

CURRICULUM VITAE

J. ROBERT DORFMAN

March 3, 2002

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EDUCATION

<u>Institution</u>	<u>Degree</u>	<u>Date Awarded</u>
Johns Hopkins University	B.A.	1957
Johns Hopkins University	Ph.D.	1961

EXPERIENCE IN HIGHER EDUCATION

<u>Institution</u>	<u>Rank</u>	<u>Dates</u>
University of Maryland	Vice President for Academic Affairs and Provost	1989-1992
University of Maryland	Dean, College of Computer, Mathematical and Physical Sciences	1987-1989
University of Maryland	Acting Dean, College of Computer, Mathematical and Physical Sciences	1986-1987
University of Maryland	Acting Provost, Division of Mathematical, Physical Sciences and Engineering	1985-1986
University of Maryland	Director, Institute for Physical Science and Technology	1983-1985
University of Maryland	Professor, Institute for Physical Science and Technology	1972 - present
University of Maryland	Professor, Department of Physics and Astronomy	1973 - present
Rockefeller University	Visiting Associate Professor	1969-1970

I certify that this curriculum vitae is corrected and up to date:

Signed _____ Date: _____

J. ROBERT DORFMAN

EXPERIENCE IN HIGHER EDUCATION (cont'd.)

<u>Institution</u>	<u>Degree</u>	<u>Dates</u>
University of Maryland	Associate Professor, Institute for Fluid Dynamics and Applied Mathematics, and Department of Physics and Astronomy	1967 - 1972/73
University of Maryland	Assistant Professor, Institute for Fluid Dynamics and Applied Mathematics, and Department of Physics and Astronomy	1964-1967
Rockefeller University	Research Associate	1961-1964

EXPERIENCE NOT IN HIGHER EDUCATION

Visiting Staff Member, Los Alamos Scientific Laboratory	1973-1982
Research Physicist, National Bureau of Standards	1983-1987

UNIVERSITY SERVICE

<u>Institute for Physical Science and Technology Service</u>	1964-2000
Member or Chair, Hiring Committee	
Member, Policy Committee	
Chair, Space Committee	
Chair, EEEO Committee	
MPSE Council	
Miscellaneous other committee assignments	
<u>Physics and Astronomy Service</u>	1964-2000
Member or Chair, Course Committees	
Member, Physics Council	
Member, Executive Committee of Physics Council	
Member or Chair, Qualifying Examination Committees	
Member, Advisor Committees	
Member, Workshop Committee for Problems of Graduate Students	
Co-Chair, Colloquium Committee	
Member, (elected) Priorities Committee	1994-1997
Miscellaneous other committee assignments	

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UNIVERSITY SERVICE (cont=d)

Campus-wide Service

Member, Review Committee for Chair of Psychology Department	2000
Member, Committee on Future of College of Health and Human Performance	2000
Member, Honors Council	1996-present
Chair, Review Committee for Dean of Undergraduate Studies	1999
Chair, Search Committee for Director of School of Music	1995-1996
Chair, Physical Plant Task Force on Race and Gender	1993
Member, Search Committee for UMIACS Director	1993
Chair, Search Committee for Dean of College of Arts and Humanities	1989
Member, Enhancement Plan Steering Committee	1988-1989
Member, Distinguished Lecture Committee	1988-1989, 1995-present
Member, Faculty Club Planning Committee	1988
Member, 21st Century Task Force, Stamp Union	1988
Chair, Search Committee for Director of Academic Support Unit, Department of Intercollegiate Athletics	1987
Member, Chancellor's Committee on the Quality of Undergraduate Education for Women	1987-1989
Member, Academic Planning Advisory Committee (APAC)	1986-1988
Chair, Chancellor's Task Force on the Academic Achievement of Student Athletes	1986
Member, University Senate	1985-1989
Chair, Search Committee for Chair of Department of Physics and Astronomy	1985
Chair, Search Committee for Dean of College of Physical Education, Recreation and Health	1984
Chair, Search Committee for Director of Computer Science Center	1982
Chair, Search Committee for Chair of Department of Mathematics	1981

PROFESSIONAL SERVICE

Chair, NSF panel on Mathematical Physics	2000
Member, Board of Directors, Association of Universities for Research in Astronomy (AURA)	1986-1990
Editorial Board, <u>The Physical Review. Section A/E</u>	1984-1993, 1996-1999, 1999-2002
Reviewer for Professional Journals: <u>The Physical Review. CHAOS,</u> <u>Physics of Fluids. Journal of Statistical Physics. Physica.</u> <u>Journal of Chemical Physics. Physical Review Letters.</u> <u>Physical Review E, Physics Letters A.</u>	
Member, Nominating Committee, American Physical Society	1988-1991
Served on several other Professional Committees and Conference Organizing Committees	1970-present

J. ROBERT DORFMAN

COMMUNITY SERVICE

Religious School Teacher: High School Division, Temple Micah, Washington, D.C.	1983-1987, 1993-present
Telephone Counselor: Suicide/Crisis Hotline of Montgomery County, Maryland	1987-1988
Gave talks to several high school groups	1993
Taught Talmud at local synagogues	1993-present

HONORS AND AWARDS

Chancellor's Medal for Extraordinary Contributions to the University of Maryland College Park Campus	1988
Elected to Omicron Delta Kappa	1988
University of Maryland Distinguished Scholar-Teacher Award	1985-1986
Fellow, American Physical Society	elected 1980

INVITED ADDRESSES

1. Gordon Research Conference on Physics of Liquids	1973
2. Fundamental Problems in Statistical Mechanics, Wageningen, Holland	1974
3. Gordon Research Conference on Physics of Liquids	1979
4. Third International Conference on Physical-Chemical Hydrodynamics, Madrid Spain	1980
5. Sitges International School of Statistical Mechanics, Sitges, Spain	1980
6. Fourteenth IUPAP International Conference on Thermodynamics-Statistical Mechanics, Edmonton, Alberta, Canada	1980
7. Eleventh Meeting on Statistical Mechanics, Cocoyoc, Mexico	1982
8. Symposium in Honor of J. E. Mayer, Sanibel Island, Florida	1982
9. Eurotech. Colloquium, The Boltzmann Equation in Gas Dynamics, Trondheim, Norway	1983
10. Fundamental Problems in Statistical Mechanics, VI, International Summer School, Trondheim, Norway	1984
11. Molecular Dynamic Simulations of Statistical Mechanical Systems, Enrico Fermi School, Lake Como, Italy	1985
12. Seminar, Universite Libre de Bruxelles (Brussels, Belgium)	1993
13. National Symposium on Statistical Mechanics, The Netherlands	1994
14. UMCP-Penn State Meeting on Dynamical Systems	1995
15. Seminars in Berlin and Pottsdam, Germany	1995
16. Summer School on Dynamical Systems, and Statistical Mechanics, Lyon France	1996
17. Rutgers Conference on Statistical Mechanics	1996
18. Workshop on Dynamical Systems, Vienna, Austria	1996
19. Netherlands Summer School on Statistical Physics, Altenberg, Germany	1997
20. Hungarian Summer School on Chaos and Dynamical Systems	1997
21. Lecturer at Swiss Universities (Geneva and Lausanne)	1998
22. NATO-ASI Conference on Kinetic Theory, Leiden, Holland	1998
23. Brussels Conference on Chaos in Statistical Mechanics	1998
24. Workshop on Chaos in Statistical Mechanics, Japan	1998
25. Workshop on Dynamical Systems, Vienna, Austria	1999

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INVITED ADDRESSES (cont'd.)

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|-----|---|------|
| 26. | Birthday Symposium for G. Nicolis, Brussels, Belgium | 1999 |
| 27. | Plenary Lecture, SIAM Conference on Dynamical Systems, Snowbird, Utah | 1999 |
| 28. | Conference on Transport in Few Body Systems,
European Center for Theoretical Studies in Nuclear Physics, Trento, Italy | 2000 |
| 29. | Conference on AChange with Time@, Utrecht, The Netherlands | 2000 |
| 30. | Workshop on Dynamical Systems,
Max Planck Institute for Complex Systems, Dresden, Germany | 2000 |
| 31. | AMS Meeting, Dynamical Systems, Birmingham, Alabama | 2000 |

GRANT SUPPORT (Since 1994)

- | | | | |
|----|------------------|---------|-------------------|
| 1. | NSF PHY-93-21312 | 2 years | \$50,000 (total) |
| 2. | NSF PHY-96-00428 | 3 years | \$150,000 (total) |
| 3. | NSF PHY-98-20824 | 3 years | \$165,000 (total) |
| 4. | NSF PHY-01-38697 | 3 years | \$180,000 (total) |

J. ROBERT DORFMAN

PUBLICATIONS

Research Articles

A. Published, or Accepted for Publication., in Research Journals

1. Note on the Linearized Boltzmann Equation for Rigid Sphere Molecules, Proceedings of the National Academy of Sciences 50, 804-806.
2. Transport Coefficients from Correlation Functions and Distribution Functions, Phys. Lett. 12, 319-320, 1964 (with E.G.D. Cohen and M. H. Ernst).
3. Transport Coefficients in Dense Gases, I. Physica 31, 493-521, 1965 (with M. H. Ernst and E.G.D. Cohen).
4. On the Density Expansion of the Pair Distribution Function for a Dense Gas Not in Equilibrium, Phys. Lett. 16, 124-125, 1965 (with E.G.D. Cohen).
5. Divergent Transport Coefficients and the Binary Collision Expansion, Phys. Rev. 144, 207-215, 1966 (with L. K. Haines and M. H. Ernst).
6. Difficulties in the Kinetic Theory of Dense Gases, J. Math. Phys. 8, 282-297, 1967 (with E.G D. Cohen).
7. Some Remarks on Perturbation Theory and Critical Phenomena, Phys. Rev. 195-201, 1968 (with P. T. Herman).
8. Transport Coefficients for Moderately Dense Gases, Rev. Mod. Phys. 41, 296-316, 1969 (with L. K. Haines and M. H. Ernst).
9. Hard Sphere Dynamics and Binary Collision Operators, Physica 41, 1217-1246, 1969 (with M. H. Ernst, W. R. Hoegy and J.M.J. van Leeuwen).
10. I Am Curious (Transport Coefficients), Amer. J. Phys. 38, 435-438, 1970 (with E. A. Mason and R. W. Zwanzig).
11. Generalized Hydrodynamic Equations from the Linear Boltzmann Equation, Phys. Fluids 14, 1049- 1057, 1971 (with M. Bixon and K. C. Mo).
12. Velocity Correlation Functions in 2 and 3 Dimensions, Phys. Rev. Lett. 25, 1257-1260, 1970 (with E.G.D. Cohen).
13. On Non-Analytic Terms in Sound Dispersion in Gas, Physica 61, 157-181, 1972 (with M. H. Ernst).
14. Non-Analytic Dispersion Relations in Classical Fluids, Phys. Lett. 38A, 269-271, 1972 (with M. H. Ernst).
15. Velocity Correlation Functions in Two and Three Dimensions, Phys. Rev. A6, 776-790, 1972 (with E.G.D. Cohen).

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Research Articles

A. Published, or Accepted for Publication., in Research Journals (cont'd.)

16. Bounds on the Critical Temperatures of Ising Ferromagnets, Phys. Lett. 40A, 333-335, 1972 (with G. V. Waldo).
17. Drag Coefficients and the Generalized Boltzmann Equation, Phys. Fluids 6, 2347-2349, 1973 (with J. V. Sengers, W. A. Kuperman, and C. F. McClure).
18. Non-Analytic Dispersion Relations in Fluids II: The General Fluid, J. Stat. Phys. 12, 311-359, 1975 (with M. H. Ernst).
19. Velocity Correlation Functions in Two and Three Dimensions II: Higher Density, Phys. Rev. A12, 292-316, 1975 (with E.G.D. Cohen).
20. Kinetic Theory of Hydrodynamic Flows, Arch. Mech. (Warsaw) 28, 333-352, 1976 (with H. van Beijeren and C. F. McClure).
21. Composition Dependence of the Viscosity of Dense Gas Mixtures, Physica 86A, 205-233, 1977 (with E. A. Mason, J. Kestin, H. E. Khalifa, and R. DiPippo).
22. Logarithmic Terms in the Density Expansion of Transport Coefficients of Moderately Dense Gases, Phys. Rev. A16, 2447-2469, 1977 (with Y. Kan).
23. Composition Dependence of the Thermal Conductivity of Dense Gas Mixtures, Physica 91A, 377-392, 1978 (with E. A. Mason, H. E. Khalifa, J. Kestin, and R. DiPippo).
24. Thirty Years of Fluid Dynamics, Physics Today, September 1978 (with R. J. Emrich, F. N. Frankiel, W. C. Griffith, and G. Veronis).
25. Enskog and Van Der Waals Play Hockey, Amer. J. Phys. 45, 970-977, 1977 (with P. Cutchis, H. van Beijeren, and E. A. Mason).
26. Kinetic Theory of Nonlinear Viscous Flow in Two and Three Dimensions, J. Stat. Phys. 18, 237-270, 1978 (with M. H. Ernst, B. Cichocki, H. van Beijeren, and J. Sharma).
27. Comment on Kinetic Theory of Single Particle Motion in a Fluid, Phys. Rev. A19, 416-418, 1979 (with H. van Beijeren).
28. Kinetic Theory of Light Scattering From a Fluid Not in Equilibrium, Phys. Rev. Lett 42 862-865, 1979 (with T. Kirkpatrick and E.G.D. Cohen).
29. Kinetic Theory of Hydrodynamic Flows I. The Generalized Normal Solution Method and its Application to the Drag on a Sphere, J. Stat. Phys. 23, 335-402, 1980 (with H. van Beijeren).

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Research Articles

A. Published, or Accepted for Publication, in Research Journals (cont'd.)

30. Kinetic Theory of Hydrodynamic Flows II. The Drag on a Sphere and on a Cylinder, J. Stat. Phys. 23, 443-461, 1980 (with H. van Beijeren)
31. Hydrodynamic Theory of Light Scattering From a Fluid in a Nonequilibrium Steady State, Phys. Rev. Lett. 44, 472-475, 1980 (with E.G.D. Cohen and T. R. Kirkpatrick).
32. Advances and Challenges in the Kinetic Theory of Gases, Physica 106A, 77-101, 1981.
33. Nonlinear Transport Equations in Statistical Mechanics, Physica 109A, 425-444, 1982 (with J. J. Brey and R. Zwanzig).
34. Kinetic Theory of Hydrodynamic Flows, III, J. Stat. Phys. 29, 139-153, 1982 (with H. van Beijeren).
35. Fluctuations in a Nonequilibrium Steady State: Basic Equations, Phys. Rev. A26, 950-971, 1982 (with T. R. Kirkpatrick and E.G.D. Cohen).
36. Light Scattering by a Fluid in a Nonequilibrium Steady State, I: Small Gradients Phys. Rev. A26, 972-994, 1982 (with T. R. Kirkpatrick and E.G.D. Cohen).
37. Light Scattering by a Fluid in a Nonequilibrium Steady State, II: Large Gradients, Phys. Rev. A26, 972-994, 1982 (with T. R. Kirkpatrick and E.G.D. Cohen).
38. The Virial Expansion in Equilibrium and Nonequilibrium Statistical Mechanics, J. Quant. Chem. 16, 63-81, 1982 (with E.G.D. Cohen).
39. Electron Mobility in Gases at Low Temperature: The Quantum Mechanical Lorentz Gas, I., J. Stat. Phys. 50, 67-106, 1983 (with T. R. Kirkpatrick).
40. Divergences and Long Time Tails in Two and Three Dimensional Quantum Lorentz Gases, Phys. Rev. A28, 1022-1046, 1983 (with T. R. Kirkpatrick).
41. Long Time Tails in Stationary Random Media. I. Theory, J. Stat. Phys. 35, 413-442, 1984 (with M. H. Ernst, J. Machta, and H. van Beijeren).
42. Long Time Tails in Stationary Random Media. II. Applications, J. Stat. Phys. 35, 413-442, 1984 (with M. H. Ernst, J. Machta, and H. van Beijeren).
43. Transport Theory for a Weakly Interacting Condensed Bose Gas, Phys. Rev. A28, 2576-2579, 1983 (with T. R. Kirkpatrick).
44. Long-Range Boundary Effects in Simple Fluids, J. Stat. Phys. 44, 203-223, 1984 (with J. C. Nieuwoudt and T. R. Kirkpatrick).

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Research Articles

A. Published, or accepted for Publication. in Research Journals (cont'd.)

45. Anomalous Diffusion of Charged Particles in a Strong Magnetic Field, Phys. Rev. A **29**, 2960-2962, 1984 (with M. C. Marchetti and T. R. Kirkpatrick).
46. Transport in a Dilute But Condensed Nonideal Bose Gas: Kinetic Equations, J. Low Temp. Phys. **58**, 301-331, 1985 (with T. R. Kirkpatrick).
47. Transport Coefficients in a Dilute But Condensed Bose Gas, J. Low Temp. Phys. **58**, 399-415, 1985 (with T. R. Kirkpatrick).
48. Time Correlation Functions and Transport Coefficients in a Dilute Superfluid, J. Low Temp. Phys. **59**, 1-18, 1985 (with T. R. Kirkpatrick).
49. Nonlinear Current Fluctuations in a Metallic Resistor at Low Temperatures, Phys. Rev. Lett. **54**, 2631-2634, 1985 (with T. R. Kirkpatrick).
50. Kinetic Equation for a Weakly Interacting Classical Electron Gas, J. Stat. Phys. **41**, 37-74, 1985 (with M. C. Marchetti and T. R. Kirkpatrick).
51. Initial State Dependence of Nonlinear Kinetic Equations: The Classical Electron Gas. J. Stat. Phys. **41**, 75-94, 1985 (with M. C. Marchetti, E.G.D. Cohen, and T. R. Kirkpatrick).
52. Kinetic Theory of the Drag Force on Objects in Rarefied Gas Flows, Physica **134A**, 283-322, 1986 (with J. V. Sengers and C. F. McClure).
53. Hydrodynamic Theory of Electron Transport in a Strong Magnetic Field (with T. R. Kirkpatrick and M. C. Marchetti), J. Stat. Phys. **46**, 679 (1987); errata: J. Stat. Phys. **49**, 871 (1987).
54. Hard Sphere Binary Collision Operators, J. Stat. Phys. **57**, 581-593 (1989) (with M. H. Ernst).
55. Hard Sphere Langevin Equations, J. Phys. Chem. **93**, 7019-7022 (1989) (with M. Bixon and J. Dufty).
56. Generic Long-Range Correlations in Molecular Fluids, (with T. R. Kirkpatrick and J. V. Sengers), Annual Review of Physical Chemistry, **45**, 213-239 (1994).
57. Simple Maps with Fractal Diffusion Coefficients, (with R. Klages), Phys. Rev. Lett. **74**, 387-390 (1995).
58. Chaotic Scattering Theory of Transport and Reaction-Rate Coefficients, (with P. Gaspard), Phys. Rev. E **51**, 28-35 (1995).
59. Lyapunov Exponents and Kolmogorov-Sinai Entropy for the Lorentz Gas of Low Densities, (with H. van Beijeren), Phys. Rev. Lett. **74**, 4412-4415 (1995).

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Research Articles

A. Published, or accepted for Publication, in Research Journals (cont'd.)

60. Mean Field Theory for Lyapunov Exponents and Kolmogorov-Sinai Entropy in Lorentz Lattice Gases (with M. H. Ernst, R. Nix, and D. Jacobs), Phys. Rev. Lett. **74**, 4416-4419 (1995).
61. Chaotic Scattering Theory, Thermodynamic Formalism, and Transport Coefficients, (with P. Gaspard) Phys. Rev. E **52**, 3525-3552 (1995).
62. Dynamical Chaos in the Lorentz Lattice Gas (with M. H. Ernst and D. Jacobs), J. Stat. Phys. **81**, 497-513 (1995).
63. Lyapunov Exponents from Kinetic Theory for a Dilute, Field Driven Lorentz Gas (with H. van Beijeren, E.G.D. Cohen, H. A. Posch, and Ch. Dellago), Phys. Rev. Lett. **77**, 1974-1977, (1996).
64. Thermodynamic Formalism in the Thermodynamic Limit: Diffusion Systems with Static Disorder (with C. Appert, H. van Beijeren, and M. H. Ernst) Phys. Rev. **54**, R1013-R1016, (1996).
65. Lyapunov Spectrum and the Conjugate Pairing Rule for a Thermostatted Random Lorentz Gas Kinetic Theory (with A. Latz and H. van Beijeren), Phys. Rev. Lett. **78**, 207-210, (1997).
66. Dynamical Crossover in Deterministic Diffusion (with R. Klages) Phys. Rev. E **55**, R1247-R1250, (1997).
67. Thermodynamic Formalism and Localization in Lorentz Gases and Hopping Models (with C. Appert, H. van Beijeren, and M. H. Ernst), J. Stat. Phys. **87**, 1253-1271, (1997).
68. Dynamical Systems Theory and Transport Coefficients: A Survey with Applications to Lorentz Gases (with H. van Beijeren), Physica A **240**, 12-42 (1997).
69. Deterministic Chaos and the Foundations of the Kinetic Theory of Gases, Physics Reports, **301**, 151-186 (1998).
70. Chaotic Properties of Dilute Two and Three Dimensional Random Lorentz Gases: Equilibrium Systems (with A. Latz and H. van Beijeren), Phys. Rev. E, **57**, 4077-4094 (1998).
71. B. B. G. K. Y. Hierarchy Methods for Sums of Lyapunov Exponents for Dilute Gases (with A. Latz and H. van Beijeren) CHAOS, **8**, 444-454 (1998).
72. Kolmogorov-Sinai Entropy for Dilute Gases in Equilibrium (with H. van Beijeren, H. A. Posch and Ch. Dellago), Phys. Rev. E, **56**, 5272-5277 (1997).
73. Experimental Evidence for Microscopic Chaos, (with P. Gaspard, M. Briggs, J. V. Sengers, R. Gammon, M. Francis and R. Calabrese) Nature, **394**, 865-868 (1998).

J. ROBERT DORFMAN

Research Articles

A. Published, or accepted for Publication, in Research Journals (cont'd.)

74. An Analytical Construction of the SRB Measures for Baker-Type Maps (with S. Tasaki and T. Gilbert) *CHAOS*, **8**, 424-443 (1998).
75. Field Driven Thermostatted Systems: A Non-linear Multi-baker Map, (with T. Gilbert and C. D. Ferguson) *Phys. Rev. E*, **59**, 364-371 (1999).
76. Entropy Production: From Open Volume Preserving to Dissipation Systems, (with T. Gilbert) *J. Stat Phys.* **96**, 225-269 (1999)
77. Simple Deterministic Dynamical Systems with Fractal Diffusion Coefficients, (with R. Klages) *Phys. Rev. E* **59**, 5361-5383 (1999).
78. Long-time-tail Effects on Lyapunov Exponents of a Random, Two Dimensional Field Driven Lorentz Gas, (with D. Panja and H. van Beijeren), *J. Stat. Phys.*, **100**, 279-310 (2000).
79. Entropy Production in Persistent Random Walks, (with T. Gilbert) *Physica A*, **282**, 427-449 (2000).
80. On Thermostats and Entropy Production, (with H. van Beijeren), *Physica A*, **279**, 21-29 (2000).
81. Chaotic Properties of Dilute Two and Three-Dimensional Random Lorentz Gases: II, Open Systems, (with H. van Beijeren and A. Latz), *Phys. Rev. E*, **63**, 016312-1-14 (2000).
82. Entropy Production, Fractals and Relaxation to Equilibrium, (with T. Gilbert and P. Gaspard), *Phys. Rev. Lett.* **85**, 1606-1609 (2000).
83. Fractal Dimensions of the Hydrodynamic Modes of Diffusion, (with T. Gilbert and P. Gaspard), *Nonlinearity* **14**, 339-358 (2001)
84. Fractality of the Hydrodynamic Mode of Diffusion, (with I. Claus, P. Gaspard, T. Gilbert), *Phys. Rev. Lett.*, **86**, 1506-1509 (2001).
85. Field Dependent Collision Frequency of the Two-Dimensional Driven, Random Lorentz Gas, (with Ch. Dellago, H. van Beijeren, D. Panja), *Phys. Rev. E*, **64**, 03612, (2001).
86. Tracking a Colloidal Particle for the Measurement of Dynamical Entropies (with M. E. Briggs, J. V. Sengers, M. K. Francis, P. Gaspard, R. W. Gammon, and R. V. Calabrese) *Physica A* **296**, 42-59 (2001).
87. A Note on the Ruelle Pressure for a Disordered Sinai Billiard, (with H. van Beijeren), *J. Stat. Phys.*, **108**, 767-785 (2002).
88. Entropy Production of Diffusion in Spatially Periodic Deterministic Systems, (with P. Gaspard and T. Gilbert) *Physical Review E* **66**, 026110 (2002).

J. ROBERT DORFMAN

Research Articles

- A. Published, or accepted for Publication, in Research Journals (cont'd.)

- 89.** Quantum Multibaker Maps: Extreme Quantum Regime, (with D. Wojcik) Phys. Rev. E **66**, 036110 (2002).

J. ROBERT DORFMAN

B. Books or Contributions to Edited Books

1. A Course in Statistical Thermodynamics, with J. Kestin, Academic Press, 1971, 577 pp. -XV.
2. Transport Coefficients in Dense Gases, in Dynamics of Fluids and Plasmas, Academic Press, S. I. Pai, Ed., New York, 1967, pp. 199-212.
3. The Binary Collision Expansion Method in Kinetic Theory, Lectures in Theoretical Physics, Vol. 9C, pp. 443-467, Gordon and Breach, New York, 1967.
4. Renormalized Kinetic Equations, in Kinetic Equations, R. Liboff and N. Rostoker, Eds., Gordon and Breach, New York, 1971, pp. 21-28.
5. Velocity Correlation Functions for Moderately Dense Gases, in The Boltzmann Equation, E. G. D. Cohen and W. Thirring, Eds., Springer Verlag, Vienna, 1973, pp. 209-222.
6. Editor with J. Kestin, J. V. Sengers, and S. Yip, A.I.P. Proceedings, Vol. 11, Transport Theory, 1975.
7. Kinetic and Hydrodynamic Theory of Time Correlation Functions, in Fundamental Problems in Statistical Mechanics, E.G.D. Cohen, Ed., North Holland Publishing Co., Amsterdam, 1975, pp. 277- 330.
8. A Theory for the Composition Dependence of Monatomic Gases, in Proceedings of the 14th International Conference on Thermal Conductivity, Storrs, Connecticut, 1975.
9. Kinetic Theory of Nonlinear Viscous Flow in Two and Three Dimensions, Annals of the Israel Physical Society 2, 778-781, 1978 (with M. H. Ernst, B. Cichocki, H. van Beijeren, and J. Sharma).
10. Logarithmic Terms in the Density Expansion of the Transport Coefficients of Dense Gases: A Survey, in Proceedings of Seventh Symposium on Thermophysical Properties, A. Cezairliyan, Ed., ASME, New York (1977), pp. 625-659 (with J. V. Sengers and Y. Kan).
11. The Kinetic Theory of Gases, in Statistical Mechanics. B, B. J. Berne, Ed., Plenum Press, New York (1977), pp. 65-179 (with H. van Beijeren).
12. Some Recent Developments in the Kinetic Theory of Gases, in Perspectives in Statistical Physics, H. J. Raveche, Ed., North Holland (1981), pp. 23-55.
13. Kinetic Theory of Dense Gases Not in Equilibrium, in Systems Far From Equilibrium, L. Garrido, Ed., Springer Verlag, New York (1982), pp. 953-957.
14. Statistical Mechanics, in Encyclopedia of Physics, G. Trigg and R. Lerner, Eds., Addison Wesley Publishing Co., Reading (1981), pp. 953-957; Second edition (1990), pp. 1116-1170.
15. Aspects of Localization, in Fundamental Problems in Statistical Mechanics. VI, E.G.D. Cohen, Ed., North Holland (1985), pp. 365-398 (with T. R. Kirkpatrick).

J. ROBERT DORFMAN

B. Books or Contributions to Edited Books (cont'd)

16. Recent Results in the Kinetic Theory of Hard Sphere Systems, in Molecular Dynamics Simulation of Statistical Mechanical Systems, G. Ciccotti and W. Hoover, Eds., Plenum Press, New York (1986), pp. 260-190 (with T. R. Kirkpatrick).
17. Transport Coefficients (in Italian), Italian Encyclopedia of Physical Sciences.
18. Generic Long Range Correlations in Molecular Fluids, Annual Review of Physical Chemistry **42**. 213-239 (1994), J. R. Dorfman, T. R. Kirkpatrick, and J. V. Sengers.
19. Classical Statistical Mechanics, Encyclopedia of Applied Physics, Publ. American Institute of Physics, to appear.
20. Chaos in Lorentz Lattice Gases, (with M. H. Ernst), in 25 Years of Non-Equilibrium Statistical Mechanics, J. J. Brey, J. Marro, J. H. Rubi and M. San Miguel Eds., Springer Pub. Co. (Berlin, 1995), pp. 199-210.
21. An introduction to Chaos in Nonequilibrium Statistical Mechanics, Cambridge University Press, 1999, 304 pp.
22. A Kinetic Theory of Dynamical Systems, R. van Zon, H. van Beijeren, and J. R. Dorfman, to appear in Dynamics: Models and Kinetic Methods for Nonequilibrium Many Body Systems, J. Karkheck, ed. Kluwer Pub. Co., pp. 131-168.
23. A Seventeenth Century Dutch Art: A brief guide to the Mauritshuis, The Hague, and to the Rijksmuseum, Amsterdam, J. R. Dorfman, to appear in Dynamics: Models and Kinetic Methods for Nonequilibrium Many Body Systems, J. Karkheck, ed. Kluwer Pub. Co., pp. 123-130, with reproduction of A The View of Delft by Johannes Vermeer.
24. A Kinetic Theory Estimates for the Kolmogorov-Sinai Entropy, and the Largest Lyapunov Exponents for Dilute, Hard-Ball Gases and for Dilute, Random Lorentz Gases, H. van Beijeren, R. van Zon, and J. R. Dorfman, to appear in Hard Ball Systems and the Lorentz Gas, D. Szasz, ed. Springer-Verlag, Encyclopedia of Mathematical Sciences, pp. 131-278.

C. Book Reviews

1. Review of Statistical Mechanics, by J. E. Mayer and M. Goeppert-Mayer, J. Stat. Phys. **18**, 415-420, 1978.
2. Review of Physical Kinetics, by E. M. Lifshitz and L. P. Pitaevskii (Landau and Lifshitz, Vol. 10), in J. Stat. Phys., 1984.
3. Review of Nonequilibrium Phenomena 1. The Boltzmann Equation, J. F. Lebowitz and E. W. Montroll, Eds., J. Stat. Phys., 1985.
4. Review of Kinetic Theory and Irreversible Thermodynamics, B. C. Eu, in J. Stat. Phys. **18** 799-801, 1993.

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