عنوان مقاله:

Anti-control of Chaos of Unknown Permanent Magnet Synchronous Motor System Using Dynamic Neural Networks

محل انتشار:

چهاردهمین کنفرانس دانشجویی مهندسی برق کشور (سال: 1390)

تعداد صفحات اصل مقاله: 6

نویسندگان:

Farzaneh Akhgari - *Department of Electrical and Computer Engineering*

Zahra Rahmani

Behrooz Rezaie

خلاصه مقاله:

In this paper, the anti-control of chaos of unknown permanent magnet synchronous motor (PMSM) system is presented. Generating chaos in the completely unknown systems is studied for the first time using neural networks, while a chaotic system is considered as the reference model. By assuming the structure of the PMSM unknown, the dynamic neural networks (DNN) are applied for modelling the system, while an adaptive learning law is obtained for updating the neural network weights. In order to chaotify the motor system, a control law is designed such that the unknown system and the derived model using DNNs, track the desired chaotic reference model. The stability of the resulting error dynamics and the convergence of the tracking errors to zero are proved by the Lyapunov stability .theory. The numerical simulation results show the effectiveness of method

کلمات کلیدی:

Anti-control of chaos, Dynamic neural networks, Adaptive control, Chua chaotic system,Permanent magnet synchronous motor system