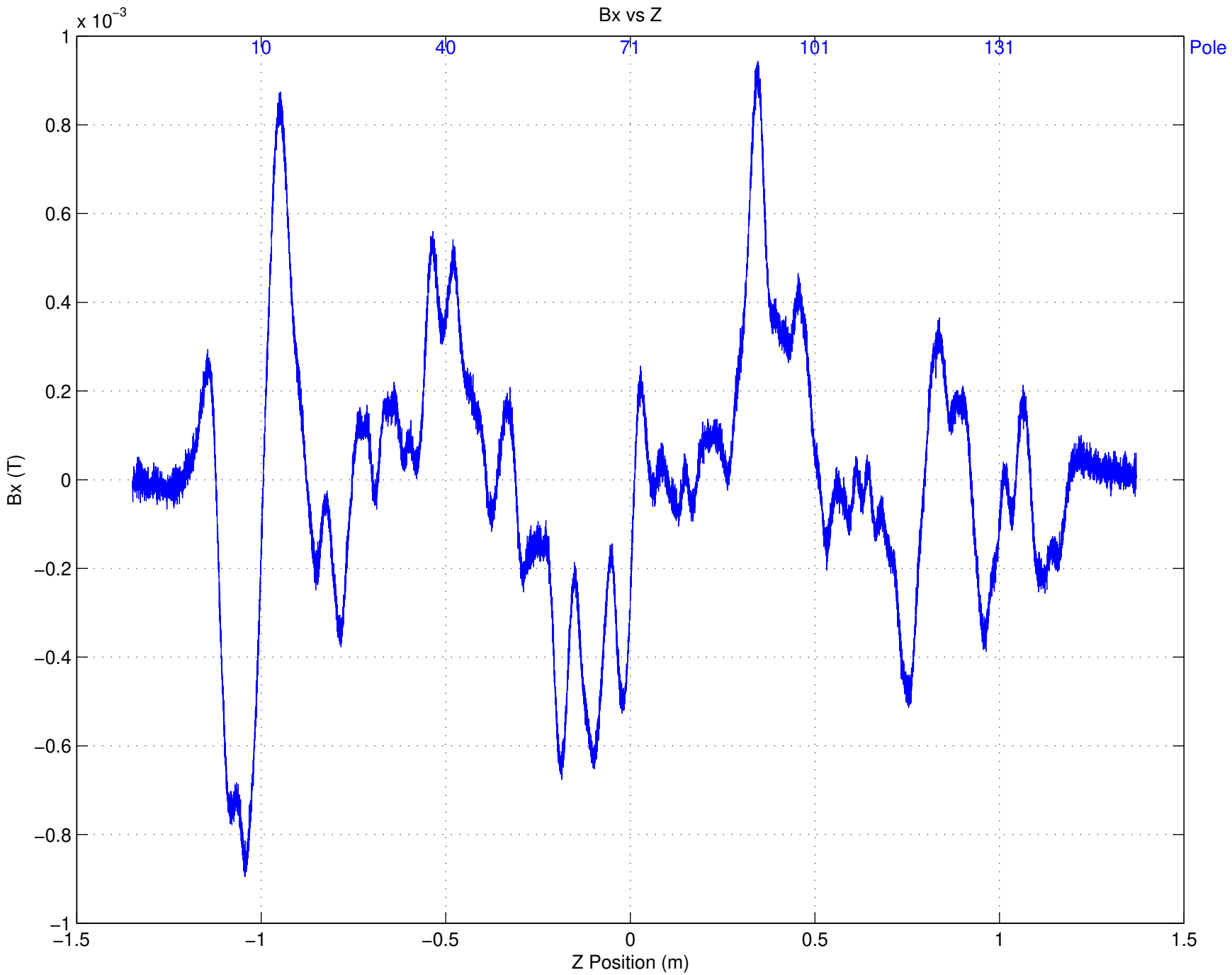
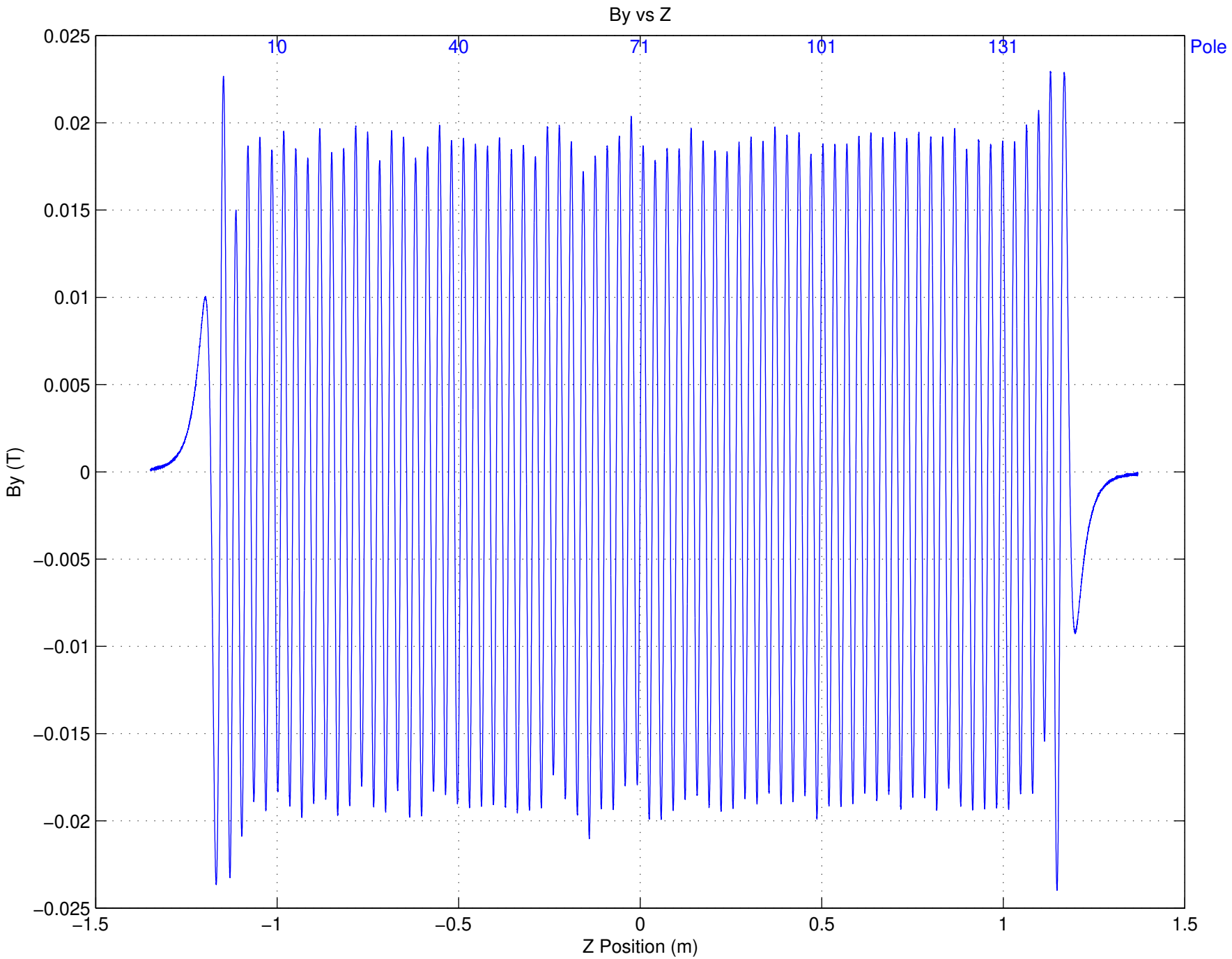
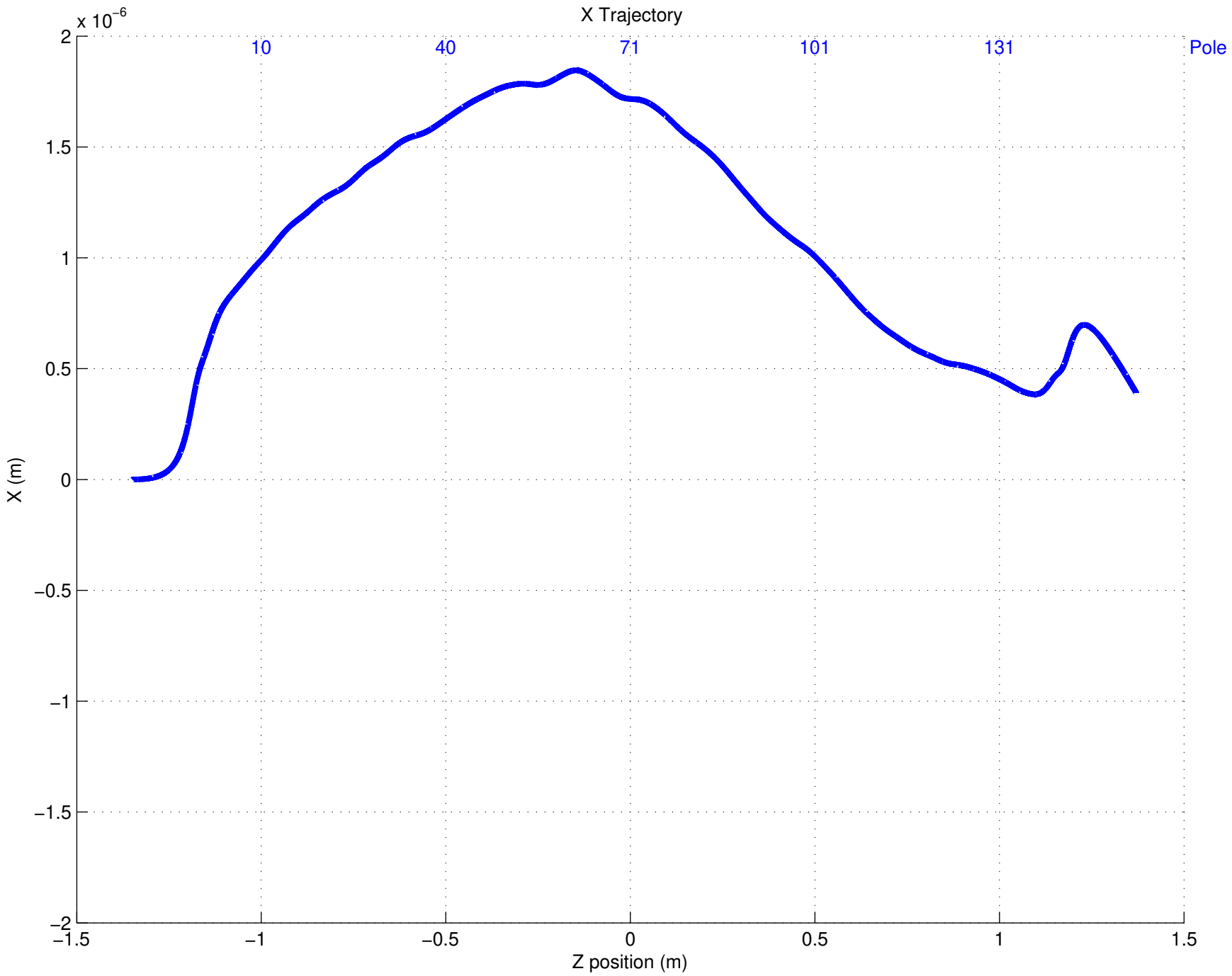
SLAC Magnetic Measurements

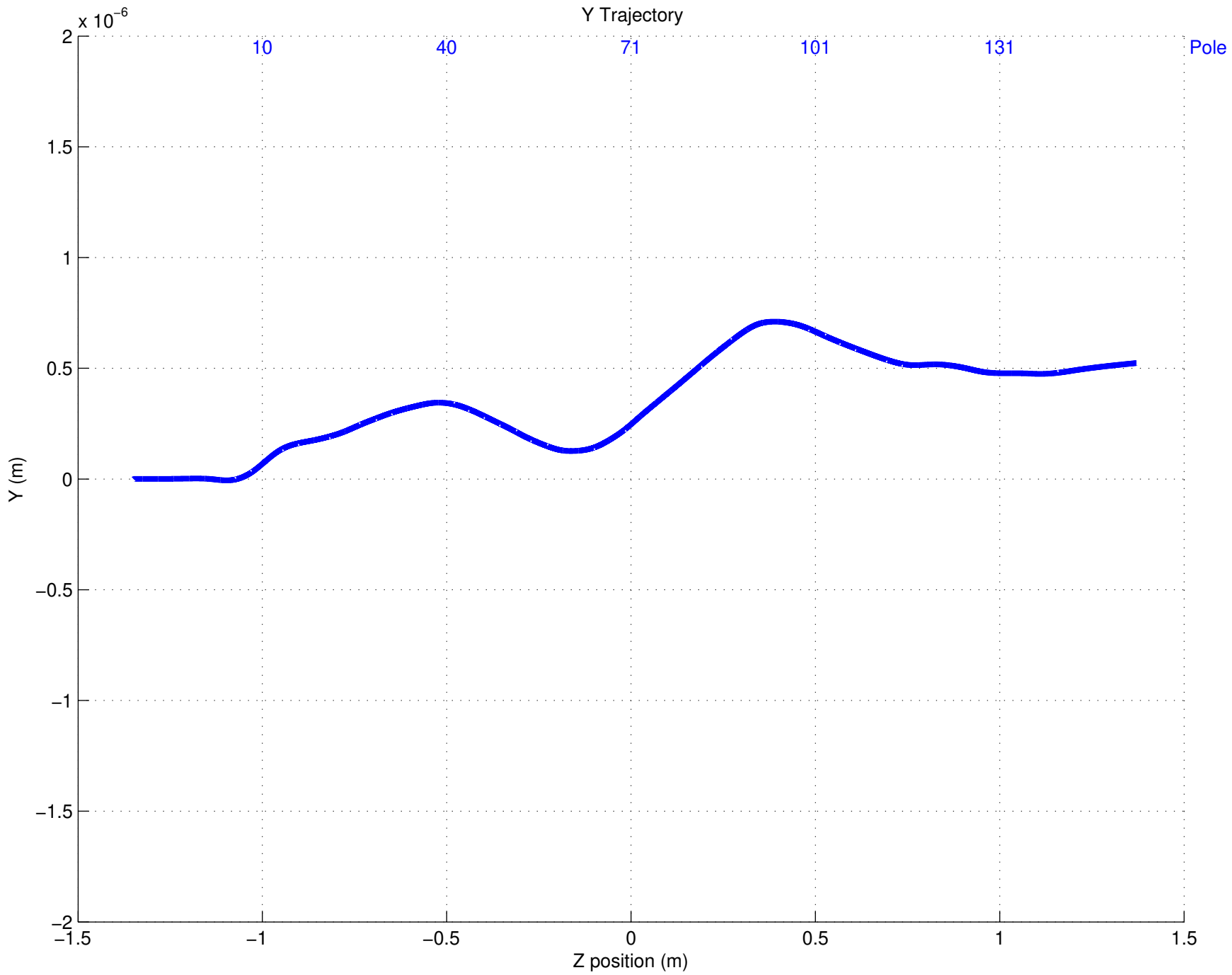
Planar Insertion Device Analysis

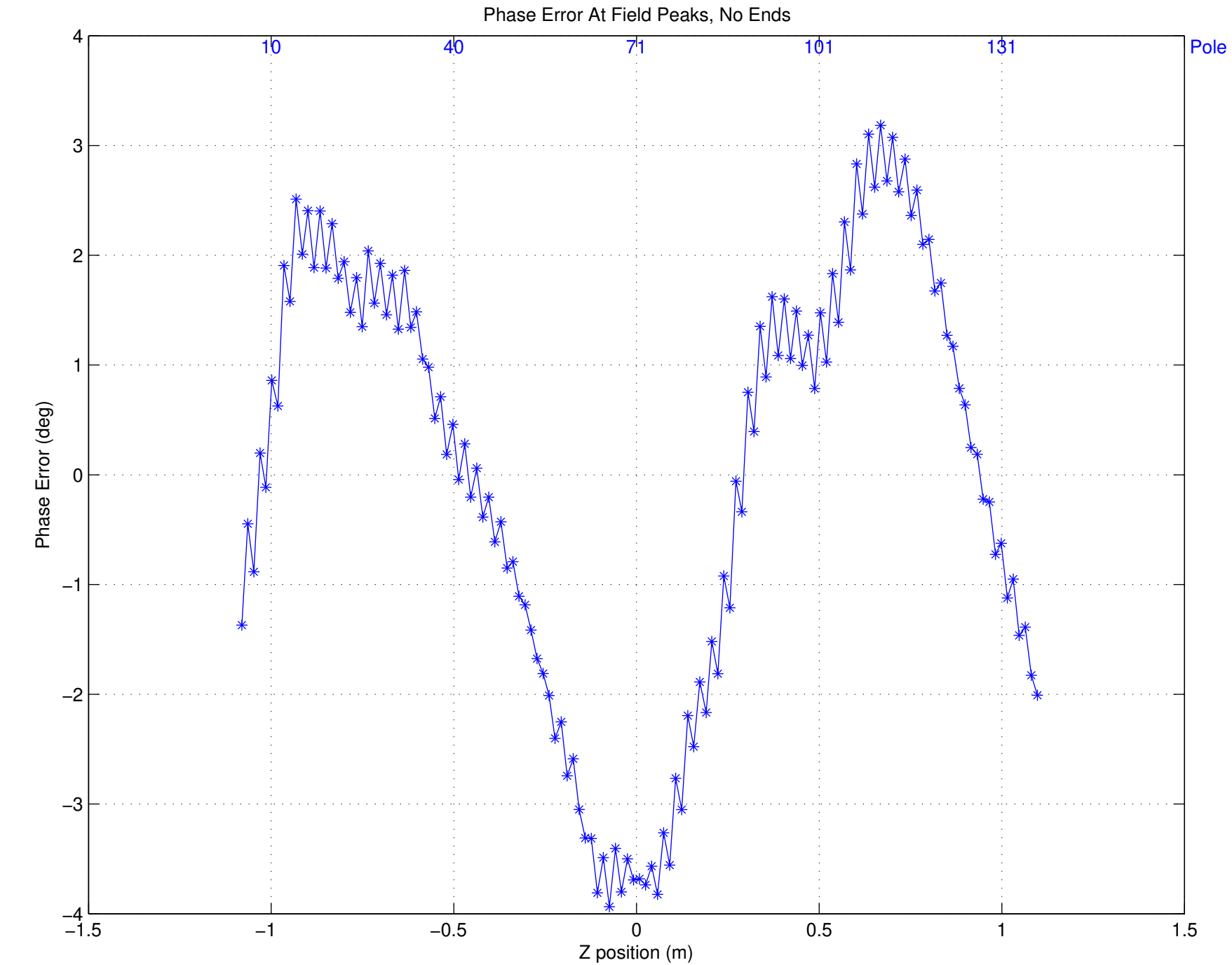
Parameters:
INPUT−FILE−DIR =S:\MagData\LCLS\Undulator\A1−ANL\DATASET0001\Rough Tuning\Z Scans\Run 035\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26686.34
NOM−LAMBDA−U =0.033
NOM−K−VALUE =1.0475
NOM−LAMBDA−R =3.588e−011
NUM−POLES =141
NUM−END−POLES =4
CELL−LENGTH =2.376


Bx vs Z
x 10^-3
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
Bx (T)
10
40
71
101
131
Pole
−1.5
−1
−0.5
0
0.5
1
1.5
Z Position (m)

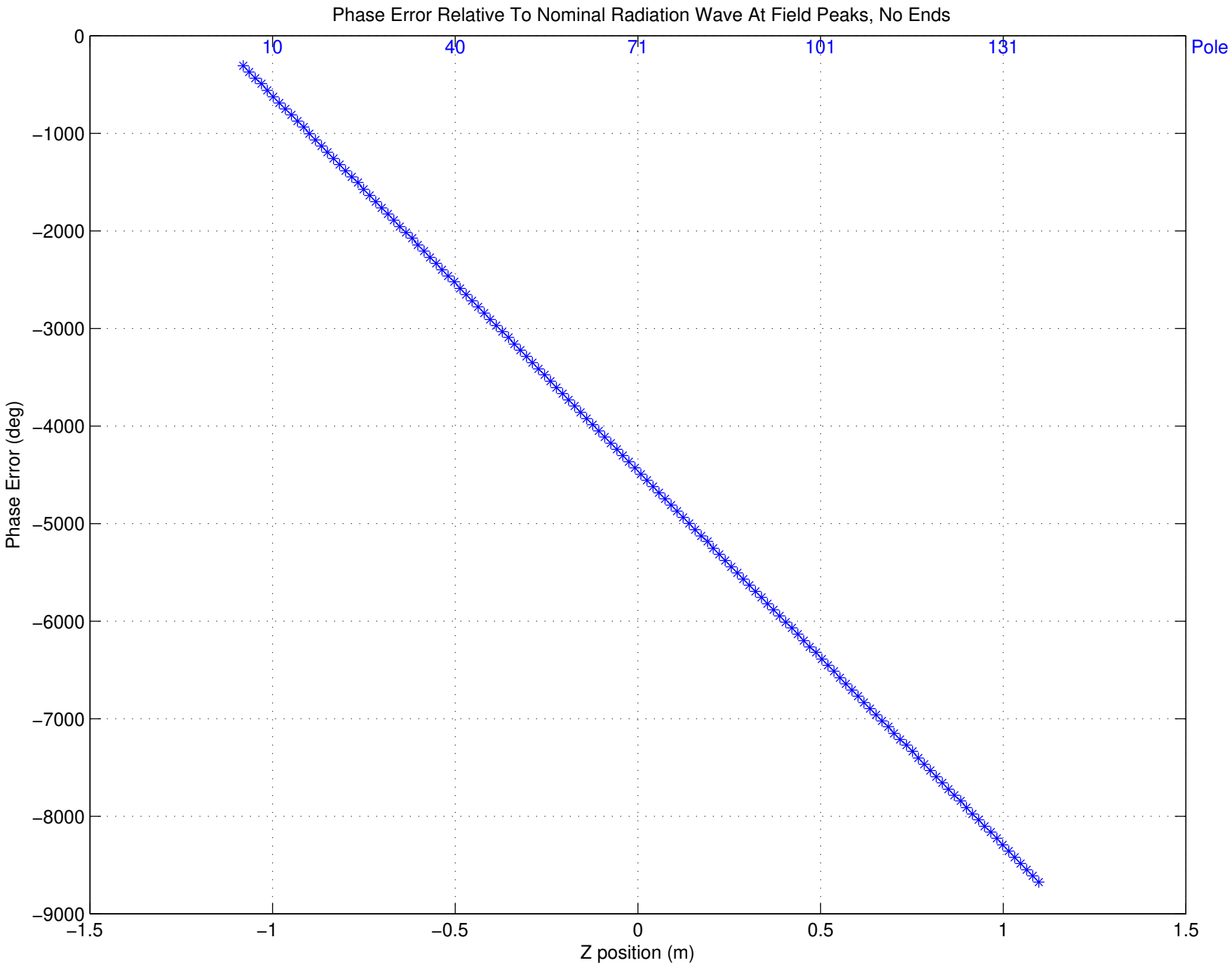

By vs Z
10
40
71
101
131
Pole
0.025
0.02
0.015
0.01
0.005
0
−0.005
−0.01
−0.015
−0.02
−0.025
By (T)
−1.5
−1
−0.5
0
0.5
1
1.5
Z Position (m)


X Trajectory
x 10^-6
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
X (m)
10
40
71
101
131
Pole
−1.5
−1
−0.5
0
0.5
1
1.5
Z position (m)


Y Trajectory
x 10^-6
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
10
40
71
101
131
Pole
Y (m)
−1.5
−1
−0.5
0
0.5
1
1.5
Z position (m)



Phase Error: Ave = −0.000000 deg, RMS = 1.999495 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
10
40
71
101
131
Pole
0
−1000
−2000
−3000
−4000
−5000
−6000
−7000
−8000
−9000
Phase Error (deg)
−1.5
−1
−0.5
0
0.5
1
1.5
Z position (m)