Abstracts

Finite Element Analysis of MMIC Structures Using Absorbing Boundary Conditions

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In this paper, three-dimensional finite element method (FEM) is employed in conjunction with first and second-order absorbing boundary conditions (ABCs) to analyze waveguide discontinuities and to derive their scattering parameters. While the application of FEM for the analysis of MMIC structures is not new, to the best of the knowledge of the authors the technique for mesh truncation for microstrip lines using the first and higher-order ABCs, described in this paper, has not been reported elsewhere. Numerical solutions for two representative waveguide discontinuities are obtained and compared with published data.

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