SLAC Magnetic Measurements

EPU Analysis
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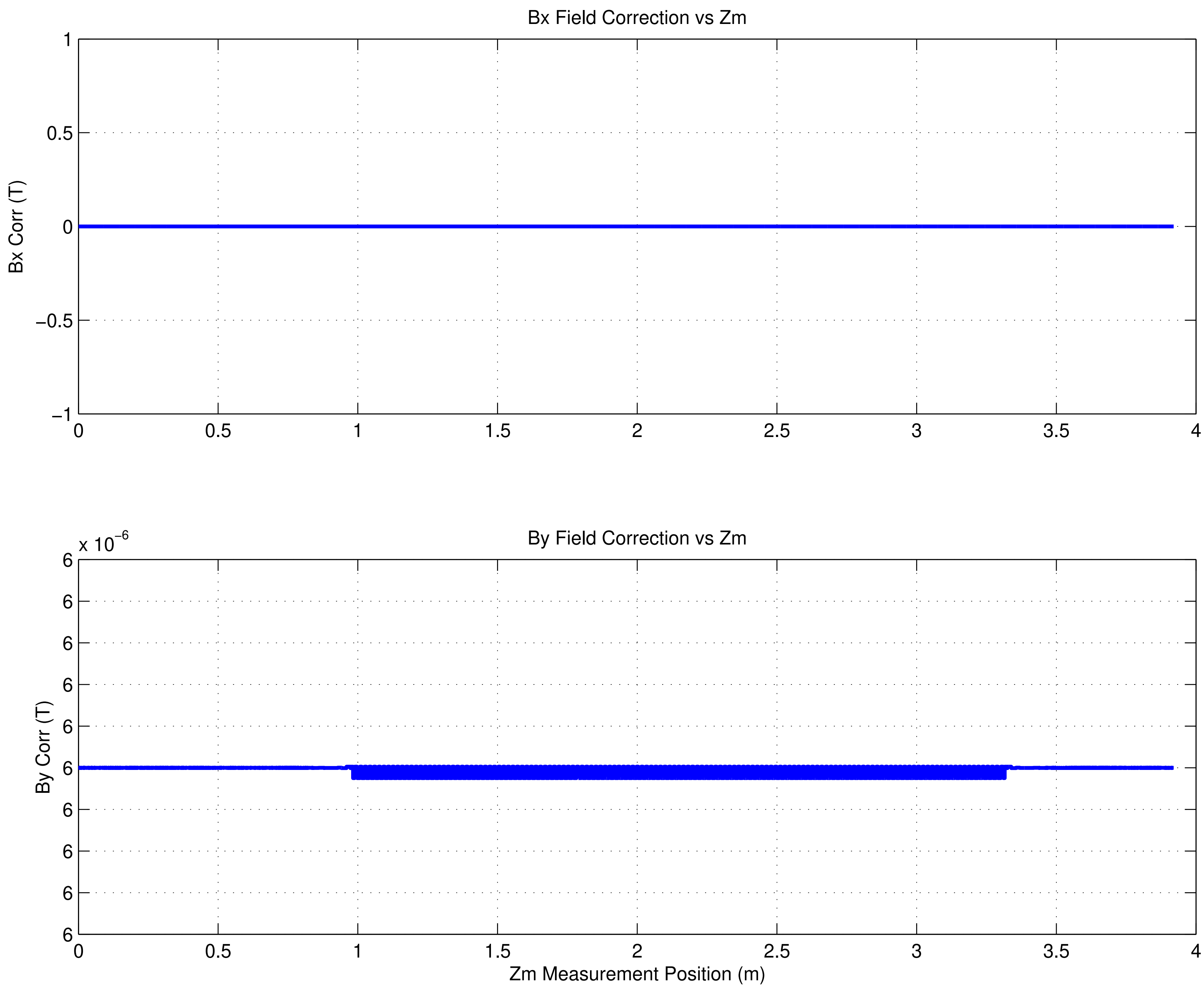
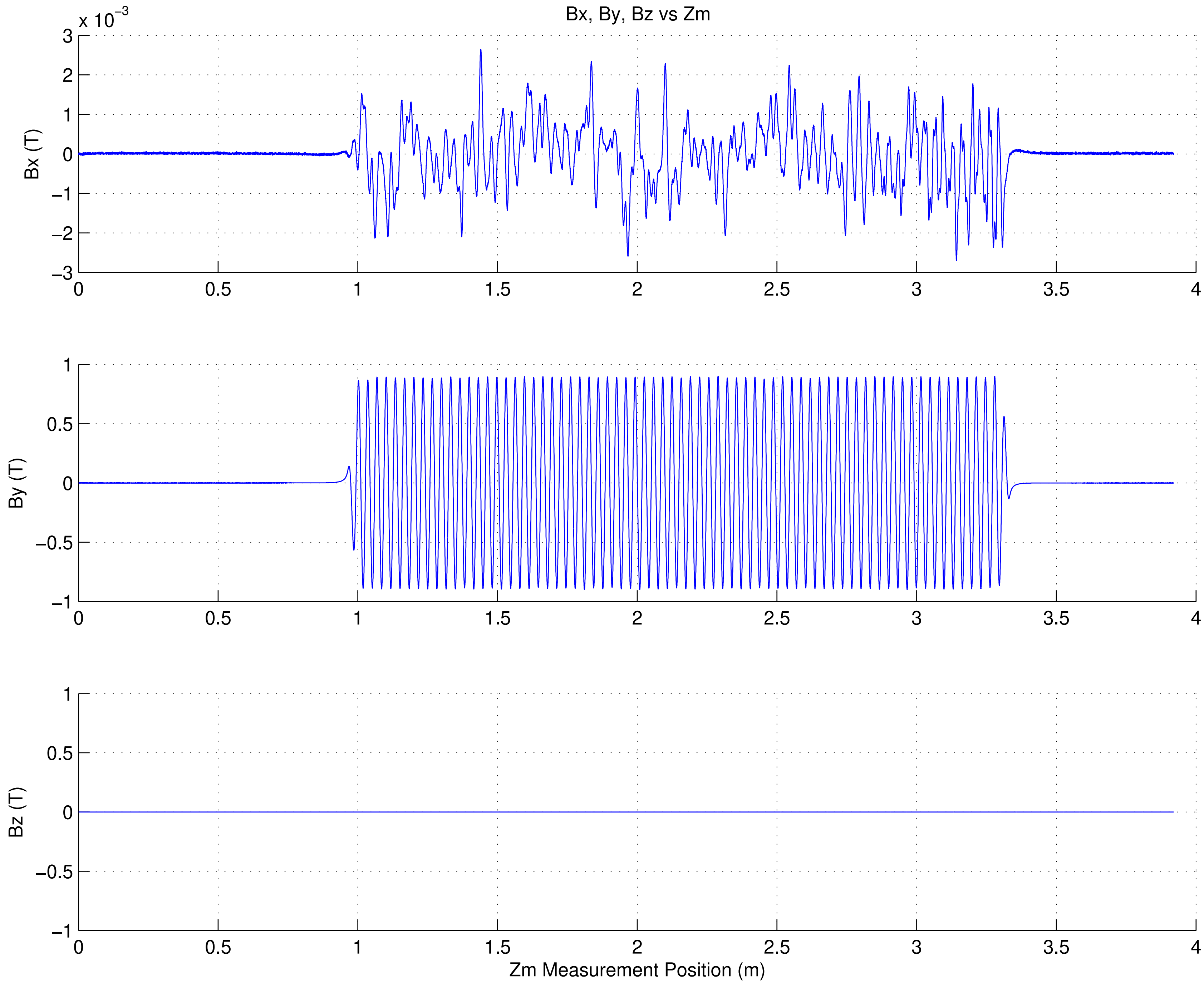
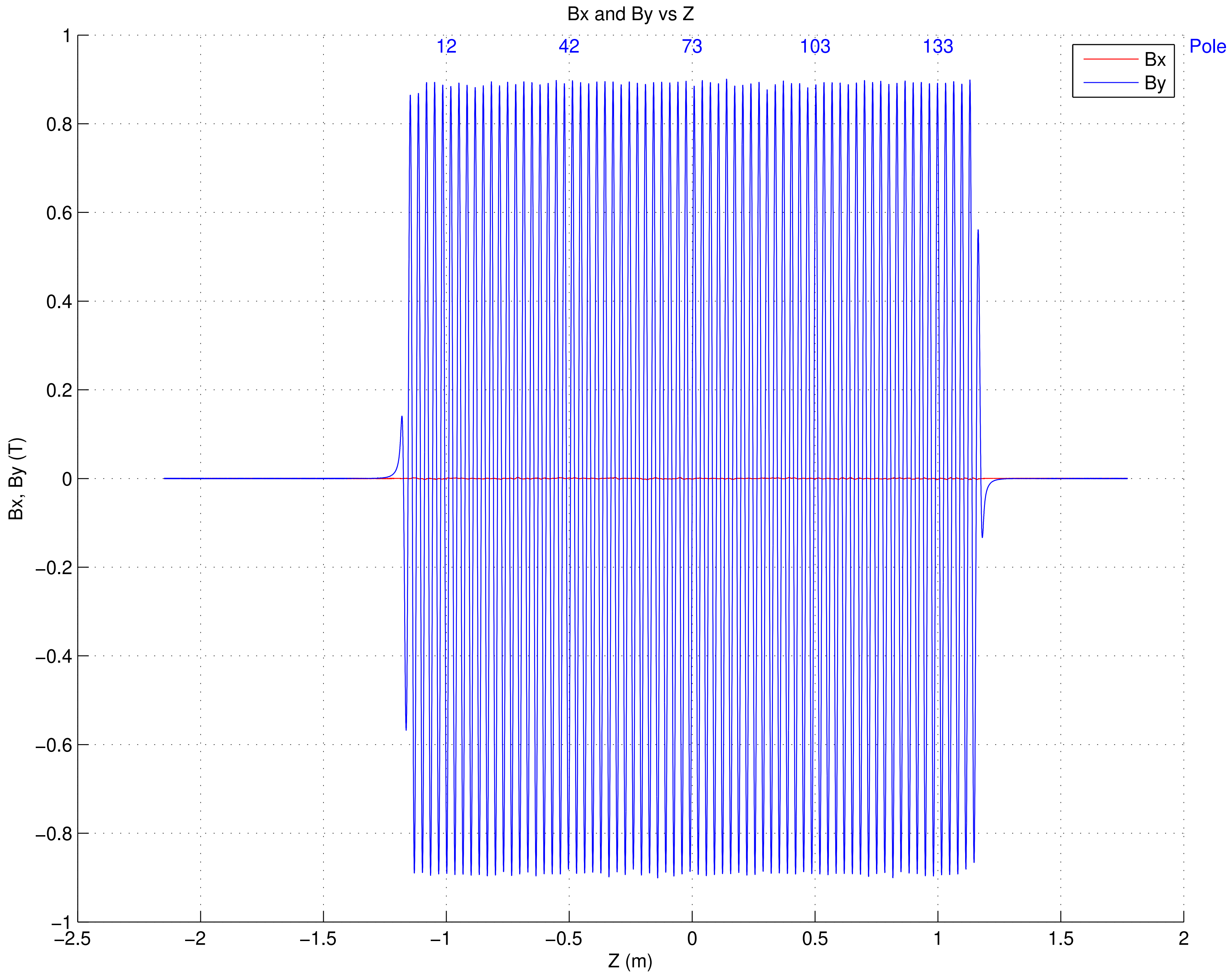
Parameters:
INPUT–FILE–DIR =V:\MET\MagServe\MagData\LCLS\Undulator\A1–ANL\DATASET0002\Rough Tuning\Z Scans\Run 001\
INPUT–FILE–NAME =x+00000–y+000–bscanz.dat
INPUT–FILE–TYPE =ZVXYBXYH
CORR–REQUIRED =1
GAMMA =26627.1
NOM–LAMBDA–U =0.033
NOM–K–VALUE =1.047
NOM–LAMBDA–R =3.6028e–011
NUM–POLES =144
NUM–END–POLES =4
CELL–LENGTH =3.5



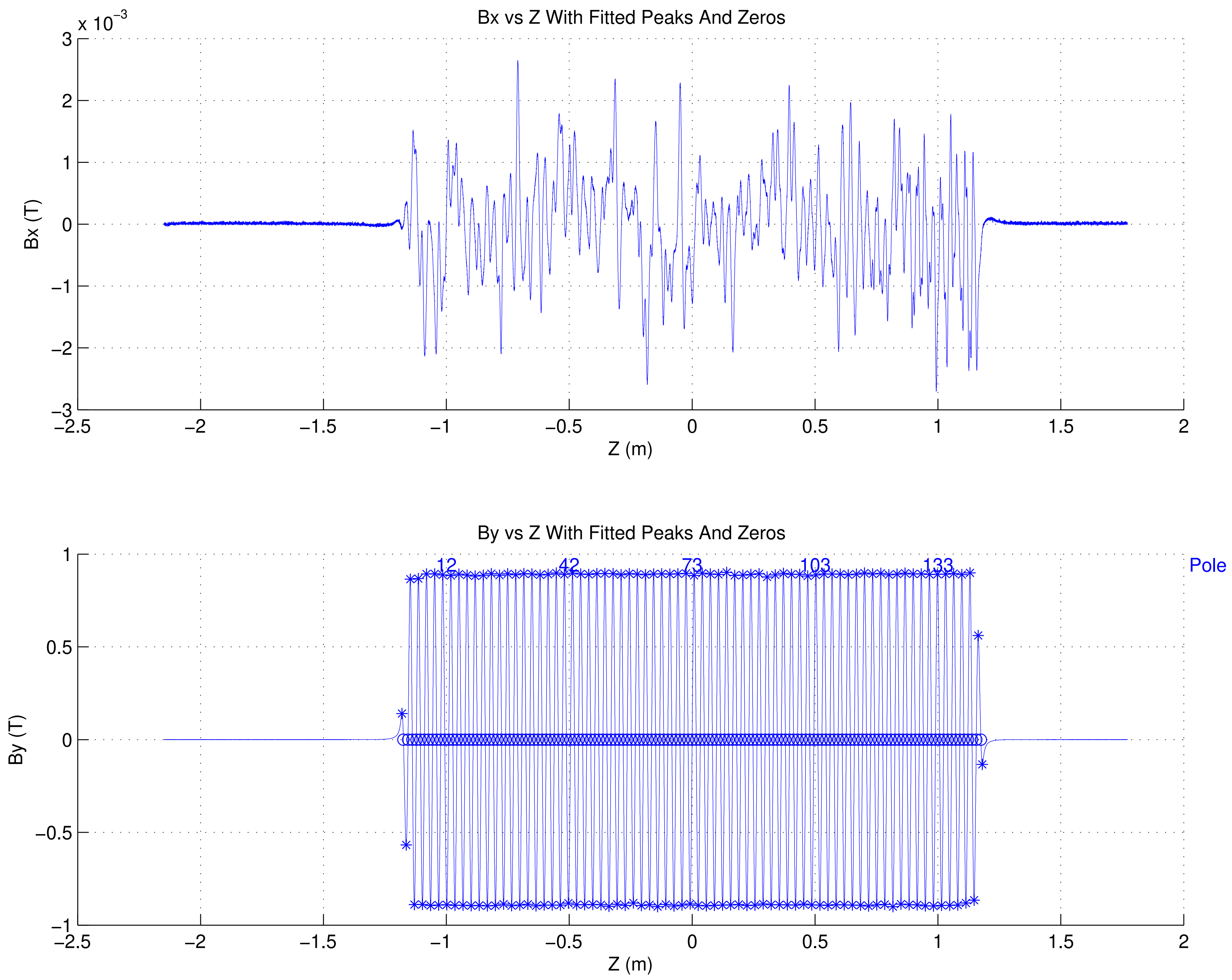
Bx Field Correction vs Zm
Bx Corr (T)
By Field Correction vs Zm
x 10^-6
By Corr (T)
Zm Measurement Position (m)



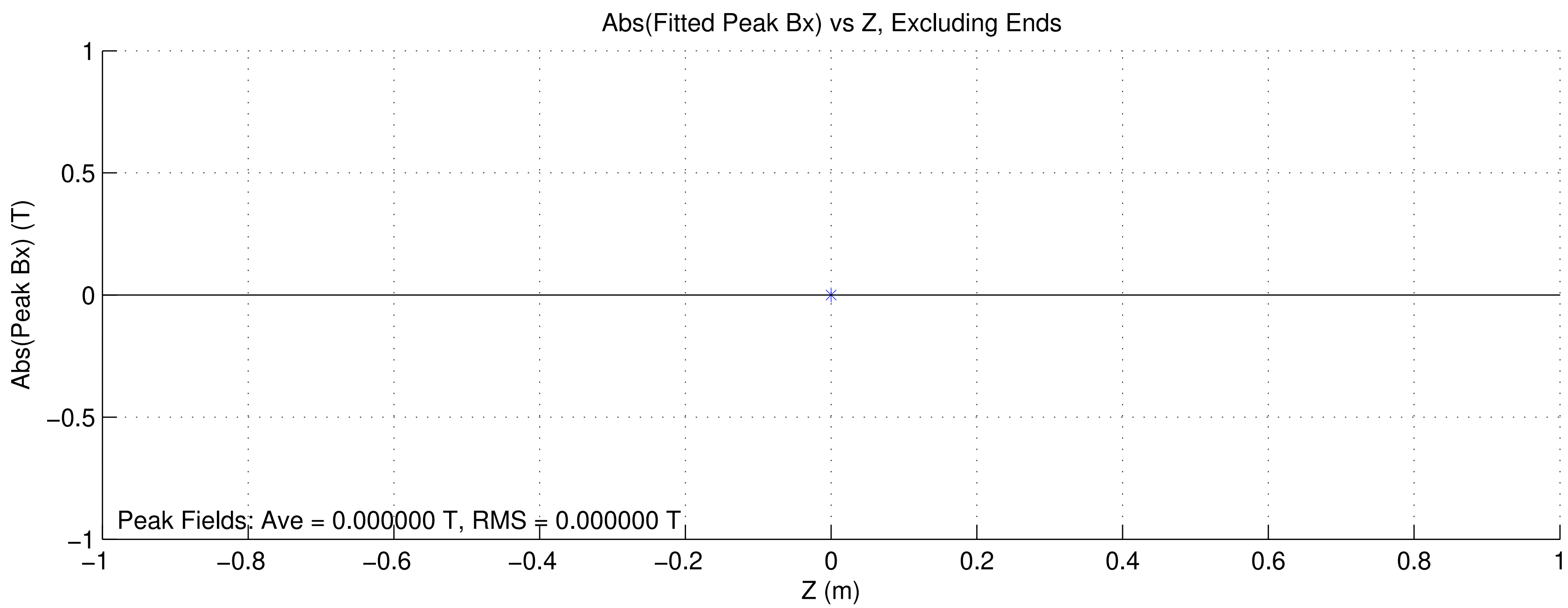
Bx, By, Bz vs Zm
x 10^-3
Bx (T)
By (T)
Bz (T)
Zm Measurement Position (m)



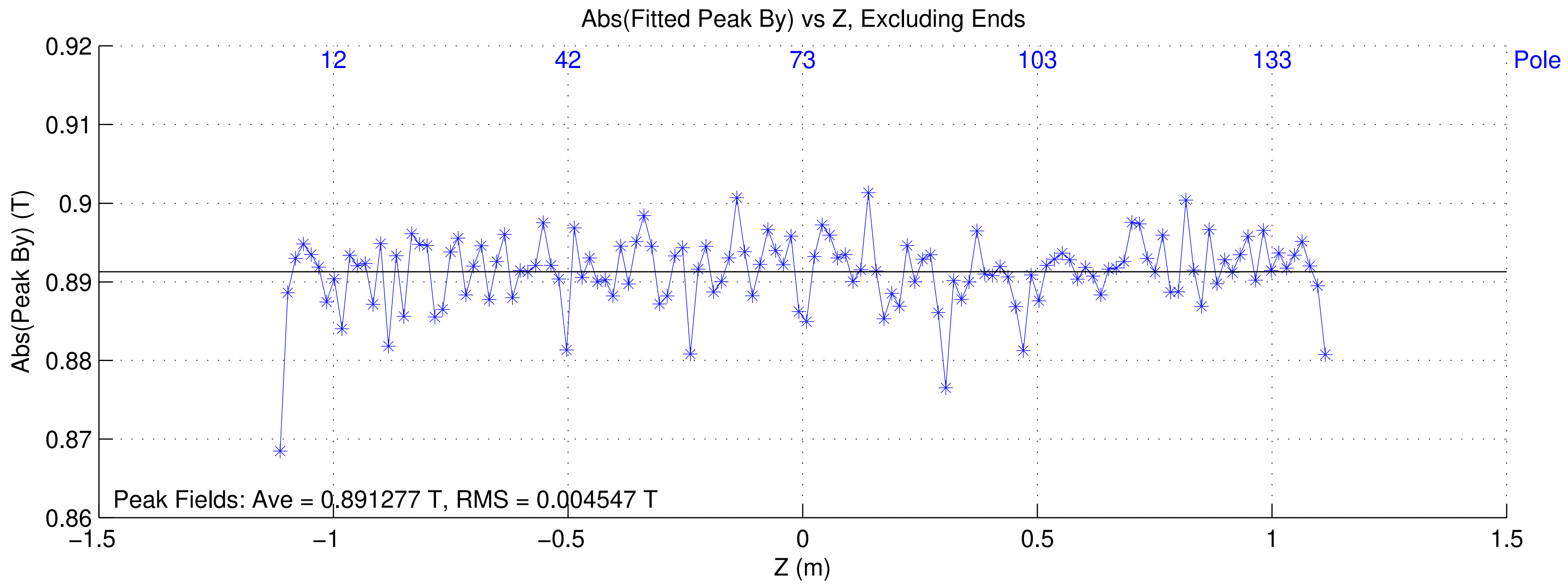
Bx and By vs Z
12
42
73
103
133
Pole
Bx
By
Bx, By (T)
Z (m)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2



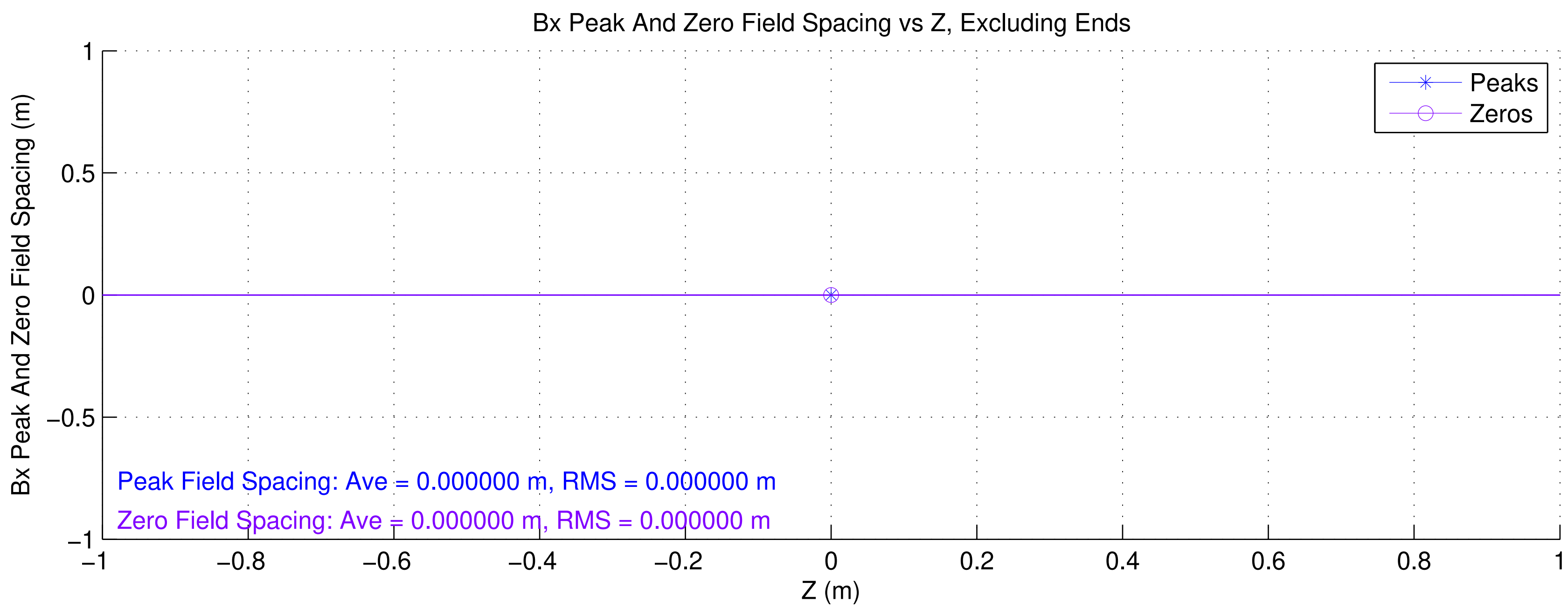
Bx vs Z With Fitted Peaks And Zeros
x 10^-3
Bx (T)
Z (m)
By vs Z With Fitted Peaks And Zeros
12
42
73
103
133
Pole
By (T)
Z (m)



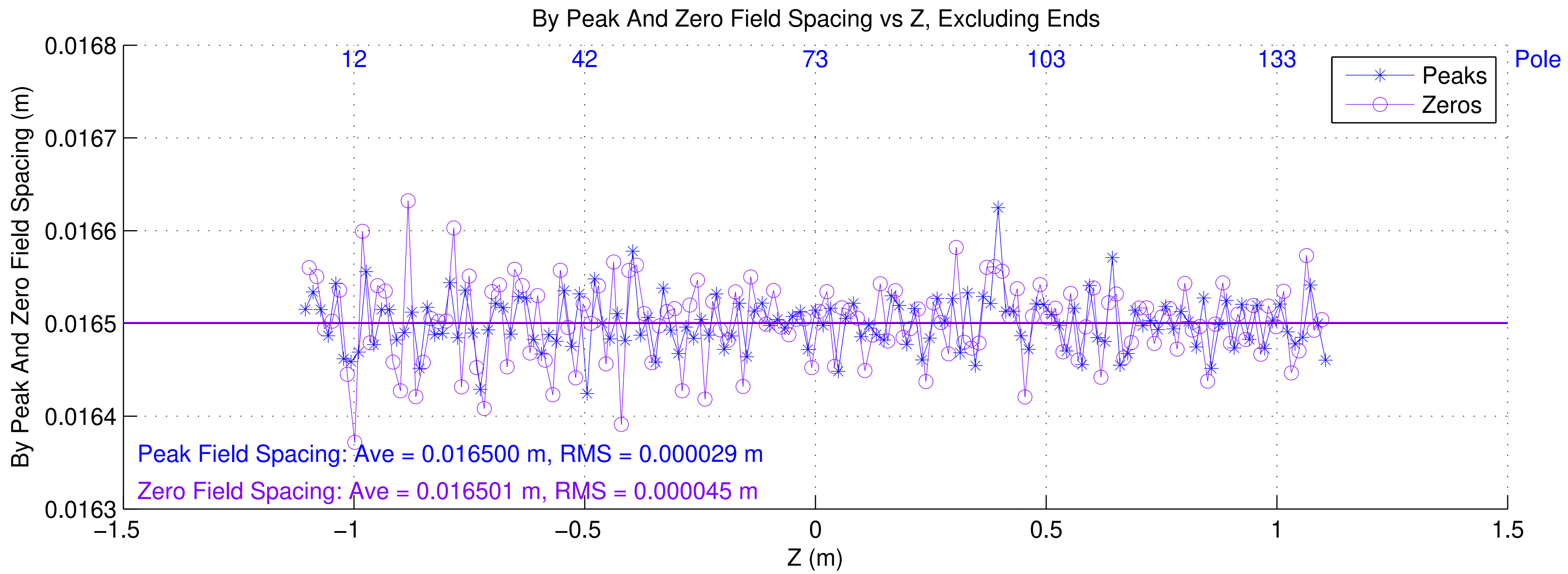
Abs(Fitted Peak Bx) vs Z, Excluding Ends
Abs(Peak Bx) (T)
1
0.5
0
−0.5
−1
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1
Z (m)
Peak Fields: Ave = 0.000000 T, RMS = 0.000000 T



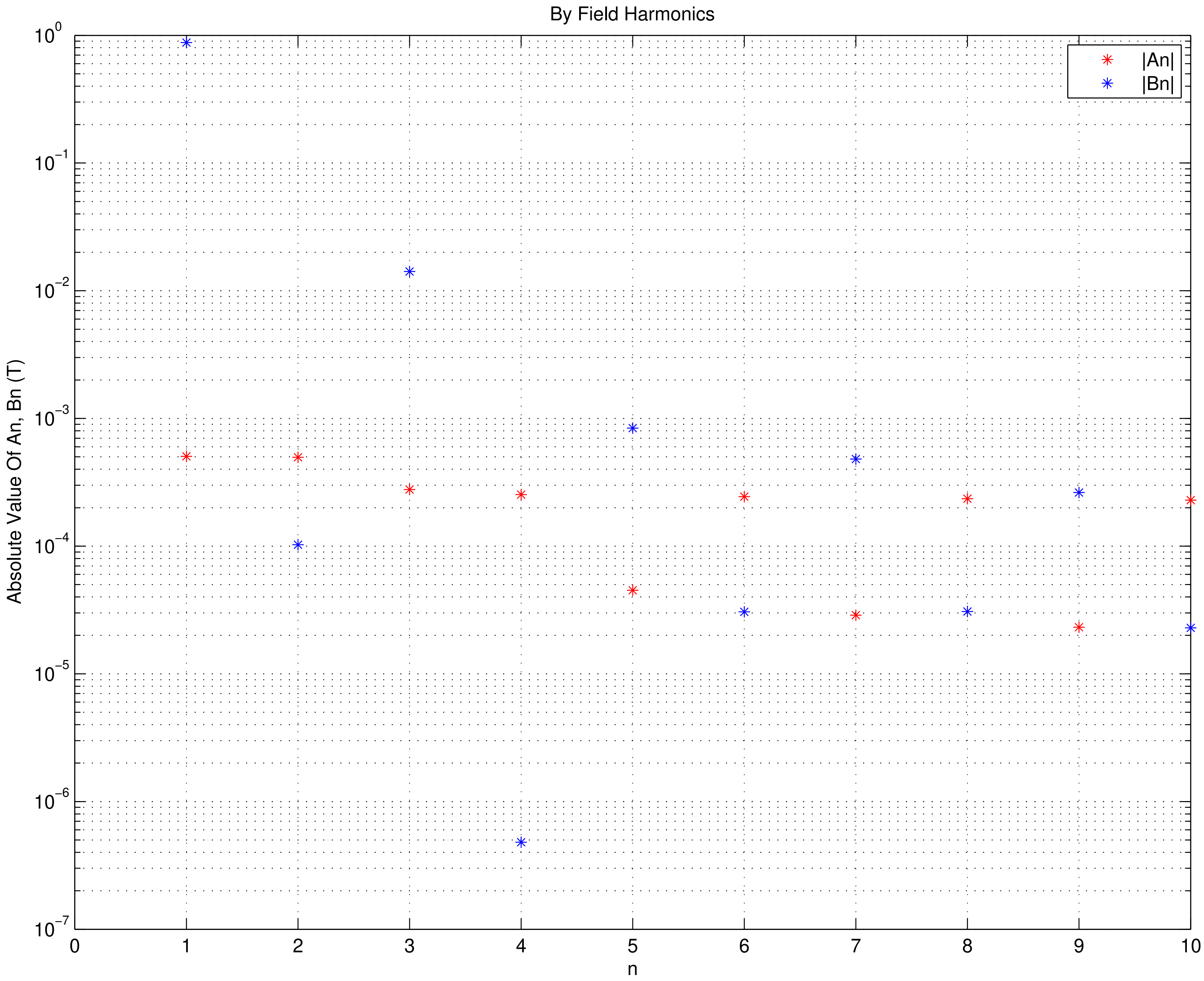
Abs(Fitted Peak By) vs Z, Excluding Ends
Abs(Peak By) (T)
12
42
73
103
133
Pole
0.92
0.91
0.9
0.89
0.88
0.87
0.86
−1.5
−1
−0.5
0
0.5
1
1.5
Z (m)
Peak Fields: Ave = 0.891277 T, RMS = 0.004547 T



Bx Peak And Zero Field Spacing vs Z, Excluding Ends
Bx Peak And Zero Field Spacing (m)
Z (m)
Peaks
Zeros
Peak Field Spacing: Ave = 0.000000 m, RMS = 0.000000 m
Zero Field Spacing: Ave = 0.000000 m, RMS = 0.000000 m



By Peak And Zero Field Spacing vs Z, Excluding Ends
By Peak And Zero Field Spacing (m)
Z (m)
12
42
73
103
133
Pole
Peaks
Zeros
Peak Field Spacing: Ave = 0.016500 m, RMS = 0.000029 m
Zero Field Spacing: Ave = 0.016501 m, RMS = 0.000045 m



By Field Harmonics
|An|
|Bn|
Absolute Value Of An, Bn (T)
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-7}
0
1
2
3
4
5
6
7
8
9
10
n