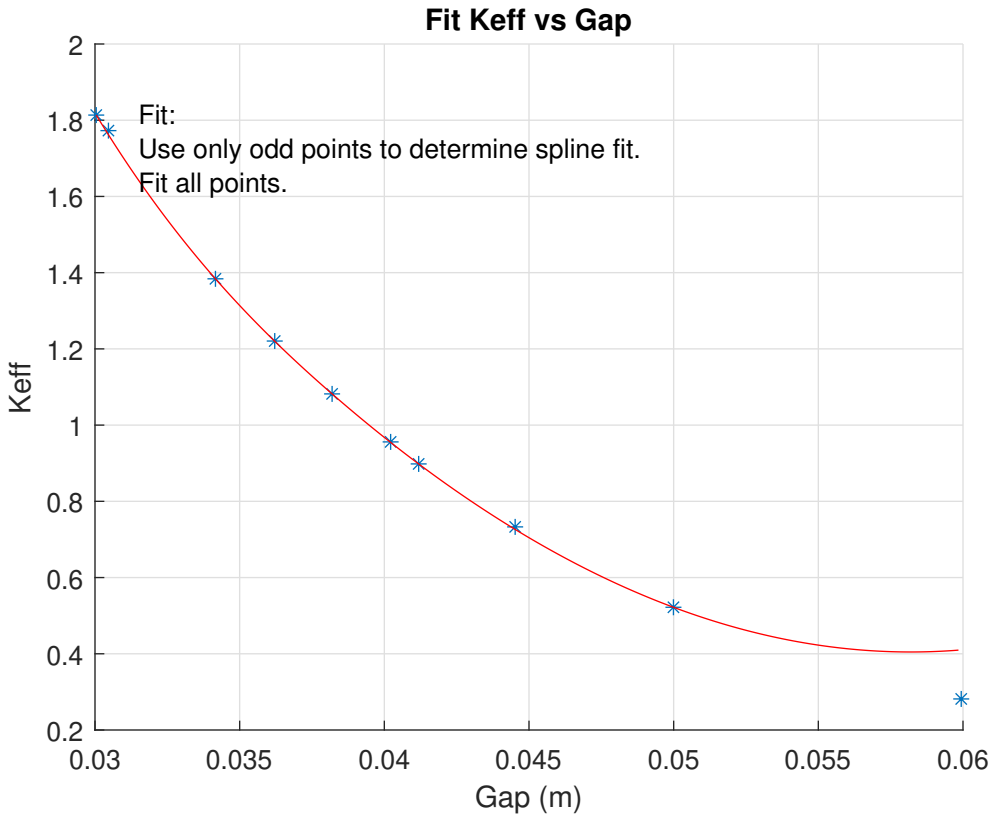
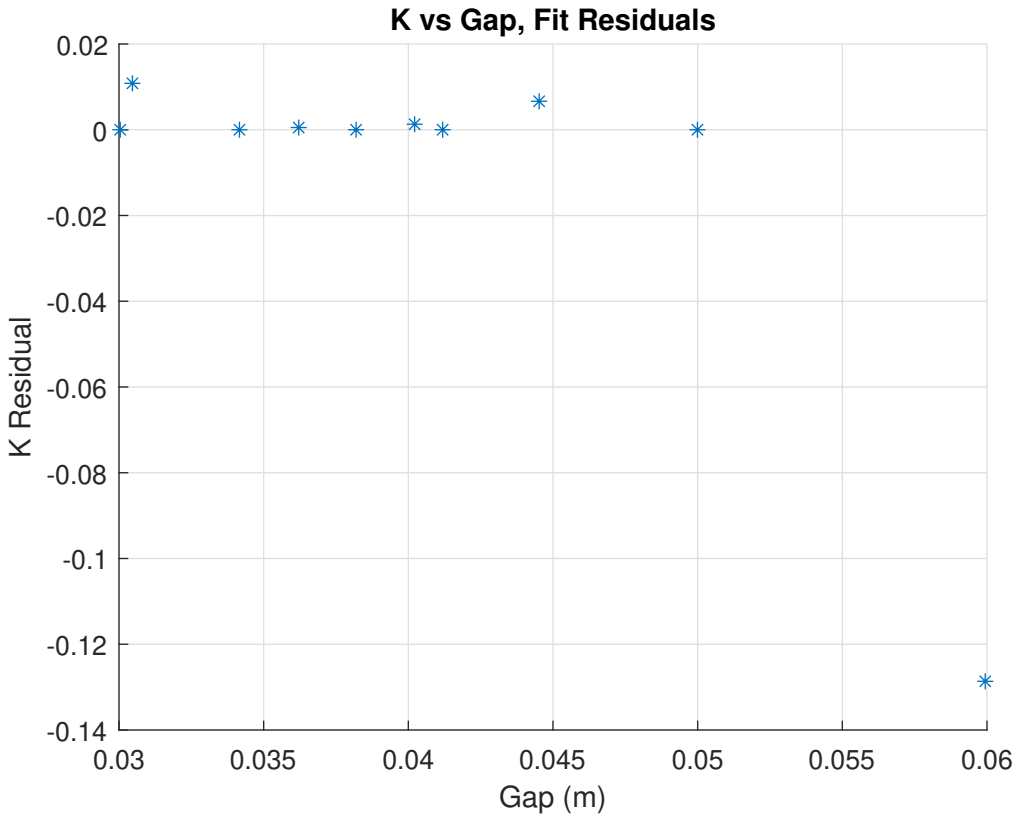
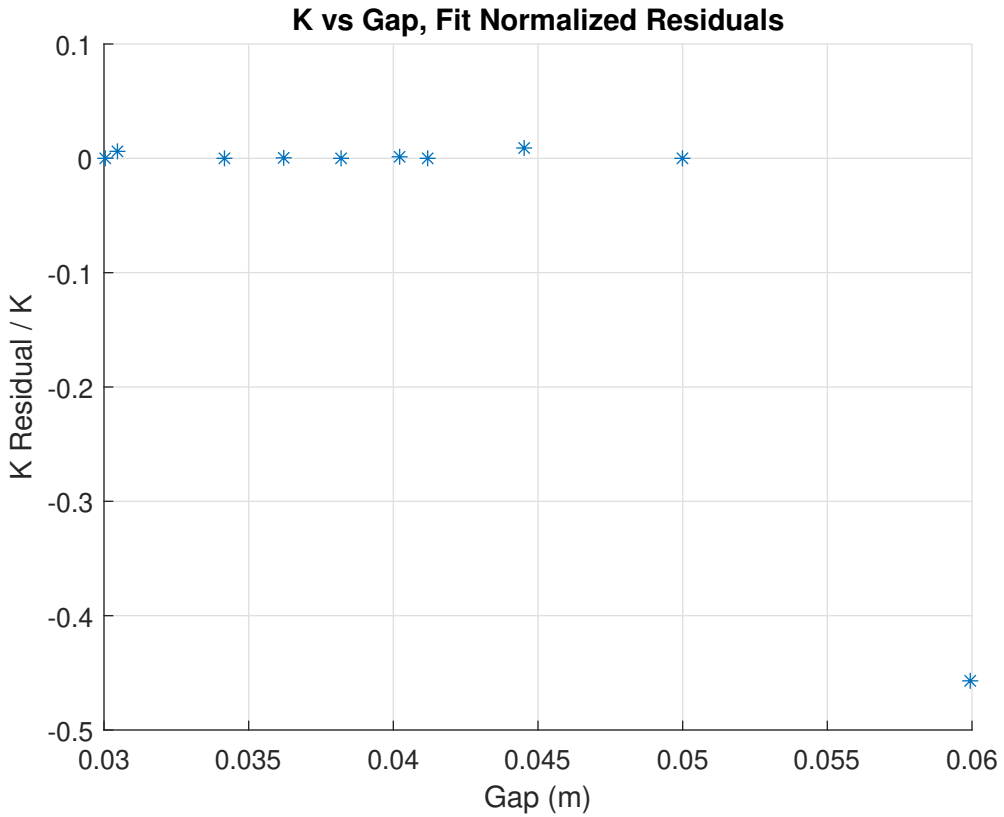
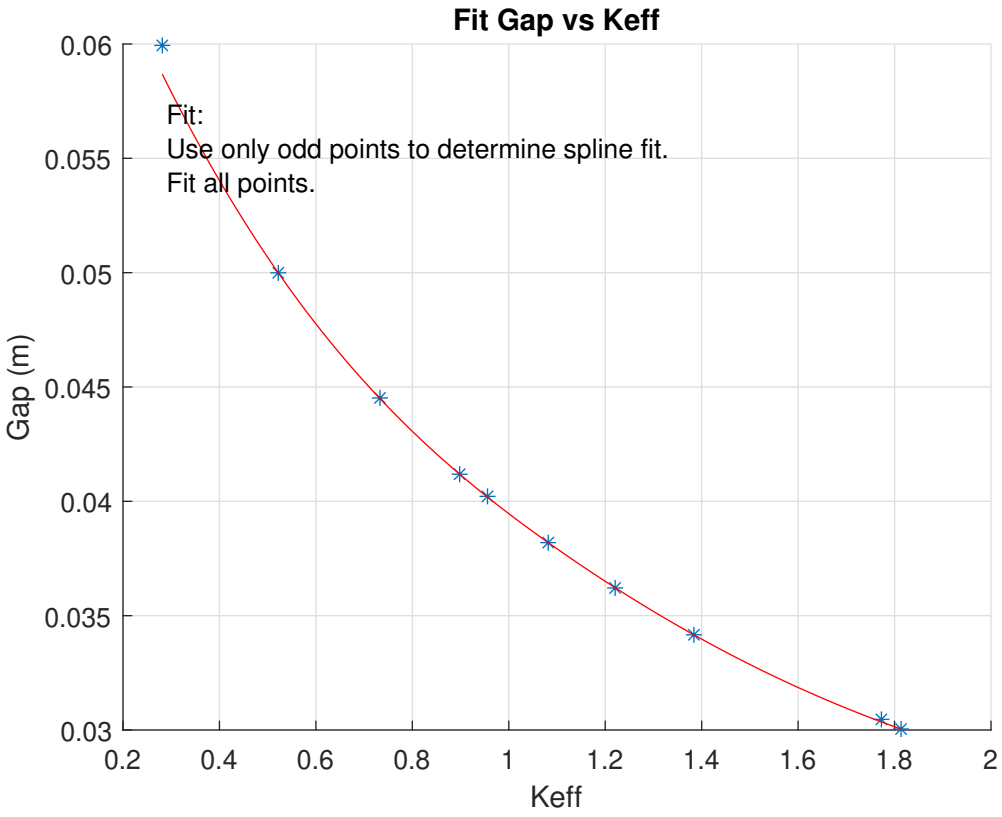
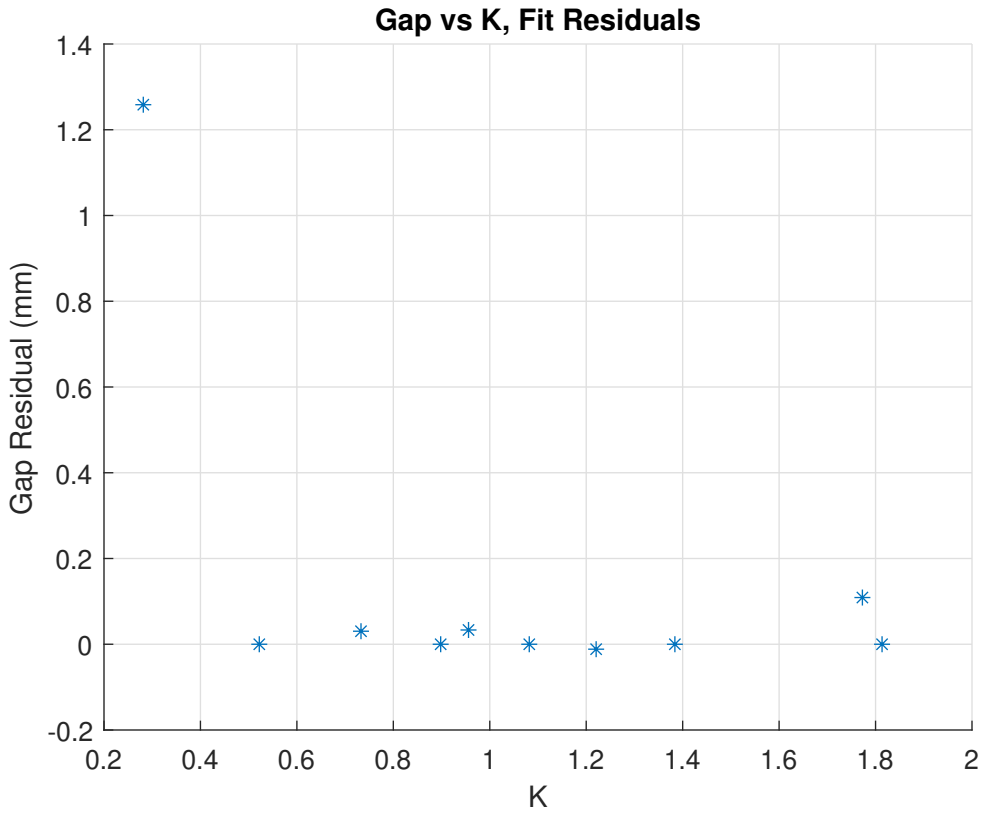
SLAC Magnetic Measurements#
Date: 05-28-2021#
Time: 10:18:29#

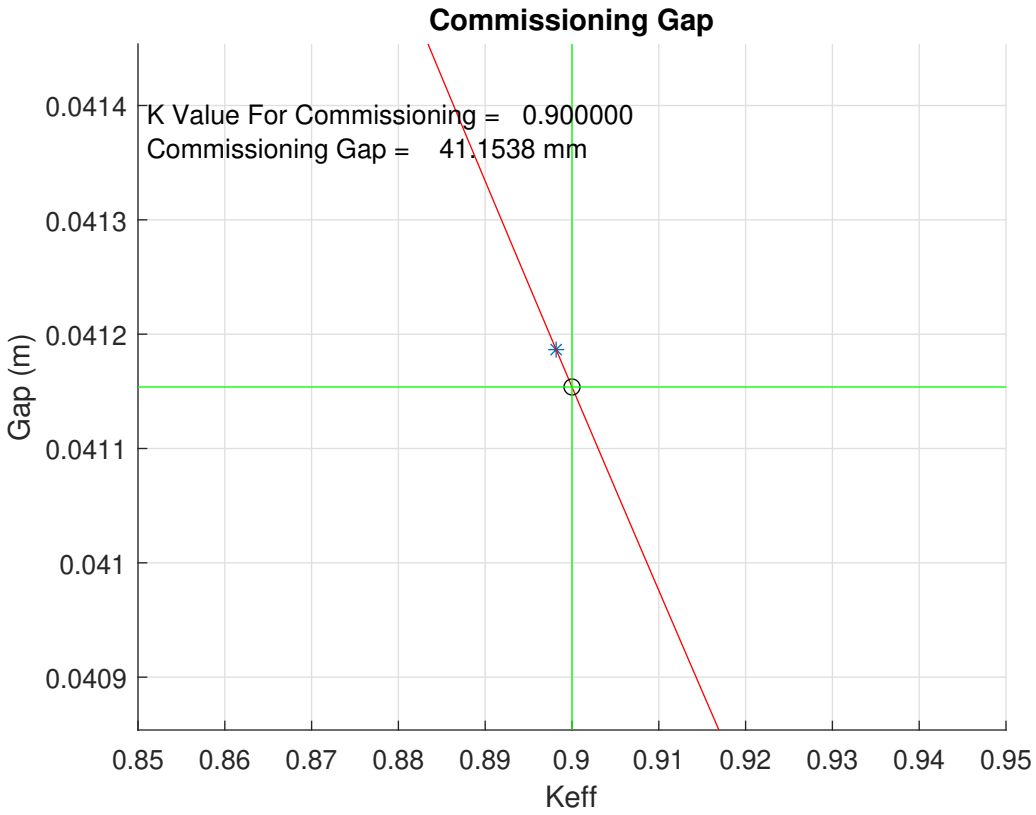

Fit Keff vs Gap
Fit:
Use only odd points to determine spline fit.
Fit all points.
Keff
Gap (m)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0.03
0.035
0.04
0.045
0.05
0.055
0.06

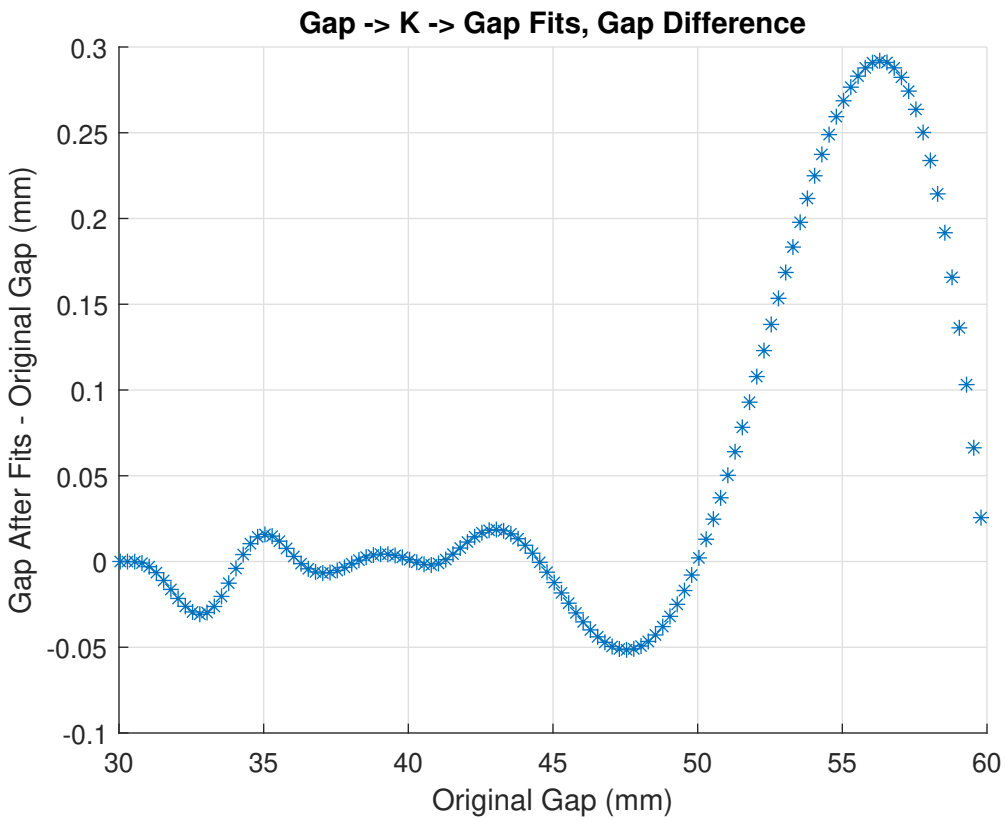

K vs Gap, Fit Residuals
0.02
0
-0.02
-0.04
-0.06
-0.08
-0.1
-0.12
-0.14
K Residual
0.03
0.035
0.04
0.045
0.05
0.055
0.06
Gap (m)

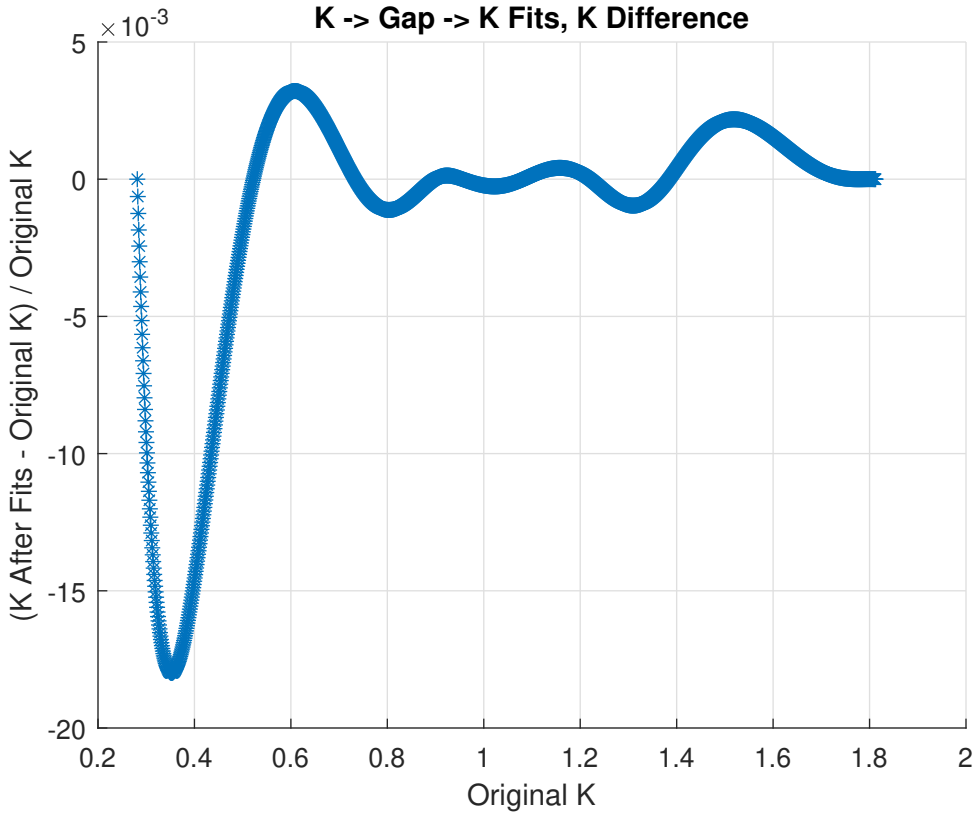

K vs Gap, Fit Normalized Residuals
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
K Residual / K
0.03
0.035
0.04
0.045
0.05
0.055
0.06
Gap (m)

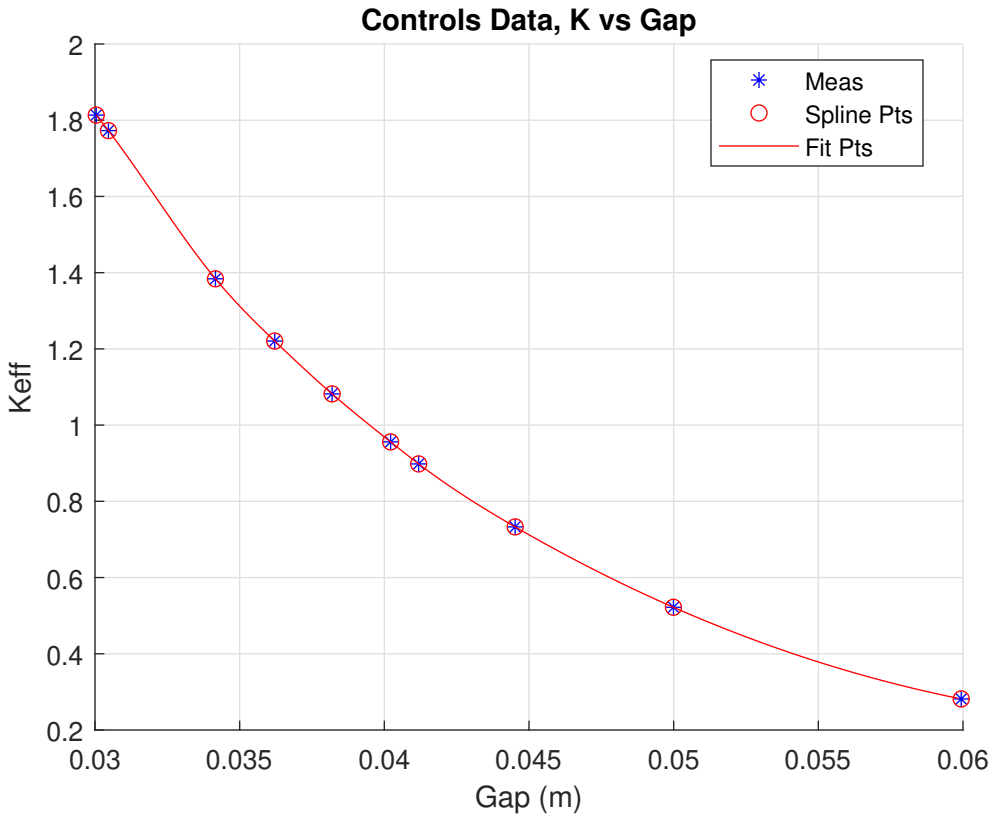

Fit Gap vs Keff
Fit:
Use only odd points to determine spline fit.
Fit all points.
Gap (m)
Keff
0.06
0.055
0.05
0.045
0.04
0.035
0.03
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

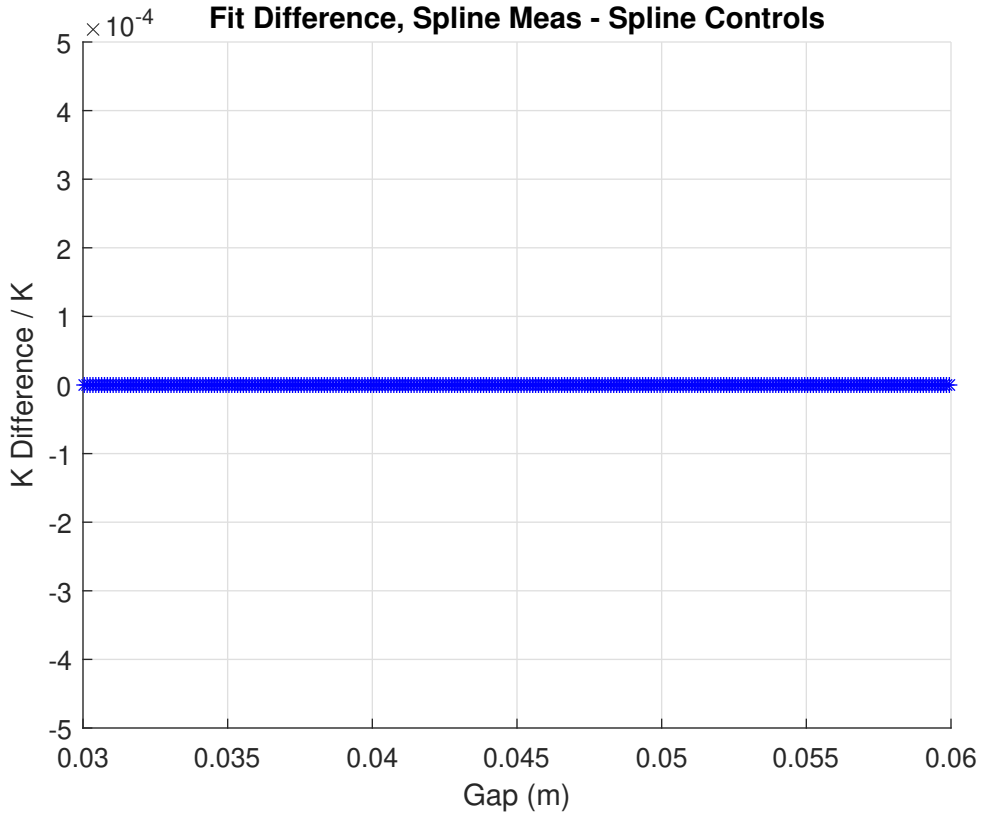

Gap vs K, Fit Residuals
Gap Residual (mm)
K
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

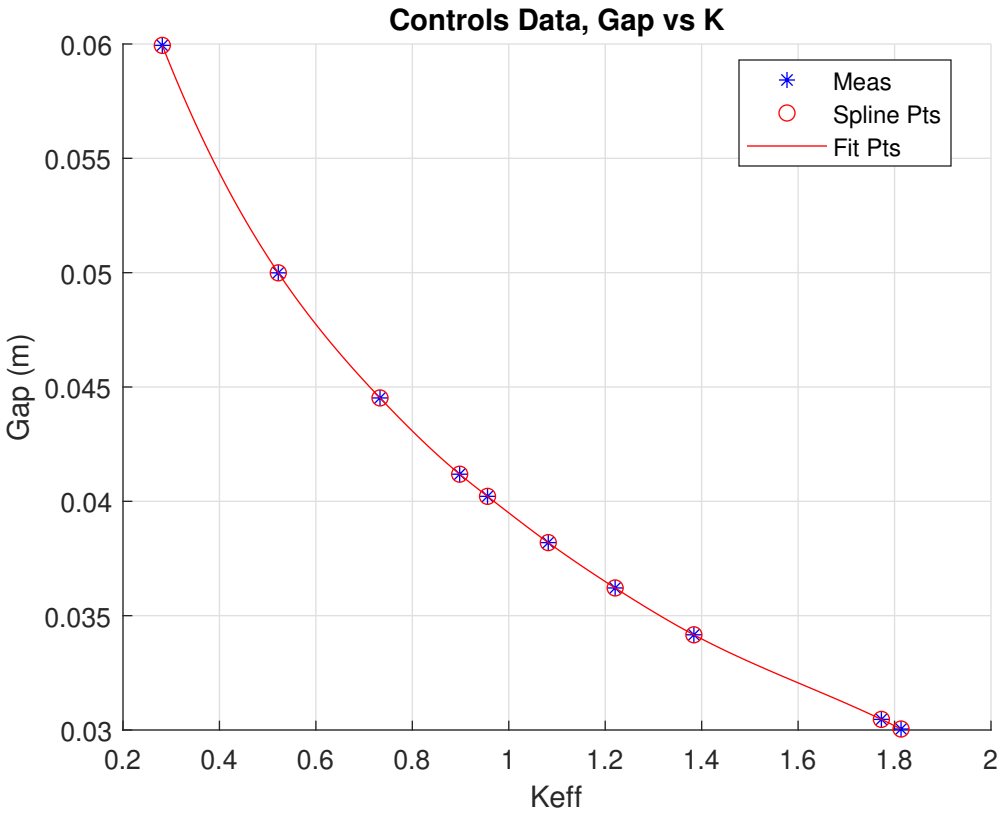

Commissioning Gap
K Value For Commissioning = 0.900000
Commissioning Gap = 41.1538 mm
Gap (m)
0.0414
0.0413
0.0412
0.0411
0.041
0.0409
0.85
0.86
0.87
0.88
0.89
0.9
0.91
0.92
0.93
0.94
0.95
Keff

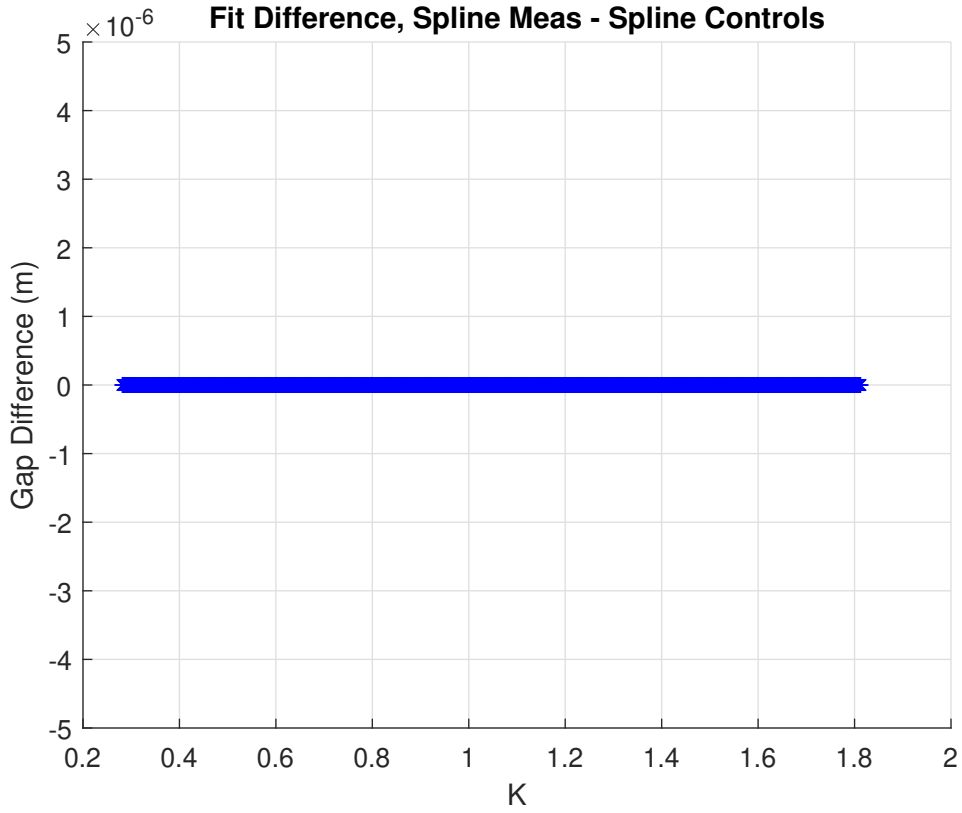

Gap -> K -> Gap Fits, Gap Difference
Gap After Fits - Original Gap (mm)
Original Gap (mm)
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
30
35
40
45
50
55
60


K -> Gap -> K Fits, K Difference
×10^-3
5
0
-5
-10
-15
-20
(K After Fits - Original K) / Original K
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Original K


Controls Data, K vs Gap
Meas
Spline Pts
Fit Pts
Keff
Gap (m)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0.03
0.035
0.04
0.045
0.05
0.055
0.06


Fit Difference, Spline Meas - Spline Controls
×10^-4
5
4
3
2
1
0
-1
-2
-3
-4
-5
K Difference / K
0.03
0.035
0.04
0.045
0.05
0.055
0.06
Gap (m)


Controls Data, Gap vs K
Meas
Spline Pts
Fit Pts
Gap (m)
Keff
0.06
0.055
0.05
0.045
0.04
0.035
0.03
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2


Fit Difference, Spline Meas - Spline Controls
×10^-6
5
4
3
2
1
0
-1
-2
-3
-4
-5
Gap Difference (m)
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
K