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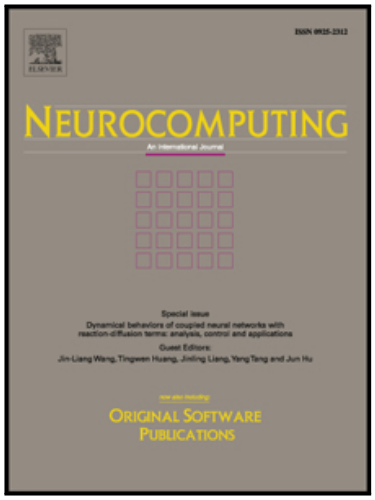


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# Aperiodically intermittent strategy for finite-time synchronization of delayed neural networks

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**Abstract.** In this paper, the problem of the finite-time synchronization (FTS) is studied for a class of delay neural networks (DNNs) via aperiodically intermittent control. Based on the finite-time stability theory, several new conditions ensuring FTS of two DNNs are derived by establishing a very useful differential inequality and constructing a new Lyapunov function. In addition, the proposed results here are easy to verify and they also extend the previous publications. And, the upper bounds of the settling time for synchronization are estimated. Finally, numerical simulations show the effectiveness of the derived results and the developed method.

**Key words:** Delayed neural network (DNN); Aperiodically intermittent control; Finite-time synchronization (FTS); Settling time

## 1 Introduction

As is known to all, synchronization of neural networks is a very common phenomenon in real world, and it means that two or more dynamic systems by adjusting each other can reach to a common dynamical behavior. It can be used for a lot of fields such as secure communication, information science, chemical and biological reactions and so on. Since then, synchronization and control of Hopfield neural networks, Cohen-Grossberg

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