Additions and Corrections to *Digital Signal Processing: A Mathematical Introduction*

April 27, 2016

- On p. 15, in exercise 1, the expression \( n = 0, 1, \ldots \) should be replaced by \( n = \ldots, -1, 0, 1, \ldots \).
- On p. 18, in the first displayed equation, \( 1 - x^2/3 \) should be replaced by \( 1 - x^2/(3!) \).
- On p. 30, two lines above (4.1) the expression \( n = \) should be replaced by \( m = \).
- On p. 31 in the third line on the page, each time \( y_k \) appears it should be replaced by \( z_k \).
- On p. 38, in the first line on the page, the equation should read

\[
Y(f) = \frac{2}{(2\pi f)^2 + 1}.
\]

- On p. 82 in the second line above the first equation, “too small” should be replaced by “too large.” The final equation on that page needs to be corrected to

\[
V_{out} = -\frac{128}{128} \frac{1}{1.01} V_{ref} = -0.9900990 V_{ref}.
\]

- On p. 121 in the first displayed equation in §18.3.3, please replace \( a^k u_k \) with \( \alpha^k u_k \).
- On p. 126 near the bottom of the page the expression

\[
\frac{1}{s^2 - 1.5s + 0.5}
\]
occurs. The expression ought to read

\[ \frac{1}{z^2 - 1.5z + 0.5} \, . \]

- On p. 131 at the very end of the multi-line displayed equation, \( \sin(\omega T) \) should be replaced by \( \sin(\omega kT) \).

- On p. 137, in exercise 14, the region of convergence should be \( |z| < |\alpha| \) and not \( |z| < \alpha \).

- On p. 140 in the first line of the first displayed equation, \( h_0 \) should be replaced with \( h_0 x_n \) and the less than or equal to sign, \( \leq \), should be replaced by an equal sign, \( = \). The second line of the first displayed equation is unchanged.

- On p. 160, in the first line, \((-s)^2 \alpha(-s)\) needs to be replaced with \((-s)^2 + \alpha(-s)\).

- On p. 173, in the last displayed equation, \( a_l z^{-1} \) needs to be replaced by \( a_l z^{-1} \).

- On p. 205, the last displayed equation before §30.4 should be replaced by

\[ r_n = 2r_{n-1} \cos(2\pi m/N) - r_{n-2} + x_n. \]