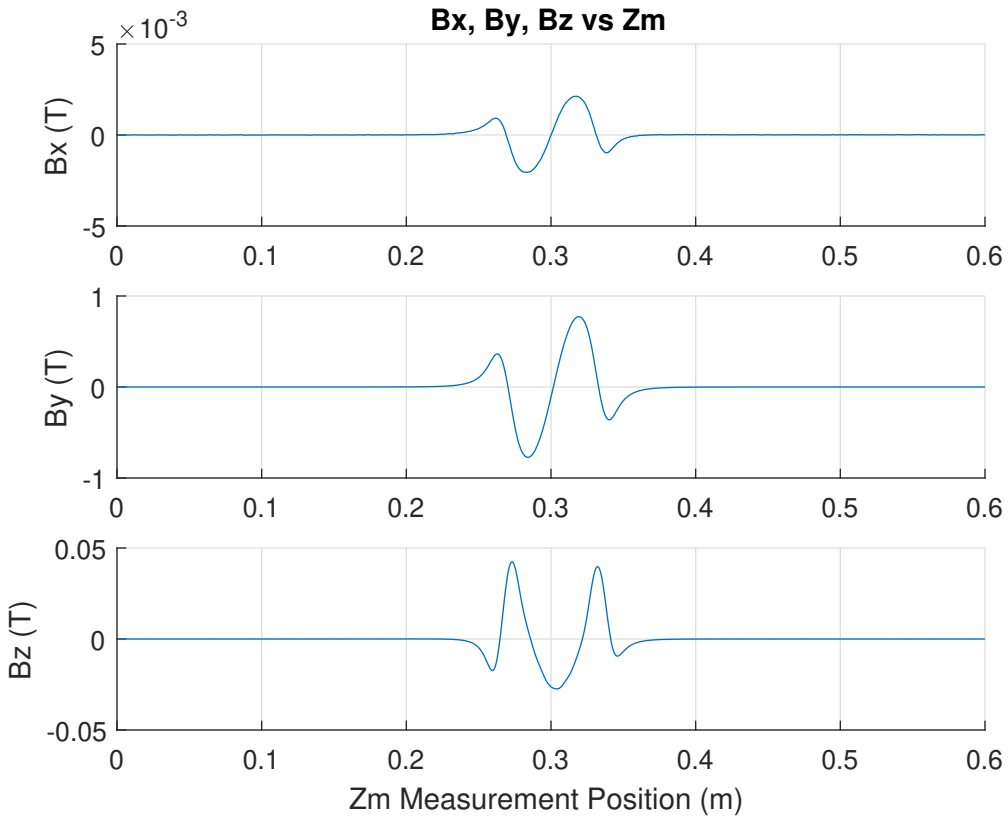
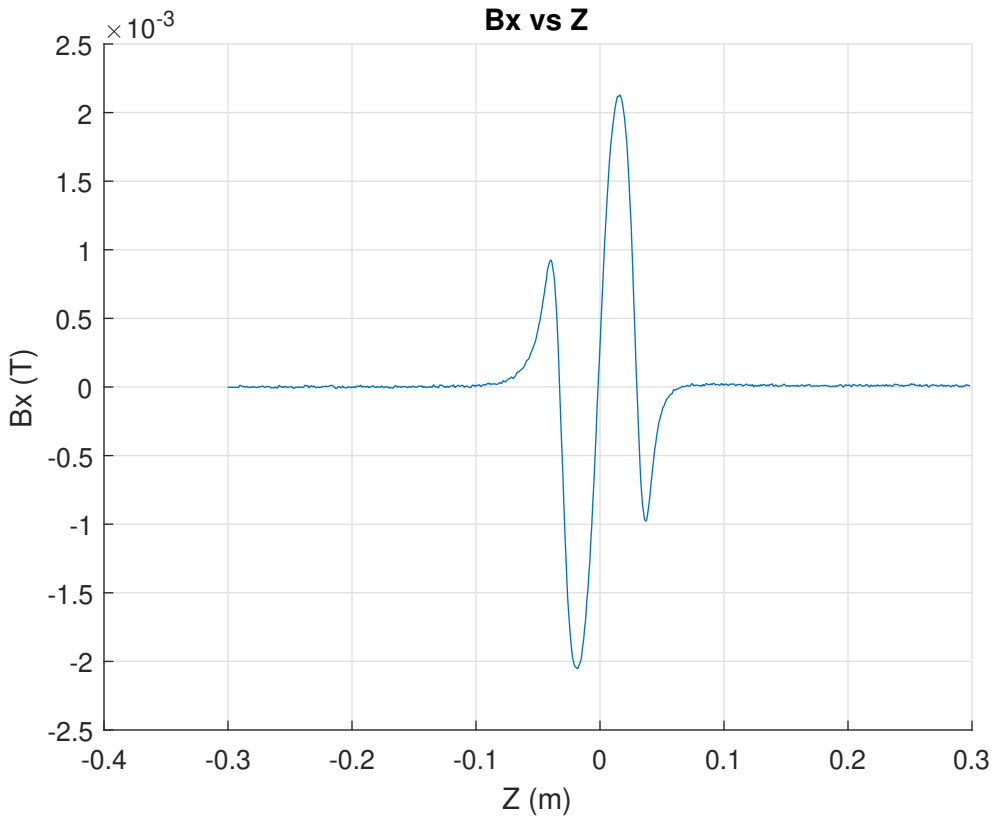
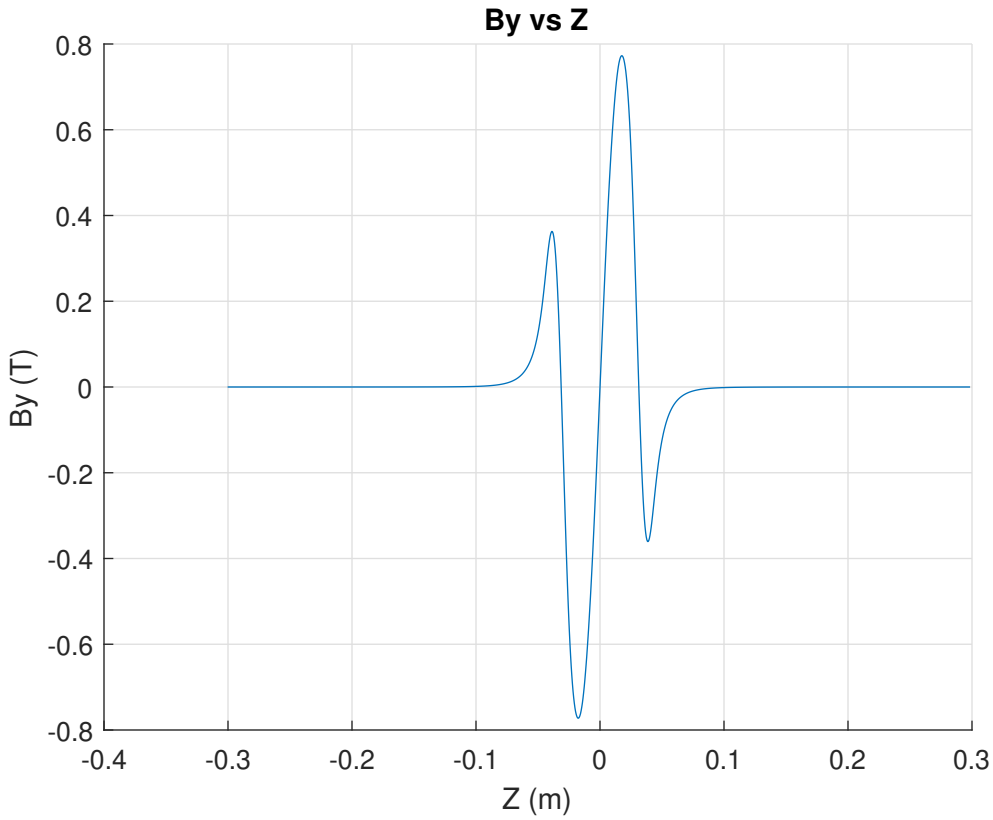
SLAC Magnetic Measurements

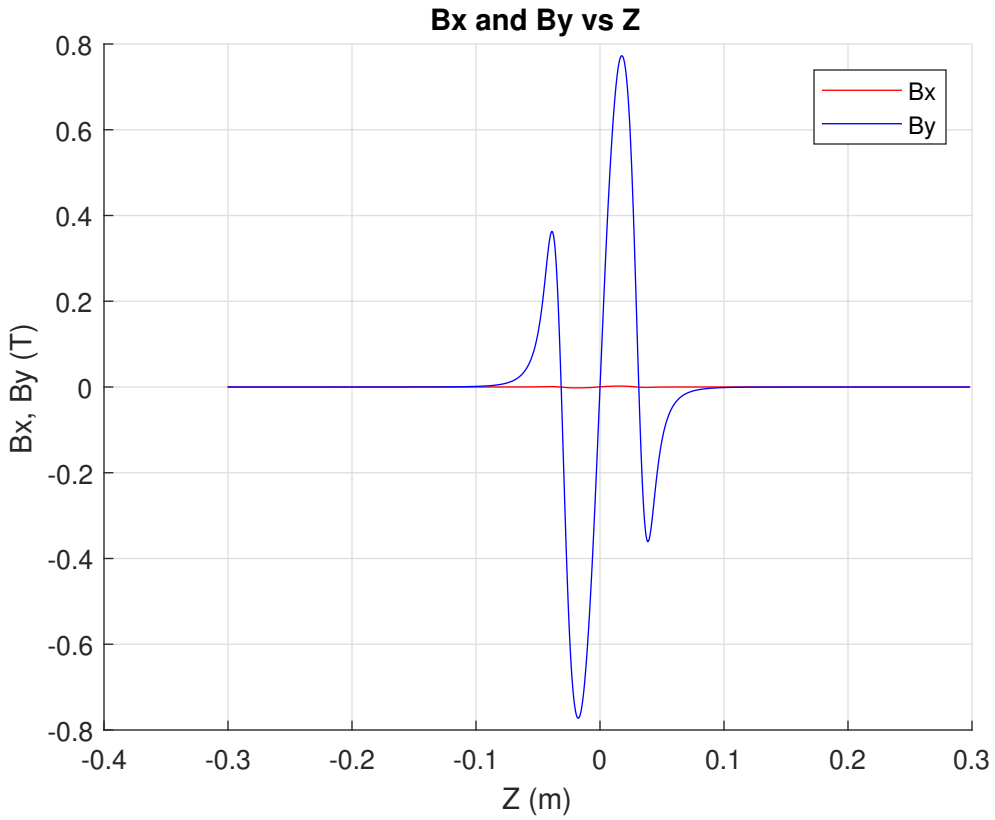
Phase Shifter Analysis

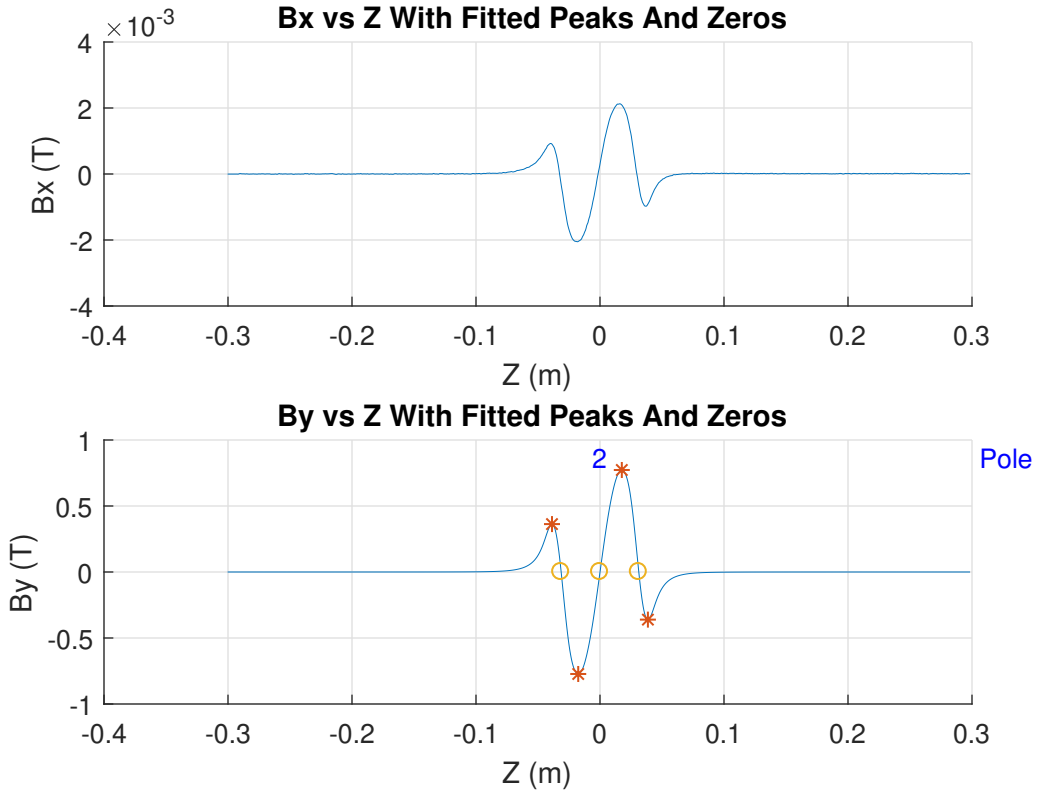
Parameters:
INPUT-FILE-DIR =V:\MET\MagServe\MagData\LCLS-II\Phase Shifter\Danfysik Measurements\SXR 16345
INPUT-FILE-NAME =zscan.dat
INPUT-FILE-TYPE =ZBXYZH
CORR-REQUIRED =0
GAMMA =7827.79
NOM-LAMBDA-U =0.039
NOM-K-VALUE =2.6963
NOM-LAMBDA-R =1.4751e-09
NUM-POLES =4
NUM-END-POLES =0
CELL-LENGTH =0.5

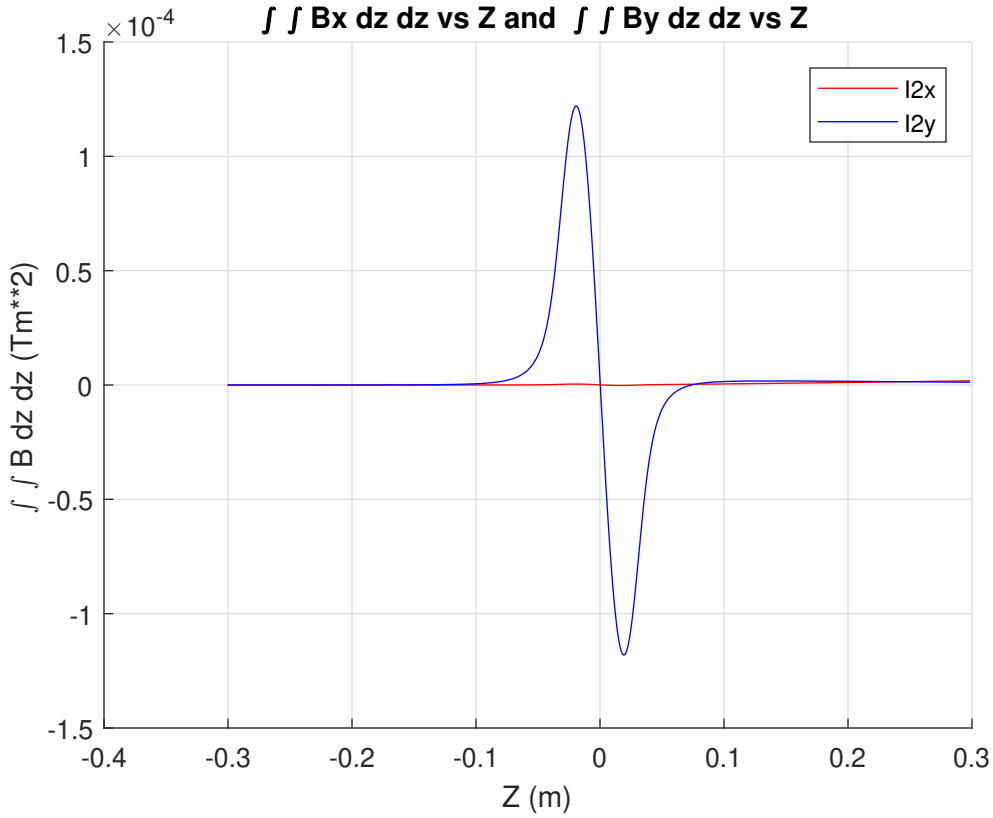

Bx, By, Bz vs Zm
×10^-3
5
0
-5
Bx (T)
1
0
-1
By (T)
0.05
0
-0.05
Bz (T)
0
0.1
0.2
0.3
0.4
0.5
0.6
Zm Measurement Position (m)

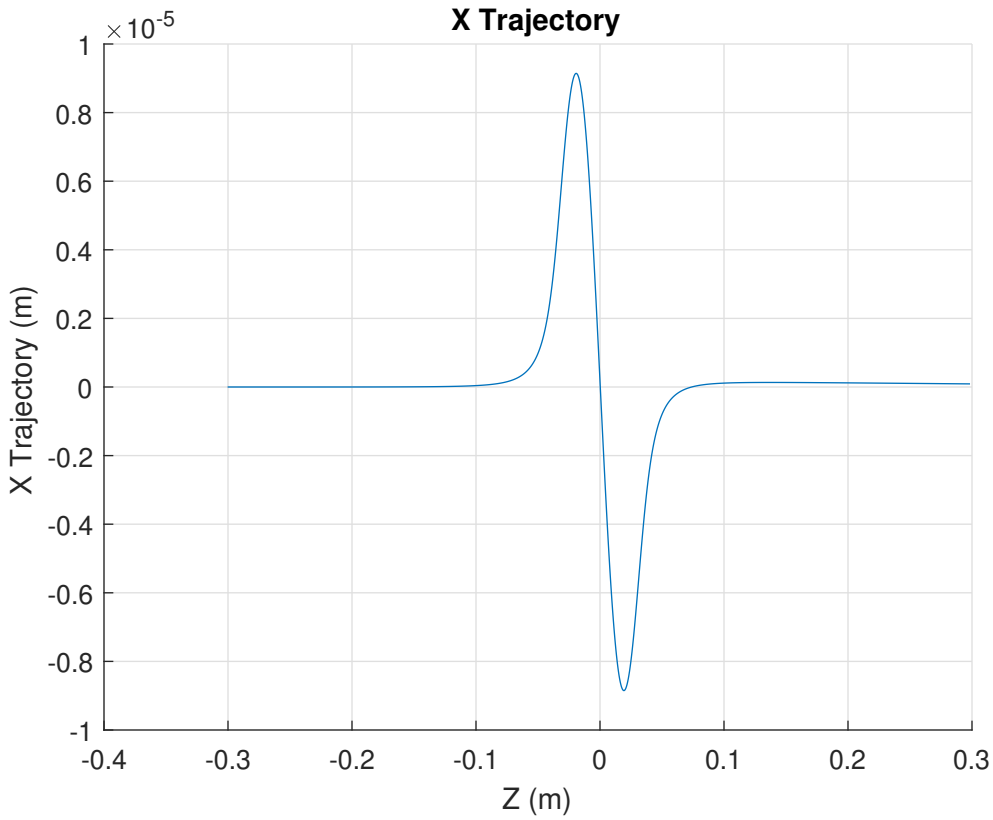

Bx vs Z
×10^-3
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
Bx (T)
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
Z (m)

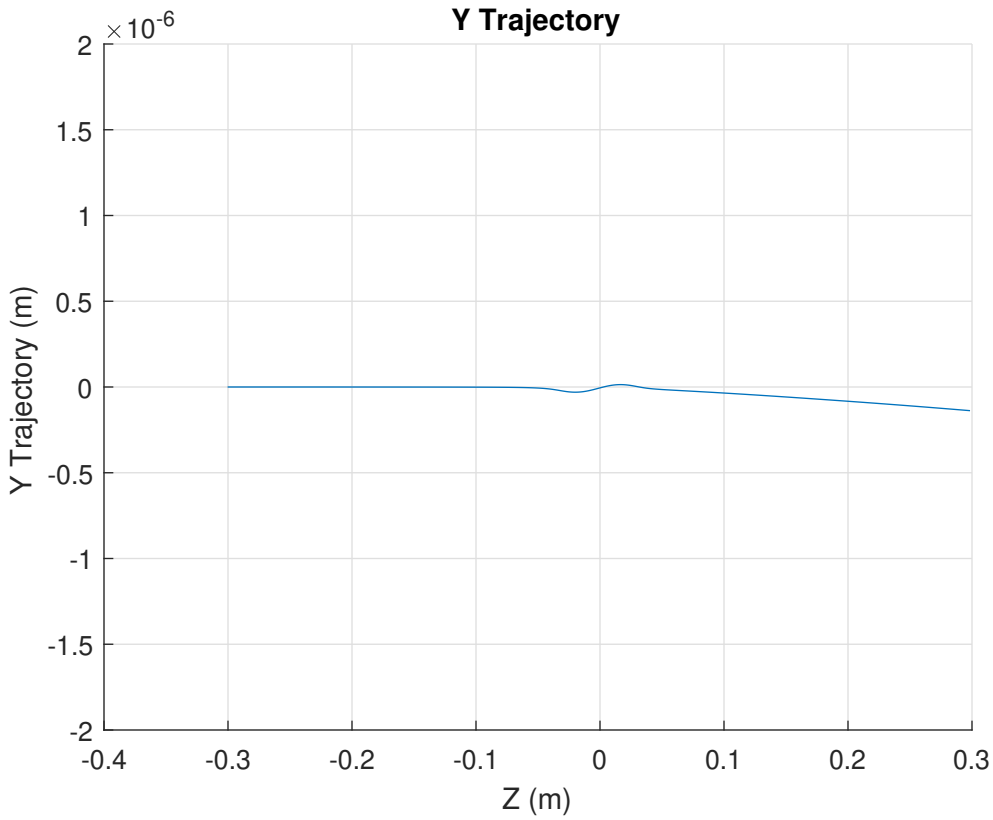

By vs Z
By (T)
Z (m)
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3

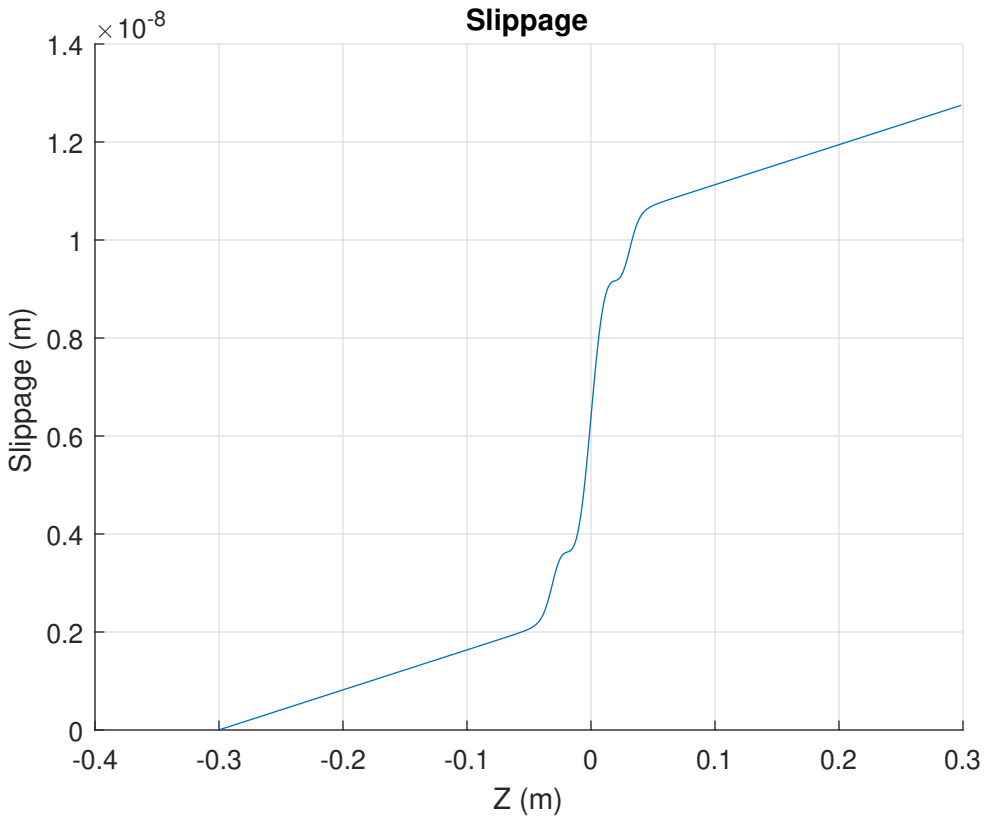

Bx and By vs Z
Bx
By
Bx, By (T)
Z (m)
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3

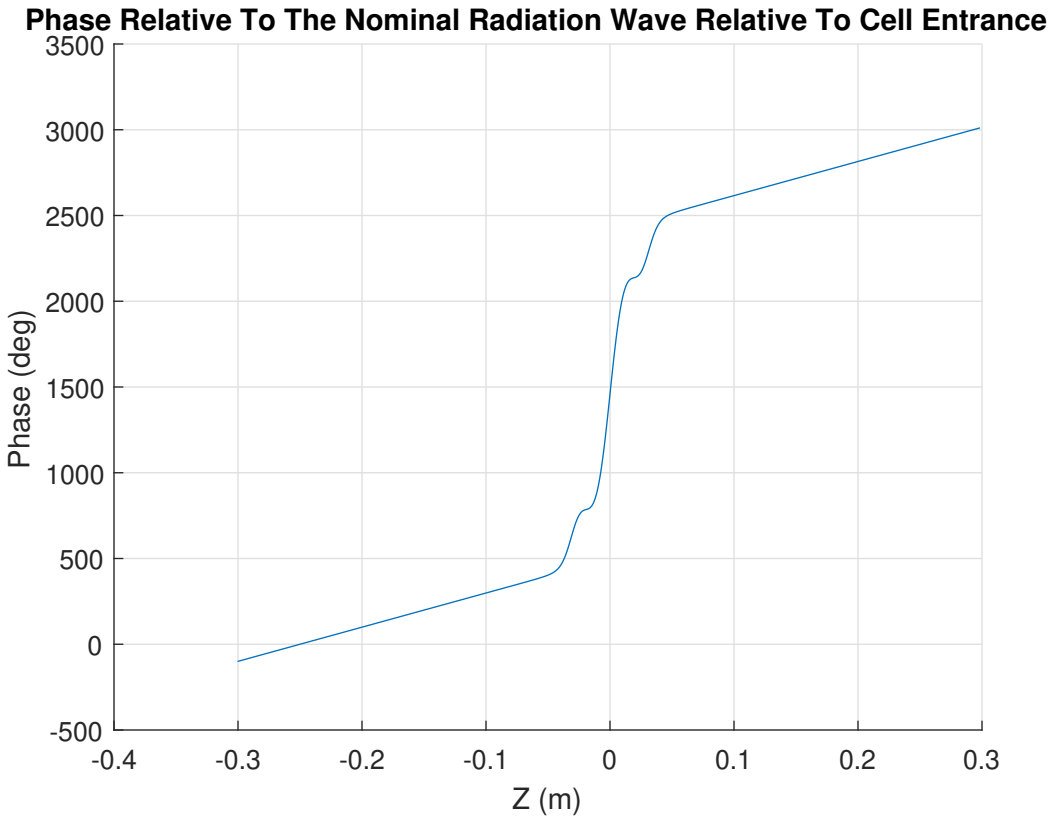

Bx vs Z With Fitted Peaks And Zeros
×10^-3
Bx (T)
Z (m)
By vs Z With Fitted Peaks And Zeros
By (T)
Z (m)
2
Pole

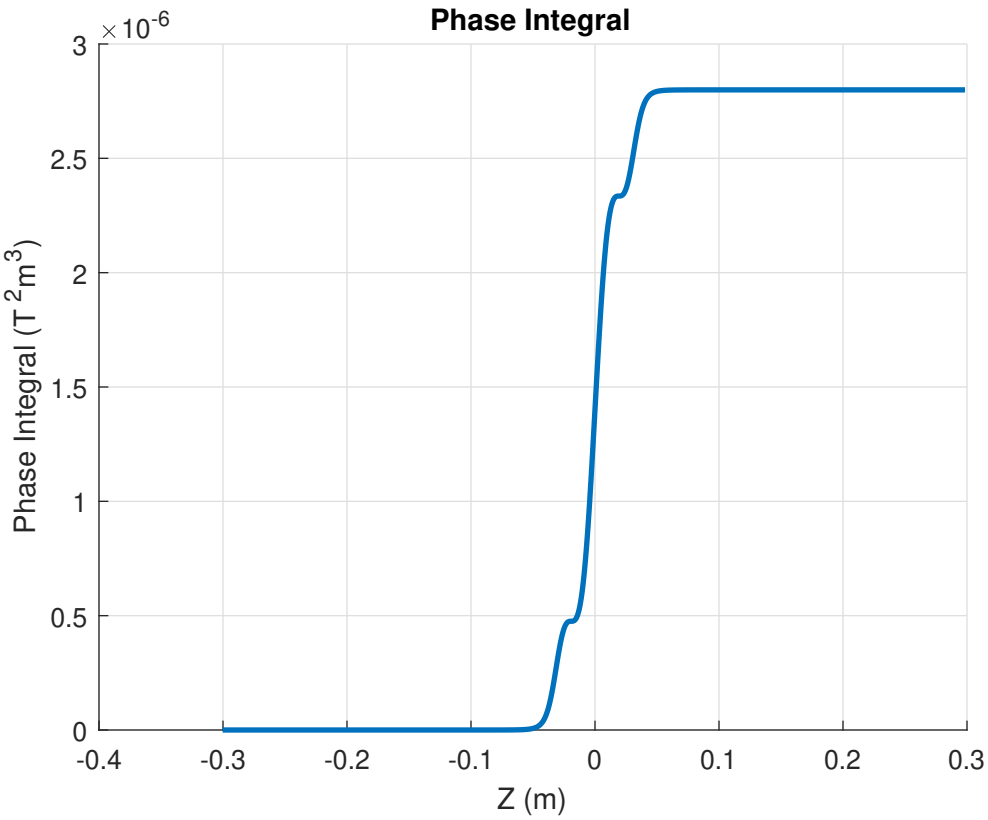

∫ ∫ Bx dz dz vs Z and ∫ ∫ By dz dz vs Z
×10^-4
1.5
1
0.5
0
-0.5
-1
-1.5
∫ ∫ B dz dz (Tm**2)
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
Z (m)
I2x
I2y


X Trajectory
×10-5
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
X Trajectory (m)
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
Z (m)


Y Trajectory
×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
×10^-8
1.4
1.2
1
0.8
0.6
0.4
0.2
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
3500
3000
2500
2000
1500
1000
500
0
-500
Phase (deg)
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
Z (m)


Phase Integral
×10^-6
3
2.5
2
1.5
1
0.5
0
Phase Integral (T^2m^3)
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
Z (m)