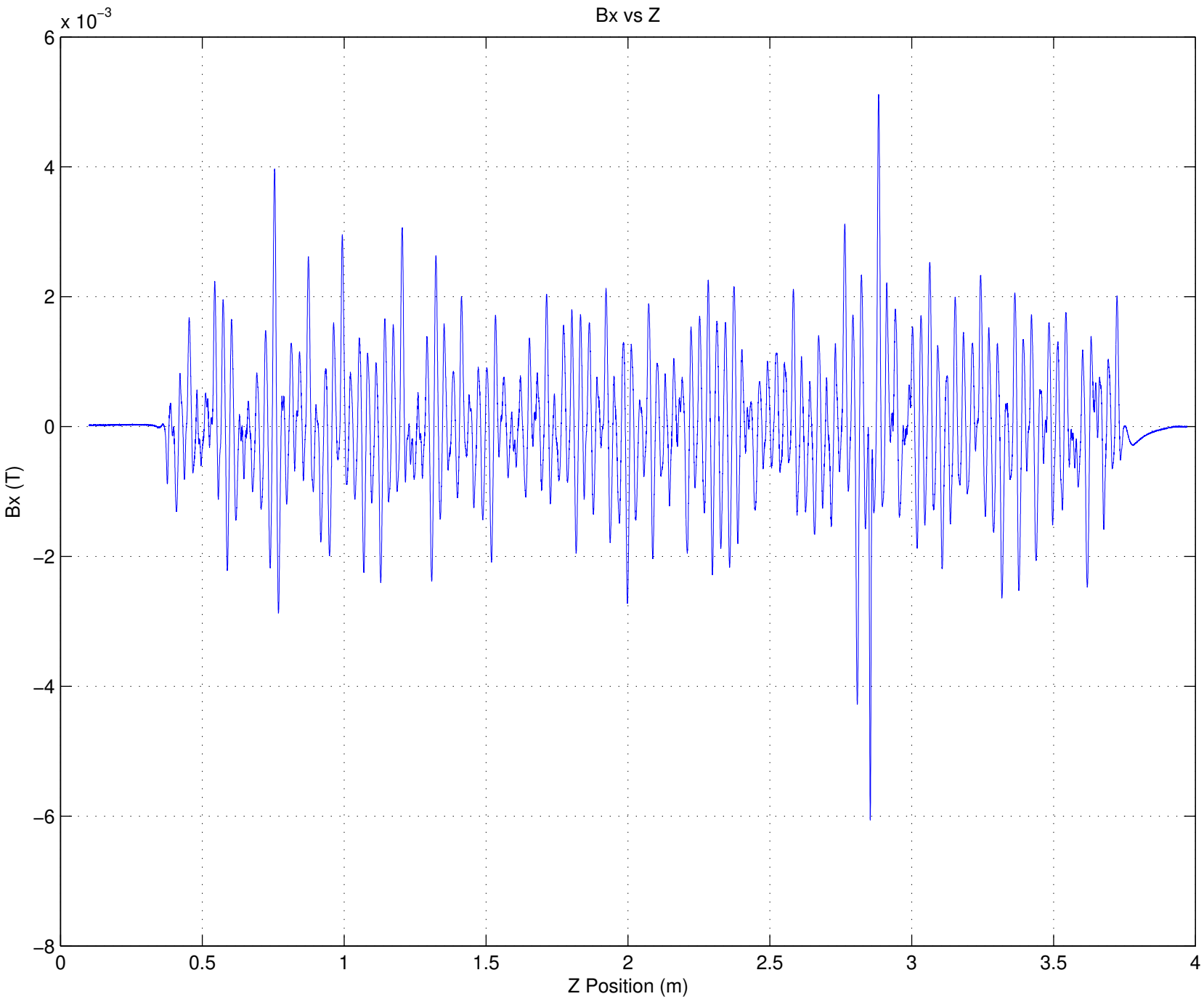
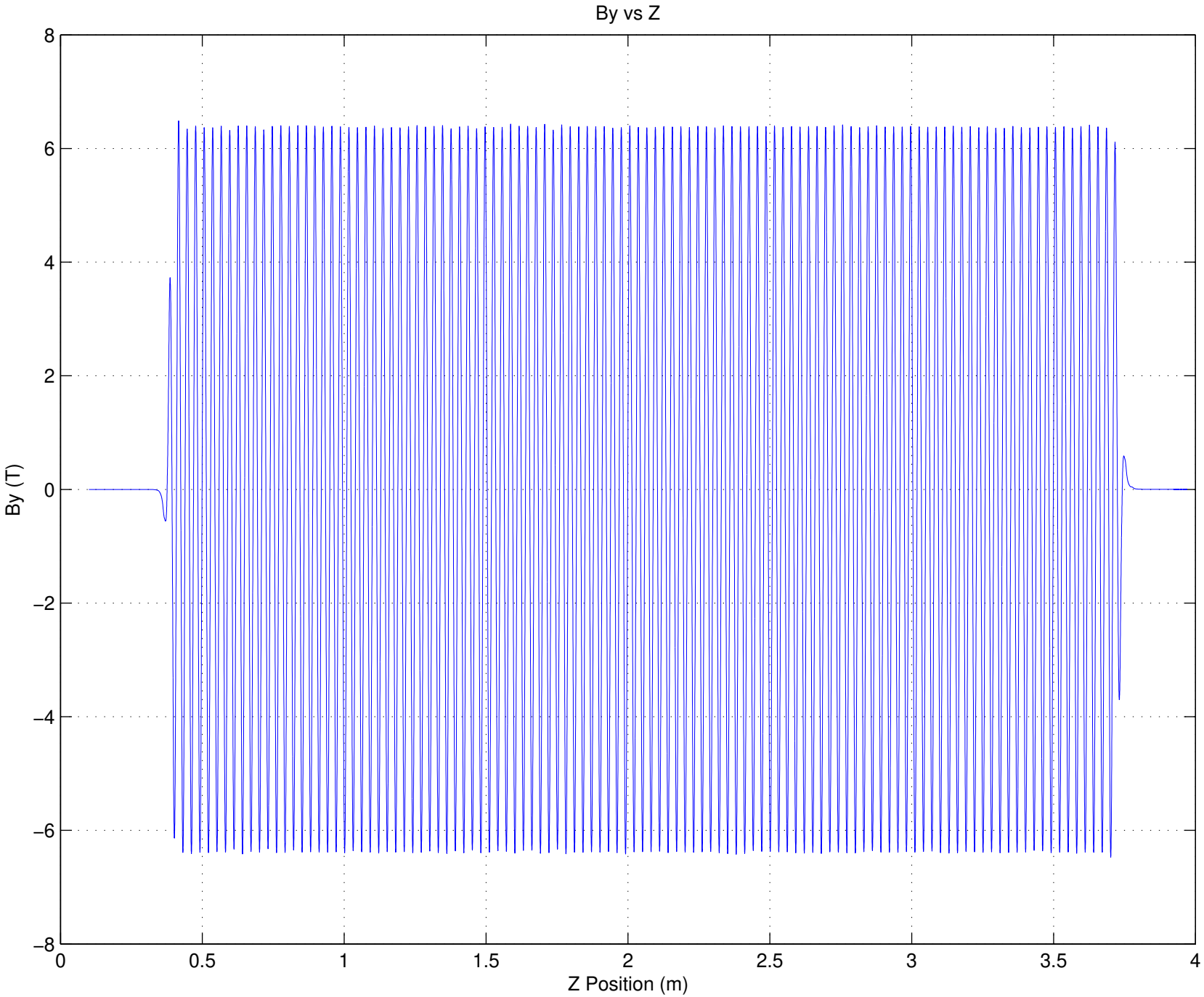
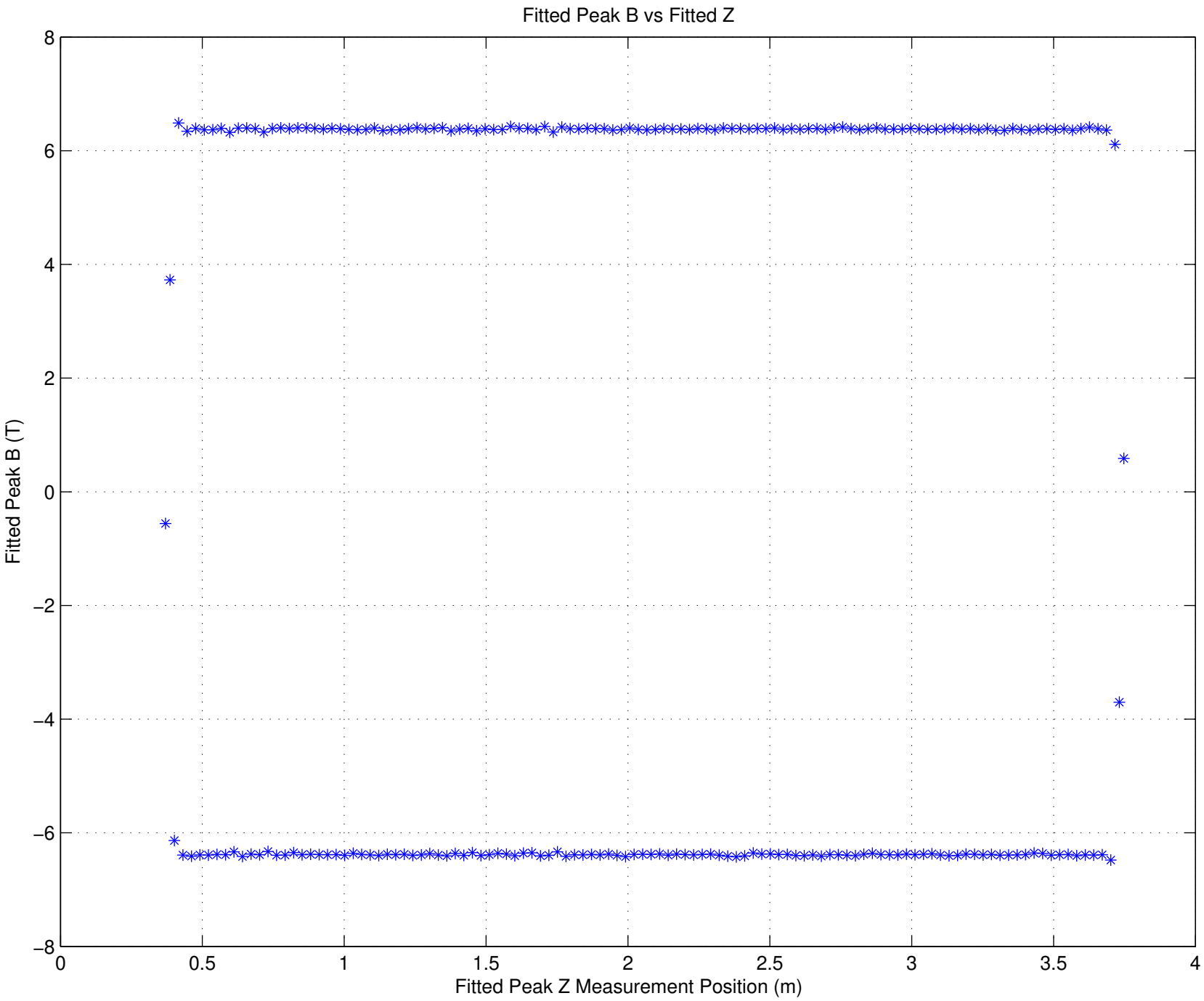
SLAC Magnetic Measurements
Date: 11−07−2006
Time: 13:27:23

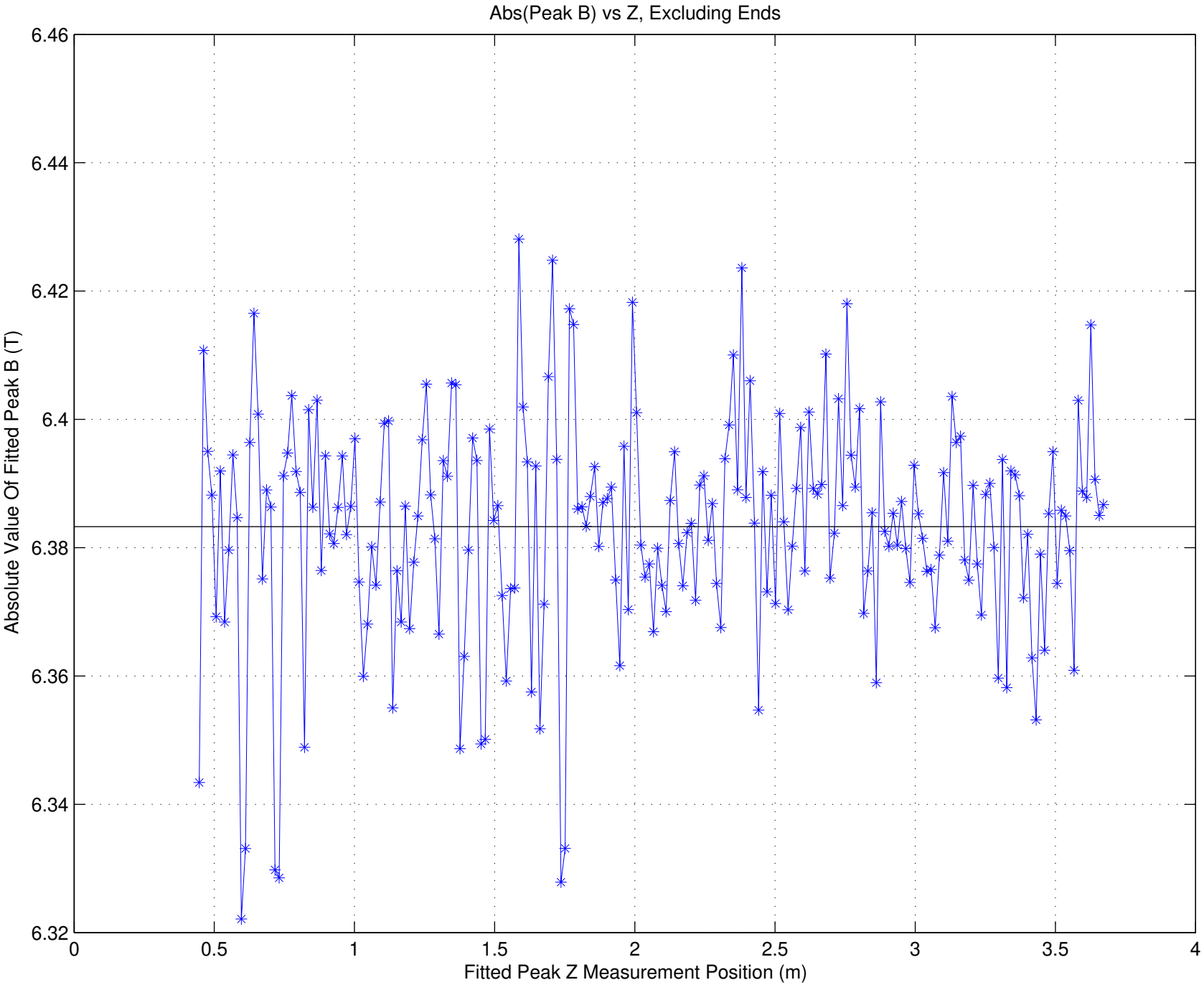
Project: LCLS
Device Type: Undulator
Data Type:
Serial Number: L143−112000−17
Run Number: 12
Measurement Type: Z Scans
Operator: vk
Comment: after alignment

Parameters:
INPUT−FILE−DIR =C:\magdata\Lcls\Undulator\L143−112000−17\RMA0001\Rough Tuning\Z Scans\Run 012\
INPUT−FILE−NAME =bscanz−dat.001
INPUT−FILE−TYPE =SLAC−BXBYVSZ
GAMMA =26690.65
LAMBDA−U =0.03
IDEAL−K−VALUE =3.4996
NUM−POLES =226
NUM−END−POLES =5
CELL−LENGTH =3.656

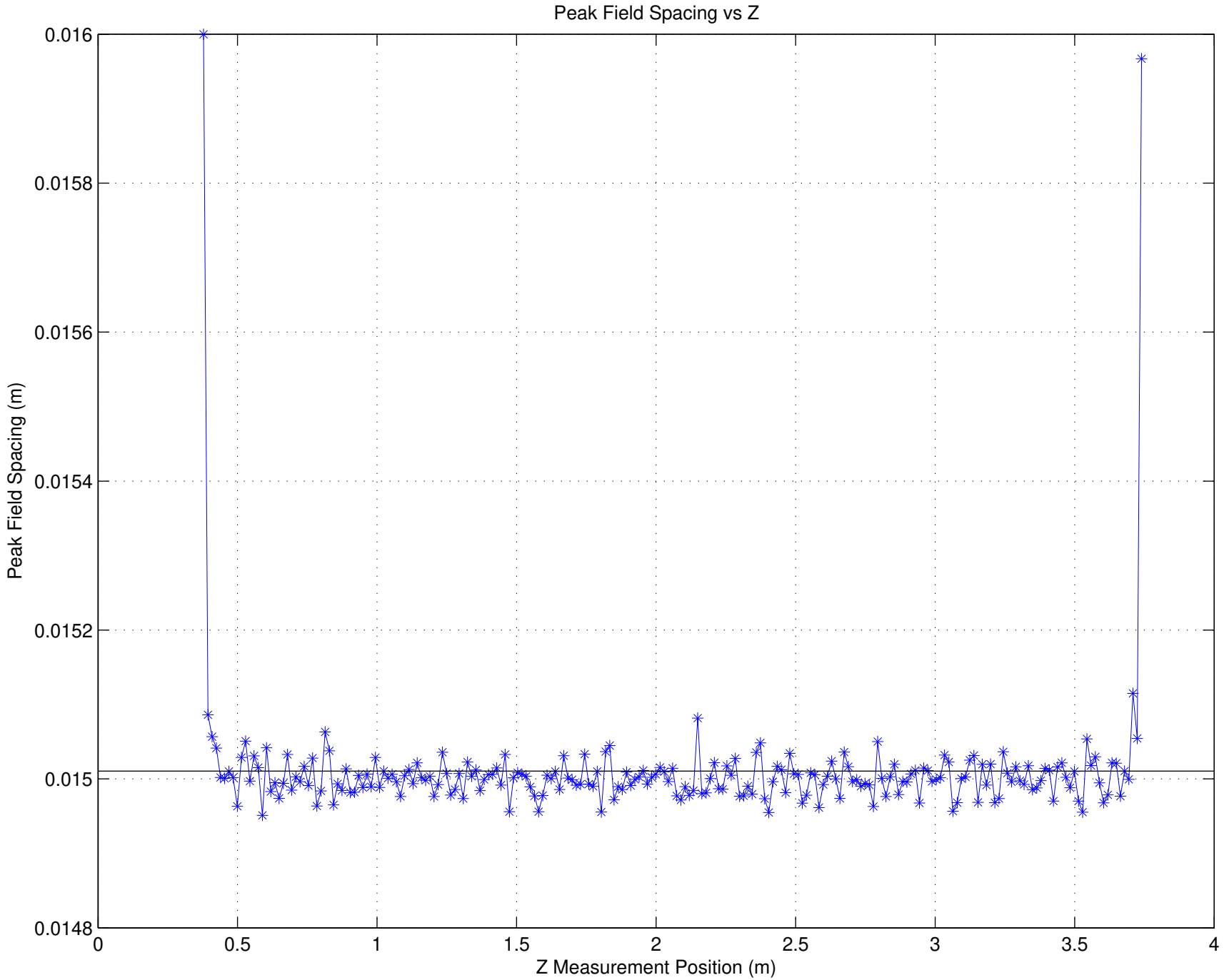

Bx vs Z
x 10^-3
6
4
2
0
−2
−4
−6
−8
Bx (T)
0
0.5
1
1.5
2
2.5
3
3.5
4
Z Position (m)


By vs Z
By (T)
Z Position (m)
8
6
4
2
0
−2
−4
−6
−8
0
0.5
1
1.5
2
2.5
3
3.5
4

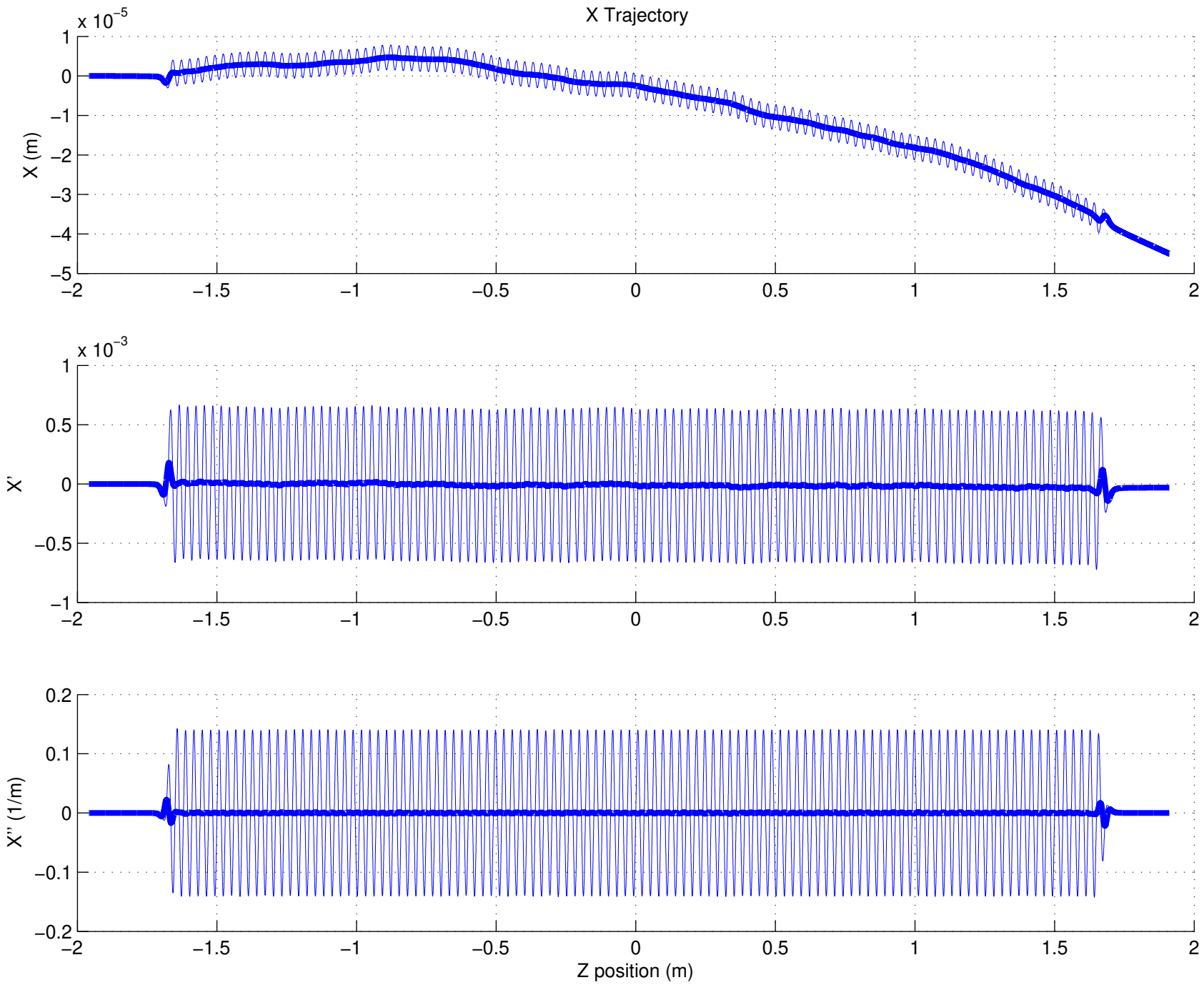

Fitted Peak B vs Fitted Z
Fitted Peak B (T)
Fitted Peak Z Measurement Position (m)
8
6
4
2
0
−2
−4
−6
−8
0
0.5
1
1.5
2
2.5
3
3.5
4

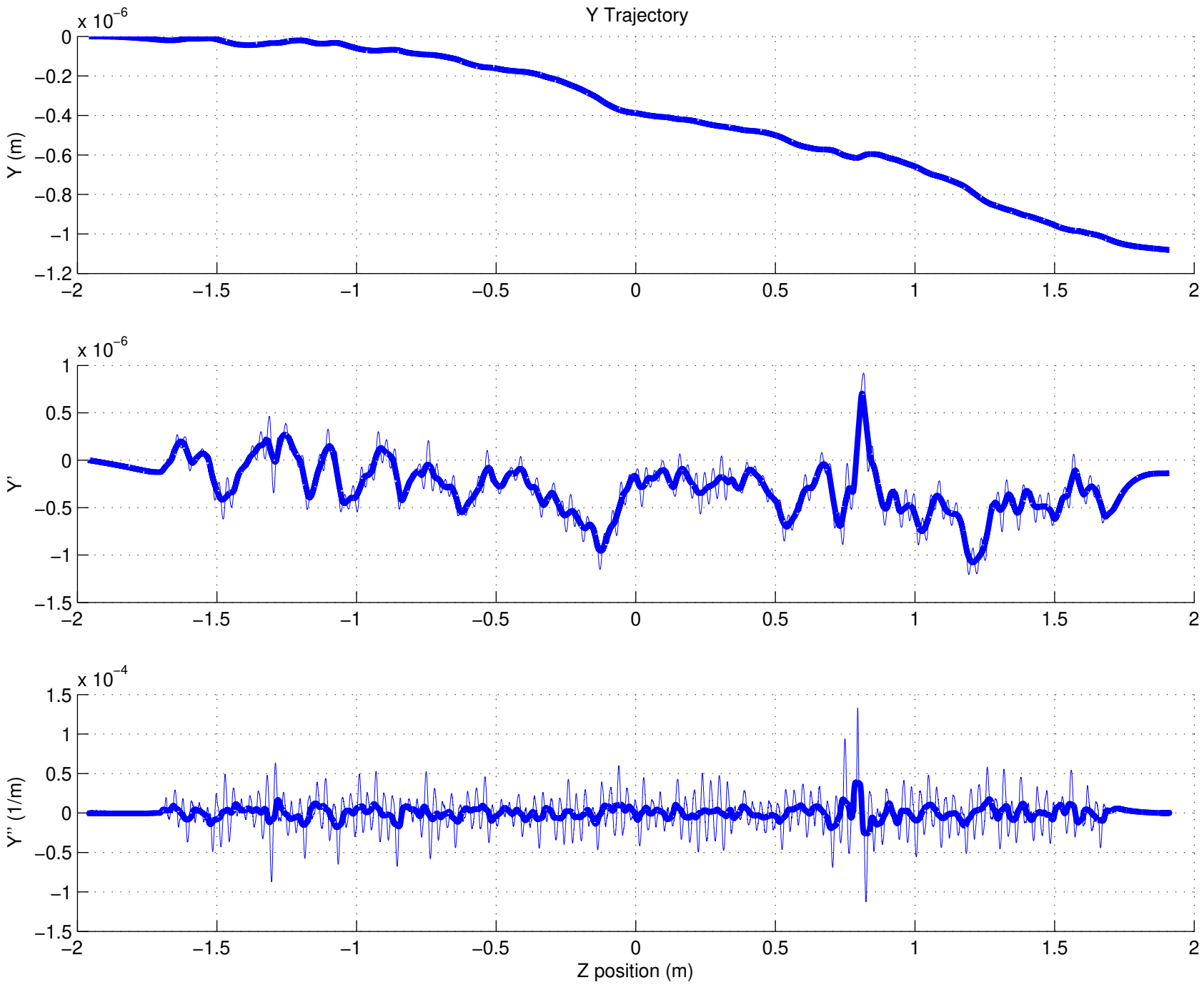


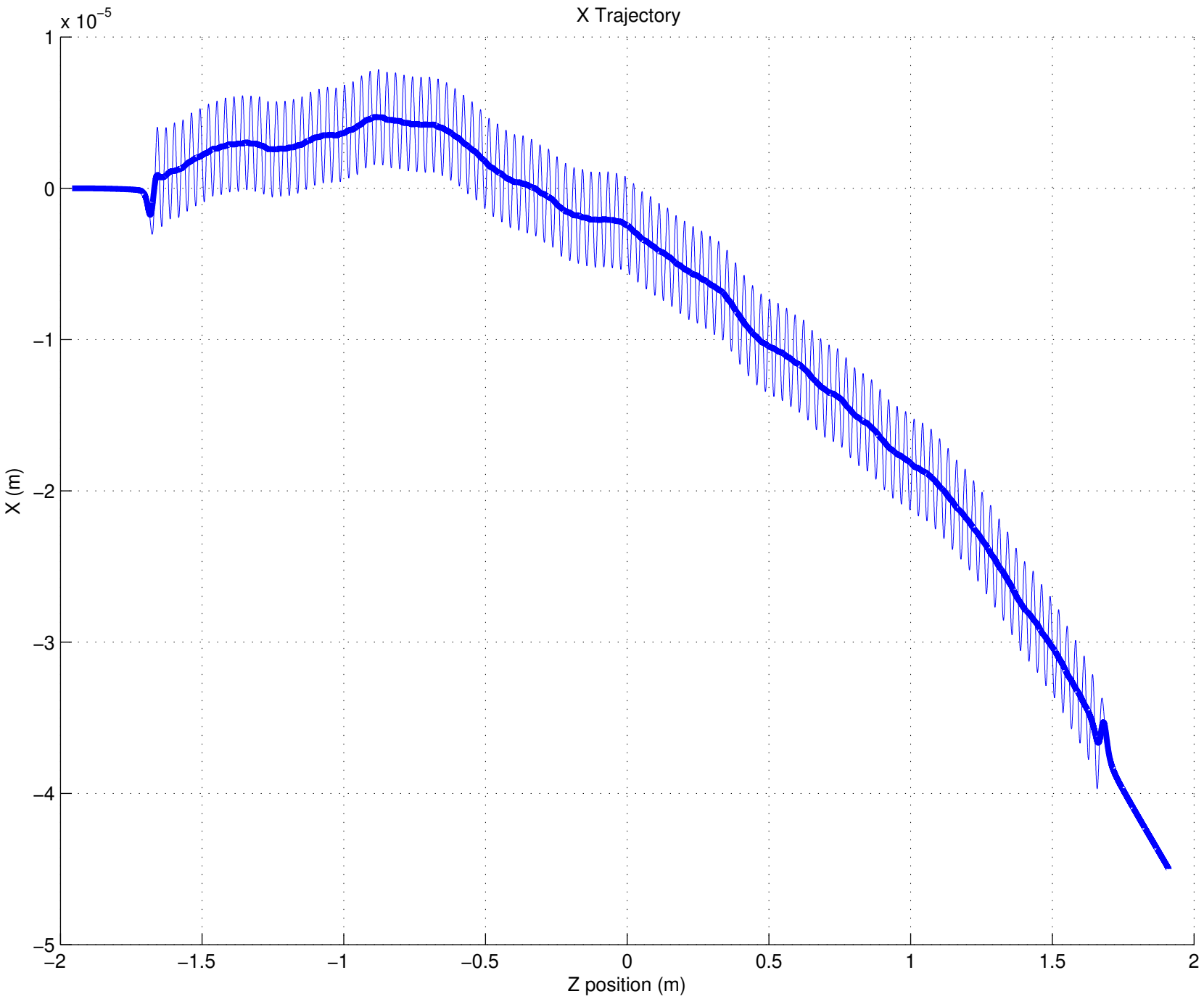
Peak Fields: Ave = 6.383266 T, RMS = 0.017536 T

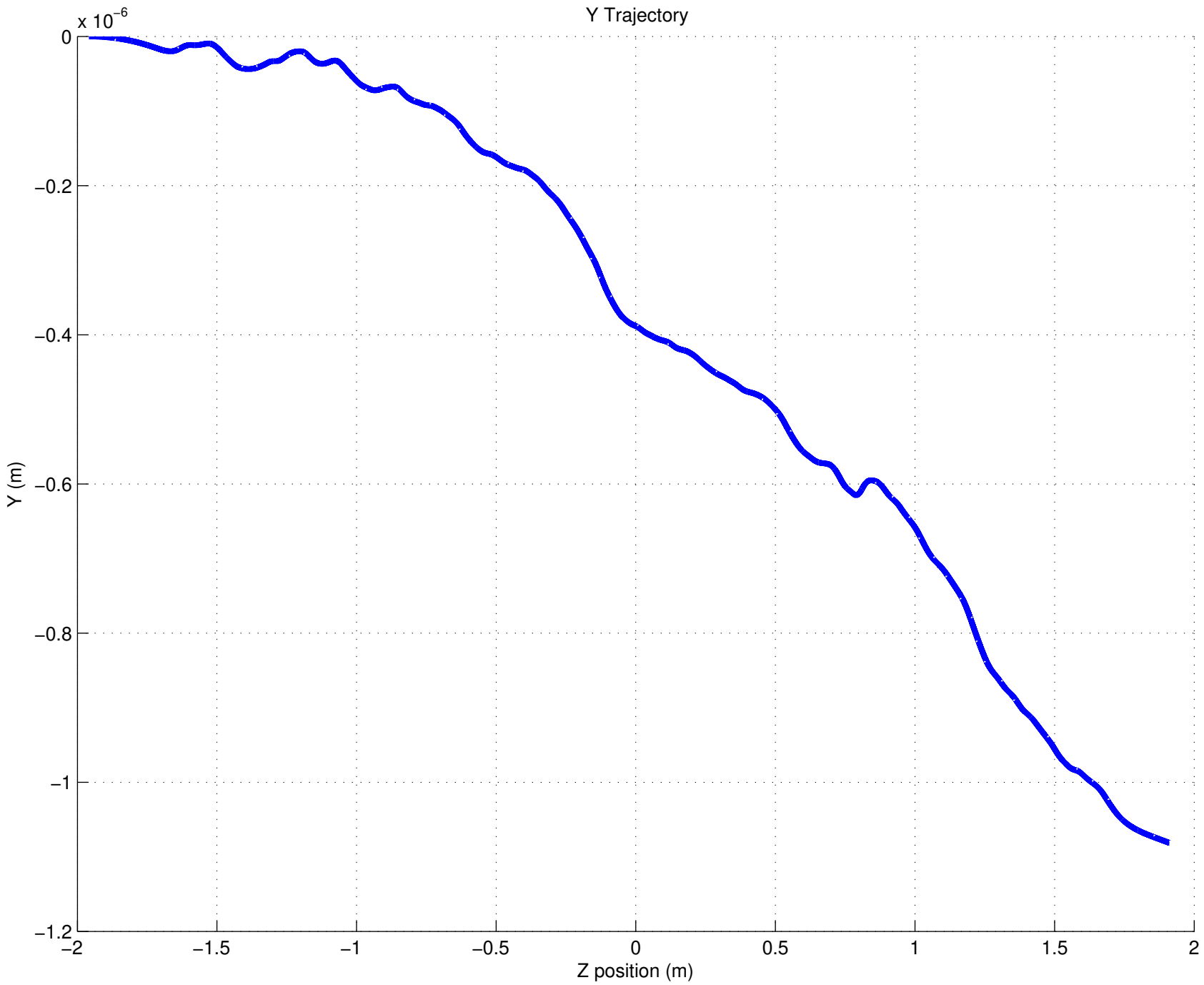


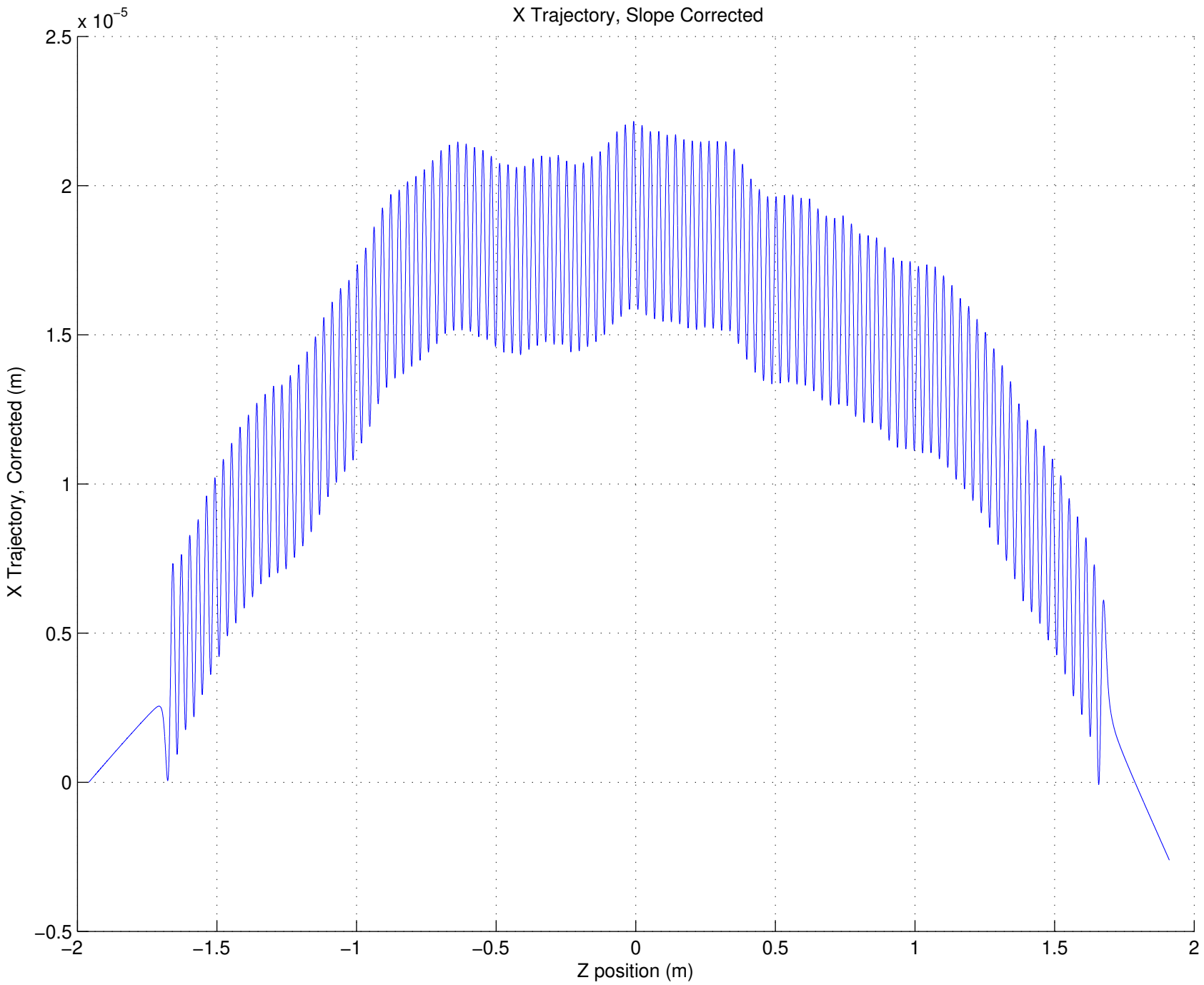
Peak Field Spacing: Ave = 0.015011 m, RMS = 0.000096 m

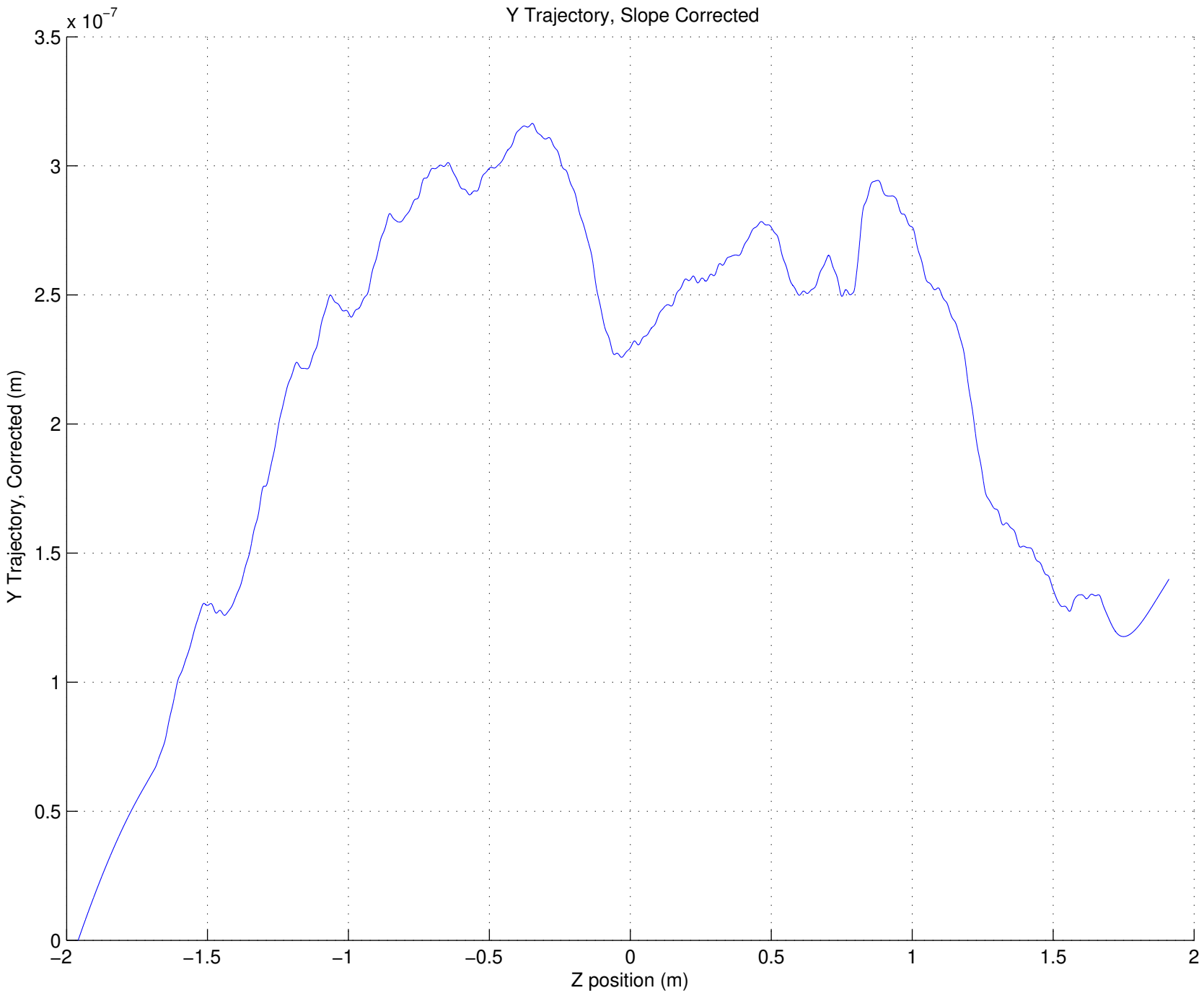

X Trajectory
x 10^-5
X (m)
1
0
−1
−2
−3
−4
−5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
x 10^-3
X'
0.5
−0.5
X'' (1/m)
0.2
0.1
−0.1
−0.2
Z position (m)

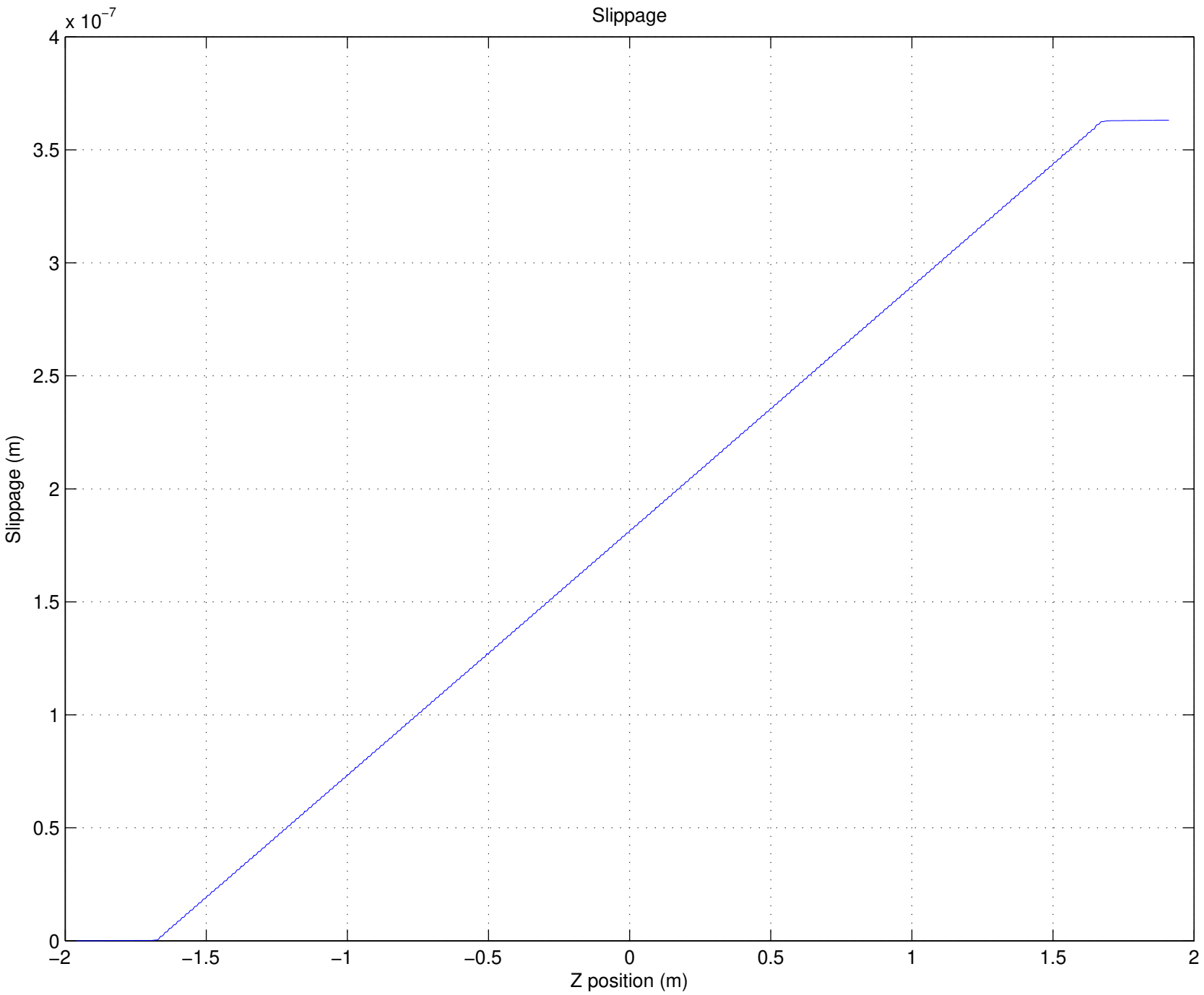

Y Trajectory
x 10^-6
Y (m)
0
−0.2
−0.4
−0.6
−0.8
−1
−1.2
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
x 10^-6
Y'
1
0.5
0
−0.5
−1
−1.5
x 10^-4
Y'' (1/m)
1.5
1
0.5
0
−0.5
−1
−1.5
Z position (m)

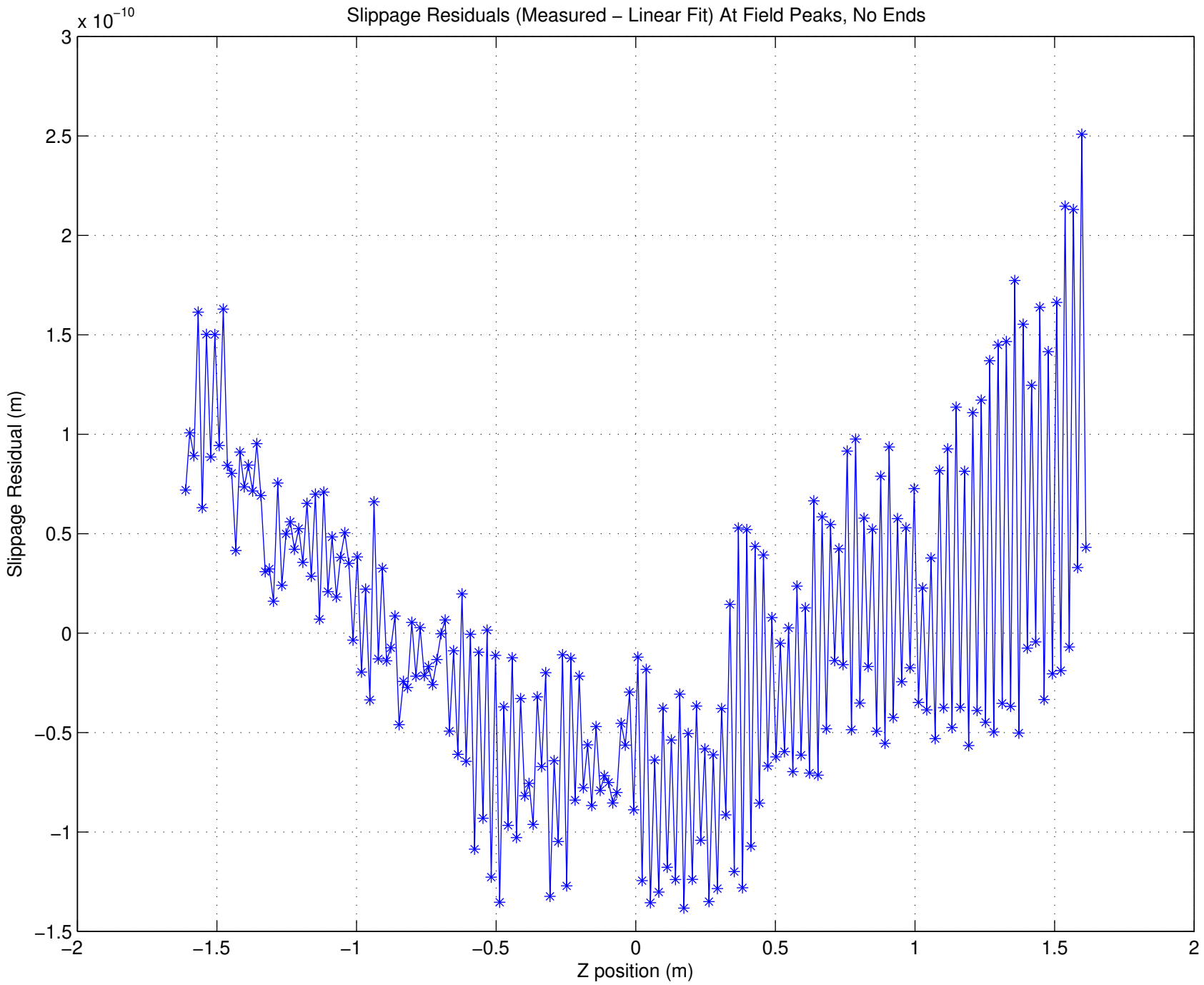

X Trajectory
x 10^-5
1
0
−1
−2
−3
−4
−5
X (m)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)

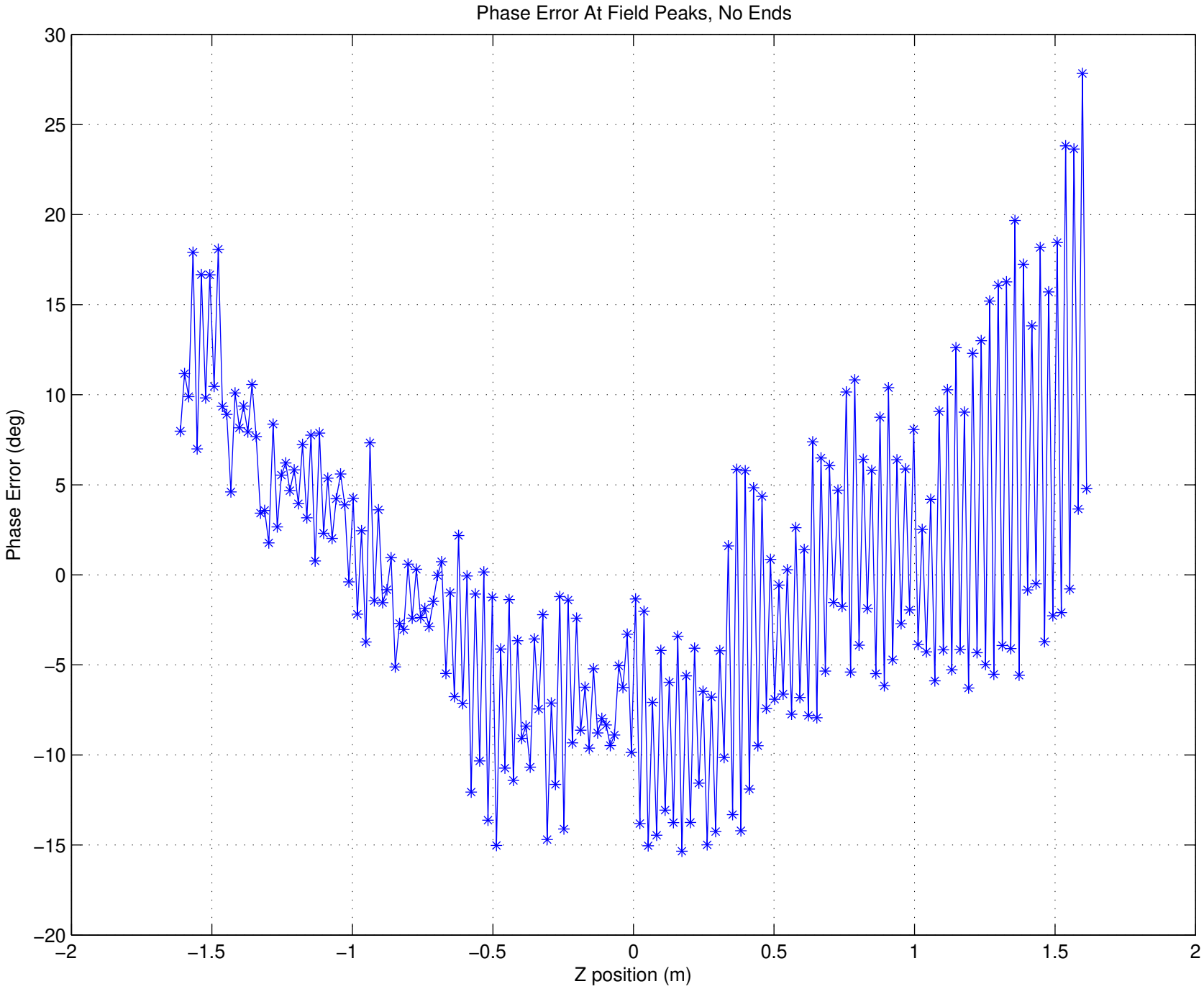

Y Trajectory
x 10^-6
0
−0.2
−0.4
−0.6
−0.8
−1
−1.2
Y (m)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)


X Trajectory, Slope Corrected
x 10^-5
2.5
2
1.5
1
0.5
0
−0.5
X Trajectory, Corrected (m)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)

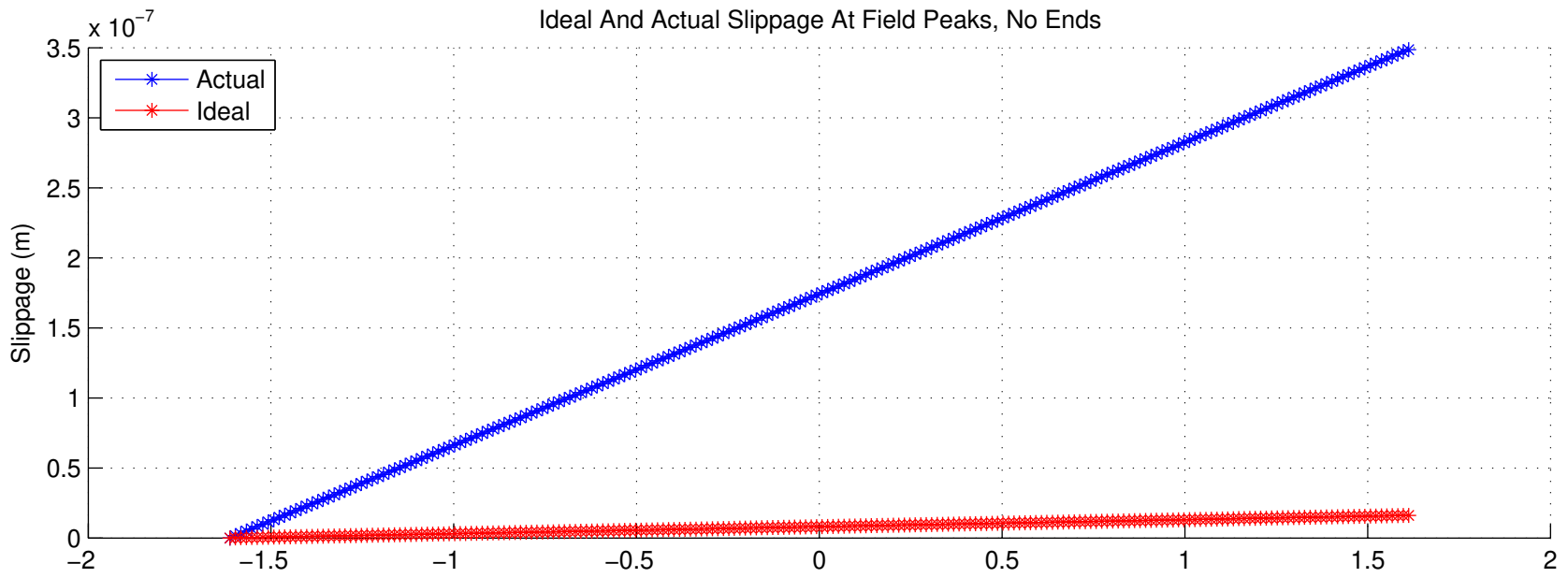

Y Trajectory, Slope Corrected
x 10^-7
3.5
3
2.5
2
1.5
1
0.5
0
Y Trajectory, Corrected (m)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)

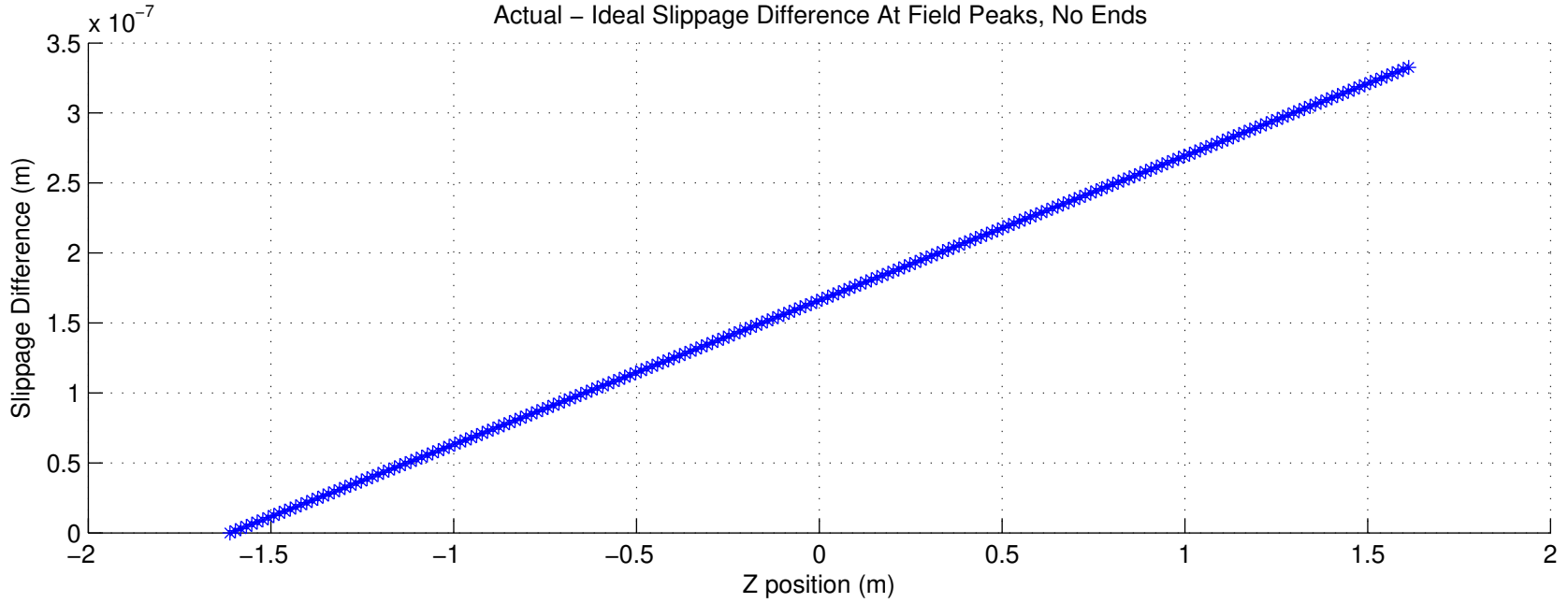

Slippage
x 10^-7
4
3.5
3
2.5
2
1.5
1
0.5
0
Slippage (m)
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)


Slippage Residuals (Measured – Linear Fit) At Field Peaks, No Ends
x 10^−10
Slippage Residual (m)
Z position (m)
3
2.5
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2



Phase Error: Ave = 0.000000 deg, RMS = 8.639051 deg


Ideal And Actual Slippage At Field Peaks, No Ends
x 10^-7
Actual
Ideal
Slippage (m)
3.5
3
2.5
2
1.5
1
0.5
0
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2


Actual − Ideal Slippage Difference At Field Peaks, No Ends
x 10^-7
Slippage Difference (m)
3.5
3
2.5
2
1.5
1
0.5
0
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
Z position (m)