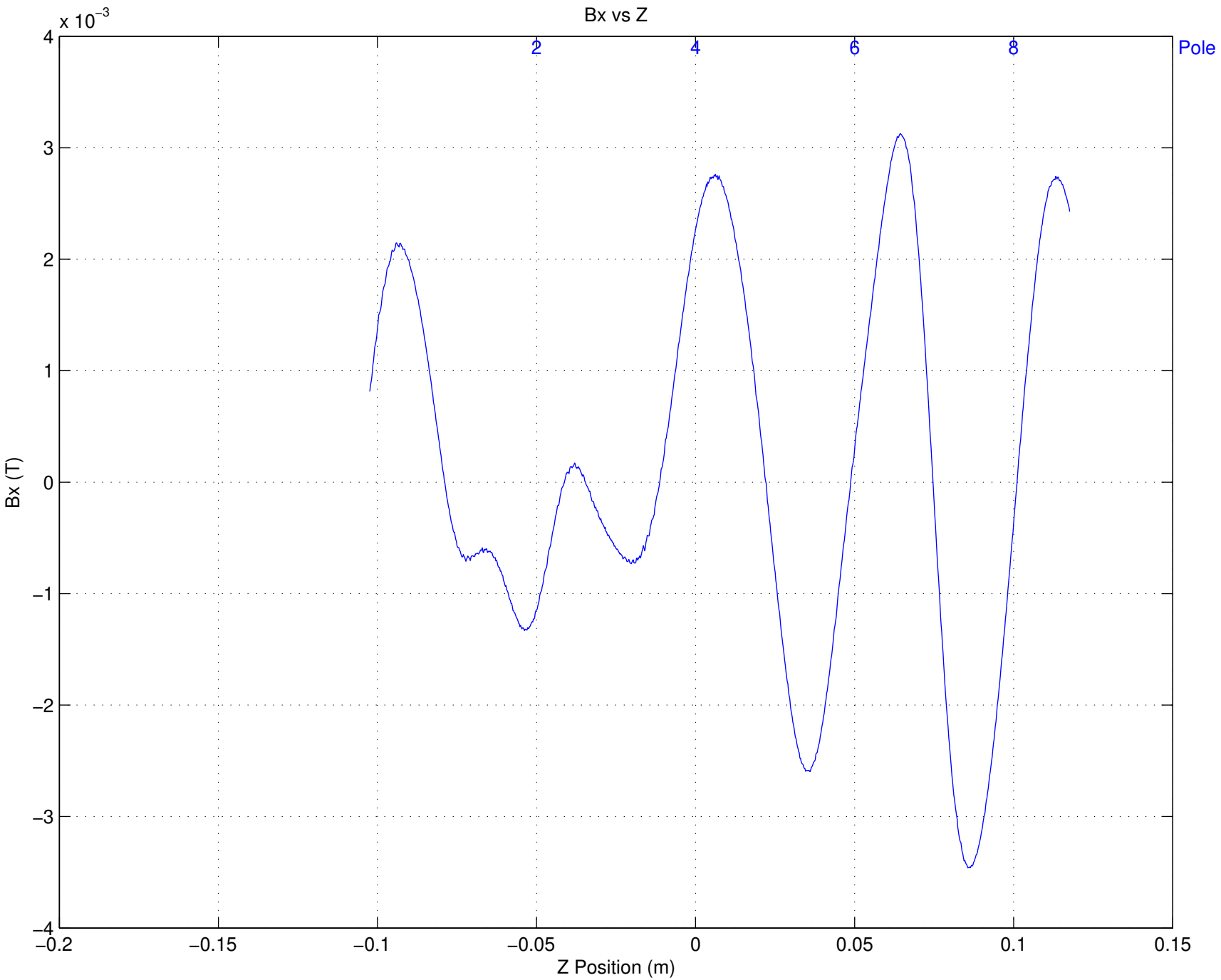
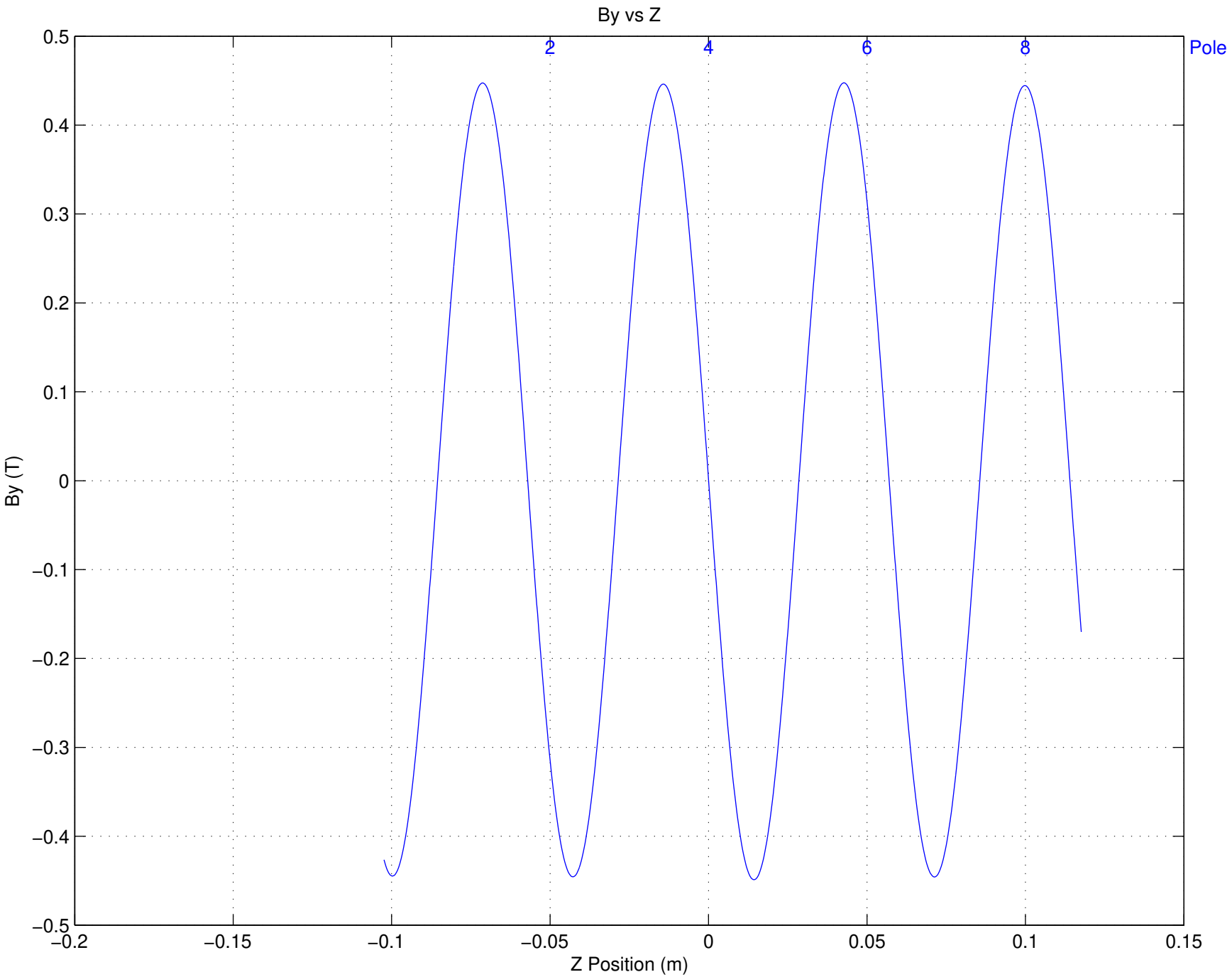
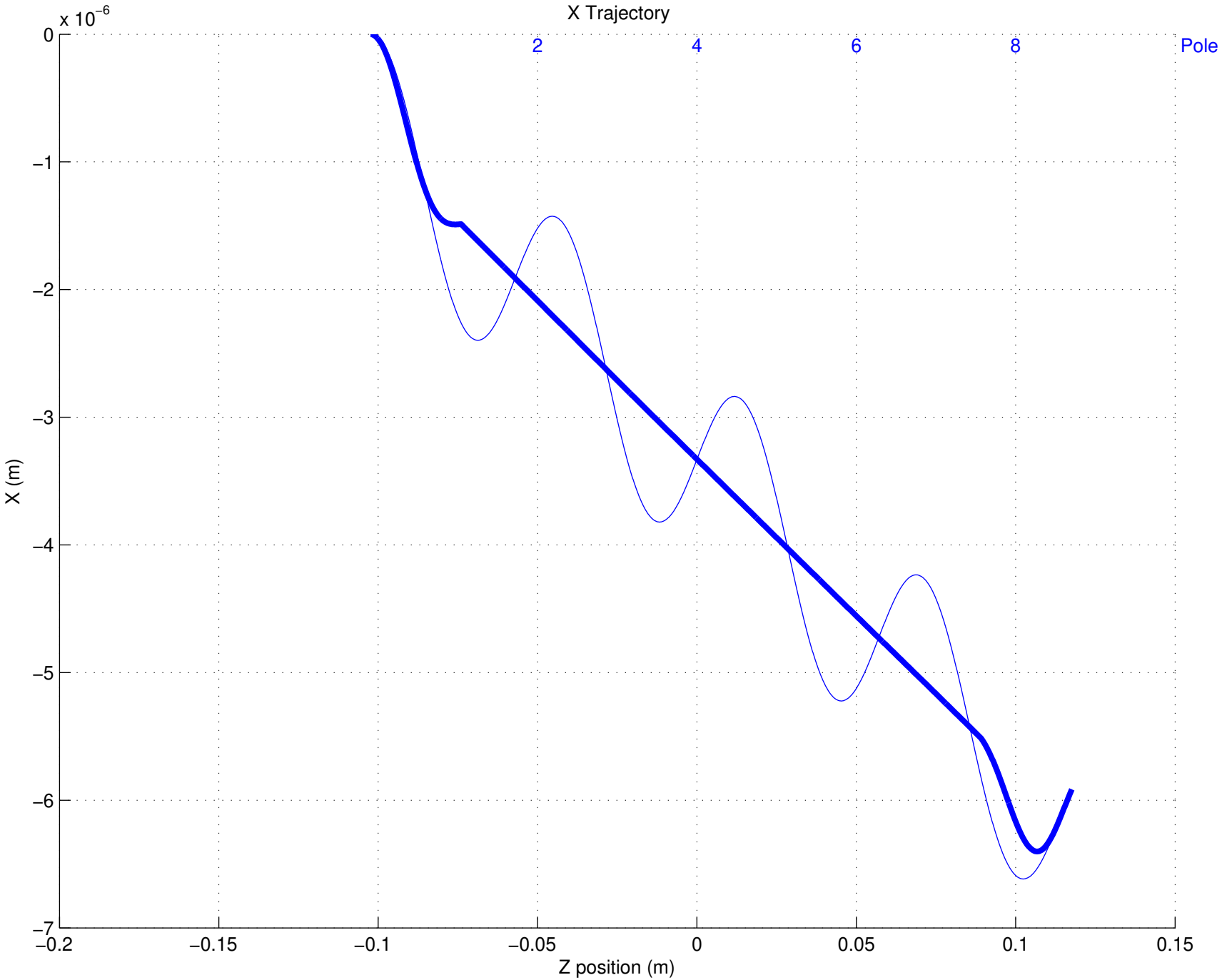
SLAC Magnetic Measurements

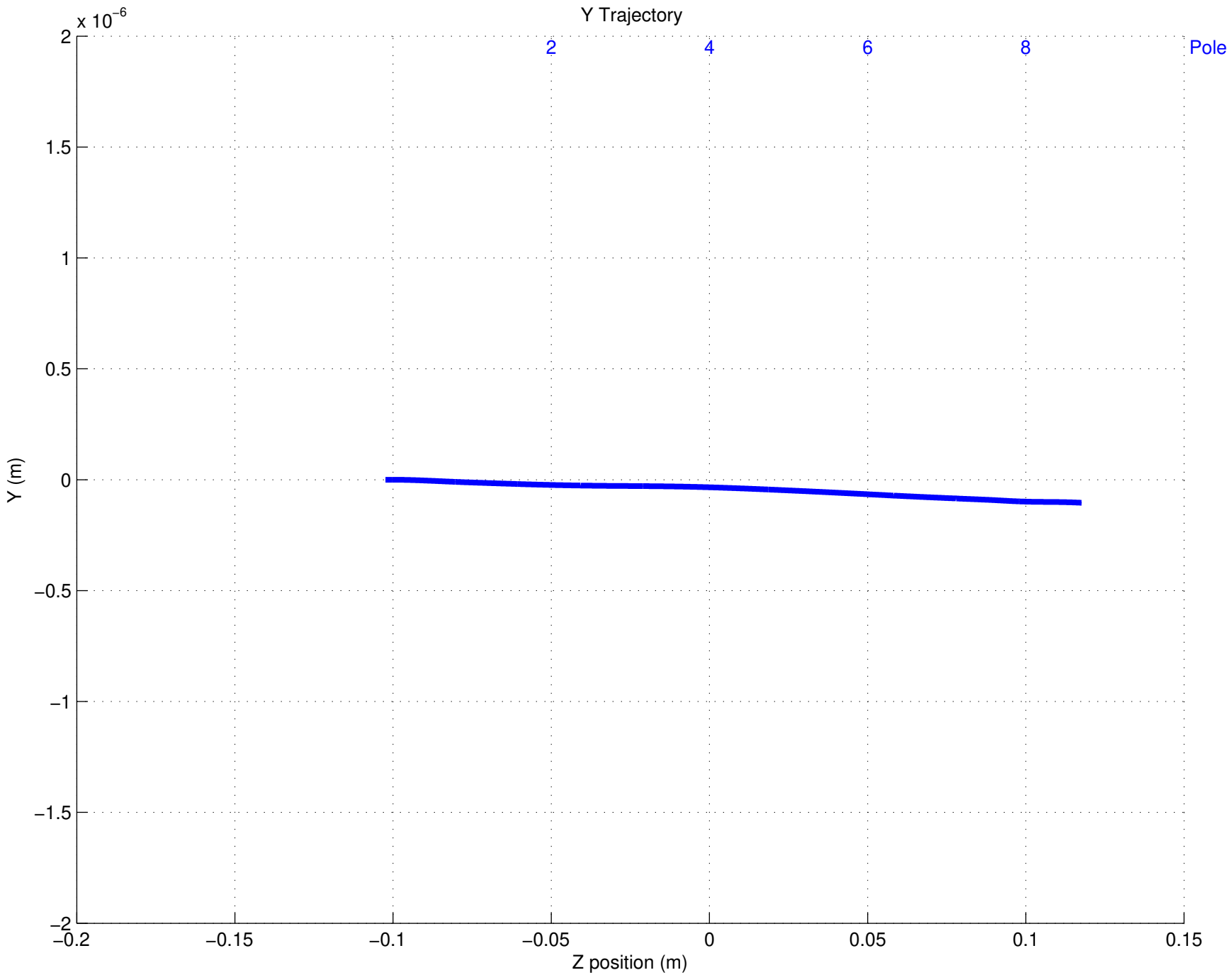
Planar Insertion Device Analysis

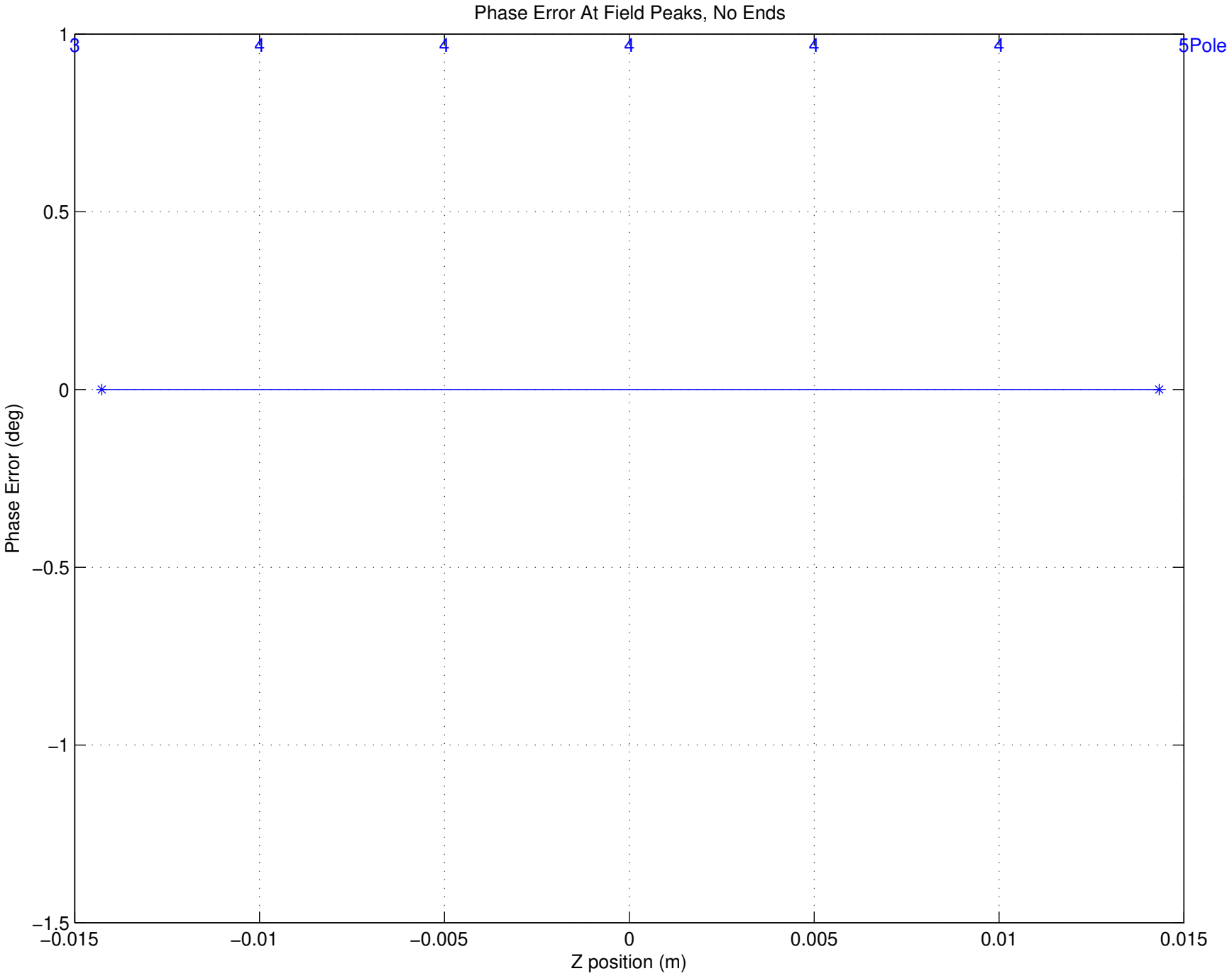
Parameters:
INPUT−FILE−DIR =S:\MagData\LCLS\Undulator\EPU\DATASET0001\Rough Tuning\Z Scans\Run 117\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26686.34
NOM−LAMBDA−U =0.0569
NOM−K−VALUE =2.348
NOM−LAMBDA−R =1.5007e−010
NUM−POLES =8
NUM−END−POLES =3
CELL−LENGTH =3.6985


Bx vs Z
x 10^-3
4
3
2
1
0
−1
−2
−3
−4
Bx (T)
2
4
6
8
Pole
−0.2
−0.15
−0.1
−0.05
0
0.05
0.1
0.15
Z Position (m)

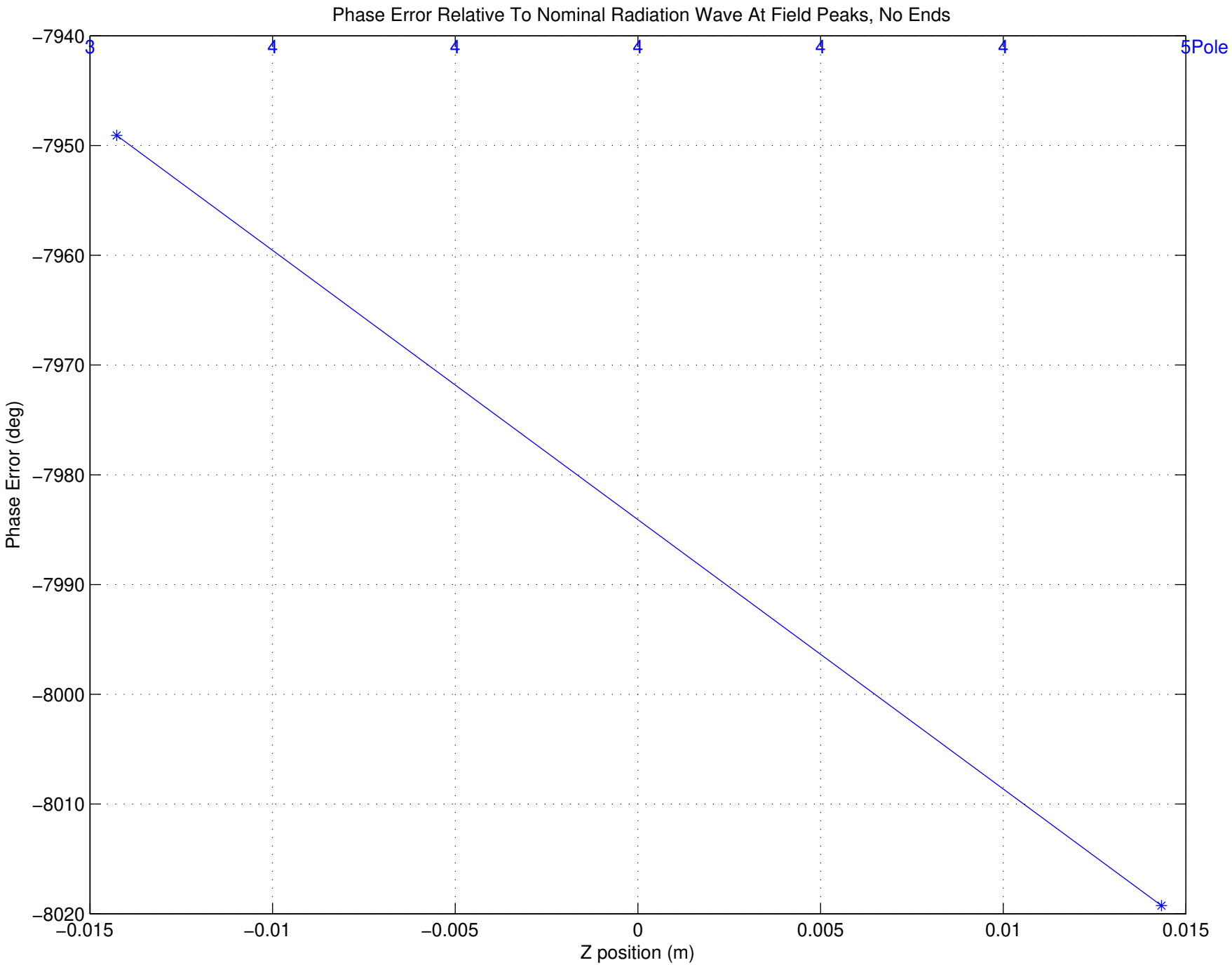

By vs Z
Pole
2
4
6
8
0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
−0.5
By (T)
−0.2
−0.15
−0.1
−0.05
0
0.05
0.1
0.15
Z Position (m)


X Trajectory
x 10^-6
0
−1
−2
−3
−4
−5
−6
−7
X (m)
2
4
6
8
Pole
−0.2
−0.15
−0.1
−0.05
0
0.05
0.1
0.15
Z position (m)


Y Trajectory
x 10^-6
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
Y (m)
−0.2
−0.15
−0.1
−0.05
0
0.05
0.1
0.15
Z position (m)
2
4
6
8
Pole



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


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
3
4
4
4
4
4
5Pole
−7940
−7950
−7960
−7970
−7980
−7990
−8000
−8010
−8020
Phase Error (deg)
−0.015
−0.01
−0.005
0
0.005
0.01
0.015
Z position (m)