

Abstracts

On the Integral Equations of Laser Theory

S.P. Morgan. "On the Integral Equations of Laser Theory." 1963 Transactions on Microwave Theory and Techniques 11.3 (May 1963 [T-MTT]): 191-193.

Mathematical comments are made on a class of integral equations with complex symmetric kernels which occur in laser theory. It is pointed out that integral equations of this class do not have some of the well-known properties of integral equations with Hermitian kernels. In particular, the usual extremal principle by which the eigenvalues of a Hermitian kernel may be estimated using the Rayleigh-Ritz procedure does not apply to integral equations with complex symmetric kernels. It is suggested that the use of variational techniques to calculate diffraction losses in laser interferometers leads to results of doubtful accuracy.

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