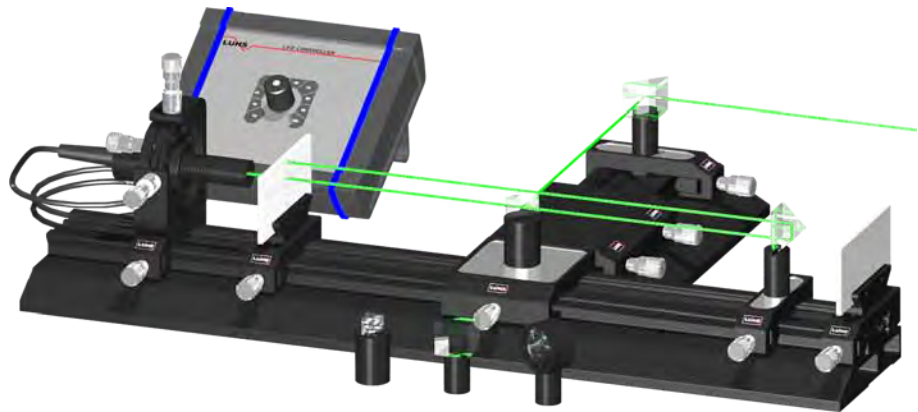
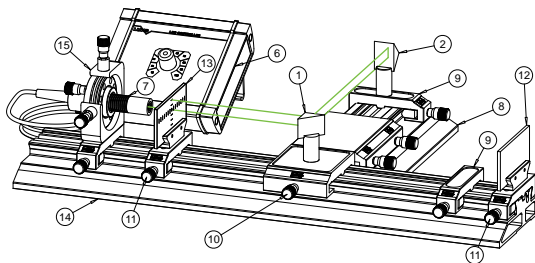


## P5836 Beam deflection

- ✓ Beam deflection by prisms
- ✓ Beam splitting cubes and plates
- ✓ Polarizing beam splitter
- ✓ Corner cube retroreflector
- ✓ Principle of periscope
- ✓ Principle of binocular



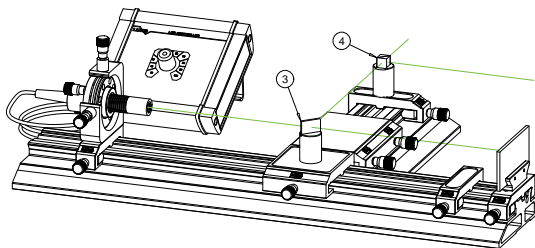
### Examples of investigation and measurement



#### Beam deflection by prisms

As light source a laser is used which emits a wavelength of 532 nm and is controlled by the adaptive power supply (6). In the first series of experiments the beam deflection by prisms is demonstrated. Single (1) and double reflection (2) inside the prisms are studied and the offset of a retro-reflected beam is measured by means of the white screen with scale (13).

Both prisms are mounted on rods with a magnet at the bottom so that they can be positioned freely on the carrier with magnetic top layer (9,10). One of the provided prism (1) is mounted horizontally and the other one (2) vertical allowing a vertical and horizontal retro reflection.

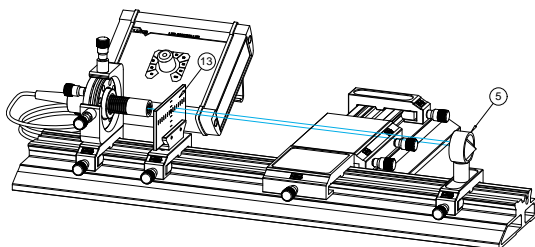


#### Beam splitting and deflection

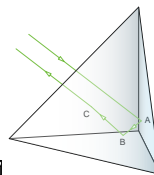
Another important component is the beam splitter plate (3) and beam splitter cube (4) which are also mounted on posts with magnetic bottom. The beam deflection and the deviation of the transmitted beam is measured.

In the same way the beam splitter cube is investigated revealing the fact that no offset of the transmitted beam will be observed.

Both components are important for a variety of applications. One of it is their use in laser interferometer.



#### Beam deflection by triple reflection in a corner cube



If one cuts a corner off a quadratic cube one gets the important optical components of a triple reflector. Every light beam, which is led into the corner of this cube under any given angle, goes through three different reflections (A,B,C) and is finally reflected back into the same direction. There is, however, an offset between the incoming and outgoing beam, which is dependent on the place in the triple reflector onto which it falls.

Such a component is important in laser interferometry as well as in geodesy.

### P5836 Beam deflection consisting of:

Item	Qty	Description
1	1	Prism 20 mm on post, horizontal
2	1	Prism 20 mm on post, vertical
3	1	Beam splitter plate 15x20 mm on post
4	1	Neutral beam splitter cube 10 mm on post
5	1	Triple reflector on post
6	1	Adaptive power supply APS-05
7	1	DIMO diode laser module, 532 nm
8	1	Profile Rail MG-65, 200 mm

Item	Qty	Description
9	2	Carrier with magnetic top
10	1	Carrier T-piece with magnetic top
11	2	Screen holder on carrier 20
12	1	Screen 80 x 40 mm, horizontal and vertical scale
13	1	Screen 80 x 40 mm, dual scale, hole 3 mm
14	1	Optical rail MG 65, 500 mm
15	1	Adjustment holder, 4 axes, carrier 20 mm