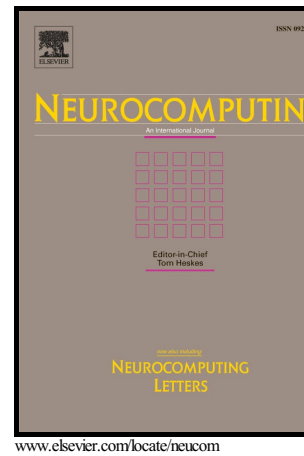


Author's Accepted Manuscript

Global exponential stability of clifford-valued recurrent neural networks

Jingwen Zhu, Jitao Sun



PII: S0925-2312(15)01163-7
DOI: <http://dx.doi.org/10.1016/j.neucom.2015.08.016>
Reference: NEUCOM15939

To appear in: *Neurocomputing*

Received date: 30 June 2015
Accepted date: 3 August 2015

Cite this article as: Jingwen Zhu and Jitao Sun, Global exponential stability of clifford-valued recurrent neural networks, *Neurocomputing* <http://dx.doi.org/10.1016/j.neucom.2015.08.016>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Global Exponential Stability of Clifford-Valued Recurrent Neural Networks

Jingwen Zhu^{a,b}, Jitao Sun^{a,*}

^a *Department of Mathematics, Tongji University, Shanghai 200092, China*

^b *College of Mathematical and Physics, Jinggangshan University, Ji'an 343009, China*

Abstract

This paper investigates global exponential stability of a class of clifford-valued recurrent neural networks. By using Brouwer's fixed point theorem, the existence of the equilibrium point of clifford-valued recurrent neural networks is studied. A sufficient condition of globally exponential stability is given by the method of the clifford-valued variation parameter and inequality technique. Compared with the previous methods, our method does not resorting to any Lyapunov function which is not easy to construct.

Keywords: clifford-valued; recurrent neural network; variation parameter; exponential stability.

1. Introduction

In the past decades, stability of networks has attracted considerable attention since it plays an important role in applications, see, for example, [1–14] and references therein. In [1], the asymptotic stability of differential

*Corresponding author. E-mail:sunjts@sh163.net, Fax:+86-21-65981985.

Download English Version:

<https://daneshyari.com/en/article/10326407>

Download Persian Version:

<https://daneshyari.com/article/10326407>

[Daneshyari.com](https://daneshyari.com)