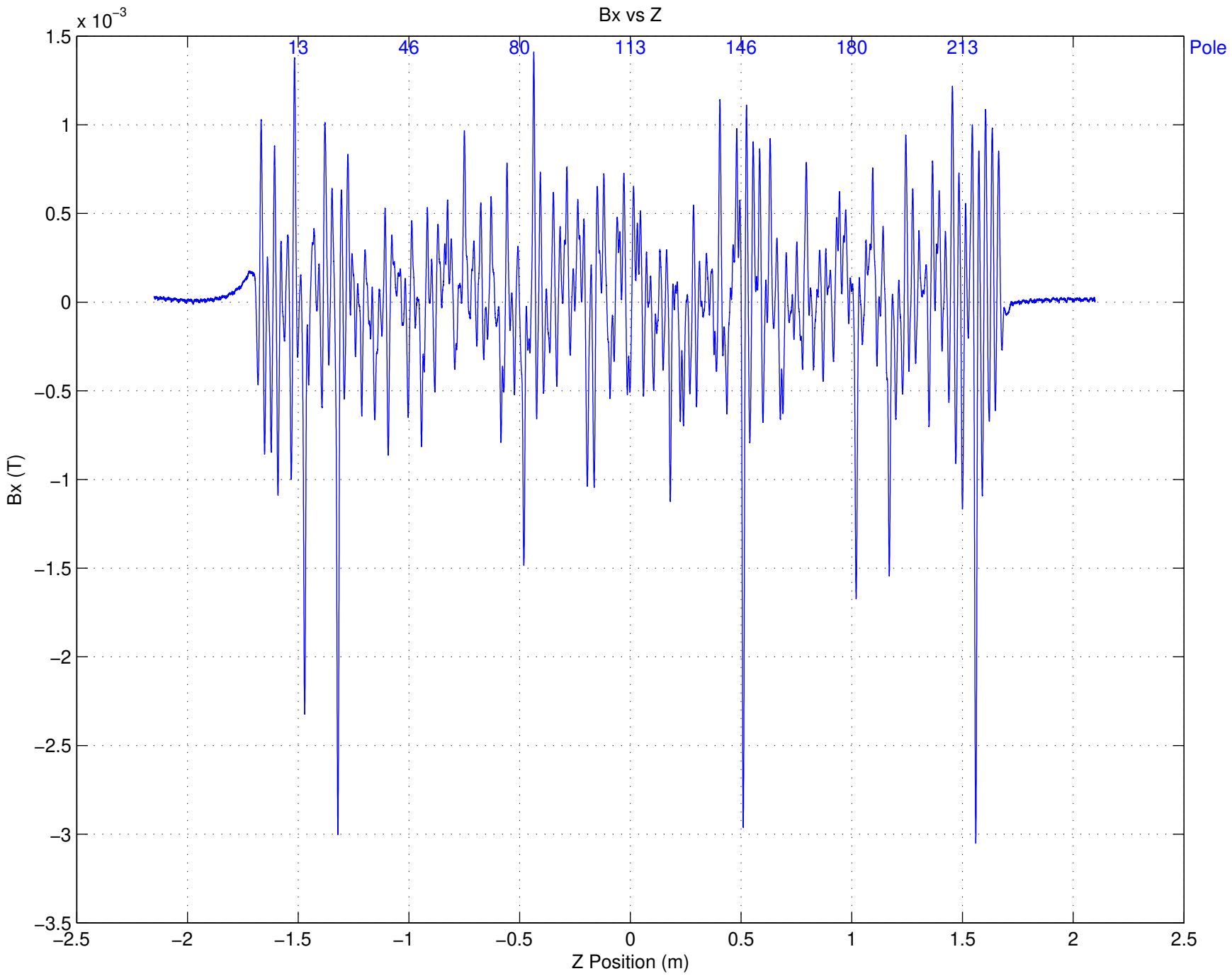
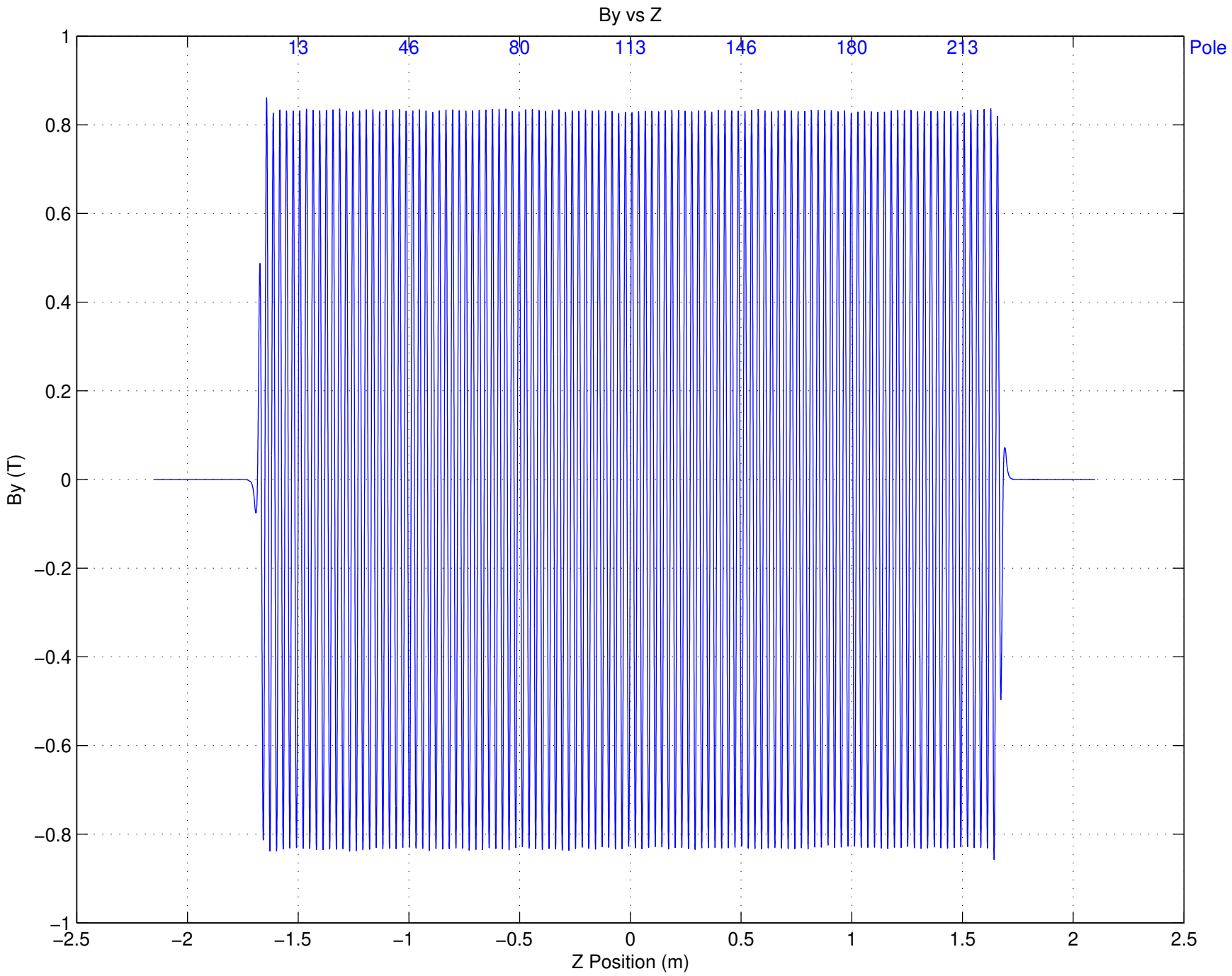
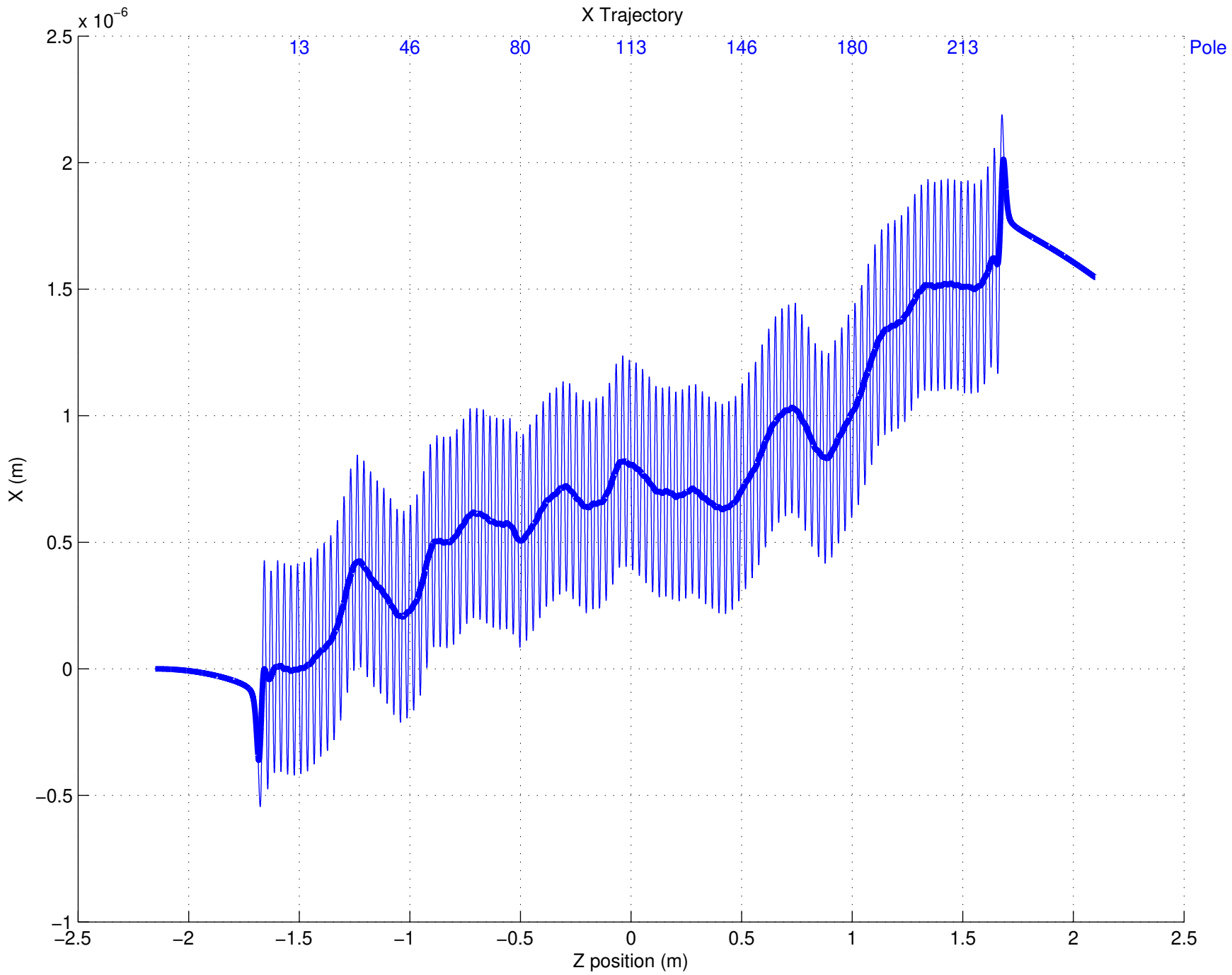
SLAC Magnetic Measurements

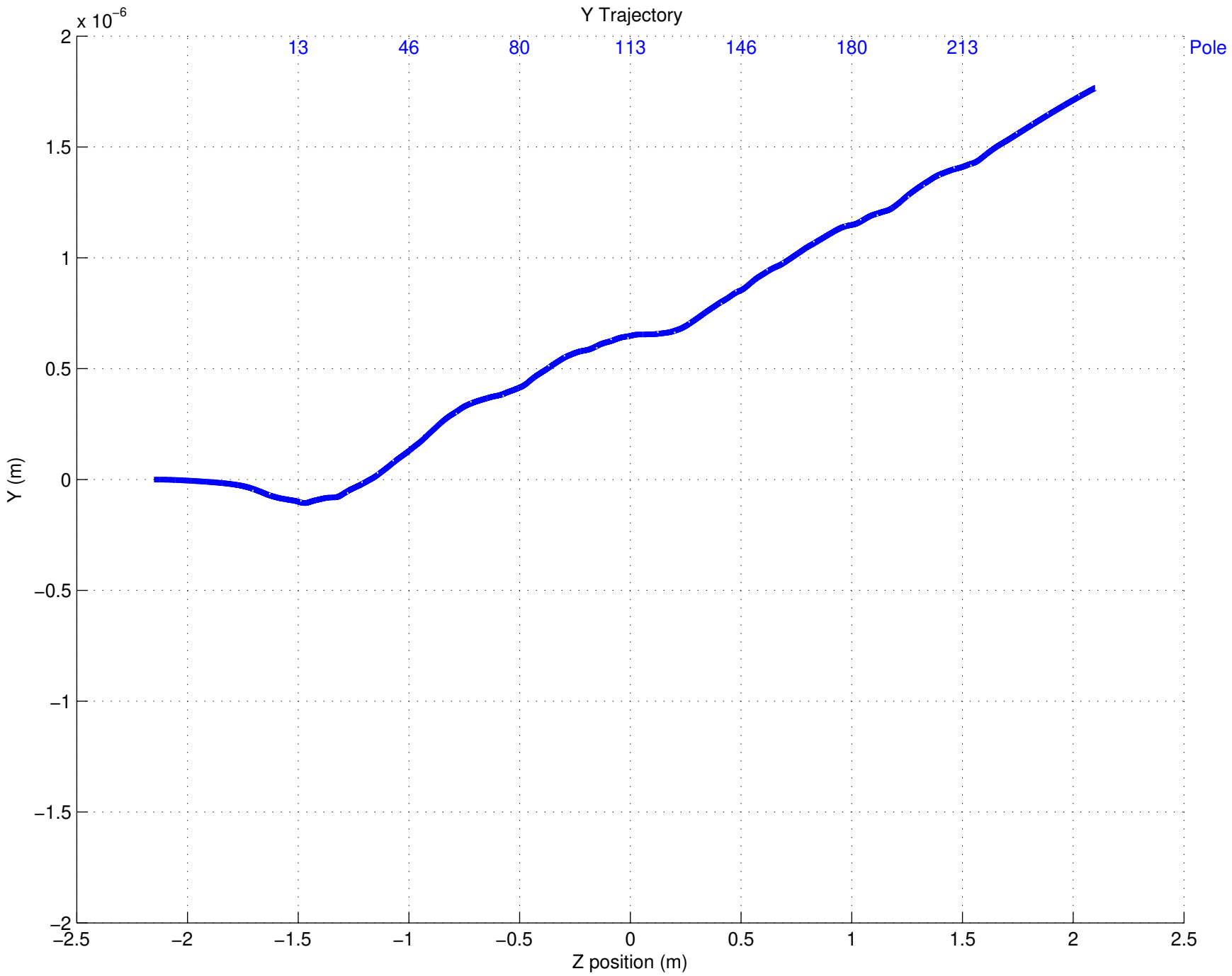
Planar Insertion Device Analysis

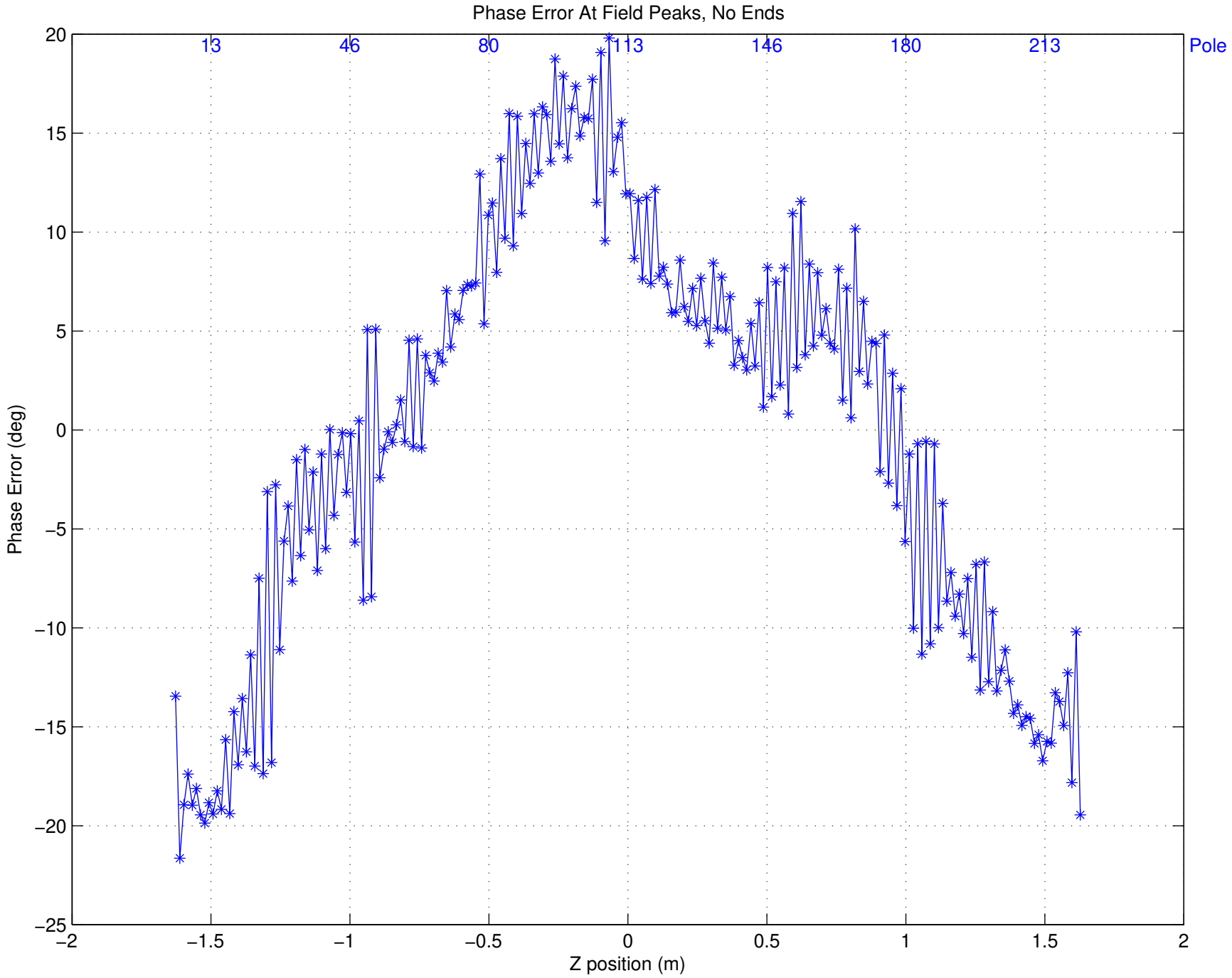
Parameters:
INPUT−FILE−DIR =S:\MagData\LCLS\Undulator\L143−112000−04\DATASET0002\Fine Tuning\Z Scans\Run 009\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26625.06
NOM−LAMBDA−U =0.03
NOM−K−VALUE =2.2525
NOM−LAMBDA−R =7.484e−011
NUM−POLES =226
NUM−END−POLES =4
CELL−LENGTH =3.656


Bx vs Z
x 10^-3
13
46
80
113
146
180
213
Pole
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
−3
−3.5
Bx (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

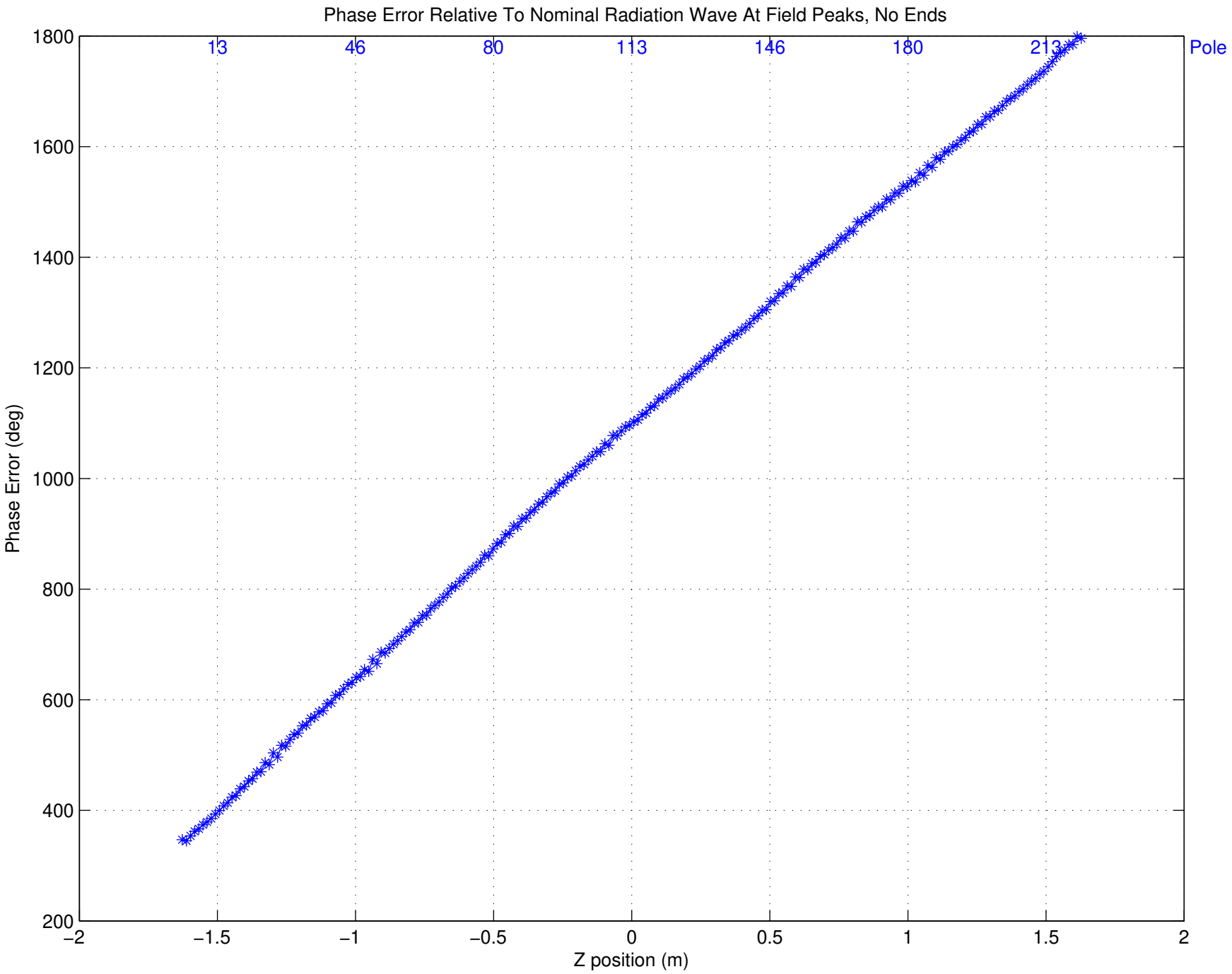

By vs Z
13
46
80
113
146
180
213
Pole
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
By (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
2.5
Z Position (m)


X Trajectory
x 10^-6
13
46
80
113
146
180
213
Pole
2.5
2
1.5
1
0.5
0
−0.5
−1
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 = 10.557915 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
13
46
80
113
146
180
213
Pole
1800
1600
1400
1200
1000
800
600
400
200
Phase Error (deg)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)