

## Publications of Edward A. Mason

1. Diffusion Coefficients of the Systems  $\text{CO}_2\text{-CO}_2$  and  $\text{CO}_2\text{-NO}$ . I. Amdur, J. W. Irvine Jr., E. A. Mason, and J. Ross, *J. Chem. Phys.* **20**:436 (1952).
2. Intermolecular Potentials for the Systems  $\text{CO}_2\text{-CO}_2$  and  $\text{CO}_2\text{-N}_2\text{O}$ . I. Amdur, J. Ross, and E. A. Mason, *J. Chem. Phys.* **20**:1620 (1952).
3. Transport Properties of Gases Obeying a Modified Buckingham (exp-six) Potential. E. A. Mason, *J. Chem. Phys.* **22**:169 (1954).
4. The Intermolecular Potentials of Helium and Hydrogen. E. A. Mason and W. E. Rice, *J. Chem. Phys.* **22**:522 (1954).
5. Scattering of High-Velocity Neutral Particles. III. Argon-Argon. I. Amdur and E. A. Mason, *J. Chem. Phys.* **22**:670 (1954).
6. The Intermolecular Potentials for Some Simple Nonpolar Molecules. E. A. Mason and W. E. Rice, *J. Chem. Phys.* **22**:843 (1954).
7. Scattering of High-Velocity Neutral Particles. IV. He-A; A-He. I. Amdur, E. A. Mason, and A. L. Harkness, *J. Chem. Phys.* **22**:1071 (1954).
8. Forces Between Unlike Molecules and the Properties of Gaseous Mixtures. E. A. Mason, *J. Chem. Phys.* **23**:49 (1955).
9. Scattering of High-Velocity Neutral Particles. V. Neon-Neon. I. Amdur and E. A. Mason, *J. Chem. Phys.* **23**:415 (1955).
10. A Simple Model for Barriers to Internal Rotation. E. A. Mason and M. M. Kreevoy, *J. Am. Chem. Soc.* **77**:5808 (1955).
11. Scattering of High-Velocity Neutral Particles. VI. Krypton-Krypton. I. Amdur and E. A. Mason, *J. Chem. Phys.* **23**:2268 (1955).
12. Calculation of Interaction Potentials from Scattering Cross Sections. E. A. Mason, *J. Chem. Phys.* **23**:2457 (1955).
13. Calculation of Kinetic Theory Collision Integrals by Interpolation. M. J. Reisfeld and E. A. Mason, *J. Chem. Phys.* **24**:171 (1956).
14. Short-Range Intermolecular Forces. E. A. Mason and J. O. Hirschfelder, *Tex. J. Sci.* **8**:142 (1956).
15. Scattering of High-Velocity Neutral Particles. VII. Xenon-Xenon. I. Amdur and E. A. Mason, *J. Chem. Phys.* **25**:624 (1956).
16. Energy of Interaction Between a Hydrogen Atom and a Helium Atom. E. A. Mason, J. Ross, and P. N. Schatz, *J. Chem. Phys.* **25**:626 (1956).
17. Scattering of High-Velocity Neutral Particles. VIII. H-He. I. Amdur and E. A. Mason, *J. Chem. Phys.* **25**:630 (1956).
18. Scattering of High-Velocity Neutral Particles. IX. Ne-A; A-Ne. I. Amdur and E. A. Mason, *J. Chem. Phys.* **25**:632 (1956).
19. The Energy of Interaction of  $\text{He}^+$  and  $\text{H}^-$ . J. Ross and E. A. Mason, *Astrophys. J.* **124**:485 (1956).
20. Short-Range Intermolecular Forces. I. E. A. Mason and J. O. Hirschfelder, *J. Chem. Phys.* **26**:173 (1957).
21. Scattering of Low-Velocity Molecular Beams in Gases. E. A. Mason, *J. Chem. Phys.* **26**:667 (1957).

22. Short-Range Intermolecular Forces. II.  $H_2$ ,  $H_2$  and  $H_2$ ,  $H$ . E. A. Mason and J. O. Hirschfelder, *J. Chem. Phys.* **26**:756 (1957).
23. Higher Approximations for the Transport Properties of Binary Gas Mixtures. I. General Formulas. E. A. Mason, *J. Chem. Phys.* **27**:75 (1957).
24. Scattering of High-Velocity Neutral Particles. X.  $He$ ,  $N_2$ ; A.  $N_2$ , The  $N_2$ ,  $N_2$  Interaction. I. Amdur, E. A. Mason, and J. E. Jordan, *J. Chem. Phys.* **27**:527 (1957).
25. Higher Approximations for the Transport Properties of Binary Gas Mixtures. II. Applications. E. A. Mason, *J. Chem. Phys.* **27**:782 (1957).
26. A Simple Model for Barriers to Internal Rotation. II. Rotational Isomers. M. M. Kreevoy and E. A. Mason, *J. Am. Chem. Soc.* **79**:4851 (1957).
27. Interaction Energies and Scattering Cross Sections of Hydrogen Ions in Helium. E. A. Mason and J. T. Vanderslice, *J. Chem. Phys.* **27**:917 (1957).
28. Scattering Cross Sections and Interactions Energies of Low-Velocity  $He^+$  Ions in Helium. E. A. Mason and J. T. Vanderslice, *Phys. Rev.* **108**:293 (1957).
29. Thermal Diffusion and the Approach to the Steady State in  $H_2$ - $CO_2$  and  $He$ - $CO_2$ . H. K. Lonsdale and E. A. Mason, *J. Phys. Chem.* **61**:1544 (1957).
30. Interaction Energy and Scattering Cross Sections of  $H^-$  Ions in Helium. E. A. Mason and J. T. Vanderslice, *J. Chem. Phys.* **28**:253 (1958).
31. Delta-Function Model for Short-Range Intermolecular Forces. I. Rare Gases. E. A. Mason and J. T. Vanderslice, *J. Chem. Phys.* **28**:432 (1958).
32. Higher Approximations for the Transport Properties of Binary Gas Mixtures. III. Isotopic Thermal Diffusion. S. C. Saxena and E. A. Mason, *J. Chem. Phys.* **28**:623 (1958).
33. Thermal Conductivity of Multicomponent Gas Mixtures. E. A. Mason, *J. Chem. Phys.* **28**:1000 (1958).
34. Interactions of  $H^-$  Ions and  $H$  Atoms with  $Ne$ ,  $A$ , and  $H_2$ . E. A. Mason and J. T. Vanderslice, *J. Chem. Phys.* **28**:1070 (1958).
35. Calculation of Virial and Joule-Thomson Coefficients at Extremely High Temperatures. E. A. Mason and J. T. Vanderslice, *Ind. Eng. Chem.* **50**:1033 (1958).
36. Mobility of Gaseous Ions in Weak Electric Fields. E. A. Mason and H. W. Schamp Jr., *Ann. Phys. (N. Y.)* **4**:233 (1958).
37. Compressibility and Intermolecular Forces in Gases: Methane. H. W. Schamp Jr., E. A. Mason, A. C. B. Richardson, and A. Altman, *Phys. Fluids* **1**:329 (1958).
38. Determination of the Binding Energy of  $He_2^+$  from Ion Scattering Data. E. A. Mason and J. T. Vanderslice, *J. Chem. Phys.* **29**:361 (1958).
39. Approximate Formula for the Thermal Conductivity of Gas Mixtures. E. A. Mason and S. C. Saxena, *Phys. Fluids* **1**:361 (1958).
40. Properties of Gases at Very High Temperatures. I. Amdur and E. A. Mason, *Phys. Fluids* **1**:370 (1958).
41. Interaction Energy and Mobility of  $Li^+$  Ions in Helium. E. A. Mason, H. W. Schamp Jr., and J. T. Vanderslice, *Phys. Rev.* **112**:445 (1958).
42. Note on the Absorption of Radiation by a Cylindrical Sample of a Strong Absorber. E. A. Mason, *J. Chem. Phys.* **29**:1184 (1958).
43. Interactions between Ground-State Nitrogen Atoms and Molecules. The  $N-N$ ,  $N$ ,  $N_2$ , and  $N_2$ ,  $N_2$  Interactions. J. T. Vanderslice, E. A. Mason, and E. R. Lippincott, *J. Chem. Phys.* **30**:129 (1959).
44. Ground State of Hydrogen by the Rydberg-Klein-Rees Method. J. T. Vanderslice, E. A. Mason, W. G. Maisch, and E. R. Lippincott, *J. Mol. Spectrosc.* **3**:17 (1959). Erratum, *ibid* **5**:83 (1960).
45. Binding Energy of  $Ne_2^+$  from Ion Scattering Data. E. A. Mason and J. T. Vanderslice, *J. Chem. Phys.* **30**:599 (1959).
46. Mobility of Hydrogen Ions ( $H^+$ ,  $H_2^+$ ,  $H_3^+$ ) in Hydrogen. E. A. Mason and J. T. Vanderslice, *Phys. Rev.* **114**:497 (1959).
47. Diffusion Coefficients of Gases from the Rate of Approach to the Steady State in Thermal Diffusion. S. C. Saxena and E. A. Mason, *Mol. Phys.* **2**:264 (1959).
48. Thermal Conductivity of Multicomponent Gas Mixtures. II. E. A. Mason and S. C. Saxena, *J. Chem. Phys.* **31**:511 (1959).

49. Elastic Scattering of Slow Ions in Gases. E. A. Mason and J. T. Vanderslice. *J. Chem. Phys.* **31**:594 (1959).
50. Interactions Between Oxygen and Nitrogen: O N, O N<sub>2</sub>, and O<sub>2</sub> N<sub>2</sub>. J. T. Vanderslice, E. A. Mason, and W. G. Maisch. *J. Chem. Phys.* **31**:738 (1959).
51. Thermal Diffusion and the Approach to the Steady State in Gases: II. S. C. Saxena and E. A. Mason. *Mol. Phys.* **2**:379 (1959).
52. Transport Properties of High-Temperature Multicomponent Gas Mixtures. E. A. Mason, J. T. Vanderslice, and J. M. Yos. *Phys. Fluids* **2**:688 (1959).
53. Quenching of Excited Hg(<sup>3</sup>P<sub>1</sub>) by NO. R. J. Fallon, J. T. Vanderslice, and E. A. Mason. *J. Phys. Chem.* **63**:2082 (1959).
54. Energies of Various Interactions between Hydrogen and Helium Atoms and Ions. R. J. Fallon, E. A. Mason, and J. T. Vanderslice. *Astrophys. J.* **131**:12 (1960).
55. Interactions between Ground-State Oxygen Atoms and Molecules O-O and O<sub>2</sub> O<sub>2</sub>. J. T. Vanderslice, E. A. Mason, and W. G. Maisch. *J. Chem. Phys.* **32**:515 (1960).
56. Potential Energy Curves of Hydrogen Fluoride. R. J. Fallon, J. T. Vanderslice, and E. A. Mason. *J. Chem. Phys.* **32**:698 (1960).
57. Mechanism of Ozone Production by the Mercury Sensitized Reaction of Oxygen. R. J. Fallon, J. T. Vanderslice, and E. A. Mason. *J. Phys. Chem.* **64**:505 (1960).
58. Quantum Mechanical Calculations of Short-Range Intermolecular Forces. J. T. Vanderslice and E. A. Mason. *Rivs. Mod. Phys.* **32**:417 (1960).
59. Potential Energy Curves for Lithium Hydride. R. J. Fallon, J. T. Vanderslice, and E. A. Mason. *J. Chem. Phys.* **32**:1453 (1960).
60. Redetermination of the Intermolecular Potential for Krypton. E. A. Mason. *J. Chem. Phys.* **32**:1832 (1960).
61. Thermal Conductivities of Rare Gas Mixtures. E. A. Mason and H. von Uebisch. *Phys. Fluids* **3**:355 (1960).
62. Note on the Viscosity of N<sub>2</sub> CO<sub>2</sub> Mixtures. S. Weissman and E. A. Mason. *Physica* **26**:531 (1960).
63. Intermolecular Forces from Diffusion and Thermal Diffusion Measurements. S. Weissman, S. C. Saxena, and E. A. Mason. *Phys. Fluids* **3**:510 (1960).
64. Interaction Energies for the H-H<sub>2</sub>-H<sub>2</sub> Systems. J. T. Vanderslice and E. A. Mason. *J. Chem. Phys.* **33**:492 (1960).
65. Potential Curves for N<sub>2</sub>, NO, and O<sub>3</sub>. J. T. Vanderslice, E. A. Mason, W. G. Maisch, and E. R. Lippincott. *J. Chem. Phys.* **33**:614 (1960).
66. Erratum: Potential Curves for HF and LiH. R. J. Fallon, J. T. Vanderslice, and E. A. Mason. *J. Chem. Phys.* **33**:944 (1960).
67. Kirkendall Effect in Gaseous Diffusion. K. P. McCarty and E. A. Mason. *Phys. Fluids* **3**:908 (1960).
68. Diffusion and Thermal Diffusion in Ne CO<sub>2</sub>. S. Weissman, S. C. Saxena, and E. A. Mason. *Phys. Fluids* **4**:643 (1961).
69. Kirkendall Effect in Gases. E. A. Mason, L. Miller, and P. C. Carman. *Nature* **181**:375 (1961).
70. Transport Properties of Dissociating Air. W. L. Bade, E. A. Mason, and K. S. Yun. *Am. Rocket Soc. J.* **31**:1151 (1961).
71. Scattering of High-Velocity Neutral Particles. XII. He-CH<sub>4</sub>; He-CF<sub>4</sub>, CH<sub>4</sub>-CH<sub>4</sub> and CF<sub>4</sub>-CF<sub>4</sub> Interactions. I. Amdur, M. S. Longmire, and E. A. Mason. *J. Chem. Phys.* **35**:895 (1961).
72. Transport Properties of Polar Gases. L. Monchick and E. A. Mason. *J. Chem. Phys.* **35**:1676 (1961).
73. Kirkendall Effect in Gaseous Diffusion. II. Absolute Determination of Diffusion Coefficients. E. A. Mason. *Phys. Fluids* **4**:1504 (1961).
74. Gaseous Diffusion in Porous Media at Uniform Pressure. R. B. Evans III, G. M. Watson, and E. A. Mason. *J. Chem. Phys.* **35**:2076 (1961).
75. Intermolecular Potential for Krypton. E. A. Mason. *J. Chem. Phys.* **35**:2245 (1961).
76. Relations Among Potential Energy Curves of Diatomic Molecules. J. T. Vanderslice and

- E. A. Mason, in *Advances in Molecular Spectroscopy*, A. Mangini, ed. (Pergamon, New York, 1962), p. 323.
77. Motion of Small Suspended Particles in Non-Uniform Gases. E. A. Mason and S. Chapman, *J. Chem. Phys.* **36**:627 (1962).
  78. Estimation of the Mutual Diffusion Coefficient of Hydrogen Atoms and Molecules. S. Weissman and E. A. Mason, *J. Chem. Phys.* **36**:794 (1962).
  79. High-Temperature Transport Properties of Dissociating Hydrogen. J. T. Vanderslice, S. Weissman, E. A. Mason, and R. J. Fallon, *Phys. Fluids* **5**:155 (1962).
  80. Binding Energy of  $\text{Ar}_2^+$  from Ion Scattering Data. R. D. Cloney, E. A. Mason, and J. T. Vanderslice, *J. Chem. Phys.* **36**:1103 (1962).
  81. Heat Conductivity of Polyatomic and Polar Gases. E. A. Mason and L. Monchick, *J. Chem. Phys.* **36**:1622 (1962).
  82. Collision Integrals for the Transport Properties of Dissociating Air at High Temperatures. K. S. Yun and E. A. Mason, *Phys. Fluids* **5**:380 (1962).
  83. Gaseous Diffusion in Porous Media. II. Effect of Pressure Gradients. R. B. Evans III, G. M. Watson, and E. A. Mason, *J. Chem. Phys.* **36**:1894 (1962).
  84. Transport Properties of Polar Gas Mixtures. E. A. Mason and L. Monchick, *J. Chem. Phys.* **36**:2746 (1962).
  85. High-Temperature Transport Properties of Dissociating Nitrogen and Dissociating Oxygen. K. S. Yun, S. Weissman, and E. A. Mason, *Phys. Fluids* **5**:672 (1962).
  86. High-Energy Elastic Scattering of Atoms, Molecules, and Ions. E. A. Mason and J. T. Vanderslice, in *Atomic and Molecular Processes*, D. R. Bates, ed. (Academic, New York, 1962), p. 663.
  87. Compressibility and Intermolecular Forces in Gases. II. Nitrous Oxide. H. W. Schamp Jr., E. A. Mason, and K. Su, *Phys. Fluids* **5**:769 (1962).
  88. Determination of Gaseous Diffusion Coefficients from Viscosity Measurements. S. Weissman and E. A. Mason, *J. Chem. Phys.* **37**:1289 (1962).
  89. Relaxation Effects in the Transport Properties of a Gas of Rough Spheres. L. Monchick, K. S. Yun, and E. A. Mason, *J. Chem. Phys.* **38**:1282 (1963).
  90. Gaseous Self-Diffusion in a Temperature Gradient. R. P. Wendt, J. N. Mundy, S. Weissman, and E. A. Mason, *Phys. Fluids* **6**:372 (1963).
  91. Gaseous Diffusion in Porous Media. III. Thermal Transpiration. E. A. Mason, R. B. Evans, III, and G. M. Watson, *J. Chem. Phys.* **38**:1808 (1963).
  92. Molecular Relaxation Times from Thermal Transpiration Measurements. E. A. Mason, *J. Chem. Phys.* **39**:522 (1963).
  93. Formal Kinetic Theory of Transport Phenomena in Polyatomic Gas Mixtures. L. Monchick, K. S. Yun, and E. A. Mason, *J. Chem. Phys.* **39**:654 (1963).
  94. Interaction Energies and Transport Coefficients of  $\text{Li} + \text{H}$  and  $\text{O} + \text{H}$  Gas Mixtures at High Temperatures. P. H. Krupenie, E. A. Mason, and J. T. Vanderslice, *J. Chem. Phys.* **39**:2399 (1963).
  95. Molecular Theory of Gas Properties. E. A. Mason, *J. Wash. Acad. Sci.* **53**:223 (1963).
  96. Composition Dependence of Gaseous Thermal Diffusion Factors and Mutual Diffusion Coefficients. E. A. Mason, S. Weissman, and R. P. Wendt, *Phys. Fluids* **7**:174 (1964).
  97. Quantum Effects in Small-Angle Molecular-Beam Scattering. E. A. Mason, J. T. Vanderslice, and C. J. G. Raw, *J. Chem. Phys.* **40**:2153 (1964).
  98. Interaction Energies, Charge-Exchange Cross Sections, and Diffusion Cross Sections for  $\text{N}^+ - \text{N}$  and  $\text{O}^+ - \text{O}$  Collisions. H. Knof, E. A. Mason, and J. T. Vanderslice, *J. Chem. Phys.* **40**:3548 (1964).
  99. Thermal Diffusion and Diffusion in Hydrogen-Krypton Mixtures. E. A. Mason, M. Islam, and S. Weissman, *Phys. Fluids* **7**:1011 (1964).
  100. Supernumerary Rainbows in Molecular Scattering. E. A. Mason and L. Monchick, *J. Chem. Phys.* **4**:2221 (1964).
  101. Scattering of High-Velocity Neutral Particles. XIII.  $\text{Ar}-\text{CH}_4$ ; A Test of the Peripheral Force Approximation. E. A. Mason and I. Amdur, *J. Chem. Phys.* **41**:2695 (1964).
  102. Gaseous Diffusion in Porous Media. IV. Thermal Diffusion. E. A. Mason and A. P. Malinauskas, *J. Chem. Phys.* **41**:3815 (1964).

103. Some Aspects of the Quantal and Semiclassical Calculation of Phase Shifts and Cross Sections for Molecular Scattering and Transport. R. J. Munn, E. A. Mason, and F. J. Smith, *J. Chem. Phys.* **41**:3978 (1964). Erratum, *ibid.* **43**:2158 (1965).
104. Transport Collision Integrals for Quantum Gases Obeying a 12-6 Potential. R. J. Munn, F. J. Smith, E. A. Mason, and L. Monchick, *J. Chem. Phys.* **42**:537 (1965).
105. Transport Collision Integrals for Gases Obeying 9-6 and 28-7 Potentials. F. J. Smith, E. A. Mason, and R. J. Munn, *J. Chem. Phys.* **42**:1334 (1965).
106. High-Temperature Transport Properties of Alkali Metal Vapors. R. H. Davies, E. A. Mason, and R. J. Munn, *Phys. Fluids* **8**:444 (1965).
107. Heat Conductivity of Polyatomic and Polar Gases and Gas Mixtures. L. Monchick, A. N. G. Pereira, and E. A. Mason, *J. Chem. Phys.* **42**:3241 (1965).
108. Higher-Order Stationary-Phase Approximations in Semiclassical Scattering. F. J. Smith, E. A. Mason, and J. T. Vanderslice, *J. Chem. Phys.* **42**:3257 (1965).
109. Diffusion Coefficients of  $T_2-H_2$  and  $T_2-D_2$ . The Nonequivalence of the  $H_2$  and  $D_2$  Cross Sections. E. A. Mason, B. K. Annis, and M. Islam, *J. Chem. Phys.* **42**:3364 (1965).
110. Survey of the Equation of State and Transport Properties of Moist Gases. E. A. Mason and L. Monchick in *Proceedings of the 1963 International Symposium on Humidity and Moisture*, Vol. 3 (Reinhold, New York, 1965), p. 257.
111. Collision Integrals for the Exponential Attractive Potential. R. J. Munn, E. A. Mason, and F. J. Smith, *Phys. Fluids* **8**:1103 (1965).
112. Gaseous Diffusion in a Temperature Gradient. E. A. Mason and S. Weissman, *Phys. Fluids* **8**:1240 (1965).
113. Transport Properties of Gaseous  $He^3$  and  $He^4$ . L. Monchick, E. A. Mason, R. J. Munn, and F. J. Smith, *Phys. Rev.* **139**:A1076 (1965).
114. Virial Coefficients for the Exponential Repulsive Potential. A. E. Sherwood and E. A. Mason, *Phys. Fluids* **8**:1577 (1965).
115. Classical Collision Integrals for the Repulsive Screened Coulomb Potential. F. J. Smith, E. A. Mason, and R. J. Munn, *Phys. Fluids* **8**:1907 (1965).
116. Differences in the Spherical Intermolecular Potentials of Hydrogen and Deuterium. E. A. Mason, I. Amdur, and I. Oppenheim, *J. Chem. Phys.* **43**:4458 (1965).
117. Recent Work on the Determination of the Intermolecular Potential Function. E. A. Mason, R. J. Munn, and F. J. Smith, *Discuss. Faraday Soc.* **40**:27 (1965).
118. Molecular Rainbows for the 12-6 Potential in the Airy Approximation. E. A. Mason, R. J. Munn, and F. J. Smith, *J. Chem. Phys.* **44**:1967 (1966).
119. Molecular Inelastic Collision Cross Sections from the Radiometer Force. E. A. Mason and B. Block, *Ann. Phys. (N.Y.)* **37**:7 (1966).
120. Oscillating Instabilities in Multicomponent Diffusion. L. Miller and E. A. Mason, *Phys. Fluids* **9**:711 (1966).
121. Low-Temperature Transport Properties of Gaseous  $H_2$ ,  $D_2$ , and HD. D. E. Diller and E. A. Mason, *J. Chem. Phys.* **44**:2604 (1966).
122. Nonadditivity of Intermolecular Forces: Effects on the Third Virial Coefficient. A. E. Sherwood, A. G. De Rocco, and E. A. Mason, *J. Chem. Phys.* **44**:2984 (1966).
123. Thermal Diffusion in Almost Lorentzian Mixtures. E. A. Mason and F. J. Smith, *J. Chem. Phys.* **44**:3100 (1966).
124. Thermal Diffusion in Gases. E. A. Mason, R. J. Munn, and F. J. Smith, in *Advances in Atomic and Molecular Physics*, Vol. 2, D. R. Bates and I. Estermann, eds. (Academic, New York, 1966), p. 33.
125. Thermal Diffusion in Polyatomic Gases: A Generalized Stefan-Maxwell Equation. L. Monchick, R. J. Munn, and E. A. Mason, *J. Chem. Phys.* **45**:3051 (1966). Erratum, *ibid.* **48**:3344 (1968).
126. Effect of Resonant Charge Exchange on Heat Conduction in Plasmas. E. A. Mason and M. P. Sherman, *Phys. Fluids* **9**:1989 (1966).
127. Determination of Diffusion Coefficients from Viscosity Measurements: Effect of Higher Chapman-Enskog Approximations. T. S. Storwick and E. A. Mason, *J. Chem. Phys.* **45**:3752 (1966).

128. Estimate of Molecular Sizes and Avogadro's Number from Surface Tension. E. A. Mason, *Am. J. Phys.* **34**:1193 (1966).
129. J. T. Vanderslice, H. W. Schamp Jr., and E. A. Mason, *Thermodynamics*, (Prentice-Hall, Englewood Cliffs, NJ, 1966).
130. Transport Properties of Quadrupolar Gases. F. J. Smith, R. J. Munn, and E. A. Mason, *J. Chem. Phys.* **46**:317 (1967).
131. Determination of Molecular Quadrupole Moments from Viscosities and Second Virial Coefficients. T. H. Spurling and E. A. Mason, *J. Chem. Phys.* **46**:322 (1967).
132. On the Off-Center Dipole Model for Polar Gases. T. H. Spurling and E. A. Mason, *J. Chem. Phys.* **46**:404 (1967).
133. Flow and Diffusion of Gases in Porous Media. E. A. Mason, A. P. Malinauskas, and R. B. Evans, III, *J. Chem. Phys.* **46**:3199 (1967).
134. Equal Pressure Diffusion and Graham's Law. E. A. Mason, *Am. J. Phys.* **35**:322 (1967).
135. Adiabatic Excitation Transfer in Gases: Effects on Transport. C. Nyeland and E. A. Mason, *Phys. Fluids* **10**:985 (1967).
136. Third Virial Coefficient for Air-Water Vapor Mixtures. R. W. Hyland and E. A. Mason, *J. Res. Natl. Bur. Stand.* **71A**:219 (1967).
137. Free-Flight Theory of Gas Mixtures. L. Monchick and E. A. Mason, *Phys. Fluids* **10**:1377 (1967).
138. Instabilities in Ternary Diffusion. L. Miller, T. H. Spurling, and E. A. Mason, *Phys. Fluids* **10**:1809 (1967).
139. Transport Coefficients of Ionized Gases. E. A. Mason, R. J. Munn, and F. J. Smith, *Phys. Fluids* **10**:1827 (1967).
140. Pressure Dependence of the Diffusion Thermoeffect in Gases (Dufour Effect). E. A. Mason, L. Miller, and T. H. Spurling, *J. Chem. Phys.* **47**:1669 (1967).
141. Graham's Laws of Diffusion and Effusion. E. A. Mason and B. Kronstadt, *J. Chem. Ed.* **44**:740 (1967).
142. Thermal Diffusion in a Loaded Sphere-Smooth Sphere Mixture: A Model for <sup>4</sup>He-<sup>4</sup>He and <sup>3</sup>He-HD. S. I. Sandler and E. A. Mason, *J. Chem. Phys.* **47**:4653 (1967).
143. Methods for the Determination of Intermolecular Forces. E. A. Mason and L. Monchick, in *Advances in Chemical Physics*, Vol. 12, *Intermolecular Forces*, J. O. Hirschfelder, ed. (Interscience, New York, 1967), p. 329.
144. Prediction of Transport Coefficients of Dilute Gases. E. A. Mason, in *Proceedings of the Fourth Symposium on Thermophysical Properties*, J. R. Moszynski, ed. (American Society of Mechanical Engineers, New York, 1968), p. 21.
145. Kinetic-Theory Deviations from Blanc's Law of Ion Mobilities. S. I. Sandler and E. A. Mason, *J. Chem. Phys.* **48**:2873 (1968).
146. Thermal Diffusion in Polyatomic Gases: Nonspherical Interactions. L. Monchick, S. I. Sandler, and E. A. Mason, *J. Chem. Phys.* **49**:1178 (1968).
147. Intermolecular Forces: Thermal Diffusion and Diffusion in He-Kr and H<sub>2</sub>-Kr. B. K. Annis, A. E. Humphreys, and E. A. Mason, *Phys. Fluids* **12**:2122 (1968).
148. Transport Properties of Almost-Lorentzian Mixtures. S. I. Sandler and E. A. Mason, *Phys. Fluids* **12**:71 (1969).
149. Nonisothermal Nonstationary Diffusion. B. K. Annis, A. E. Humphreys, and E. A. Mason, *Phys. Fluids* **12**:78 (1969).
150. Graham's Laws: Simple Demonstrations of Gases in Motion. Part I. Theory. E. A. Mason and R. B. Evans, III, *J. Chem. Educ.* **46**:358 (1969).
151. Graham's Laws: Simple Demonstrations of Gases in Motion. Part II. Experiments. R. B. Evans, III, L. D. Love, and E. A. Mason, *J. Chem. Educ.* **46**:423 (1969).
152. Scattering of High-Velocity Neutral Particles. XVI. Ar-Ar, Ar-He, Ar-H<sub>2</sub>. S. O. Colgate, J. E. Jordan, I. Amdur, and E. A. Mason, *J. Chem. Phys.* **51**:968 (1969).
153. Determination of the Well Depth for Weak Intermolecular Potentials. T. H. Spurling and E. A. Mason, *J. Chem. Phys.* **51**:1684 (1969).
154. Transport in Neutral Gases. E. A. Mason, in *Kinetic Processes in Gases and Plasmas*, A. R. Hochstim, ed. (Academic, New York, 1969), p. 57.

155. Some Recent Trends and Advances in Molecular Beam Research. I. Amdur, J. E. Jordan, and E. A. Mason, *Entropy* **30**:135 (1969).
156. E. A. Mason and T. H. Spurling, *The Virial Equation of State*, (Pergamon, New York, 1969).
157. Intermolecular Forces: Thermal Diffusion and Diffusion in Ar Kr. A. E. Humphreys and E. A. Mason, *Phys. Fluids* **13**:65 (1970).
158. Scattering of High-Velocity Neutral Particles. XVII. Ar-O<sub>2</sub>, Ar-N<sub>2</sub>, Ar-CO. J. E. Jordan, S. O. Colgate, I. Amdur, and E. A. Mason, *J. Chem. Phys.* **52**:1143 (1970).
159. Estimated Ion Mobilities for Some Air Constituents. E. A. Mason, *Planet. Space Sci.* **18**:137 (1970).
160. "Glorified Shadows" in Molecular Scattering: Some Optical Analogies. P. Kang, E. A. Mason, and R. J. Munn, *Am. J. Phys.* **38**:24 (1970).
161. I Am Curious (Transport Coefficients). E. A. Mason, J. R. Dorfman, and R. Zwanzig, *Am. J. Phys.* **38**:435 (1970).
162. Slip and Creep in Polyatomic Gas Mixtures. B. K. Annis and E. A. Mason, *Phys. Fluids* **13**:1452 (1970).
163. Thomas Graham and the Kinetic Theory of Gases. E. A. Mason, *Phil. J. Trans. Roy. Phil. Soc. Glasgow* **7**:99 (1970).
164. Thermal Separation of the Ortho and Para Forms of H<sub>2</sub> and D<sub>2</sub>. E. A. Mason and S. I. Sandler, *Chem. Phys. Lett.* **6**:620 (1970).
165. Intermolecular Forces and High-Temperature Properties. I. Amdur and E. A. Mason, in *Proceedings of the Fifth Symposium on Thermophysical Properties*, C. F. Bonilla, ed. (American Society of Mechanical Engineers, New York, 1970), p. 141.
166. Transport Properties of Partially-Ionized Argon. S. I. Sandler, E. J. Miller, and E. A. Mason, in *Proceedings of the Fifth Symposium on Thermophysical Properties*, C. F. Bonilla, ed. (American Society of Mechanical Engineers, New York, 1970), p. 342.
167. Thermal Effects in Rarefield Binary Gas Mixtures. R. E. Jenkins and E. A. Mason, *Phys. Fluids* **13**:2478 (1970).
168. The Diffusion of Atoms and Molecules. E. A. Mason and T. R. Marrero, in *Advances in Atomic and Molecular Physics*, Vol. 6, D. R. Bates and I. Estermann, eds. (Academic, New York, 1970), p. 155.
169. Ion Mobilities with Charge Exchange. G. Heiche and E. A. Mason, *J. Chem. Phys.* **53**:4687 (1970).
170. Quantum Transport Cross Sections for Ionized Gases. H. Hahn, E. A. Mason, and F. J. Smith, *Phys. Fluids* **14**:278 (1971).
171. Graham's Laws. E. A. Mason and P. G. Wright, *Contemp. Phys.* **12**:179 (1971).
172. Diffusion in Gases. E. A. Mason, in *Diffusion Processes*, Proceedings of the Thomas Graham Memorial Symposium, University of Strathclyde, Glasgow, Scotland, 1969 (Gordon and Breach, New York, 1971), p. 3.
173. On the Existence of Minima and Maxima in the Composition Dependence of the Thermal Diffusion Factor and Thermal Conductivity. L. Biolsi and E. A. Mason, *J. Chem. Phys.* **54**:3020 (1971).
174. Rainbows and Glories in Molecular Scattering. E. A. Mason, R. J. Munn, and F. J. Smith, *Endeavour* **30**:91 (1971).
175. Steady-State Sieving Across Membranes. E. H. Bresler, R. P. Wendt, and E. A. Mason, *Science* **172**:858 (1971).
176. Random-Phase Approximation for Transport Cross Sections. H. Hahn and E. A. Mason, *Chem. Phys. Lett.* **9**:633 (1971).
177. Heats of Transport of Ideal Gases and Gas Mixtures. A. P. Malinauskas and E. A. Mason, *Trans. Faraday Soc.* **67**:2243 (1971).
178. Ion Drift Velocities in Gaseous Mixtures at Arbitrary Field Strengths. E. A. Mason and H. Hahn, *Phys. Rev. A* **5**:438 (1972).
179. Sieving Behavior of a Series Membrane System. E. H. Bresler, E. A. Mason, and R. P. Wendt, *Science* **175**:557 (1972).
180. Molecular Beams in Chemistry. J. E. Jordan, E. A. Mason, and I. Amdur, in *Physi-*

- cal-Methods of Chemistry, Vol. I, Part IID*, A. Weissberger and B. W. Rossiter, eds. (Wiley, New York, 1972), p. 365.
181. Mobilities of Polyatomic Ions in Gases Core Model. E. A. Mason, H. O'Hara, and F. J. Smith, *J. Phys. B* 5:169 (1972).
  182. Gaseous Diffusion Coefficients. T. R. Marrero and E. A. Mason, *J. Phys. Chem. Ref. Data* 1:3 (1972).
  183. Theory of Drag on Neutral or Charged Spherical Aerosol Particles. B. K. Ennis, A. P. Malinauskas, and E. A. Mason, *J. Aerosol Sci.* 3:55 (1972).
  184. Dynamic Shielding Effects in Partially Ionized Gases. H. Hahn, E. A. Mason, E. J. Miller, and S. I. Sandler, *J. Plasma Phys.* 7:285 (1972).
  185. Thermal Conductivity and Resonant Multipole Interactions. C. Nyeland, E. A. Mason, and L. Monchick, *J. Chem. Phys.* 56:6180 (1972).
  186. Viscosity and Thermal Conductivity of Moderately Dense Gas Mixtures. W. A. Wakeham, J. Kestin, E. A. Mason, and S. I. Sandler, *J. Chem. Phys.* 57:295 (1972).
  187. Physical Interpretation of Glory Undulations in Scattering Cross Sections. E. F. Greene and E. A. Mason, *J. Chem. Phys.* 57:2065 (1972).
  188. Field Dependence of Gaseous-Ion Mobility: Theoretical Tests of Approximate Formulas. H. Hahn and E. A. Mason, *Phys. Rev. A* 6:1573 (1972).
  189. Composition Dependence of Ion Diffusion Coefficients in Gas Mixtures at Arbitrary Field Strengths. J. H. Whealton and E. A. Mason, *Phys. Rev. A* 6:1939 (1972).
  190. Test of the Onsager Relation for Ideal Gas Transport in Membranes. E. A. Mason, R. P. Wendt, and E. H. Bresler, *J. Chem. Soc. Faraday Trans. II* 68:1938 (1972).
  191. Energy Partitioning of Gaseous Ions in an Electric Field. H. Hahn and E. A. Mason, *Phys. Rev. A* 7:1407 (1973).
  192. Correlation and Prediction of Gaseous Diffusion Coefficients. T. R. Marrero and E. A. Mason, *AIChE J.* 19:498 (1973).
  193. Estimation of Dipole-Quadrupole Dispersion Energies. M. Alvarez-Rizzati and E. A. Mason, *J. Chem. Phys.* 59:518 (1973).
  194. Theory of Diffusiophoresis of Spherical Aerosol Particles and of Drag in a Gas Mixture. B. K. Annis, A. P. Malinauskas, and E. A. Mason, *J. Aerosol Sci.* 4:271 (1973).
  195. Transport Properties in Gases (Comparison Between Theory and Experiment). J. Kestin and E. A. Mason, in *Transport Phenomena—1973. AIP Conference Proceedings No. 11*, J. Kestin, ed. (American Institute of Physics, New York, 1973), p. 137.
  196. Interpretation of Glory Undulations in Scattering Cross Sections: Amplitudes. E. F. Greene and E. A. Mason, *J. Chem. Phys.* 59:2651 (1973).
  197. Theoretical Consistency Test of Steam Transport Properties. J. Thoen-Hellemans and E. A. Mason, *Int. J. Eng. Sci.* 11:1247 (1973).
  198. E. W. McDaniel and E. A. Mason, *The Mobility and Diffusion of Ions in Gases (or, Naked Came the Ion)*. (Wiley, New York, 1973).
  199. Composition Dependence of Ion Transport Coefficients in Gas Mixtures. J. H. Whealton, E. A. Mason, and R. E. Robson, *Phys. Rev. A* 9:1017 (1974).
  200. Transport Coefficients of Gaseous Ions in an Electric Field. J. H. Whealton and E. A. Mason, *Ann. Phys. (N.Y.)* 84:8 (1974).
  201. Mobilities of Some Positive and Negative Hydrogen Ions in He and H<sub>2</sub>. J. H. Whealton, E. A. Mason, and T. H. Vu, *Chem. Phys. Lett.* 28:125 (1974).
  202. Mean Energy Distribution of Gaseous Ions in Electrostatic Fields. L. A. Viehland, E. A. Mason, and J. H. Whealton, *J. Phys. B Atom. Mol. Phys.* 7:2433 (1974).
  203. The Onsager Reciprocal Relations—Experimental Evidence Discussion Paper. E. A. Mason, in *Foundations of Continuum Thermodynamics*, J. J. D. Domingos, M. N. R. Nina, and J. H. Whitelaw, eds. (Macmillan, London, 1974), p. 215.
  204. Delta-Function Model for Short-Range Interatomic Forces: Correlation Scheme for Closed-Shell Atoms and Ions. N. A. Sondergaard and E. A. Mason, *J. Chem. Phys.* 62:1299 (1975).
  205. Theory of Thermodiffusiophoresis of Spherical Aerosol Particles. B. K. Annis and E. A. Mason, *J. Aerosol Sci.* 6:105 (1975).
  206. Vanishing Rainbows Near Orbiting and the Energy Dependence of Rainbow Scattering:

- Relation to Properties of the Potential. E. F. Greene, R. B. Hall, and E. A. Mason, *J. Chem. Phys.* **62**:3554 (1975).
207. Equations for Membrane Transport: Experimental and Theoretical Tests of the Frictional Model. M. H. Daneshpajoh, E. A. Mason, E. H. Bresler, and R. P. Wendt, *Biophys. J.* **15**:591 (1975).
208. Theory of Plasma Chromatography/Gaseous Electrophoresis—Review. H. E. Revercomb and E. A. Mason, *Anal. Chem.* **47**:970 (1975).
209. Gaseous Ion Mobility in Electric Fields of Arbitrary Strength. L. A. Viehland and E. A. Mason, *Ann. Phys. (N.Y.)* **91**:499 (1975).
210. Kinetic Theory of Ion Cyclotron Resonance Collision Broadening. L. A. Viehland, E. A. Mason, and J. H. Whealton, *J. Chem. Phys.* **62**:4715 (1975).
211. Effect of Molecular Angular Momentum on the Thermal Conductivity of a Multicomponent Gas Mixture. L. Biolsi and E. A. Mason, *J. Chem. Phys.* **63**:10 (1975).
212. Short-Range He-Xe Interaction from Molecular-Beam Scattering. I. Amdur, M. J. Engler, J. E. Jordan, and E. A. Mason, *J. Chem. Phys.* **63**:597 (1975).
213. Mobilities of K<sup>+</sup> Ions in Hot Gases. E. A. Mason, L. A. Viehland, H. W. Ellis, D. R. James, and E. W. McDaniel, *Phys. Fluids* **18**:1070 (1975).
214. Hardness of Intermolecular Forces and Thermal Diffusion. E. A. Mason and L. Monchick, *Chem. Phys. Lett.* **34**:427 (1975).
215. Short-Range Interactions for SF<sub>6</sub> and CF<sub>4</sub> with He and Ar from Molecular Beam Scattering. I. Amdur, D. E. Paulsen, J. E. Jordan, and E. A. Mason, *Chem. Phys. Lett.* **35**:29 (1975).
216. Test of the Li<sup>+</sup>-He Interaction Potential. W. F. Morrison, G. R. Akridge, H. W. Ellis, R. Y. Pai, E. W. McDaniel, L. A. Viehland, and E. A. Mason, *J. Chem. Phys.* **63**:2238 (1975).
217. Atom-Molecule and Molecule-Molecule Potentials and Transport Collision Integrals for High-Temperature Air Species. S. J. Cubley and E. A. Mason, *Phys. Fluids* **18**:1109 (1975).
218. On the Relation Between Gaseous Ion Mobility and Diffusion Coefficients at Arbitrary Electric Field Strengths. L. A. Viehland and E. A. Mason, *J. Chem. Phys.* **63**:2913 (1975).
219. Scattering of High-Velocity Neutral Particles. XVIII. He-(CH<sub>3</sub>F, CH<sub>2</sub>F<sub>2</sub>, CHF<sub>3</sub>). I. Amdur, M. S. Longmire, J. E. Jordan, and E. A. Mason, *J. Chem. Phys.* **63**:2926 (1975).
220. Charge-Transfer Energy in Closed-Shell Ion-Atom Interactions. M. Alvarez-Rizzatti and E. A. Mason, *J. Chem. Phys.* **63**:5290 (1975).
221. Tables of Transport Collision Integrals for (n,6,4) Ion-Neutral Potentials. L. A. Viehland, E. A. Mason, W. F. Morrison, and M. R. Flannery, *At. Data Nucl. Data Tables* **16**:495 (1975).
222. Scattering of High-Velocity Ar Atoms by CO<sub>2</sub>, OCS, and CS<sub>2</sub>. I. Amdur, W. A. Peters, J. E. Jordan, and E. A. Mason, *J. Chem. Phys.* **64**:1538 (1976).
223. Scattering of High-Velocity He and Ar Beams by Methane, Silane, and Germane. I. Amdur, M. J. Engler, D. E. Paulsen, J. E. Jordan, and E. A. Mason, *J. Chem. Phys.* **64**:2048 (1976).
224. Scattering of High-Velocity He Atoms by C(CH<sub>3</sub>)<sub>4</sub> and Si(CH<sub>3</sub>)<sub>4</sub>. I. Amdur, A. B. Marcus, J. E. Jordan, and E. A. Mason, *J. Chem. Phys.* **64**:3602 (1976).
225. Generalized Nernst-Planck and Stefan-Maxwell Equations for Membrane Transport. G. D. Mehta, T. F. Morse, E. A. Mason, and M. H. Daneshpajoh, *J. Chem. Phys.* **64**:3917 (1976).
226. A Theory for the Composition Dependence of the Thermal Conductivity of Dense Binary Mixtures of Monatomic Gases. R. DiPippo, J. R. Dorfman, J. Kestin, H. E. Khalifa, and E. A. Mason, in *Thermal Conductivity—14*. P. G. Klemens and T. K. Chu, eds. (Plenum, New York, 1976), p. 329.
227. Molecular Orientation Effects on Thermal Conductivity and Thermal Diffusion. L. Biolsi and E. A. Mason, in *Thermal Conductivity—14*. P. G. Klemens and T. K. Chu, eds. (Plenum, New York, 1976), p. 353.
228. Kinetic-Theory Relation of Thermal Conductivity to other Gas Properties. E. A. Mason,

- in *Thermal Conductivity - 14*. P. G. Klemens and T. K. Chu, eds. (Plenum, New York, 1976), p. 409.
229. Transport Properties of Ions in Gases over a Wide Energy Range. H. W. Ellis, R. Y. Pai, E. W. McDaniel, E. A. Mason, and L. A. Viehland. *At. Data Nucl. Data Tables* **17**:177 (1976).
  230. Appraisal of Equations for Neutral Solute Flux Across Porous Sieving Membranes. E. H. Bresler, E. A. Mason, and R. P. Wendt. *Biophys. Chem.* **4**:229 (1976).
  231. Effect of Heteroporosity on Flux Equations for Membranes. R. P. Wendt, E. A. Mason, and E. H. Bresler. *Biophys. Chem.* **4**:237 (1976).
  232. Ion-Molecule Rate Coefficients from Collision-Dominated Ion Cyclotron Resonance. L. A. Viehland and E. A. Mason. *Int. J. Mass. Spectrom. Ion Phys.* **21**:43 (1976).
  233. Direct Determination of Ion-Neutral Molecule Interaction Potentials from Gaseous Ion Mobility Measurements. L. A. Viehland, M. M. Harrington, and E. A. Mason. *Chem. Phys.* **17**:433 (1976).
  234. Test of the  $H_2^+$  + He Interaction Potential Comparison of the Interactions of He with  $H^+$ ,  $H_2^+$  and  $H_3^+$  and  $H_4^+$ . L. A. Viehland, E. A. Mason, T. H. Stevens, and L. Monchick. *Chem. Phys. Lett.* **44**:360 (1976).
  235. Scattering of High-Velocity He Atoms by Hydrocarbons. J. E. Jordan and E. A. Mason. *J. Chem. Phys.* **65**:5536 (1976).
  236. Statistical-Mechanical Theory of Gaseous Ion-Molecule Reactions in an Electrostatic Field. L. A. Viehland and E. A. Mason. *J. Chem. Phys.* **66**:422 (1977).
  237. Tests of Alkali-Inert Gas Interaction Potentials by Gaseous Ion Mobility Measurements. I. R. Gatland, L. A. Viehland, and E. A. Mason. *J. Chem. Phys.* **66**:537 (1977).
  238. Composition Dependence of the Viscosity of Dense Gas Mixtures. R. DiPippo, J. R. Dorfman, J. Kestin, H. E. Khalifa, and E. A. Mason. *Physica* **86A**:205 (1977).
  239. The  $Li^+$ -He Interaction Potential. I. R. Gatland, W. F. Morrison, H. W. Ellis, M. G. Thackston, E. W. McDaniel, M. H. Alexander, L. A. Viehland, and E. A. Mason. *J. Chem. Phys.* **66**:5121 (1977).
  240. Enskog and Van der Waals Play Hockey. P. Cutchis, H. van Beijeren, J. R. Dorfman, and E. A. Mason. *Am. J. Phys.* **45**:970 (1977).
  241. Velocity and Energy Relaxation of Ions in Drift Tubes. S. L. Lin, L. A. Viehland, E. A. Mason, J. H. Whealton, and J. N. Bardsley. *J. Phys. B: Atom. Mol. Phys.* **10**:3567 (1977).
  242. Phoresis of Spherical Particles in Multicomponent Gas Mixtures. L. A. Viehland and E. A. Mason. *J. Aerosol Sci.* **8**:381 (1977).
  243. Gaseous Ion Mobility and Diffusion in Electric Fields of Arbitrary Strength. L. A. Viehland and E. A. Mason. *Ann. Physics (N.Y.)* **110**:287 (1978).
  244. Direct Determination of Interaction Potentials from Gas Viscosity Measurements Alone. A. Boushehri, L. A. Viehland and E. A. Mason. *J. Chem. Phys.* **68**:313 (1978).
  245. Statistical-Mechanical Theory of Membrane Transport for Multicomponent Systems: Passive Transport Through Open Membranes. E. A. Mason and L. A. Viehland. *J. Chem. Phys.* **68**:3562 (1978).
  246. Composition Dependence of the Thermal Conductivity of Dense Gas Mixtures. E. A. Mason, H. E. Khalifa, J. Kestin, and R. DiPippo. *Physica* **91A**:377 (1978).
  247. On the Extended Principle of Corresponding States and the Pair Interaction Potential. A. Boushehri, L. A. Viehland, and E. A. Mason. *Physica* **91A**: 424 (1978).
  248. Effect of Spin Polarization on the Thermal Conductivity of Polyatomic Gases. L. A. Viehland and E. A. Mason. *J. Chem. Phys.* **68**:5277 (1978).
  249. Cutoffs and Shadows in Classical Scattering of Atoms from Surfaces. E. F. Greene and E. A. Mason. *Surface Sci.* **75**:549 (1978).
  250. A Justification of Methods for the Inversion of Gas Transport Properties. G. C. Maitland, E. A. Mason, L. A. Viehland, and W. A. Wakeham. *Mol. Phys.* **36**:797 (1978).
  251. Transport Properties of Gaseous Ions Over a Wide Energy Range. Part II. H. W. Ellis, E. W. McDaniel, D. L. Albritton, L. A. Viehland, S. L. Lin, and E. A. Mason. *At. Data Nucl. Data Tables* **22**:179 (1978).
  252. Energy-Barrier Models for Membrane Transport. L. F. del Castillo, E. A. Mason, and L. A. Viehland. *Biophys. Chem.* **9**:III (1979).

253. Influence of Resonant Charge Transfer on Ion Mobility. S. L. Lin and E. A. Mason, *J. Phys. B Atom. Mol. Phys.* **12**:783 (1979).
254. On the Choice of Buffer Gas Mixtures for Drift-Tube Studies of Ion-Neutral Reactions. L. A. Viehland and E. A. Mason, *J. Chem. Phys.* **70**:2262 (1979).
255. Three-Temperature Theory of Gaseous Ion Transport. S. L. Lin, L. A. Viehland, and E. A. Mason, *Chem. Phys.* **37**:411 (1979).
256. Statistical-Mechanical Theory of Passive Transport Through Semipermeable Membranes. L. F. del Castillo, E. A. Mason, and H. E. Revercomb, *Biophys. Chem.* **10**:191 (1979).
257. Moment Theory of Electron Drift and Diffusion in Neutral Gases in an Electrostatic Field. S. L. Lin, R. E. Robson and E. A. Mason, *J. Chem. Phys.* **71**:3483 (1979).
258. Diffusion Through Multiporofrte Laminae. W. A. Wakeham and E. A. Mason, *Ind. Eng. Chem.-Fundam.* **18**:301 (1979).
259. Mobility and Diffusion of Protons and Deuterons in Helium—A Runaway Effect. S. L. Lin, I. R. Gatland, and E. A. Mason, *J. Phys. B Atom. Mol. Phys.* **12**:4179 (1979).
260. Generalized Nernst-Einstein Relations for Nonlinear Transport Coefficients. U. Weinert and E. A. Mason, *Phys. Rev. A* **21**:681 (1980).
261. Similarity Relations (Dimensional Analysis) for Membrane Transport. R. P. Wendt, E. H. Bresler, and E. A. Mason, *J. Membrane Sci.* **6**:283 (1983).
262. Statistical-Mechanical Theory of Passive Transport Through Partially Sieving or Leaky Membranes. L. F. del Castillo and E. A. Mason, *Biophys. Chem.* **12**:223 (1980).
263. Solutions of the Nonlinear Boltzmann Equation Describing Relaxation to Equilibrium. U. Weinert, S. L. Lin, and E. A. Mason, *Phys. Rev. A* **22**:2262 (1980).
264. Temperature Dependence of Gaseous Diffusion Coefficients. T. R. Marrero and E. A. Mason, *Chem. Eng. Commun.* **7**:159 (1980).
265. Effect of Heteroporosity on Membrane Rejection Coefficients. R. P. Wendt, E. A. Mason, and E. I. Bresler, *J. Membrane Sci.* **8**:69 (1981).
266. Kinetic Theory of Drift-Tube Experiments with Polyatomic Species. L. A. Viehland, S. L. Lin, and E. A. Mason, *Chem. Phys.* **54**:341 (1981).
267. Generalized Einstein Relations from a Three-Temperature Theory of Gaseous Ion Transport. M. Waldman and E. A. Mason, *Chem. Phys.* **58**:121 (1981).
268. Time-Dependent Moment Theory of Hot-Atom Reactions. K. D. Knierim, S. L. Lin, and E. A. Mason, *J. Chem. Phys.* **75**:1159 (1981).
269. Well Depths of XeF and XeCl from Ion Transport Data. L. A. Viehland and E. A. Mason, *Chem. Phys. Lett.* **83**:298 (1981).
270. On the Density Dependence of Runaway Mobility. M. Waldman and E. A. Mason, *Chem. Phys. Lett.* **83**:36 (1981).
271. Test of the Interaction Potentials of  $H^+$  and  $Br^-$  Ions with He Atoms and of Cl Ions with Ar Atoms. L. A. Viehland, E. A. Mason, and S. L. Lin, *Phys. Rev. A* **24**:3604 (1981).
272. Theory of Ion Transport in Gases—Runaway Ions. E. A. Mason and M. Waldman, in *Electron and Ion Swarms*, L. G. Christophorou, ed. (Pergamon, New York, 1981), p. 147.
273. Comment on “Field Dependence of Mobility in Gases.” R. E. Robson and E. A. Mason, *Phys. Rev. A* **25**:2411 (1982).
274. Influence of Resonant Charge Transfer on Ion Diffusion and Generalized Einstein Relations. M. Waldman, E. A. Mason, and L. A. Viehland, *Chem. Phys.* **66**:339 (1982).
275. Extension of the Principle of Corresponding States via Pair Interaction Potentials. B. Najafi, E. A. Mason, and J. Kestin, in *Proc. Eighth Symp. Thermophys. Prop., Vol. I. Thermophys. Prop. Fluids*, J. V. Sengers, ed. (American Society of Mechanical Engineers, New York, 1982), p. 18.
276. Moment Theory of Electron Thermalization in Gases. K. D. Knierim, M. Waldman, and E. A. Mason, *J. Chem. Phys.* **77**:943 (1982).
277. Determination of Intermolecular Potentials. E. A. Mason, in *Applied Atomic Collision Physics, Vol. 5, Special Topics*, H. S. W. Massey, E. W. McDaniel, and B. Bederson, eds. (Academic, New York, 1982), p. 255.
278. Test of the  $ArO^+(X^4\Sigma)$  Potential by Ion Mobility Data. E. A. Mason and L. A. Viehland, *Mol. Phys.* **47**:709 (1982).

279. Improved Calculation of Total Scattering Cross Sections in the Glory Region. E. A. Mason, C. Nyeland, J. J. H. van den Biesen, and C. J. N. van den Meijdenberg, *Physica* **116A**:133 (1982).
280. On the Direct Inversion of Total Scattering Cross Sections in the Glory Region. E. A. Mason and C. J. N. van den Meijdenberg, *Physica* **117A**:139 (1983).
281. On the Direct Inversion of Total Scattering Cross Sections Beyond the Glory Region. E. A. Mason, R. M. Hermans, and C. J. N. van den Meijdenberg, *Physica* **117A**:160 (1983).
282. Improved Corresponding States Principle for the Noble Gases. B. Najafi, E. A. Mason, and J. Kestin, *Physica* **119A**:387 (1983).
283. Extended Principle of Corresponding States and Intermolecular Forces. E. A. Mason, *Rev. Portuguesa Quim.* **25**:1 (1983).
284. E. A. Mason and A. P. Malinauskas, *Gas Transport in Porous Media. The Dusty-Gas Model* (Elsevier, Amsterdam, 1983).
285. Repulsive Interactions of Closed-Shell Ions with He and Ne Atoms: Comparison of Beam and Transport Measurements. L. A. Viehland and E. A. Mason, *J. Chem. Phys.* **80**:416 (1984).
286. Bounds of Solute Flux and Pore-Size Distributions for Non-Sieving Membranes. K. D. Knierim, M. Waldman, and E. A. Mason, *J. Membrane Sci.* **17**:173 (1984).
287. Ion Mobility: Its Role in Plasma Chromatography. E. A. Mason, in *Plasma Chromatography*, T. W. Carr, ed. (Plenum, New York, 1984), p. 43.
288. Equilibrium and Transport Properties of the Noble Gases and Their Mixtures at Low Density. J. Kestin, K. Knierim, E. A. Mason, B. Najafi, S. T. Ro, and M. Waldman, *J. Phys. Chem. Ref. Data* **13**:229 (1984).
289. Transport Properties of Gaseous Ions over a wide Energy Range. Part III. H. W. Ellis, M. G. Thackston, E. W. McDaniel, and E. A. Mason, *At. Data Nucl. Data Tables* **31**:113 (1984).
290. Repulsive Interactions of Closed-Shell Ions with Ar, Kr, and Xe Atoms: Comparison of Beam and Transport Measurements. L. A. Viehland and E. A. Mason, *J. Chem. Phys.* **81**:903 (1984).
291. Theory of Field Effects on Transport Properties of Polyatomic Gases in The Transition Regime. E. A. Mason and E. Mazur, *Physics* **130**:437 (1985).
292. The Role of Viscous Flow in Theories of Membrane Transport. E. A. Mason and L. F. del Castillo, *J. Membrane Sci.* **23**:199 (1985).
293. A Reconsideration of Thermal Diffusion in Ionized Gases: Quantal and Dynamic Shielding Effects. L. Monchick and E. A. Mason, *Phys. Fluids* **28**:3341 (1985).
294. Correlation and Prediction of Dispersion Coefficients for Isoelectronic Systems. A. D. Koutselos and E. A. Mason, *J. Chem. Phys.* **85**:2154 (1986).
295. Generalization of Membrane Reflection Coefficients for Nonideal, Nonisothermal, Multi-component Systems with External Forces and Viscous Flow. L. F. del Castillo and E. A. Mason, *J. Membrane Sci.* **28**:229 (1986).
296. Improved Tables for the Calculation of Nonspherical Contributions to Second Virial Coefficients. A. Boushehri, E. A. Mason, and J. Kestin, *Int. J. Thermophys.* **7**:1115 (1986).
297. Tests of Approximate Formulae for the Calculation of Ion Mobility and Diffusion in Gas Mixtures. K. Iinuma, E. A. Mason, and L. A. Viehland, *Mol. Phys.* **61**:1131 (1987).
298. Theory of Thermomagnetic Effects in the Transition Regime. R. G. Cole, E. A. Mason, and E. Mazur, *J. Chem. Phys.* **87**:2236 (1987).
299. Equilibrium and Transport Properties of Eleven Polyatomic Gases at Low Density. A. Boushehri, J. Bzowski, J. Kestin, and E. A. Mason, *J. Phys. Chem. Ref. Data* **16**: 445 (1987). Erratum, *ibid* **17**:255 (1988).
300. The Equation of State of Hard Spheres and the Approach to Random Closest Packing. Y. Song, R. M. Stratt, and E. A. Mason, *J. Chem. Phys.* **88**:1126 (1988).
301. On Combination Rules for Molecular Van der Waals Potential-Well Parameters. J. Bzowski, E. A. Mason, and J. Kestin, *Int. J. Thermophys.* **9**:131 (1988).
302. E. A. Mason and E. W. McDaniel, *Transport Properties of Ions in Gases* (Wiley, New York, 1988).

303. Heteroporous Sieving Membranes: Rigorous Bounds on Pore-Size Distributions and Sieving Curves. K. D. Knierim and E. A. Mason, *J. Membrane Sci.* **42**:87 (1989).
304. A Correlation Scheme for the Thermal Conductivity of Polyatomic Gases at Low Density. F. J. Uribe, E. A. Mason, and J. Kestin, *Physica* **A156**:467 (1989).
305. Generalized Einstein Relations for Electron Diffusion in Monatomic Gases. F. J. Uribe and E. A. Mason, *Chem. Phys.* **133**:335 (1989).
306. Why Does the Carnahan-Starling Equation Work so Well? Y. Song, E. A. Mason, and R. M. Stratt, *J. Phys. Chem.* **93**:6916 (1989).
307. Statistical-Mechanical Theory of a New Analytical Equation of State. Y. Song and E. A. Mason, *J. Chem. Phys.* **91**:7840 (1989).
308. Equation of State for a Fluid of Hard-Convex Bodies in any Number of Dimensions. Y. Song and E. A. Mason, *Phys. Rev. A* **41**:3121 (1990).
309. On the Calculation of Second Virial Coefficients for Nonspherical Molecules. J. Moghadasi Absardi, A. Boushehri, and E. A. Mason, *Int. J. Thermophys.* **11**:503 (1990).
310. Equation of State for Fluids of Spherical Particles in  $d$  Dimensions. Y. Song and E. A. Mason, *J. Chem. Phys.* **93**:686 (1990).
311. Statistical-Mechanical Theory of Membrane Transport. E. A. Mason and H. K. Lonsdale, *J. Membrane Sci.* **51**:1 (1990).
312. Statistical-Mechanical Analytical Equation of State for Fluid Mixtures. G. Ihm and E. A. Mason, *Mol. Phys.* **71**:109 (1990).
313. Analytical Equation of State for Molecular Fluids: Kihara Model for Rodlike Molecules. Y. Song and E. A. Mason, *Phys. Rev. A* **42**:4743 (1990).
314. Analytical Equation of State for Molecular Fluids: Comparison with Experimental Data. Y. Song and E. A. Mason, *Phys. Rev. A* **42**:4749 (1990).
315. Thermal Conductivity of Nine Polyatomic Gases at Low Density. F. J. Uribe, E. A. Mason, and J. Kestin, *J. Phys. Chem. Ref. Data* **19**:1123 (1990).
316. Equilibrium and Transport Properties of Gas Mixtures at Low Density: Eleven Polyatomic Gases and Five Noble Gases. J. Bzowski, J. Kestin, E. A. Mason, and F. J. Uribe, *J. Phys. Chem. Ref. Data* **19**:1179 (1990).
317. Interaction Universality and Scaling Laws for Interaction Potentials Between Closed-Shell Atoms and Ions. A. D. Koutselos, E. A. Mason, and L. A. Viehland, *J. Chem. Phys.* **93**:7125 (1990).
318. Composition Dependence of the Thermal Conductivity of Low-Density Polyatomic Gas Mixtures. F. J. Uribe, E. A. Mason, and J. Kestin, *Int. J. Thermophys.* **12**:43 (1991).
319. Initial Quantum-Mechanical Corrections to the Classical Transport Cross Sections of Hard Spheres. E. A. Mason and Y. Huang, *Phys. Rev. A* **43**:2062 (1991).
320. A New Strong Principle of Corresponding States for Nonpolar Fluids. G. Ihm, Y. Song, and E. A. Mason, *J. Chem. Phys.* **94**:3839 (1991).
321. Generalized Einstein Relations for Ions in Molecular Gases. A. D. Koutselos and E. A. Mason, *Chem. Phys.* **153**:351 (1991).
322. Simplified Calculation of Quantum Corrections to the Virial Coefficients of Hard Convex Bodies. E. A. Mason, J. J. Siregar, and Y. Huang, *Mol. Phys.* **73**:1171 (1991).
323. From Pig Bladders and Cracked Jars to Polysulfones: An Historical Perspective on Membrane Transport. E. A. Mason, *J. Membrane Sci.* **60**:125 (1991).
324. Compressibility of Liquids: Theoretical Basis for a Century of Empiricism. Y. Song, B. Caswell, and E. A. Mason, *Int. J. Thermophys.* **12**:855 (1991).
325. The Ar<sup>+</sup>-He Interaction Potential and Distribution Function Effects on Swarm Measurements of Ar<sup>+</sup> + N<sub>2</sub> Reaction-Rate Coefficients Using Helium Buffer Gas. L. A. Viehland, A. A. Viggiano, and E. A. Mason, *J. Chem. Phys.* **95**:7286 (1991).
326. Fluid Equation of State for Inverse-Power Potentials: Comparison of One-Component Plasma Theory and Hard-Sphere Perturbation Theory. Y. Song and E. A. Mason, *Phys. Rev. A* **44**:8400 (1991).
327. Equation of State for Mixtures of Nonpolar Molecular Fluids. G. Ihm, Y. Song, and E. A. Mason, *Mol. Phys.* **75**:897 (1992).
328. The Zeno Line and the Radial Distribution Function at Contact. Y. Song and E. A. Mason, *J. Phys. Chem.* **96**:6852 (1992).

329. Statistical-Mechanical Basis for Accurate Analytical Equations of State for Fluids. Y. Song and E. A. Mason, *Fluid Phase Equil.* **75**:105 (1992).
330. Strong Principle of Corresponding States: Reduction of a P-V-T Surface to a Line. G. Ihm, Y. Song, and E. A. Mason, *Fluid Phase Equil.* **75**:117 (1992).
331. Coupling-Constant Description of Coupled Flow and Diffusion. E. A. Mason, L. F. del Castillo, and R. F. Rodriguez, *J. Membrane Sci.* **74**:253 (1992).
332. Equation of State for Mixtures of Nonpolar Fluids: Prediction from Experimental Constants of the Components. F. -M. Tao and E. A. Mason, *Int. J. Thermophys.* **13**:1053 (1992).
333. The Derivative of the Hard-Sphere Radial Distribution Function at Contact. F.-M. Tao, H. Song, and E. A. Mason, *Phys. Rev. A* **46**:8007 (1992).
334. Recent Work on the Statistical-Mechanical Theory of the Equation of State of Fluids. E. A. Mason and Y. Song, in *Lectures on Thermodynamics and Statistical Mechanics*, M. Lopez de Haro and C. Varea, eds. (World Scientific, Singapore, 1992), p. 162.
335. Common Bulk Modulus Point for Compressed Liquids. A. Boushehri, F.-M. Tao, and E. A. Mason, *J. Phys. Chem.* **97**:2711 (1993).
336. Equation of State for "Classical" Helium. Y. Song and E. A. Mason, *Phys. Rev. E* **47**:2193 (1993).
337. Mobilities and Interaction Potentials for the O<sup>+</sup>-He and O-He Systems. A. A. Viggiano, R. A. Morris, and E. A. Mason, *J. Chem. Phys.* **98**:6483 (1993).
338. Equation of State for Compressed Liquids and their Mixtures from the Cohesive Energy Density. A. Boushehri and E. A. Mason, *Int. J. Thermophys.* **14**:685 (1993).
339. Determination of Potential Energy Curves for HeNe<sup>+</sup> from Mobility Data, Spectroscopic Measurements, and Theoretical Calculations. L. A. Viehland and E. A. Mason, *J. Chem. Phys.* **99**:1457 (1993).
340. Equation of State of Compressed Liquids: Statistical-Mechanical Basis. Y. Song, B. Caswell, and E. A. Mason, *Fluid Phase Equil.* **88**:25 (1993).
341. Linear Isotherms for Dense Fluids: A New Regularity. G. A. Parsafar and E. A. Mason, *J. Phys. Chem.* **97**:9048 (1993).
342. Universal Equation of State for Compressed Solids. G. Parsafar and E. A. Mason, *Phys. Rev. B* **49**:3049 (1994).
343. Gaseous State. *Encycl. Britannica* **23**:656 (1994).
344. Linear Isotherms for Dense Fluids: Extension to Mixtures. G. Parsafar and E. A. Mason, *J. Phys. Chem.* **98**:1962 (1994).
345. Statistical-Mechanical Equation of State for Nonpolar Fluids: Prediction of Phase Boundaries. F.-M. Tao and E. A. Mason, *J. Chem. Phys.* **100**:9075 (1994).
346. Transport Properties of Gaseous Ions Over a Wide Energy Range IV. L. A. Viehland and E. A. Mason, *At. Data Nucl. Data Tables* **60**:37 (1995).