Abstracts

Finite-Element Solution of Planar Inhomogeneous Waveguides for Magnetostatic Waves

Y. Long, M. Koshiba and M. Suzuki. "Finite-Element Solution of Planar Inhomogeneous Waveguides for Magnetostatic Waves." 1987 Transactions on Microwave Theory and Techniques 35.8 (Aug. 1987 [T-MTT]): 731-736.

A unified numerical approach based on the finite-element method is described for the solution of planar inhomogeneous waveguides for magnetostatic waves. Both magnetostatic volume wave and magnetostatic surface wave modes are treated. The validity of the method is confirmed by calculating the magnetostatic wave modes of layered YIG films. The numerical results of inhomogeneous YIG films with alpha-power magnetization profile are also presented, and the effects of magnetization inhomogeneities on the delay characteristics and potential profiles for magnetostatic forward volume wave, magnetostatic backward volume wave, and magnetostatic surface wave modes are examined.

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