Abstracts

Complex Media Microstrip Ridge Structures: Formulation and Basic Characteristics of Ferrite Structures

G.W. Hanson. "Complex Media Microstrip Ridge Structures: Formulation and Basic Characteristics of Ferrite Structures." 1996 Transactions on Microwave Theory and Techniques 44.9 (Sep. 1996 [T-MTT]): 1563-1568.

Microstrip transmission lines residing on bianisotropic material ridges embedded in a multilayered environment are studied using a coupled set of integral equations (IE's). The full-wave IE formulation accounts for general linear media in the ridge region using equivalent polarization currents residing in a multilayered bianisotropic background. Numerical results showing basic propagation characteristics are presented for a variety of single and coupled ferrite ridge structures. It is shown that the use of finite width ferrite ridges as either substrates or superstrates can produce nonreciprocity while confining the ferrite material to a small area in the vicinity of the transmission line.

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