Abstracts

Finite Element Solution of Dielectric Loaded Waveguides

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Despite the widespread use of dielectric Ioaded waveguides in microwave components, their basic electrical properties are, in general, theoretically unknown. Analytic solution is prohibited, except for a few simple geometries, by the difficulty of matching electric and magnetic fields at the air-dielectric interface; consequently, recent efforts to find a solution have employed numerical methods. In this paper, the finite element method will be applied in an unrestricted sense to inhomogeneous waveguides and some computed results will be presented.

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