

Postlab 07 (PID Motor Controller)

1. What gain parameters did you end up using for your PI controller?

The gain parameters that were used was the 2:1 ratio for the encoder count, the RPM is 0.5 encoder count, and the interrupt period is 37.5 ms (for 37500 timer ticks).

- Describe the response of the system to speed changes.

The ARR is 18750, which is obtained from (timer ticks)/2.

The response of the system to speed changes is that it gradually increases speed until it gets to the target RPM. Depending on the K_p and K_i the oscillations will be strong or weak. By using a derivative to control the oscillations the PID motor controller will make the accuracy better.