Inequalities involving the Kronecker products and the Hadamard products of matrices

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Abstract

Hermitian matrices and positive definite matrices can be thought of as generalizations of real numbers and positive real numbers, respectively. A number of matrix inequalities are derived by using the well known inequalities for real numbers such as Cauchy- Schwarz inequality, arithmetic-geometric inequality, Hölder inequality, and Minkowski inequality. In this talk, we present some inequalities for the Kronecker products and the Hadamard products of positive definite matrices. Also, it is derived inequalities involving the powers and the Hadamard powers of Hermitian matrices and positive definite matrices.

Keywords

Kronecker product, Hadamard product, Matrix inequalities.

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