SLAC Magnetic Measurements

EPU Analysis
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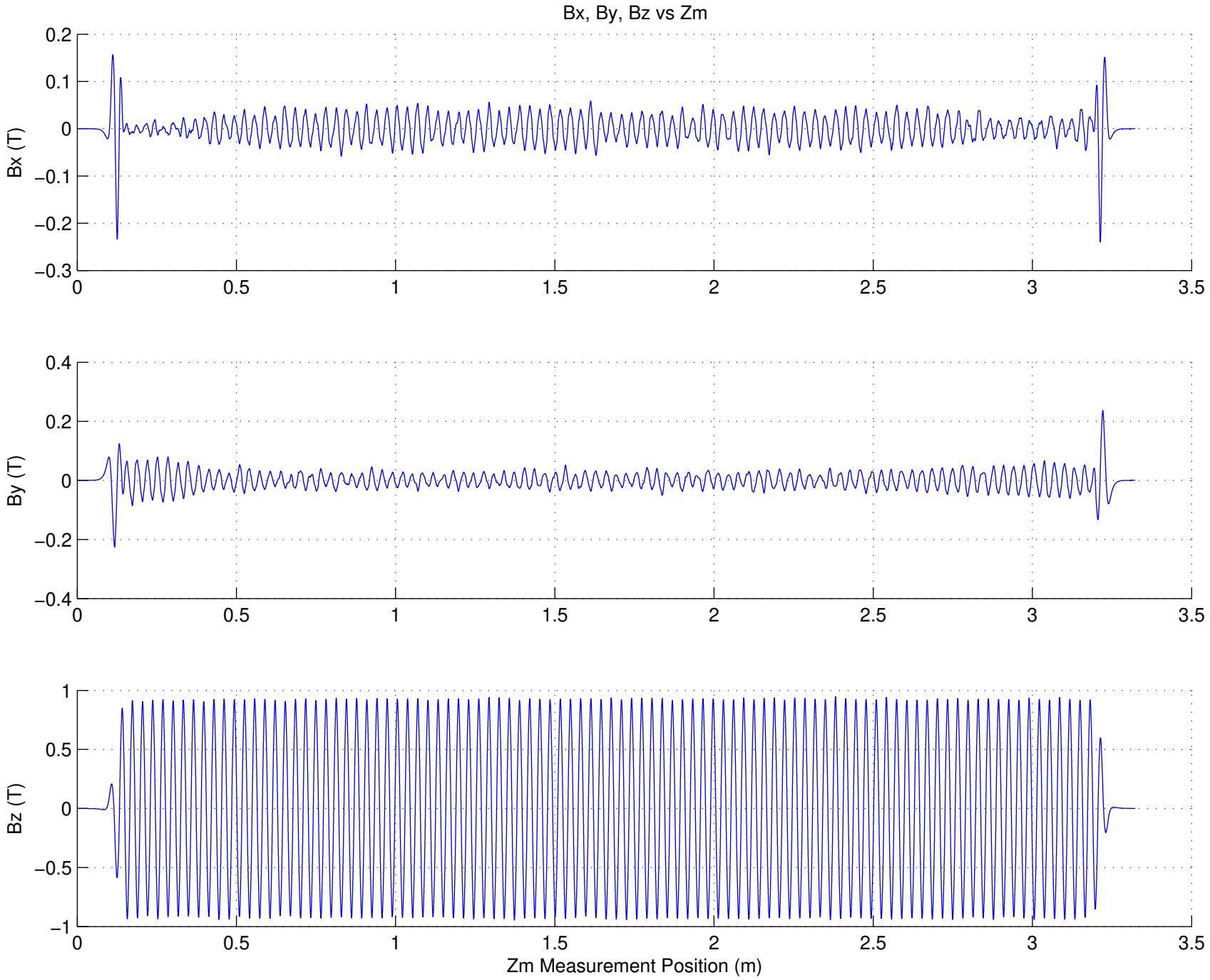
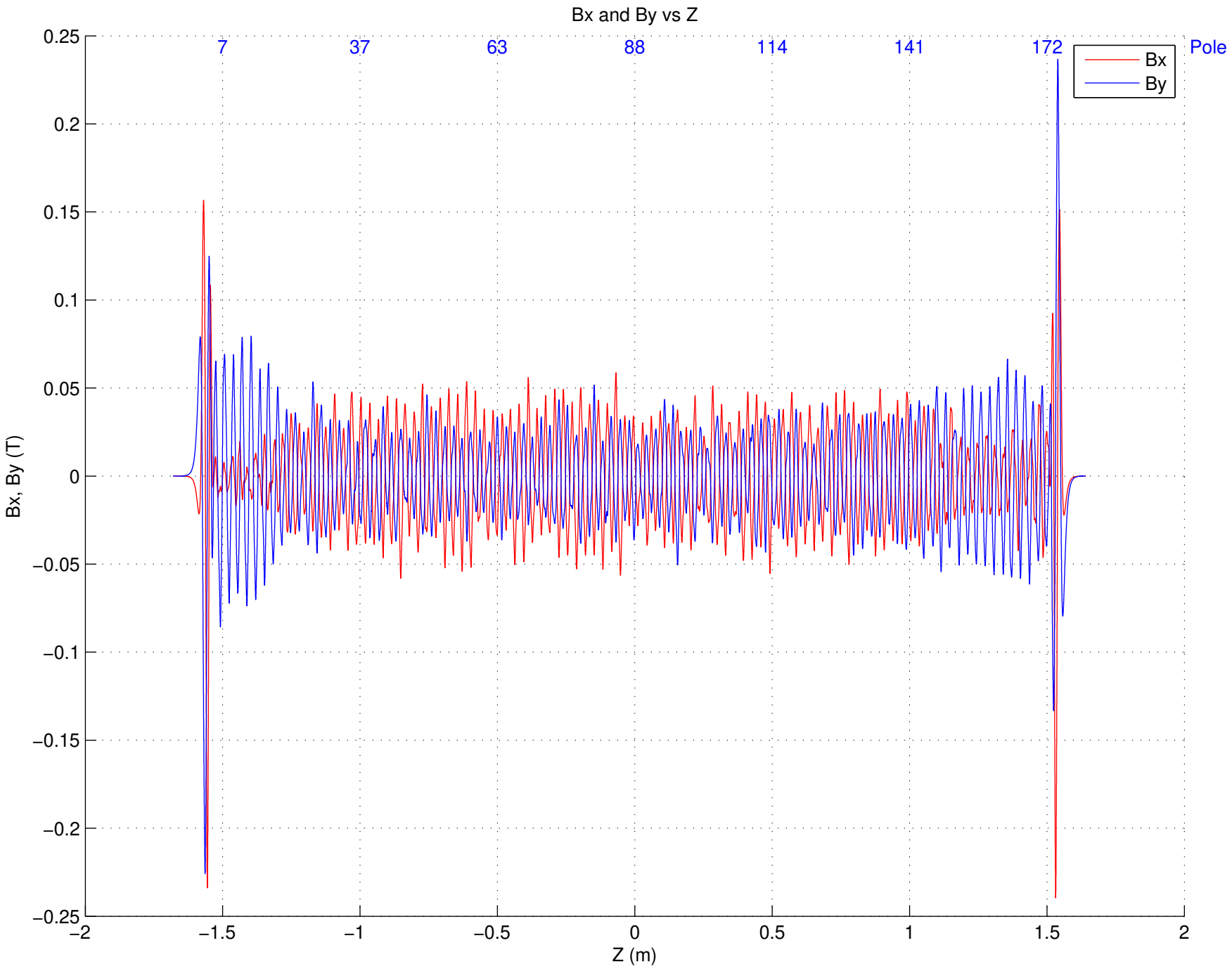
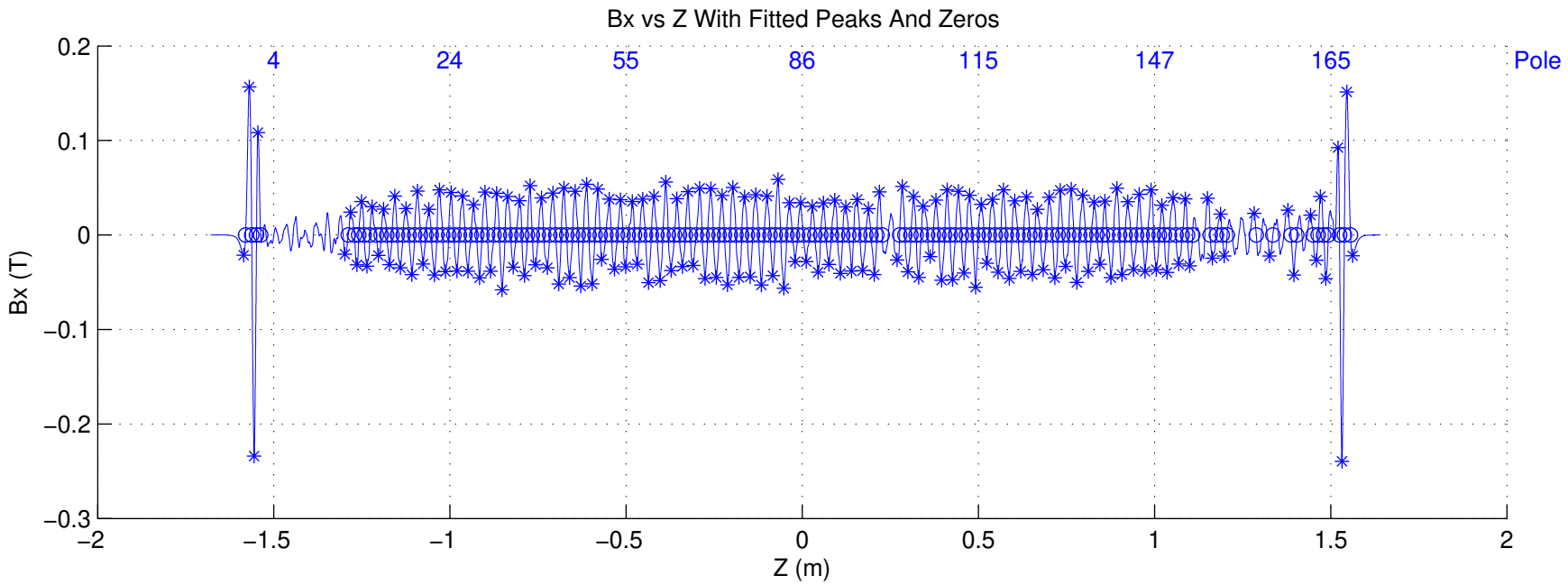
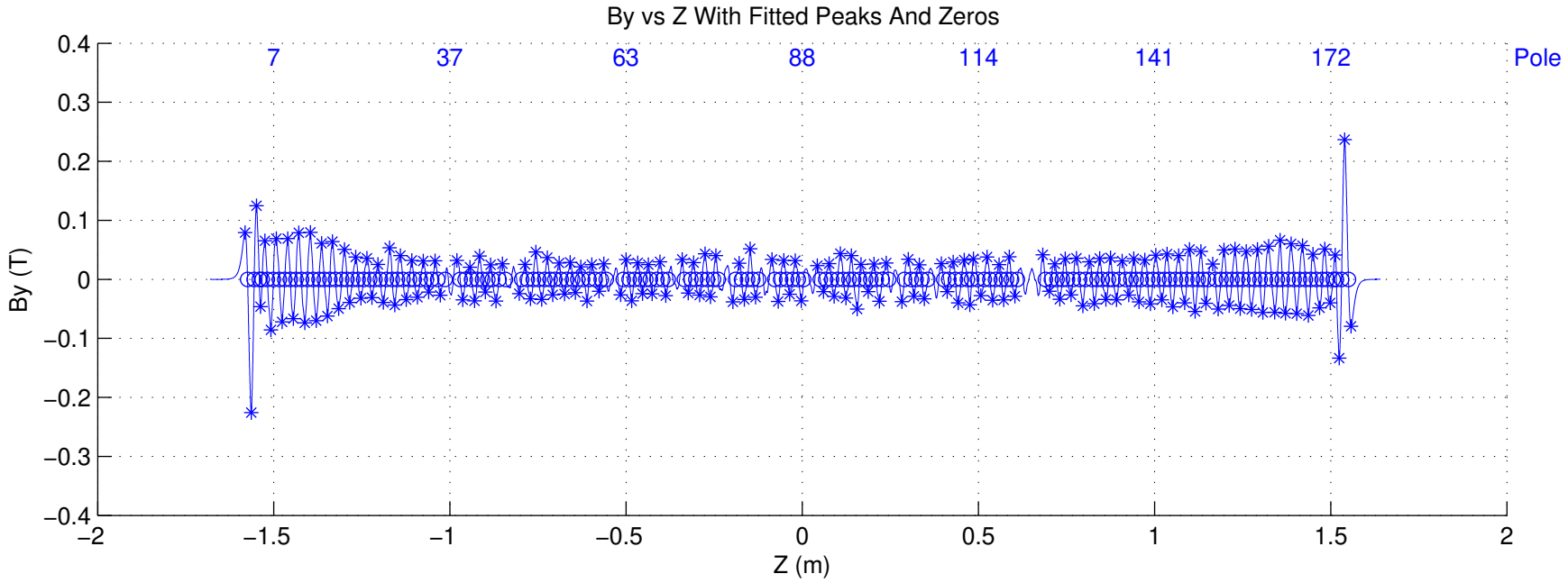
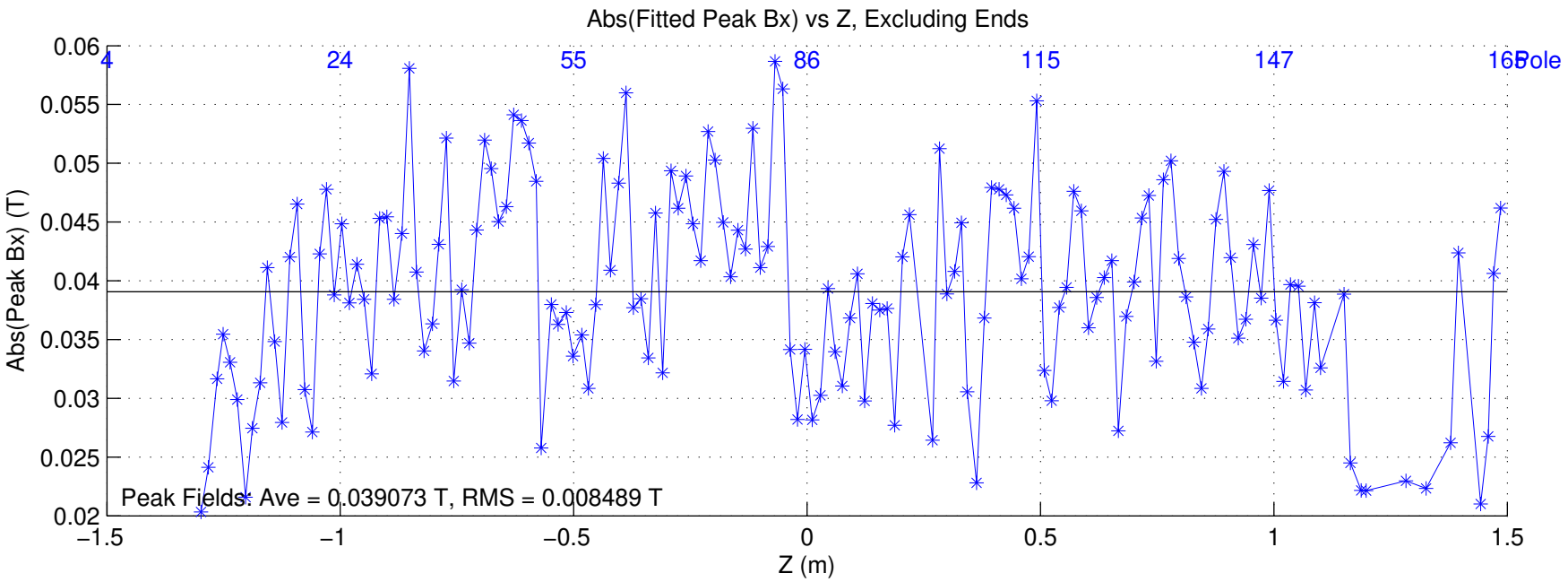
Parameters:
INPUT−FILE−DIR =V:\MET\MagServe\MagData\DELTA\Delta data\Assembled Measurements\Final Measurements Repeat\CPLI
INPUT−FILE−NAME =hall2−anal−meas−field.dat
INPUT−FILE−TYPE =ZBXYZH
CORR−REQUIRED =0
GAMMA =26627.1
NOM−LAMBDA−U =0
NOM−K−VALUE =0
NOM−LAMBDA−R =0
NUM−POLES =196
NUM−END−POLES =4
CELL−LENGTH =3.126

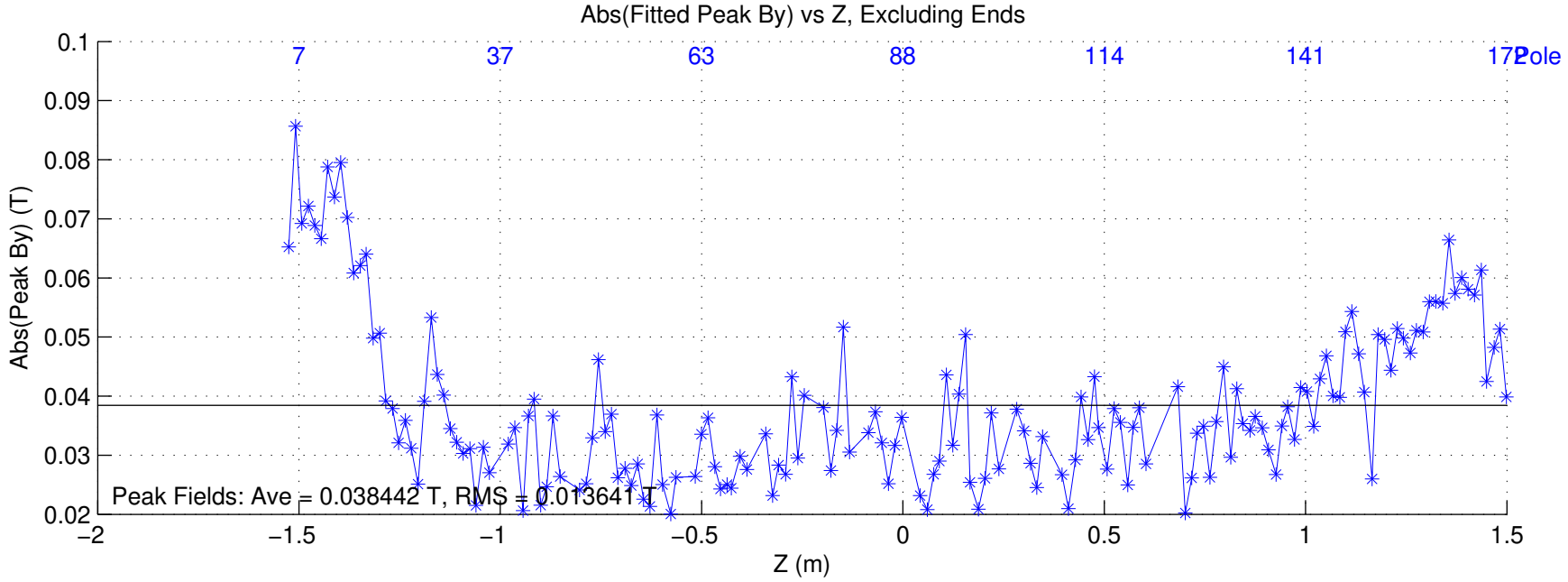

Bx, By, Bz vs Zm
Bx (T)
By (T)
Bz (T)
Zm Measurement Position (m)
0.2
0.1
0
−0.1
−0.2
−0.3
0.4
0.2
0
−0.2
−0.4
1
0.5
0
−0.5
−1
0
0.5
1
1.5
2
2.5
3
3.5

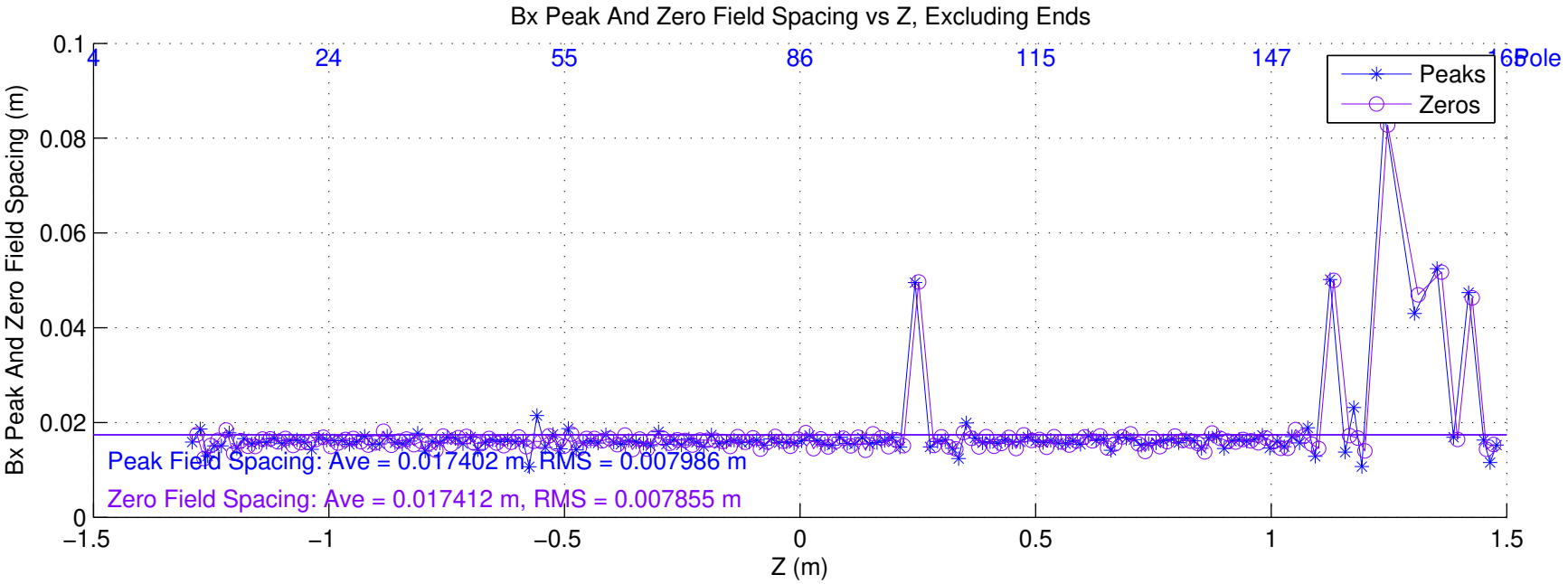

Bx and By vs Z
7
37
63
88
114
141
172
Pole
Bx
By
0.25
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
−0.2
−0.25
Bx, By (T)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z (m)

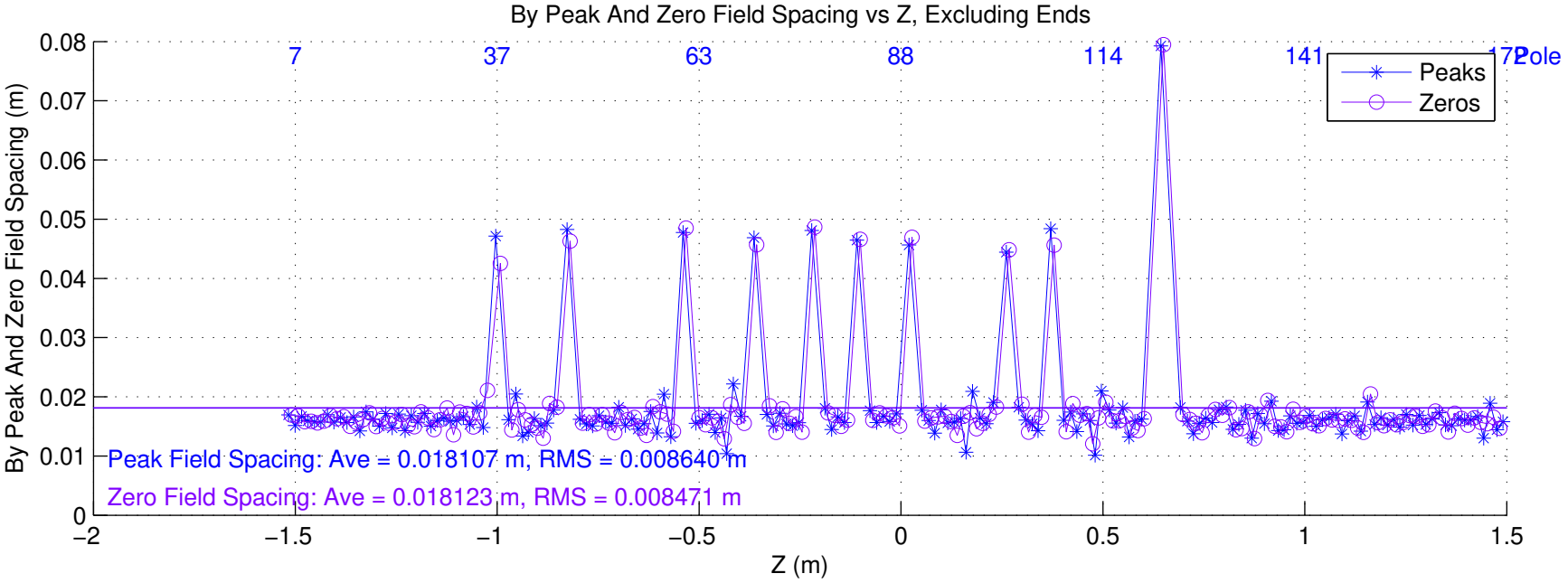

Bx vs Z With Fitted Peaks And Zeros
4
24
55
86
115
147
165
Pole
0.2
0.1
0
−0.1
−0.2
−0.3
Bx (T)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z (m)

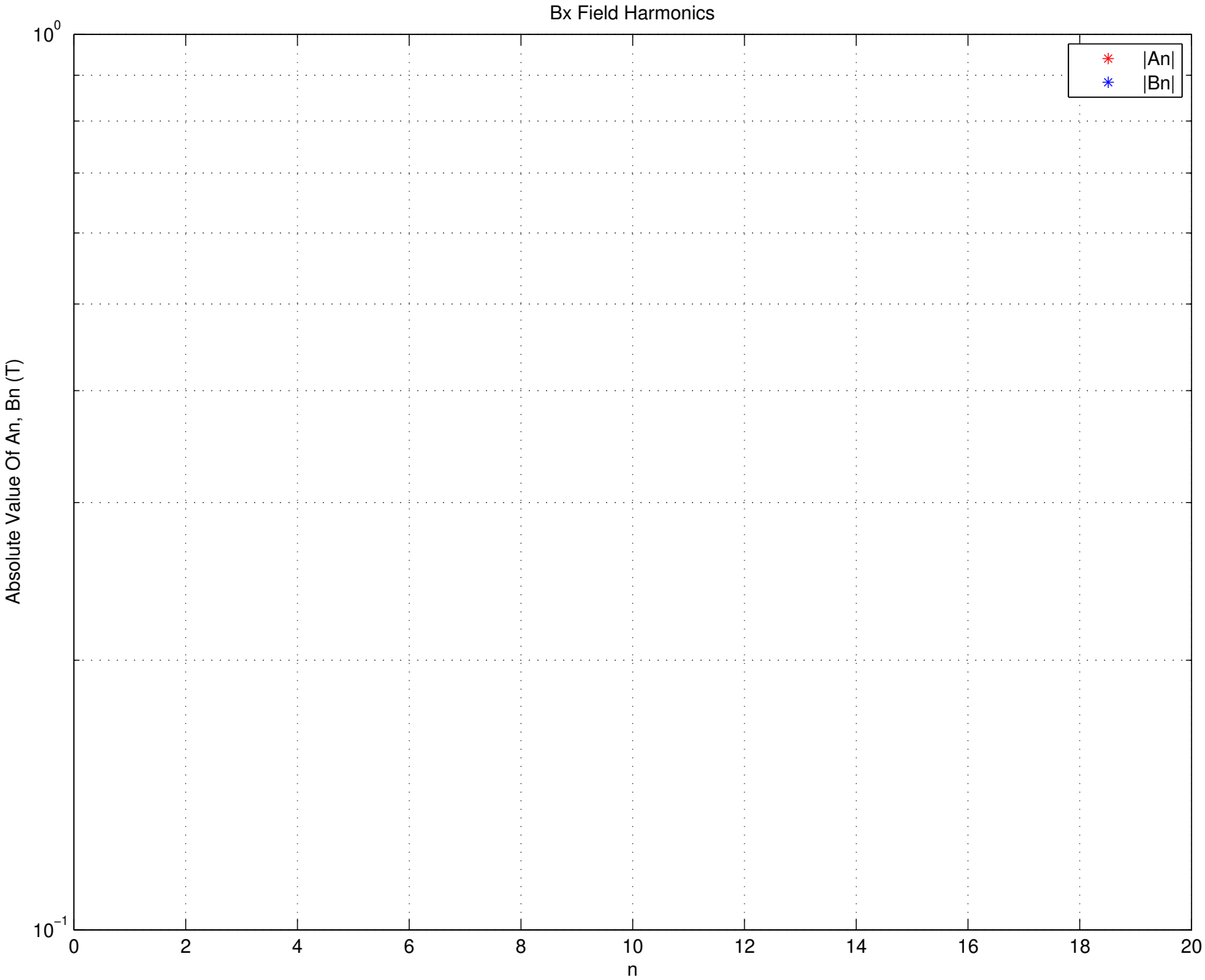

By vs Z With Fitted Peaks And Zeros
7
37
63
88
114
141
172
Pole
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
By (T)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z (m)

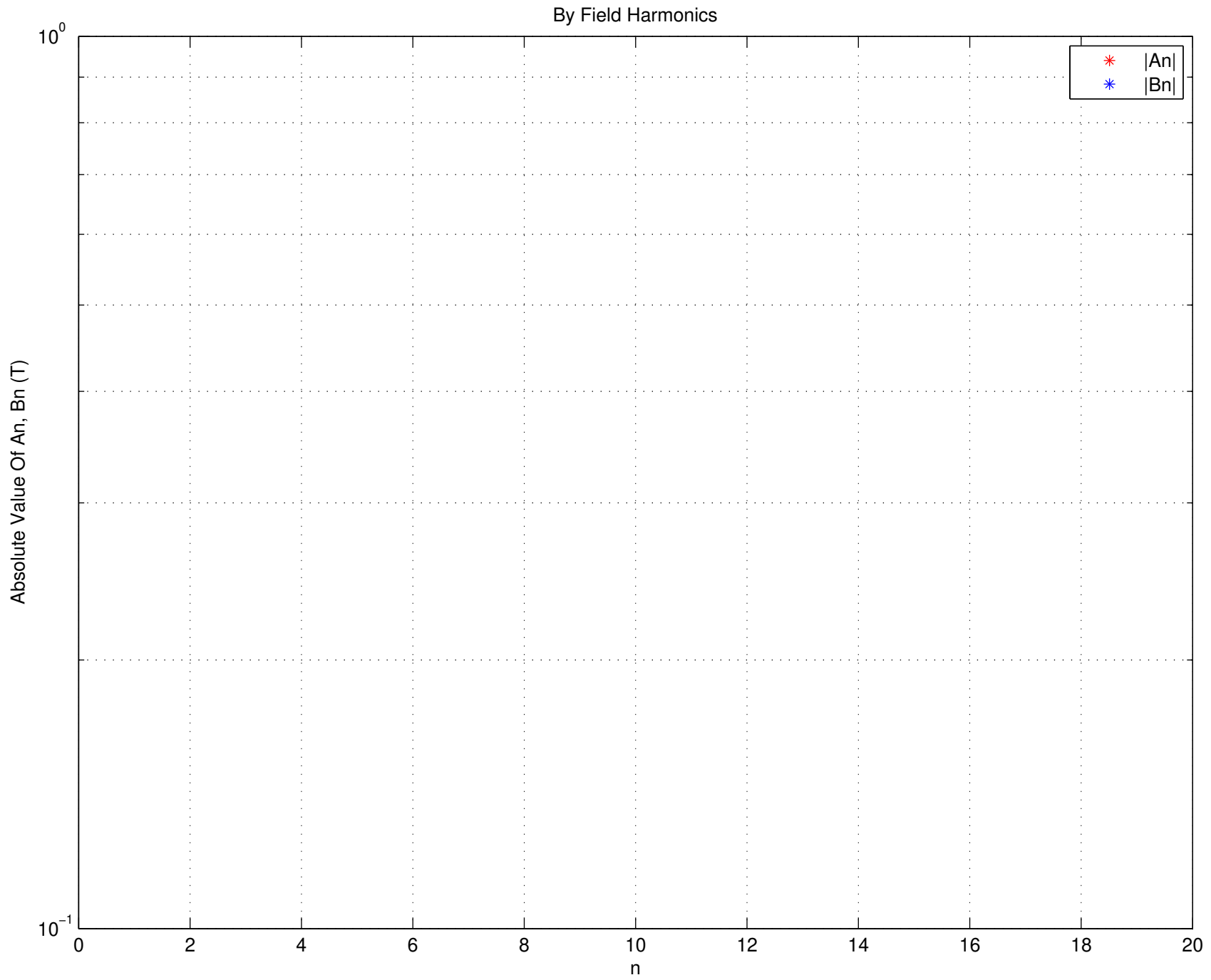

Abs(Fitted Peak Bx) vs Z, Excluding Ends
Abs(Peak Bx) (T)
Z (m)
Pole
4
24
55
86
115
147
165
Peak Fields: Ave = 0.039073 T, RMS = 0.008489 T
0.06
0.055
0.05
0.045
0.04
0.035
0.03
0.025
0.02
−1.5
−1
−0.5
0
0.5
1
1.5


Abs(Fitted Peak By) vs Z, Excluding Ends
Abs(Peak By) (T)
Z (m)
Pole
7
37
63
88
114
141
172
Peak Fields: Ave = 0.038442 T, RMS = 0.013641 T
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
−2
−1.5
−1
−0.5
0
0.5
1
1.5


Bx Peak And Zero Field Spacing vs Z, Excluding Ends
Bx Peak And Zero Field Spacing (m)
Z (m)
4
24
55
86
115
147
165
Pole
Peaks
Zeros
Peak Field Spacing: Ave = 0.017402 m, RMS = 0.007986 m
Zero Field Spacing: Ave = 0.017412 m, RMS = 0.007855 m


By Peak And Zero Field Spacing vs Z, Excluding Ends
By Peak And Zero Field Spacing (m)
Z (m)
7
37
63
88
114
141
172
Pole
Peaks
Zeros
Peak Field Spacing: Ave = 0.018107 m, RMS = 0.008640 m
Zero Field Spacing: Ave = 0.018123 m, RMS = 0.008471 m


Bx Field Harmonics
10^0
10^{-1}
Absolute Value Of An, Bn (T)
0
2
4
6
8
10
12
14
16
18
20
n
|An|
|Bn|


By Field Harmonics
10^0
10^{-1}
Absolute Value Of An, Bn (T)
|An|
|Bn|
0
2
4
6
8
10
12
14
16
18
20
n