Abstracts

Edge-Guided Magnetostatic Mode in a Ridged-Type Waveguide (Short Papers)

M. Miyazaki, K. Yashiro and S. Ohkawa. "Edge-Guided Magnetostatic Mode in a Ridged-Type Waveguide (Short Papers)." 1985 Transactions on Microwave Theory and Techniques 33.5 (May 1985 [T-MTT]): 421-424.

A ridged-type magnetostatic waveguide is analyzed using the boundary element method. A bias magnetic field is applied perpendicularly to the surface of an yttrium-iron-garnet (YIG) film grown on a gadlinium-gallium-garnet (GGG) substrate. The dispersion curves and the potential profiles obtained in this paper show that the mode has a strong nonreciprocal property and is a kind of edge-guided mode which propagates along either side of the ridge, depending upon the direction of the bias field and the direction of the wave propagation. In addition, the authors emphasize the fact that the boundary element method is useful for analysis of a complex structure in the field of magnetostatic wave (MSW) devices.

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