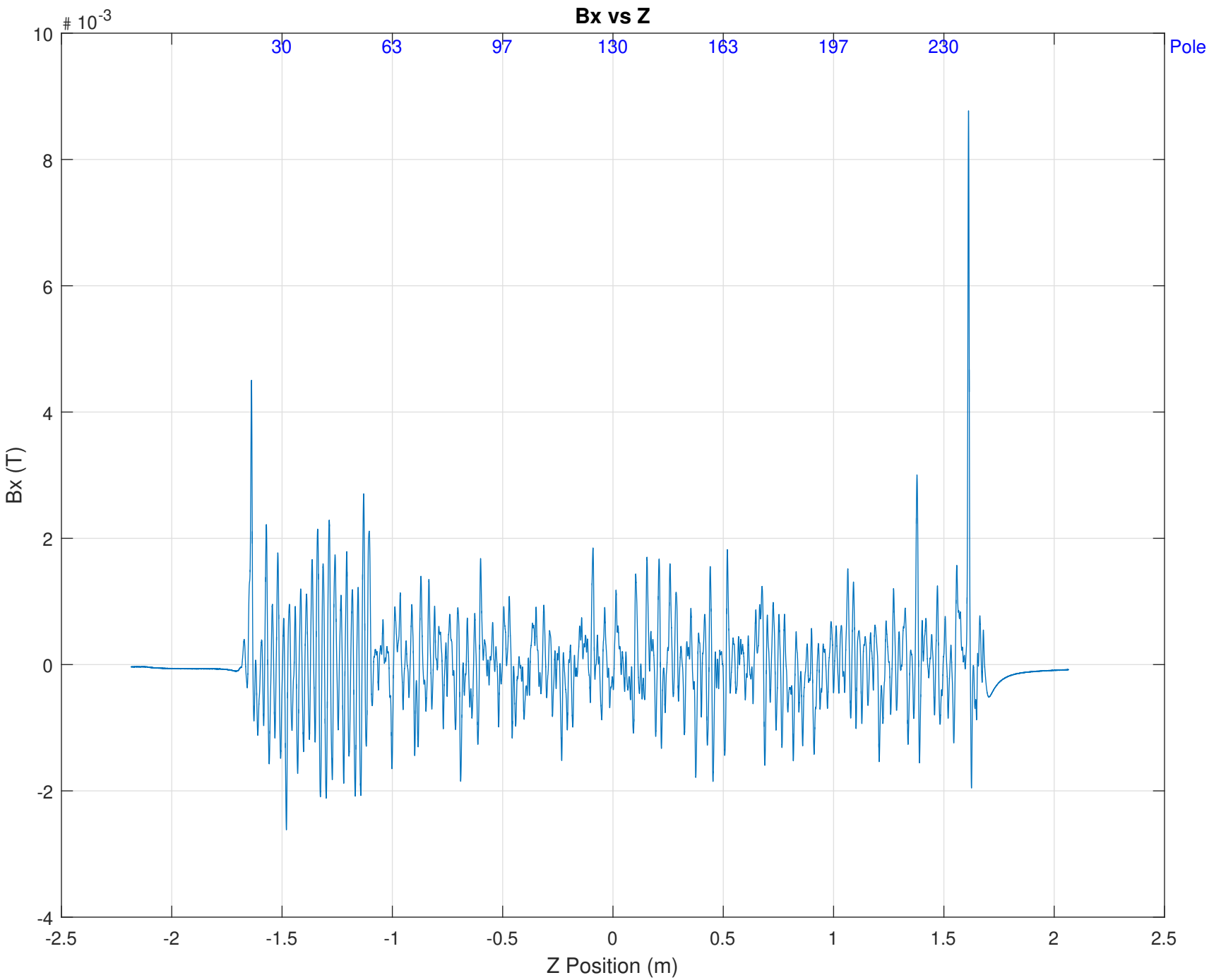
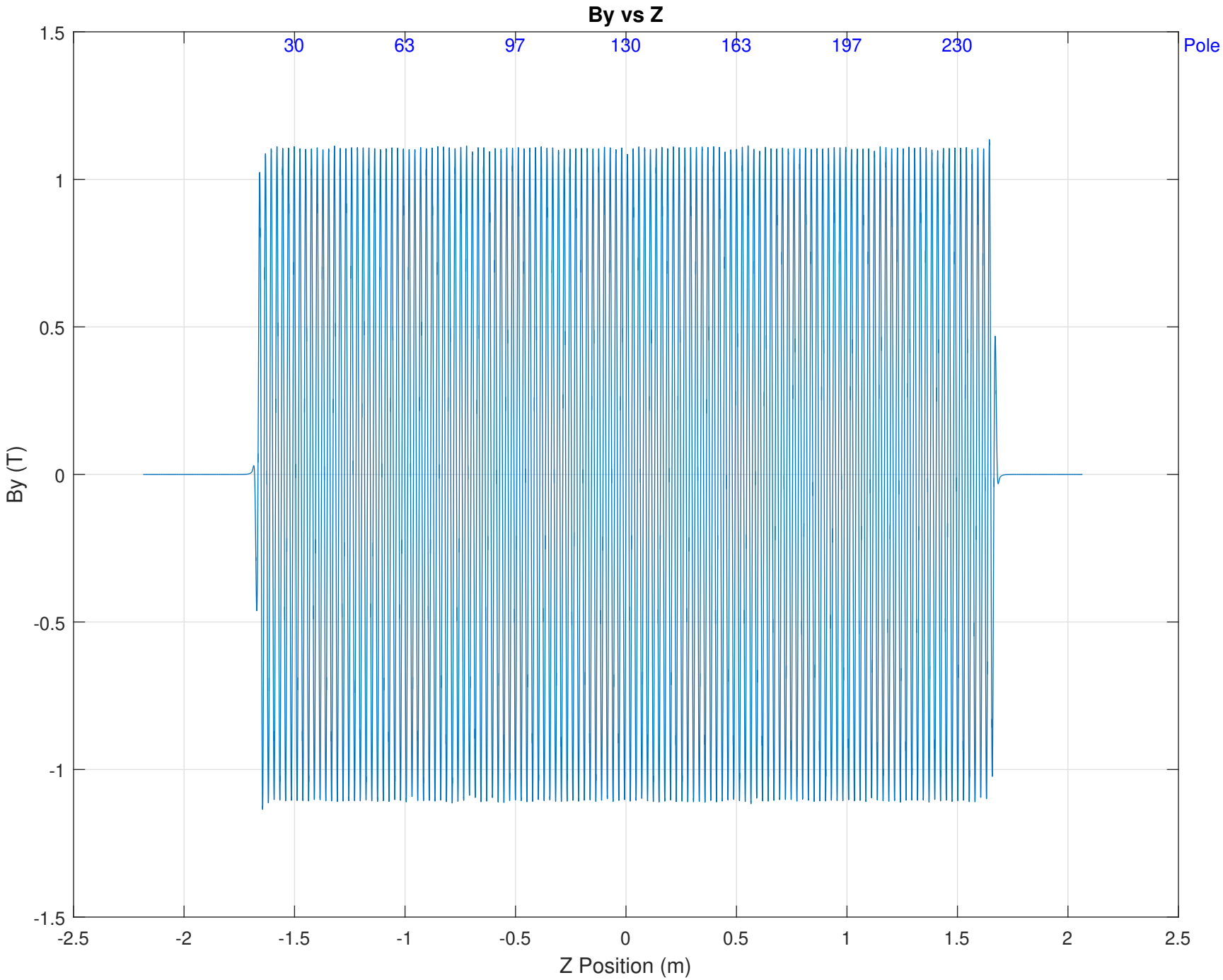
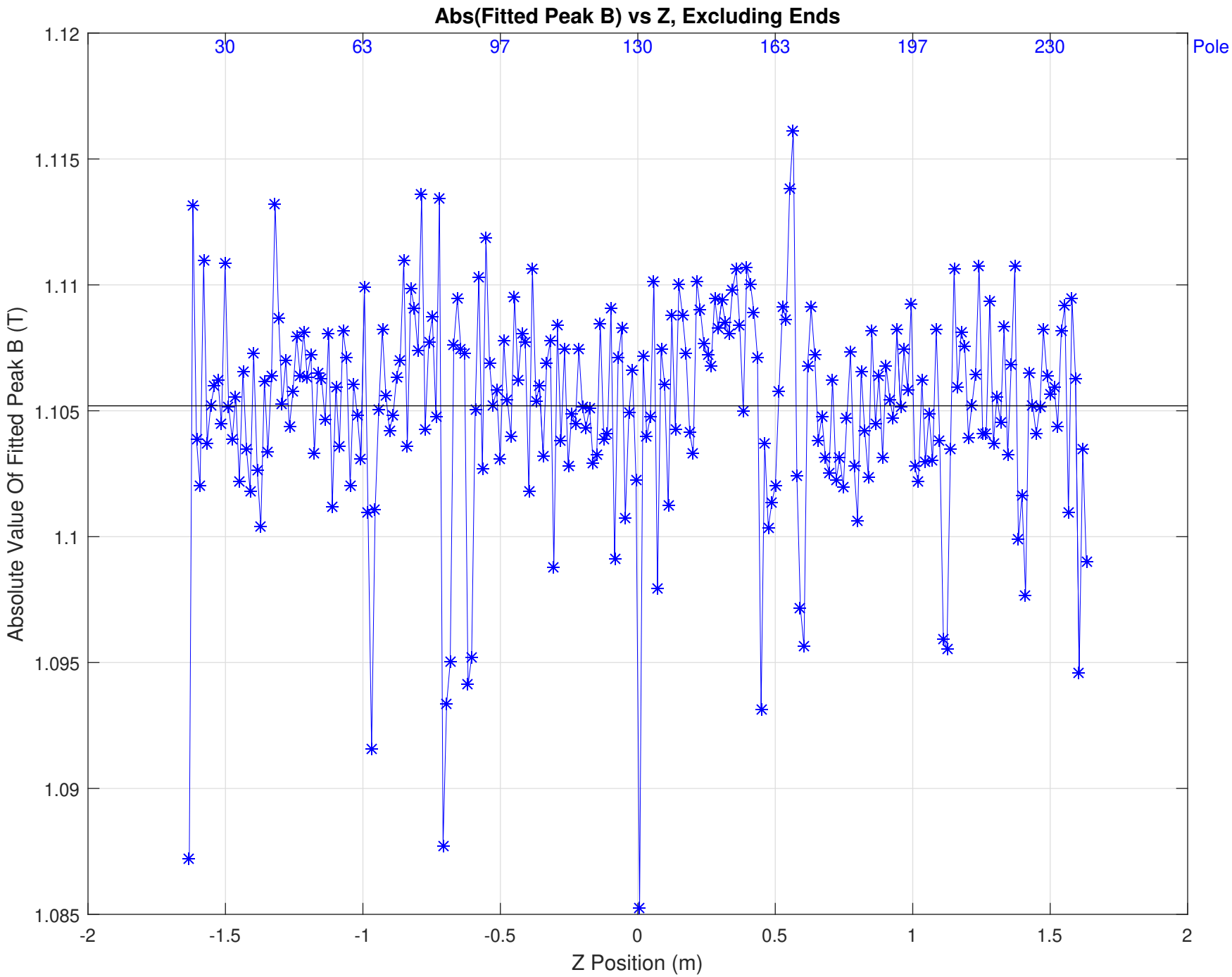
SLAC Magnetic Measurements

Planar Insertion Device Analysis

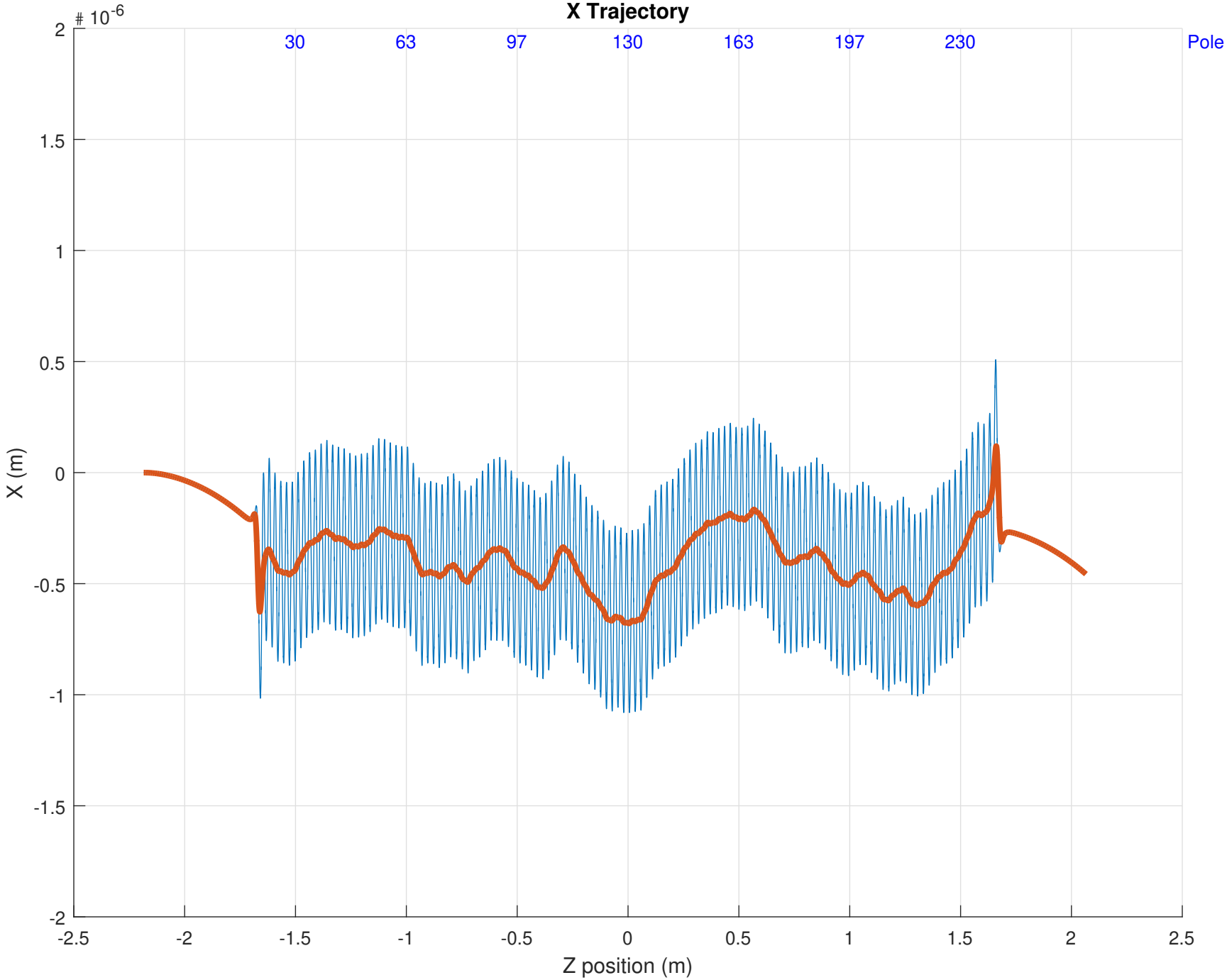
Parameters:
INPUT-FILE-DIR =S:\MagData\LCLS2\Undulator\HGVPU\DATASET0001\Fine Tuning\Z Scans\Run 028\
INPUT-FILE-NAME =x+00000-y+000-bscanz.dat
INPUT-FILE-TYPE =ZVXYBXYH
CORR-REQUIRED =1
GAMMA =26671.59
NOM-LAMBDA-U =0.03
NOM-K-VALUE =3.4954
NOM-LAMBDA-R =1.499e-10
NUM-POLES =260
NUM-END-POLES =4
CELL-LENGTH =3.656

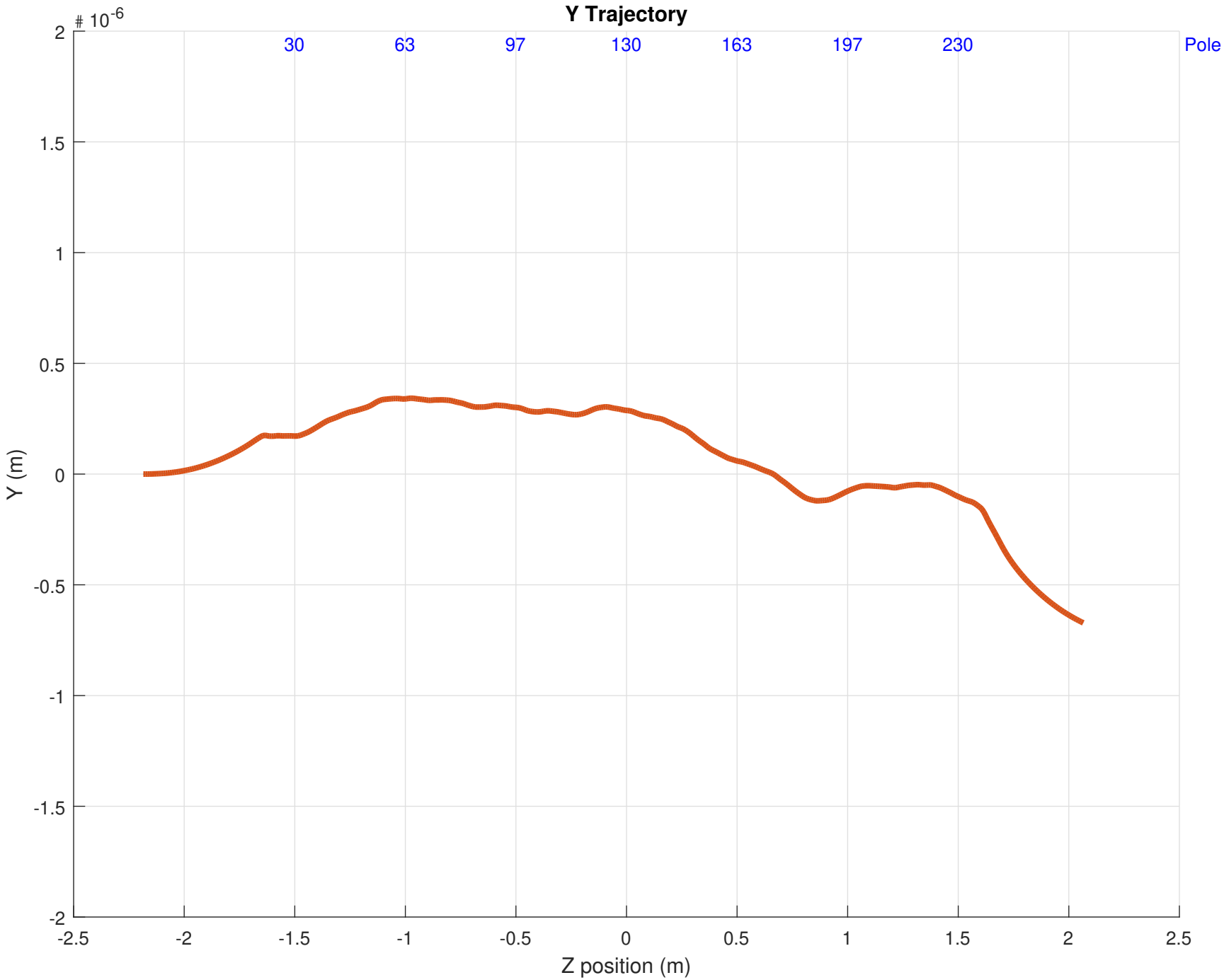

Bx vs Z
10^-3
10
8
6
4
2
0
-2
-4
30
63
97
130
163
197
230
Pole
Bx (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

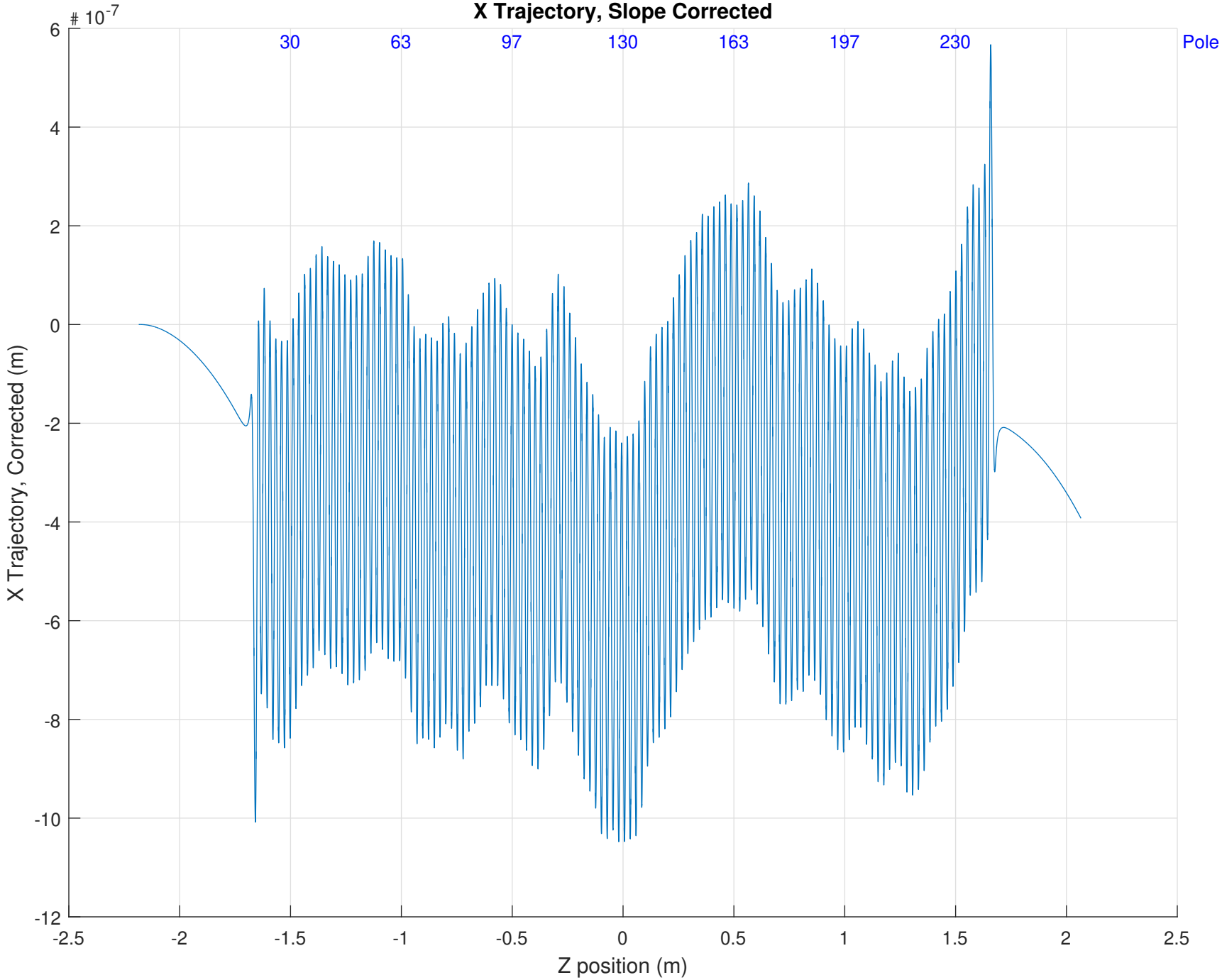

By vs Z
30
63
97
130
163
197
230
Pole
1.5
1
0.5
0
-0.5
-1
-1.5
By (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

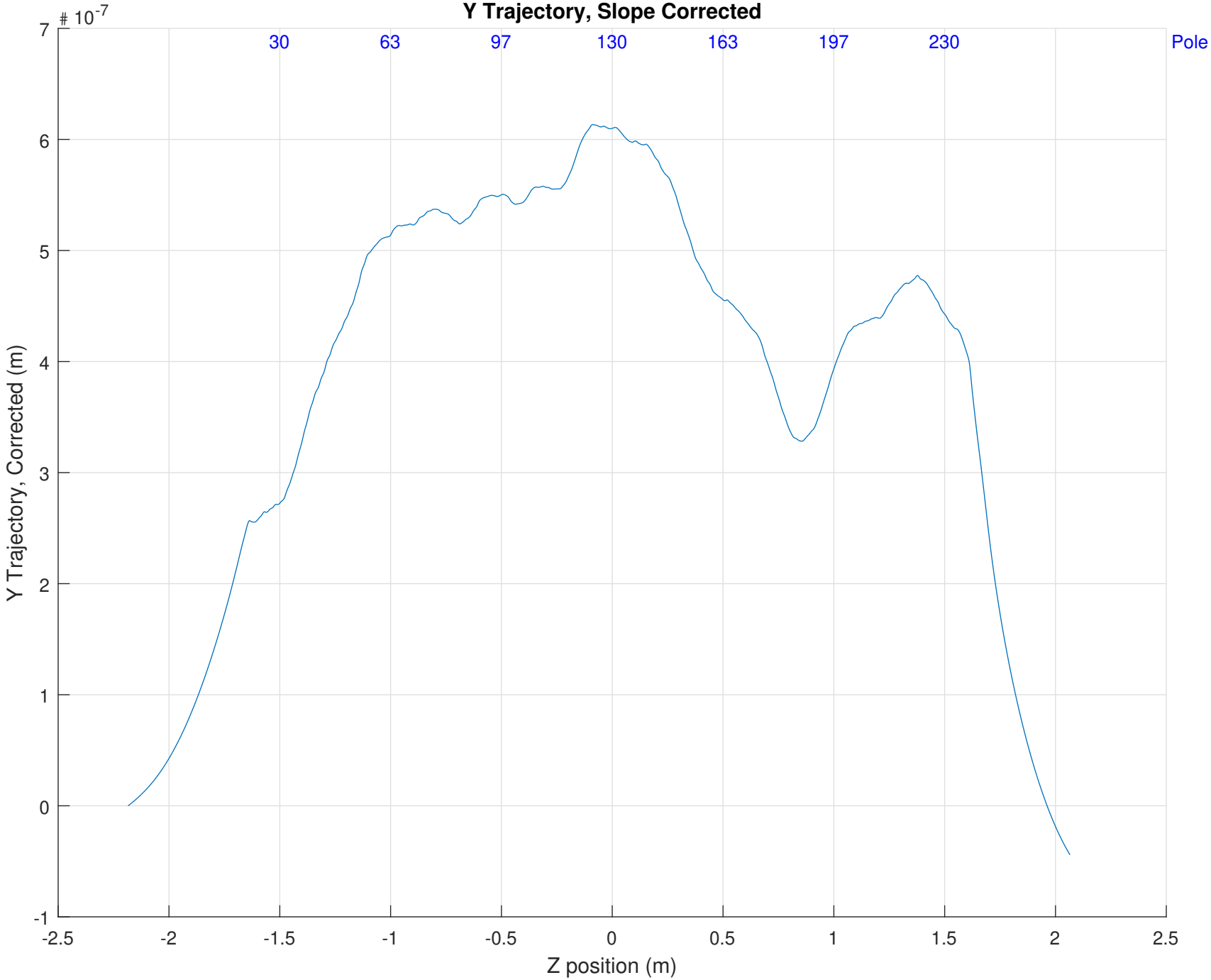


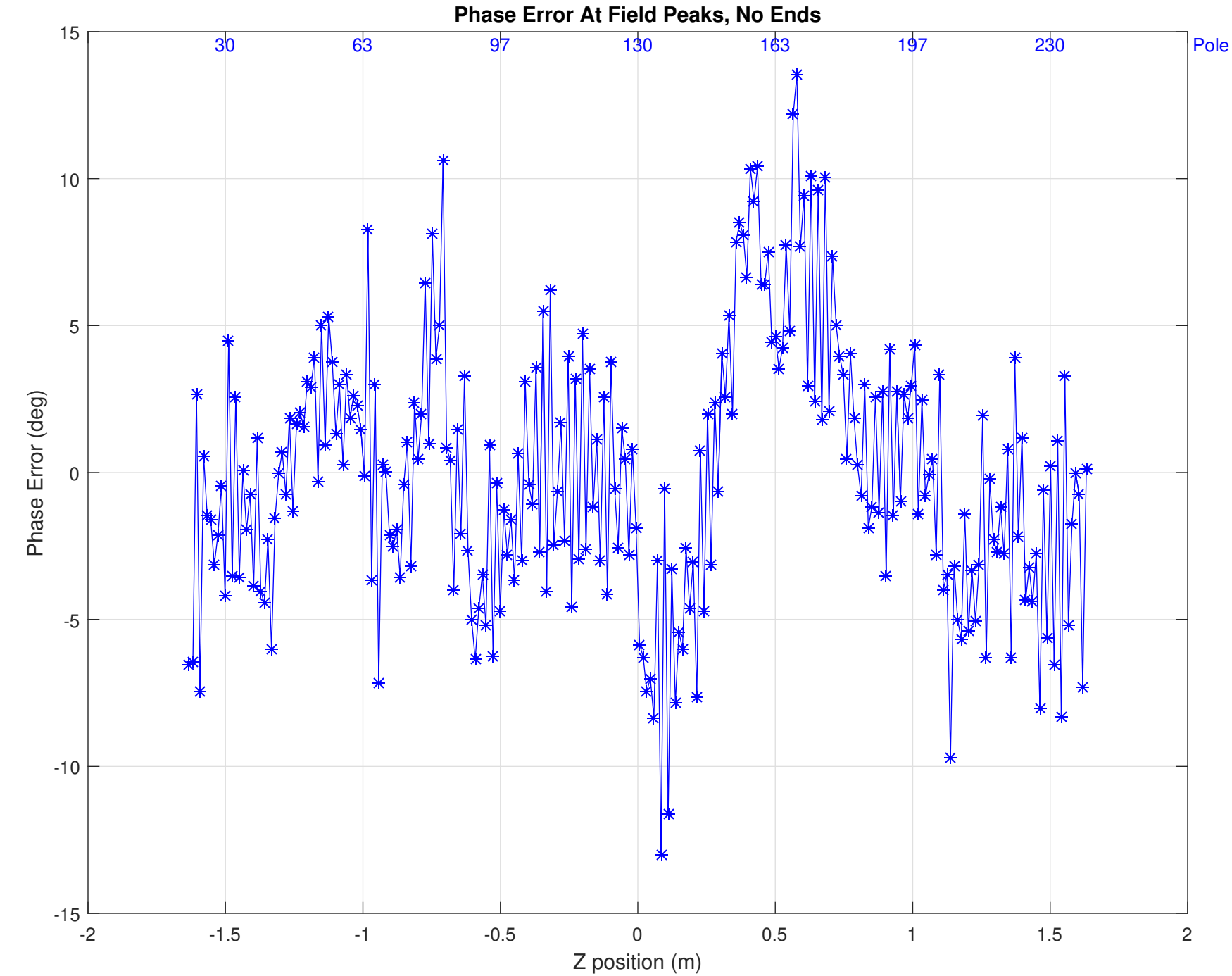
Peak Fields: Ave = 1.105196 T, RMS = 0.004280 T


X Trajectory
10^-6
30
63
97
130
163
197
230
Pole
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
X (m)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z position (m)

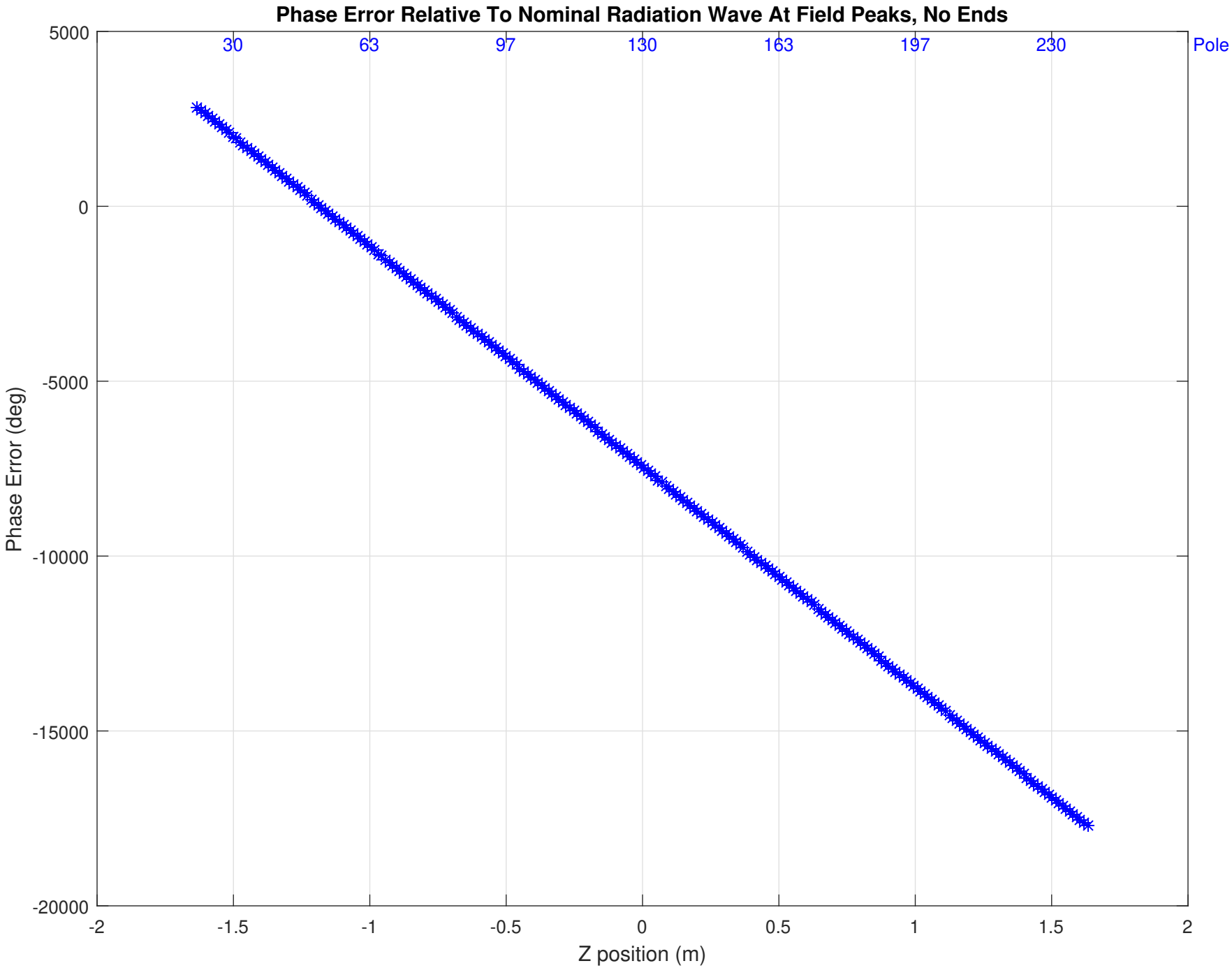

Y Trajectory
10^-6
30
63
97
130
163
197
230
Pole
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
Y (m)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z position (m)


X Trajectory, Slope Corrected
10^-7
6
4
2
0
-2
-4
-6
-8
-10
-12
30
63
97
130
163
197
230
Pole
X Trajectory, Corrected (m)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z position (m)


Y Trajectory, Slope Corrected
10^-7
7
6
5
4
3
2
1
0
-1
30
63
97
130
163
197
230
Pole
Y Trajectory, Corrected (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 = 4.487244 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
30
63
97
130
163
197
230
Pole
5000
0
-5000
-10000
-15000
-20000
Phase Error (deg)
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
Z position (m)