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Nota di contenuto	Preface. -- 1 Introduction. -- 2 Paraxial Imaging. -- 2.1 General Remarks. -- 2.2 Single Surface. -- 2.3 Single Lens. -- 2.4 Multiple-component Systems. -- 2.5 Invariants. -- 2.6 Matrix Calculus. -- 2.7 Matrices Describing a More General Geometry. -- 2.8 Literature. -- 3 Interfaces. -- 3.1 Basics. -- 3.2 The Fresnel Equations. -- 3.3 Polarization Effects at Interfaces. -- 3.4 Evanescent Waves. -- 3.5 Non-geometrical Effects at Reflection. -- 3.6 Absorbing Media. -- 3.7 Literature. -- 4 Materials. -- 4.1 Basics. -- 4.2 Dispersion. -- 4.3 Relative Partial Dispersion. -- 4.4 Transmission. -- 4.5 Glasses. -- 4.6 Crystals and Special Materials. -- 4.7 Plastics. -- 4.8 Gases. -- 4.9 Liquids and Cements. -- 4.10 Metals. -- 4.11 Literature. -- 5 Raytracing. -- 5.1 The Meaning of Raytracing. -- 5.2 Raytracing Scheme. -- 5.3 Raytracing Formula Sets. -- 5.4 Raytracing in Optical Systems. -- 5.5 Special Components. -- 5.6 Differential Rays. -- 5.7 Non-sequential Raytracing. -- 5.8 Literature. -- 6 Radiometry. -- 6.1 Introduction. -- 6.2 Lambertian Radiator. -- 6.3 Radiation Transfer. -- 6.4 Radiometry of Optical Systems. -- 6.5 Description of Radiation Transport in the Phase Space. -- 6.6 Literature. -- 7 Light Sources. -- 7.1 Introduction. -- 7.2 Thermal Radiators. -- 7.3 Classical Lamps. -- 7.4 Diodes. -- 7.5 Laser Light Sources. -- 7.6 Model Descriptions of Radiation Sources. -- 7.7 Literature. -- 8 Sensor Technology and Signal Processing. -- 8.1 Introduction. -- 8.2 Sensor Characteristics. -- 8.3

Special Types of Sensor. -- 8.4 Sampling. -- 8.5 Signal Processing. -- 8.6 Noise. -- 8.7 Special Methods of Detection. -- 8.8 Literature. -- 9 Theory of Color Vision. -- 9.1 Introduction. -- 9.2 Color Vision of the Human Eye. -- 9.3 Phenomenological Theory of Color Vision. -- 9.4 Colorimetry. -- 9.5 Color Triangle. -- 9.6 Alternative Basic Systems. -- 9.7 Literature. -- 10 Optical Systems. -- 10.1 Special Properties of Lenses. -- 10.2 Special Rays in Optical Systems. -- 10.3 Pupils. -- 10.4 Delano Diagram. -- 10.5 Special Aspects. -- 10.6 Literature. -- 11 Aberrations. -- 11.1 General Considerations. -- 11.2 Description of Aberrations. -- 11.3 Ray Aberrations. -- 11.4 The Sine Condition. -- 11.5 Wave Aberrations. -- 11.6 Spherical Aberration. -- 11.7 Astigmatism. -- 11.8 Field Curvature. -- 11.9 Coma. -- 11.10 Distortion. -- 11.11 Chromatic Longitudinal Aberrations. -- 11.12 Chromatic Transverse Aberrations. -- 11.13 Literature. -- 12 Wave Optics. -- 12.1 Basic Principles. -- 12.2 Point-spread Function. -- 12.3 Fourier Theory of Image Formation. -- 12.4 Transfer Functions. -- 12.5 Literature. -- 13 Plano-optical Components. -- 13.1 Plane-parallel plates. -- 13.2 Dispersion Prisms. -- 13.3 Reflection Prisms. -- 13.4 Construction Designs for Reflection Prisms. -- 13.5 Prism Systems. -- 13.6 Filters. -- 13.7 Literature. -- 14 Gratings. -- 14.1 Diffraction by a Slit. -- 14.2 Diffraction Gratings. -- 14.3 Blazed Gratings. -- 14.4 Fourier Theory of the Grating Diffraction. -- 14.5 Transmission Gratings. -- 14.6 Types of Grating. -- 14.7 Gratings in Image Formation Systems. -- 14.8 Diffraction by a Grating in the General Case. -- 14.9 Literature. -- 15 Special Components. -- 15.1 Aspherical Devices. -- 15.2 Gradient-index Lenses. -- 15.3 Diffusing Disks. -- 15.4 Cylinder Lenses. -- 15.5 Simple Cylinder Lenses. -- 15.6 Dynamic Light Modulators. -- 15.7 Fresnel Lenses. -- 15.8 Light Pipes. -- 15.9 Axicons. -- 15.10 Literature. -- 16 Optical Measurement and Testing Techniques. -- 16.1 Overview. -- 16.2 Measurement of the Focal Length. -- 16.3 Measurement of Angles. -- 16.4 Centering. -- 16.5 Measuring the Index of Refraction. -- 16.6 Surface-shape Measurement. -- 16.7 Testing of Surface Radii and Shapes. -- 16.8 Measuring Wavefronts. -- 16.9 Measurement of the Optical Transfer Function. -- 16.10 Beam-quality Measurement. -- 16.11 Coherence Measurement. -- 16.12 Polarization Measurement. -- 16.13 Stray-light Measurement. -- 16.14 Color Measurement. -- 16.15 Literature. Index.

Sommario/riassunto

Optical systems have a wide range of technical applications (e.g. viewing devices, lens systems) and uses in industrial manufacturing. And while the design of optical systems requires a high level of expertise, there is, to date, no resource available, which allows beginners to learn optical design.