Control System Laboratory Report

Name and ID no. of the Student:

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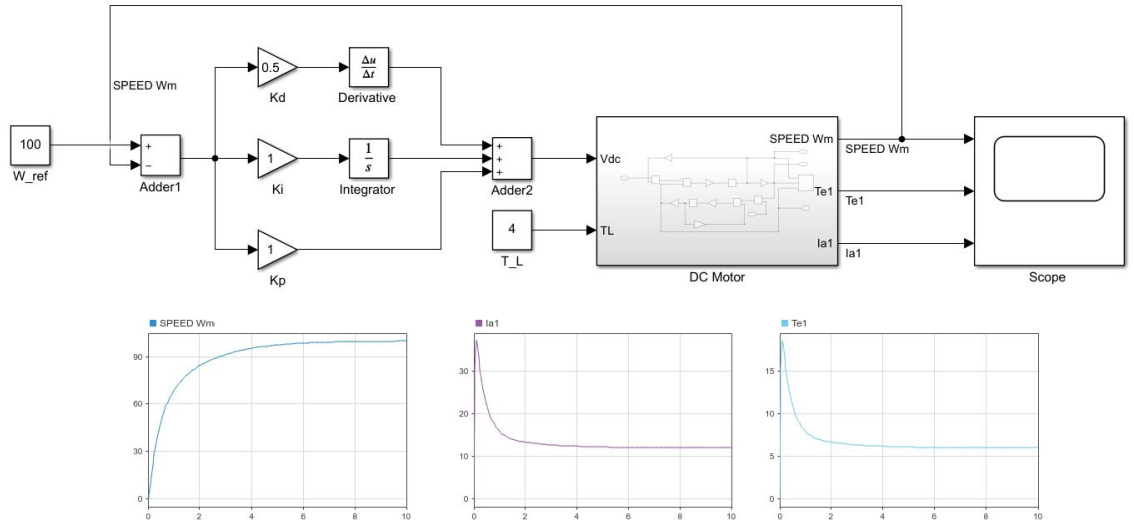
Title of the Experiment:

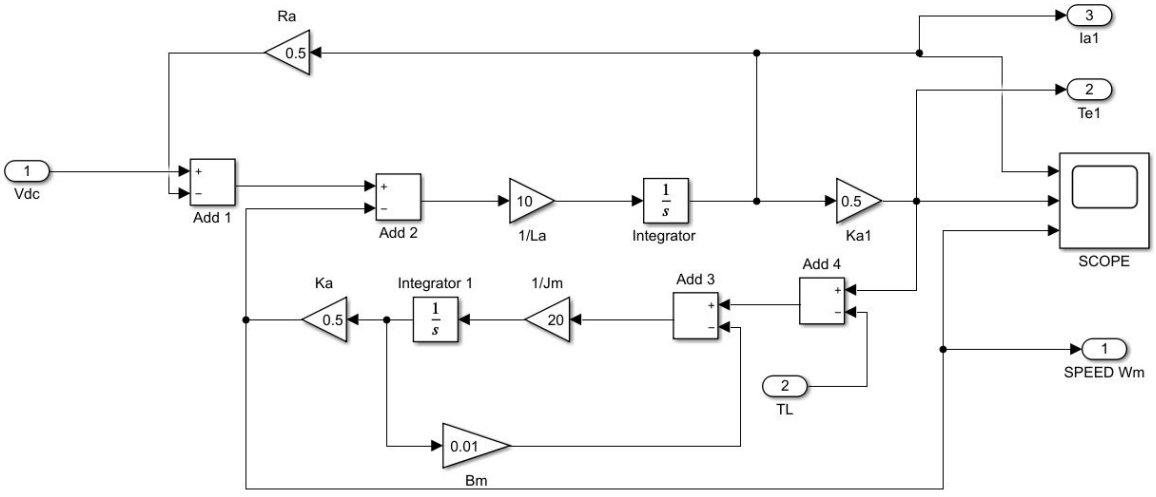
DC Motor with PID Controller

Model/Simulation:

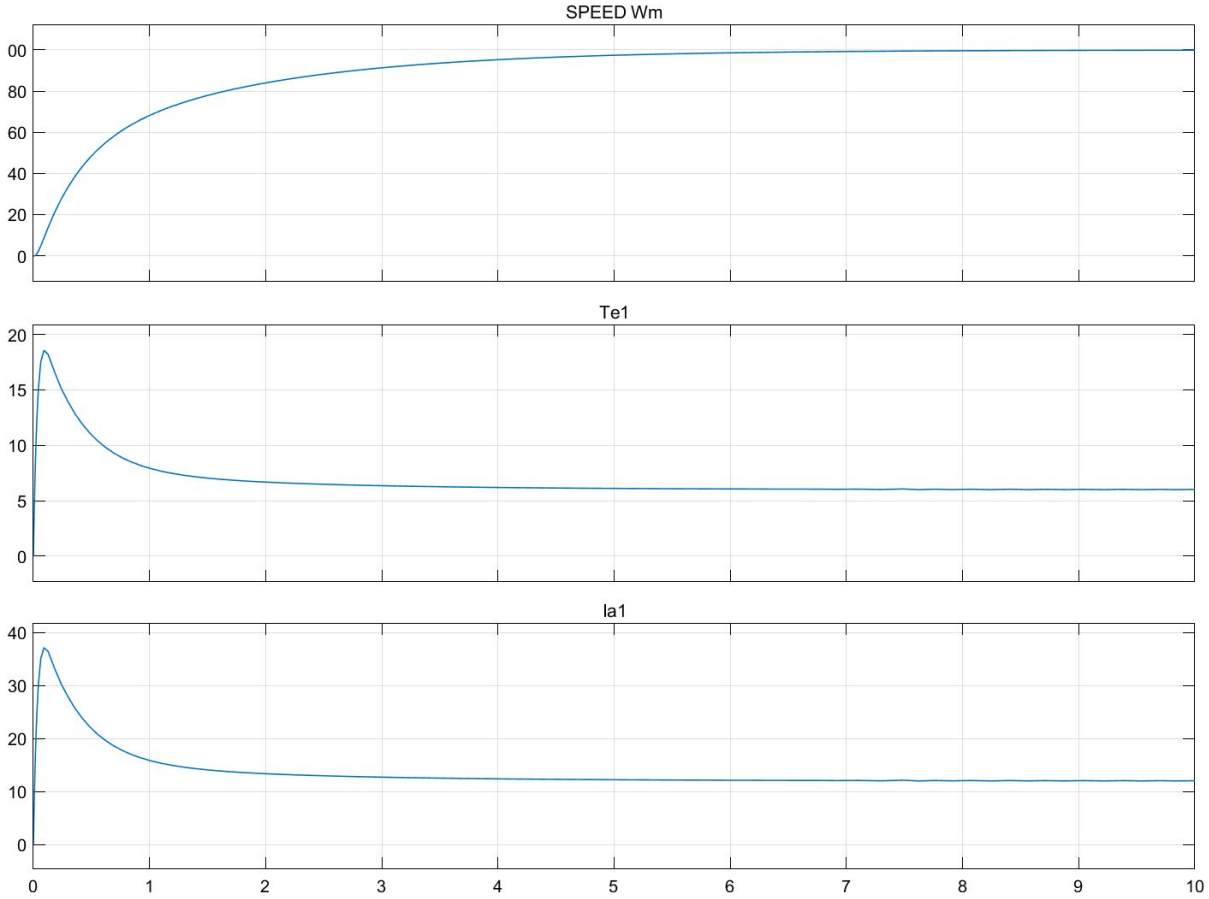
DC motor Subsystem with PID controller:



DC motor:



Results:



Conclusive remarks:

PID Controller is a feedback system controller which can be used for which can be used for a specific output for a system. The PID controller consists of three parts i.e., Proportional, Integration and Derivative.

We are using the PID controller to regulate the speed of the DC motor modelled in lab 2. The final speed is referenced to be 100 rpm and we can observe from the output graph we can see that the final steady state output is 100rpm which is below rated speed (188 rpm).

The effective torque is seen to be 6 N-m and the effective Armature Current is 12A at the steady state.

We can also see from the output graph that the Effective Torque is half of the Armature Current.

Few uses PID controllers:

1.Can be used for Temperature regulation in satellites since the temperature is frequently changed in outer space and continuously monitored to be kept at an optimum temperature.

2.Can be used for Drone control for it’s motion be varying pitch, yaw and roll.