Abstracts

Finite-Element Analysis of H-Plane Waveguide Junction with Arbitrarily Shaped Ferrite Post

M. Koshiba and M. Suzuki. "Finite-Element Analysis of H-Plane Waveguide Junction with Arbitrarily Shaped Ferrite Post." 1986 Transactions on Microwave Theory and Techniques 34.1 (Jan. 1986 [T-MTT]): 103-109.

A numerical approach for solving the problem of H-plane waveguide junctions with lossy ferrite posts of arbitrary shape is proposed. The junctions are allowed to have arbitrary cross section. The approach is a combination of the finite-element method and the analytical method. To show the validity and usefulness of the method, Y-junction circulators with a circular ferrite post are considered. Our results agree well with earlier experimental and theoretical results. The performances of Y-junction circulators with a triangular equilateral ferrite post or a triangular ferrite post having depressed sides are investigated. The influences of the ferrite losses on the performance are examined.

❑ Return to main document.