Abstracts

Propagation Properties of a Planar Dielectric Waveguide with Periodic Metallic Strips

K. Ogusu. "Propagation Properties of a Planar Dielectric Waveguide with Periodic Metallic Strips." 1981 Transactions on Microwave Theory and Techniques 29.1 (Jan. 1981 [T-MTT]): 16-21.

A dielectric waveguide with periodic metallic strips suitable for millimeter-wave and submillimeter-wave integrated circuits is analyzed by a rigorous formulation. The accuracy of the solution of our analysis can be systematically improved by increasing the size of the matrix associated with the eigenvalue equation. Stopband properties are numerically presented as a function of the spacing and width of metallic strips and dielectric profile. It is found that there is a difference in the stopband properties of TM and TE modes. Experimental results for the band reject filter are also presented to verify the validity of our analysis.

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