Abstracts

Propagation Characteristics of a Microstrip Line Printed on a General Anisotropic Substrate

J.L. Tsalamengas, N.K. Uzunoglu and N.G. Alexopoulos. "Propagation Characteristics of a Microstrip Line Printed on a General Anisotropic Substrate." 1985 Transactions on Microwave Theory and Techniques 33.10 (Oct. 1985 [T-MTT] (Special Issue on Numerical Methods)): 941-945.

An analysis is presented for determining the propagation modes in a microstrip line printed on a substrate having both electric- and magnetic-type general anisotropies. An integral equation is derived for the unknown current distribution on the microstrip line. The kernel of this equation is a complicated 2x2 matrix function of the substrate anisotropy and of the substrate thickness. In order to determine the dispersion relations for the propagating waves, this integral equation is reduced into a finite system of linear equations by employing Galerkin's technique. Numerical results are given for several cases, and the effect of rotating the anisotropy axis in anisotropic substrates is investigated. The proposed method can be employed to compute the propagation characteristics of microstrip lines printed on anisotropic substrates.

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