Abstracts

An Investigation of Nonreciprocal Periodic Structures

T.A. Enegren and M.M.Z. Kharadly. "An Investigation of Nonreciprocal Periodic Structures." 1980 Transactions on Microwave Theory and Techniques 28.8 (Aug. 1980 [T-MTT]): 905-914.

The properties of a nonreciprocal ferrite-loaded rectangular waveguide, which is periodically loaded by thin metallic "inductive" diaphragms, are investigated experimentally. The propagation constants of the structure are measured and are compared with predictions based on measured values of the scattering parameters of a single diaphragm in the nonreciprocal waveguide. The agreement between theory and experiment is generally good except for the smaller spacings between the loading diaphragms. This discrepancy is attributed to the effects of higher order mode interaction.

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