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Event-triggered synchronization of coupled memristive neural networks. (English)

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Summary: This article is devoted to exploring the synchronization problem of coupled memristive neural networks (CMNN) under event-triggered control (ETC) for the first time. Firstly, combining the concept of Filippov solution with the theory of differential inclusion, the interval parameter system is introduced. Then, static event-triggered control (SETC) condition and dynamic event-triggered control (DETC) condition are given respectively based on a newly designed controller. Thirdly, some novel sufficient conditions are given to synchronize CMNN under ETC scheme by applying Lyapunov function and inequality techniques. Moreover, the positive lower bound of the trigger interval is calculated explicitly, which reveals that Zeno-behavior could be removed. Lastly, the validity of the provided ETC mechanism is further confirmed by an example.

MSC:
93Cxx Model systems in control theory
93Bxx Controllability, observability, and system structure
93Dxx Stability of control systems

Keywords:
event-triggered control; coupled memristive neural networks; synchronization

Full Text: DOI

References:
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