Abstracts

Nonreciprocal and Reciprocal Complex and Backward Waves in Parallel Plate Waveguides Loaded with a Ferrite Slab Arbitrarily Magnetized

R. Marques, F.L. Mesa and M. Horno. "Nonreciprocal and Reciprocal Complex and Backward Waves in Parallel Plate Waveguides Loaded with a Ferrite Slab Arbitrarily Magnetized." 1993 Transactions on Microwave Theory and Techniques 41.7 (Aug. 1993 [T-MTT]): 1409-1418.

This paper presents a rigorous and systematic method of analysis of the electromagnetic wave propagation in parallel plate waveguides with a multilayered bianisotropic medium. The method is applied to the numerical study of parallel plate waveguides with a multilayered medium including lossless ferrite layers magnetized at an arbitrary direction. Both the propagation constant and the transmitted power are computed. Backward, i.e., power flux in opposite direction as phase velocity, and nonreciprocal complex modes have been found to be an essential part of the model spectrum of the structures analysed here. A detailed investigation has been carried out about the parameters related to the appearance of these modes.

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