



## **ADAPTIVE DYNAMIC CLONE SELECTION NEURAL NETWORK ALGORITHM FOR MOTOR FAULT DIAGNOSIS**

Wu Hongbing<sup>1,2</sup> Lou Peihuang<sup>1</sup> Tang Dunbing<sup>1</sup>

1. College of Mechanical and Electrical Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, 210016, China

2. Huaian College of Information Technology, Huaian, Jiangsu, 223003, China

E-mail:whb3967957@163.com

---

*Submitted: Jan. 14, 2013*

*Accepted: Mar. 16, 2013*

*Published: Apr. 10, 2013*

---

*Abstract- A fault diagnosis method based on adaptive dynamic clone selection neural network (ADCSNN) is proposed in this paper. In this method the weights of neural network is encoded as the antibody, and the network error is considered as the antigen. The algorithm is then applied to fault detection of motor equipment. The experiments results show that the fault diagnosis method based on ADCS neural network has the capability in escaping local minimum and improving the algorithm speed, this gives better performance.*

**Index terms:** Adaptive, neural network, fault diagnosis, motor, clone selection algorithm