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## ERRATA

**Principles of Plasma Discharges and Materials Processing**  
**Michael A. Lieberman and Allan J. Lichtenberg**  
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- \*\* denotes errors not corrected in second printing.
- p. 1, Fig. 1.2d: Shaded square should be white (removed).
- \*\*p. 55, line 3: “(3.1.9)” should be “(3.1.19)”.
- p. 57: “(3.2.27)” should be “(3.2.28)”.
- \*\*p. 62, both unnumbered equations above Eq. (3.3.13): “ $\frac{2}{4}$ ” should be “ $\frac{1}{4}$ ”.
- p. 71, Eq. (3.4.16): “ $dI$ ” should be “ $d\sigma$ ”.
- \*\*p. 71, Eq. (3.4.20): “ $dI$ ” should be “ $d\sigma$ ”.
- \*\*p. 72, 2nd line from bottom: “ $dI$ ” should be “ $d\sigma$ ”.
- \*\*p. 73, first line: “ $dI$ ” should be “ $d\sigma$ ”.
- p. 72, line 4: “Thompson” should be “Thomson”.
- \*\*p. 107, line 2: “(4.3.7)” should be “(4.3.27)”.
- \*\*p. 114, Eq. (4.5.14): “ $N_x^2 =$ ” should be to the left of the entire equation.
- p. 119, Fig. 4.11: Vertical axis is “ $\frac{\omega_{ce}\omega_{ci}}{\omega^2}$ ”; horizontal axis is “ $\frac{\omega_p^2}{\omega^2}$ ”.
- \*\*p. 135, Eq. (5.2.17):  $dz$  should be  $dx$ .
- p. 136, 4th line from bot: “(5.2.16) with (5.2.17)” should be “(5.2.15) with (5.2.16)”.
- p. 138, Eq. (5.3.7): In the second term on the rhs, “ $y^3$ ” should be “ $y^{-3}$ ”.
- p. 140, Fig. 5.3: The horizontal scale should be labeled “ $1.75x\nu_{iz}/u_B$ ”.
- \*\*p. 150, line 2: “issue” should be “issue in”.
- p. 159, last line: “Reimann” should be “Riemann”.
- \*\*p. 174, Eq. (6.6.4): “ $n_s$ ” should be  $n_0$ ”.
- \*\*p. 175, Eq. (6.6.5): “ $n_s$ ” should be  $n_0$ ”.
- p. 183, Eq. (6.6.34): “ $T_e$ ” in the denominator should be “ $2T_e$ ”.
- p. 187, Fig. 6.11: Draw horizontal line connecting upper dot on left to upper terminal of  $R_x$  and continuing to connect to  $x$  input arrow; connect top of  $V_0$  battery to upper left hand dot with vertical line; connect top of  $R_L$  and bottom of  $V_0$  with vertical line passing through middle left hand dot; connect bottom of  $R_L$  and ground symbol with vertical line passing through bottom left hand dot.

- p. 208, 5th line from bot: “than product molecules” should be “than reactant molecules”.
- p. 208, last line: “more reactions” should be “more reactants”.
- p. 213, Eq. (7.5.15): “ $\mathcal{K}_{\text{desor}}(T)$ ” should be “ $\mathcal{K} = 1/\mathcal{K}_{\text{desor}}$ ”.
- \*\*p. 213, Eq. (7.5.16): “ $\frac{1}{n^{\sigma}}$ ” should be “ $n^{\sigma}$ ”.
- \*\*p. 213, 4th line from bottom: “increases” should be “decreases”.
- p. 215, Prob. 7.1b: “H<sub>2</sub>O” should be “H<sub>2</sub>”.
- \*\*p. 226, Eq. (3.4.20): “ $dI$ ” should be “ $d\sigma$ ”.
- p. 227, line 7: “electron-ion” should be “electron-molecule”.
- p. 246, Eq. (8.5.1): “ $K_{AB}$ ” should be “ $-K_{AB}$ ”.
- \*\*p. 255, Table 8.2, Reaction 4: “ $T_e^{0.5}$ ” should be “ $T_e^2$ ”.
- p. 264, Prob. 8.13b: “Show” should be “Obtain a condition on  $T_e$  such that”.
- \*\*p. 273, line 2: “with  $n_A = n_{A0}$ ” should be “with  $n_A = n_{A0}$  the steady state value”.
- p. 291, line 2: “surface area  $A$ ” should be “surface area  $S$ ”.
- p. 291, line 3: “ $V/A$ ” should be “ $V/S$ ”.
- p. 292, line 2: “ $2A/l$ ” should be “ $2/l$ ”.
- p. 295, Eq. (9.4.29): “ $K_{\text{loss}}$ ” should be “ $l_{\text{eff}}K_{\text{loss}}$ ”.
- p. 295, line 5: “ $\Gamma A = G_A V$ ” should be “ $\Gamma = l_{\text{eff}}G_A$ ”.
- p. 295, Eq. (9.4.31): “ $K_{\text{loss}}$ ” should be “ $l_{\text{eff}}K_{\text{loss}}$ ”.
- p. 295, Eq. (9.4.32): “ $K_{\text{loss}}$ ” should be “ $l_{\text{eff}}K_{\text{loss}}$ ”. (two times).
- p. 295, Eq. (9.4.34): “ $K_{\text{loss}}$ ” should be “ $l_{\text{eff}}K_{\text{loss}}$ ”.
- p. 297, Prob. 9.1: “gas mixture” should be “gas mixture in the steady state”.
- \*\*p. 302, line 8: “ $\nu_{iz}$  is nonuniform, with  $\nu_{iz} = K_{iz}n_e$ ” should be “ $R_{iz}$  is nonuniform, with  $R_{iz} = K_{iz}n_g n_e$ ”.
- p. 304, 5th line from bot: “ $\lambda$ ” should be “ $\lambda_i$ ”.
- p. 308, Ex. 1: “4.1 V” should be “3.5 V”.
- p. 315, Eq. (10.3.12): (10.3.12a) and (10.3.12b) are more accurate than  $K_4$  and  $K_2$ , respectively, in Table 8.2.
- \*\*p. 330, line 3: “(4.2.8)” should be “(4.2.18)”.
- \*\*p. 325, Problem 10.1(b): “7.3” should be “8.1”.
- p. 334, Fig. 11.2: “ $V_{ab}$ ” should be “ $-V_{ab}$ ”.
- \*\*p. 347, line 2: “where  $u_s = u_B$ ” should be “where from (6.5.9)  $u_s = u_B$ ”.
- p. 348, Ex. 1: “from (11.2.32a)” should be “from (11.2.32)”.
- \*\*p. 350, rhs of Eq. (11.2.45) should be “ $\frac{V_{\text{rf}}^{1/4} \epsilon_c^{1/2}}{\omega T_e^{1/4}}$ ”.

- \*\*p. 350, rhs of Eq. (11.2.46) should be  $\frac{\omega^2 V_{\text{rf}}^{3/4} T_e^{1/4}}{\mathcal{E}_c^{1/2}}$ .
- \*\*p. 350, rhs of Eq. (11.2.49) should be  $S_{\text{abs}}^{1/8} \mathcal{E}_c^{5/8} / \omega^{5/4} T_e^{5/16}$ .
- \*\*p. 350, rhs of Eq. (11.2.50) should be  $S_{\text{abs}}^{3/8} \omega^{5/4} T_e^{1/16} / \mathcal{E}_c^{1/8}$ .
- \*\*p. 358, Fig. 11.9: The horizontal scale on both (a) and (b) parts should be “0.1, 1, 10, 100”.
- p. 374, line 2: “ $x$ ” should be “ $z$ ”.
- p. 375, line 12: “(11.2.22)” should be “(11.2.27)”.
- \*\*p. 380, Eq. (11.6.5): “4” should be “8”.
- \*\*p. 381, Eq. (11.6.8): “ $X_D$ ” should be “ $X_2$ ”.
- \*\*p. 393, 3rd line from bottom: “For  $\delta_p \ll R$ ” should be “For  $\delta_p \sim \delta_c \ll R$ ”.
- p. 397, Fig. 12.4: Exchange the labels “ $I_{\text{rf}} > I_{\text{min}}$ ” and “ $I_{\text{rf}} = I_{\text{min}}$ ”.
- p. 410, Prob. 12.1a: “ $\mathbf{J} =$ ” should be “ $\mathbf{J}_T = \mathbf{J} + \epsilon_0 \partial \mathbf{E} / \partial t =$ ”.
- p. 443, Example: “5.2 V” should be “4.5 V”, “39 V” should be “32 V”, “76 V” should be “64 V”, “3.5” should be “3.3”, “2.7” should be “3.3”, “20.8 cm” should be “17 cm”, “10.4 cm” should be “8.5 cm”, “2.8” should be “2.3”, “m/s” should be “cm/s”.
- p. 455, line 17: “(3.3.14)” should be “(5.3.14)”.
- p. 456, Eq. (14.2.11): “ $n_0$ ” should be “ $n$ ”.
- p. 457, Eq. (14.2.15): “ $e$ ” should be “ $2\pi e$ ”.
- p. 486, Eq. (15.2.27): “ $K_{\text{diss}}$ ” should be “ $2K_{\text{diss}}$ ”.
- p. 486, Eq. (15.2.28): “ $A$ ” should be “ $2A$ ”.
- p. 487, Eq. (15.2.29): “ $P_{\text{abs}}$ ” should be “ $2P_{\text{abs}}$ ”.
- p. 487, Eq. (15.2.31): “ $K_{\text{diss}}$ ” should be “ $2K_{\text{diss}}$ ”.
- p. 487, Eq. (15.2.32): “ $A$ ” should be “ $2A$ ”.
- p. 487, Eq. (15.2.33): “4” should be “8”.
- \*\*p. 528, 8th line from bottom: “Fig. 16.7b” should be “Fig. 16.6b”.
- \*\*p. 530, Fig. 16.7: “ $t$ ” should be “ $\bar{t}$ ” in the horizontal label.
- p. 551, line 19: “ $-n_g \sigma_{\text{inel}}(v) f_{e0}$ ” should be “ $-\nu^*(v) f_{e0} + (v'/v) \nu^*(v') f_{e0}(\mathbf{r}, v', t)$ , where  $v'^2 = v^2 + 2W^*/m$ ”.
- \*\*p. 556, add after Eq. (C.10): “[Here  $\alpha$  is not the spatial decay constant of Eq. (12.1.1).]”.