

MATLAB LAB 1

Instructions:

- This can be done in groups of seven.
- ***Date due: Before start of end of semester examinations.***
- The exercise must be typed.
- Softcopy of the exercise to be send to my email.

Task

- a) Discuss the purpose of a lag compensator.
- b) Design a lag compensator (using frequency response techniques) for the system shown below that will improve the steady-state error tenfold, and operating with 20 % overshoot.

$$G(s) = \frac{190546.2}{s(s + 50)(s + 120)}$$

- Show all the calculations, Matlab codes and snap images of bode plots for each step.
- Show the closed loop step response of the compensated system.