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| **Title:** | Output Response Improvement of a DC Motor Drive Position Control System using a PID Controller | | |
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| **Abstract:** |  |
| Abstract— This paper presents a position control system using a DC motor drive and a three-term PID controller, which is designed using the MATLAB program. The MATLAB program is used to activate the PID controller that ultimately controls the DC motor to the desired position and to the transient response of the control system. The time response plots are then investigated to observe the effects of the variation of the PID controller's parameters, such as proportional gain. integral and differential action time. It is observed that an optimum set of values for these three parameters are required to obtain the output response similar to that of an actually applied input signal. System parameters are chosen in such a way that the system becomes stable at the steady-state condition when the reference input signal is applied. | |