

1. Record Nr.	UNISA990000219680203316
Titolo	Combinatorial designs and applications / edited by W. D. Wallis ... [et al.]
Pubbl/distr/stampa	New York : Marcell Dekker, copyr. 1990
ISBN	0-8247-8394-8
Descrizione fisica	VIII, 246 p. : ill. ; 26 cm
Collana	Lecture notes in pure and applied mathematics ; 126
Disciplina	5116
Collocazione	511.6 COM (A)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	contiene gli atti di un convegno tenuto a hunangshan (cina) dal 18 al23 agosto del 1988

2. Record Nr.	UNINA9911004811803321
Autore	Walker Bruce H
Titolo	Optical engineering fundamentals // Bruce H. Walker
Pubbl/distr/stampa	Bellingham, Wash., : SPIE Press, c2008
ISBN	1-62870-863-8 0-8194-7877-6 9780819478771
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (294 p.)
Collana	Tutorial texts in optical engineering ; ; v. TT 82
Disciplina	681/.4
Soggetti	Optics Lenses Optical instruments
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1. Introduction. 2. Historical review. 2.1. Definition of optical engineering -- 2.2. Ancient history -- 2.3. Medieval optics -- 2.4. From 1600 to the 1900s -- 2.5. Speed of light -- 2.6. Modern optical engineering -- 2.7. Case history: optics in the United States -- 2.8. The Hubble Space Telescope -- 2.9. Review and summary. 3. Basic concepts of light. 3.1. Light: an elusive topic -- 3.2. Understanding light -- 3.3. Velocity, wavelength, and frequency -- 3.4. Wavefronts and light rays -- 3.5. Light sources -- 3.6. Behavior of light rays -- 3.7. Refraction -- 3.8. Refraction by a lens -- 3.9. Dispersion and color -- 3.10. Diffraction of light -- 3.11. Review and summary. 4. Thin-lens theory. 4.1. Definition of a thin lens -- 4.2. Properties of a thin lens -- 4.3. Aperture stop, entrance and exit pupils, and field stop -- 4.4. Reference coordinate system -- 4.5. Thin-lens power -- 4.6. Ray trace of a thin lens (object at infinity) -- 4.7. Ray trace of a thin lens (finite object distance) -- 4.8. Rounding off -- 4.9. Thin-lens formulas -- 4.10. Applications of thin-lens theory -- 4.11. Mock-up of the thin-lens system -- 4.12. Review and summary. 5. Optical design basics. 5.1. Introduction -- 5.2. Historical perspective -- 5.3. OSLO optical design software package -- 5.4. Introduction to computer design using OSLO -- 5.5. Laser transmitting system -- 5.6.

Instrument design and analysis -- 5.7. Magnification analysis -- 5.8. Design of a noncatalog system -- 5.9. Review and summary.

6. Primary lens aberrations. 6.1. Introduction -- 6.2. Spot diagram, radial energy distribution, and modulation transfer function -- 6.3. Spherical aberration -- 6.4. Coma -- 6.5. Field curvature -- 6.6. Astigmatism -- 6.7. Distortion -- 6.8. Axial color -- 6.9. Lateral color -- 6.10. Aberration curves -- 6.11. Point-spread function analysis -- 6.12. Review and summary.

7. Optical components. 7.1. Introduction -- 7.2. Lens -- 7.3. Mirror -- 7.4. Prisms -- 7.5. Review and summary.

8. Basic optical instruments. 8.1. Introduction -- 8.2. Magnifier, or loupe -- 8.3. Eyepiece -- 8.4. Microscope -- 8.5. Telescope -- 8.6. Binoculars -- 8.7. Riflescope -- 8.8. Surveying and optical tooling instruments -- 8.9. Periscope, borescope, and endoscope -- 8.10. Review and summary.

9. Optical materials and coatings. 9.1. Introduction -- 9.2. Optical glass -- 9.3. Low-expansion materials -- 9.4. Surface losses and antireflection coatings -- 9.5. Materials for infrared systems -- 9.6. Optical plastics -- 9.7. Review and summary.

10. Visual optical system. 10.1. Introduction -- 10.2. Structure of the eye -- 10.3. Resolution of the eye -- 10.4. Visual instrument design considerations -- 10.5. Visual instrument focus -- 10.6. Visual instrument detailed lens design -- 10.7. Review and summary.

11. Lens design and image evaluation. 11.1. Introduction -- 11.2. Lens design process -- 11.3. 10x telescope design -- 11.4. Precision collimator lens design -- 11.5. Precision imager lens design -- 11.6. Unusual lens design task -- 11.7. Review and summary.

12. Optics in our world. 12.1. Introduction -- 12.2. Optical illusions: size -- 12.3. Other optical illusions -- 12.4. Seeing the third dimension -- 12.5. Optics and the compact disk -- 12.6. Optics and the projection TV -- 12.7. Optics and photography -- 12.8. Optics of the rainbow -- 12.9. Review and summary.

Appendix A. Basic optical engineering library -- Appendix B. Optical design software sources -- Appendix C. Optical glass sources -- Appendix D. Conversion factors and constants -- Appendix E. Measures and equivalents -- Appendix F. Basic photometric considerations -- Appendix G. Surface sag and conic sections -- Index.

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## Sommario/riassunto

This classic Tutorial Text provides a basic understanding of many fundamental optical principles. The Second Edition has been updated to reflect the development of electronic sensors, as well as the advent of mainstream consumer optical products. Chapters also emphasize the application of state-of-the-art computer software to generate solutions to related lens design and optimization problems. This is an ideal textbook for introductory courses at advanced high school and college levels. For those who proceed to work in the field of optical engineering, this book will provide a convenient source of valuable, basic reference material.

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