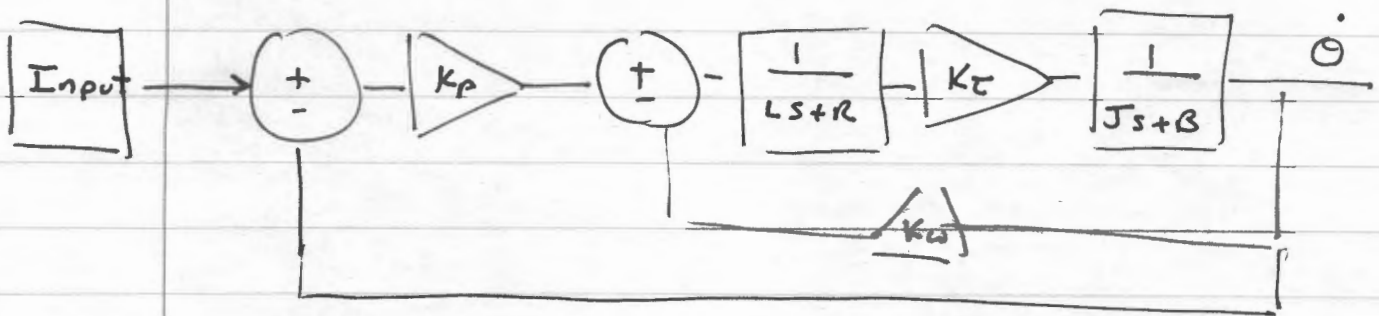


Homework 1

Develop a simulink Model



Use data for RE40, 24V motor
 L, R, K_t, J, B, K_w

Pick K_p to be 1, 2, 5, 10 $V/rad/s$

Input 1

0 rad/s	$4000 \left(\frac{2\pi}{60} \right) \text{ rad/s}$
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Input 2 $\dot{\theta}_d = (4000) \frac{2\pi}{60} + 1000 \left(\frac{2\pi}{60} \right) \sin(2\pi 3t)$

2. Submit a word document/Pdf with
8 Pdf plots

plot(time, $\dot{\theta}$, time, $\dot{\theta}_{des}$, 'r--')

Typical Problems

- ① Simulink is Case Sensitive
- ② Cannot put spaces in variable names
- ③ Under Simulation \rightarrow Configuration Parameters
Solver: Max Step Size = .001
Absolute Tolerance = .001

Data Input/Export

"Unclick limit data points

- ④ To the Workspace Blocks

Save format \rightarrow array