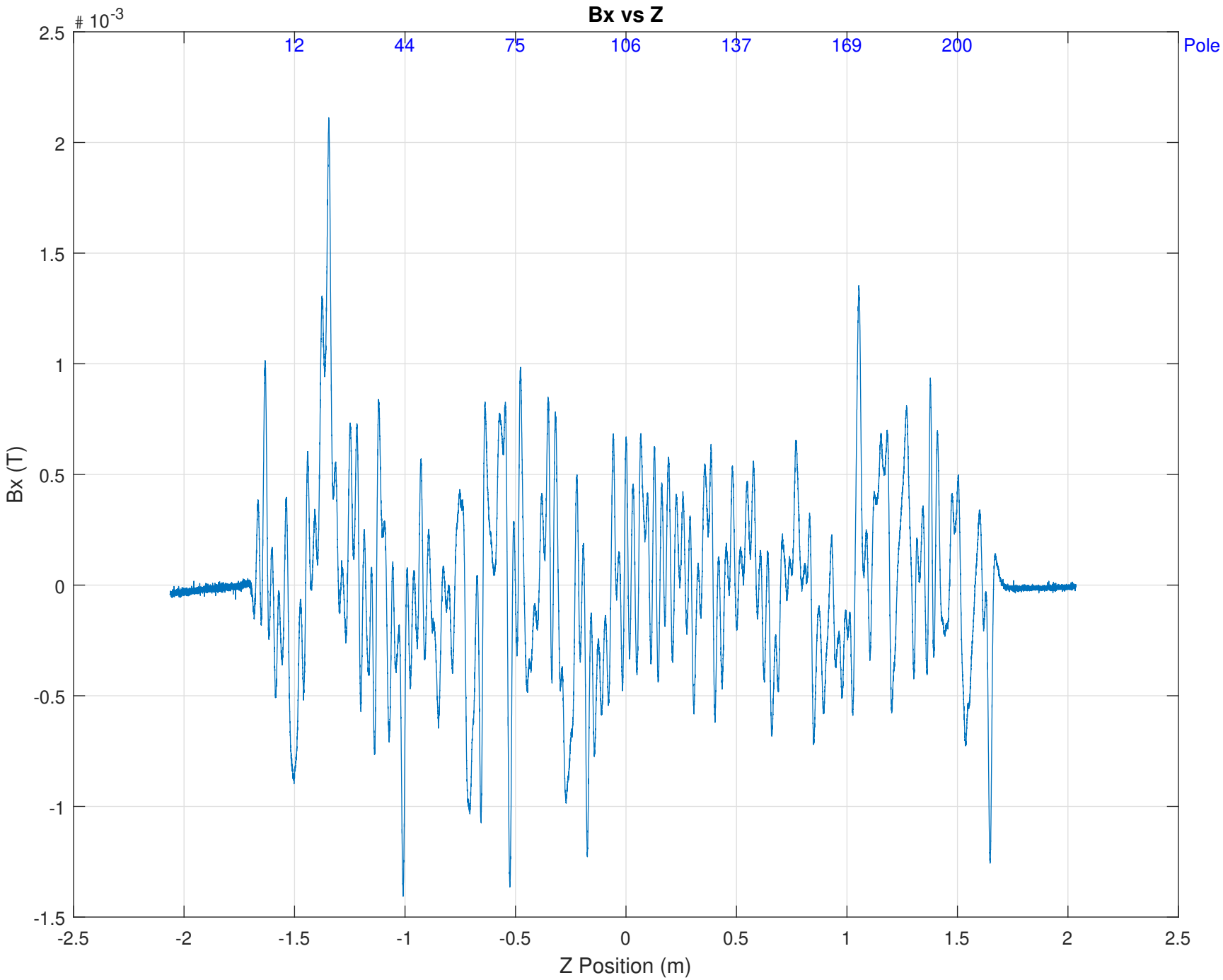
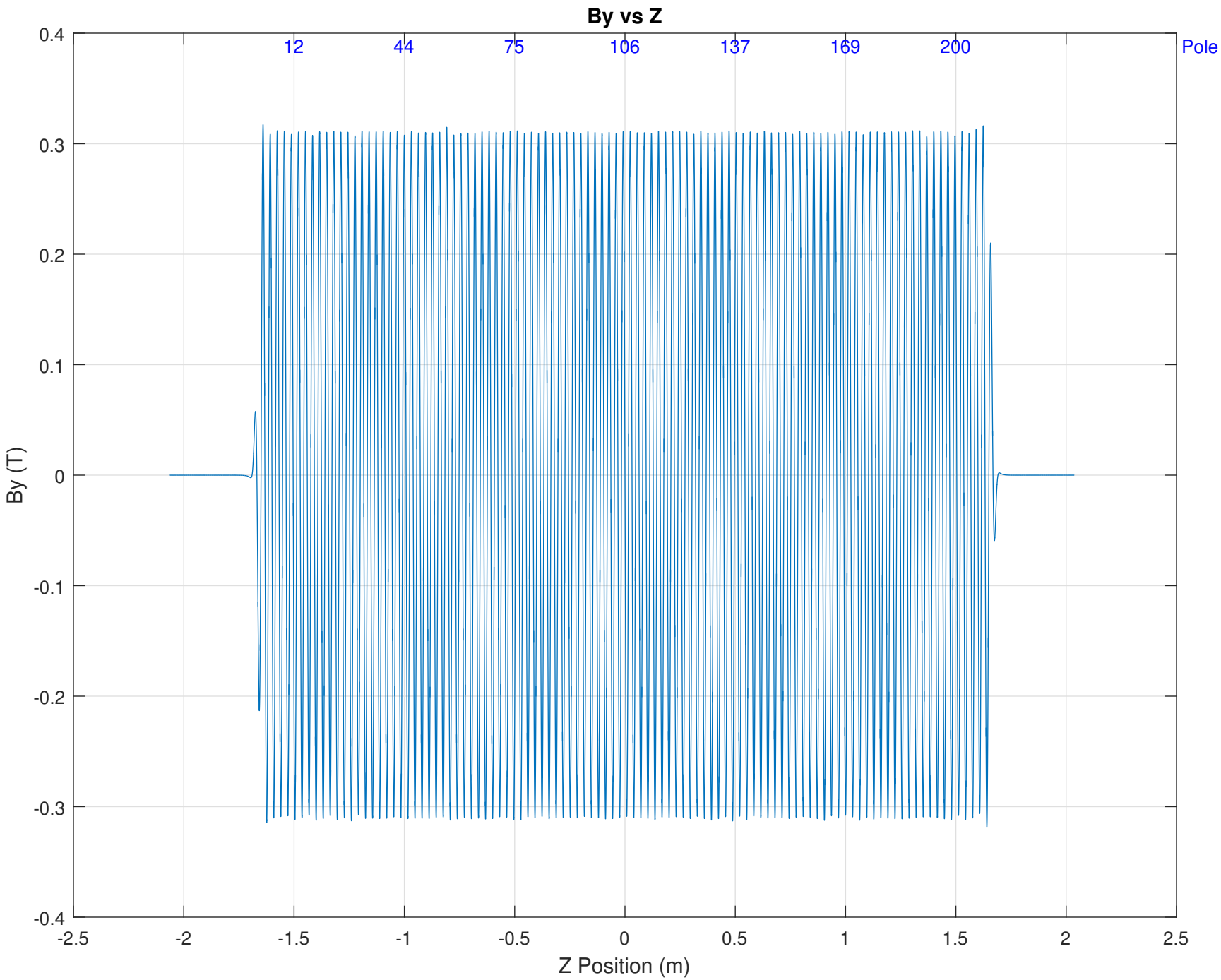
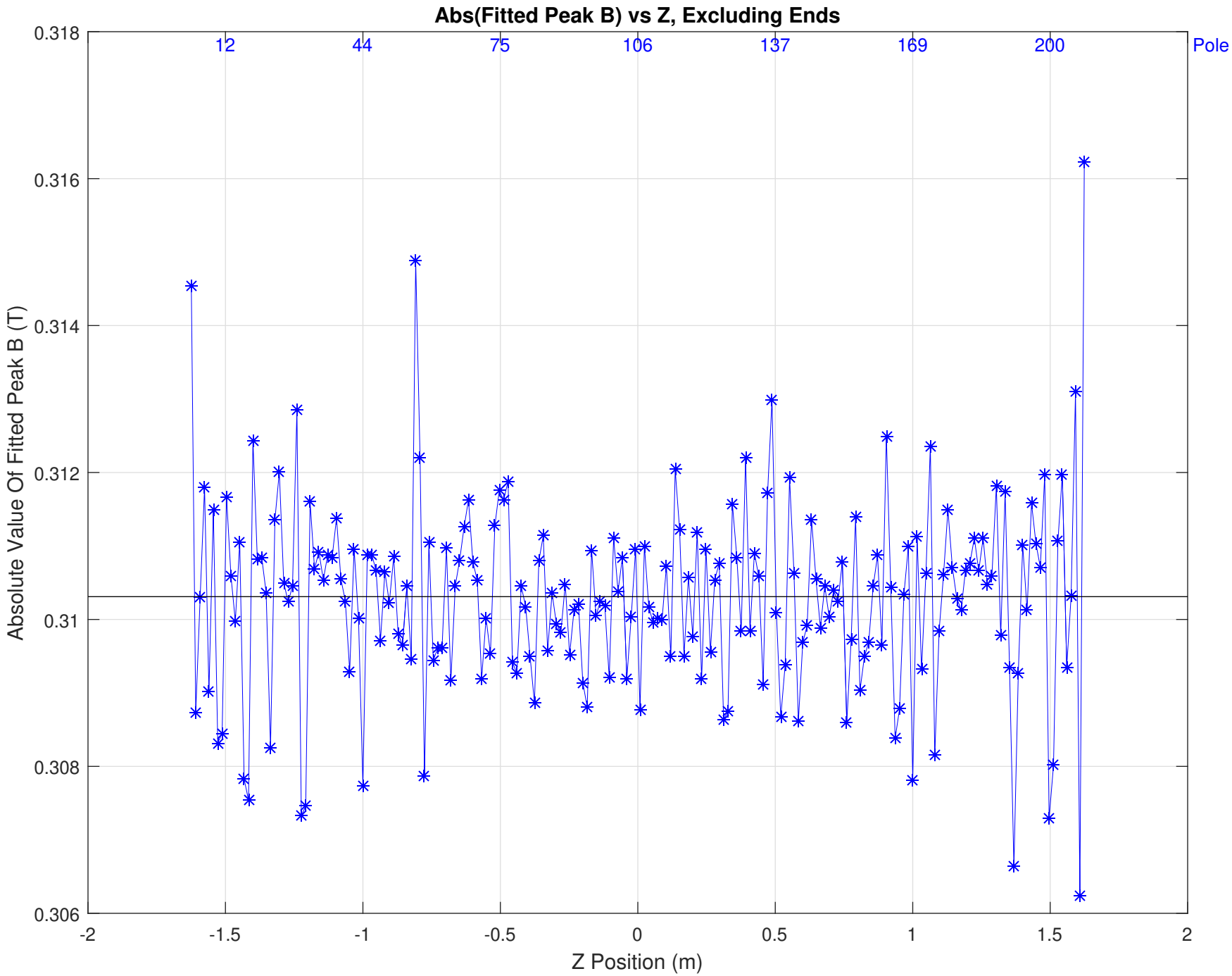
SLAC Magnetic Measurements

Planar Insertion Device Analysis

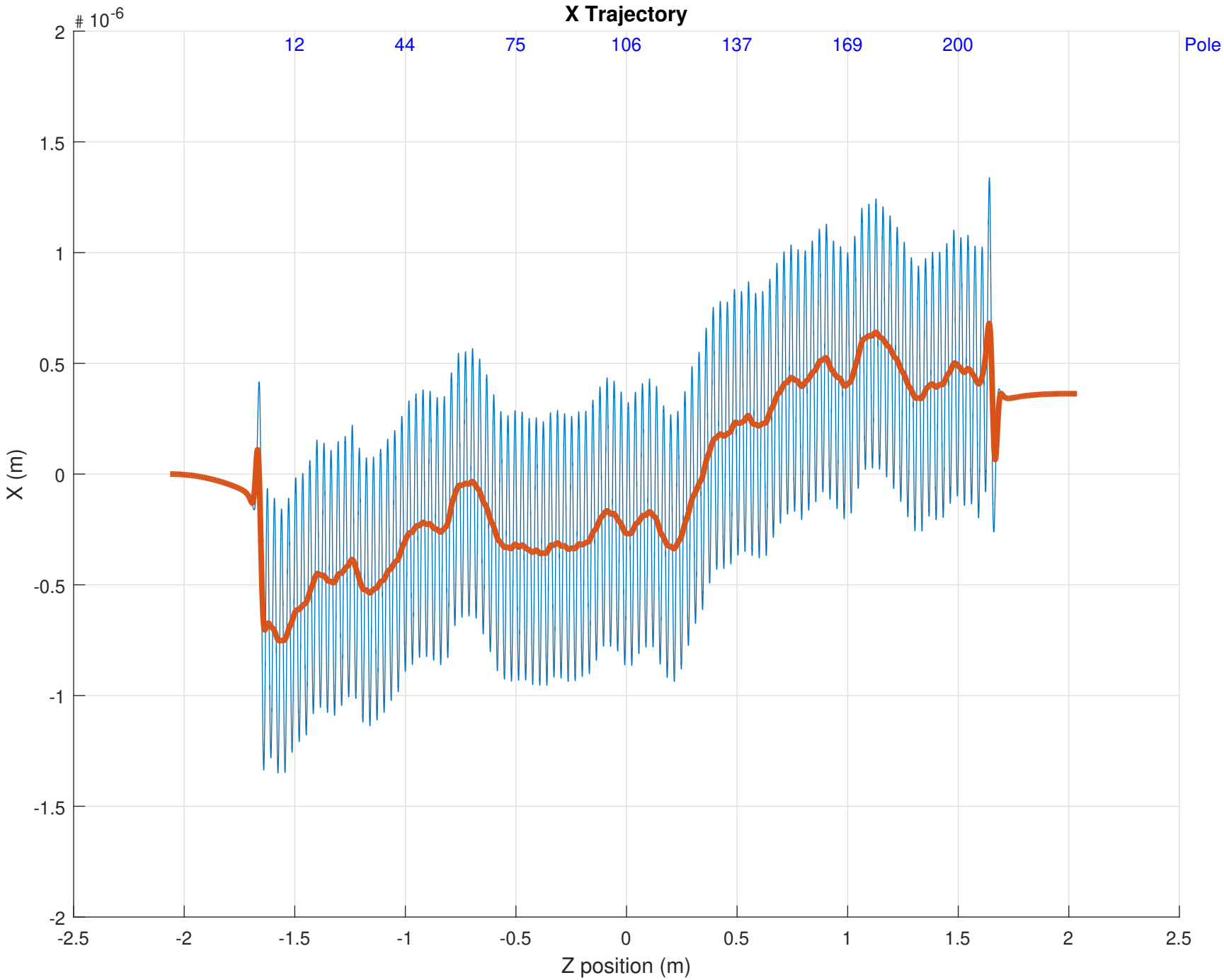
Parameters:
INPUT-FILE-DIR =c:\magdata\LCLS\Undulator\HXU-32\DATASET0001\Fine Tuning\Z Scans\Run 030\
INPUT-FILE-NAME =x+00000-y+000-bscanz.dat
INPUT-FILE-TYPE =ZVXYBXYH
CORR-REQUIRED =1
GAMMA =7827.79
NOM-LAMBDA-U =0.032
NOM-K-VALUE =2.6963
NOM-LAMBDA-R =1.2103e-09
NUM-POLES =212
NUM-END-POLES =4
CELL-LENGTH =3.656

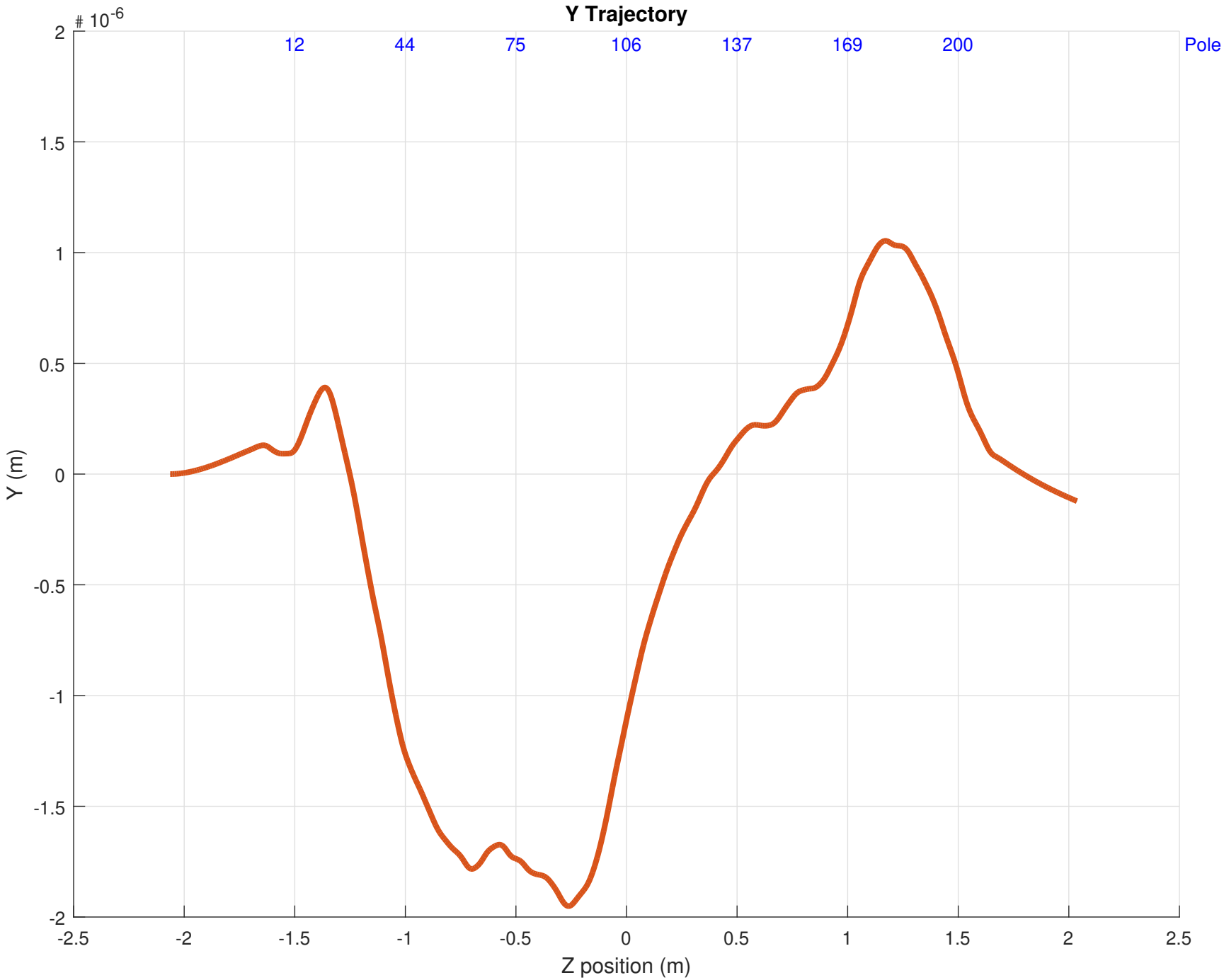

Bx vs Z
10^-3
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
Bx (T)
12
44
75
106
137
169
200
Pole
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

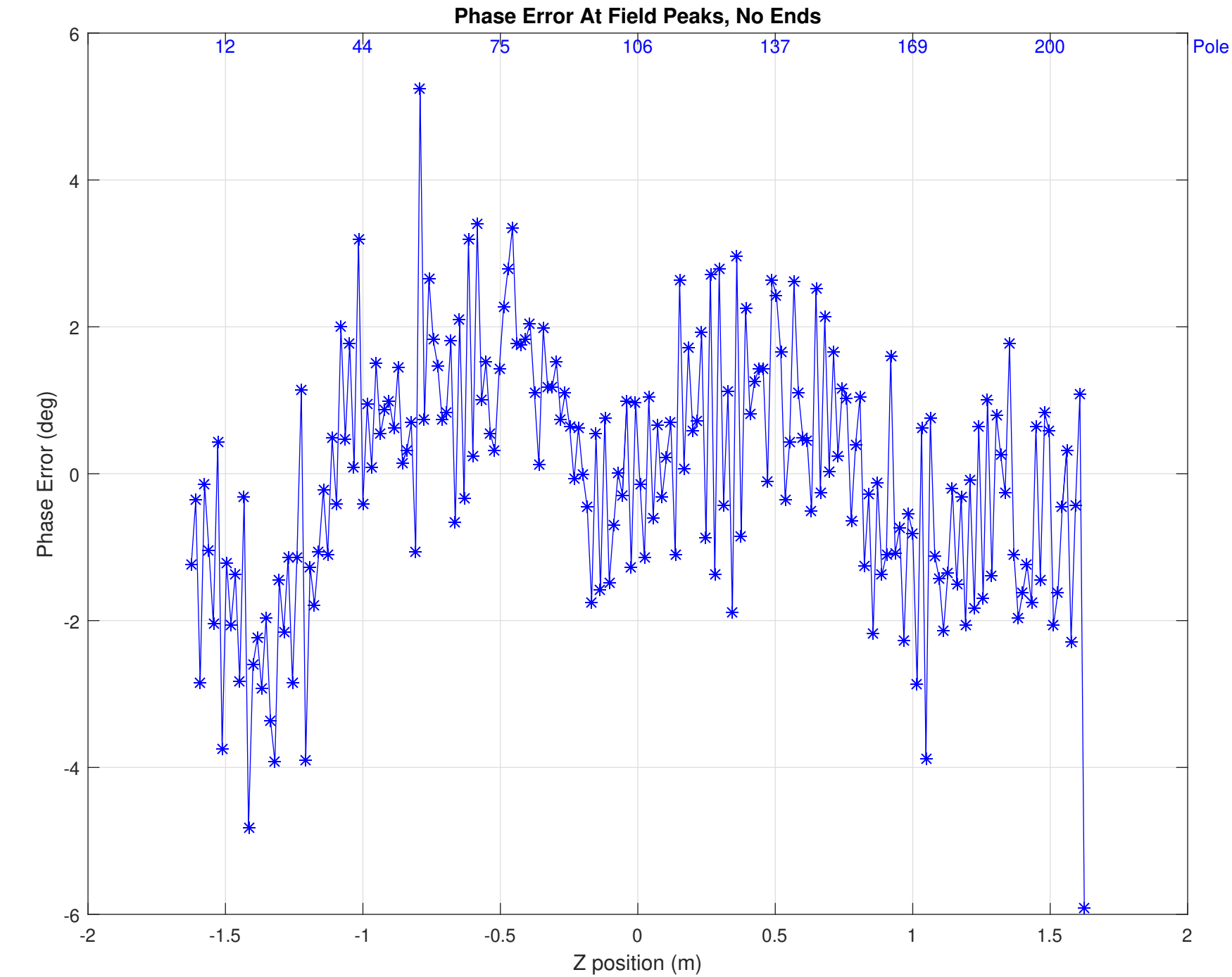

By vs Z
12
44
75
106
137
169
200
Pole
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
By (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)



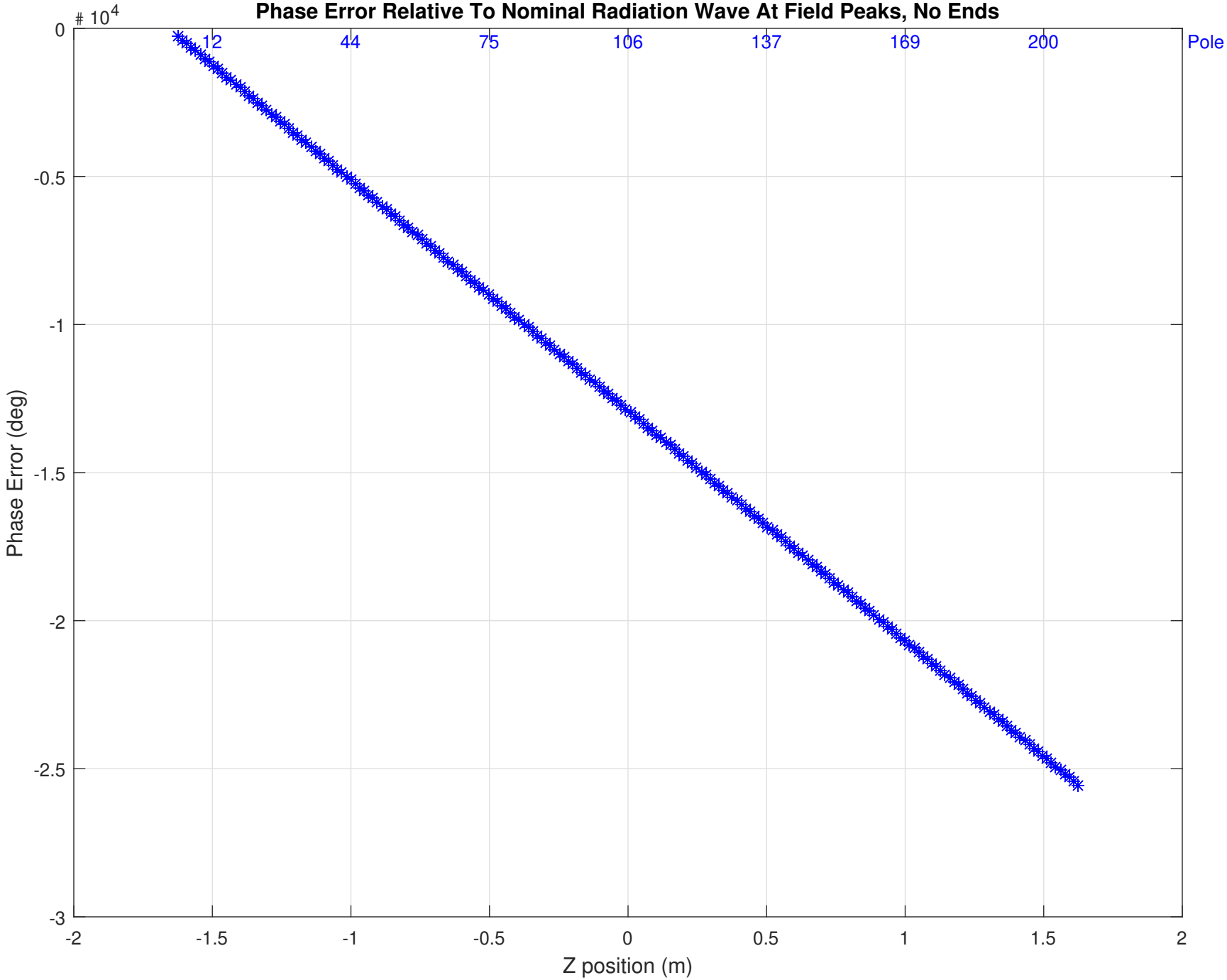
Peak Fields: Ave = 0.310310 T, RMS = 0.001317 T


X Trajectory
10^-6
12
44
75
106
137
169
200
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
12
44
75
106
137
169
200
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)



Phase Error: Ave = 0.000000 deg, RMS = 1.680235 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
10^4
0
-0.5
-1
-1.5
-2
-2.5
-3
Phase Error (deg)
12
44
75
106
137
169
200
Pole
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
Z position (m)