

Abstracts

Matrix Theory Approach to Complex Waves (Short Papers)

M. Mrozowski and J. Mazur. "Matrix Theory Approach to Complex Waves (Short Papers)." 1992 Transactions on Microwave Theory and Techniques 40.4 (Apr. 1992 [T-MTT]): 781-785.

Complex waves in shielded lossless inhomogeneous isotropic guides are investigated. A critical appraisal of the existing theory of complex waves is given and new approach is proposed. A mathematical condition for the existence of complex waves is derived using the properties of a generalized symmetric matrix eigenvalue problem. It is shown that complex waves may exist in slightly perturbed homogeneous guides as a result of the coupling of a pair of degenerate or nearly degenerate modes.

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