Abstracts

Determination of Green's Function Matrix for Multiconductor and Anisotropic Multidielectric Planar Transmission Lines: A Variational Approach

F. Medina and M. Horno. "Determination of Green's Function Matrix for Multiconductor and Anisotropic Multidielectric Planar Transmission Lines: A Variational Approach." 1985 Transactions on Microwave Theory and Techniques 33.10 (Oct. 1985 [T-MTT] (Special Issue on Numerical Methods)): 933-940.

In this paper, a set of simple recurrence formulas to evaluate the Green's function matrix for a generic multiconductor and multidielectric planar transmission system with arbitrary rectangular boundary conditions is obtained. Combining these formulas with the variational technique in the spectral domain, two useful algorithms to calculate the capacitance matrix of a very wide range of practical configurations are proposed. Upper and lower bounds on mode capacitances are obtained by using both algorithms. A number of practical structures have been analyzed and their most interesting features discussed, The method is very versatile and can handle a large class of MIC configurations, no matter how complex the planar structure.

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