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Synchronization of Chaotic T-System via Optimal Control as an Adaptive Controller

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Abstract : In this paper we study the optimal synchronization of chaotic T-system with complete uncertain parameter. Optimal control laws and parameter estimation rules are obtained by using Hamilton-Jacobi-Bellman (HJB) technique and Lyapunov stability theorem. The derived control laws are optimal adaptive control and make the states of drive and response systems asymptotically synchronized. Numerical simulation shows the effectiveness and feasibility of the proposed method.

Keywords : Lyapunov stability, synchronization, chaos, optimal control, adaptive control
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