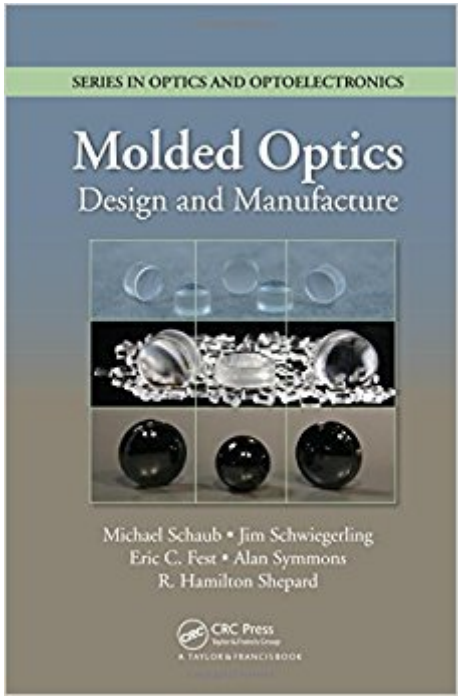
Molded Optics: Design And Manufacture (Series In Optics And Optoelectronics)



Synopsis

While several available texts discuss molded plastic optics, none provide information on all classes of molded optics. Filling this gap, Molded Optics: Design and Manufacture presents detailed descriptions of molded plastic, glass, and infrared optics. Since an understanding of the manufacturing process is necessary to develop cost-effective, producible designs, the book extensively covers various manufacturing methods, design guidelines, trade-offs, best practices, and testing of critical parameters. It also discusses topics that often arise when designing systems with molded optics, such as mitigating stray light and mating systems by eye. The first three chapters of the book focus on subjects important to the design of systems using molded optics: optical design, visual optics, and stray light. Following these background chapters, the text provides in-depth information on the design and manufacture of molded plastic optics, molded glass optics, and molded infrared optics. The final chapter on testing emphasizes the special characteristics of molded optics. Experts in their particular areas, the authors draw on their considerable knowledge and real-world experiences to give a thorough account of the design and manufacture of molded plastic, glass, and infrared optics. The book will help readers improve their ability to develop systems that employ molded optics.

Book Information

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Customer Reviews

Michael Schaub is an optical engineer and founder of Schaub Optical LLC, an optical engineering consulting business based in Tucson, Arizona. He also works for a major defense company

designing and developing visible, infrared, and laser-based electro-optical systems. Dr. Schaub has over 15 years experience in the design, development, and production of systems utilizing molded plastic optics. He earned a Ph.D. in optical sciences from the University of Arizona. Jim Schwiegerling is a professor in the College of Optical Sciences at the University of Arizona. Dr. Schwiegerling has done extensive research and development in the area of ophthalmic instrumentation and ocular metrology. His research interests include wavefront sensing, corneal topography, and the design of diffractive, extended depth of field and variable power lenses. Eric C. Fest is the founder of Phobos Optics LLC, an optical engineering consulting firm in Tucson, Arizona. He also works for a major defense company designing and developing visible, infrared, and laser-based electro-optical systems. Dr. Fest has 17 years of experience in stray-light and optical scattering analysis. He earned a Ph.D. in optics from the University of Arizona. Alan Symmons is the vice president of corporate engineering for LightPath Technologies, a worldwide leader in the design and manufacture of precision glass molded optics. Prior to joining LightPath, Mr. Symmons worked at Aurora Optical, Donnelly Optics, and Applied Image Group/Optics. He earned a B.S.M.E from Rensselaer Polytechnic Institute and an M.B.A from the University of Arizona. R. Hamilton Shepard is a senior optical engineer at FLIR Systems in Boston, Massachusetts. Dr. Shepard is involved with EO/IR sensor development, specializing in optical systems engineering, lens design, and stray light analysis. He earned a Ph.D. in optical sciences from the University of Arizona.

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