Abstracts

Quick Computation of [C] and [L] Matrices of Generalized Multiconductor Coplanar Waveguide Transmission Lines

E. Drake, F. Medina and M. Horno. "Quick Computation of [C] and [L] Matrices of Generalized Multiconductor Coplanar Waveguide Transmission Lines." 1994 Transactions on Microwave Theory and Techniques 42.12 (Dec. 1994, Part I [T-MTT]): 2328-2335.

An enhanced spectral domain quasi-TEM analysis of generalized coplanar waveguide transmission lines (GCPWTL) is presented. The analysis starts from the formulation of a convolution-type integral equation for the electric field at the slots. Chebyshev polynomials including Maxwell singularities are used as basis functions to solve the integral equation by the Galerkin method. Fast and accurate quasi-analytical formulas are used to calculate the Galerkin's matrix entries, thereby significantly reducing the involved CPU time and increasing reliability and accuracy. These features make this technique useful and competitive as CAD tool for coplanar waveguide designs.

❑ Return to main document.