Home Work #3

Ali BaniAsad 96108378

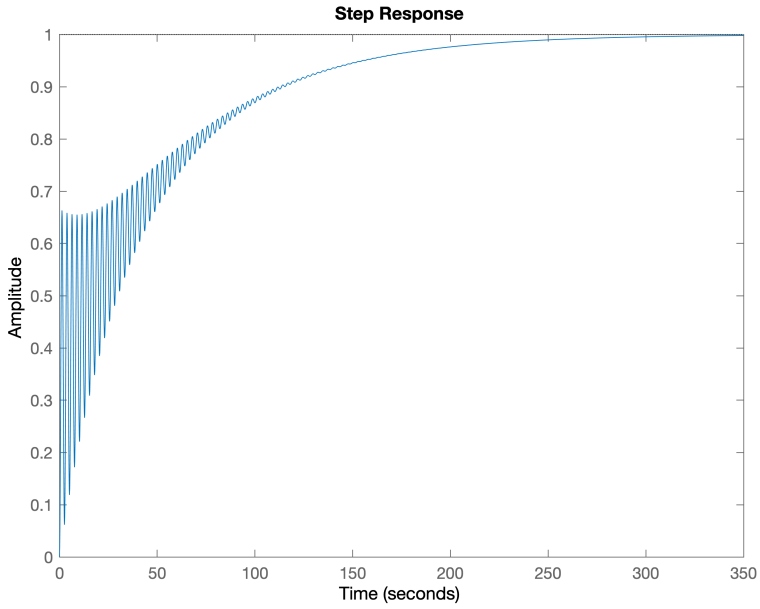
October 25, 2021

1 Question 1

From root locus we find out with add one real zero we change shape of root locus and with increasing gain system will be stable and without this zero when we increase gain system chgane better but in some where it goes unstable so with adding just one zero system will work fine and get problem require. For cancelling oscillation we use derivative controller.

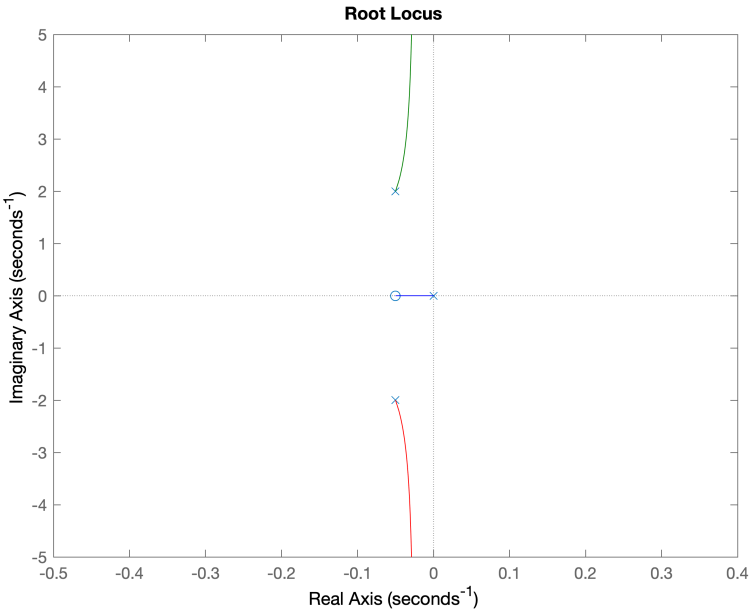
- system step responde

Figure 1: system step responde



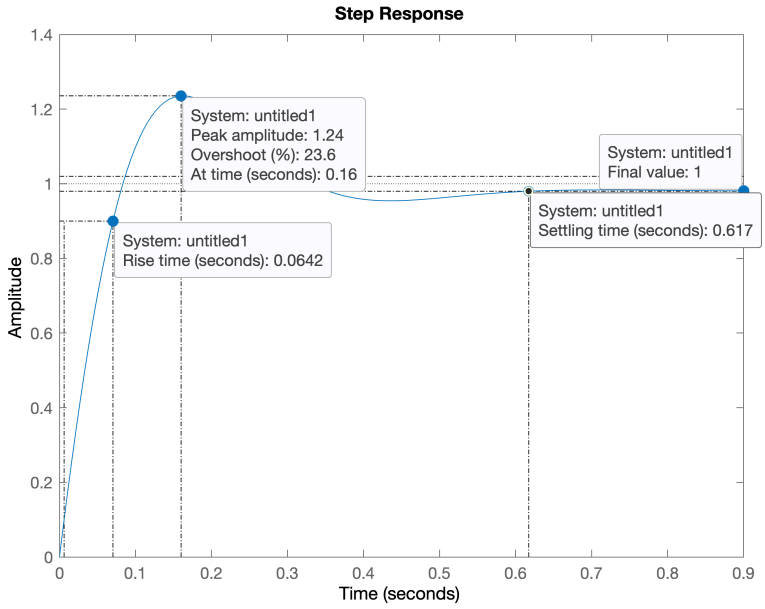
- system root locus

Figure 2: system root locus plot



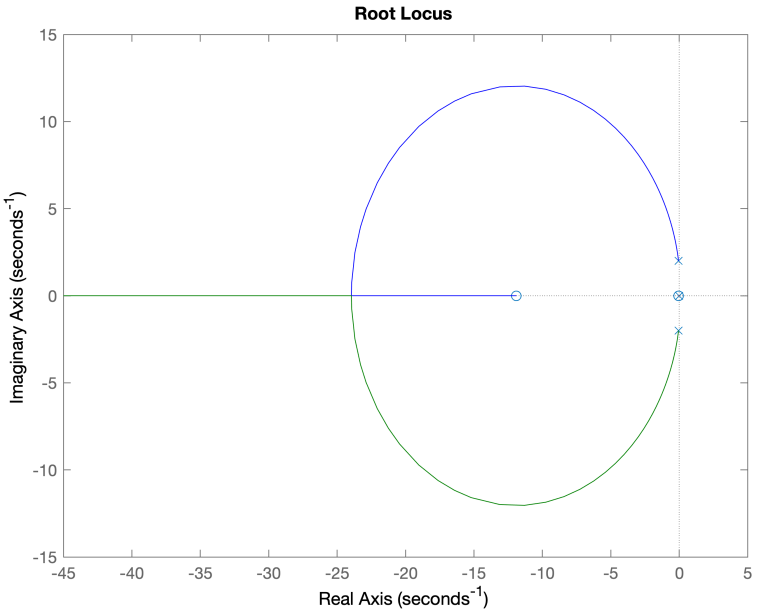
- system with controller step responde

Figure 3: system with controller step responde



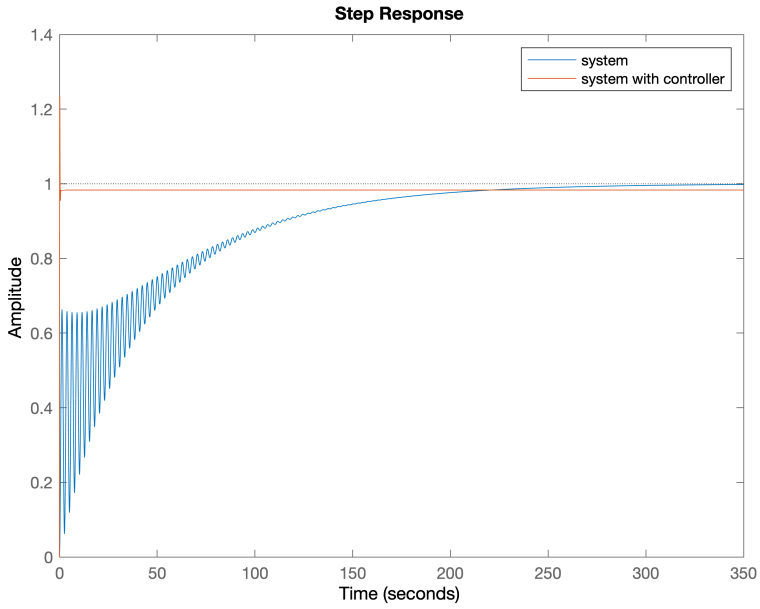
- system with controller root locus

Figure 4: system with controller root locus plot



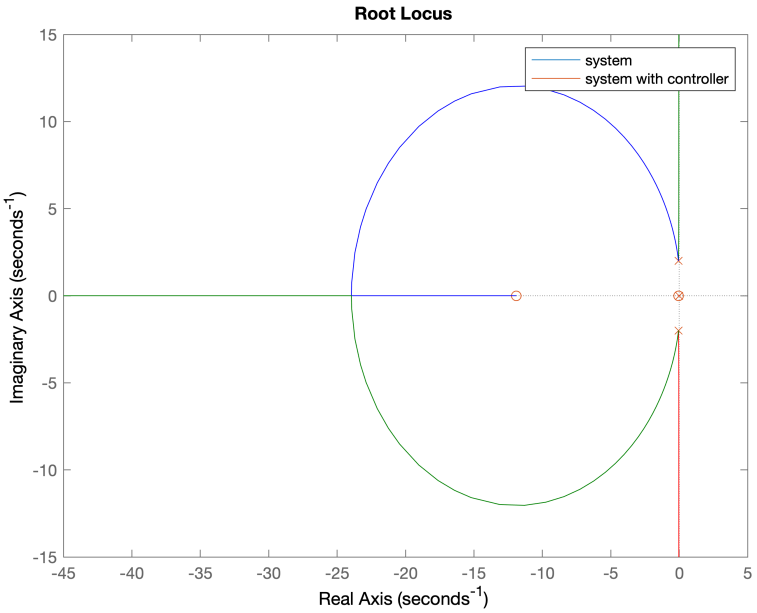
- system with and without controller step responde

Figure 5: system with and without controller step responde



- system with and without controller root locus

Figure 6: system with and withou controller root locus plot



Q2

Q3

Q4

Contents

List of Figures