Abstracts

A Planar Integral Equation Method for the Analysis of Dielectric Ridge Structures Using Generalized Boundary Conditions

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A novel method is developed to calculate the propagation characteristics of dielectric ridge structures in high frequency monolithic integrated circuits. First, the electric field in the dielectric ridge is expressed in terms of a polarization current from which an equivalent surface current density is defined. Further, genezalized boundary conditions are enforced in order to provide a simple integral equation. Results derived by this modified integral equation approach give excellent agreement with other numerical methods. The main advantage of this techniques that it simplifies greatly the analysis of three-dimensional complex structures.

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