Abstracts

Coupled-Mode Analysis of Leaky Waves in Channel Waveguides Consisting of Anisotropic Material

M. Geshiro, M. Hotta and T. Kameshima. "Coupled-Mode Analysis of Leaky Waves in Channel Waveguides Consisting of Anisotropic Material." 1993 Transactions on Microwave Theory and Techniques 41.6 (Jun./Jul. 1993 [T-MTT]): 1159-1163.

For the first time, a study is made of leaky waves in anisotropic circular channel waveguides consisting of uniaxial crystalline material, in which the optical axis is on the plane which is defined by the propagation axis and one of the transverse coordinates axes, The analysis is based on the theory of coupled modes. Mathematical discretization of the continuum of radiation modes offers satisfactorily accurate solutions of the coupled-mode equations. The characteristics of leakage losses and the field distributions of leaky waves in a LiNbO/sub 3/ waveguide are discussed on the basis of the numerical results.

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