

Project 3
Fri. June 19, 2009

Writups will be collected at the beginning of the Fri. Jun. 26 lecture.

Problem. Consider a damped harmonic oscillator.

(a) Provide one example of a choice for the mass of the object, the spring constant, the damping coefficient, and the initial conditions that results in the mass gradually gliding back to its rest position after being released, without overshooting it.

(b) Provide one example of a choice for these quantities which results in the mass passing its rest position once, then turning around and settling back to its rest position. Can this behavior be achieved if the mass is released without a push or a pull?

(c) Is it possible for the mass to pass its rest position exactly two times before returning to its rest position?