Abstracts

Improved Finite-Difference Formulation in Frequency Domain for Three-Dimensional Scattering Problems

K. Beilenhoff, W. Heinrich and H.L. Hartnagel. "Improved Finite-Difference Formulation in Frequency Domain for Three-Dimensional Scattering Problems." 1992 Transactions on Microwave Theory and Techniques 40.3 (Mar. 1992 [T-MTT]): 540-546.

The finite-difference method in the frequency domain is a powerful tool for analyzing arbitrarily shaped transmission-line discontinuities and junctions. In this paper, an improved formulation based on Maxwell's equations in integral form is presented. It corresponds to the Helmholtz equation and reduces the numerical efforts in solving the large linear equation system considerably. The method is verified by comparison to previous work on microstrip.

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