Abstracts

Integral Equation Formulation for Inhomogeneous Anisotropic Media Green's Dyad with Application to Microstrip Transmission Line Propagation and Leakage

G.W. Hanson. "Integral Equation Formulation for Inhomogeneous Anisotropic Media Green's Dyad with Application to Microstrip Transmission Line Propagation and Leakage." 1995 Transactions on Microwave Theory and Techniques 43.6 (Jun. 1995 [T-MTT]): 1359-1363.

A straightforward numerical technique based on the equivalence principle is presented to determine the complete spectral Green's dyad for inhomogeneous anisotropic media. This method is relevant to guided-wave problems where propagation characteristics are desired in the axial transform domain. Spectral Green's components are determined from a one-dimensional polarization-type integral equation. This method is very simple and versatile, and can be used to model continuously varying or stratified dielectric media with permittivity dyads of the most general form. As an application, a microstrip transmission line residing on a generally orientated uniaxial and biaxial substrate is considered, and new results for higher-order mode leakage are presented.

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