Model Development for the Control of the motor

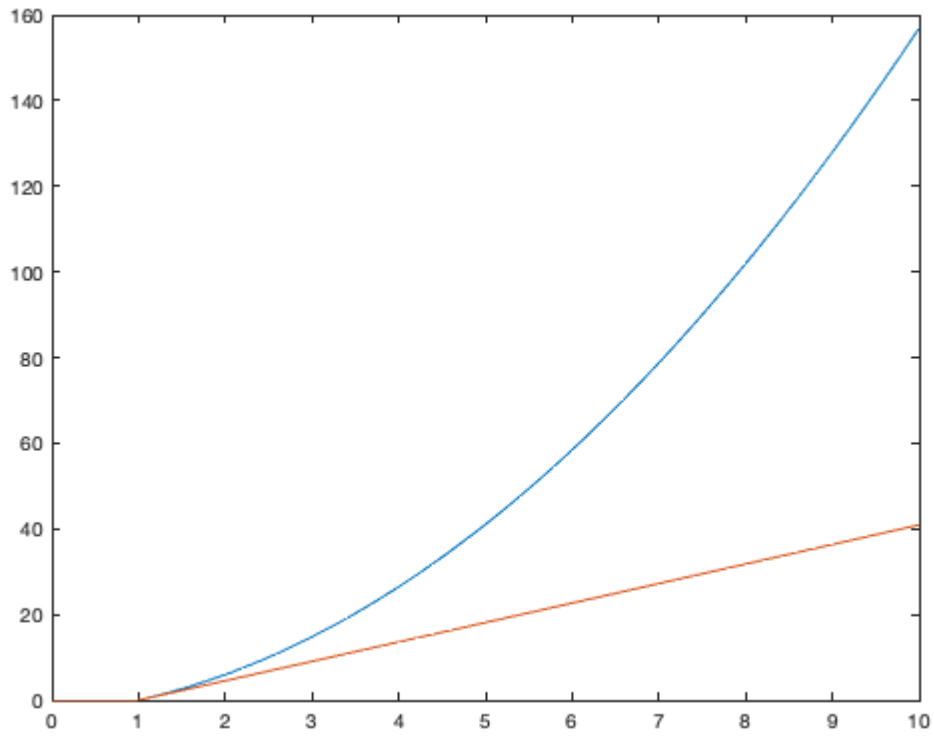
The motor control method was fairly straightforward. The model of an open loop and a closed loop was created with a 7 volt step input in mind. This once implimented in the arduino was tuned and the final values of kp and ki where found.

Contents

The Following is the ouput of the open loop response

The open loop stem can be used when a voltage is needed as an input. However this is not increadibly useful in this prject as we ulitmately need the output from the input of a rasberry pi command . Blue = simulated . Orange = real tuned controller

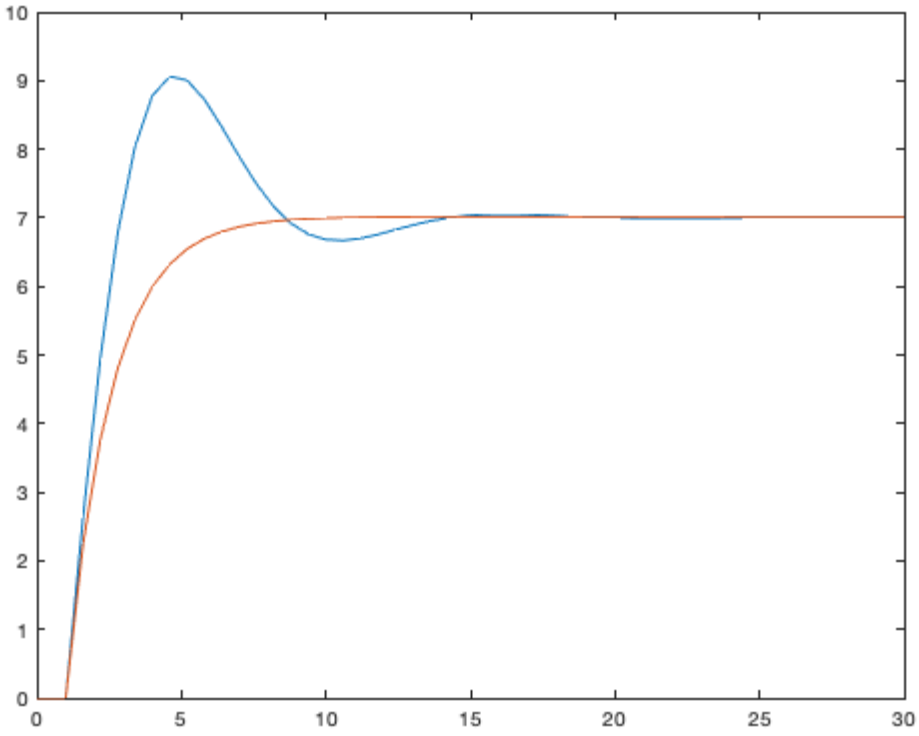
```
run('openloop.m')
```



The following is the output of the closed loop response

The closed loop response was ultimatly used as it was neccesary to impliment given the input of the rasberry pi. . Blue = final simulated value . Orange = final experimental

```
run('parameters.m')
```



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