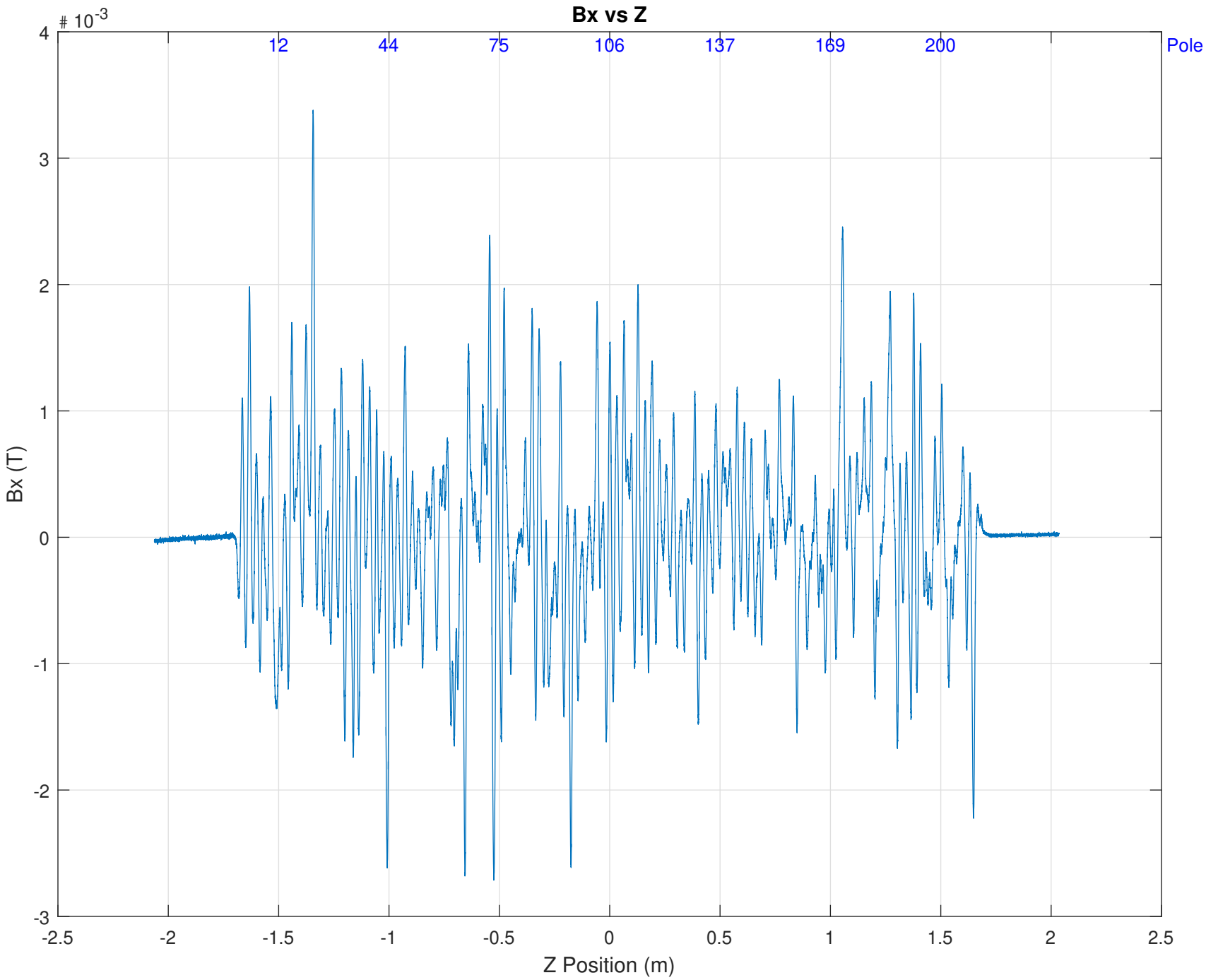
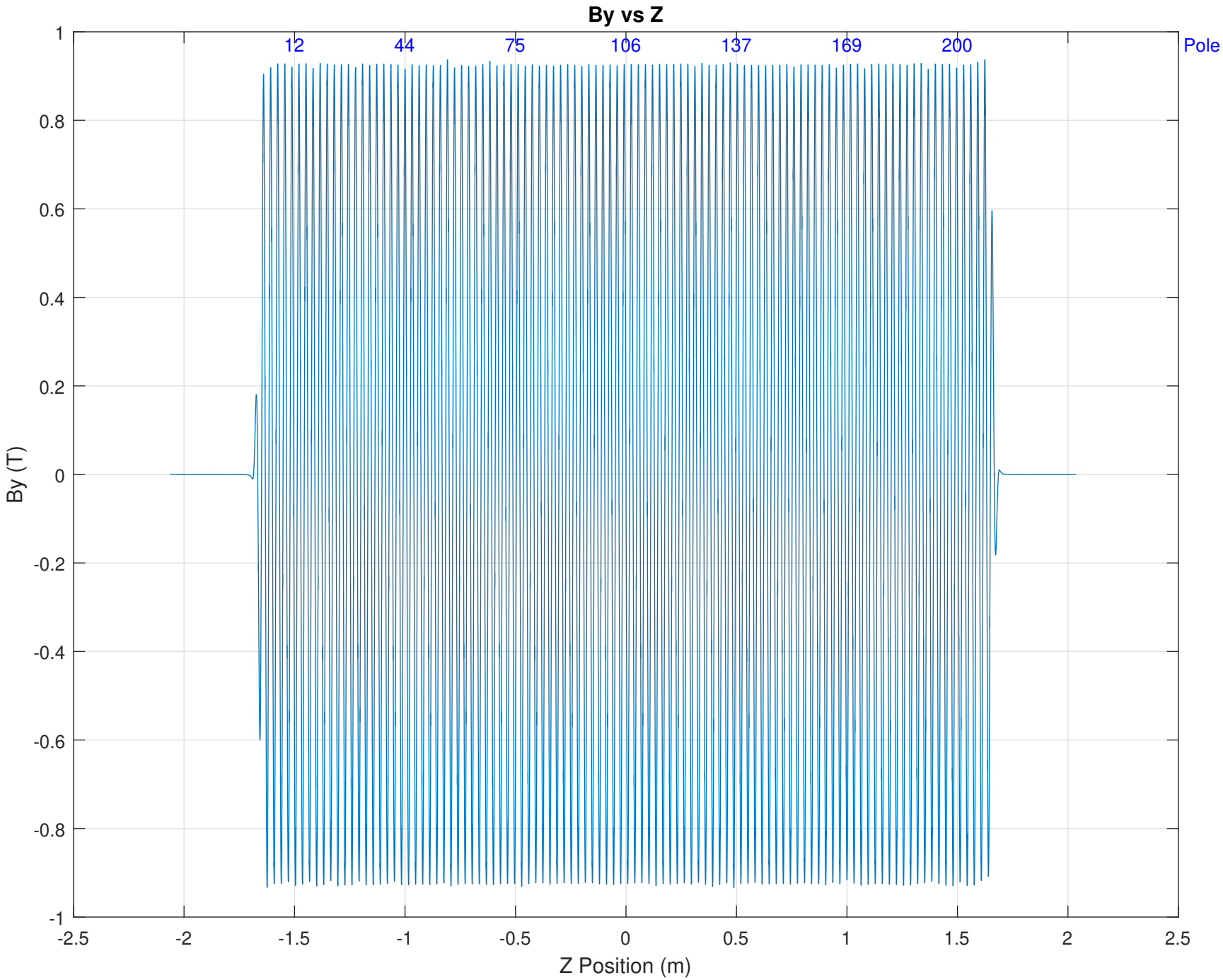
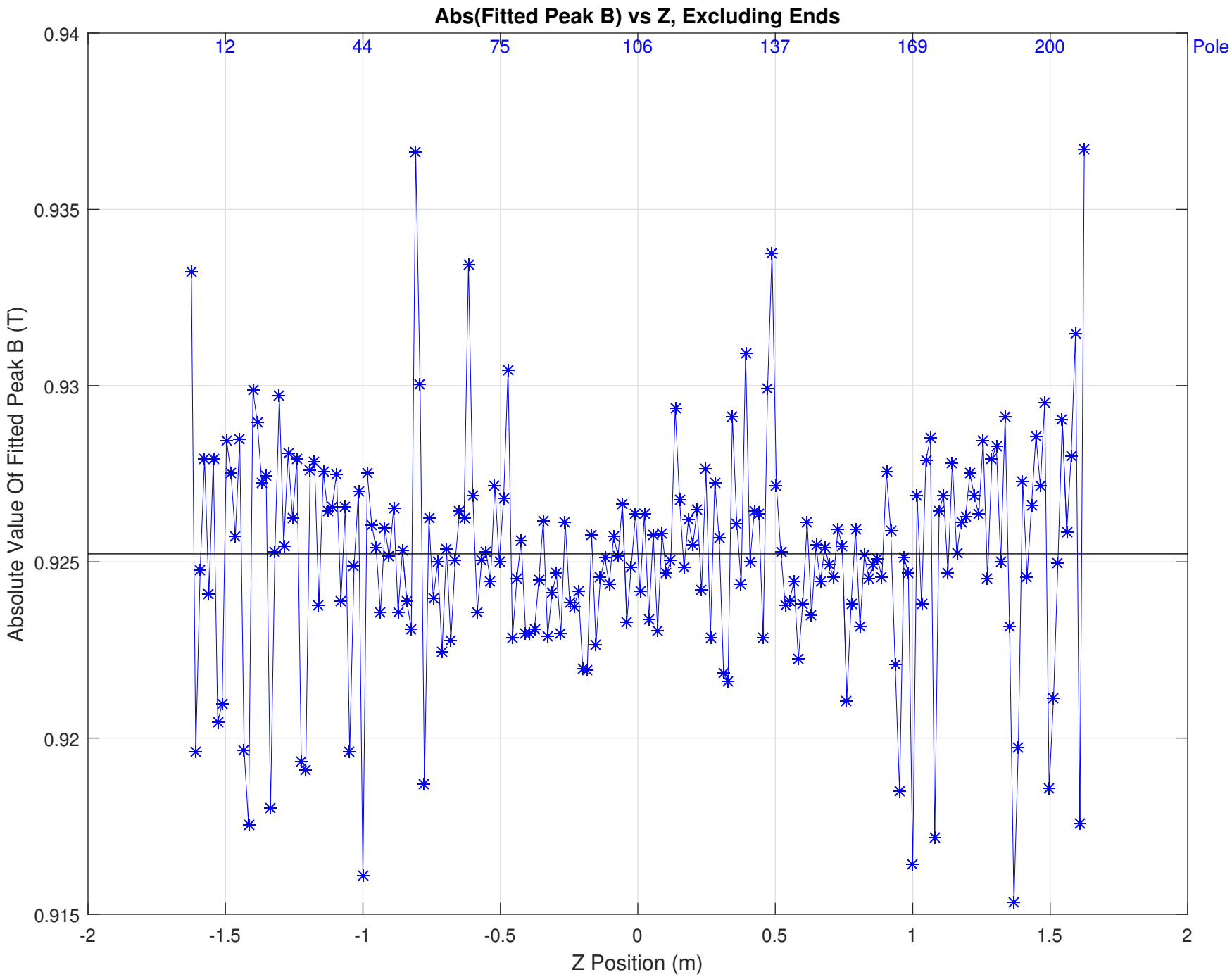
SLAC Magnetic Measurements

Planar Insertion Device Analysis

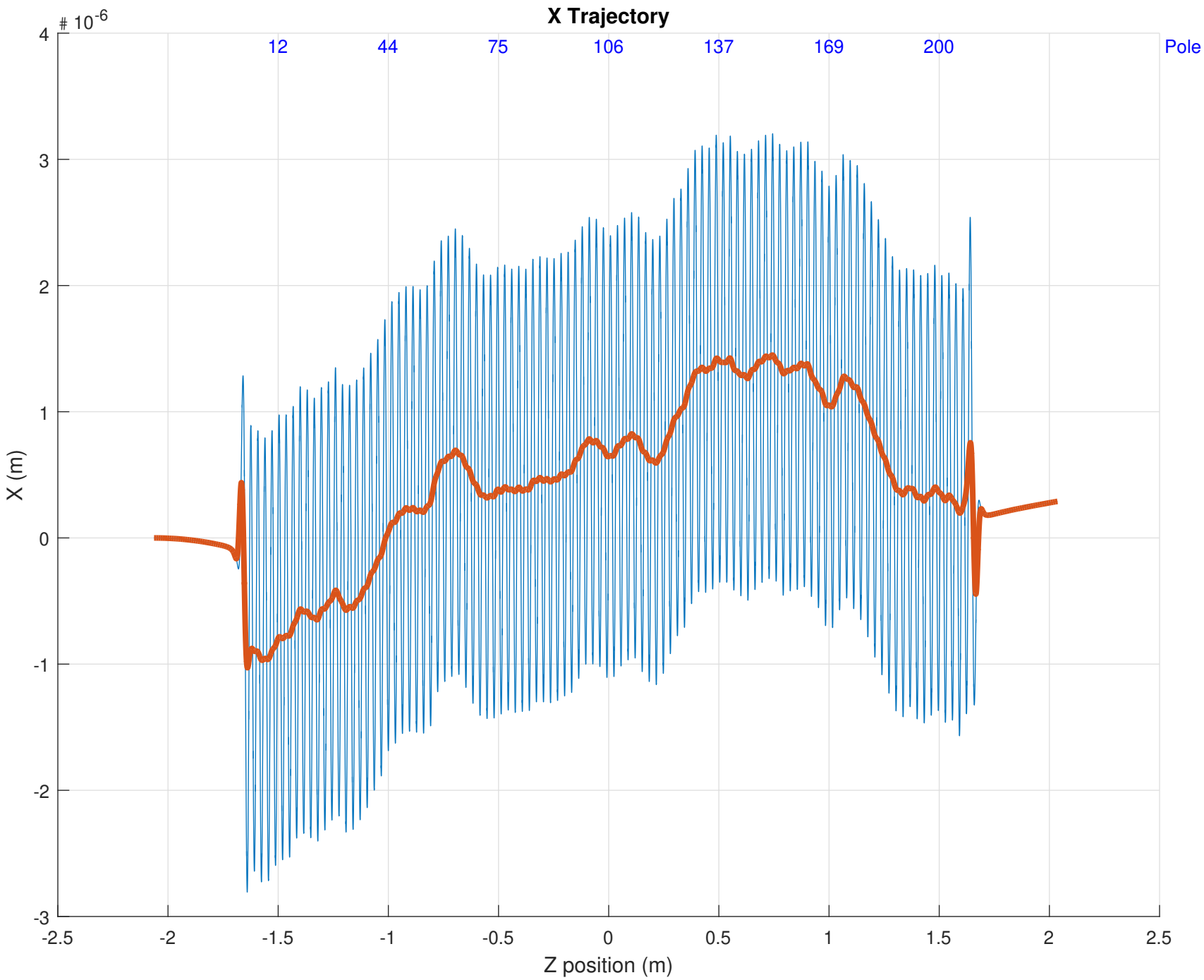
Parameters:
INPUT-FILE-DIR =c:\magdata\LCLS\Undulator\HXU-32\DATASET0001\Fine Tuning\Z Scans\Run 040\
INPUT-FILE-NAME =x+00000-y+000-bscanz.dat
INPUT-FILE-TYPE =ZVXYBXYH
CORR-REQUIRED =1
GAMMA =7827.79
NOM-LAMBDA-U =0.032
NOM-K-VALUE =2.6963
NOM-LAMBDA-R =1.2103e-09
NUM-POLES =212
NUM-END-POLES =4
CELL-LENGTH =3.656

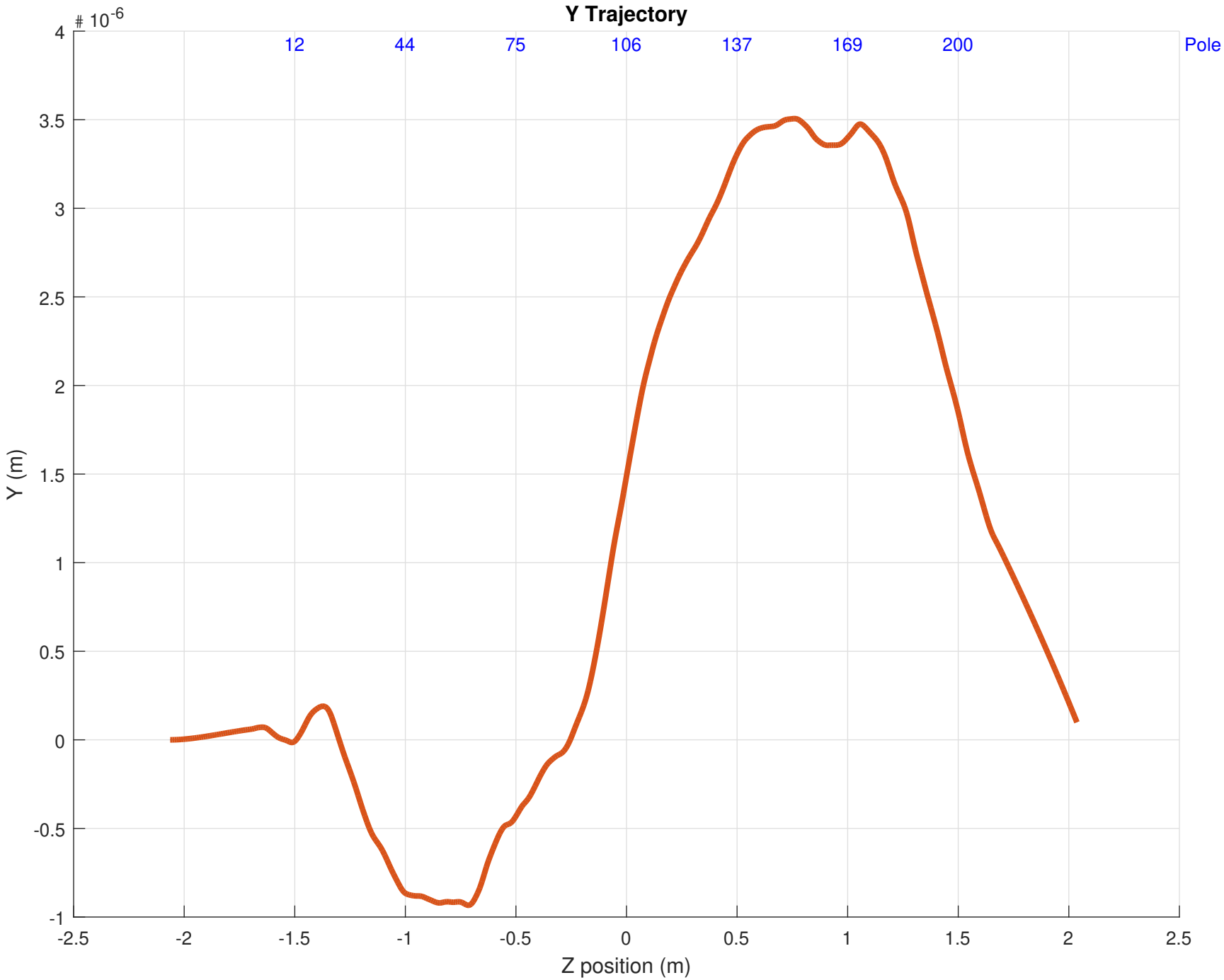

Bx vs Z
# 10^-3
4
3
2
1
0
-1
-2
-3
12
44
75
106
137
169
200
Pole
Bx (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

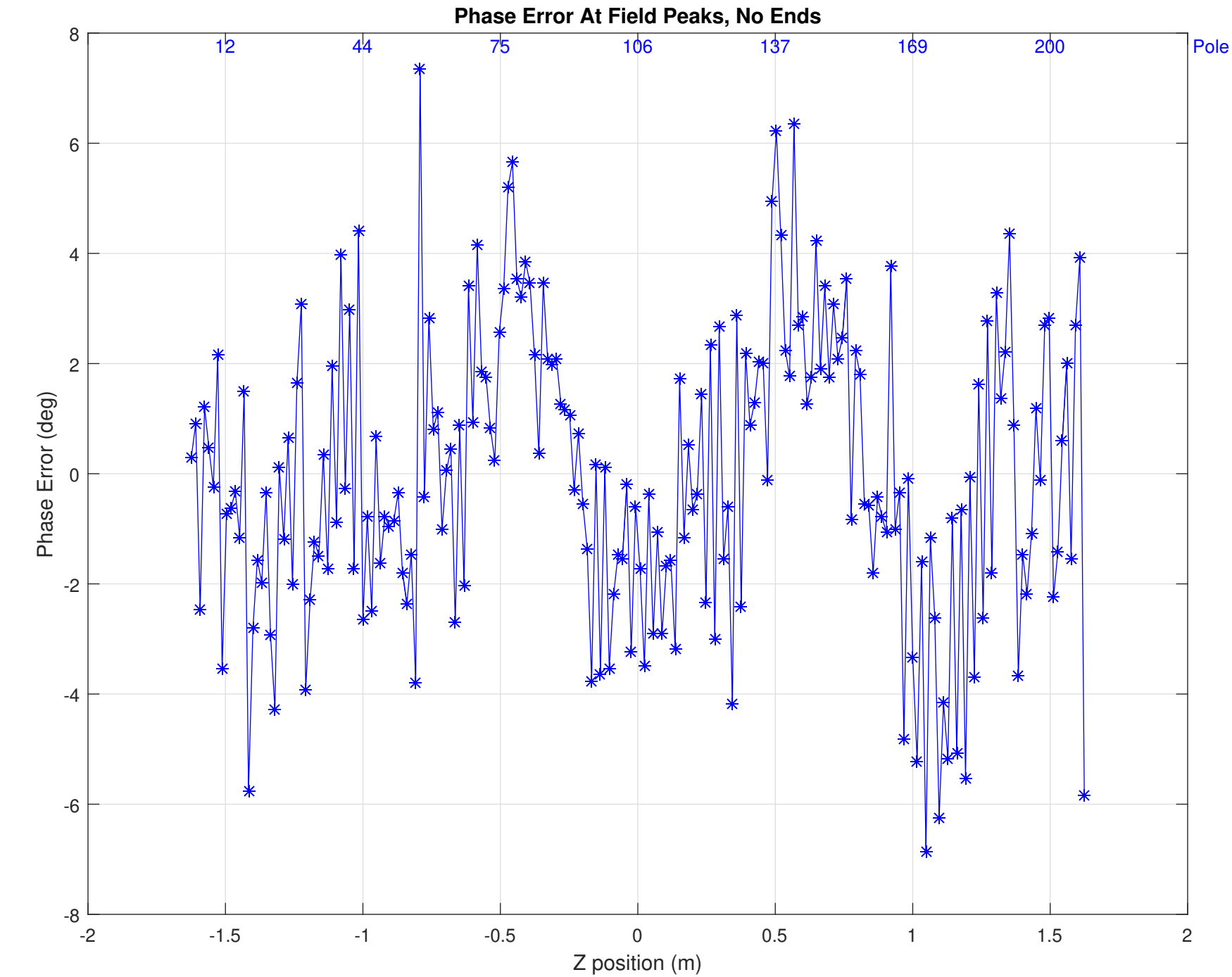

By vs Z
12
44
75
106
137
169
200
Pole
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
By (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z Position (m)



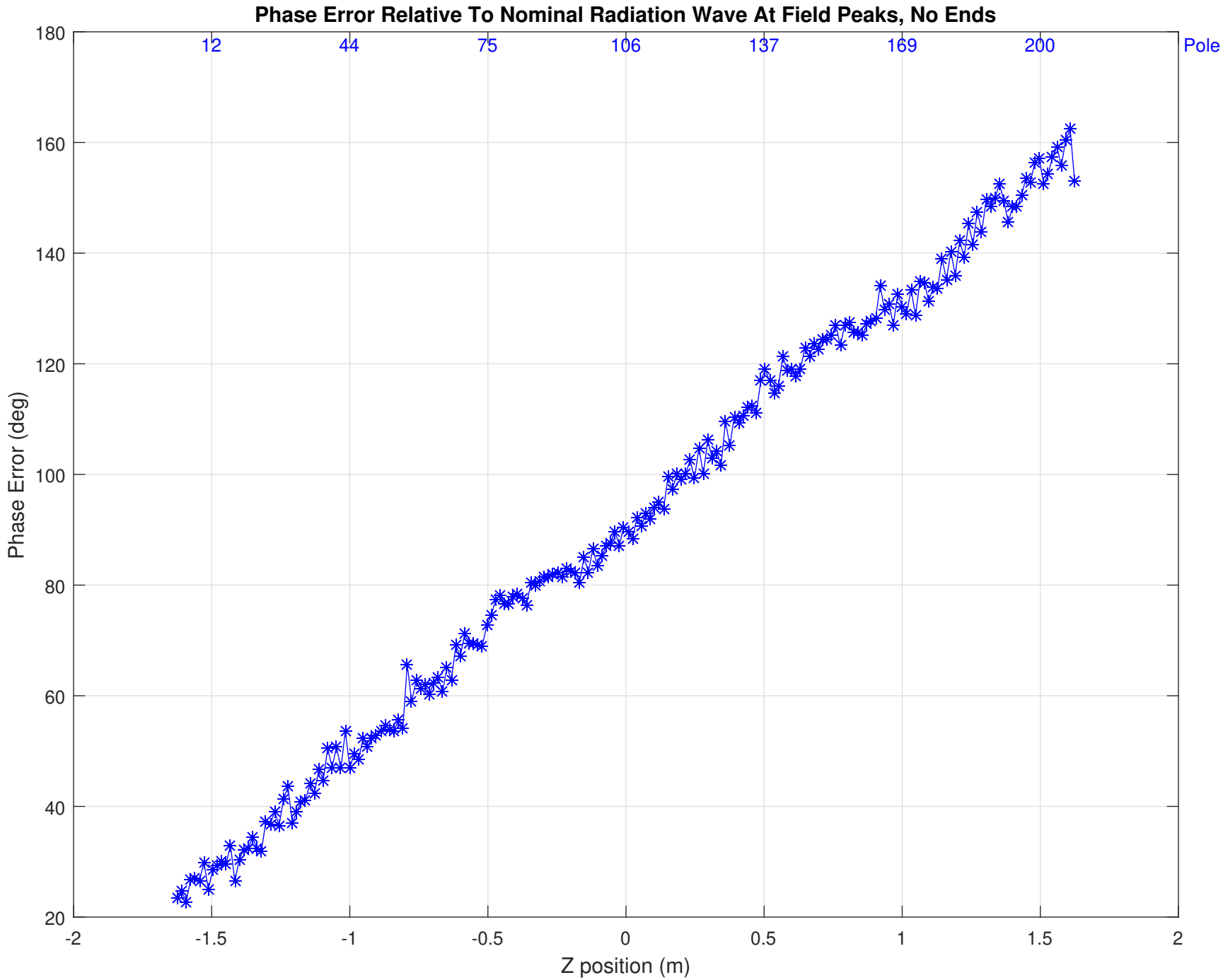

Peak Fields: Ave = 0.925226 T, RMS = 0.003214 T


X Trajectory
# 10^-6
4
3
2
1
0
-1
-2
-3
12
44
75
106
137
169
200
Pole
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
4
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
-1
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 = 2.632152 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
12
44
75
106
137
169
200
Pole
180
160
140
120
100
80
60
40
20
Phase Error (deg)
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
Z position (m)