Principle:
The validity of Hooke’s law is determined for two helical springs with different spring constants. The elongation of the helical spring, which depends on the deforming force, is studied by means of the weights of masses. For comparison, a rubber band, for which no proportionality exists between the exerted force and the resulting elongation, is submitted to the same forces.

Tasks:
1. Determining the spring constants of helical springs
2. Study of the elongation of a rubber band

What you can learn about …
- Hooke’s law
- Spring constant
- Limit of elasticity
- Elastic hysteresis
- Elastic after-effect

Theory (Hook’s Law)

Acting weight $F_\text{w}$ as a function of the extension $\Delta l$ for a rubber band (elastic hysteresis).