

论文

THE GEOMETRIC PROPERTIES OF THE SET OF LYAPUNOV MATRICES AND THE STABILITY OF THE MATRIX FAMILY

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摘要 Given a stable matrix $A \in C^{-(n \times n)}$, there are some simple simultaneous inequalities whose coefficients rely on A . For \forall for all $P \sim H = P \in C^{-(n \times n)}$, if P satisfies these inequalities, then $PA + A \sim HP < 0$. As an application of the main results, the stability of the matrix family is treated. Besides, some geometric properties of the set of all the Lyapunov matrices of a given stable matrix are considered.

关键词 [Stability](#), [Matrix family](#), [Lyapunov equat](#)

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Key words [Stability](#) [Matrix family](#) [Lyapunov equation](#) [Lyapunov matrices](#) [Convex property](#)

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