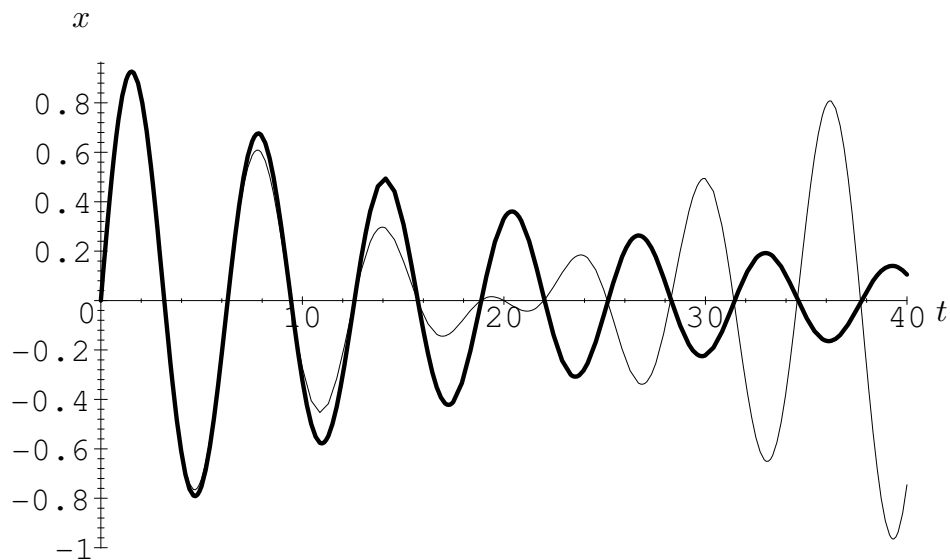


## Linear Two-Timing

Consider the following equation:

$$\ddot{x} + 2\epsilon\dot{x} + x = 0, \quad x(0) = 0, \quad \dot{x}(0) = 1. \quad (1)$$



Exact solution (thick line) and regular asymptotic solution (thin line) with  $\epsilon = 0.05$ .