Abstracts

Finite Element Analysis of All Modes in Cavities with Circular Symmetry

J.B. Davies, F.A. Fernandez and G.Y. Philippou. "Finite Element Analysis of All Modes in Cavities with Circular Symmetry." 1982 Transactions on Microwave Theory and Techniques 30.11 (Nov. 1982 [T-MTT]): 1975-1980.

A field analysis is presented of all modes in a hollow, conducting cavity with rotational symmetry about an axis. Cavities can be periodic along this axis, and the unit (or single) cell can be of arbitrary longitudinal section, with inhomogeneous dielectric loading. Modes of any angular dependence of arbitrary phase-shift per unit cell are analyzed. The finite element method is applied in the longitudinal plane, and uses a specially developed sparse matrix scheme.

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