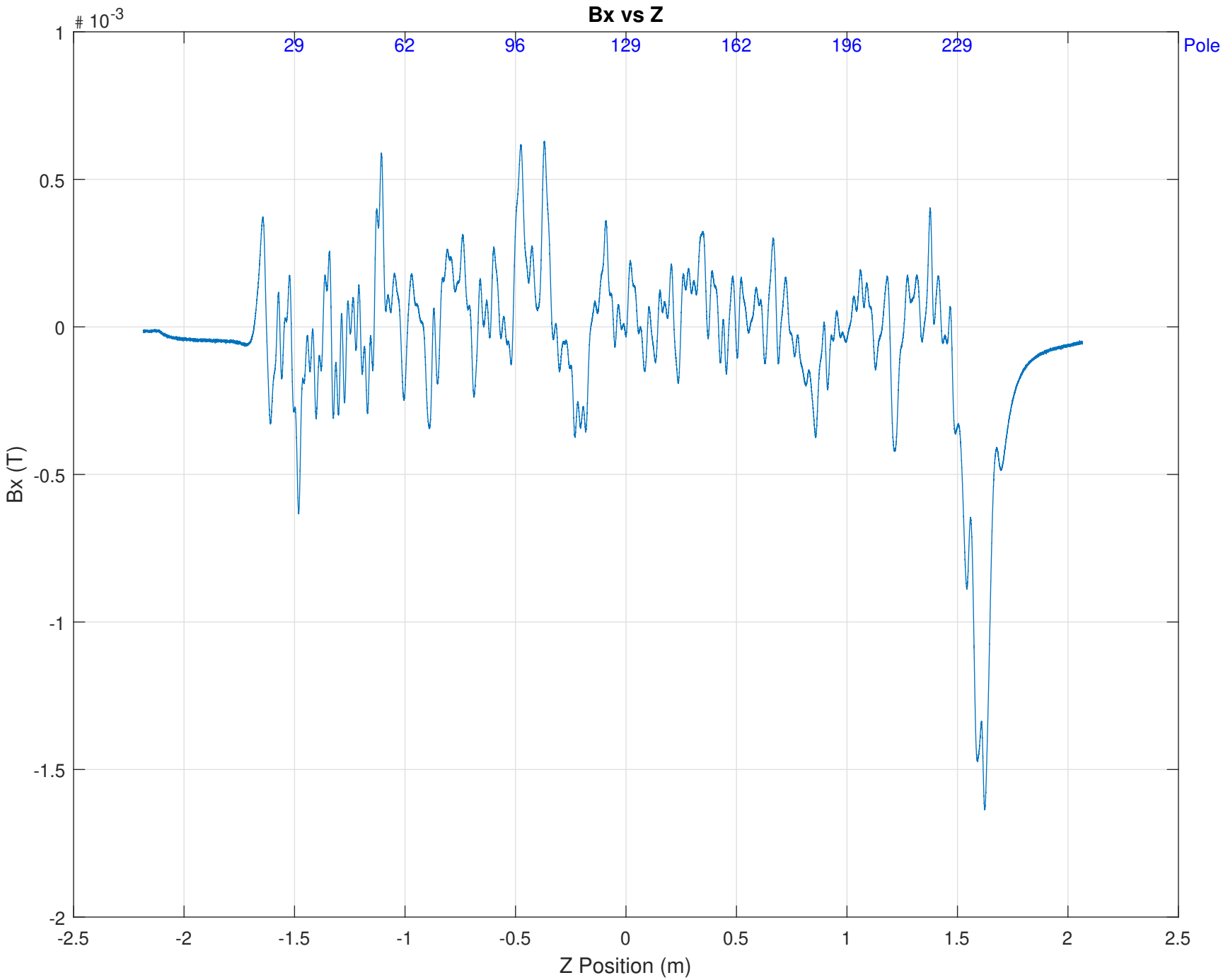
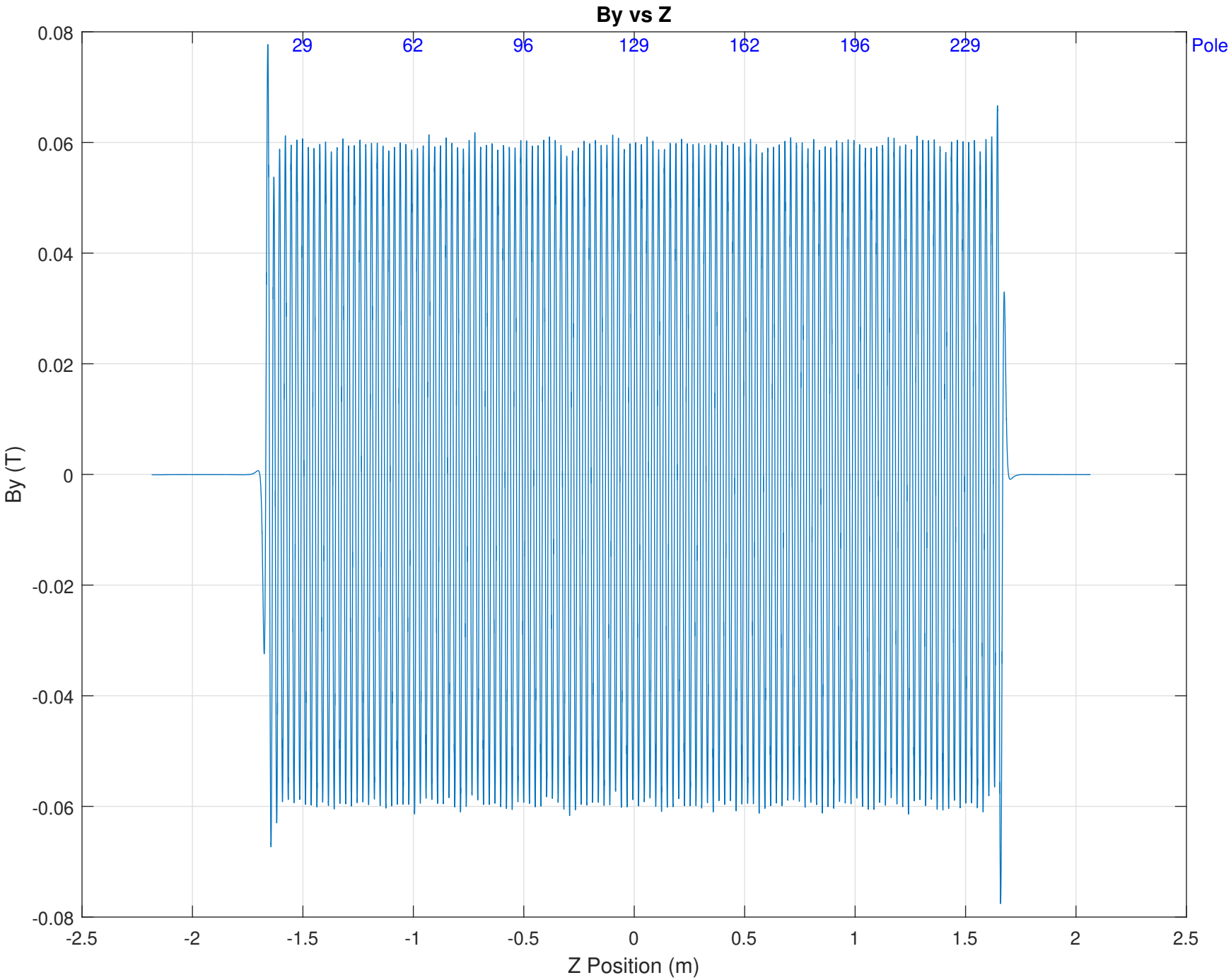
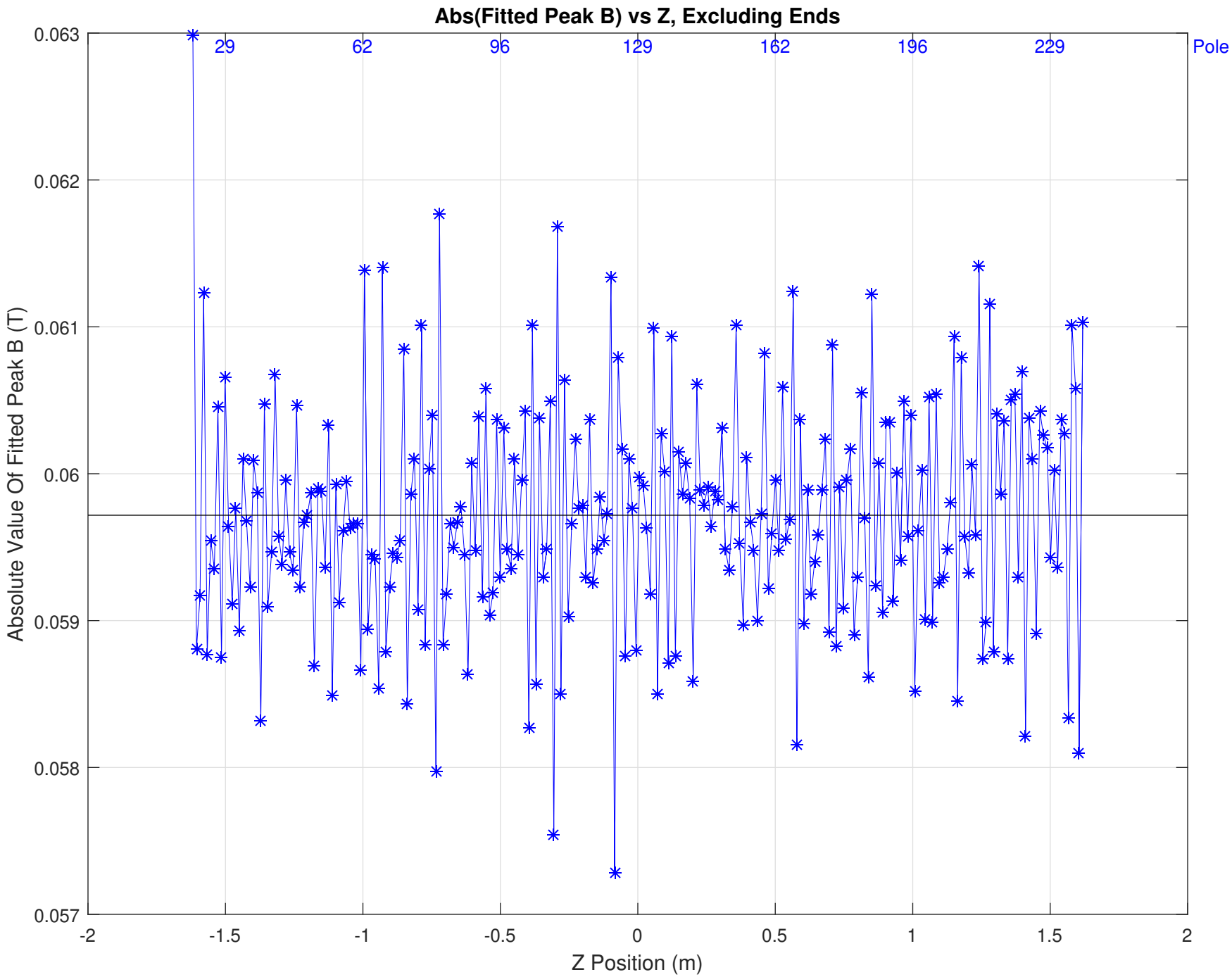
SLAC Magnetic Measurements

Planar Insertion Device Analysis

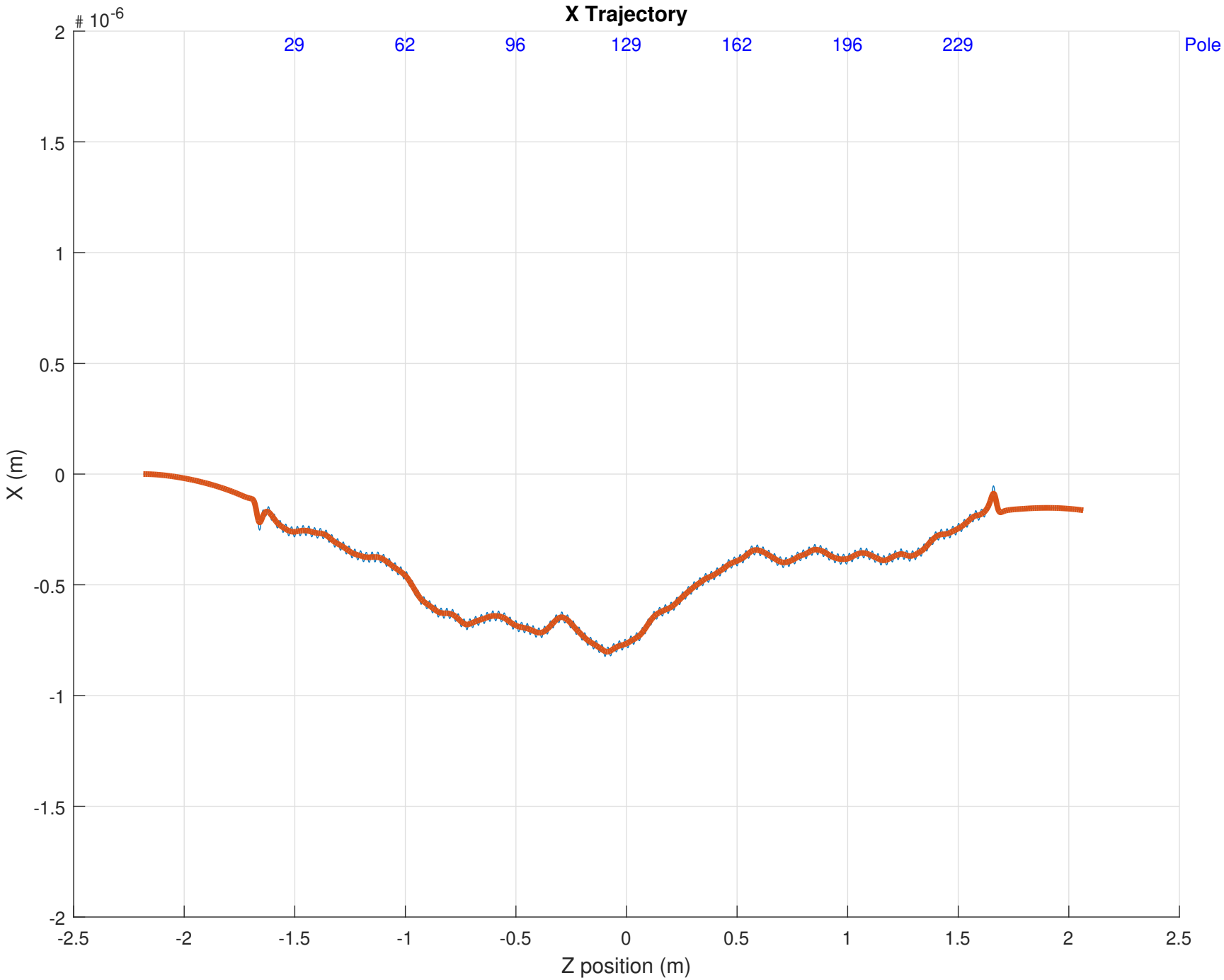
Parameters:
INPUT-FILE-DIR =S:\MagData\LCLS2\Undulator\HGVPU\DATASET0001\Fine Tuning\Z Scans\Run 022\
INPUT-FILE-NAME =x+00000-y+000-bscanz.dat
INPUT-FILE-TYPE =ZVXYBXYH
CORR-REQUIRED =1
GAMMA =26671.59
NOM-LAMBDA-U =0.03
NOM-K-VALUE =3.4954
NOM-LAMBDA-R =1.499e-10
NUM-POLES =258
NUM-END-POLES =4
CELL-LENGTH =3.656

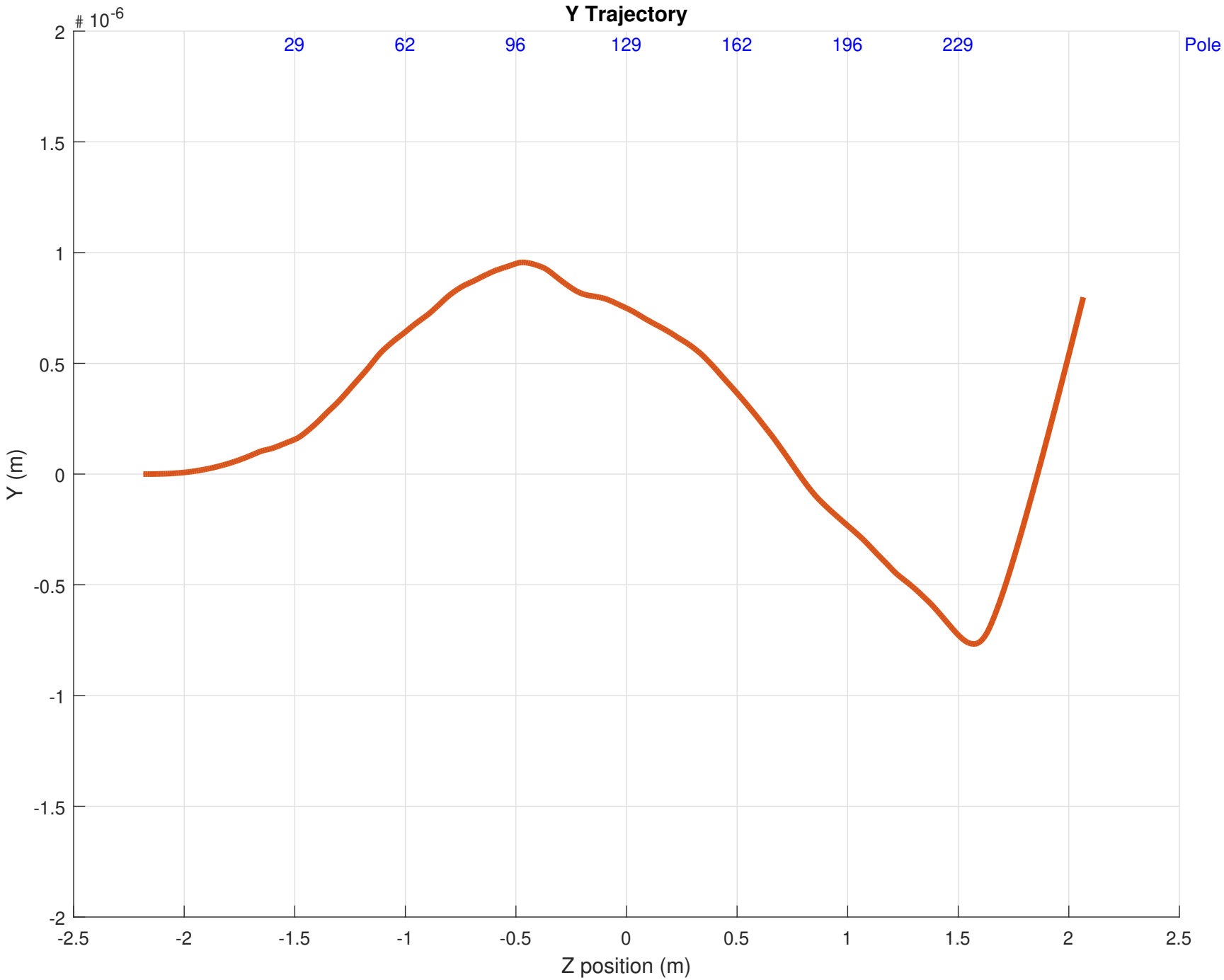

Bx vs Z
10^-3
1
0.5
0
-0.5
-1
-1.5
-2
Bx (T)
29
62
96
129
162
196
229
Pole
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

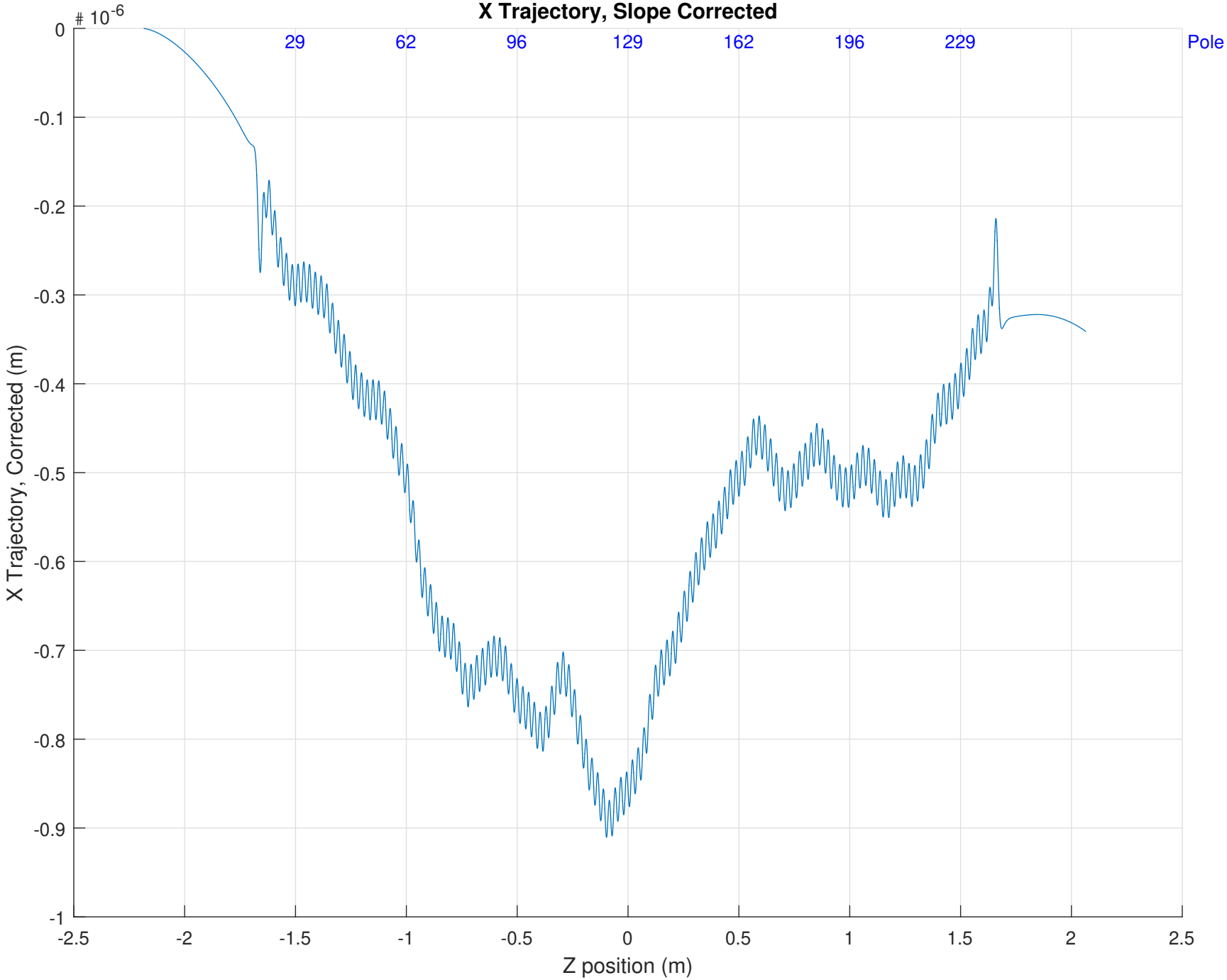

By vs Z
29
62
96
129
162
196
229
Pole
0.08
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
-0.08
By (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

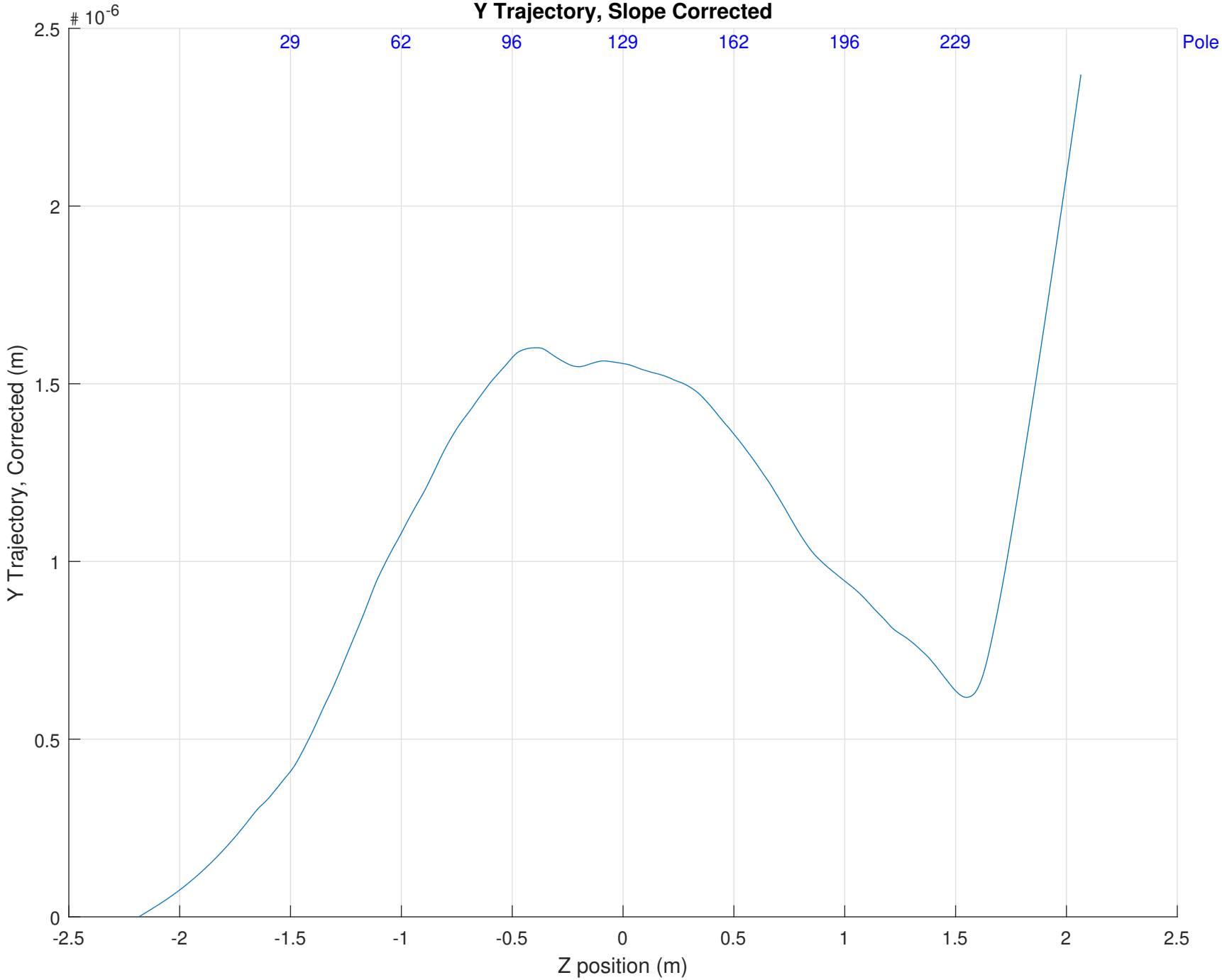


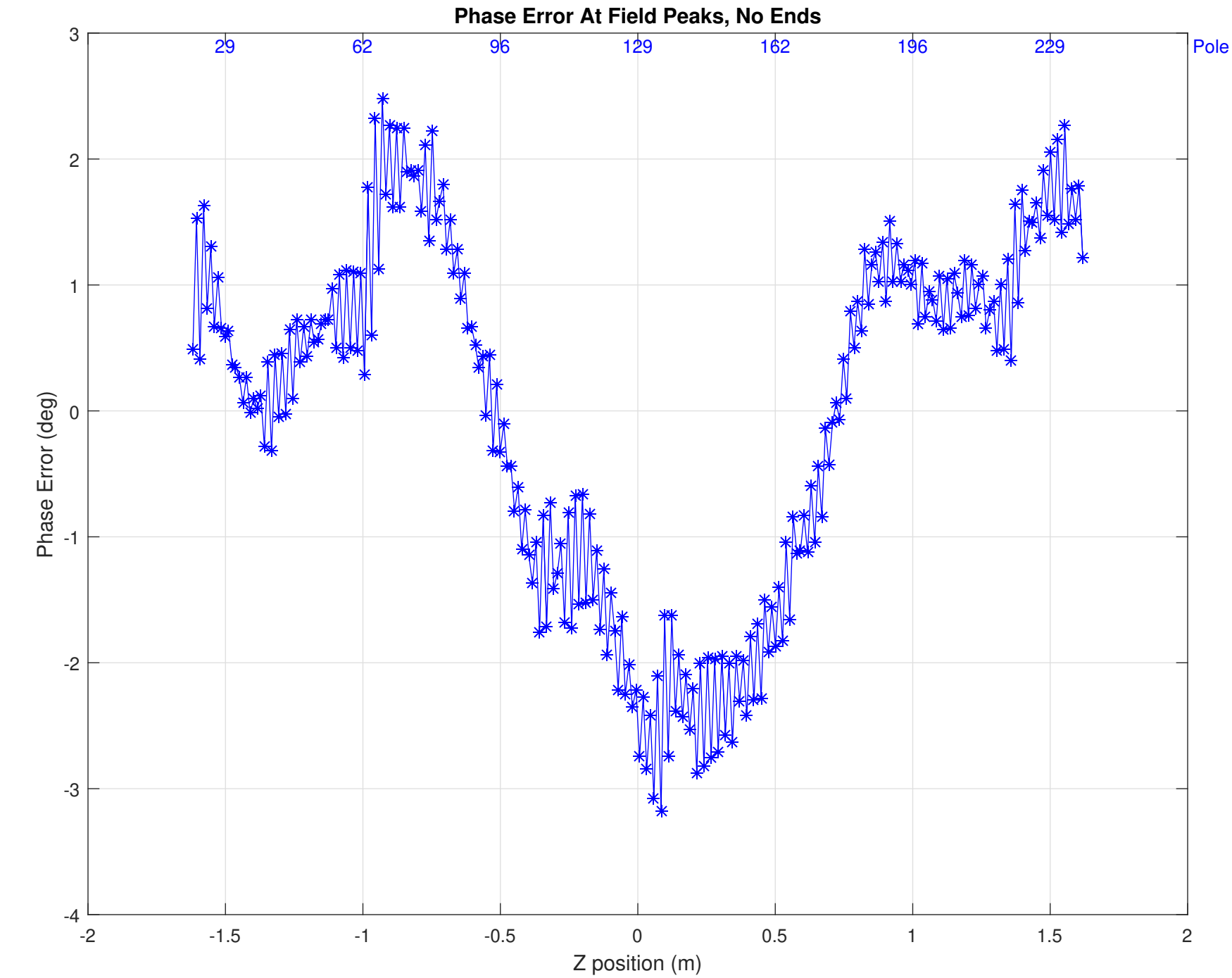
Peak Fields: Ave = 0.059717 T, RMS = 0.000796 T


X Trajectory
10^-6
29
62
96
129
162
196
229
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)

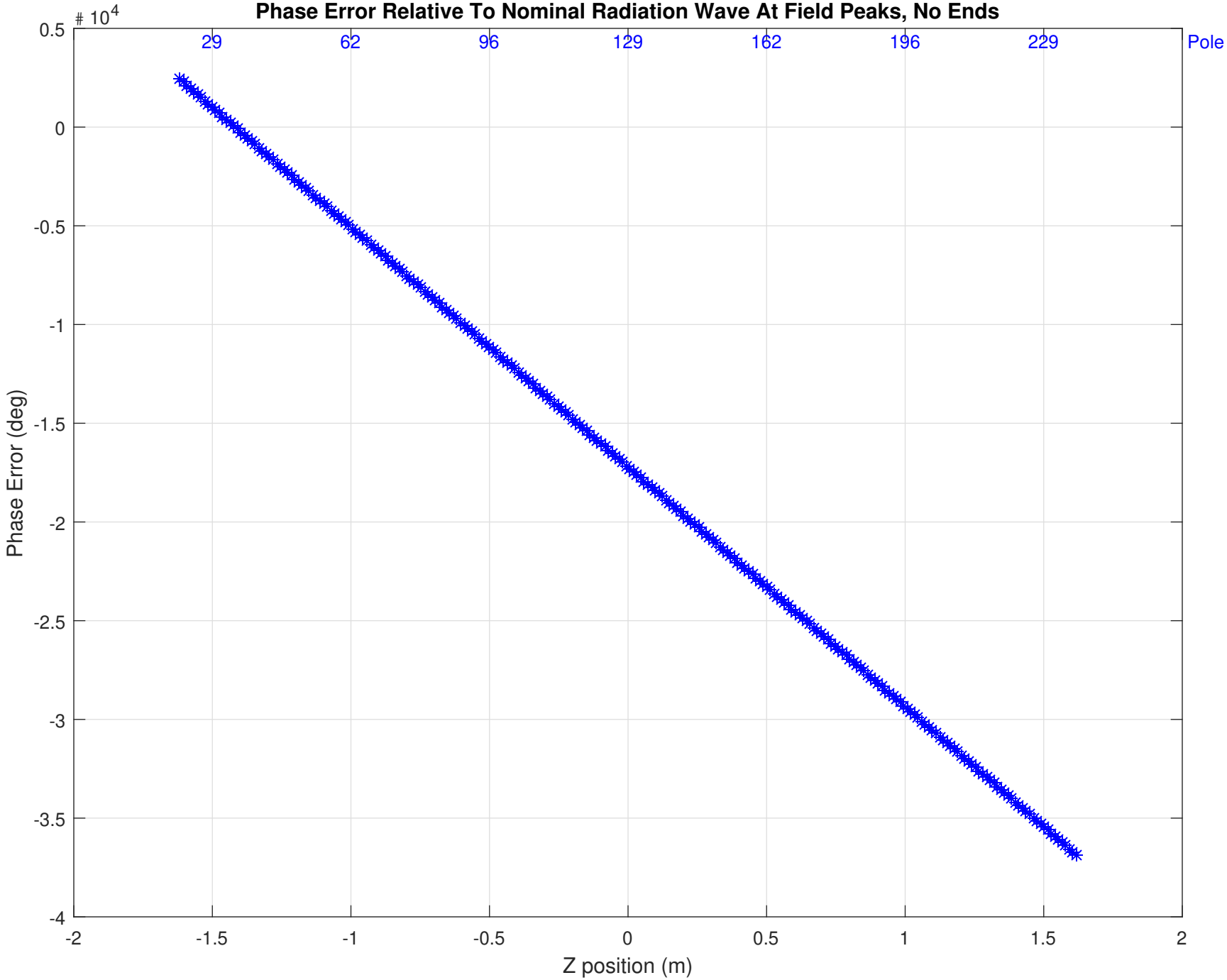

Y Trajectory
10^-6
29
62
96
129
162
196
229
Pole
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
Y (m)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z position (m)


X Trajectory, Slope Corrected
10^-6
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
29
62
96
129
162
196
229
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^-6
2.5
2
1.5
1
0.5
0
29
62
96
129
162
196
229
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 = 1.426275 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
10^4
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-3.5
-4
Phase Error (deg)
29
62
96
129
162
196
229
Pole
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
Z position (m)