Abstracts

A new approach for the experimental circuit modeling of coupled interconnection structures based on causality

S. Sercu and L. Martens. "A new approach for the experimental circuit modeling of coupled interconnection structures based on causality." 1997 Transactions on Microwave Theory and Techniques 45.10 (Oct. 1997, Part II [T-MTT] (Special Issue on Interconnects and Packaging)): 1977-1981.

In this paper, a time-frequency-domain technique for the experimental circuit modeling of coupled interconnection structures and discontinuities is presented. The technique models and de-embeds all discontinuities and coupled substructures of the device under test (DUT) one by one, and is based on the principle of causality. Validation of each part of the model is done in the time domain, while all calculations are performed in the frequency domain. To validate the accuracy of the circuit models, measured reflection, transmission, and near- and far-end crosstalk are compared with simulated results.

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