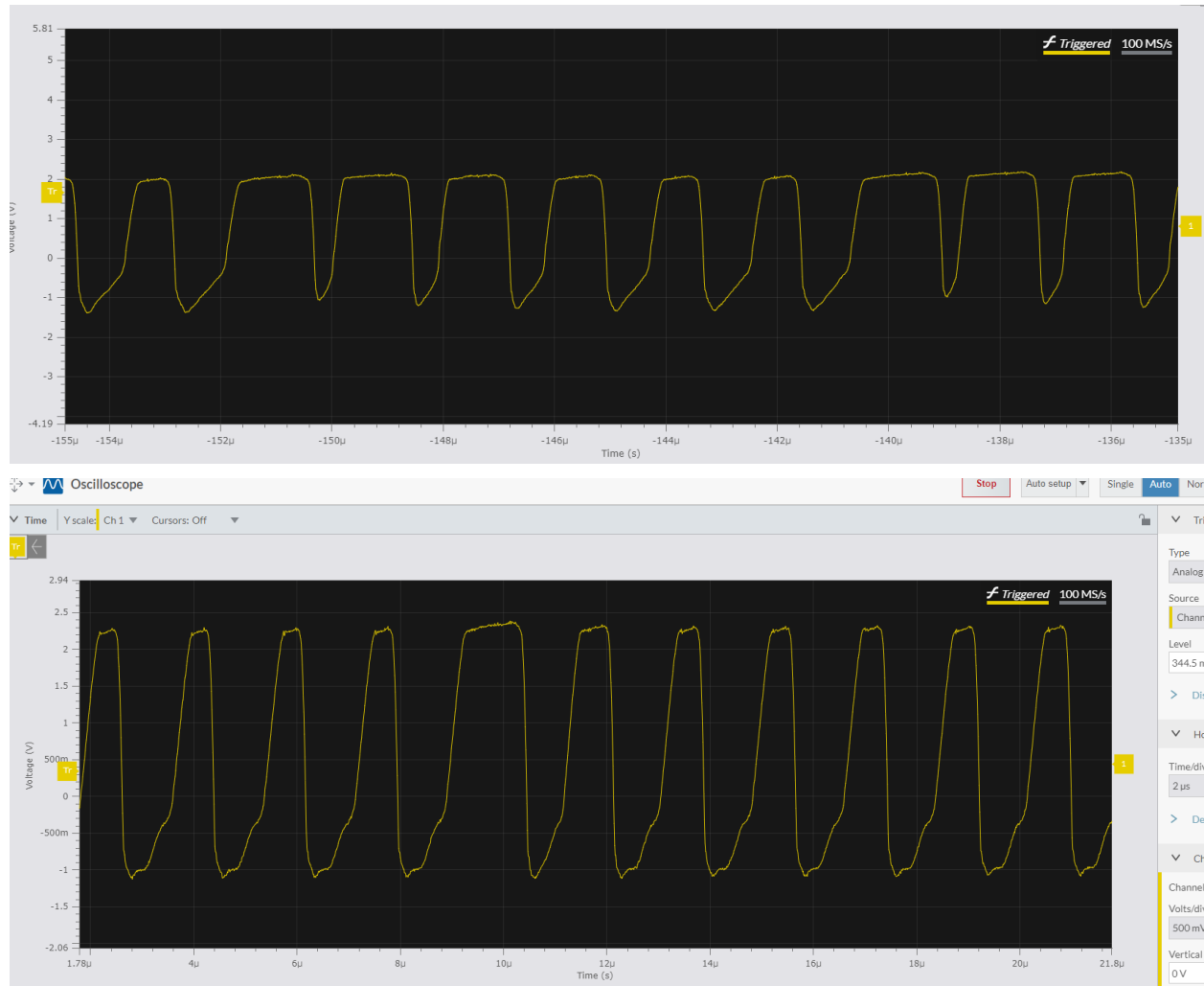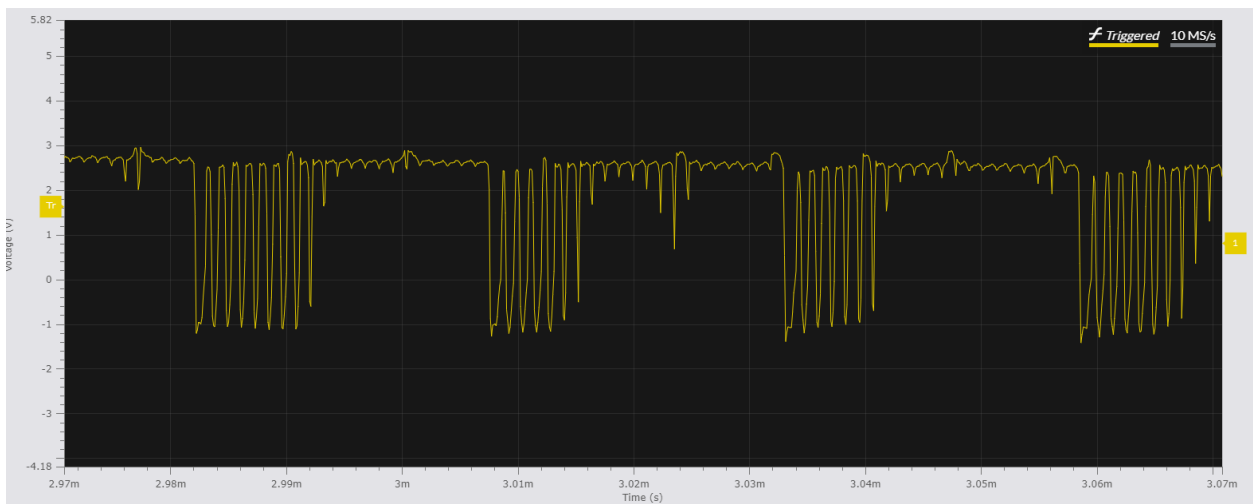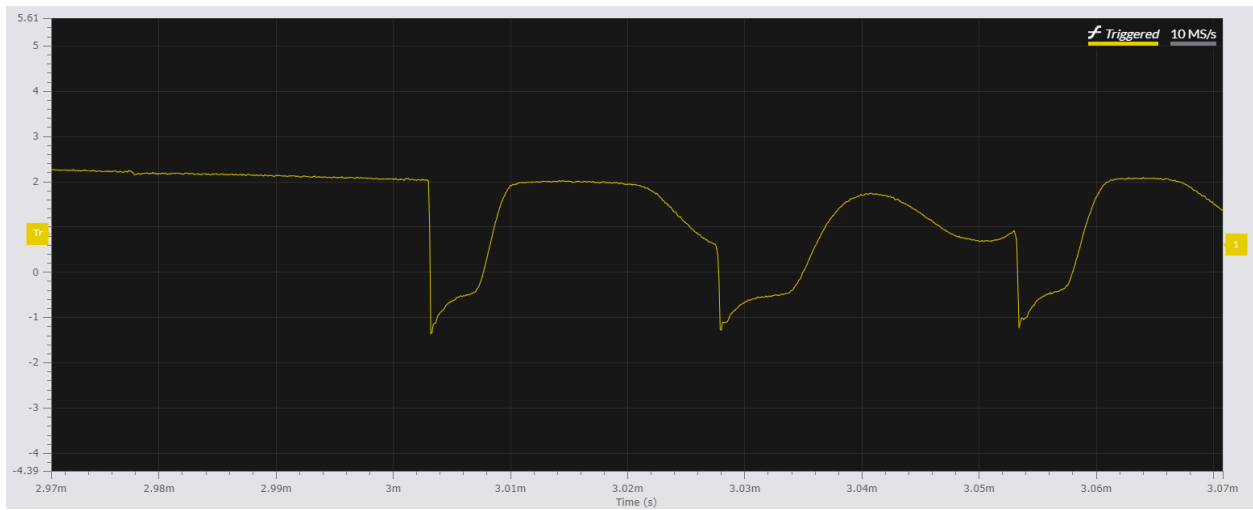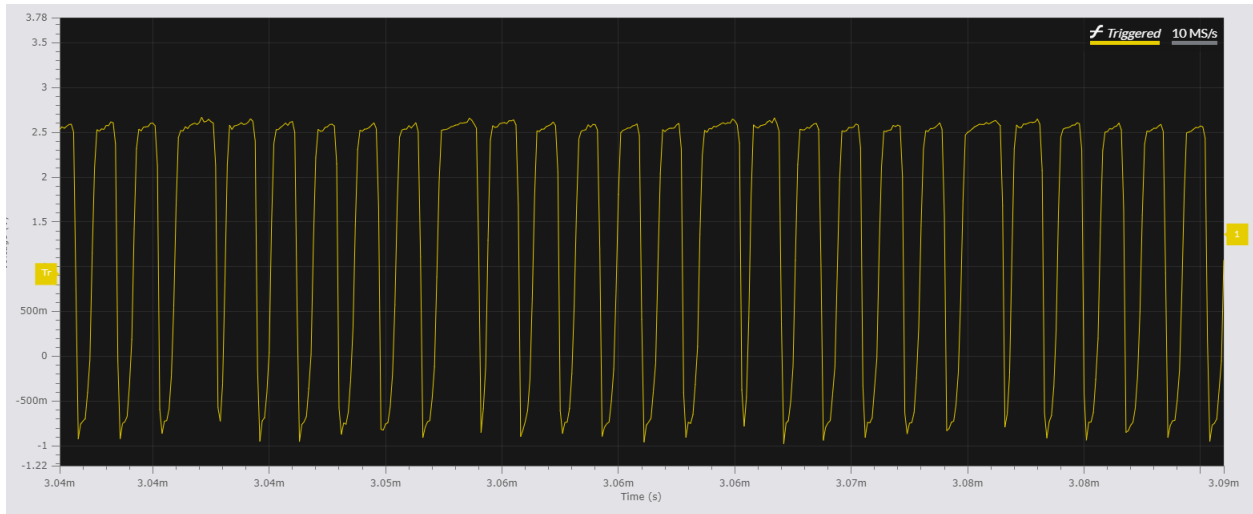# Lab #6 - DC Motor Control

Roger Bennet & Matt Law

<u>Exercise 1:</u>

Exercise 2:

<u>Supplemental Questions:</u>

1. Explain what you learned from this lab.
   In this lab we got to figure out how to implement a motor into a circuit and change the direction of the motor. We also learned how to set the motor at different speeds, both with code and with a button. We were able to do this by interfacing with a PWM that controls the speed and direction.

2. From the screenshots of your ELVIS Oscilloscope in Exercise 1 and 2, what do you observe? Explain how the duty cycles are changed in the PWM signals for different speeds of the DC motor.
   Based on the screenshots, it is a constant back and forth or up and down. Also it seems to be much more frequent when running at a higher speed, though our screenshots do not share common values on the x and y of the graph so it can be difficult to tell.

3. Is the DC motor control open-loop or close-loop in this lab? Justify your answer.
   It is an open loop because it is not taking any feedback and just running from the code's set speed.