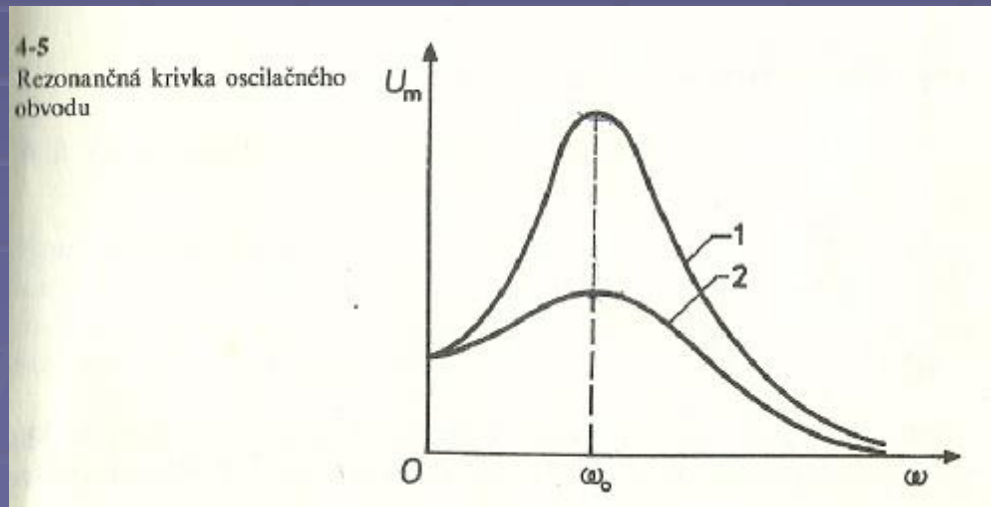
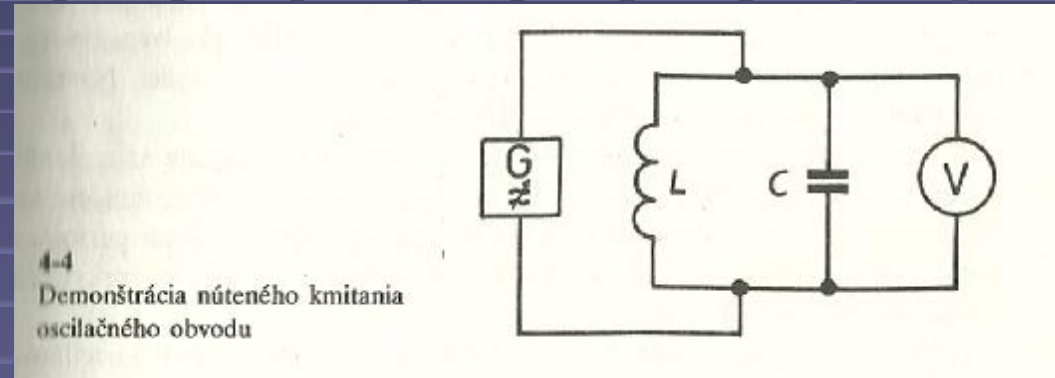


3.2 Resonance

Resonance – the oscillator is in resonance only if the frequency of acting of external force is equal to the frequency of the oscillator.

ω_0 – own frequency of the oscillator

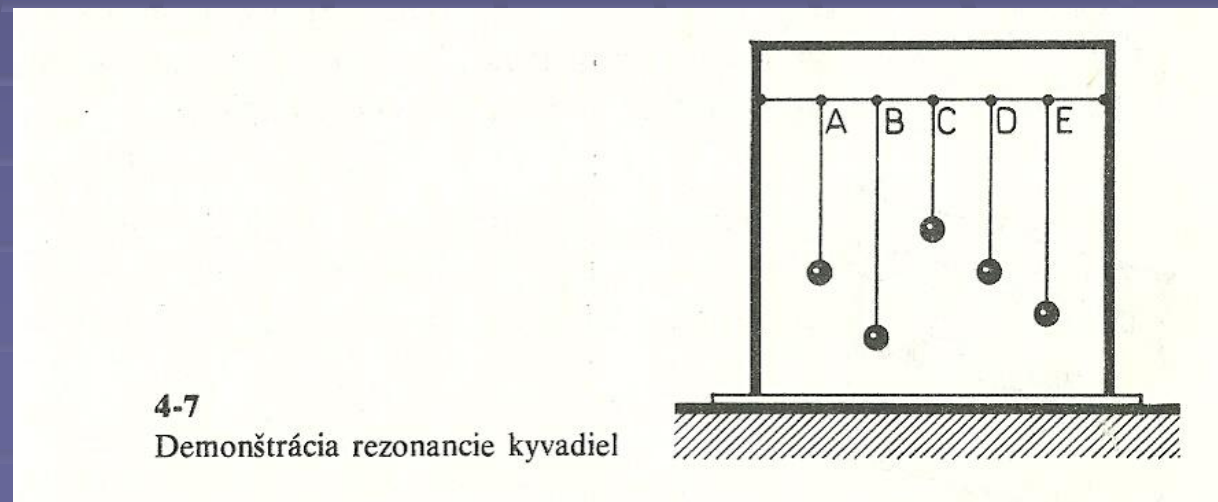
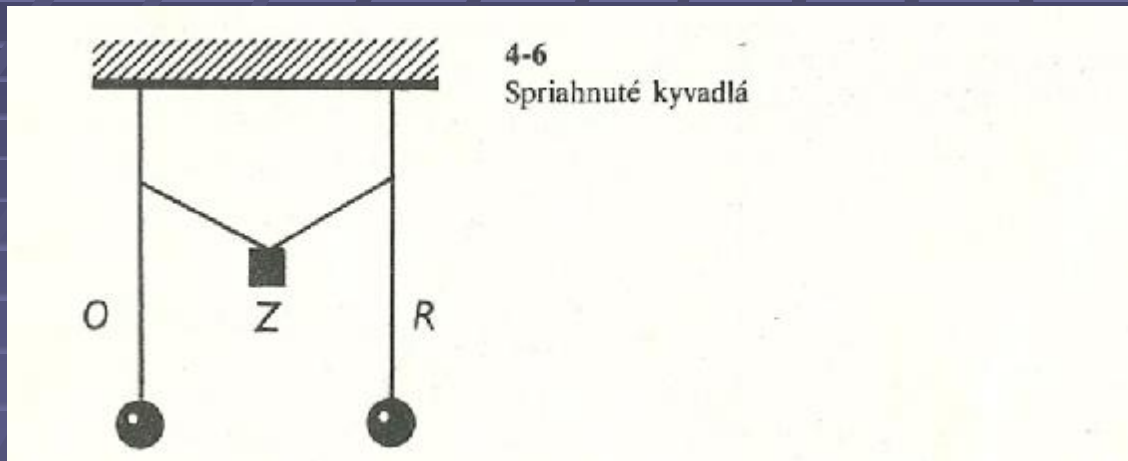
ω – frequency of the external force



Resonance – acting between two oscillators

oscillator – source of forced oscillations

resonator – oscillating because of acting of external force



• There was a capacitor with unknown capacitance connected into a circuit with a coil with inductance of 4 mH. There was a resonance observed at the frequency of 0.5 kW. Calculate capacitance of the capacitor.

• Electromagnetic oscillator with capacitor of capacitance of 0.4 μF and coil of 3 mH was in resonance with a circuit with a capacitor of 1.2 μF . Calculate inductance of the coil of given resonator.