

A New Variable Structure DC Motor Controller Using Geneticalgorithms

Al-Hamouz, Z.M. Al-Duwaish, H.N.;Dept. of Electr. Eng., King Fahd Univ. of
Pet.Miner., Dhahran;

**Industry Applications Conference, 1998. Thirty-Third IAS Annual Meeting. The
1998 IEEE;Publication Date: 12-15 Oct 1998;Vol: 3,On page(s): 1669-1673
vol.3;ISBN: 0-7803-4943-1**

King Fahd University of Petroleum & Minerals

<http://www.kfupm.edu.sa>

Summary

This paper presents a new application of the genetic algorithm for the selection of the variable structure controller (VSC) feedback gains and switching vector for a separately excited DC motor. Contrary to the VSC design methods reported in the literature, the method provides an optimal and systematic design procedure for the selection of the feedback gains and switching vector. By the proposed VSC controller, the speed of a tested DC motor follows a pre-determined speed track to a high degree of accuracy. The proposed controller has been found to be robust against high variations in the motor parameters

For pre-prints please write to:abstracts@kfupm.edu.sa