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ADAPTIVE QUASI-OPTIMAL CONTROL IN PULSE CONVERTORS WITH ARTIFICIAL NEURAL NETWORK MODEL OF POWER PART

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Author

V.P.Voytenko

Chernihiv National University of Technology,
95, Shevchenka str., Chernihiv, 14027, Ukraine,
e-mail: volodymyr.voytenko@inel.stu.cn.ua

Abstract

It is considered the one way of increasing the efficiency of electrically controlled industrial systems by means of improving their dynamics in the conditions of restrictions on control actions, as well as increasing of resistance to disturbances and changes in the parameters. For this purpose a quasi-optimal control algorithm is used for pulse converter, which together with a plant is simulated by using of artificial neural network (ANN). It is analyzed the system with implementation of the controller in the form of pre-trained ANN. The basic problems associated with implementation of the ANN in embedded systems are discussed too. Simulated results of investigations are given. References 8, figure 1.

Key words: optimal control, dynamics of power converters, artificial neural networks.

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