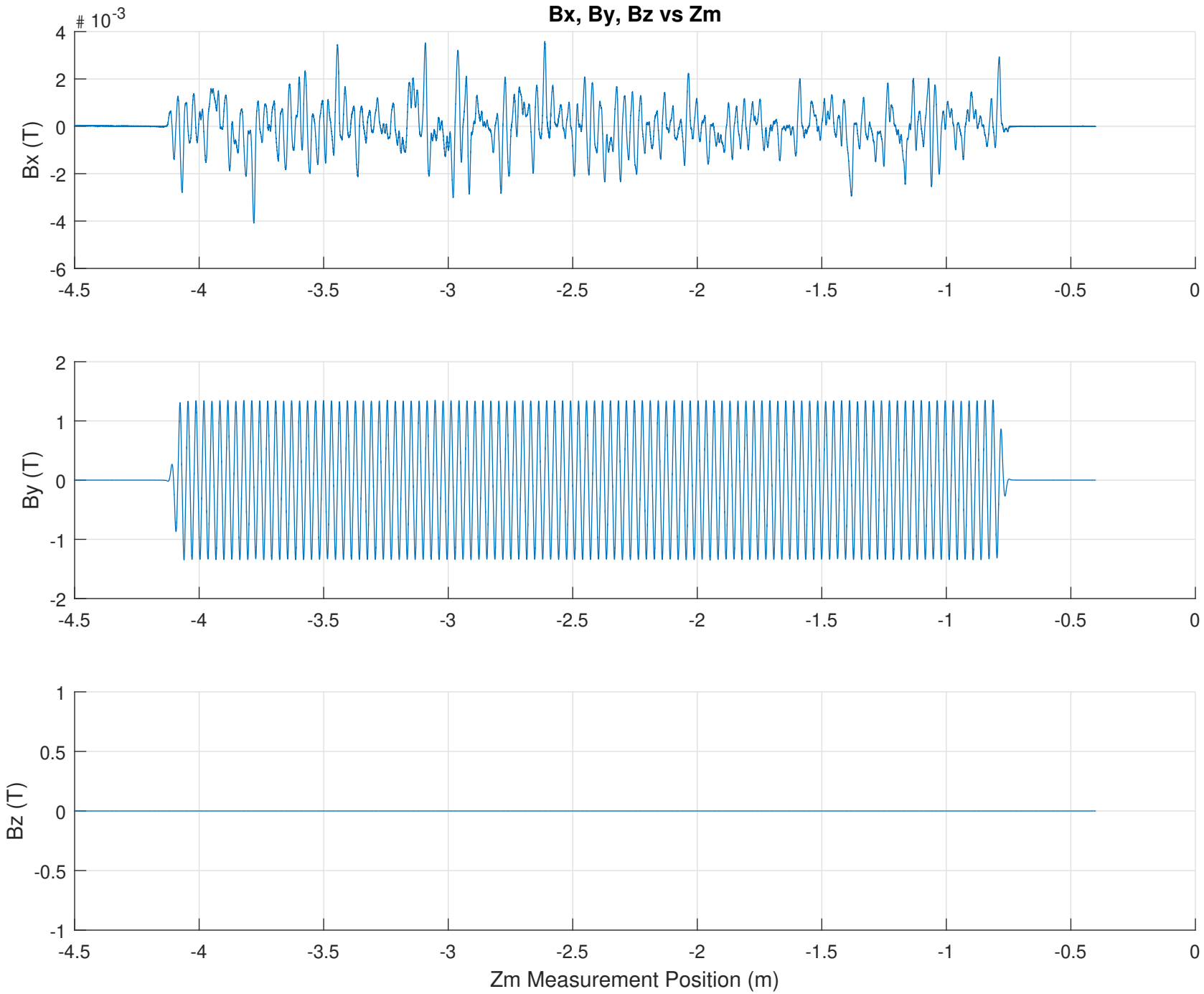
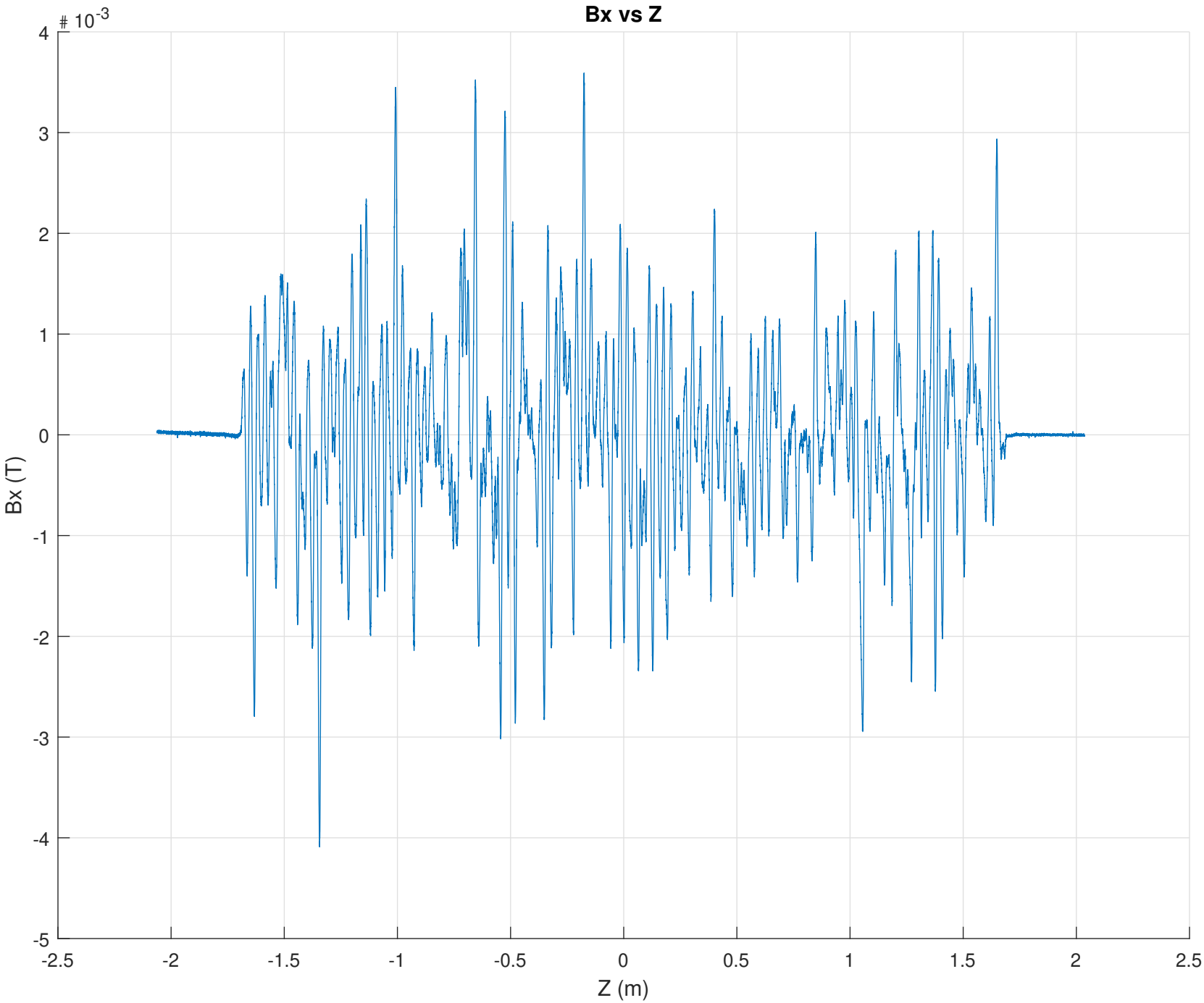
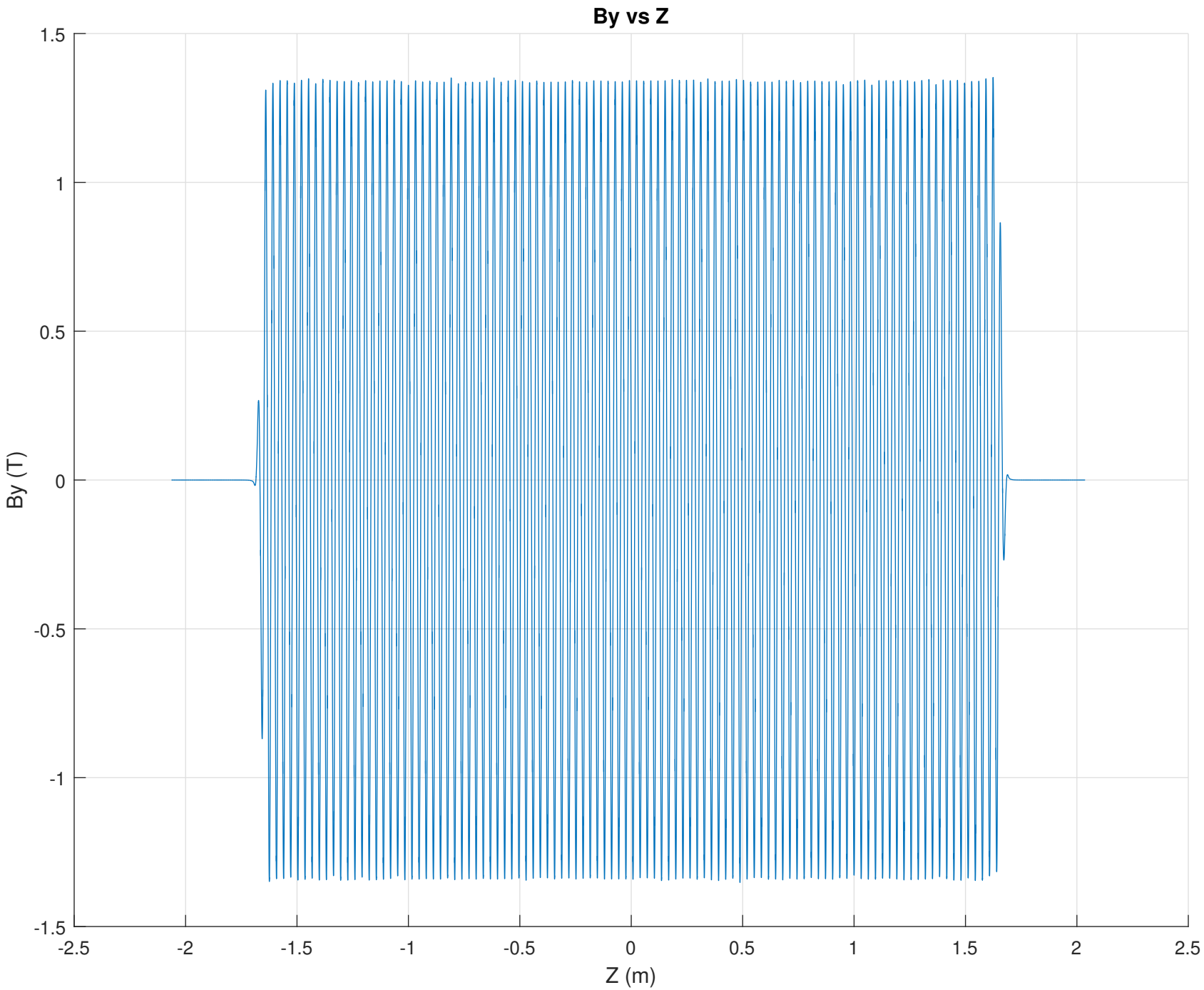
SLAC Magnetic Measurements

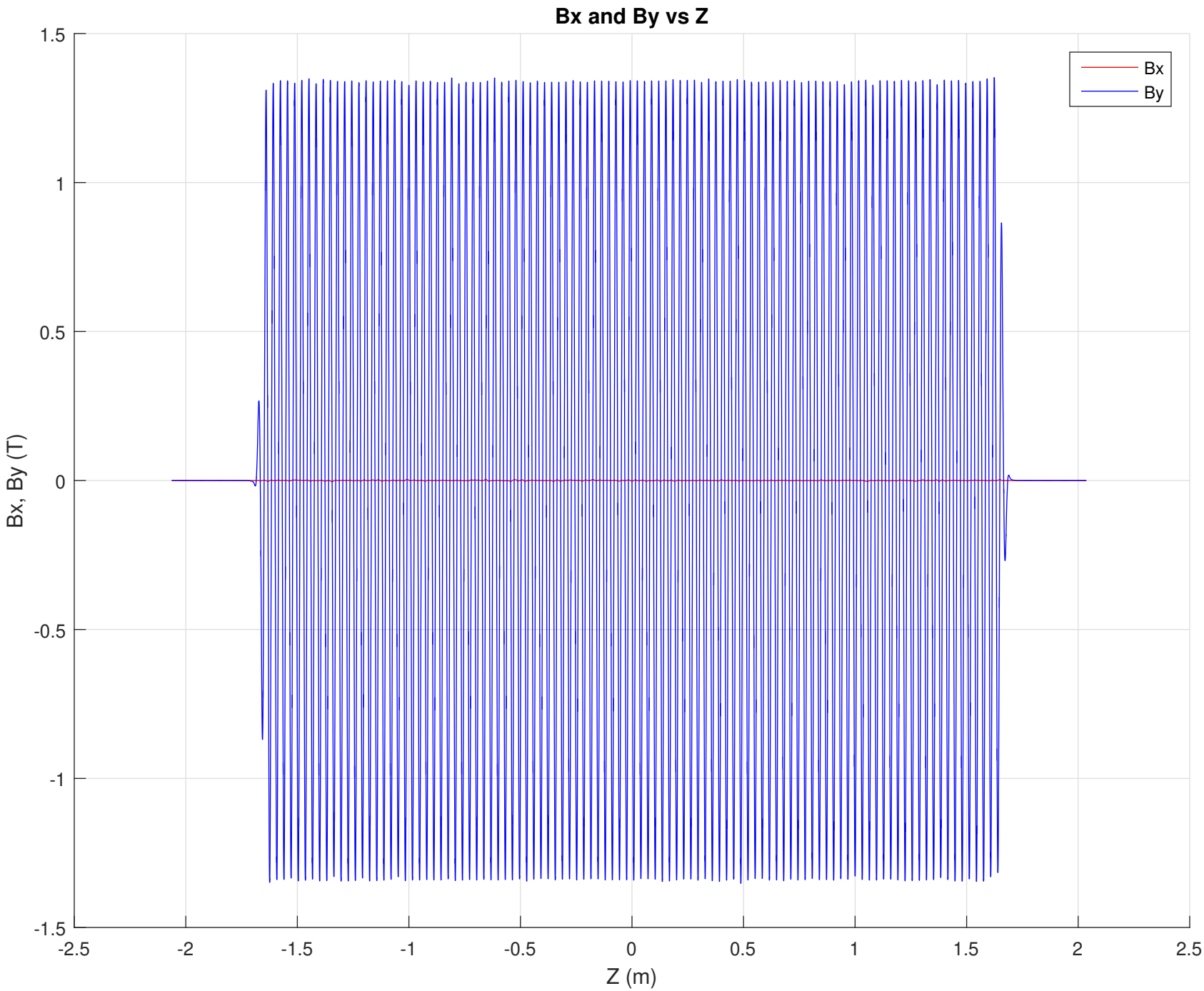
Phase Analysis

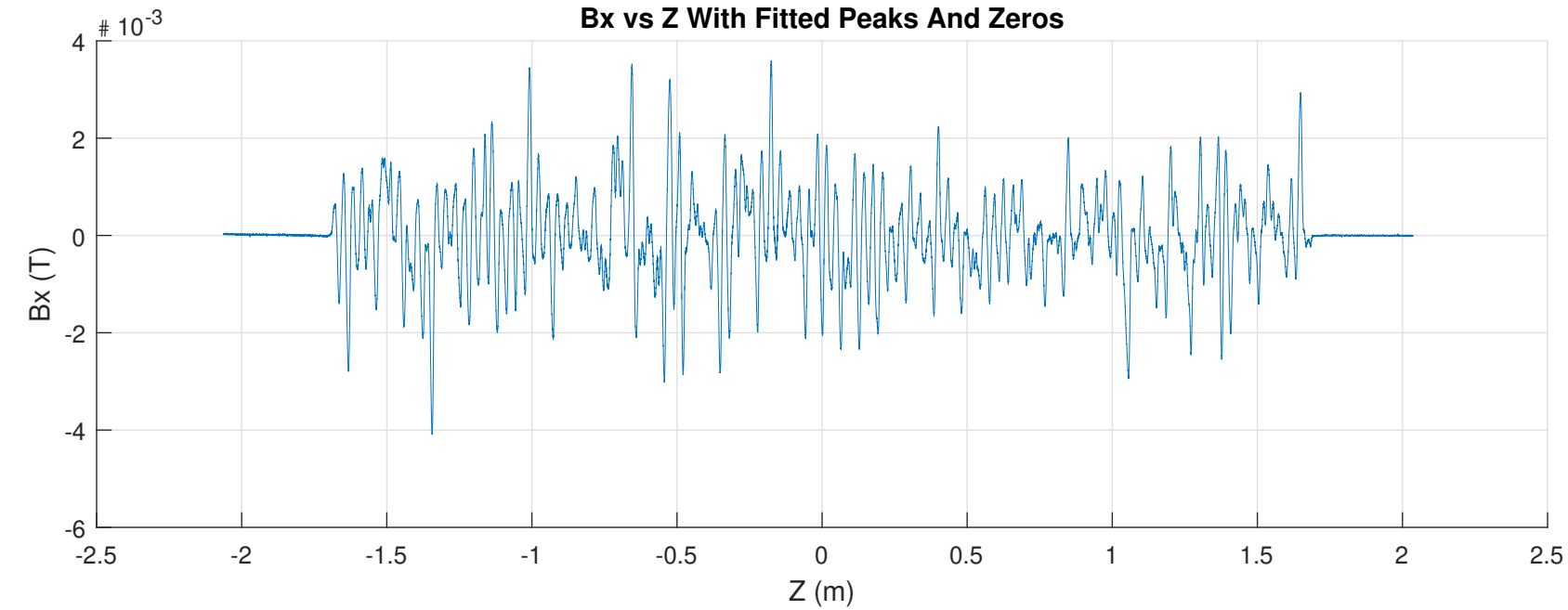
Parameters:
INPUT-FILE-DIR =S:\MagData\LCLS\Undulator\HXU-32\DATASET0001\Fine Tuning\Z Scans\Run 062\
INPUT-FILE-NAME =x+00000-y+000-bscanz.dat
INPUT-FILE-TYPE =ZVXYBXYH
CORR-REQUIRED =0
GAMMA =7827.79
NOM-LAMBDA-U =0.032
NOM-K-VALUE =2.6963
NOM-LAMBDA-R =1.2103e-09
NUM-POLES =210
NUM-END-POLES =4
CELL-LENGTH =3.656

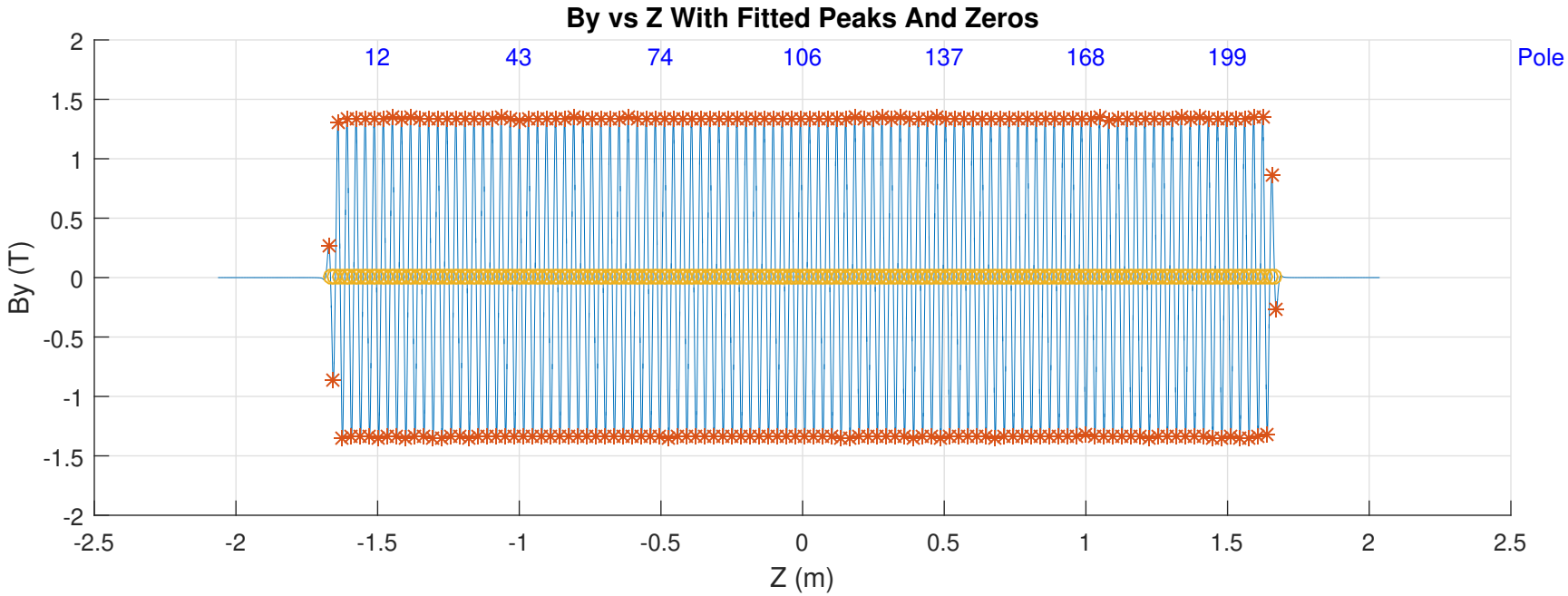

Bx, By, Bz vs Zm
10^-3
Bx (T)
By (T)
Bz (T)
Zm Measurement Position (m)

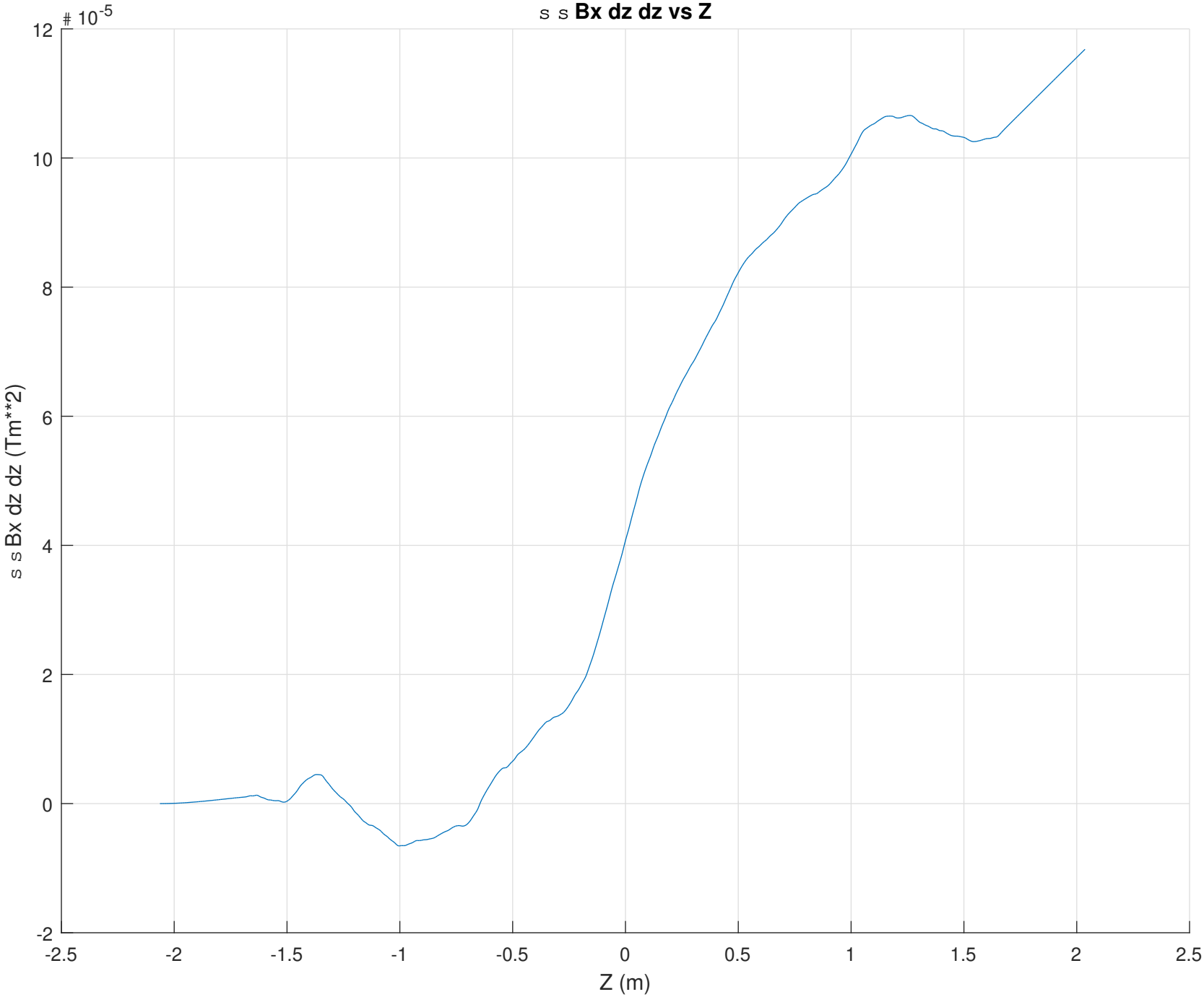

Bx vs Z
10^-3
4
3
2
1
0
-1
-2
-3
-4
-5
Bx (T)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z (m)

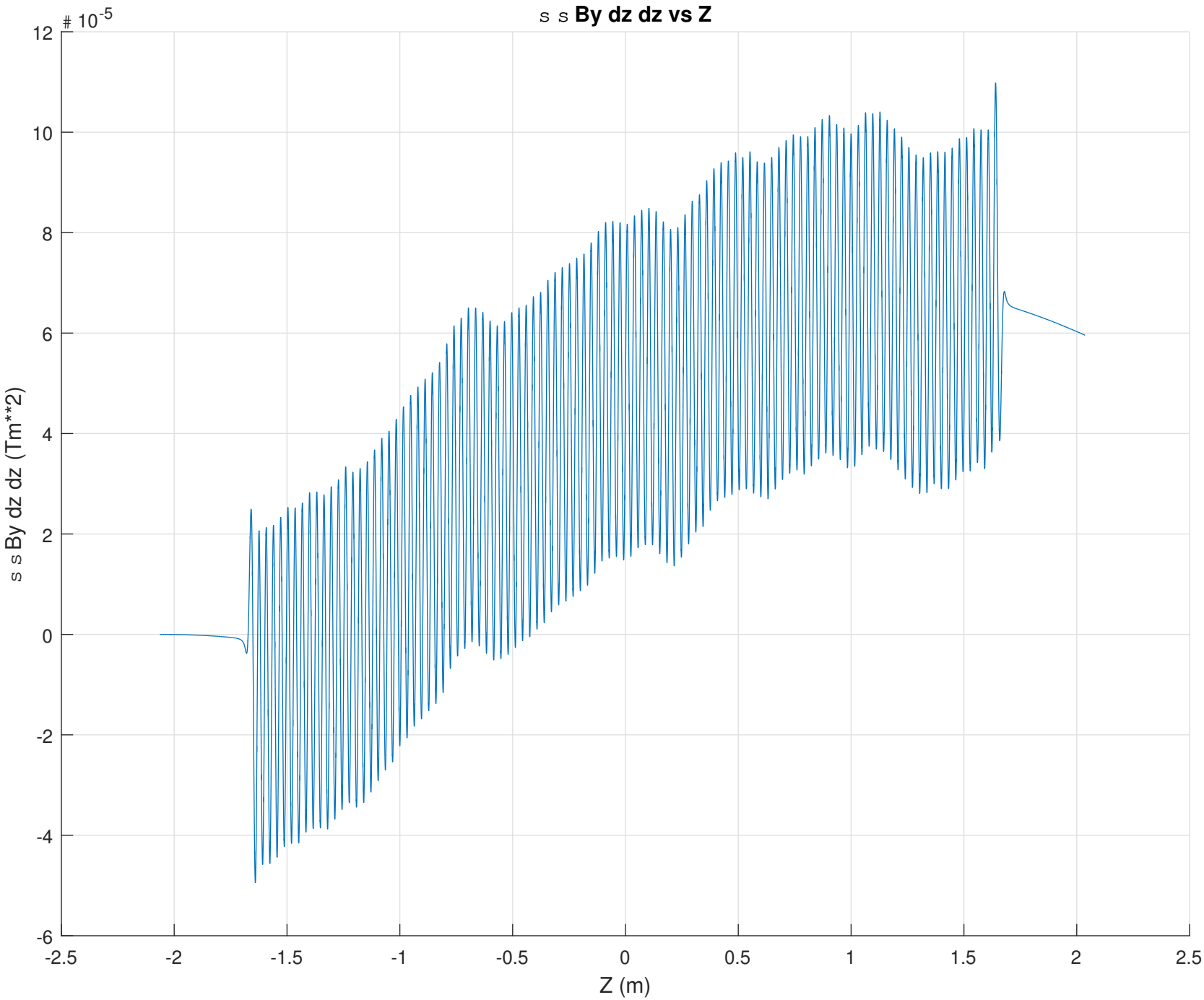

By vs Z
By (T)
Z (m)
1.5
1
0.5
0
-0.5
-1
-1.5
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5

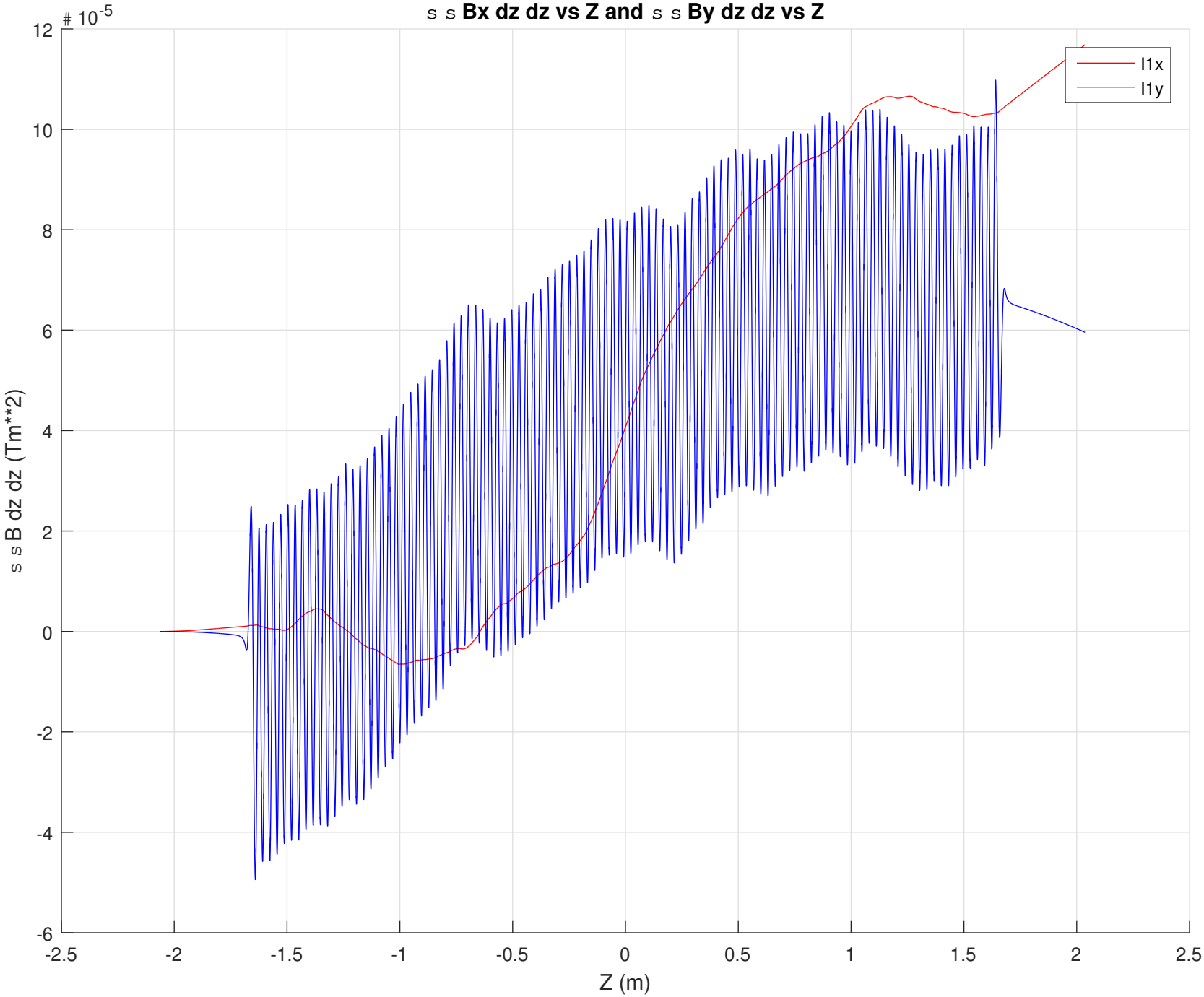

Bx and By vs Z
Bx
By
Bx, By (T)
Z (m)
1.5
1
0.5
0
-0.5
-1
-1.5
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5

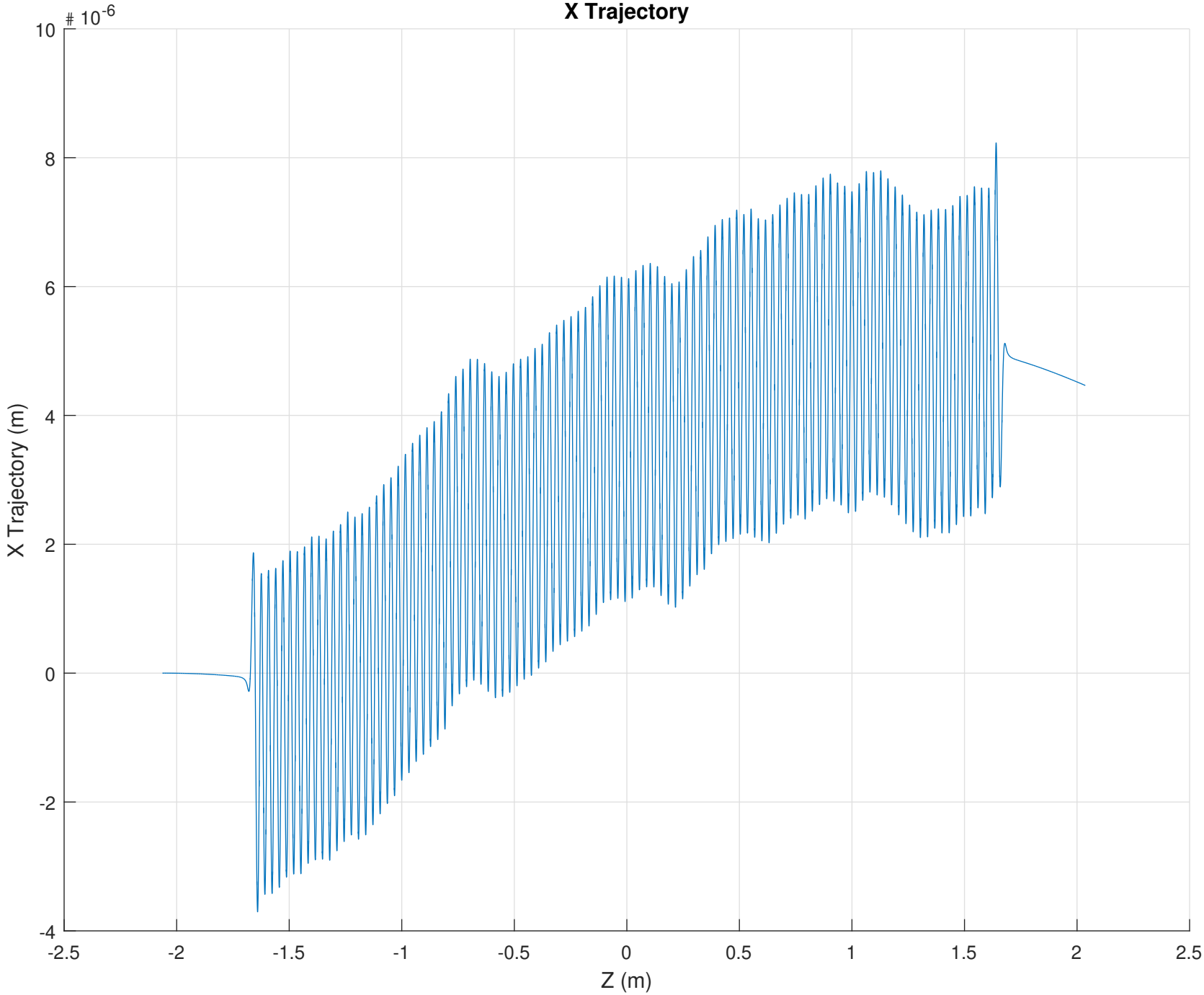

Bx vs Z With Fitted Peaks And Zeros
10^-3
Bx (T)
Z (m)

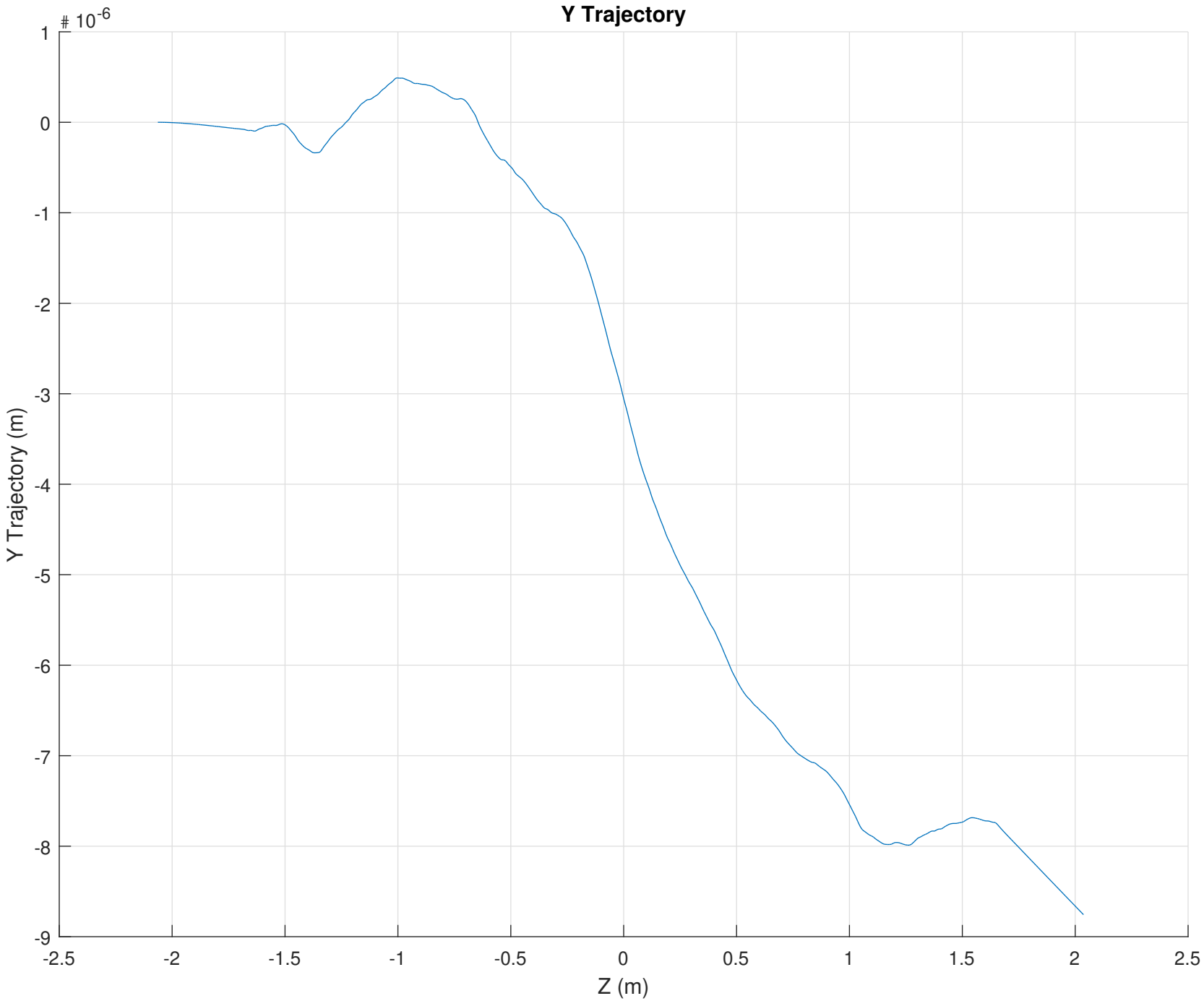

By vs Z With Fitted Peaks And Zeros
12
43
74
106
137
168
199
Pole
By (T)
Z (m)

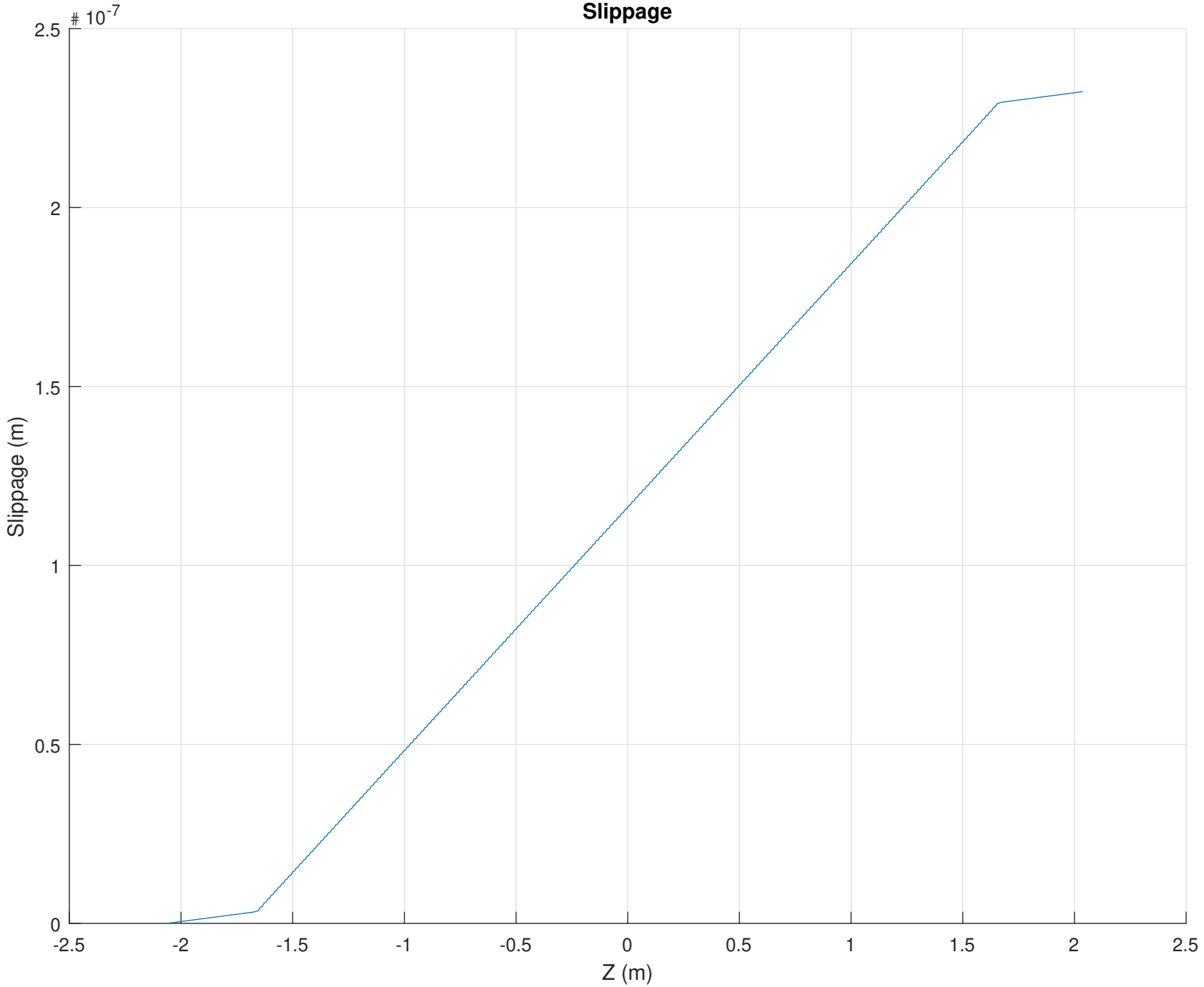

s s Bx dz dz vs Z
10^-5
12
10
8
6
4
2
0
-2
s s Bx dz dz (Tm**2)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z (m)

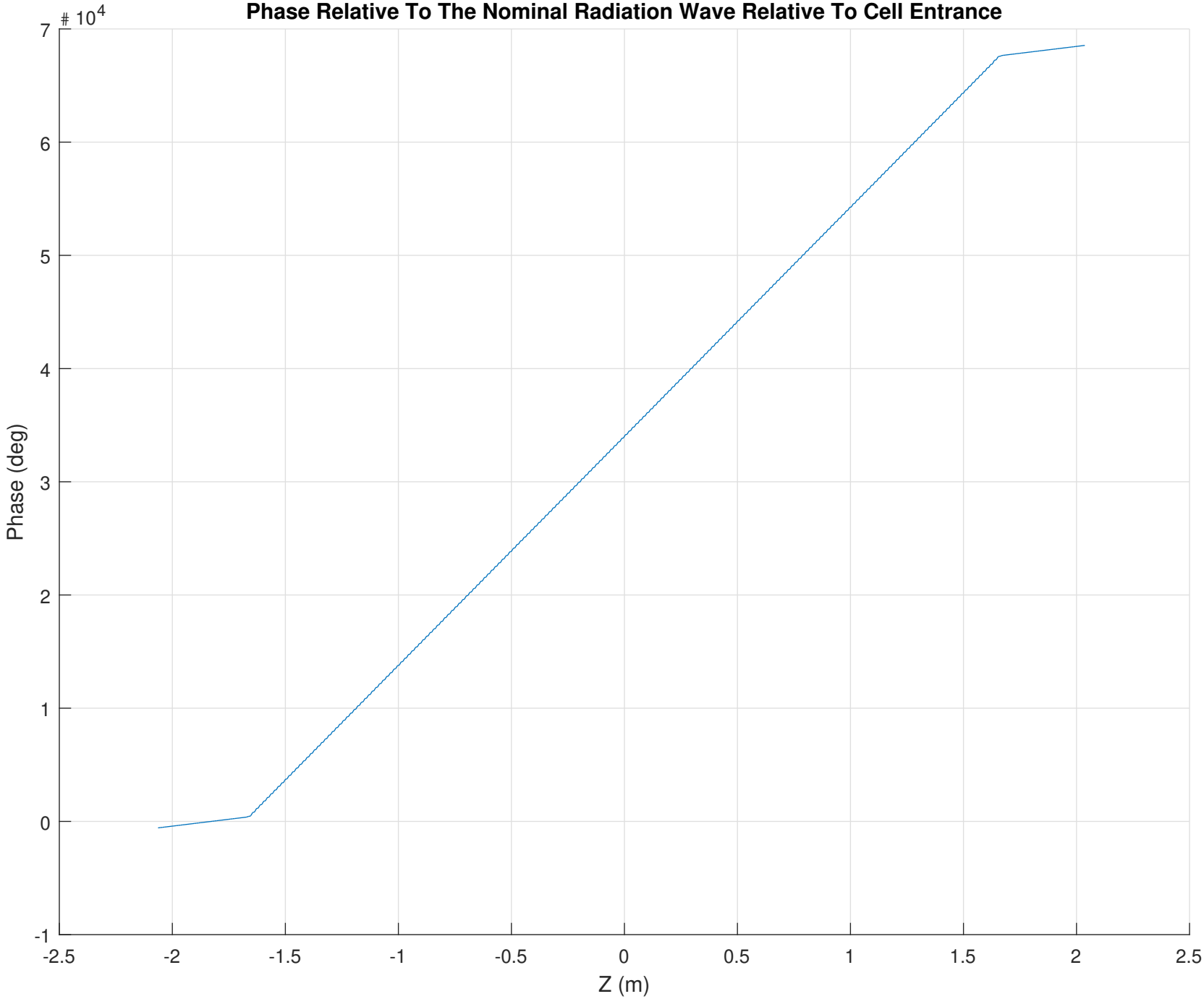

s s By dz dz vs Z
10^-5
12
10
8
6
4
2
0
-2
-4
-6
s s By dz dz (Tm**2)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z (m)

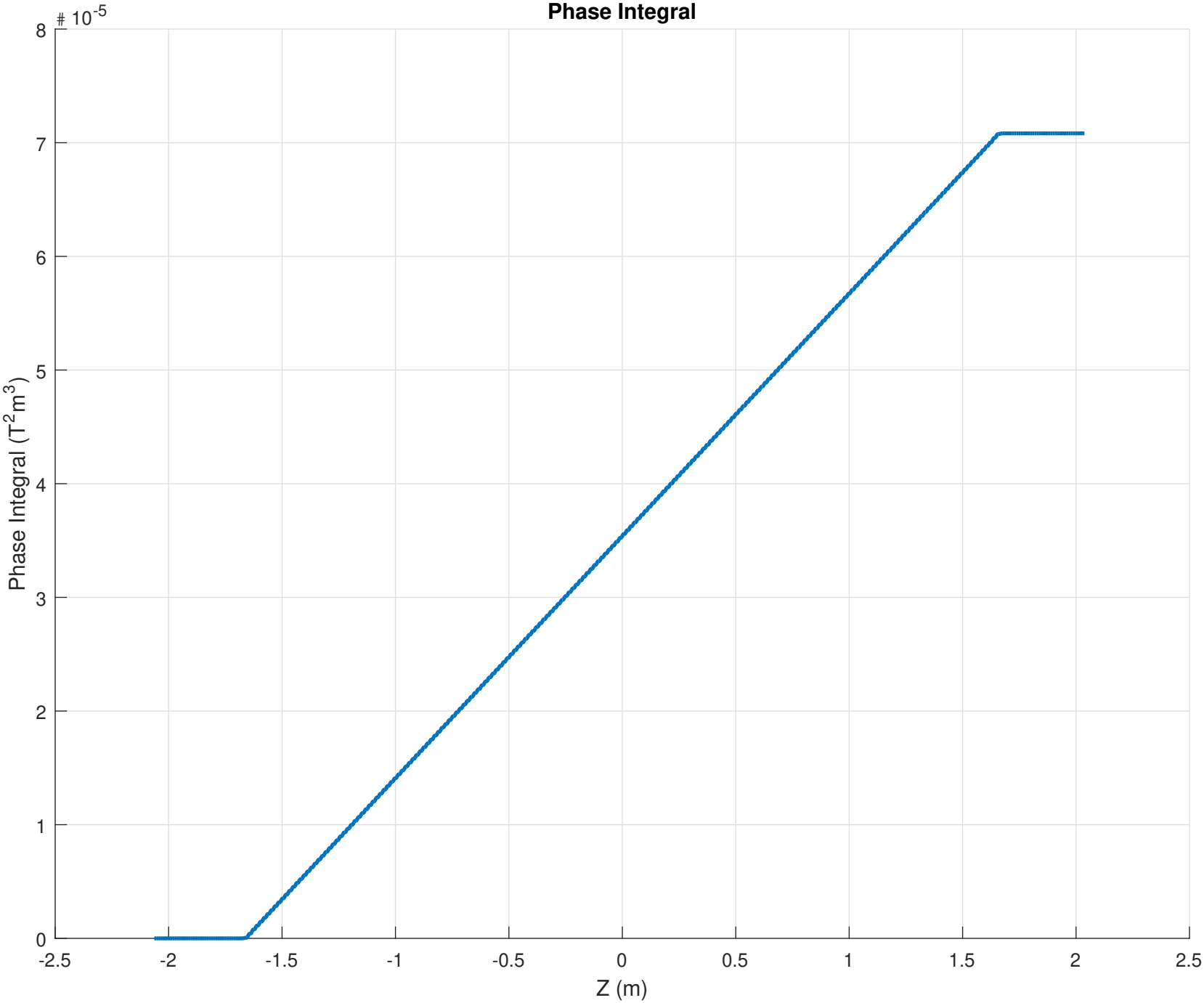

s s Bx dz dz vs Z and s s By dz dz vs Z
10^-5
12
10
8
6
4
2
0
-2
-4
-6
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z (m)
s s B dz dz (Tm**2)
I1x
I1y


X Trajectory
10^-6
10
8
6
4
2
0
-2
-4
X Trajectory (m)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z (m)


Y Trajectory
10^-6
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
Y Trajectory (m)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z (m)


Slippage
10^-7
2.5
2
1.5
1
0.5
0
Slippage (m)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z (m)


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


Phase Integral
10^-5
8
7
6
5
4
3
2
1
0
Phase Integral (T^2m^3)
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
Z (m)