

Time resolving capability of the human eye

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Principle

As excitation of the light-perceptive cells of the retina always takes a little longer than the light stimulus, only a limited number of stimuli per unit of time can be processed (time-related resolving power of the eye). If a light source is switched on and off periodically in increasingly rapid sequence the eye at first perceives the individual flashes, then the appearance of flicker occurs and finally the impression of a continuous light (fusion of the flicker).

Benefits

- Perimeter design semidiagnostic, therefore appropriate for medical education

Tasks

1. Determine the flashing frequency of an LED at which the impression of a continuous light just occurs
2. Change the direction of incidence of the light using a perimeter
3. Determine the flicker fusion threshold of the left and right eye in relation to the direction of incidence of light stimulus and the state of adaptation of the eyes.

Learning objectives

- Perimeter
- Time-related resolving power
- Flicker fusion frequency
- Light/dark-adapted eye

Scope of delivery

PHYWE Digital Function Generator, USB	13654-99	1
Stimulant light source	65985-00	1
Perimeter, diameter 60 cm	65984-00	1
Boss head	02043-00	1
Table top on rod	08060-00	1
Bench clamp expert	02011-00	1
Support base DEMO	02007-55	1
Stand rods, stainless steel, various sizes	02032-00	1
Stand tube	02060-00	1