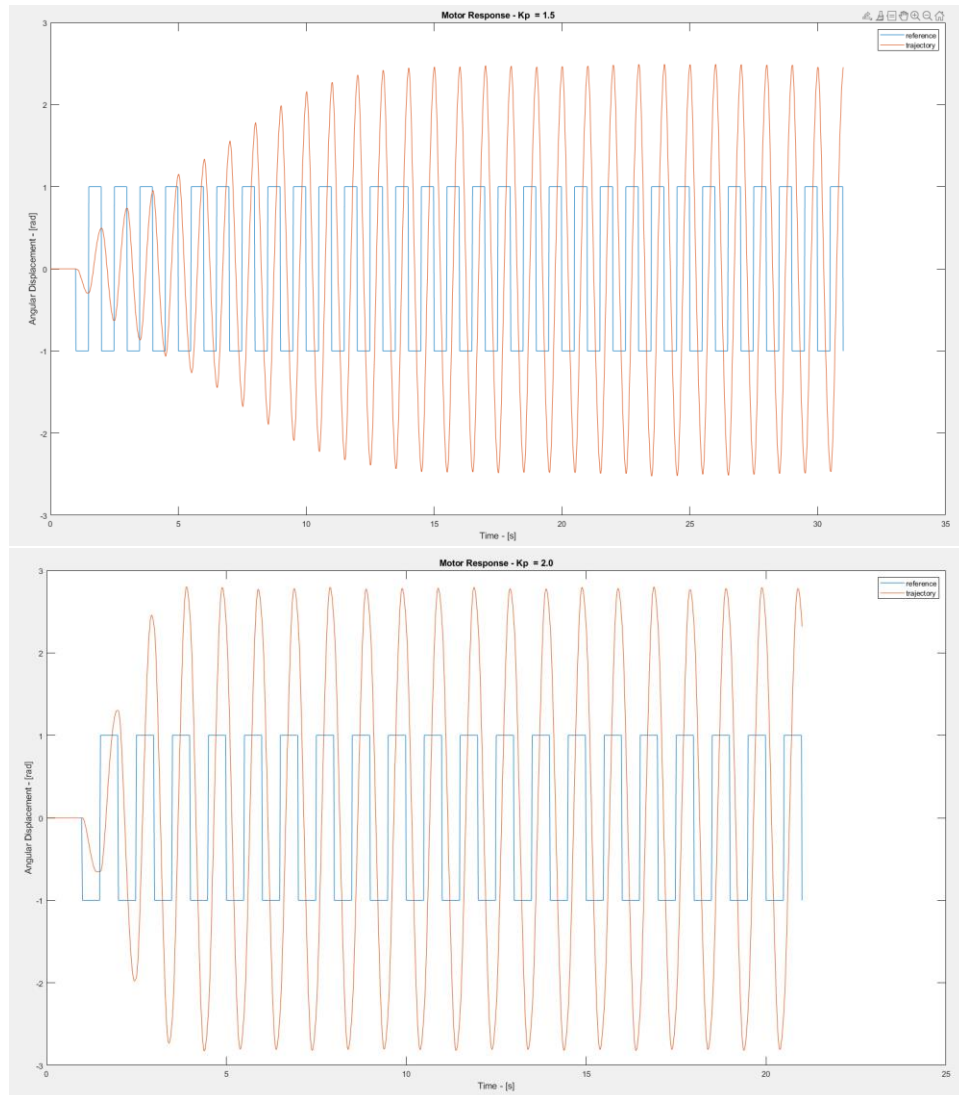
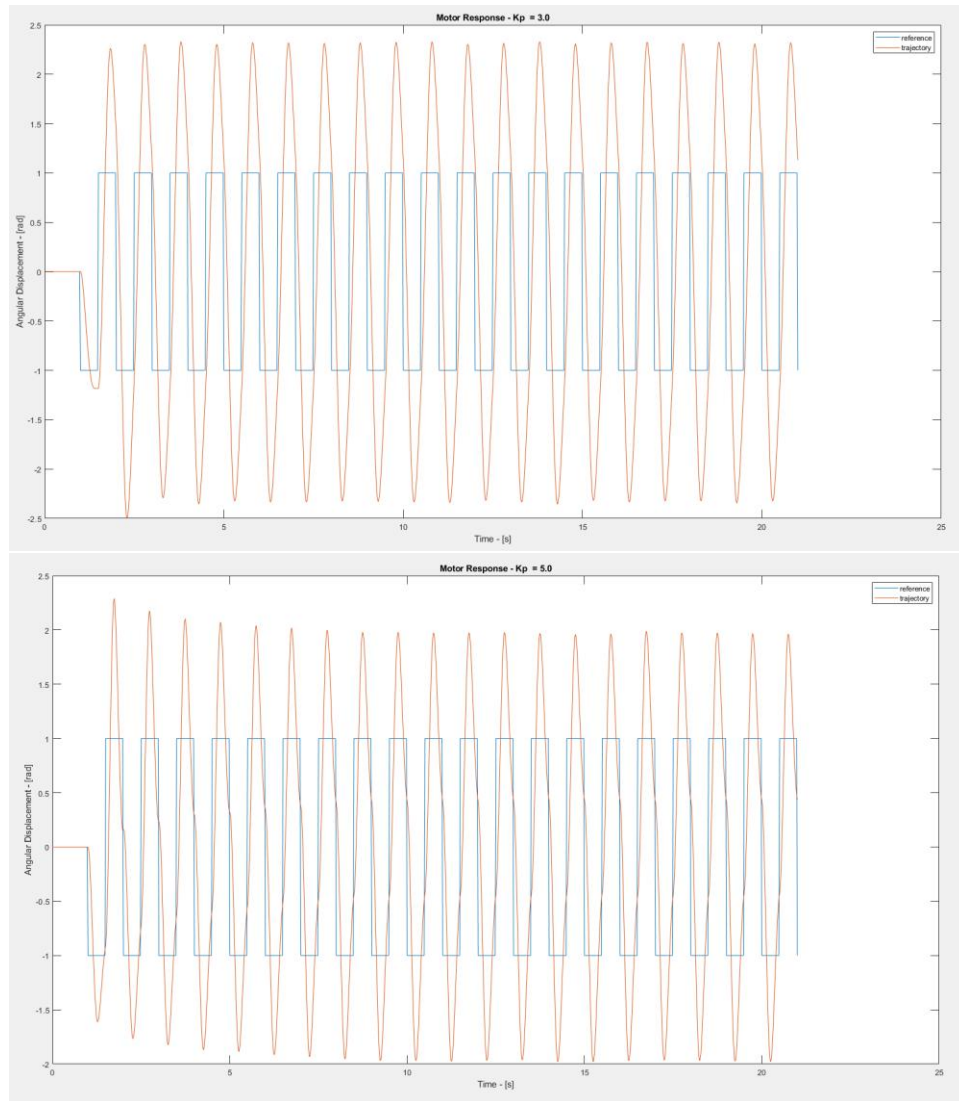


Question 1:

After performing the experiments, it can be observed that there is a relationship between the output of our system and the  $K_p$  value chosen for the controller. In the first two tests ( $K_p = 0.5, 1$ ) the output of the system did not move until the  $K_p$  value was increased to 1.5. The system overshoot the reference trajectory but got to “steady-state” faster as  $K_p$  increased.







Question 2:

The closed looped amplification sounded better than the open-loop amplification. After some testing, I found  $G = 100000000$  and  $\beta = 0.0000005$  to be the best combination.