Abstracts

Use of Frequency Derivatives in the Three-Dimensional Full-Wave Spectral Domain Technique

J.E. Pekarek and T. Itoh. "Use of Frequency Derivatives in the Three-Dimensional Full-Wave Spectral Domain Technique." 1996 Transactions on Microwave Theory and Techniques 44.12 (Dec. 1996, Part II [T-MTT] (1996 Symposium Issue)): 2466-2473.

Rational function approximations are used to extrapolate the frequency response of the scattering coefficients of three-dimensional (3-D) structures. The rational functions are constructed by applying Pade approximation techniques to single frequency solutions of the currents and the derivatives of the currents with respect to frequency. ‘The currents and current derivatives are computed using a modified spectral domain technique. The efficiency of the method, along with the direct determination of the poles and zeros of the transfer function, make the method well-suited for model-based parameter estimation (MBPE). Multiple-frequency-point Pade approximations are also investigated.

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