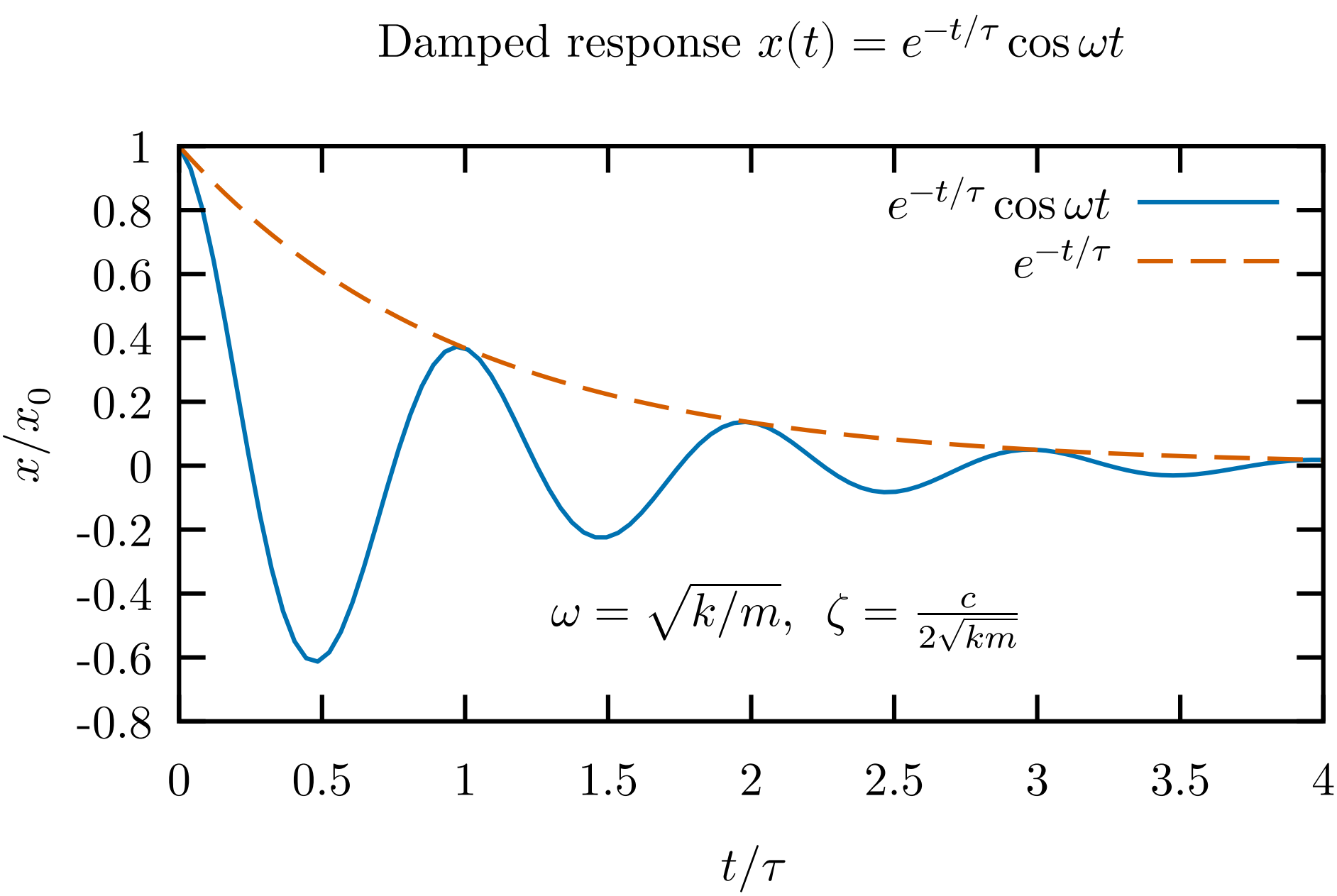
Damped response $x(t) = e^{-t/\tau}\cos\omega t$
$e^{-t/\tau}\cos\omega t$
$e^{-t/\tau}$
$\omega = \sqrt{k/m}, \;\; \zeta = \frac{c}{2\sqrt{km}}$
$x/x_0$
$t/\tau$
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
0
0.5
1
1.5
2
2.5
3
3.5
4