SLAC Magnetic Measurements

Phase Analysis
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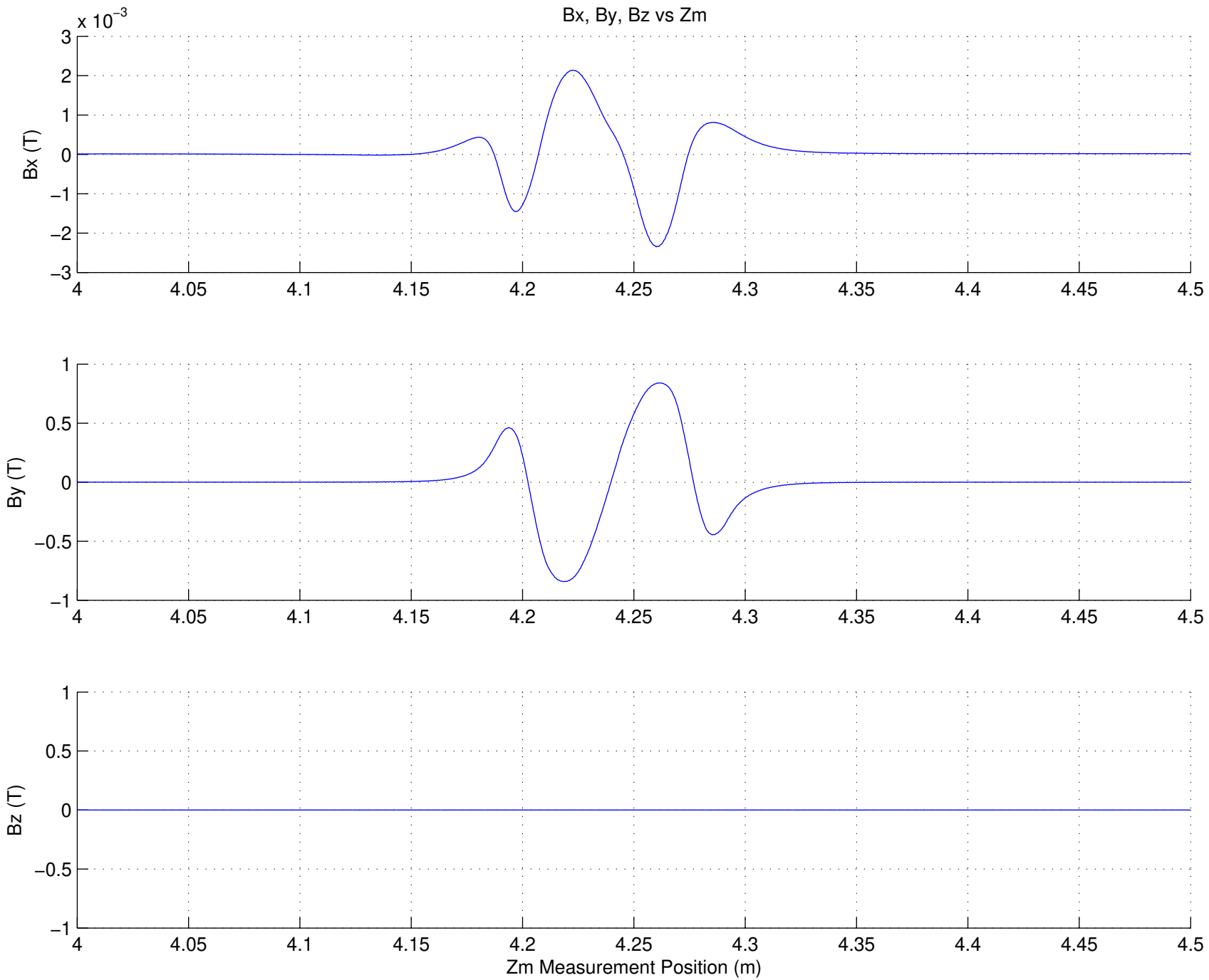
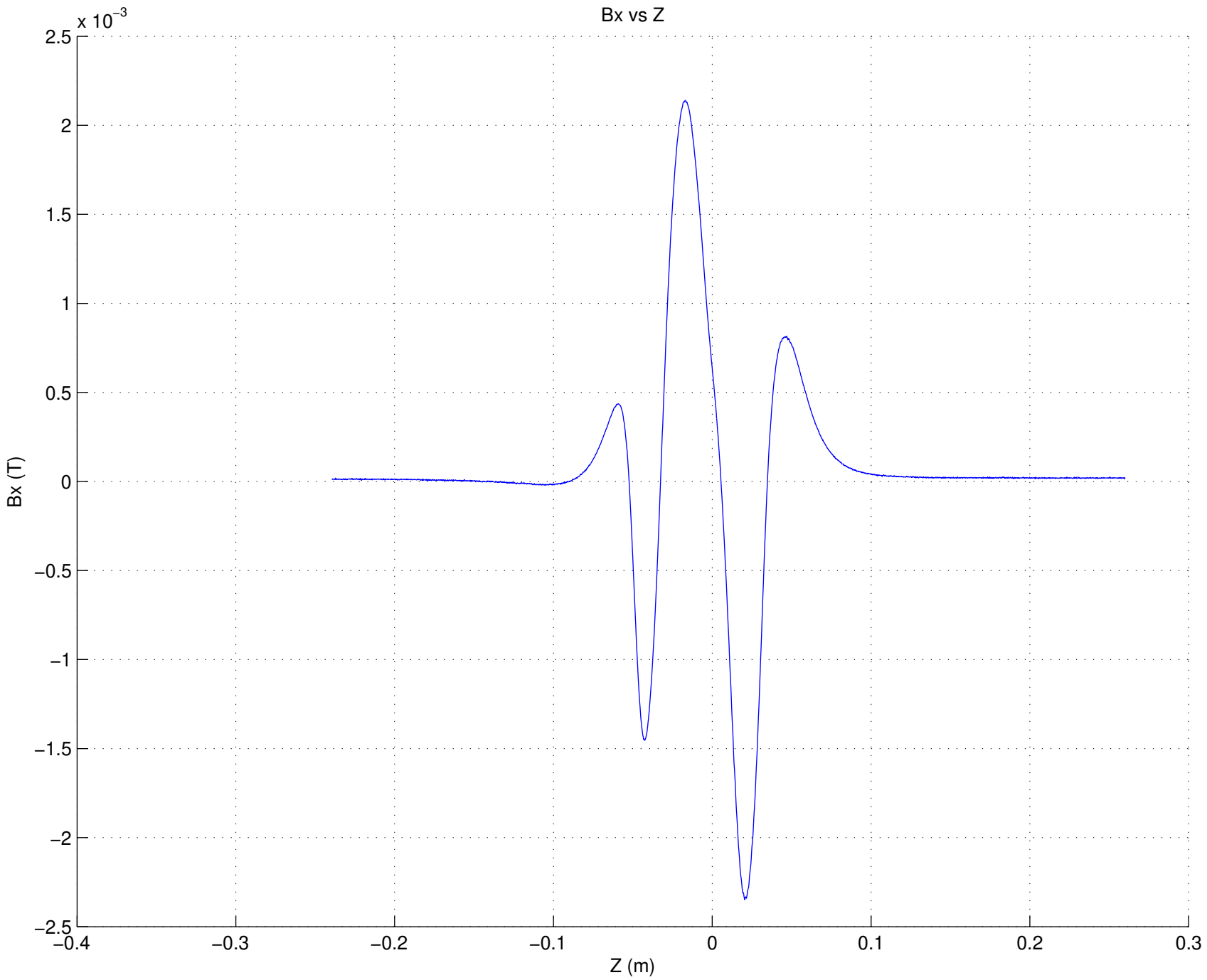
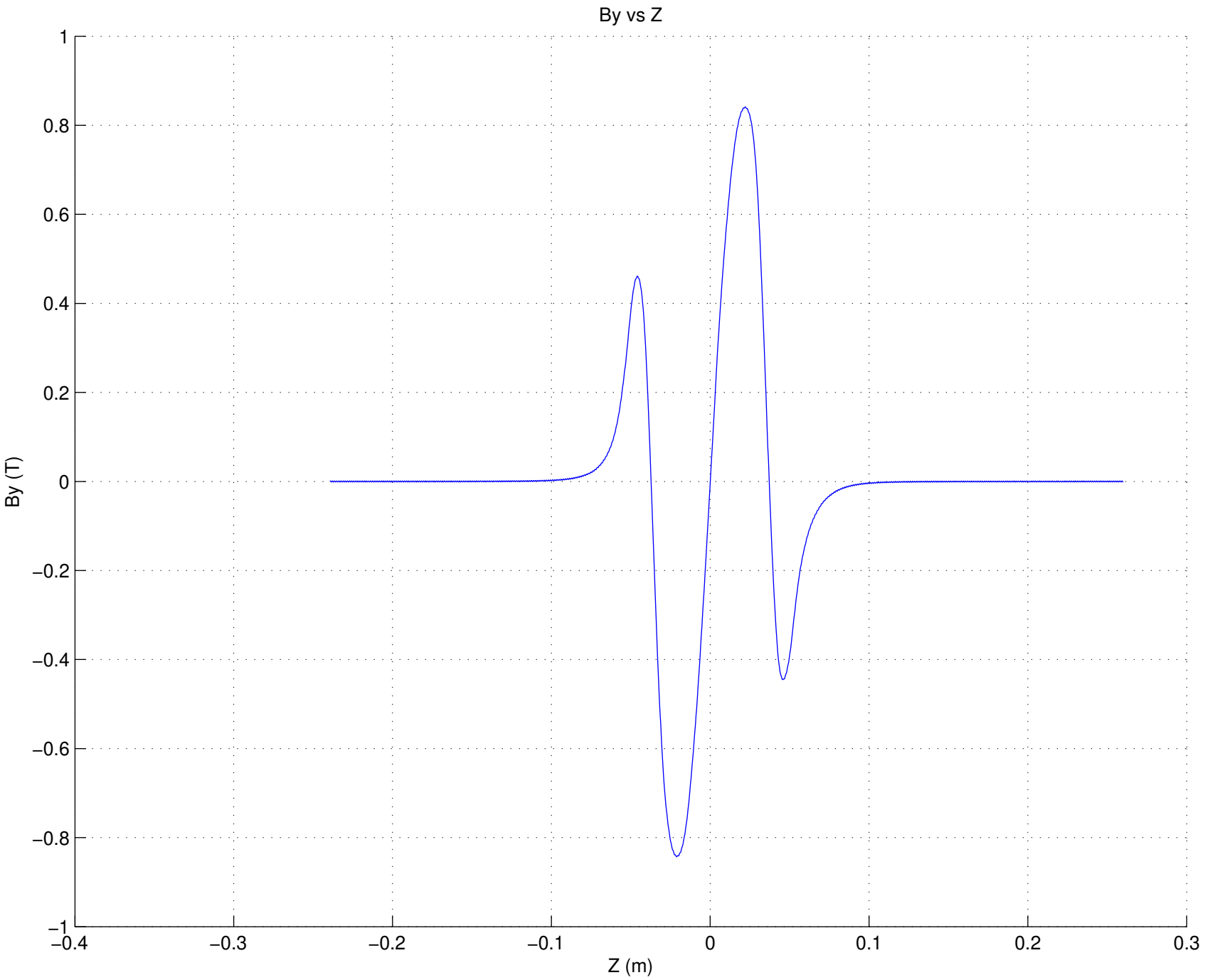
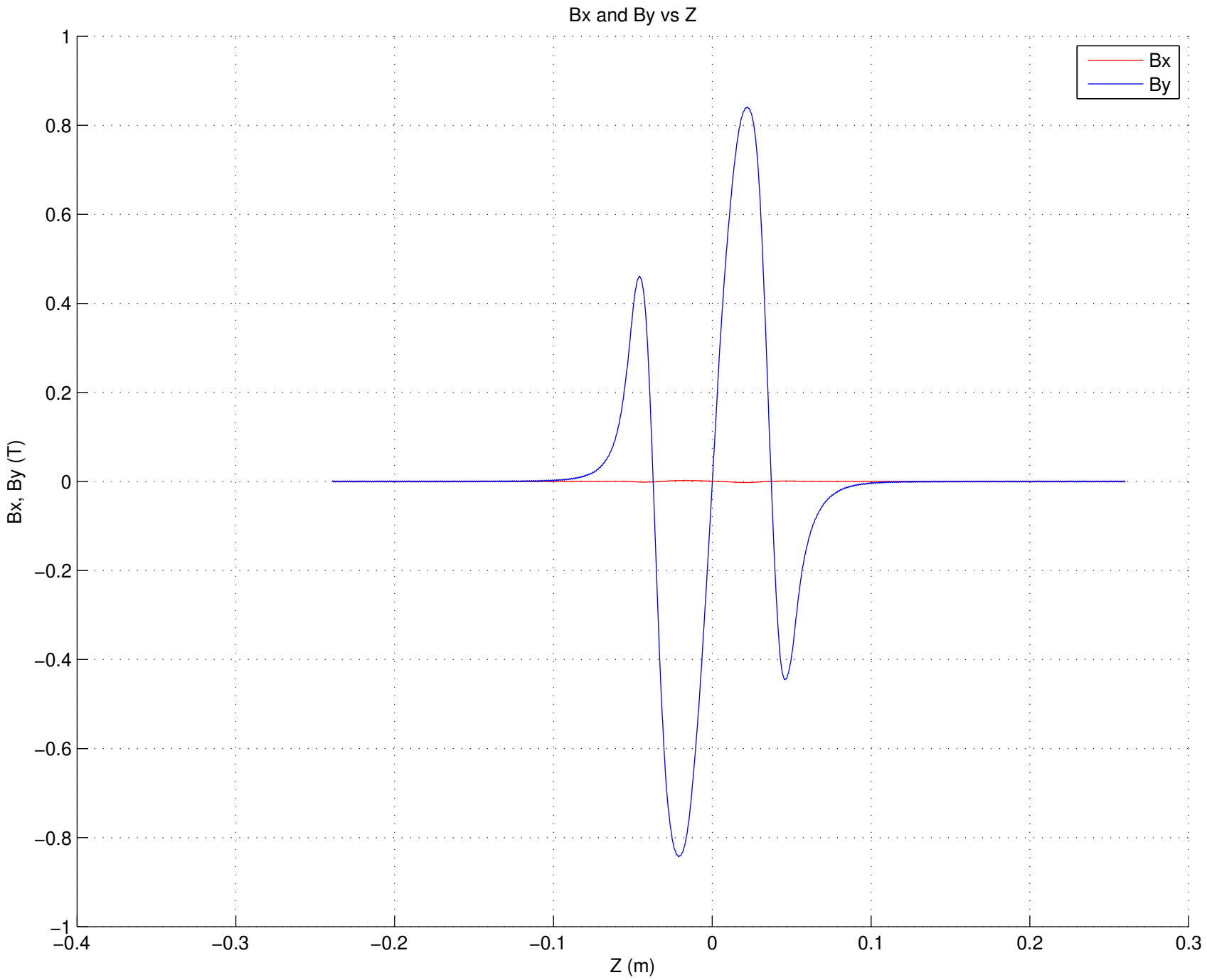
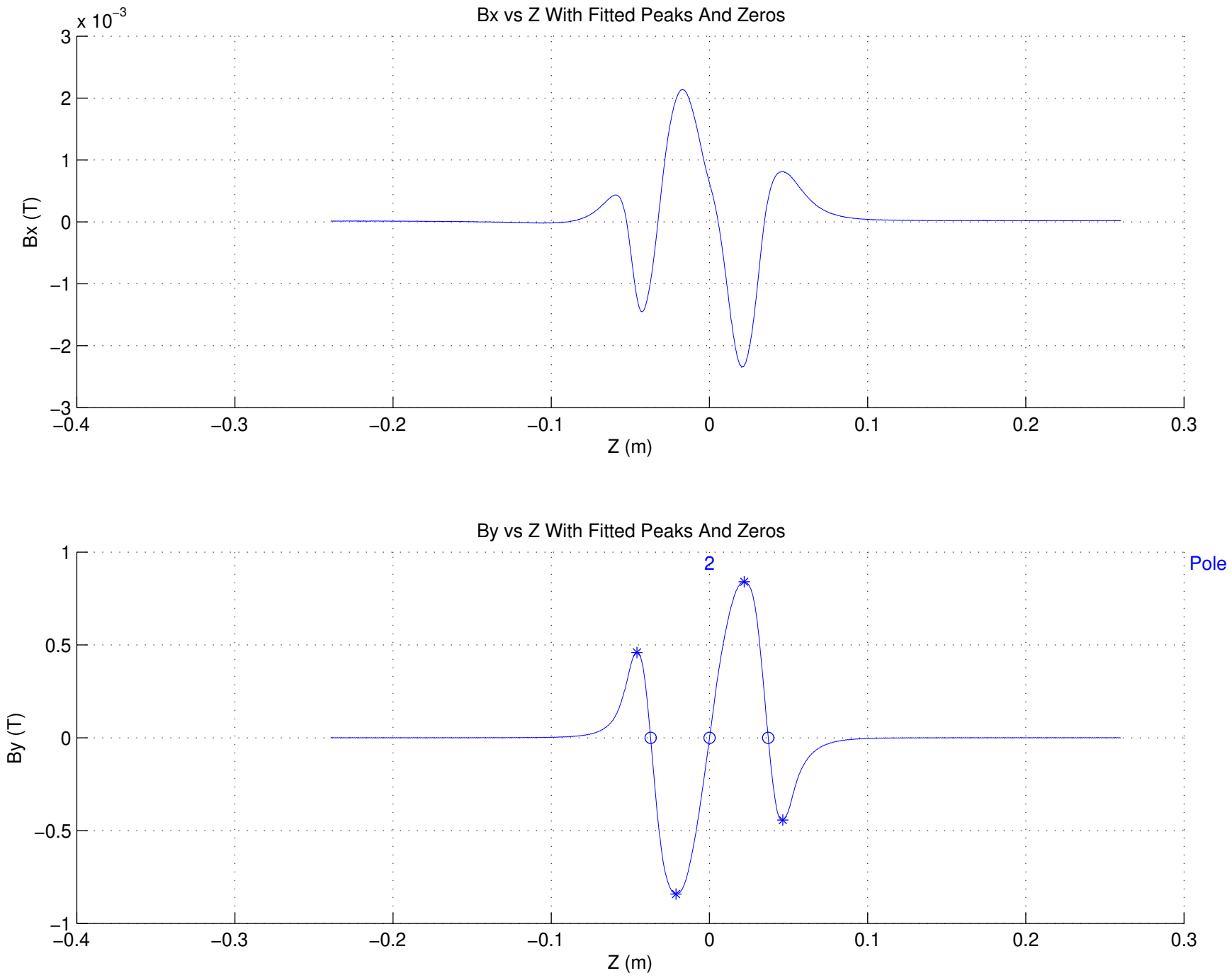
Parameters:
INPUT−FILE−DIR =V:\MET\MagServe\MagData\LCLS\Undulator\PHASE−SHIFTER\DATASET0001\Fine Tuning\Z Scans\Run 0
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =0
GAMMA =16765.2111
NOM−LAMBDA−U =0.055
NOM−K−VALUE =9.9
NOM−LAMBDA−R =4.8925e−09
NUM−POLES =4
NUM−END−POLES =0
CELL−LENGTH =0.4

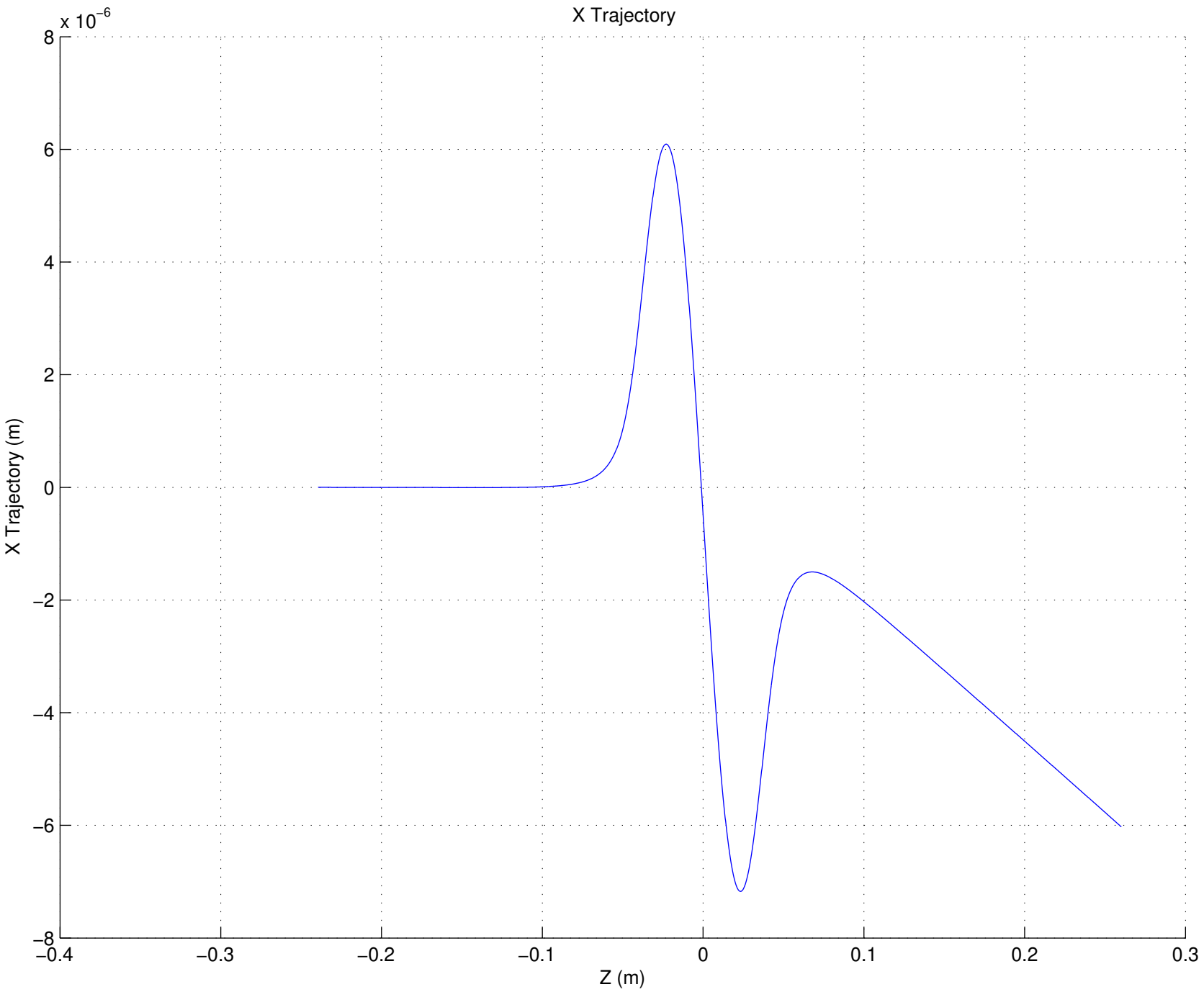

Bx, By, Bz vs Zm
x 10^-3
Bx (T)
By (T)
Bz (T)
Zm Measurement Position (m)
3
2
1
0
−1
−2
−3
0.5
−0.5
4
4.05
4.1
4.15
4.2
4.25
4.3
4.35
4.4
4.45
4.5

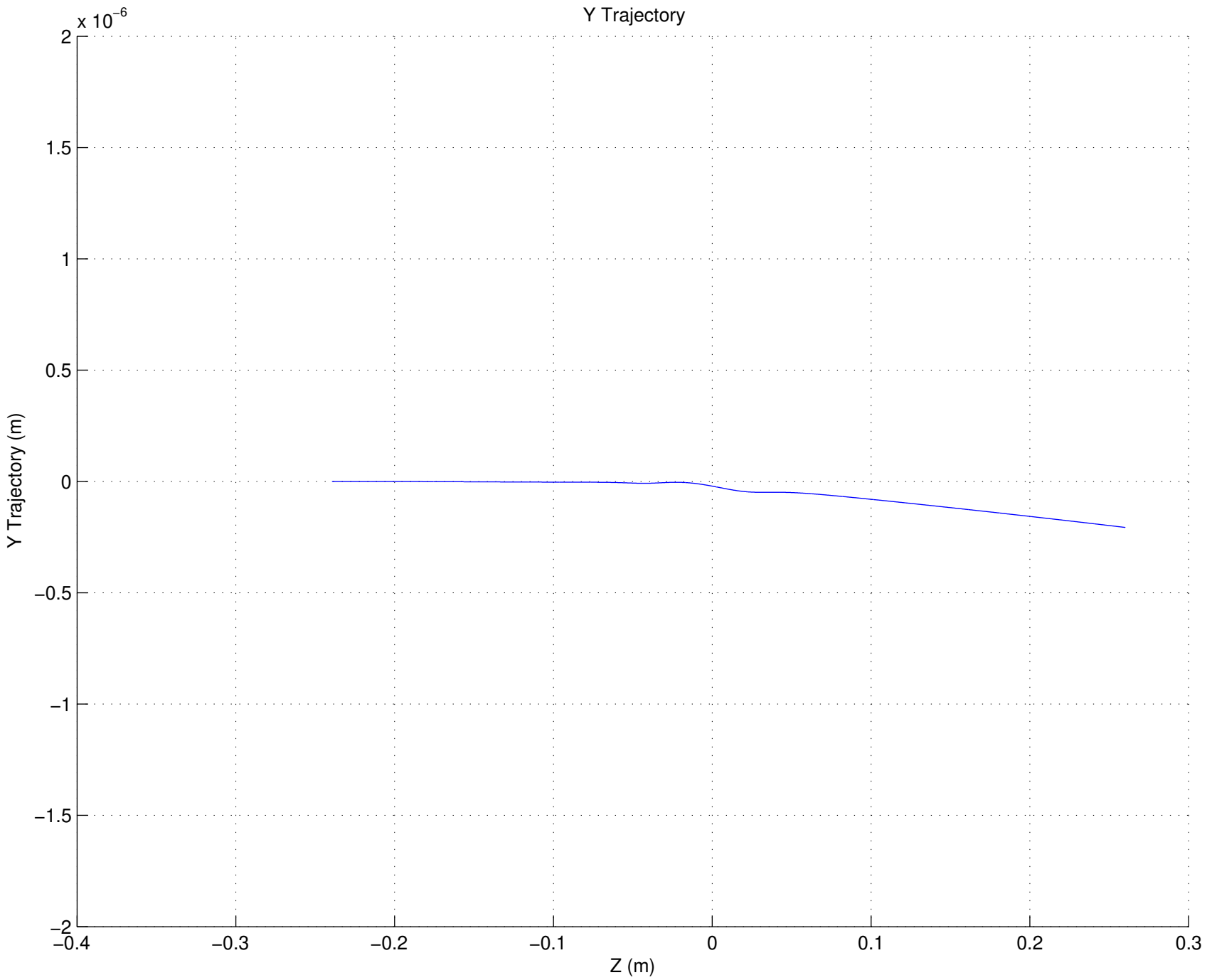

Bx vs Z
x 10^-3
2.5
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
Bx (T)
−0.4
−0.3
−0.2
−0.1
0
0.1
0.2
0.3
Z (m)

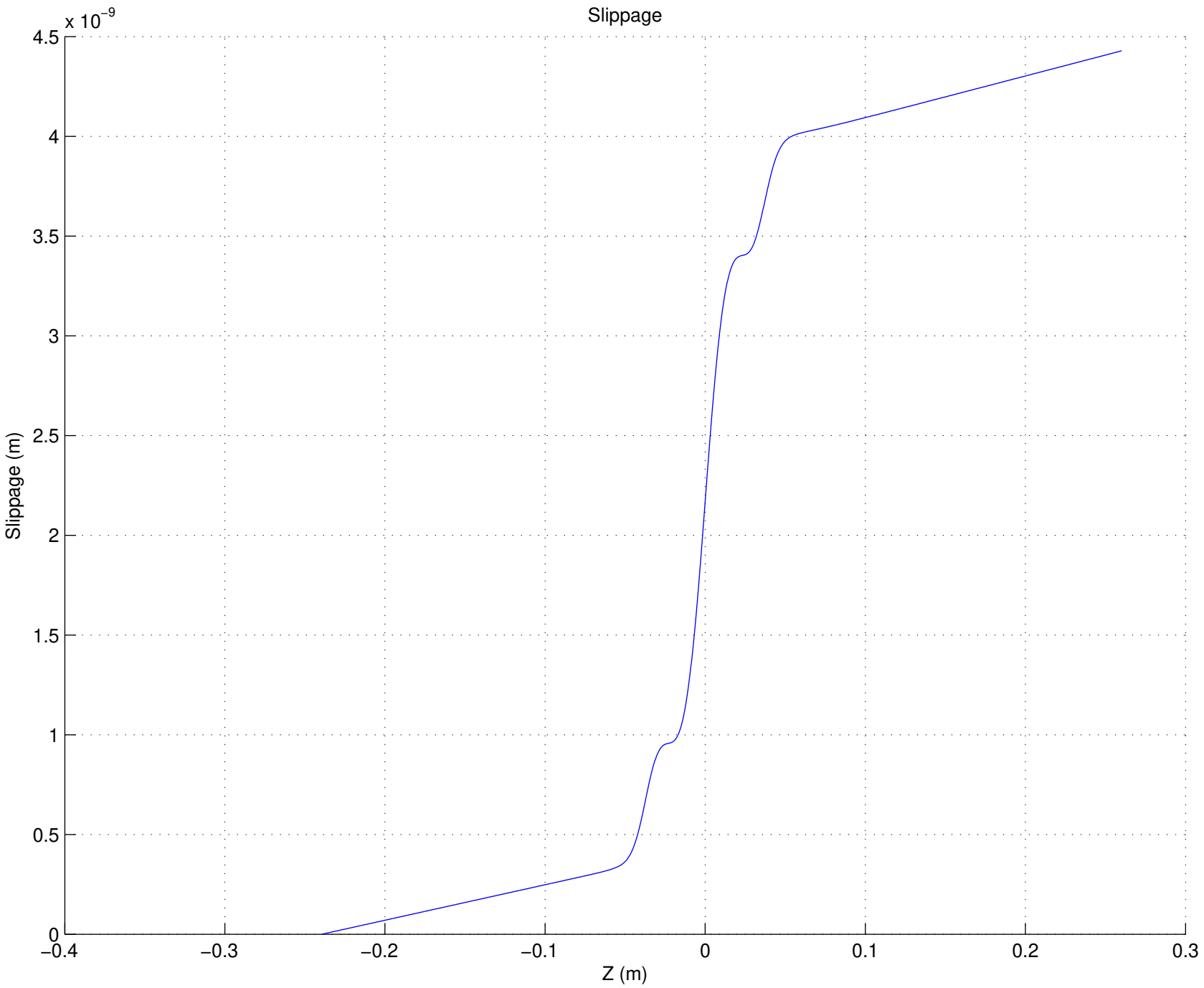

By vs Z
By (T)
Z (m)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
−0.4
−0.3
−0.2
−0.1
0
0.1
0.2
0.3

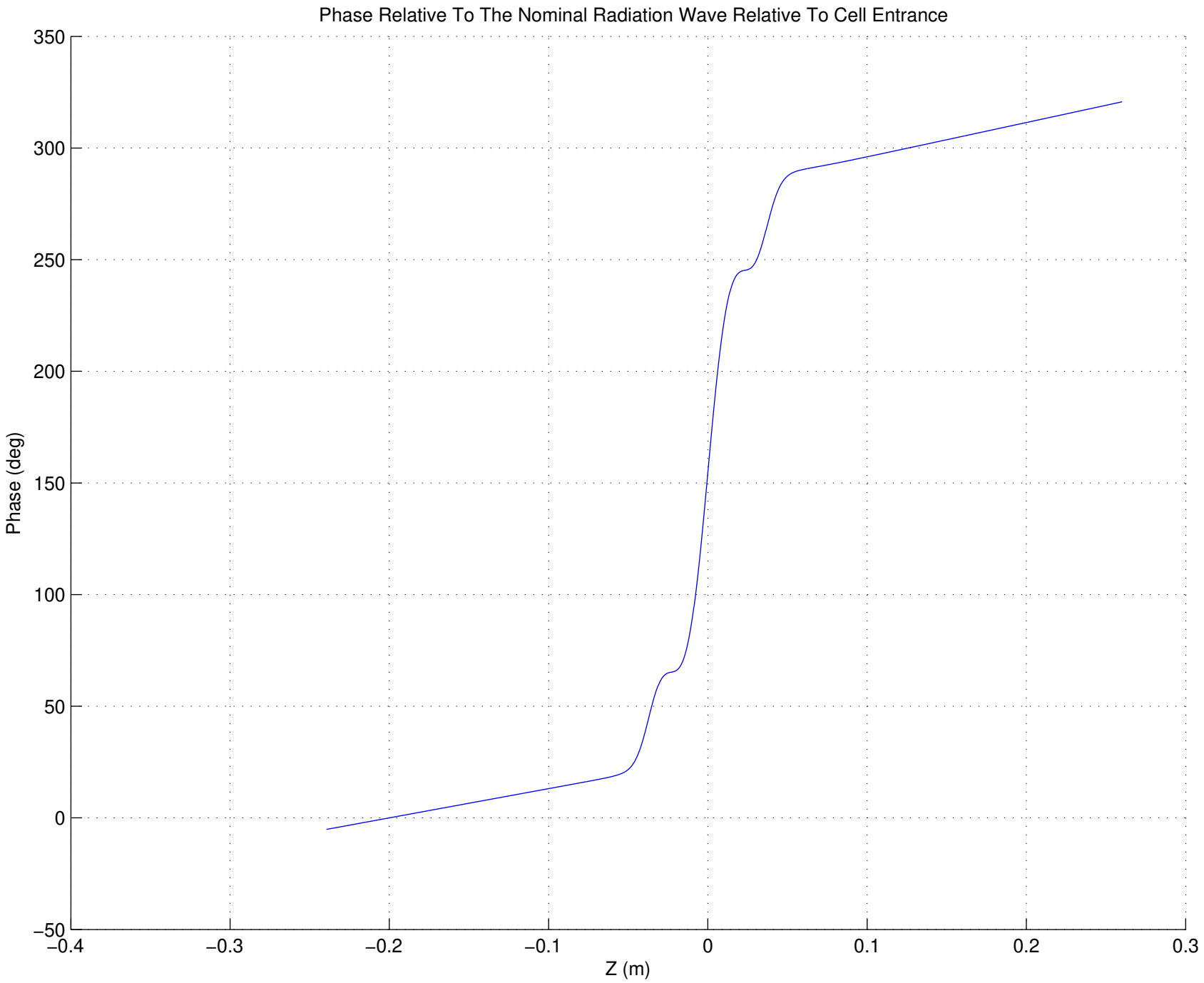

Bx and By vs Z
Bx
By
Bx, By (T)
Z (m)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
−0.4
−0.3
−0.2
−0.1
0
0.1
0.2
0.3


Bx vs Z With Fitted Peaks And Zeros
x 10^-3
Bx (T)
Z (m)
By vs Z With Fitted Peaks And Zeros
By (T)
Z (m)
2
Pole


X Trajectory
x 10^-6
8
6
4
2
0
−2
−4
−6
−8
X Trajectory (m)
−0.4
−0.3
−0.2
−0.1
0
0.1
0.2
0.3
Z (m)


Y Trajectory
x 10^-6
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
Y Trajectory (m)
−0.4
−0.3
−0.2
−0.1
0
0.1
0.2
0.3
Z (m)


Slippage
x 10^-9
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Slippage (m)
−0.4
−0.3
−0.2
−0.1
0
0.1
0.2
0.3
Z (m)


Phase Relative To The Nominal Radiation Wave Relative To Cell Entrance
Phase (deg)
350
300
250
200
150
100
50
0
−50
−0.4
−0.3
−0.2
−0.1
0
0.1
0.2
0.3
Z (m)