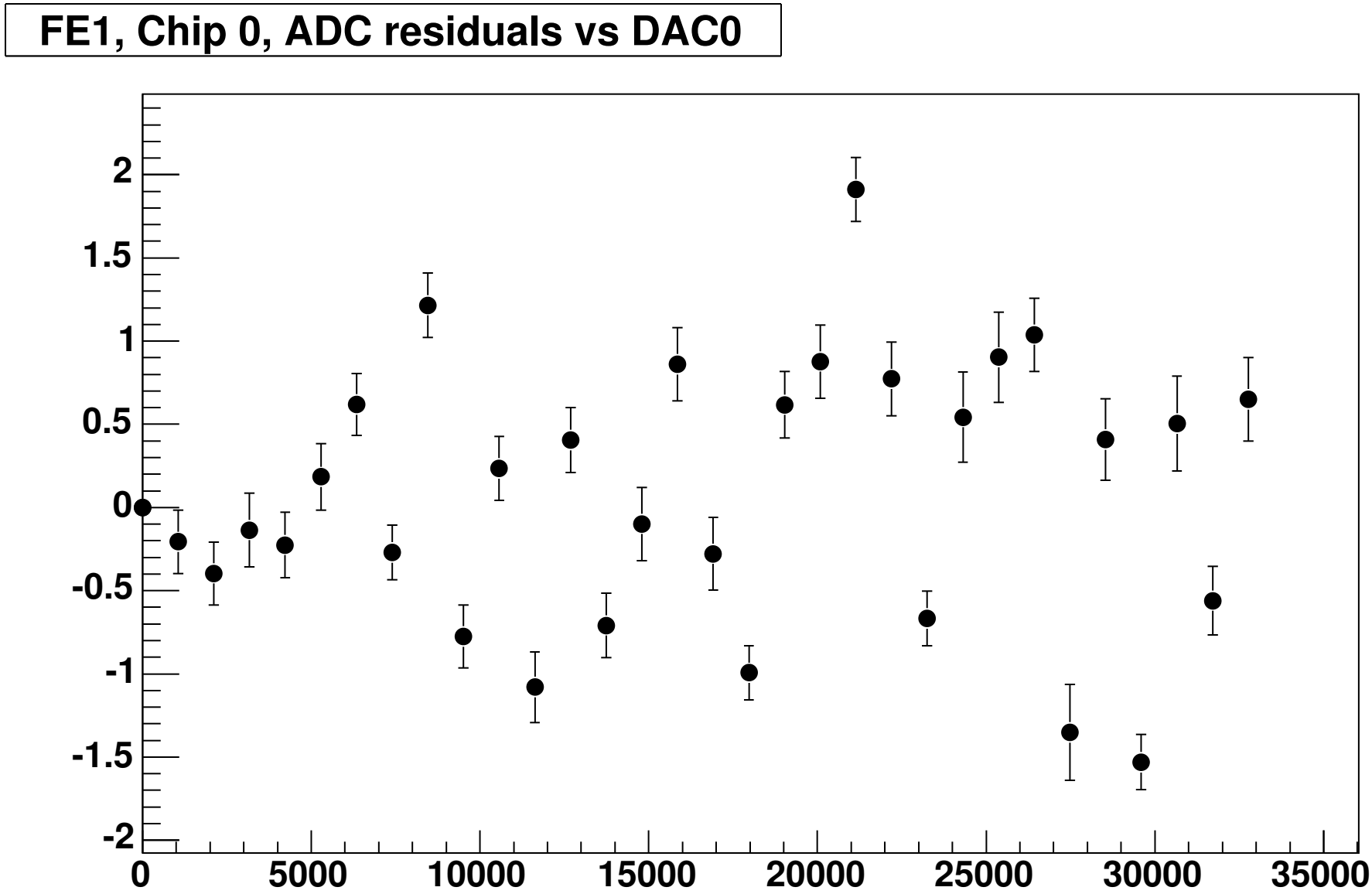

FE0, Chip 11, ADC mean vs DAC1
χ² / ndf 266.9 / 29
p0 -28.58 ± 0.06181
p1 0.4602 ± 3.456e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

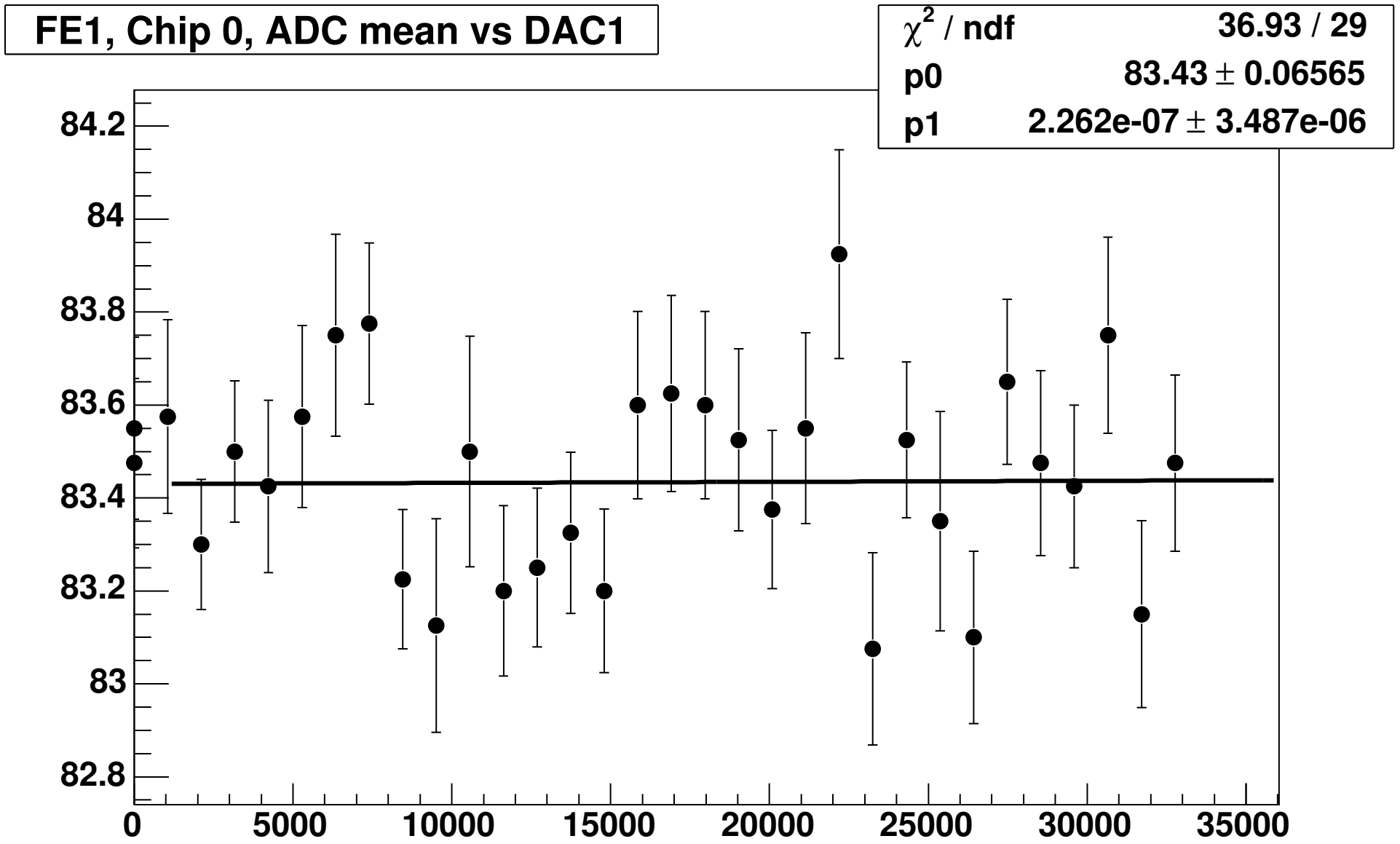

FE0, Chip 11, ADC noise vs DAC1
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

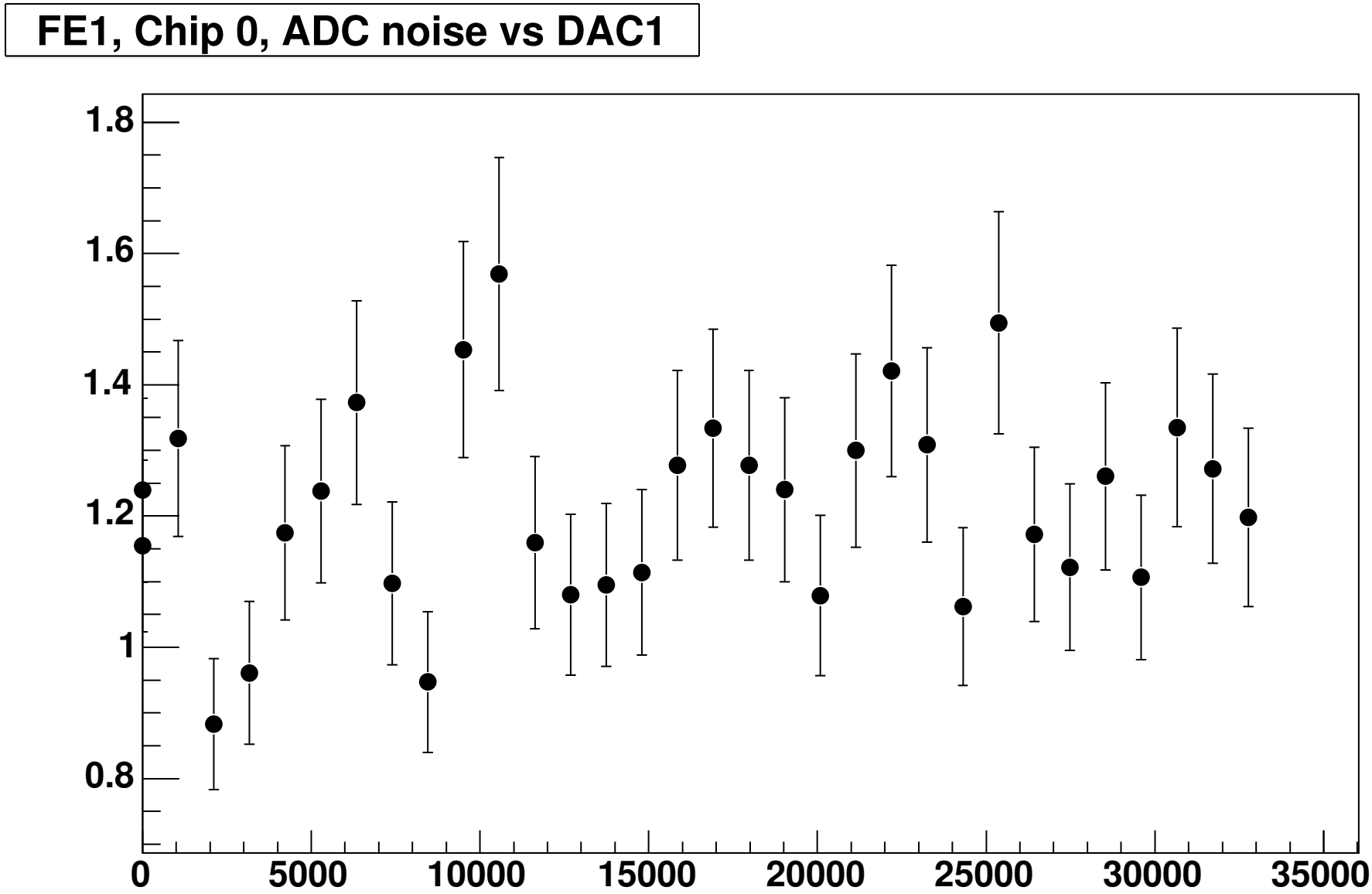

FE0, Chip 11, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

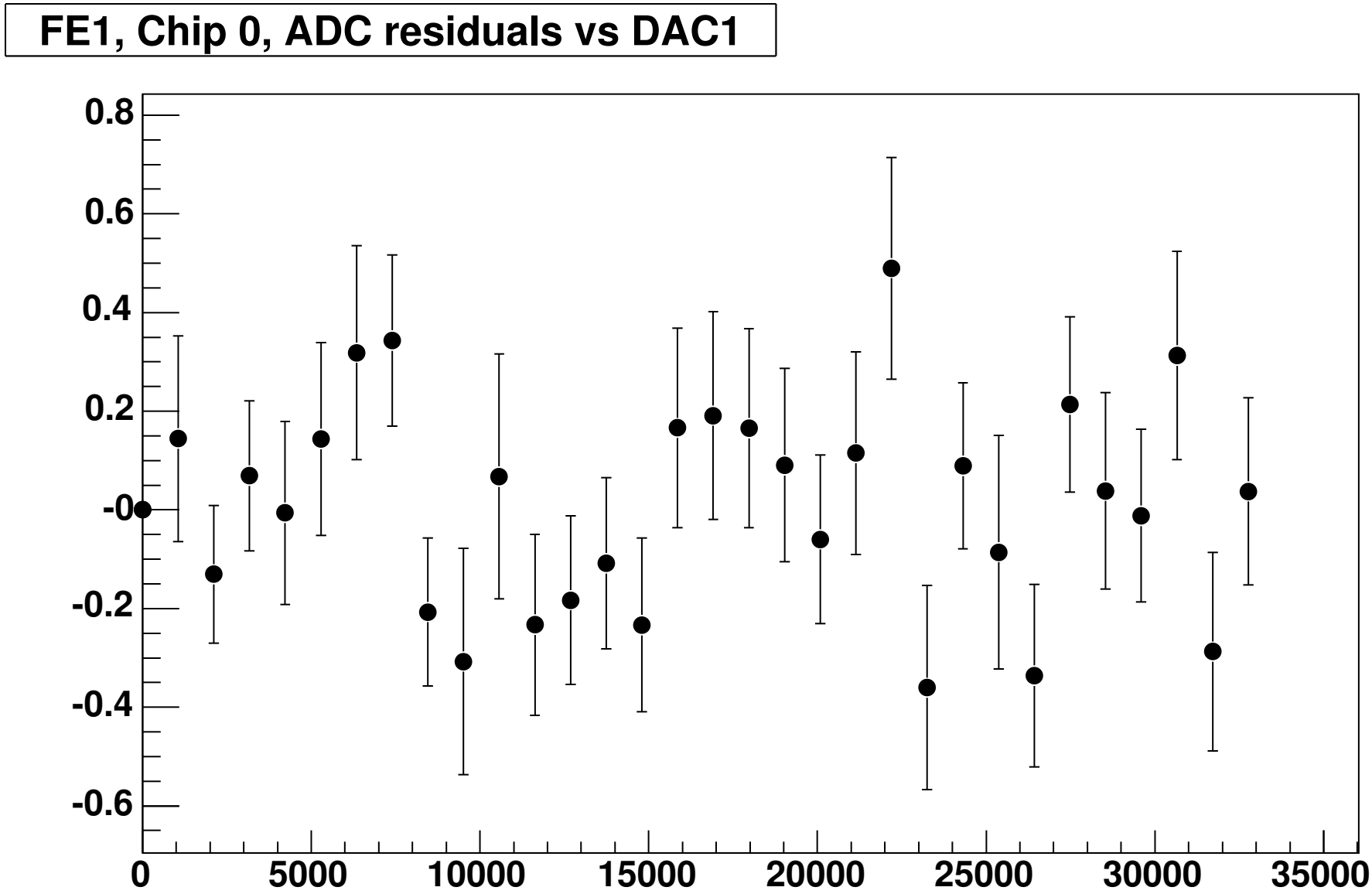

FE1, Chip 0, ADC mean vs DAC0
χ² / ndf 495 / 29
p0 -69.46 ± 0.0727
p1 0.4613 ± 3.966e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

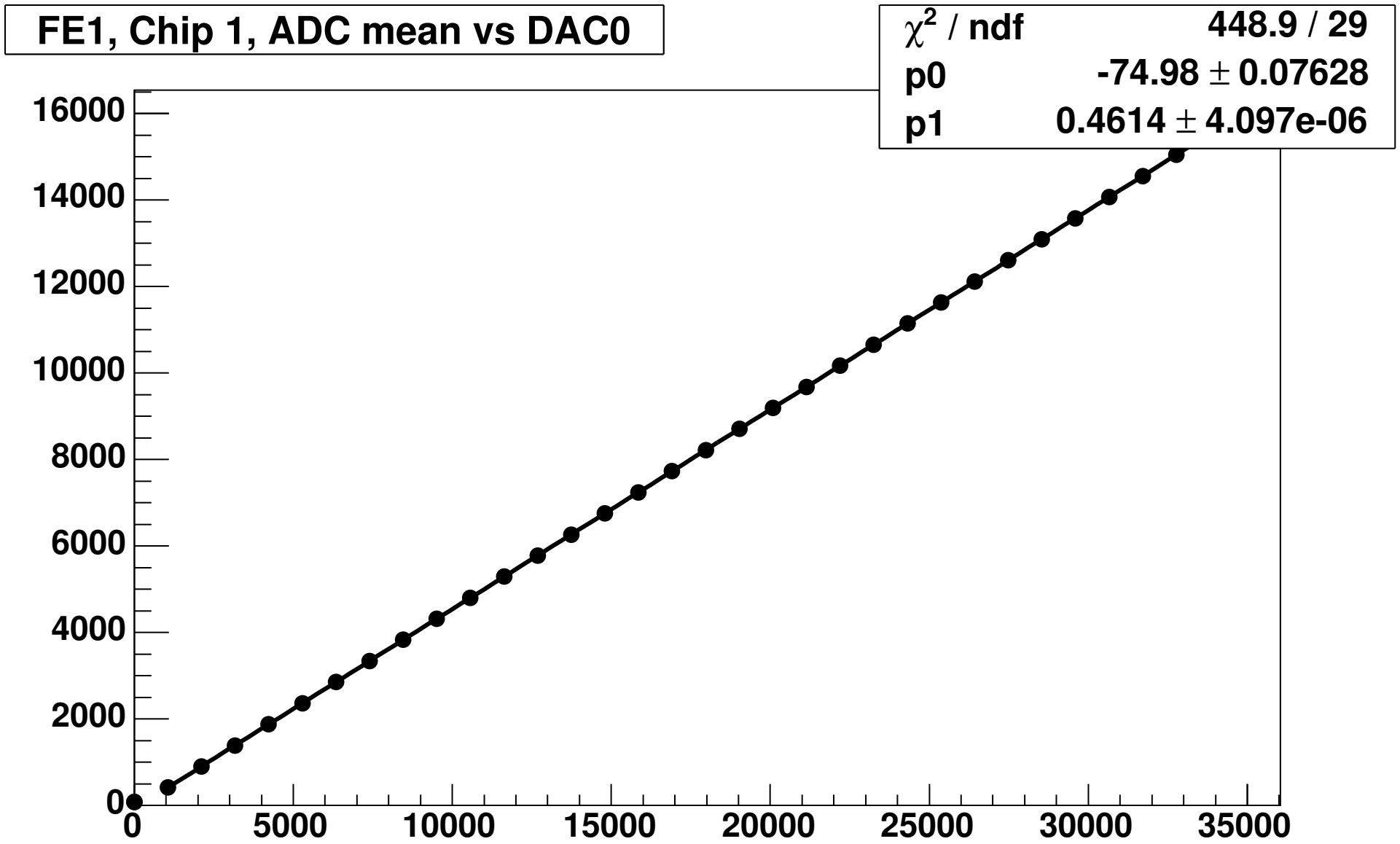

FE1, Chip 0, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

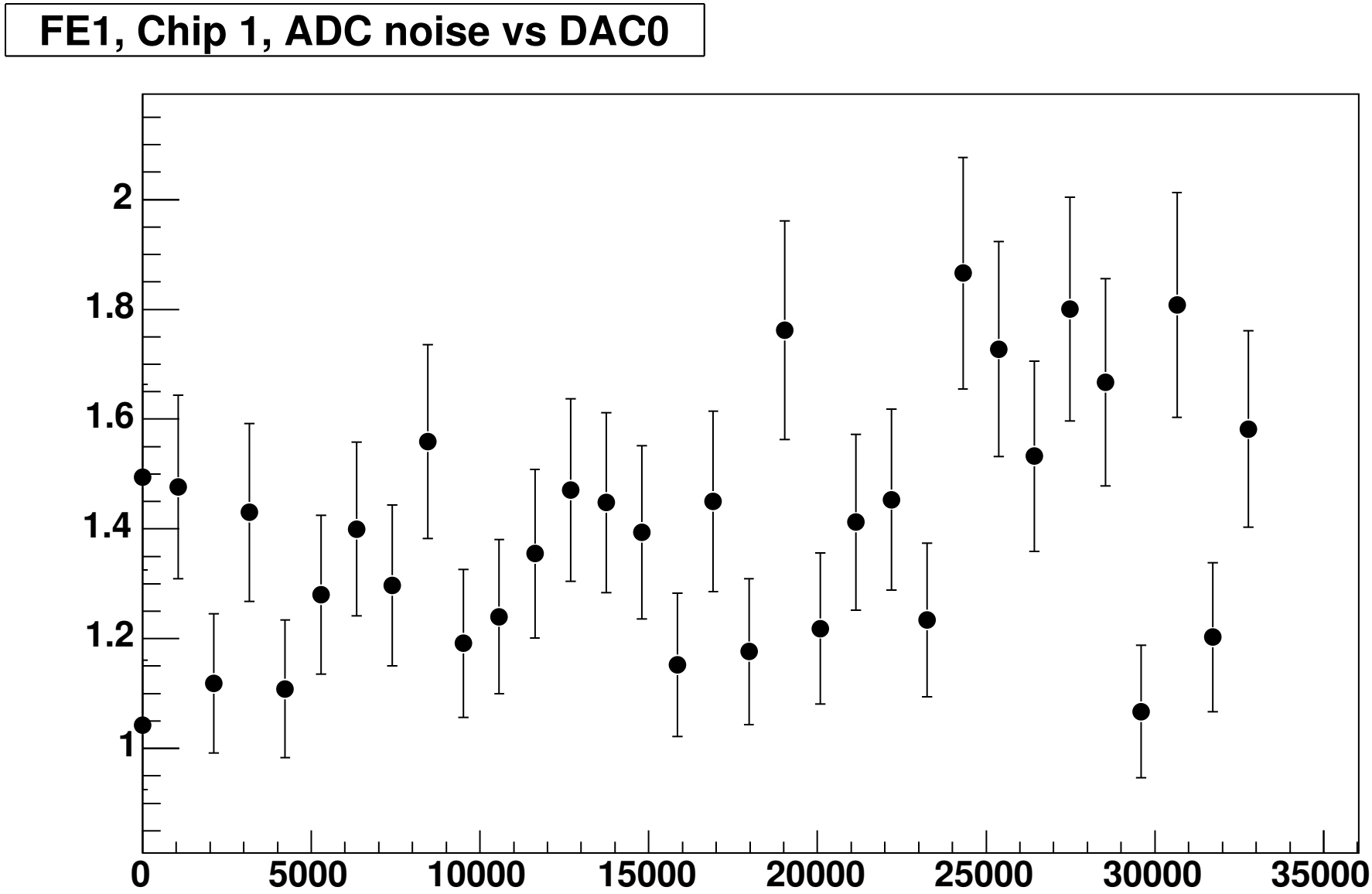

FE1, Chip 0, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

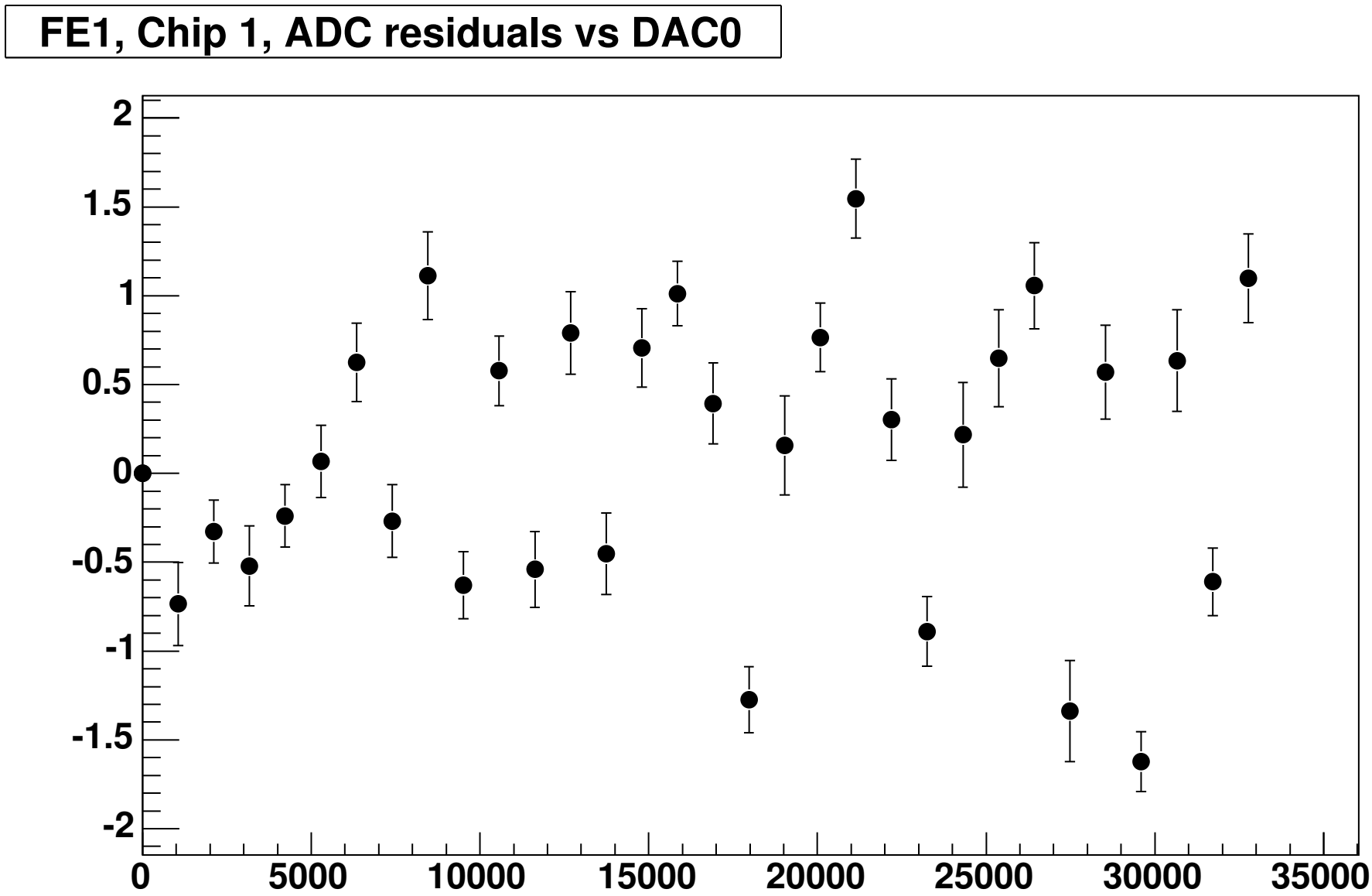

FE1, Chip 0, ADC mean vs DAC1
χ² / ndf 36.93 / 29
p0 83.43 ± 0.06565
p1 2.262e-07 ± 3.487e-06
84.2
84
83.8
83.6
83.4
83.2
83
82.8
0
5000
10000
15000
20000
25000
30000
35000

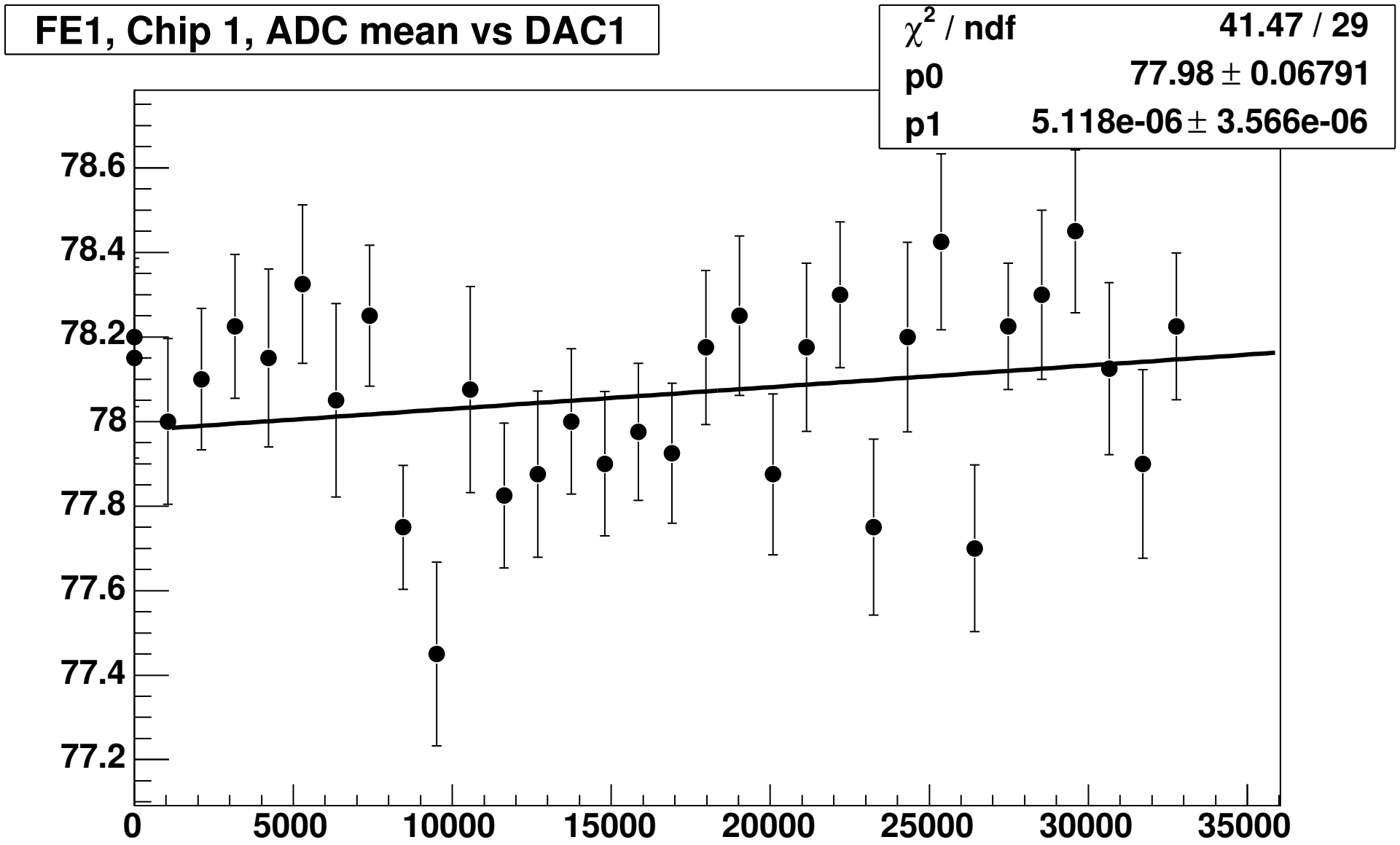

FE1, Chip 0, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

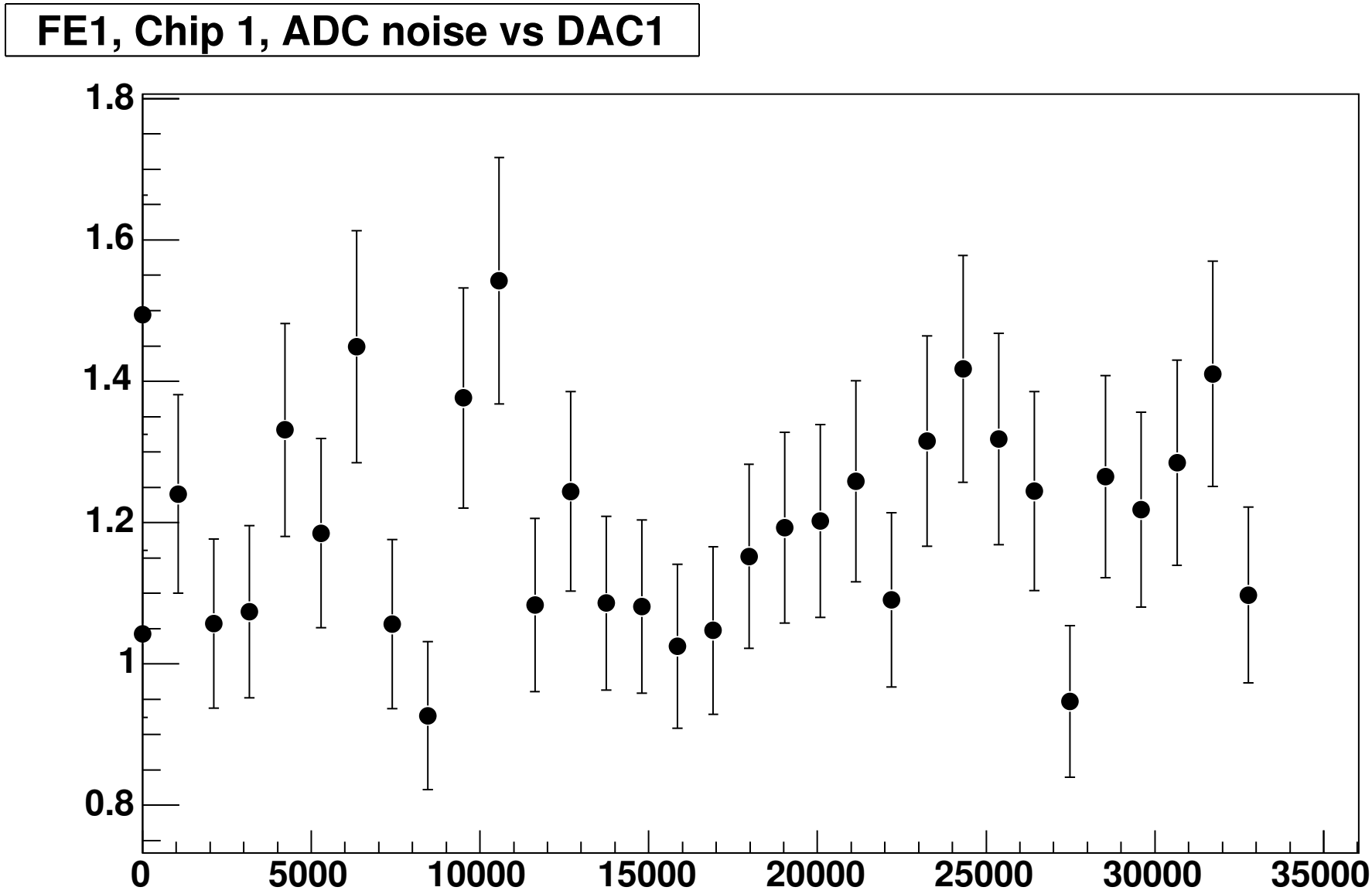

FE1, Chip 0, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

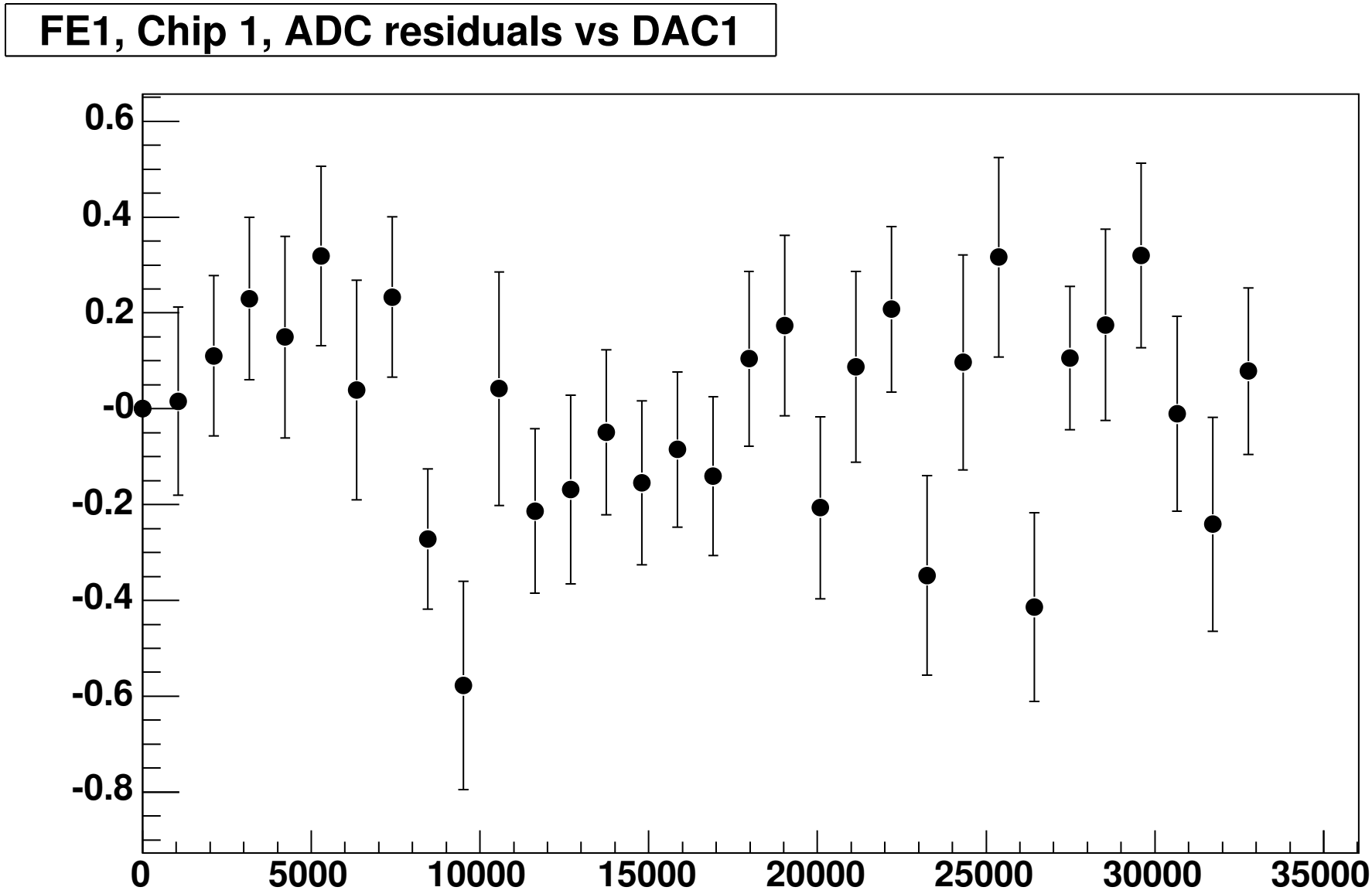

FE1, Chip 1, ADC mean vs DAC0
χ² / ndf 448.9 / 29
p0 -74.98 ± 0.07628
p1 0.4614 ± 4.097e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

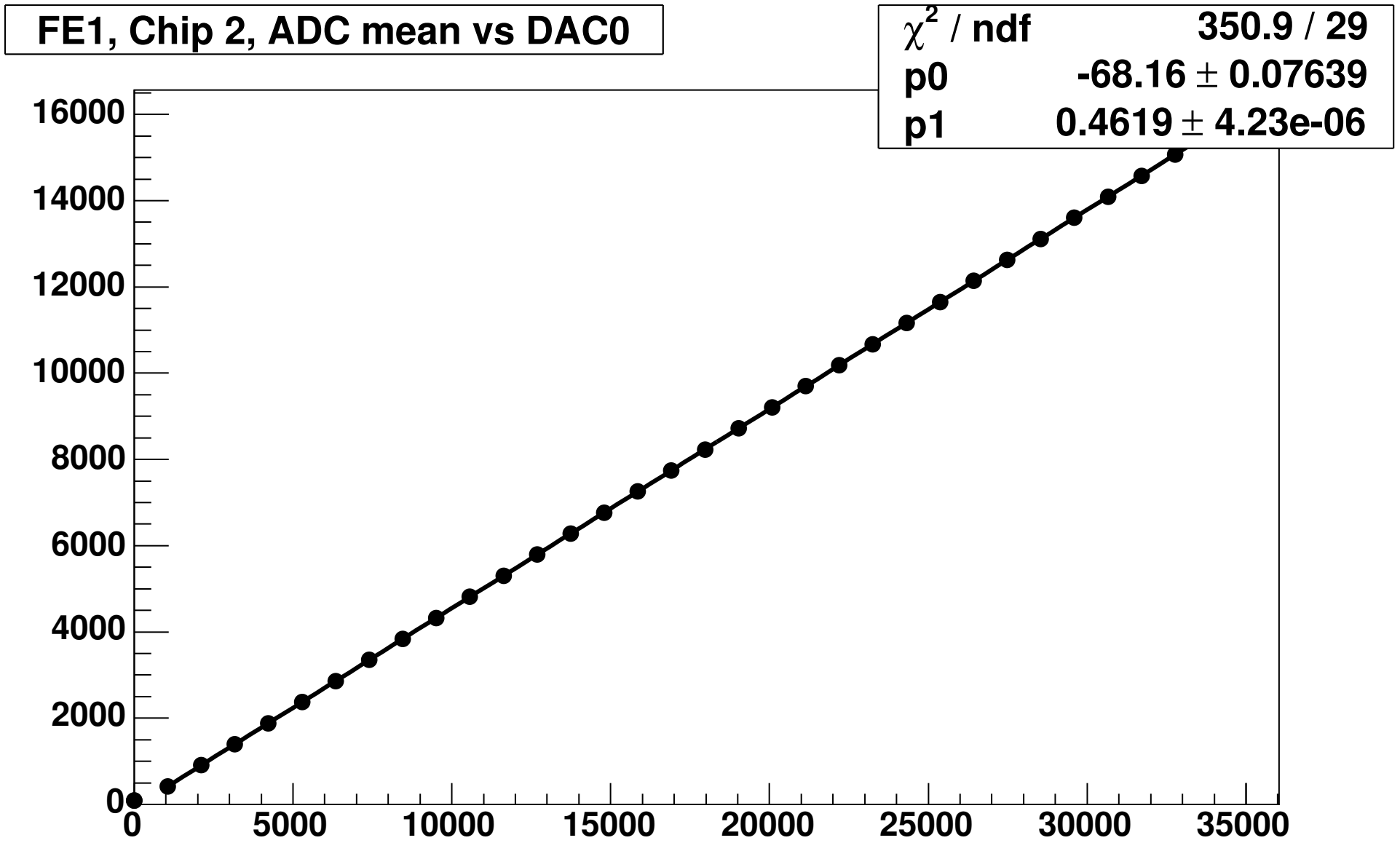

FE1, Chip 1, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

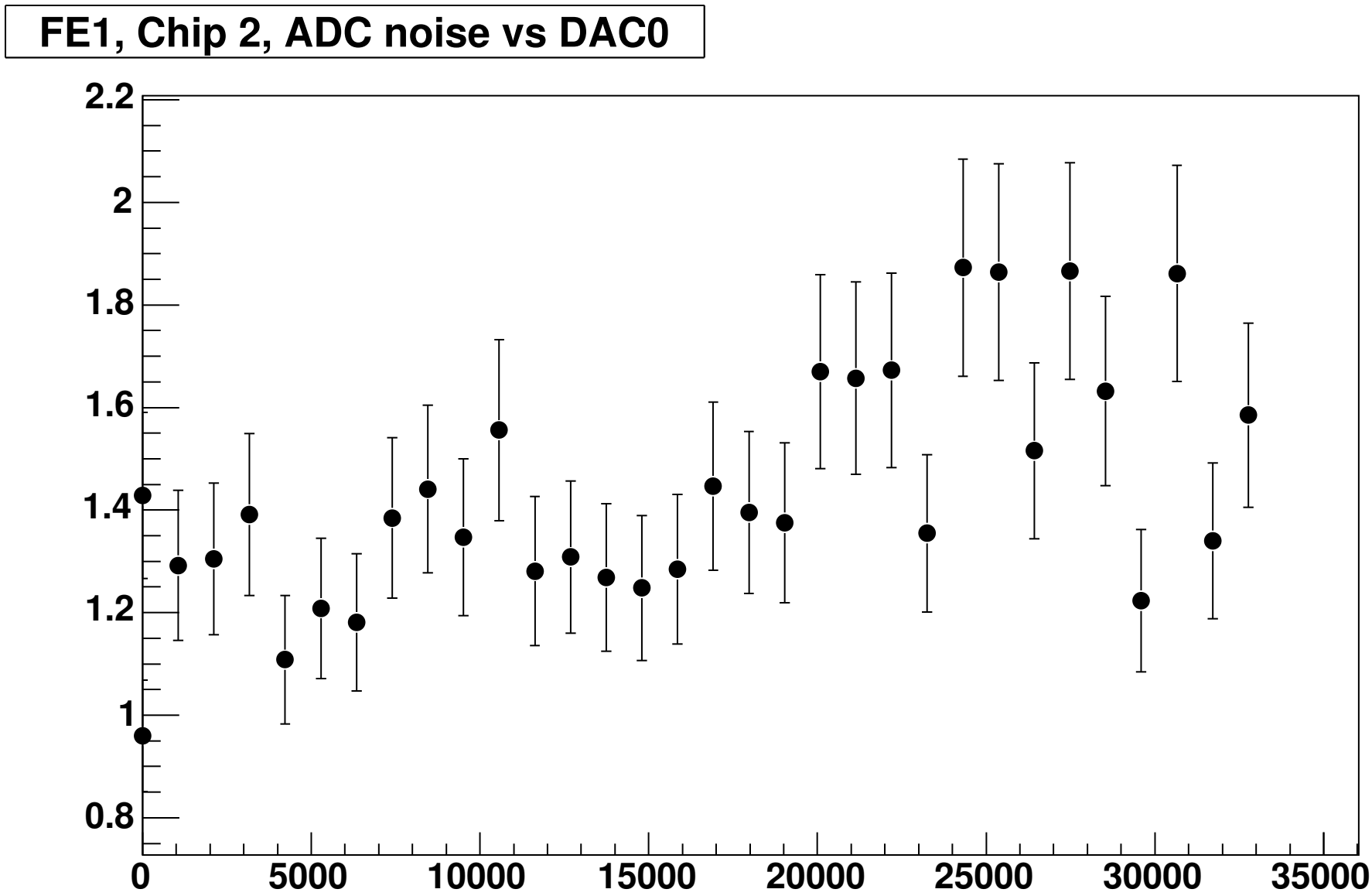

FE1, Chip 1, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

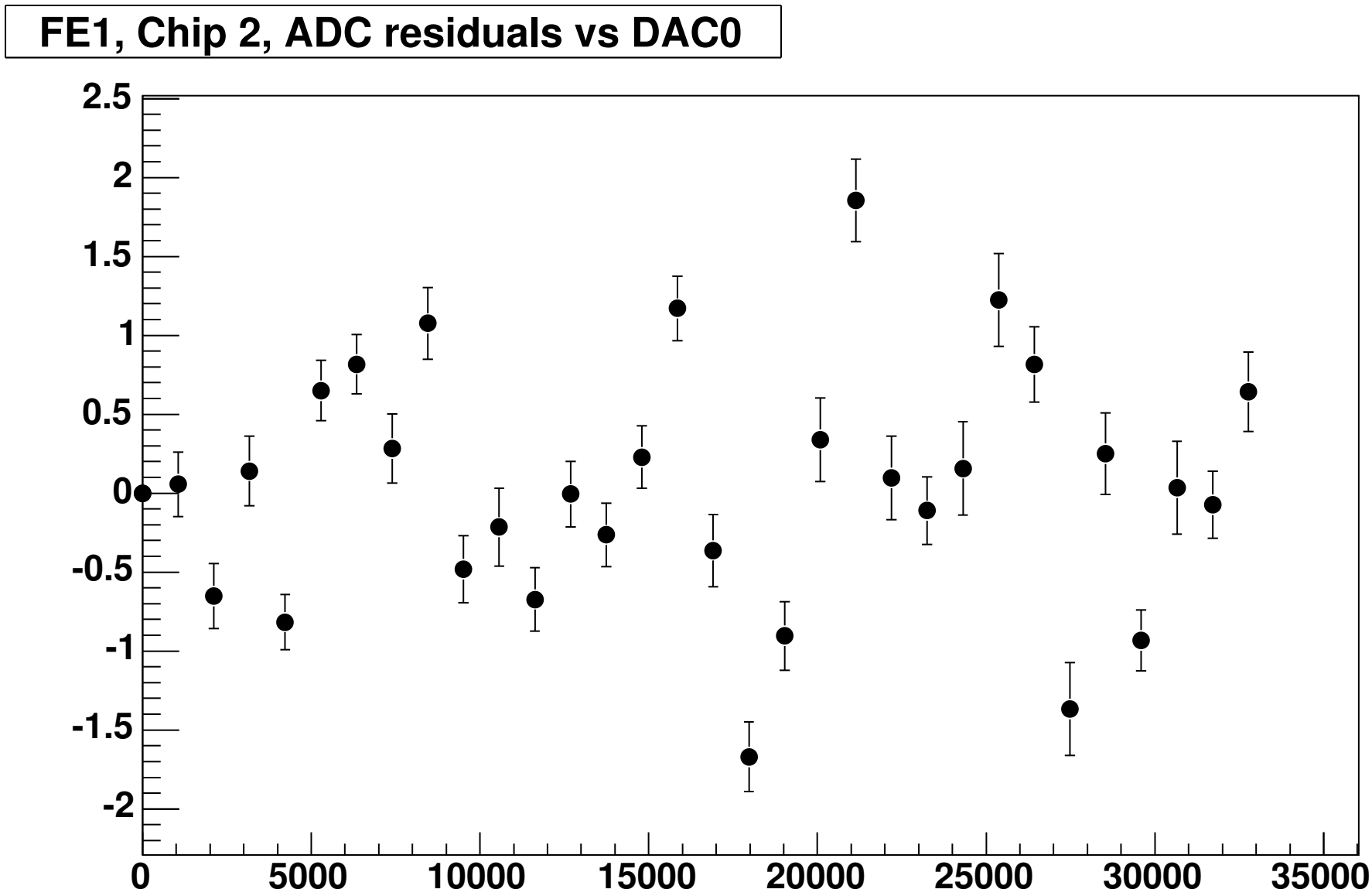

FE1, Chip 1, ADC mean vs DAC1
χ² / ndf 41.47 / 29
p0 77.98 ± 0.06791
p1 5.118e-06 ± 3.566e-06
78.6
78.4
78.2
78
77.8
77.6
77.4
77.2
0
5000
10000
15000
20000
25000
30000
35000

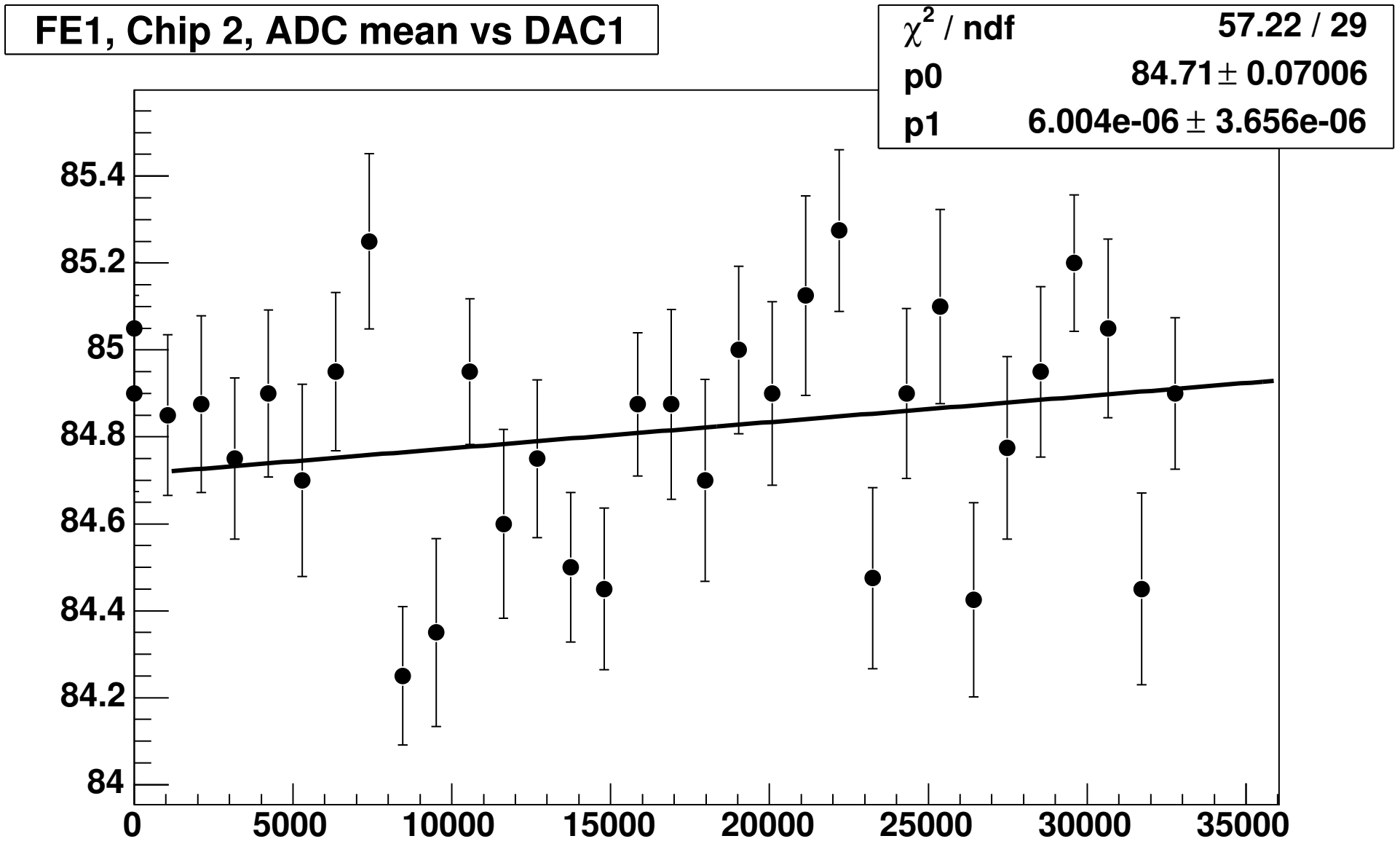

FE1, Chip 1, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

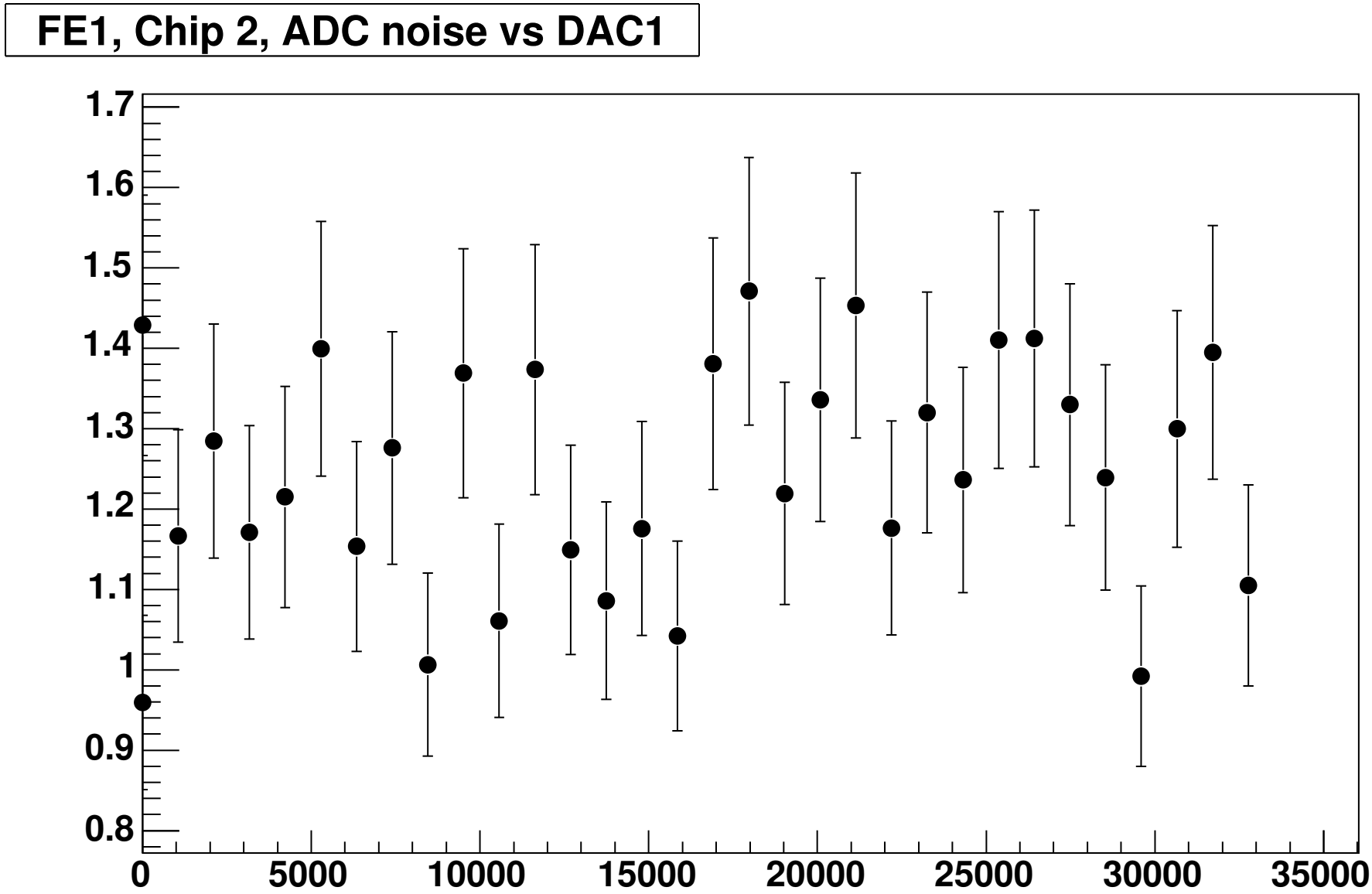

FE1, Chip 1, ADC residuals vs DAC1
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

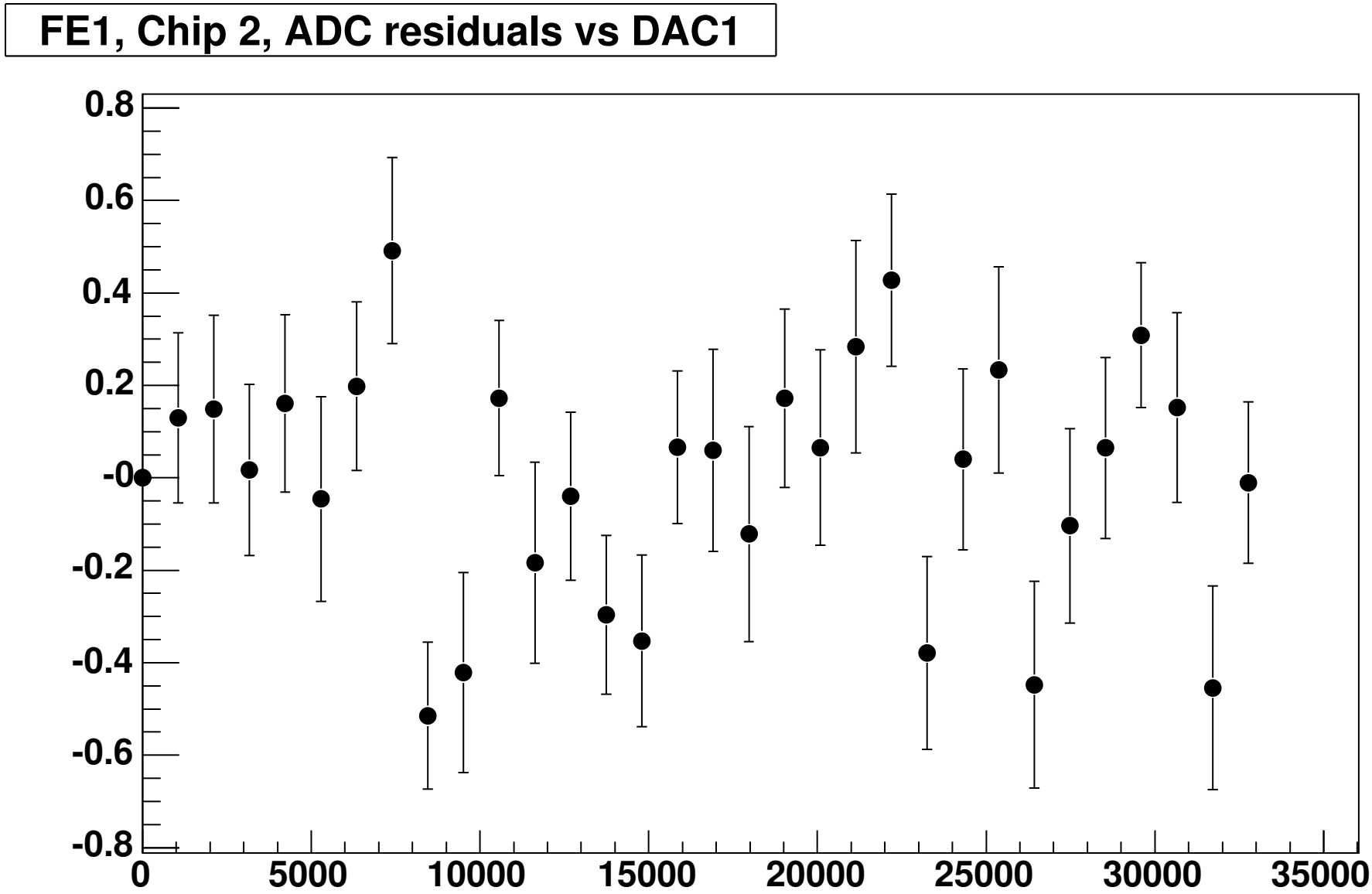

FE1, Chip 2, ADC mean vs DAC0
χ² / ndf 350.9 / 29
p0 -68.16 ± 0.07639
p1 0.4619 ± 4.23e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

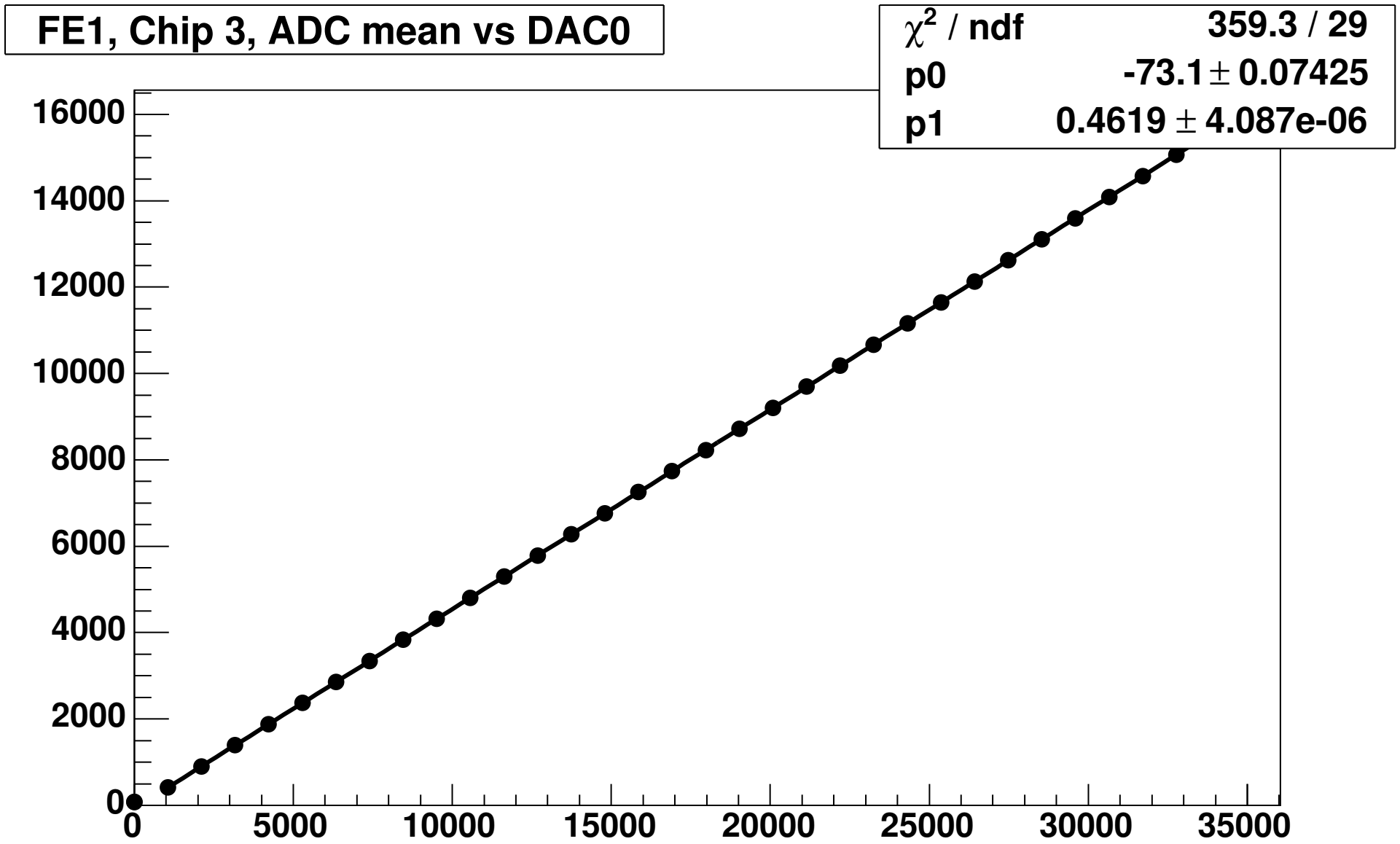

FE1, Chip 2, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

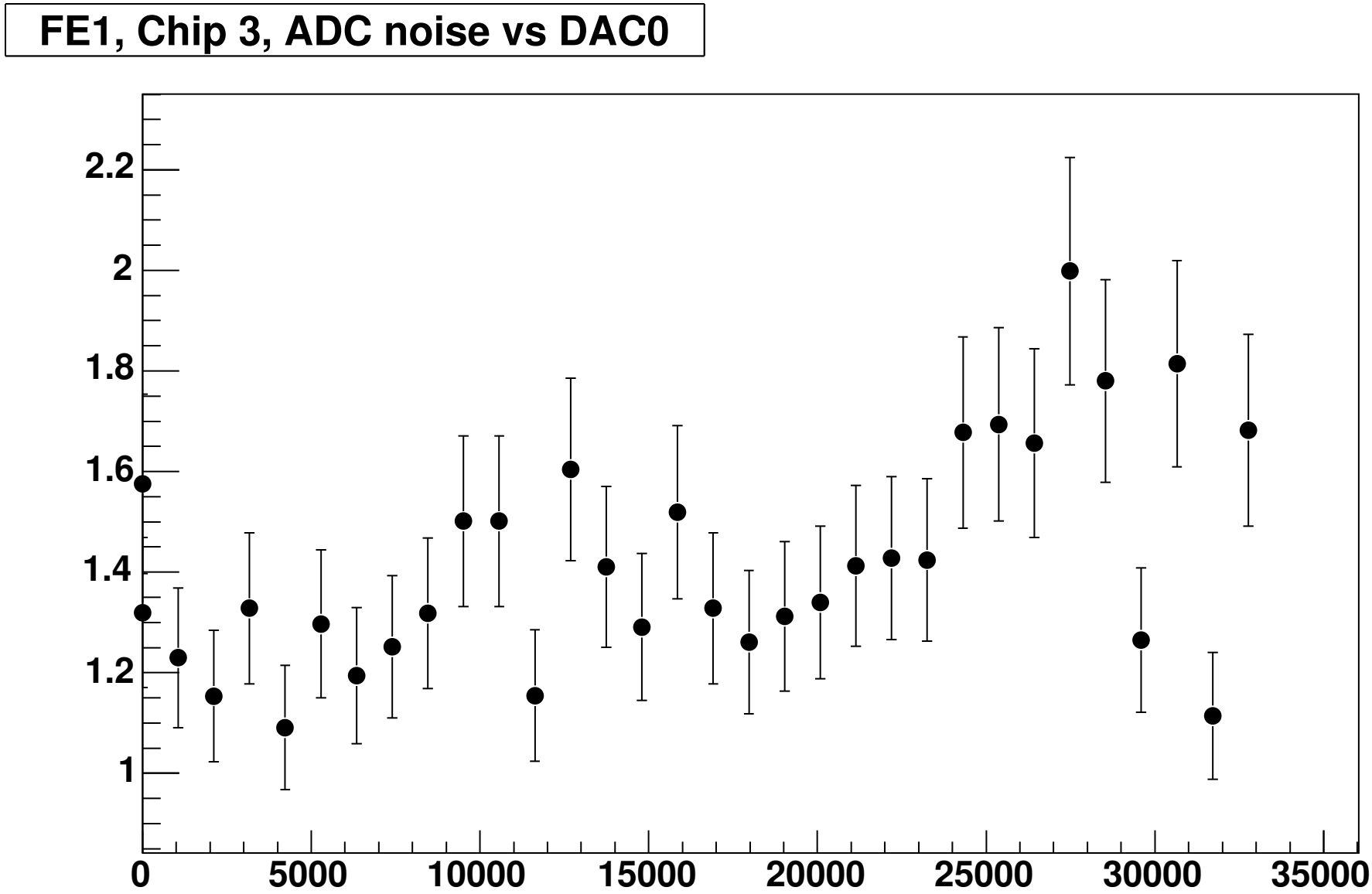

FE1, Chip 2, ADC residuals vs DAC0
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

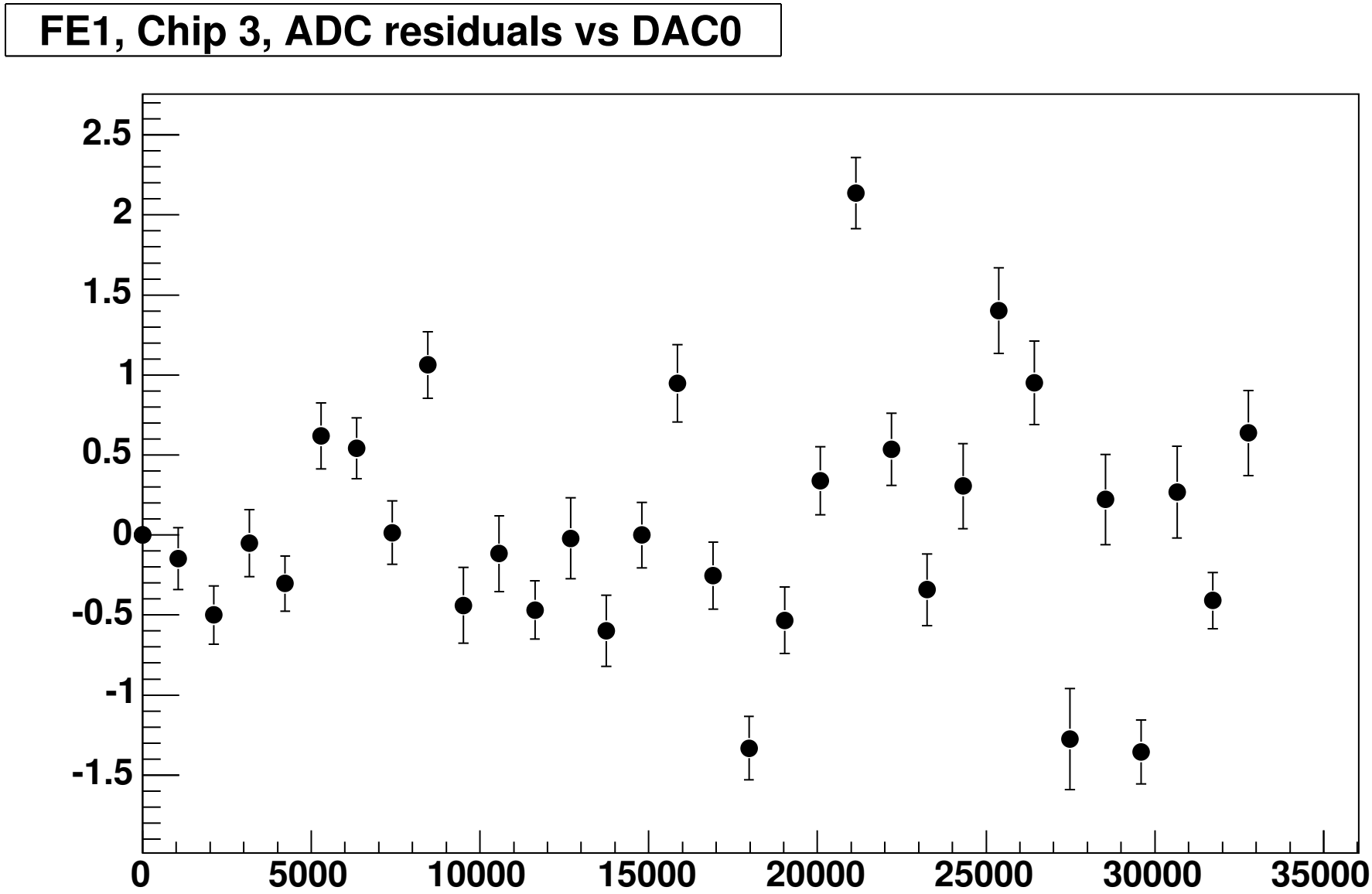

FE1, Chip 2, ADC mean vs DAC1
χ² / ndf 57.22 / 29
p0 84.71 ± 0.07006
p1 6.004e-06 ± 3.656e-06
85.4
85.2
85
84.8
84.6
84.4
84.2
84
0
5000
10000
15000
20000
25000
30000
35000

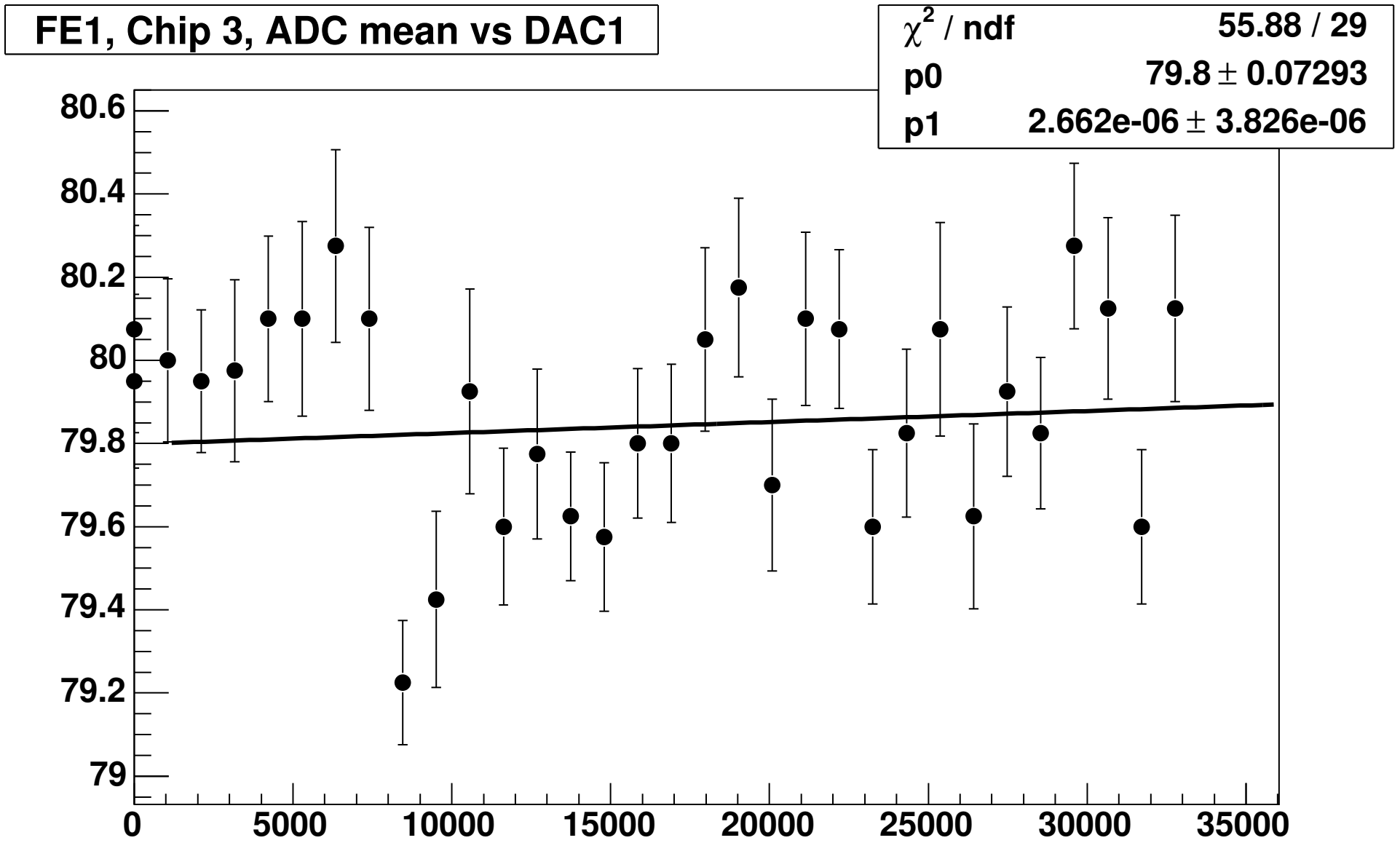

FE1, Chip 2, ADC noise vs DAC1
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0
5000
10000
15000
20000
25000
30000
35000

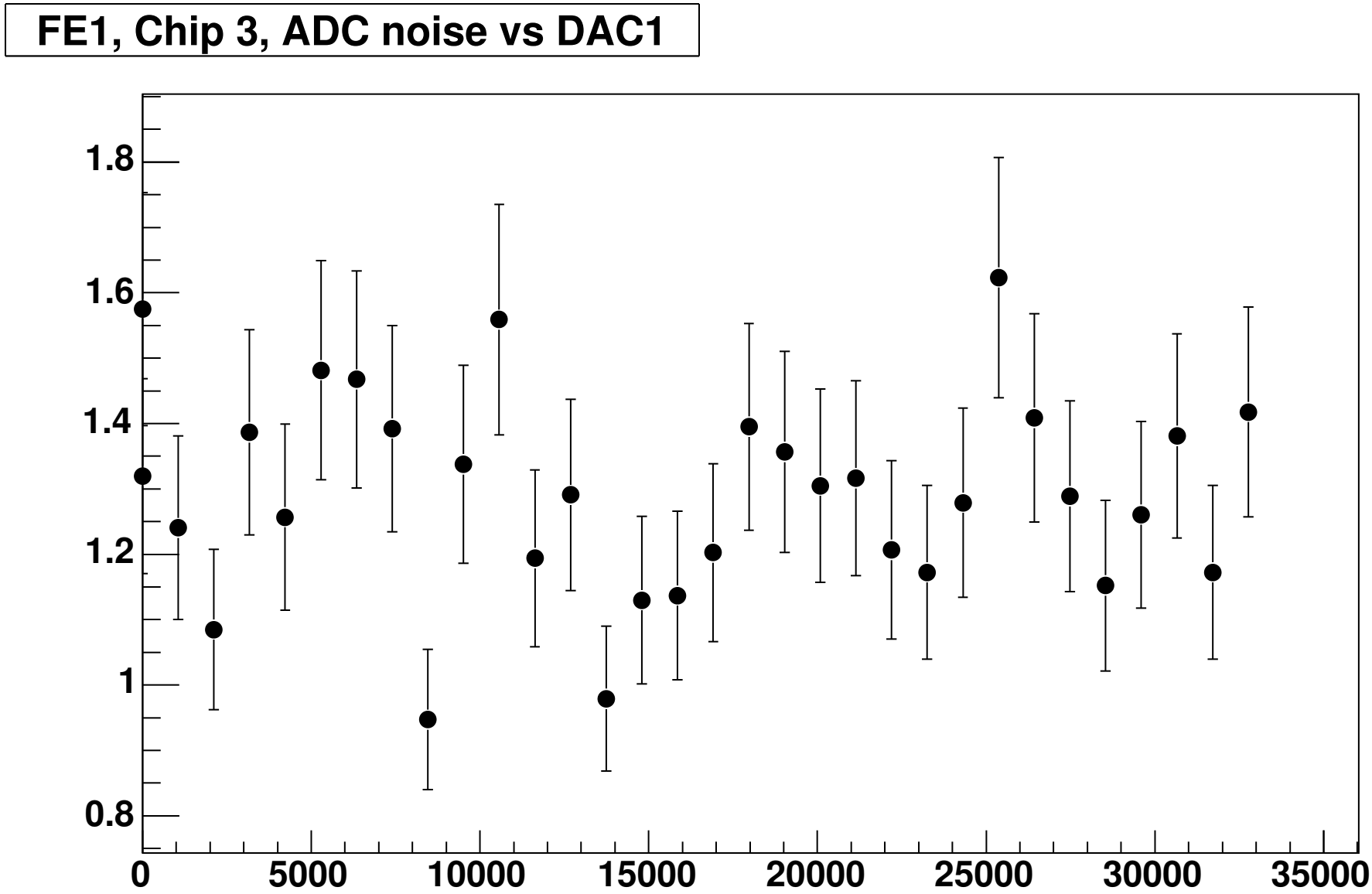

FE1, Chip 2, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

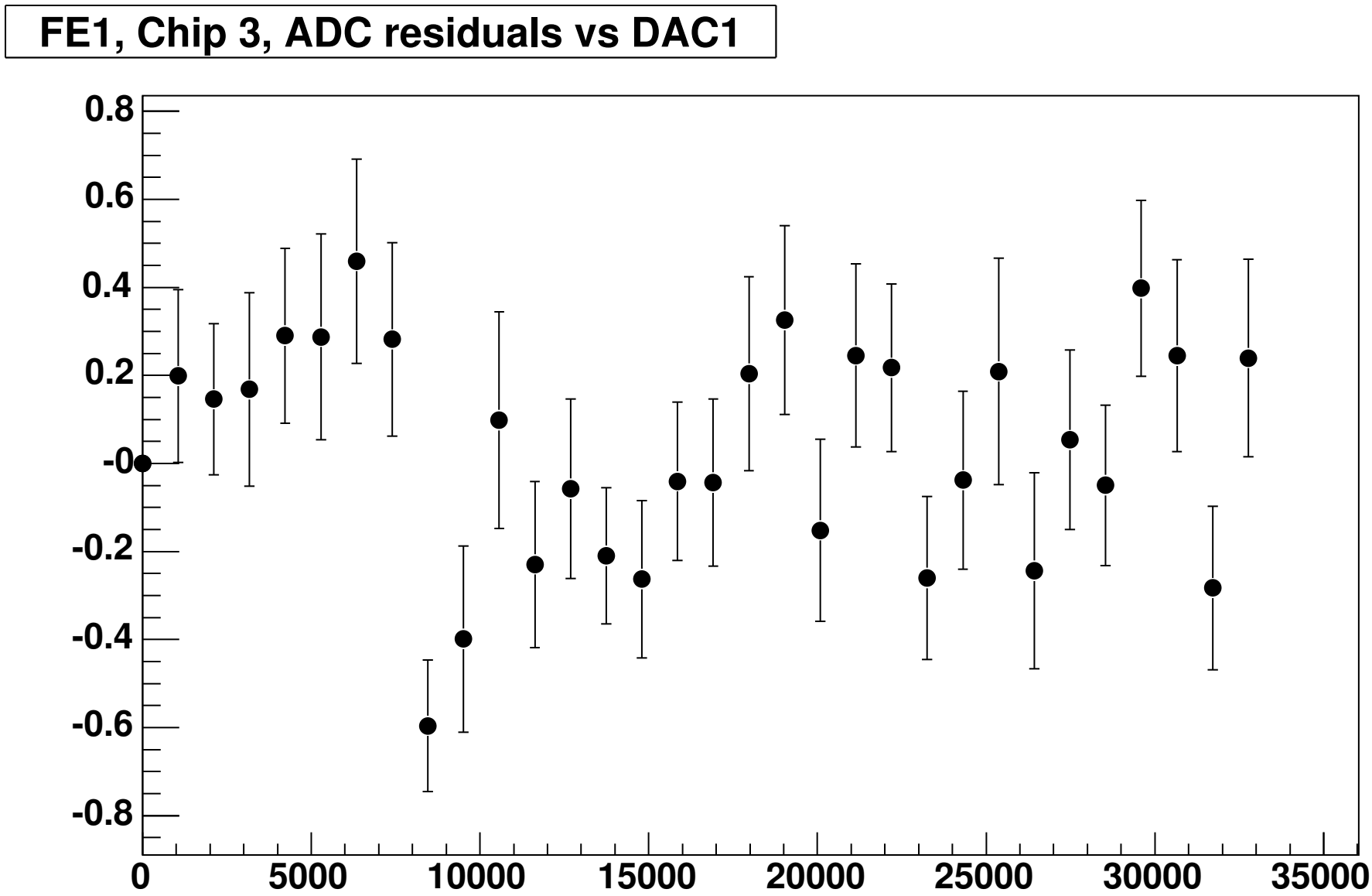

FE1, Chip 3, ADC mean vs DAC0
χ² / ndf 359.3 / 29
p0 -73.1 ± 0.07425
p1 0.4619 ± 4.087e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

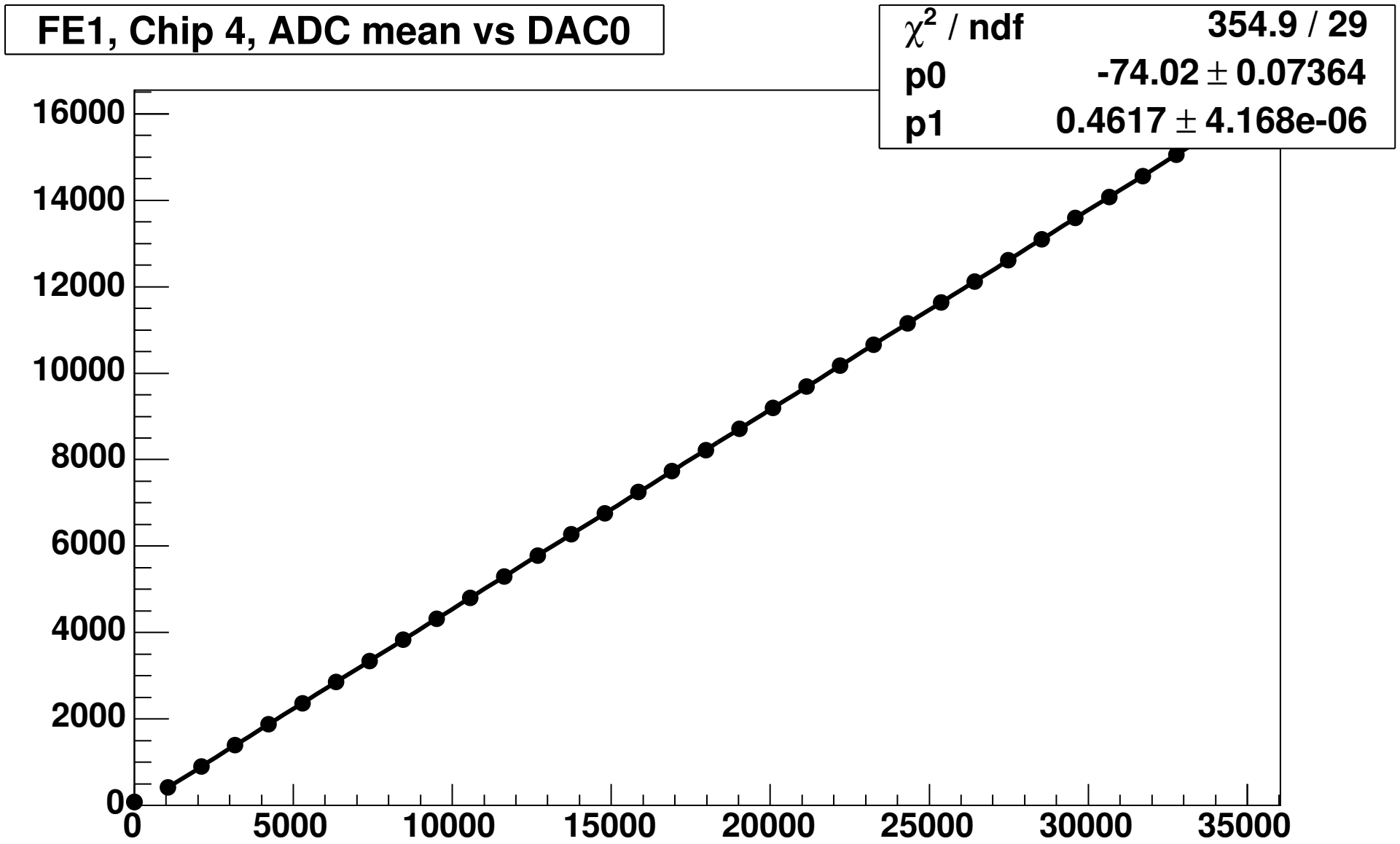

FE1, Chip 3, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

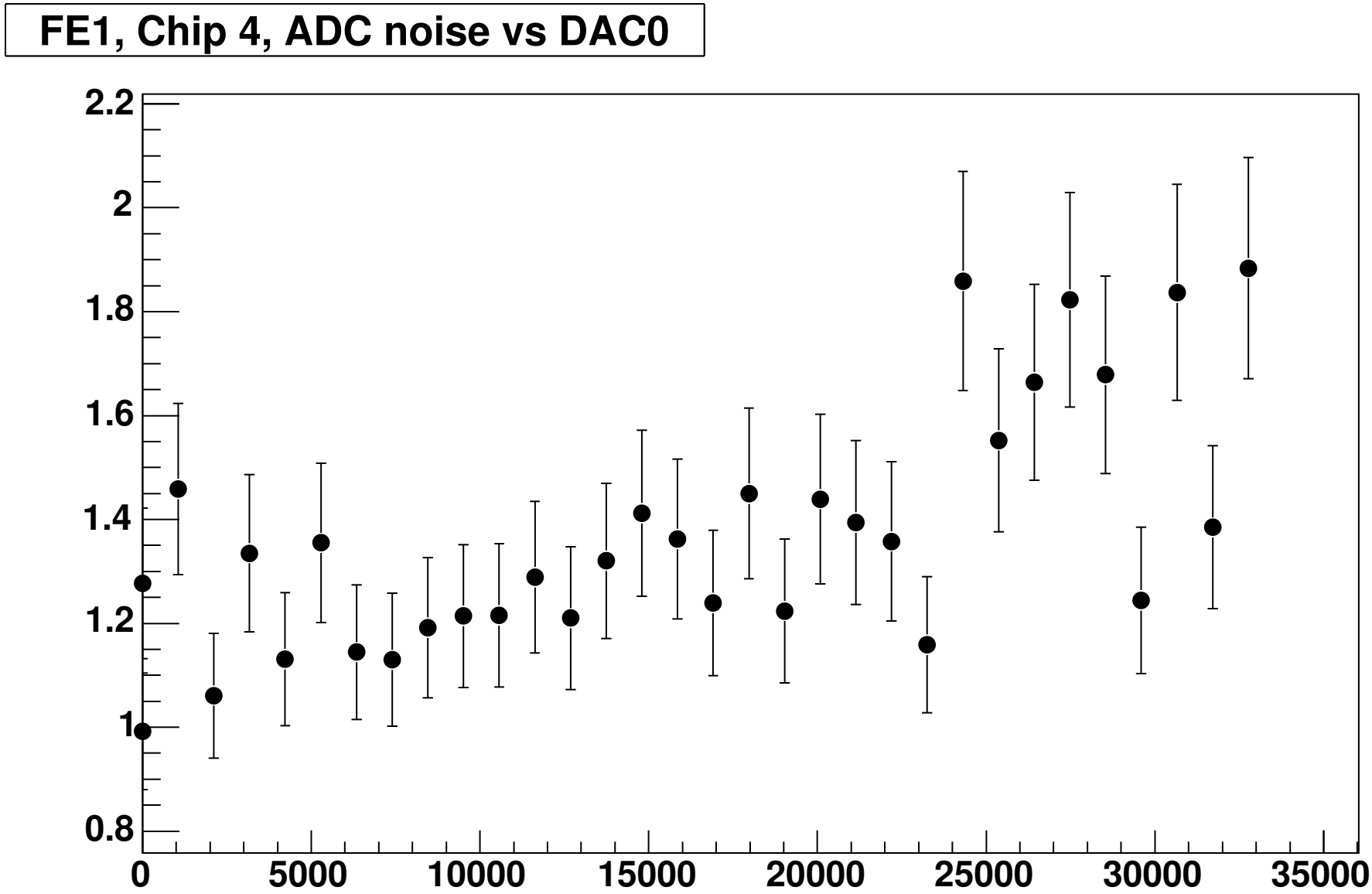

FE1, Chip 3, ADC residuals vs DAC0
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

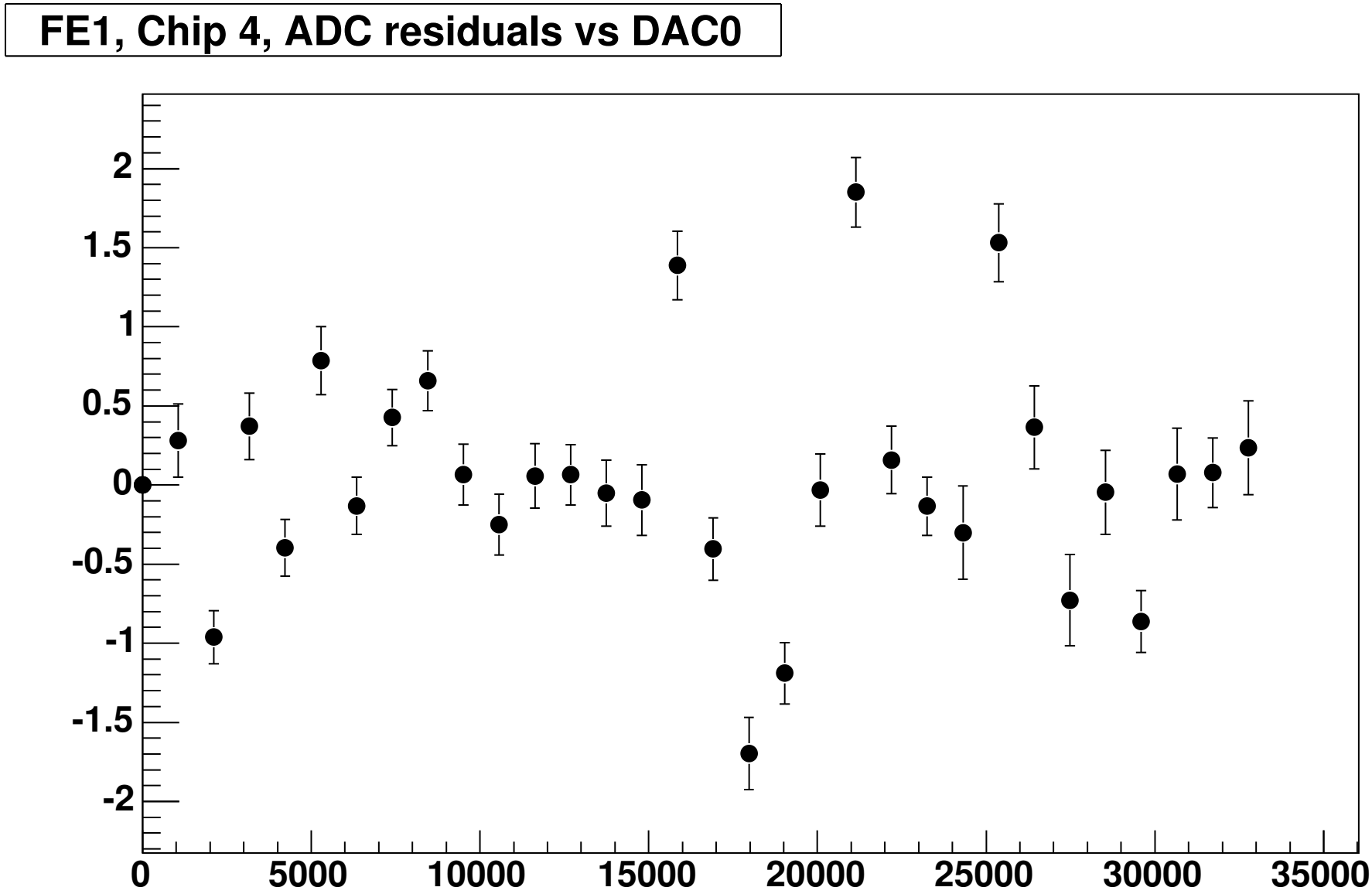

FE1, Chip 3, ADC mean vs DAC1
χ² / ndf 55.88 / 29
p0 79.8 ± 0.07293
p1 2.662e-06 ± 3.826e-06
80.6
80.4
80.2
80
79.8
79.6
79.4
79.2
79
0
5000
10000
15000
20000
25000
30000
35000

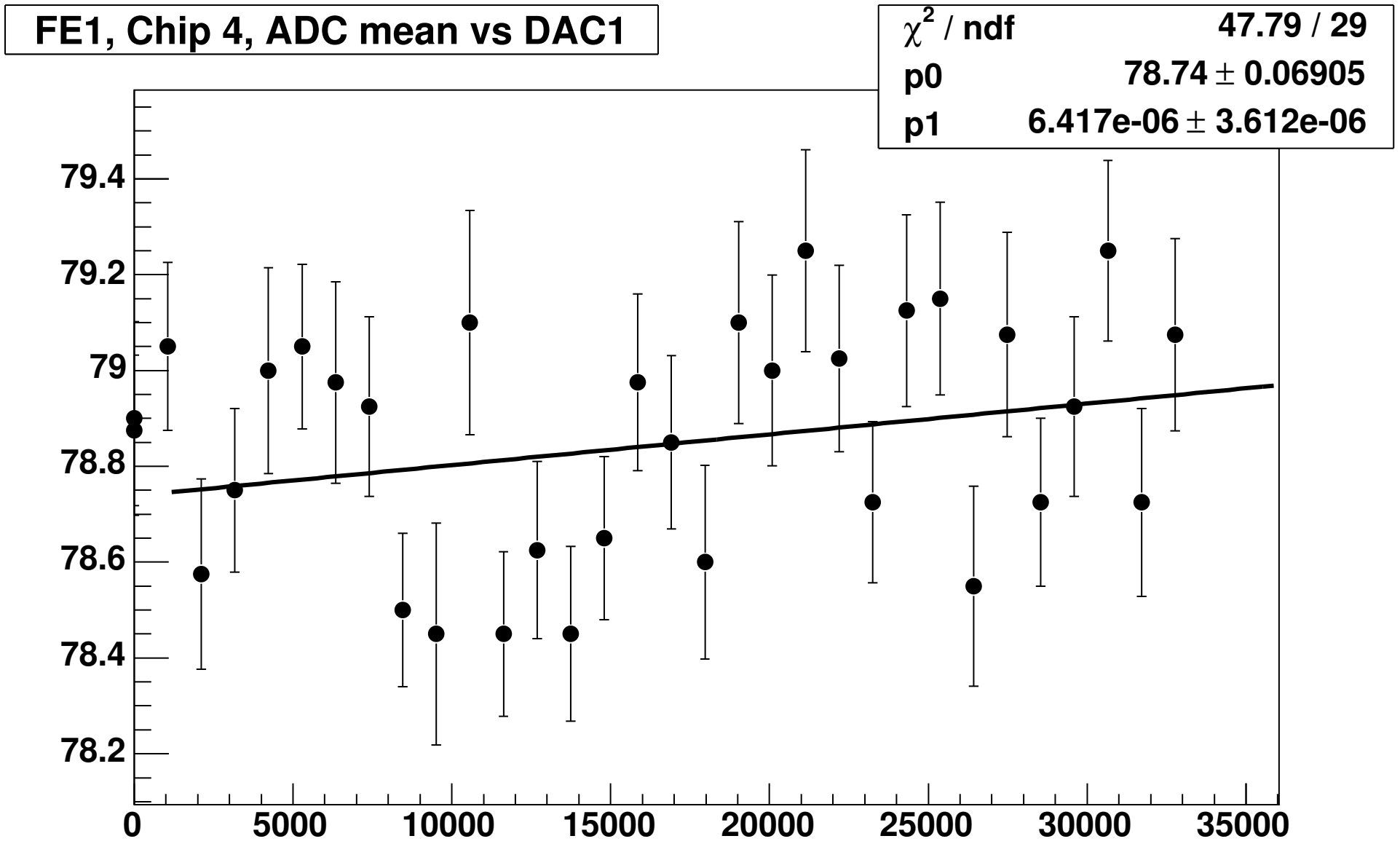

FE1, Chip 3, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

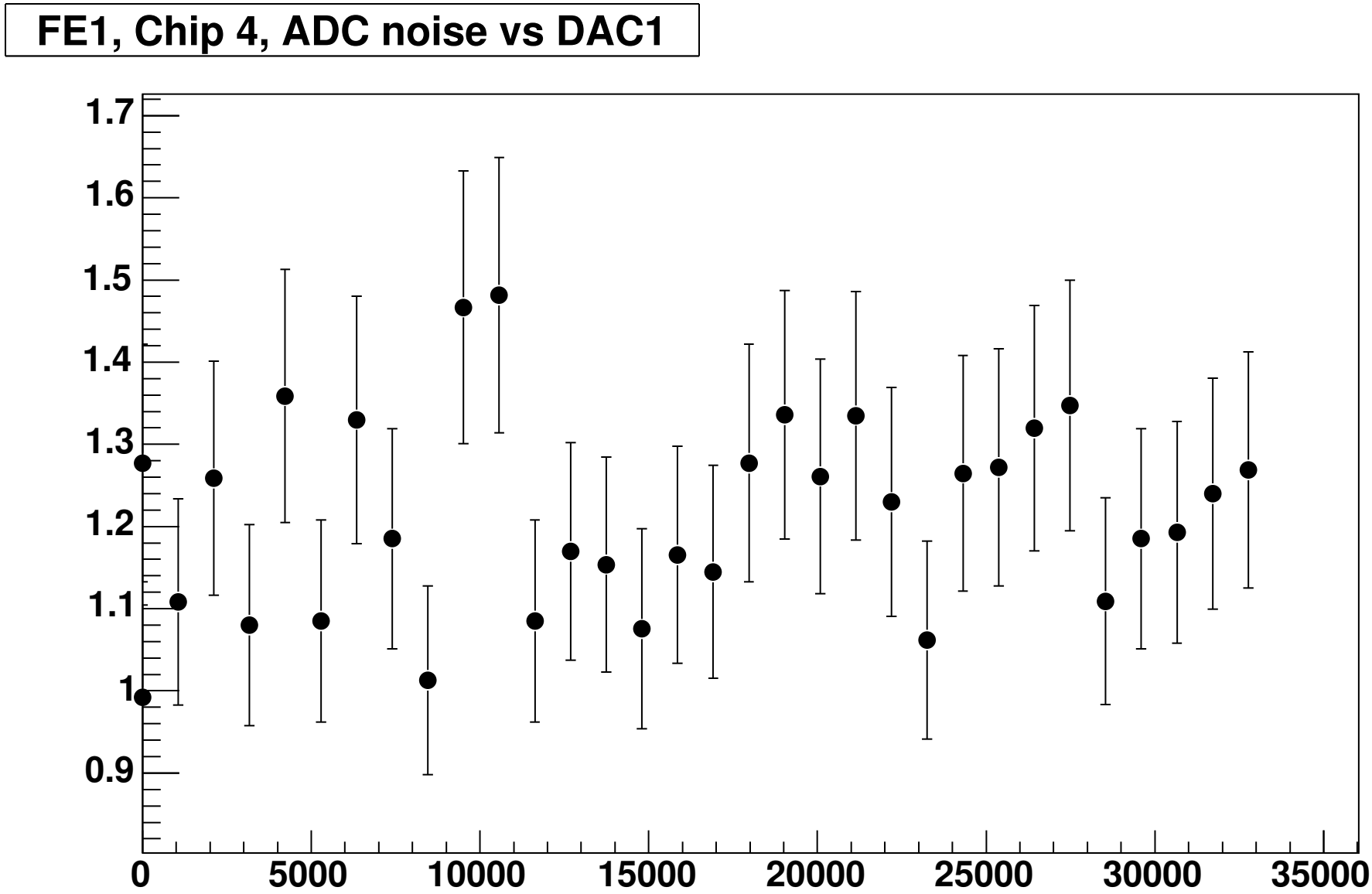

FE1, Chip 3, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

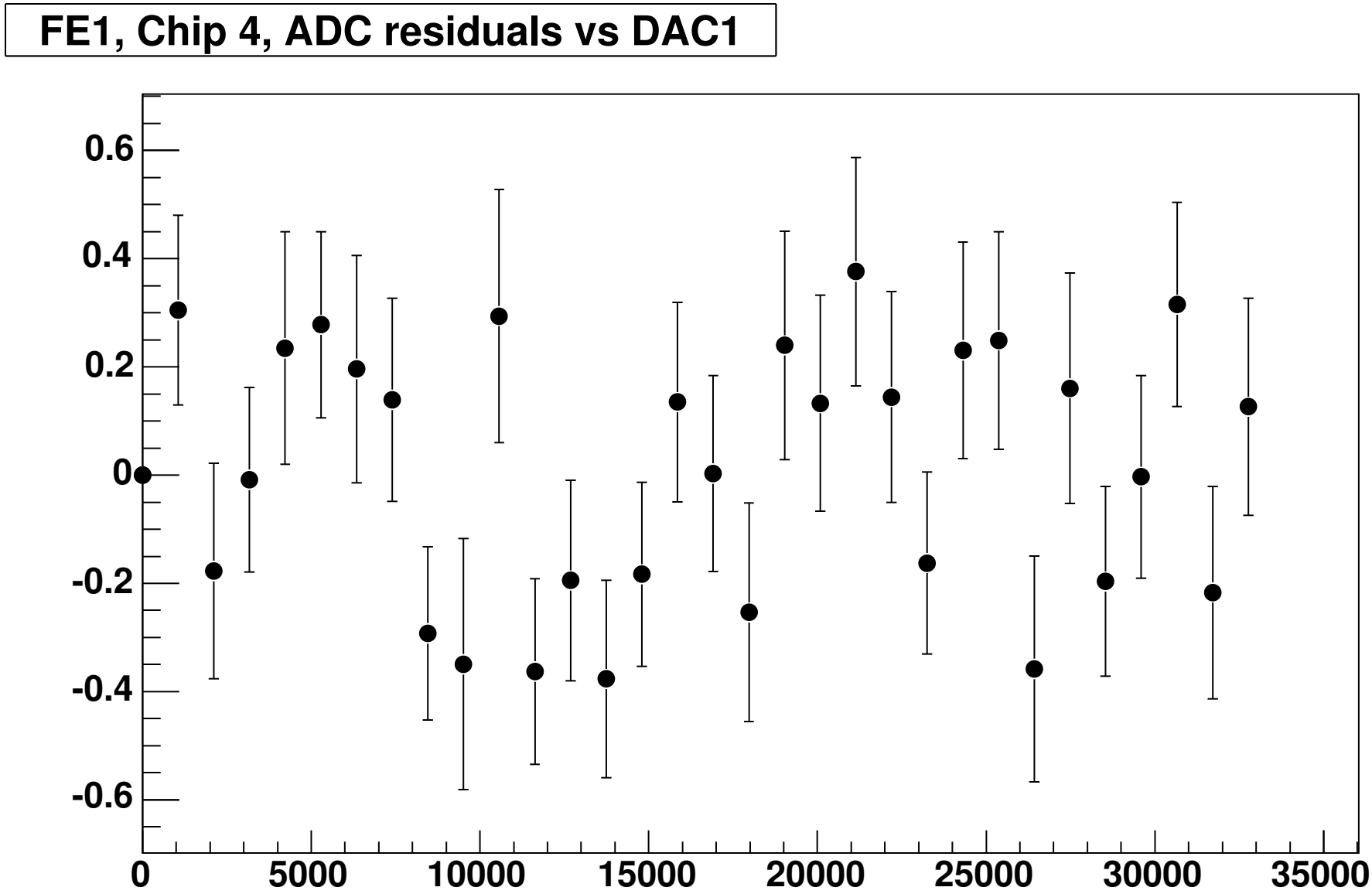

FE1, Chip 4, ADC mean vs DAC0
χ² / ndf 354.9 / 29
p0 -74.02 ± 0.07364
p1 0.4617 ± 4.168e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

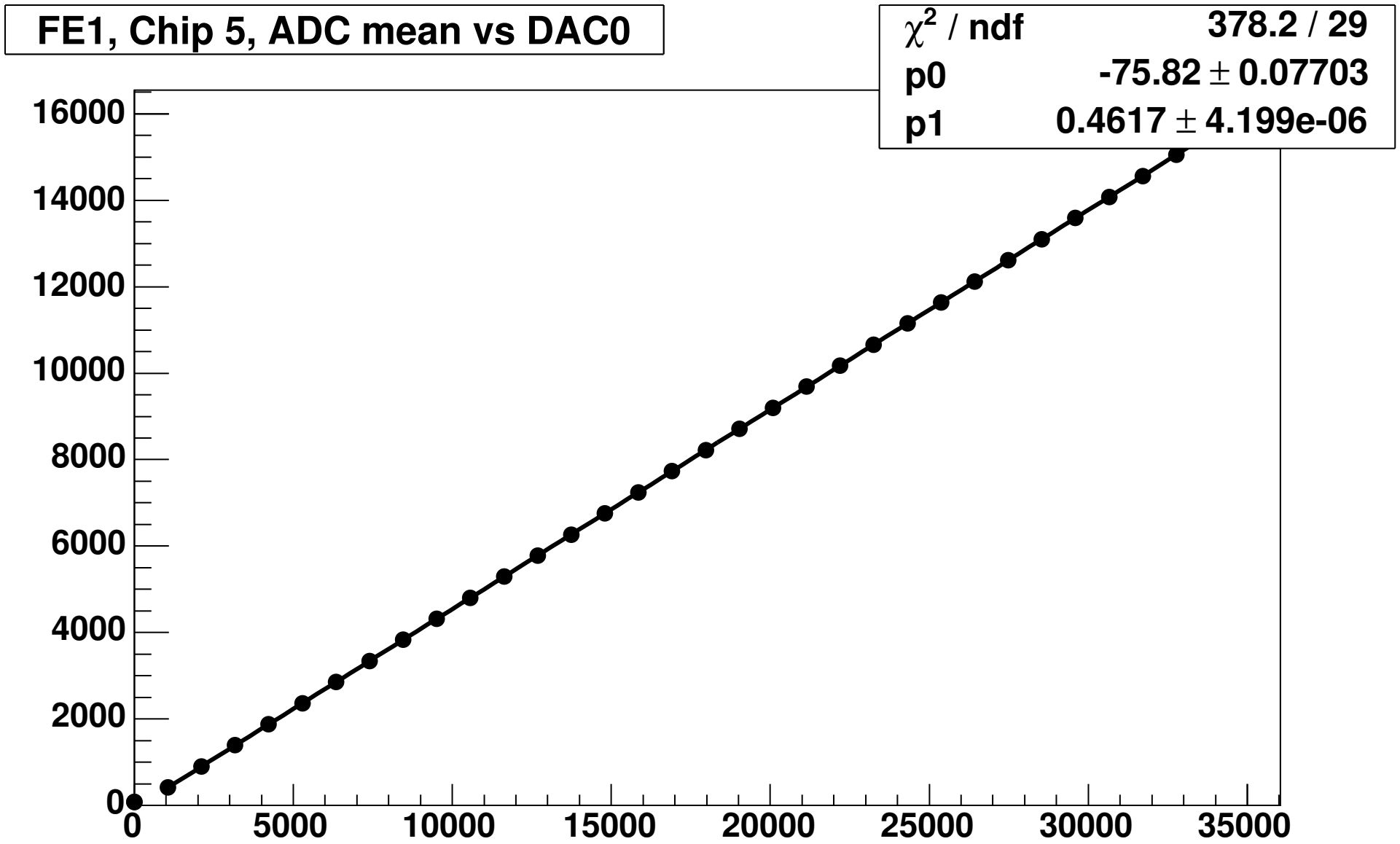

FE1, Chip 4, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

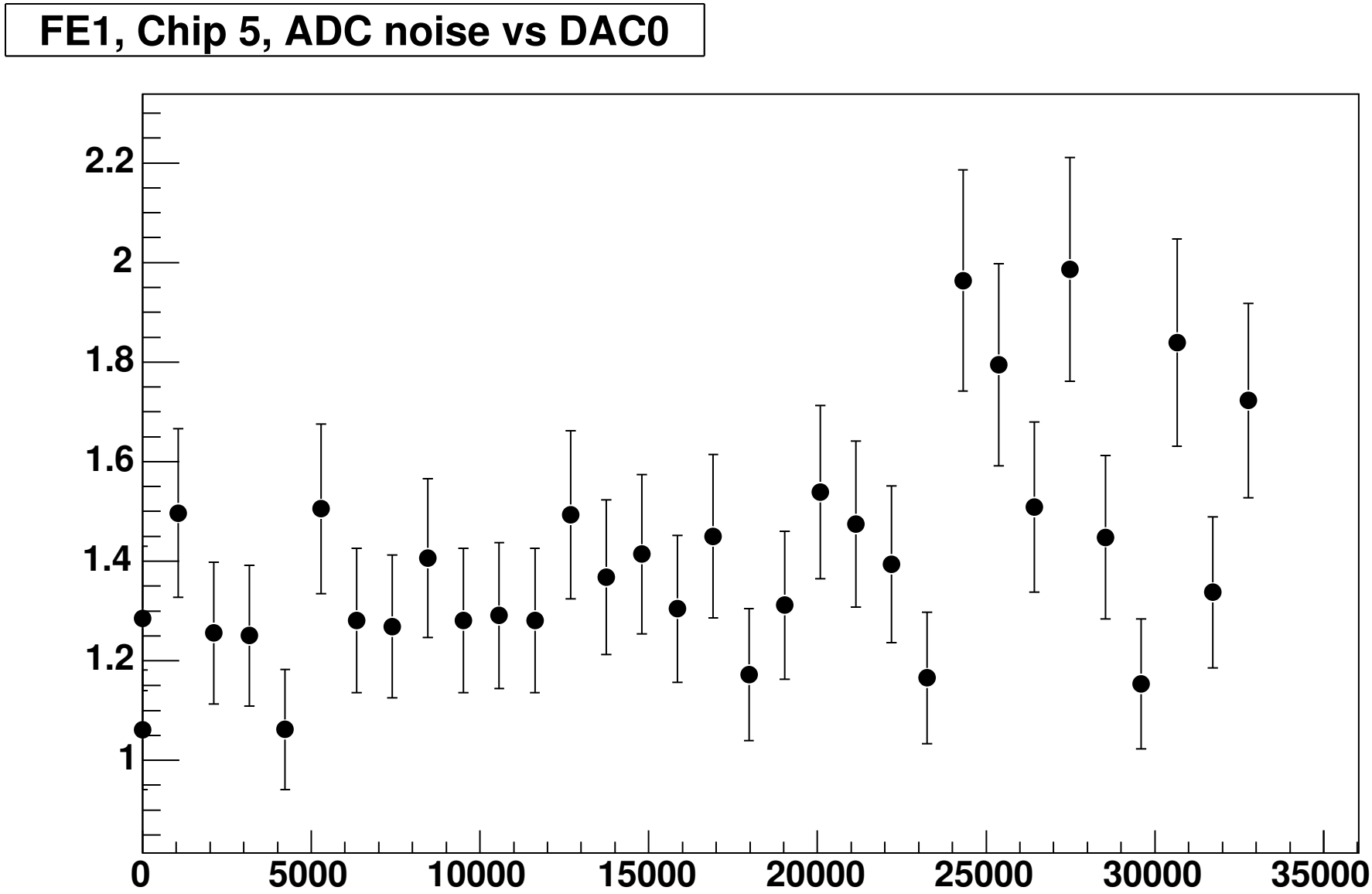

FE1, Chip 4, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

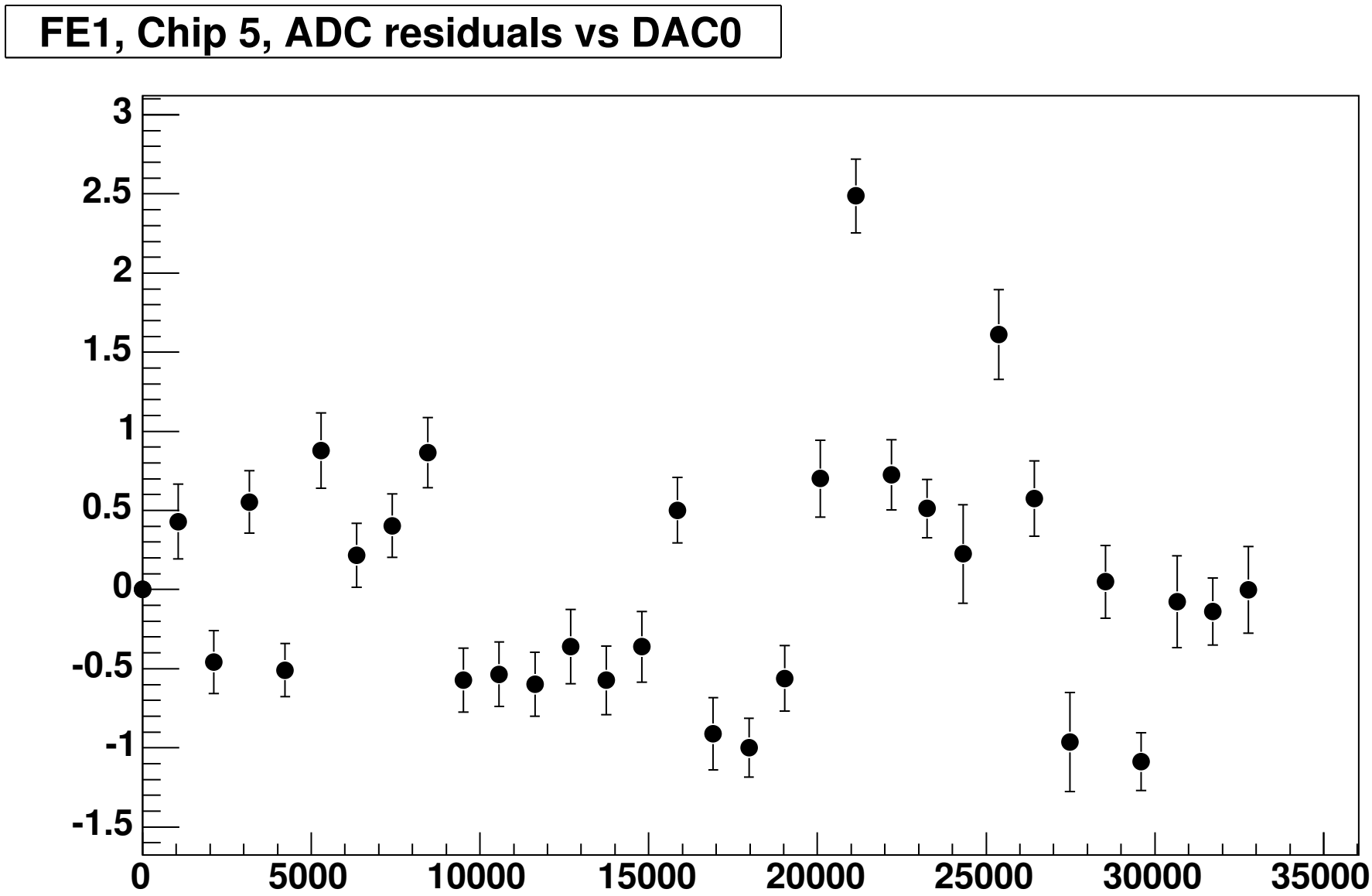

FE1, Chip 4, ADC mean vs DAC1
χ² / ndf 47.79 / 29
p0 78.74 ± 0.06905
p1 6.417e-06 ± 3.612e-06
79.4
79.2
79
78.8
78.6
78.4
78.2
0
5000
10000
15000
20000
25000
30000
35000

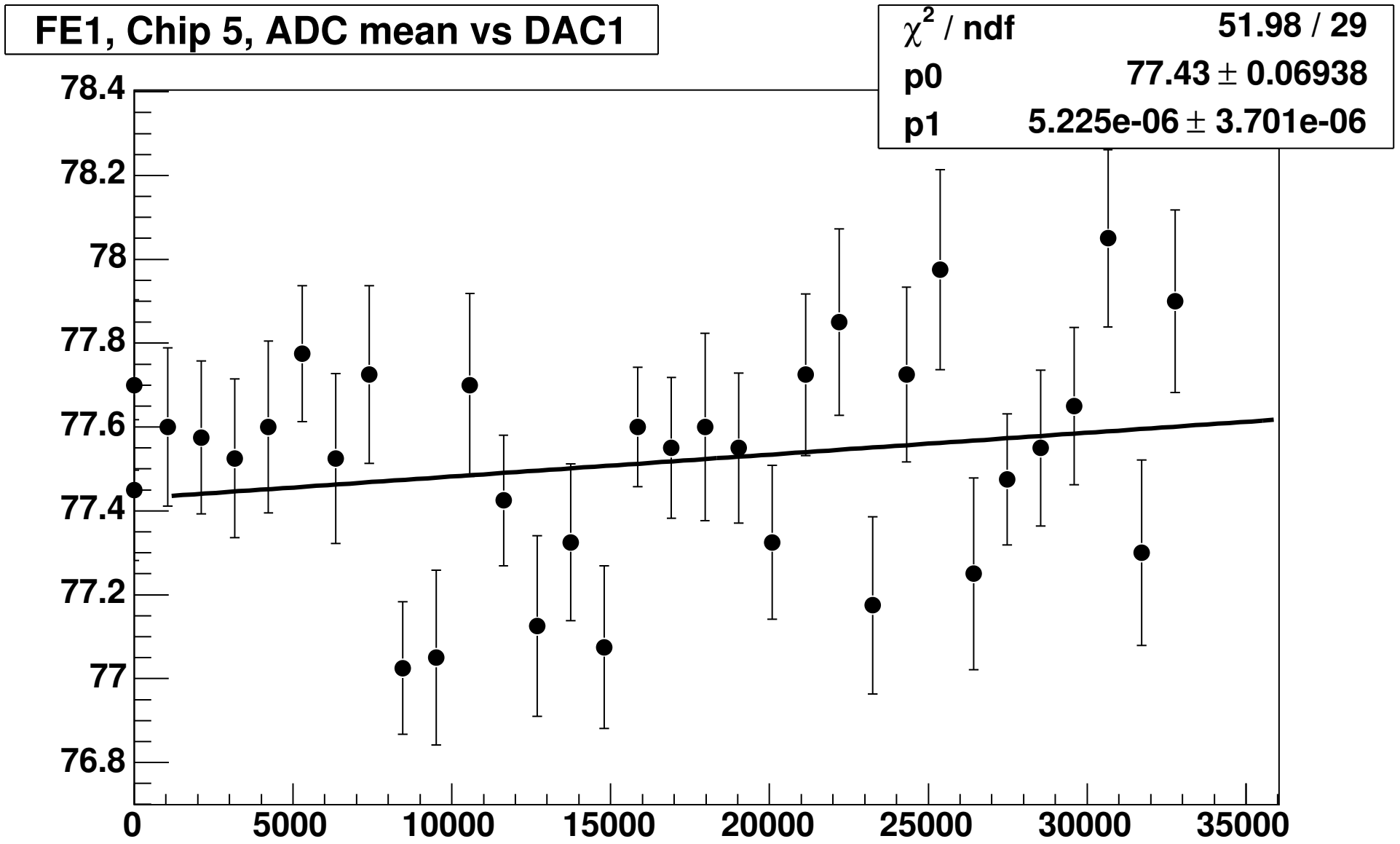

FE1, Chip 4, ADC noise vs DAC1
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0
5000
10000
15000
20000
25000
30000
35000

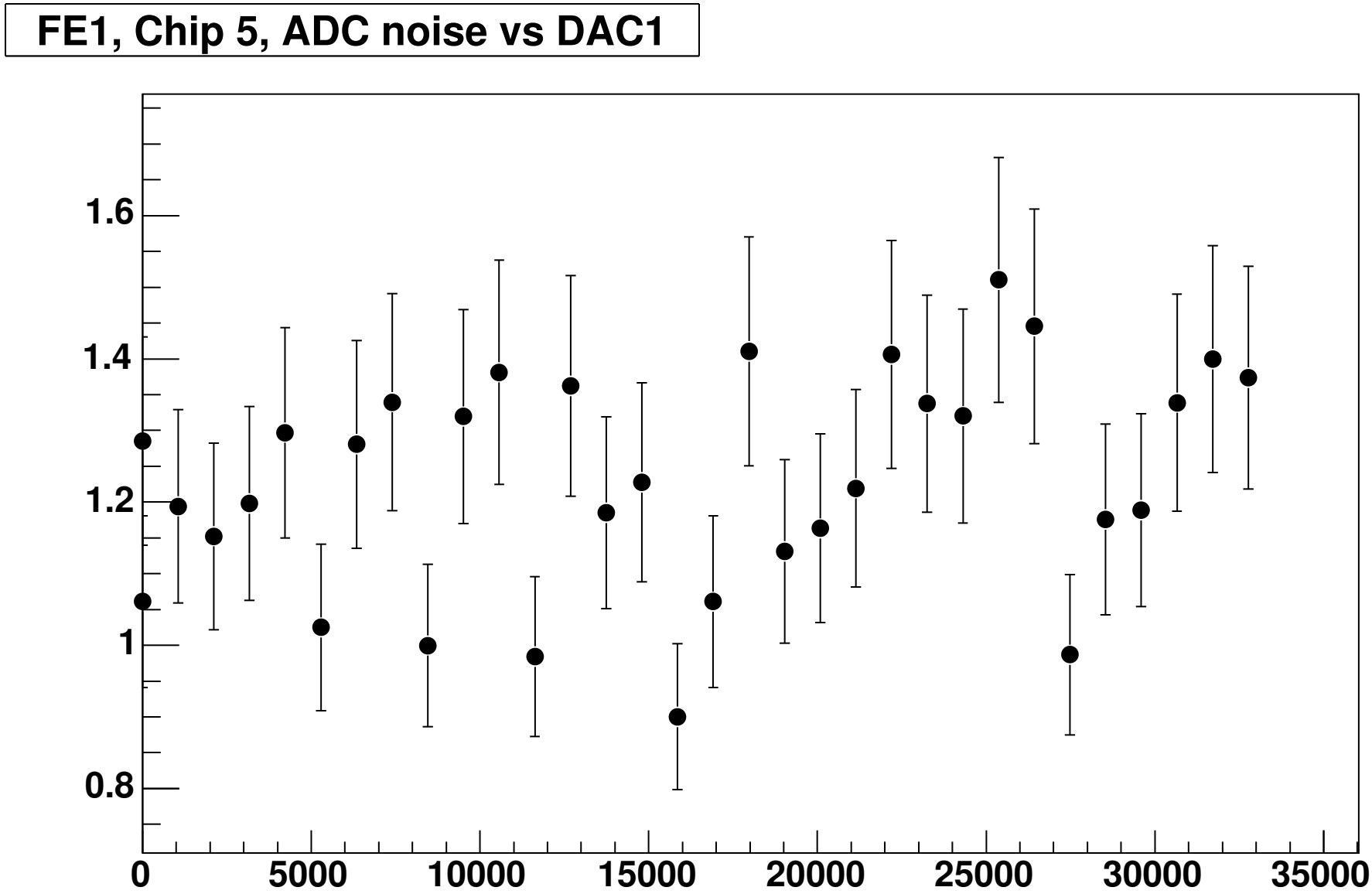

FE1, Chip 4, ADC residuals vs DAC1
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

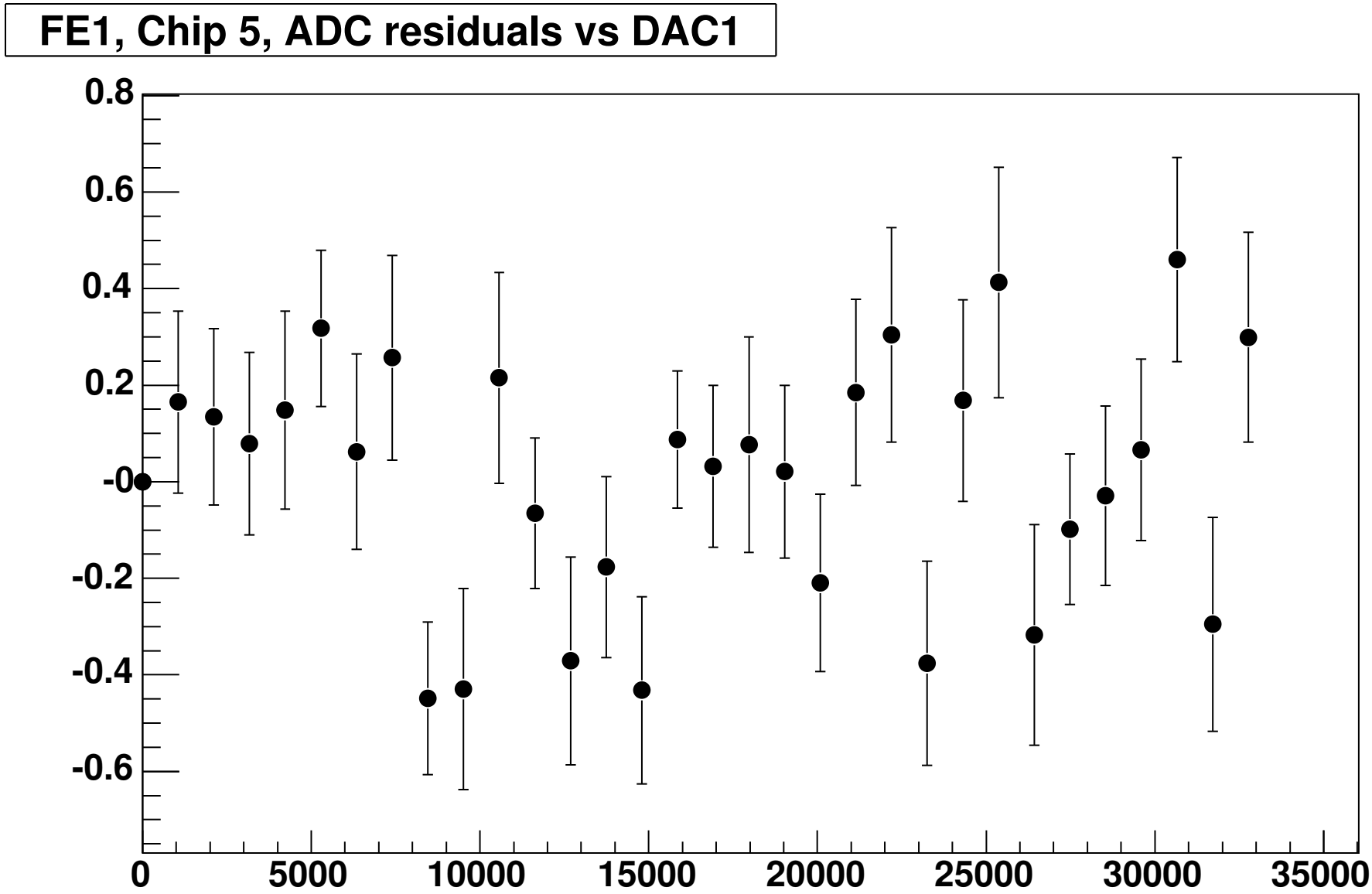

FE1, Chip 5, ADC mean vs DAC0
χ² / ndf 378.2 / 29
p0 -75.82 ± 0.07703
p1 0.4617 ± 4.199e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

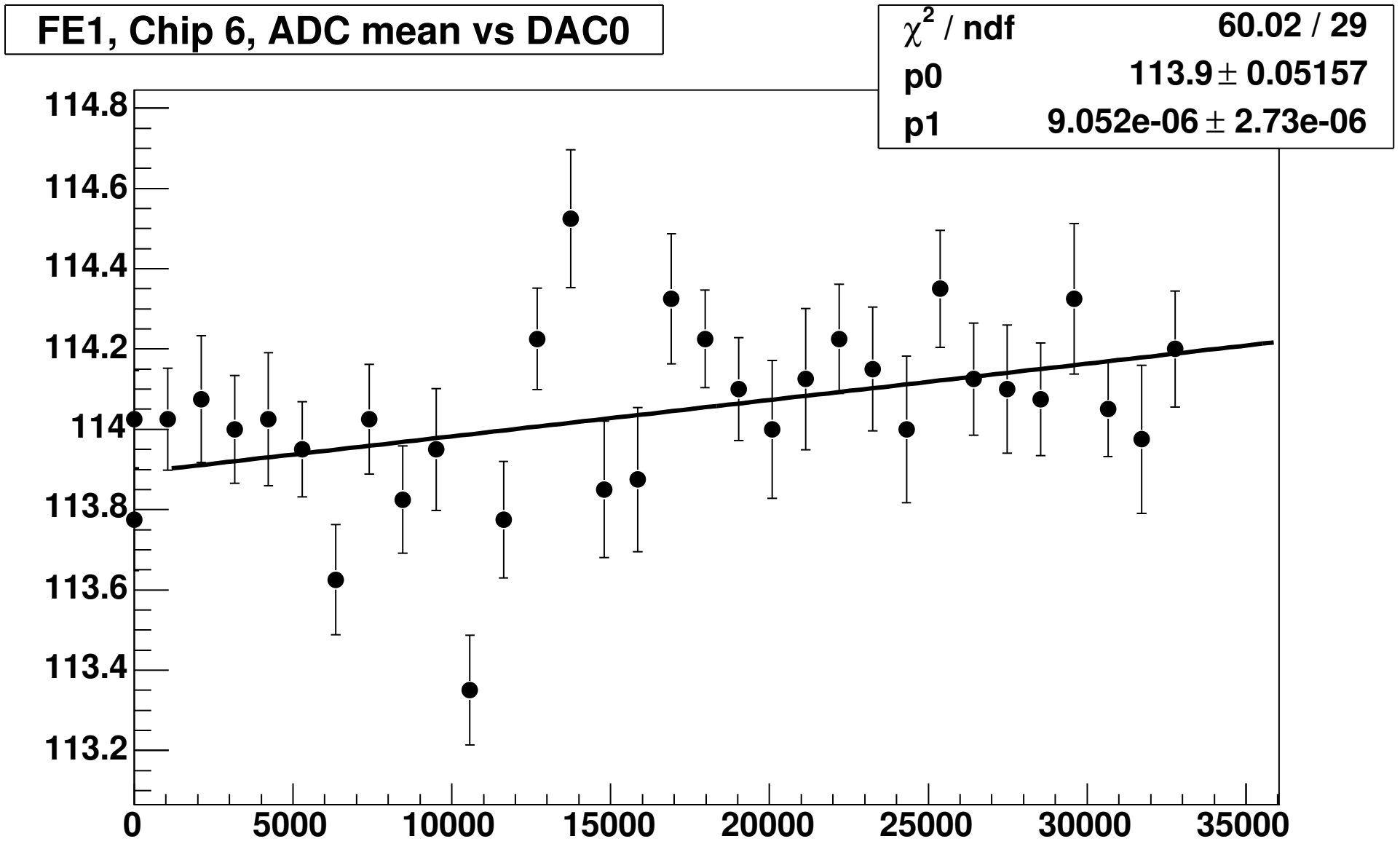

FE1, Chip 5, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

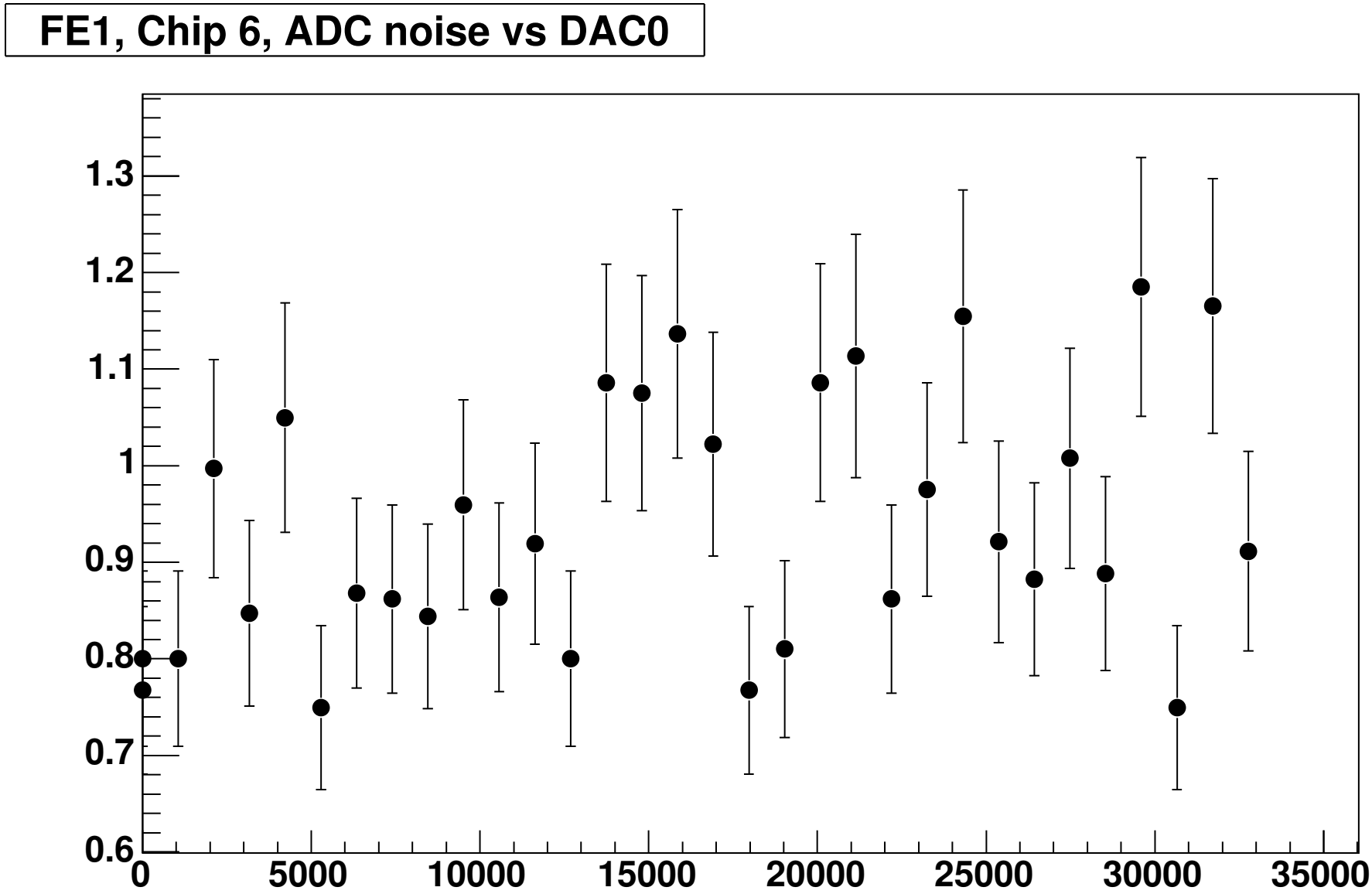

FE1, Chip 5, ADC residuals vs DAC0
3
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

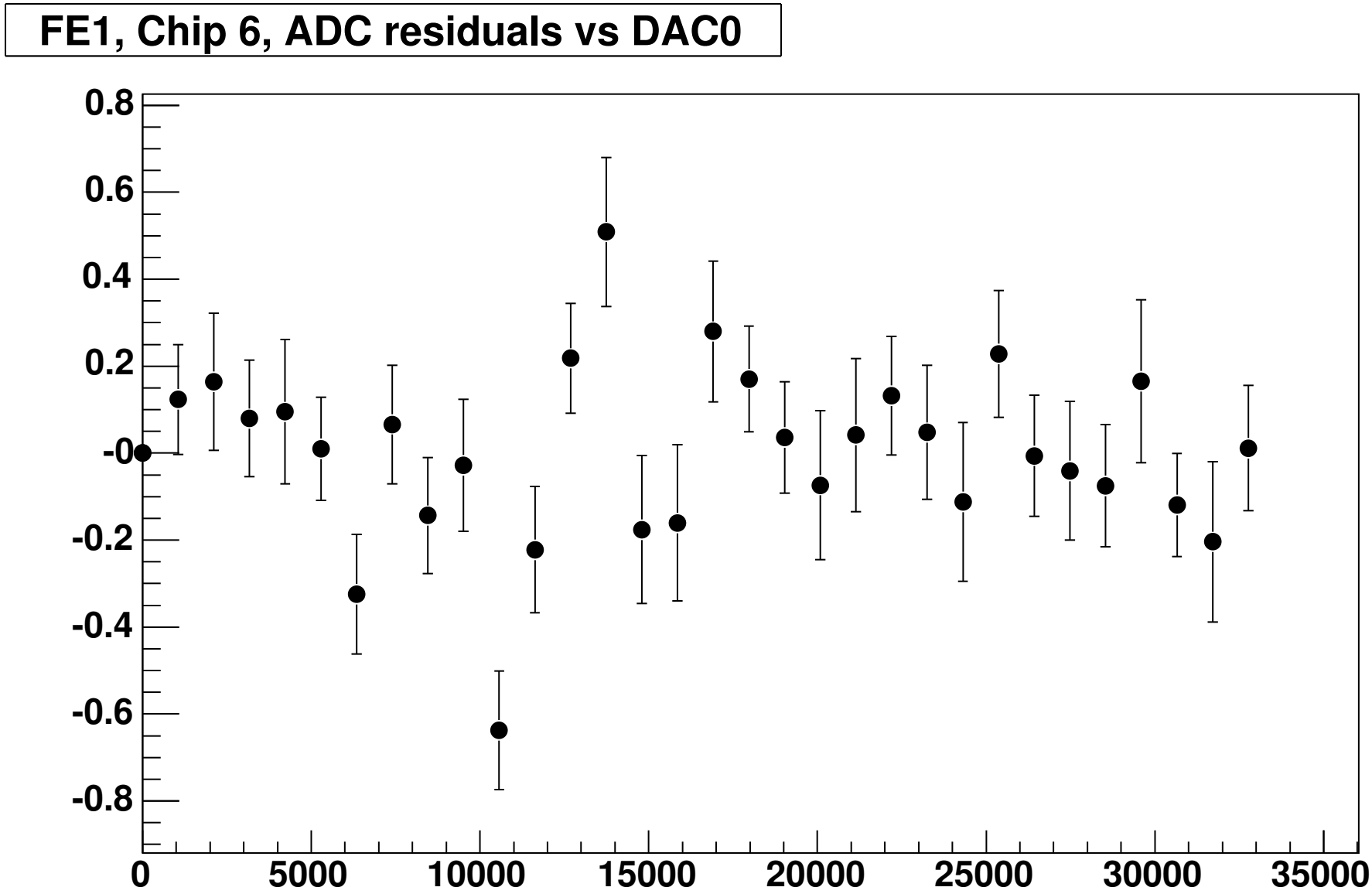

FE1, Chip 5, ADC mean vs DAC1
χ² / ndf 51.98 / 29
p0 77.43 ± 0.06938
p1 5.225e-06 ± 3.701e-06
78.4
78.2
78
77.8
77.6
77.4
77.2
77
76.8
0
5000
10000
15000
20000
25000
30000
35000

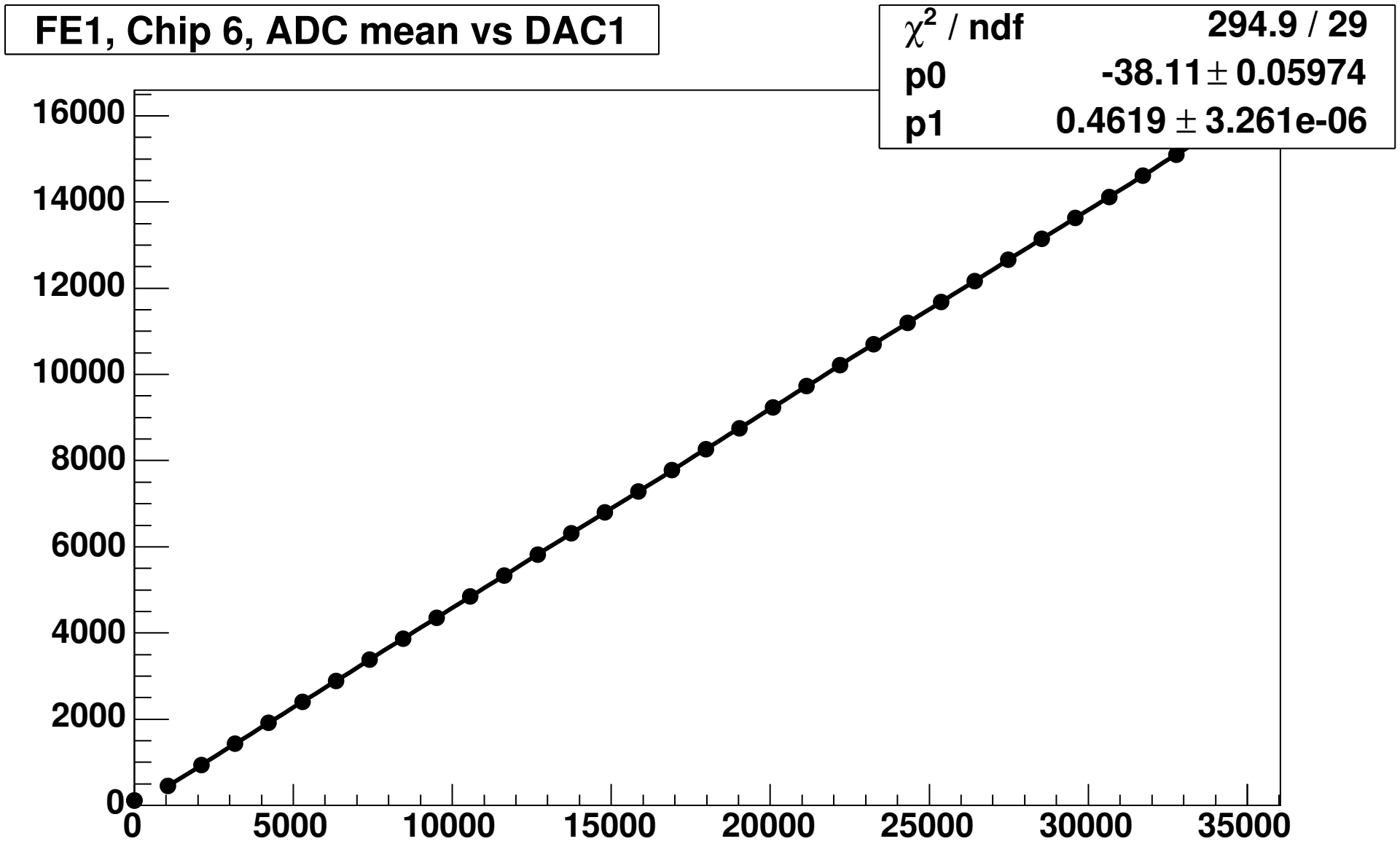

FE1, Chip 5, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

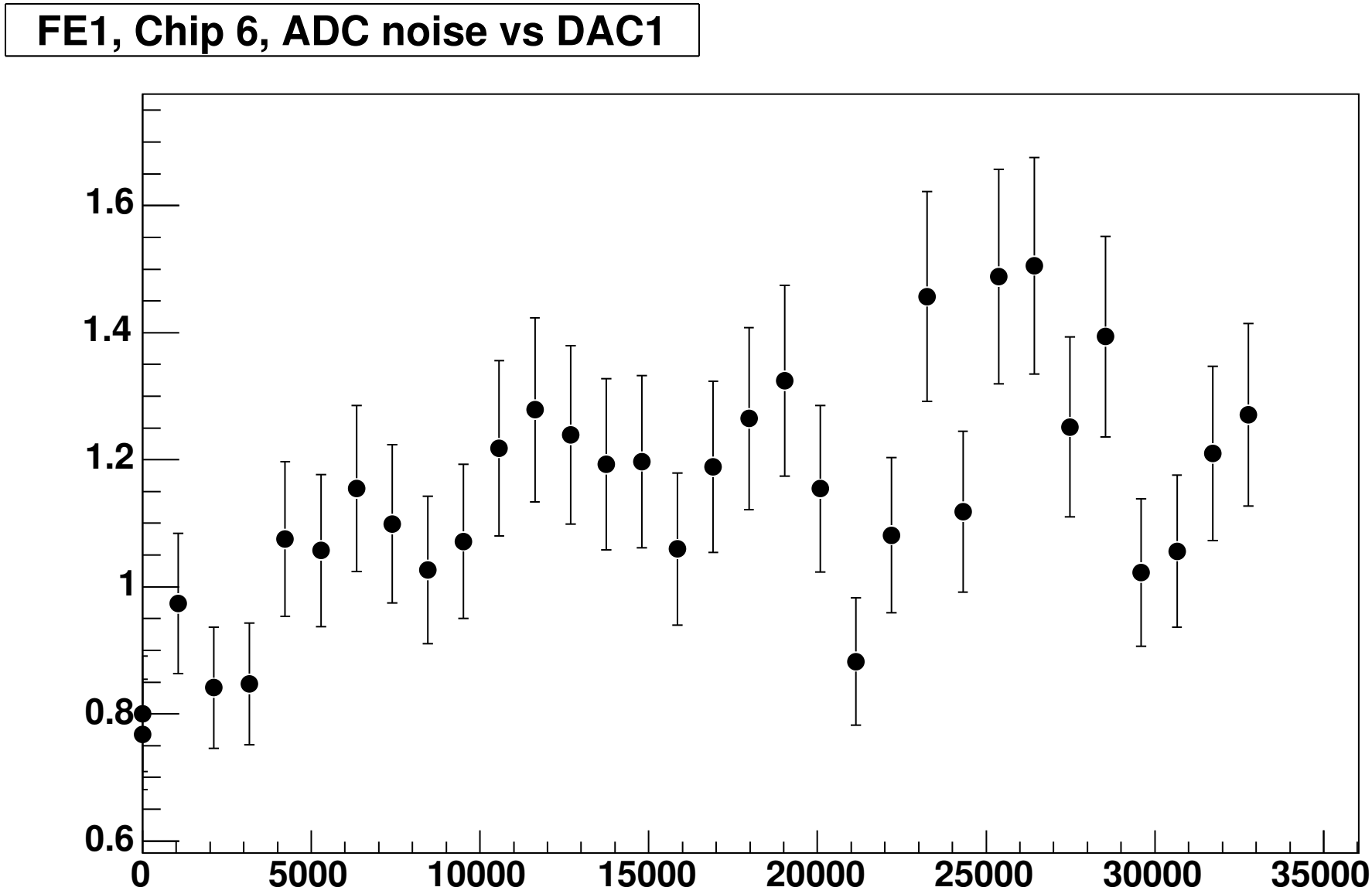

FE1, Chip 5, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000


FE1, Chip 6, ADC mean vs DAC0
χ² / ndf 60.02 / 29
p0 113.9 ± 0.05157
p1 9.052e-06 ± 2.73e-06
114.8
114.6
114.4
114.2
114
113.8
113.6
113.4
113.2
0
5000
10000
15000
20000
25000
30000
35000

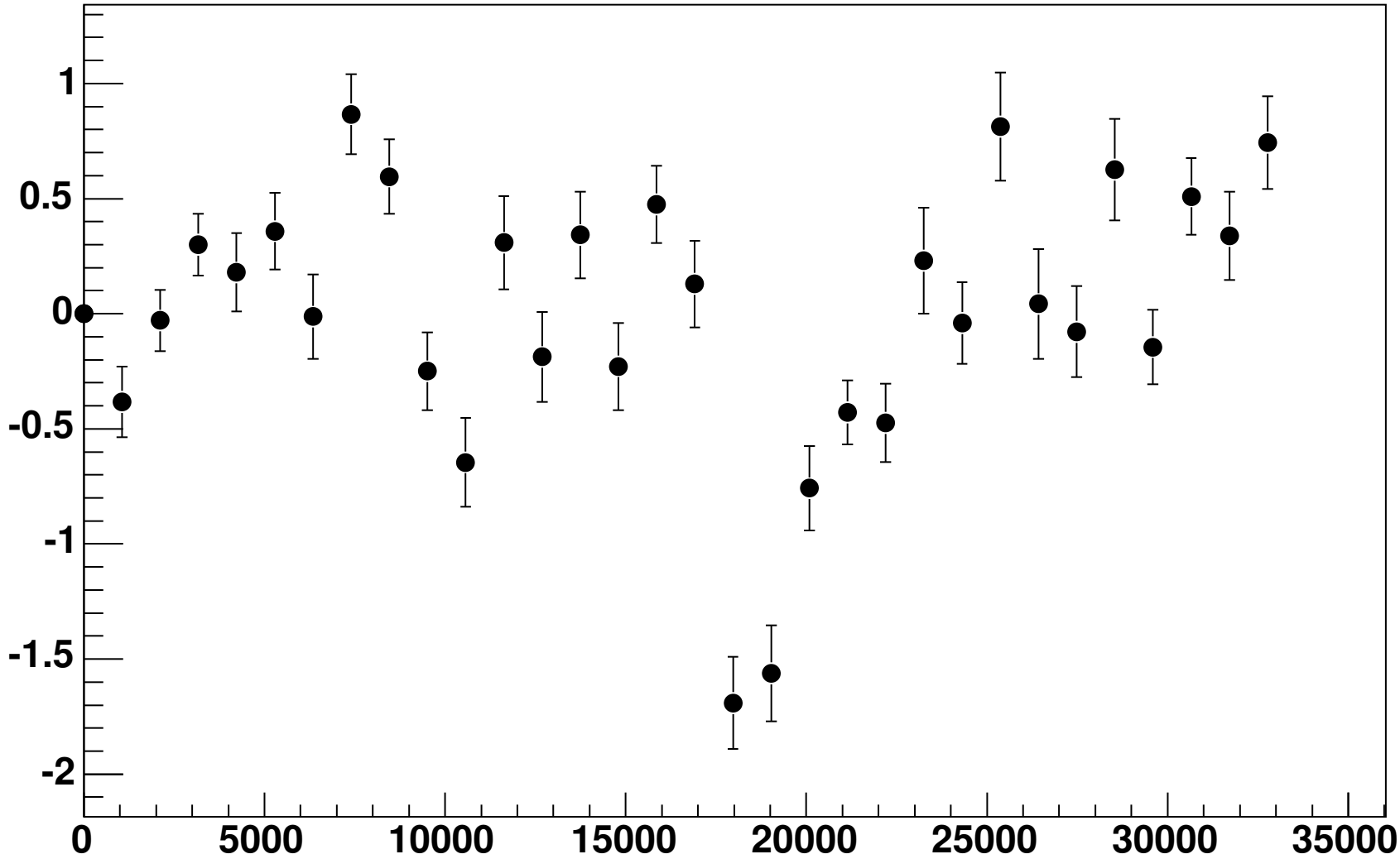

FE1, Chip 6, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

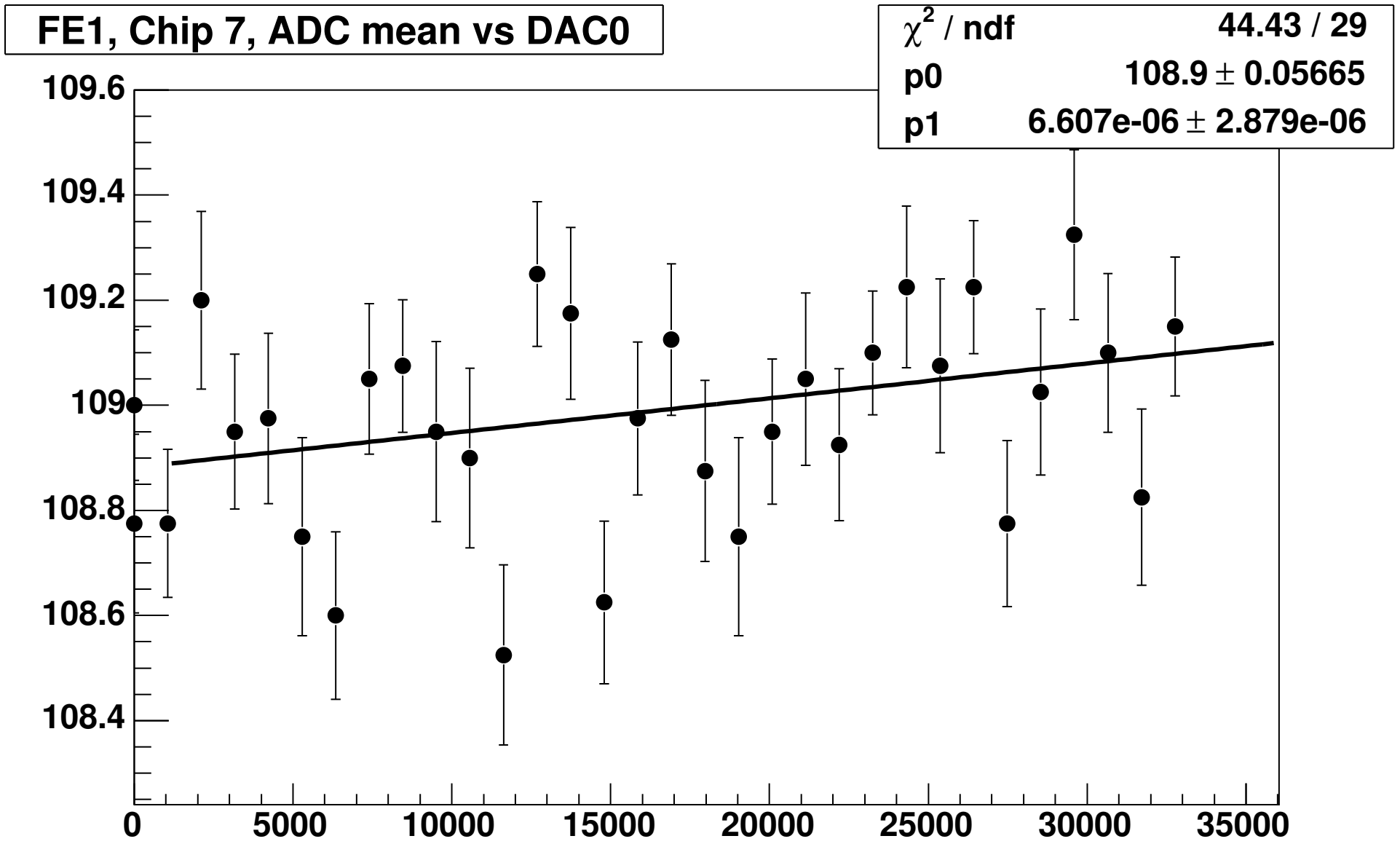

FE1, Chip 6, ADC residuals vs DAC0
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

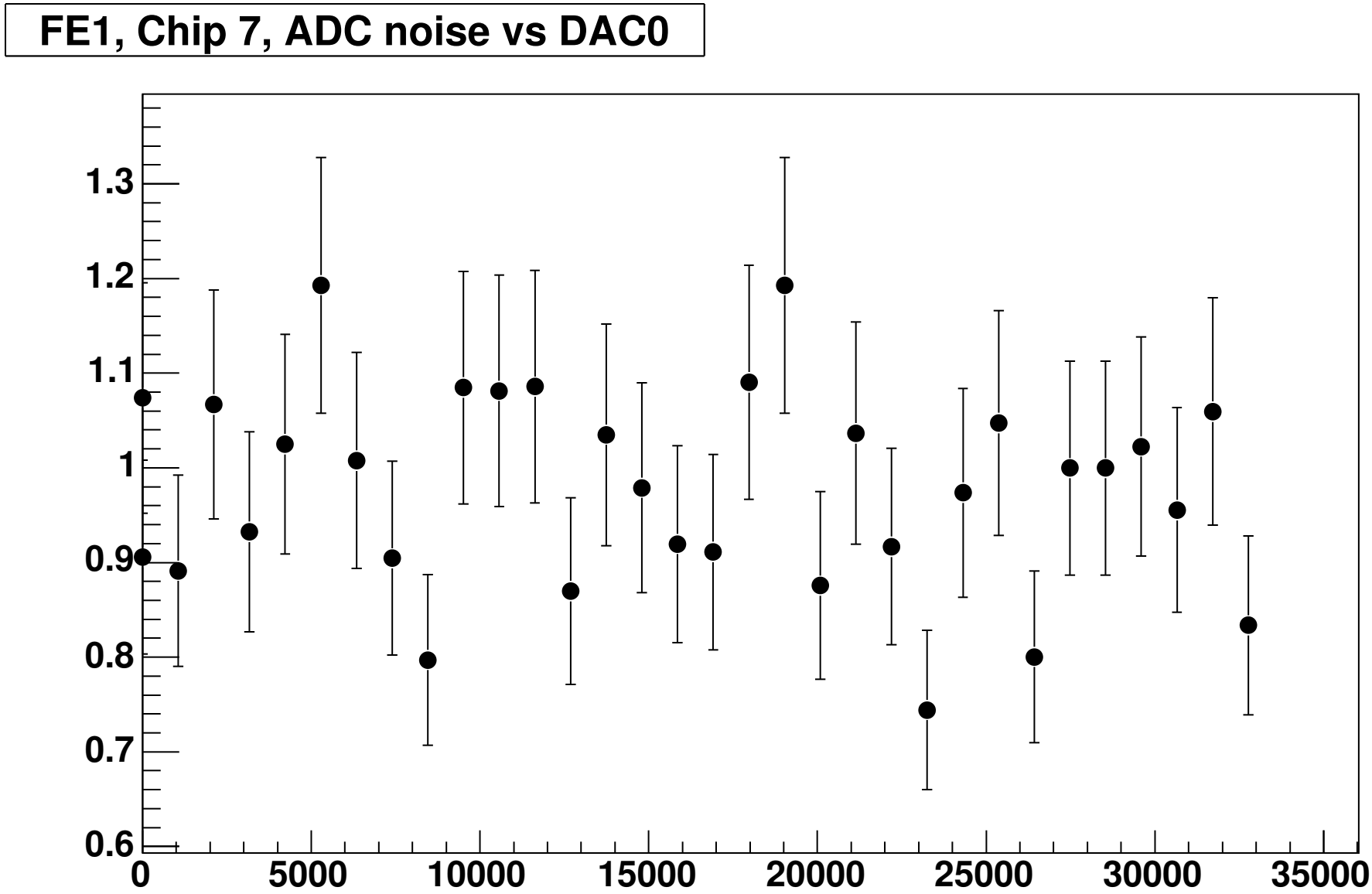

FE1, Chip 6, ADC mean vs DAC1
χ² / ndf 294.9 / 29
p0 -38.11 ± 0.05974
p1 0.4619 ± 3.261e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

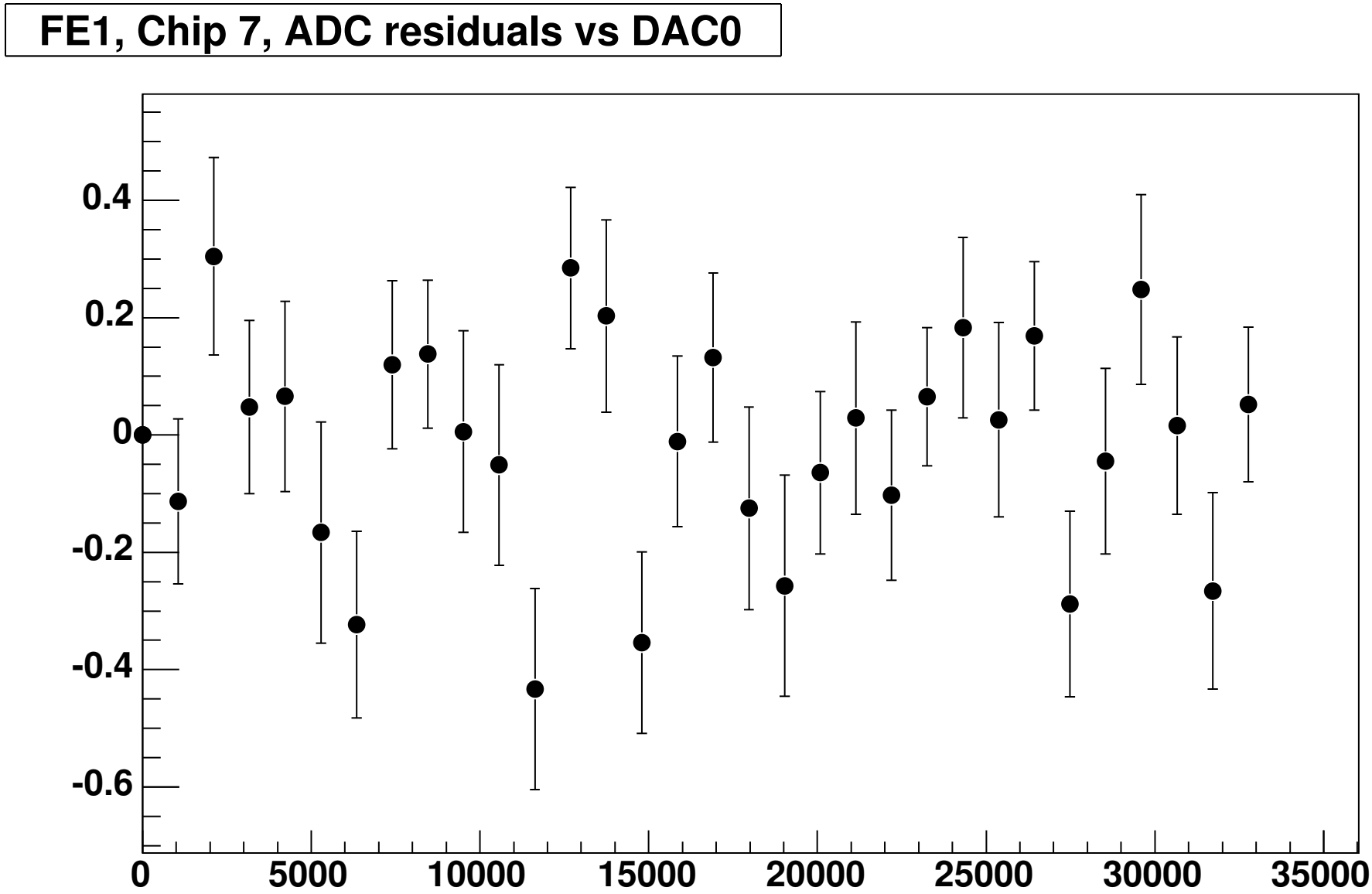

FE1, Chip 6, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

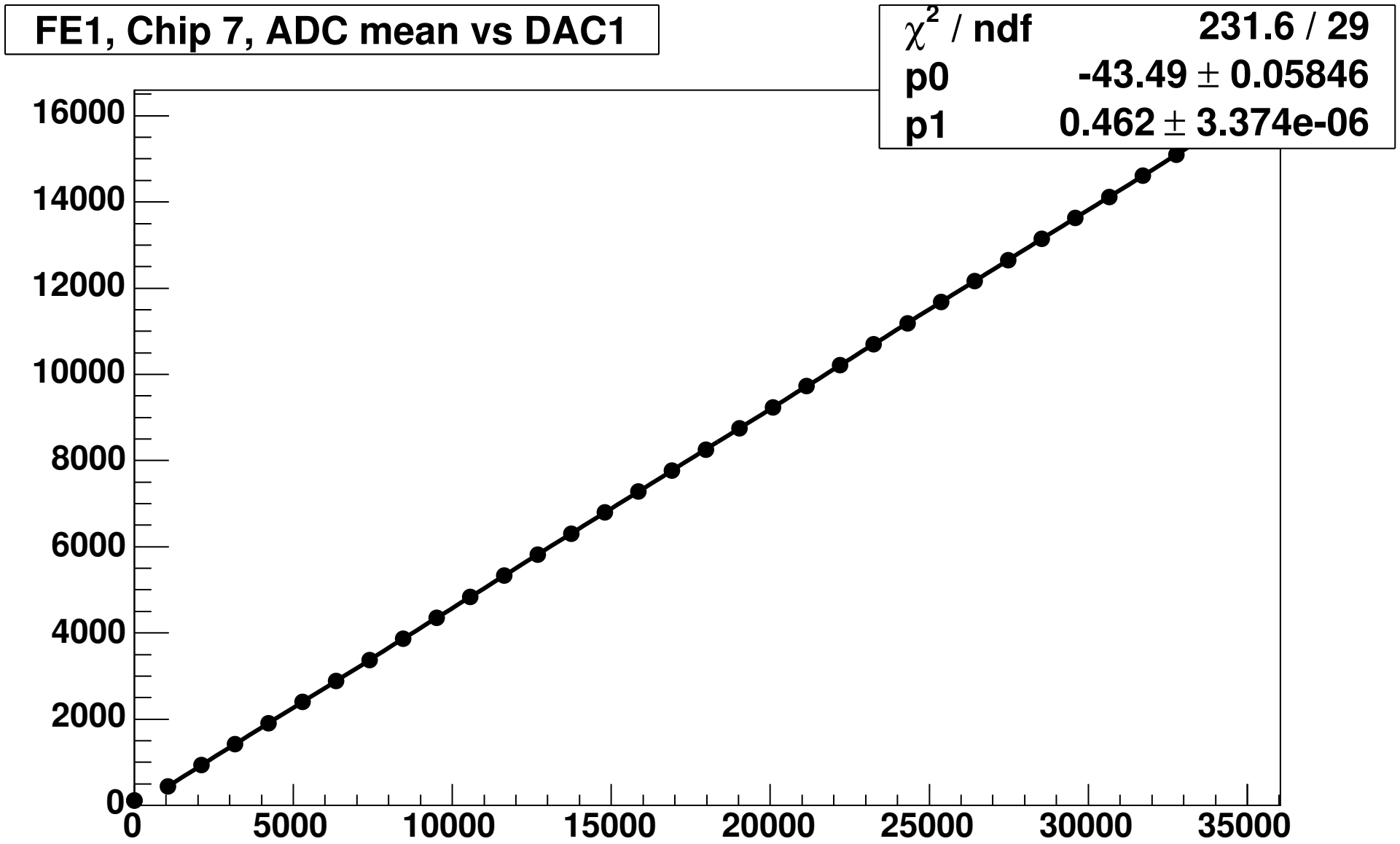
FE1, Chip 6, ADC residuals vs DAC1



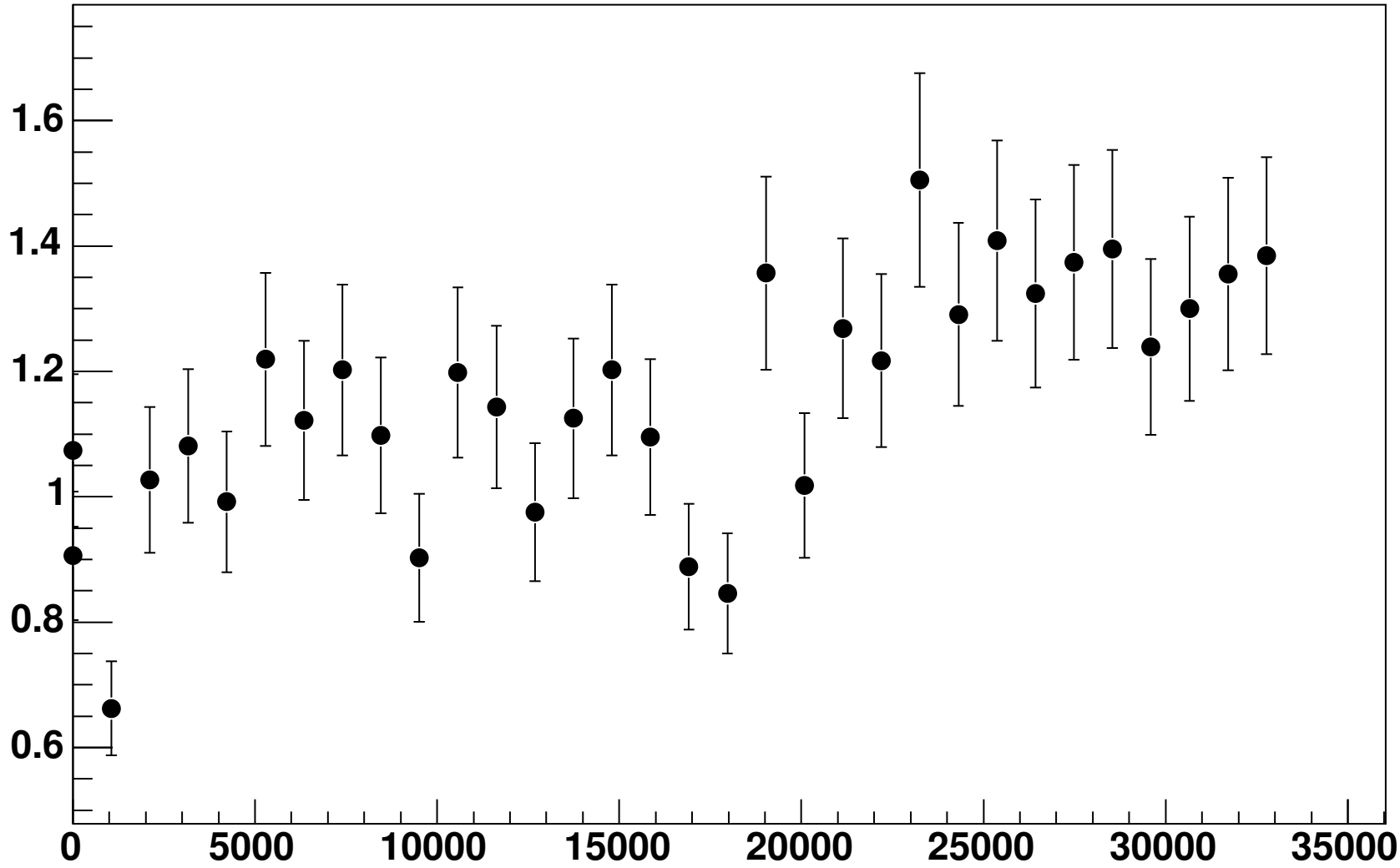

FE1, Chip 7, ADC mean vs DAC0
χ² / ndf 44.43 / 29
p0 108.9 ± 0.05665
p1 6.607e-06 ± 2.879e-06
109.6
109.4
109.2
109
108.8
108.6
108.4
0
5000
10000
15000
20000
25000
30000
35000

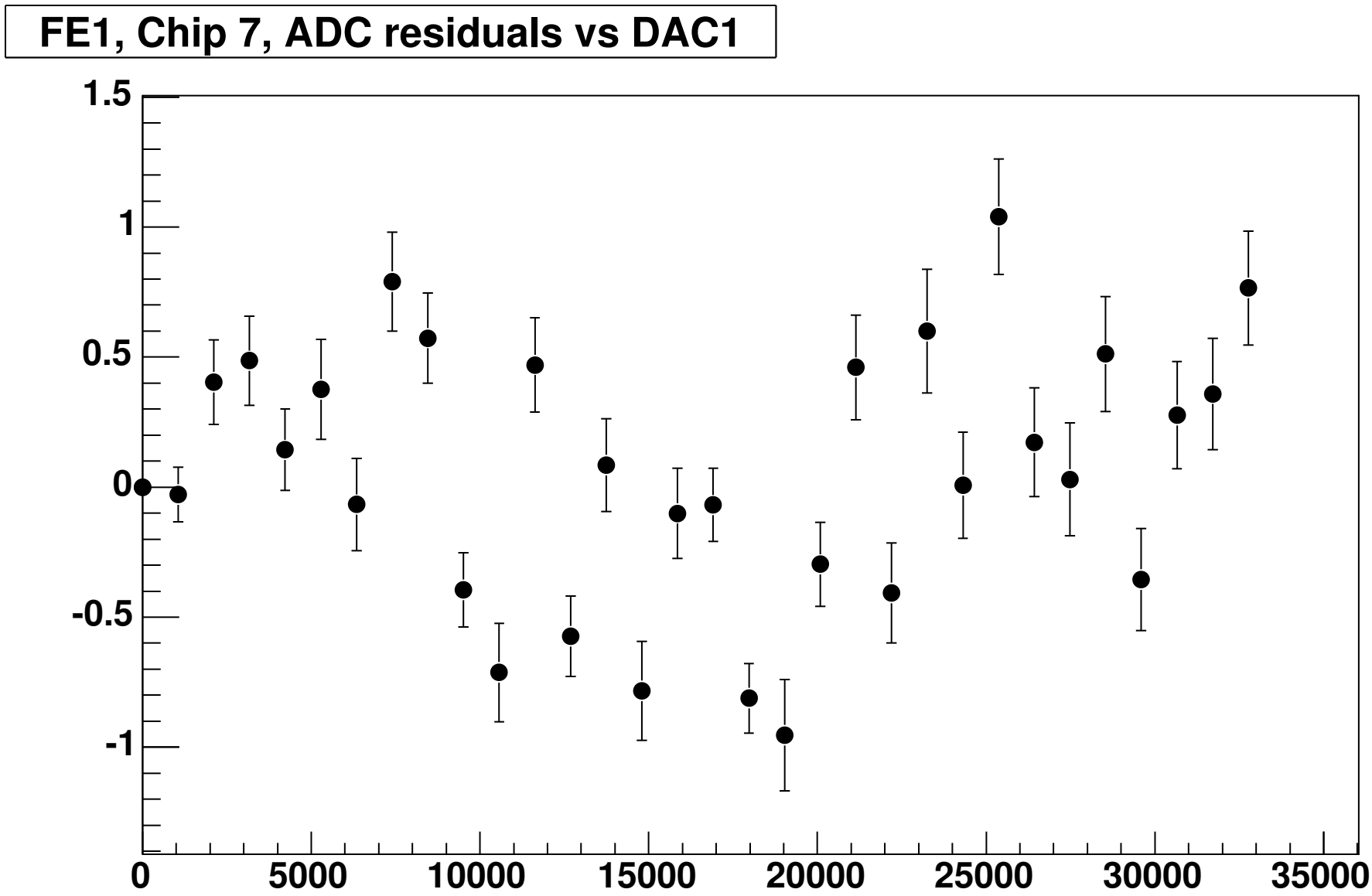

FE1, Chip 7, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

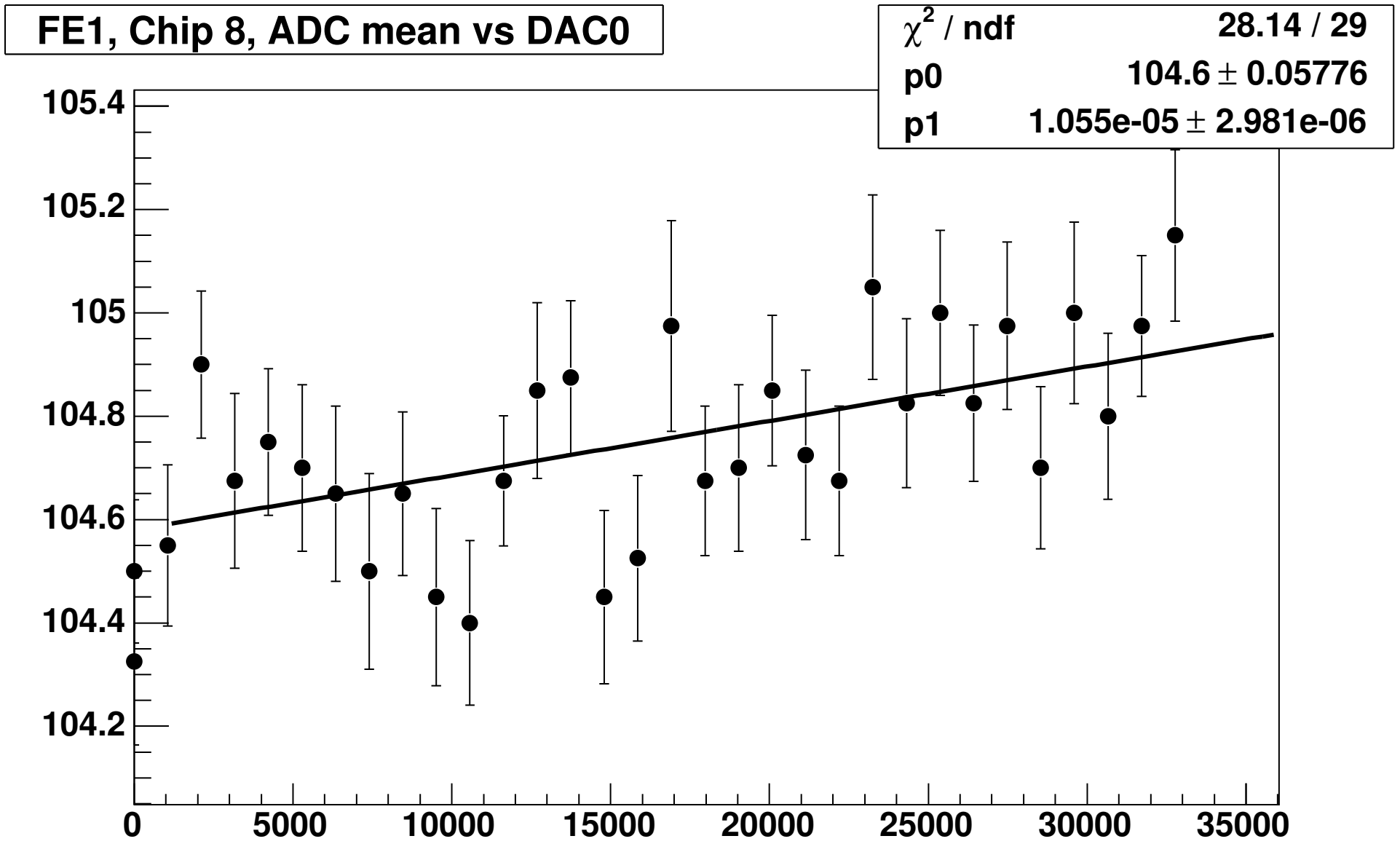

FE1, Chip 7, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

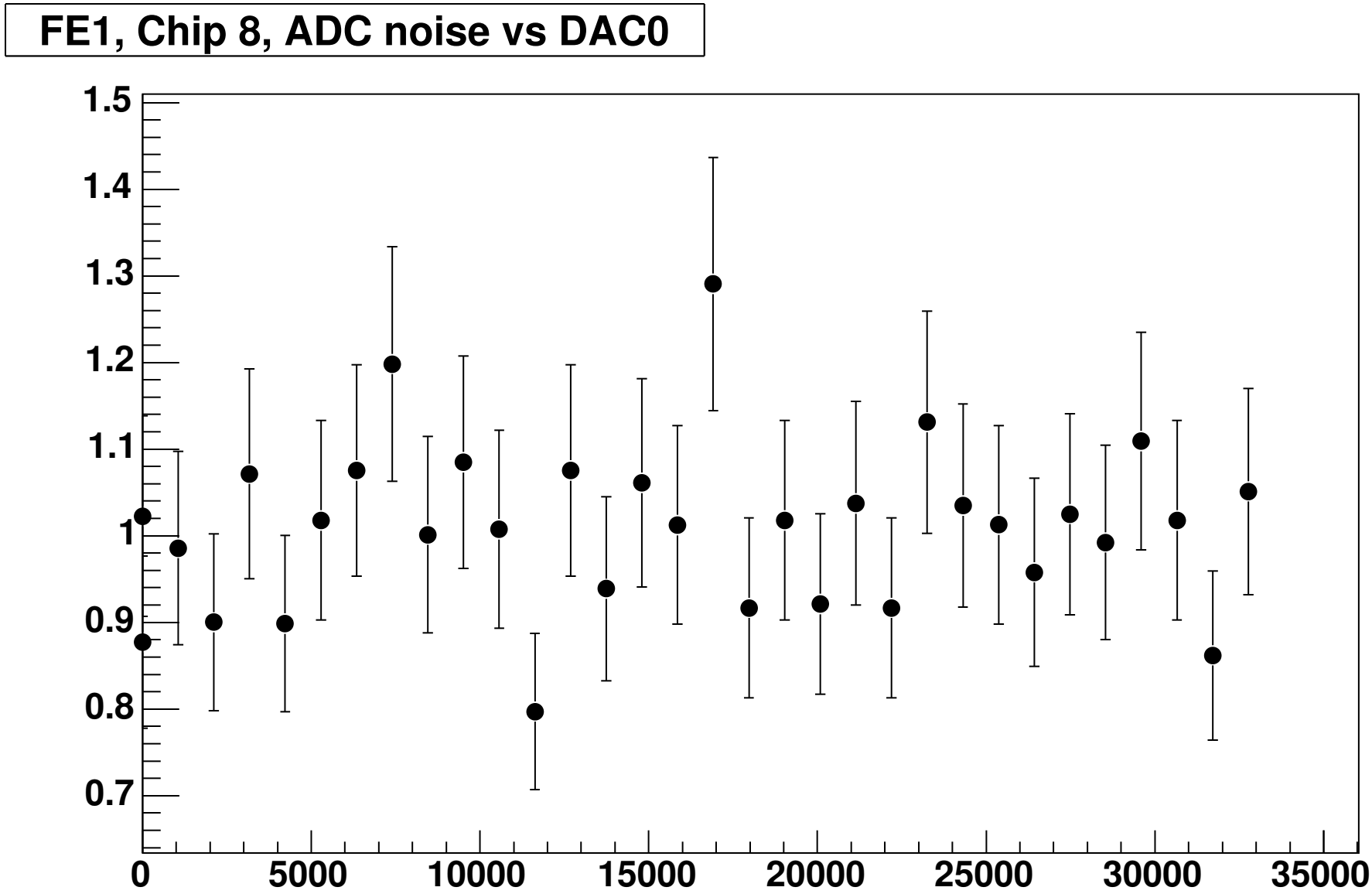

FE1, Chip 7, ADC mean vs DAC1
χ² / ndf 231.6 / 29
p0 -43.49 ± 0.05846
p1 0.462 ± 3.374e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

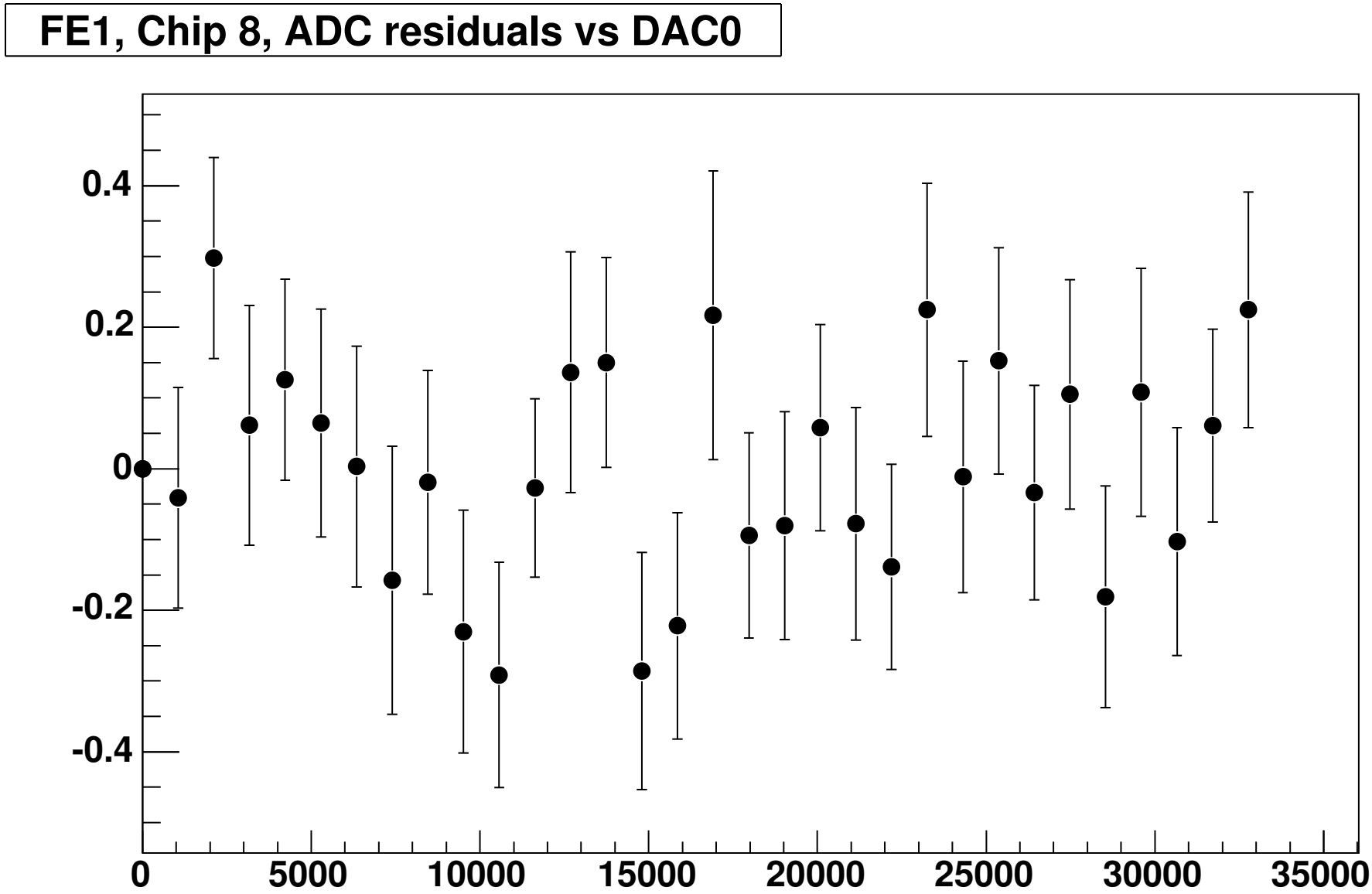
FE1, Chip 7, ADC noise vs DAC1

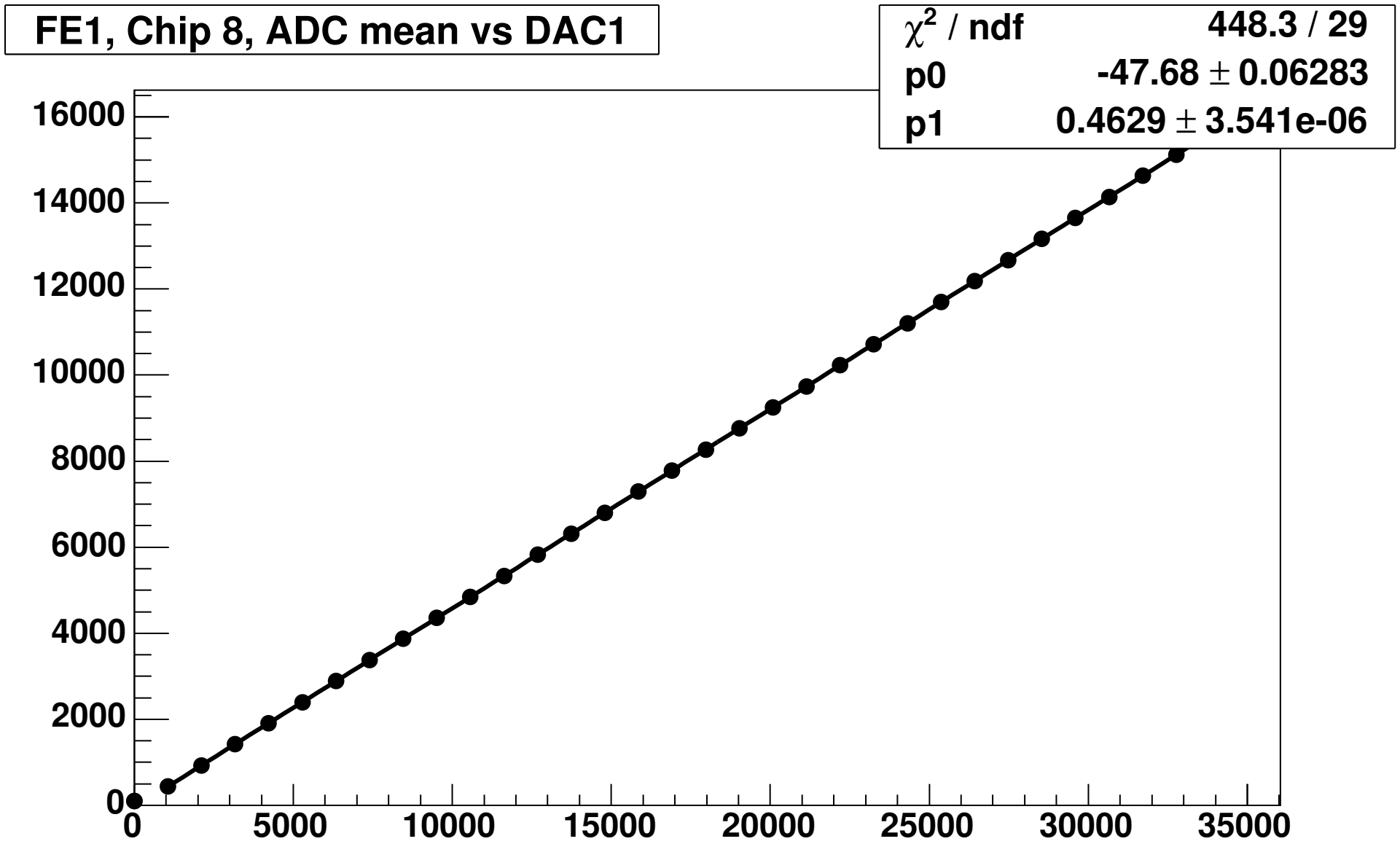


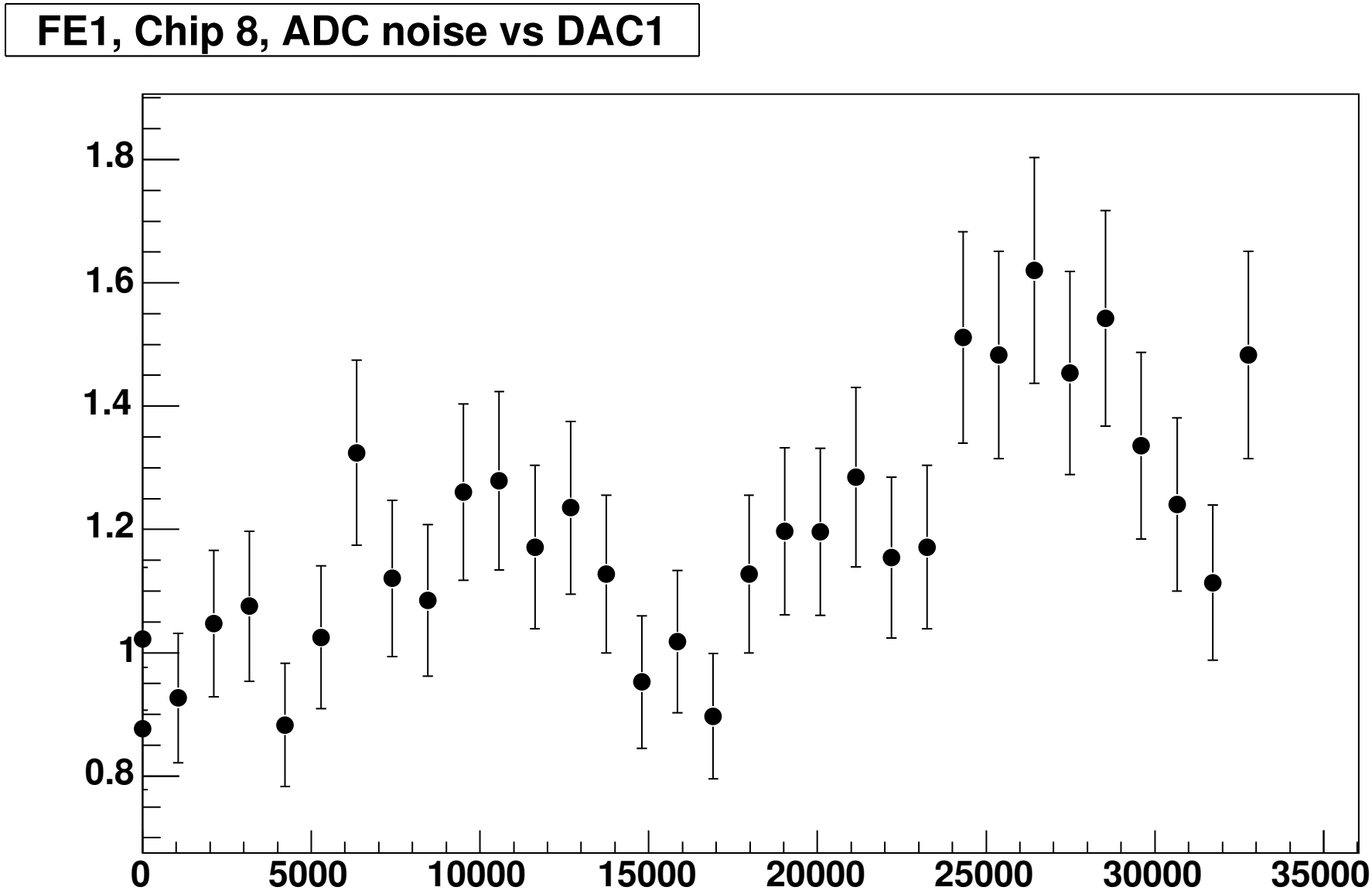

FE1, Chip 7, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
0
5000
10000
15000
20000
25000
30000
35000


FE1, Chip 8, ADC mean vs DAC0
χ² / ndf 28.14 / 29
p0 104.6 ± 0.05776
p1 1.055e-05 ± 2.981e-06
105.4
105.2
105
104.8
104.6
104.4
104.2
0
5000
10000
15000
20000
25000
30000
35000

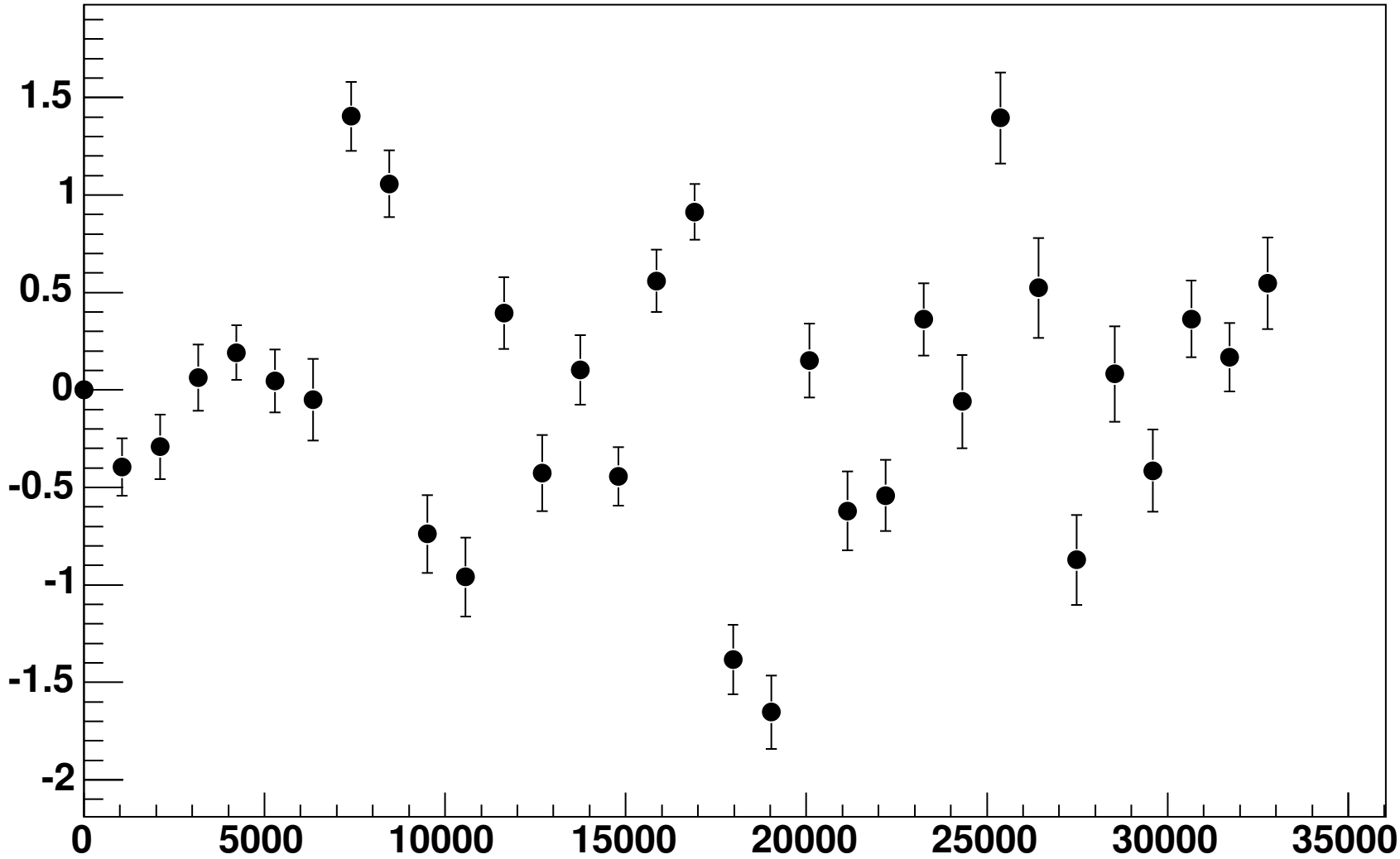

FE1, Chip 8, ADC noise vs DAC0
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

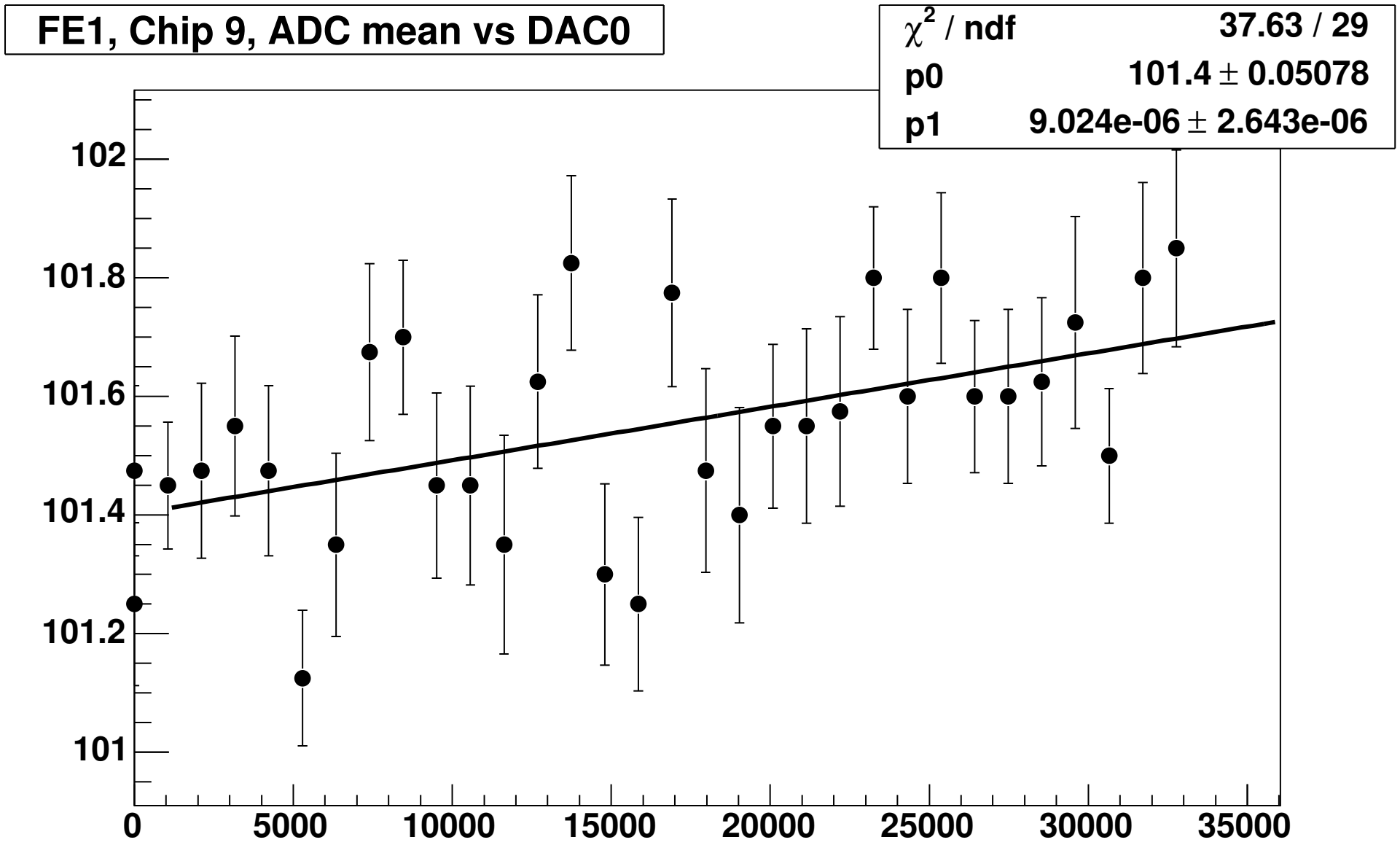

FE1, Chip 8, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

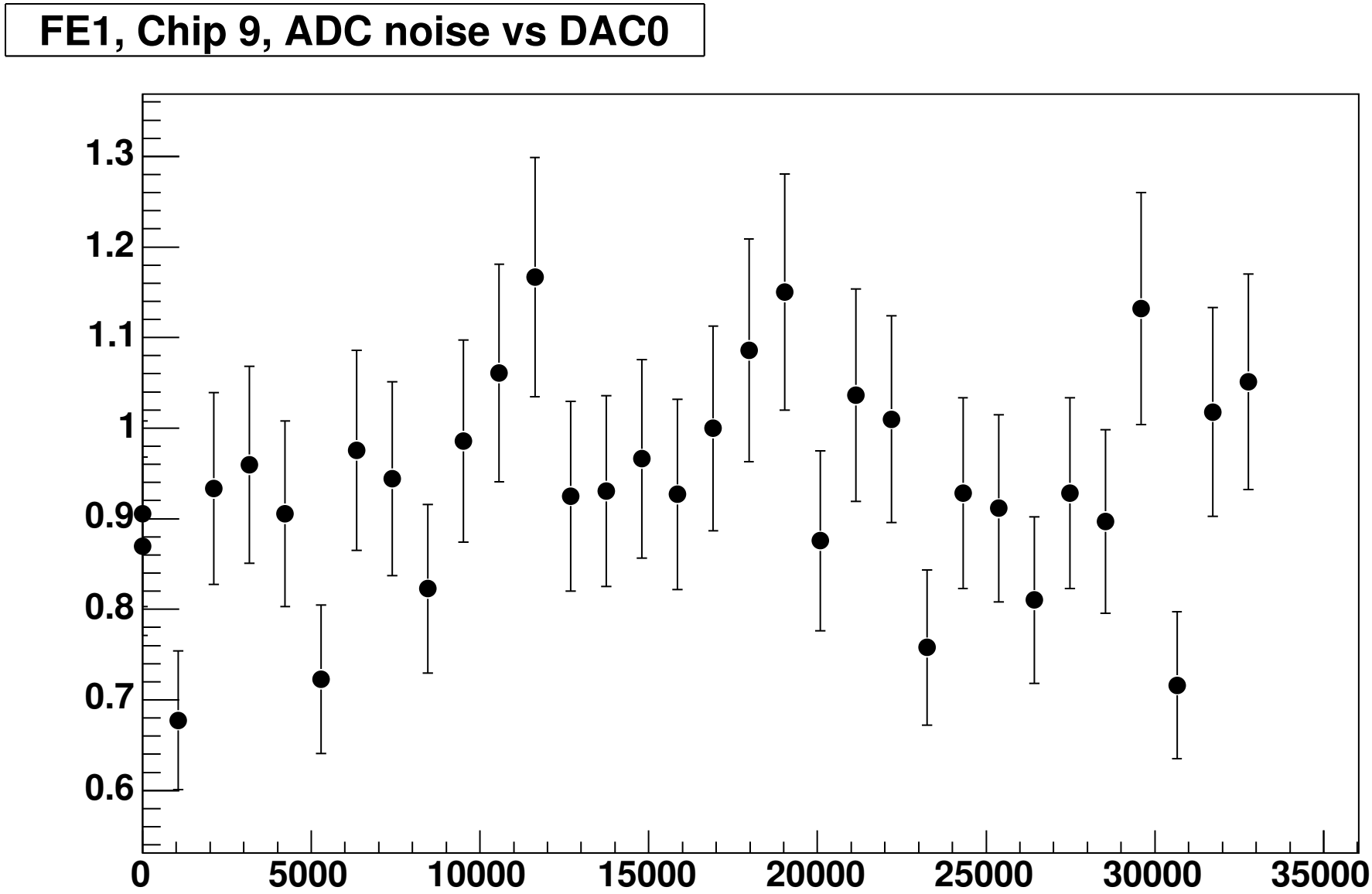

FE1, Chip 8, ADC mean vs DAC1
χ² / ndf 448.3 / 29
p0 -47.68 ± 0.06283
p1 0.4629 ± 3.541e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

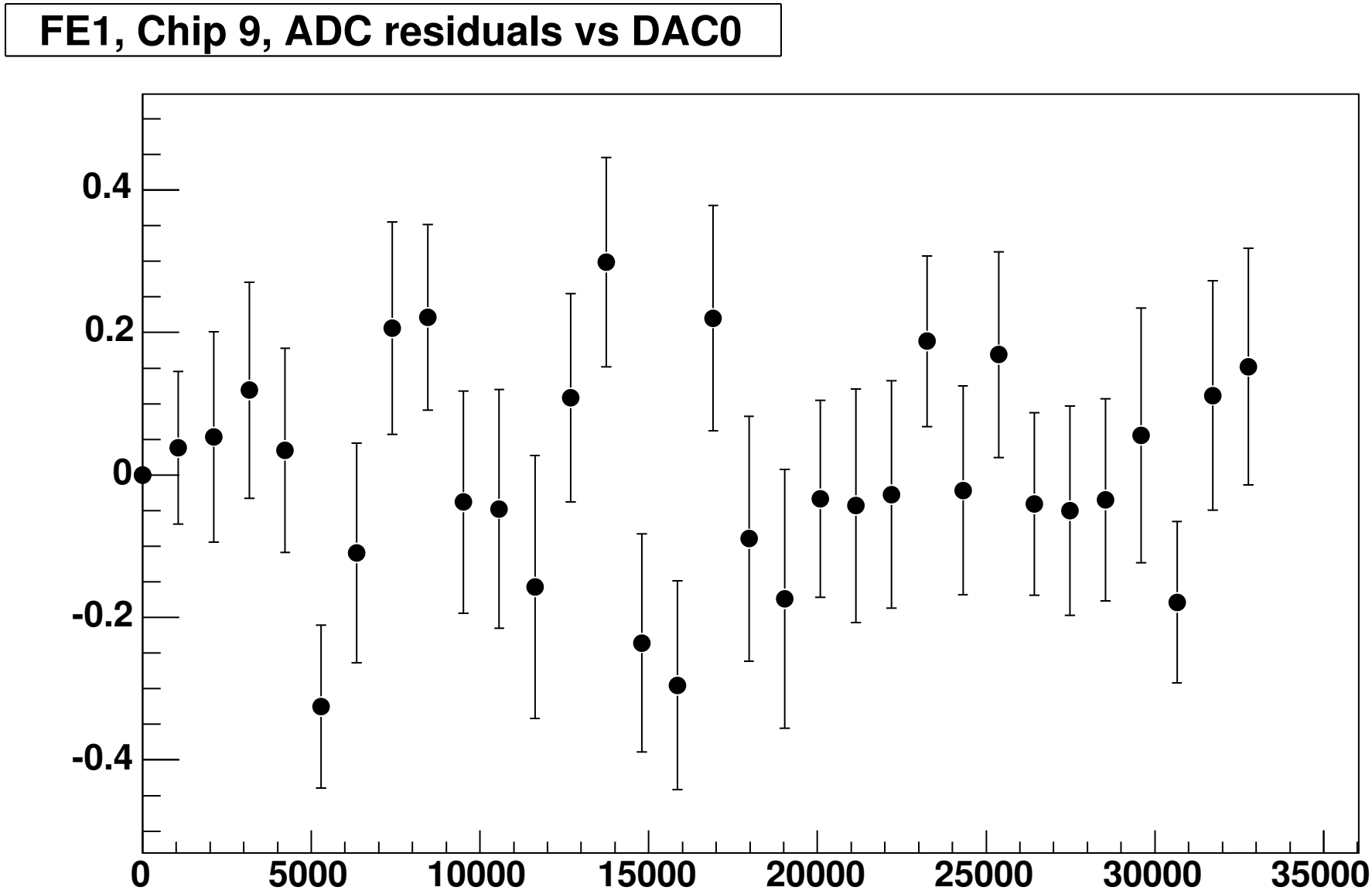

FE1, Chip 8, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

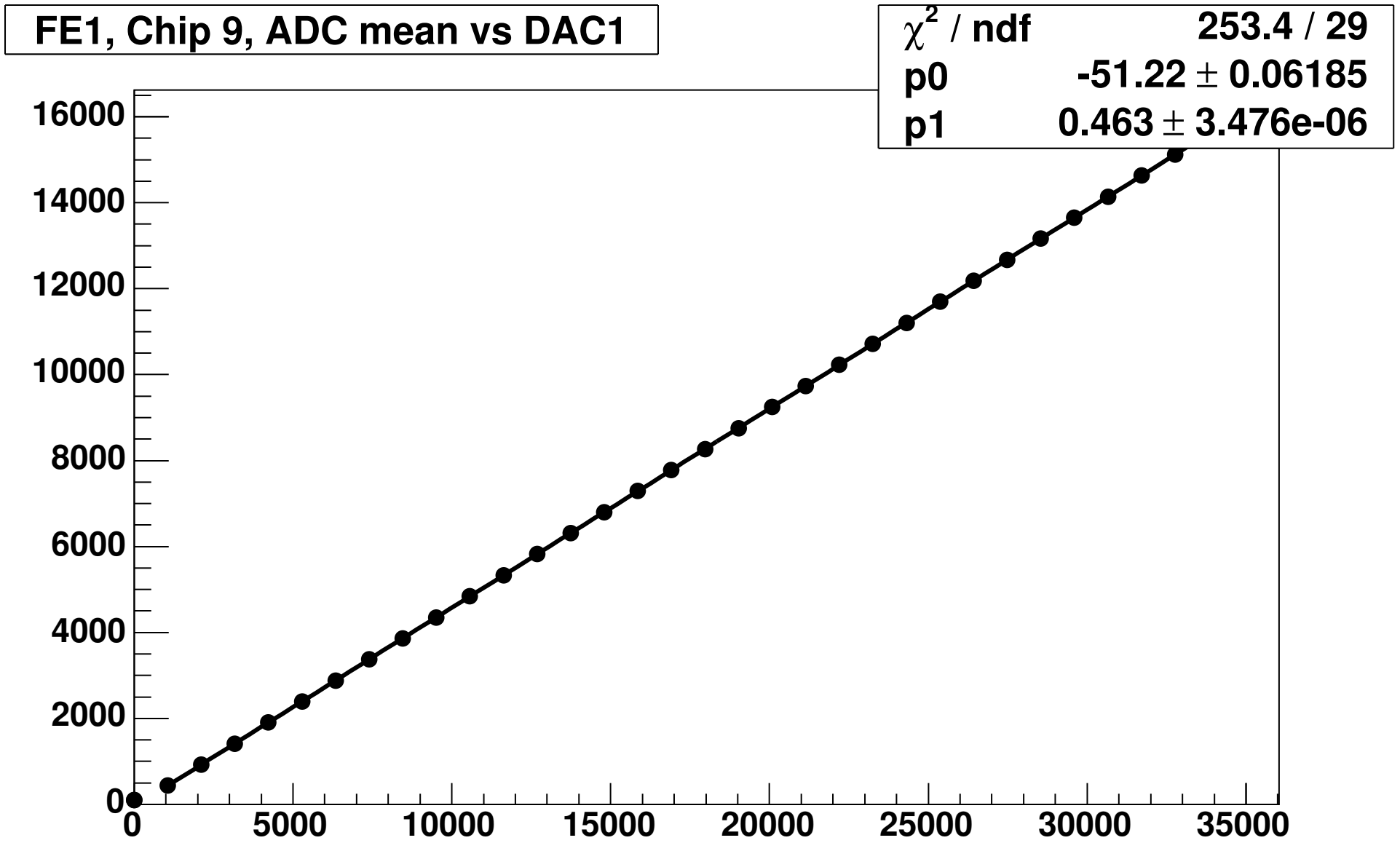
FE1, Chip 8, ADC residuals vs DAC1



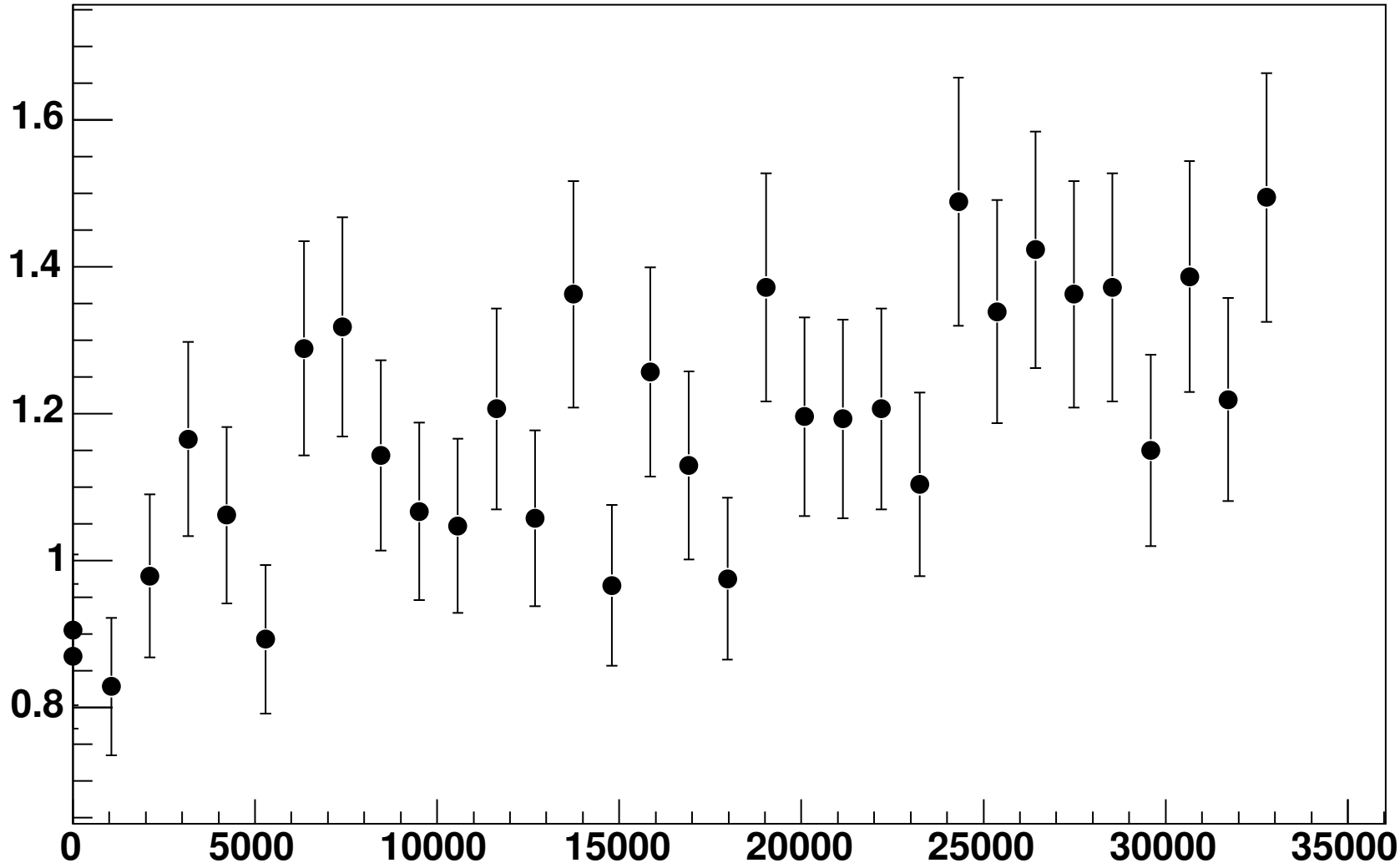

FE1, Chip 9, ADC mean vs DAC0
χ² / ndf 37.63 / 29
p0 101.4 ± 0.05078
p1 9.024e-06 ± 2.643e-06
102
101.8
101.6
101.4
101.2
101
0
5000
10000
15000
20000
25000
30000
35000

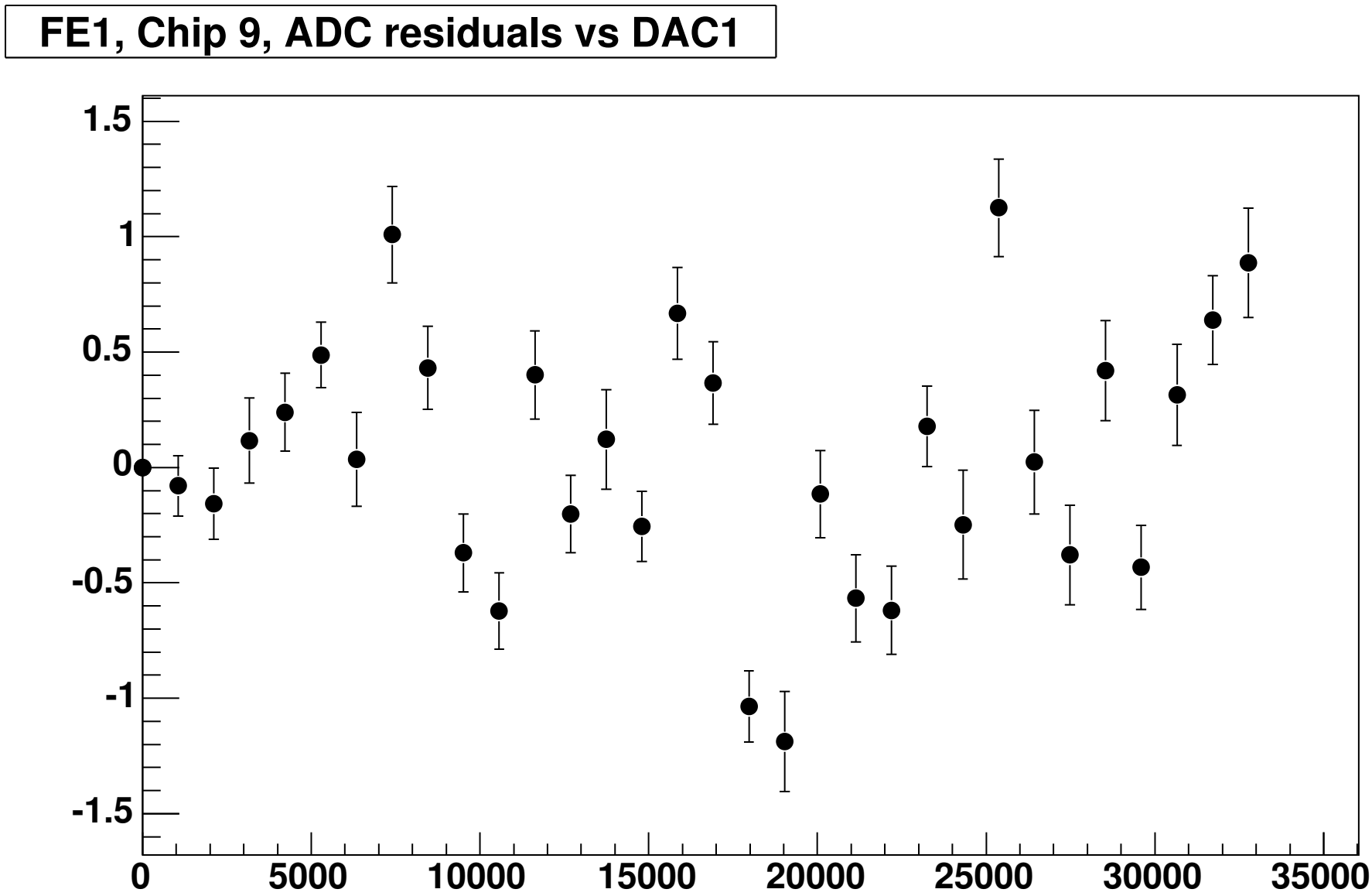

FE1, Chip 9, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

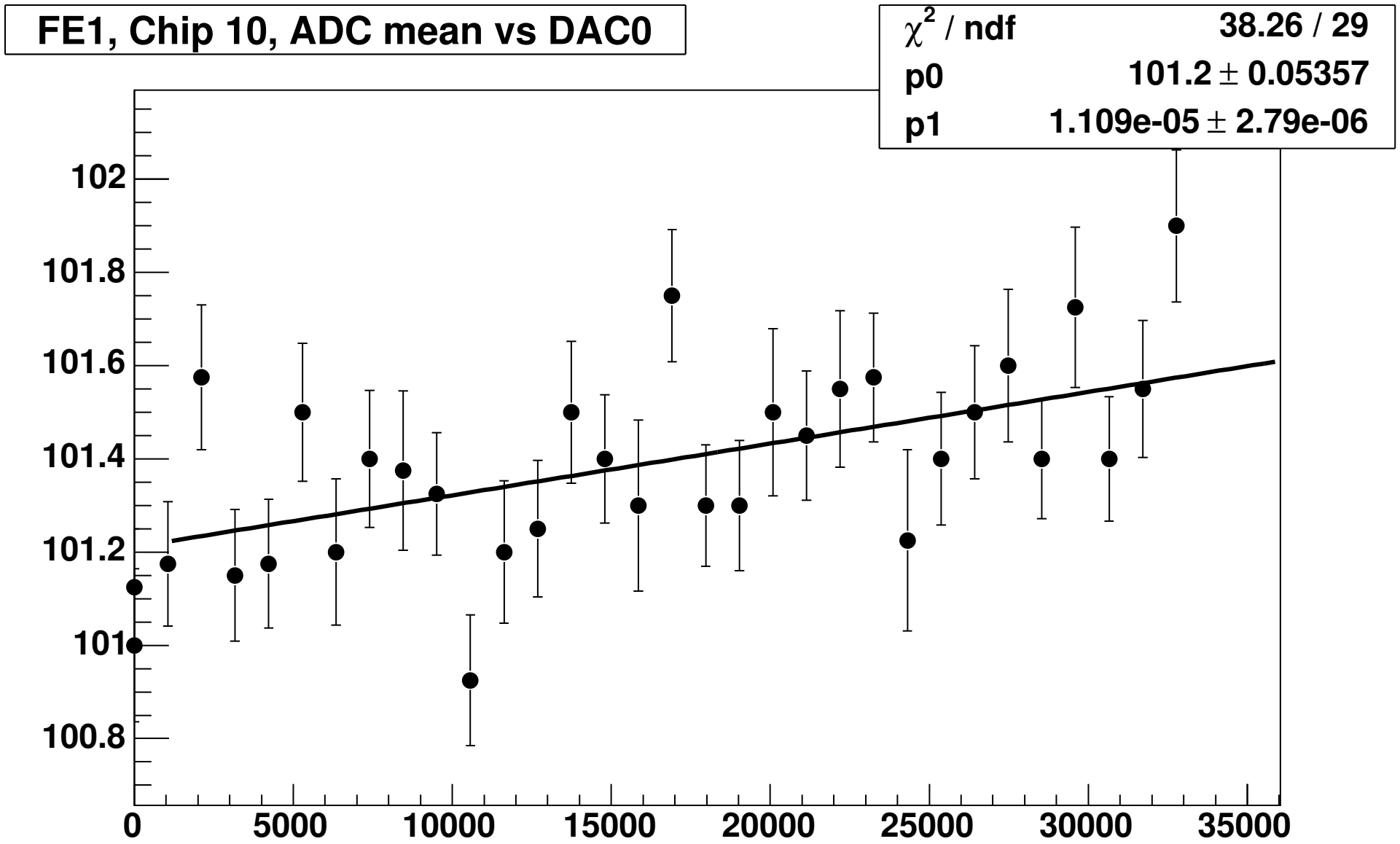

FE1, Chip 9, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

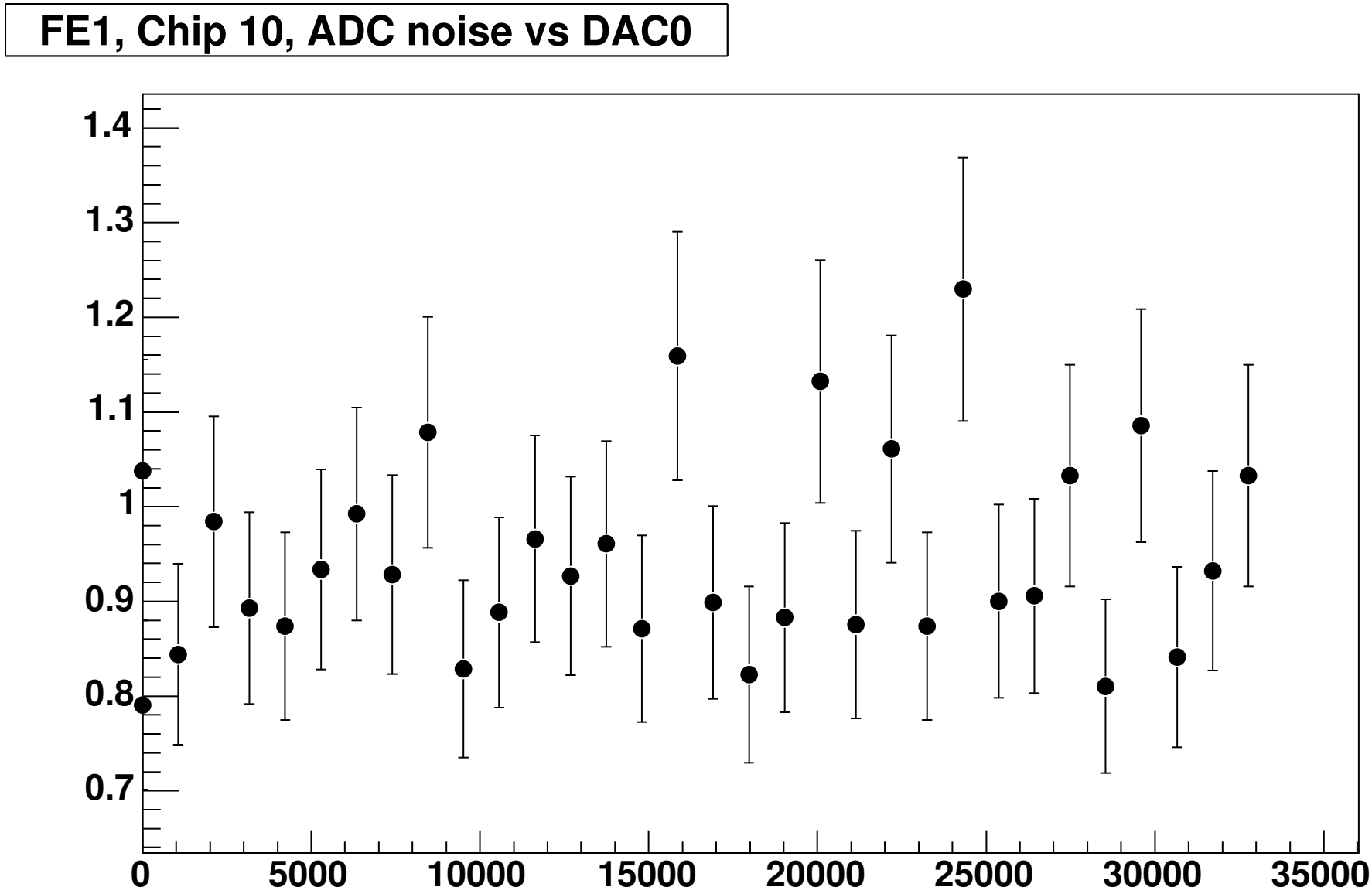

FE1, Chip 9, ADC mean vs DAC1
χ² / ndf 253.4 / 29
p0 -51.22 ± 0.06185
p1 0.463 ± 3.476e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

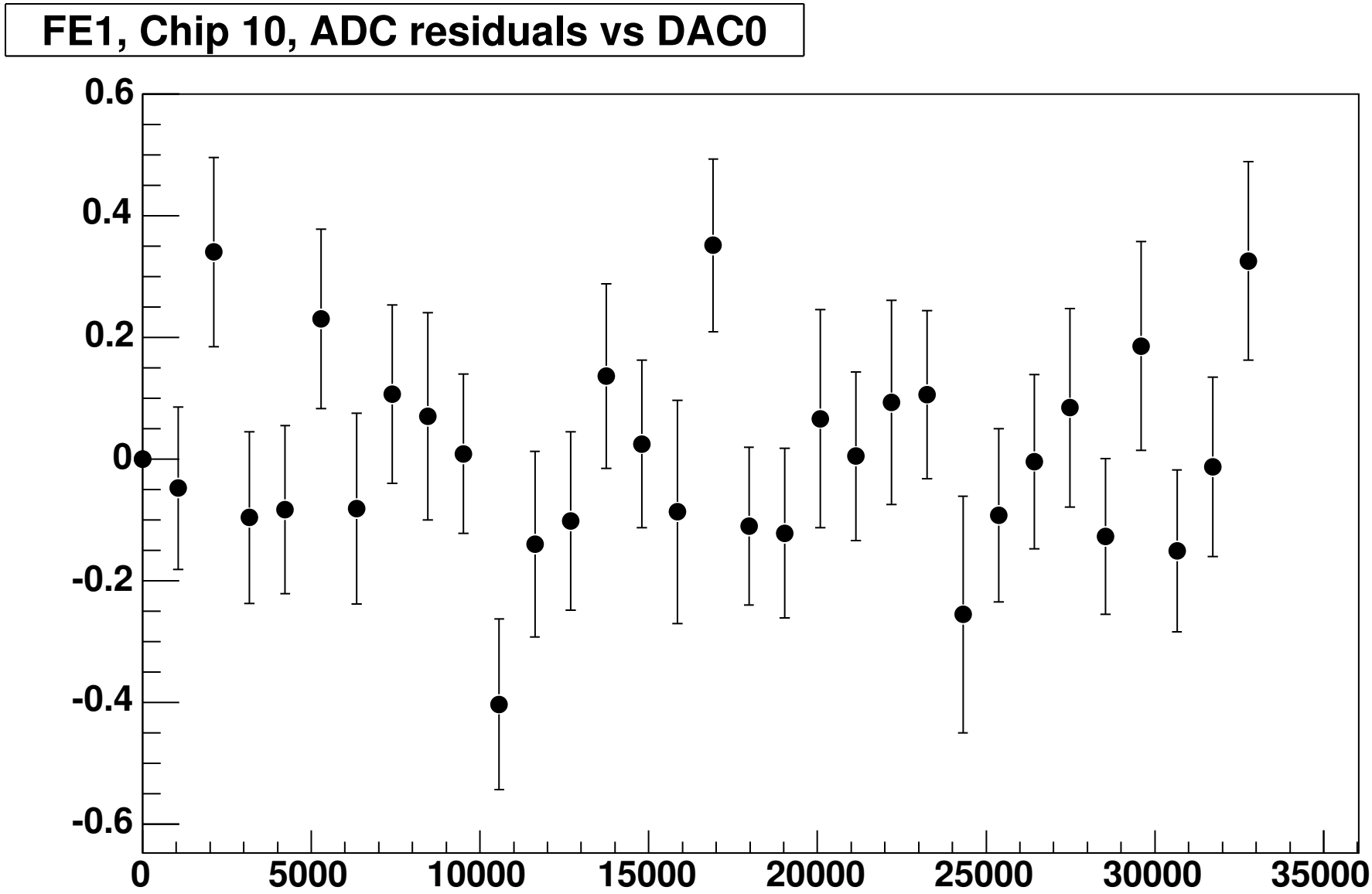
FE1, Chip 9, ADC noise vs DAC1

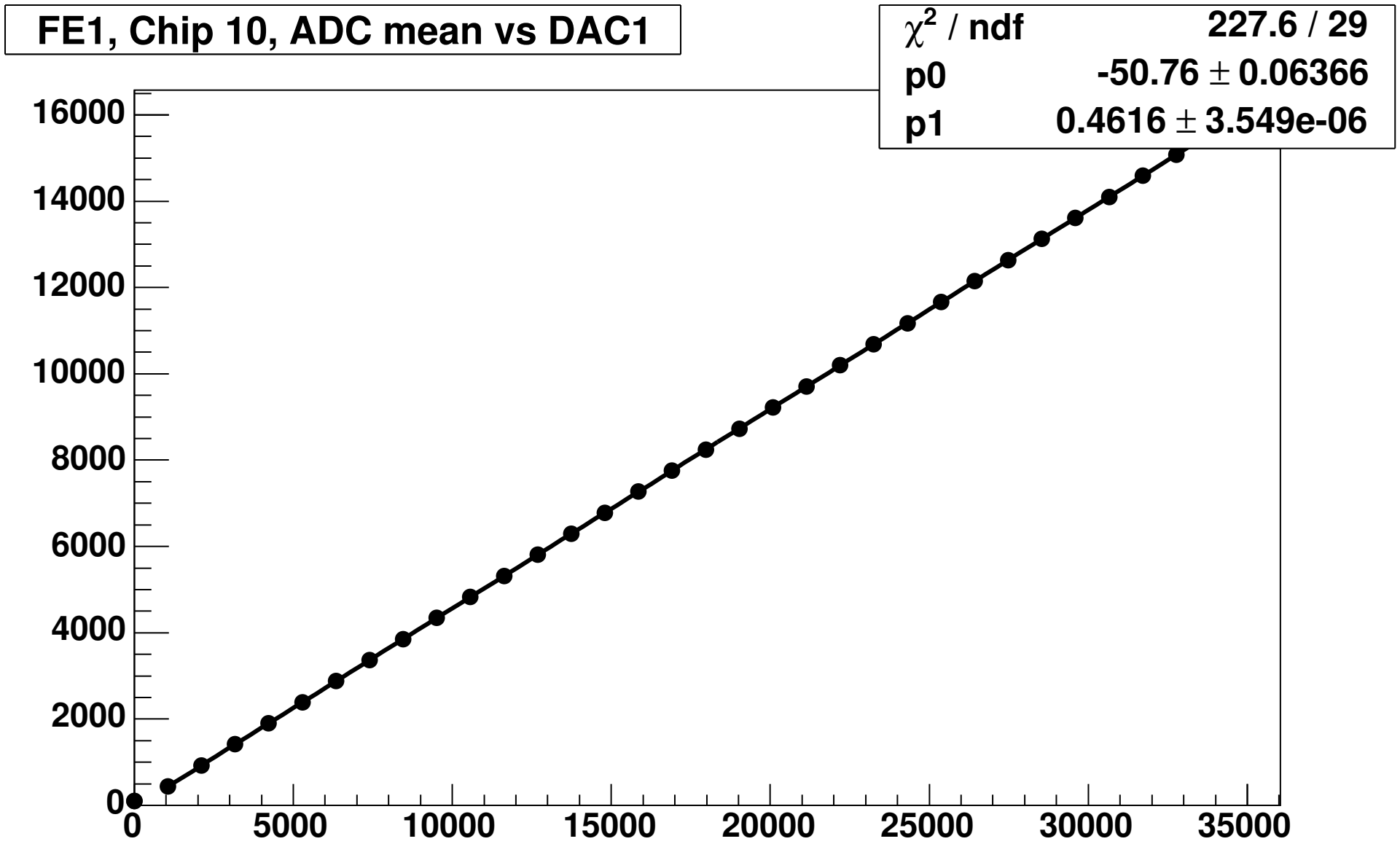


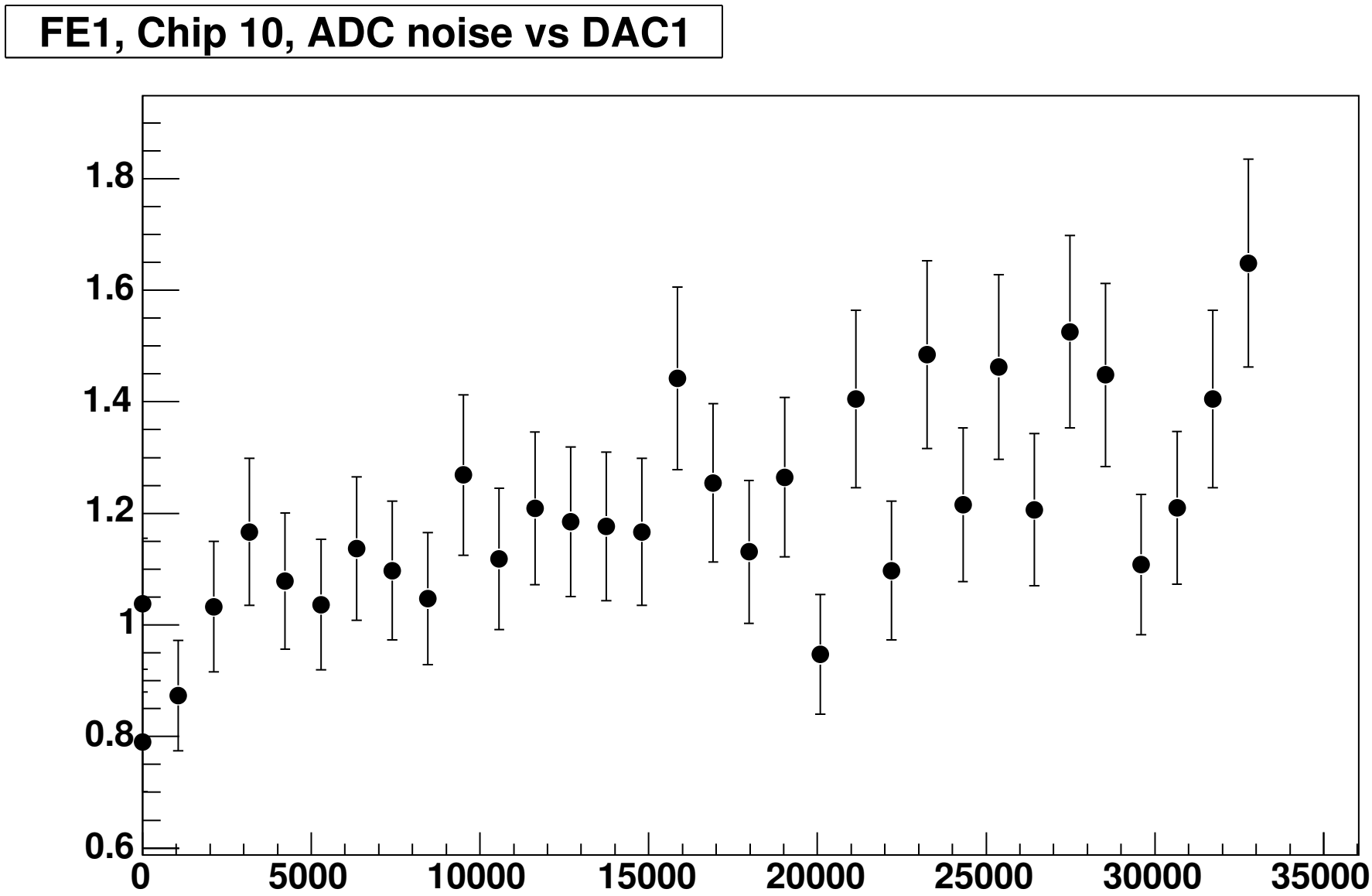

FE1, Chip 9, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

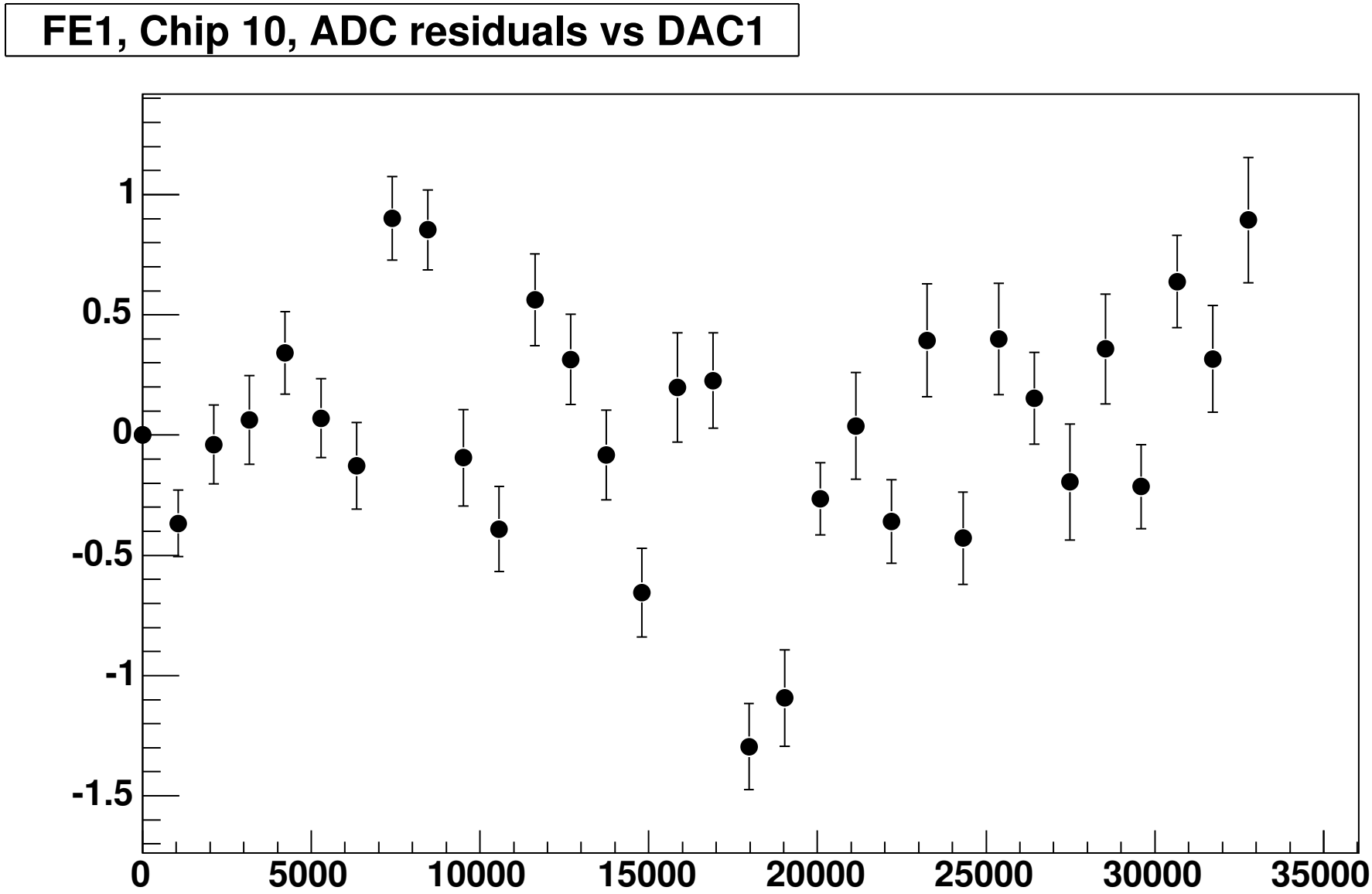

FE1, Chip 10, ADC mean vs DAC0
χ² / ndf 38.26 / 29
p0 101.2 ± 0.05357
p1 1.109e-05 ± 2.79e-06
102
101.8
101.6
101.4
101.2
101
100.8
0
5000
10000
15000
20000
25000
30000
35000

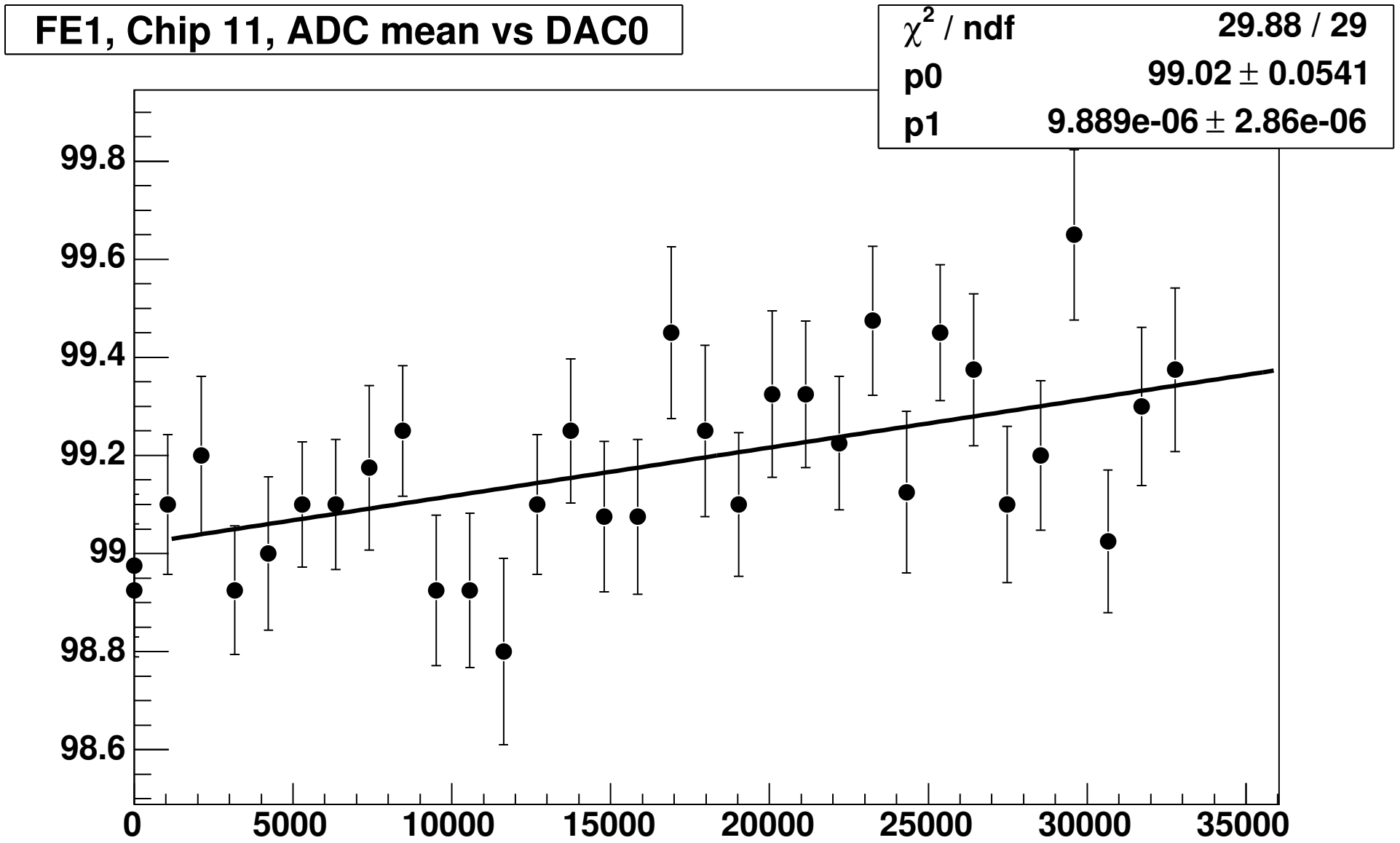

FE1, Chip 10, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

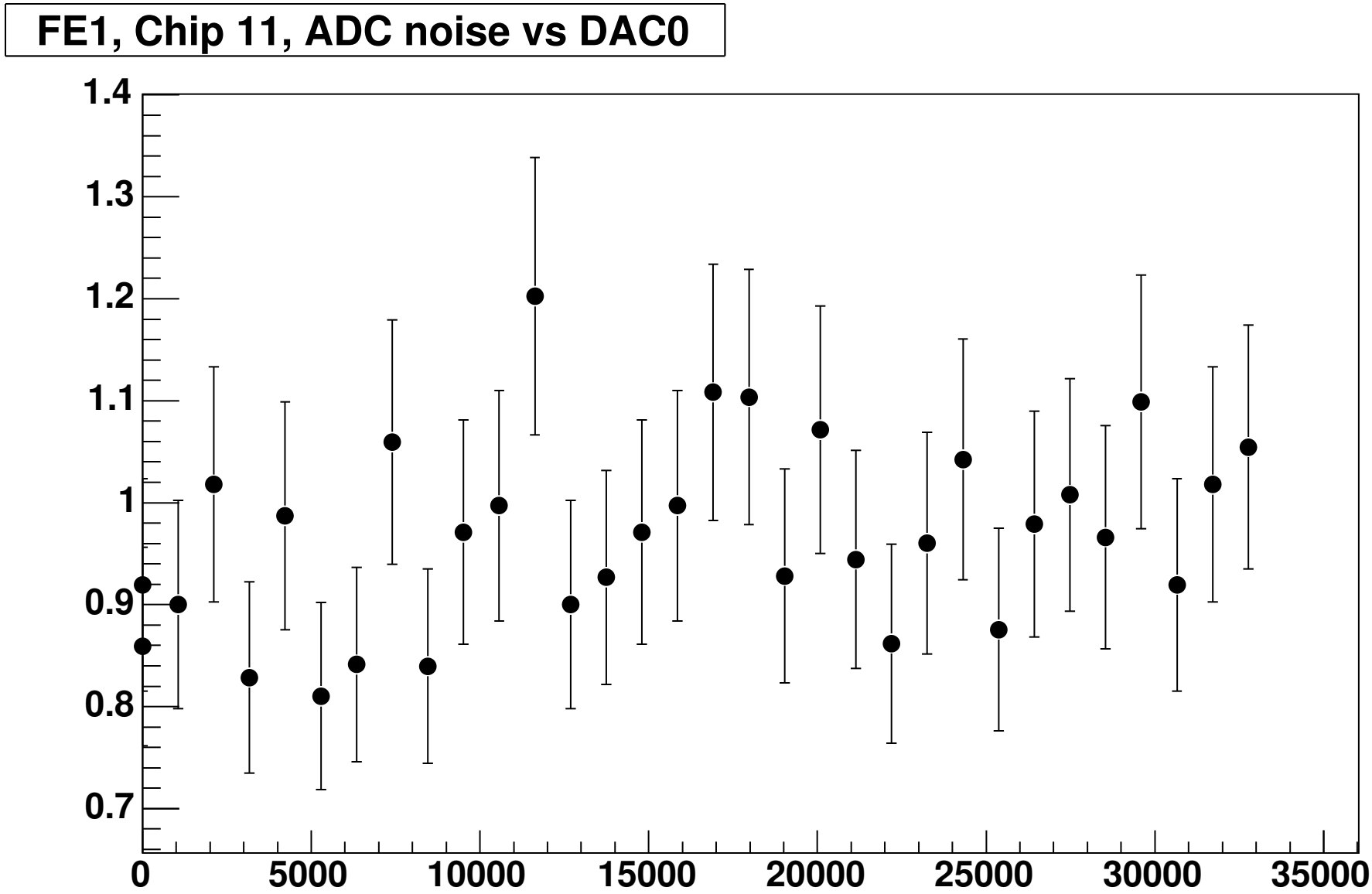

FE1, Chip 10, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

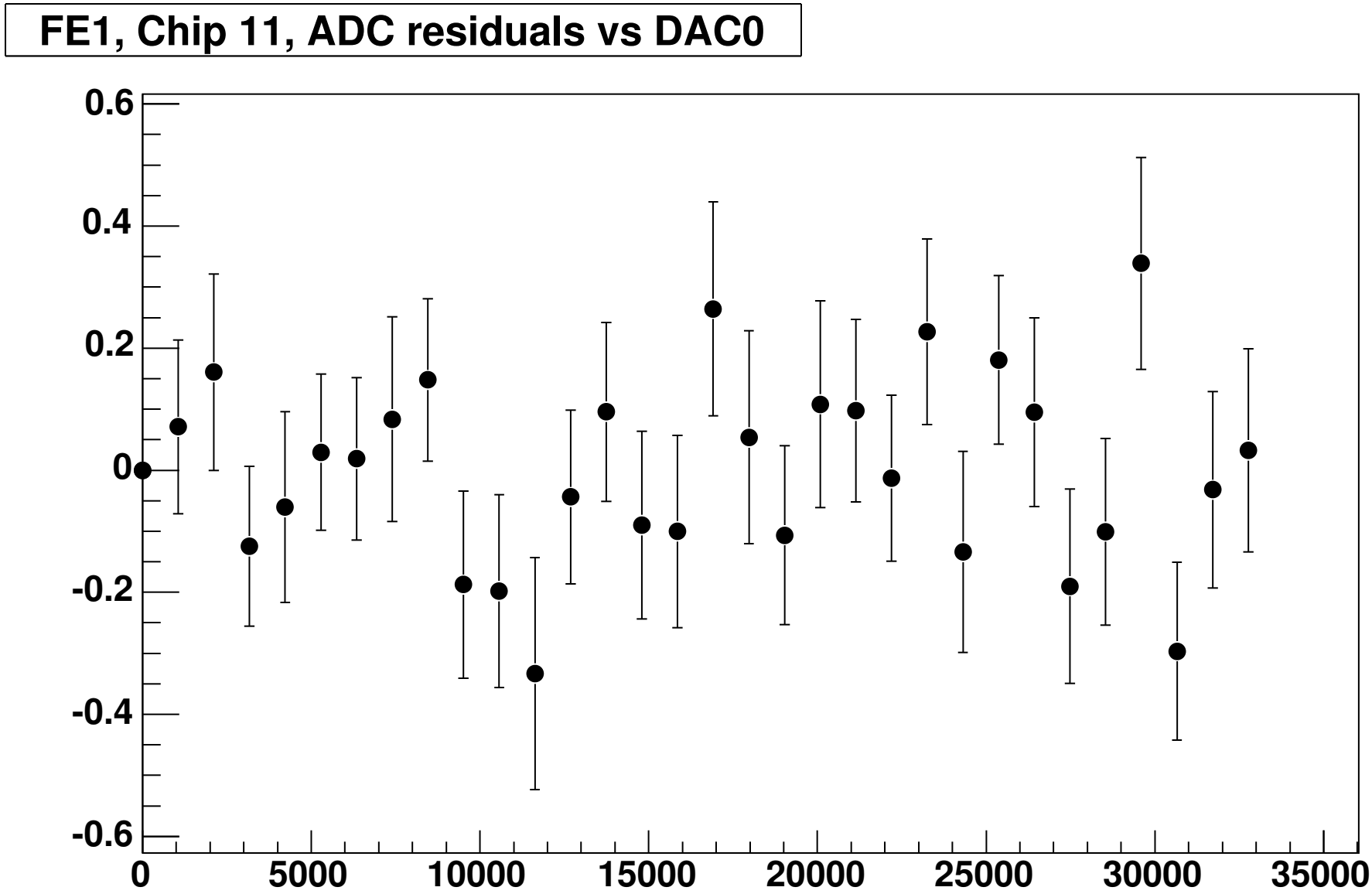

FE1, Chip 10, ADC mean vs DAC1
χ² / ndf 227.6 / 29
p0 -50.76 ± 0.06366
p1 0.4616 ± 3.549e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

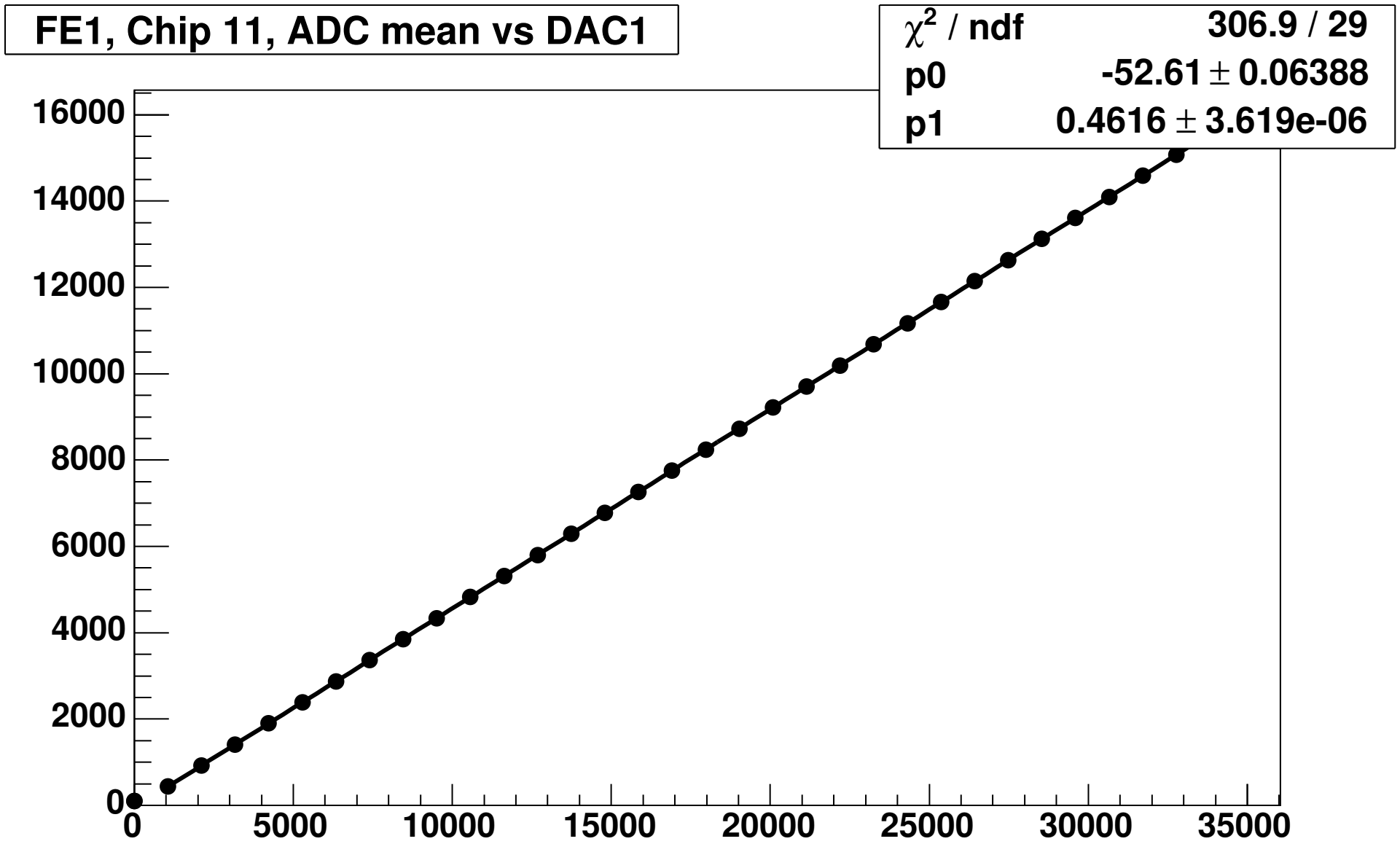

FE1, Chip 10, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

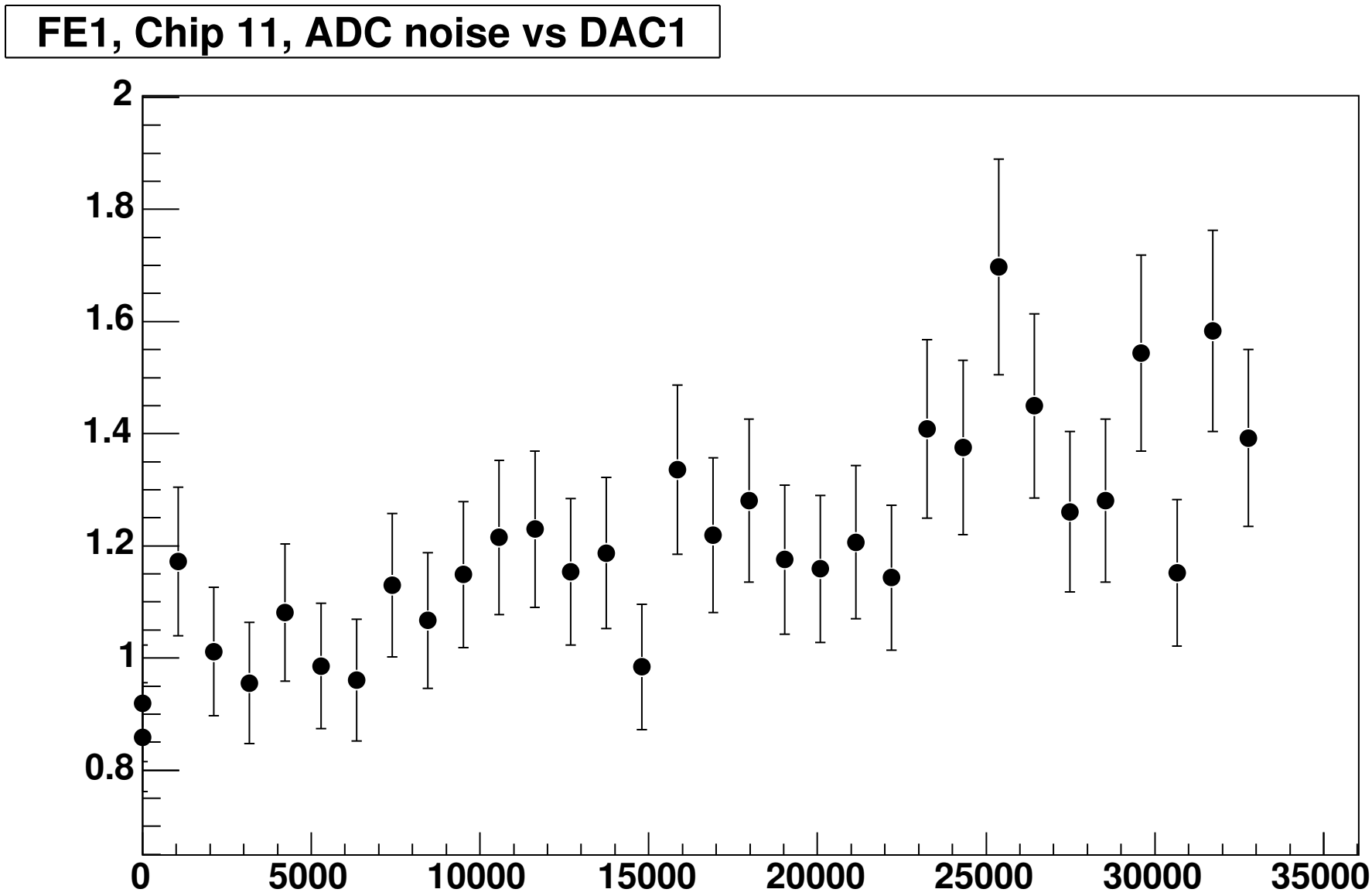

FE1, Chip 10, ADC residuals vs DAC1
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

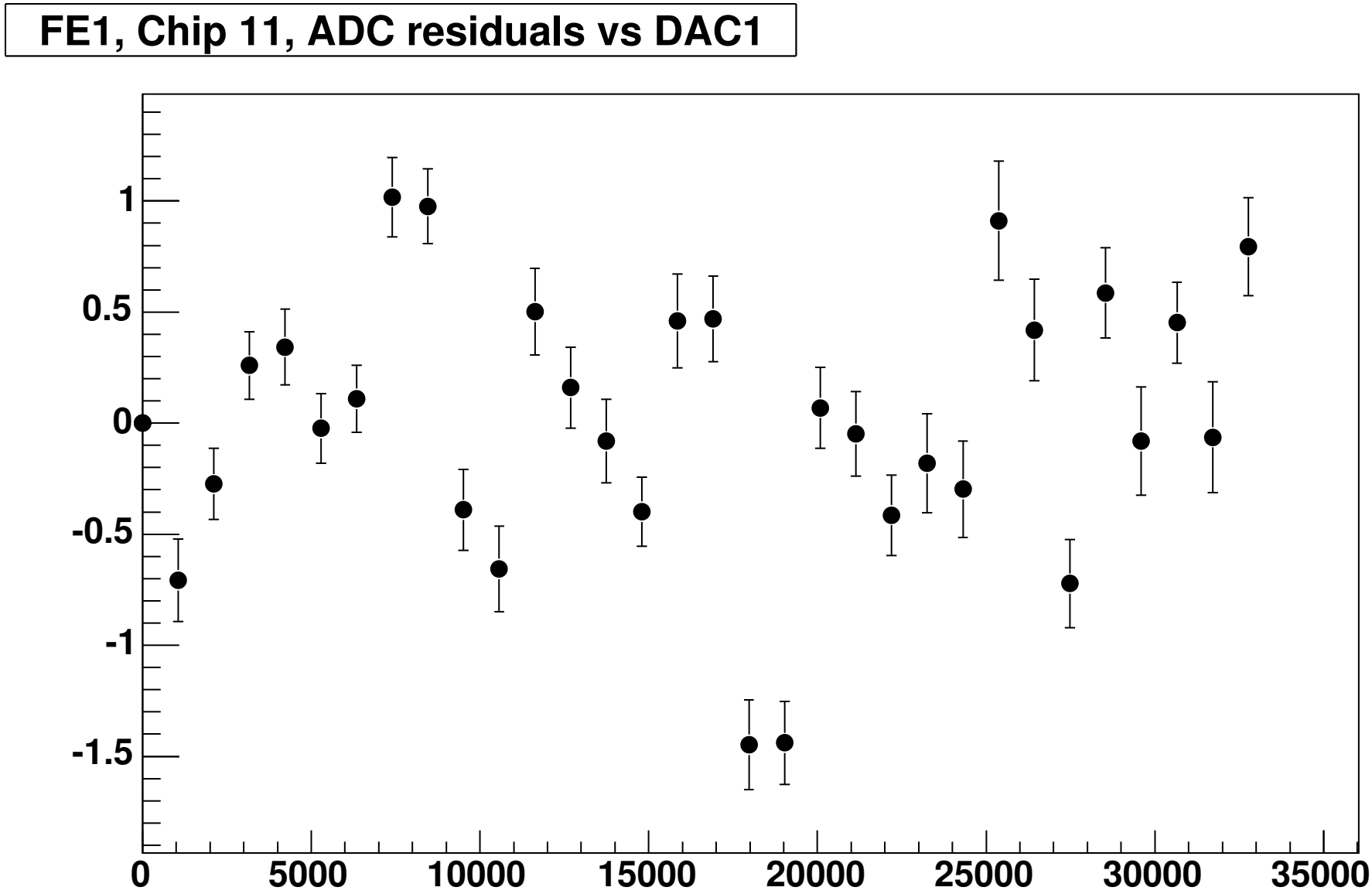

FE1, Chip 11, ADC mean vs DAC0
χ² / ndf 29.88 / 29
p0 99.02 ± 0.0541
p1 9.889e-06 ± 2.86e-06
99.8
99.6
99.4
99.2
99
98.8
98.6
0
5000
10000
15000
20000
25000
30000
35000

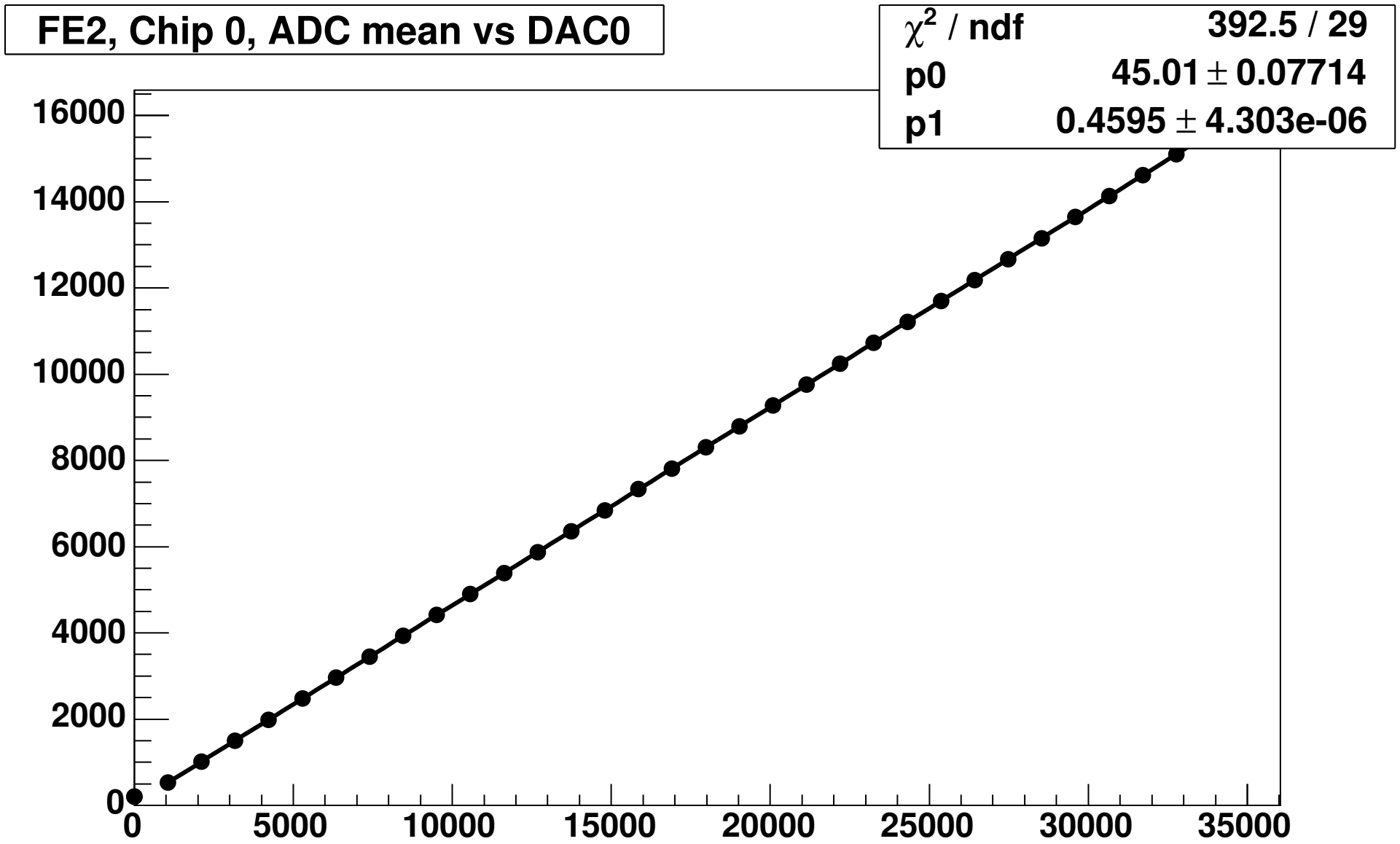

FE1, Chip 11, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

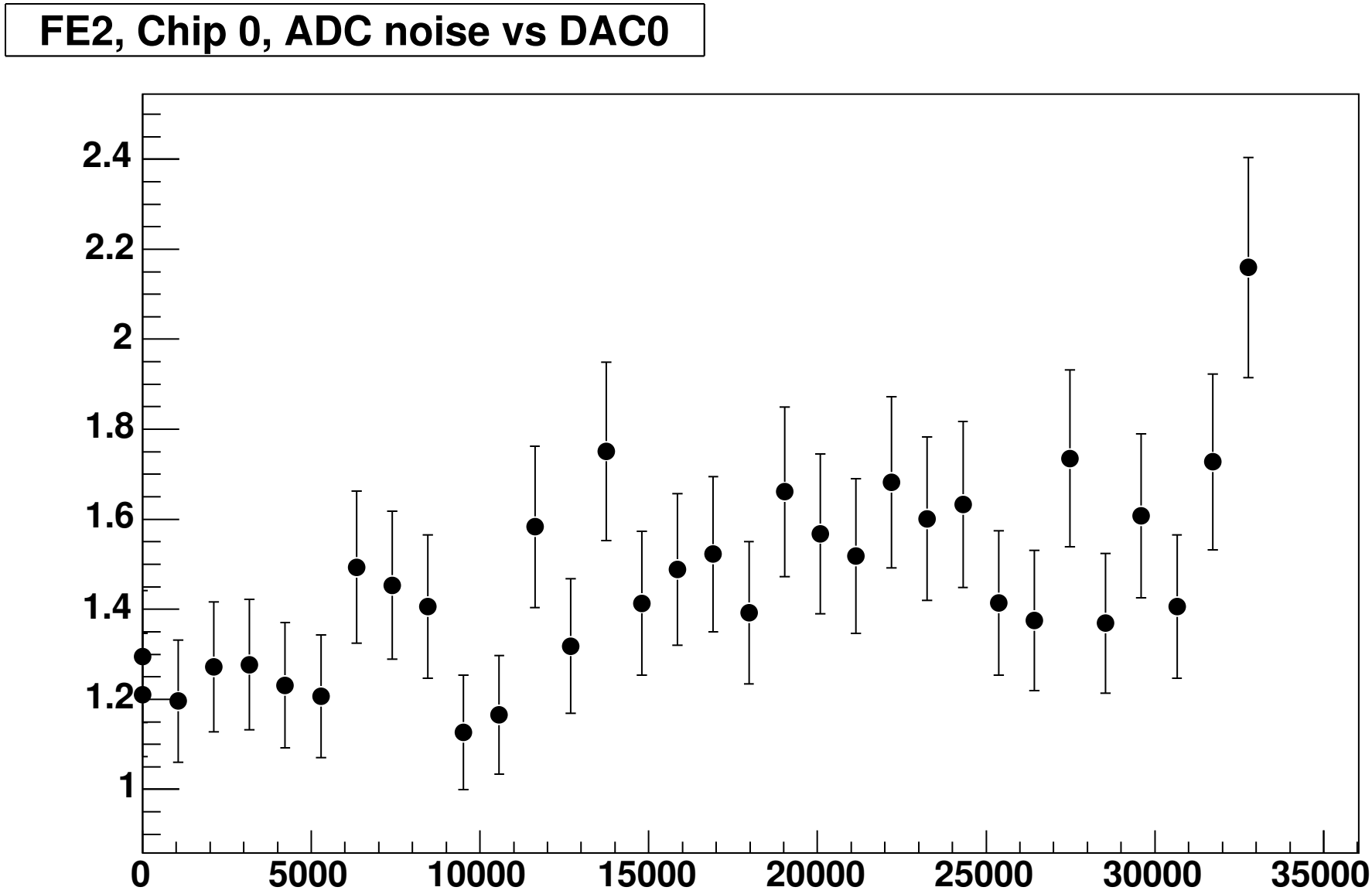

FE1, Chip 11, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

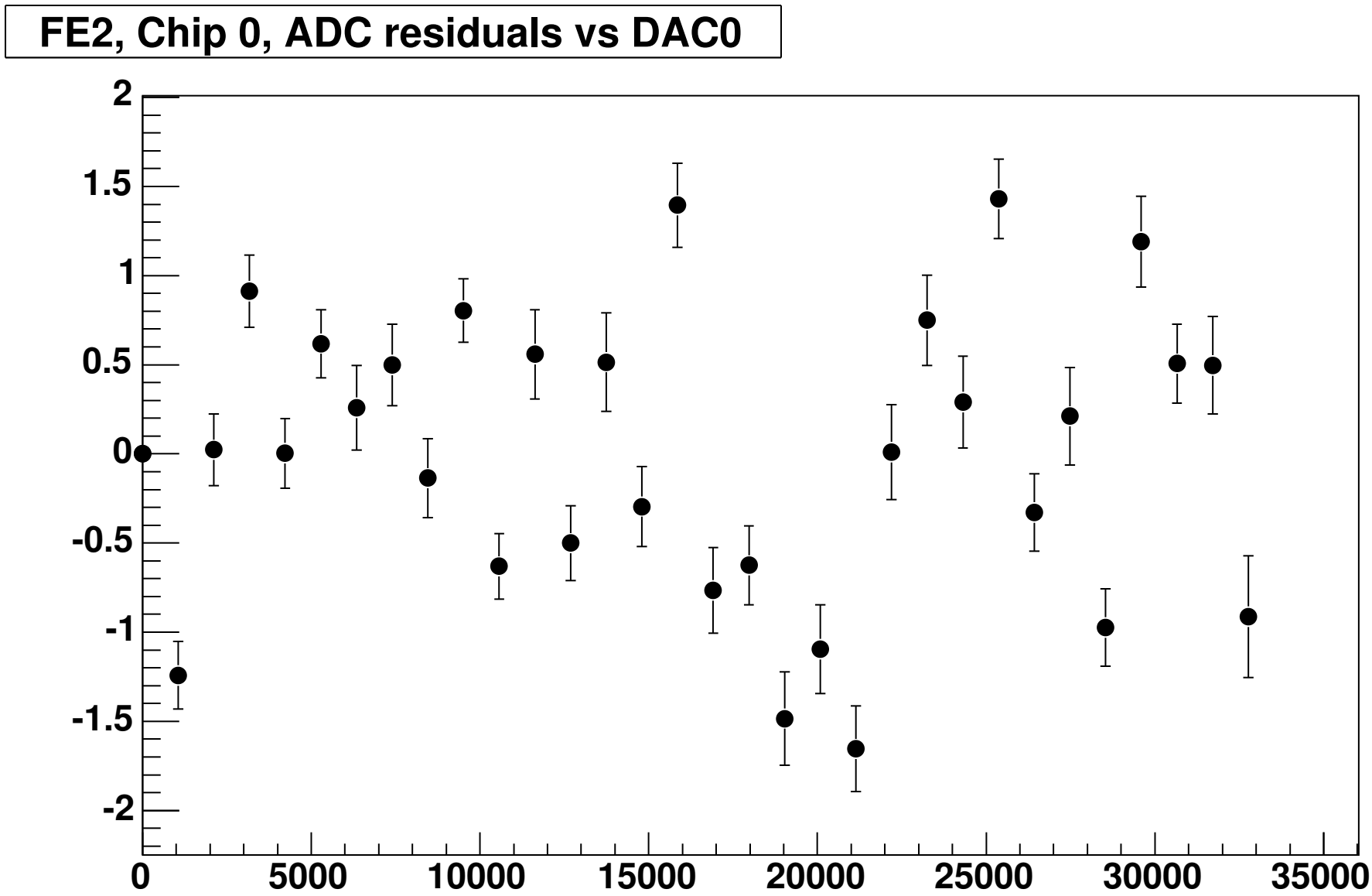

FE1, Chip 11, ADC mean vs DAC1
χ² / ndf 306.9 / 29
p0 -52.61 ± 0.06388
p1 0.4616 ± 3.619e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

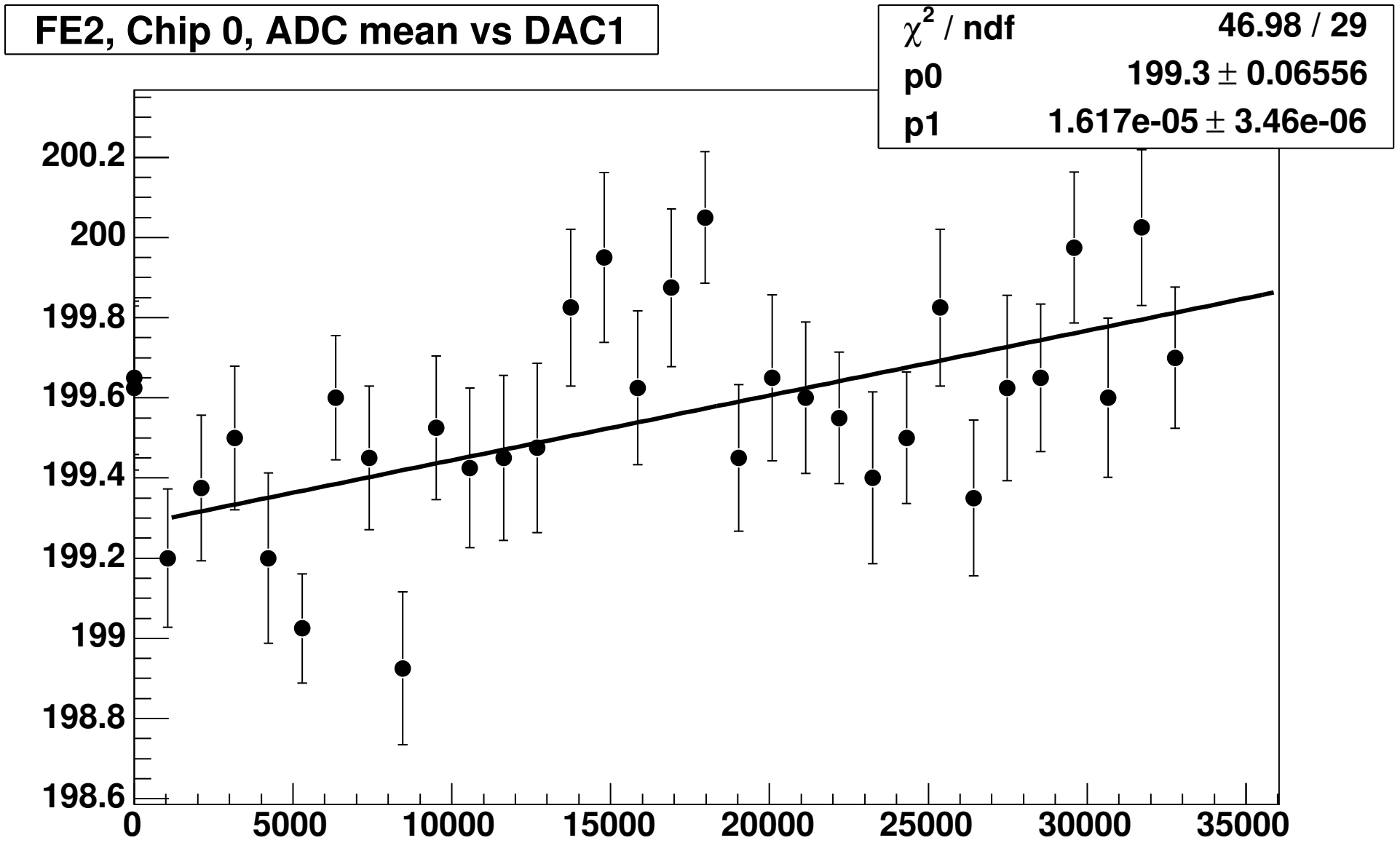

FE1, Chip 11, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

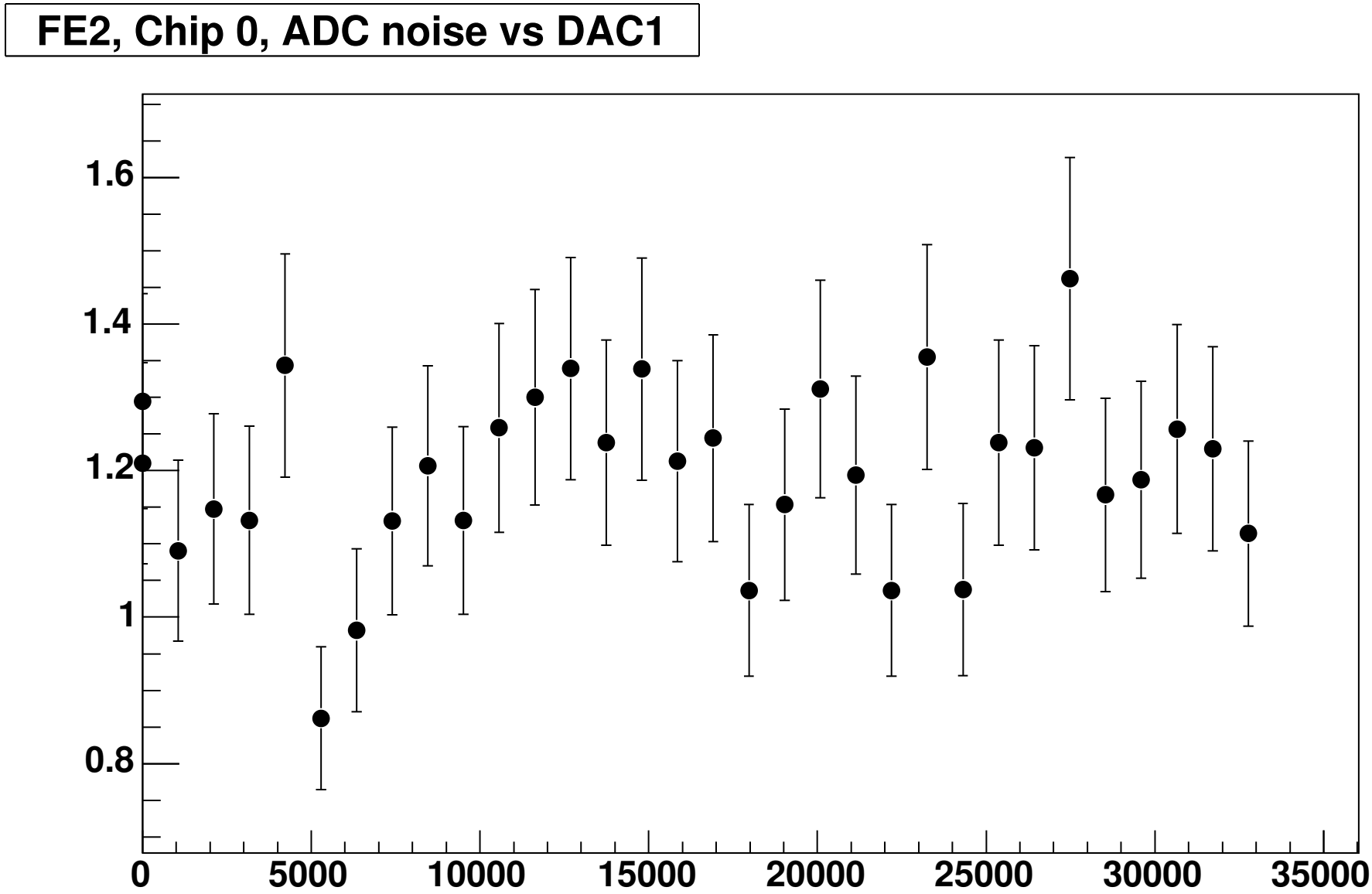

FE1, Chip 11, ADC residuals vs DAC1
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

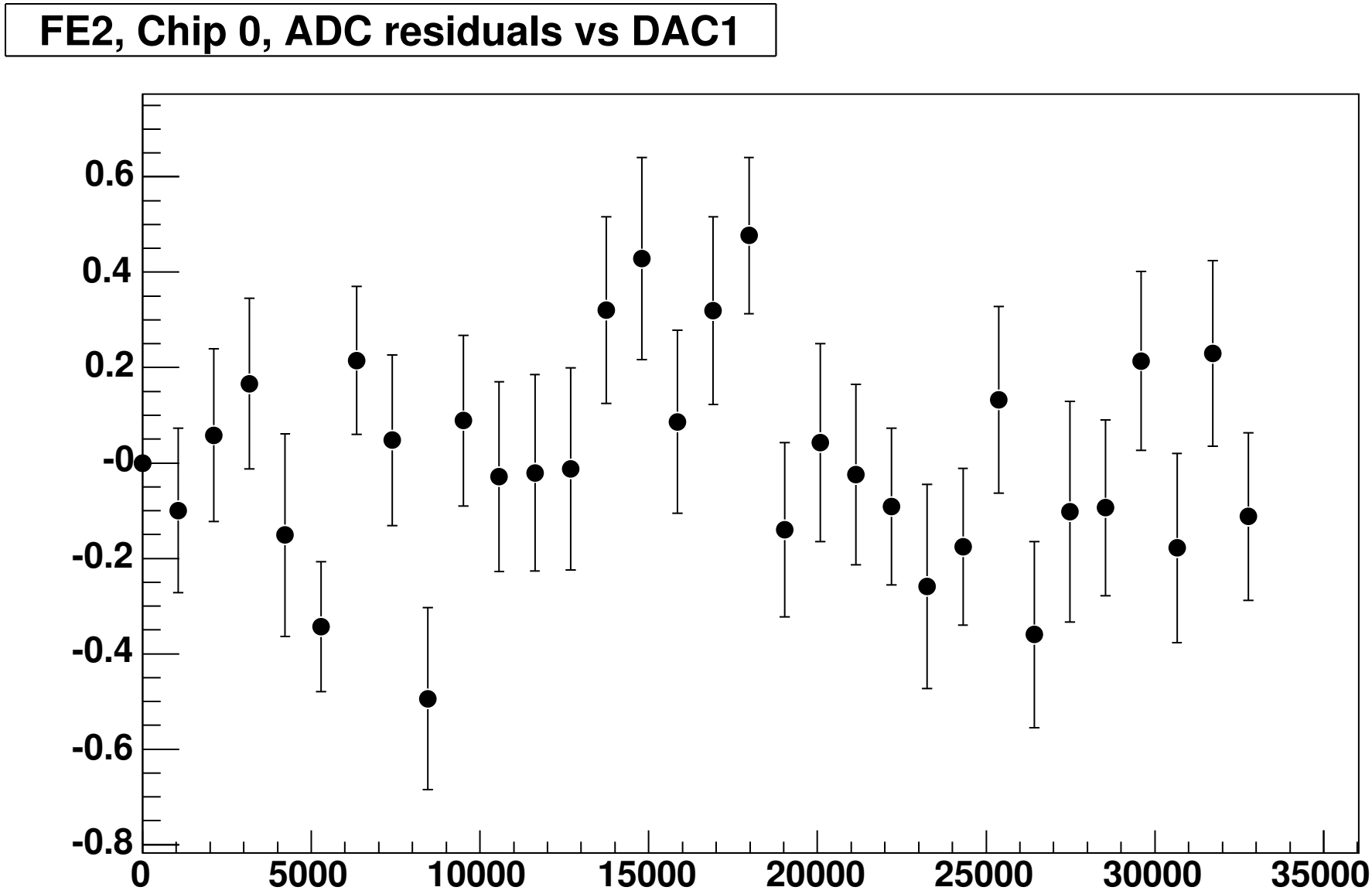

FE2, Chip 0, ADC mean vs DAC0
χ² / ndf 392.5 / 29
p0 45.01 ± 0.07714
p1 0.4595 ± 4.303e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

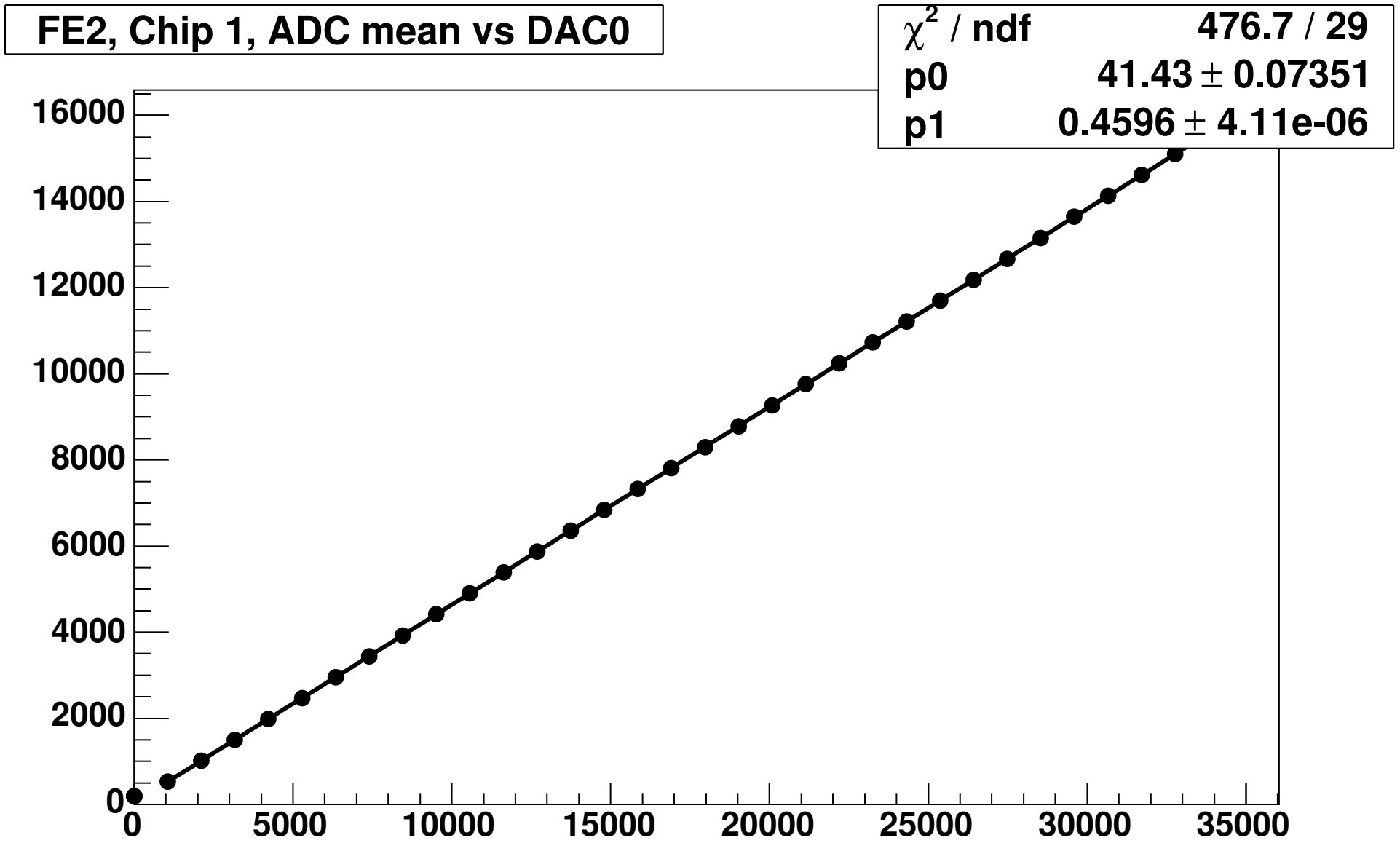

FE2, Chip 0, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

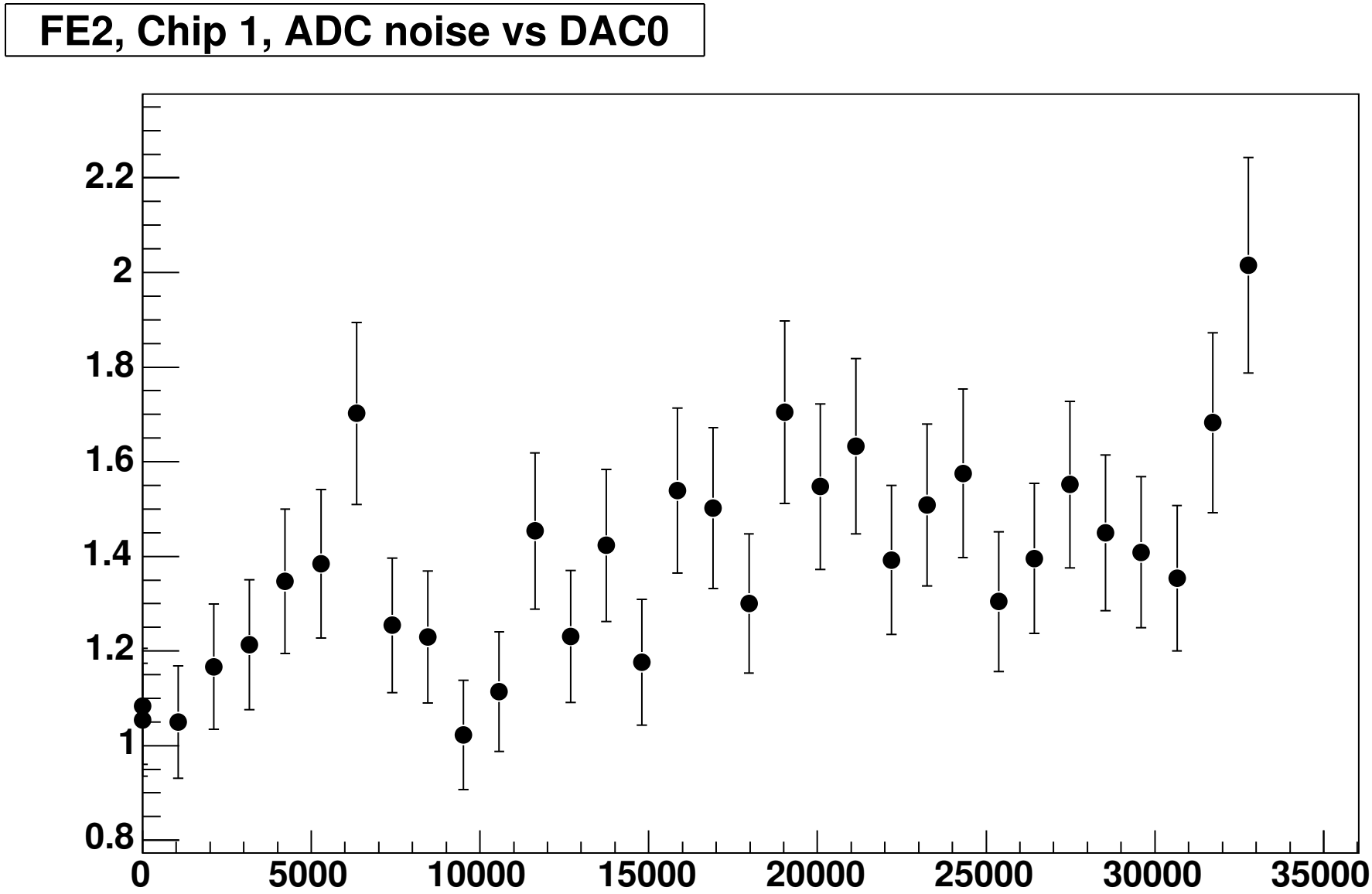

FE2, Chip 0, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

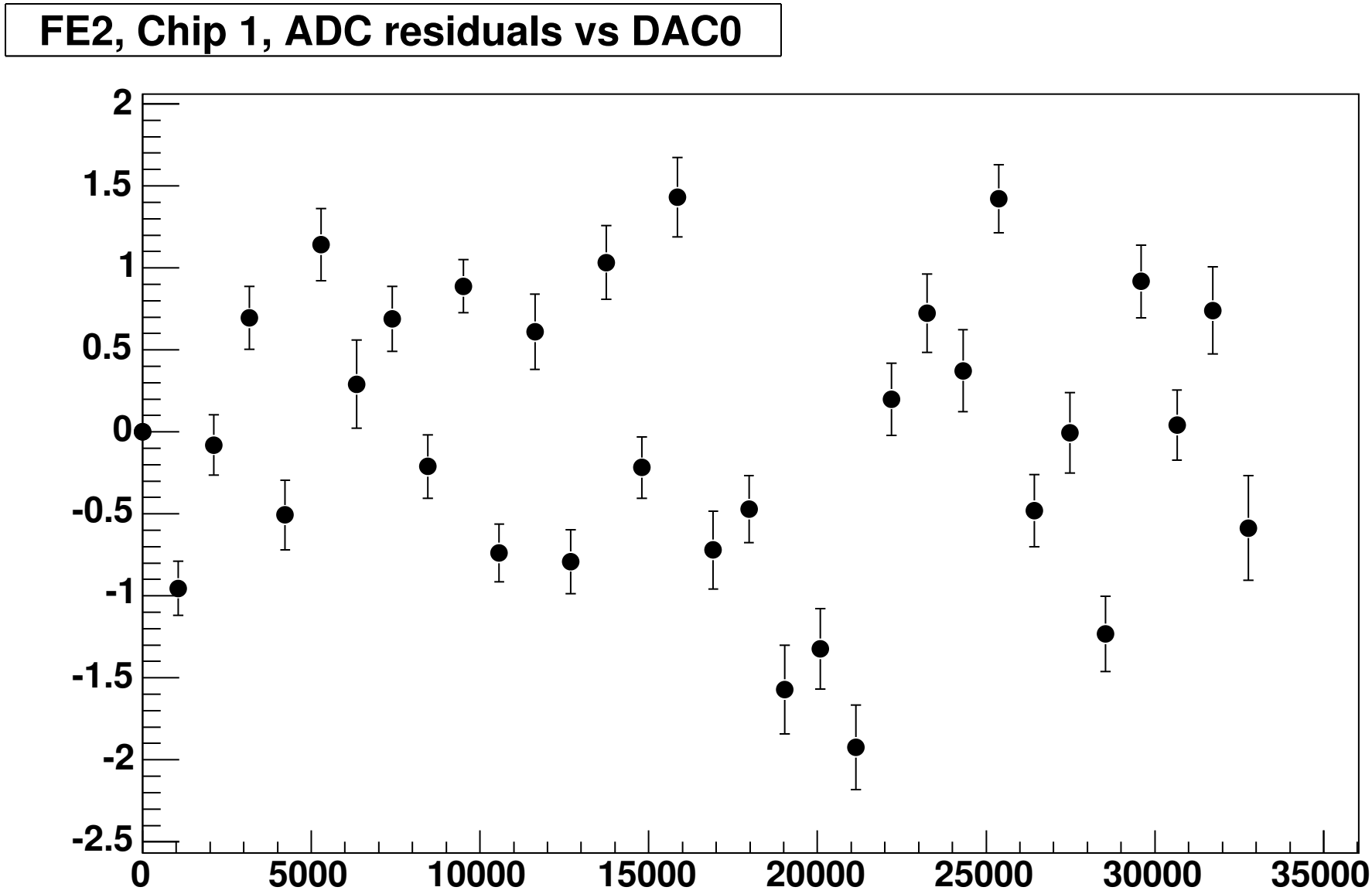

FE2, Chip 0, ADC mean vs DAC1
χ² / ndf 46.98 / 29
p0 199.3 ± 0.06556
p1 1.617e-05 ± 3.46e-06
200.2
200
199.8
199.6
199.4
199.2
199
198.8
198.6
0
5000
10000
15000
20000
25000
30000
35000

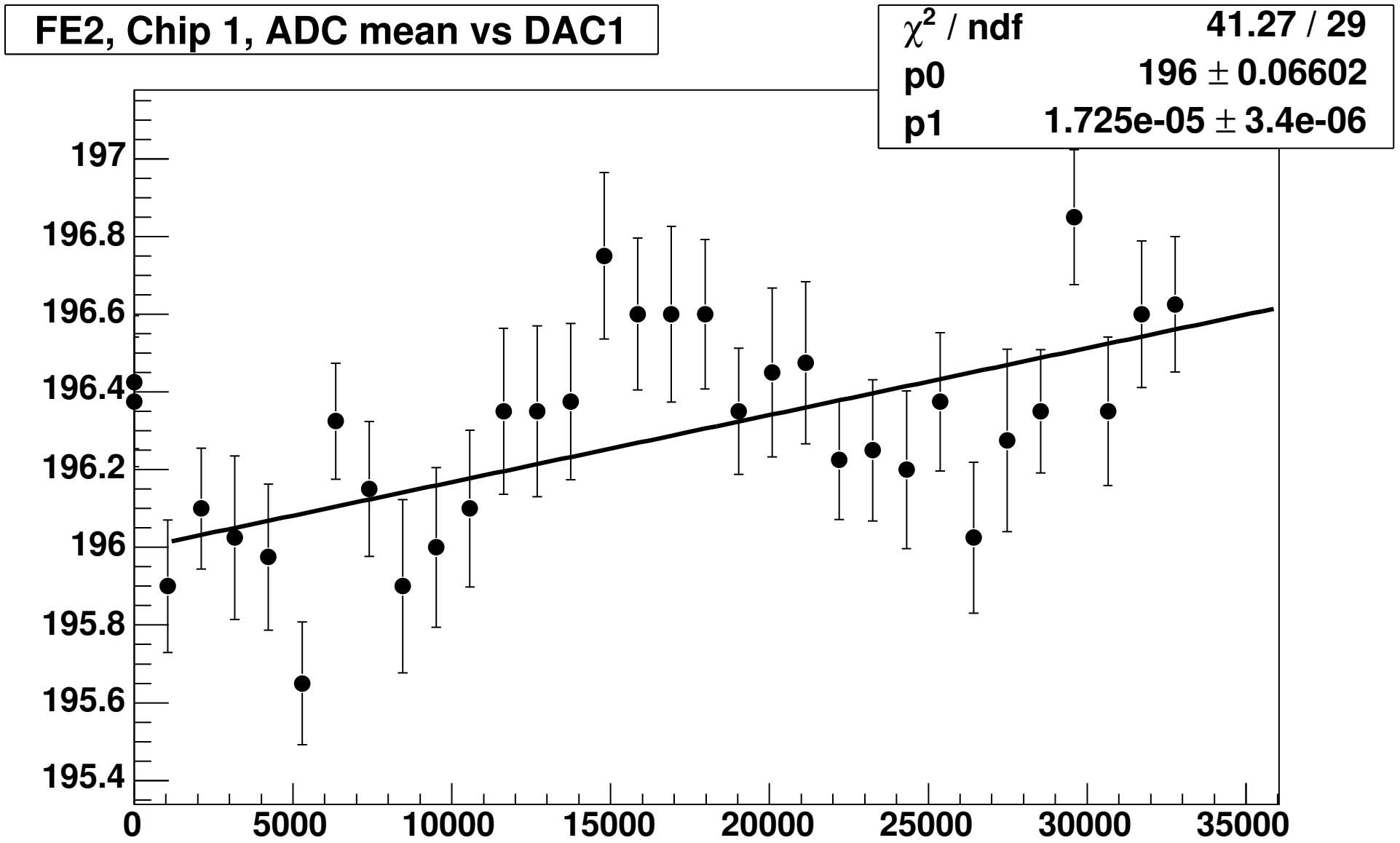

FE2, Chip 0, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000


FE2, Chip 0, ADC residuals vs DAC1
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

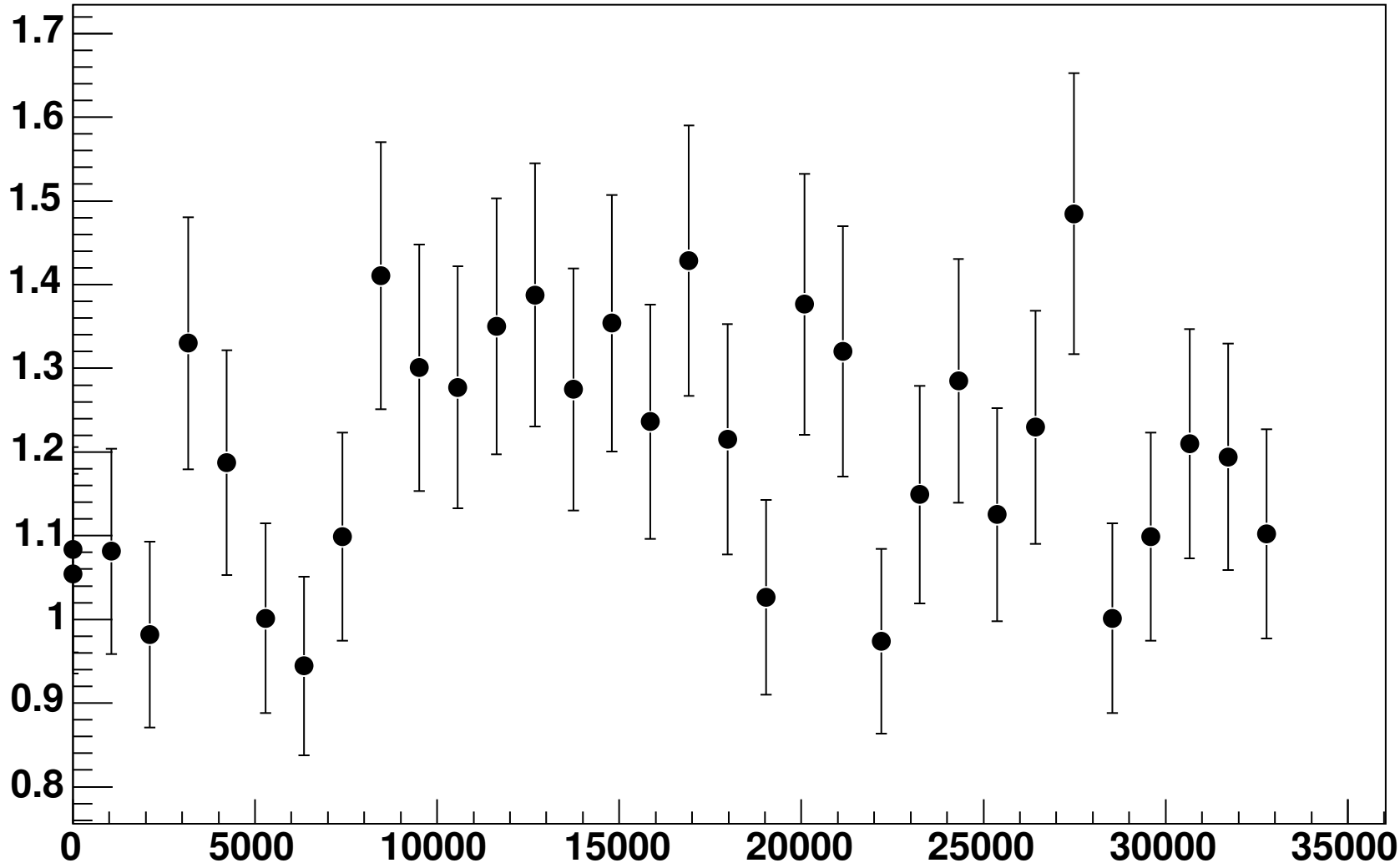

FE2, Chip 1, ADC mean vs DAC0
χ² / ndf 476.7 / 29
p0 41.43 ± 0.07351
p1 0.4596 ± 4.11e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

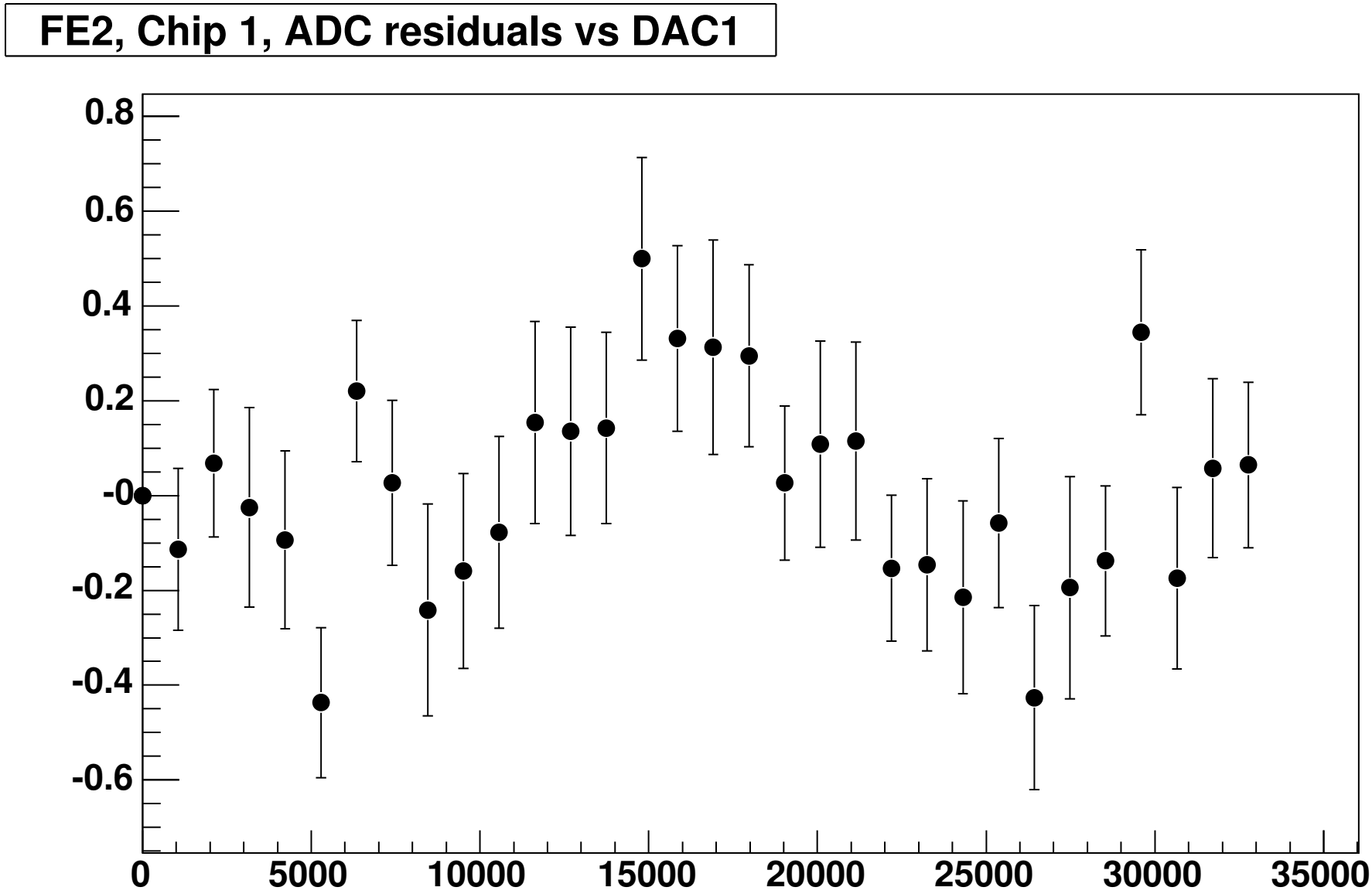

FE2, Chip 1, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

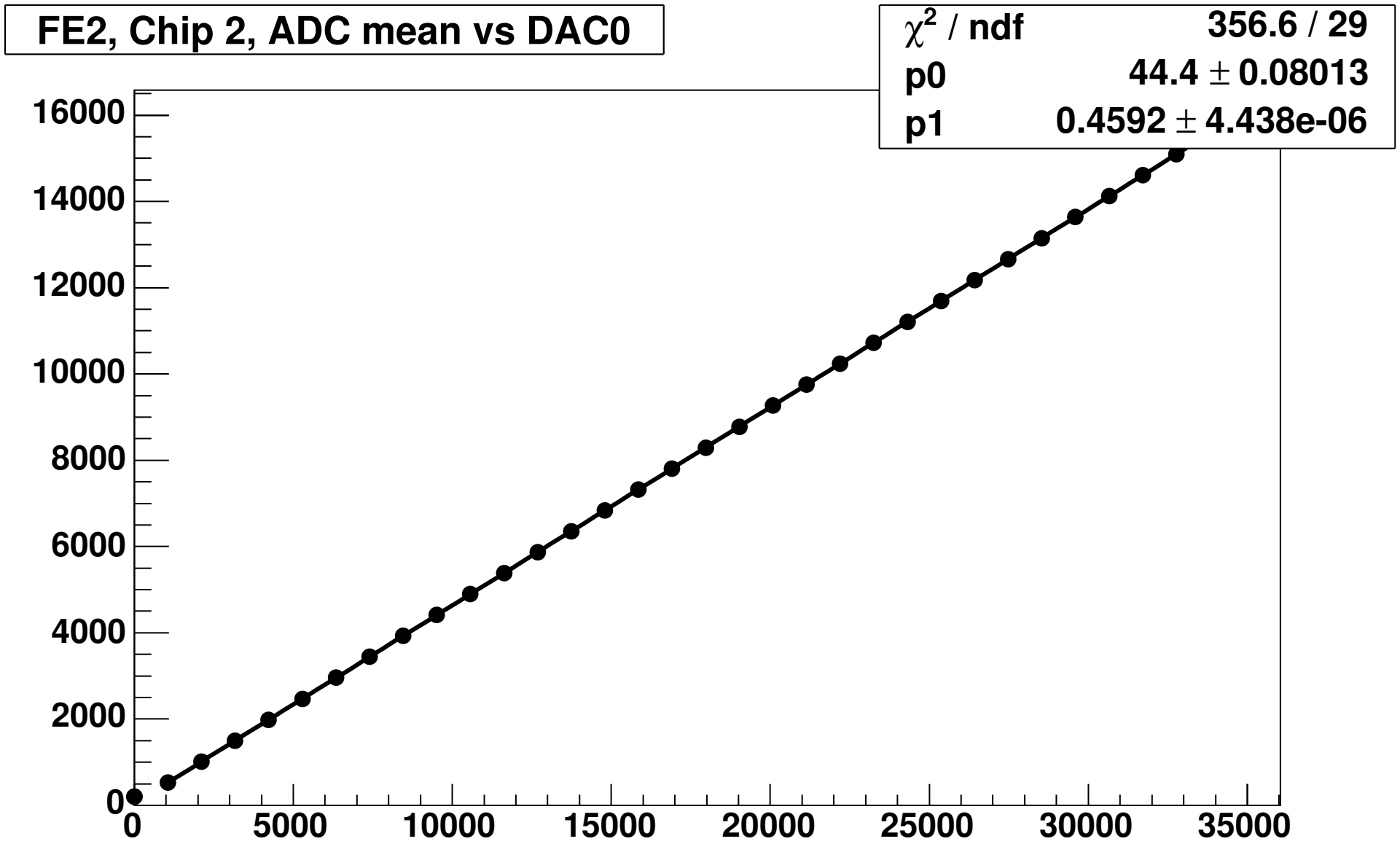

FE2, Chip 1, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
0
5000
10000
15000
20000
25000
30000
35000

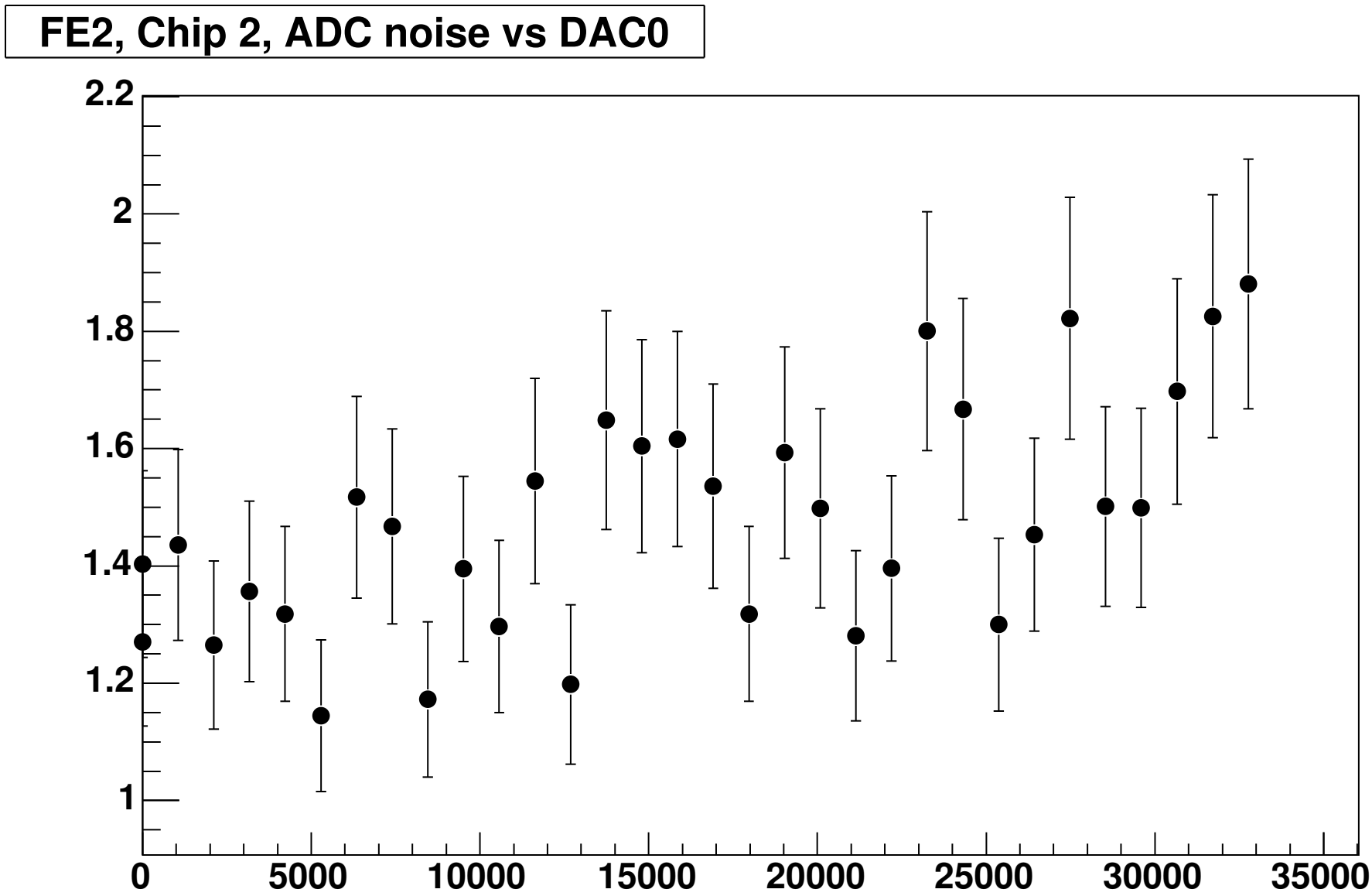

FE2, Chip 1, ADC mean vs DAC1
χ² / ndf 41.27 / 29
p0 196 ± 0.06602
p1 1.725e-05 ± 3.4e-06
197
196.8
196.6
196.4
196.2
196
195.8
195.6
195.4
0
5000
10000
15000
20000
25000
30000
35000

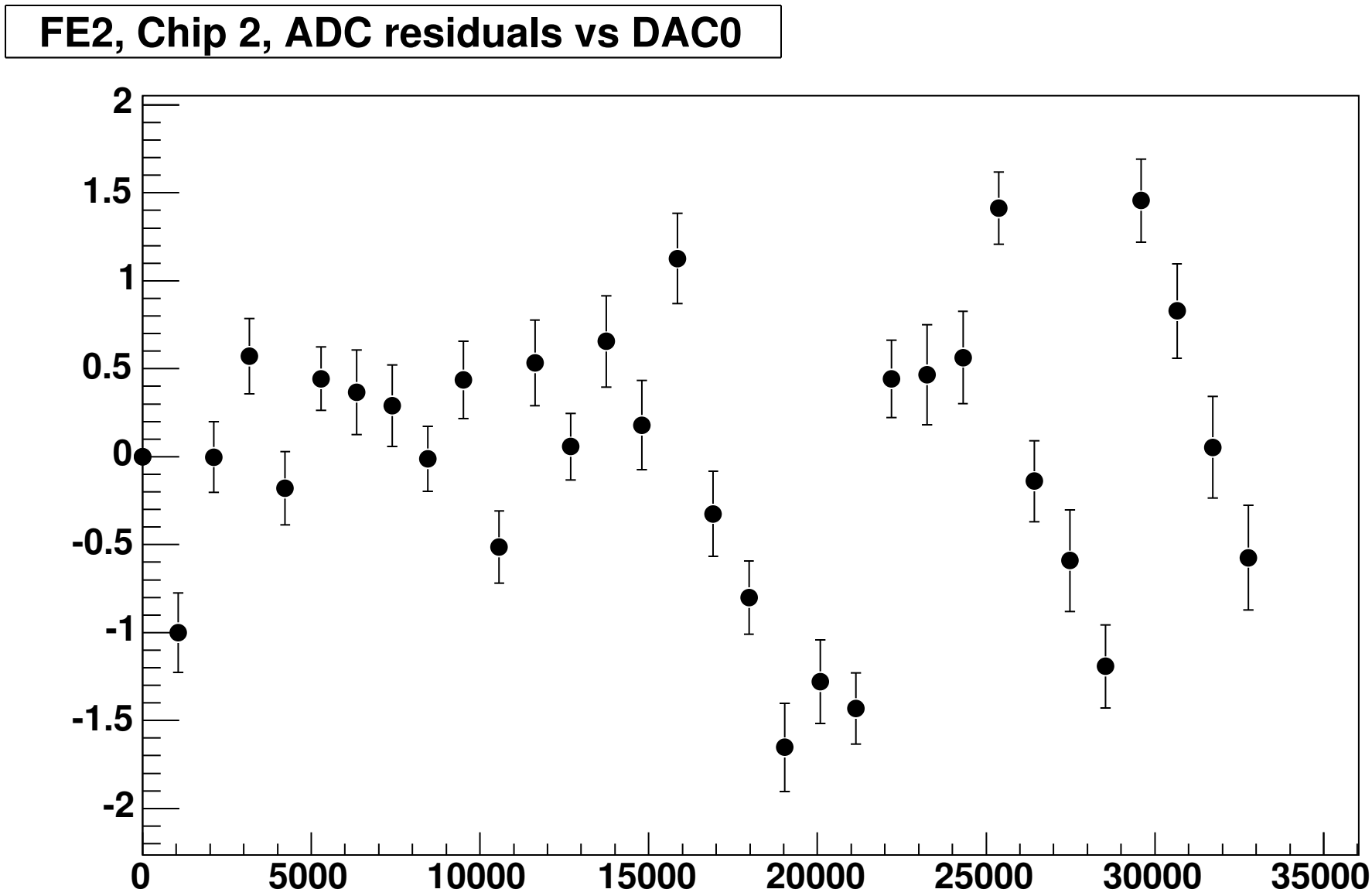
FE2, Chip 1, ADC noise vs DAC1

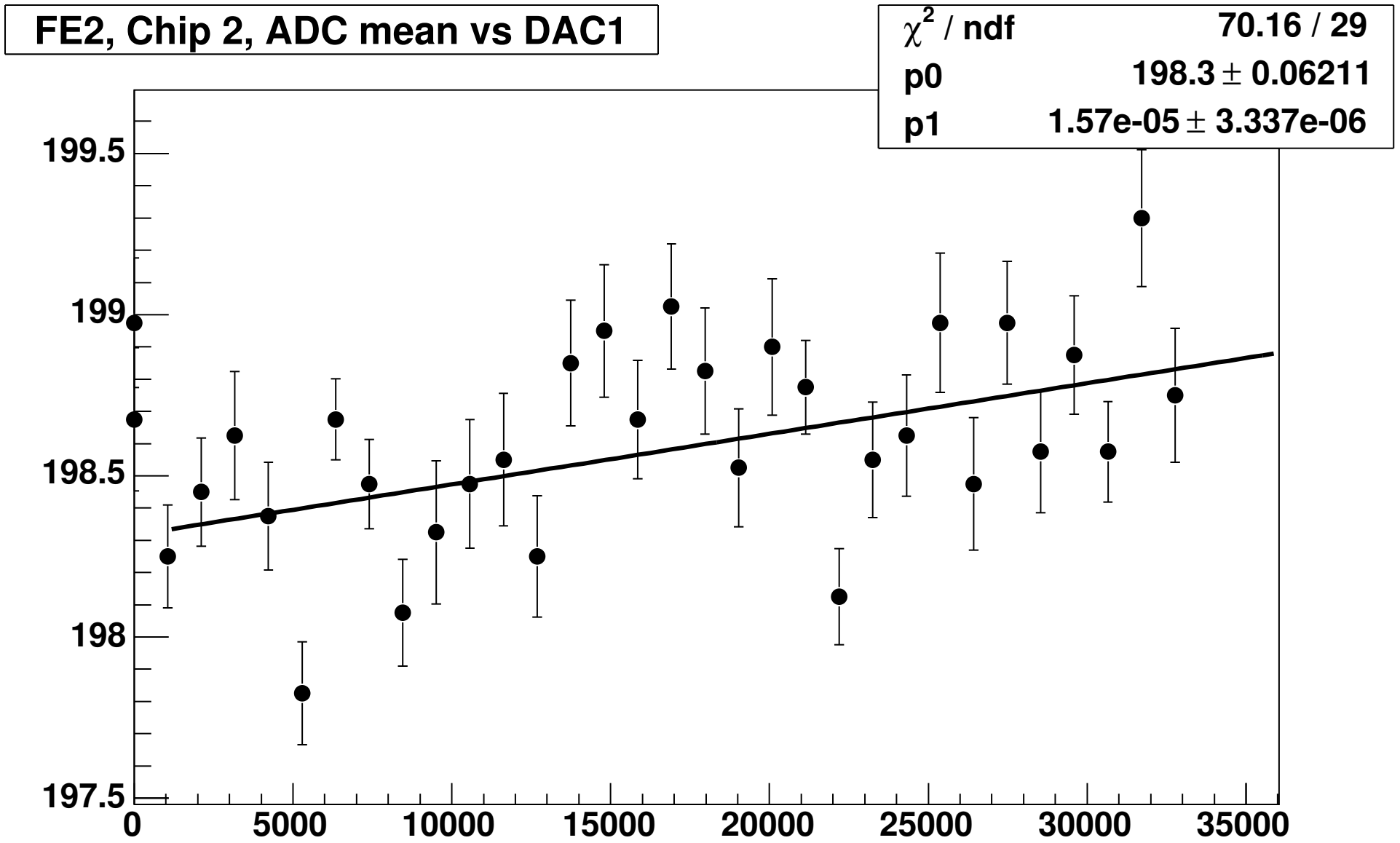


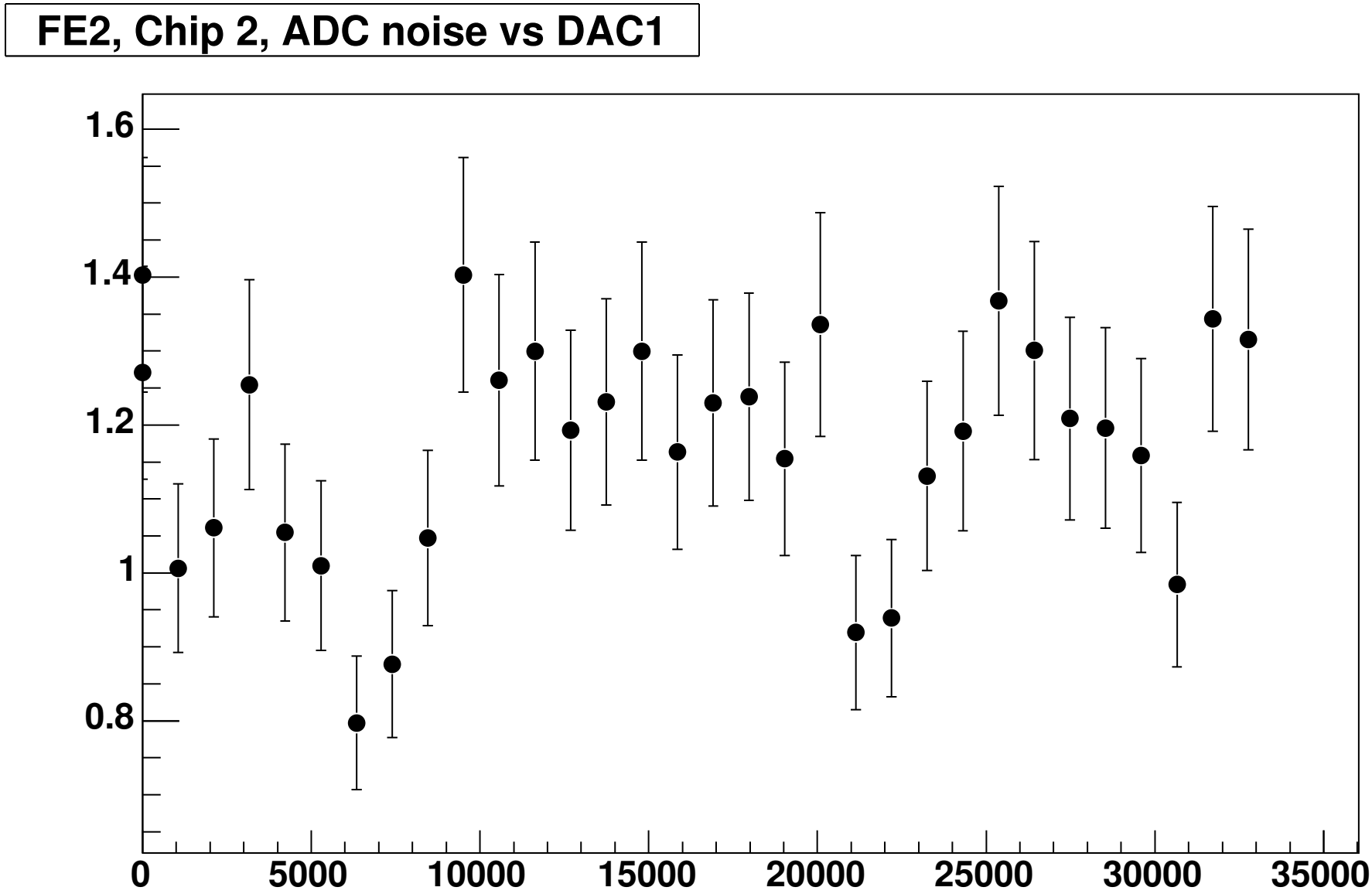

FE2, Chip 1, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

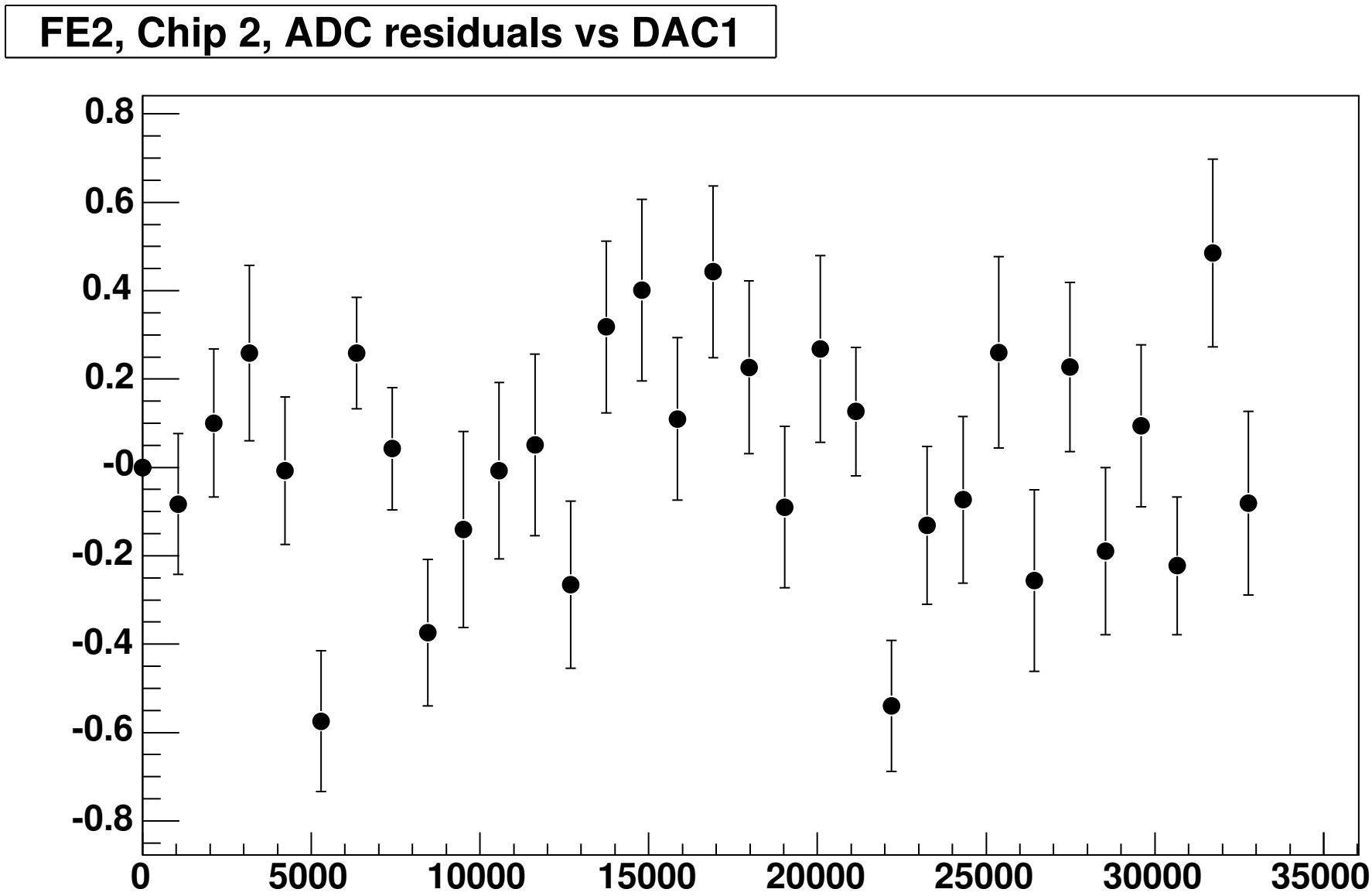

FE2, Chip 2, ADC mean vs DAC0
χ² / ndf 356.6 / 29
p0 44.4 ± 0.08013
p1 0.4592 ± 4.438e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

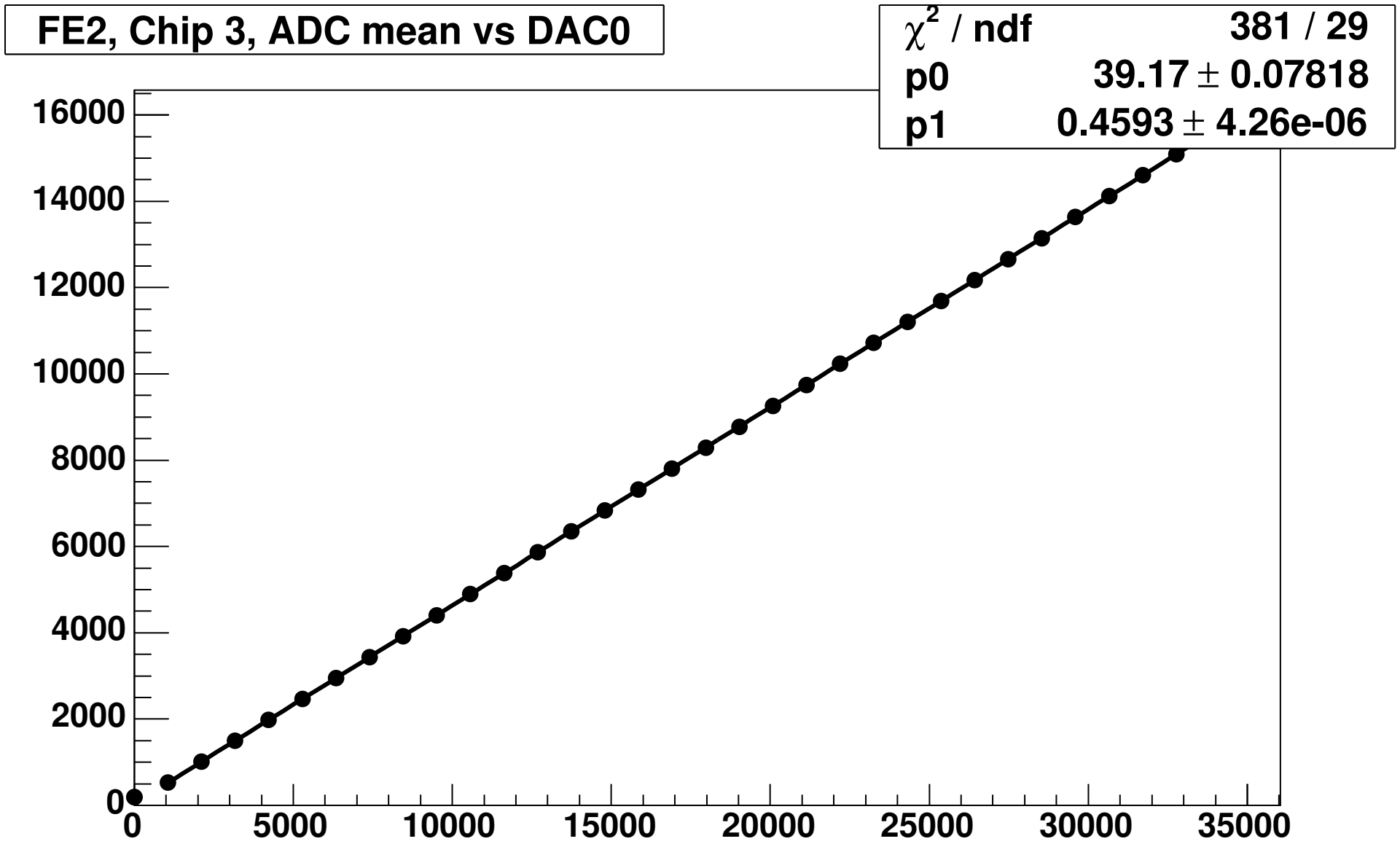

FE2, Chip 2, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

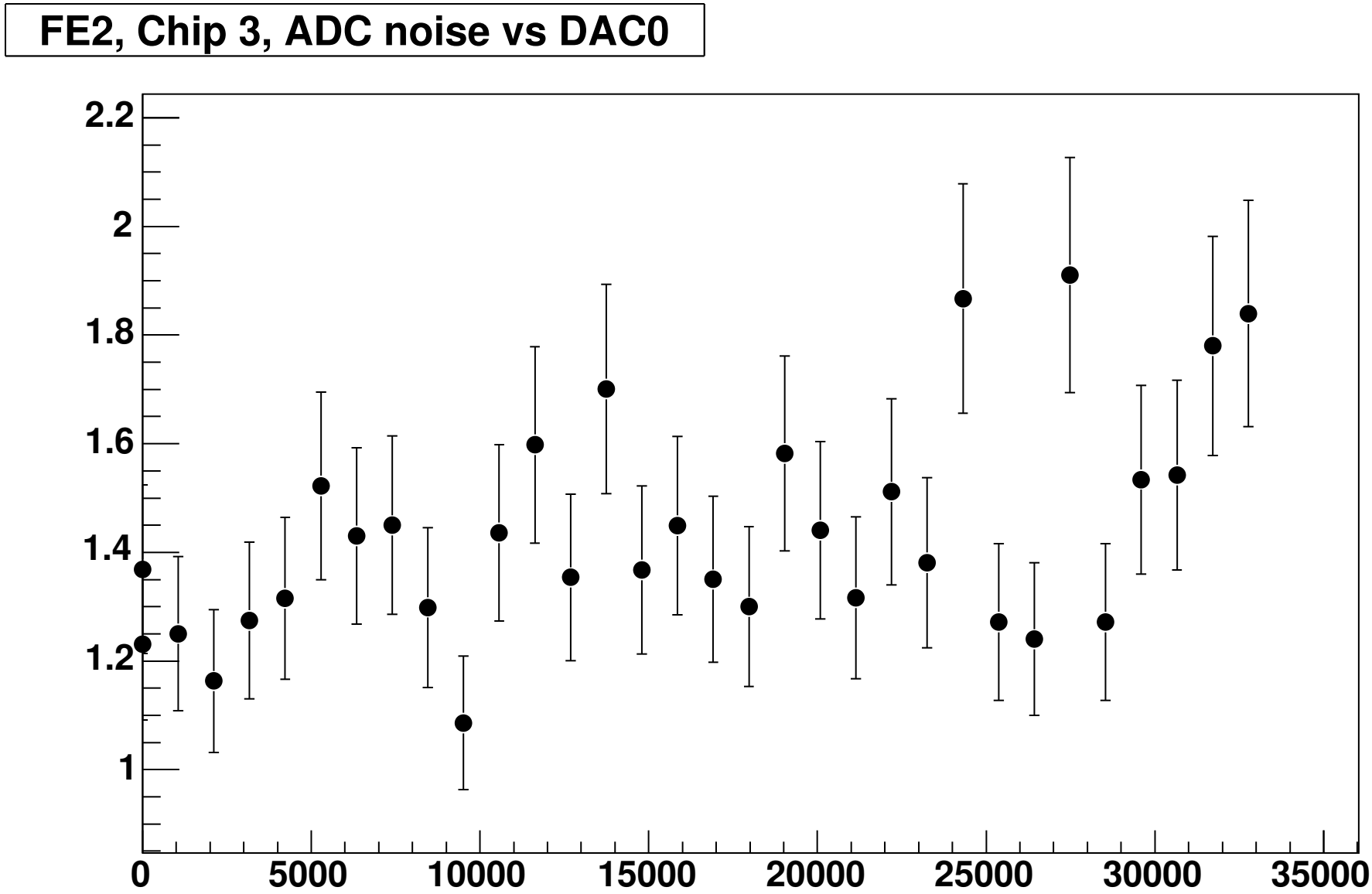

FE2, Chip 2, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

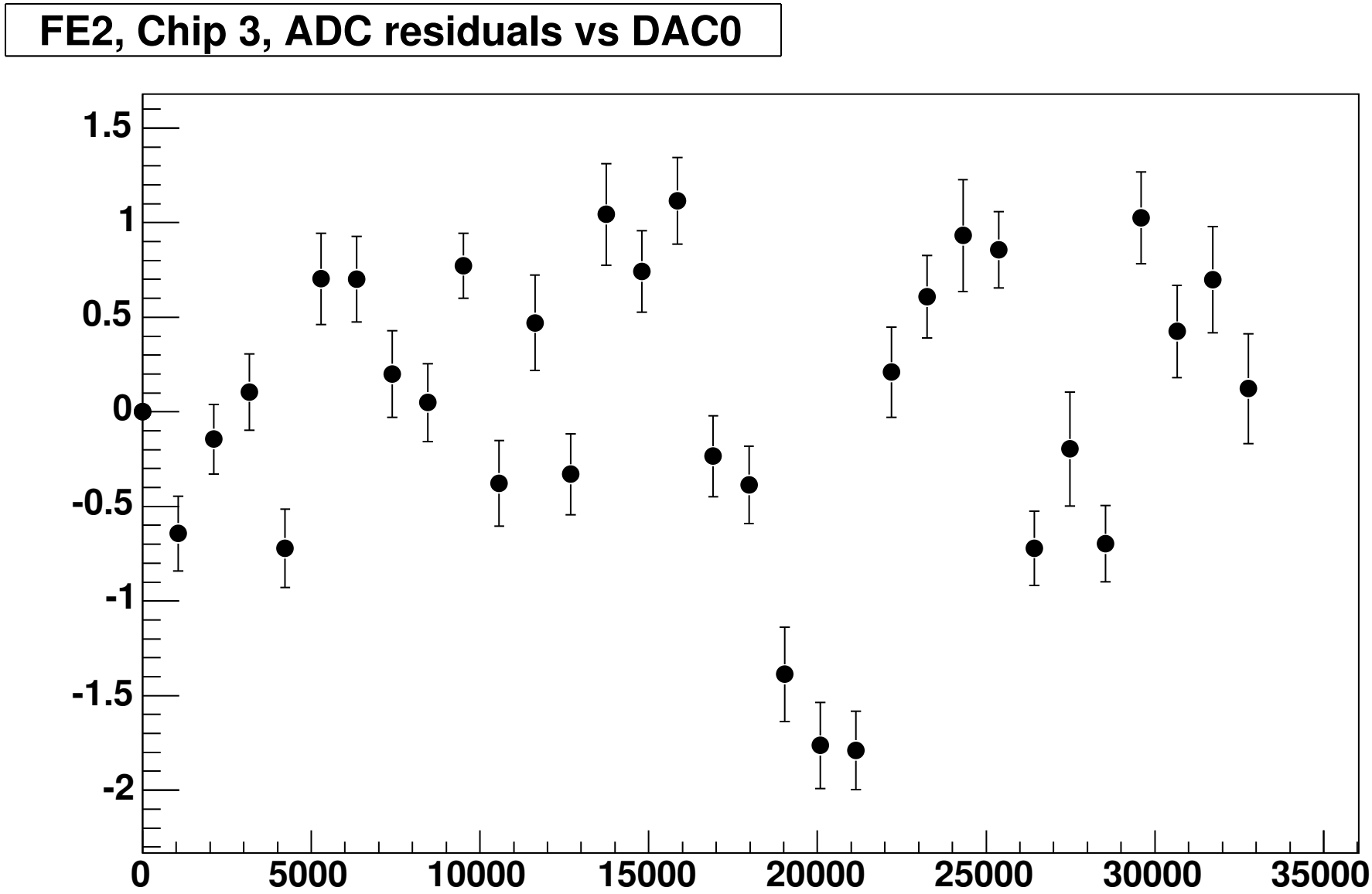

FE2, Chip 2, ADC mean vs DAC1
χ² / ndf 70.16 / 29
p0 198.3 ± 0.06211
p1 1.57e-05 ± 3.337e-06
199.5
199
198.5
198
197.5
0
5000
10000
15000
20000
25000
30000
35000

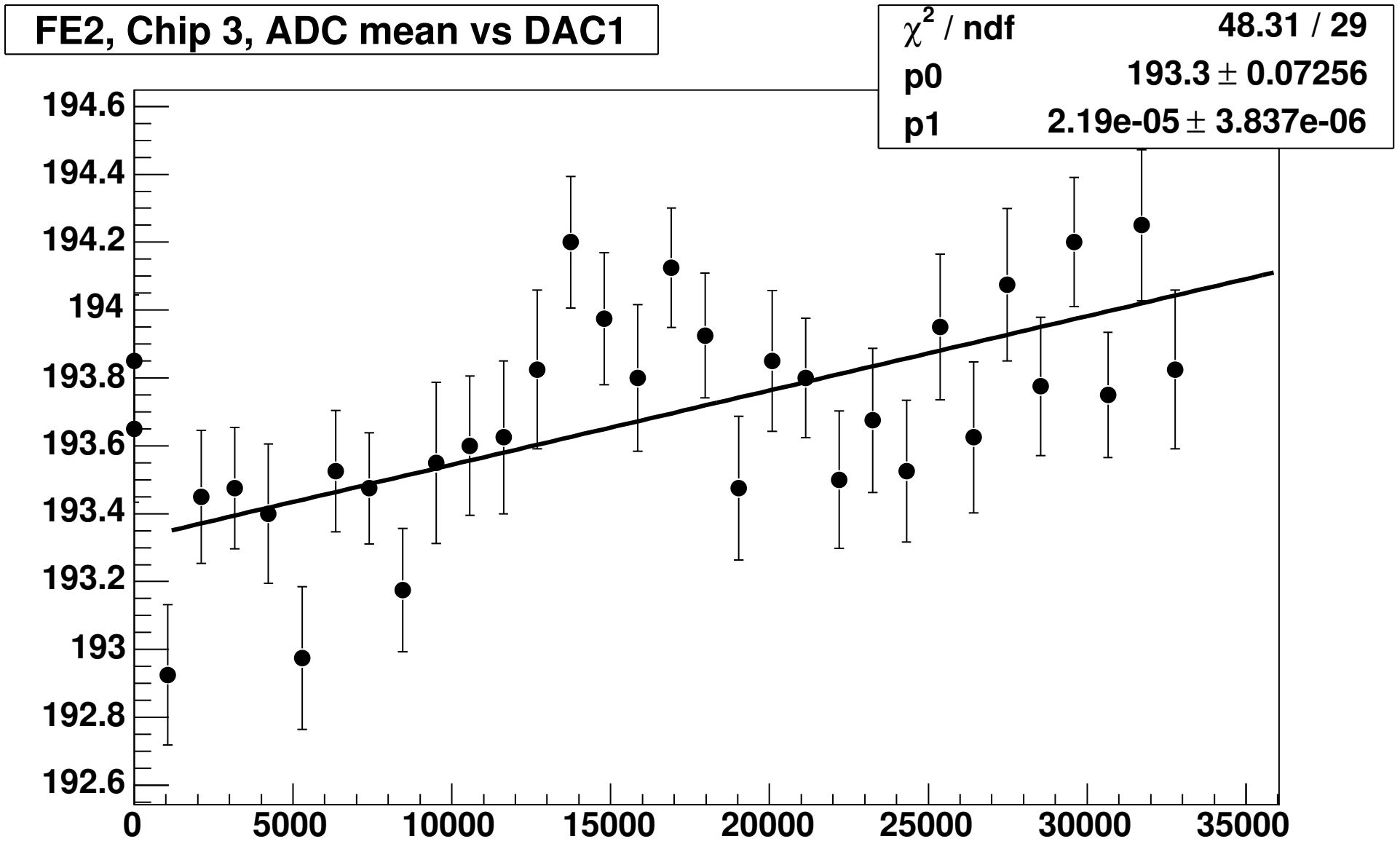

FE2, Chip 2, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

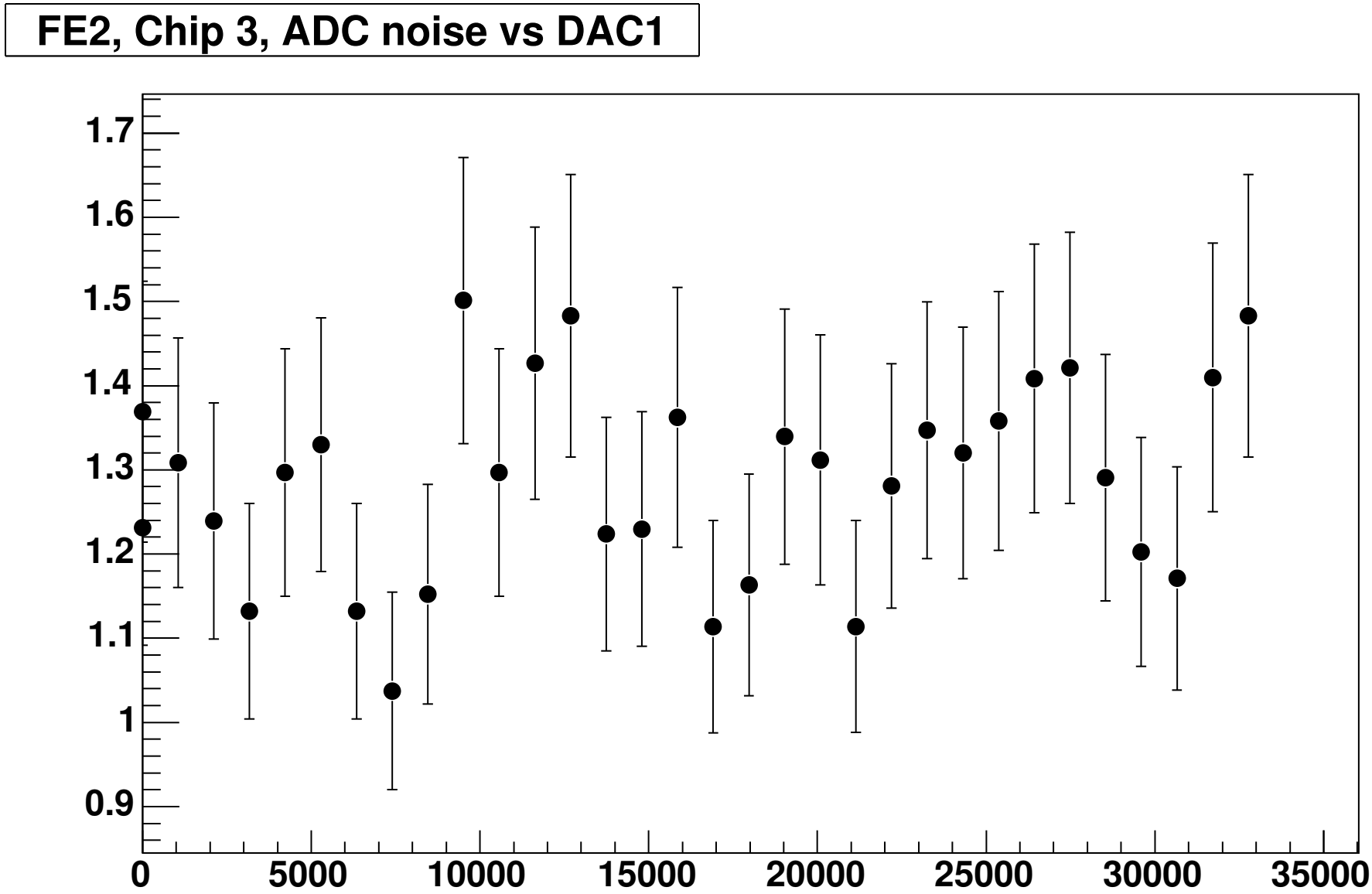

FE2, Chip 2, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

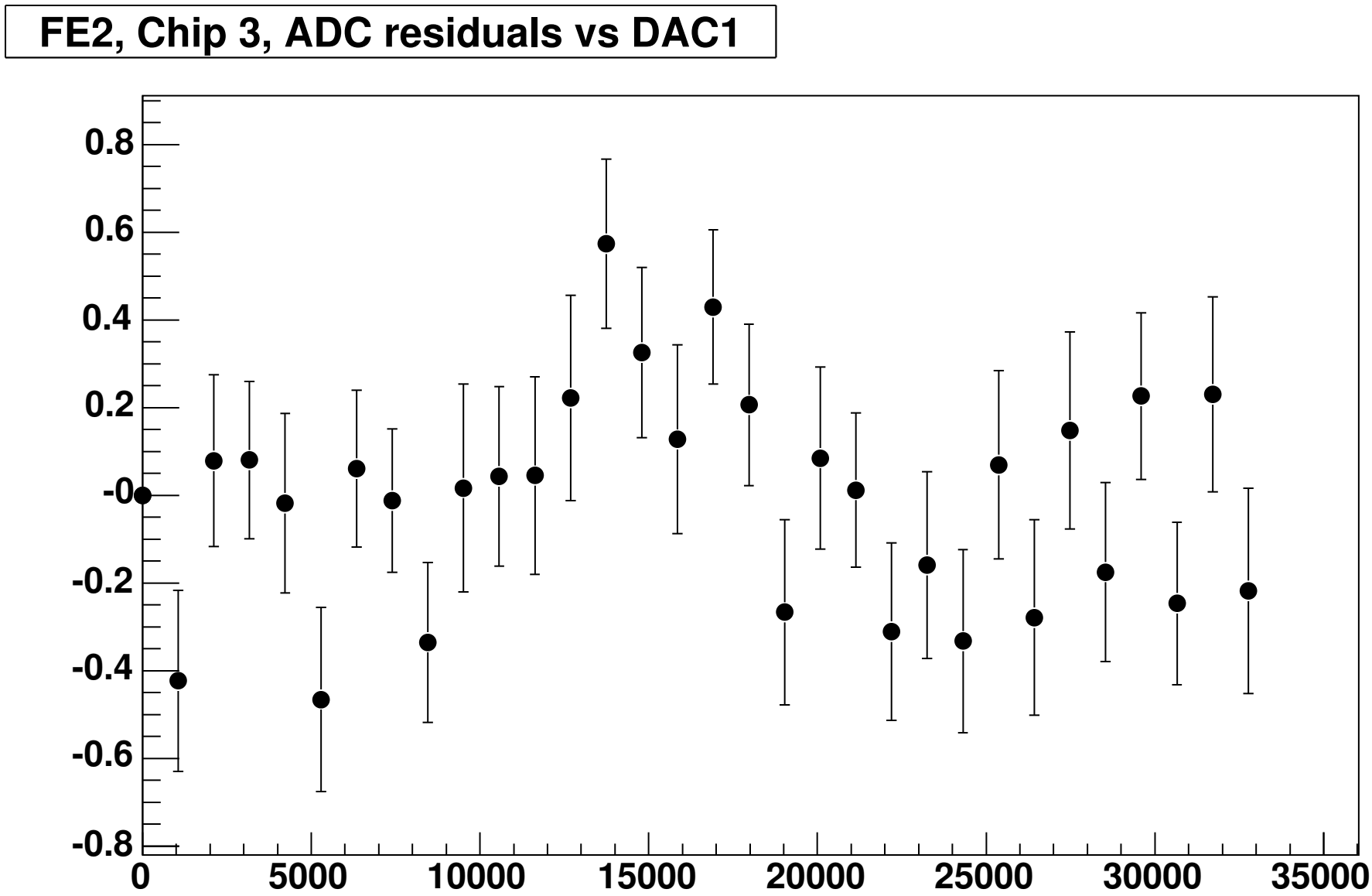

FE2, Chip 3, ADC mean vs DAC0
χ² / ndf 381 / 29
p0 39.17 ± 0.07818
p1 0.4593 ± 4.26e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

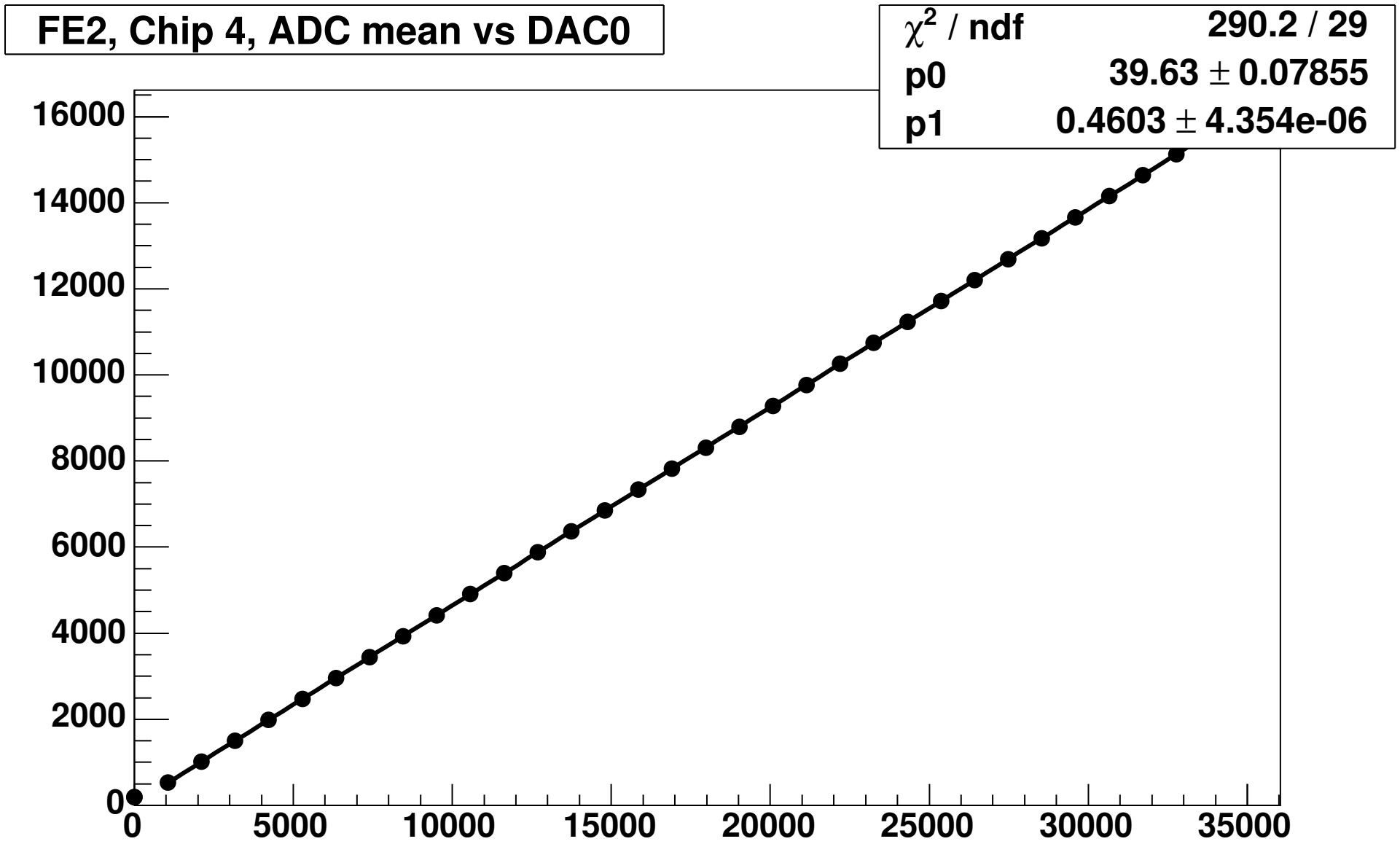

FE2, Chip 3, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

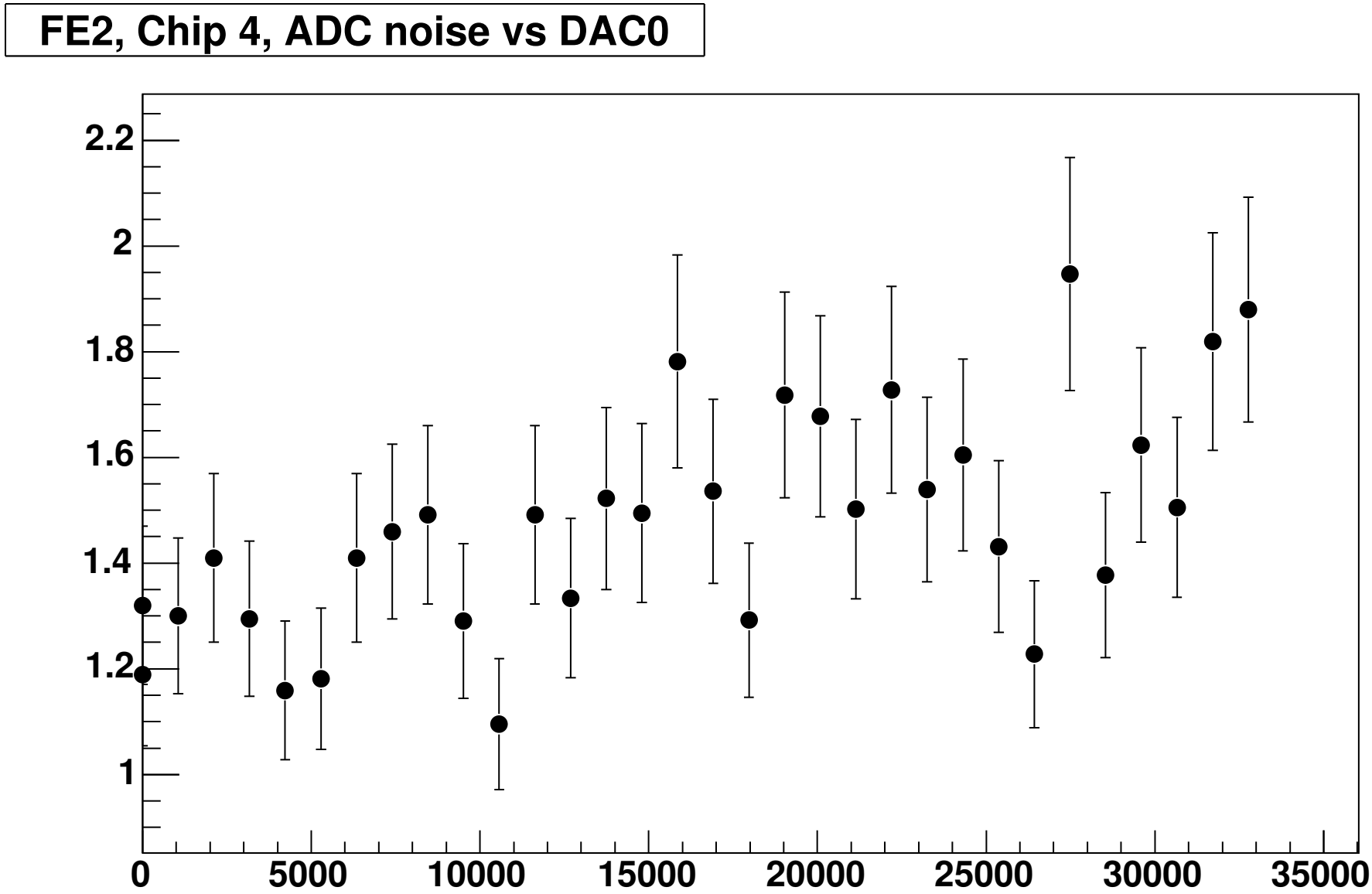

FE2, Chip 3, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

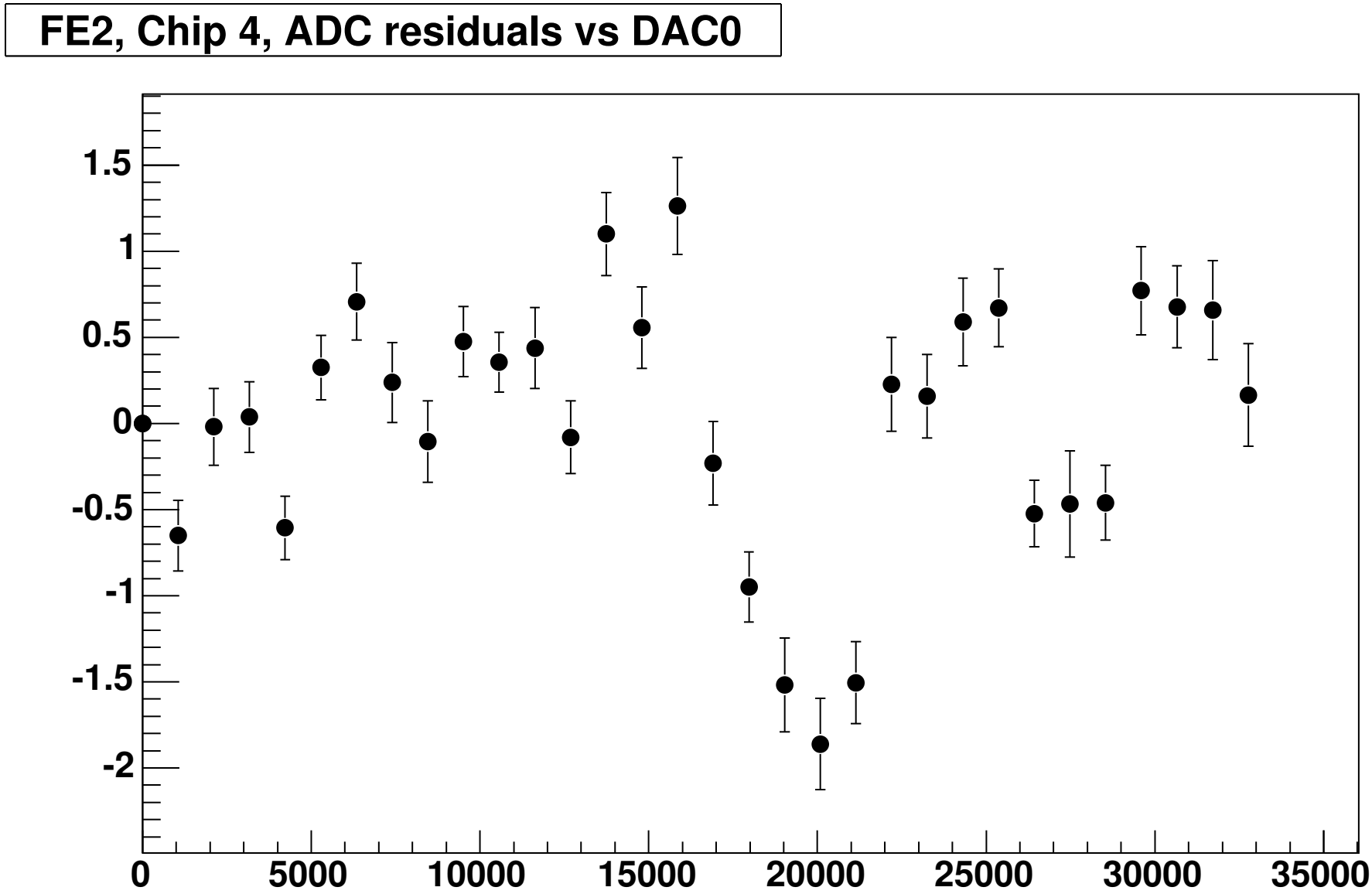

FE2, Chip 3, ADC mean vs DAC1
χ² / ndf 48.31 / 29
p0 193.3 ± 0.07256
p1 2.19e-05 ± 3.837e-06
194.6
194.4
194.2
194
193.8
193.6
193.4
193.2
193
192.8
192.6
0
5000
10000
15000
20000
25000
30000
35000

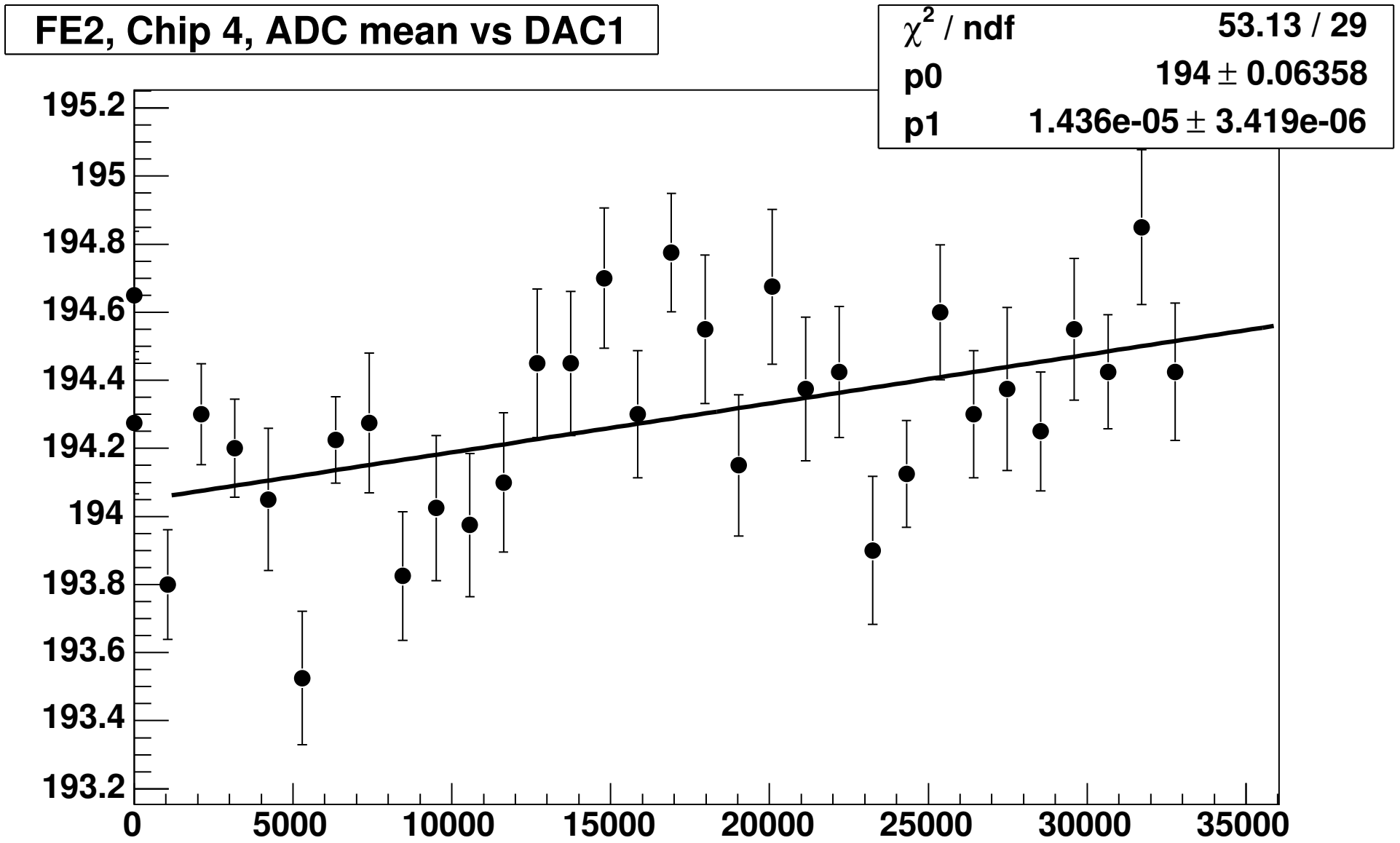

FE2, Chip 3, ADC noise vs DAC1
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0
5000
10000
15000
20000
25000
30000
35000

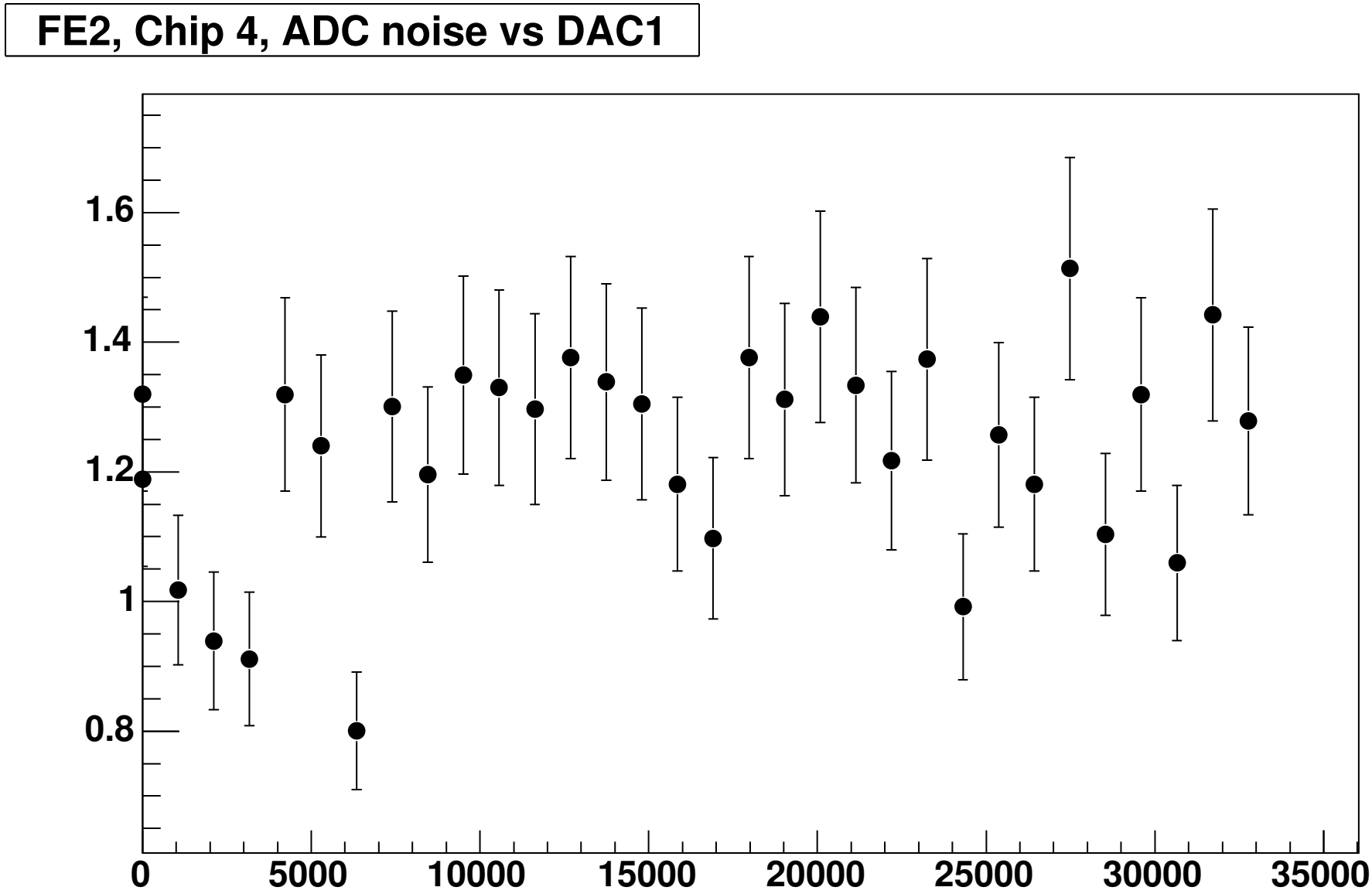

FE2, Chip 3, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

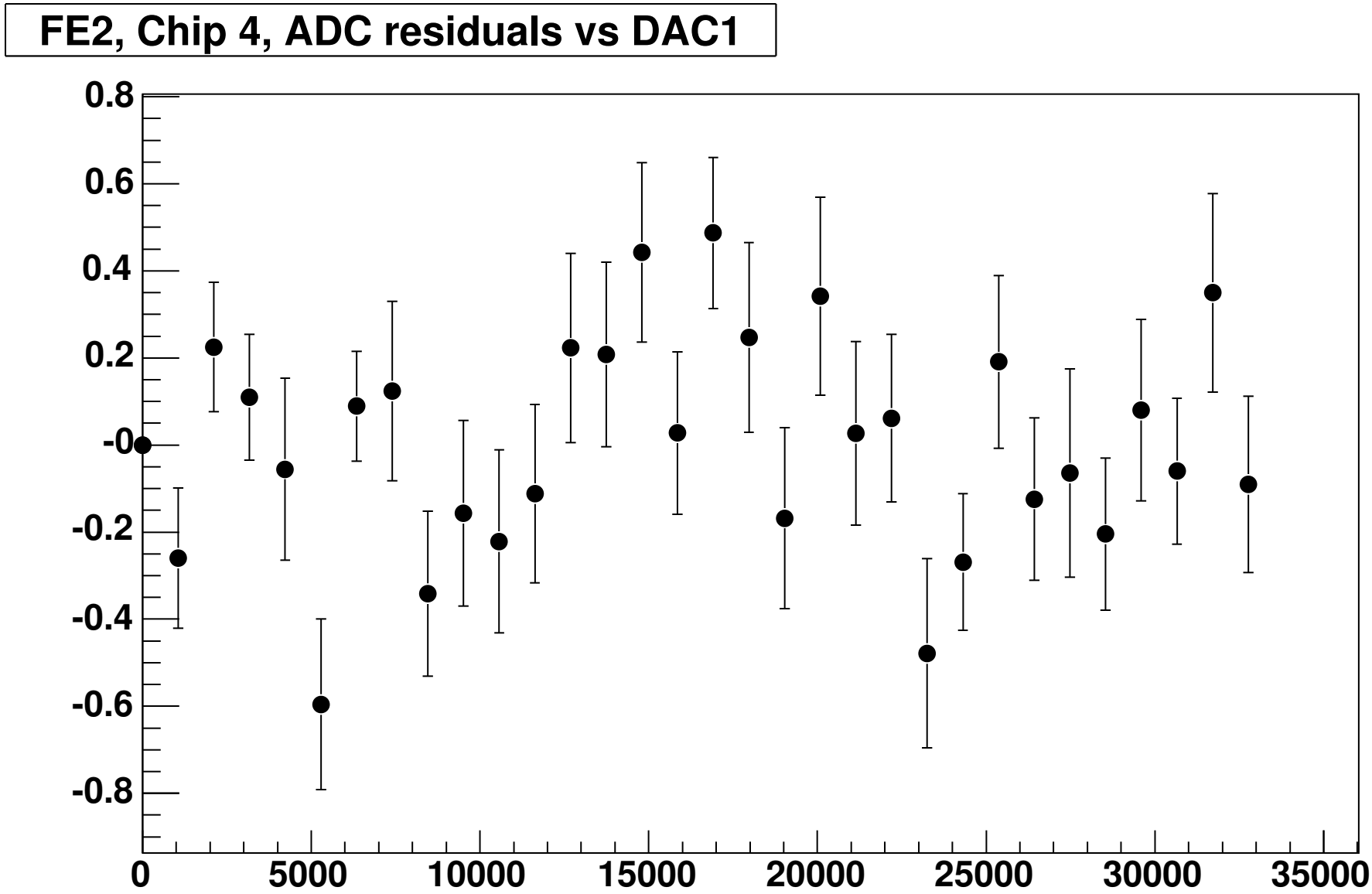

FE2, Chip 4, ADC mean vs DAC0
χ² / ndf 290.2 / 29
p0 39.63 ± 0.07855
p1 0.4603 ± 4.354e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

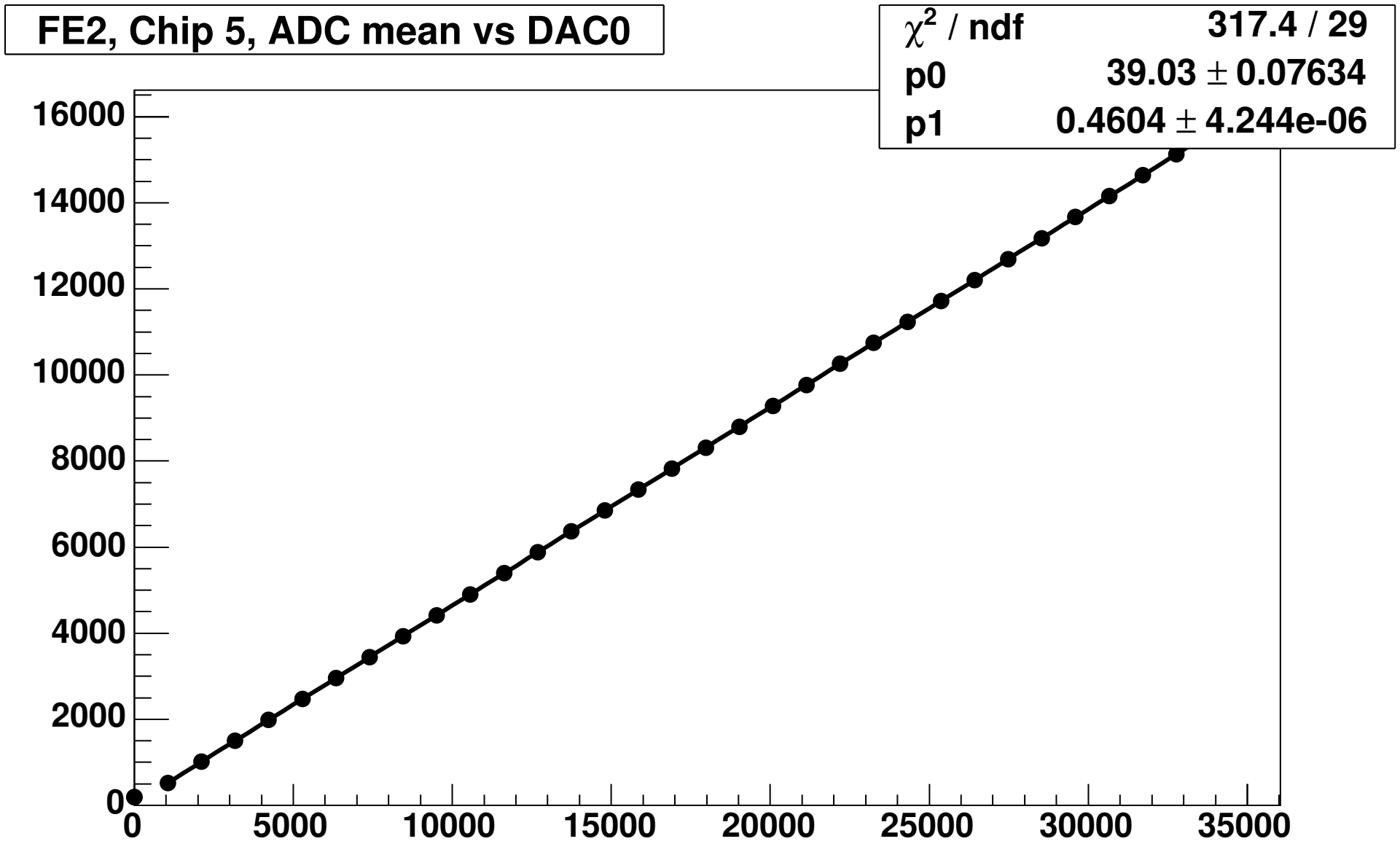

FE2, Chip 4, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

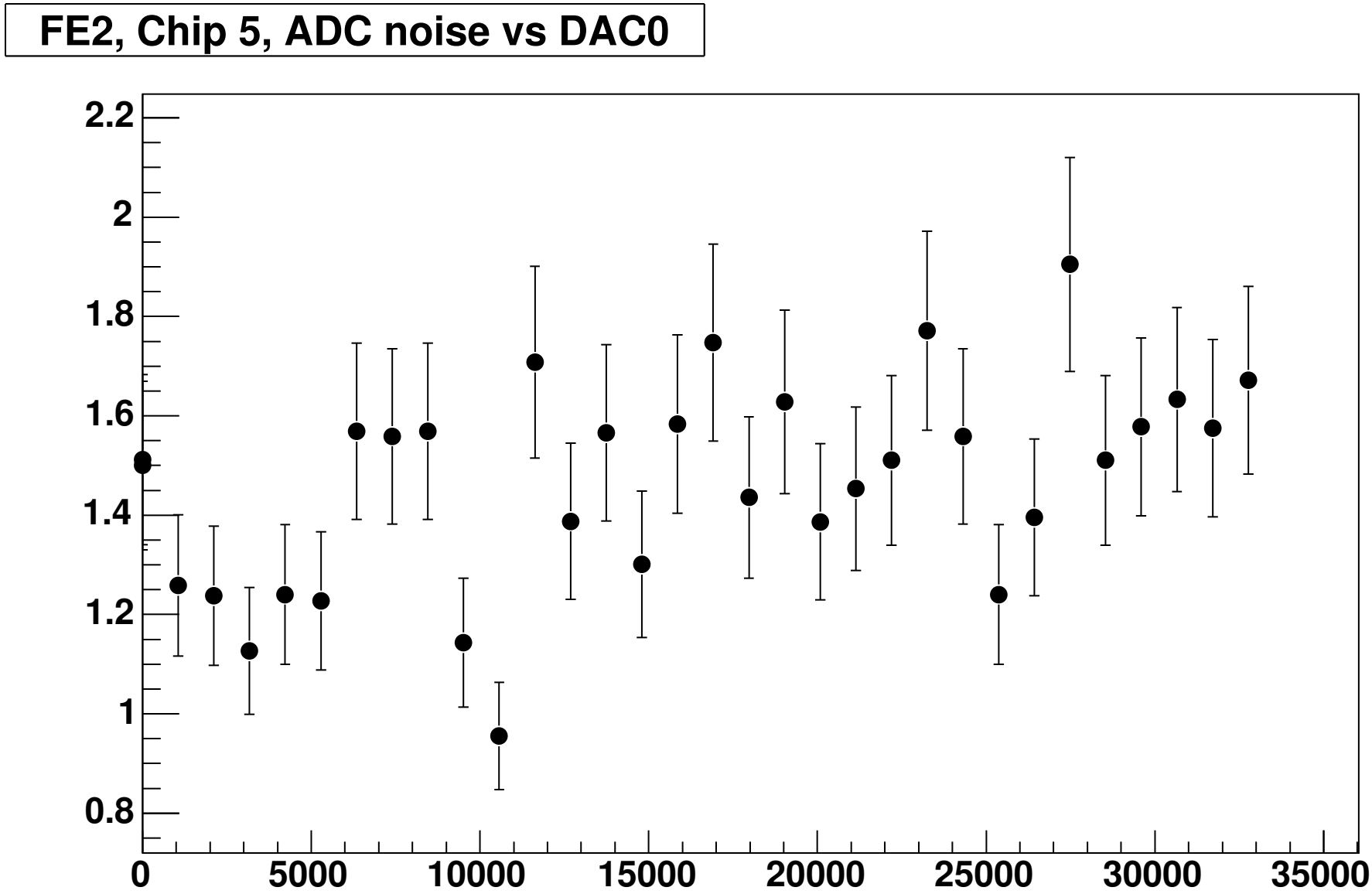

FE2, Chip 4, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

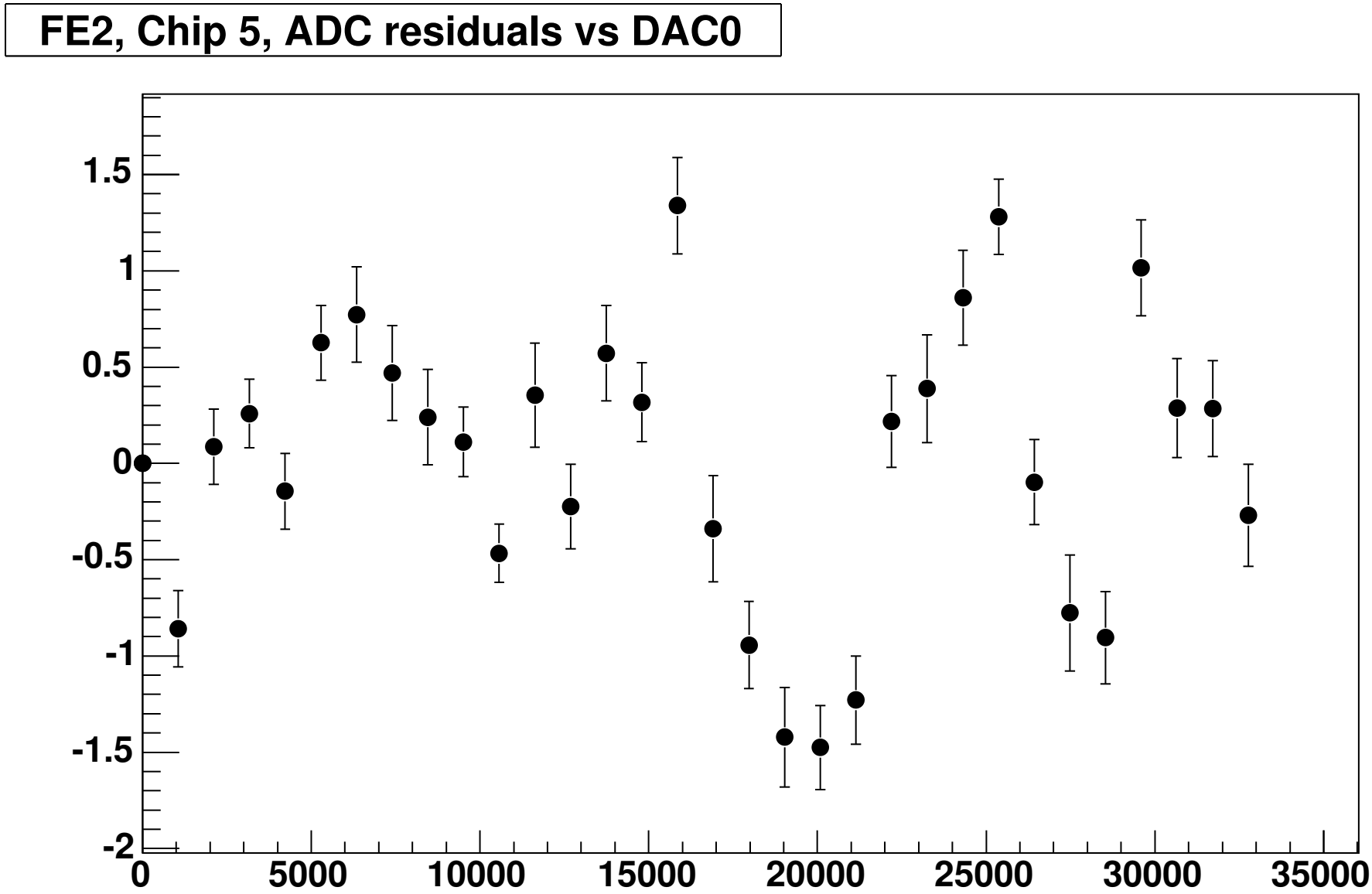

FE2, Chip 4, ADC mean vs DAC1
χ² / ndf 53.13 / 29
p0 194 ± 0.06358
p1 1.436e-05 ± 3.419e-06
195.2
195
194.8
194.6
194.4
194.2
194
193.8
193.6
193.4
193.2
0
5000
10000
15000
20000
25000
30000
35000

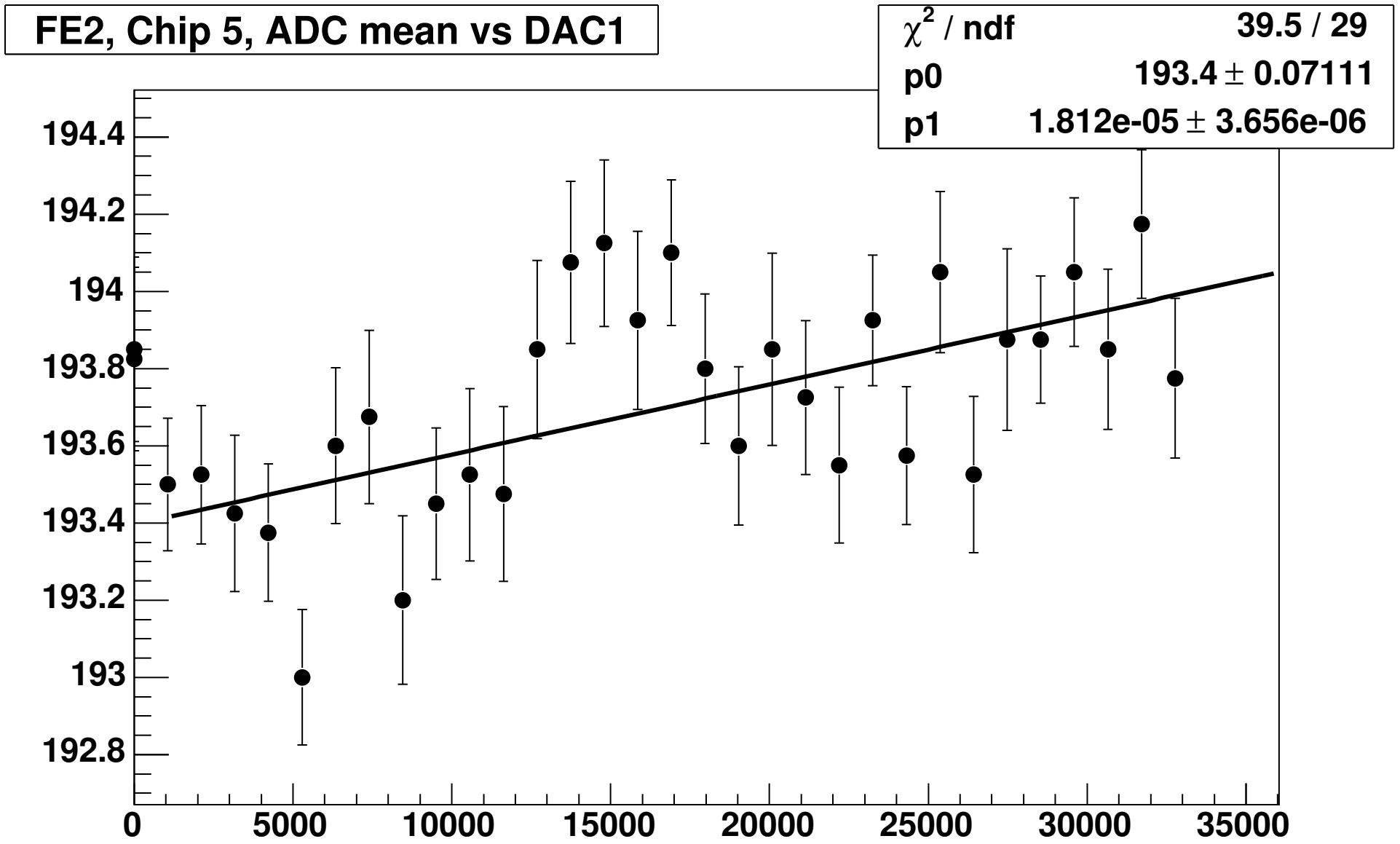

FE2, Chip 4, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

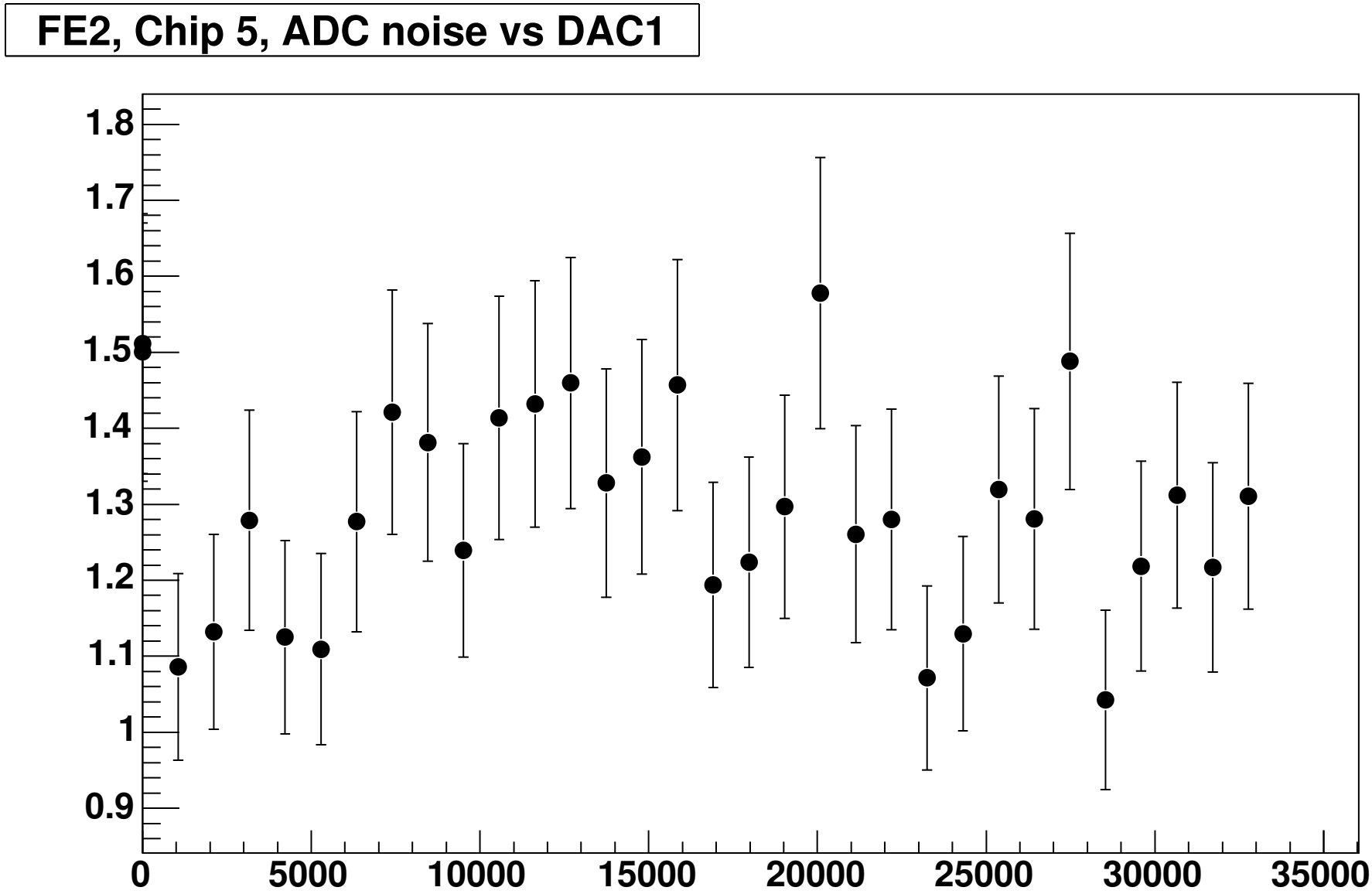

FE2, Chip 4, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

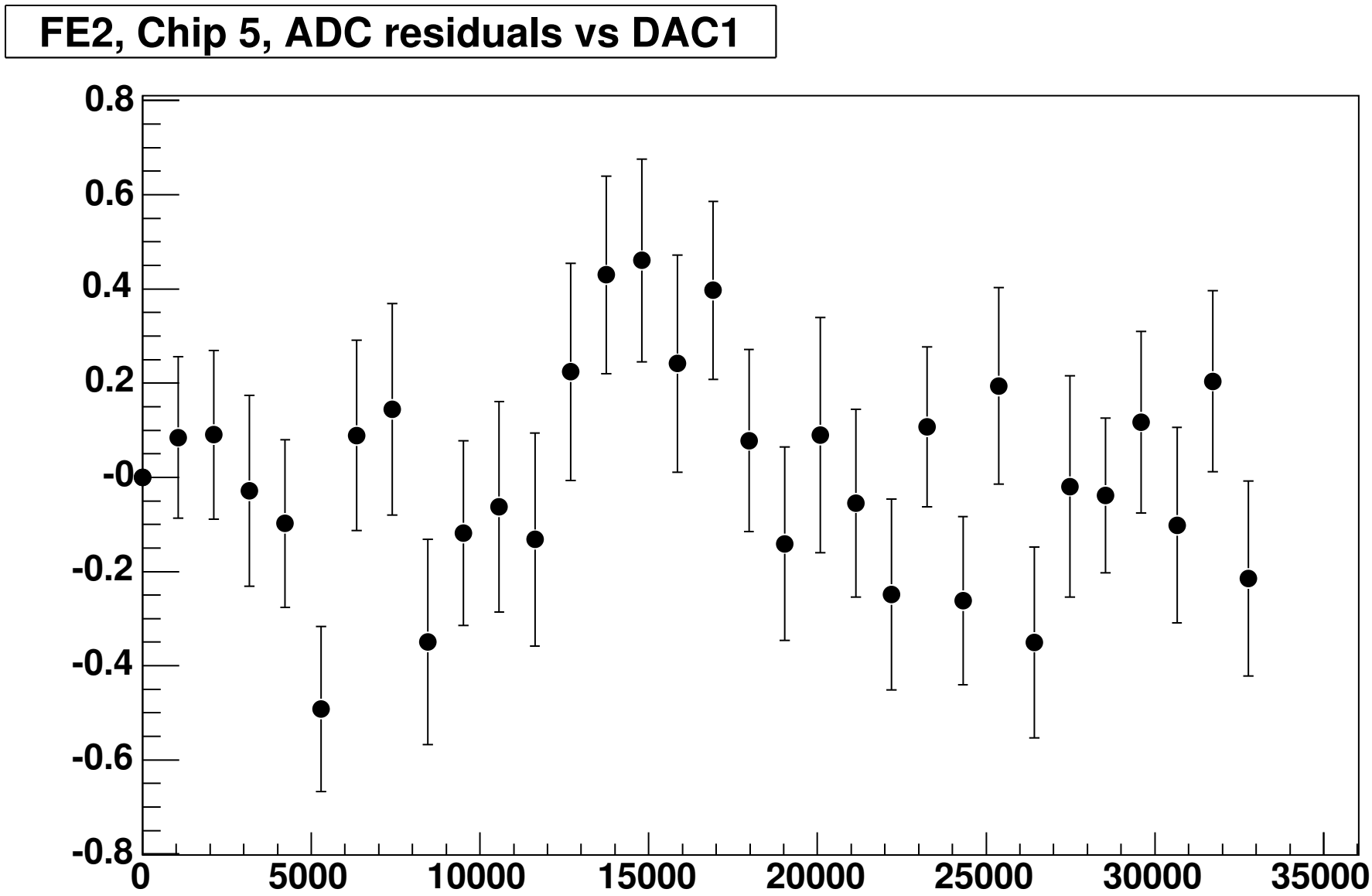

FE2, Chip 5, ADC mean vs DAC0
χ² / ndf 317.4 / 29
p0 39.03 ± 0.07634
p1 0.4604 ± 4.244e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

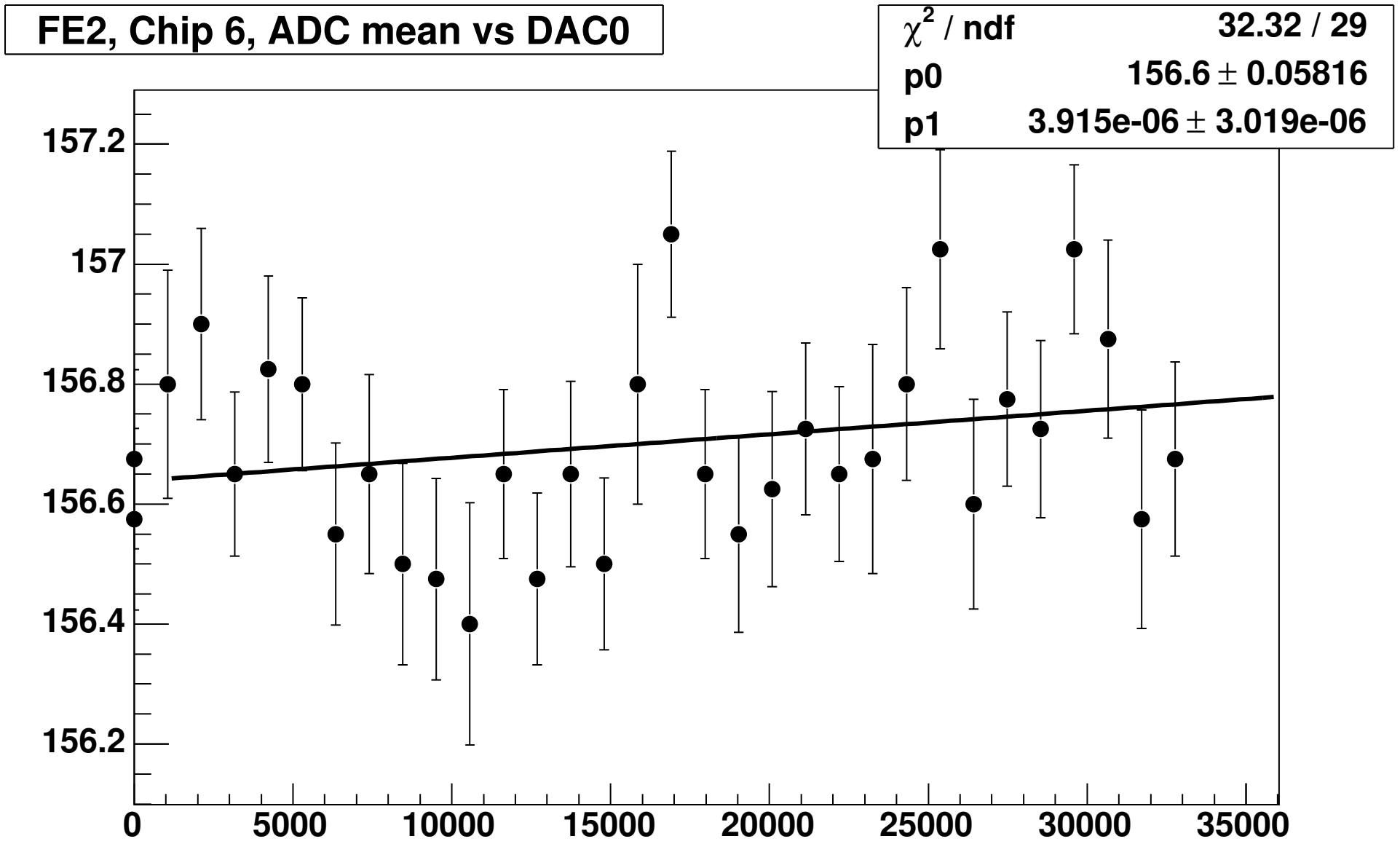

FE2, Chip 5, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

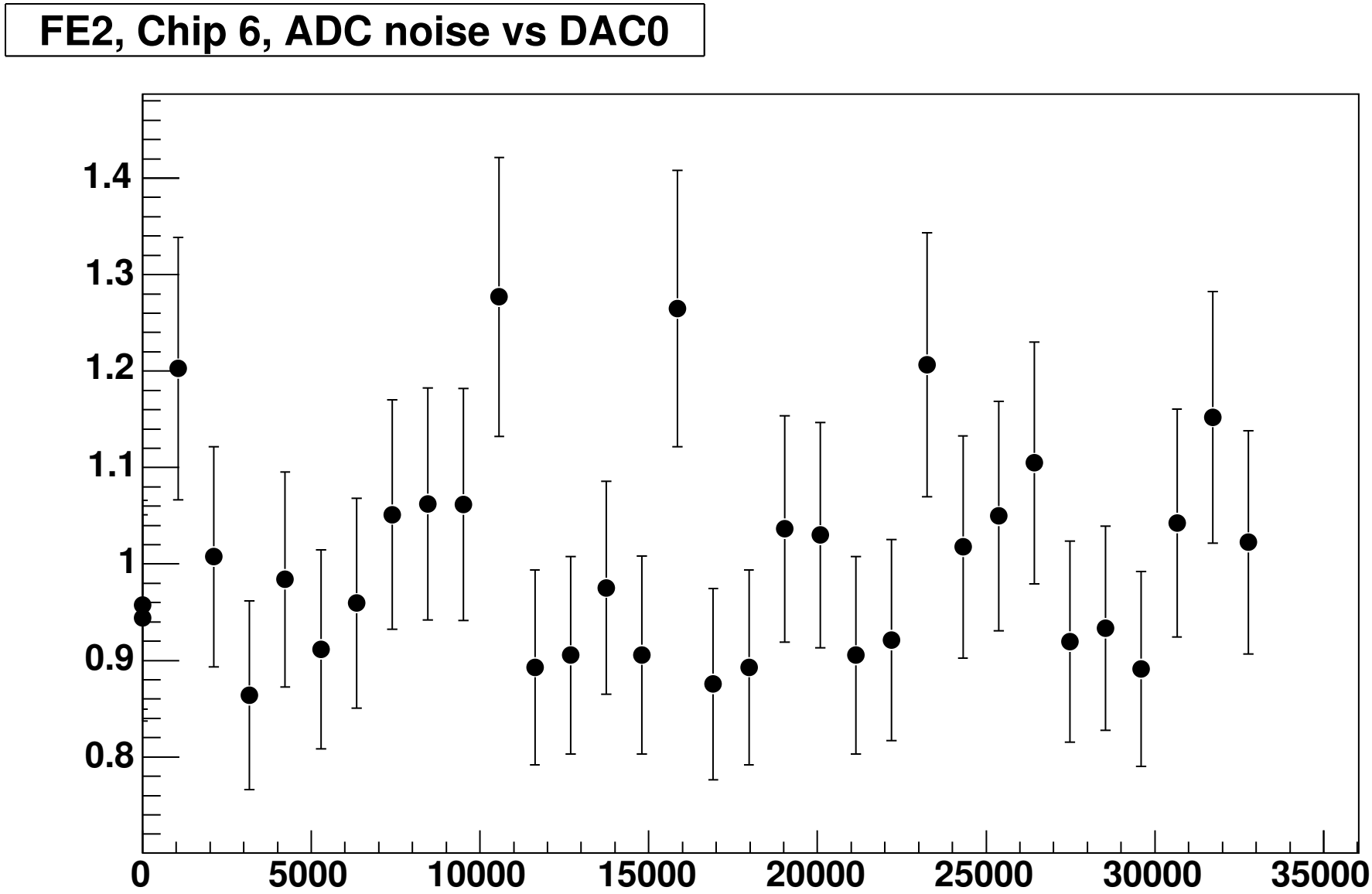

FE2, Chip 5, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

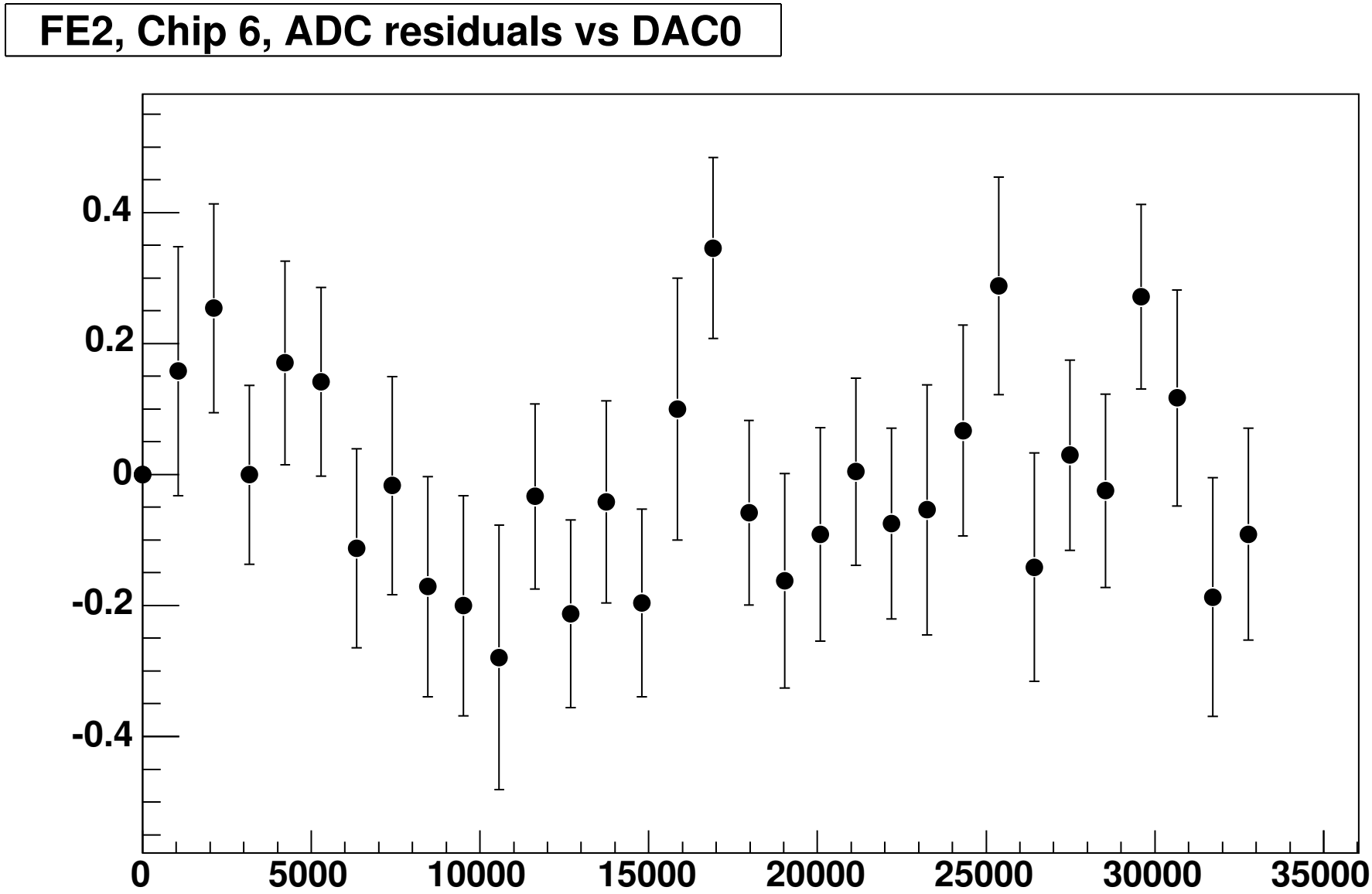

FE2, Chip 5, ADC mean vs DAC1
χ² / ndf 39.5 / 29
p0 193.4 ± 0.07111
p1 1.812e-05 ± 3.656e-06
194.4
194.2
194
193.8
193.6
193.4
193.2
193
192.8
0
5000
10000
15000
20000
25000
30000
35000

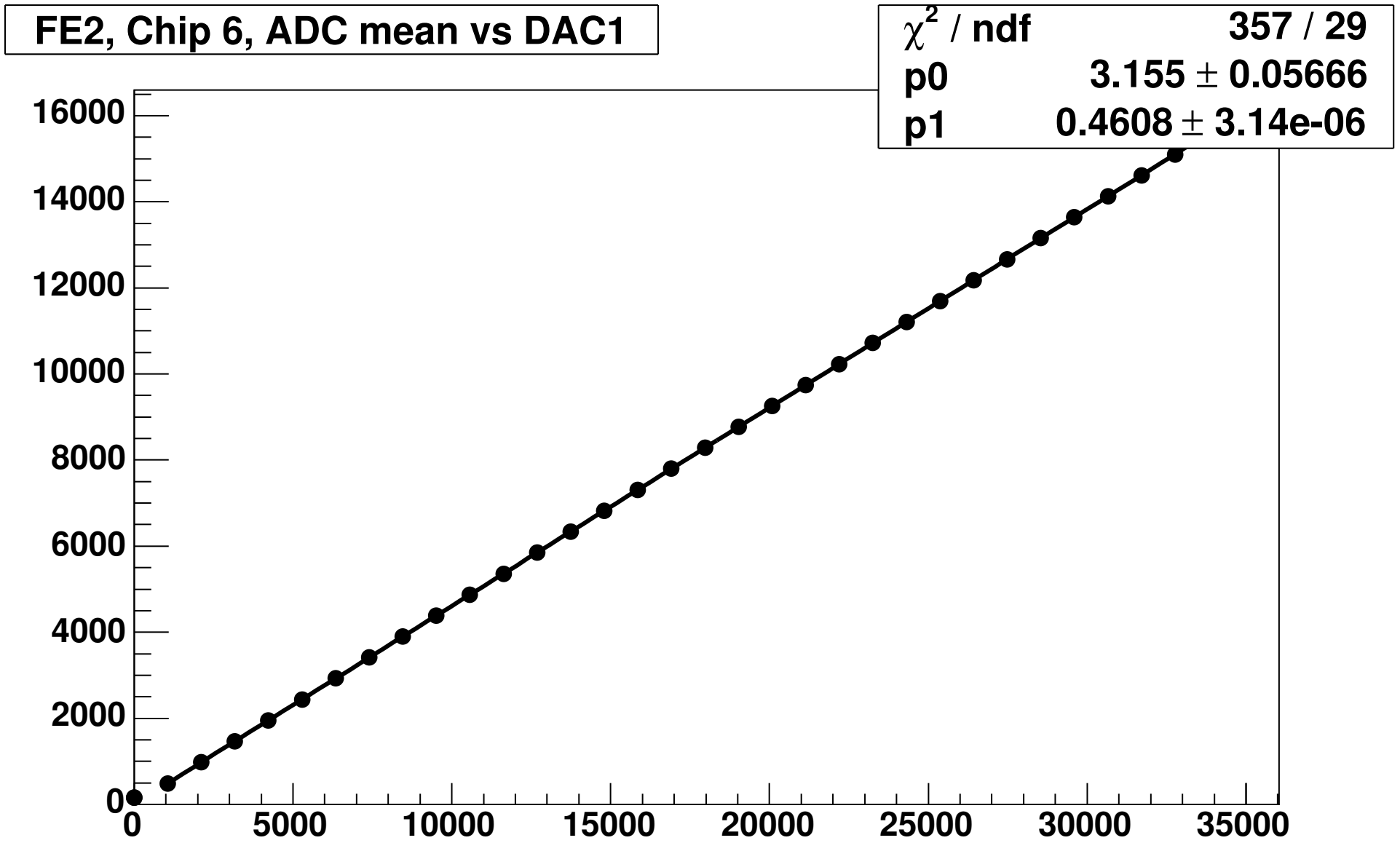

FE2, Chip 5, ADC noise vs DAC1
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0
5000
10000
15000
20000
25000
30000
35000


FE2, Chip 5, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

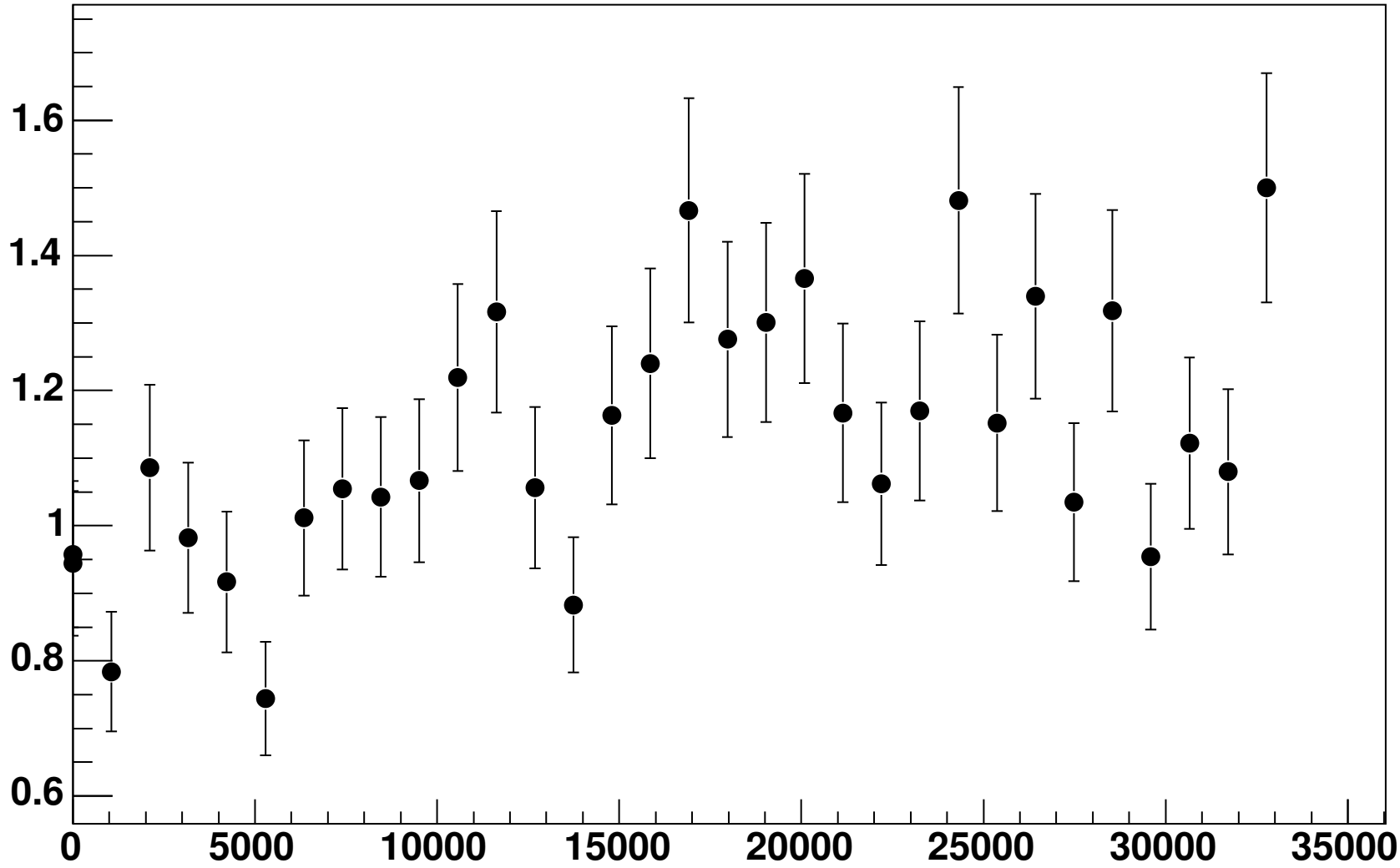

FE2, Chip 6, ADC mean vs DAC0
χ² / ndf 32.32 / 29
p0 156.6 ± 0.05816
p1 3.915e-06 ± 3.019e-06
157.2
157
156.8
156.6
156.4
156.2
0
5000
10000
15000
20000
25000
30000
35000

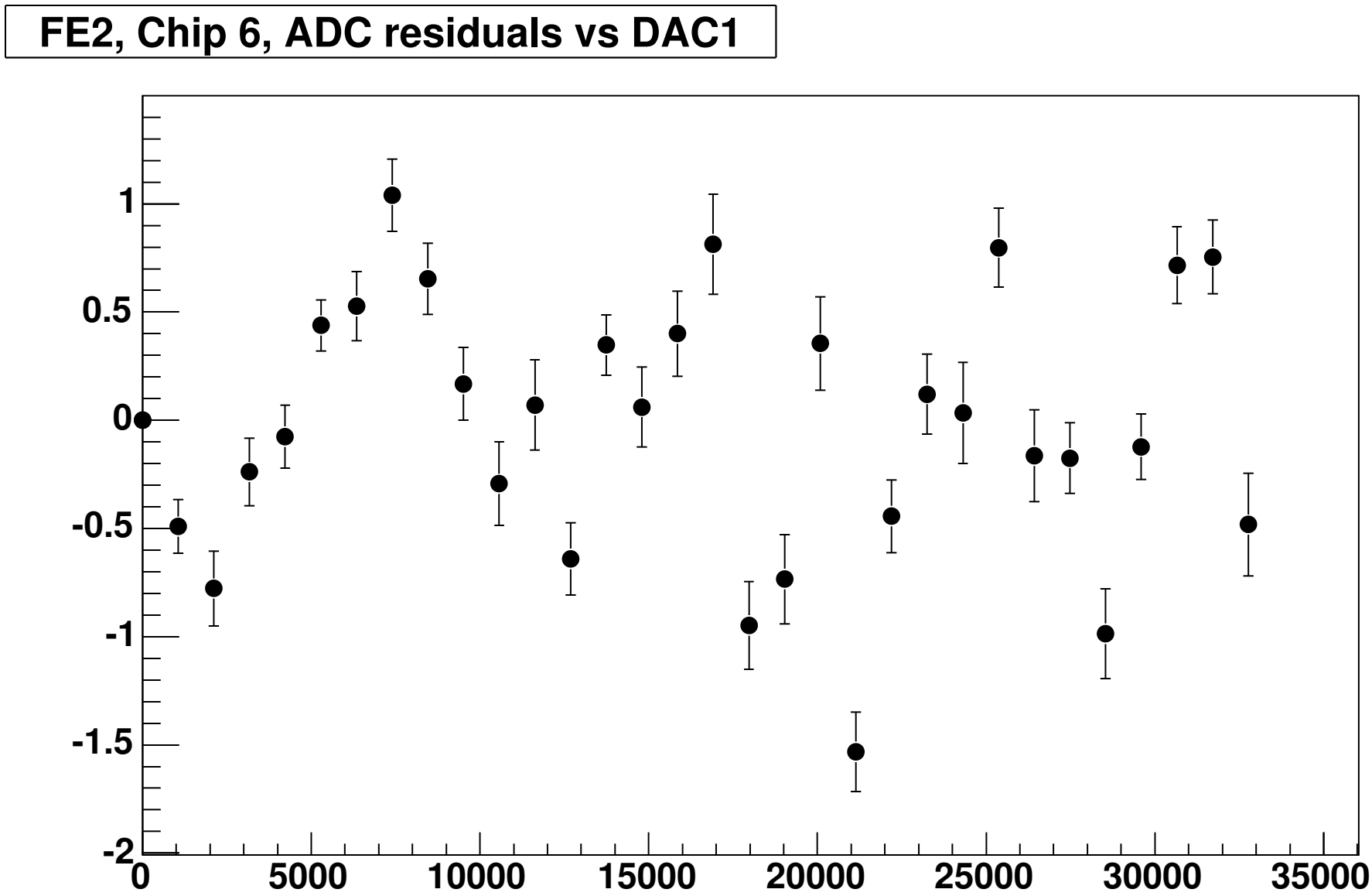

FE2, Chip 6, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0
5000
10000
15000
20000
25000
30000
35000

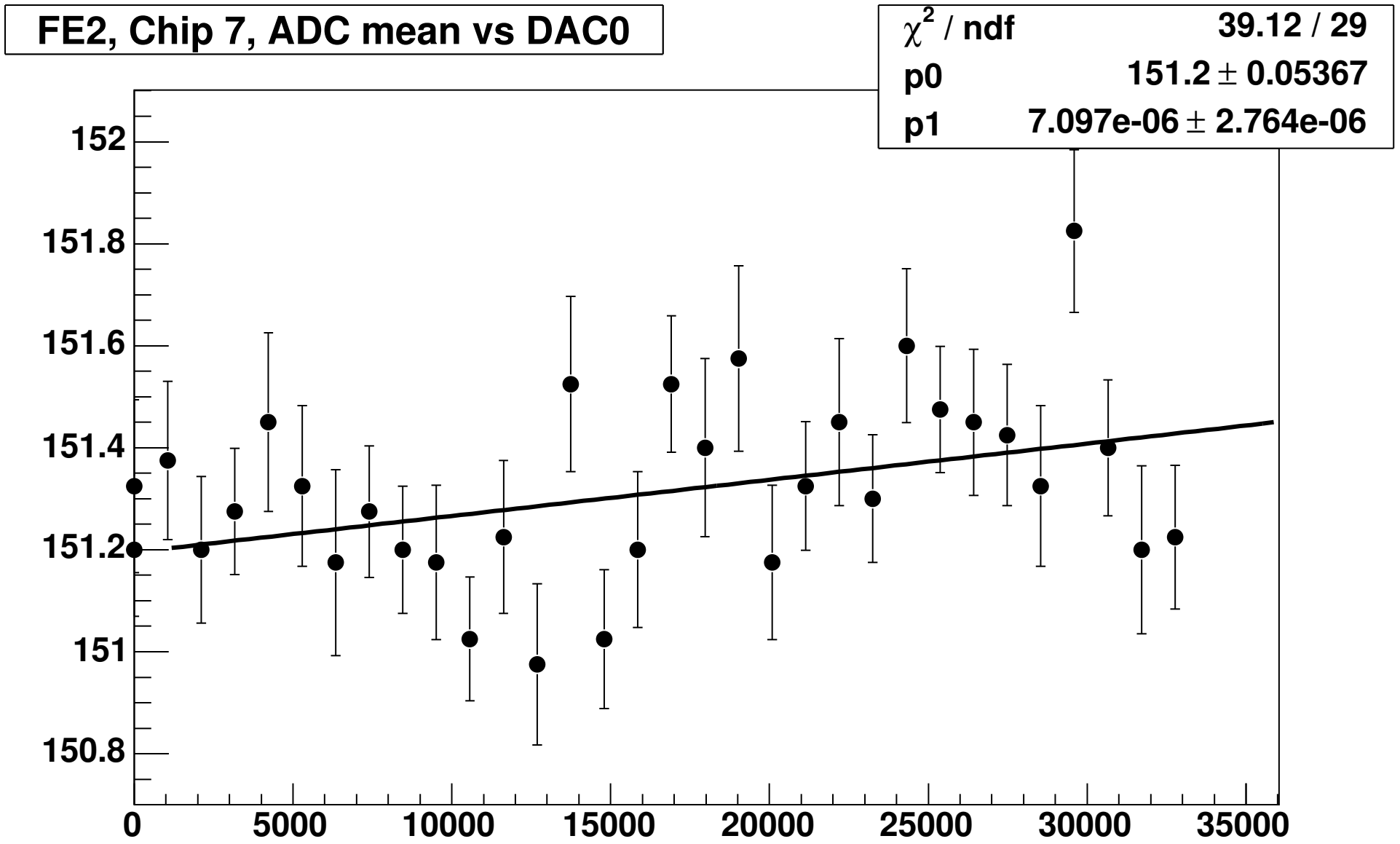

FE2, Chip 6, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

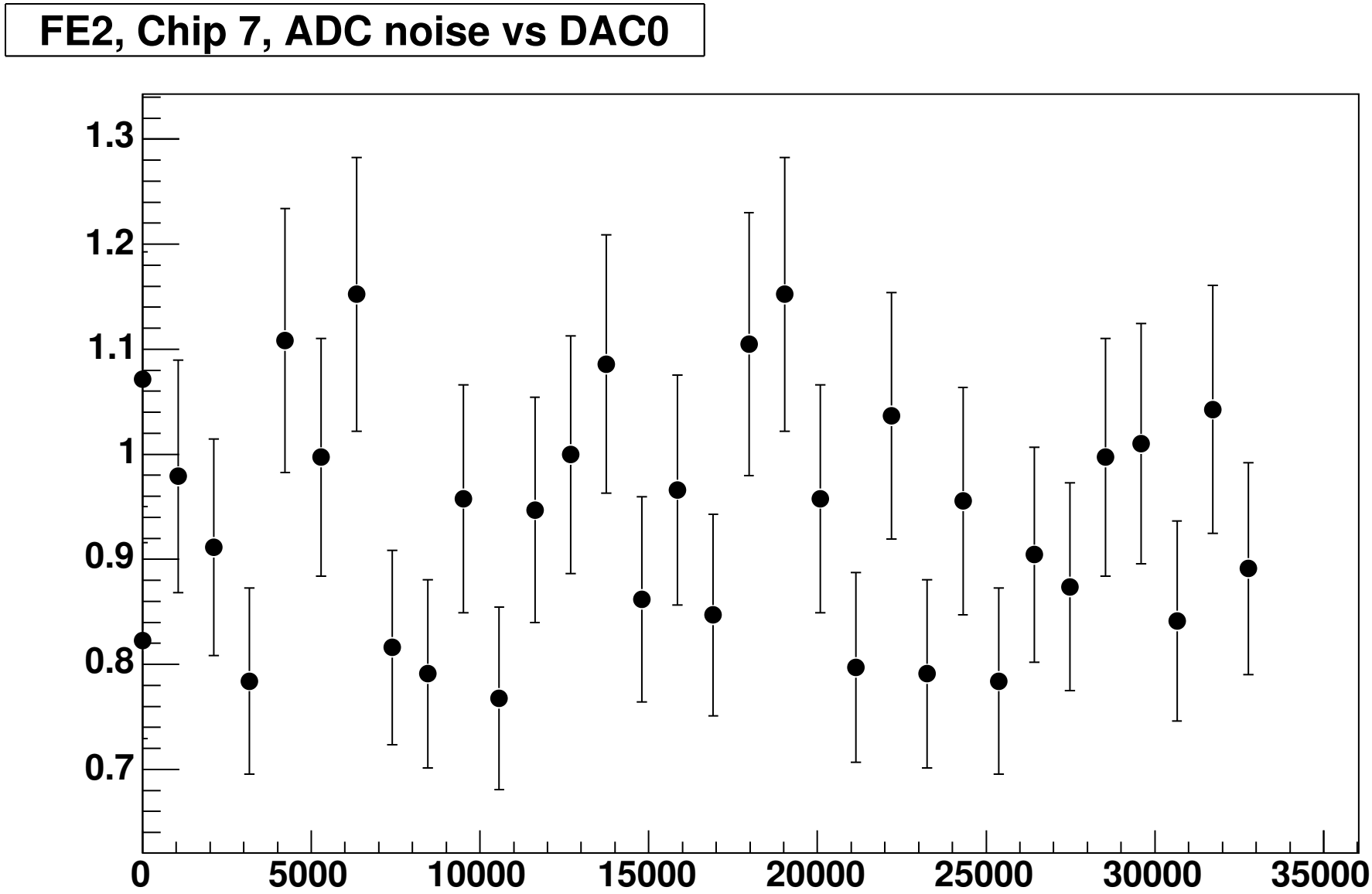

FE2, Chip 6, ADC mean vs DAC1
χ² / ndf 357 / 29
p0 3.155 ± 0.05666
p1 0.4608 ± 3.14e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

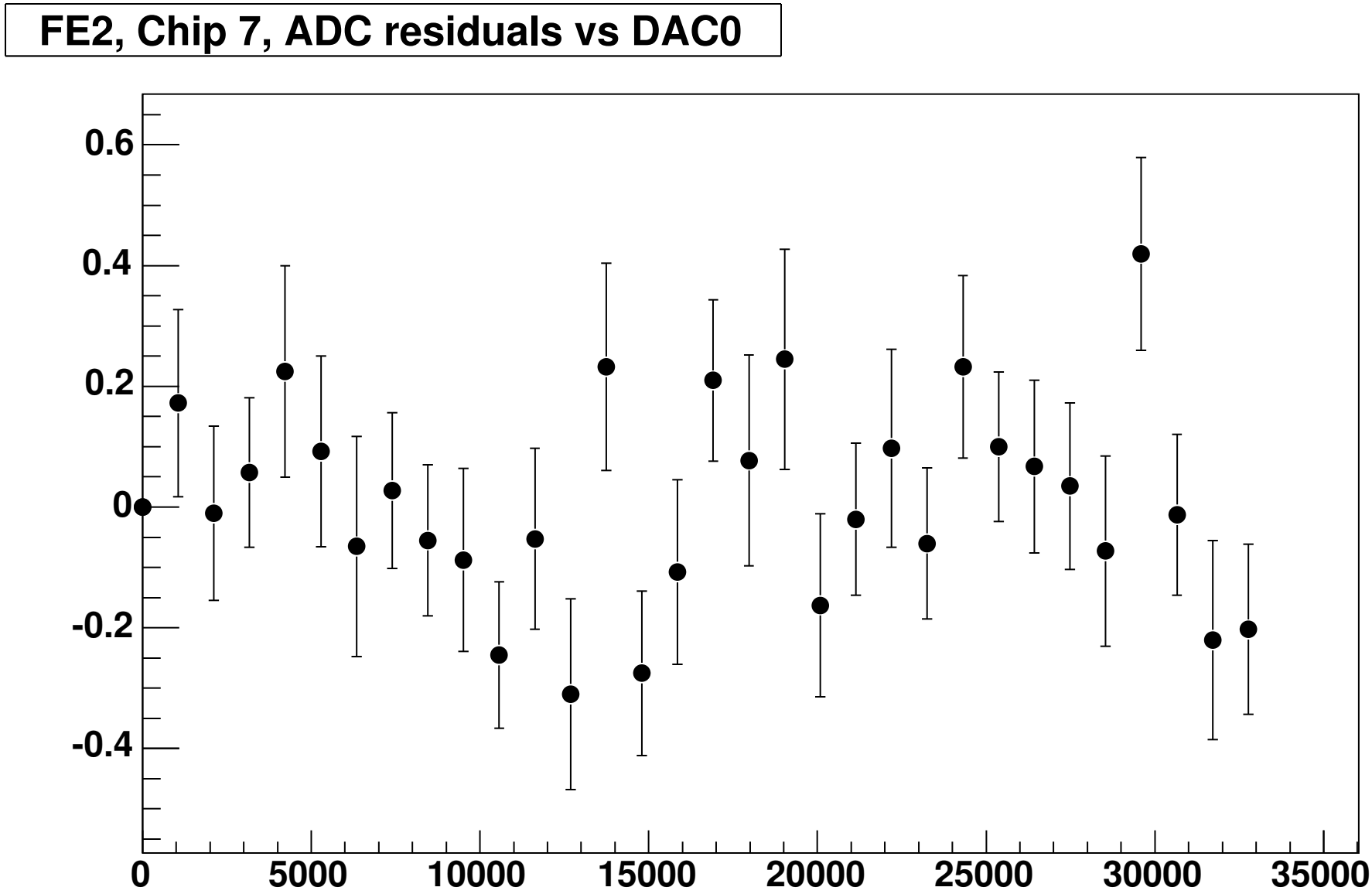
FE2, Chip 6, ADC noise vs DAC1

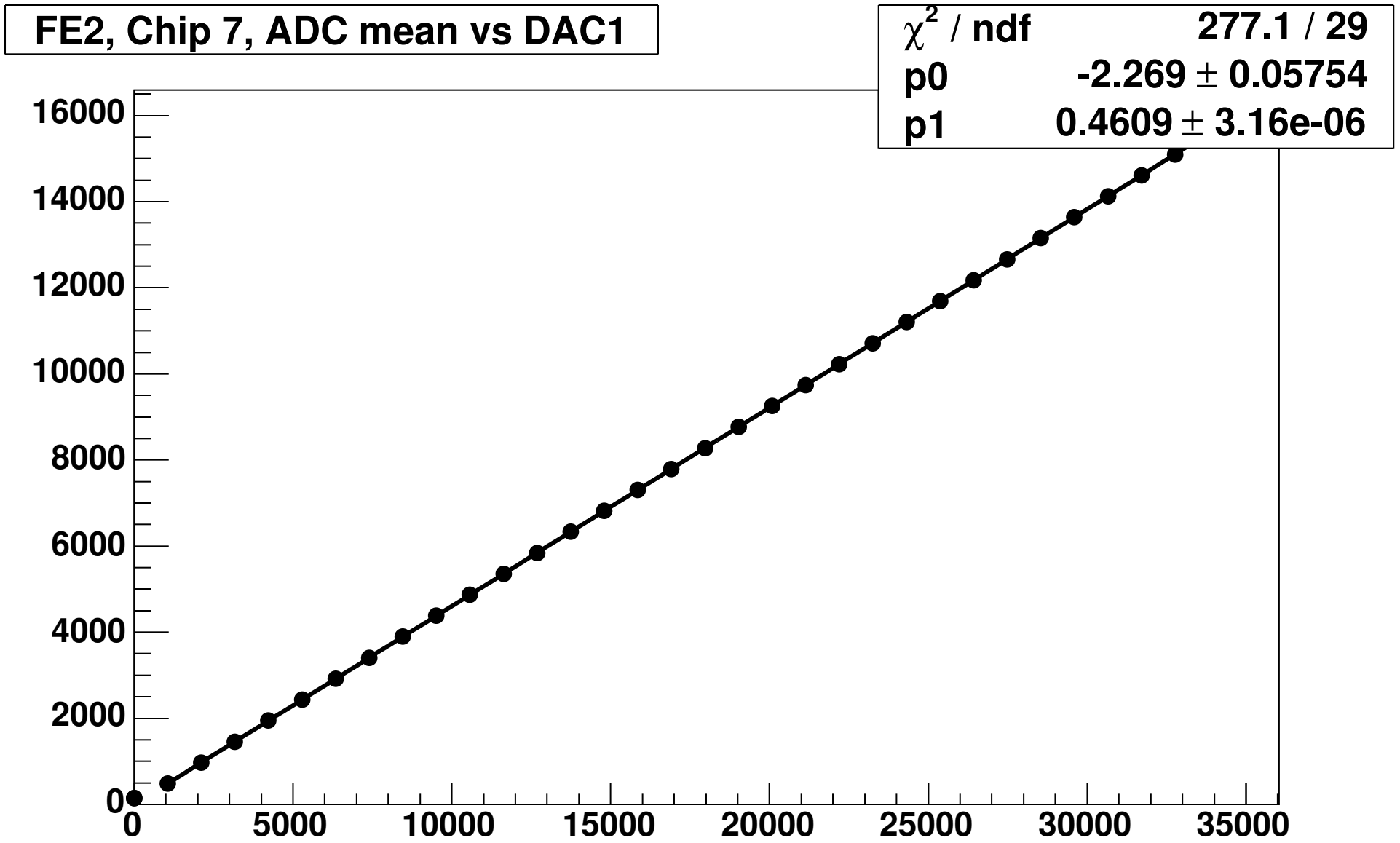


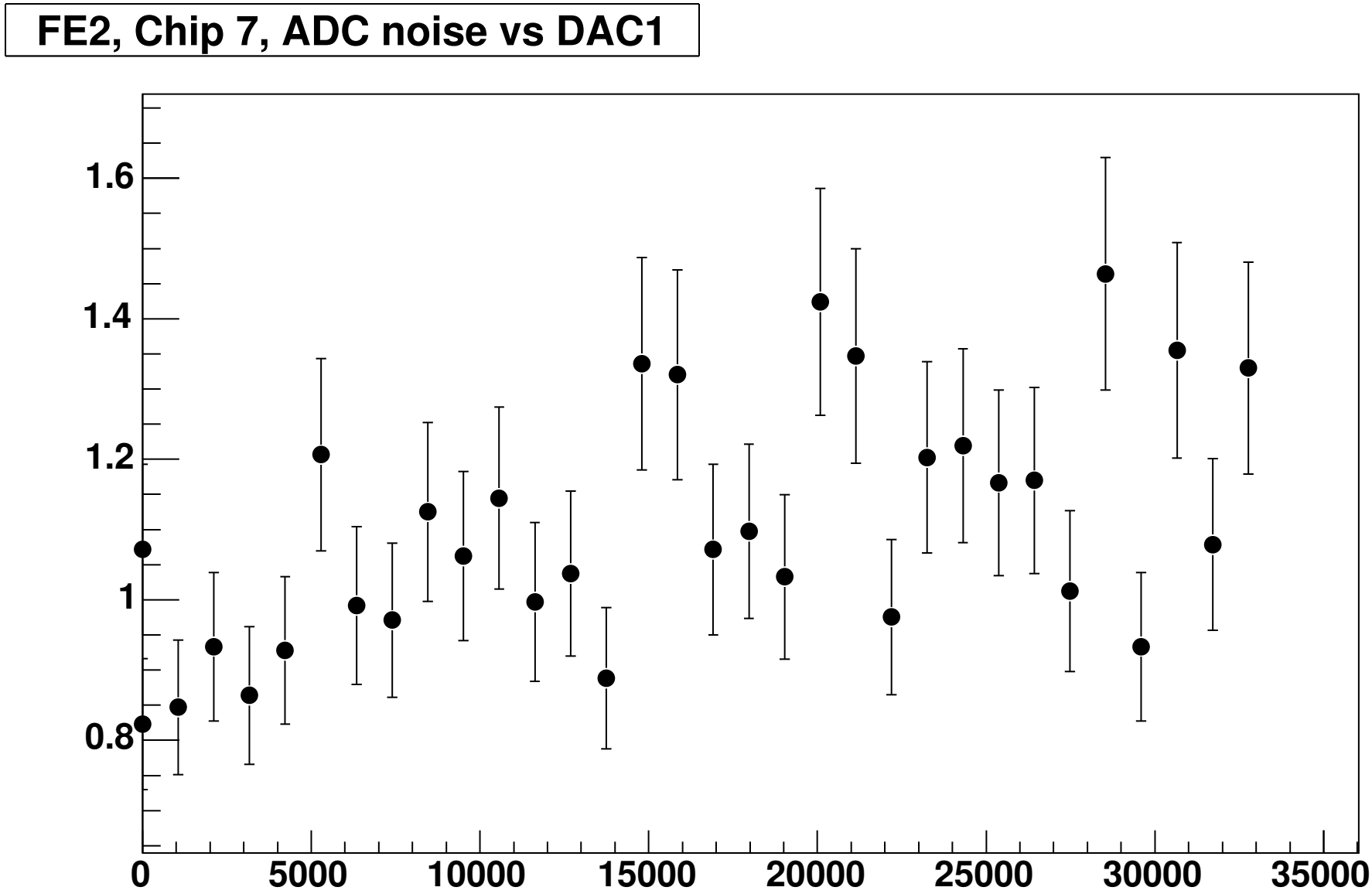

FE2, Chip 6, ADC residuals vs DAC1
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

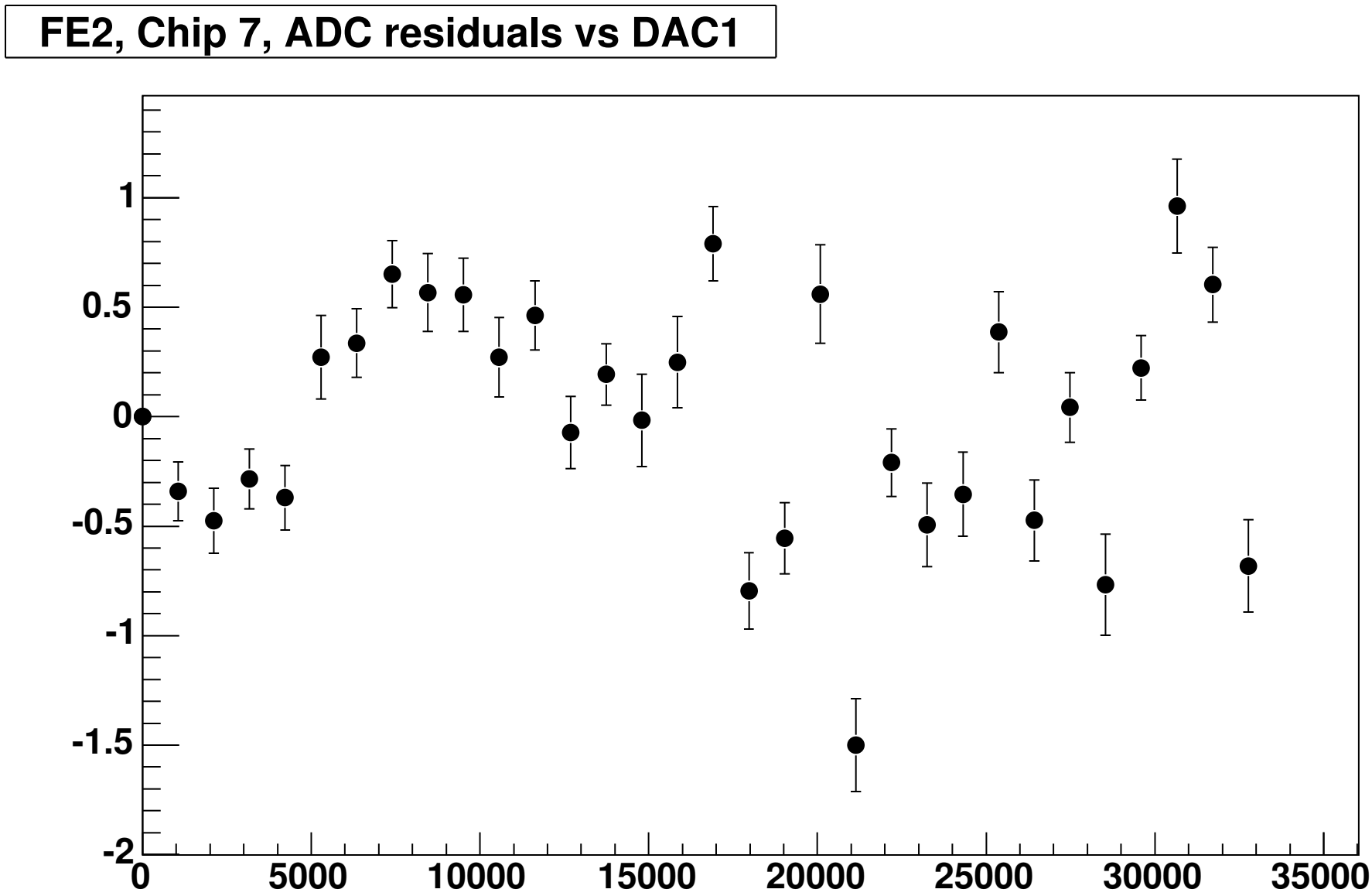

FE2, Chip 7, ADC mean vs DAC0
χ² / ndf 39.12 / 29
p0 151.2 ± 0.05367
p1 7.097e-06 ± 2.764e-06
152
151.8
151.6
151.4
151.2
151
150.8
0
5000
10000
15000
20000
25000
30000
35000

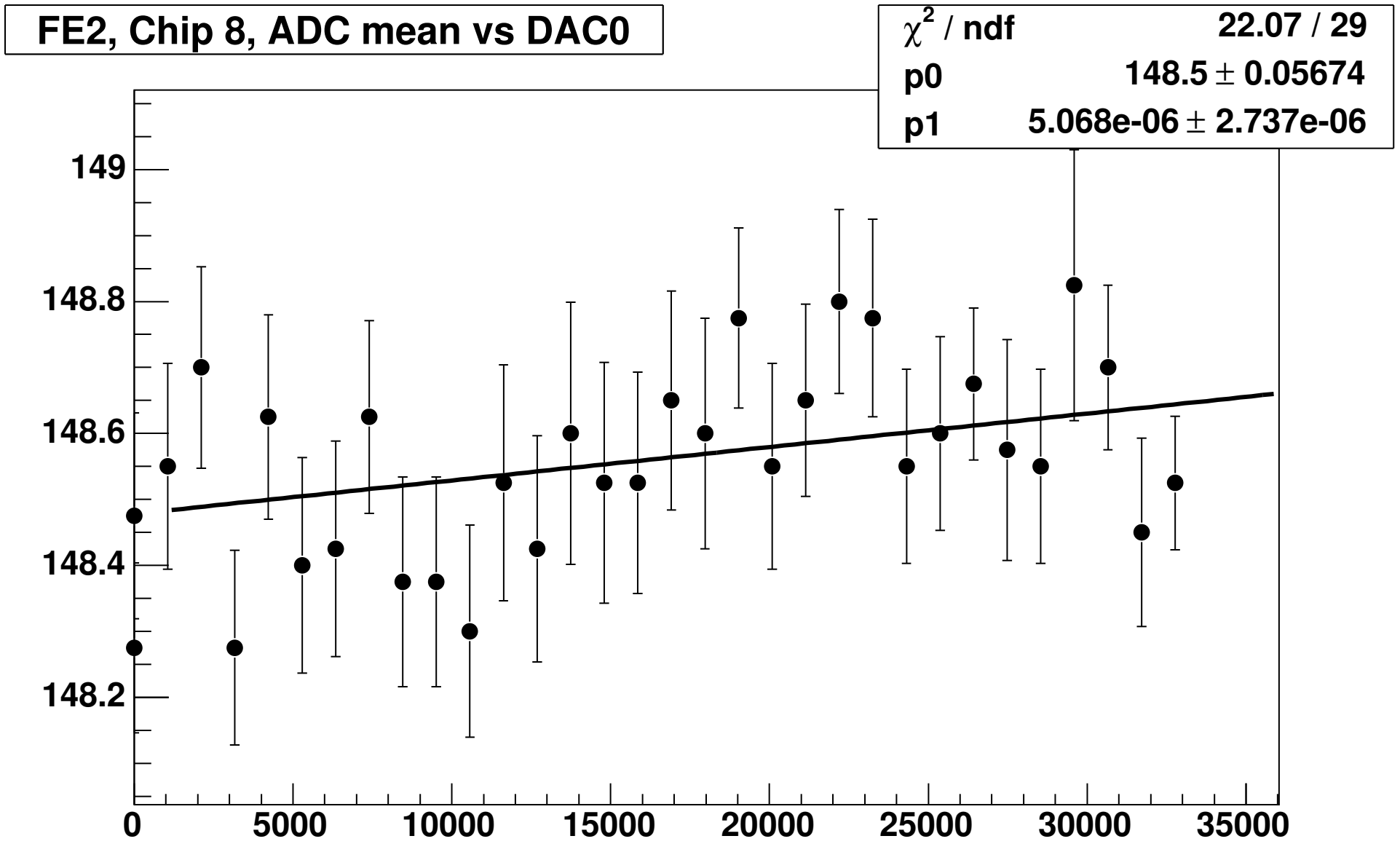

FE2, Chip 7, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

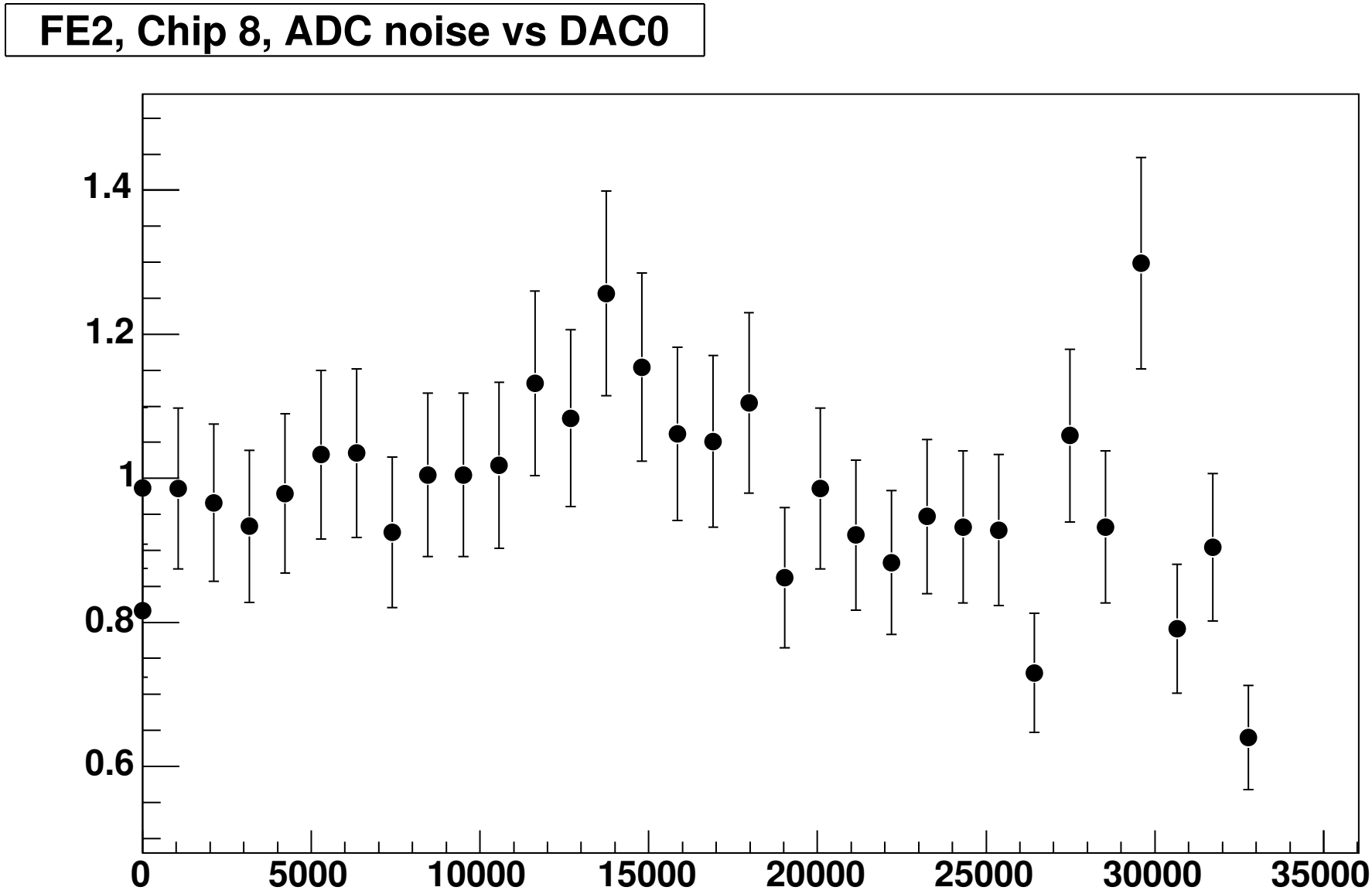

FE2, Chip 7, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

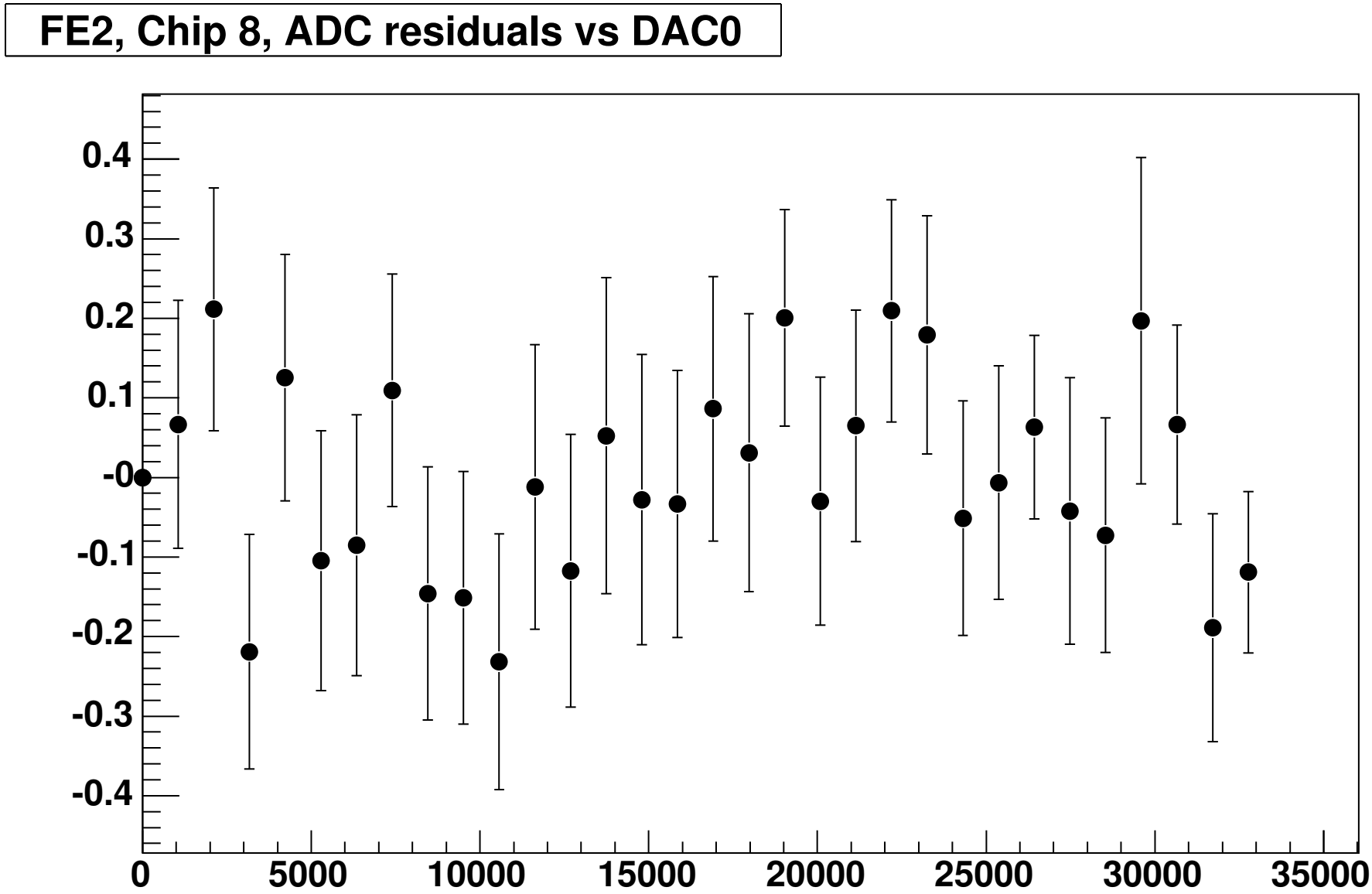

FE2, Chip 7, ADC mean vs DAC1
χ² / ndf 277.1 / 29
p0 -2.269 ± 0.05754
p1 0.4609 ± 3.16e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

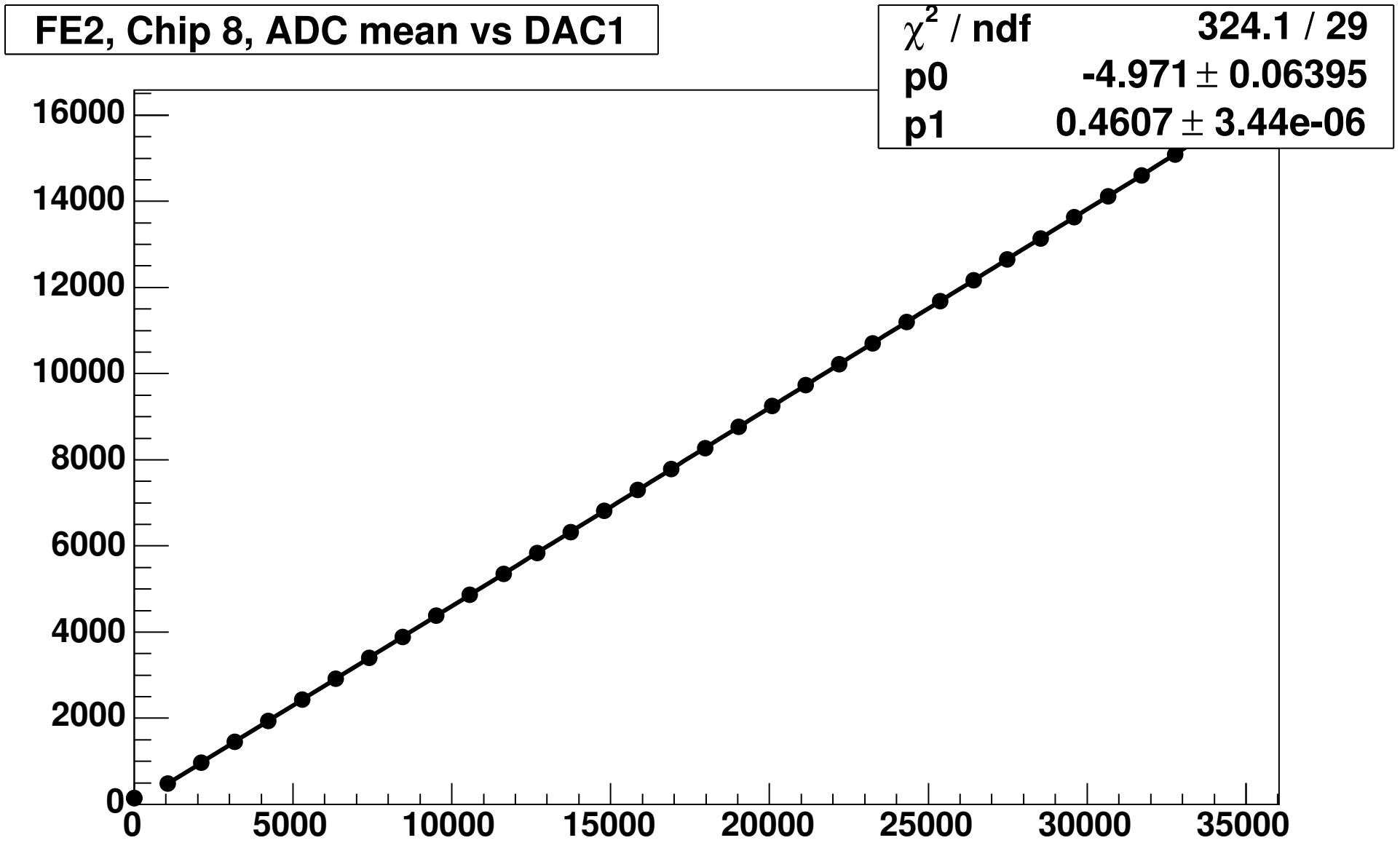

FE2, Chip 7, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

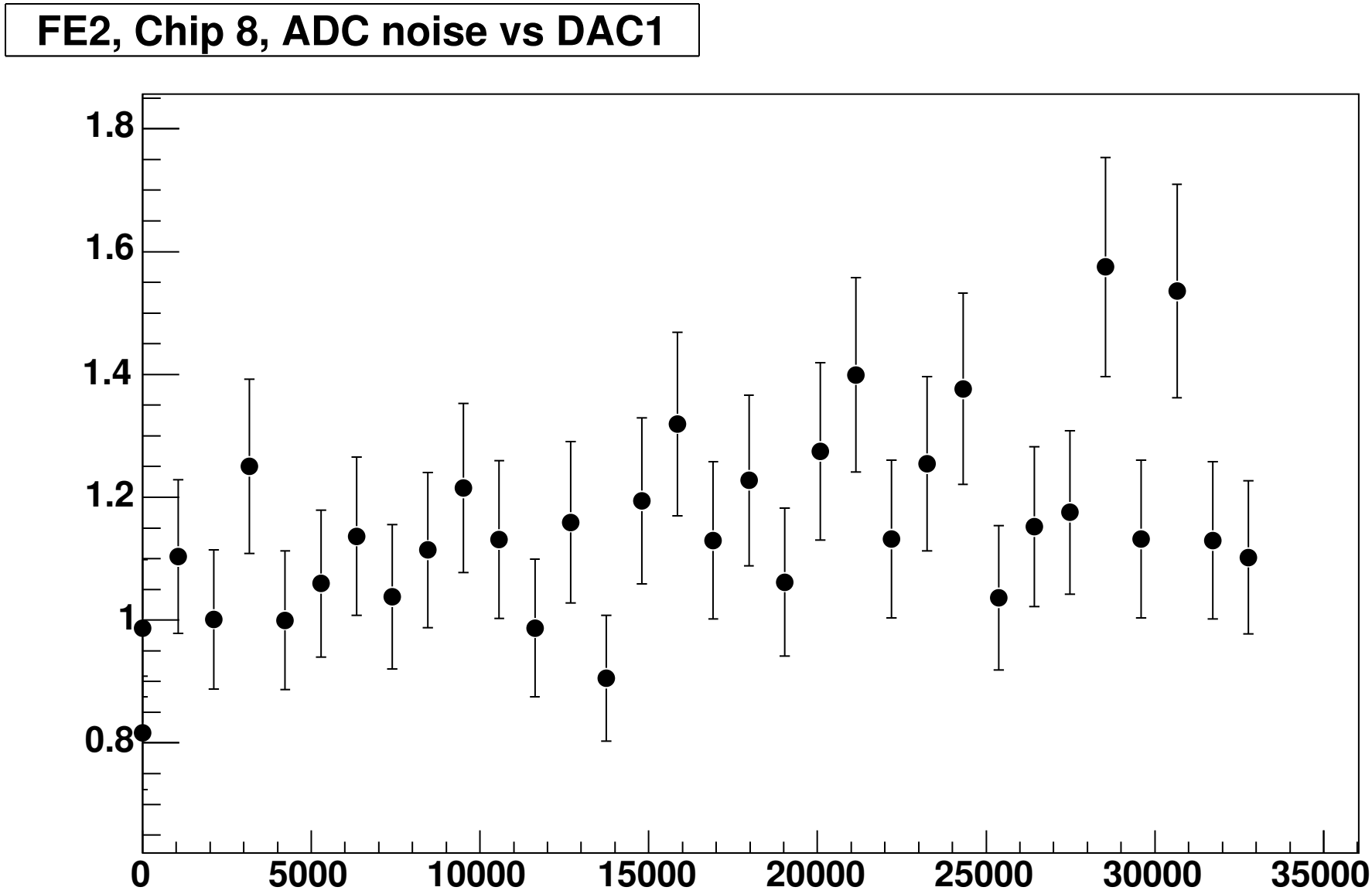

FE2, Chip 7, ADC residuals vs DAC1
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

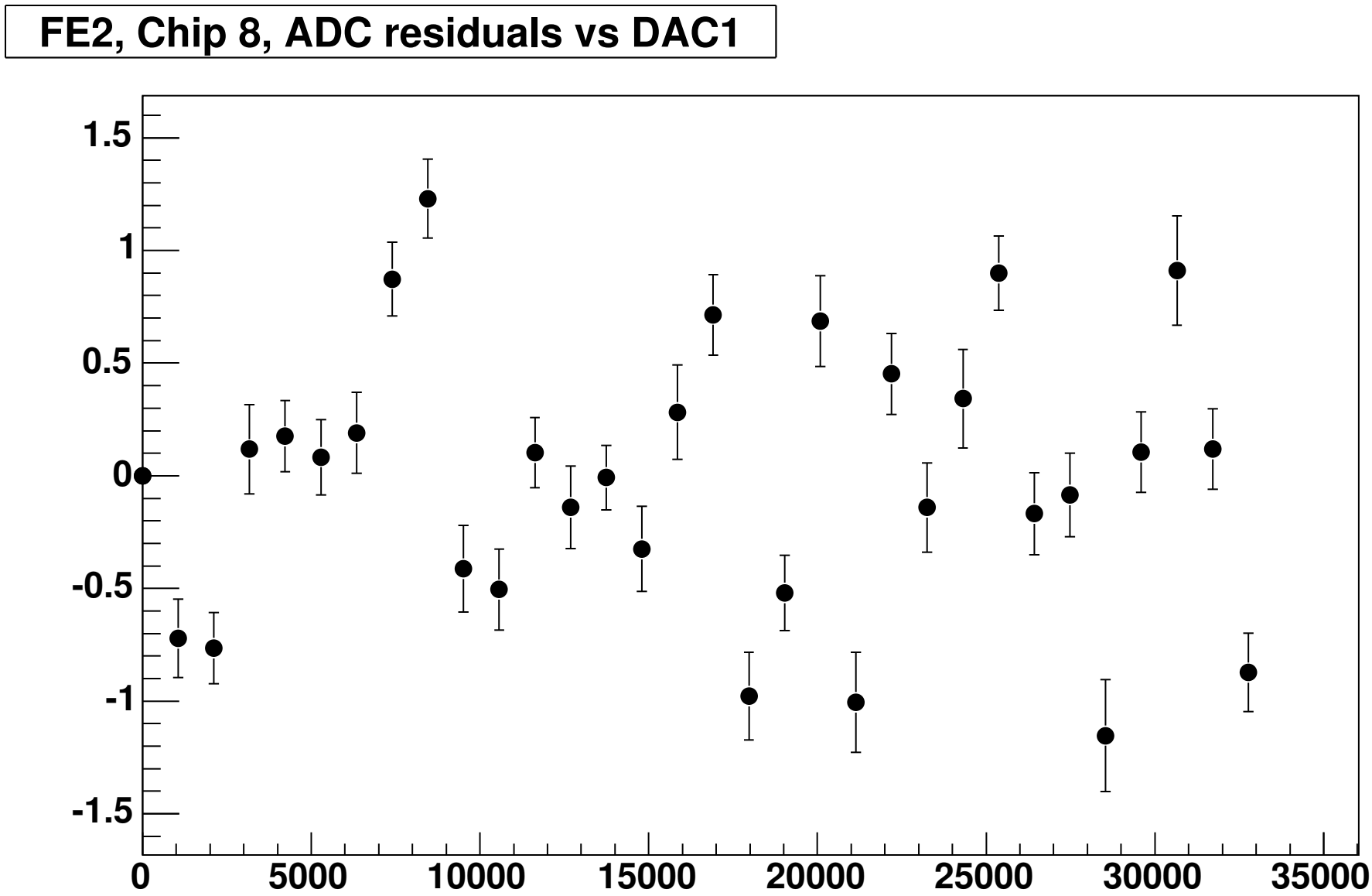

FE2, Chip 8, ADC mean vs DAC0
χ² / ndf 22.07 / 29
p0 148.5 ± 0.05674
p1 5.068e-06 ± 2.737e-06
149
148.8
148.6
148.4
148.2
0
5000
10000
15000
20000
25000
30000
35000

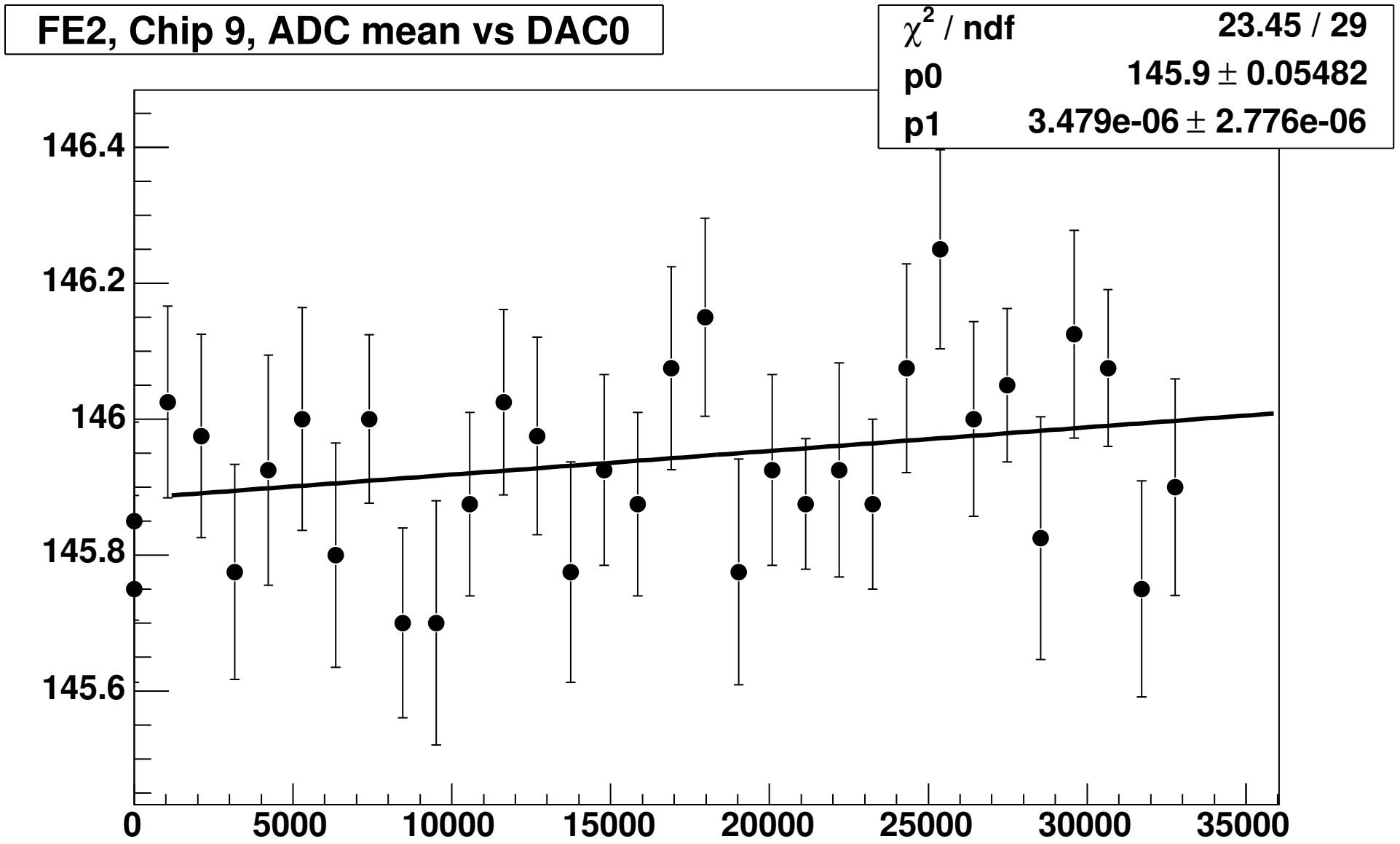

FE2, Chip 8, ADC noise vs DAC0
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

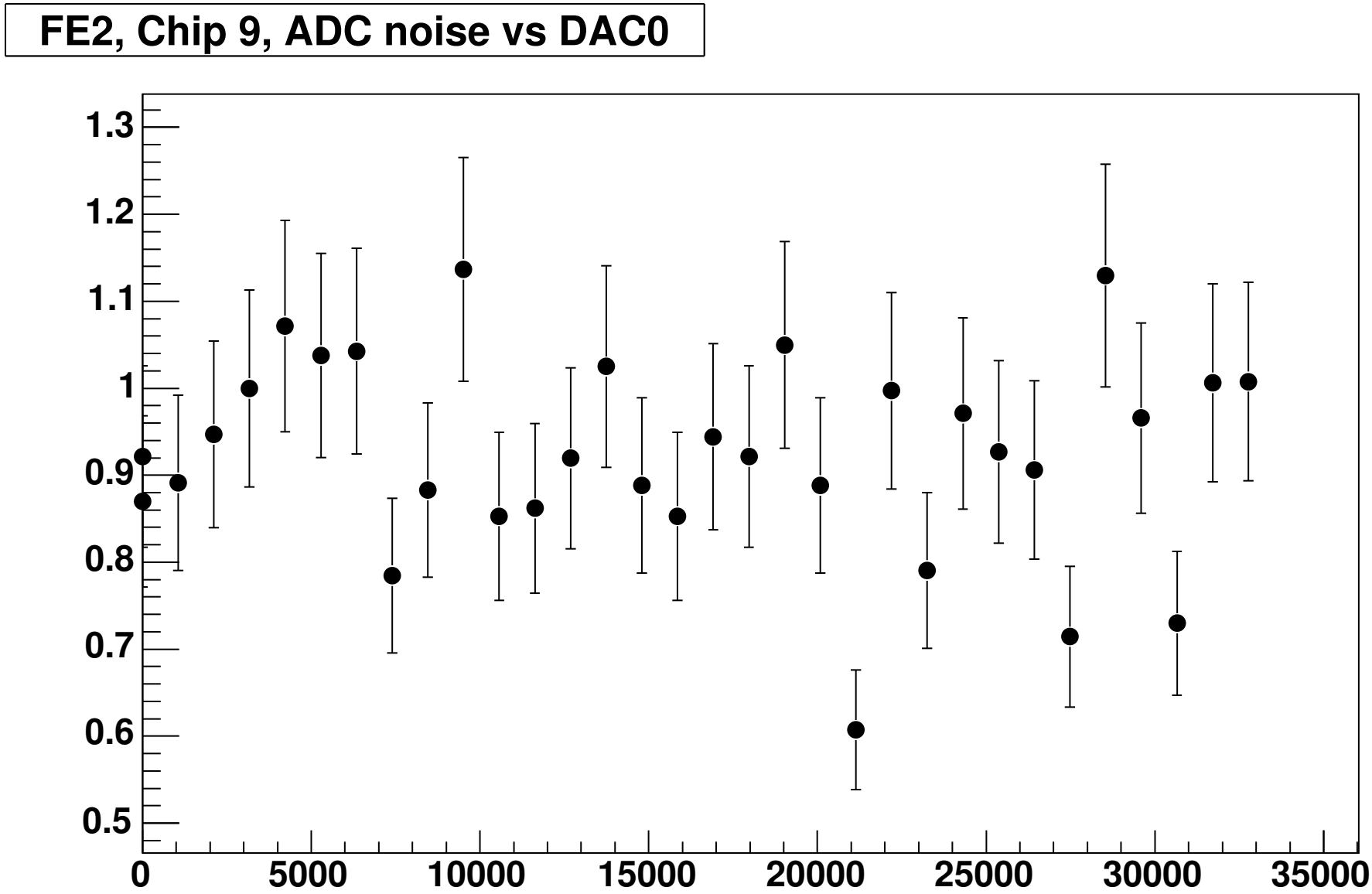

FE2, Chip 8, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
5000
10000
15000
20000
25000
30000
35000

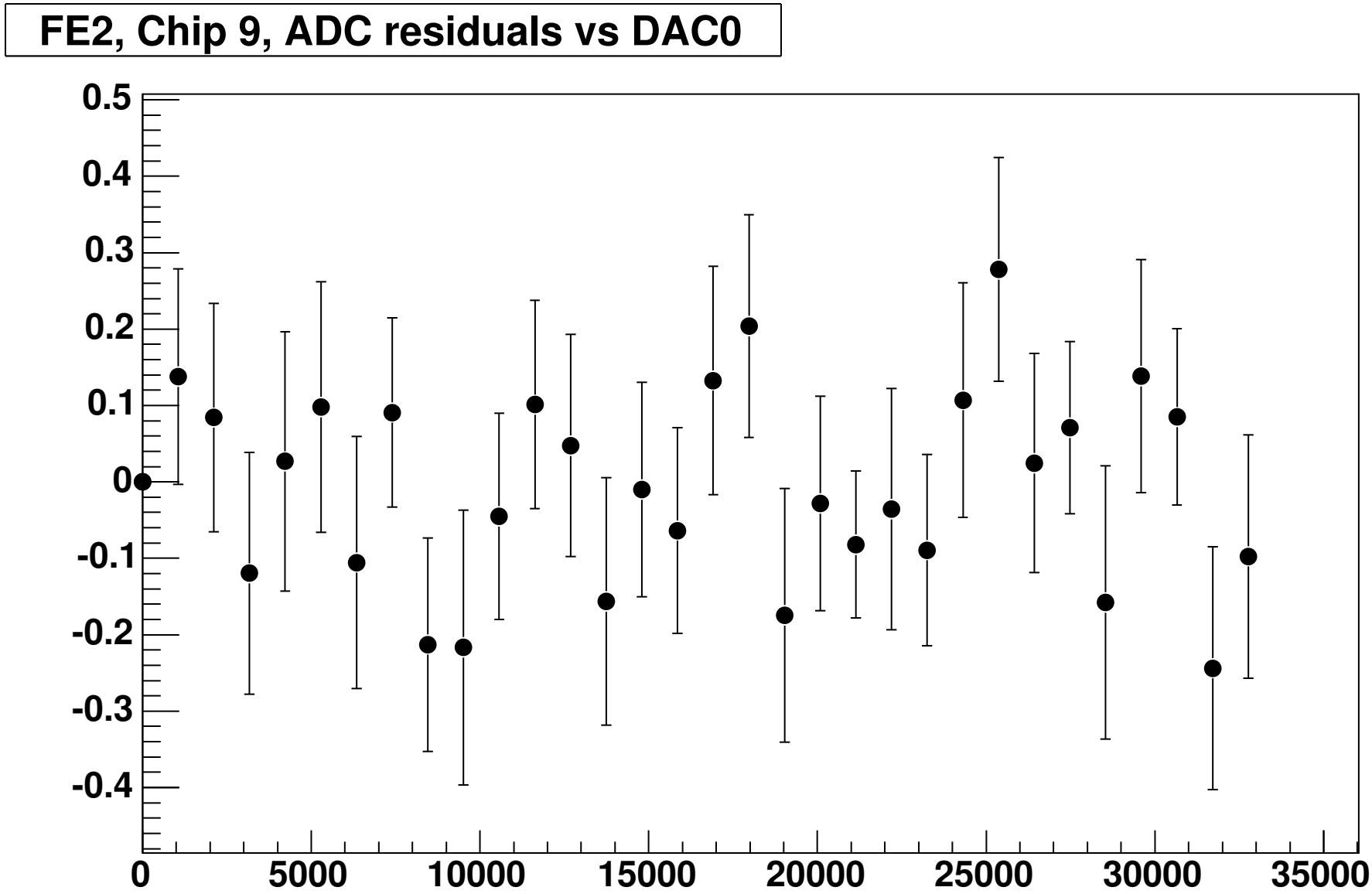

FE2, Chip 8, ADC mean vs DAC1
χ² / ndf 324.1 / 29
p0 -4.971 ± 0.06395
p1 0.4607 ± 3.44e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

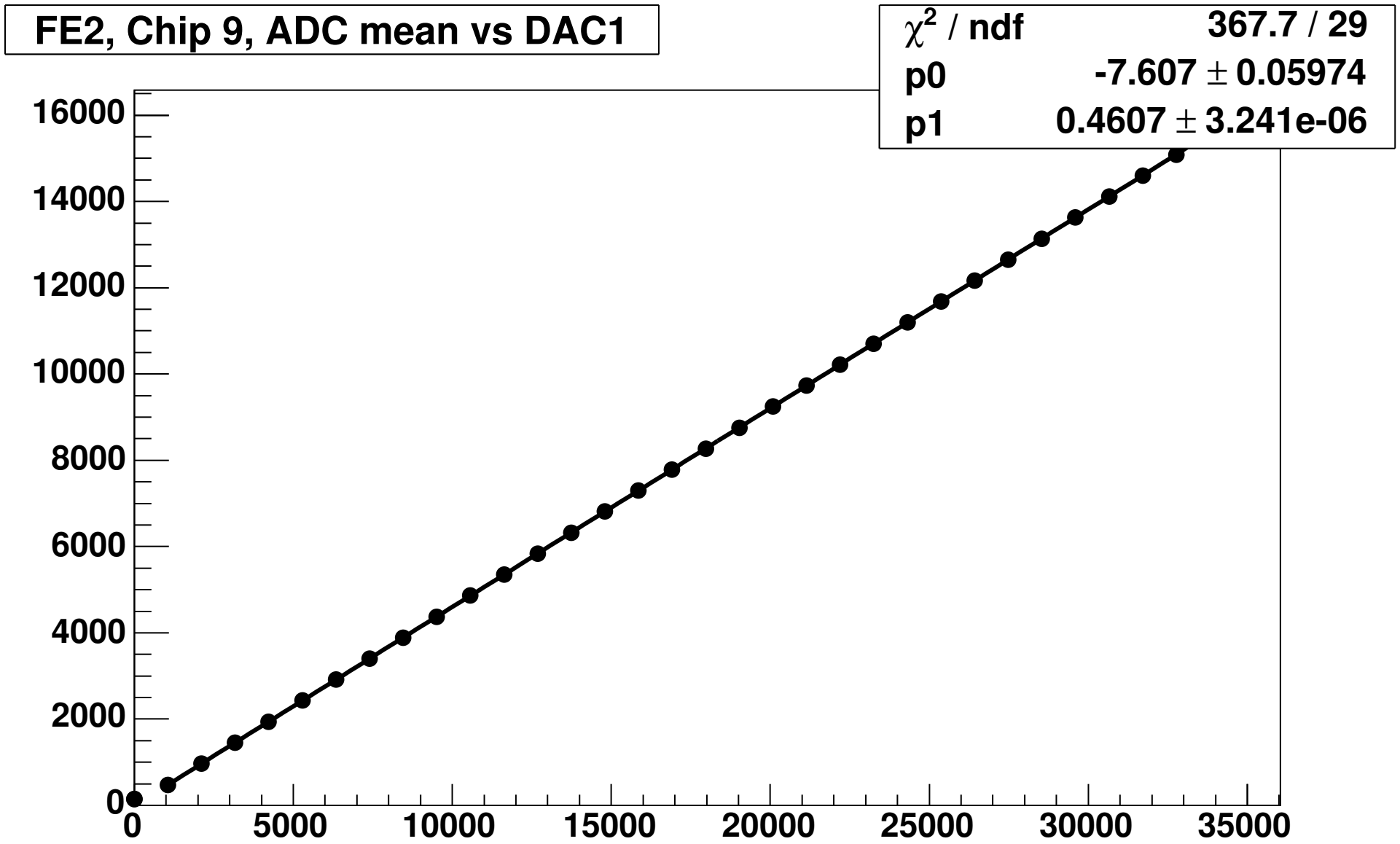

FE2, Chip 8, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

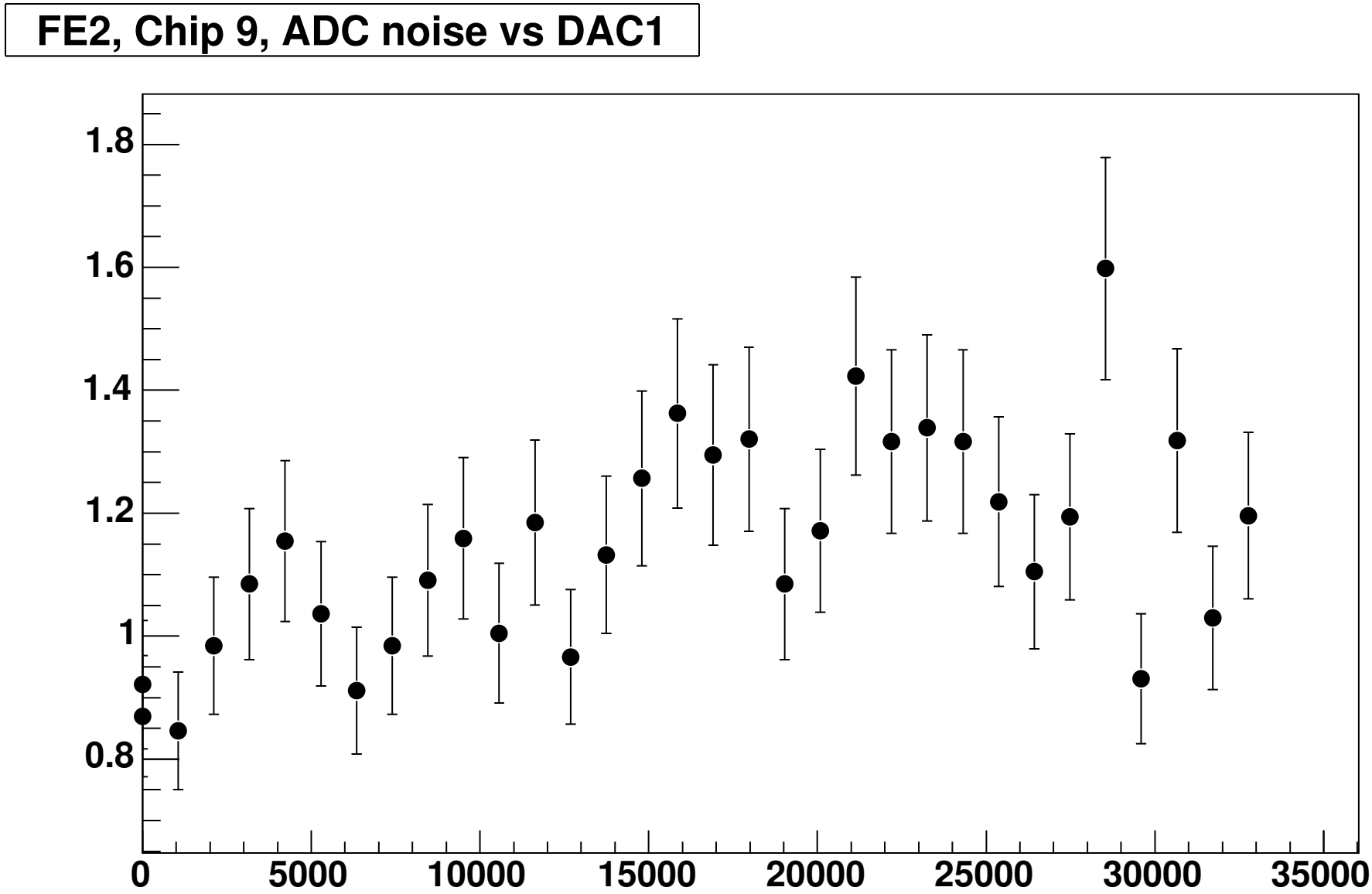

FE2, Chip 8, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

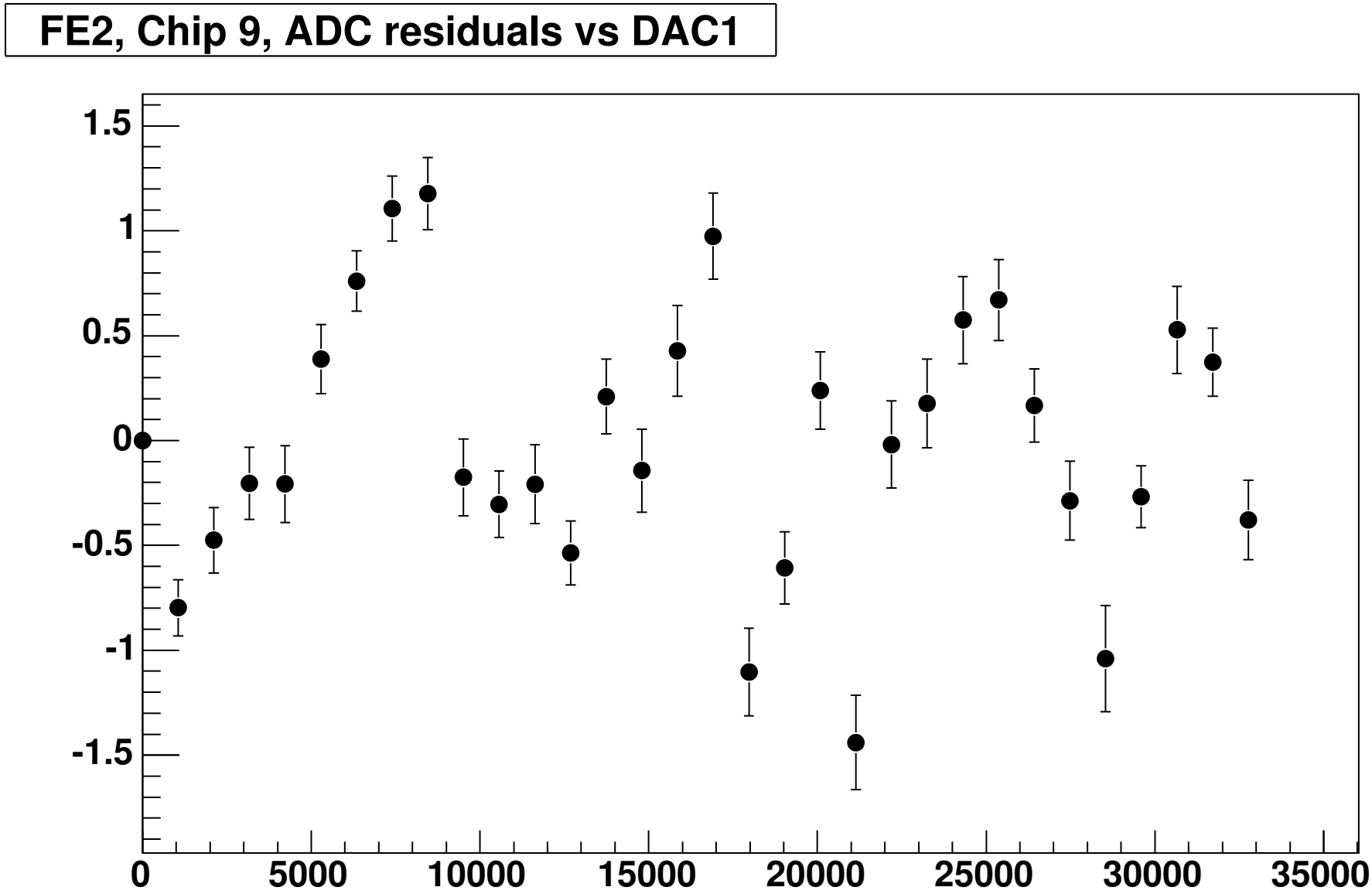

FE2, Chip 9, ADC mean vs DAC0
χ² / ndf 23.45 / 29
p0 145.9 ± 0.05482
p1 3.479e-06 ± 2.776e-06
146.4
146.2
146
145.8
145.6
0
5000
10000
15000
20000
25000
30000
35000

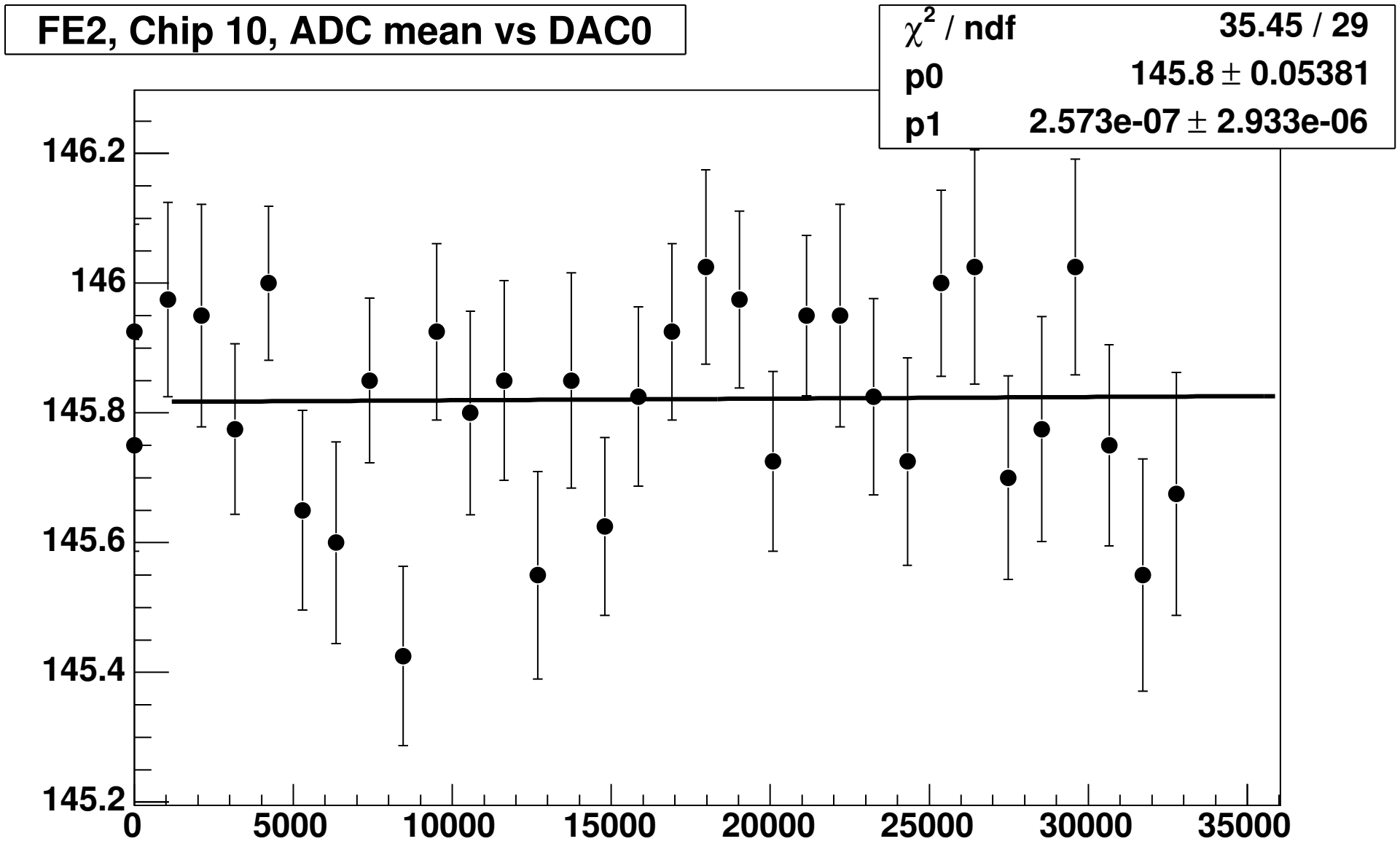

FE2, Chip 9, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0
5000
10000
15000
20000
25000
30000
35000

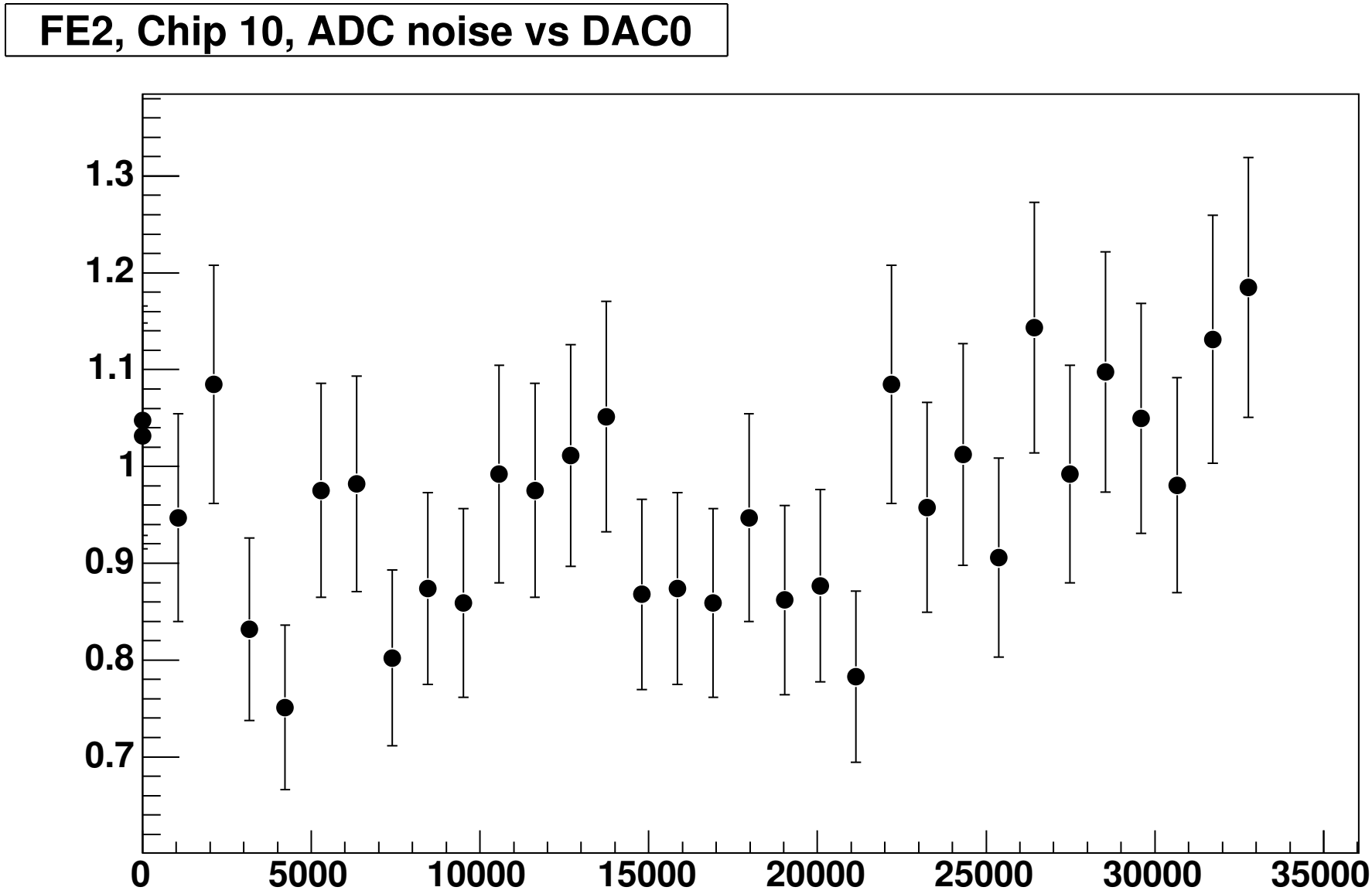

FE2, Chip 9, ADC residuals vs DAC0
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
0
5000
10000
15000
20000
25000
30000
35000

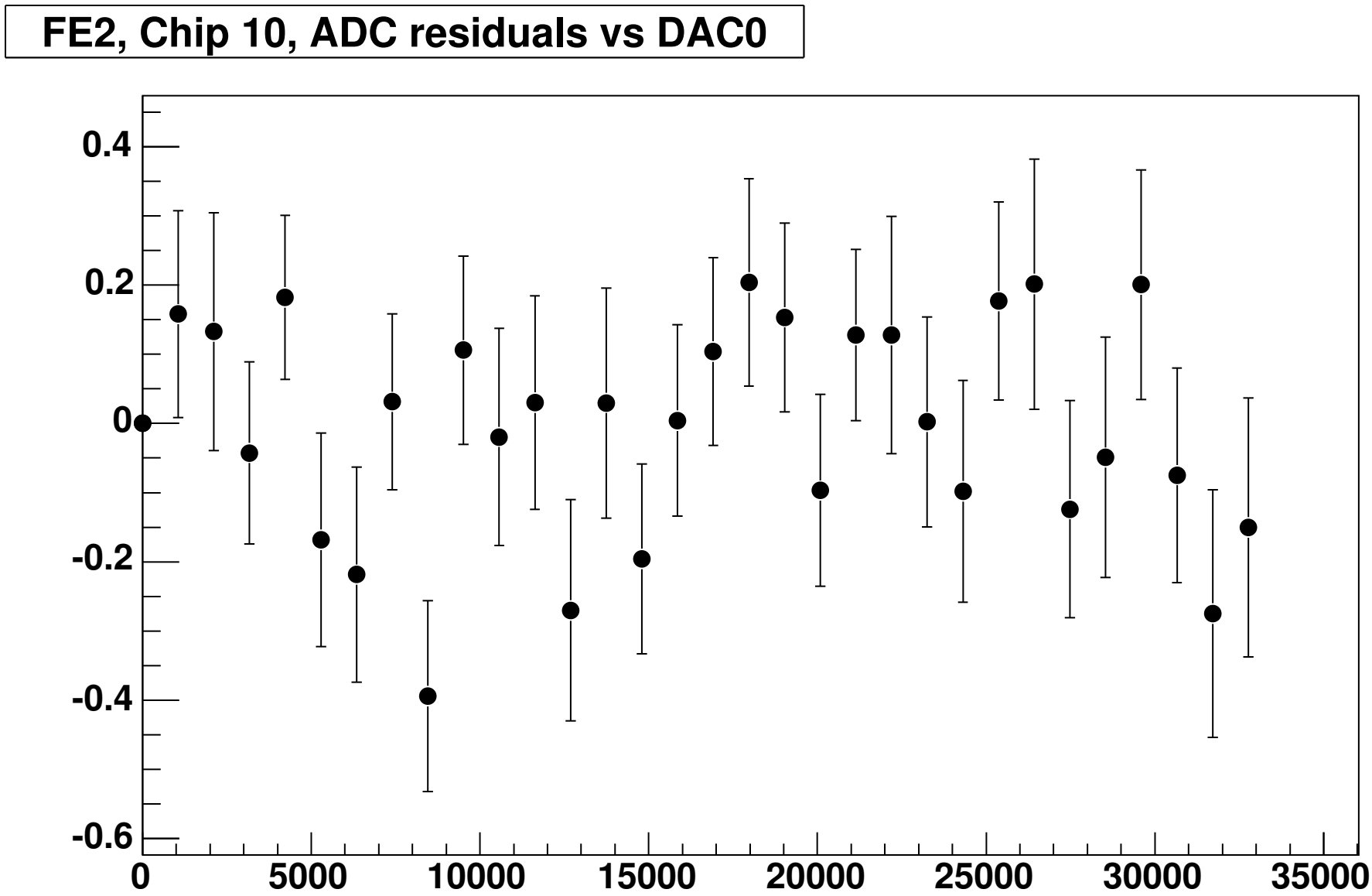

FE2, Chip 9, ADC mean vs DAC1
χ² / ndf 367.7 / 29
p0 -7.607 ± 0.05974
p1 0.4607 ± 3.241e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

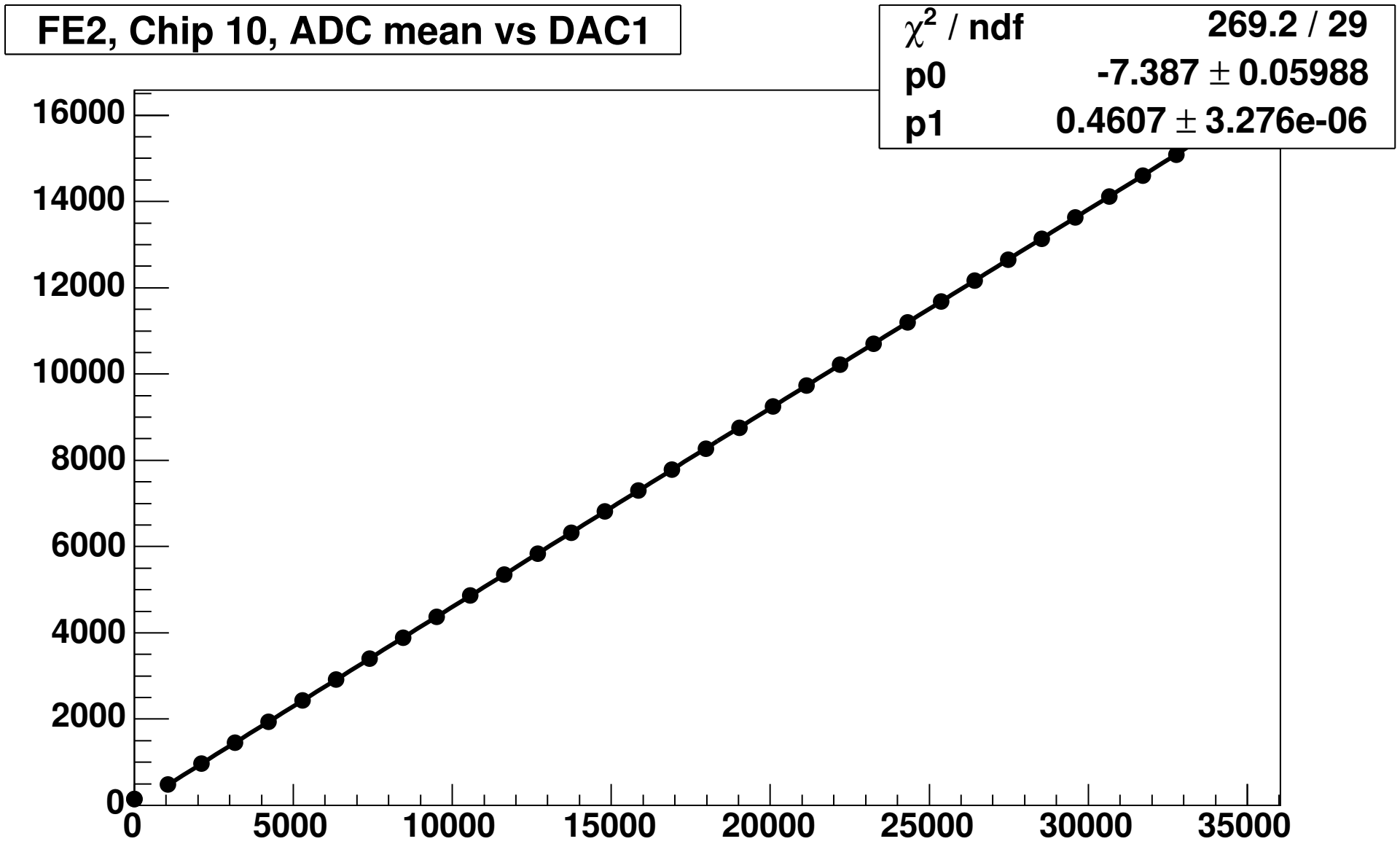

FE2, Chip 9, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

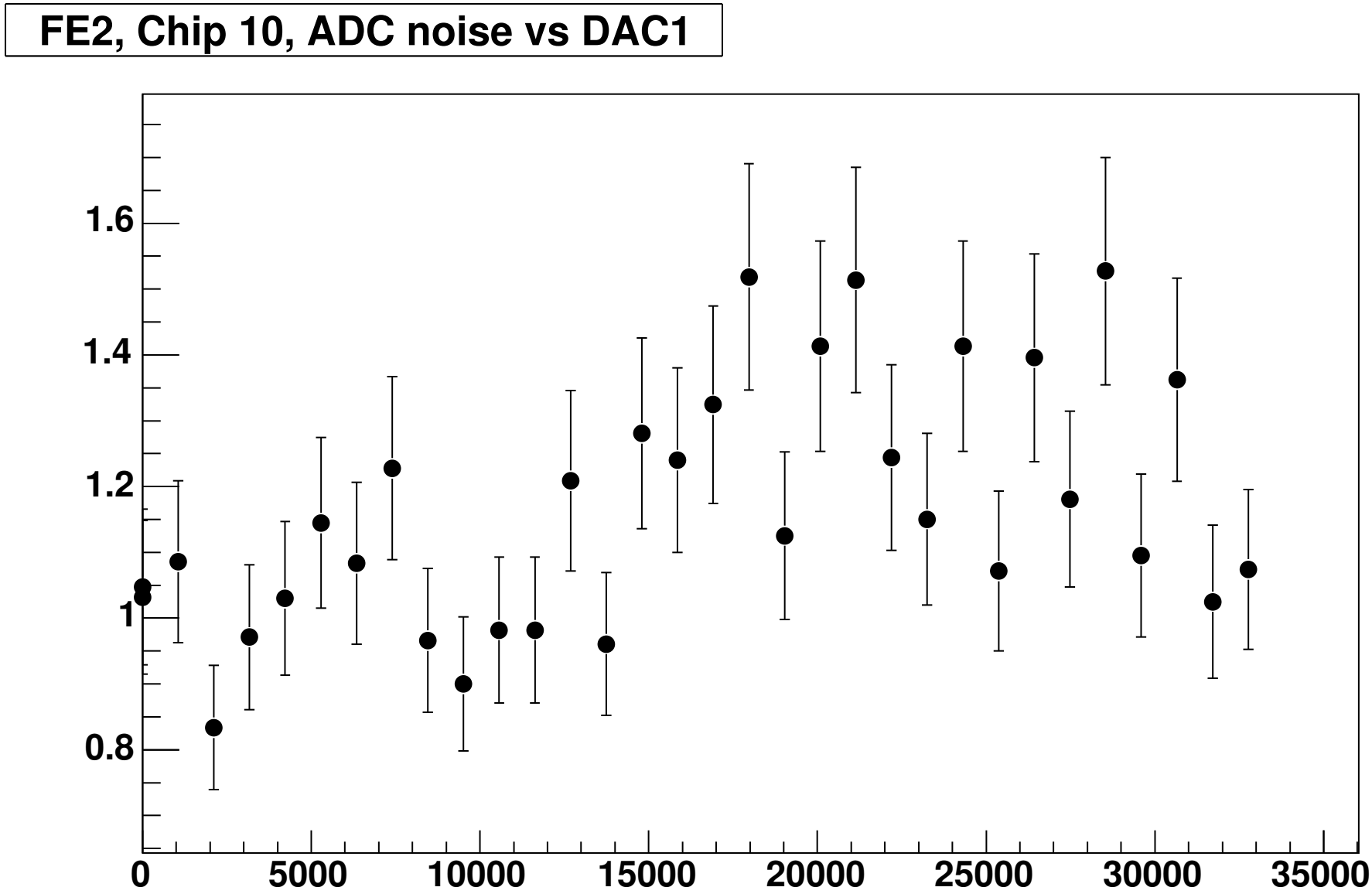

FE2, Chip 9, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

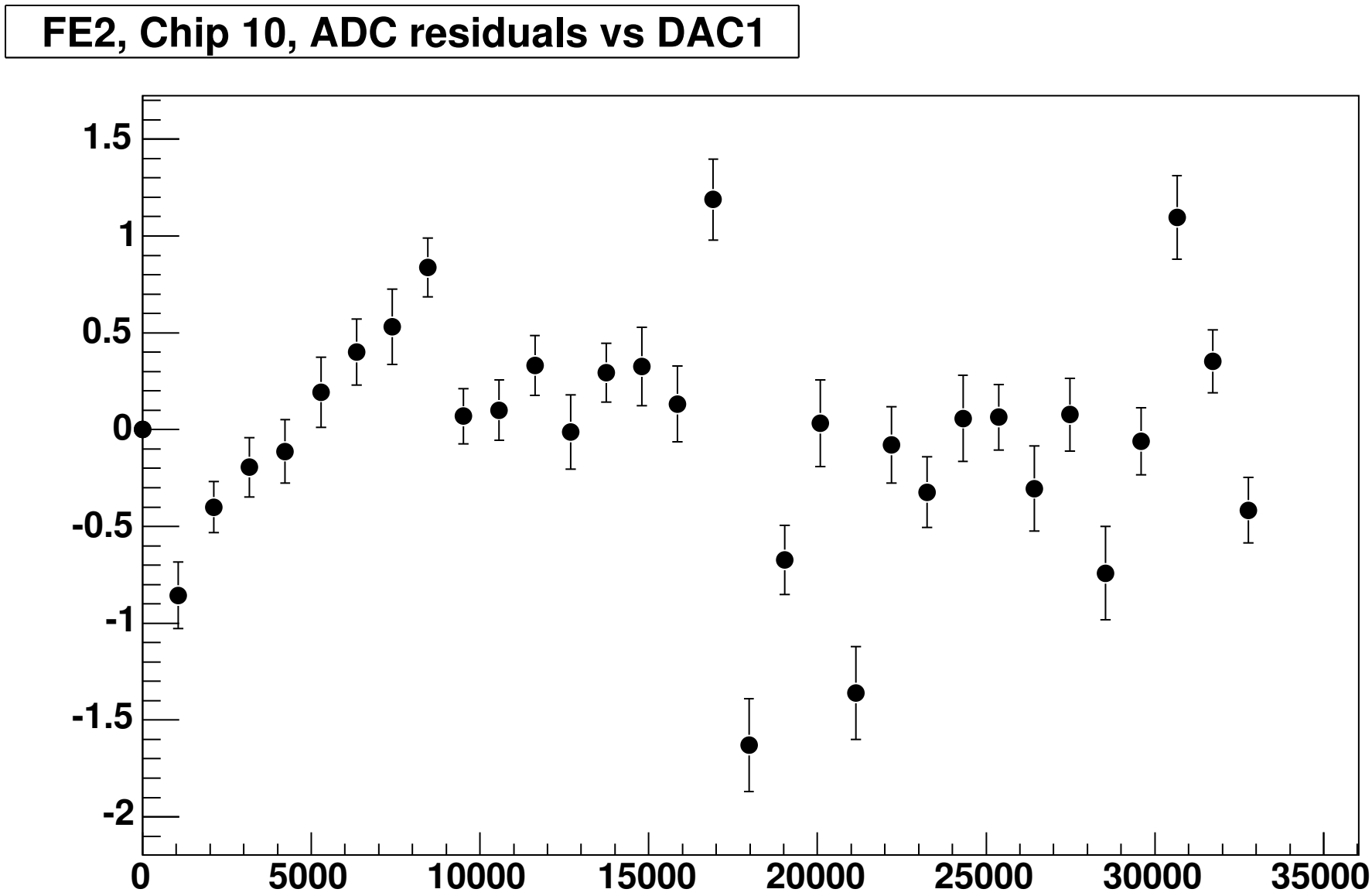

FE2, Chip 10, ADC mean vs DAC0
χ² / ndf 35.45 / 29
p0 145.8 ± 0.05381
p1 2.573e-07 ± 2.933e-06
146.2
146
145.8
145.6
145.4
145.2
0
5000
10000
15000
20000
25000
30000
35000

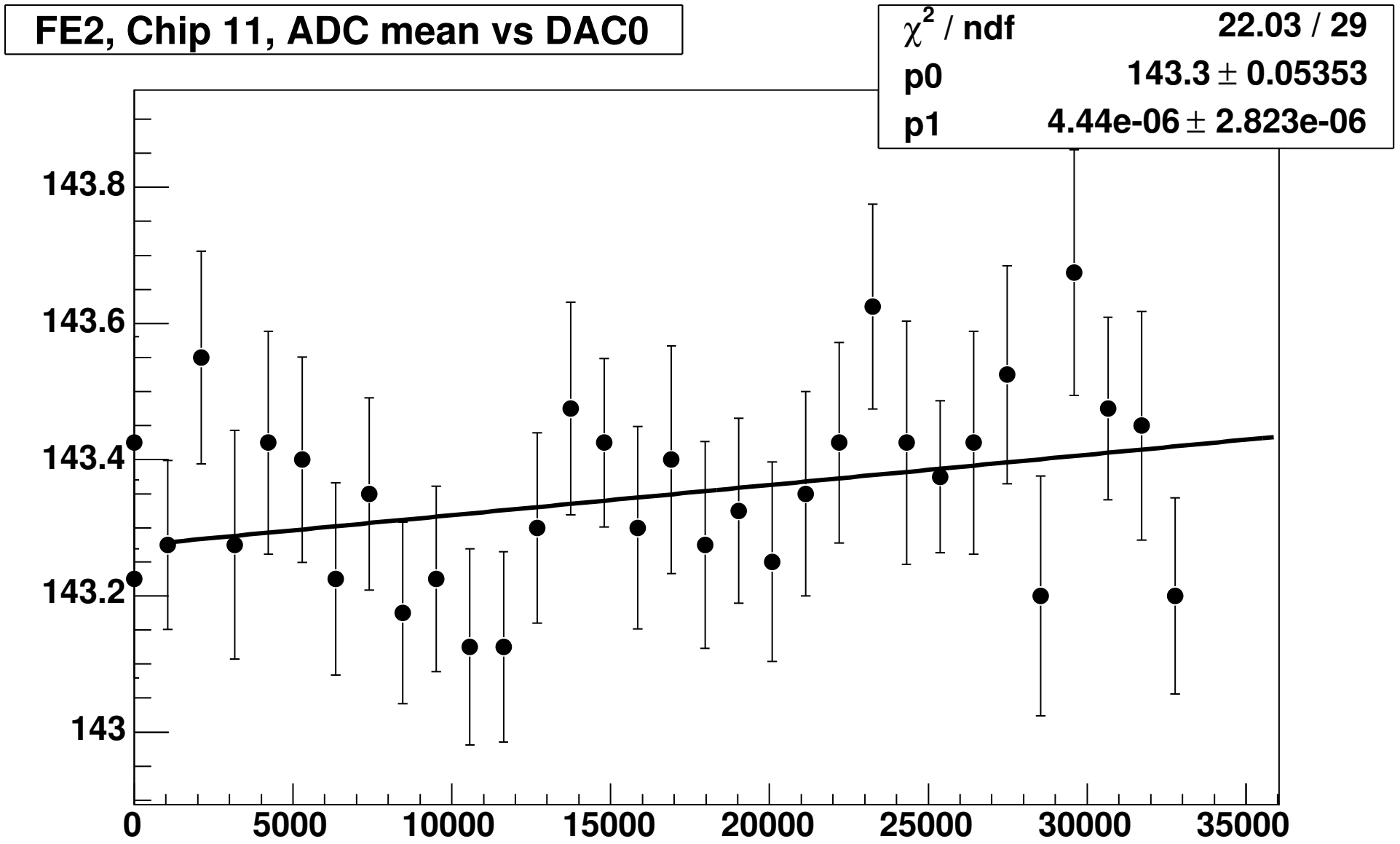

FE2, Chip 10, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

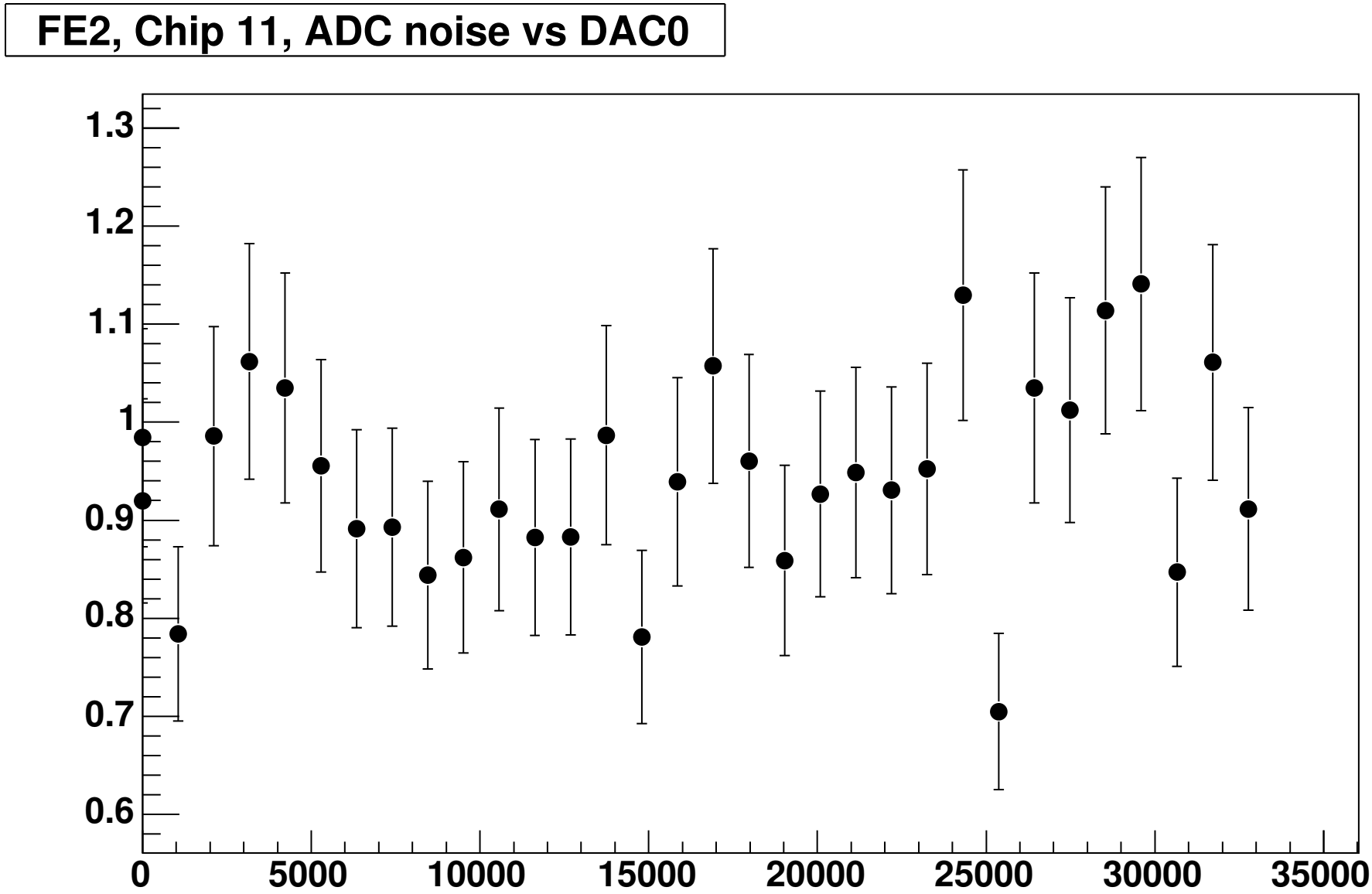

FE2, Chip 10, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

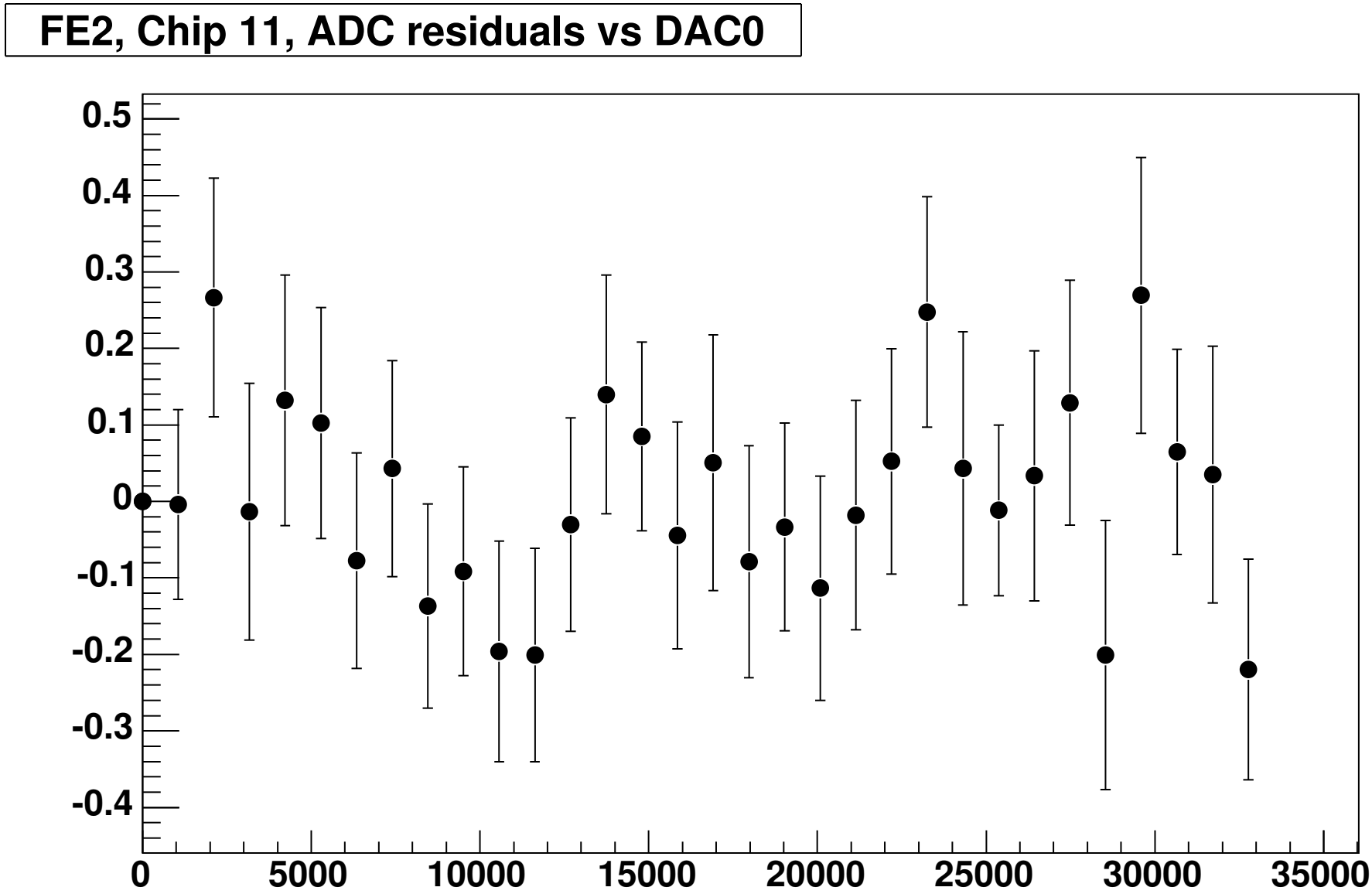

FE2, Chip 10, ADC mean vs DAC1
χ² / ndf 269.2 / 29
p0 -7.387 ± 0.05988
p1 0.4607 ± 3.276e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

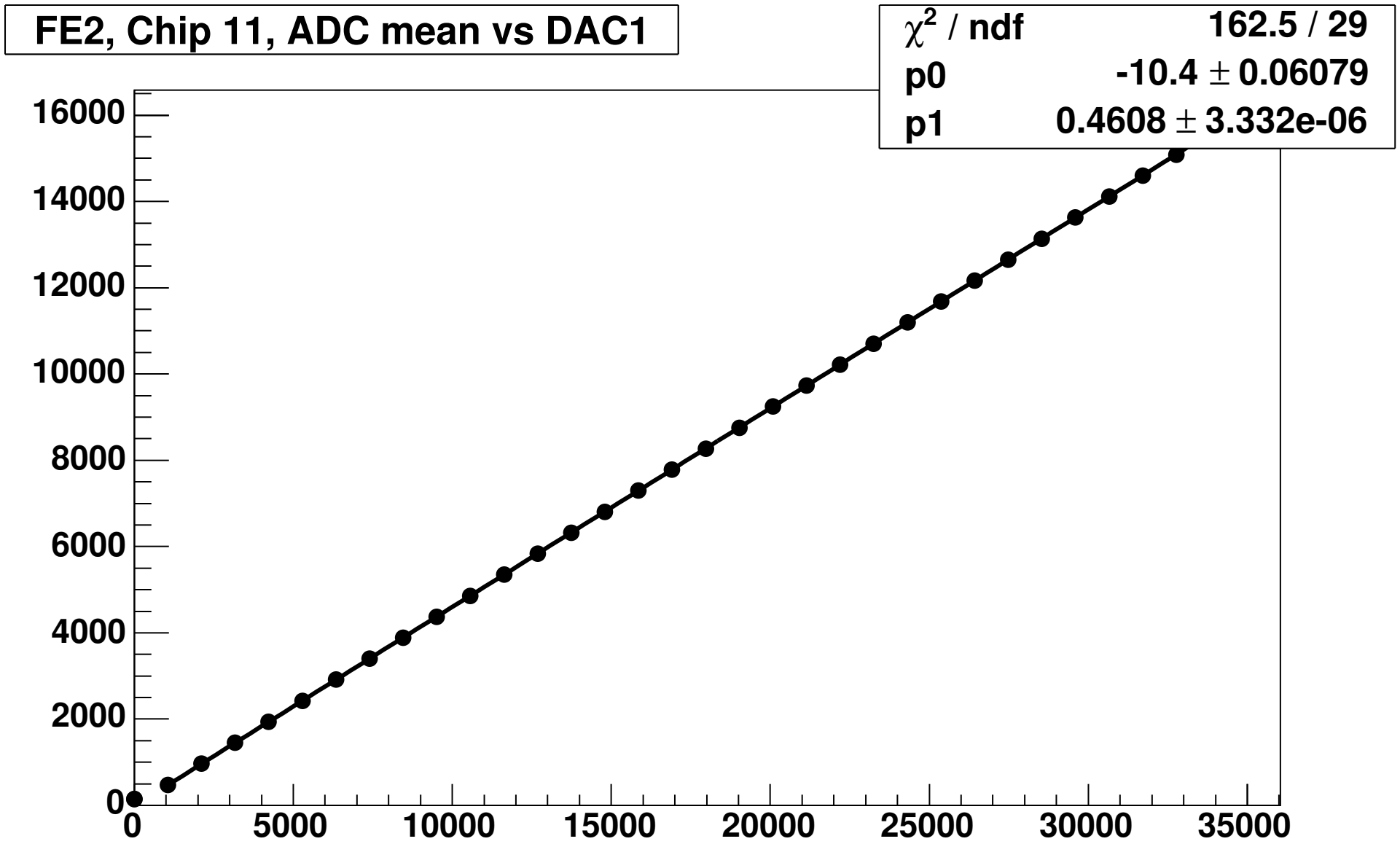

FE2, Chip 10, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

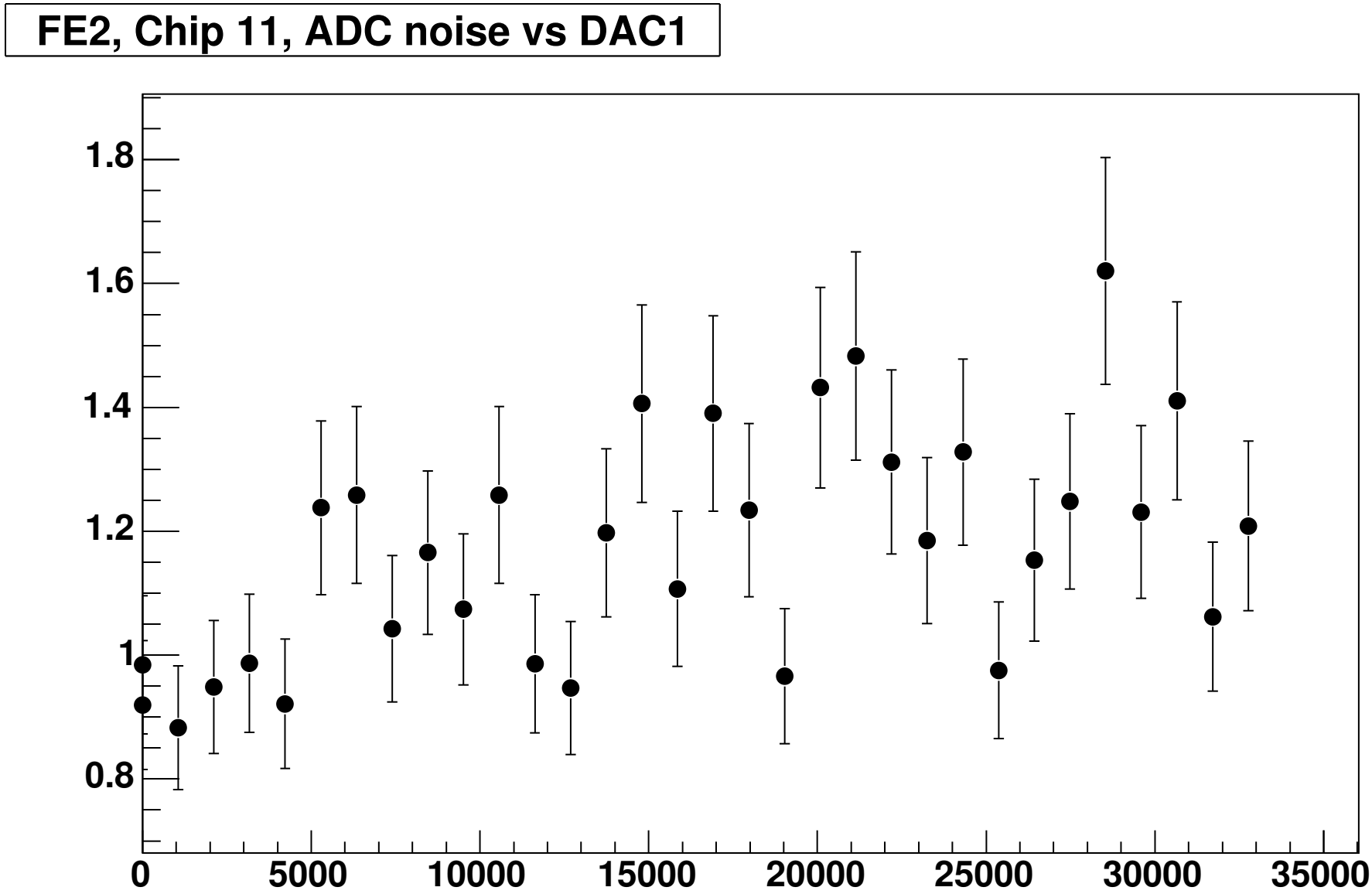

FE2, Chip 10, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000


FE2, Chip 11, ADC mean vs DAC0
χ² / ndf 22.03 / 29
p0 143.3 ± 0.05353
p1 4.44e-06 ± 2.823e-06
143.8
143.6
143.4
143.2
143
0
5000
10000
15000
20000
25000
30000
35000

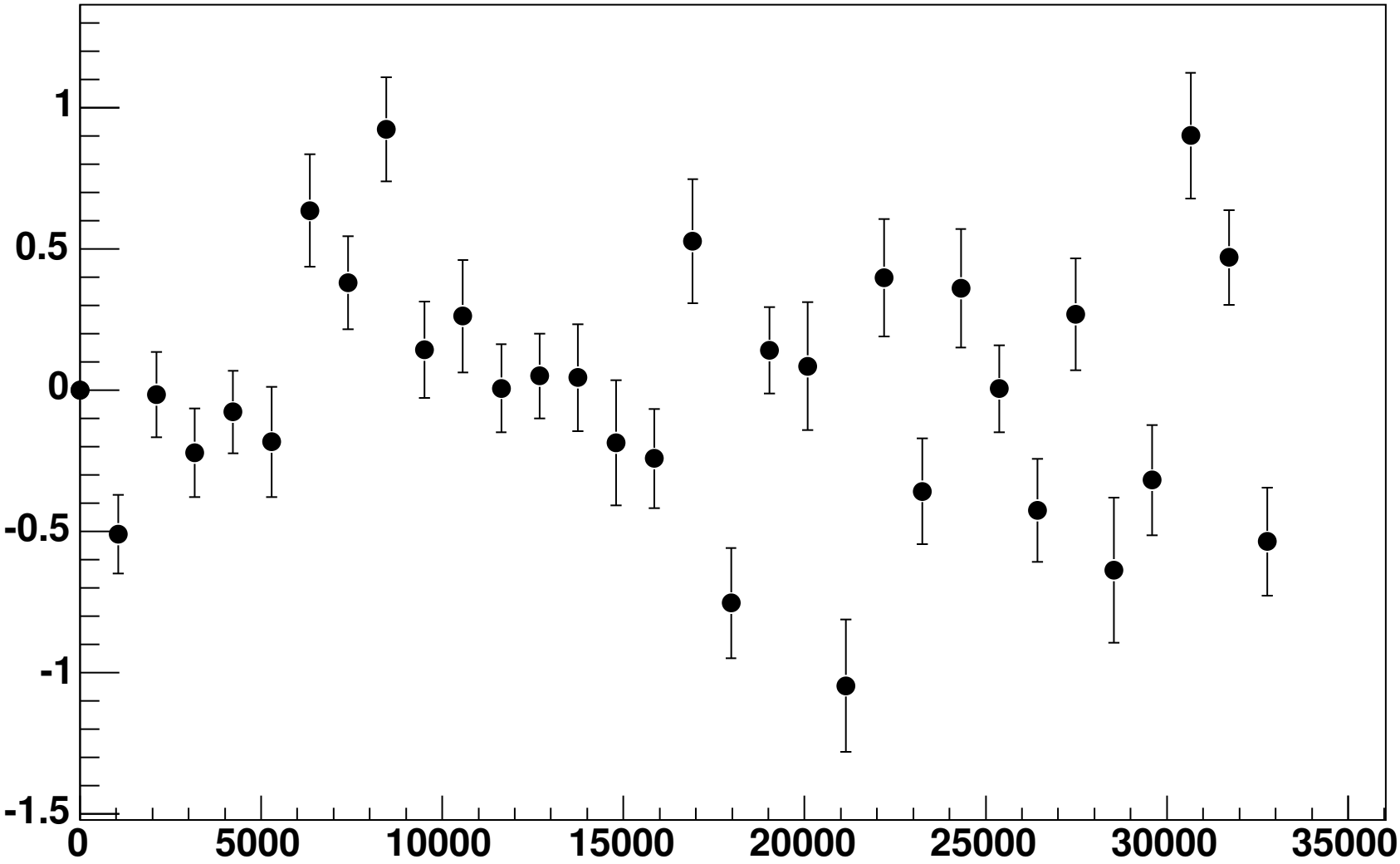

FE2, Chip 11, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

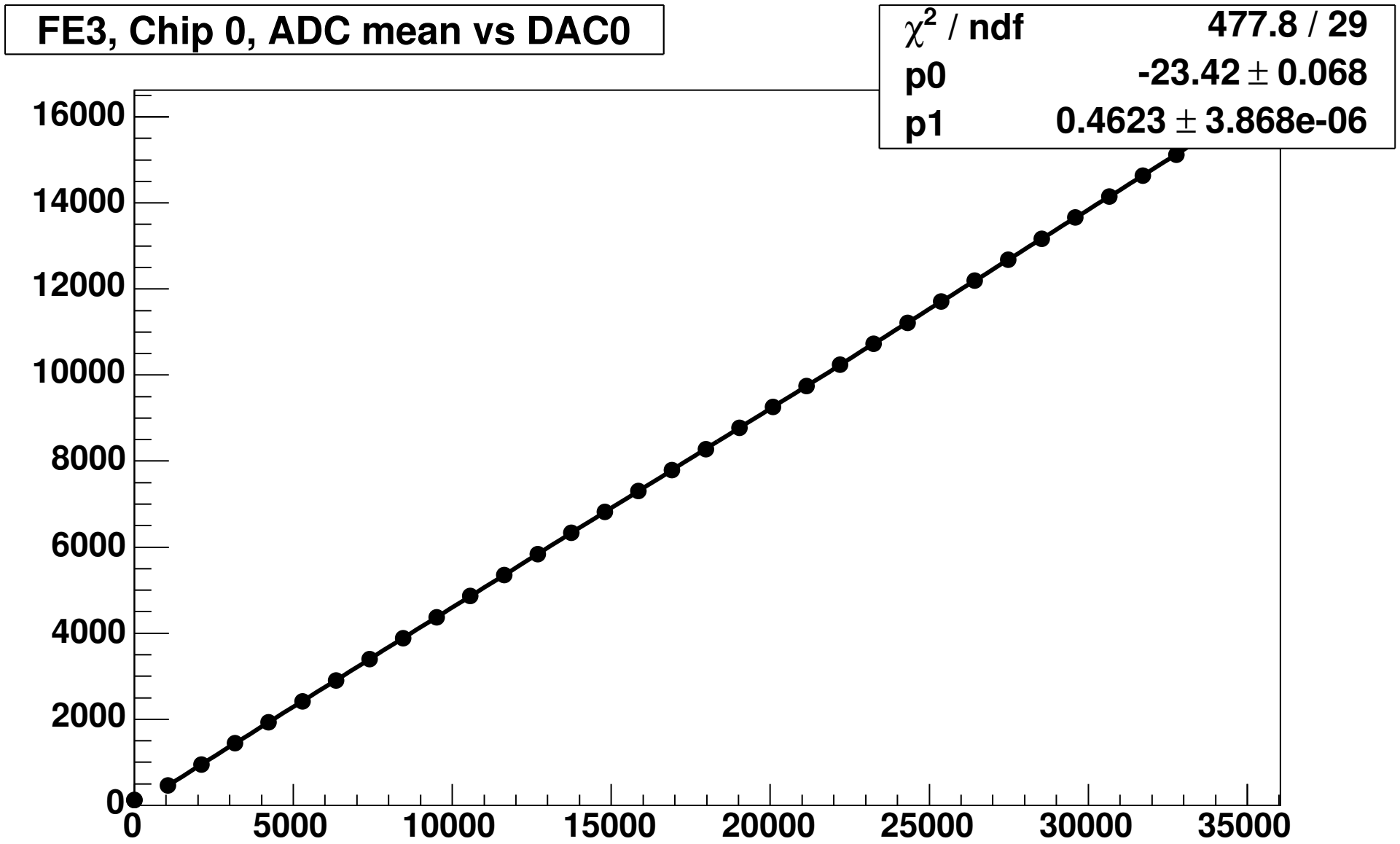

FE2, Chip 11, ADC residuals vs DAC0
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
0
5000
10000
15000
20000
25000
30000
35000

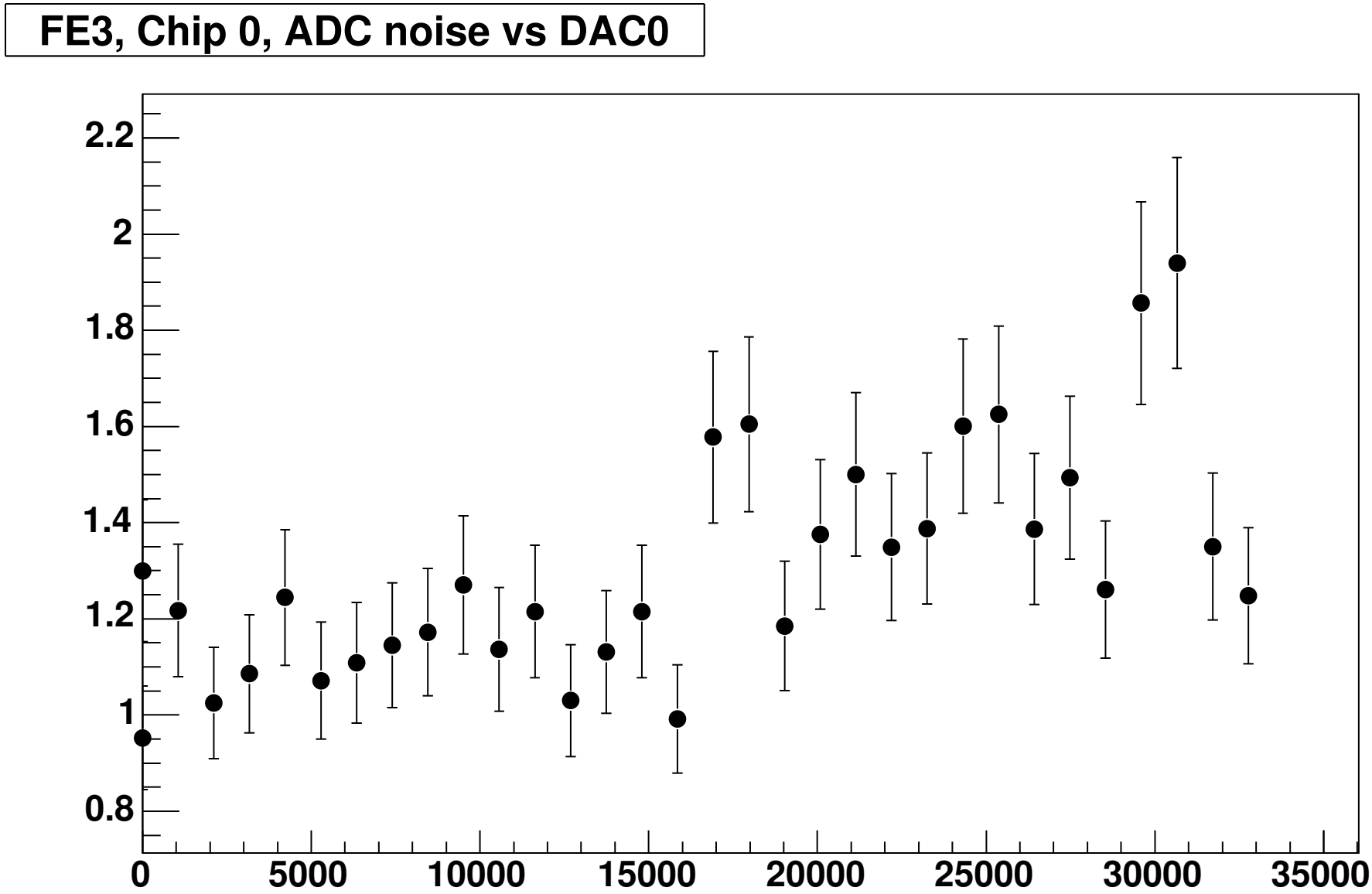

FE2, Chip 11, ADC mean vs DAC1
χ² / ndf 162.5 / 29
p0 -10.4 ± 0.06079
p1 0.4608 ± 3.332e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

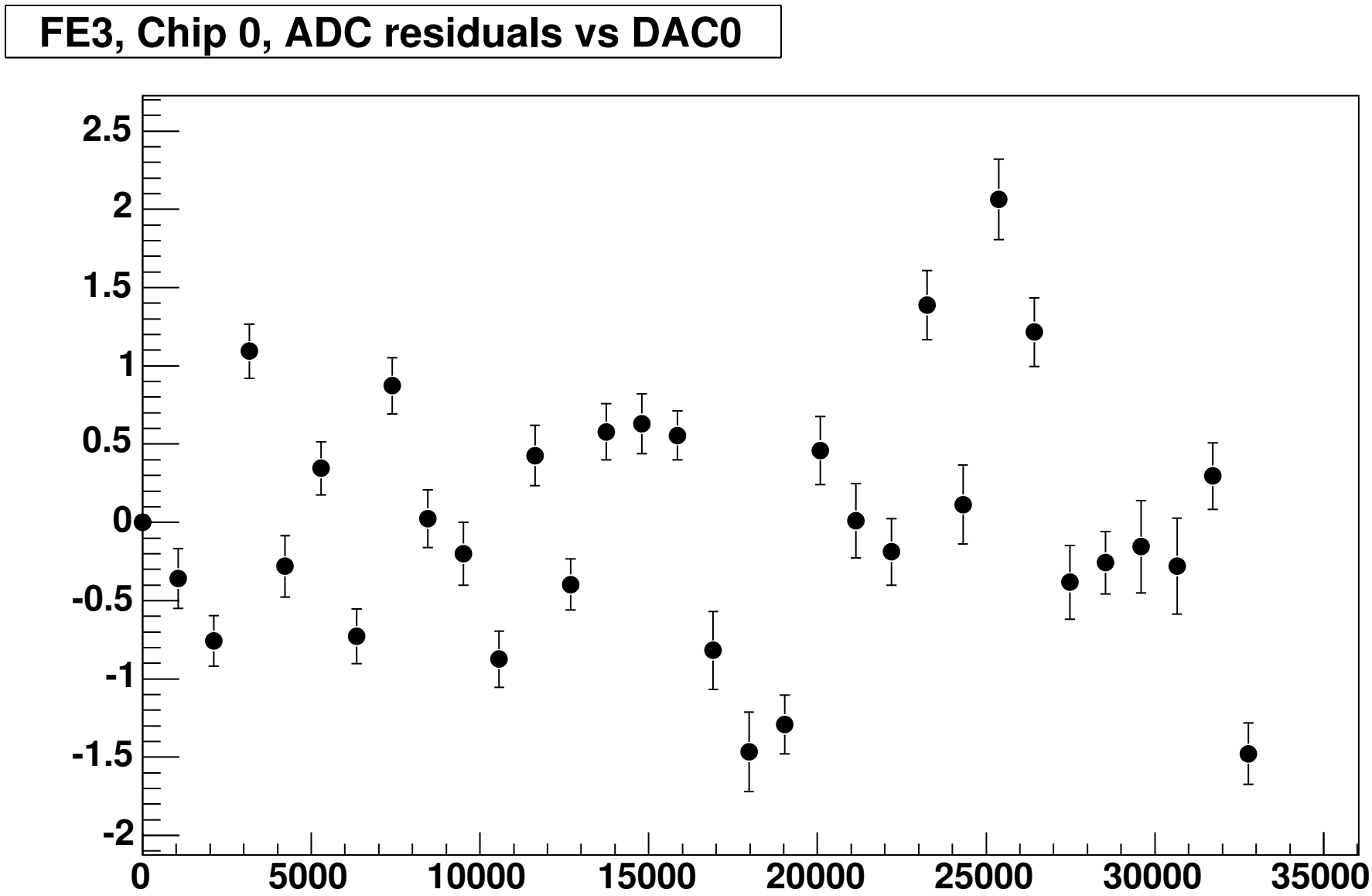

FE2, Chip 11, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

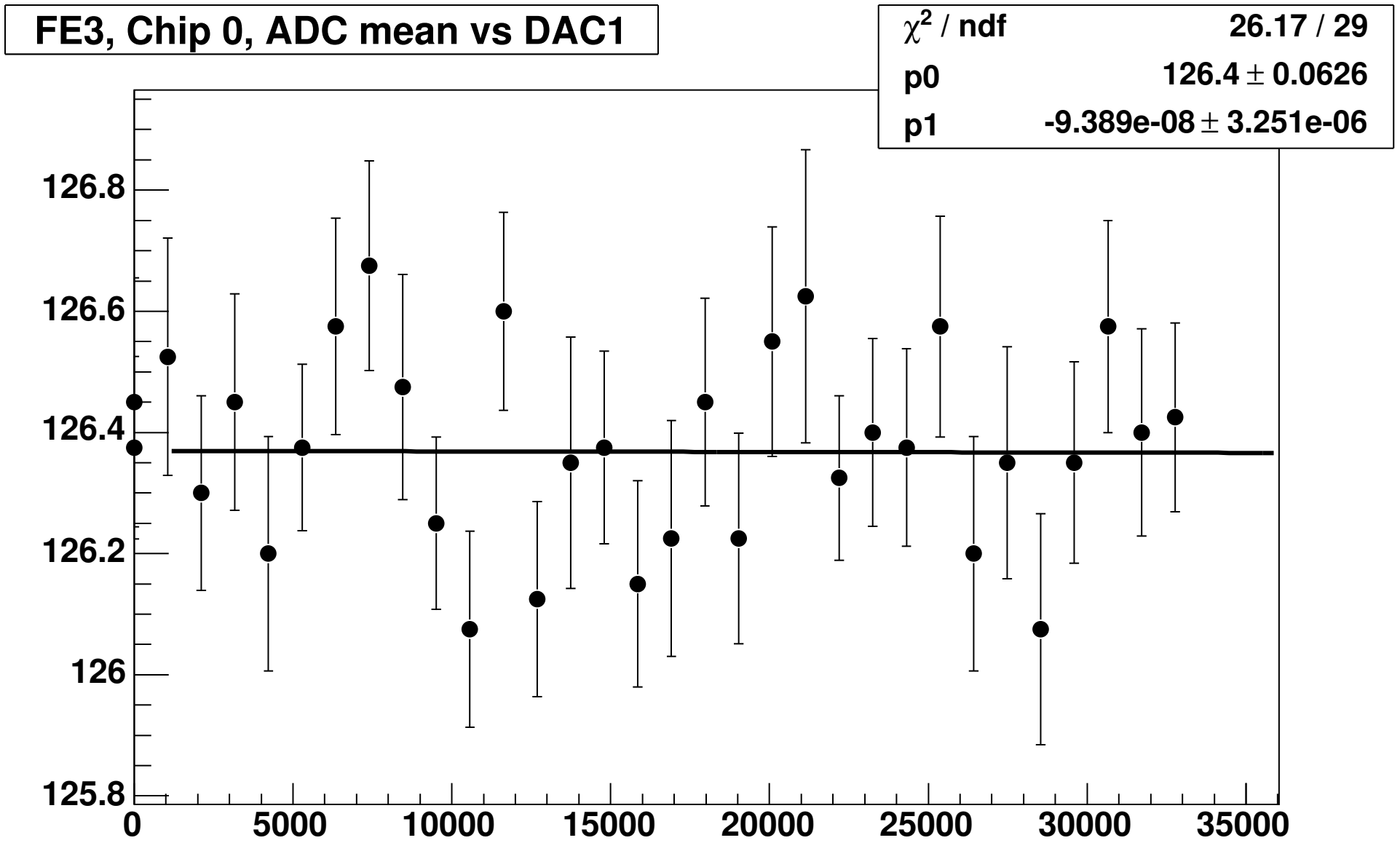
FE2, Chip 11, ADC residuals vs DAC1

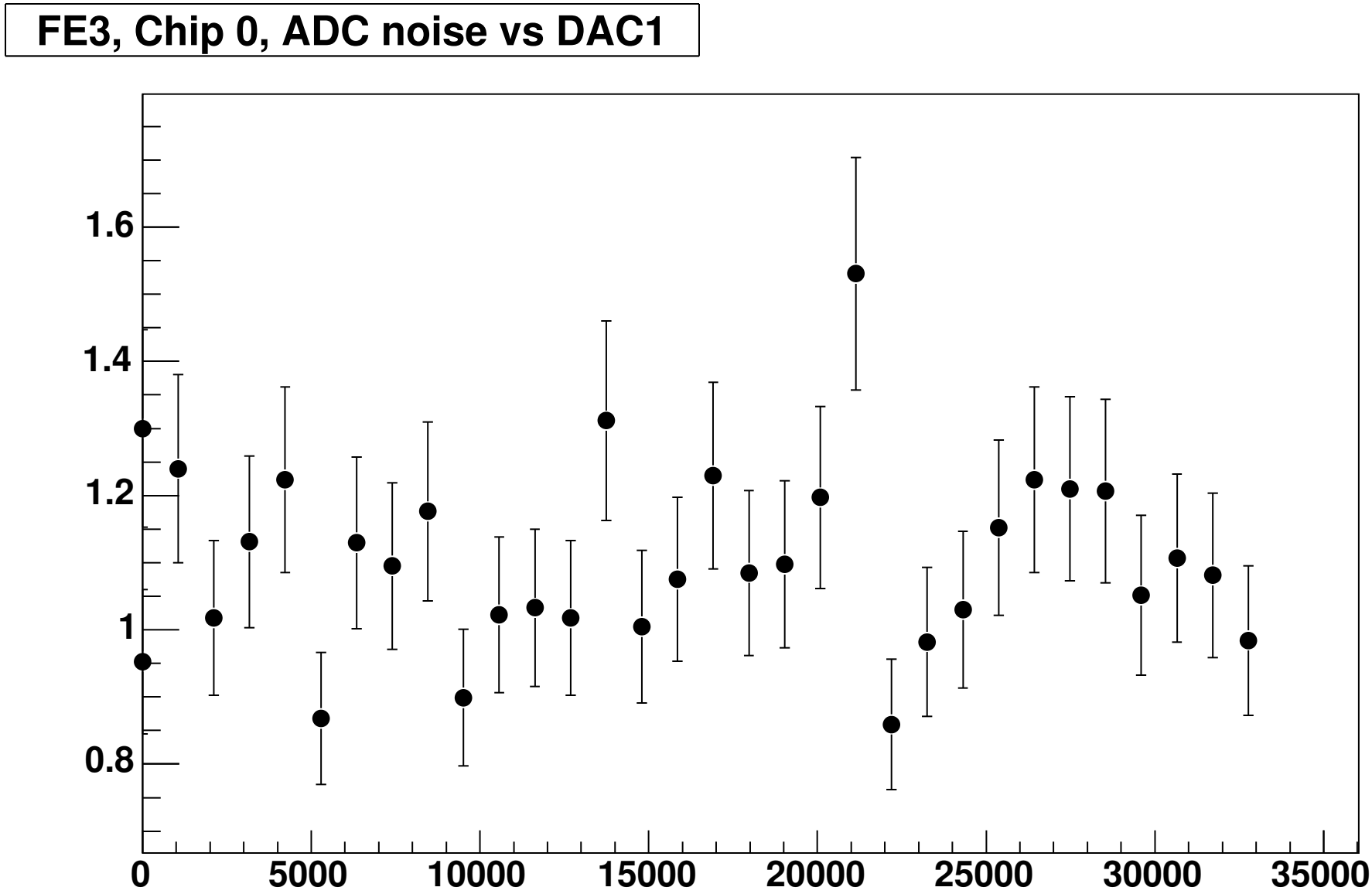


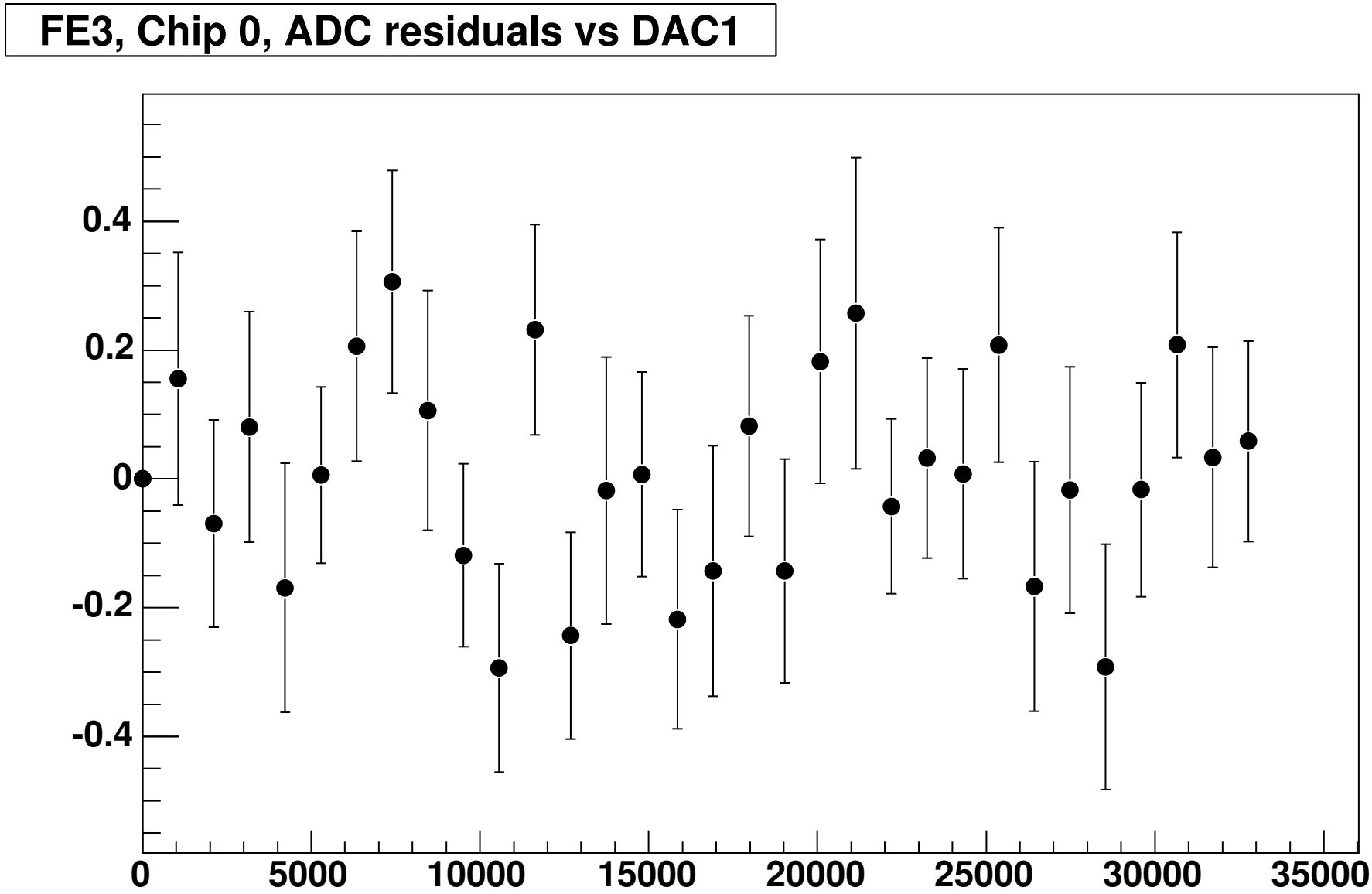

FE3, Chip 0, ADC mean vs DAC0
χ² / ndf 477.8 / 29
p0 -23.42 ± 0.068
p1 0.4623 ± 3.868e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

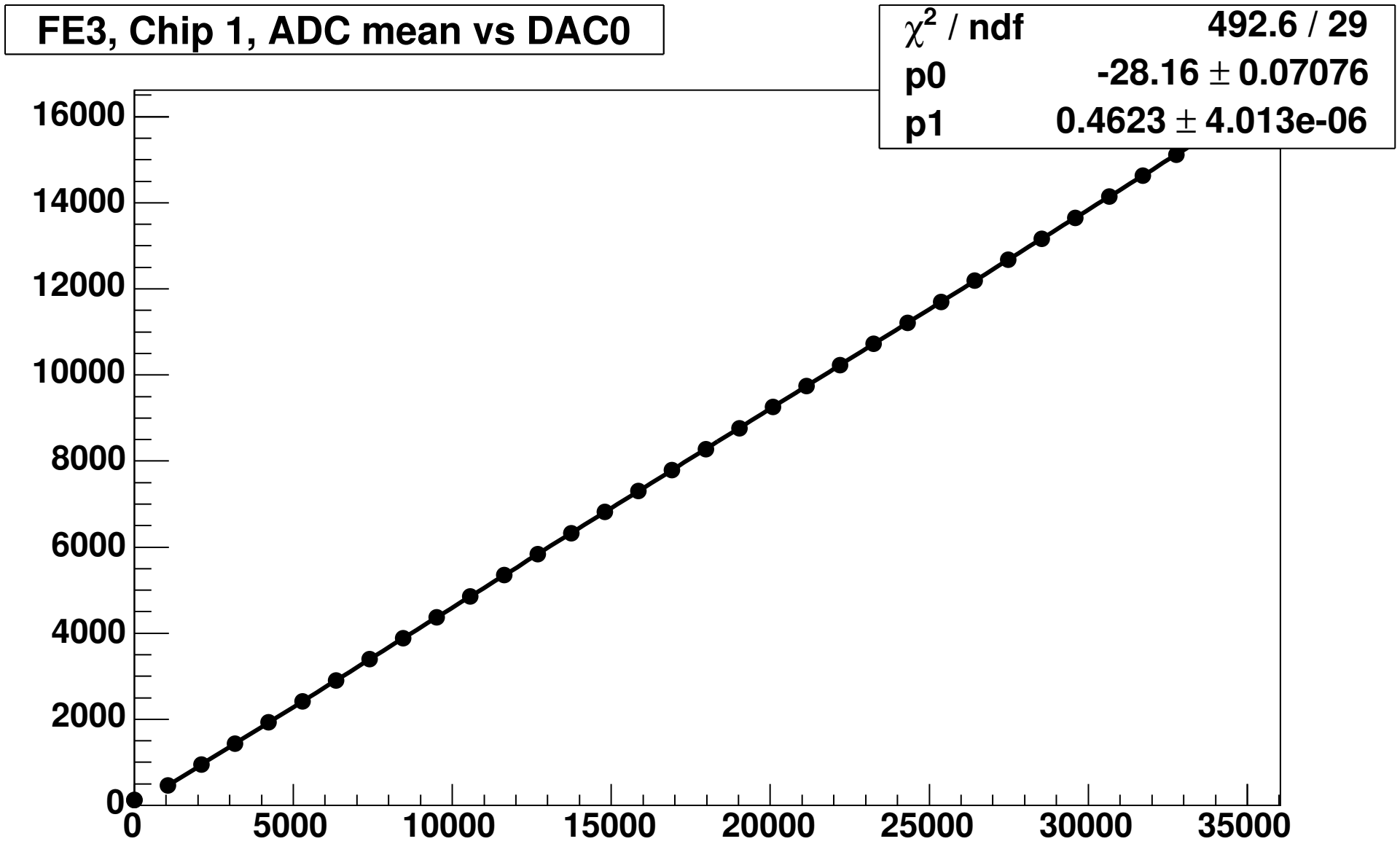

FE3, Chip 0, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

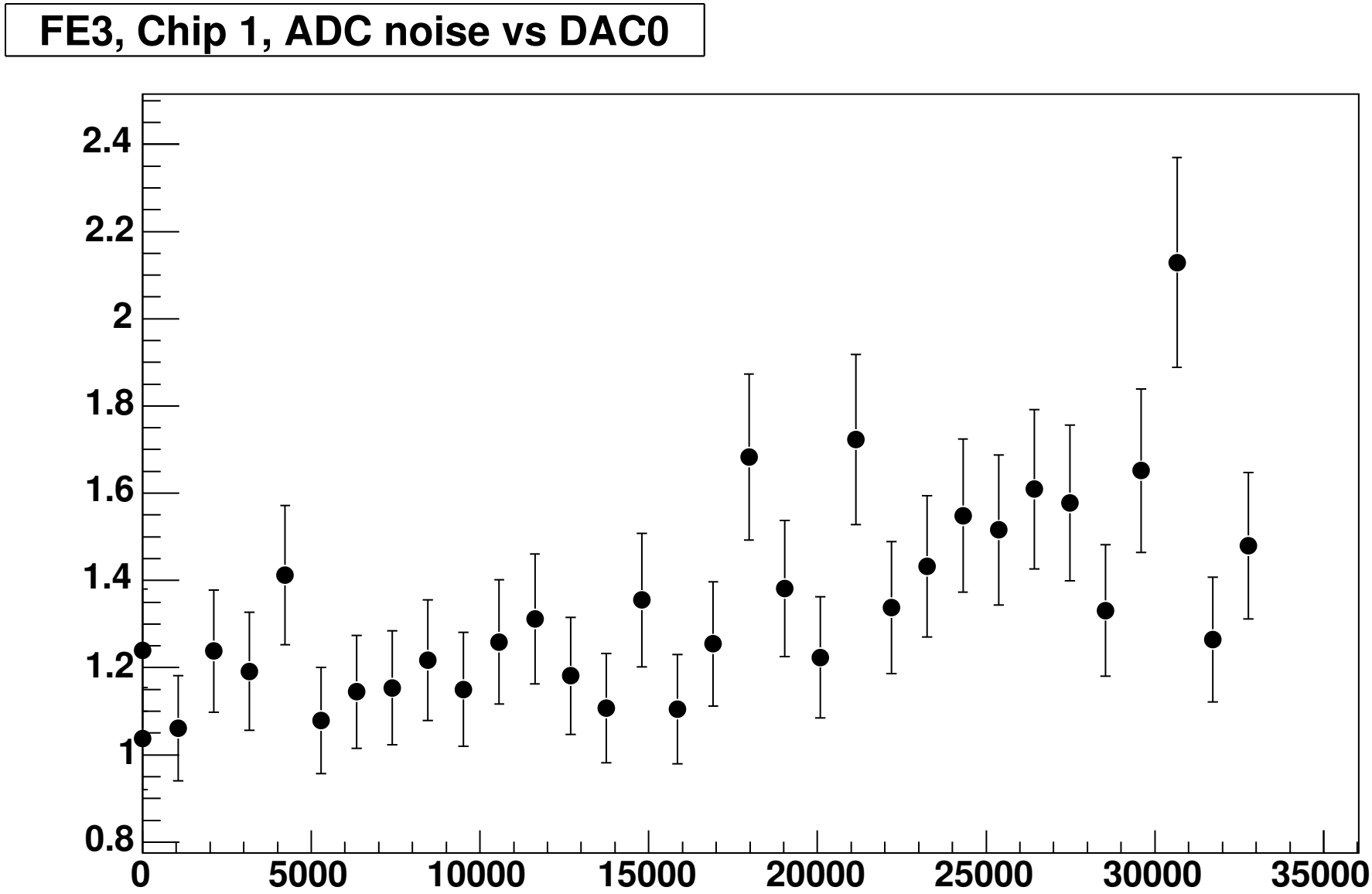

FE3, Chip 0, ADC residuals vs DAC0
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000


FE3, Chip 0, ADC mean vs DAC1
χ² / ndf 26.17 / 29
p0 126.4 ± 0.0626
p1 -9.389e-08 ± 3.251e-06
126.8
126.6
126.4
126.2
126
125.8
0
5000
10000
15000
20000
25000
30000
35000

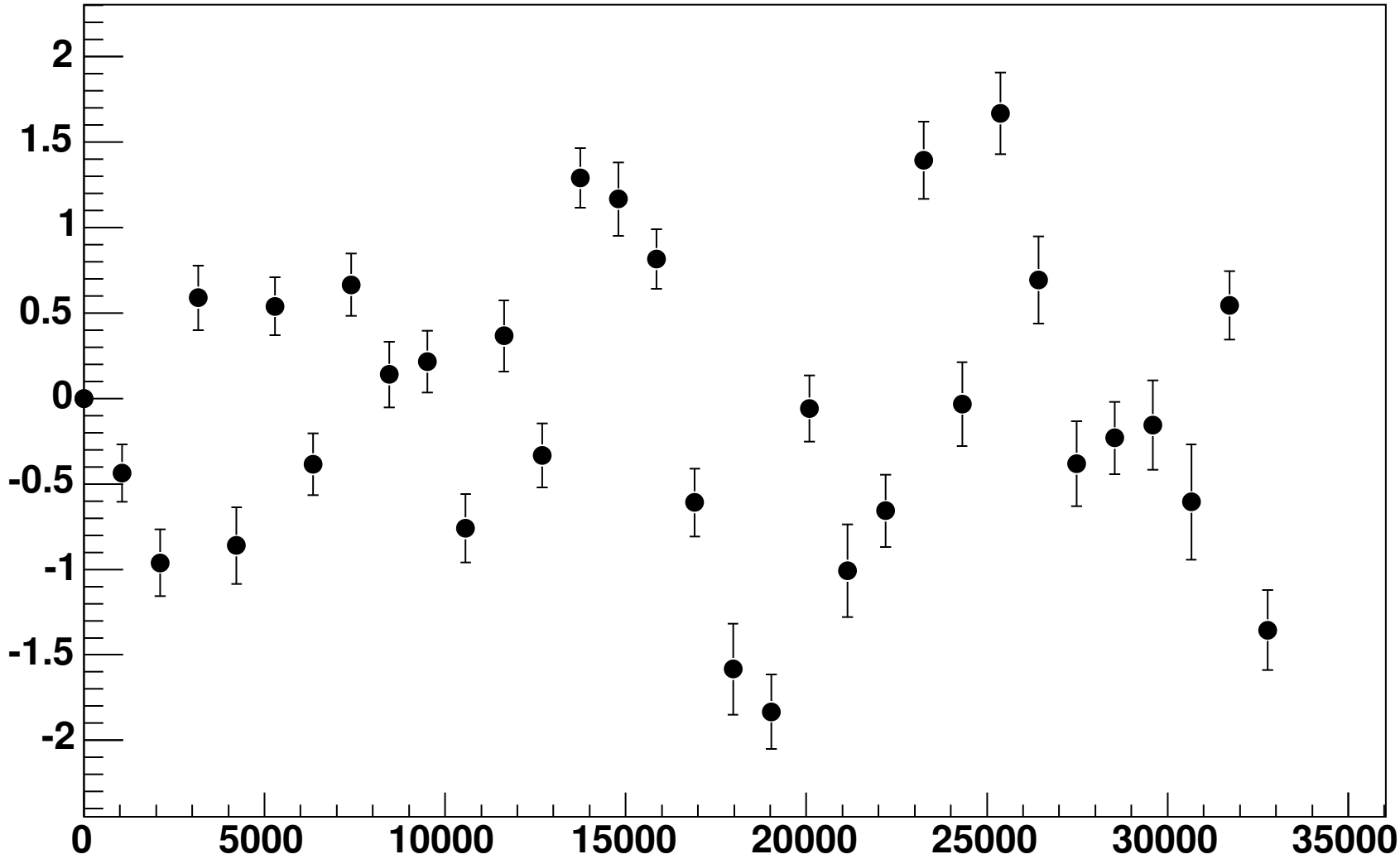

FE3, Chip 0, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

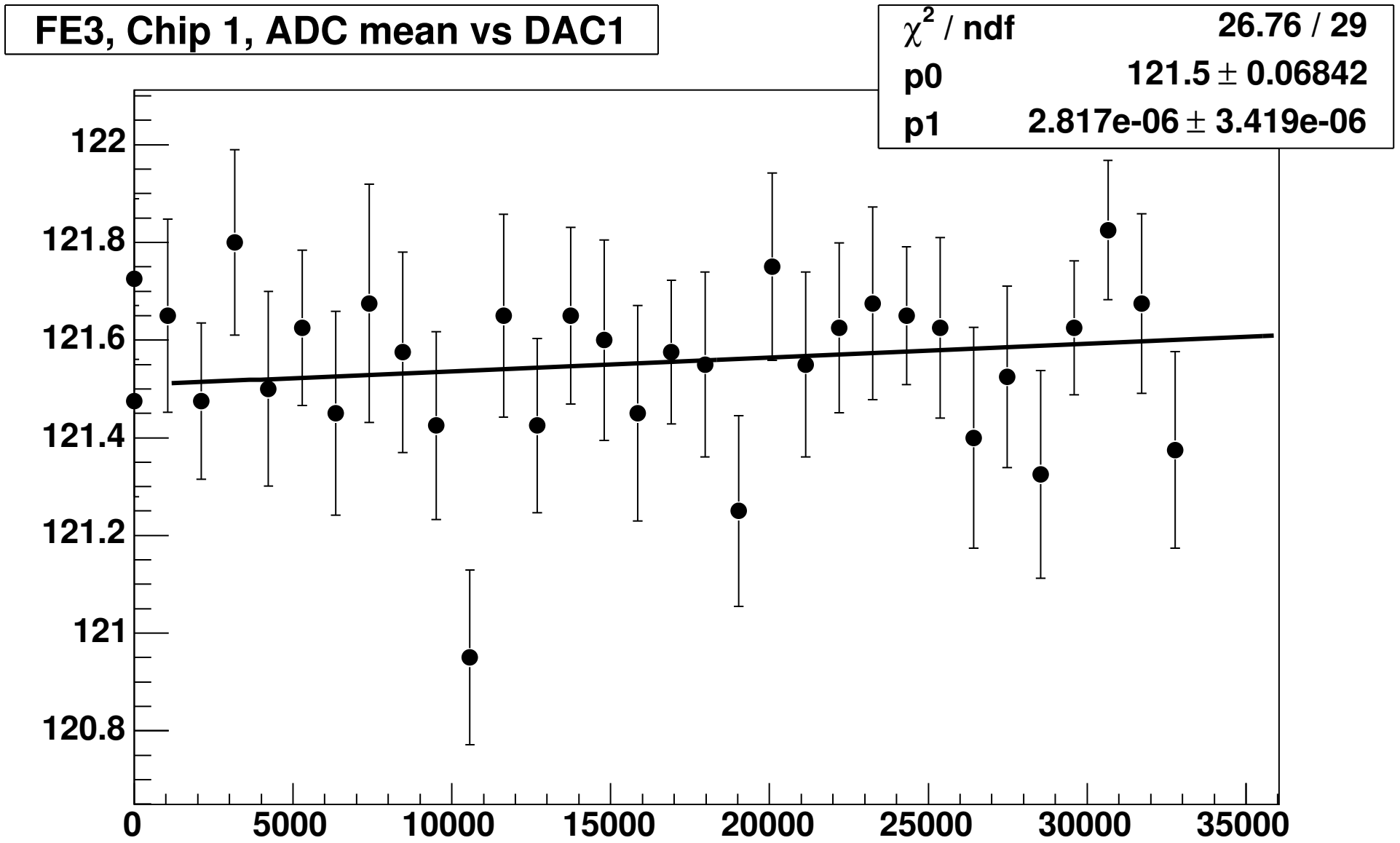

FE3, Chip 0, ADC residuals vs DAC1
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

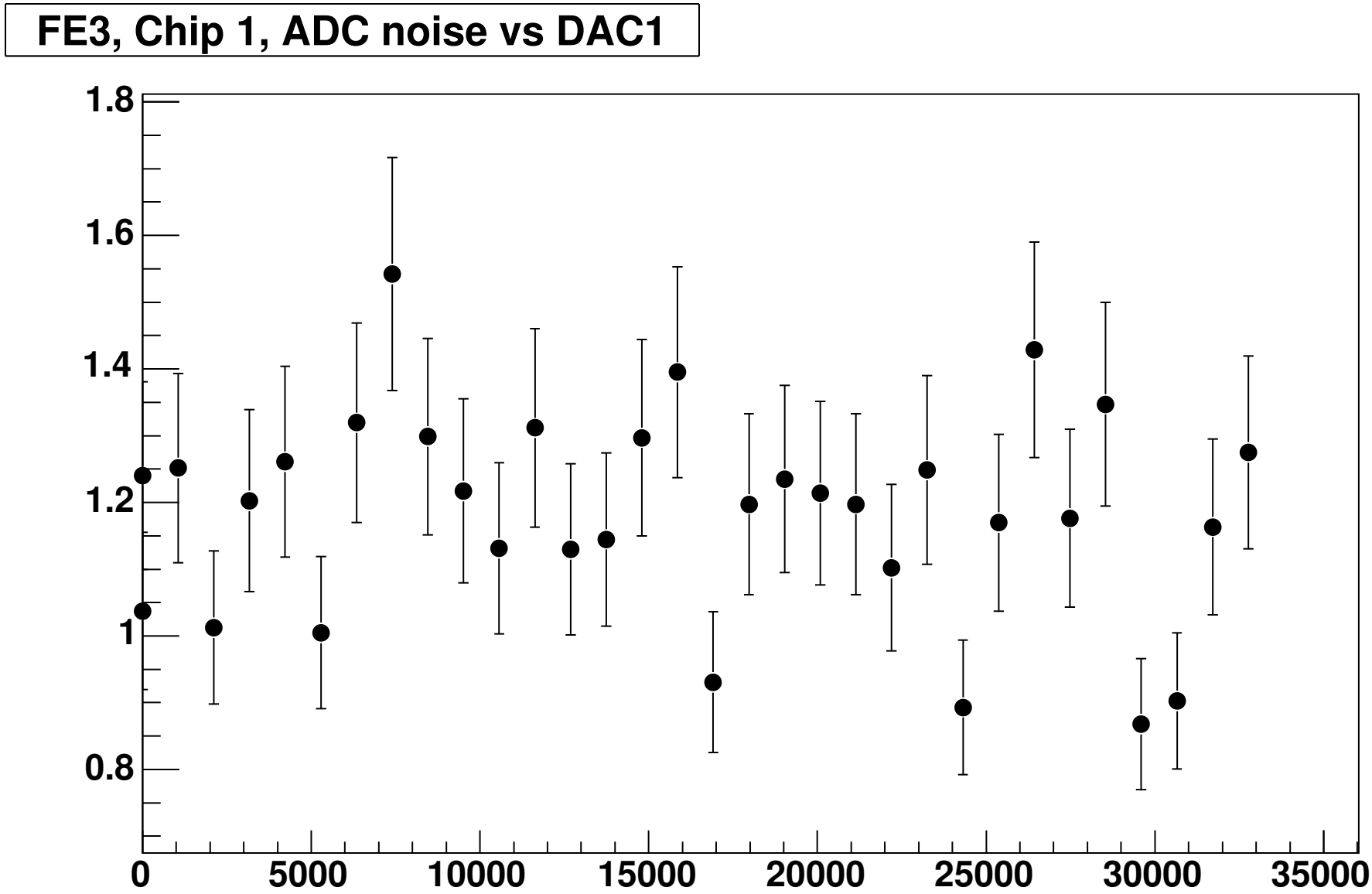

FE3, Chip 1, ADC mean vs DAC0
χ² / ndf 492.6 / 29
p0 -28.16 ± 0.07076
p1 0.4623 ± 4.013e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

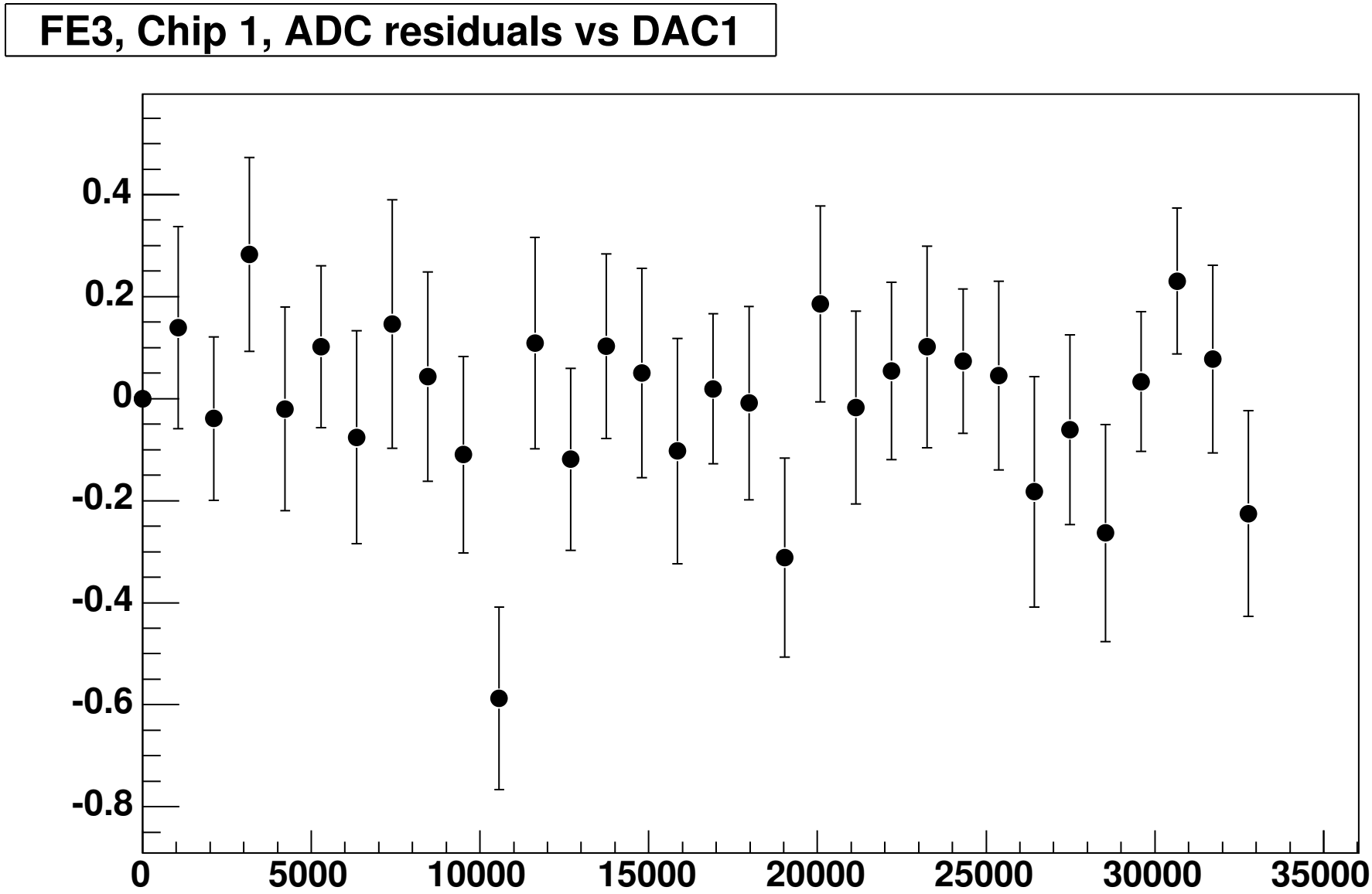

FE3, Chip 1, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

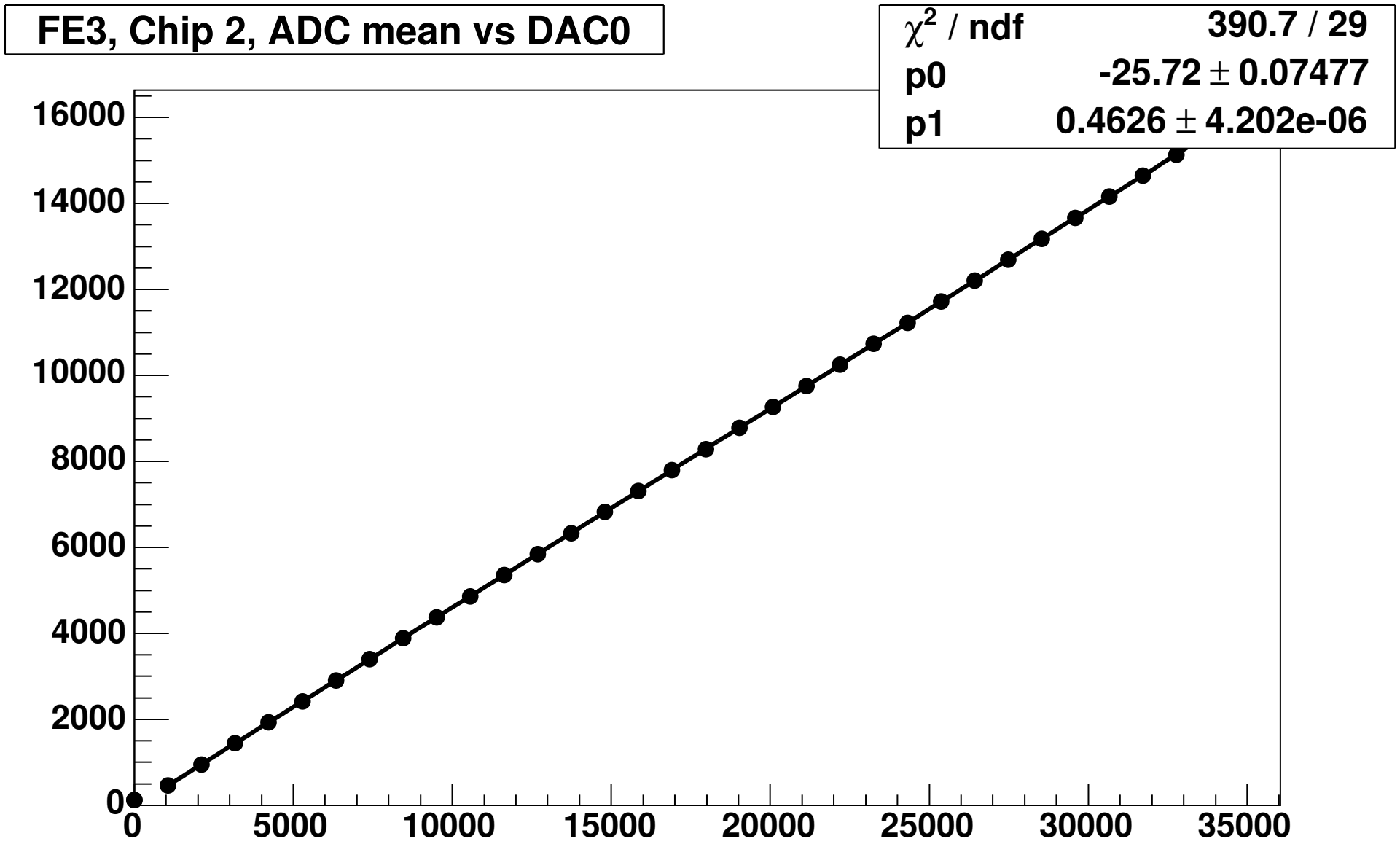
FE3, Chip 1, ADC residuals vs DAC0

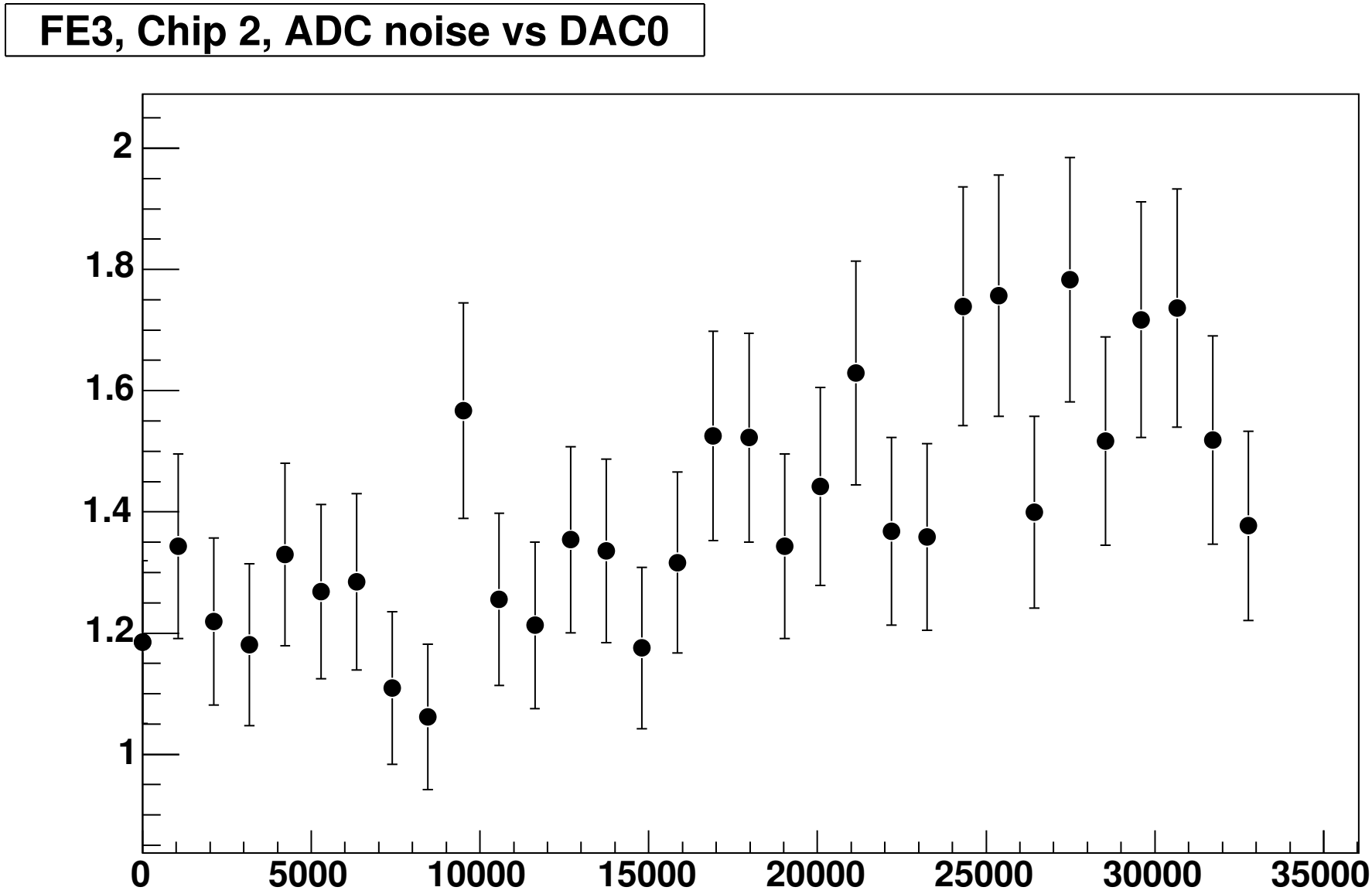


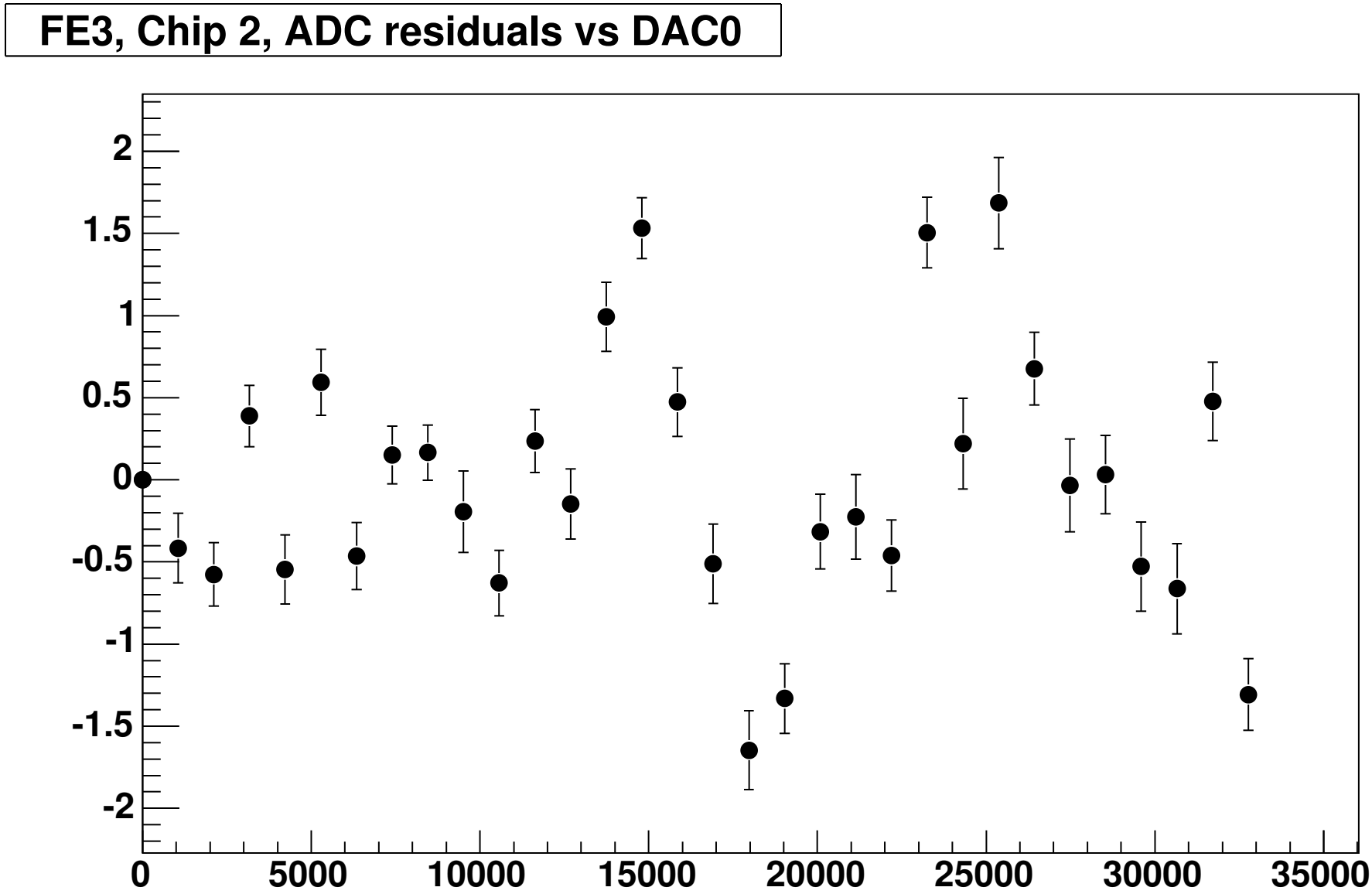

FE3, Chip 1, ADC mean vs DAC1
χ² / ndf 26.76 / 29
p0 121.5 ± 0.06842
p1 2.817e-06 ± 3.419e-06
122
121.8
121.6
121.4
121.2
121
120.8
0
5000
10000
15000
20000
25000
30000
35000

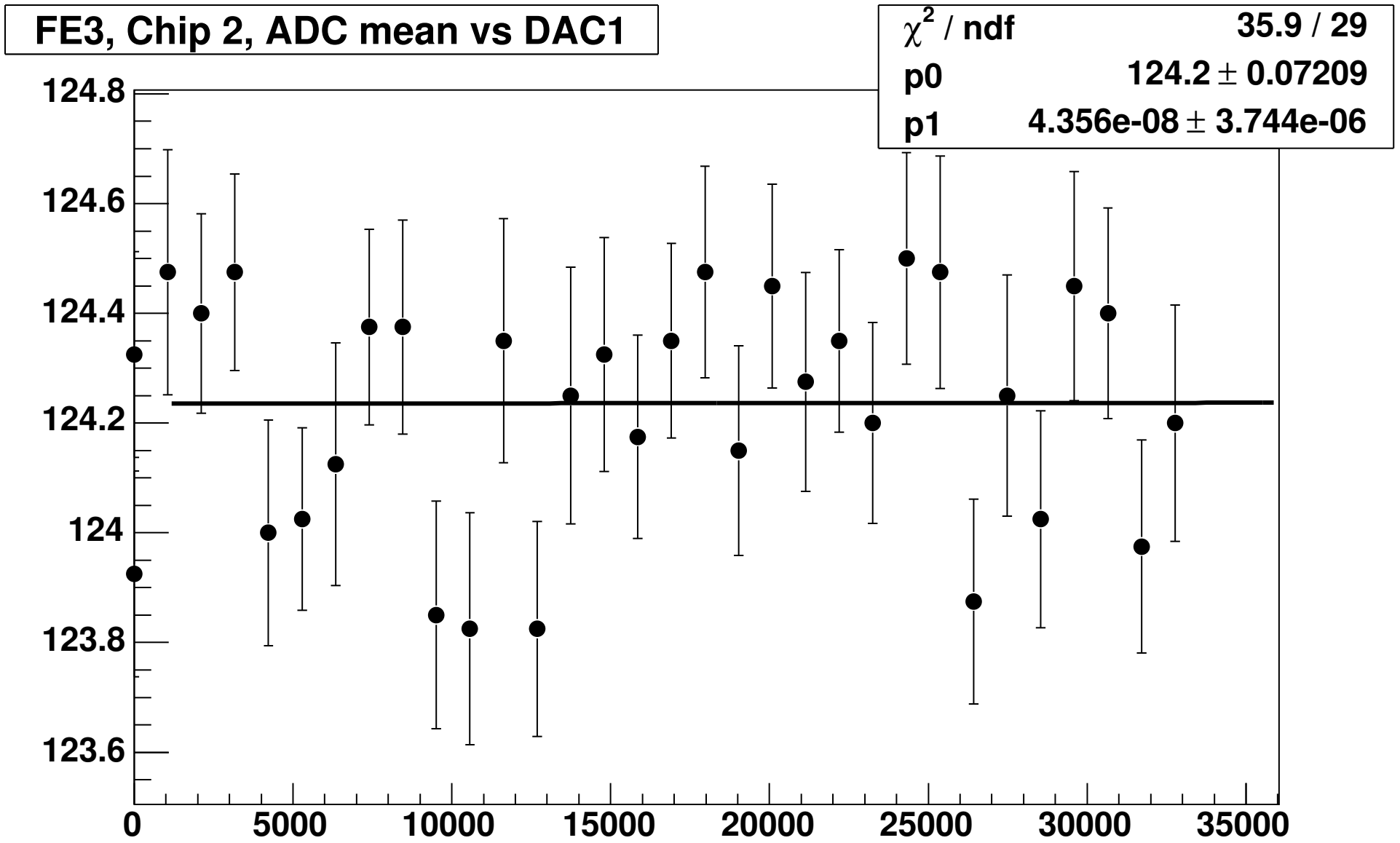

FE3, Chip 1, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000


FE3, Chip 1, ADC residuals vs DAC1
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

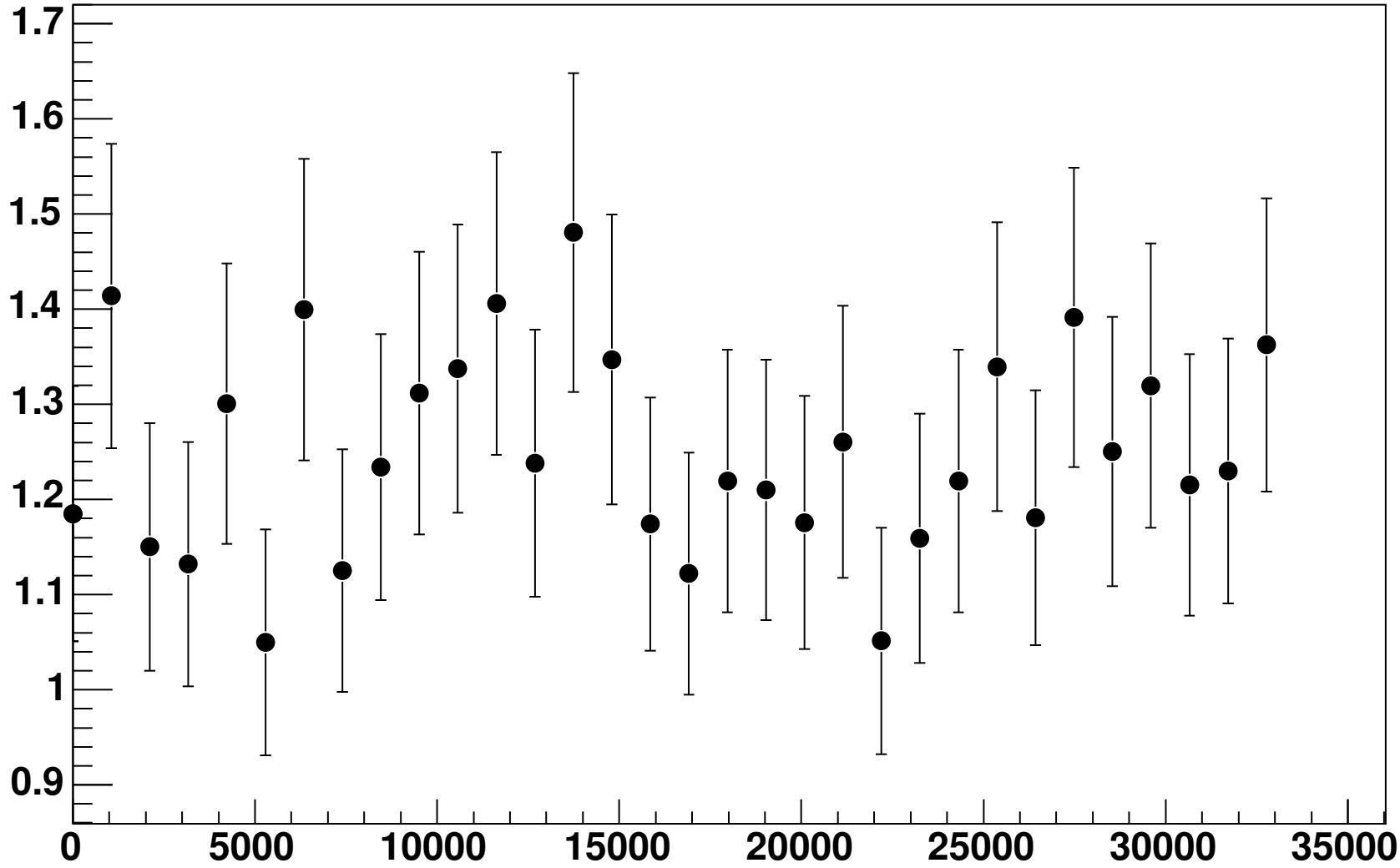

FE3, Chip 2, ADC mean vs DAC0
χ² / ndf 390.7 / 29
p0 -25.72 ± 0.07477
p1 0.4626 ± 4.202e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

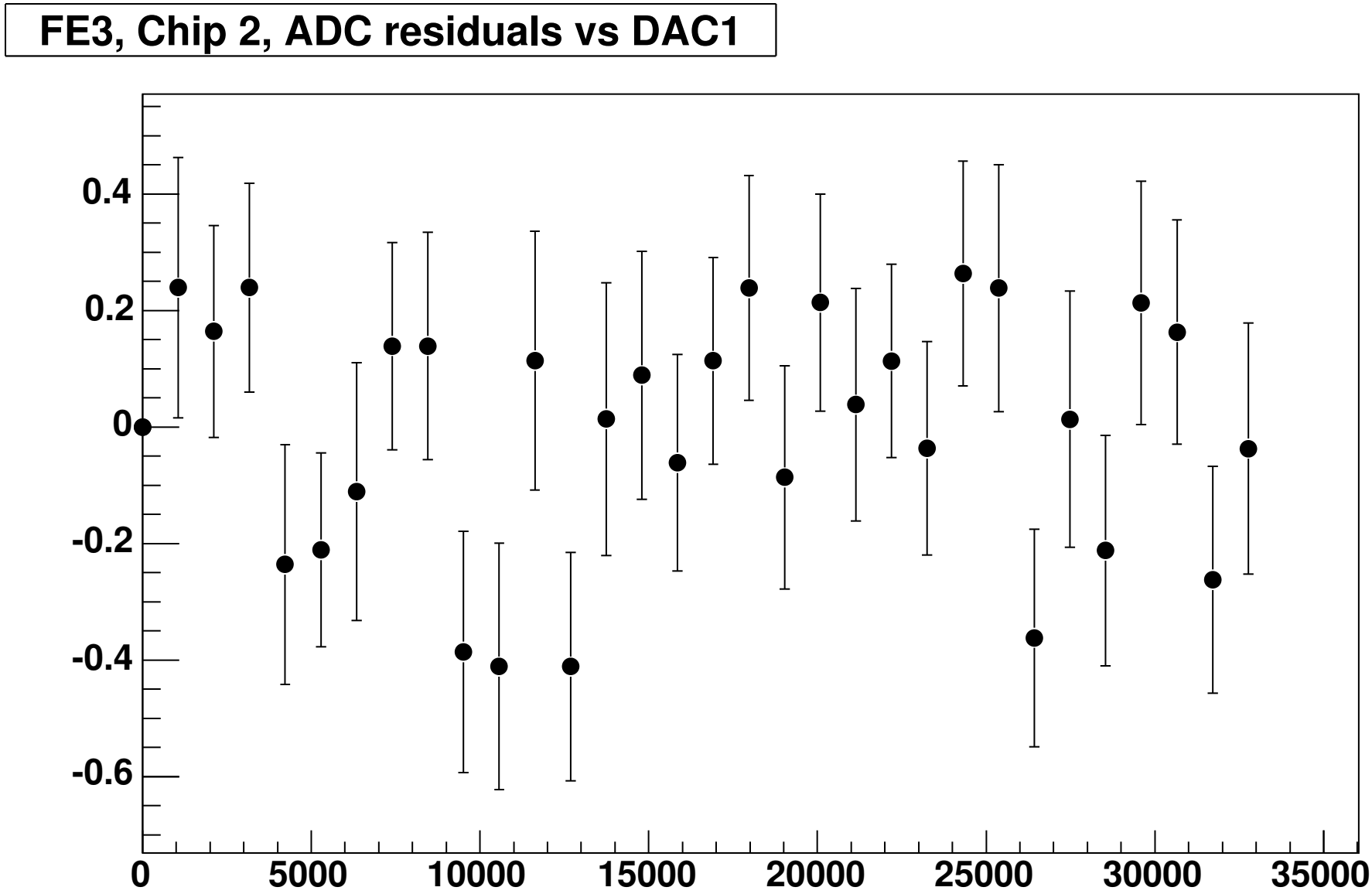

FE3, Chip 2, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

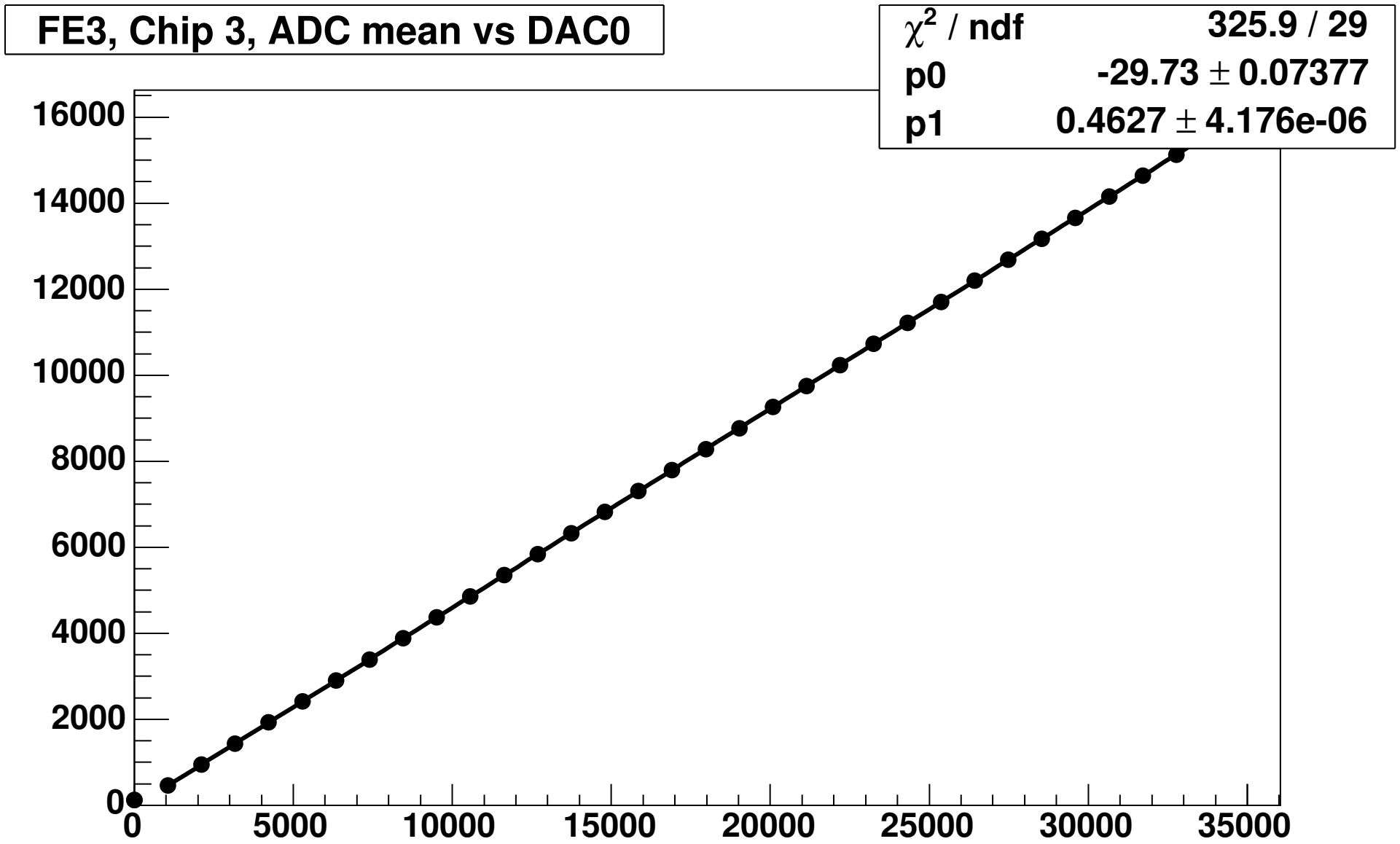

FE3, Chip 2, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

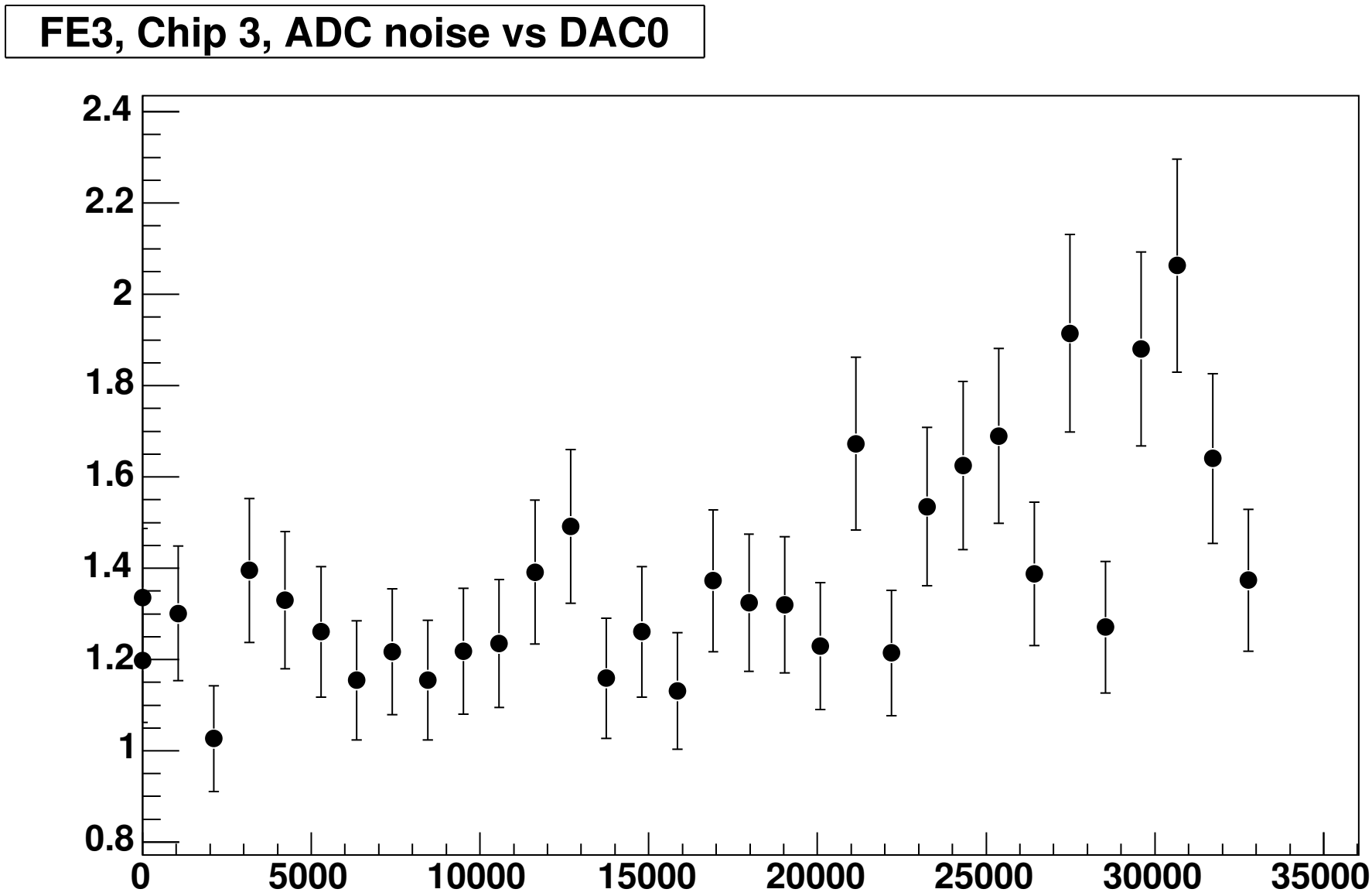

FE3, Chip 2, ADC mean vs DAC1
χ² / ndf 35.9 / 29
p0 124.2 ± 0.07209
p1 4.356e-08 ± 3.744e-06
124.8
124.6
124.4
124.2
124
123.8
123.6
0
5000
10000
15000
20000
25000
30000
35000

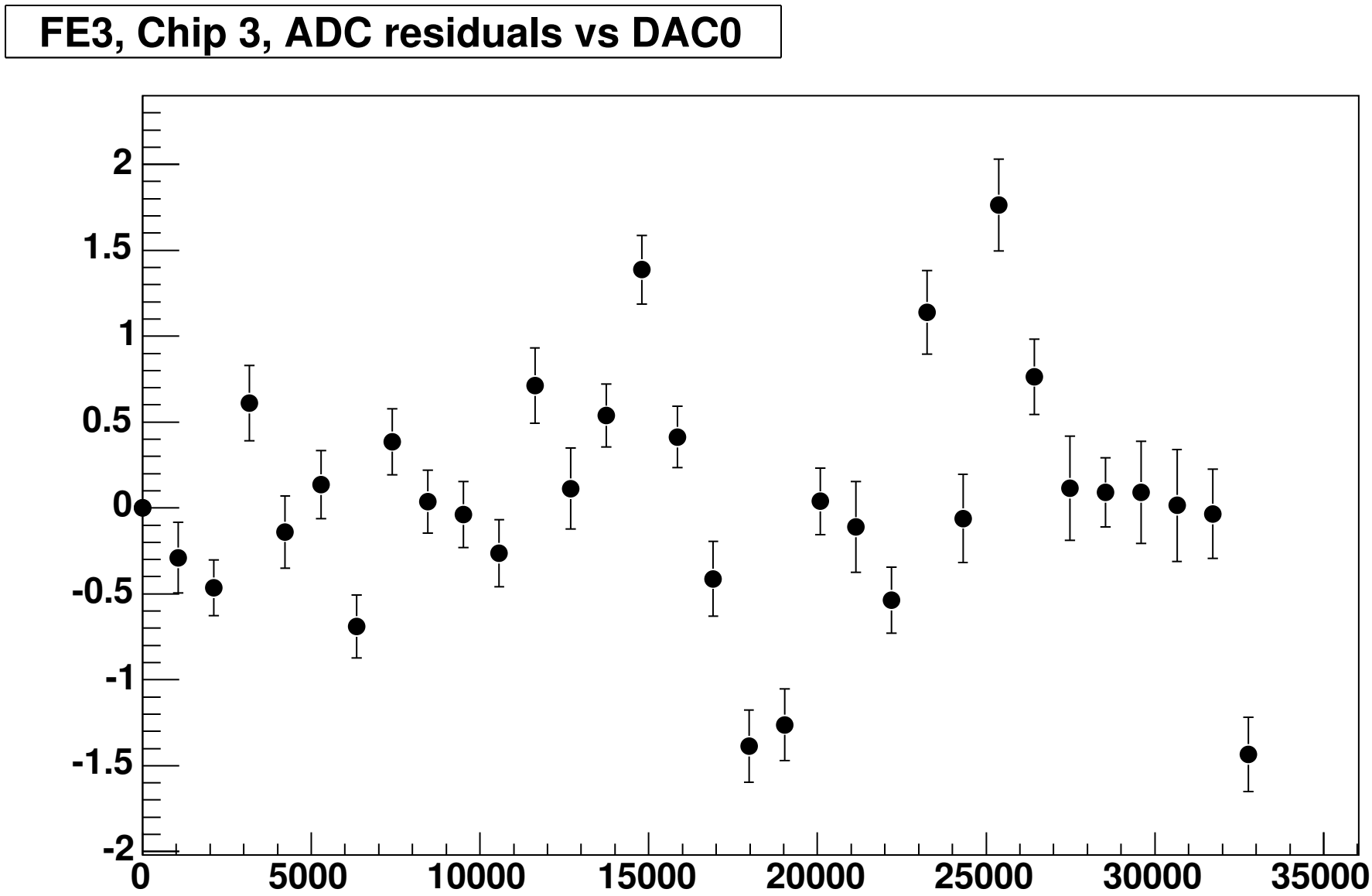
FE3, Chip 2, ADC noise vs DAC1

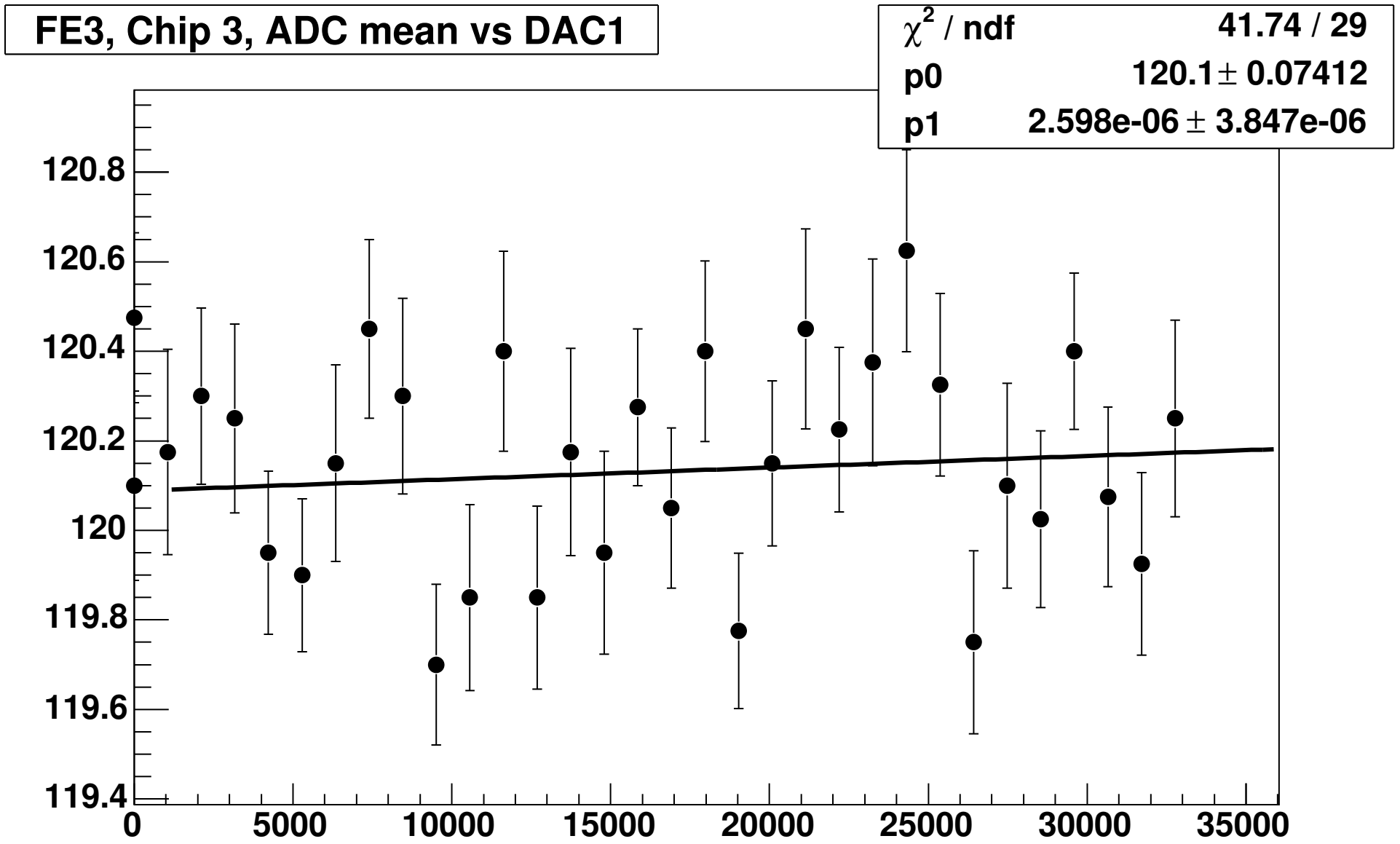


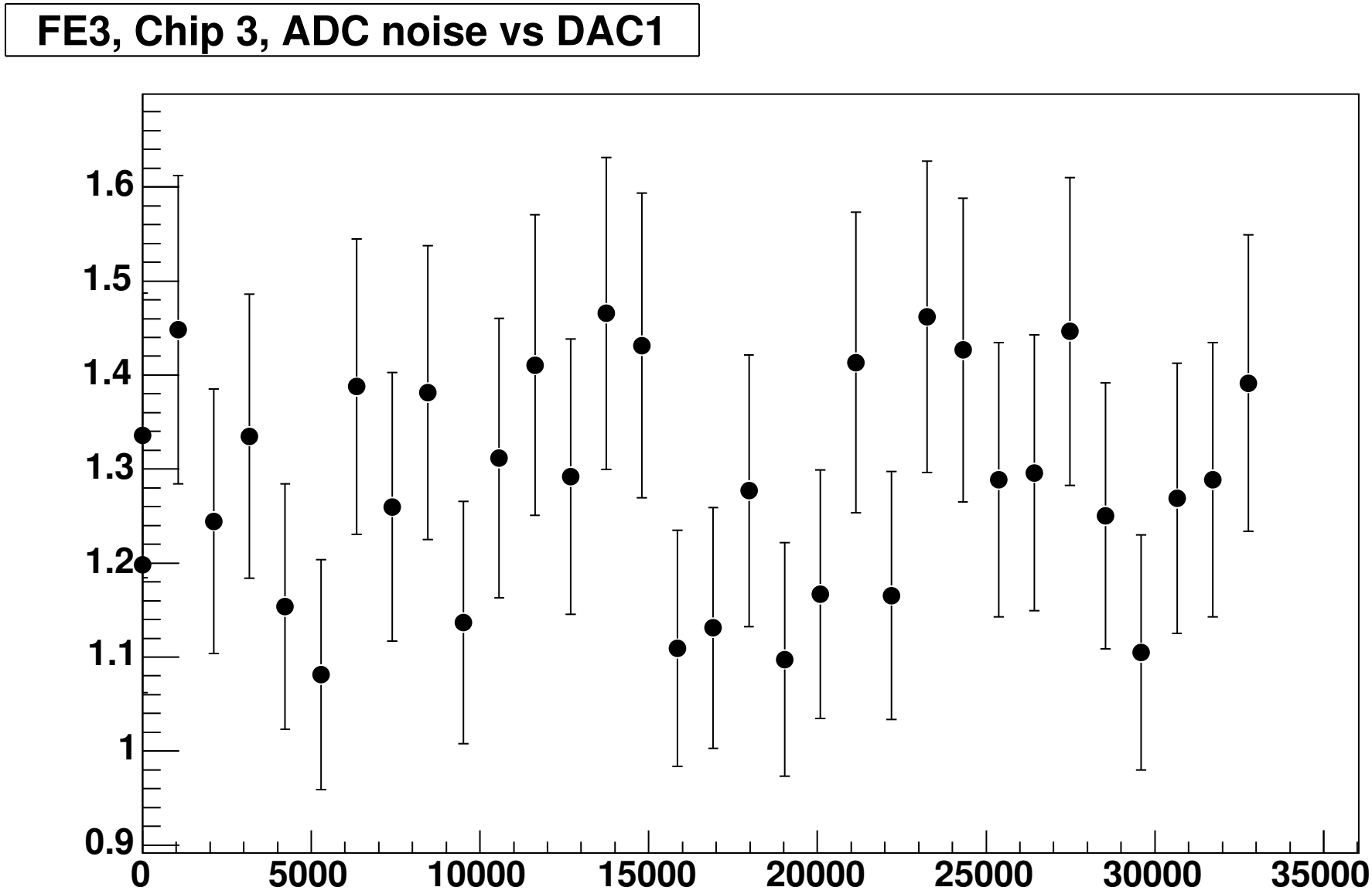

FE3, Chip 2, ADC residuals vs DAC1
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

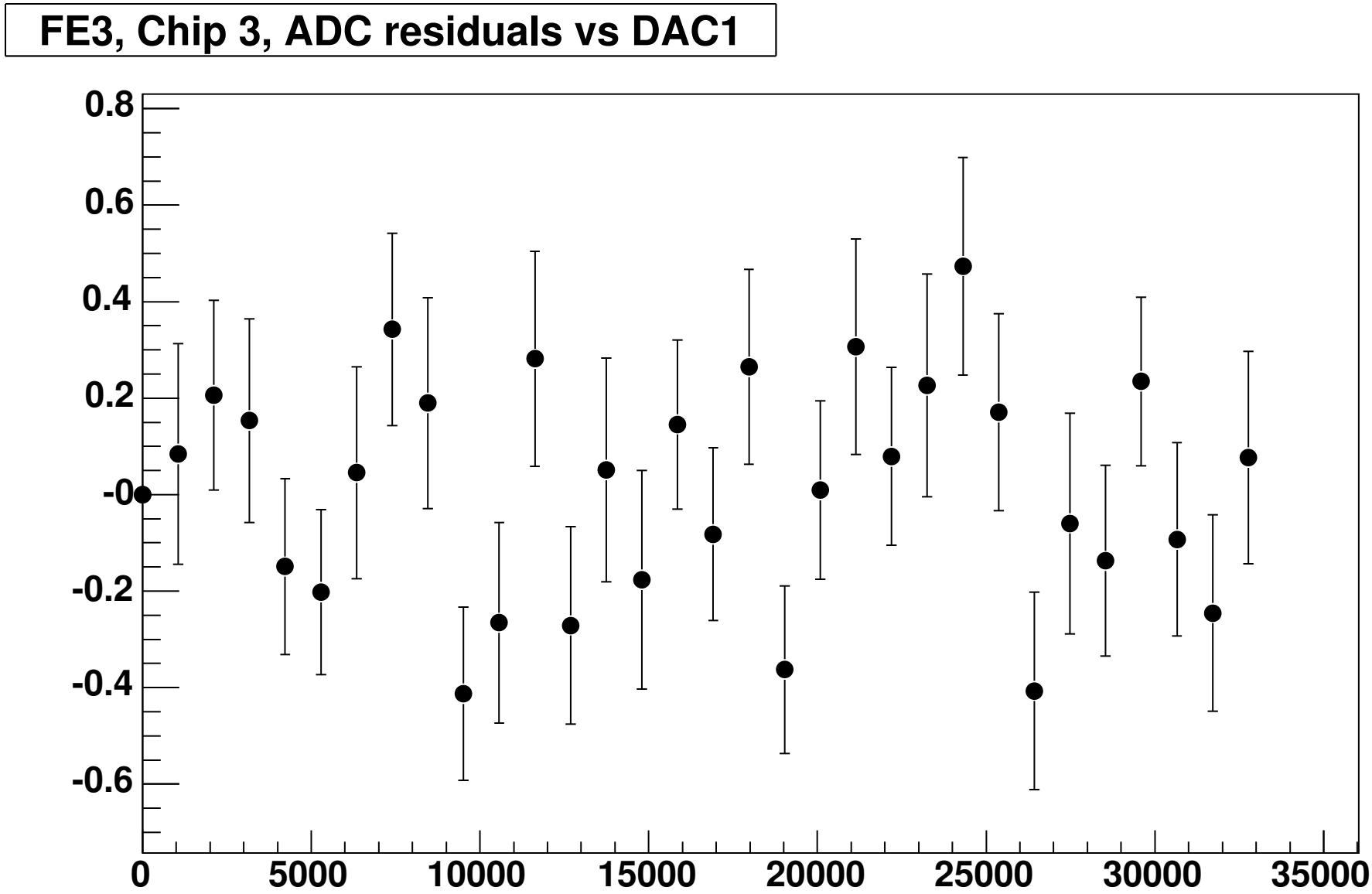

FE3, Chip 3, ADC mean vs DAC0
χ² / ndf 325.9 / 29
p0 -29.73 ± 0.07377
p1 0.4627 ± 4.176e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

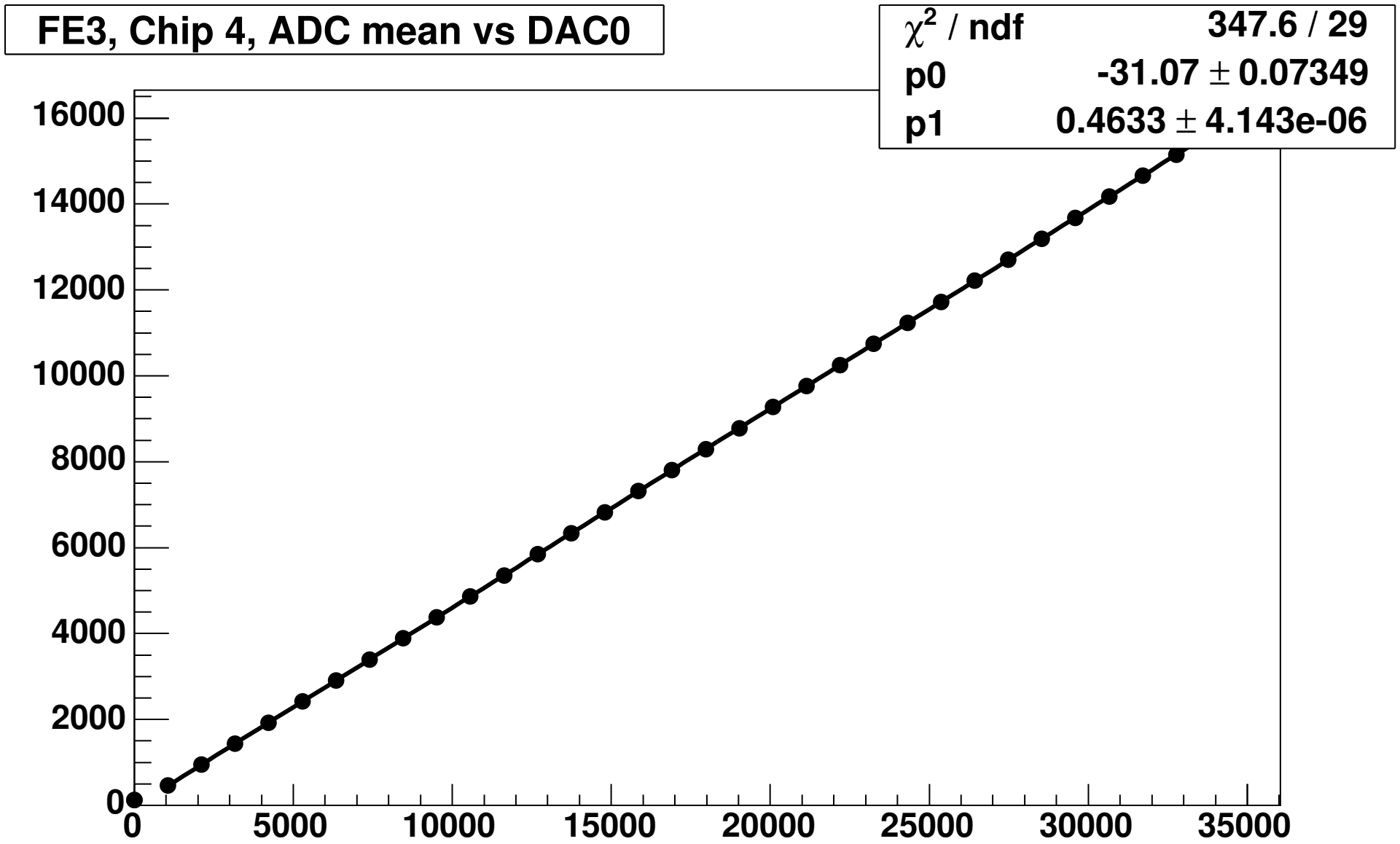

FE3, Chip 3, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

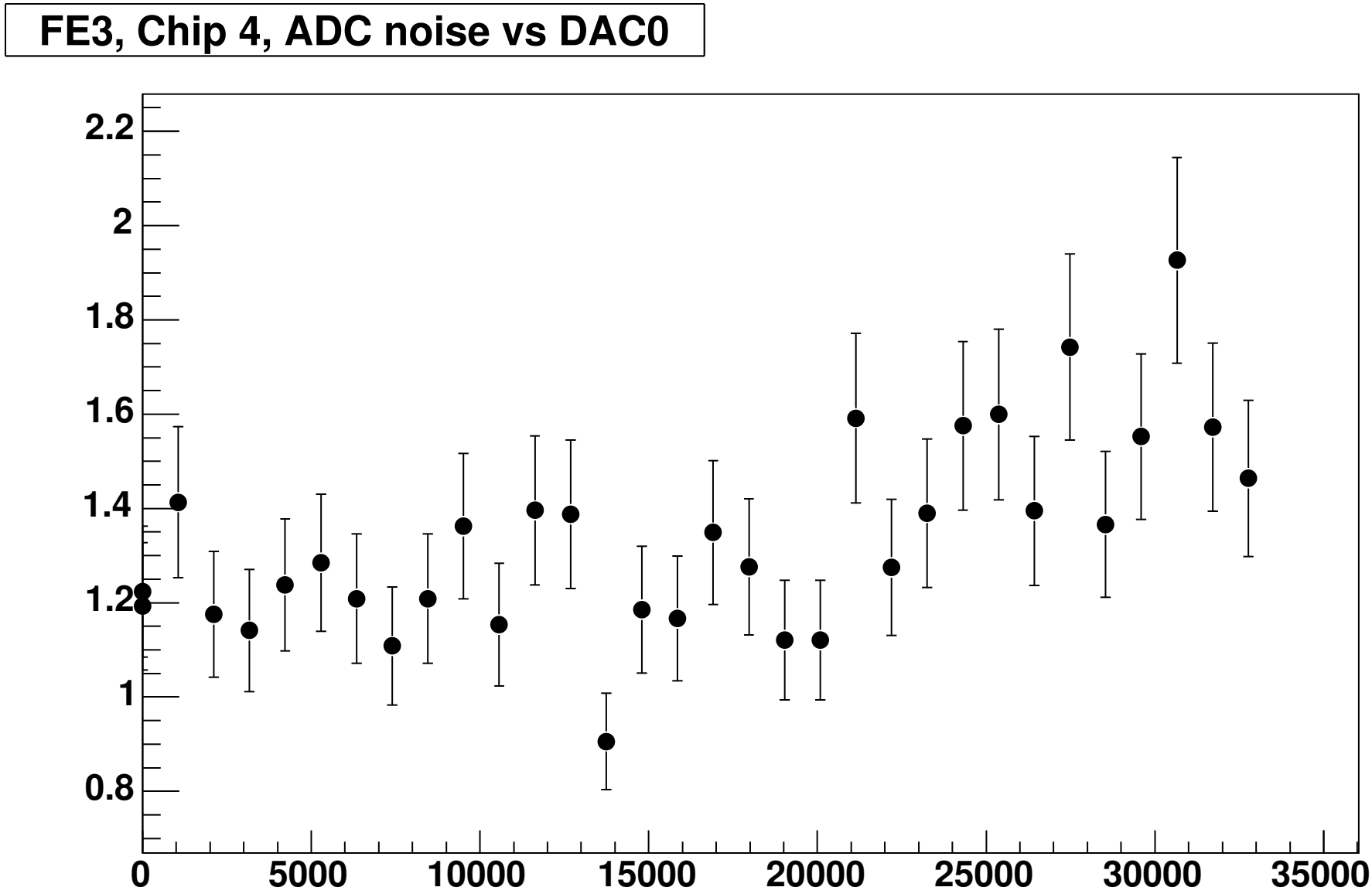

FE3, Chip 3, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

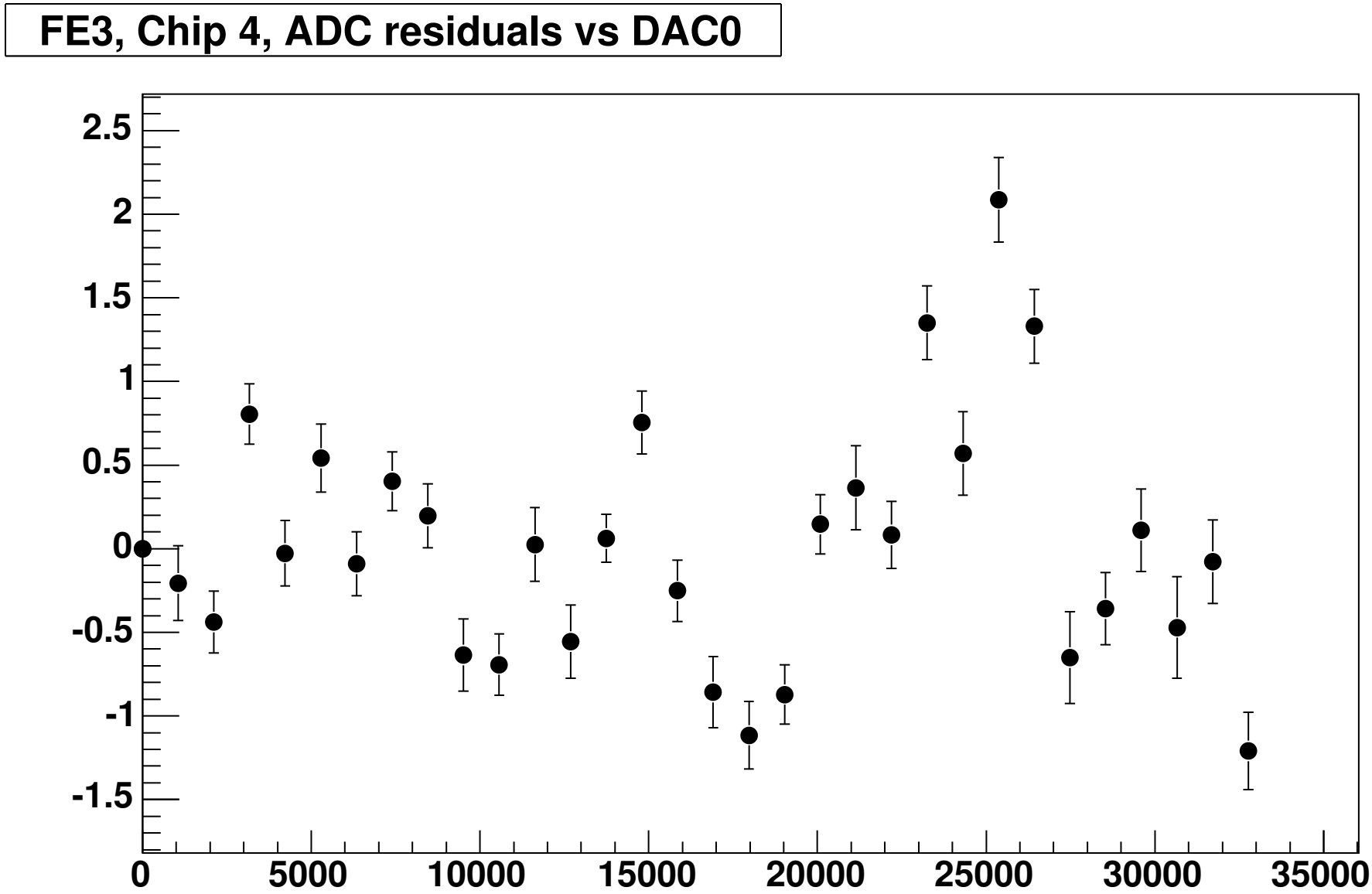

FE3, Chip 3, ADC mean vs DAC1
χ^2 / ndf 41.74 / 29
p0 120.1 ± 0.07412
p1 2.598e-06 ± 3.847e-06
120.8
120.6
120.4
120.2
120
119.8
119.6
119.4
0
5000
10000
15000
20000
25000
30000
35000

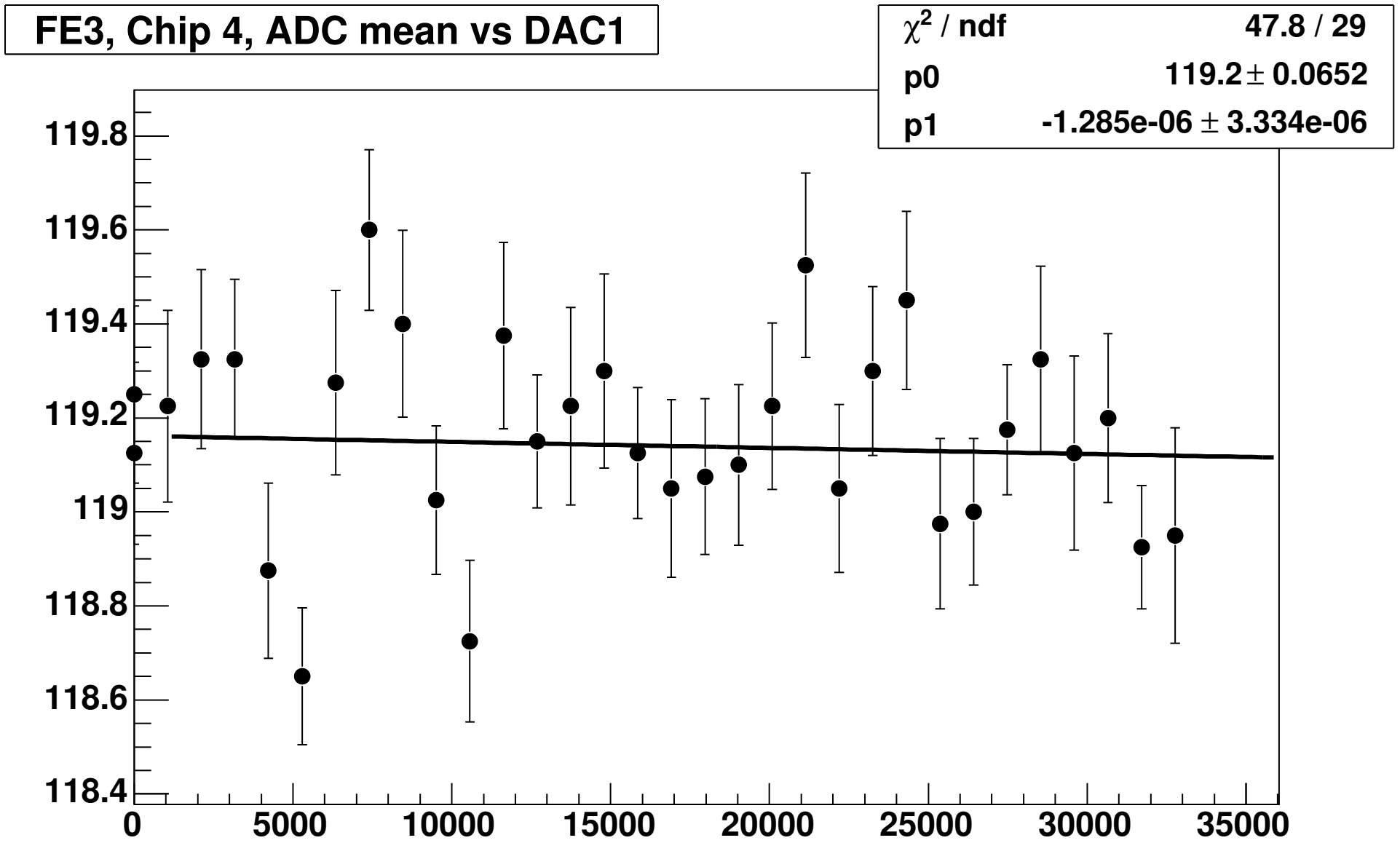

FE3, Chip 3, ADC noise vs DAC1
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0
5000
10000
15000
20000
25000
30000
35000

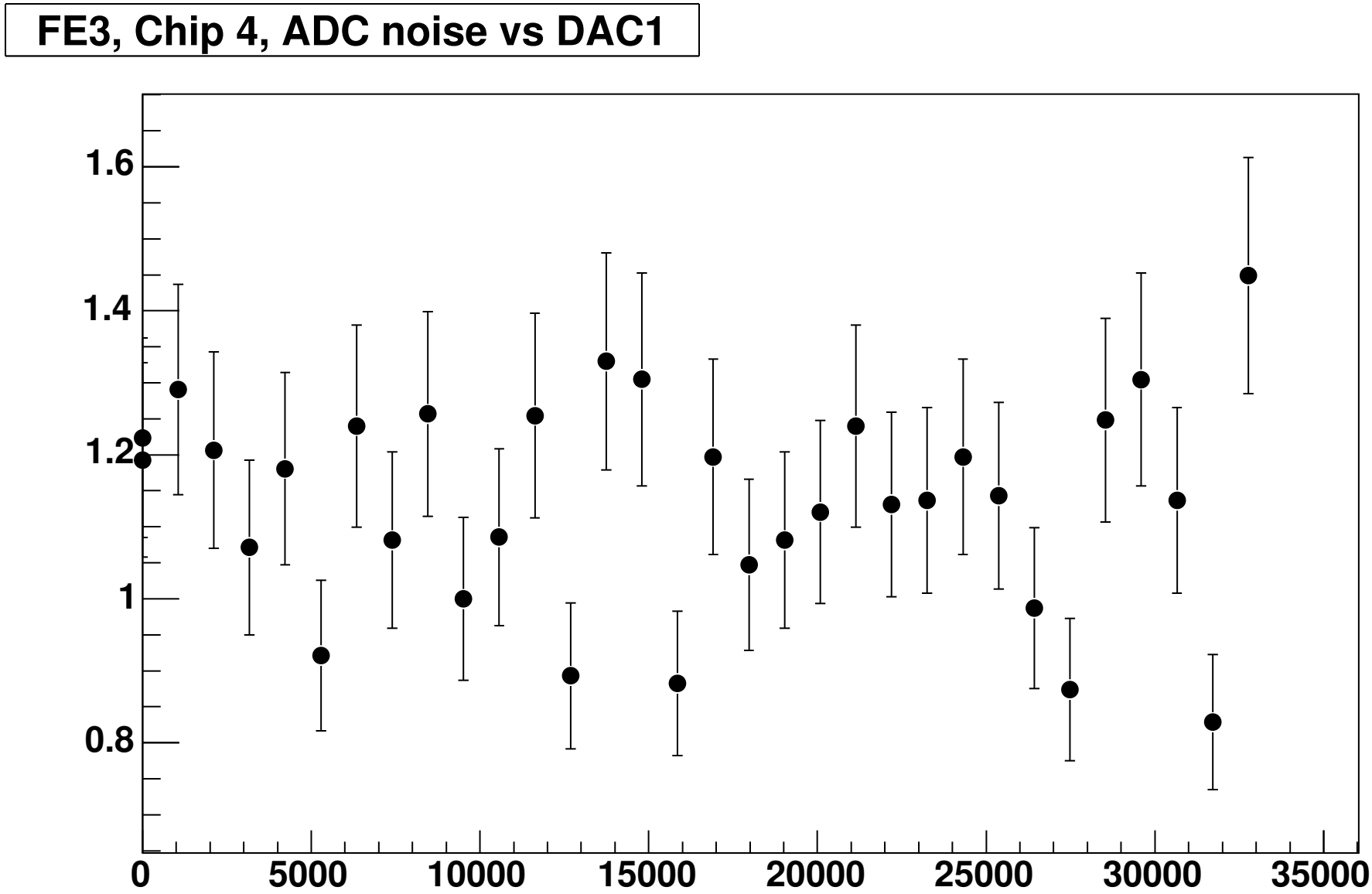

FE3, Chip 3, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

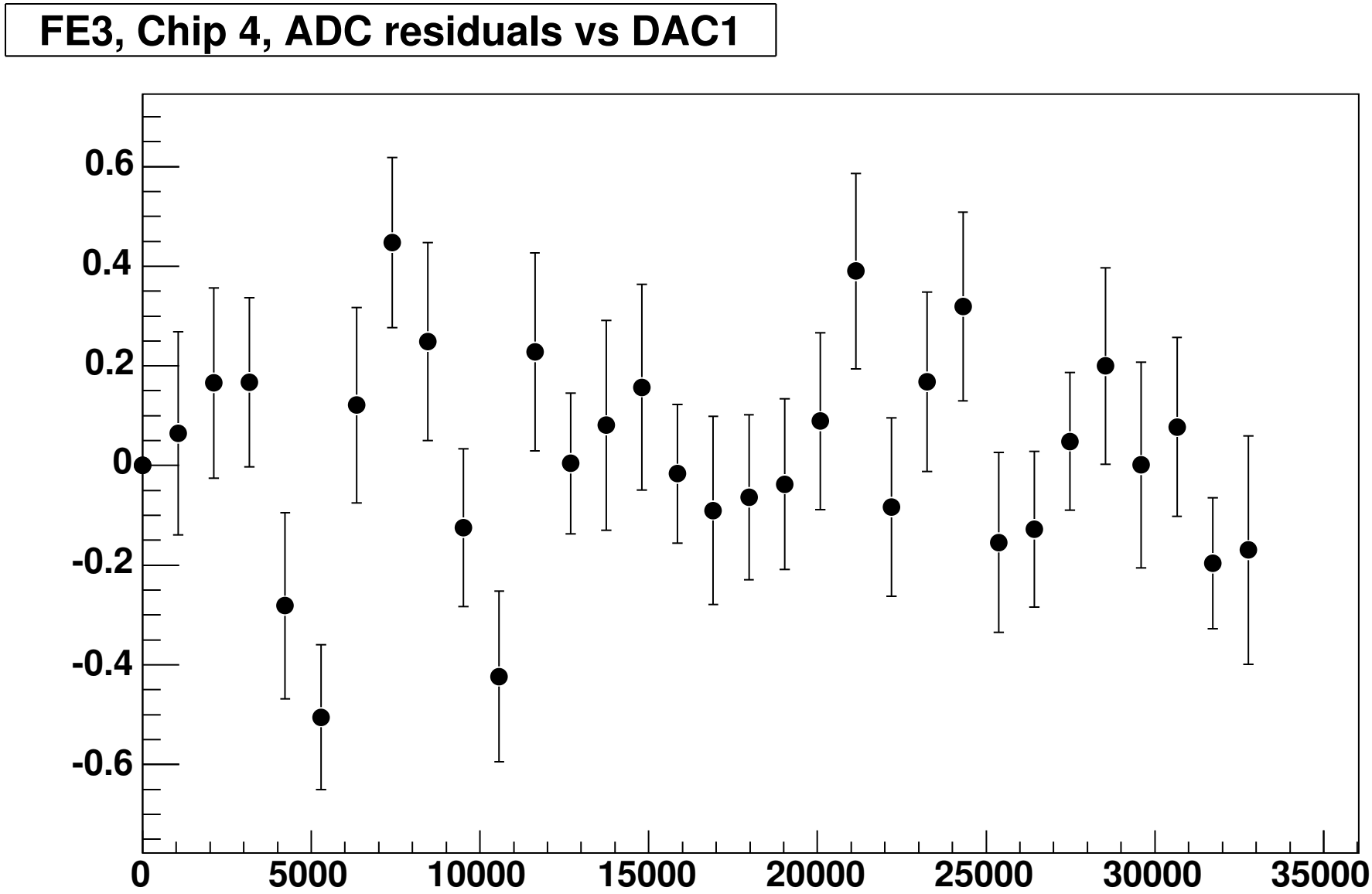

FE3, Chip 4, ADC mean vs DAC0
χ² / ndf 347.6 / 29
p0 -31.07 ± 0.07349
p1 0.4633 ± 4.143e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

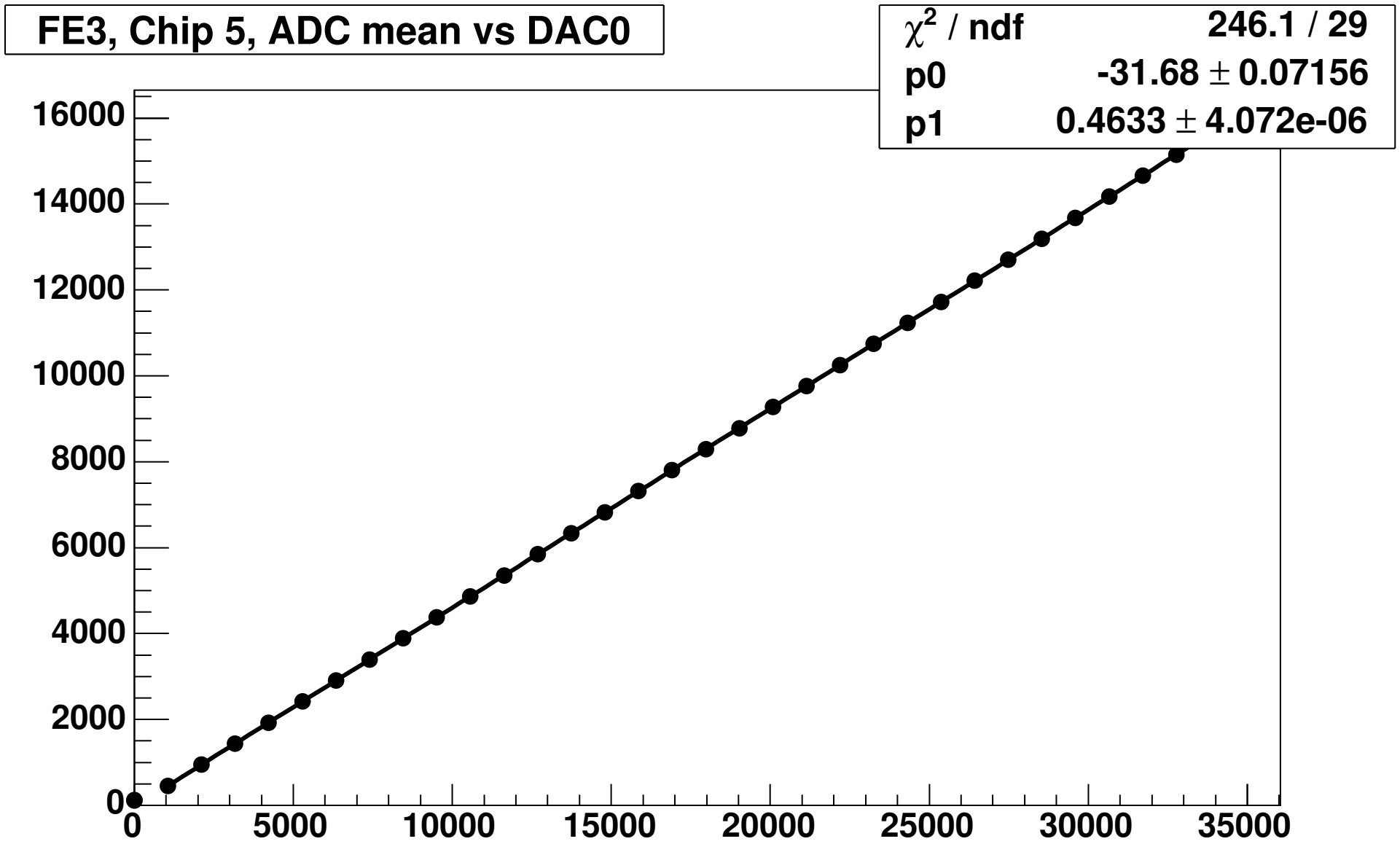

FE3, Chip 4, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

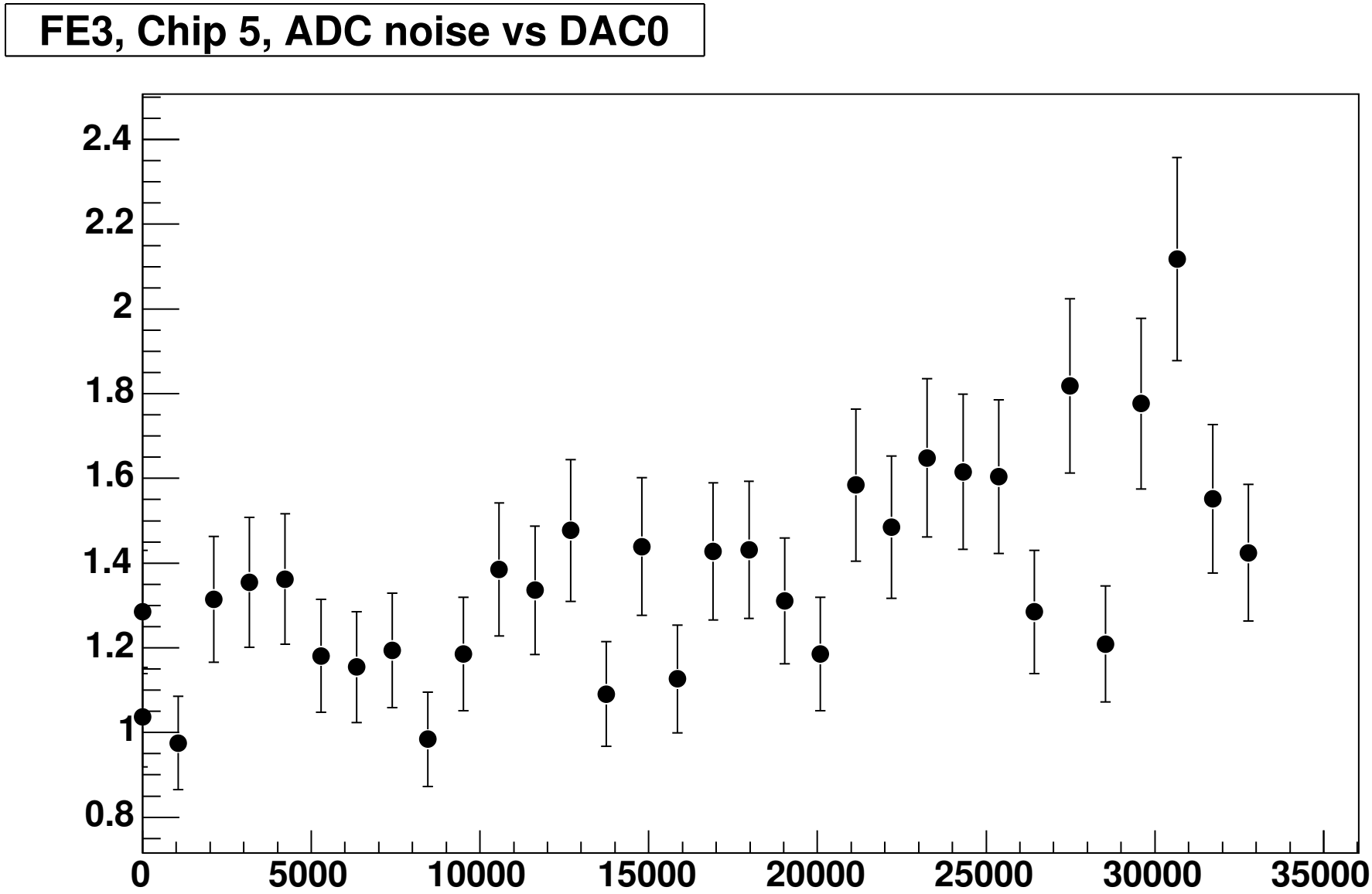

FE3, Chip 4, ADC residuals vs DAC0
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

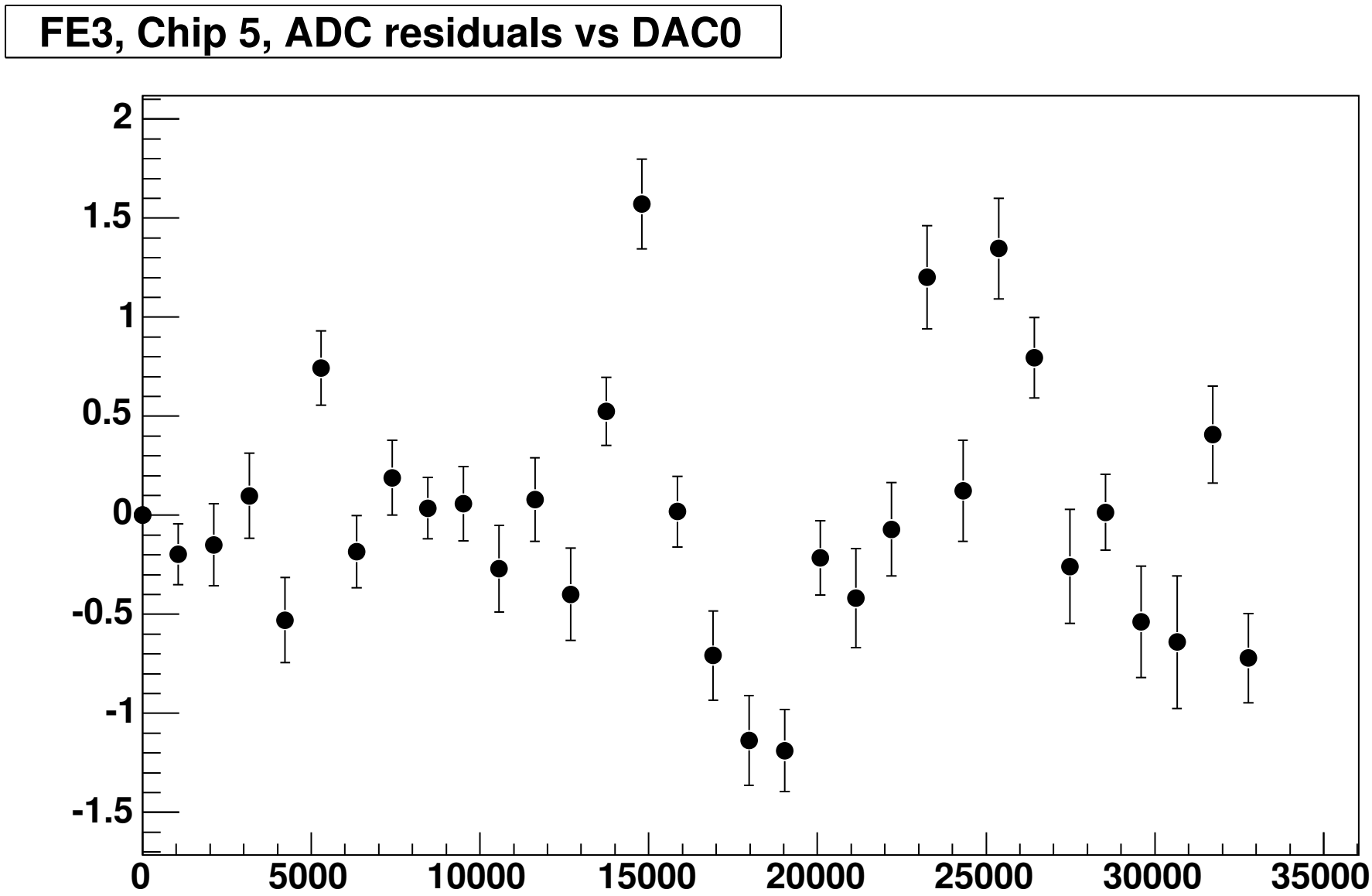

FE3, Chip 4, ADC mean vs DAC1
χ² / ndf 47.8 / 29
p0 119.2 ± 0.0652
p1 -1.285e-06 ± 3.334e-06
119.8
119.6
119.4
119.2
119
118.8
118.6
118.4
0
5000
10000
15000
20000
25000
30000
35000

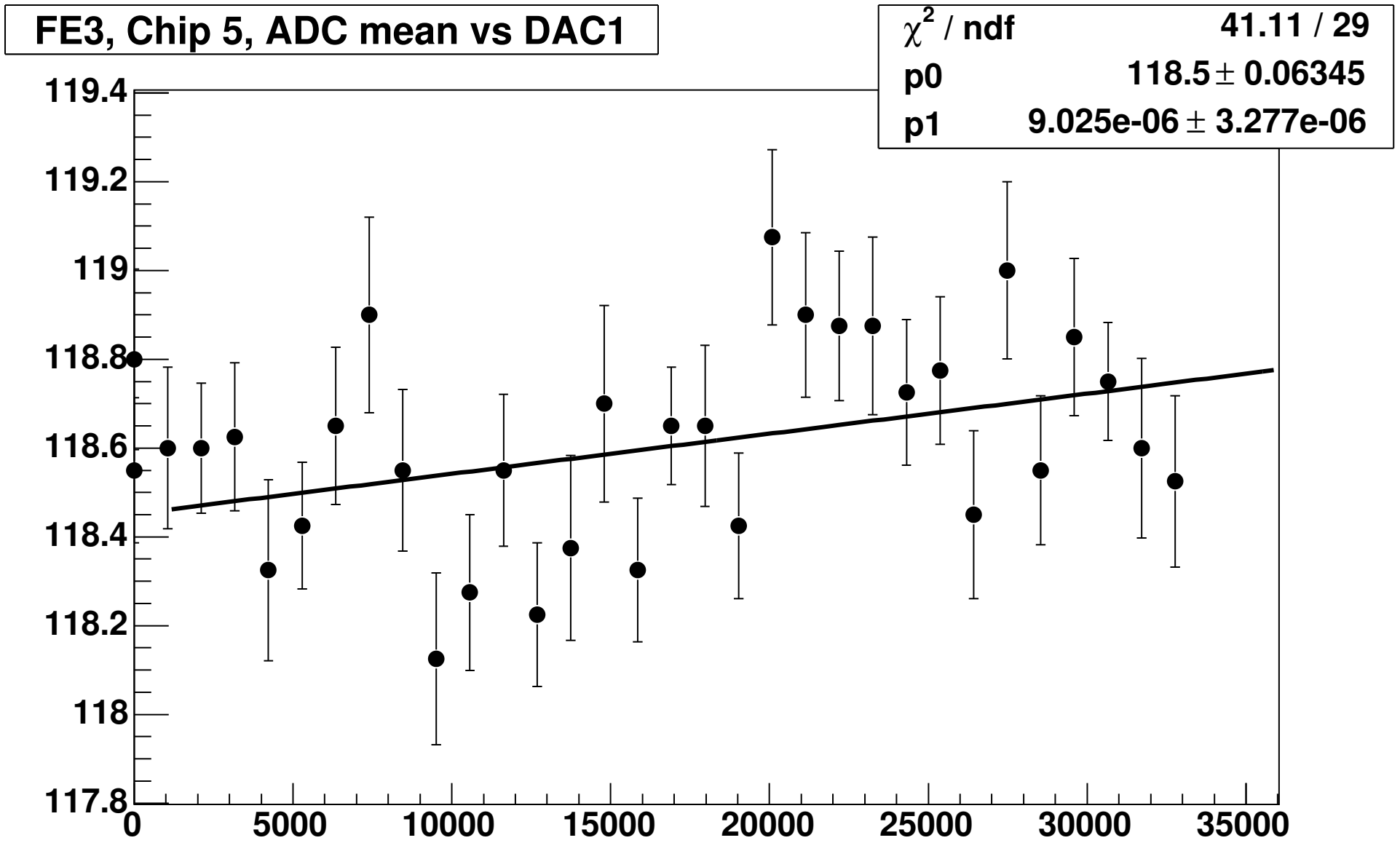

FE3, Chip 4, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

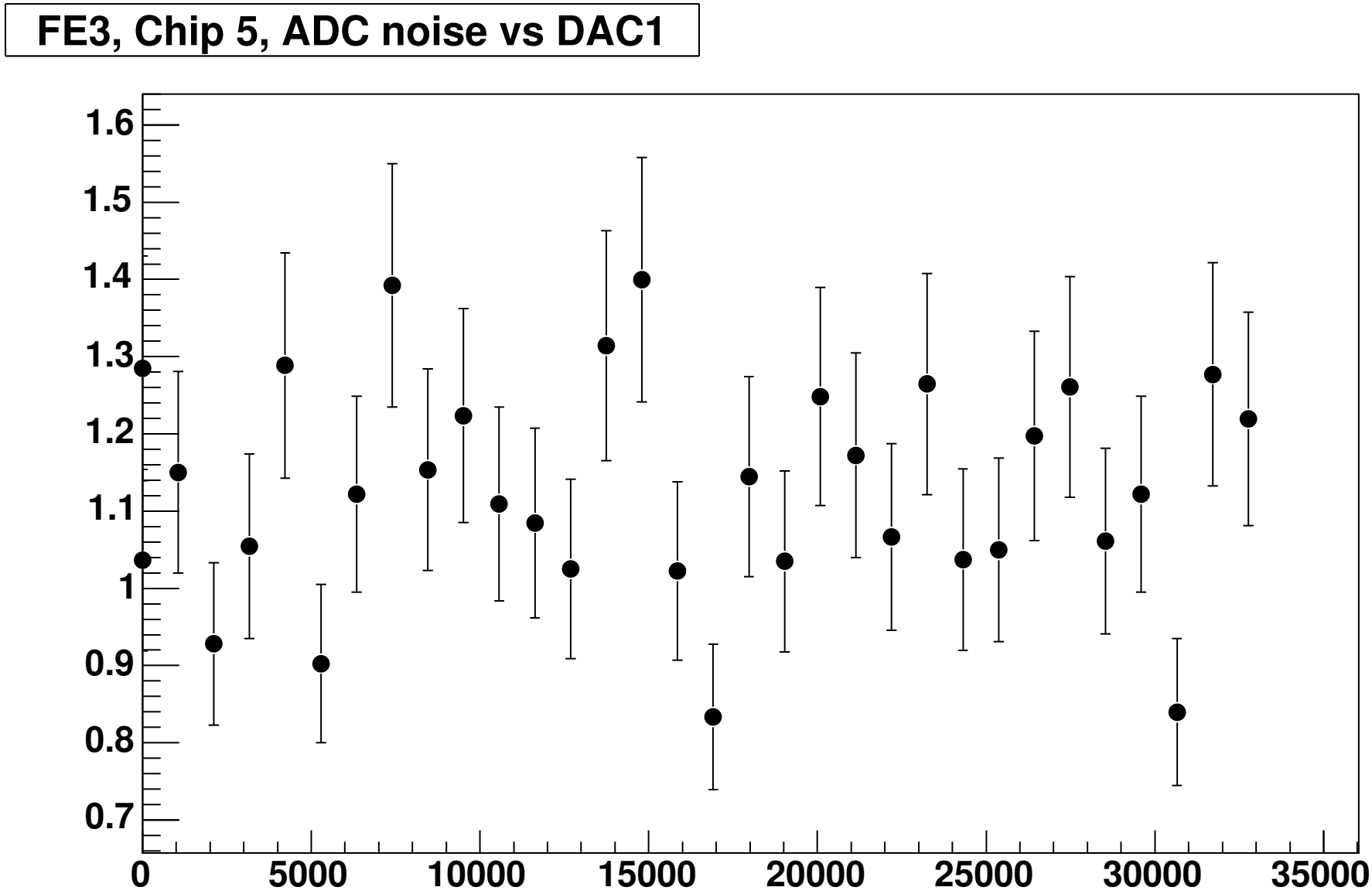

FE3, Chip 4, ADC residuals vs DAC1
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

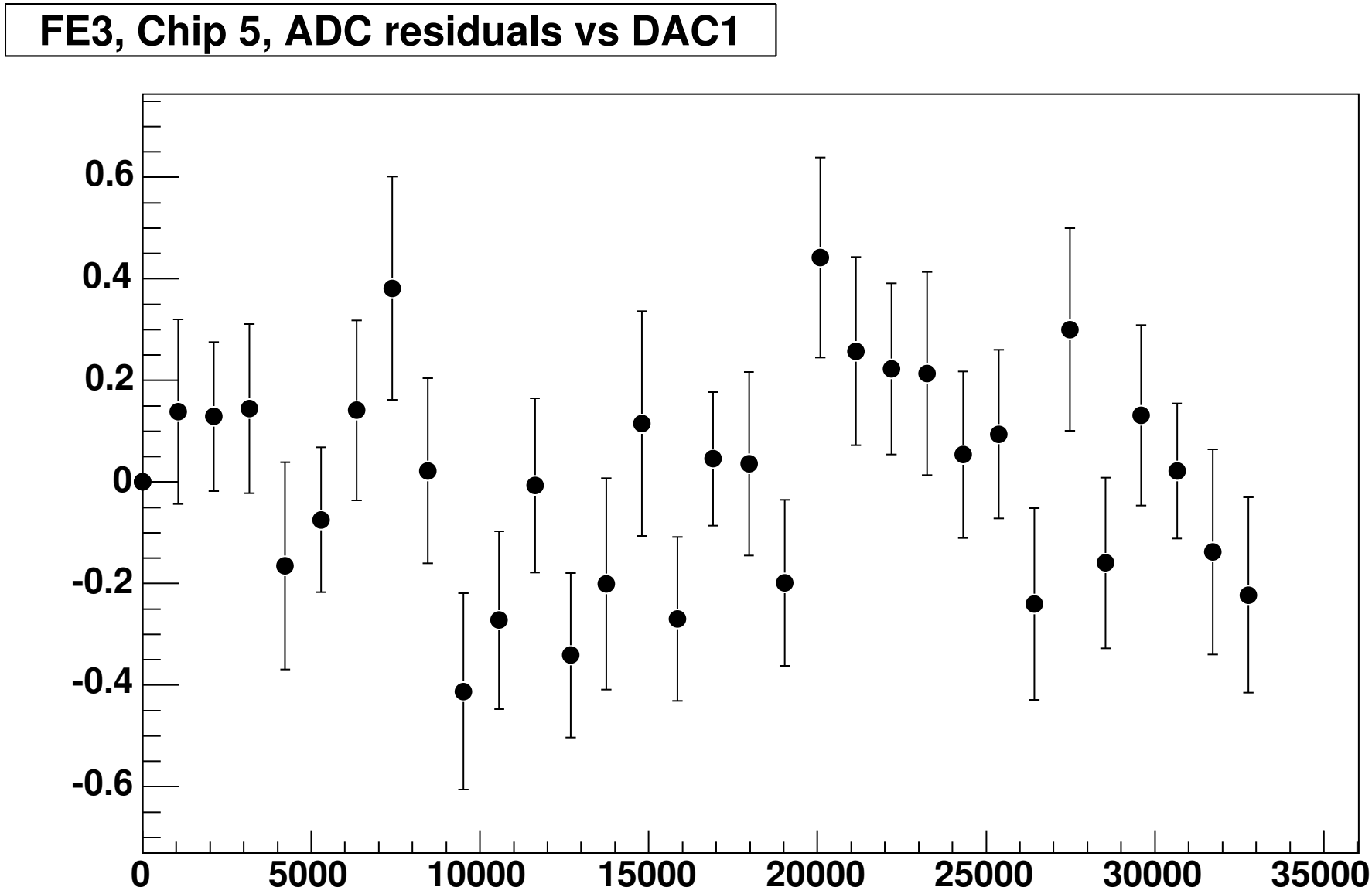

FE3, Chip 5, ADC mean vs DAC0
χ² / ndf 246.1 / 29
p0 -31.68 ± 0.07156
p1 0.4633 ± 4.072e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

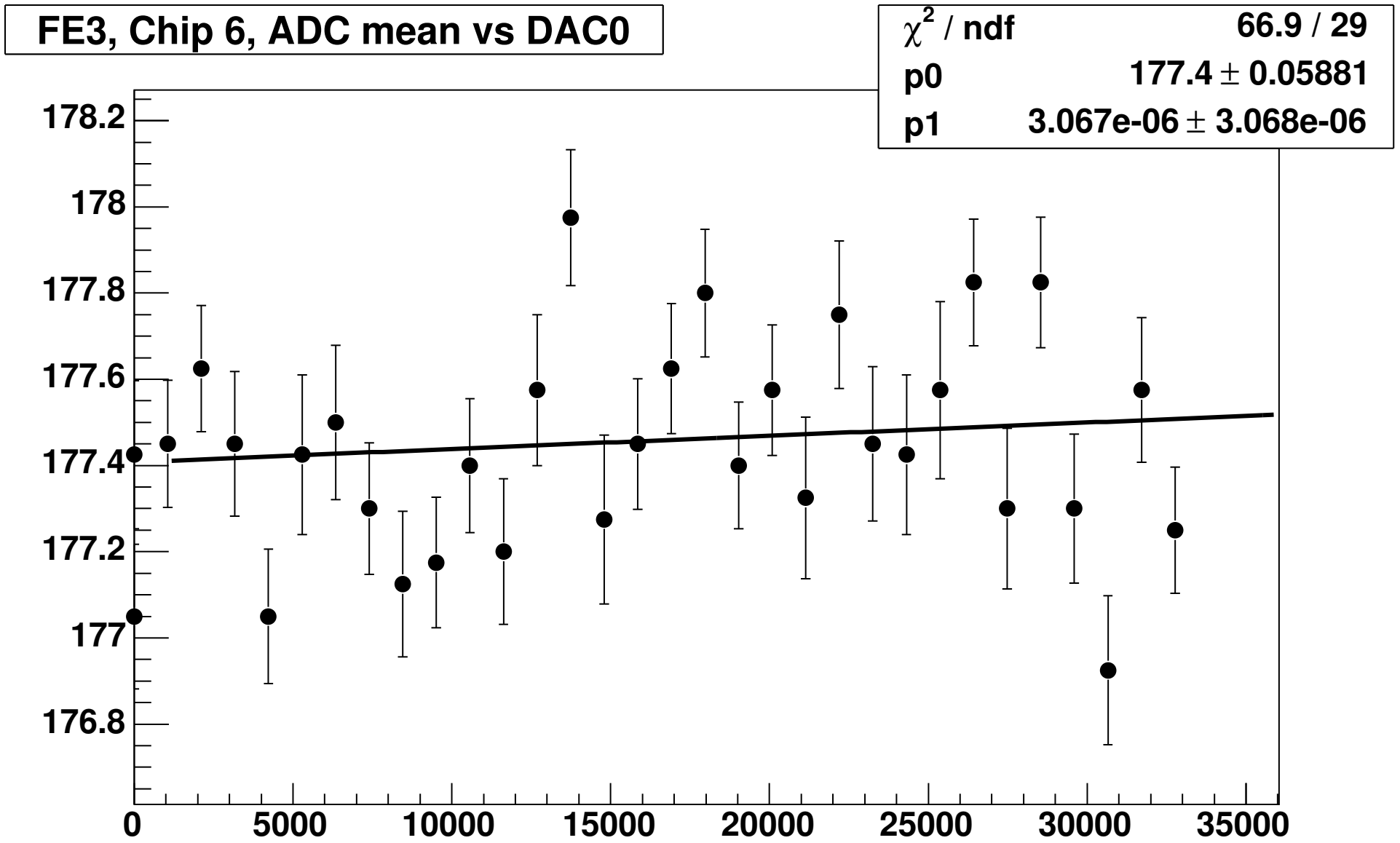

FE3, Chip 5, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

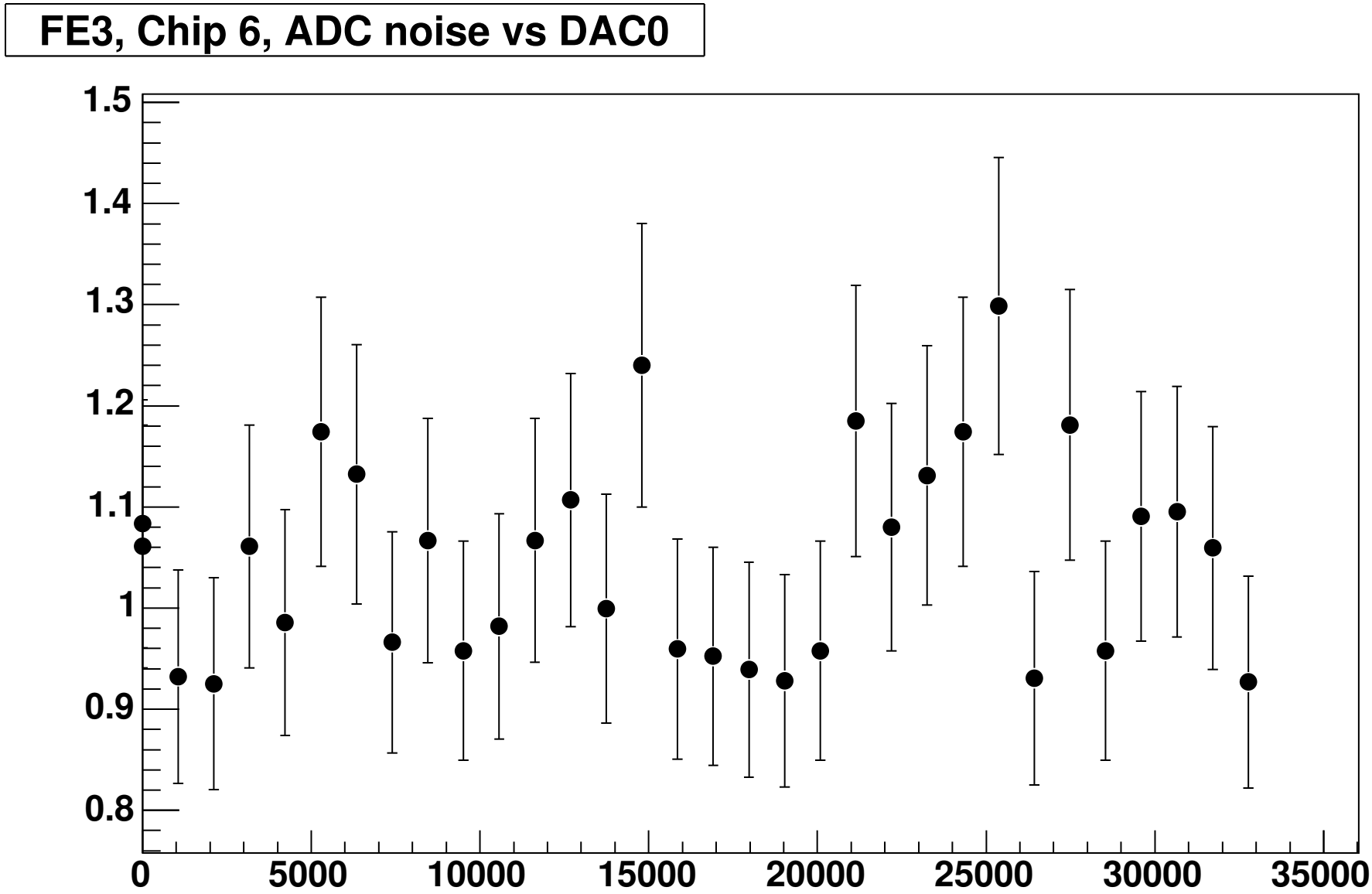

FE3, Chip 5, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

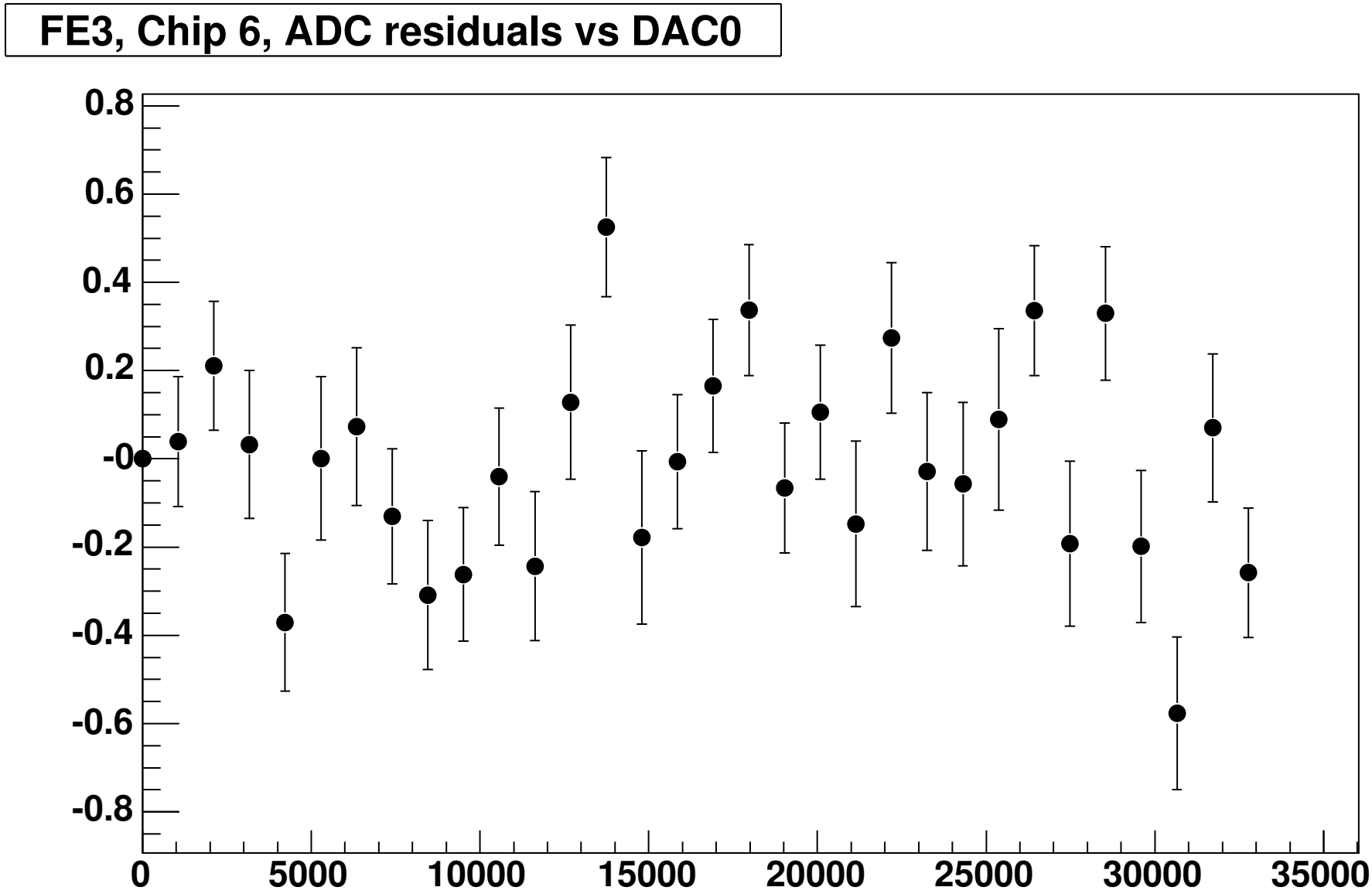

FE3, Chip 5, ADC mean vs DAC1
χ^2 / ndf 41.11 / 29
p0 118.5 ± 0.06345
p1 9.025e-06 ± 3.277e-06
119.4
119.2
119
118.8
118.6
118.4
118.2
118
117.8
0
5000
10000
15000
20000
25000
30000
35000

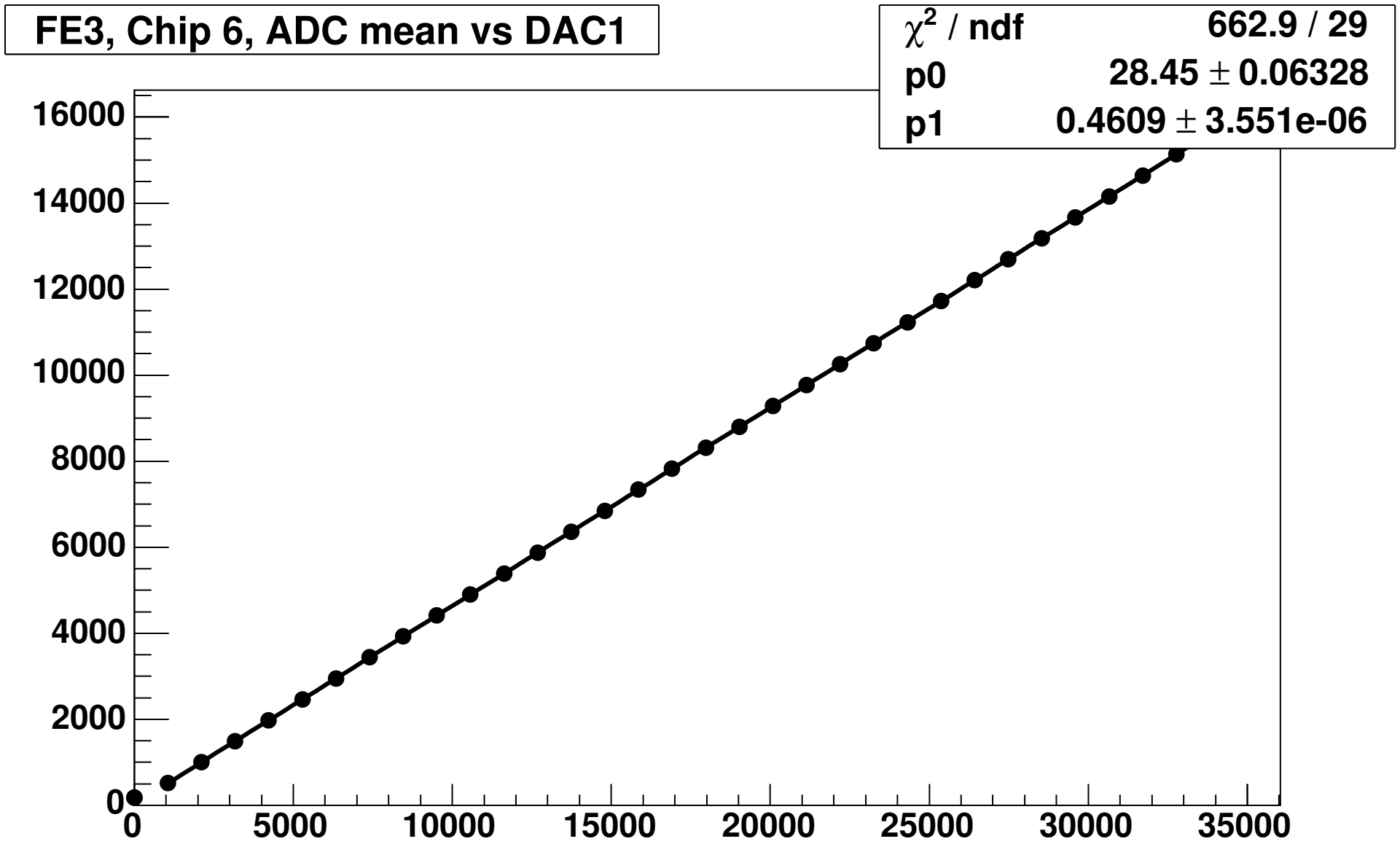

FE3, Chip 5, ADC noise vs DAC1
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000


FE3, Chip 5, ADC residuals vs DAC1
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

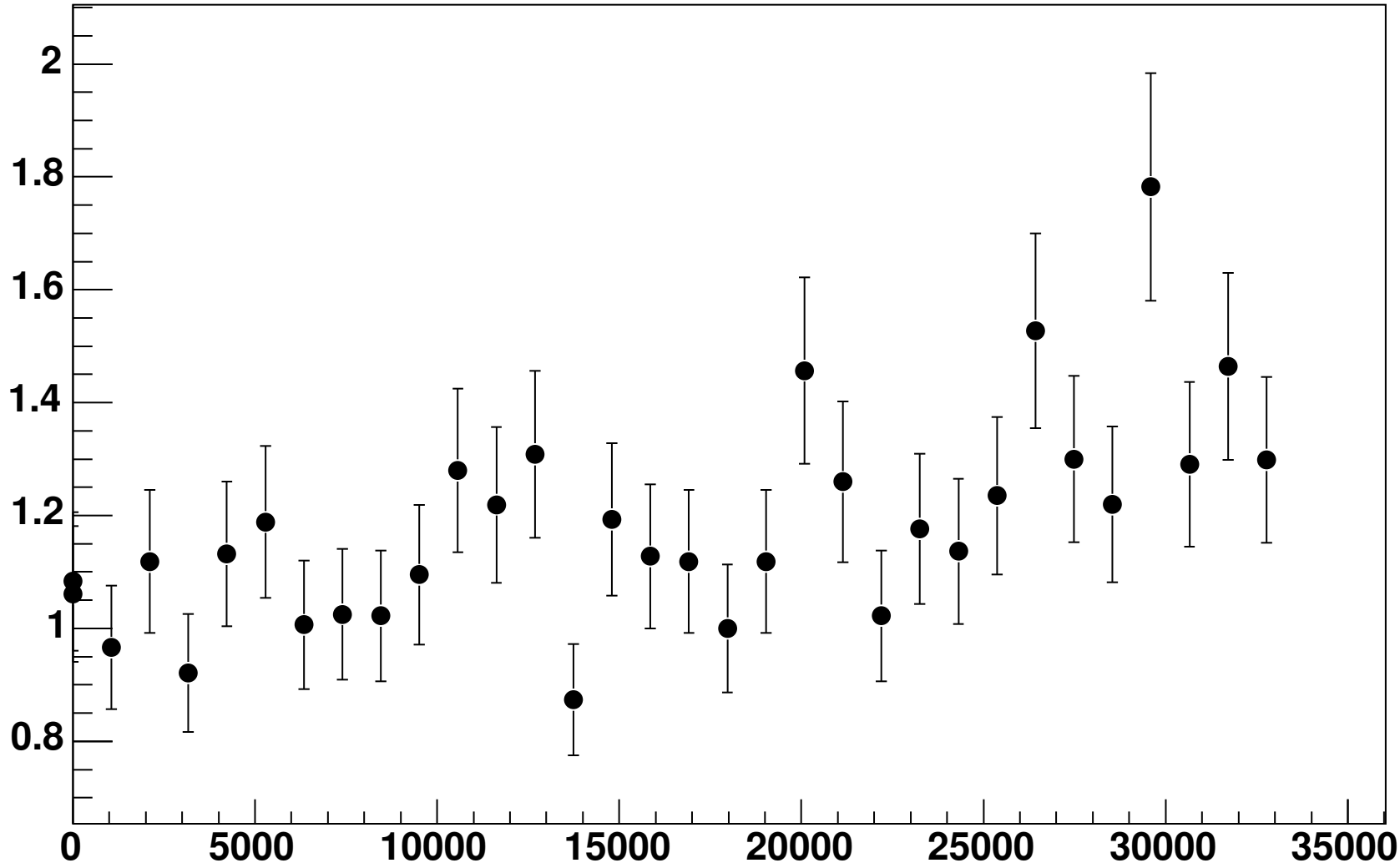

FE3, Chip 6, ADC mean vs DAC0
χ² / ndf 66.9 / 29
p0 177.4 ± 0.05881
p1 3.067e-06 ± 3.068e-06
178.2
178
177.8
177.6
177.4
177.2
177
176.8
0
5000
10000
15000
20000
25000
30000
35000

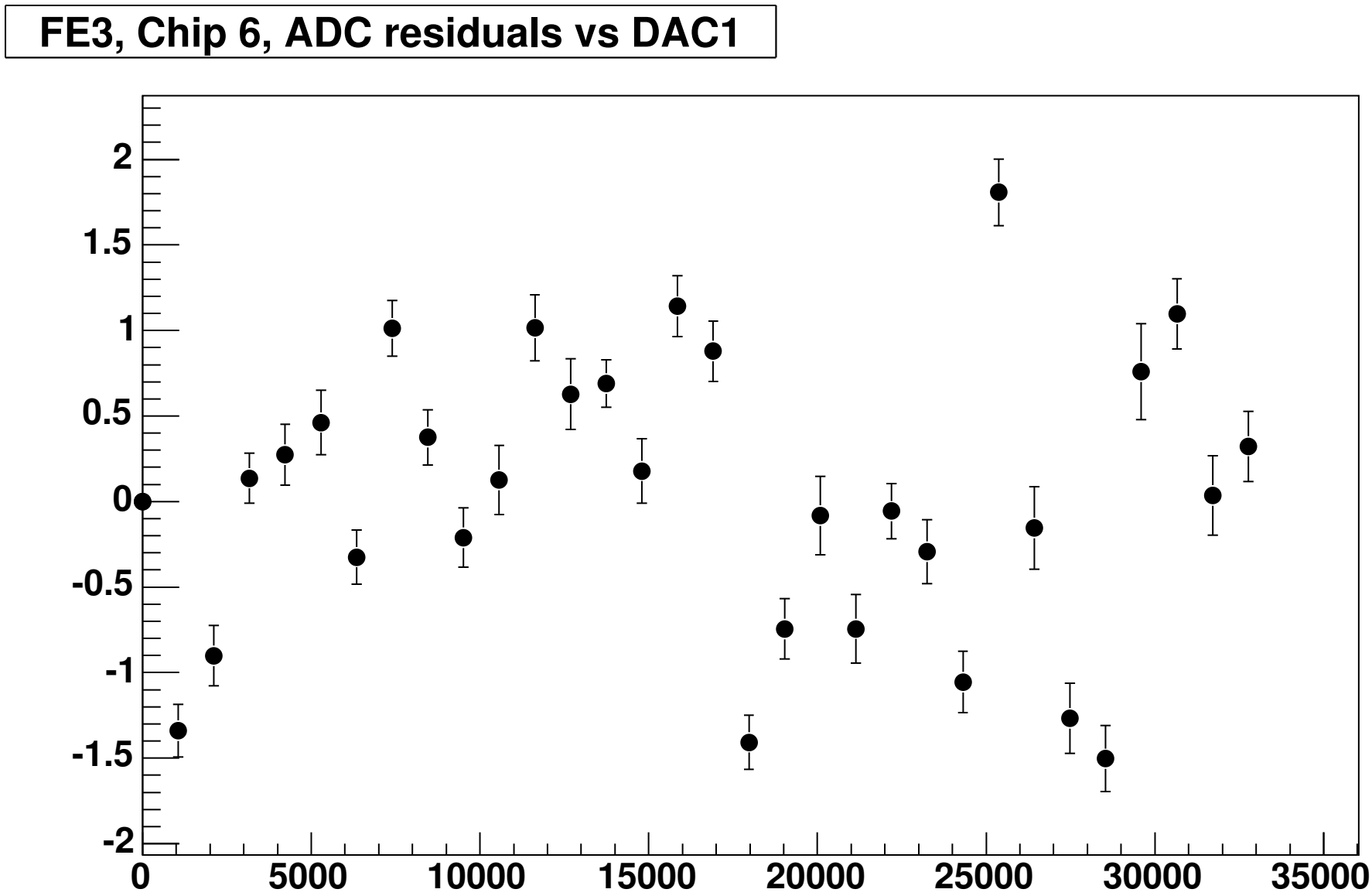

FE3, Chip 6, ADC noise vs DAC0
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0
5000
10000
15000
20000
25000
30000
35000

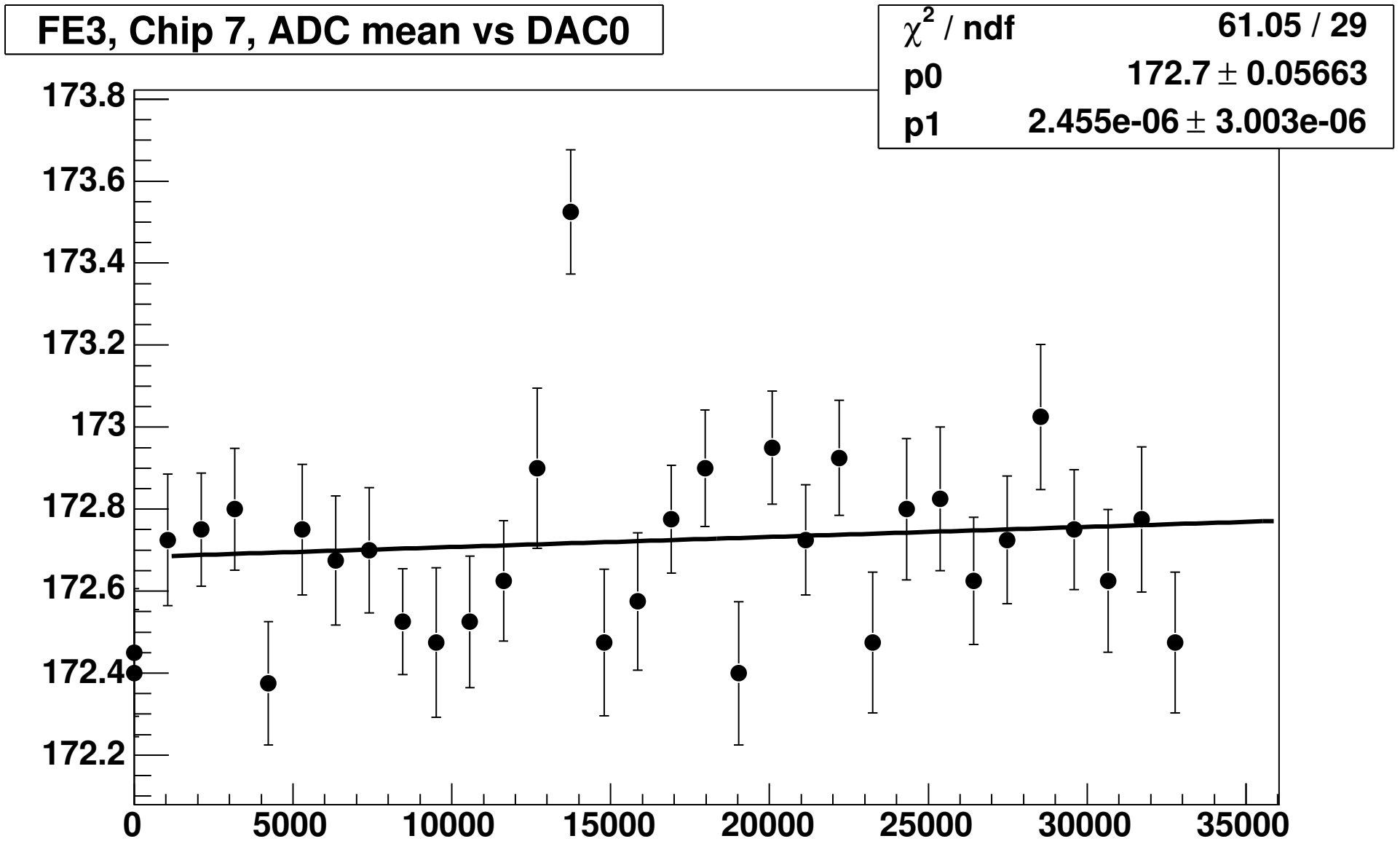

FE3, Chip 6, ADC residuals vs DAC0
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

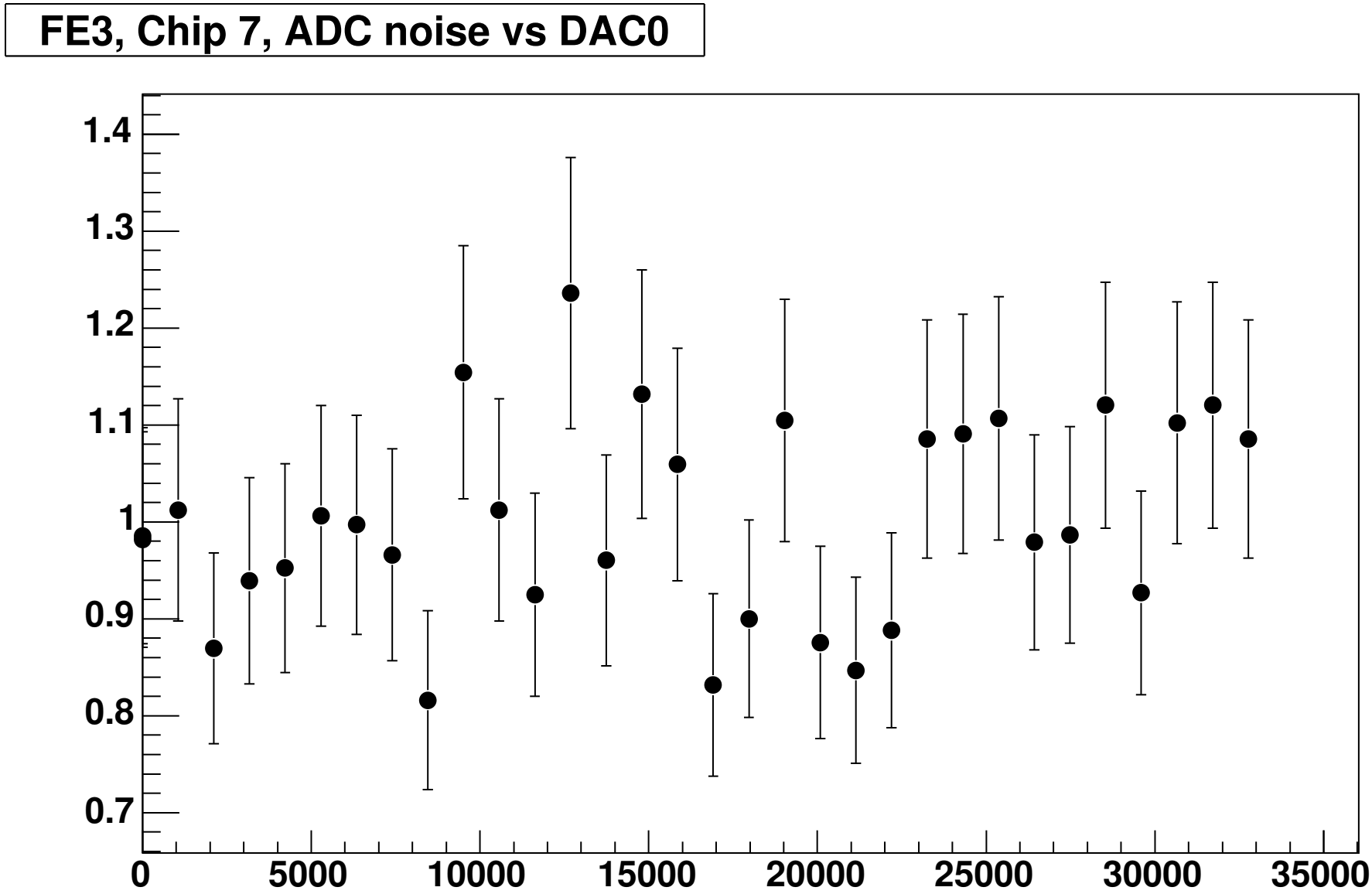

FE3, Chip 6, ADC mean vs DAC1
χ² / ndf 662.9 / 29
p0 28.45 ± 0.06328
p1 0.4609 ± 3.551e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

FE3, Chip 6, ADC noise vs DAC1

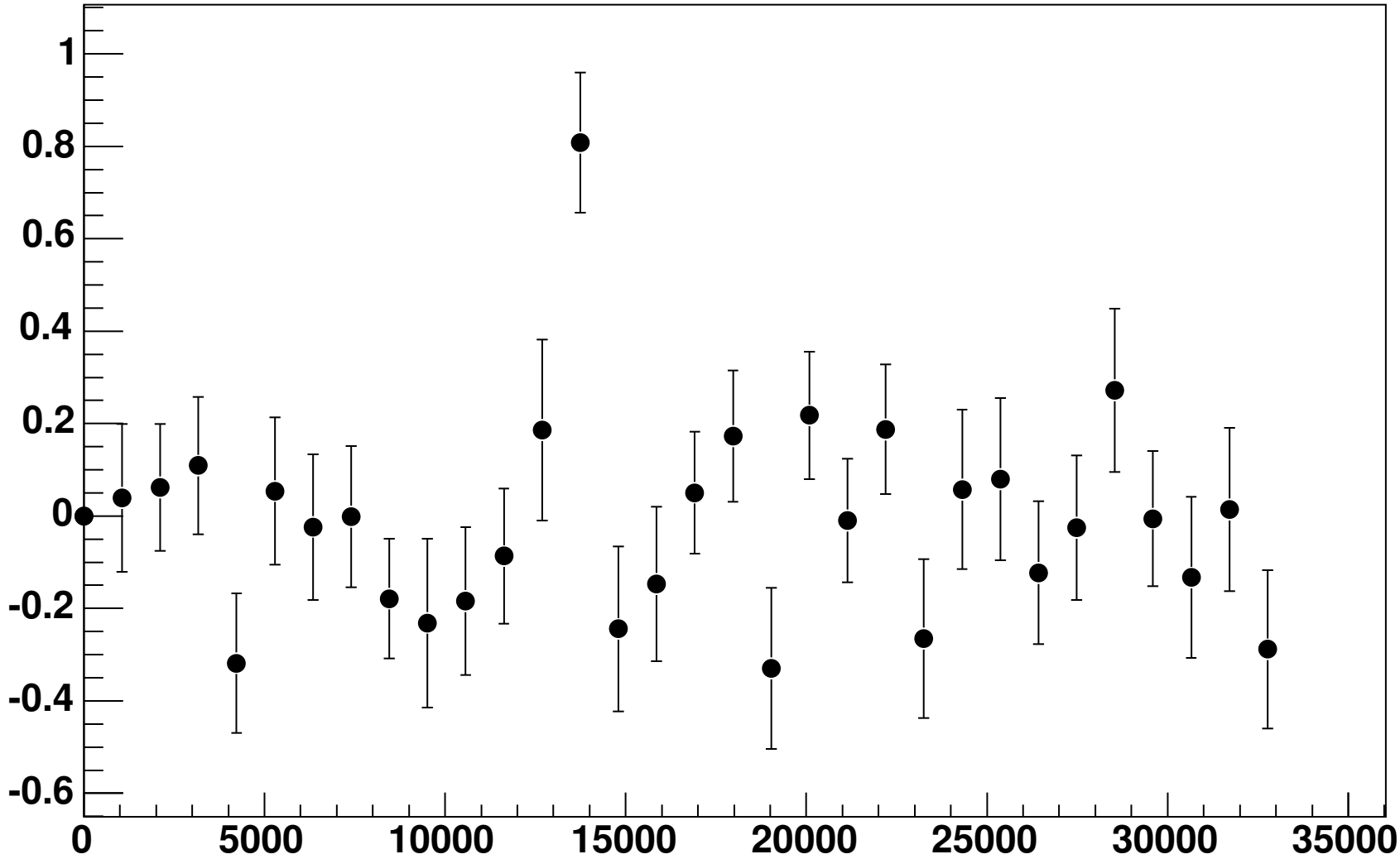


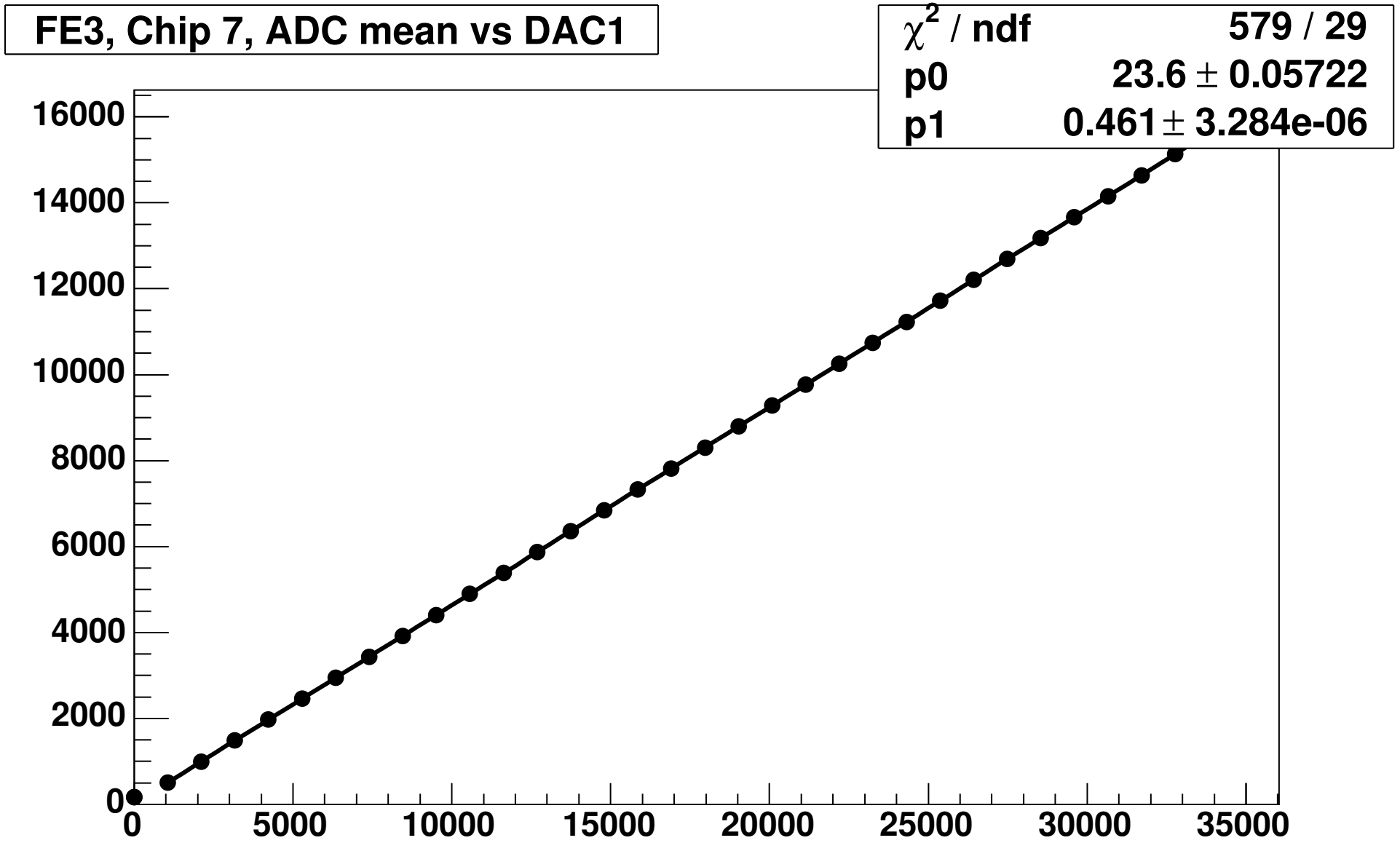

FE3, Chip 6, ADC residuals vs DAC1
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000


FE3, Chip 7, ADC mean vs DAC0
χ² / ndf 61.05 / 29
p0 172.7 ± 0.05663
p1 2.455e-06 ± 3.003e-06
173.8
173.6
173.4
173.2
173
172.8
172.6
172.4
172.2
0
5000
10000
15000
20000
25000
30000
35000

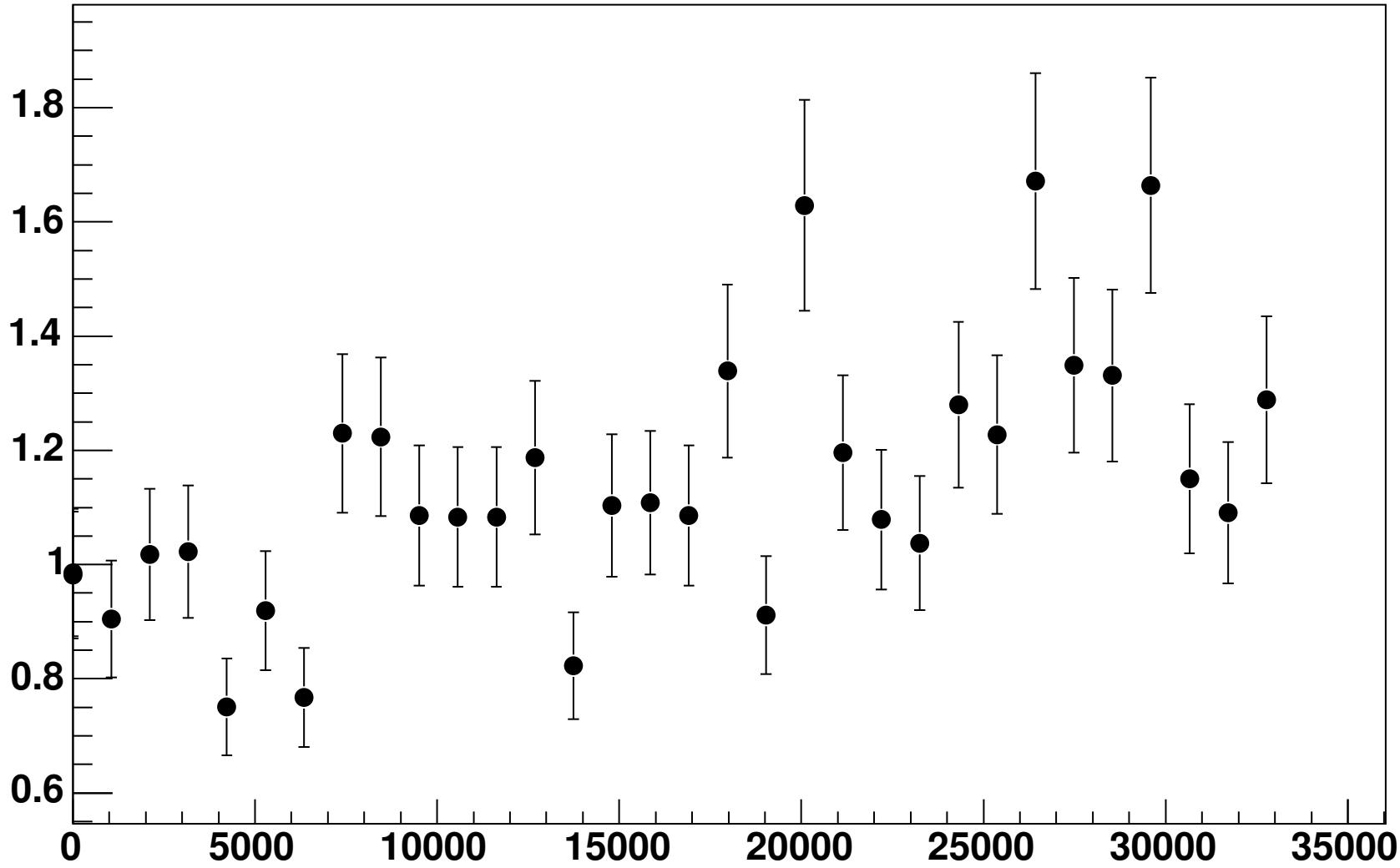

FE3, Chip 7, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

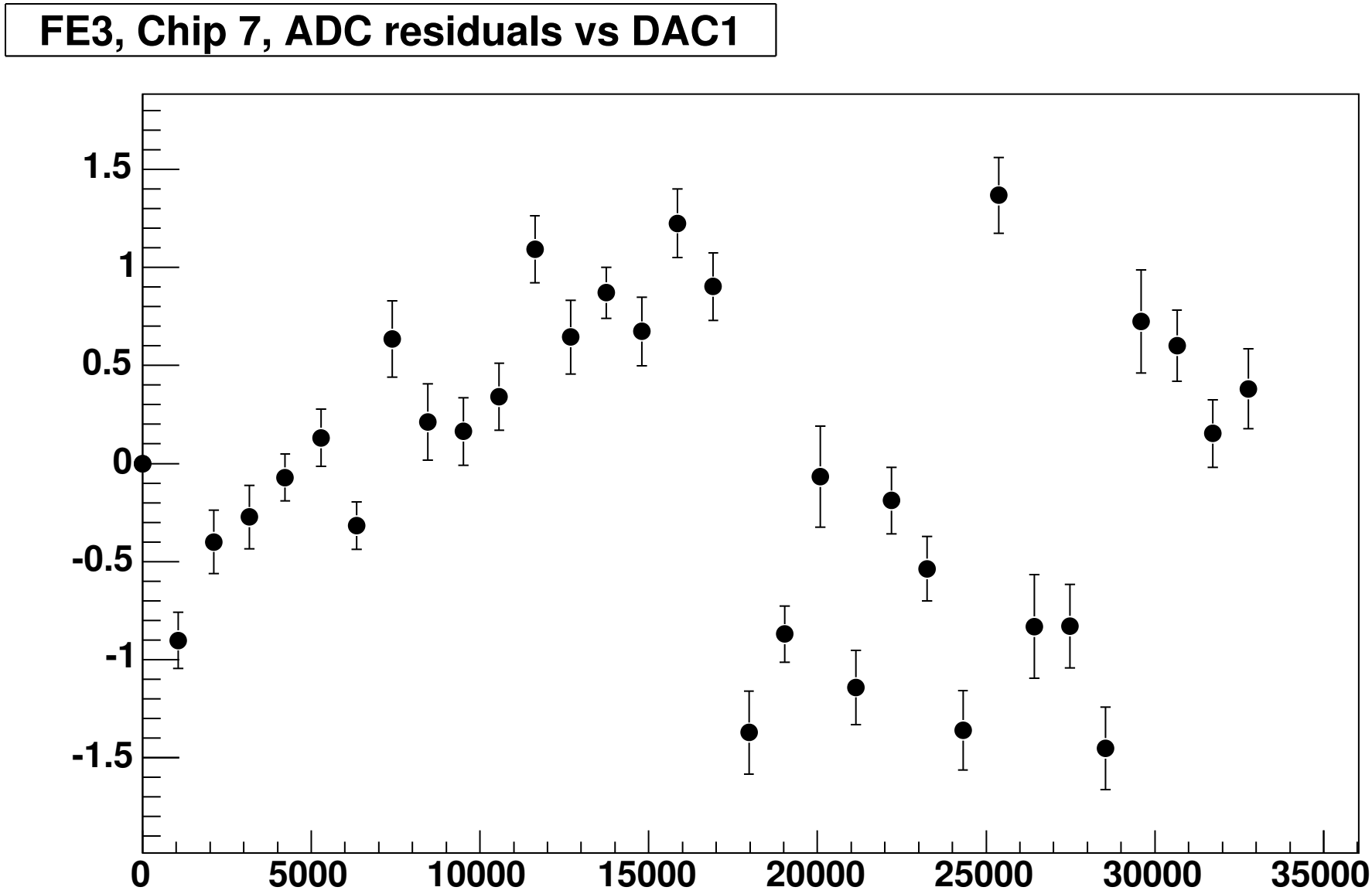
FE3, Chip 7, ADC residuals vs DAC0

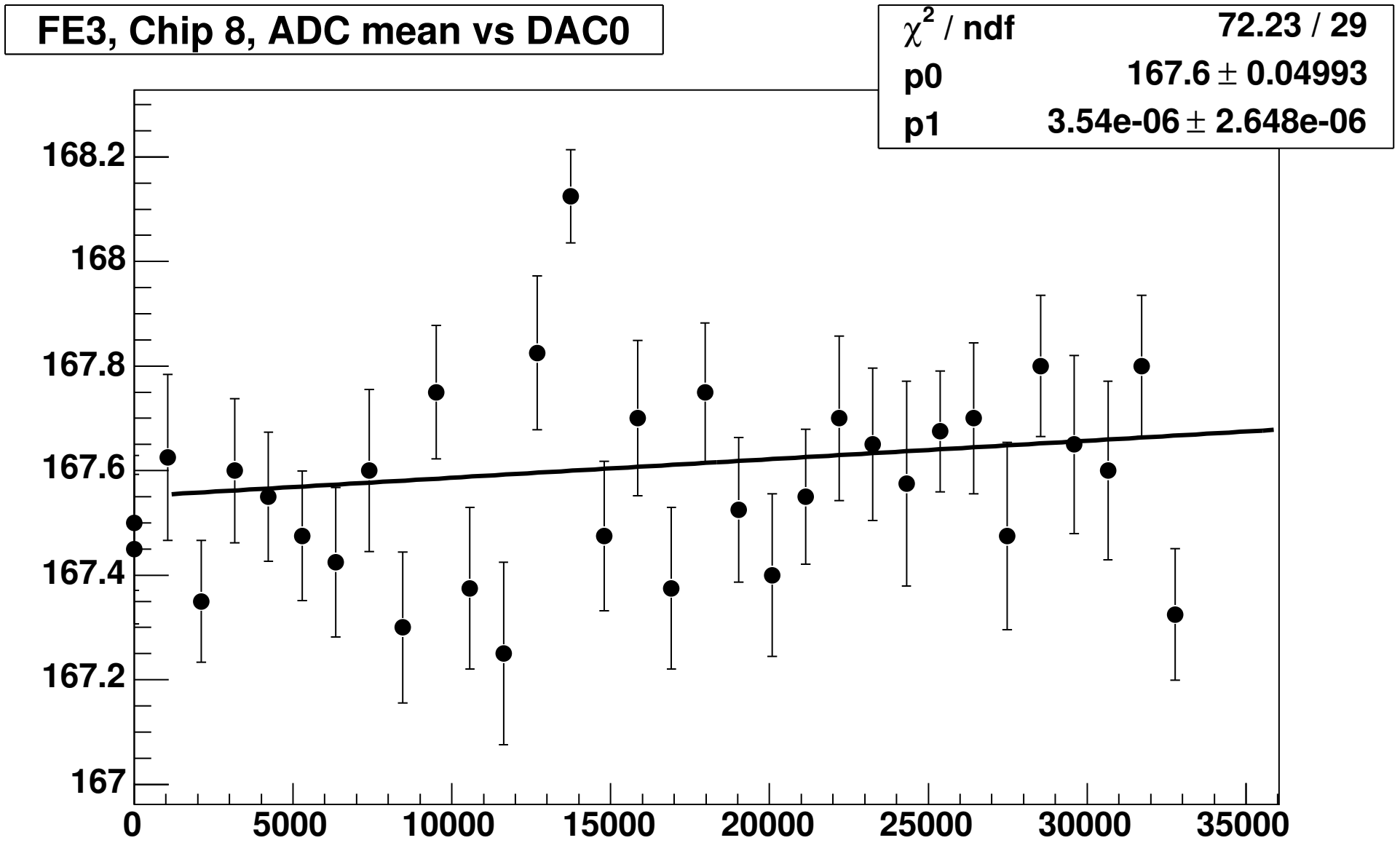


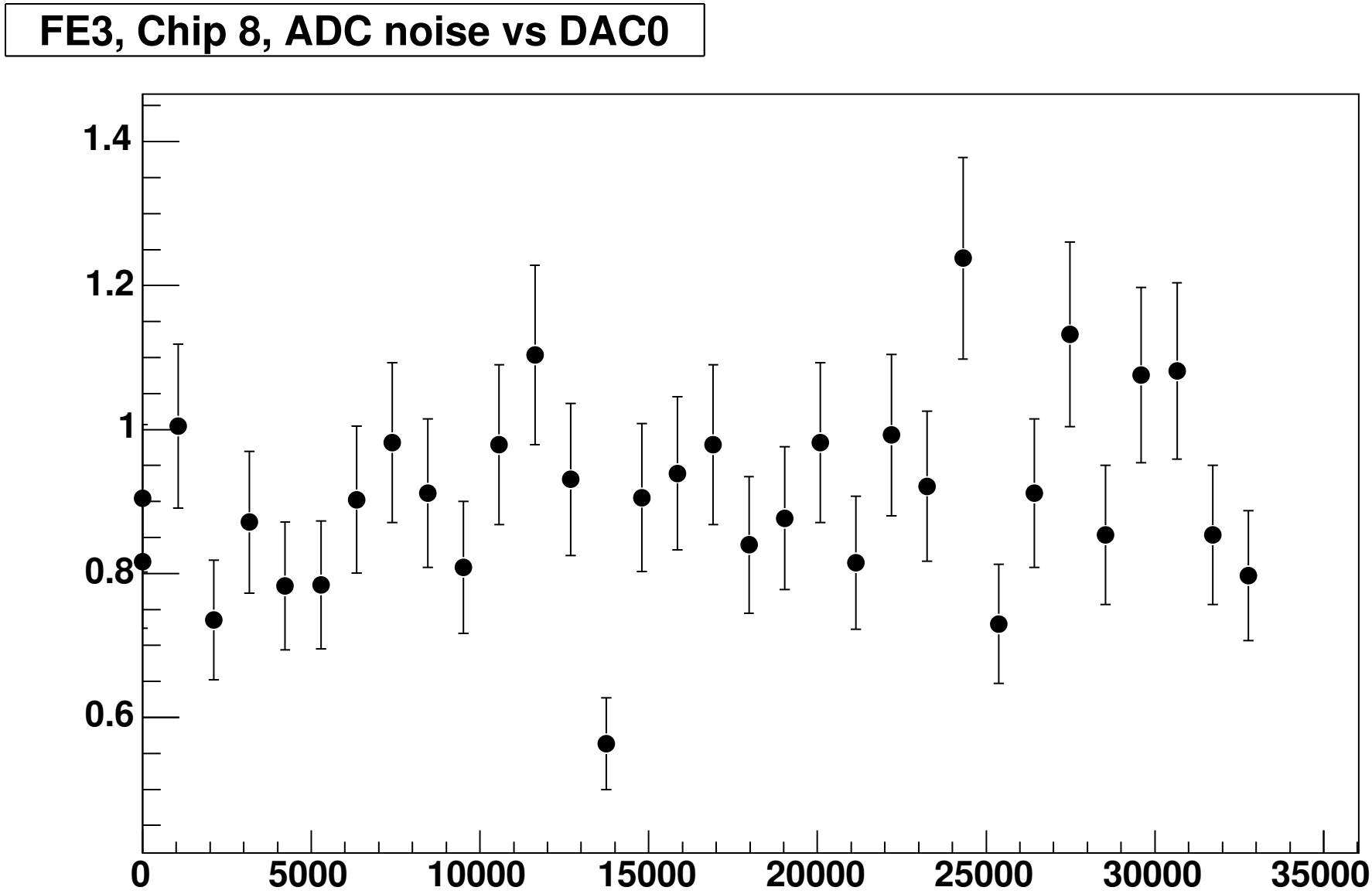

FE3, Chip 7, ADC mean vs DAC1
χ² / ndf 579 / 29
p0 23.6 ± 0.05722
p1 0.461 ± 3.284e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

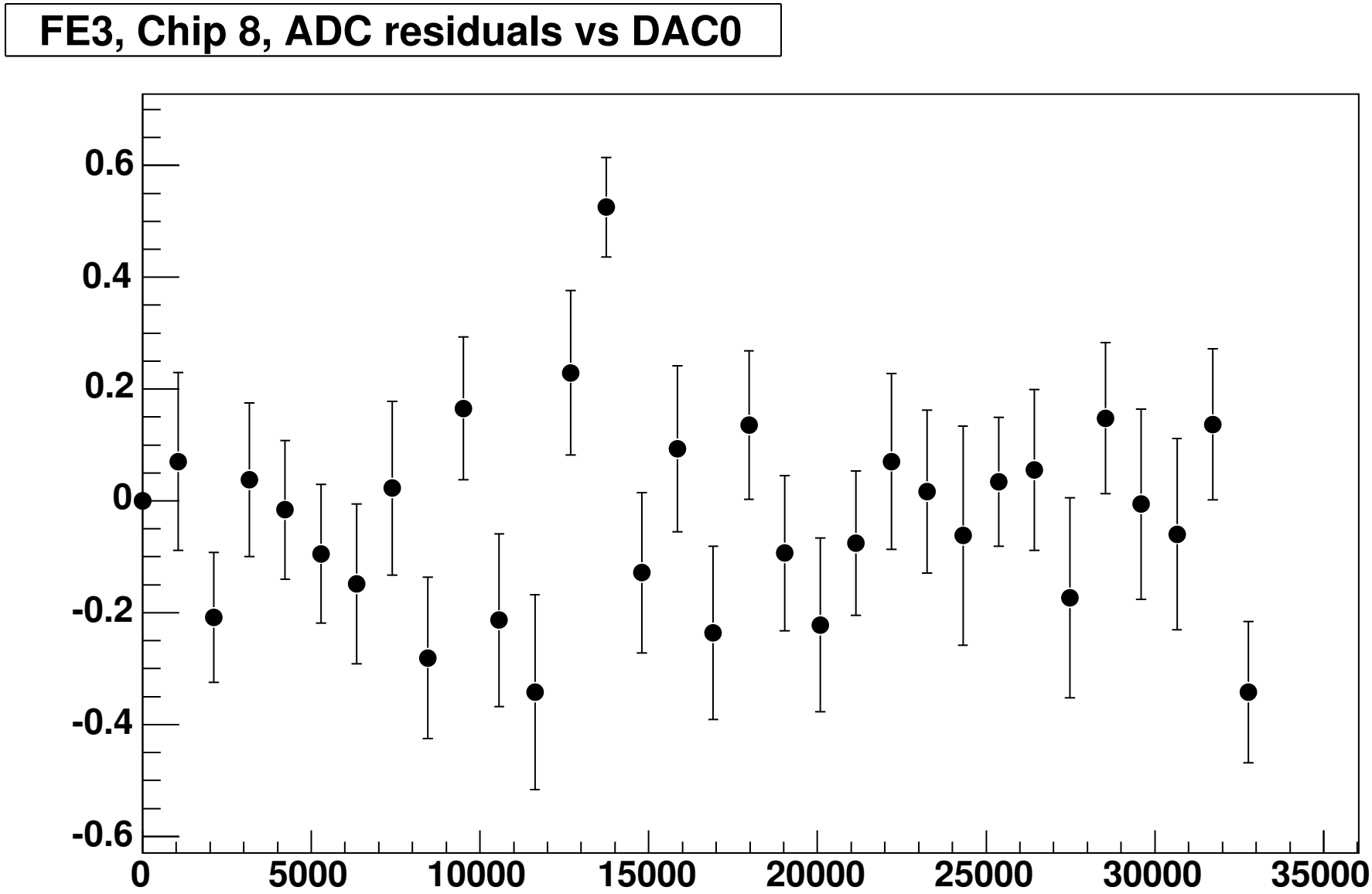
FE3, Chip 7, ADC noise vs DAC1

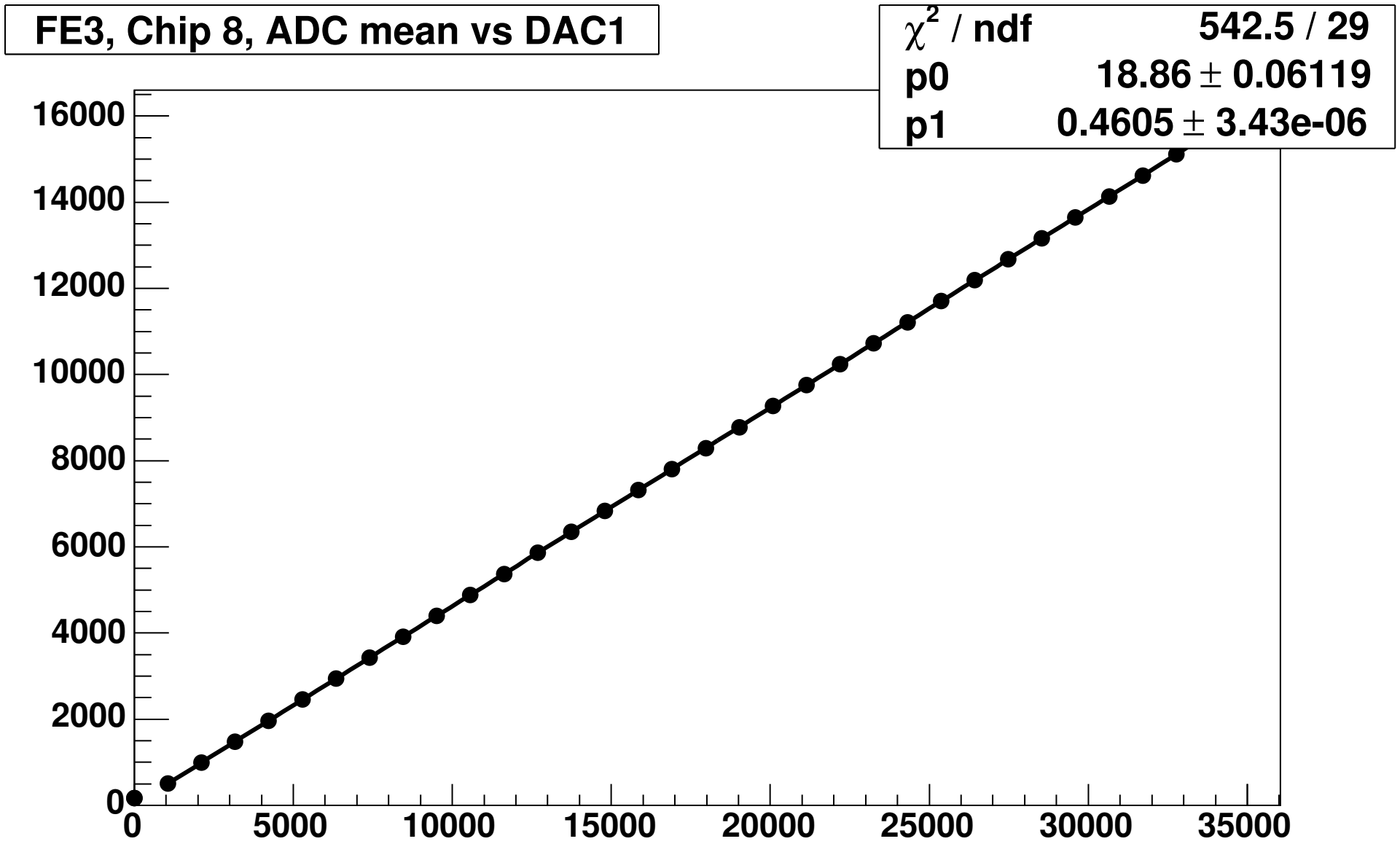


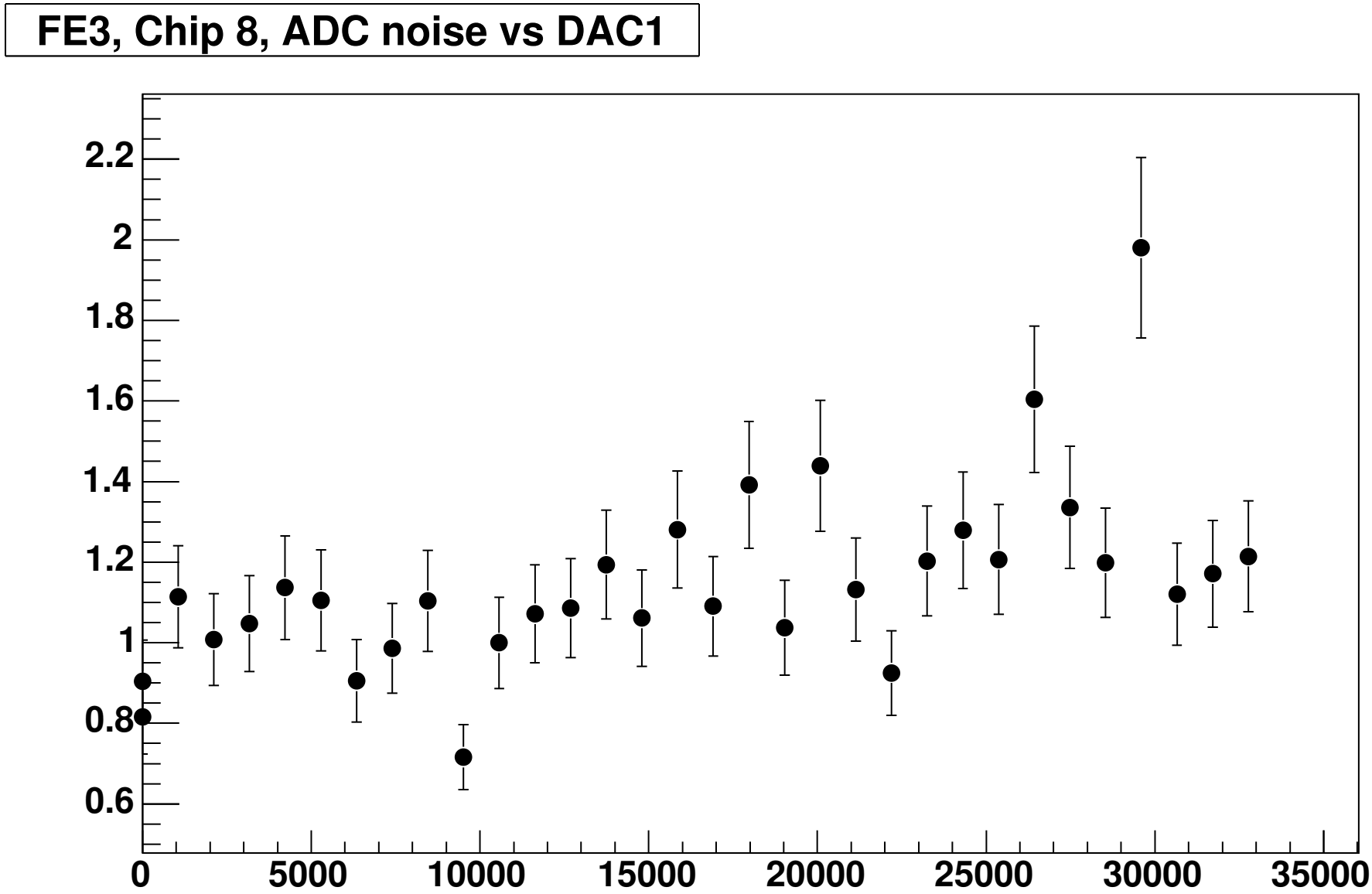

FE3, Chip 7, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

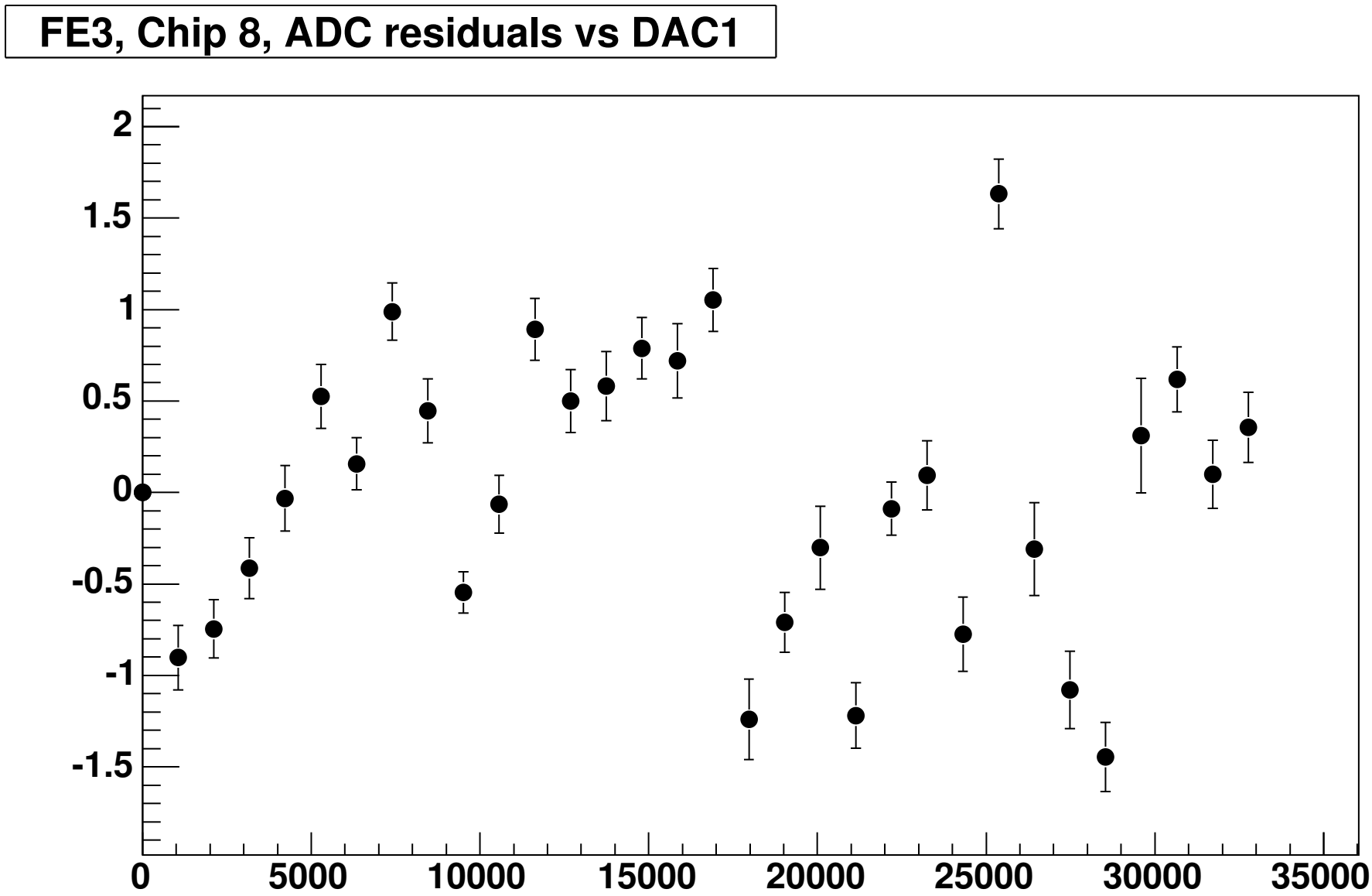

FE3, Chip 8, ADC mean vs DAC0
χ² / ndf 72.23 / 29
p0 167.6 ± 0.04993
p1 3.54e-06 ± 2.648e-06
168.2
168
167.8
167.6
167.4
167.2
167
0
5000
10000
15000
20000
25000
30000
35000

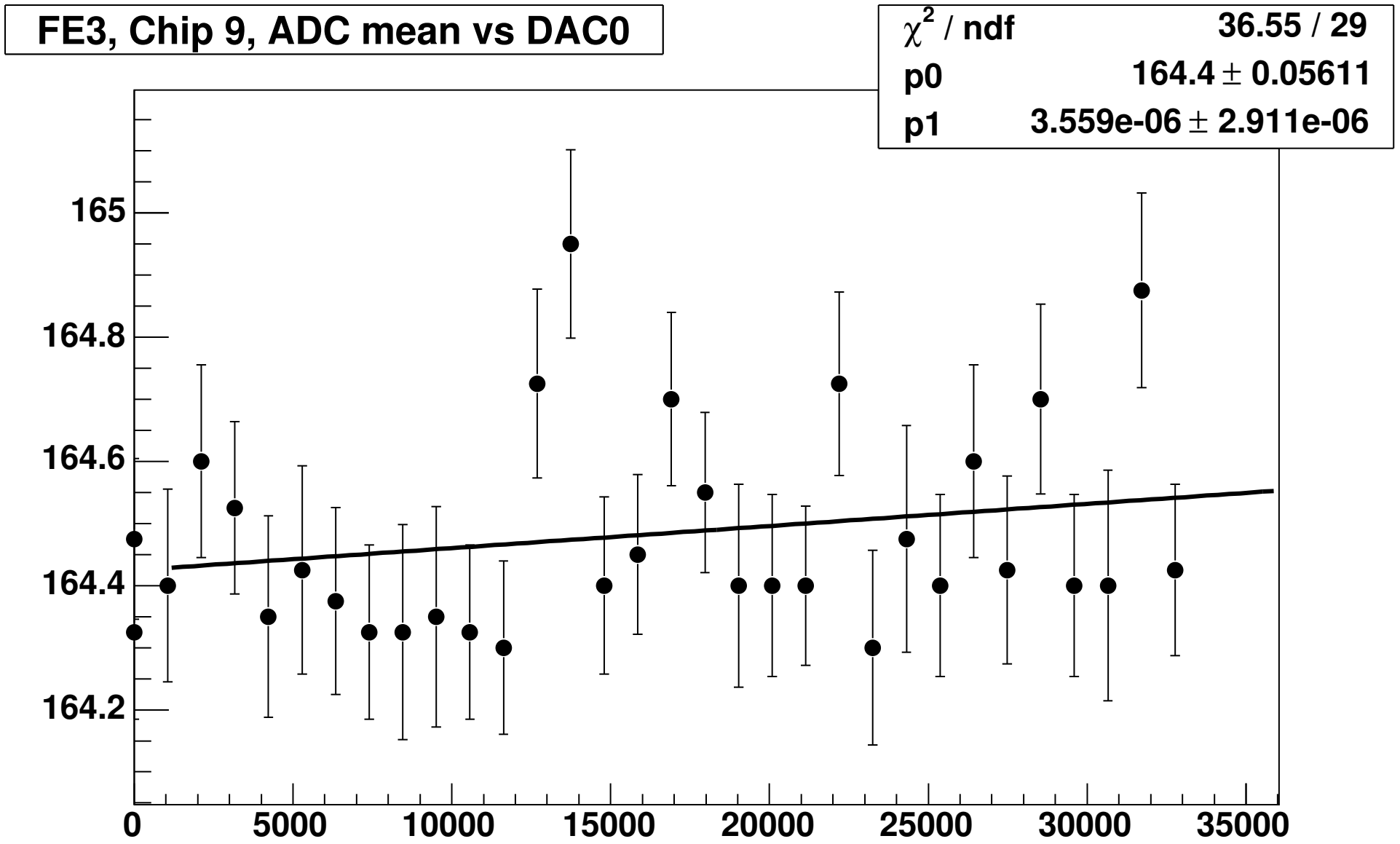

FE3, Chip 8, ADC noise vs DAC0
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

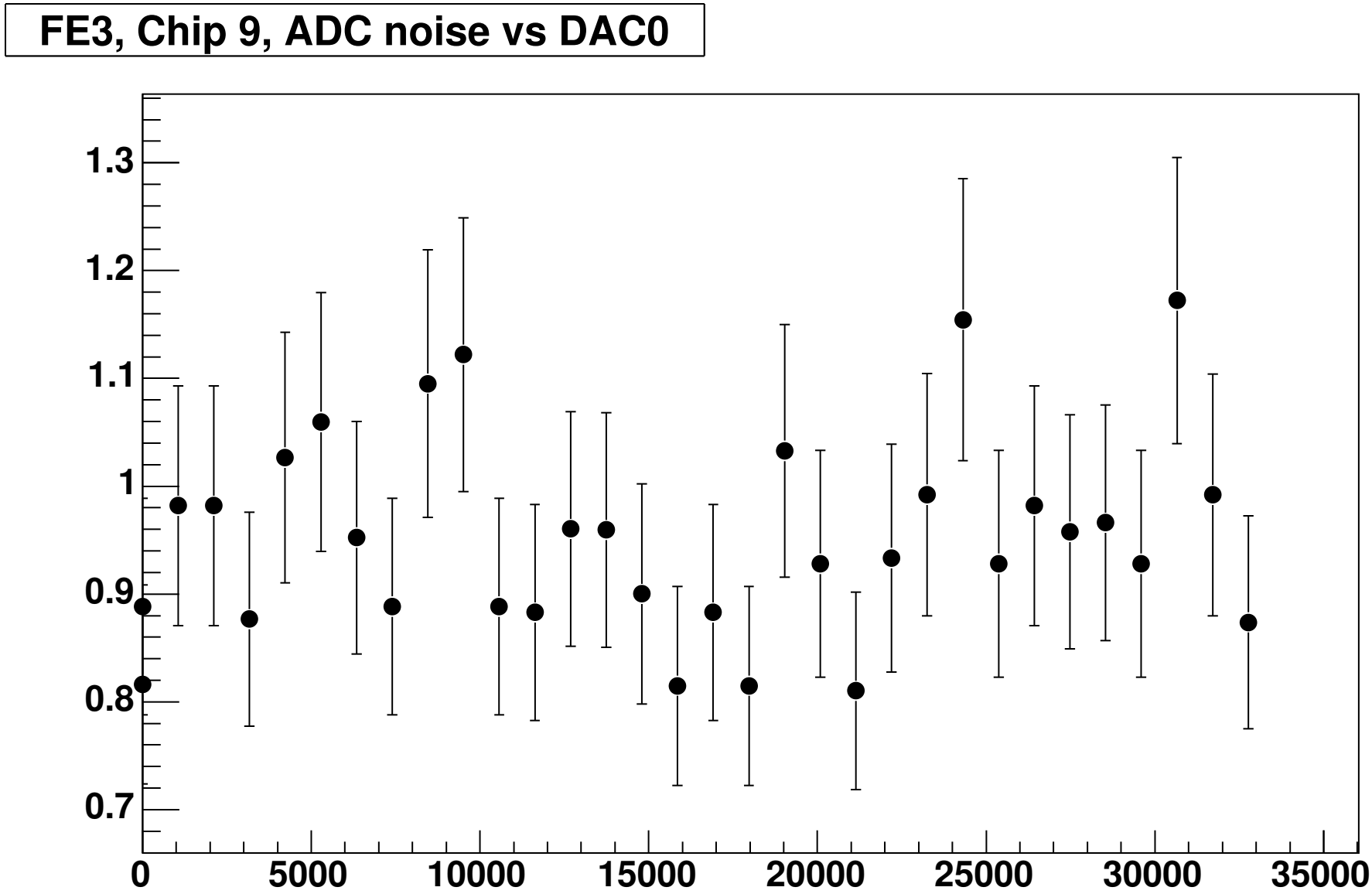

FE3, Chip 8, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

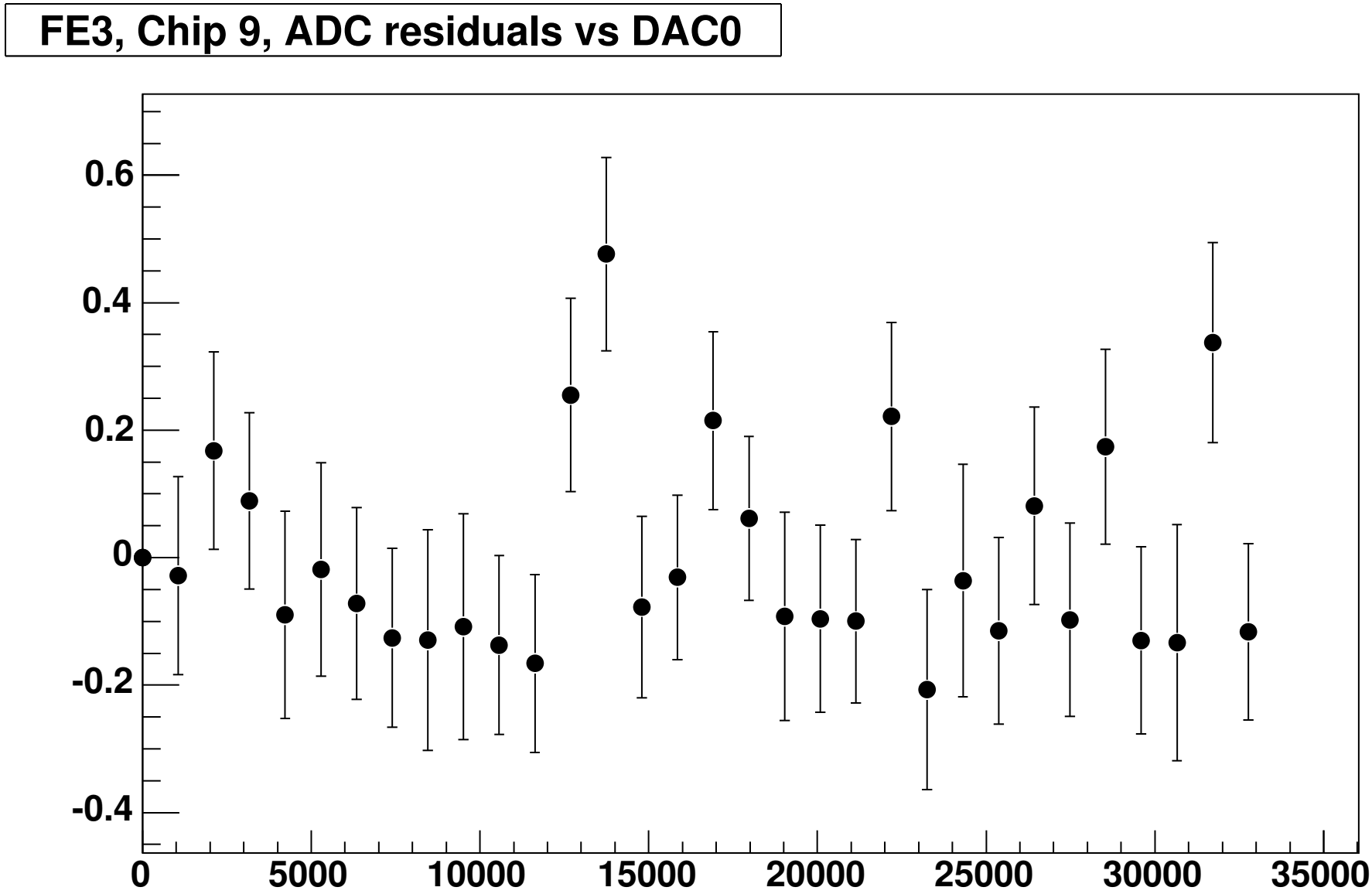

FE3, Chip 8, ADC mean vs DAC1
χ^2 / ndf 542.5 / 29
p0 18.86 ± 0.06119
p1 0.4605 ± 3.43e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

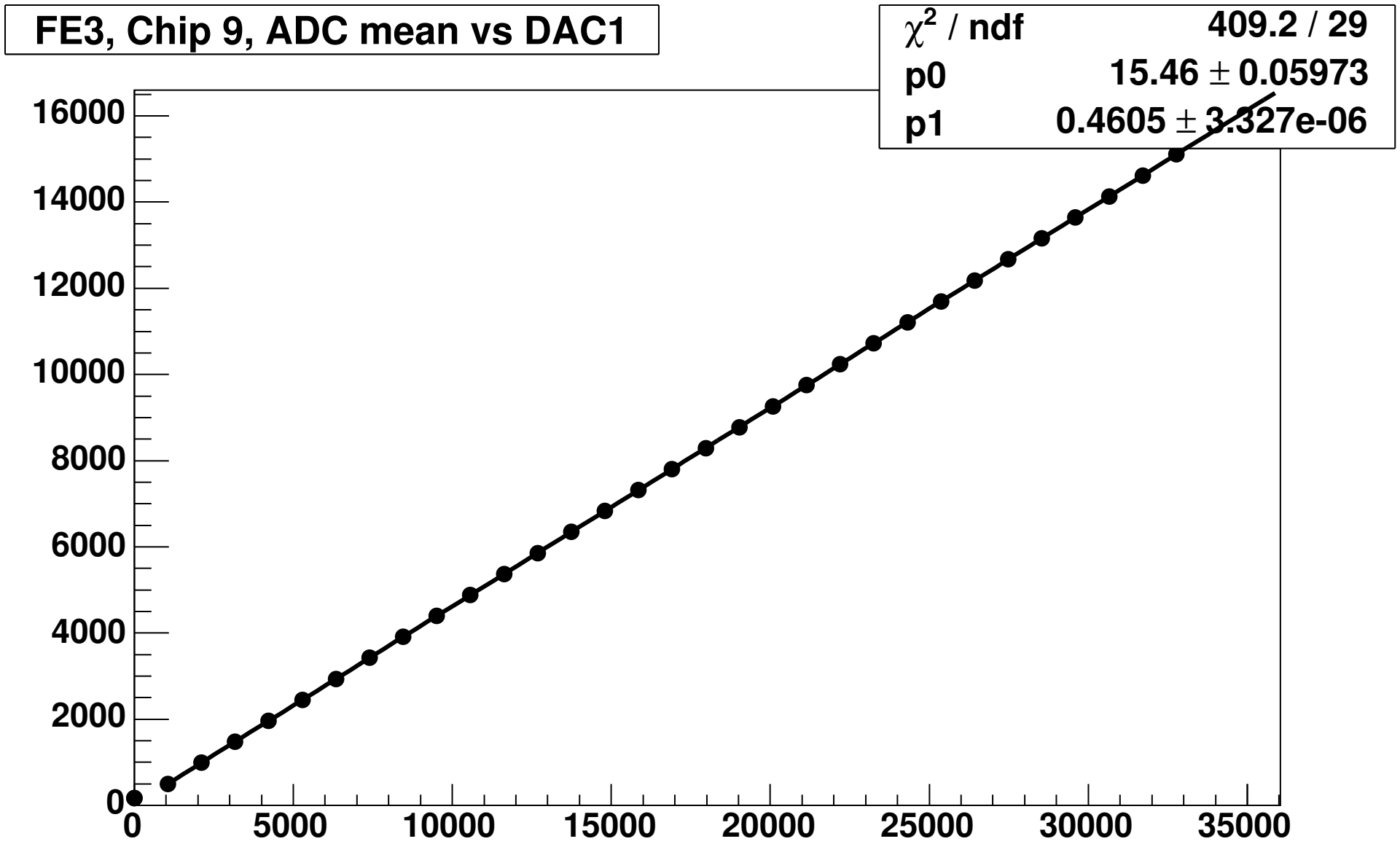

FE3, Chip 8, ADC noise vs DAC1
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

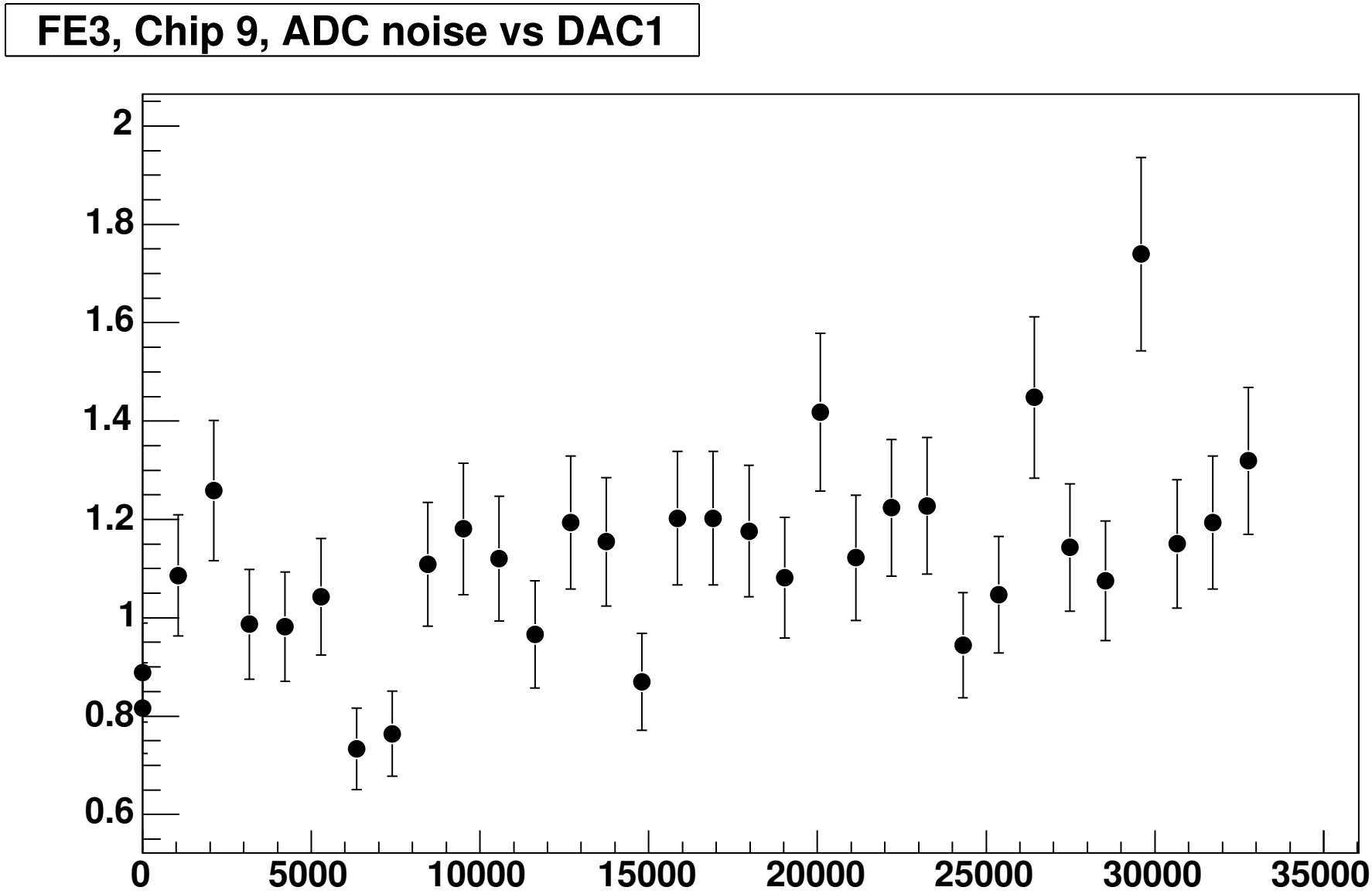

FE3, Chip 8, ADC residuals vs DAC1
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

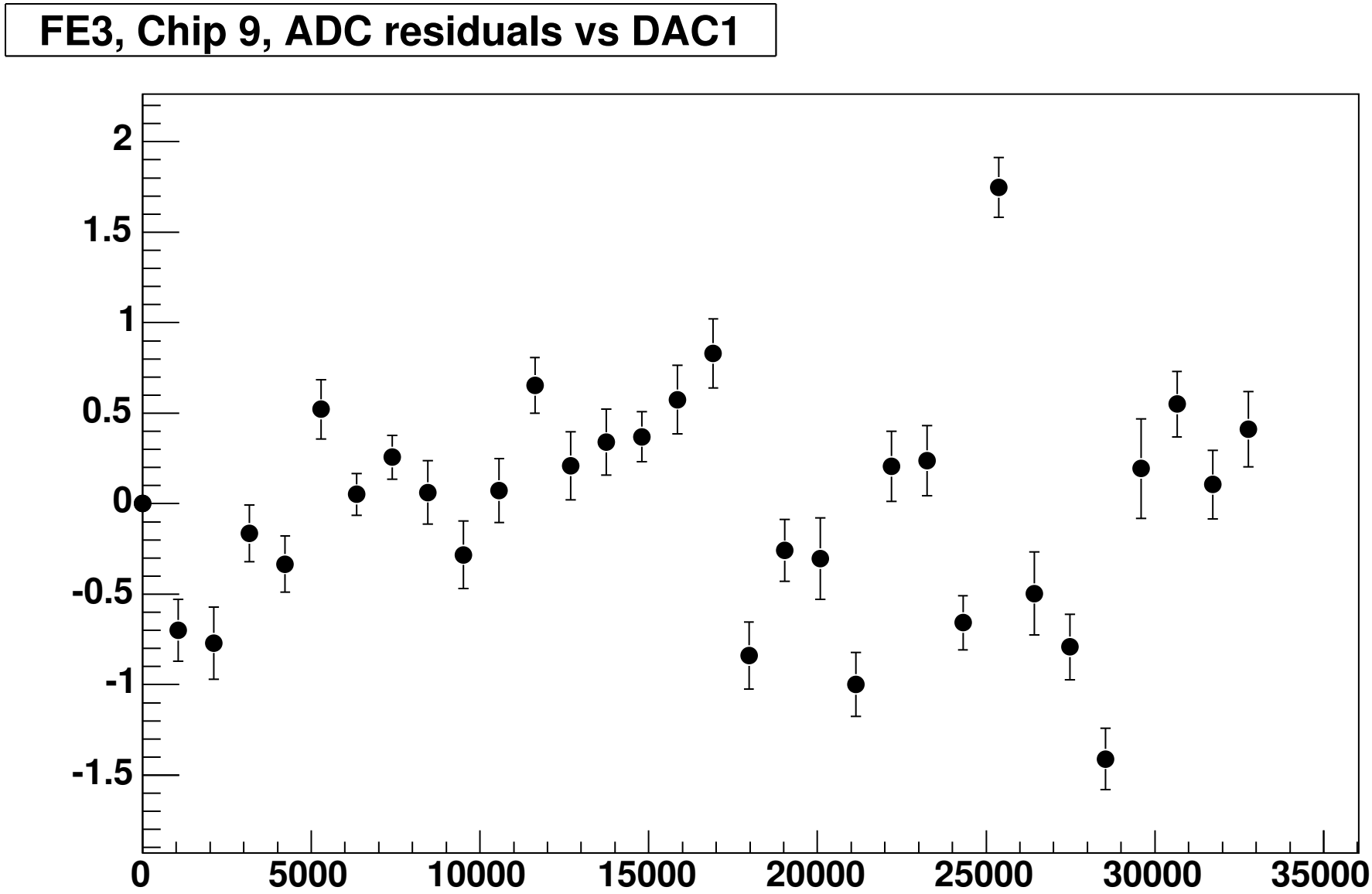

FE3, Chip 9, ADC mean vs DAC0
χ² / ndf 36.55 / 29
p0 164.4 ± 0.05611
p1 3.559e-06 ± 2.911e-06
165
164.8
164.6
164.4
164.2
0
5000
10000
15000
20000
25000
30000
35000

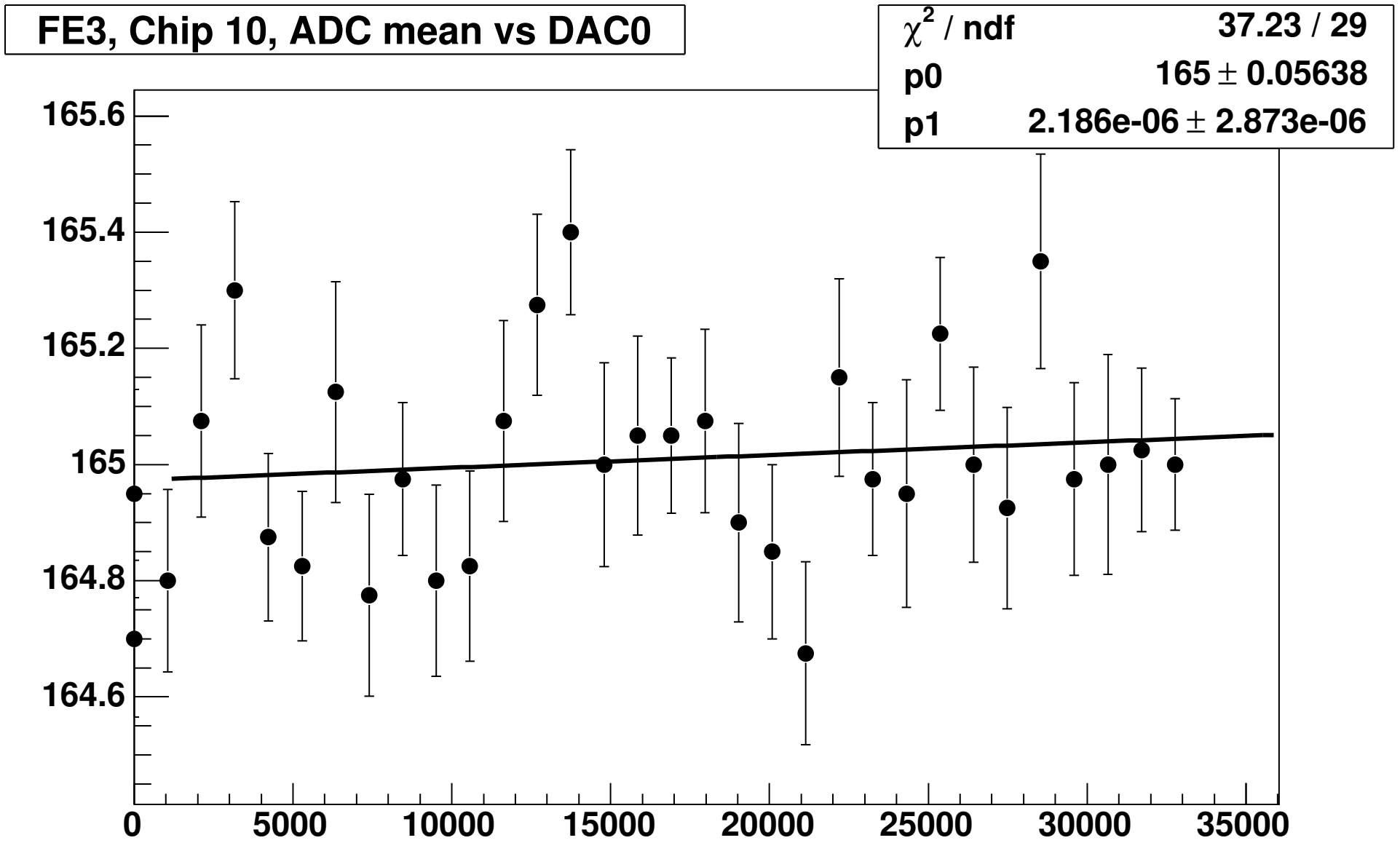

FE3, Chip 9, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

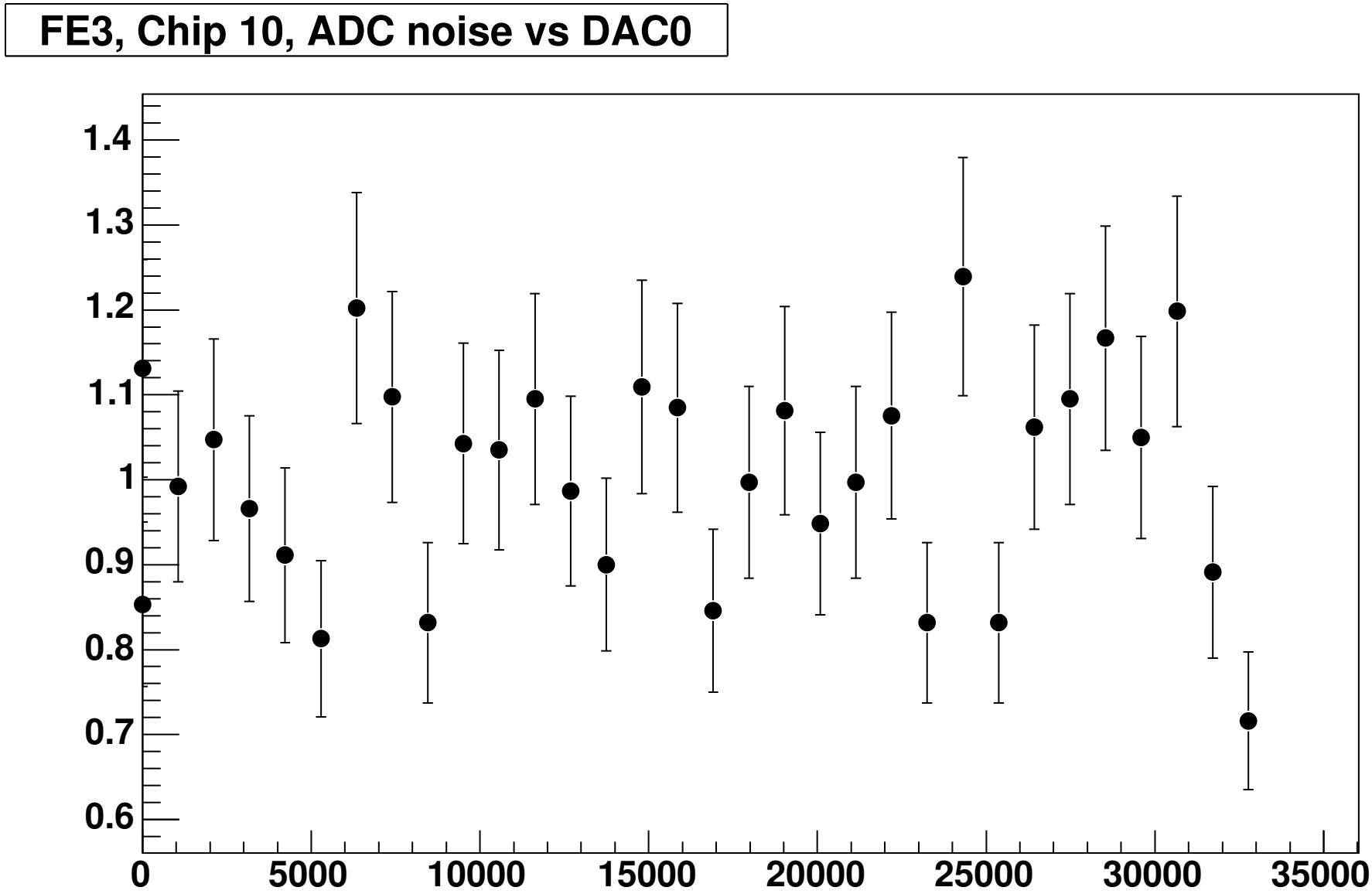

FE3, Chip 9, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

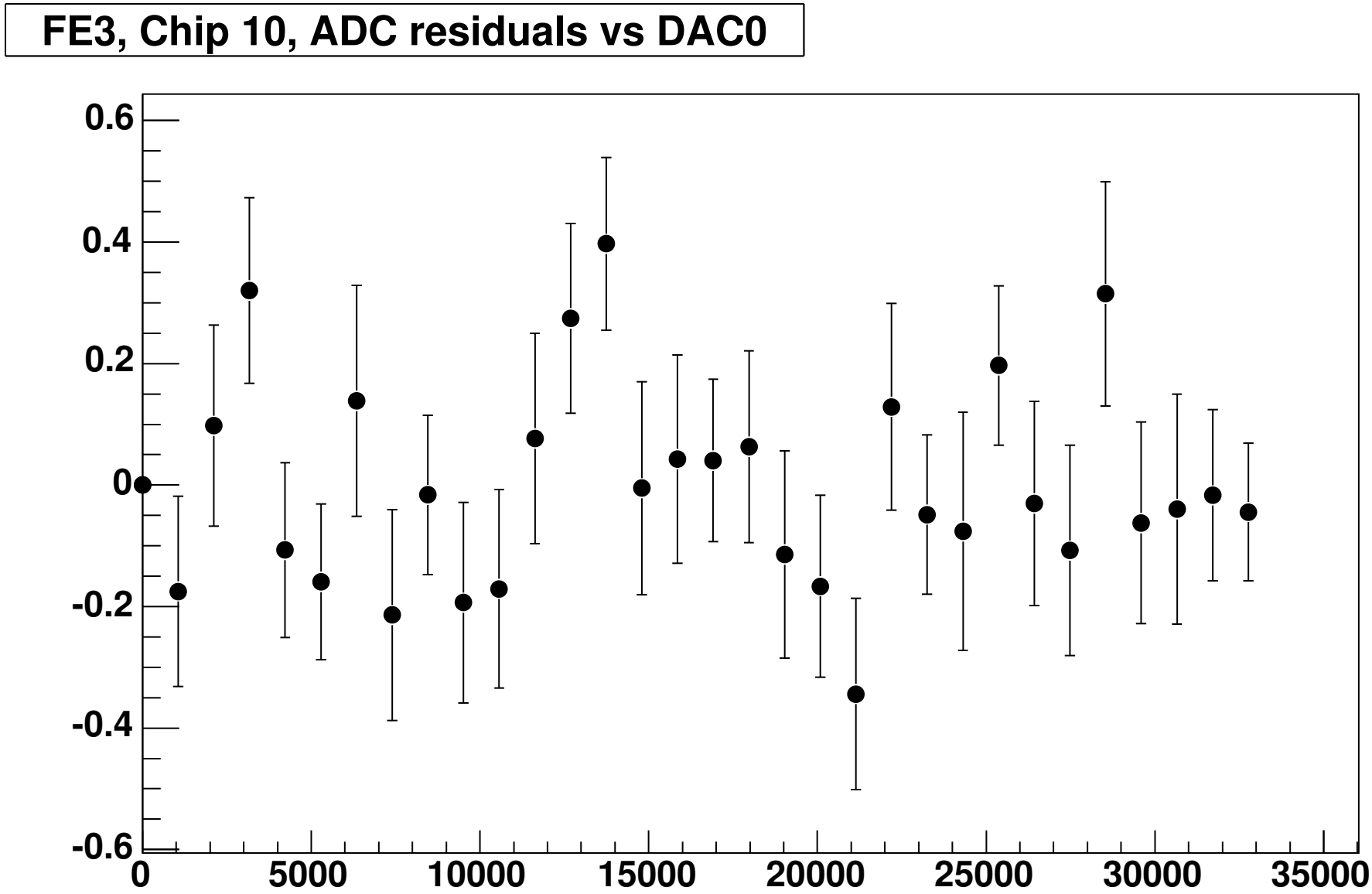

FE3, Chip 9, ADC mean vs DAC1
χ² / ndf 409.2 / 29
p0 15.46 ± 0.05973
p1 0.4605 ± 3.327e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

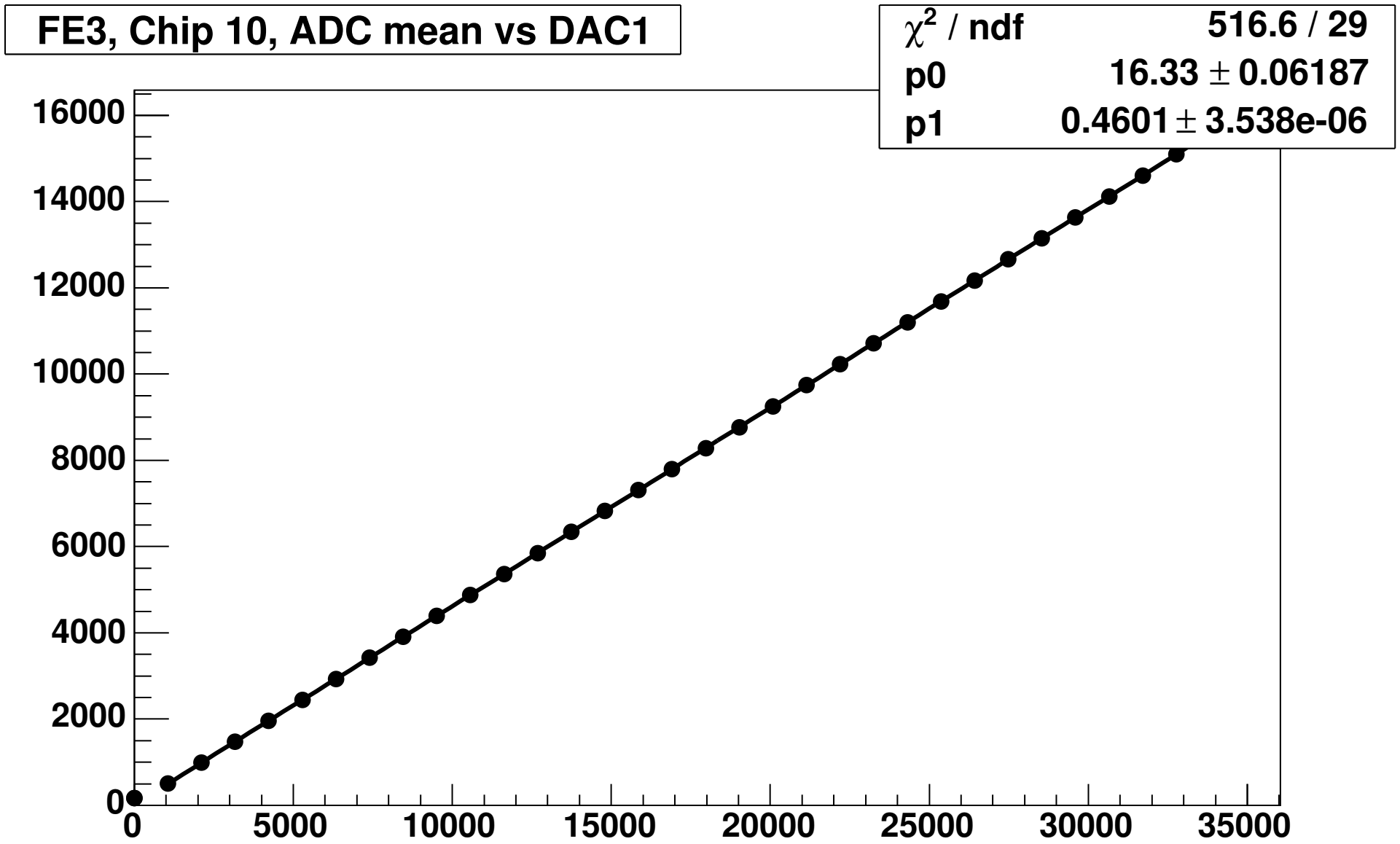

FE3, Chip 9, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

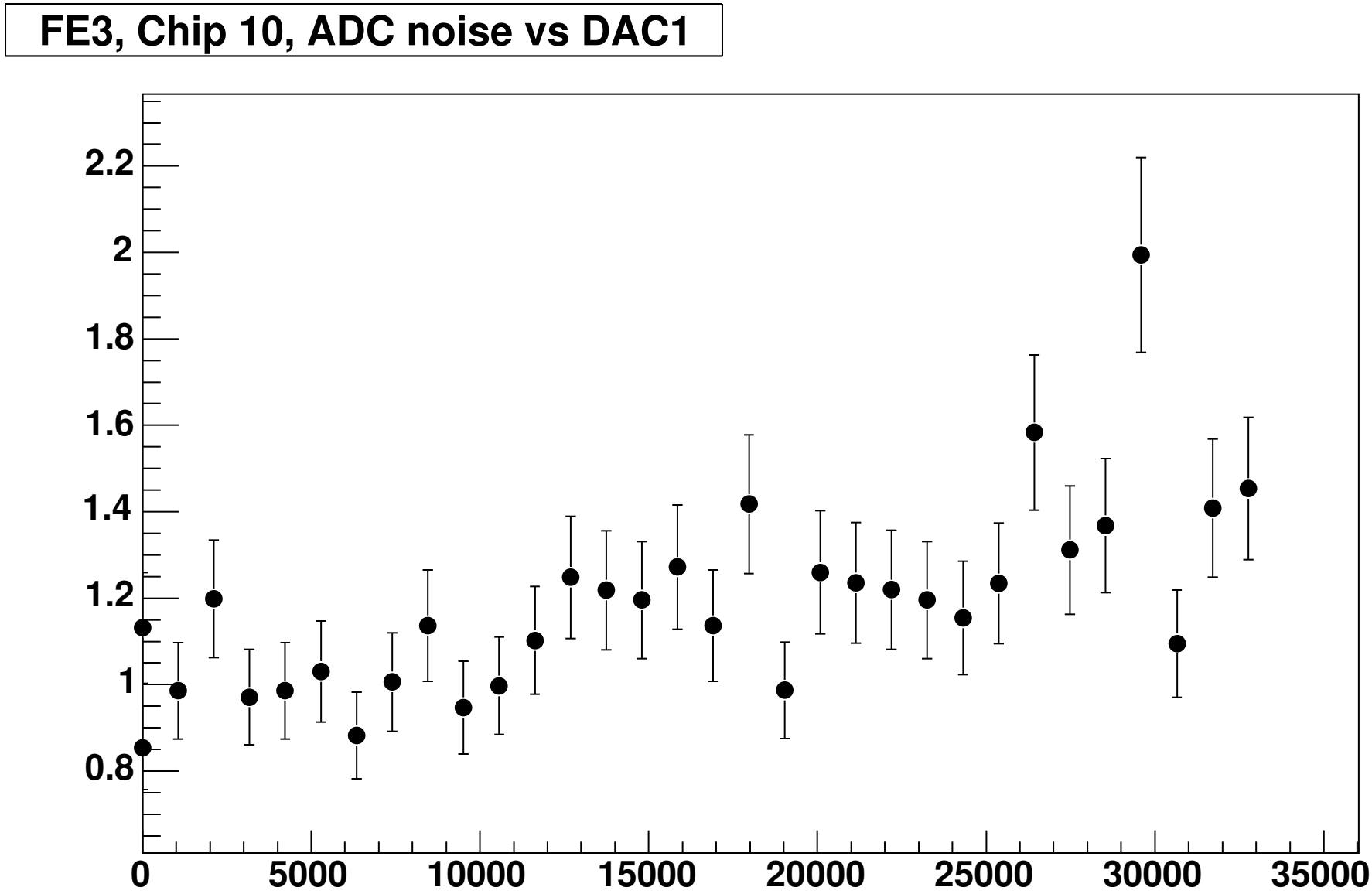

FE3, Chip 9, ADC residuals vs DAC1
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

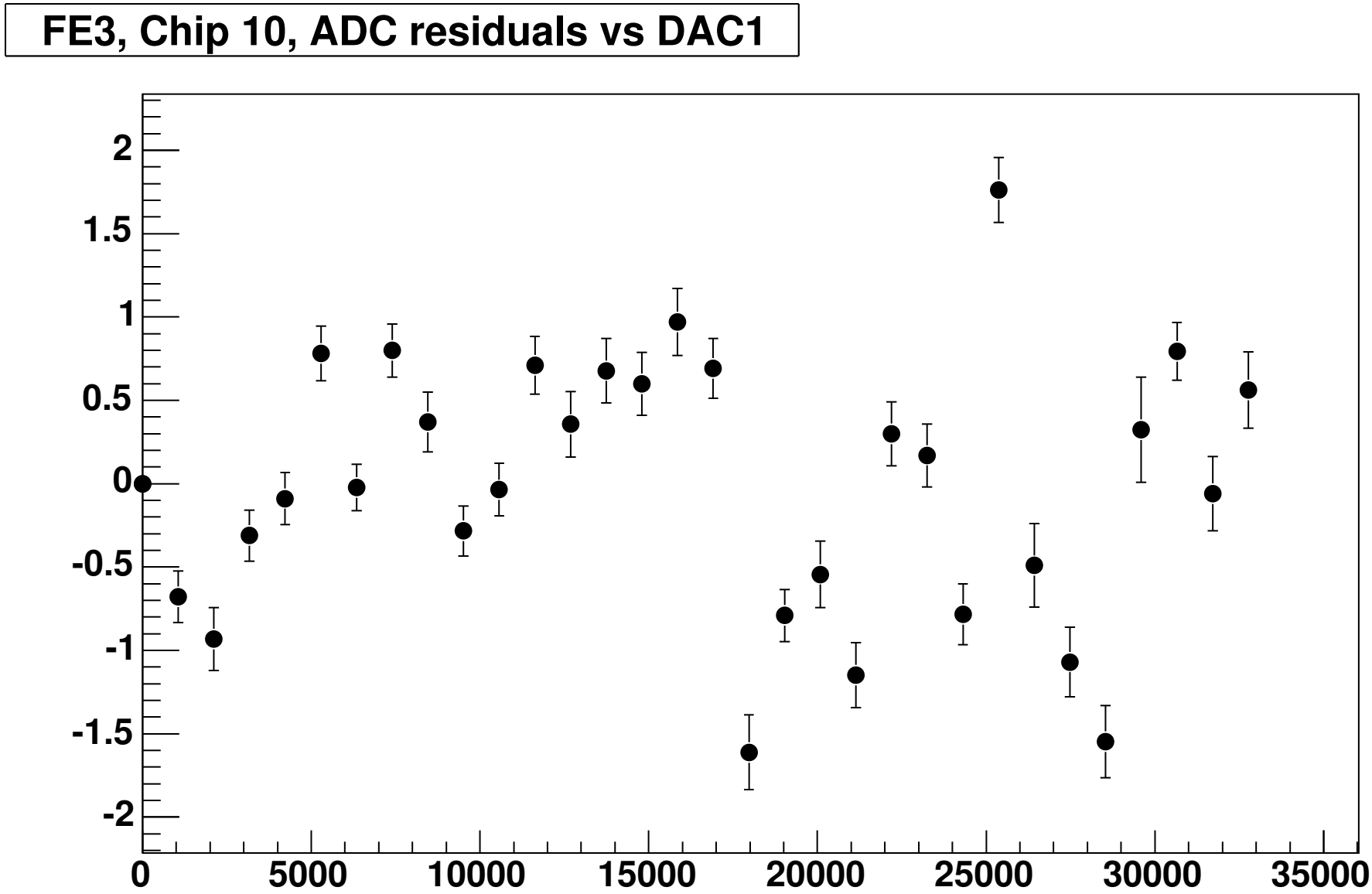

FE3, Chip 10, ADC mean vs DAC0
χ² / ndf 37.23 / 29
p0 165 ± 0.05638
p1 2.186e-06 ± 2.873e-06
165.6
165.4
165.2
165
164.8
164.6
0
5000
10000
15000
20000
25000
30000
35000

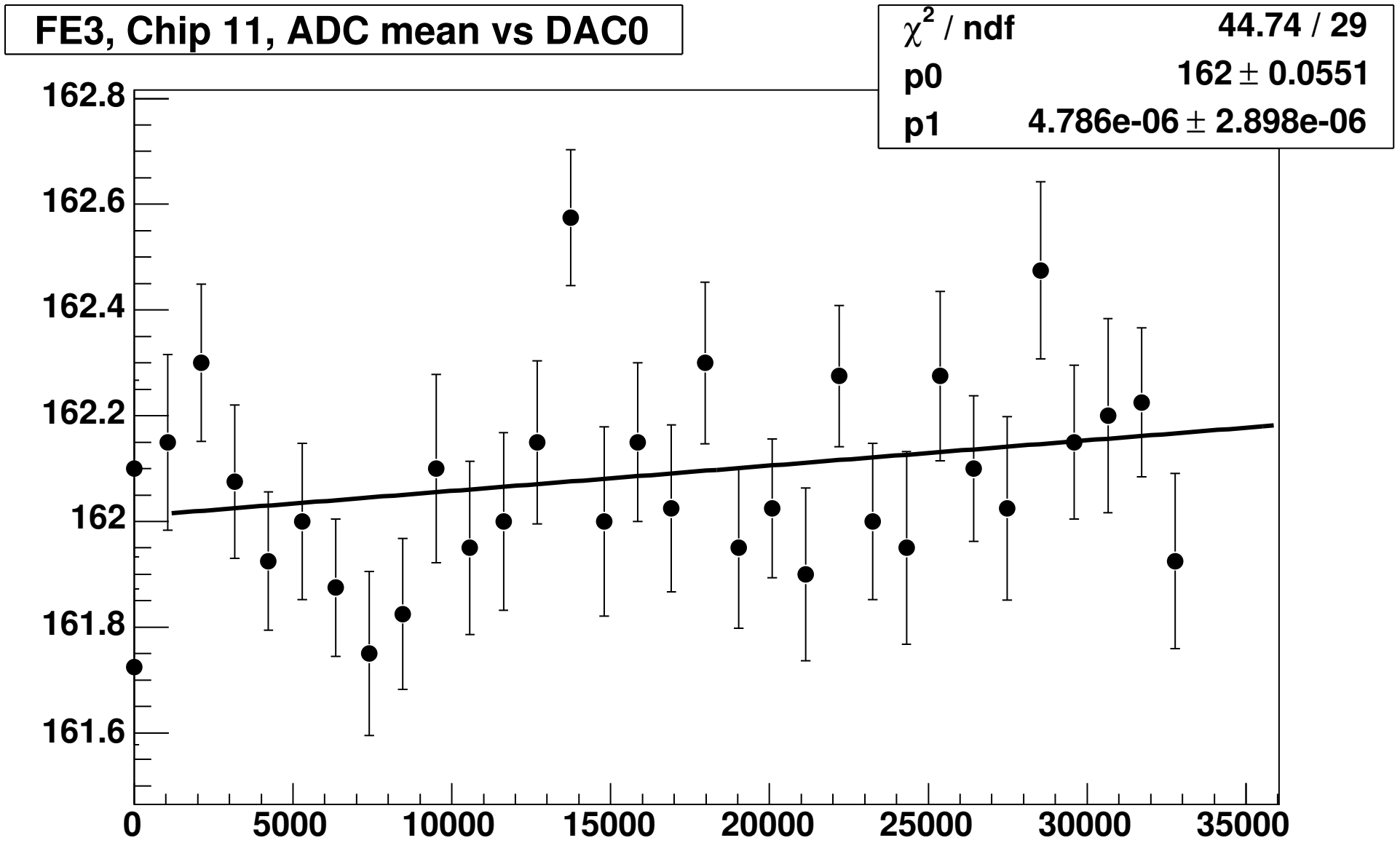

FE3, Chip 10, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

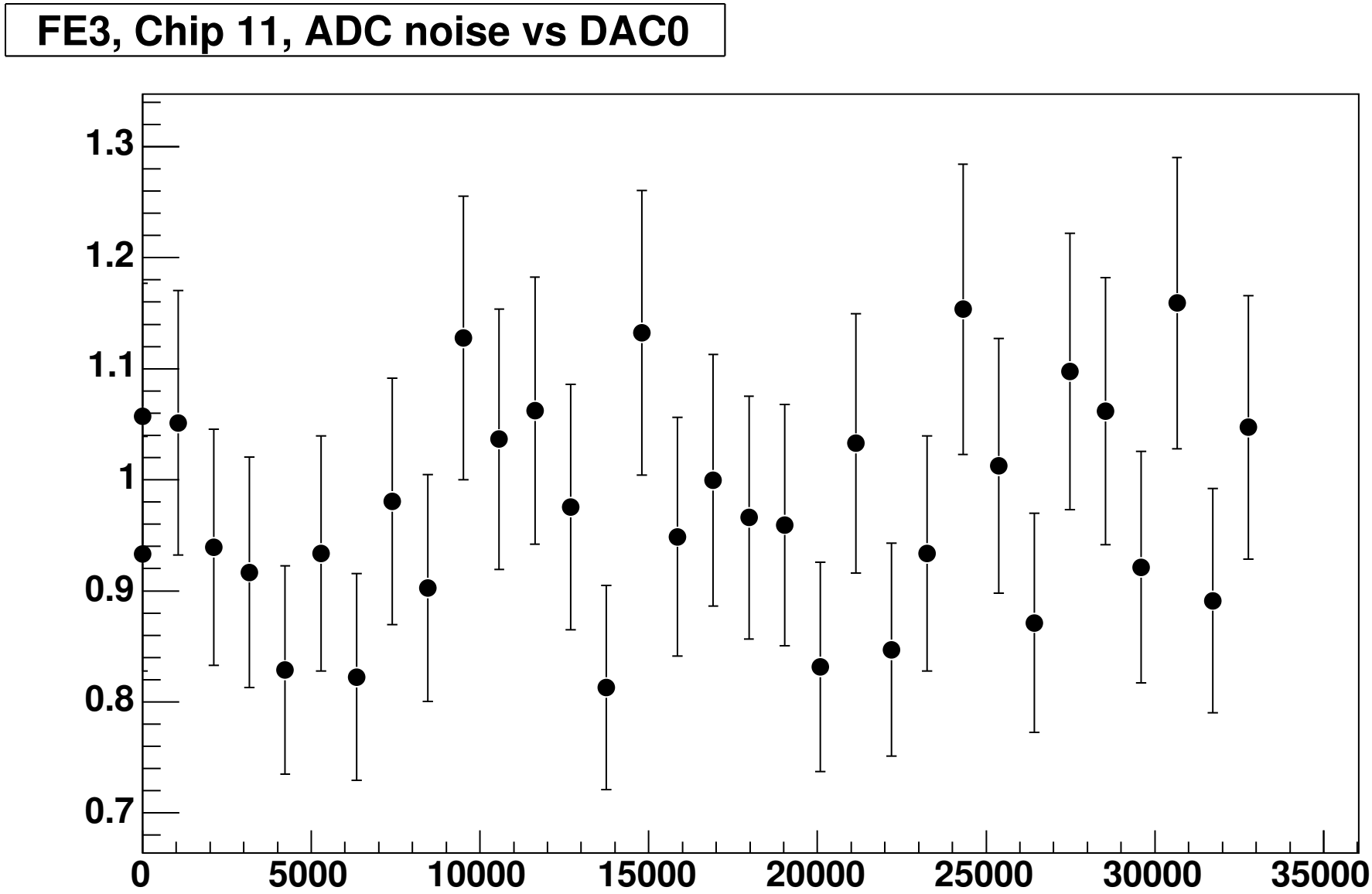

FE3, Chip 10, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

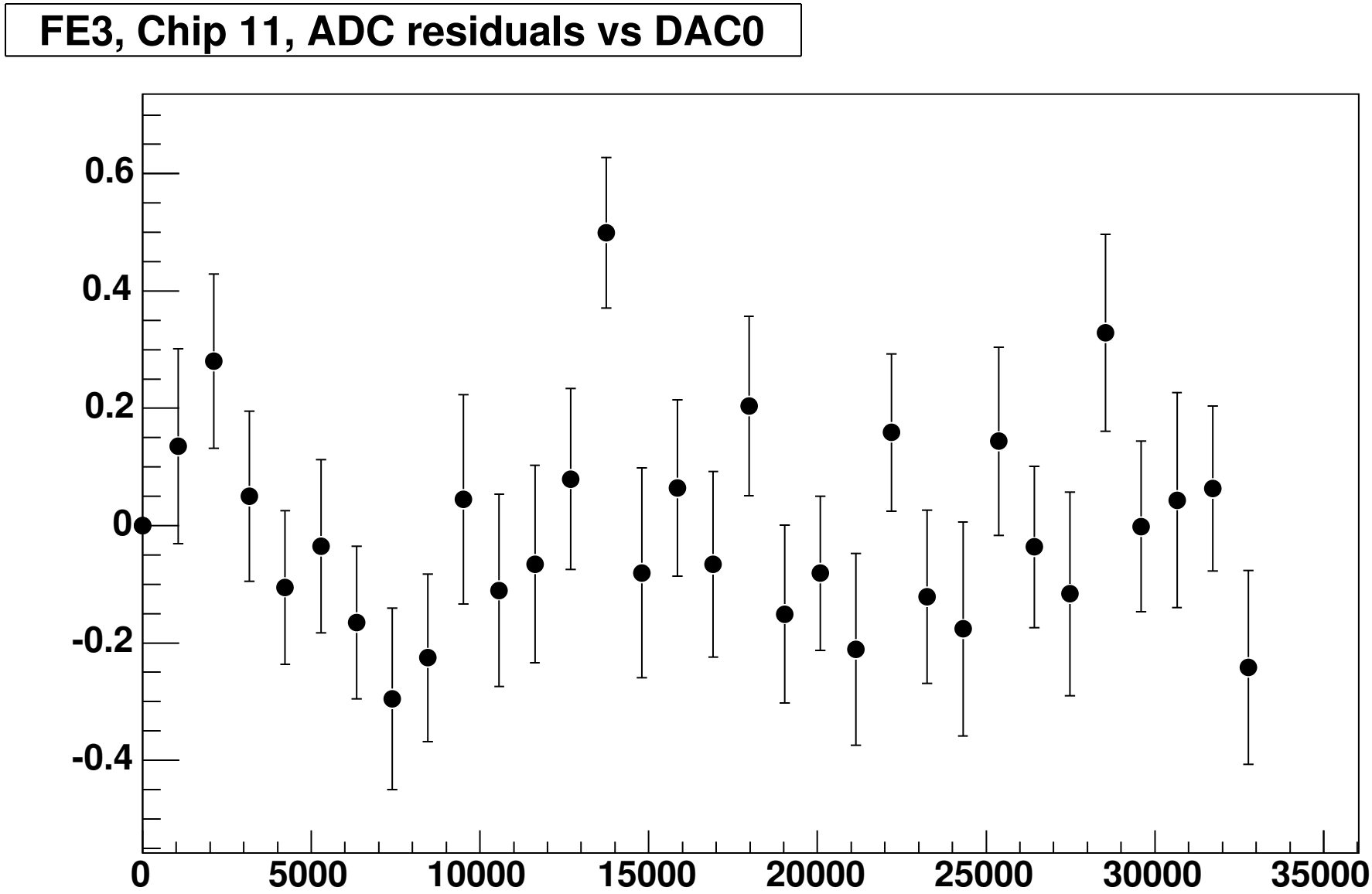

FE3, Chip 10, ADC mean vs DAC1
χ² / ndf 516.6 / 29
p0 16.33 ± 0.06187
p1 0.4601 ± 3.538e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

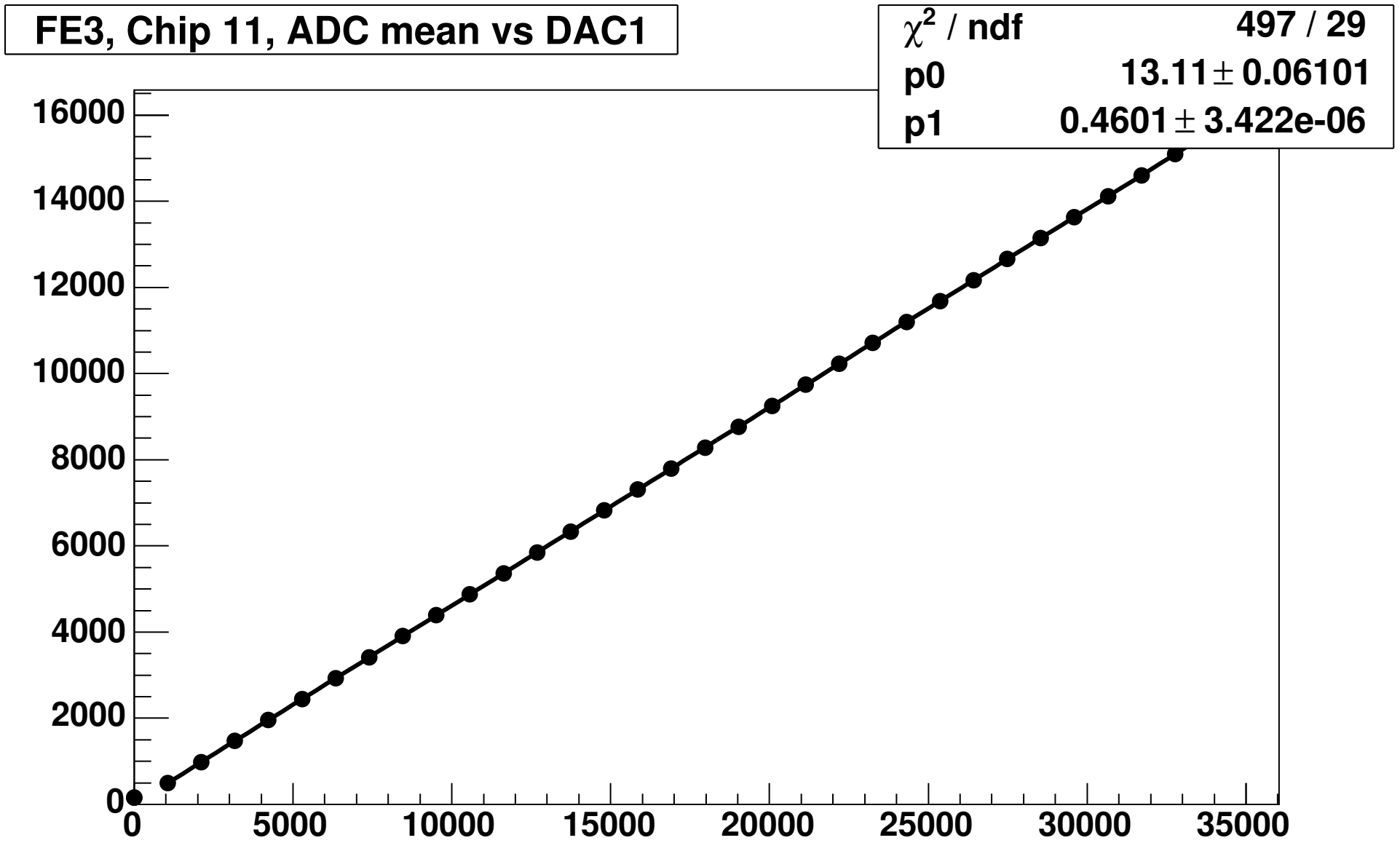

FE3, Chip 10, ADC noise vs DAC1
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

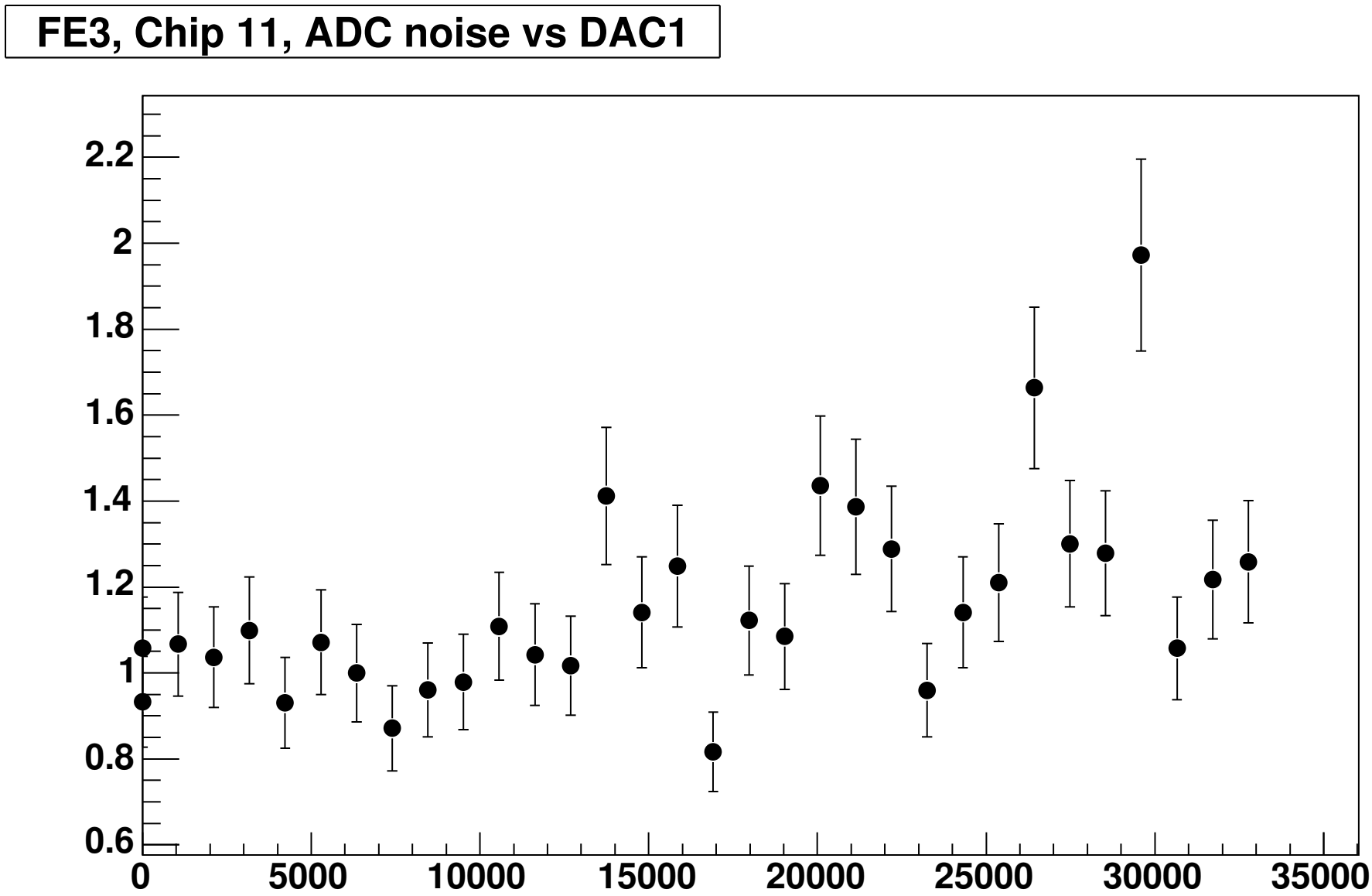

FE3, Chip 10, ADC residuals vs DAC1
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

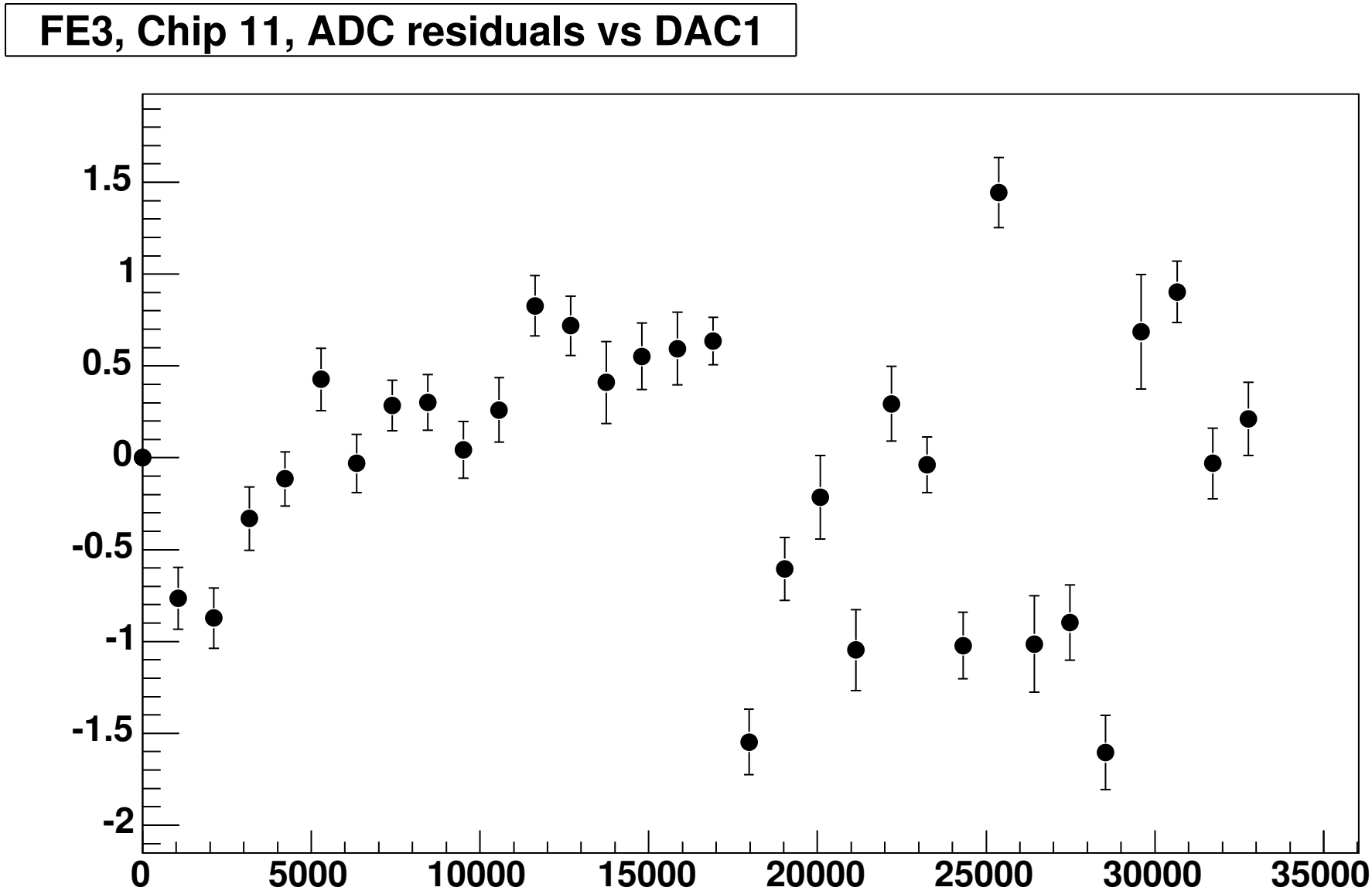

FE3, Chip 11, ADC mean vs DAC0
χ² / ndf 44.74 / 29
p0 162 ± 0.0551
p1 4.786e-06 ± 2.898e-06
162.8
162.6
162.4
162.2
162
161.8
161.6
0
5000
10000
15000
20000
25000
30000
35000

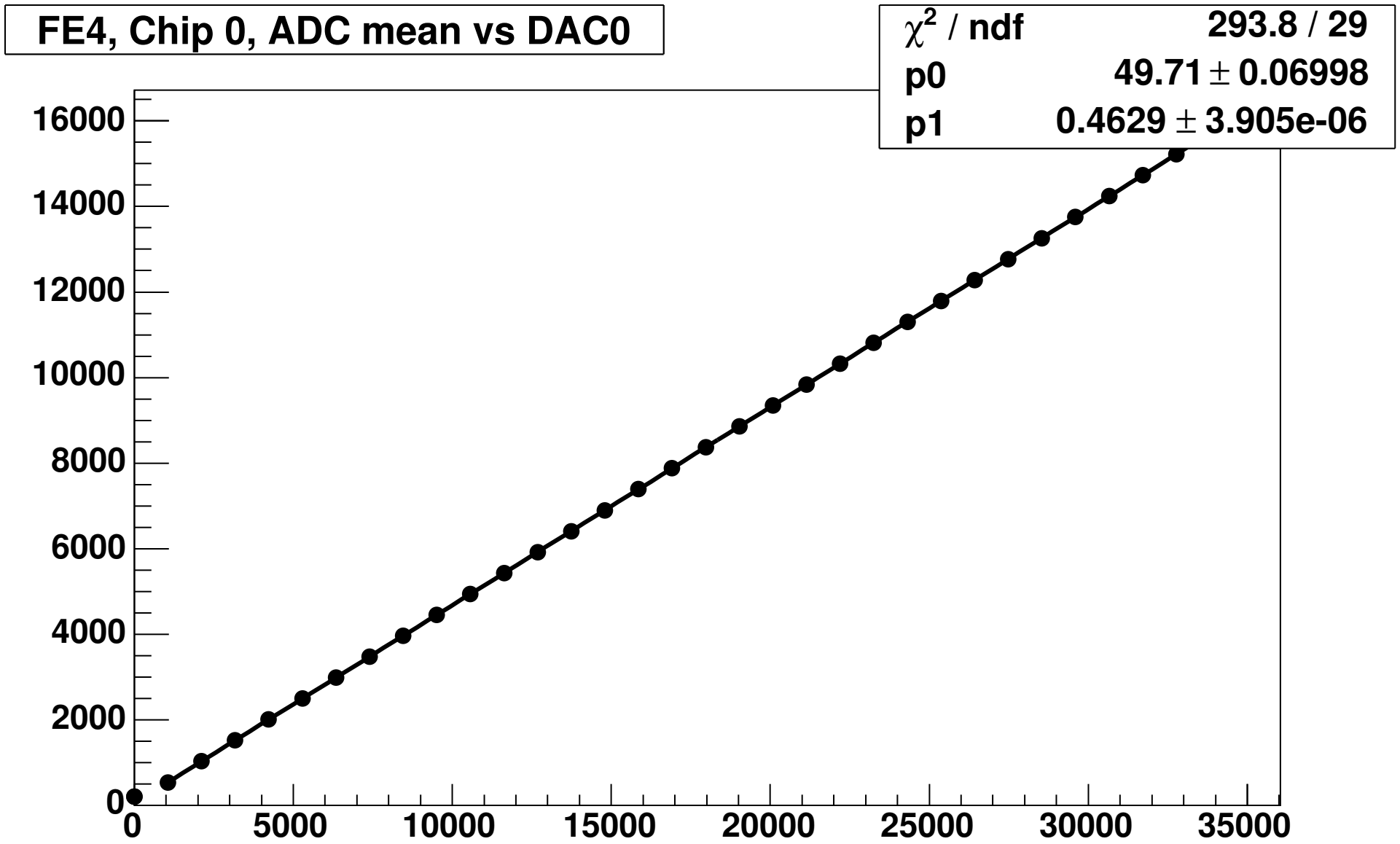

FE3, Chip 11, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

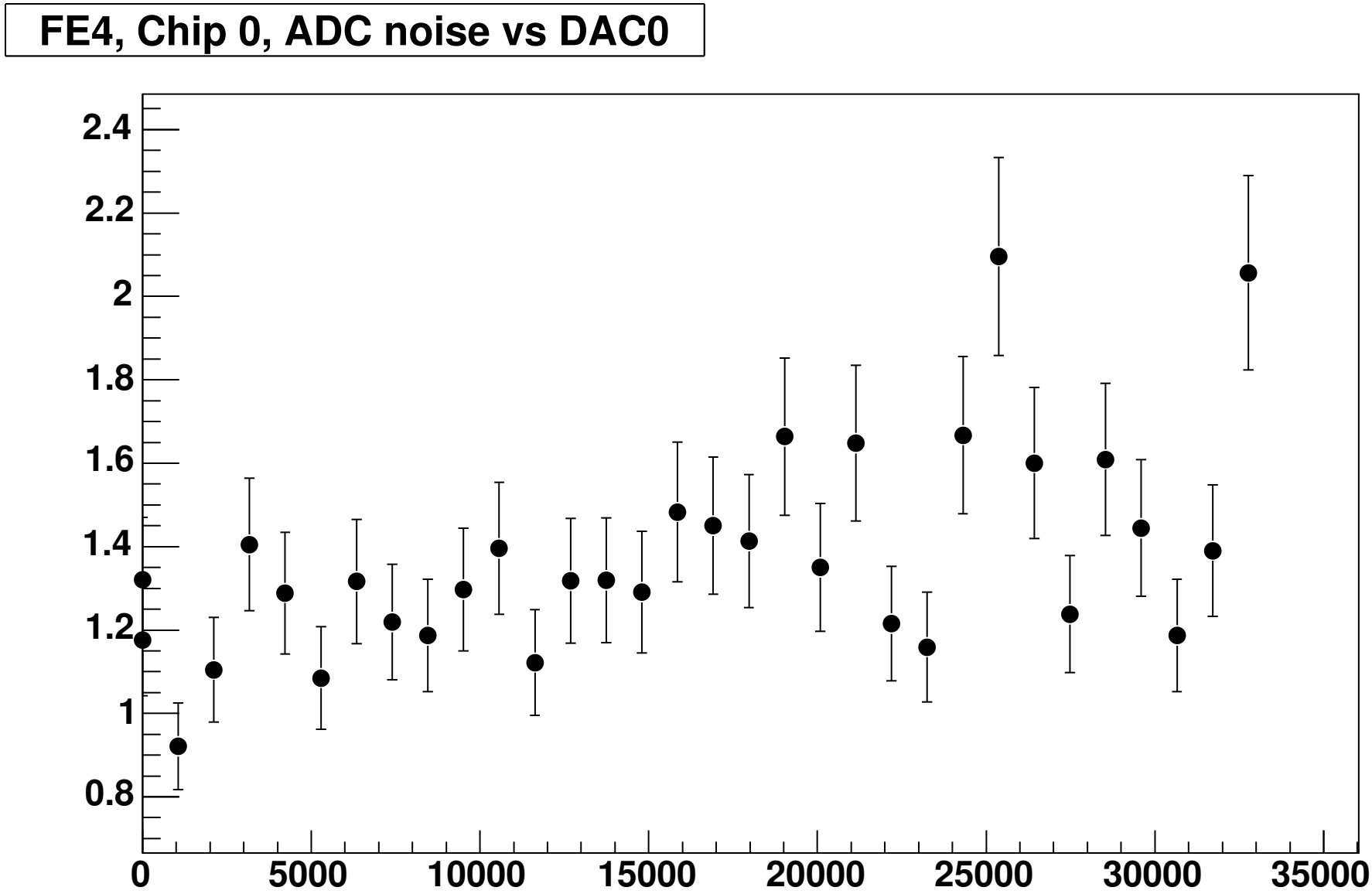

FE3, Chip 11, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

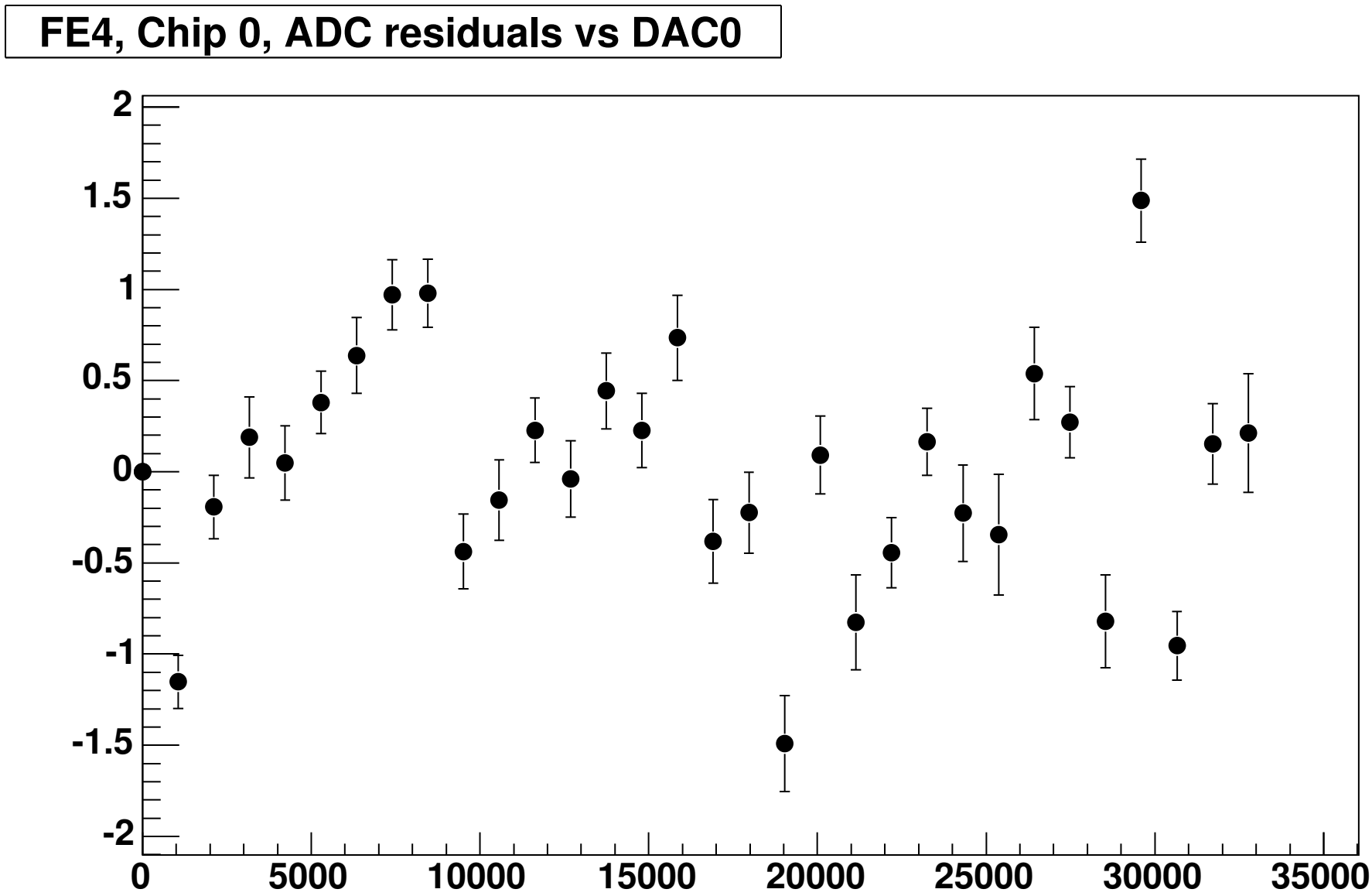

FE3, Chip 11, ADC mean vs DAC1
χ² / ndf 497 / 29
p0 13.11 ± 0.06101
p1 0.4601 ± 3.422e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

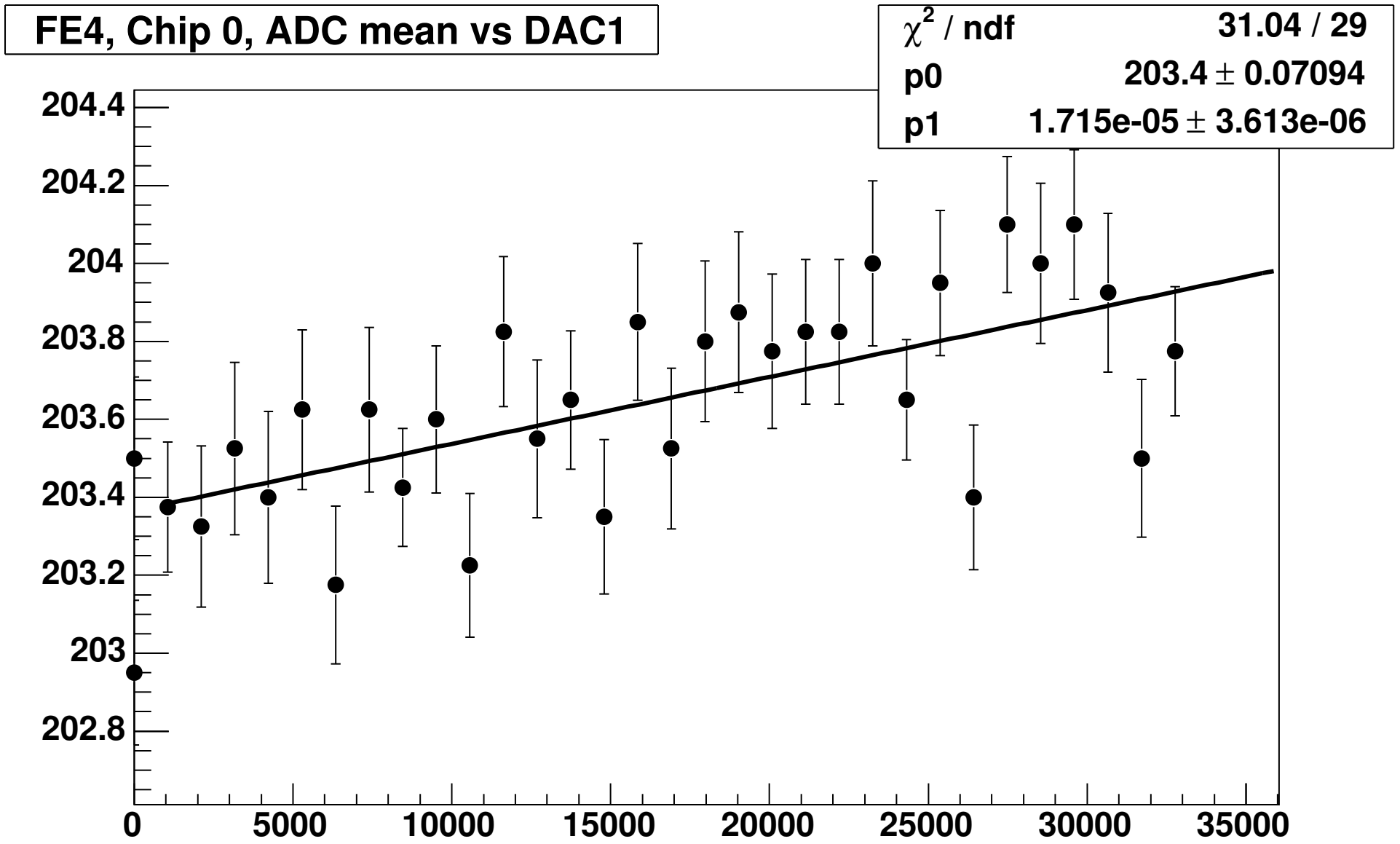

FE3, Chip 11, ADC noise vs DAC1
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

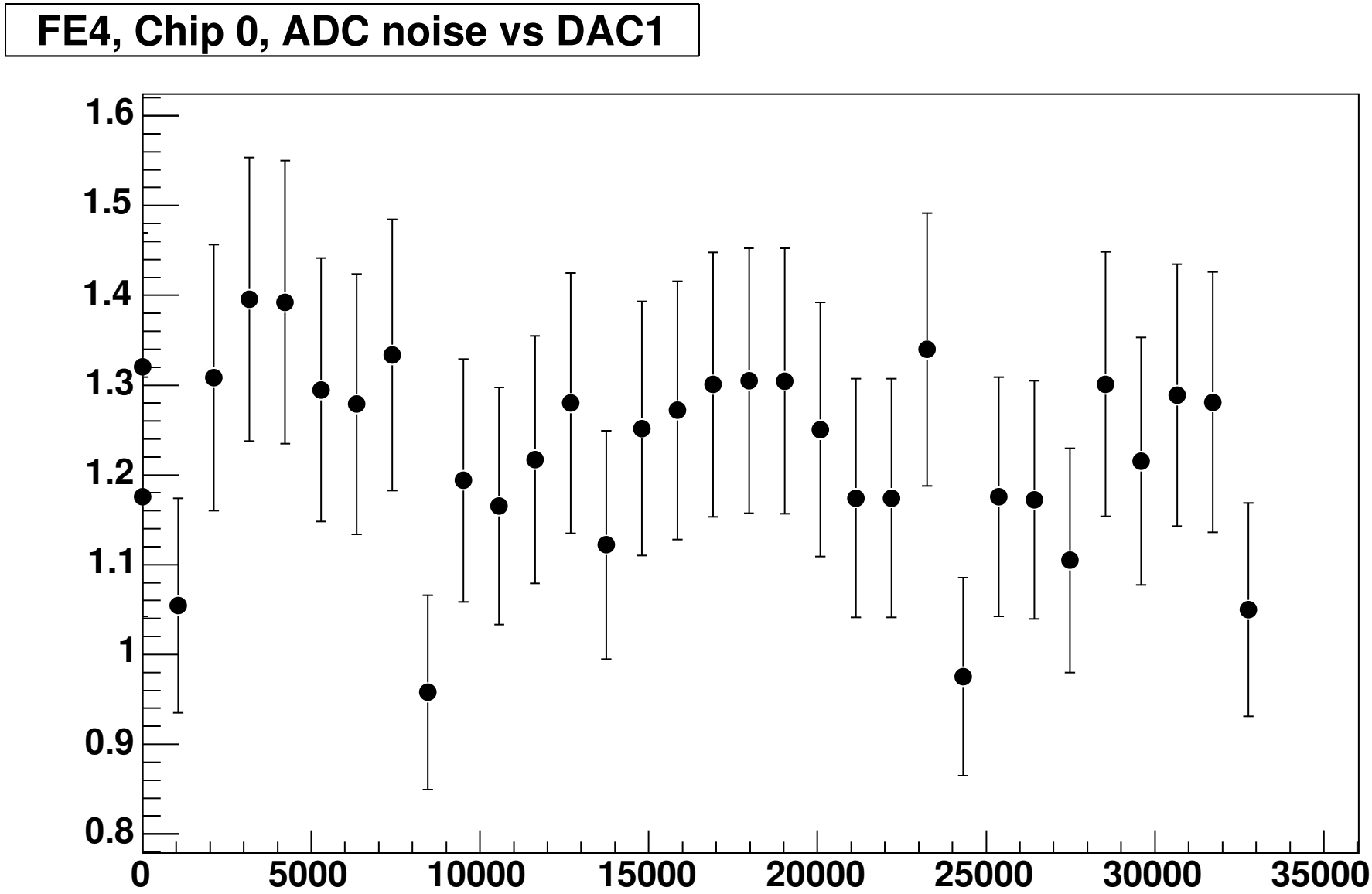

FE3, Chip 11, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

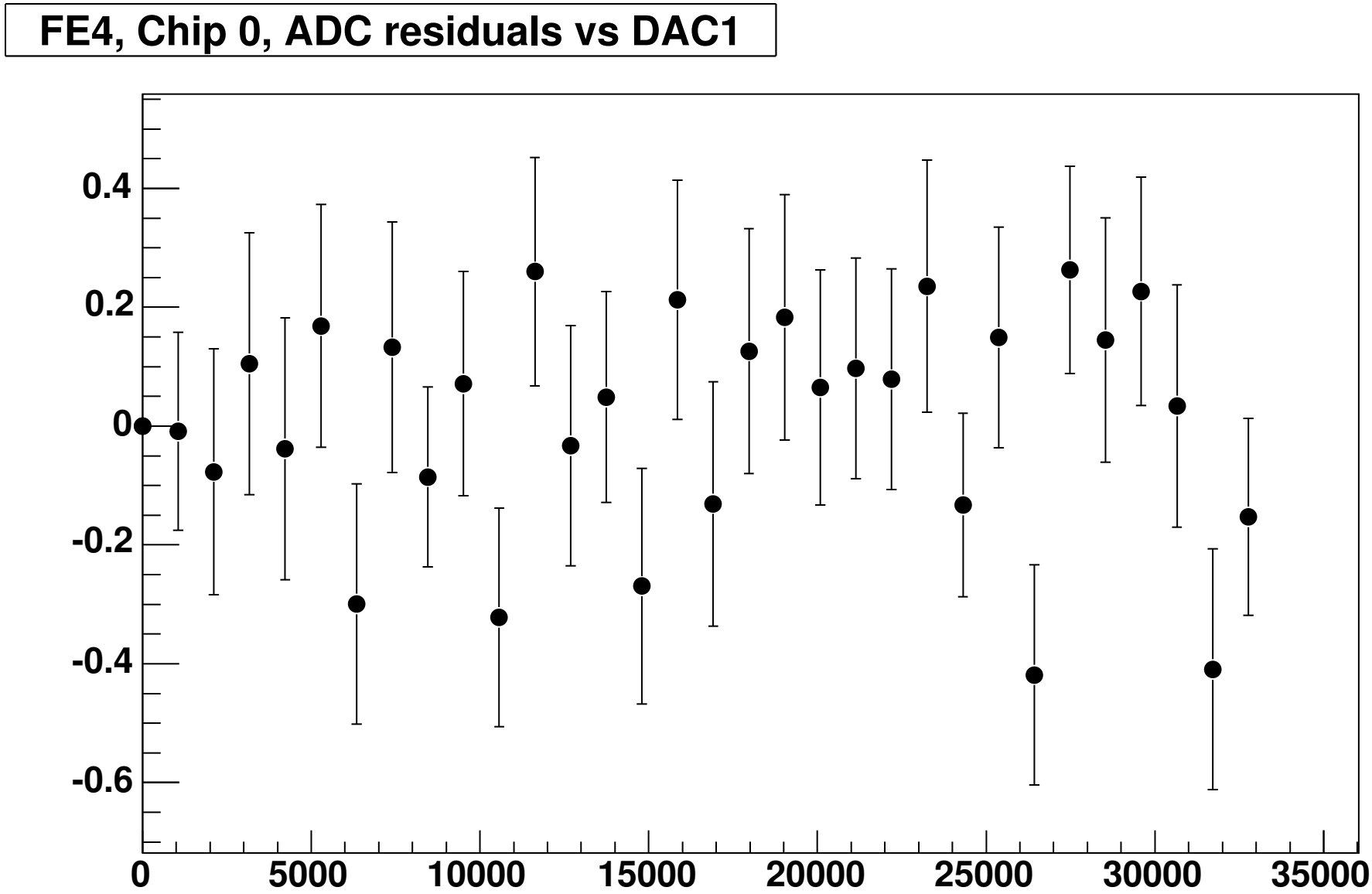

FE4, Chip 0, ADC mean vs DAC0
χ² / ndf 293.8 / 29
p0 49.71 ± 0.06998
p1 0.4629 ± 3.905e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

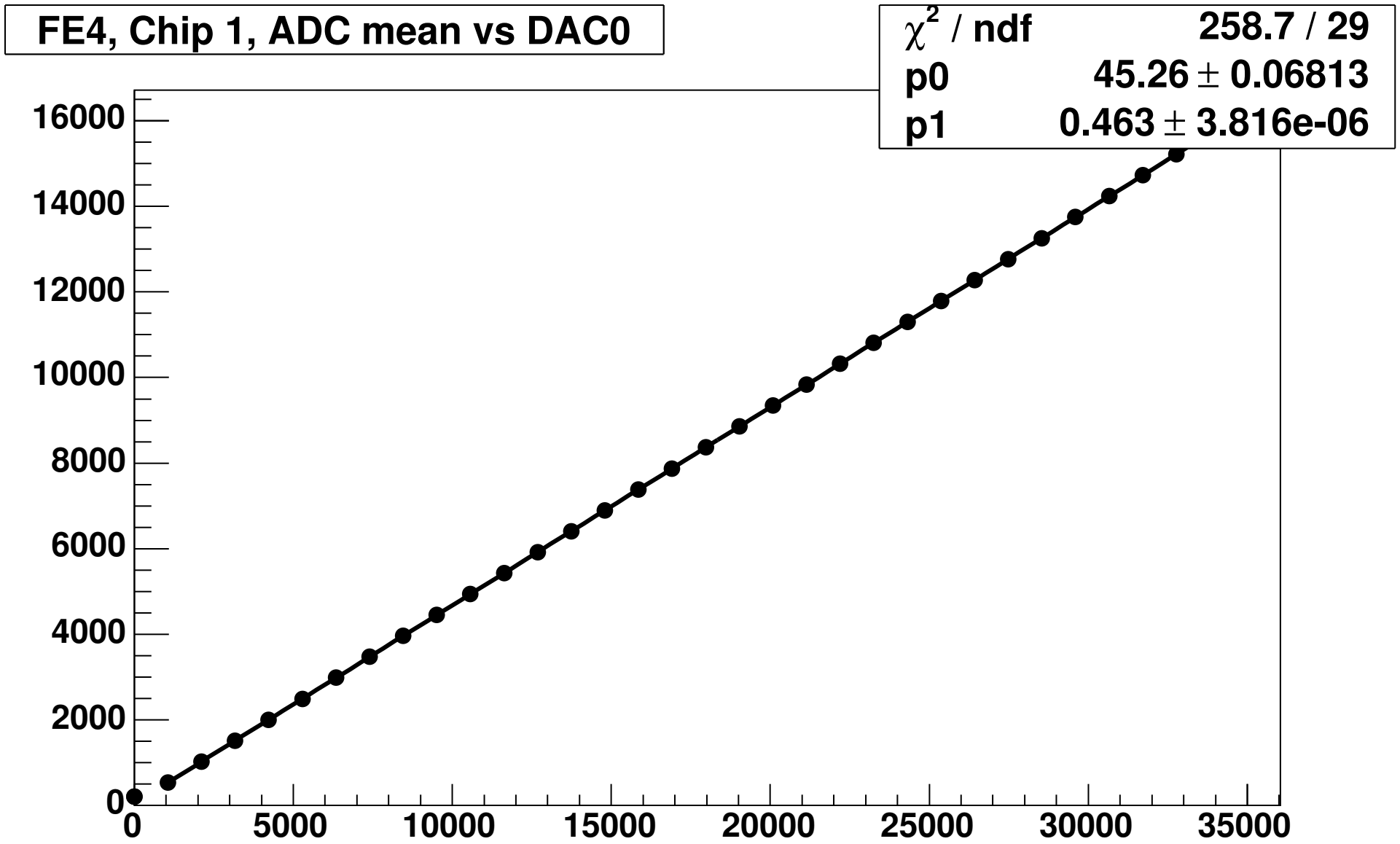

FE4, Chip 0, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

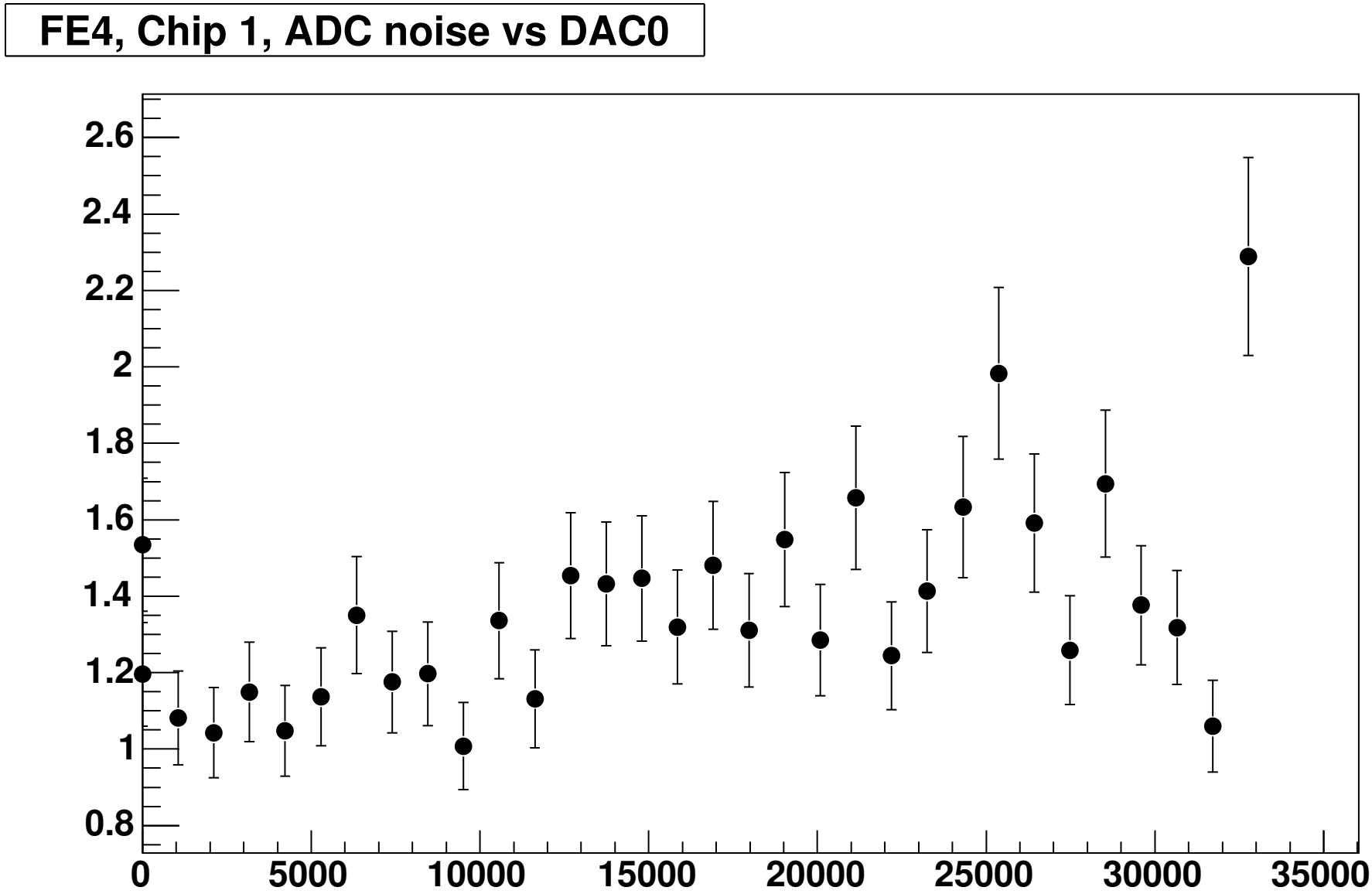

FE4, Chip 0, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

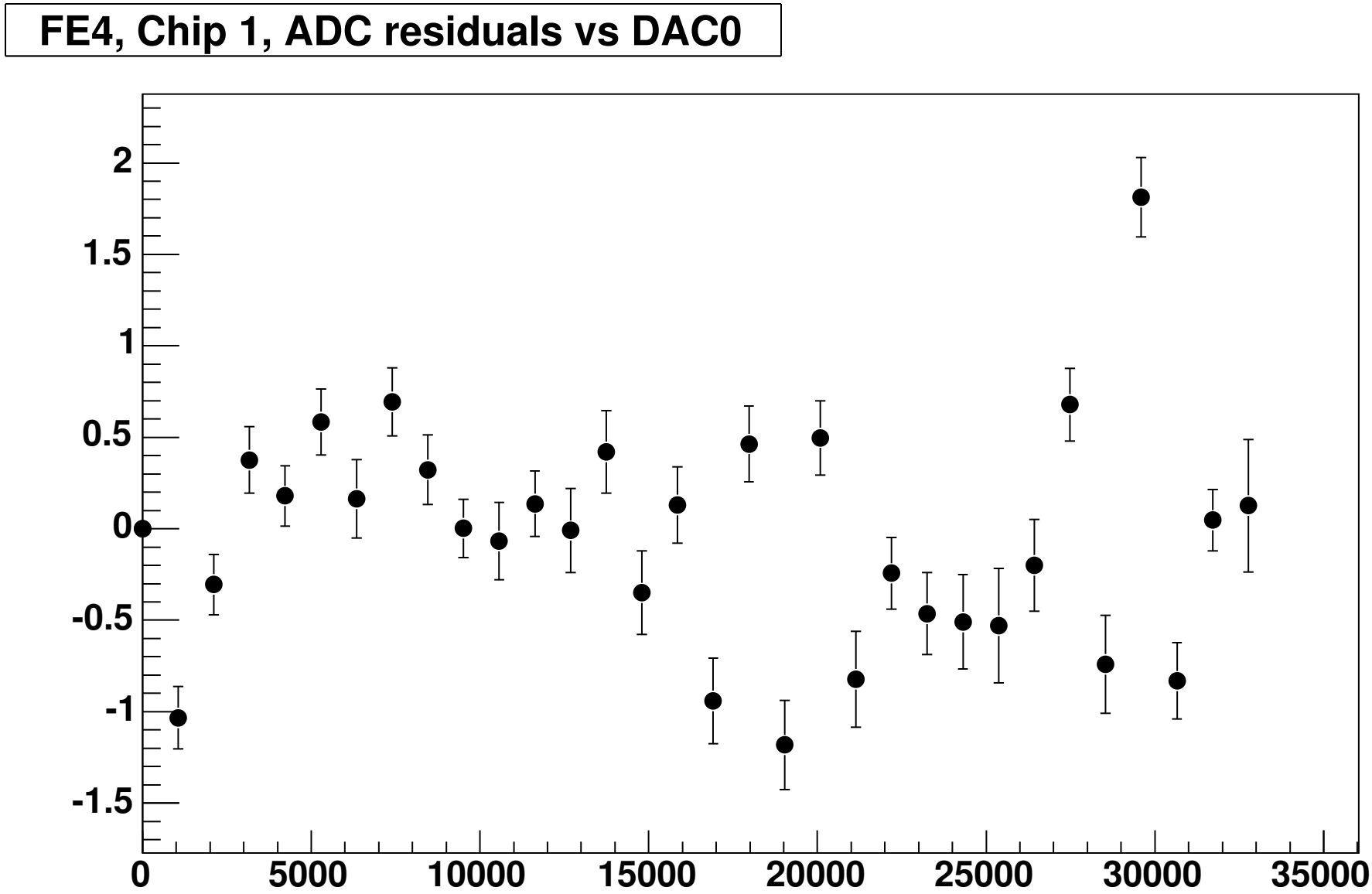

FE4, Chip 0, ADC mean vs DAC1
χ² / ndf 31.04 / 29
p0 203.4 ± 0.07094
p1 1.715e-05 ± 3.613e-06
204.4
204.2
204
203.8
203.6
203.4
203.2
203
202.8
0
5000
10000
15000
20000
25000
30000
35000

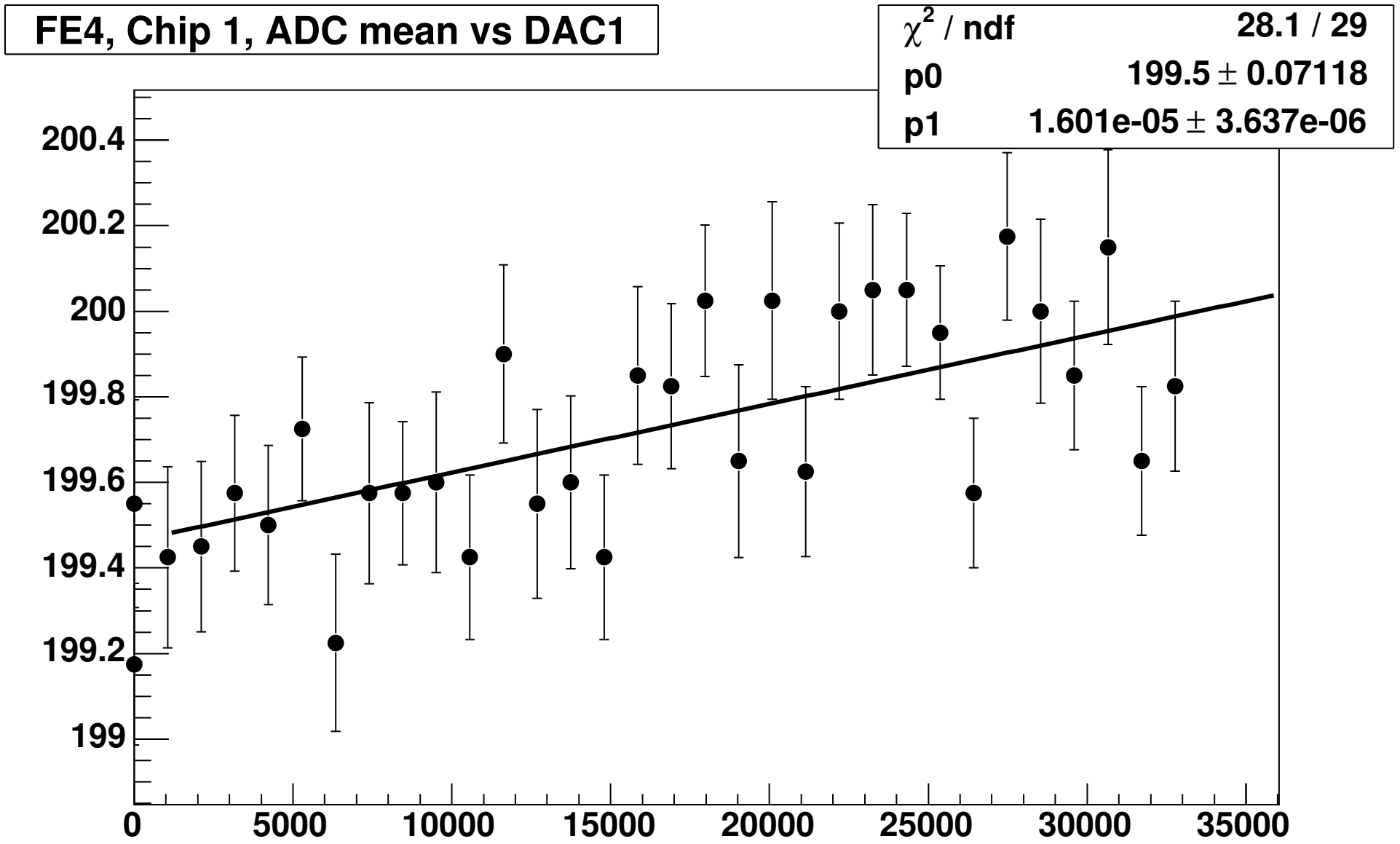

FE4, Chip 0, ADC noise vs DAC1
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0
5000
10000
15000
20000
25000
30000
35000


FE4, Chip 0, ADC residuals vs DAC1
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

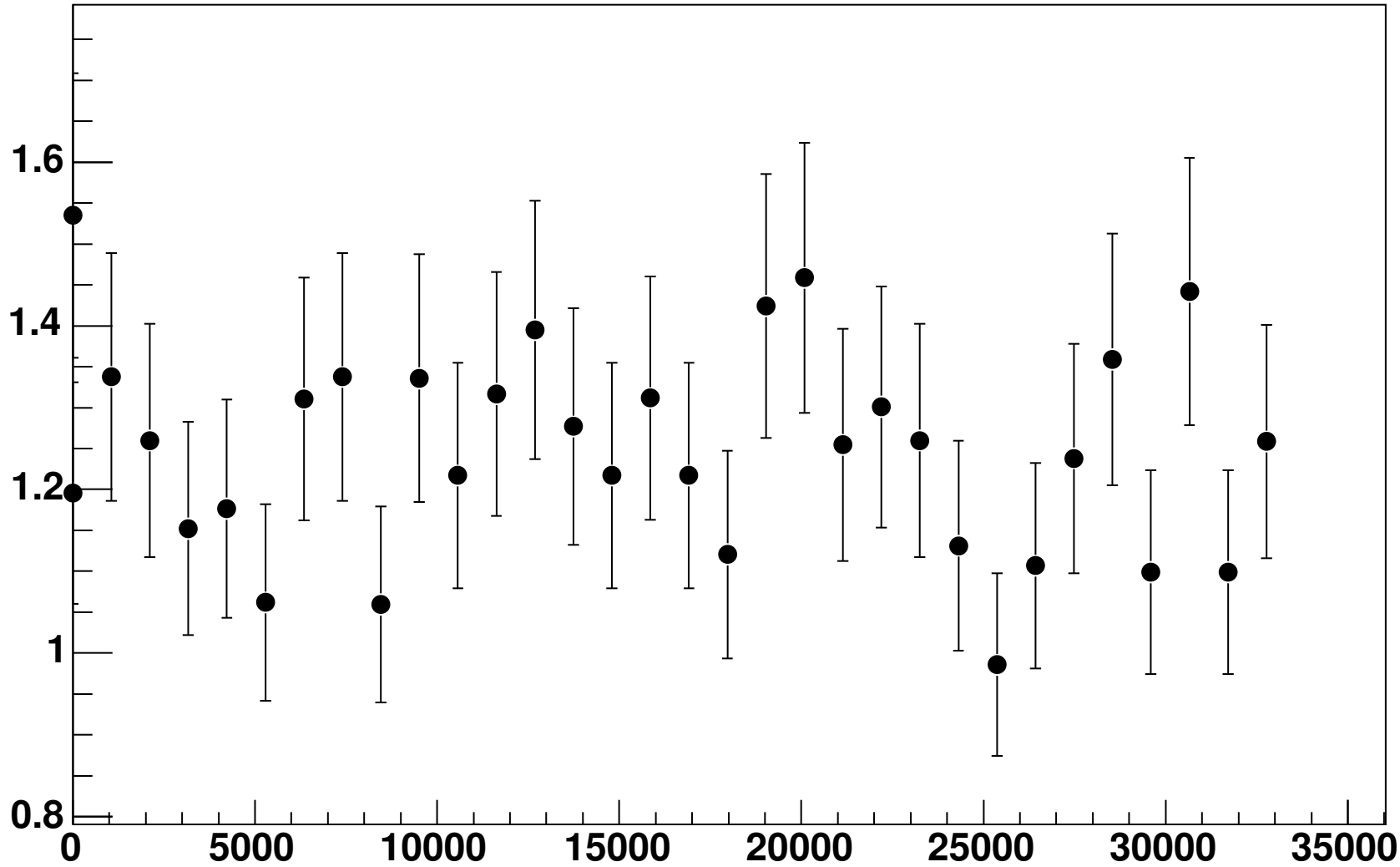

FE4, Chip 1, ADC mean vs DAC0
χ² / ndf 258.7 / 29
p0 45.26 ± 0.06813
p1 0.463 ± 3.816e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

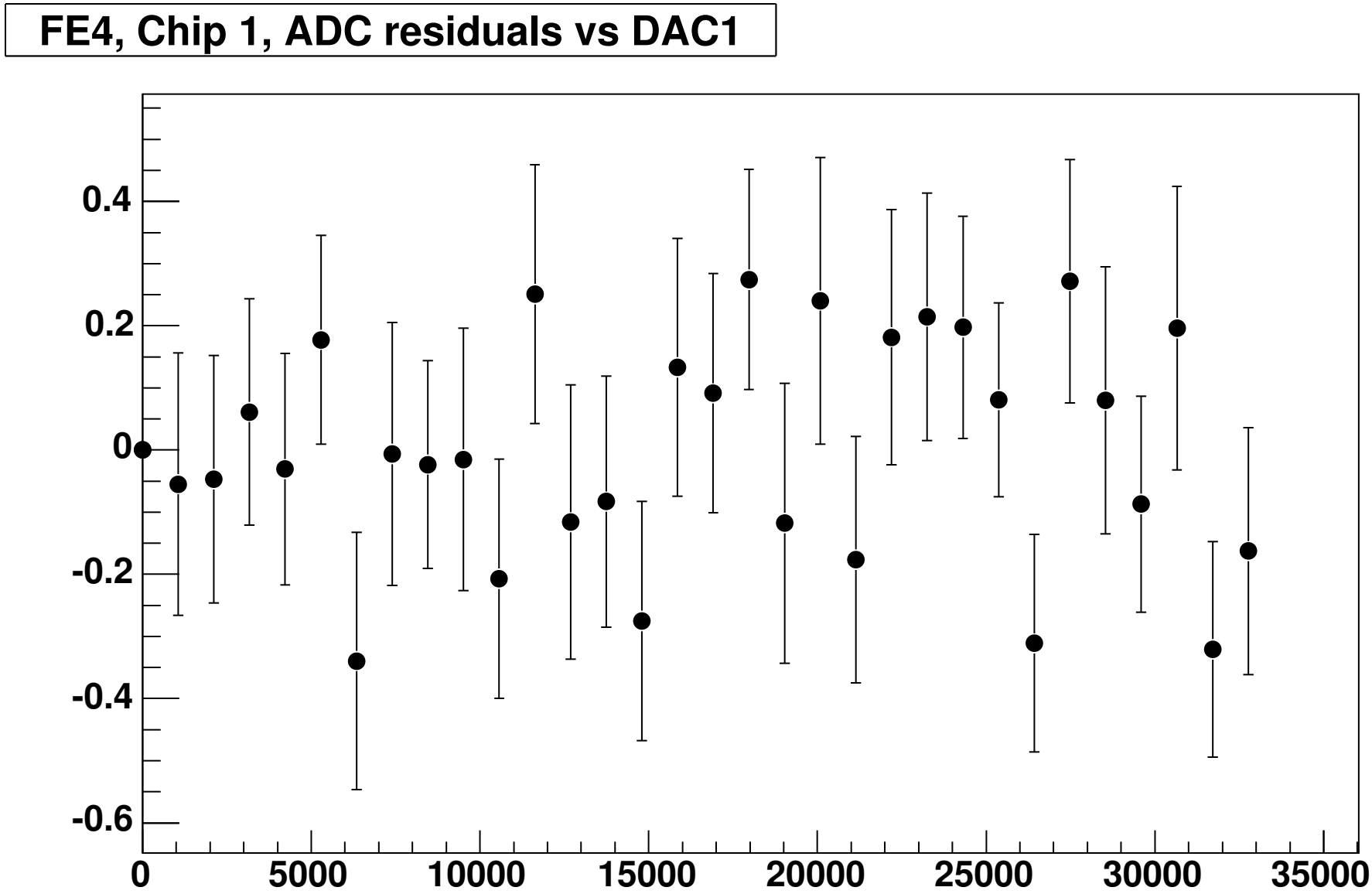

FE4, Chip 1, ADC noise vs DAC0
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

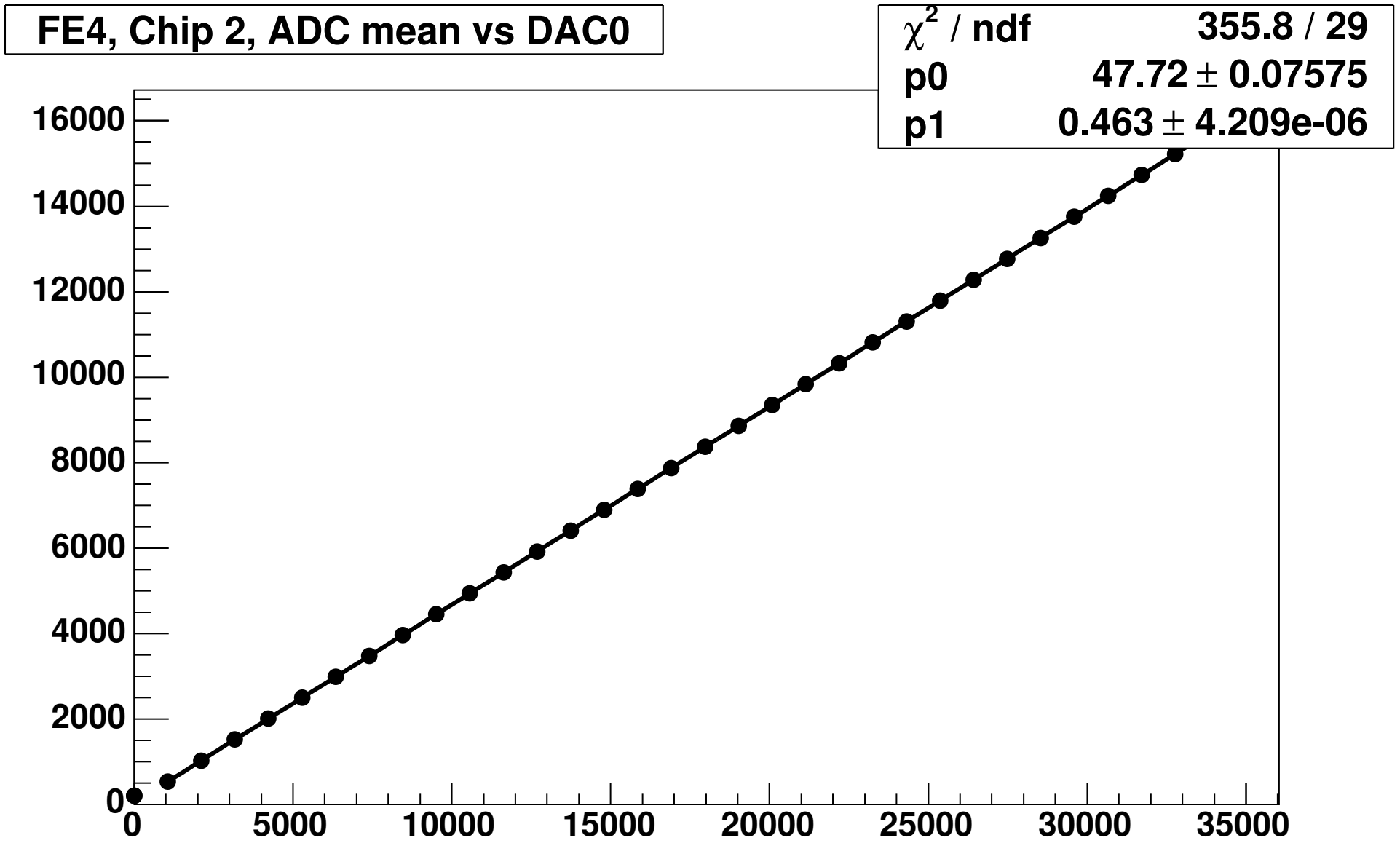

FE4, Chip 1, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

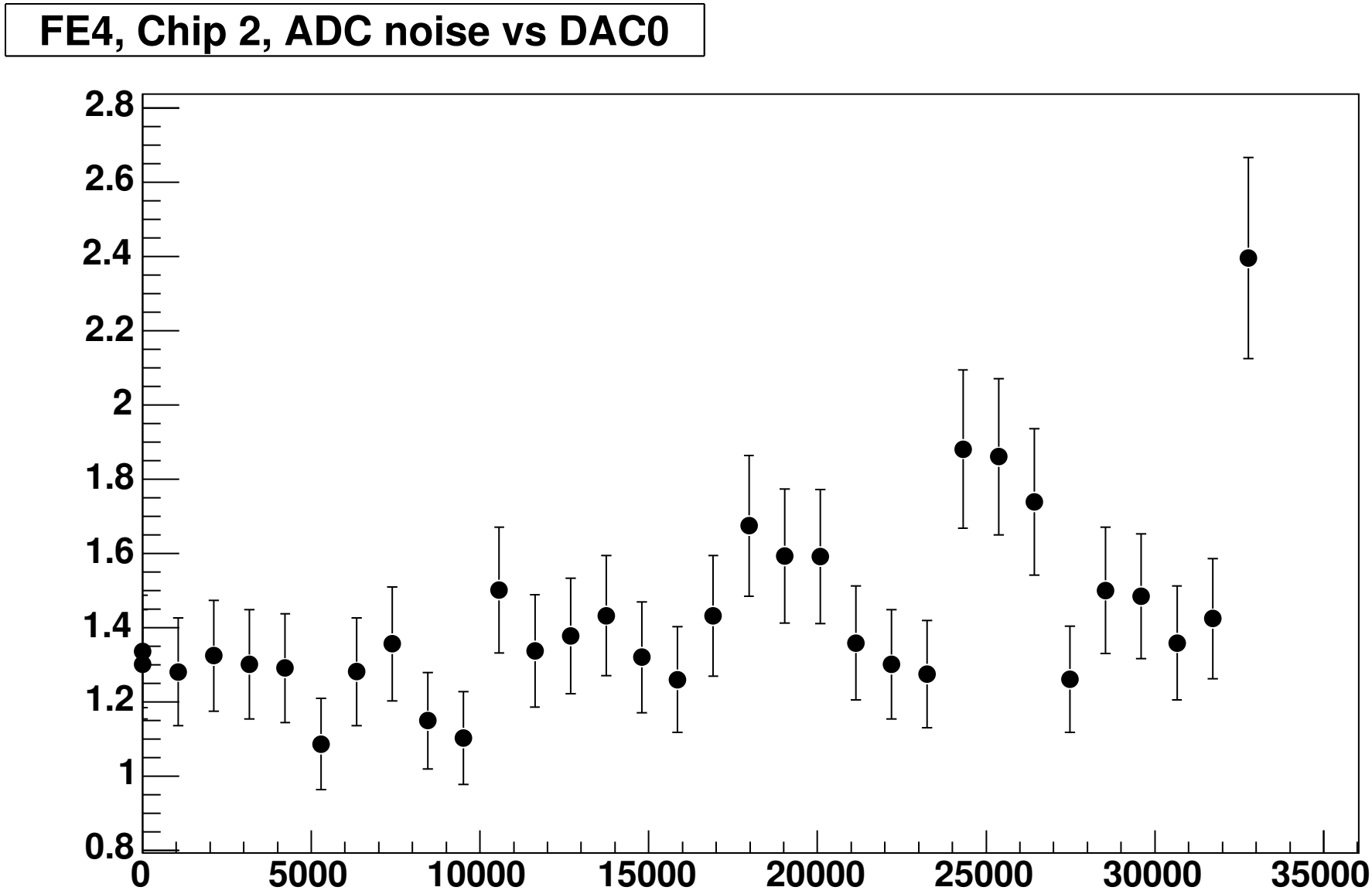

FE4, Chip 1, ADC mean vs DAC1
χ² / ndf 28.1 / 29
p0 199.5 ± 0.07118
p1 1.601e-05 ± 3.637e-06
200.4
200.2
200
199.8
199.6
199.4
199.2
199
0
5000
10000
15000
20000
25000
30000
35000

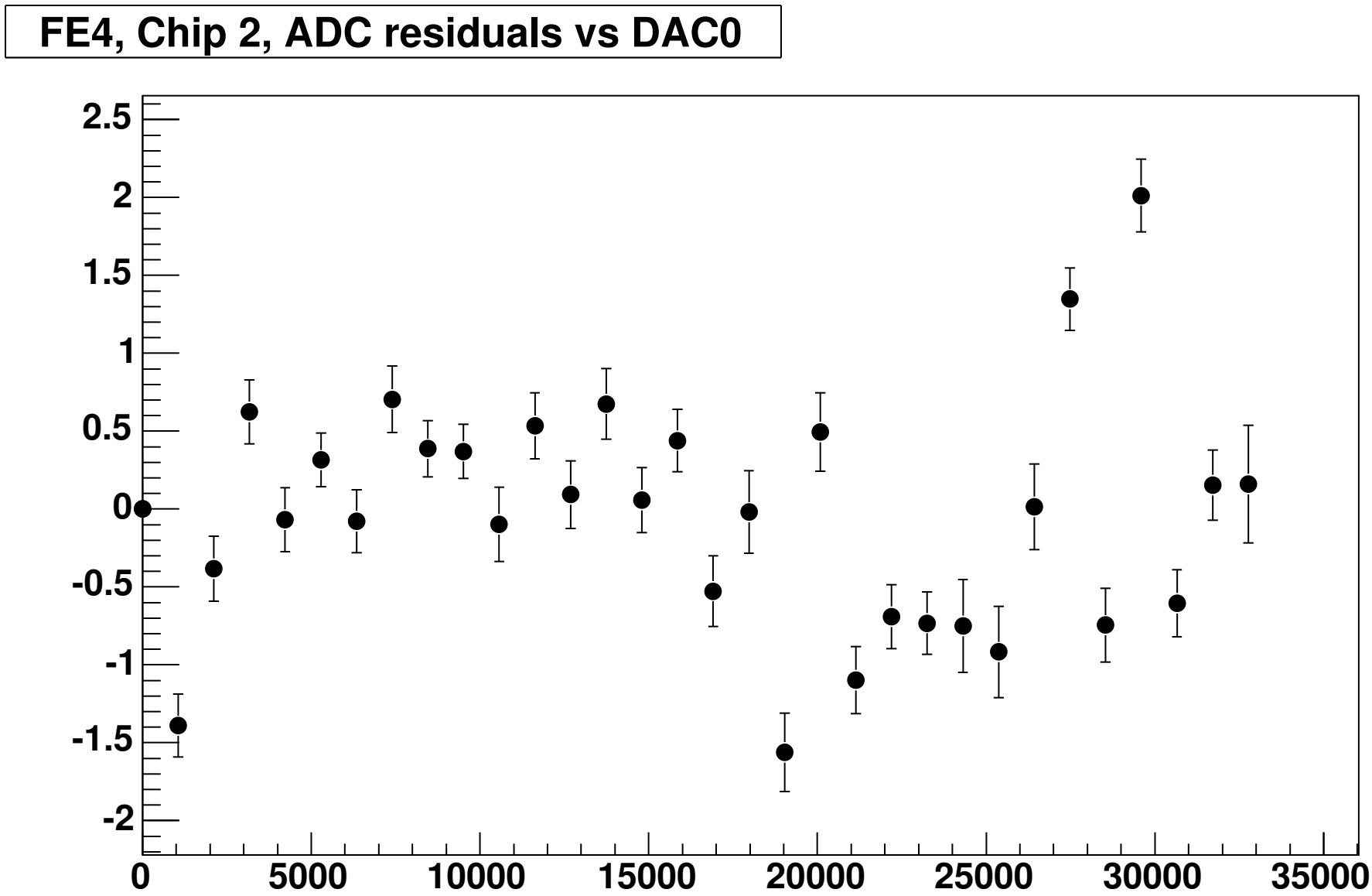
FE4, Chip 1, ADC noise vs DAC1

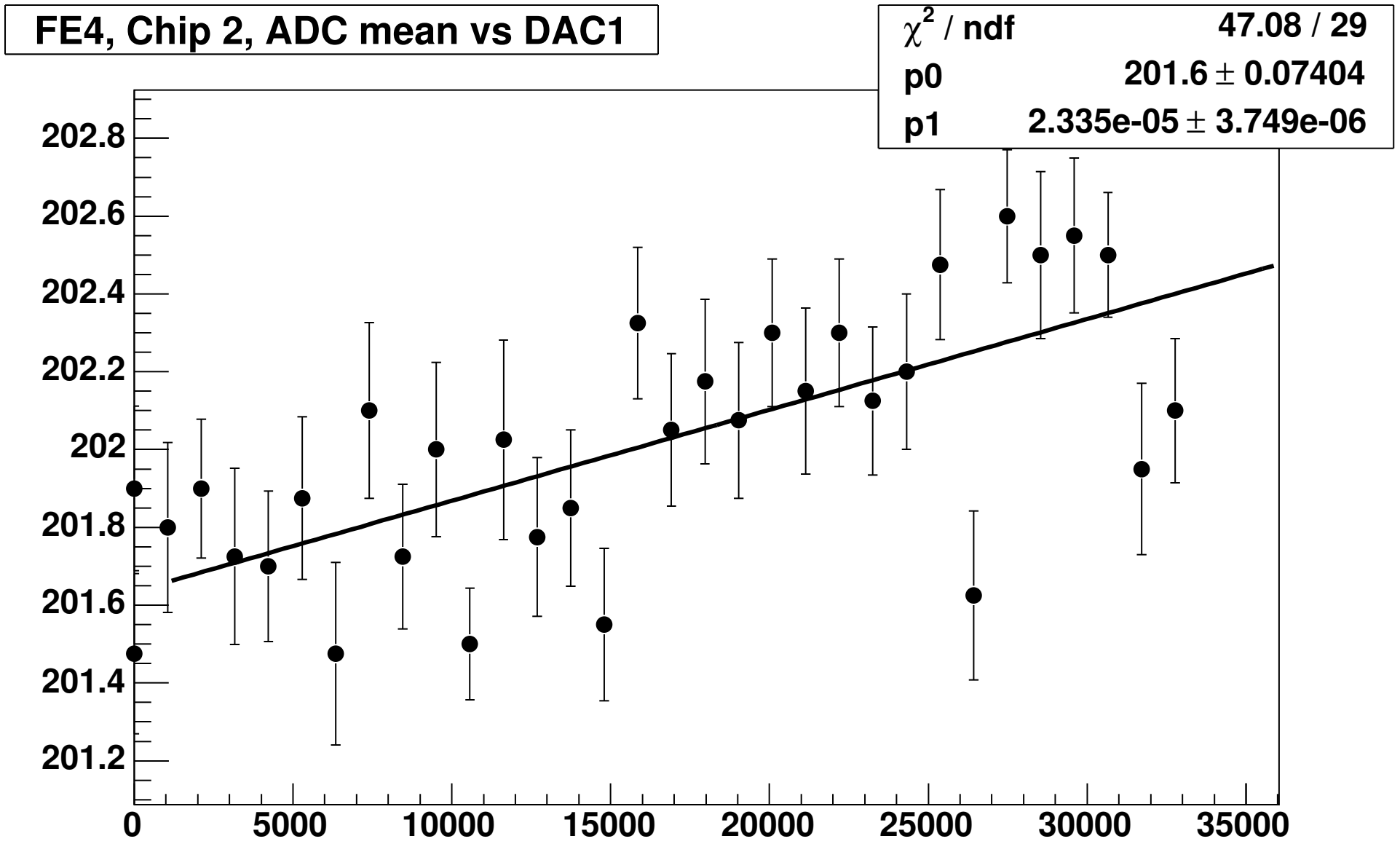


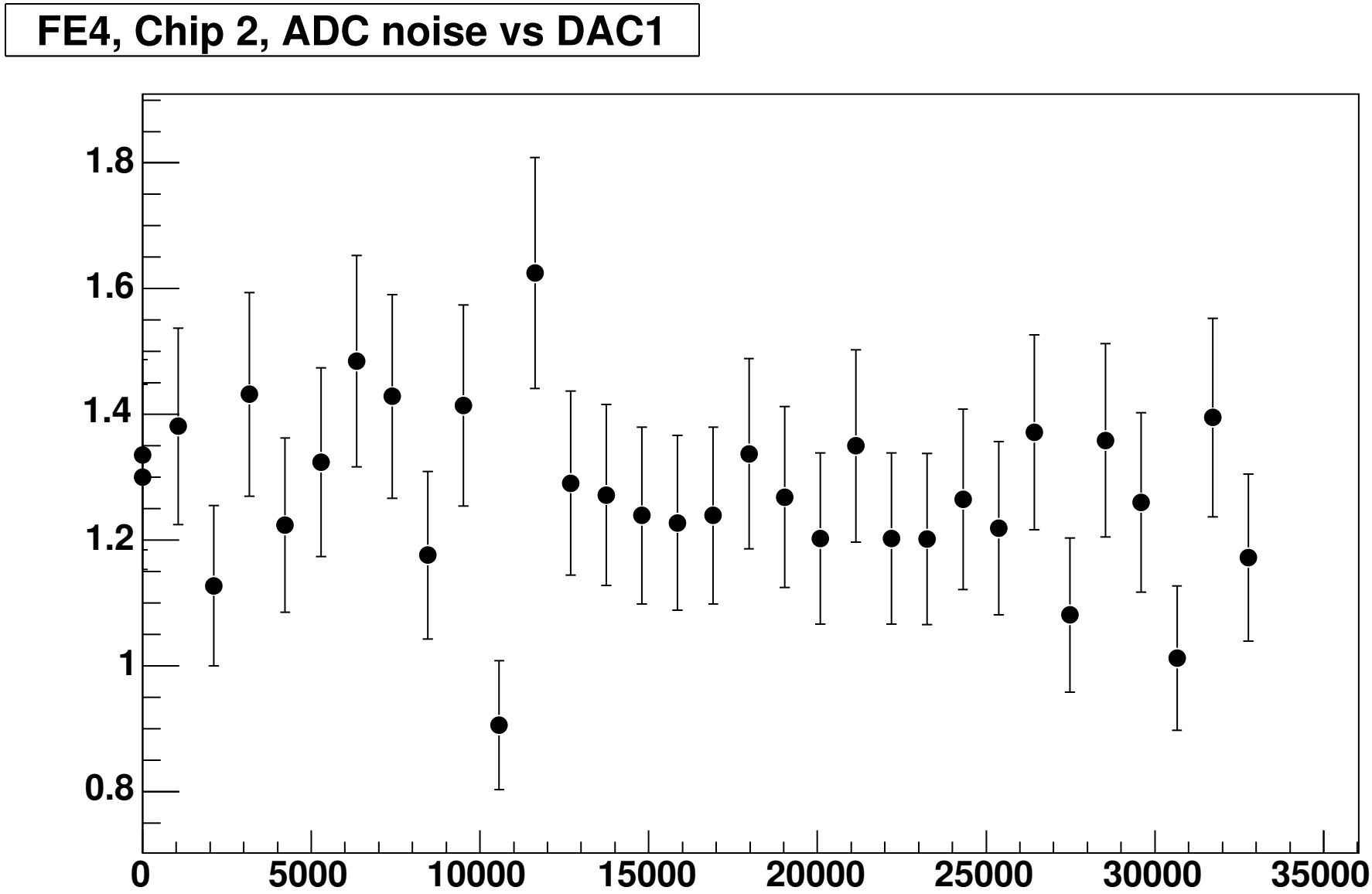

FE4, Chip 1, ADC residuals vs DAC1
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

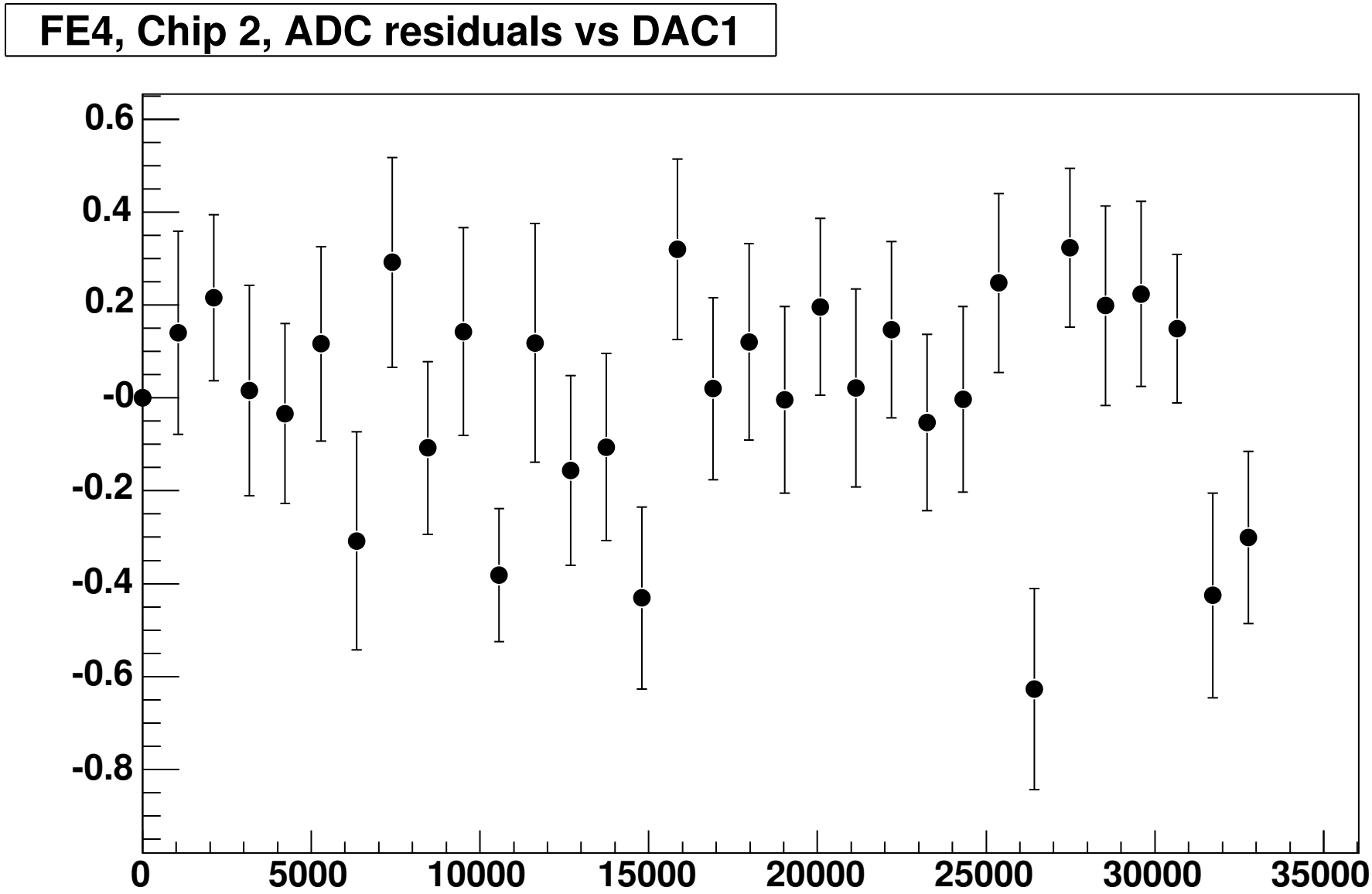

FE4, Chip 2, ADC mean vs DAC0
χ² / ndf 355.8 / 29
p0 47.72 ± 0.07575
p1 0.463 ± 4.209e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

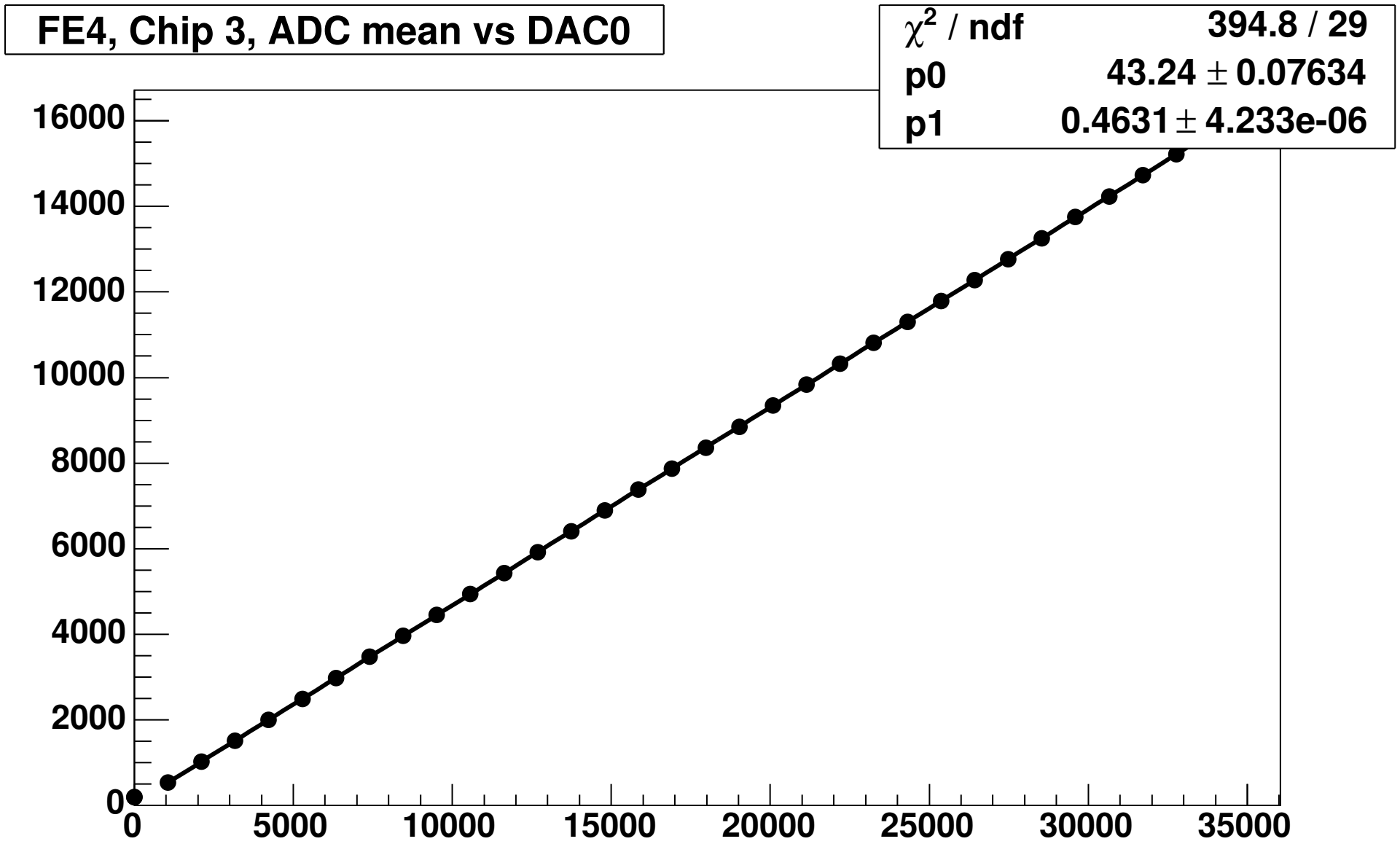

FE4, Chip 2, ADC noise vs DAC0
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

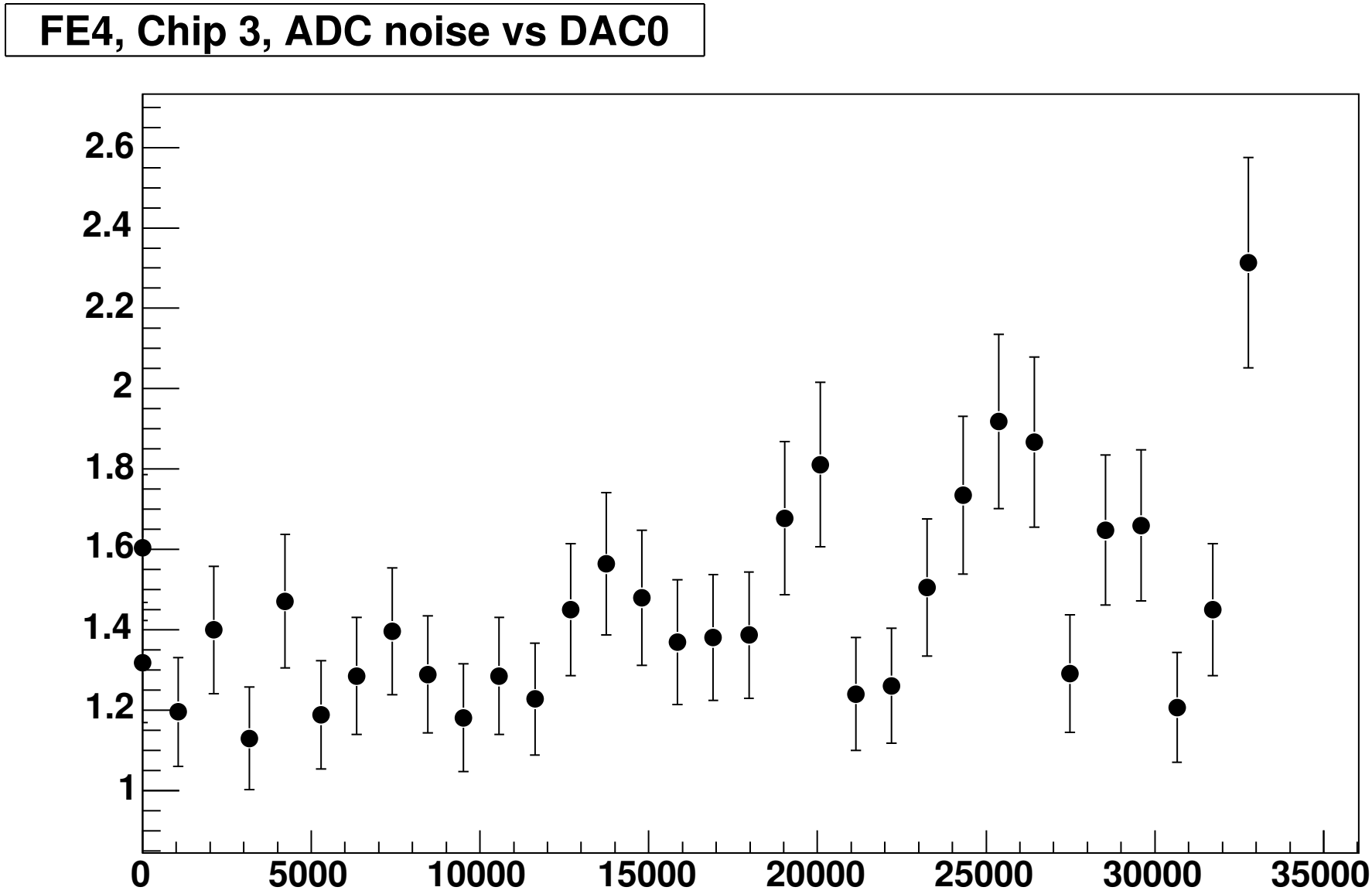

FE4, Chip 2, ADC residuals vs DAC0
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

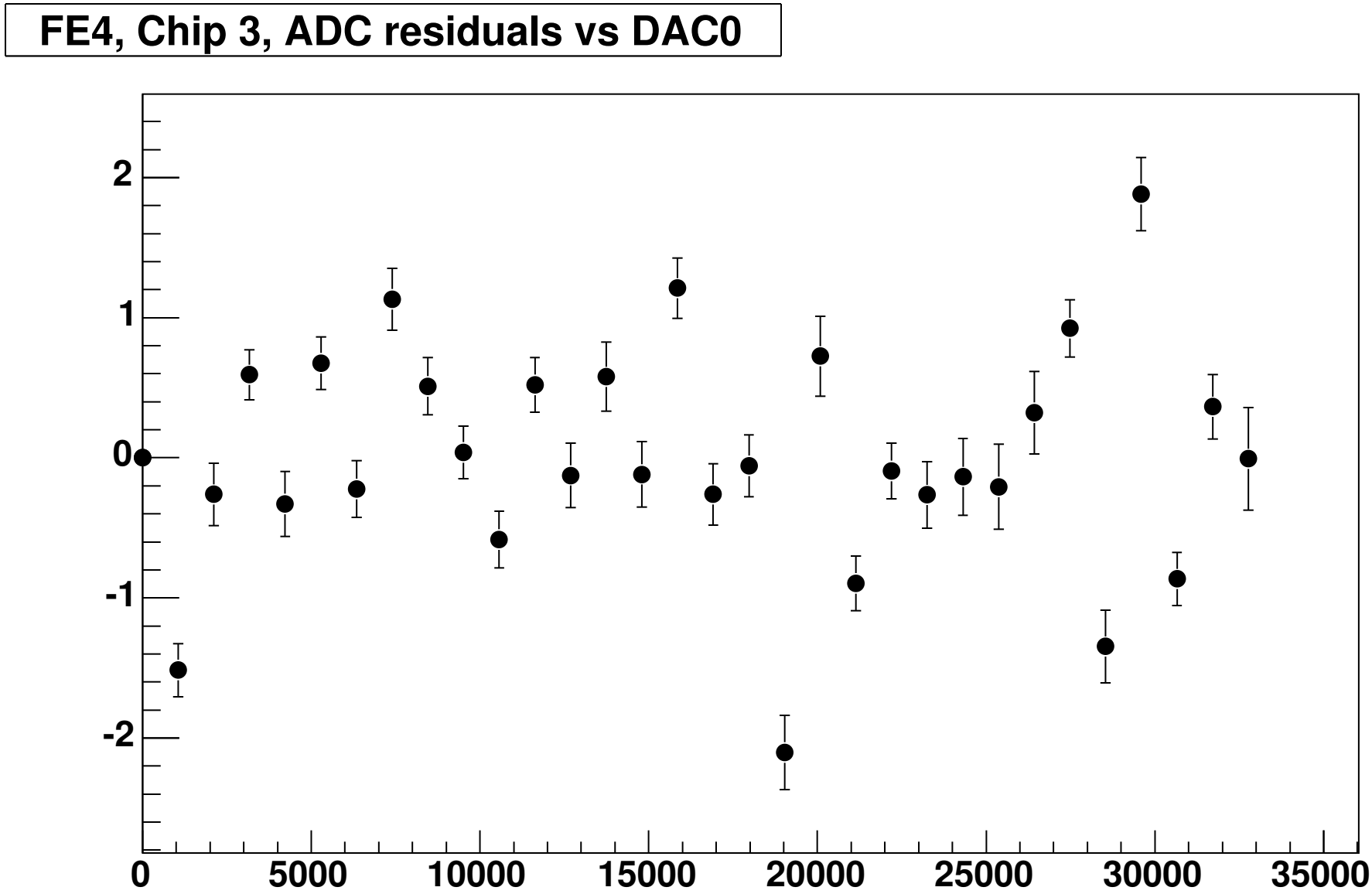

FE4, Chip 2, ADC mean vs DAC1
χ² / ndf 47.08 / 29
p0 201.6 ± 0.07404
p1 2.335e-05 ± 3.749e-06
202.8
202.6
202.4
202.2
202
201.8
201.6
201.4
201.2
0
5000
10000
15000
20000
25000
30000
35000

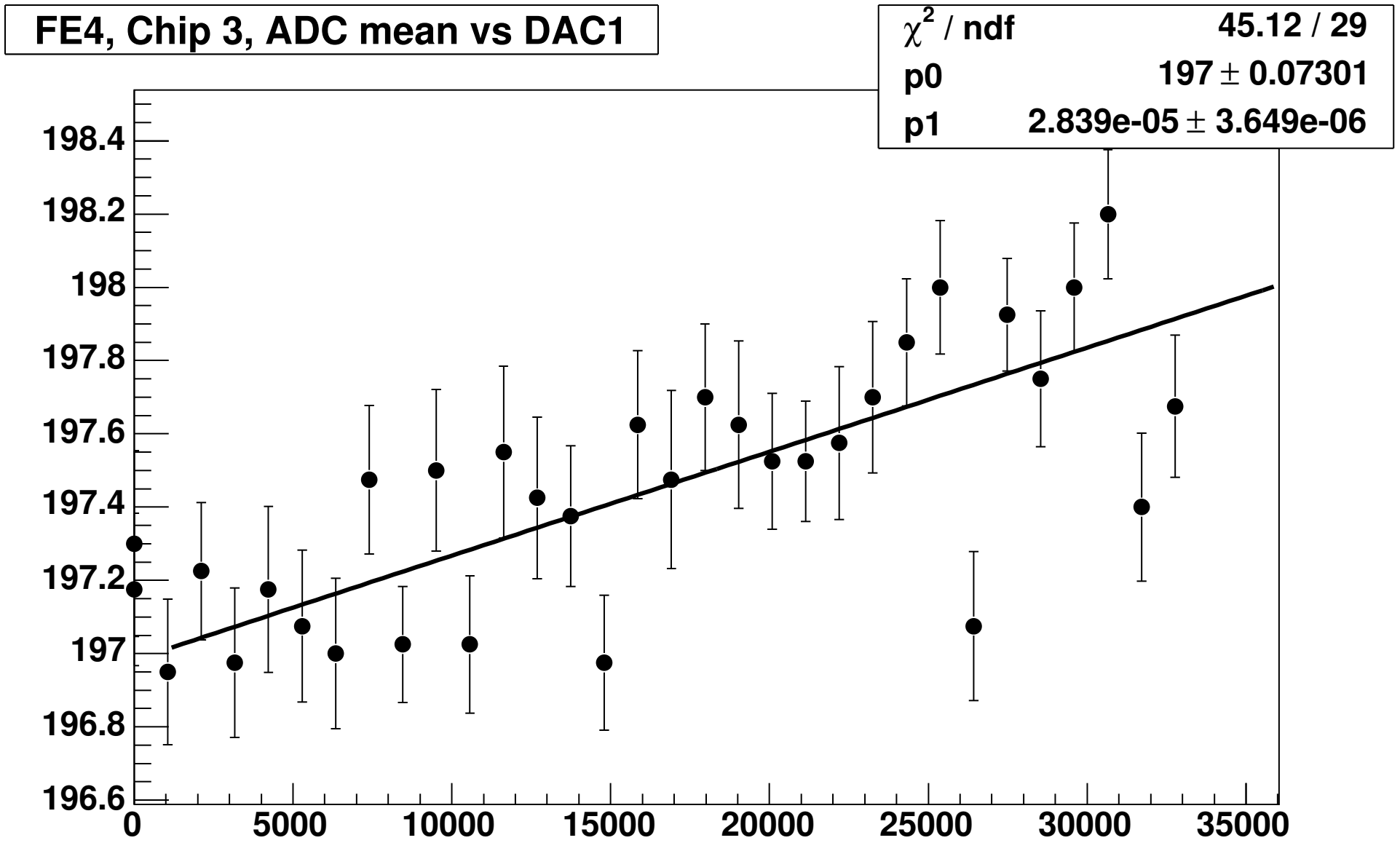

FE4, Chip 2, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

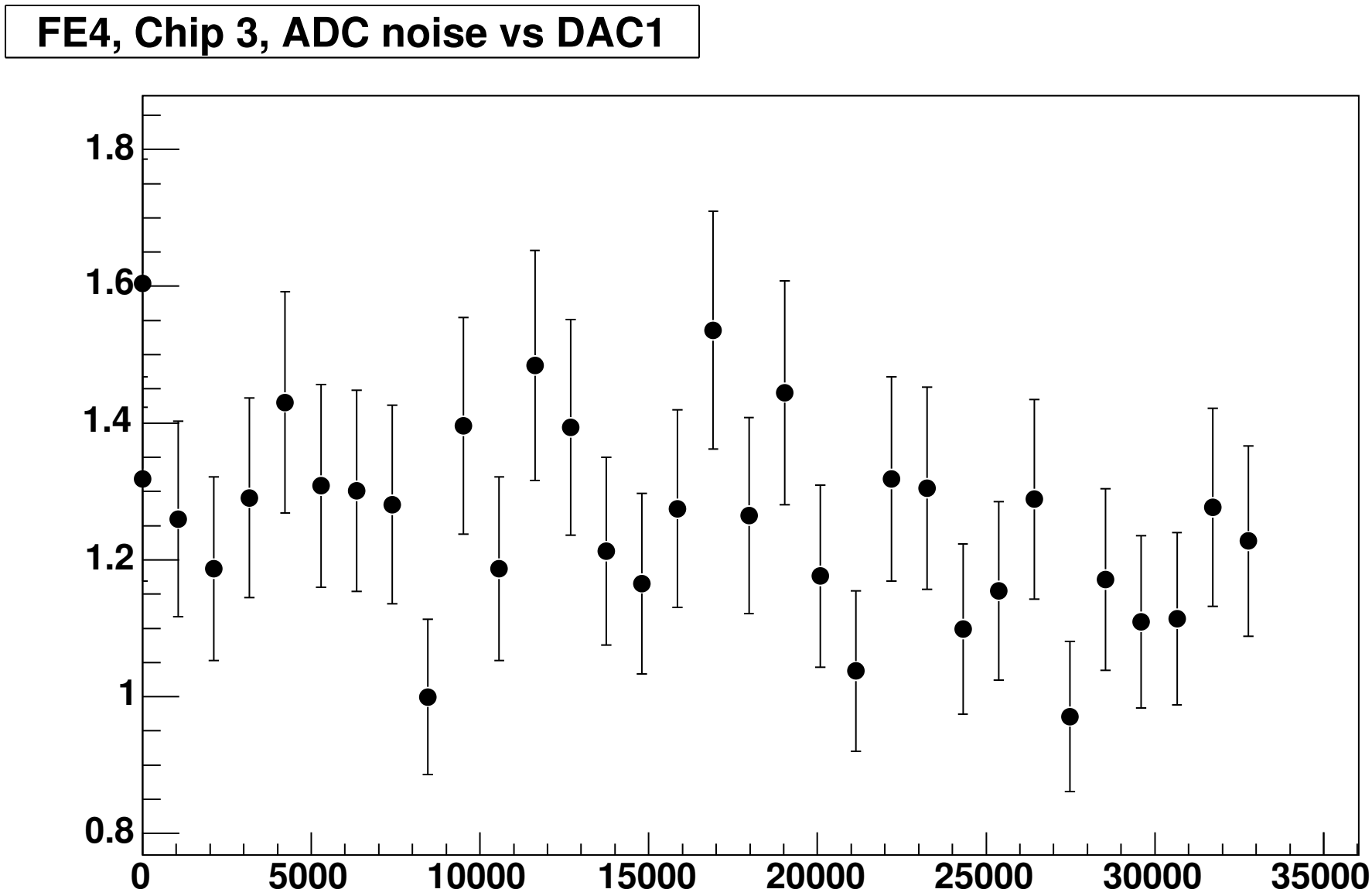

FE4, Chip 2, ADC residuals vs DAC1
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

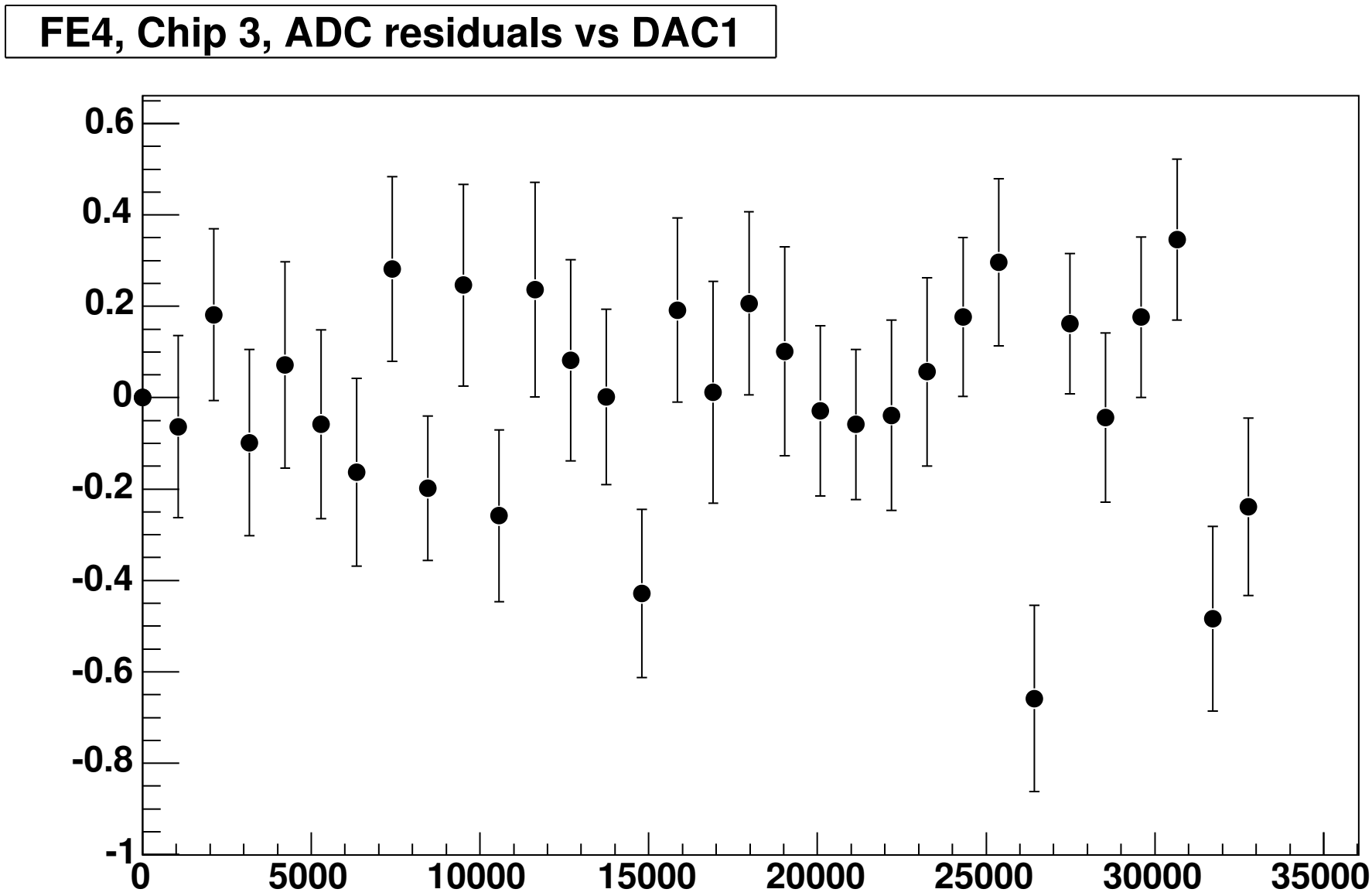

FE4, Chip 3, ADC mean vs DAC0
χ² / ndf 394.8 / 29
p0 43.24 ± 0.07634
p1 0.4631 ± 4.233e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

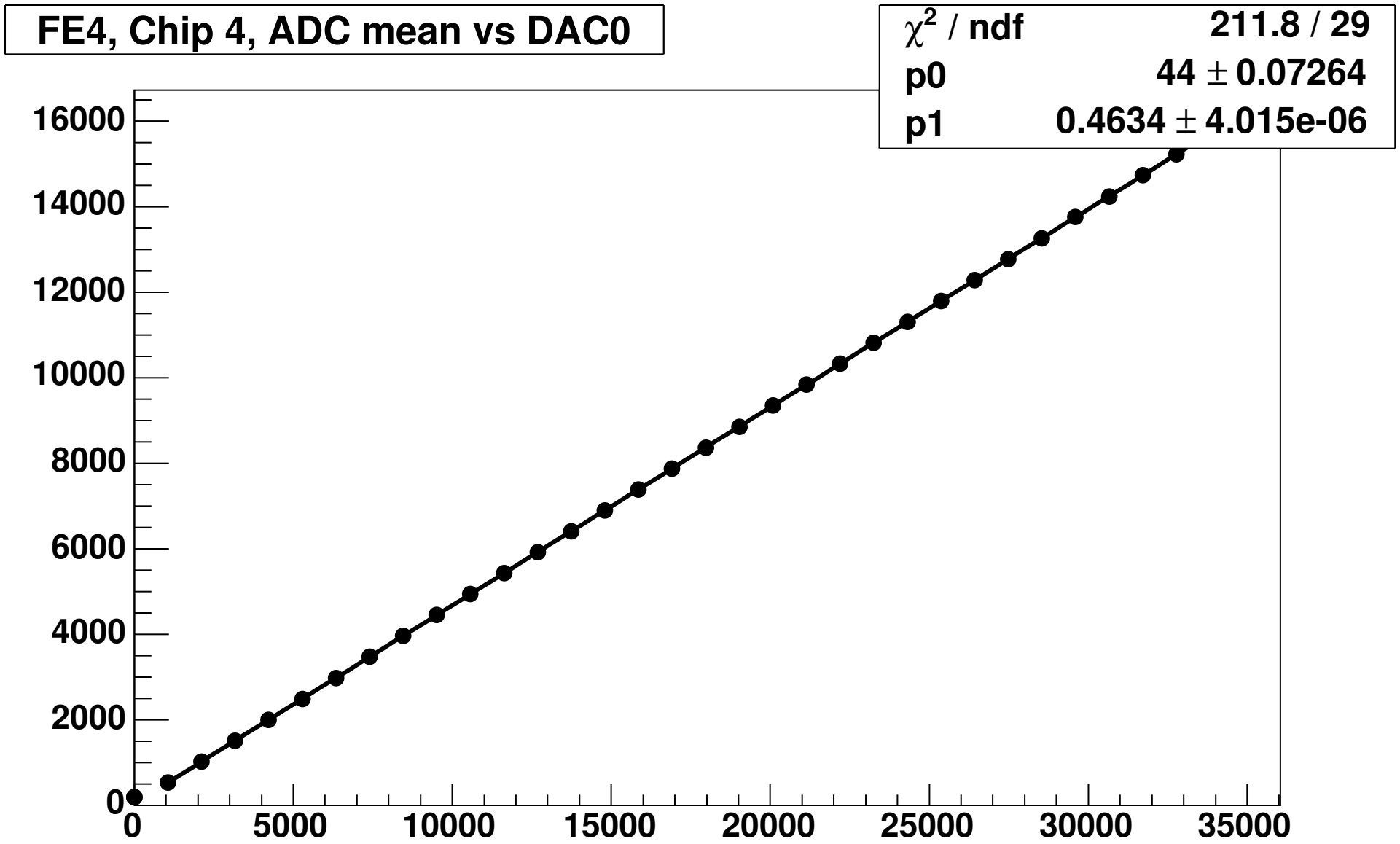

FE4, Chip 3, ADC noise vs DAC0
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

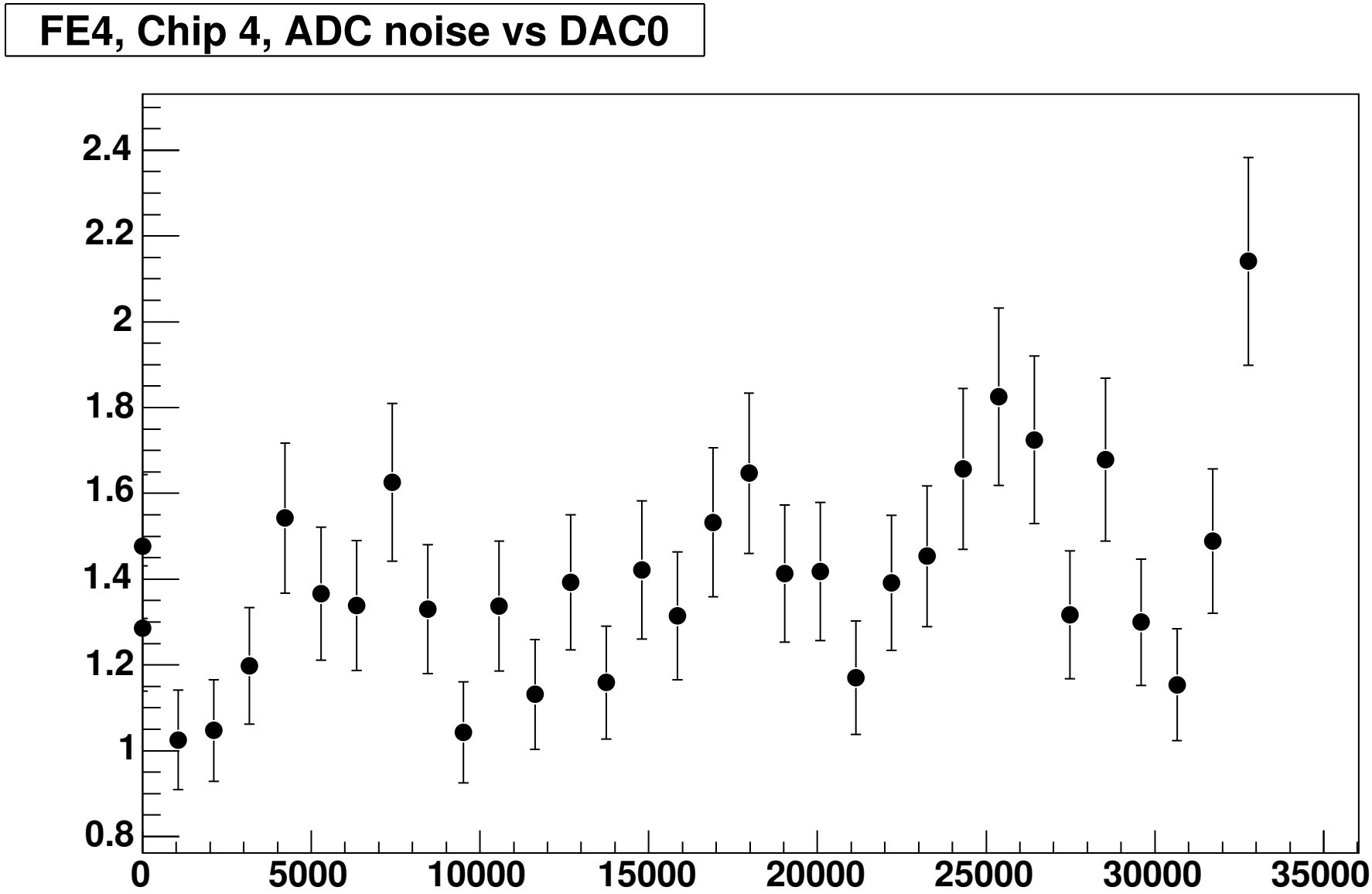

FE4, Chip 3, ADC residuals vs DAC0
2
1
0
-1
-2
0
5000
10000
15000
20000
25000
30000
35000

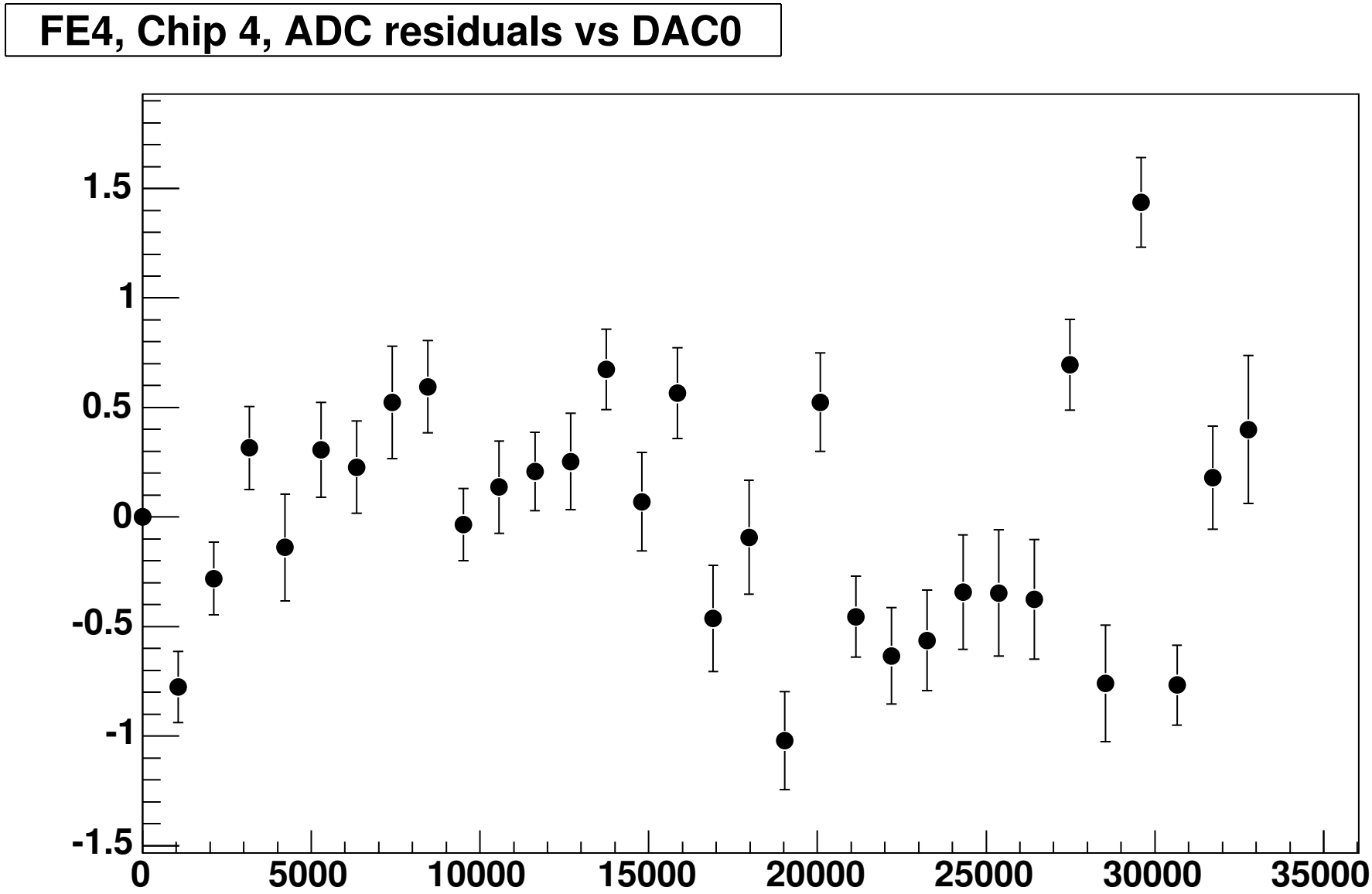

FE4, Chip 3, ADC mean vs DAC1
χ² / ndf 45.12 / 29
p0 197 ± 0.07301
p1 2.839e-05 ± 3.649e-06
198.4
198.2
198
197.8
197.6
197.4
197.2
197
196.8
196.6
0
5000
10000
15000
20000
25000
30000
35000

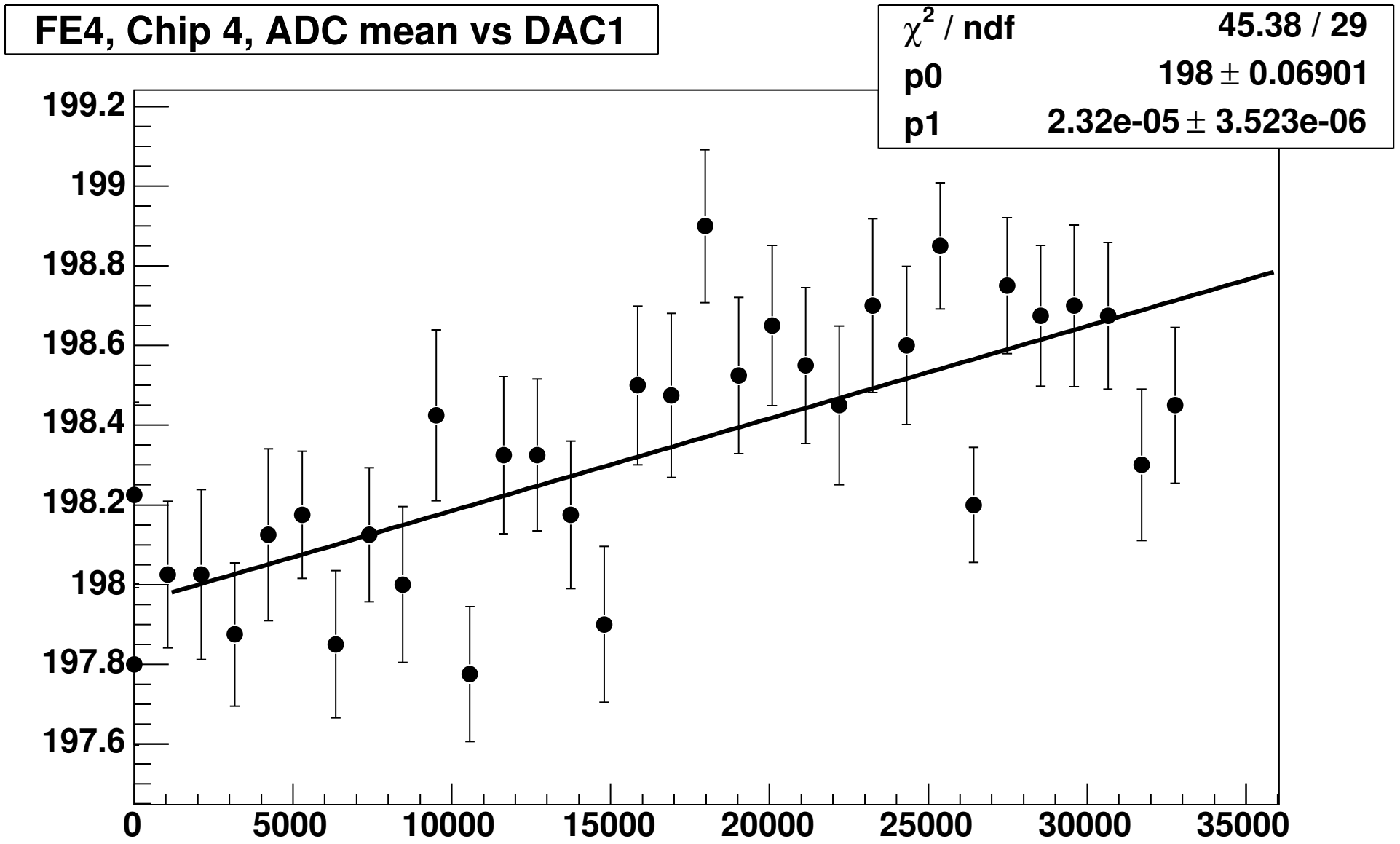

FE4, Chip 3, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

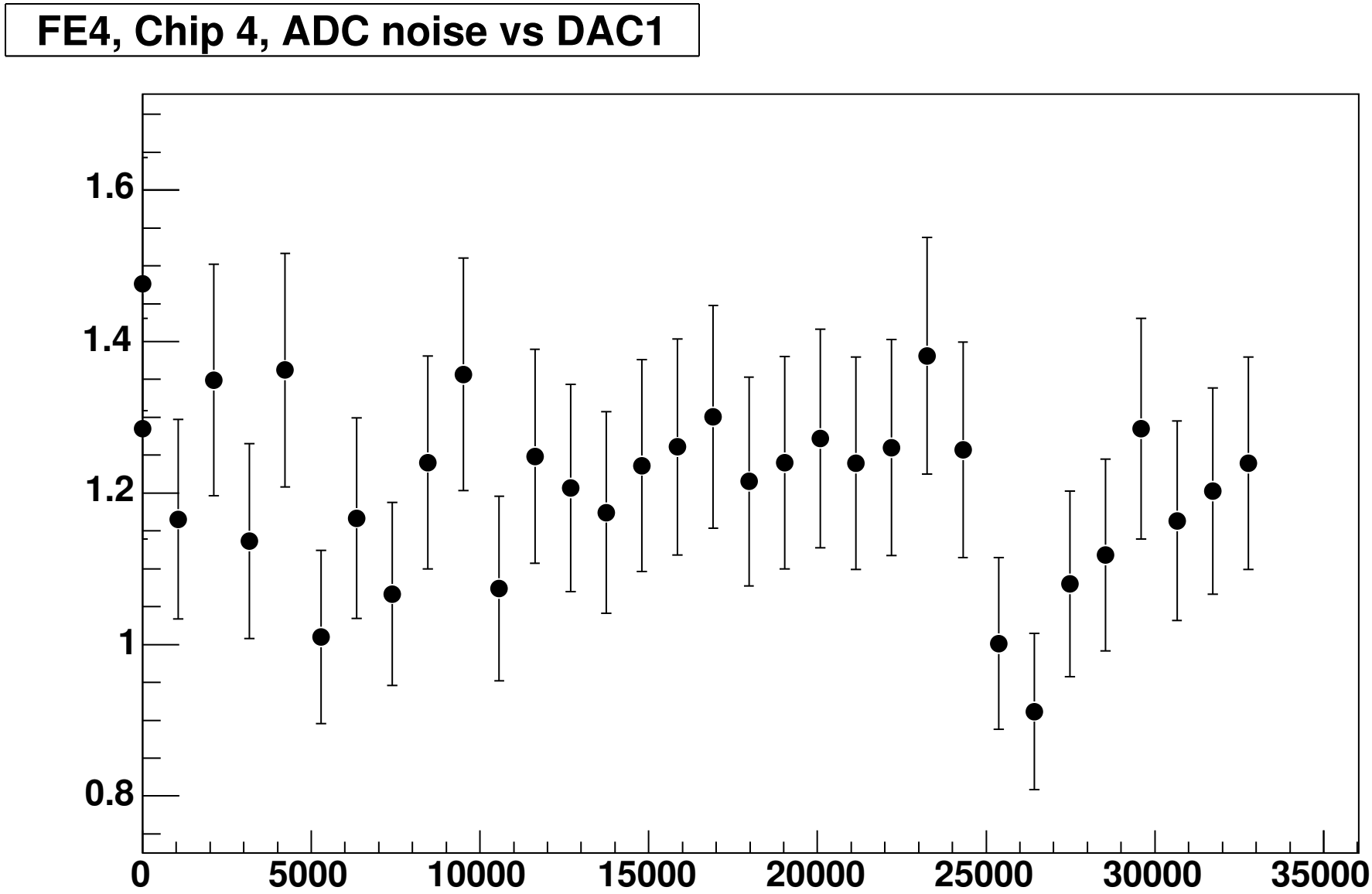

FE4, Chip 3, ADC residuals vs DAC1
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
0
5000
10000
15000
20000
25000
30000
35000

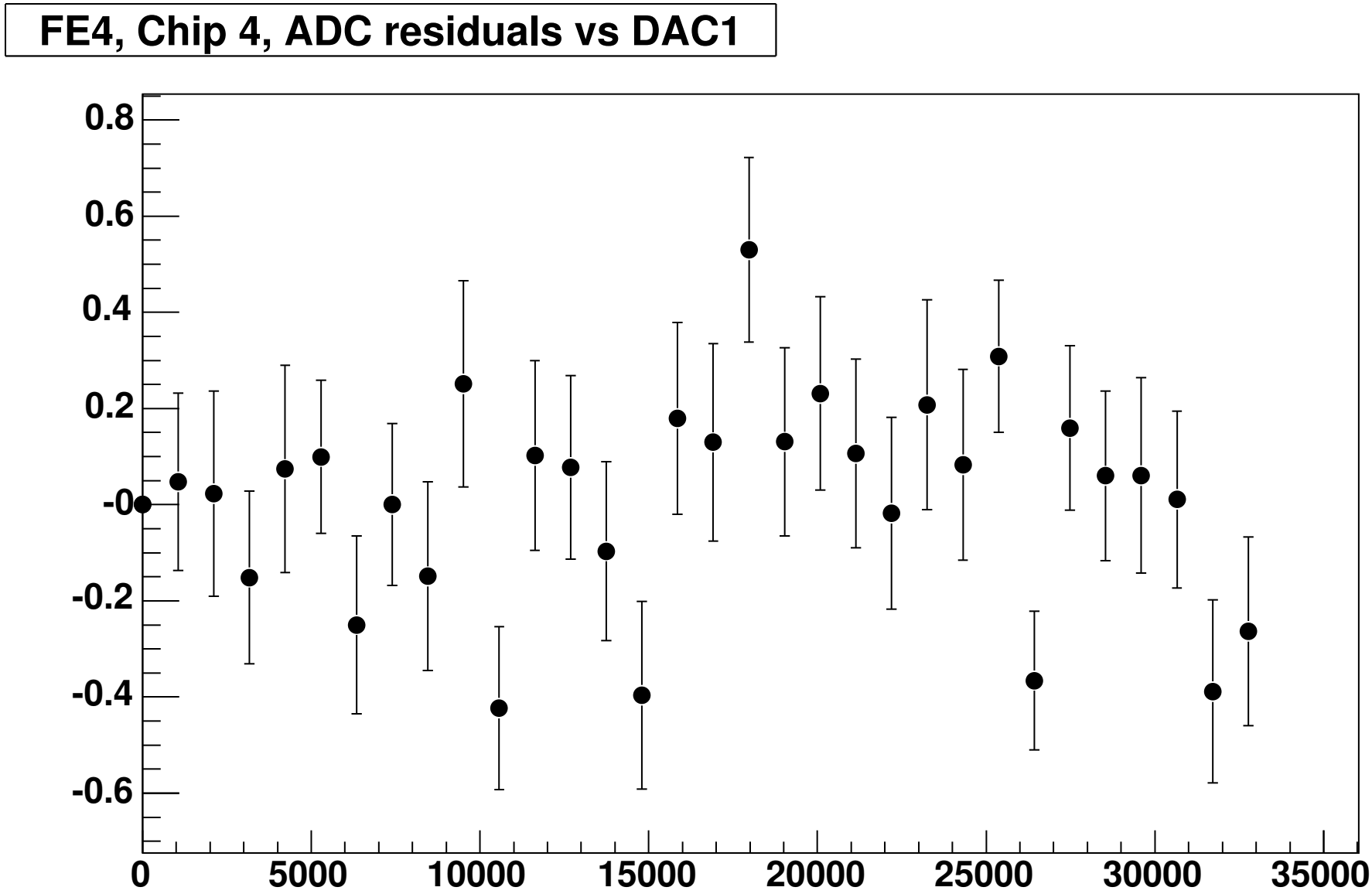

FE4, Chip 4, ADC mean vs DAC0
χ² / ndf 211.8 / 29
p0 44 ± 0.07264
p1 0.4634 ± 4.015e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

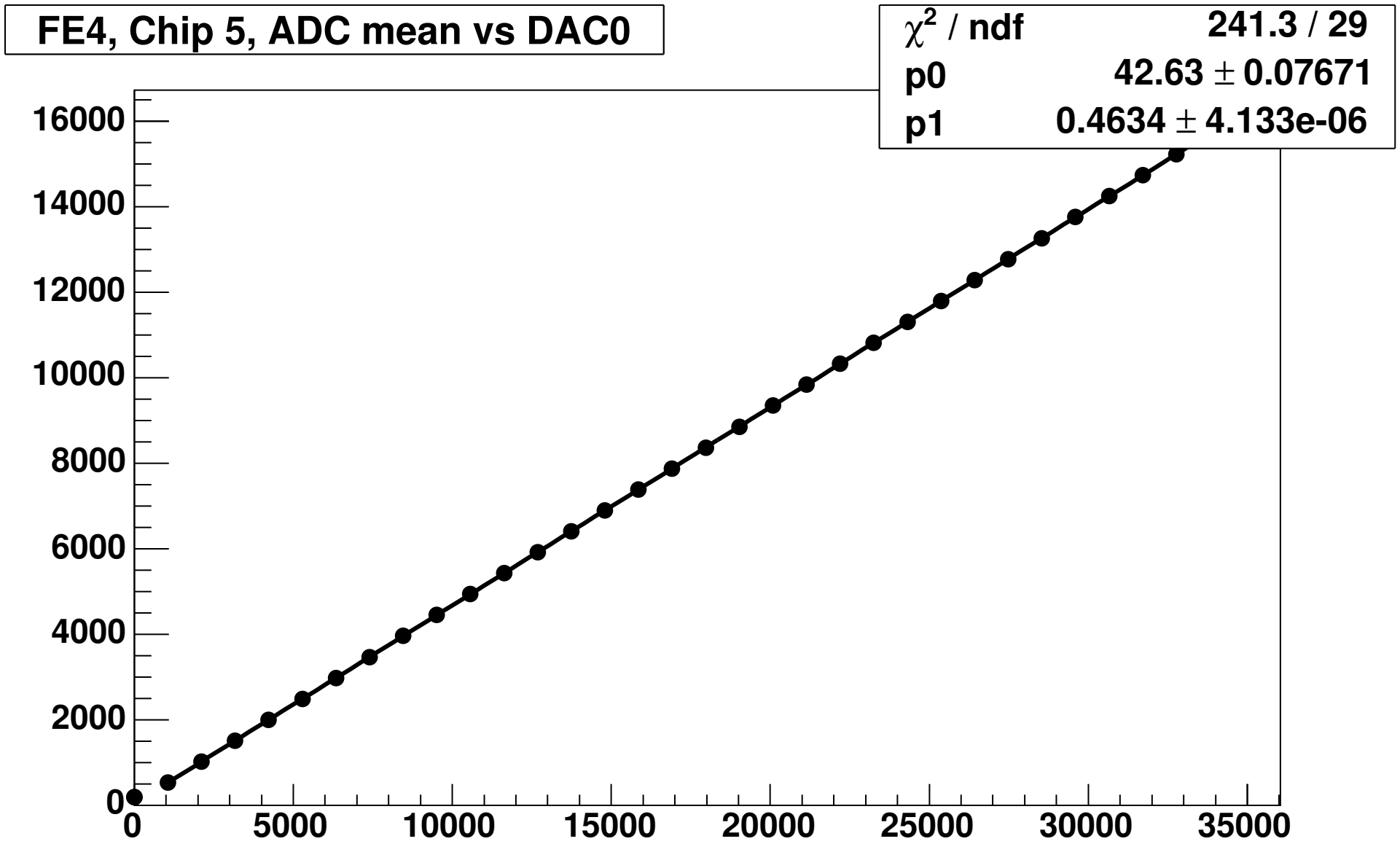

FE4, Chip 4, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

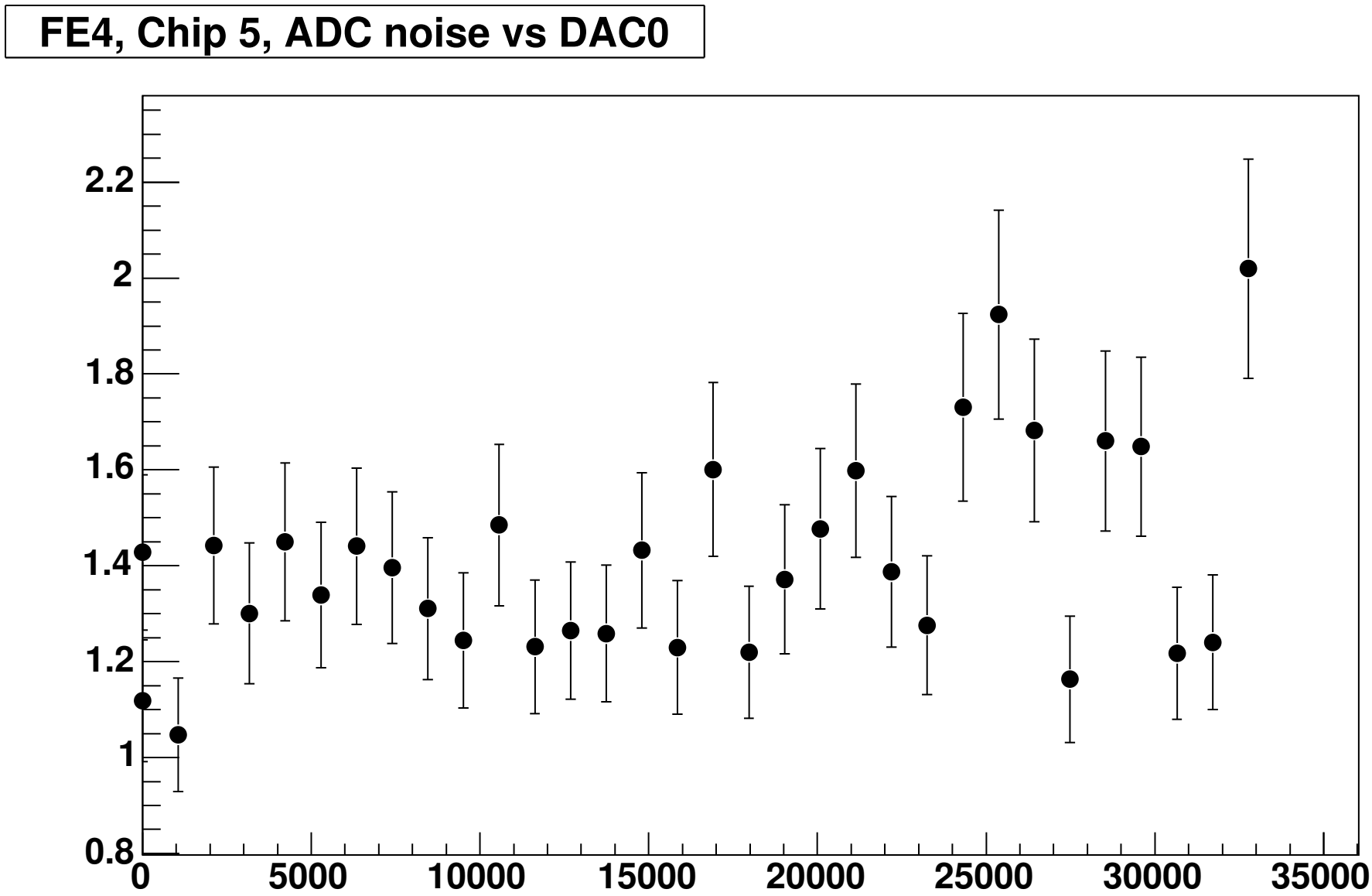

FE4, Chip 4, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

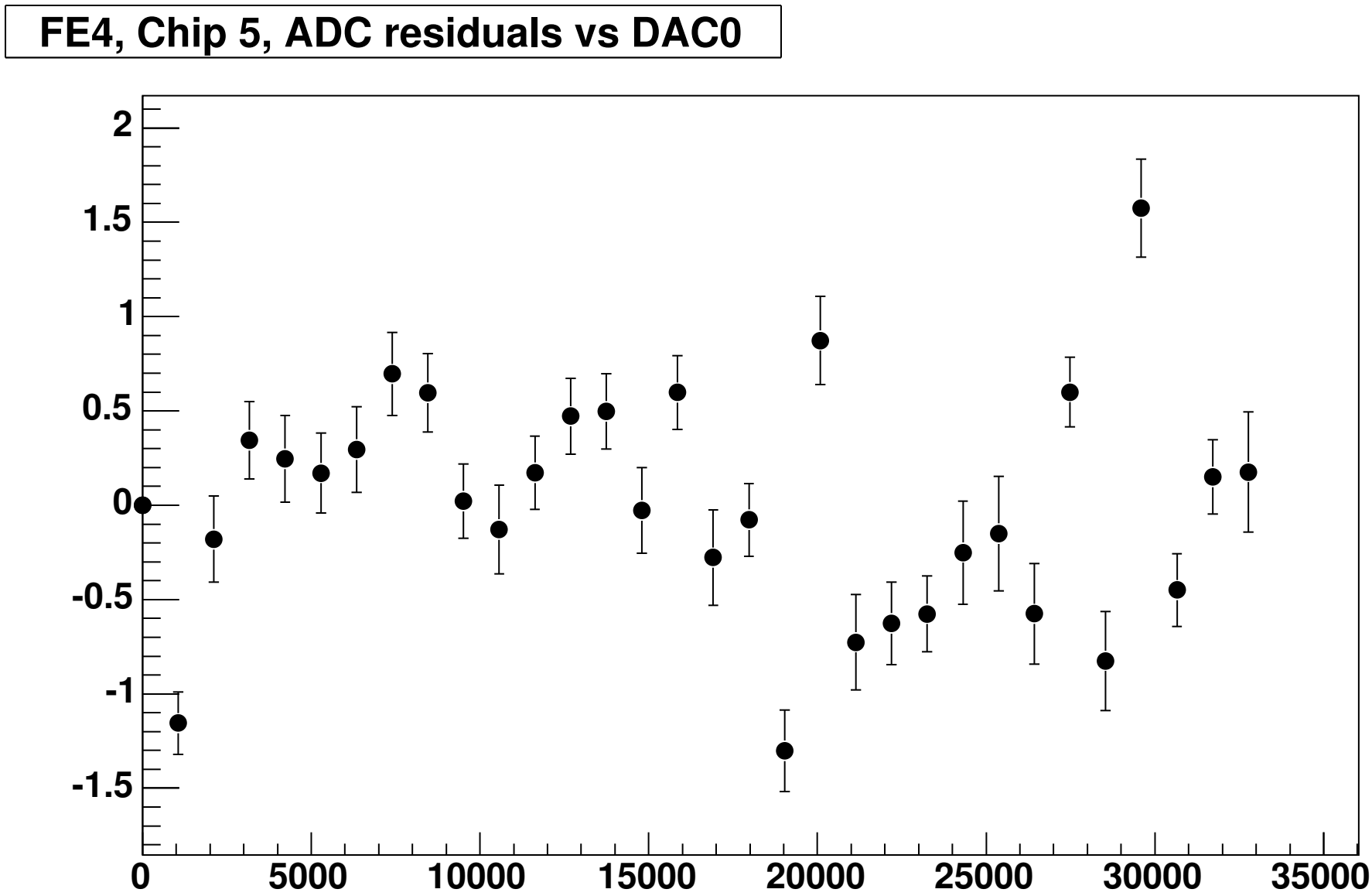

FE4, Chip 4, ADC mean vs DAC1
χ² / ndf 45.38 / 29
p0 198 ± 0.06901
p1 2.32e-05 ± 3.523e-06
199.2
199
198.8
198.6
198.4
198.2
198
197.8
197.6
0
5000
10000
15000
20000
25000
30000
35000

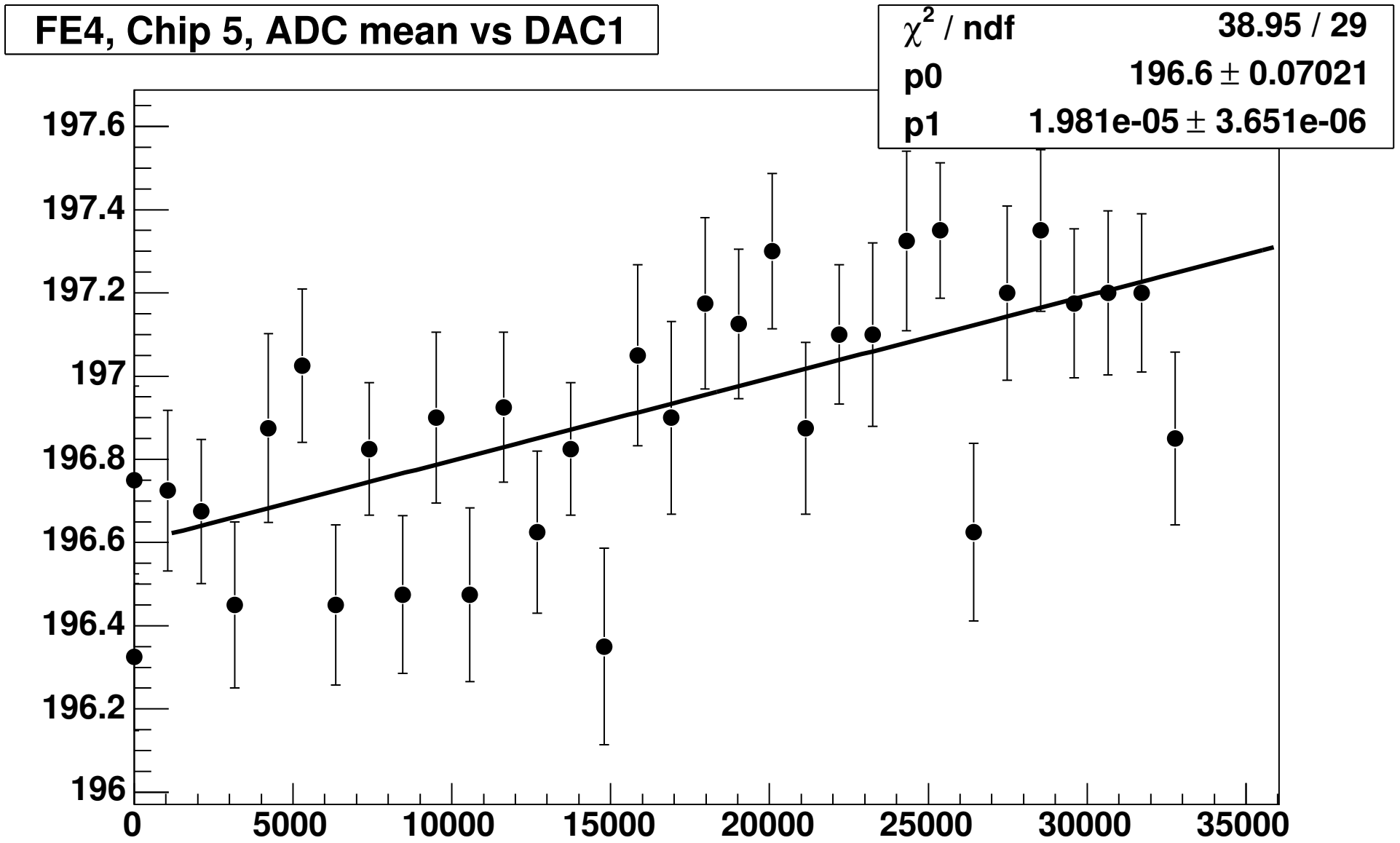

FE4, Chip 4, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

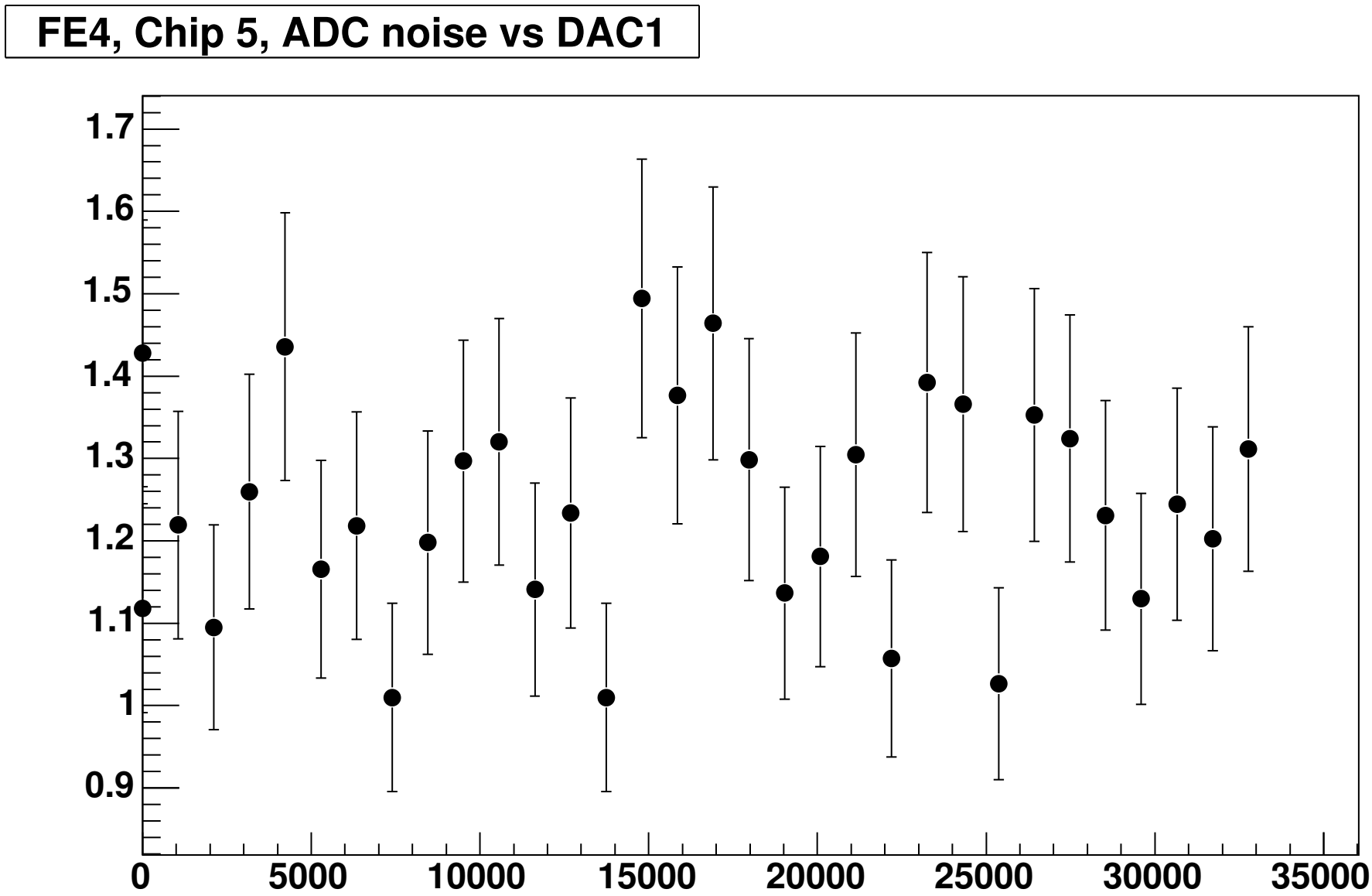

FE4, Chip 4, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

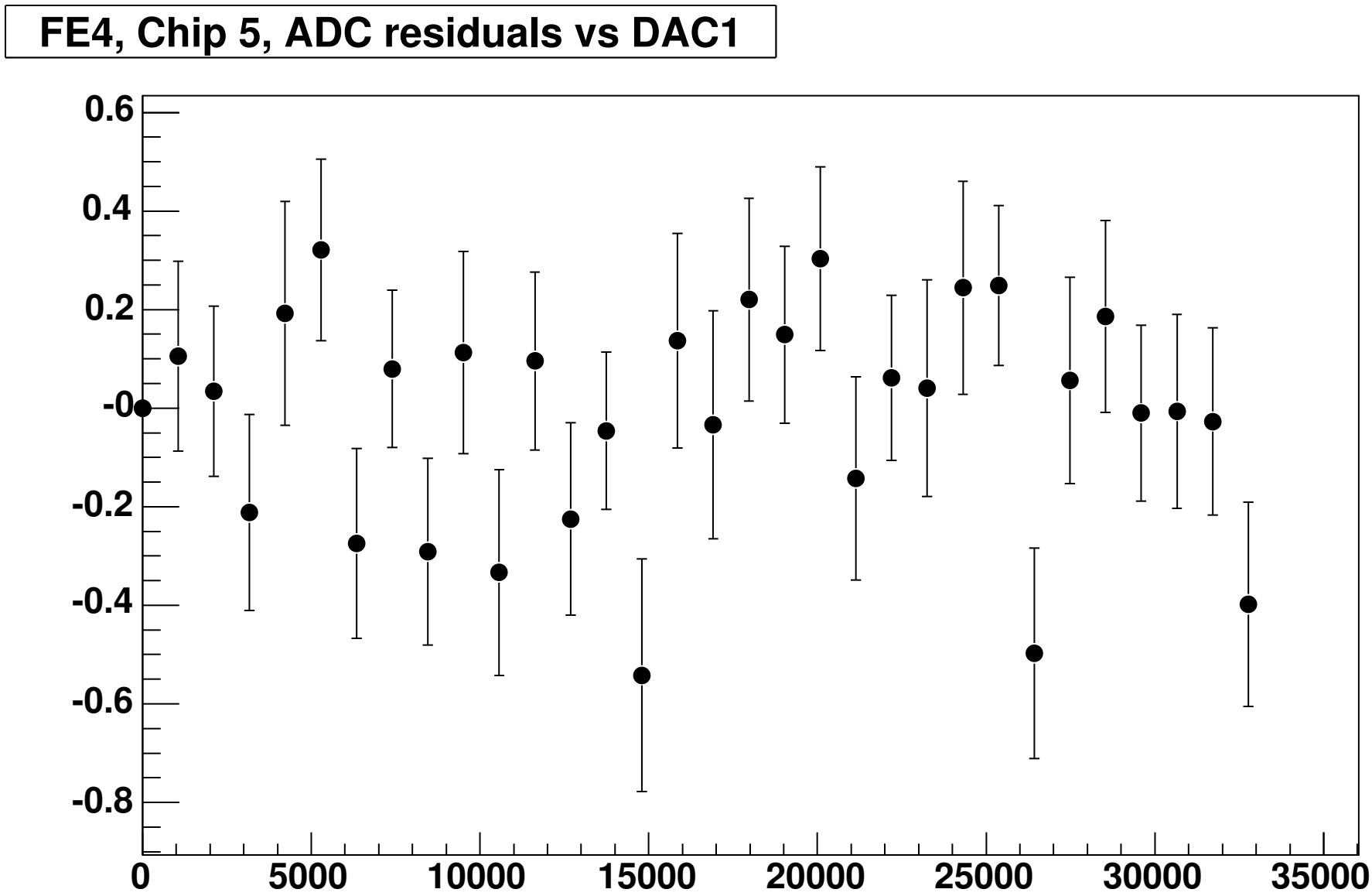

FE4, Chip 5, ADC mean vs DAC0
χ² / ndf 241.3 / 29
p0 42.63 ± 0.07671
p1 0.4634 ± 4.133e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

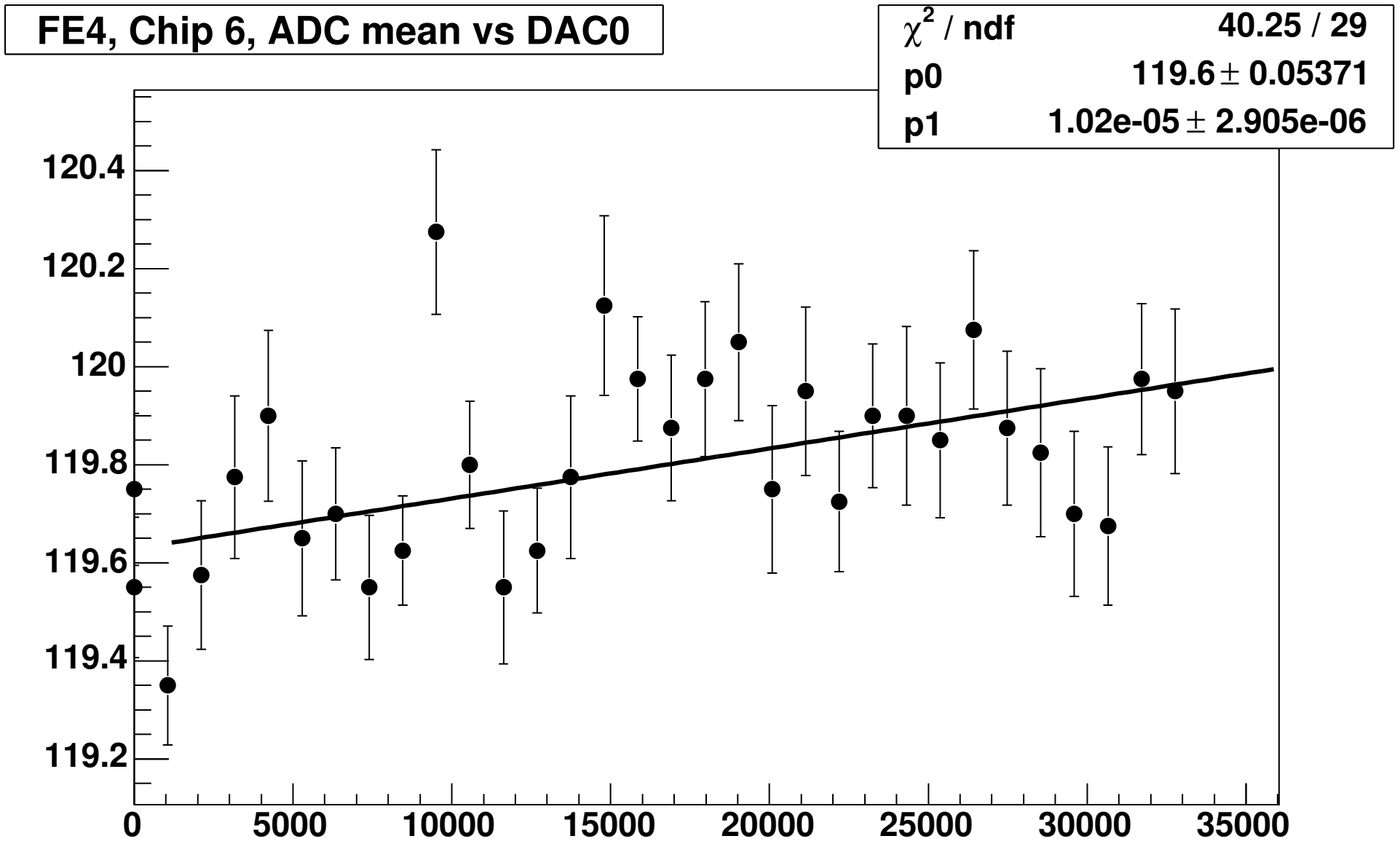

FE4, Chip 5, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

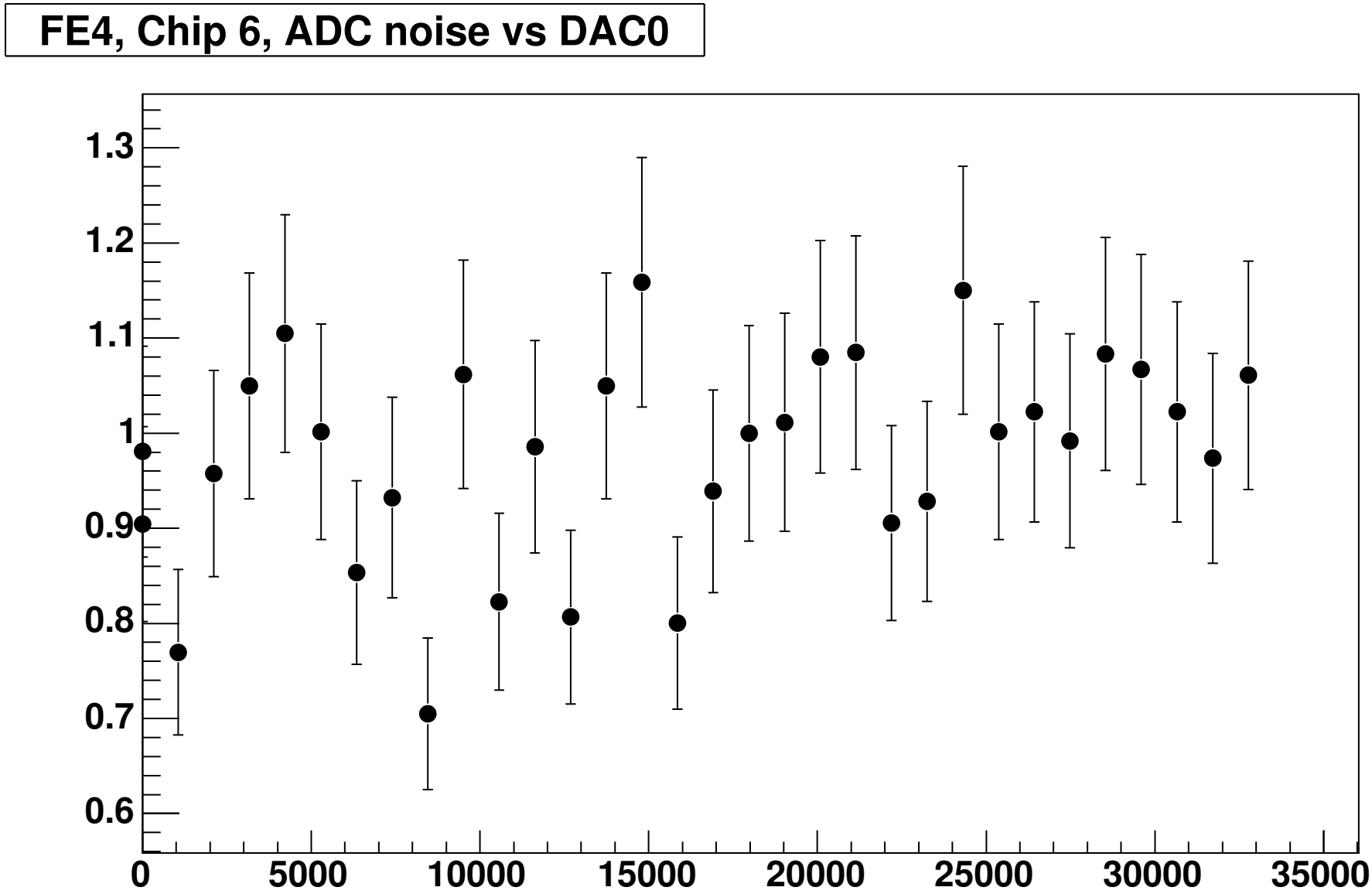

FE4, Chip 5, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

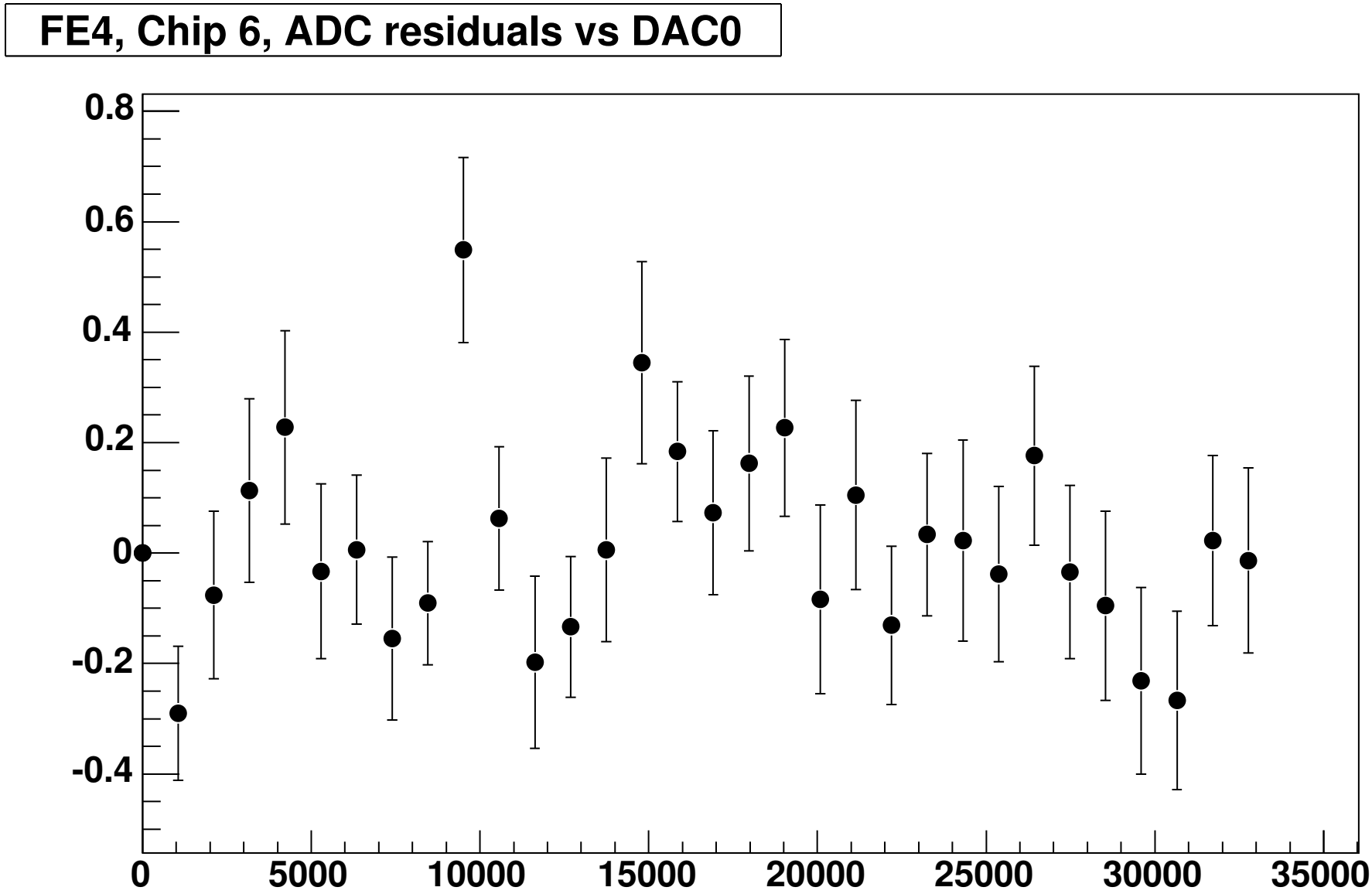

FE4, Chip 5, ADC mean vs DAC1
χ² / ndf 38.95 / 29
p0 196.6 ± 0.07021
p1 1.981e-05 ± 3.651e-06
197.6
197.4
197.2
197
196.8
196.6
196.4
196.2
196
0
5000
10000
15000
20000
25000
30000
35000

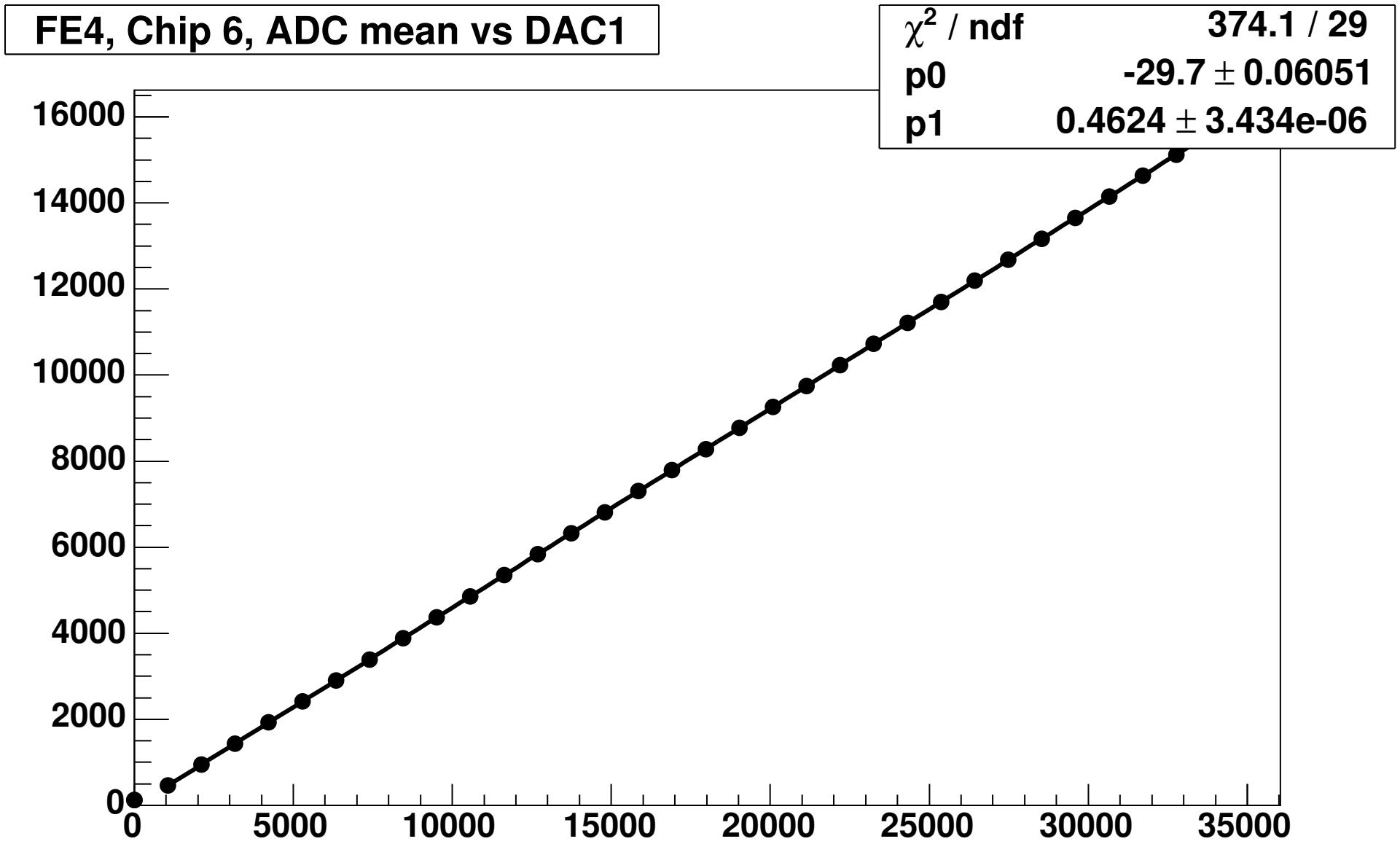

FE4, Chip 5, ADC noise vs DAC1
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0
5000
10000
15000
20000
25000
30000
35000

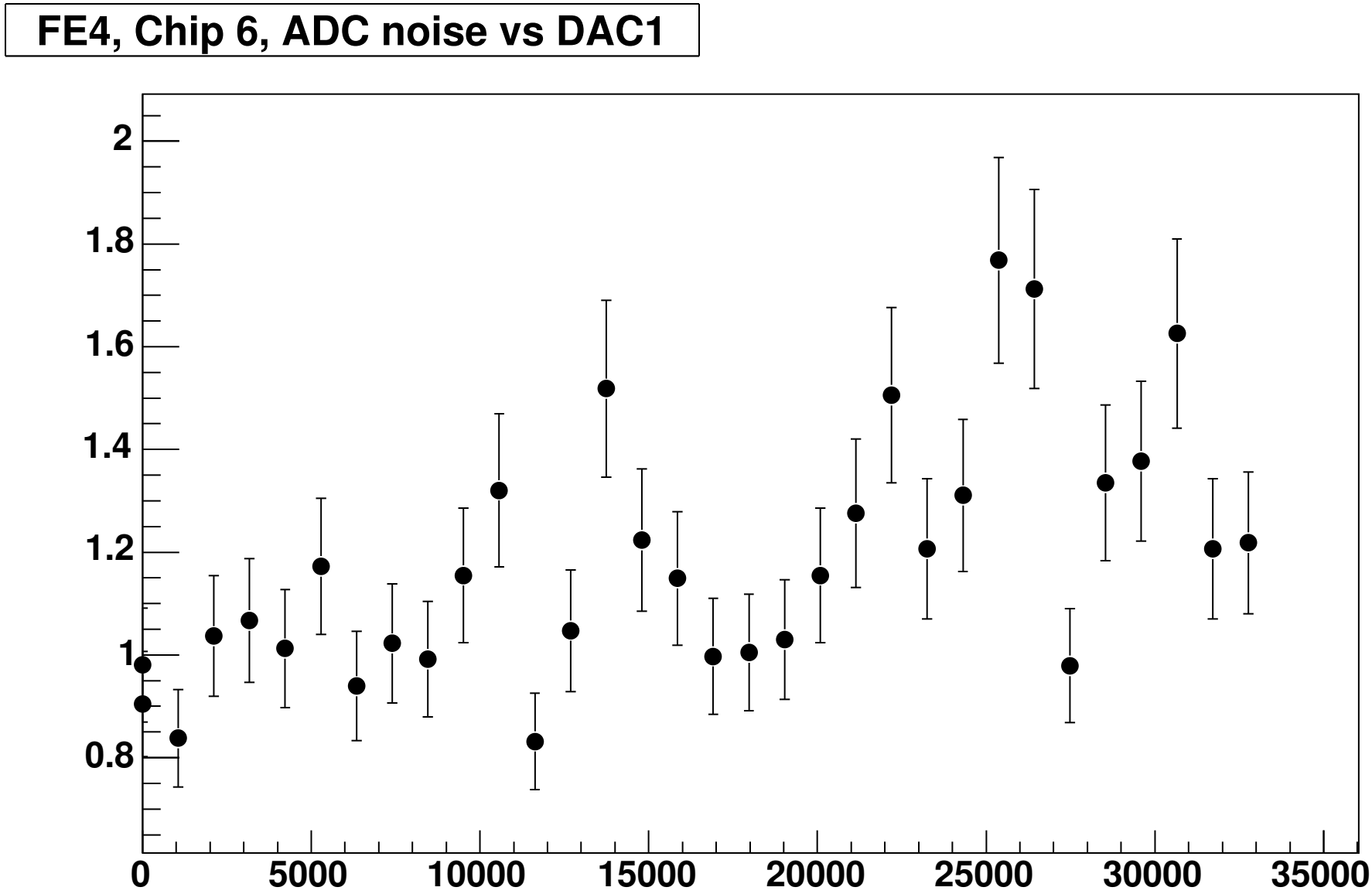

FE4, Chip 5, ADC residuals vs DAC1
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000


FE4, Chip 6, ADC mean vs DAC0
χ^2 / ndf 40.25 / 29
p0 119.6 ± 0.05371
p1 1.02e-05 ± 2.905e-06
120.4
120.2
120
119.8
119.6
119.4
119.2
0
5000
10000
15000
20000
25000
30000
35000

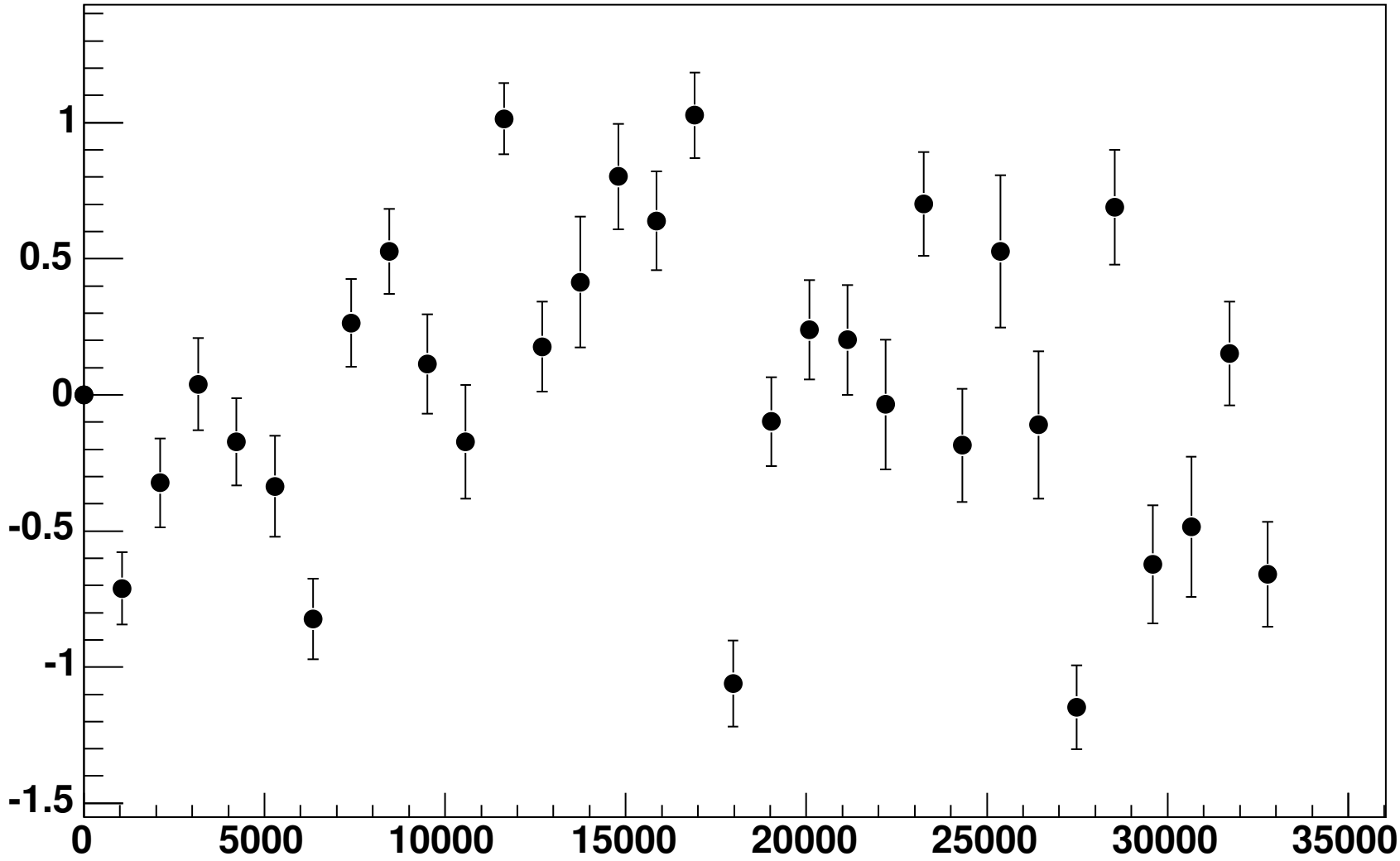

FE4, Chip 6, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

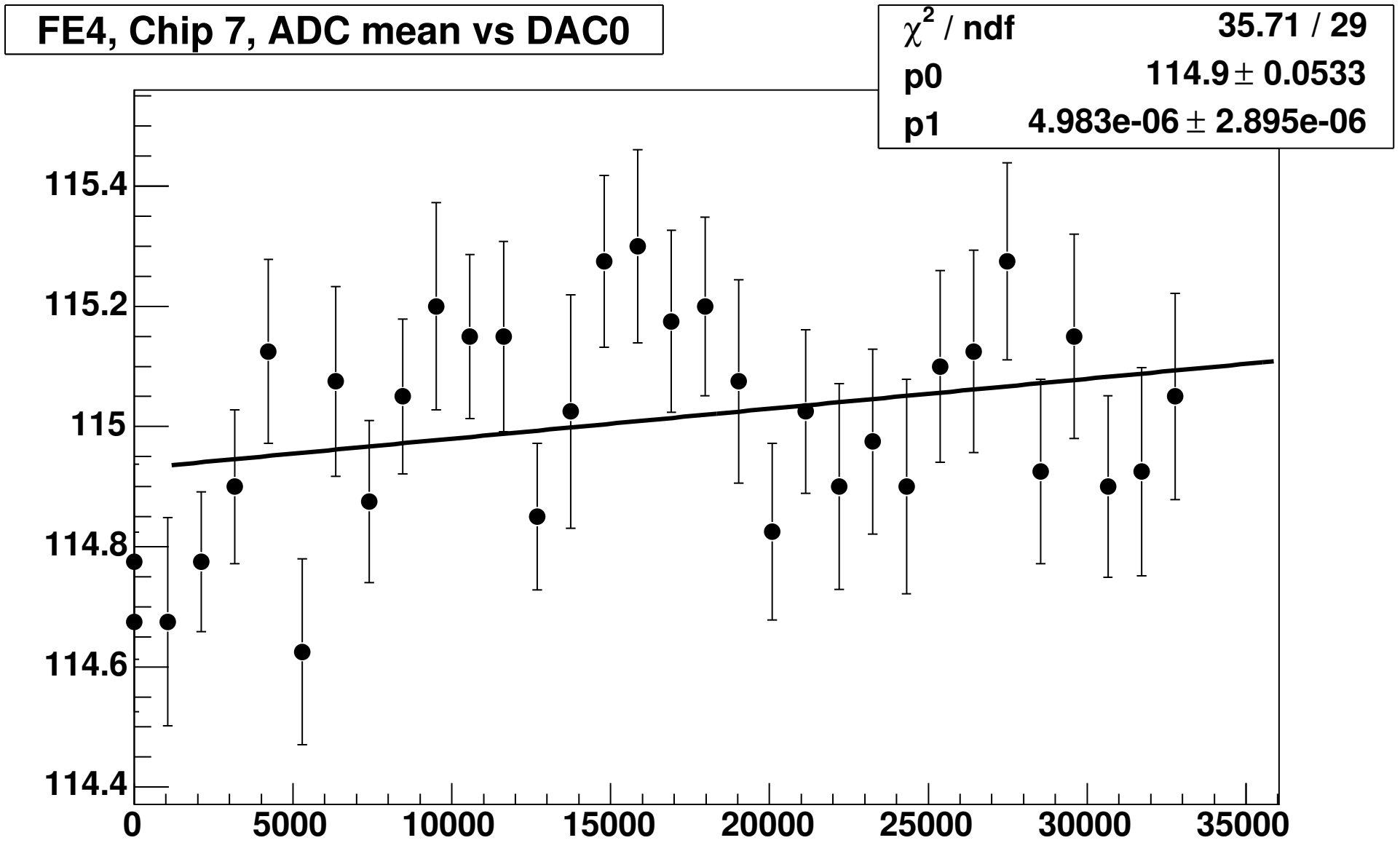

FE4, Chip 6, ADC residuals vs DAC0
0.8
0.6
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

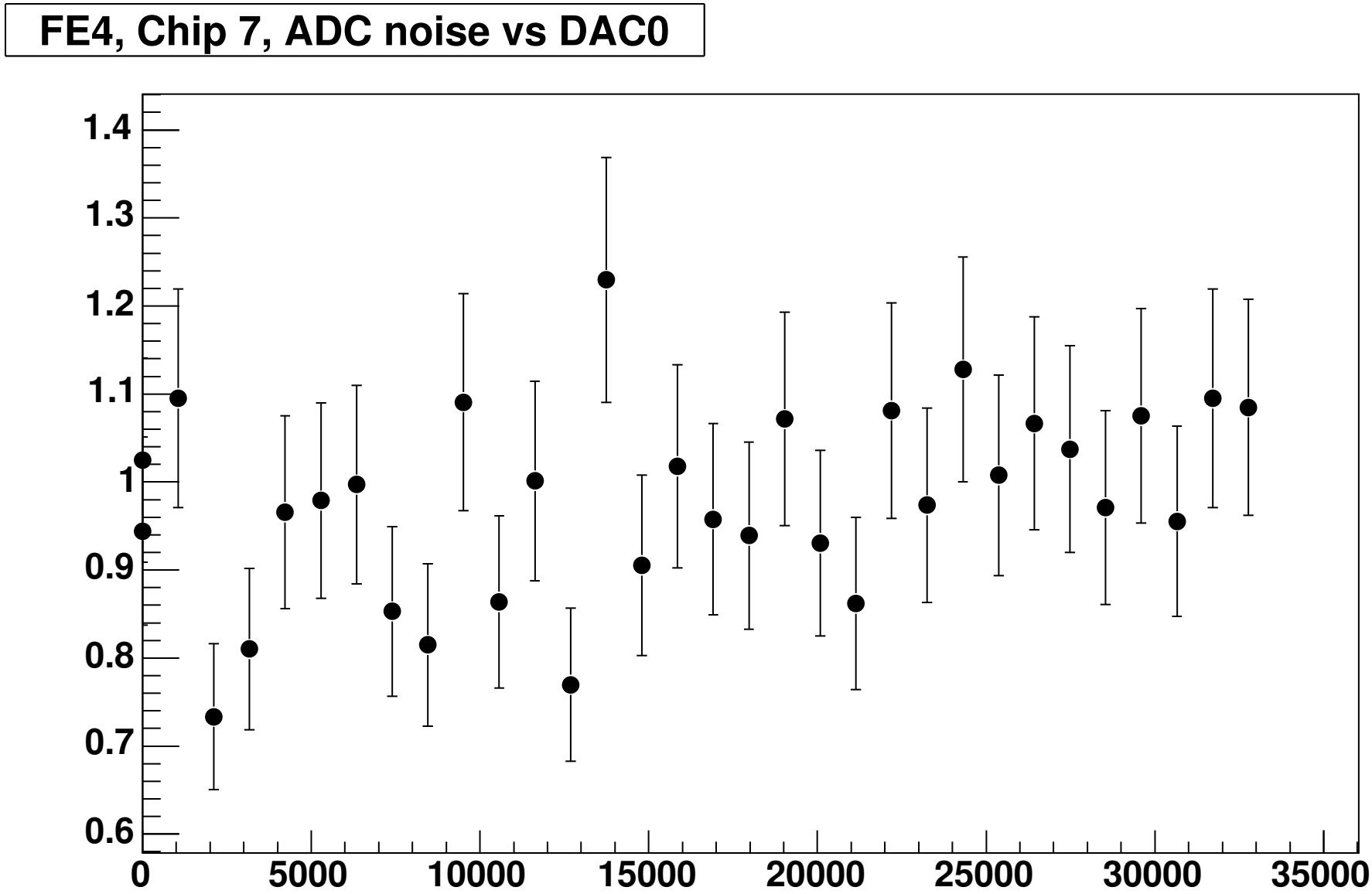

FE4, Chip 6, ADC mean vs DAC1
χ² / ndf 374.1 / 29
p0 -29.7 ± 0.06051
p1 0.4624 ± 3.434e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

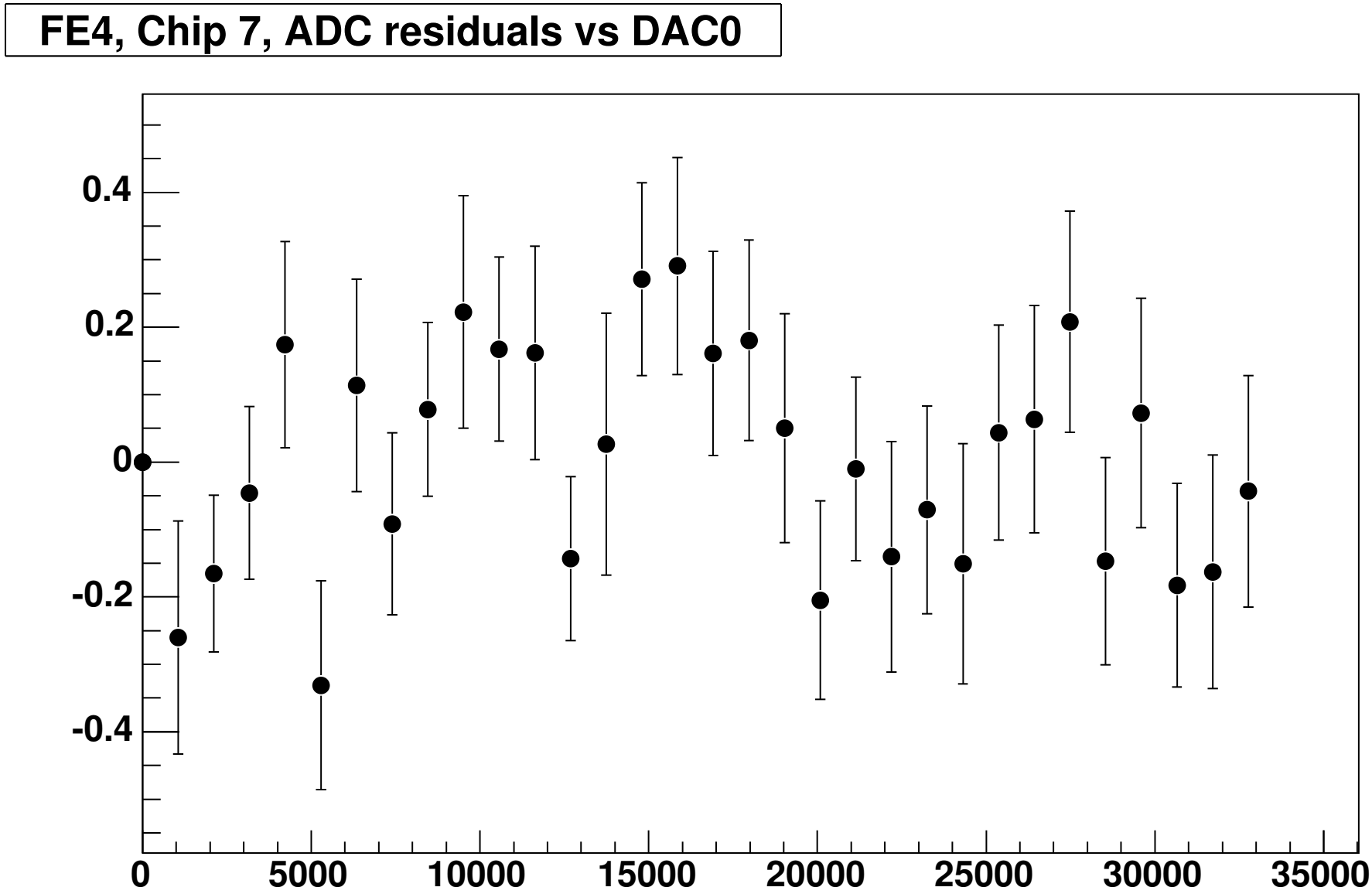

FE4, Chip 6, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

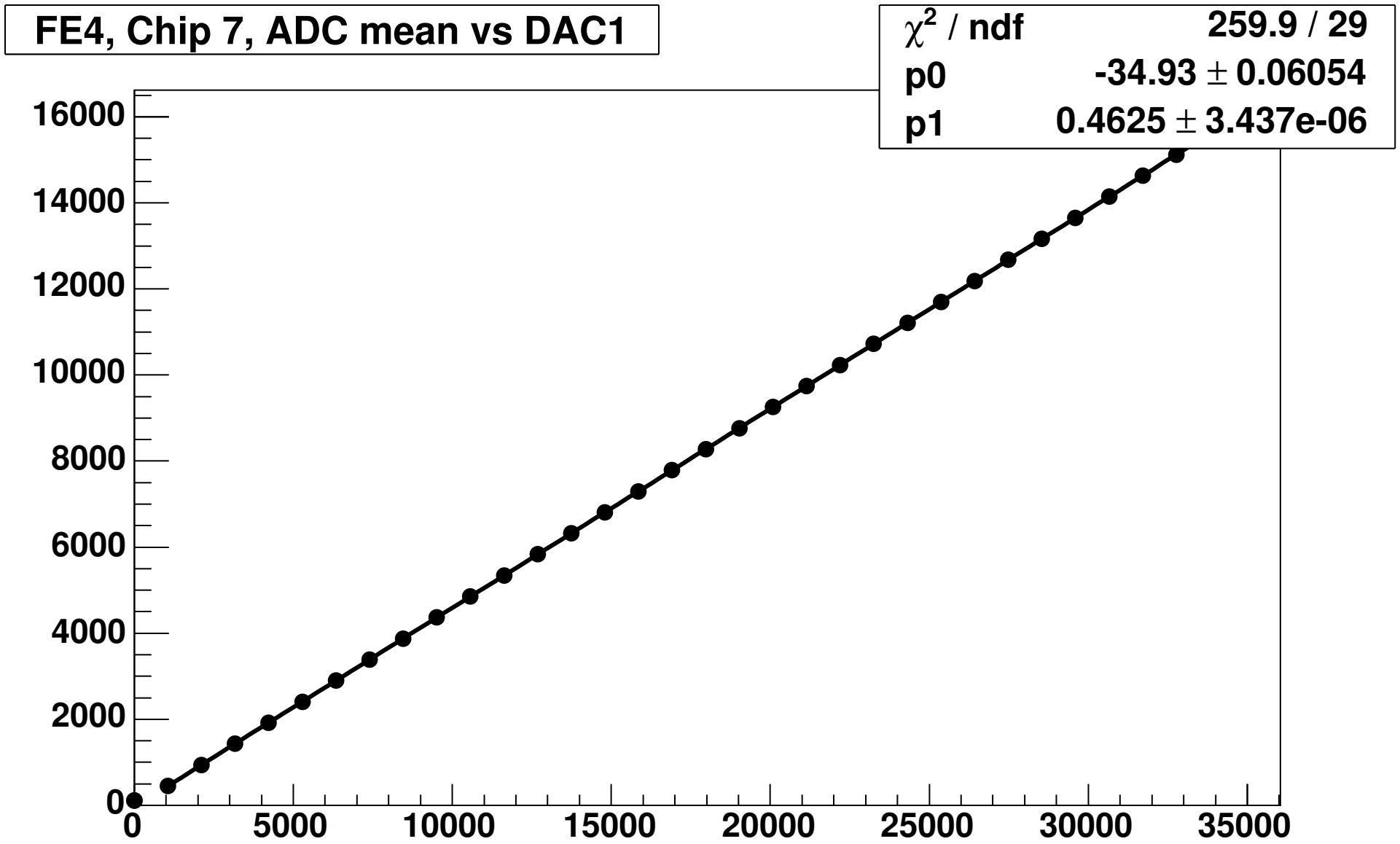
FE4, Chip 6, ADC residuals vs DAC1

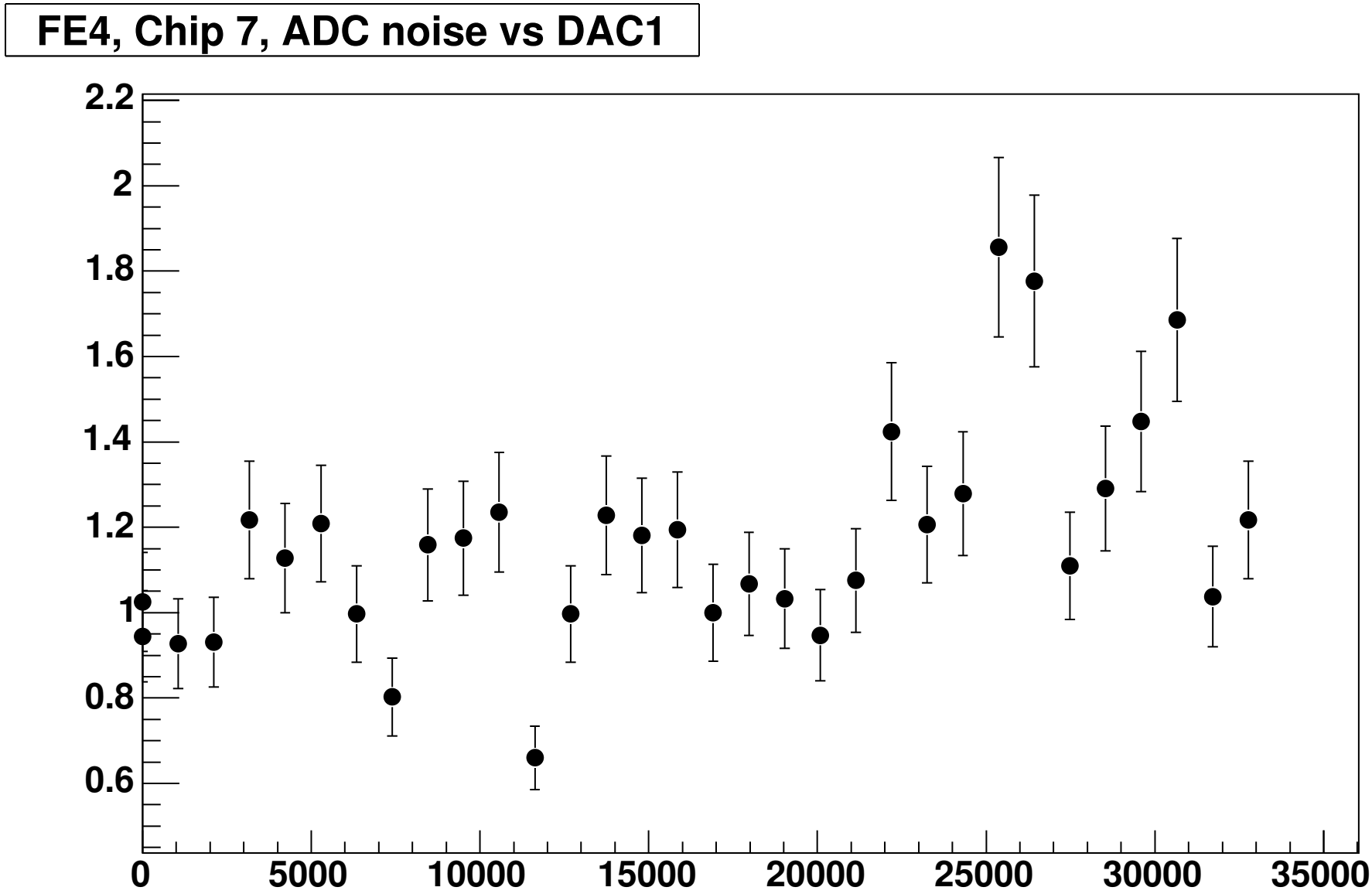


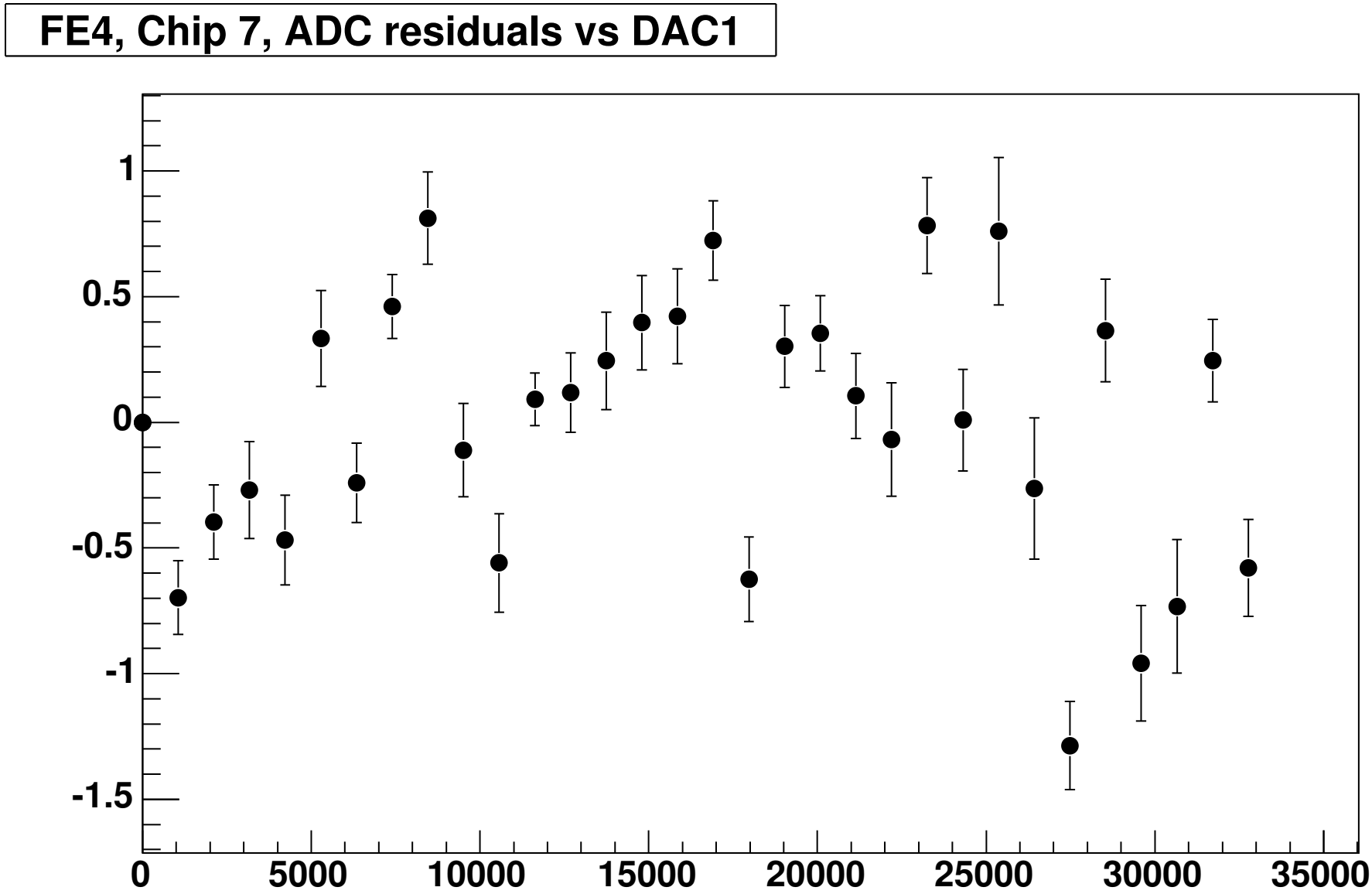

FE4, Chip 7, ADC mean vs DAC0
χ² / ndf 35.71 / 29
p0 114.9 ± 0.0533
p1 4.983e-06 ± 2.895e-06
115.4
115.2
115
114.8
114.6
114.4
0
5000
10000
15000
20000
25000
30000
35000

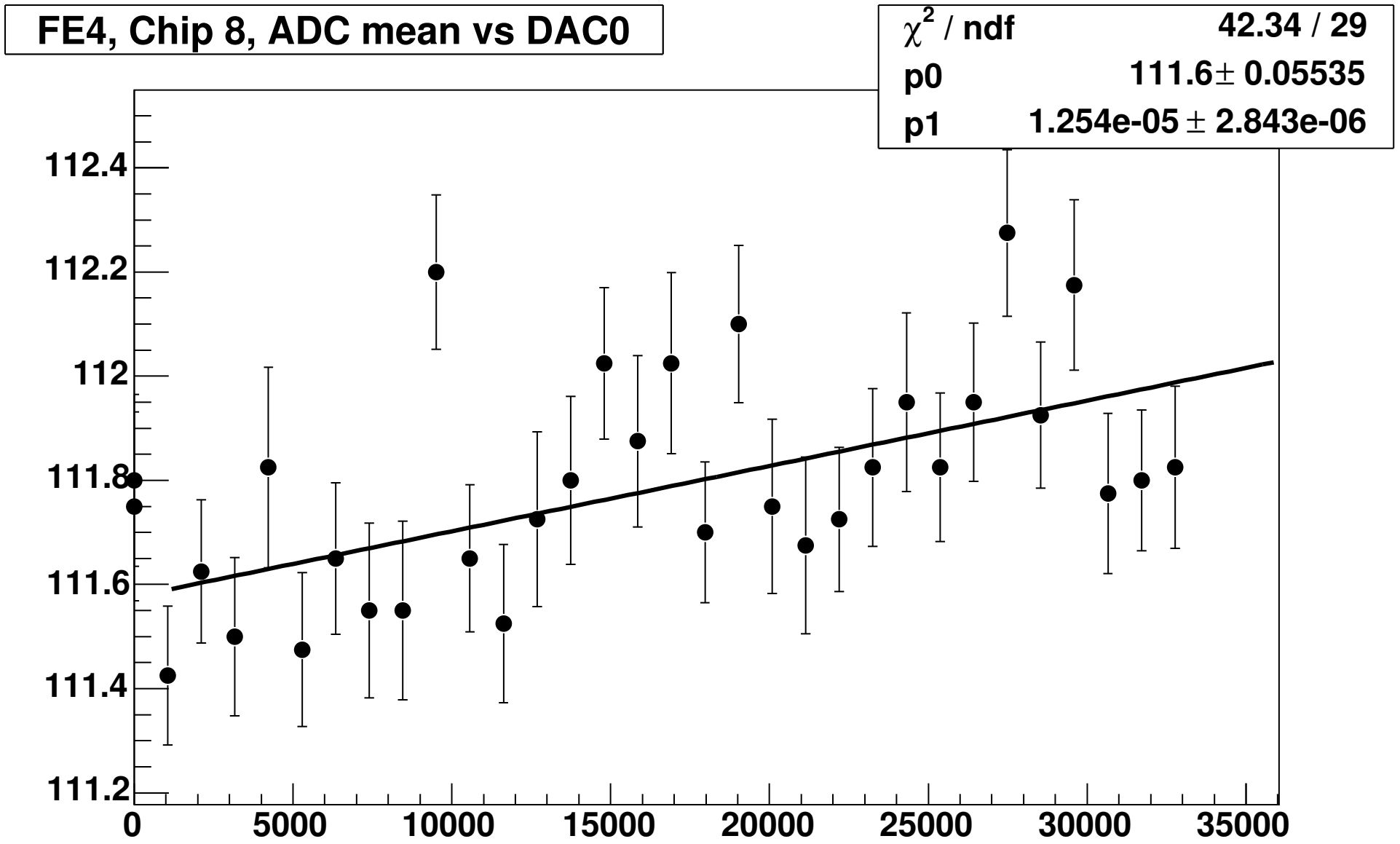

FE4, Chip 7, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

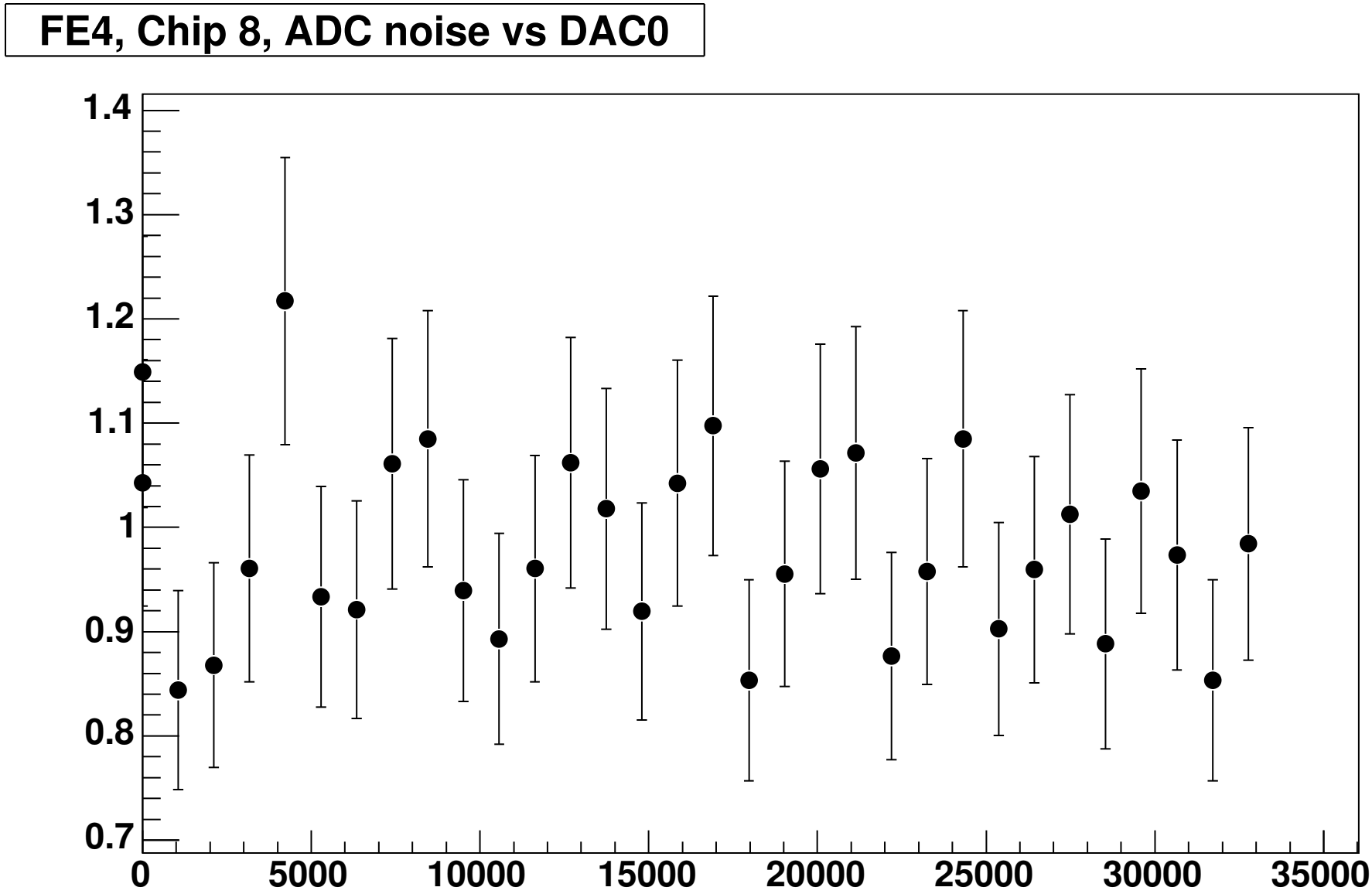

FE4, Chip 7, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

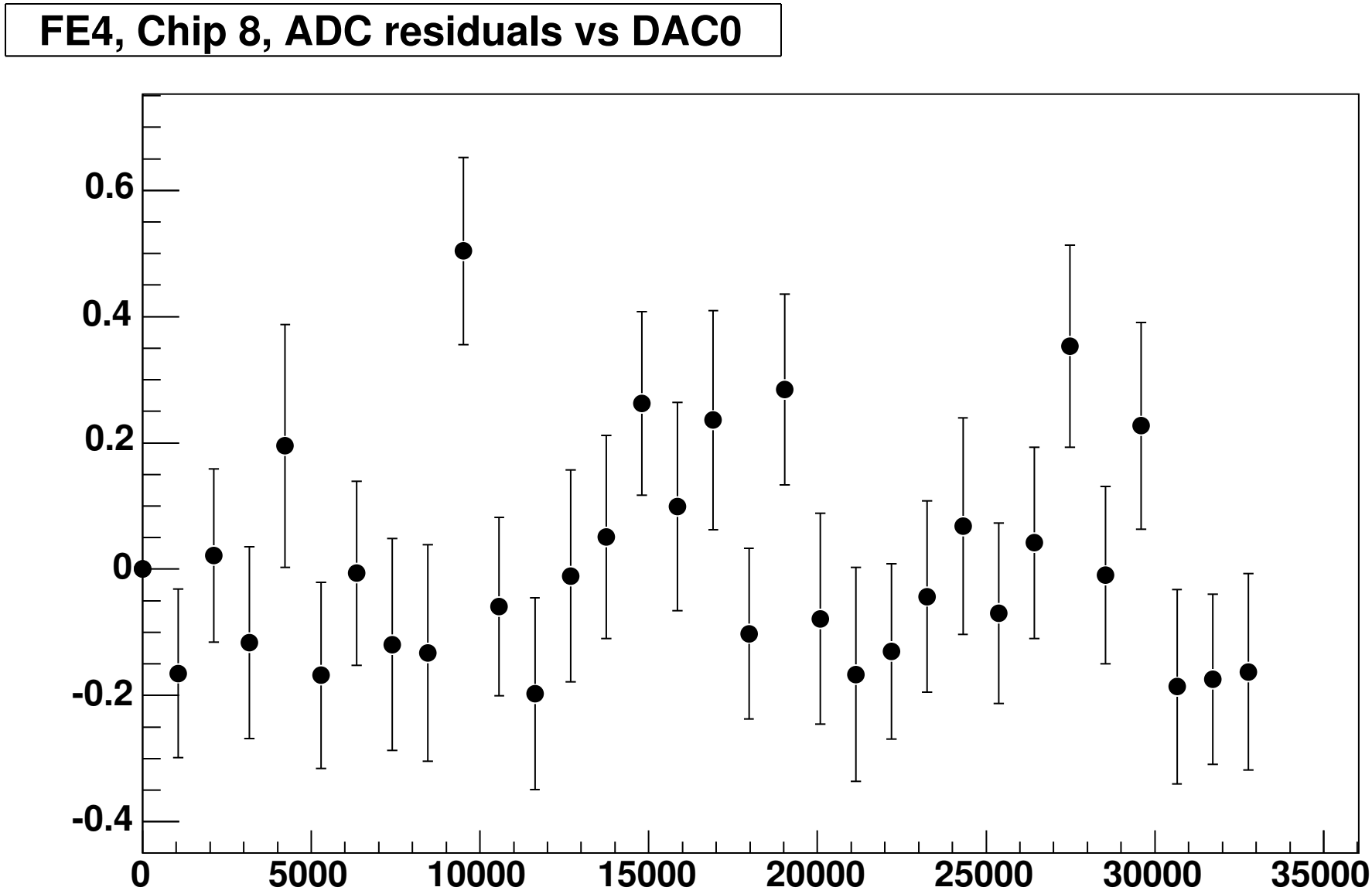

FE4, Chip 7, ADC mean vs DAC1
χ² / ndf 259.9 / 29
p0 -34.93 ± 0.06054
p1 0.4625 ± 3.437e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

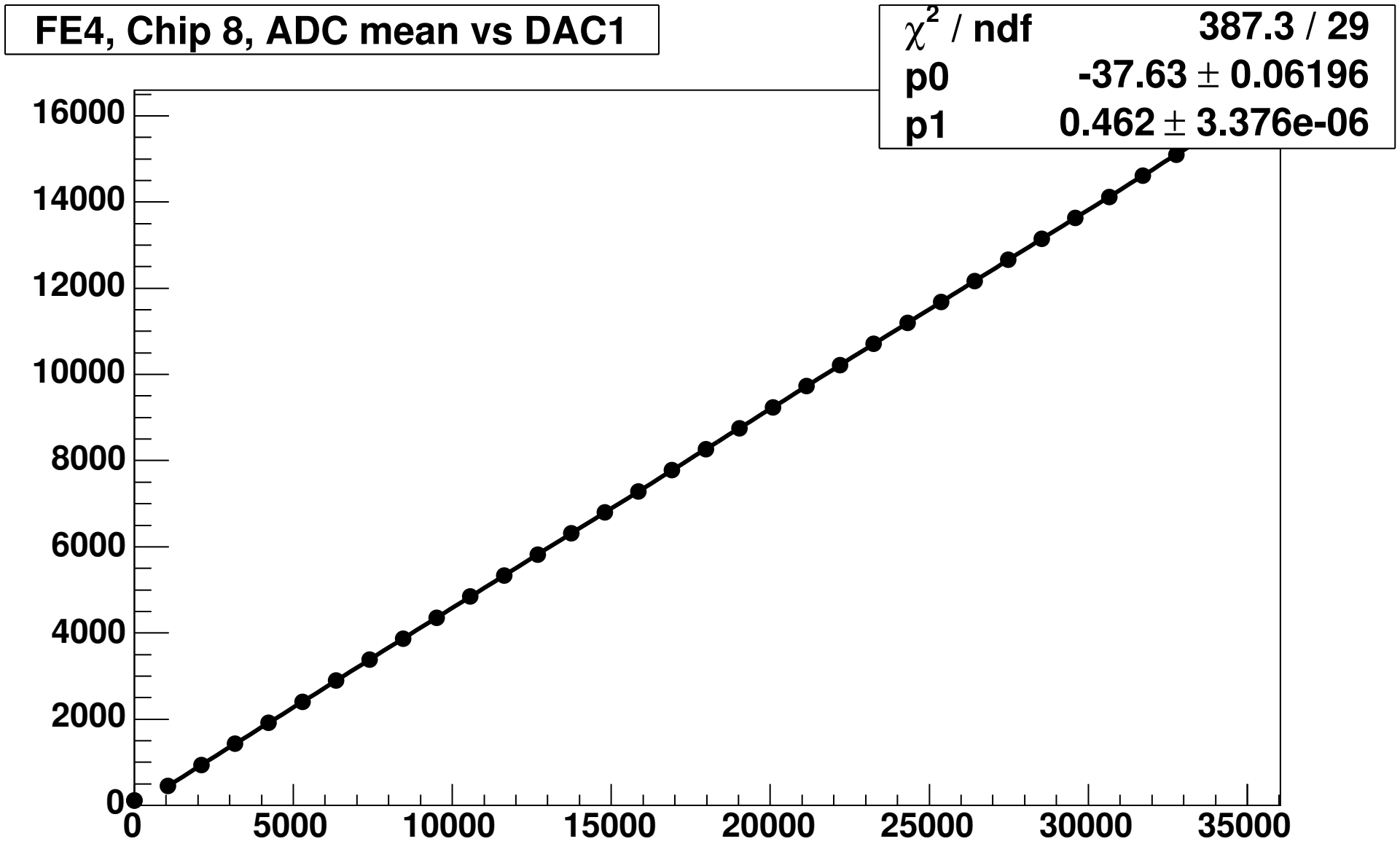

FE4, Chip 7, ADC noise vs DAC1
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

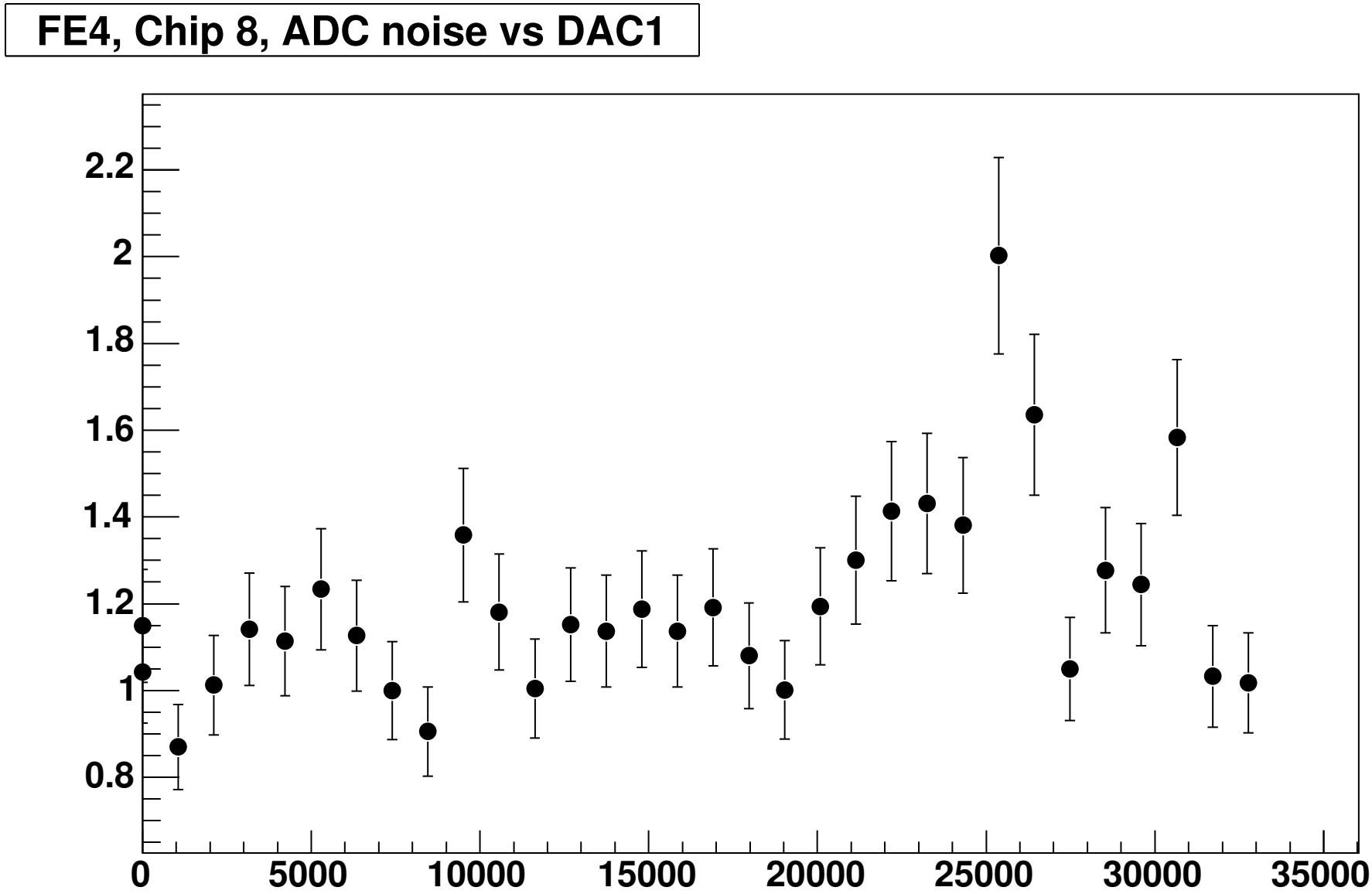

FE4, Chip 7, ADC residuals vs DAC1
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

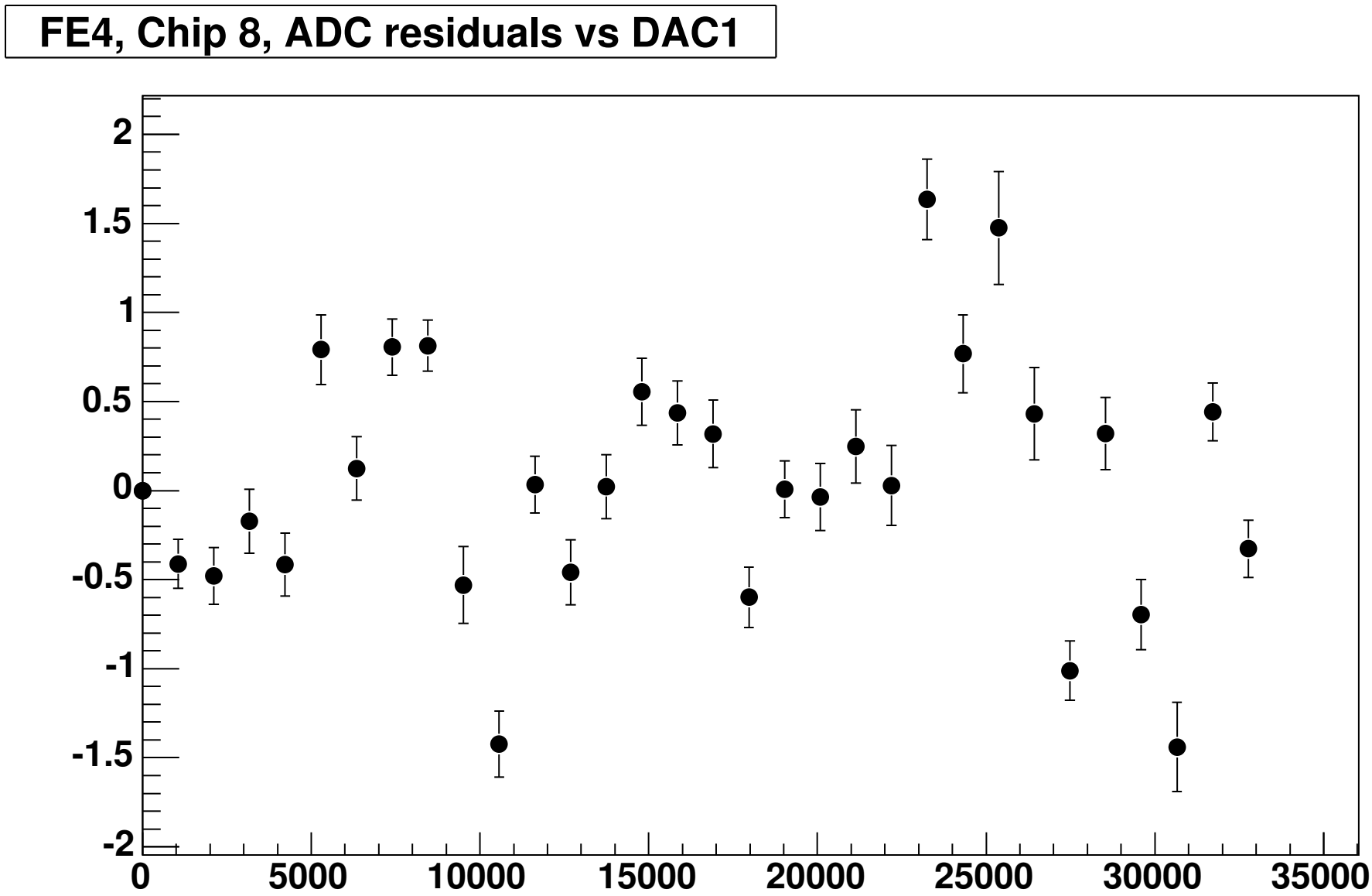

FE4, Chip 8, ADC mean vs DAC0
χ² / ndf 42.34 / 29
p0 111.6 ± 0.05535
p1 1.254e-05 ± 2.843e-06
112.4
112.2
112
111.8
111.6
111.4
111.2
0
5000
10000
15000
20000
25000
30000
35000

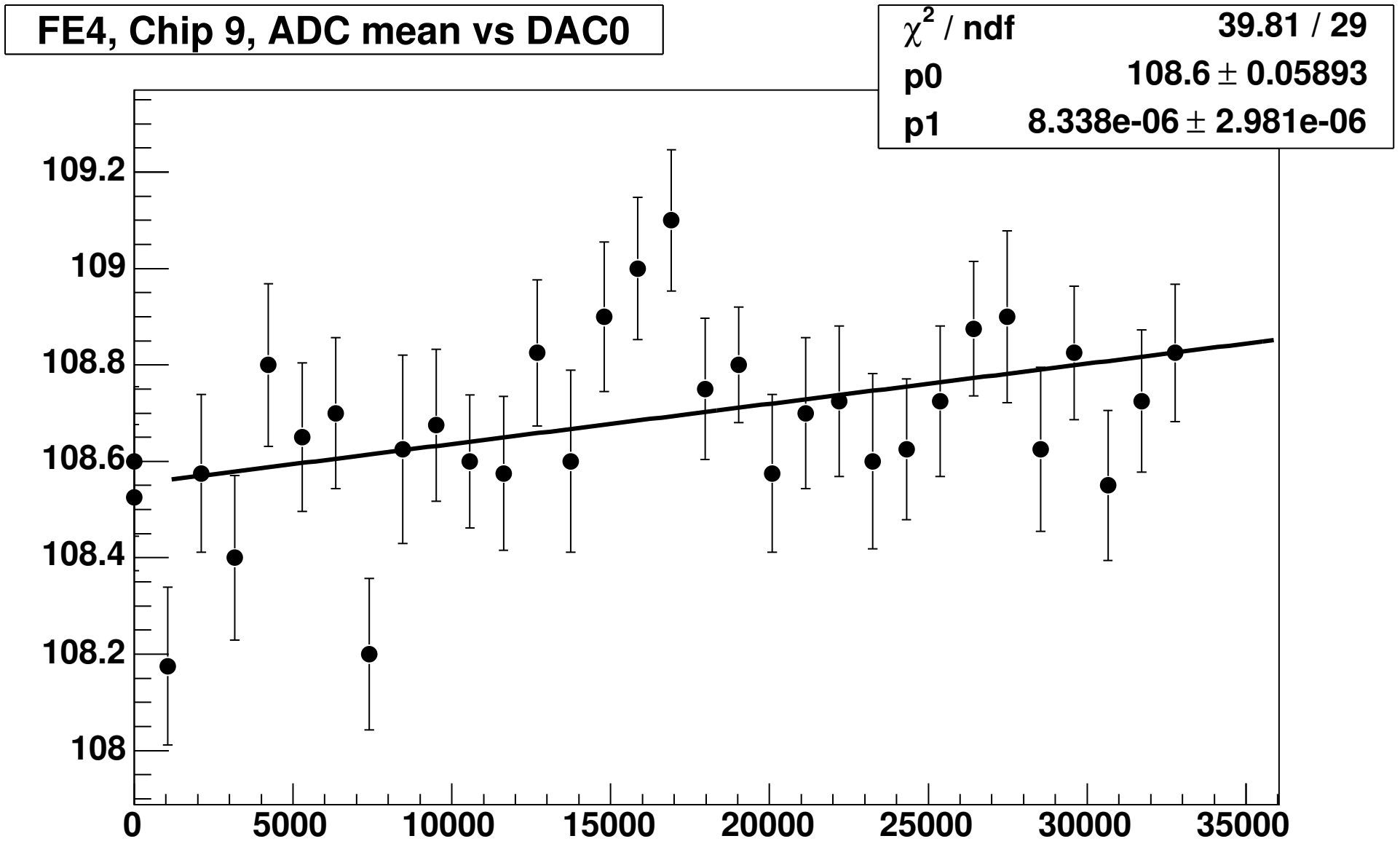

FE4, Chip 8, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

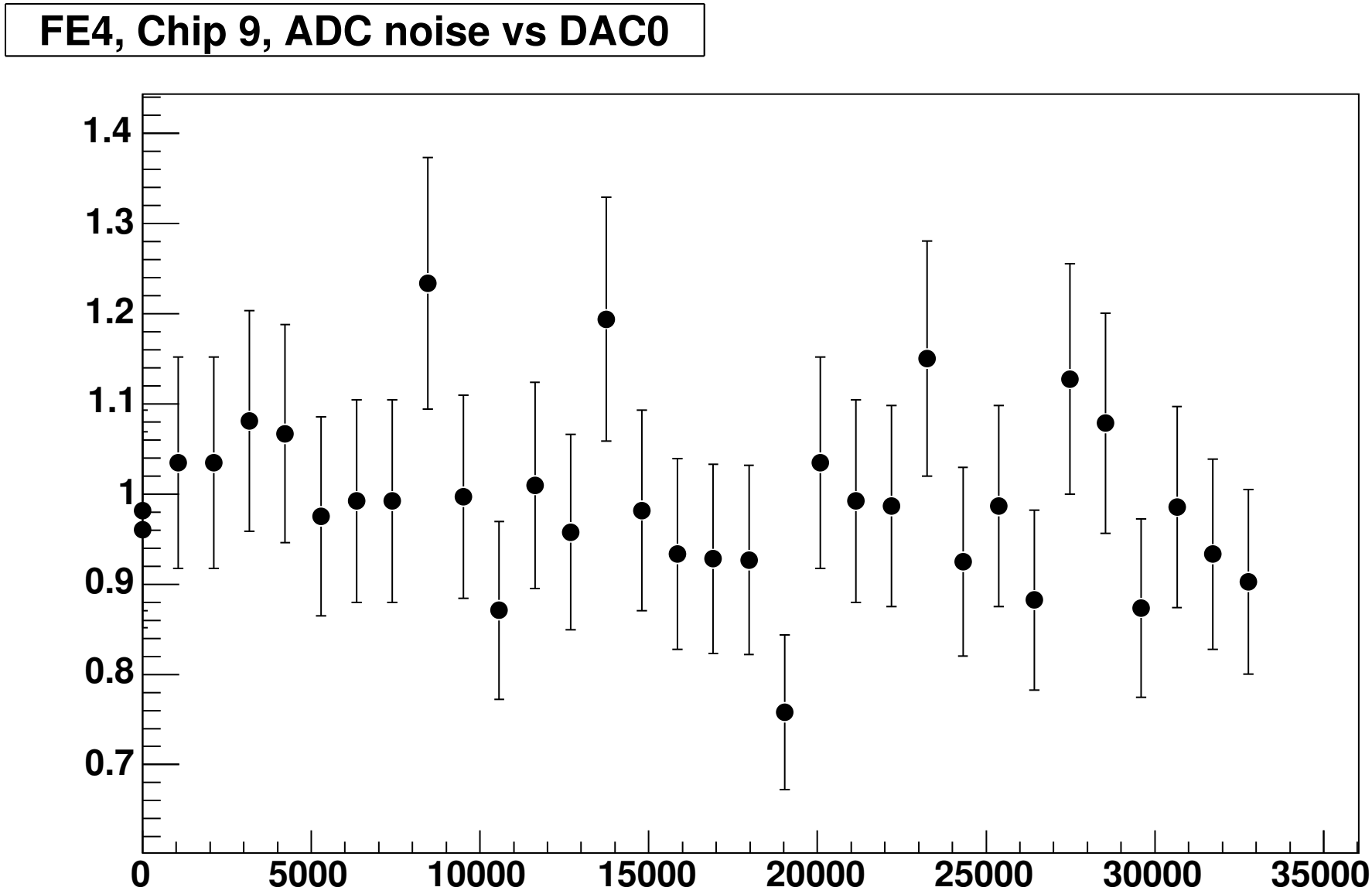

FE4, Chip 8, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

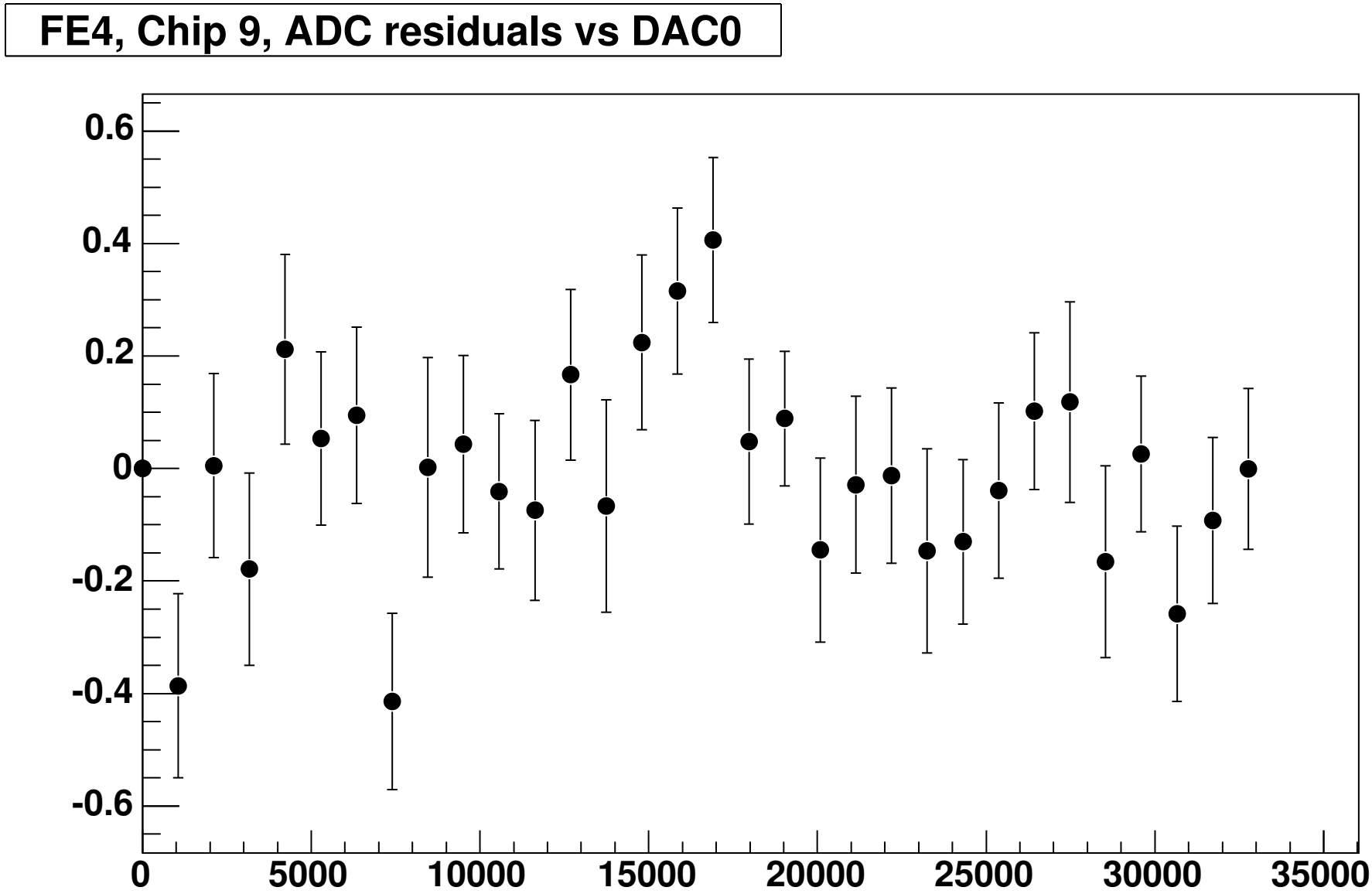

FE4, Chip 8, ADC mean vs DAC1
χ² / ndf 387.3 / 29
p0 -37.63 ± 0.06196
p1 0.462 ± 3.376e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

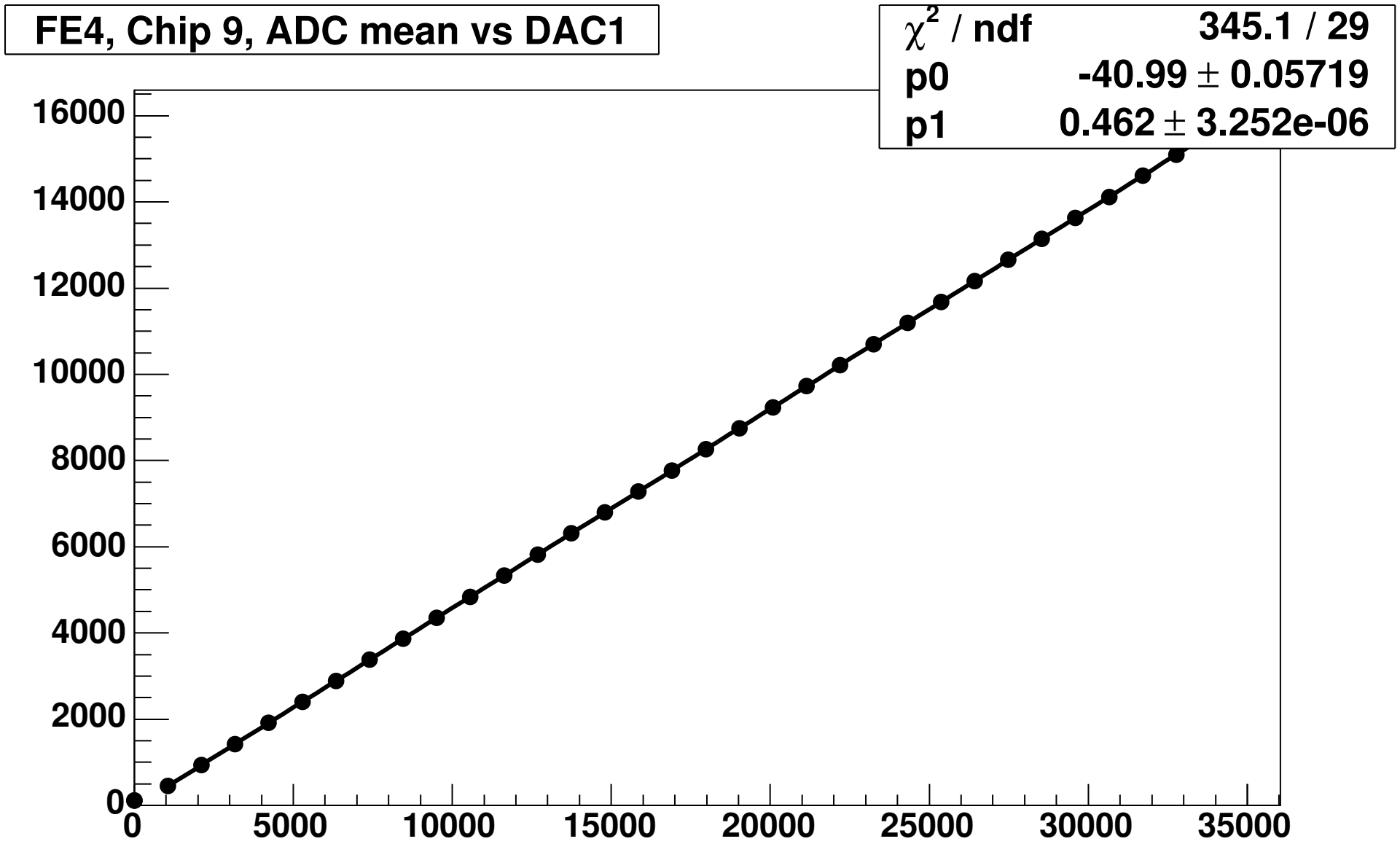

FE4, Chip 8, ADC noise vs DAC1
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

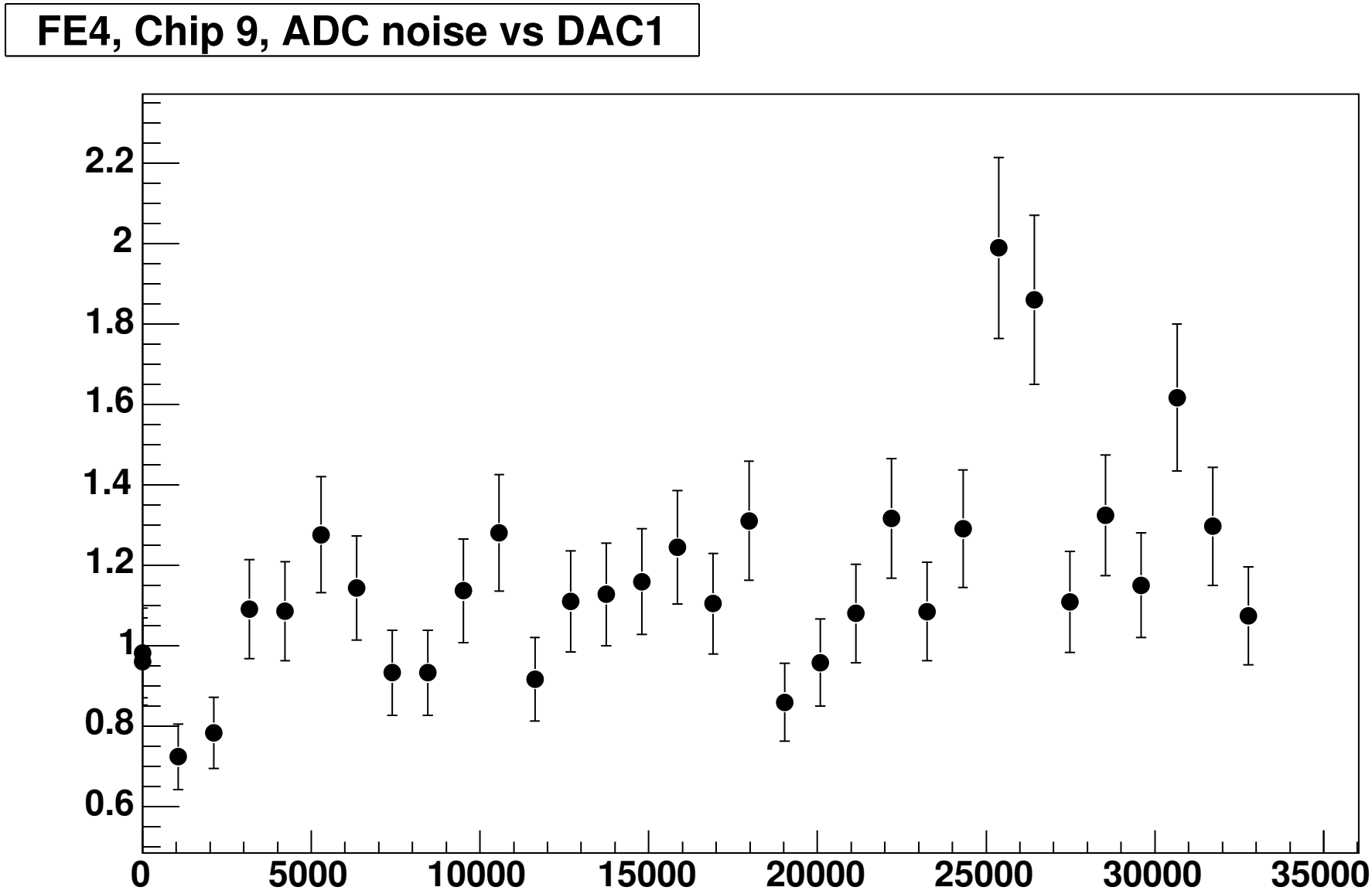

FE4, Chip 8, ADC residuals vs DAC1
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

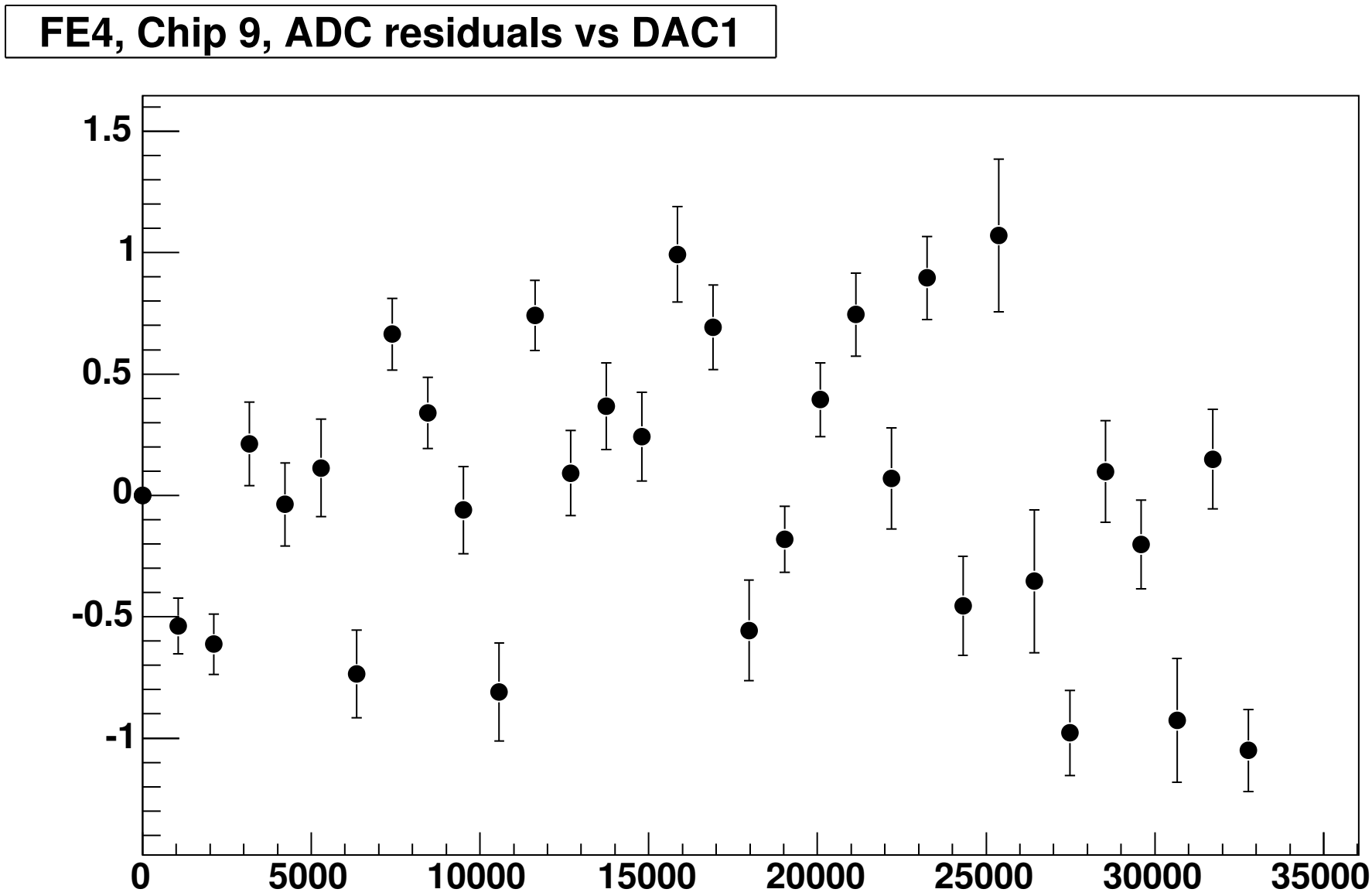

FE4, Chip 9, ADC mean vs DAC0
χ^2 / ndf 39.81 / 29
p0 108.6 ± 0.05893
p1 8.338e-06 ± 2.981e-06
109.2
109
108.8
108.6
108.4
108.2
108
0
5000
10000
15000
20000
25000
30000
35000

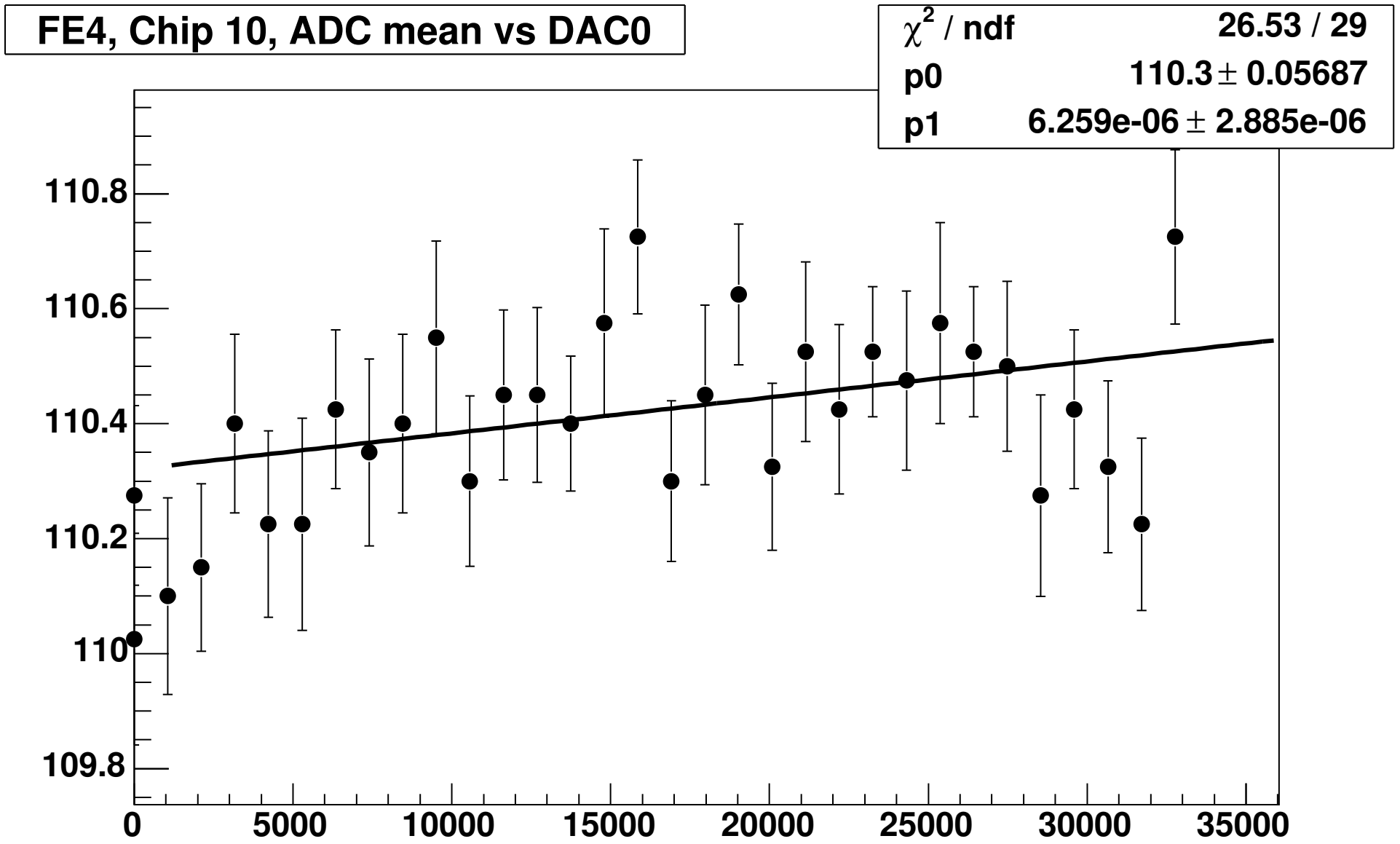

FE4, Chip 9, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

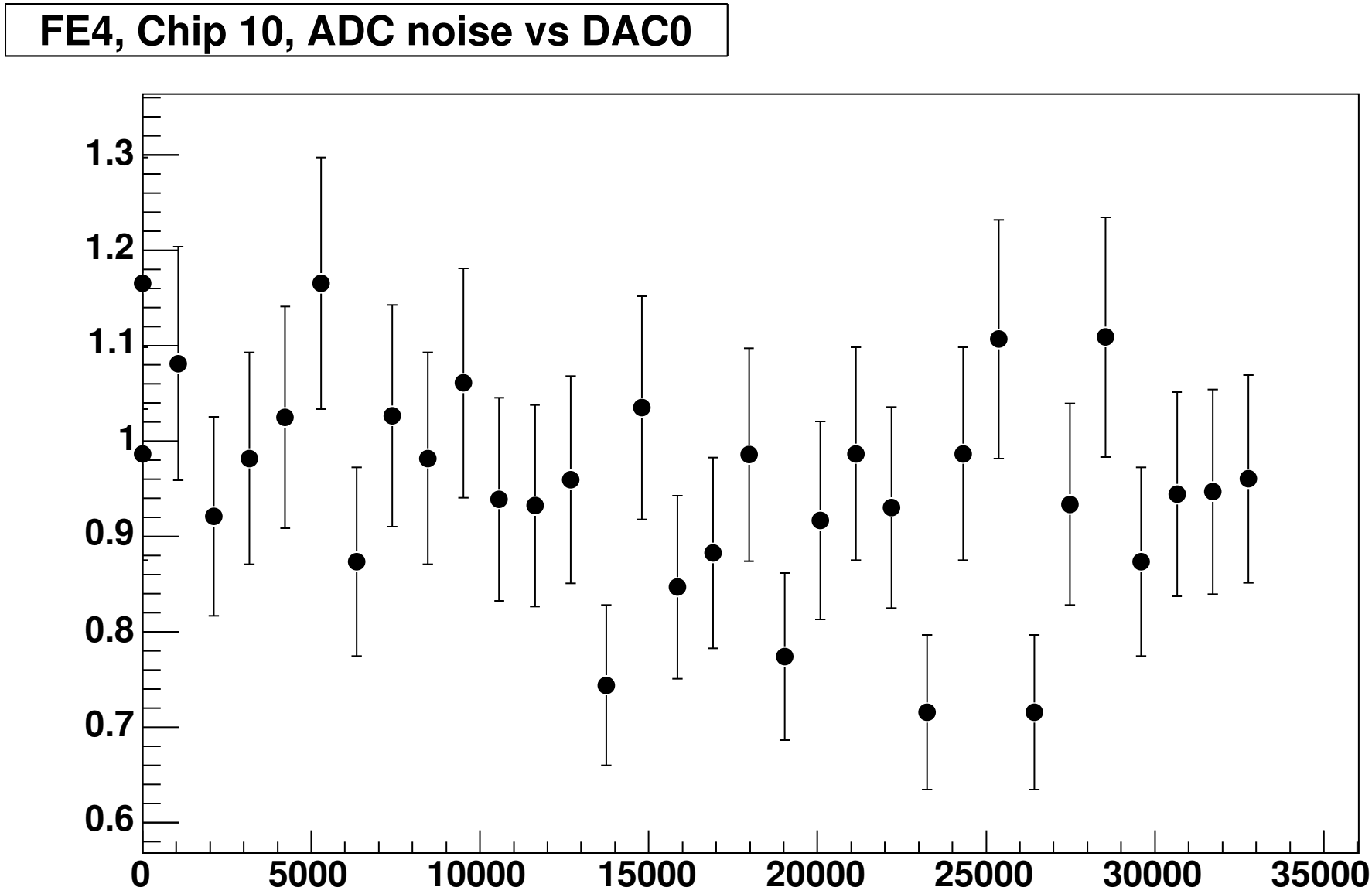

FE4, Chip 9, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

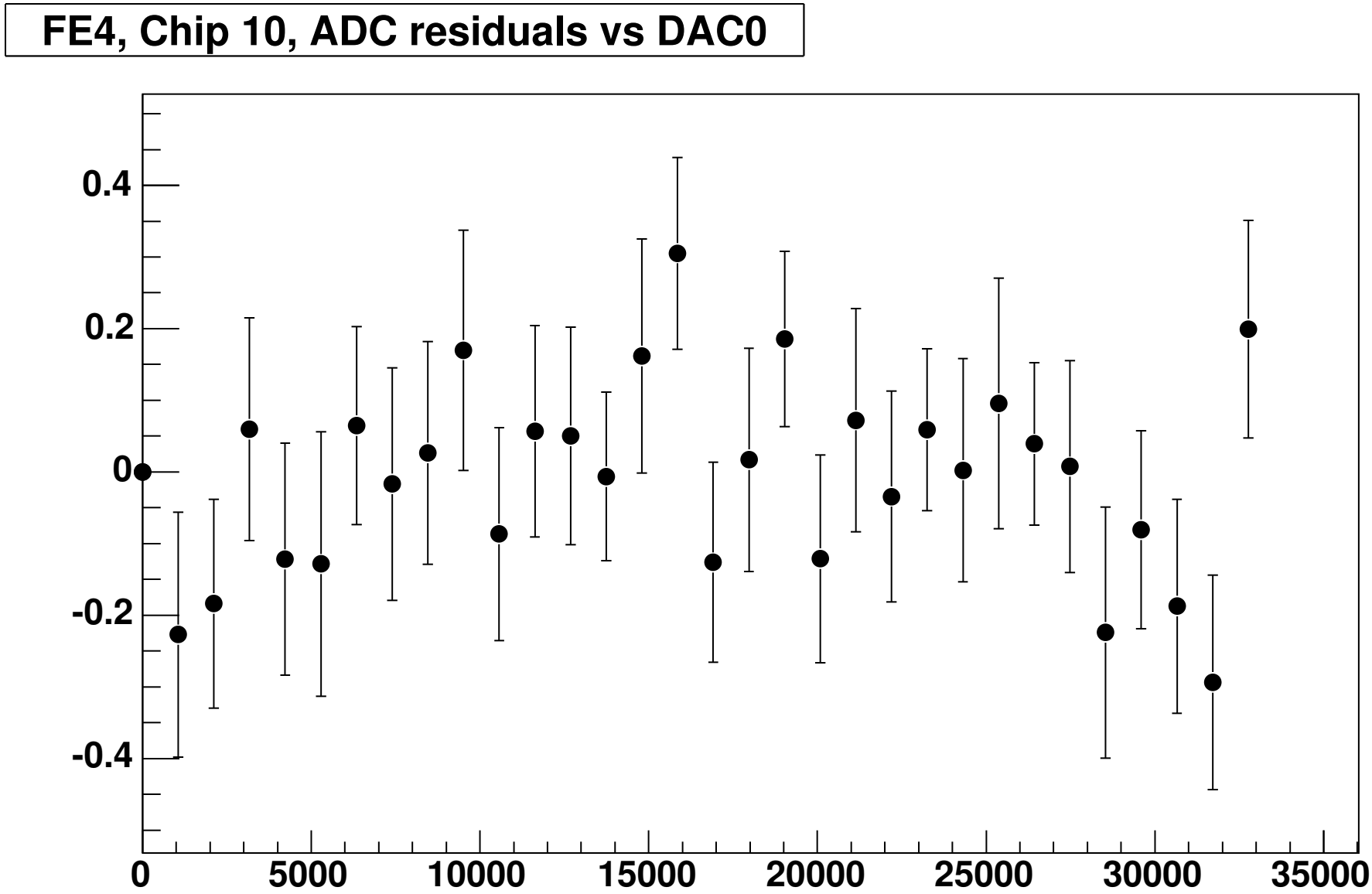

FE4, Chip 9, ADC mean vs DAC1
χ² / ndf 345.1 / 29
p0 -40.99 ± 0.05719
p1 0.462 ± 3.252e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

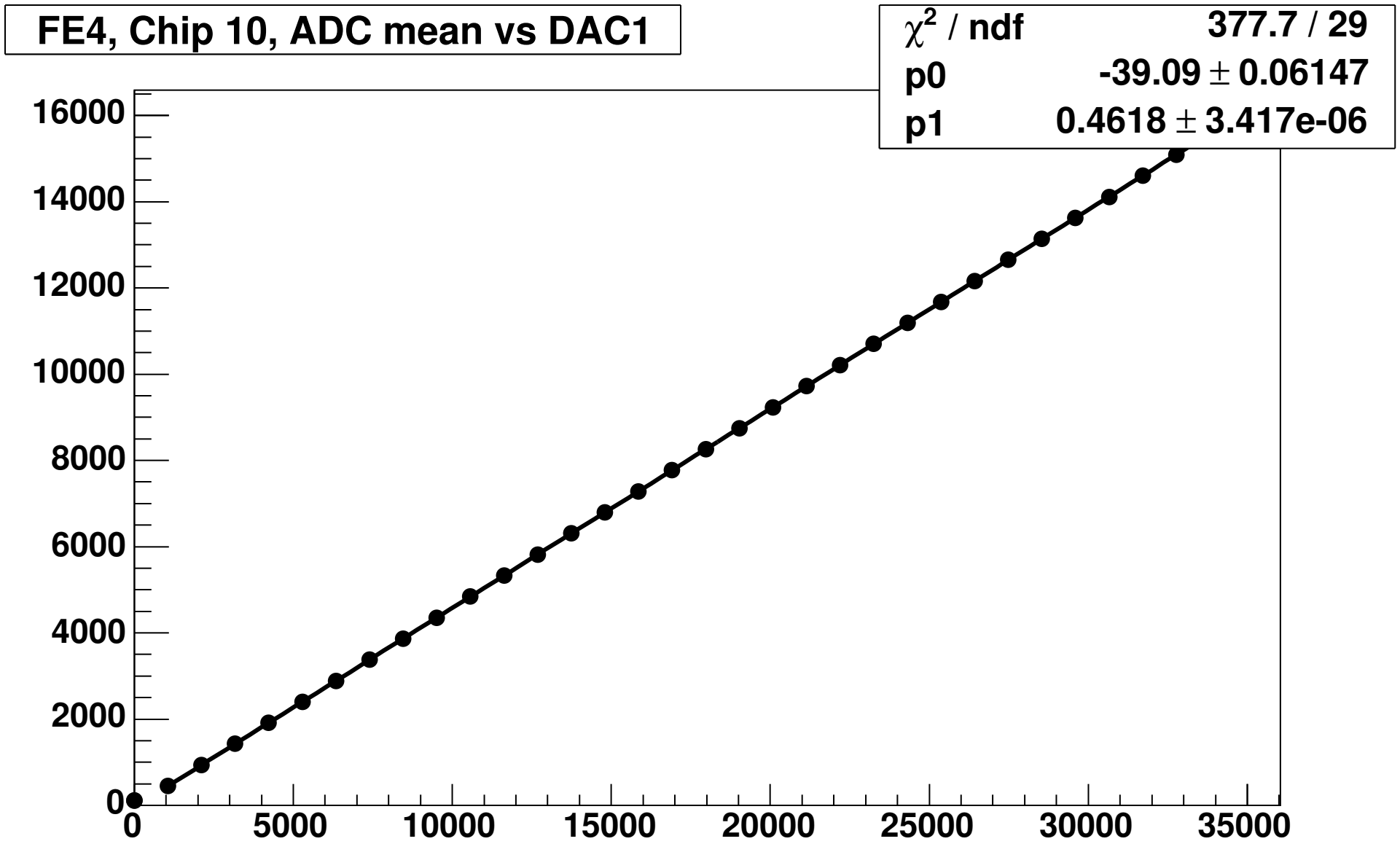

FE4, Chip 9, ADC noise vs DAC1
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

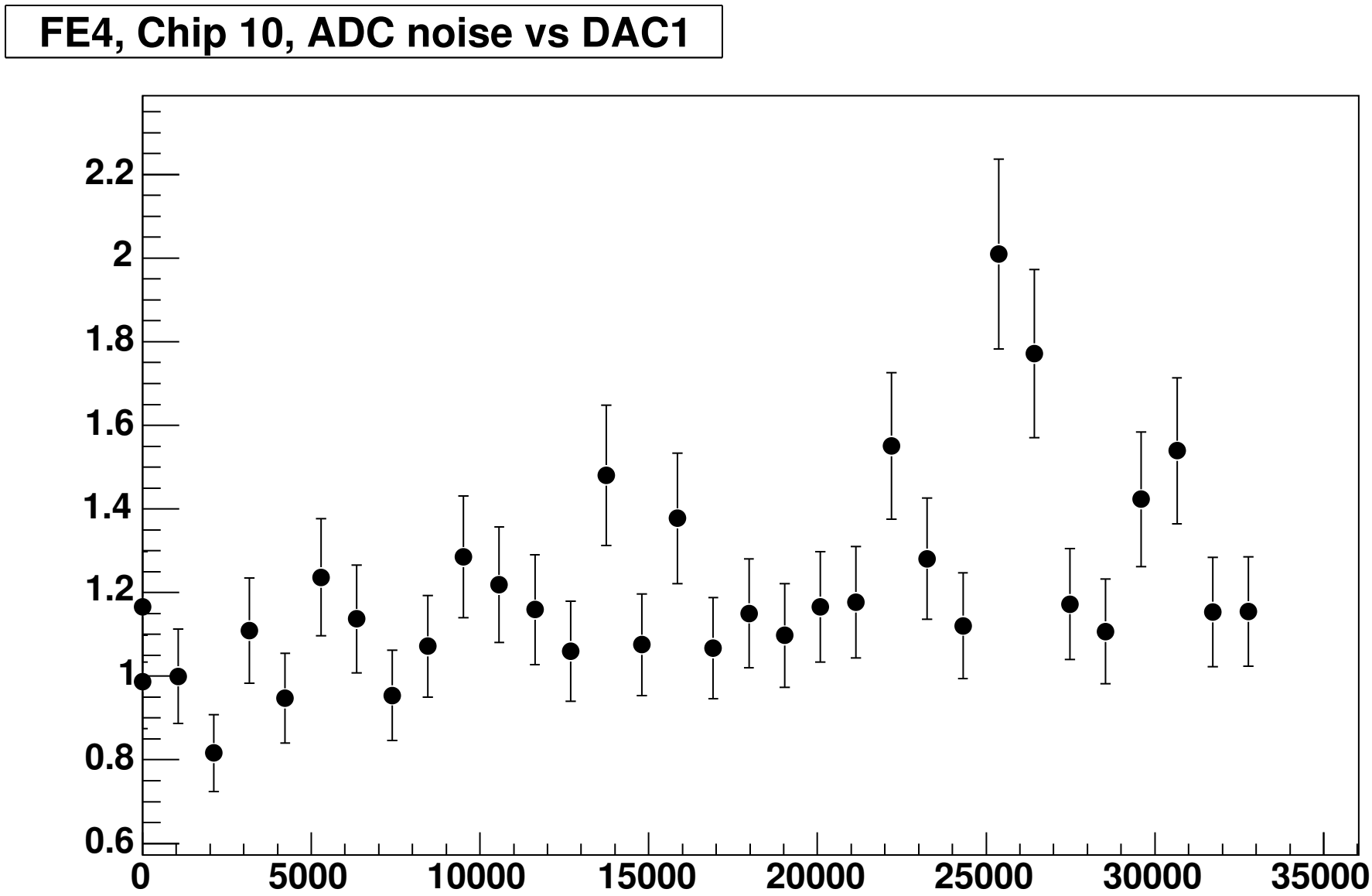

FE4, Chip 9, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
0
5000
10000
15000
20000
25000
30000
35000

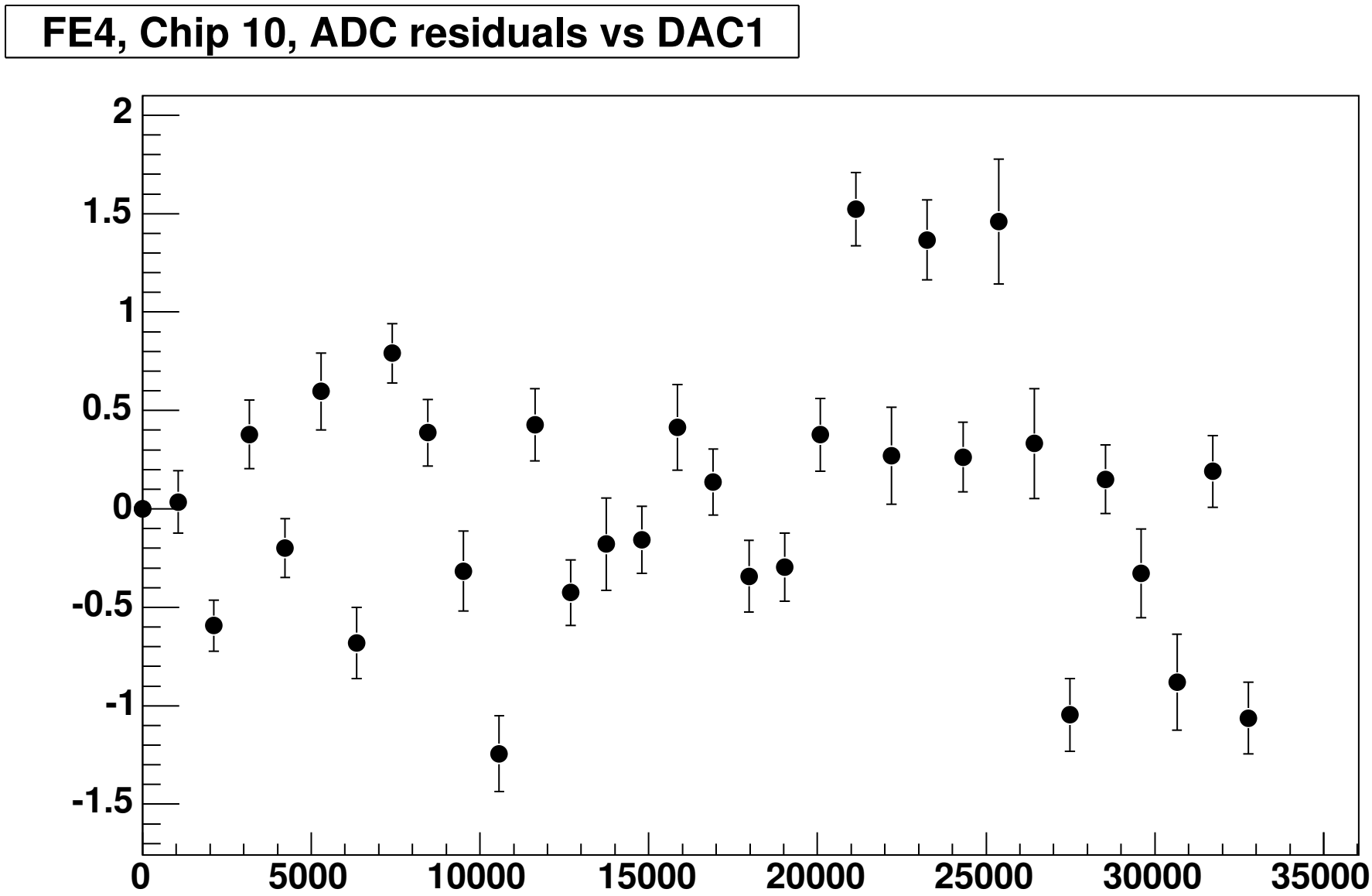

FE4, Chip 10, ADC mean vs DAC0
χ² / ndf 26.53 / 29
p0 110.3 ± 0.05687
p1 6.259e-06 ± 2.885e-06
110.8
110.6
110.4
110.2
110
109.8
0
5000
10000
15000
20000
25000
30000
35000

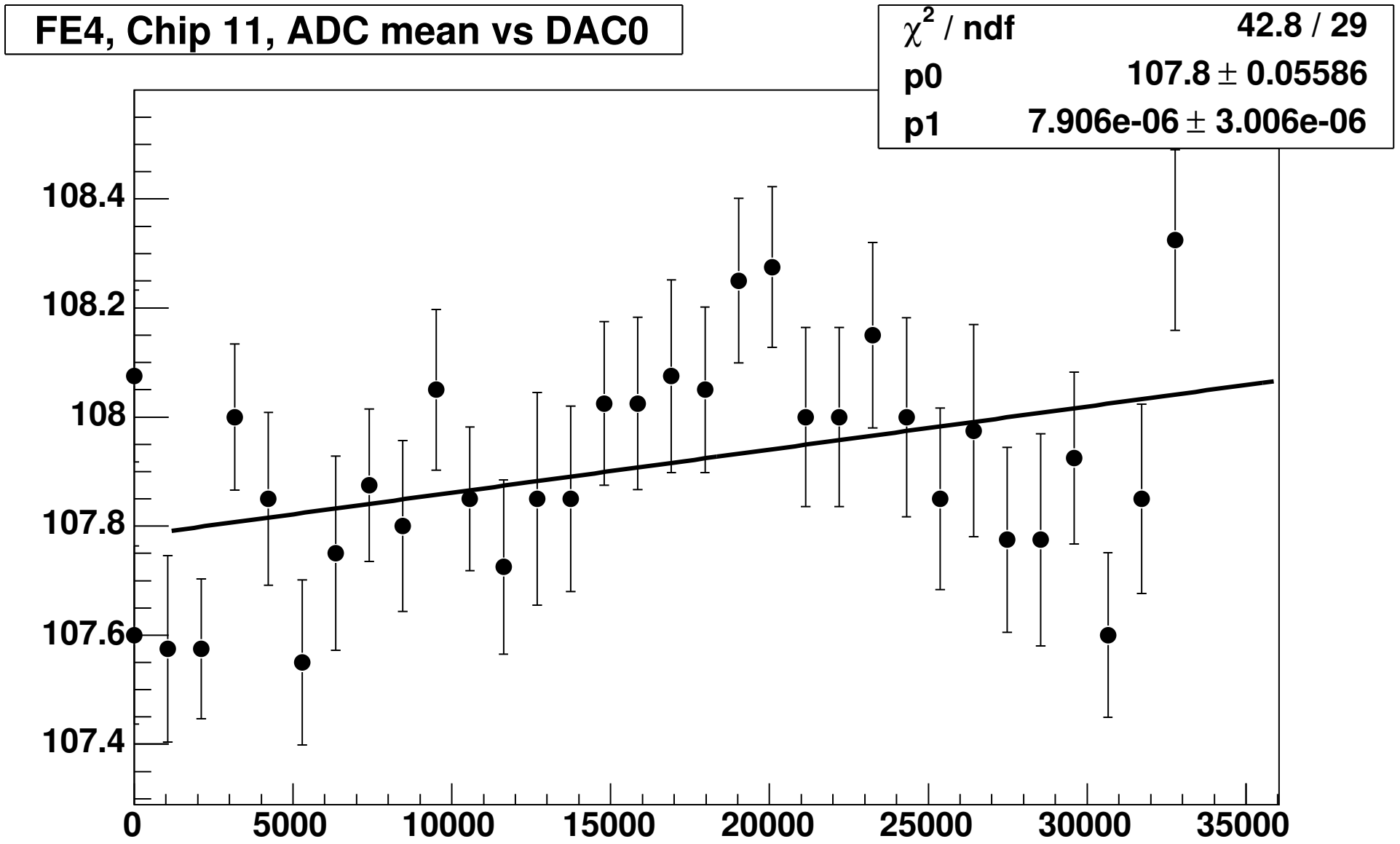

FE4, Chip 10, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

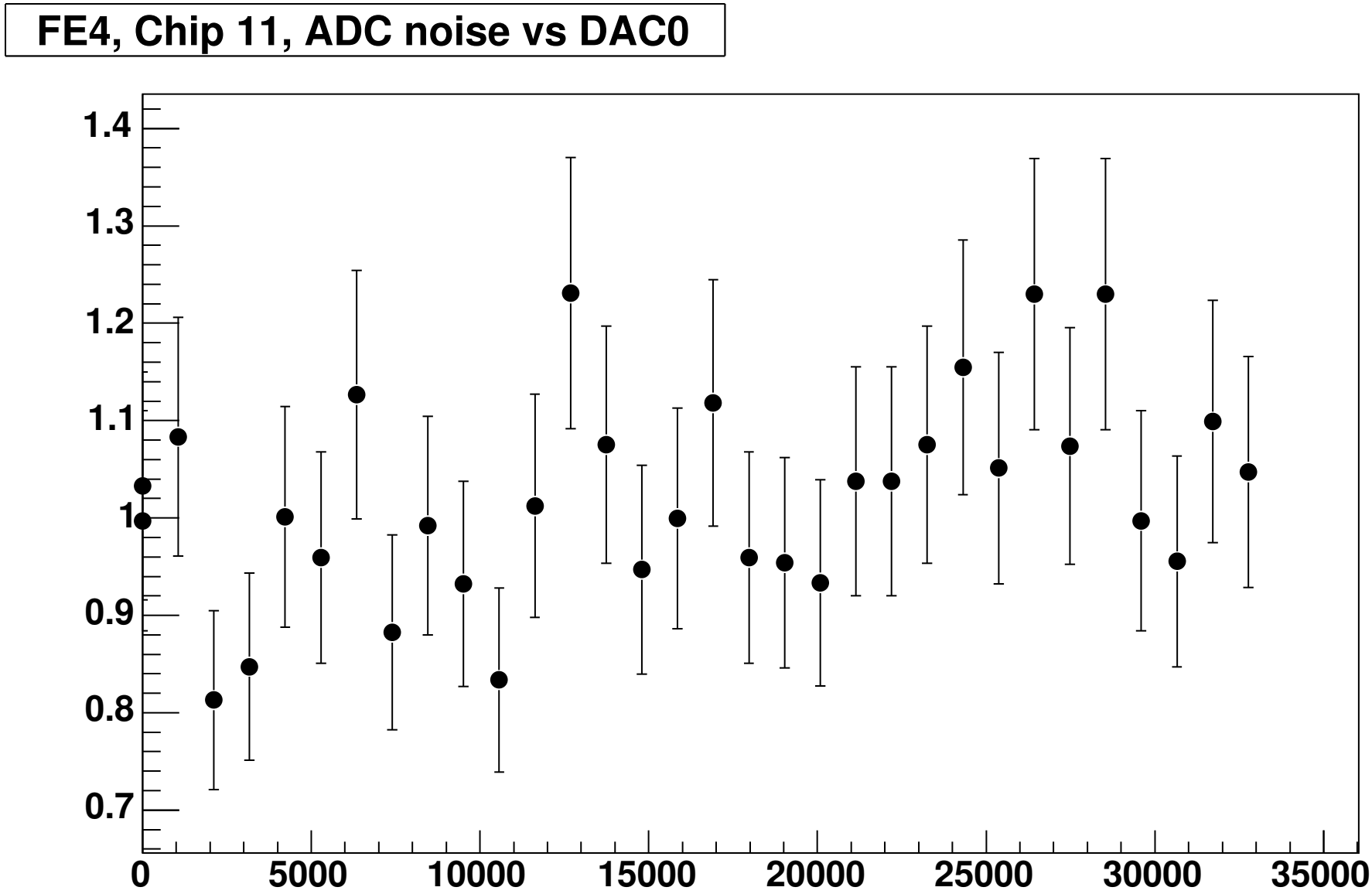

FE4, Chip 10, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

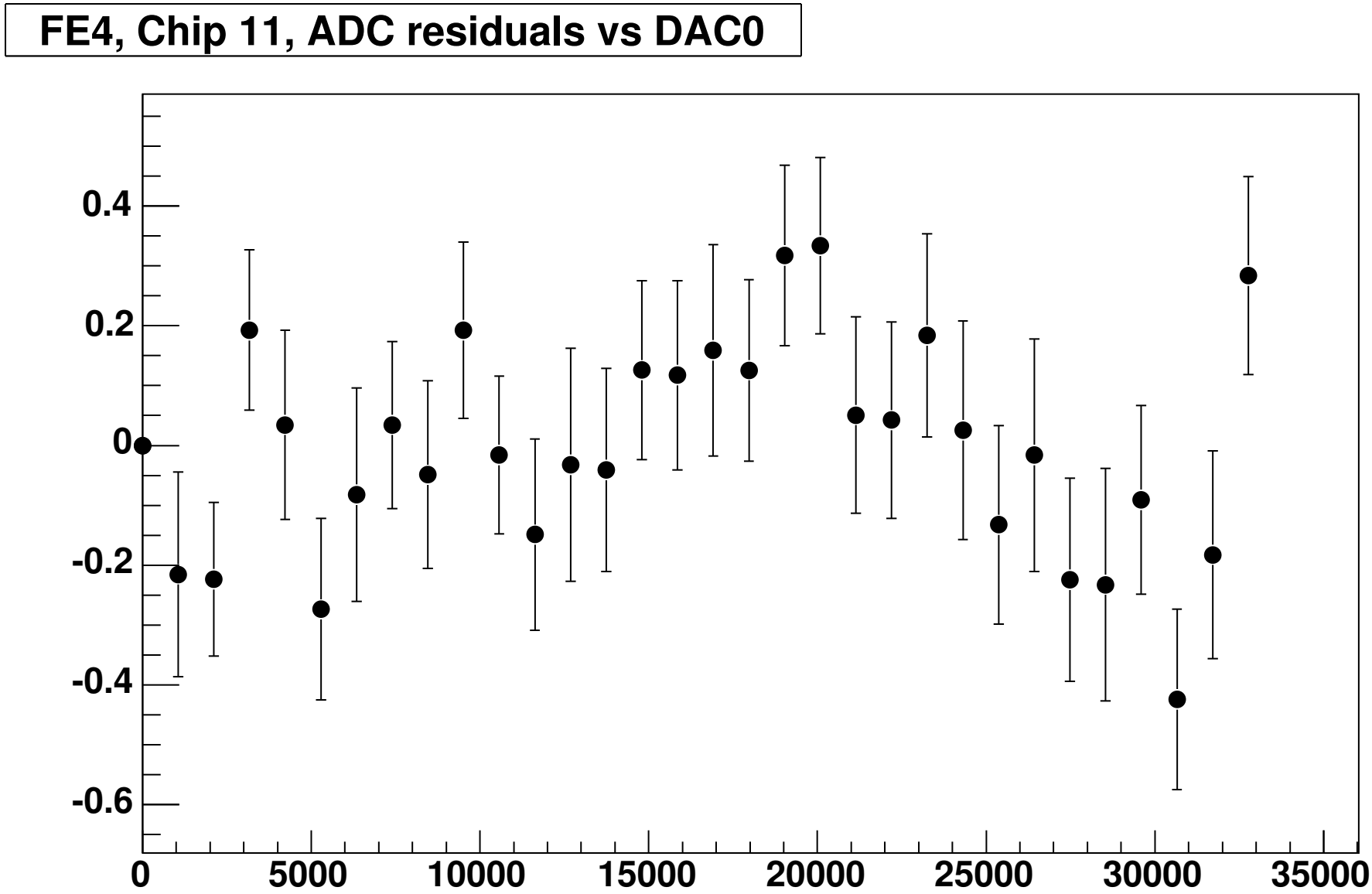

FE4, Chip 10, ADC mean vs DAC1
χ² / ndf 377.7 / 29
p0 -39.09 ± 0.06147
p1 0.4618 ± 3.417e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

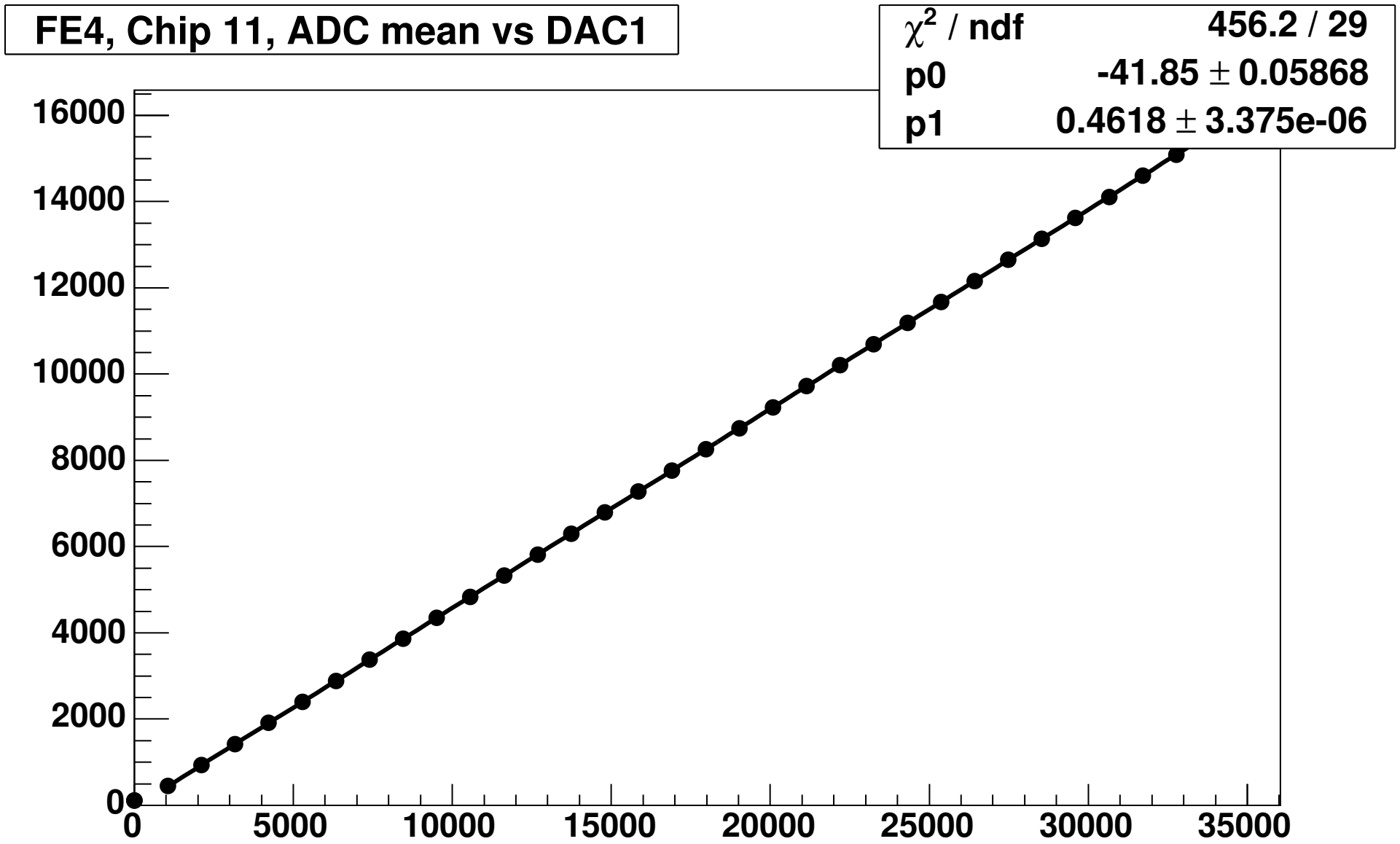

FE4, Chip 10, ADC noise vs DAC1
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

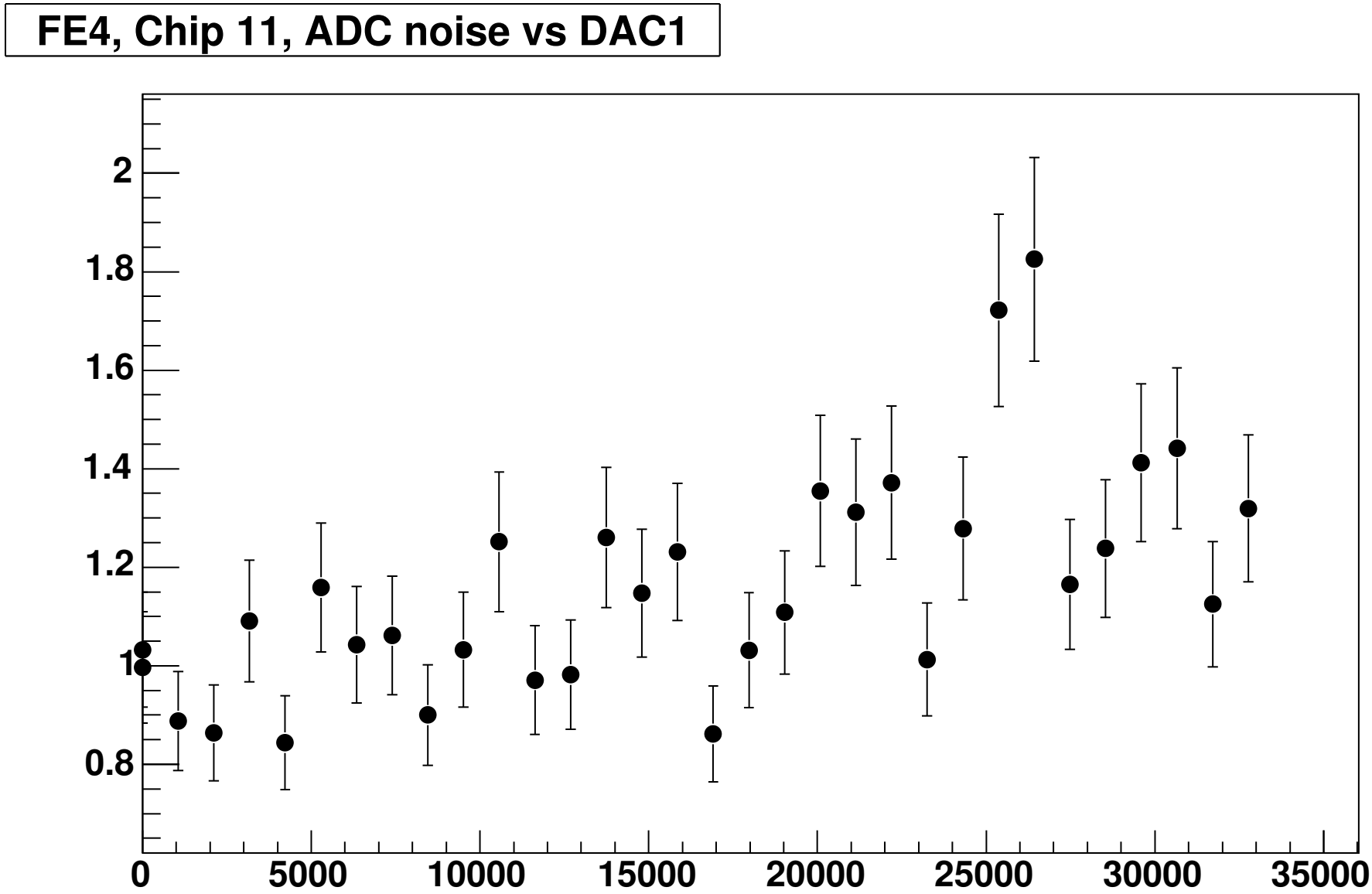

FE4, Chip 10, ADC residuals vs DAC1
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

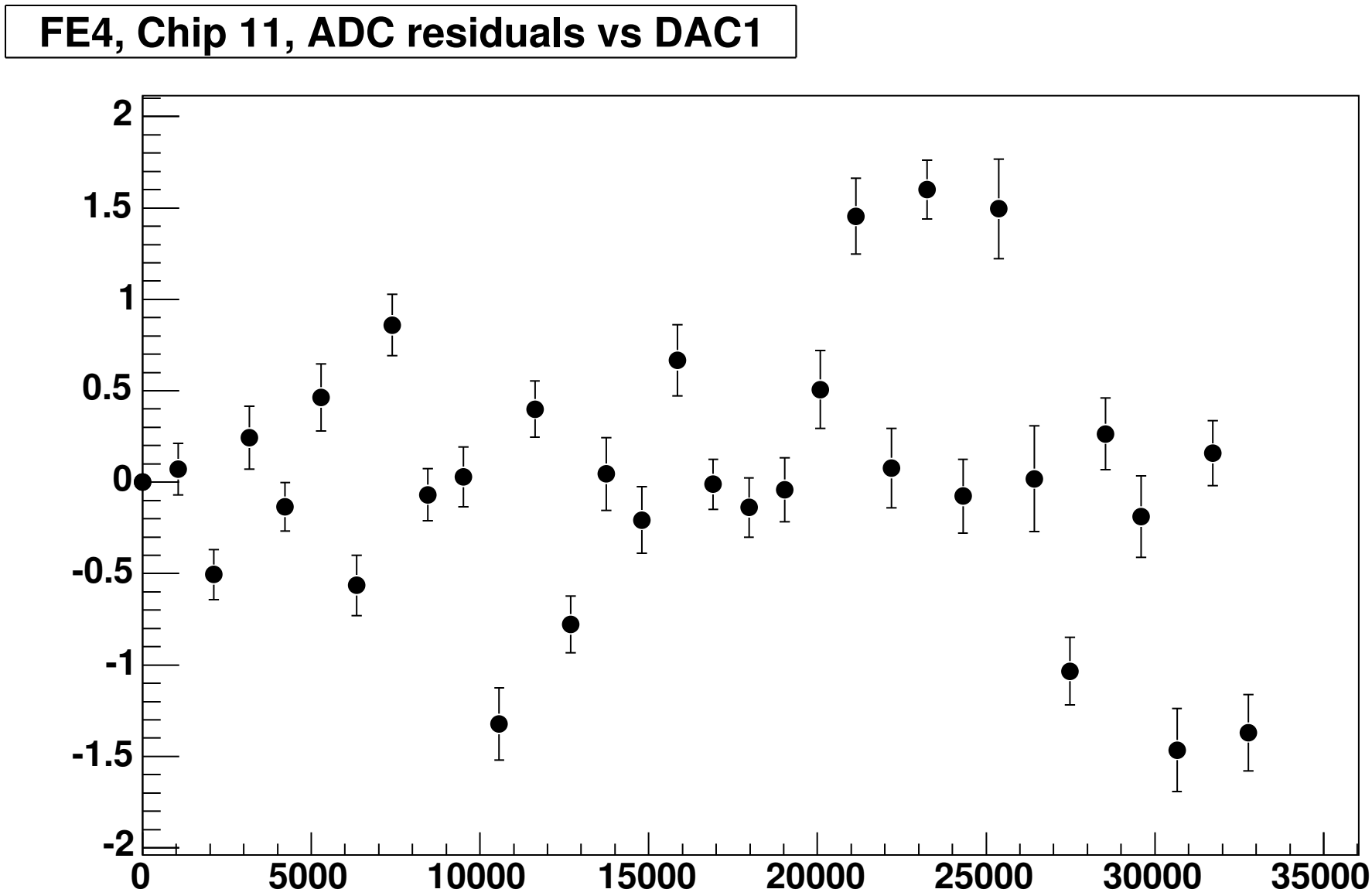

FE4, Chip 11, ADC mean vs DAC0
χ² / ndf 42.8 / 29
p0 107.8 ± 0.05586
p1 7.906e-06 ± 3.006e-06
108.4
108.2
108
107.8
107.6
107.4
0
5000
10000
15000
20000
25000
30000
35000

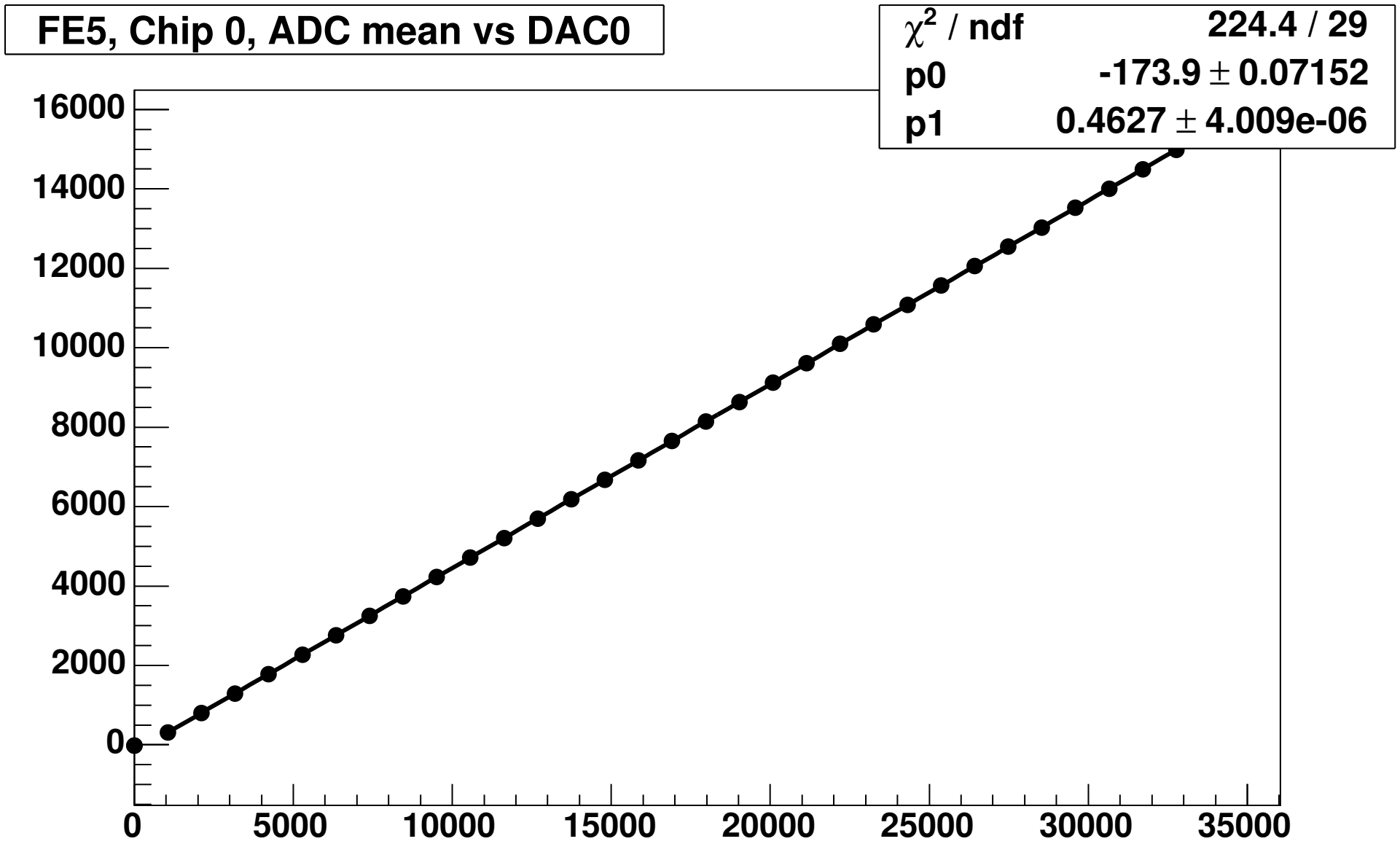

FE4, Chip 11, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

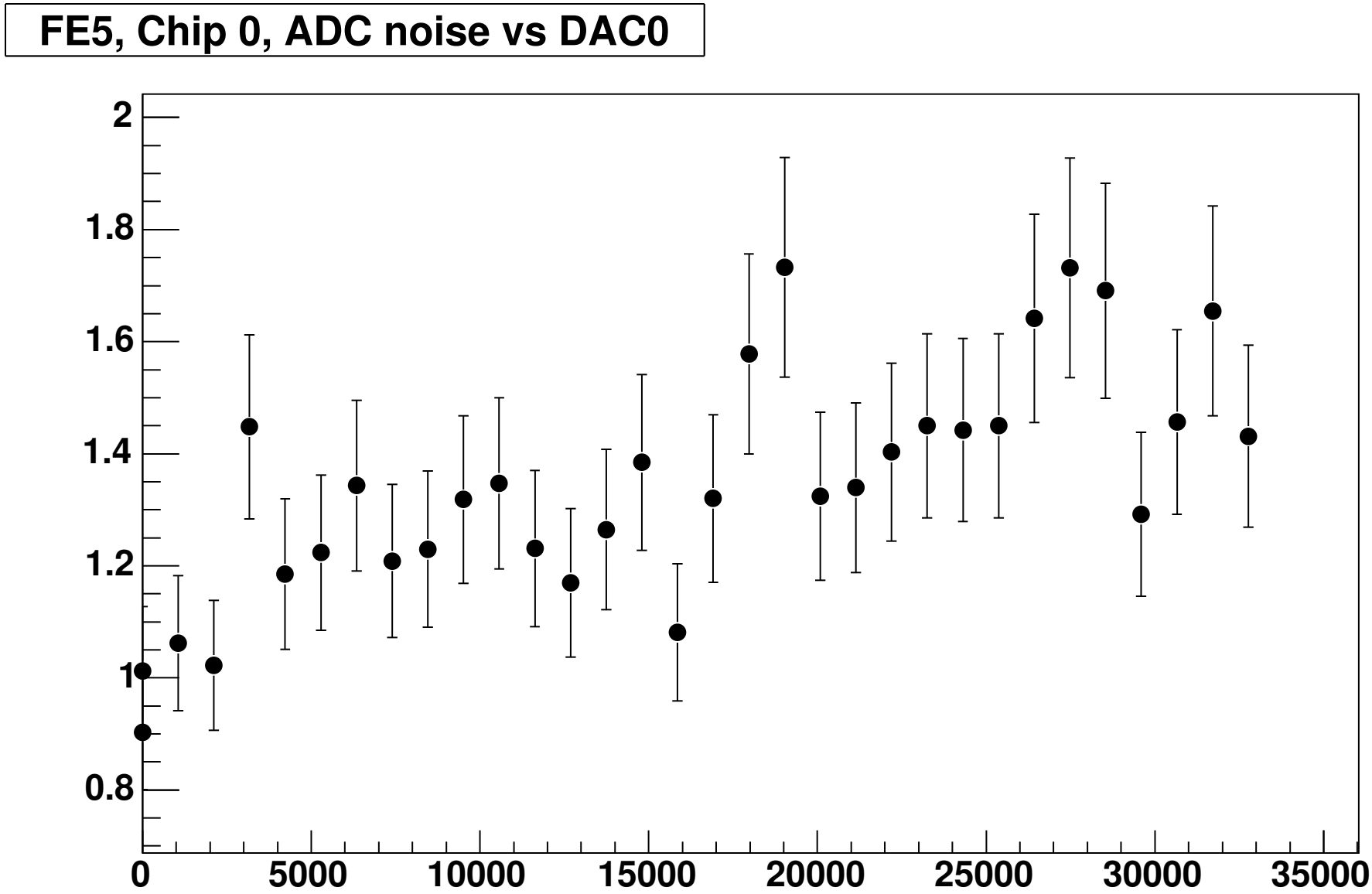

FE4, Chip 11, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

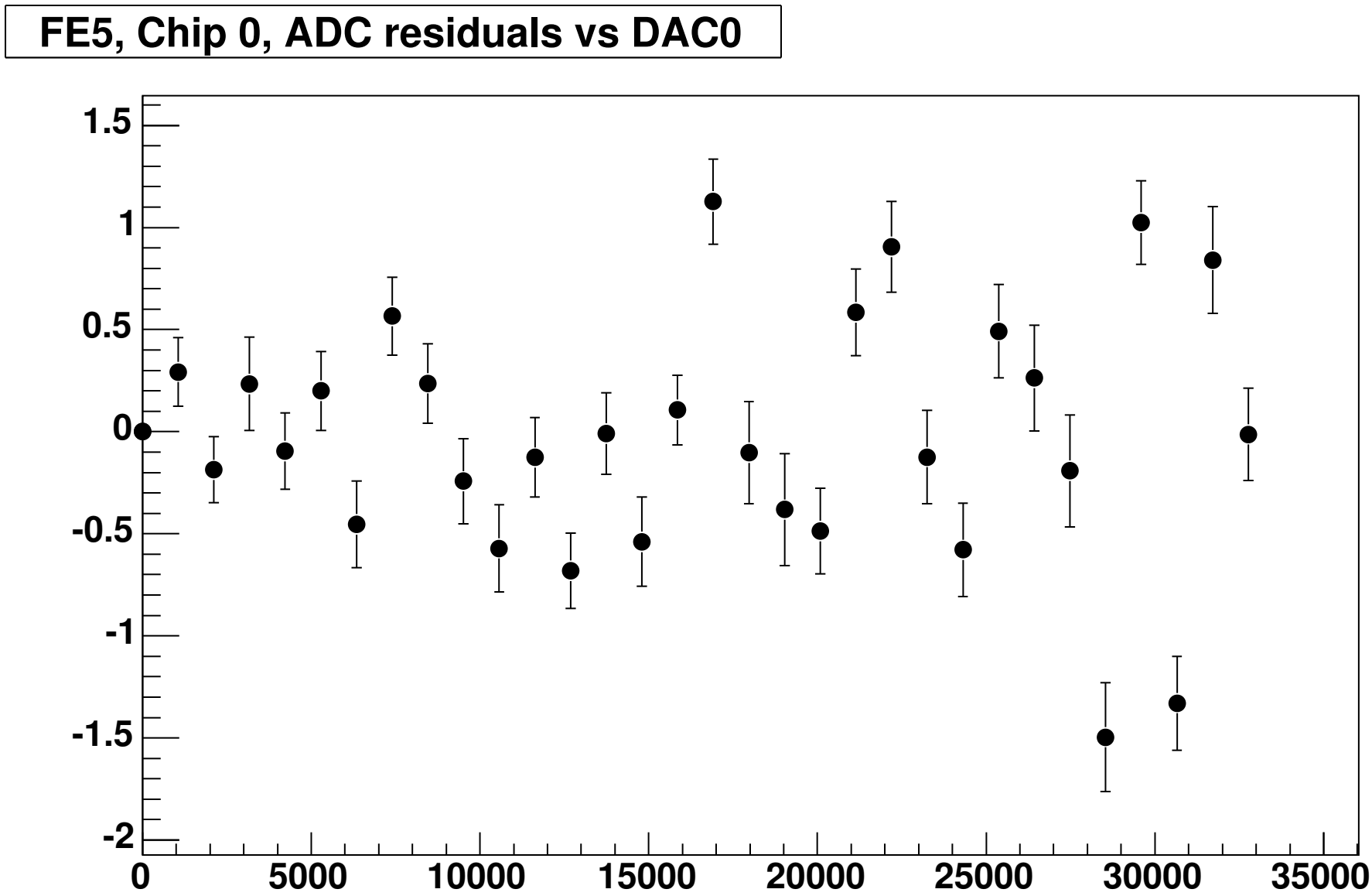

FE4, Chip 11, ADC mean vs DAC1
χ² / ndf 456.2 / 29
p0 -41.85 ± 0.05868
p1 0.4618 ± 3.375e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

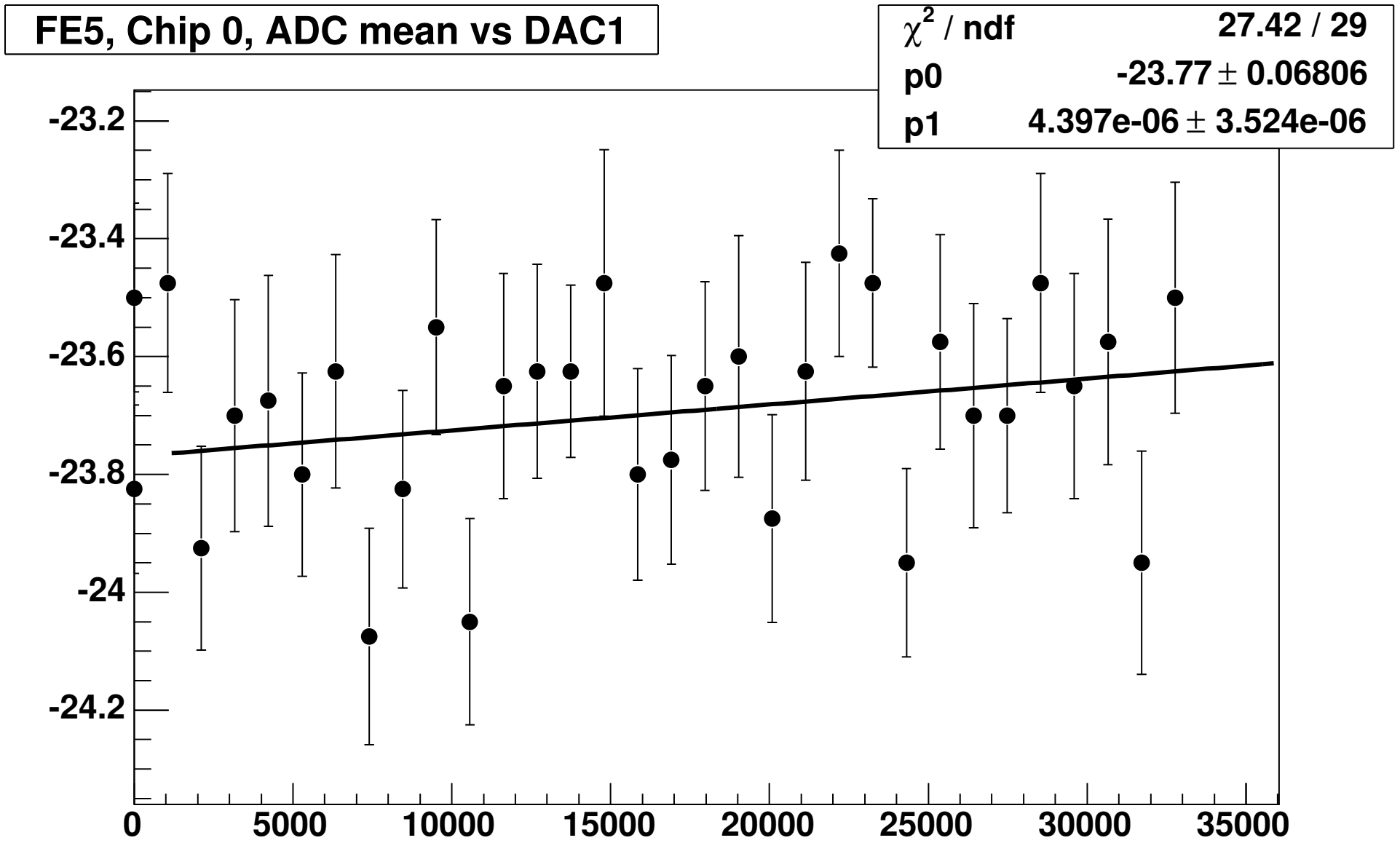

FE4, Chip 11, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

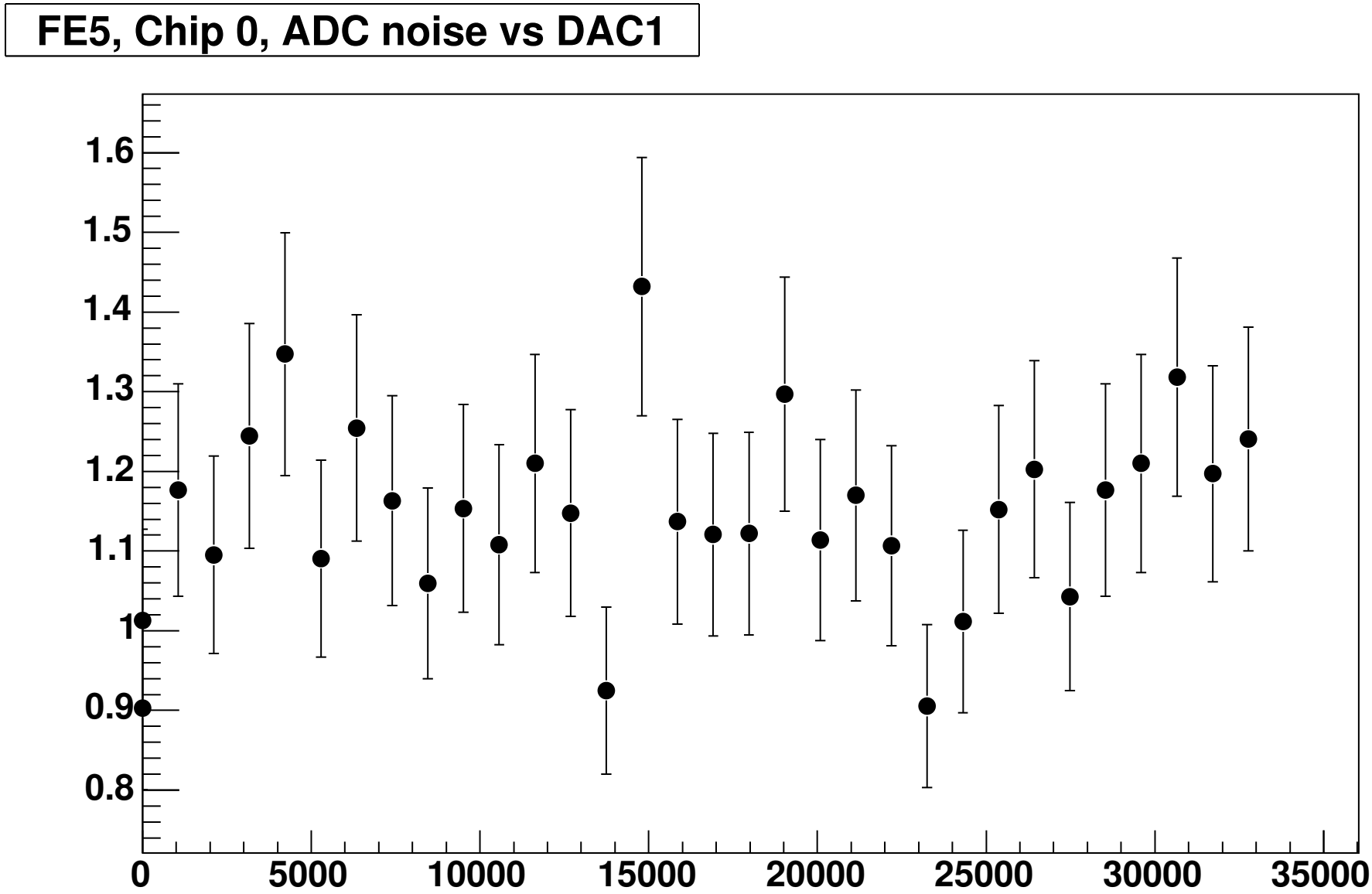

FE4, Chip 11, ADC residuals vs DAC1
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

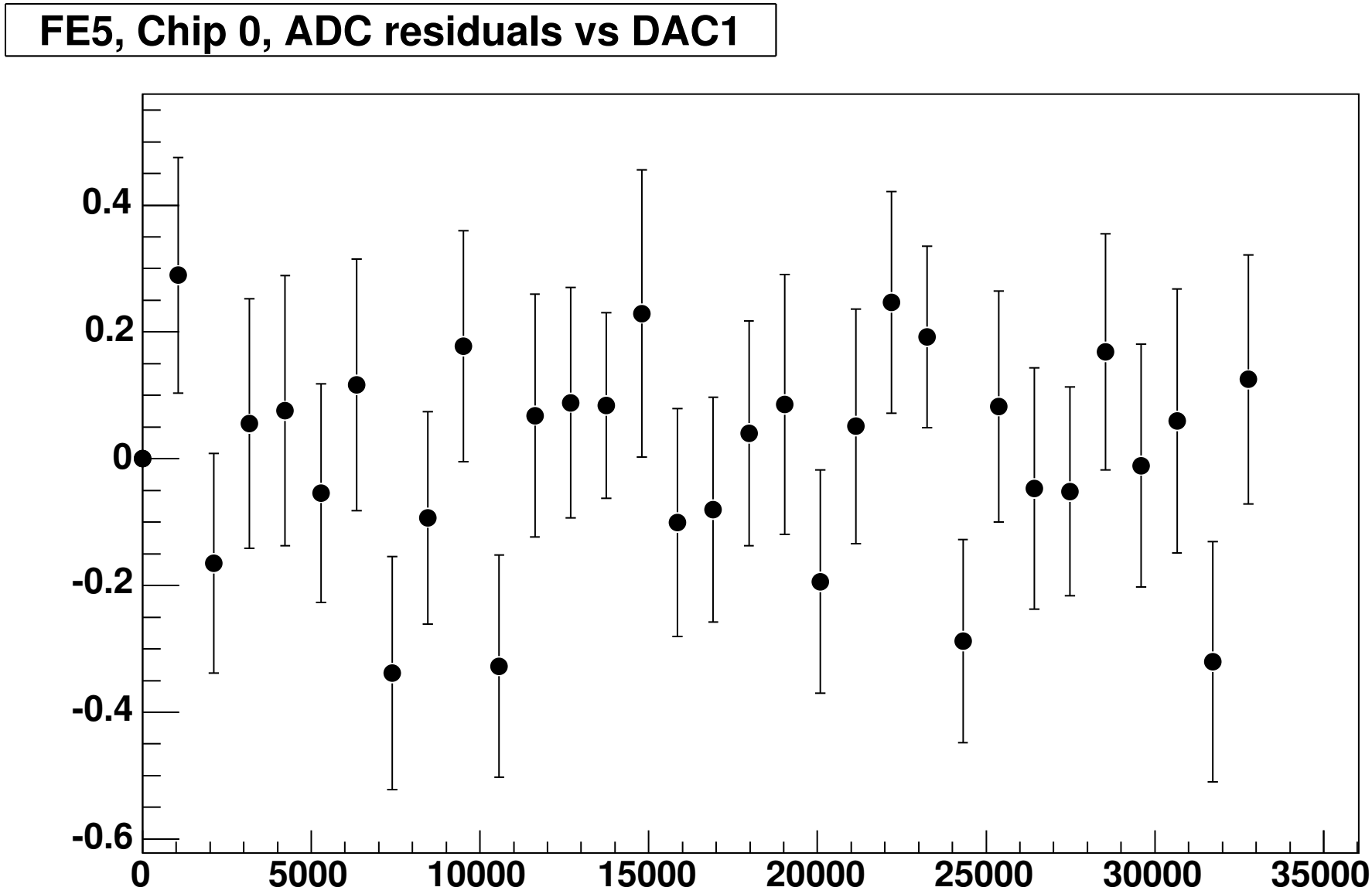

FE5, Chip 0, ADC mean vs DAC0
χ² / ndf 224.4 / 29
p0 -173.9 ± 0.07152
p1 0.4627 ± 4.009e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

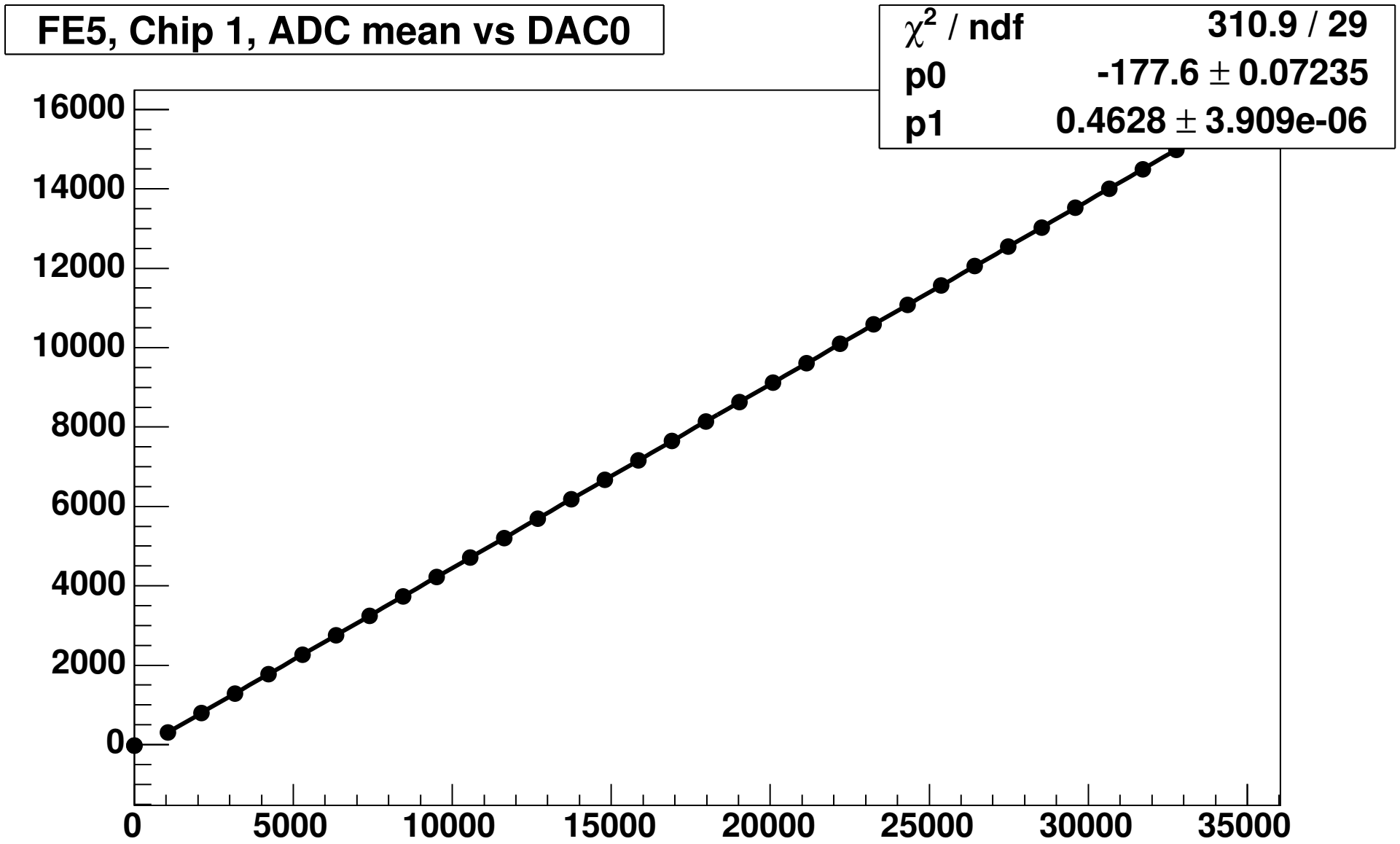

FE5, Chip 0, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

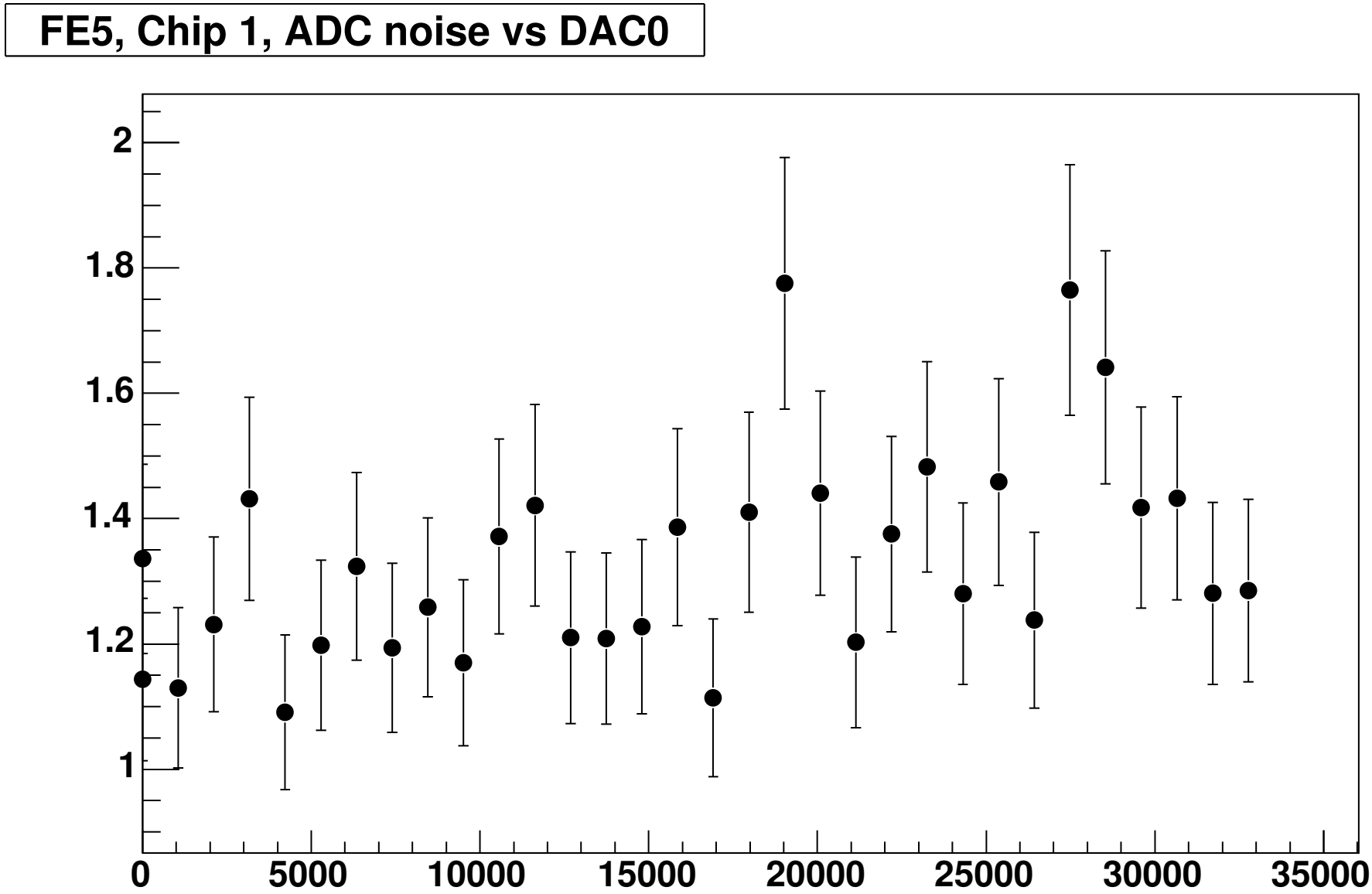

FE5, Chip 0, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

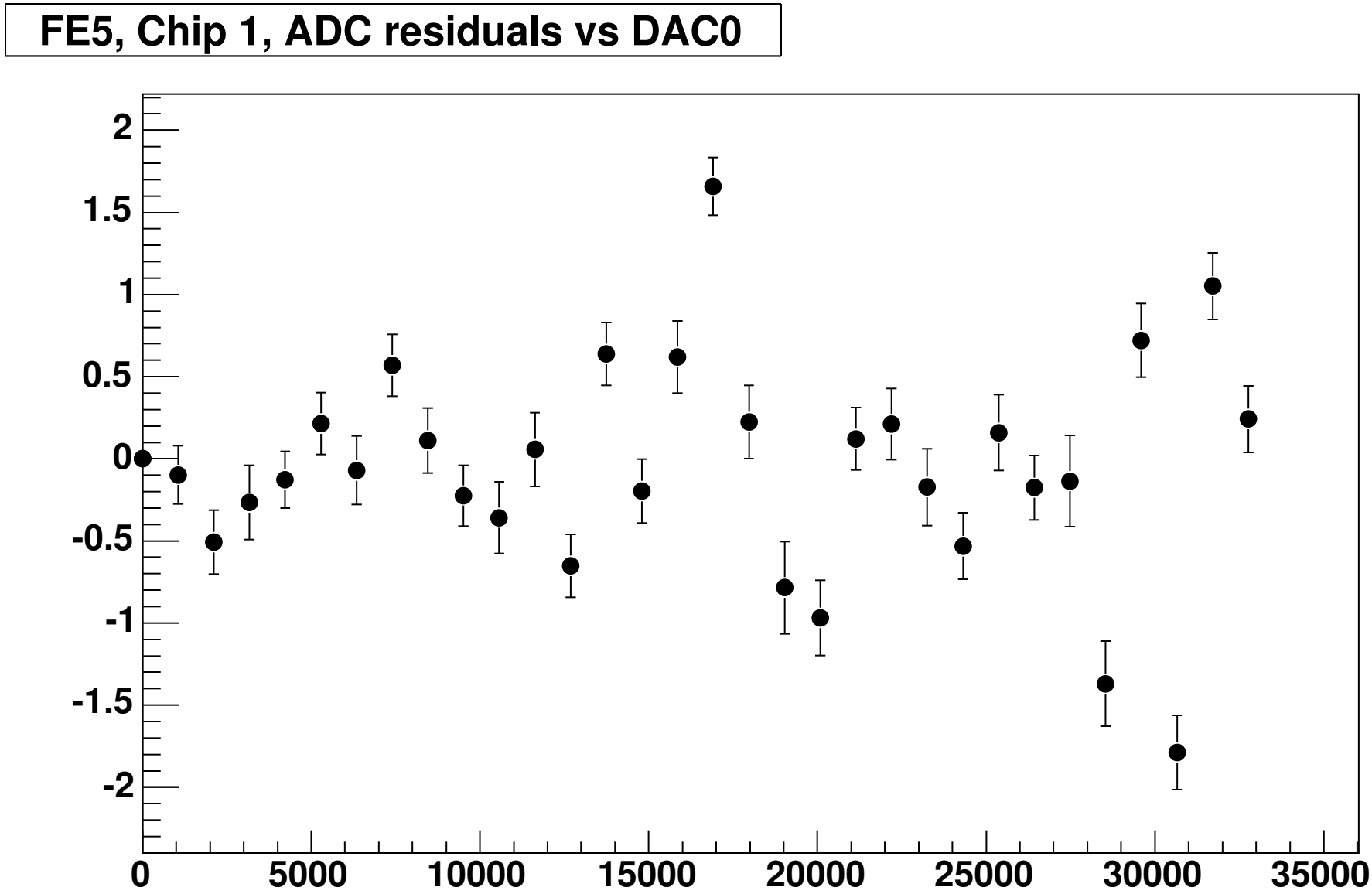

FE5, Chip 0, ADC mean vs DAC1
χ² / ndf 27.42 / 29
p0 -23.77 ± 0.06806
p1 4.397e-06 ± 3.524e-06
-23.2
-23.4
-23.6
-23.8
-24
-24.2
0
5000
10000
15000
20000
25000
30000
35000

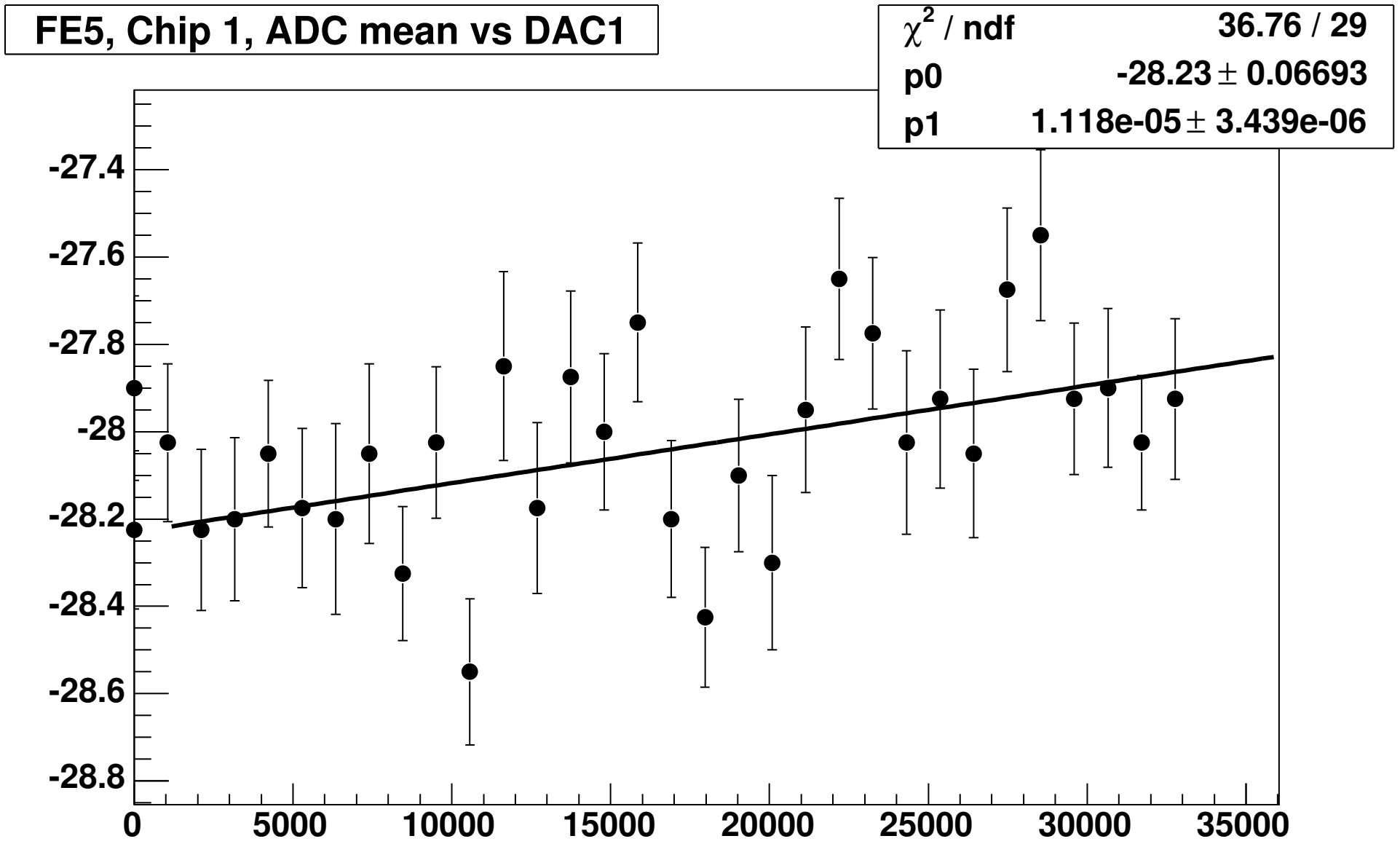

FE5, Chip 0, ADC noise vs DAC1
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0
5000
10000
15000
20000
25000
30000
35000

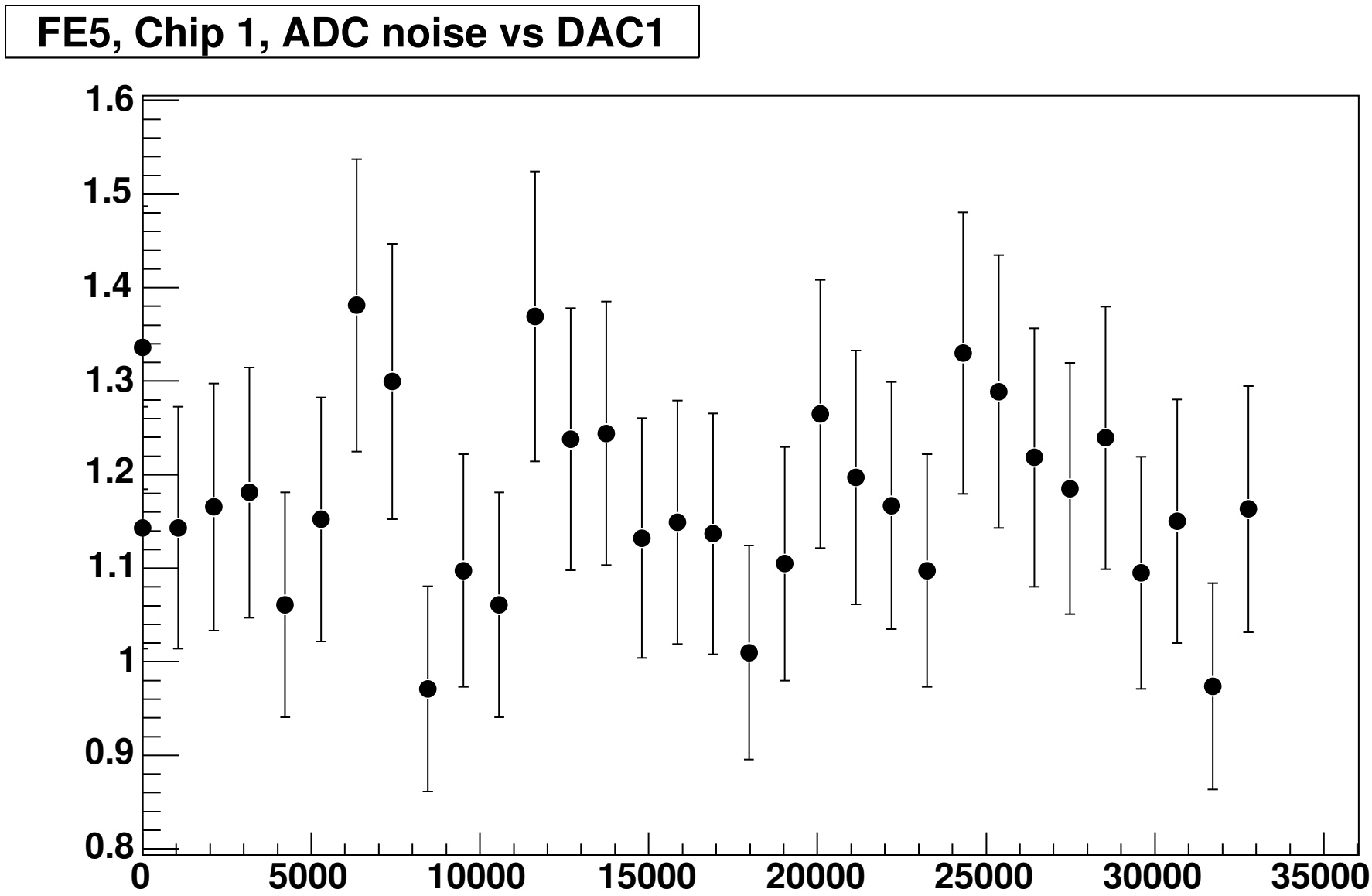

FE5, Chip 0, ADC residuals vs DAC1
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

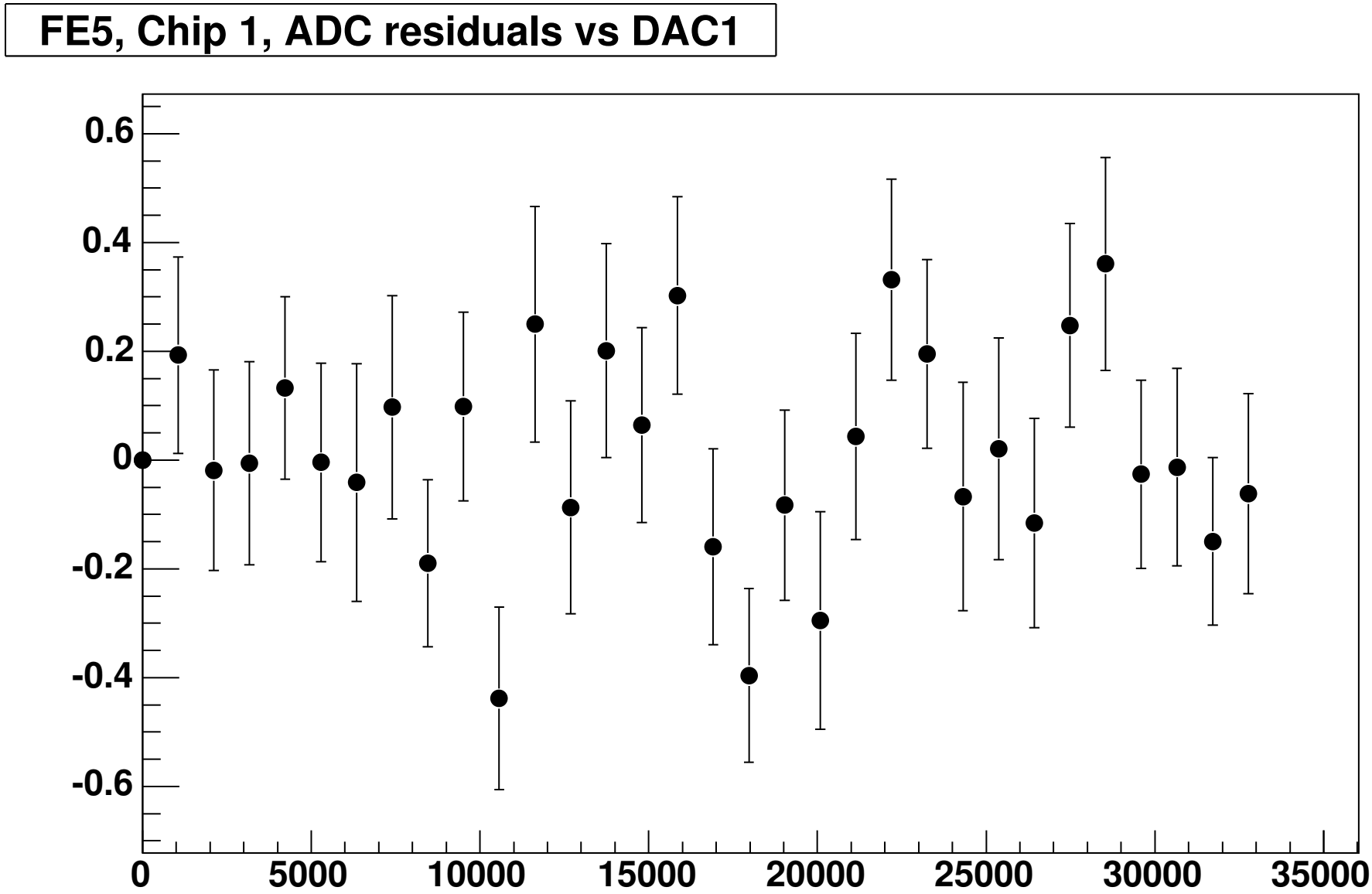

FE5, Chip 1, ADC mean vs DAC0
χ² / ndf 310.9 / 29
p0 -177.6 ± 0.07235
p1 0.4628 ± 3.909e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

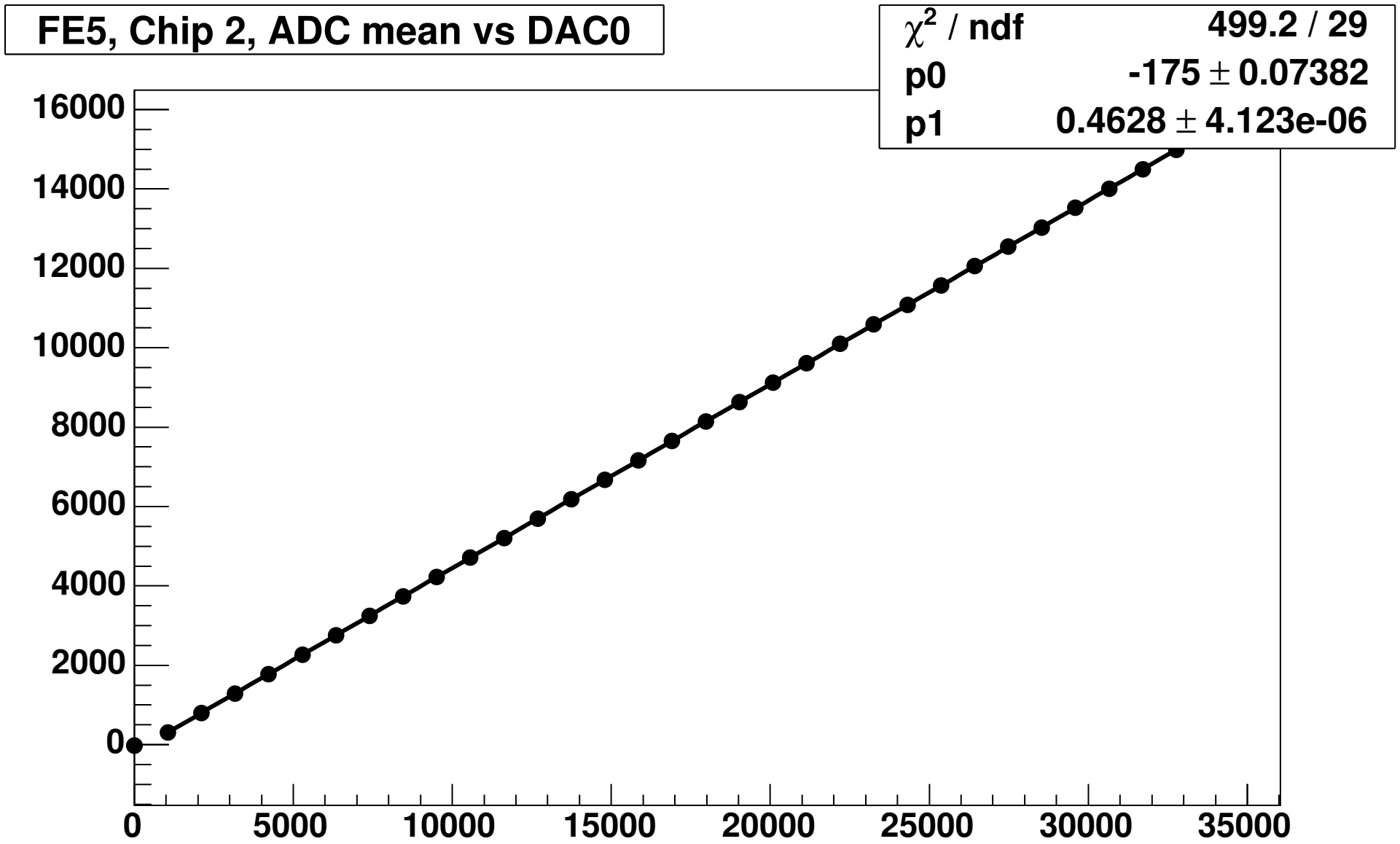

FE5, Chip 1, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

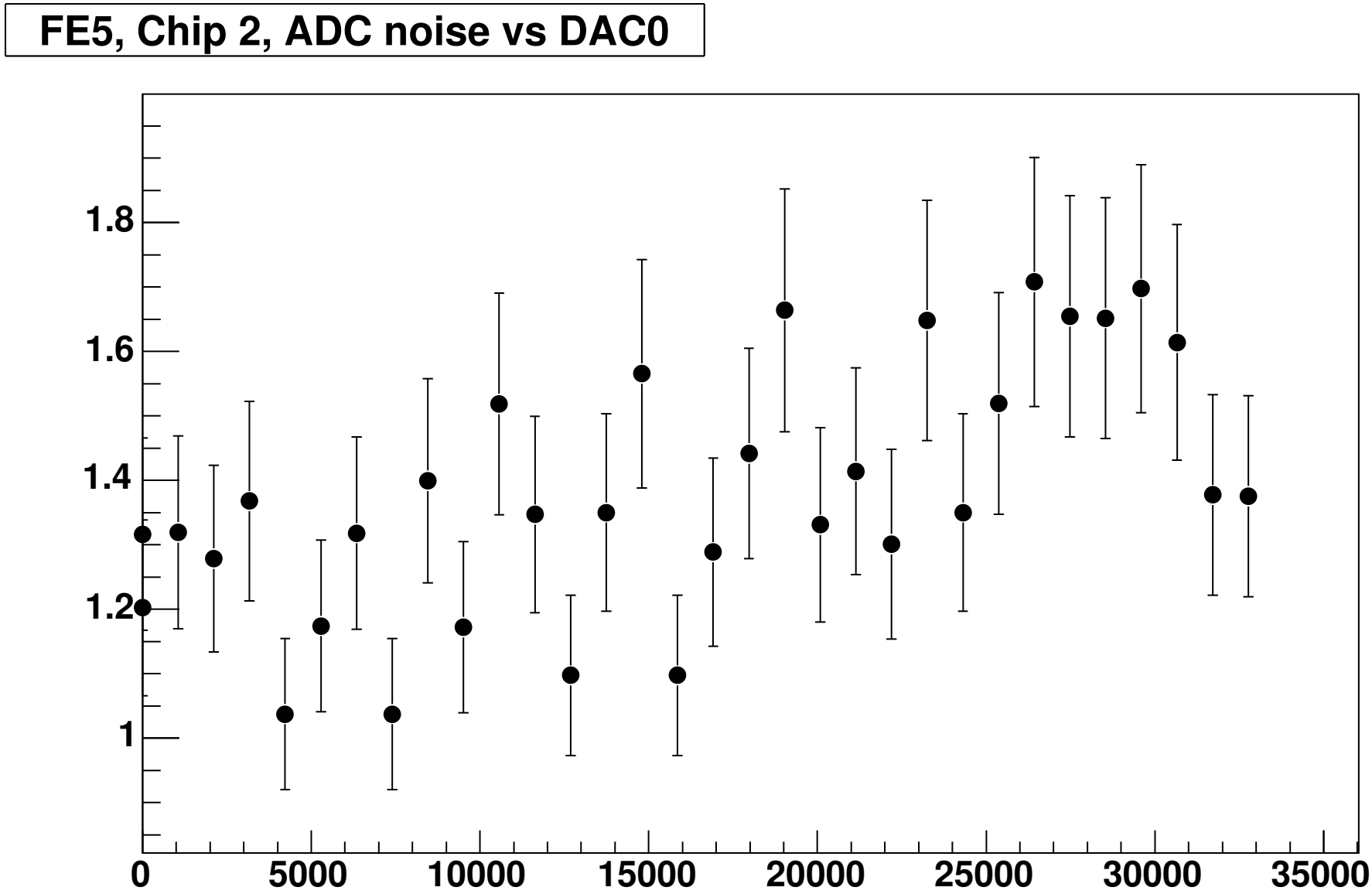

FE5, Chip 1, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

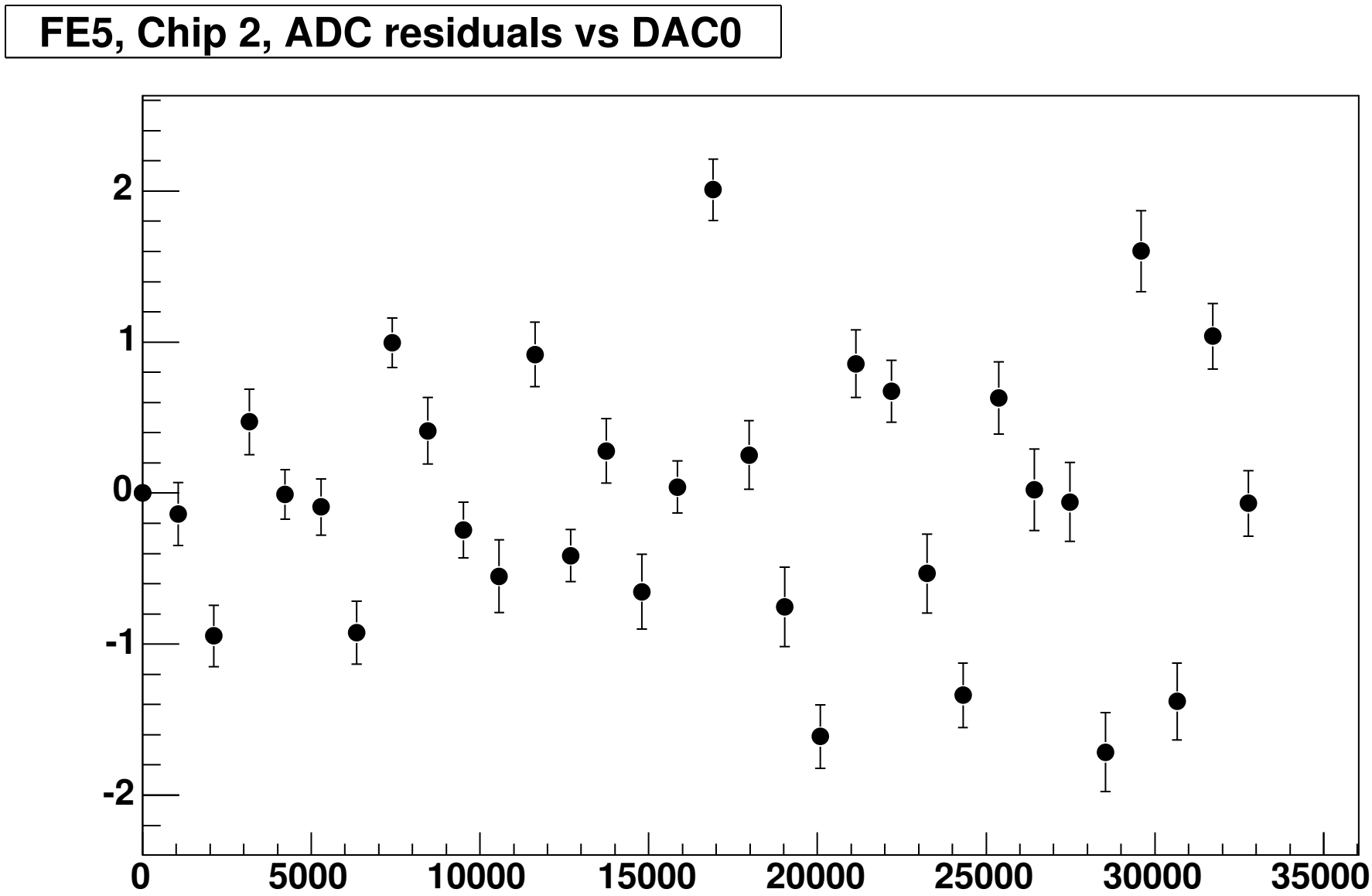

FE5, Chip 1, ADC mean vs DAC1
χ² / ndf 36.76 / 29
p0 -28.23 ± 0.06693
p1 1.118e-05 ± 3.439e-06
-27.4
-27.6
-27.8
-28
-28.2
-28.4
-28.6
-28.8
0
5000
10000
15000
20000
25000
30000
35000

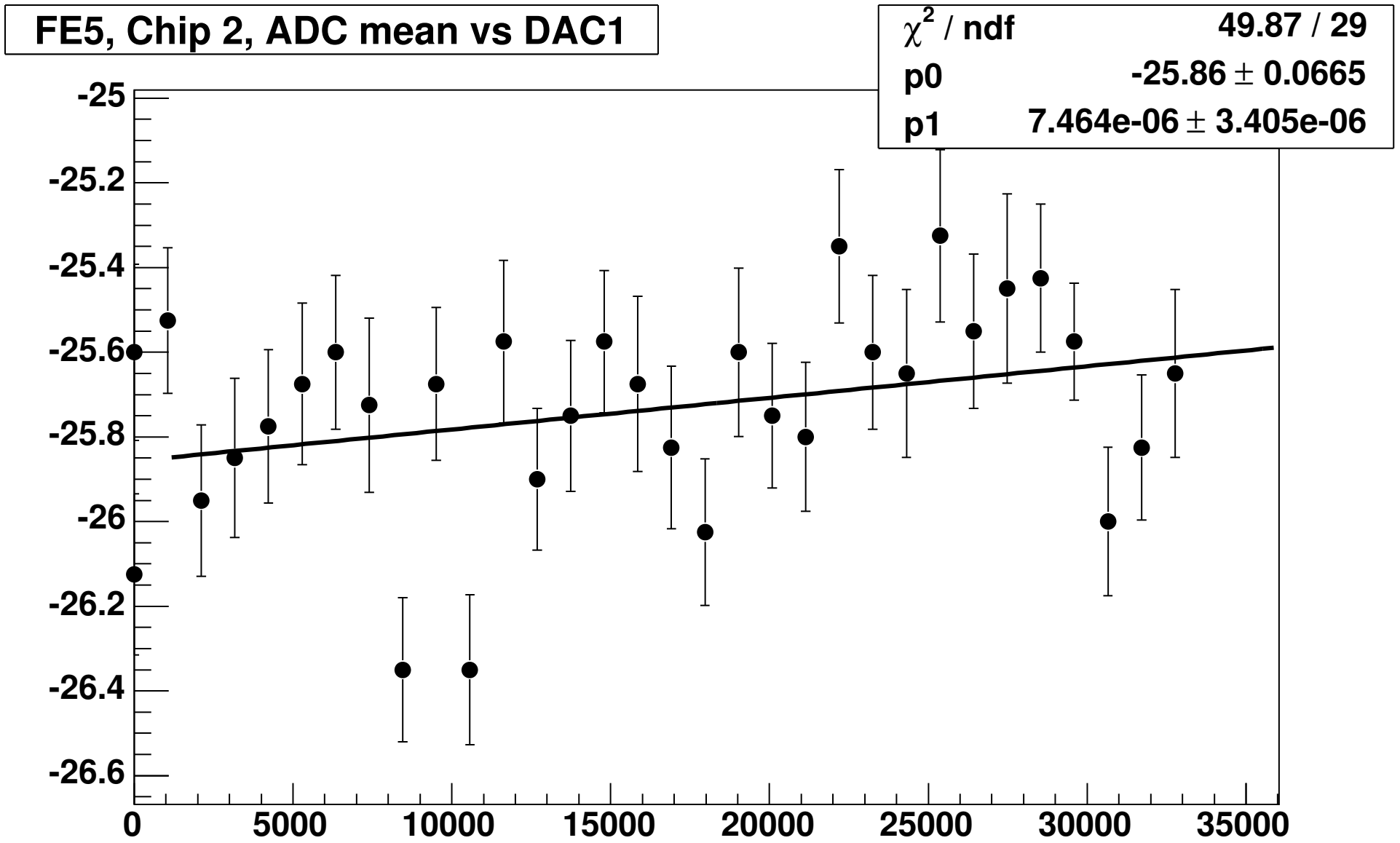

FE5, Chip 1, ADC noise vs DAC1
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0
5000
10000
15000
20000
25000
30000
35000


FE5, Chip 1, ADC residuals vs DAC1
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

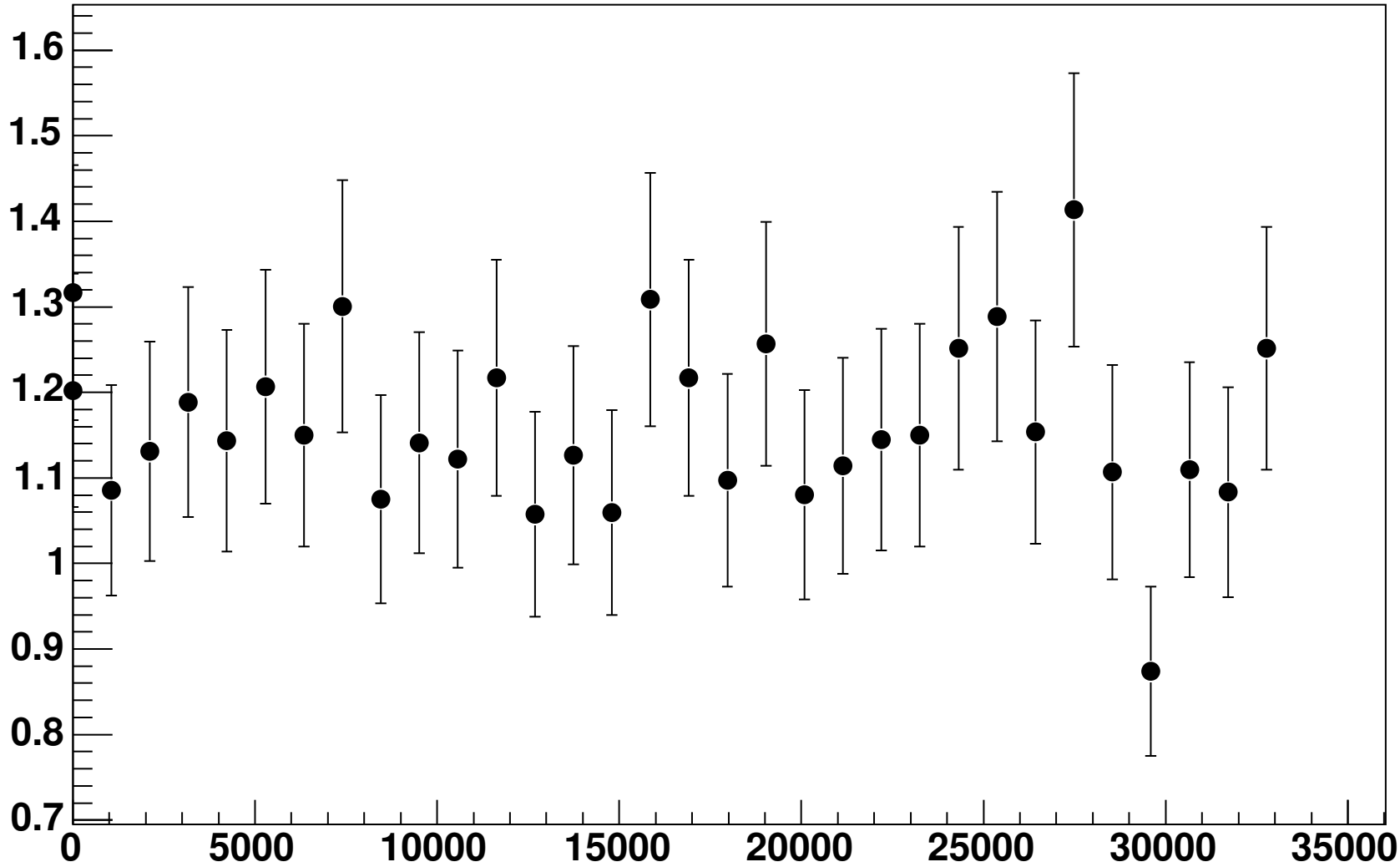

FE5, Chip 2, ADC mean vs DAC0
χ² / ndf 499.2 / 29
p0 -175 ± 0.07382
p1 0.4628 ± 4.123e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

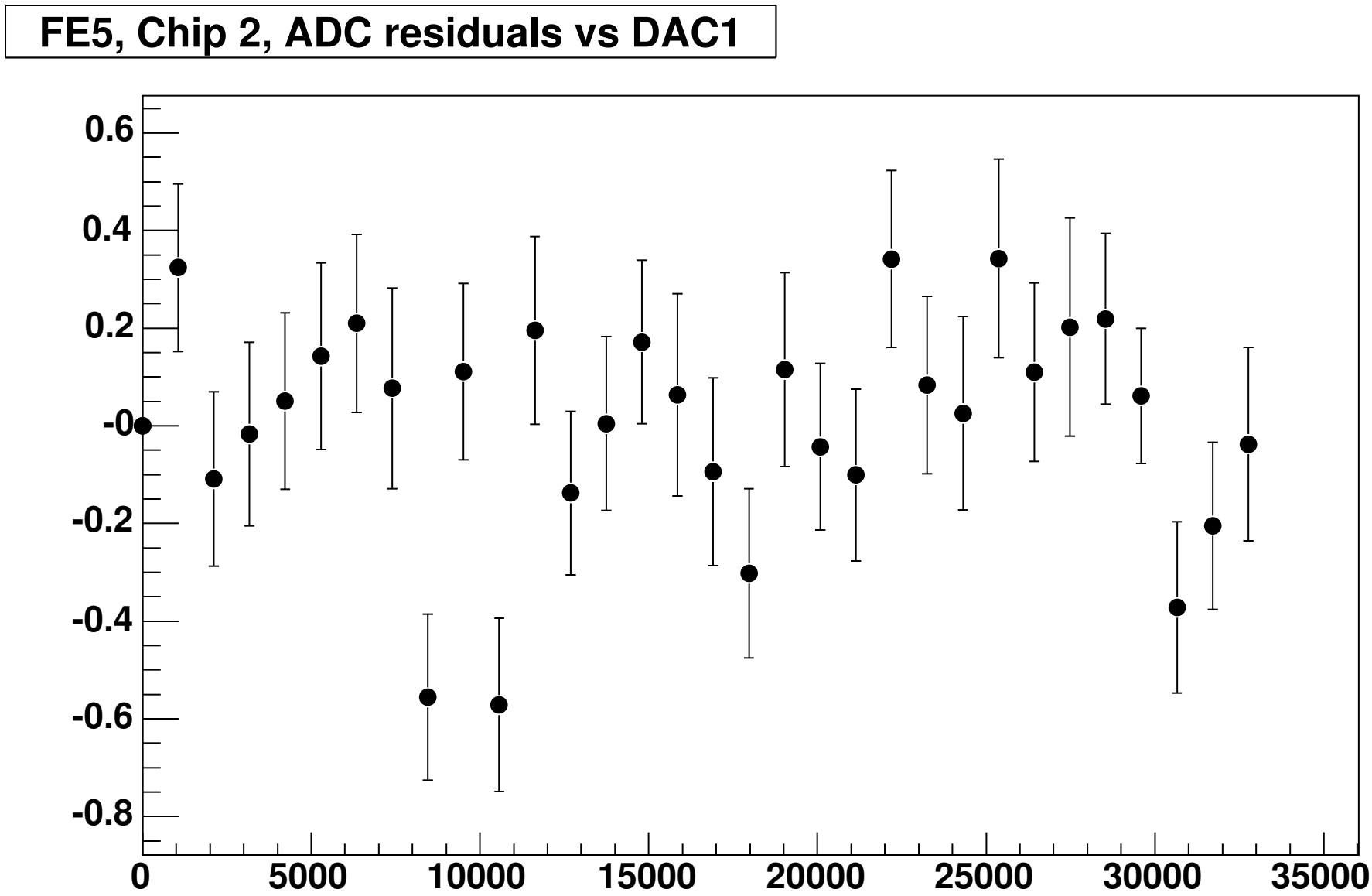

FE5, Chip 2, ADC noise vs DAC0
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

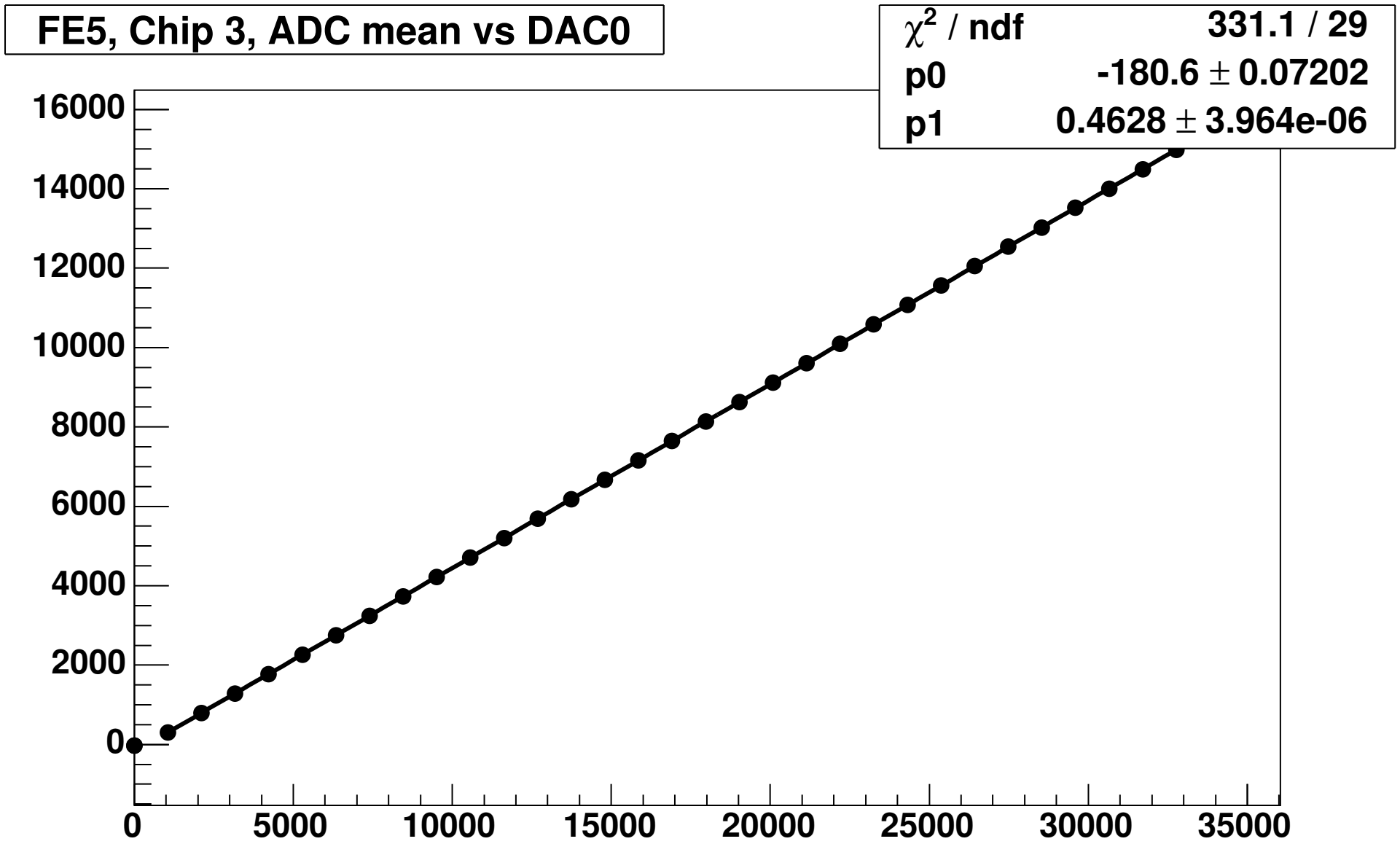

FE5, Chip 2, ADC residuals vs DAC0
2
1
0
-1
-2
0
5000
10000
15000
20000
25000
30000
35000

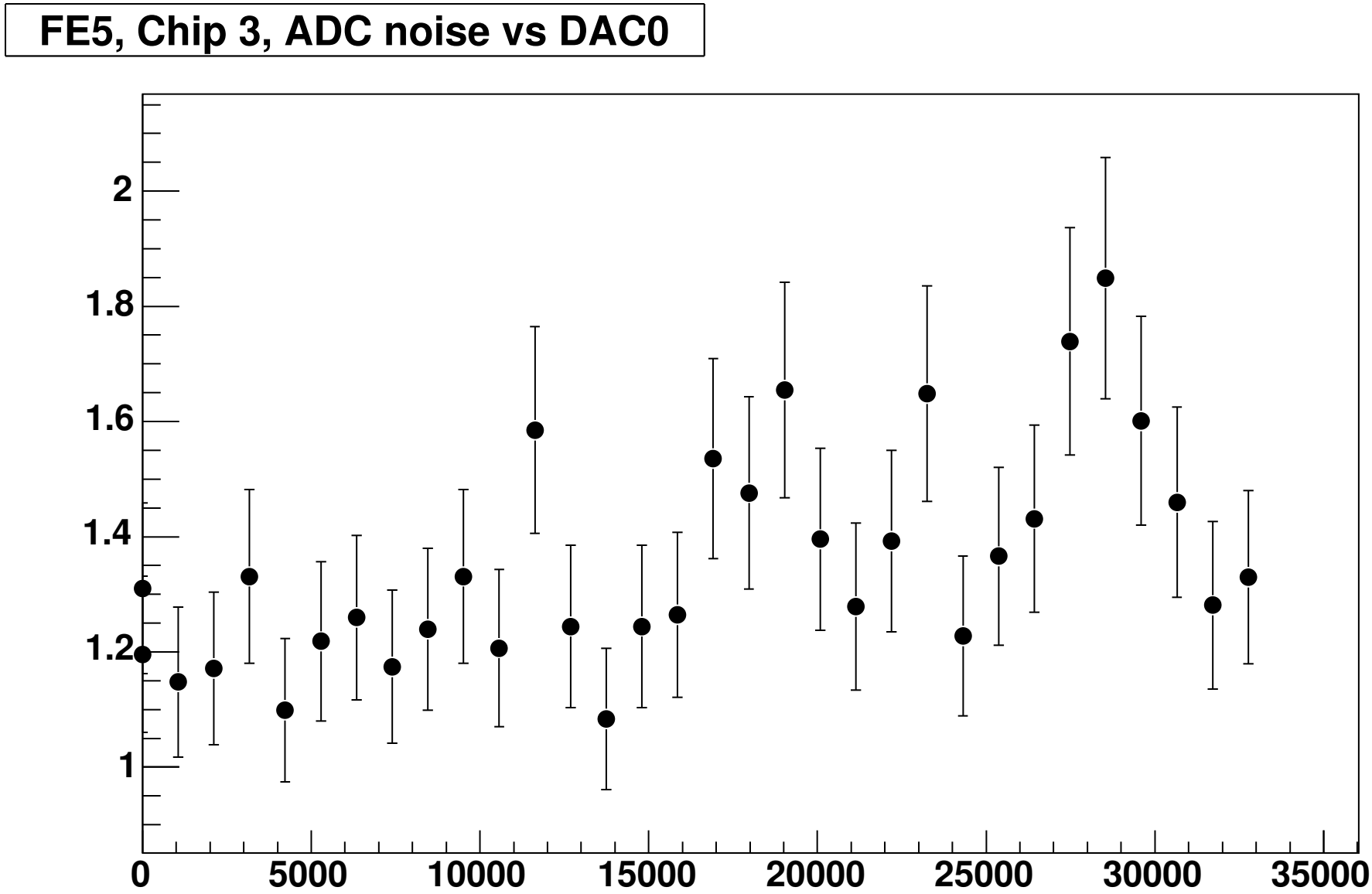

FE5, Chip 2, ADC mean vs DAC1
χ² / ndf 49.87 / 29
p0 -25.86 ± 0.0665
p1 7.464e-06 ± 3.405e-06
-25
-25.2
-25.4
-25.6
-25.8
-26
-26.2
-26.4
-26.6
0
5000
10000
15000
20000
25000
30000
35000

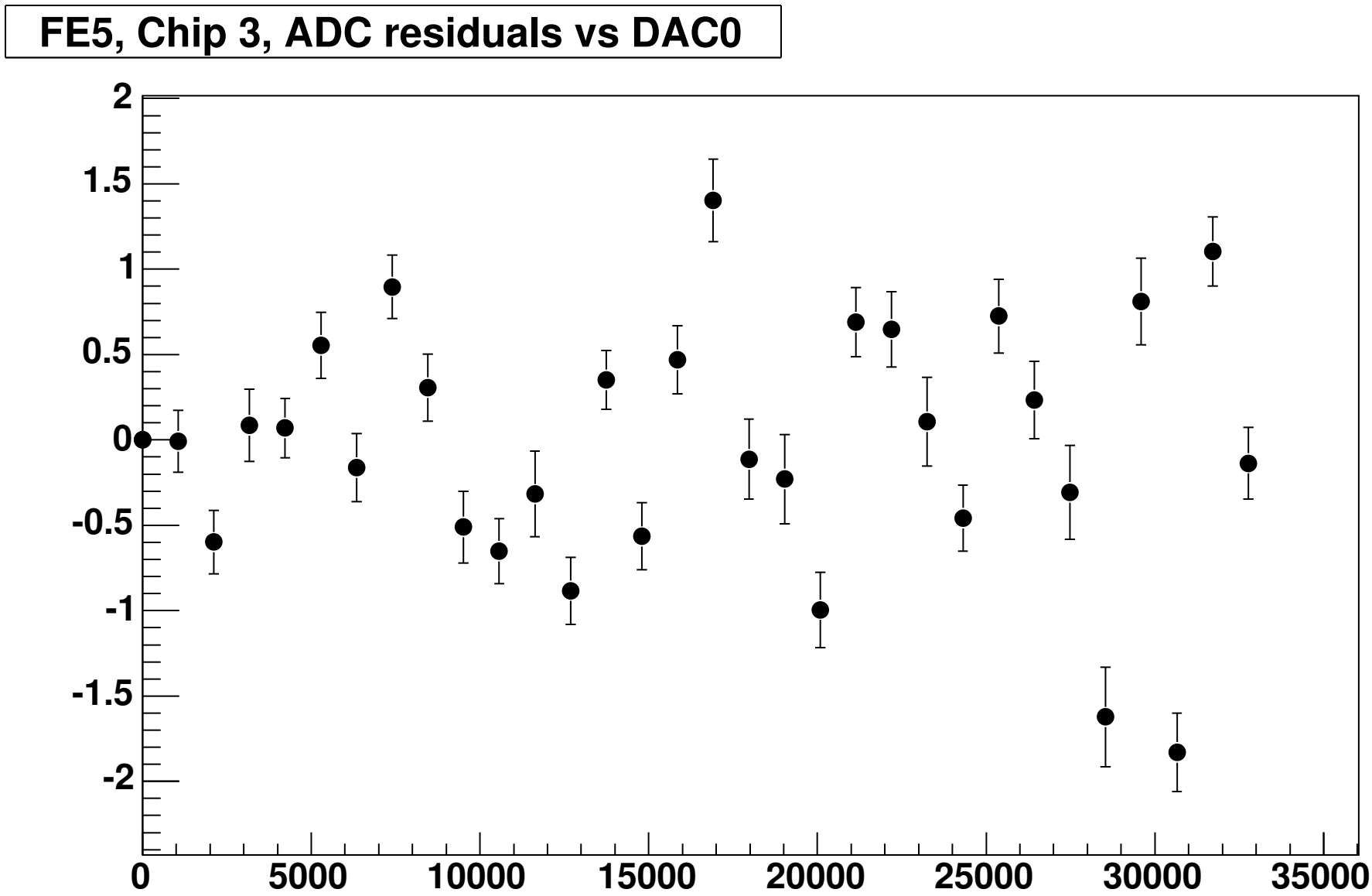
FE5, Chip 2, ADC noise vs DAC1

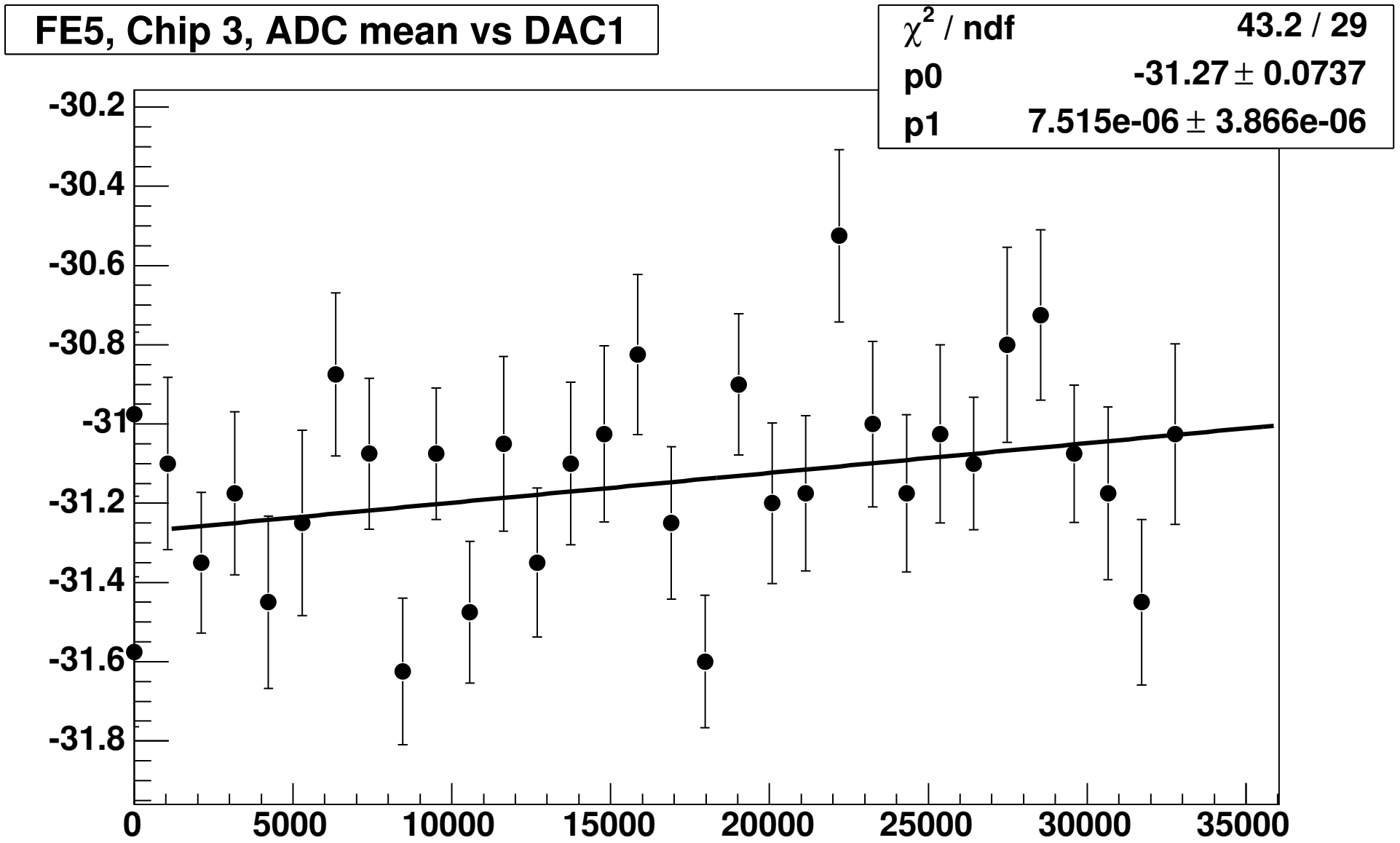


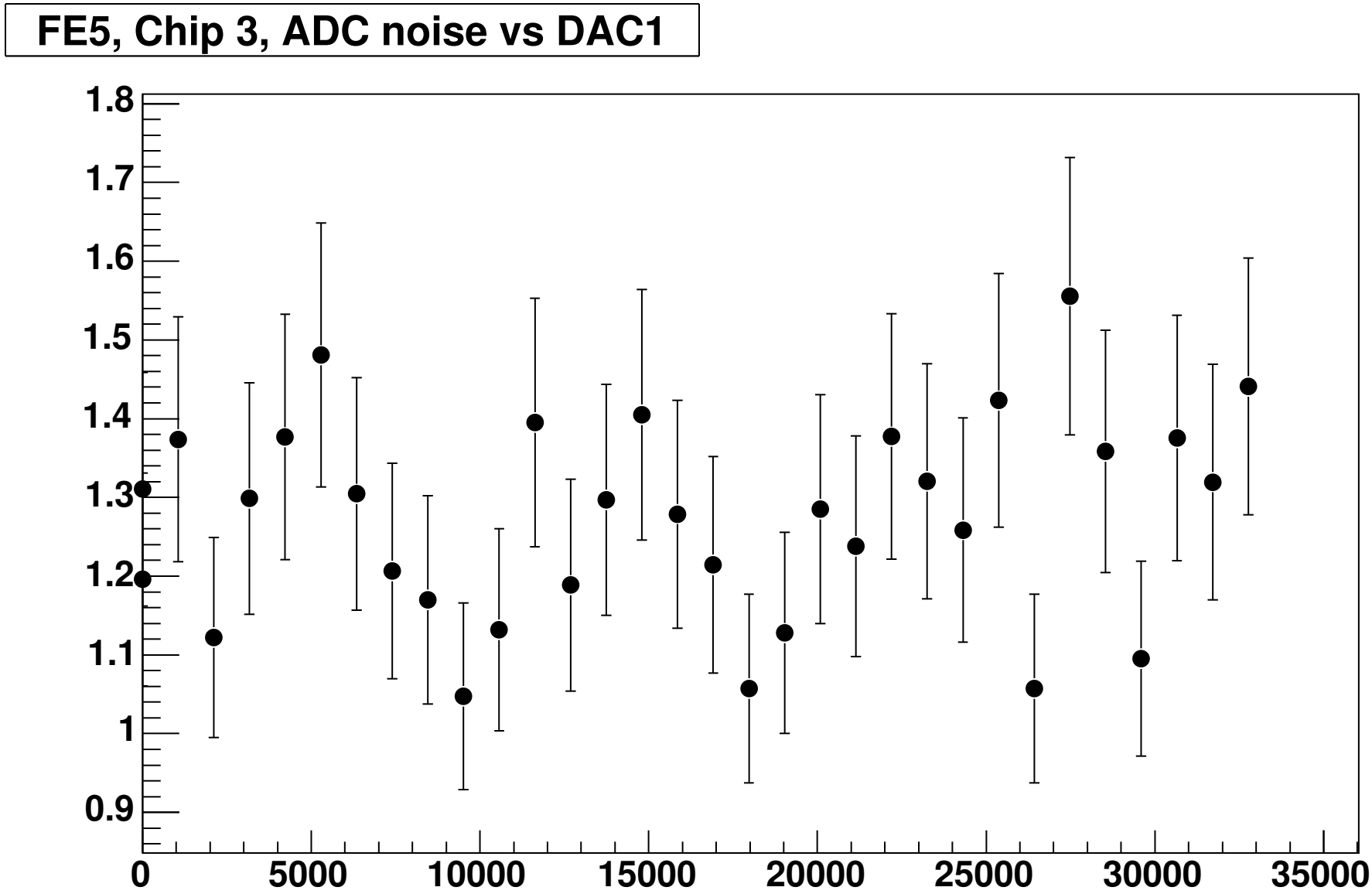

FE5, Chip 2, ADC residuals vs DAC1
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

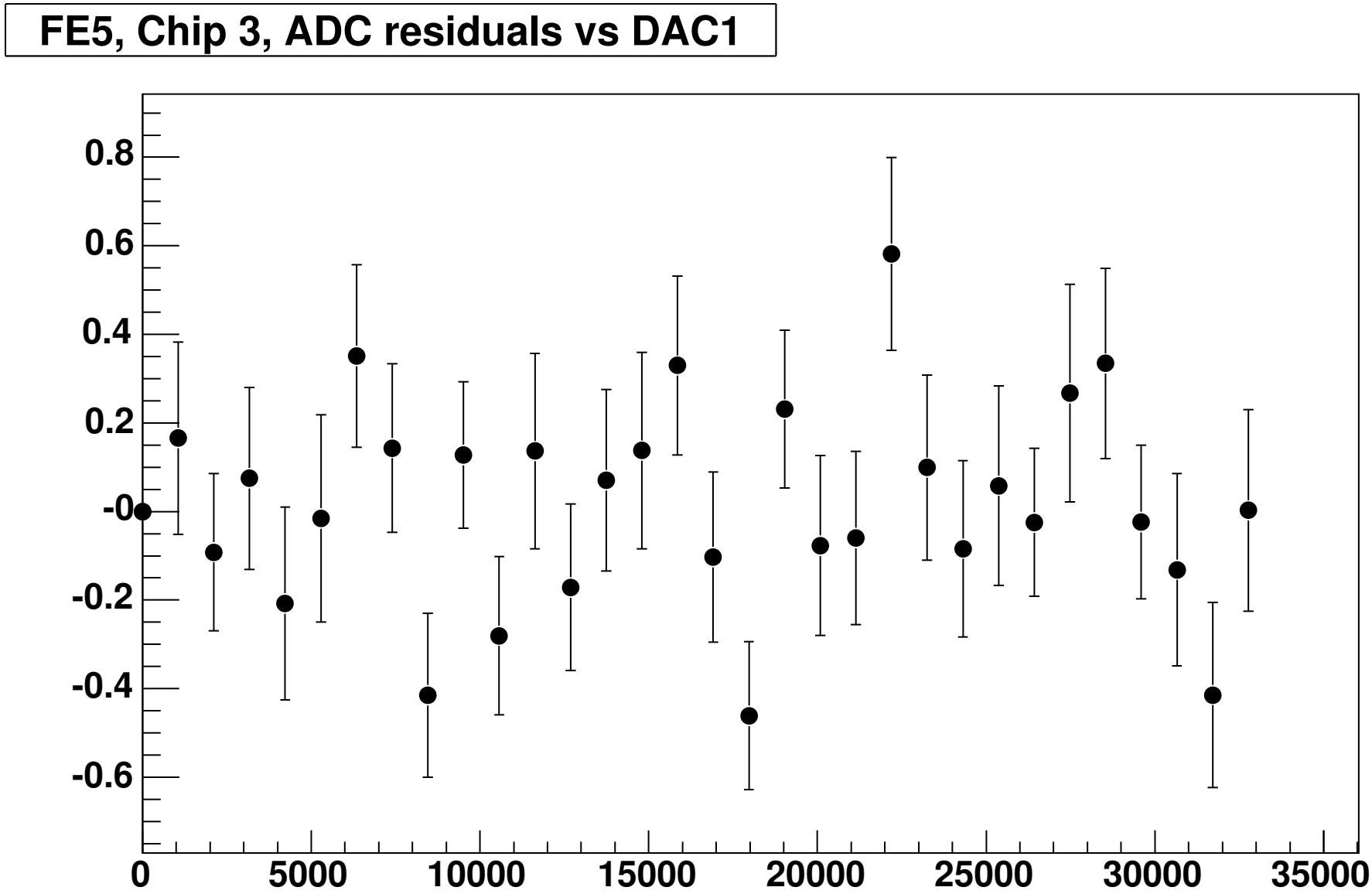

FE5, Chip 3, ADC mean vs DAC0
χ² / ndf 331.1 / 29
p0 -180.6 ± 0.07202
p1 0.4628 ± 3.964e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

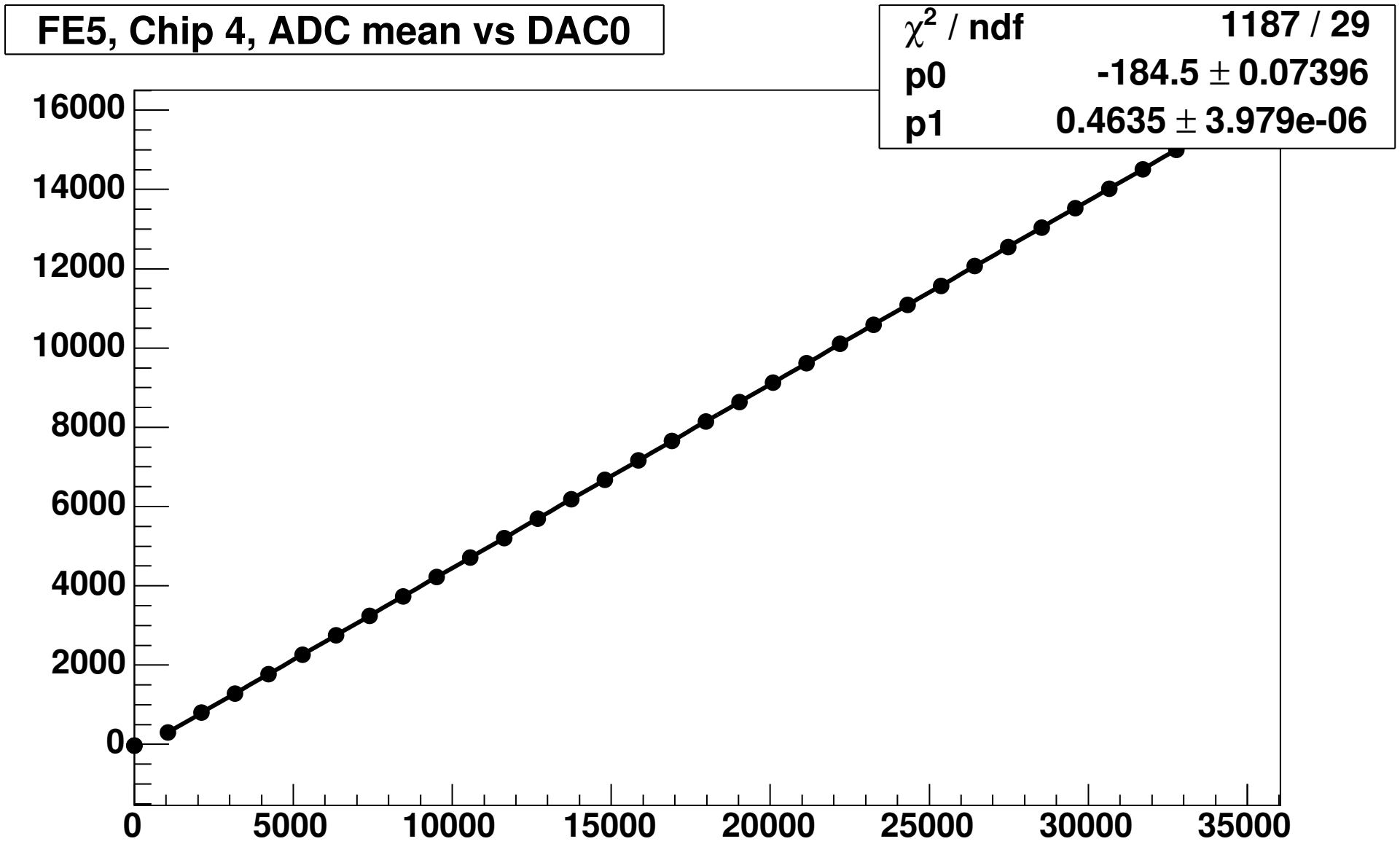

FE5, Chip 3, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

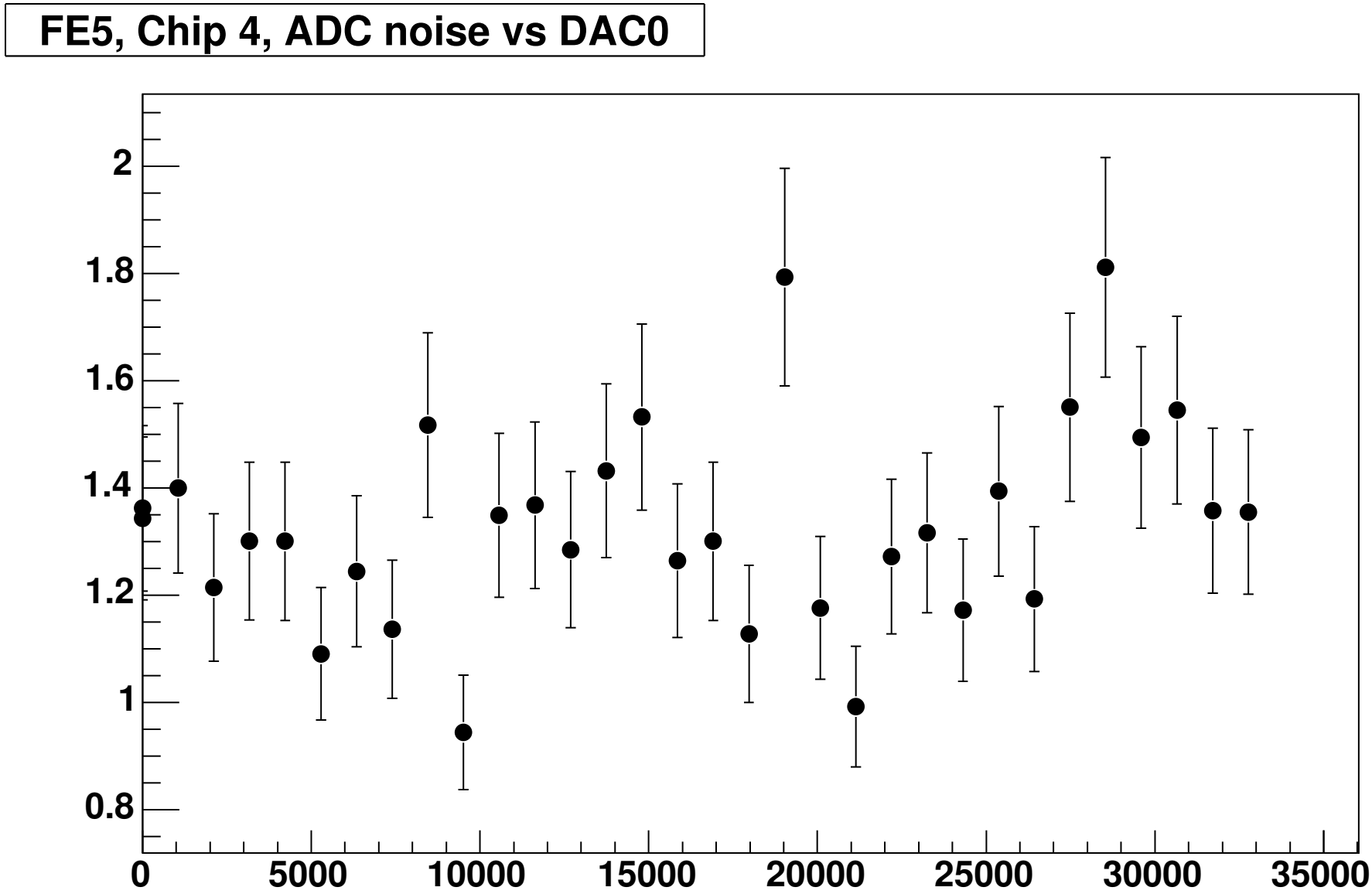

FE5, Chip 3, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000


FE5, Chip 3, ADC mean vs DAC1
χ² / ndf 43.2 / 29
p0 -31.27 ± 0.0737
p1 7.515e-06 ± 3.866e-06
-30.2
-30.4
-30.6
-30.8
-31
-31.2
-31.4
-31.6
-31.8
0
5000
10000
15000
20000
25000
30000
35000

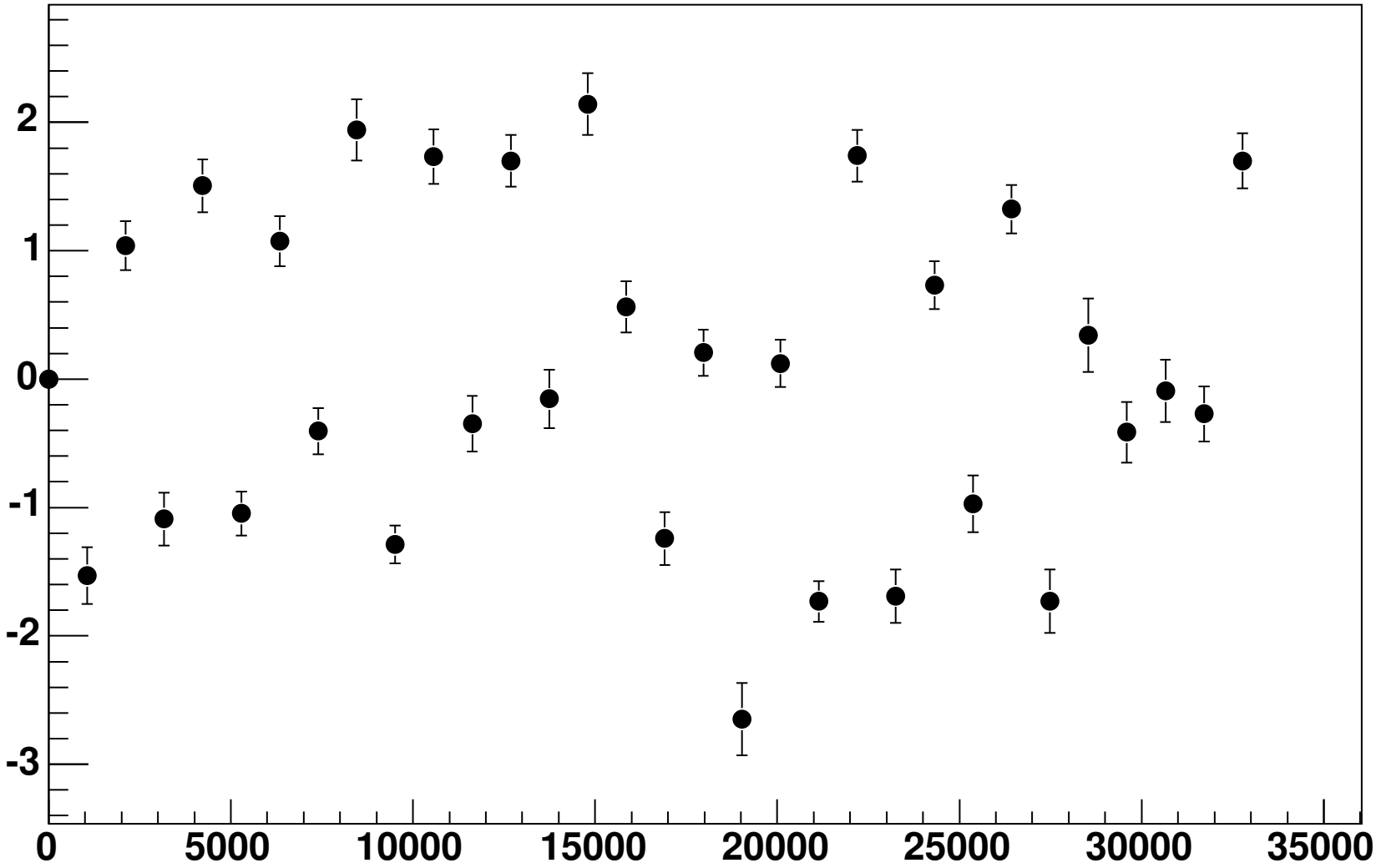

FE5, Chip 3, ADC noise vs DAC1
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0
5000
10000
15000
20000
25000
30000
35000

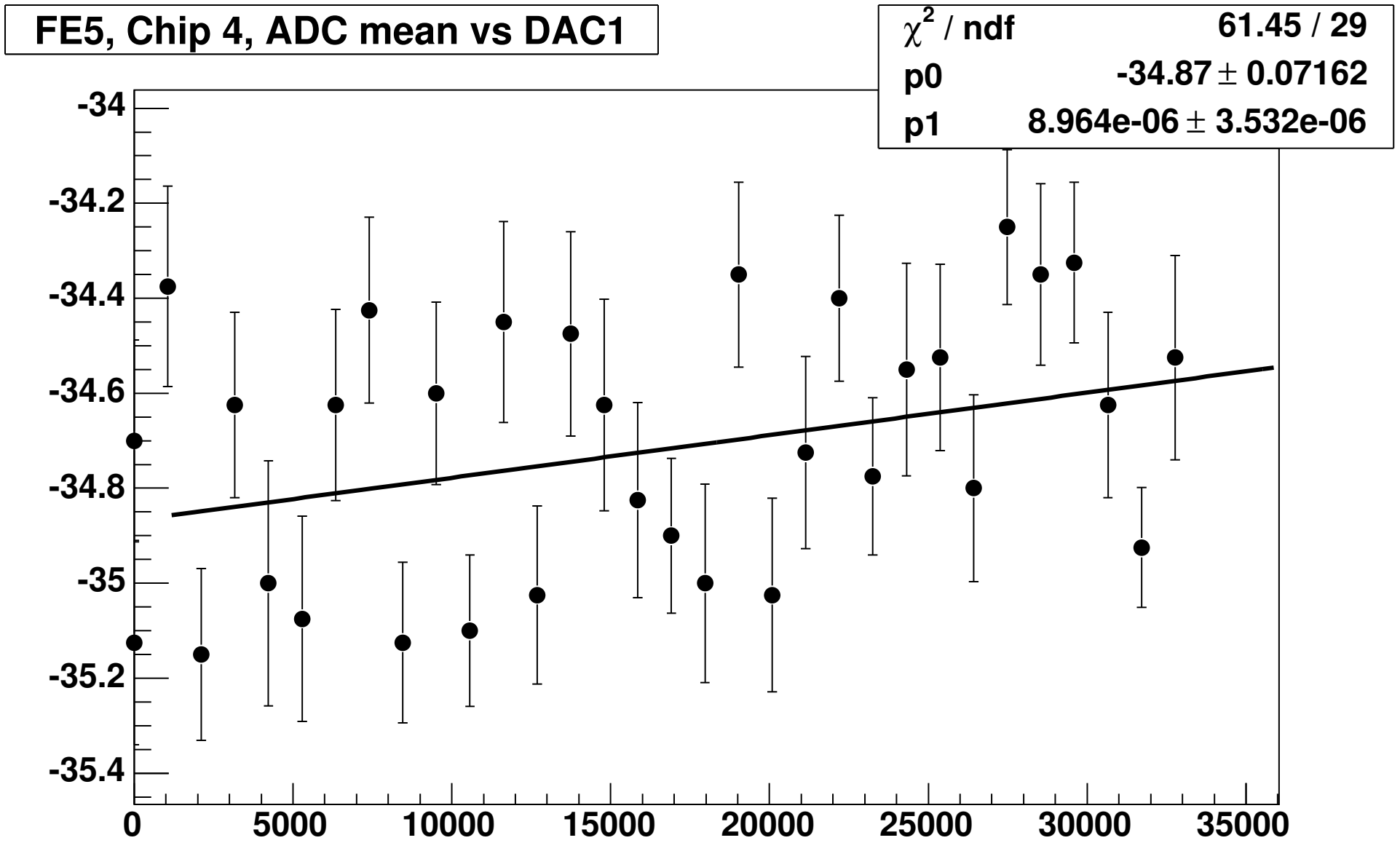

FE5, Chip 3, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

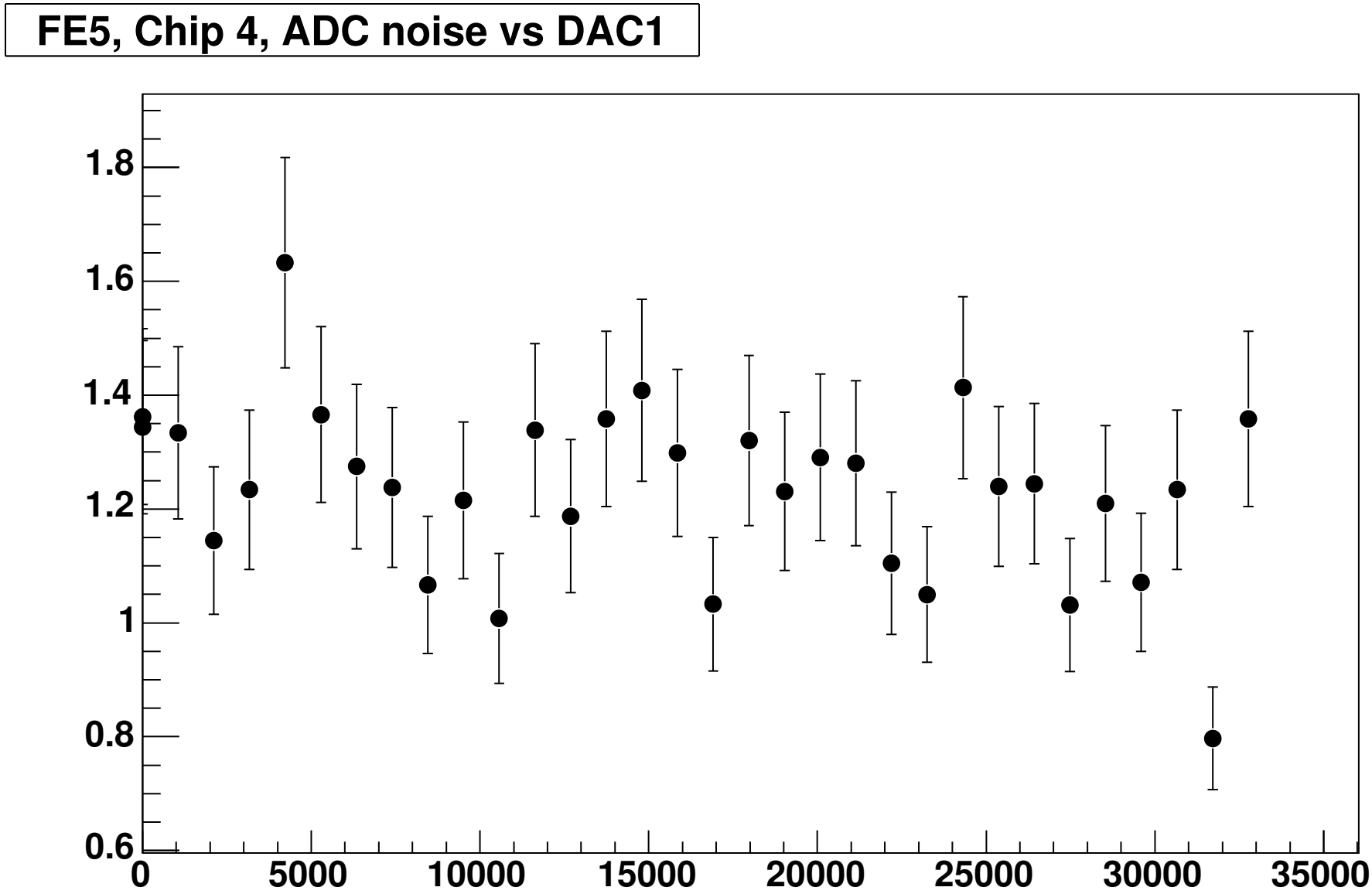

FE5, Chip 4, ADC mean vs DAC0
χ² / ndf 1187 / 29
p0 -184.5 ± 0.07396
p1 0.4635 ± 3.979e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

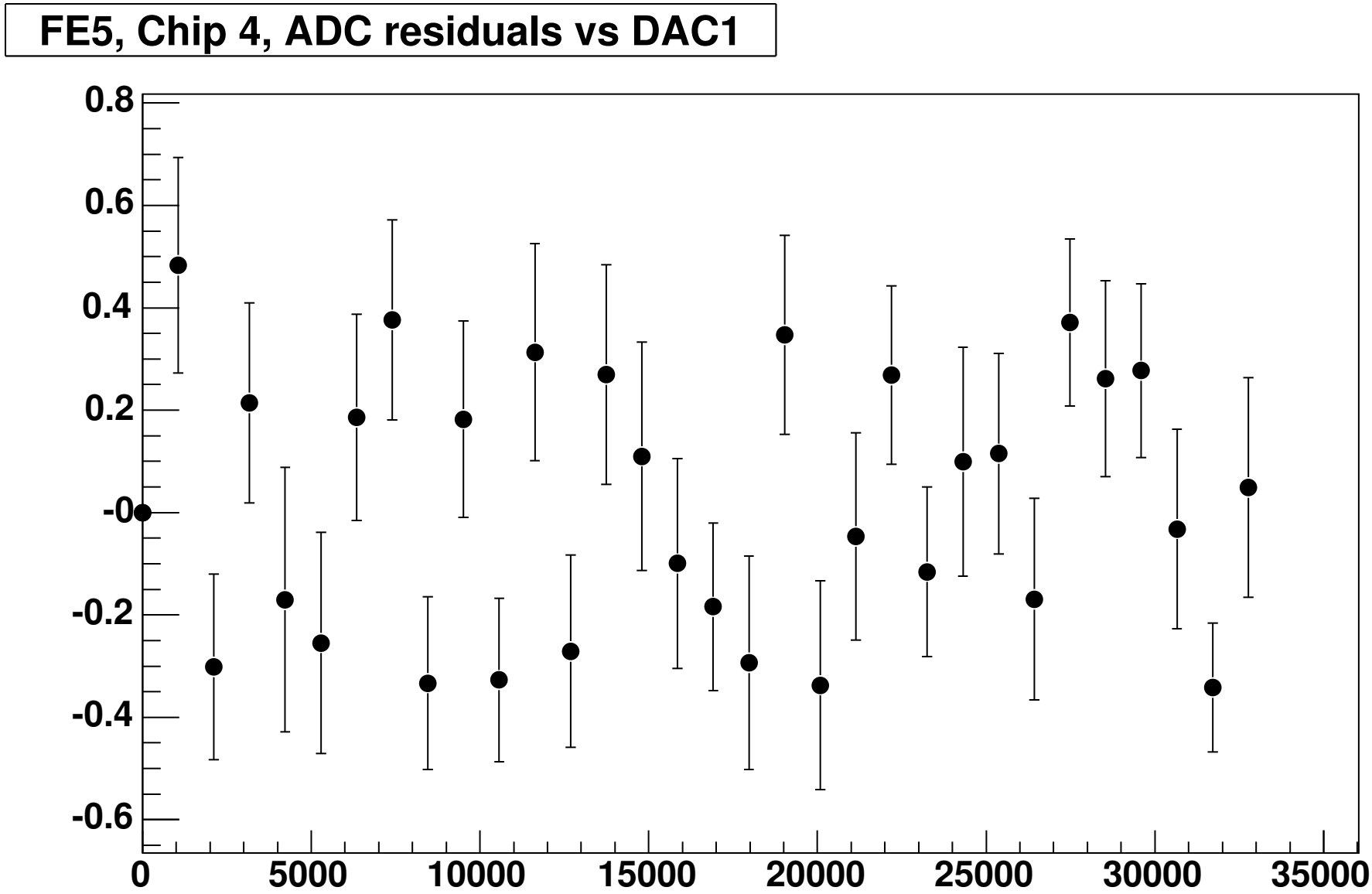

FE5, Chip 4, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

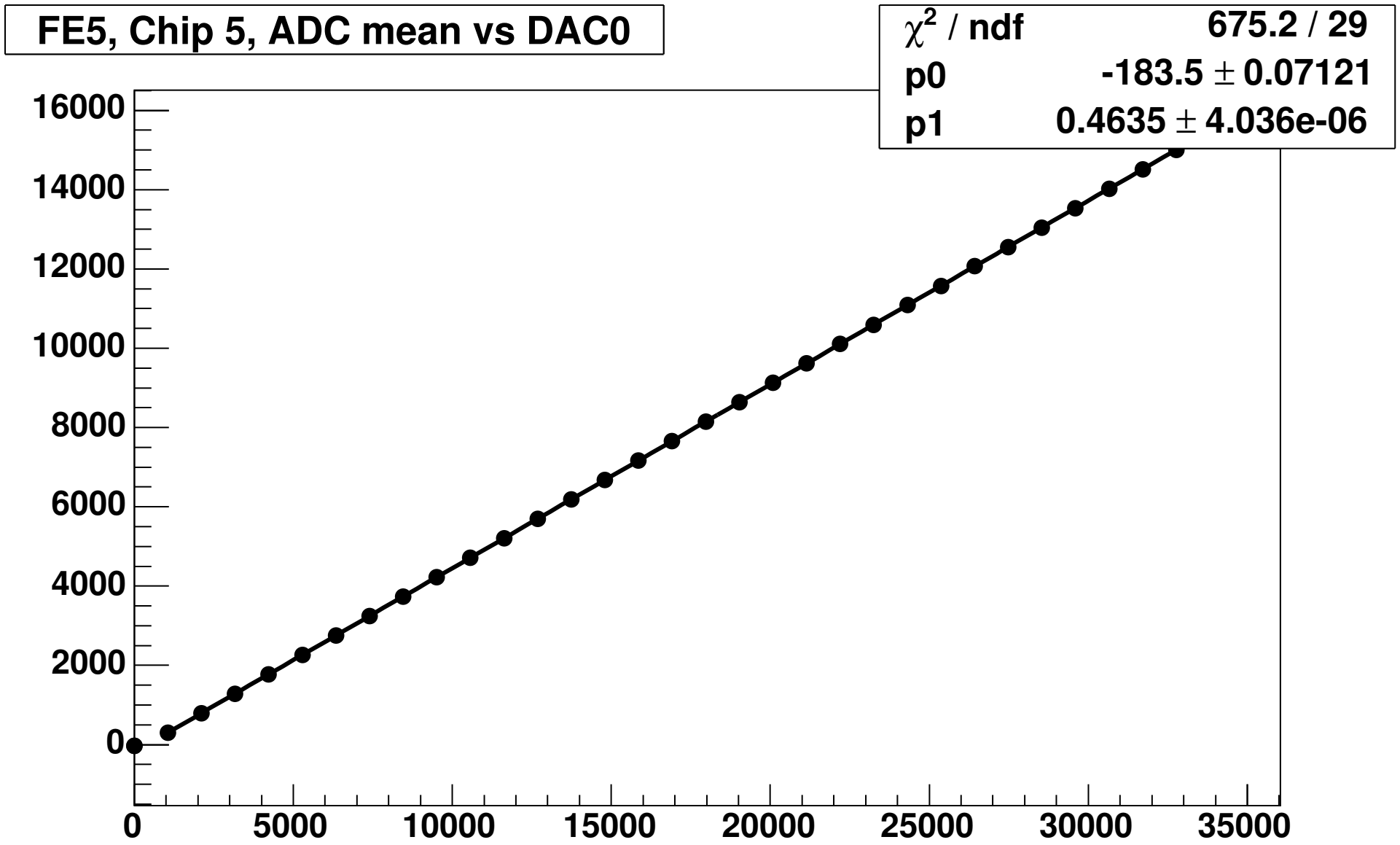
FE5, Chip 4, ADC residuals vs DAC0

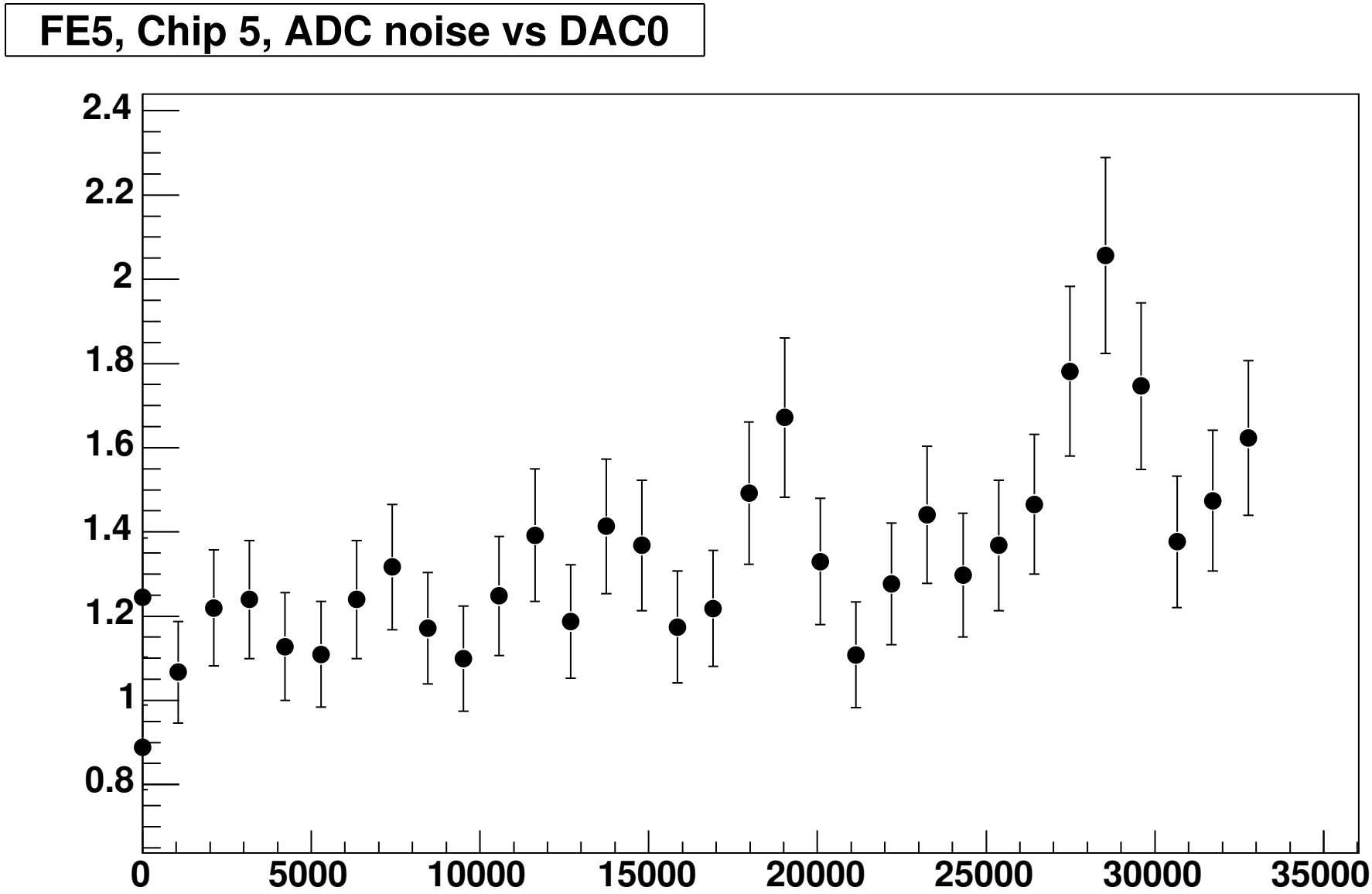



FE5, Chip 4, ADC mean vs DAC1
χ² / ndf 61.45 / 29
p0 -34.87 ± 0.07162
p1 8.964e-06 ± 3.532e-06
-34
-34.2
-34.4
-34.6
-34.8
-35
-35.2
-35.4
0
5000
10000
15000
20000
25000
30000
35000

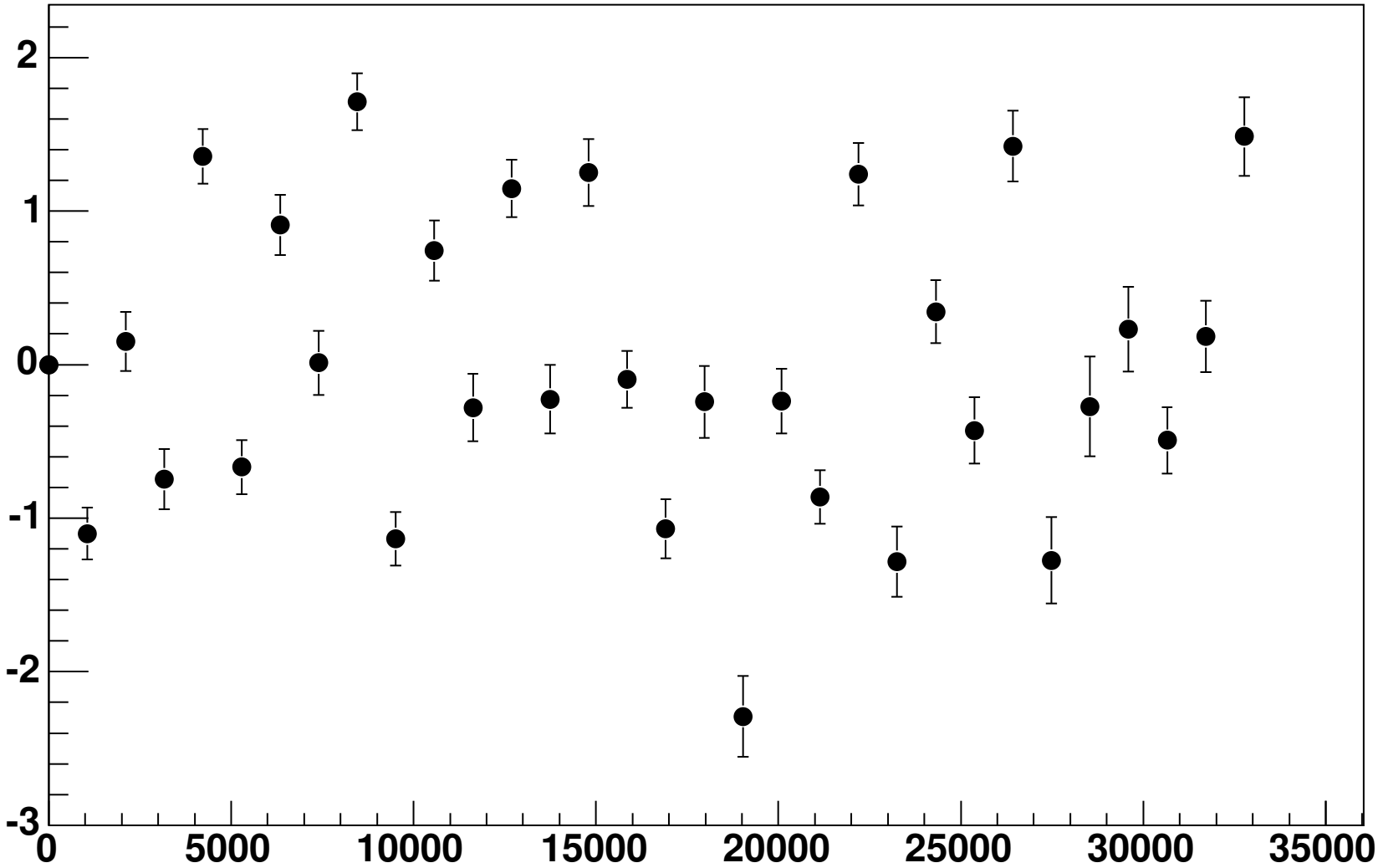

FE5, Chip 4, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

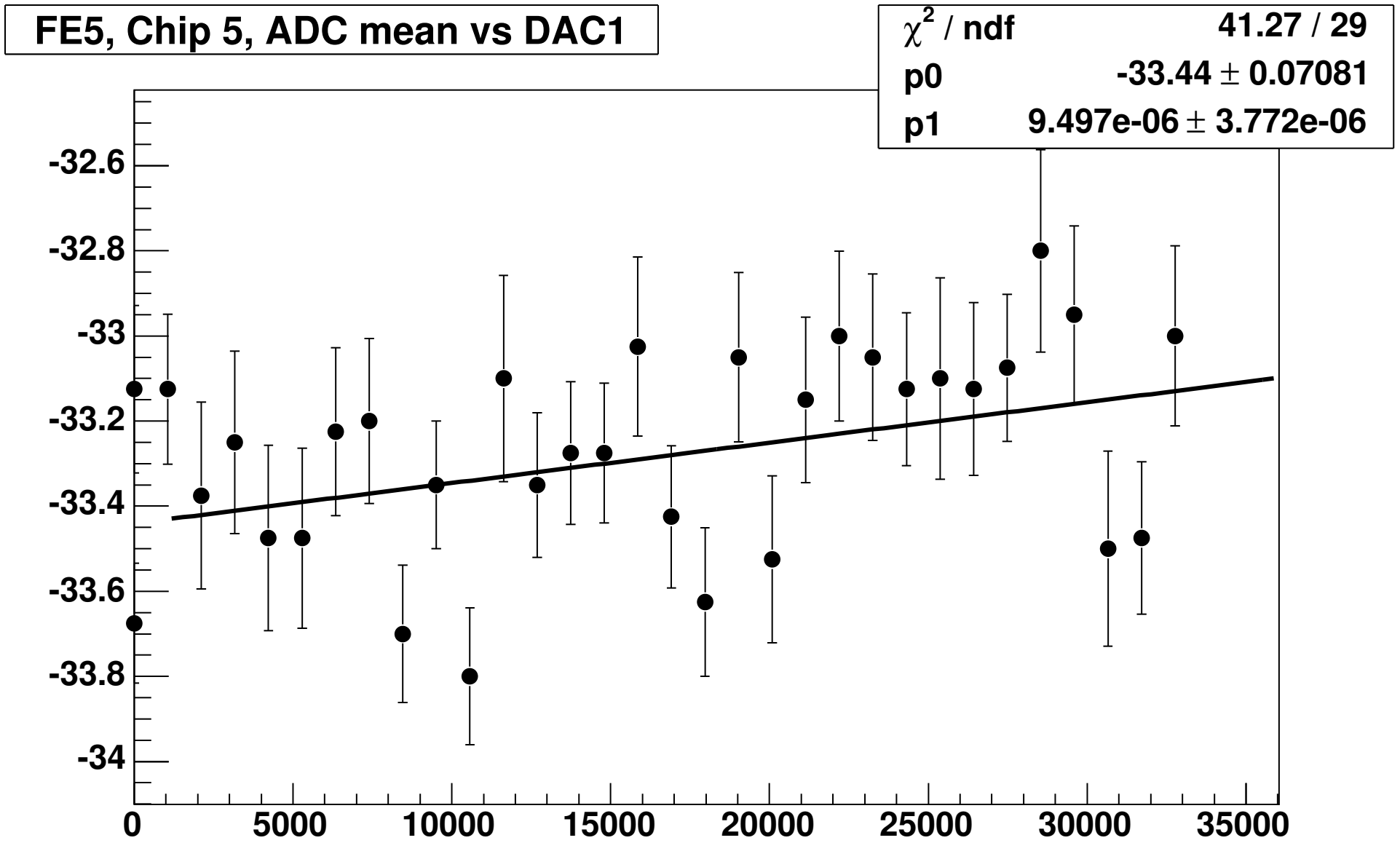

FE5, Chip 4, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

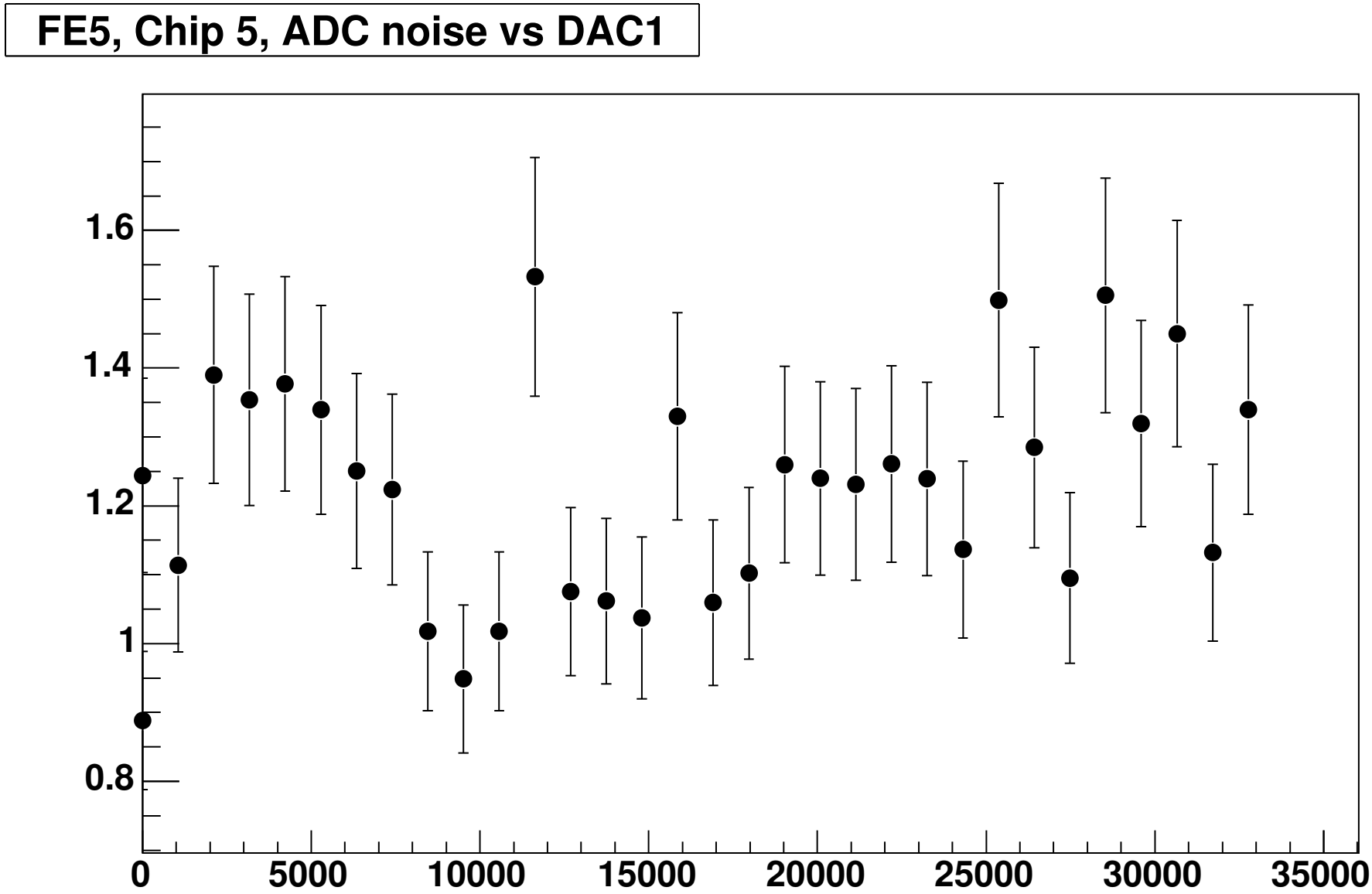

FE5, Chip 5, ADC mean vs DAC0
χ² / ndf 675.2 / 29
p0 -183.5 ± 0.07121
p1 0.4635 ± 4.036e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

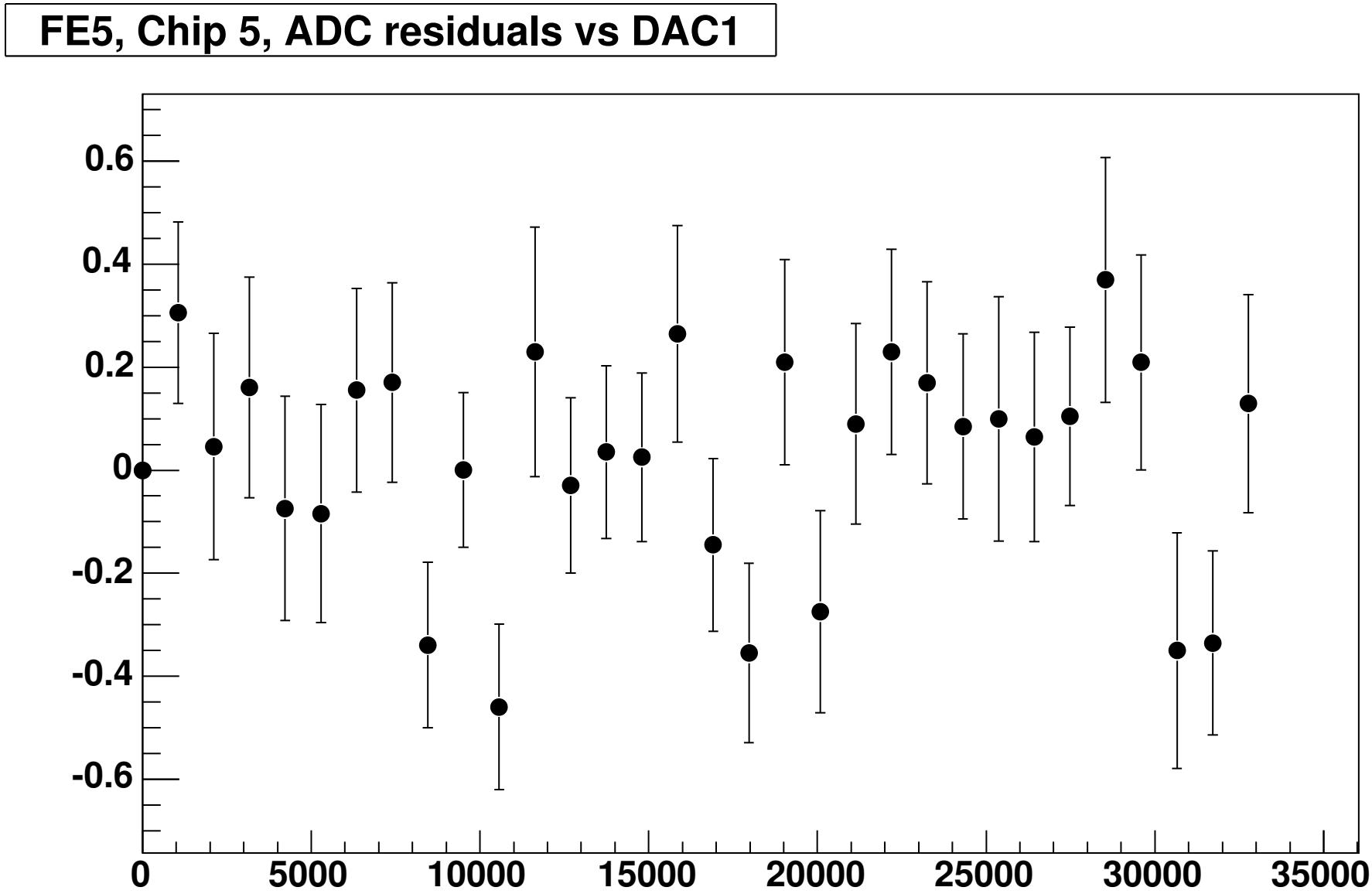

FE5, Chip 5, ADC noise vs DAC0
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

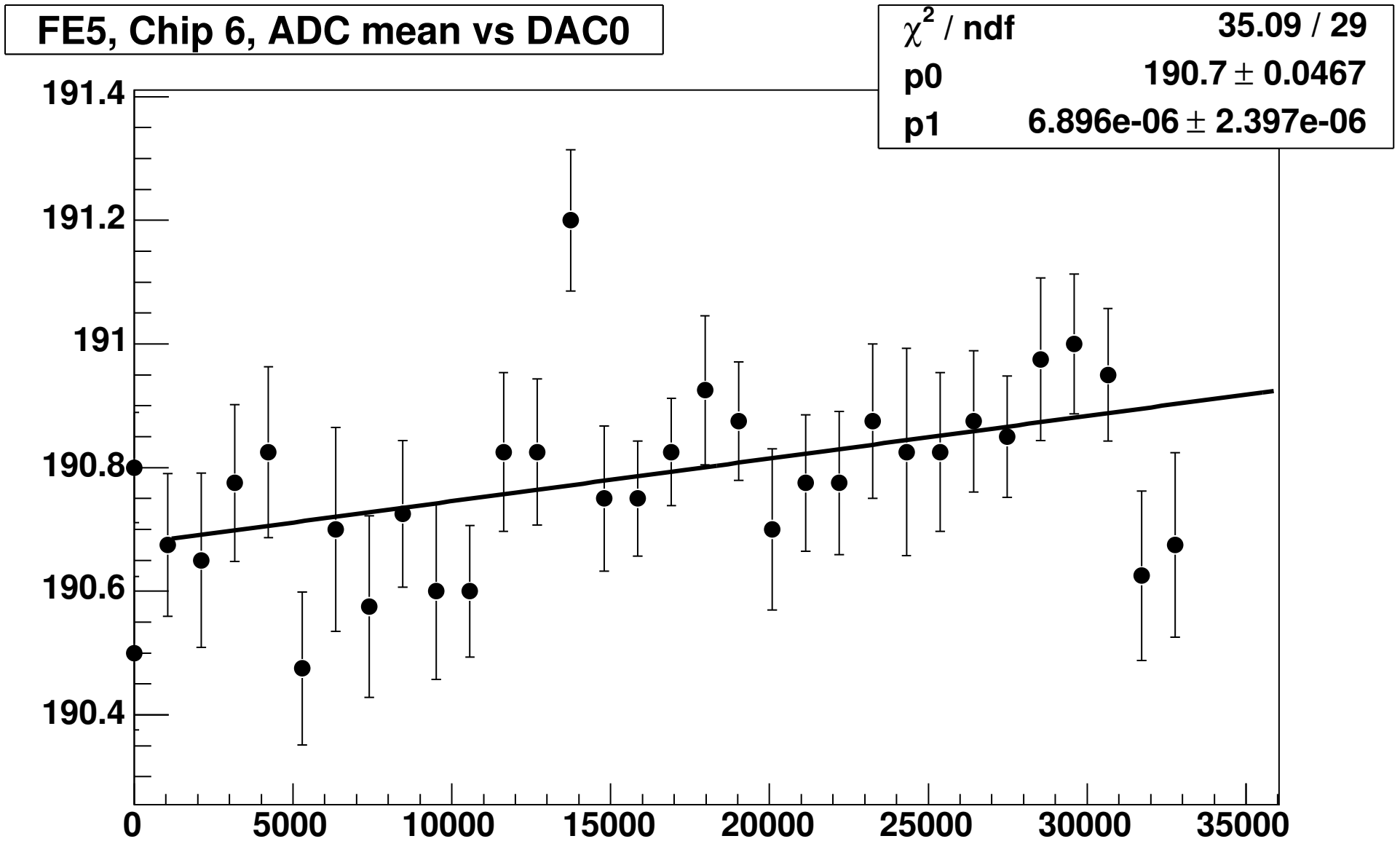
FE5, Chip 5, ADC residuals vs DAC0

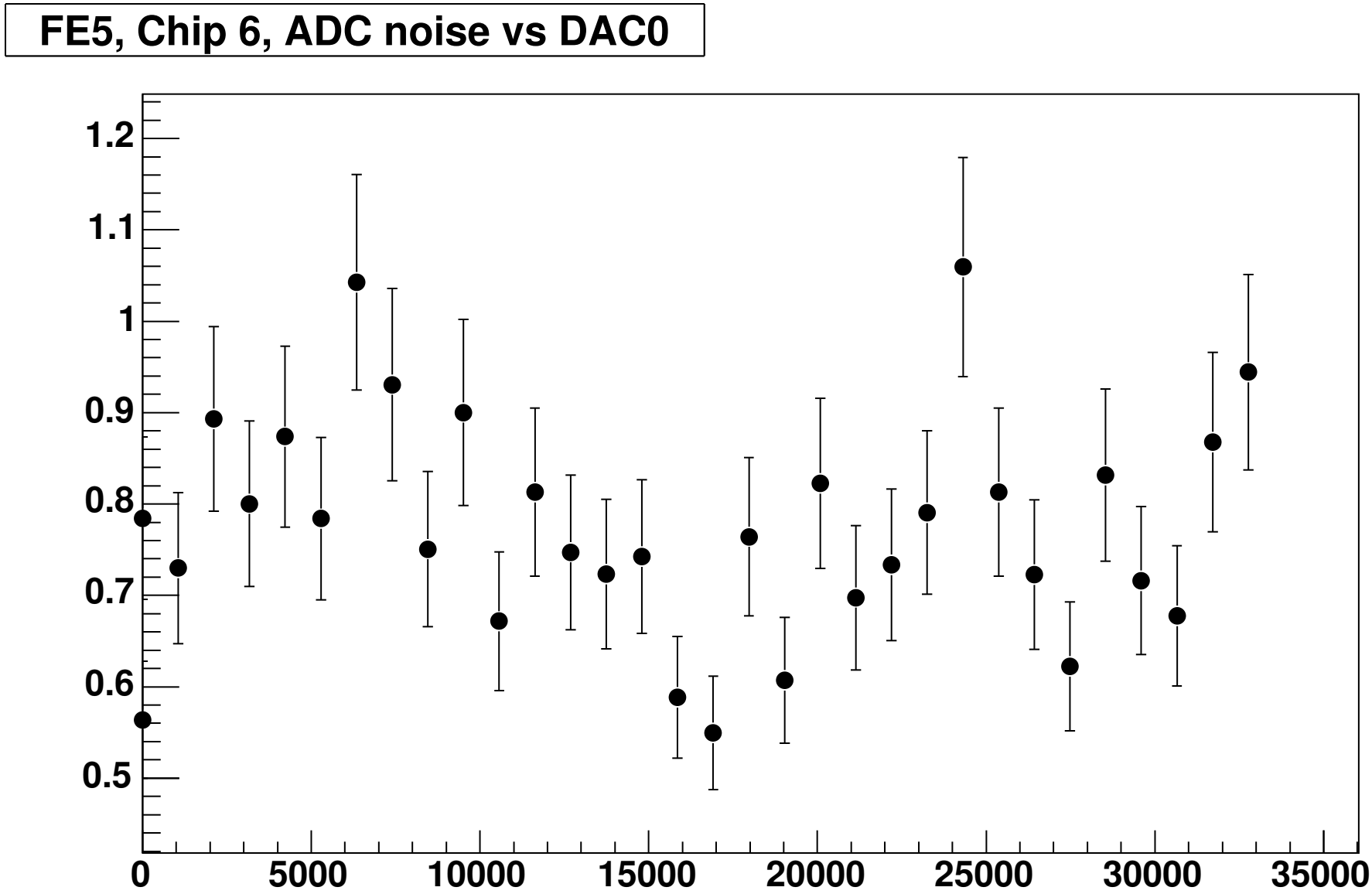


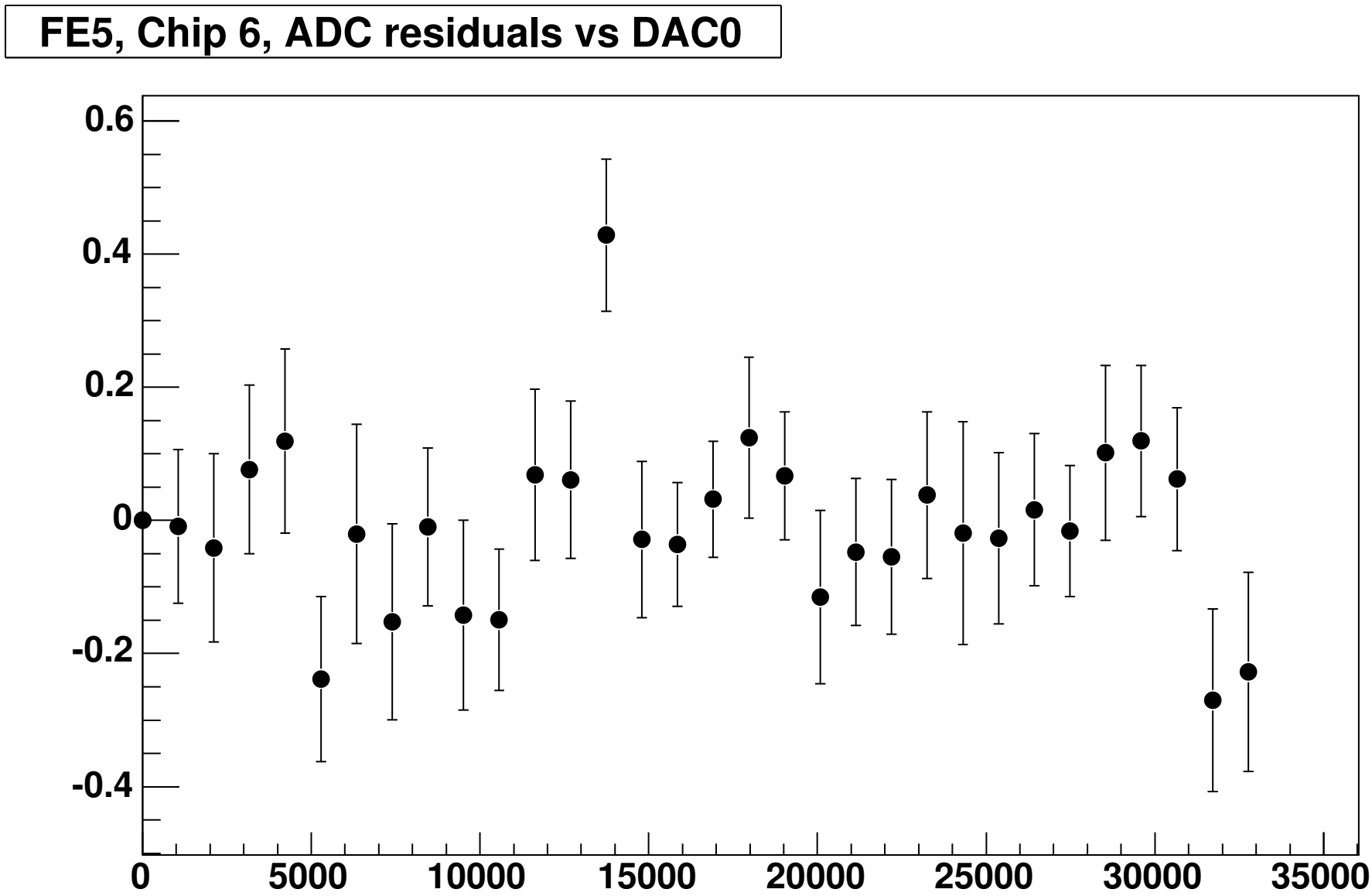

FE5, Chip 5, ADC mean vs DAC1
χ^2 / ndf 41.27 / 29
p0 -33.44 ± 0.07081
p1 9.497e-06 ± 3.772e-06
-32.6
-32.8
-33
-33.2
-33.4
-33.6
-33.8
-34
0
5000
10000
15000
20000
25000
30000
35000

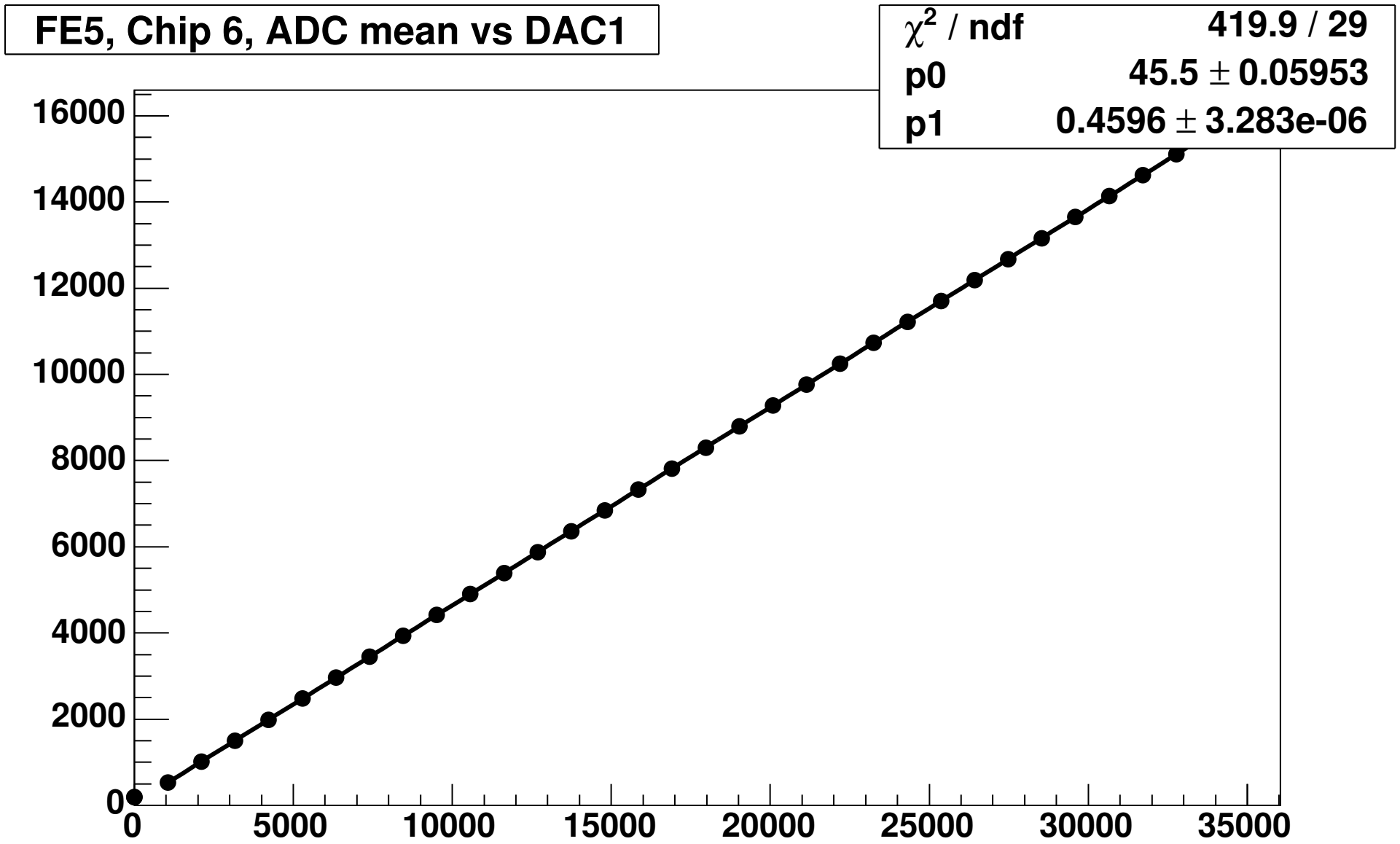

FE5, Chip 5, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000


FE5, Chip 5, ADC residuals vs DAC1
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

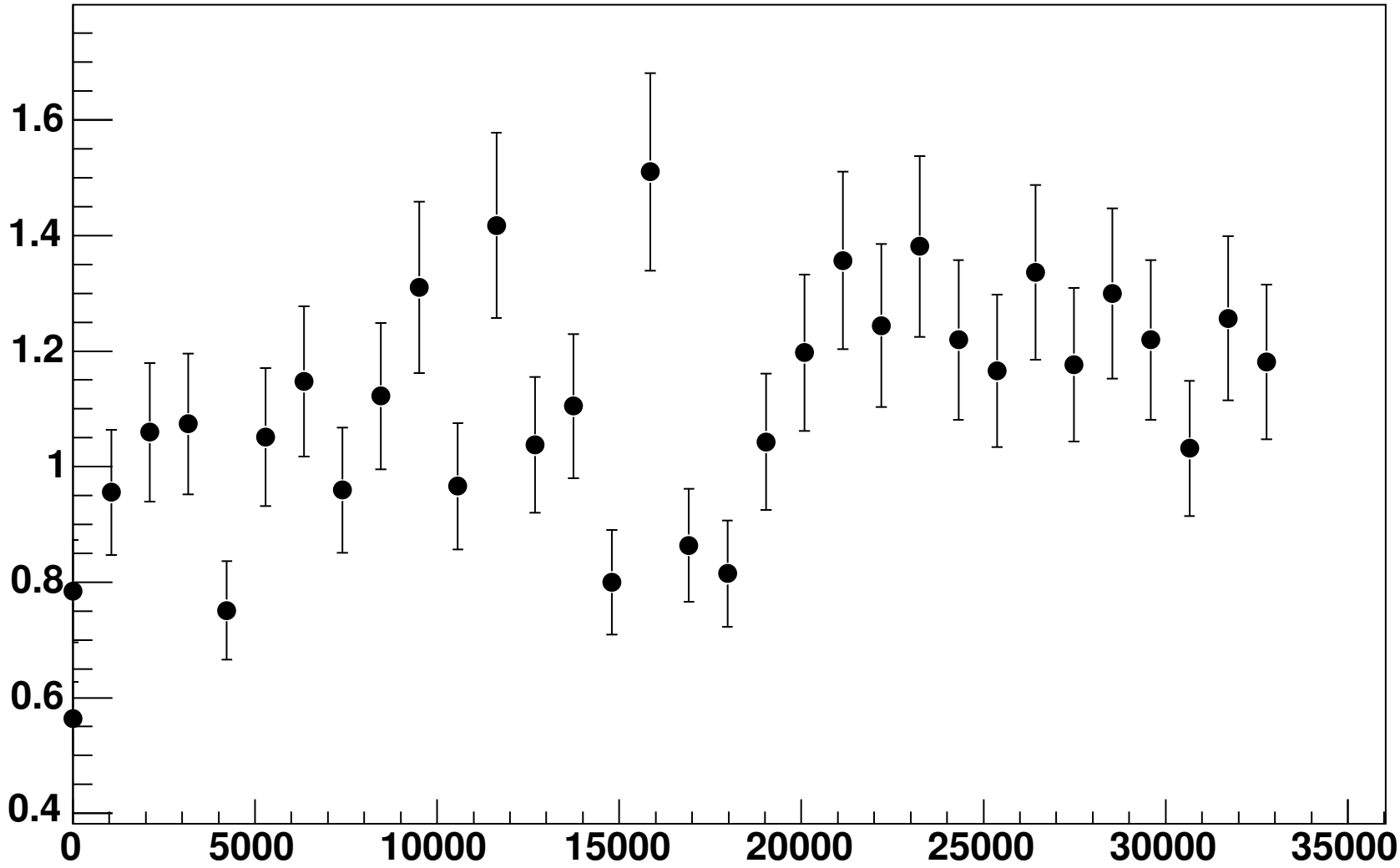

FE5, Chip 6, ADC mean vs DAC0
χ² / ndf 35.09 / 29
p0 190.7 ± 0.0467
p1 6.896e-06 ± 2.397e-06
191.4
191.2
191
190.8
190.6
190.4
0
5000
10000
15000
20000
25000
30000
35000

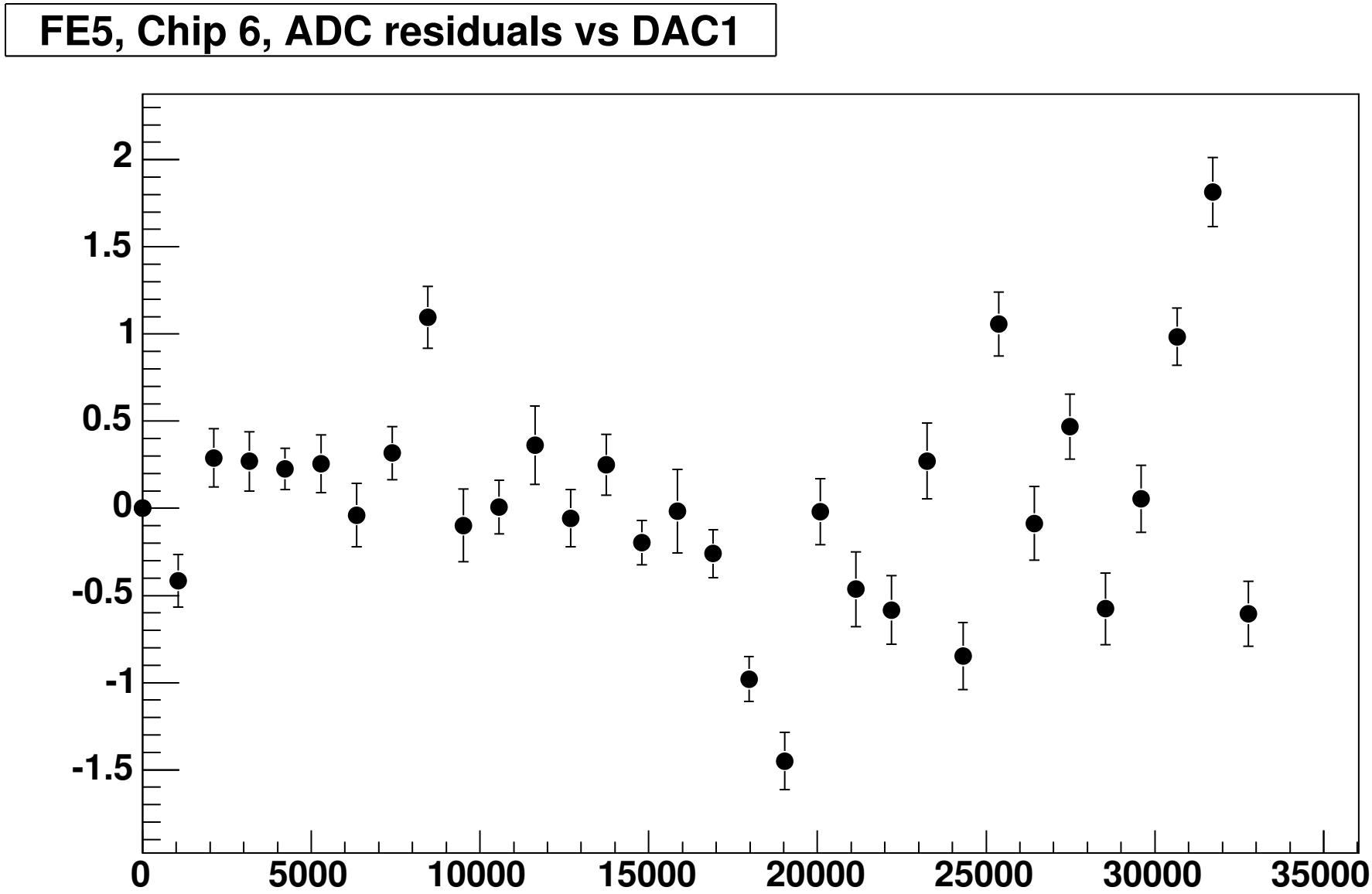

FE5, Chip 6, ADC noise vs DAC0
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0
5000
10000
15000
20000
25000
30000
35000

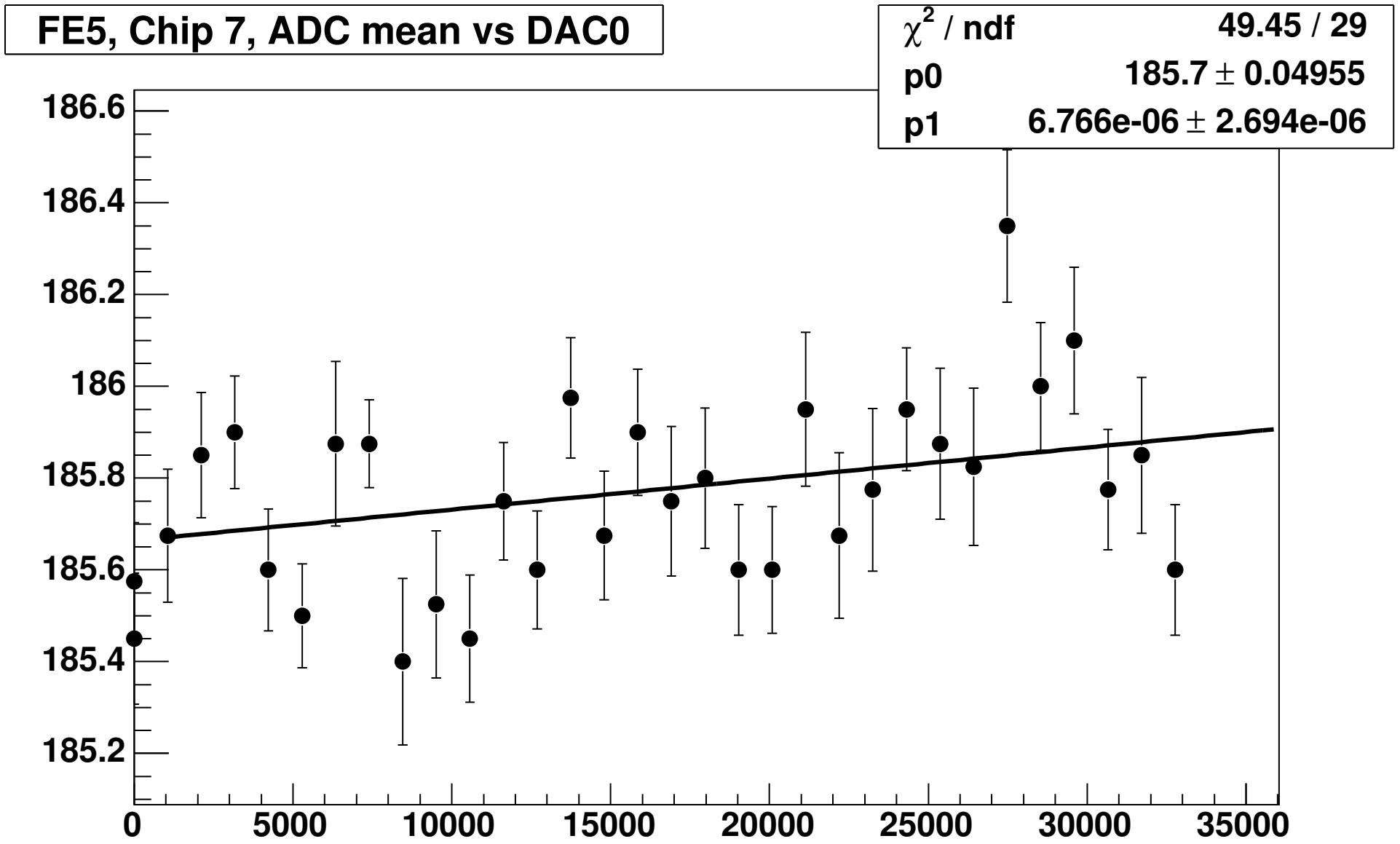

FE5, Chip 6, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

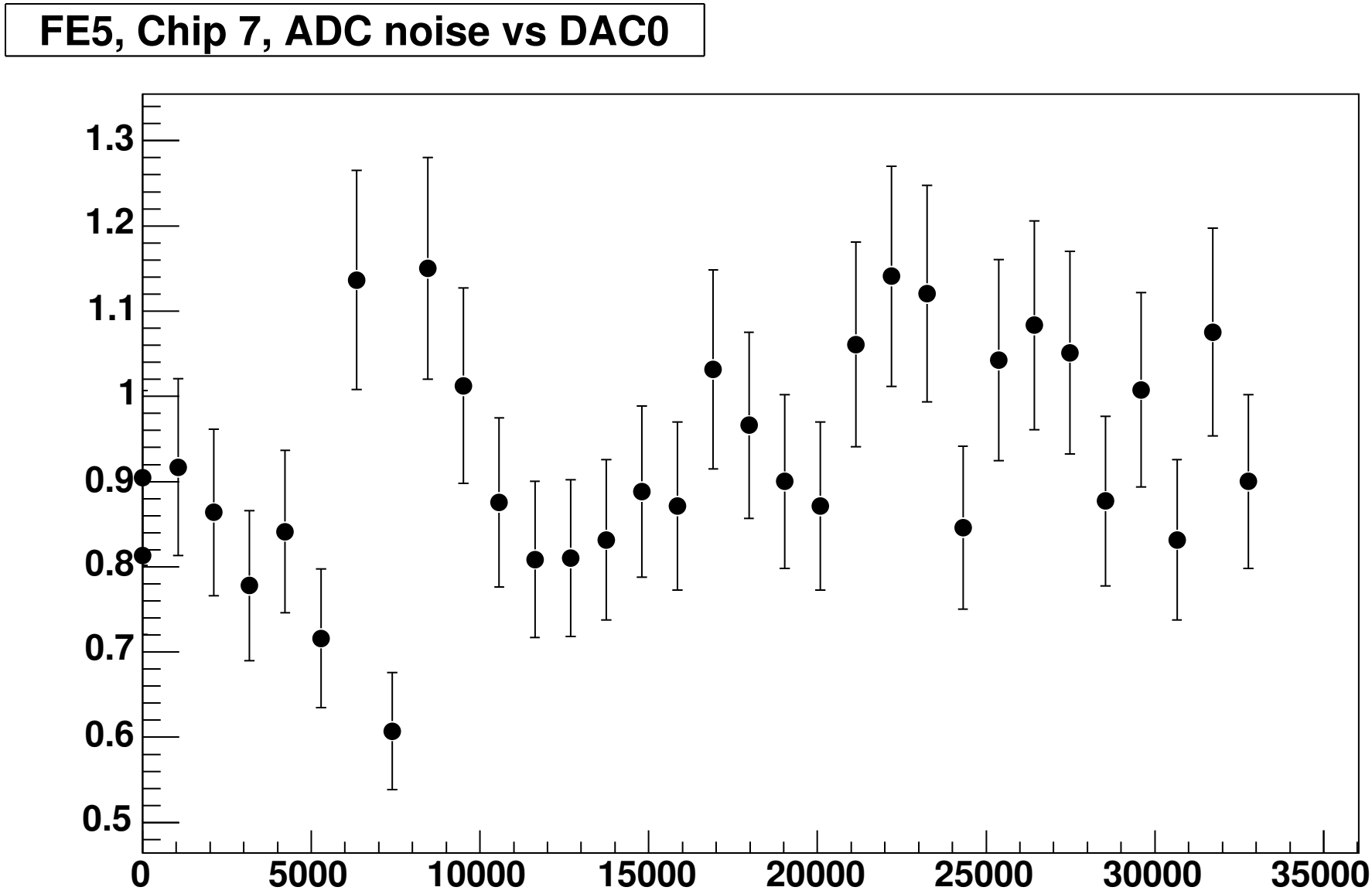

FE5, Chip 6, ADC mean vs DAC1
χ² / ndf 419.9 / 29
p0 45.5 ± 0.05953
p1 0.4596 ± 3.283e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

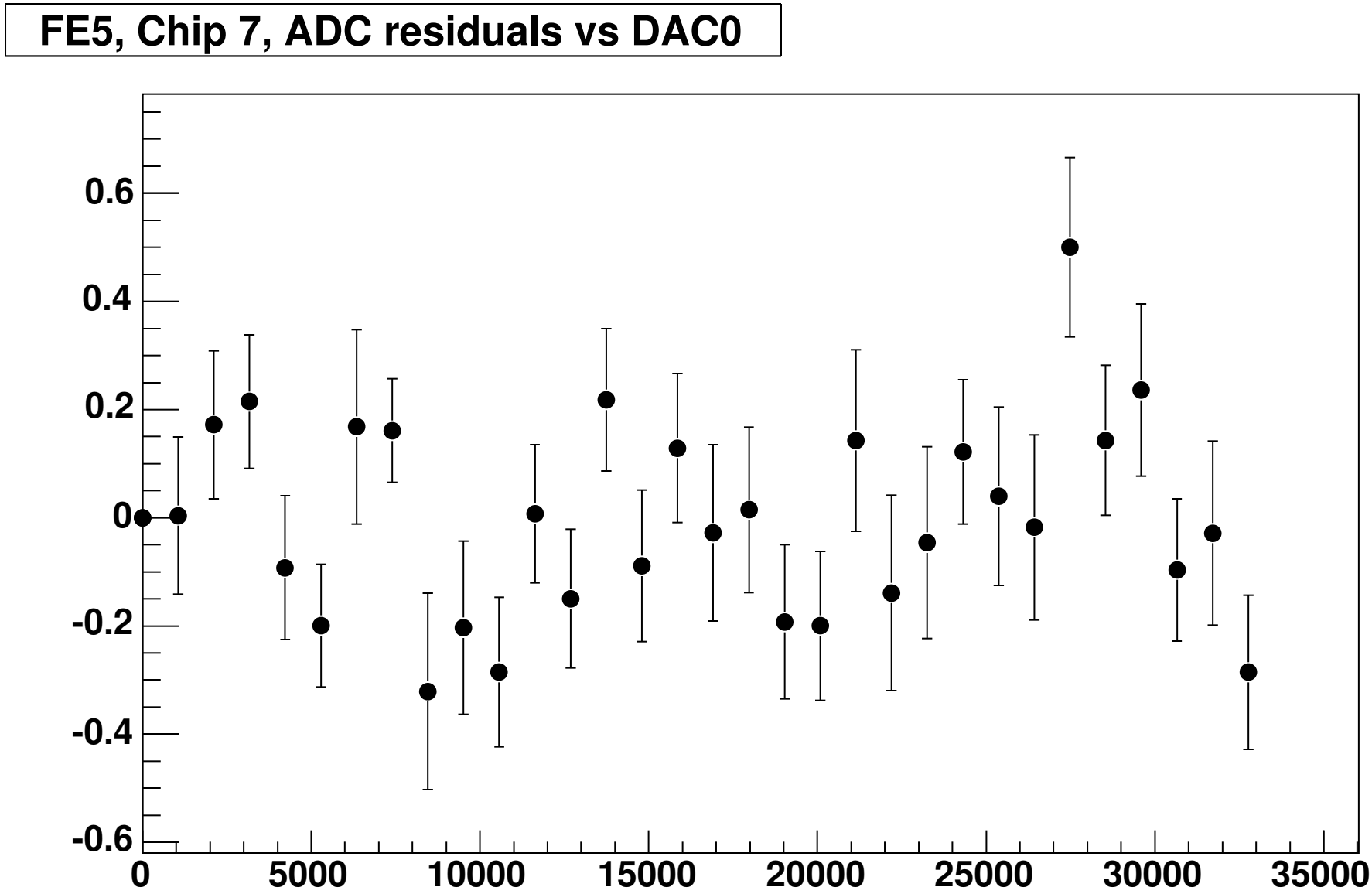
FE5, Chip 6, ADC noise vs DAC1

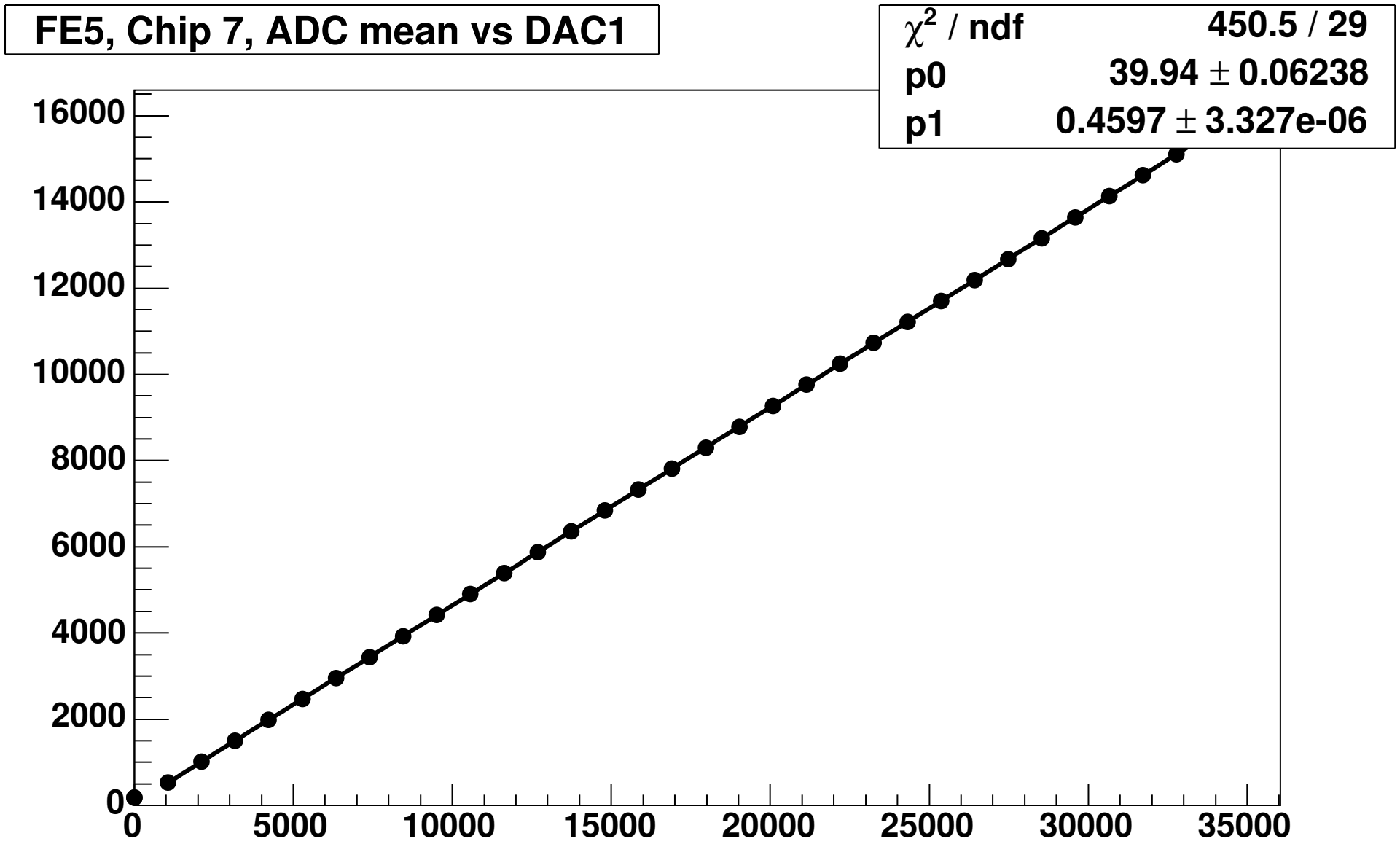


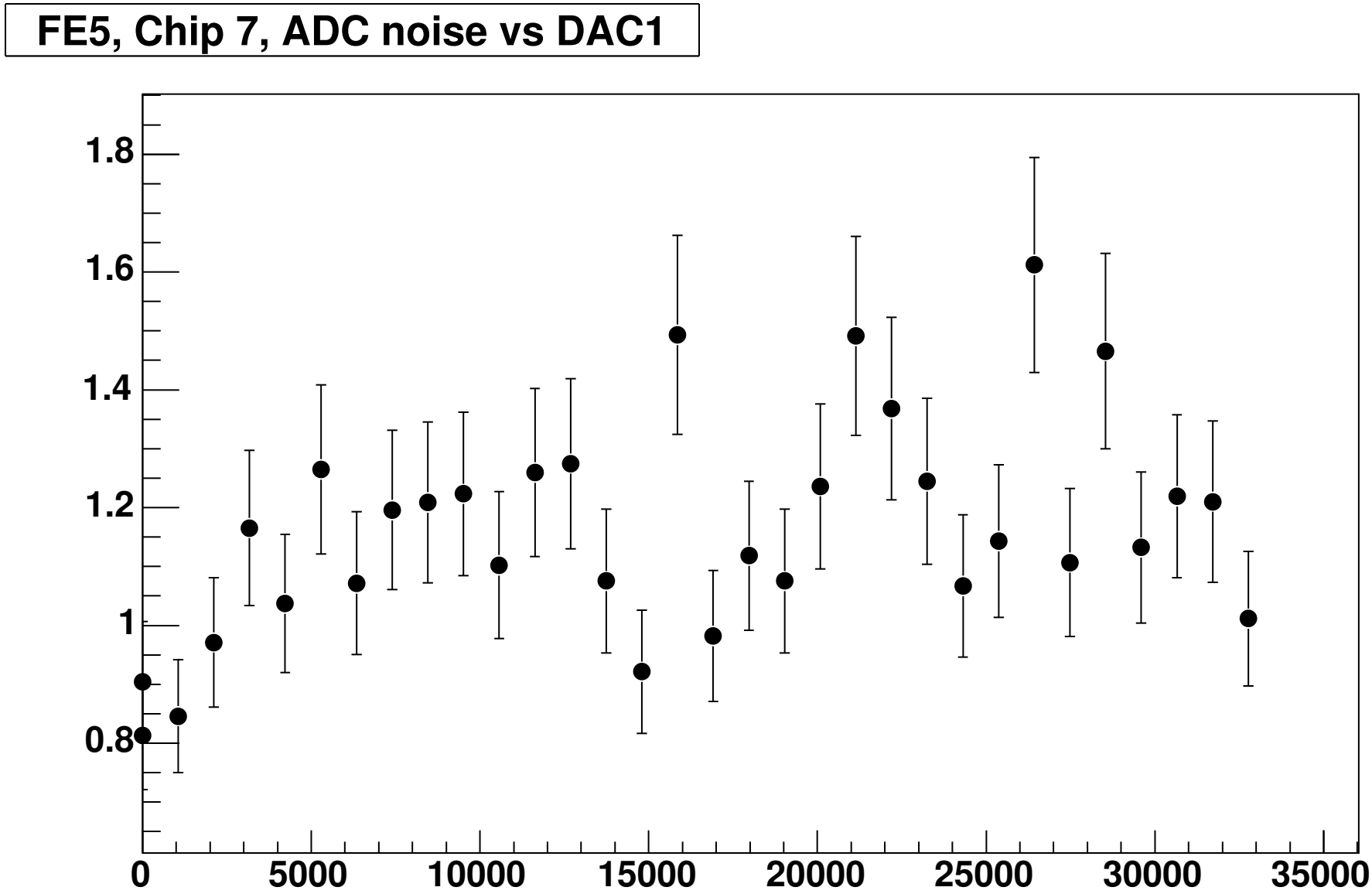

FE5, Chip 6, ADC residuals vs DAC1
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000


FE5, Chip 7, ADC mean vs DAC0
χ² / ndf 49.45 / 29
p0 185.7 ± 0.04955
p1 6.766e-06 ± 2.694e-06
186.6
186.4
186.2
186
185.8
185.6
185.4
185.2
0
5000
10000
15000
20000
25000
30000
35000

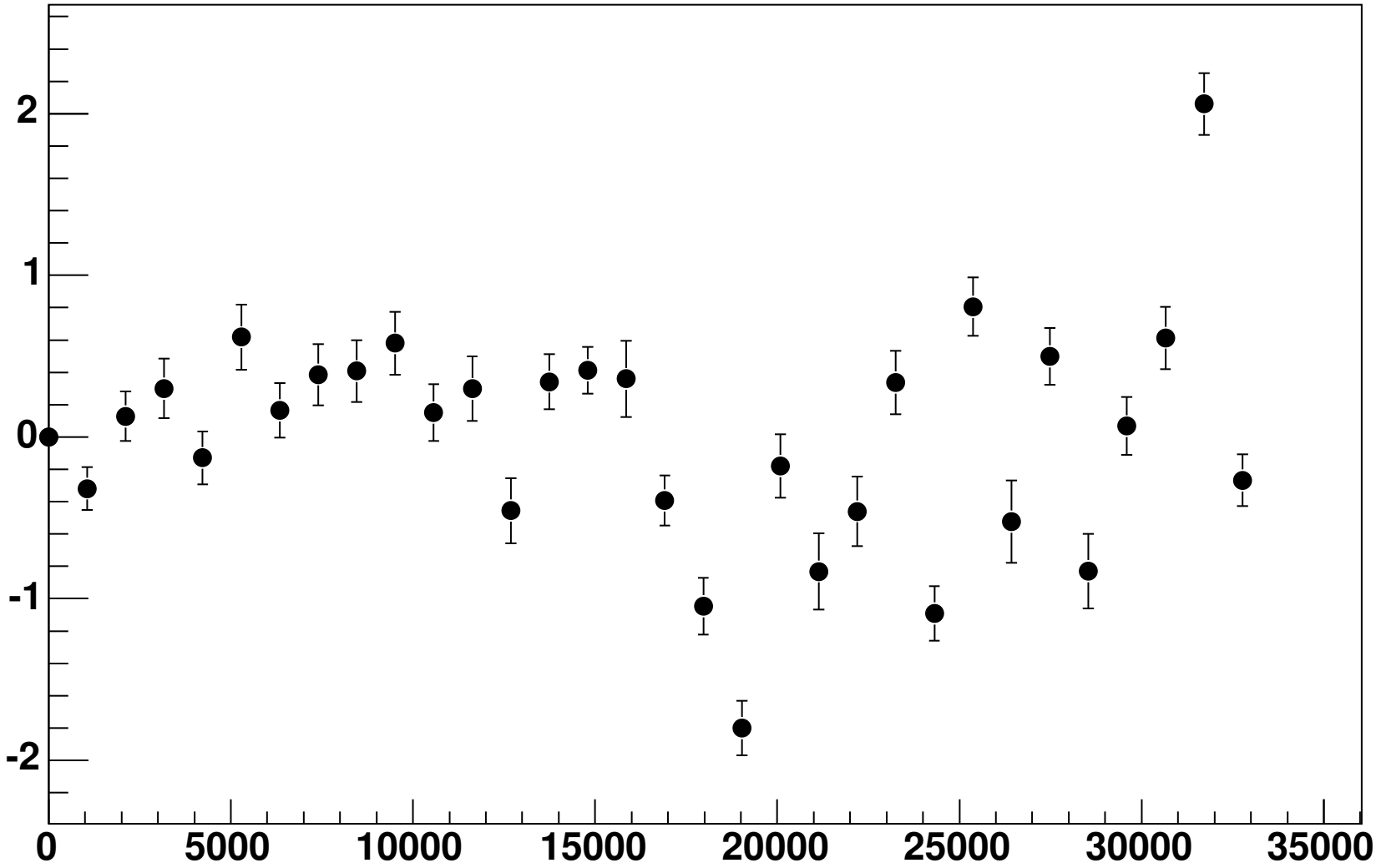

FE5, Chip 7, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0
5000
10000
15000
20000
25000
30000
35000

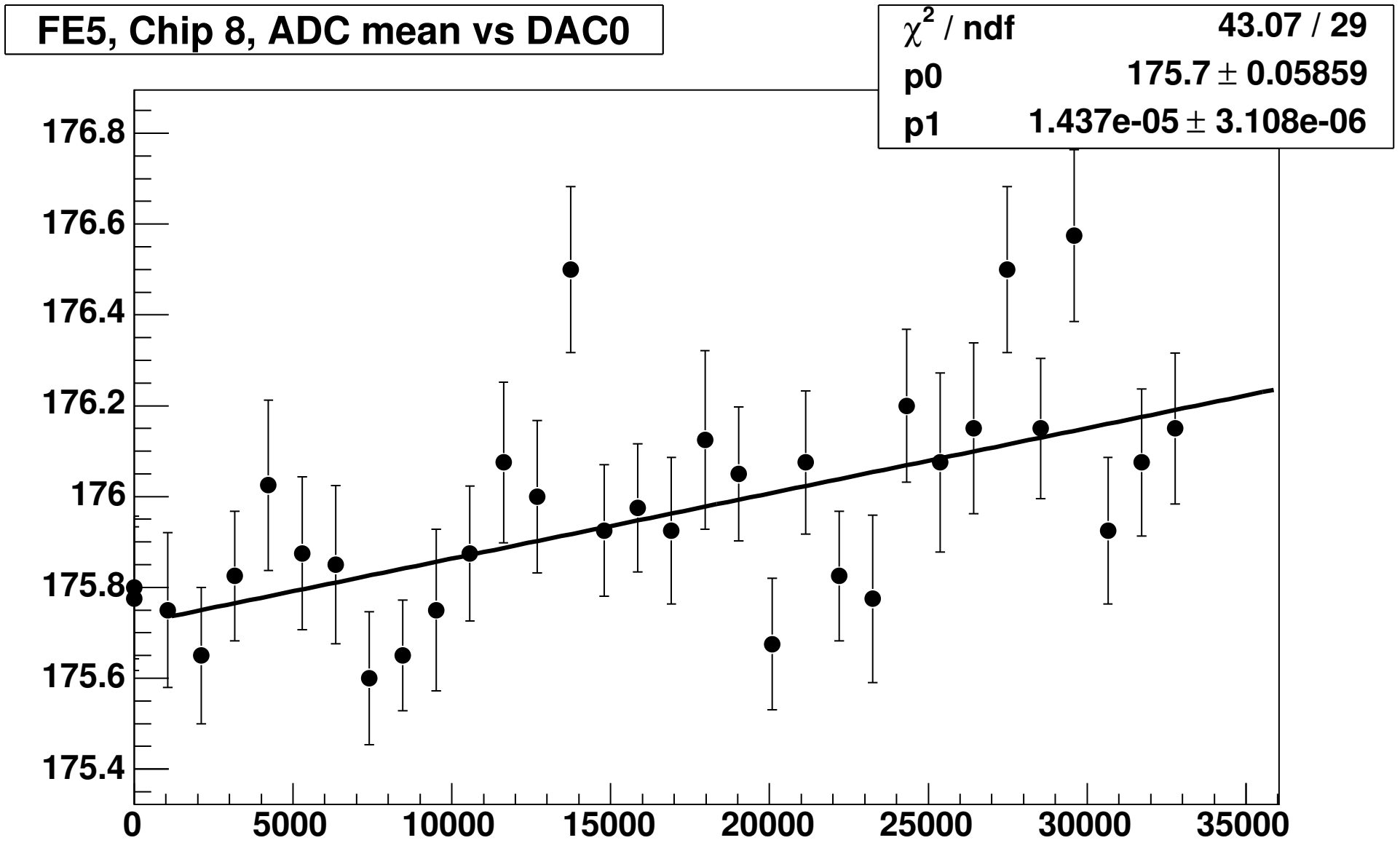

FE5, Chip 7, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

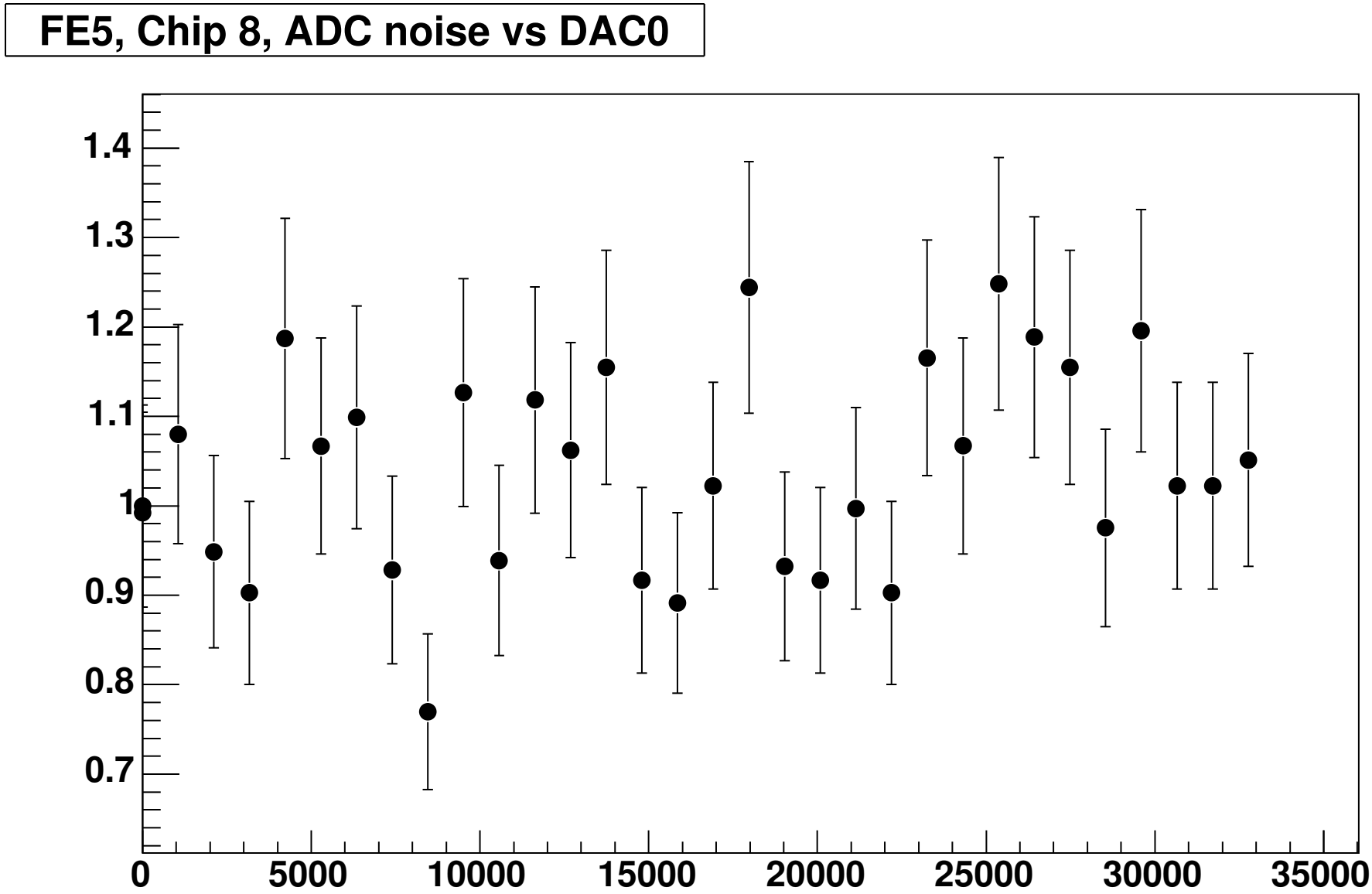

FE5, Chip 7, ADC mean vs DAC1
χ² / ndf 450.5 / 29
p0 39.94 ± 0.06238
p1 0.4597 ± 3.327e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

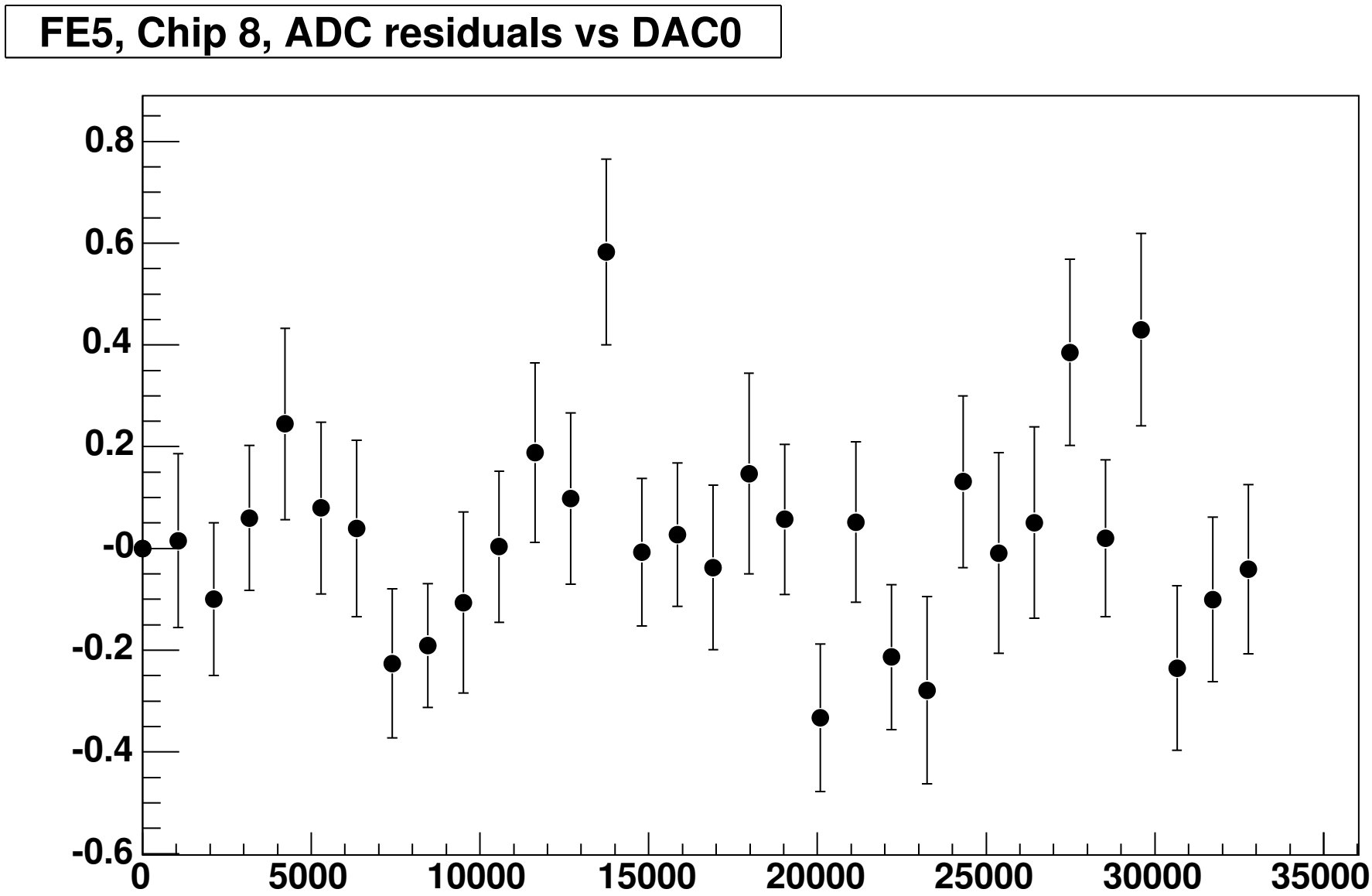

FE5, Chip 7, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

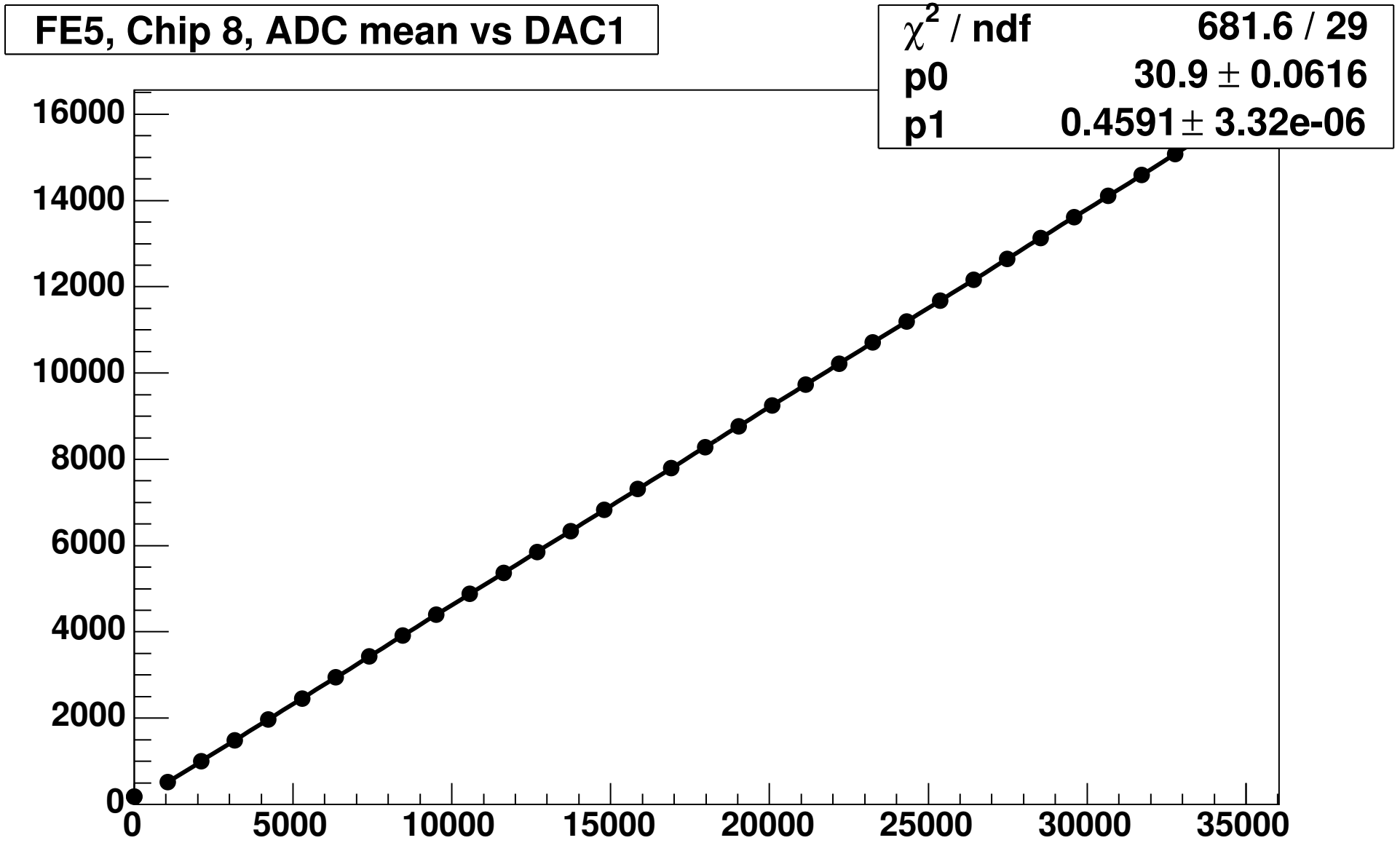
FE5, Chip 7, ADC residuals vs DAC1



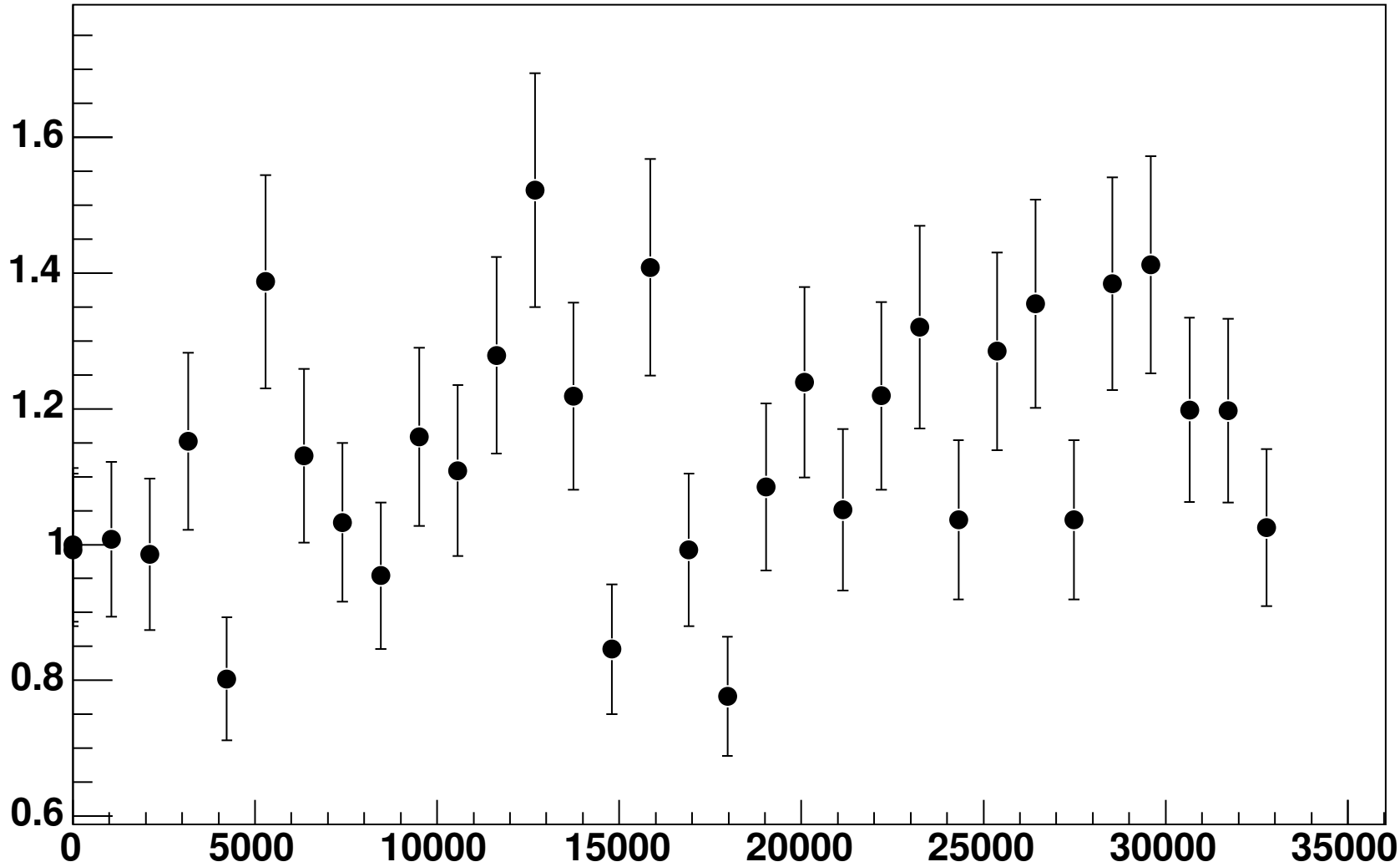

FE5, Chip 8, ADC mean vs DAC0
χ² / ndf 43.07 / 29
p0 175.7 ± 0.05859
p1 1.437e-05 ± 3.108e-06
176.8
176.6
176.4
176.2
176
175.8
175.6
175.4
0
5000
10000
15000
20000
25000
30000
35000


FE5, Chip 8, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

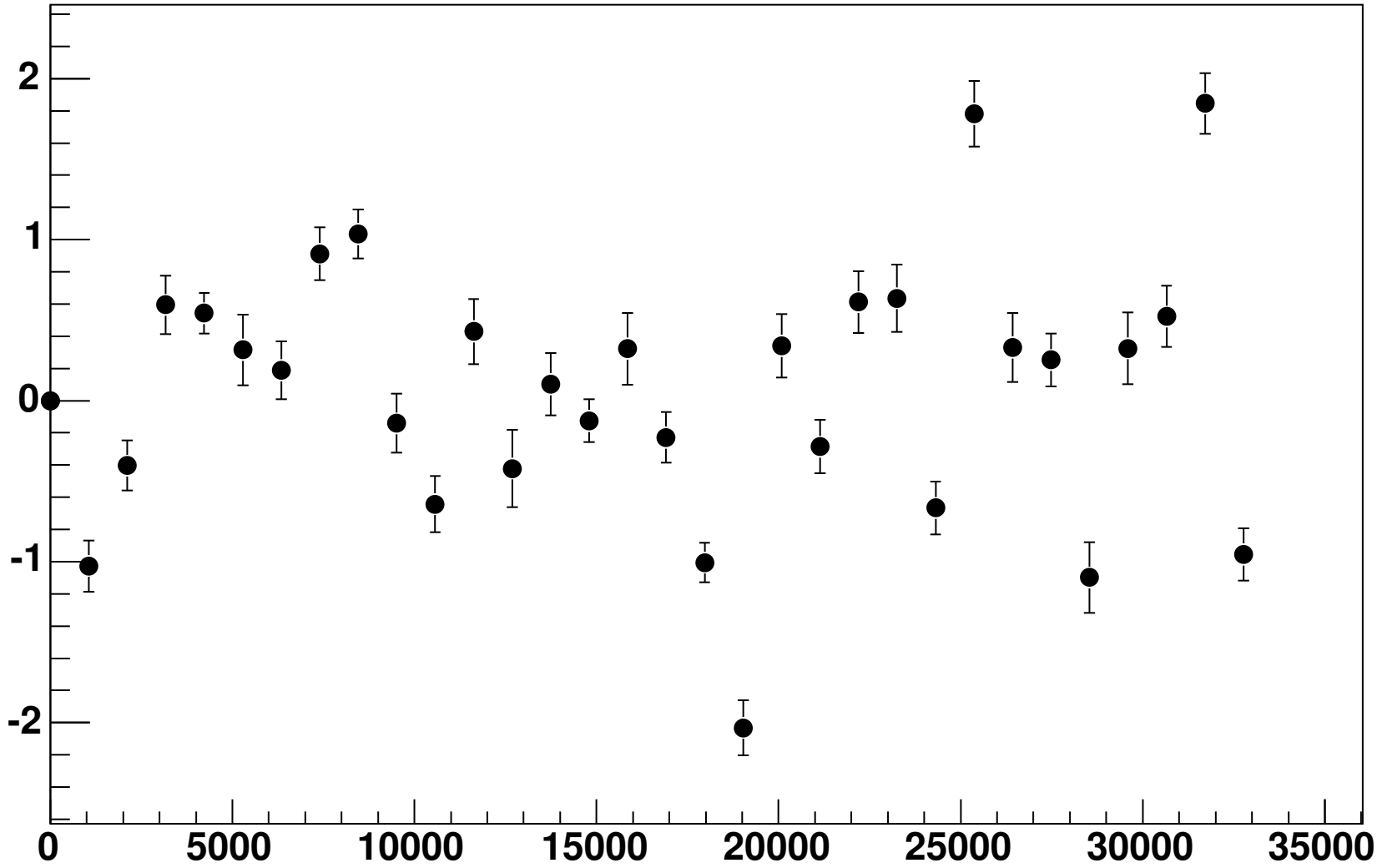

FE5, Chip 8, ADC residuals vs DAC0
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

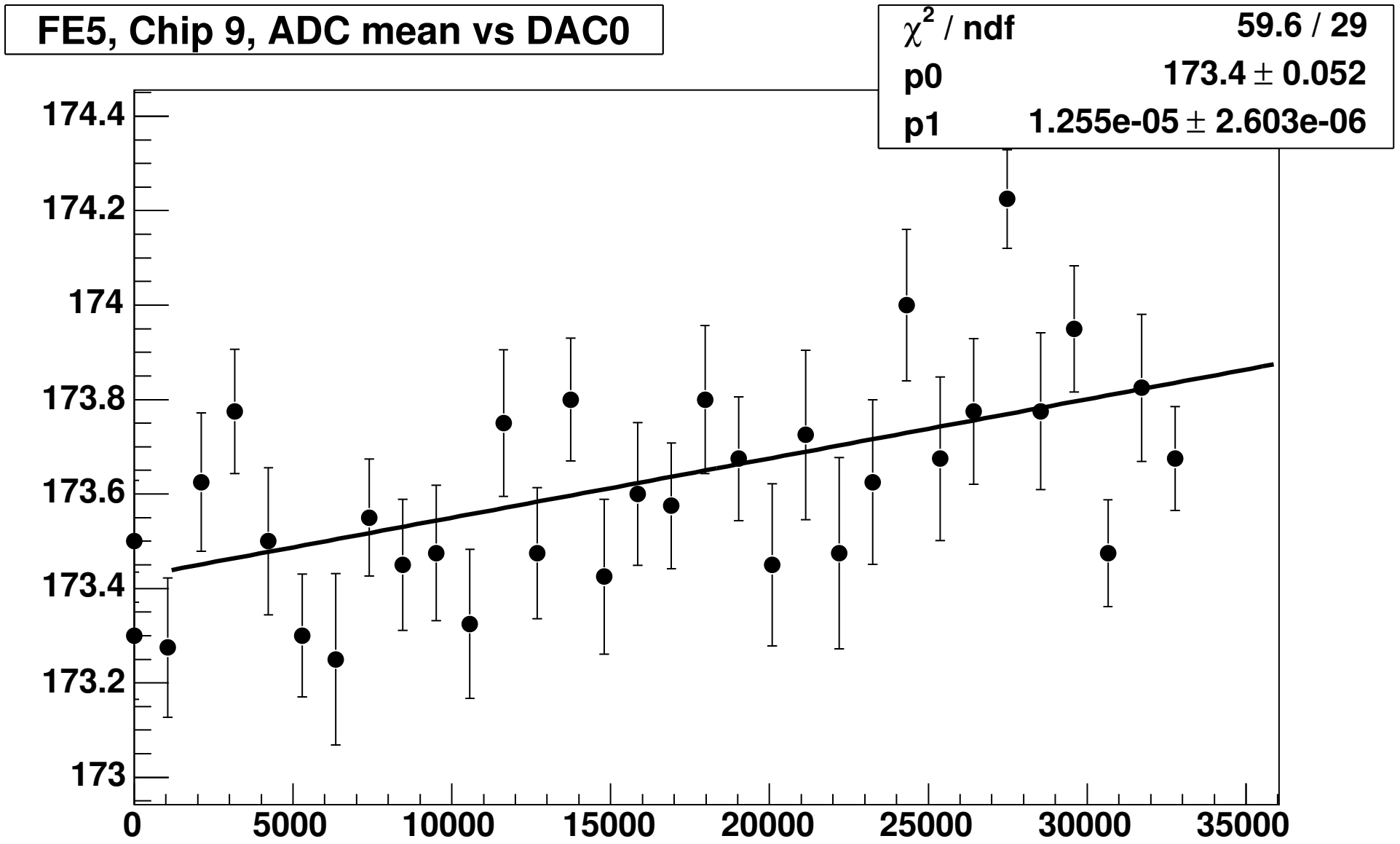

FE5, Chip 8, ADC mean vs DAC1
χ² / ndf 681.6 / 29
p0 30.9 ± 0.0616
p1 0.4591 ± 3.32e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

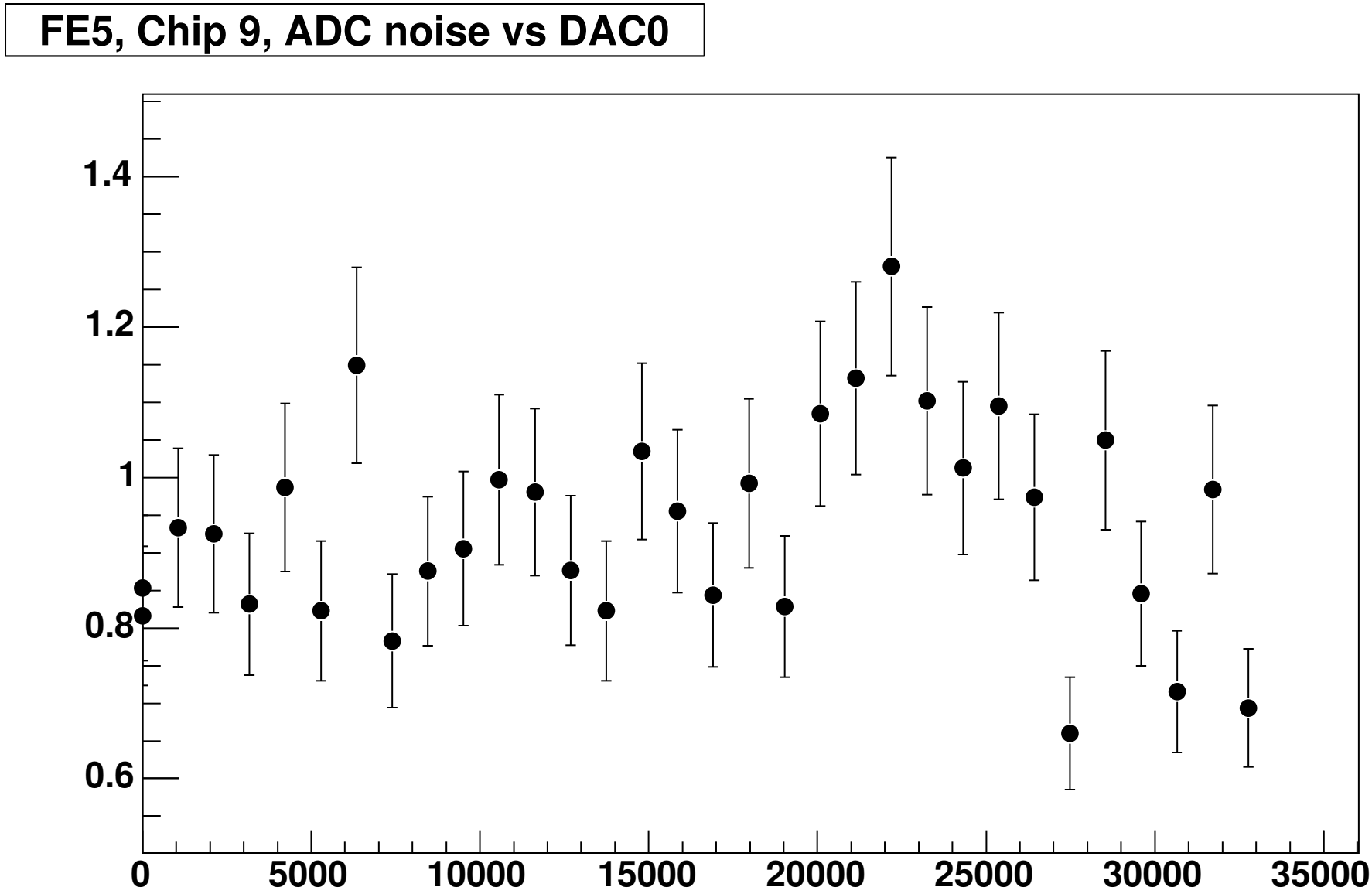
FE5, Chip 8, ADC noise vs DAC1

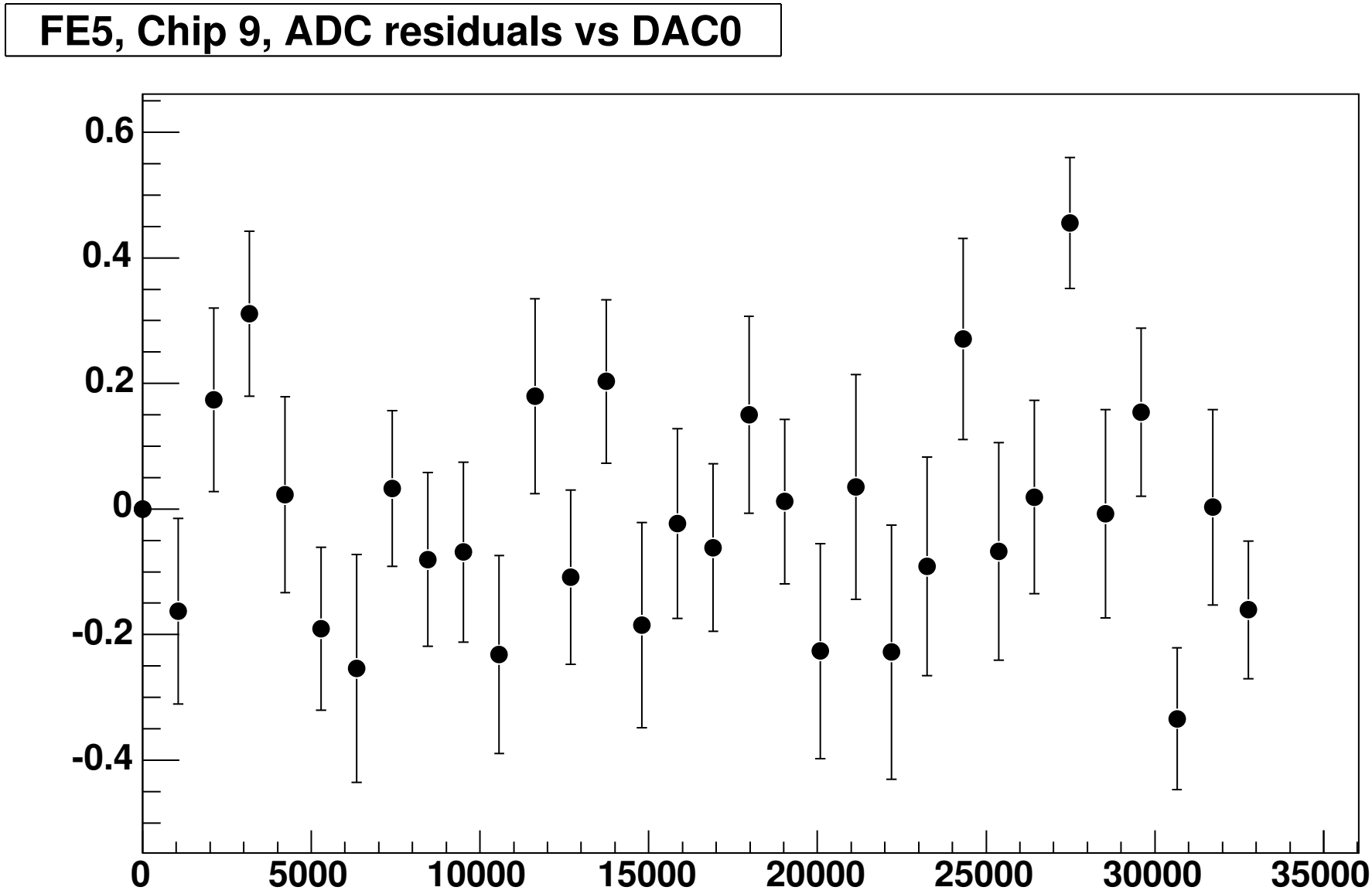


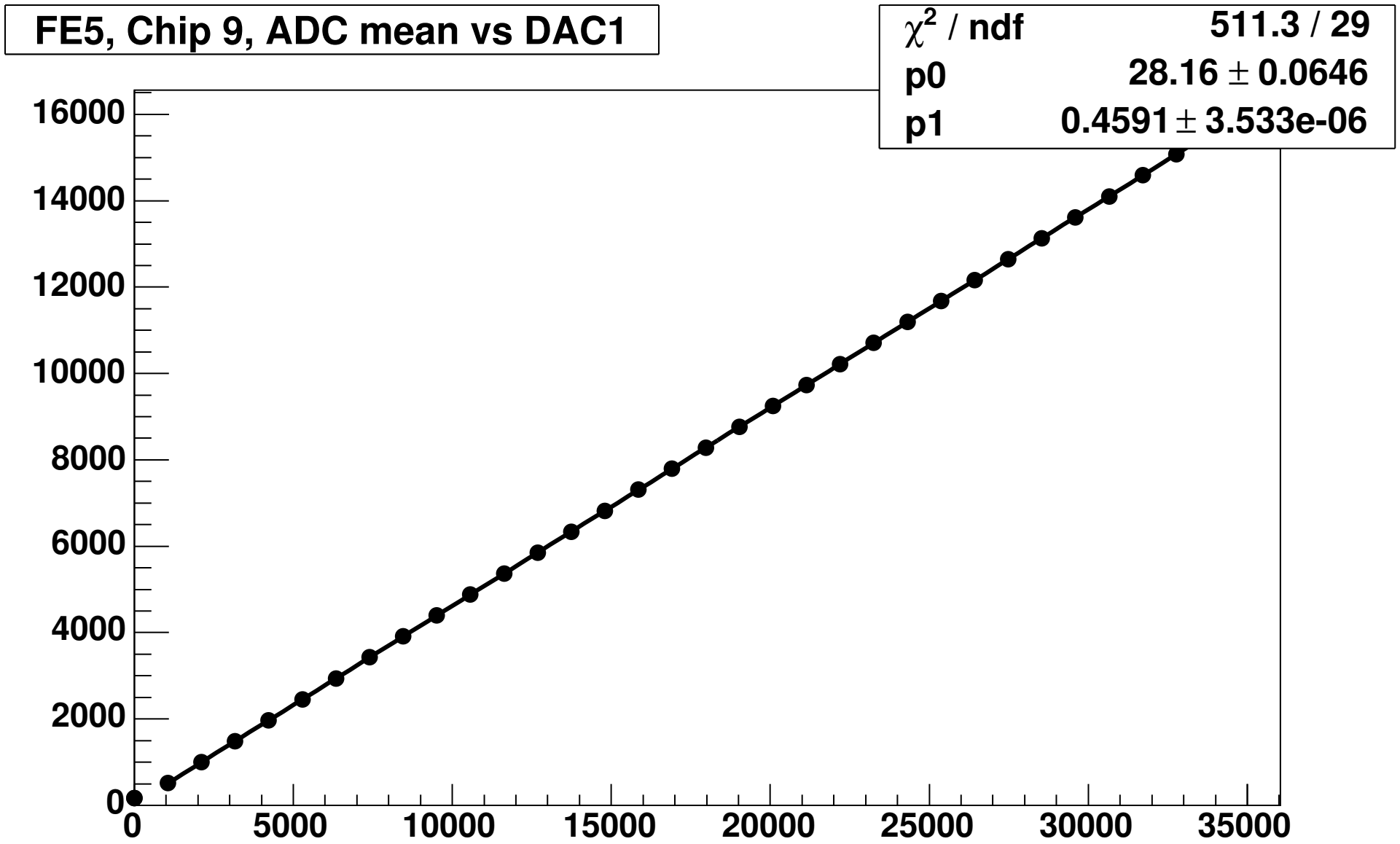
FE5, Chip 8, ADC residuals vs DAC1

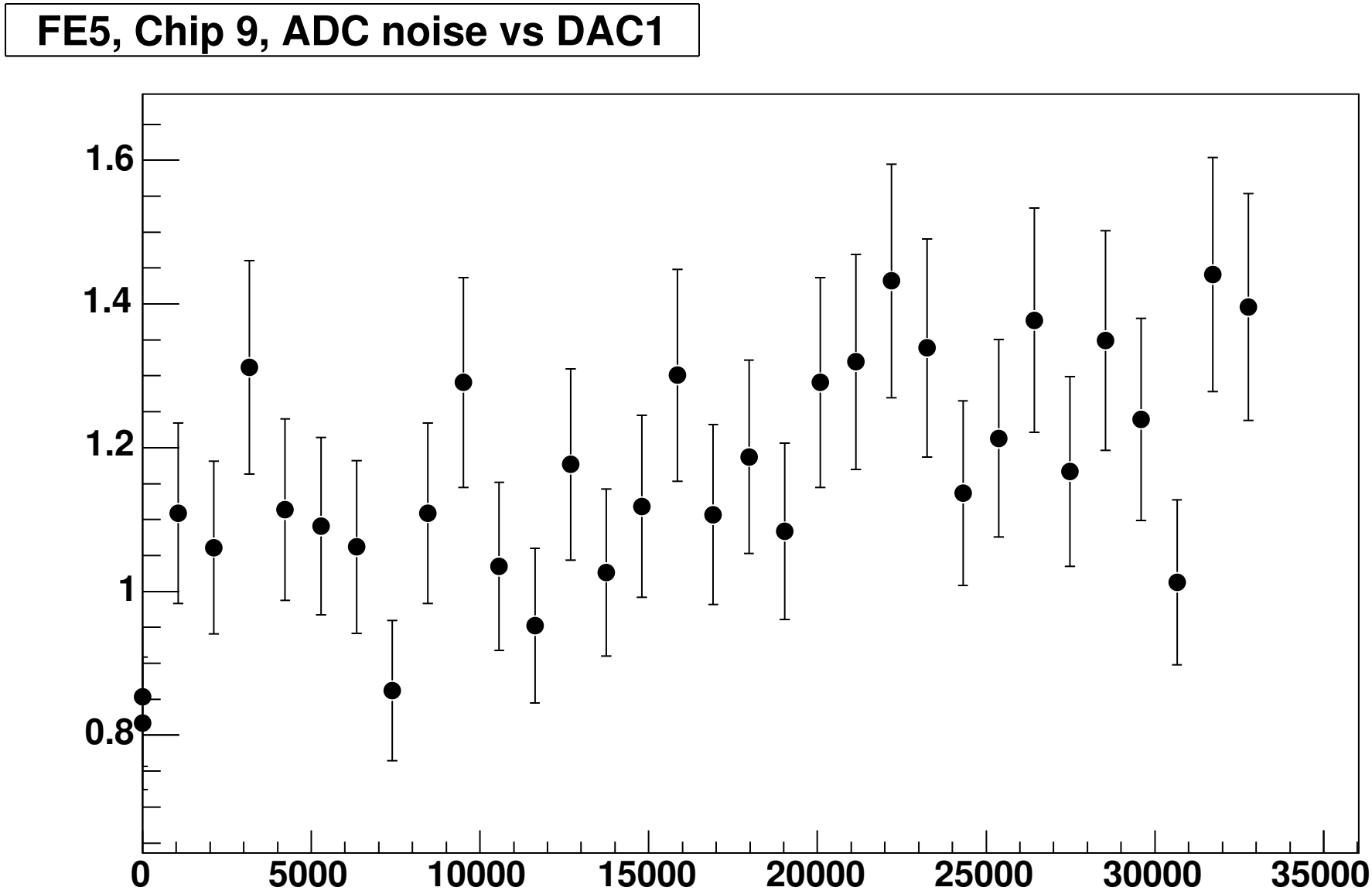



FE5, Chip 9, ADC mean vs DAC0
χ² / ndf 59.6 / 29
p0 173.4 ± 0.052
p1 1.255e-05 ± 2.603e-06
174.4
174.2
174
173.8
173.6
173.4
173.2
173
0
5000
10000
15000
20000
25000
30000
35000

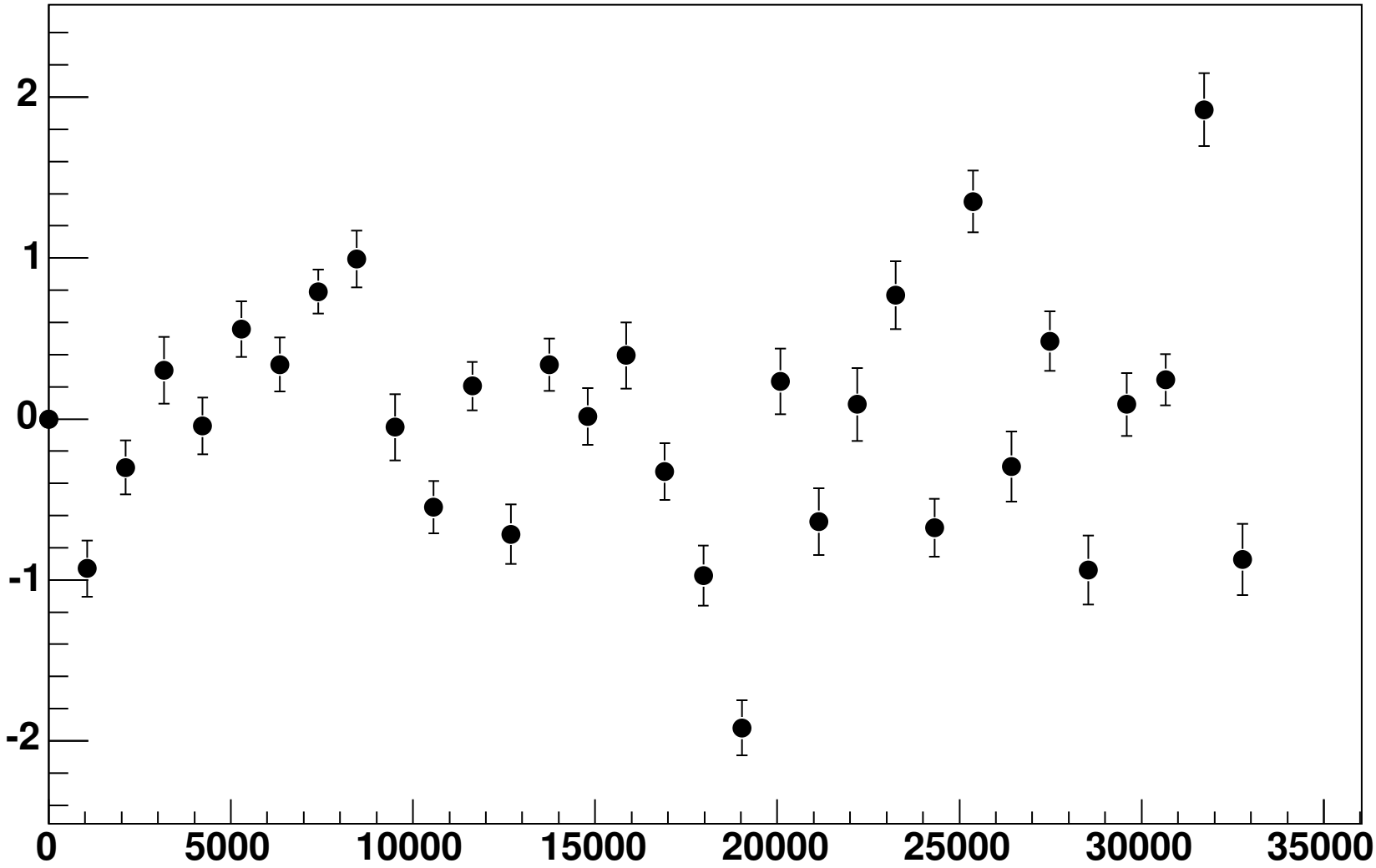

FE5, Chip 9, ADC noise vs DAC0
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

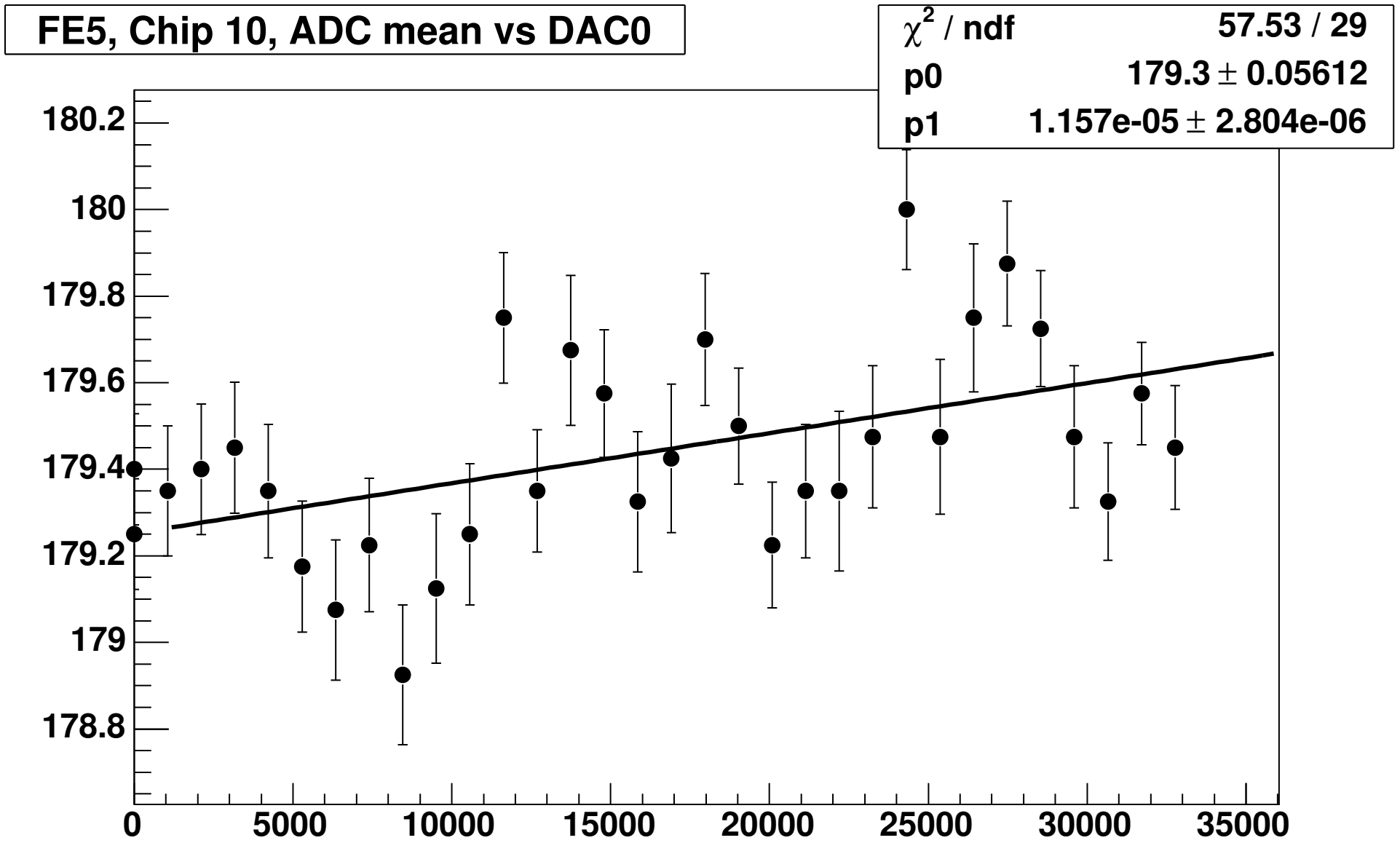

FE5, Chip 9, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

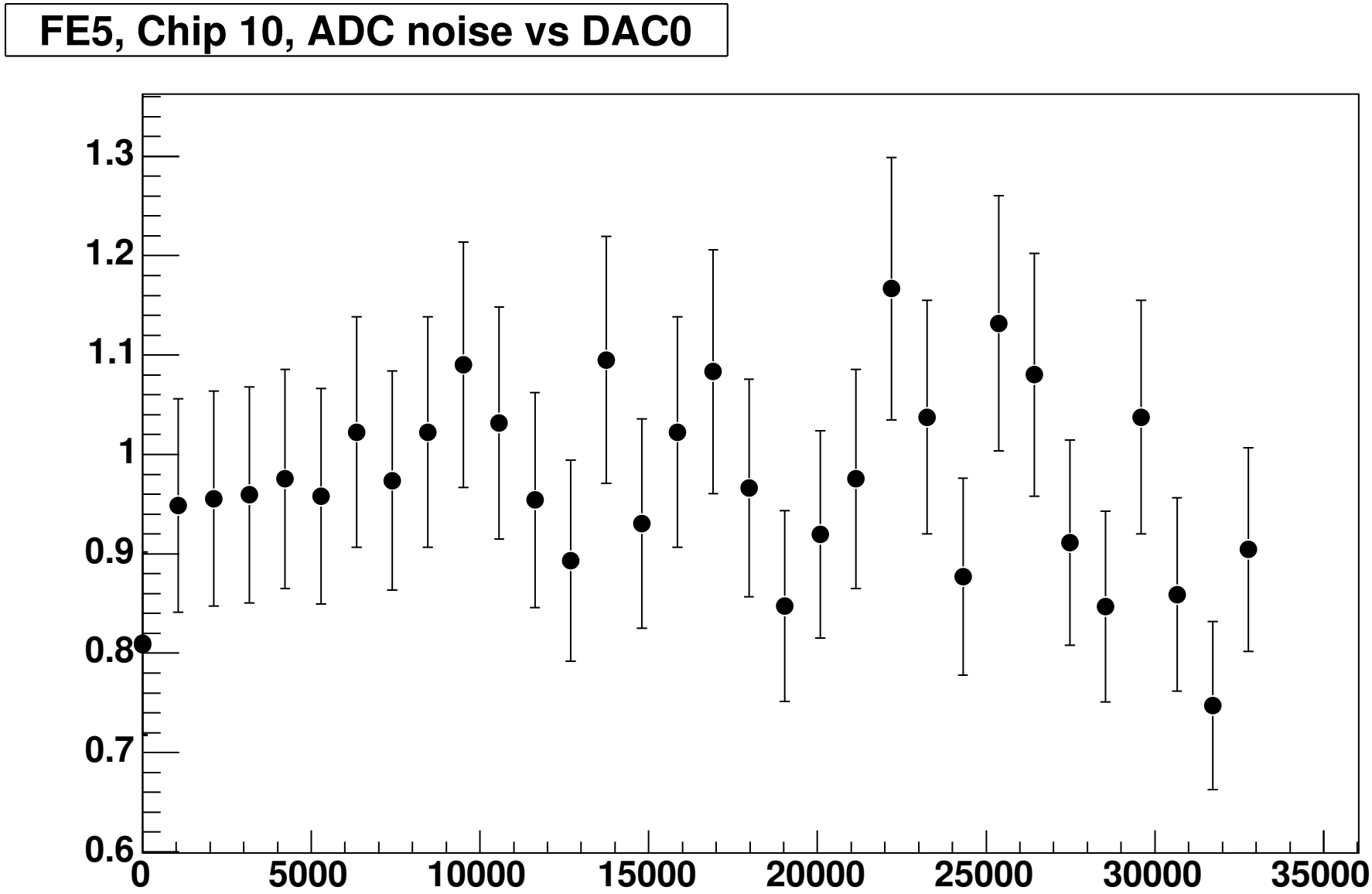

FE5, Chip 9, ADC mean vs DAC1
χ² / ndf 511.3 / 29
p0 28.16 ± 0.0646
p1 0.4591 ± 3.533e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

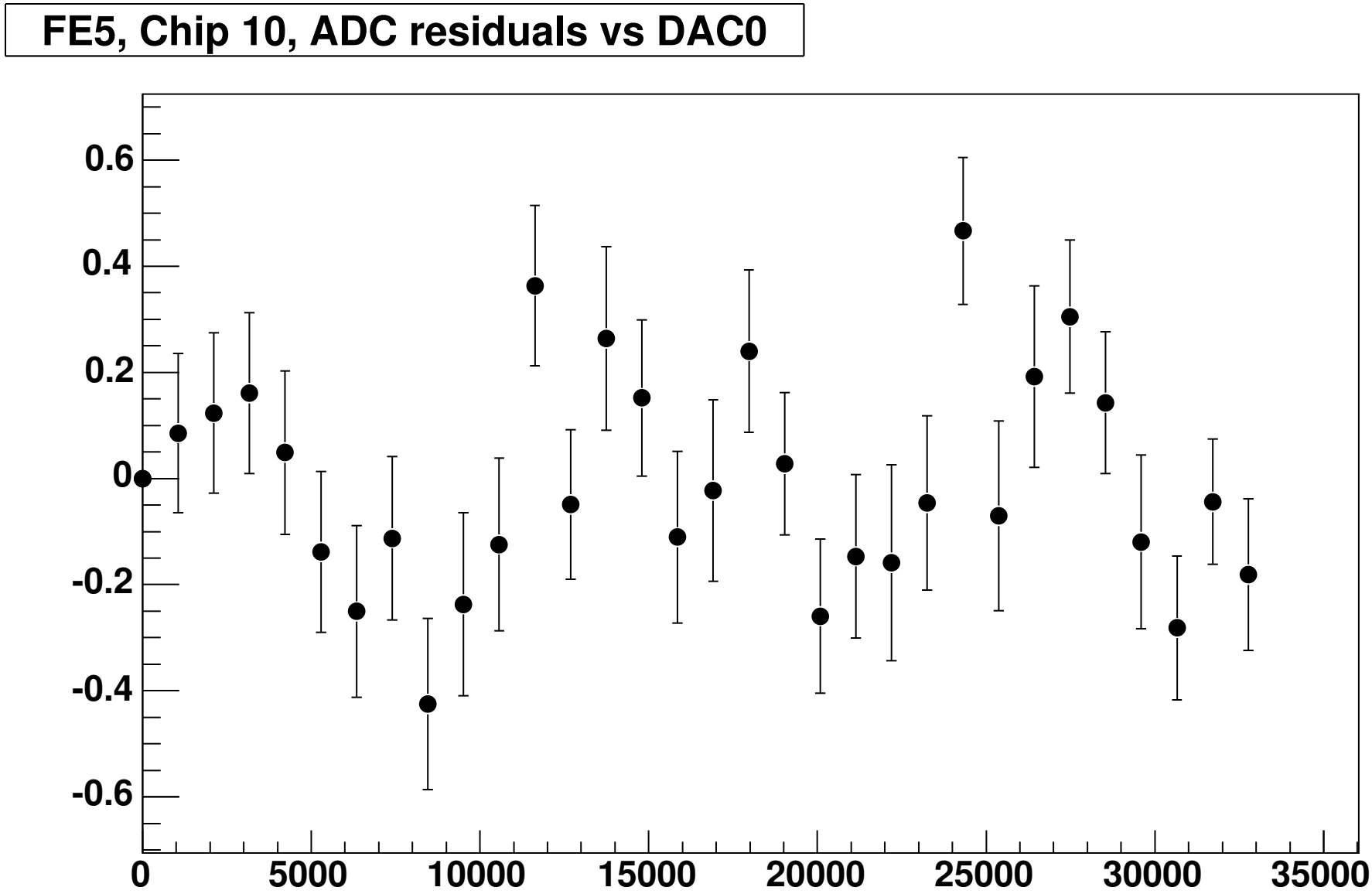

FE5, Chip 9, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

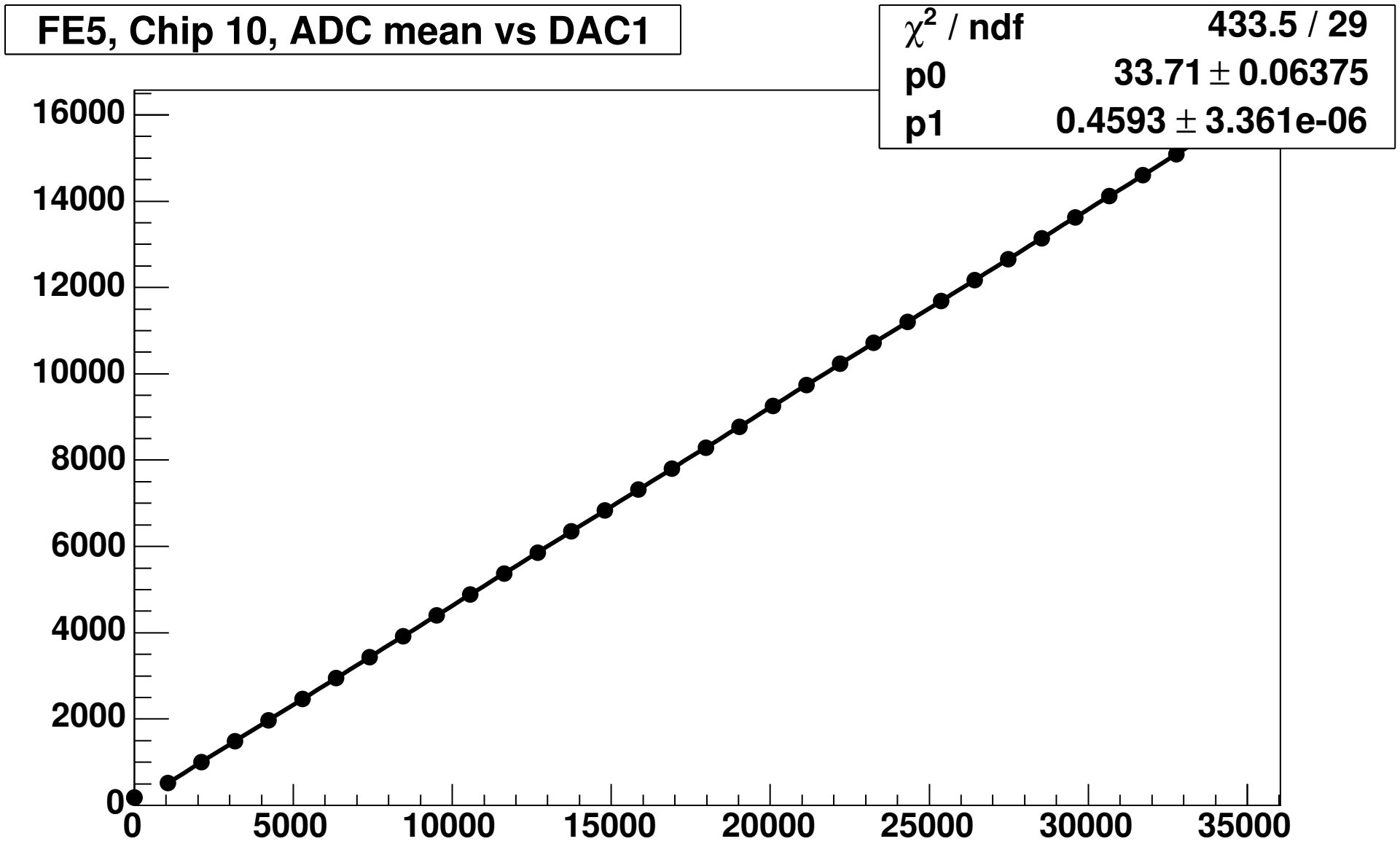
FE5, Chip 9, ADC residuals vs DAC1

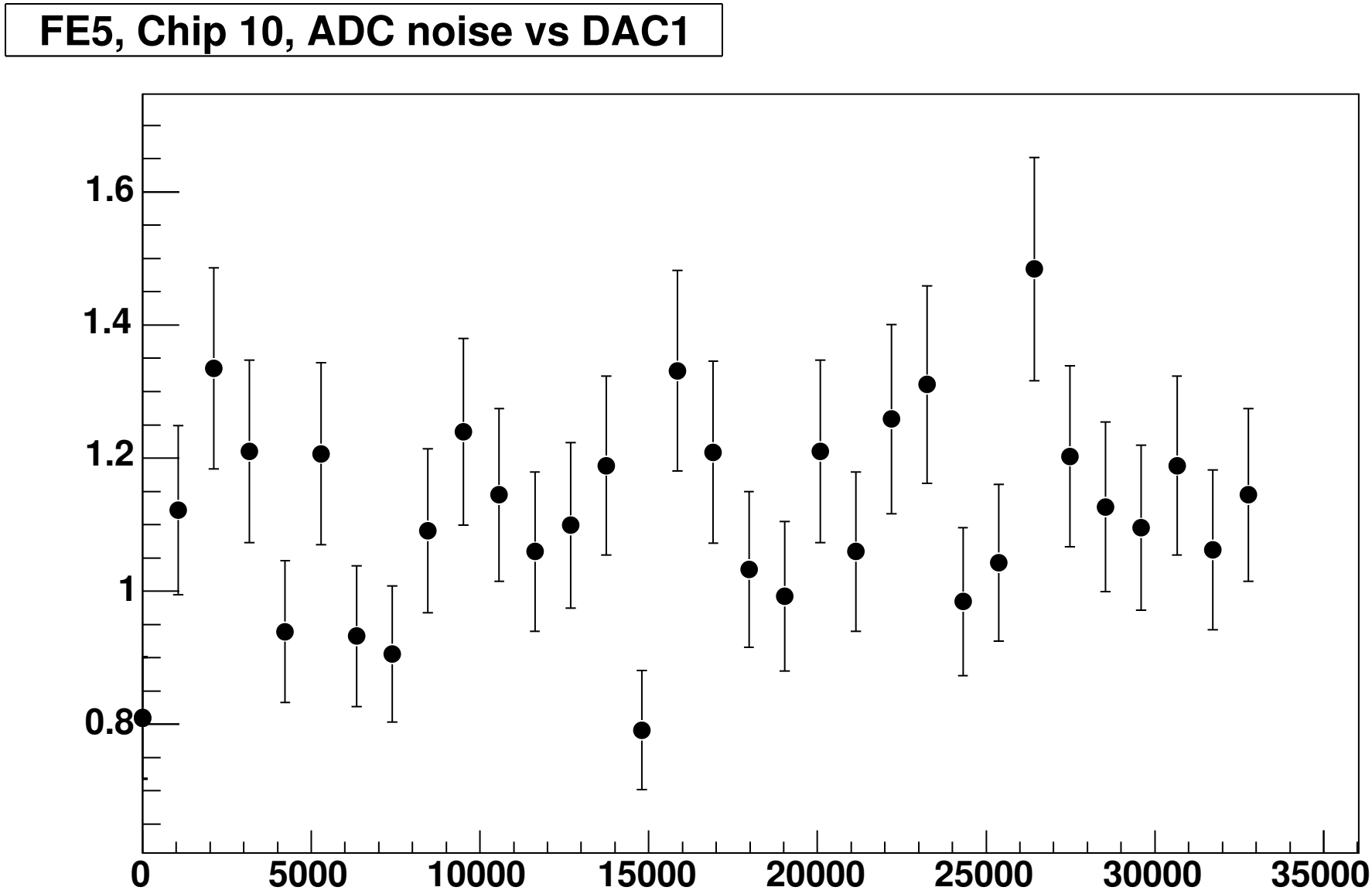


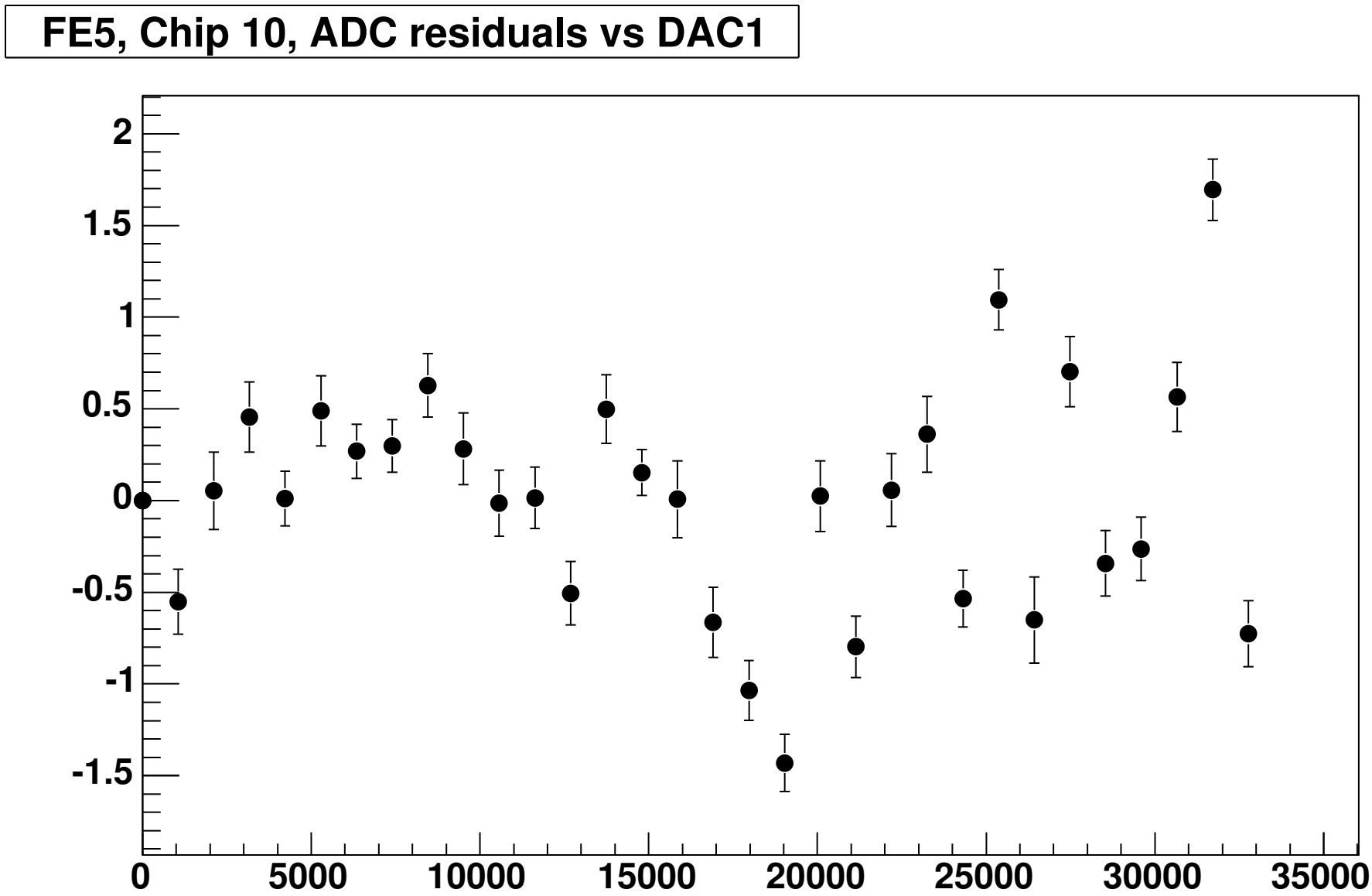

FE5, Chip 10, ADC mean vs DAC0
χ² / ndf 57.53 / 29
p0 179.3 ± 0.05612
p1 1.157e-05 ± 2.804e-06
180.2
180
179.8
179.6
179.4
179.2
179
178.8
0
5000
10000
15000
20000
25000
30000
35000

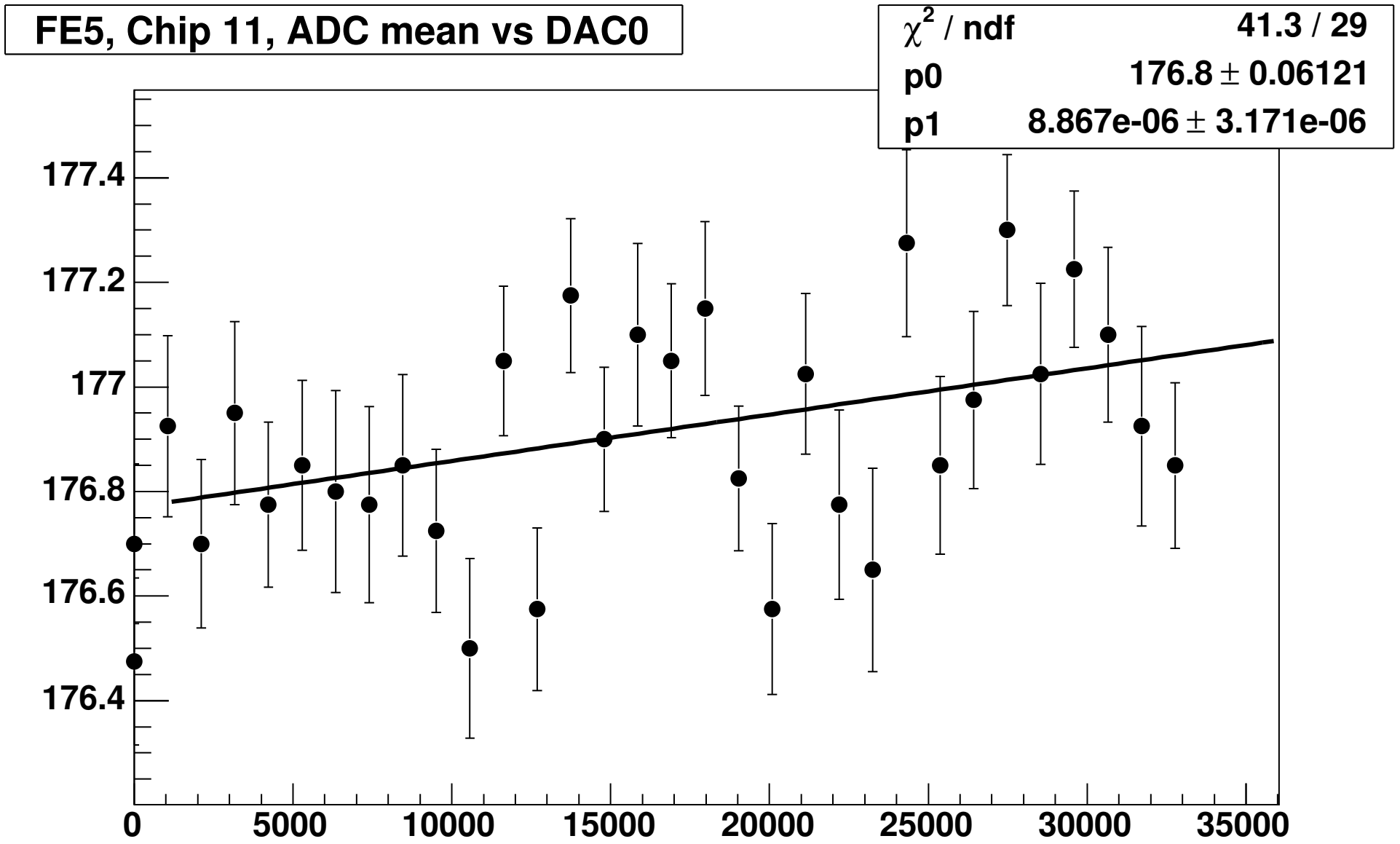

FE5, Chip 10, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

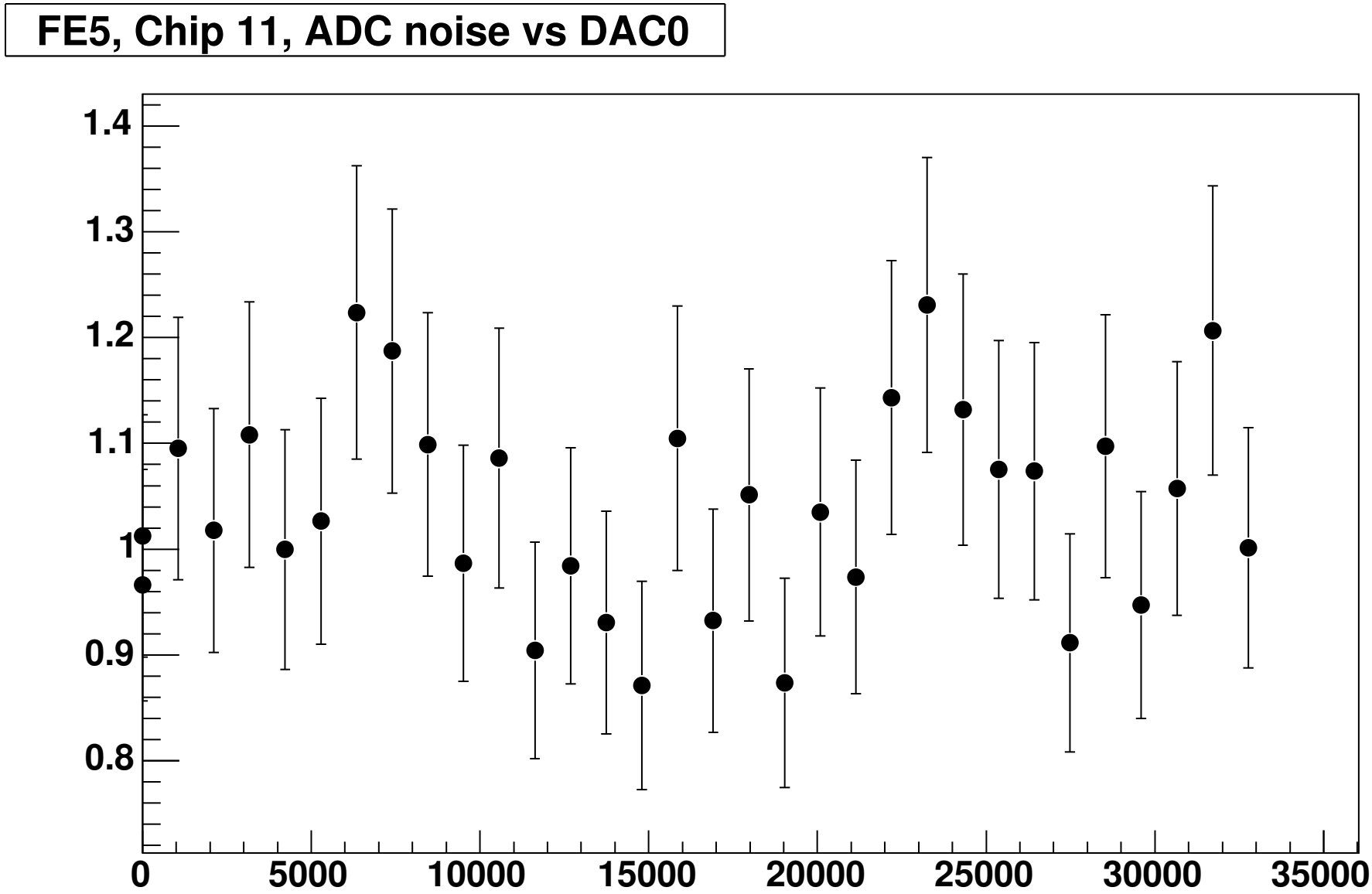

FE5, Chip 10, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

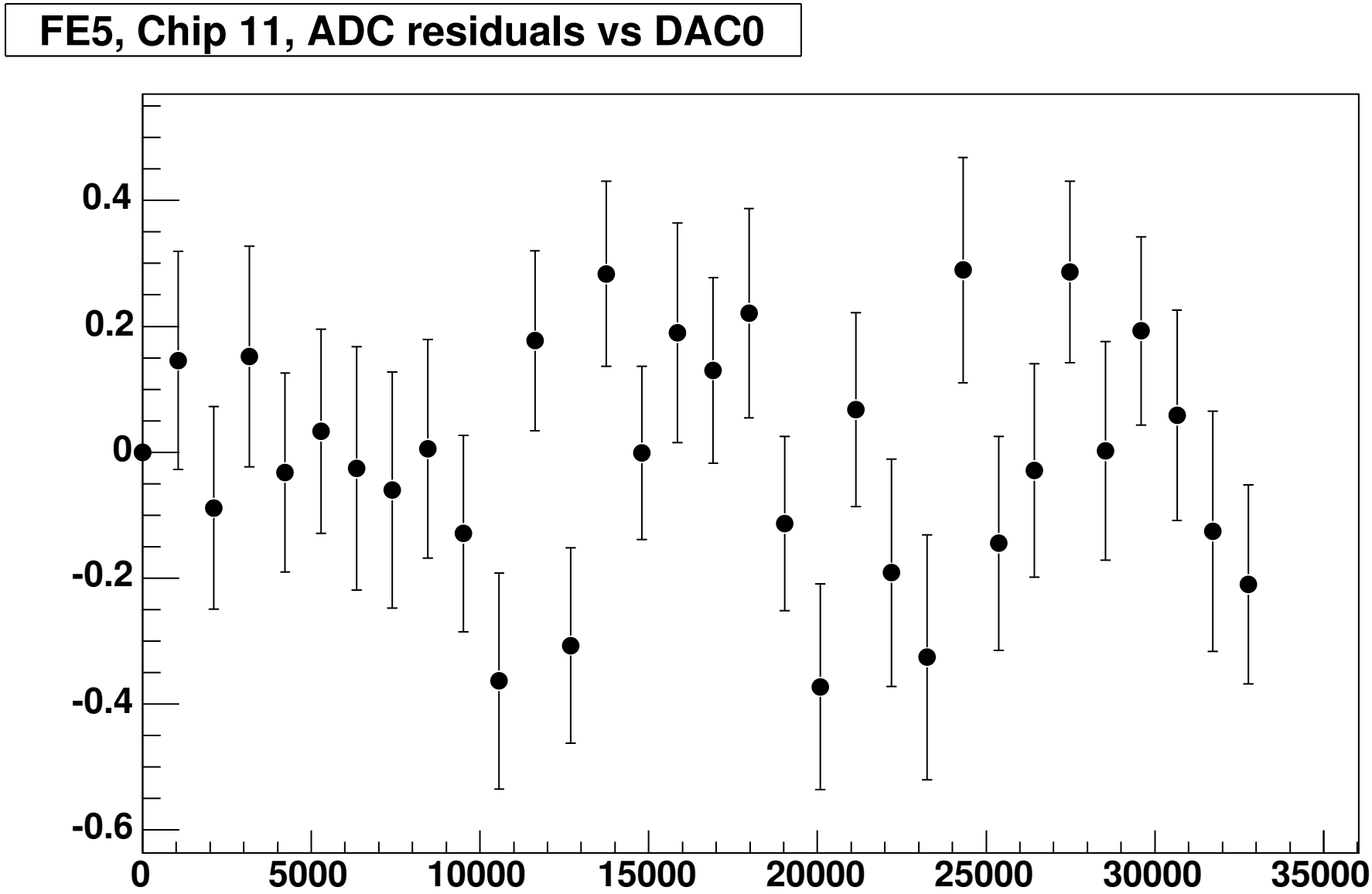

FE5, Chip 10, ADC mean vs DAC1
χ² / ndf 433.5 / 29
p0 33.71 ± 0.06375
p1 0.4593 ± 3.361e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

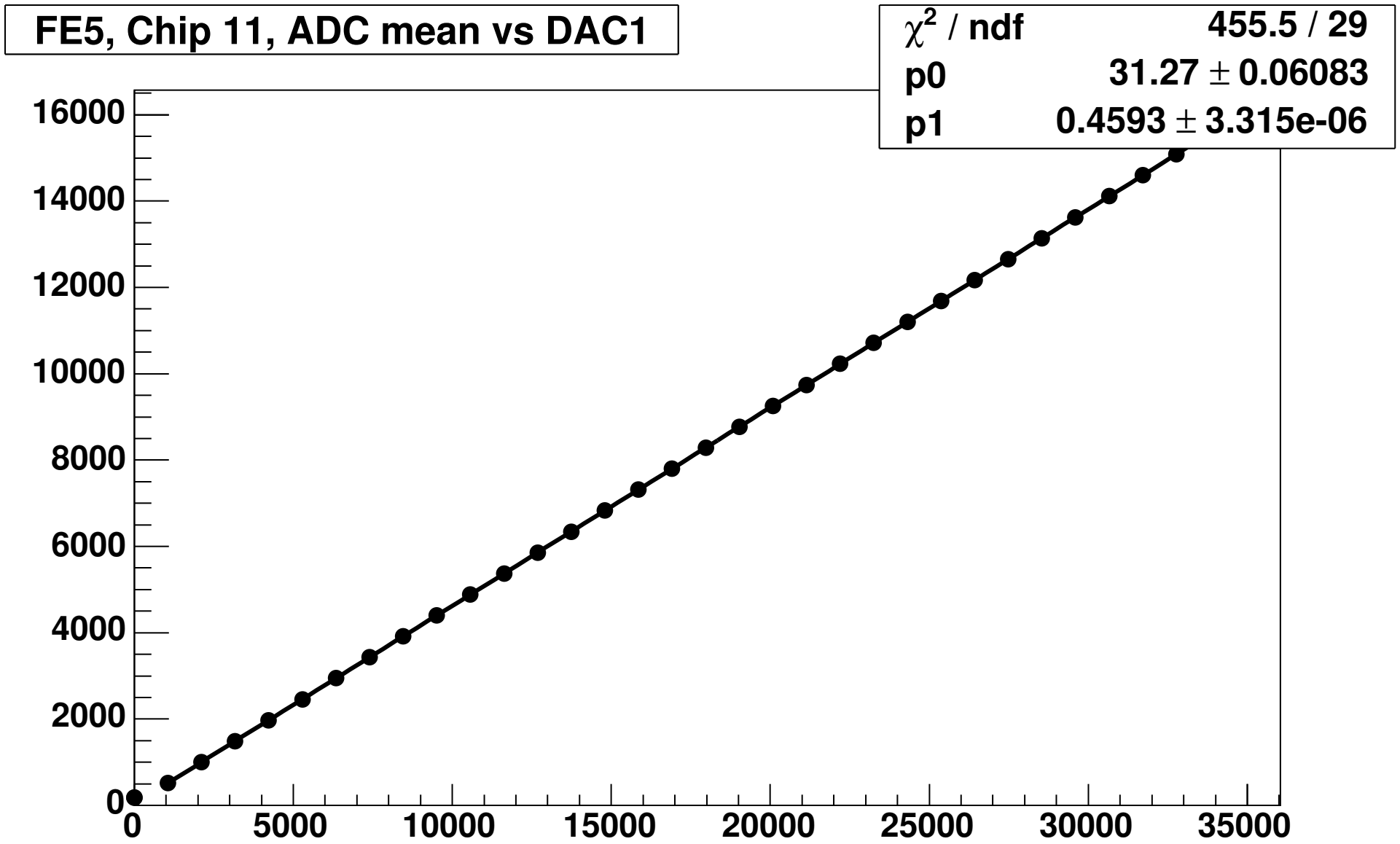

FE5, Chip 10, ADC noise vs DAC1
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

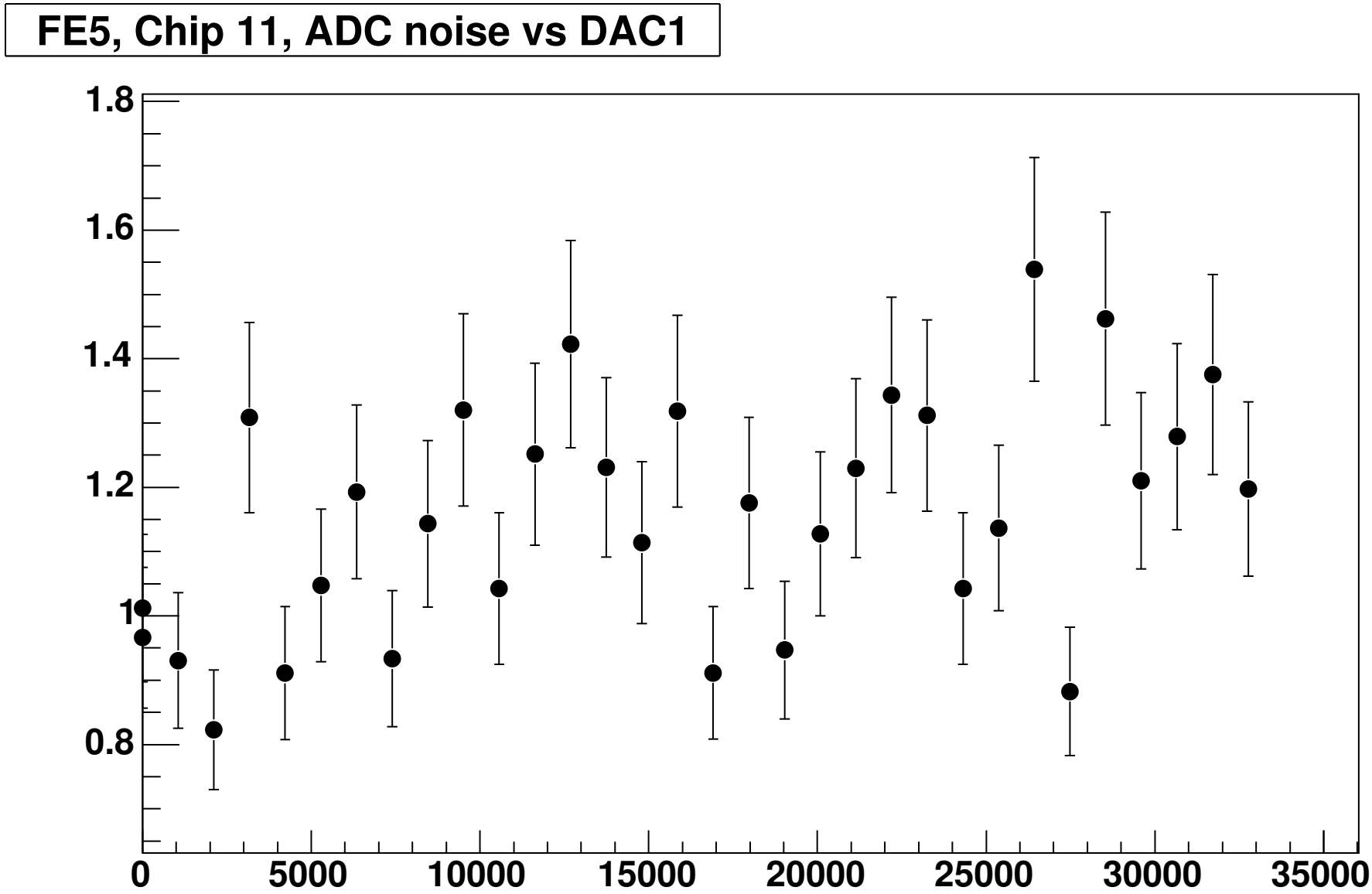

FE5, Chip 10, ADC residuals vs DAC1
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

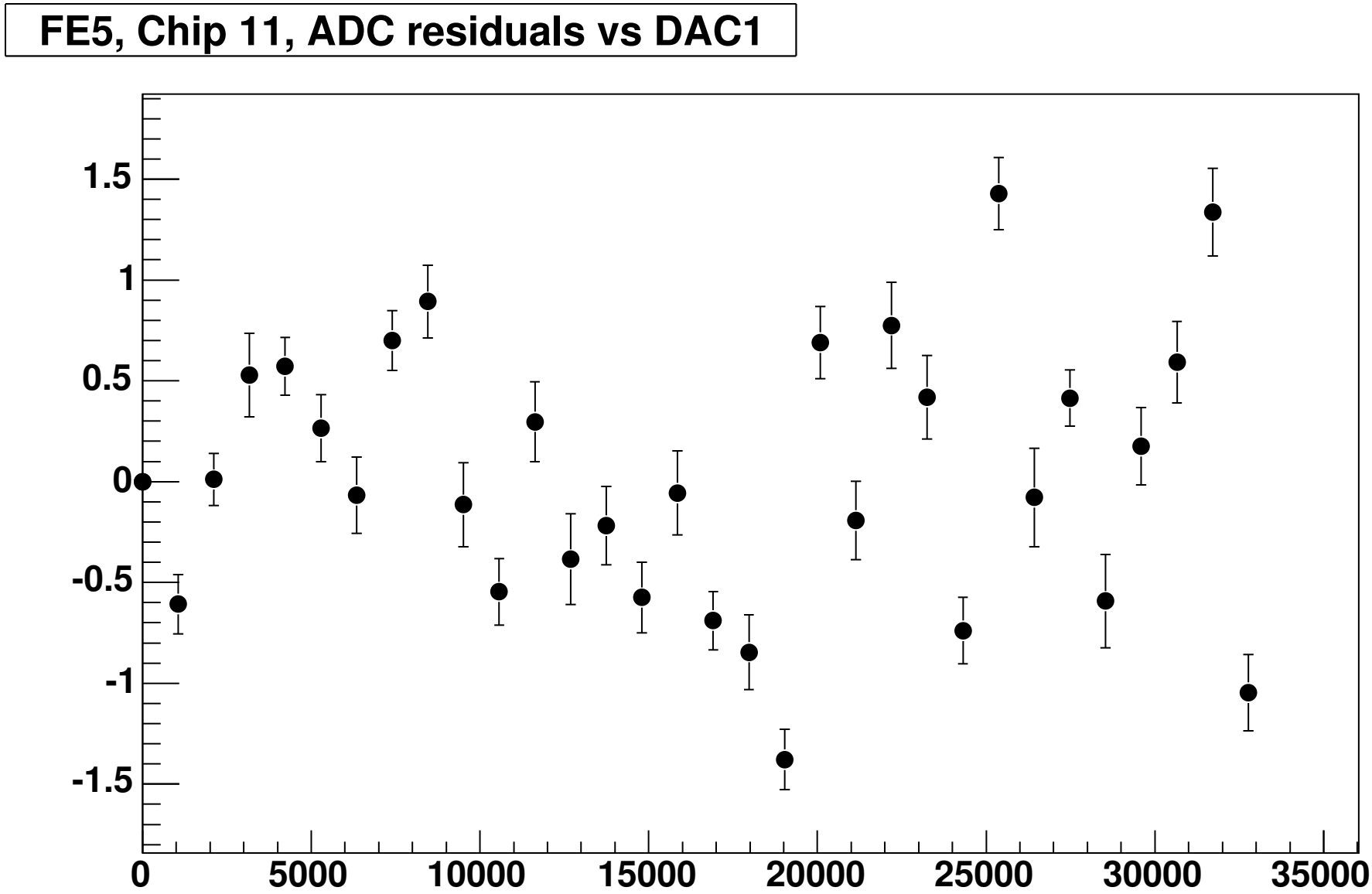

FE5, Chip 11, ADC mean vs DAC0
χ^2 / ndf 41.3 / 29
p0 176.8 ± 0.06121
p1 8.867e-06 ± 3.171e-06
177.4
177.2
177
176.8
176.6
176.4
0
5000
10000
15000
20000
25000
30000
35000

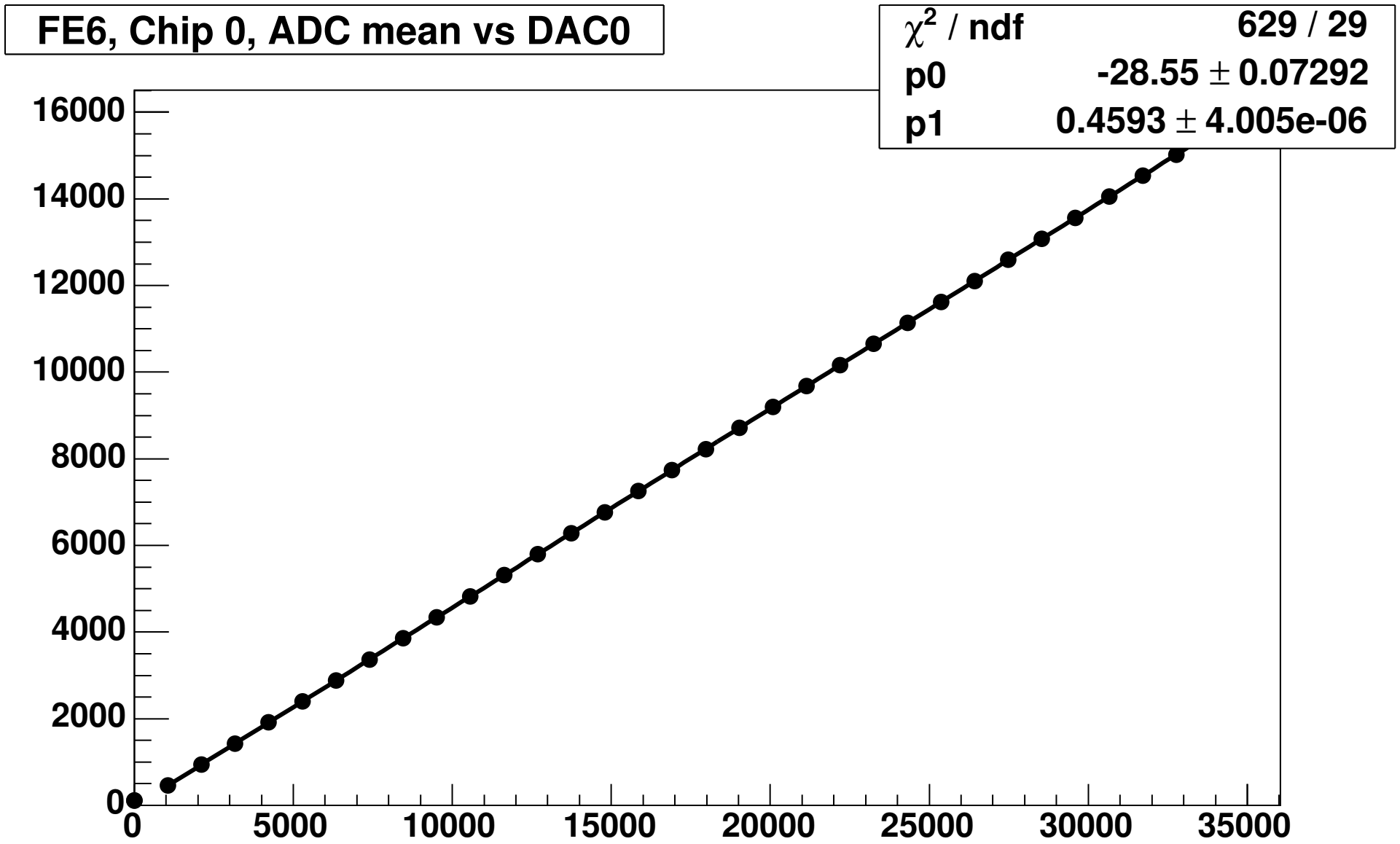

FE5, Chip 11, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0
5000
10000
15000
20000
25000
30000
35000

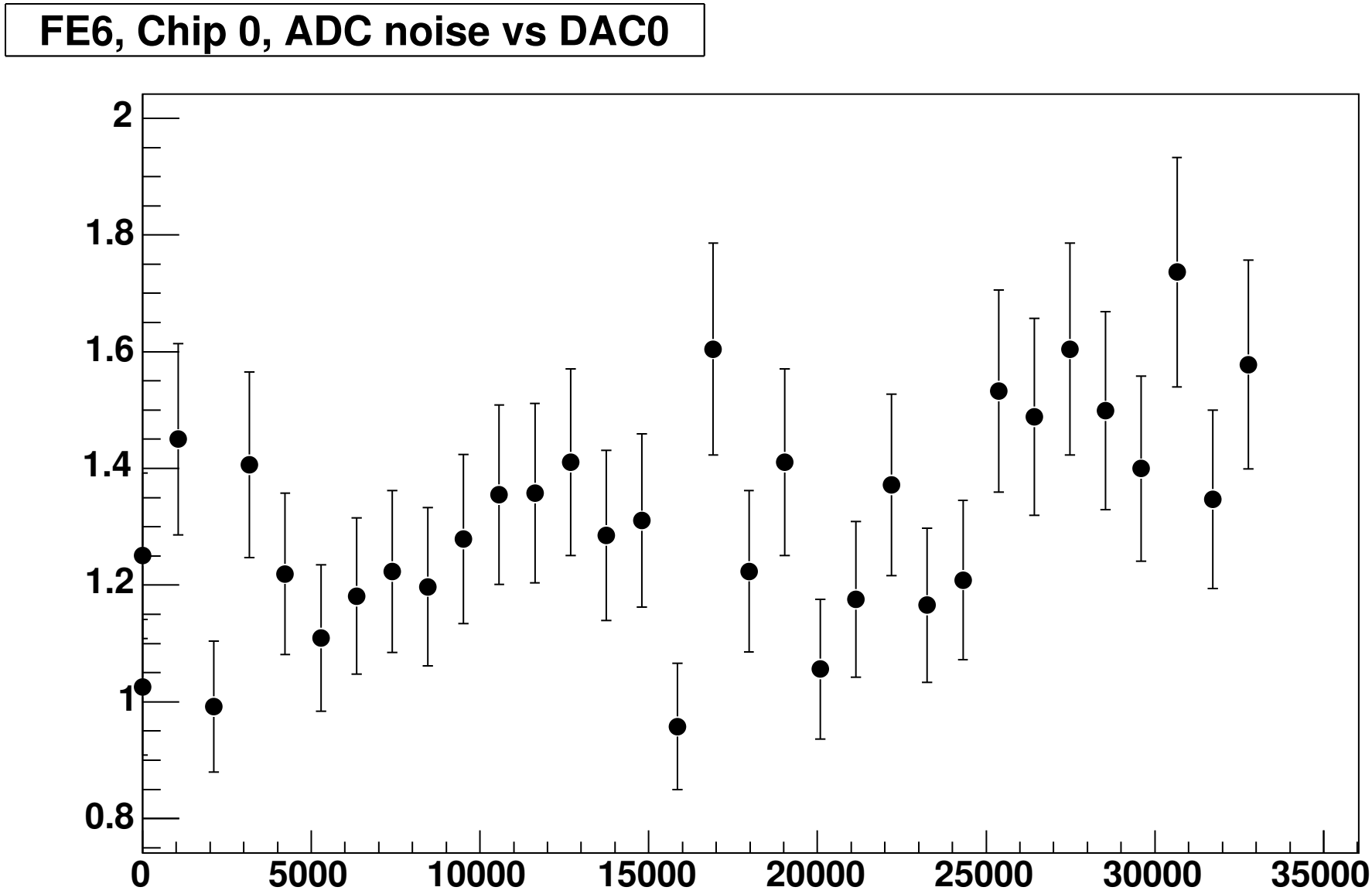

FE5, Chip 11, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

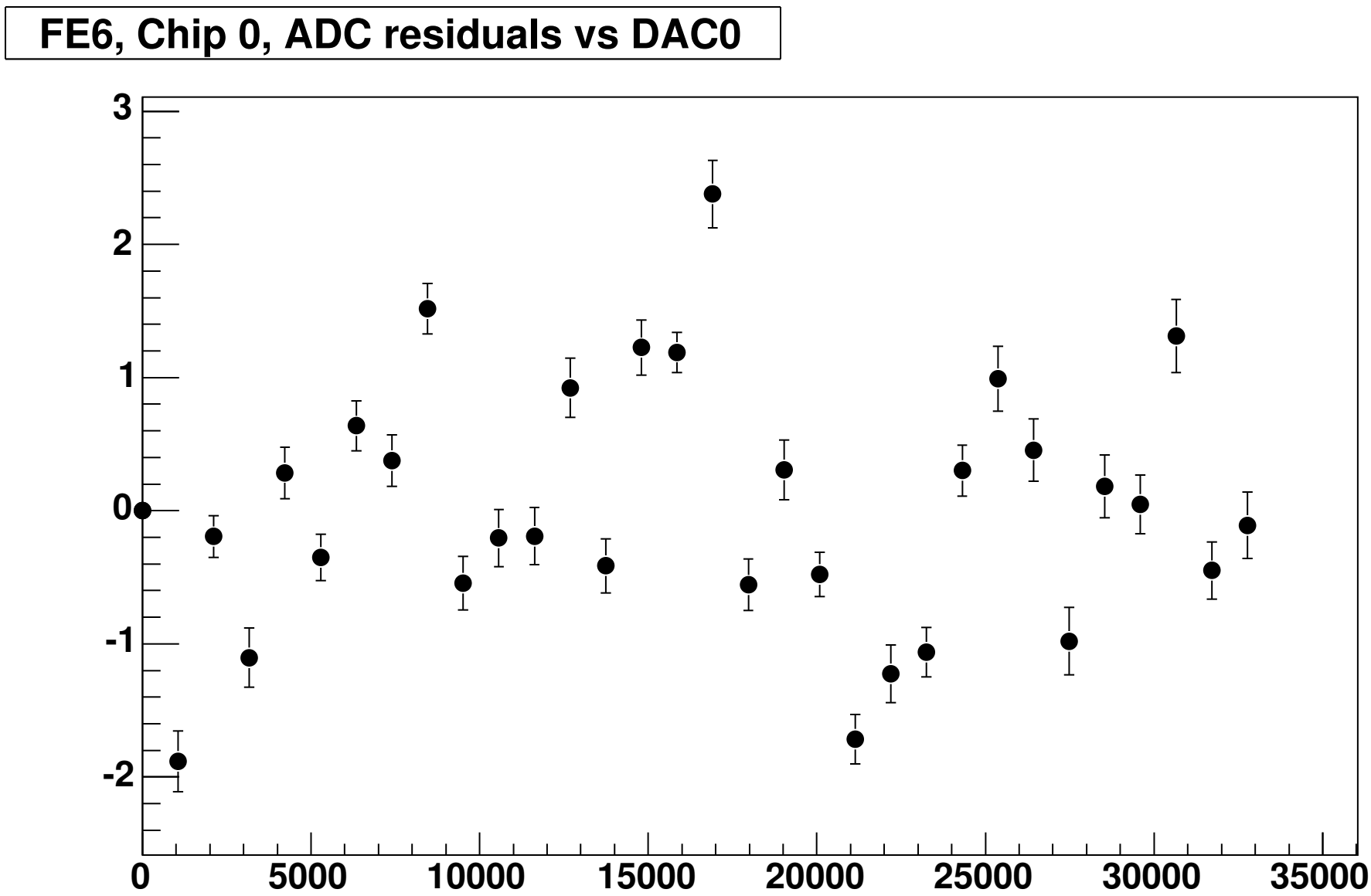

FE5, Chip 11, ADC mean vs DAC1
χ² / ndf 455.5 / 29
p0 31.27 ± 0.06083
p1 0.4593 ± 3.315e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

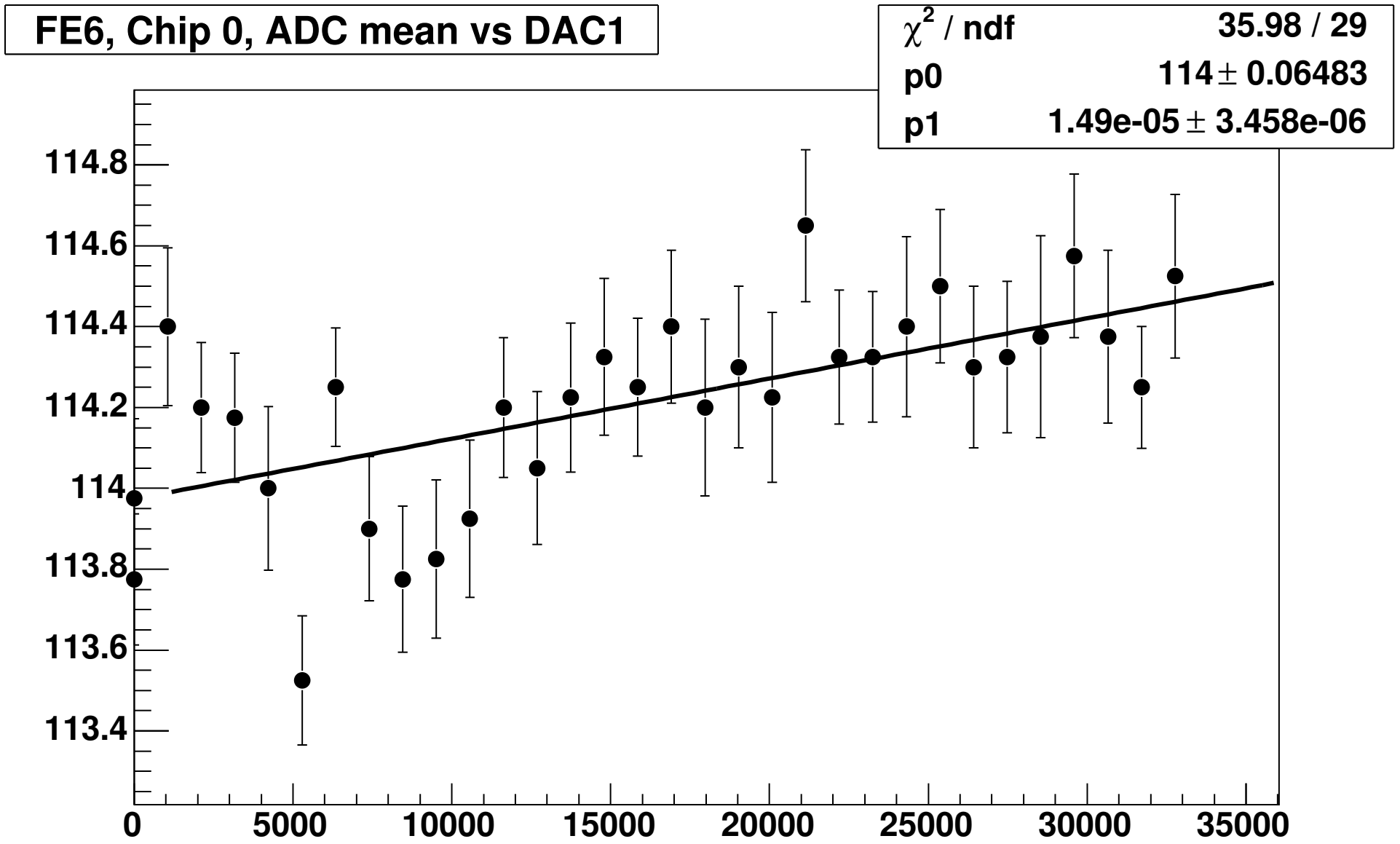

FE5, Chip 11, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

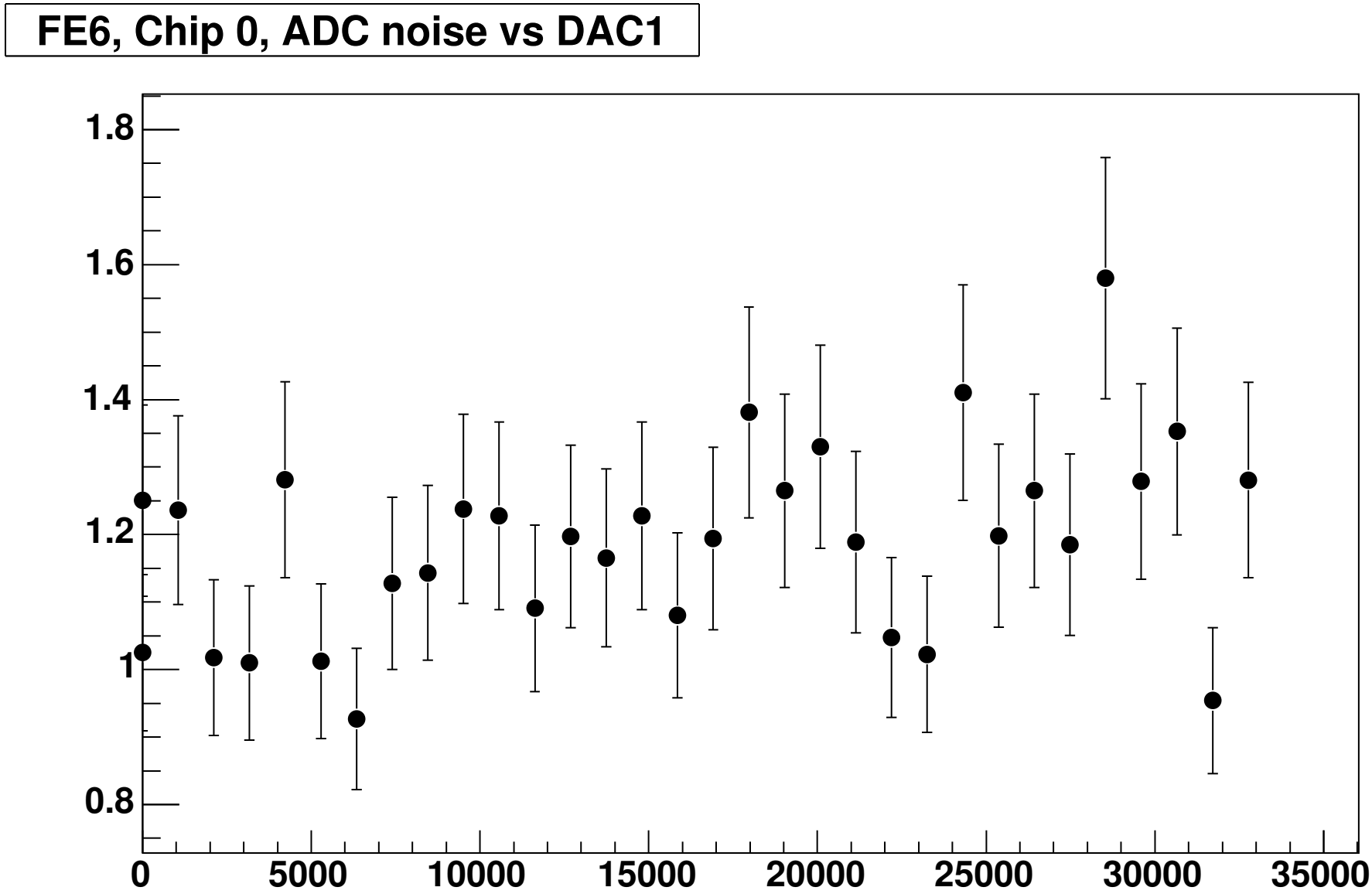

FE5, Chip 11, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

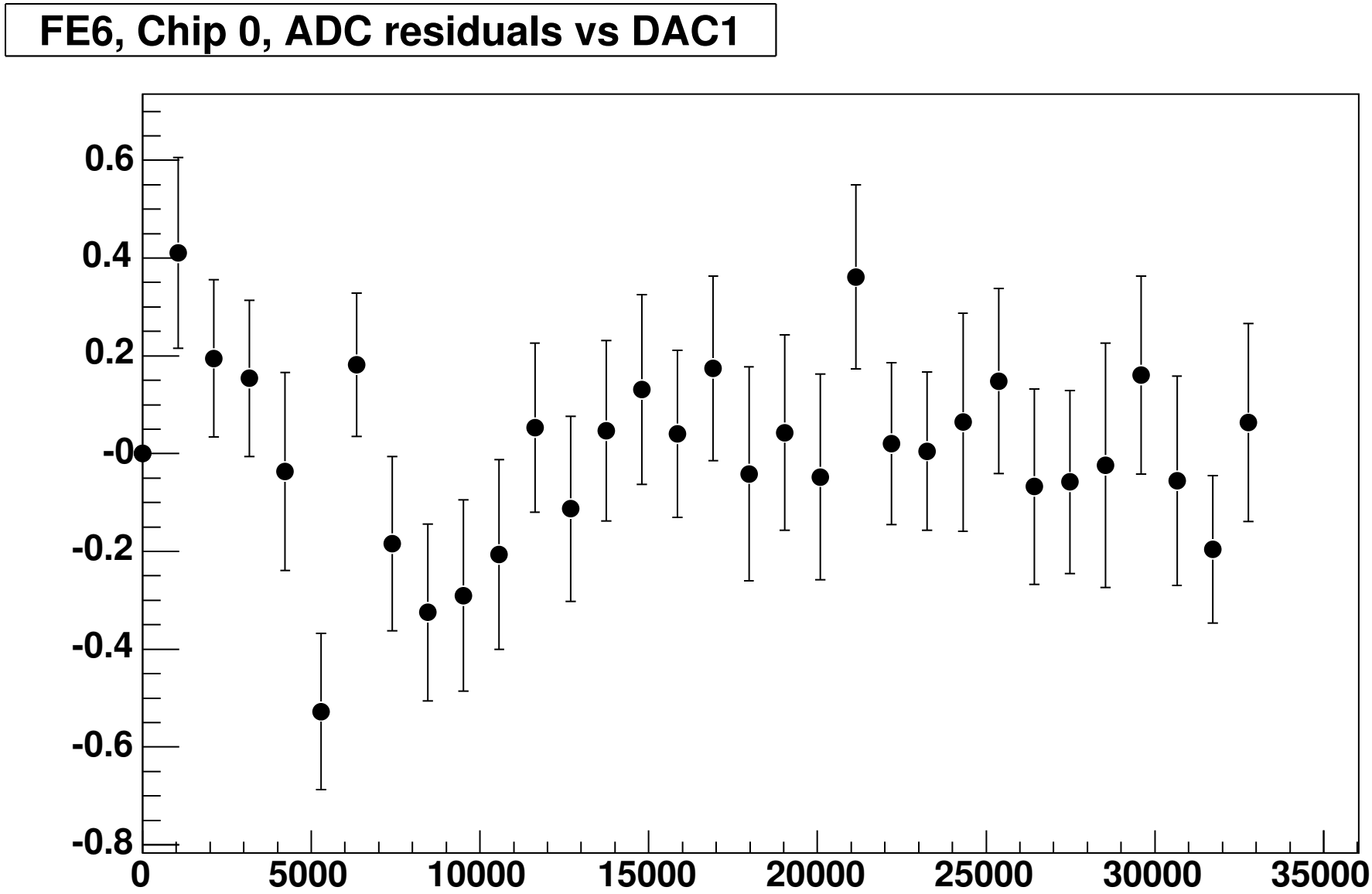

FE6, Chip 0, ADC mean vs DAC0
χ² / ndf 629 / 29
p0 -28.55 ± 0.07292
p1 0.4593 ± 4.005e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

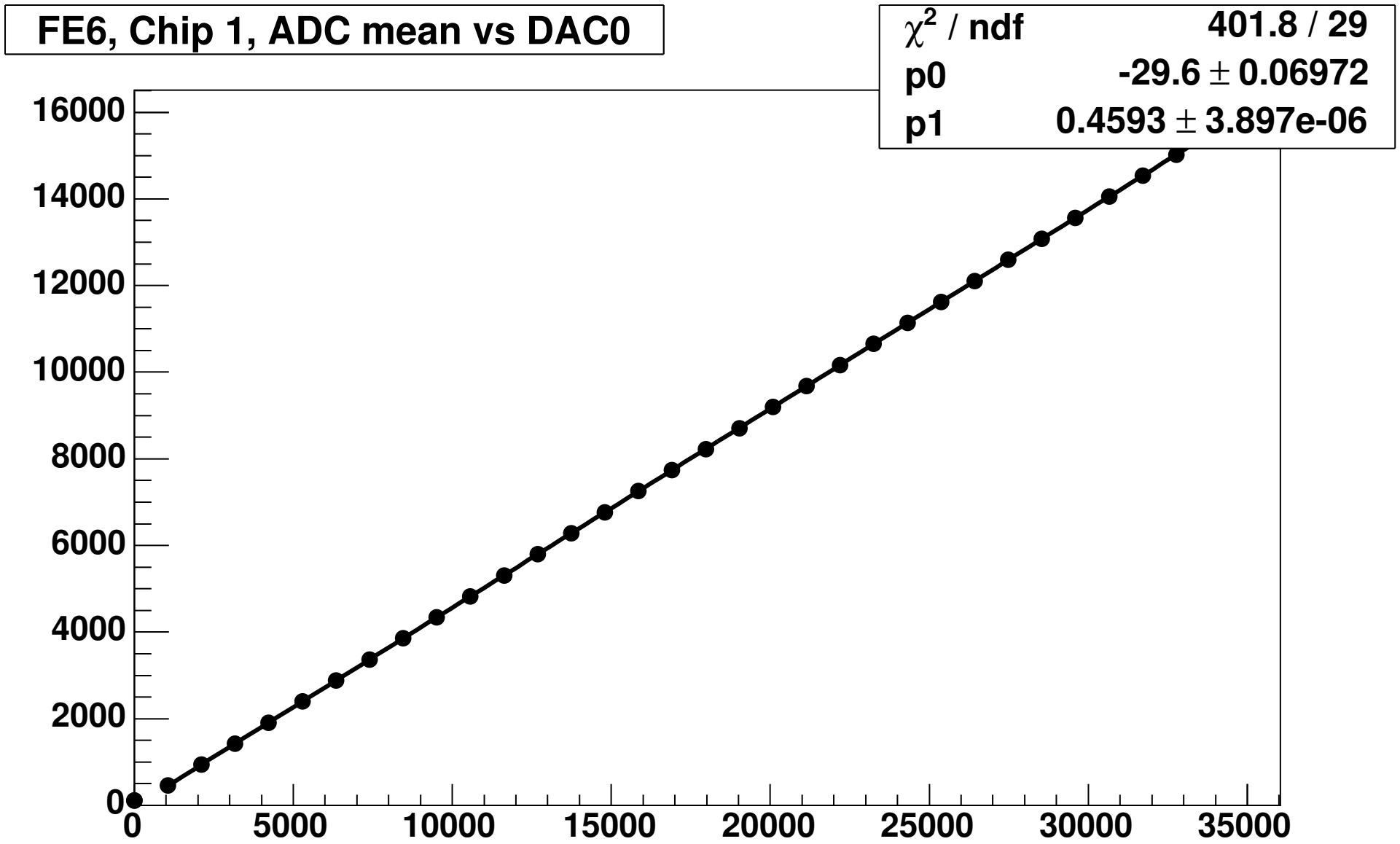

FE6, Chip 0, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

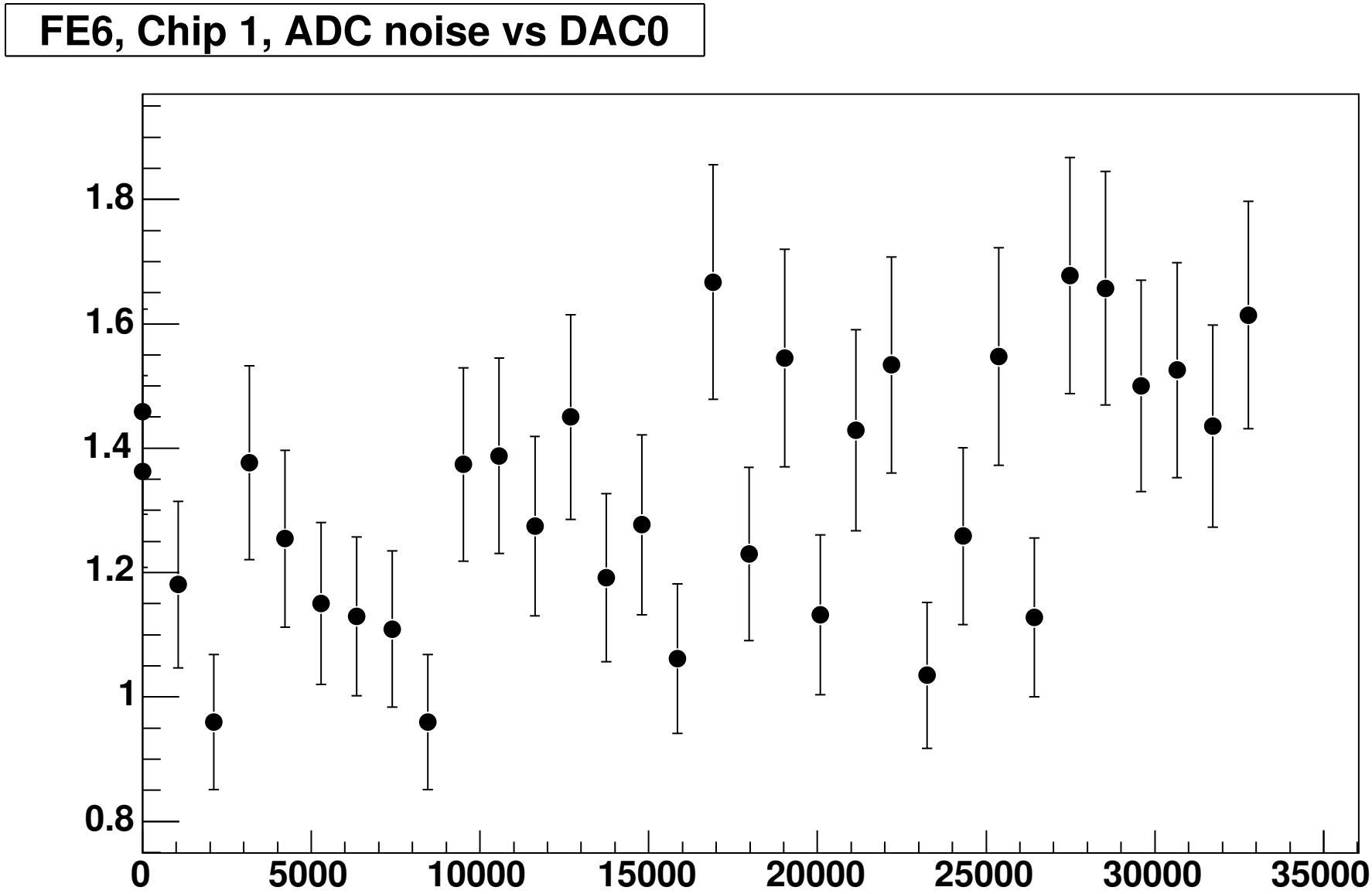

FE6, Chip 0, ADC residuals vs DAC0
3
2
1
0
-1
-2
0
5000
10000
15000
20000
25000
30000
35000

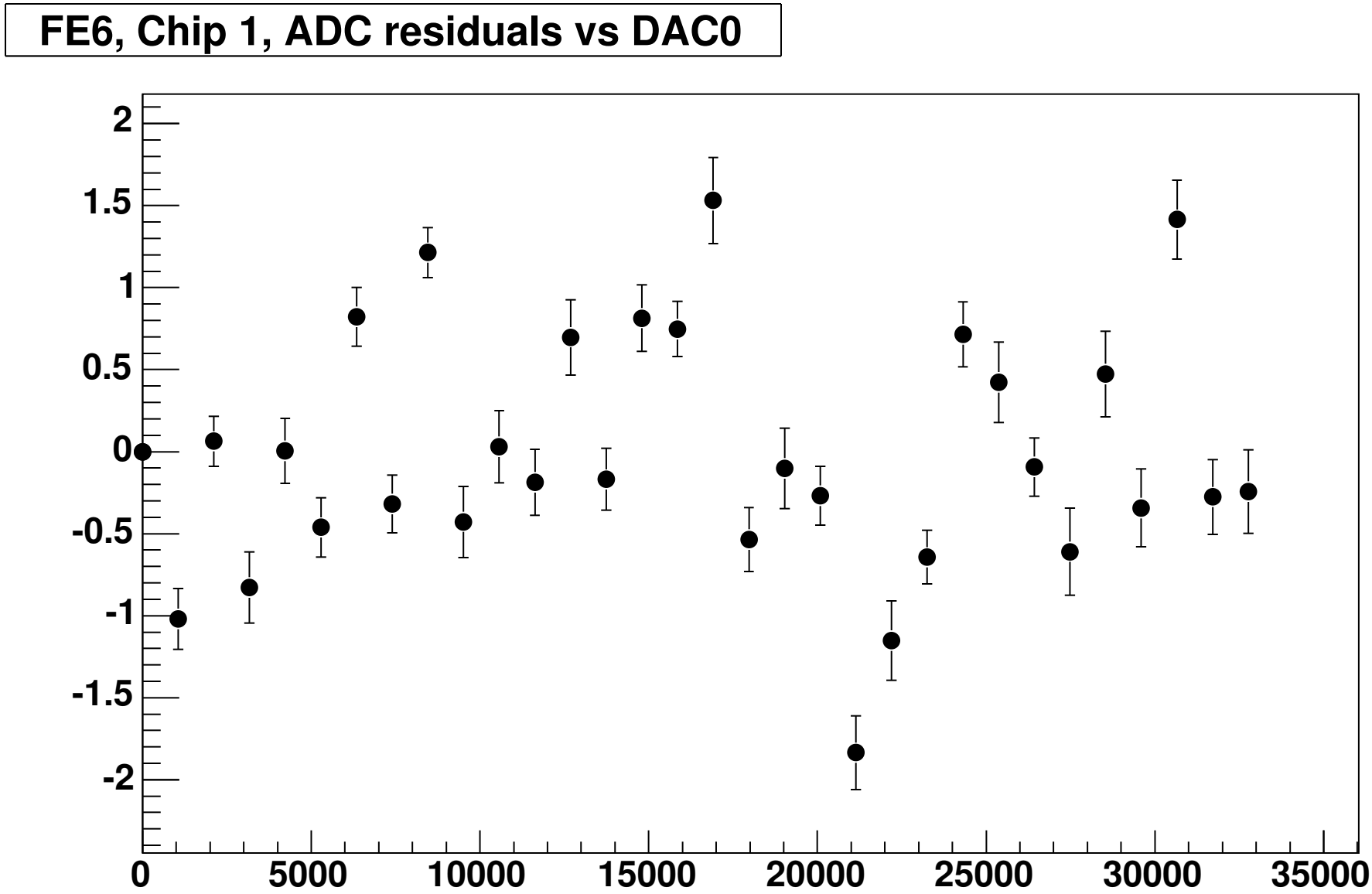

FE6, Chip 0, ADC mean vs DAC1
χ² / ndf 35.98 / 29
p0 114 ± 0.06483
p1 1.49e-05 ± 3.458e-06
114.8
114.6
114.4
114.2
114
113.8
113.6
113.4
0
5000
10000
15000
20000
25000
30000
35000

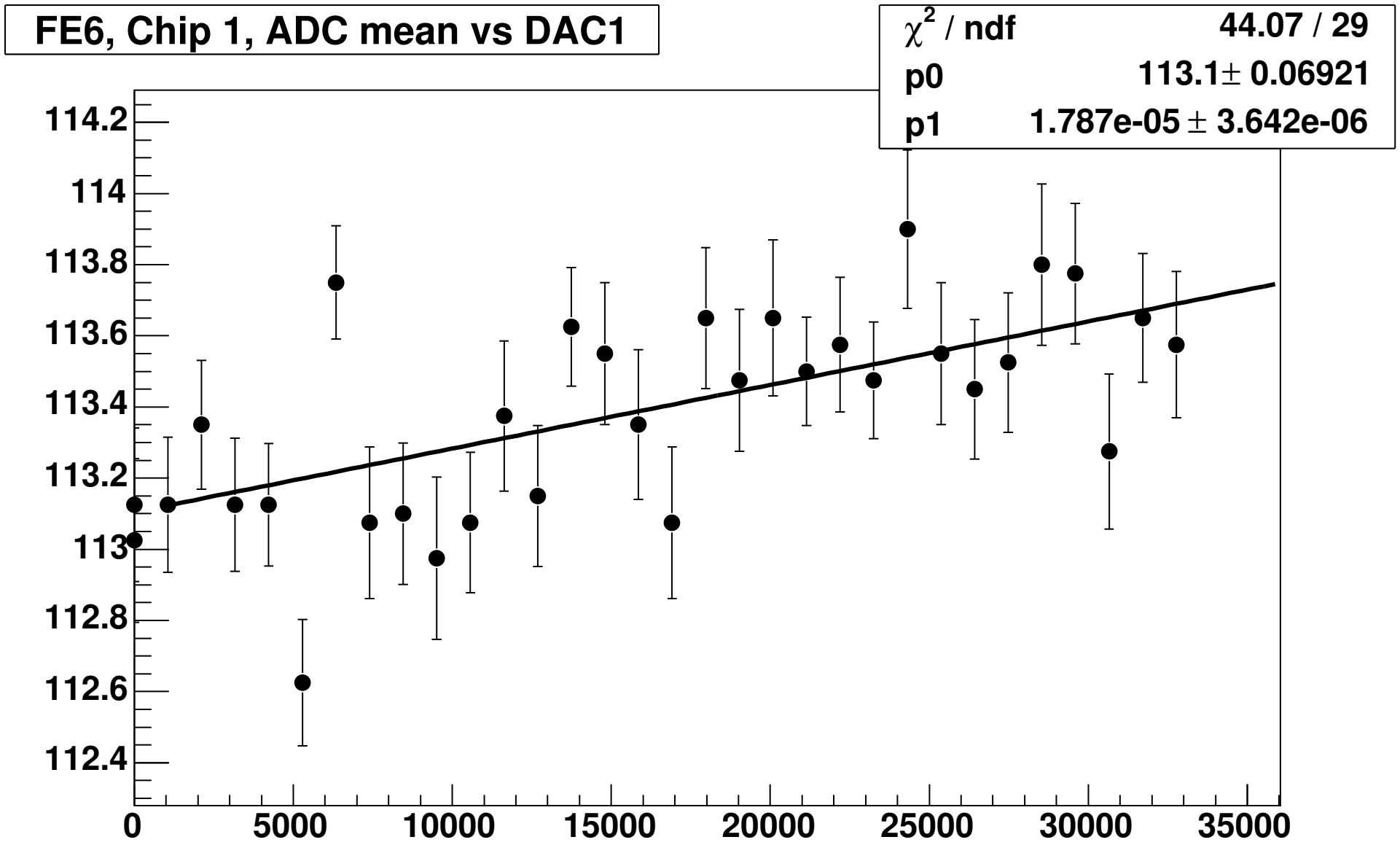

FE6, Chip 0, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

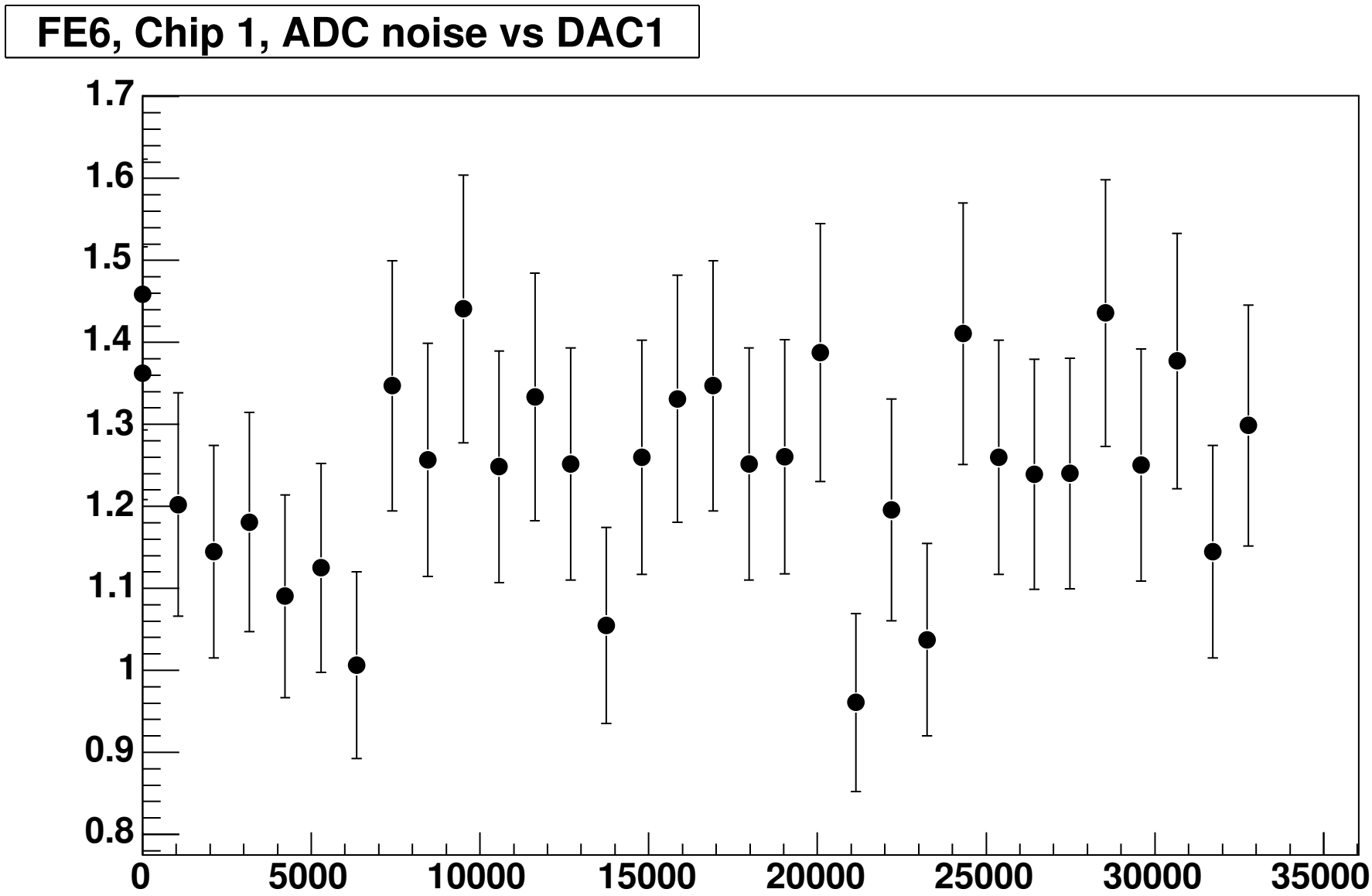

FE6, Chip 0, ADC residuals vs DAC1
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

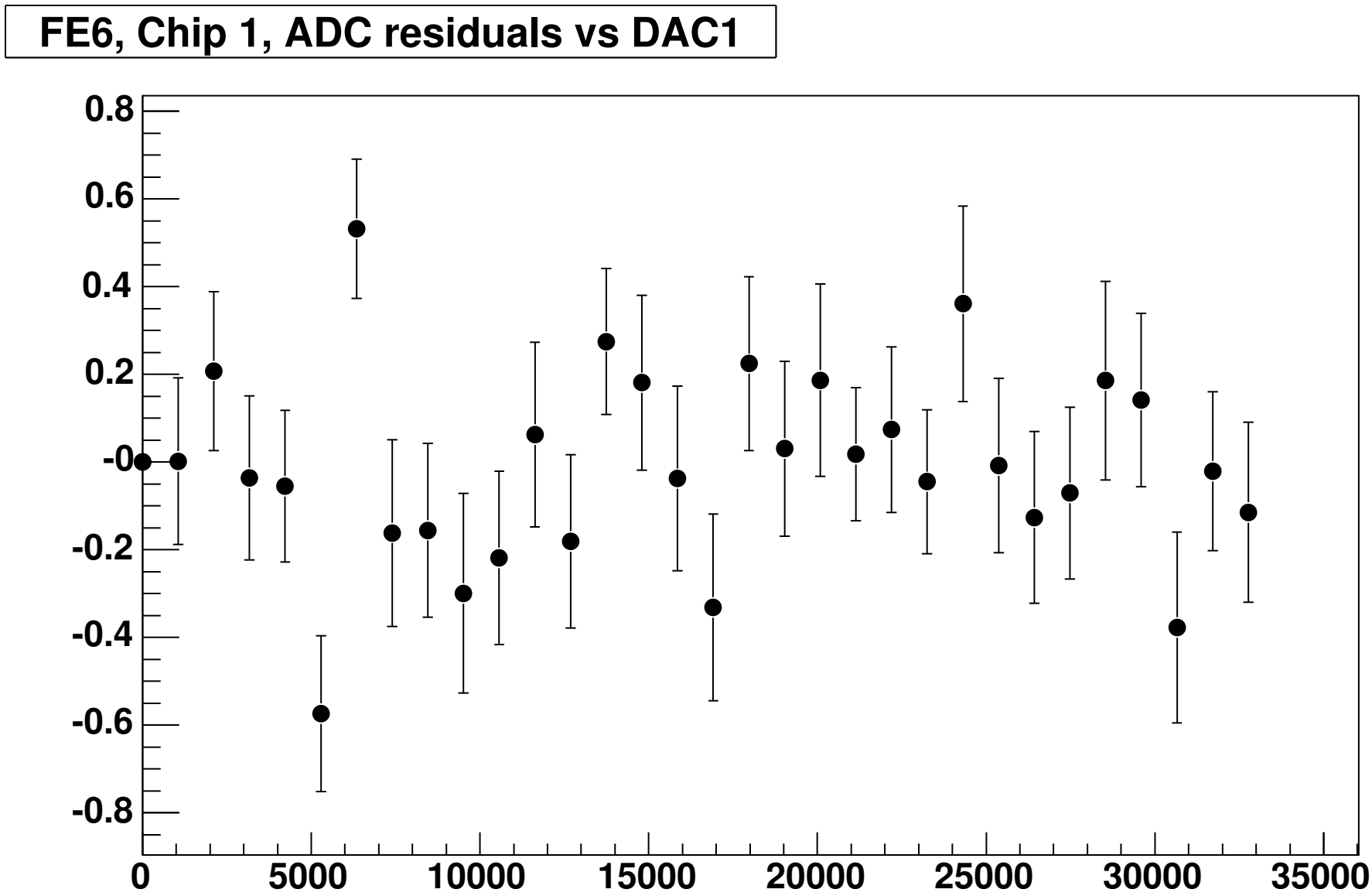

FE6, Chip 1, ADC mean vs DAC0
χ² / ndf 401.8 / 29
p0 -29.6 ± 0.06972
p1 0.4593 ± 3.897e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

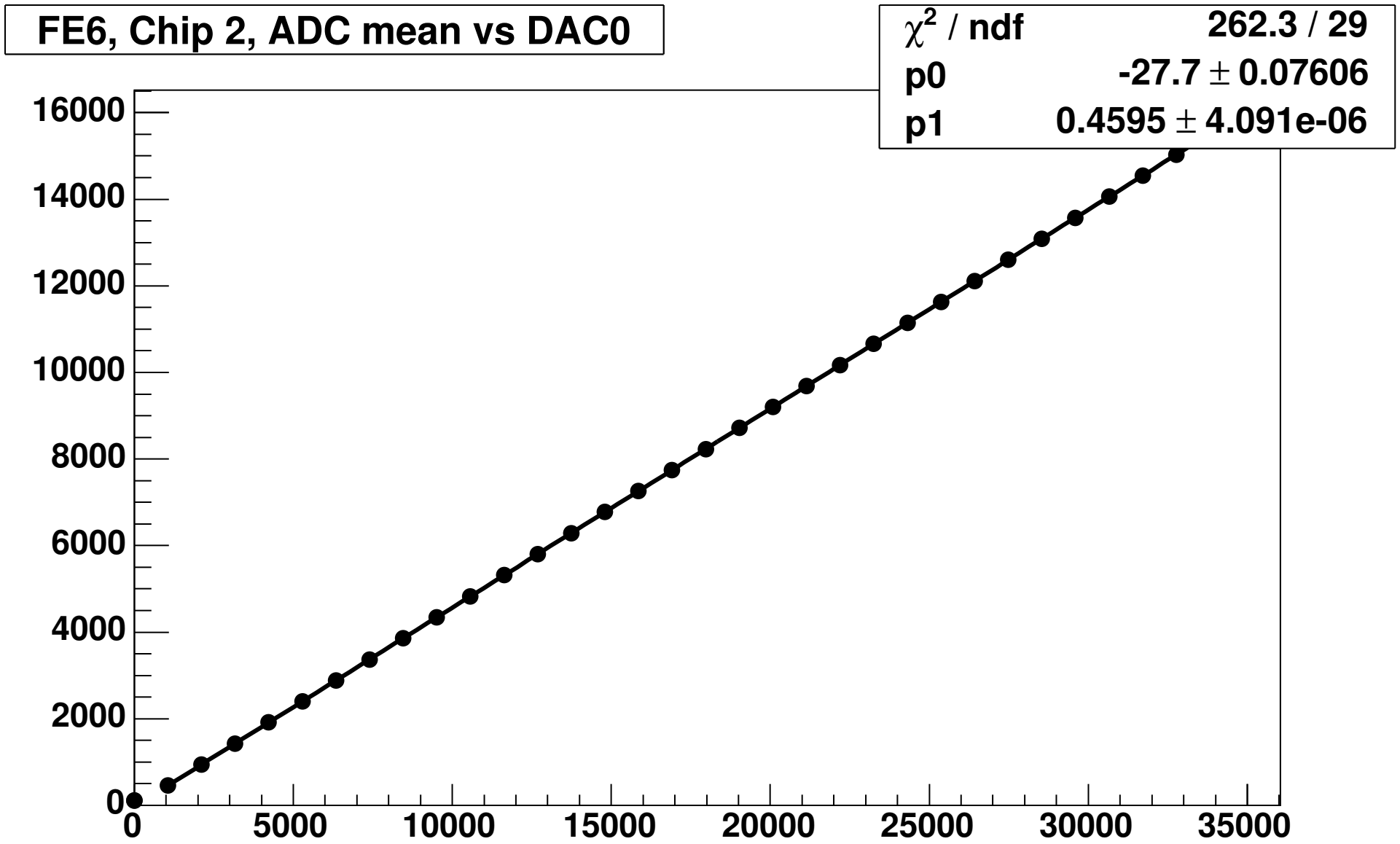

FE6, Chip 1, ADC noise vs DAC0
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

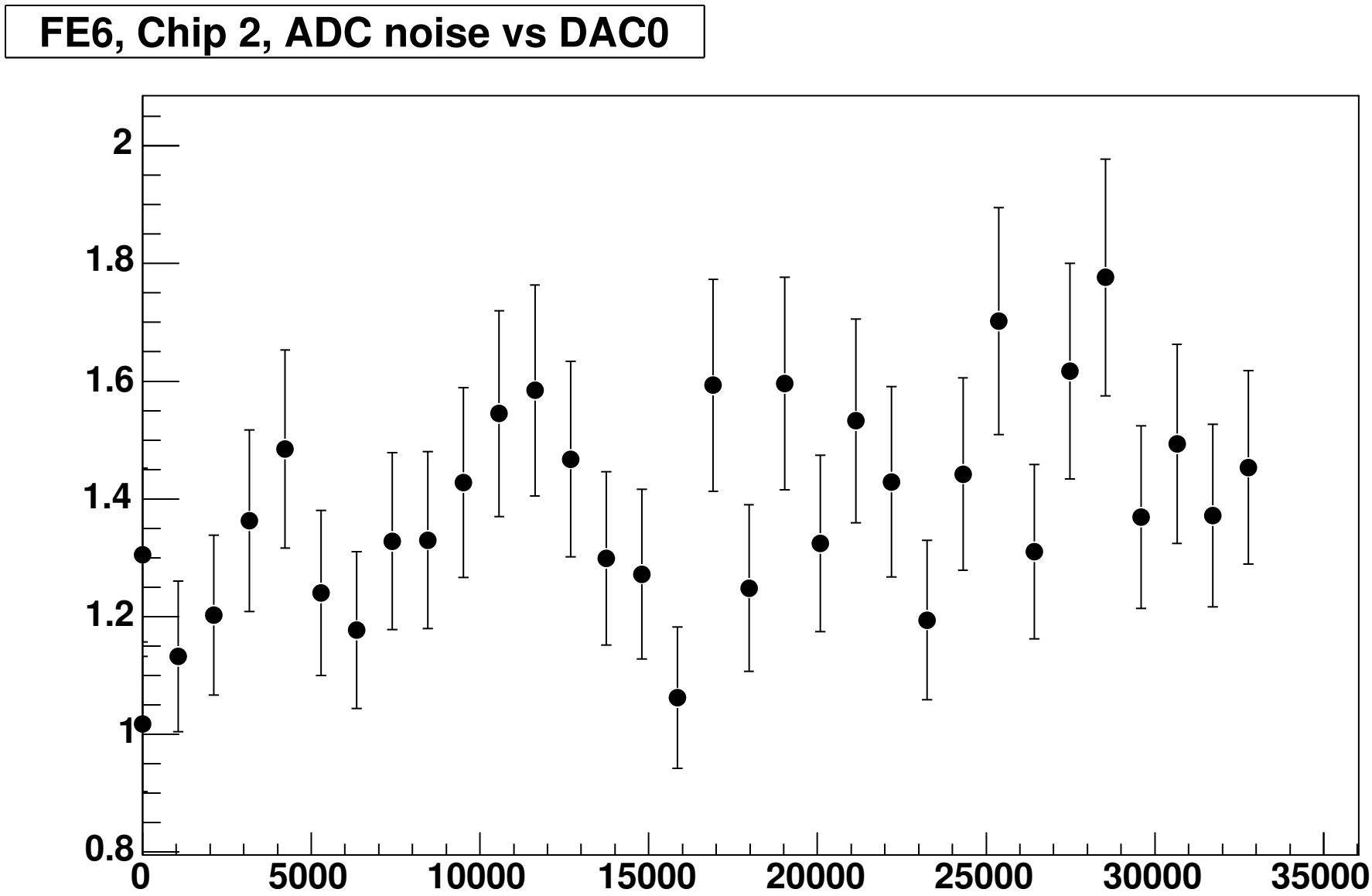

FE6, Chip 1, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000


FE6, Chip 1, ADC mean vs DAC1
χ² / ndf 44.07 / 29
p0 113.1 ± 0.06921
p1 1.787e-05 ± 3.642e-06
114.2
114
113.8
113.6
113.4
113.2
113
112.8
112.6
112.4
0
5000
10000
15000
20000
25000
30000
35000

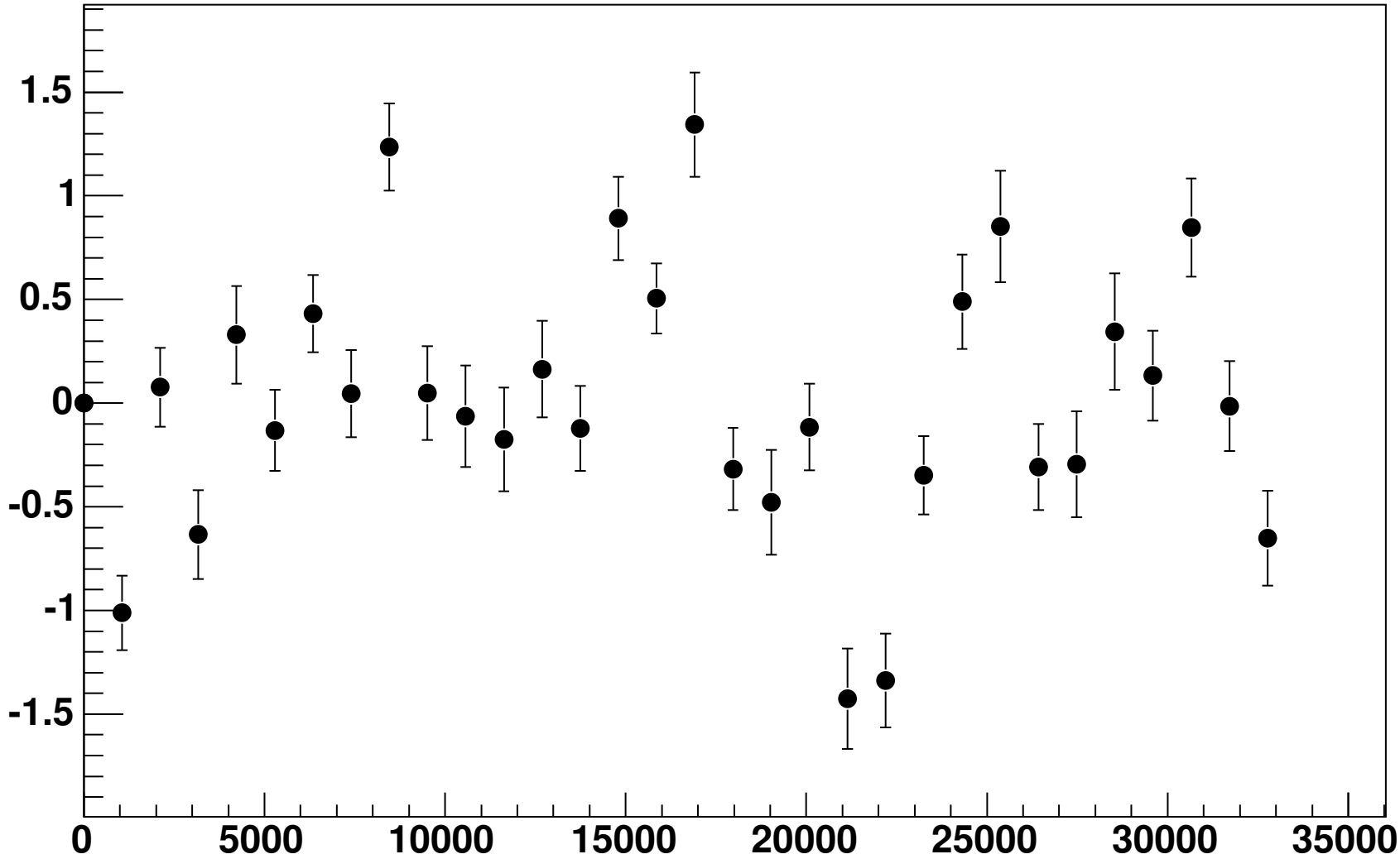

FE6, Chip 1, ADC noise vs DAC1
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0
5000
10000
15000
20000
25000
30000
35000

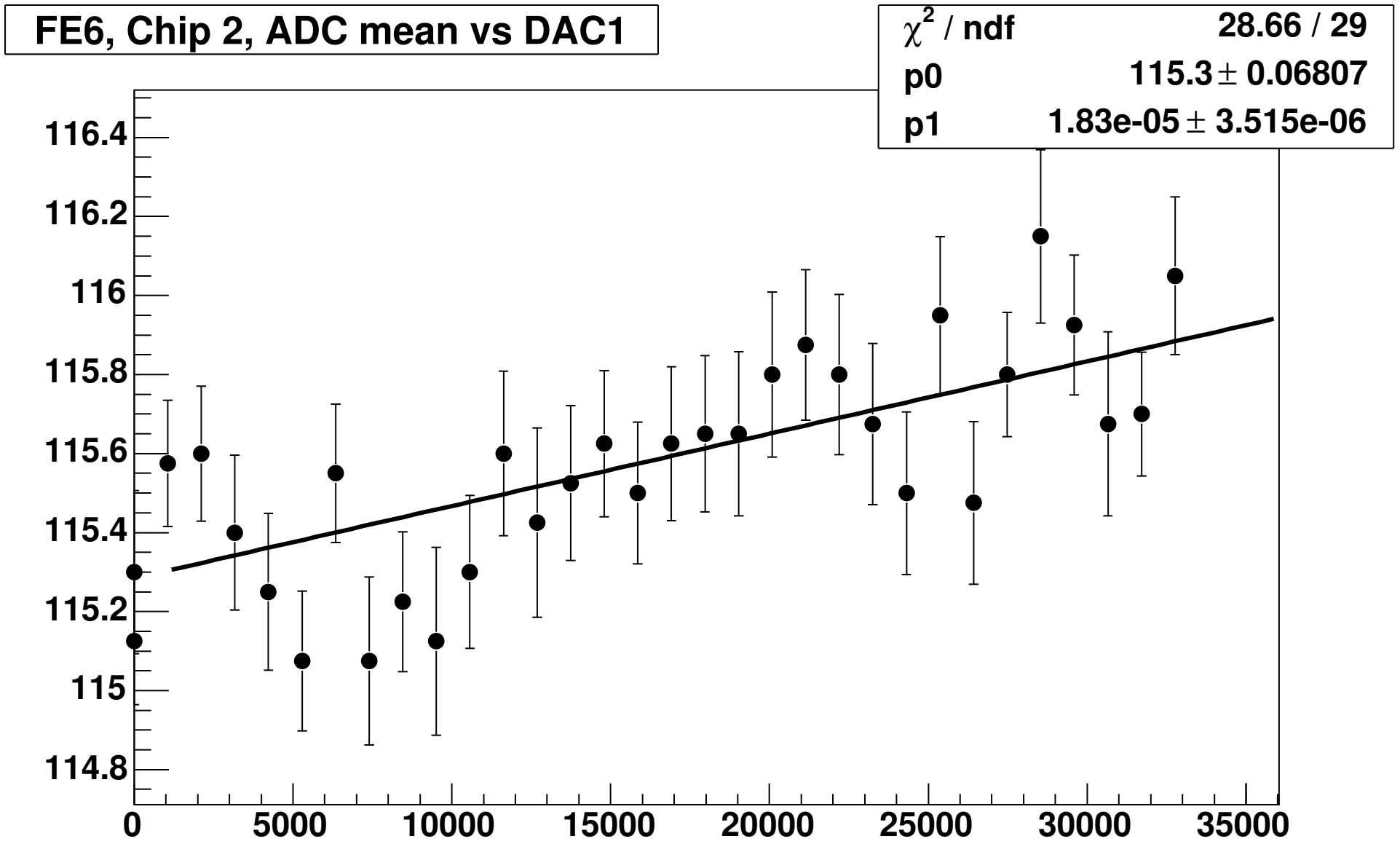

FE6, Chip 1, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000


FE6, Chip 2, ADC mean vs DAC0
χ² / ndf 262.3 / 29
p0 -27.7 ± 0.07606
p1 0.4595 ± 4.091e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

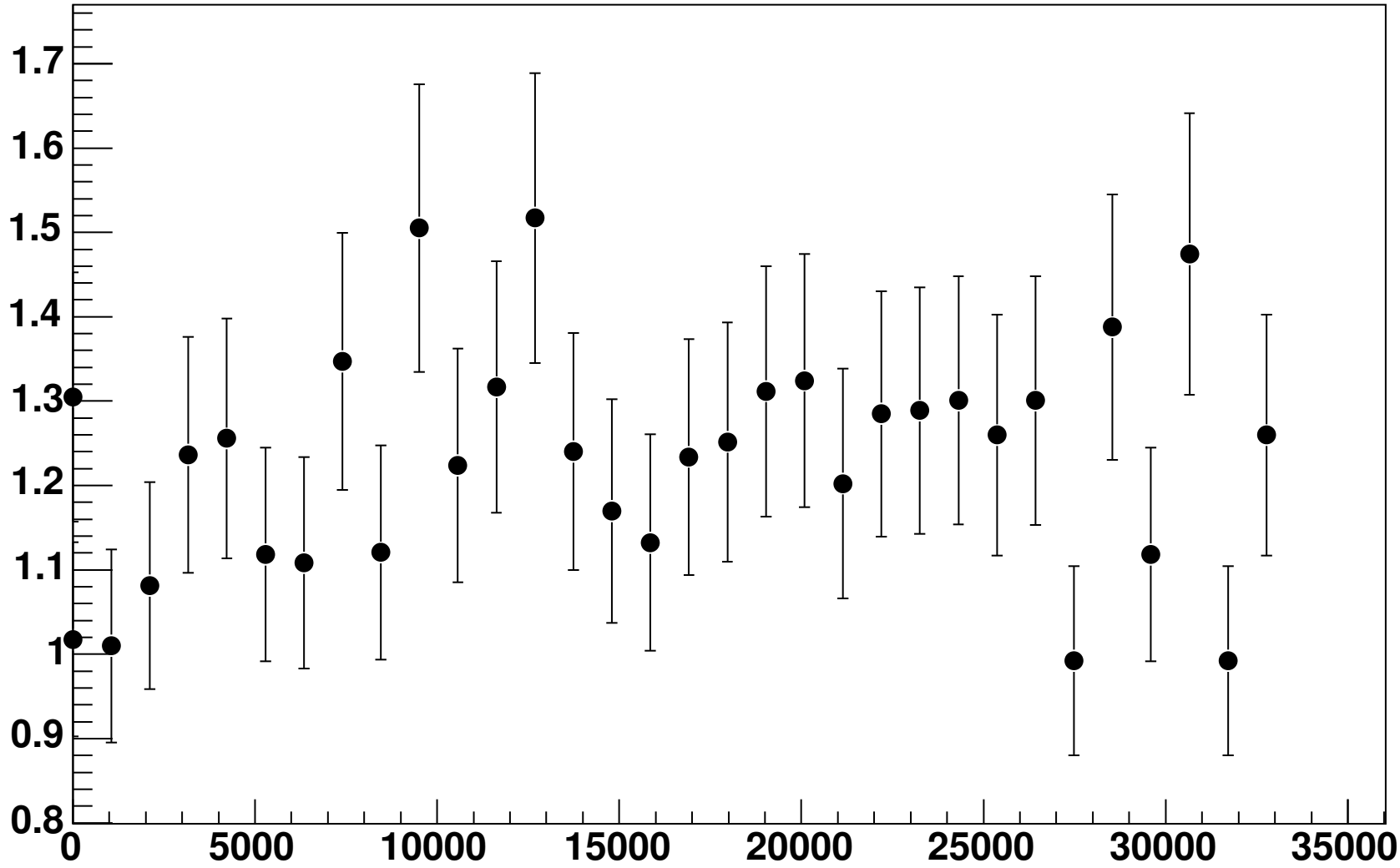

FE6, Chip 2, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

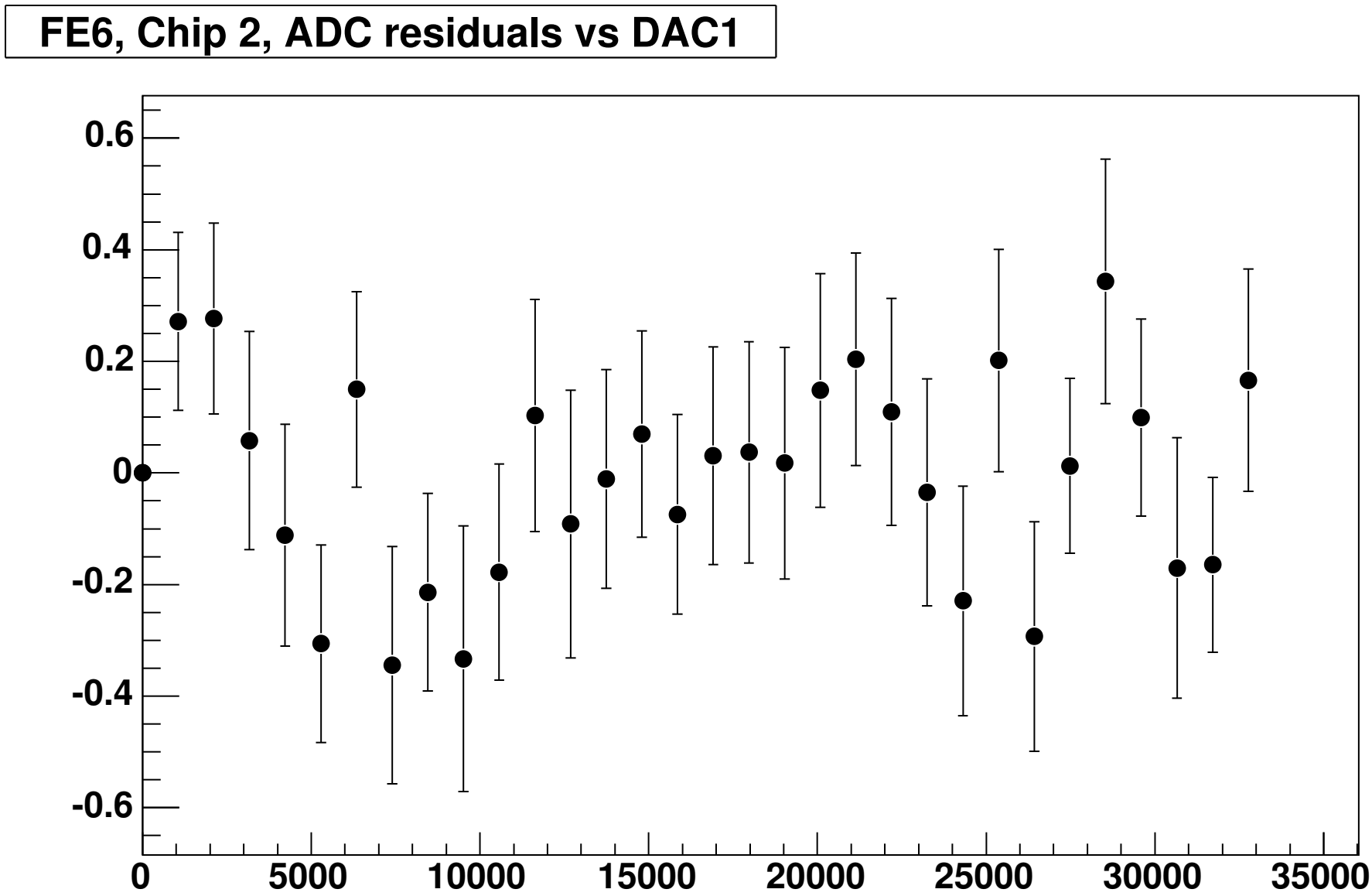
FE6, Chip 2, ADC residuals vs DAC0

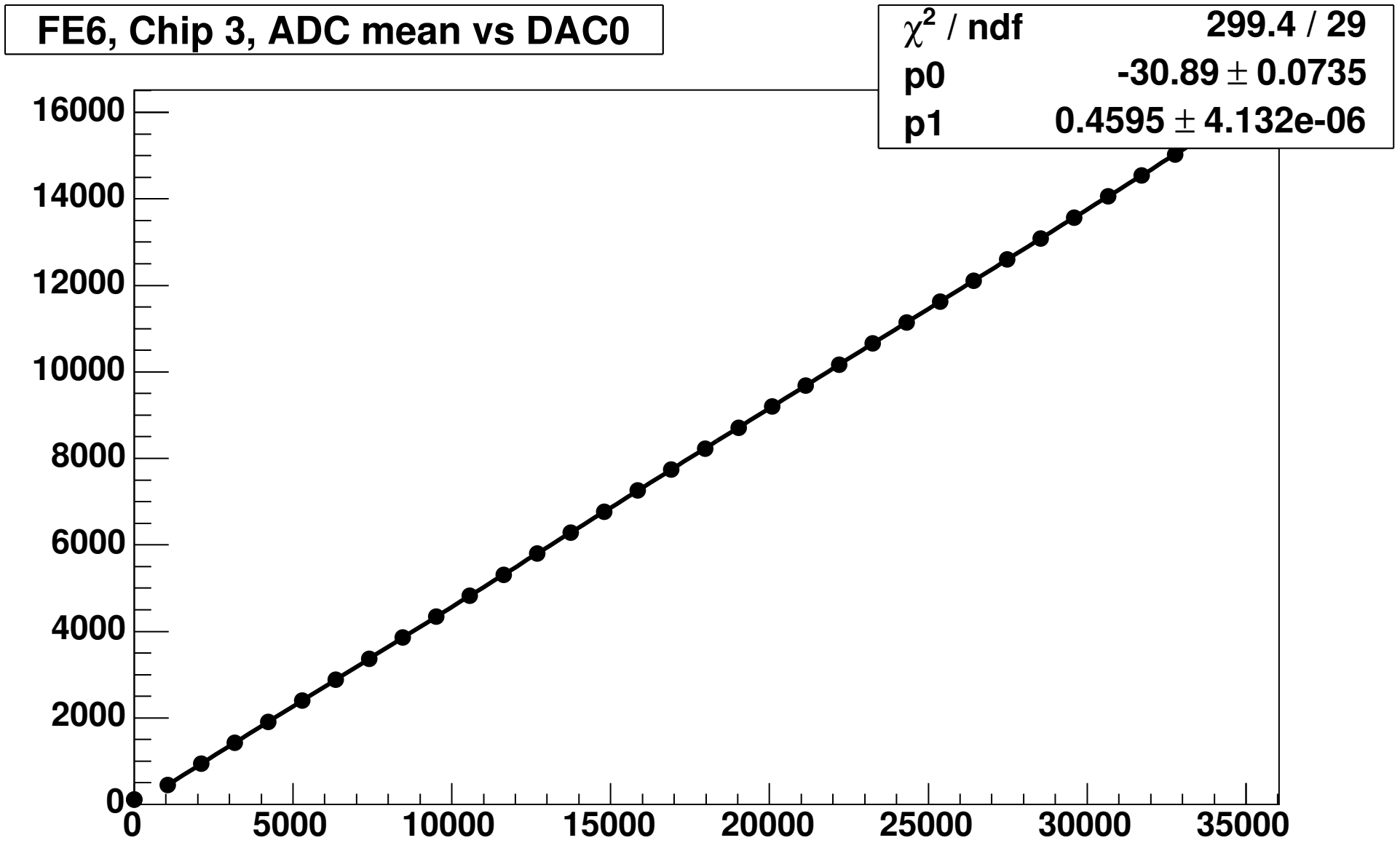


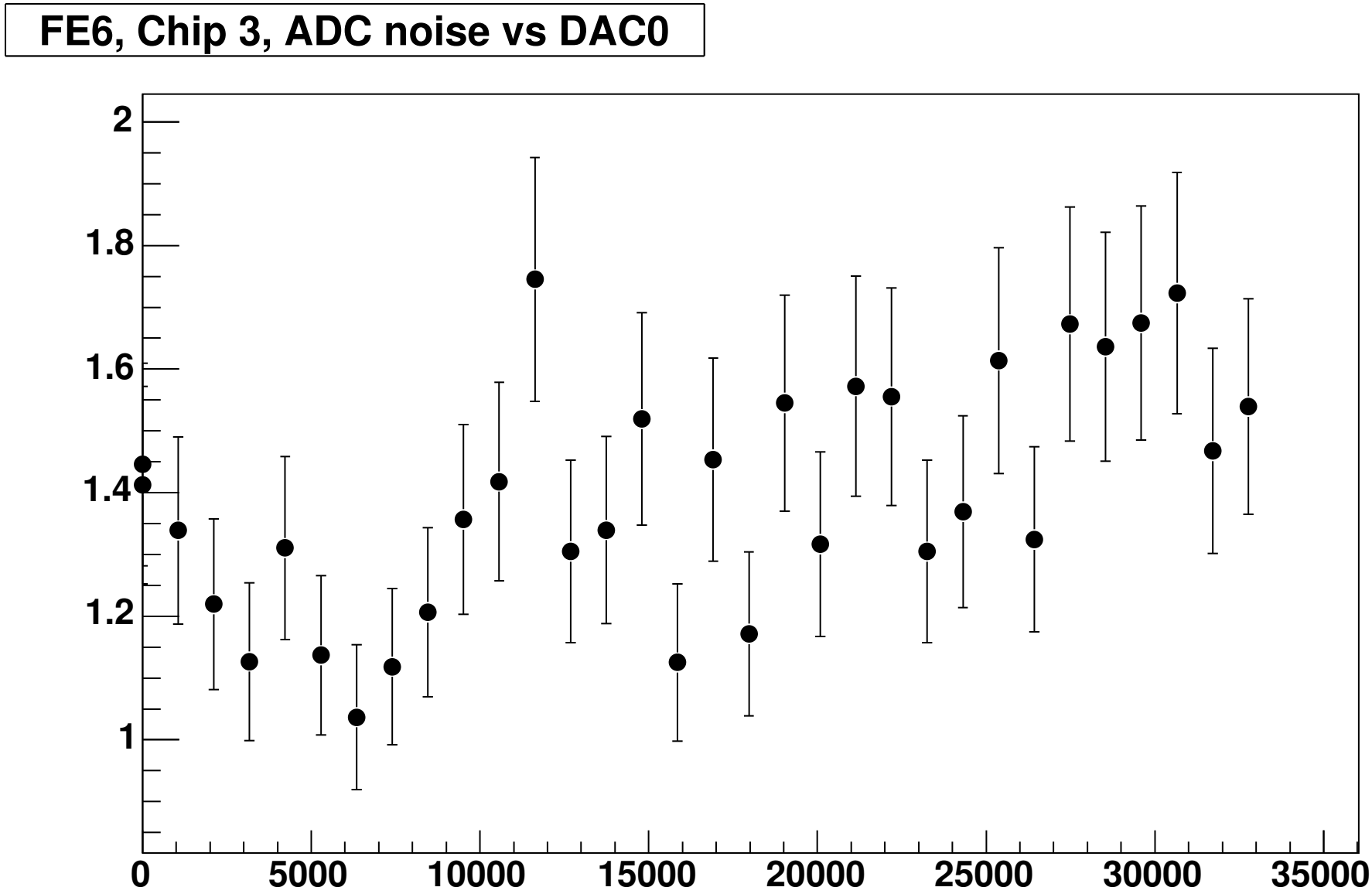

FE6, Chip 2, ADC mean vs DAC1
χ² / ndf 28.66 / 29
p0 115.3 ± 0.06807
p1 1.83e-05 ± 3.515e-06
116.4
116.2
116
115.8
115.6
115.4
115.2
115
114.8
0
5000
10000
15000
20000
25000
30000
35000

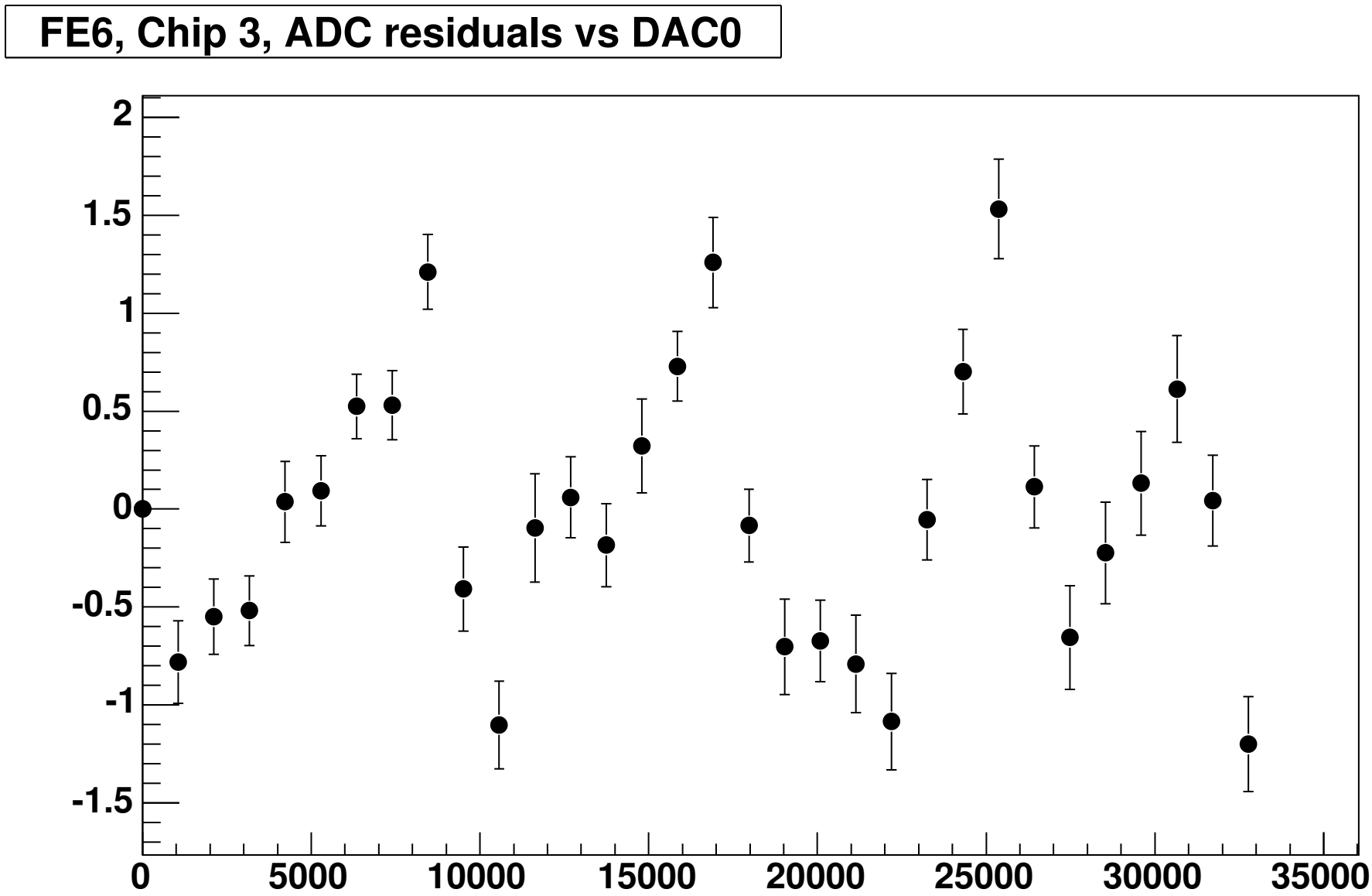
FE6, Chip 2, ADC noise vs DAC1

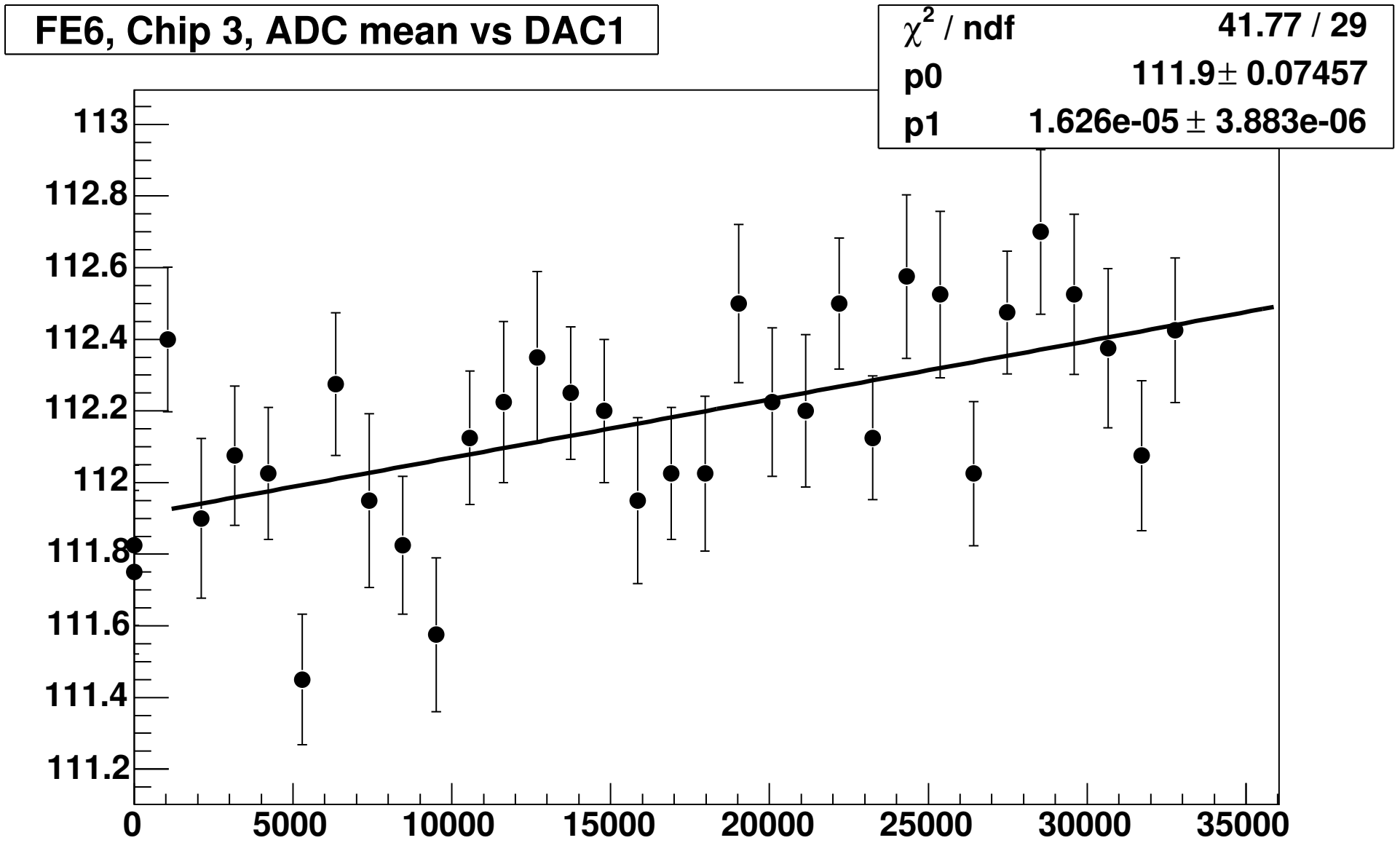


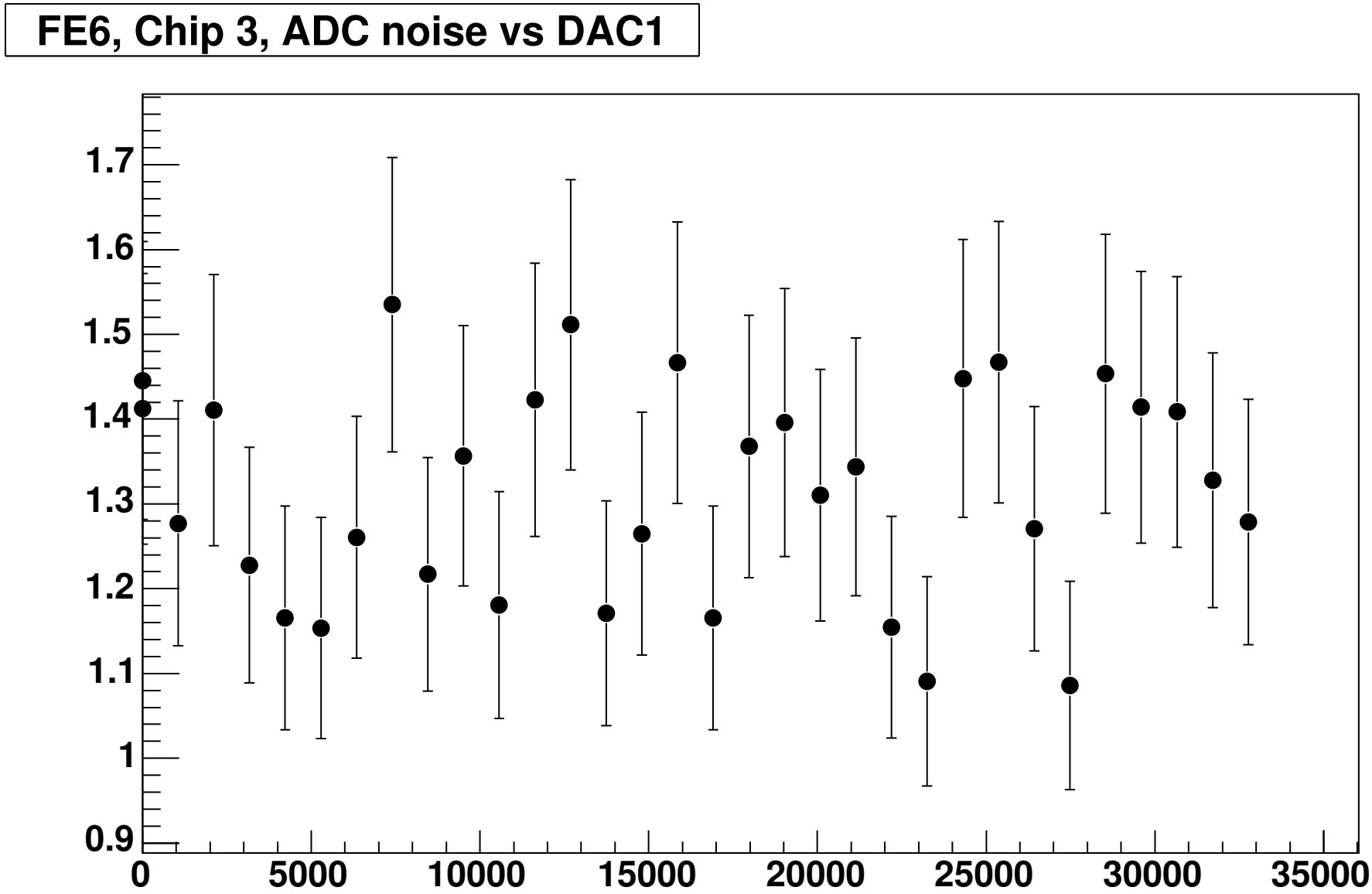

FE6, Chip 2, ADC residuals vs DAC1
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

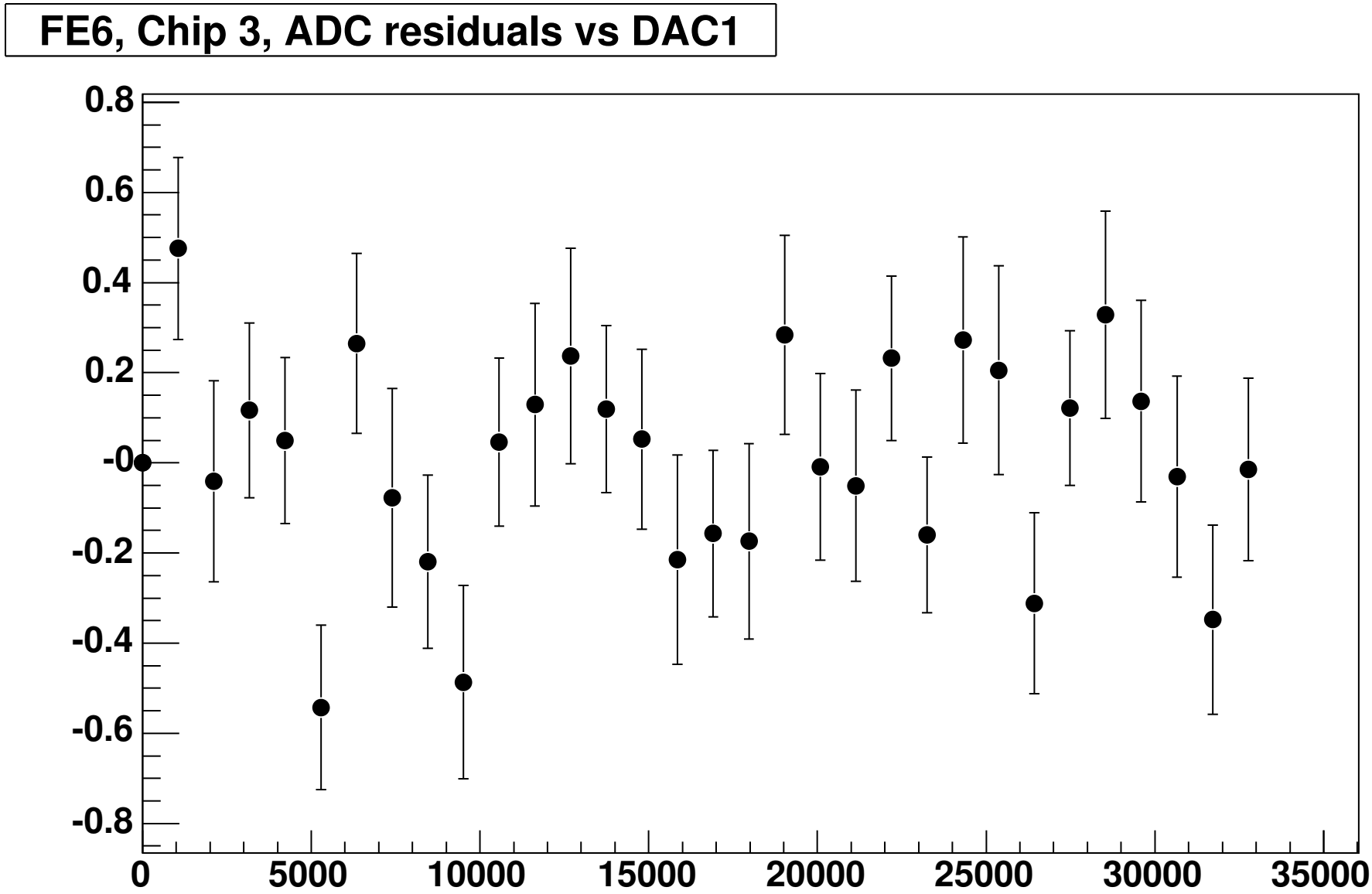

FE6, Chip 3, ADC mean vs DAC0
χ² / ndf 299.4 / 29
p0 -30.89 ± 0.0735
p1 0.4595 ± 4.132e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

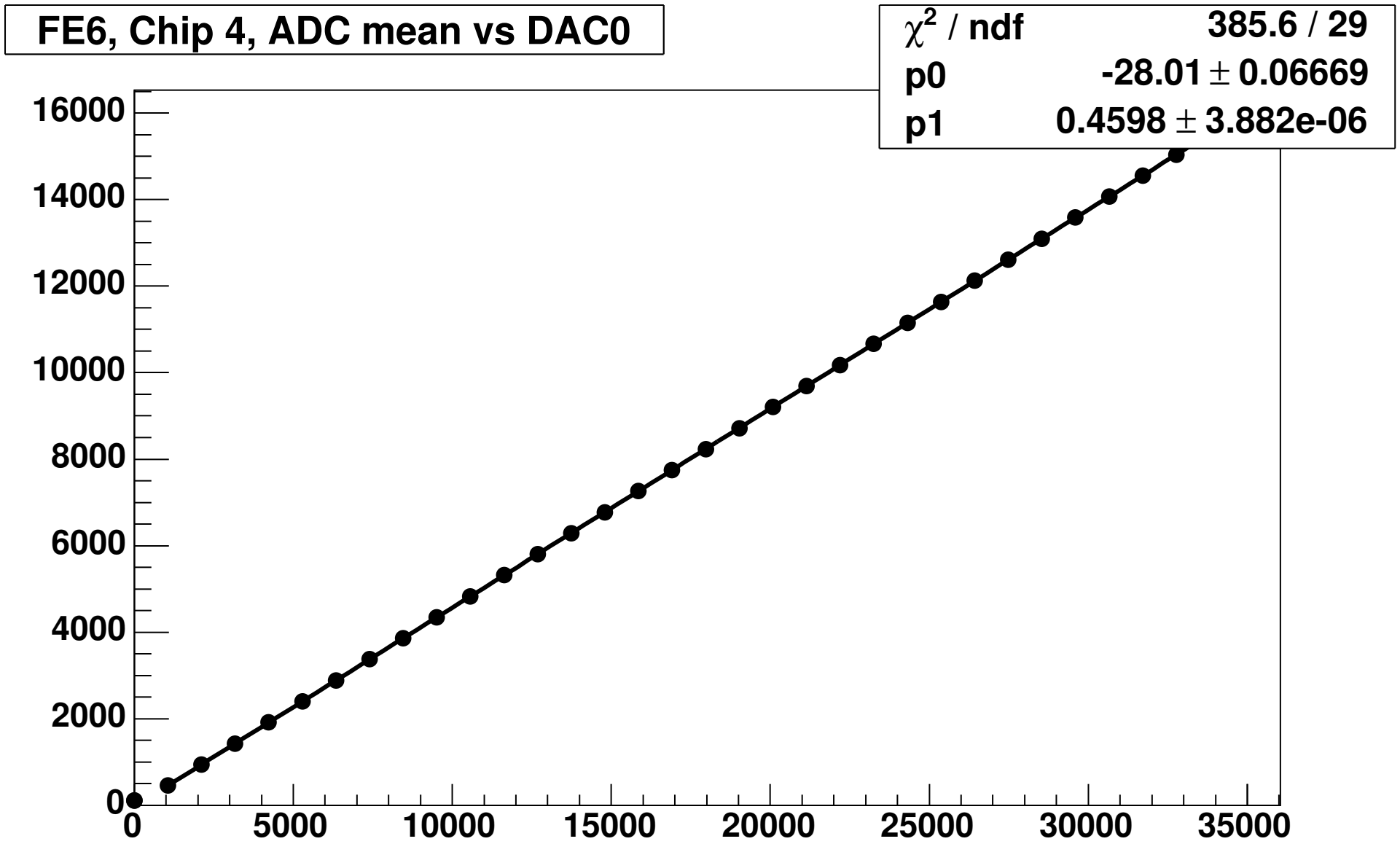

FE6, Chip 3, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

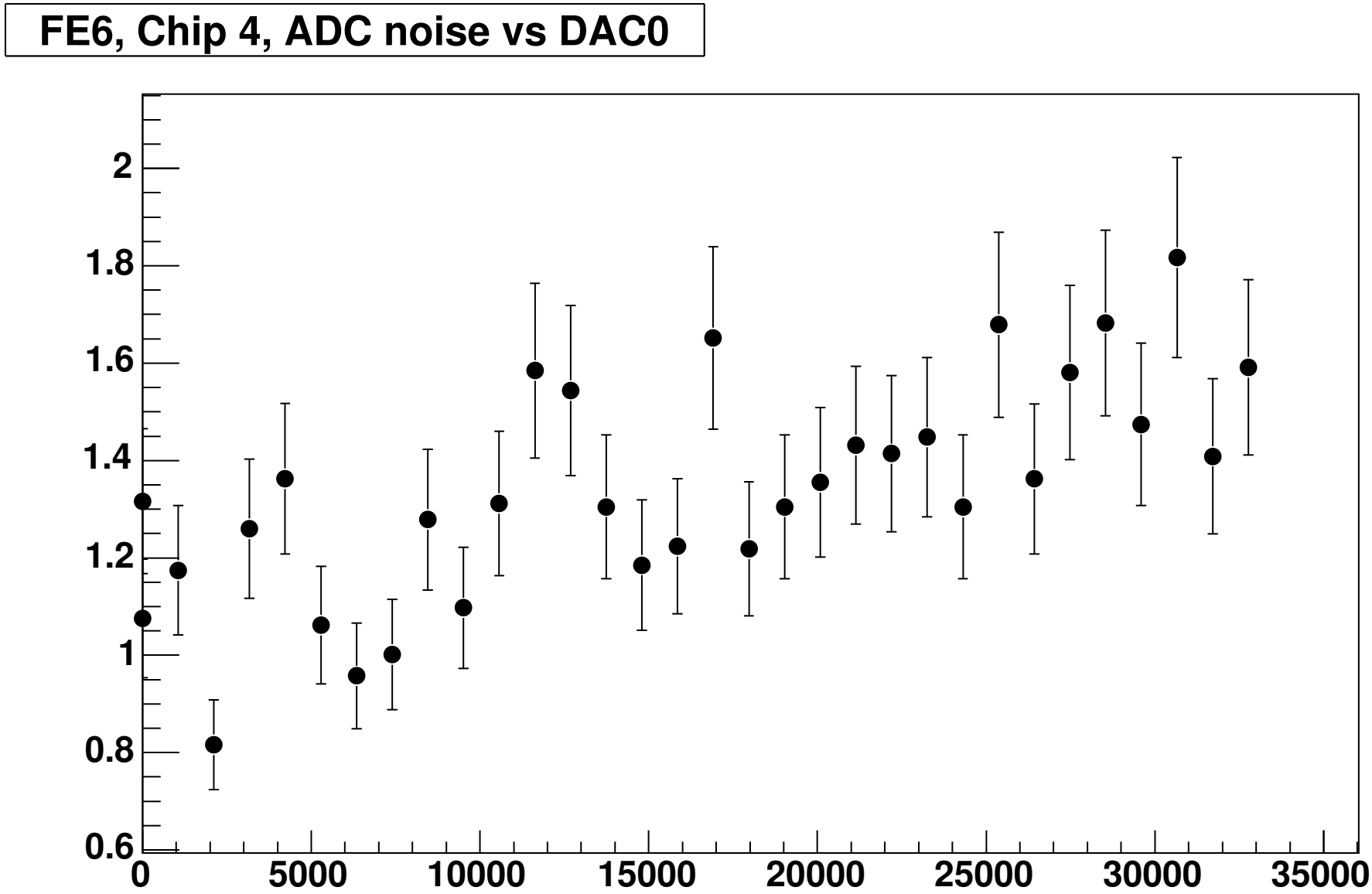

FE6, Chip 3, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

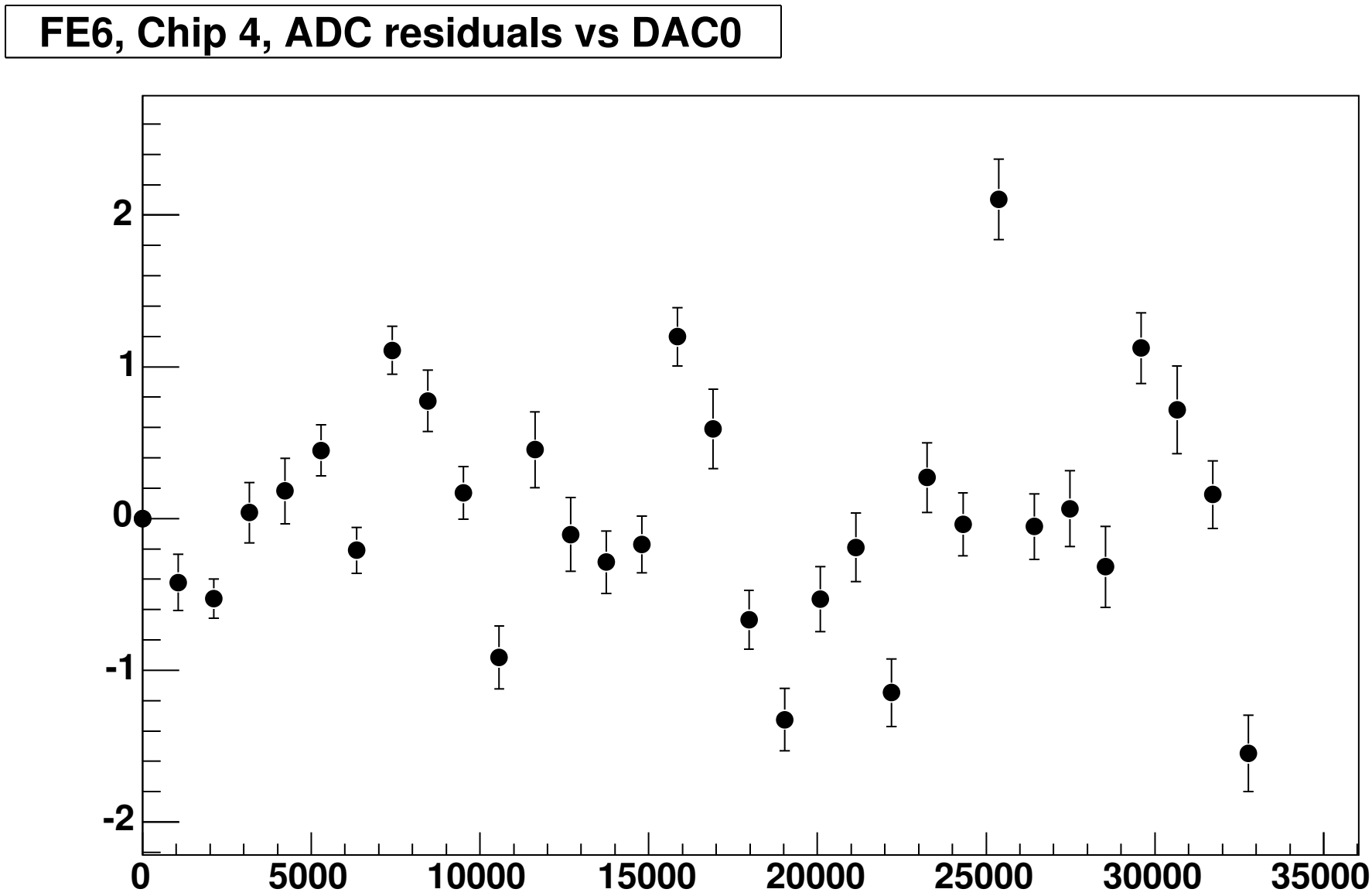

FE6, Chip 3, ADC mean vs DAC1
χ² / ndf 41.77 / 29
p0 111.9 ± 0.07457
p1 1.626e-05 ± 3.883e-06
113
112.8
112.6
112.4
112.2
112
111.8
111.6
111.4
111.2
0
5000
10000
15000
20000
25000
30000
35000

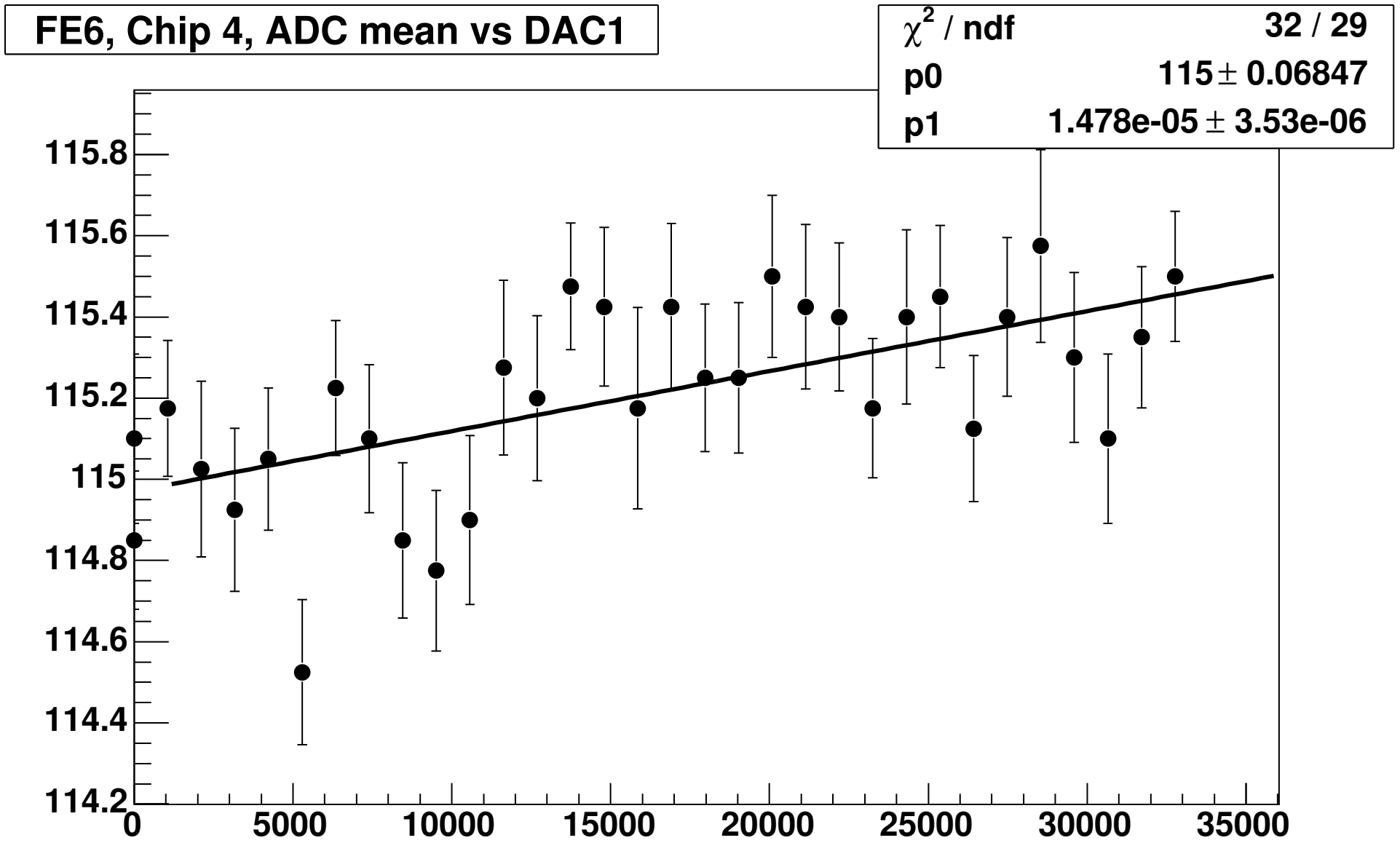

FE6, Chip 3, ADC noise vs DAC1
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0
5000
10000
15000
20000
25000
30000
35000

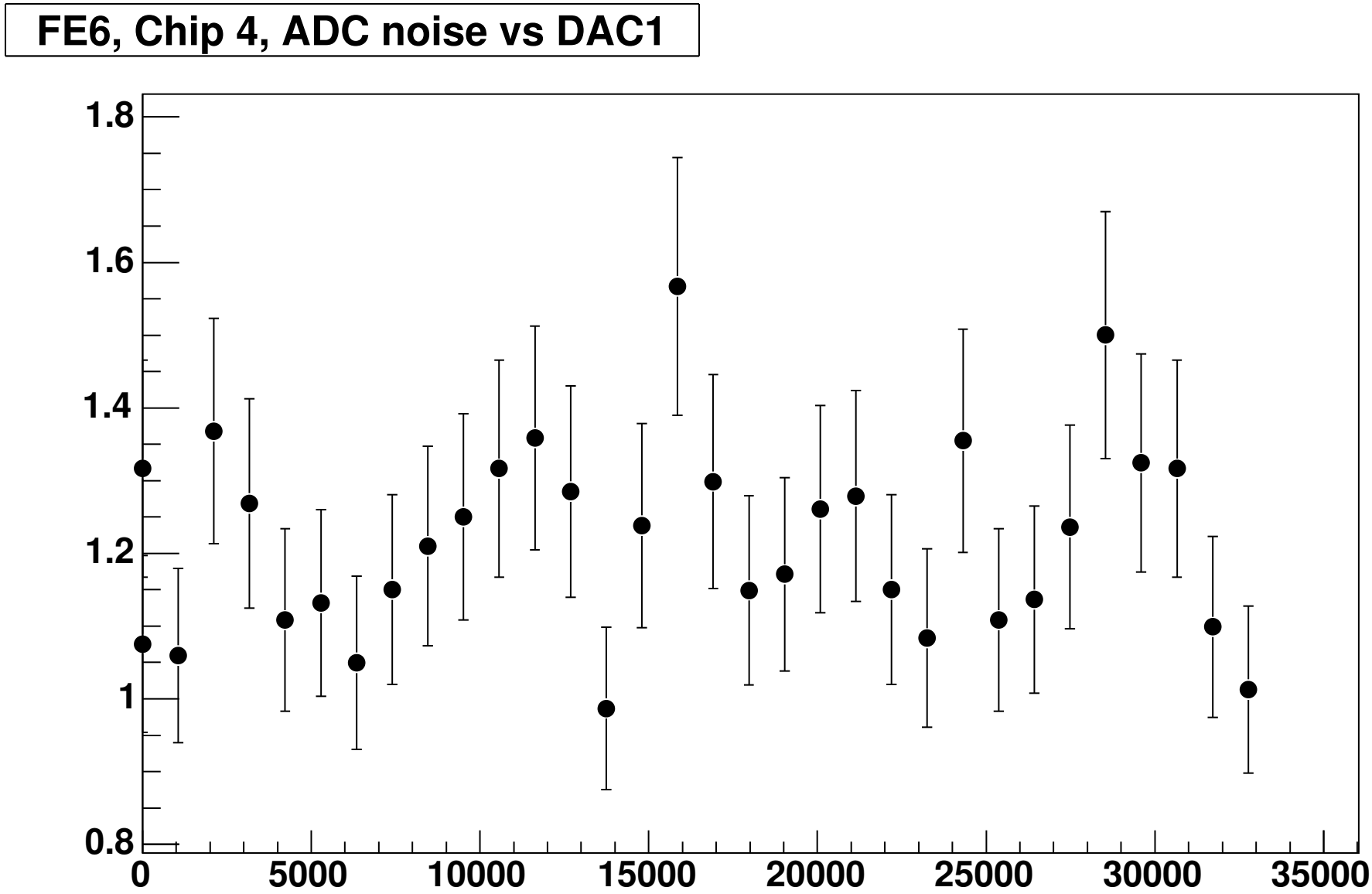

FE6, Chip 3, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

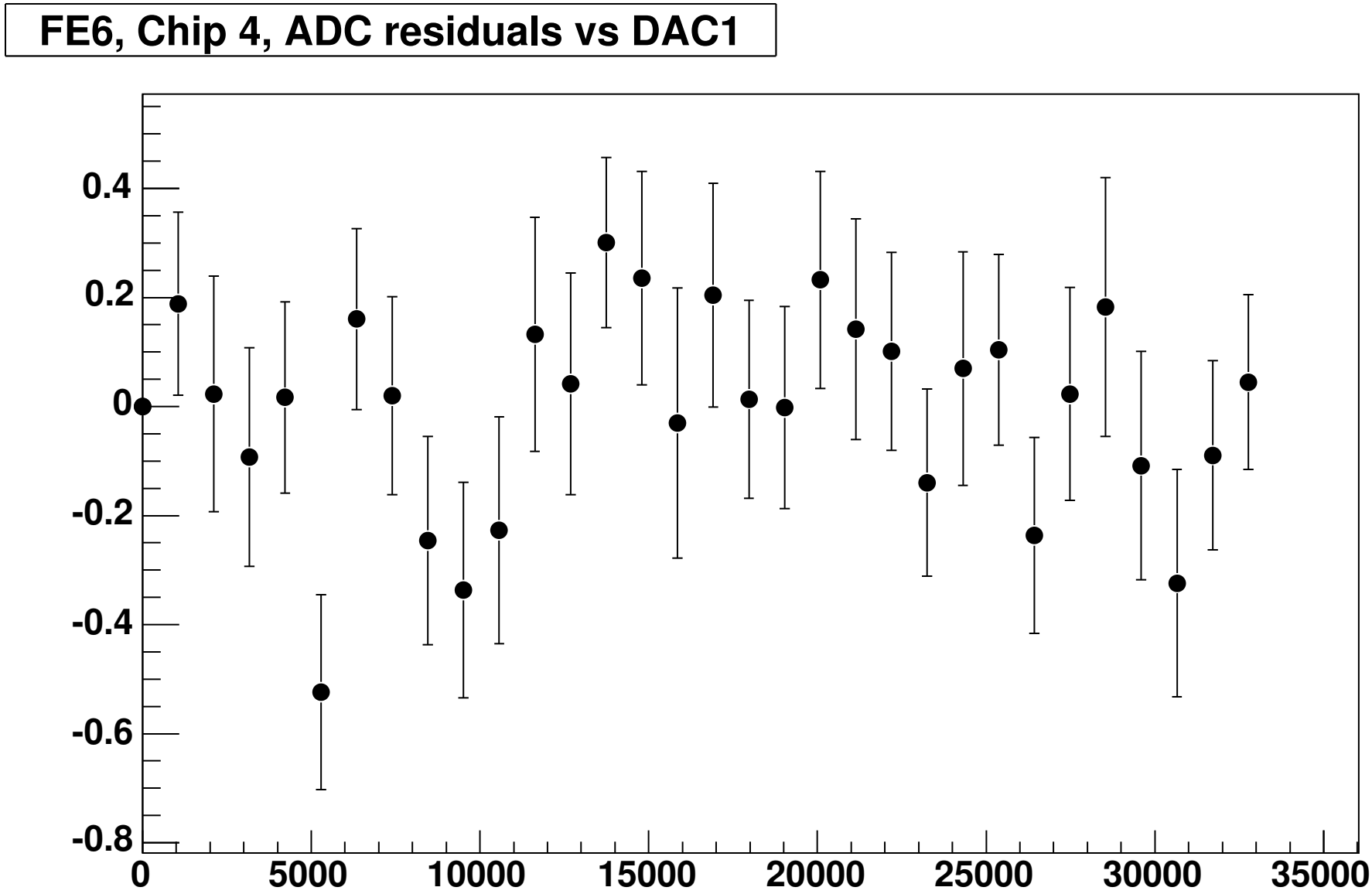

FE6, Chip 4, ADC mean vs DAC0
χ² / ndf 385.6 / 29
p0 -28.01 ± 0.06669
p1 0.4598 ± 3.882e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

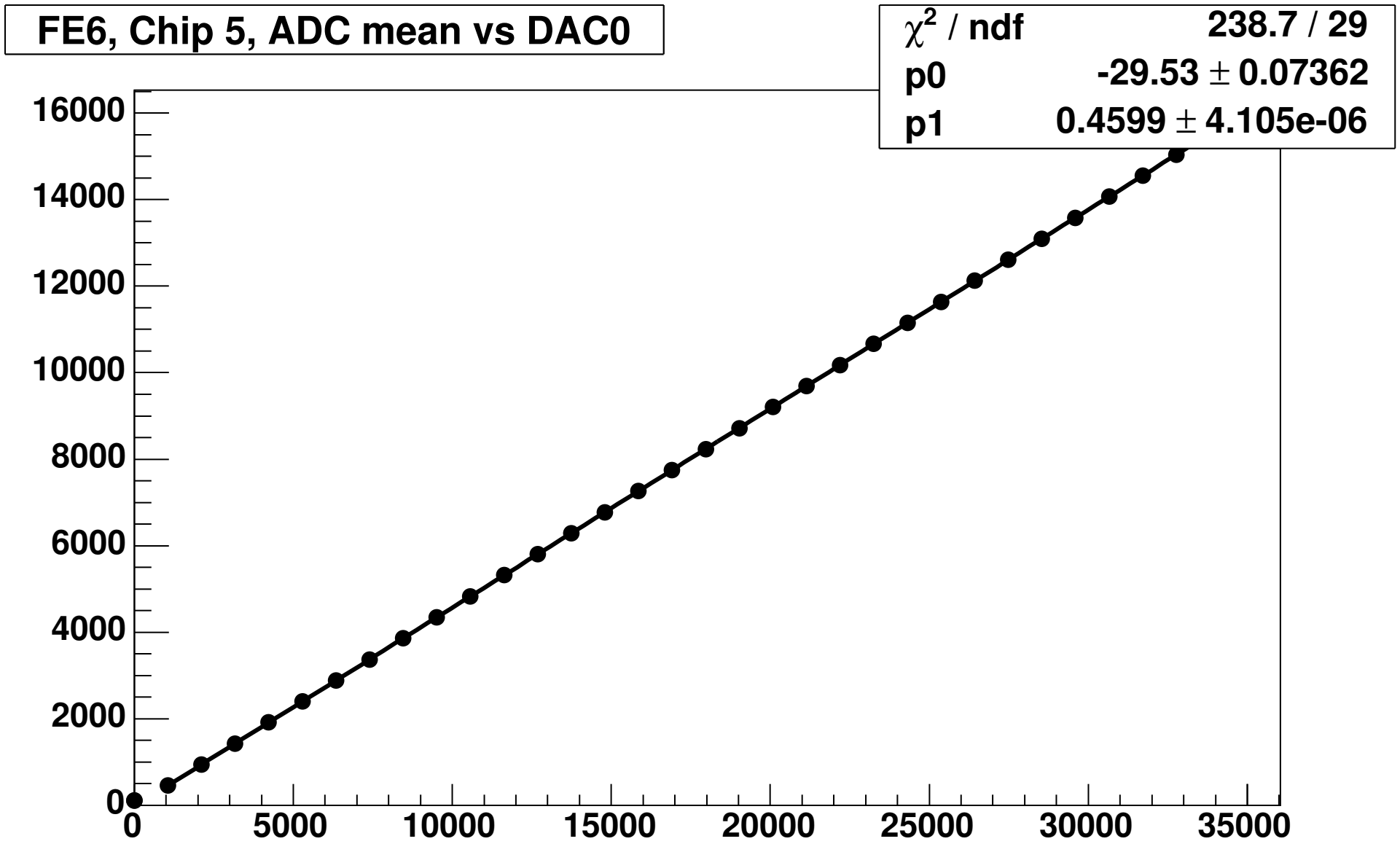

FE6, Chip 4, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

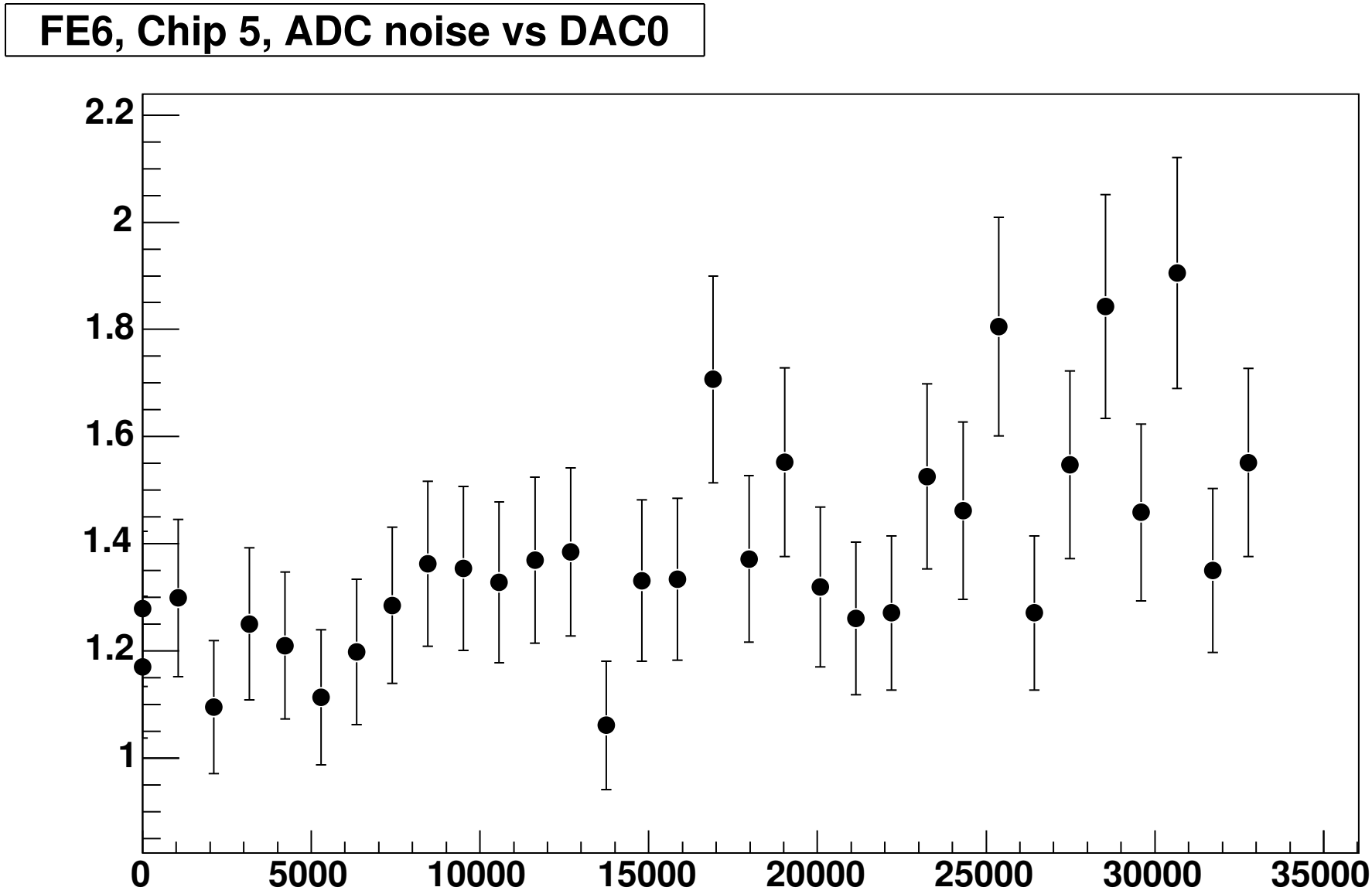

FE6, Chip 4, ADC residuals vs DAC0
2
1
0
-1
-2
0
5000
10000
15000
20000
25000
30000
35000

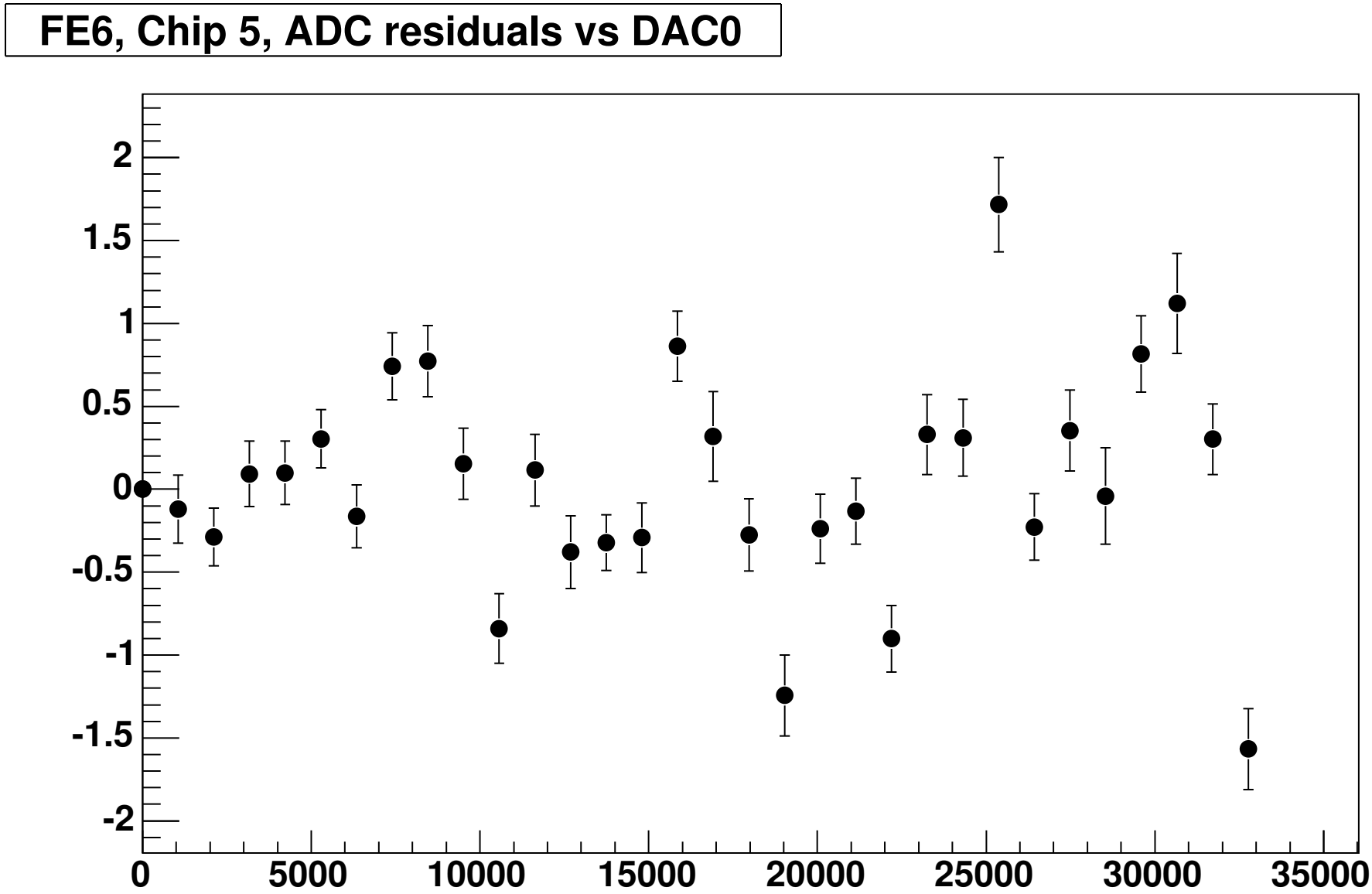

FE6, Chip 4, ADC mean vs DAC1
χ² / ndf 32 / 29
p0 115 ± 0.06847
p1 1.478e-05 ± 3.53e-06
115.8
115.6
115.4
115.2
115
114.8
114.6
114.4
114.2
0
5000
10000
15000
20000
25000
30000
35000

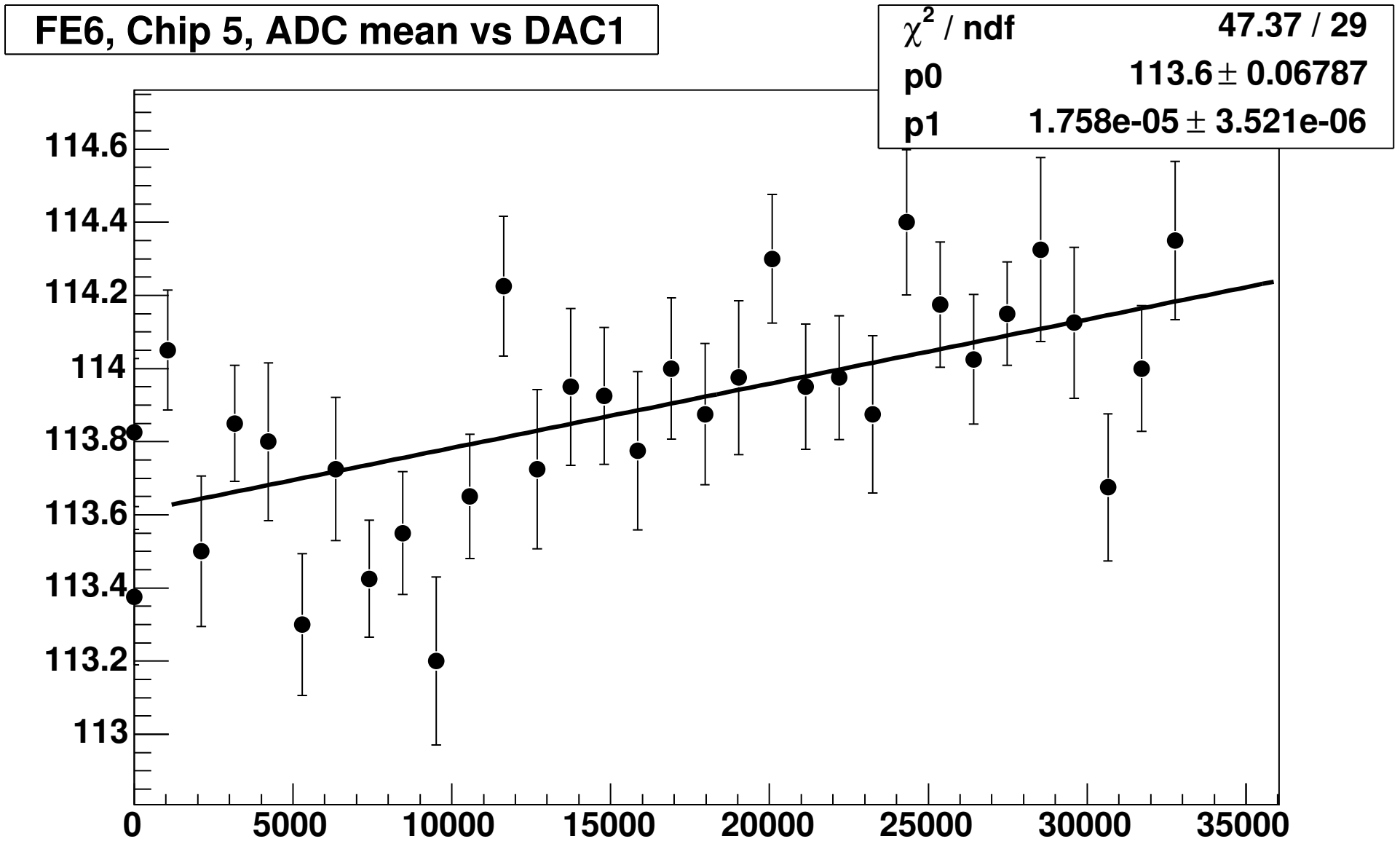

FE6, Chip 4, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

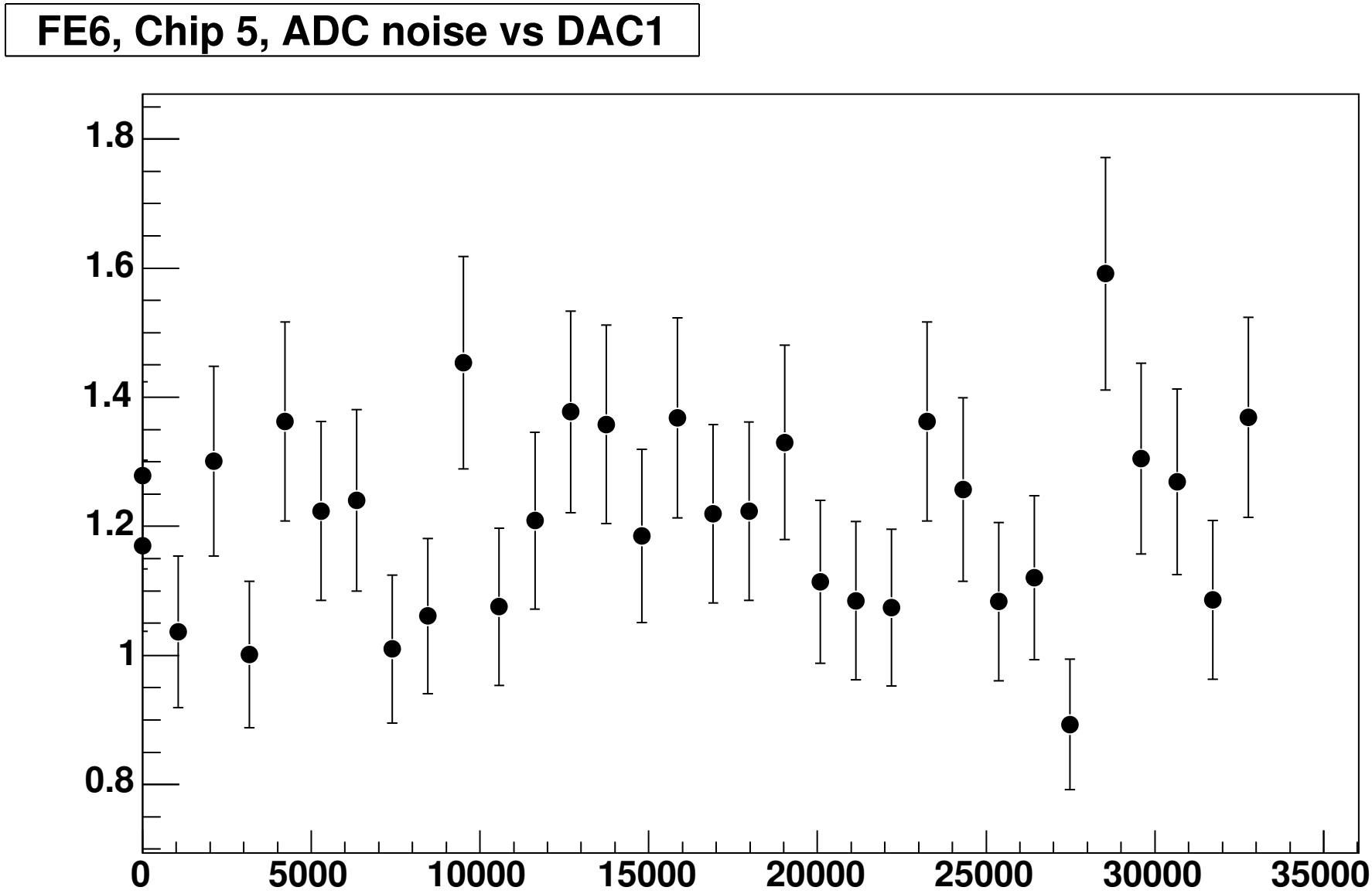

FE6, Chip 4, ADC residuals vs DAC1
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

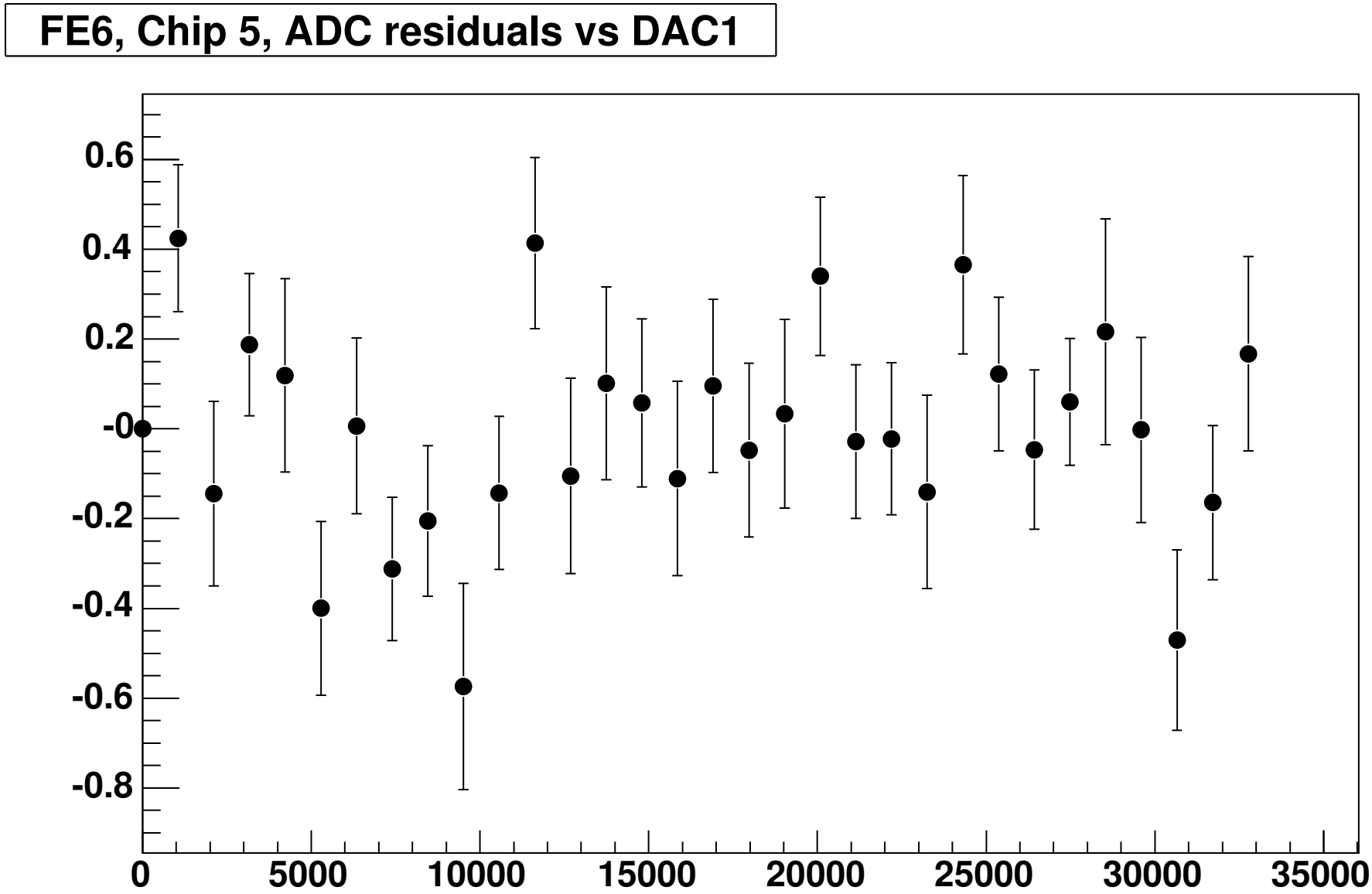

FE6, Chip 5, ADC mean vs DAC0
χ² / ndf 238.7 / 29
p0 -29.53 ± 0.07362
p1 0.4599 ± 4.105e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

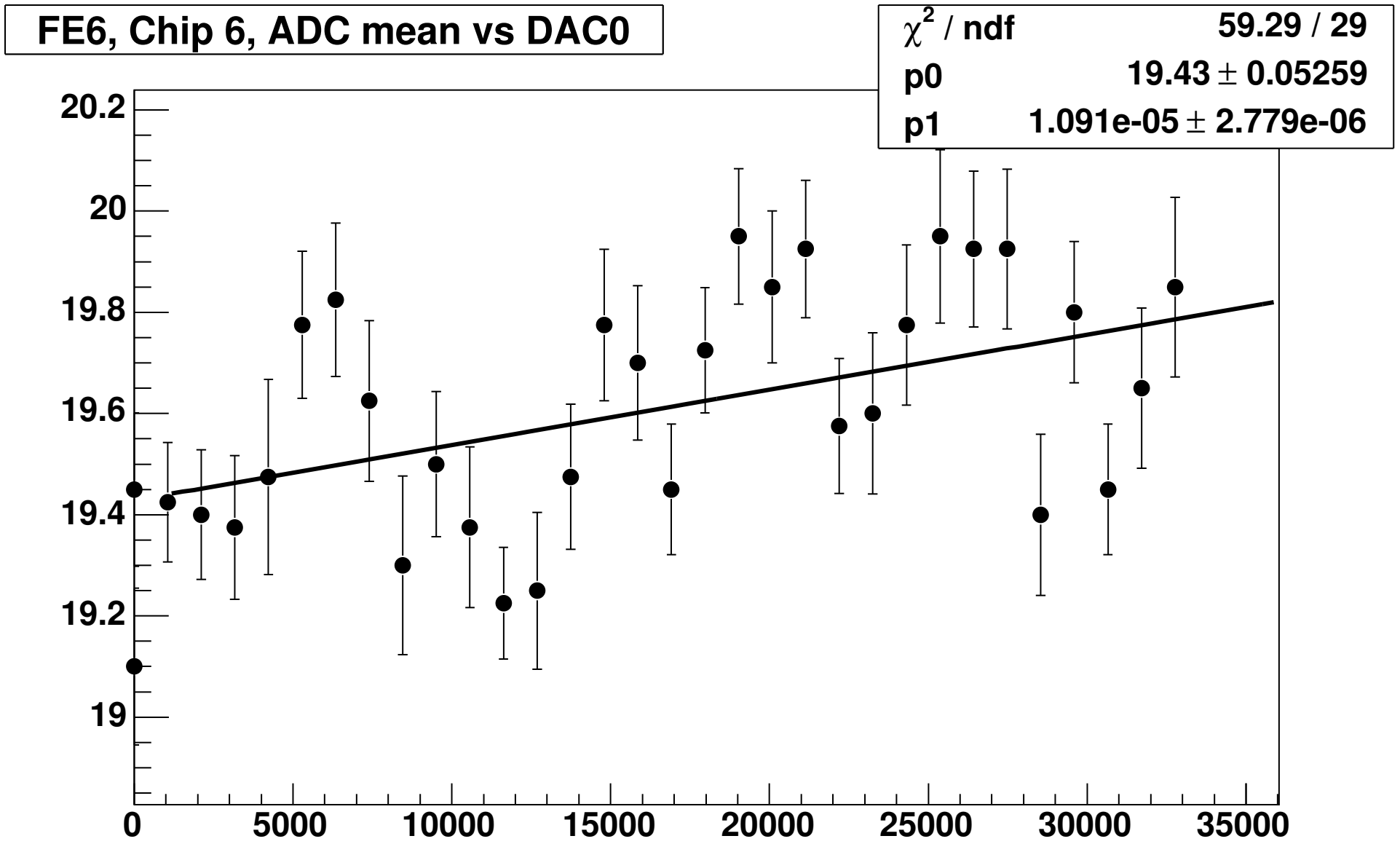

FE6, Chip 5, ADC noise vs DAC0
2.2
2
1.8
1.6
1.4
1.2
1
0
5000
10000
15000
20000
25000
30000
35000

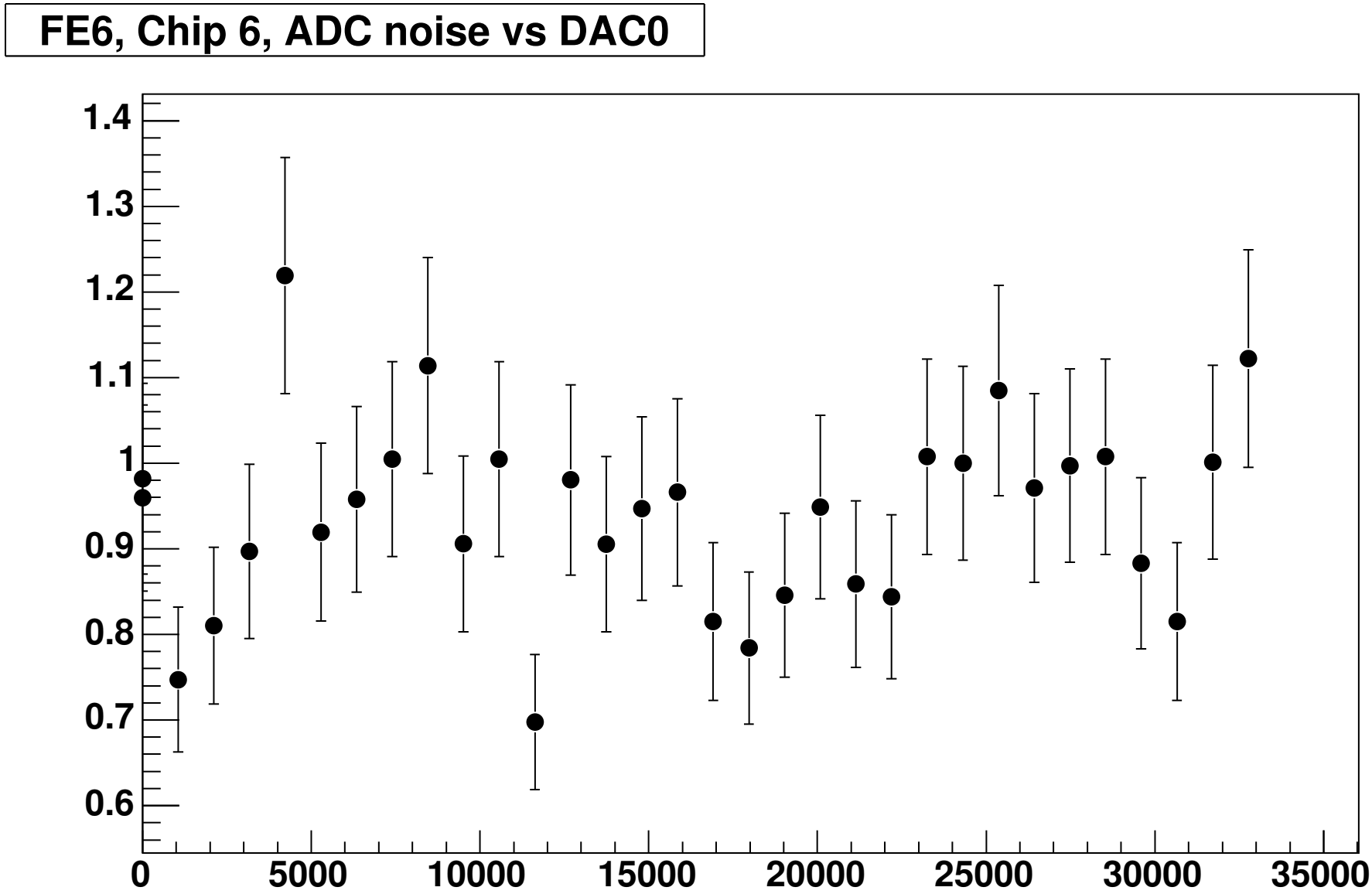

FE6, Chip 5, ADC residuals vs DAC0
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
0
5000
10000
15000
20000
25000
30000
35000

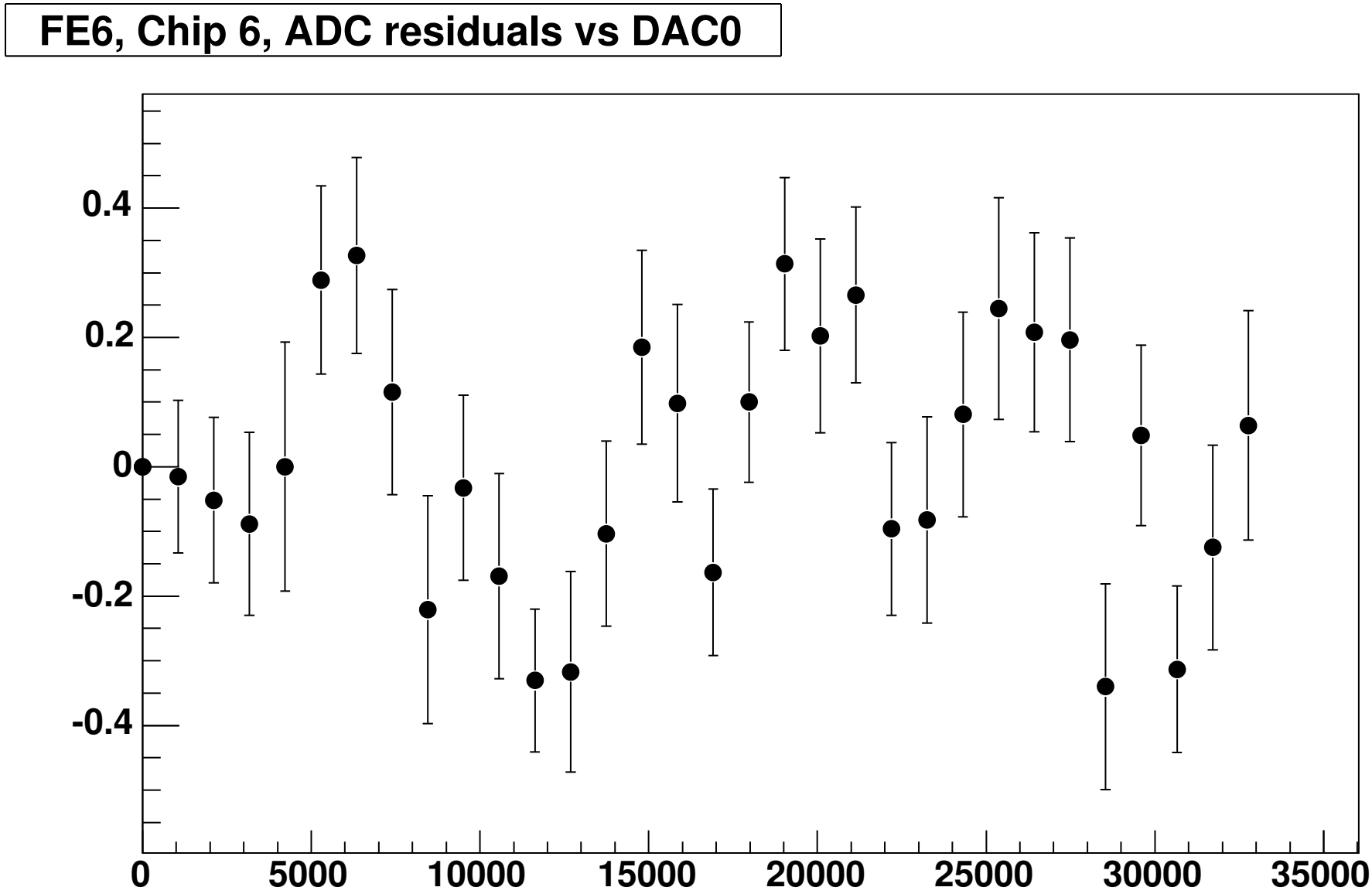

FE6, Chip 5, ADC mean vs DAC1
χ^2 / ndf 47.37 / 29
p0 113.6 ± 0.06787
p1 1.758e-05 ± 3.521e-06
114.6
114.4
114.2
114
113.8
113.6
113.4
113.2
113
0
5000
10000
15000
20000
25000
30000
35000

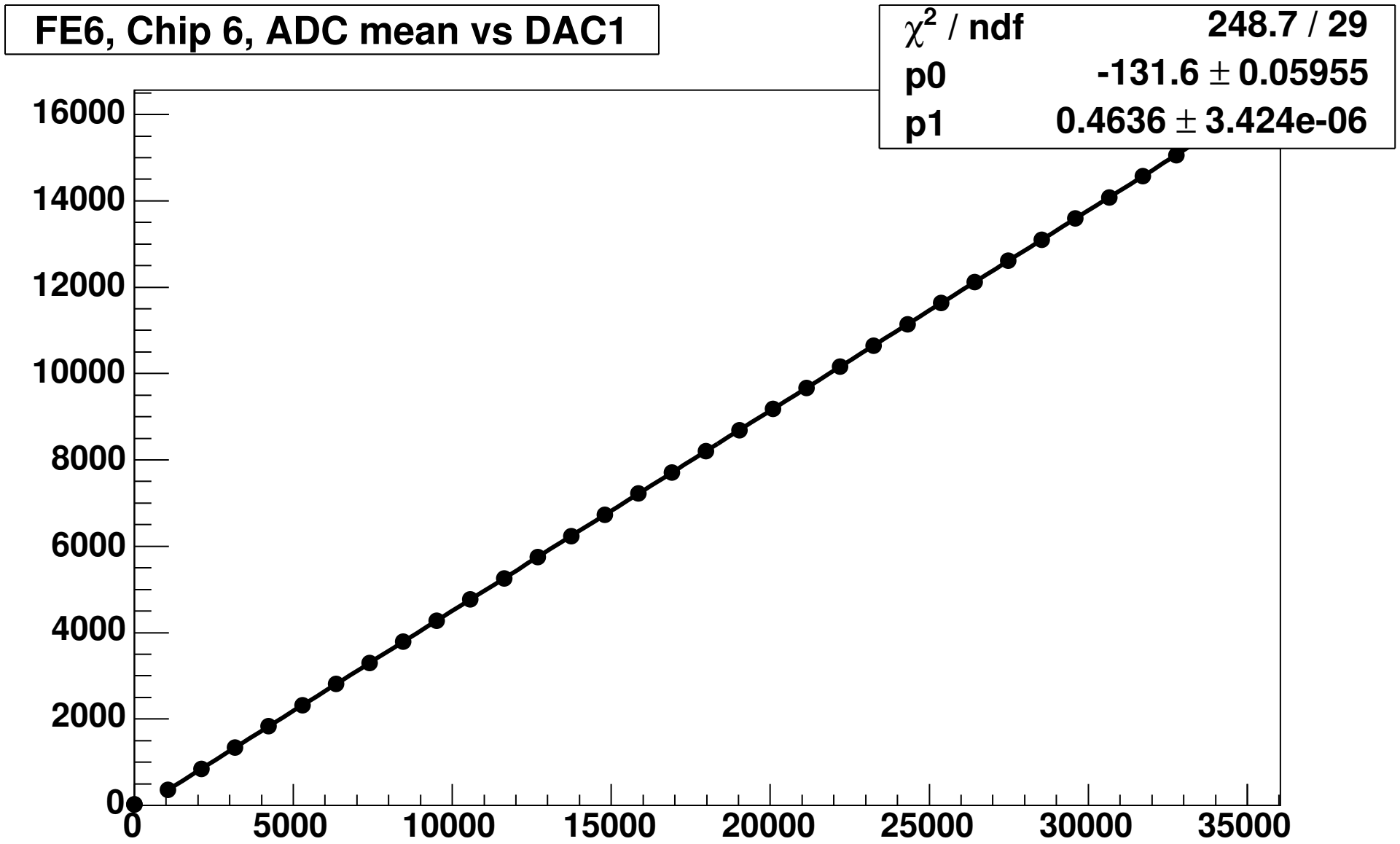

FE6, Chip 5, ADC noise vs DAC1
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000


FE6, Chip 5, ADC residuals vs DAC1
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

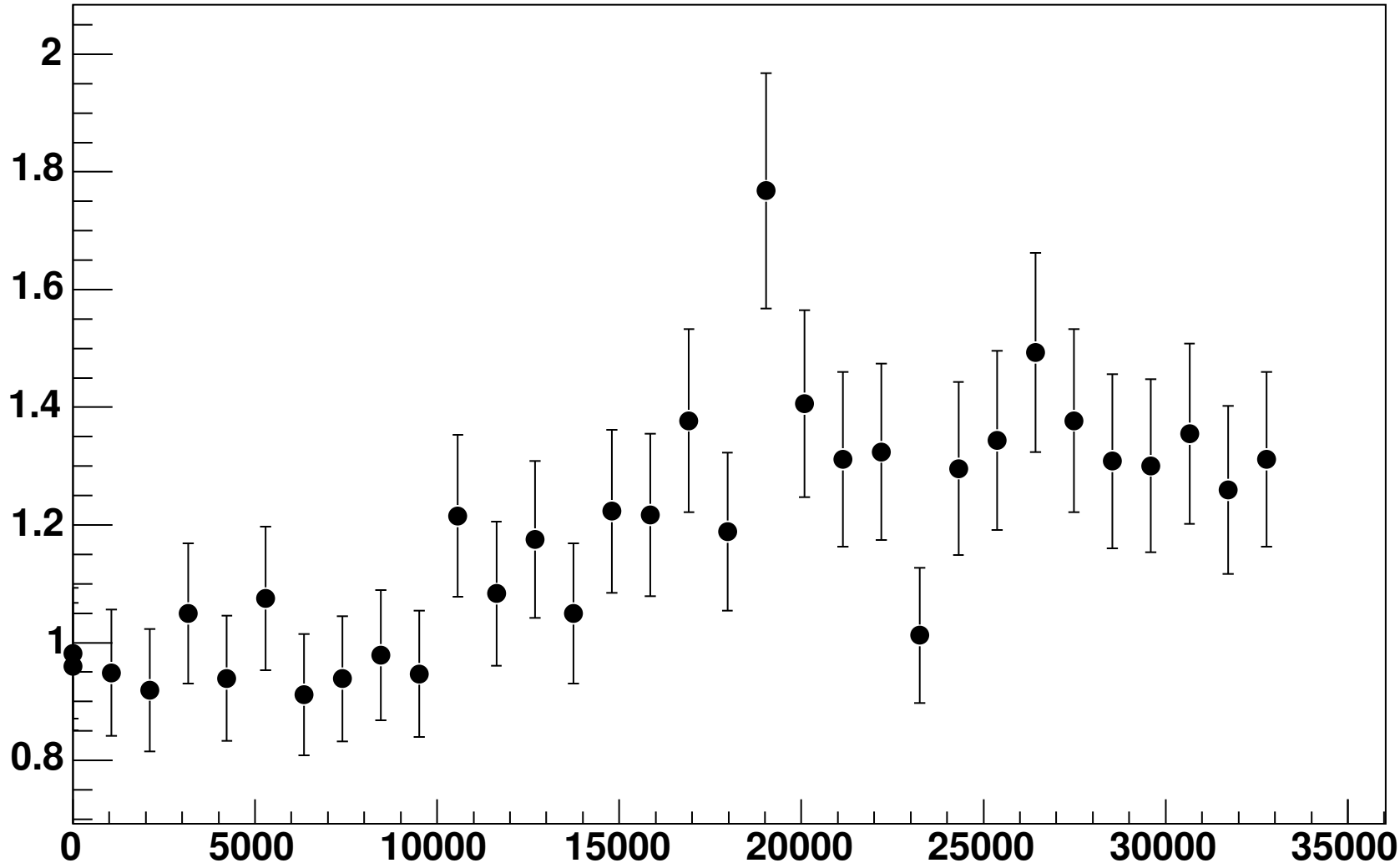

FE6, Chip 6, ADC mean vs DAC0
χ² / ndf 59.29 / 29
p0 19.43 ± 0.05259
p1 1.091e-05 ± 2.779e-06
20.2
20
19.8
19.6
19.4
19.2
19
0
5000
10000
15000
20000
25000
30000
35000


FE6, Chip 6, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

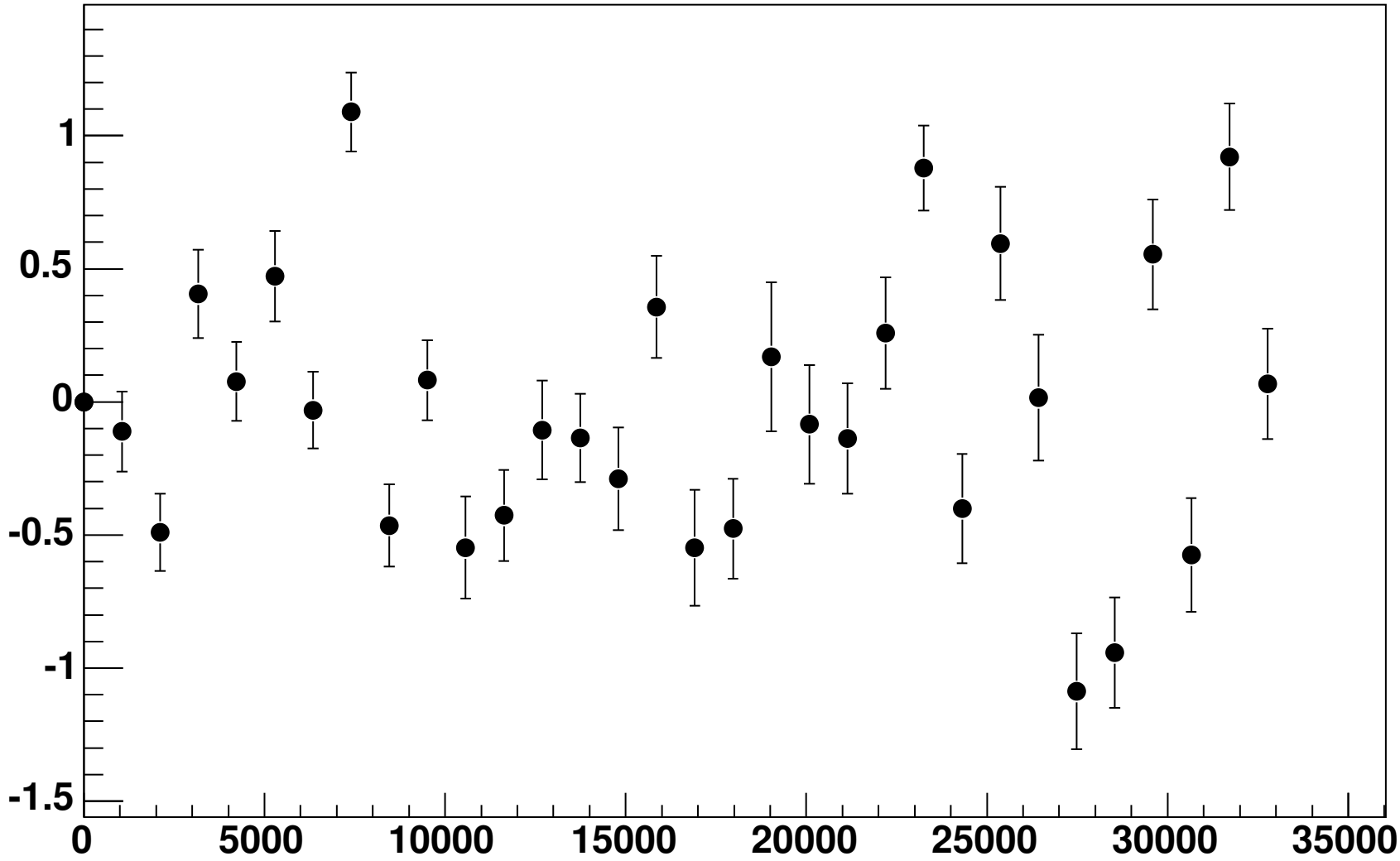

FE6, Chip 6, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

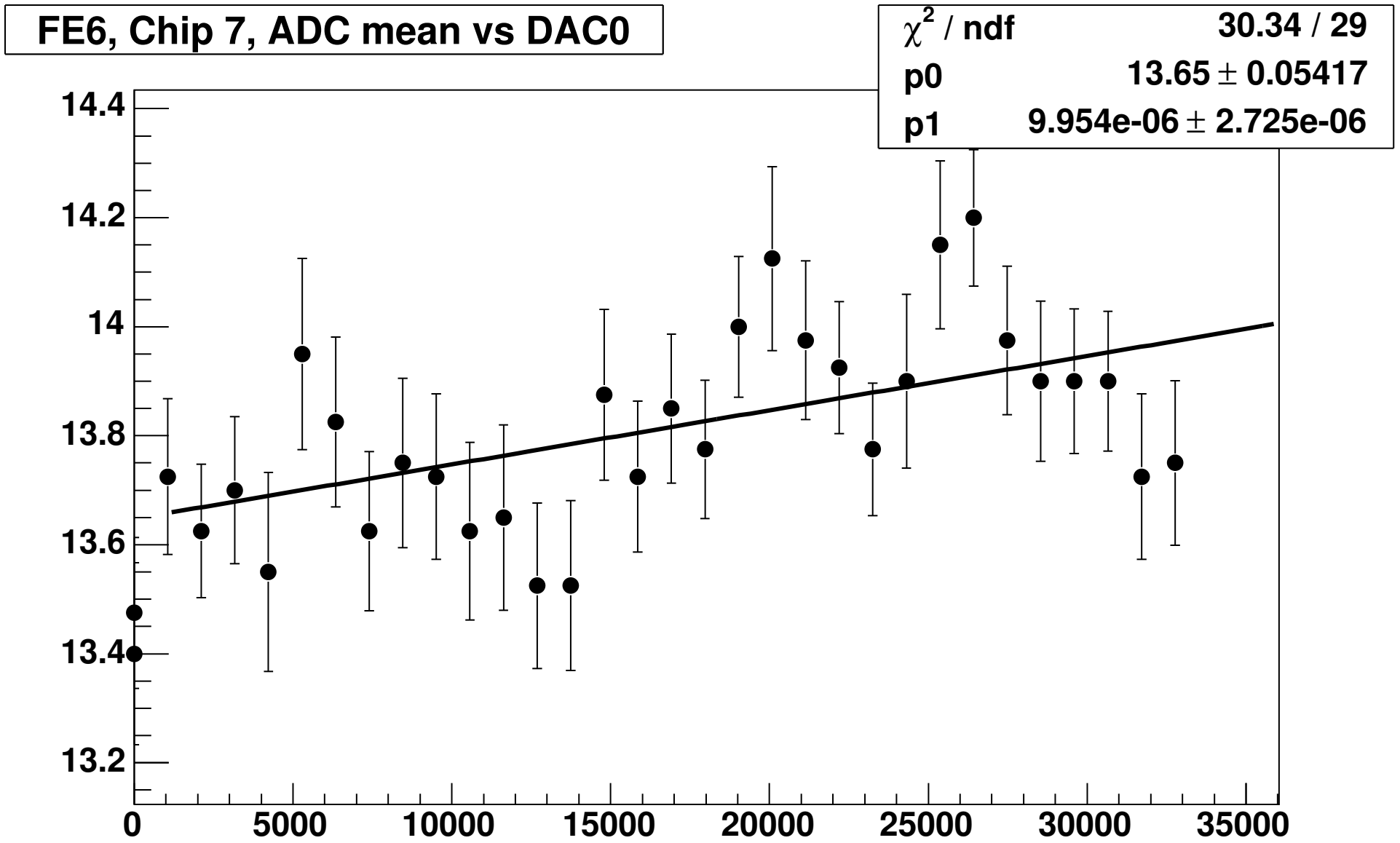

FE6, Chip 6, ADC mean vs DAC1
χ² / ndf 248.7 / 29
p0 -131.6 ± 0.05955
p1 0.4636 ± 3.424e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

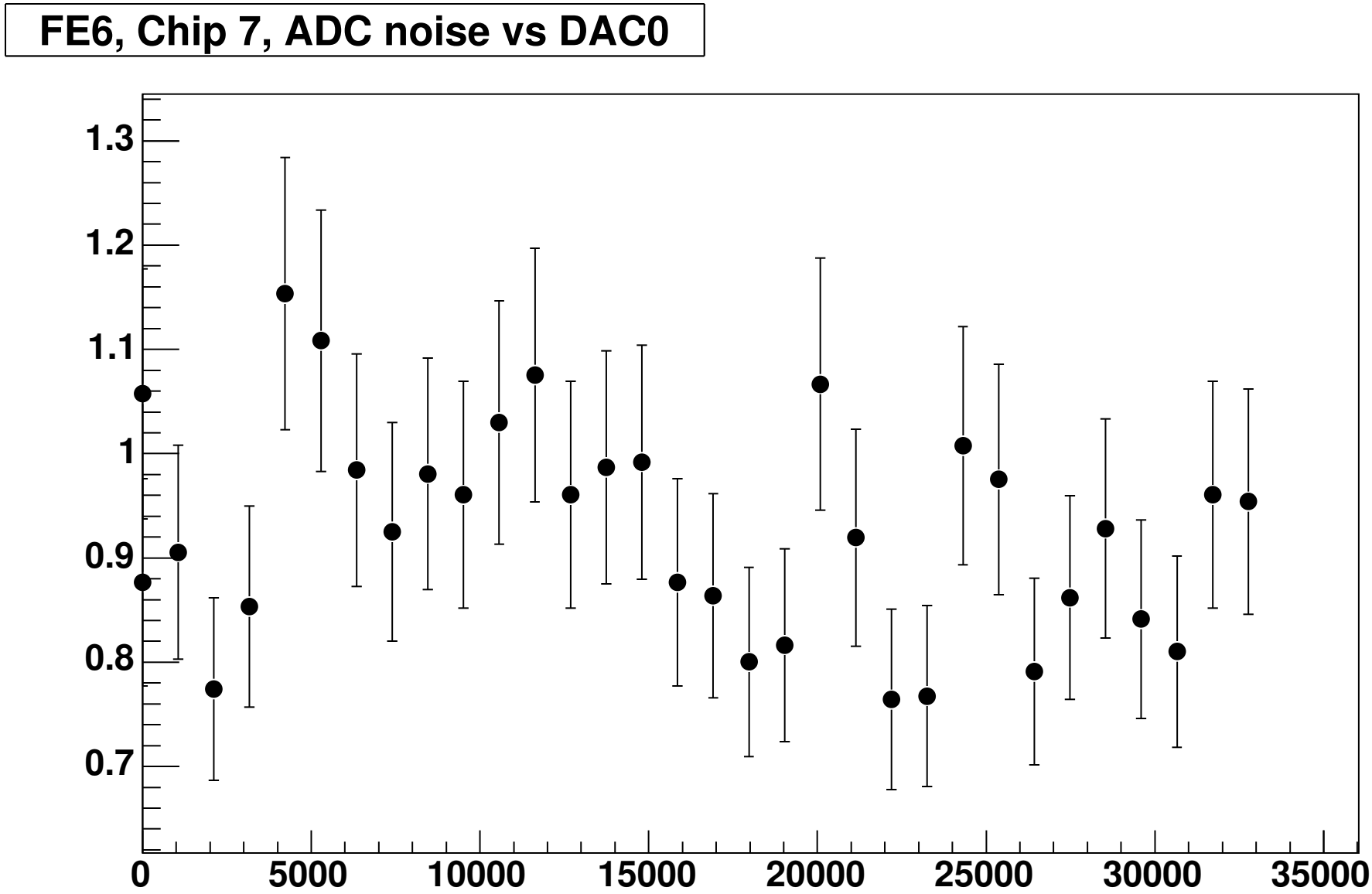
FE6, Chip 6, ADC noise vs DAC1

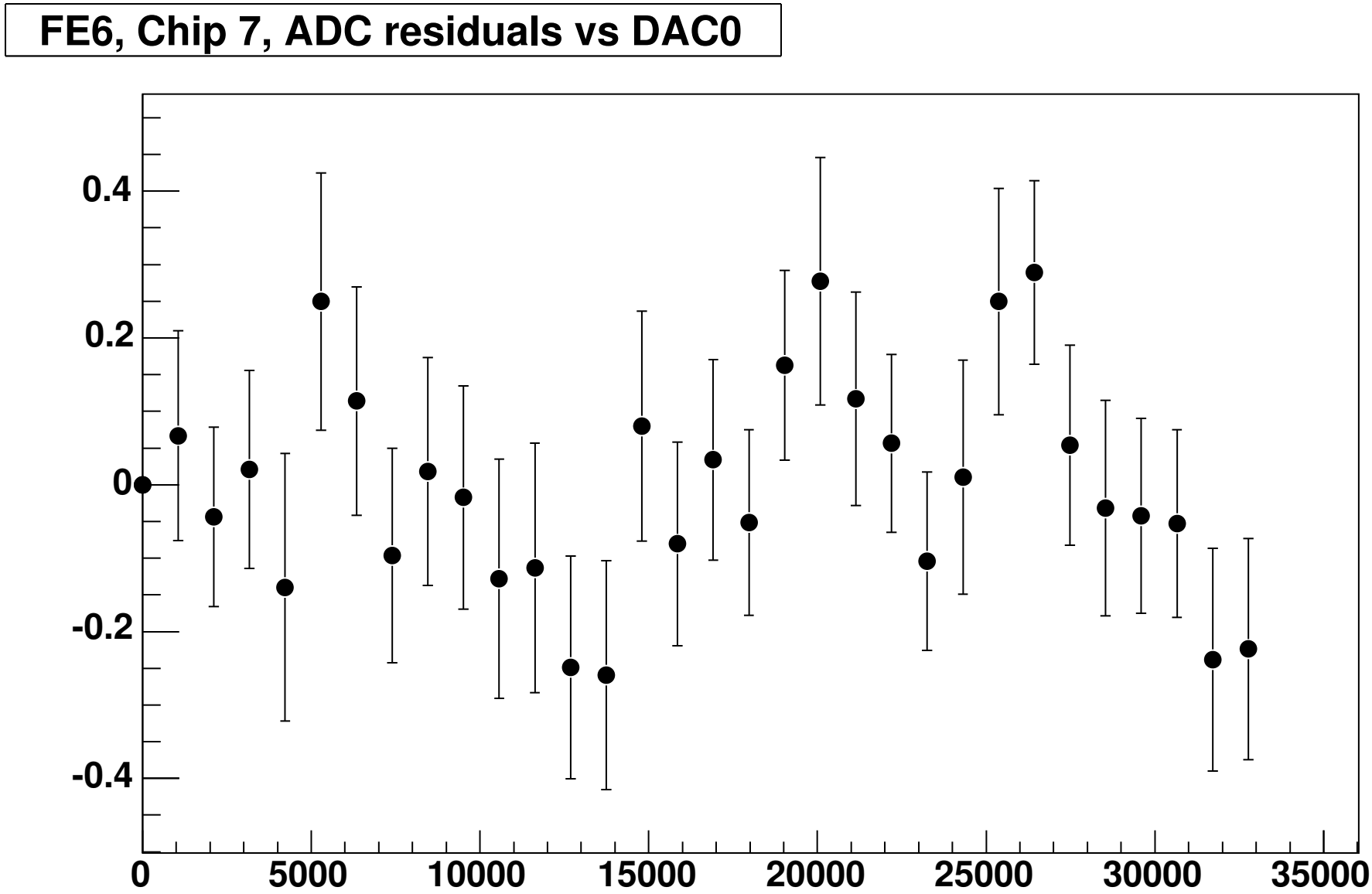


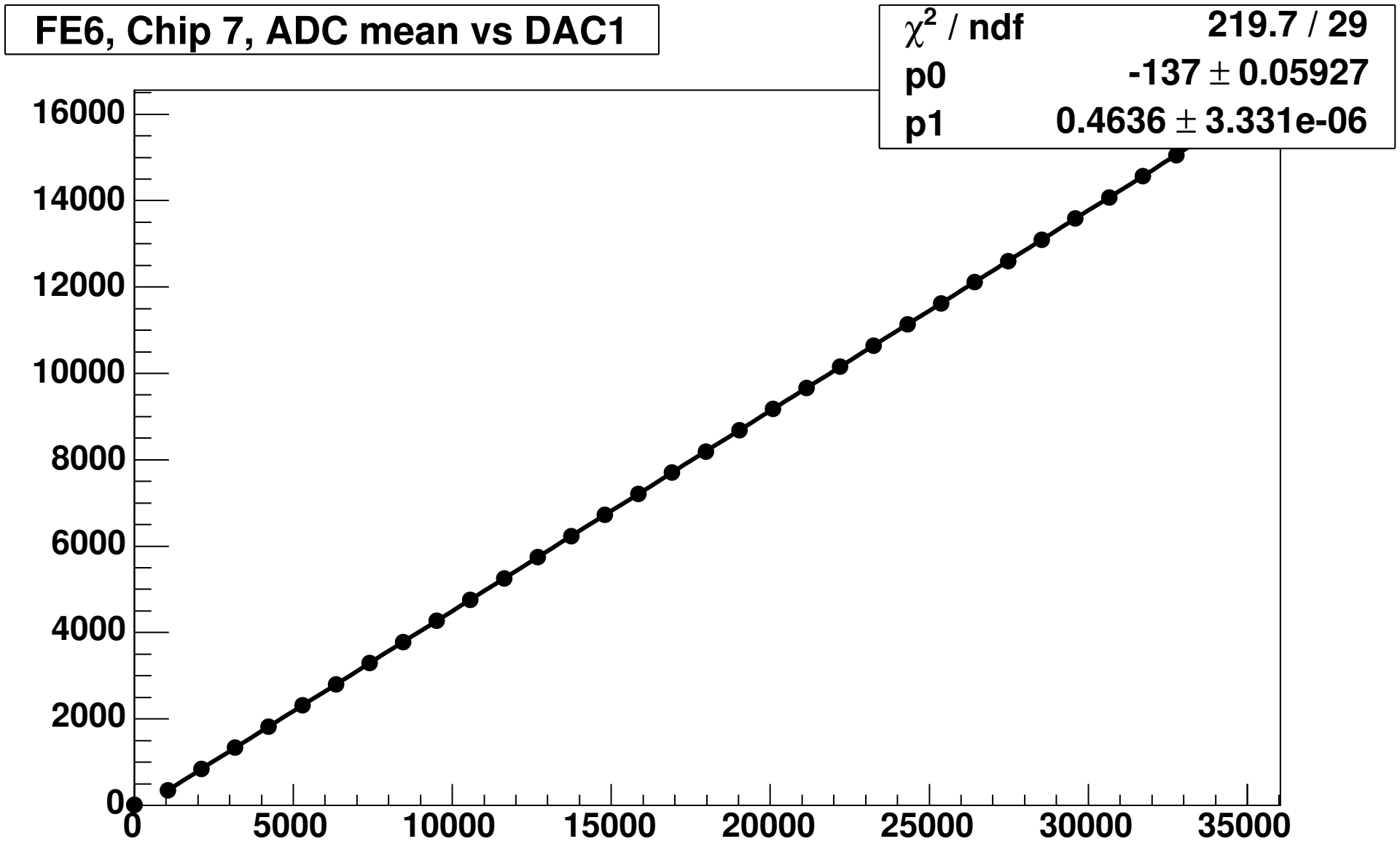
FE6, Chip 6, ADC residuals vs DAC1

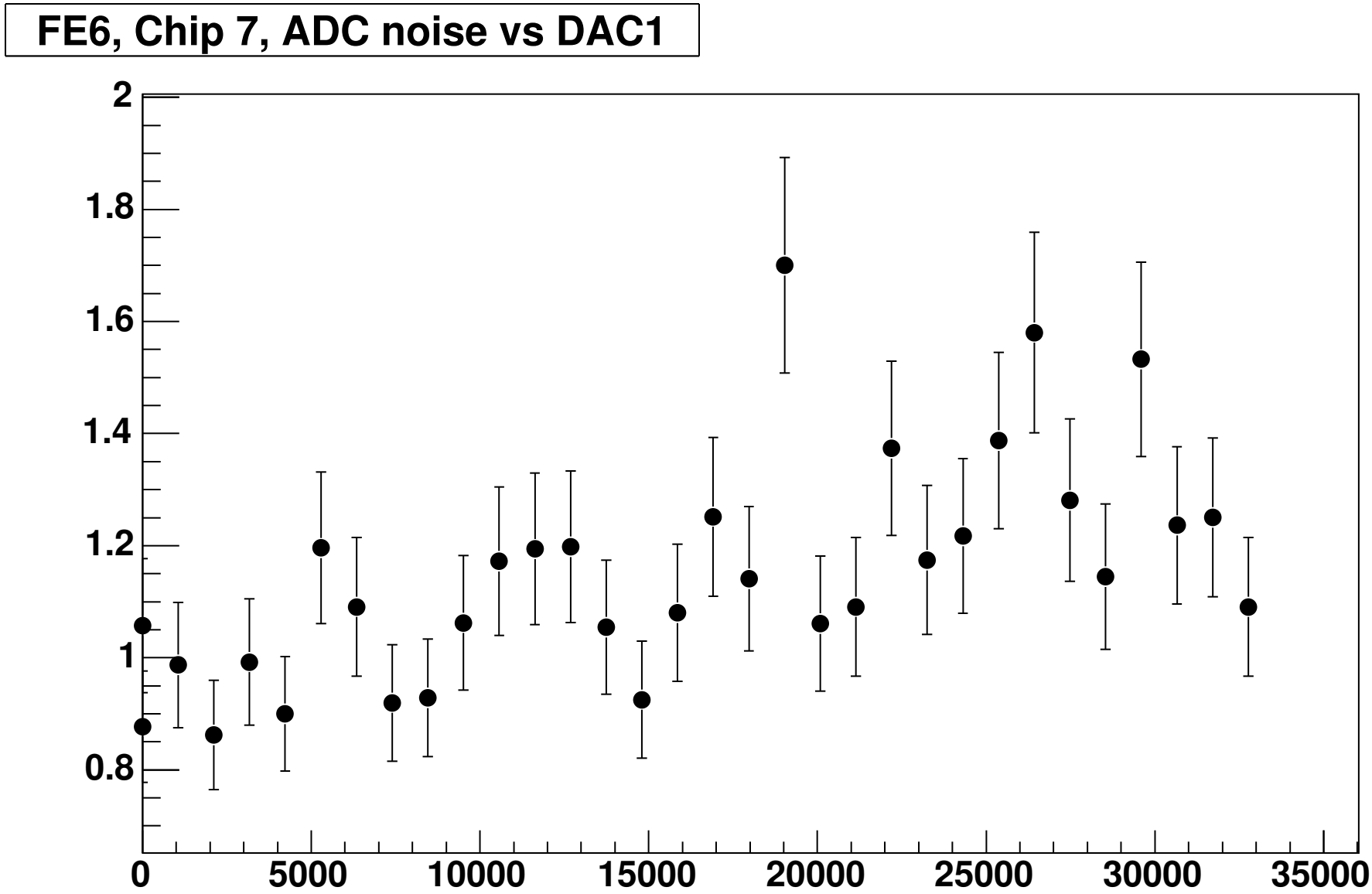


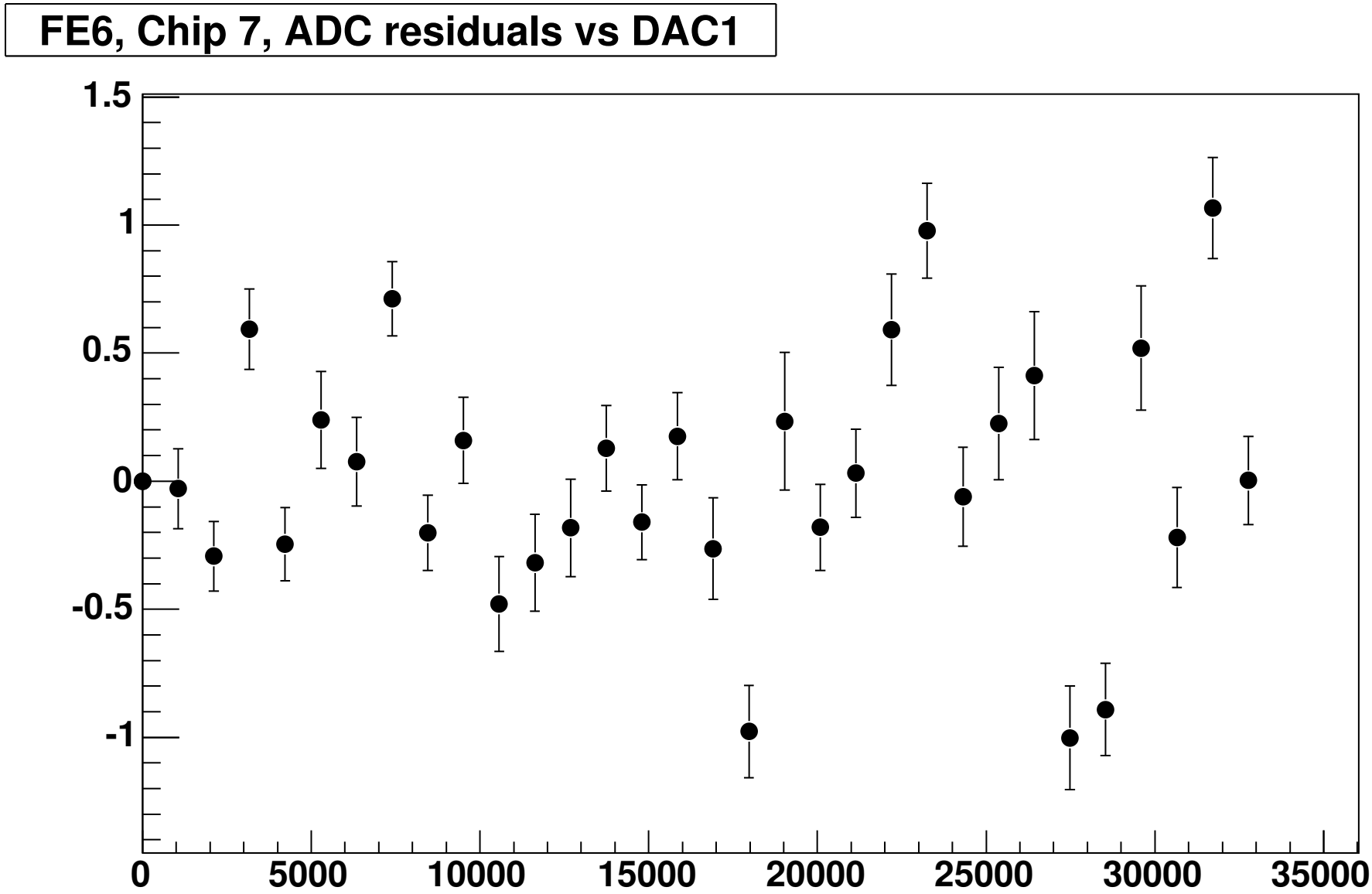

FE6, Chip 7, ADC mean vs DAC0
χ² / ndf 30.34 / 29
p0 13.65 ± 0.05417
p1 9.954e-06 ± 2.725e-06
14.4
14.2
14
13.8
13.6
13.4
13.2
0
5000
10000
15000
20000
25000
30000
35000

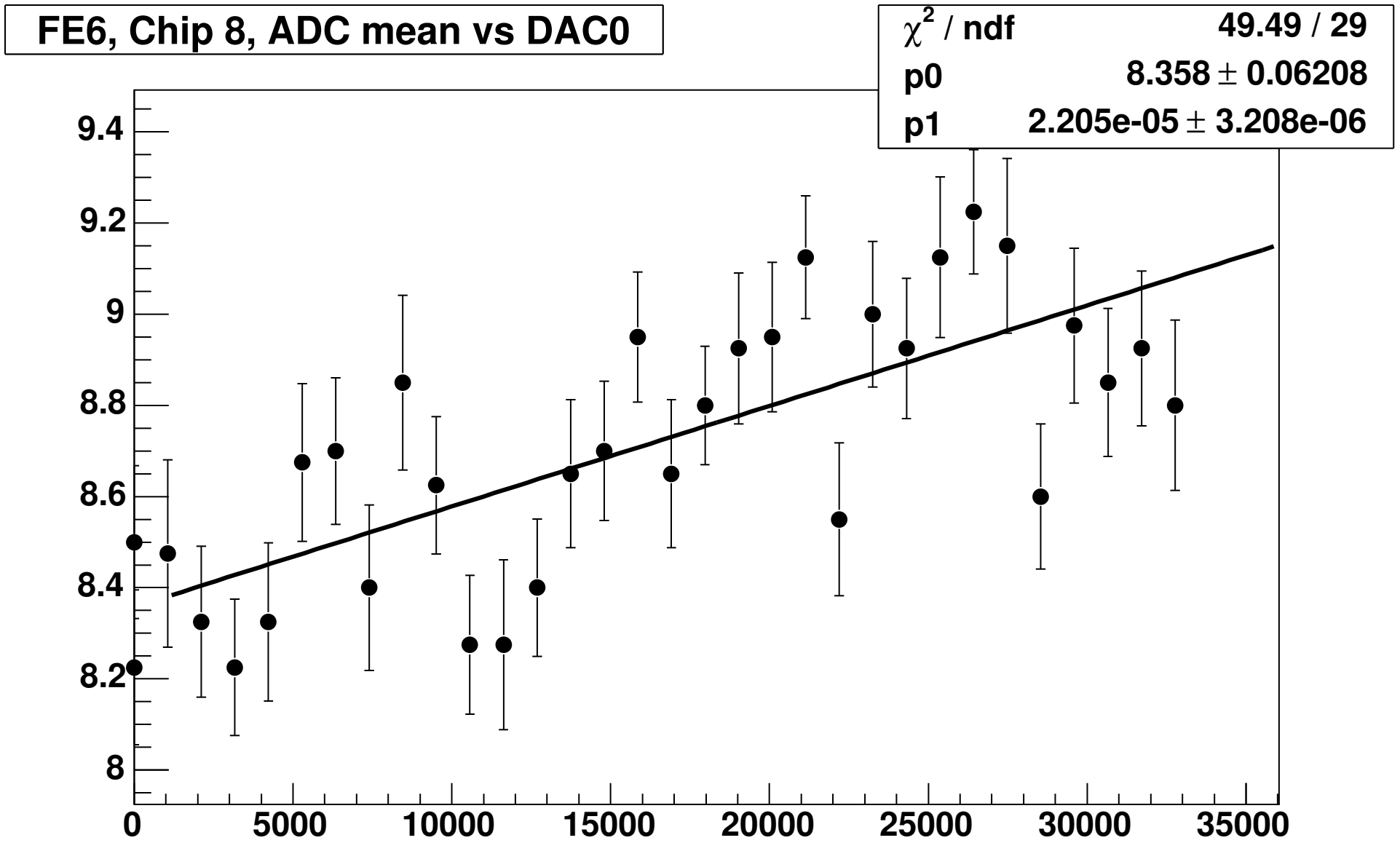

FE6, Chip 7, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

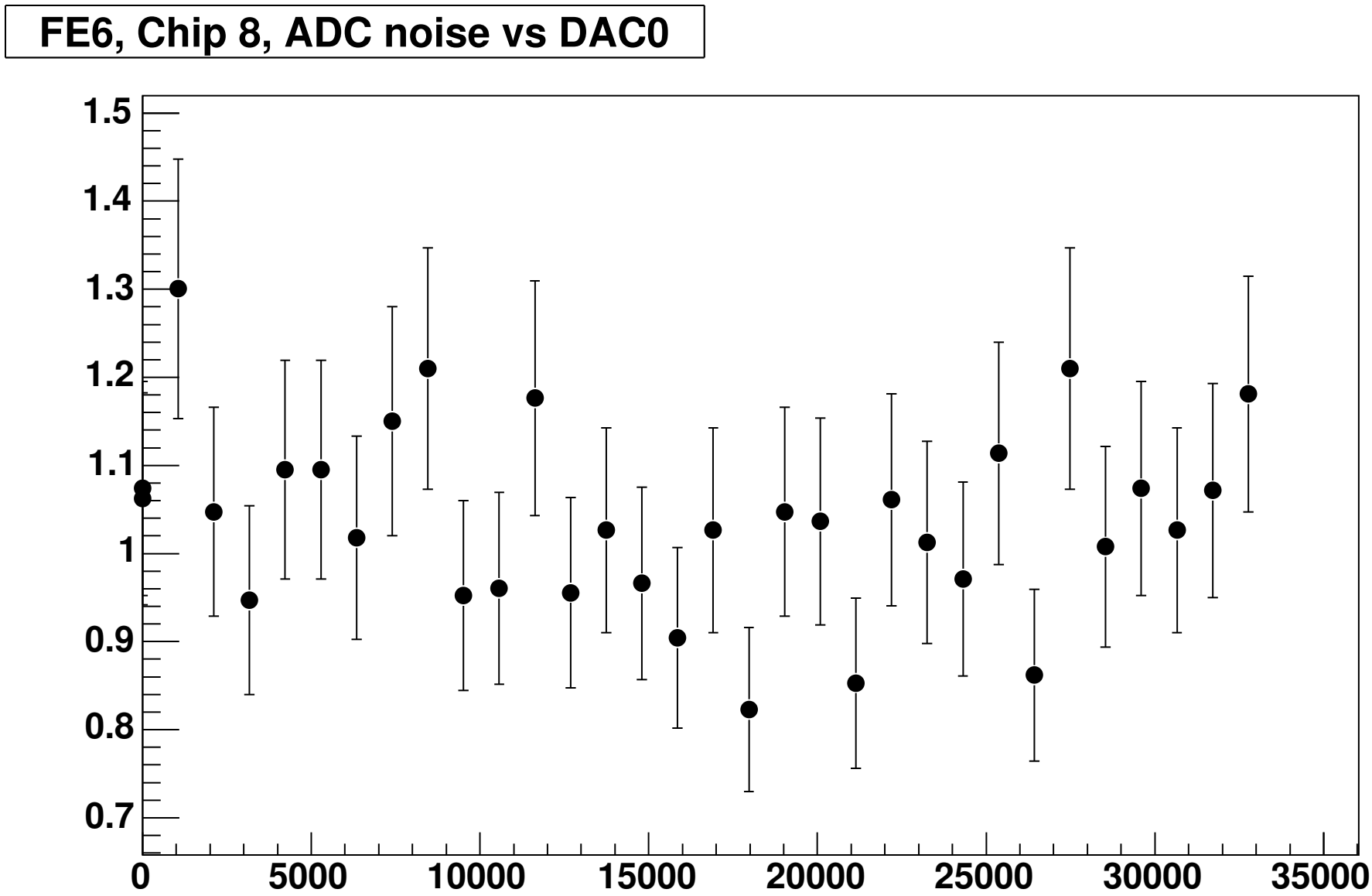

FE6, Chip 7, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

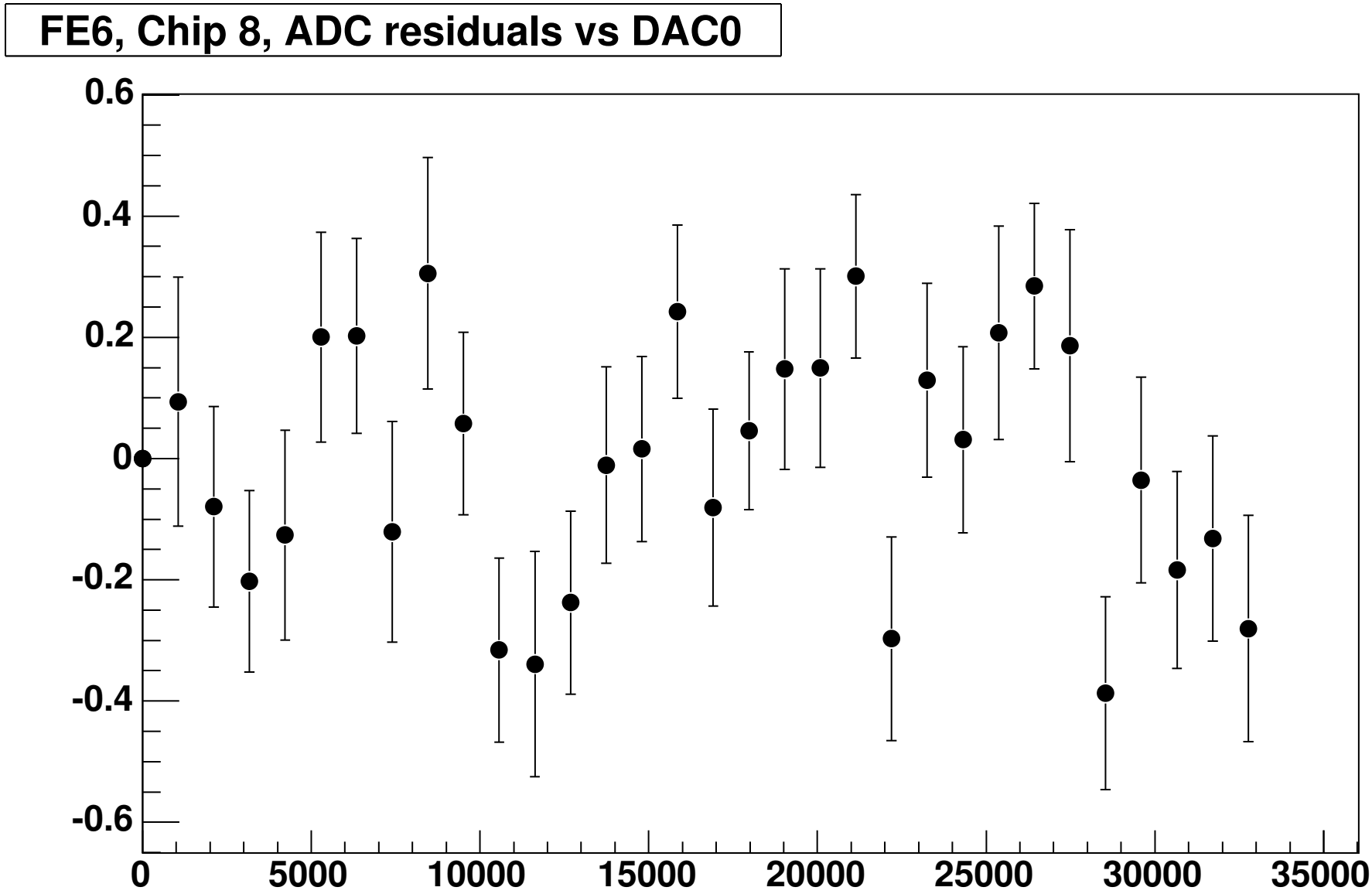

FE6, Chip 7, ADC mean vs DAC1
χ² / ndf 219.7 / 29
p0 -137 ± 0.05927
p1 0.4636 ± 3.331e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

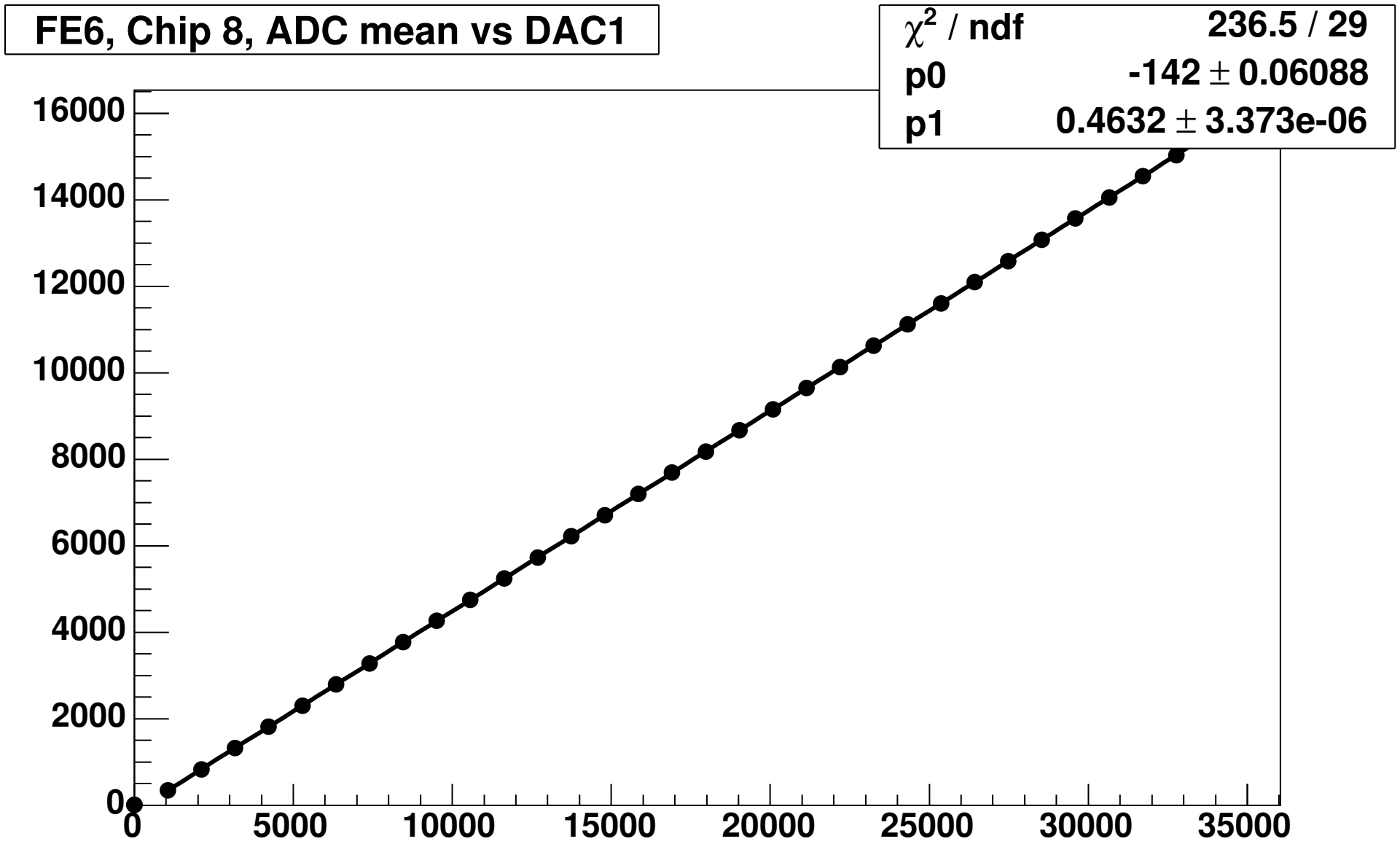

FE6, Chip 7, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000


FE6, Chip 7, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
0
5000
10000
15000
20000
25000
30000
35000

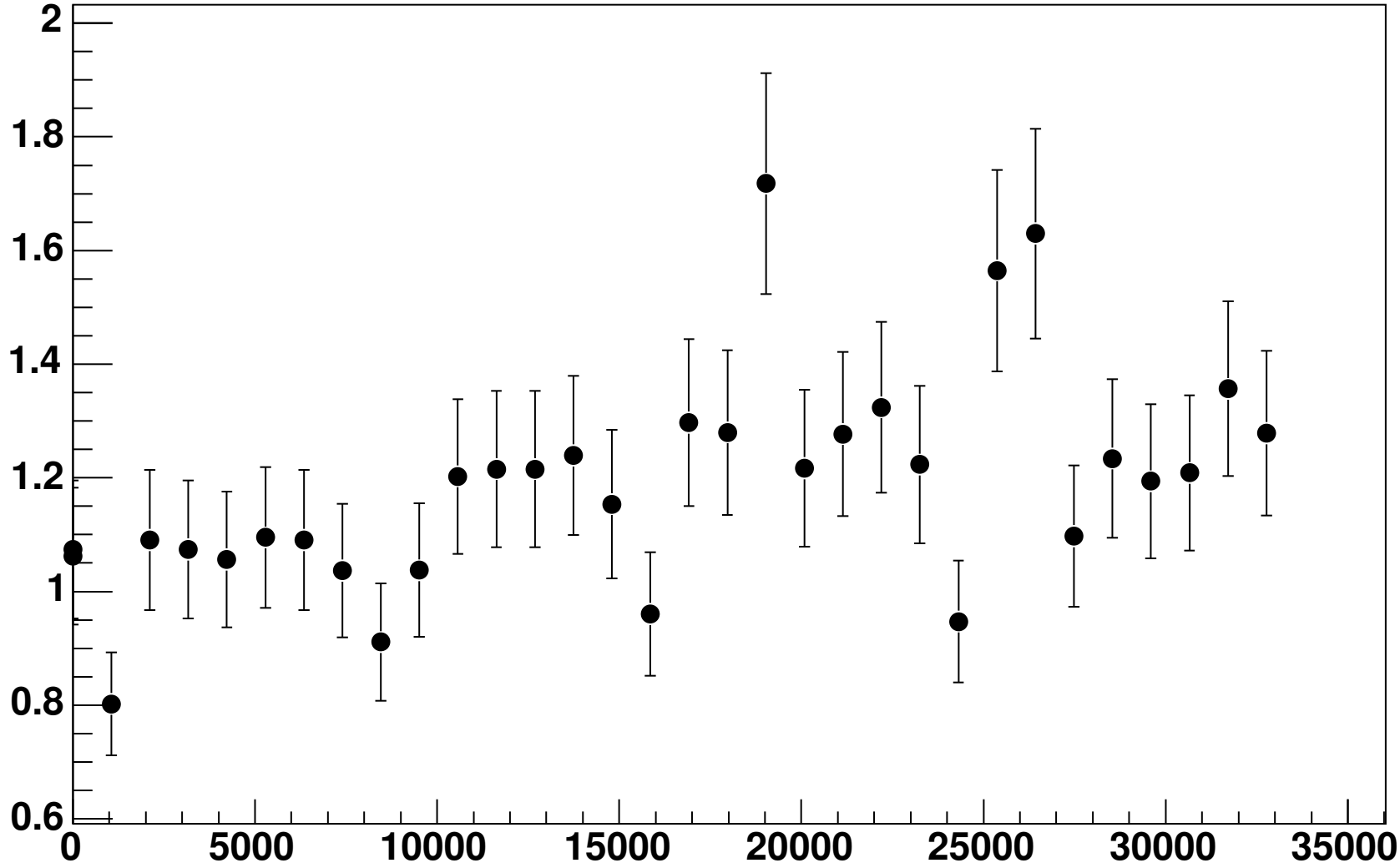

FE6, Chip 8, ADC mean vs DAC0
χ² / ndf 49.49 / 29
p0 8.358 ± 0.06208
p1 2.205e-05 ± 3.208e-06
9.4
9.2
9
8.8
8.6
8.4
8.2
8
0
5000
10000
15000
20000
25000
30000
35000

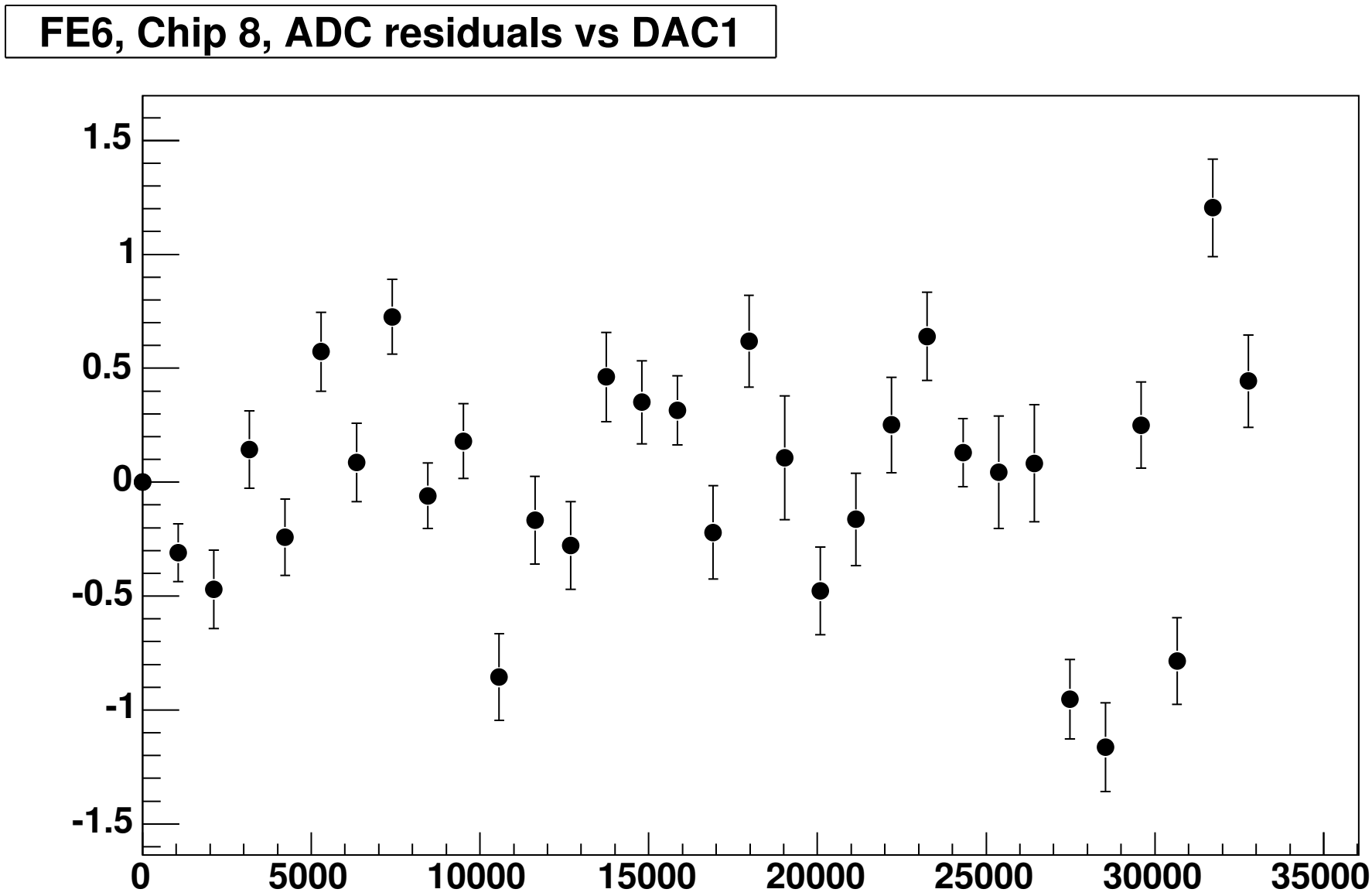

FE6, Chip 8, ADC noise vs DAC0
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

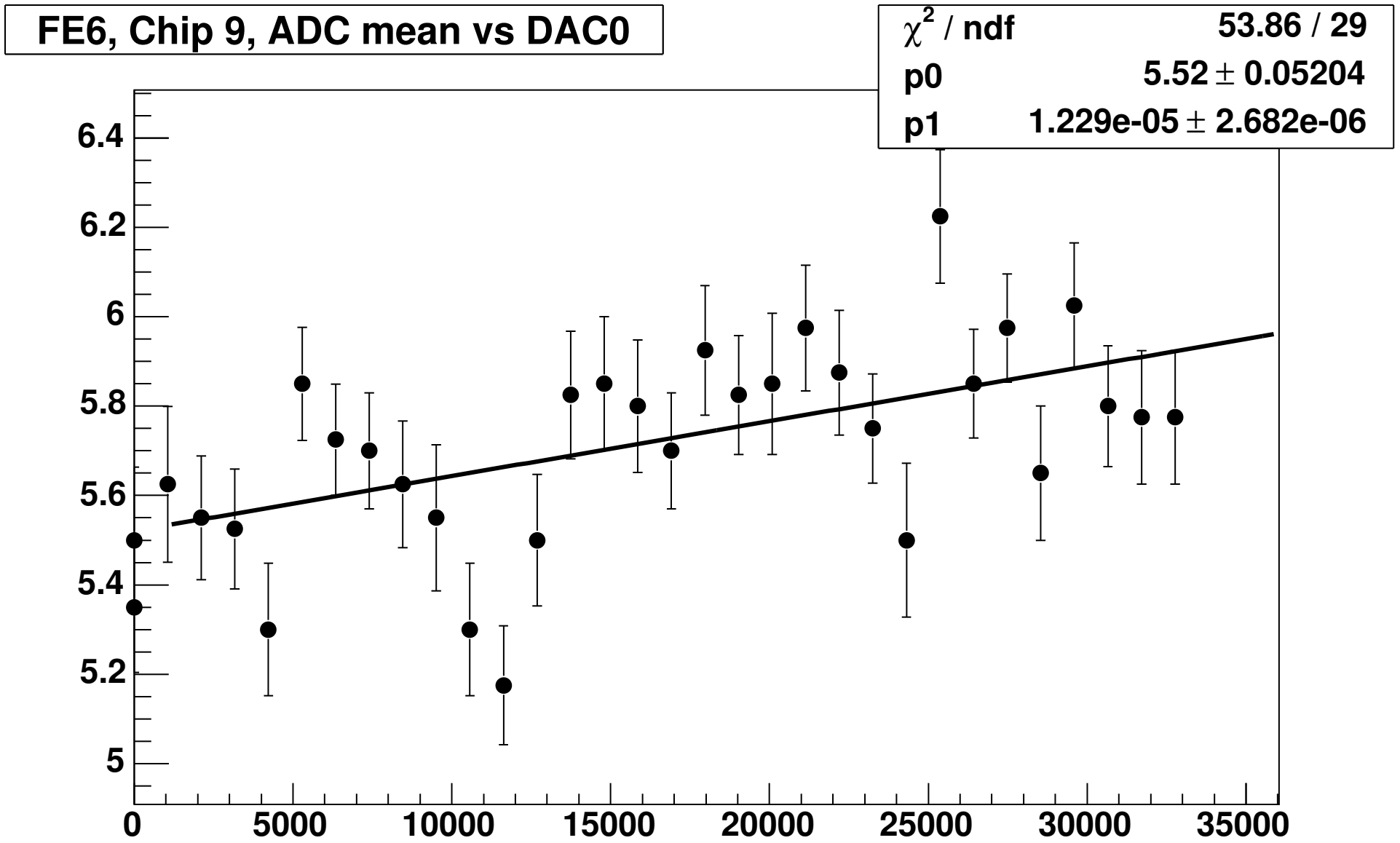

FE6, Chip 8, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

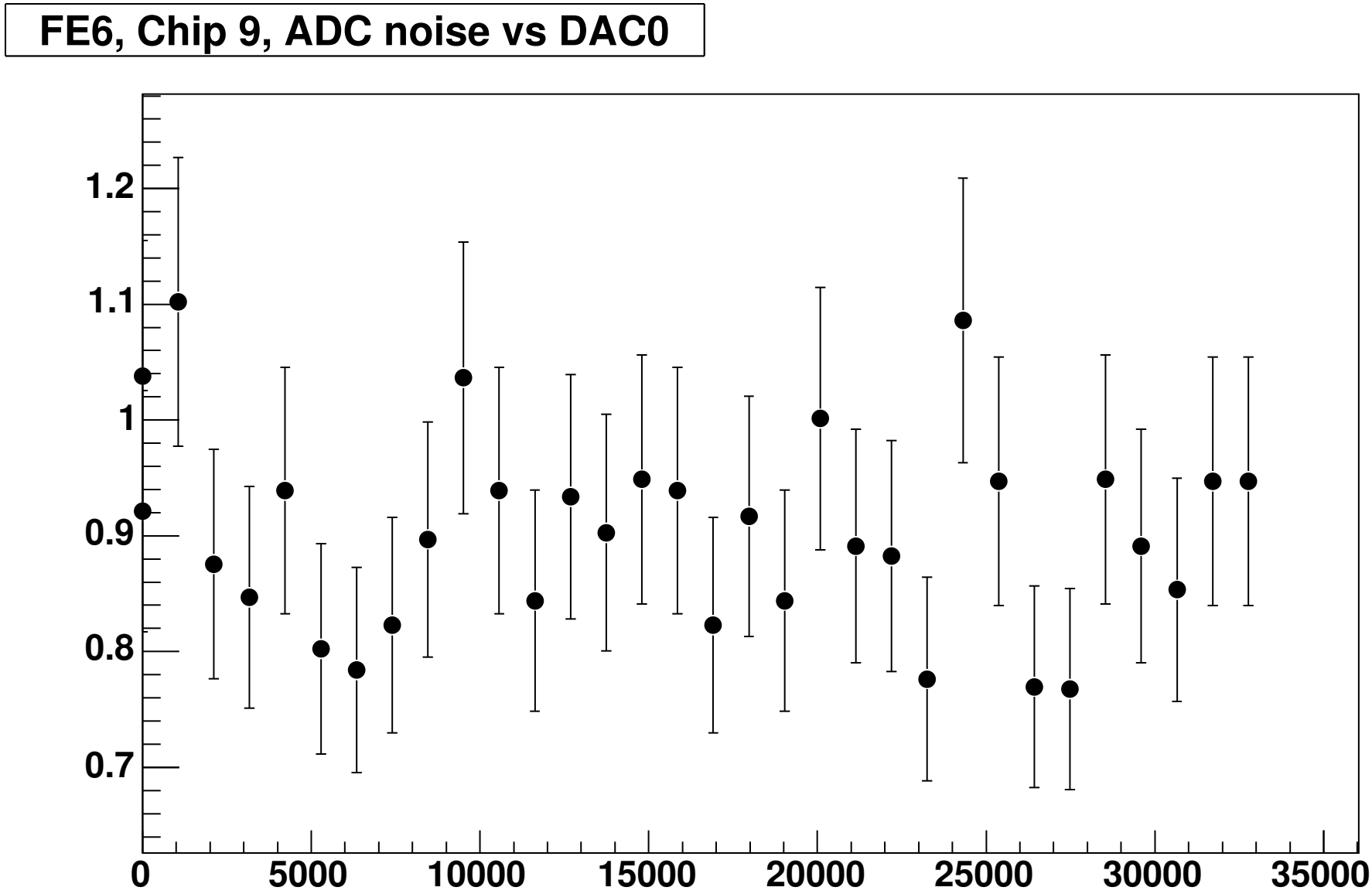

FE6, Chip 8, ADC mean vs DAC1
χ² / ndf 236.5 / 29
p0 -142 ± 0.06088
p1 0.4632 ± 3.373e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

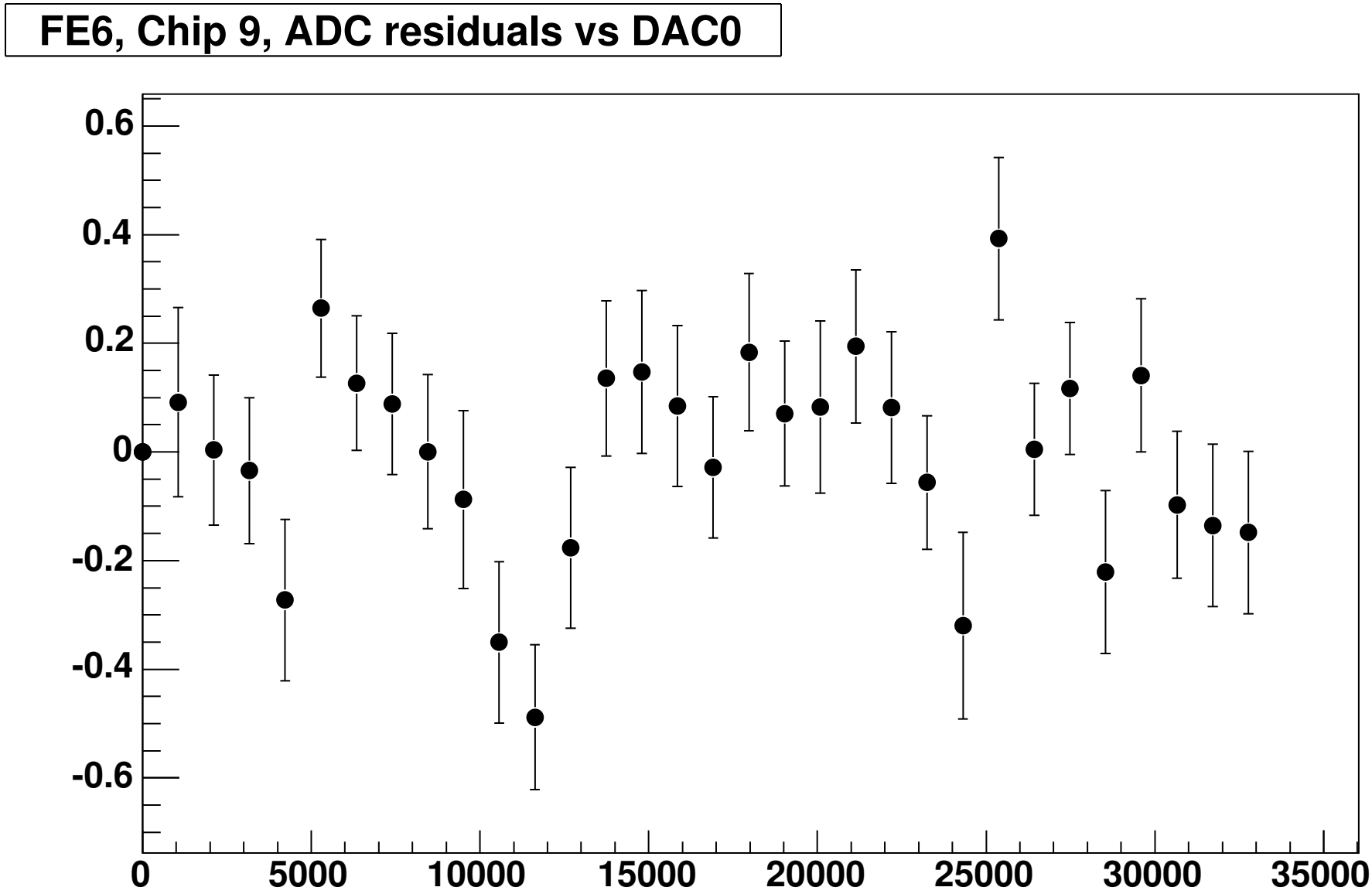
FE6, Chip 8, ADC noise vs DAC1

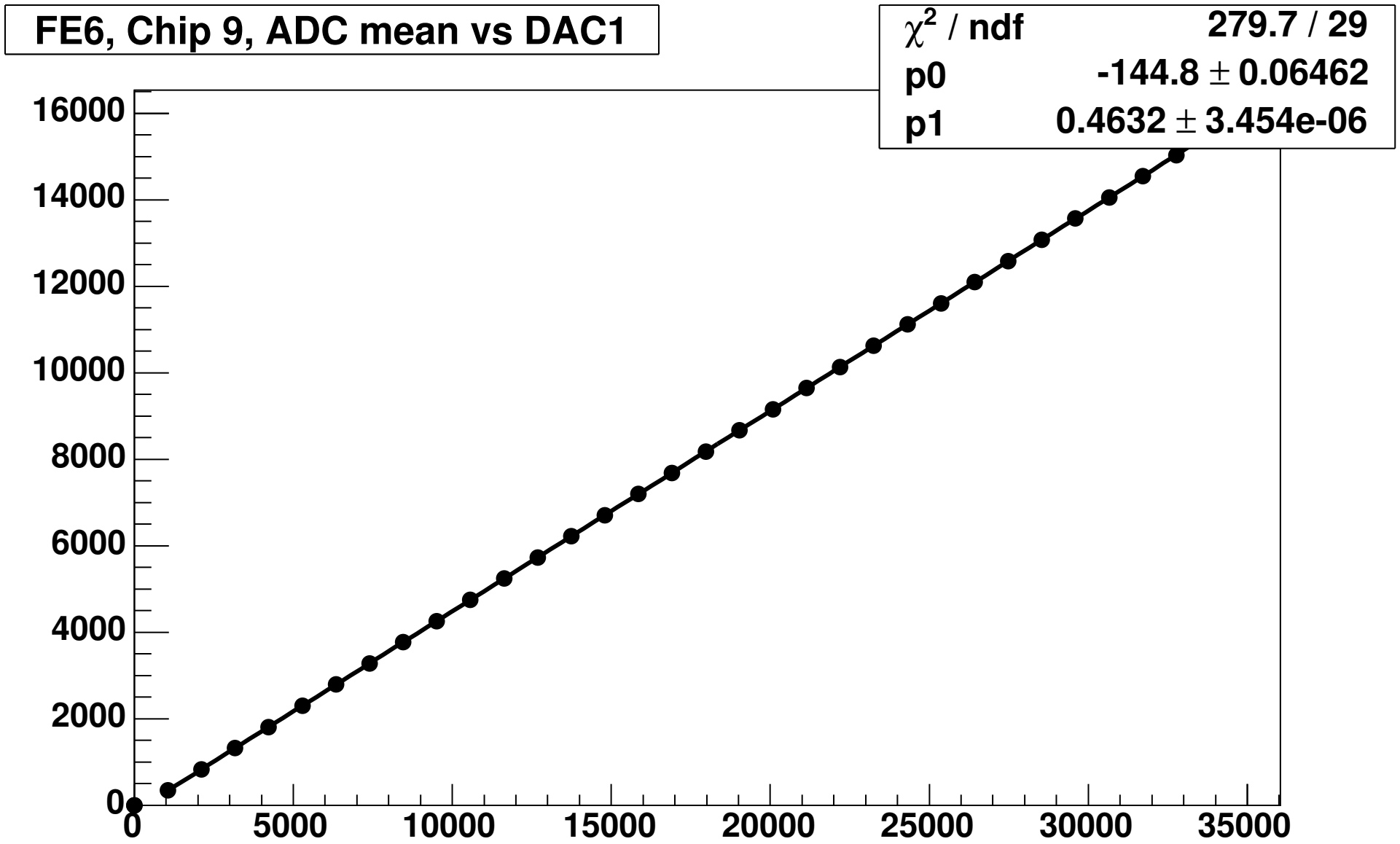



FE6, Chip 8, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

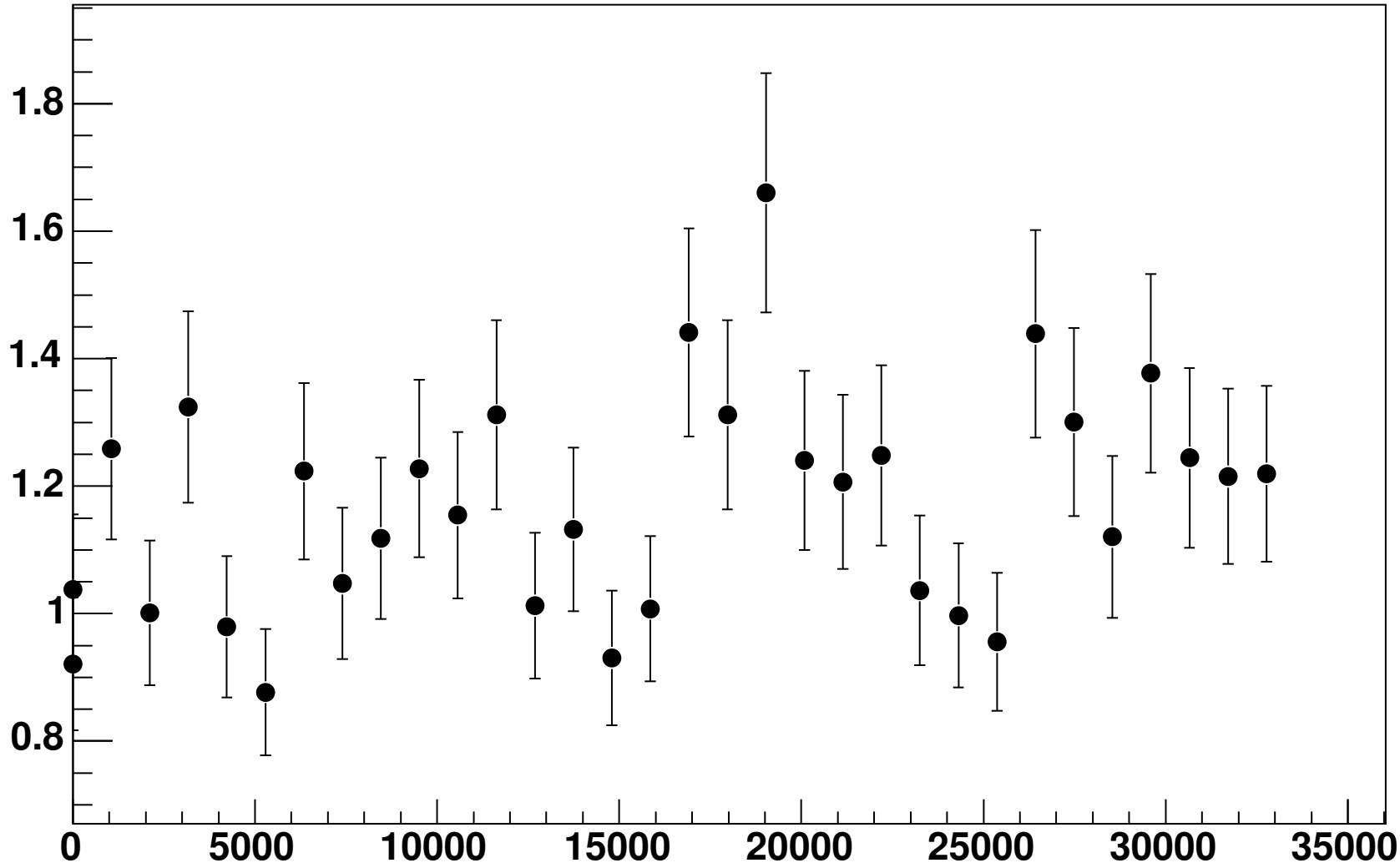

FE6, Chip 9, ADC mean vs DAC0
χ² / ndf 53.86 / 29
p0 5.52 ± 0.05204
p1 1.229e-05 ± 2.682e-06
6.4
6.2
6
5.8
5.6
5.4
5.2
5
0
5000
10000
15000
20000
25000
30000
35000

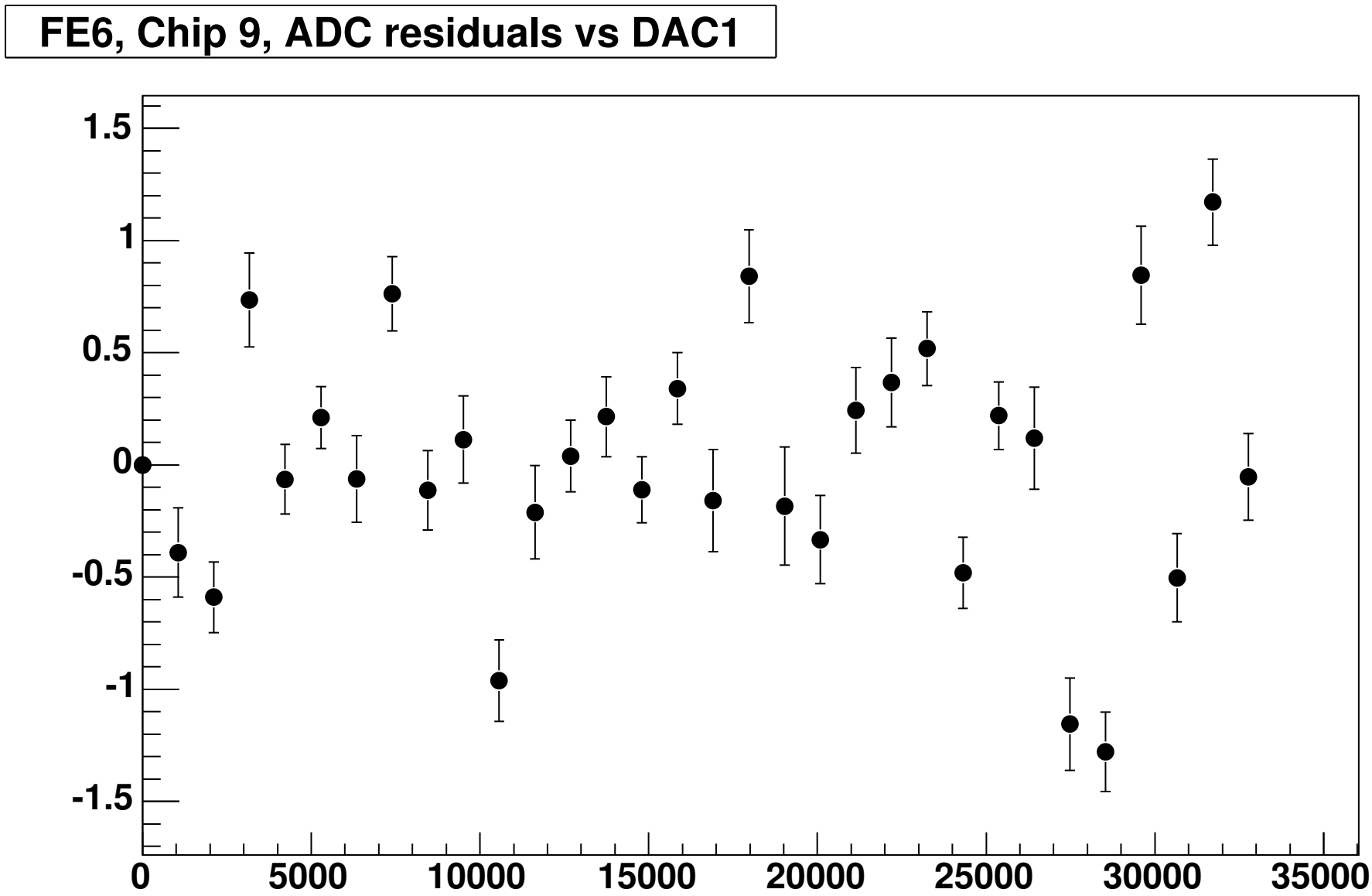

FE6, Chip 9, ADC noise vs DAC0
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

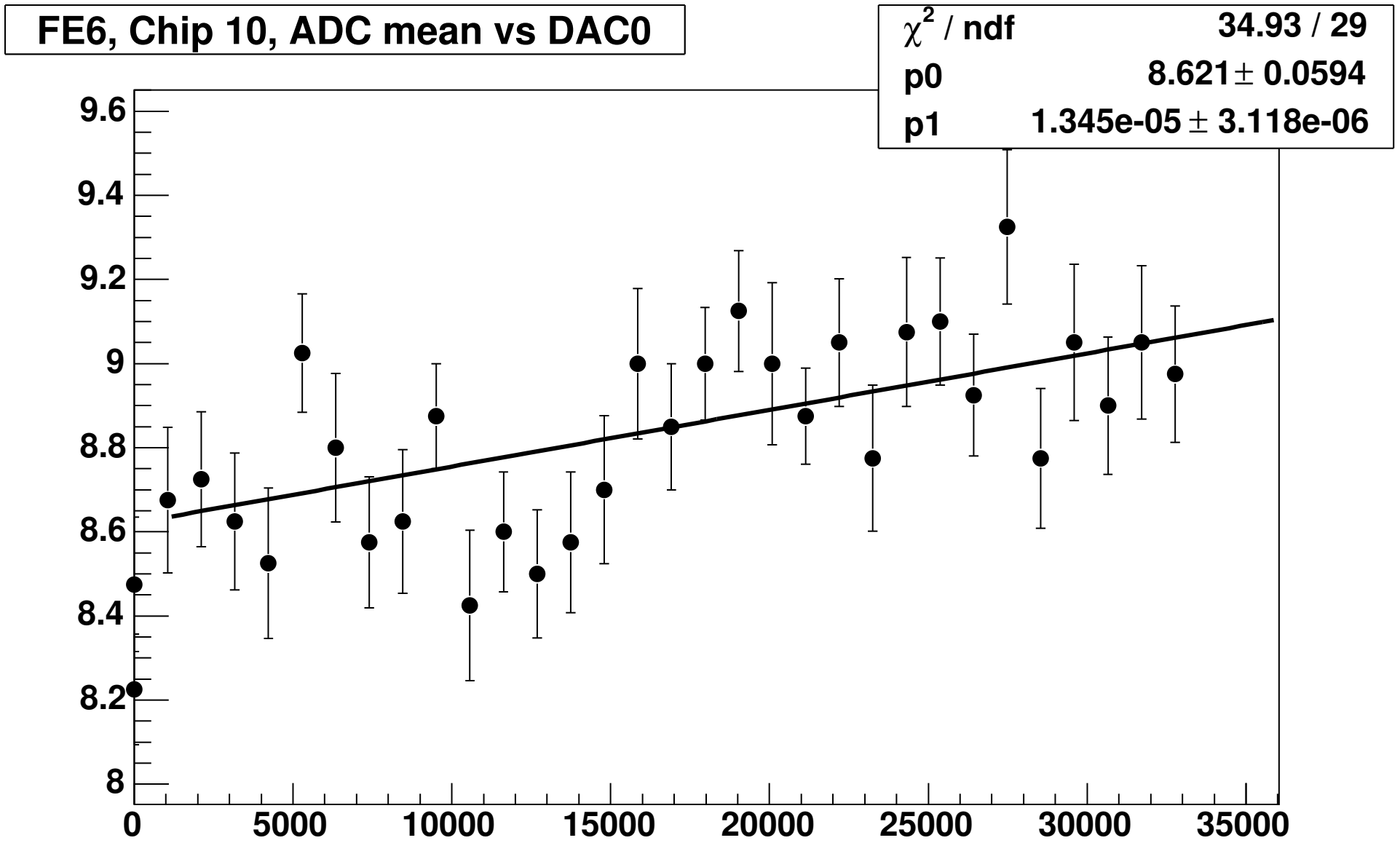

FE6, Chip 9, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

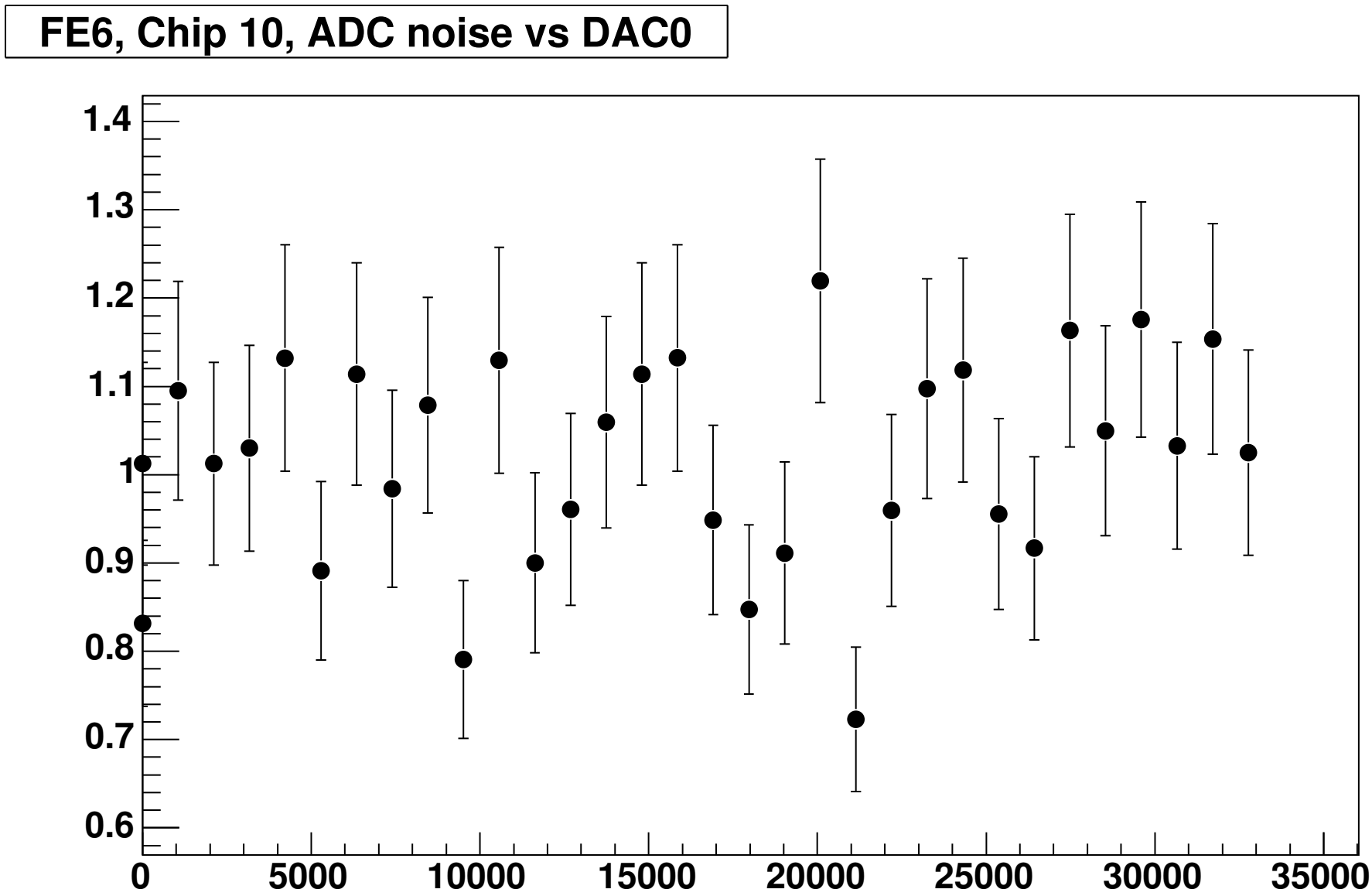

FE6, Chip 9, ADC mean vs DAC1
χ² / ndf 279.7 / 29
p0 -144.8 ± 0.06462
p1 0.4632 ± 3.454e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

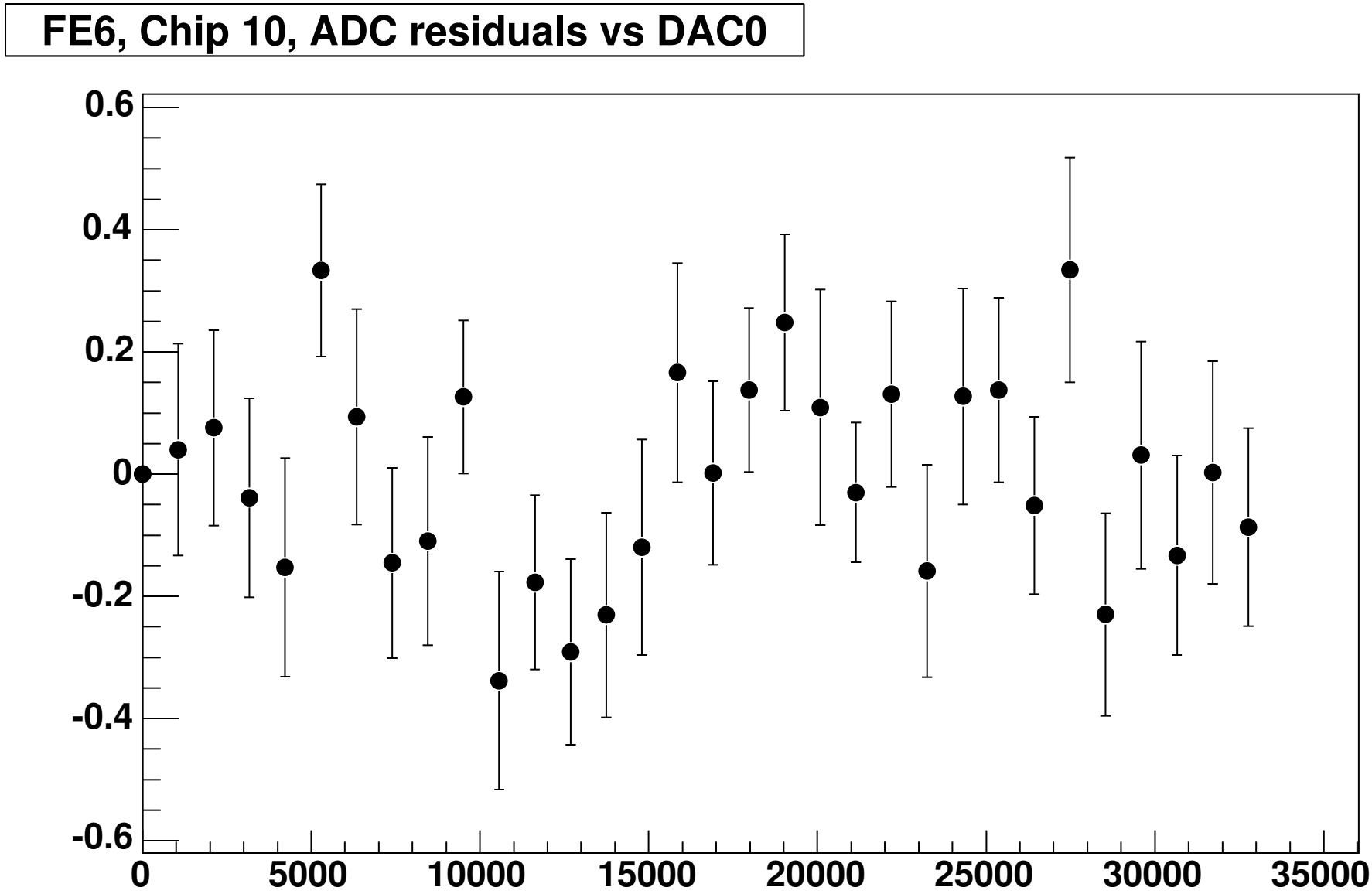
FE6, Chip 9, ADC noise vs DAC1

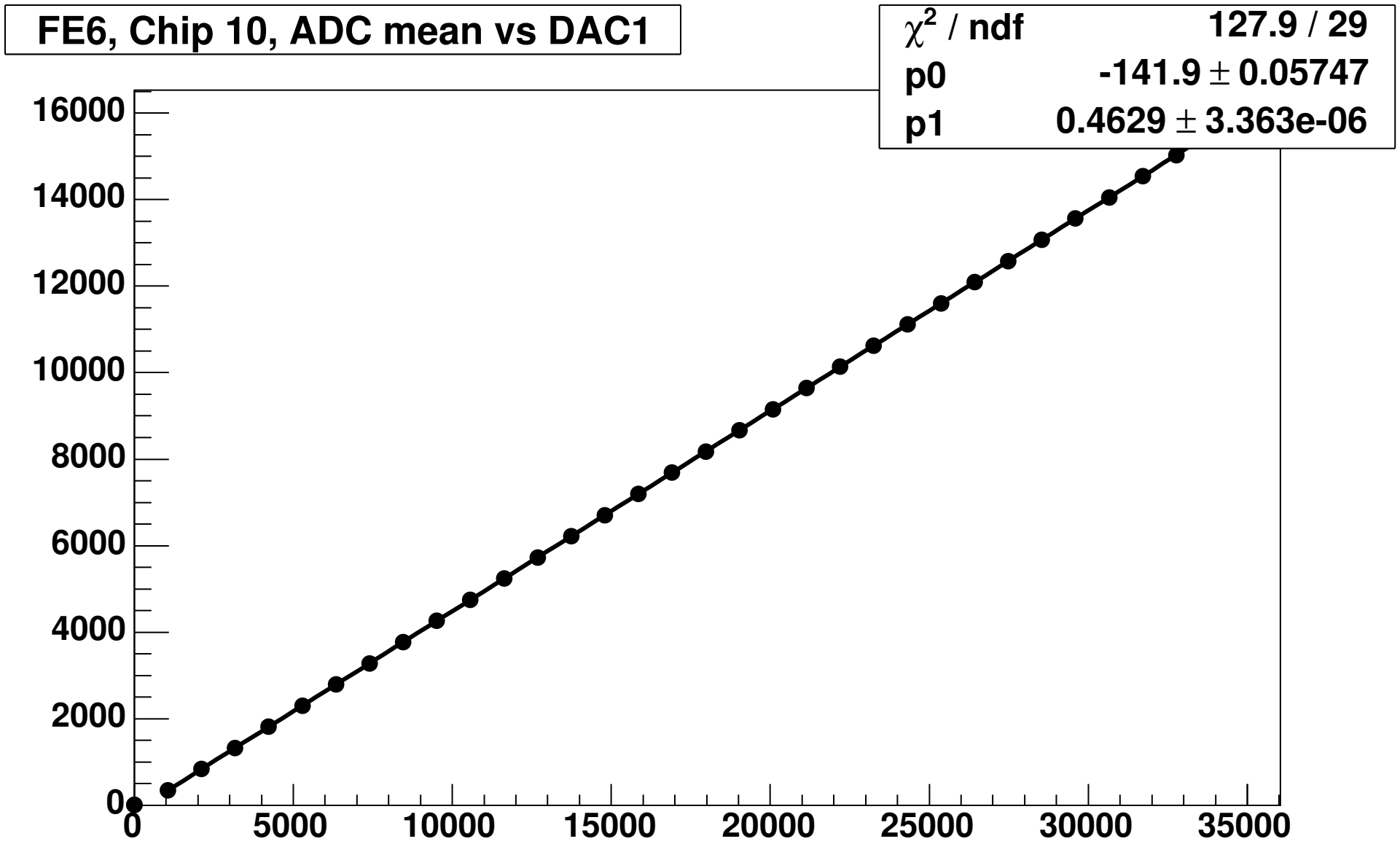


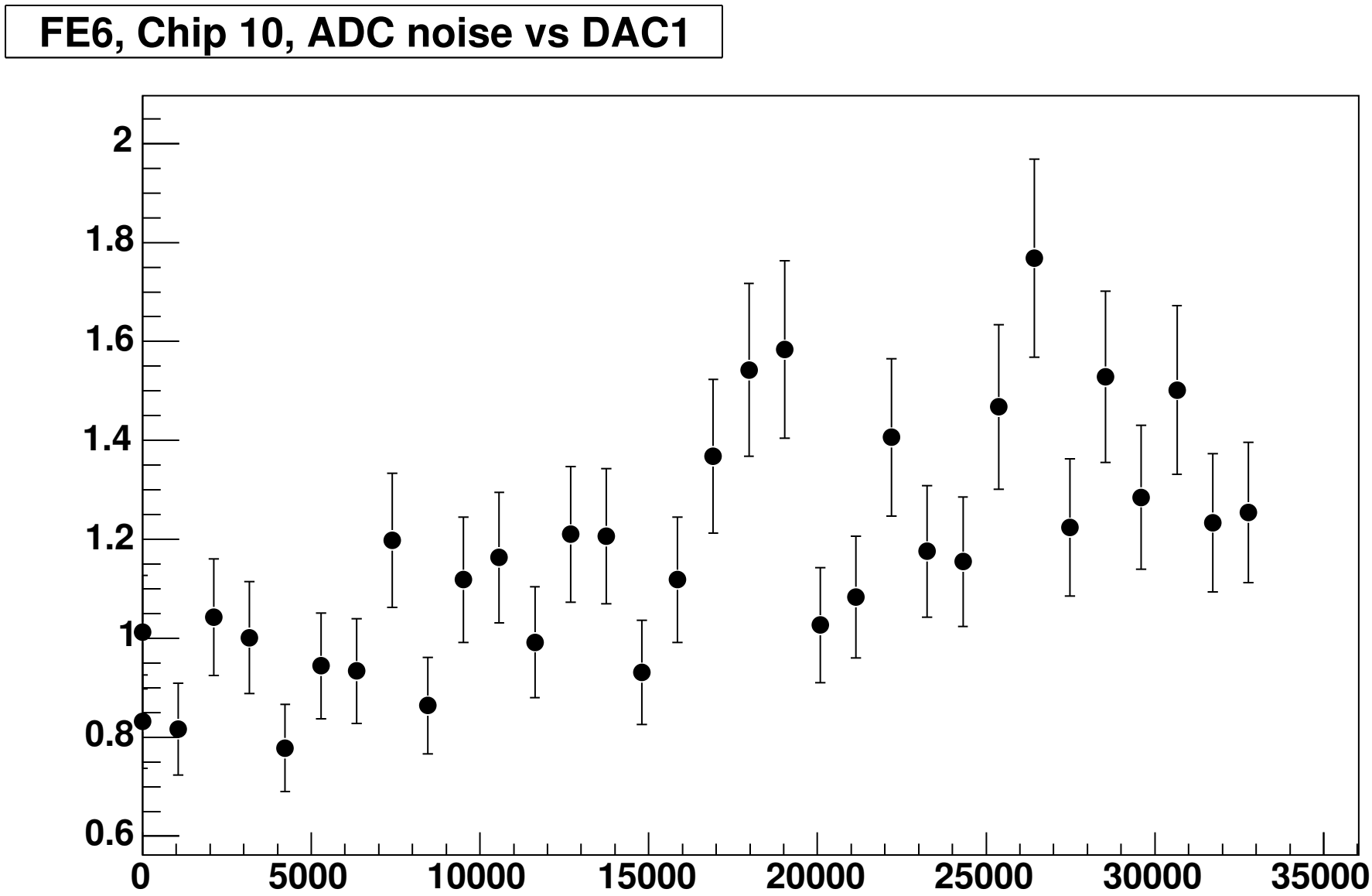

FE6, Chip 9, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

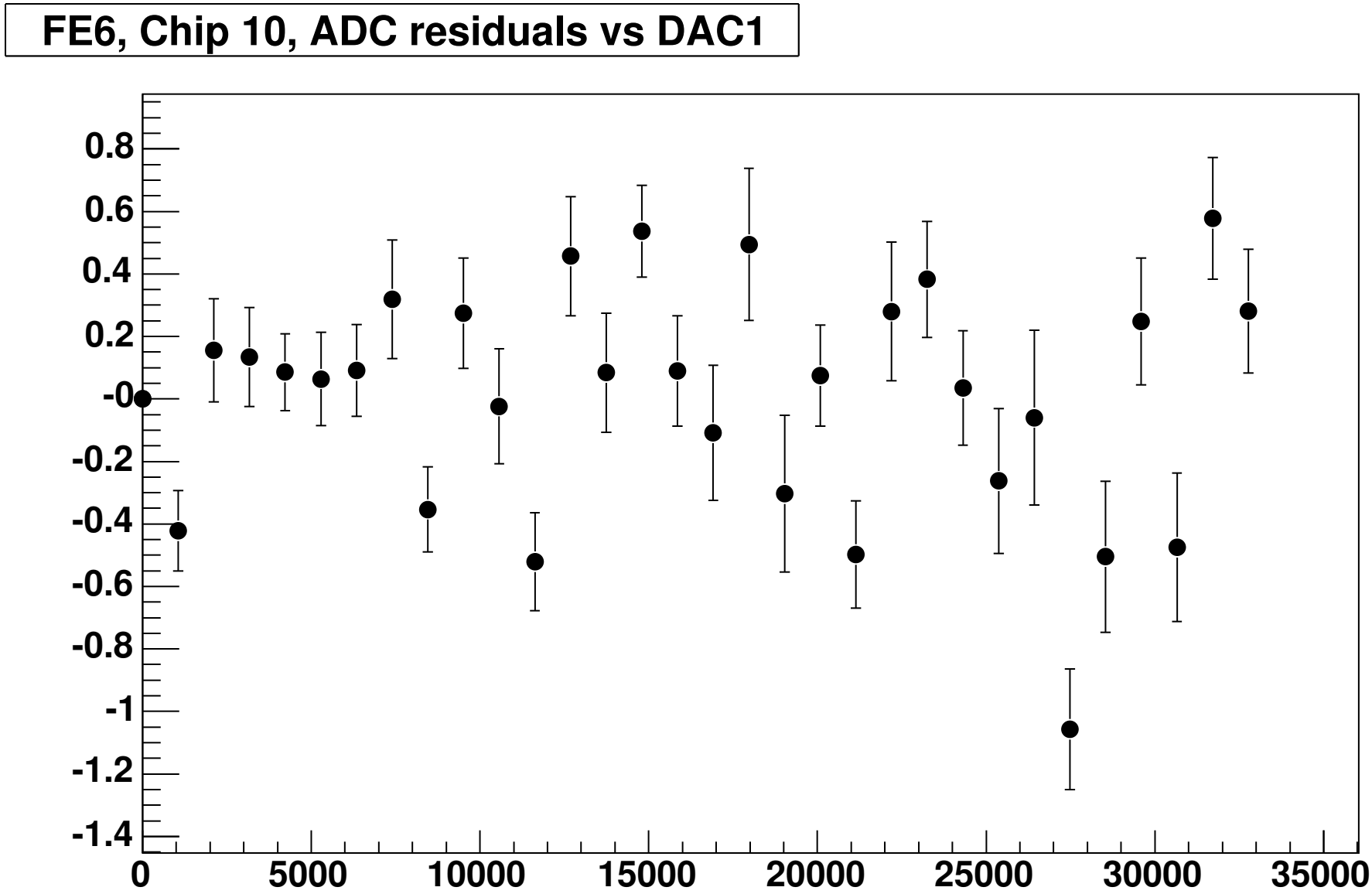

FE6, Chip 10, ADC mean vs DAC0
χ² / ndf 34.93 / 29
p0 8.621 ± 0.0594
p1 1.345e-05 ± 3.118e-06
9.6
9.4
9.2
9
8.8
8.6
8.4
8.2
8
0
5000
10000
15000
20000
25000
30000
35000

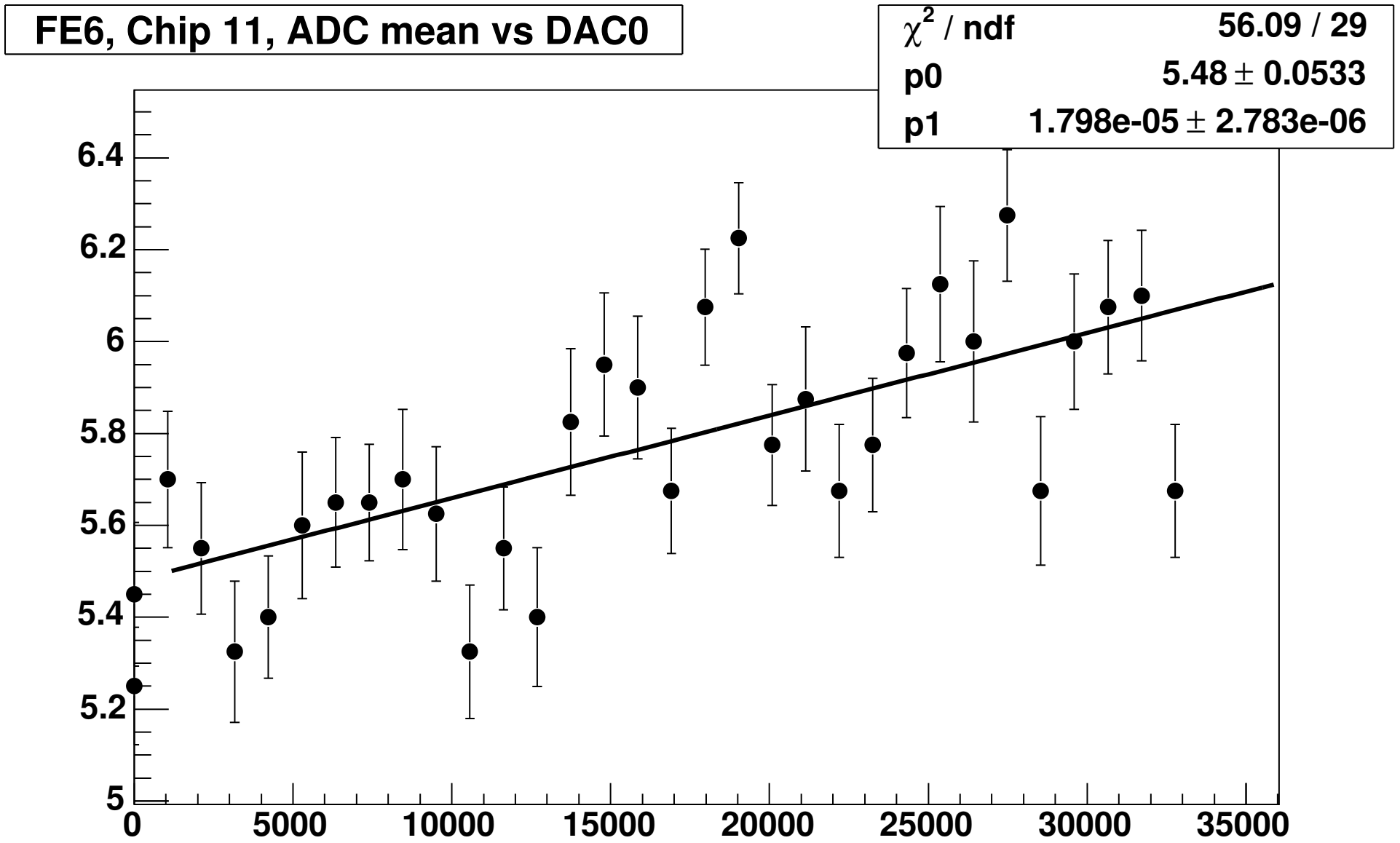

FE6, Chip 10, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

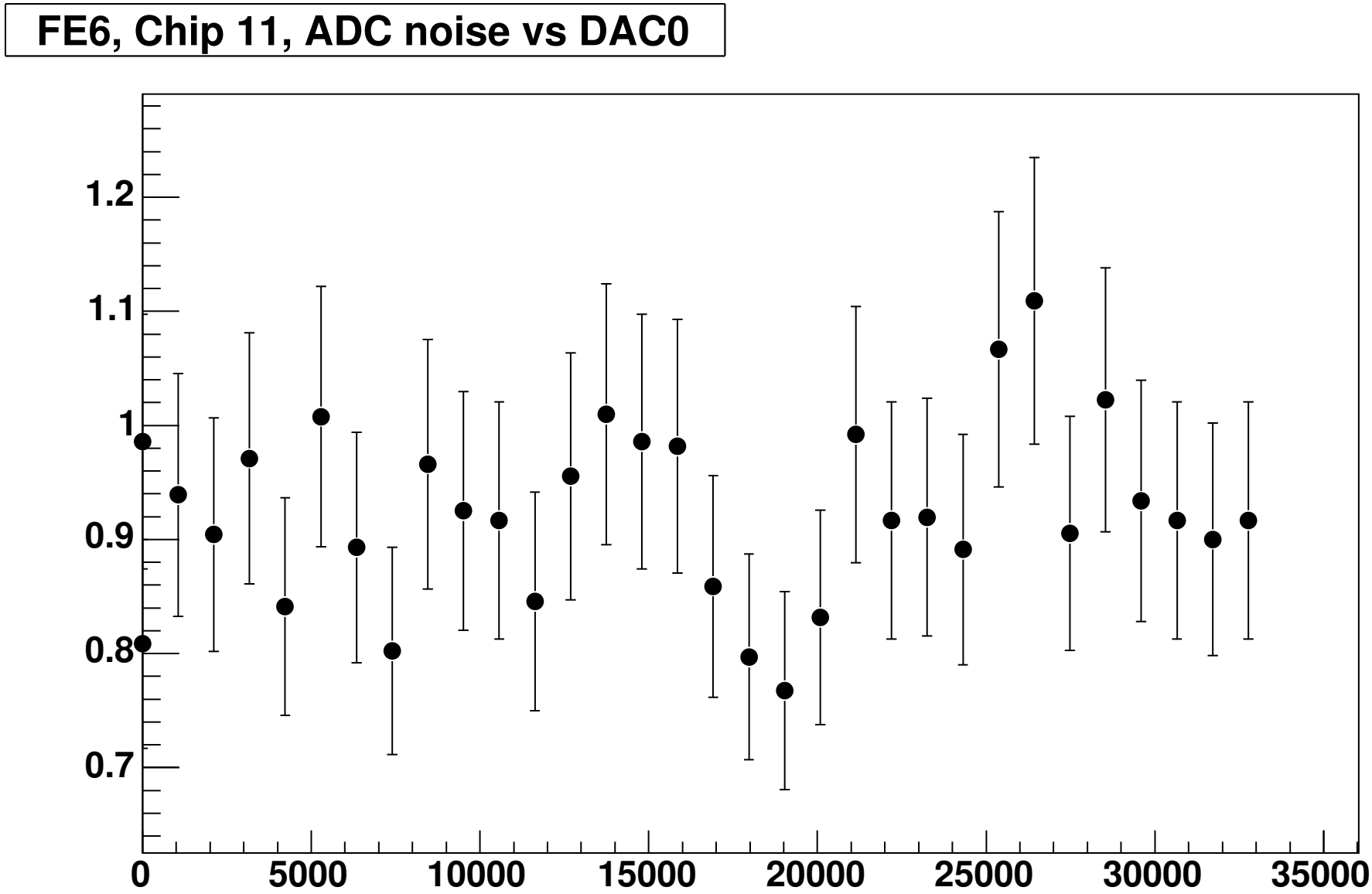

FE6, Chip 10, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

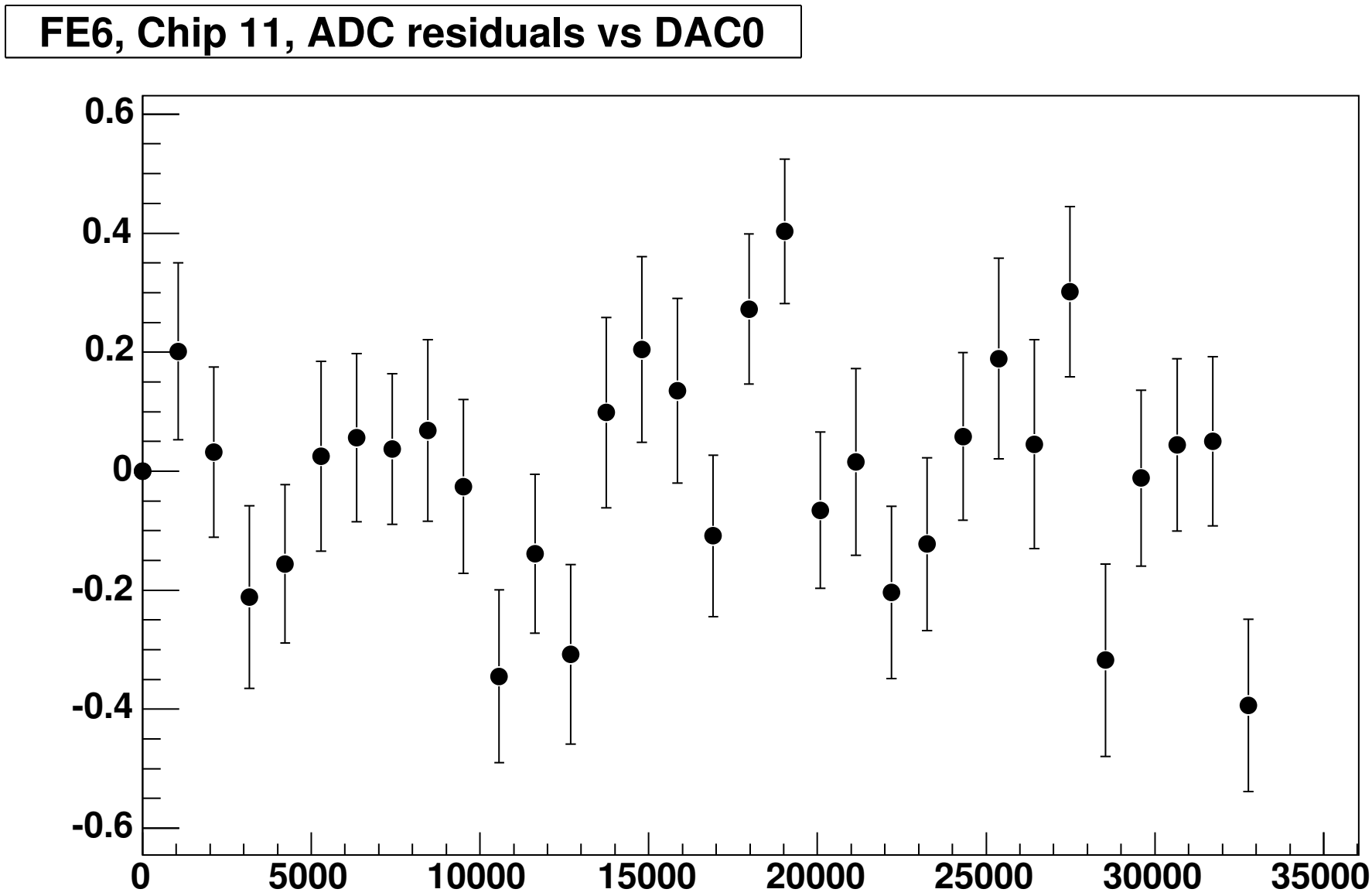

FE6, Chip 10, ADC mean vs DAC1
χ² / ndf 127.9 / 29
p0 -141.9 ± 0.05747
p1 0.4629 ± 3.363e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

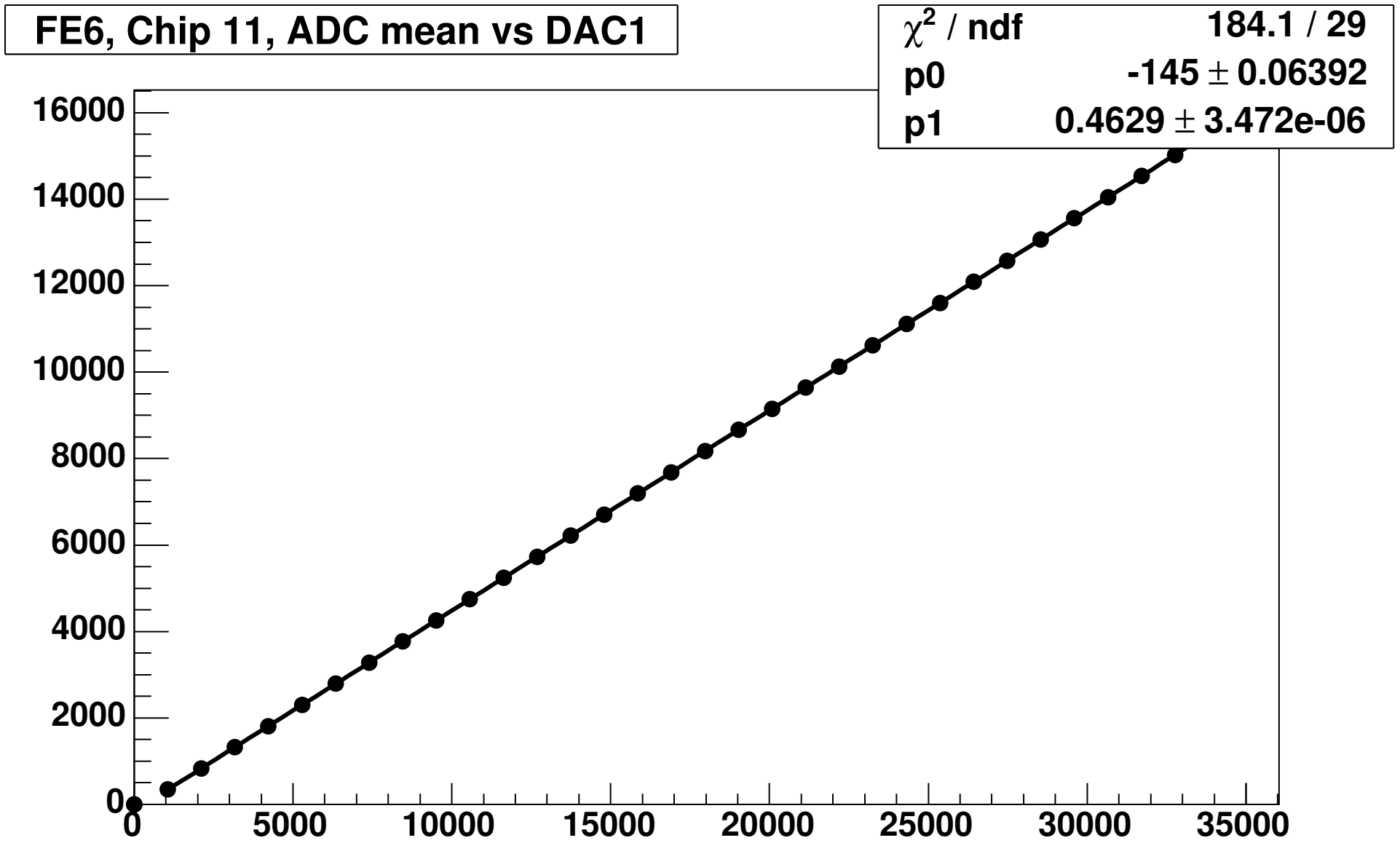

FE6, Chip 10, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

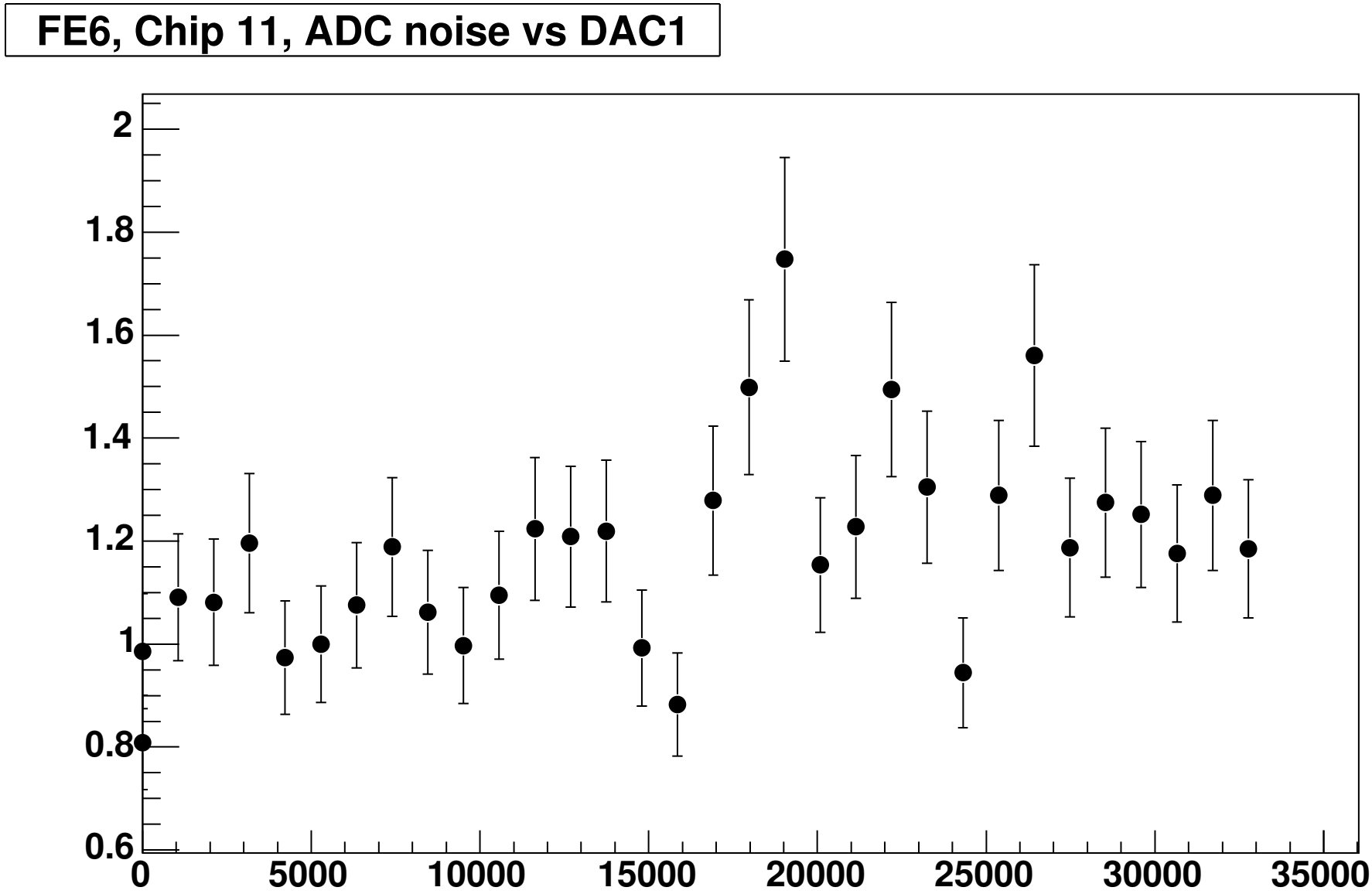

FE6, Chip 10, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
-1
-1.2
-1.4
0
5000
10000
15000
20000
25000
30000
35000


FE6, Chip 11, ADC mean vs DAC0
χ² / ndf 56.09 / 29
p0 5.48 ± 0.0533
p1 1.798e-05 ± 2.783e-06
6.4
6.2
6
5.8
5.6
5.4
5.2
5
0
5000
10000
15000
20000
25000
30000
35000

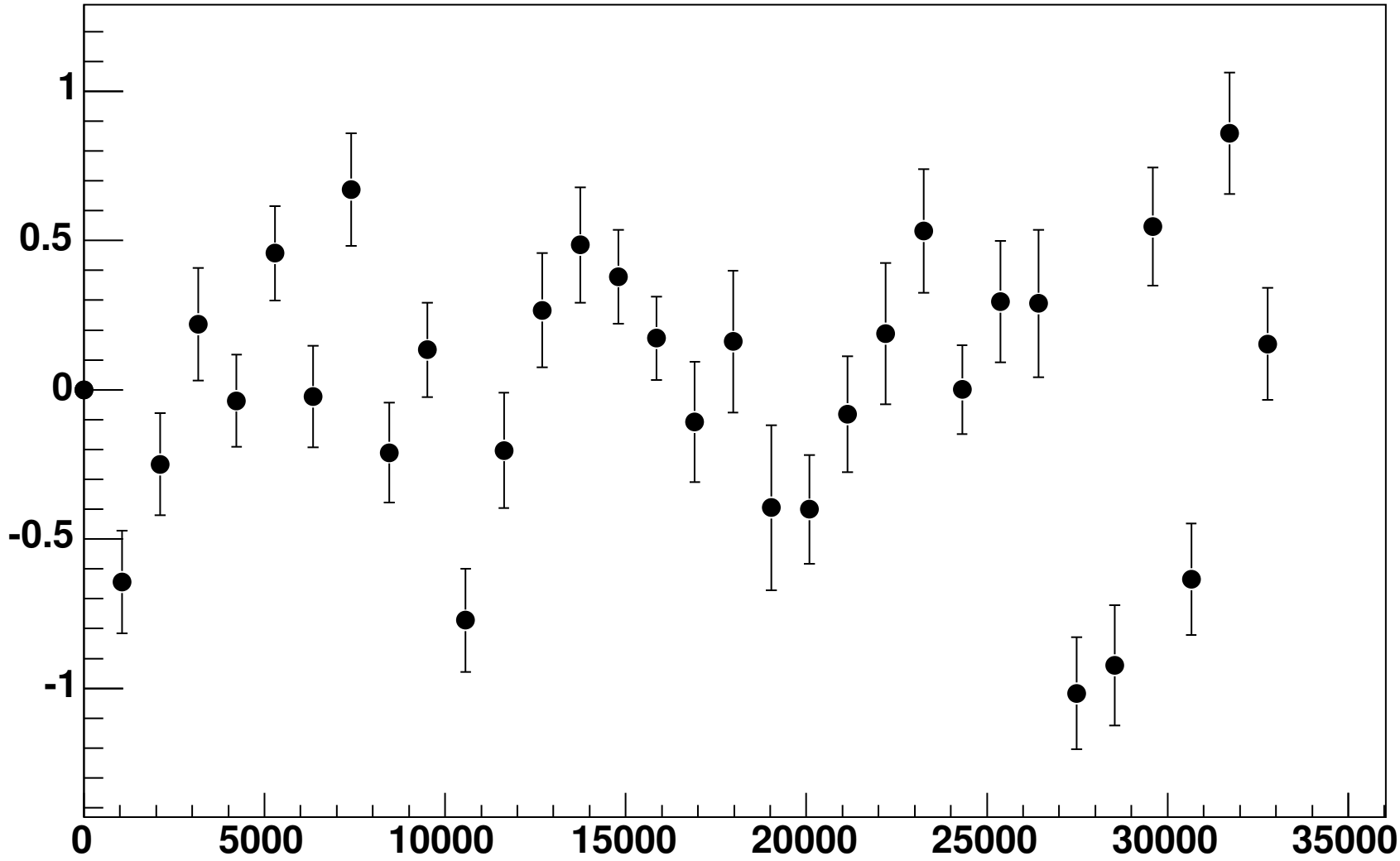

FE6, Chip 11, ADC noise vs DAC0
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

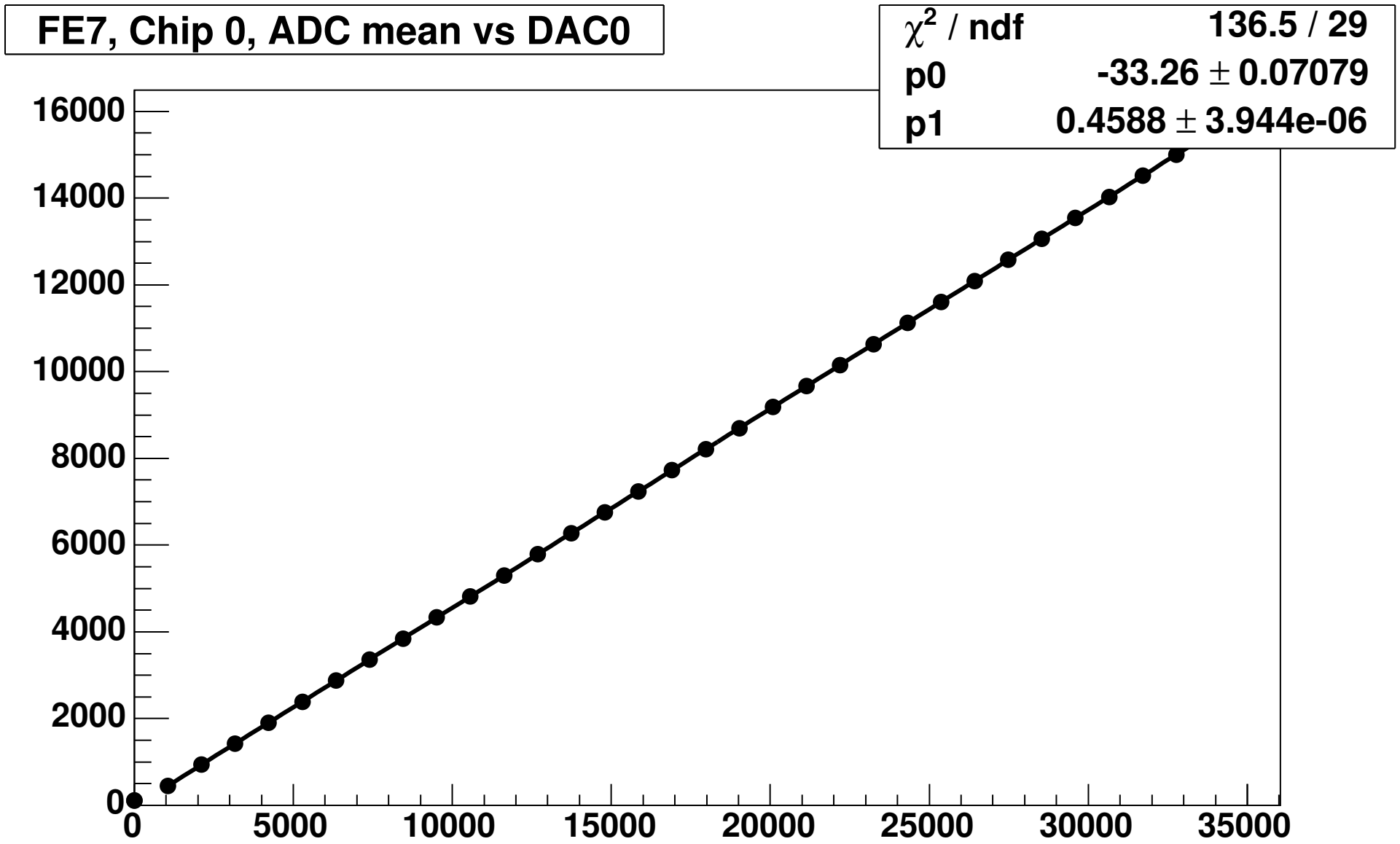

FE6, Chip 11, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

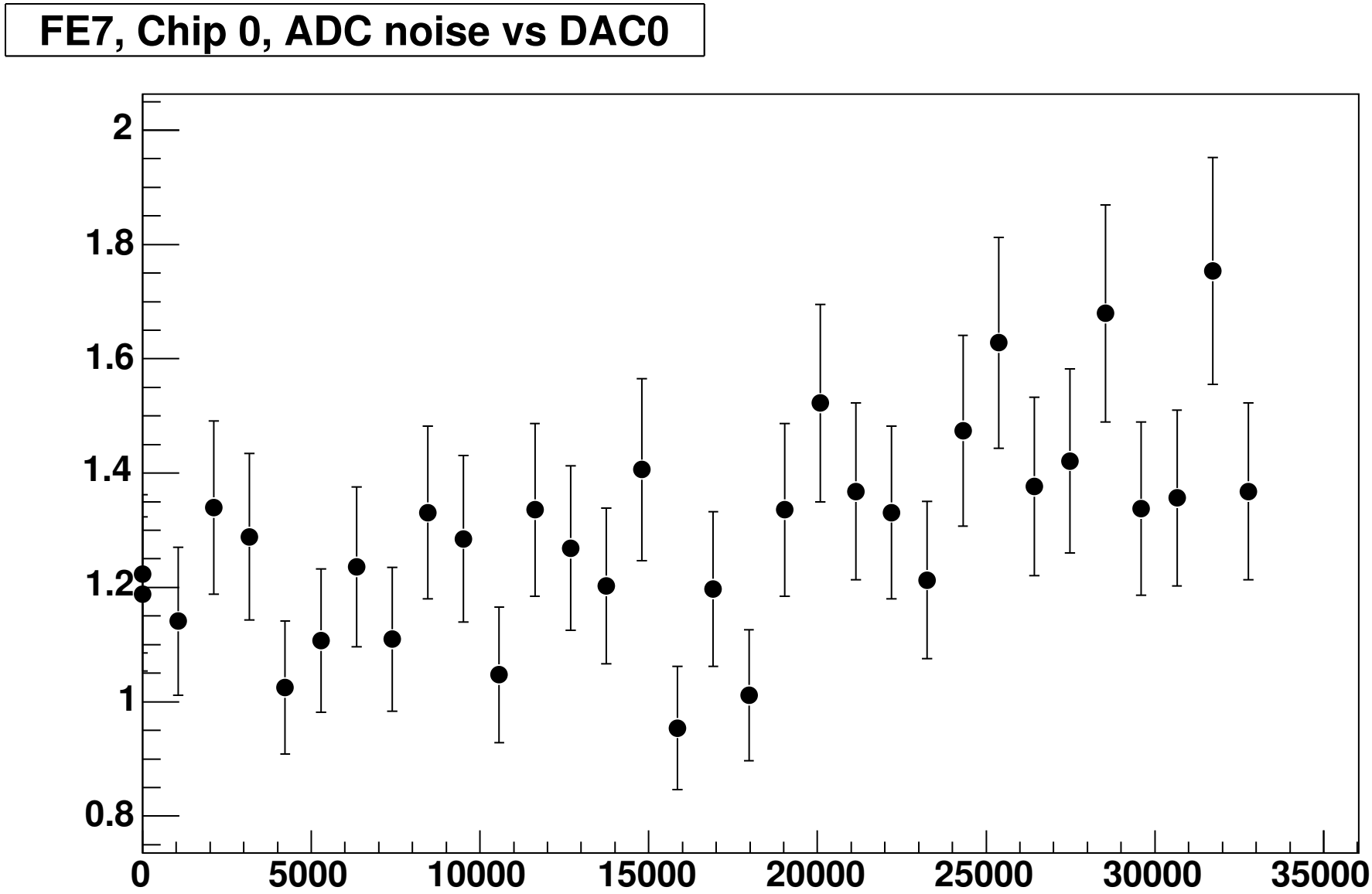

FE6, Chip 11, ADC mean vs DAC1
χ² / ndf 184.1 / 29
p0 -145 ± 0.06392
p1 0.4629 ± 3.472e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

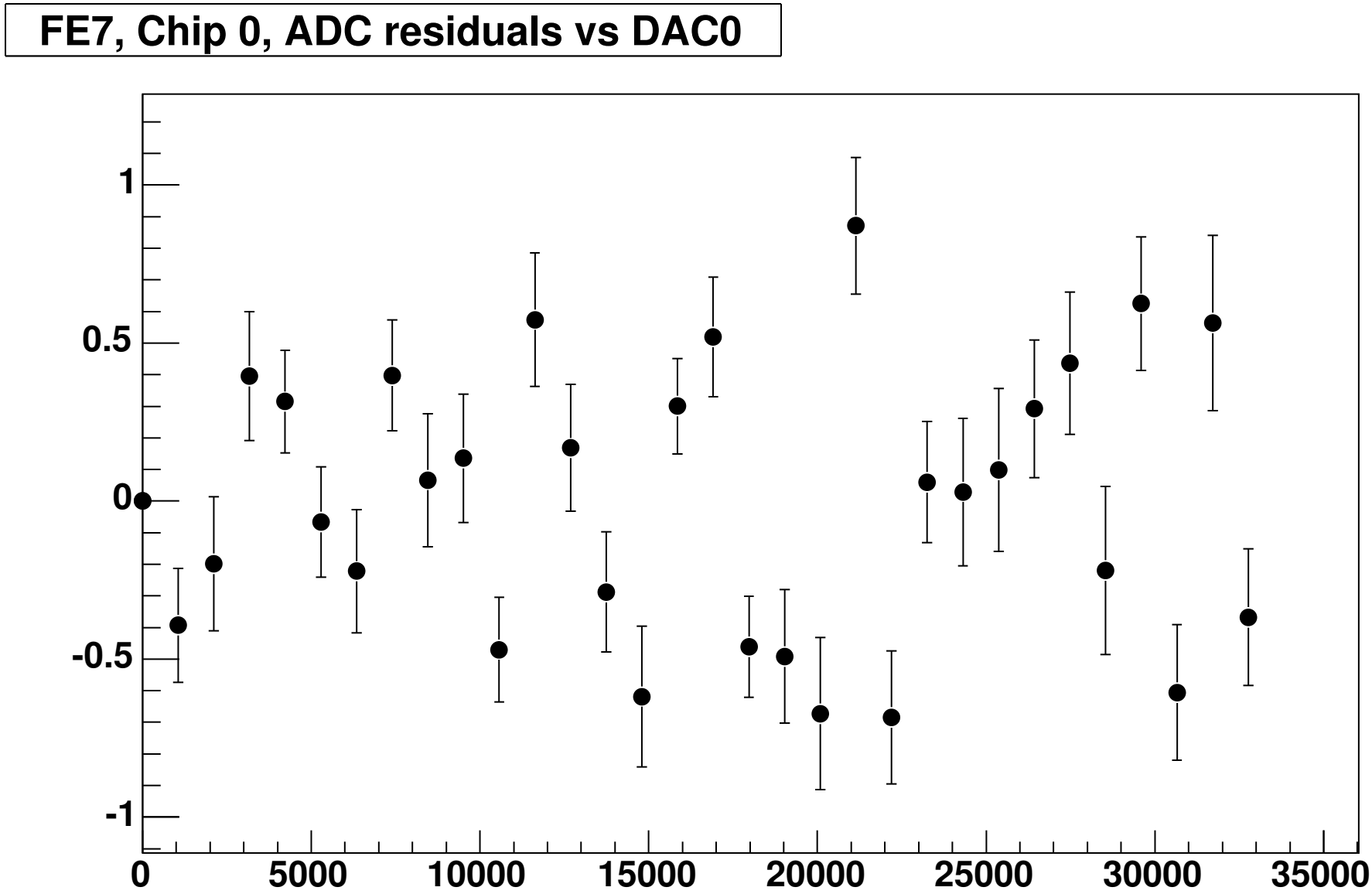

FE6, Chip 11, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

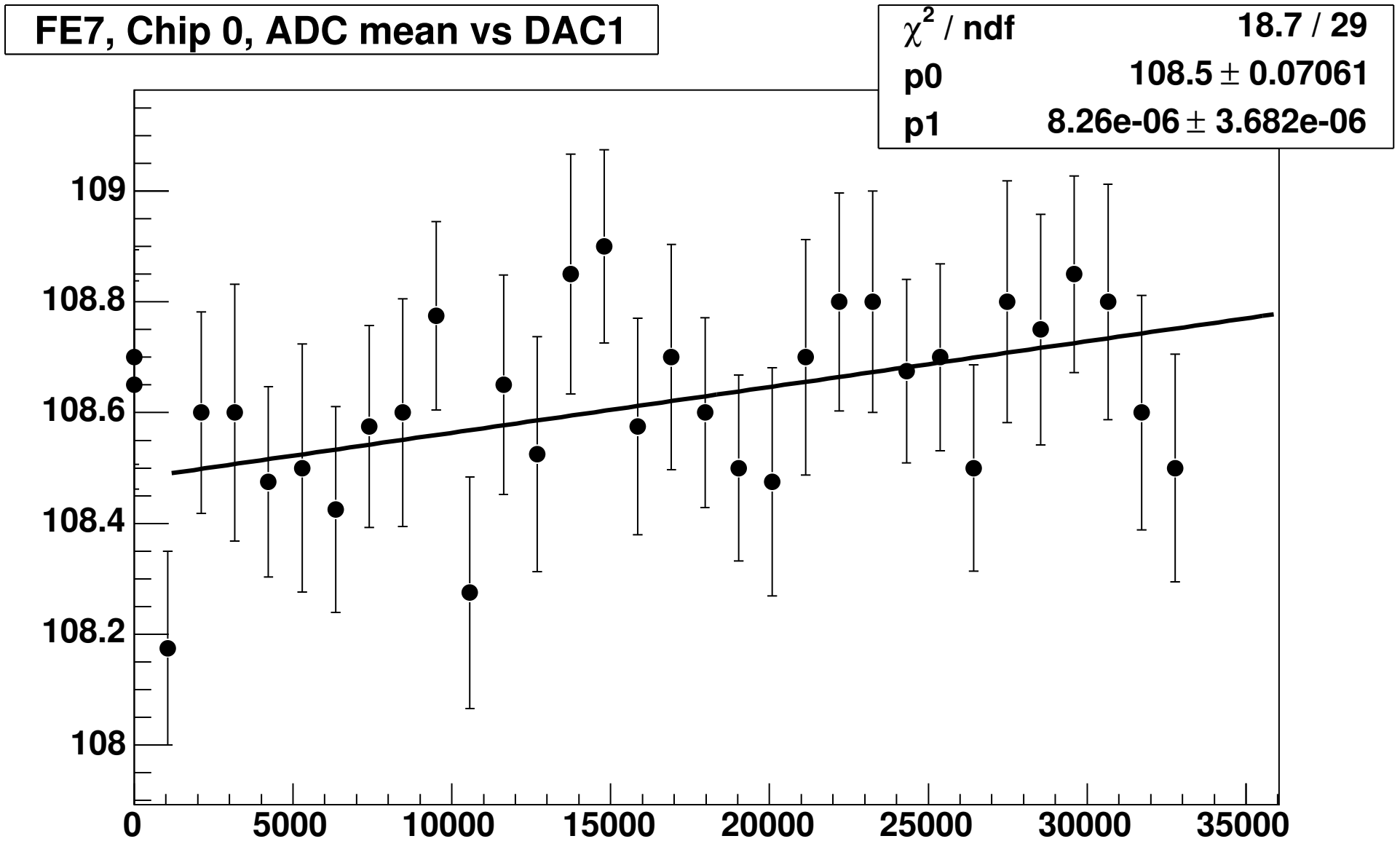
FE6, Chip 11, ADC residuals vs DAC1

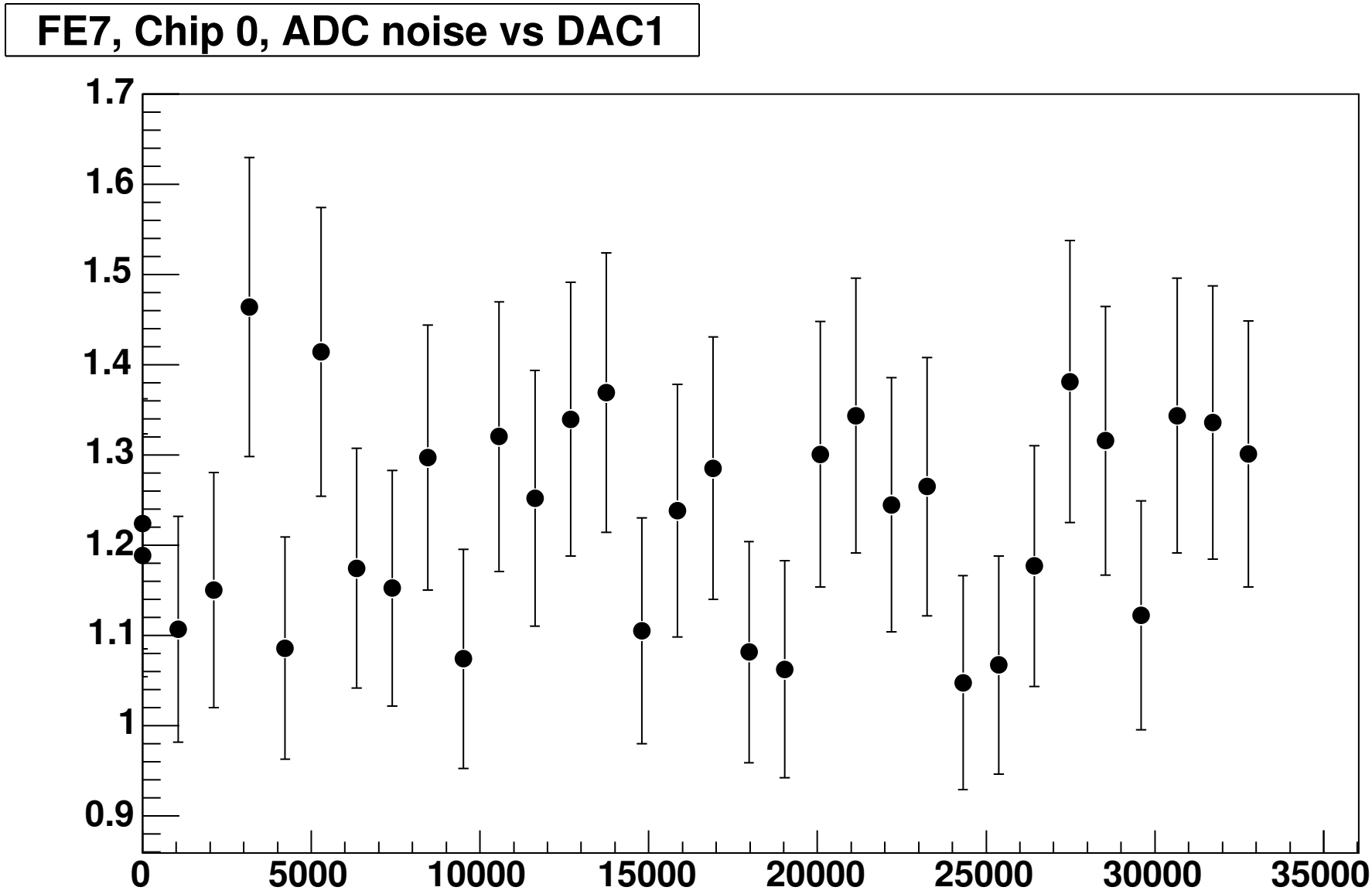


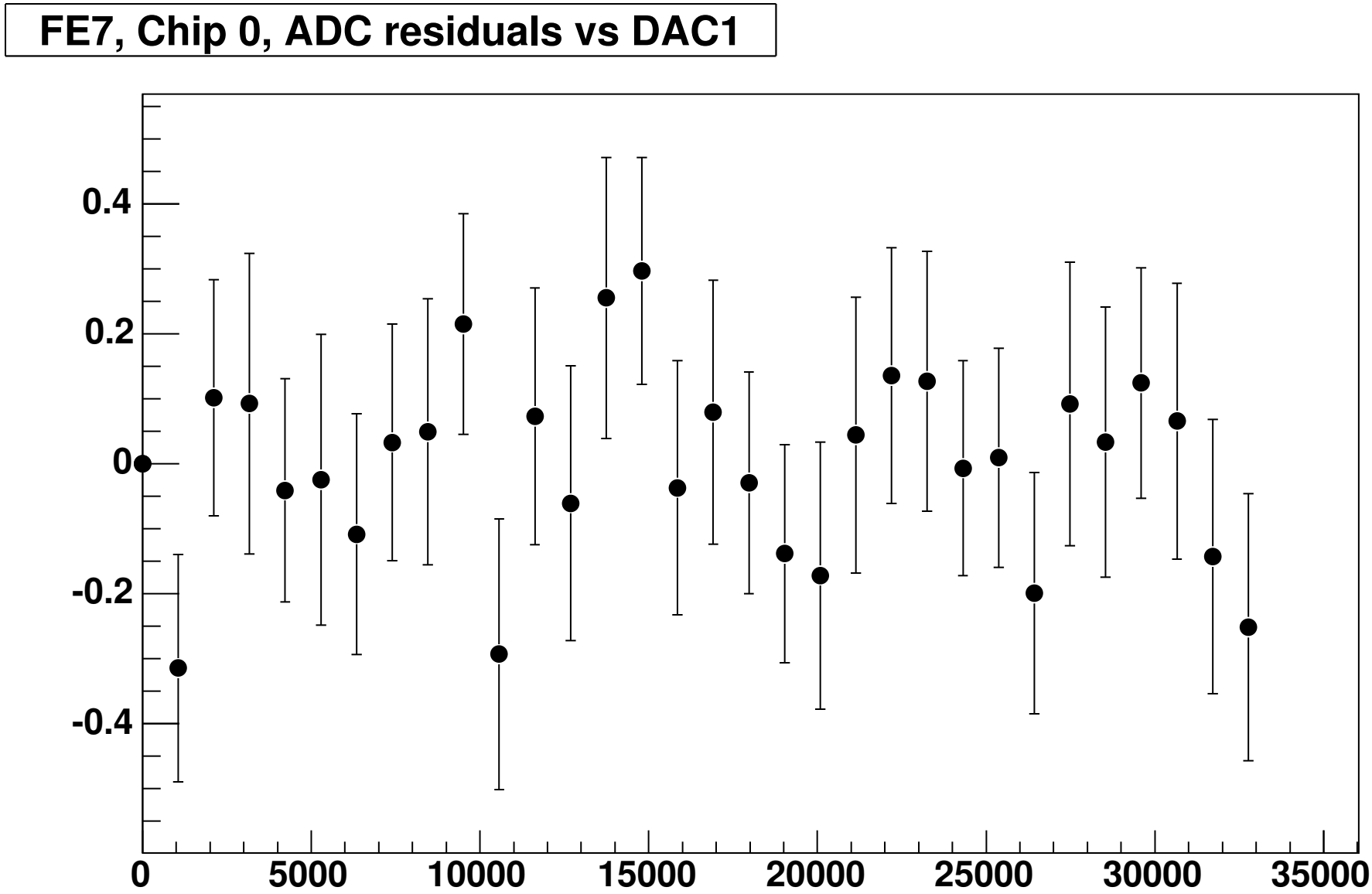

FE7, Chip 0, ADC mean vs DAC0
χ² / ndf 136.5 / 29
p0 -33.26 ± 0.07079
p1 0.4588 ± 3.944e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

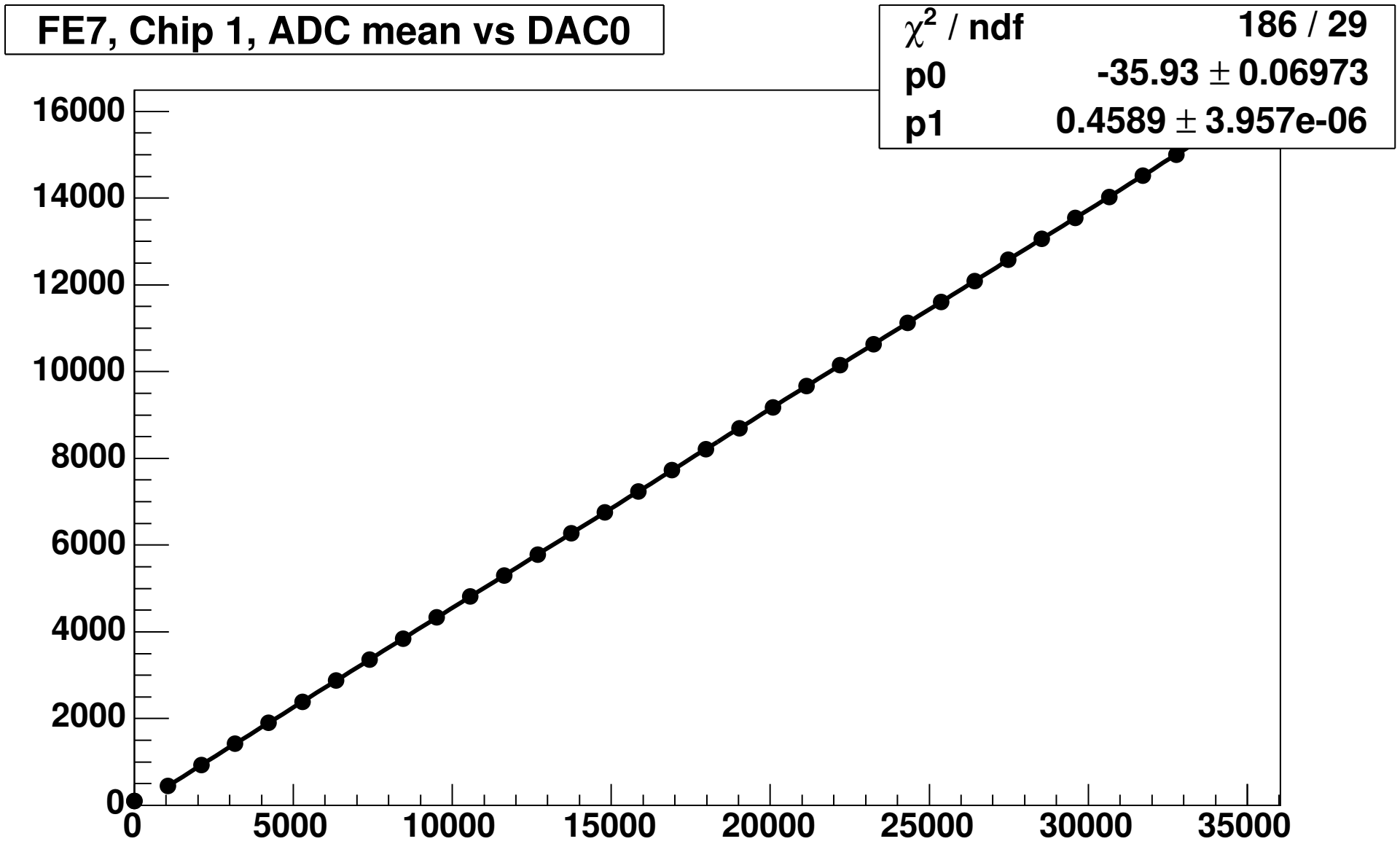

FE7, Chip 0, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

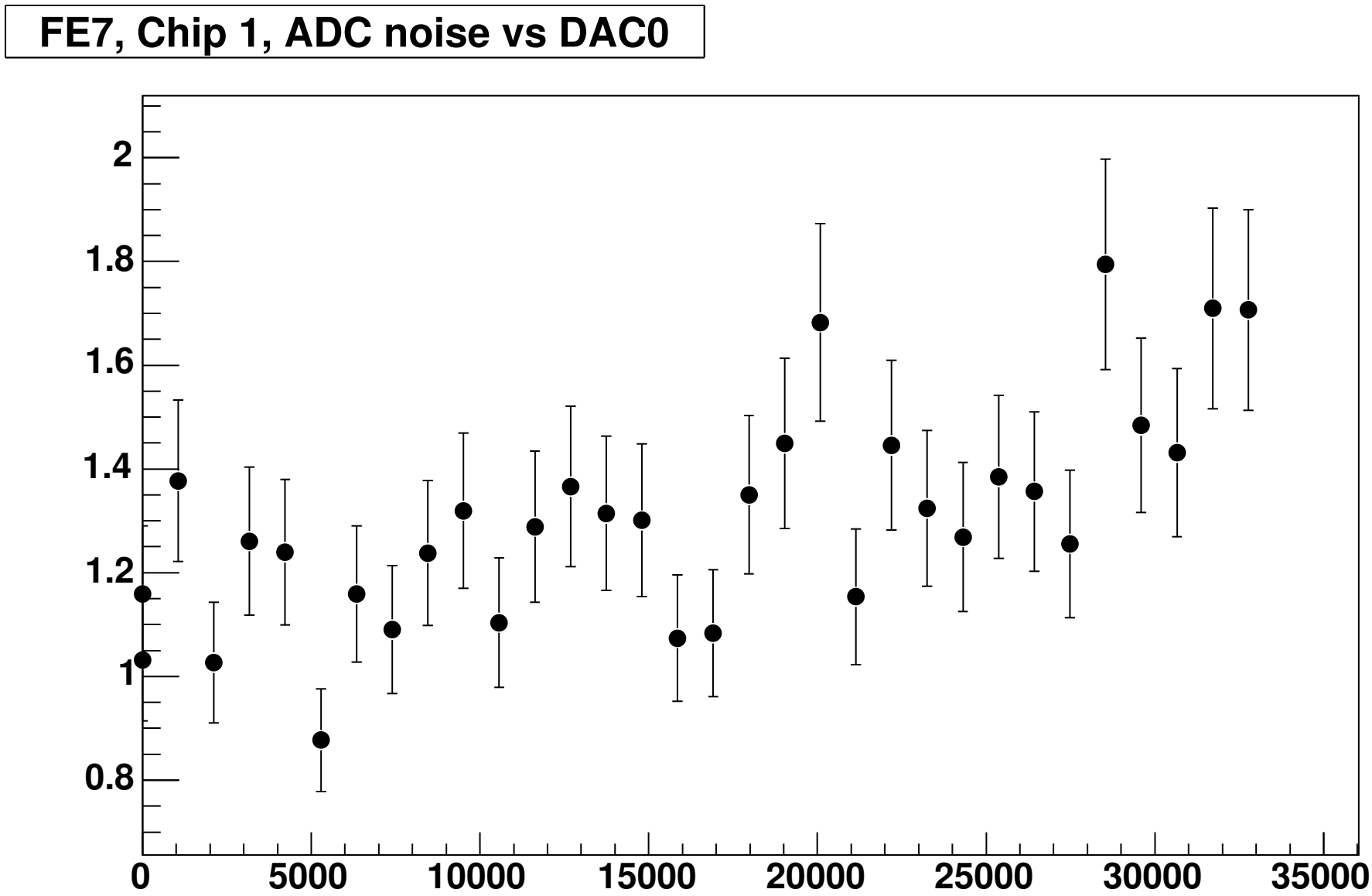

FE7, Chip 0, ADC residuals vs DAC0
1
0.5
0
-0.5
-1
0
5000
10000
15000
20000
25000
30000
35000

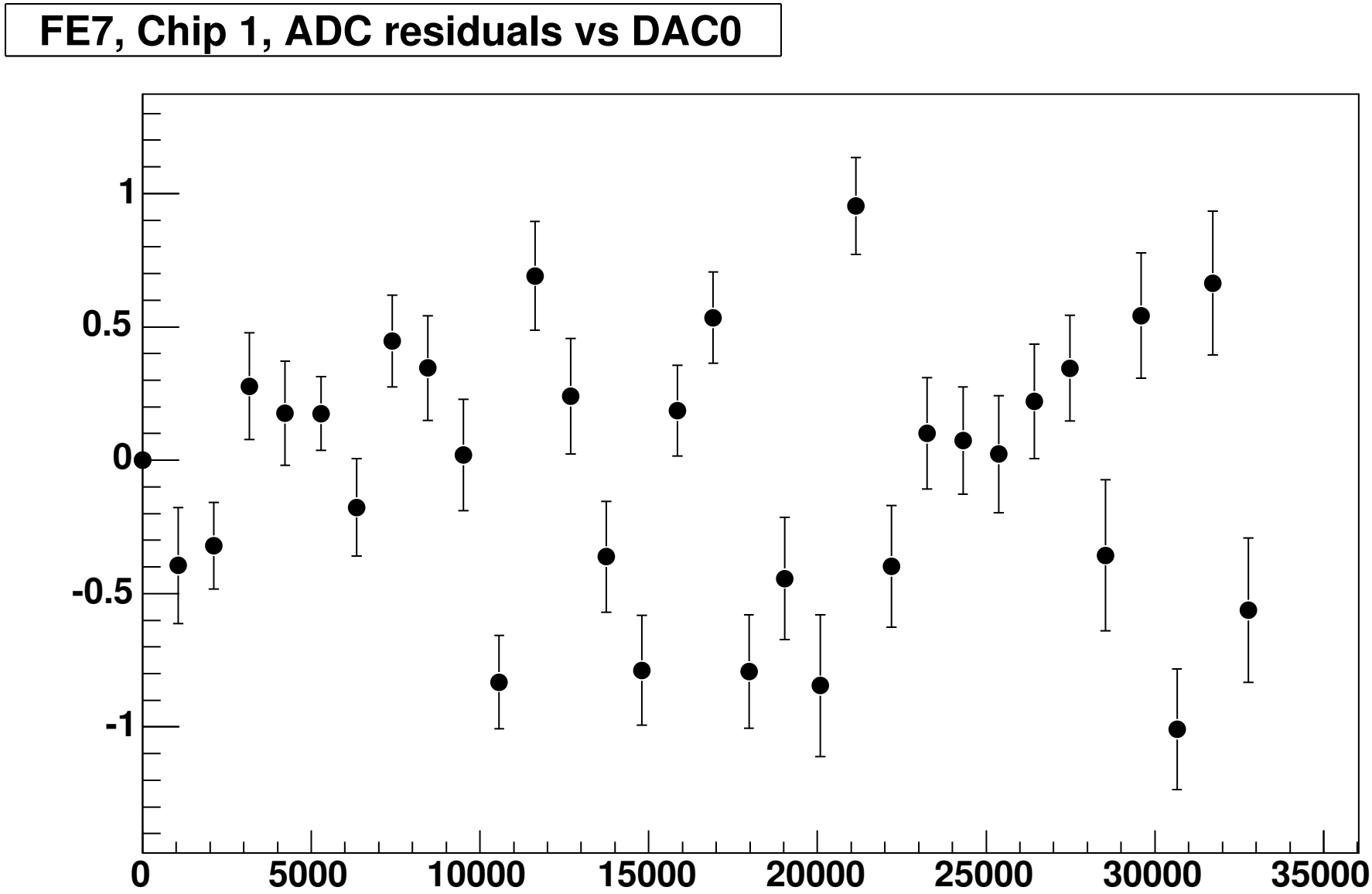

FE7, Chip 0, ADC mean vs DAC1
χ² / ndf 18.7 / 29
p0 108.5 ± 0.07061
p1 8.26e-06 ± 3.682e-06
109
108.8
108.6
108.4
108.2
108
0
5000
10000
15000
20000
25000
30000
35000

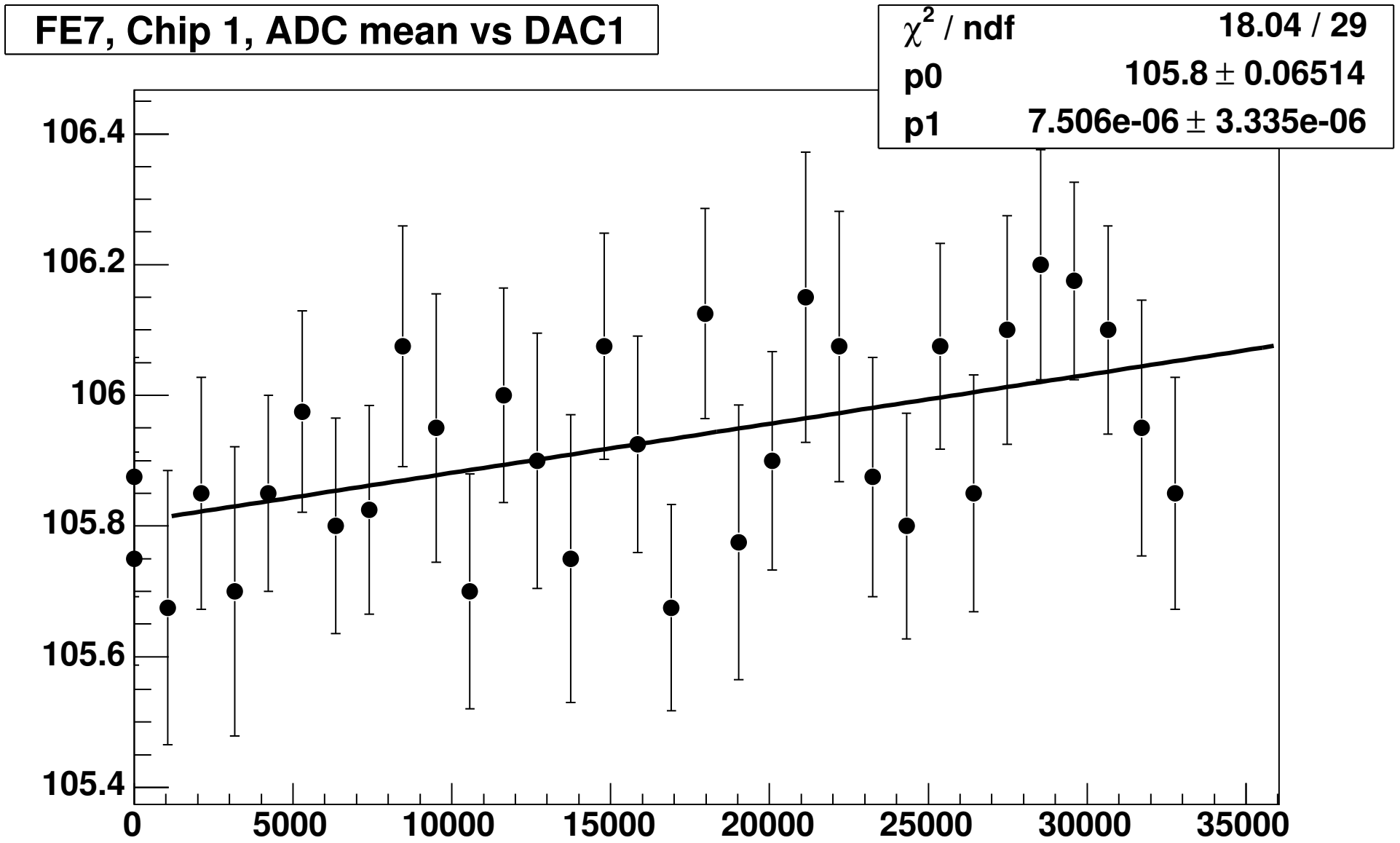

FE7, Chip 0, ADC noise vs DAC1
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0
5000
10000
15000
20000
25000
30000
35000

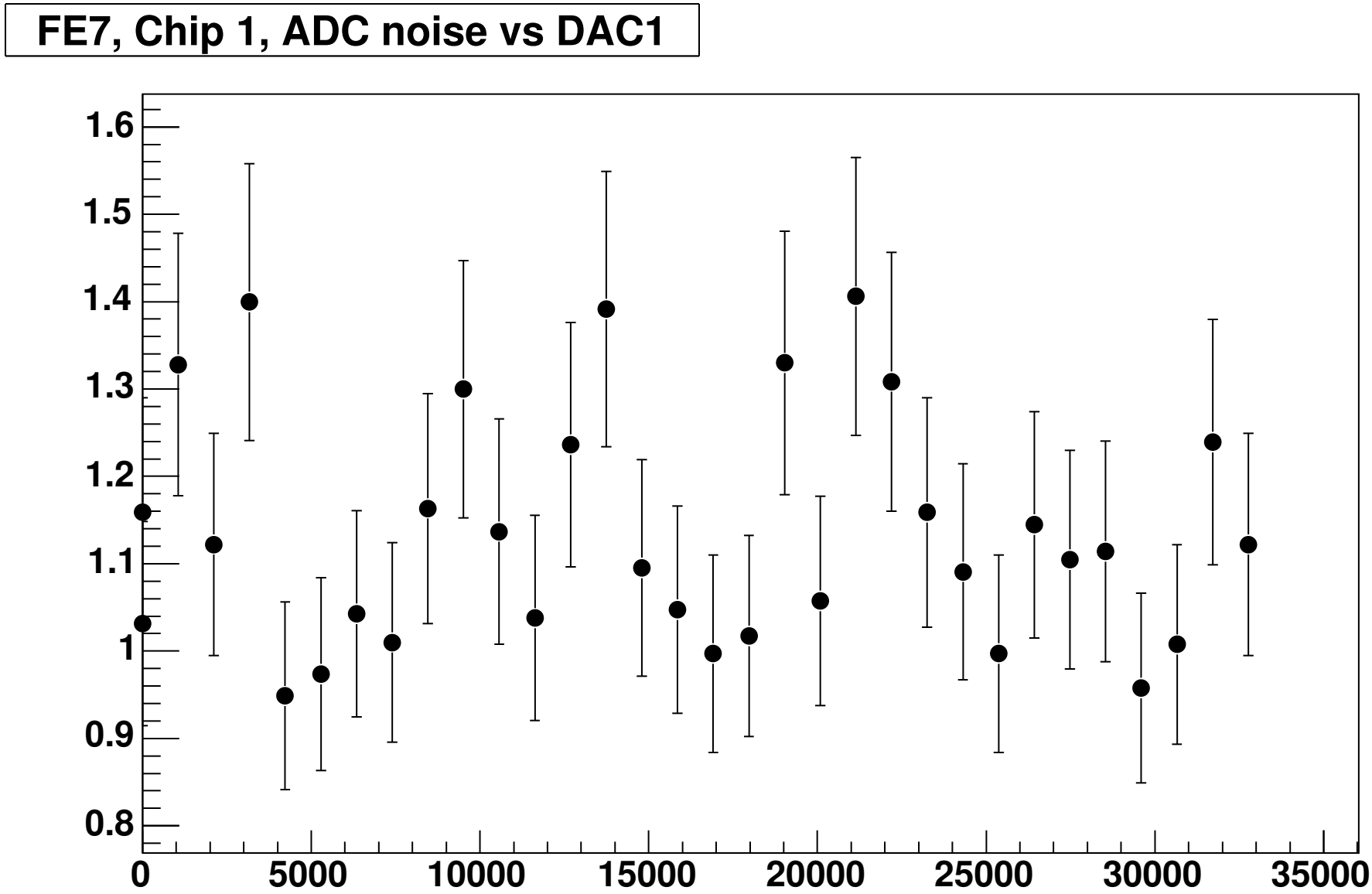

FE7, Chip 0, ADC residuals vs DAC1
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

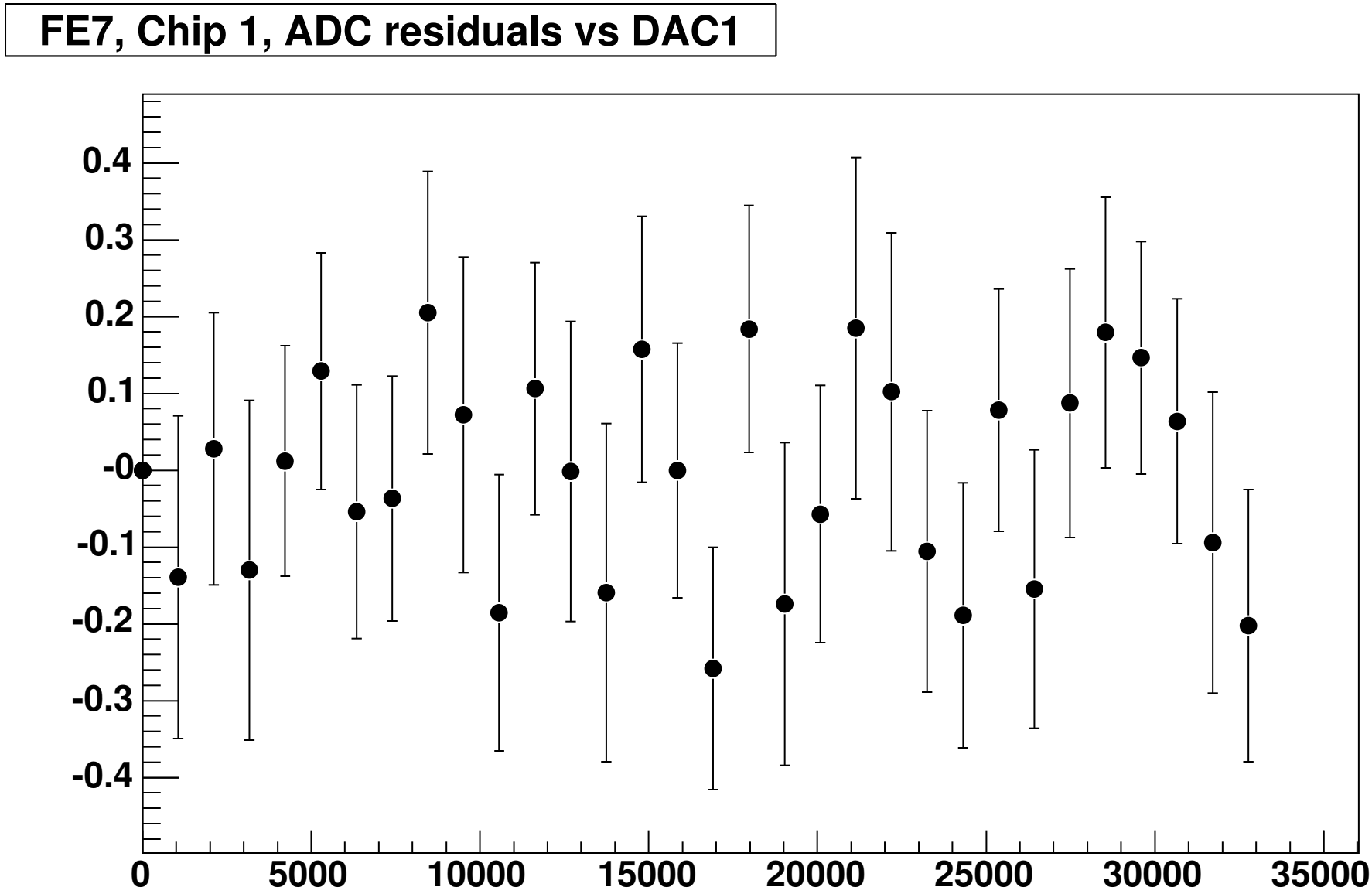

FE7, Chip 1, ADC mean vs DAC0
χ² / ndf 186 / 29
p0 -35.93 ± 0.06973
p1 0.4589 ± 3.957e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

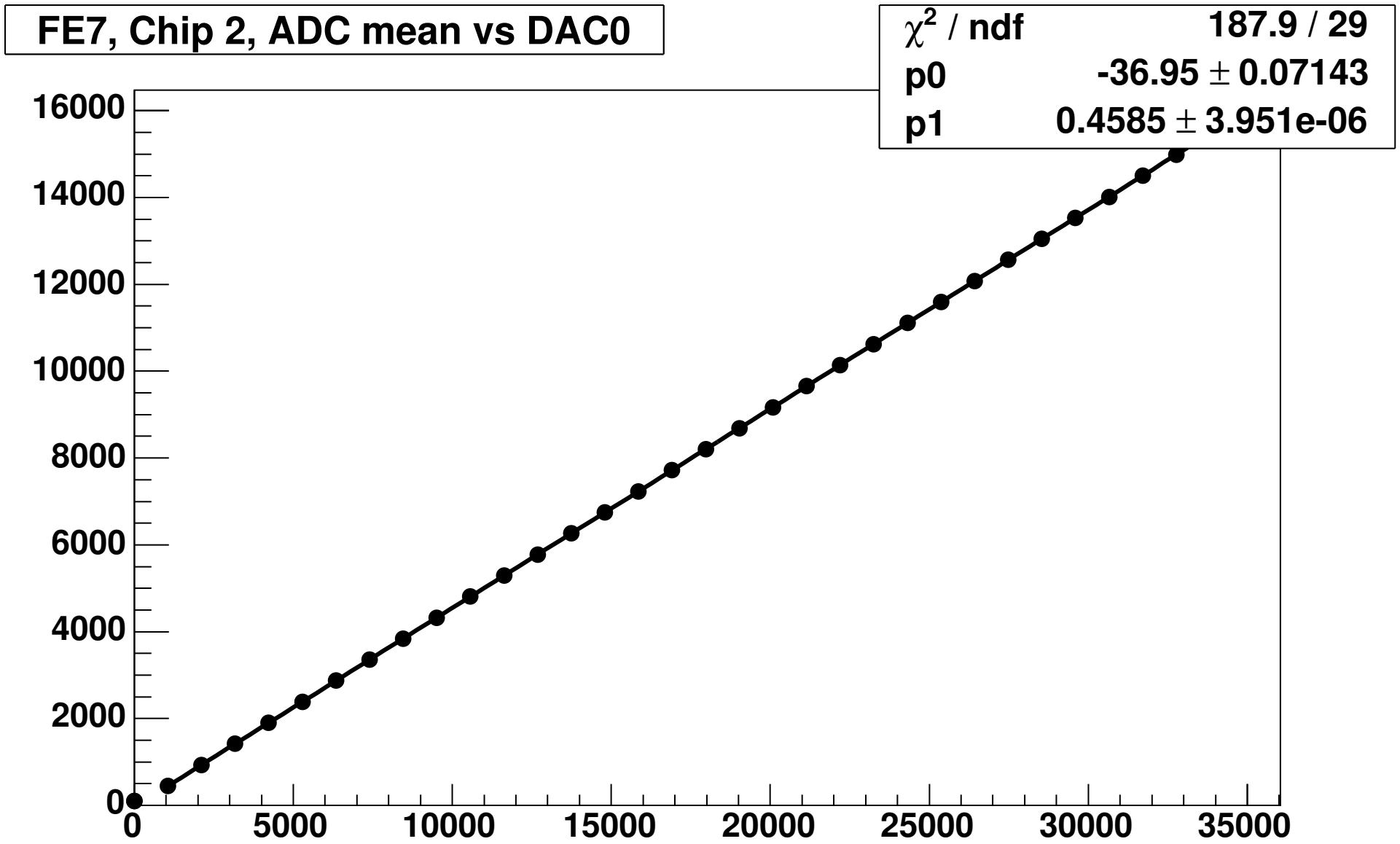

FE7, Chip 1, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

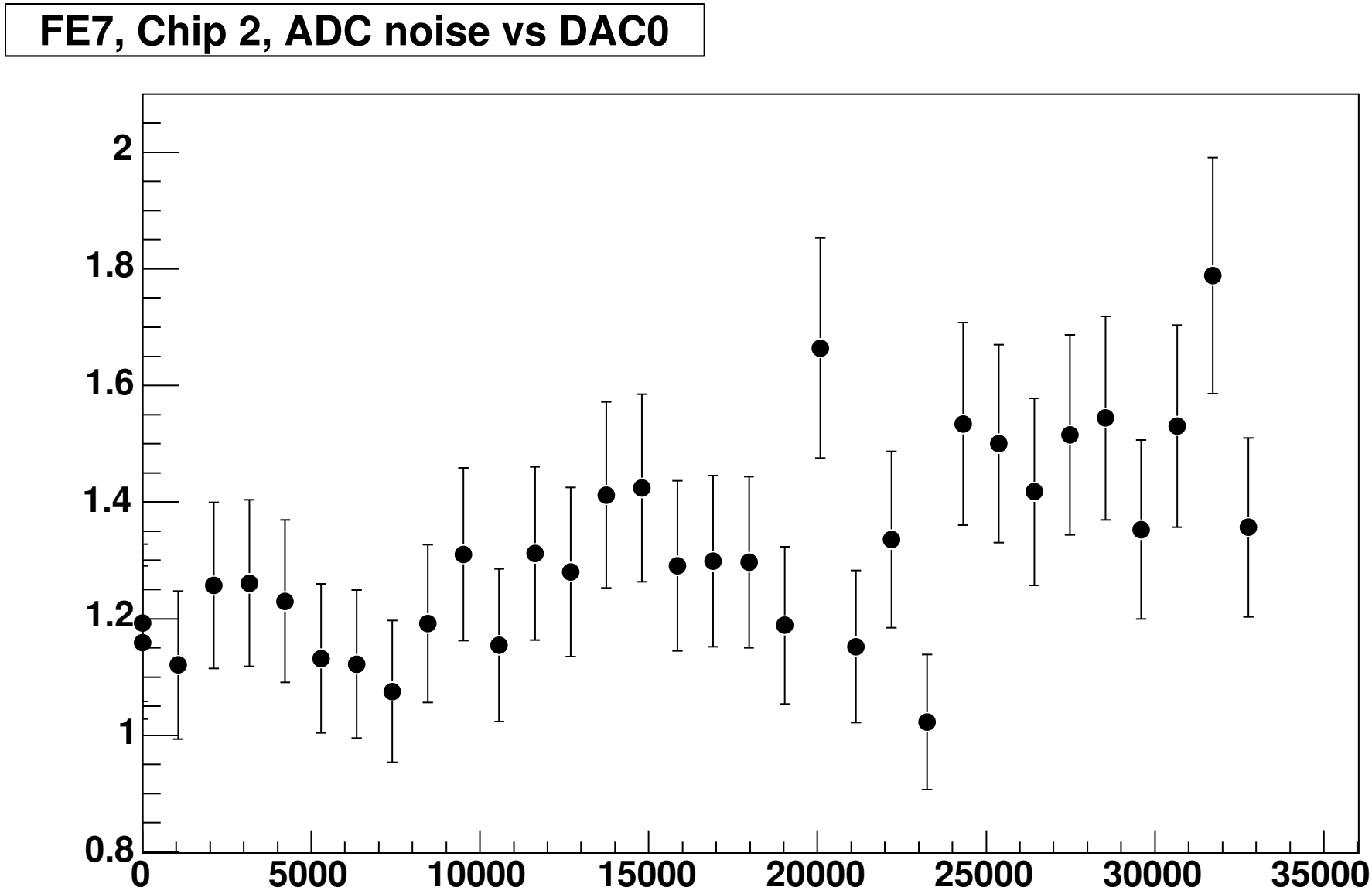

FE7, Chip 1, ADC residuals vs DAC0
1
0.5
0
-0.5
-1
0
5000
10000
15000
20000
25000
30000
35000


FE7, Chip 1, ADC mean vs DAC1
χ² / ndf 18.04 / 29
p0 105.8 ± 0.06514
p1 7.506e-06 ± 3.335e-06
106.4
106.2
106
105.8
105.6
105.4
0
5000
10000
15000
20000
25000
30000
35000

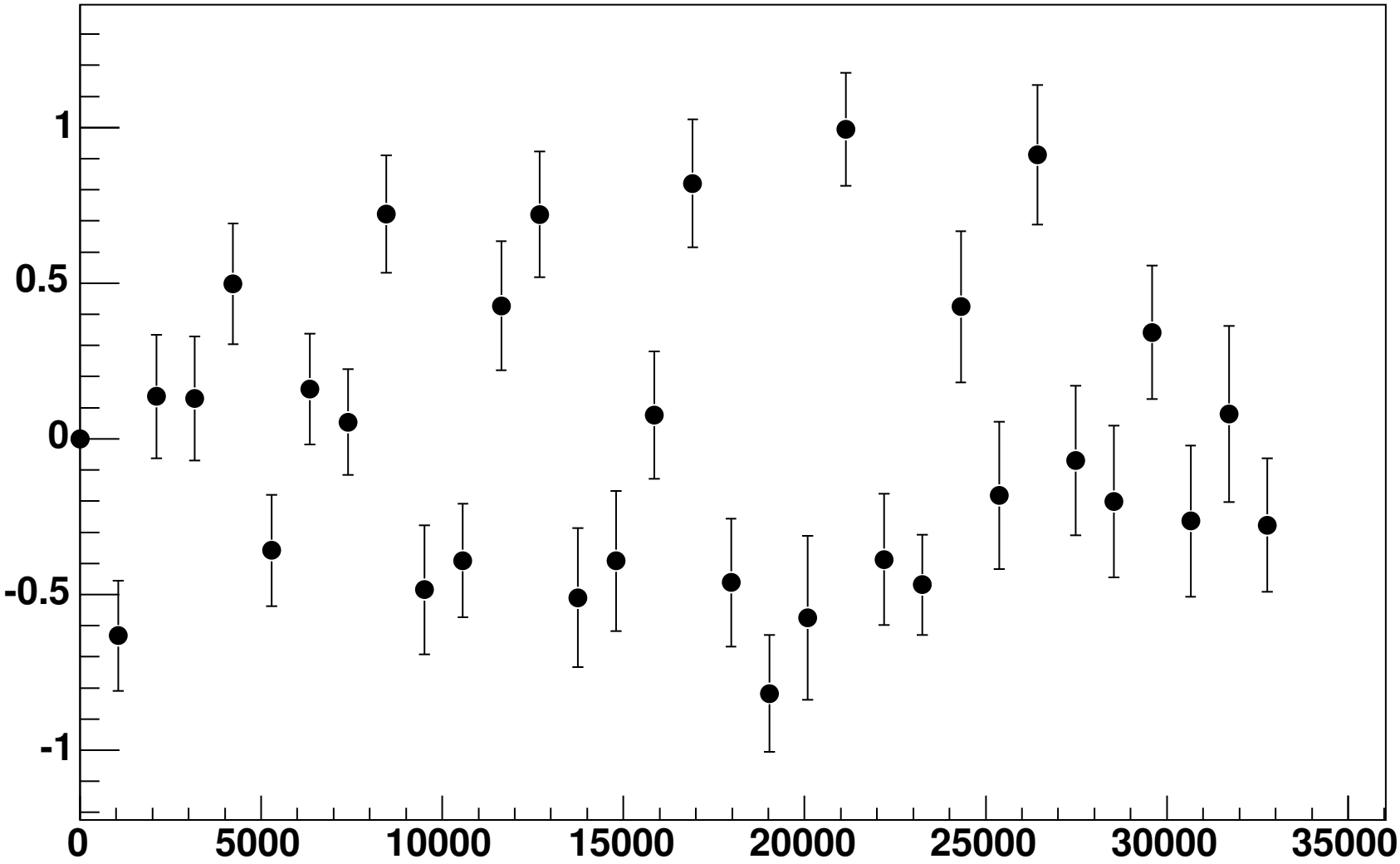

FE7, Chip 1, ADC noise vs DAC1
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0
5000
10000
15000
20000
25000
30000
35000

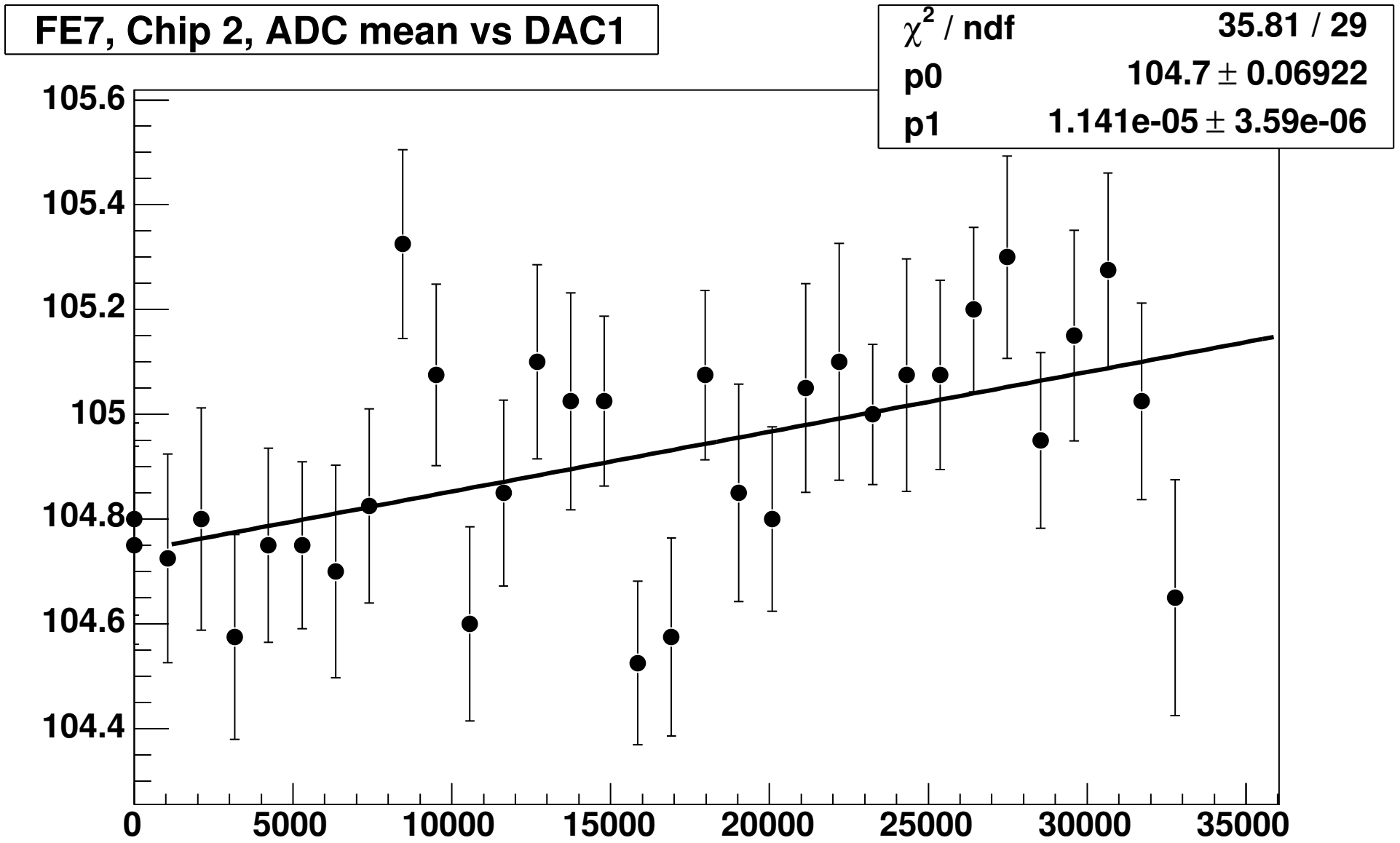

FE7, Chip 1, ADC residuals vs DAC1
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
5000
10000
15000
20000
25000
30000
35000


FE7, Chip 2, ADC mean vs DAC0
χ² / ndf 187.9 / 29
p0 -36.95 ± 0.07143
p1 0.4585 ± 3.951e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

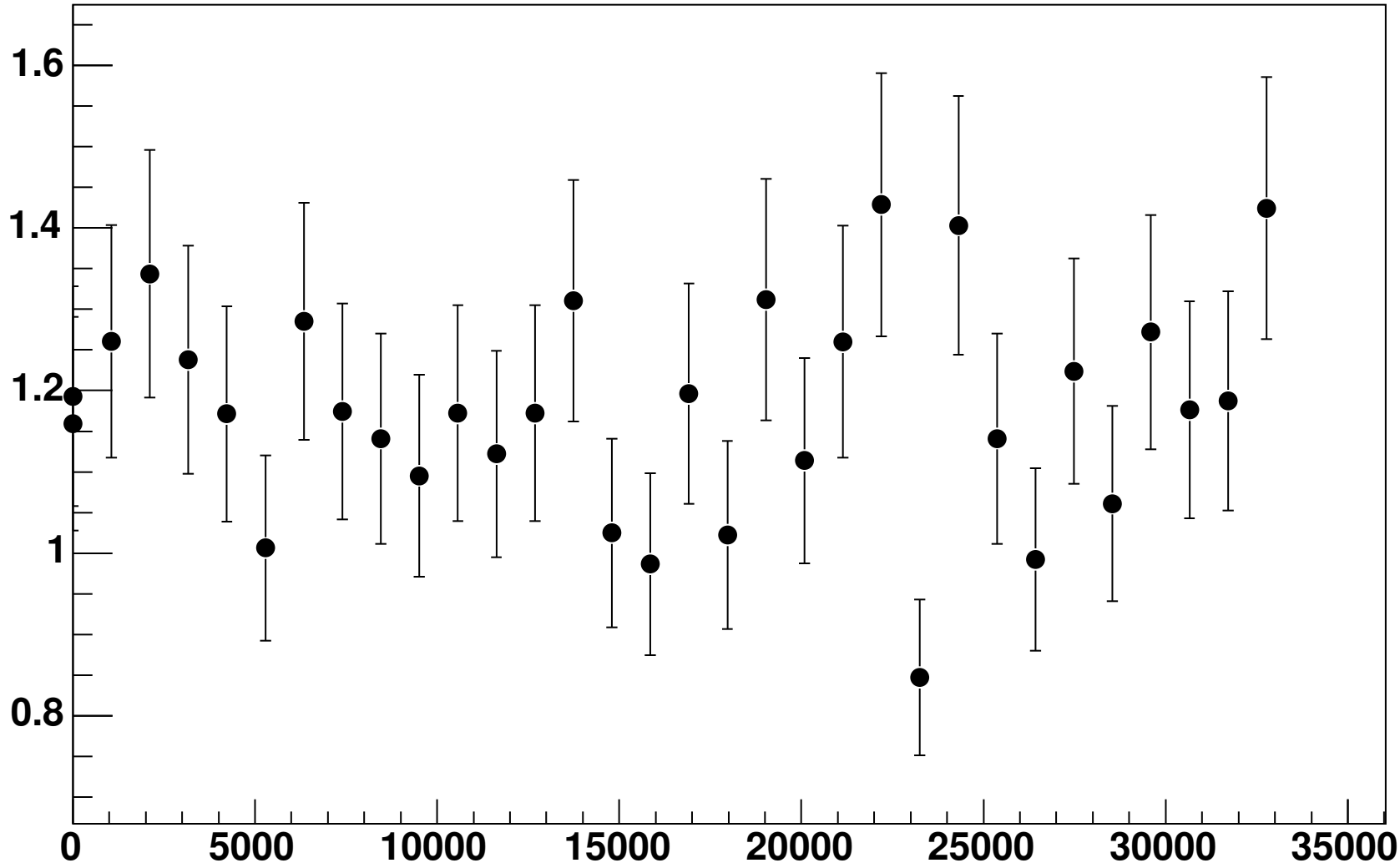

FE7, Chip 2, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

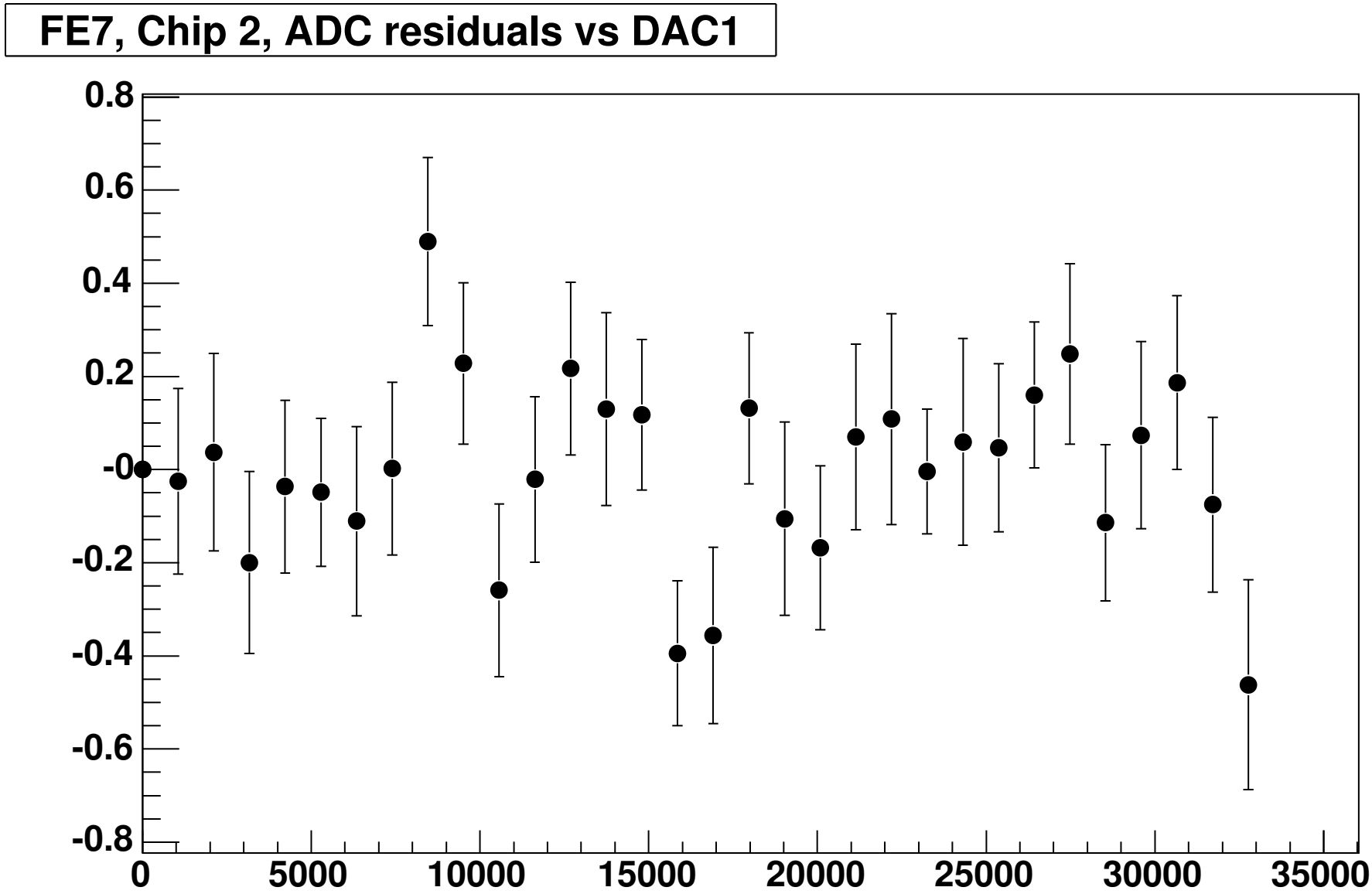
FE7, Chip 2, ADC residuals vs DAC0

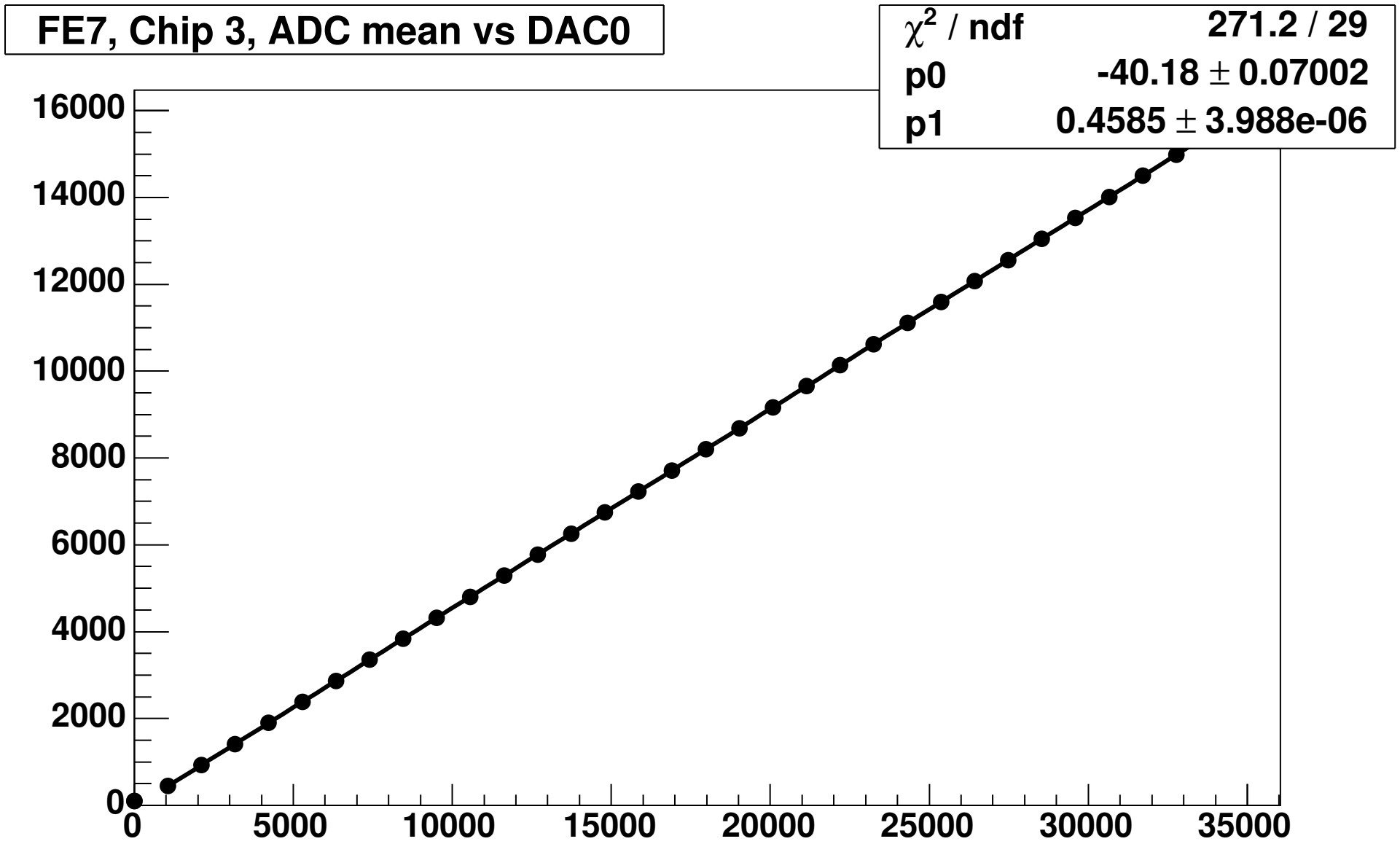


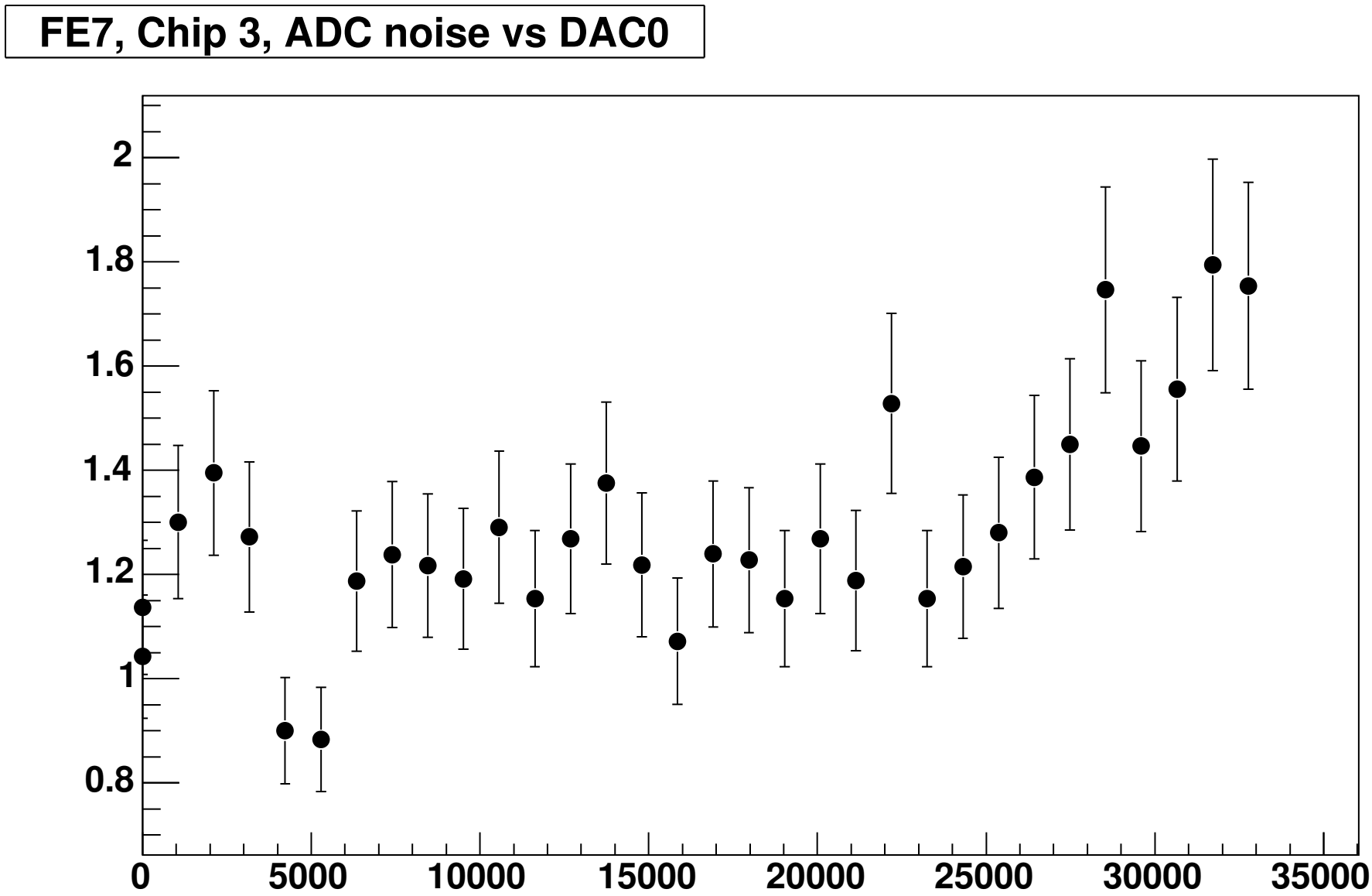

FE7, Chip 2, ADC mean vs DAC1
χ² / ndf 35.81 / 29
p0 104.7 ± 0.06922
p1 1.141e-05 ± 3.59e-06
105.6
105.4
105.2
105
104.8
104.6
104.4
0
5000
10000
15000
20000
25000
30000
35000

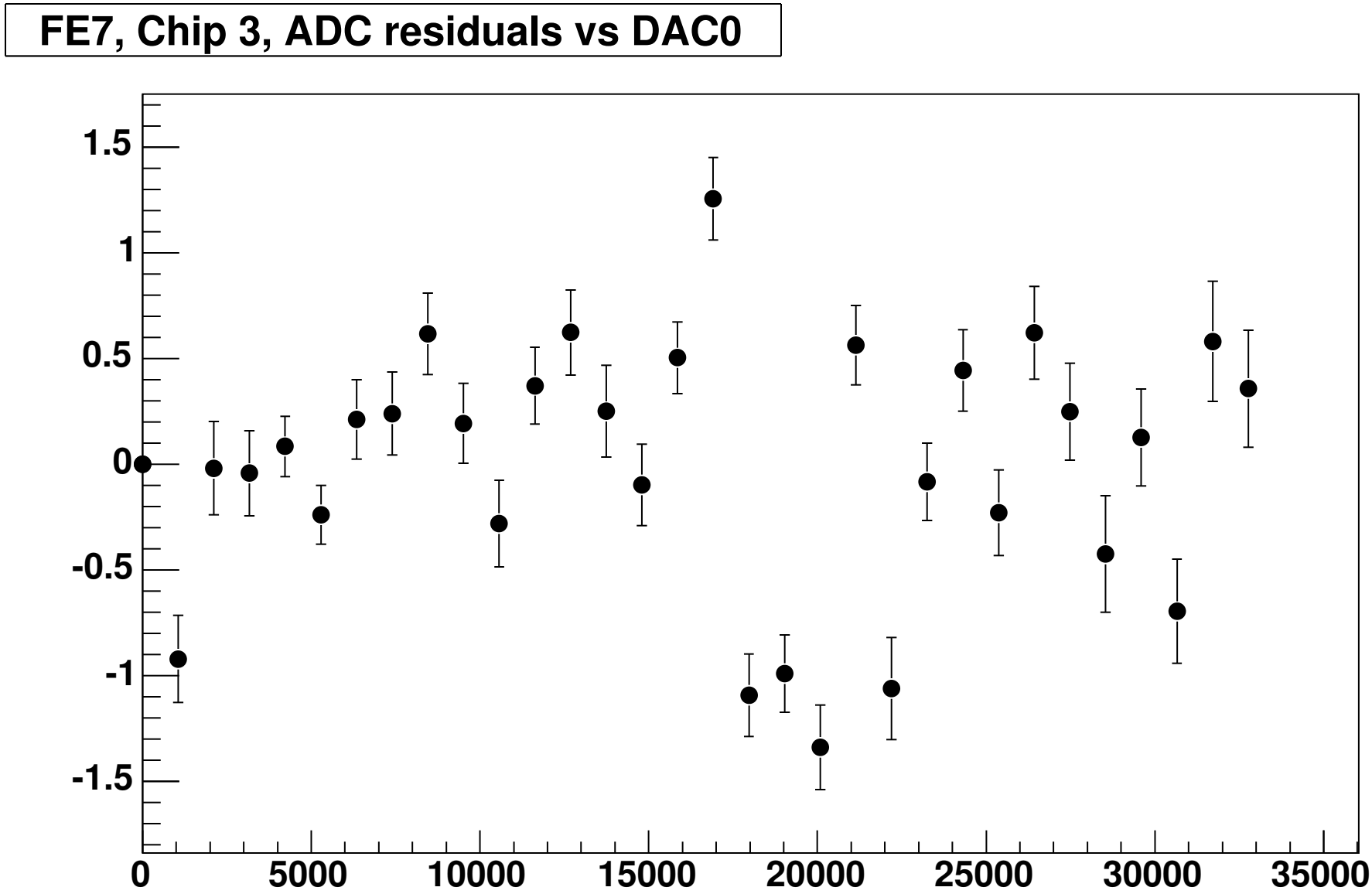
FE7, Chip 2, ADC noise vs DAC1

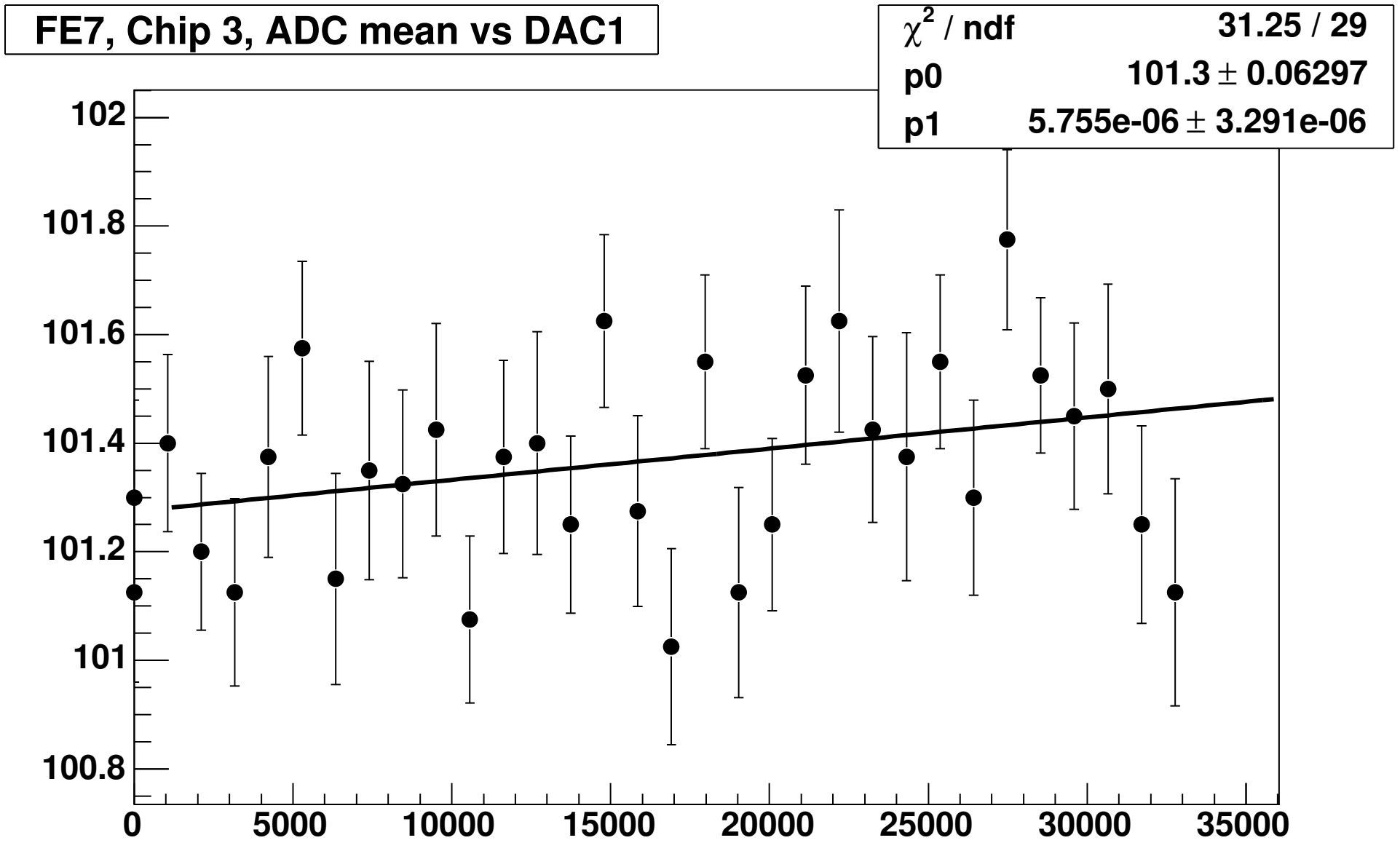


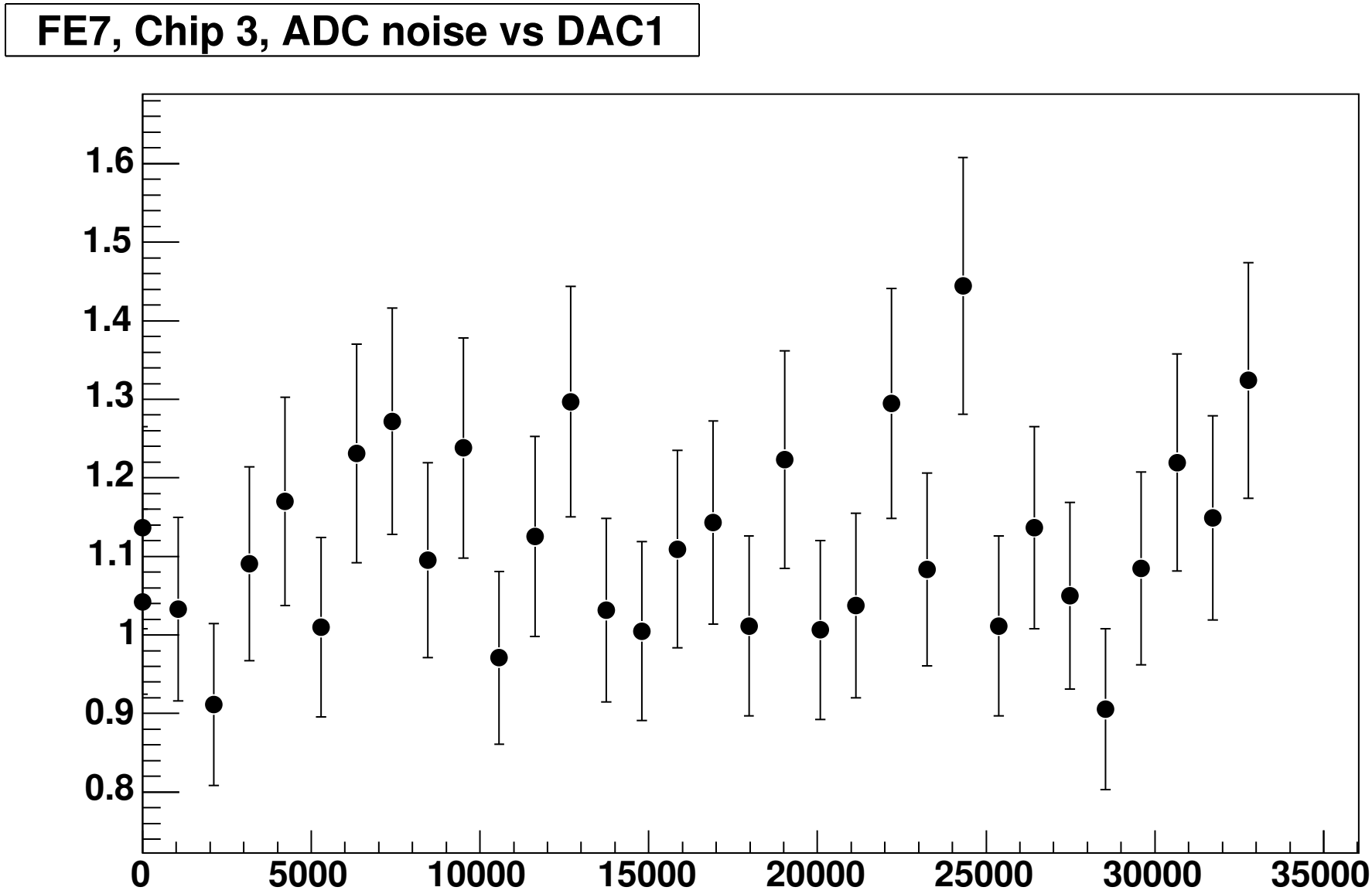

FE7, Chip 2, ADC residuals vs DAC1
0.8
0.6
0.4
0.2
-0
-0.2
-0.4
-0.6
-0.8
0
5000
10000
15000
20000
25000
30000
35000

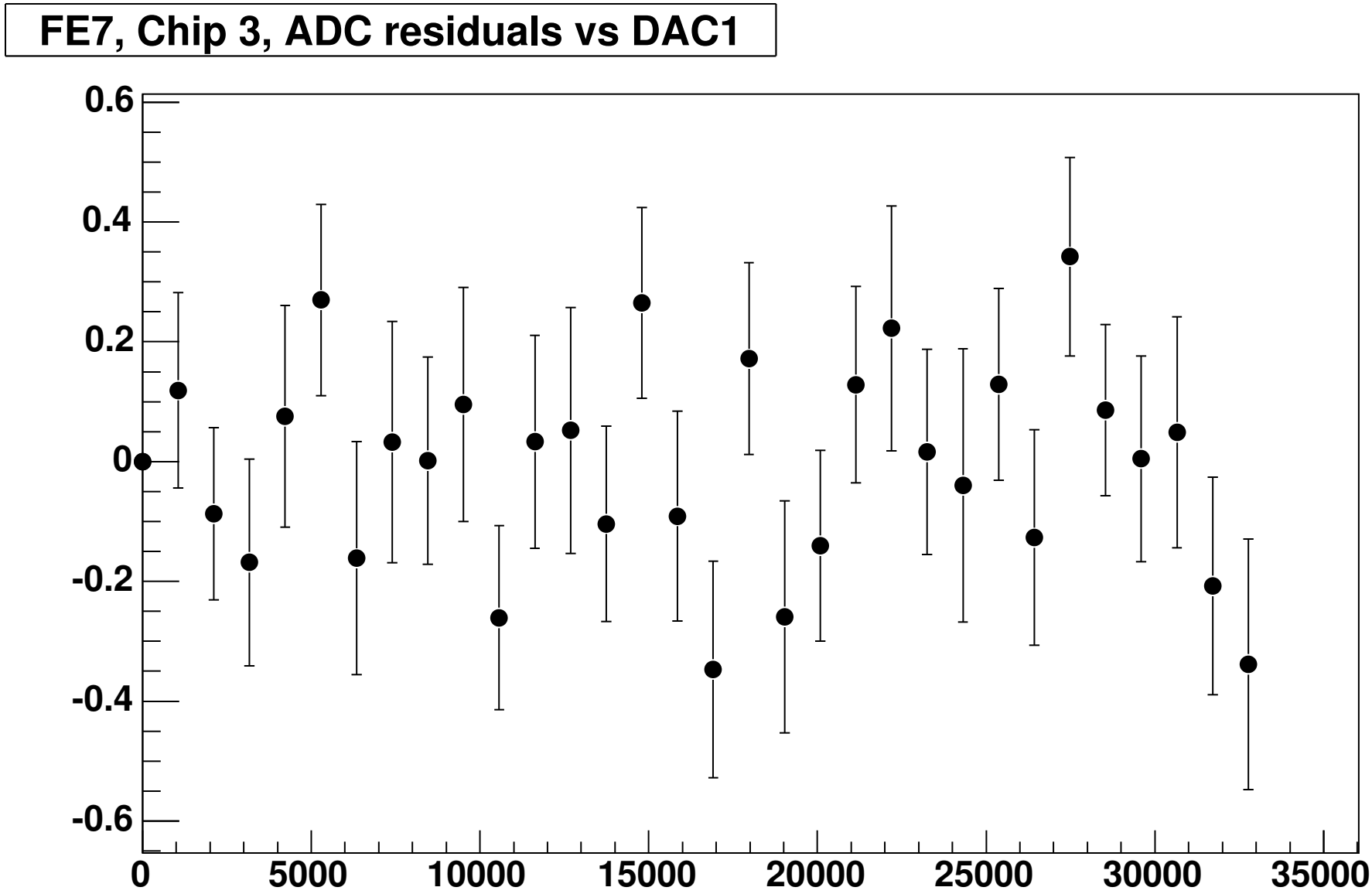

FE7, Chip 3, ADC mean vs DAC0
χ² / ndf 271.2 / 29
p0 -40.18 ± 0.07002
p1 0.4585 ± 3.988e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

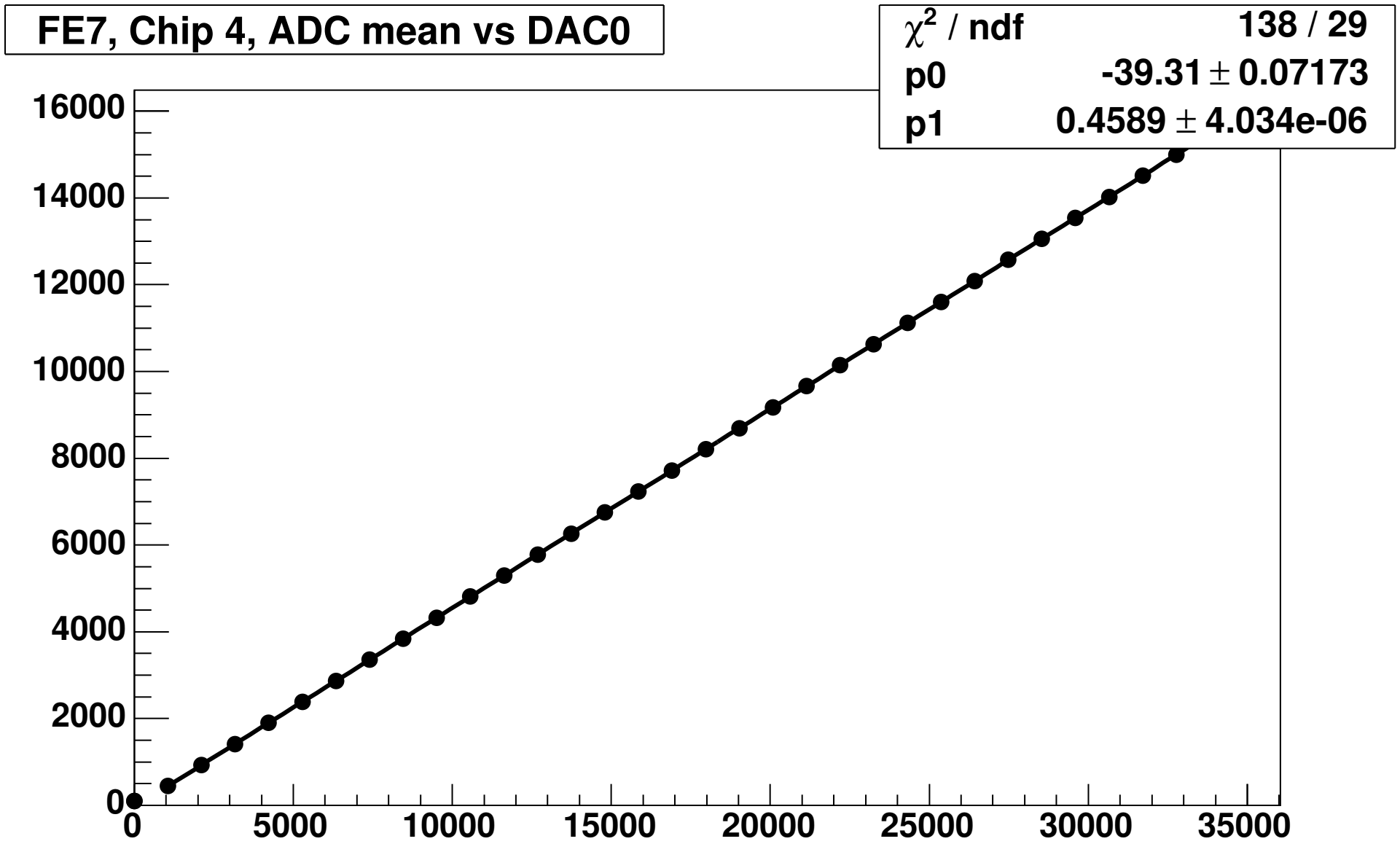

FE7, Chip 3, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

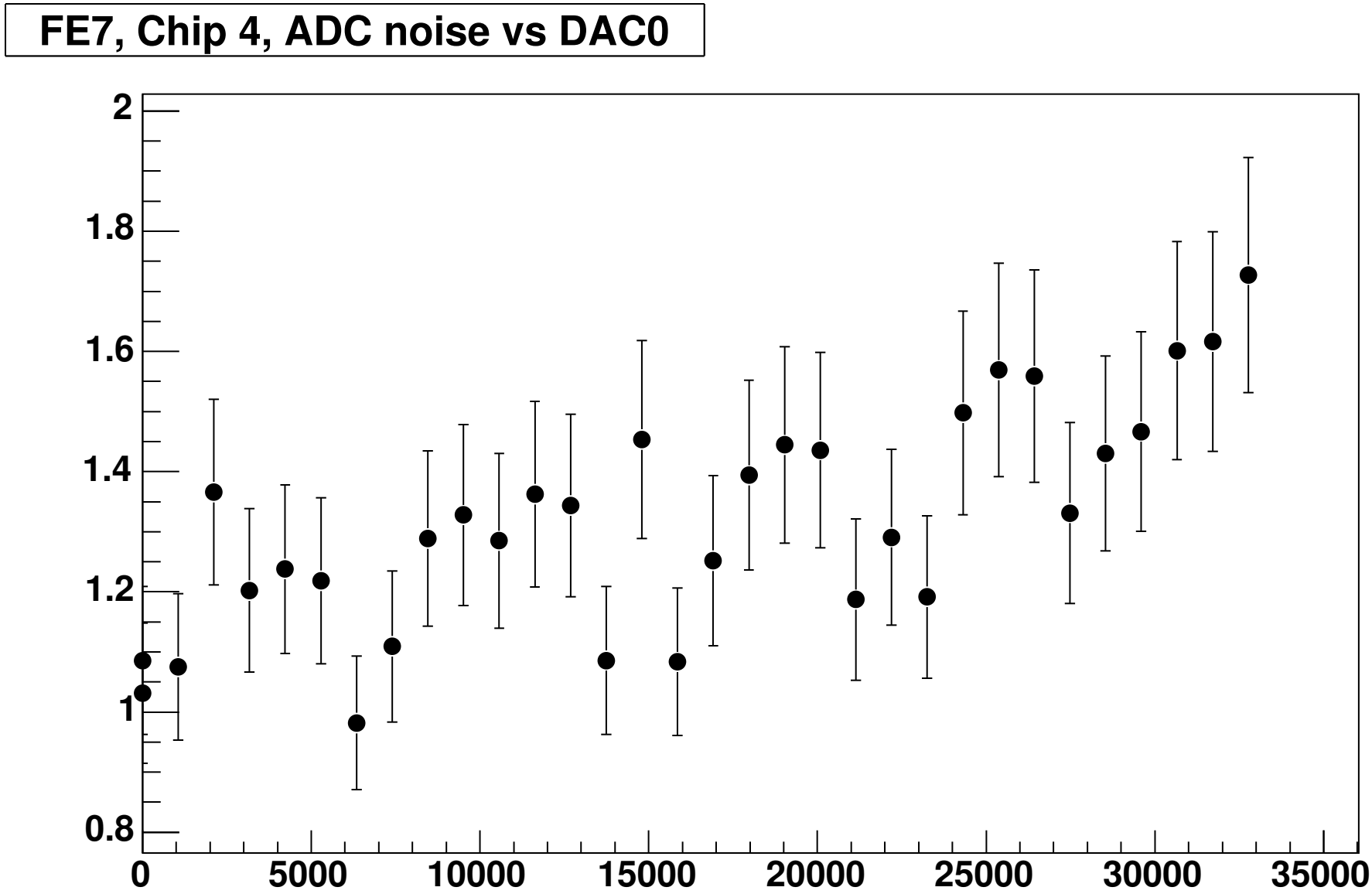

FE7, Chip 3, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

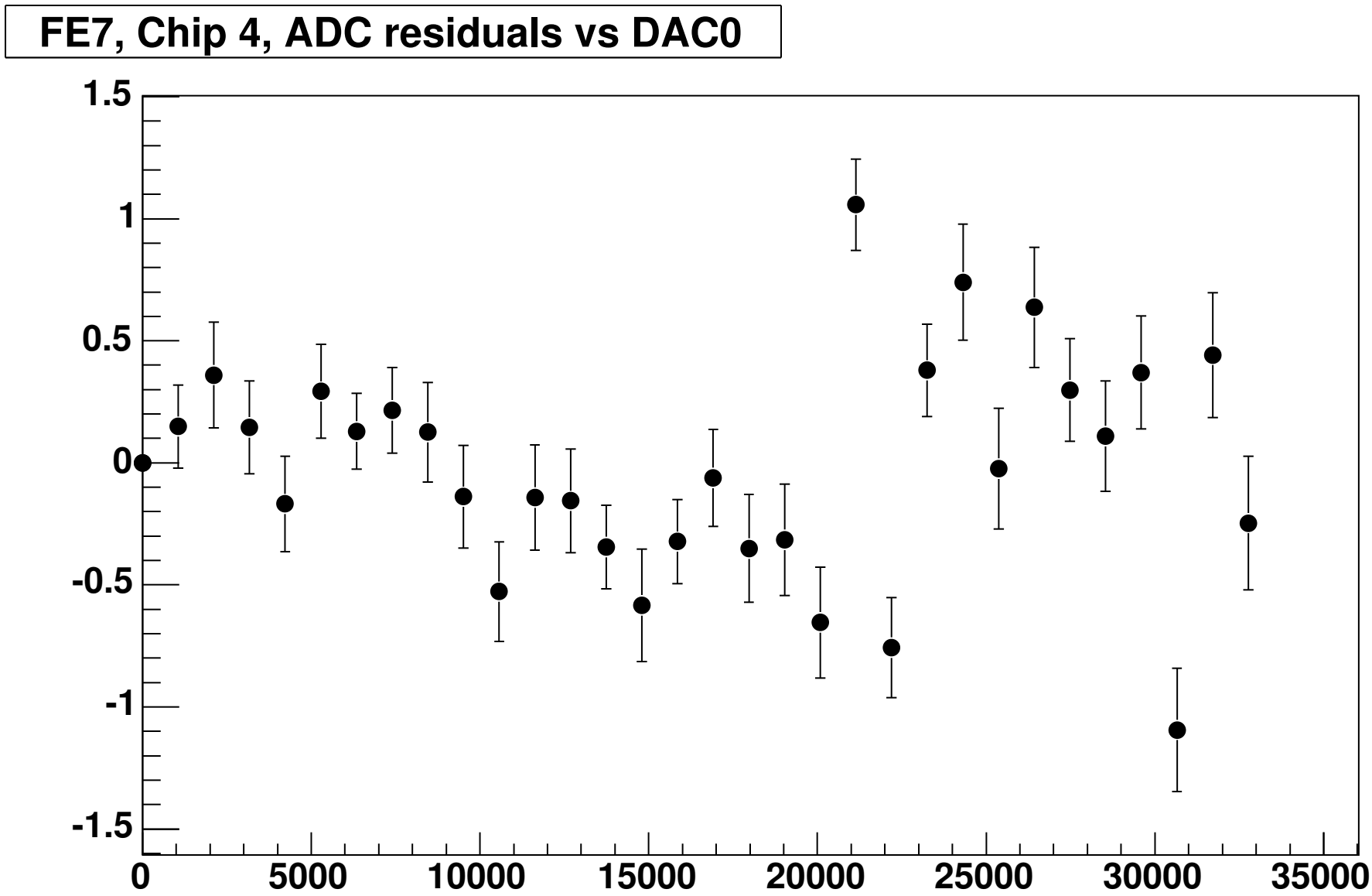

FE7, Chip 3, ADC mean vs DAC1
χ² / ndf 31.25 / 29
p0 101.3 ± 0.06297
p1 5.755e-06 ± 3.291e-06
102
101.8
101.6
101.4
101.2
101
100.8
0
5000
10000
15000
20000
25000
30000
35000

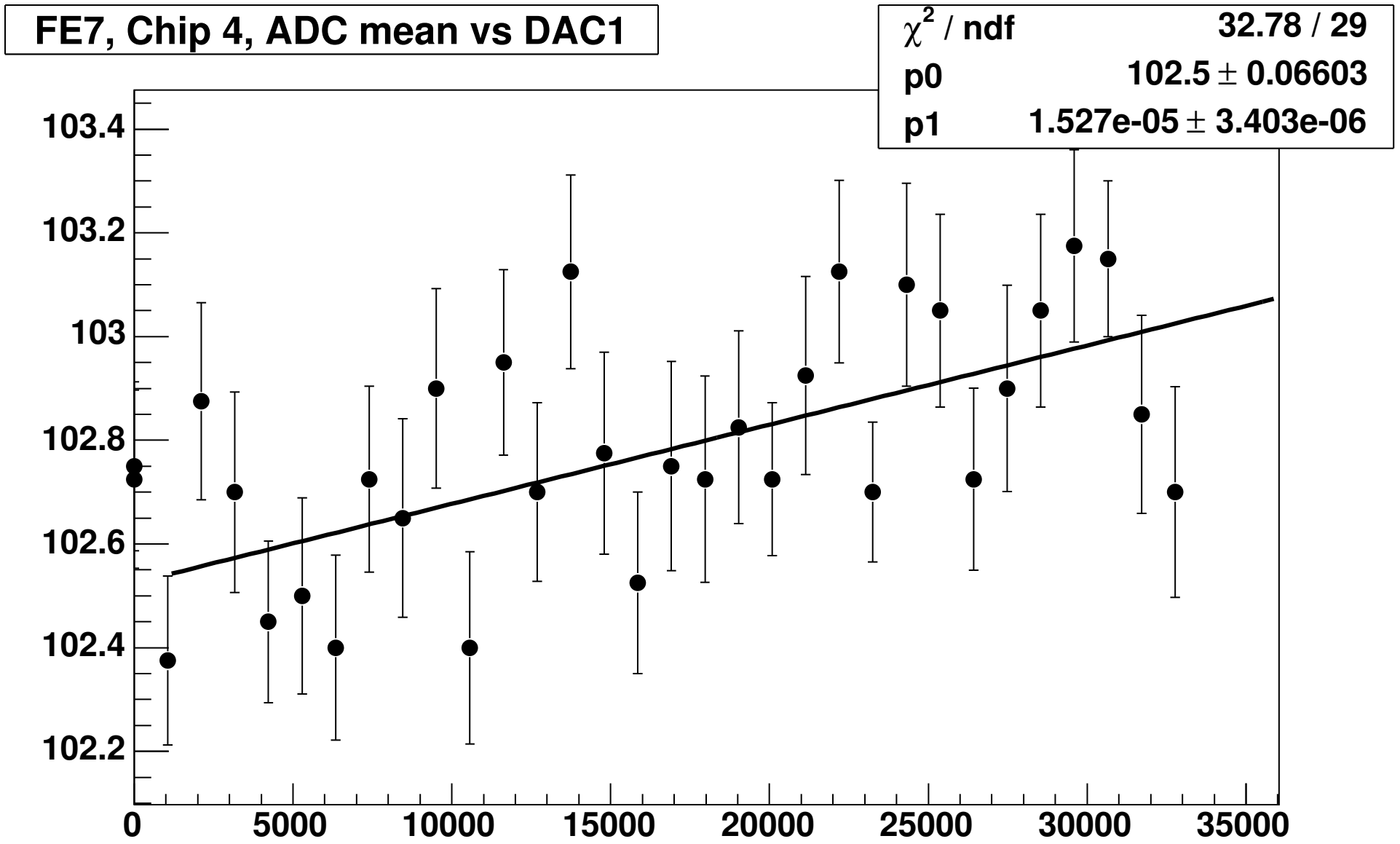

FE7, Chip 3, ADC noise vs DAC1
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0
5000
10000
15000
20000
25000
30000
35000

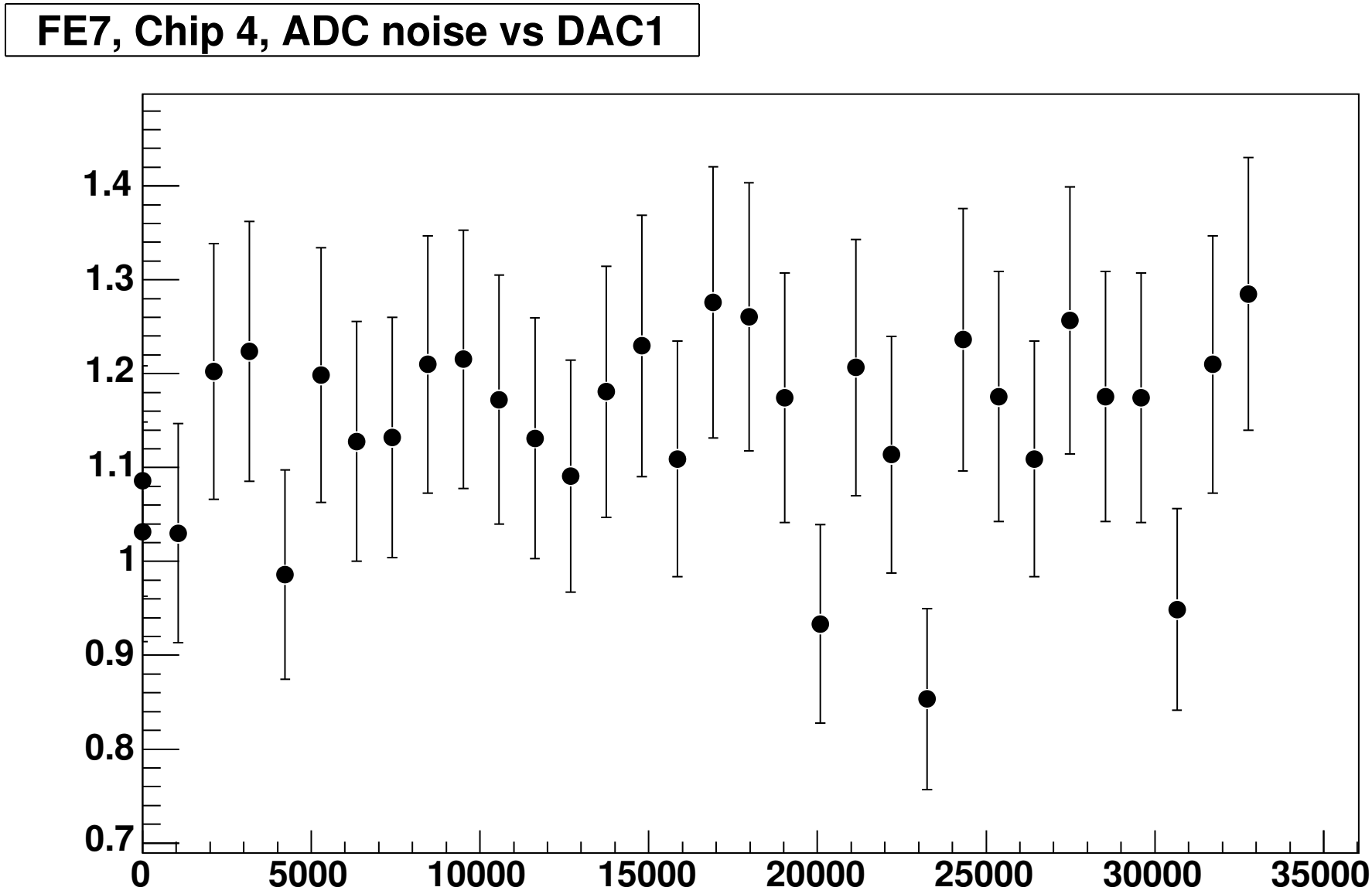

FE7, Chip 3, ADC residuals vs DAC1
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

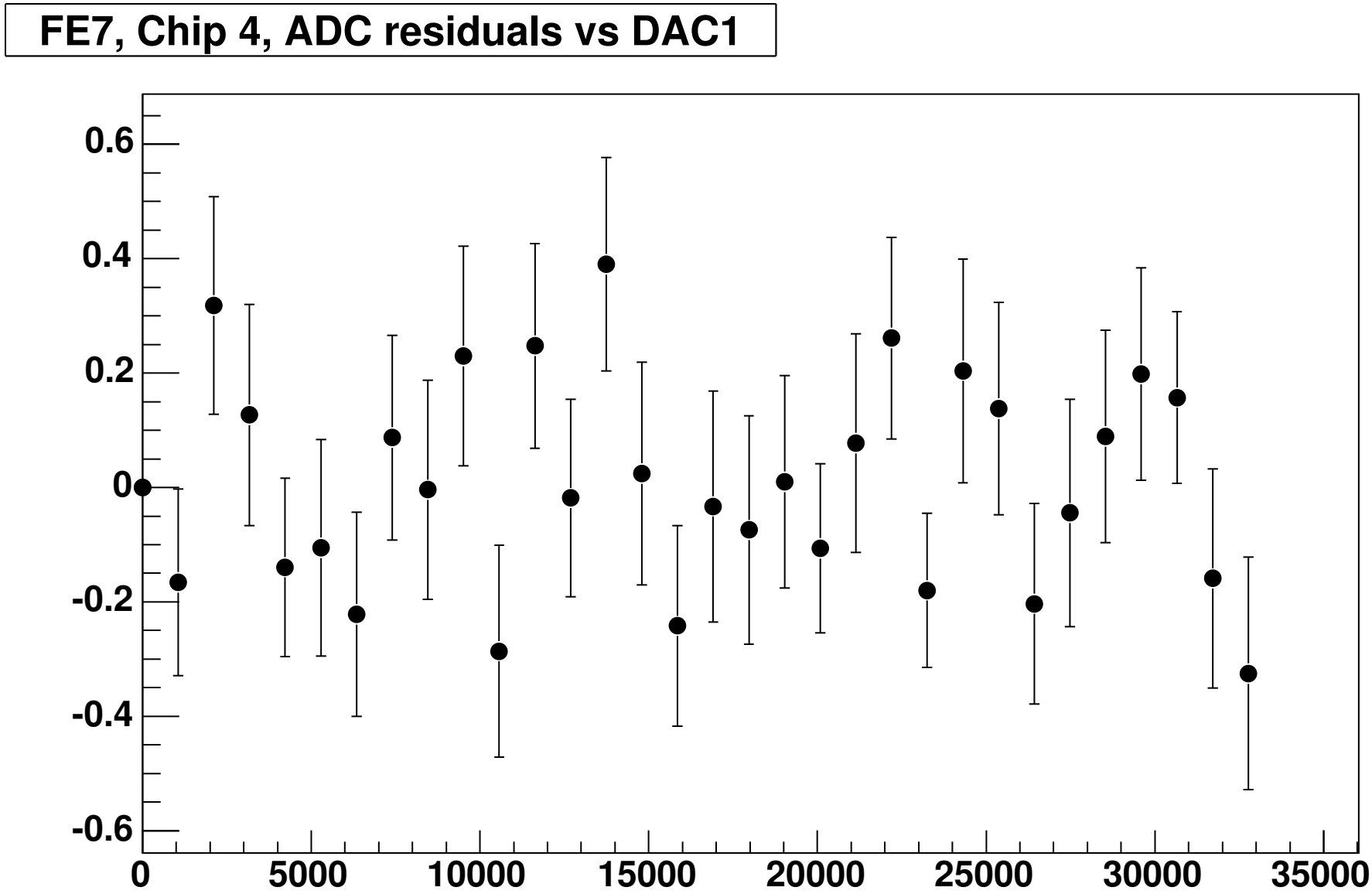

FE7, Chip 4, ADC mean vs DAC0
χ² / ndf 138 / 29
p0 -39.31 ± 0.07173
p1 0.4589 ± 4.034e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

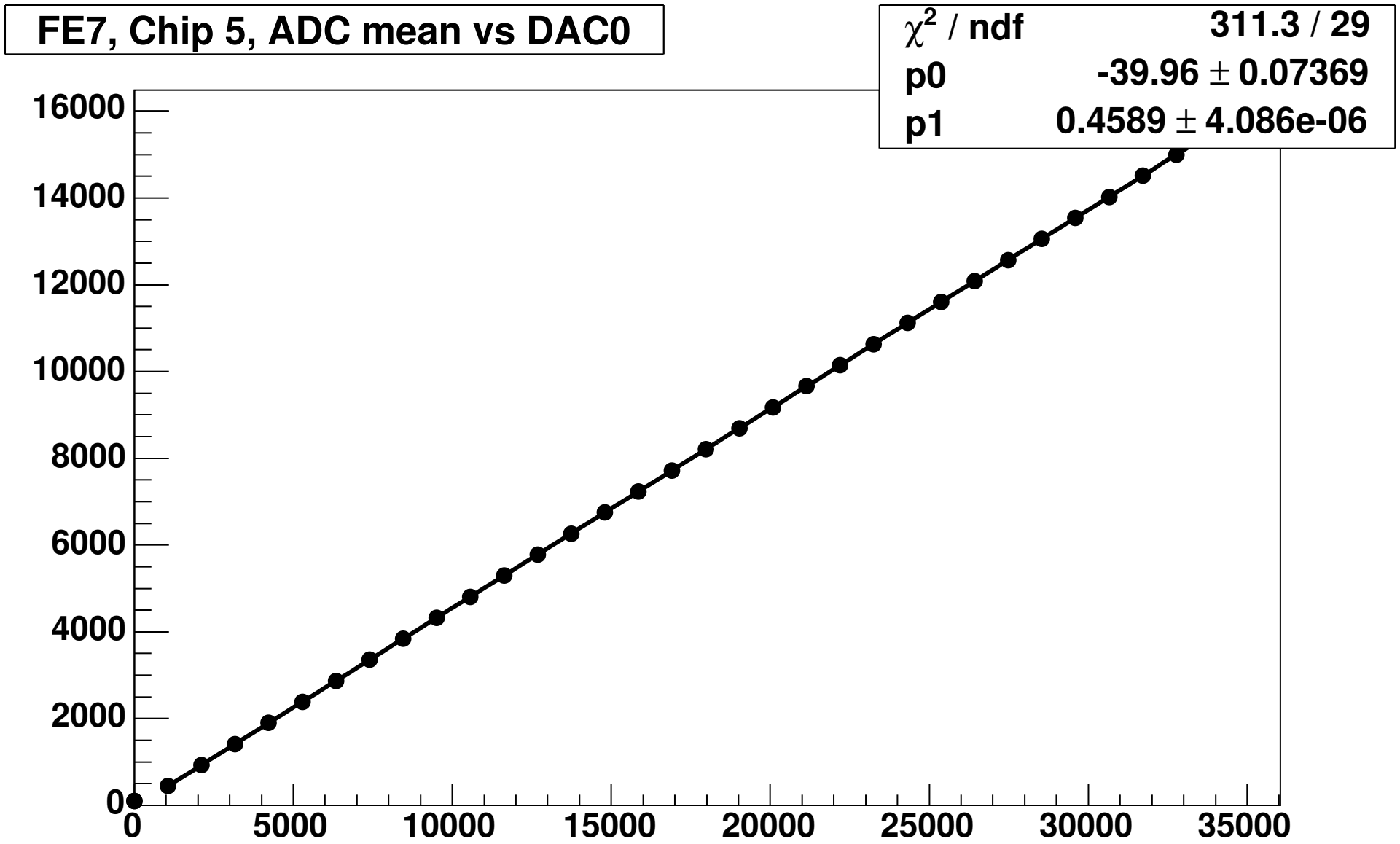

FE7, Chip 4, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

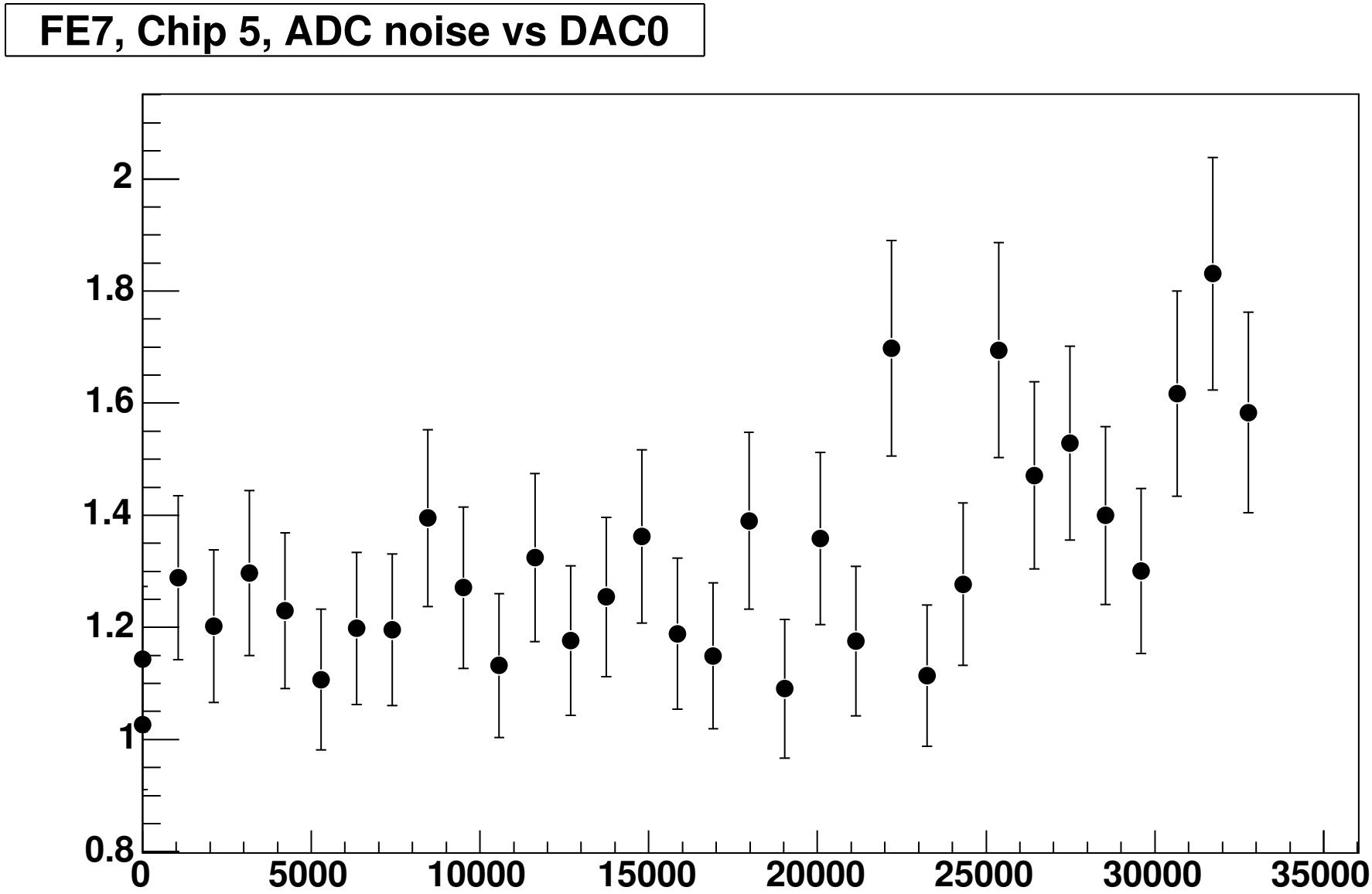

FE7, Chip 4, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

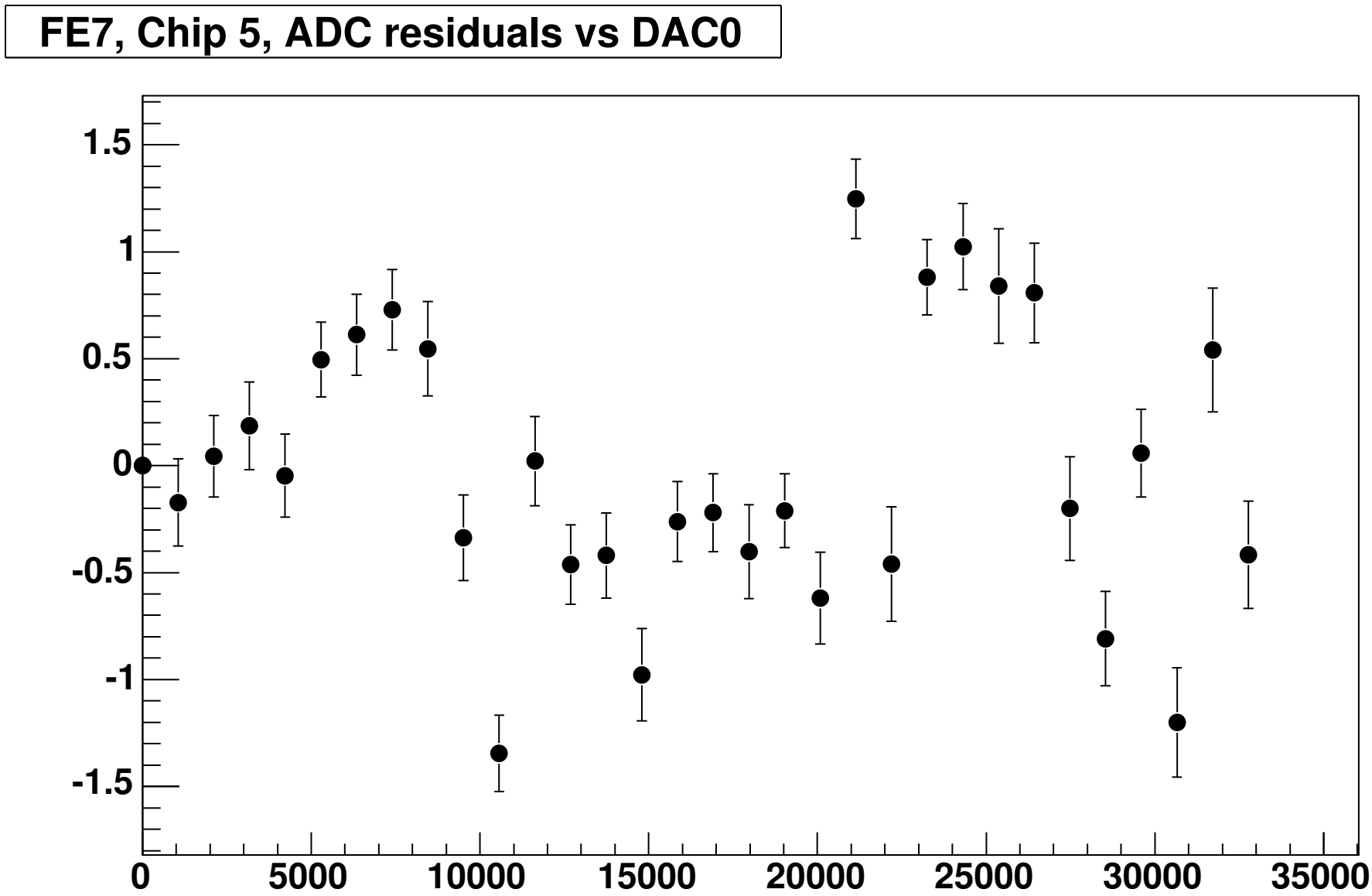

FE7, Chip 4, ADC mean vs DAC1
χ² / ndf 32.78 / 29
p0 102.5 ± 0.06603
p1 1.527e-05 ± 3.403e-06
103.4
103.2
103
102.8
102.6
102.4
102.2
0
5000
10000
15000
20000
25000
30000
35000

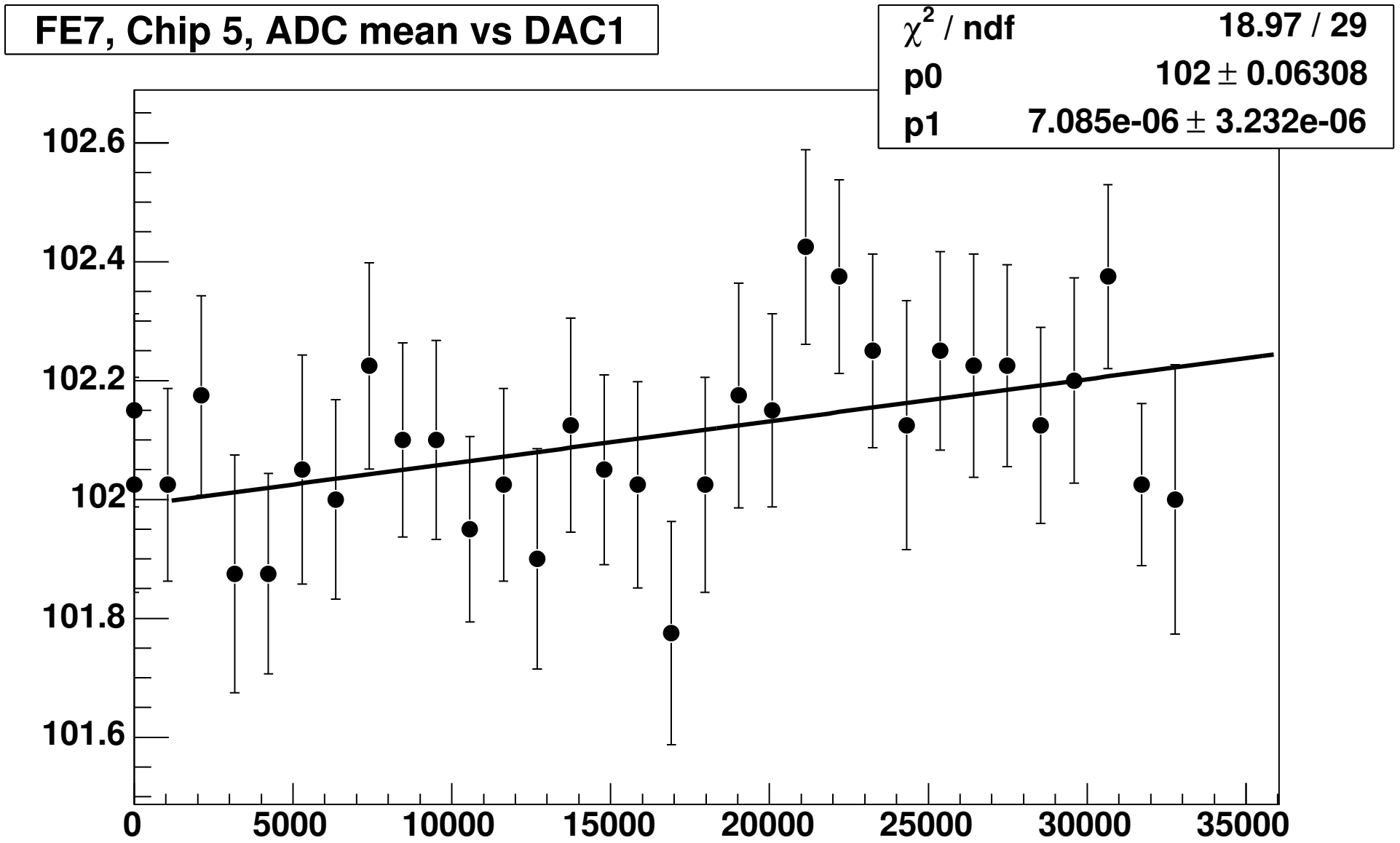

FE7, Chip 4, ADC noise vs DAC1
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

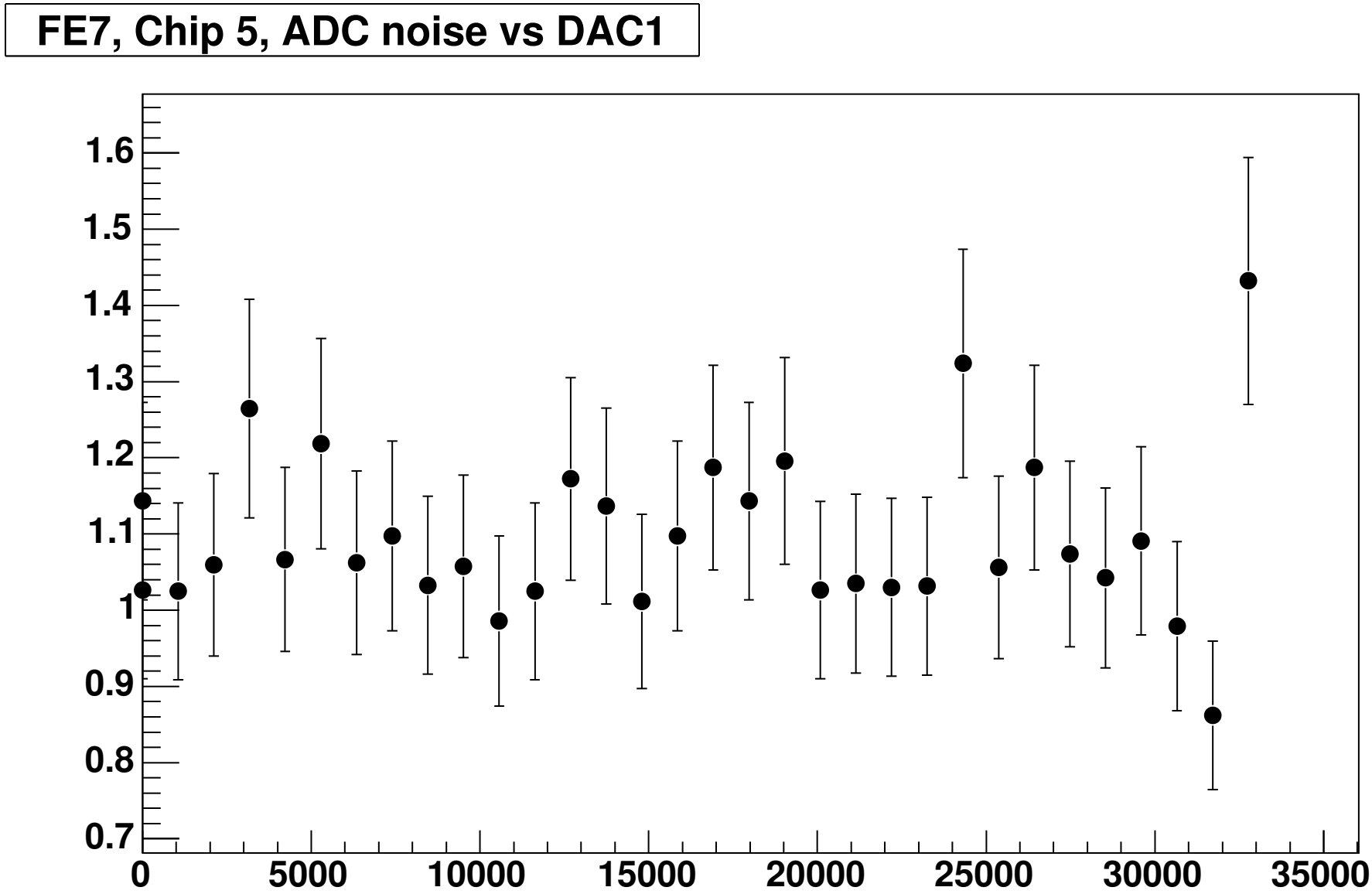

FE7, Chip 4, ADC residuals vs DAC1
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

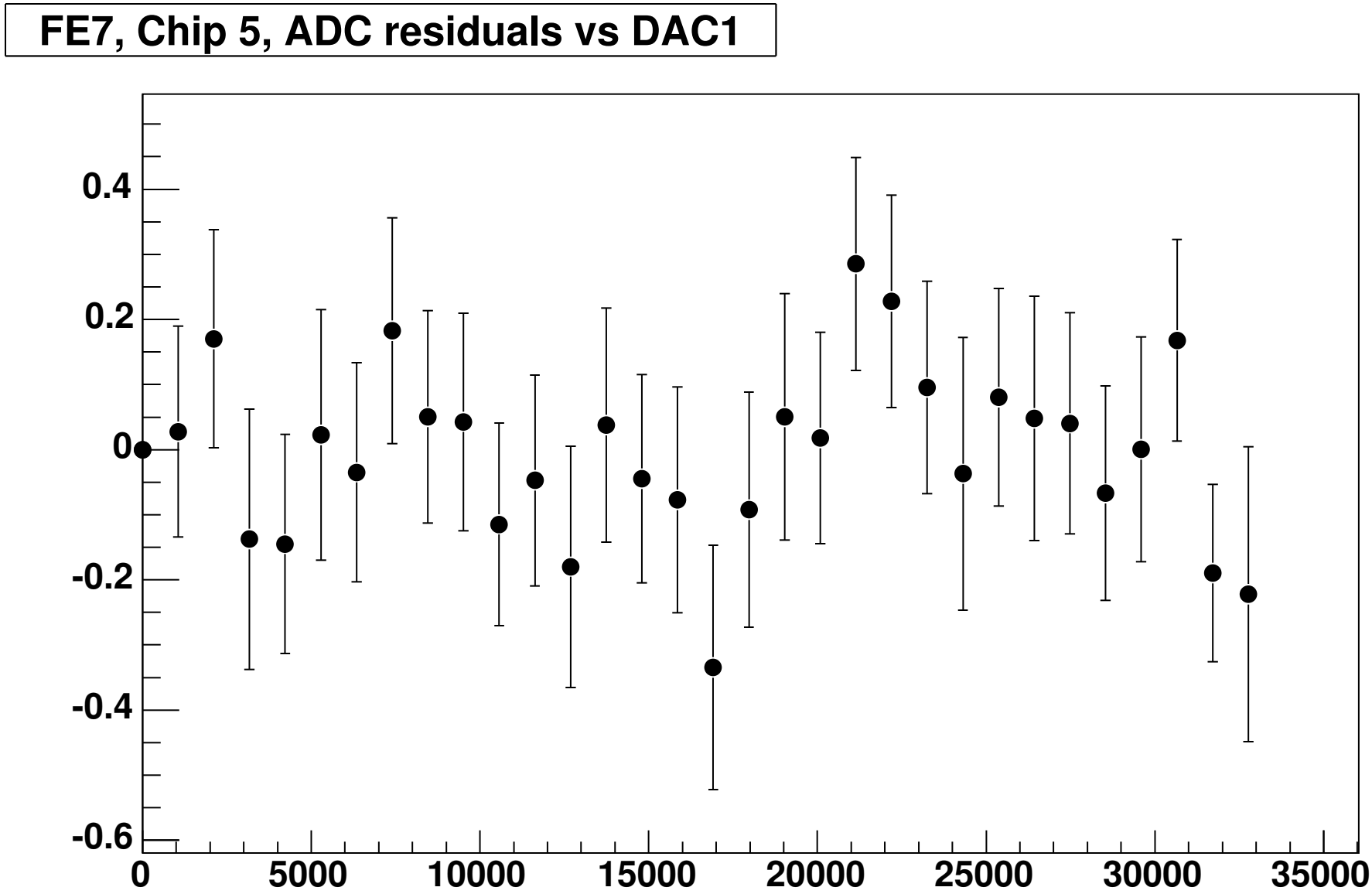

FE7, Chip 5, ADC mean vs DAC0
χ² / ndf 311.3 / 29
p0 -39.96 ± 0.07369
p1 0.4589 ± 4.086e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

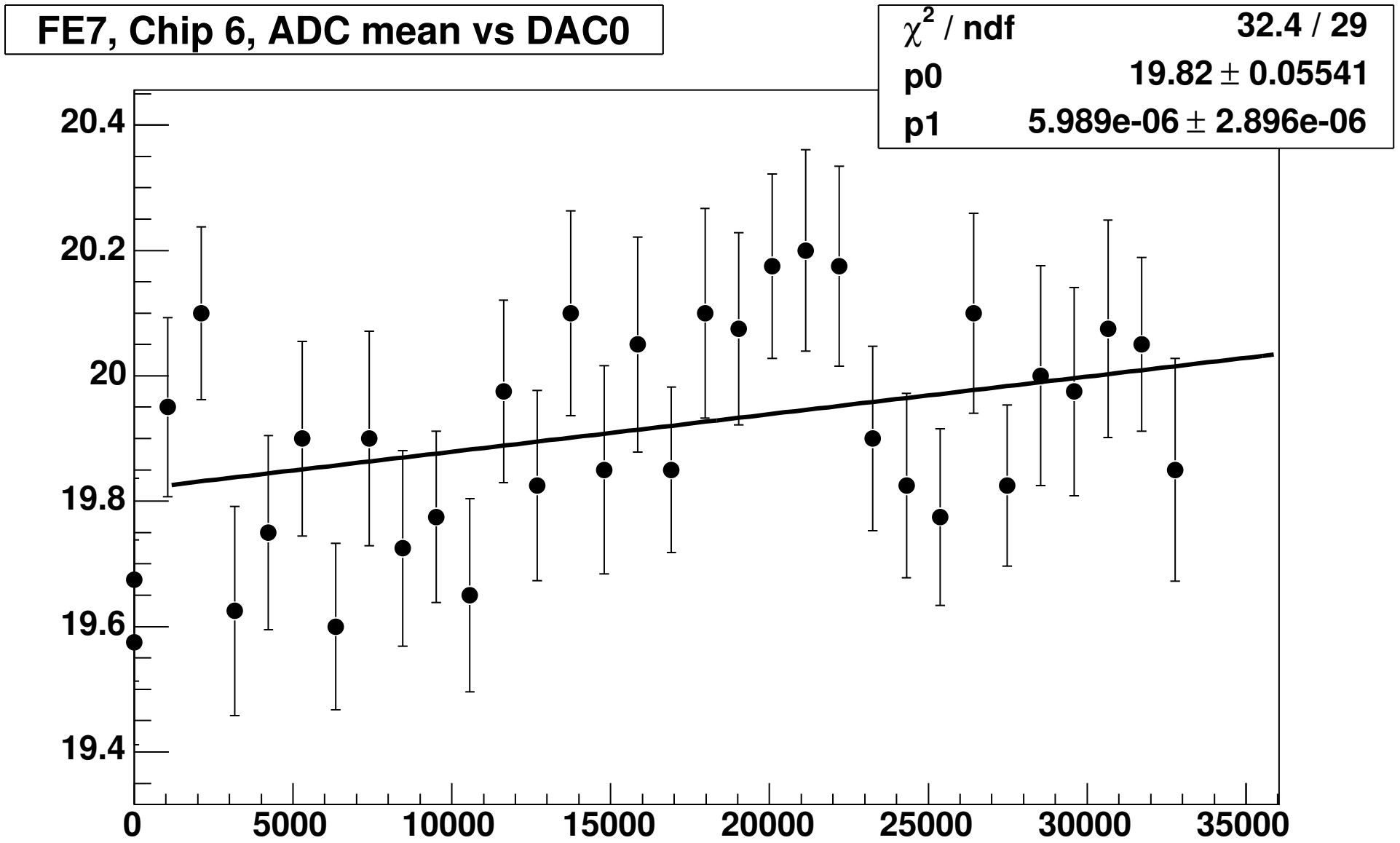

FE7, Chip 5, ADC noise vs DAC0
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

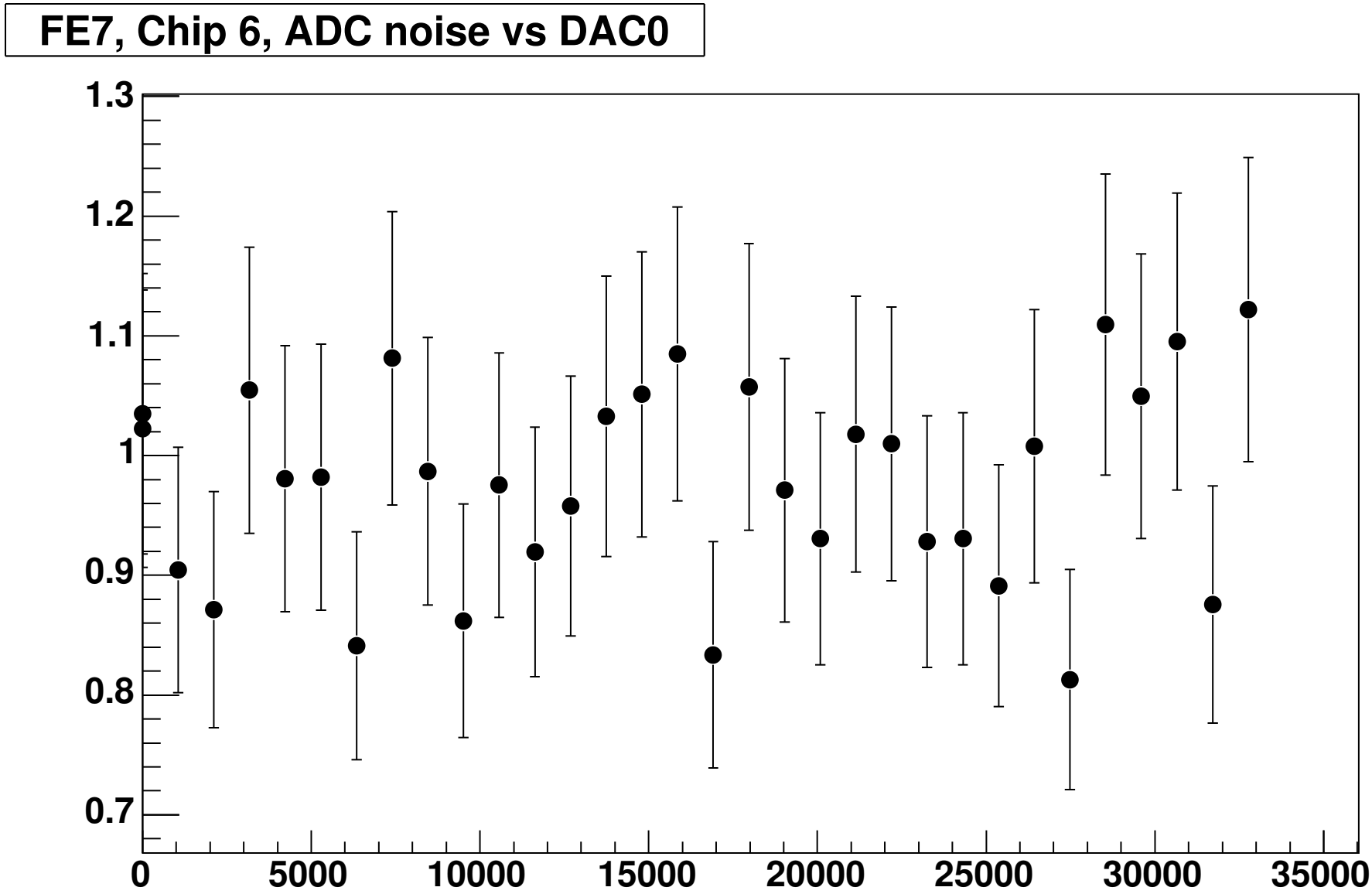

FE7, Chip 5, ADC residuals vs DAC0
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

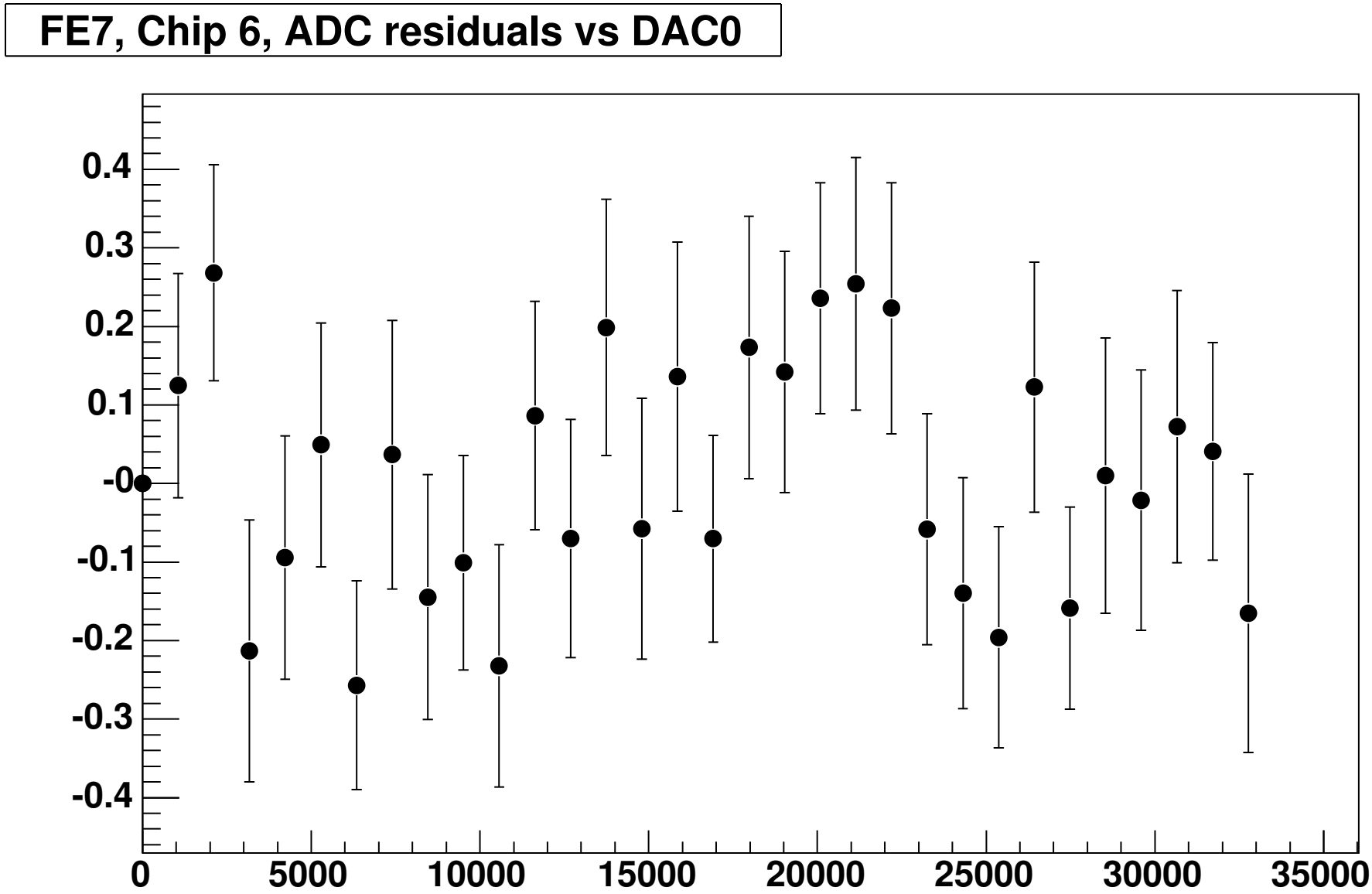

FE7, Chip 5, ADC mean vs DAC1
χ² / ndf 18.97 / 29
p0 102 ± 0.06308
p1 7.085e-06 ± 3.232e-06
102.6
102.4
102.2
102
101.8
101.6
0
5000
10000
15000
20000
25000
30000
35000

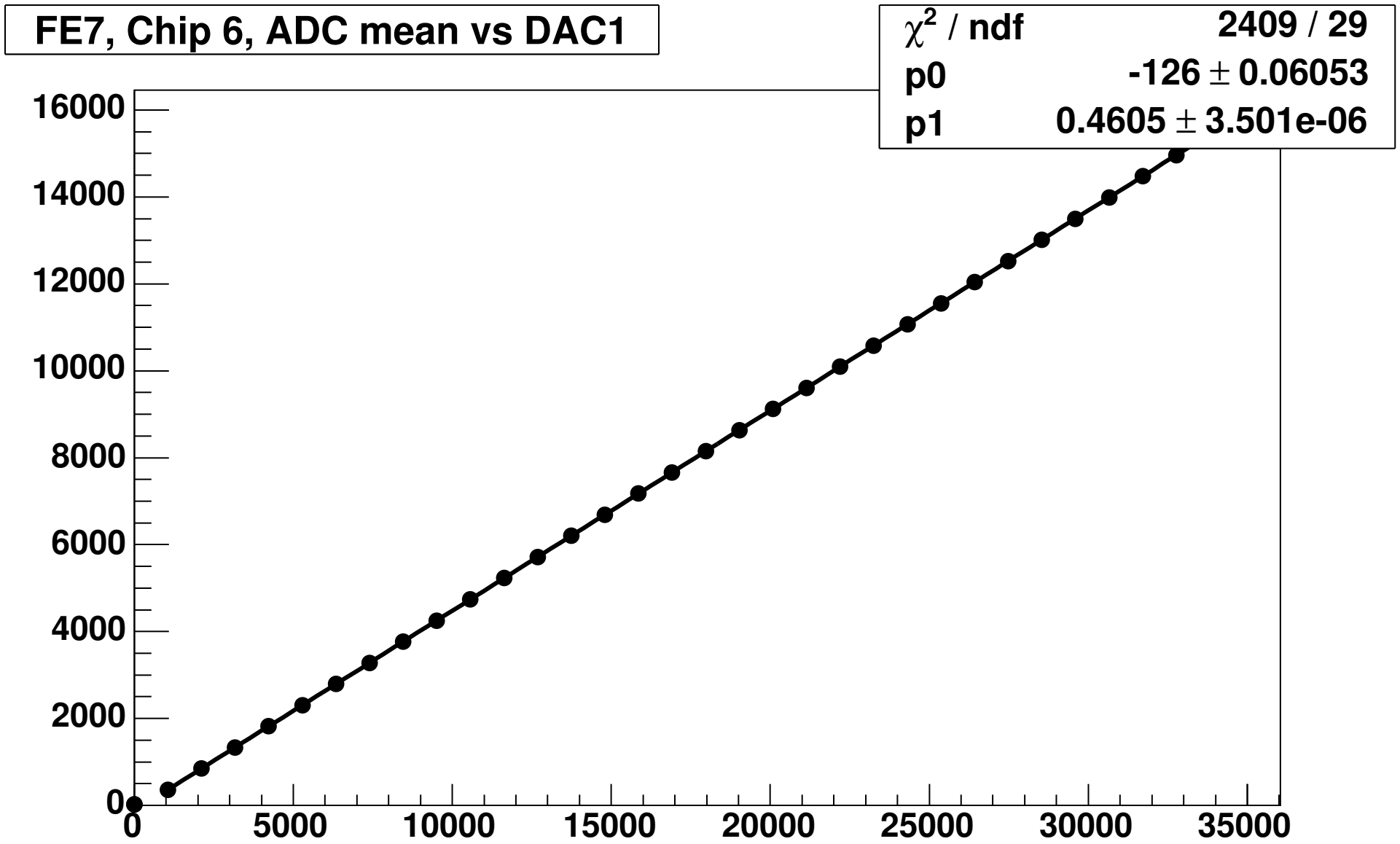

FE7, Chip 5, ADC noise vs DAC1
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000


FE7, Chip 5, ADC residuals vs DAC1
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

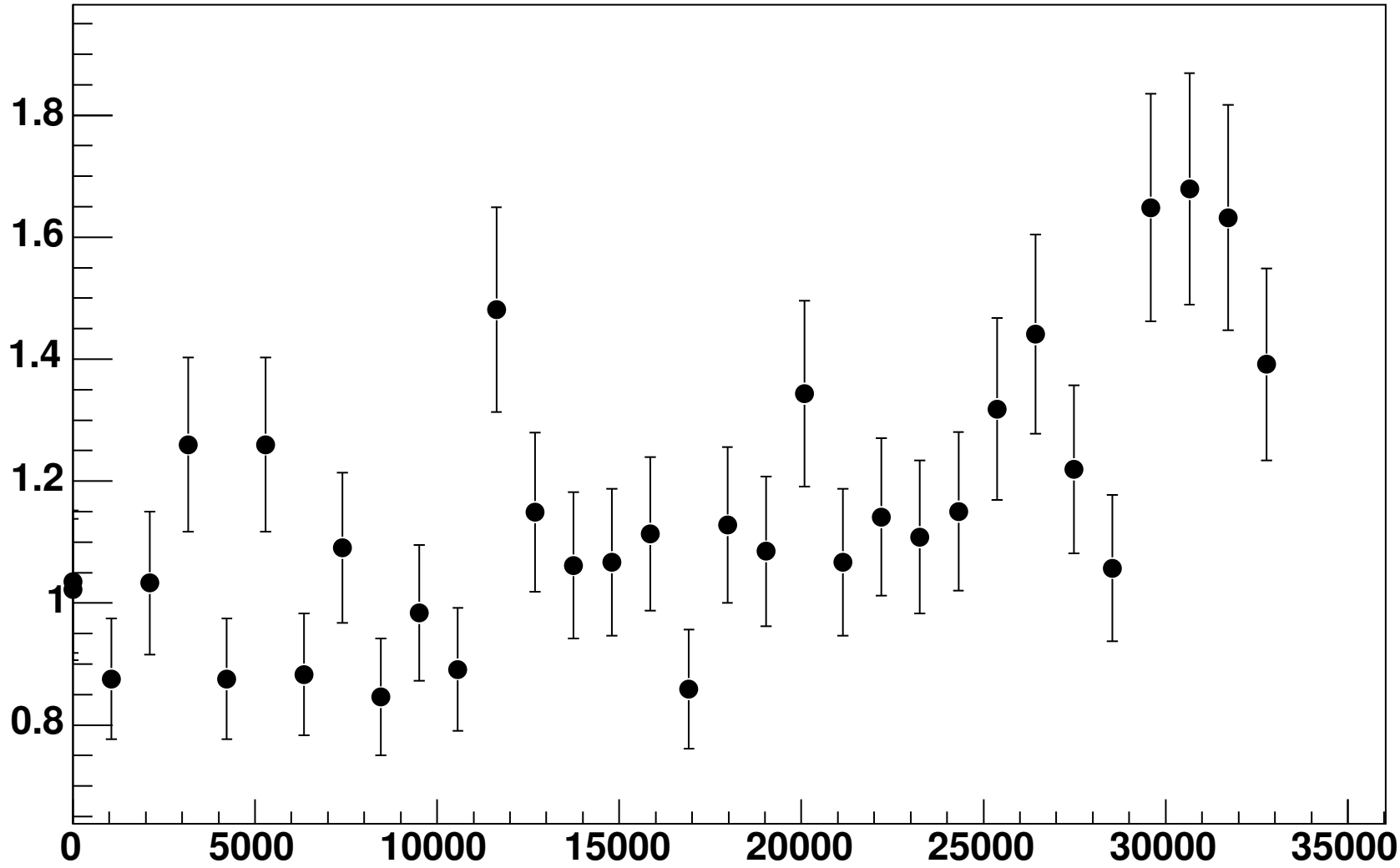

FE7, Chip 6, ADC mean vs DAC0
χ² / ndf 32.4 / 29
p0 19.82 ± 0.05541
p1 5.989e-06 ± 2.896e-06
20.4
20.2
20
19.8
19.6
19.4
0
5000
10000
15000
20000
25000
30000
35000


FE7, Chip 6, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

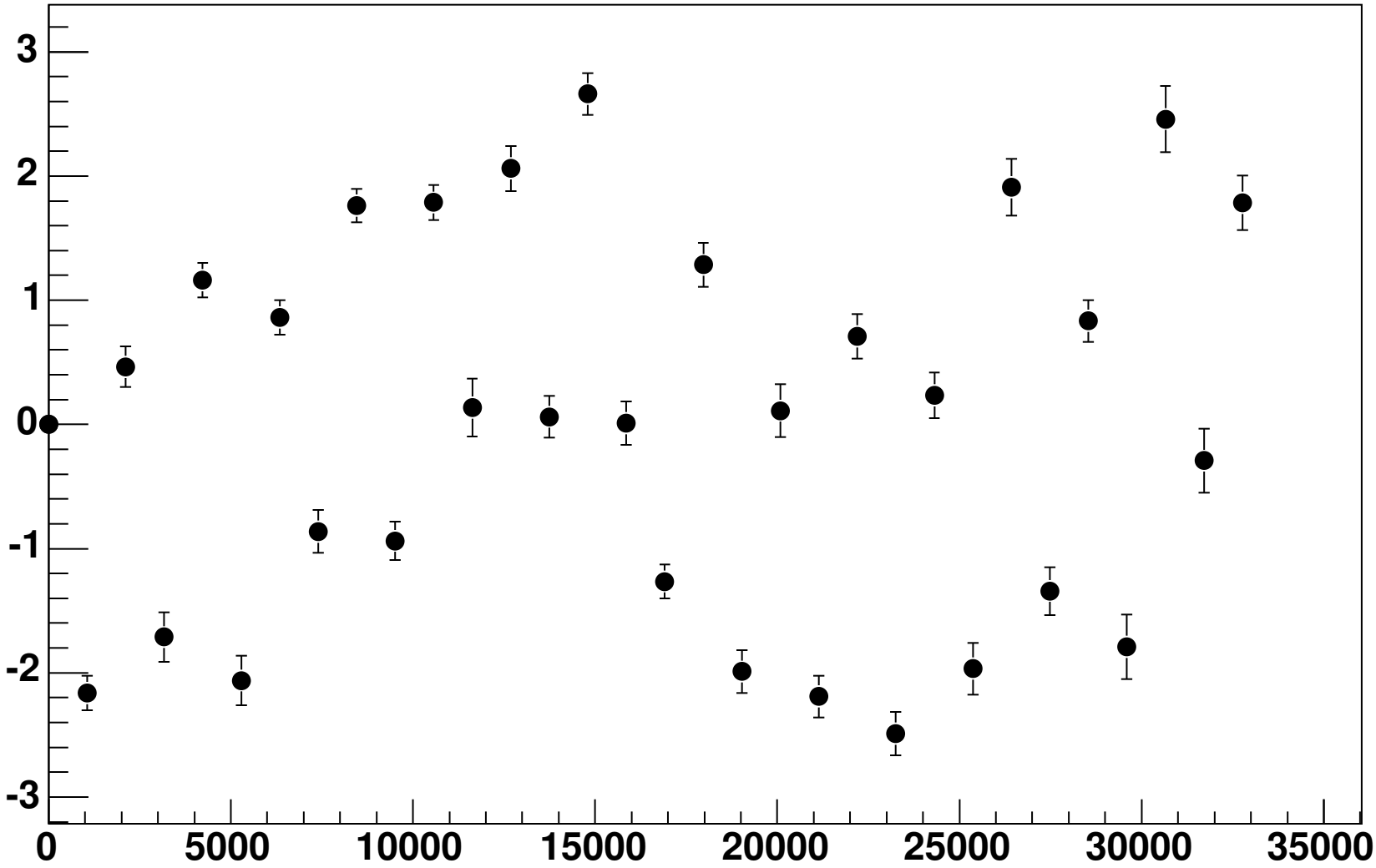

FE7, Chip 6, ADC residuals vs DAC0
0.4
0.3
0.2
0.1
-0
-0.1
-0.2
-0.3
-0.4
0
5000
10000
15000
20000
25000
30000
35000

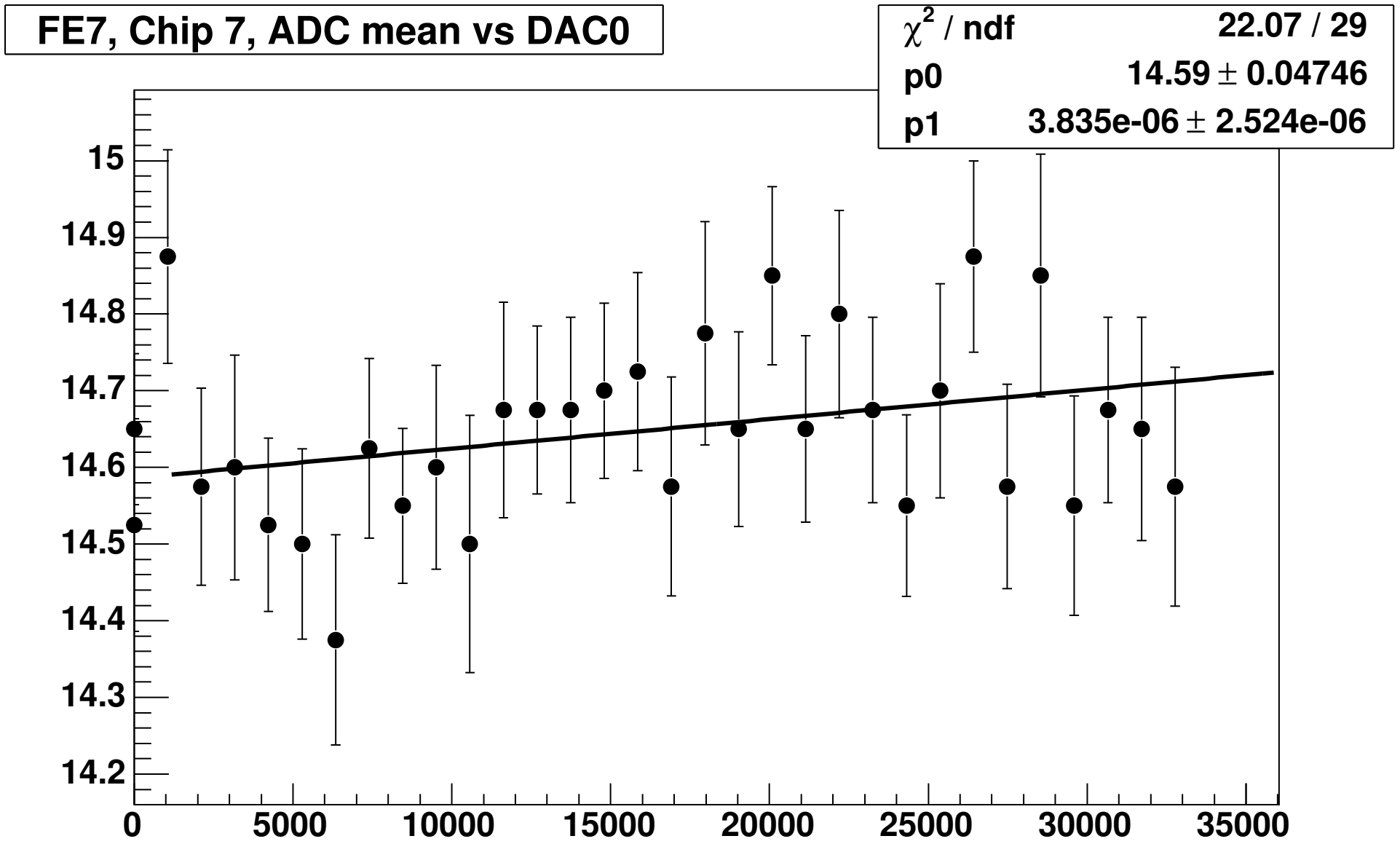

FE7, Chip 6, ADC mean vs DAC1
χ² / ndf 2409 / 29
p0 -126 ± 0.06053
p1 0.4605 ± 3.501e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

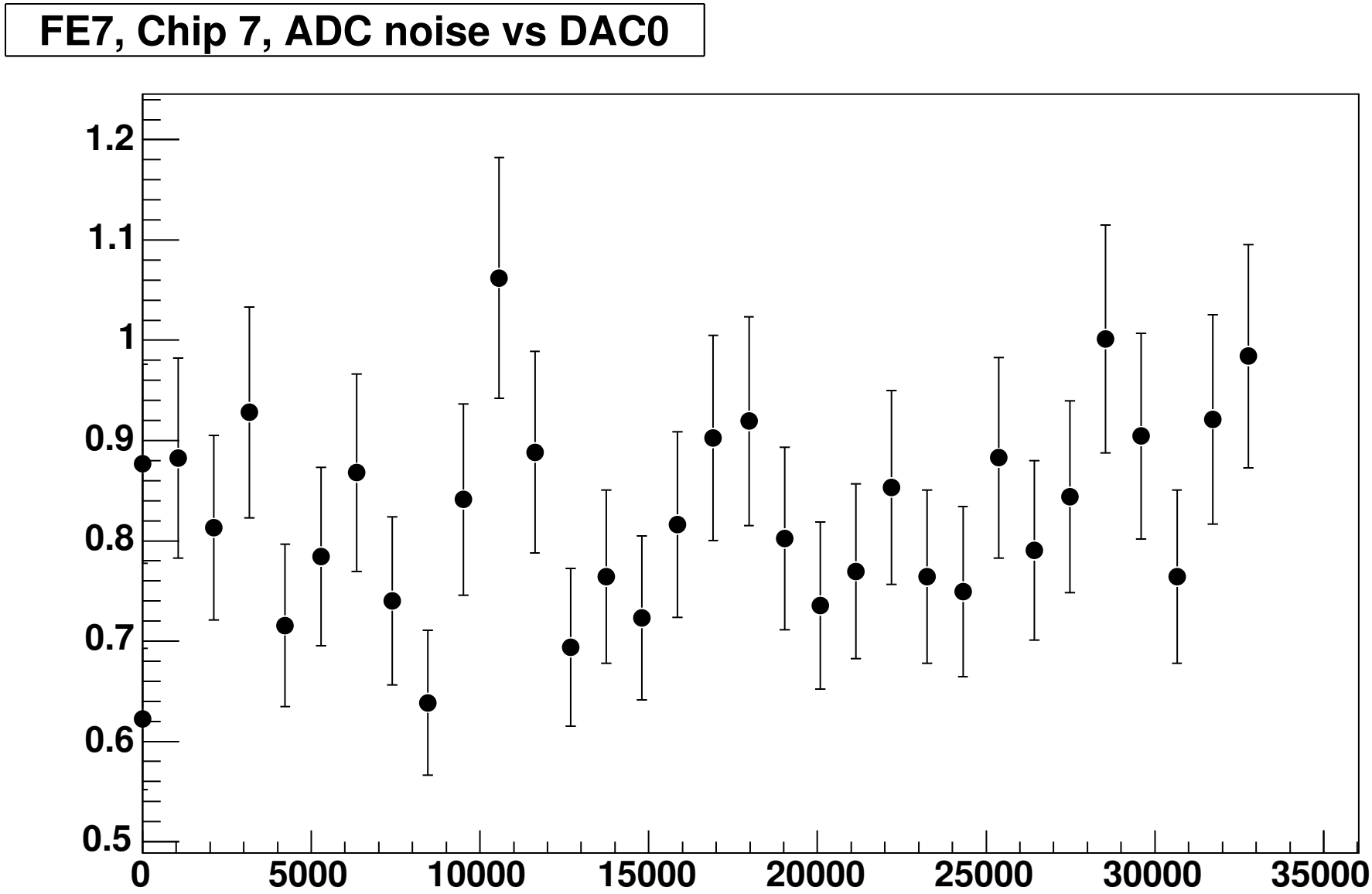
FE7, Chip 6, ADC noise vs DAC1

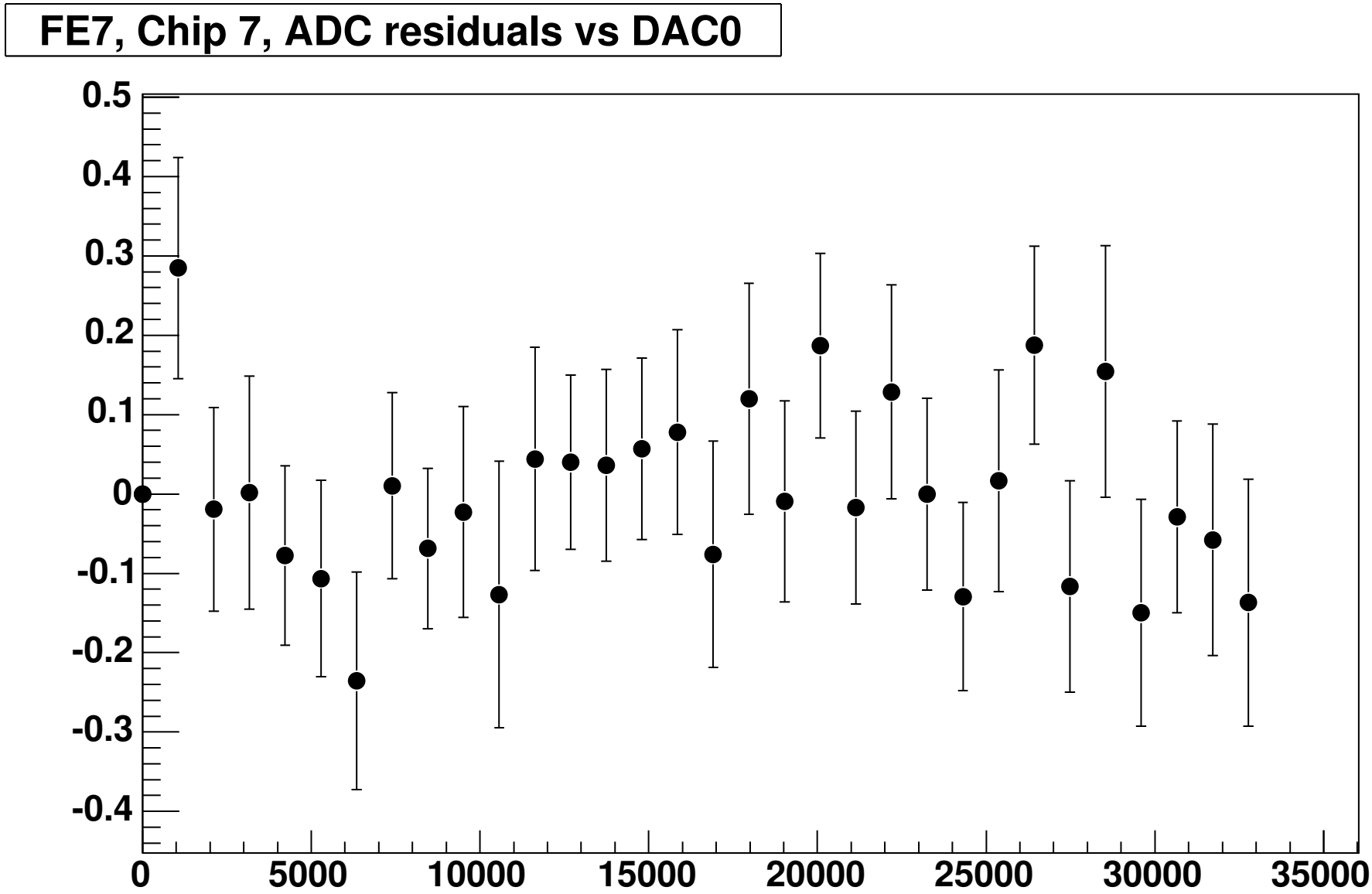


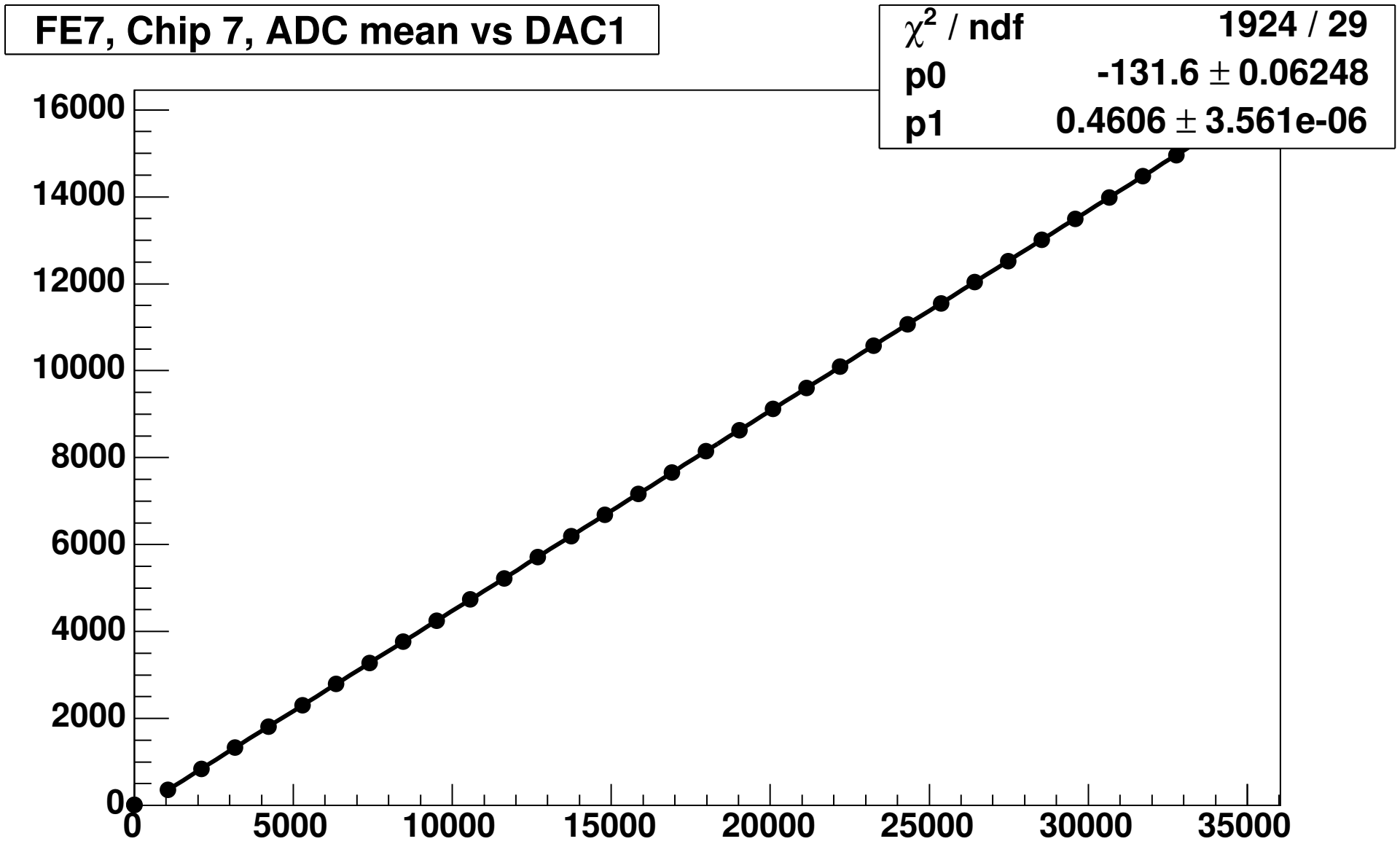
FE7, Chip 6, ADC residuals vs DAC1

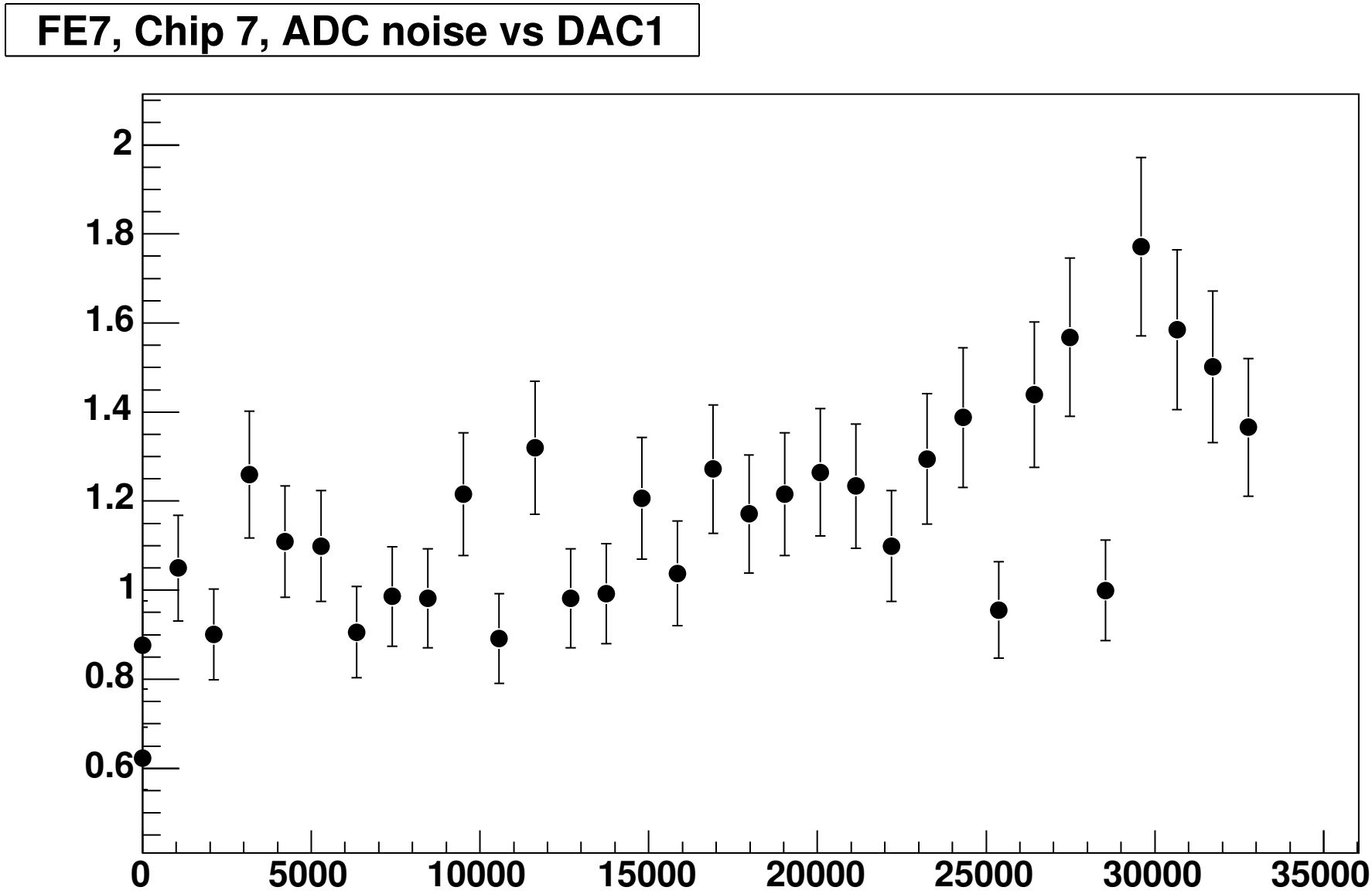



FE7, Chip 7, ADC mean vs DAC0
χ² / ndf 22.07 / 29
p0 14.59 ± 0.04746
p1 3.835e-06 ± 2.524e-06
15
14.9
14.8
14.7
14.6
14.5
14.4
14.3
14.2
0
5000
10000
15000
20000
25000
30000
35000

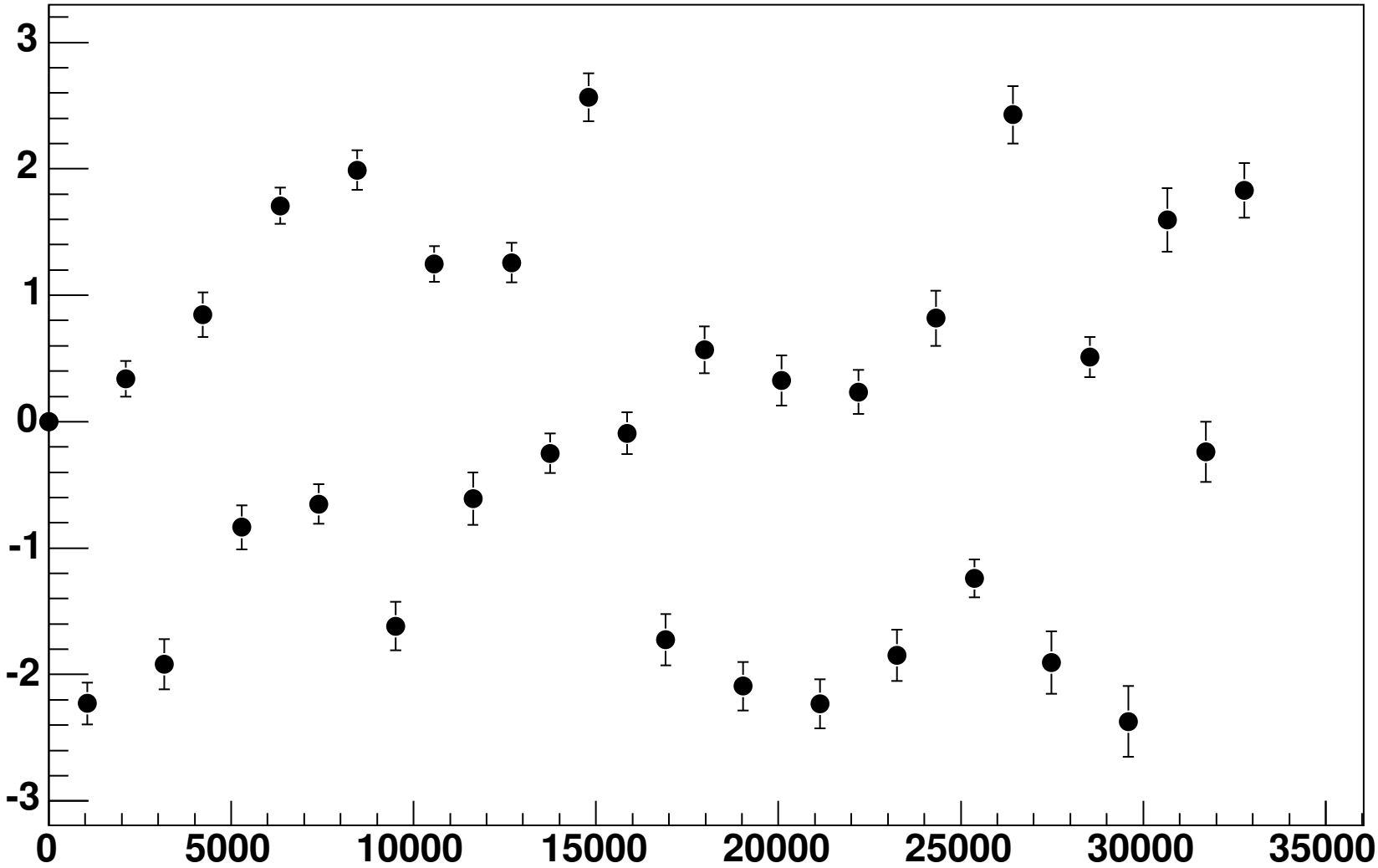

FE7, Chip 7, ADC noise vs DAC0
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0
5000
10000
15000
20000
25000
30000
35000

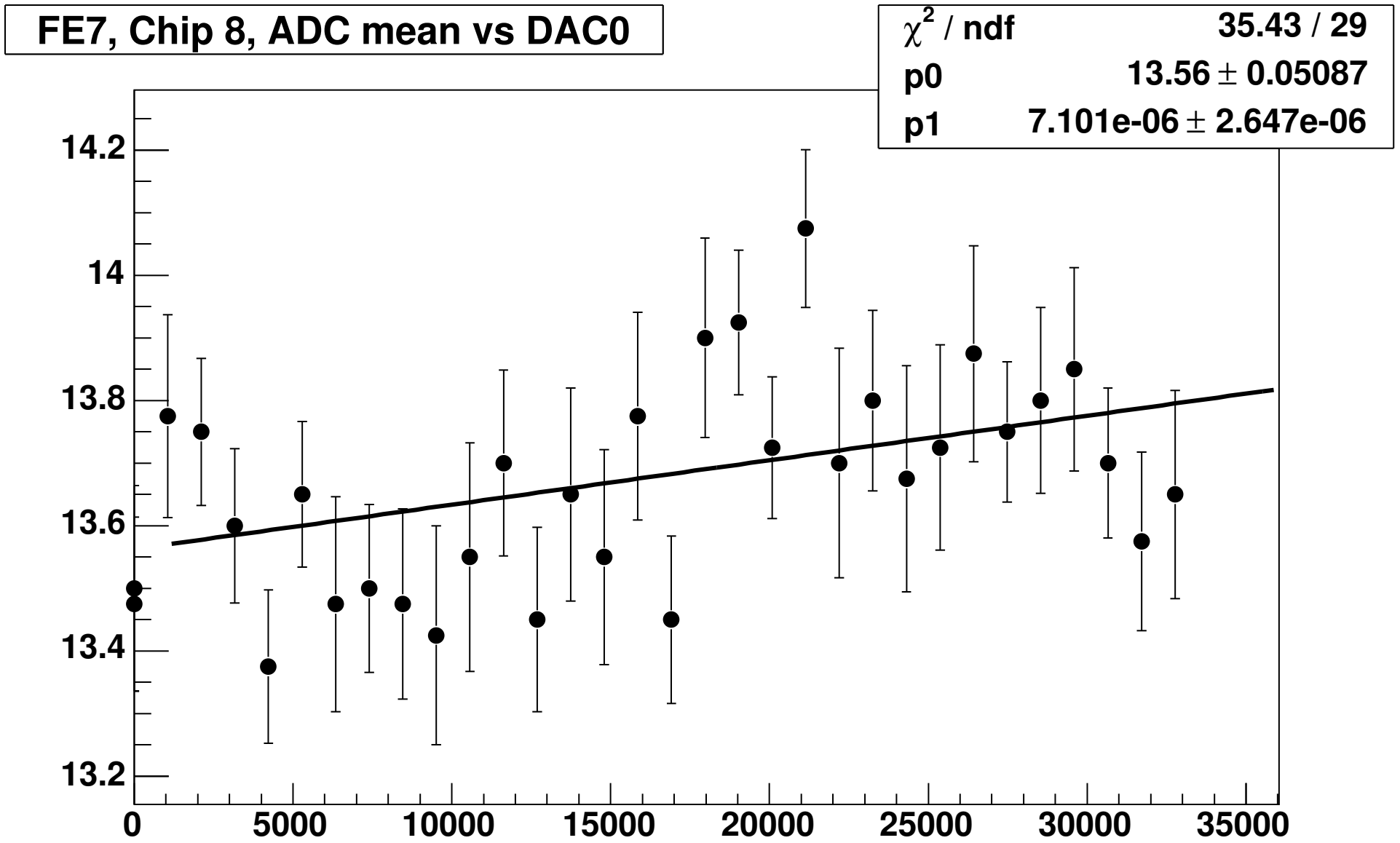

FE7, Chip 7, ADC residuals vs DAC0
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
0
5000
10000
15000
20000
25000
30000
35000

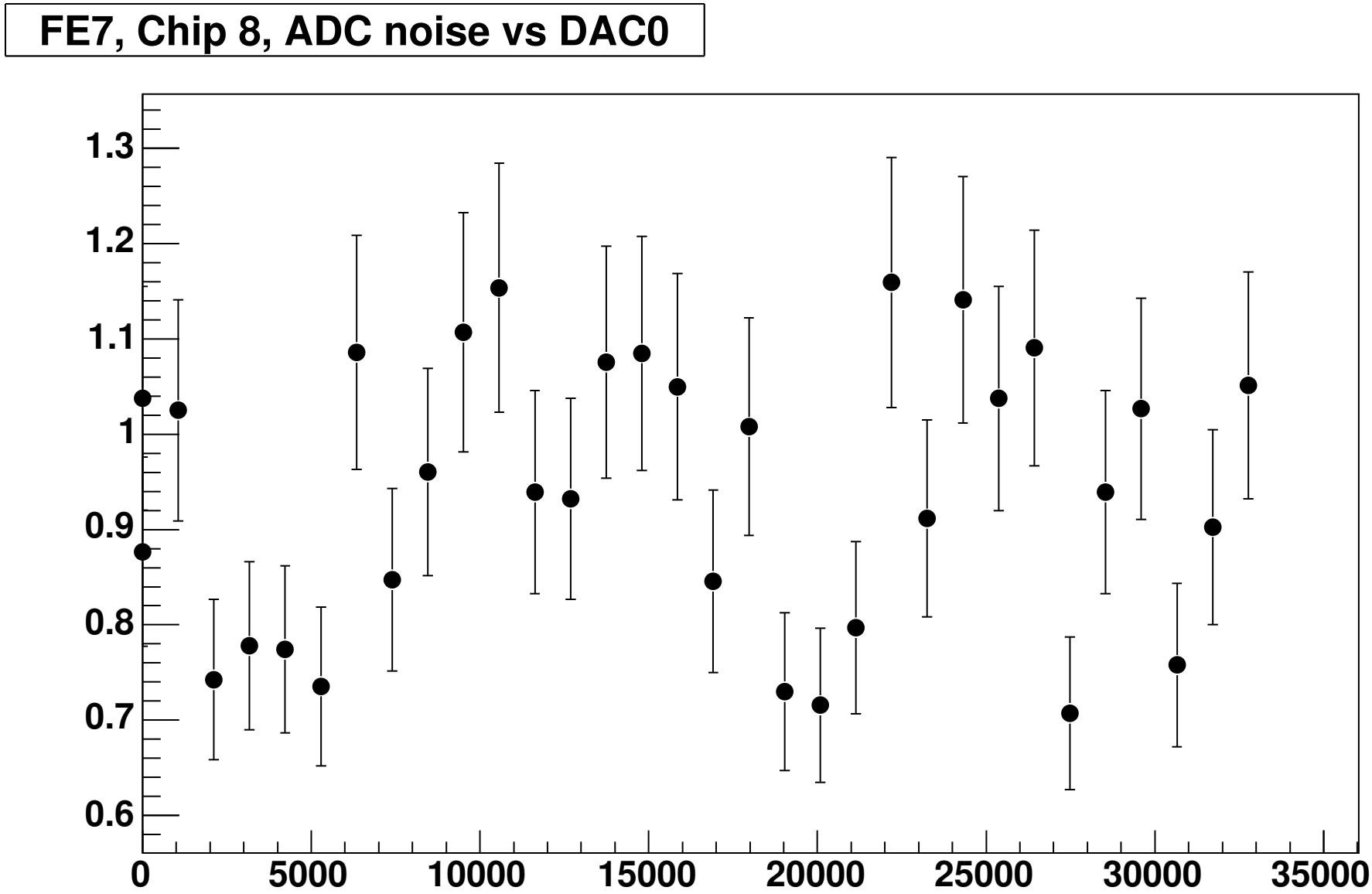

FE7, Chip 7, ADC mean vs DAC1
χ² / ndf 1924 / 29
p0 -131.6 ± 0.06248
p1 0.4606 ± 3.561e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

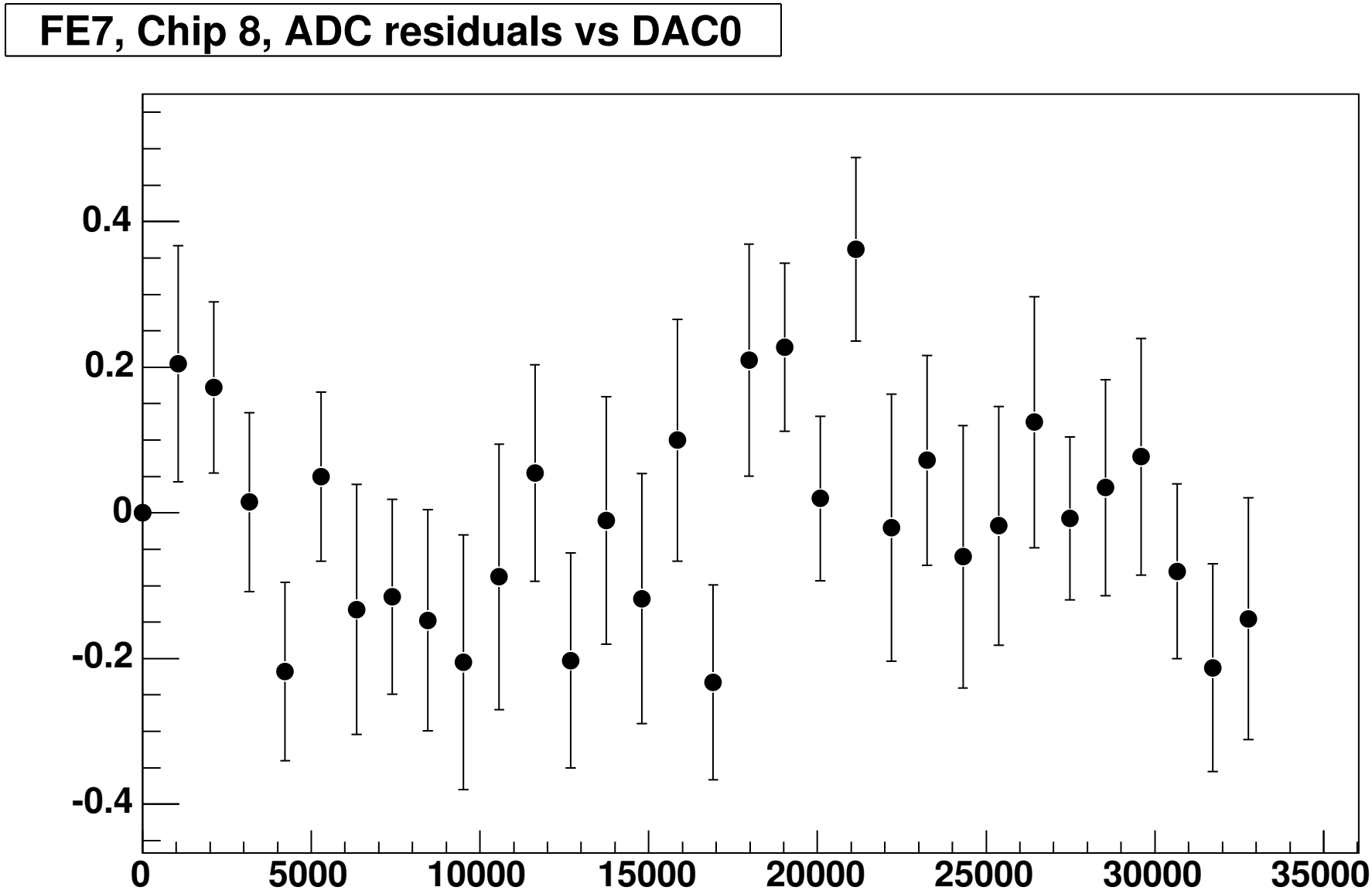

FE7, Chip 7, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000

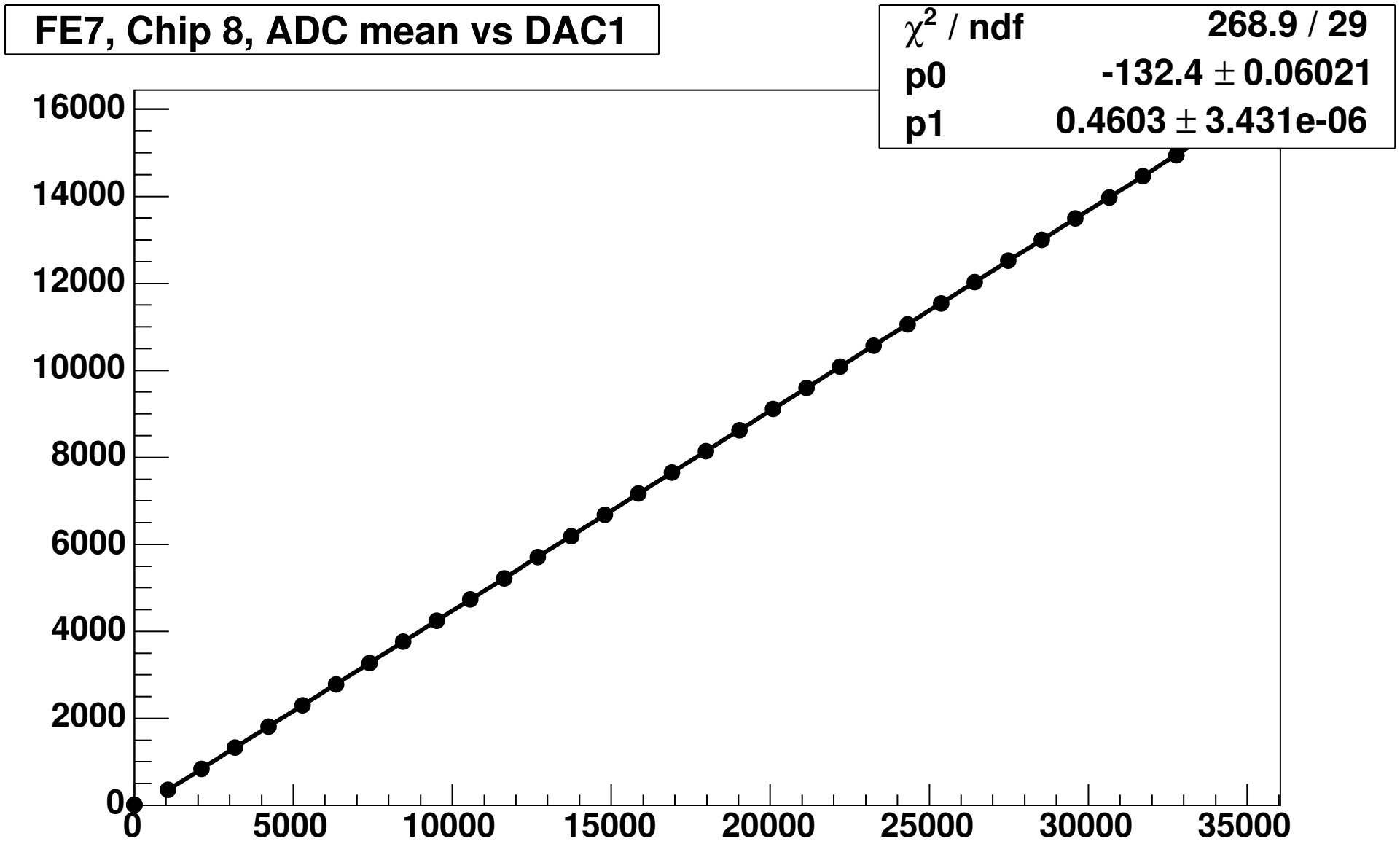
FE7, Chip 7, ADC residuals vs DAC1

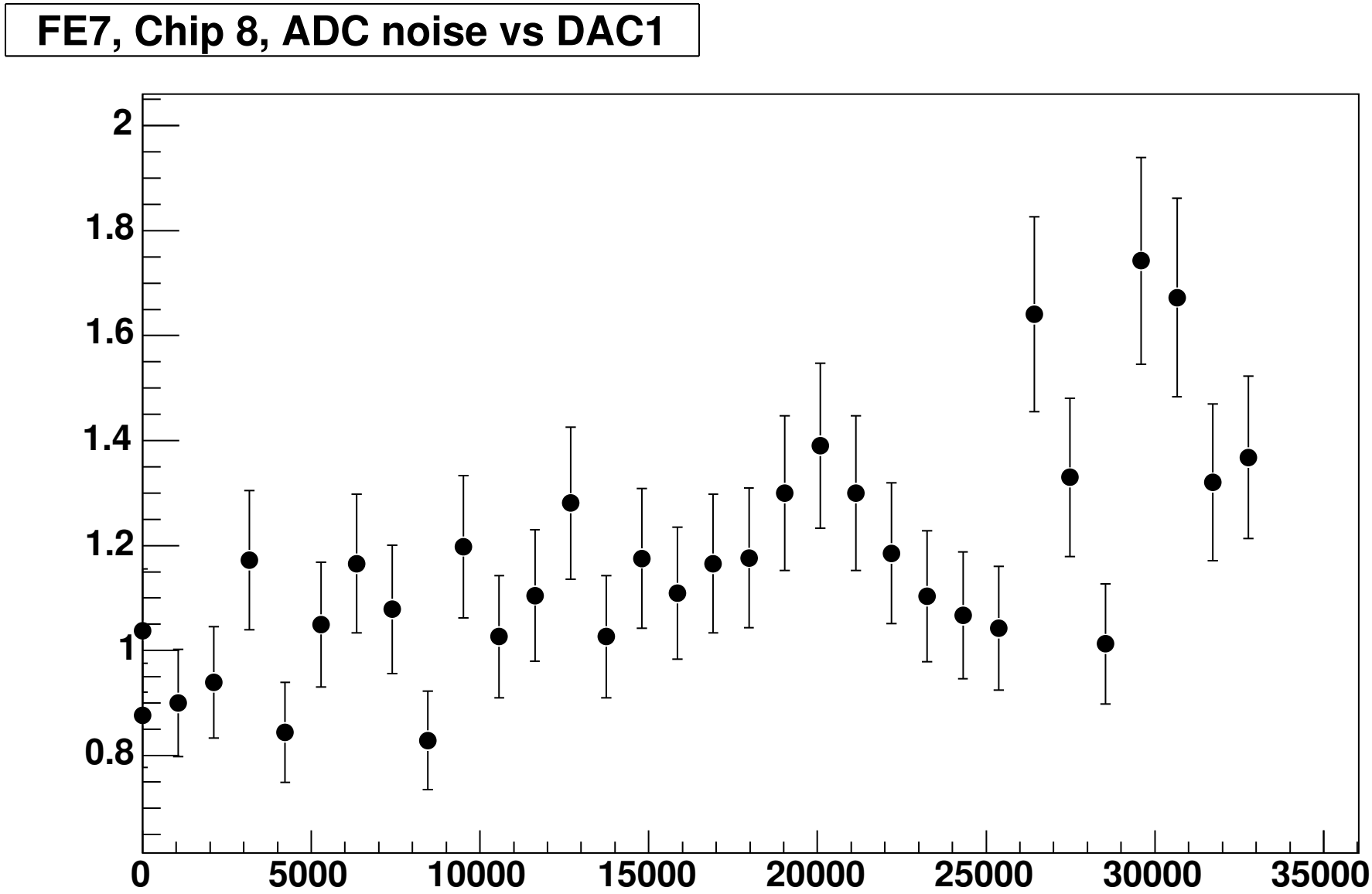


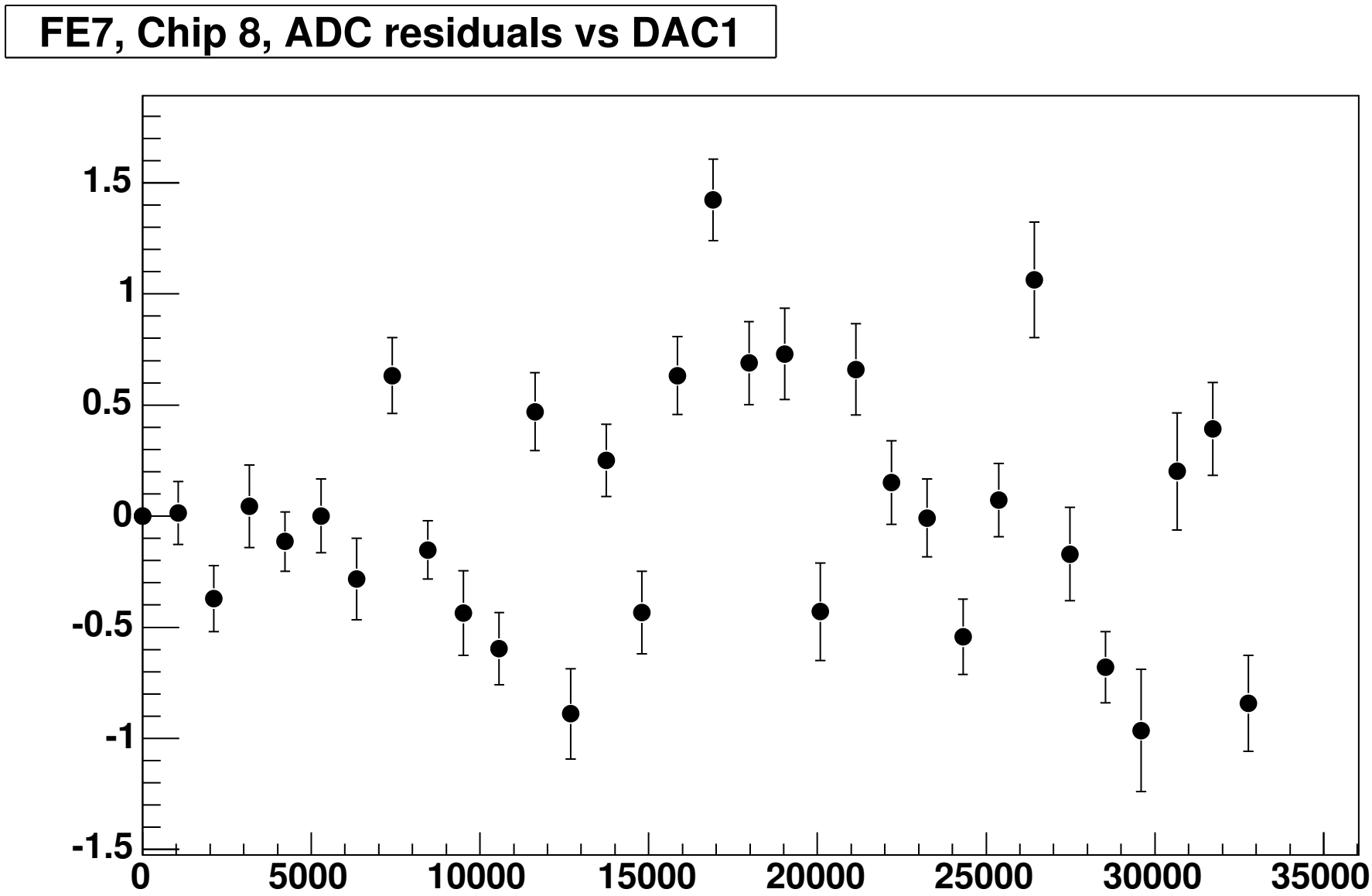

FE7, Chip 8, ADC mean vs DAC0
χ² / ndf 35.43 / 29
p0 13.56 ± 0.05087
p1 7.101e-06 ± 2.647e-06
14.2
14
13.8
13.6
13.4
13.2
0
5000
10000
15000
20000
25000
30000
35000

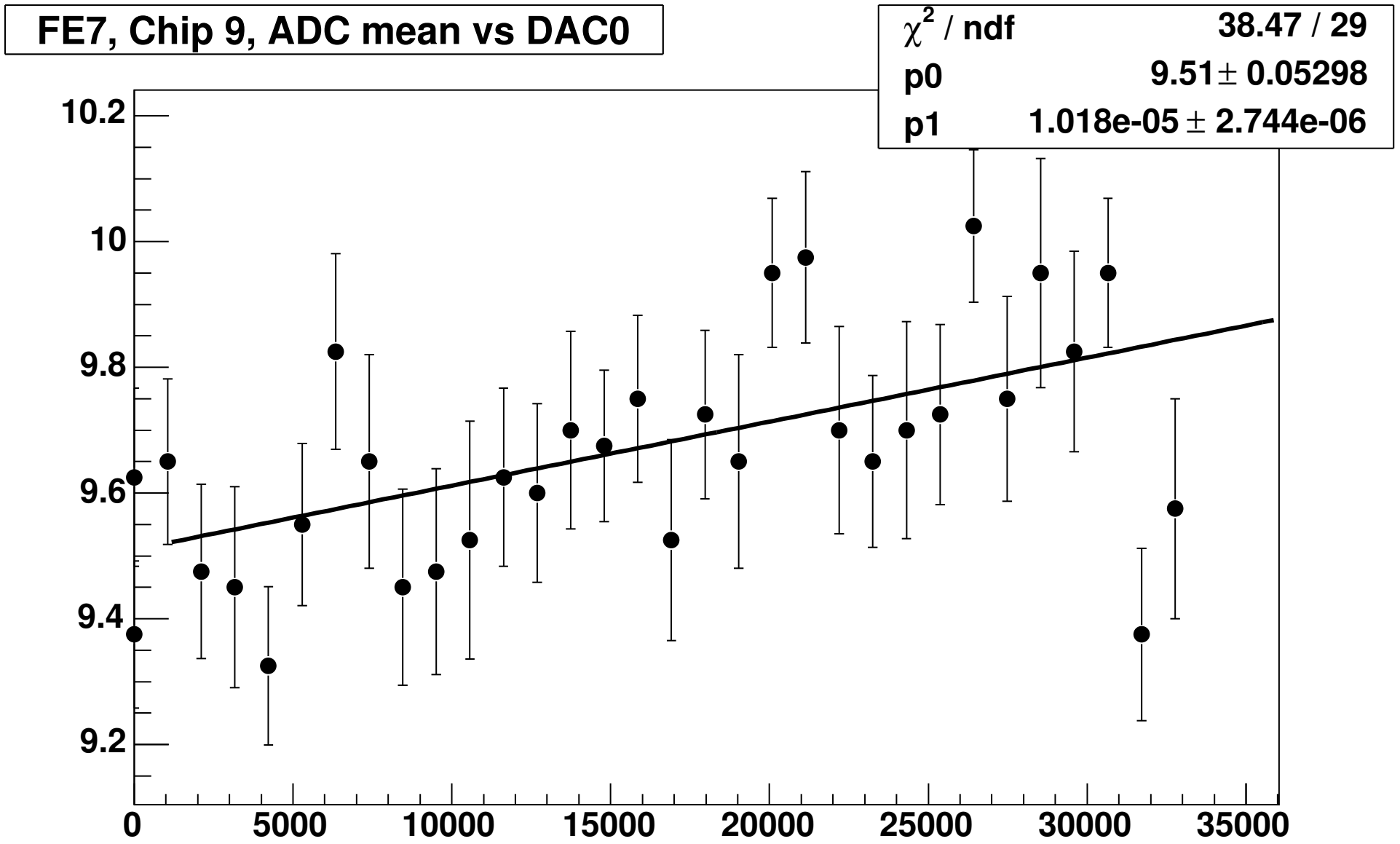

FE7, Chip 8, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

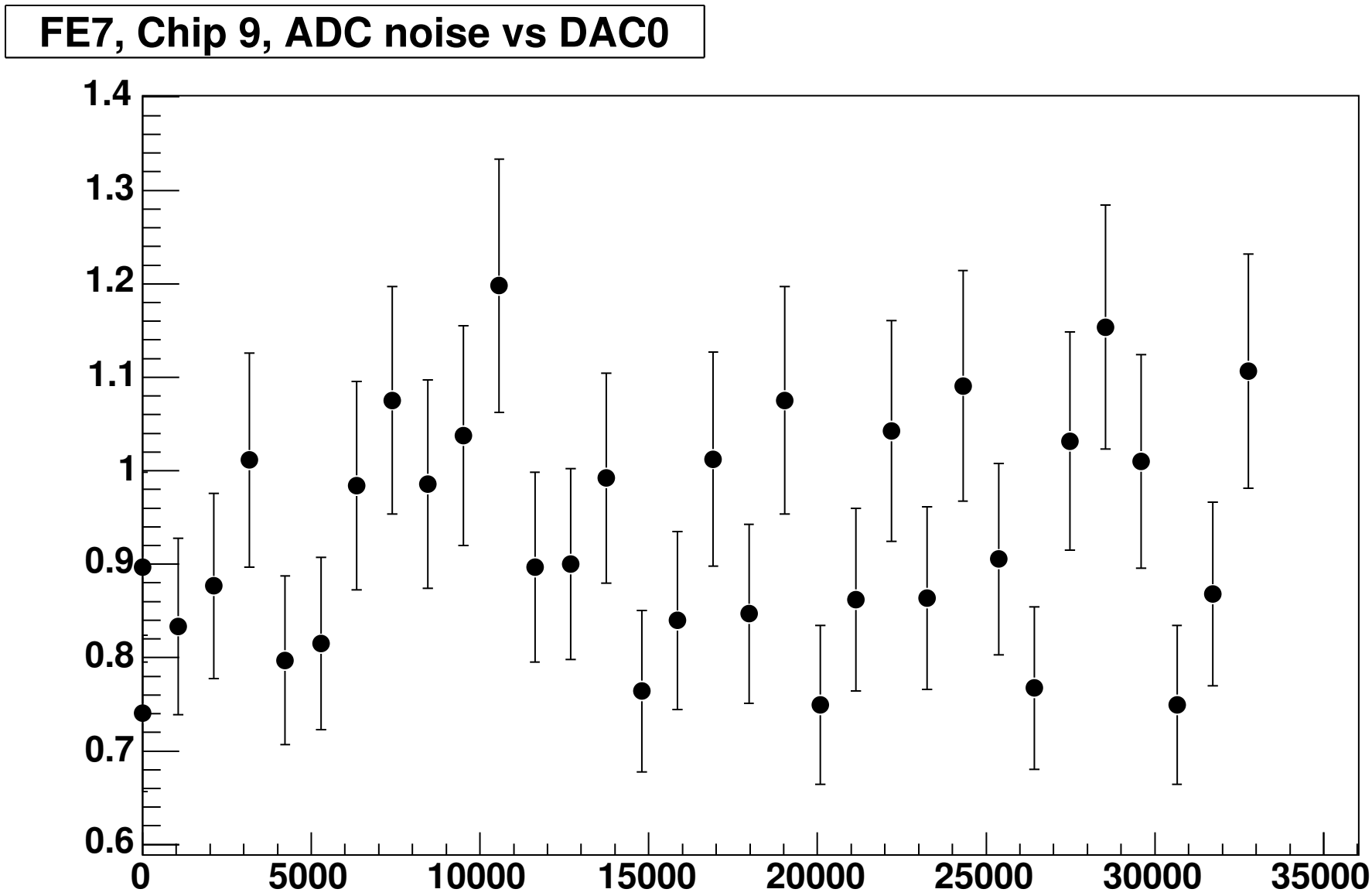

FE7, Chip 8, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

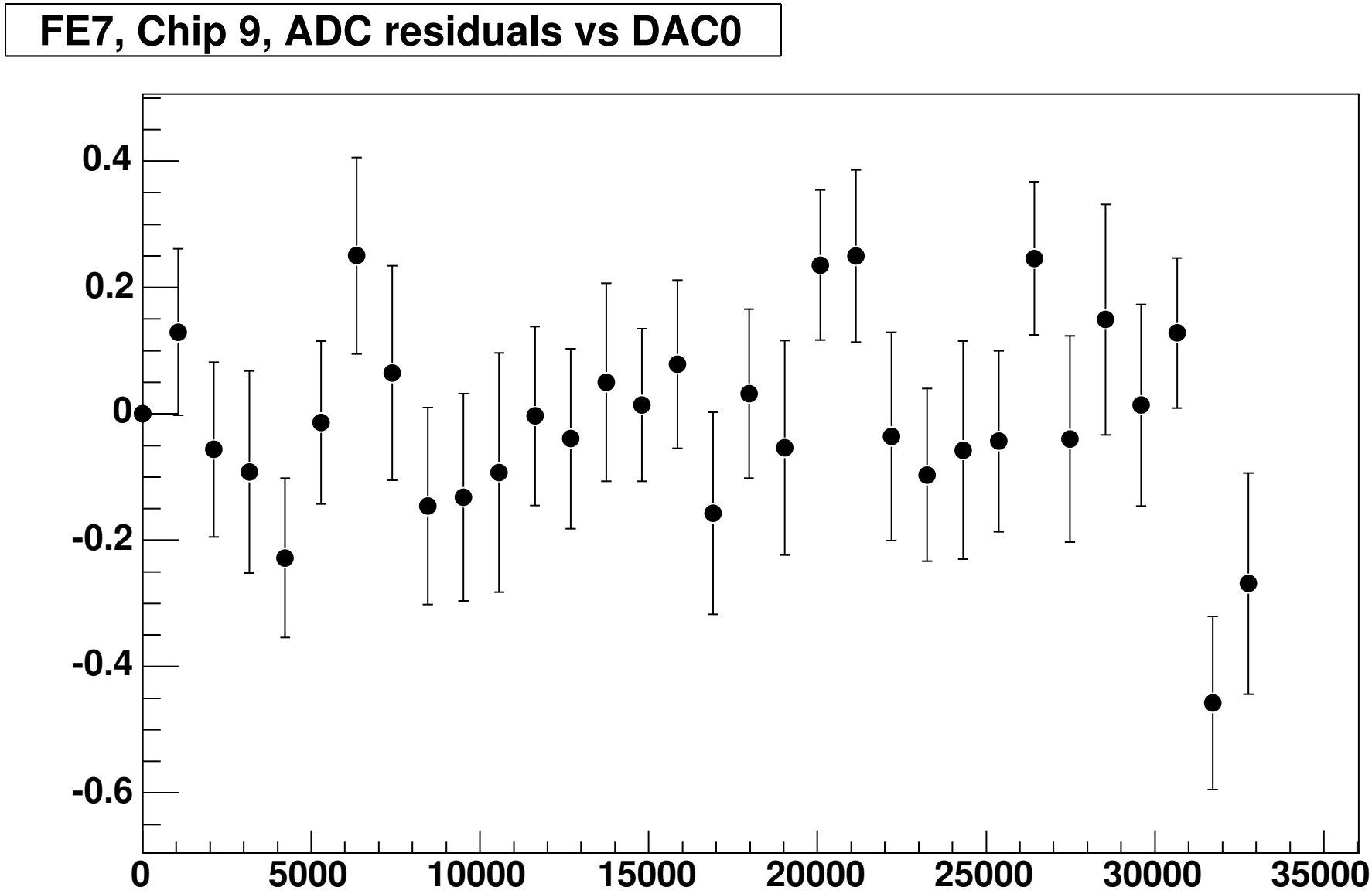

FE7, Chip 8, ADC mean vs DAC1
χ² / ndf 268.9 / 29
p0 -132.4 ± 0.06021
p1 0.4603 ± 3.431e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

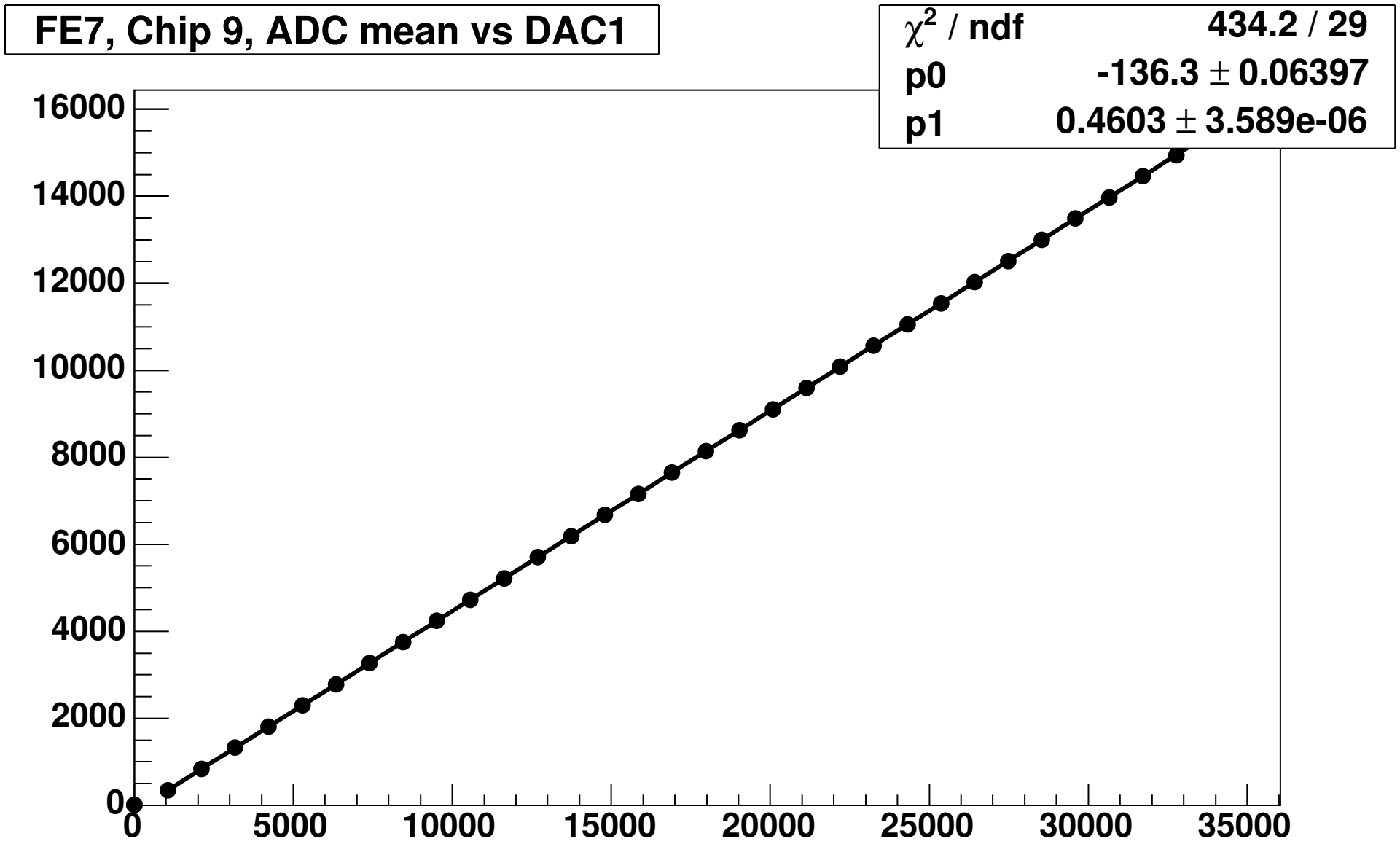

FE7, Chip 8, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000


FE7, Chip 8, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

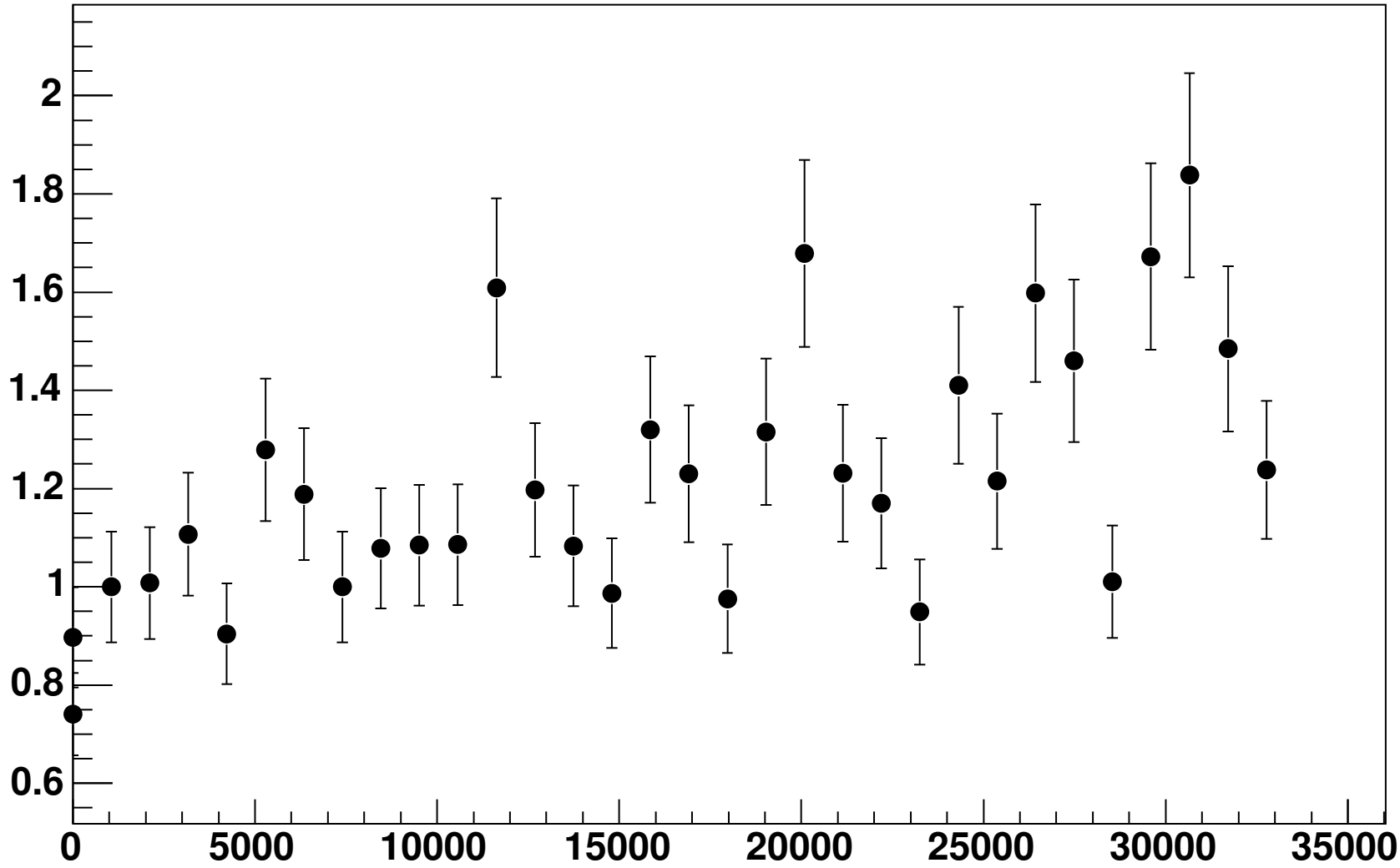

FE7, Chip 9, ADC mean vs DAC0
χ² / ndf 38.47 / 29
p0 9.51 ± 0.05298
p1 1.018e-05 ± 2.744e-06
10.2
10
9.8
9.6
9.4
9.2
0
5000
10000
15000
20000
25000
30000
35000

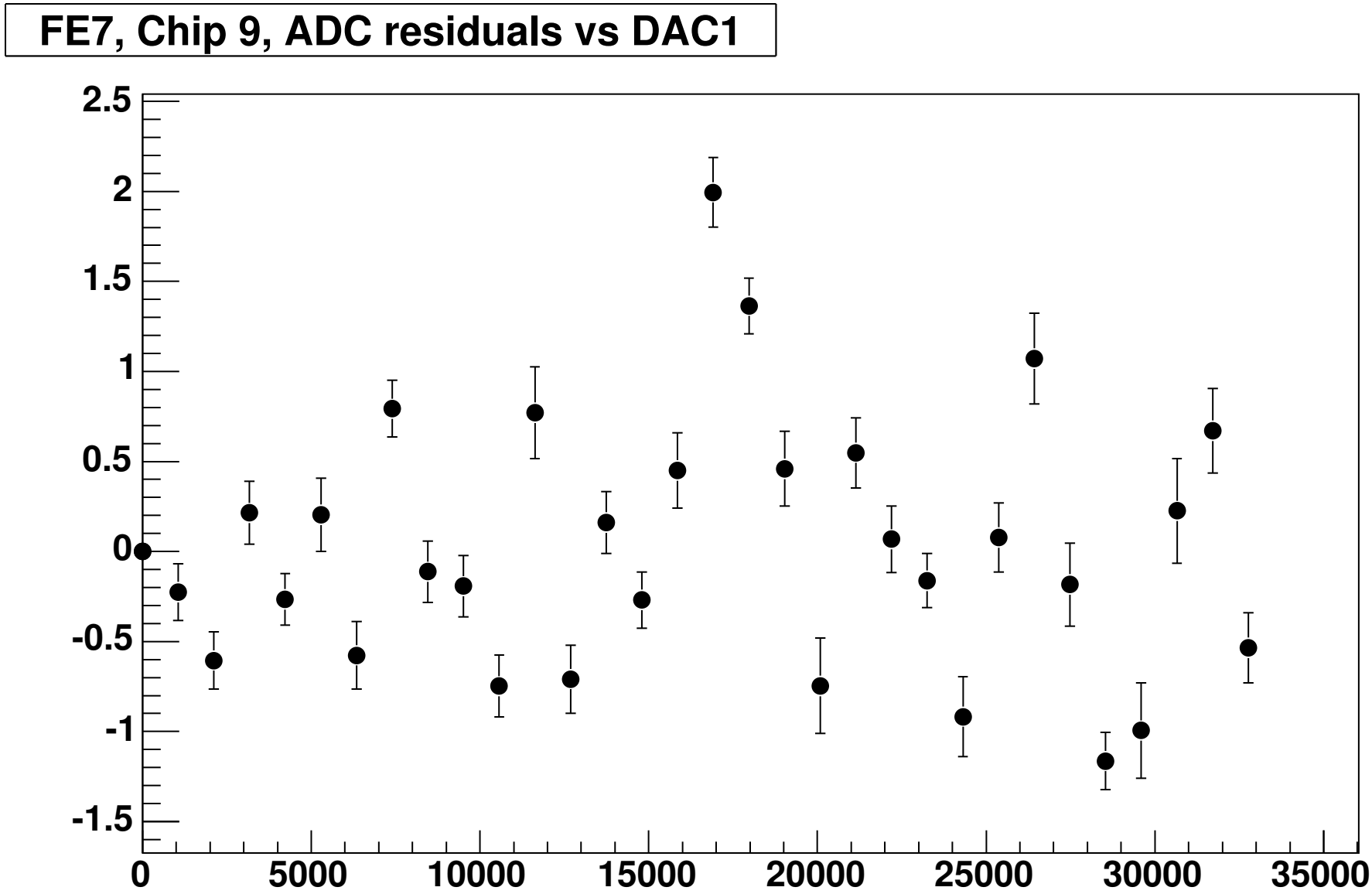

FE7, Chip 9, ADC noise vs DAC0
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

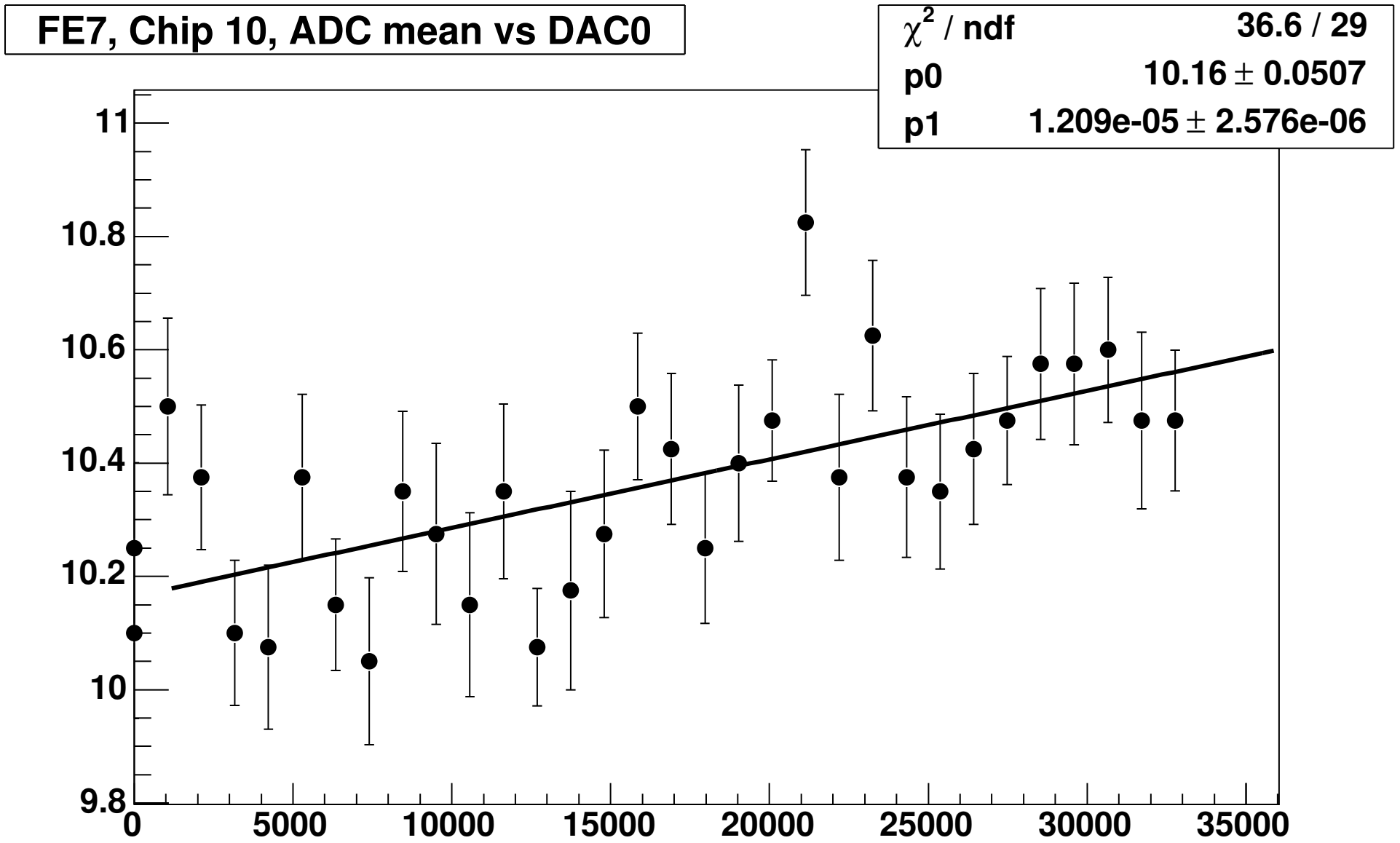

FE7, Chip 9, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
-0.6
0
5000
10000
15000
20000
25000
30000
35000

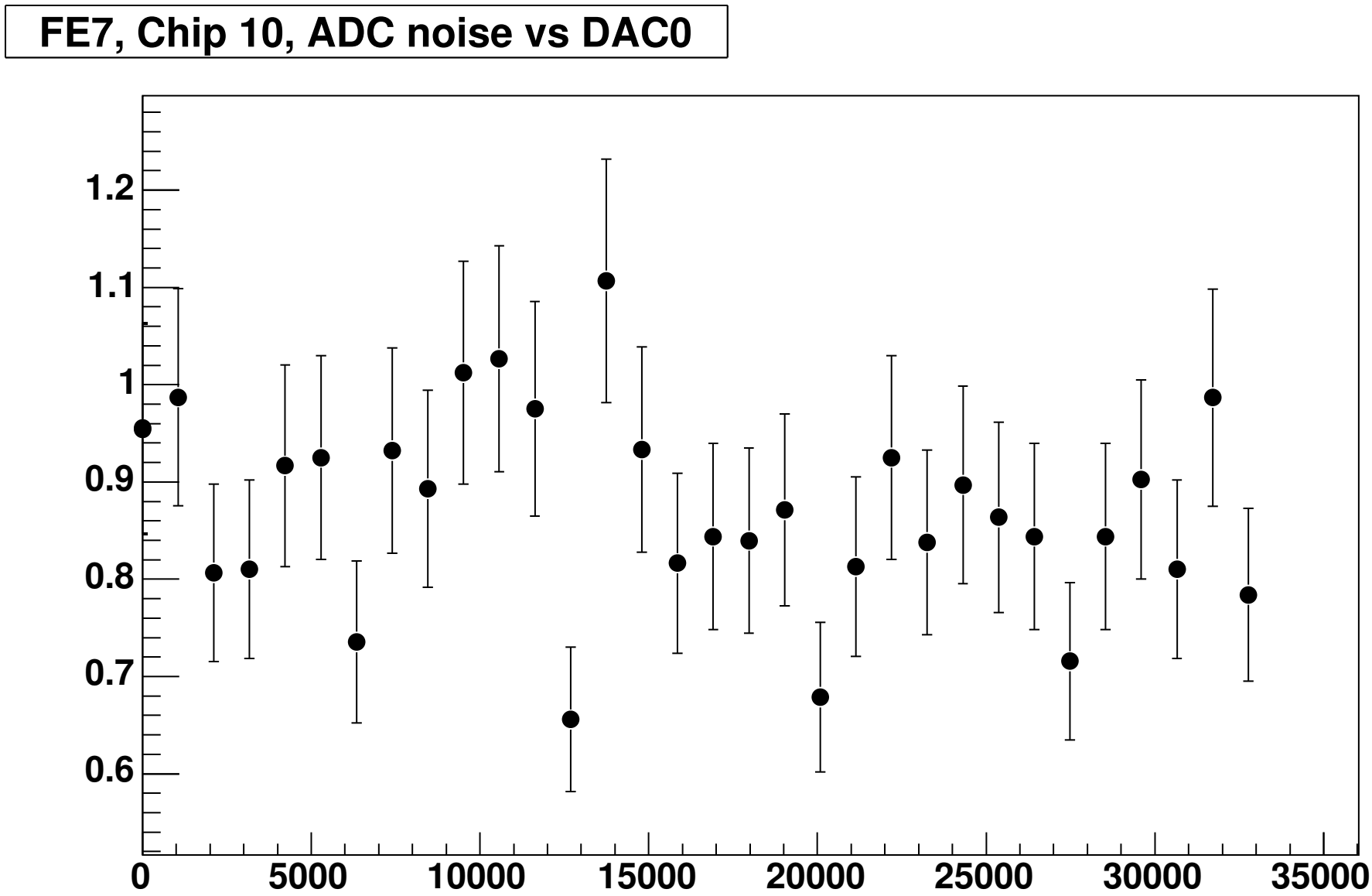

FE7, Chip 9, ADC mean vs DAC1
χ² / ndf 434.2 / 29
p0 -136.3 ± 0.06397
p1 0.4603 ± 3.589e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

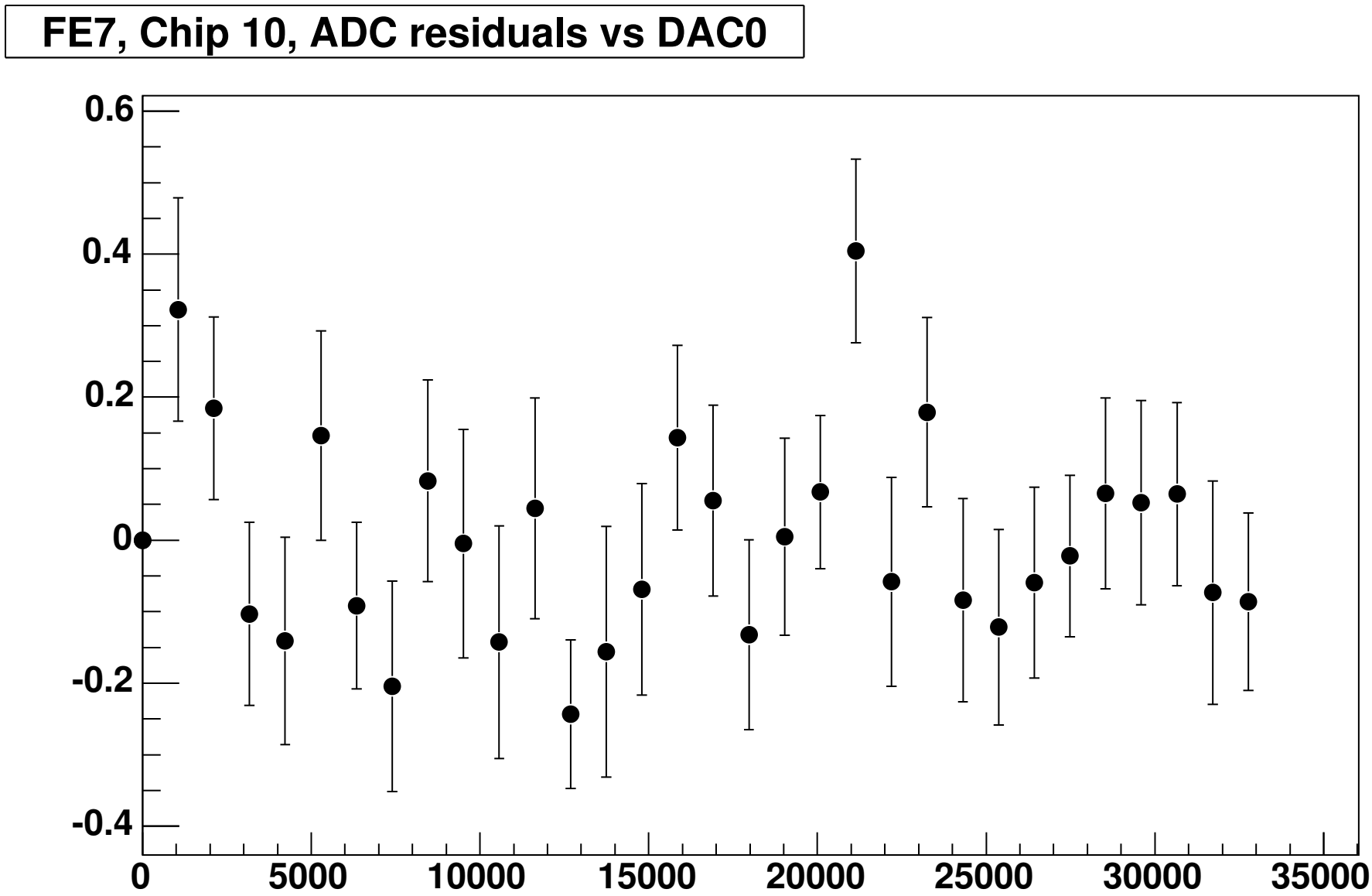
FE7, Chip 9, ADC noise vs DAC1

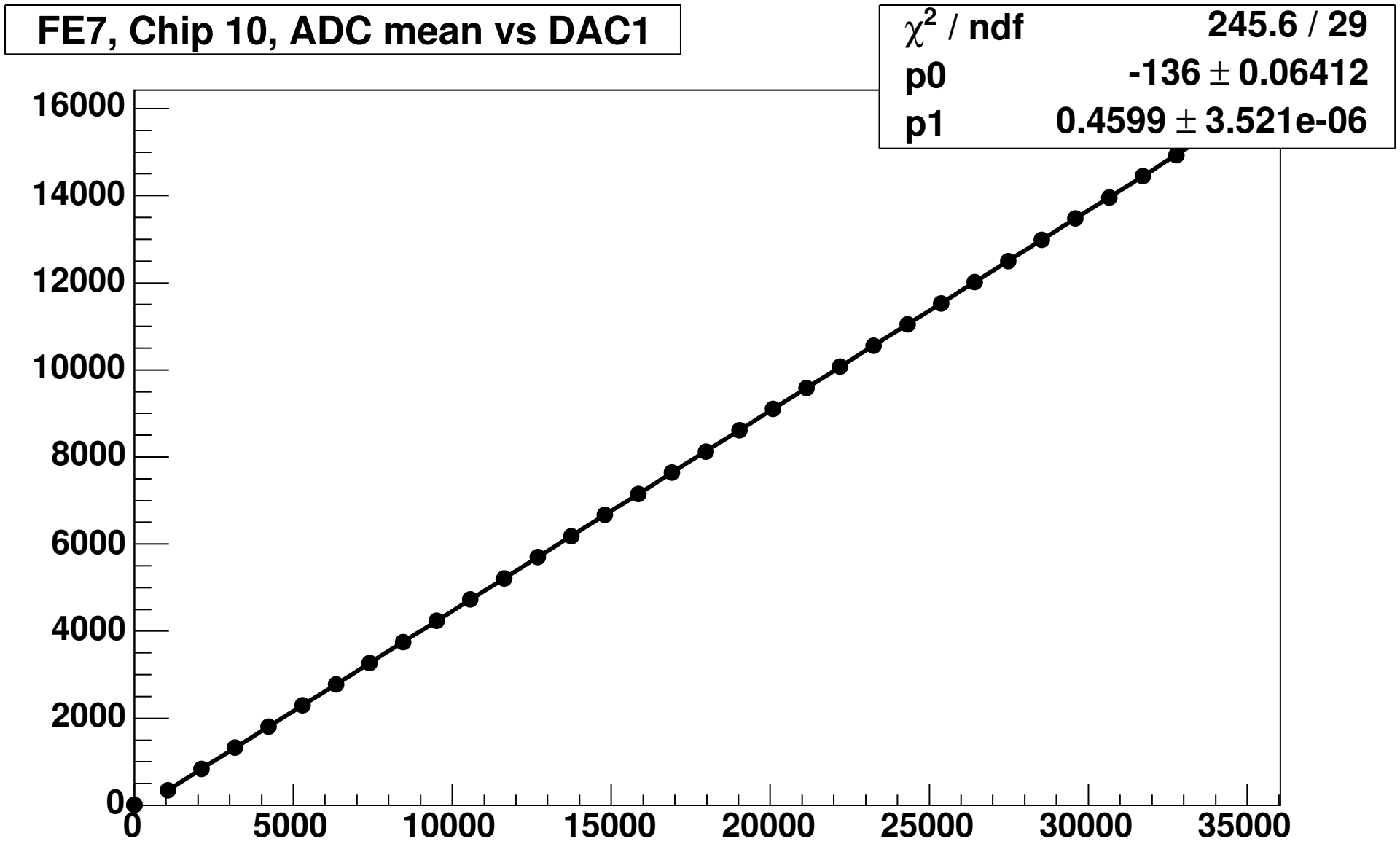


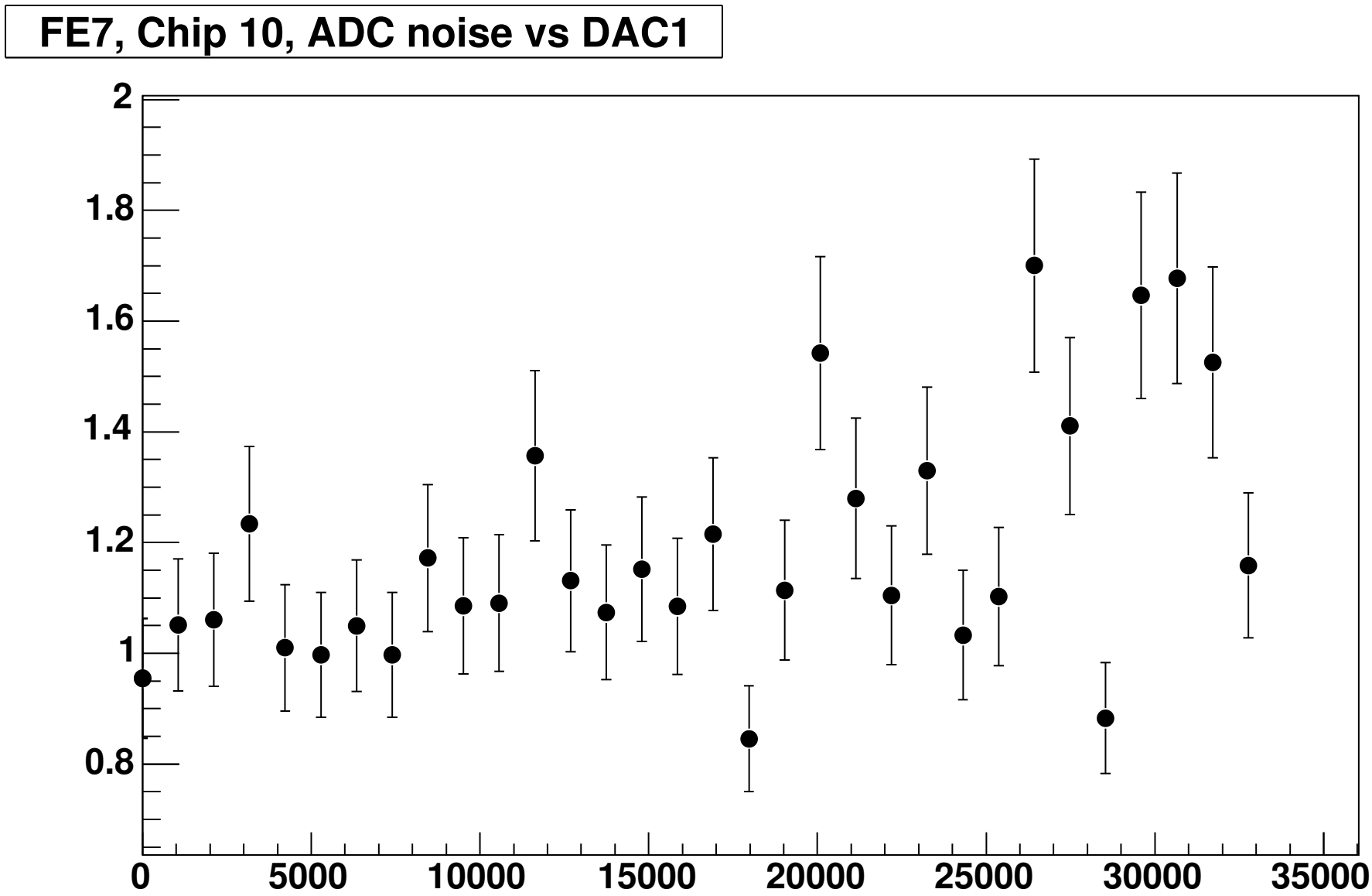

FE7, Chip 9, ADC residuals vs DAC1
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

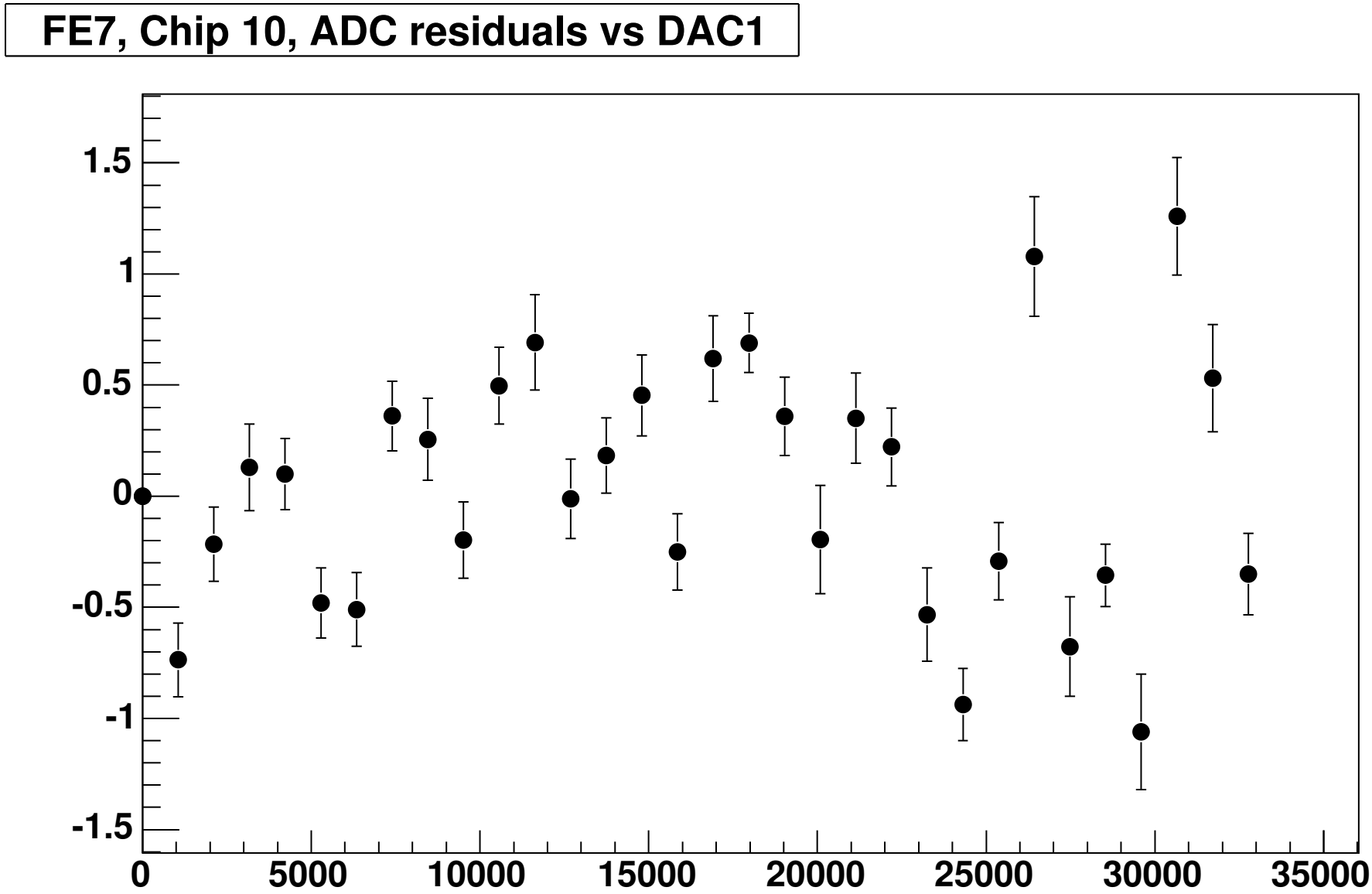

FE7, Chip 10, ADC mean vs DAC0
χ² / ndf 36.6 / 29
p0 10.16 ± 0.0507
p1 1.209e-05 ± 2.576e-06
11
10.8
10.6
10.4
10.2
10
9.8
0
5000
10000
15000
20000
25000
30000
35000

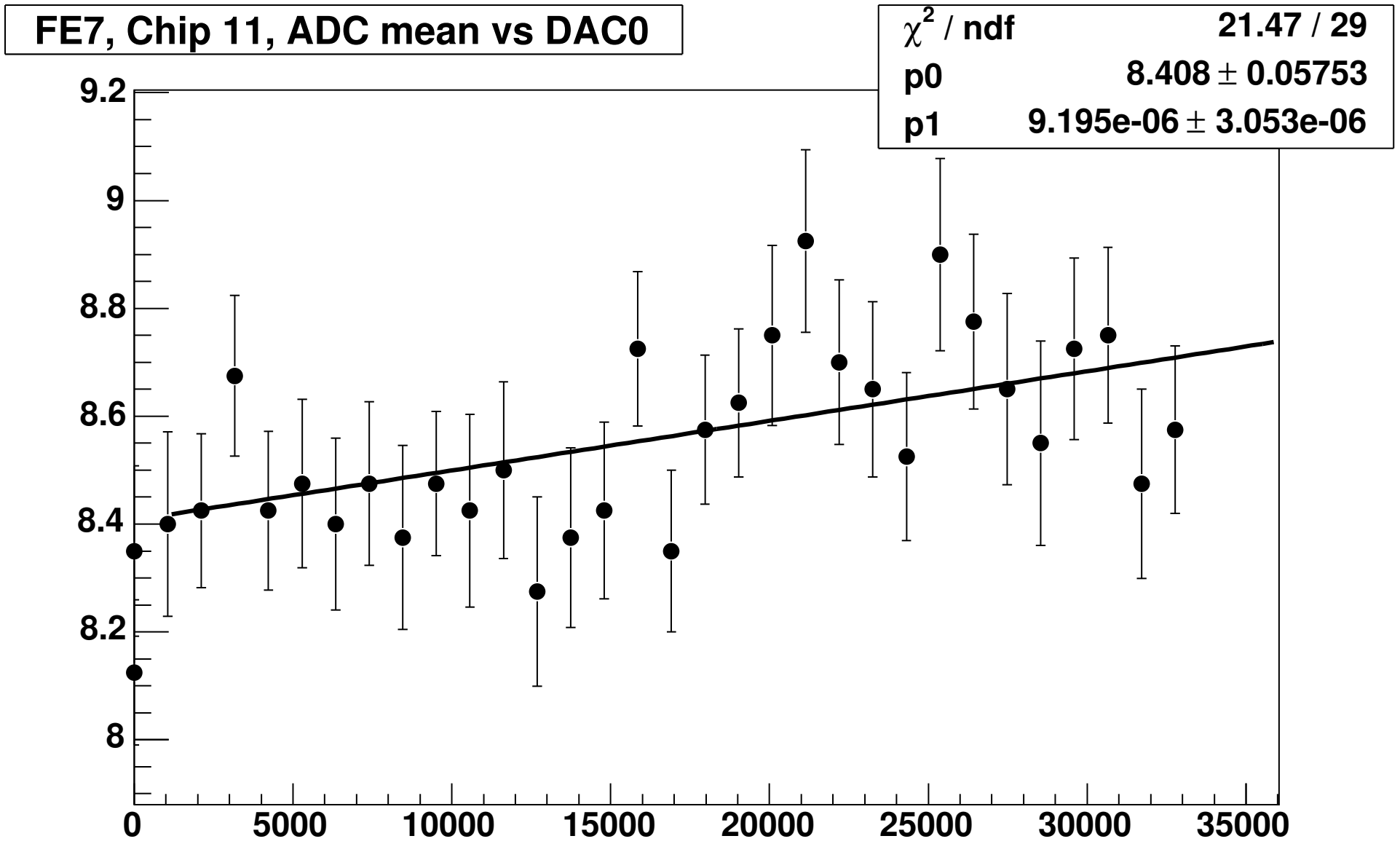

FE7, Chip 10, ADC noise vs DAC0
1.2
1.1
1
0.9
0.8
0.7
0.6
0
5000
10000
15000
20000
25000
30000
35000

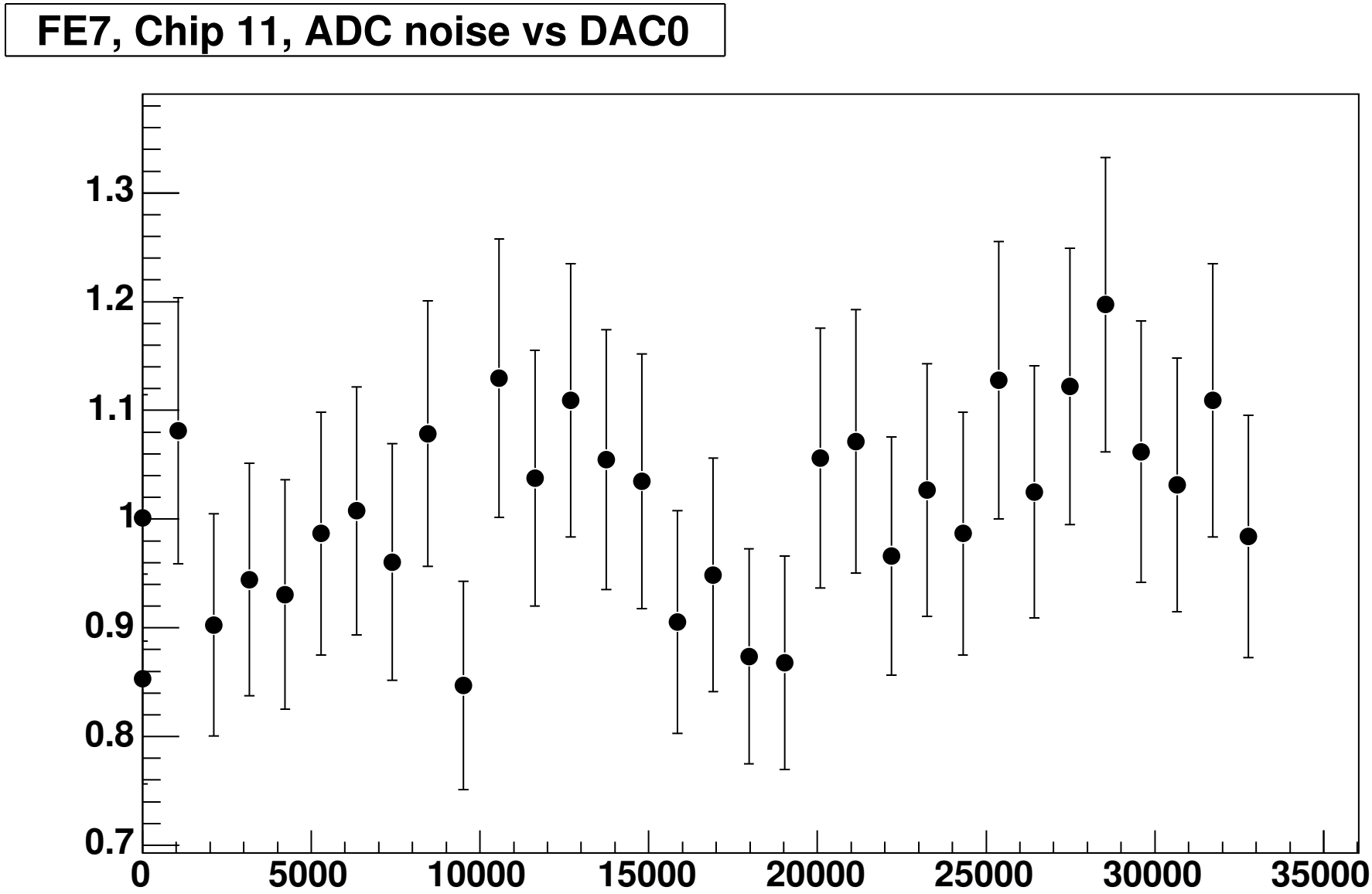

FE7, Chip 10, ADC residuals vs DAC0
0.6
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000

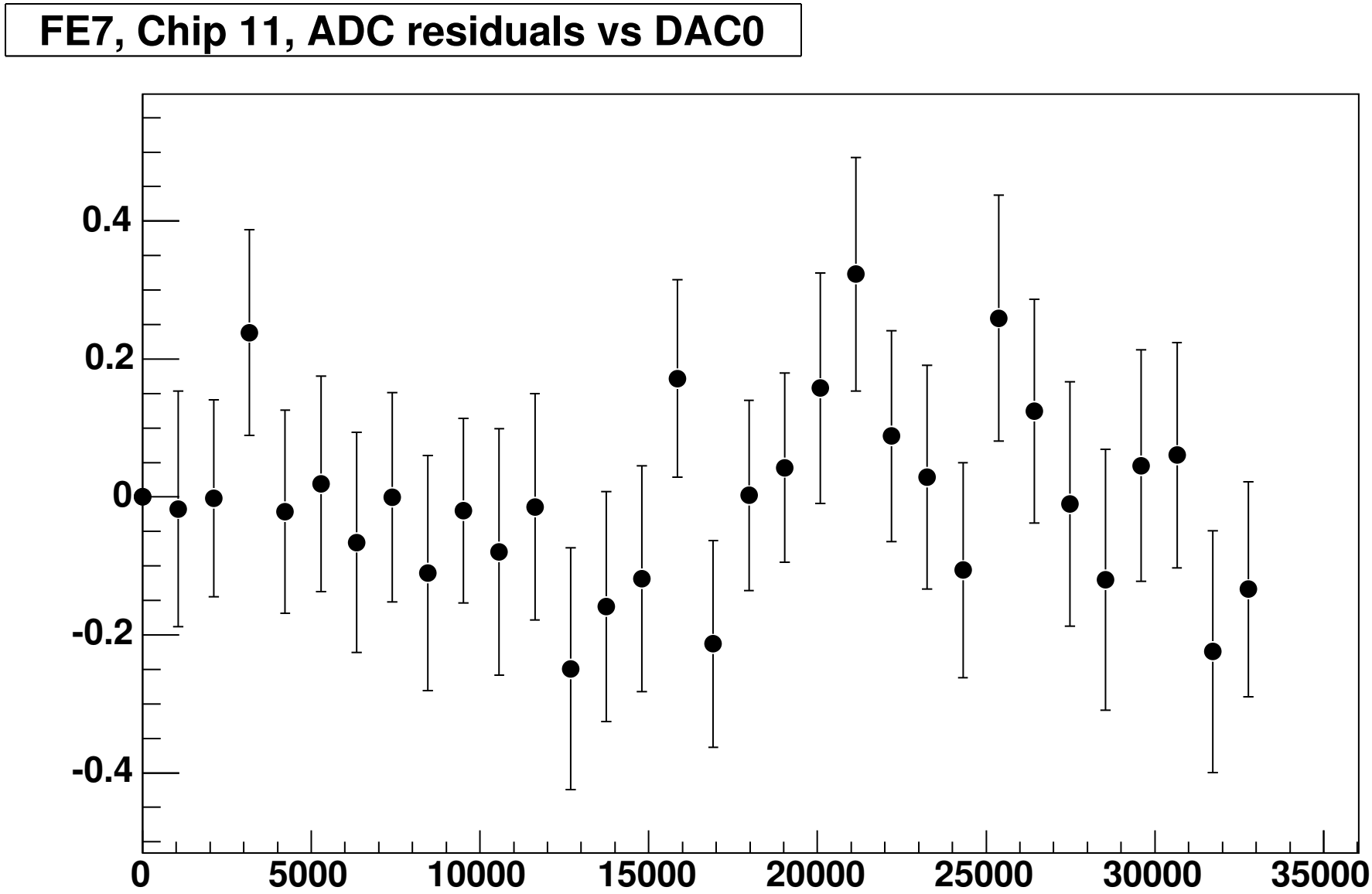

FE7, Chip 10, ADC mean vs DAC1
χ² / ndf 245.6 / 29
p0 -136 ± 0.06412
p1 0.4599 ± 3.521e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000

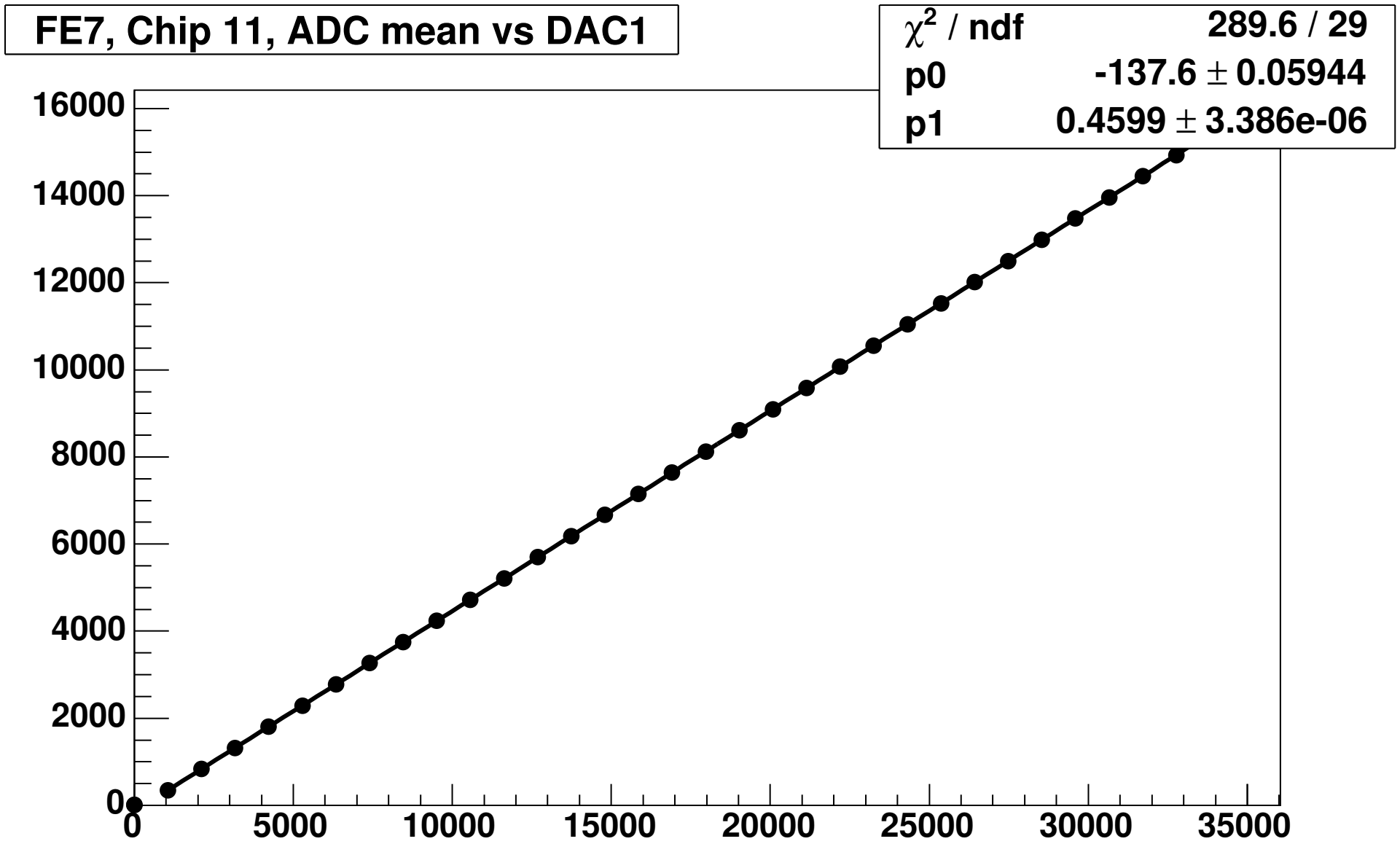

FE7, Chip 10, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0
5000
10000
15000
20000
25000
30000
35000

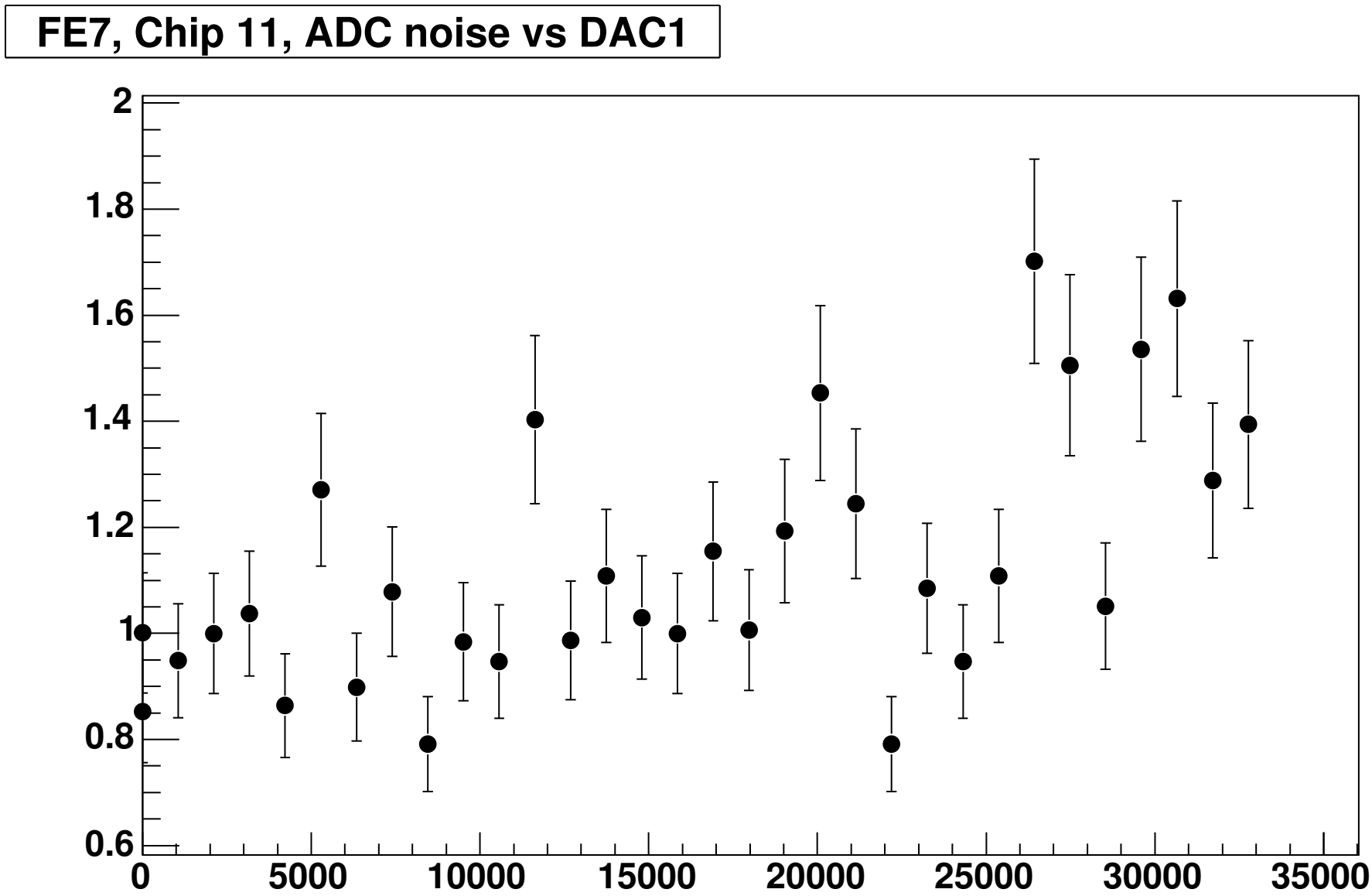

FE7, Chip 10, ADC residuals vs DAC1
1.5
1
0.5
0
-0.5
-1
-1.5
0
5000
10000
15000
20000
25000
30000
35000

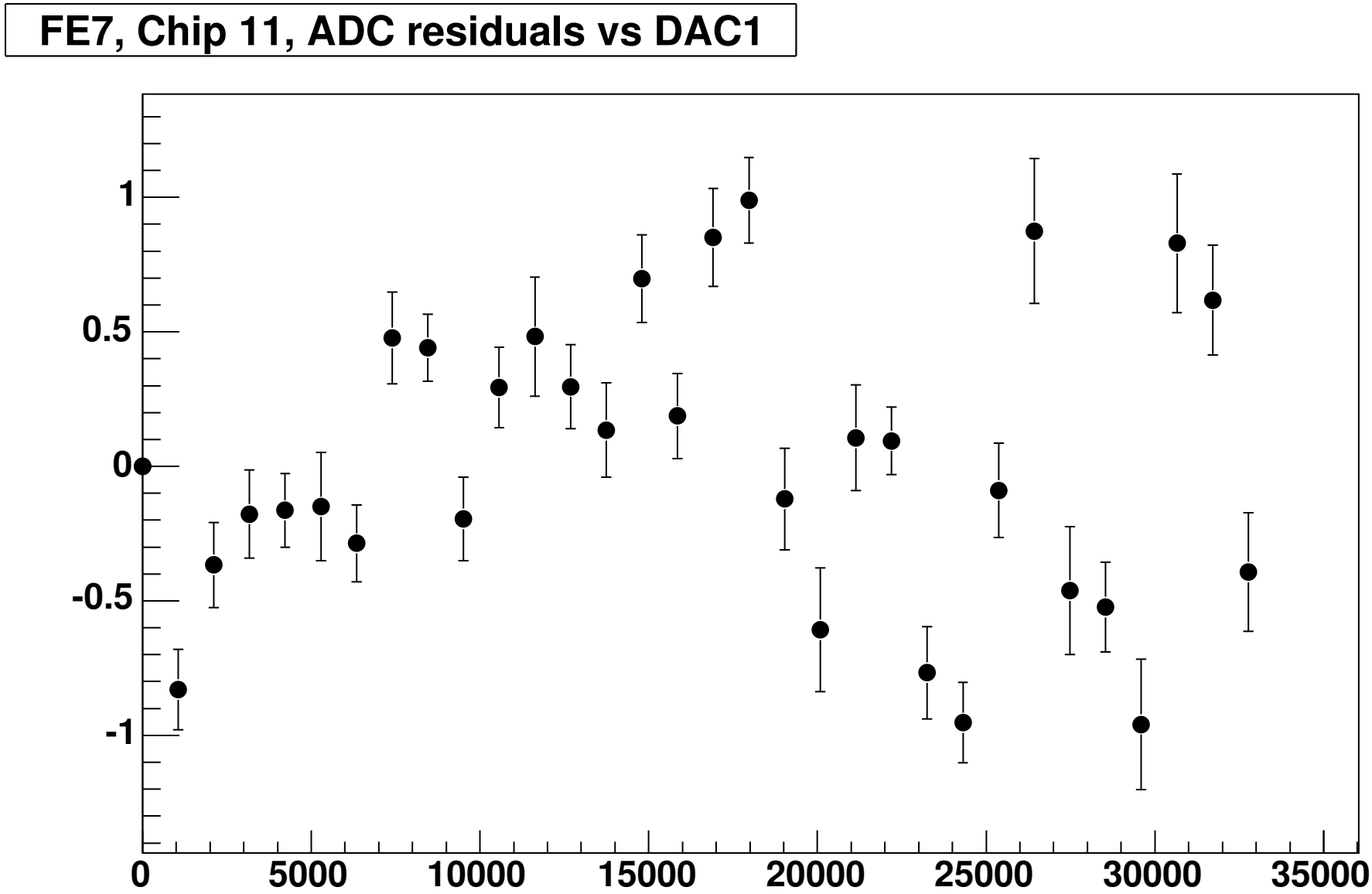

FE7, Chip 11, ADC mean vs DAC0
χ² / ndf 21.47 / 29
p0 8.408 ± 0.05753
p1 9.195e-06 ± 3.053e-06
9.2
9
8.8
8.6
8.4
8.2
8
0
5000
10000
15000
20000
25000
30000
35000

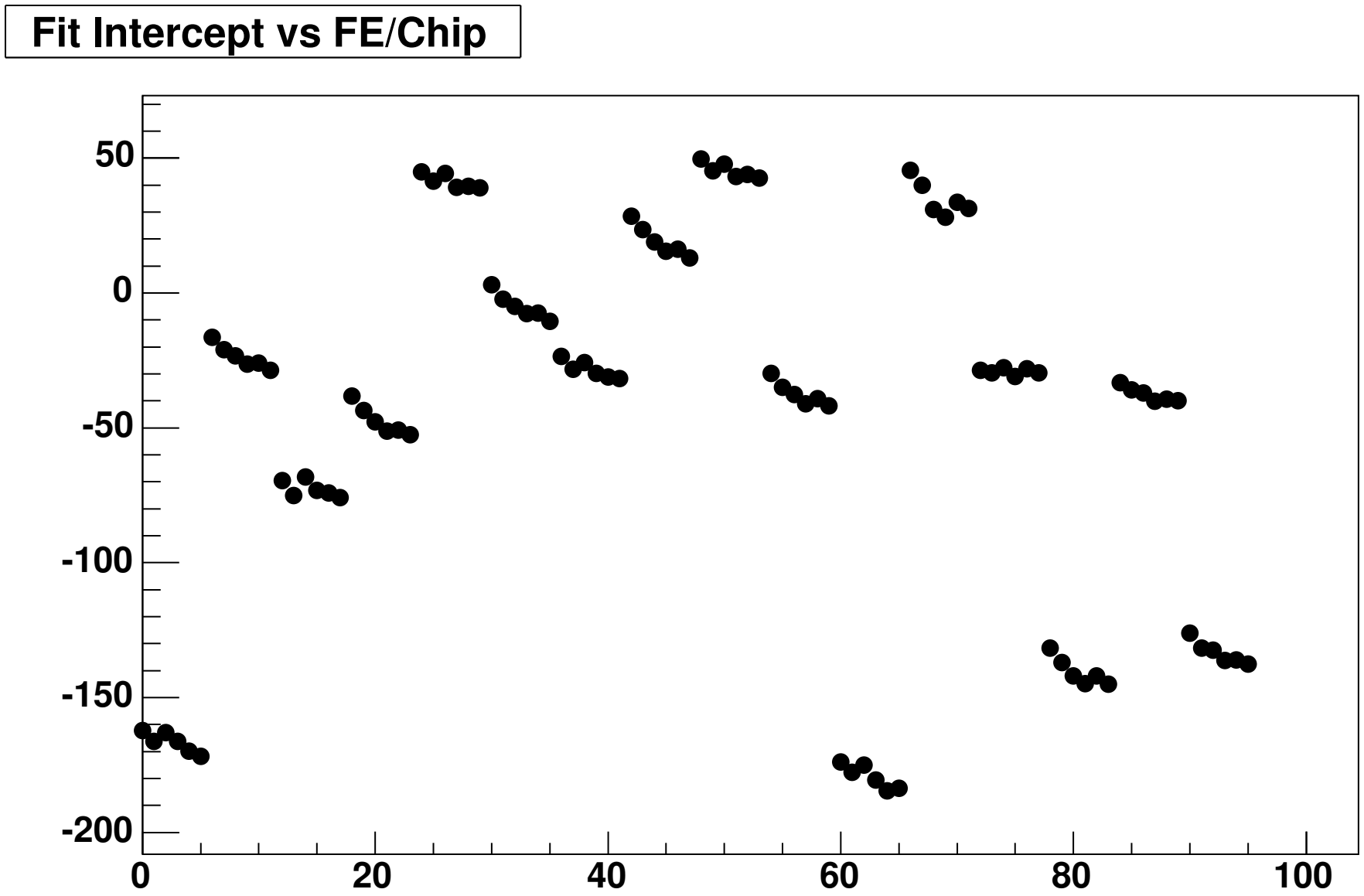

FE7, Chip 11, ADC noise vs DAC0
1.3
1.2
1.1
1
0.9
0.8
0.7
0
5000
10000
15000
20000
25000
30000
35000

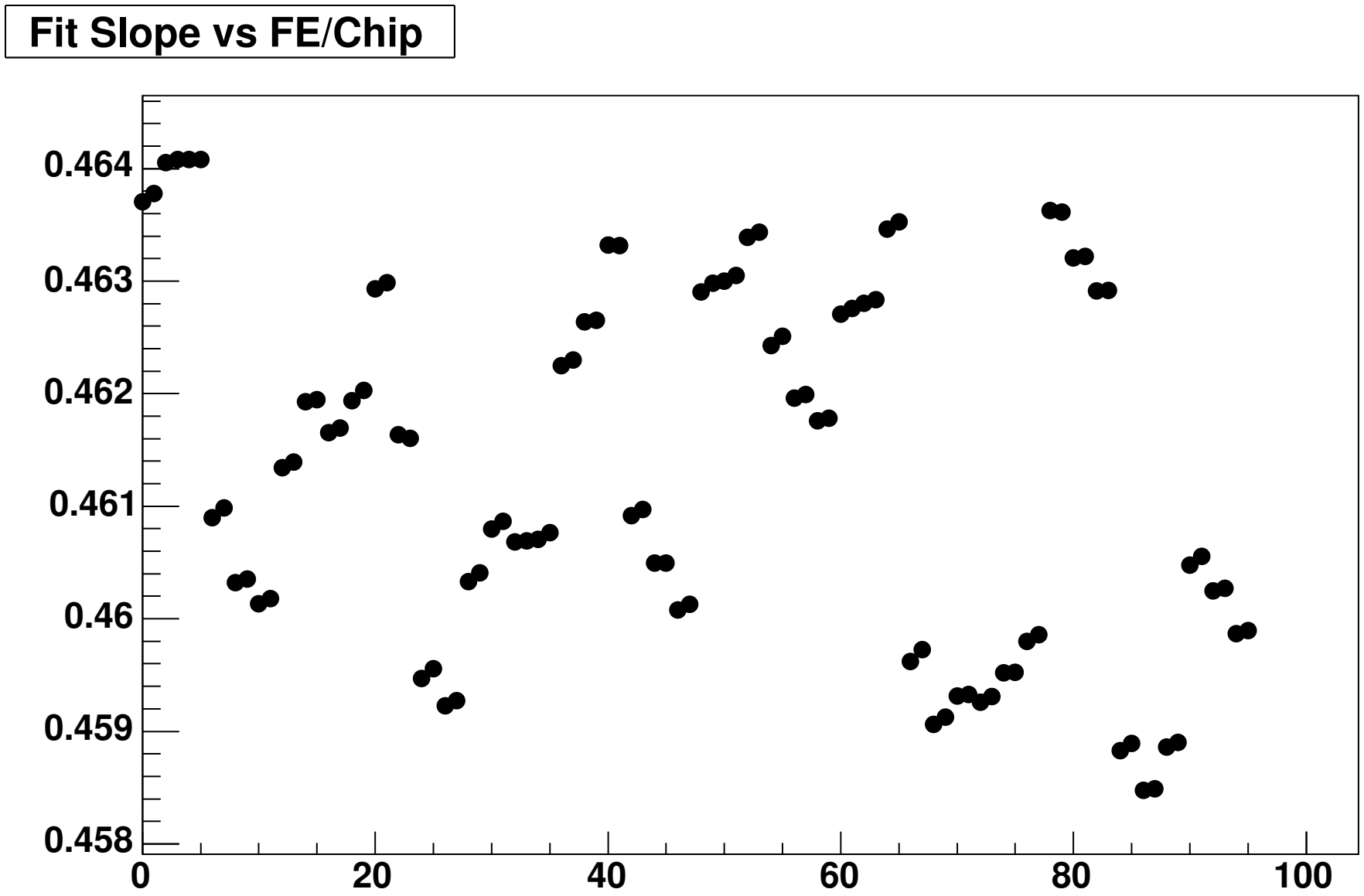

FE7, Chip 11, ADC residuals vs DAC0
0.4
0.2
0
-0.2
-0.4
0
5000
10000
15000
20000
25000
30000
35000


FE7, Chip 11, ADC mean vs DAC1
χ² / ndf 289.6 / 29
p0 -137.6 ± 0.05944
p1 0.4599 ± 3.386e-06
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000


FE7, Chip 11, ADC noise vs DAC1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0
5000
10000
15000
20000
25000
30000
35000


FE7, Chip 11, ADC residuals vs DAC1
1
0.5
0
-0.5
-1
0
5000
10000
15000
20000
25000
30000
35000


Fit Intercept vs FE/Chip
50
0
-50
-100
-150
-200
0
20
40
60
80
100


Fit Slope vs FE/Chip
0.464
0.463
0.462
0.461
0.46
0.459
0.458
0
20
40
60
80
100