

Letters

Correction to "Constraints to the Optimum Performance and Bandwidth Limitations of Diplexers Employing Three-Port Junctions"

A. Morini

The above paper¹ contains some oversights. The first oversight is that $s_{11} = s_{22}$ for both E -plane and H -plane three-port junctions that have one symmetry plane.

Therefore (6b) becomes

$$s_{11} = s_{22} \quad (6b)$$

In the same section, for the E - and H -plane three-port junctions we took the reflection at the symmetry port $|s_{33}|$ to be equal to $|\Gamma_e|$ and $|\Gamma_o|$, respectively. This is not the general case as $|s_{33}|$ can be equal either to $|\Gamma_e|$ or to $|\Gamma_o|$, depending upon the polarization of the excitation with respect to the symmetry plane. The reasoning developed in that section, however, still remains valid, provided one assumes the correct symmetries of the junction $s_{23} = s_{13}$ or $s_{23} = -s_{13}$. In the first case, $|s_{33}| = |\Gamma_e|$, in the second case $|s_{33}| = |\Gamma_o|$. Therefore, this section should read:

- 1) [following (8)]—*Proof*: We will first deal with junctions having $s_{23} = s_{13}$.
- 2) [following (11)]—Instead of "The H -plane case...", the sentence should read "The case where $s_{23} = -s_{13}$ follows simply by exchanging Γ_e with Γ_o ."

Correction to "The Relationship Between Dual Mode Cavity Cross-Coupling and Waveguide Polarizers"

R. Levy

The author of the above paper¹ is grateful to Prof. Harry E. Green of The University of South Australia, for pointing out that a more accurate finite difference solution for the circular waveguide with flats was presented in the following reference, which should be added as the final reference to the above paper¹:

- [15] D. H. Sinnott, G. K. Cambrell, C. T. Carson, and H. E. Green, "The finite difference solution of microwave circuit

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¹A. Morini and T. Rozzi, *IEEE Trans. Microwave Theory Tech.*, vol. 44, no. 2, pp. 242–248, Feb. 1996.

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¹R. Levy, *IEEE Trans. Microwave Theory Tech.*, vol. 43, no. 11, pp. 2614–2620, Nov. 1995.

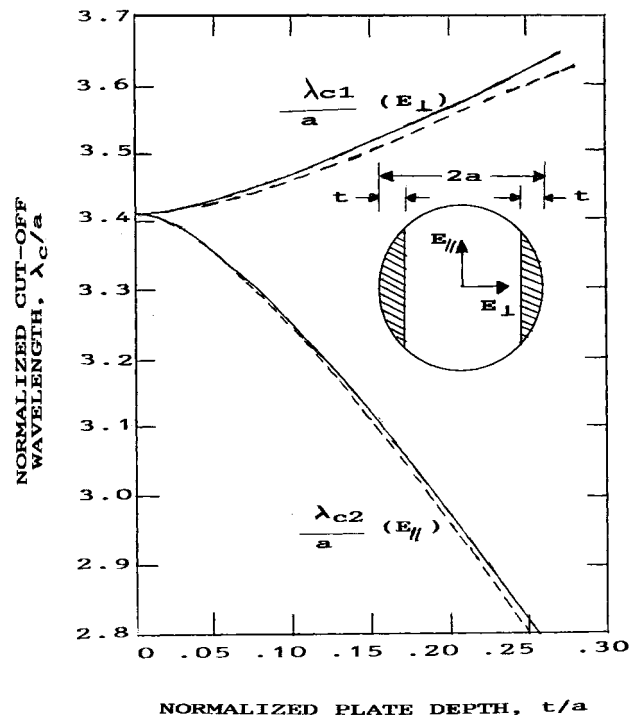


Fig. 7. Curves of cutoff wavelengths of perpendicular and parallel polarizations as a function of flat depth. (—): Finite difference theory [15], (---): Perturbation theory (this paper).

problems," *IEEE Trans. Microwave Theory Tech.*, vol. MTT-17, pp. 464–478, Aug. 1969.

The more accurate results reported in [15, Fig. 12] improve the agreement between the finite difference solution and the perturbation theory¹ for the $E_{\parallel}$ field, but apparently give a worse result for the $E_{\perp}$ field. However, an error has been discovered in the expression for $E_{\perp}$ in the above paper¹ where the constant 0.1334 should be halved, leading to the corrected expression:

$$\frac{\Delta\lambda_{c\perp}}{\lambda_c} = 1 + 0.0667N_f \left[\frac{1}{2} \sin 2\phi - \phi \cos 2\phi \right] \quad (48)$$

where $\lambda = 3.412 a$.

The factor of 2 arises from the 1/2 in the first line of (44) being missed out from the second line, and (44) should read:

$$\begin{aligned} \Delta U_{\perp} &= \frac{1}{2} \mu |H_{\theta}|^2 \cdot \Delta V \\ &= \mu I^2 \frac{J_1^2(\chi)}{2a} \int \int r \cos^2 \theta \, dr \, d\theta \end{aligned} \quad (44)$$

The corrected results are given in the revised Fig. 7, where it is noted that, fortunately, the agreement between the theories is now much closer than previously thought.

E. Wollack of the National Radio Astronomy Observatory, Charlottesville, VA, also wrote, pointing out several typographical errors as follows:

The angular limits for integration in (28) are $\pm\pi$.

Equation (34) should contain a factor of μ .

In (35), X should be χ .

In (35), (37), (39), and (44), the integrals should read:

$$\iint r \cos^2 \theta \, d\mathbf{r} \, d\theta$$

which logically explains the appearance of the $a^2/2$ term in (37), (39) and (45), respectively.

In (40), the second $\sin$ on the right-hand side (RHS) should be replaced by $\cos$.

Correction to "Input Impedance of a Coaxial Probe Located Inside a Rectangular Cavity: Theory and Experiment"

M. S. Leong, L. W. Li, P. S. Kooi, T. S. Yeo, and S. L. Ho

In the above paper,¹ (7c) should have read as follows:

$$\psi_{e'_{mn}}(x, y, z) = \begin{bmatrix} \cos & \cos & \sin \\ (k_x x) & (k_y y) & (k_z z) \\ \sin & \sin & \cos \end{bmatrix}. \quad (7c)$$

The computation presented in the above paper¹ was made using the correct equation given above, therefore, this typographic error does not affect the rest of the paper.

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¹M. S. Leong, L. W. Li, P. S. Kooi, T. S. Yeo, and S. L. Ho, *IEEE Trans. Microwave Theory Tech.*, vol. 44, no. 7, pp. 1161–1164, July 1996.