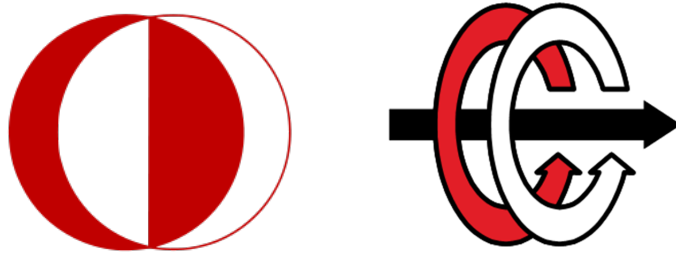# EE462 Spring 2016
# Project 0

DC Motor Drive and Analysis

**March 2017**

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**Electrical and Electronics Engineering Department**

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# 1    Brief Explanation

These report will try to explain and give information about DC Motor drive and analysis . The wanted specific details are,

- A short info about the motor (voltage, current, power ratings etc.)

- Short info about the power source and control system

- Graphs showing acceleration curve from stationary to rated speed

- Start-up current graphs

- Produced torque during startup

# 2    Results
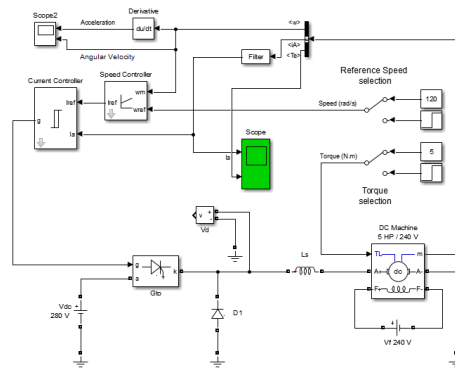
In that project,I used Chopper-Fed DC Motor Drive Example.



Figure 1: Simulink Diagram of Chopper-Fed DC Motor Drive

**DC Motor Properties** I looked motor properties from,Simulink DC Motor block,and properties are, -240V -Nominal 5A(Maximum 30A) -I messed up about Field Voltage or Current Weakening Effect -And also about HP calculation , because

HP = Volt*Ampere*eff/746

and if we choose our $HP = 1, Volt = 240V$ ,,$I = 5A$ our Eff$\approx 3$

That efficiency value is too small.Tomorrow I will look DC motor model again

TODO

-Motor Explanation?
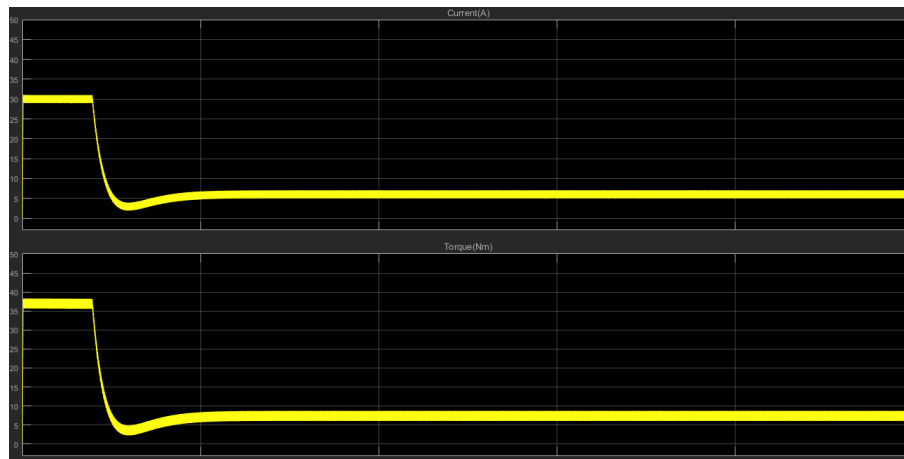
-Power Source and Control Explanation

-Graphs [OK]



Figure 2: Torque and Current Graphs of DC Motor Drive

Figure 3: Acceleration and Velocity Graphs of DC Motor Drive

# References

[1] H. Le-Huy *Universite Laval, Quebec.* SimScape Power Systems Examples, MathWorks

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