An Introduction to Atmospheric Radiation, 2nd Edition

(Errata)

p. 4, Figure 1.3: the lines for $d\theta$ should be on the same meridian.

p. 11, 1st line below Eq. (1.2.5) and in Eq. (1.2.6): k should be capital K.

p. 21, 5th line: "Δv" should be "$\Delta \upsilon$".

p. 23, 1st line below Eq. (1.3.14): "width" should be "half-width". "Also, 3rd line below subsection 1.3.2.2, add ", v," after "a velocity component".

p. 28, 2nd line below Eq. (1.4.6): "s" should be "s_1".

p. 35, Exercise 1.18: Delete ",where $u_{\tilde{v}}$ is the energy density" but add ". Note that in the derivation the energy density $u_{\tilde{v}}$ is".

p. 43, the figure caption in Figure 2.4: "1870 and 1860" should read "1976".

p. 46, 2nd line: the latitude "ϕ" should be "φ ".

p. 47, 1st line: below Eq. (2.2.6): "Subsection 2.2.3" should read "Section 2.2.3".

p. 57, Figure 2.10: in the ordinate, "Solar Radiance" should read "Solar Irradiance". Also, 2nd line: Between "with" and "blackbody", add " the Planck curves for".

p. 74, 4th line: "Fig. 2.9" should be "Fig. 2.10".

p. 80, 1st line above Eq. (3.2.11a): insert "and neglecting the last reaction in Eq.(3.2.9a), which is small below 50-60 km" after "On adding Eq. (3.2.9a) and (3.2.9b)". Also, 1st line below Eq. (3.2.11a): "K_{12}" should be "K_{12}".

p. 88, line 9: Replace "r. Thus, we have" by "r for the far field. In scalar form we may write". Also, replace bold letters "$\mathbf{E}$, $\mathbf{p}$, $\mathbf{p}_0$, and $\mathbf{E}_0$" by plain letters "E, p, p$_0$, and E$_0$" in Eqs. (3.3.2)-(3.3.4).

P 103, Eq. (3.4.2): $I(z, \mu', \phi')$ in the integral should be $I(z; \mu', \phi')$.

p. 111, the figure caption in Figure 3.20: "p'" after "from point" should be capital "P'".

p 126, 1st line above Eq. (4.2.14): Between "the spectral transmittance" and "as", add "with a mean wavenumber subscript $\bar{v}$ ".

p. 131, Eq. (4.3.8): "v_0" should be "v_{0j}".

p. 132, "second (4.3.10)" should read "(4.3.10a)". Also, in this equation and 2nd line from below, change all "i" to "j".

p. 133, 2nd line in the 2nd paragraph: Change "10 intervals" to "nine intervals". Also, in Eq.(4.3.13), "v_j" should be "Δv_j".

p. 134, Figure 4.7 (a): two "x's" are missing in $4dk$.

p. 138, the figure caption in Figure 4.9: "$\Delta \bar{v}$" should be "Δv"

p. 147, Eq. (4.4.46): The term $\exp\left[-\left(\dfrac{\tilde{\alpha} t + \tilde{\alpha}_D^2 \, t^2}{4}\right)\right]$ should be $\exp\left[-\left(\tilde{\alpha} t + \dfrac{\tilde{\alpha}_D^2 \, t^2}{4}\right)\right]$.

p. 166, Ex. 4.1, line 5: "atm cm" should read "cm atm". Also, Exercise 4.2, 2nd line: $x = su/2\pi\alpha$, "s" should be capital "S".

p. 167, Ex. 4.8: in 1st and 2nd equations, "$\tilde{s}$ and $c_{\tilde{v}}$" should be "$\bar{s}$ and $c_{\bar{v}}$".

p. 170, line 18: "*grant nuclei*" should read "*giant nuclei*".

p. 207, equation numbers: "Eqs. (5.3.38a) and (5.3.37b)" below Eq. (5.3.37a) should be "Eqs. (5.3.37b) and (5.3.37c)", respectively. Also, 1st line below Eq. (5.3.38a), the equation number "(5.3.38a)" should be "(5.3.37b)".

p. 211, Eq. (5.3.45): the first "σ_o" should be "σ_0".

p. 217, Eq. (5.4.1c), the 1st line: a common "," is missing after $\mathbf{e}^i$.

p. 221, 2nd line below Eq. (5.4.13): "$\mathbf{e}_\alpha$" should be "$\mathbf{e}^\alpha$".

p. 223, Eq. (5.4.20), the last term should be "-ln (RN)/(2kN_i)".

p. 227, line 12: "Eq. (5.4.23a)" should be "Eq. (5.4.22)".

p. 230, 1st line below Figure 5.20: Between "a plate with" and "attachments", add "two types of".

p. 235, 3rd line in the second paragraph: After "Figure 5.24", delete "using the same cirrus cloud model shown in Fig. 5.23".

p. 255, 4th line in Ex. 5.15: "Eq. (5.4.22a)" should be "Eq. (5.4.22)".

p. 258-p. 261, Eqs. (6.1.1), (6.1.5), (6.1.6), (6.1.12): "+ (1 − ϖ)$B[T(\tau)]$" should read "− (1 − ϖ)$B[T(\tau)]$".

p. 268, the last term in Eq. (6.2.43): an exponent "e" is missing after) and before -.

p. 271, in Eq. (6.2.61), $F^{\downarrow}(\tau_n)$ should be $F^{\downarrow}(\tau_N)$.

p. 284, in Eq. (6.3.42), "$P(\mu, -\mu_0)$" in the second term of the right-hand side should be "$P(-\mu, -\mu_0)$". Also, in Eq. (6.3.43), "τ" inside the exponential term in the first term of the right-hand side should be "τ_1".

p. 290, Eq. (6.4.1b): a common "," is missing in $I_{in,top}$.

p. 296, Eq. (6.4.23): "$T_{12}(\mu, \mu_0')$" should read "$T_{12}(\mu, \mu_0)$".

p. 306, Eq. (6.5.17b): The minus signs before $(\varepsilon u...)$ and the eigenvalue $k\tau_1$ in the numerator should be removed.

p. 310, Eq. (6.5.30c & d): The right-hand sides of these equations should be divided by $(1 - \mu_0^2 k^2)$.

p. 314, line 6 after Eq. (6.5.46): add "and including thermal infrared emission" after "After a lengthy and laborious derivation".

p. 316, line 9 in the 2nd paragraph: "Eq. (6.4.46)" should read "Eq. (6.5.46)".

p. 318, Eq. (6.6.3e): "$\cos(\xi + \delta_0)$" should be "$\sin(\xi + \delta_0)$".

p. 320, Figure 6.15: "E_ℓ" should be "E_l".

p. 337, Eq. (6.7.23a): The term $\left(\dfrac{(\ell-|m|)!}{(\ell+|m|)!}\right)$ should be $\left(\dfrac{(\ell-|m|)!}{(\ell+|m|)!}\right)^{1/2}$.

p. 338, line 3 after Eq. (6.7.26): "homogeneous" should read "nonhomogeneous".

p. 352, line 3 below Eq.(7.2.3a): "with NO_2 and" should be "with air, NO_2, and".

p. 368, line 7 in the last paragraph: "Spectrometer" should read "Spectroradiometer".

p. 373, line 16 from below: "1.62 µm" should be "1.621 µm".

p. 378, Figure 7.11: The "0" at the bottom of the ordinate should be deleted.

p. 387, line 15 after Eq. (7.4.21): the period after "studies" should be removed.

p. 391, Eq. (7.4.27), in the first term on the right-hand side: "T^s" should be "T^*".

p. 395, Eq. (7.4.45a), the second term on the right-hand side: the transposed notation **T** should be a regular letter (i.e., not bold).

p. 426, 2nd line from below: "90" and "157" should be updated to "89" and "150", respectively.

p. 434, line 13 in Section 7.6.3: "smaller" should read "small".

p. 477, line 12 in Section 8.4.4: "Section 5.4" should be "Section 5.5".

p. 496, 1st line below Eq. (8.5.29): "$s_2 = 0.482$" should be "$s_2 = -0.482$".

p. 502, Figure 8.22 caption, 1st line: "m s^{-1}" should read "m sec^{-1}".

p. 516, Ex. 8.1: "$(2T_a)^{1/4}$" should be "$(2)^{1/4}T_a$".

p. 525, 2nd line below Eq. (B.1): "$\partial^2 x, \partial^2 y, \partial^2 z$" should be "$\partial x^2, \partial y^2, \partial z^2$".

p. 536, in the line of permittivity of vacuum: "C" should be "C^2".

p. 541, **Chapter 6**, 6.7, 2nd line: "4" in the denominator should be "$4\pi^2$". Also, "$P(\mu, \phi; \mu'\phi')$ $P(\mu', \phi', -\mu_0, \phi_0)$" should be "$P(\mu, \phi; \mu', \phi')$ $P(\mu', \phi'; -\mu_0, \phi_0)$".

p. 543, 5th line from below: "*Mon. Wea. Res.*" should be "*Mon. Wea. Rev.*"

p. 545, line 18 from below: "ClO_x" should be "ClO_x".

p. 548, the last reference should be updated as fellows:

Li, Z., Cribb, M., and Trishchenko, A. (2002). Impact of surface inhomogeneity on solar radiative transfer under overcast conditions. *J. Geophy. Res*. **107**, D16, 10.1029/2001JD000976.