

Problem 2 Simulation

Here, we drew the orbits for (b) and (d) for comparison.

We can see that in (b), since the frequency for the circular motion and the S.H.O. motion are the same, they will form a closed orbit, and the orbit shape is in general an oval.

However, in (d), the frequency for the circular motion (ω_1) and the frequency for the S.H.O motion (ω_2) are in general different, it will not form a closed orbit, and will form a complicated pattern as follows.

Circular Orbits of 2-dim S.H.O. (b) and the general oscillator with magnetic field (d)

