Abstracts

Reciprocal and Nonreciprocal Modes of Propagation in Ferrite Stripline and Microstrip Devices

M.E. Hines. "Reciprocal and Nonreciprocal Modes of Propagation in Ferrite Stripline and Microstrip Devices." 1971 Transactions on Microwave Theory and Techniques 19.5 (May 1971 [T-MTT]): 442-451.

An approximate analysis is presented together with a physical description of the modes of propagation in stripline and microstrip devices of significant width, using ferrite slabs as dielectric material, magnetized perpendicular to the ground plane. The dominant mode resembles TEM propagation, except that there is a strong transverse field displacement, causing wave energy to be concentrated along one edge of the line. Nonreciprocal behavior is obtainable by asymmetrically loading the edges. Approximate analytical techniques are given for isolators and phase shifters, with examples of numerical computations and experimental results.

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