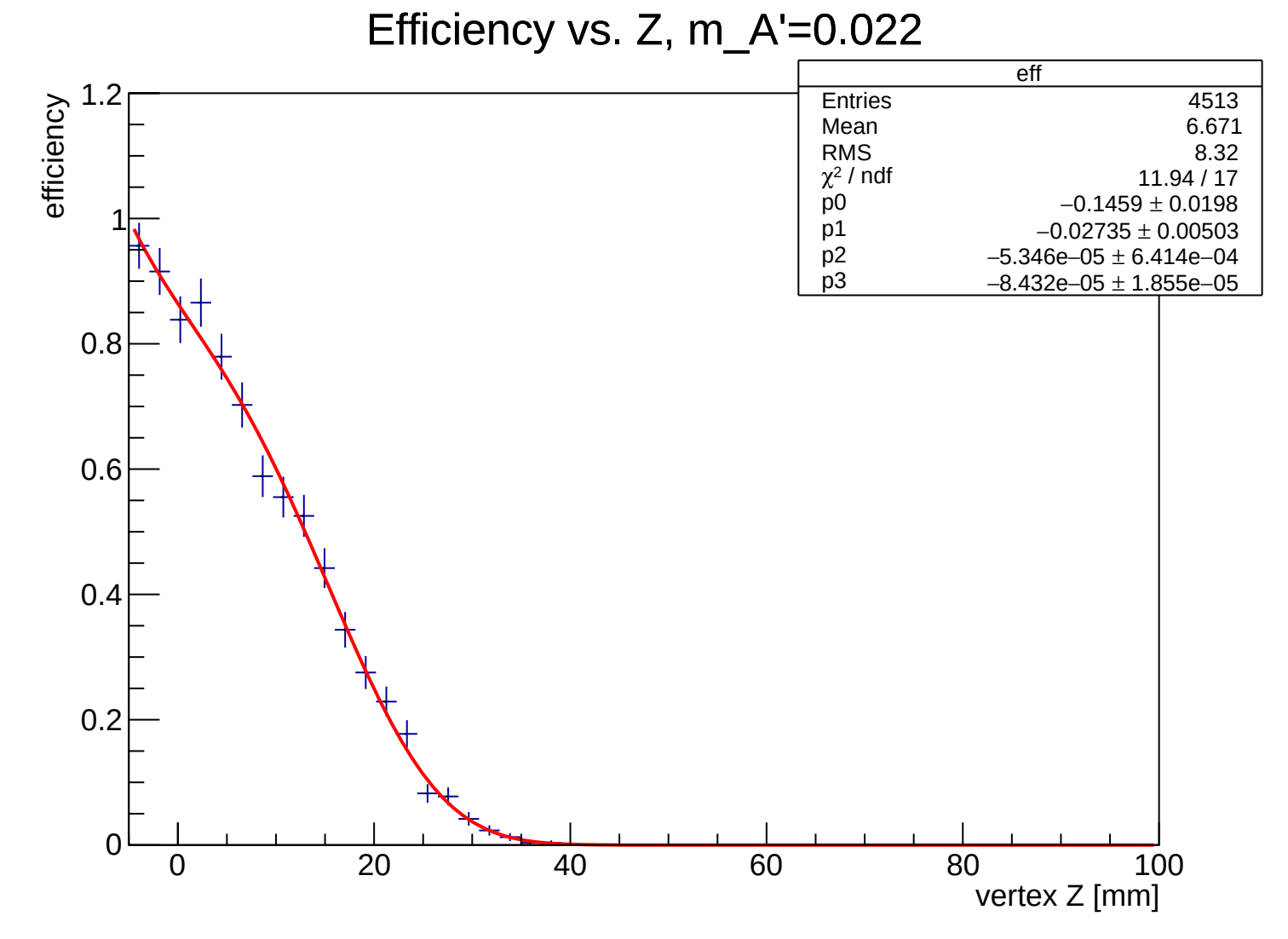
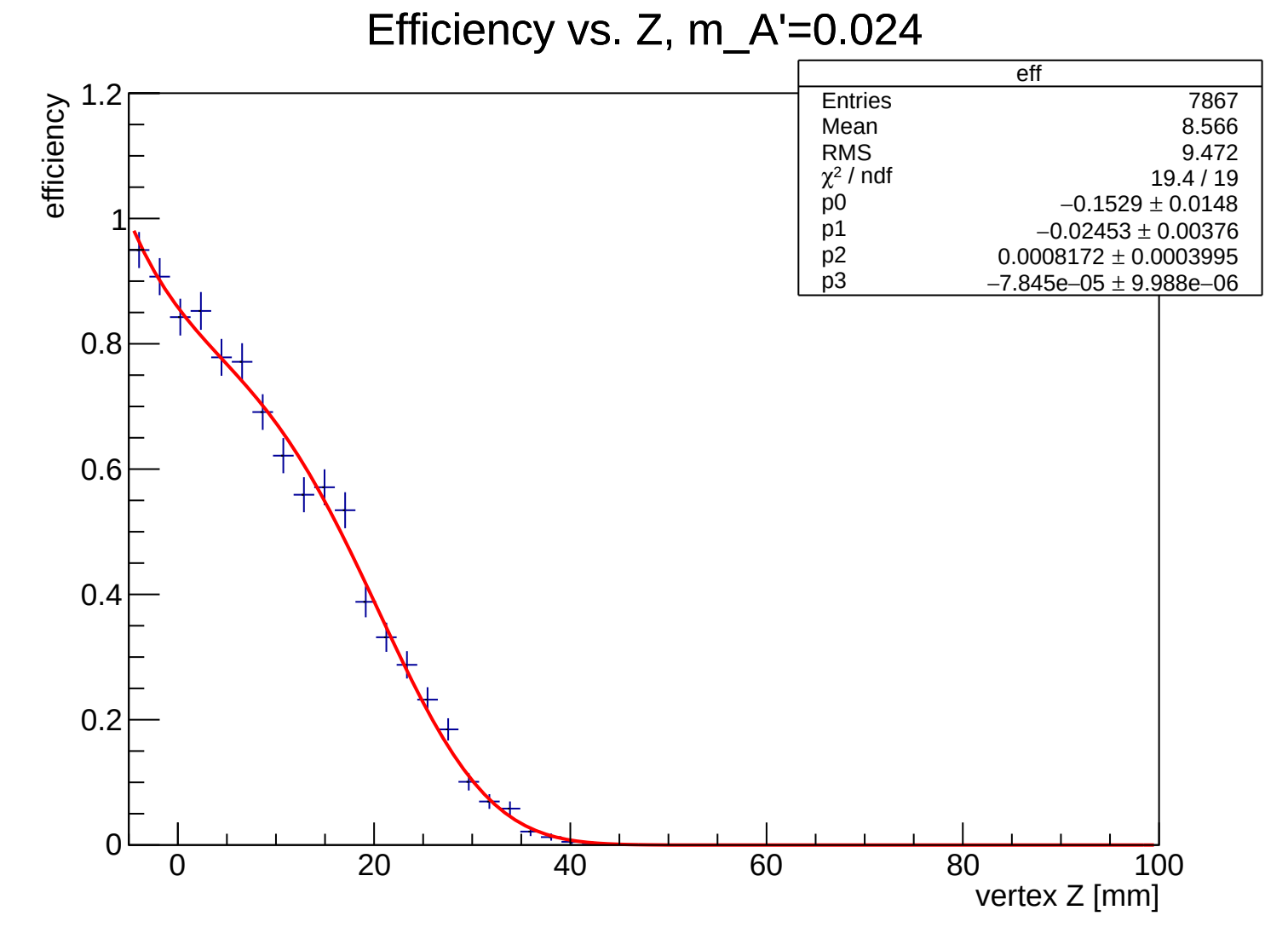
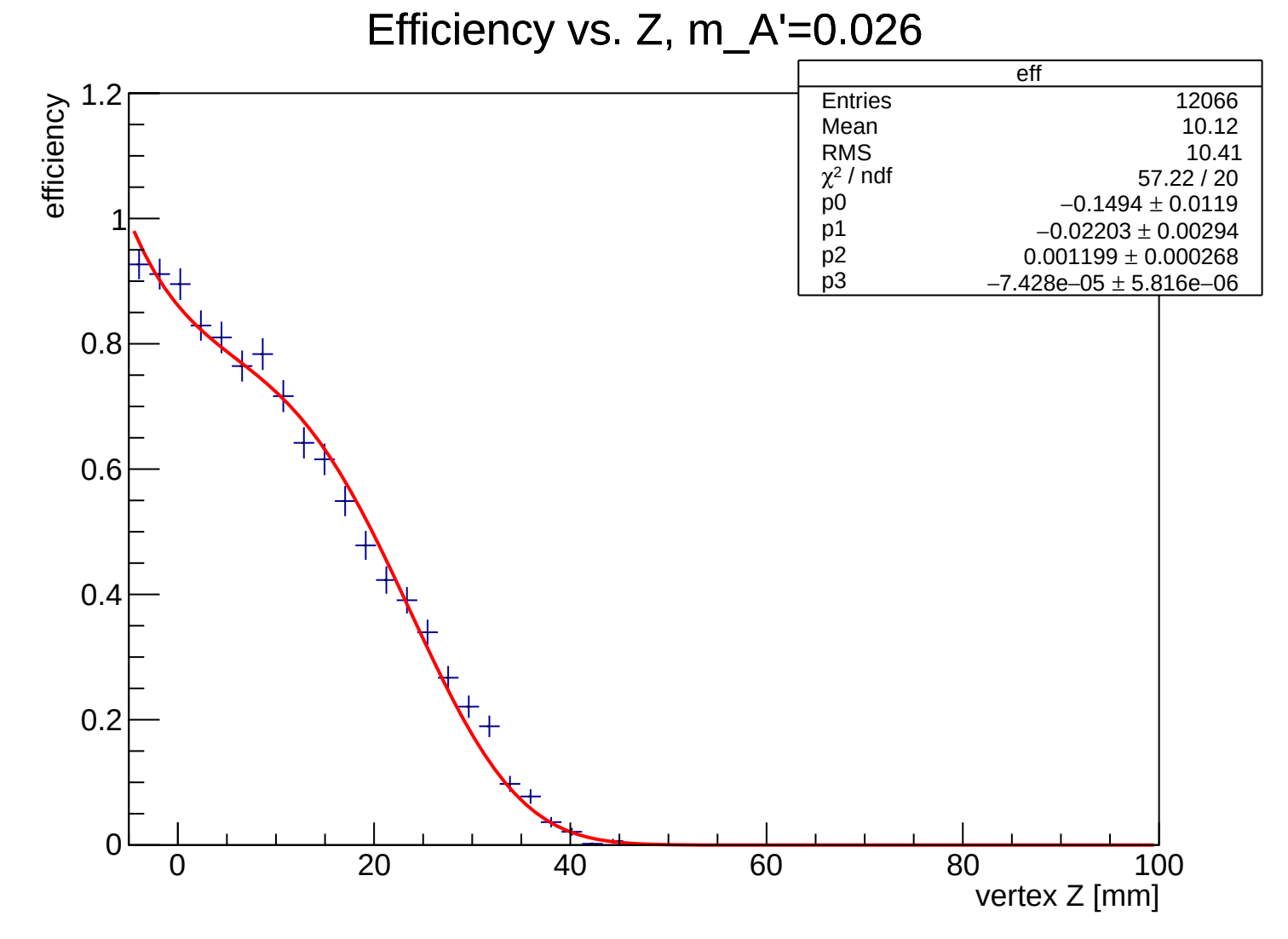
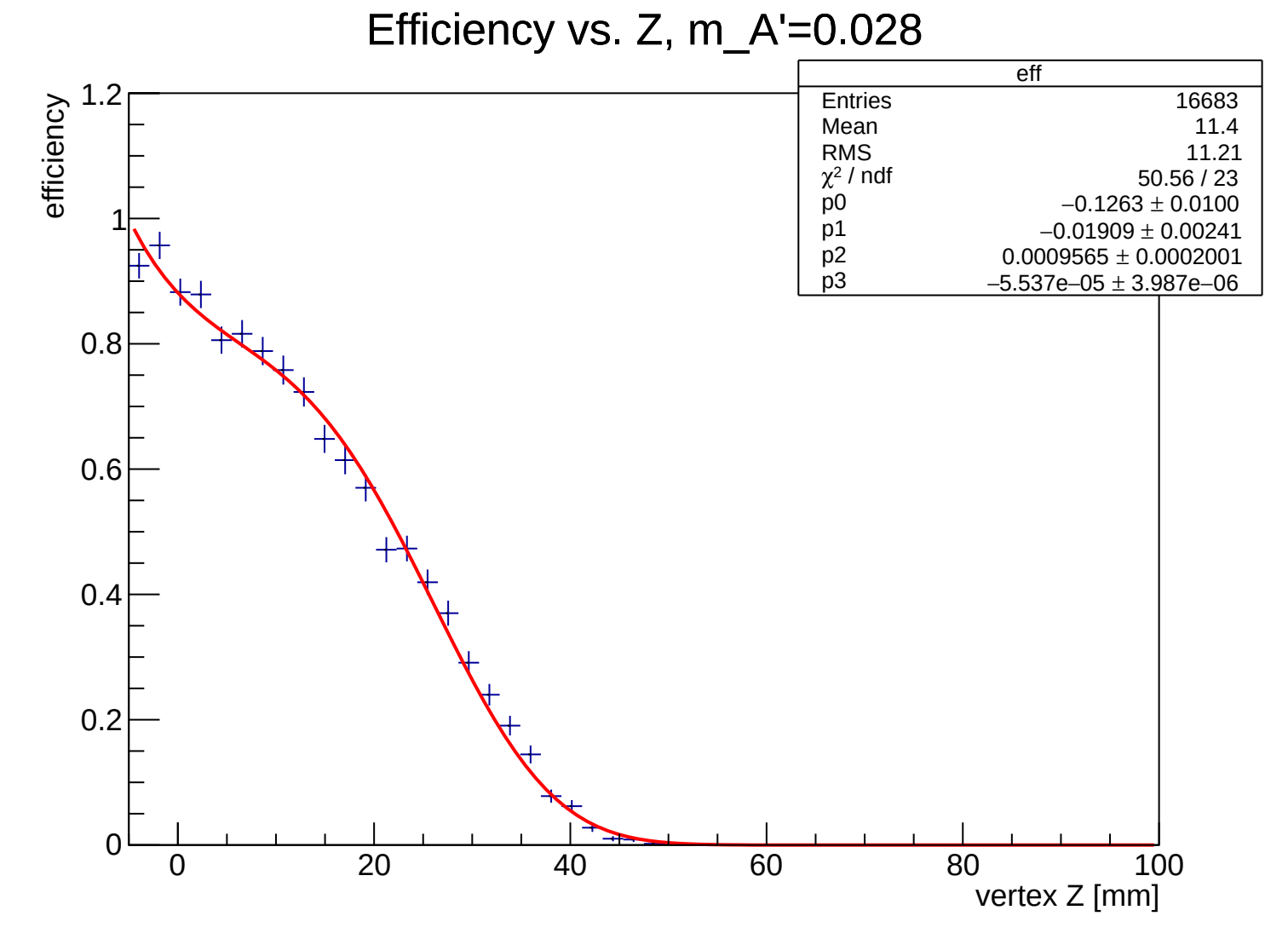
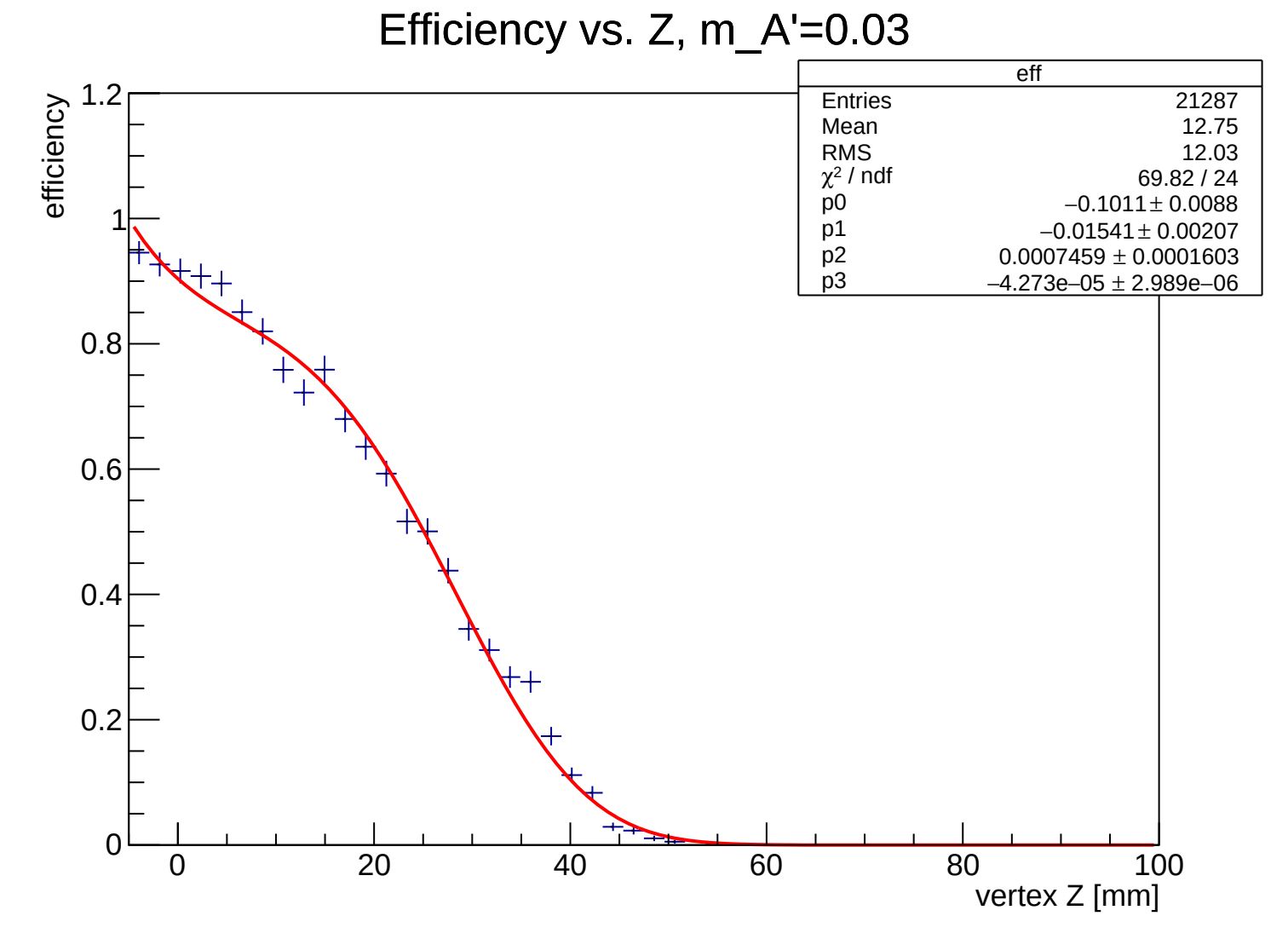
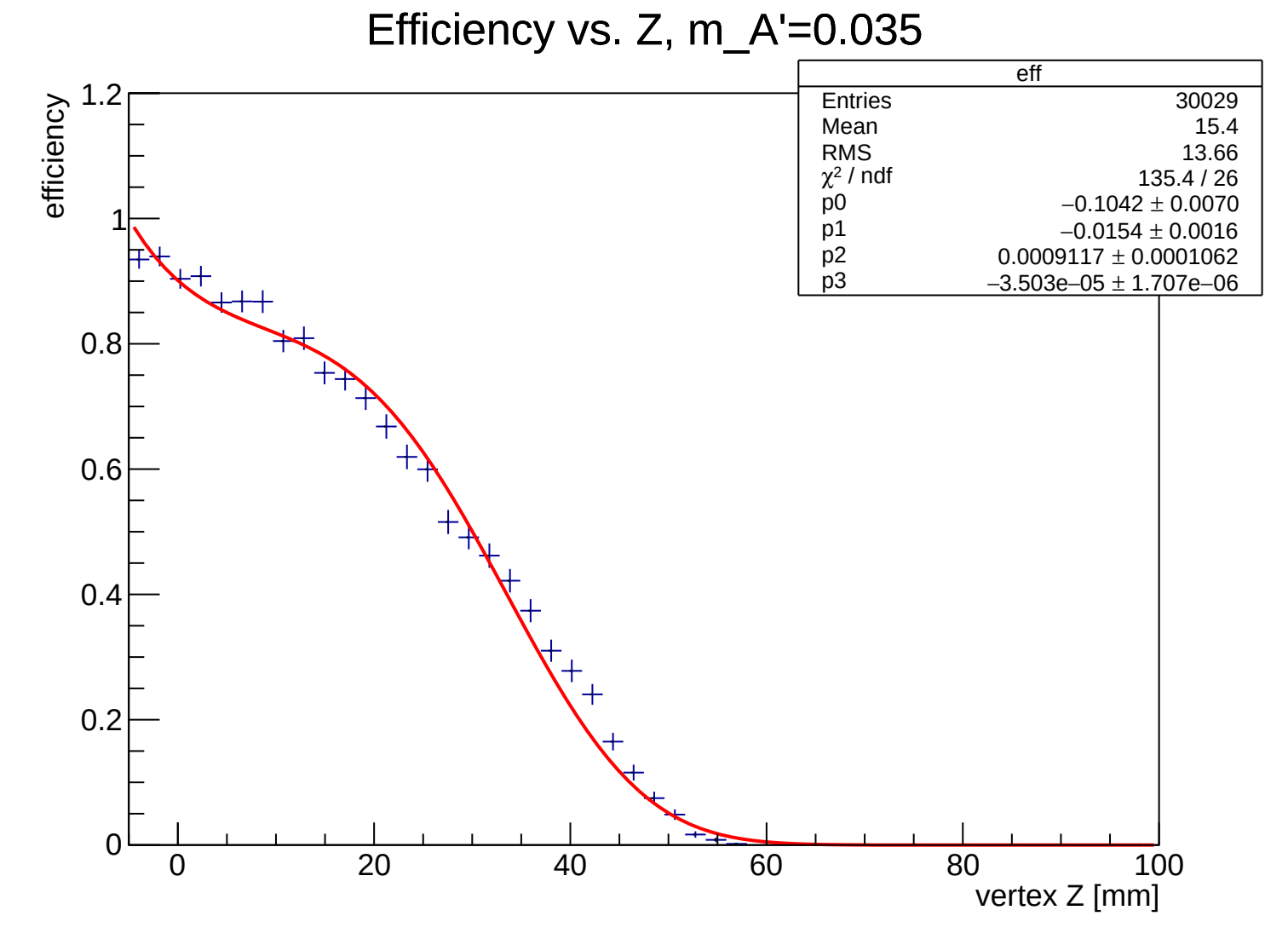

Efficiency vs. Z, m_A'=0.022
eff
Entries 4513
Mean 6.671
RMS 8.32
χ² / ndf 11.94 / 17
p0 −0.1459 ± 0.0198
p1 −0.02735 ± 0.00503
p2 −5.346e−05 ± 6.414e−04
p3 −8.432e−05 ± 1.855e−05
efficiency
1.2
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
vertex Z [mm]

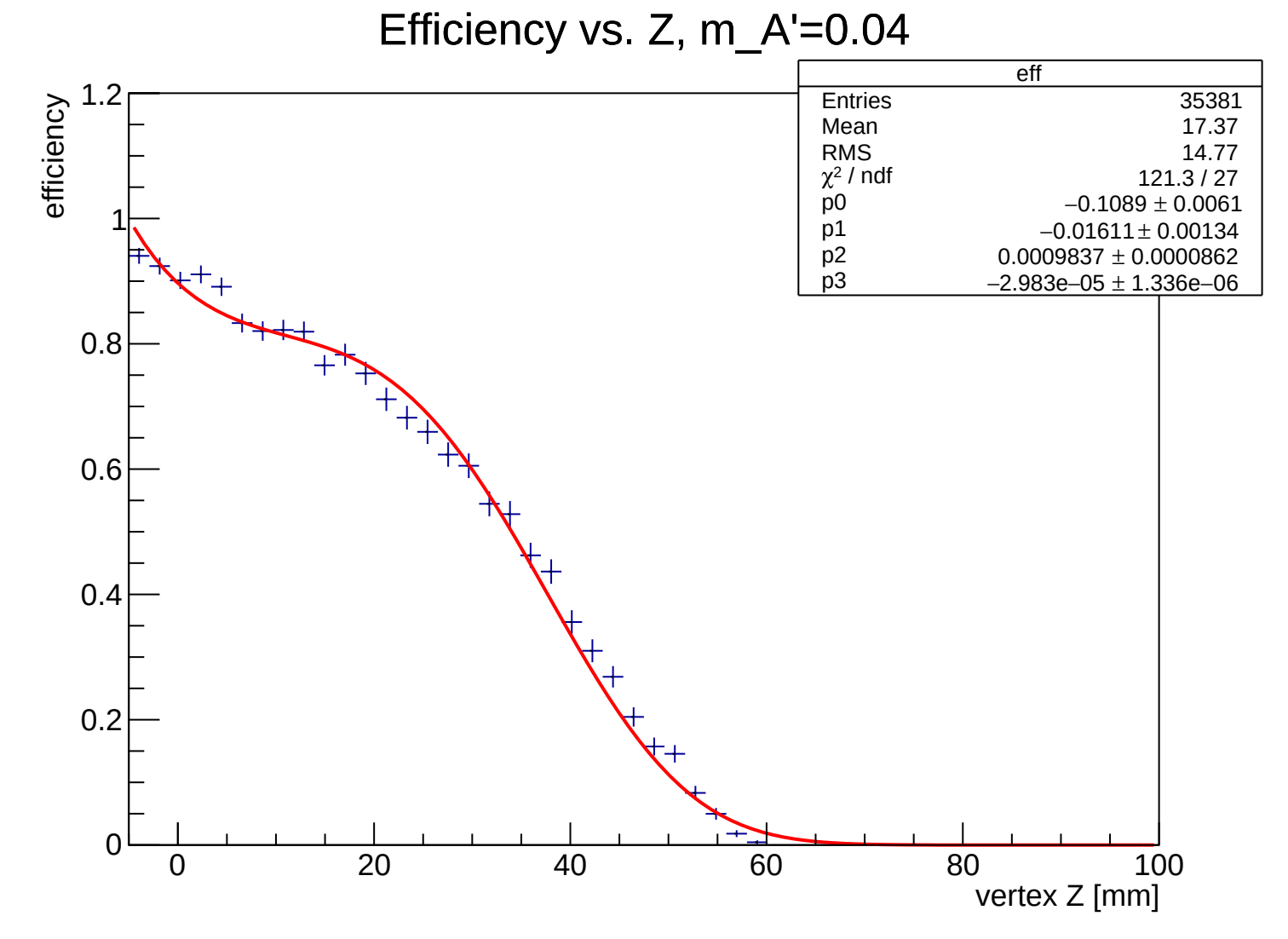

Efficiency vs. Z, m_A'=0.024
eff
Entries 7867
Mean 8.566
RMS 9.472
χ² / ndf 19.4 / 19
p0 −0.1529 ± 0.0148
p1 −0.02453 ± 0.00376
p2 0.0008172 ± 0.0003995
p3 −7.845e−05 ± 9.988e−06
efficiency
1.2
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
vertex Z [mm]

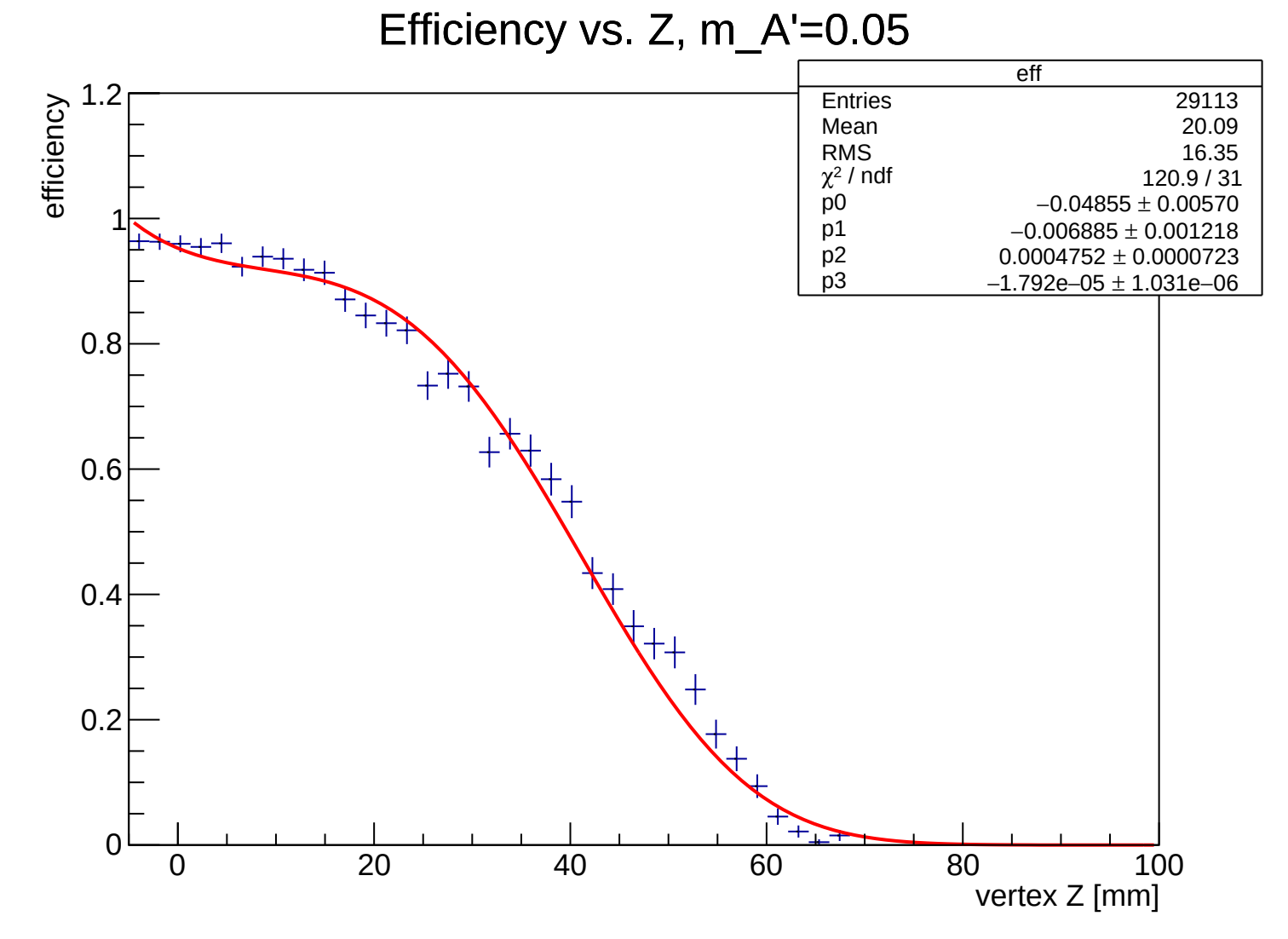

Efficiency vs. Z, m_A'=0.026
eff
Entries 12066
Mean 10.12
RMS 10.41
χ² / ndf 57.22 / 20
p0 −0.1494 ± 0.0119
p1 −0.02203 ± 0.00294
p2 0.001199 ± 0.000268
p3 −7.428e−05 ± 5.816e−06
efficiency
1.2
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
vertex Z [mm]

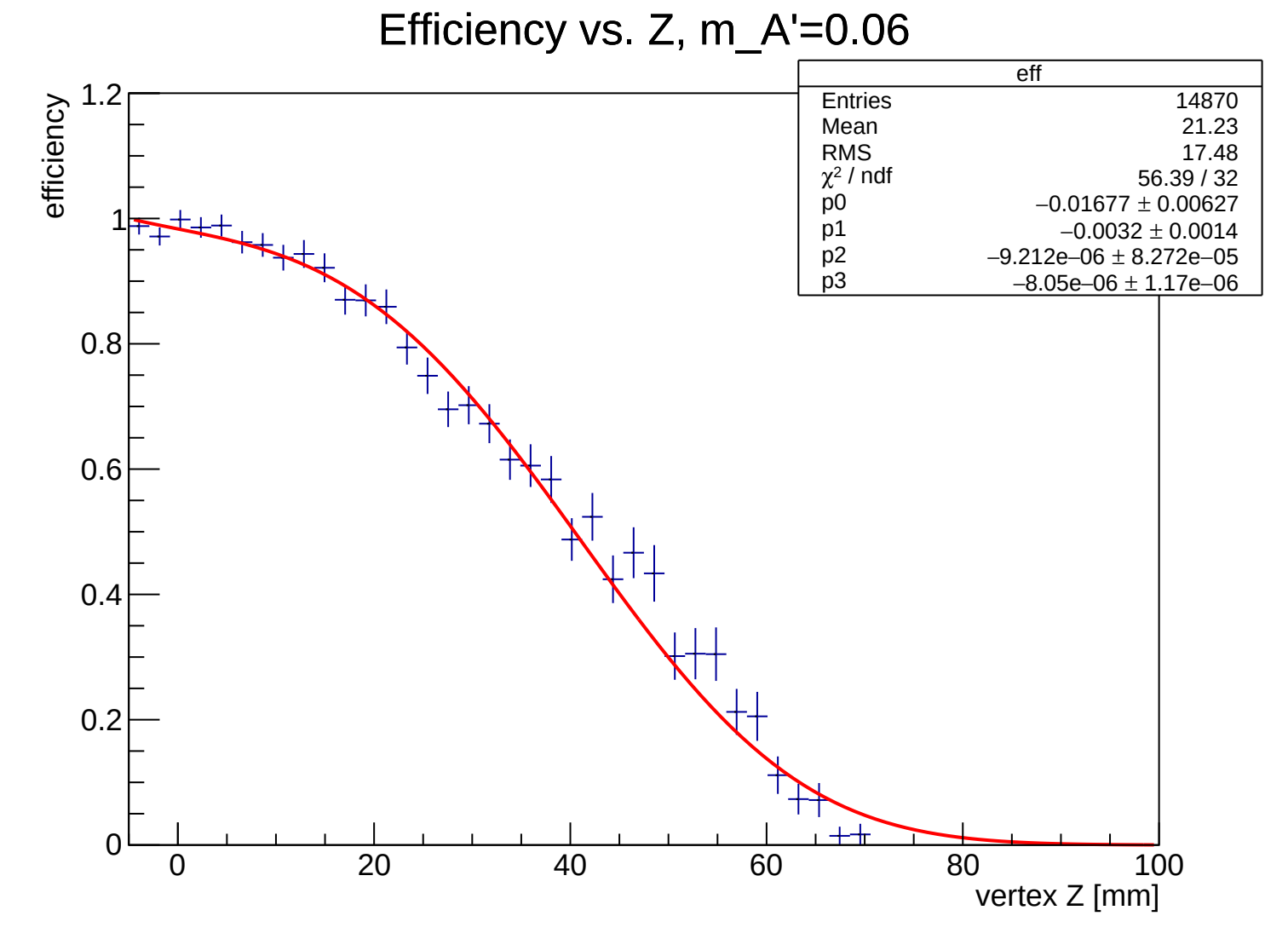

Efficiency vs. Z, m_A'=0.028
eff
Entries 16683
Mean 11.4
RMS 11.21
χ² / ndf 50.56 / 23
p0 −0.1263 ± 0.0100
p1 −0.01909 ± 0.00241
p2 0.0009565 ± 0.0002001
p3 −5.537e−05 ± 3.987e−06
efficiency
1.2
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
vertex Z [mm]

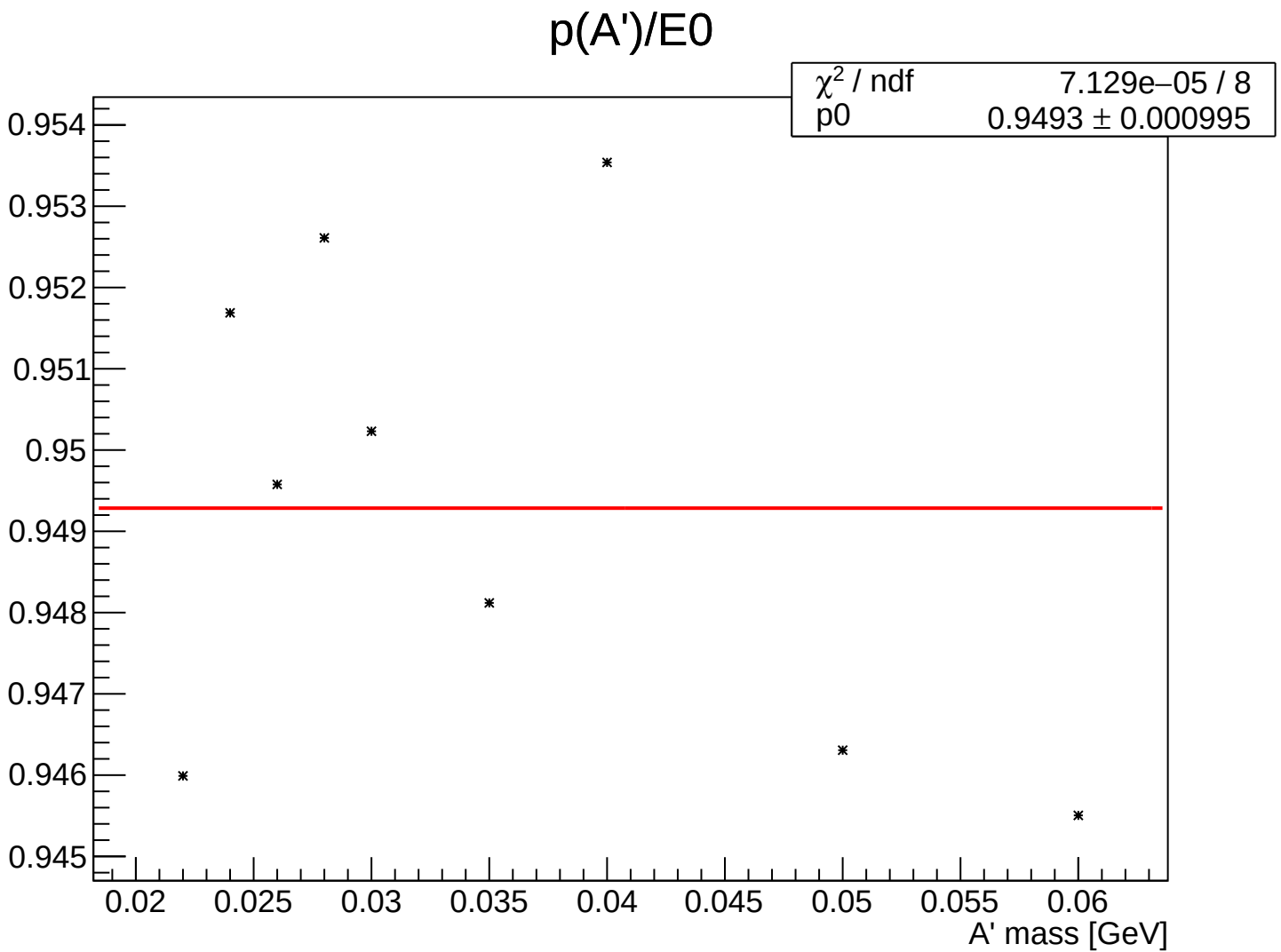

Efficiency vs. Z, m_A'=0.03
eff
Entries 21287
Mean 12.75
RMS 12.03
χ² / ndf 69.82 / 24
p0 −0.1011 ± 0.0088
p1 −0.01541 ± 0.00207
p2 0.0007459 ± 0.0001603
p3 −4.273e−05 ± 2.989e−06
efficiency
1.2
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
vertex Z [mm]

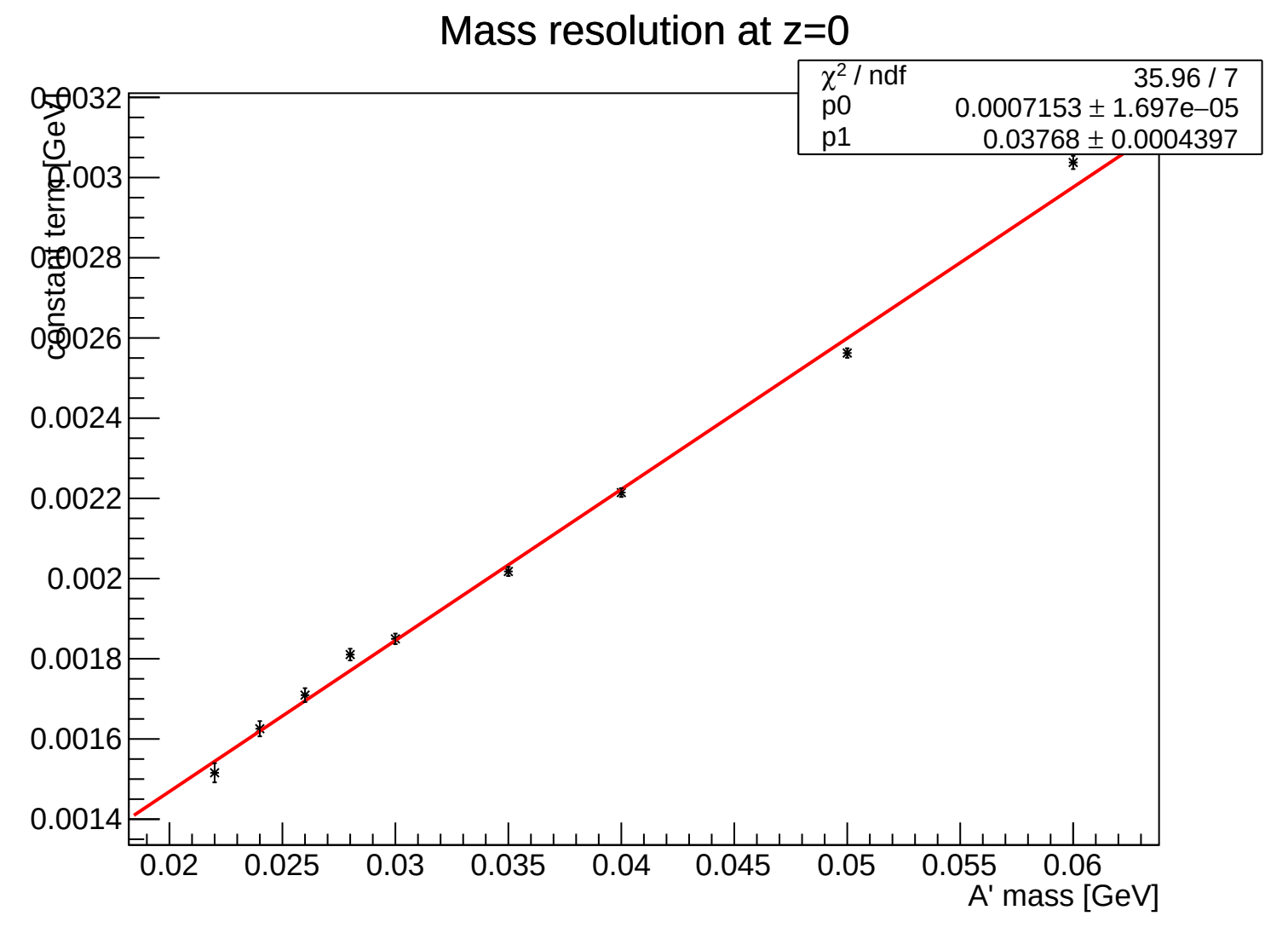

Efficiency vs. Z, m_A'=0.035
eff
Entries 30029
Mean 15.4
RMS 13.66
χ² / ndf 135.4 / 26
p0 −0.1042 ± 0.0070
p1 −0.0154 ± 0.0016
p2 0.0009117 ± 0.0001062
p3 −3.503e−05 ± 1.707e−06
efficiency
vertex Z [mm]
0
0.2
0.4
0.6
0.8
1
1.2
0
20
40
60
80
100

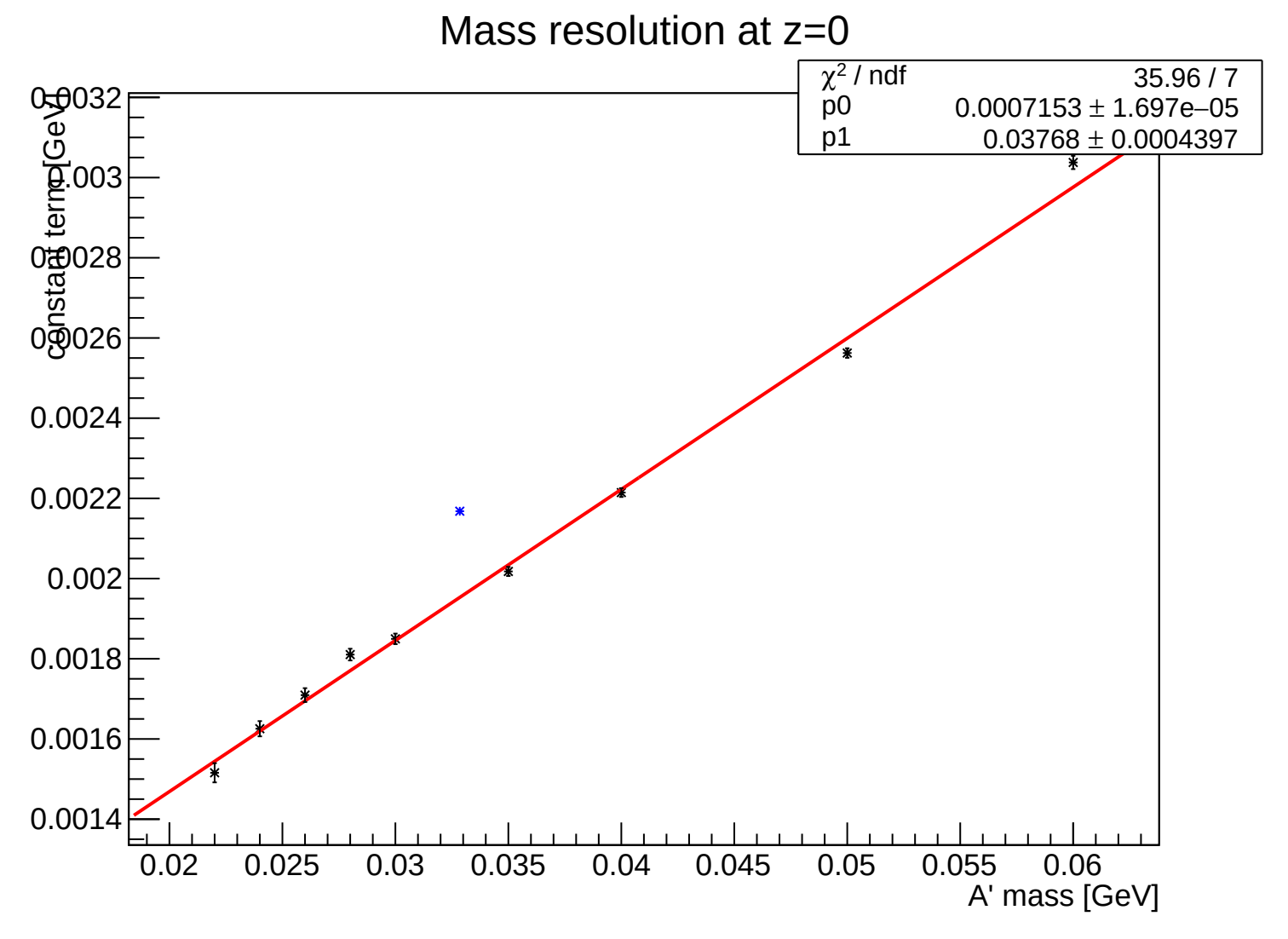

Efficiency vs. Z, m_A'=0.04
eff
Entries 35381
Mean 17.37
RMS 14.77
χ² / ndf 121.3 / 27
p0 −0.1089 ± 0.0061
p1 −0.01611 ± 0.00134
p2 0.0009837 ± 0.0000862
p3 −2.983e−05 ± 1.336e−06
efficiency
vertex Z [mm]
0
0.2
0.4
0.6
0.8
1
1.2
0
20
40
60
80
100

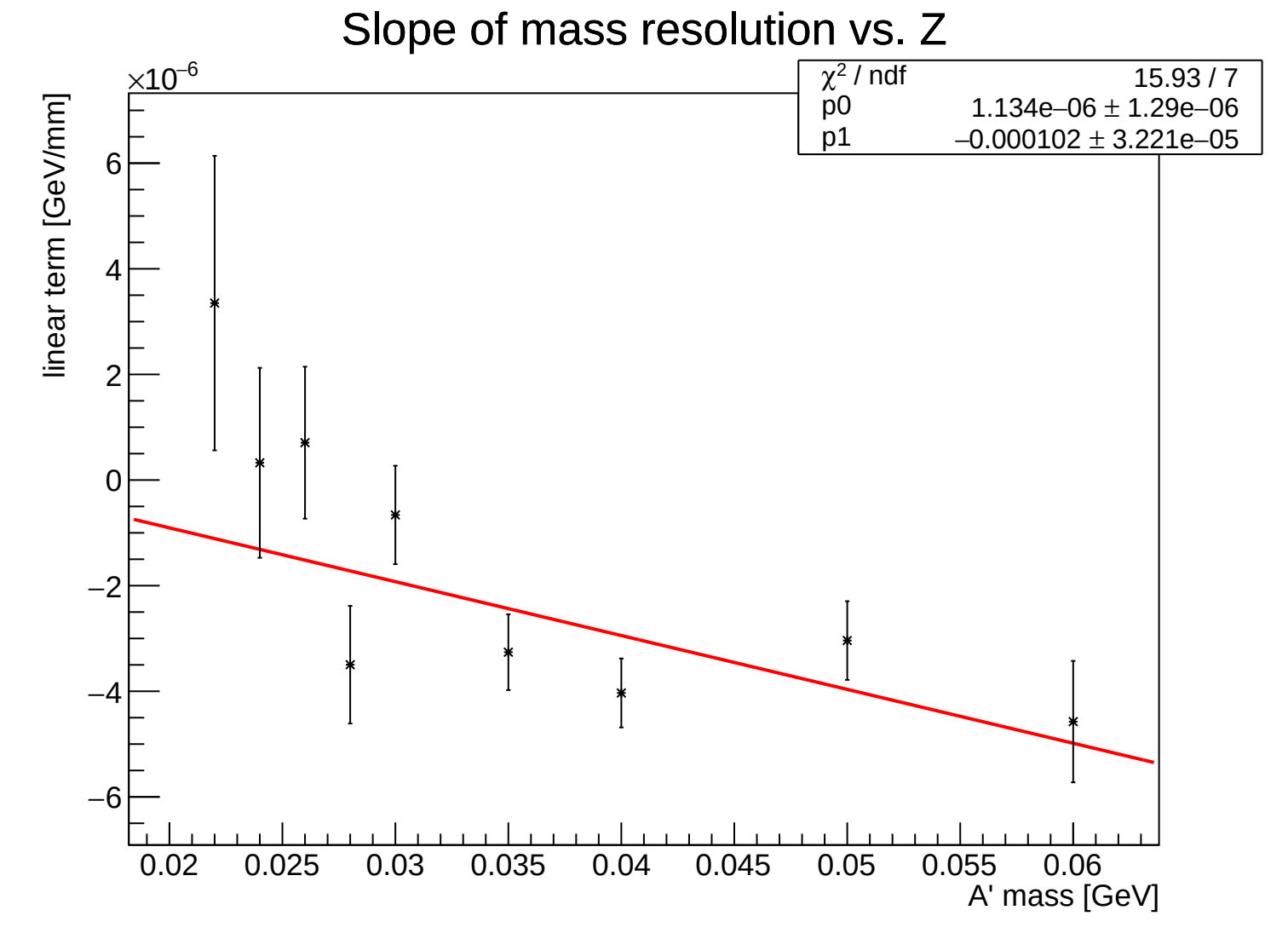

Efficiency vs. Z, m_A'=0.05
eff
Entries 29113
Mean 20.09
RMS 16.35
χ² / ndf 120.9 / 31
p0 −0.04855 ± 0.00570
p1 −0.006885 ± 0.001218
p2 0.0004752 ± 0.0000723
p3 −1.792e−05 ± 1.031e−06
efficiency
1.2
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
vertex Z [mm]

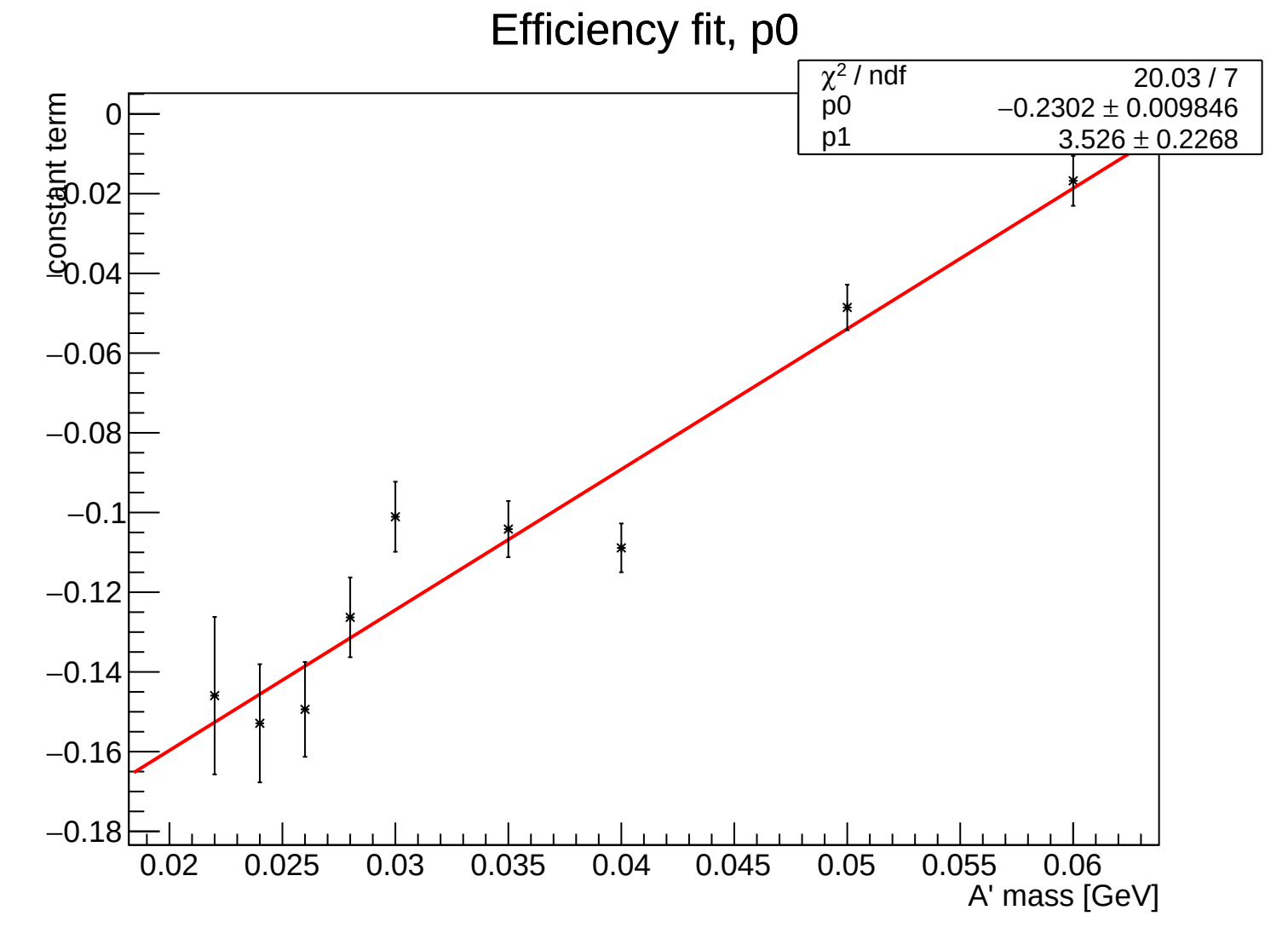

Efficiency vs. Z, m_A'=0.06
eff
Entries 14870
Mean 21.23
RMS 17.48
χ² / ndf 56.39 / 32
p0 −0.01677 ± 0.00627
p1 −0.0032 ± 0.0014
p2 −9.212e−06 ± 8.272e−05
p3 −8.05e−06 ± 1.17e−06
efficiency
1.2
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
vertex Z [mm]

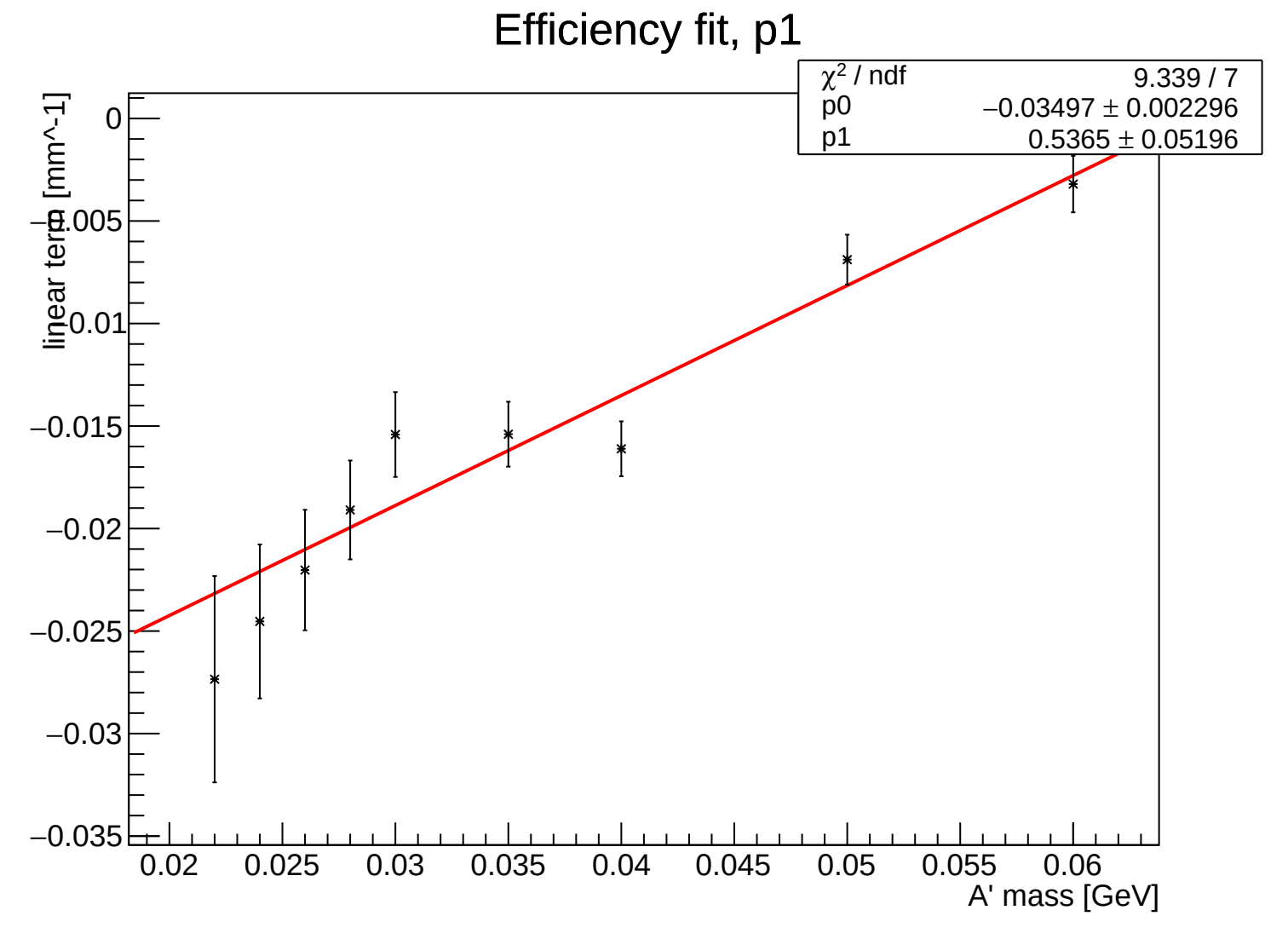

p(A')/E0
χ² / ndf 7.129e−05 / 8
p0 0.9493 ± 0.000995
0.954
0.953
0.952
0.951
0.95
0.949
0.948
0.947
0.946
0.945
0.02
0.025
0.03
0.035
0.04
0.045
0.05
0.055
0.06
A' mass [GeV]

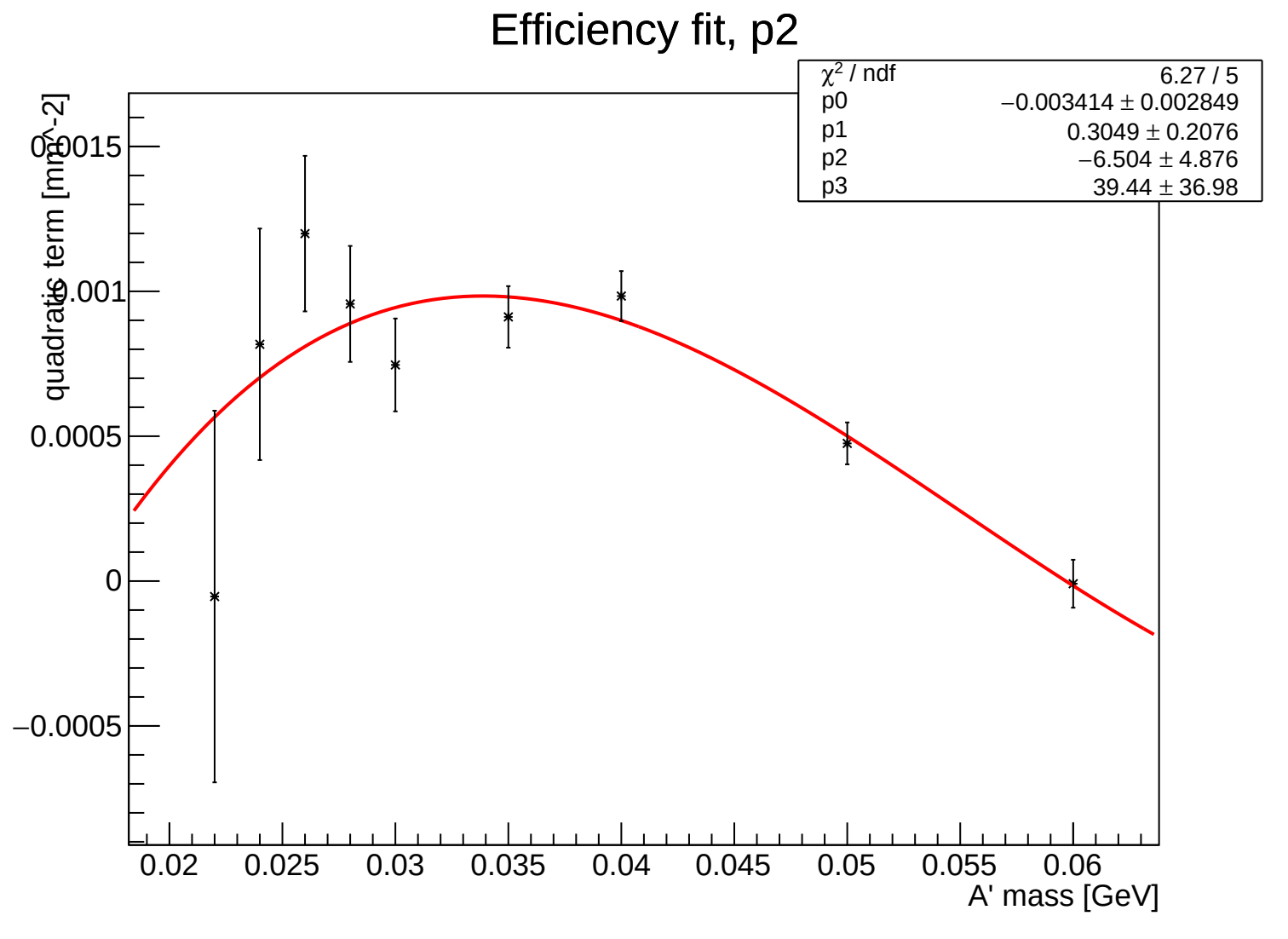

Mass resolution at z=0
χ² / ndf 35.96 / 7
p0 0.0007153 ± 1.697e−05
p1 0.03768 ± 0.0004397
constant term [GeV]
0.0032
0.003
0.0028
0.0026
0.0024
0.0022
0.002
0.0018
0.0016
0.0014
0.02
0.025
0.03
0.035
0.04
0.045
0.05
0.055
0.06
A' mass [GeV]

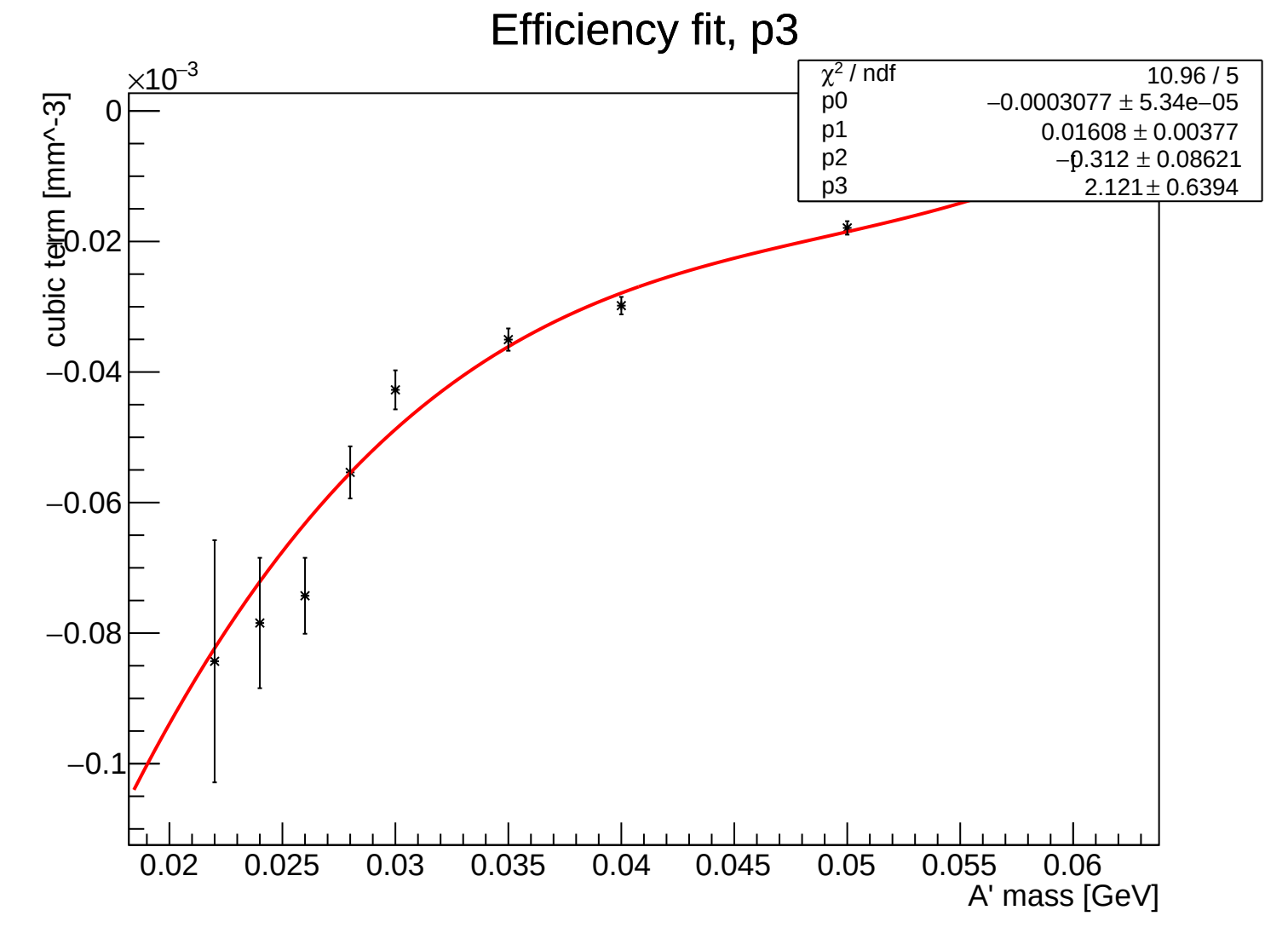

Mass resolution at z=0
χ² / ndf 35.96 / 7
p0 0.0007153 ± 1.697e−05
p1 0.03768 ± 0.0004397
constant term [GeV]
A' mass [GeV]
0.0032
0.003
0.0028
0.0026
0.0024
0.0022
0.002
0.0018
0.0016
0.0014
0.02
0.025
0.03
0.035
0.04
0.045
0.05
0.055
0.06


Slope of mass resolution vs. Z
χ^2 / ndf 15.93 / 7
p0 1.134e–06 ± 1.29e–06
p1 –0.000102 ± 3.221e–05
×10^{-6}
linear term [GeV/mm]
6
4
2
0
−2
−4
−6
0.02
0.025
0.03
0.035
0.04
0.045
0.05
0.055
0.06
A' mass [GeV]


Efficiency fit, p0
χ² / ndf 20.03 / 7
p0 −0.2302 ± 0.009846
p1 3.526 ± 0.2268
constant term
0
−0.02
−0.04
−0.06
−0.08
−0.1
−0.12
−0.14
−0.16
−0.18
0.02
0.025
0.03
0.035
0.04
0.045
0.05
0.055
0.06
A' mass [GeV]


Efficiency fit, p1
χ² / ndf 9.339 / 7
p0 −0.03497 ± 0.002296
p1 0.5365 ± 0.05196
linear term [mm^-1]
0
−0.005
−0.01
−0.015
−0.02
−0.025
−0.03
−0.035
0.02
0.025
0.03
0.035
0.04
0.045
0.05
0.055
0.06
A' mass [GeV]


Efficiency fit, p2
χ² / ndf 6.27 / 5
p0 −0.003414 ± 0.002849
p1 0.3049 ± 0.2076
p2 −6.504 ± 4.876
p3 39.44 ± 36.98
quadratic term [mm^-2]
0.0015
0.001
0.0005
0
−0.0005
0.02
0.025
0.03
0.035
0.04
0.045
0.05
0.055
0.06
A' mass [GeV]


Efficiency fit, p3
×10^−3
cubic term [mm^-3]
0
−0.02
−0.04
−0.06
−0.08
−0.1
0.02
0.025
0.03
0.035
0.04
0.045
0.05
0.055
0.06
A' mass [GeV]
χ² / ndf 10.96 / 5
p0 −0.0003077 ± 5.34e−05
p1 0.01608 ± 0.00377
p2 −0.312 ± 0.08621
p3 2.121 ± 0.6394