Abstracts

A Finite Difference Approach that Employs an Asymptotic Boundary Condition on a Rectangular Outer Boundary for Modeling Two-Dimensional Transmission Line Structures

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In this paper, the derivation of three asymptotic boundary conditions is presented. Techniques for implementing each of these on finite difference meshes with rectangular outer boundaries are discussed. Numerical results obtained using these boundary conditions in the finite difference analysis of both shielded and unshielded transmission lines are shown. We present detailed convergence studies on the use of each of these boundary conditions and discuss the memory requirements of each.

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