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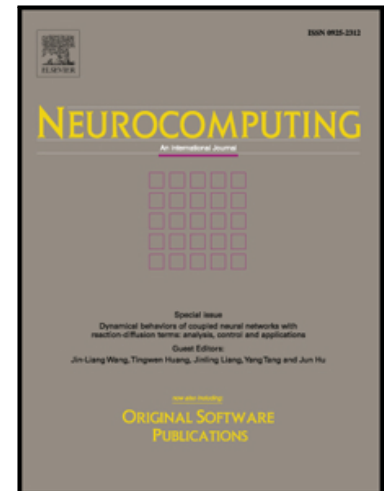
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Finite-time synchronization of inertial memristive neural networks with time delay via delay-dependent control[☆]

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Abstract

This paper is concerned with the finite-time synchronization problem of drive-response inertial memristive neural networks with time delay. First, by choosing suitable variable substitution, the original system can be transformed into the first order differential equations. Next, a delay-dependent controller is designed to ensure that finite-time synchronization can be achieved between drive system and response system based on finite time stability theory. Moreover, the settling time is estimated, and optimized based on the relationship between the settling time and parameter η . Finally, an example is presented to substantiate the effectiveness for those theoretical results.

Keywords: Finite-time synchronization, inertial, memristive neural network, time delay, settling time

1. Introduction

In view of the logical completeness of circuit theory, Chua [1] pointed out that there should exist the fourth fundamental circuit element, which represents the relationship between magnetic flux and charge. The concept of memristor
 5 was raised. However, memristor did not attract the attention of the researchers

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