# Design and Implementation of PID Based Drilling Speed Control System Using PIC Microcontroller

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## Abstract

*Microcontrollers are very useful for many electronics control system. In today's industries, the DC motor speed control is a common practice. In this paper, the drilling speed control (DSC) system is presented. The purpose of the thesis is to control the DC motor with Pulse-Width-Modulation (PWM), generationmethod and applied it to burst the materials by using Peripheral Interface Controller (PIC) microcontroller. In this system, tachometer is used in a feedback signal to control the speed of the system. The motor position control system depends on manual touch switches. By using Proportional-Integral-Derivative (PID) controller and PWM, drilling speed can be controlled from slow response to fast response. This system is not depended of the load and is implemented by using PIC16F877A and CCSCcompiler software.*