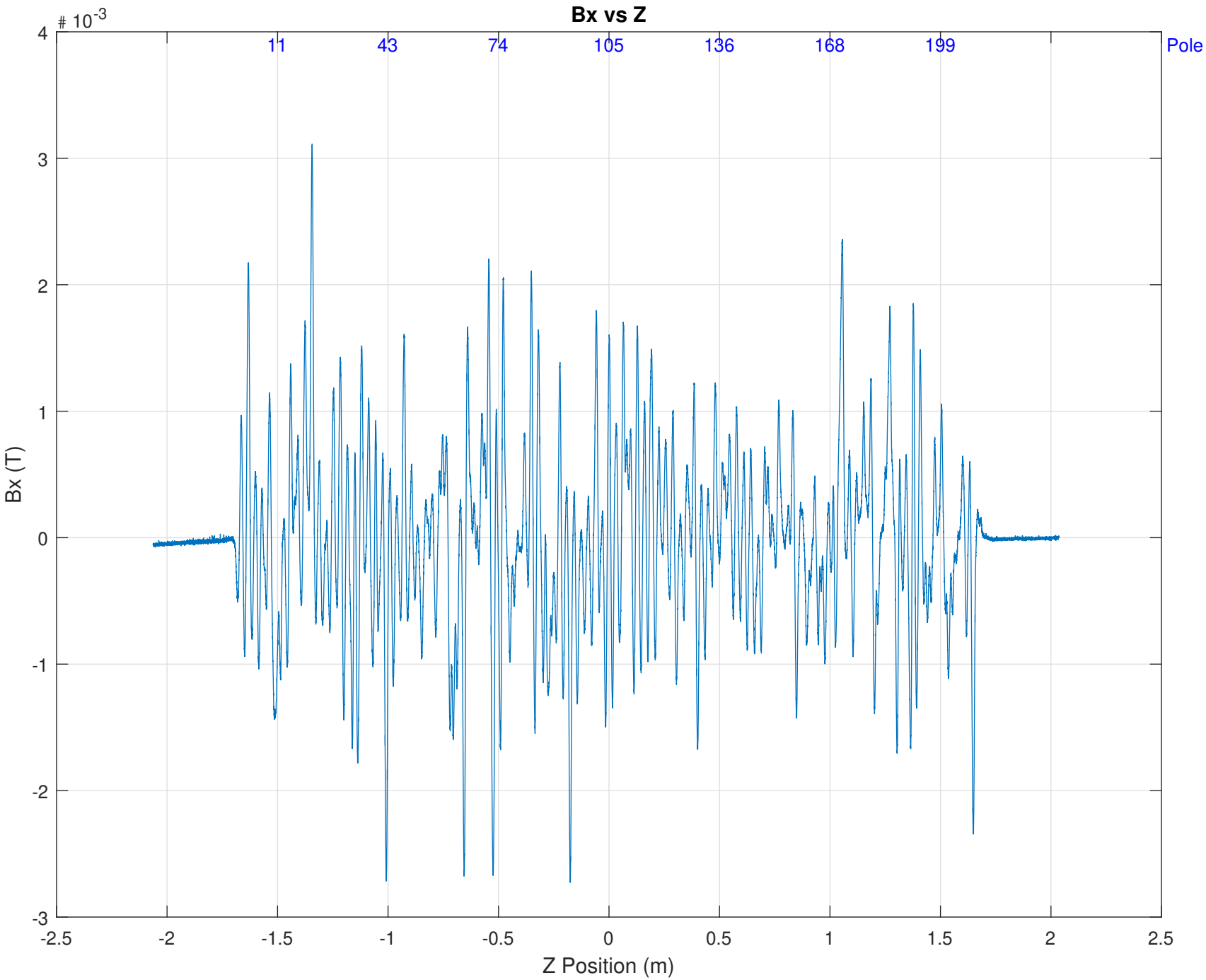
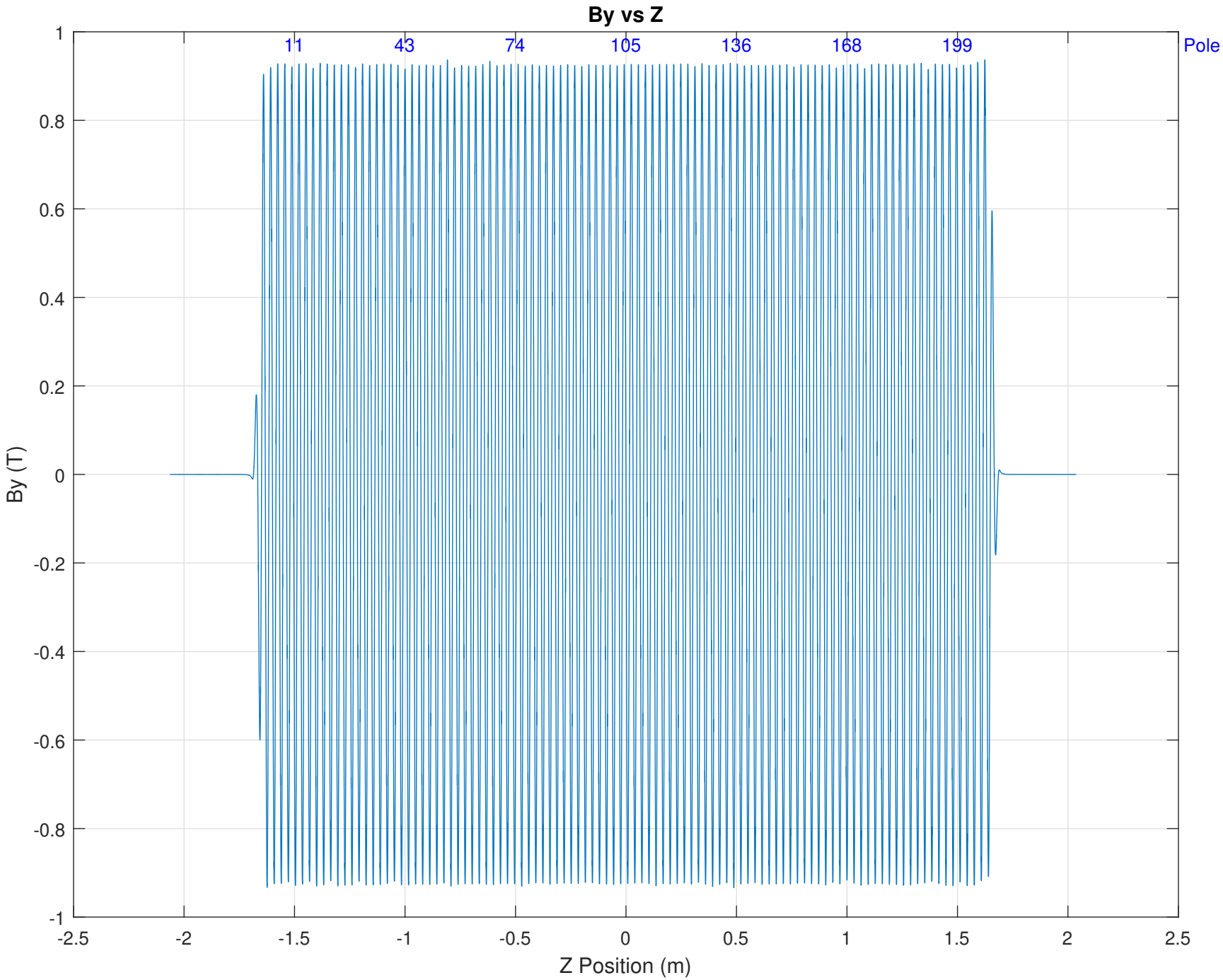
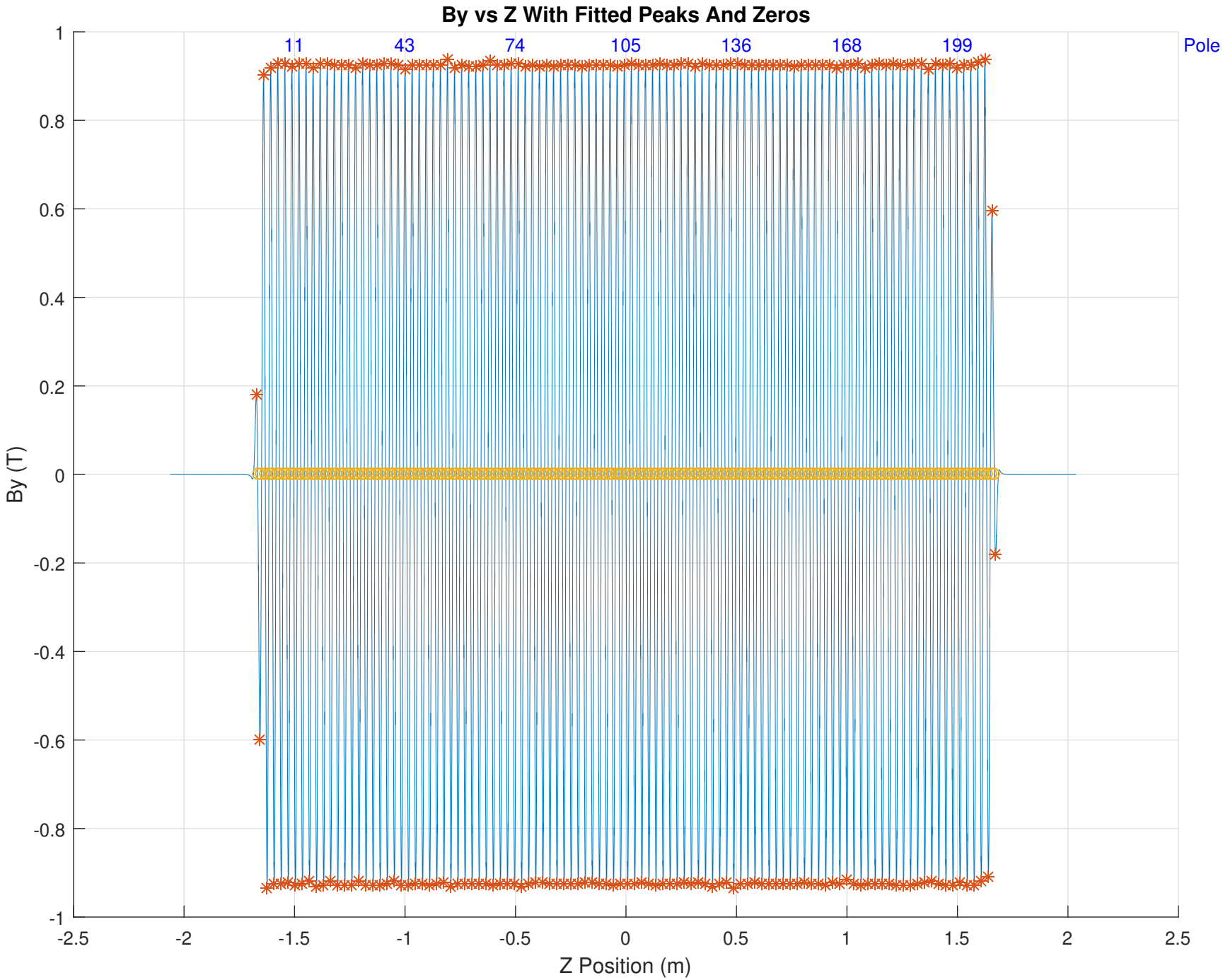
SLAC Magnetic Measurements

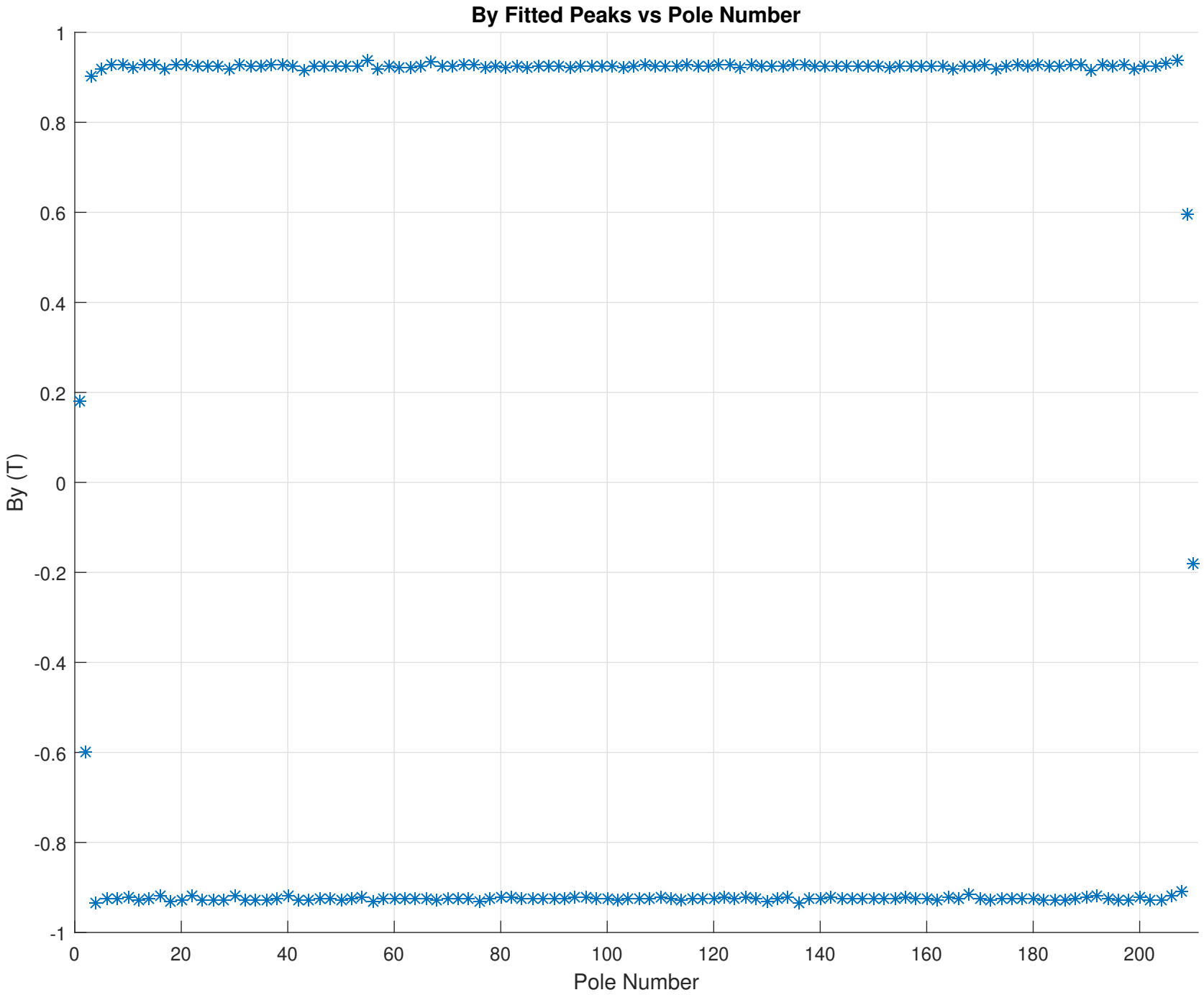
Planar Insertion Device Analysis

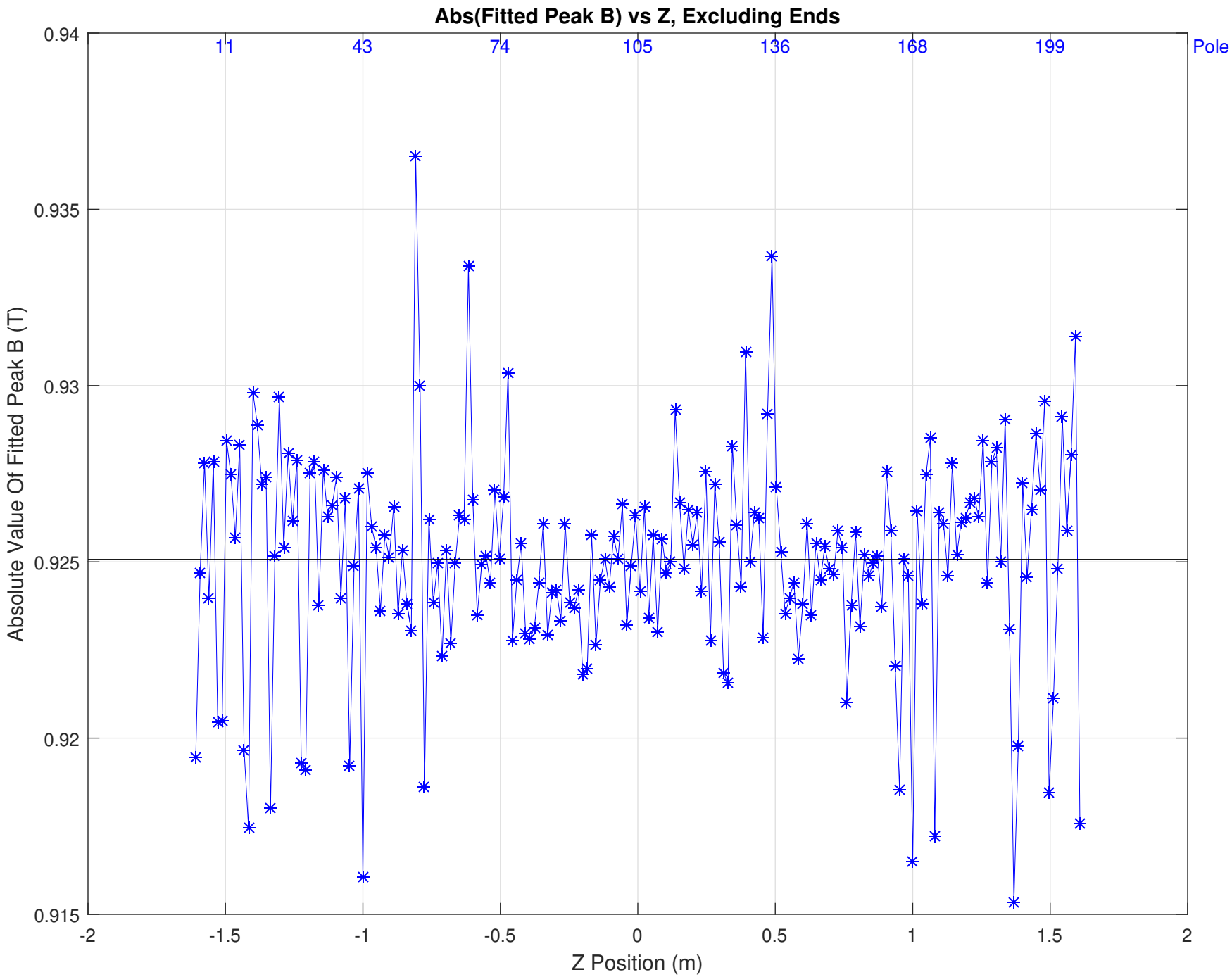
Parameters:
INPUT-FILE-DIR =C:\magdata\LCLS\Undulator\HXU-32\DATASET0001\Fine Tuning\Z Scans\Run 045\
INPUT-FILE-NAME =x+00000-y+000-bscanz.dat
INPUT-FILE-TYPE =ZVXYBXYH
CORR-REQUIRED =1
GAMMA =7827.79
NOM-LAMBDA-U =0.032
NOM-K-VALUE =2.7
NOM-LAMBDA-R =1.2129e-09
NUM-POLES =210
NUM-END-POLES =4
CELL-LENGTH =3.656


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

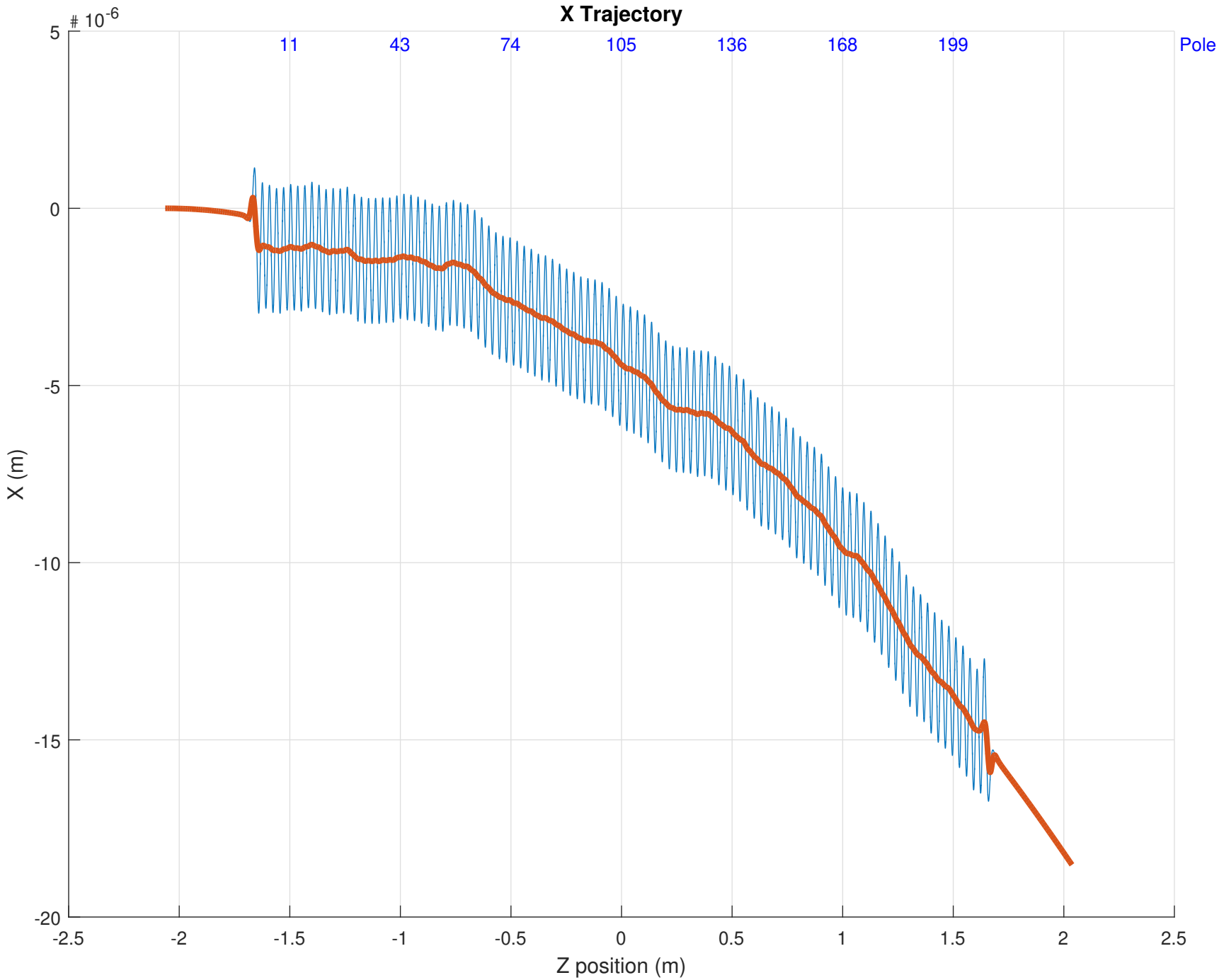

By vs Z
11
43
74
105
136
168
199
Pole
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
By (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

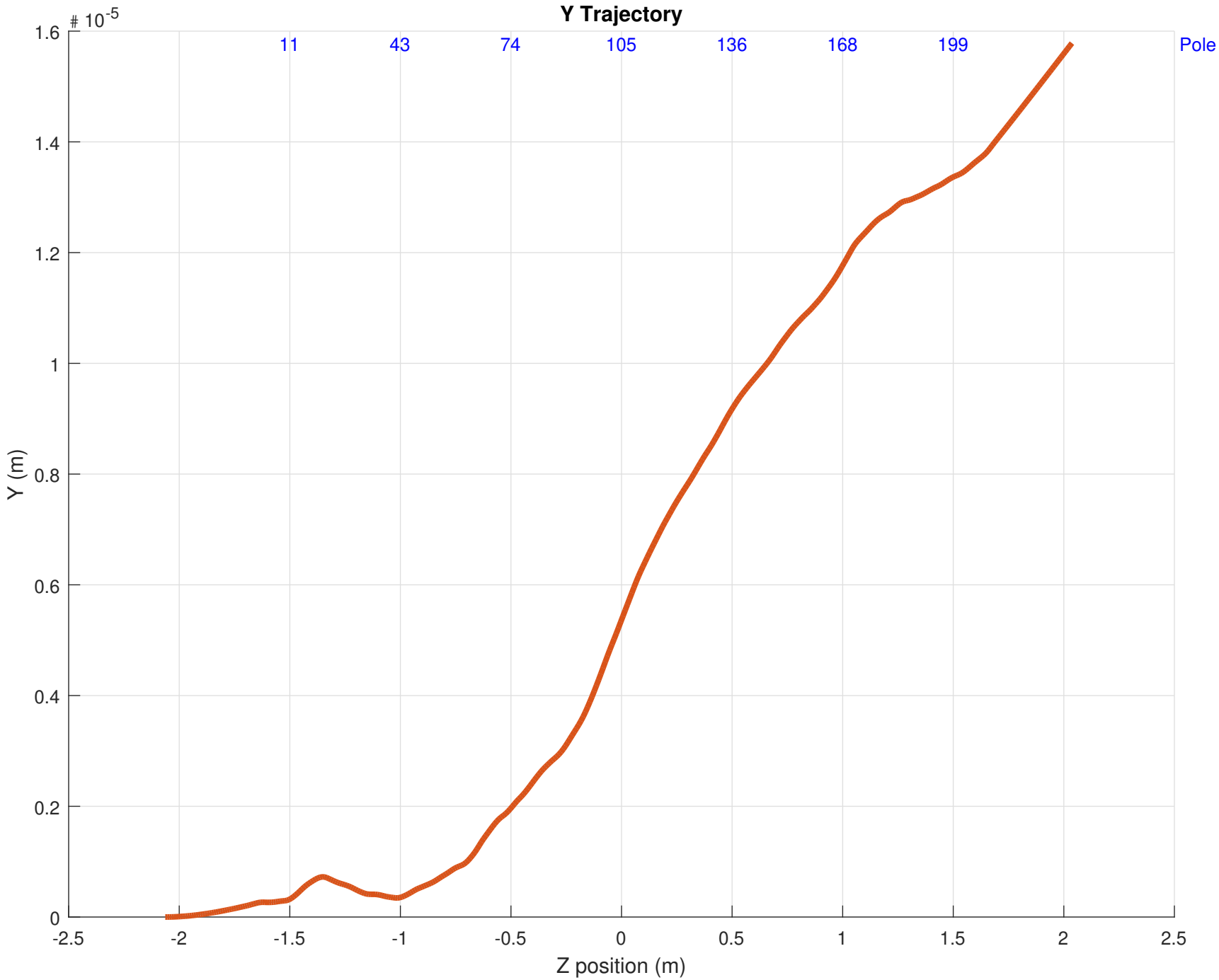

By vs Z With Fitted Peaks And Zeros
11
43
74
105
136
168
199
Pole
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
By (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

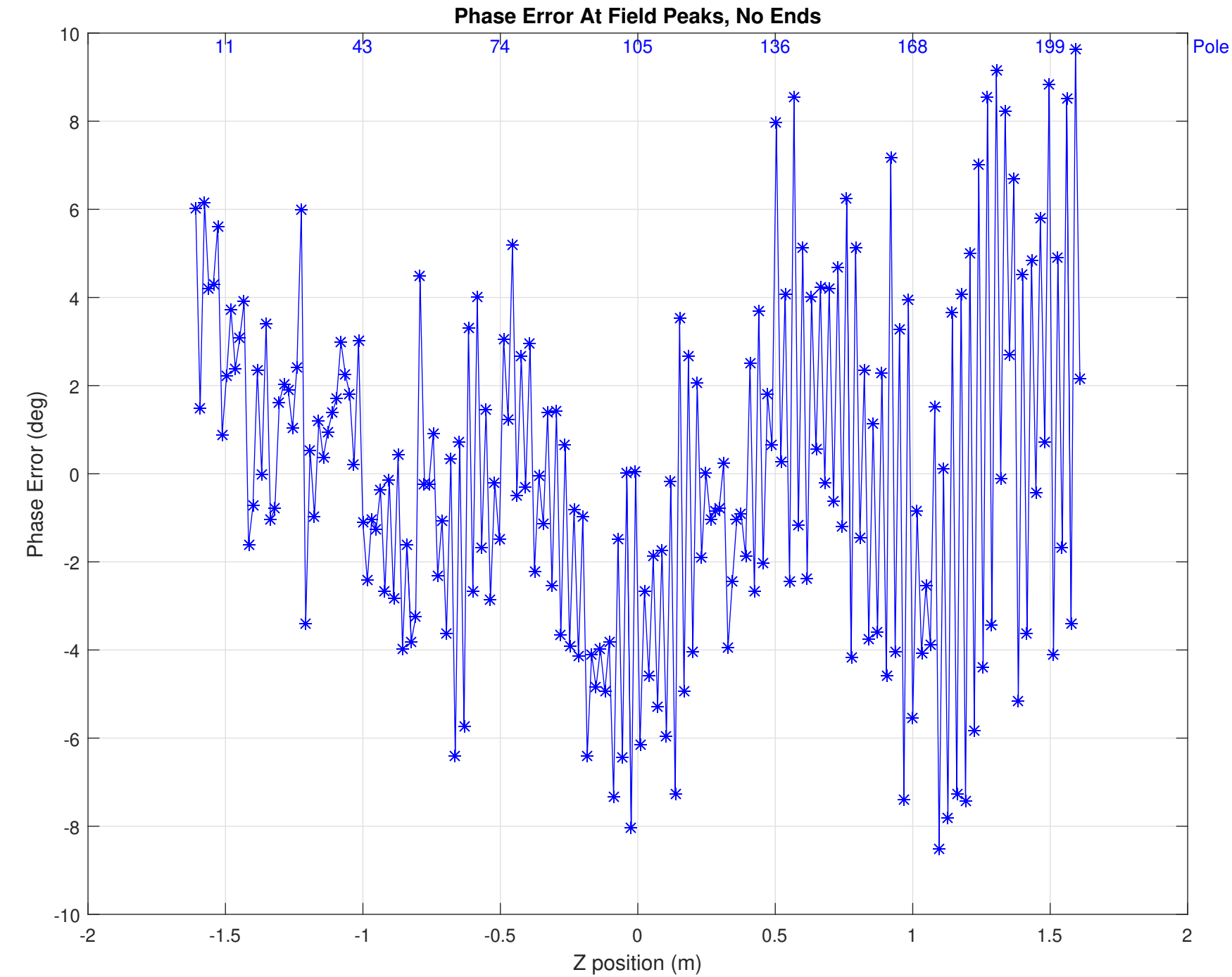

By Fitted Peaks vs Pole Number
By (T)
Pole Number
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
0
20
40
60
80
100
120
140
160
180
200



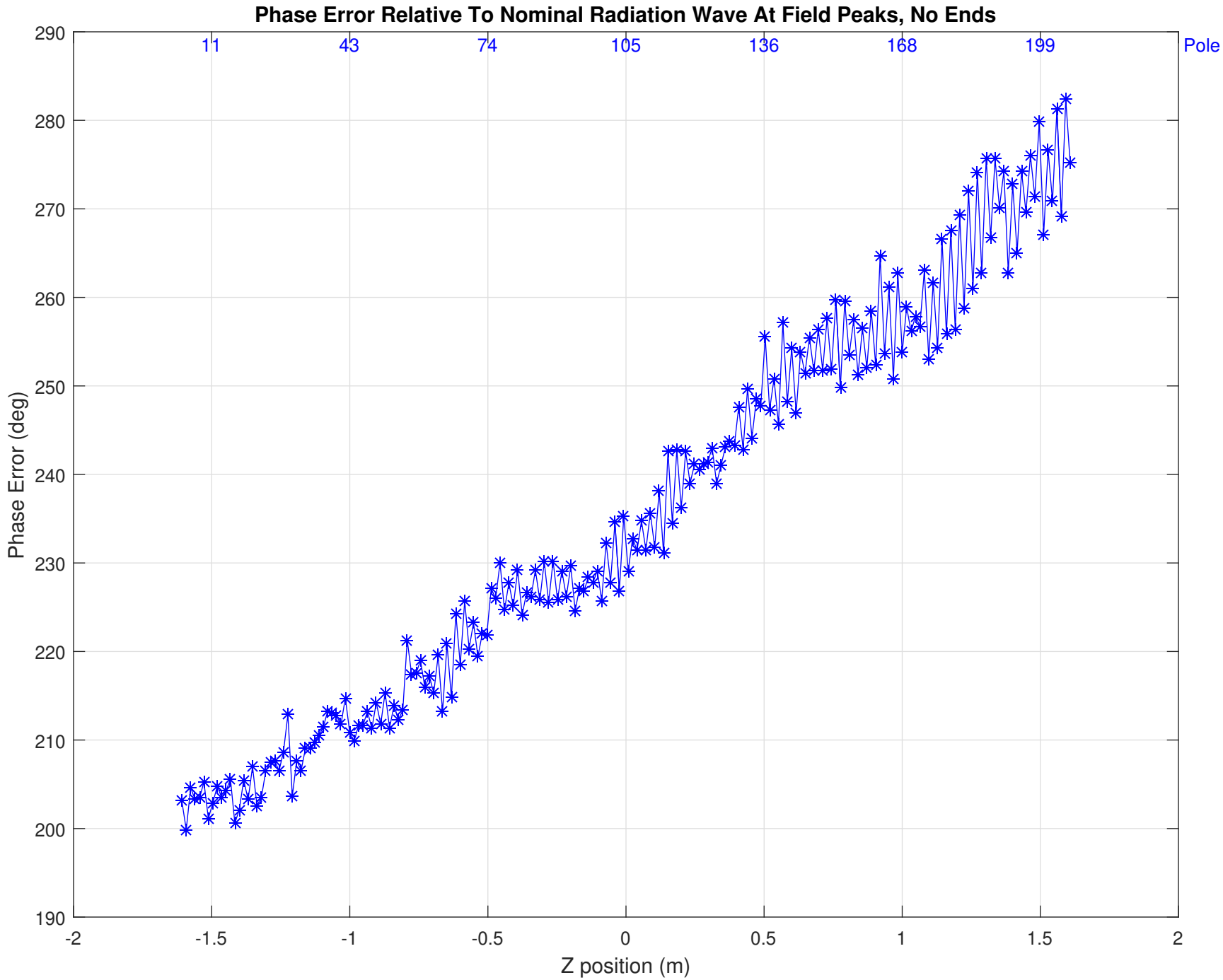
Peak Fields: Ave = 0.925068 T, RMS = 0.003060 T


X Trajectory
10^-6
11
43
74
105
136
168
199
Pole
5
0
-5
-10
-15
-20
X (m)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z position (m)


Y Trajectory
10^-5
11
43
74
105
136
168
199
Pole
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Y (m)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z position (m)



Phase Error: Ave = -0.000000 deg, RMS = 3.881634 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
11
43
74
105
136
168
199
Pole
290
280
270
260
250
240
230
220
210
200
190
Phase Error (deg)
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
Z position (m)