Abstracts

New Results in Network Simulation, Sensitivity, and Tolerance Analysis for Cascaded Structures (Dec. 1978 [T-MTT])

J.W. Bandler, M.R.M. Rizk and H.L. Abdel-Malek. "New Results in Network Simulation, Sensitivity, and Tolerance Analysis for Cascaded Structures (Dec. 1978 [T-MTT])." 1978 Transactions on Microwave Theory and Techniques 26.12 (Dec. 1978 [T-MTT] (1978 Symposium Issue)): 963-972.

An attractive, exact, and efficient approach to network analysis for cascaded structures is presented. It is useful for sensitivity and tolerance analyses, in particular, for a multiple of simultaneous large changes in design parameter values. It also facilitates the exploitation of symmetry to reduce computational effort for the analysis. Responses at different loads in branched networks, which may be connected in series or in parallel with the main cascade, can be obtained analytically in terms of the variable elements. Sensitivity and large-change effects with respect to these variables can be easily evaluated. The approach is not confined to 2-port elements but can be generalized to 2p-port cascaded elements.

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