Abstracts

Ferrite Microstrip Phase Shifters with Transverse and Longitudinal Magnetization (Correspondence)

G.J. Buck. "Ferrite Microstrip Phase Shifters with Transverse and Longitudinal Magnetization (Correspondence)." 1970 Transactions on Microwave Theory and Techniques 18.12 (Dec. 1970 [T-MTT] (1970 Symposium Issue)): 1170-1173.

Phase shifts of opposing sign are produced in a finear section of microstrip by transverse and longitudinal magnetization of the ferrite substrate. Nonreciprocal phase shift is also produced by the transverse magnetization. Theoretical calculations of phase shift that account for both the diamagnetic effects and the tensor properties of the ferrite permeability agree well with properly constructed experimental measurements. These measurements use closed magnetic circuits to remove the nonuniform demagnetization effects. A lightweight reciprocal phase shifter has been constructed that utilizes both transverse and longitudinal magnetization at low drive power with closed magnetic circuits to obtain a high figure of merit.

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