

Retro-reflector or mirror retroreflector

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Słowa kluczowe:

lustro, odbicie

DZIEDZINA:

Physics, Optics

Cel doświadczenia:

How to position flat mirrors in order to obtain a retroreflector, i.e. a system that reflects light directly to the sender regardless of the direction from which the light falls.

Spis materiałów:

1. three square, flat mirrors of any size (for design considerations it would be good if the mirror edge was approx. 10-20 cm)
2. sticky tape or plasticine (for temporary bonding of the mirrors)
3. a laser pointer or a torch with a concentrated beam of light

Etapy realizacji:

1. Position two mirrors and join their edges together (you can bond them using sticky tape of plasticine).
2. Illuminate one of the mirrors with laser light or a torch.
3. Change the relative positioning of the mirrors so that the light should be reflected towards the source of light (laser, torch) regardless of the direction of illumination.
4. Build a similar system using three mirrors

Pytania do doświadczenia:

1. By means of what other optical elements can the retroreflector effect be achieved?
2. Where are reflexive elements (retroreflectors) used?

Opis zjawiska:

Ciekawostki:

1. Reflective elements are made up of mini retroreflectors that reflect light and increase visibility, e.g. on the road.
2. In order to improve safety, since 1st September 2014 pedestrians moving on roads outside built up areas have been obliged to wear reflexive elements after dark.