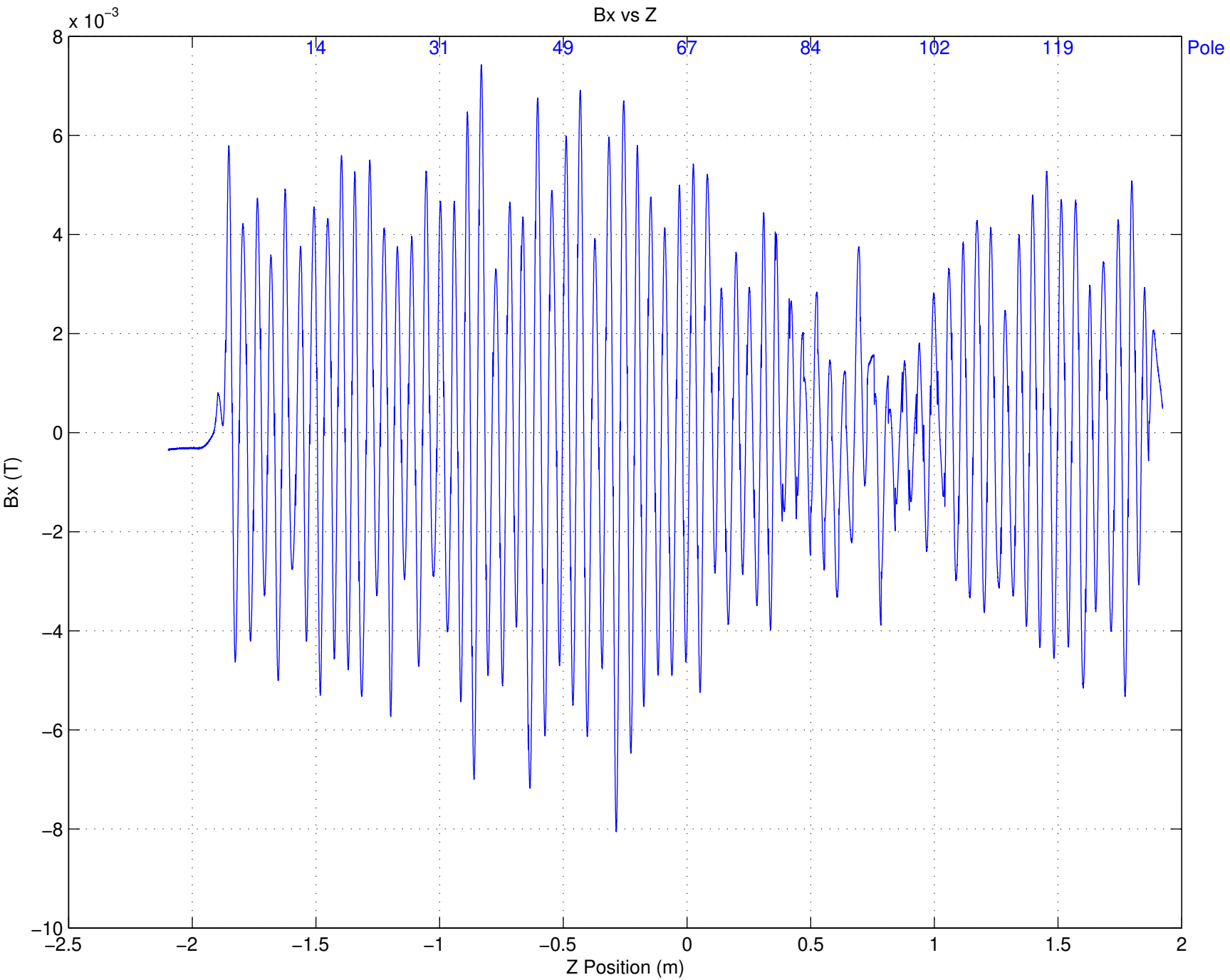
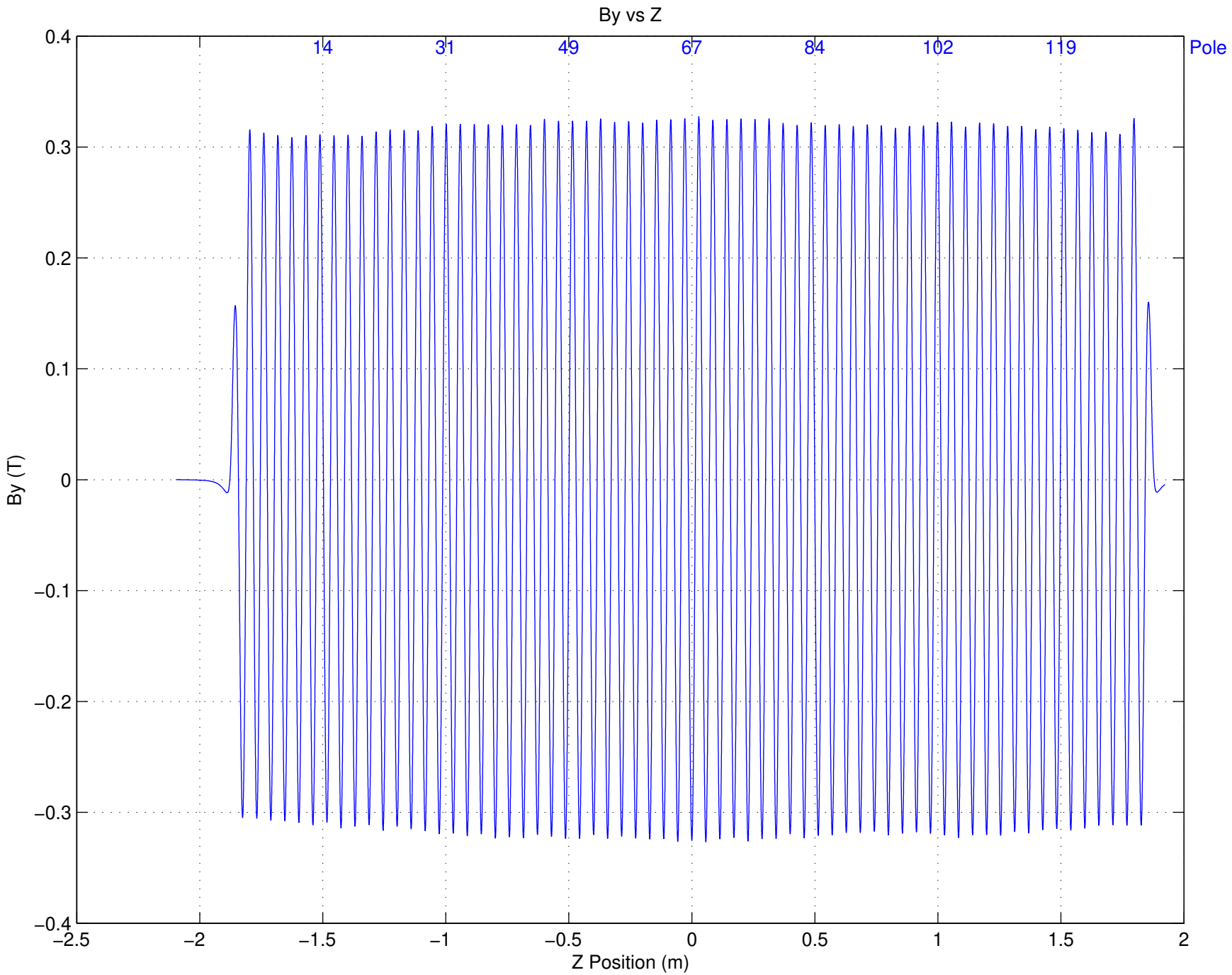
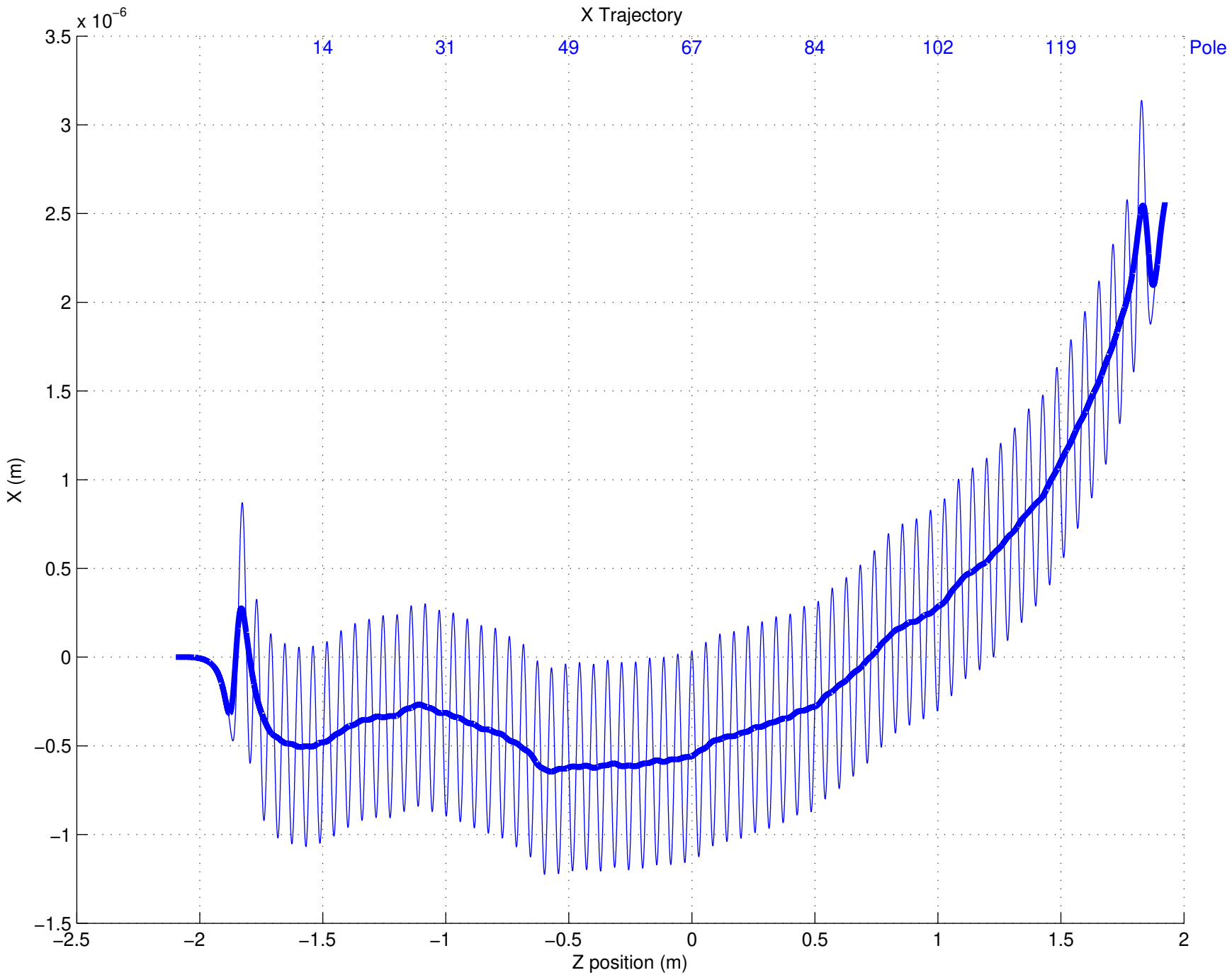
SLAC Magnetic Measurements

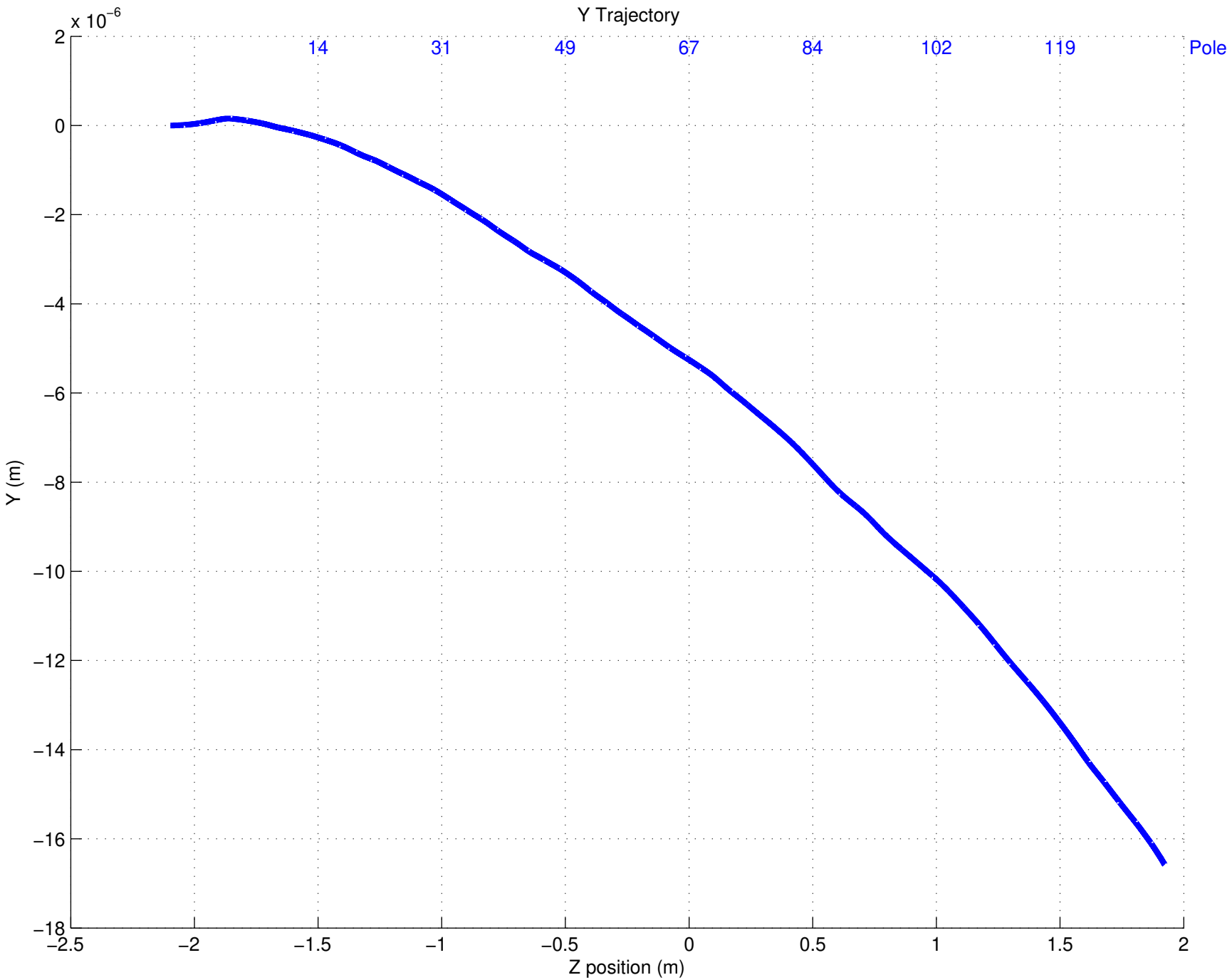
Planar Insertion Device Analysis

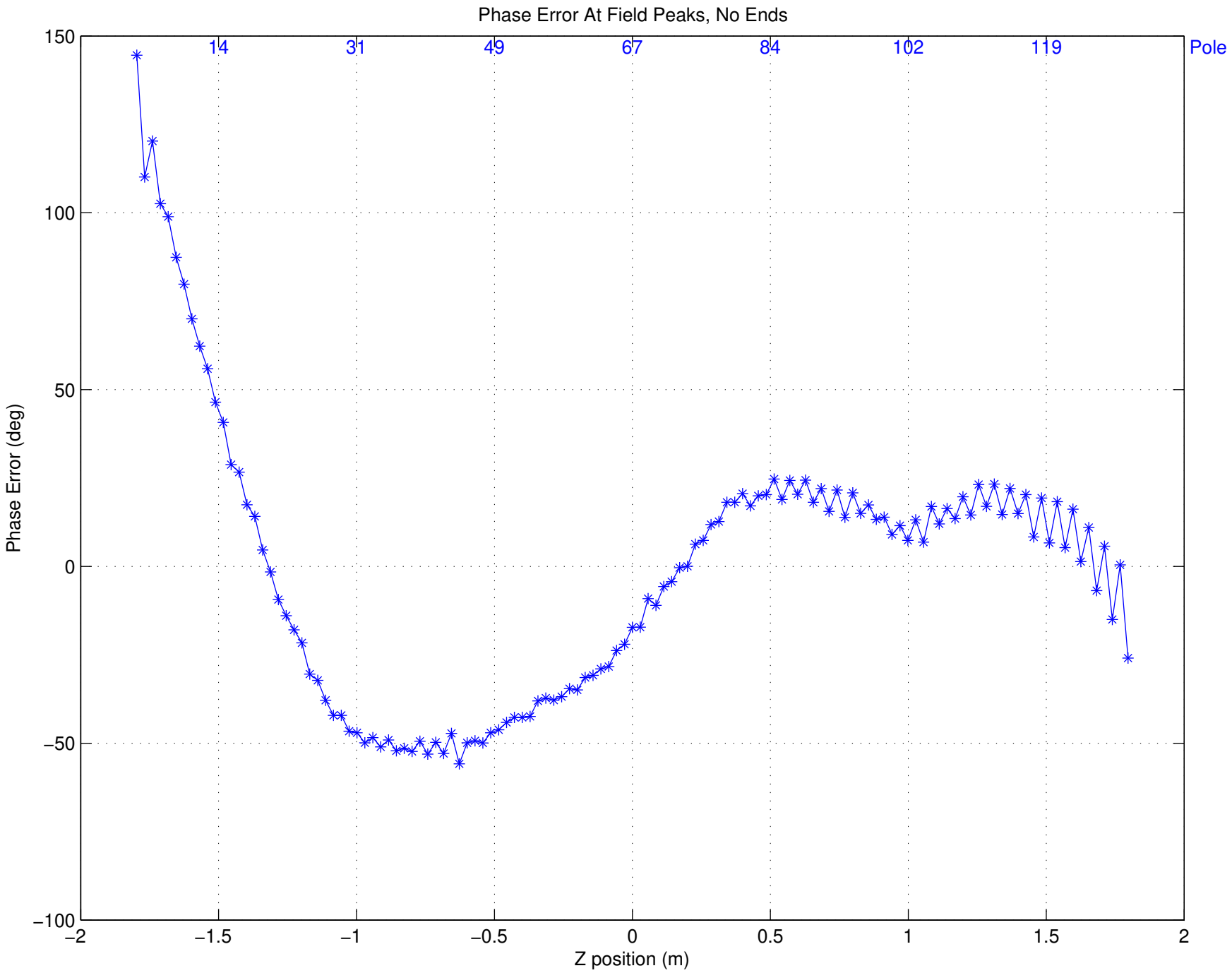
Parameters:
INPUT−FILE−DIR =S:\MagData\LCLS\Undulator\EPU\DATASET0001\Rough Tuning\Z Scans\Run 175\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26686.34
NOM−LAMBDA−U =0.0569
NOM−K−VALUE =2.348
NOM−LAMBDA−R =1.5007e−010
NUM−POLES =133
NUM−END−POLES =3
CELL−LENGTH =3.6985


Bx vs Z
x 10^-3
14
31
49
67
84
102
119
Pole
8
6
4
2
0
−2
−4
−6
−8
−10
Bx (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z Position (m)

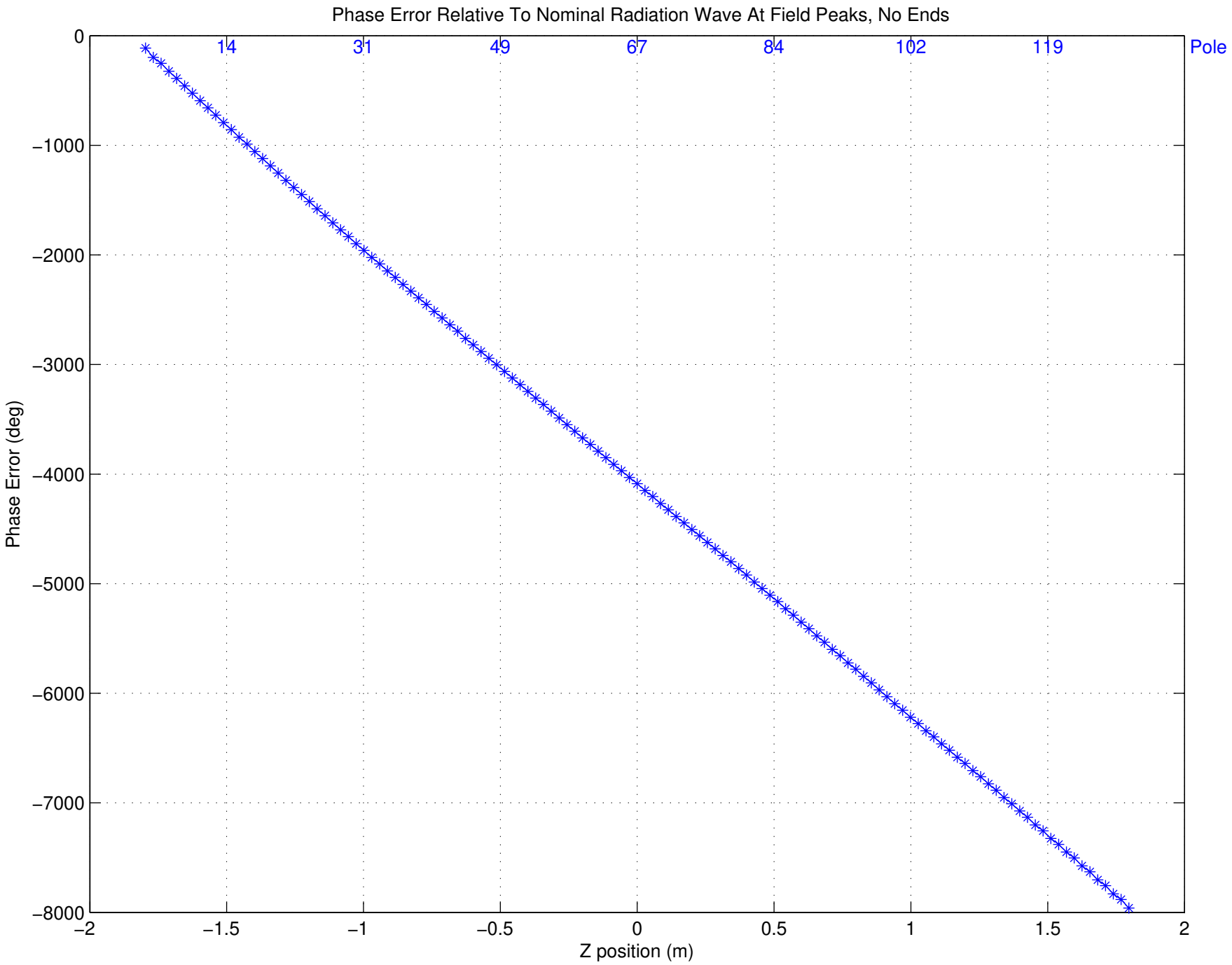

By vs Z
14
31
49
67
84
102
119
Pole
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
By (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z Position (m)


X Trajectory
x 10^-6
14
31
49
67
84
102
119
Pole
3.5
3
2.5
2
1.5
1
0.5
0
−0.5
−1
−1.5
X (m)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)


Y Trajectory
x 10^-6
2
0
−2
−4
−6
−8
−10
−12
−14
−16
−18
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 = 39.198764 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
14
31
49
67
84
102
119
Pole
0
−1000
−2000
−3000
−4000
−5000
−6000
−7000
−8000
Phase Error (deg)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)