General comments

Currently this book employs Python 2. with scientific libraries (numpy [1], scipy [2], and sympy [3]) and visualization libraries (matplotlib [4], and mayavi [5]). These can be downloaded individually, or, for windows systems, from pythonxy website (https://code.google.com/p/pythonxy/).

Chapter 2

LinearityOfVarGapCaps.py explores the linearity errors of single and differential variable gap capacitors.
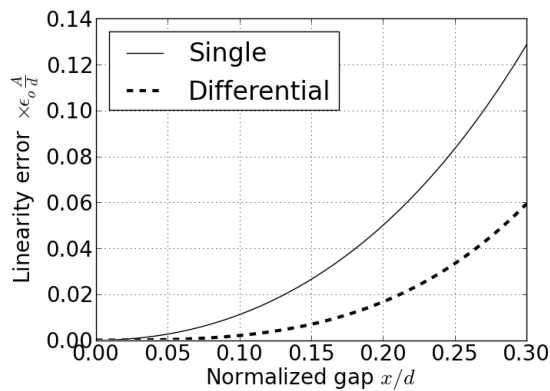
Figure 1: the linearity error normalized by $\varepsilon_o \dfrac{A}{d}$

Chapter 5

RfEffect.py shows the effect of the feedback resistor and generates Figure 5.8.

sampleAndHold.py and *sampleAndHoldDiff.py* generate Figure 5.28 and Figure 5.31, respectively.

oscPlateV2_CUP.py and *oscPlateV2noAnnotsCUP.py* generate Figure 5.51 and Figure 5.52.

Chapter 6

Example6p5.py is a Python implementation of a simple 4-node beam described in Example 6.5.

qSymmChEqClampedClamped.py solves Eq. (6.161) numerically and generates Figure 6.43.

qSymmChEq_CUP.py solves Eq. (6.150) numerically and generates Figure 6p36.

Chapter 7

ampRespV2.py and *ampRespFlats.py* explore how damping affects accelerometer frequency response and generate Figure 7.14 and Figure 7.15, respectively.

gyroFreqs_CUP.py generates Figure 7.27.

Chapter 9

The two files, *Ex9p2.py* and *Ex9p3.py*, demonstrate the use of symbolic manipulation in Python on two examples in the book.

References

[1]   T. E. Oliphant, *A Guide to NumPy* vol. 1: Trelgol Publishing USA, 2006.
[2]   E. Jones, T. Oliphant, and P. Peterson, "SciPy: Open source scientific tools for Python," *http://www. scipy. org/,* 2001.
[3]   D. Joyner, O. Čertík, A. Meurer, and B. E. Granger, "Open source computer algebra systems: SymPy," *ACM Communications in Computer Algebra,* vol. 45, pp. 225-234, 2012.
[4]   J. D. Hunter, "Matplotlib: A 2D graphics environment," *Computing In Science & Engineering,* vol. 9, pp. 90-95, 2007.
[5]   P. Ramachandran and G. Varoquaux, "Mayavi: 3D visualization of scientific data," *Computing in Science & Engineering,* vol. 13, pp. 40-51, 2011.