ELECENG 3CL4 Lab 2 Report

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L02   L02

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Member Contributions

Both group members contributed an even amount to both the exercises and the report. Both members went through the exercises together and contributed to all sections of the report.

Objective

The objective of this lab was to identify the plant model of a marginally-stable servomotor for the subsequent experiments.

3 Perform Closed Loop Identification
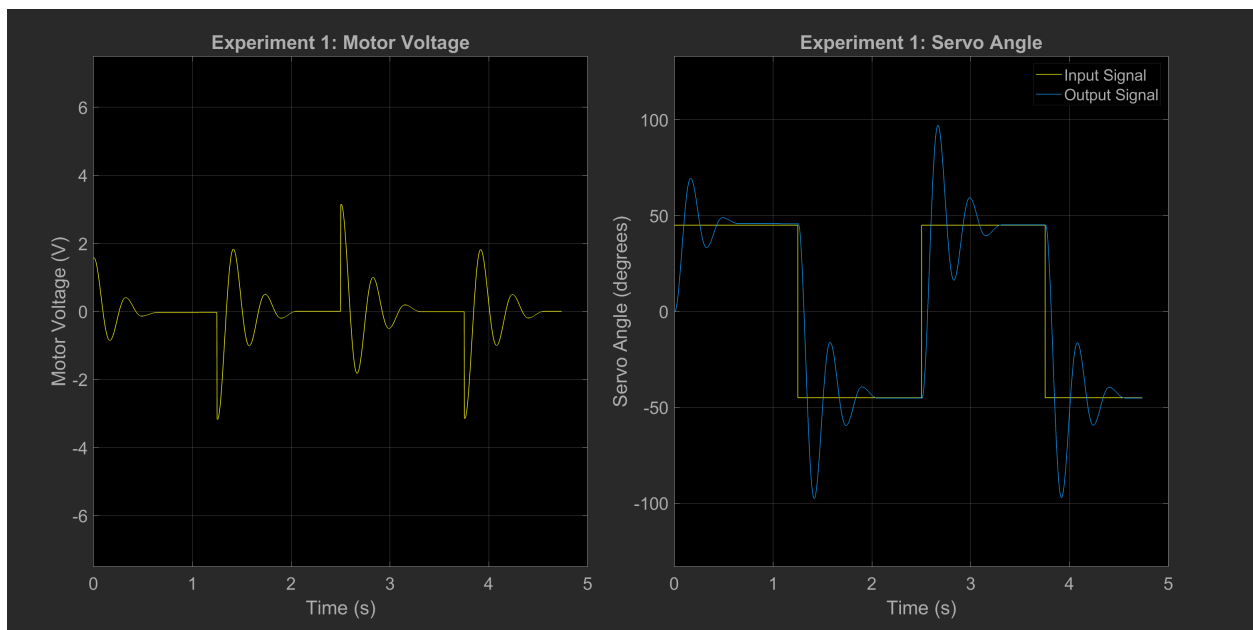
3.1 Experiment 1: Time Domain Identification

Figure 1: Motor Voltage and Servo Angle for Time Domain Identification

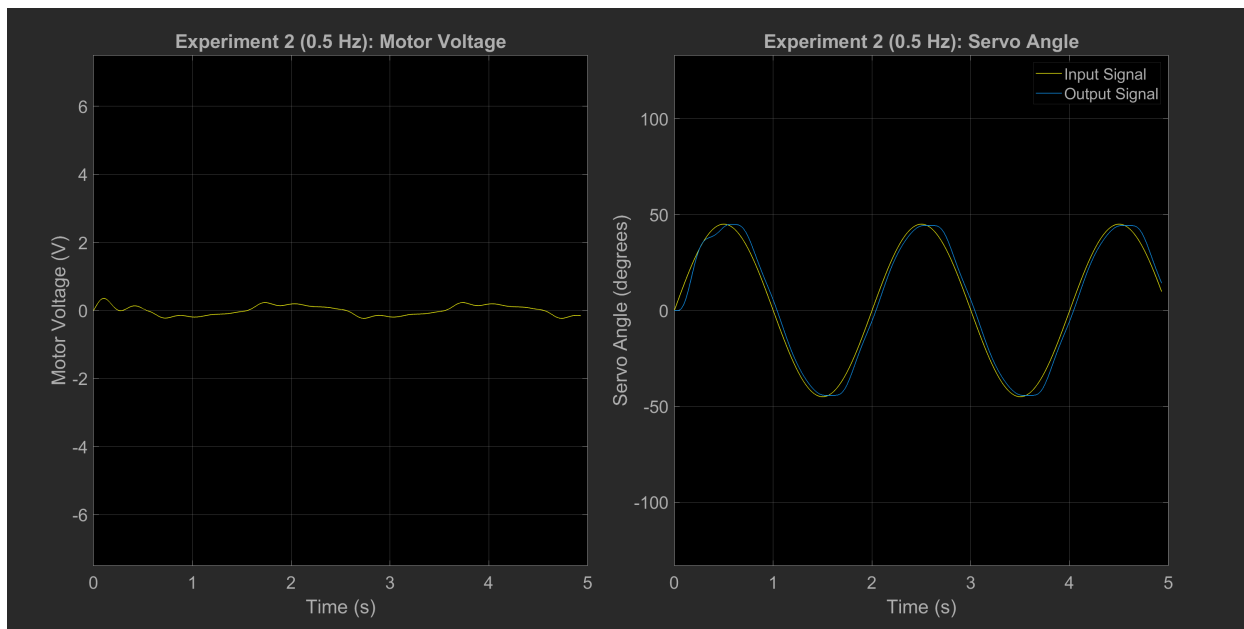## 3.2 Experiment 2: Frequency Domain Identification

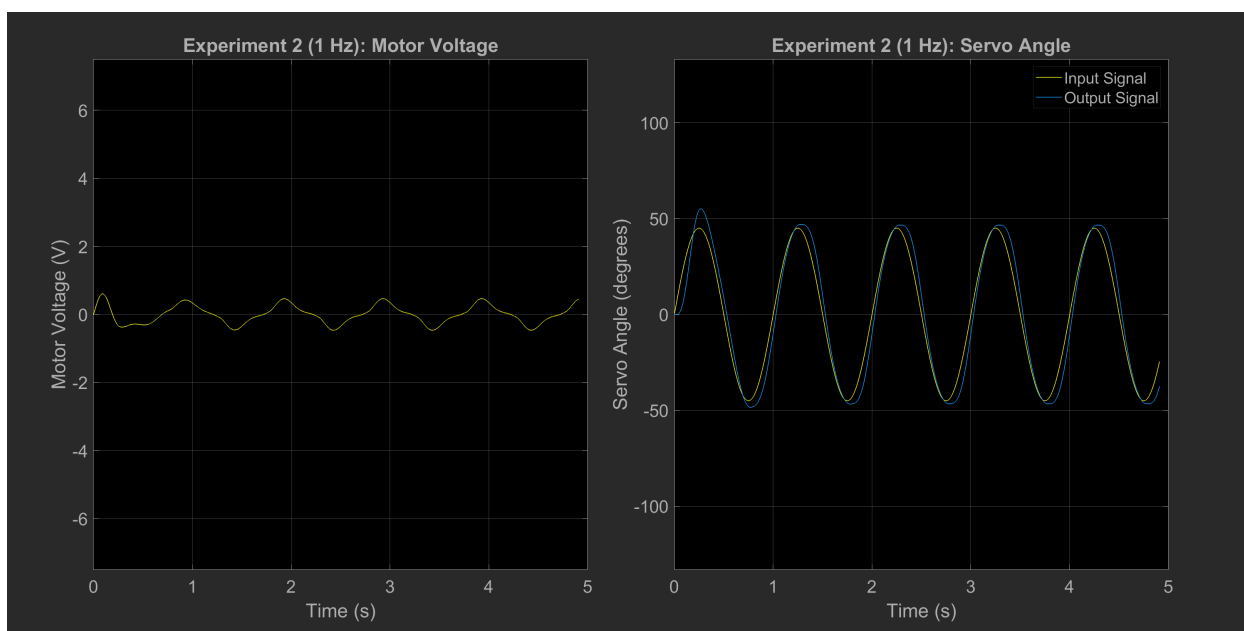Figure 2: Motor Voltage and Servo Angle for 0.5 Hz Input Signal

Figure 3: Motor Voltage and Servo Angle for 1 Hz Input Signal
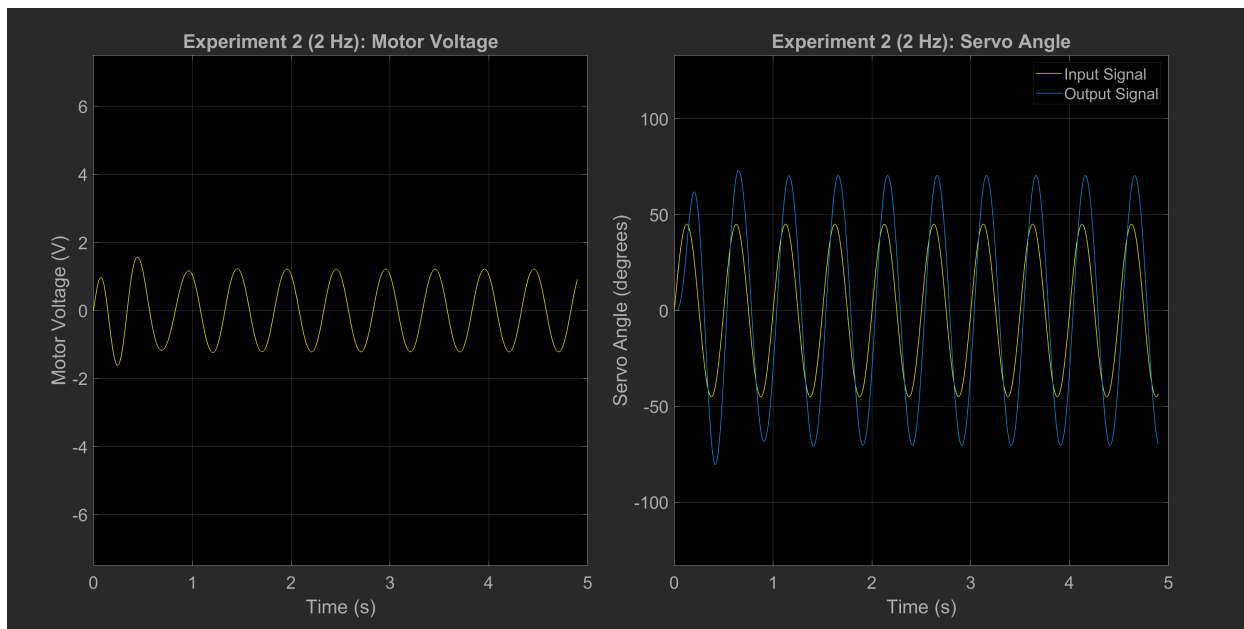
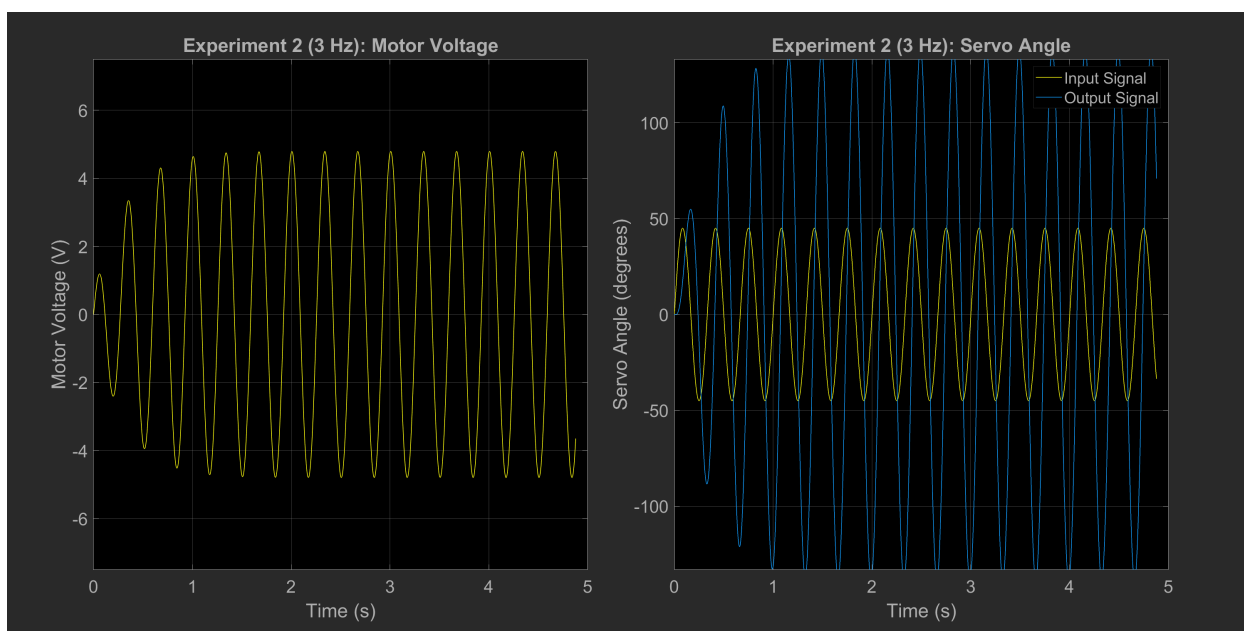Figure 4: Motor Voltage and Servo Angle for 2 Hz Input Signal

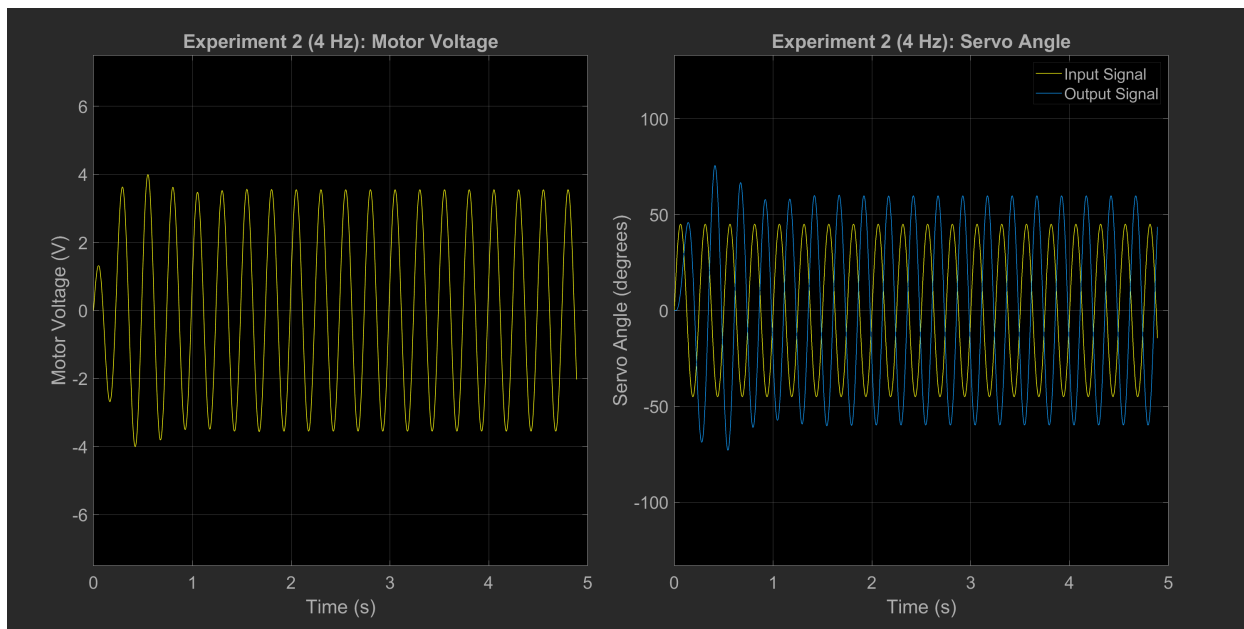Figure 5: Motor Voltage and Servo Angle for 3 Hz Input Signal

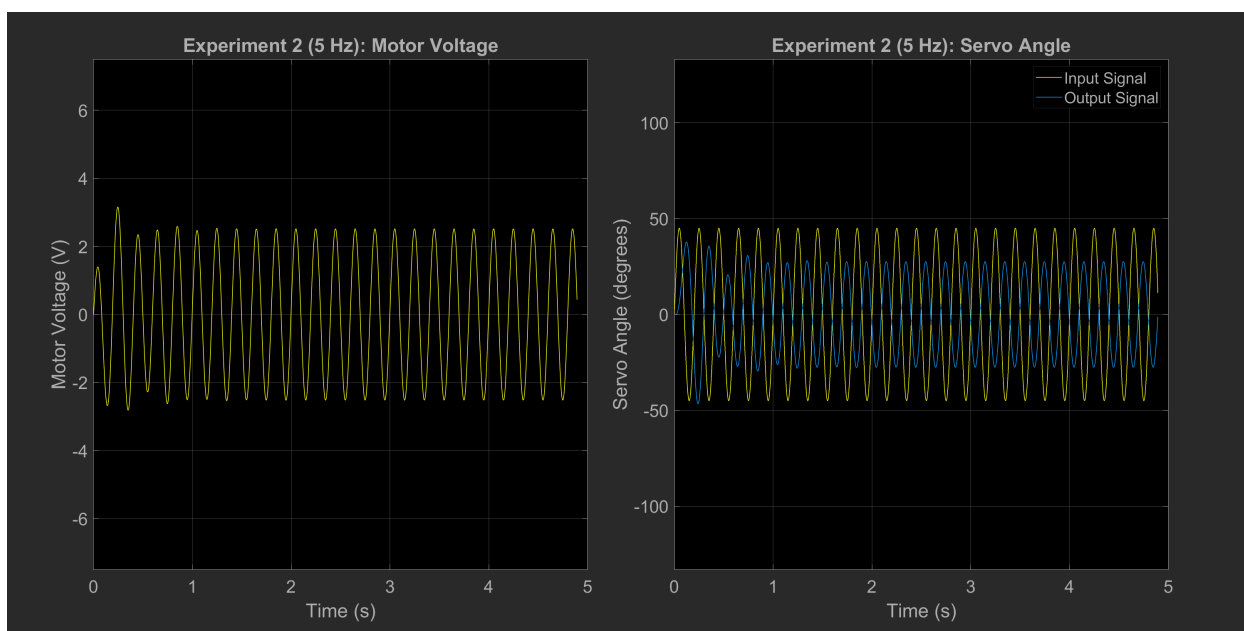Figure 6: Motor Voltage and Servo Angle for 4 Hz Input Signal

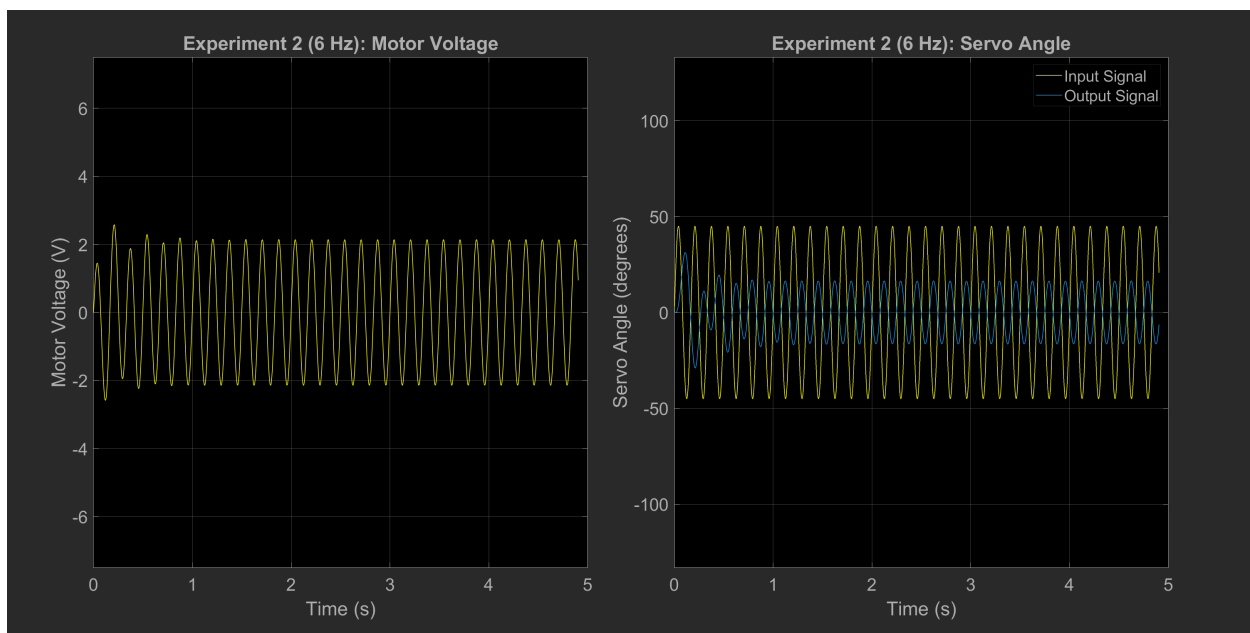Figure 7: Motor Voltage and Servo Angle for 5 Hz Input Signal

Figure 8: Motor Voltage and Servo Angle for 6 Hz Input Signal

Comparison of Results and Discussion of Potential Discrepancies

Our values for A and Tm were pretty close to each other using the 2 different methods. The discrepancies could've come from the non-linear effects of the motor or some shit xd.

Discussion on Improving the Accuracy of the Estimation of Model Parameters

Who knows xd