Abstracts

An Adaptive Spectral Response Modeling Procedure for Multiport Microwave Circuits

J.-F. Lee and Z.J. Cendes. "An Adaptive Spectral Response Modeling Procedure for Multiport Microwave Circuits." 1987 Transactions on Microwave Theory and Techniques 35.12 (Dec. 1987 [T-MTT] (1987 Symposium Issue)): 1240-1247.

An adaptive scheme is proposed to generate the spectral response of waveguide junctions in minimum computation time. The procedure uses the newly developed transfinite element method to determine the fields in junctions at a, few adaptively selected frequencies and then employs these solutions to generate the spectral response throughout the frequency range of interest. In typical problems, the method converges in five or six iterations to the full spectral response evaluated at 100 points. We show by solving example problems that the new procedure is orders of magnitude faster than the alternatives.

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