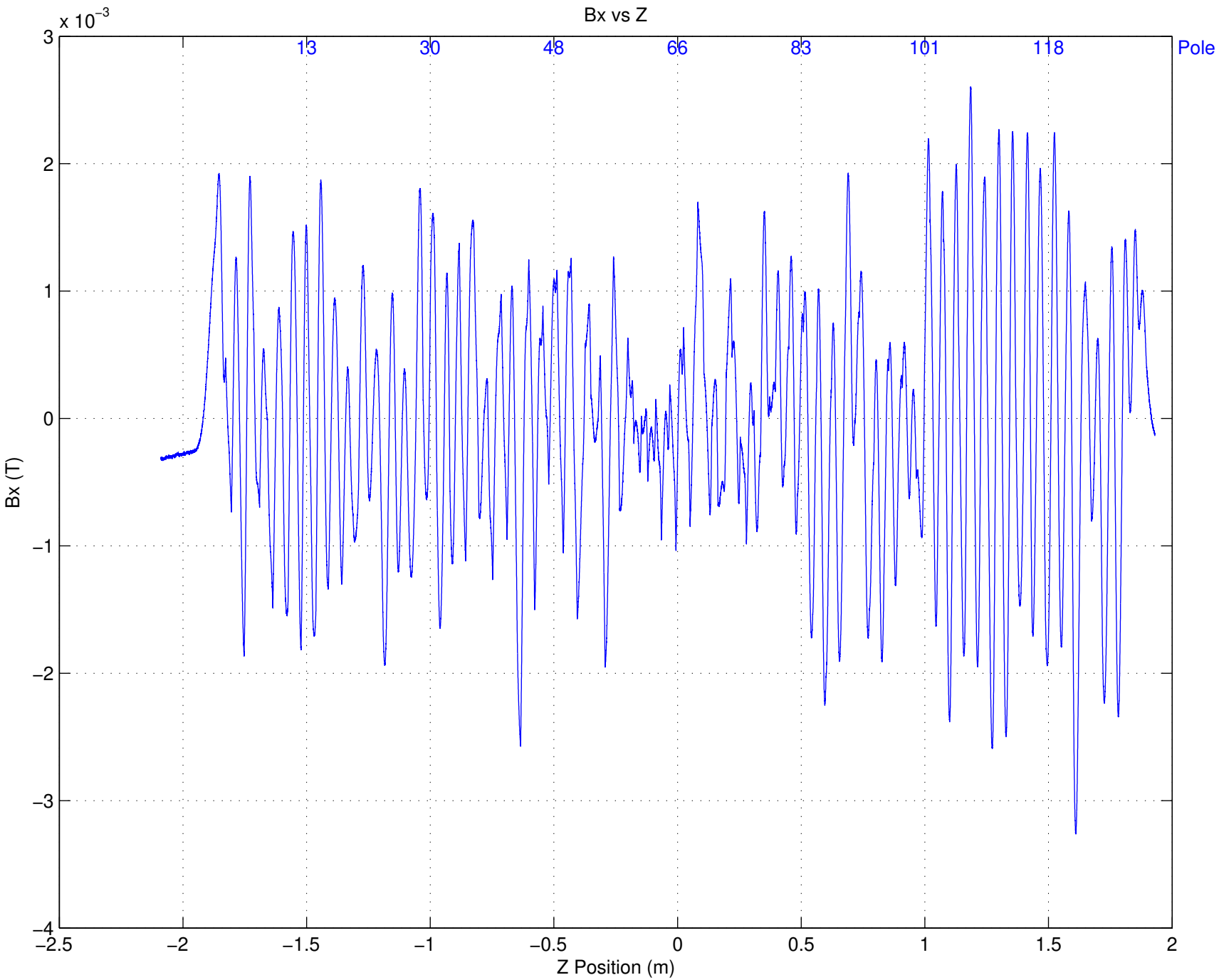
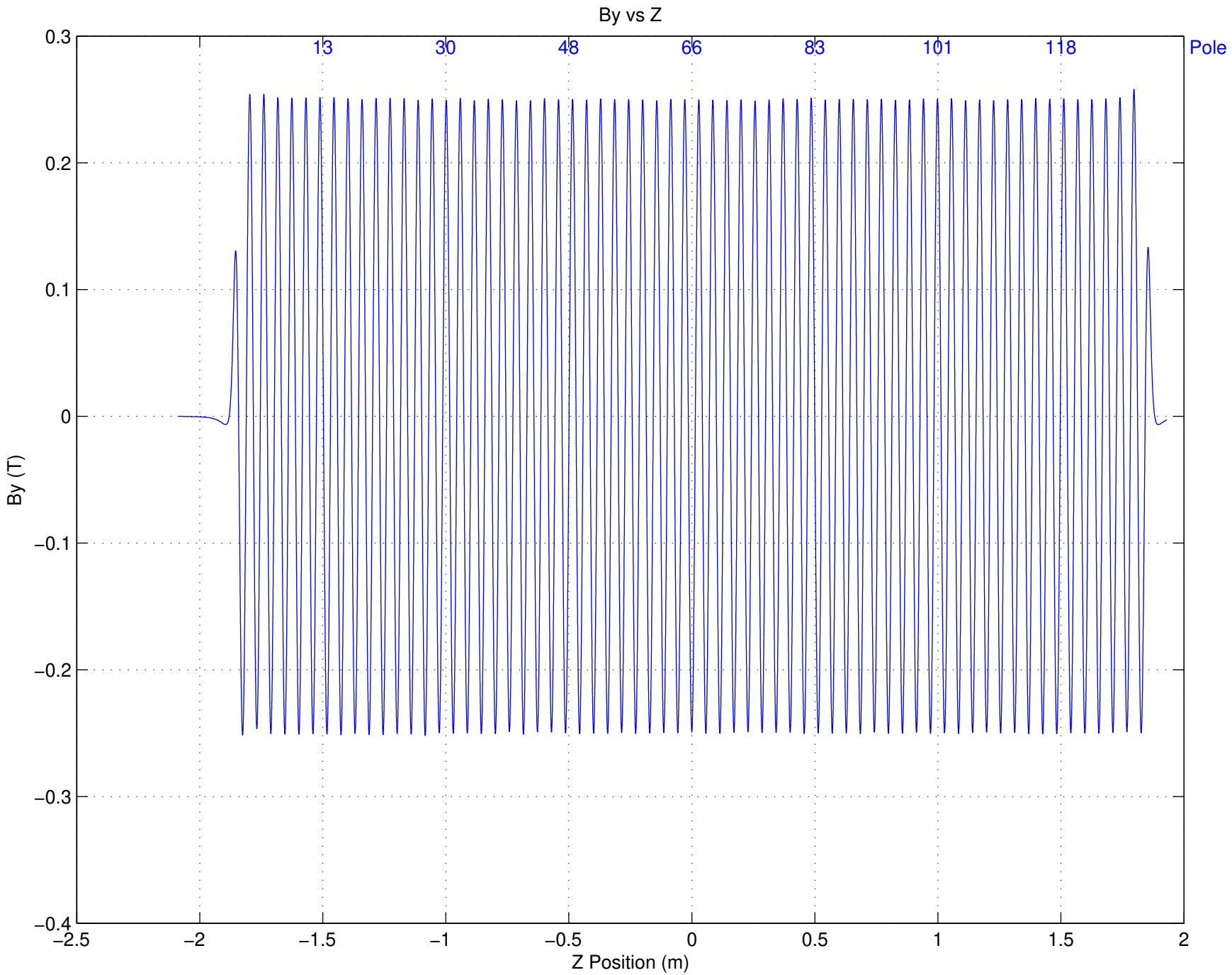
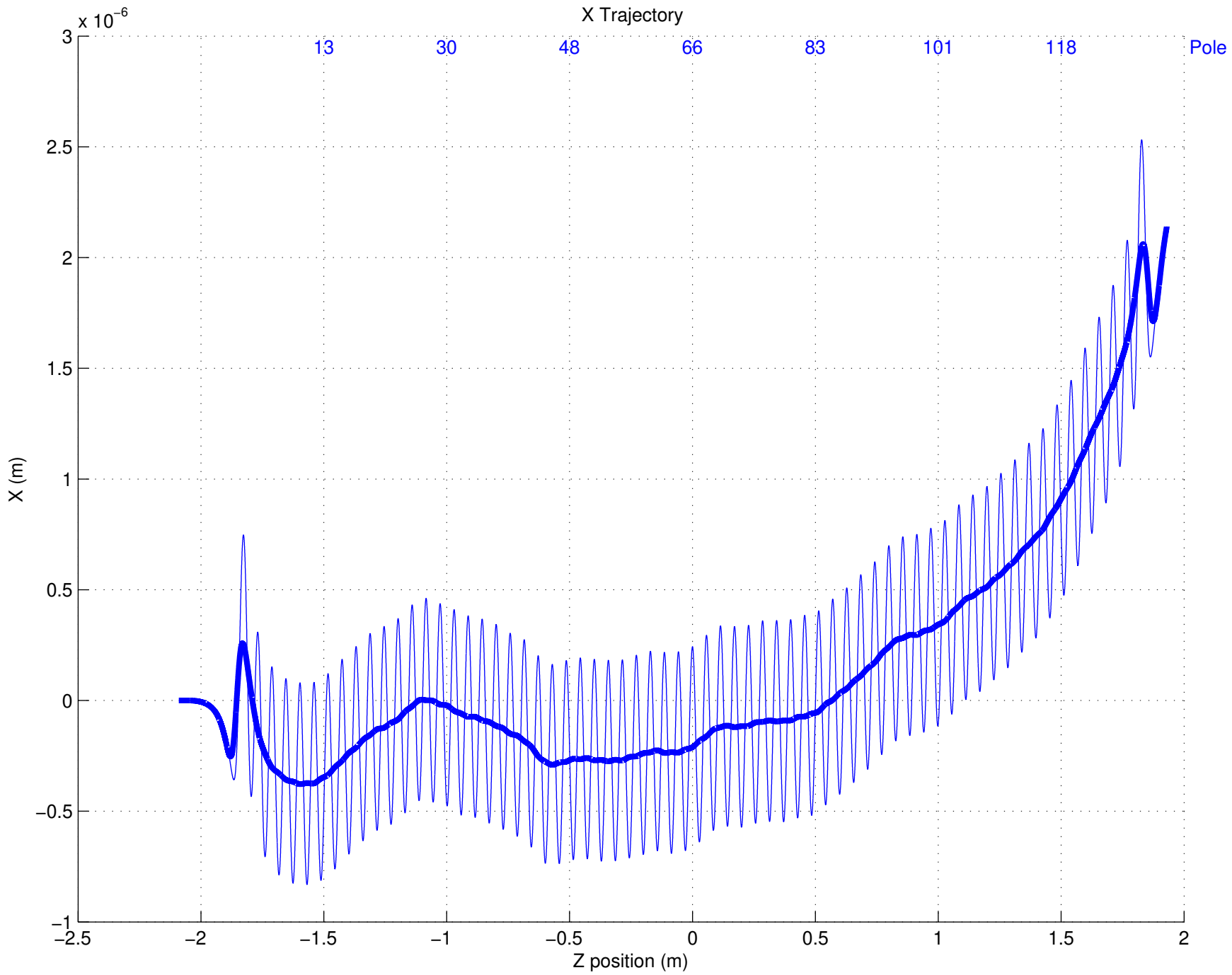
SLAC Magnetic Measurements

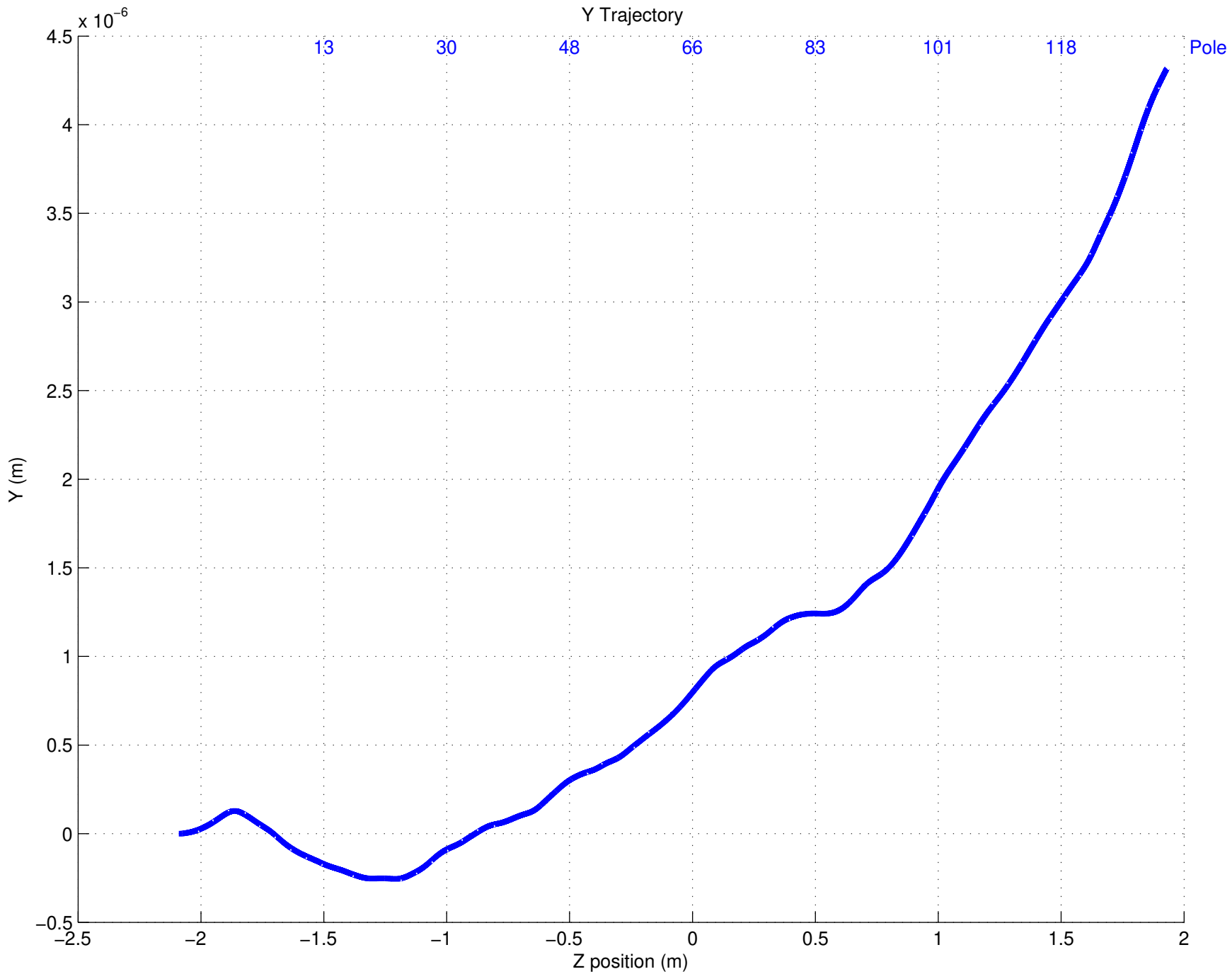
Planar Insertion Device Analysis

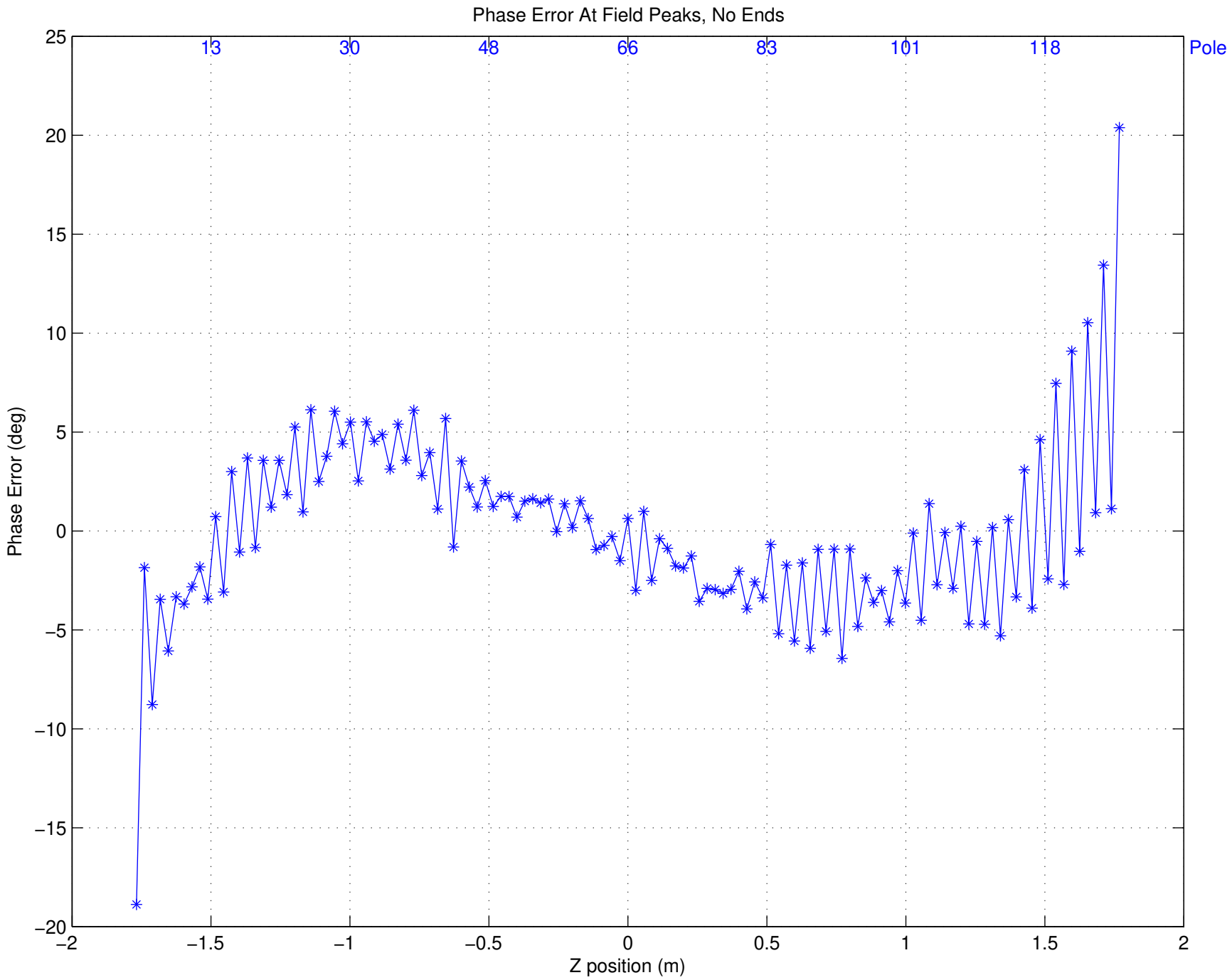
Parameters:
INPUT−FILE−DIR =S:\MagData\LCLS\Undulator\EPU\DATASET0001\Rough Tuning\Z Scans\Run 154\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26686.34
NOM−LAMBDA−U =0.0569
NOM−K−VALUE =1.334
NOM−LAMBDA−R =7.5494e−011
NUM−POLES =131
NUM−END−POLES =3
CELL−LENGTH =3.6985


Bx vs Z
x 10^-3
3
2
1
0
−1
−2
−3
−4
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)

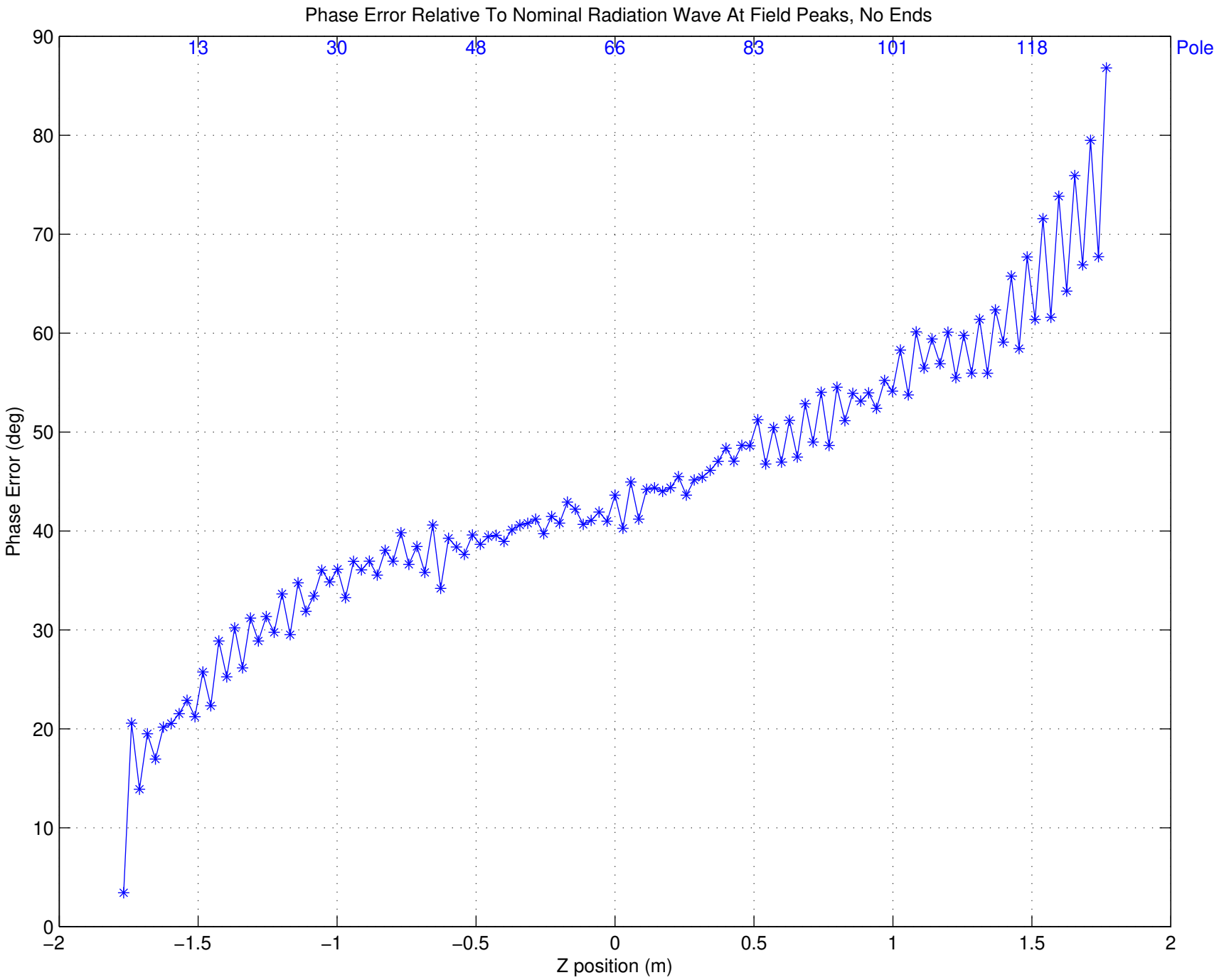

By vs Z
13
30
48
66
83
101
118
Pole
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
By (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z Position (m)


X Trajectory
x 10^-6
13
30
48
66
83
101
118
Pole
3
2.5
2
1.5
1
0.5
0
−0.5
−1
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
13
30
48
66
83
101
118
Pole
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
−0.5
Y (m)
−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 = 4.444938 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
13
30
48
66
83
101
118
Pole
90
80
70
60
50
40
30
20
10
0
Phase Error (deg)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)