

## IV-E493 Coupled Oscillator Experiment

- Coupled Oscillator is a useful apparatus for understanding the basic modes of coupling. Two pendulums are coupled through a compression spring and energy transfer takes place from one pendulum to other. To make both the pendulums oscillate with same frequency they are made identical.
- Magnetic Field Sensors are used for accurate measurement of time period and frequency of oscillation. Oscillations are being recorded with the help of interfacing software which facilitates visualization of all the three modes of coupling. Time period of oscillations can also be measured manually by counting number of oscillations and recording time on provided Data Acquisition Unit.
- Coupled Oscillator is an ideal platform to enhance education, training, skills & development amongst our young minds.

### Product Features:

- Needle pivoting for very less friction
- Two identical pendulums
- Spring coupling
- Oscillations of pendulums can be recorded digitally by Digital Timer (Optional At Extra Cost)
- Product tutorial
- Length: 1 Meters
- Spring:
- Length: 21Cm
- Diameter: 30mm
- Spring Constant 2.5N/m
- Weights: 500gms x4



### Scope of Learning:

- Study two normal modes of Coupled Oscillator and record the oscillations to determine the time period for both the modes (T and T )
- Record the oscillations for Resonance Mode. To determine the Coupled Time Period and Beat Time Period of the oscillation (T and T ), also compare the experimental values of time period with calculated values?
- To determine Degree of Coupling, Coupling Constant for different coupling lengths and study the variance of both TO and T with Coupling Constant
- To determine the Spring Constant with the help of Coupled Oscillator