



Freezed in motion

Autor:

Adam Czyżewski

Data dodania:

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Słowa kluczowe:

stroboskop, światło

DZIEDZINA:

Physics, Optics

Cel doświadczenia:

Observation of moving objects illuminated with stroboscopic light. Finding a dependence between the appearance of the observed object and the flash frequency.

Spis materiałów:

1. a blower (a fan)
2. a stroboscope with adjustable flash frequency (available at DIY stores, lighting shops or online, prices start at PLN 45)
3. reflective film

Etapy realizacji:

1. Glue a piece of reflective film (approx. 1 cm x 3 cm) to one of the fan blades
2. Switch on the fan and the stroboscope.
3. Observe the fan illuminated with stroboscopic light.
4. Adjust flash frequency of the stroboscope.

Pytania do doświadczenia:

1. Commonly used fluorescent lamps and LED displays also emit light in the form of flashes. Why cannot they be seen with the naked eye? How can you show that a given source of light is also a 'stroboscope'?
2. Why can stroboscopic light be dangerous to man?

Opis zjawiska:

Ciekawostki:

1. Stroboscopic light may trigger epileptic seizures in people.
2. Stroboscopic effects are often used at discos and theatres in order to create the effect of intermittent movement of characters (stop motion).
3. Photographs taken in stroboscopic light make it possible to study the individual phases of moving objects, e.g. car wheels, and thus facilitate detection of design faults.