Abstracts

Finite Element Analysis of Dispersion in Waveguides with Sharp Metal Edges

J.P. Webb. "Finite Element Analysis of Dispersion in Waveguides with Sharp Metal Edges." 1988 Transactions on Microwave Theory and Techniques 36.12 (Dec. 1988 [T-MTT] (1988 Symposium Issue)): 1819-1824.

The dispersion characteristics of arbitrarily shaped waveguides with sharp metal edges are found by a finite element method in which the usual polynomials are supplemented by singular trial functions. As in recent approaches, the method solves for the three components of the magnetic field and can thereby avoid spurious modes. Results are presented for a rectangular waveguide with two double ridges and for shielded microstrip on isotropic and anisotropic substrates.

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