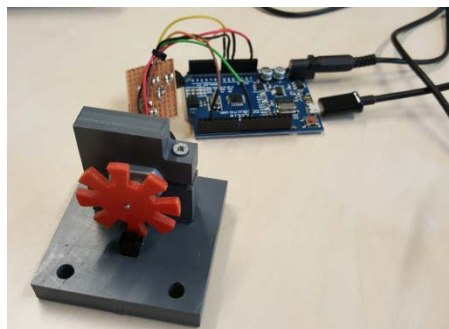


CASE STUDY

PID CONTROLLER DESIGN AND EXPERIMENTAL VERIFICATION FOR A DC MOTOR

PID controller is one of the most widely used controllers in practice. The goal of the case study is to design, tune and implement the PID controller on a DC motor in order to provide a smooth operation between different set points as well as in a steady state at a constant revolution speed.

The controller should be implemented on Arduino board. Based on available model of a DC motor (Matlab tutorials) the required model parameters should be identified from experimental study. PID controller design and tuning should be performed with the aid of appropriate Matlab toolboxes, to find an optimal trade-off between the P, I and D gains. Designed controller should be implemented experimentally in order to verify the design results. Additional fine tuning should be performed accordingly to achieve best performance.



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