

Abstracts

Propagation in a Waveguide Partially Filled with Anisotropic Dielectric Material

J.I.H. Askne, E.L. Kollberg and L. Pettersson. "Propagation in a Waveguide Partially Filled with Anisotropic Dielectric Material." 1982 Transactions on Microwave Theory and Techniques 30.5 (May 1982 [T-MTT]): 795-799.

A rectangular waveguide partially filled with an anisotropic dielectric material has been studied. The method of analysis has been shown to be quite powerful. A new configuration with a rectangular waveguide unsymmetrically loaded with a rectangular dielectric insert has been analyzed, tested experimentally. The special effects of mode coupling by breaking the symmetry of the structure are studied and the consequences for single-mode operation with application to masers in the millimeter-wave region are demonstrated.

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