

Resonance Experiments

Driven mass-spring oscillator

1. Take appropriate measurements to find the natural frequency of the mass-spring system.

2. Try driving the mass-spring system with a frequency around:
 - a. Half the natural frequency
 - b. The natural frequency
 - c. Twice the natural frequencyand record your observations here:

Driven hacksaw blade:

1. Take appropriate measurements to find the natural frequency of the blade's vibration.

2. Try driving the blade with a frequency around:
 - a. Half the natural frequency
 - b. The natural frequency
 - c. Twice the natural frequencyand record your observations here:

Barton's Pendulums

1. Determine individually the natural frequency of each of the pendulums (by holding it at the top so it does not affect the others), and annotate on a diagram:
2. Start with the system at rest, and displace only the metal bob. Record your observations, including information about the phase of the oscillation of the paper cones compared with the metal bob.