Abstracts

Spectral-Domain Analysis of Open and Shielded Slotlines Printed on Various Anisotropic Substrates

Y. Chen and B. Beker. "Spectral-Domain Analysis of Open and Shielded Slotlines Printed on Various Anisotropic Substrates." 1993 Transactions on Microwave Theory and Techniques 41.10 (Nov. 1993 [T-MTT]): 1872-1877.

A rigorous full-wave analysis based on the spectral-domain approach for open and shielded slotline transmission lines is presented. The substrate materials under consideration are anisotropic, characterized by both their permittivity and permeability tensors. The formulation includes off-diagonal tensor elements to represent gyroelectric media, Ferrites, or the misalignment between the principal axes of the substrate and the coordinate system of the waveguide. Dyadic admittance Green's functions for every structure are obtained with the help of differential matrix operators in the Fourier-transformed domain, and the Galerkin method is employed to find the propagation constants numerically.

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