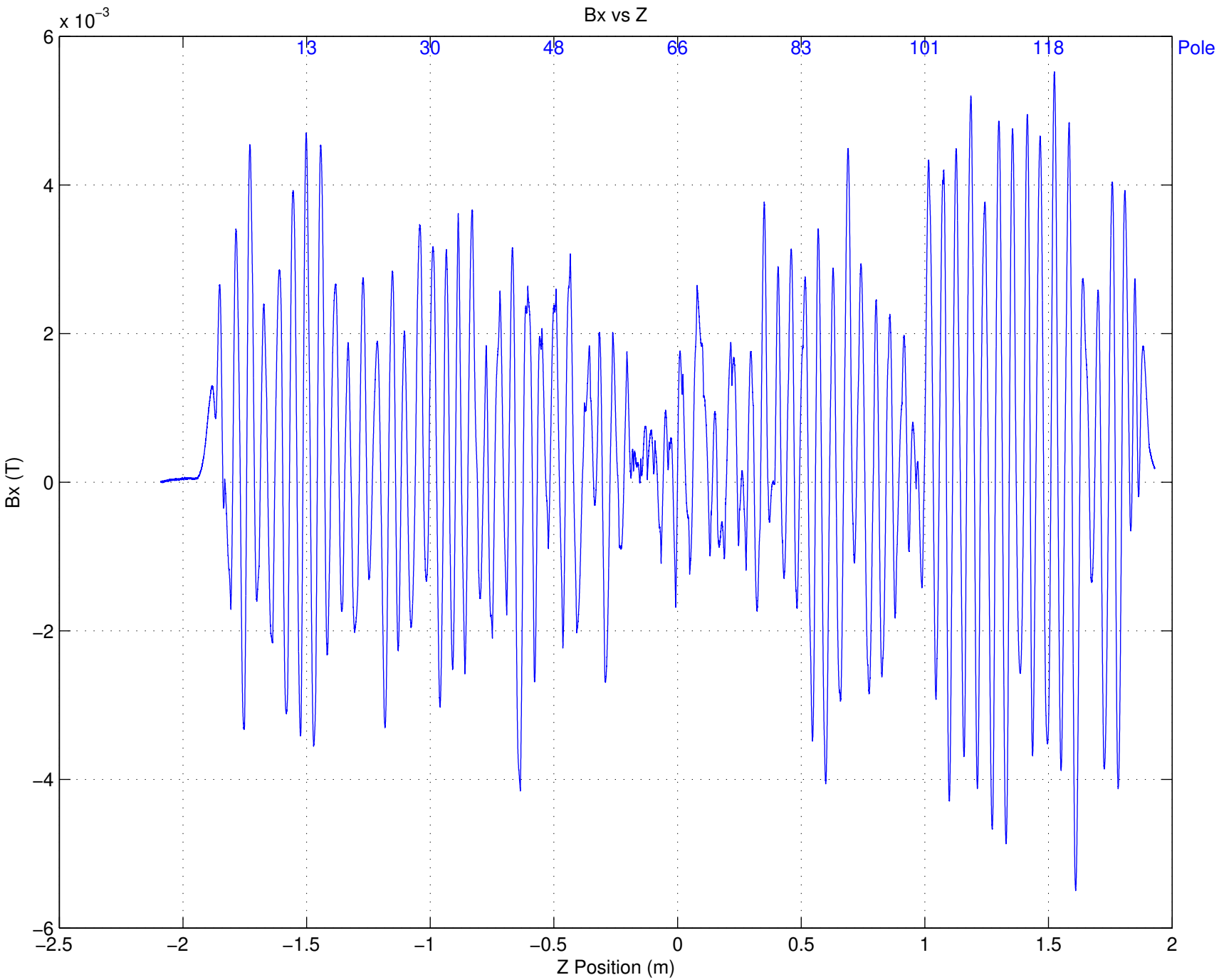
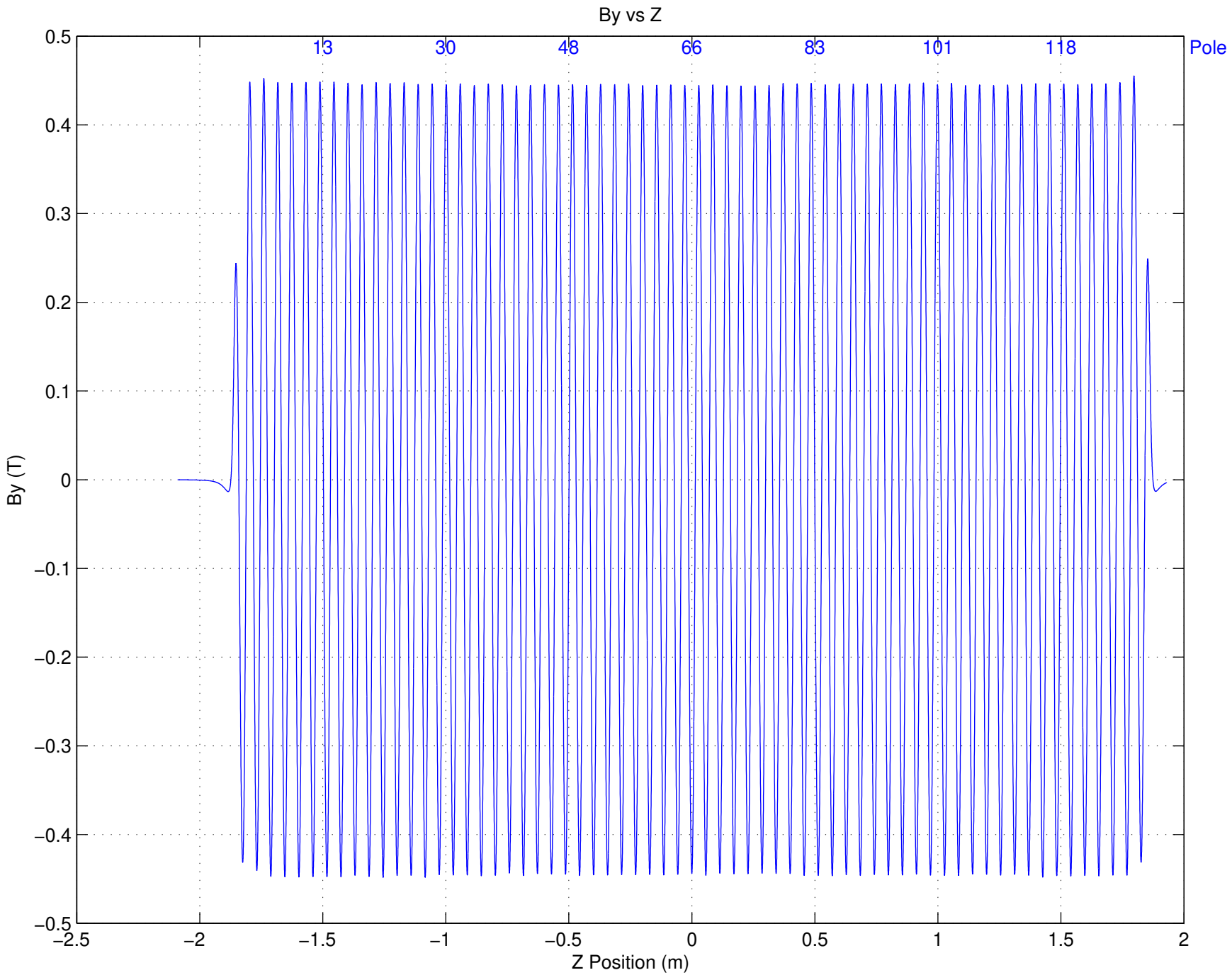
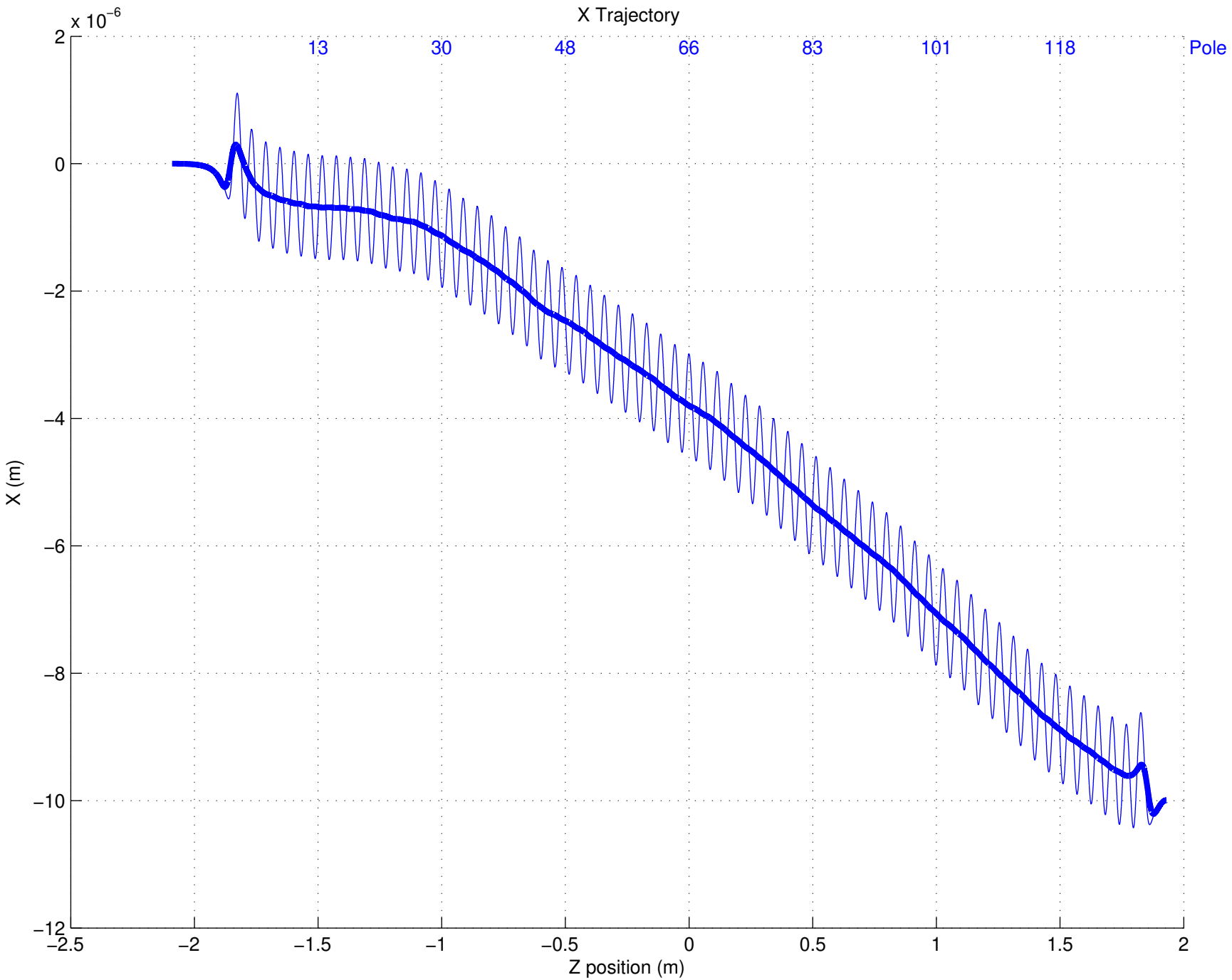
SLAC Magnetic Measurements

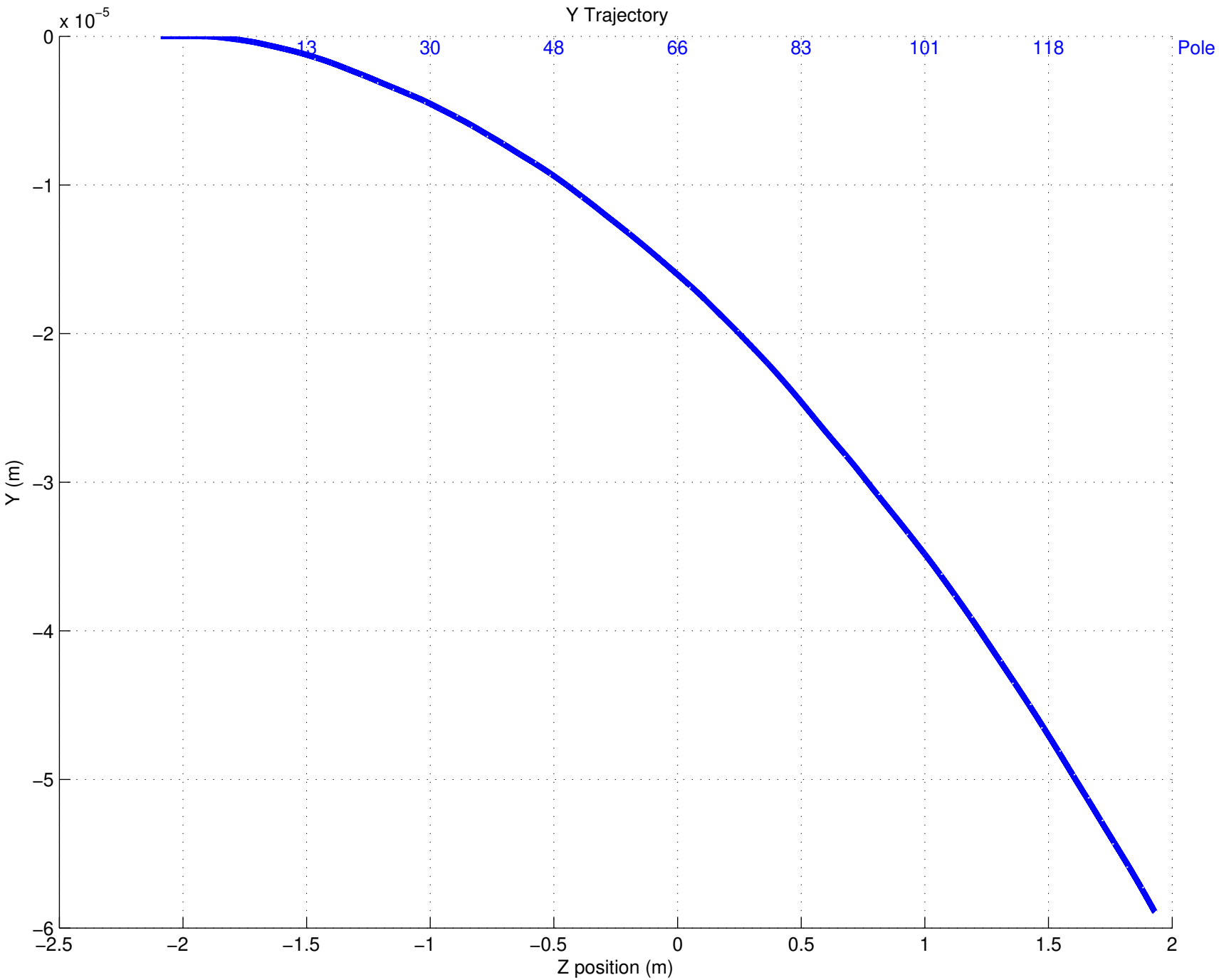
Planar Insertion Device Analysis

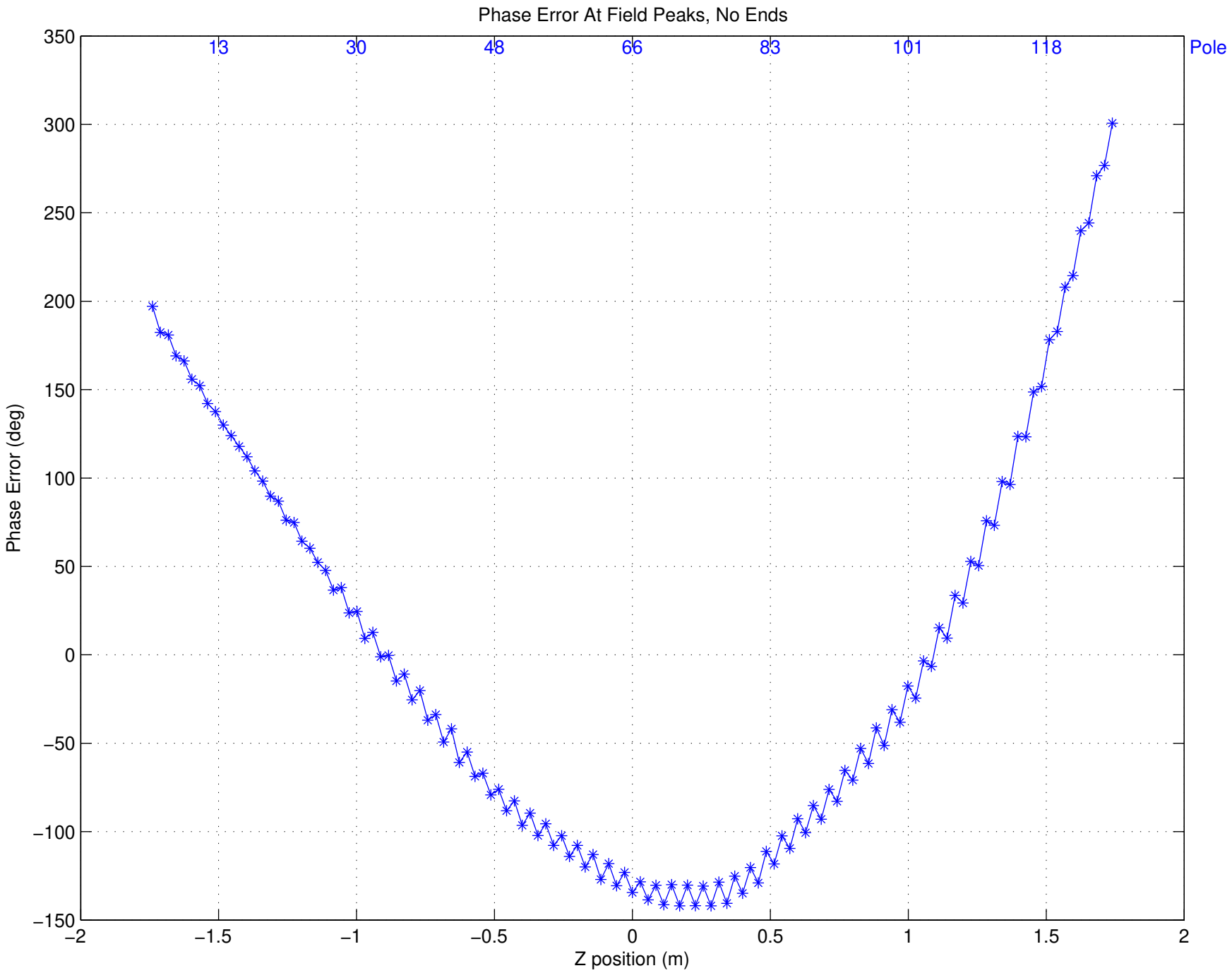
Parameters:
INPUT−FILE−DIR =S:\MagData\LCLS\Undulator\EPU\DATASET0001\Rough Tuning\Z Scans\Run 160\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26686.34
NOM−LAMBDA−U =0.0569
NOM−K−VALUE =2.348
NOM−LAMBDA−R =1.5007e−010
NUM−POLES =131
NUM−END−POLES =4
CELL−LENGTH =3.6985


Bx vs Z
x 10^-3
6
4
2
0
−2
−4
−6
13
30
48
66
83
101
118
Pole
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Bx (T)
Z Position (m)

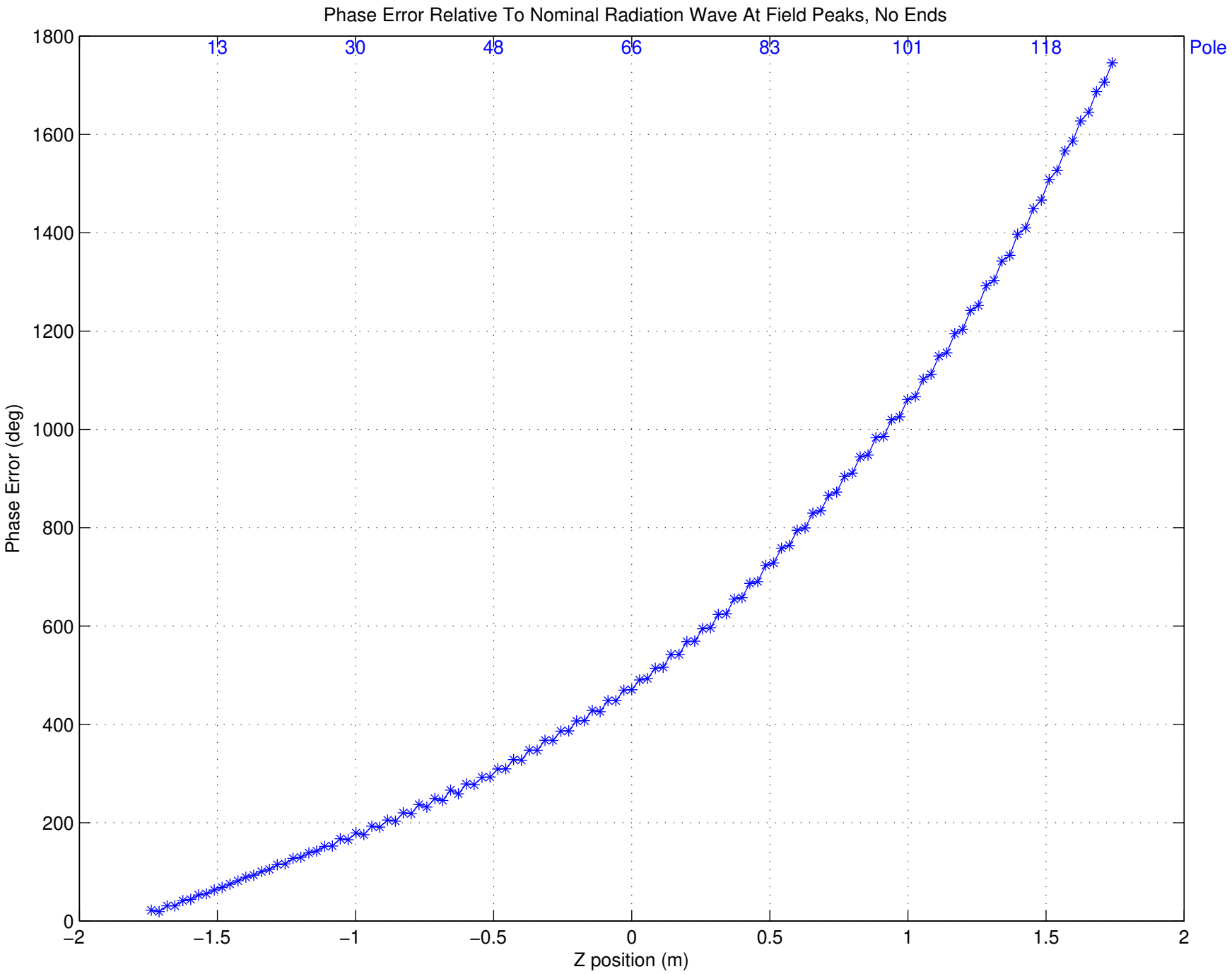

By vs Z
13
30
48
66
83
101
118
Pole
0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
−0.5
By (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z Position (m)


X Trajectory
x 10^-6
13
30
48
66
83
101
118
Pole
2
0
−2
−4
−6
−8
−10
−12
X (m)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)


Y Trajectory
x 10^-5
0
−1
−2
−3
−4
−5
−6
Y (m)
13
30
48
66
83
101
118
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 = 116.045513 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
13
30
48
66
83
101
118
Pole
1800
1600
1400
1200
1000
800
600
400
200
0
Phase Error (deg)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)