

Coupled Pendulum



Purpose: Demonstrates normal modes of a system, and the transfer of energy between coupled oscillators.

This demo is large, but light enough to move easily. Three heavy pendulums are coupled by springs. By starting one of the end pendulums swinging, you can watch the energy transfer through the system - with the motion repeating periodically. To get fancier, two people can excite a symmetric normal mode by initially displacing both end pendulums.

Perhaps the most dramatic demonstration is achieved by disconnecting one of the springs to make a double pendulum. In this case, when one pendulum is initially displaced and released, energy is transferred to the other side while the original pendulum actually ceases motion. This pattern is then repeated back and forth.

Note:

Extra Equipment Needed: None

Location: It is oversized and in Room 304 somewhere. It is hard to miss!