

Abstract

This work is dealing with design of the system for measuring dynamics of the vergence and accommodation. Vergence accommodation synkinesis is a complex process controlled by various mechanisms in CNS. Deviations from physiological state of the vision process are projected to course of the vergence accommodation curves and is possible the quantitative and qualitative evaluation. For this purpose was designed the measuring system Ir.M.A. (Infrared Measurement of Accommodation). The system uses high-speed videometric device for determination of the relative vergence and relative accommodation of the eyes. Stimulation of the patient's eyes is performed by the standardized jump change of the fixation object distance. The object is reconstructed by holographic method. Measured videosequences are processed by the image analysis. Results of the image analysis are courses of the vergence and accommodation curves depending on time and characteristics of the curves. System is designed for using in clinical practice where it could be used as screening instrument for diagnostics of the oculomotor system disorders.