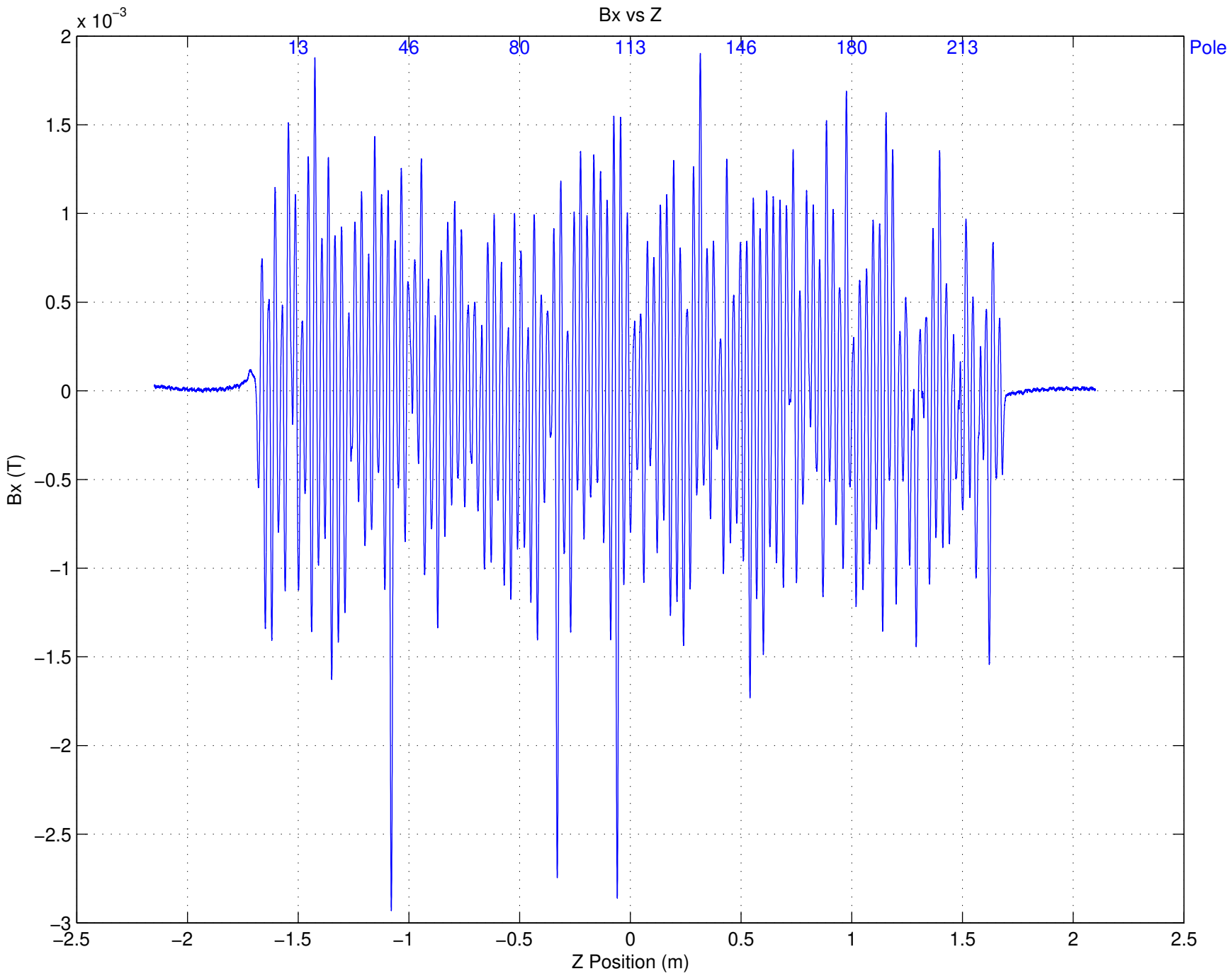
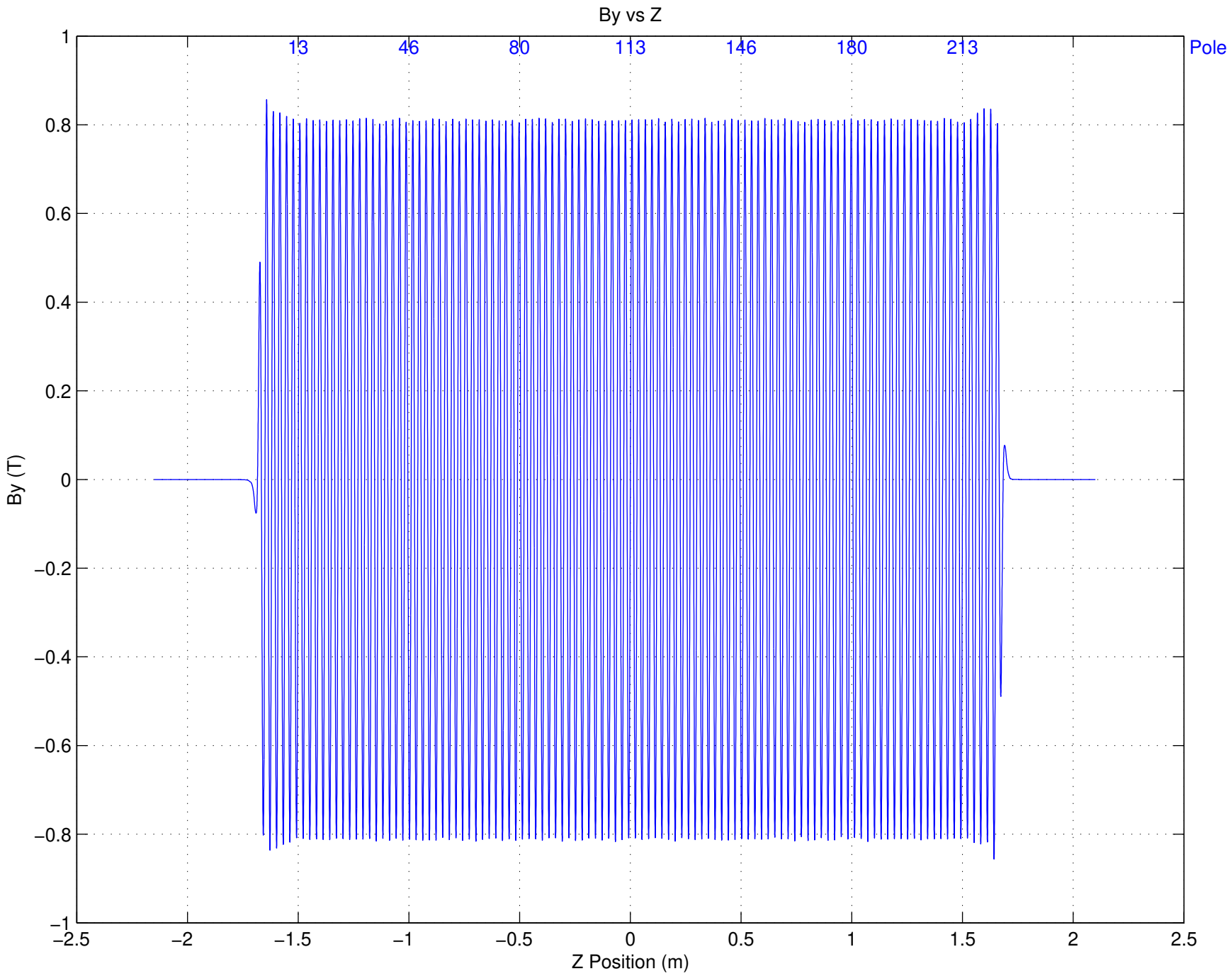
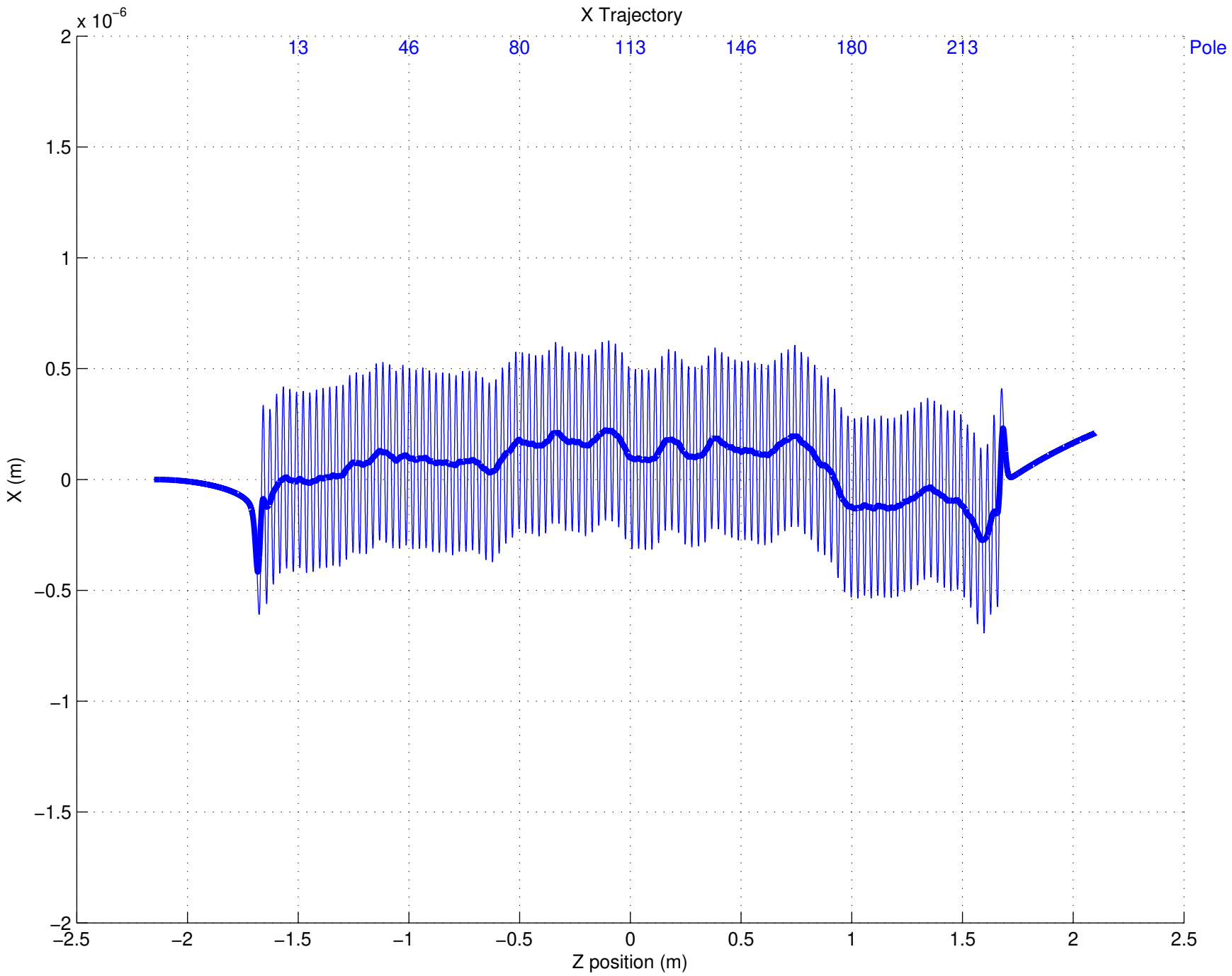
SLAC Magnetic Measurements

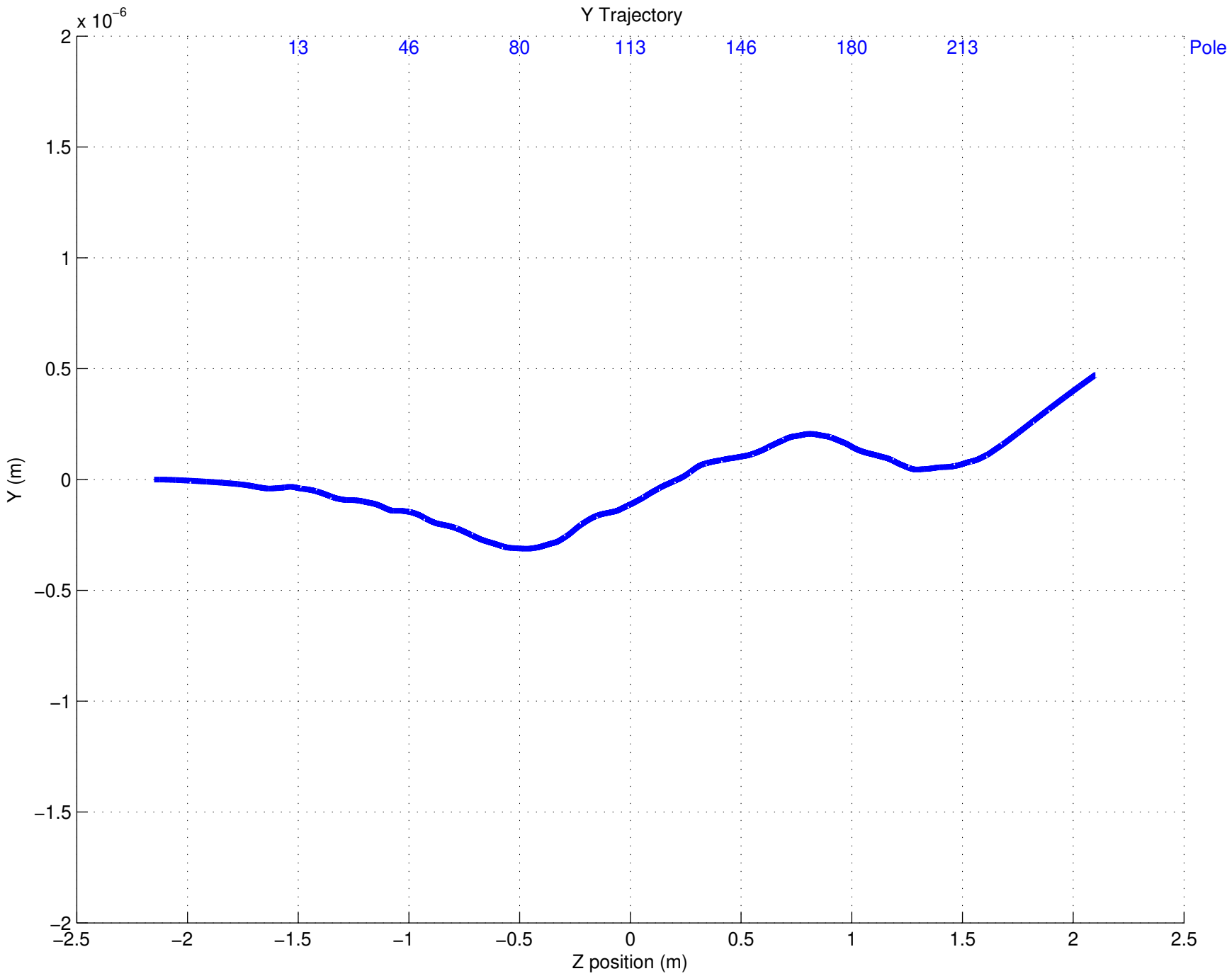
Planar Insertion Device Analysis

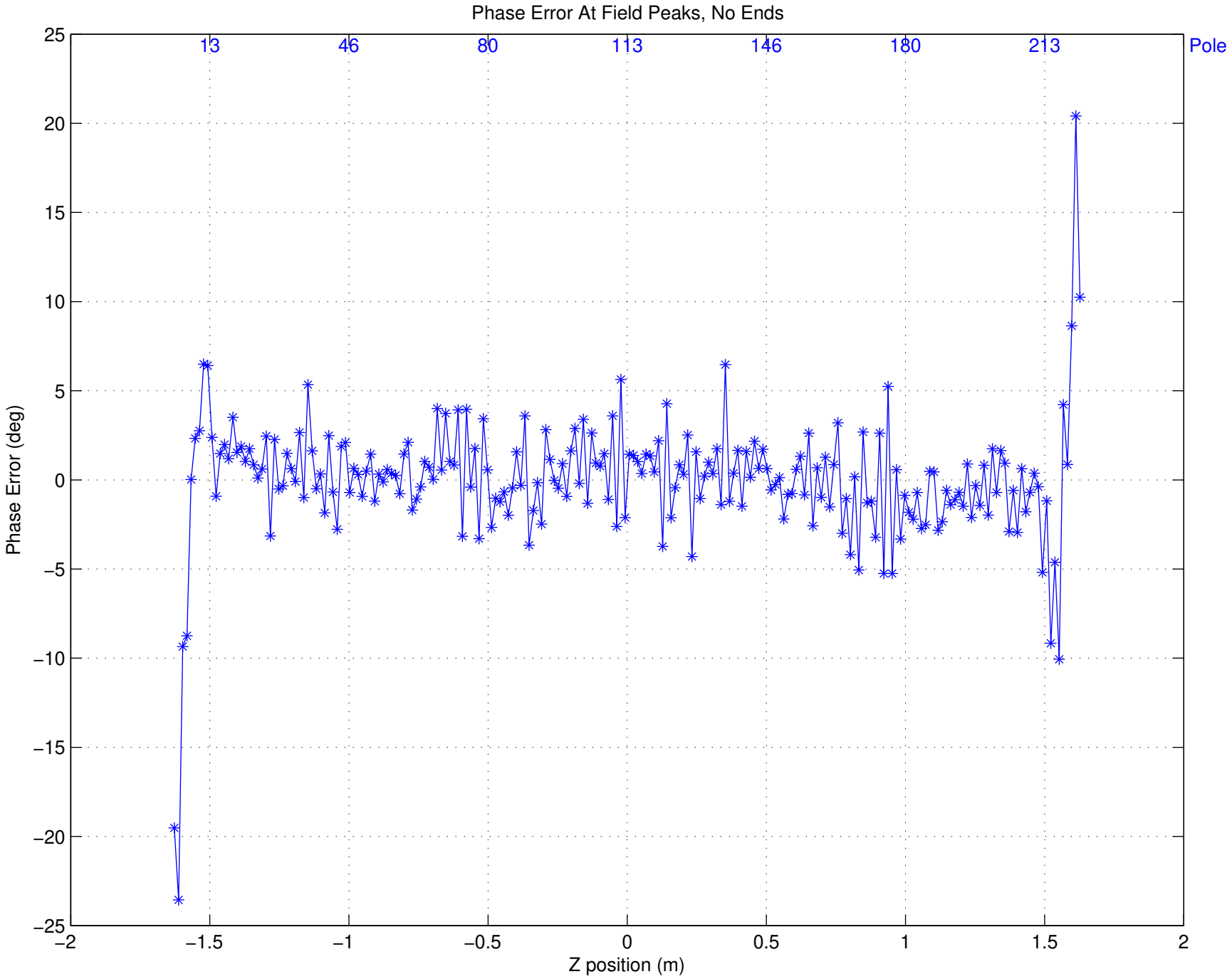
Parameters:
INPUT−FILE−DIR =s:\MagData\LCLS\Undulator\L143−112000−27\DATASET0002\Fine Tuning\Z Scans\Run 014\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26627.1
NOM−LAMBDA−U =0.03
NOM−K−VALUE =3.4858
NOM−LAMBDA−R =1.4969e−010
NUM−POLES =226
NUM−END−POLES =4
CELL−LENGTH =3.656


Bx vs Z
x 10^-3
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
−3
13
46
80
113
146
180
213
Pole
Bx (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

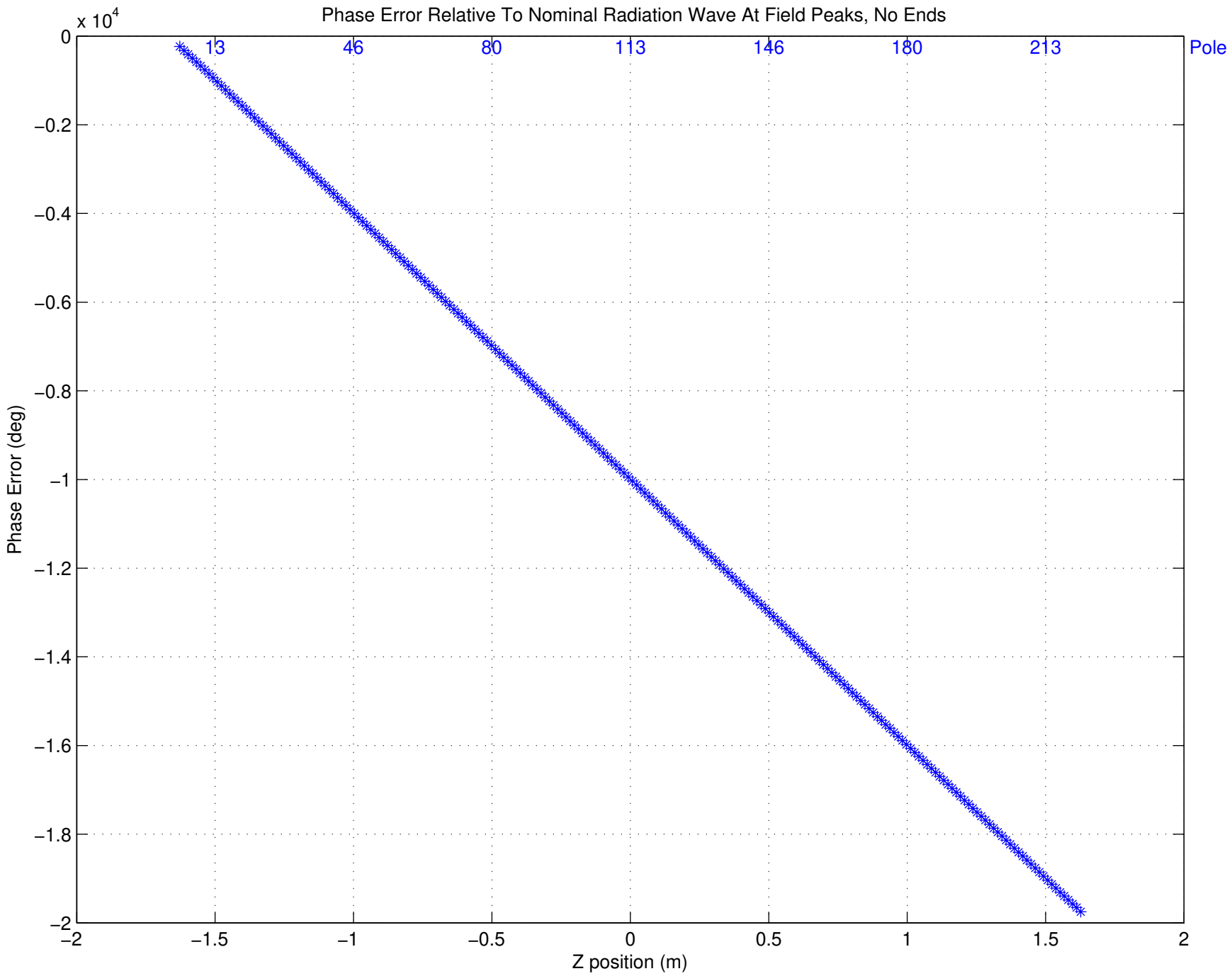

By vs Z
13
46
80
113
146
180
213
Pole
By (T)
Z Position (m)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
2.5


X Trajectory
x 10^-6
13
46
80
113
146
180
213
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
x 10^-6
13
46
80
113
146
180
213
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 = 3.649219 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
x 10^4
0
−0.2
−0.4
−0.6
−0.8
−1
−1.2
−1.4
−1.6
−1.8
−2
Phase Error (deg)
13
46
80
113
146
180
213
Pole
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)