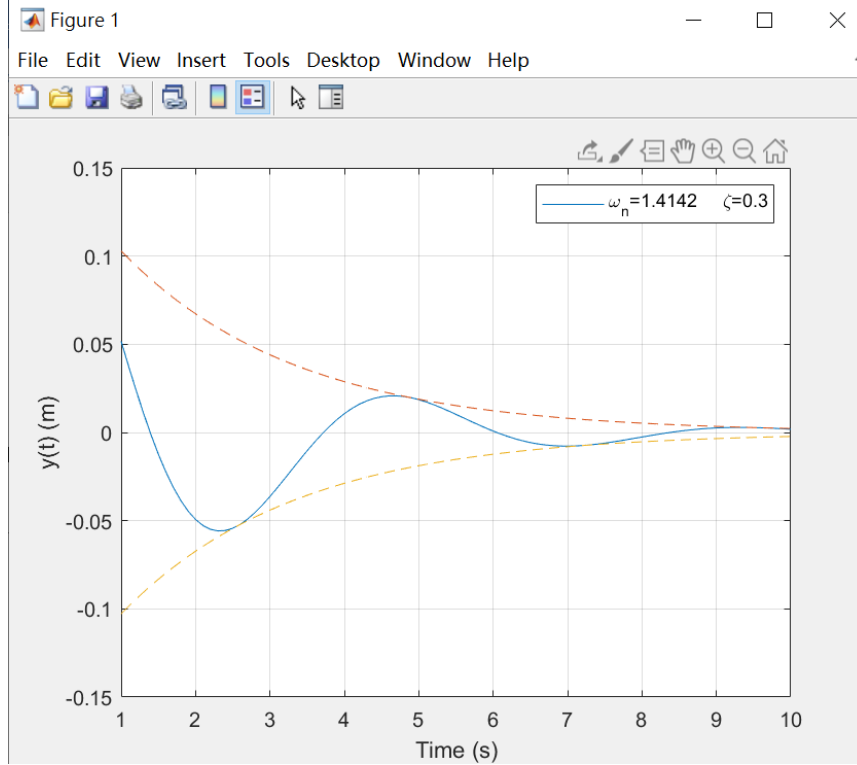


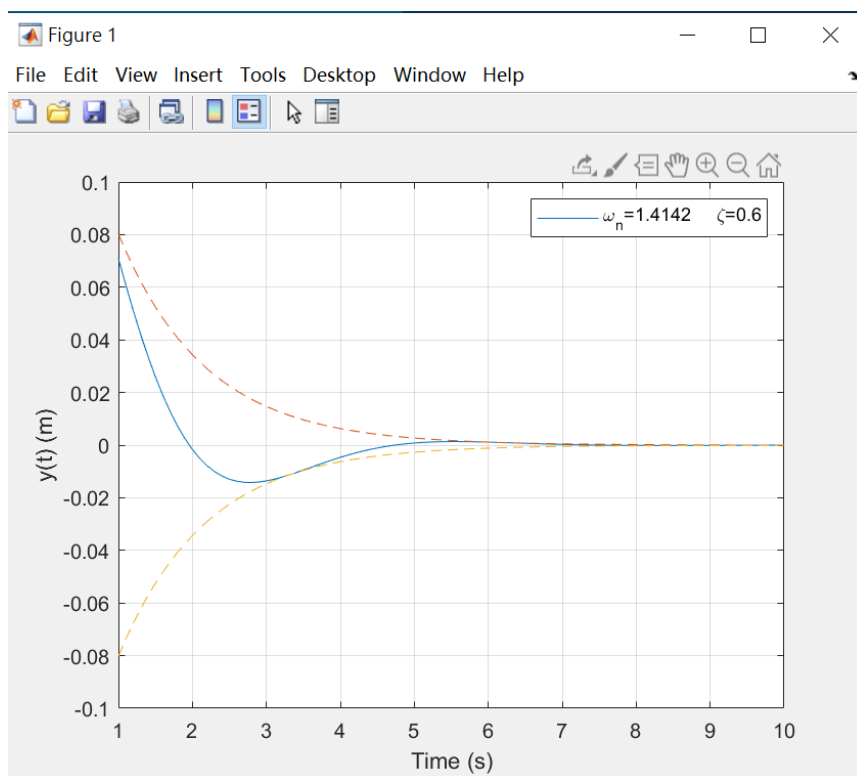
# 控制系統 HW2 106061226 施竣笙

1

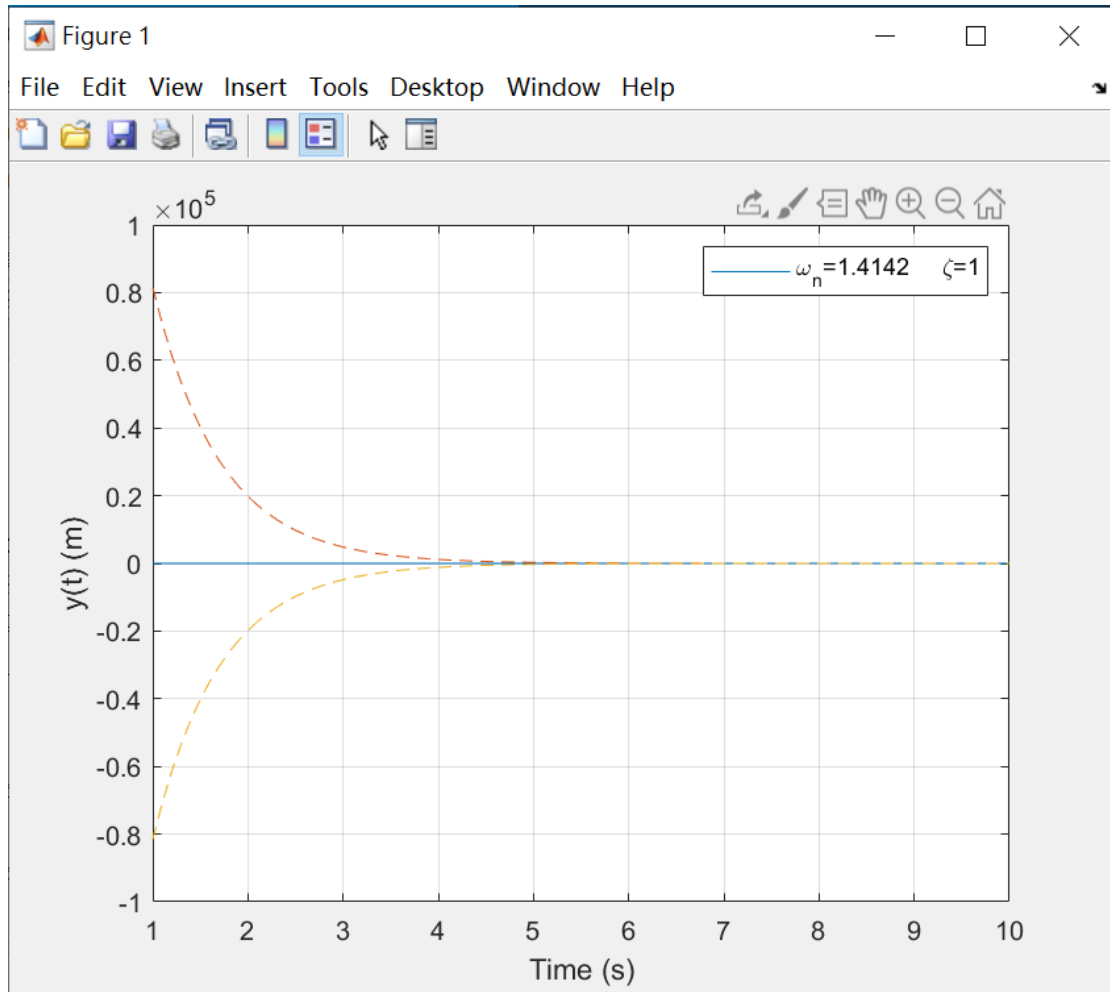
(1)  $\zeta = 0.3$



(2)  $\zeta = 0.6$



(3)  $\zeta = 1$  (matlab 使用近似值 0.999)



2

ANS:

sys\_final =

$$\frac{s^5 + 4 s^4 + 6 s^3 + 6 s^2 + 5 s + 2}{12 s^6 + 205 s^5 + 1066 s^4 + 2517 s^3 + 3128 s^2 + 2196 s + 712}$$

3

ANS:

sys\_final =

$$\frac{5400}{2 s^2 + 2.5 s + 5402}$$