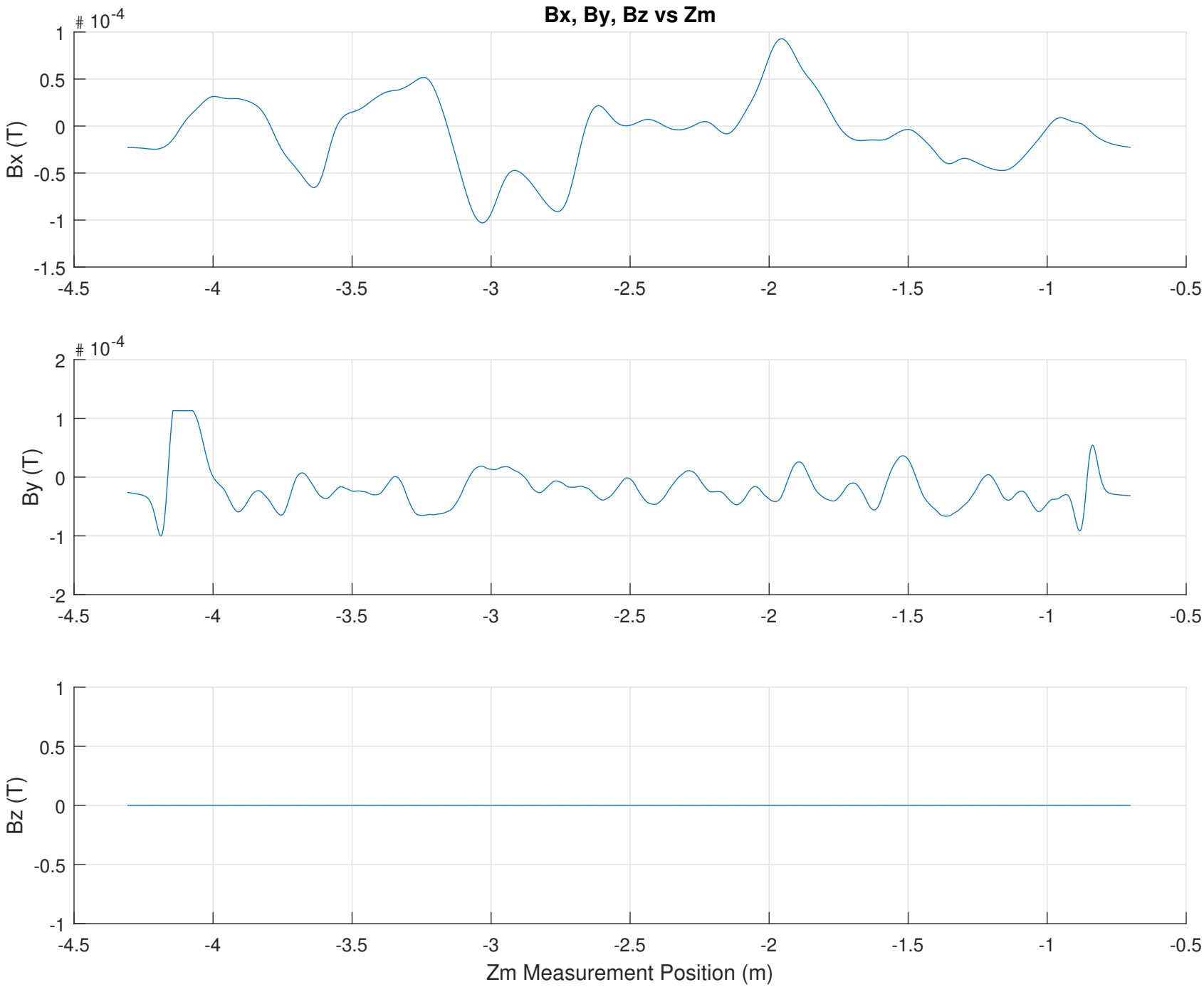
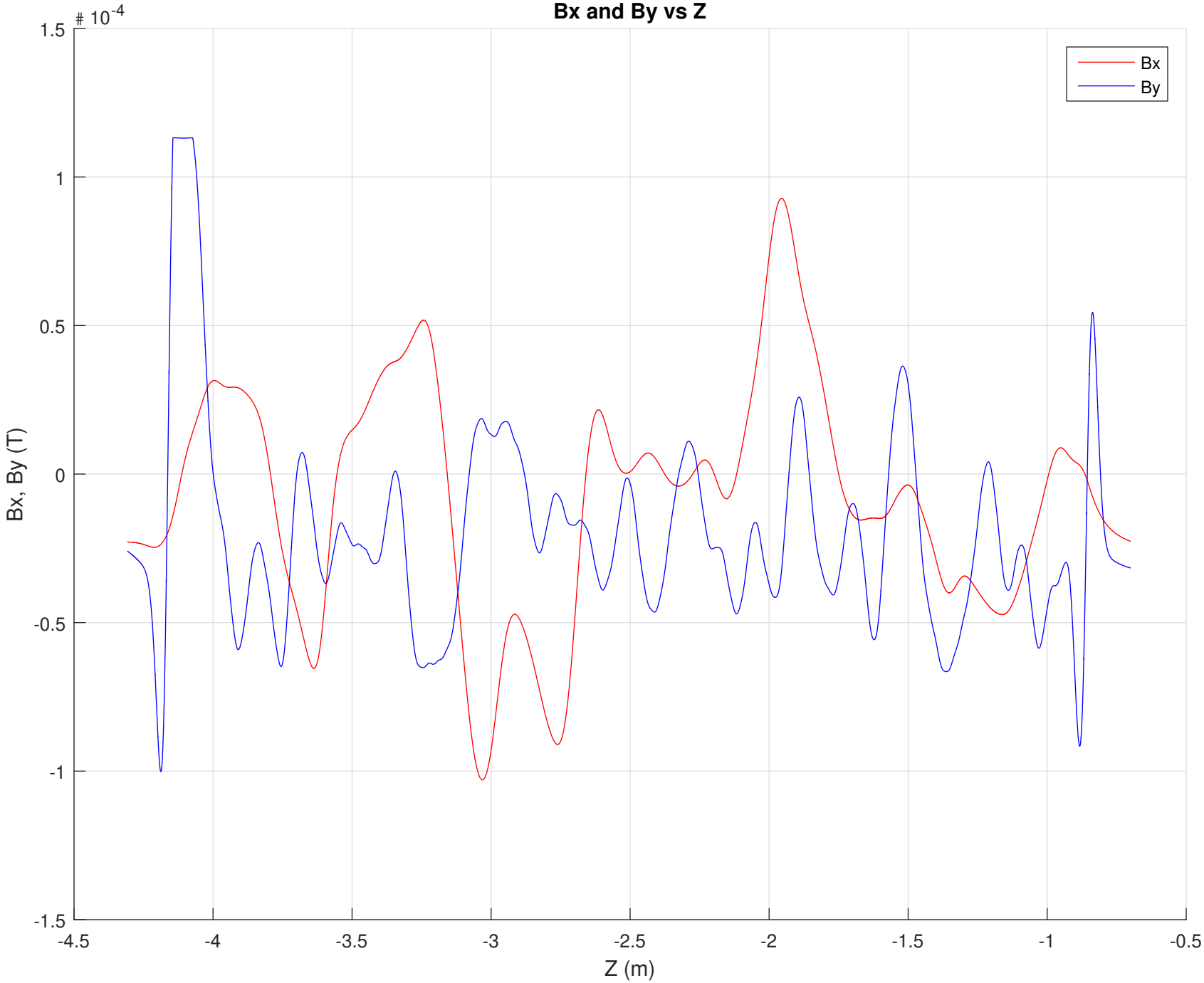
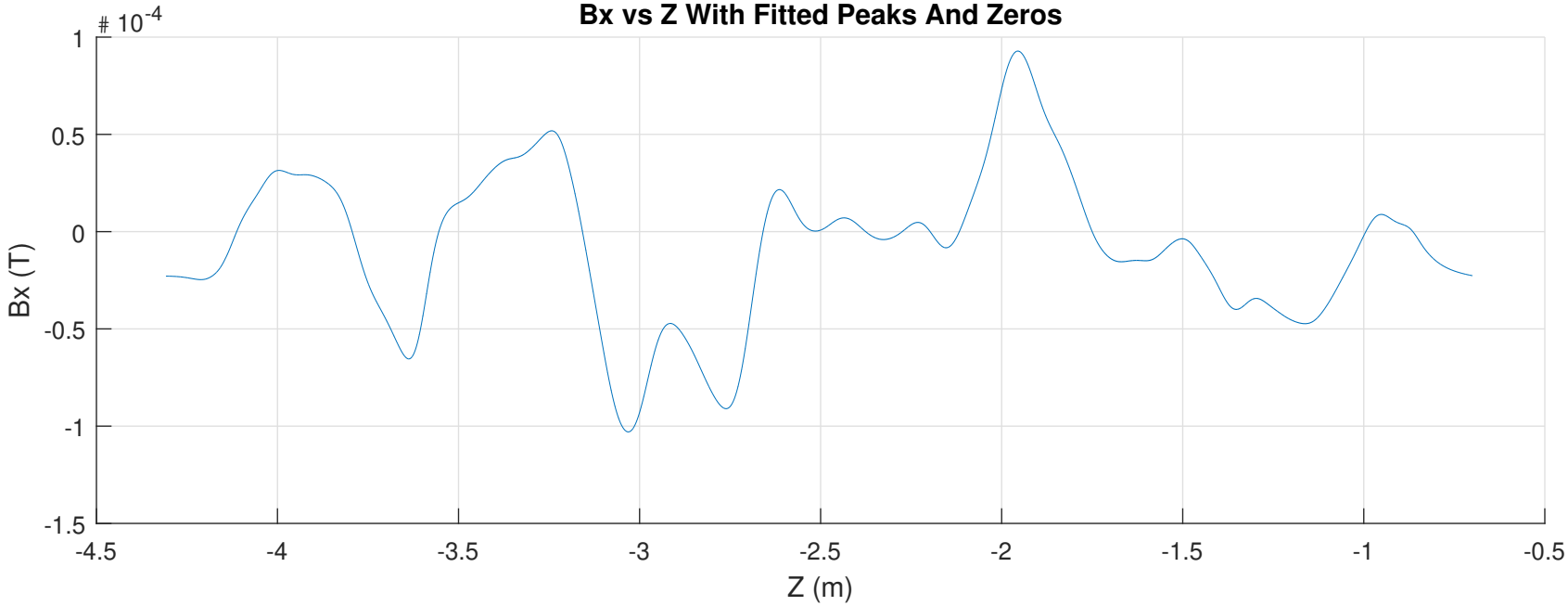
SLAC Magnetic Measurements

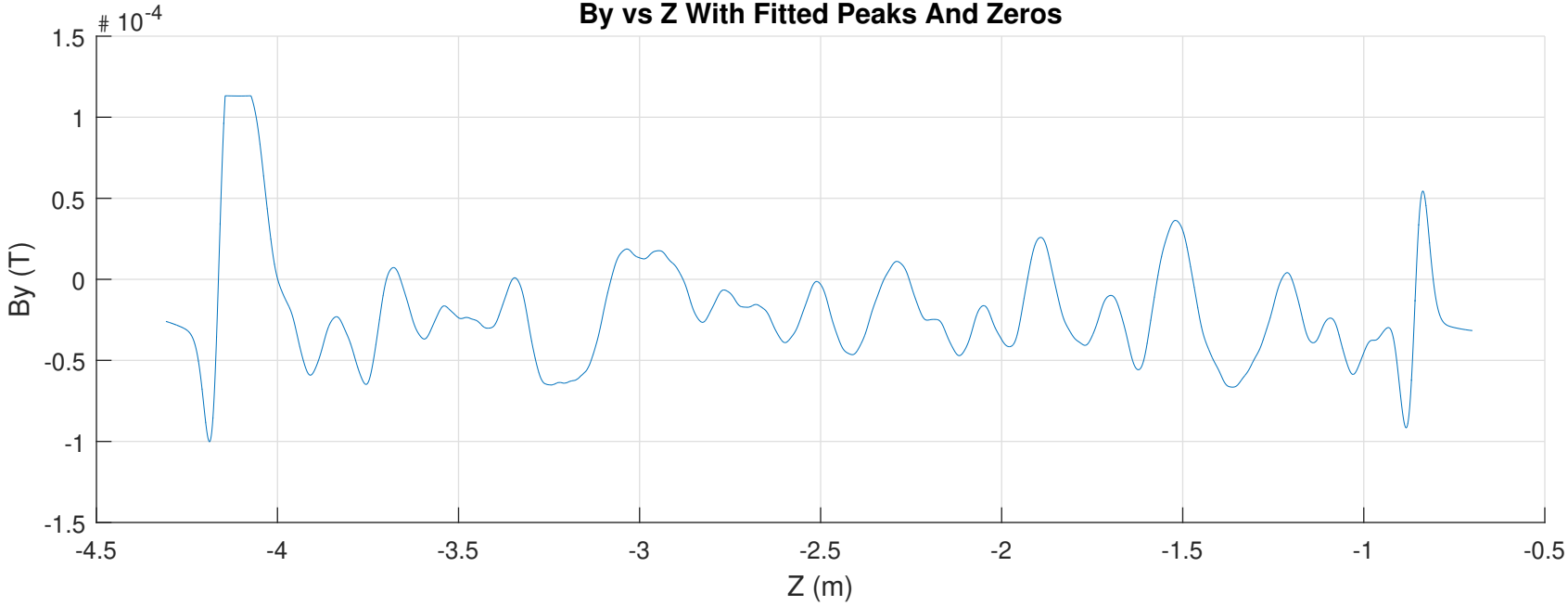
Trajectory Analysis

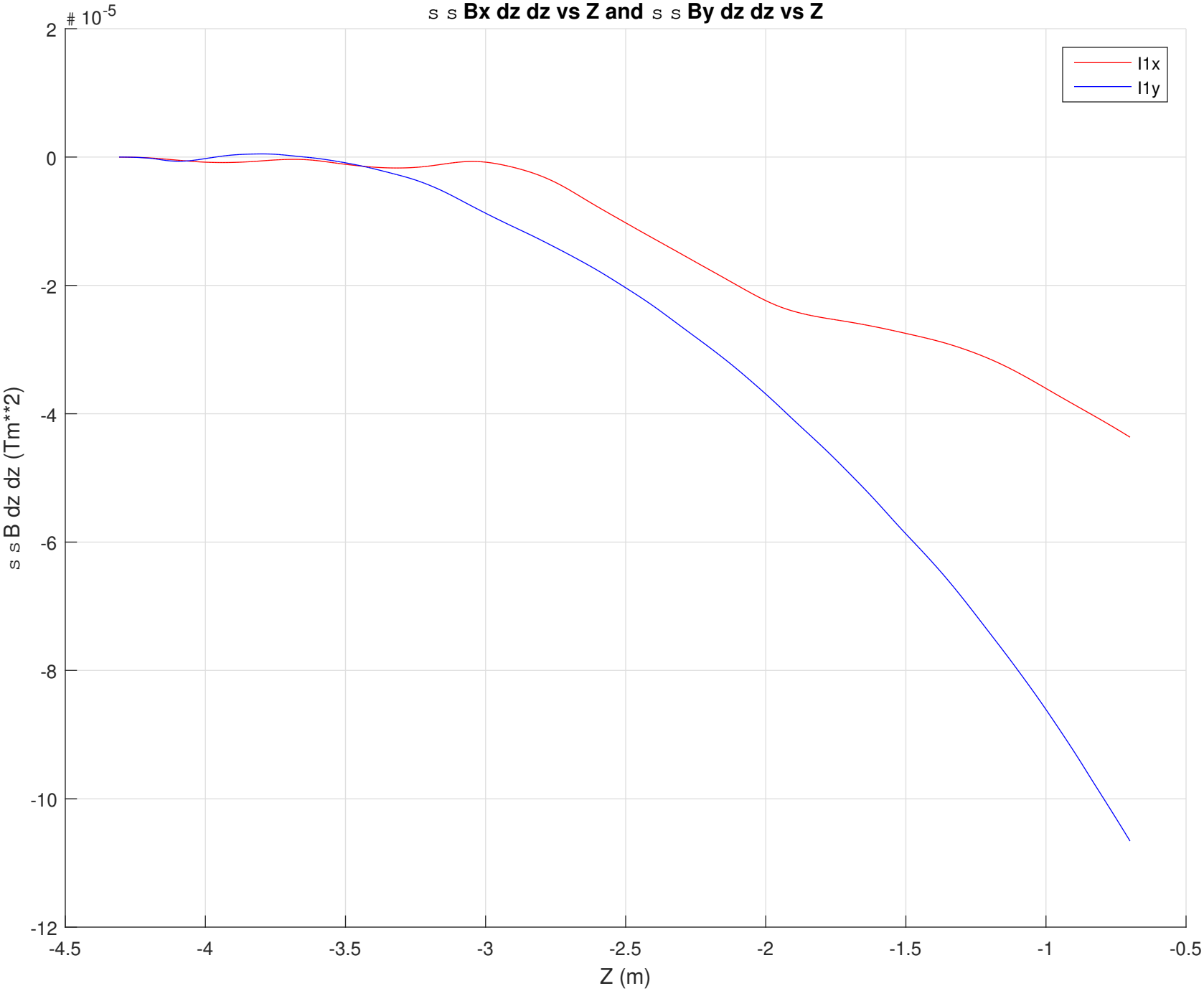
Parameters:
INPUT-FILE-DIR =S:\MagData\LCLS\Undulator\HXU-32\DATASET0001\Fine Tuning\Z Scans-Fluxgate\Run 016\
INPUT-FILE-NAME =x+00000-y+000-bscanz.dat
INPUT-FILE-TYPE =FLUXGATE
CORR-REQUIRED =0
GAMMA =7827.79
DEVICE CENTER POSITION ZM =0 m
DEVICE ENTRANCE POSITION ZM =0 m
DEVICE EXIT POSITION ZM =0 m
NOM-LAMBDA-R =1.5e-10 m

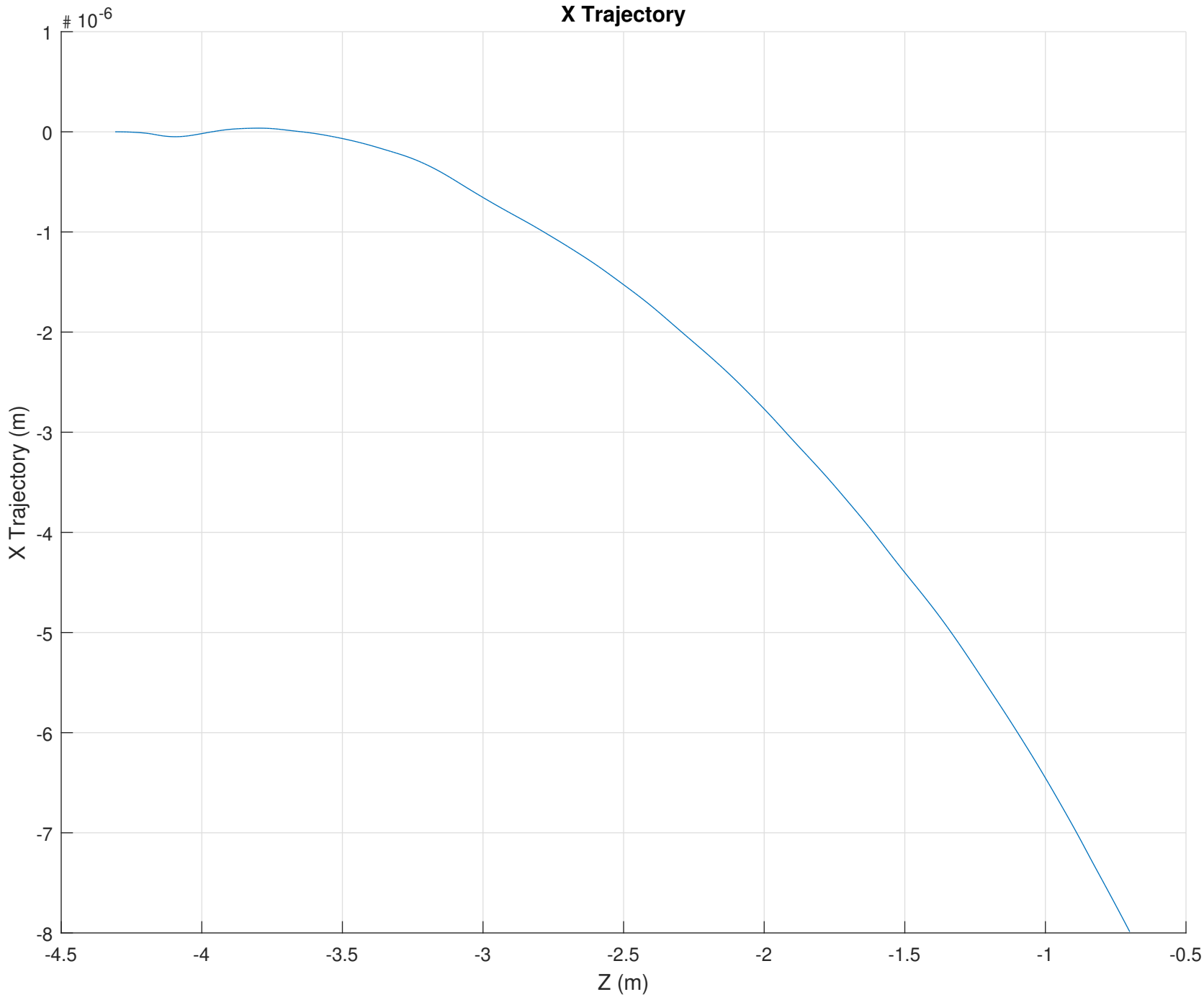

Bx, By, Bz vs Zm
10^-4
Bx (T)
1
0.5
0
-0.5
-1
-1.5
-4.5
-4
-3.5
-3
-2.5
-2
-1.5
-1
-0.5
10^-4
By (T)
2
1
0
-1
-2
Bz (T)
Zm Measurement Position (m)

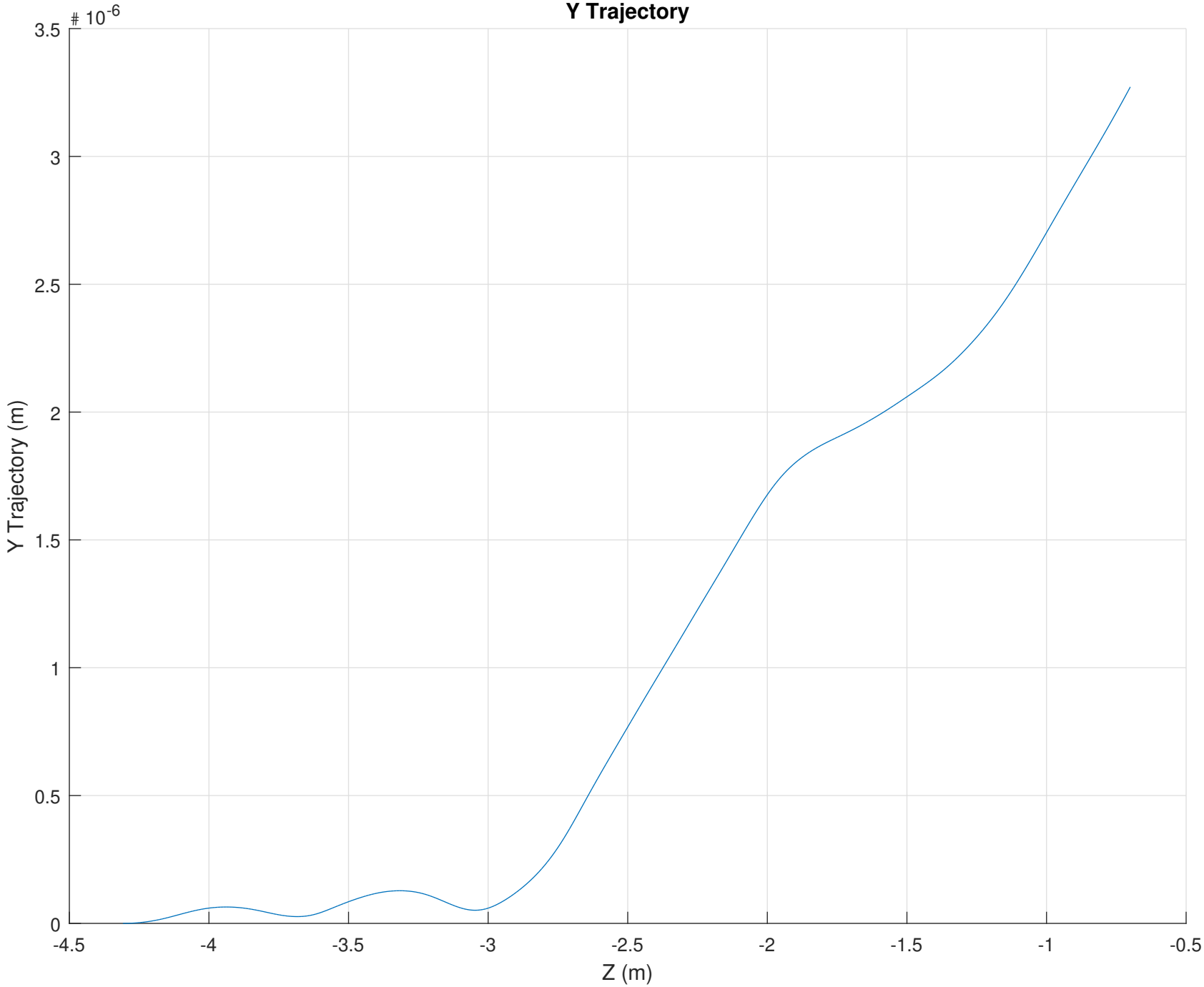

Bx and By vs Z
10^-4
1.5
1
0.5
0
-0.5
-1
-1.5
Bx, By (T)
-4.5
-4
-3.5
-3
-2.5
-2
-1.5
-1
-0.5
Z (m)
Bx
By

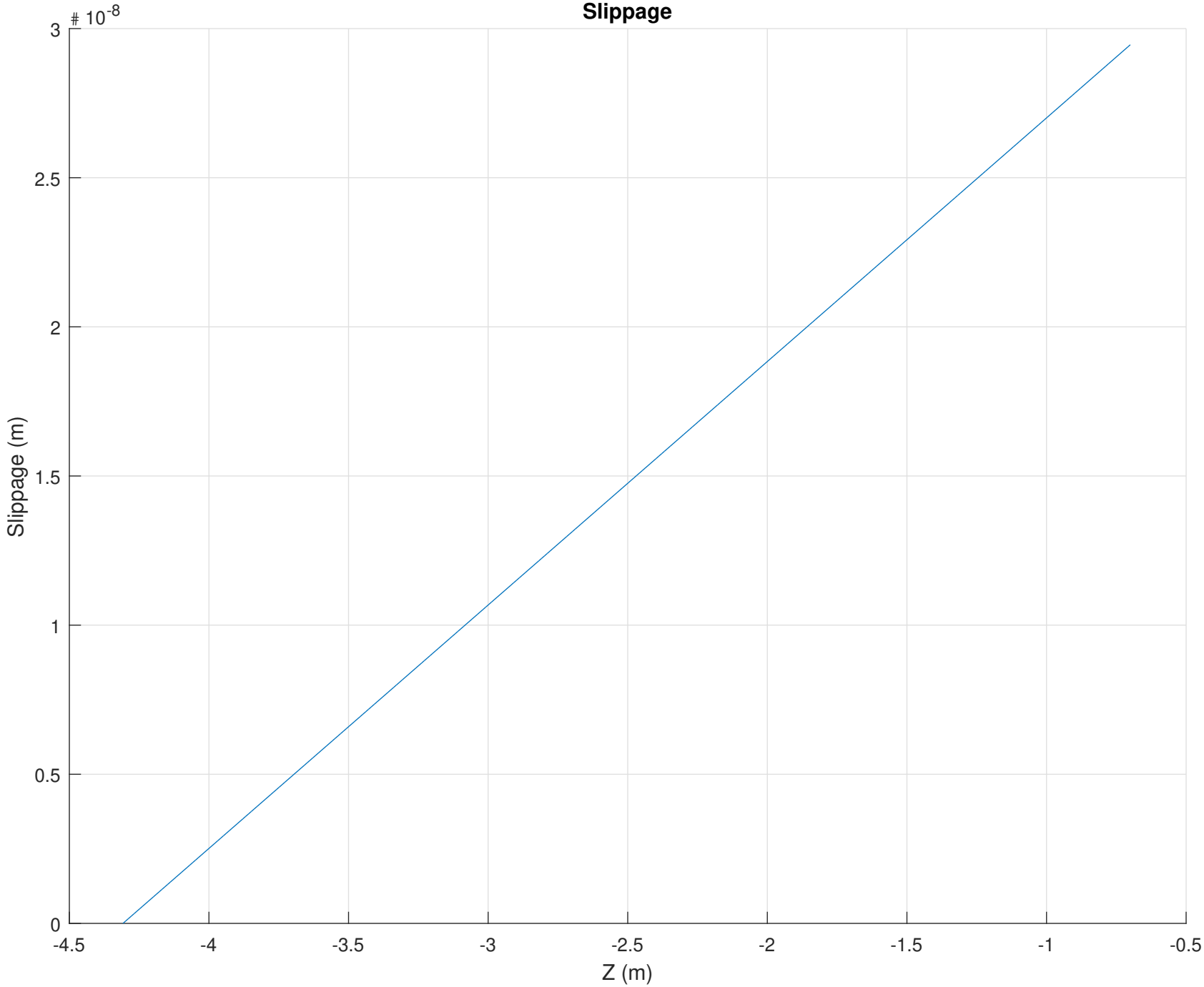

Bx vs Z With Fitted Peaks And Zeros
10^-4
1
0.5
0
-0.5
-1
-1.5
Bx (T)
-4.5
-4
-3.5
-3
-2.5
-2
-1.5
-1
-0.5
Z (m)

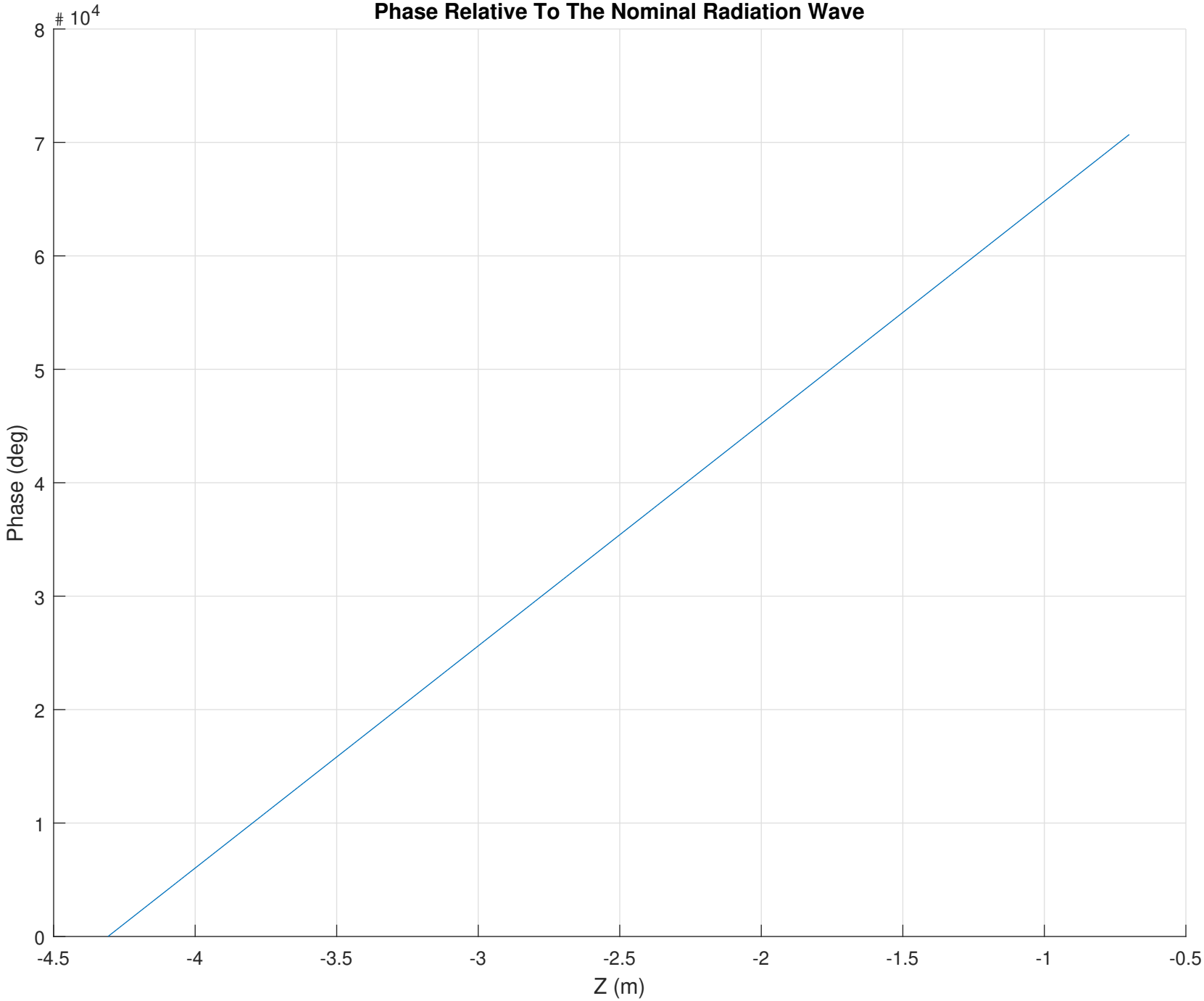

By vs Z With Fitted Peaks And Zeros
10^-4
1.5
1
0.5
0
-0.5
-1
-1.5
By (T)
-4.5
-4
-3.5
-3
-2.5
-2
-1.5
-1
-0.5
Z (m)


∫∫ Bx dz dz vs Z and ∫∫ By dz dz vs Z
10^-5
2
0
-2
-4
-6
-8
-10
-12
∫∫B dz dz (Tm**2)
-4.5
-4
-3.5
-3
-2.5
-2
-1.5
-1
-0.5
Z (m)
I1x
I1y


X Trajectory
10^-6
1
0
-1
-2
-3
-4
-5
-6
-7
-8
X Trajectory (m)
-4.5
-4
-3.5
-3
-2.5
-2
-1.5
-1
-0.5
Z (m)


Y Trajectory
10^-6
3.5
3
2.5
2
1.5
1
0.5
0
Y Trajectory (m)
-4.5
-4
-3.5
-3
-2.5
-2
-1.5
-1
-0.5
Z (m)


Slippage
10^-8
3
2.5
2
1.5
1
0.5
0
Slippage (m)
-4.5
-4
-3.5
-3
-2.5
-2
-1.5
-1
-0.5
Z (m)


Phase Relative To The Nominal Radiation Wave
10^4
8
7
6
5
4
3
2
1
0
Phase (deg)
-4.5
-4
-3.5
-3
-2.5
-2
-1.5
-1
-0.5
Z (m)