Abstract

This paper proposed a control scheme of a neural network for the brushless direct current (BLDC) permanent magnet motor drives. The behavior of BLDC motor drive is nonlinear, cause it is complex to handle by using conventional proportional-integral (PI) controller. In order to overcome this main problem, artificial neural network controller technique is developed. The controller is intended to tracks variations of speed references and stabilizes the output speed during load variations. The mathematical model of BLDC motor and artificial neural network algorithm is derived. The effectiveness of the proposed method is established by developing simulation model in MATLAB/ Simulink. The simulation results show that the proposed Artificial neural network controller construct substantial improvement of the control performance compare to the PI controller for both condition controlling speed reference variations and load disturbance variations.

References

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**Index Terms**

Computer Science

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**Keywords**

BLDC  Permanent Magnet  PI controller  ANN