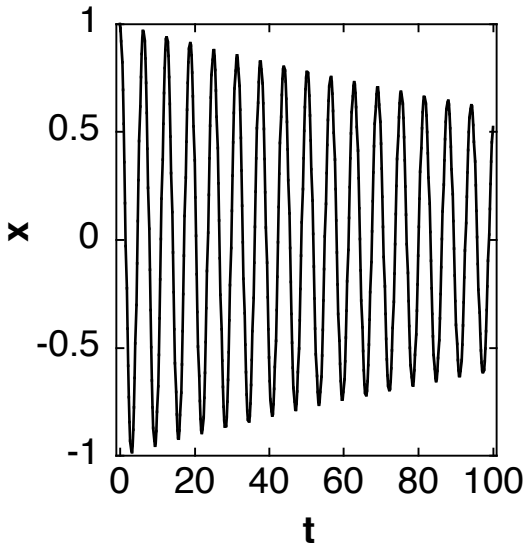
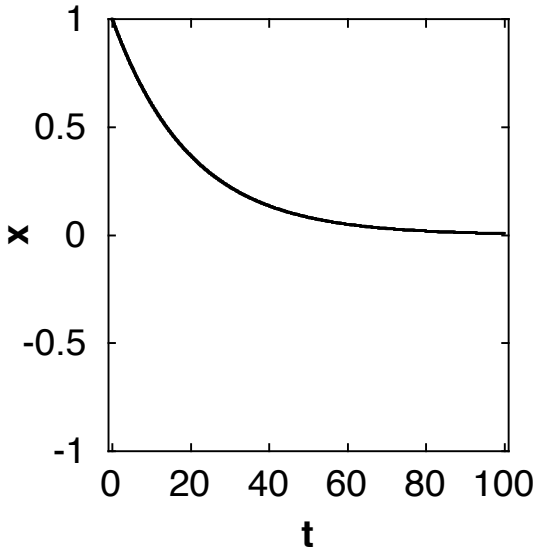
—β = 0.01; p = 0.005 << ω_0= 1



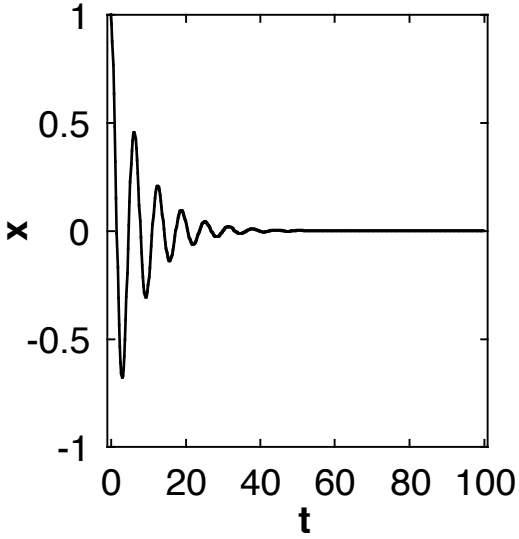
m=1, k=1, ω_0=1

x_0= 1; v_0= 0 !

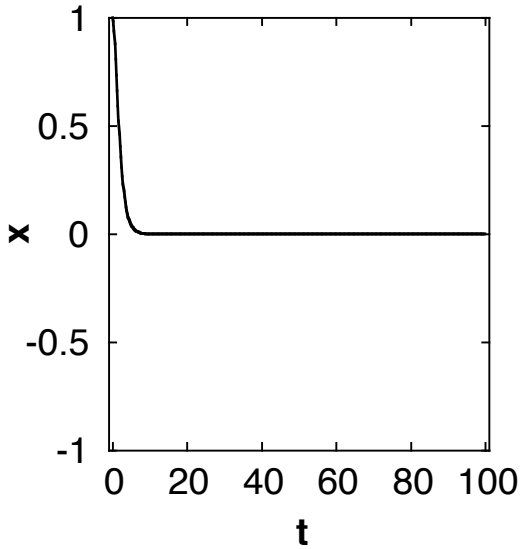
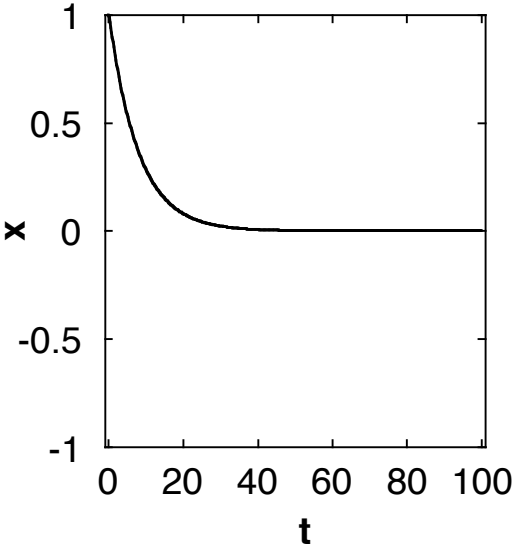
—β = 20; p = 10 >> ω_0= 1



—β = 0.25; p = 0.125 < ω_0= 1



—β = 2; p = 1 = ω_0= 1



—β = 8; p = 4 > ω_0= 1