Abstracts

Coupling Efficiency of Butt-Joined Isotropic and Anisotropic Single-Mode Slab Waveguides

S. Sawa, M. Geshiro, M. Hotta and H. Kanetake. "Coupling Efficiency of Butt-Joined Isotropic and Anisotropic Single-Mode Slab Waveguides." 1992 Transactions on Microwave Theory and Techniques 40.2 (Feb. 1992 [T-MTT]): 338-345.

Studied is the effect of axial displacement and angular misalignment on power-coupling efficiency of a butt-joint between an isotropic and an anisotropic single-mode slab wave-guide. The power-coupling coefficient is formulated by means of the boundary conditions at the interface of the butt-joint and the orthogonality relations between the modes in the outgoing waveguide. It is found from the numerical results that proper amounts of angular misalignment and axial displacement remarkably suppress transmission losses when the material coordinate system of the anisotropic waveguide is not aligned with its waveguide coordinate system in the plane defined by the propagation axis and the normal of waveguide surface.

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