Abstracts

A Study of Sub-Millimeter Wave Coupled Dielectric Waveguides Using the GIE Method

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In this paper the coupling properties of coupled dielectric waveguides are evaluated using a novel and powerful method which relies on the concept of equivalent planar polarization dipole moments to simulate the guides. Generalized impedance boundary conditions are enforced to provide a simple planar integral equation (Generalized Integral Equation). This method can account for multiple dielectric strips on different levels. Phase constants of the different modes and coupling characteristics are calculated for several structures, such as rib waveguides and insulated image guides.

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