# MIDDLE EAST TECHNICAL UNIVERSITY

## Department of Electrical and Electronics Engineering

## EE 462 – Utilization of Electrical Energy

## Project 0 Report

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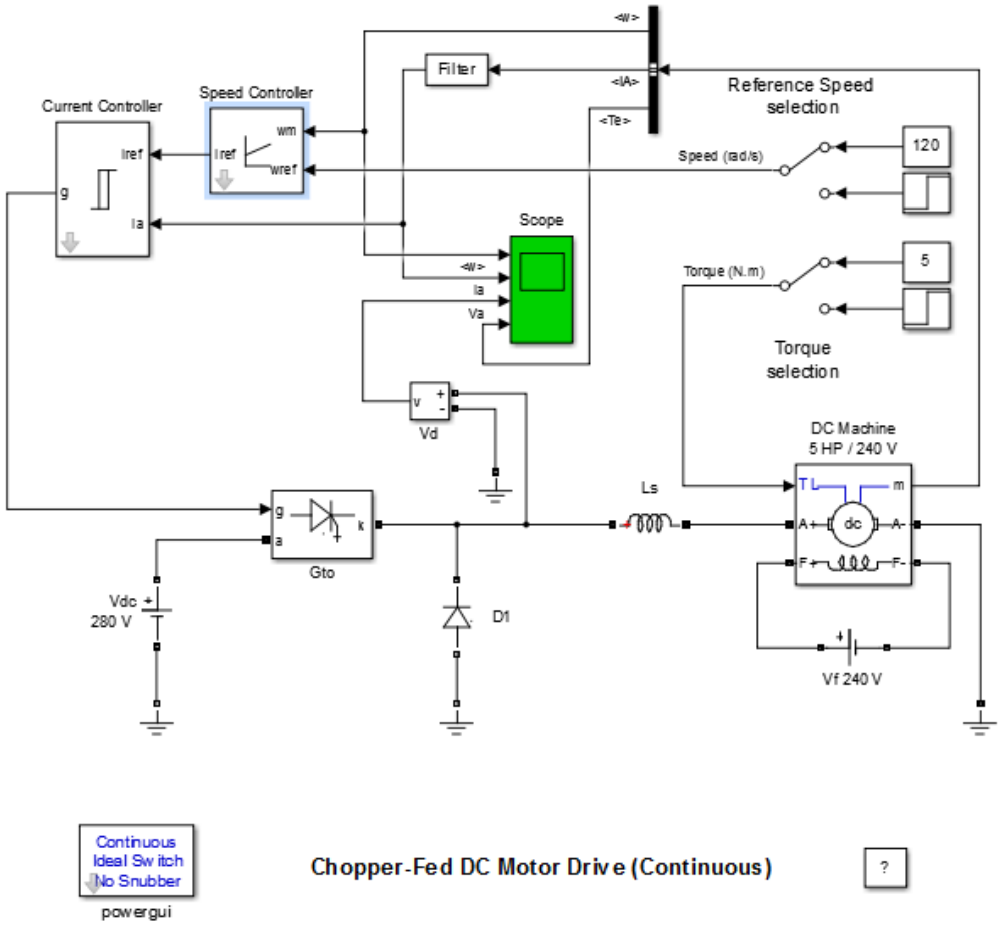


**Figure 1. Chopper-Fed DC Motor Drive [1]**

## A. Motor (voltage, current, power ratings etc)

5 HP (approximately 3.73 kW), 240 V wound field DC motor is used.

## B. Power Source and Control System

Power source is a constant DC source. The motor is fed through a chopper that consists of a Gto thyristor and a free-wheeling diode.

A PI speed controller outputs a current reference signal to equalize the speed of the rotor to the reference speed. A current controller compares this signal and actual current measurement from the motor and adjusts the base signal of the Gto accordingly.

## C. Related Graphs

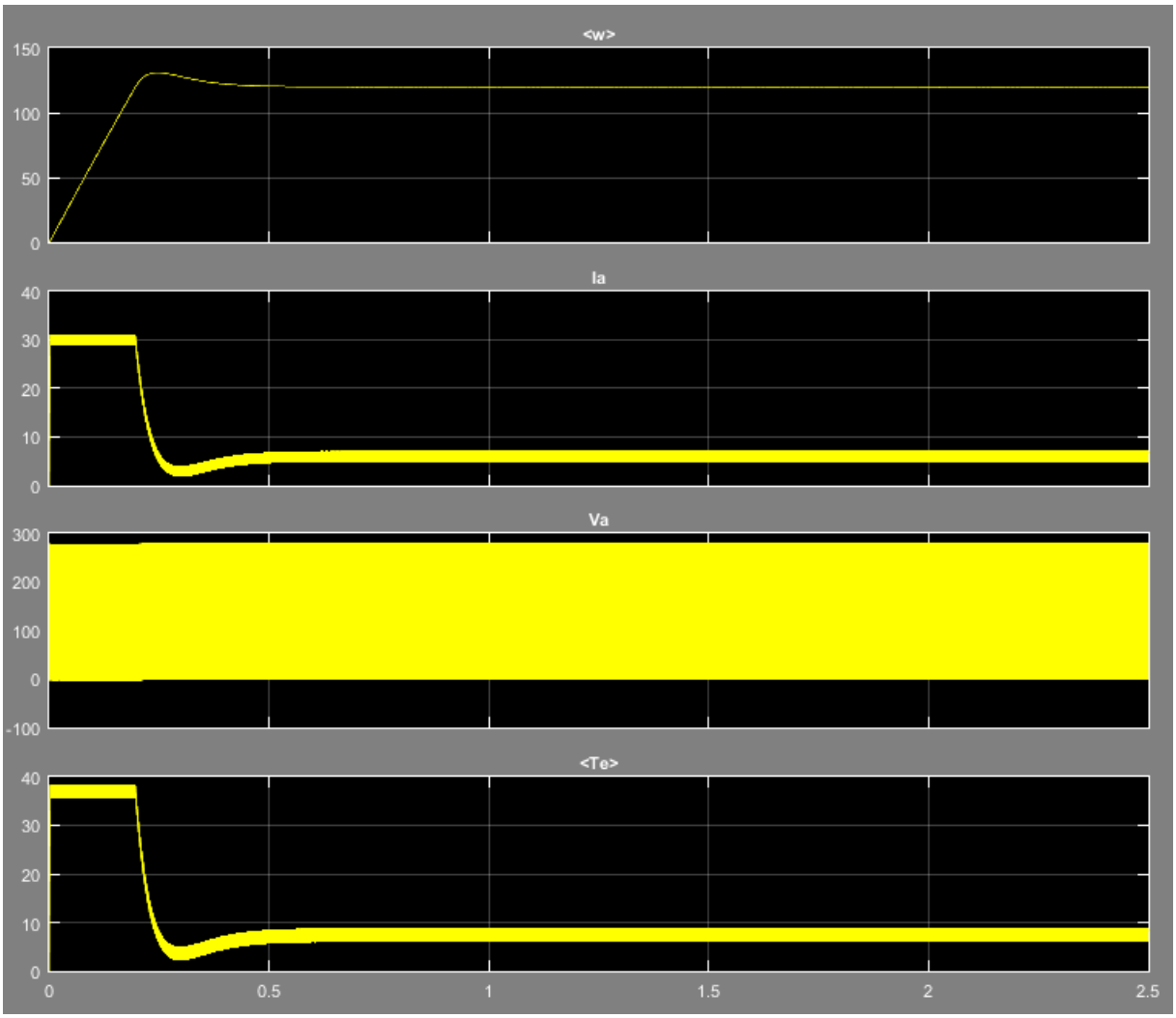


**Figure 2. Speed, current, voltage and torque vs time graphs**

## D. REFERENCES

[1] https://www.mathworks.com/help/physmod/sps/examples/chopper-fed-dc-motor-drive-continuous.html