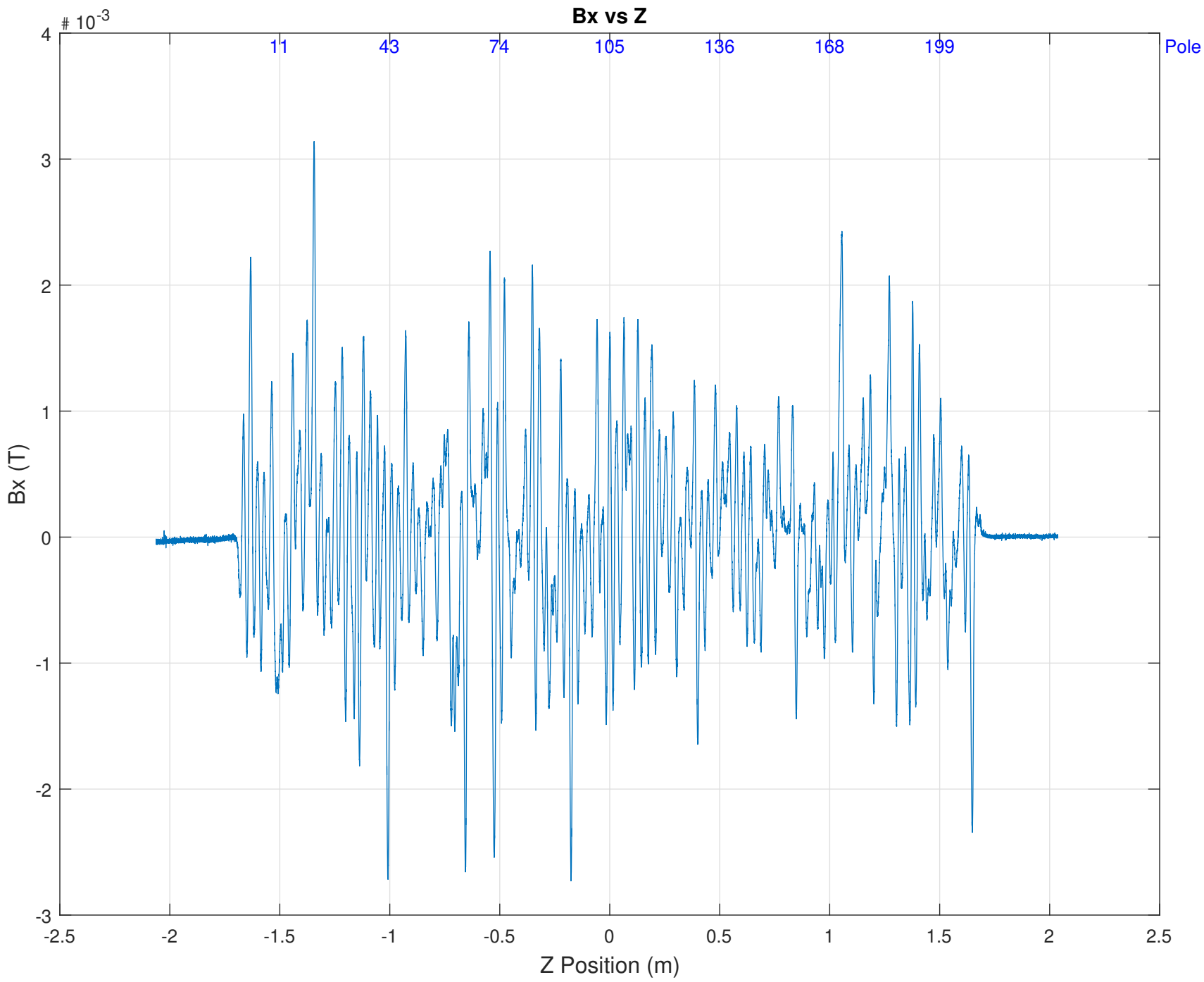
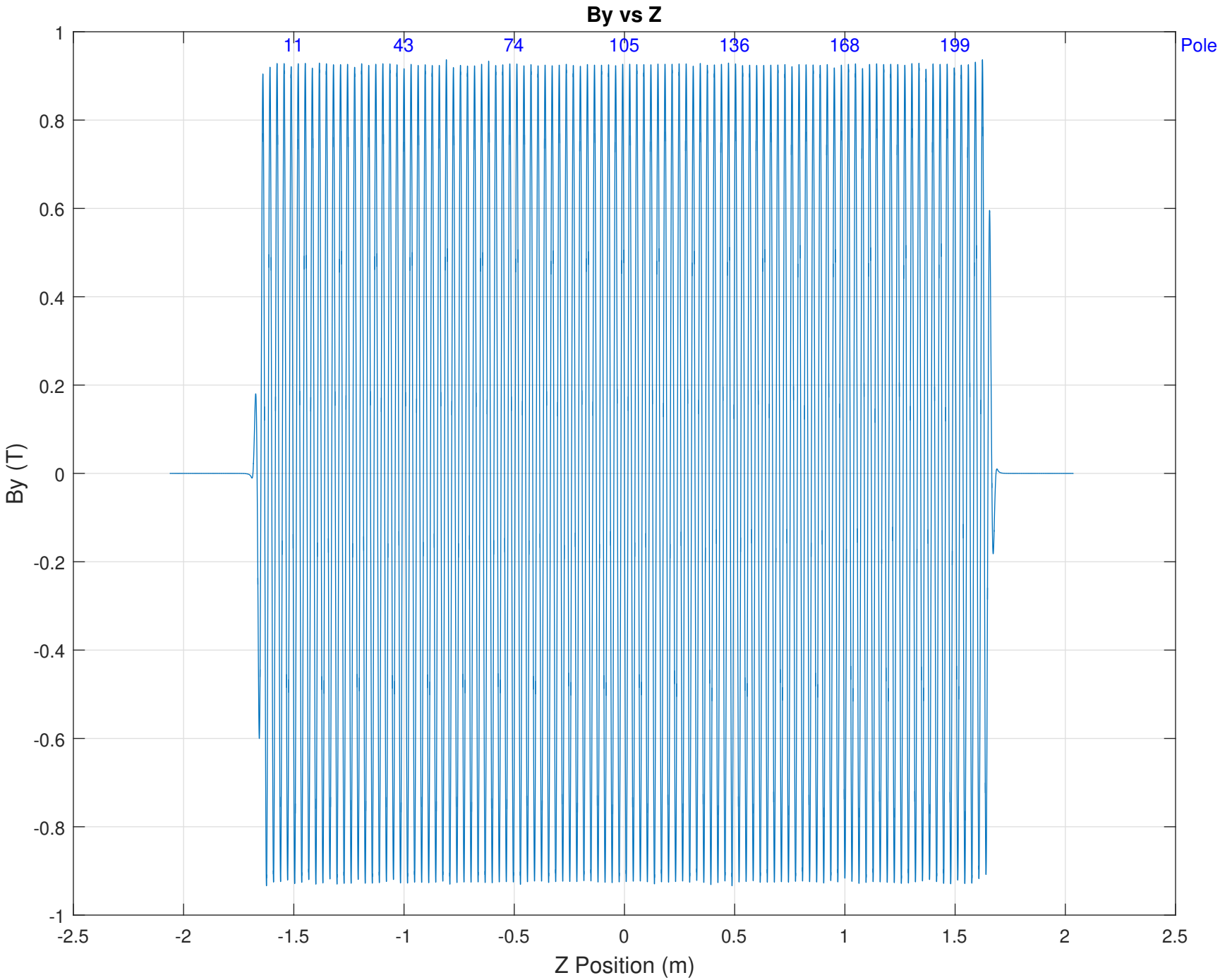
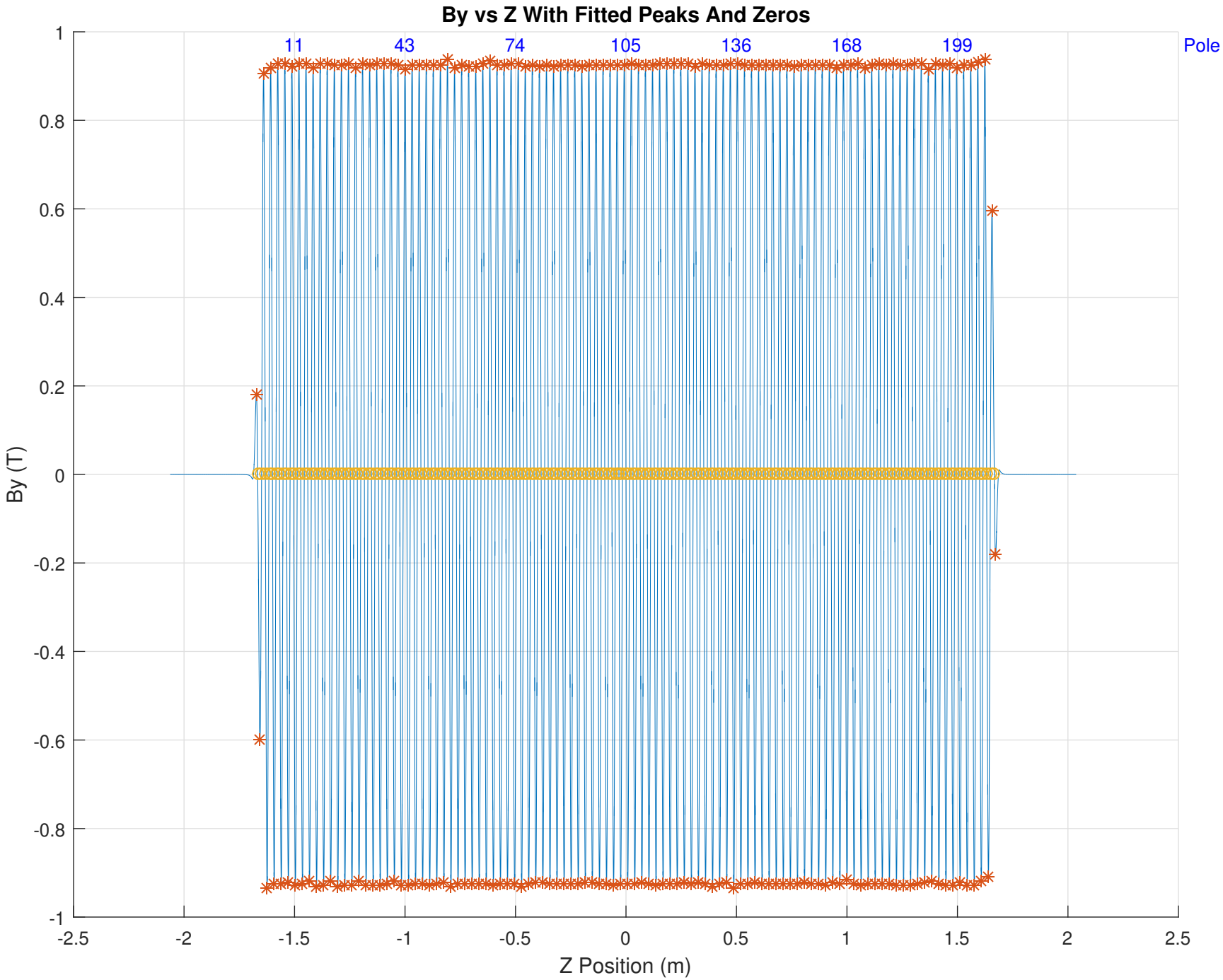
SLAC Magnetic Measurements

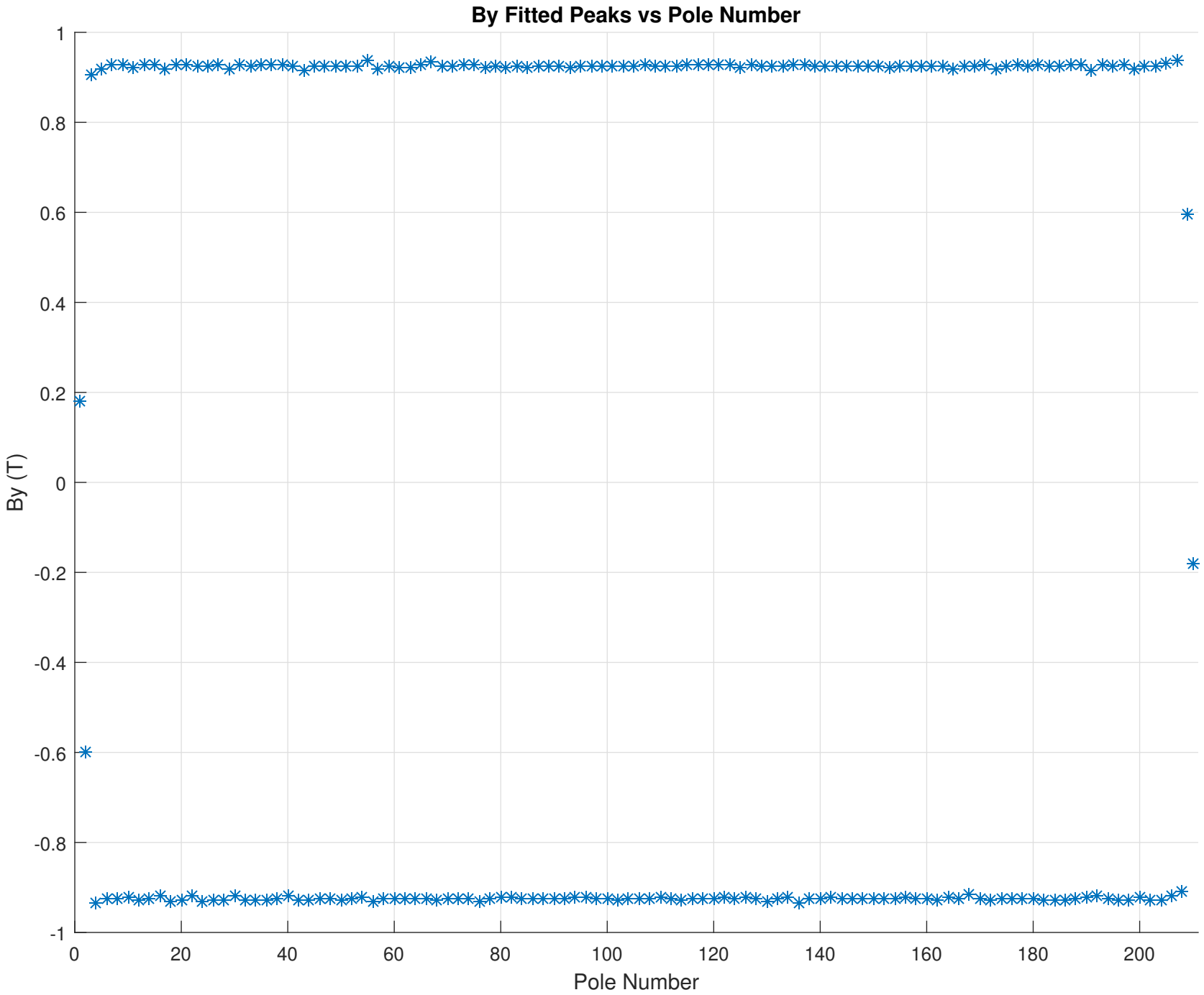
Planar Insertion Device Analysis

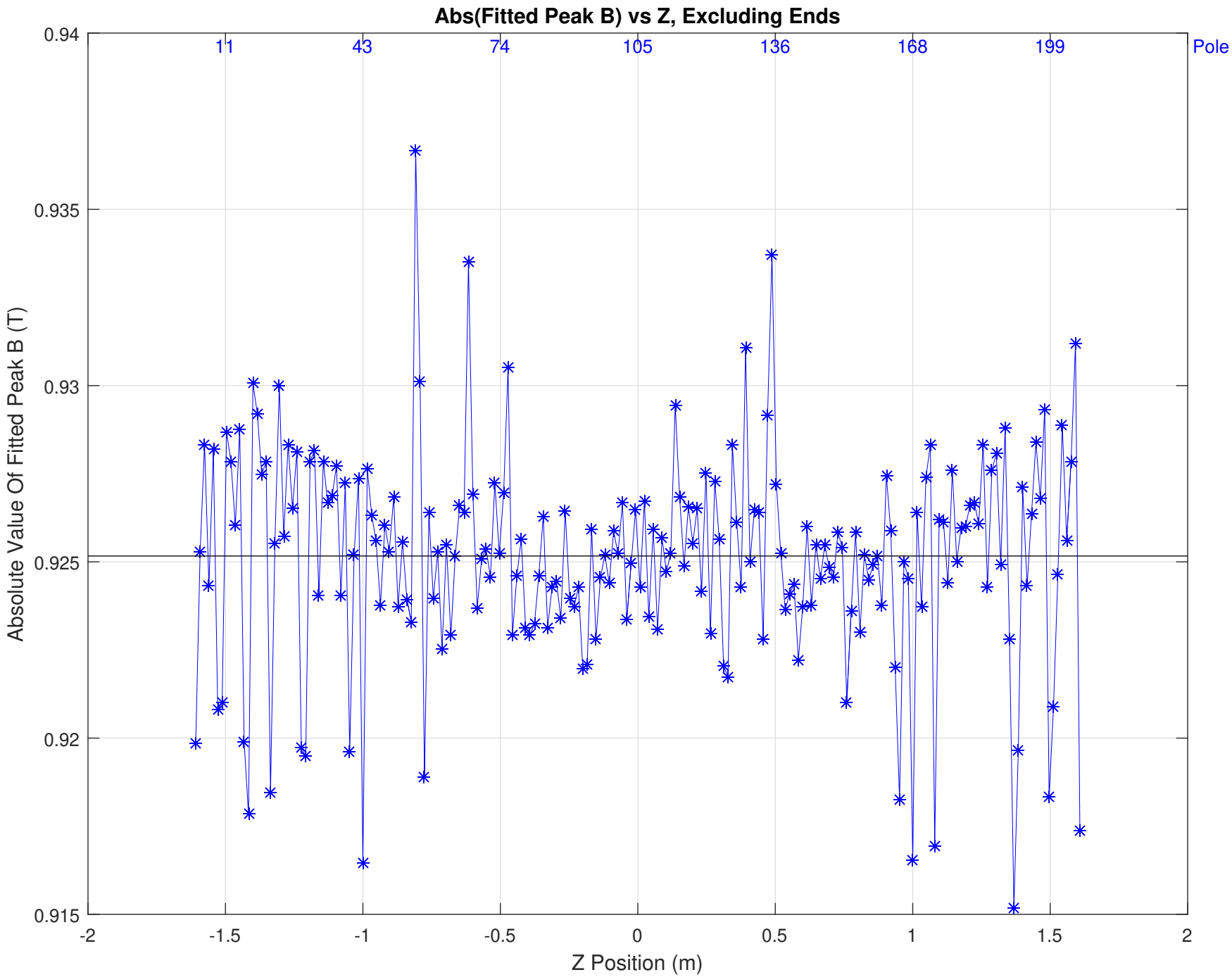
Parameters:
INPUT-FILE-DIR =s:\magdata\LCLS2\Undulator\HXU-32\DATASET0001\Fine Tuning\Z Scans\Run 066\
INPUT-FILE-NAME =x+00000-y+100-bscanz.dat
INPUT-FILE-TYPE =ZVXYBXYH
CORR-REQUIRED =1
GAMMA =7827.79
NOM-LAMBDA-U =0.032
NOM-K-VALUE =2.6963
NOM-LAMBDA-R =1.2103e-09
NUM-POLES =210
NUM-END-POLES =4
CELL-LENGTH =3.656


Bx vs Z
10^-3
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)

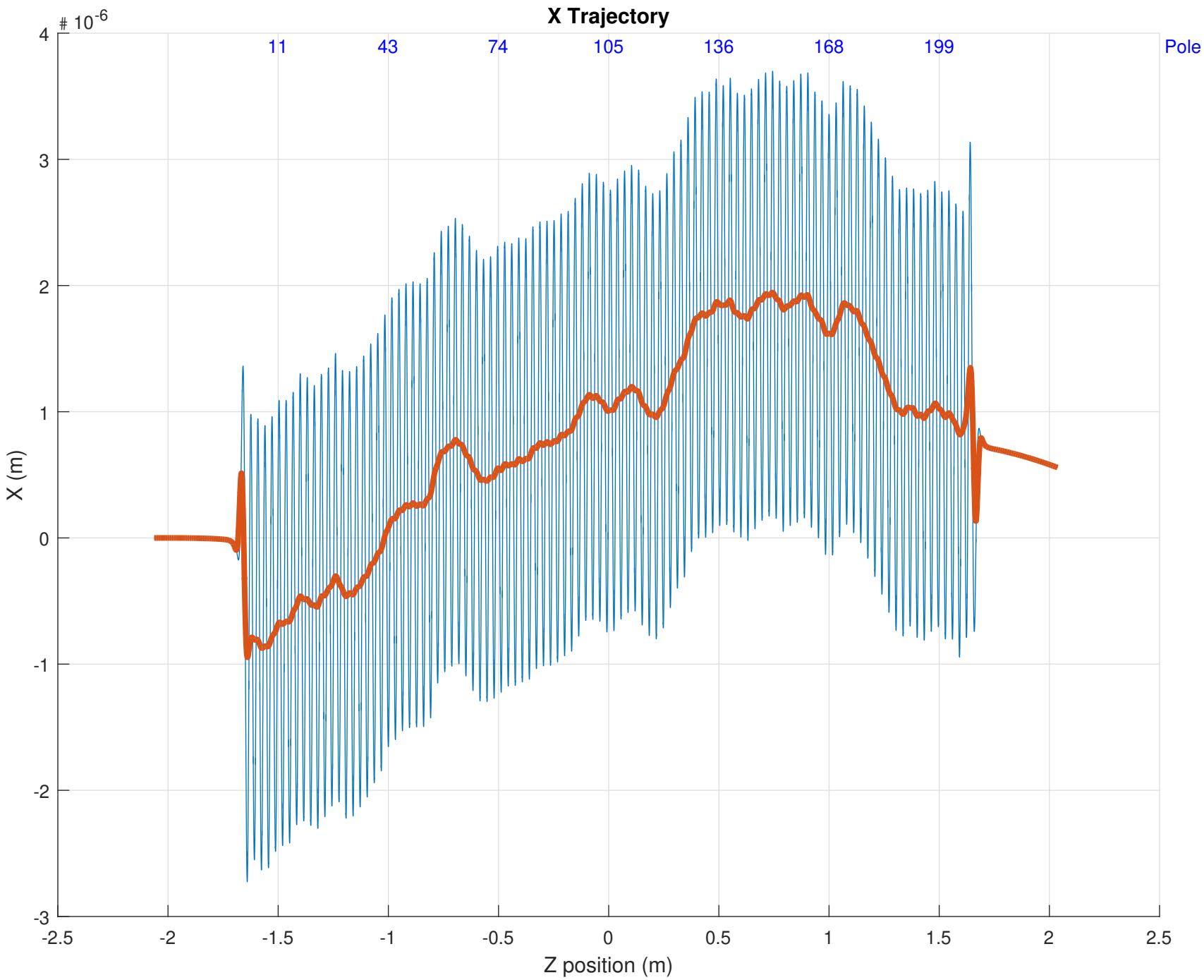

By vs Z
11
43
74
105
136
168
199
Pole
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
By (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

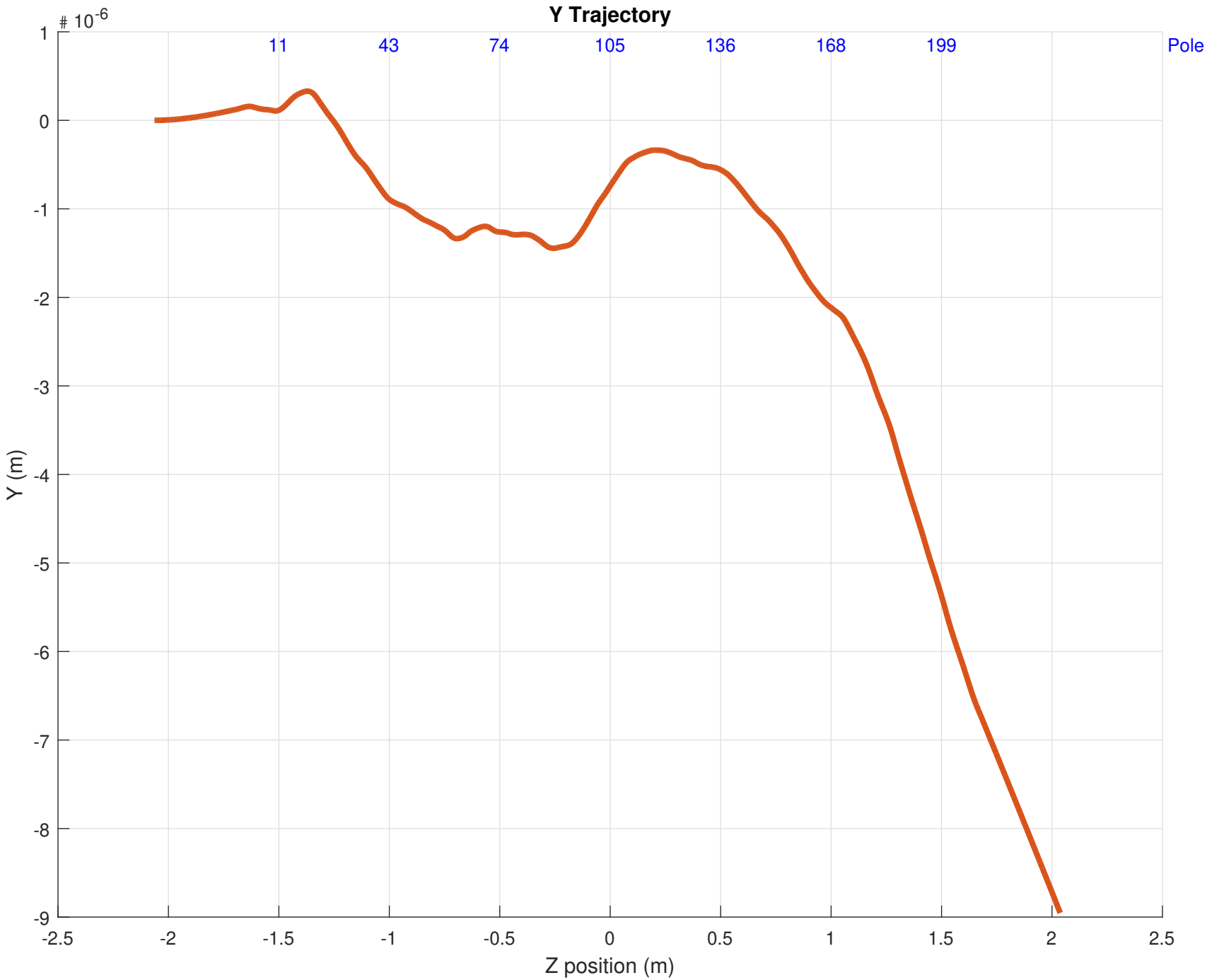

By vs Z With Fitted Peaks And Zeros
11
43
74
105
136
168
199
Pole
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
By (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

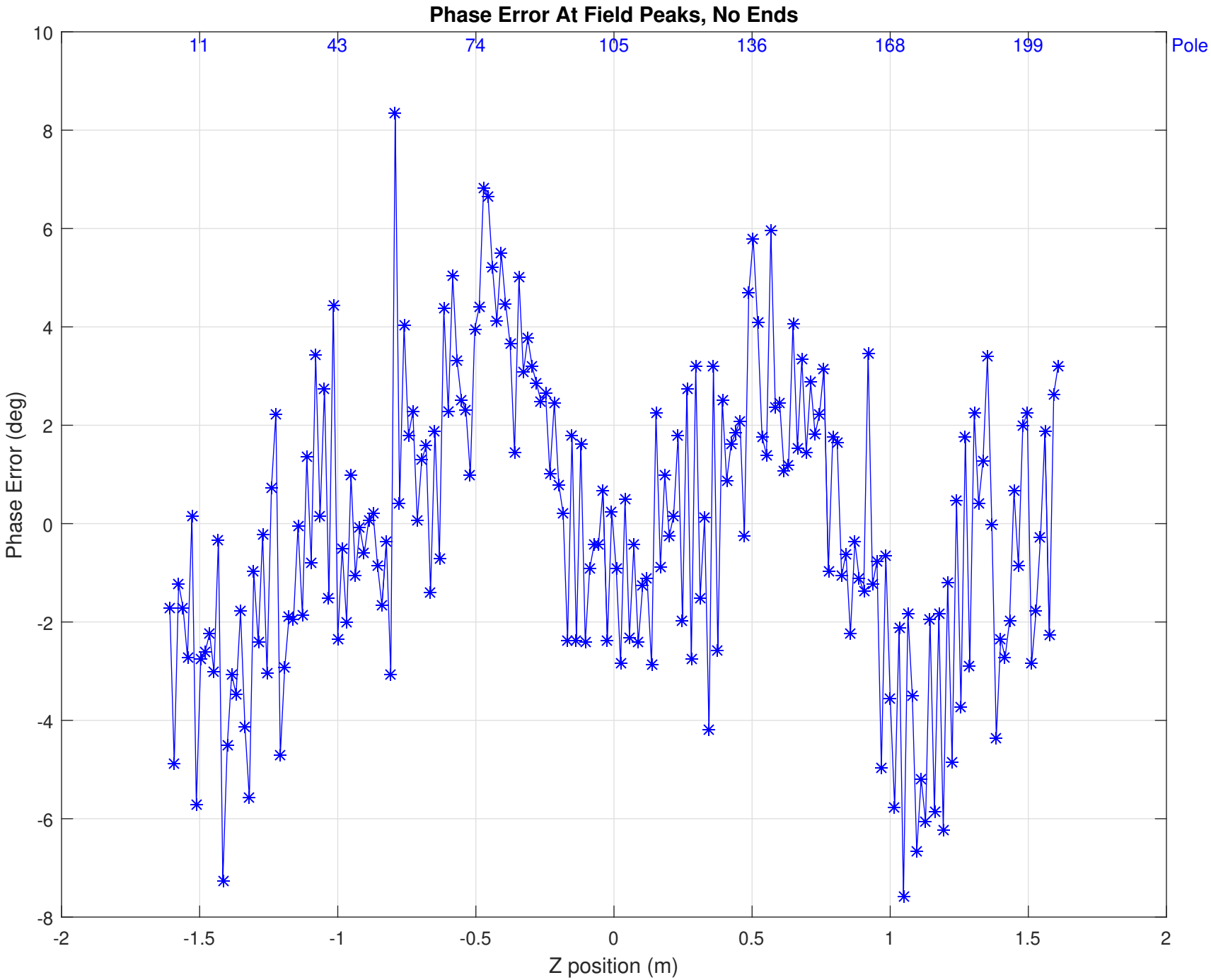

By Fitted Peaks vs Pole Number
By (T)
Pole Number
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
0
20
40
60
80
100
120
140
160
180
200



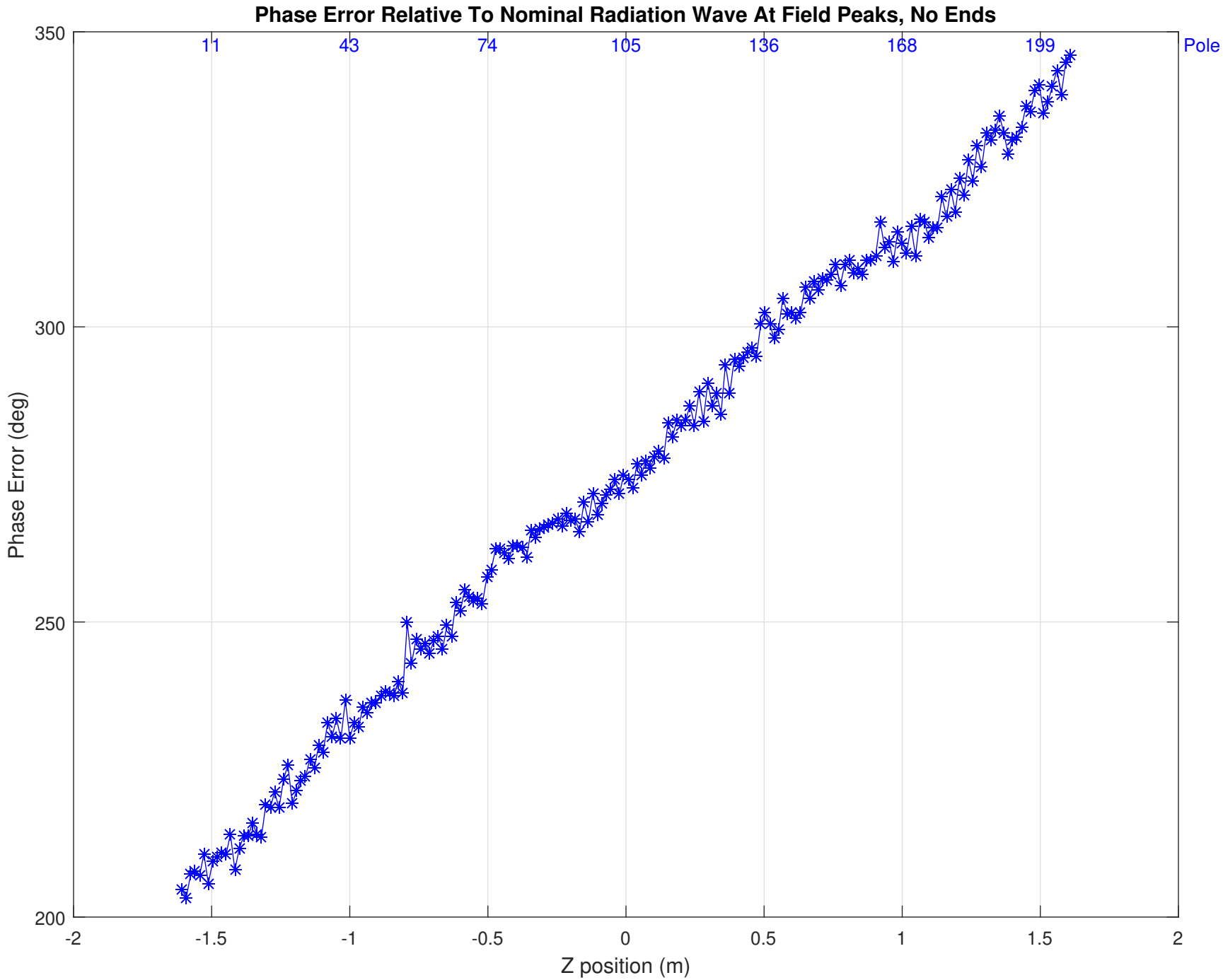
Peak Fields: Ave = 0.925166 T, RMS = 0.003053 T


X Trajectory
10^-6
11
43
74
105
136
168
199
Pole
4
3
2
1
0
-1
-2
-3
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^-6
11
43
74
105
136
168
199
Pole
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
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 = 2.942300 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
11
43
74
105
136
168
199
Pole
350
300
250
200
Phase Error (deg)
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
Z position (m)