

A NEW UPPER BOUND FOR THE EIGENVALUES OF THE CONTINUOUS ALGEBRAIC RICCATI EQUATION*

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Abstract. By using majorization inequalities, we propose a new upper bound for summations of eigenvalues (including the trace) of the solution of the continuous algebraic Riccati equation. The bound extends some of the previous results under certain conditions. Finally, we give a numerical example to illustrate the effectiveness of our results.

Key words. Eigenvalue, Majorization inequality, Trace inequality, Algebraic Riccati equation.

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