Diploma thesis abstract

«Microcontroller stepper motor control with identification

of the motor parameters»

This graduation paper considers the problem of stepper motor control. The main achievements of recent years in this field are listed with detailed description of different stepper motor control methods as well as the main claims are formulated against the most common approach of stepper motor control. Purpose of work: development of stepper motor control algorithm with motor parameters identefication, high speed of rotation, small heat losses, and low noise. The most part of work is related to the simulation of algorithm by MATLAB Simulink tool. Virtual stepper motor controlling system based on mathematical stepper motor model and taking into account the peculiarities of microcontroller implementation was developed. The main result of diploma is ready to use stepper motor control algorithm combining control object parameter's autoadjust, low noise and high speed of rotation.

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