

Abstracts

Nonreciprocal Electromagnetic Wave Propagation in Ionized Gaseous Media

L. Goldstein. "Nonreciprocal Electromagnetic Wave Propagation in Ionized Gaseous Media." 1958 Transactions on Microwave Theory and Techniques 6.1 (Jan. 1958 [T-MTT]): 19-29.

The nonreciprocal propagation of electromagnetic waves in ionized gaseous media is discussed, and experimental observations are reported in this paper. The classical Faraday experiment in the optics of anisotropic media has suggested an analogous phenomenon at microwave frequencies. The anisotropic behavior of the free electron gas which is immersed in a magnetic field and subjected to an incident electromagnetic wave is determined. Guided microwave experiments were performed which confirm the theoretical predictions of nonreciprocal wave propagation in such ionized gases.

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