Abstracts

A Deterministic Quasi-Static Approach to Microstrip Discontinuity Problems in the Space-Spectral Domain

M. Yu, K. Wu and R. Vahldieck. "A Deterministic Quasi-Static Approach to Microstrip Discontinuity Problems in the Space-Spectral Domain." 1992 Microwave and Guided Wave Letters 2.3 (Mar. 1992 [MGWL]): 114-116.

A new deterministic quasi-static space-spectral domain approach has been developed to analyze planar circuit discontinuities. This method represents an important modification of the SSDA which combines the advantages of the 1-D MoL and the 1-D SDA. Since the SSDA was developed as an eigenvalue approach, it was only capable of calculating resonant frequencies of planar resonators of arbitrary shape. In this modified SSDA approach an algebraic matrix equation replaces the eigenvalue matrix and the quasi-static discontinuity capacitances and s-parameters are computed very efficiently. To demonstrate the performance of this new method the microstrip open-end is calculated as an example.

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