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Event-Triggered Control for Linear Time-Delay Systems

Event-triggered control offers a practical method to update the control signals at a series of discrete-time moments determined by certain execution rules, often referred to as an event. The key benefit is to improve the efficiency of control implementations while still maintaining the desired performance levels for closed-loop control systems. In this talk, we present an event-triggered control method for the stabilization of linear time-delay systems. Based on two new Halanay-type inequalities, the global asymptotic stability of the event-triggered control system can be guaranteed, and a lower bound of the inter-event times, the intervals between successive control updates, can be derived to ensure the practical implementation of the proposed event-triggering condition. Two examples are given to demonstrate the suggested control method.