

Letters

Corrections to "Mutual Impedance between Probes in a Waveguide"

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In the above paper,¹ the following corrections should be made.

In (7), $\bar{G}_3(\bar{r}, \bar{r}')$ should read $\bar{G}(\bar{r}, \bar{r}')$, and $\sum_m \sum_n (2 - \delta_0)/k_g k_c^2$ should read $\sum_m \sum_n (2 - \delta_0)/k_g k_c^2$. In (10), E_z should read E'_z . Equation (11) should read

$$E_i = \sum_m \sum_n \left[s_{j-1} B_1 T_{cs} F(+\Gamma z) + s_{j-2} B_2 T_{sc} F(+\Gamma z) + s_{j-3} B_3 T_{ss} F(-\Gamma z) \right] \quad (11)$$

where $E_i = E_x$ for $j=1$, $E_i = E_y$ for $j=2$, and $E_i = E'_z$ for $j=3$. The longitudinal field $E_z = E'_z + E''_z$. The correction term is

$$E''_z = -j \frac{2\eta_0}{kab} \sum_m \sum_n (2 - \delta_0) \frac{s_{33}}{|s_{33}|} I_1(\xi) \tau_{ss}(\xi) T_{3s} \Big|_{\xi=(z-z_{10})/s_{33}}$$

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¹B. S. Wang, *IEEE Trans. Microwave Theory Tech.*, vol. 36, pp. 53-60, Jan. 1988.

In (16) and (17), $t_{33} E''_z$ should be added. Equation (19) should read

$$\beta_i(w) = (s_{1,i} t_{13} + s_{2,i} t_{23} + s_{3,i} t_{33}) f(\pm \Gamma w) \quad (19)$$

where the $+$ is selected for $i=1,2$, and the $-$ for $i=3$. In Example C, $s_{22} = t_{22} = -1$. In (27) and (28), $-6k\eta_0$ should read $2k\eta_0$. In Example H, E_{1w} should read

$$E_{1w} = \frac{2I_{10}\eta_0}{ab \sin kh_1}$$

$$\sum_m \sum_n \sim \begin{cases} (\cos kh_1 - \cos k_g h_1) e^{jk_g w}, & w > h_1 \\ e^{jk_g w} \cos kh_1 - e^{jk_g h_1} \cos k_g w, & w < h_1 \end{cases}$$

where the symbol \sim represents all terms between the double summation and the braces in the original equation. In (29), $6k\eta_0$ should read $2k\eta_0$, and

$$H(k, k_g, h) = \frac{1}{k_c^2} \left[\cos^2 kh + j \frac{k_g}{2k} \sin 2kh + (\cos k_g h - 2 \cos kh) e^{jk_g h} \right]$$