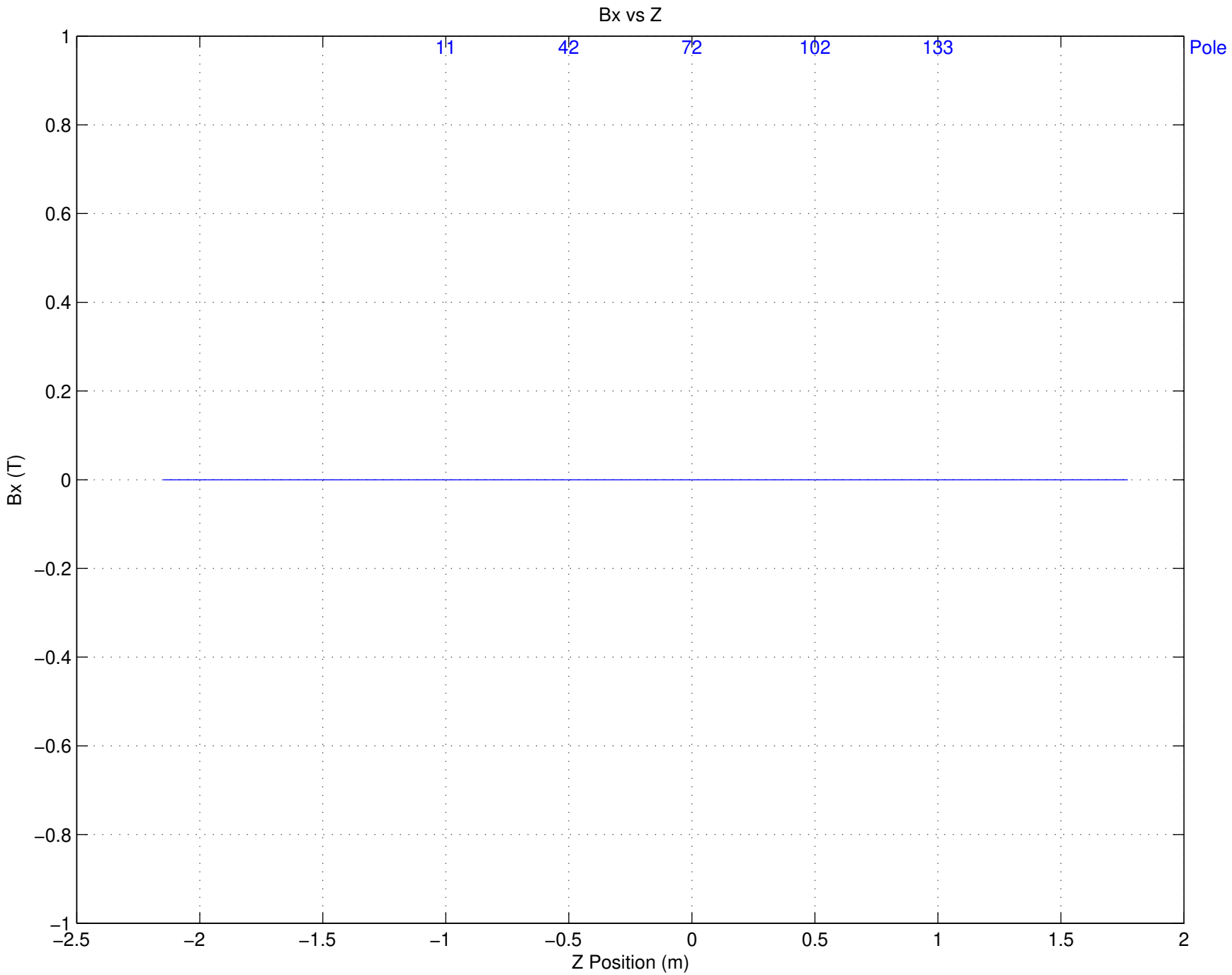
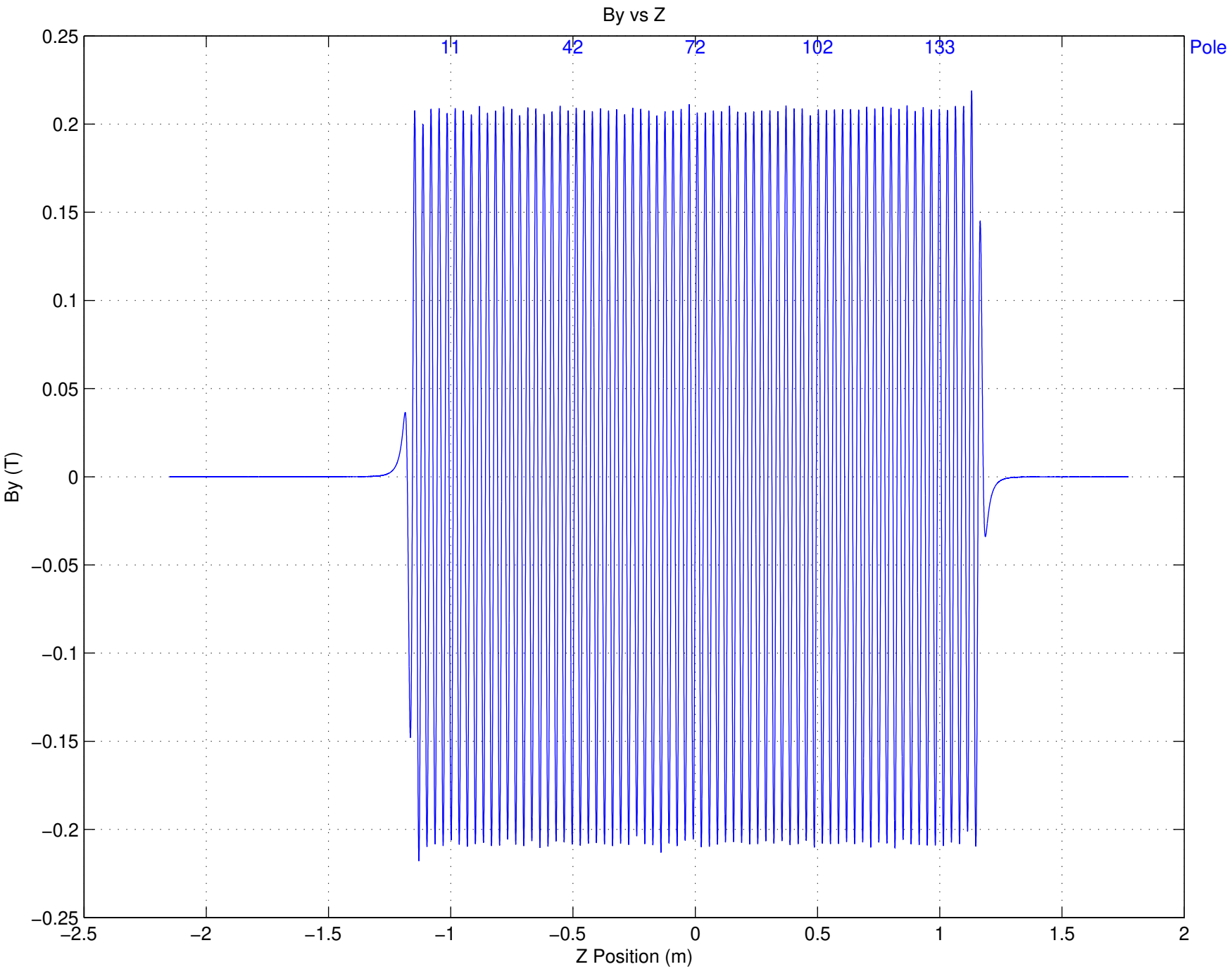
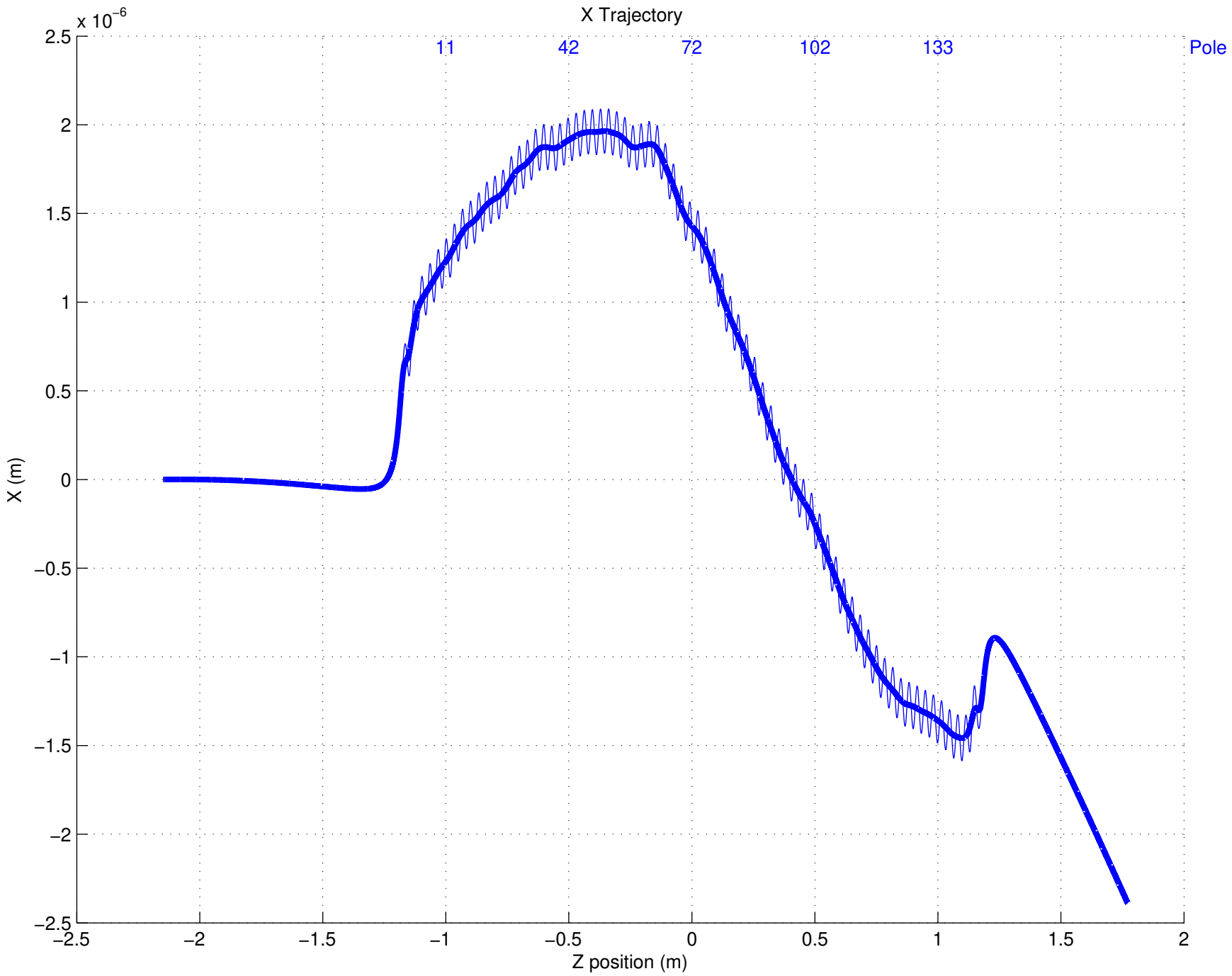
SLAC Magnetic Measurements

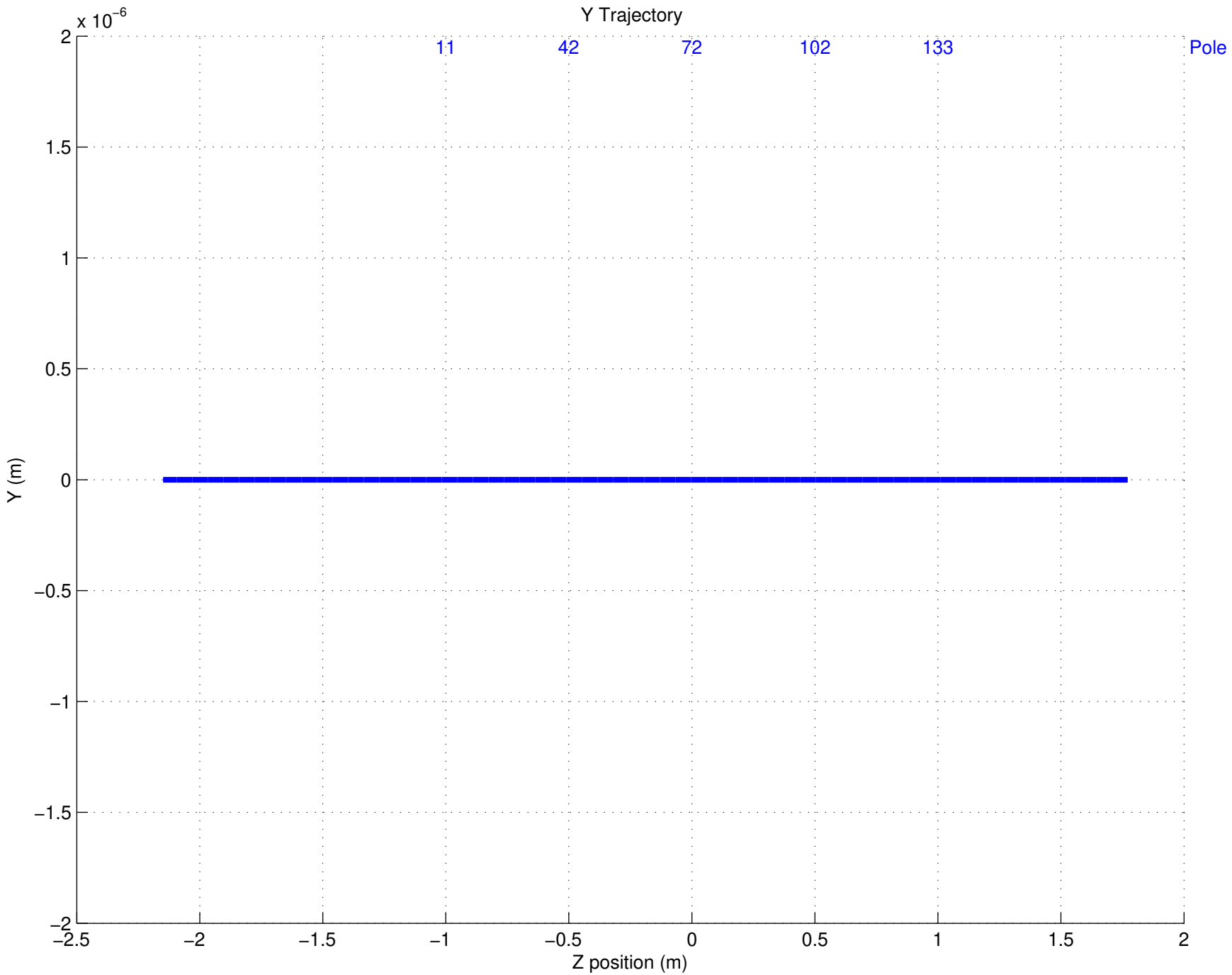
Planar Insertion Device Analysis

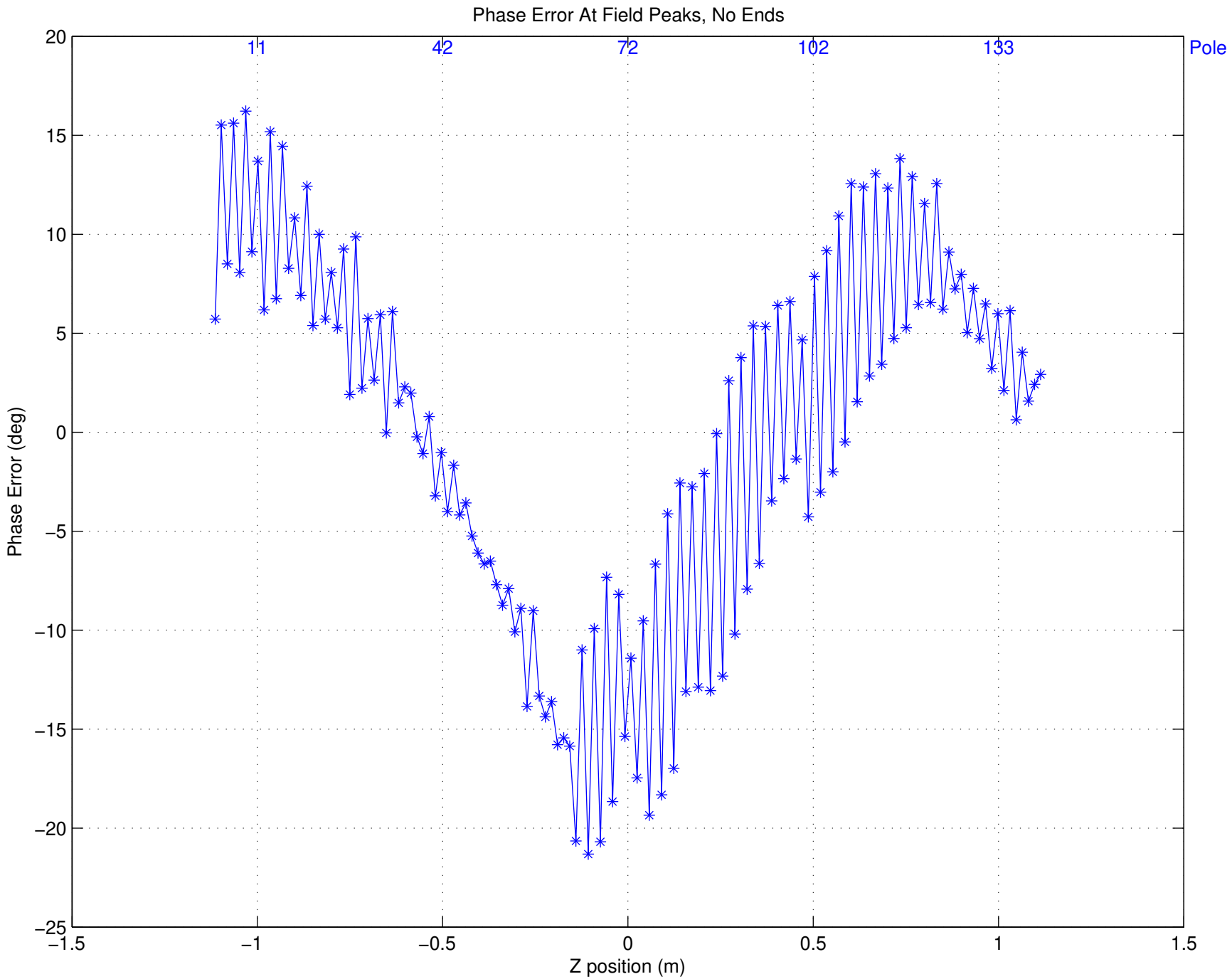
Parameters:
INPUT−FILE−DIR =s:\MagData\LCLS\Undulator\A1−ANL\DATASET0002\Rough Tuning\Z Scans\Run 036\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26686.34
NOM−LAMBDA−U =0.033
NOM−K−VALUE =1.7023
NOM−LAMBDA−R =5.6738e−011
NUM−POLES =144
NUM−END−POLES =4
CELL−LENGTH =2.376


Bx vs Z
11
42
72
102
133
Pole
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
Bx (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z Position (m)

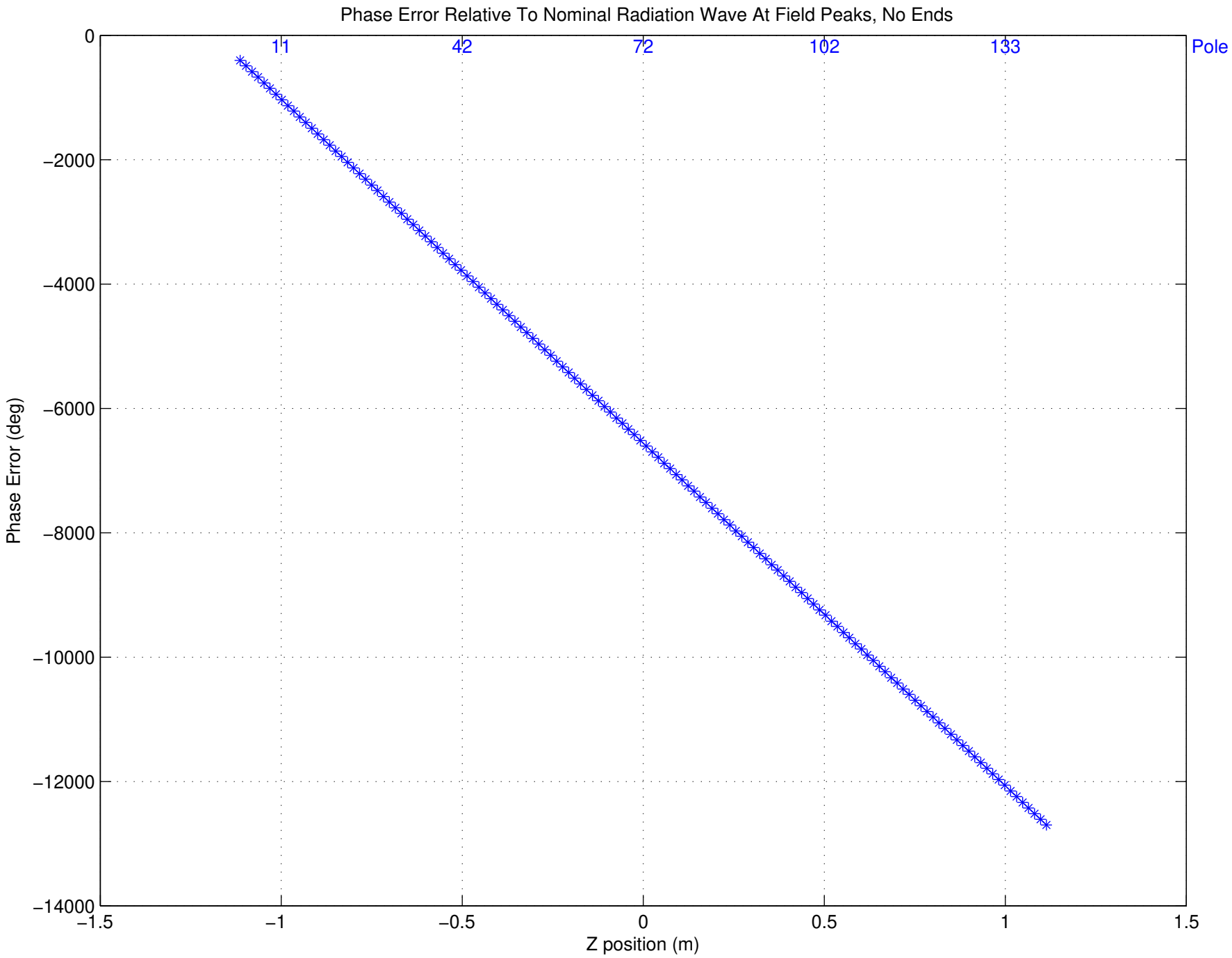

By vs Z
11
42
72
102
133
Pole
0.25
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
−0.2
−0.25
By (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z Position (m)


X Trajectory
x 10^-6
11
42
72
102
133
Pole
X (m)
Z position (m)
2.5
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2


Y Trajectory
x 10^-6
11
42
72
102
133
Pole
Y (m)
Z position (m)
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2



Phase Error: Ave = −0.000000 deg, RMS = 9.426347 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
11
42
72
102
133
Pole
0
−2000
−4000
−6000
−8000
−10000
−12000
−14000
Phase Error (deg)
−1.5
−1
−0.5
0
0.5
1
1.5
Z position (m)