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时滞关联大系统的分散鲁棒容错控制

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摘要 针对不确定时滞关联大系统，提出了一种分散鲁棒容错控制方法。目的是当发生传感器或执行器故障以及具有参数不确定时，使系统仍保持渐进稳定。基于Lyapunov稳定性理论，给出了该系统在传感器失效时具有容错性能的充分条件及控制器的设计步骤，并将结果推广到执行器失效的情况。最后通过实例仿真验证了方法的正确性，并对仿真结果进行了分析。

关键词 容错 时滞 鲁棒性 状态反馈

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Decentralized robust fault-tolerant control for large-scale systems with time-delays in intercon-nection

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Abstract

A method of decentralized robust fault-tolerant control is presented for large-scale systems with time-delays in interconnection.The purpose of the method is to make the system remain stable，for sensor or actuator failures as well as uncertainties.Based on Lyapunov theory，the sufficient conditions of the systems with fault-tolerance under sensor failures and the design procedure of the controller are given.And the result is generalized to the systems under actuator failures.At the end of this paper，an illustrative example is given to demonstrate the correctness of the proposed method，and the result of the example is analyzed.

Key words fault-tolerant time-delay robustness state-feedback

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