

Sergei Tretyakov, *Analytical Modeling in Applied Electromagnetics*, Norwood, MA: Artech House, 2003 — ERRATA

- p. 24, Eqs. (2.49-52). ϵ_0 is missing in the denominator of the second term in all these equations. E.g. formula (2.49) should read

$$E_x = -j\omega d(\mu - \mu_0)H_y + \frac{d}{j\omega\epsilon_0} \left(\frac{\epsilon_0}{\epsilon} - 1 \right) \left(\frac{\partial^2}{\partial x^2} H_y - \frac{\partial^2}{\partial x \partial y} H_x \right)$$

- p. 24, Eq. (2.53). μ_0 is missing in the denominator of the second term. The formula should read

$$\mathbf{n} \times \mathbf{H}_{t+} = \mathbf{n} \times \mathbf{H}_{t-} + j\omega(\epsilon - \epsilon_0)d\mathbf{E}_{t-} + \frac{d}{j\omega\mu_0} \left(\frac{\mu_0}{\mu} - 1 \right) \nabla_t \times (\nabla_t \times \mathbf{E}_{t-})$$

- p. 26. In the sentence after Eq. (2.62), “...parallel connection of two capacitances” should be replaced by “...series connection of two capacitances”
- pp. 72-73. Equation (4.13) should read

$$\sum_{n=-\infty}^{\infty} e^{-jnqd} H_0^{(2)} \left(k \sqrt{z^2 + (nd - y)^2} \right) = j \frac{2}{d} \sum_{m=-\infty}^{\infty} e^{-j(q + \frac{2\pi m}{d})y} \frac{e^{-\alpha_{mz}|z|}}{\alpha_{mz}}$$

Equation (4.15) should read

$$\begin{aligned} \sum_{n=-\infty}^{\infty} e^{-jqnd} H_0^{(2)} \left(k \sqrt{z^2 + (nd - y)^2} \right) &= \frac{2}{d} \frac{e^{-jqy}}{\sqrt{k^2 - q^2}} e^{-j\sqrt{k^2 - q^2}|z|} \\ &+ \frac{2j}{d} \sum_{m \neq 0} e^{-j(q + \frac{2\pi m}{d})y} \frac{e^{-\alpha_{mz}|z|}}{\alpha_{mz}} \end{aligned}$$

Equation (4.16) should read

$$E_x = -\frac{\eta}{2d} \frac{e^{-jqy}}{\sqrt{1 - q^2/k^2}} e^{-j\sqrt{k^2 - q^2}|z|} I_0 - j \frac{\eta k}{2d} \sum_{m \neq 0} e^{-j(q + \frac{2\pi m}{d})y} \frac{e^{-\alpha_{mz}|z|}}{\alpha_{mz}} I_0$$

- p. 139. Equation (5.82) should read

$$\alpha = V(\epsilon - \epsilon_0) \frac{3\epsilon_0}{\epsilon + 2\epsilon_0}$$

- p. 148. Equation (5.108) should read

$$q \approx k\sqrt{1 + 2A}$$

- p. 153. Text after Eq. (5.123) should read “where R is given by (5.115)”.

- p. 172. Equation (5.191) should read

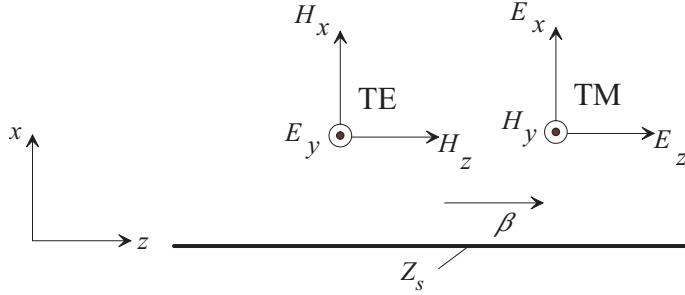
$$R = -e^{-jk_x a} \prod_{n=1}^{+\infty} e^{jk_x a} \frac{\sin[(-k_x + q_x^{(n)})a/2]}{\sin[(k_x + q_x^{(n)})a/2]}$$

- p. 229.

Equations (6.100) and (6.101) hold for patches in form of long strips. For the case of square patches, the sentence just above (6.99) should read “Inspecting (4.54)...”, and the terms $\cos^2(\theta)$ in Eqs. (6.100) and (6.101) should be replaced by

$$\left(1 - \frac{\sin^2 \theta}{2}\right)$$

- p. 234. Figure 6.21 should be corrected as shown:



(The labels of the vertical components of the fields were mixed up).

- p. 234. In Eqs. (6.121) and (6.123), left-hand side, β should be replaced by β^2