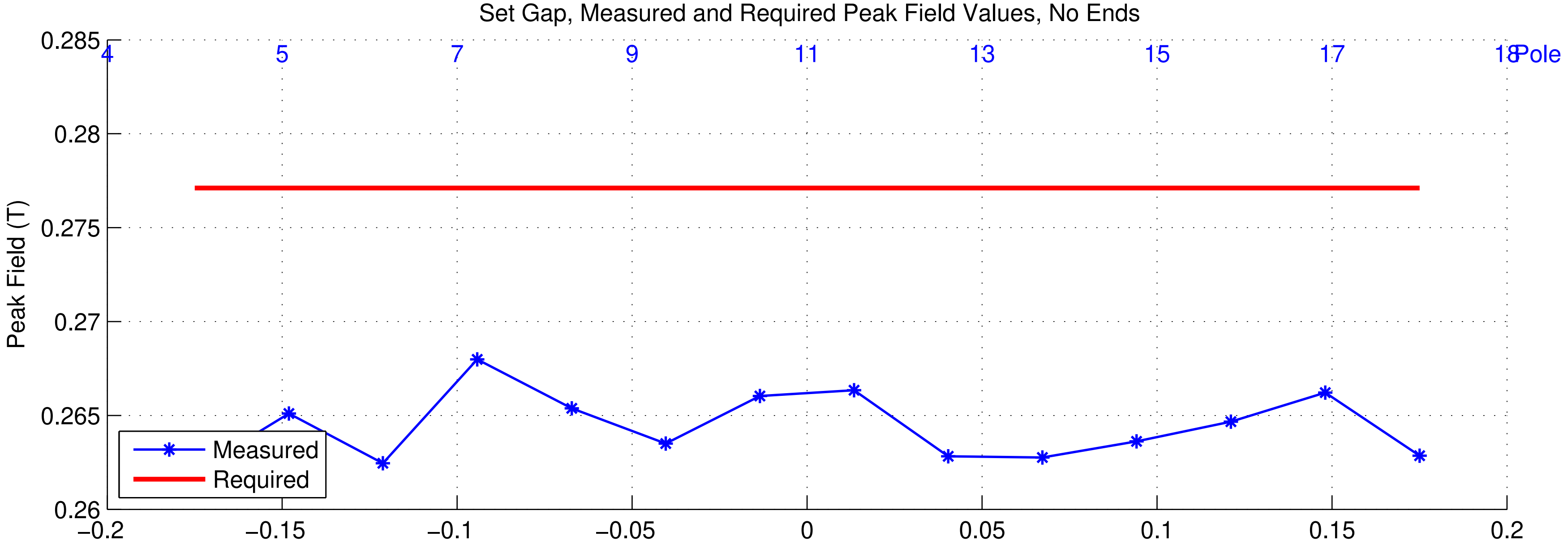
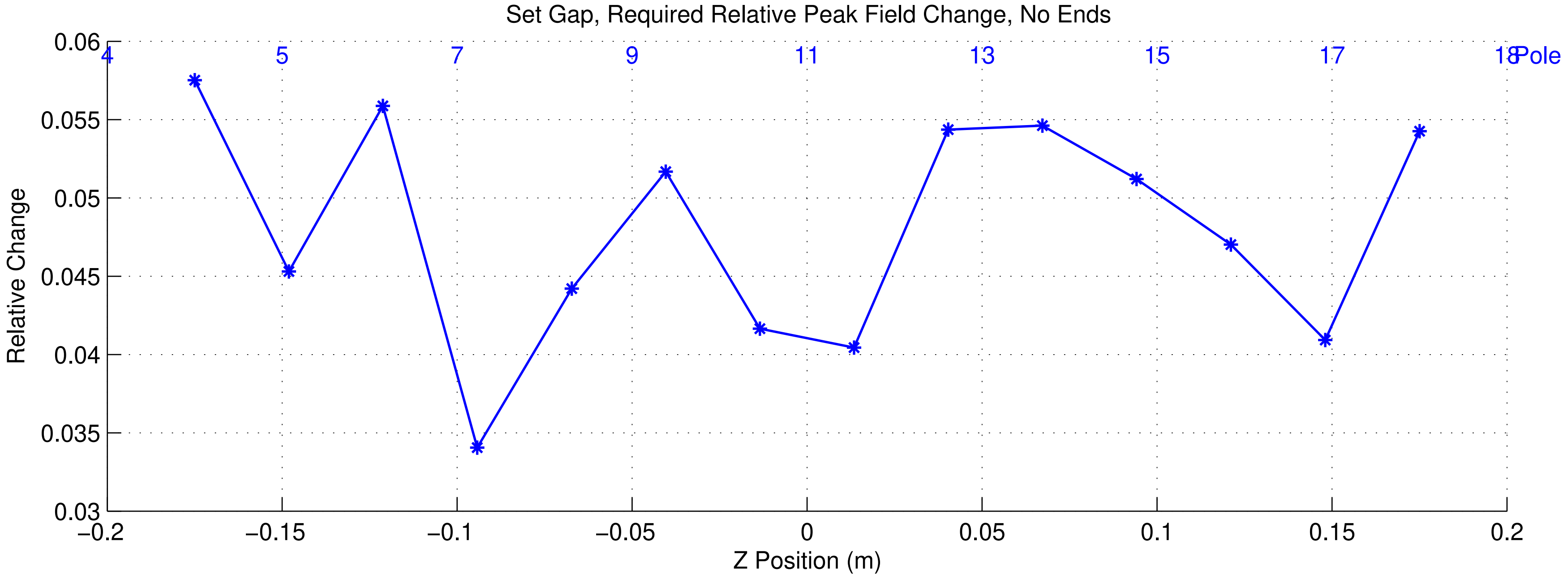
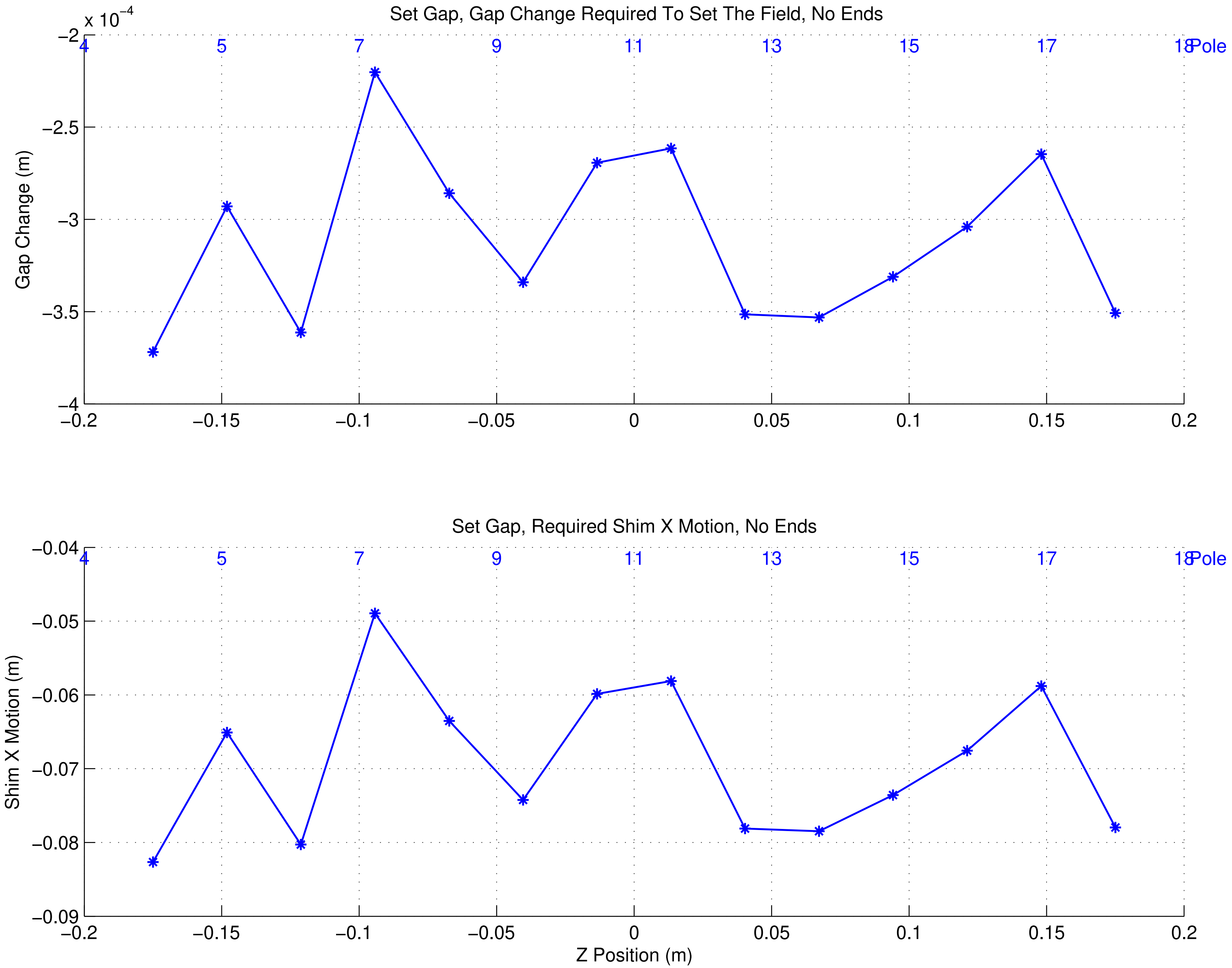
SLAC Magnetic Measurements

Planar Insertion Device Shim Analysis

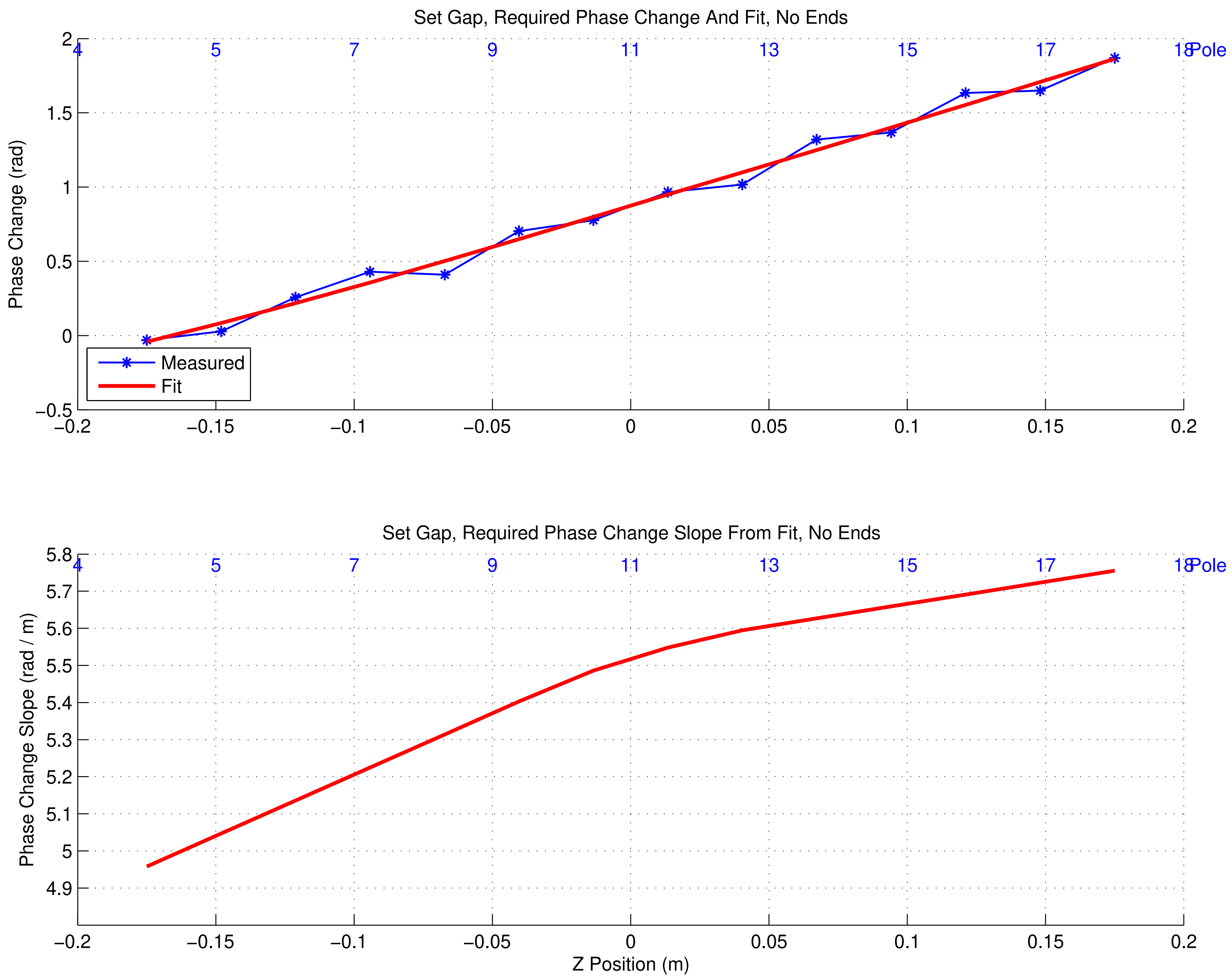
Parameters:
INPUT−FILE−DIR =C:\Magdata\LHU−Run 022\
INPUT−FILE−NAME =x+00000−y+000−bscanz.dat
INPUT−FILE−TYPE =ZVXYBXYH
CORR−REQUIRED =0
GAMMA =264.1884
NOM−LAMBDA−U =0.054
NOM−K−VALUE =1.398
NOM−LAMBDA−R =7.6487e−007
NUM−POLES =22
NUM−END−POLES =4
CELL−LENGTH =0.351


Set Gap, Measured and Required Peak Field Values, No Ends
Peak Field (T)
0.285
0.28
0.275
0.27
0.265
0.26
4
5
7
9
11
13
15
17
18
Pole
Measured
Required
−0.2
−0.15
−0.1
−0.05
0
0.05
0.1
0.15
0.2

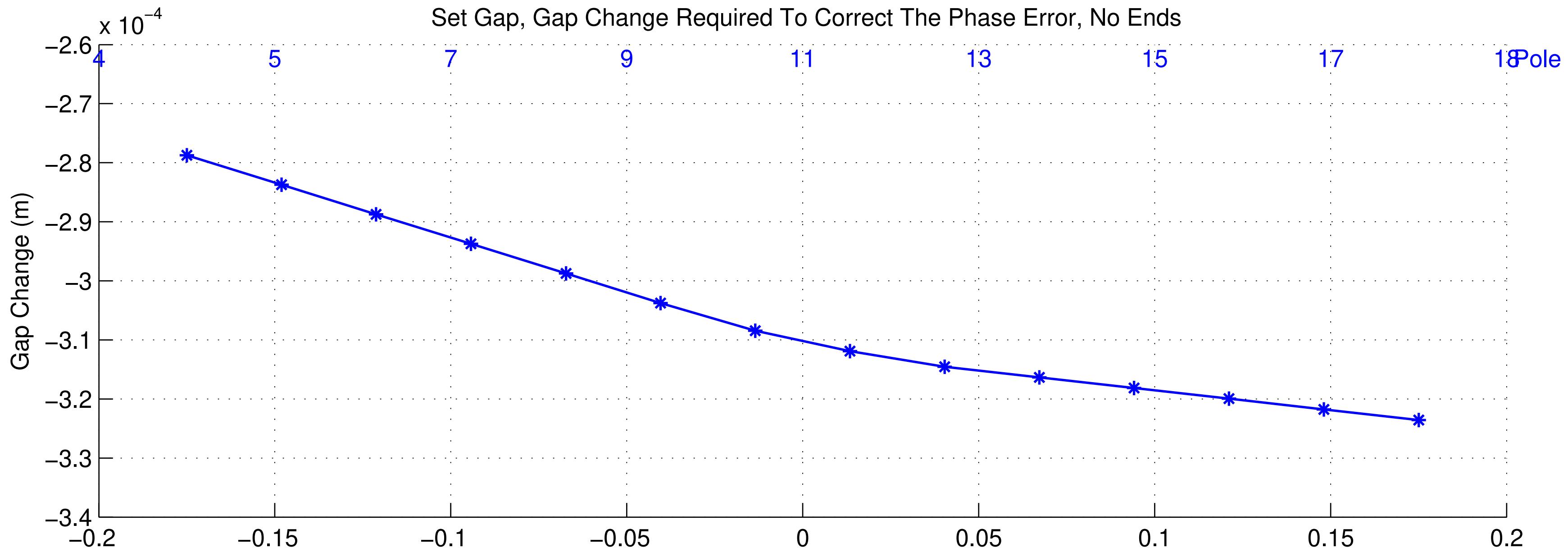

Set Gap, Required Relative Peak Field Change, No Ends
Relative Change
0.06
0.055
0.05
0.045
0.04
0.035
0.03
4
5
7
9
11
13
15
17
18
Pole
−0.2
−0.15
−0.1
−0.05
0
0.05
0.1
0.15
0.2
Z Position (m)



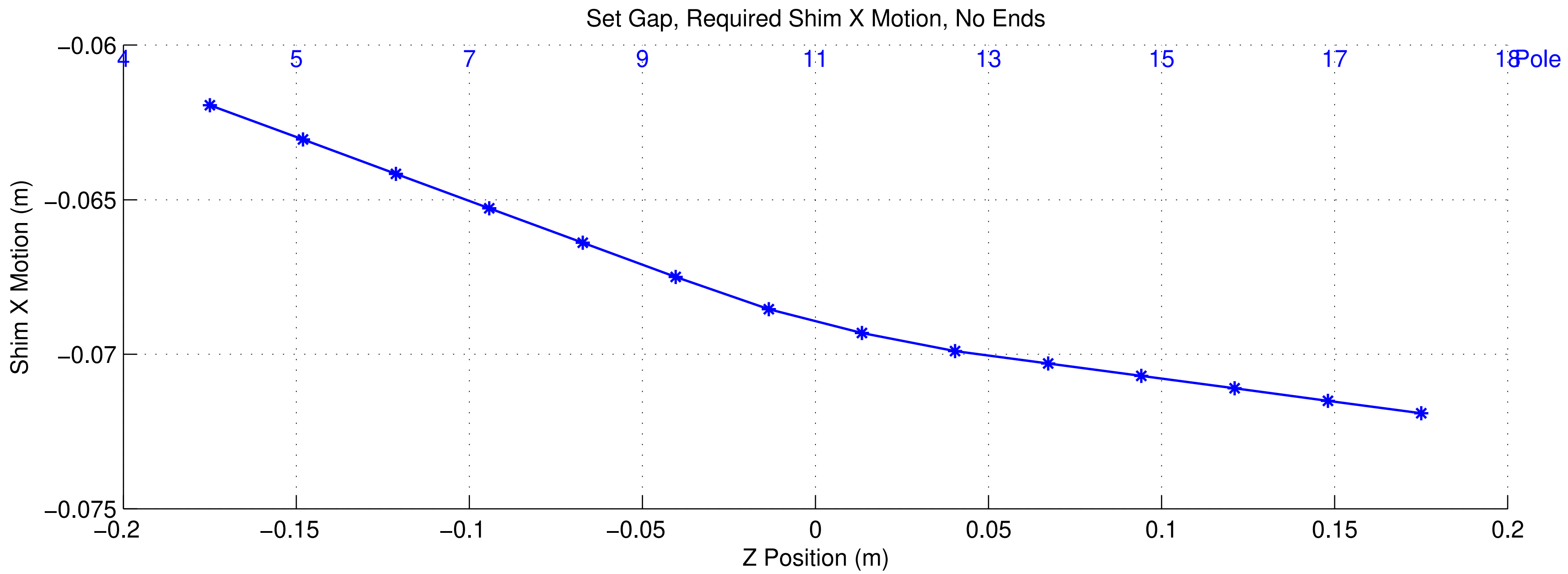
Set Gap, Gap Change Required To Set The Field, No Ends
x 10^-4
Gap Change (m)
4 5 7 9 11 13 15 17 18 Pole
Set Gap, Required Shim X Motion, No Ends
Shim X Motion (m)
Z Position (m)



Set Gap, Required Phase Change And Fit, No Ends
Phase Change (rad)
Measured
Fit
4
5
7
9
11
13
15
17
18
Pole
2
1.5
1
0.5
0
−0.5
−0.2
−0.15
−0.1
−0.05
0
0.05
0.1
0.15
0.2
Set Gap, Required Phase Change Slope From Fit, No Ends
Phase Change Slope (rad / m)
5.8
5.7
5.6
5.5
5.4
5.3
5.2
5.1
5
4.9
Z Position (m)



Set Gap, Gap Change Required To Correct The Phase Error, No Ends
x 10^-4
Gap Change (m)
–2.6
–2.7
–2.8
–2.9
–3
–3.1
–3.2
–3.3
–3.4
4 5 7 9 11 13 15 17 18 Pole
–0.2 –0.15 –0.1 –0.05 0 0.05 0.1 0.15 0.2



Set Gap, Required Shim X Motion, No Ends
Shim X Motion (m)
–0.06
–0.065
–0.07
–0.075
4 5 7 9 11 13 15 17 18 Pole
–0.2 –0.15 –0.1 –0.05 0 0.05 0.1 0.15 0.2
Z Position (m)