Control System Laboratory Report
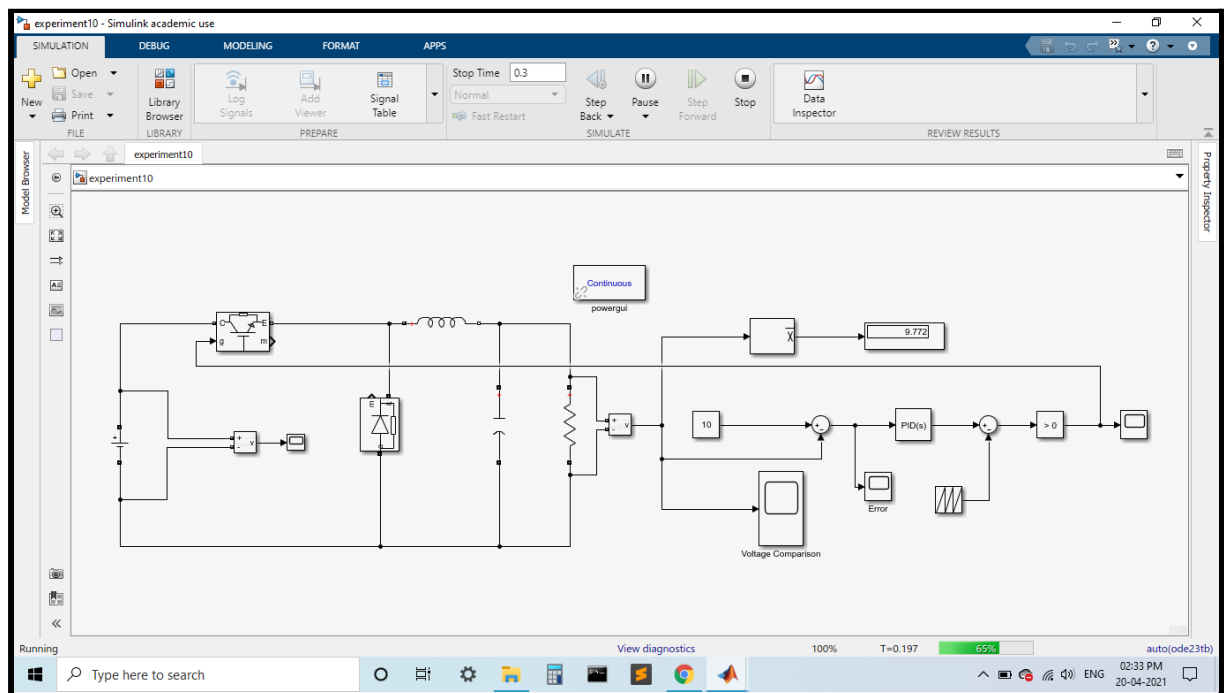
Name and ID no. of the Student:

VISHWAS VASUKI GAUTAM, 2019A3PS0443H

Title of the Experiment:

Controller design for DC-DC converters

Model/Simulation:

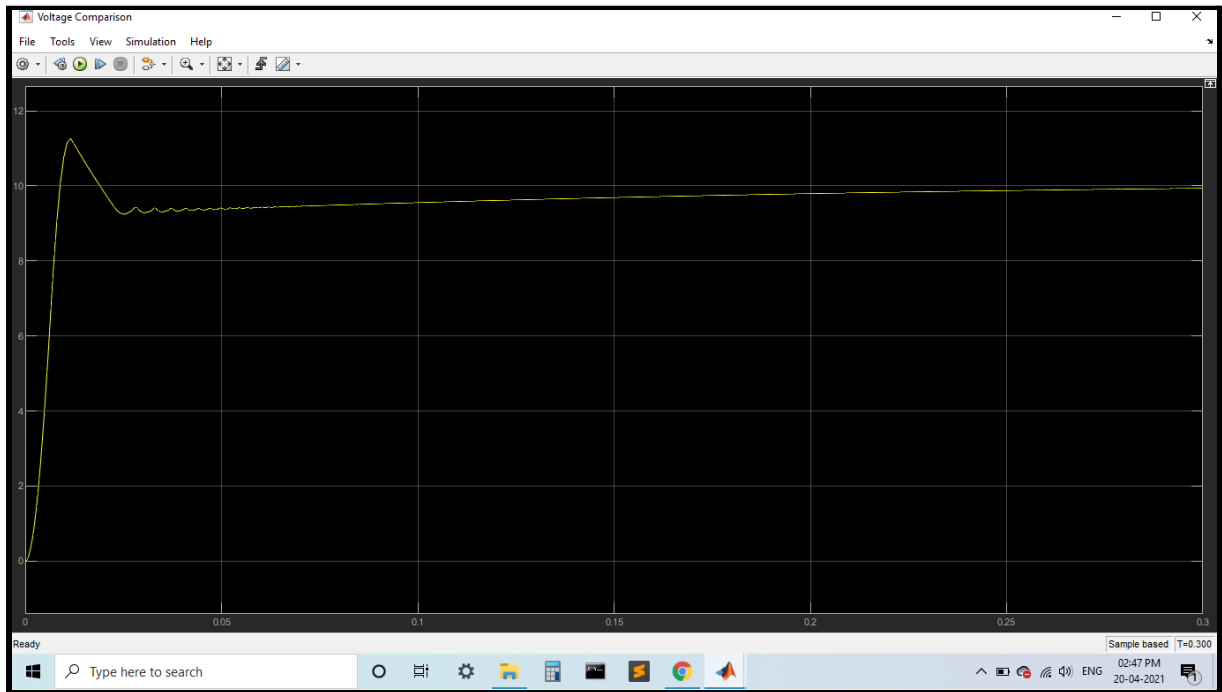The image below shows the Simulink model for the system:

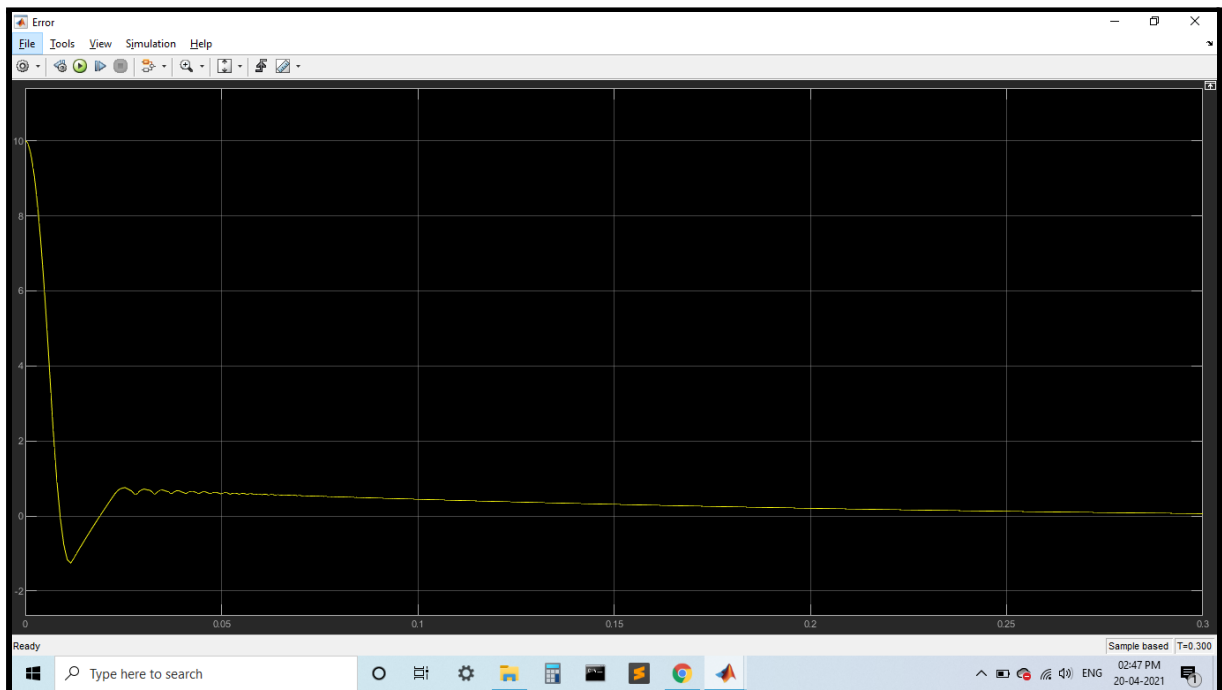# Results:

The results are as shown below

Voltage Comparison

Error

Conclusive Remarks:

This model is a DC to DC converter design that is used to step down the voltage. Here, a controllable switch called the IGBT is used to cut down the input DC voltage and regulate the output. PWM is used to regulate the output as per the given input followed by the use of LC filters to remove voltage/current ripples that may arise. Then a PID controller is used to minimize the errors and get the reference output by tuning the PID gain values.

To conclude, these converters are used regularly in several applications such as SMPS, Battery chargers, etc.

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