1. Record Nr. UNINA9910760278203321

Autore	Merlitz Holger
Titolo	The Binocular Handbook [[electronic resource]] : Function, Performance and Evaluation of Binoculars / / by Holger Merlitz
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2023
ISBN	3-031-44408-6
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (224 pages)
Disciplina	535.32 535.13
Soggetti	Geometrical optics Wave theory of light Astronomy - Observations Optics Optical materials Classical Optics, Geometric and Wave optics Astronomy, Observations and Techniques Applied Optics Optical Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1: Optical imaging -- Chapter 2: The Telescope -- Chapter 3: Image Erecting Prisms -- Chapter 4: The Anatomy of Binoculars -- Chapter 5: Report on a Self-made High-performance Binocular (by Gerhard Eller) -- Chapter 6: The Eye -- Chapter 7: The Visual Perception -- Chapter 8: Eye and Binocular: The Man-machine -- Chapter 9: Binocular Evaluation and Field Testing.
Sommario/riassunto	This book is a comprehensive technical treatise on binoculars as visual optical instruments. The author begins by discussing the function of binoculars and the properties of human visual perception. Theoretical models for the synthesis of binoculars and the complex interplay of the different components of binoculars are described. Subsequently, the performance limits, as experienced by the observer in a variety of external conditions, are derived. In the concluding section, the book

takes the reader outdoors, where they learn to evaluate the properties and limitations of their binoculars in the field, and to recognize possible problems that may be due to manufacturing errors or accidental damages. Thus, a level of knowledge is provided that will enable the reader to fully exploit the capacities of their binoculars. This book is written for those who work professionally with binoculars and are technically interested, but it is equally useful for professional staff working in the optical industry and the distribution of optical instruments. It includes recent discoveries and is easily accessible to anyone who is seriously interested in learning about binocular function. High school level math is useful to understand the derivations, but not needed to comprehend the results, which are discussed and displayed graphically.