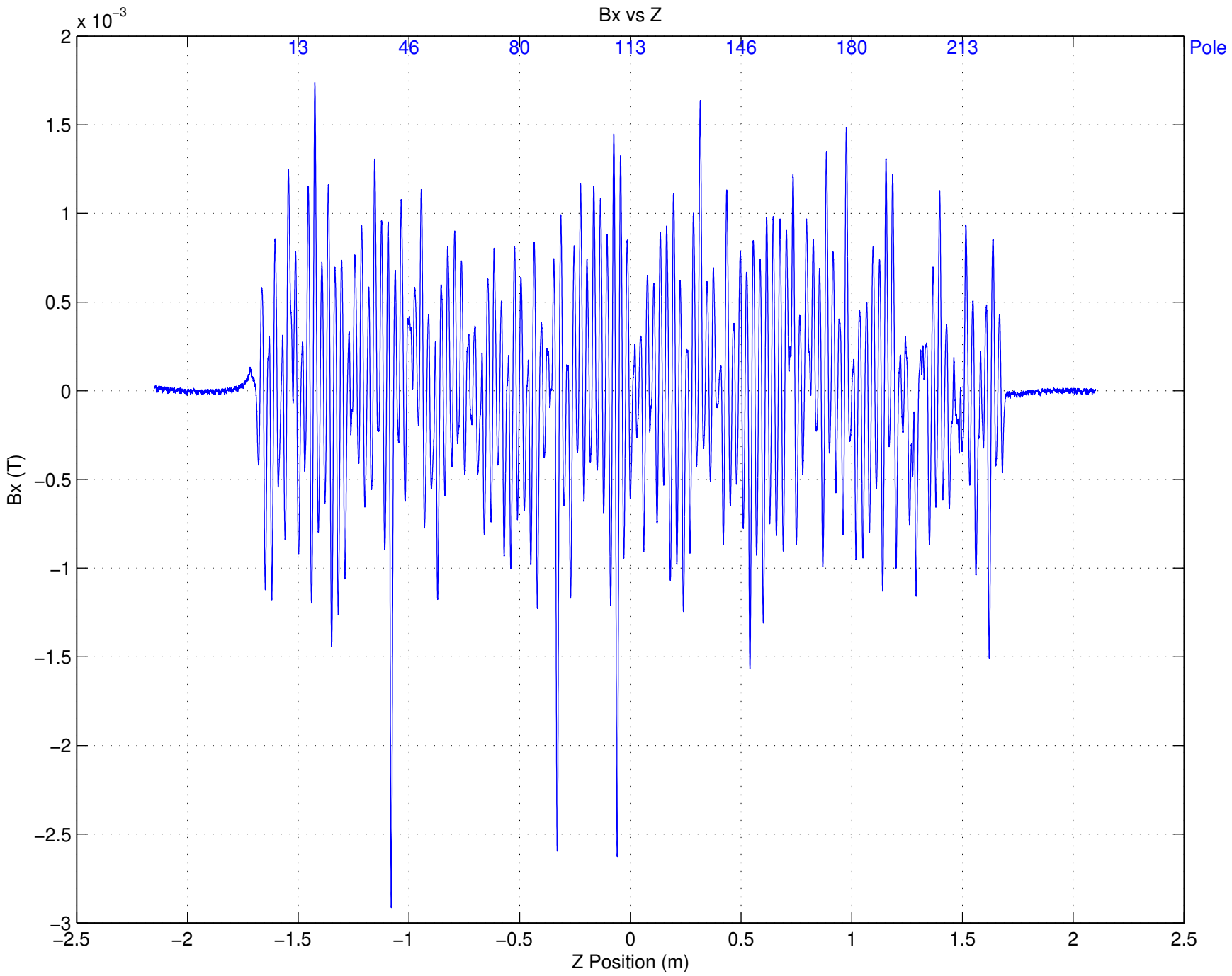
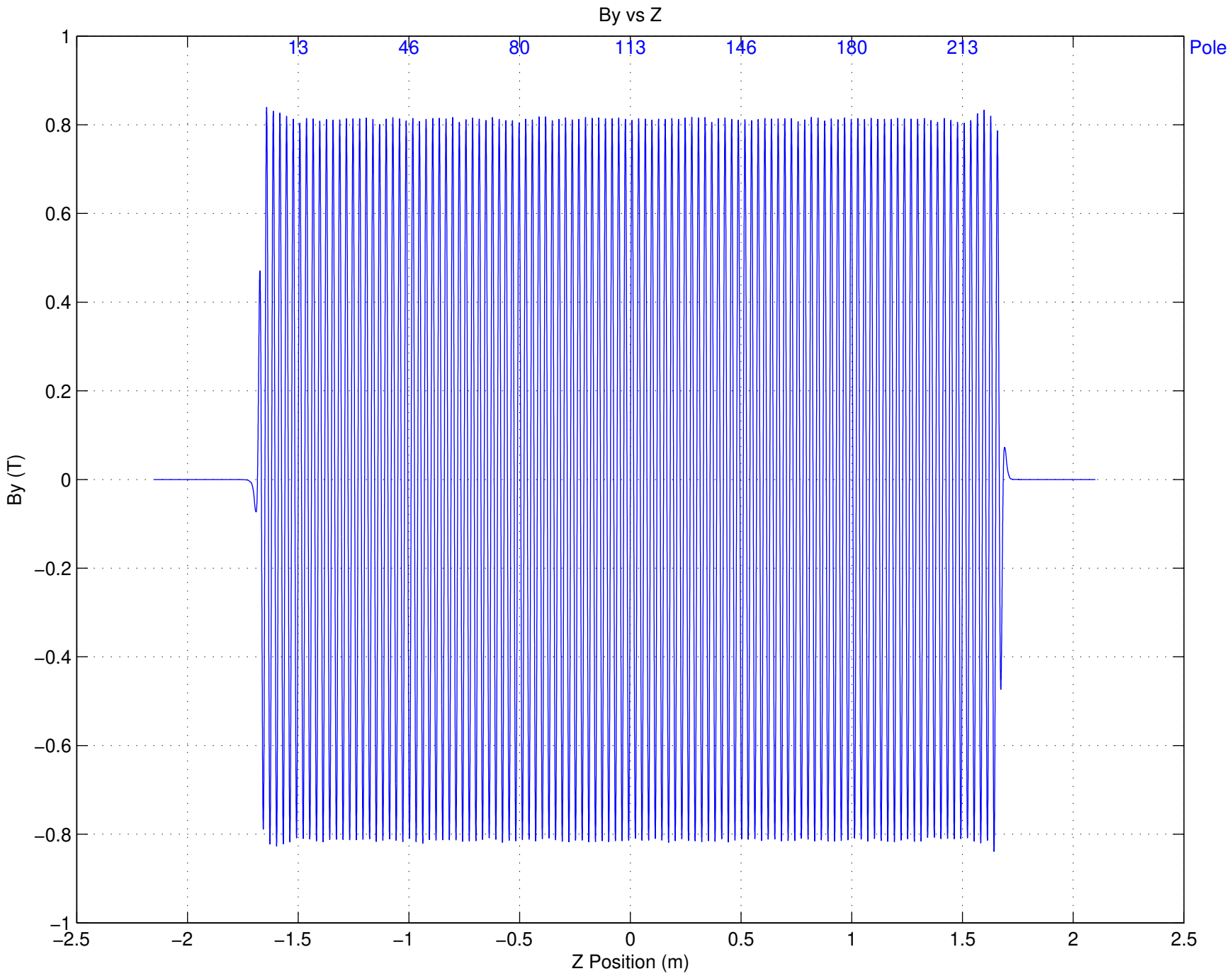
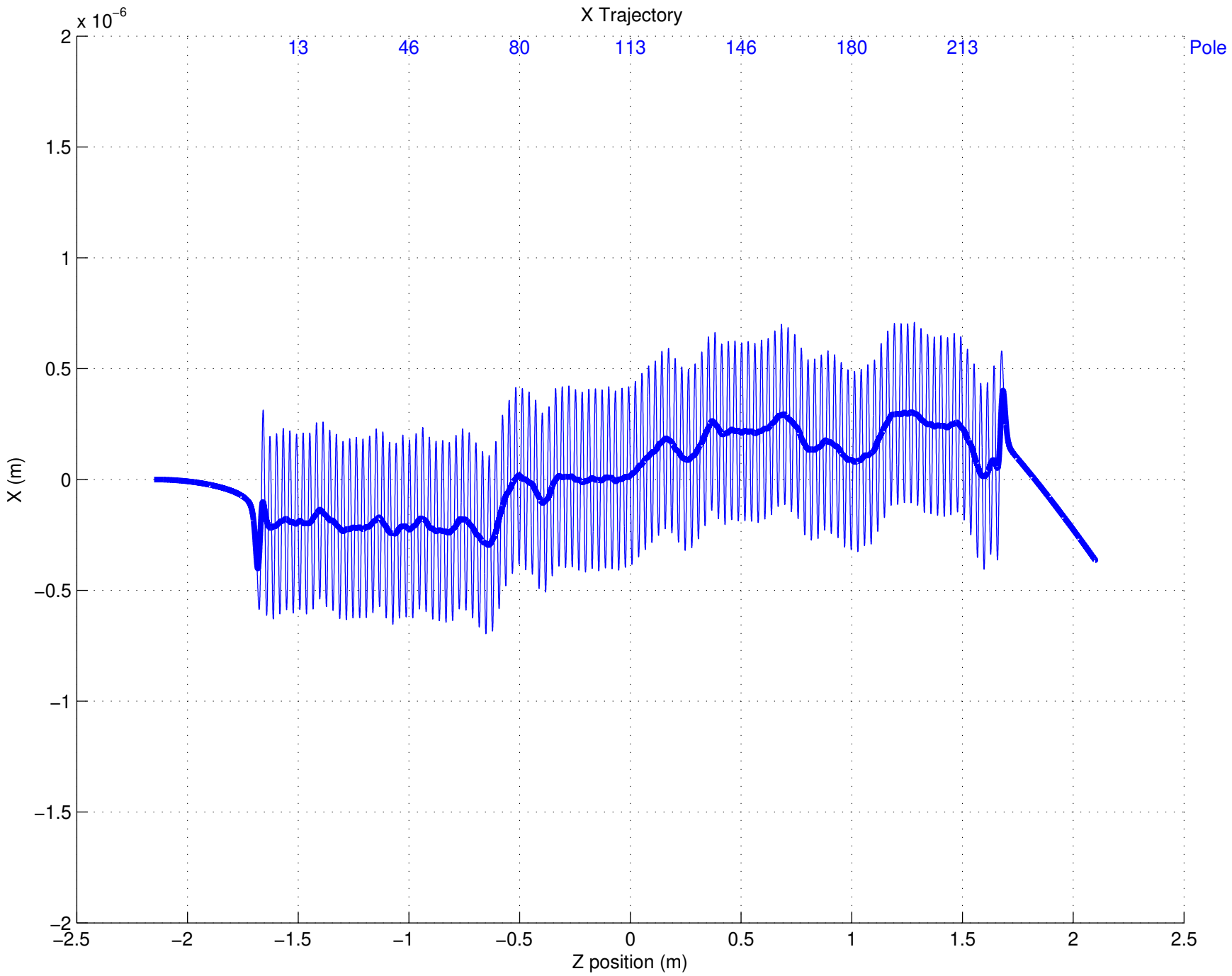
SLAC Magnetic Measurements

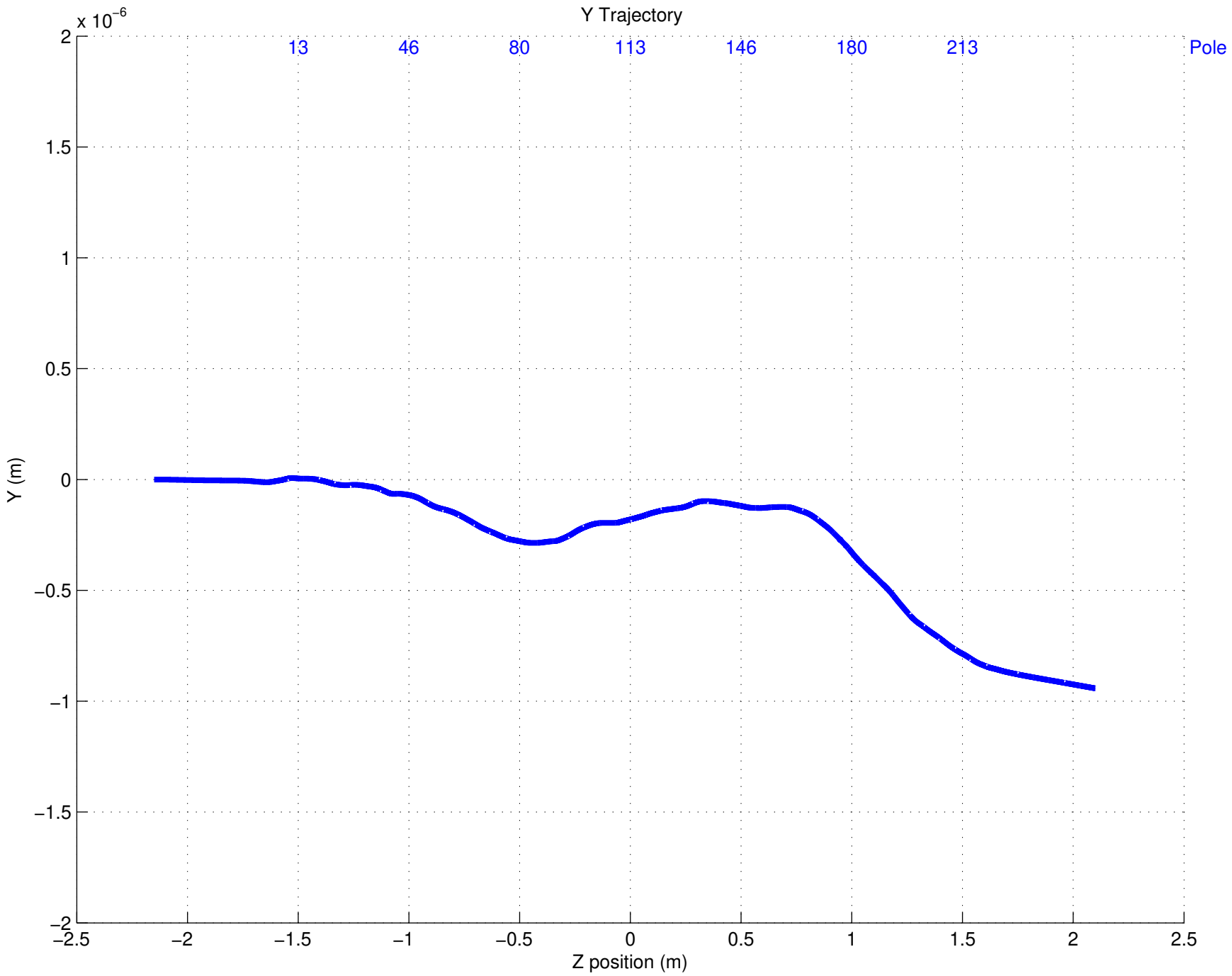
Planar Insertion Device Analysis

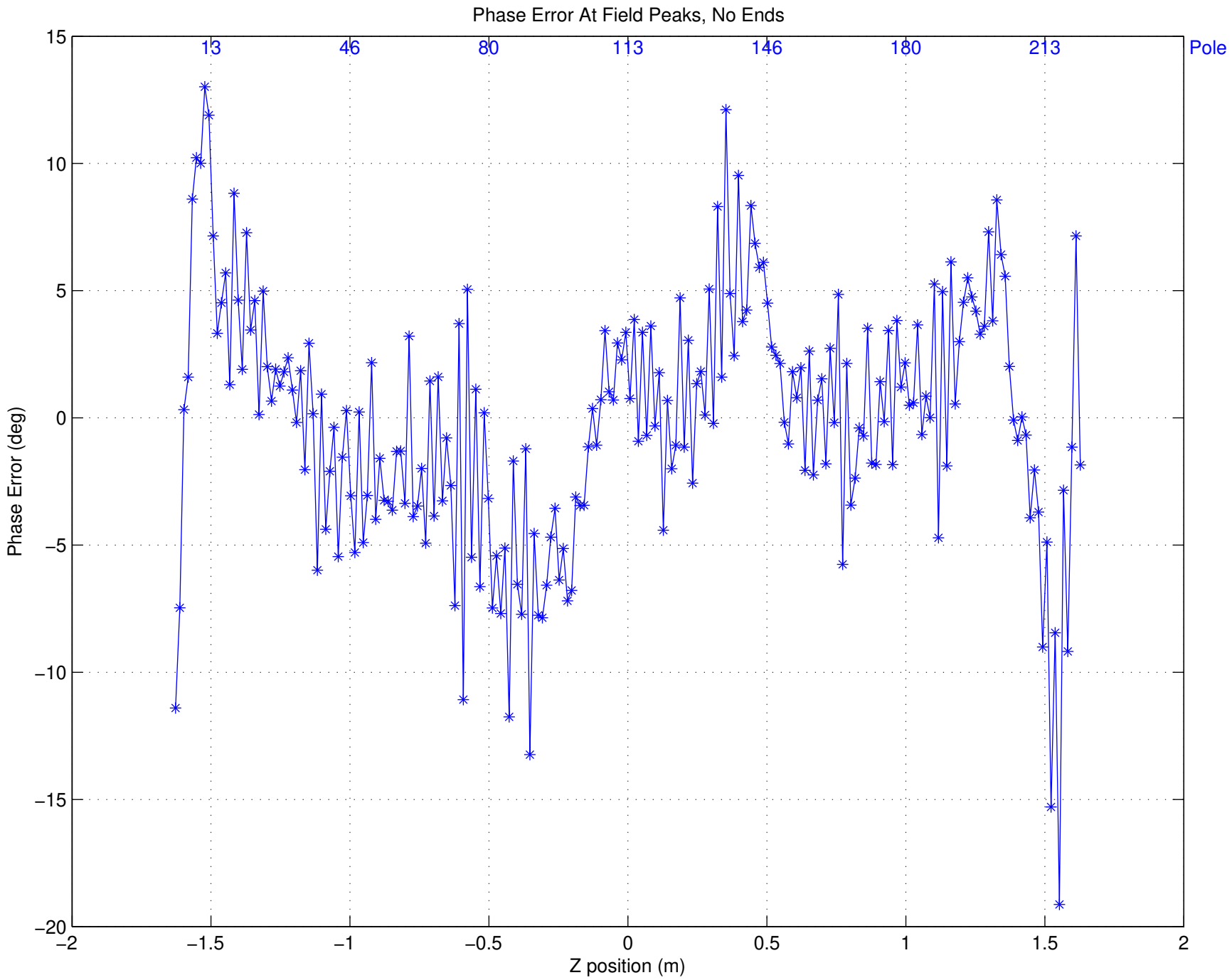
Parameters:
INPUT−FILE−DIR =S:\MagData\LCLS\Undulator\L143−112000−27\DATASET0002\Fine Tuning\Z Scans\Run 007\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26627.1
NOM−LAMBDA−U =0.03
NOM−K−VALUE =2.2529
NOM−LAMBDA−R =7.4845e−011
NUM−POLES =226
NUM−END−POLES =4
CELL−LENGTH =3.656


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

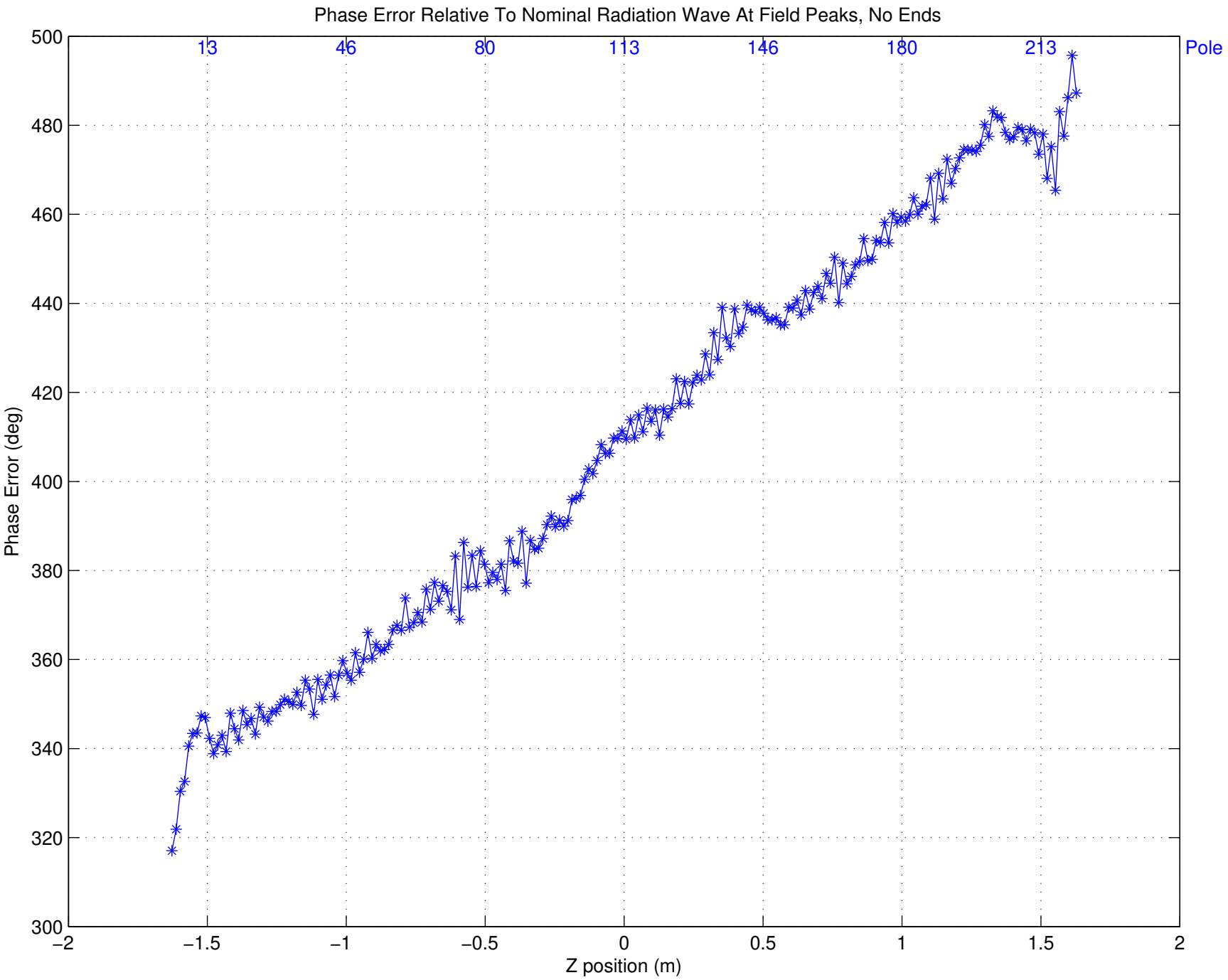

By vs Z
13
46
80
113
146
180
213
Pole
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
By (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
2.5
Z Position (m)


X Trajectory
x 10^-6
13
46
80
113
146
180
213
Pole
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
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
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
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 = 4.886935 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
13
46
80
113
146
180
213
Pole
500
480
460
440
420
400
380
360
340
320
300
Phase Error (deg)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)