

1154-34-1062

Basiru Usman* (bzu0005@auburn.edu), 221 Parker Hall Auburn University, Auburn, AL 36849, and **Xiaoying Han** and **Peter E Kloeden**. *Upper semi-continuous convergence of attractors for a Hop field-type lattice model.*

To investigate dynamical behavior of the Hop field neural network model when its dimension becomes increasingly large, a Hop field-type lattice system is developed as the finite dimensional extension of the classical Hopfield model. The existence of global attractors is established for both the lattice system and its finite dimensional approximations. Moreover, the global attractors for the finite dimensional approximations are shown to converge to the attractor for the infinite dimensional lattice system upper semi-continuously. (Received September 16, 2019)