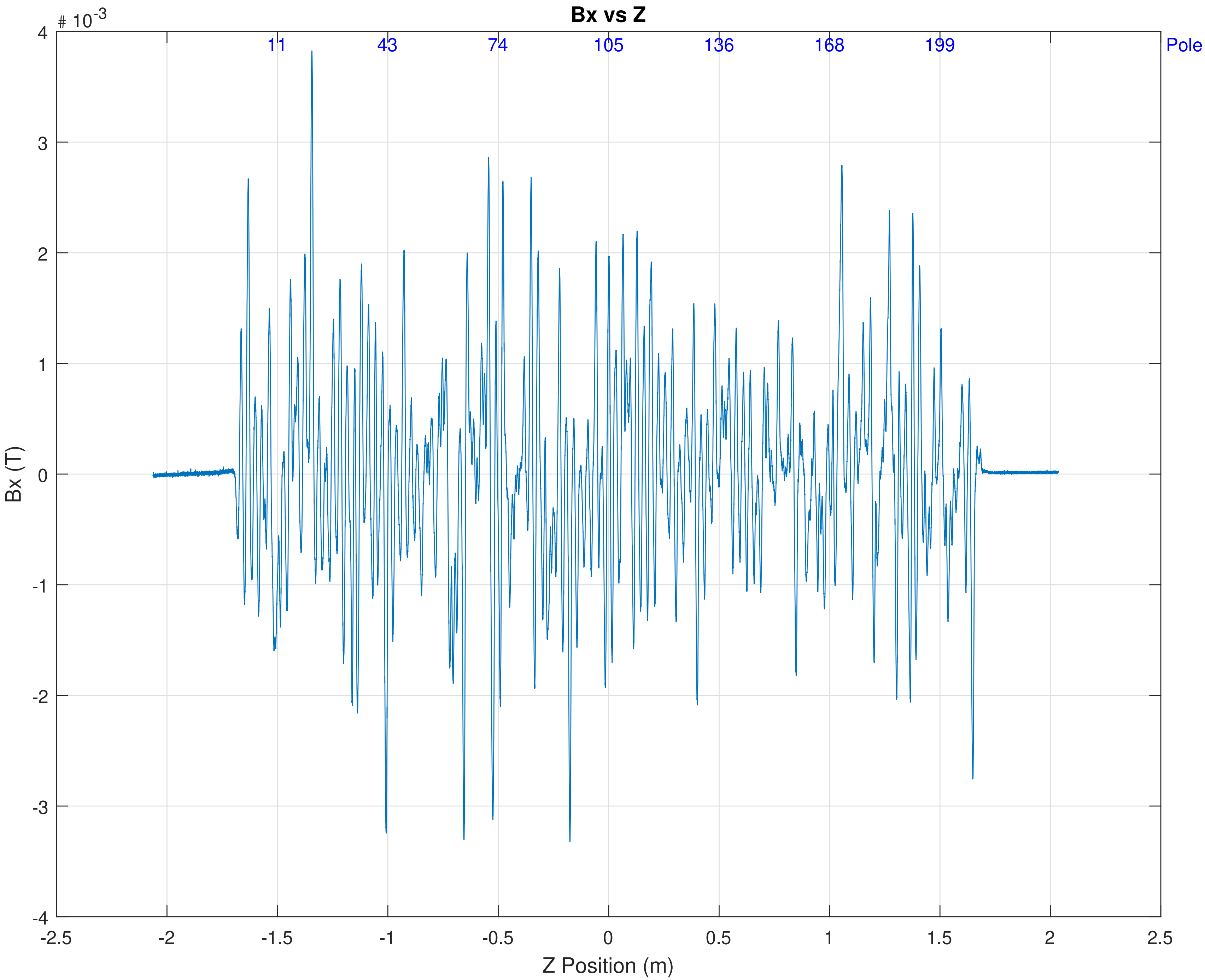
SLAC Magnetic Measurements

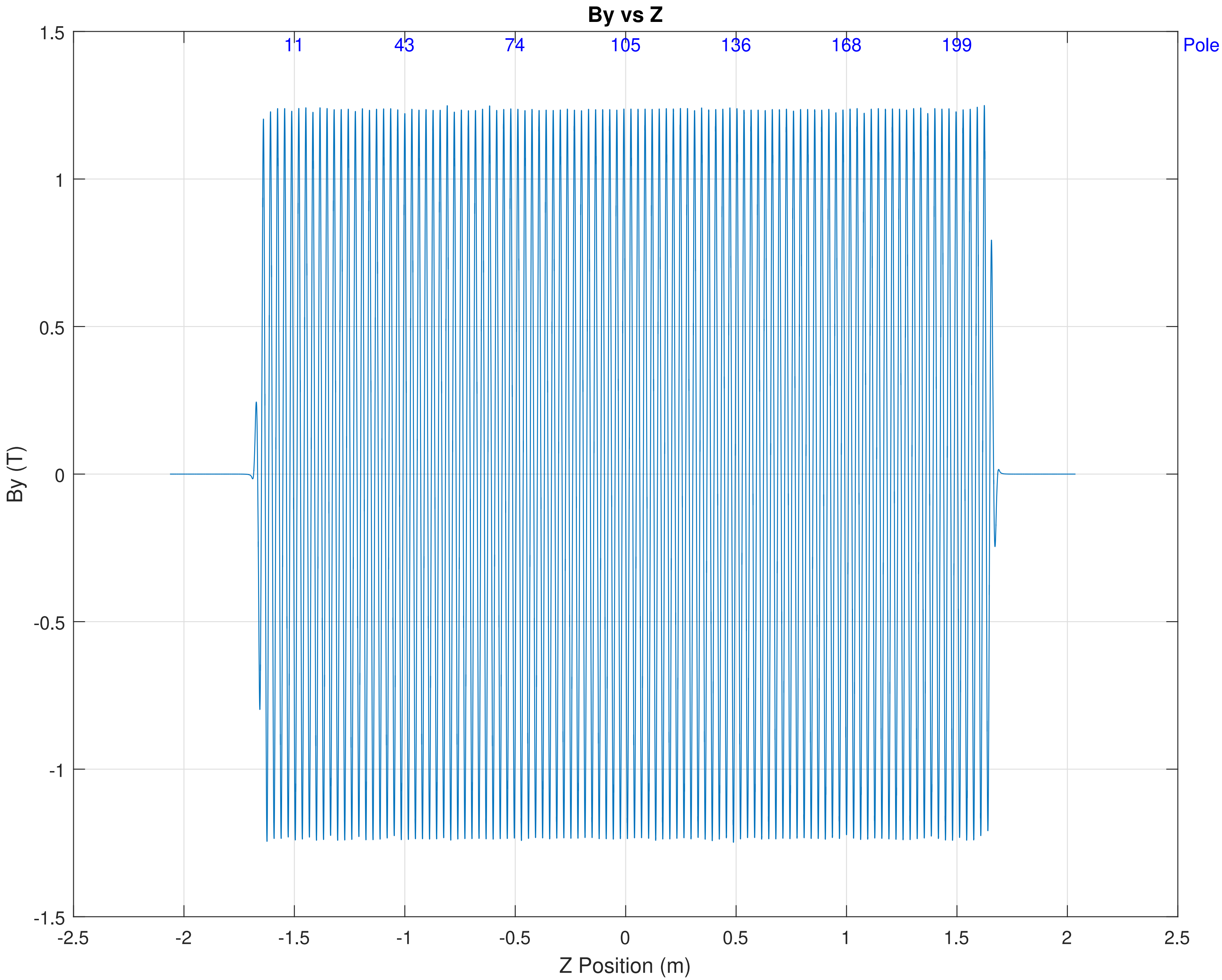
Planar Insertion Device Analysis

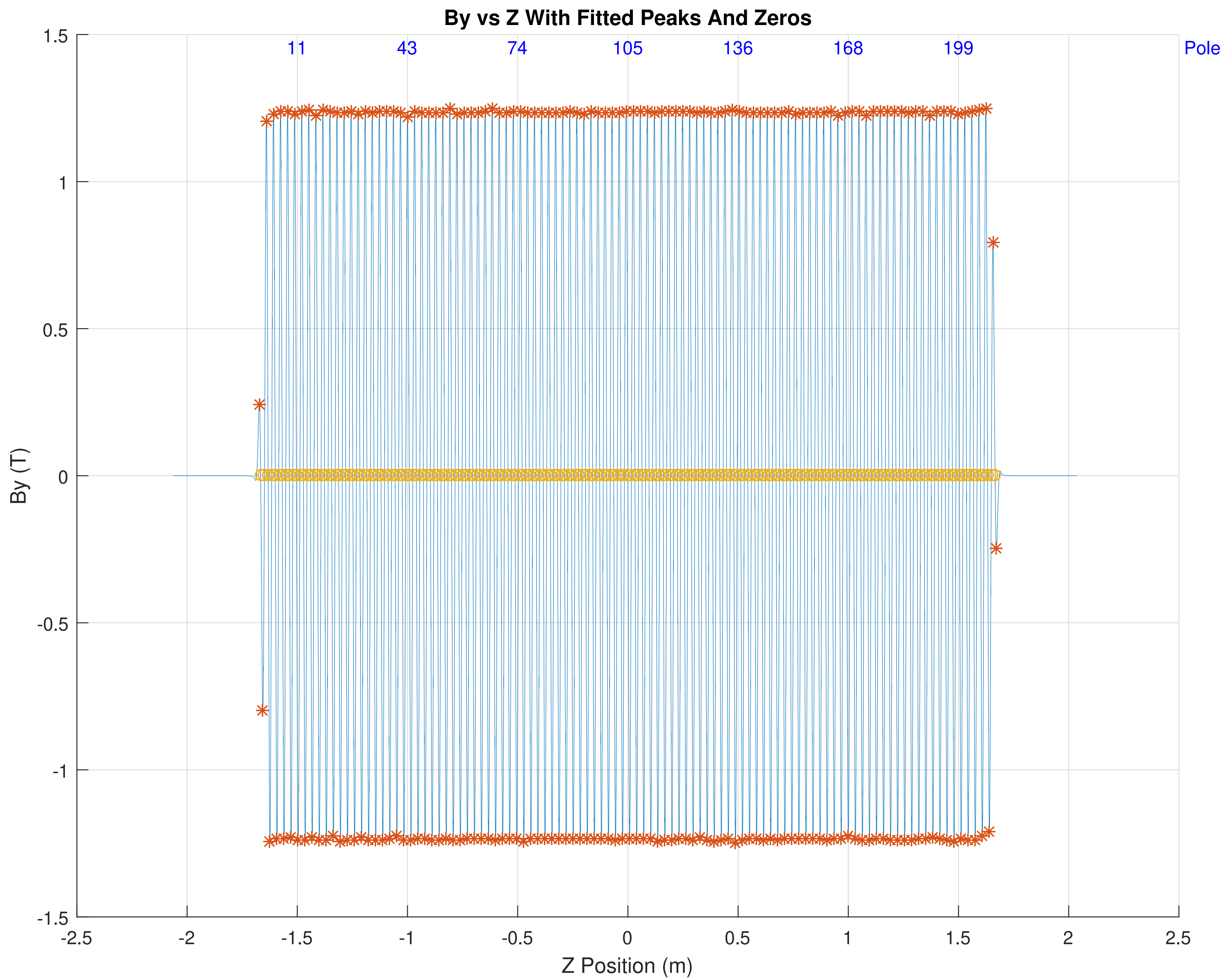
Parameters:

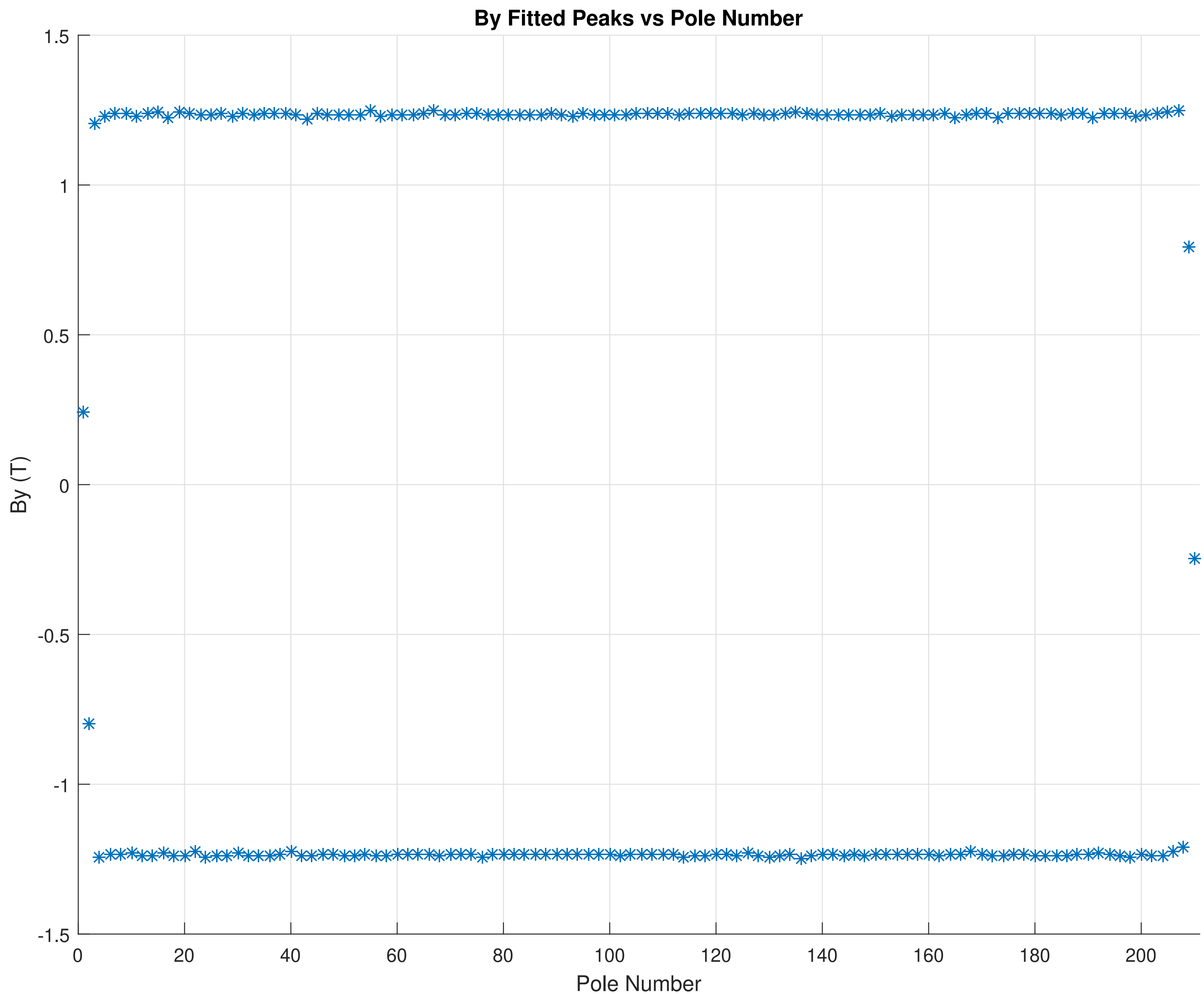
INPUT-FILE-DIR =c:\magdata\LCLS\Undulator\HXU-32\DATASET0001\Fine Tuning\Z Scans\Run 058\
INPUT-FILE-NAME =x+00000-y+000-bscanz.dat
INPUT-FILE-TYPE =ZVXYBXYH
CORR-REQUIRED =1
GAMMA =7827.79
NOM-LAMBDA-U =0.032
NOM-K-VALUE =2.6963
NOM-LAMBDA-R =1.2103e-09
NUM-POLES =210
NUM-END-POLES =4
CELL-LENGTH =3.656



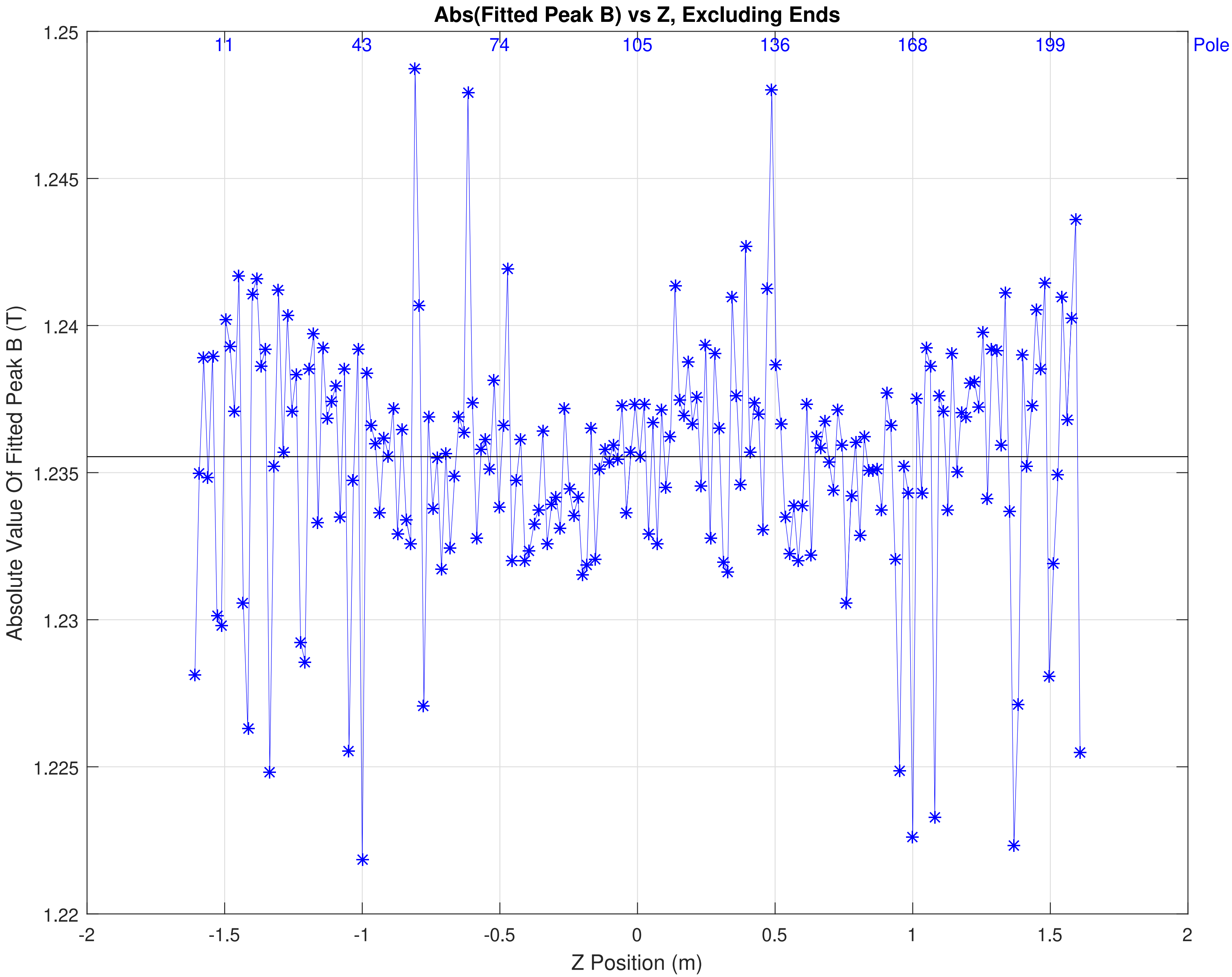
Bx vs Z
10^-3
11
43
74
105
136
168
199
Pole
4
3
2
1
0
-1
-2
-3
-4
Bx (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)


By vs Z
1.5
1
0.5
0
-0.5
-1
-1.5
By (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)
11
43
74
105
136
168
199
Pole

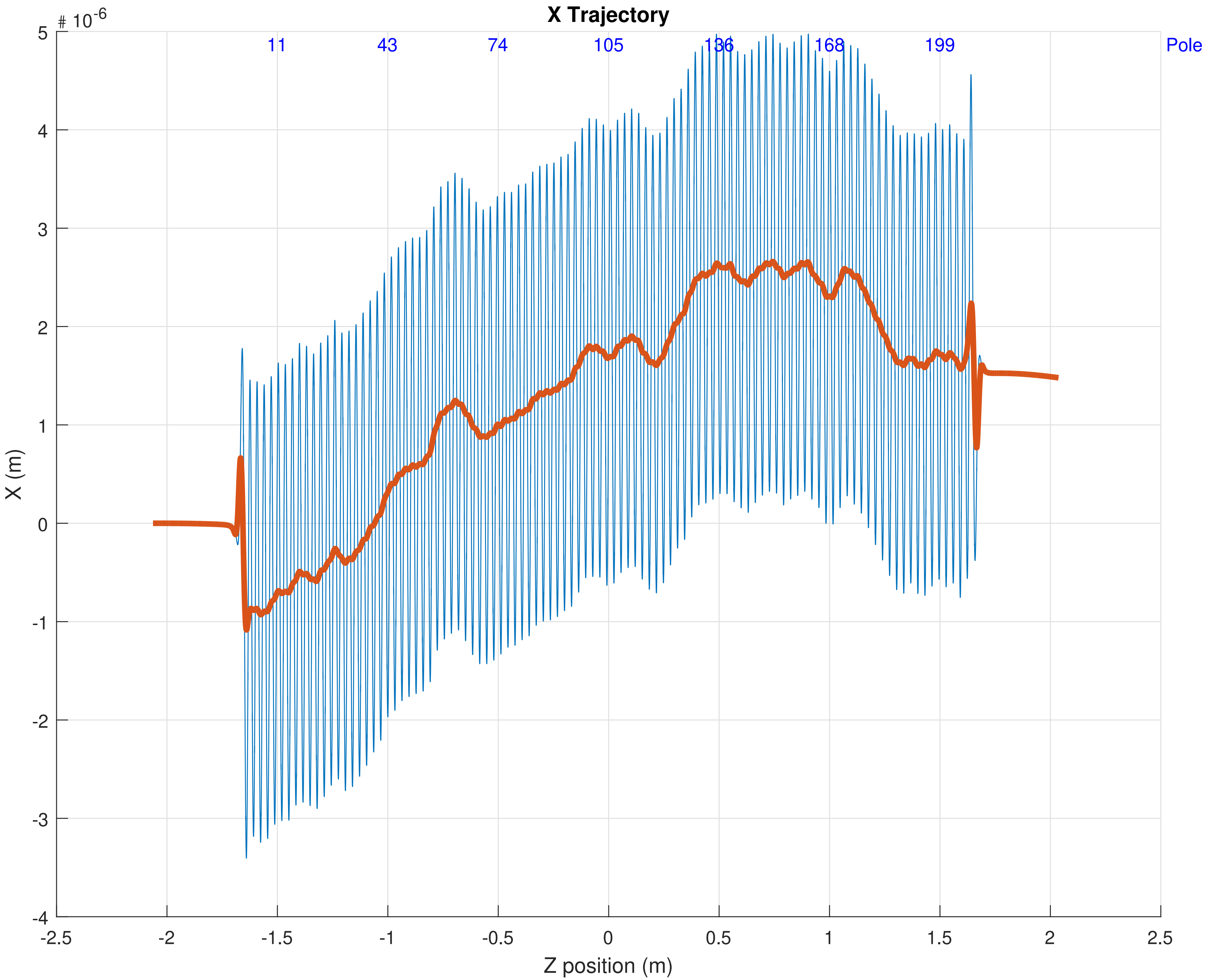

By vs Z With Fitted Peaks And Zeros
11
43
74
105
136
168
199
Pole
1.5
1
0.5
0
-0.5
-1
-1.5
By (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)



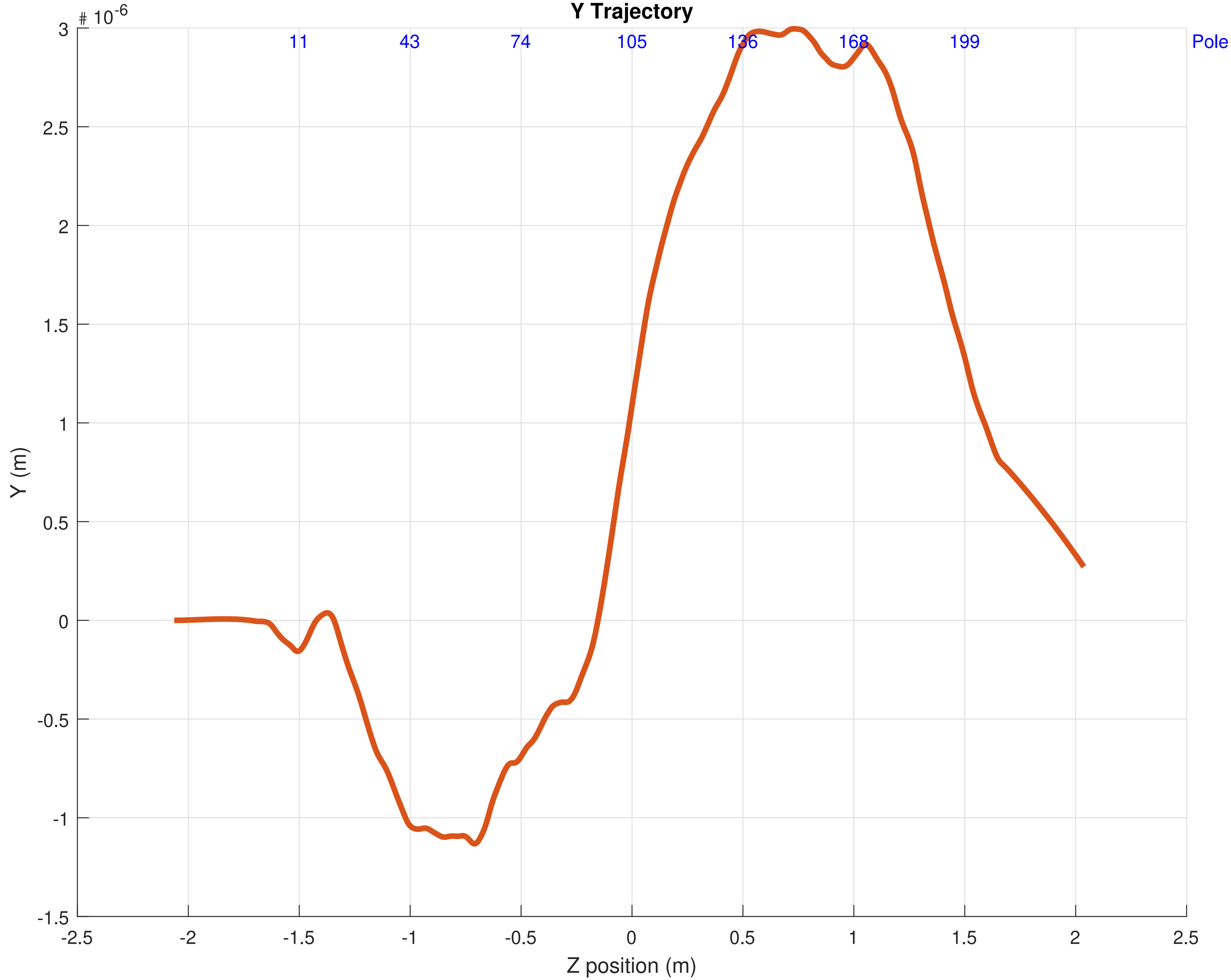
By Fitted Peaks vs Pole Number
By (T)
Pole Number
1.5
1
0.5
0
-0.5
-1
-1.5
0
20
40
60
80
100
120
140
160
180
200



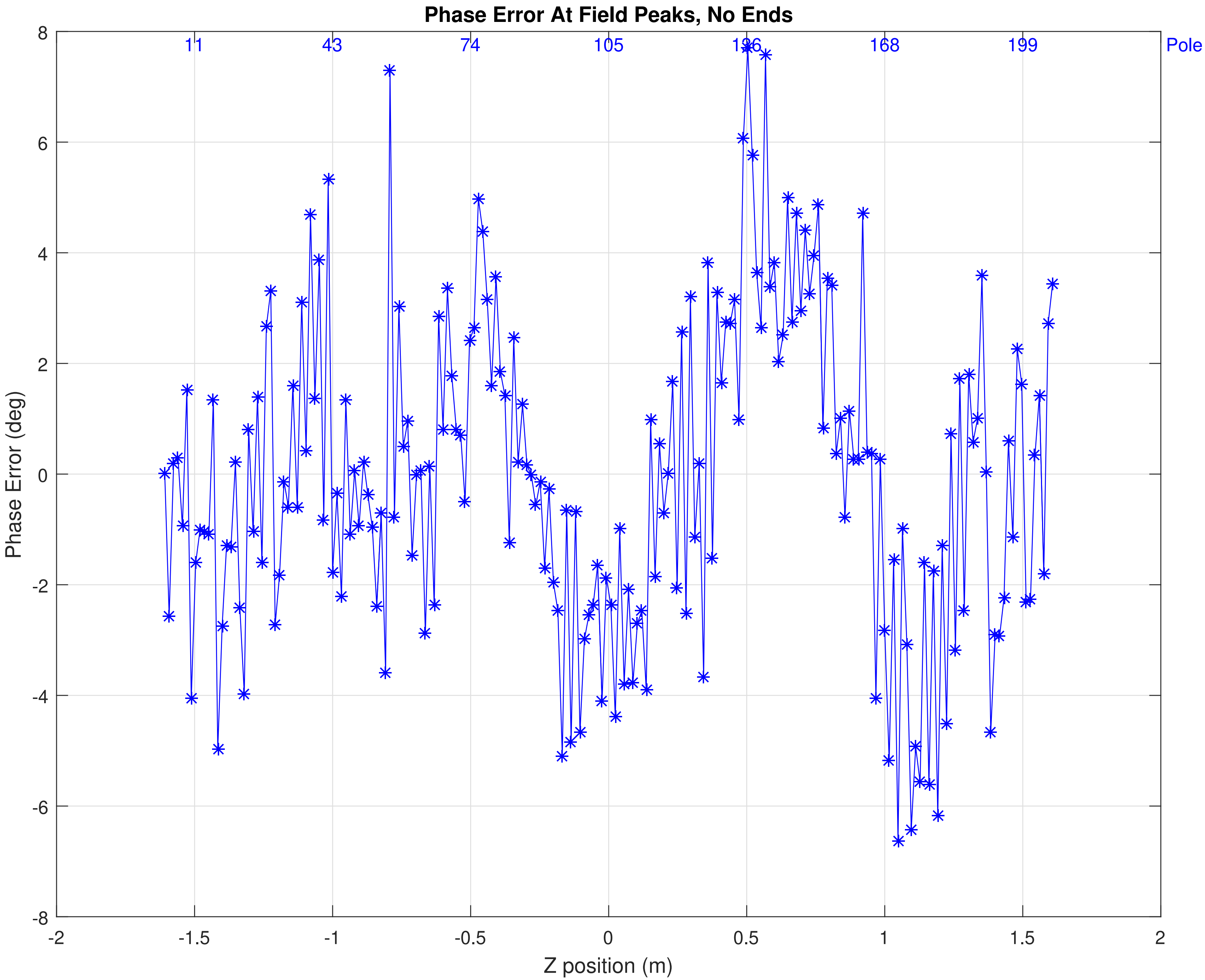
Peak Fields: Ave = 1.235543 T, RMS = 0.004168 T



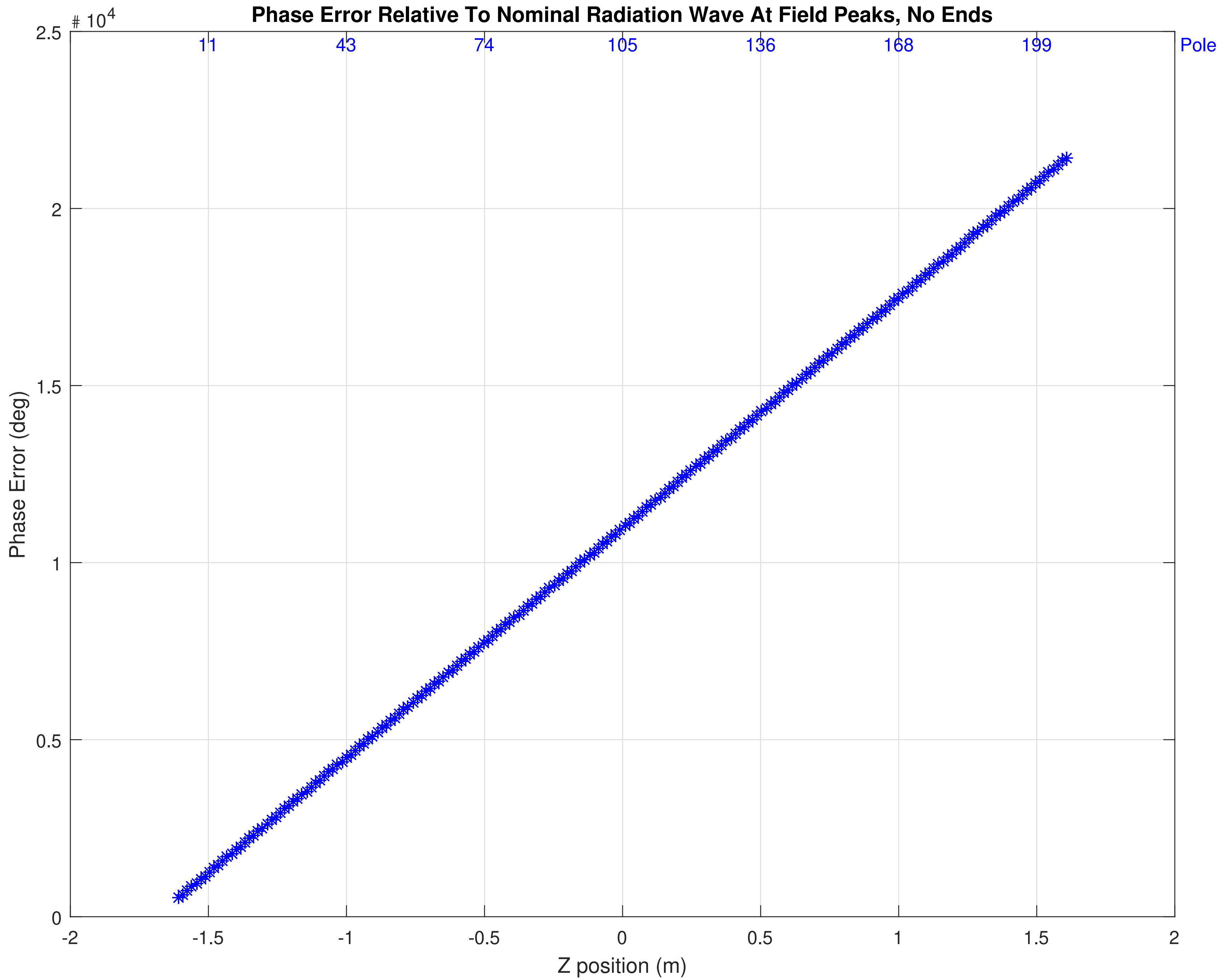
X Trajectory
10^-6
5
4
3
2
1
0
-1
-2
-3
-4
X (m)
11
43
74
105
136
168
199
Pole
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z position (m)



Y Trajectory
10^-6
11
43
74
105
136
168
199
Pole
Y (m)
Z position (m)
3
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5



Phase Error: Ave = -0.000000 deg, RMS = 2.837969 deg



Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
10^4
2.5
2
1.5
1
0.5
0
11
43
74
105
136
168
199
Pole
Phase Error (deg)
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
Z position (m)