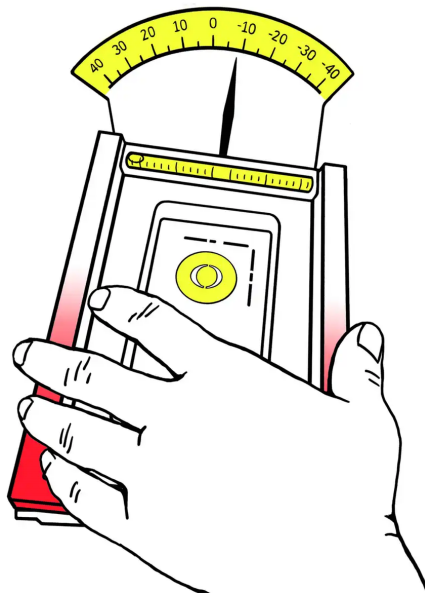


Measuring tilt

How does your smartphone tell up from down?



Turn on your smartphone's tilt sensor, for example via the phaeno Entdecker-App.

Place your smartphone on the rocker.

Set an angle on the rocker and compare the large scale with the value displayed on your smartphone.

Set a small angle of up to 3° on the rocker and compare the scale on the spirit level with the value displayed on

your smartphone. Using the spirit level, you can measure to an accuracy of 0.2°.

Gravity acts on everything on earth – including you and your smartphone. Your smartphone's tilt sensor uses the bending of microscopic springs to measure how gravity acts on your smartphone in different directions and uses this to calculate the smartphone's location in relation to the earth's surface. For example, on the rocker, you can measure the inclination along the y-axis (Fig. 1).

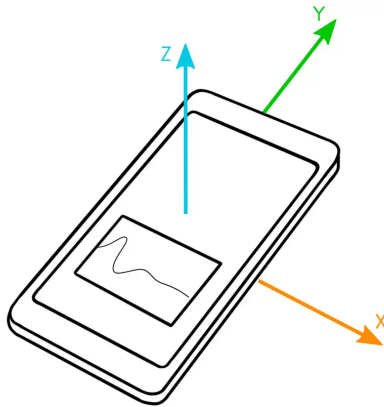


Fig. 1: The coordinate system in which the smartphone measures the angle of inclination.