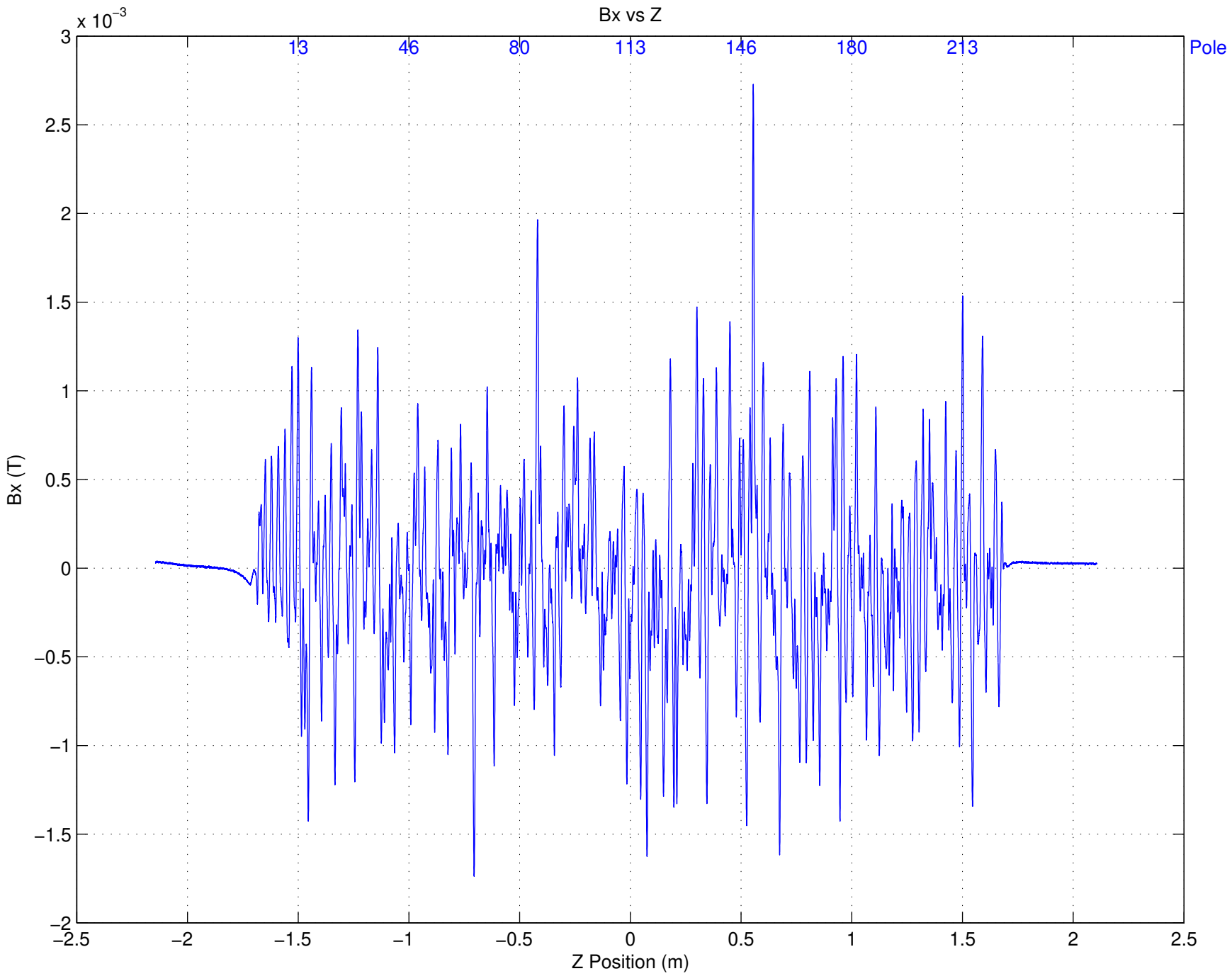
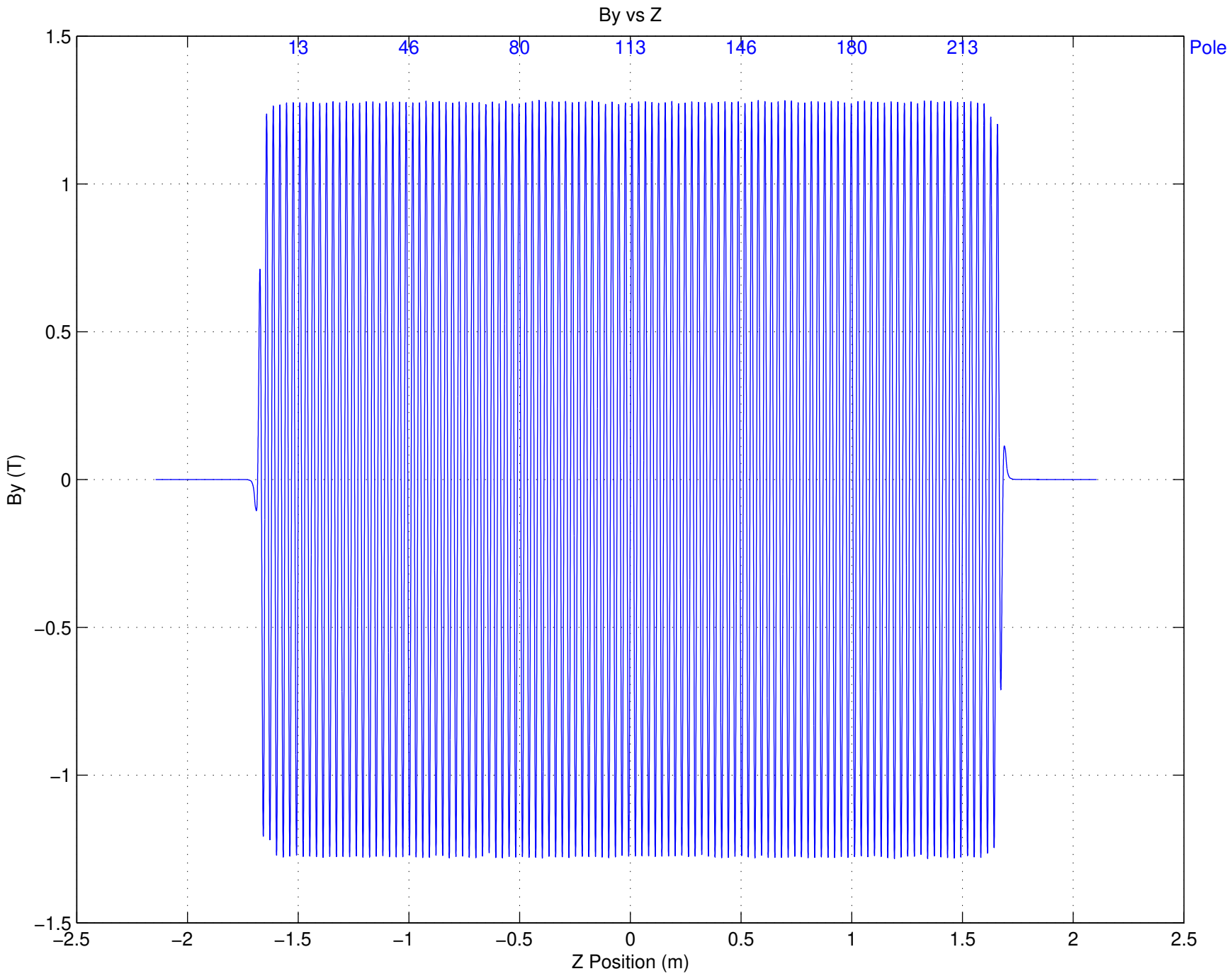
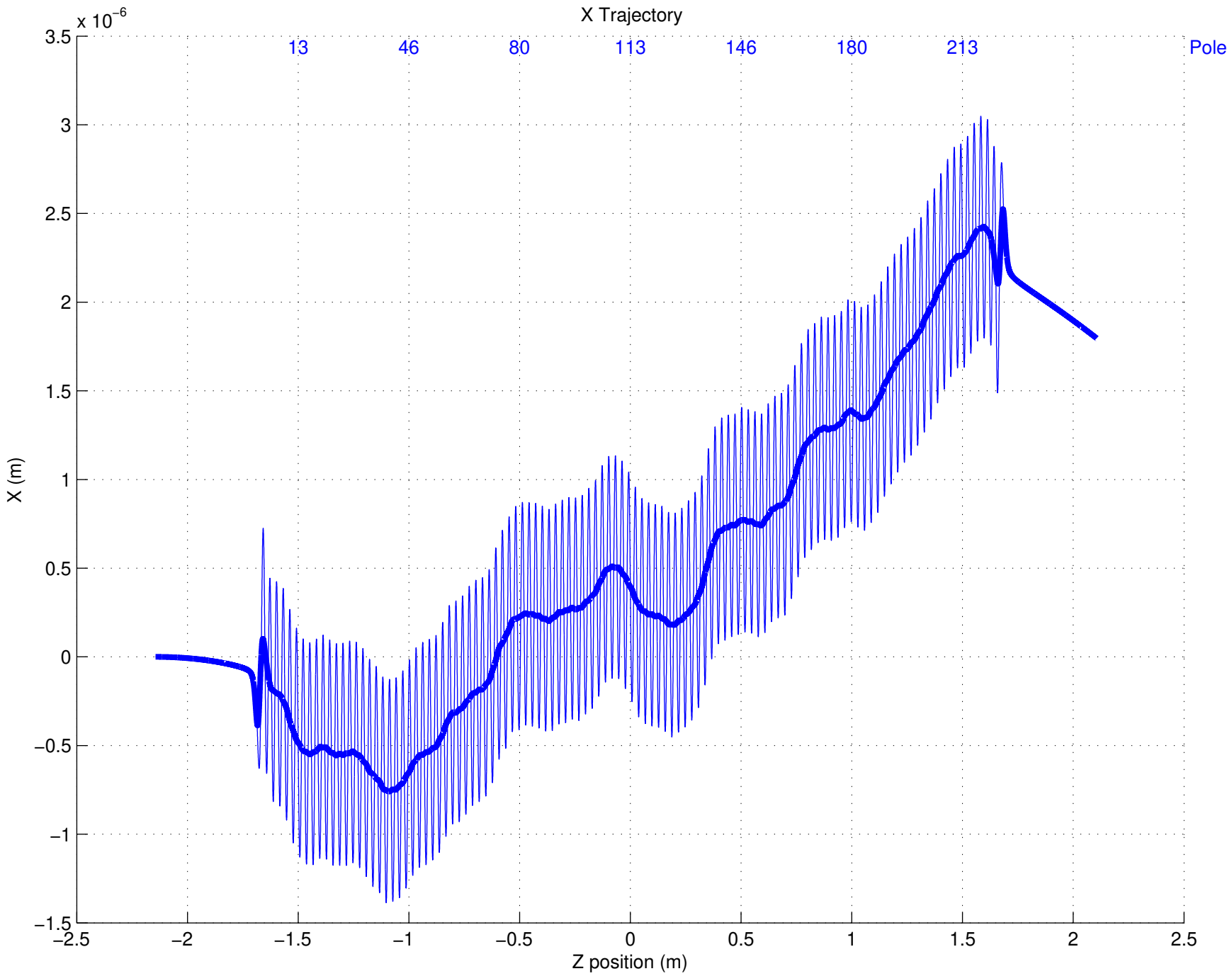
SLAC Magnetic Measurements

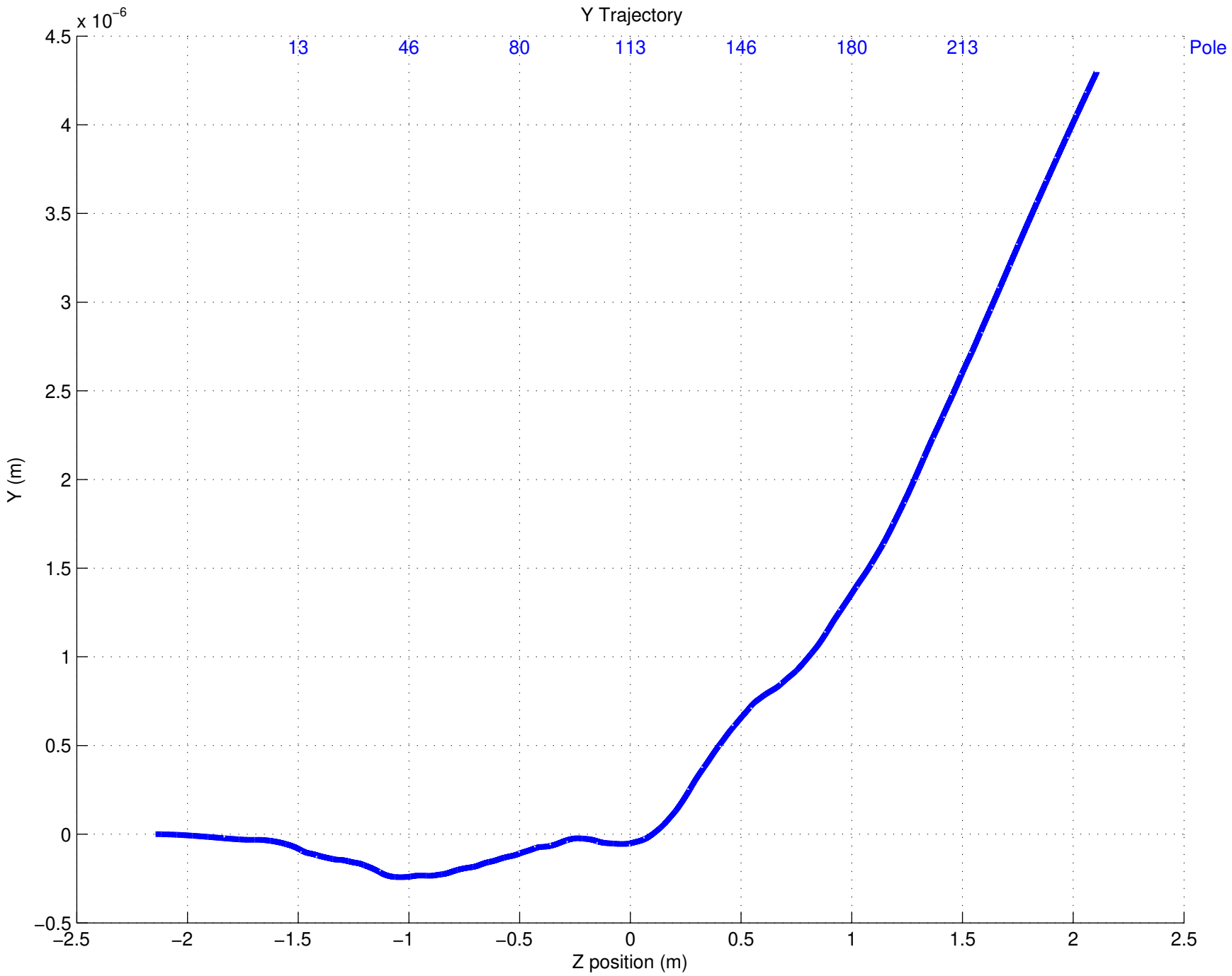
Planar Insertion Device Analysis

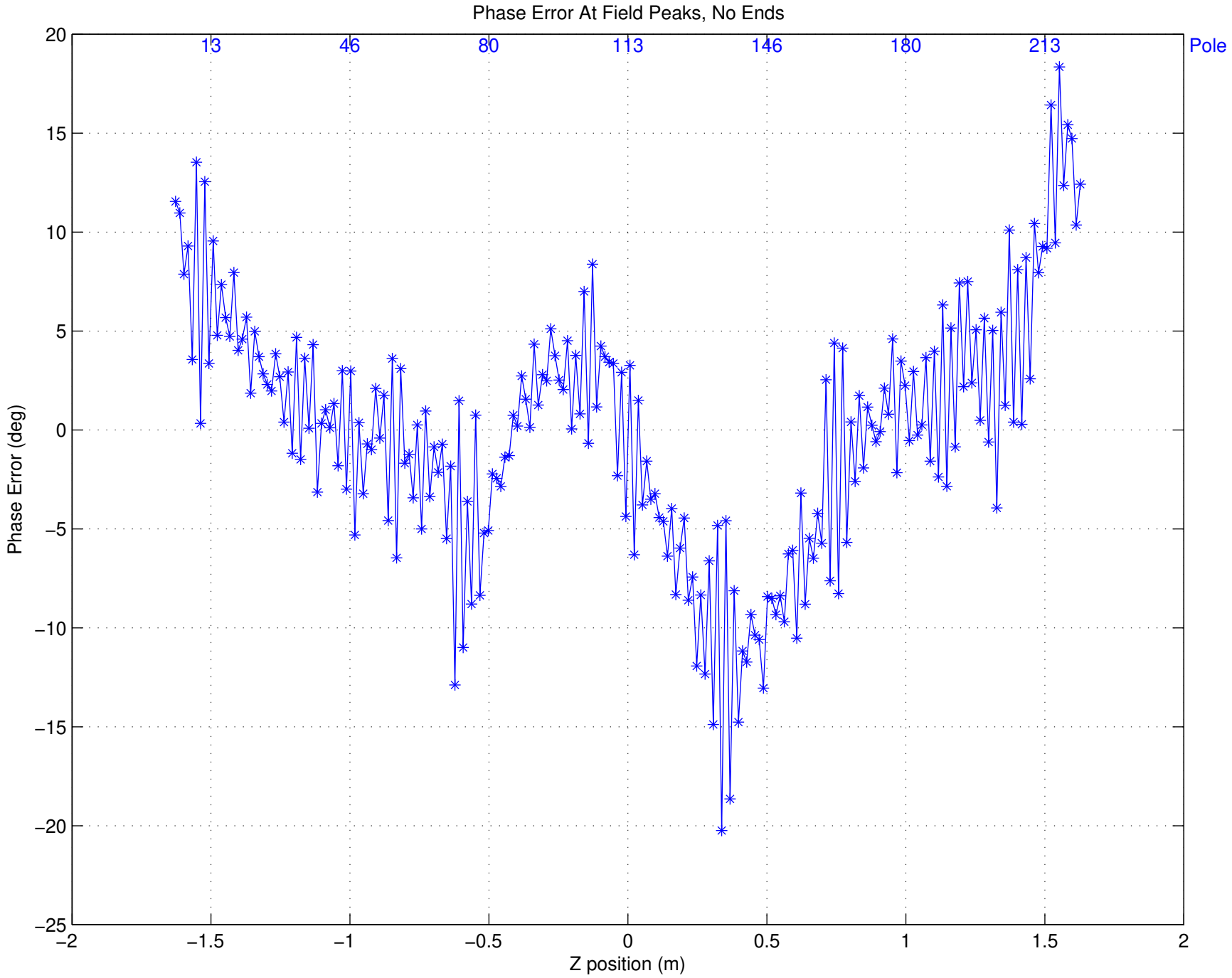
Parameters:
INPUT−FILE−DIR =s:\magdata\LCLS\Undulator\L143−112000−14\DATASET0002\Fine Tuning\Z Scans\Run 002\
INPUT−FILE−NAME =x+00000−y+100−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26675.9
NOM−LAMBDA−U =0.03
NOM−K−VALUE =3.4964
NOM−LAMBDA−R =1.4992e−010
NUM−POLES =226
NUM−END−POLES =4
CELL−LENGTH =3.656


Bx vs Z
x 10^-3
3
2.5
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
13
46
80
113
146
180
213
Pole
Bx (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
2.5
Z Position (m)

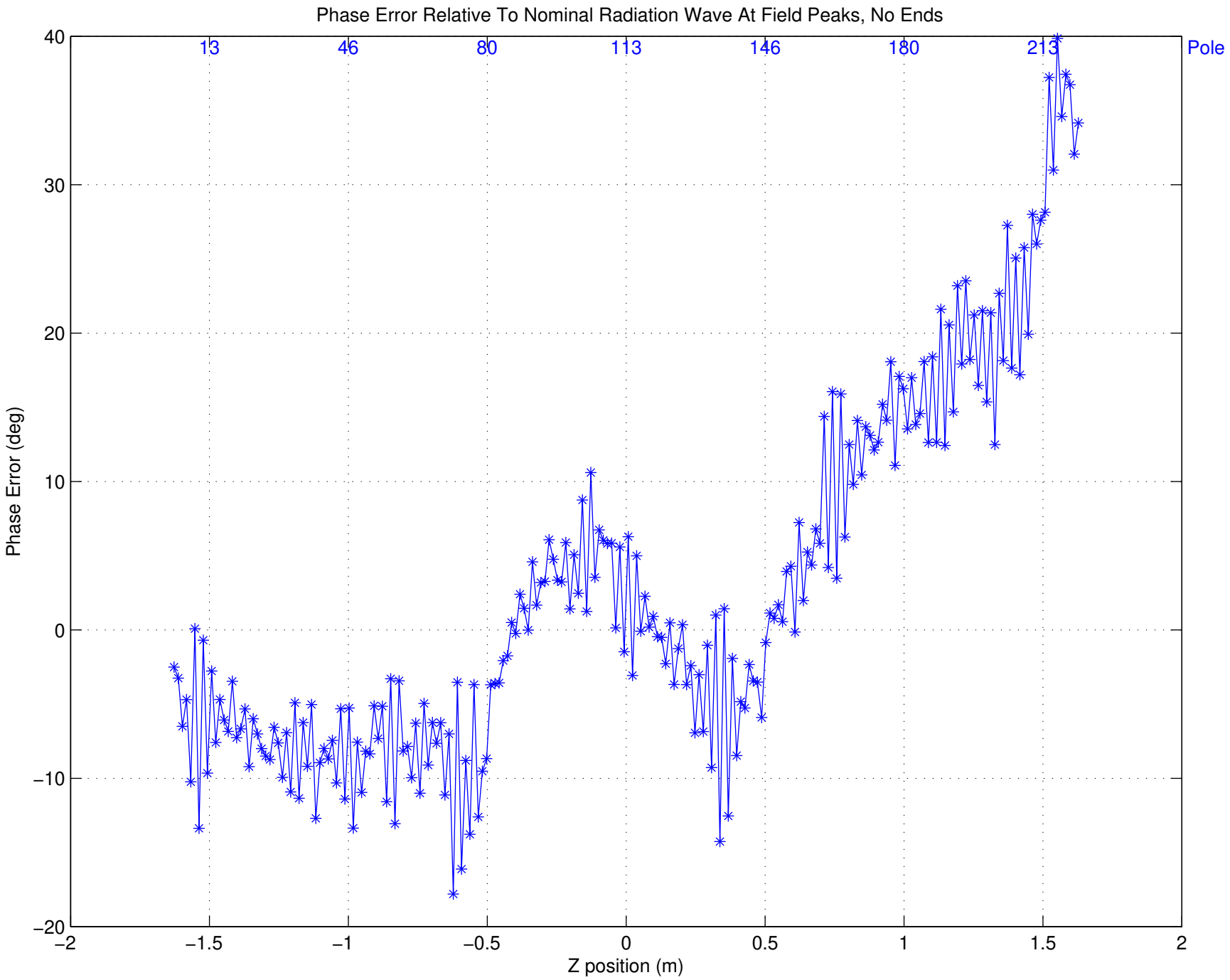

By vs Z
13
46
80
113
146
180
213
Pole
1.5
1
0.5
0
−0.5
−1
−1.5
By (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
2.5
Z Position (m)


X Trajectory
x 10^-6
13
46
80
113
146
180
213
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
2.5
Z position (m)


Y Trajectory
x 10^-6
13
46
80
113
146
180
213
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
2.5
Z position (m)



Phase Error: Ave = −0.000000 deg, RMS = 6.401616 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
13
46
80
113
146
180
213
Pole
40
30
20
10
0
−10
−20
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Phase Error (deg)
Z position (m)