

# Intelligent tracking controller design using dynamic fuzzy neural networks

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## Abstract

An intelligent tracking control using a dynamic fuzzy neural network (DFNN) is proposed in this paper. The intelligent tracking control system is comprised of a computation controller and a robust controller. The computation controller containing a DFNN identifier is the principal controller, and the robust controller is designed to achieve tracking performance. The DFNN identifier uses the structure and parameter learning phases to online estimate the unknown control dynamics equation. Finally, the proposed intelligent tracking control system is applied to control a second-order chaotic circuit system. The simulation results show that the proposed intelligent tracking control system can achieve favorable tracking performance by incorporating of neural network identification, sliding-mode control and robust control techniques.

Keyword : dynamic fuzzy neural network, intelligent tracking control