Abstracts

A mode-matching technique for the study of circular and coaxial waveguide discontinuities based on closed-form coupling integrals

A.P. Orfanidis, G.A. Kyriacou and J.N. Sahalos. "A mode-matching technique for the study of circular and coaxial waveguide discontinuities based on closed-form coupling integrals." 2000 Transactions on Microwave Theory and Techniques 48.5 (May 2000 [T-MTT]): 880-883.

A mode-matching scheme for the analysis of concentric circular and/or coaxial waveguide step discontinuities is proposed in this paper. An analytical evaluation of the involved coupling integrals for all possible discontinuities formed by any combination of a circular and a coaxial waveguide is performed. The originality mainly concerns the multimode excitation and scattering at a circular-to-coaxial waveguide step junction. Numerical results for a number of applications are compared against those of other techniques and/or measurements and are found to be in good agreement.

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