Volume I

SCIENTIFIC PAPERS OF C V RAMAN

SCATTERING OF LIGHT

Scientific Papers of

C V RAMAN

Volume I
SCATTERING OF LIGHT

Edited by

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TABLE OF CONTENTS

1. Acknowledgements vii
2. Introduction ix
3. Contents xv
4. The papers 1–540
5. Index to co-authors 541
6. Subject index 541
7. Name index 545
8. Papers published from C V Raman's laboratory on the subjects covered in this volume
   a) list of papers 549
   b) author index 567
9. Consolidated list of C V Raman's scientific papers—Volumes I–VI 569

Consolidated list of C V Raman's scientific papers

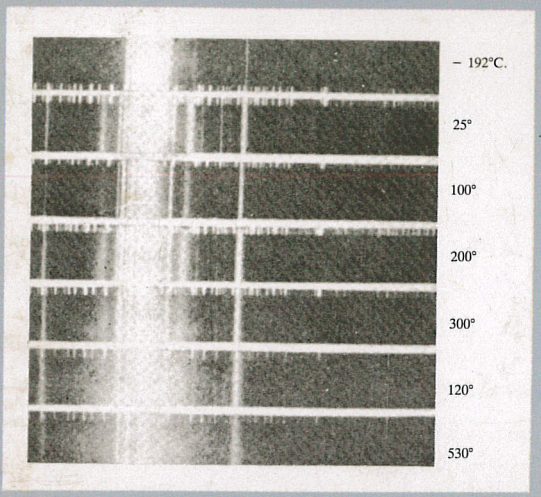
Volume I. Scattering of Light

1. The Doppler effect in the molecular scattering of radiation [1919 *Nature* (*London*) **103** 165]
2. On the transmission colours of sulphur suspensions [1921 *Proc. R. Soc. London* **A100** 102; with B B Ray]
3. A method of improving visibility of distant objects [1921 *Nature* (*London*) **108** 242]
4. The colour of the sea [1921 *Nature* (*London*) **108** 367]
5. The molecular scattering of light in liquids and solids [1921 *Nature* (*London*) **108** 402]
6. On the molecular scattering of light in water and the colour of the sea [1922 *Proc. R. Soc. London* **A101** 64]
7. Optical observations of the thermal agitation of the atoms in crystals [1922 *Nature* (*London*) **109** 42]
8. Anisotropy of molecules [1922 *Nature* (*London*) **109** 75]
9. Molecular structure of amorphous solids [1922 *Nature* (*London*) **109** 138]
10. Molecular diffraction of light [1922 The Calcutta University Press 103 pages]
11. Diffraction by molecular clusters and the quantum structure of light [1922 *Nature* (*London*) **109** 444]
12. Molecular aelotropy in liquids [1922 *Nature* (*London*) **110** 11]
13. Opalescence phenomena in liquid mixtures [1922 *Nature* (*London*) **110** 77]
14. Transparency of liquids and colour of the sea [1922 *Nature* (*London*) **110** 280]
15. Thermal opalescence in crystals and the colour of ice in glaciers [1923 *Nature* (*London*) **111** 13]
16. On the molecular scattering of light in dense vapours and gases [1923 *Philos. Mag.* **45** 113; with K R Ramanathan]
17. On the molecular scattering and extinction of light in liquids and the determination of the Avogadro constant [1923 *Philos. Mag.* **45** 625; with K Seshagiri Rao]
18. The molecular scattering of light in liquid mixtures [1923 *Philos. Mag.* **45** 213; with K R Ramanathan]
19. On the polarization of the light scattered by gases and vapours [1923 *Philos. Mag.* **46** 426; with K Seshagiri Rao]
20. The molecular scattering of light in carbon dioxide at high pressures [1923 *Proc. R. Soc. London* **A104** 357; with K R Ramanathan]
21. The scattering of light by anisotropic molecules [1923 *Nature* (*London*) **112** 165]
22. The structure of molecules in relation to their optical anisotropy [1924 *Nature* (*London*) **114** 49]
23. The scattering of light by liquid and solid surfaces [1923 *Nature* (*London*) **112** 281]
24. Relation of Tyndall effect to osmotic pressure in colloidal solutions [1927 *Indian J. Phys.* **2** 1]
25. The scattering of X-rays in liquids [1923 *Nature* (*London*) **111** 185]
26. The nature of the liquid state [1923 *Nature* (*London*) **111** 428]

27. THE DIFFRACTION OF X-RAYS IN LIQUIDS, LIQUID MIXTURES, SOLUTIONS, FLUID CRYSTALS AND AMORPHOUS SOLIDS [1923 *Proc. Indian Assoc. Cultiv. Sci.* **8** 127; with K R Ramanathan]
28. ON THE MEAN DISTANCE BETWEEN NEIGHBOURING MOLECULES IN A FLUID [1924 *Philos. Mag.* **47** 671]
29. THE SCATTERING OF LIGHT BY LIQUID BOUNDARIES AND ITS RELATION TO SURFACE TENSION—PART I [1925 *Proc. R. Soc. London* **A108** 561; with L A Ramdas]
30. THE SCATTERING OF LIGHT BY LIQUID BOUNDARIES AND ITS RELATION TO SURFACE TENSION—PART II [1925 *Proc. R. Soc. London* **A109** 150; with L A Ramdas]
31. THE SCATTERING OF LIGHT BY LIQUID BOUNDARIES AND ITS RELATION TO SURFACE TENSION—PART III [1925 *Proc. R. Soc. London* **A109** 272; with L A Ramdas]
32. DIE ZERSTREUUNG DES LICHTES DURCH DIELEKTRISCHE KÜGELN (*German*) [1925 *Z. Phys* **33** 870]
33. ON THE THICKNESS OF THE OPTICAL TRANSITION LAYER IN LIQUID SURFACES [1927 *Philos. Mag.* **3** 220; with L A Ramdas]
34. THE BIREFRINGENCE OF CRYSTALLINE CARBONATES, NITRATES AND SULPHATES [1926 *Nature (London)* **118** 264]
35. THE ELECTRICAL POLARITY OF MOLECULES [1926 *Nature (London)* **118** 302; with K S Krishnan]
36. MAGNETIC DOUBLE-REFRACTION IN LIQUIDS, PART I: BENZENE AND ITS DERIVATIVES [1927 *Proc. R. Soc. London* **A113** 511; with K S Krishnan]
37. ELECTRIC DOUBLE-REFRACTION IN RELATION TO THE POLARITY AND OPTICAL ANISOTROPY OF MOLECULES, PART I: GASES AND VAPOURS [1927 *Philos. Mag.* **3** 713; with K S Krishnan]
38. ELECTRIC DOUBLE-REFRACTION IN RELATION TO THE POLARITY AND OPTICAL ANISOTROPY OF MOLECULES, PART II: LIQUIDS [1927 *Philos. Mag.* **3** 724; with K S Krishnan]
39. DISAPPEARANCE AND REVERSAL OF THE KERR EFFECT [1928 *Nature (London)* **121** 794; with S C Sirkar]
40. OPTIQUE—LA CONSTANTE DE BIREFRINGENCE MAGNETIQUE DU BENZENE (*French*) [1927 *C. R. Acad. Sci. Paris* **184** 449; with K S Krishnan]
41. MAGNETIC DOUBLE REFRACTION [1927 *Nature (London)* **119** 528; with I Ramakrishna Rao]
42. THE MAGNETIC ANISOTROPY OF CRYSTALLINE NITRATES AND CARBONATES [1927 *Proc. R. Soc. London* **A115** 549; with K S Krishnan]
43. A THEORY OF ELECTRIC AND MAGNETIC BIREFRINGENCE IN LIQUIDS [1927 *Proc. R. Soc. London* **A117** 1; with K S Krishnan]
44. A THEORY OF THE OPTICAL AND ELECTRICAL PROPERTIES OF LIQUIDS [1928 *Proc. R. Soc. London* **A117** 589; with K S Krishnan]
45. THE MAXWELL EFFECT IN LIQUIDS [1927 *Nature (London)* **120** 726; with K S Krishnan]
46. A THEORY OF THE BIREFRINGENCE INDUCED BY FLOW IN LIQUIDS [1928 *Philos. Mag.* **5** 769; with K S Krishnan]
47. THE SCATTERING OF LIGHT IN AMORPHOUS SOLIDS [1927 *J. Opt. Soc. Am.* **15** 185]
48. THE MOLECULAR SCATTERING OF LIGHT IN A BINARY LIQUID MIXTURE [1927 *Philos. Mag.* **4** 447]
49. A THEORY OF LIGHT-SCATTERING IN LIQUIDS [1929 *Philos. Mag.* **5** 498; with K S Krishnan]
50. THE THEORY OF LIGHT-SCATTERING IN LIQUIDS [1929 *Philos. Mag.* **7** 160]
51. OPTICAL BEHAVIOUR OF PROTEIN SOLUTIONS [1927 *Nature (London)* **120** 158]
52. X-RAY DIFFRACTION IN LIQUIDS [1927 *Nature (London)* **119** 601; with C M Sogani]
53. X-RAY DIFFRACTION IN LIQUIDS [1927 *Nature (London)* **120** 514; with C M Sogani]
54. THERMAL DEGENERATION OF THE X-RAY HALOES IN LIQUIDS [1927 *Nature (London)* **120** 770]
55. A CRITICAL-ABSORPTION PHOTOMETER FOR THE STUDY OF THE COMPTON EFFECT [1928 *Proc. R. Soc. London* **A119** 526; with C M Sogani]

56. THERMODYNAMICS, WAVE-THEORY AND THE COMPTON EFFECT [1927 *Nature* (*London*) **120** 950]
57. A CLASSICAL DERIVATION OF THE COMPTON EFFECT [1928 *Indian J. Phys.* **3** 357]
58. A NEW TYPE OF SECONDARY RADIATION [1928 *Nature* (*London*) **121** 501; with K S Krishnan]
59. A CHANGE OF WAVELENGTH IN LIGHT-SCATTERING [1928 *Nature* (*London*) **121** 619]
60. A NEW RADIATION [1928 *Indian J. Phys.* **2** 387]
61. THE OPTICAL ANALOGUE OF THE COMPTON EFFECT [1928 *Nature* (*London*) **121** 711; with K S Krishnan]
62. A NEW CLASS OF SPECTRA DUE TO SECONDARY RADIATION, PART I [1928 *Indian J. Phys.* **2** 399; with K S Krishnan]
63. THE NEGATIVE ABSORPTION OF RADIATION [1928 *Nature* (*London*) **122** 12; with K S Krishnan]
64. POLARIZATION OF SCATTERED LIGHT-QUANTA [1928 *Nature* (*London*) **122** 169; with K S Krishnan]
65. MOLECULAR SPECTRA IN THE EXTREME INFRARED [1928 *Nature* (*London*) **122** 278; with K S Krishnan]
66. THE PRODUCTION OF NEW RADIATIONS BY LIGHT SCATTERING—PART I [1929 *Proc. R. Soc. London* **A122** 23; with K S Krishnan]
67. ROTATION OF MOLECULES INDUCED BY LIGHT [1928 *Nature* (*London*) **122** 882; with K S Krishnan]
68. INVESTIGATIONS OF THE SCATTERING OF LIGHT [1929 *Nature* (*London*) **123** 50]
69. THE RAMAN EFFECT: INVESTIGATION OF MOLECULAR STRUCTURE BY LIGHT SCATTERING [1929 *Trans. Faraday Soc.* **25** 781]
70. THE MOLECULAR SCATTERING OF LIGHT, NOBEL LECTURE DELIVERED AT STOCKHOLM, 11th December 1930
71. COLOUR AND OPTICAL ANISOTROPY OF ORGANIC COMPOUNDS [1929 *Nature* (*London*) **123** 494]
72. MAGNETIC BEHAVIOUR OF ORGANIC CRYSTALS [1929 *Nature* (*London*) **123** 605]
73. THE RELATION BETWEEN COLOUR AND MOLECULAR STRUCTURE IN ORGANIC COMPOUNDS [1929 *Indian J. Phys.* **4** 57; with S Bhagavantam]
74. DIAMAGNETISM AND CRYSTAL STRUCTURE [1929 *Nature* (*London*) **123** 945]
75. A NEW X-RAY EFFECT [1929 *Nature* (*London*) **124** 53; with P Krishnamurti]
76. ANOMALOUS DIAMAGNETISM [1929 *Nature* (*London*) **124** 412]
77. DIAMAGNETISM AND MOLECULAR STRUCTURE [1930 *Proc. Phys. Soc.* **42** 309]
78. A NEW TYPE OF MAGNETIC BIREFRINGENCE [1931 *Nature* (*London*) **128** 758; with S W Chinchalkar]
79. ATOMS AND MOLECULES AS FITZGERALD OSCILLATORS [1931 *Nature* (*London*) **128** 795]
80. EVIDENCE FOR THE SPIN OF THE PHOTON FROM LIGHT-SCATTERING [1931 *Nature* (*London*) **128** 114; with S Bhagavantam]
81. THE ANGULAR MOMENTUM OF LIGHT [1931 *Nature* (*London*) **128** 545]
82. EXPERIMENTAL PROOF OF THE SPIN OF THE PHOTON [1931 *Indian J. Phys.* **6** 353; with S Bhagavantam]
83. EXPERIMENTAL PROOF OF THE SPIN OF THE PHOTON [1932 *Nature* (*London*) **129** 22; with S Bhagavantam]
84. DOPPLER EFFECT IN LIGHT-SCATTERING [1931 *Nature* (*London*) **128** 636]
85. NATURE OF THE THERMAL AGITATION IN LIQUIDS [1935 *Nature* (*London*) **135** 761; with B V Raghavendra Rao]
86. ACOUSTIC SPECTRUM OF LIQUIDS [1937 *Nature* (*London*) **139** 584; with B V Raghavendra Rao]
87. LIGHT SCATTERING AND FLUID VISCOSITY [1938 *Nature* (*London*) **141** 242; with B V Raghavendra Rao]
88. NEW METHODS IN THE STUDY OF LIGHT SCATTERING, PART I: BASIC IDEAS [1941 *Proc. Indian Acad. Sci.* **A14** 228]

89. DETERMINATION OF THE ADIABATIC PIEZO-OPTIC COEFFICIENT OF LIQUIDS [1939 *Proc. R. Soc. London* **A171** 137; with K S Venkataraman]
90. SPECTROSCOPIC INVESTIGATION OF THE SOLID AND LIQUID STATES [1942 *Curr. Sci.* **11** 225]
91. THE NATURE OF THE LIQUID STATE [1942 *Curr. Sci.* **11** 303]
92. THE $\alpha - \beta$ TRANSFORMATION OF QUARTZ [1940 *Nature (London)* **145** 147; with T M K Nedangadi]
93. LATTICE OSCILLATIONS IN CRYSTALS [1939 *Nature (London)* **143** 679; with T M K Nedungadi]
94. SCATTERING OF LIGHT IN CRYSTALS [1945 *Nature (London)* **155** 396]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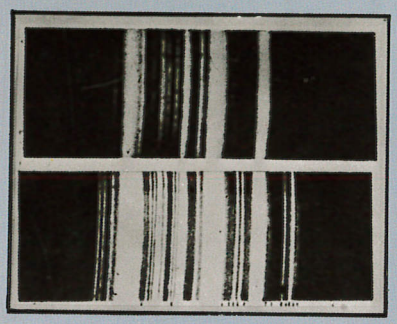

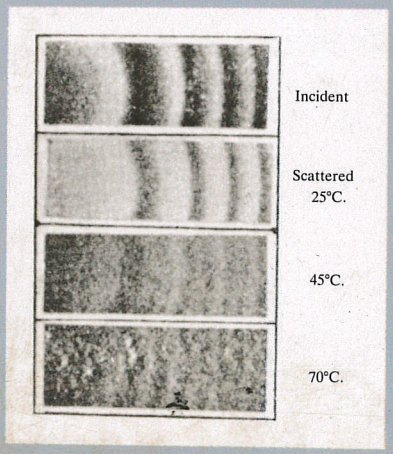
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