Abstracts

Numerical Solution of Dielectric Loaded Waveguides: II--Modal Approximation Technique

Z.J. Csendes and P. Silvester. "Numerical Solution of Dielectric Loaded Waveguides: II--Modal Approximation Technique." 1971 Transactions on Microwave Theory and Techniques 19.6 (Jun. 1971 [T-MTT]): 504-509.

A numerical method is described for the solution of the electromagnetic fields in dielectric loaded waveguides. The method uses the cutoff modes of the waveguide, obtained by finite-element analysis, to determine by matrix methods the fields above cutoff. A theoretical comparison with the conventional finite-element method is given and a general, highly efficient computer program for the analysis of dielectric loaded waveguides by the new method is described. Dispersion curves and contour plots obtained from the program are shown for several geometrical configurations, and these results are compared with analytic values and those obtained by the conventional finite-element method.

❑ Return to main document.