

do tests with a system consisting of a point-like electric charge and a detector of electromagnetic radiation. We will check whether the detector registers any radiation when the system is set up as follows (see Fig. 1):

- (1) Support both the charge and the detector in the Earth's gravitational field;
- (2) support the detector and let the charge fall freely;
- (3) let the detector fall and support the charge;
- (4) let both the detector and the charge fall freely.

If we are willing to concede that our laboratory is small enough compared to the Earth, we may work in the idealization that the detector and the charge are immersed in a *constant homogeneous gravitational field*: falling objects will then move along uniformly accelerated trajectories (possibly relativistic) in the “vertical” direction.

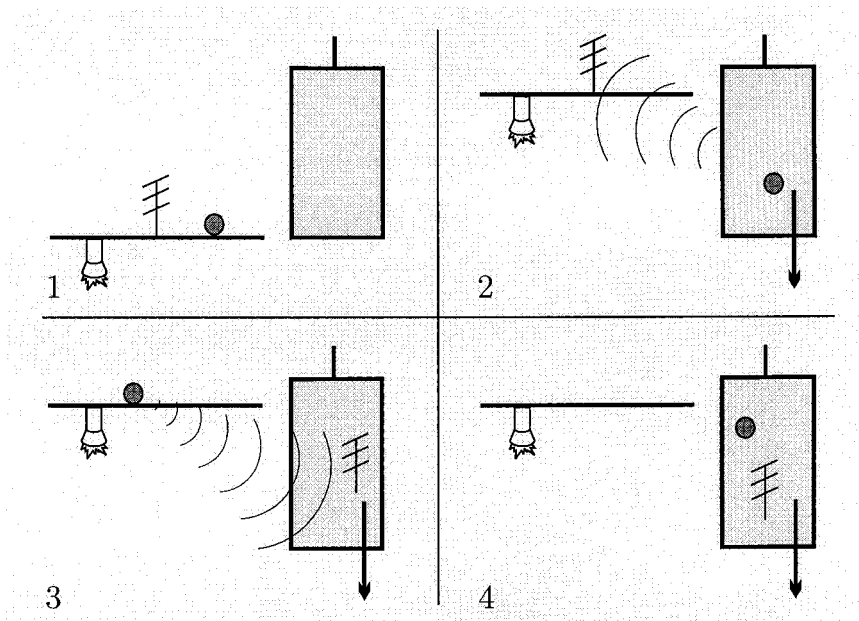


Fig. 1. Four *Gedankenexperimente*: To the right of the laboratory frame, which is *supported* by a compensating agency (rockets), is our imaginary *Einstein's elevator*, falling freely (except for experiment 1) in the Earth's gravitational field, which we assume to be homogeneous.