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On the Theory of a Certain Class of Quadratic Pencils of Matrices and Its Applications

of

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Mathematics

Abstract: This paper is devoted to the study of the properties of eigenvalues and eigenvectors of quadratic pencil $\lambda^2 C - \lambda R - J$, where C is a positive diagonal matrix, R is an arbitrary real diagonal matrix, J is a „tridiagonal“ real symmetric and positive matrix. The obtained results are then used to solve the corresponding system of differential equations with boundary and initial conditions. Key Words: Quadratic pencils, eigenvalues, eigenvectors.

 [Keywords](#)

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