

Abstracts

An Approximate Analysis of Dielectric-Ridge Loaded Waveguide (Short Papers)

R.M. Arnold and F.J. Rosenbaum. "An Approximate Analysis of Dielectric-Ridge Loaded Waveguide (Short Papers)." 1972 Transactions on Microwave Theory and Techniques 20.10 (Oct. 1972 [T-MTT]): 699-701.

The dielectric-ridge loaded waveguide is analyzed approximately in terms of coupled empty waveguide modes. Using this technique the propagation constant can be easily computed, thus allowing the prediction of the properties of a type of dielectric phase shifter. Experimental evidence is presented which indicates that a two-mode approximation yields reasonable accuracy if the dielectric ridge is on center, is relatively thin compared to the width of the waveguide, and has a low dielectric constant relative to that of free space ϵ_0 .

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