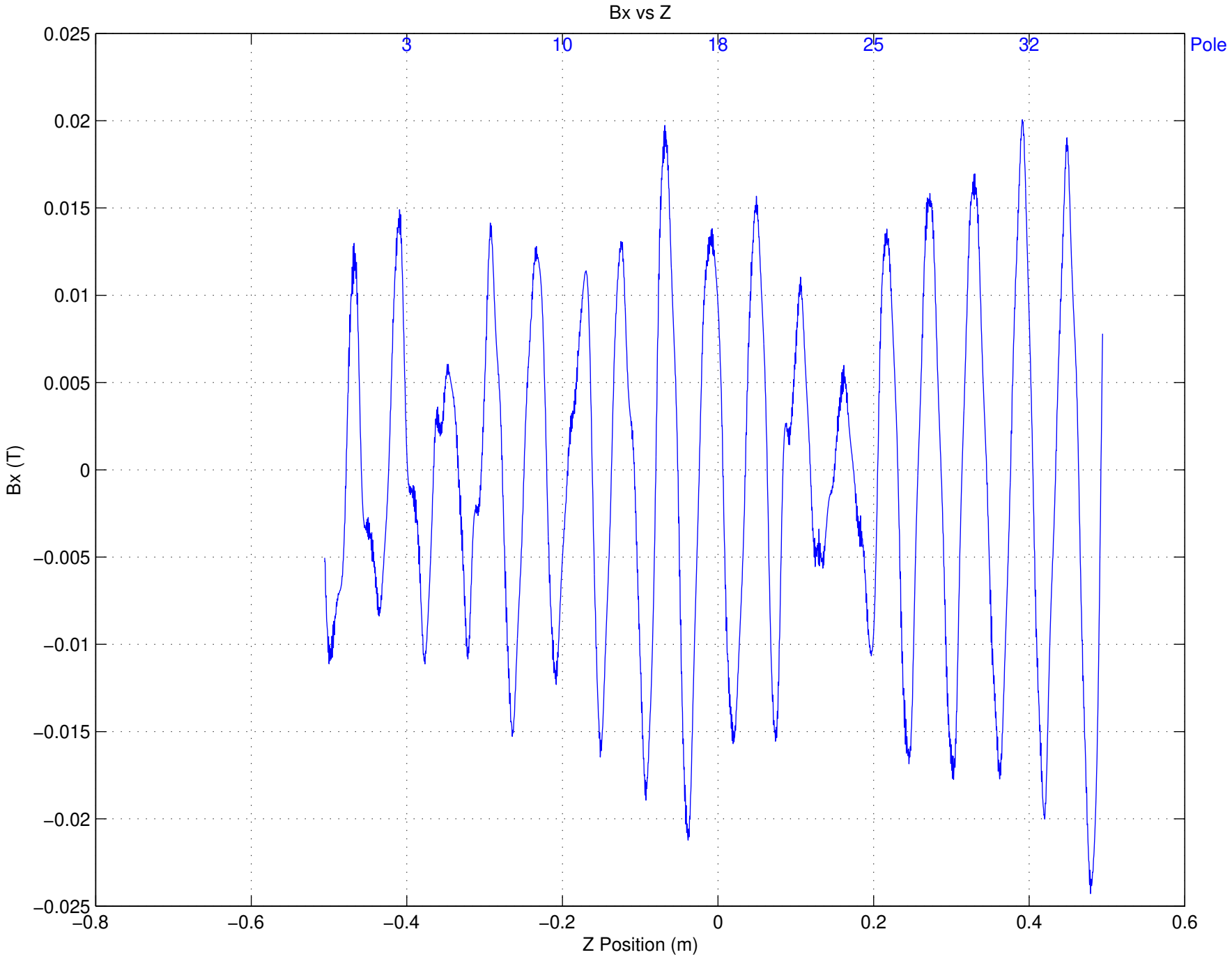
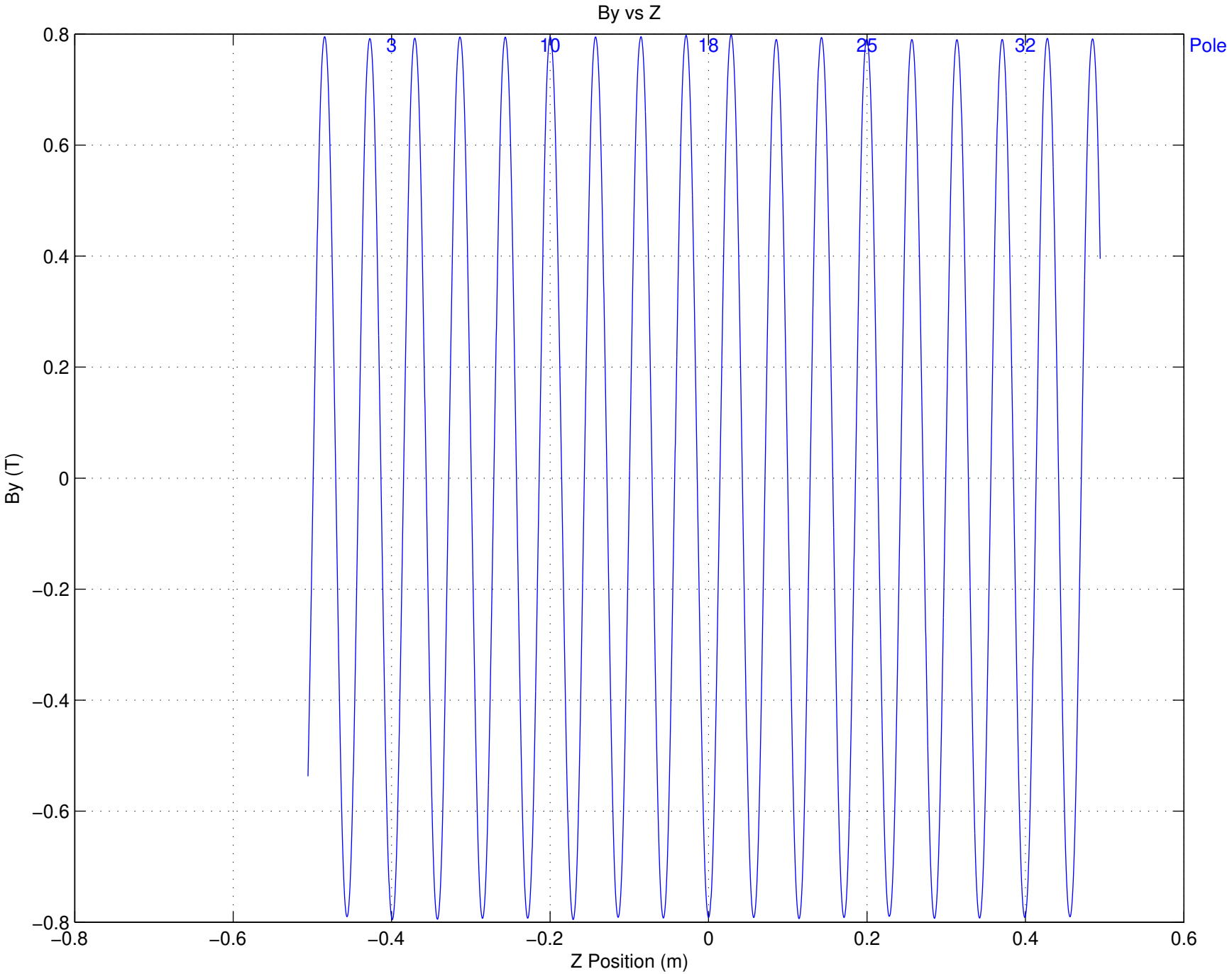
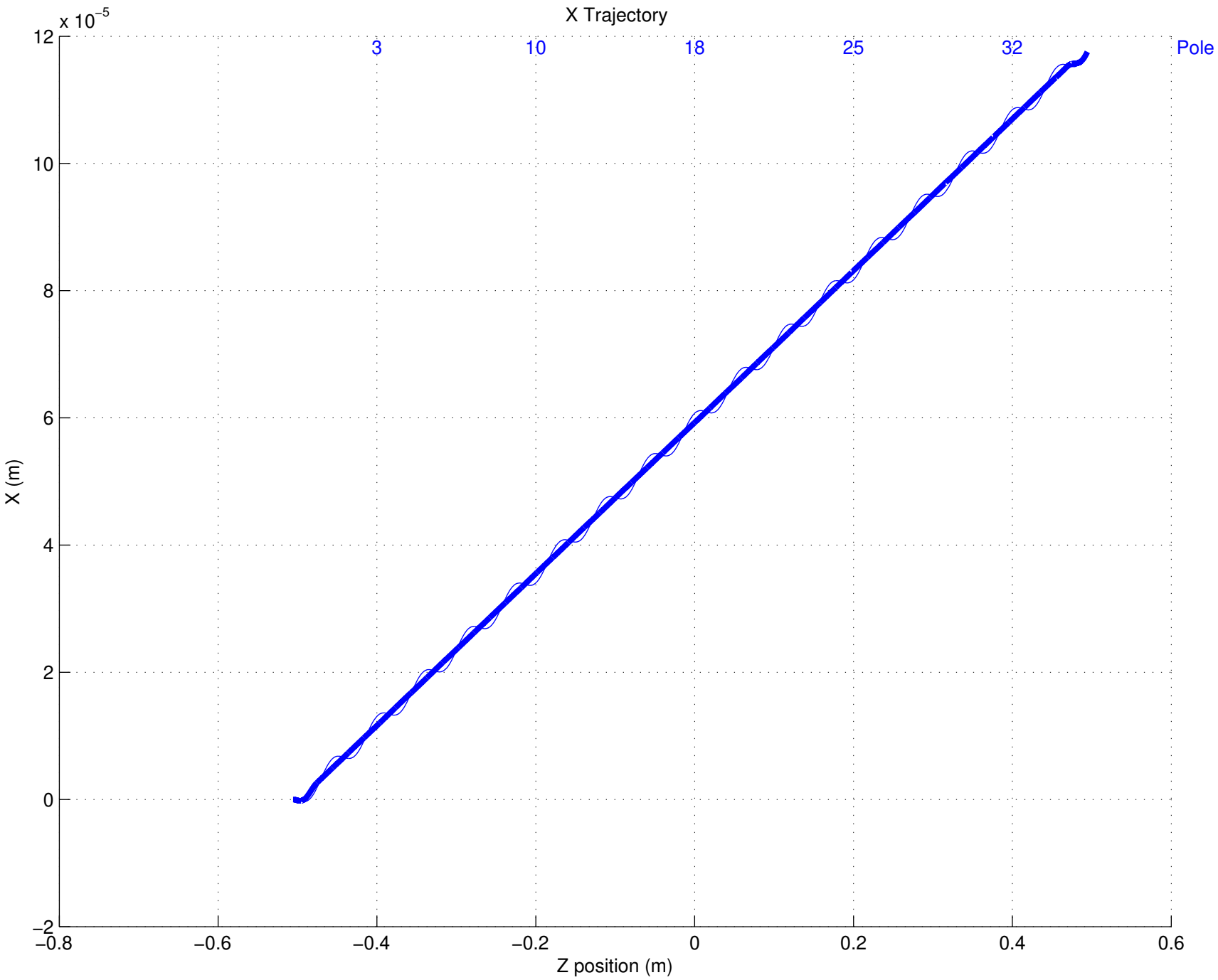
SLAC Magnetic Measurements

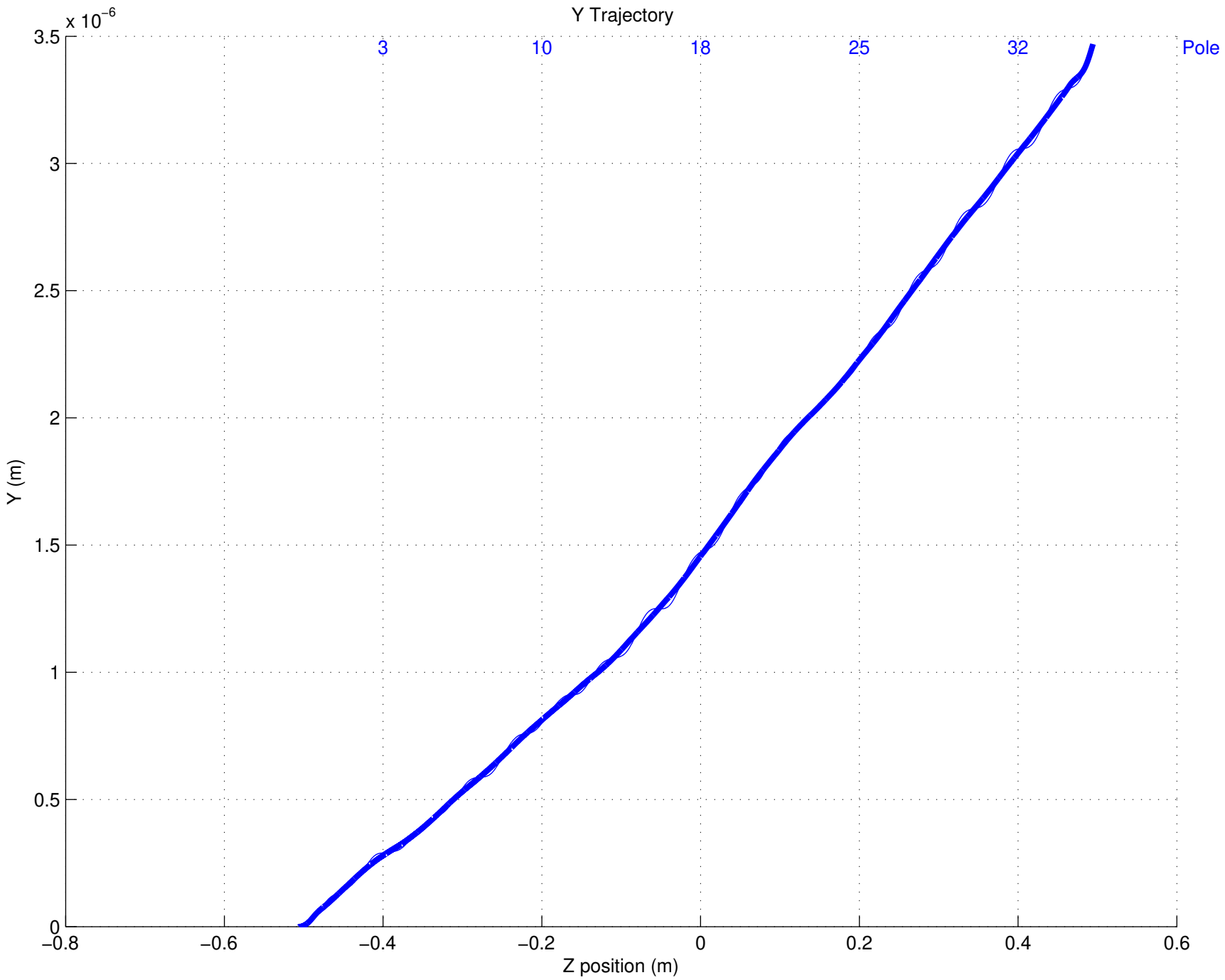
Planar Insertion Device Analysis

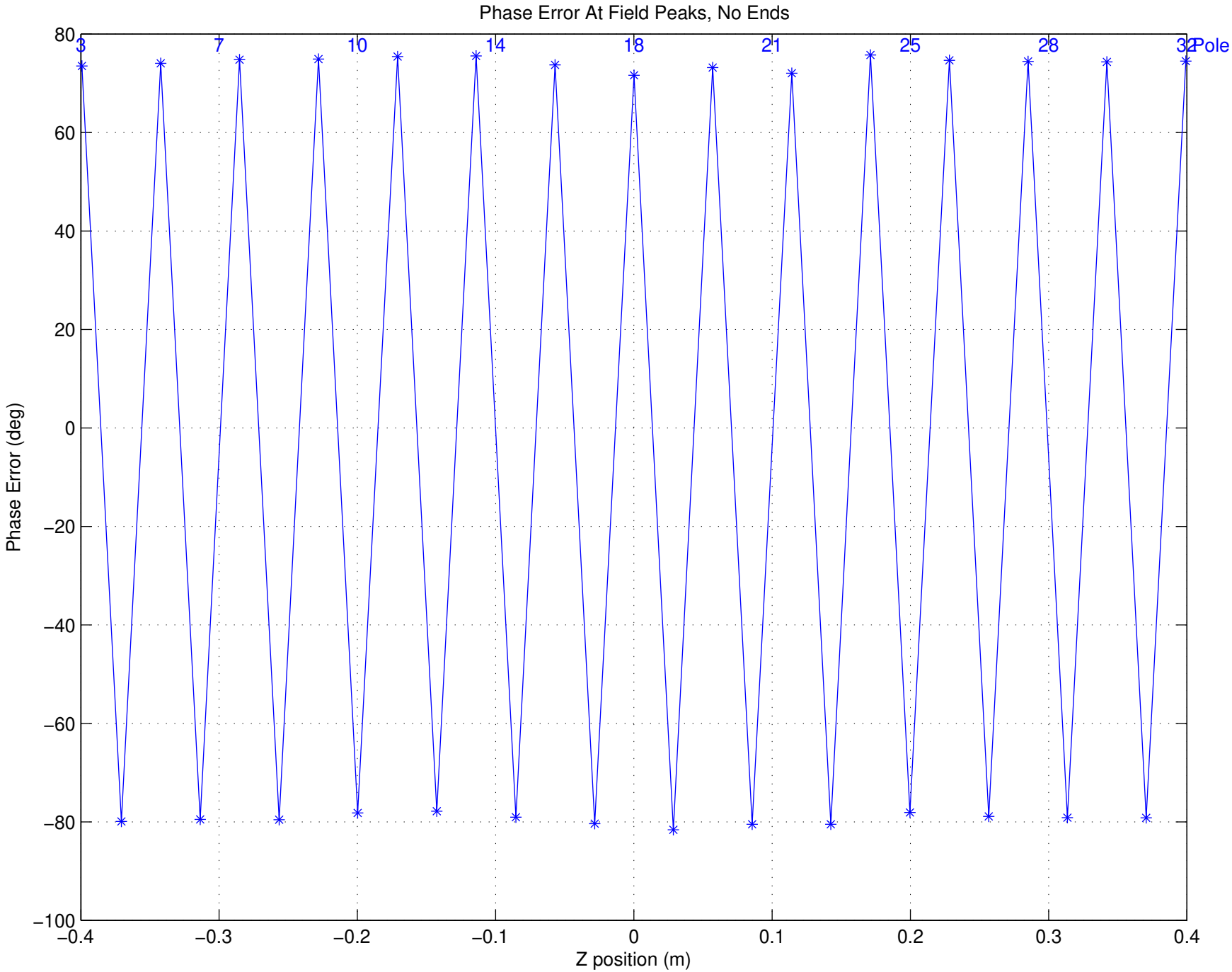
Parameters:
INPUT−FILE−DIR =S:\MagData\LCLS\Undulator\EPU\DATASET0001\Rough Tuning\Z Scans\Run 018\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =1
GAMMA =26686.34
NOM−LAMBDA−U =0.0569
NOM−K−VALUE =2.348
NOM−LAMBDA−R =1.5007e−010
NUM−POLES =35
NUM−END−POLES =3
CELL−LENGTH =3.6985


Bx vs Z
3
10
18
25
32
Pole
0.025
0.02
0.015
0.01
0.005
0
−0.005
−0.01
−0.015
−0.02
−0.025
Bx (T)
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
Z Position (m)

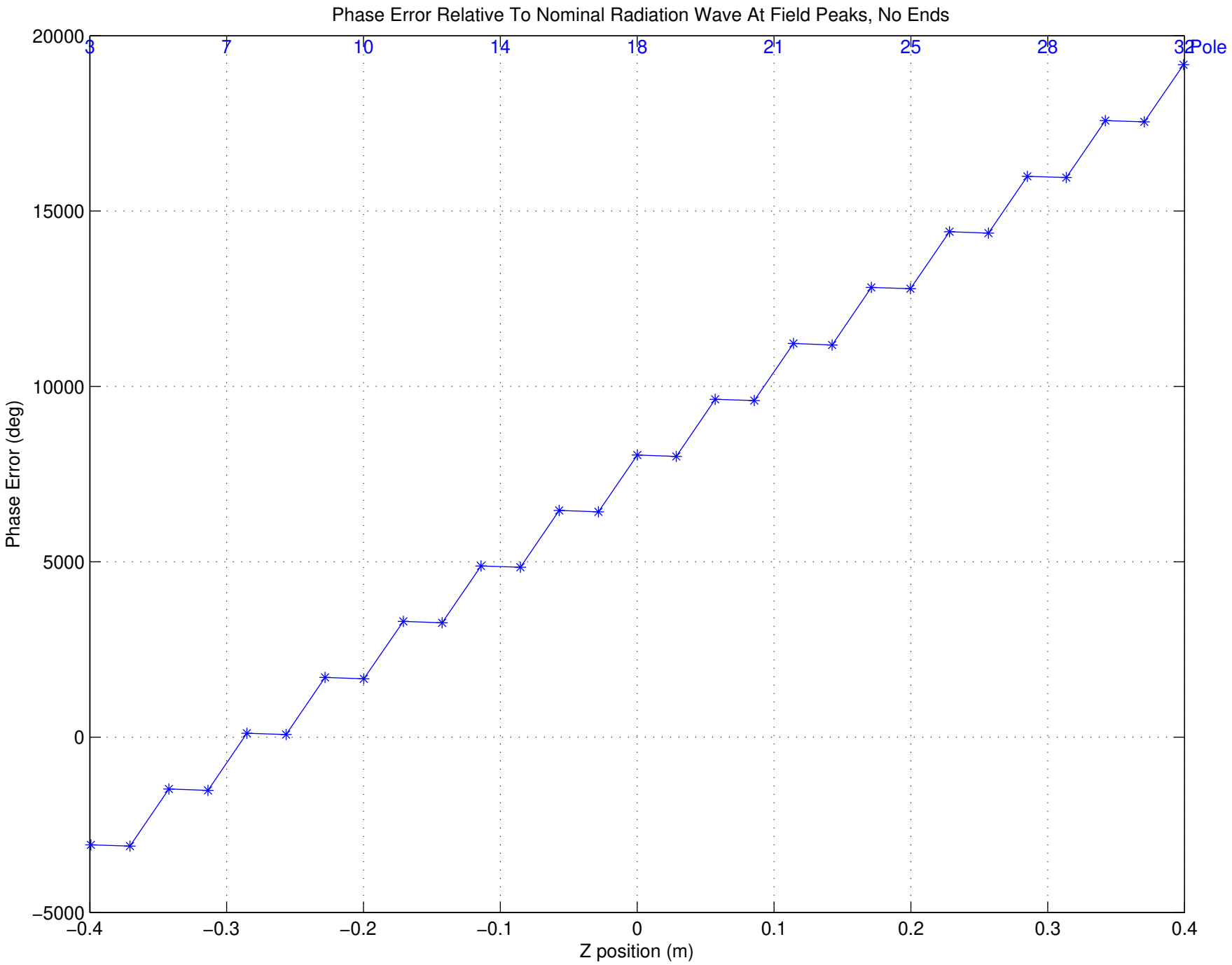

By vs Z
3
10
18
25
32
Pole
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
By (T)
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
Z Position (m)


X Trajectory
x 10^-5
12
10
8
6
4
2
0
−2
X (m)
3
10
18
25
32
Pole
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
Z position (m)


Y Trajectory
x 10^-6
3.5
3
2.5
2
1.5
1
0.5
0
Y (m)
3
10
18
25
32
Pole
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
Z position (m)



Phase Error: Ave = 0.000000 deg, RMS = 78.127903 deg


Phase Error Relative To Nominal Radiation Wave At Field Peaks, No Ends
Phase Error (deg)
Z position (m)
Pole
3
7
10
14
18
21
25
28
32
20000
15000
10000
5000
0
−5000
−0.4
−0.3
−0.2
−0.1
0
0.1
0.2
0.3
0.4