The problem involves building a H-I-L simulation with a DC motor as a software plant, and a proportional control algorithm running on the Arduino. The process is expected to run in real time. Which means that a delay should not be used. The suggestion is to use IRQ software interrupts.

The proportional control algorithm will have to be written with the current firmware.

The reason a interrupt needs to be used is that it is event based instead of delay, which is time based.

The function suggested for usage is SIGALRM. However, using that function carries its own set of problems which are currently being broached.