# Abstracts

## Analysis of a ridge waveguide using overlapping T-blocks

*Y.H. Cho and H.J. Eom. "Analysis of a ridge waveguide using overlapping T-blocks." 2002 Transactions on Microwave Theory and Techniques 50.10 (Oct. 2002 [T-MTT]): 2368-2373.*

A T-block (TB) approach is proposed to analyze the dispersion relation of a ridge waveguide. The field representations of a TB are obtained with the Green's function and mode-matching technique. Rigorous, yet simple dispersion equations for symmetric and asymmetric ridge waveguides are presented using a superposition of overlapping TBs. The rapid convergence characteristics of the dispersion equation are illustrated in terms of the cutoff wavenumbers. A closed-form dispersion relation, based on a dominant-mode approximation, is shown to be accurate for most practical applications such as couplers, filters, and polarizer designs.

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