Abstract

In this paper, a dc shunt motor with fixed speed control system is presented, a wavelet neural network control scheme is proposed to control the speed of shunt DC motor, the wavelet neural network (WNN) is used and optimized using particle swarm optimization (PSO) algorithm. The performance is measured depending on values of mean square error (MSE). The work is divided into two sections, in the first section, the feedback control system is implemented using wavelet neural network, buck DCDC converter and DC shunt motor model, the parameters of wavelet neural network is optimized using PSO. In the second section, number of measurements are used to calculate the response of DC shunt motor depending on the different torque values. Simulation of DC Shunt motor is specially designed to test and implement the proposed control schemes using MATLAB Version 7.12.0.635(R2011a).

References


**Index Terms**

Computer Science

Networks

**Keywords**

DC shunt motor  speed control  wavelet neural network  PSO.