Abstracts

Propagation Characteristics of a Rectangular Waveguide Containing a Cylindrical Rod of Magnetized Ferrite

T. Yoshida, M. Umeno and S. Miki. "Propagation Characteristics of a Rectangular Waveguide Containing a Cylindrical Rod of Magnetized Ferrite." 1972 Transactions on Microwave Theory and Techniques 20.11 (Nov. 1972 [T-MTT]): 739-743.

With an axially magnetized cylindrical ferrite rod inserted into a rectangular waveguide parallel to the E-field of the dominant (TE/sub 10/) mode, the electromagnetic field amplitudes inside the ferrite rod and the transmission and reflection coefficients are numerically obtained by means of a digital computer and their results are shown in figures. At resonance, the distributions of RF magnetization and electric field have good symmetrical patterns in the cross section of the rod. The experimental results of the transmission and reflection coefficients agree well with the theoretical values.

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