Computer Exercise 3  
EL2520 Control Theory and Practice

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# Suppression of disturbances

The weight is

Figure 1: Simulation results with system G, using Ws

How much is the disturbance damped on the output? What amplification is required for a P-controller to get the same performance, and what are the disadvantages of such a controller?

# Robustness

What is the condition on T to guarantee stability according to the small gain theorem, and how can it be used to choose the weight ?

The weights are

Is the small gain theorem fulfilled?

Figure : Bode diagram showing the small gain theorem is satisfied

Figure : Simulation results with G0, using Ws and Wt

Compare the results to the previous simulation

# Control signal

The weights are

Figure : Simulation results

Compare the results to the previous simulations

Figure : Simulation results with G0, using Ws , Wt and Wu