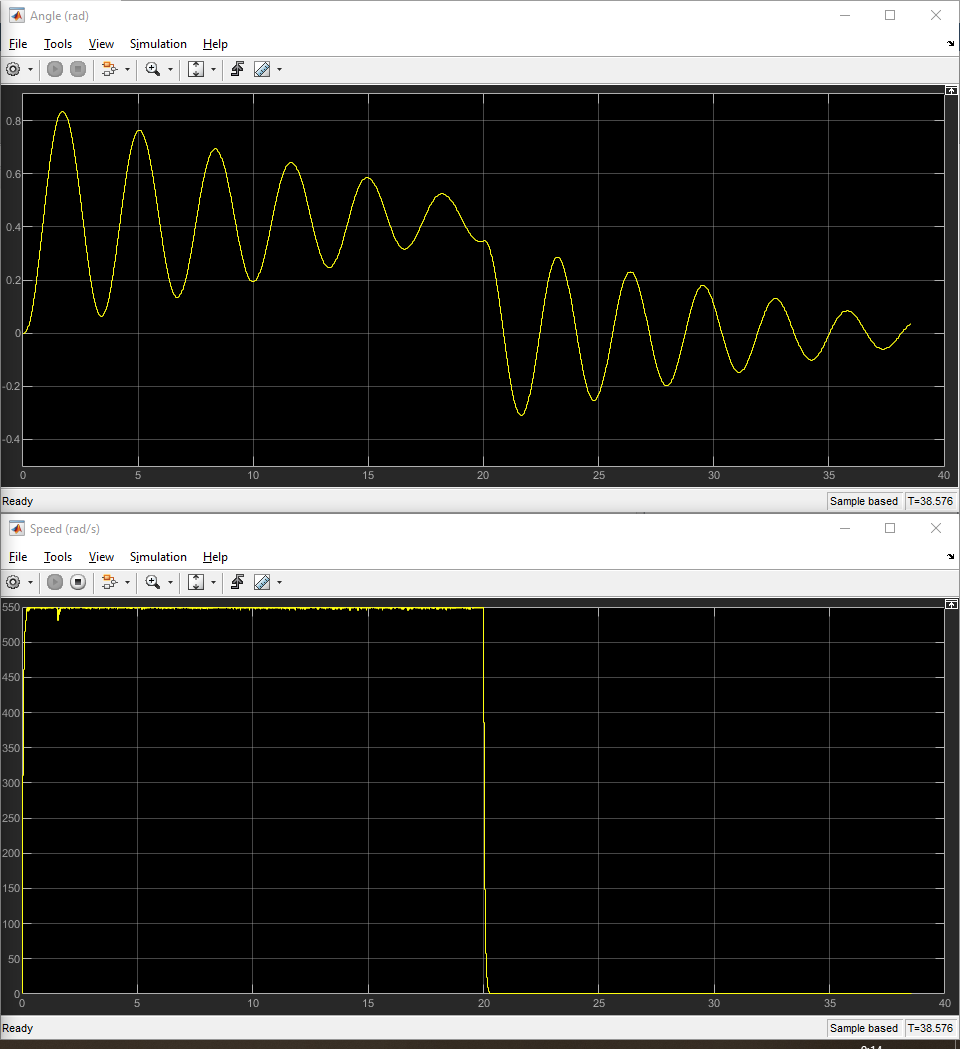
לסדר יחידות!

In-Lab Exercise:

2.1

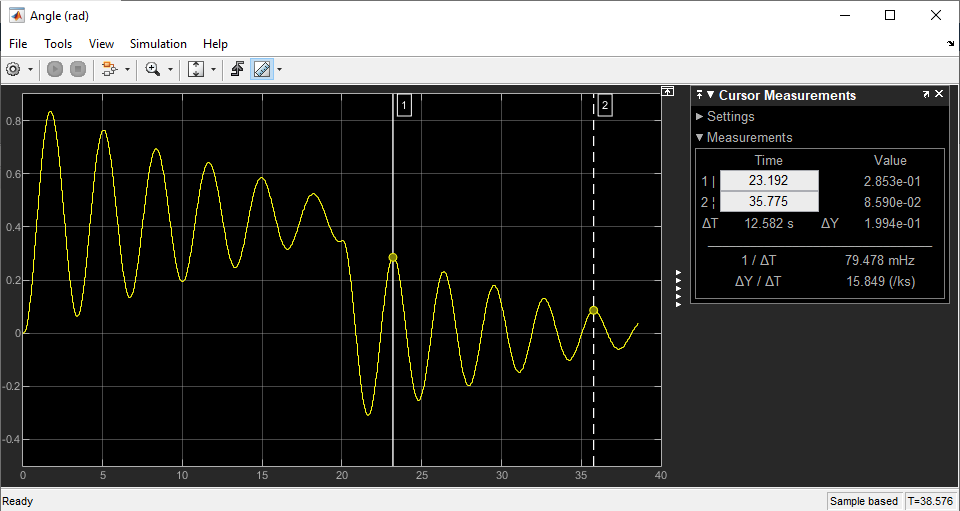
5.



6.

2.2

2.

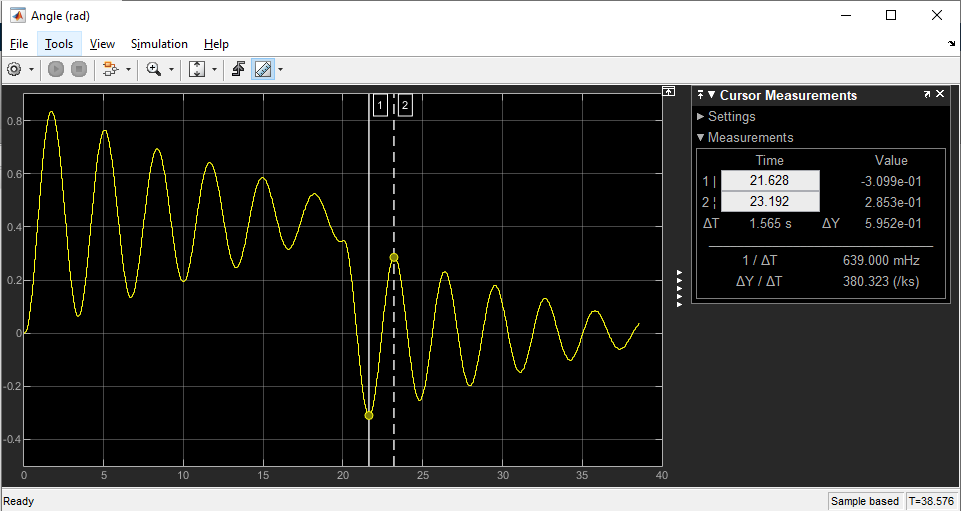


3.

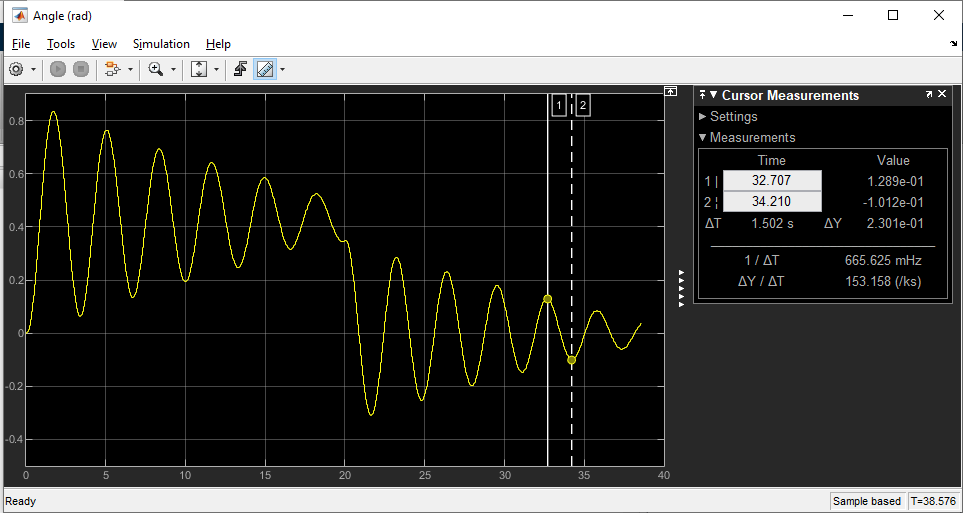
2.3

1.

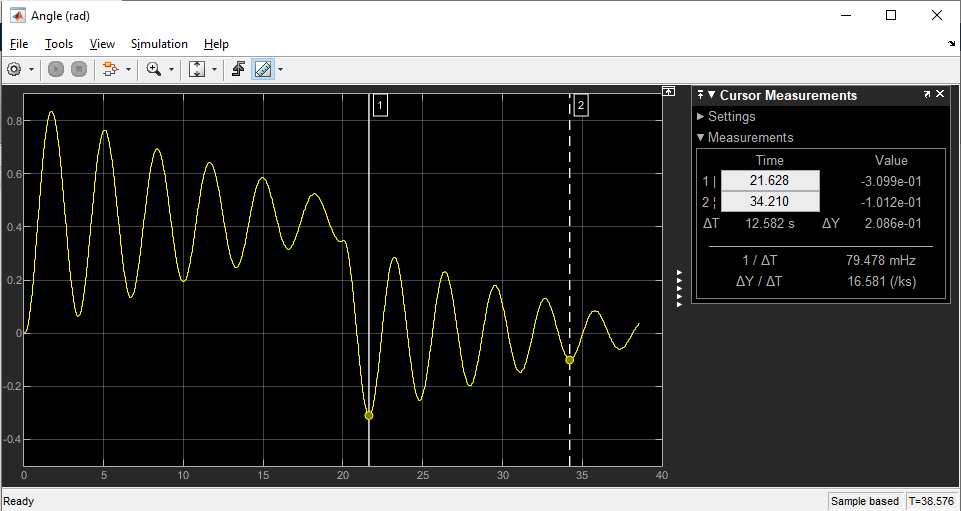
Original amplitude:



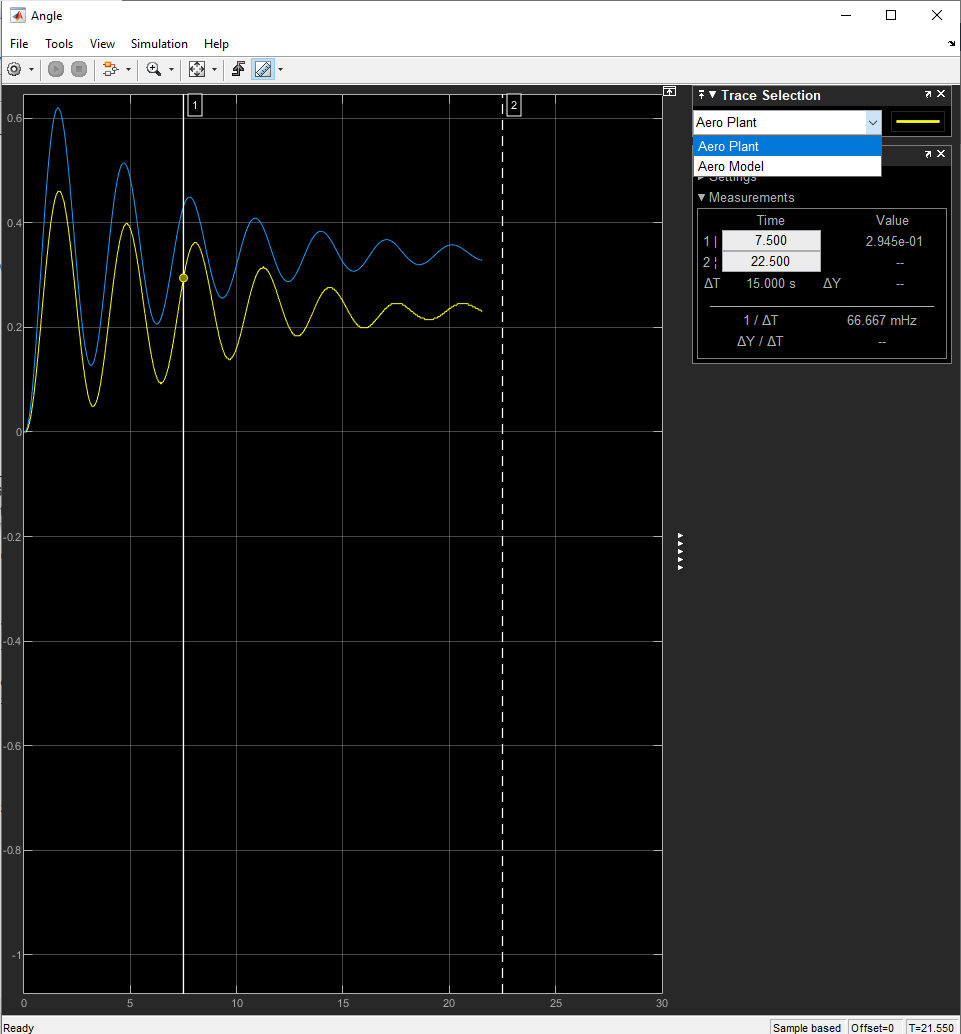
Decayed amplitude:



Decay time:

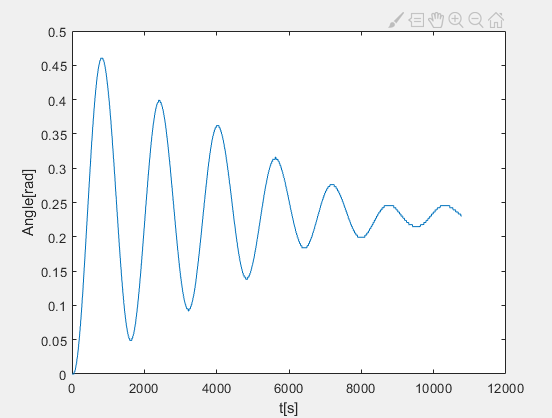


2.4

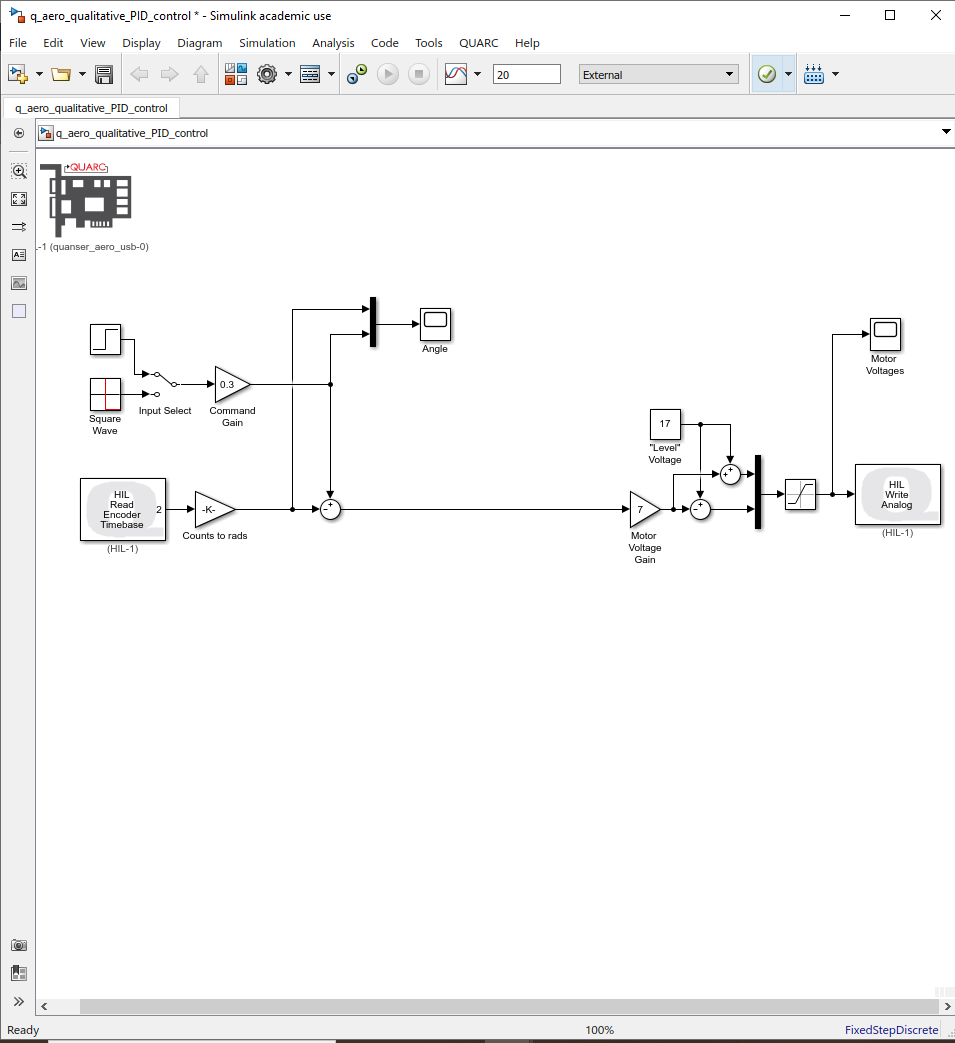


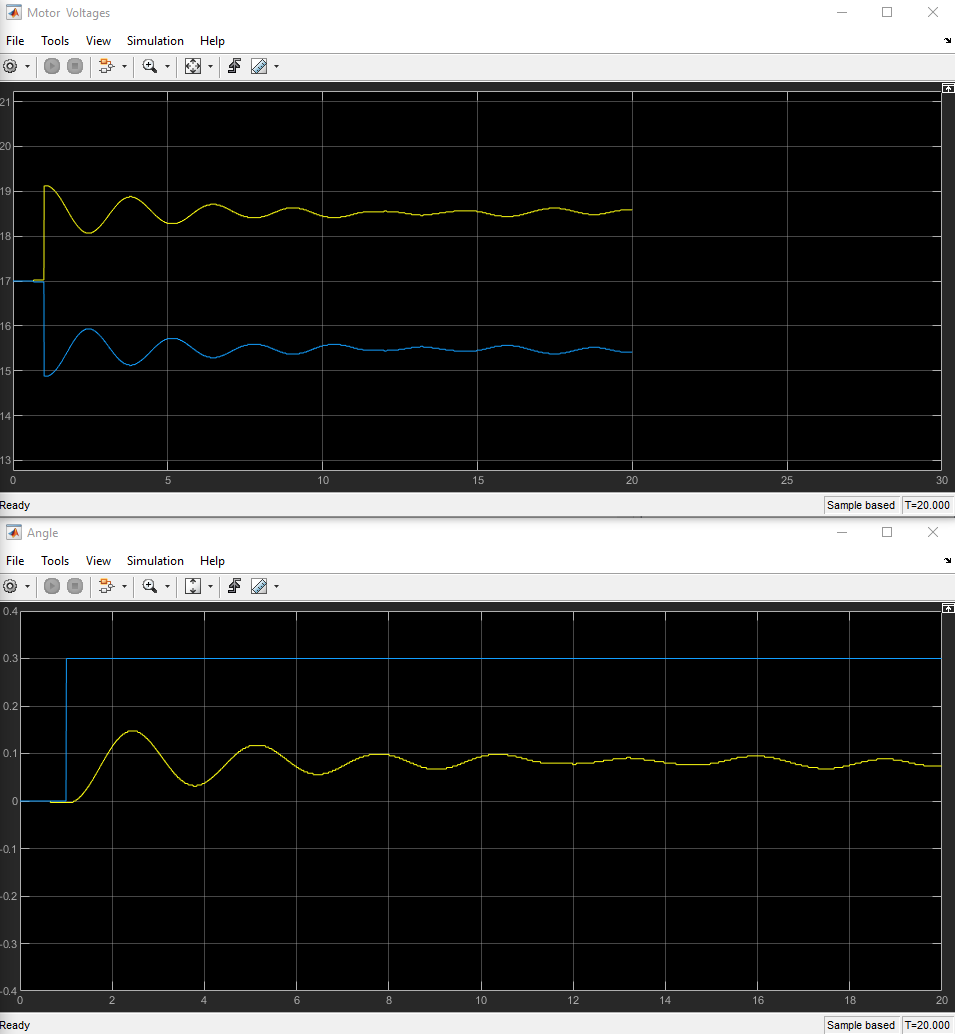
5.

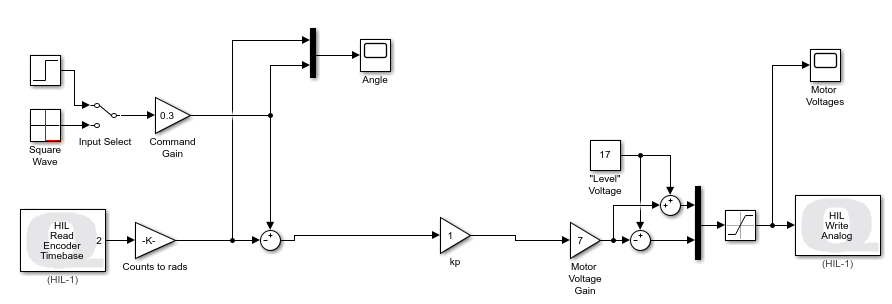
The model is not accurate, because they constants which we have set might not be accurate and actually may vary over the motion of the body.

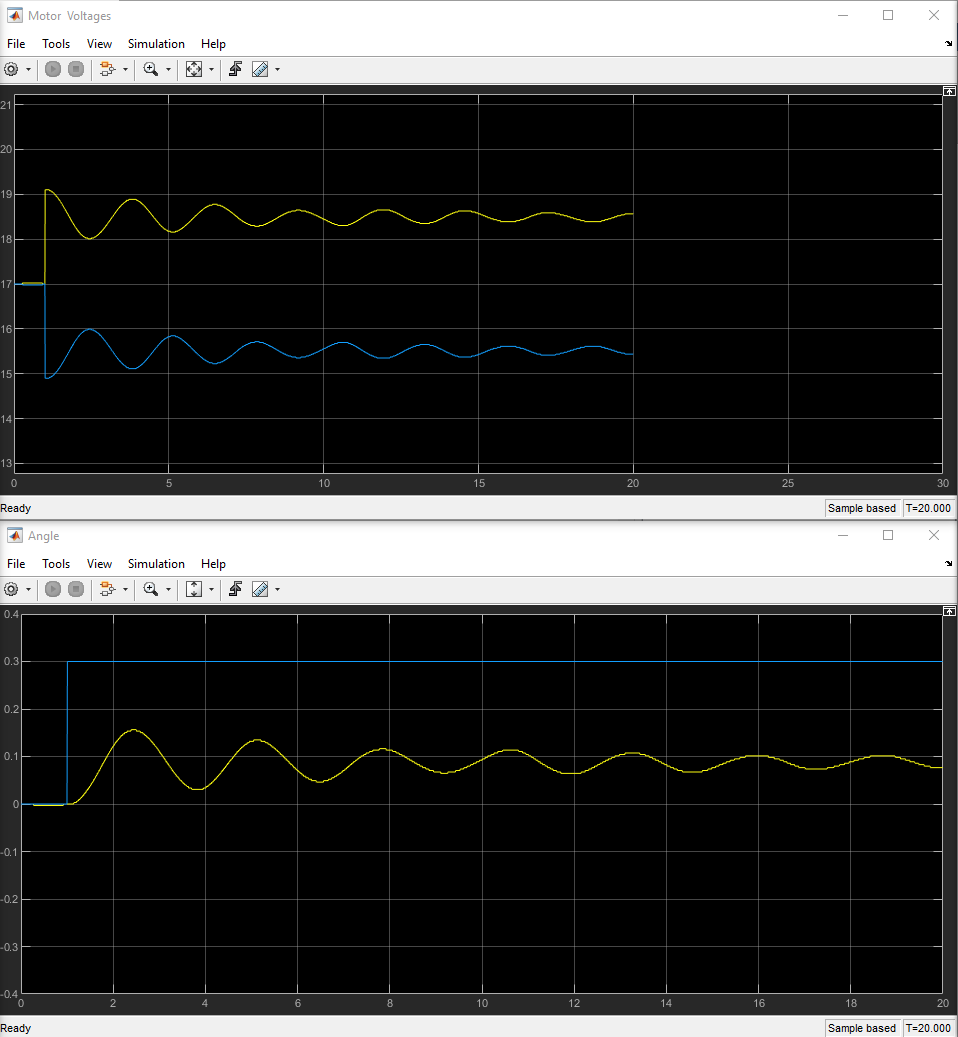


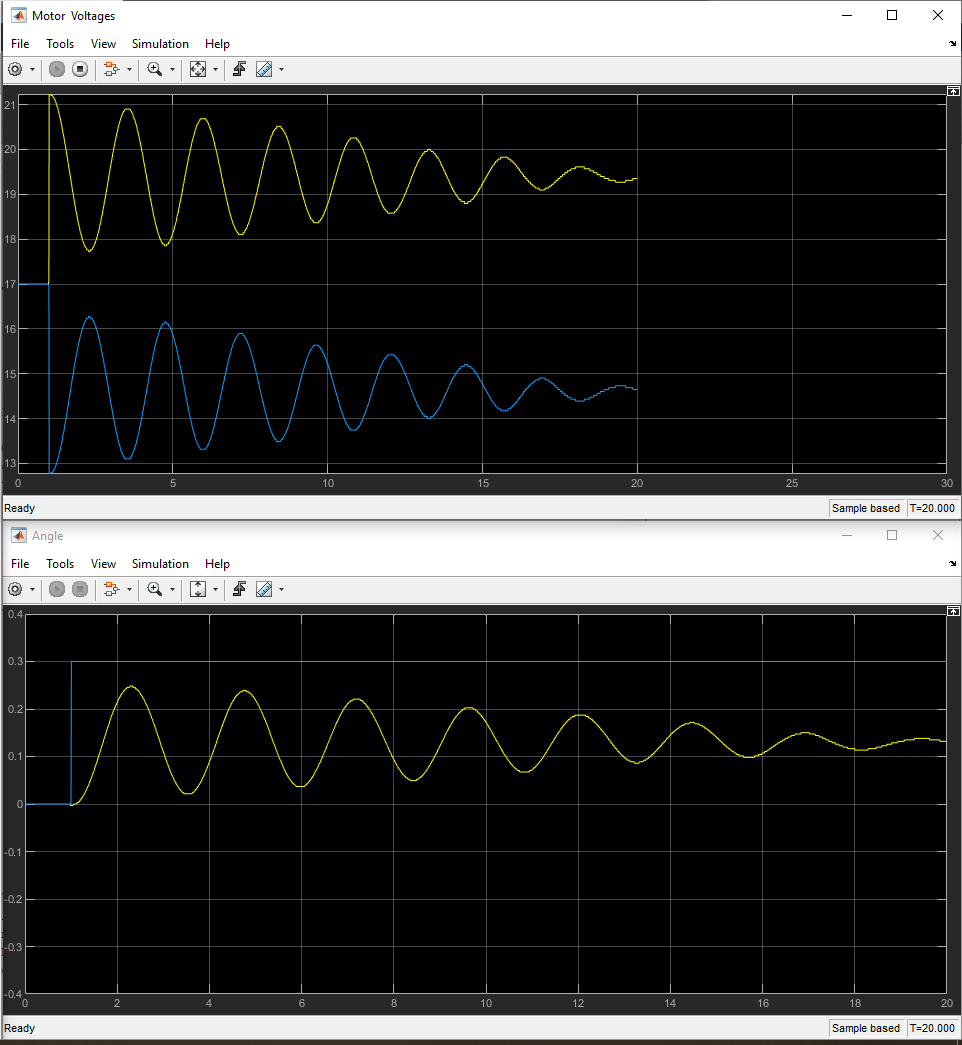
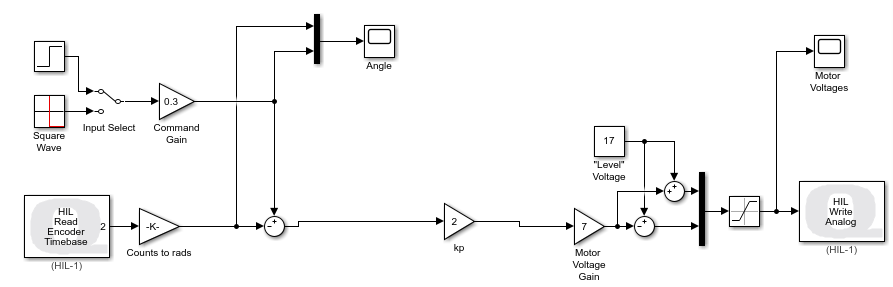
Part 2

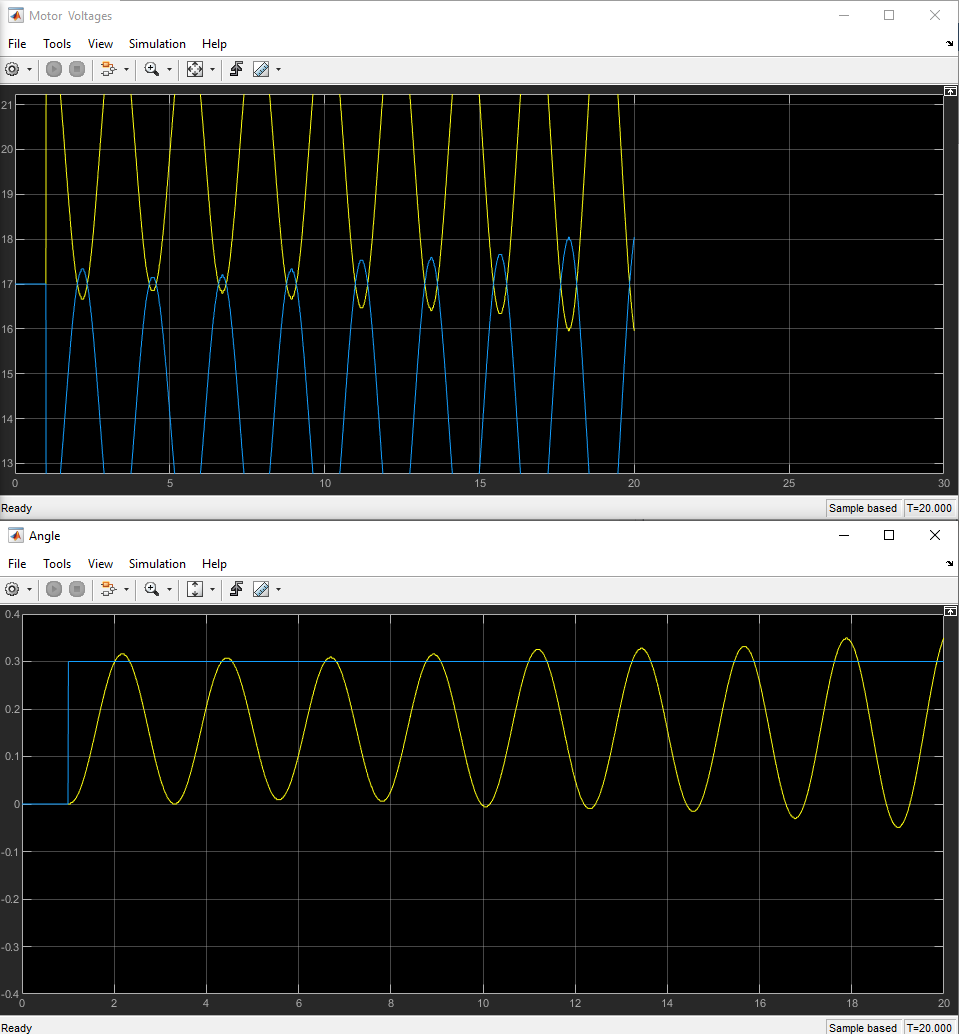
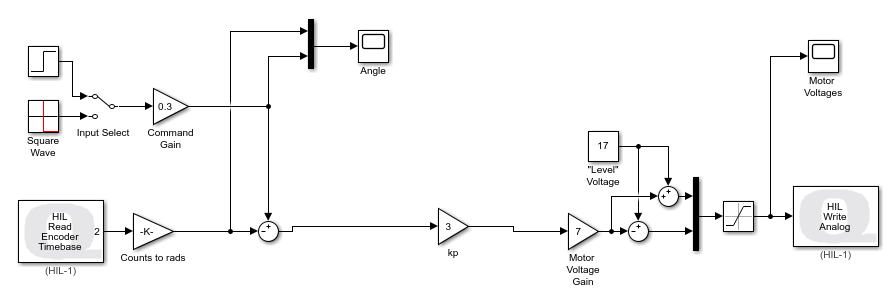


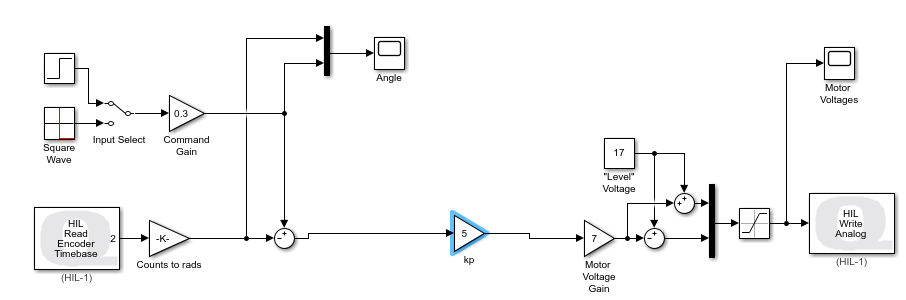


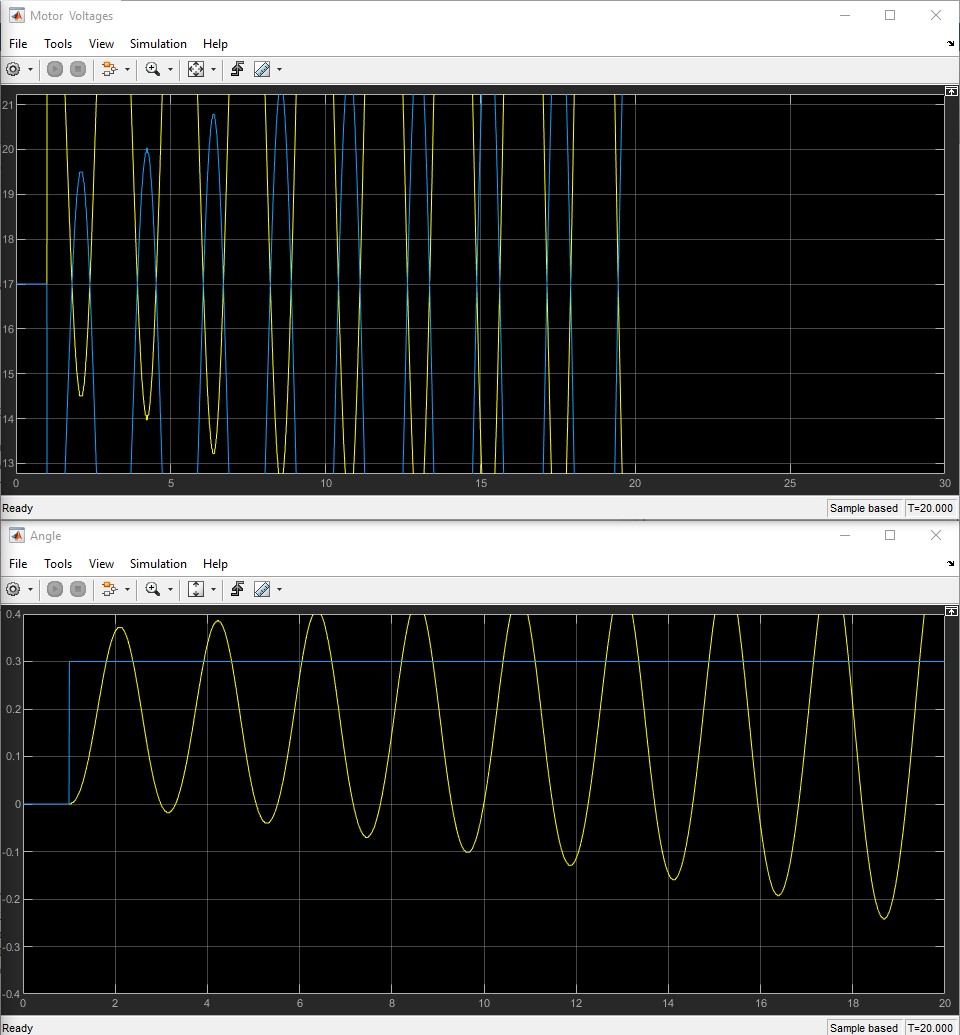


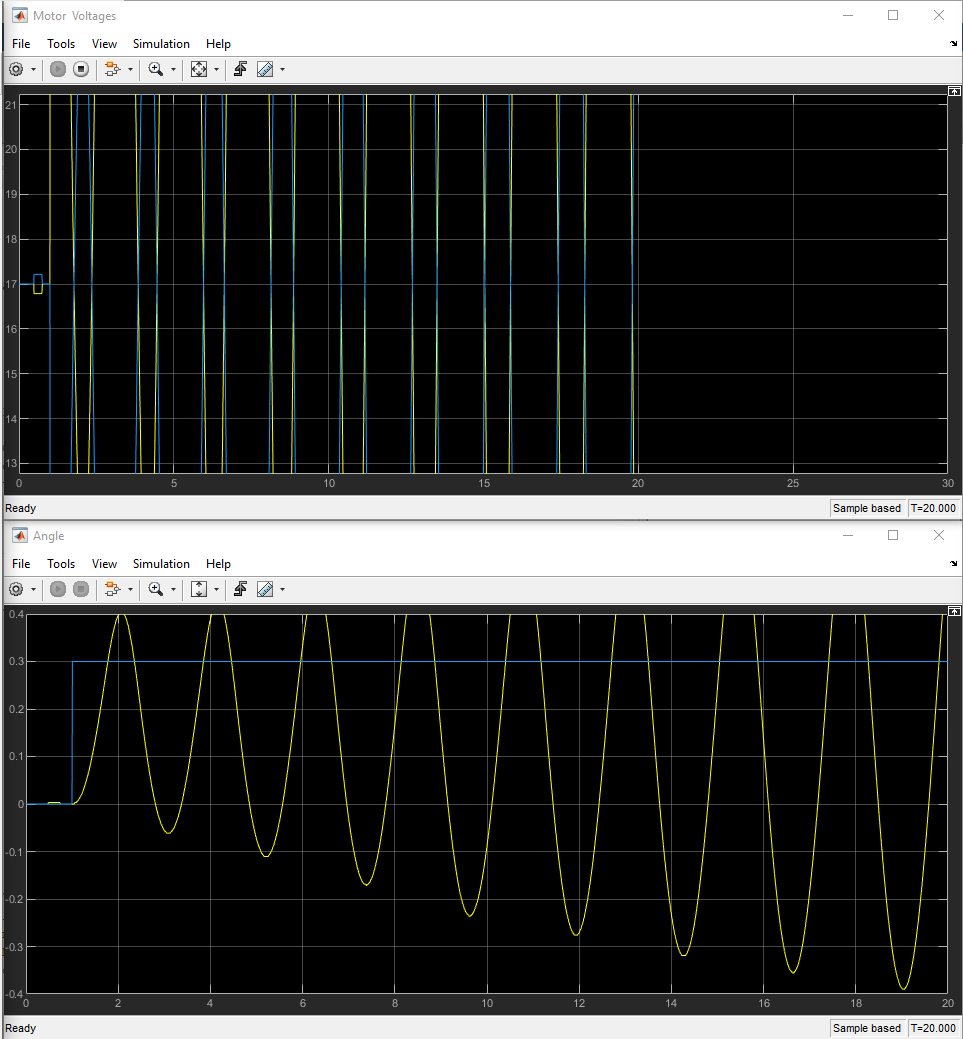
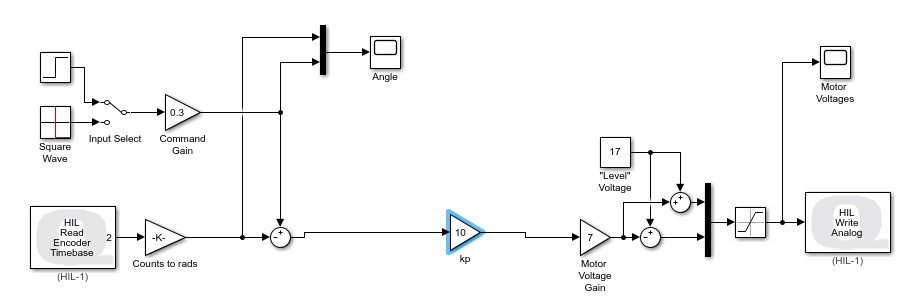












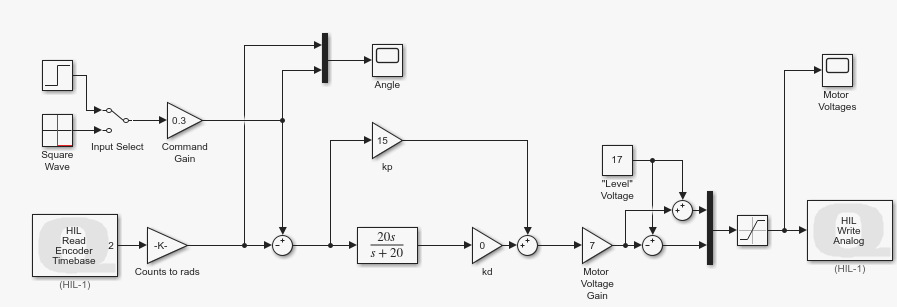
Increasing the proportional gain causes instability, each oscillation take longer time.

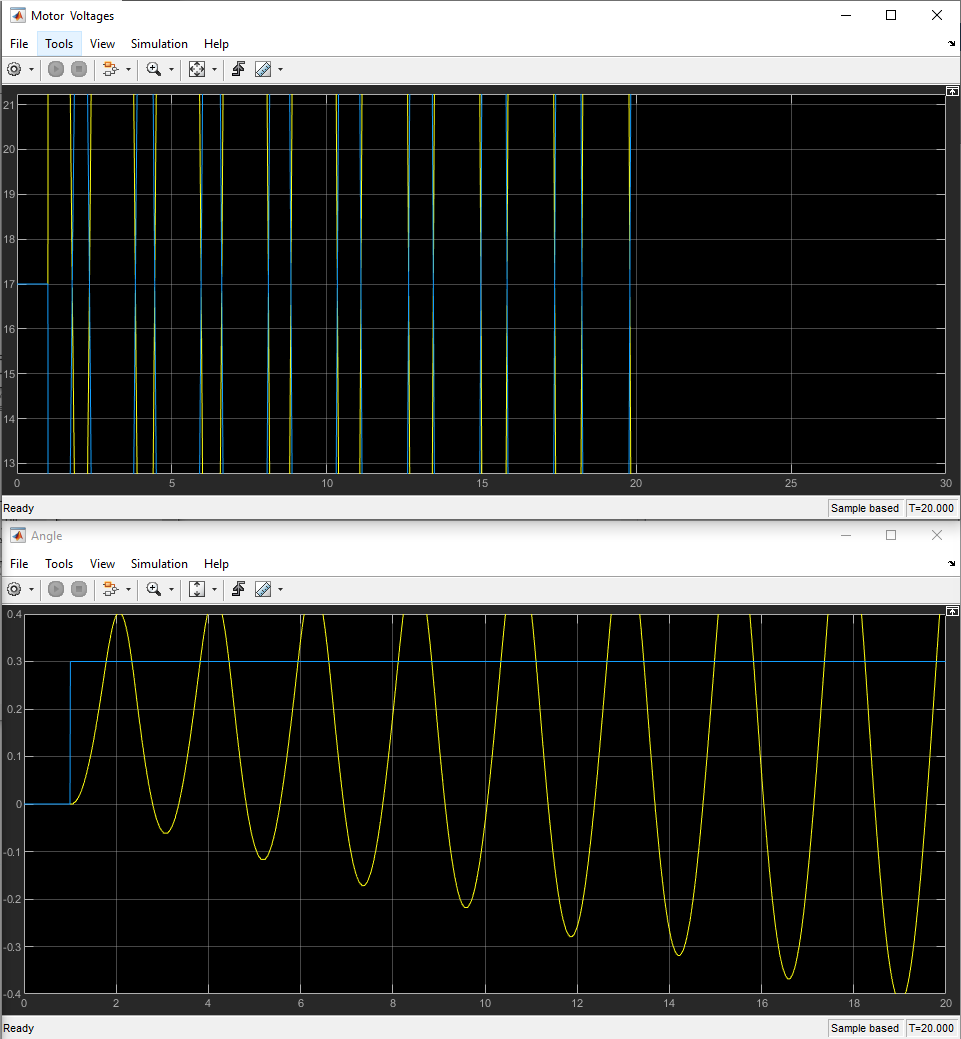
5.

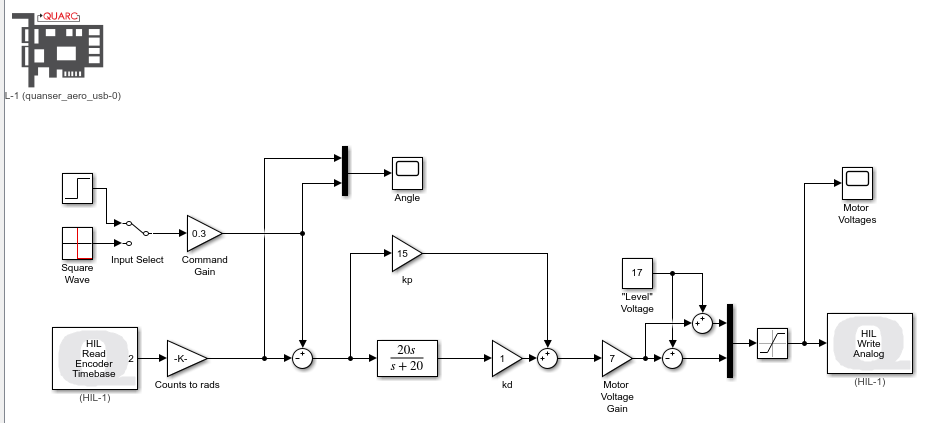
Hardly, need a better controller, our suggestion is using a PID controller.

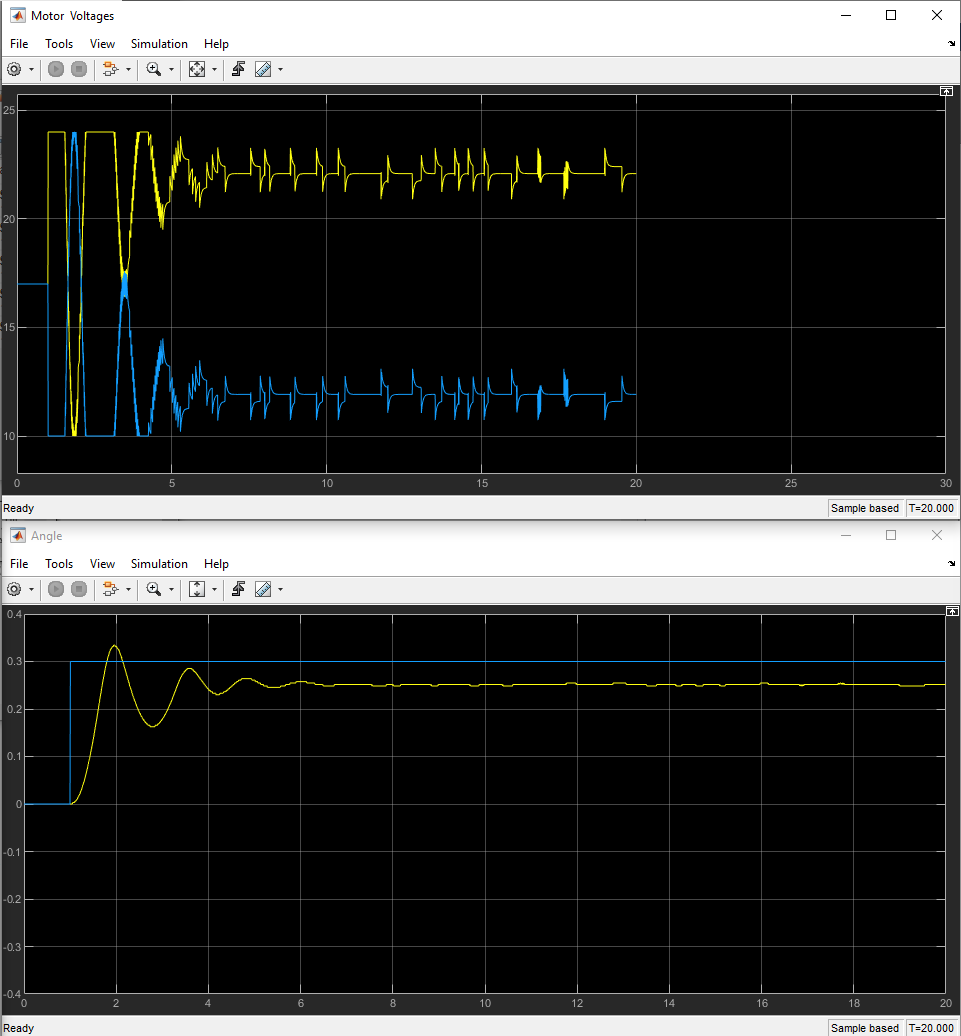
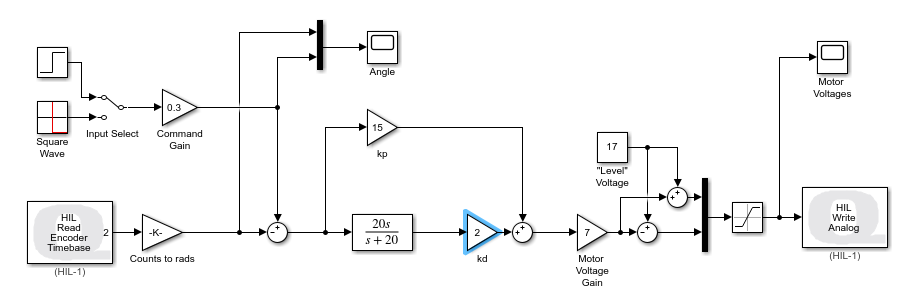
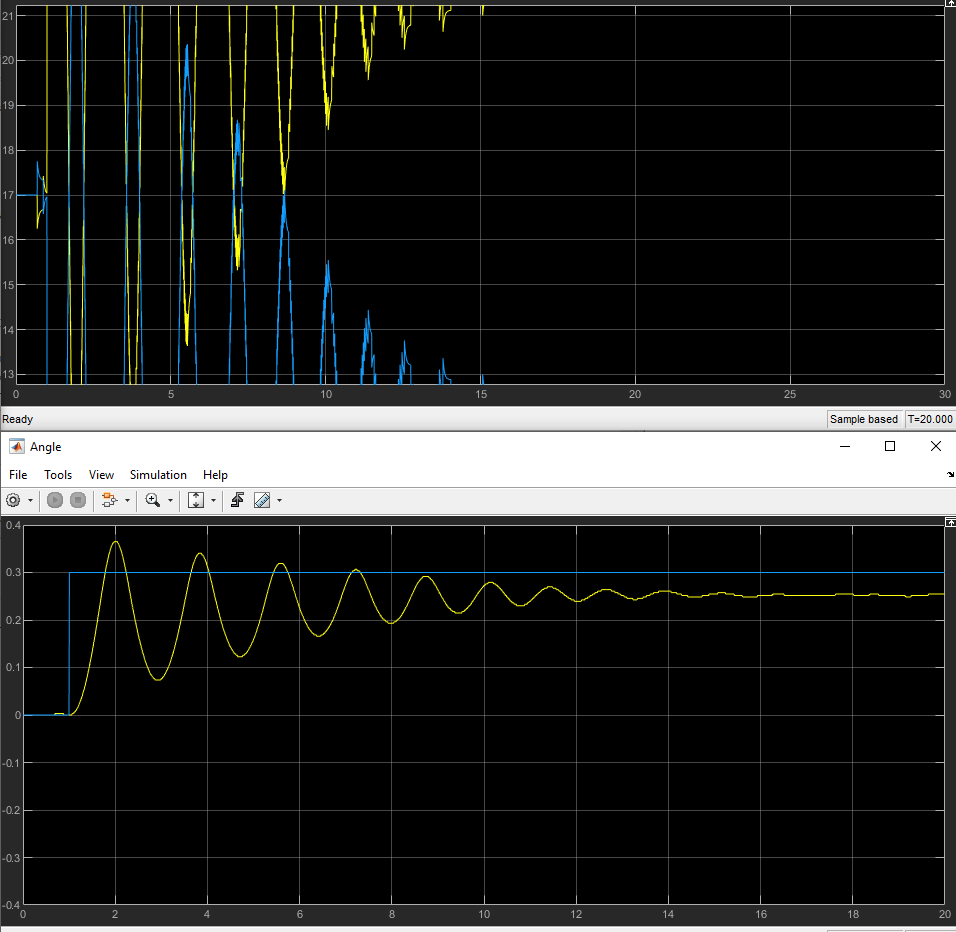
2.2

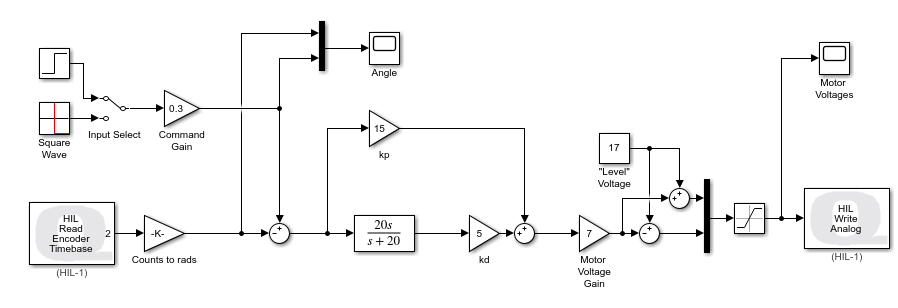
1.

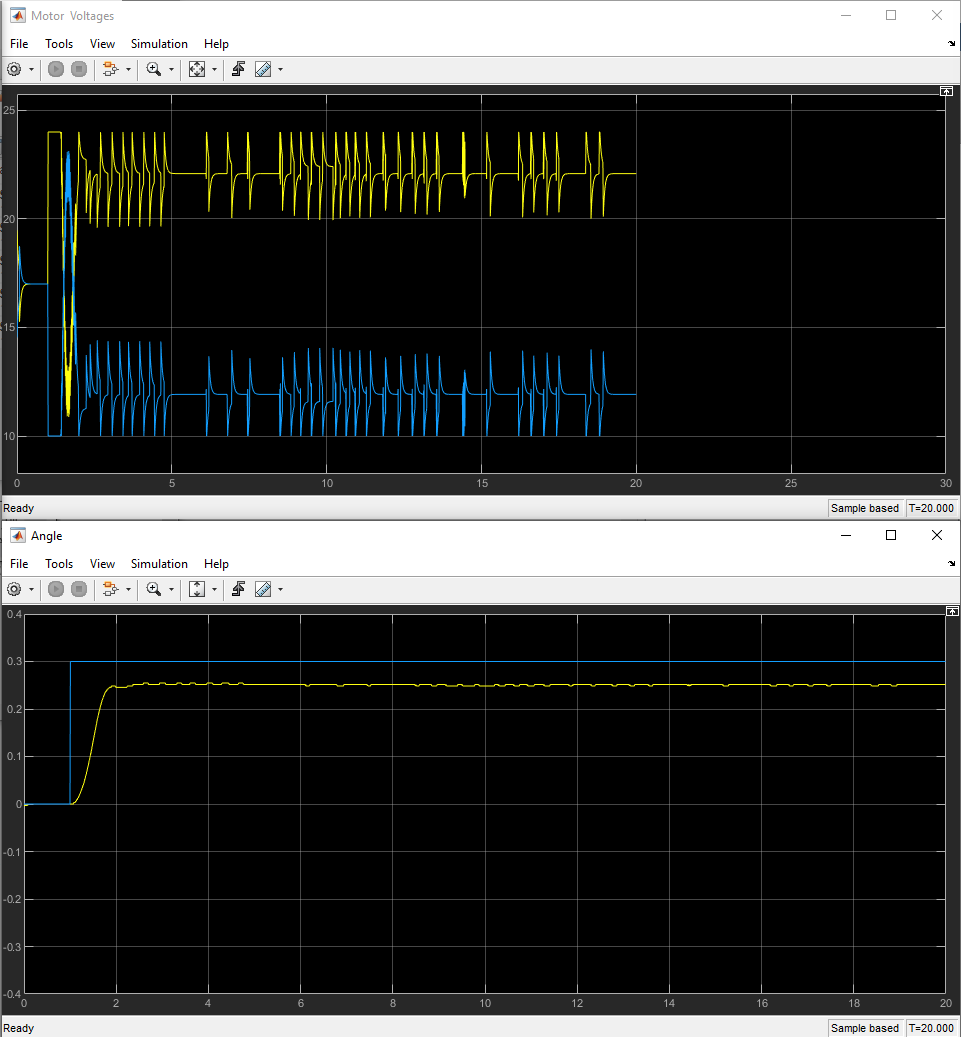


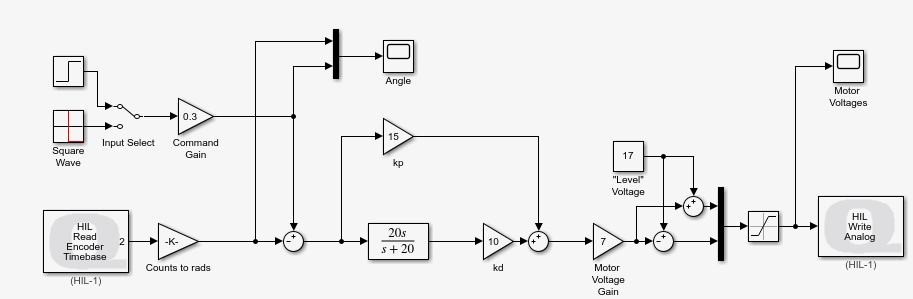


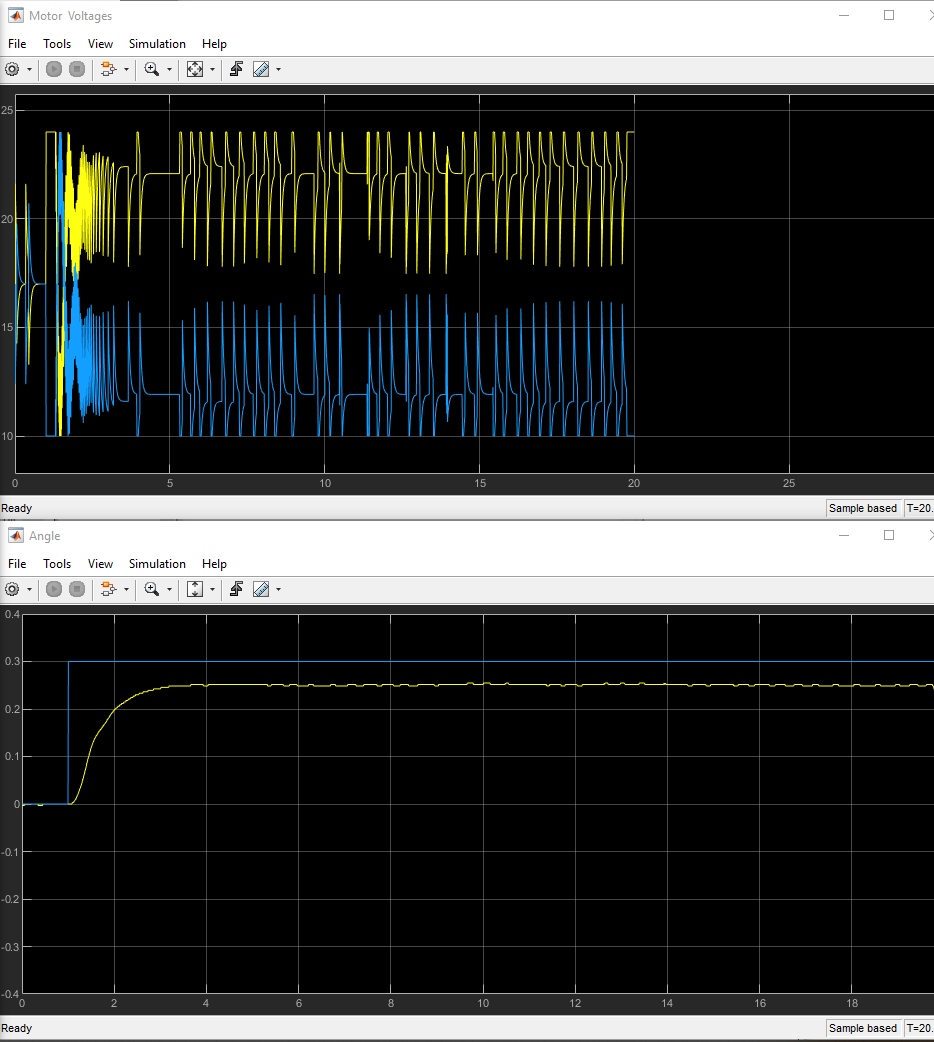




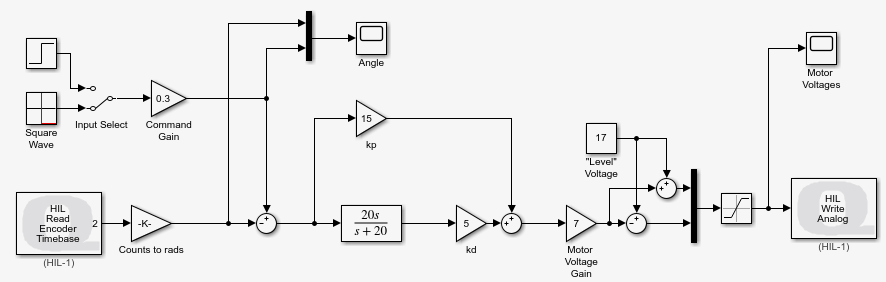


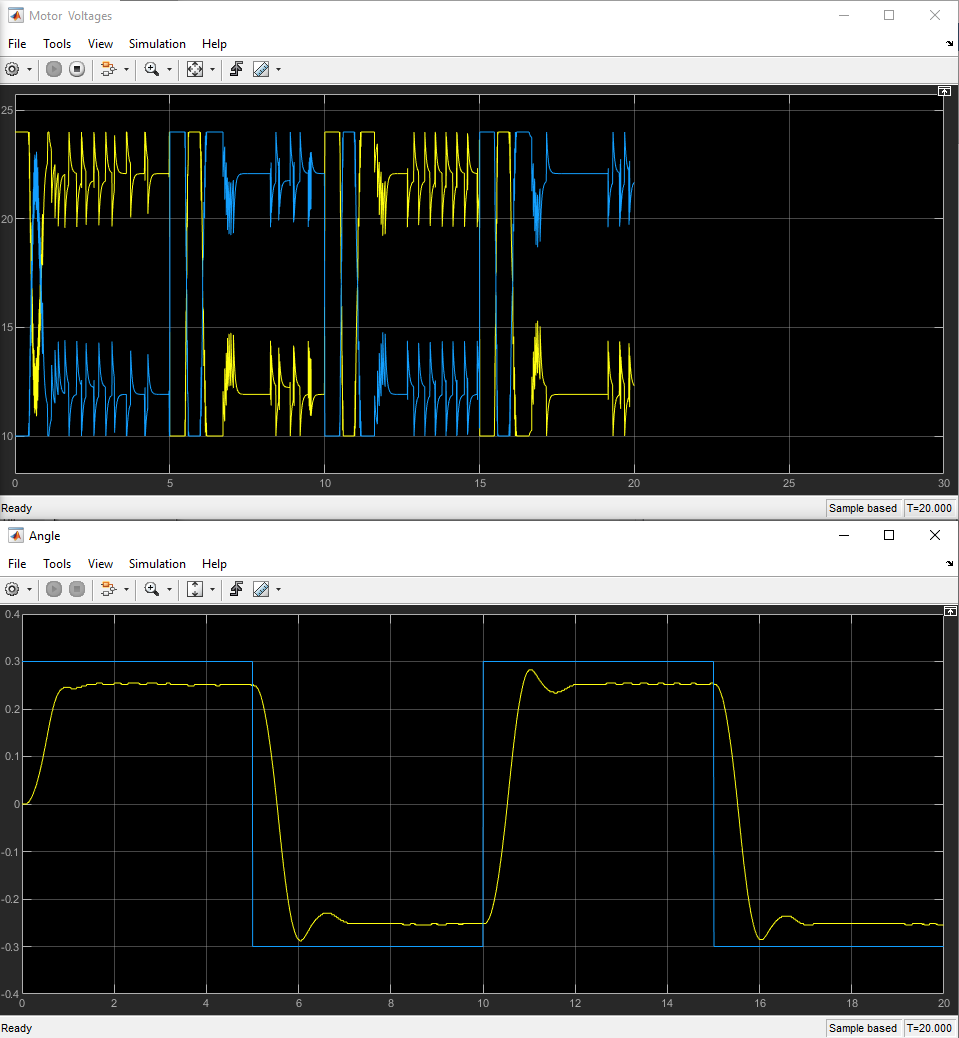


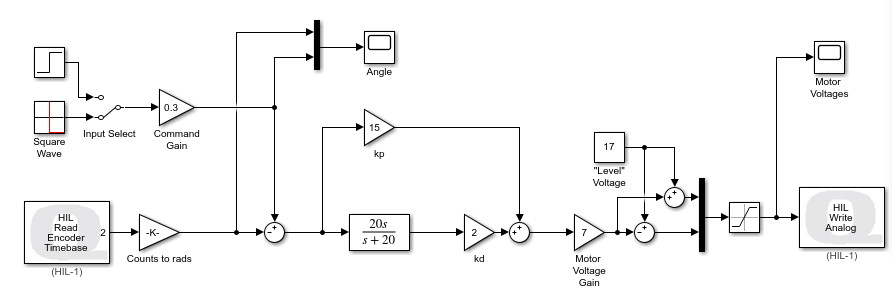


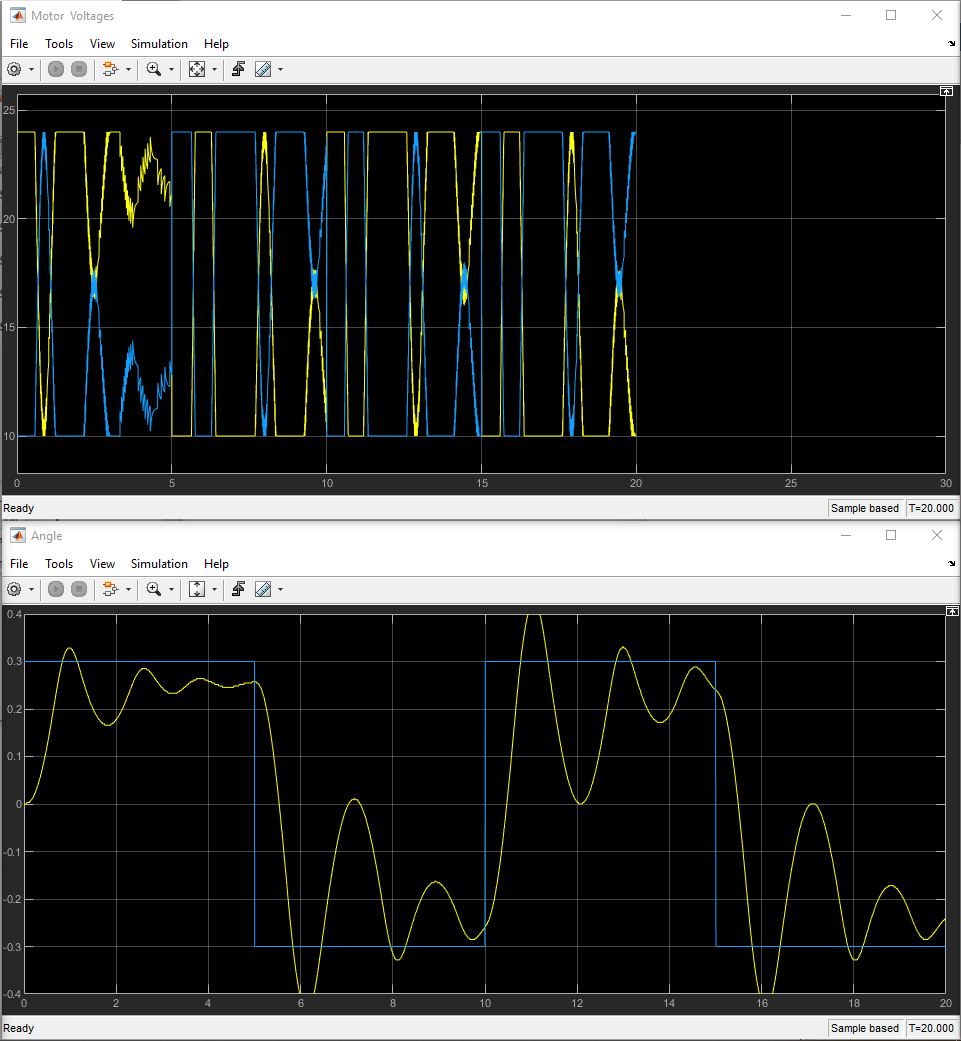


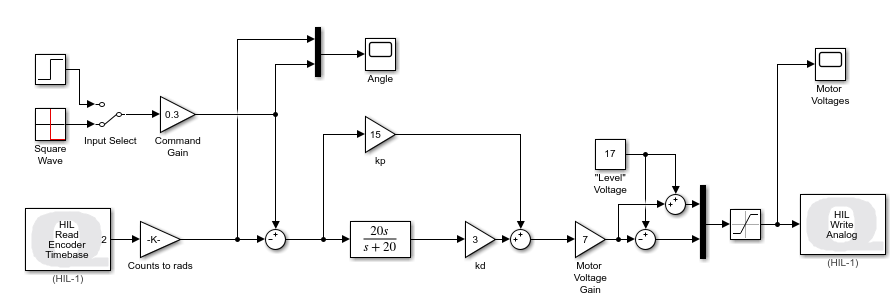
5.

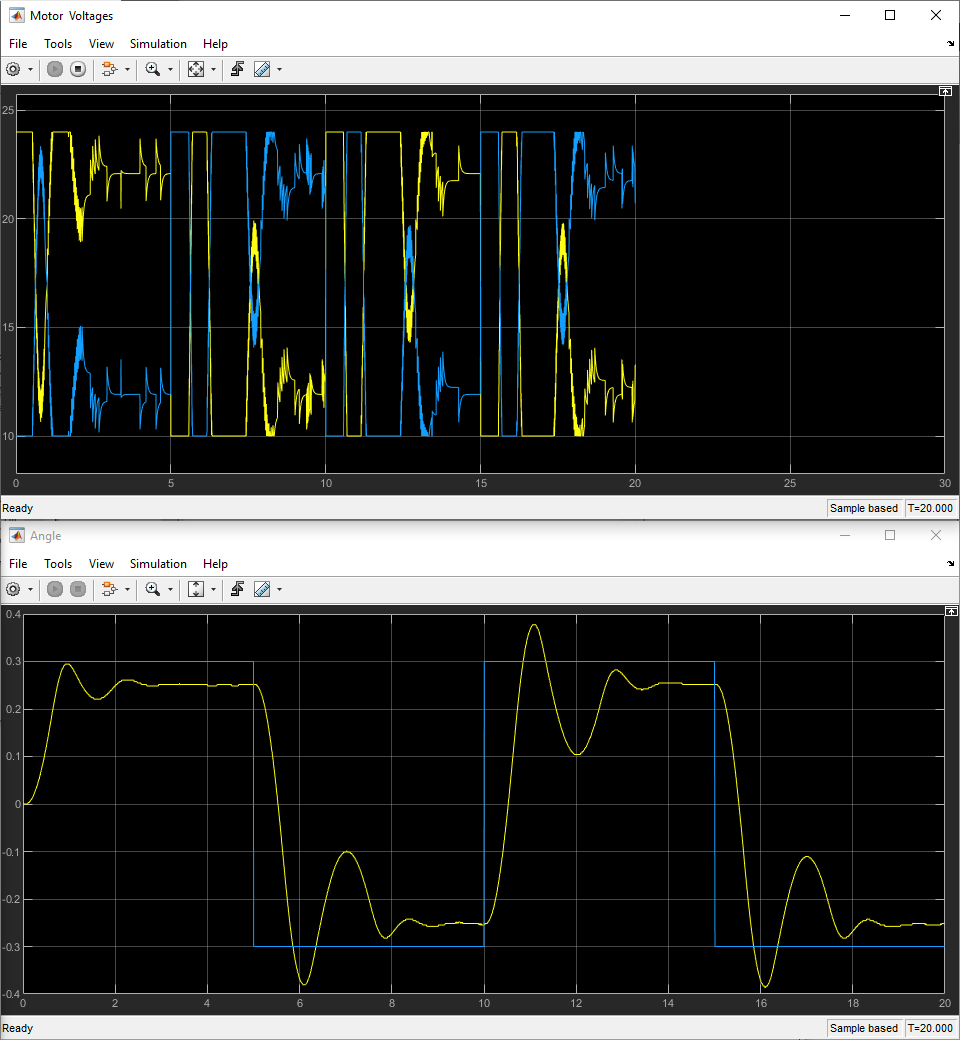


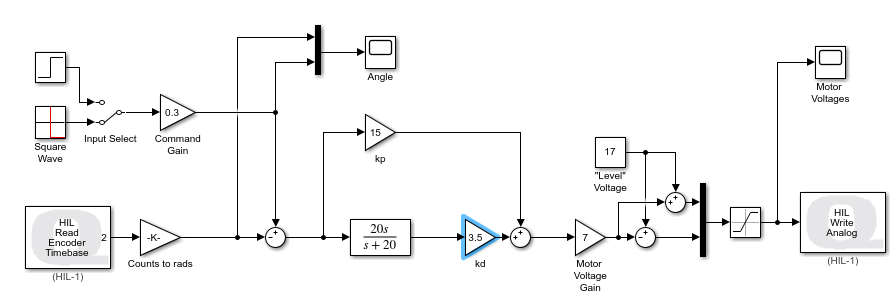


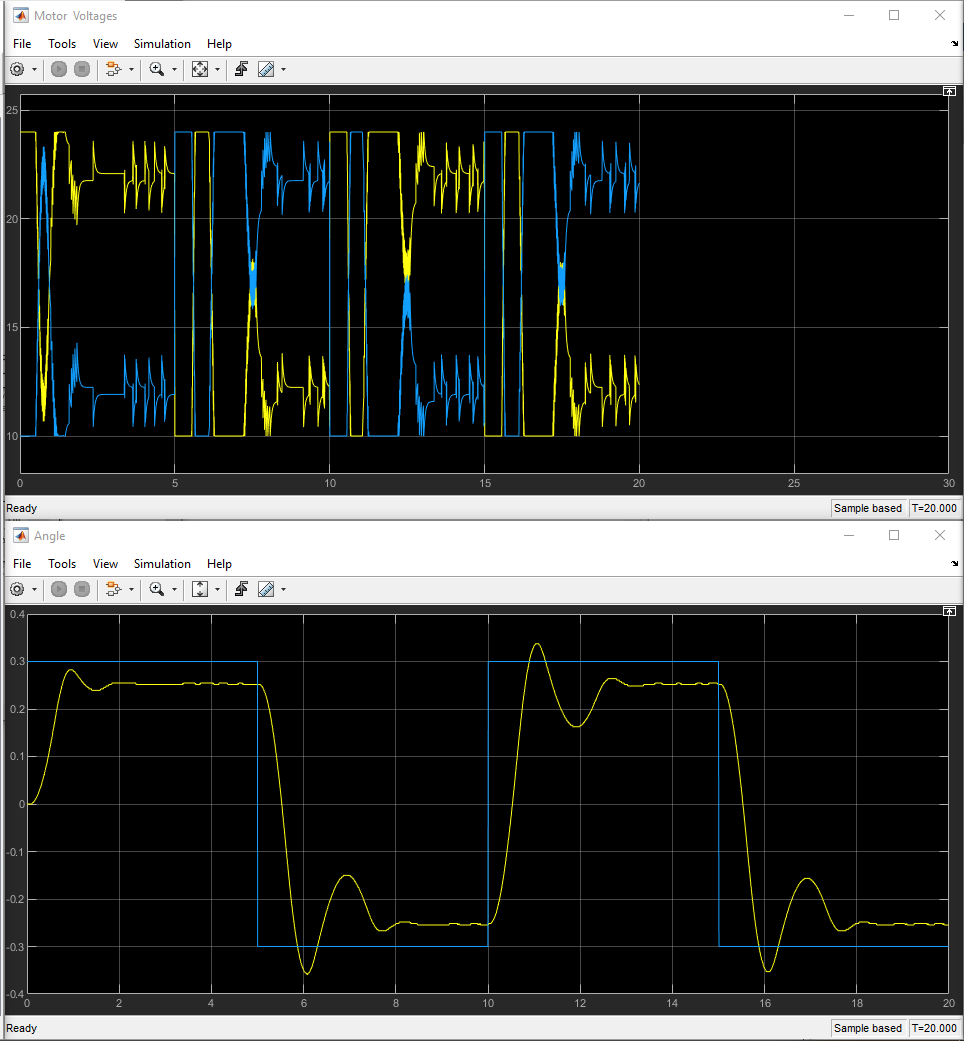


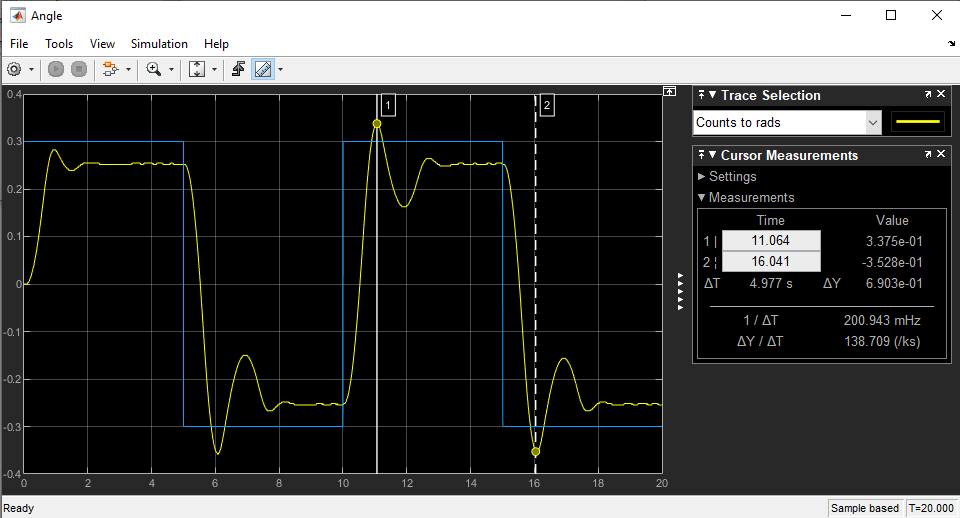








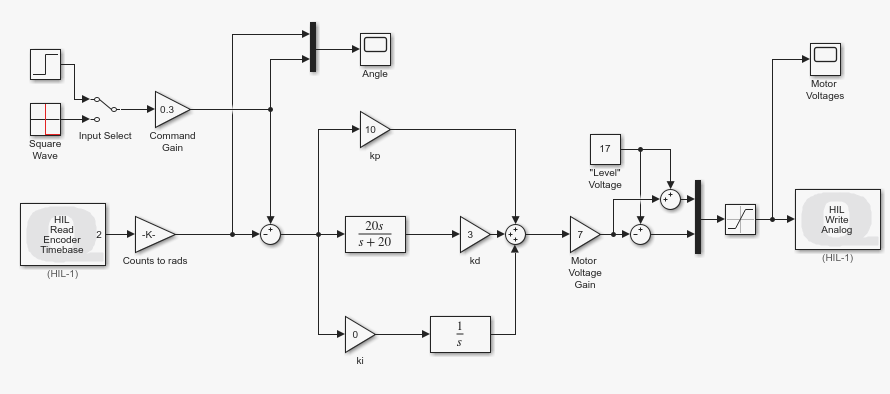


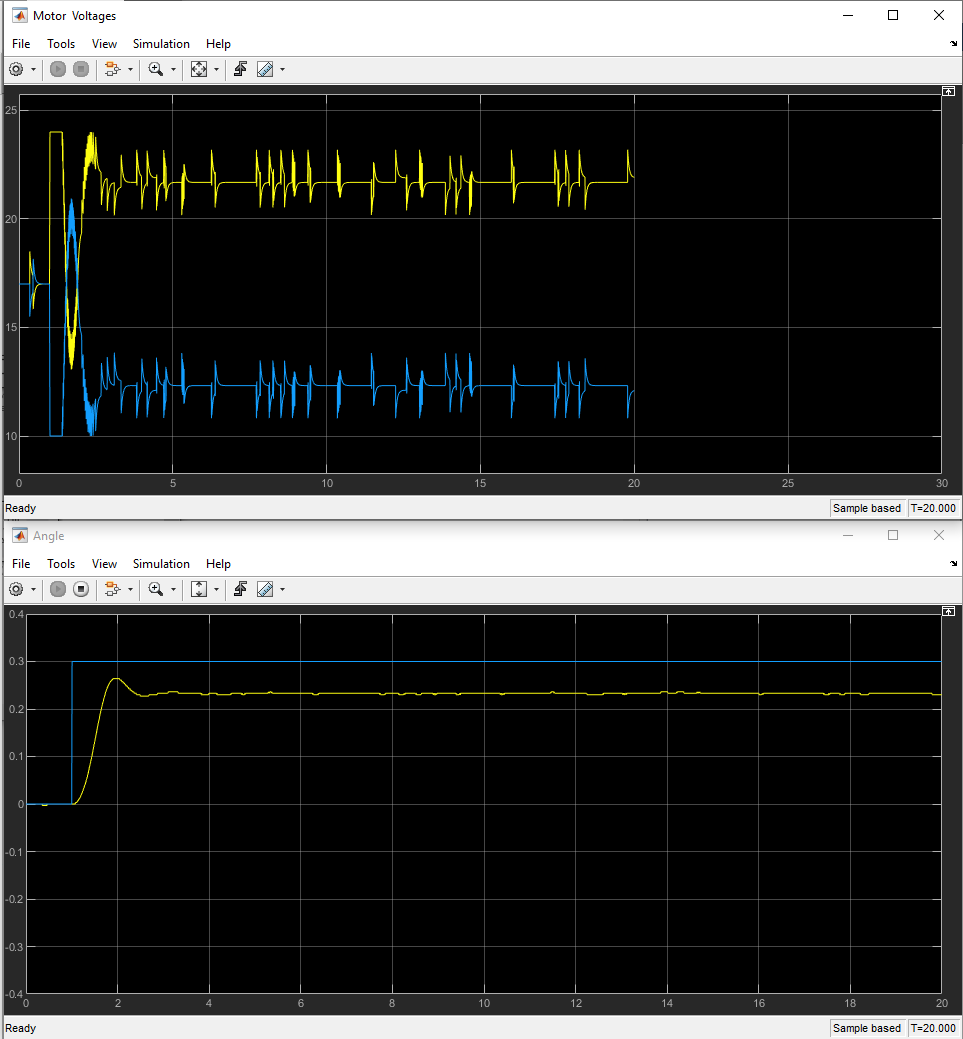


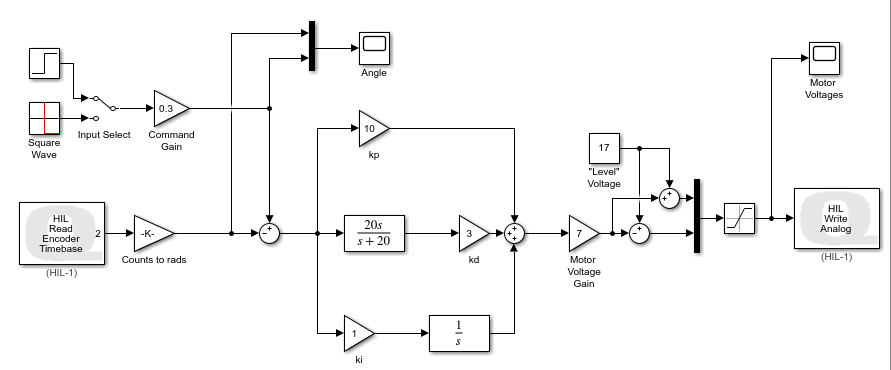
As we can see for , we are very close to the the desire value, we have reached 3.375e-01.

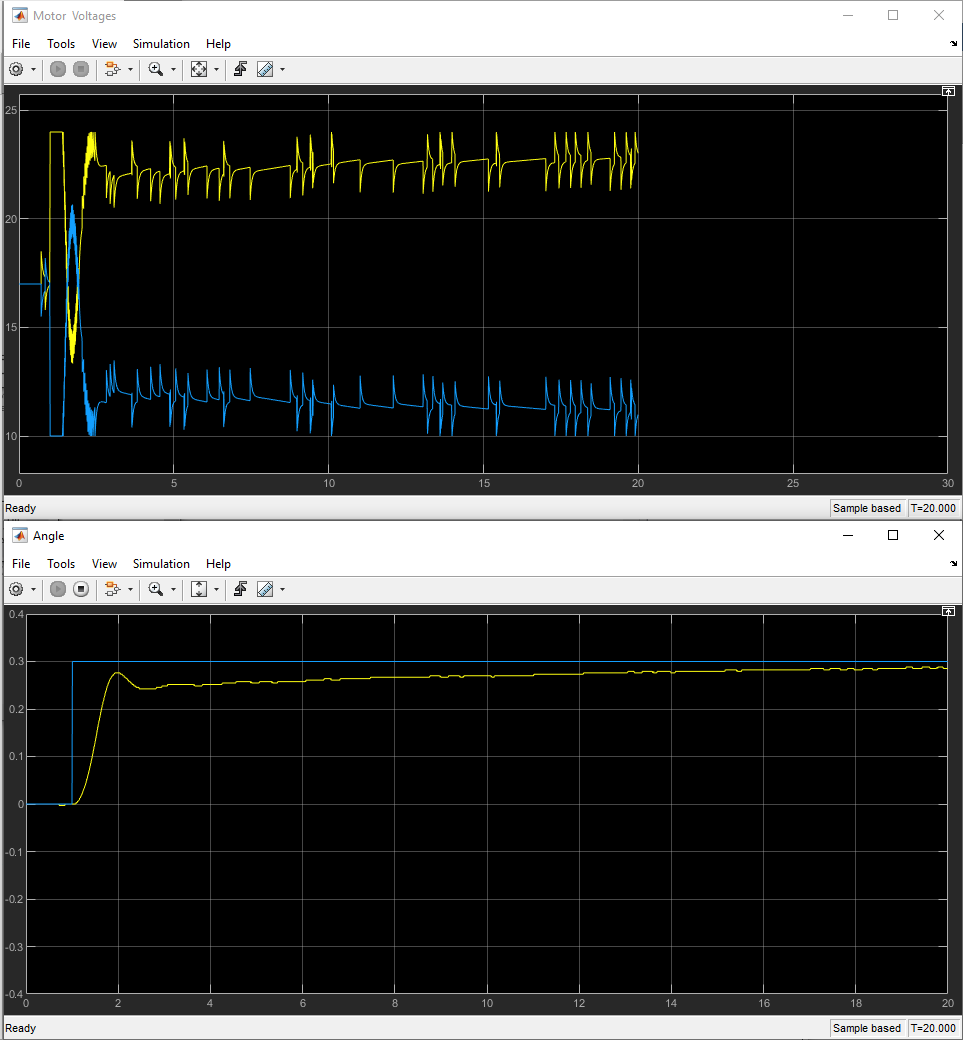
2.3

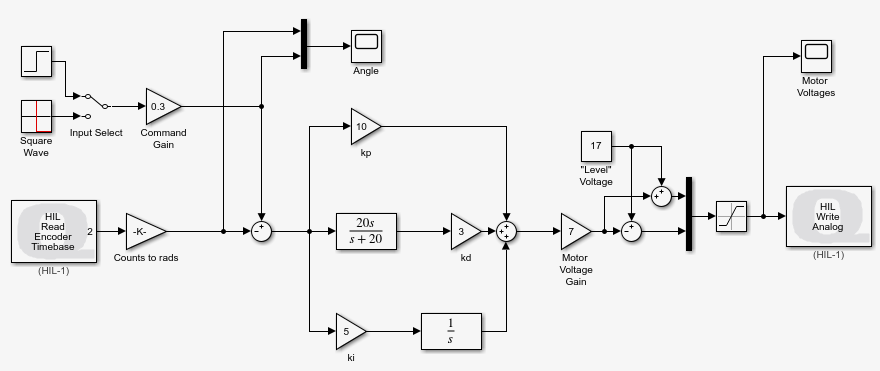
1.

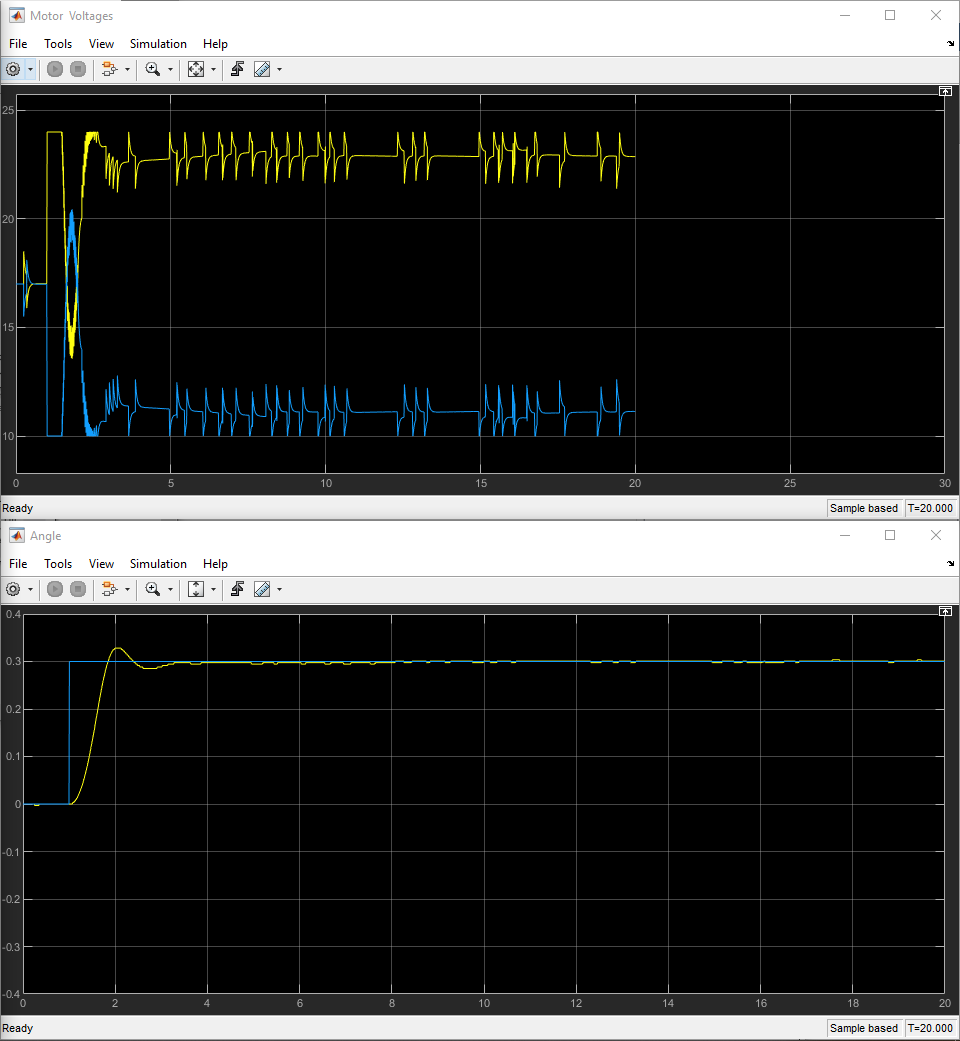


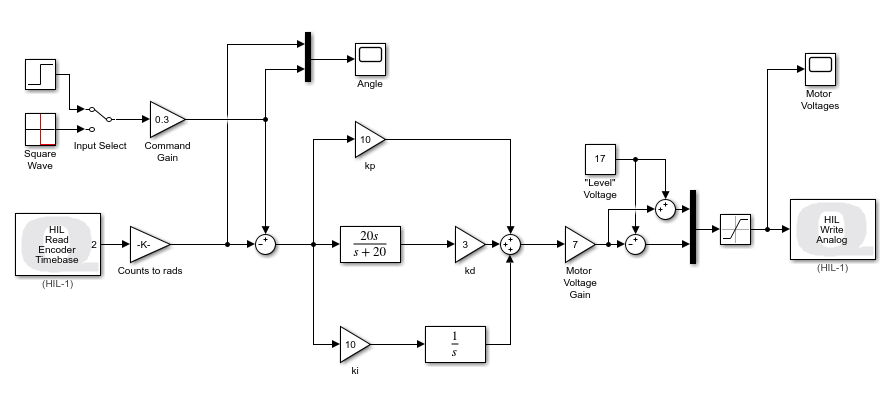


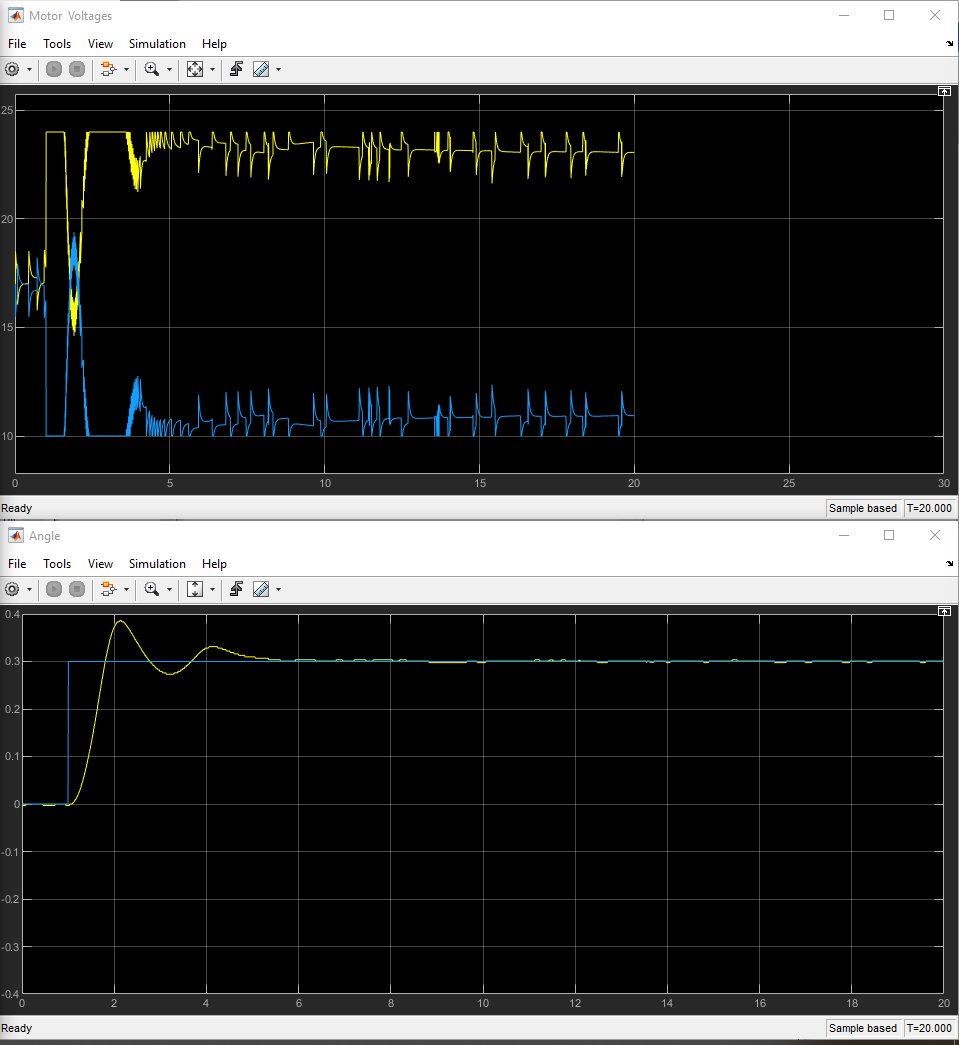


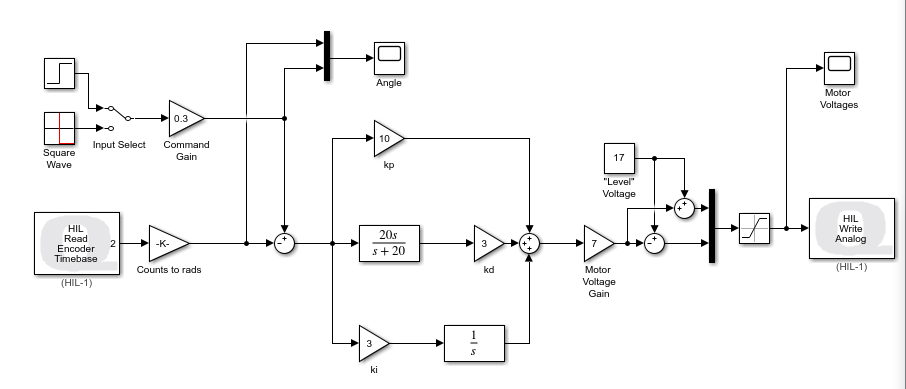


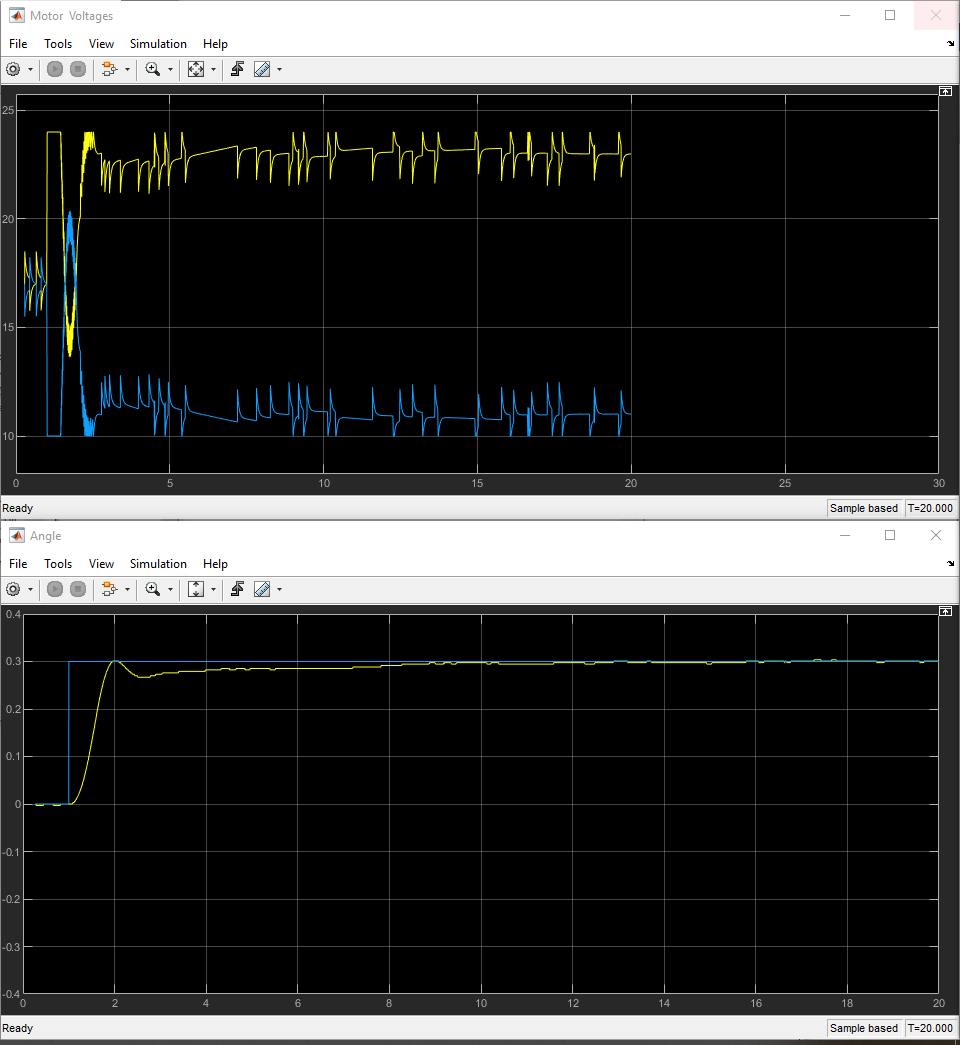


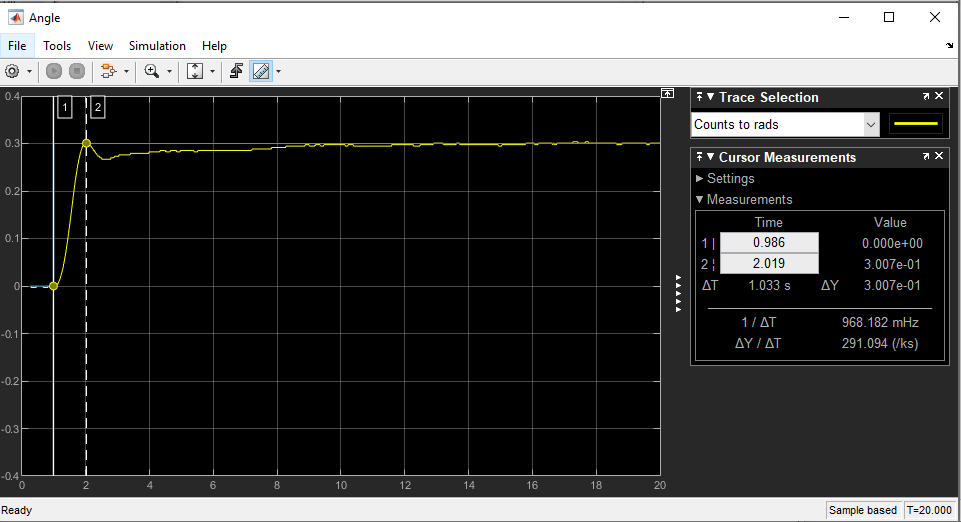












2.4

Satisfies the requirements.