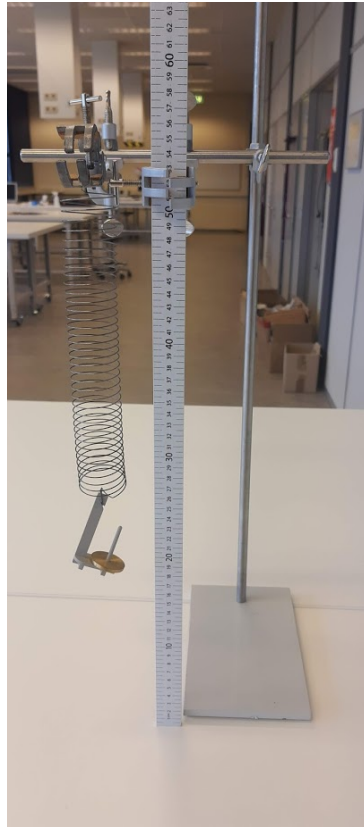


Hooke's Law

Key words: Hooke's Law, Spring, Mass, Extension



Equipment List:

1. Retort stand with 3 connectors, a bar and 2 clamps
2. Box of springs with various spring constants
3. Box of masses with adaptor hook
4. Ruler

How to assemble and operate:

- Use one connector to fix the bar horizontally near the top of the stand
- Connect 2 clamps to this bar with the other connectors
- Hang one of the springs from one of the clamps
- Use another clamp to hold the ruler
- Select the smallest mass and attach to other end of the spring, recording where the end of the mass is on the ruler before releasing the mass
- Release the mass and measure the extension caused by that mass
- Add another mass, and again record the extension

- Repeat with more masses, and use the mass vs extension relationship to find the spring constant. This entire procedure can be repeated for other springs of different spring constants.

Description/Theory:

This demonstration shows Hooke's law, in this case for the extension of a spring. Knowing that the force applied to the spring is directly proportional to the extension caused by that force, we can find a value for the constant of proportionality that relates these quantities.

Comments/Notes:

Ensure that the retort stand is on a stable surface.

The mass holder also has a mass of 5g. Keep this in mind when finding the spring constant.