

Design of a DC motor speed control and stabilization system using a PID controller combined with a microcontroller.

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Abstract: In this study, we focused on designing and implementing a PID control system combined with a microcontroller to stabilize the speed of a DC motor. The project aims to meet the high demand in modern industry for motor stability and operational performance. The research method includes theoretical design and practical testing on the motor system. The expected result is to provide a flexible and reliable solution for speed control problems, thereby contributing to the development of automatic control technology.

Keywords: DC motor, PID controller, microcontroller, stable operation, control system