Abstracts

Field and Network Analysis of Interacting Step Discontinuities in Planar Dielectric Waveguides

Planar dielectric waveguides play an important role in electrooptics and at millimeter frequencies. In many laser configurations and integrated optical components, grooves are etched in the planar surface or overlays are deposited on it. The step is an idealization of such a discontinuity. Step discontinuities are seldom isolated. Mostly a cascade is employed. The aim of this paper is to derive, from a rigorous field analysis an accurate finite network description for such cascades, either finite or infinite, periodic or aperiodic, which takes account also of the continuous spectrum. Numerical examples are given.

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