Abstracts

Modal and Coupling Charactaristics of Inhomogeneous Dielectric Slab Waveguides

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A numerical scheme based on invariant imbedding methods is applied to the problem of calculating the propagation constants for the surface-wave modes of an inhomogeneous lossless dielectric slab. The method results in a first-order Riccati equation for the transverse wave impedance (or admittance), which is numerically integrated across the slab to yield the transverse resonance condition for each specific mode. The method is generalized to treat lossy structures, as well as coupling between slabs.

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