

Contents

Foreword by Victor F. Weisskopf	vii
Preface by the Editor	ix
1. Geometrical Optics	1
1. Fermat's principle	1
2. The principles of Malus and Huygens. Laws of image formation	7
3. Hamilton's theory	14
4. Photometry	25
2. Theory of Interference and Diffraction	28
5. General kinematics of waves	28
6. Refraction, reflection, interference	39
7. Theory of diffraction	45
3. Maxwell's Theory	67
8. Foundations of the theory	67
9. Nonabsorbing media (Fresnel's formulae)	71
10. Absorbing media (optics of metals)	77
11. Standing waves	82
4. Crystal Optics	84
12. Relations for the wave normal	84
13. Ray variables	91
14. Singularities	99

15. Light entering and leaving crystals	106
5. Molecular Optics	109
16. Dispersion by undamped oscillators	109
17. Dispersion by damped oscillators	117
18. Scattering of light	121
19. Optical activity	133
20. Magneto-optics	143
Supplementary Bibliography	149
Appendix. Comments by the Editor	151
Index	155