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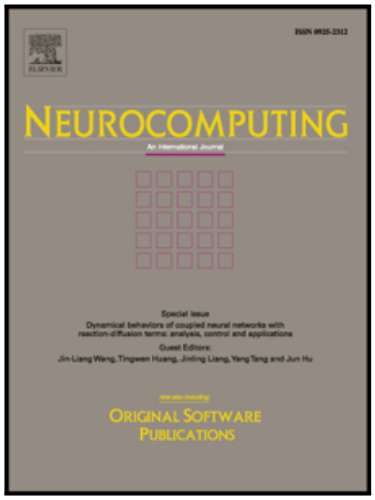

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Dynamic event-triggered and self-triggered output feedback control of networked switched linear systems

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Abstract

This paper deals with output feedback control design for switched linear systems where the sensor and the controller are not co-located. The main purpose is to design a dynamic event-triggered output feedback controller together with a switching rule assuring global asymptotic stability of the closed-loop systems. The sensor-controller channel and controller-actuator channel are asynchronously event-triggered and the dynamic event-triggered mechanism is utilized, which yields a larger minimum inter-event time than the static one. In addition, we propose the corresponding self-triggered mechanism which can be easily implemented by software. Finally, an example of F-18 aircraft is provided to illustrate the effectiveness of the proposed approach.

Keywords: switched linear systems, output feedback control, dynamic event-triggered control, self-triggered control.

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