Speed Control Of Brushless Dc Drive Using Genetic Algorithm Based On Tuning Of Pid Controller

S. Dinesh kumar

Research Scholar,
Department of EEE, St. Peter's University,
Avadi, Chennai, Tamil Nadu, India.
E Mail ID : sdinesheee87@gmail.com

ABSTRACT - The main core of this paper is to design a speed control system to control the Brushless DC motor speed at desired speed through the technique of soft computing based self tuning of PID which is designed in the platform of Lab view program, The application of soft computing technique to the PID controller imparts the ability of tuning itself automatically. The BLDC motors are preferred today because of the cost, afford-ability and variety they offer in choice of application involving the fractional horsepower which can be increased up to 3 horsepower in most of the DC motors. In practice, controlled systems usually have some features, such as nonlinearity, time−variability, and time delay, which make controller parameter tuning more complex. Moreover, in some cases, system parameters and even system structure can vary with time and environment. As a result, the traditional PID parameter tuning methods are not suitable for these difficult calculations. Using genetic algorithms to perform the tuning of the controller will result in the optimum controller being evaluated for the system every time. A comparison analysis has been made to Show the BLDC drive Control with PID controller conventional tuning Genetic Algorithm based tuning. The mathematical analysis has been carried out and the transfer function has been analyzed in the system with MATLAB.