Mechanical and Electromagnetic Vibrations and Waves by T. Becherrawy, ISTE Ltd and John Wiley & Sons, Inc. (2012)

There is a regrettable error in the summary of the content in the fourth page of the cover: the section on the relativistic effects of the motion of sources and observers on waves and the final chapter on de Broglie waves have not been included in the text.

Here are some other significant corrections to the main text:

p. 8, line 1: "isochronous" instead of "isochrones"

p. 9, line 1: "constrained to move " instead of "confined to movement ".

p. 13, line 18: $\hat{K} = \neq \mu R^4/2L$ instead of $\hat{K} = \mu R^4/2L$.

p. 14, first line after [1.39]: "to oscillate *Ozx*" should be replaced by
"to oscillate in the vertical plane *Ozx*"

p. 16, the second line of equation [1.49] should be replaced by

$$x = (\omega_o^2 x_o/2\omega)\,[\,e^{-(\beta+\sigma)t} - e^{-(\beta-\sigma)t}\,]. \qquad [1.49]$$

p. 24, in the first line after equation [1.74]: "at rest" instead of "in equilibrium".

p. 27, in equations [1.82] and [1.83]: μ should be replaced by *m*.

p. 31, in the 5th line after equation [1.98]: [1.98] instead of [1.9].

p. 34, in the last line: $y_i = B_{(i)}\cos(\omega_{(i)}t + \varphi_{(i)})$.

p. 54, in figure 2.2b the ellipse should be exactly inscribed in the rectangle.

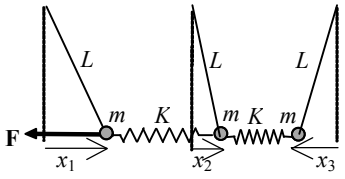
p. 59, in equation [2.18]: $\tan\varphi(t) = \ldots$

p. 75, in the legend of figure 212: question Q4 instead of Q5.

p. 84, in the note 1, 5th line: are exponentially decreasing

p. 91, 4th line: $F_m^2/4\omega\omega$ are.

p. 111, Figure 3.9 should be:



p. 123, add after equation [4.34] the following sentence:

The study of spherical transverse waves such as the electromagnetic waves is complicated and it will not be considered in this book.

p.128, line 8: "…always bounded by…" instead of "…always bound by…"

p.131, in the equation [4.56] delete ($\omega\omega.\omega t = 2\neq$ and). The equation becomes:

$$u(x, t) = f(t - x/v). \qquad [4.56]$$

p.154, second line of P4.12: "**a)** Carry out…" instead of " **a)** Create…"

p.155, the equation of the third line should read:

$$u(x,t) = \frac{2}{x - v_g t}\, e^{i(\omega_o t - k_o x)} \sin[k_1(x - v_{(g)}t)]$$

p.165, the equation [5.16] should read:

$$B = \frac{\Pi}{\delta \mathcal{V} / \mathcal{V}} = \frac{Y}{3(1 - 2\sigma)} \qquad [5.16]$$

p.169, in equation [5.23] delete [$\delta V = V\ (1 + \partial_x u)$ and]. The equation becomes:

$$\delta\mathcal{V}/\mathcal{V} = \partial_x u. \qquad [5.23]$$

p.170, in the last paragraph: replace " Using equation [5.27], it is …", by
"By using equation [5.27] and the equation of state of the gas, it is …".

p. 178, in the line preceding the equation [5.53]: "$C_o = 0$" should be replaced by
"$C_o = D_o = F_o = 0$"

The equation [5.54] should read:

$$E_v = \tfrac{1}{2} m_v u^2 + \tfrac{1}{2} B (\partial_x u)^2, \qquad \mathbf{S} = -B u (\partial_x u)\, \mathbf{e}_x, \qquad \mathbf{P}_v = -m_v u (\partial_x u)\, \mathbf{e}_x. \quad [5.54]$$

p. 182, equation [5.72] should read:

$$E_v = m_v f^2 = m_v \omega^2 A^2 \sin^2[\omega(t - x/v_s)], \qquad \mathbf{S} = v_s E_v \mathbf{e}_x, \qquad \mathbf{P}_v = \mathbf{S}/v_s^2 = (E_v/v_s)\mathbf{e}_x. \quad [5.72]$$

p. 189, the equation [5.92] should read:

$$\varphi_n = F_n(\mathbf{r})\ e^{i\omega t}, \qquad \text{where} \quad F_n(\mathbf{r}) = C_n \operatorname{ch}[k(z + h)] \cos(n\pi y/L)\, e^{-ixk_x}. \qquad [5.92]$$

p. 190, in equation [5.98]: s_m should be replaced by A_n.

p. 207, in equation [6.31]: $E_m^2/\mu v$ should be replaced by $E_m^2/2\mu v$.

p. 208, third line: "points everywhere" should be replaced by "points everywhere and at any time".

p. 209, in the equation [6.38]: $d\mathbf{P}_z$ should read $< d\mathbf{P} >$.

p. 215, the first line of equation [6.63] should read:

$$\underline{\mathbf{E}} = \underline{\mathbf{E}}_m\, e^{-\delta \mathbf{e}.\mathbf{r}}\, e^{i(\omega t - k\mathbf{e}.\mathbf{r})}$$

p. 240, in the third line: $|P\varphi| < P$.

p. 243, in the last line: these wavelets.

p. 254, in the equations of the lines 16, 17 and 18: E_m should be replaced by A.

p. 258, after equation [7.59]: " If the wave is polarized perpendicularly to the plane of incidence, the wave in the conductor…"

p. 270, in the line 5, 6 and 7: replace A by a

p. 271, in the 4th line after figure 8.1: $u = a \cos(\omega t - \mathbf{k}.\mathbf{r}\ \varphi\varphi)$

p. 272, in the equations [8.8]: A should be replaced by a.

p. 274, in the line preceding the equation [8.14]: "receive the waves…"

p. 277, in the line preceding the section 8.4: "… = 7.5 mm."

p. 283, in figure 8.8(b): the angle $P_1 P_2 Q$ should be θ_3

p. 291, in figure 8.14: the point M should be on the observation screen.

p. 291, 7th line: "receptors" should be replaced by "receivers"

p. 307, in the 10th line: the expression "If all the dimensions of medium are limited" should be replaced by "If a medium is bounded in the direction of propagation"

p. 339, 11th line: "… verify Maxwell's…"

p. 340, in the 5th line of section 9.13: $u(x, t)$ should be replaced by $u(\mathbf{r}, t)$.
in the 8th line: "component of the wave vector" should be replaced by: "wave number "