Abstracts

Rectangular Waveguide Switches (Correspondence)

A. Clavin. "Rectangular Waveguide Switches (Correspondence)." 1961 Transactions on Microwave Theory and Techniques 9.4 (Jul. 1961 [T-MTT]): 365-366.

Since the first disclosure by Reggia and Spencer of the rectangular waveguide phase shifter, a number of investigators have presented qualitative analyses describing ob-served performances. In general, these authors agree on two phenomena that occur. First, upon application of a longitudinal magnetic field to the ferrite (phase-shifter geometry shown in Fig. 1), there is a "trapping" process whereby the RF field is increasingly concentrated in the ferrite acting as if it were a "dielectric" waveguide. Second, there is a mode-conversion process that takes place simultaneously (probably a circularly polarized wave in the ferrite rod) that gives rise to an electric-field component in the ferrite region orthogonal to the electric field in the empty waveguide (TE/sub 10/ mode).

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