
**Errata (as of February 2008)**

*Page no.*

13  Change "p > νn" to "ν > p"

15  Line 8: change "t = 0" to "t* = 0"

20  Power on quantity in Eq. (1.43): \( \left( \frac{1}{1 - h\lambda} \right)^{t+1} \)

21  Eq. (1.48): replace "=" with "\(\approx\)"

33  Eq. (1.81): "\(b_{31}\)" should not be boldface

35  Change "\(C9 = \frac{a}{55}\)" to "\(C9 = \frac{3}{55}\)"

48  Change "\(F_s = K_p(t - T_s)\)" to "\(F_s = K_p(t_s - T_i)\)"

56  Eq. (2.14): \(V_0^{(1)} = -\alpha C_0\) and \(W_0^{(2)} = a_1\)

58  Denominator of final equation should be "\(k \mathcal{R}(c_0)r_p^3\)"

61  "\(\xi\)" should be "\(\tilde{\xi}\)" (two places)

63  Eq. (2.33): change "\(r_i(t, r_i)\)" to "\(r_i(t, \tau_i)\)"

69  Eq. (2.61): change "\(\frac{h^3}{3!}\)" to "\(\frac{2h^3}{3!}\)"

76  Eq. (2.81): change lower limit from "\(x_{i-1/2}\)" to "\(x_{i-1/2}\)"

86  Remove very last "\)" on page

90  Change "SP = 360" to "SP = 320"

91  Change the position of the first derivative conditions in Problem 3 to "\(x = 1\)"

101 Change "\(\nu_i = \nu | j = 2\)" to "\(\nu_j = \nu | j = 2\)"

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The matrix should look like:

\[
\begin{bmatrix}
\left(\frac{1}{h_1} + \frac{1}{h_2}\right) & -\frac{1}{h_1} & 0 \\
-\frac{1}{h_2} & \left(\frac{1}{h_2} + \frac{1}{h_3}\right) & -\frac{1}{h_2} \\
& & \ddots & \ddots & \ddots \\
& & & \ddots & \ddots & \ddots \\
0 & & & & -\frac{1}{h_{t-2}} & \left(\frac{1}{h_{t-2}} + \frac{1}{h_t}\right) \\
& & & & \frac{1}{h_{t-1}} & 0
\end{bmatrix}
\begin{bmatrix}
a_1 \\
a_2 \\
\vdots \\
\vdots \\
a_{t-2} \\
a_{t-1}
\end{bmatrix}
= \begin{bmatrix}
a_1 \\
a_2 \\
\vdots \\
\vdots \\
a_{t-2} \\
a_{t-1}
\end{bmatrix}
\begin{bmatrix}
\frac{1}{2}(h_1 + h_2) \\
\frac{1}{2}(h_2 + h_3) \\
\ddots \\
\ddots \\
\frac{1}{2}(h_{t-2} + h_{t-1}) \\
\frac{1}{2}(h_{t-1} + h_t)
\end{bmatrix}
\]

112 Change "\(\alpha_i\) \(j=1\)" to "\(\alpha_i\) \(j=1\),"  

113 Last equation: change \(\frac{\hbar}{2} \left[1 - \frac{1}{\sqrt{3}}\right]\) to \(\frac{\hbar}{2} \left[1 + \frac{1}{\sqrt{3}}\right]\)  

113 Last two equations: change "\(p\)" to "\(\rho\)"  

117 Third equation: change "\(s_j(t_{12})\)" to "\(s_j(t_{12})\)"  

119 Two equations below Eq. (3.54), change "\(\xi_i\)" to "\(\xi_1\)"  

128 Change "\(u > 0, \text{elliptic}\)" to "\(y > 0, \text{elliptic}\)"  

130 Eq. (4.9): change "2 \(i,j\)" to "2 \(u_{i,j}\)"  

133 Eq. (4.16): change "\(u_j^-\)" to "\(u_j^+\)"  

134 Figure 4.1: top line should be labeled "\(j+1\)"  

143 Eq. (4.41): change "\(\frac{\partial \psi}{\partial R}\)" to "\(\frac{\partial \psi}{\partial r}\)"  

152 Table 4.2: change "\(C^0_B(0)/C_H^0\)" to "\(C_B^0(0)/C_H^0(0)\)"  

156 The initial condition should read: \(f = \Theta = 1\) at \(z = 0\)
156-7 In the first four equations in SOLUTION, replace all \( x \)'s with \( r \)'s

159 End of first equation: change \( \phi^x(x_1) \) to \( \phi^r(x_1) \)

168 Third condition should read: \( -D_1 \frac{\partial C^I_A}{\partial z} = -D_\Pi \frac{\partial C^\Pi_A}{\partial z} \)

170 Change \( \text{Bi}(\theta - \theta_w) \) to \( \text{Bi}(\theta_w - \theta) \)

179 In the vector \( f \), delete underlined section:

\[
f(0, y_{N-1}) + f(x_1, 1), f(x_1, 1), f(x_2, 1)
\]

180 Matrix \( K \) should read:

\[
K = \begin{bmatrix}
4 & -2 & -1 \\
-1 & 4 & -1 \\
\vdots & \ddots & \ddots \\
-1 & 4 & -1 \\
-2 & 4 & -1 \\
\end{bmatrix}, \quad (N+1) \times (N+1)
\]

181 First condition: delete \( T(x, y) = \) so that condition reads \( T(0, y) = T_1 \)

181 Last condition should read: \( \frac{\partial T}{\partial y}(x, 1) = -k[T(x, 1) - T_2] \)

182 Top of Figure 5.1: change \( \frac{\partial T}{\partial y} = k(T - T_2) \) to \( \frac{\partial T}{\partial y} = k(T_2 - T) \)

182 Last equation: change \( k[u_{i,N} - T_2] \) to \( -k[u_{i,N} - T_2] \)

183 In the final block, the element should be \( (-4 + 2\alpha k) \)
Change the last three entries on the right hand side to:

\[ (-T_i + 2hkT_2) \]
\[ 2hkT_2 \]
\[ (-T_2 + 2hkT_2) \]

Figure 5.7: change "i,1 − j" to "i,j−1"

Eq. (5.67): change beginning of equation from "u^n_{i,j} =" to "u^{n+1}_{i,j} ="

Eq. (5.83): insert "+" so that \[ \frac{\partial^2 t}{\partial r^2} + \frac{1}{r} \frac{\partial t}{\partial r} + \left( \frac{D}{L} \right)^2 \frac{\partial^2 t}{\partial z^2} \]

Eq. (A.3): result should read: \[ 0.110 \times 2^{-2} \]

Change "[A.1]" to "[A.5]"

Eq. (A.5): change "\frac{1}{2}\beta^{2-i}" to "\frac{1}{2}\beta^{1-i}"