

Numerical Spectral Matrix Method for Propagation in General Layered Media: Application to Isotropic and Anisotropic Substrates

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A full-wave analysis technique for generalized anisotropic layered media based on a 4x4 field matrix method is applied to calculate the propagation constant of a number of microstriplike transmission structures. This technique is very versatile, and allows simultaneous permittivity, permeability, and optical activity anisotropy. Data for higher order modes of single and coupled strip lines in isotropic layered media in the millimeter-wave region are presented. New dispersion data for both low- and high-anisotropy dielectric layered structures are generated for different principal axis crystallographic orientations.

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