

Towards an Unified Efficient Algorithm for Characterizing the Planar Periodic Waveguides

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A new efficient algorithm (modified three dimensional spectral domain solution with "modal spectrum" in propagation direction) applied to a variety of planar waveguides with periodic stubs is achieved. In this paper, slow-wave propagation characteristics of both symmetrically and unsymmetrically loaded periodic structures with lossy dielectric layer such as finline and coplanar waveguide (CPW) are investigated. Many important features like pass-band and stop-band related to cut-off and resonant frequencies are discussed in detail based on numerical computations which are compared with measured results obtained by transmission line experimental procedure.

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