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""Introduction: Ocular Dominance""; ""Demography of Ocular Dominance""; ""A Taxonomy of Ocular Dominance""; ""Is Ocular Dominance Test Specific?""; ""I. Tests of Rivalry""; ""II. Tests of Asymmetry""; ""III. Sighting Tests""; ""Some Misconceptions""; ""Resolving the Paradox of Ocular Dominance""; ""Some Clinical Implications of Ocular Dominance""; ""Conclusion""; ""References""; ""THREE-DIMENSIONAL VISION BASED ON BINOCULAR IMAGING AND APPROXIMATION NETWORKS OF A LASER LINE""; ""Abstract""; ""1. Introduction""; ""2. Basic Theory""; ""3. Bezier Networks for Surface Contouring""; ""4. Parameter of the Vision System""; ""5. Experimental Results""; ""Conclusions""; ""References""; ""EYE MOVEMENT ANALYSIS IN CONGENITAL NYSTAGMUS: CONCISE PARAMETER ESTIMATION""; ""Abstract""; ""Introduction""; ""Terminology (Definitions)""; ""Clinical Assessment""; ""Examination Techniques: Motility""; ""Ocular Motility Recordings""; ""Semiautomatic Analysis of Eye Movement Recordings""; ""Slow Eye Movements in Congenital Nystagmus""; ""Conclusion""; ""References""; ""EVOLUTION OF COMPUTER VISION SYSTEMS""; ""Abstract""; ""Introduction""; ""Present-Day Level of CVS Development""; ""Full-Scale Universal CVS""; ""Integration of CVS and AI Control System""; ""Conclusion""; ""References""; ""BINOCULAR VISION AND DEPTH PERCEPTION: DEVELOPMENT AND DISORDERS""; ""Introduction""; ""1. Advantages of Binocular Vision""; ""2. Foundations of Binocular Vision""; ""3. Stereopsis as the Highest Level of Binocular Vision""; ""4. Binocular Viewing Conditions on Pupil Near Responses""; ""5. Development of Binocular Vision""; ""Conclusion""; ""References""; ""REPEATABILITY OF PRISM DISSOCIATION AND TANGENT SCALE NEAR HETEROPHORIA MEASUREMENTS IN STRAIGHT FORWARD GAZE AND IN DOWN GAZE""

Sommario/riassunto

"Binocular vision" literally means vision with two eyes, and refers to the special attributes of vision with both eyes open, rather than one eye only. Our perception under binocular conditions represents a highly complex co-ordination of motor and sensory processes and is markedly different from and more sophisticated than vision with one eye alone. This book reviews our ability to use both eyes, while also providing basic information on the development of binocular vision and on the clinical disorders that interfere with our depth perception, such as strabismus and amblyopia. This book also describes the development of eye movement control, particularly those that are important for reading. In addition, the authors of this book review the phenomenon of ocular dominance (OD) in the light of the types of test used to identify it; question whether inter-test agreement of OD in an individual might be anticipated, and address some practical implications of OD as demonstrated in healthy eyes and in cases where there is compromised binocular function. Other chapters in this book disclose new methodologies in congenital nystagmus eye movements analysis and evaluate heterophoria as an important element of assessment of binocular vision disorders.
