

# Abstracts

## Numerical Solution of Dielectric Loaded Waveguides: I--Finite-Element Analysis

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Z.J. Csendes and P. Silvester. "Numerical Solution of Dielectric Loaded Waveguides: I--Finite-Element Analysis." 1970 *Transactions on Microwave Theory and Techniques* 18.12 (Dec. 1970 [T-MTT] (1970 Symposium Issue)): 1124-1131.

A variational expression of the electromagnetic fields in dielectric loaded waveguides is derived. This expression is discretized using the finite-element method and an electromagnetic coupling matrix is derived and evaluated. No restriction is placed on the shapes of the triangular elements or the order of the polynomial approximation. A general finite-element computer program is described and dispersion curves and field plots of some dielectric loaded waveguides are presented.

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