

SPEED CONTROL OF DC MOTOR WITH STATE ESTIMATION APPROACH USING PSO TUNED PI CONTROLLER

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Abstract

This paper presents a systematic procedure for modeling, simulation & optimum tuning the parameters of proportional-integral (PI) controller Tuned by particle swarm optimization (PSO) method for speed control of DC Motor. The performances and characteristics of dc motor are observed. The steady state error is reduced, the rising time is improved and the disturbances affect is reduced hence the better performances of driving motor with no overtaking. The effect of PI controller is demonstrated on separately excited DC motor using MATLAB/SIMULINK software package. Simulation result verified speed control in proposed model of DC motor.

Keywords: DC motor, PI, PSO, Speed control.

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