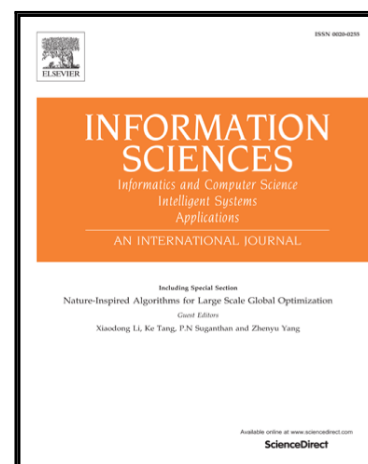


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Robust adaptive fuzzy fault-tolerant control for a class of non-lower-triangular nonlinear systems with actuator failures *

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Abstract: In this paper, the problem of adaptive fuzzy fault-tolerant tracking control is studied for a class of non-lower-triangular nonlinear systems with actuator failures. According to the same structure of virtual control inputs and the monotonously increasing property of the bounding functions, a variable separation approach is proposed. By applying the backstepping technique, an adaptive fuzzy control approach is presented which can guarantee the semi-global boundedness of all signals within the closed-loop system. The tracking error using the proposed control scheme eventually converges to a small neighborhood of the origin.

KEY WORDS: Non-lower-triangular nonlinear systems, Adaptive fuzzy control, Actuator failures, Backstepping.

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