CZYTAMY PO ANGIELSKU

Motion of Coupled Oscillators

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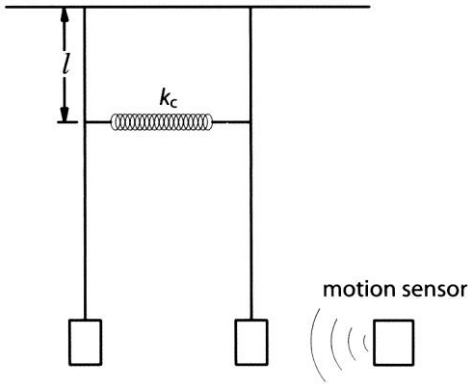
"Simplifying the Motion of Coupled Oscillators Using the FFT"

When two identical simple harmonic oscillators are coupled by a linear spring that has a spring constant k_c, the system has two resonant frequencies. There is a resonance at their natural frequency, ω_0, when the oscillators oscillate in phase and a resonance at the frequency $\omega = \sqrt{\omega_0^2 + 2k_c / m}$ when the oscillators are 180° out of phase. These oscillations are referred to individually as the symmetric and antisymmetric modes or collectively as the normal modes. The frequencies are called the normal frequencies.



The system of coupled oscillators consists of two pendula coupled by a weak spring. There is a motion sensor that monitors the position of one of the pendula. The strength of the coupling is adjusted by changing the position *I* of the coupling spring

Dictionary:

coupled – sprzężony, **coupling** – sprzężenie
spring – sprężyna
resonant frequencies – częstości rezonansowe
oscillation – drganie
collectively – wspólnie, razem
pendula – wahadła, **pendulum** – wahadło