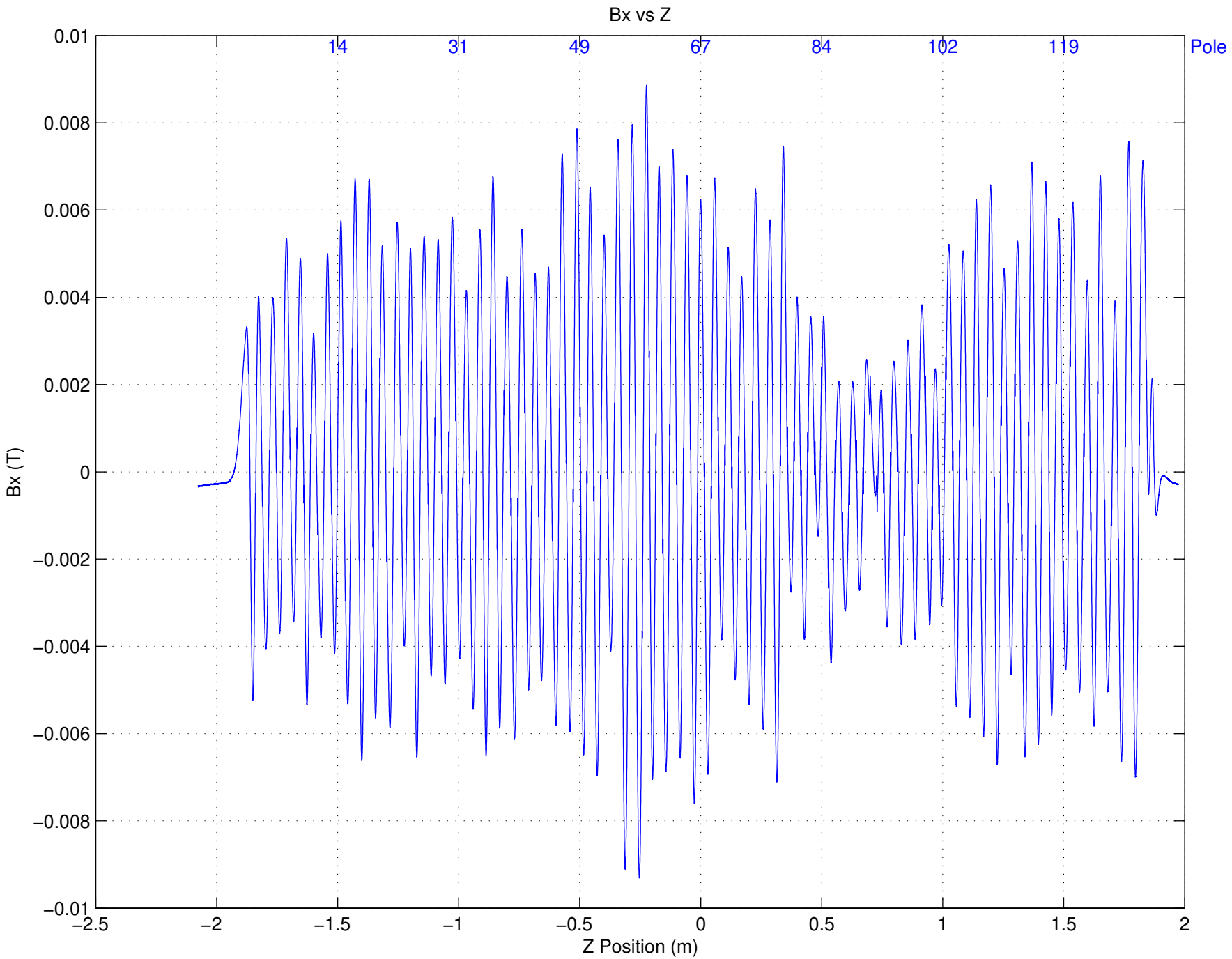
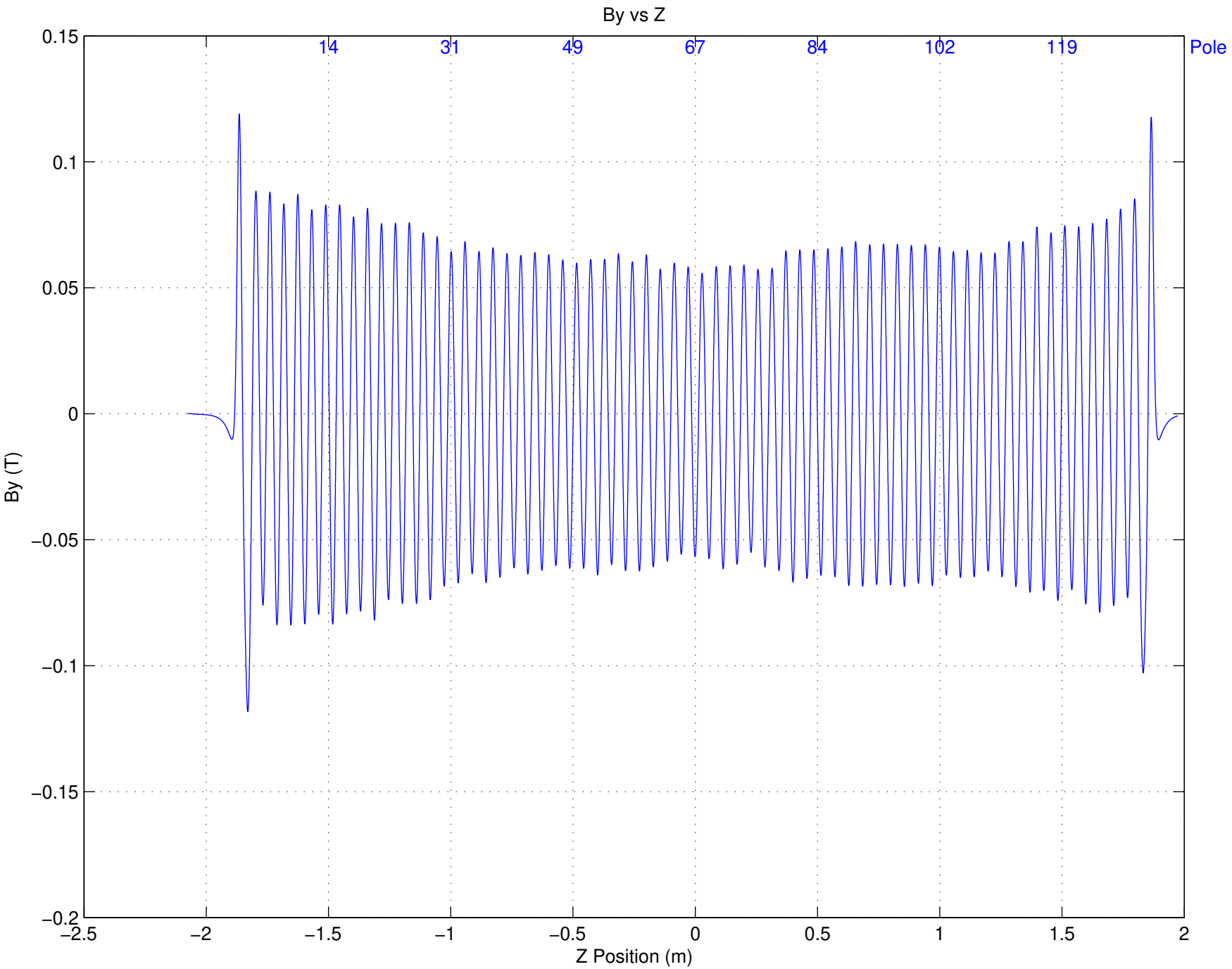
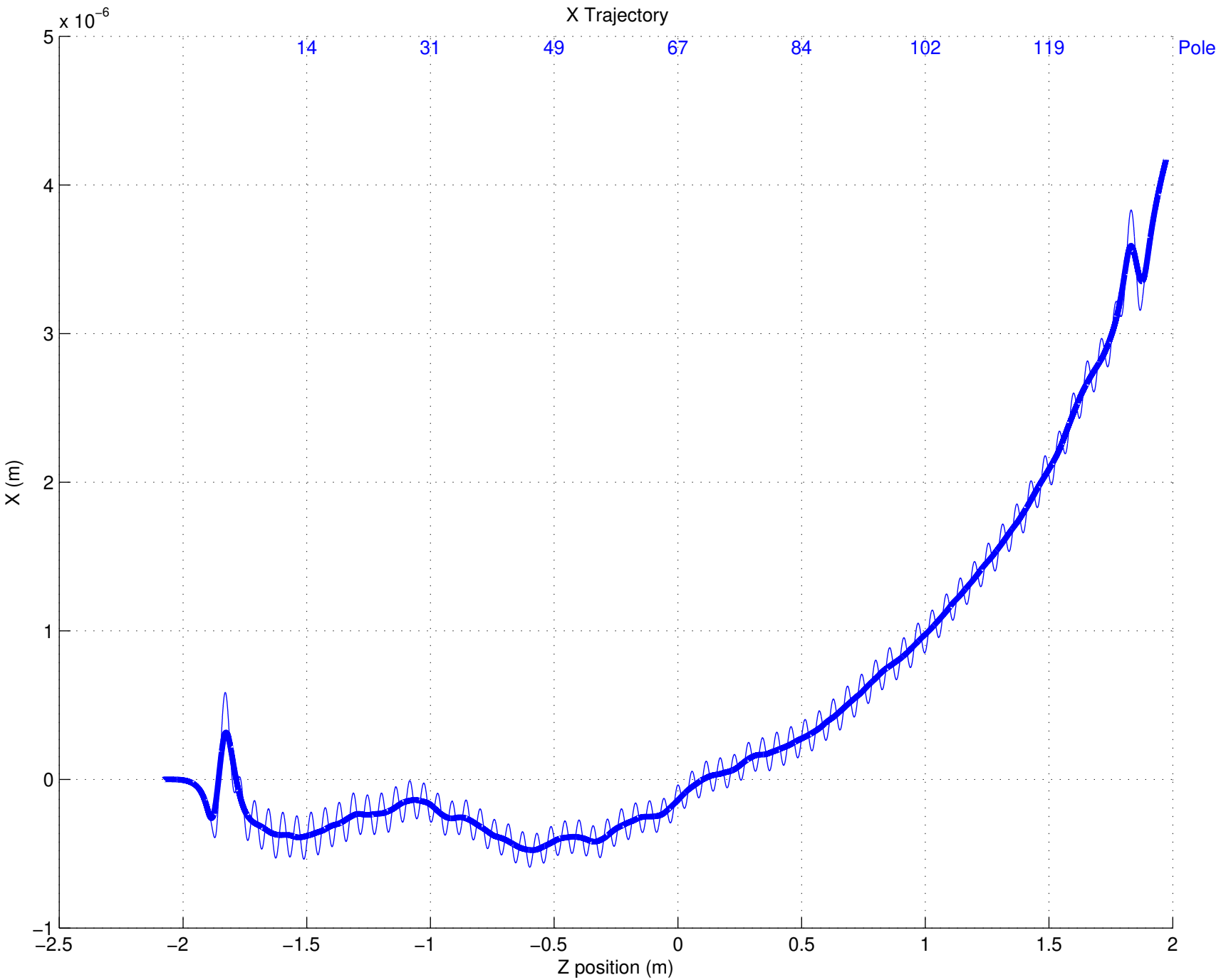
SLAC Magnetic Measurements

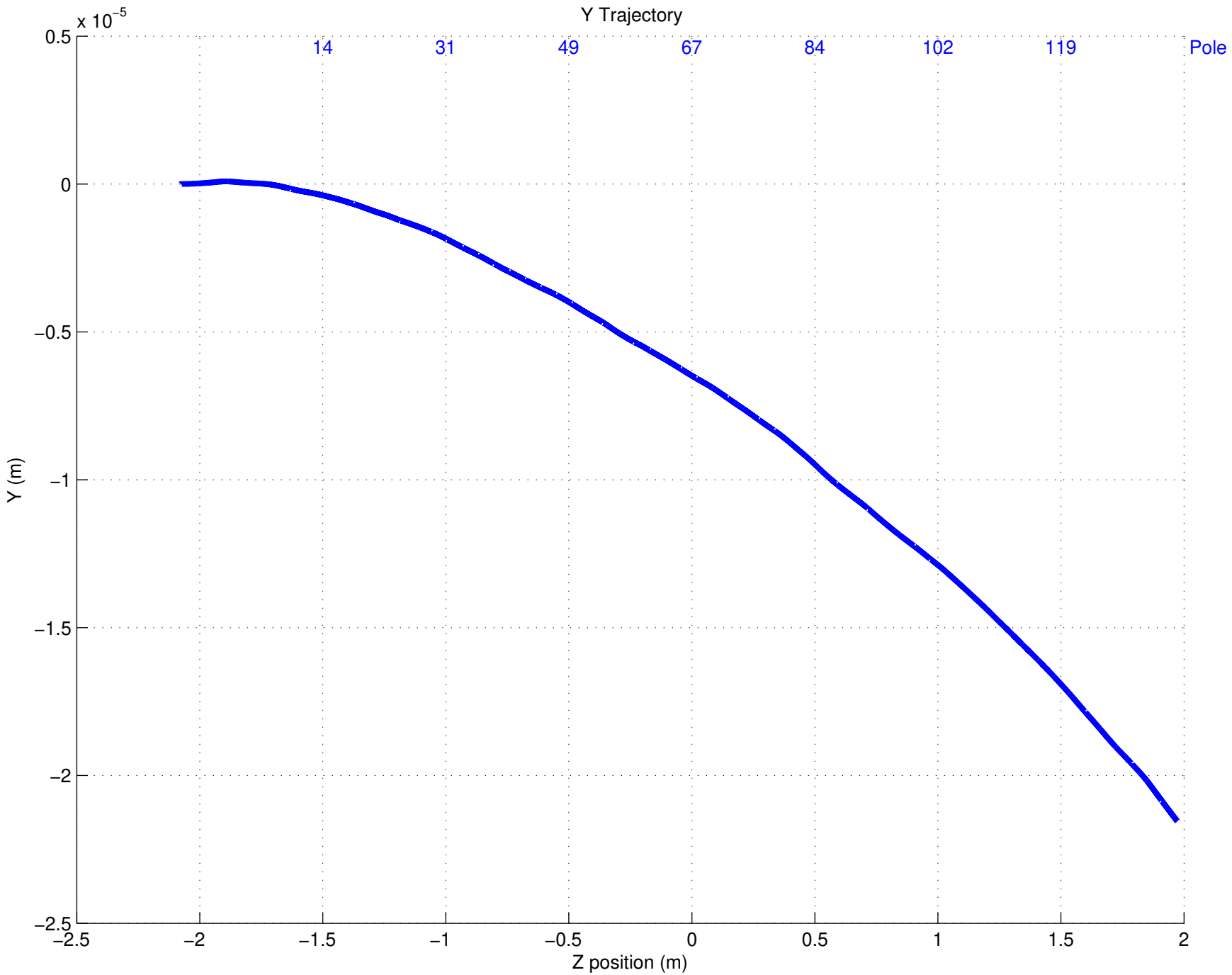
Planar Insertion Device Analysis

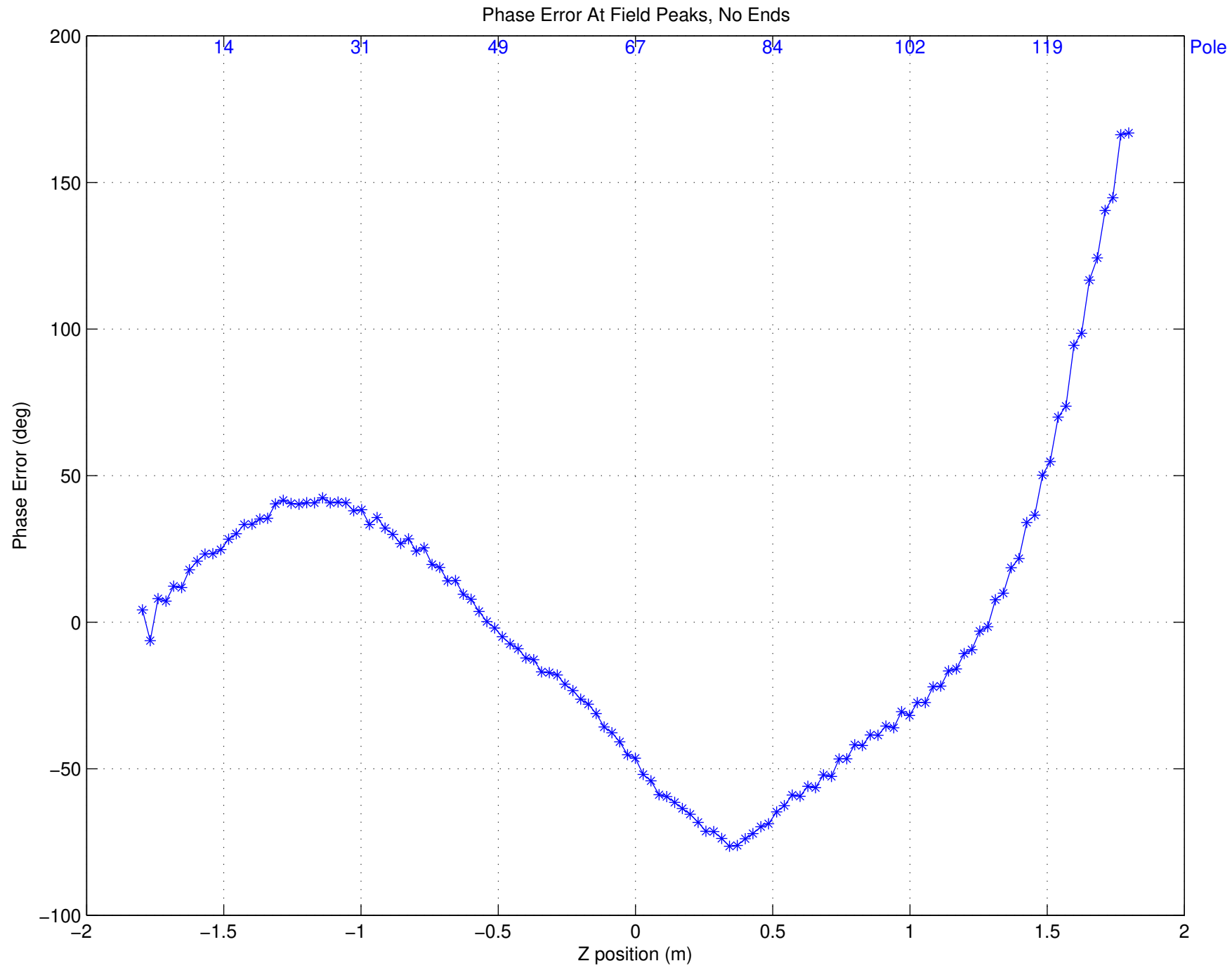
Parameters:
INPUT−FILE−DIR =S:\MagData\LCLS\Undulator\EPU\DATASET0001\Rough Tuning\Z Scans\Run 230\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26686.34
NOM−LAMBDA−U =0.0569
NOM−K−VALUE =2.348
NOM−LAMBDA−R =1.5007e−010
NUM−POLES =133
NUM−END−POLES =3
CELL−LENGTH =3.6985


Bx vs Z
14
31
49
67
84
102
119
Pole
0.01
0.008
0.006
0.004
0.002
0
−0.002
−0.004
−0.006
−0.008
−0.01
Bx (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z Position (m)

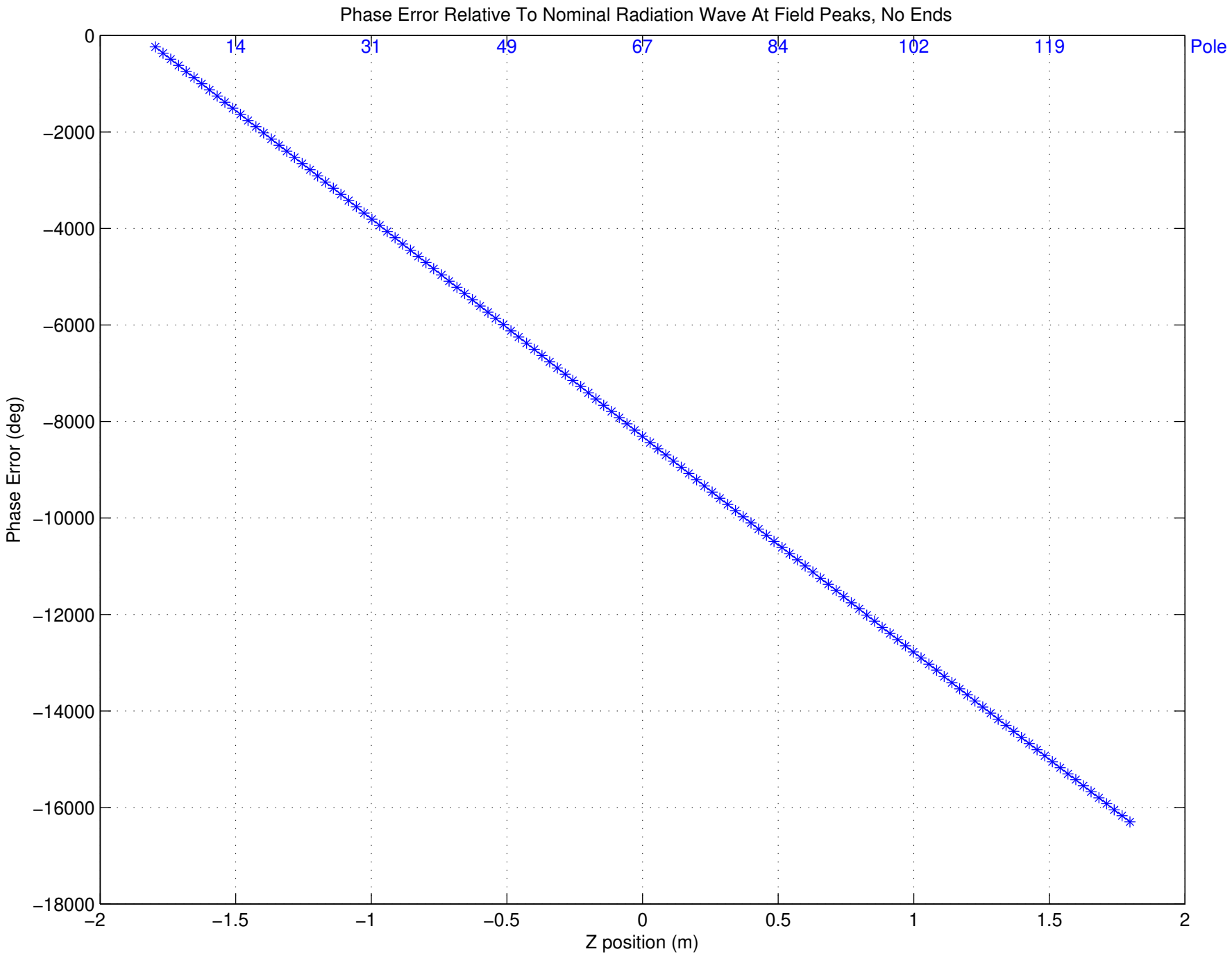

By vs Z
14
31
49
67
84
102
119
Pole
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
−0.2
By (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z Position (m)


X Trajectory
x 10^-6
14
31
49
67
84
102
119
Pole
X (m)
Z position (m)
5
4
3
2
1
0
−1
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2


Y Trajectory
x 10^-5
0.5
0
−0.5
−1
−1.5
−2
−2.5
Y (m)
14
31
49
67
84
102
119
Pole
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)



Phase Error: Ave = −0.000000 deg, RMS = 51.661590 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
14
31
49
67
84
102
119
Pole
0
−2000
−4000
−6000
−8000
−10000
−12000
−14000
−16000
−18000
Phase Error (deg)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)