Abstracts

Improved Quasi-TEM Spectral Domain Analysis of Boxed Coplanar Multiconductor Microstrip Lines

This paper presents a very efficient quasi-TEM analysis of multistrip transmission systems embedded in a layered medium. The number of conductors and substrates is arbitrary, and the whole structure is assumed to be enclosed in a rectangular set of boundary conditions. The analysis makes use of the Galerkin method in the spectral domain. Chebyshev polynomials with edge conditions are used as basis and test functions for the strips free charge distribution. This standard technique is considerably enhanced by means of two alternative procedures to accelerate the computation of the entries of the Galerkin matrix. Extremely accurate results for a multistrip system, including the charge distribution, can then be obtained on a PC computer in a short CPU time.

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