

ERRATA list relating to the book

“Ocean Waves and Oscillating Systems”, ISBN 0-521-78211-2.

Misprints, corrections (pp. 1–3) and comments etc. (pp. 4–12).

[New insertions in this 2016 revision are marked with * at the start and with \diamond at the end.]

List of contents, page vii: The title (heading) of Section 5.9 should not be more than ”Motion Response”.

Preface, page x, line 3: Between “- - of the present book.” and “I am also in - - -”, insert the following sentence: “He and Torkel Bjarte-Larsson, a course participant from 1999, used the computer code WAMIT to work out Figures 5.8 and 5.9.”

Page 9, third line above Figure 2.3: “The stored energy is $u_0^2/2$ and” should be “The stored energy is $mu_0^2/2$ and”.

Page 11, Table 2.1: $+ \frac{\hat{x}}{2}e^{-i\omega t}$ should be $+ \frac{\hat{x}^*}{2}e^{-i\omega t}$

Page 11, third line from below: $u = \hat{x} =$ should be $u = \dot{x} =$.

Page 18, Eq. (2.77): $\hat{F}\hat{u}^* + \hat{F}\hat{u}^* +$ should be $\hat{F}\hat{u}^* + \hat{F}^*\hat{u} +$

Page 20, line 7: $S\omega_0^2|\hat{u}|^2/2$ should be $S\omega_0^{-2}|\hat{u}|^2/2$.

Page 32: Two places in Eq. (2.168), ω should be replaced by ω_0 .

Page 35, first line below Eq. (2.192) could preferably be: “If this is not true, we may conveniently subtract the singular part of $H(\omega)$. Let”

Page 35, line 4 from below: “casual” should be “causal”

Page 53, Figure 3.3: R_f should (two places) be R_m

Page 63, line 9: “kinetic” should be “kinematic”

Page 67, fourth line below Eq. (4.64): To be more correct, “Eq. (4.62) and” could preferably be replaced by “Eq. (4.62) – assuming ω is real – and”

Page 76, Eq. (4.120): $|\hat{\eta}_f|^2 + |\hat{\eta}_f|^2 +$ should be $|\hat{\eta}_f|^2 + |\hat{\eta}_b|^2 +$

Page 76, second line from below: “(cf. Problem 4.8) that” should be “(cf. Problem 4.7) that”

Page 78, Eq. (4.137): “(976 Ws⁻¹m³) TH^2 ” should be “(976 Ws⁻¹m⁻³) TH^2 ”.

Page 79, last line before Eq. (4.148): “with Eq. (4.146) gives” should be “with Eq. (4.147) gives”

Page 80: Three places in Eqs. (4.152)&(4.153), the lower integration limit h should be corrected to $-h$.

Page 83, Eq. (4.168): $32 \times (10^3 \text{ N} \hat{=} 3.2 \text{ tons})$ should be $32 \times 10^3 \text{ N} (\hat{=} 3.2 \text{ tons})$

Page 83, last line before Eq. (4.170): “Eq. (4.118) as” should be “Eq. (4.169) as”

Page 85, first line after Eq.(4.185): “conjugate. Hence” may be replaced by “conjugate; cf. Eq. (2.139). Hence”

Page 103, line 13: “in Eq. (4.274),” should be “in Eq. (4.273),”

Page 107, Eq. (4.324): $\cos\left(\frac{\omega t - \omega^2 \ell}{g}\right)$ should be $\cos(\omega t - \omega^2 \ell/g)$

Page 110: Observe that there is no minus sign in line 3 from bottom:

The line reads: $Z'_n(0) = \frac{\omega^2}{g} Z_n(0)$

Page 110, bottom line; and also page 111, line 2: m_m should be m_n .

Page 111, lines 16–18: Three places T should be T .

Page 112, Problem 4.8, line 3: Ae^{-kx} should be Ae^{-ikx}

Page 115, Problem 4.12, two places on line 8: “cos h ” should be “cosh”

Page 117, Problem 4.14, line 9: $\eta_r =$ should be $\hat{\eta}_r =$

Page 117, Problem 4.15, line 4: $\eta =$ should be $\hat{\eta} =$

Page 120: The line above Eq. (5.9) should read:

“amplitudes \hat{U} , $\hat{\Omega}$, \hat{u}_j and $\hat{\phi}(x, y, z)$. Thus”

Page 123, Eq. (5.27): $F_{e,j} =$ should be $\hat{F}_{e,j} =$

Pages 131 and 132, in Eqs. (5.77), (5.80), (5.81) and (5.86), a minus sign is missing on the right-hand side, thus: $=$ should be $= -$

Pages 133 and 135: On the graph of Figure 5.6 and on the upper right graph of Figure 5.7, the symbol ε is used to indicate non-dimensionalised radiation resistance. It would have been better if, instead, the symbol ϵ had been used, because this is the symbol used in the two figure captions, and also in the main text on pages 125, 133, 134, 190, 191 and 192. (Alternatively, the symbol ϵ in the captions and in the main text could have been changed to ε .)

Page 138, lines 8 and 12 of Section 5.3: Replace “introduced; See” by “introduced; see” and “by Eqs. (5.28) and (5.11)” by “by Eq. (5.28) and by Eq. (5.8), (5.9) or (5.11)”.

Page 142, In line 4 of the caption to Figure 5.11:

Replace $k_3/(\rho g a^2)$ by $k_3/(\pi \rho g a^2)$.

Page 148, Eq. (5.146): \mathbf{F}_e should be $\hat{\mathbf{F}}_e$ and ϕ_0 should be $\hat{\phi}_0$

*Page 153, in Eq. (5.165): $\frac{\partial \varphi_i}{\partial n} dS, j,$ should be $\frac{\partial \varphi_i}{\partial n} dS,$
 \diamond

Page 166: In the last term (the summation term) of Eq. (5.247):

Replace q by q' and j by q . Then Eq. (5.247) could preferably read:

$$\hat{F}_{e,j} = \hat{F}_{e,q} \approx \rho g \hat{\eta}_0 S_w \delta_{q3} + \rho V \hat{a}_{0q} + \sum_{q'=1}^3 m_{qq'} \hat{a}_{0q'}$$

Also in Eq. (5.248), $\hat{F}_{e,q}$ could preferably be replaced by $\hat{F}_{e,j} = \hat{F}_{e,q}$

Page 169, Figure 5.19: Below the indicated horizontal still-water surface, a few horizontal dashed lines (as e.g. in Figure 5.18) are missing in the vertical-section upper part of the Figure 5.19.

Page 181: The title (heading) of Section 5.9 should be **Motion Response**.

Correspondingly, the page header on pages 181, 183 and 185 should only be: 5.9 MOTION RESPONSE

Page 184, Eq. (5.323): $S_b/(i\omega)$ should be S_b/ω

Page 186: Eq (5.332) should read: $Y_i(\omega) = i\omega H_i(\omega)$.

- Page 192**, line 1: “the resistance” should be “the radiation resistance”.
- Page 194**, Problem 5.15(b), line 4: “heave velocity is given” should be “heave velocity is given as”.
- Page 203**, first line below Eq. (6.21): “where $Z_{u,j}(\omega)$ is a load” should be “where $Z_u(\omega)$ is a load”.
- Page 207**, line 7 below figure caption: $E_{u,P} > 0$ should be $W_{u,P} > 0$
- Page 207**, line 8 below figure caption:
“a principle⁶⁷ which” should be “a principle^{66,67} which”
- Page 208**: On Figure 6.8, the minus sign should be a plus sign. Accordingly, in the third line of the figure caption, “Deducting from” should be replaced by “Adding to”.
- Page 209**, last line: “and $X_i(\omega) = \text{Im}Z_i(\omega)$, respectively.” should be “and $iX_i(\omega) = i\text{Im}Z_i(\omega)$, respectively.”
- Page 210**, in the integral of Eq. (6.48): dt should be $d\tau$
- Page 211**, lines 5-6: Replace
“The following paragraphs, as an example, give - - -” by
“The following paragraph, as an example, gives - - -”
- Page 211**, lines 20, 21, 22, 26 and 27 (five places): $E_{u,P}$ should be $W_{u,P}$
- Page 214**, second line below Eq. (6.62): $\hat{\mathbf{u}} = \hat{\mathbf{U}} + \hat{\boldsymbol{\delta}}$ should be $\hat{\mathbf{u}} = \mathbf{U} + \boldsymbol{\delta}$
- Page 215**, in Eq. (6.72): $= \frac{1}{4}(\hat{\mathbf{F}}^T \hat{\mathbf{u}}^* +$ should be $= \frac{1}{4}(\hat{\mathbf{F}}_e^T \hat{\mathbf{u}}^* +$
- Page 229**: Eq. (7.28) should be: $P_r = \frac{1}{4}\hat{p}_k \hat{Y}_{kk}^* \hat{p}_k^* + \frac{1}{4}\hat{p}_k^* \hat{Y}_{kk} \hat{p}_k = \frac{1}{2}G_{kk}|\hat{p}_k|^2$
- Page 242**: The first line of Eq. (7.99) should read:
 $2\mathcal{P}_r = \hat{\mathbf{u}}^\dagger(\mathbf{Z}\hat{\mathbf{u}} + \mathbf{H}\hat{\mathbf{p}}) + \hat{\mathbf{p}}^T(\mathbf{Y}^*\hat{\mathbf{p}}^* - \mathbf{H}^\dagger\hat{\mathbf{u}}^*)$
- Page 245**, Eq. (7.123): ϕ should be $\hat{\phi}$
- Page 250**, line 3: $\mathbf{H}^T = -\mathbf{H}$ should be $\mathbf{H} = \mathbf{H}_{up} = -\mathbf{H}_{pu}^T$
- Page 254**, first line below Eq. (7.189): “vectors φ_u and φ_p ” should be “vectors $\boldsymbol{\varphi}_u$ and $\boldsymbol{\varphi}_p$ ”
- Page 256**, fourth line above Eq. (7.200): “heave mode 2 (i.e.,” should be “heave mode (i.e.,”
- Page 260**, three last lines: Four places, $\hat{\boldsymbol{\delta}}$ should be $\boldsymbol{\delta}$
- Page 272**, left column: Between lines 27 and 28 insert:
intrinsic mechanical impedance, 184, 203, 204
intrinsic mechanical resistance, 205
- Page 273**, right column: Line 12 from below should read:
matrix singularity, 172, 174, 175, 181, 196, 213, 218, 221
- Page 275**, right column, line 6 from below: “chanel” should be “channel”

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< <http://folk.ntnu.no/falnes/isbn0521782112corrections> >

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