Abstracts

Perturbation Analysis of Rectangular Waveguide Containing Transversely Magnetized Semiconductor

G.J. Gabriel and M.E. Brodwin. "Perturbation Analysis of Rectangular Waveguide Containing Transversely Magnetized Semiconductor." 1966 Transactions on Microwave Theory and Techniques 14.6 (Jun. 1966 [T-MTT]): 258-264.

The boundary value problem of rectangular waveguide, filled with transversely magnetized semiconductor or plasma, is solved by a perturbation method reported earlier. The solution by first-order theory is compared to the results of an experiment in which surface currents in the guide wall due to perturbed and unperturbed TE/sub 1,0/ wave in N-type Silicon are sampled and segregated. Theoretical and experimental results are in excellent agreement.

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