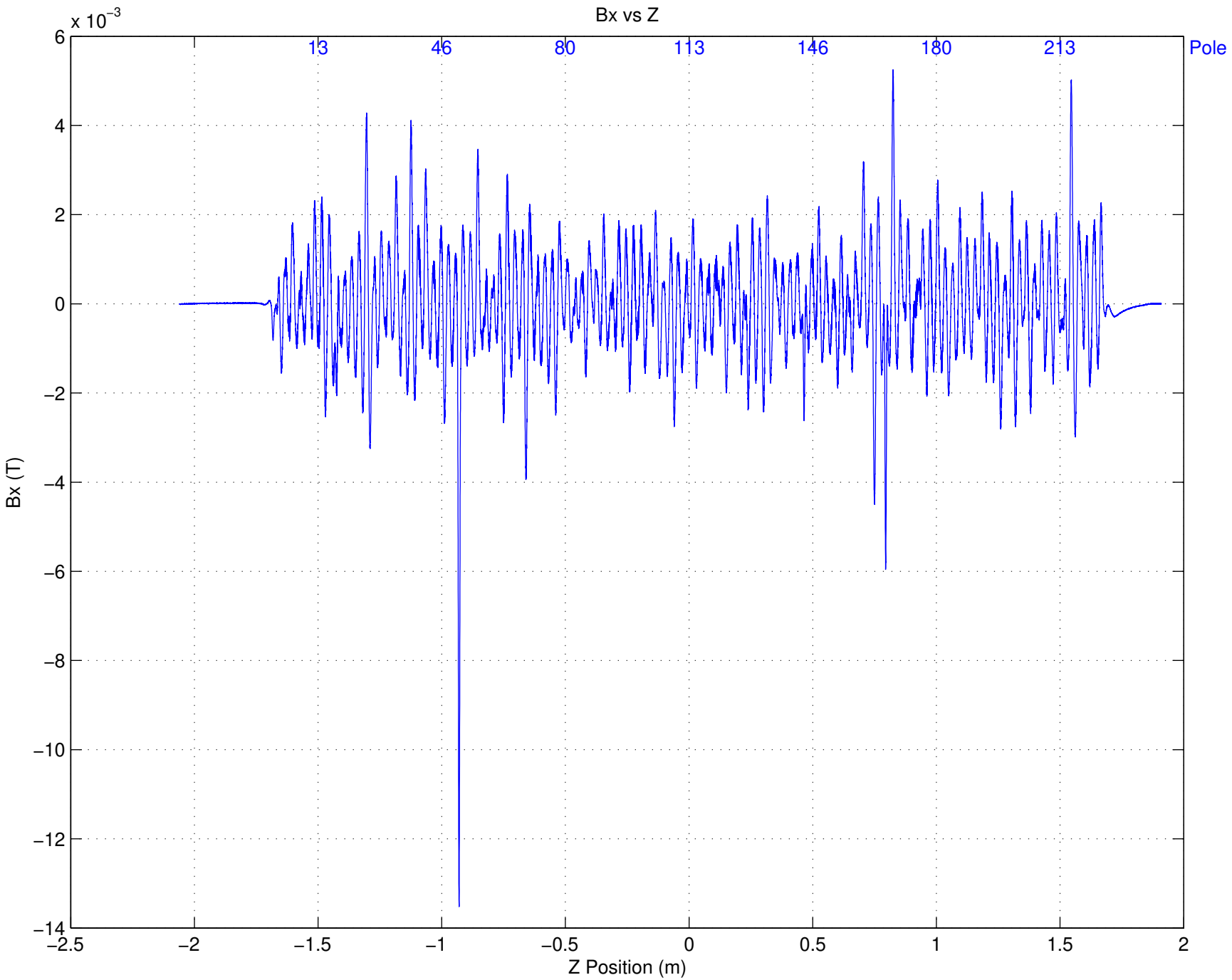
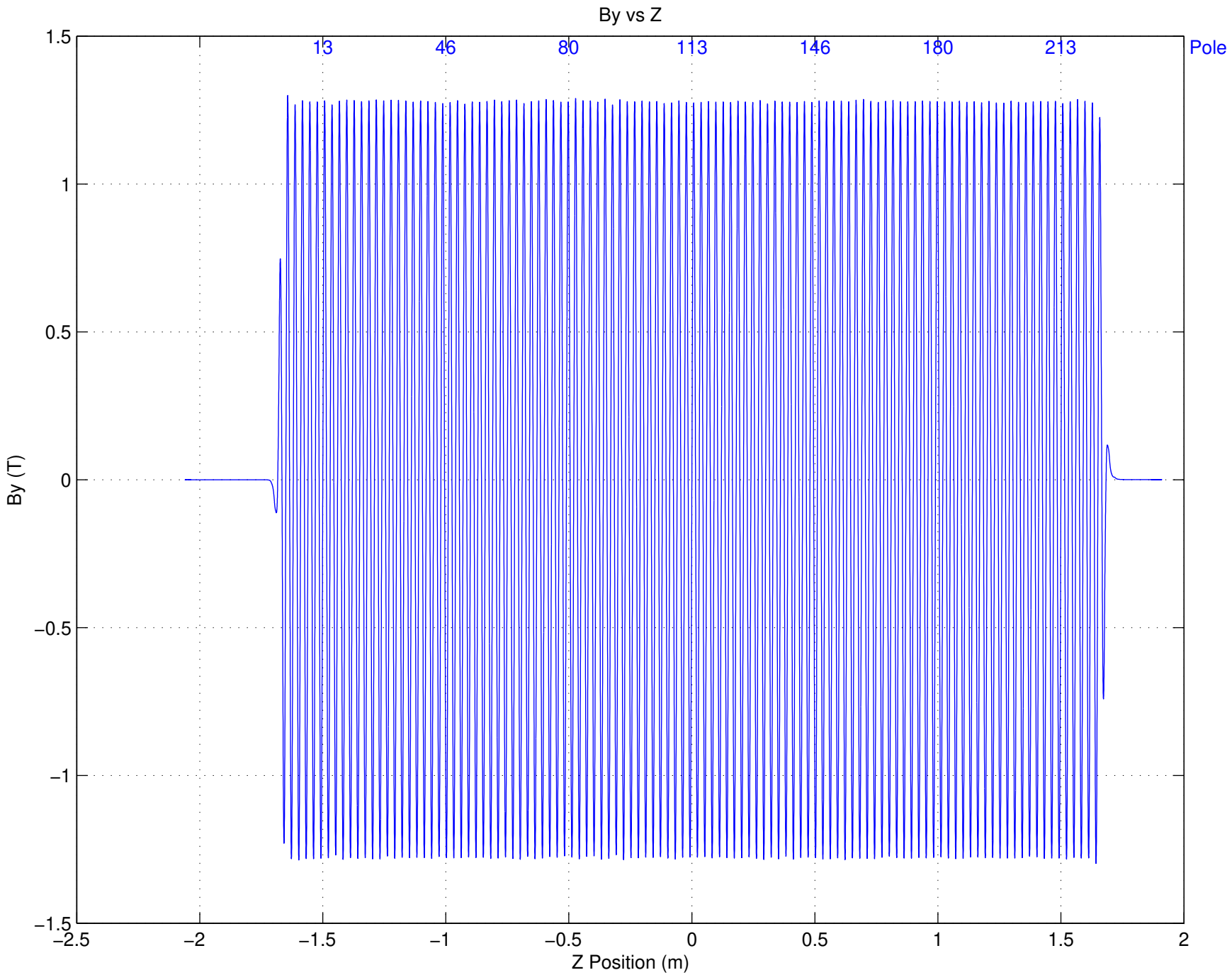
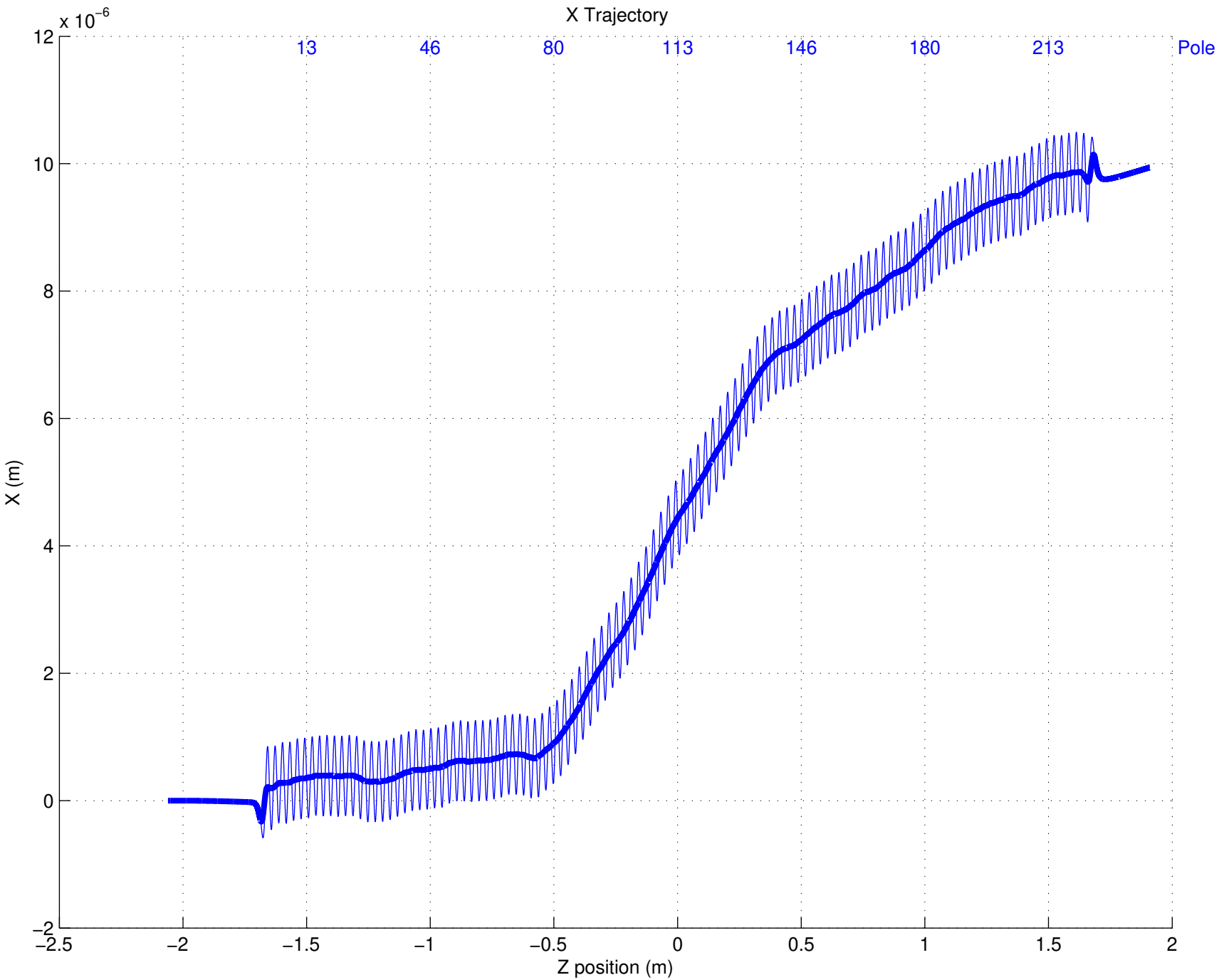
SLAC Magnetic Measurements

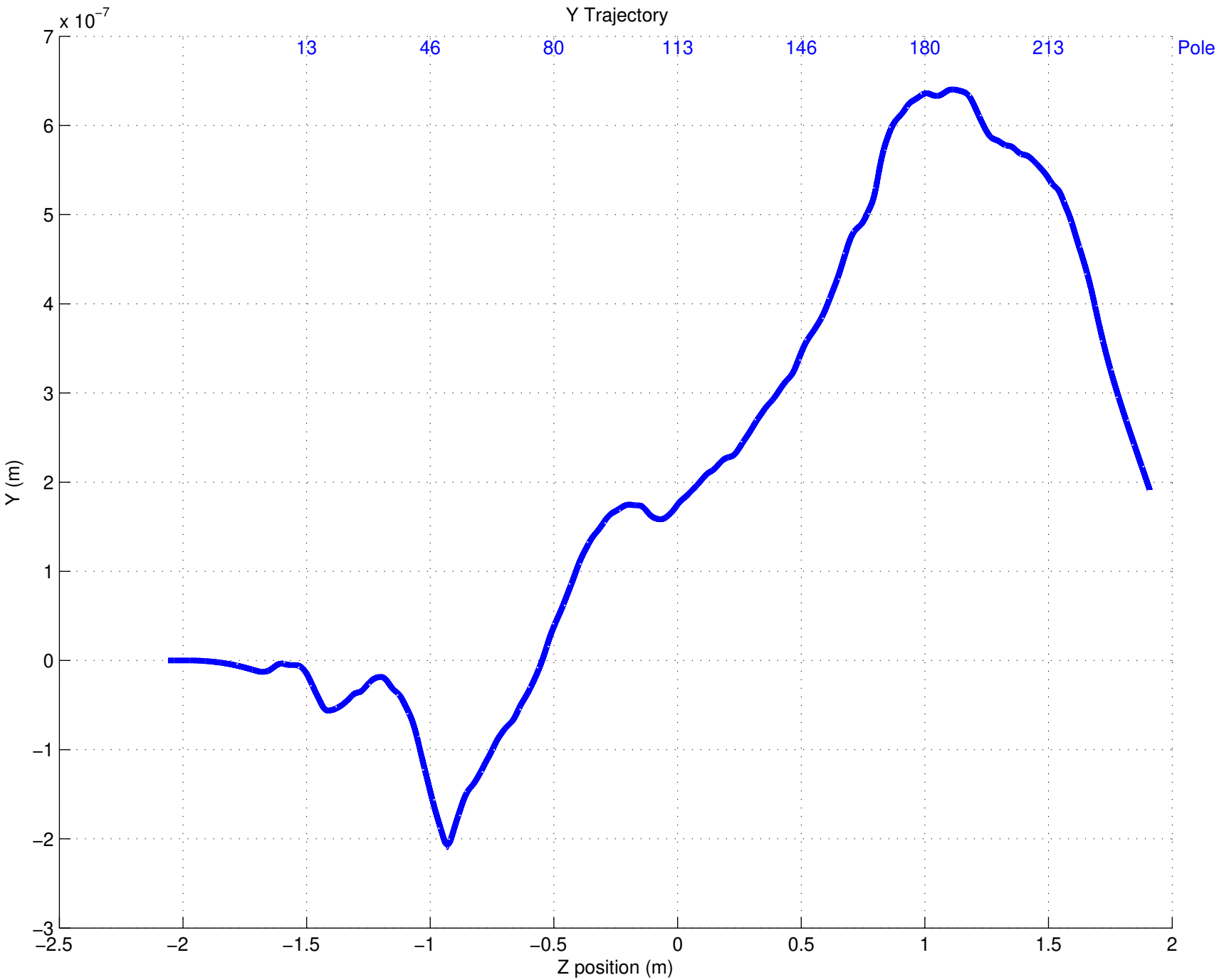
Planar Insertion Device Analysis

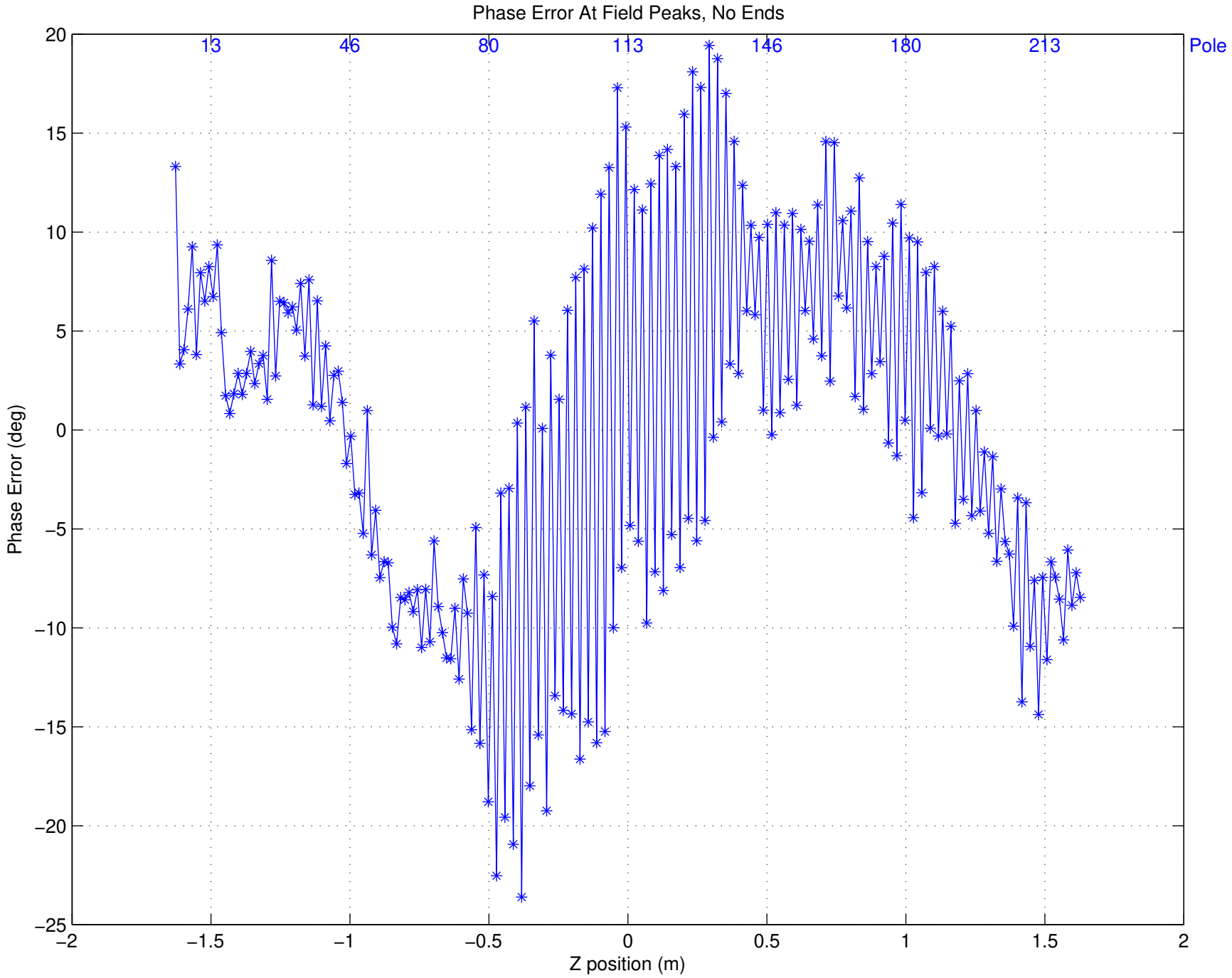
Parameters:
INPUT−FILE−DIR =S:\MagData\LCLS\Undulator\L143−112000−17\DATASET0001\Rough Tuning\Z Scans\Run 021\
INPUT−FILE−NAME =bscanz−dat.001
INPUT−FILE−TYPE =SLAC−VXVYBXBYVSZ
CORR−REQUIRED =1
CORR−FILE =c:\Insertion Device Analysis\Earth Field Correction\earth−field−corr.dat
CORR−FILE−TYPE =CORR−BXBYVSZ
GAMMA =26692.7
NOM−LAMBDA−U =0.03
NOM−K−VALUE =3.5
NOM−LAMBDA−R =1.5e−010
NUM−POLES =226
NUM−END−POLES =4
CELL−LENGTH =3.656


Bx vs Z
x 10^-3
6
4
2
0
−2
−4
−6
−8
−10
−12
−14
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
Z Position (m)

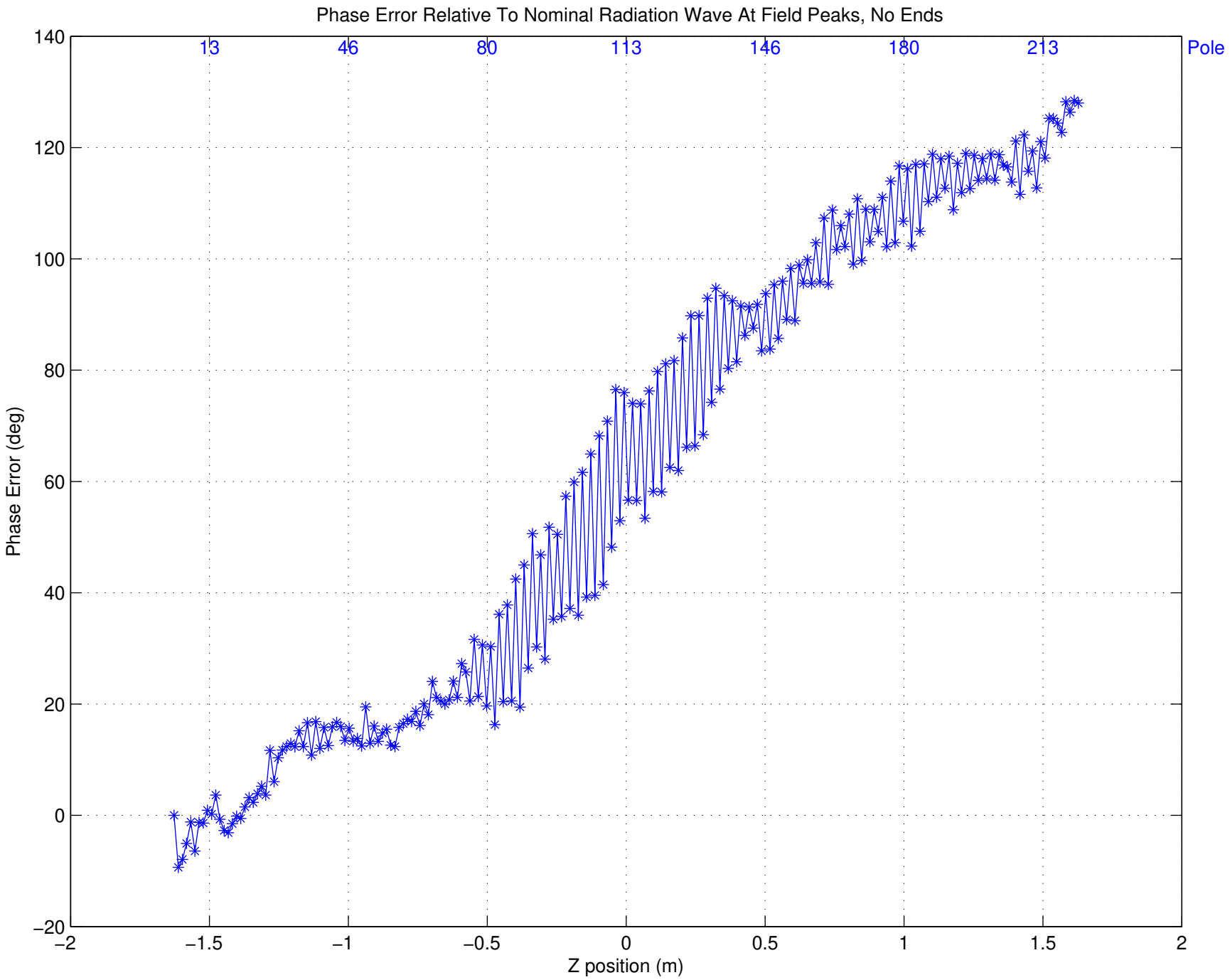

By vs Z
13
46
80
113
146
180
213
Pole
1.5
1
0.5
0
−0.5
−1
−1.5
By (T)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z Position (m)


X Trajectory
x 10^-6
12
10
8
6
4
2
0
−2
X (m)
13
46
80
113
146
180
213
Pole
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)


Y Trajectory
x 10^-7
13
46
80
113
146
180
213
Pole
Y (m)
Z position (m)
7
6
5
4
3
2
1
0
−1
−2
−3
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2



Phase Error: Ave = −0.000000 deg, RMS = 9.161299 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
13
46
80
113
146
180
213
Pole
140
120
100
80
60
40
20
0
−20
Phase Error (deg)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)