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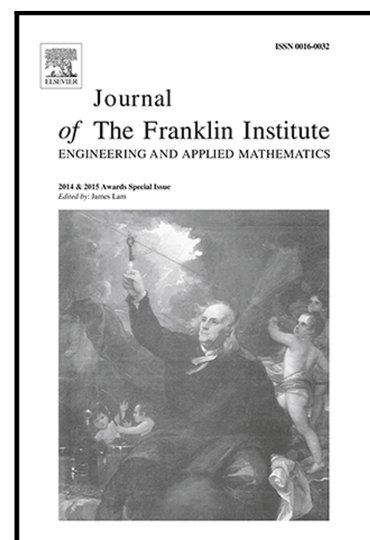
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# General Synchronization Criteria for Nonlinear Markovian Systems with Random Delays

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**Abstract.** It is well known that control of Markovian systems is a difficult problem. This paper considers synchronization control of Markovian coupled nonlinear systems with random delays. A new control scheme is proposed. Sufficient conditions in terms of linear matrix inequalities (LMIs) are obtained such that the coupled system can be asymptotically synchronized onto an isolated system. The synchronization criteria include classical mode-dependent and mode-independent results as special cases. The design method of the control gains is also given. Compared with mode-dependent and mode-independent control methods, our results are more practical and have lower conservatism, respectively. Numerical simulations are given to verify the effectiveness of the theoretical results.

**Keywords.** Control; Markov; Synchronization; Time delay.

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