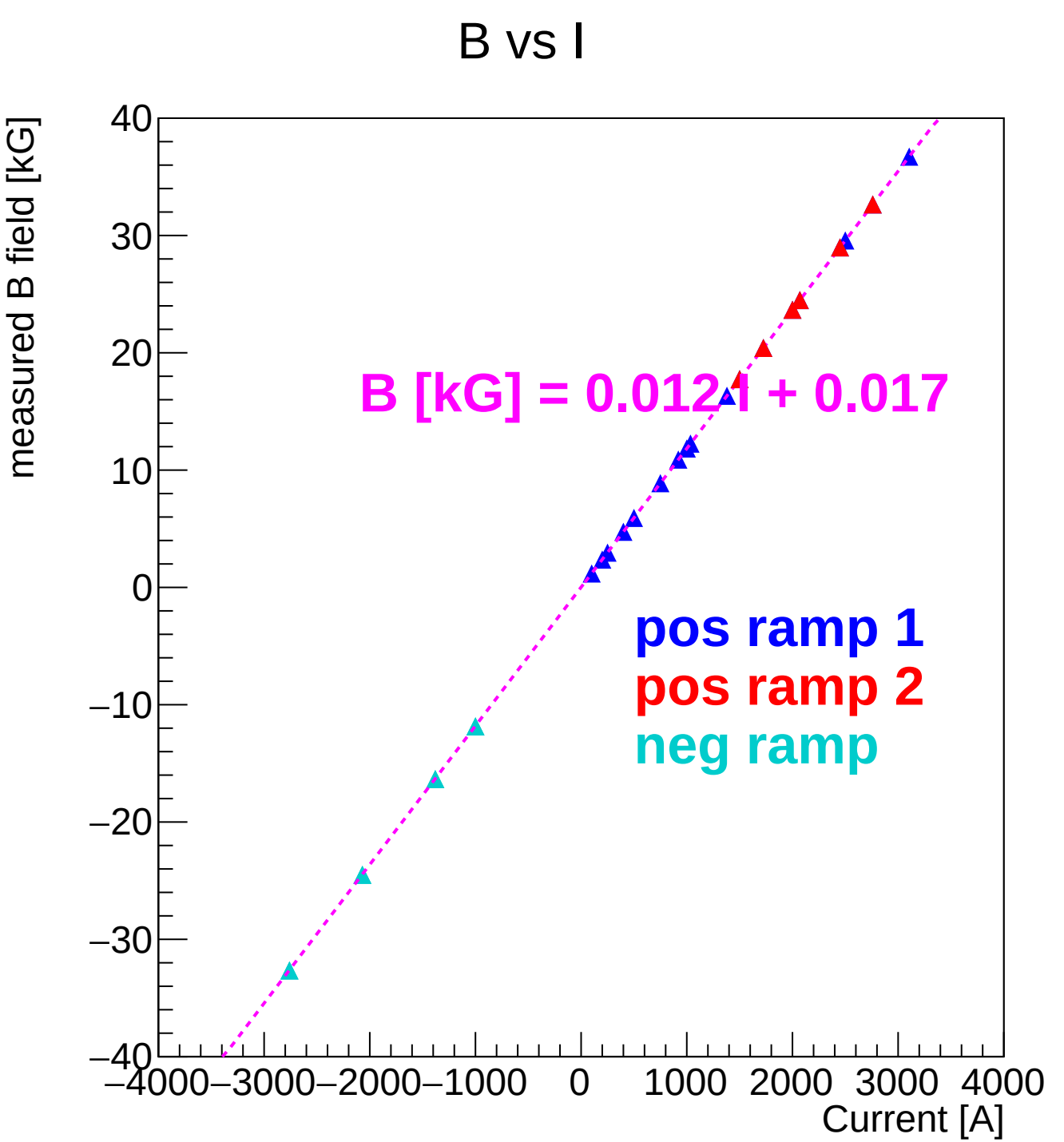
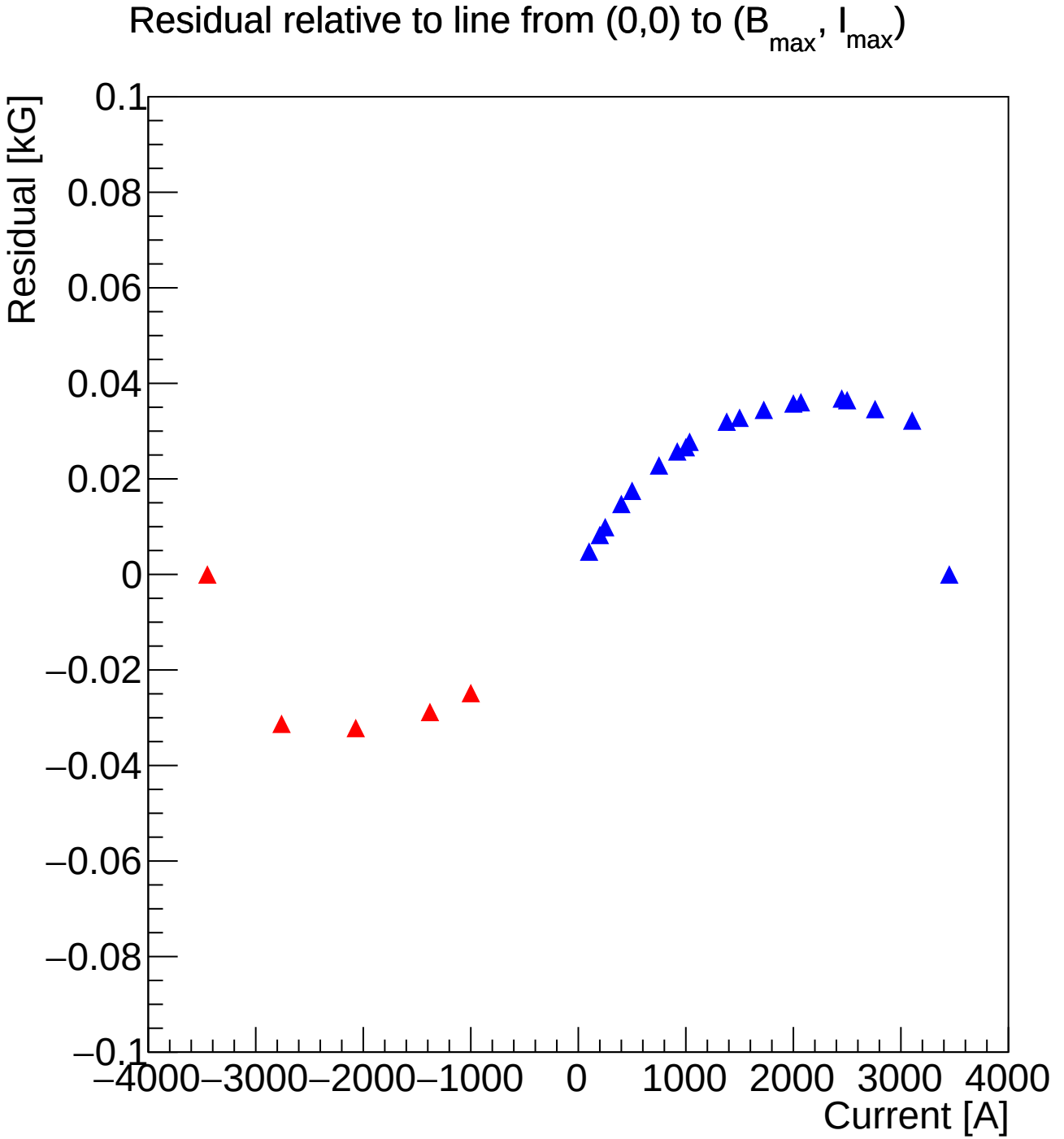
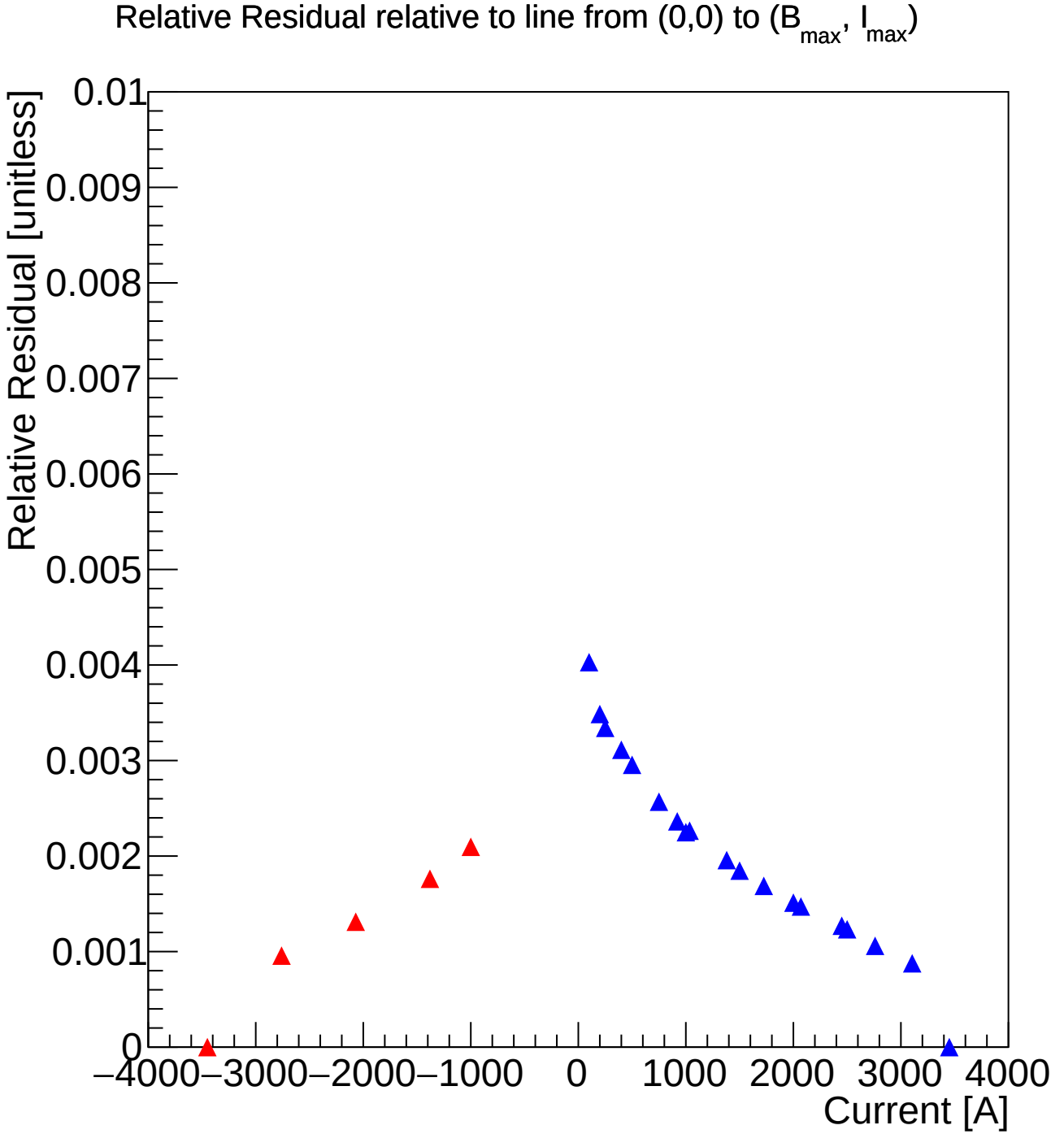
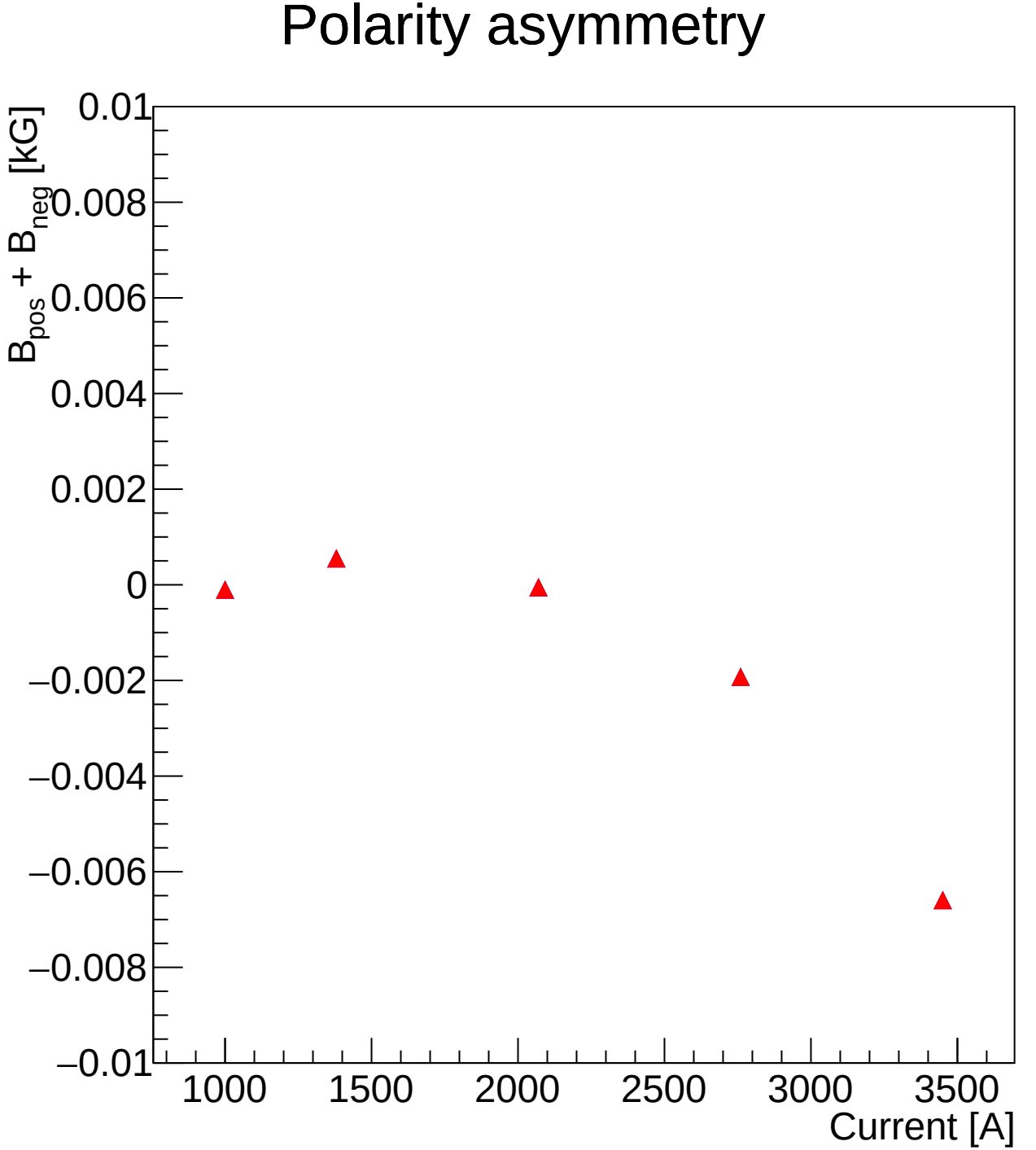
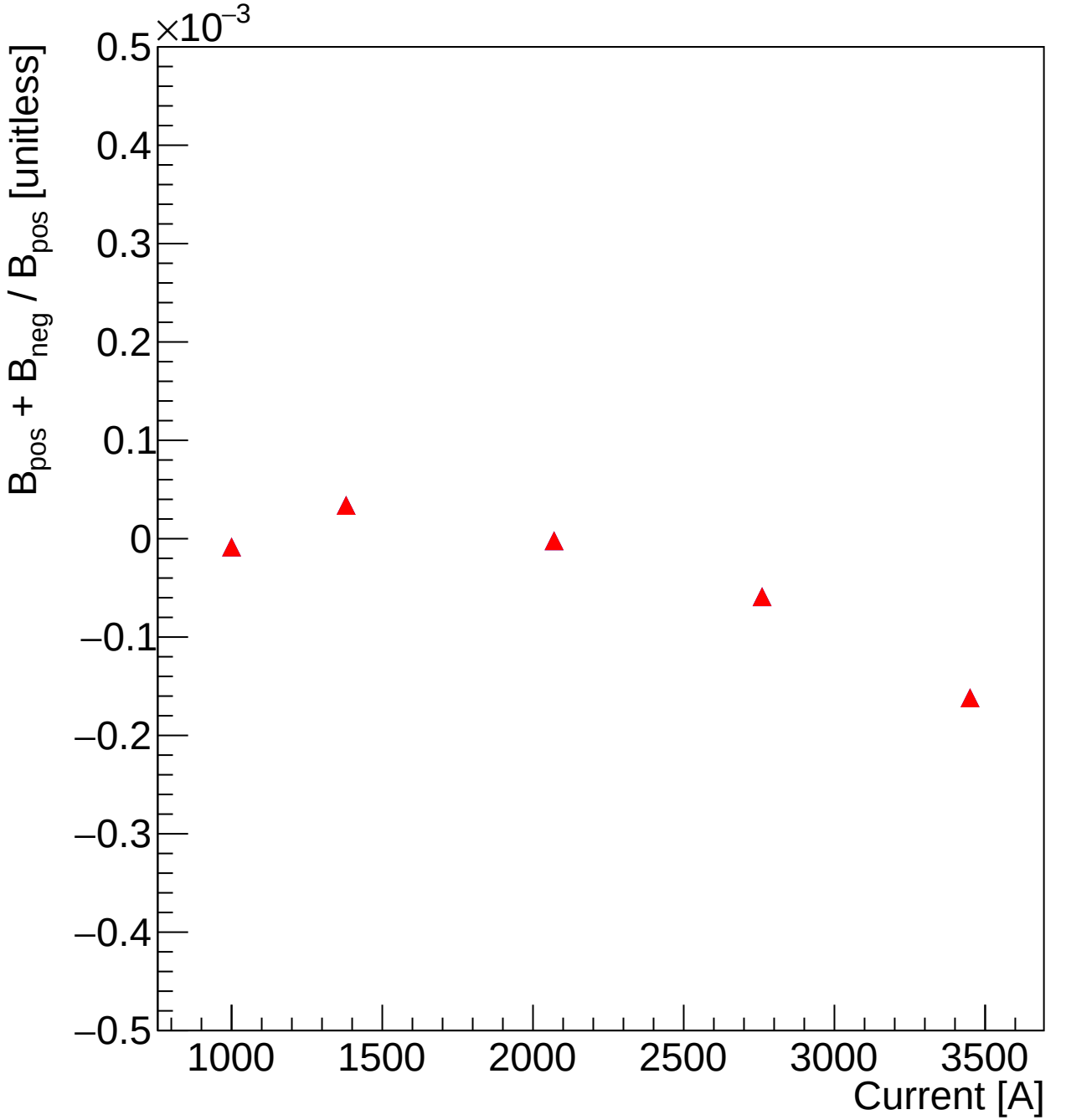
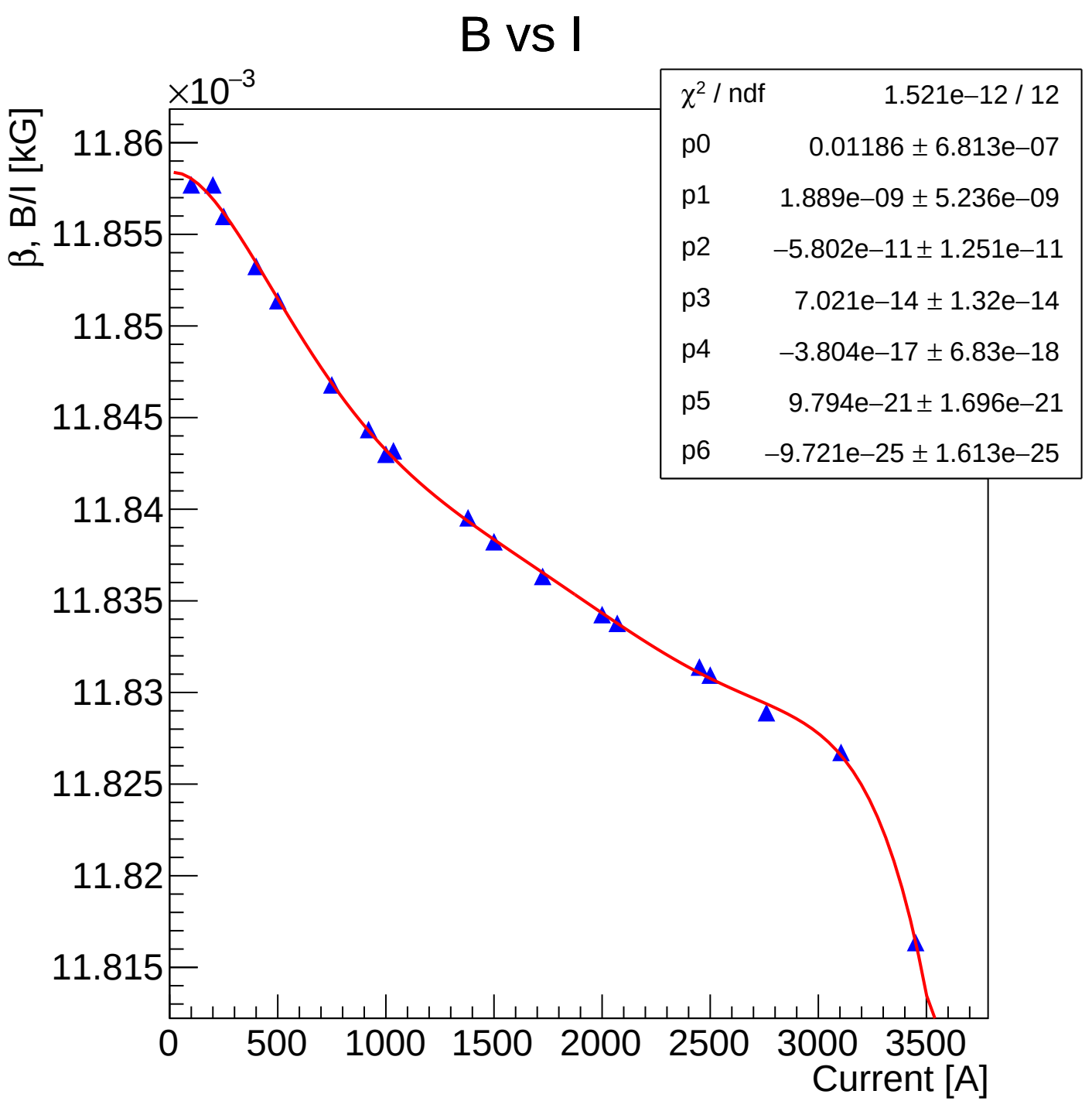

B vs I
measured B field [kG]
40
30
20
10
0
−10
−20
−30
−40
−4000
−3000
−2000
−1000
0
1000
2000
3000
4000
Current [A]
B [kG] = 0.012 I + 0.017
pos ramp 1
pos ramp 2
neg ramp

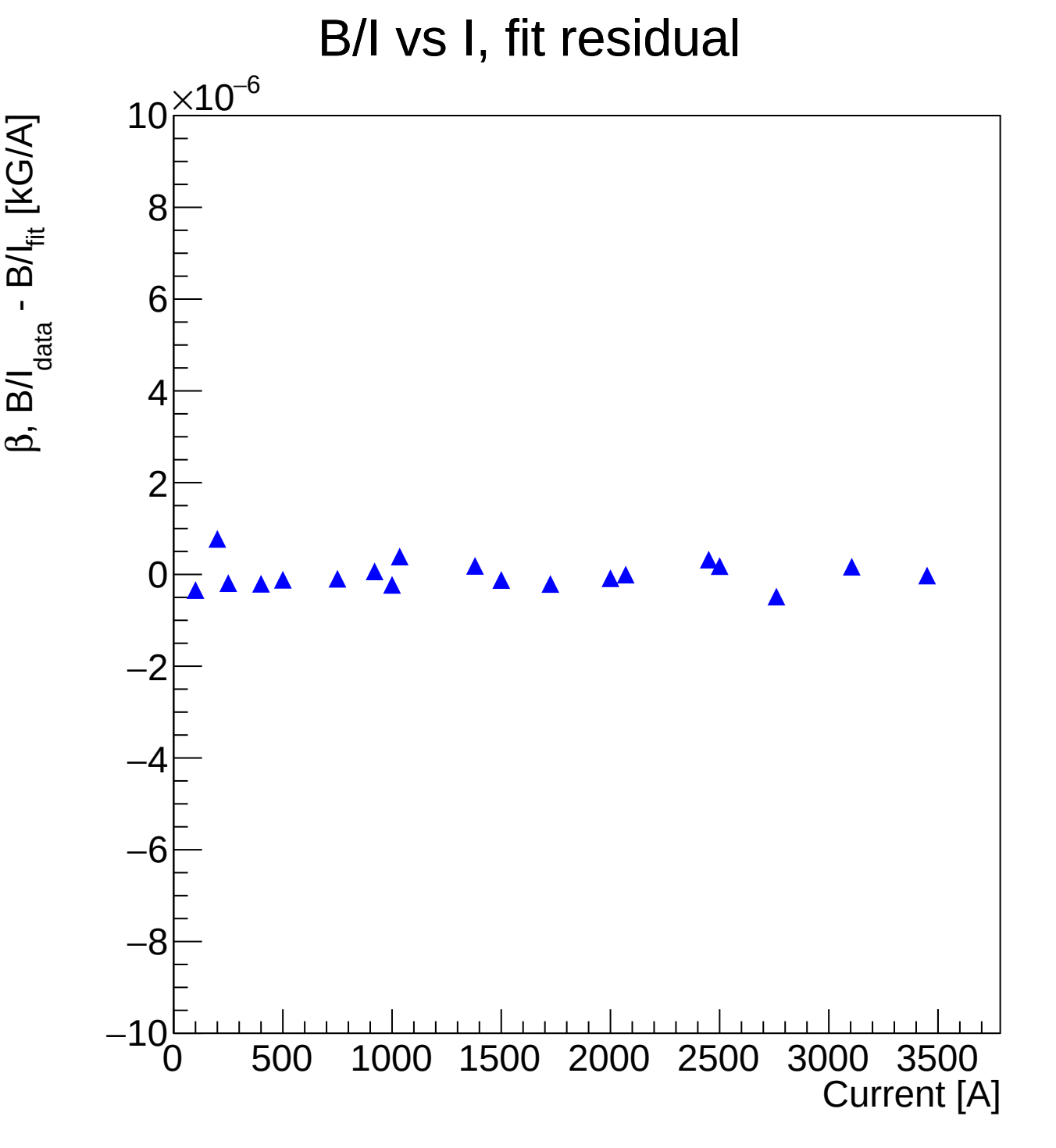

Residual relative to line from (0,0) to (B_{max}, I_{max})
Residual [kG]
0.1
0.08
0.06
0.04
0.02
0
–0.02
–0.04
–0.06
–0.08
–0.1
–4000
–3000
–2000
–1000
0
1000
2000
3000
4000
Current [A]

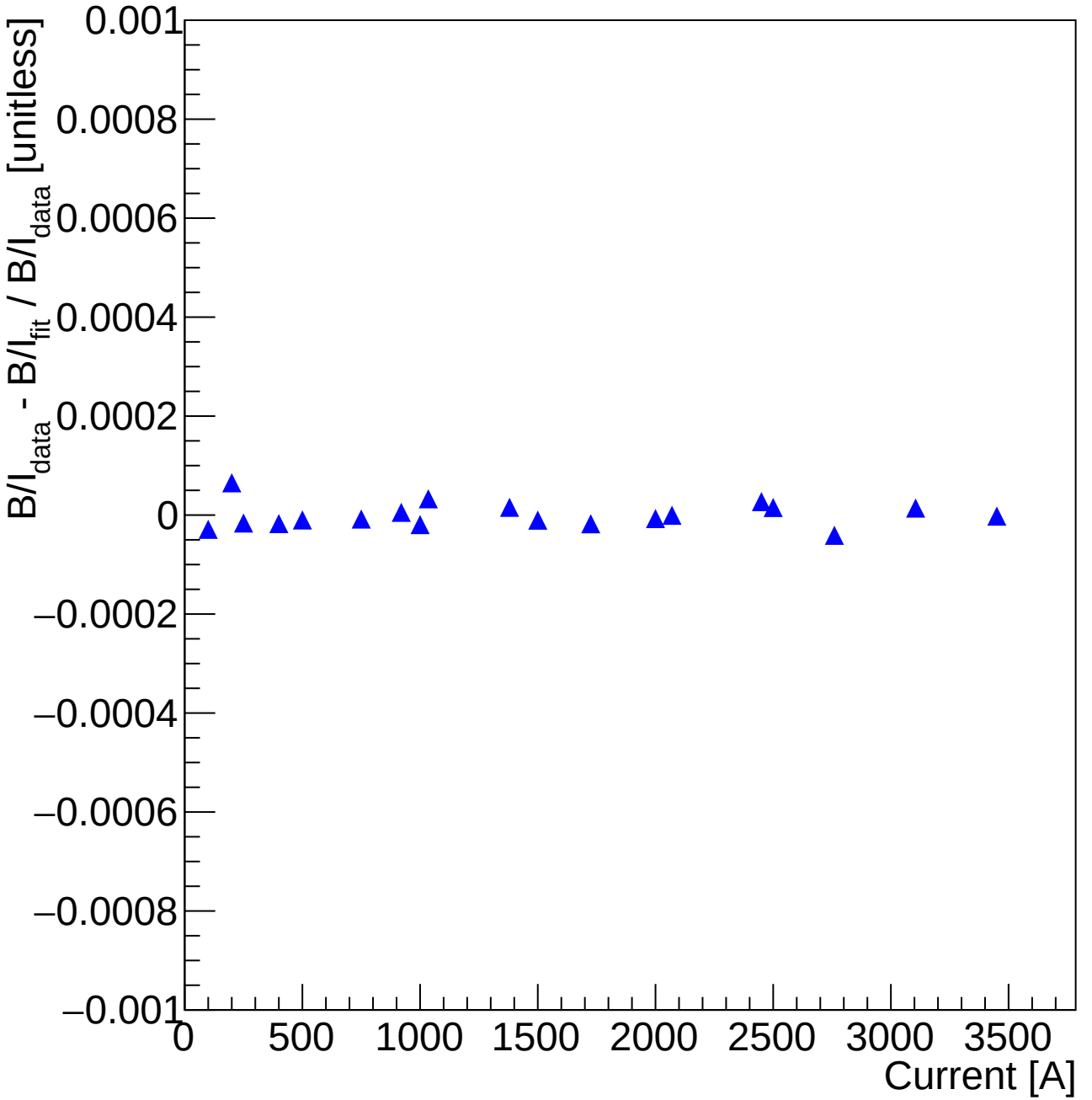

Relative Residual relative to line from (0,0) to (B_{max}, I_{max})
Relative Residual [unitless]
0.01
0.009
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
−4000
−3000
−2000
−1000
0
1000
2000
3000
4000
Current [A]


Polarity asymmetry
$B_{pos} + B_{neg}$ [kG]
0.01
0.008
0.006
0.004
0.002
0
–0.002
–0.004
–0.006
–0.008
–0.01
1000
1500
2000
2500
3000
3500
Current [A]

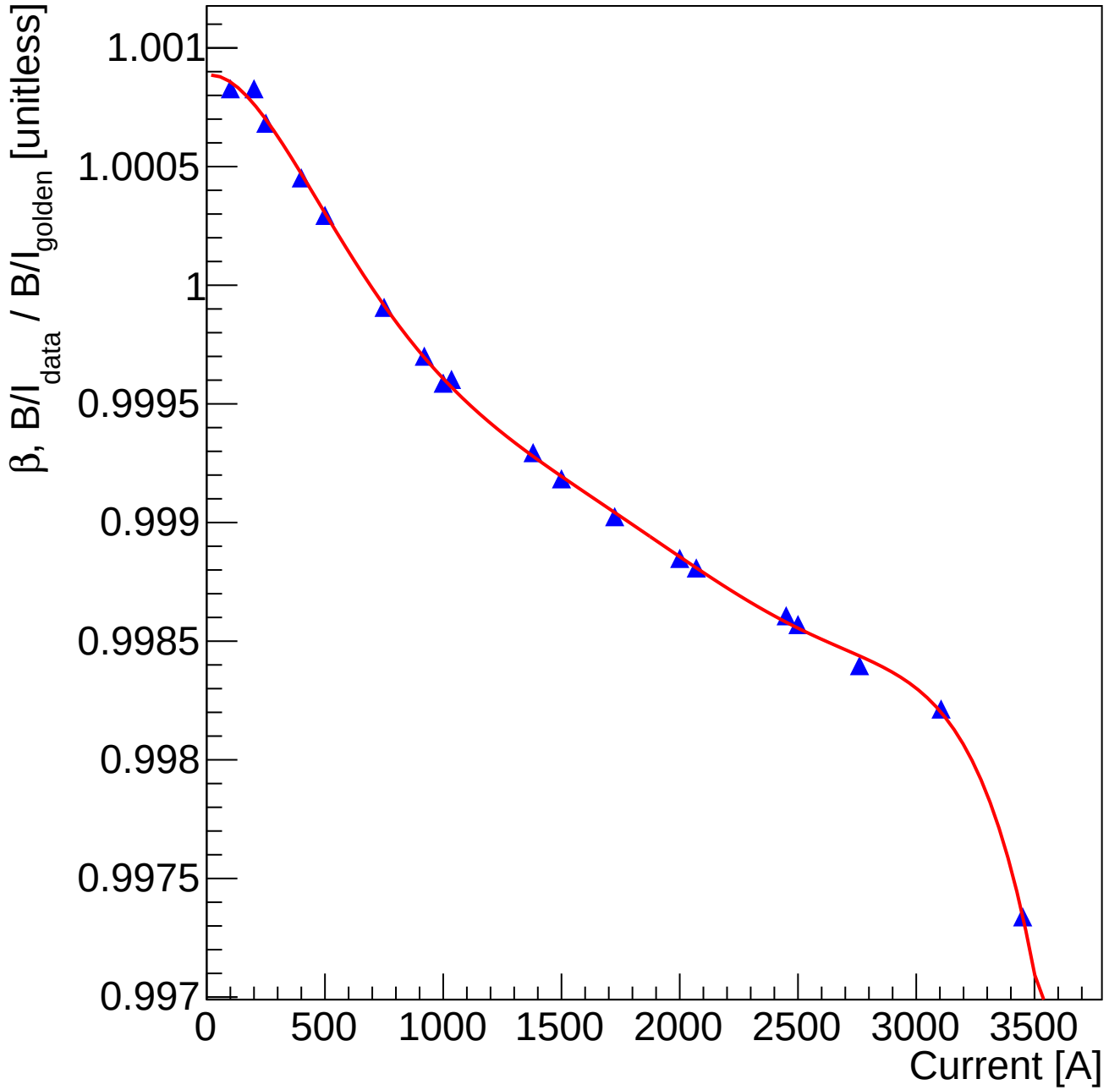

Relative polarity asymmetry
×10⁻³
0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
−0.5
B_pos + B_neg / B_pos [unitless]
1000
1500
2000
2500
3000
3500
Current [A]

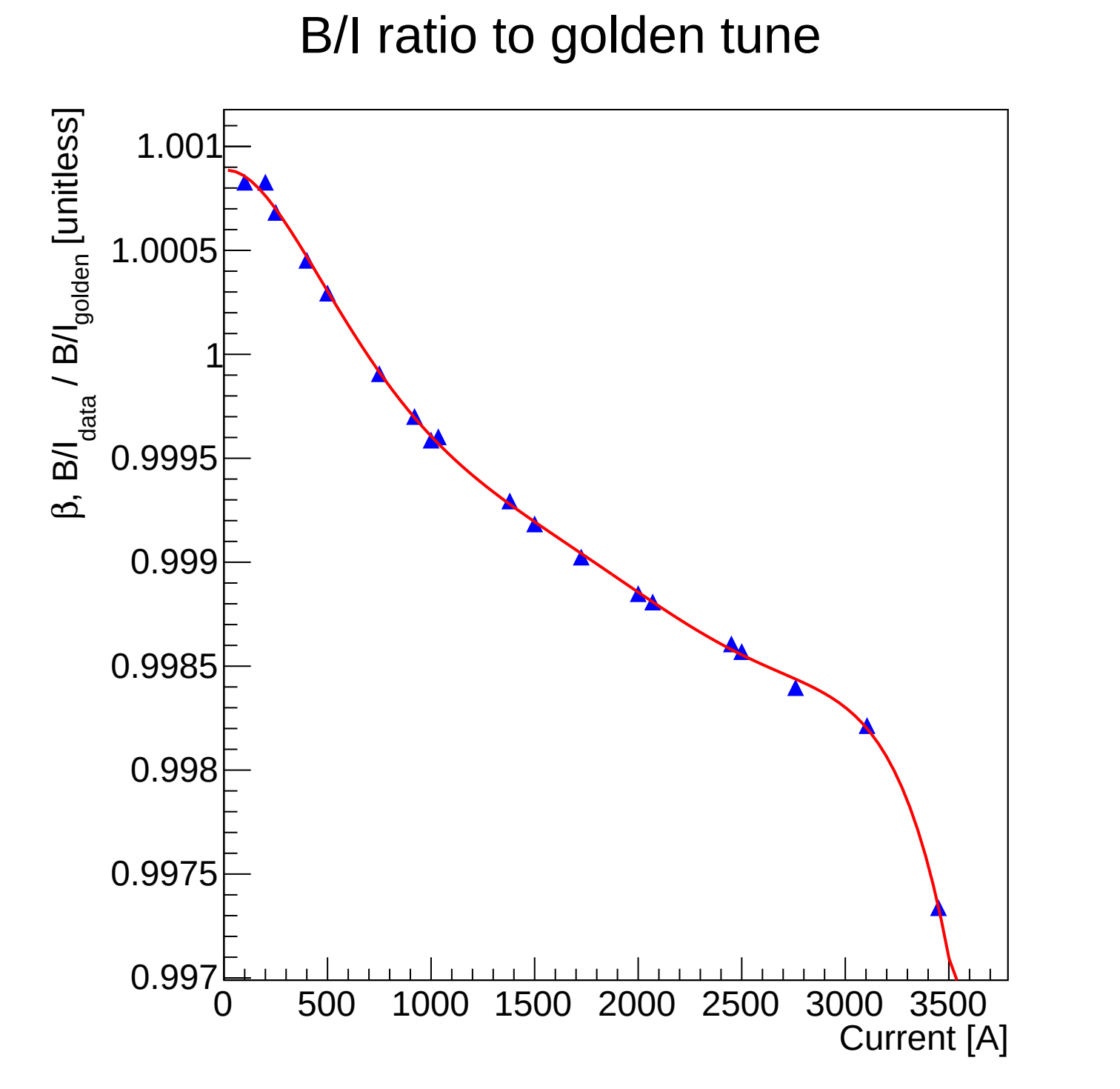

B vs I
×10⁻³
β, B/I [kG]
11.86
11.855
11.85
11.845
11.84
11.835
11.83
11.825
11.82
11.815
0
500
1000
1500
2000
2500
3000
3500
Current [A]
χ² / ndf 1.521e−12 / 12
p0 0.01186 ± 6.813e−07
p1 1.889e−09 ± 5.236e−09
p2 −5.802e−11 ± 1.251e−11
p3 7.021e−14 ± 1.32e−14
p4 −3.804e−17 ± 6.83e−18
p5 9.794e−21 ± 1.696e−21
p6 −9.721e−25 ± 1.613e−25


B/I vs I, fit residual
×10⁻⁶
10
8
6
4
2
0
−2
−4
−6
−8
−10
β, B/I_data - B/I_fit [kG/A]
0
500
1000
1500
2000
2500
3000
3500
Current [A]


B/I vs I, fit relative residual
$B/I_{data} - B/I_{fit} / B/I_{data}$ [unitless]
0.001
0.0008
0.0006
0.0004
0.0002
0
–0.0002
–0.0004
–0.0006
–0.0008
–0.001
0
500
1000
1500
2000
2500
3000
3500
Current [A]

B/I ratio to golden tune




B/I ratio to golden tune
β, B/I_data / B/I_golden [unitless]
1.001
1.0005
1
0.9995
0.999
0.9985
0.998
0.9975
0.997
0
500
1000
1500
2000
2500
3000
3500
Current [A]