ERRATA

Digital Signal Processing: System Analysis and Design, by P. S. R. Diniz,
E. A. B. da Silva, and S. L. Netto, Cambridge University Press, 2010.

- Page 56, equation (1.215) the summation should read

$$\sum_{i=1}^{M}$$

- Page 57, equation (1.223), last line remove E from $E\mu_Y$.

- Page 92, equation (2.89), where is written z^{-1} should be $|z^{-1}|$.

- Page 180, Figure 3.9 in the flowgraph:

Row 4 it should read

$$W_{N/2}^3$$

instead of

$$W_{N/4}^3.$$

Row 7 it should read

$$W_{N/2}$$

instead of

$$W_{N/4}.$$

Row 8 it should read

$$W_{N/2}^3$$

instead of

$$W_{N/4}^3.$$

- Page 182, Figure 3.11 in the flowgraph:
  Row 4 it should read

  $$W_{N/4}^0$$

  instead of

  $$W_{N/2}^0.$$

- Page 186, Figure 3.13 in the flowgraph:
  Row 7 it should read

  $$W_{N/2}^0$$

  instead of

  $$W_{N/4}^0.$$

- Page 228, line below Equation (4.22) it should read:
  $b(m) = 2h[(M + 1)/2 - m].$

- Page 262, second line below Equation (4.110) $z = e^{2\pi/L}$ should be:
  $z = e^{j(2\pi/L)}$.

- Page 272, Figure 4.36 the arrow direction at the right-hand side of the adder at the bottom of the figure should be reversed.

- Page 301, equation (5.67) include after the comma the comment "for, $0 \leq |\omega| < \frac{\omega_s}{2}$".

- Page 323, it should read:

  - Type I: $N_k \leq (M + 2)/2$.
  - Type II: $N_k \leq (M + 1)/2$.
  - Type III: $N_k \leq M/2$.
  - Type IV: $N_k \leq (M + 1)/2$.

- Page 355, line 2 where is (6.16) should be (6.15).

- Page 463, Figure 8.10, $X_i(n)$, should read $x_i(n)$.

- Page 463, equation (8.21), $h(n-m)$ should be $h_i(n-m)$ and $h(n-kL)$ should be $h_i(n-kL)$.

- Page 466, four lines above equation (8.28): Figure 8.14a should read Figure 8.14b, and three lines above equation (8.28): Figure 8.14b should read Figure 8.14a.

- Page 467, Figure 8.14b $\omega_s M$ should read $\omega_s L$.

- Page 470, Equation (8.37) $H(z)$ should read $G(z)$.

- Page 476, row 4 instead of: interpolator, and $H_i(z)$; it should read: and $H_i(z)$, interpolator.

- Page 480, Figure 8.22 the numbers in the vertical axis should be negative.

- Page 480, Equation (8.52) in the column vector, second and last rows it should read: $(zW_M^i)^{-1}$ and $(zW_M^i)^{-(L-1)}$, respectively.

- Page 482, second line above Equation (8.58) remove the word: polyphase.

- Page 483, first line of Equation (8.62) should be:

$$Y(z) \quad = \tfrac{1}{2}\left[z^{-1}(C_{00}(z^2) + C_{11}(z^2)) + C_{10}(z^2) + z^{-2}C_{01}(z^2)\right]X(z)$$

- Page 487, Figure (8.26) the term at the bottom should be $\mathbf{C}_1(z)$.

- Page 488, Figure (8.27) the term at the bottom should be $\mathbf{C}_2(z)$.

- Page 488, last line of Equation (8.84) should be:

$$= \begin{bmatrix} 1 + z^{-1} & ((1-b)/a)z^{-1} \\ 2a & 1 + z^{-1} \end{bmatrix}.$$

- Page 488, last line of Equation (8.85) should be:

$$z^{-2}\frac{1-b}{a} = 2a$$

- Page 491, Equations (8.99), (8.100) and four lines below Equation (8.100) the sub-index term should read $\mathbf{x}_M^M$.

- Page 491, two lines above Equation (8.101): signal random should read: random signal.

- Page 498, second line of Problem 8.4, time-invariant should read time-varying.

- Page 500, in Problem 8.19 it should read $N = 4$, and the input signals are $x_0(n), x_1(n), x_2(n)$ and $x_3(n)$ instead of $x_1(n), x_2(n), x_3(n)$ and $x_4(n)$.

- Page 504, line 4 of second paragraph, "this were" should read as "this was".

- Page 518, line 1 of Equation (9.36) it should read:

$$U_k(z) = \frac{1}{M} \sum_{l=0}^{M-1} X(z^{1/M} W_M^l) H_k(z^{1/M} W_M^l)$$

- Page 530, line 1 after equation (9.88), after $i \neq j$, include "and for complex filters,"

- Page 541, last line include the word "Type II" after "odd".

- Page 544, line 2 after Equation (9.160): we must have $s = 1$, it should read: we can choose $s = 1$.

- Page 608, equation (10.12) should read as

$$X_{\mathrm{F}}(\Omega_0, b) = \frac{1}{2\pi} \int_{-\infty}^{\infty} X(\Omega) G(\Omega - \Omega_0) \, \mathrm{e}^{-\mathrm{j}(\Omega - \Omega_0)b} \, \mathrm{d}\Omega,$$

where $g(t)$ as well as $G(\Omega)$ are real and symmetric.

- Page 633, equation (10.180) should be:

$$|f(x + h) - f(x)| \leq c|h|^{\alpha}$$

- Page 636, equation (10.195) where is 2^{j-1} should be $2^j - 1$.

- Page 637, caption of place the the word (integration) after $= -1$. Also remove the $t - n$ from figure of item (d).

- Page 666, in Problem 10.6 it should read $z = -1$.

  Item (b) starts with: Show that....; and where is written $\hat{H}_1(z)$ it should read $\hat{G}_0(z)$.

- Page 666, in Problem 10.7, (10.205) should read (10.206).

- Page 701, line above (11.100), 1979 should read 1977.

- Page 706, last line of equation (11.124) place a sign $-$ after $=$.

- Page 737, Problem 11.10, 11.11.9 replace by 11.9.

- Page 742, line 1 after equation (12.10) replace "and," by "and by assumming $k_0 = 1$ without loss of generality,"

- Page 747, in equations (12.35), (12.36) and (12.37) low case κ should be replaced by k.

- Page 748, in equations (12.40), and (12.41) low case κ should be replaced by k.

- Page 747, last line, last matrix should be

$$\begin{bmatrix} 1 & k_1 \\ k_1 z^{-1} & z^{-1} \end{bmatrix}$$

- Page 802, Equation (13.56) should read

$$\mathbf{W}' = \sum_{k=0}^{\infty} (\mathbf{A}'^k)^{\mathrm{H}} \mathbf{C}' \mathbf{C}'^{\mathrm{H}} \mathbf{A}'^k$$

- Page 803, Equation (13.68) should read

$$\mathbf{C}' = \alpha \mathbf{J} \mathbf{B}'$$

- Page 805, Equation (13.78) should read

$$(\mathbf{A}', \mathbf{B}', \mathbf{C}', d) = (\mathbf{T}^{-1} \mathbf{A} \mathbf{T}, \mathbf{T}^{-1} \mathbf{B}, \mathbf{T}^{\mathrm{T}} \mathbf{C}, d)$$

- Page 805, Equation (13.82) should read

$$\mathbf{g}'(z) = \left[z\mathbf{I} - \mathbf{A}'^{\mathrm{T}}\right]^{-1}\mathbf{C}' = (\mathbf{T}^{-1})^{\mathrm{T}}\mathbf{g}(z)$$