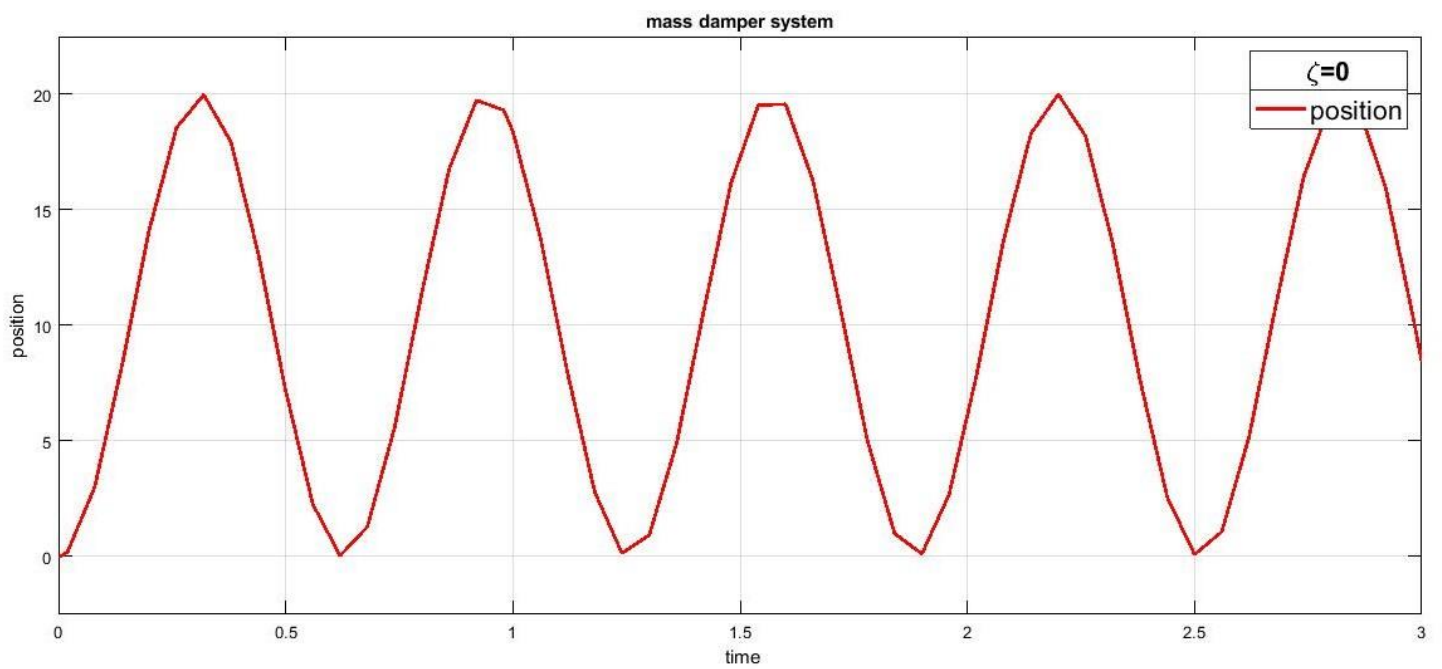
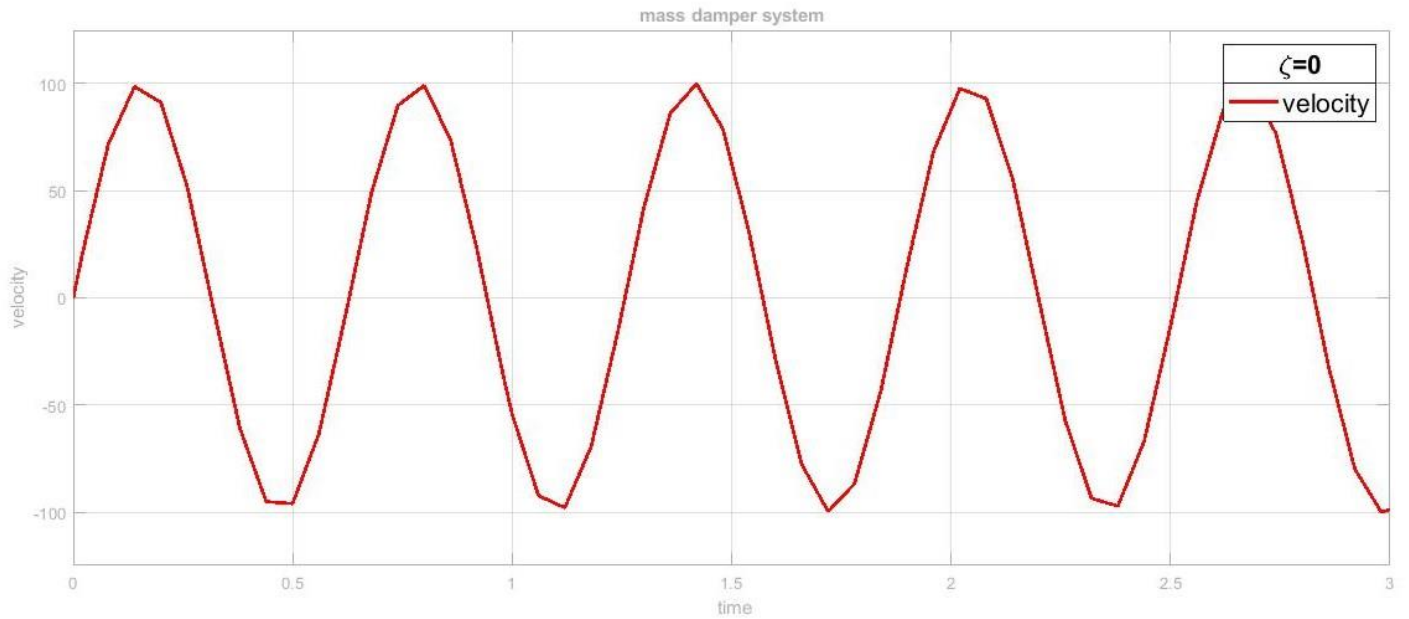
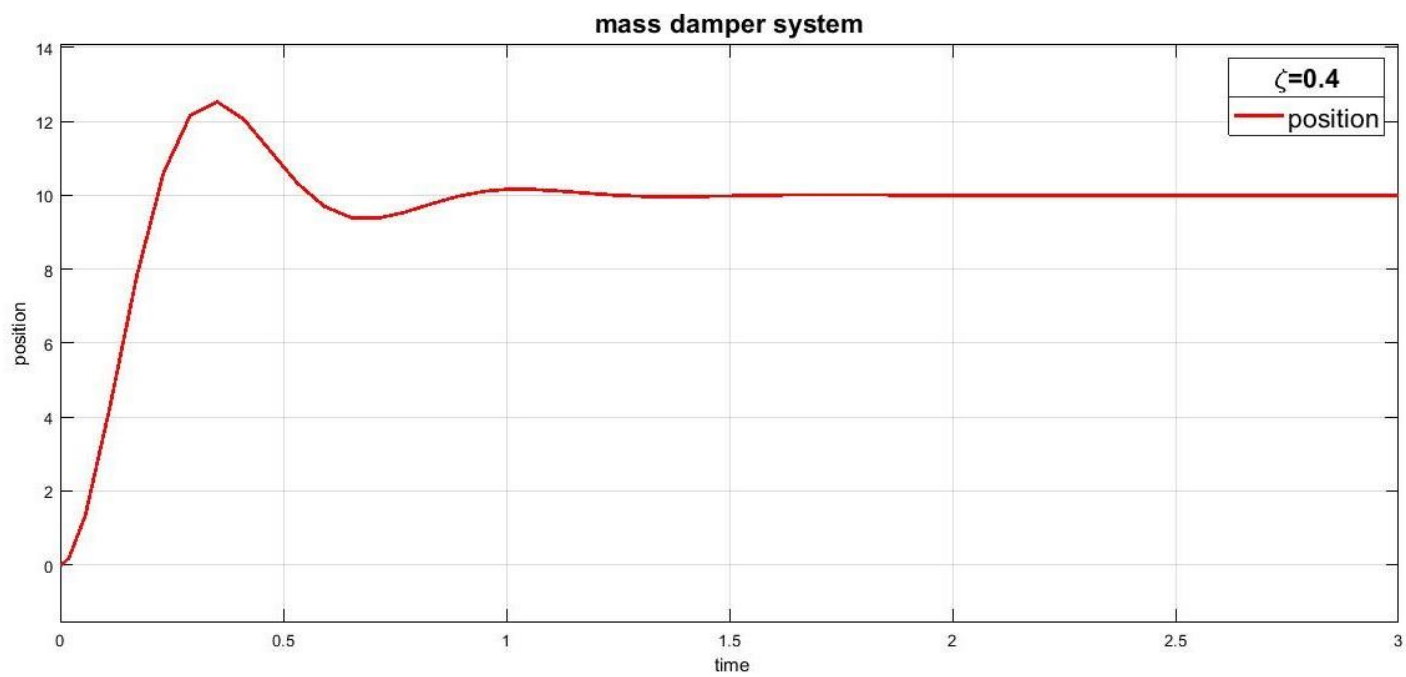
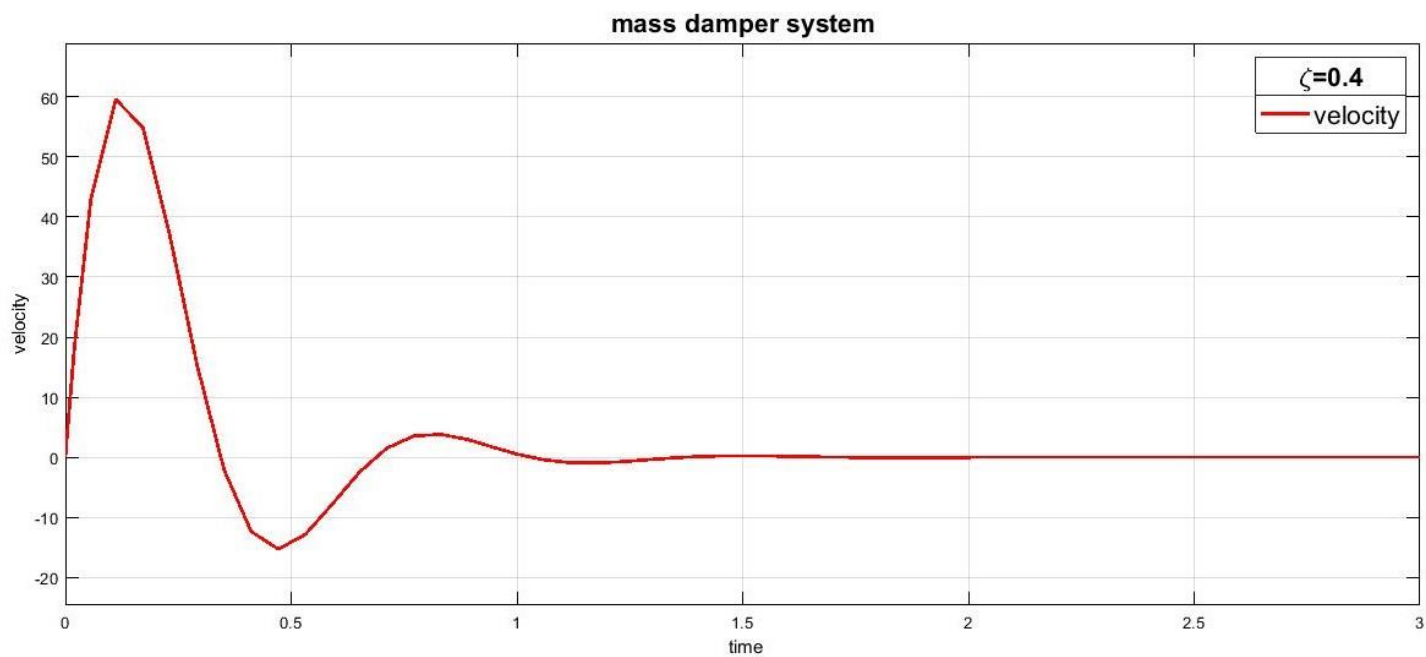


Case 1: Unforced system and initial deformation is  $-10$  m

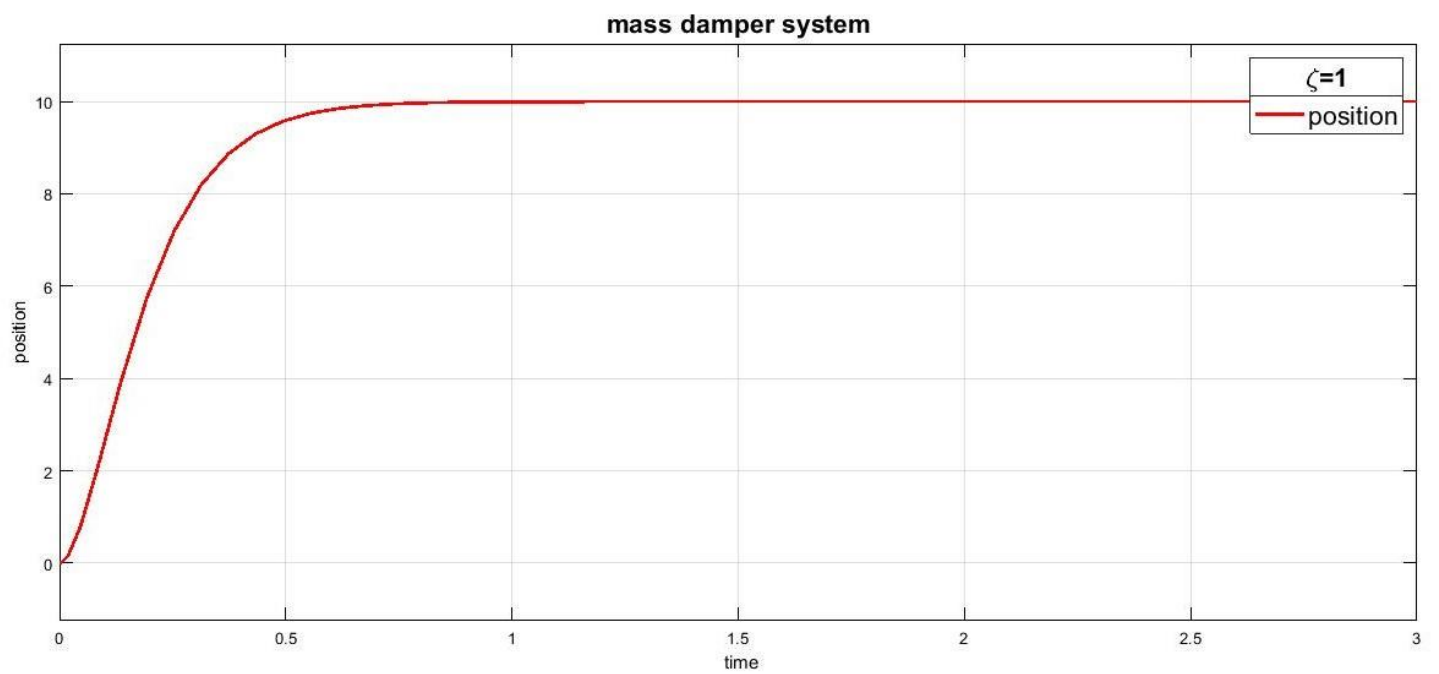
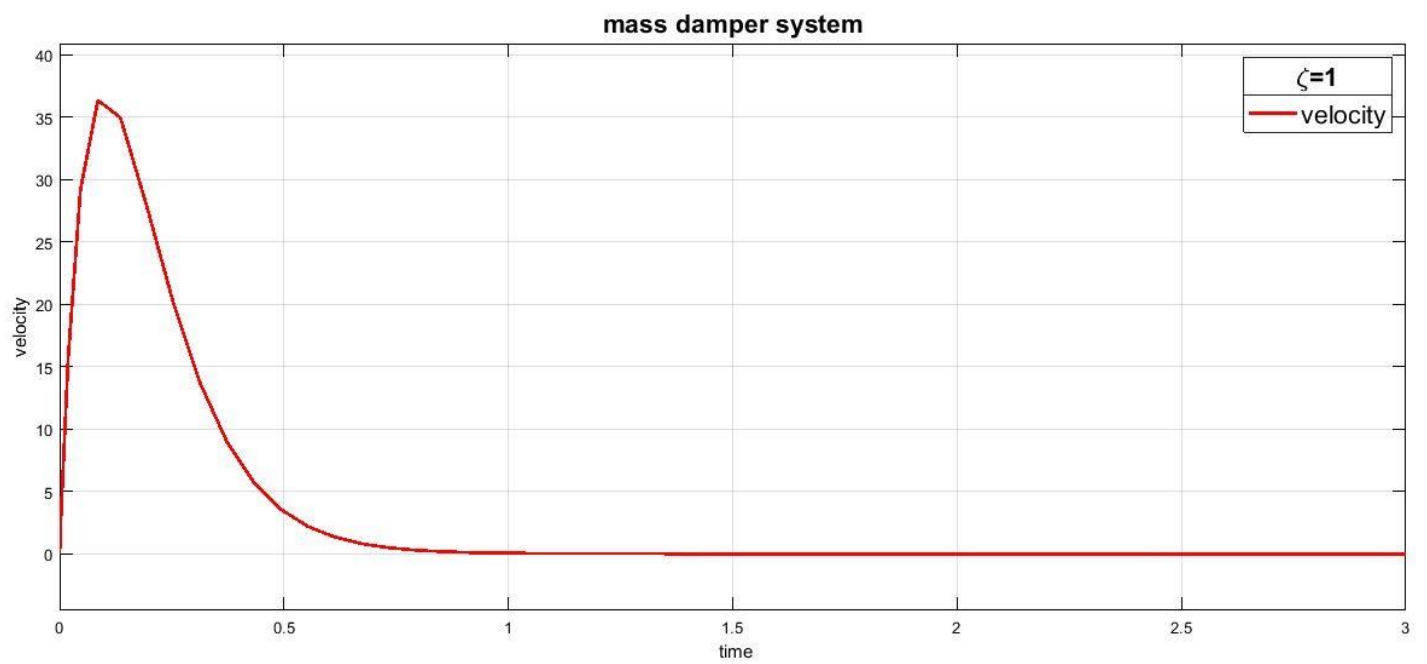
1.  $\zeta = 0$



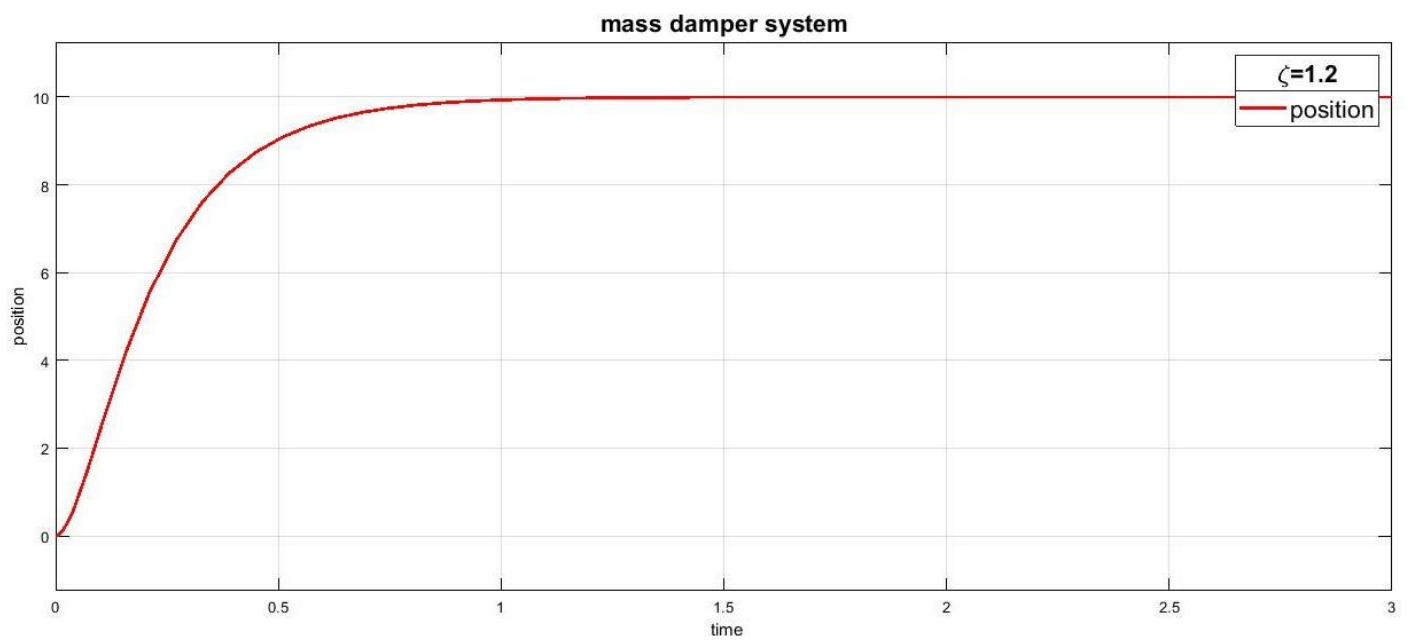
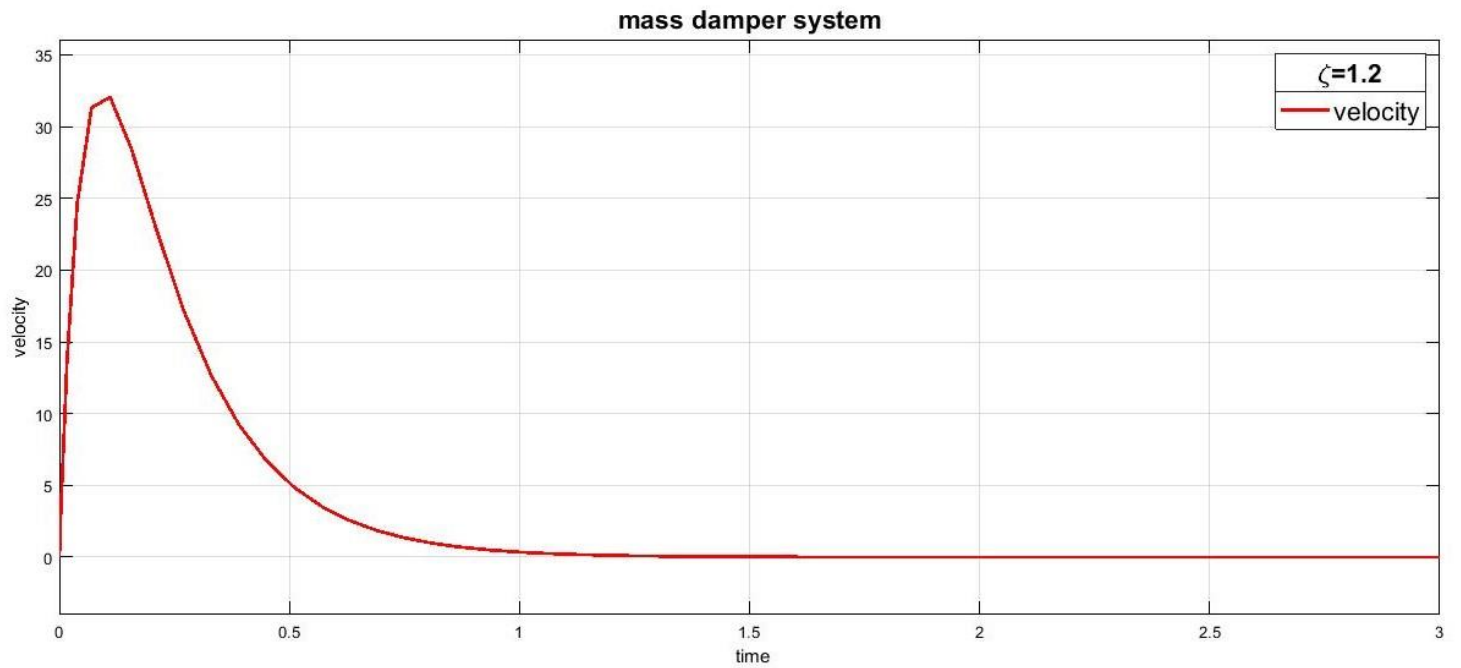
2.  $\zeta = 0.4$



3.  $\zeta = 1$

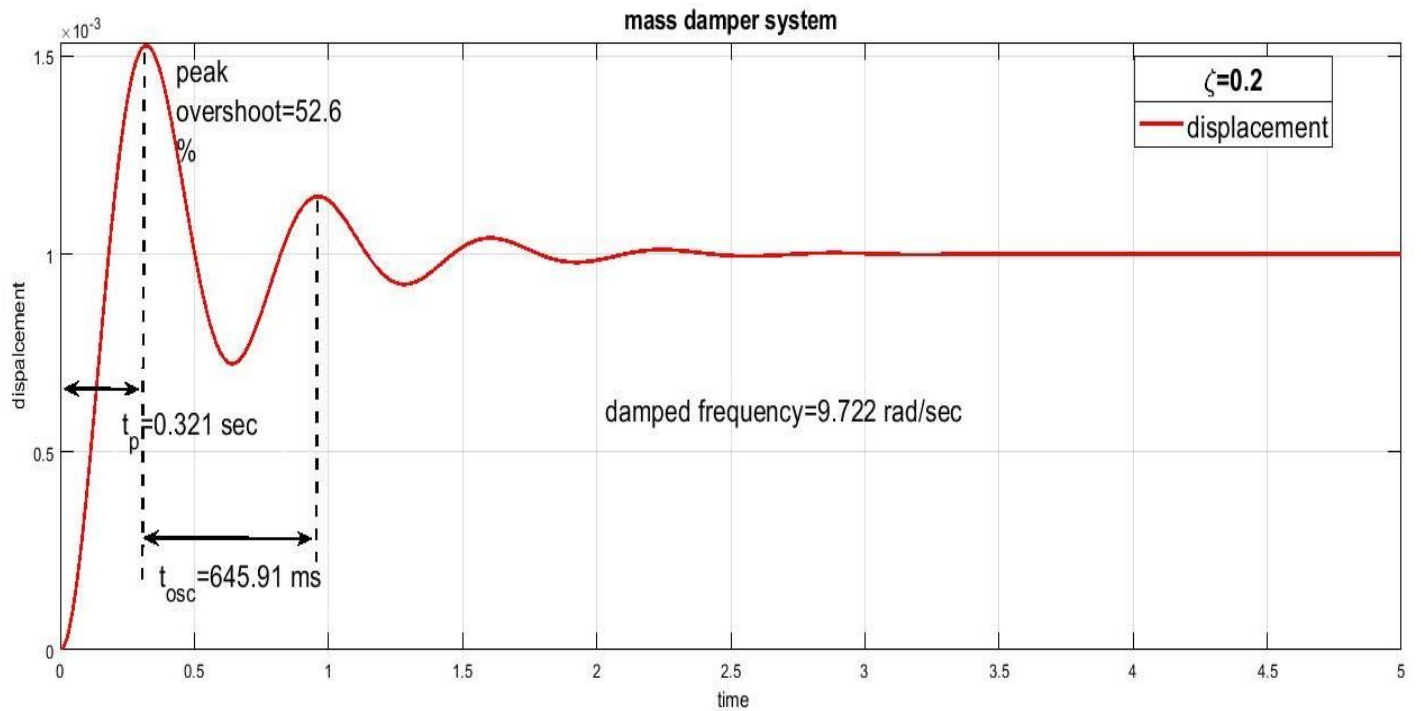
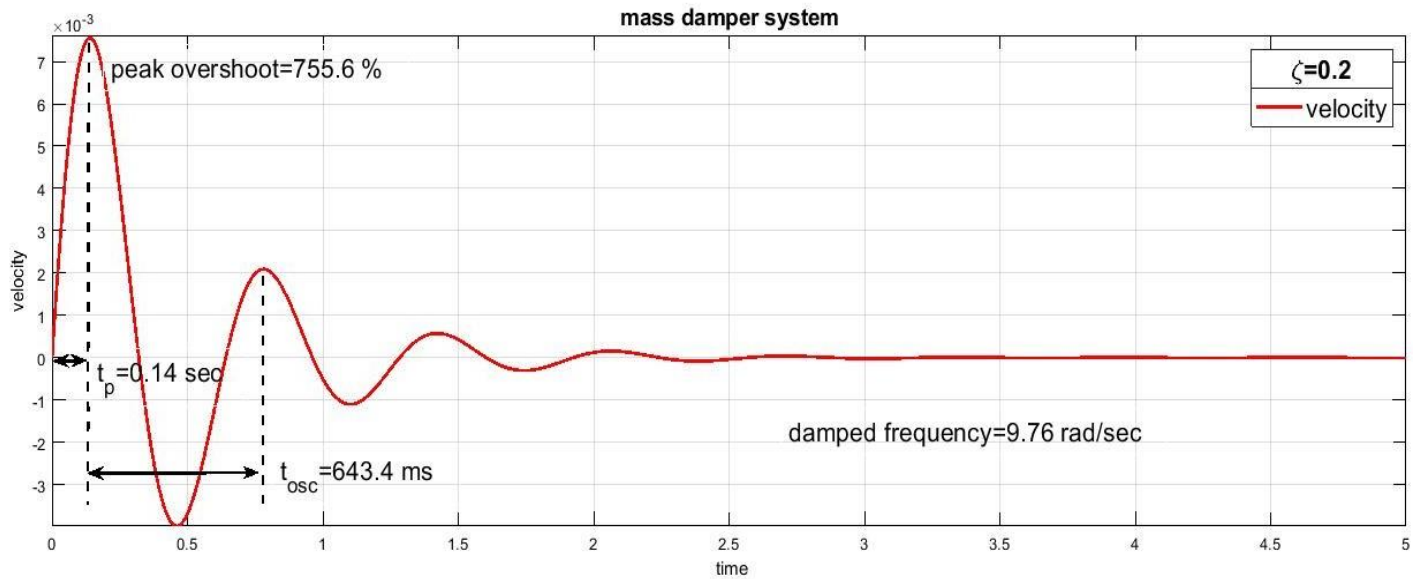


4.  $\zeta = 1.2$

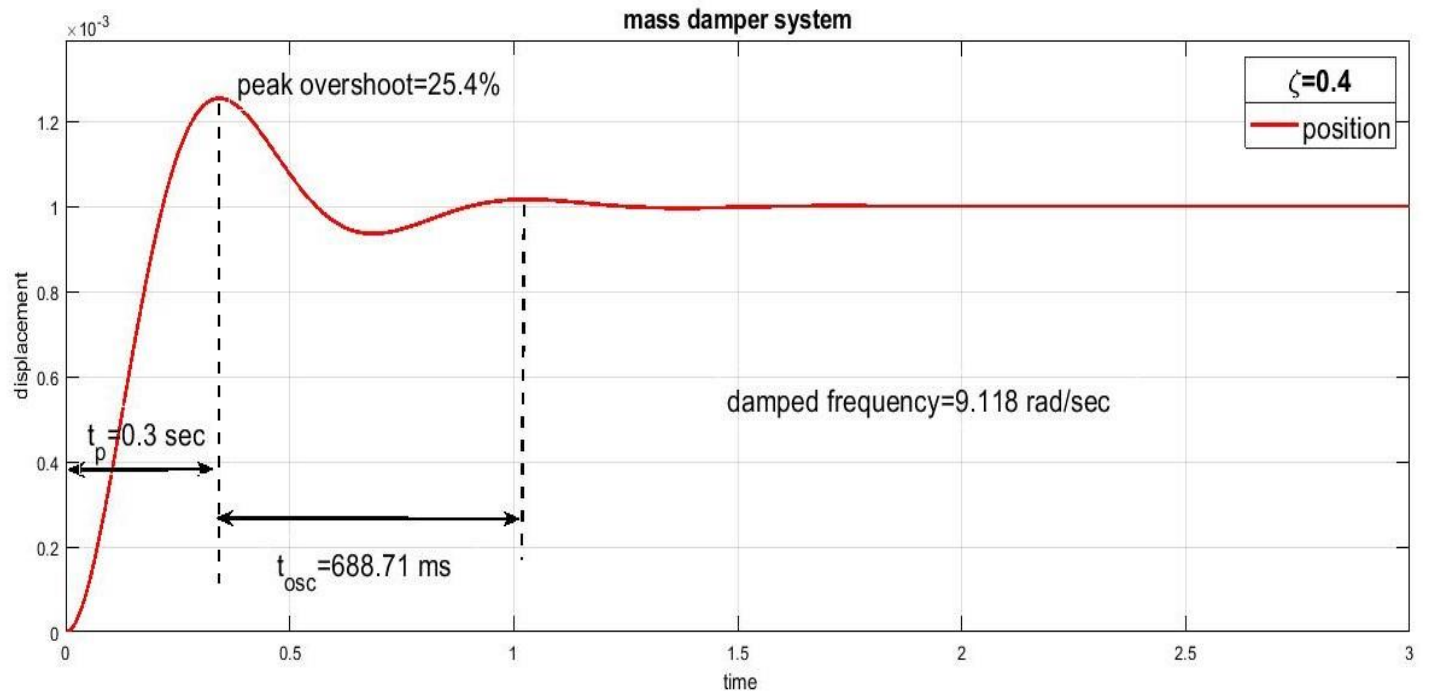
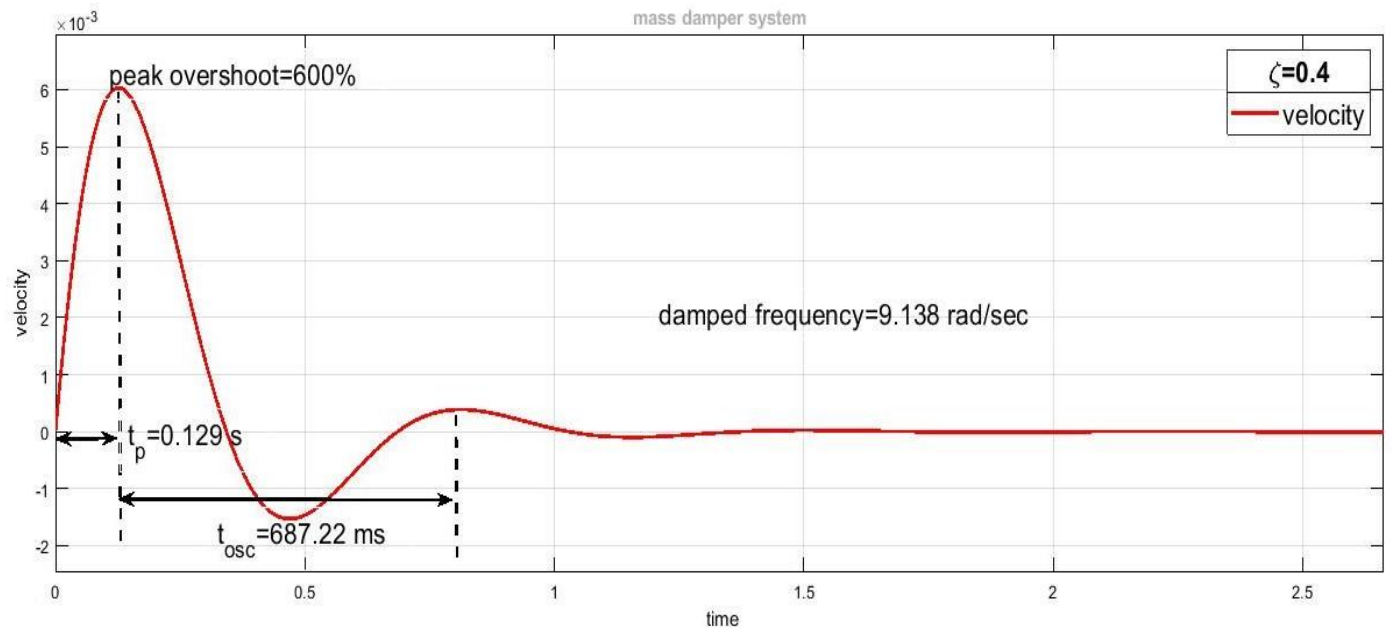


## Case2: Forced system (no initial deformation and input in step signal)

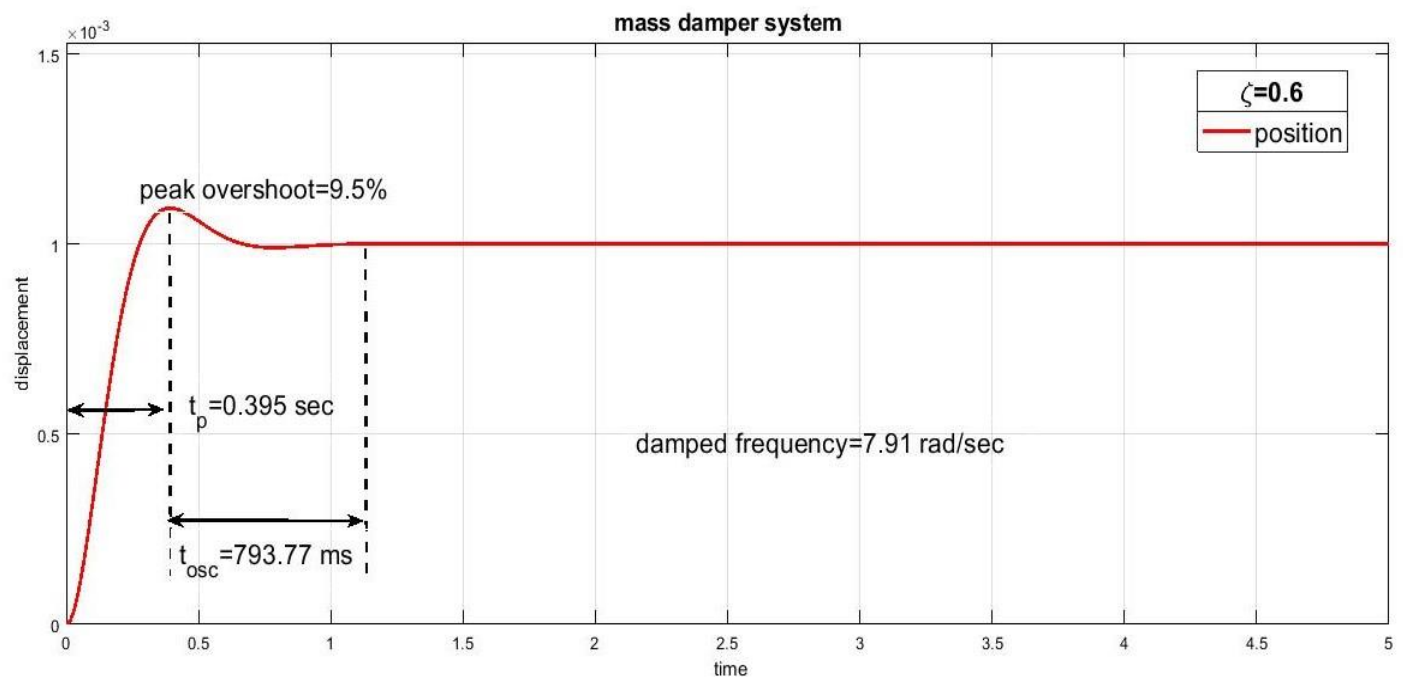
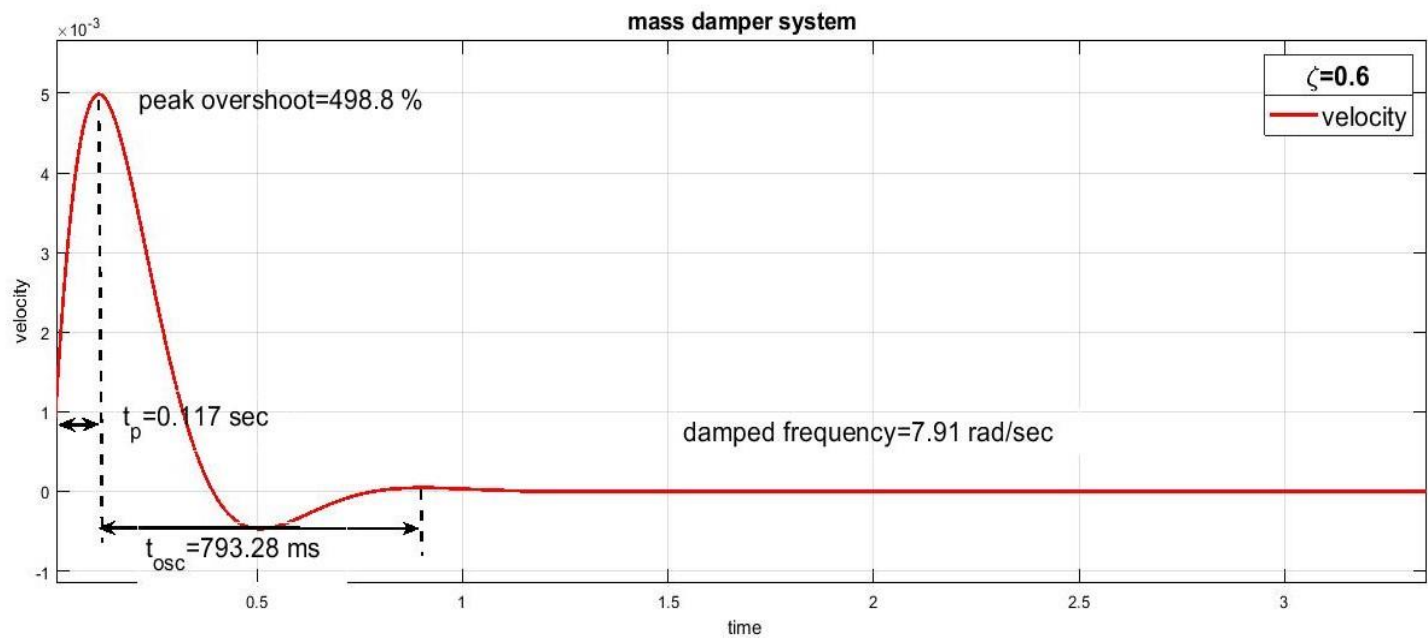
1.  $\zeta = 0.2$



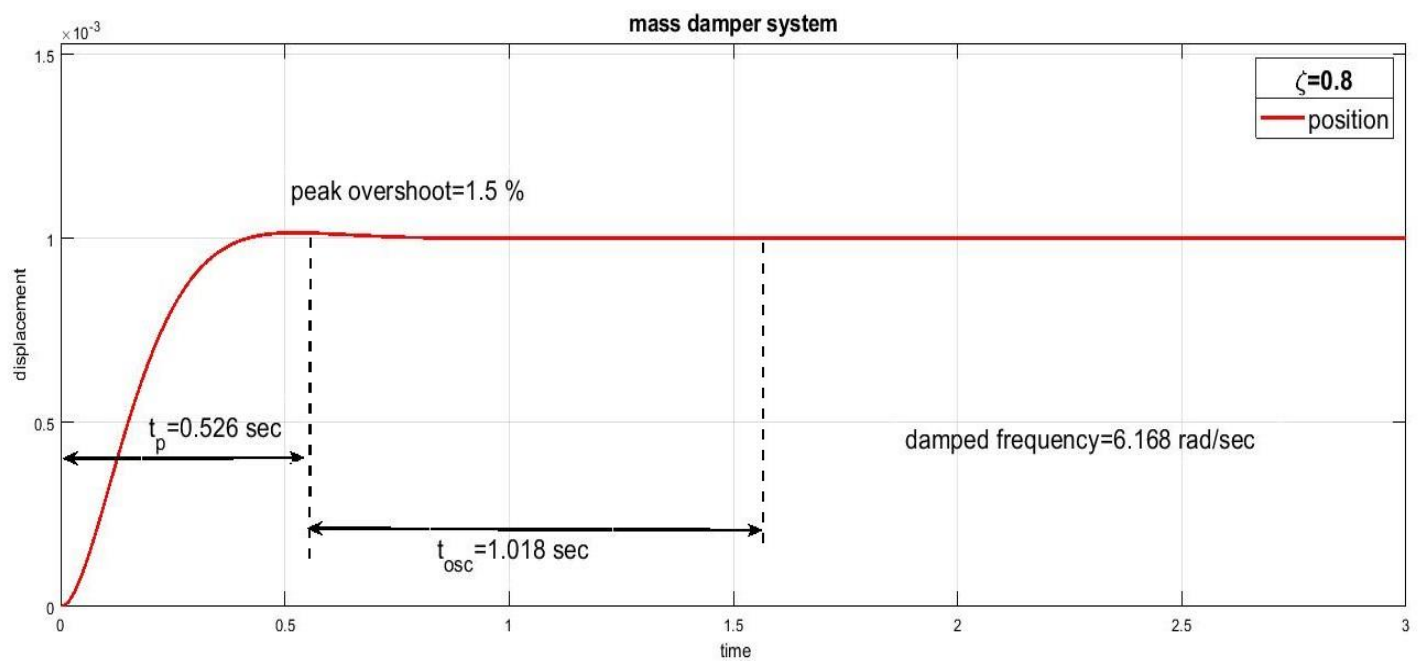
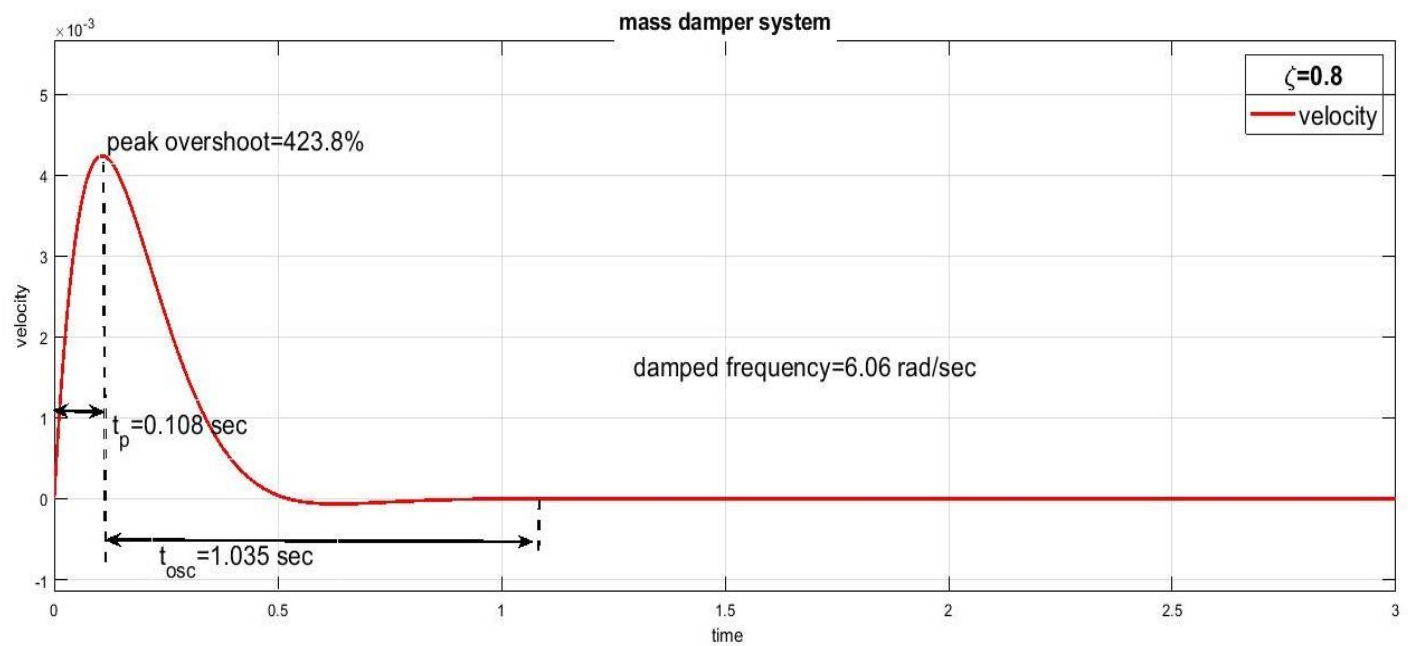
2.  $\zeta = 0.4$



3.  $\zeta = 0.6$



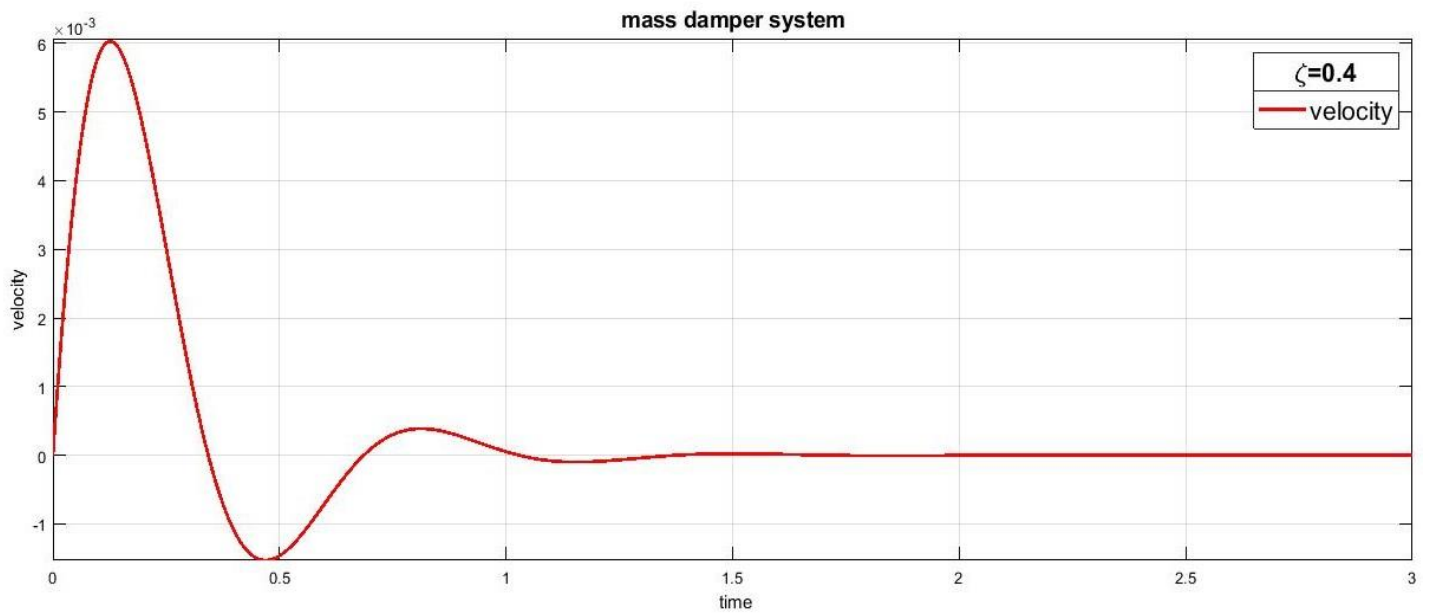
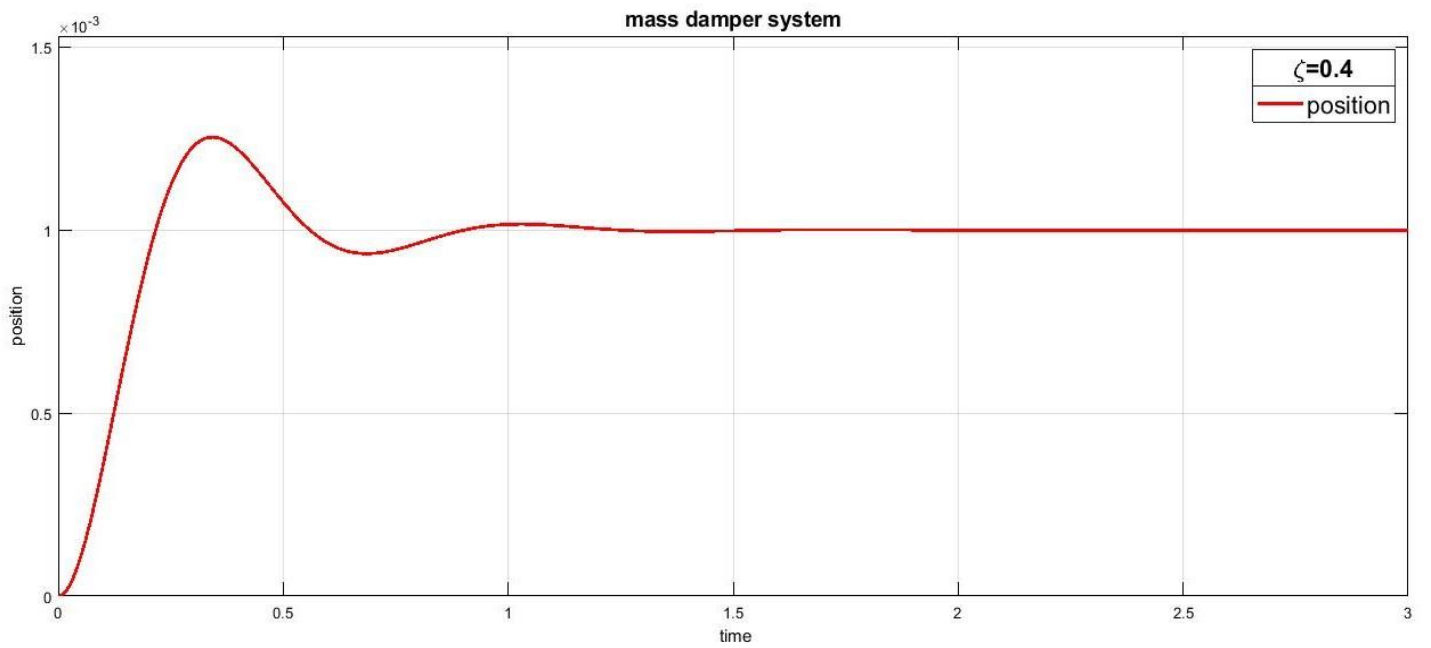
4.  $\zeta = 0.8$





## Case2: Forced system (no initial deformation and input in pulse signal)

1.  $\zeta = 0.4$



2.  $\zeta = 0.7$

