

1. Record Nr.	UNINA9911004765103321
Autore	Conrady A. E
Titolo	Applied Optics and Optical Design, Part One
Pubbl/distr/stampa	New York : , : Dover Publications, , 1988
ISBN	9780486151229 0486151220 9781621986492 1621986497
Edizione	[1st ed.]
Descrizione fisica	1 online resource (990 p.)
Collana	Dover Books on Physics
Disciplina	535.3
Soggetti	Lenses -- Design and construction Optical instruments -- Design and construction Optical instruments Optics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Title Page; Copyright Page; PREFACE; Table of Contents; INTRODUCTION; CHAPTER I - FUNDAMENTAL EQUATIONS; NUMERICAL CALCULATIONS; GENERAL VALIDITY OF THE STANDARD EQUATIONS; ADDITIONAL COMPUTING FORMULAE; PLANE SURFACES; OPENING A CALCULATION; PARAXIAL RAYS; THEOREM OF LAGRANGE; LONGITUDINAL MAGNIFICATION; NUMERICAL CALCULATIONS (continued); ALTERNATIVE CHECK-METHOD; SIMPLE LENSES; CHAPTER II - SPHERICAL ABERRATION; DISCUSSION OF EQUATION (10); PRIMARY SPHERICAL ABERRATION; SECONDARY AND HIGHER SPHERICAL ABERRATION; ALTERNATIVE EQUATIONS; GRAPHIC REPRESENTATION OF THE ABERRATION OTHER MEASURES OF SPHERICAL ABERRATION OVER- AND UNDER-CORRECTION; THE DISK OF LEAST CONFUSION; Special Memoranda from Chapter II; CHAPTER III - PHYSICAL ASPECT OF OPTICAL IMAGES; THE AIRY SPURIOUS DISK; RESOLVING POWER OF OPTICAL INSTRUMENTS; EFFECT OF IMPERFECTIONS; THE RAYLEIGH LIMIT; OPTICAL TOLERANCES; THE FOCAL RANGE; TOLERANCE FOR PRIMARY SPHERICAL ABERRATION; TOLERANCE FOR ZONAL ABERRATION;

RESOLVING POWER IN PRESENCE OF DEFECTS; Special Memoranda from Chapter III; CHAPTER IV - CHROMATIC ABERRATION; OPTICAL GLASS; THE SECONDARY SPECTRUM; PHOTOVISUAL OBJECTIVES  
 THE PRINCIPAL TYPES OF ACHROMATISM CHROMATIC ABERRATION OF SEPARATED THIN LENSES; PRIMARY CHROMATIC ABERRATION; CHROMATIC ABERRATION AT FINITE APERTURE; TRIGONOMETRICAL METHODS OF CHROMATIC CORRECTION; CHROMATIC TOLERANCES; CHAPTER V - DESIGN OF ACHROMATIC OBJECT-GLASSES; A. THE PURELY TRIGONOMETRICAL METHOD; B. SOLUTIONS BY ALGEBRAICAL APPROXIMATION; C. HYBRID METHODS OF SOLUTION; USE OF TOLERANCES IN LENS-DESIGN; Special Memoranda from Chapter V; CHAPTER VI - EXTRA-AXIAL IMAGE-POINTS; THE PRIMARY ABERRATIONS OF OBLIQUE PENCILS; GENERAL SOLUTION OF THE PROBLEM  
 SUMMATION FOR A COMPLETE CENTRED SYSTEM DISCUSSION OF THE OBLIQUE ABERRATIONS; CHROMATIC ABERRATIONS OF OBLIQUE PENCILS; SUMMARY OF THE DISCUSSION; CALCULATION OF THE SEIDEL ABERRATIONS; THE SEIDEL ABERRATIONS FOR THIN LENSES; FUNDAMENTAL LAWS OF OBLIQUE PENCILS; SYSTEMS OF SEPARATED THIN COMPONENTS; CHAPTER VII - THE OPTICAL SINE THEOREM; APPLICATIONS OF THE SINE THEOREM; DESIGN OF APLANATIC OBJECT-GLASSES; OTHER APPLICATIONS OF THE SINE THEOREM; Special Memoranda from Chapter VII; CHAPTER VIII - TRIGONOMETRICAL TRACING OF OBLIQUE PENCILS; A. TANGENTIAL RAYS  
 B. NARROW TANGENTIAL AND SAGITTAL FANS OF RAYS  
 C. SKEW RAYS;  
 D. CLOSE SAGITTAL RAYS; CHAPTER IX - GENERAL THEORY OF PERFECT OPTICAL SYSTEMS; CHARACTERISTIC DATA OF AN OPTICAL SYSTEM; CONJUGATE ANGLES OF CONVERGENCE.; MEASURES OF MAGNIFICATION; THE NODAL POINTS; CHAPTER X - ORDINARY EYEPIECES; HUYGENIAN EYEPIECES; RAMSDEN EYEPIECES; APPENDIX; INDEX

---

Sommario/riassunto

"For the optical engineer it is an indispensable work." - Journal, Optical Society of America  
 "As a practical guide this book has no rival."  
 - Transactions, Optical Society  
 "A noteworthy contribution," - Nature (London)  
 Part I covers all ordinary ray-tracing methods, together with the complete theory of primary aberrations and as much of higher aberration as is needed for the design of telescopes, low-power microscopes and simple optical systems. Chapters: Fundamental Equations, Spherical Aberration, Physical Aspect of Optical Images, Chromatic Aberration, Design of Achromatic Object-Glass

---