

## Trabalho 1

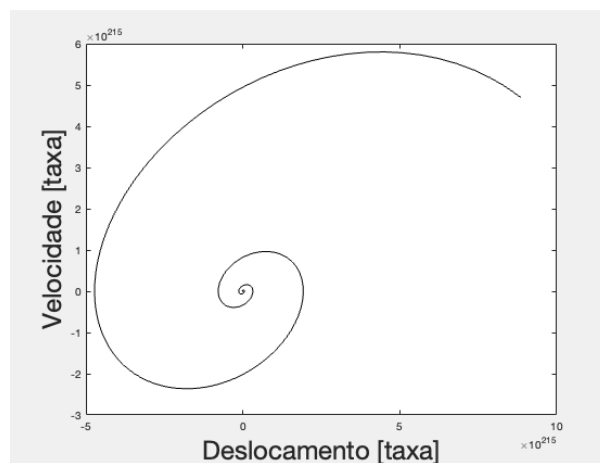
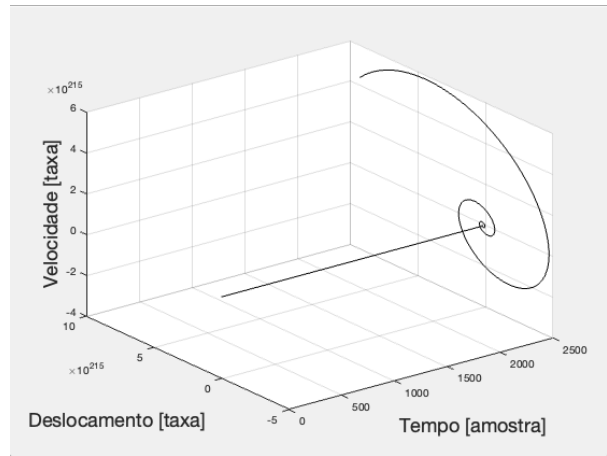
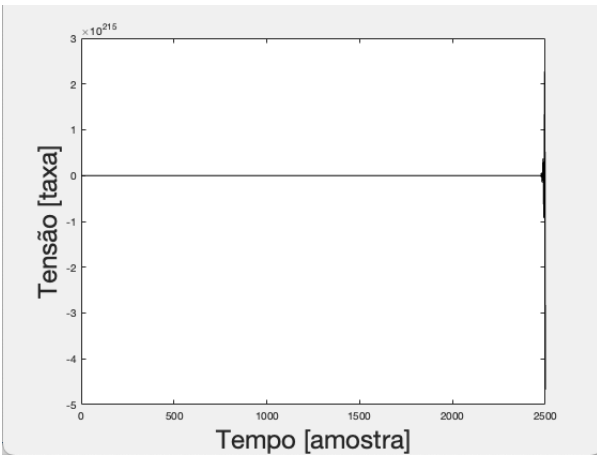
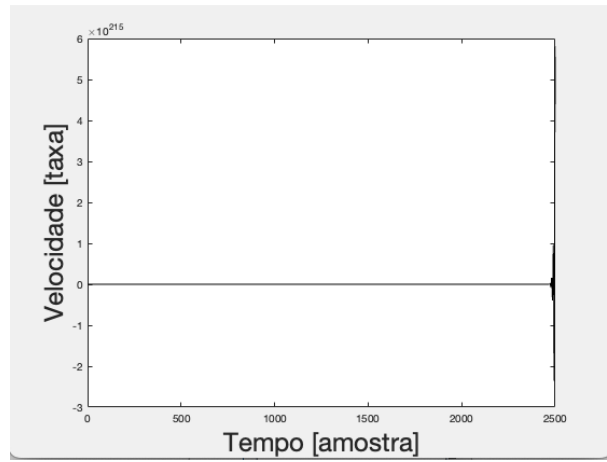
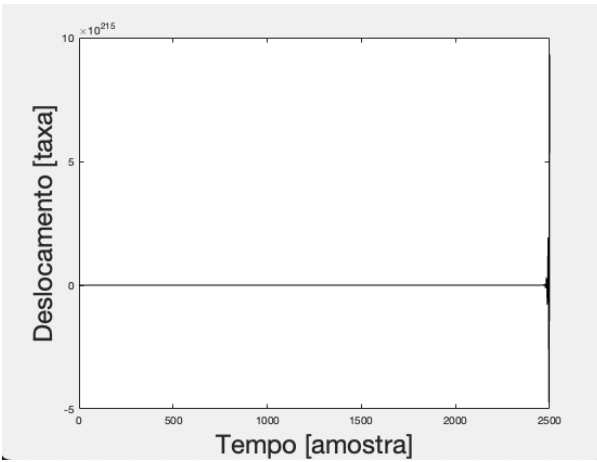
Faça mudanças nos parâmetros (modifique três vezes de formas diferentes) e verifique o comportamento do sistema dinâmico apresentado.

$$\ddot{x} = -\frac{1}{2}x - 2\zeta\dot{x} + \chi v + f \cos \Omega t$$

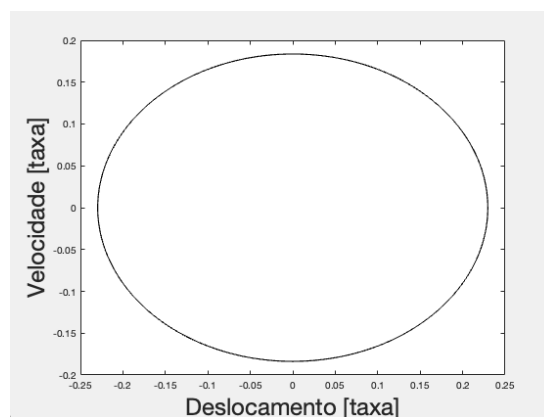
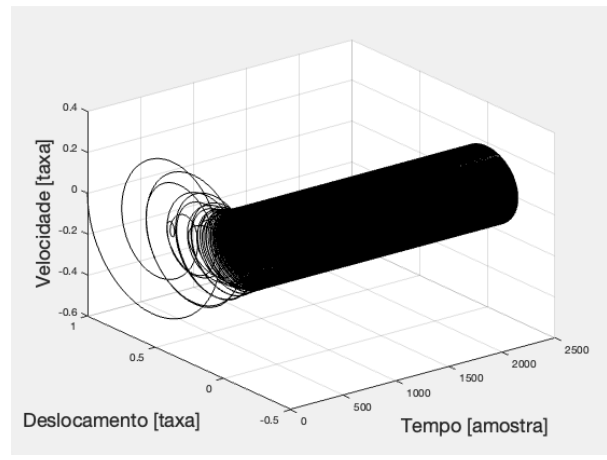
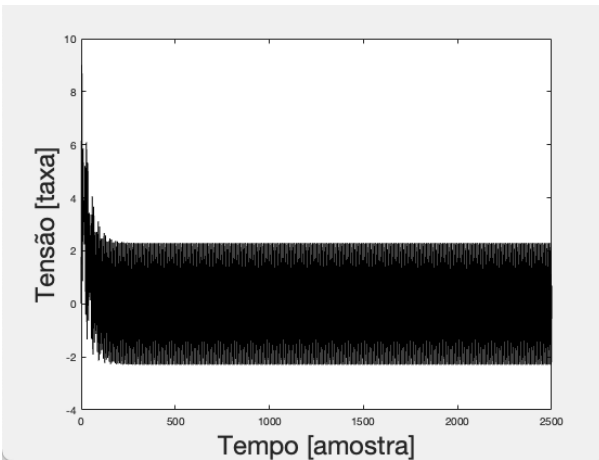
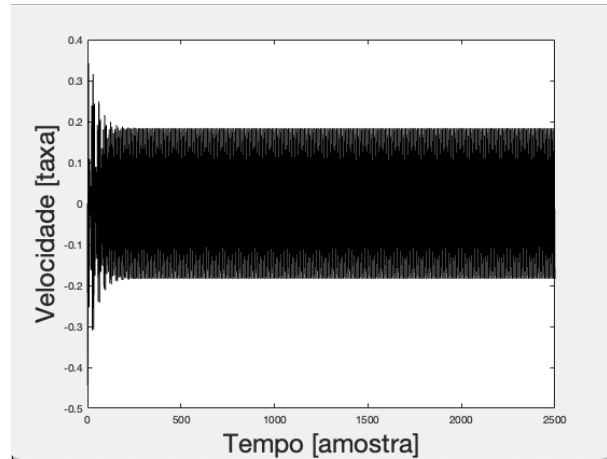
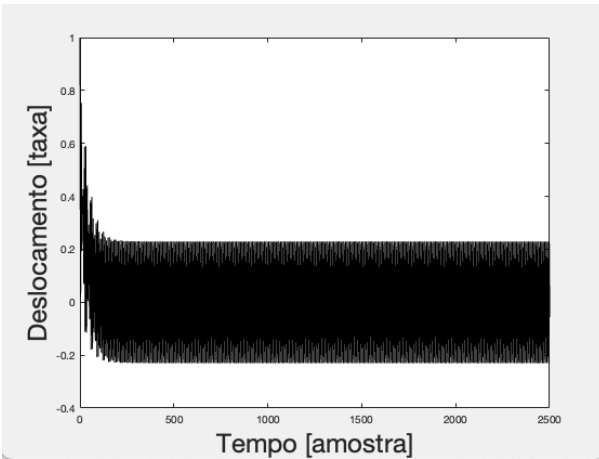
$$\dot{v} = -\kappa\dot{x} - \Lambda v$$

1ª Modificação: Parâmetro  $c$  (fator de amortecimento mecânico)

de 0.01 para -0.2



2ª Modificação: Parâmetro  $\kappa$  (acoplamento piezoelétrico na equação elétrica)  
de 0.5 para 10



3ª Modificação: Parâmetro  $f$  (força de aceleração)

de 0.083 para 50

