Master study
Systems and Control Engineering
Department of Technology
Telemark University College
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SCE1106 Control Theory

Exercise 2b

Task 1

Given a process described by a first order model

$$y = h_p u \tag{1}$$

where

$$h_p(s) = 0.5\frac{1}{1+5s} \tag{2}$$

1. Find a controller, $h_c(s)$, such that the closed loop response from reference, r, to the output, y, is given by

$$\frac{y}{r} = \frac{1}{1+2s} \tag{3}$$

2. What type of controller is this?

3. Simulate the closed loop system after a unit step in the reference signal. Use Matlab