

Control and speed stabilization of a DC motor using the 8051 microcontroller family by pulse width modulation method.

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Abstract: In practice, controlling and maintaining the precise speed of a DC motor is an important requirement in many automation systems. This topic focuses on researching and implementing a control solution based on the 8051 microcontroller using Pulse Width Modulation (PWM) to stabilize motor speed. Through theoretical work combined with practical experiments, the main objective of the topic is to build an efficient and energy-saving system. The expected results of this research not only contribute to solving practical problems but also open up broad application prospects in the field of industrial automation.

Keywords: Microcontroller, 8051 Microcontroller, DC Motor, Pulse Width Modulation (PWM), Automation