

**EXISTENCE AND EXPONENTIAL STABILITY
OF ANTI-PERIODIC SOLUTION
FOR FUZZY BAM NEURAL NETWORKS
WITH INERTIAL TERMS AND TIME-VARYING DELAYS**

YONGKUN LI — JIALI QIN

ABSTRACT. In this paper, the existence and exponential stability of anti-periodic solutions for fuzzy BAM neural networks with inertial terms and time-varying delays is investigated. Firstly, some sufficient conditions ensuring the existence of anti-periodic solutions of the system are obtained by employing a new continuation theorem of coincidence degree theory. Secondly, by constructing an appropriate Lyapunov function, some sufficient conditions are derived to guarantee the global exponential stability of anti-periodic solutions of the system. Our results of this paper are completely new. Finally, two numerical examples are given to show the effectiveness of the obtained results.

1. Introduction

Bidirectional associative memory (BAM) neural networks, which were first proposed by Kosko in 1987 [13], [14], consist of two layers of neurons arranged: the U-layer and the V-layer. The neurons in one layer are fully interconnected to the neurons in the other layer, while there is no interconnection among neurons

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