Abstracts

Infinite Elements for the Analysis of Open Dielectric Waveguides

M.J. McDougall and J.P. Webb. "Infinite Elements for the Analysis of Open Dielectric Waveguides." 1989 Transactions on Microwave Theory and Techniques 37.11 (Nov. 1989 [T-MTT]): 1724-1731.

The finite element method is applied to the modal analysis of unbounded, arbitrarily shaped, and arbitrarily inhomogeneous dielectric waveguides with the use of new infinite elements incorporating several radially decaying exponential trial functions. The outer optimization loop required by previous methods employing a single decaying trial function is eliminated and all modes corresponding to a given phase constant are calculated in one pass of the solver. The method is tested with examples of slab, circular, and square dielectric waveguides.

❑ Return to main document.