Abstract

An algebraic parameter identification method, developed for fast, on-line, computation of unknown linear system parameters, is here used for the fast adaptive output feedback control of a completely unknown dc motor, subject to constant perturbation load torques while solving a reference trajectory tracking task. An output feedback controller of the Generalized Proportional Integral (GPI) type, written in classical compensation network form, is proposed for the perturbed output trajectory tracking problem. The fast adaptation of system parameters is carried out, both, on the classical compensating network parameters and on the conformation of the feed-forward control input signal. Experimental results validate the effectiveness of the proposed approach.

Keywords

Algebraic identification, DC motors, Adaptive control.