

HOOKE'S LAW (ELONGATION OF A COIL SPRING)

MED 02.05



Material:

Item-no.	Qty.	Description
DS101-1G	1	Support base, large, L=500 mm
DS093-04	1	Sliding saddle "Sepp", H=40 mm
DS300-00	1	Support rod, squared, L=1000 mm, 12x12 mm
DS400-3K	1	Bosshead cross-pattern, Demo, green
DS203-1S	1	Support with hook
P1810-2B	1	Coil spring 20 N/m, D=12 mm approx.
DS400-2R	1	Clamp on saddle
DG101-00	1	Ruler, metal, L=1000 mm
DG110-2G	1	Pointers for ruler, pair

Weights on hooks

(ELONGATION OF A COIL SPRING)

Purpose

Hooke's law: larger forces (more mass attached) result in correspondingly larger ones

Tension forces after the onset of equilibrium.

With a spring these are proportional to the elongation but with a rubber band.

Preparation

Fix the sliding saddle to the support base; afterwards insert the 100 cm rod into the sliding saddle. Fix the cross-patterned bosshead to the upper end of the support rod and insert the support with hook into the bosshead, afterward hang the coil spring on the hook.

Fix the clamp on saddle to the leg of the large support base and insert the metal ruler vertically into clamp. After this place the pointers on the ruler.

Move the sliding saddle so that the coil spring is hanging just in front of the tips of the pointers. The upper pointer is moved to the lower end of the coil spring

Experiment

The zero position of the spring was determined with the first pointer.

Now different masses are hung on the spring and the respective change in length is measured.

These values can be transferred to a diagram.