

References

1. Adler, C., B.M. Boghosian, E. G. Flekkøy, N. Margolus and D.H. Rothman. Simulating three-dimensional hydrodynamics on a cellular-automata machine. *J. Stat. Phys.*, 81:105–128, 1995.
2. Adrover, A. and M. Giona. Hydrodynamic properties of fractals: application of the lattice Boltzmann equation to transverse flow past an array of fractal objects. *International Journal of Multiphase Flow*, 23(1):25–35, 1997.
3. Aggarwal, S. Local and global Garden of Eden theorems. Michigan University technical rept. 147, 1973.
4. Aharonov, E. and D.H. Rothman. Non-newtonian flow (through porous media): a lattice-Boltzmann method. *Geophys. Res. Lett.*, 20(8):679–682, 1993.
5. Ahlrichs, P. and B. Dunweg. Lattice Boltzmann simulation of polymer-solvent systems. *International Journal of Modern Physics C*, 9(8):1429–1438, 1998.
6. Aidun, C.K., Yannan Lu and E.-J. Ding. Direct analysis of particulate suspensions with inertia using the discrete Boltzmann equation. *Journal of Fluid Mechanics*, 373:287–311, 1998.
7. Alasyev, V., A. Krasnoproshina, and V. Kryshanovskii. Unsolved problems in homogeneous structures. *Lecture Notes in Computer Science*, 342:33–49, 1989.
8. Alexander, F.J., H. Chen, S. Chen and G.D. Doolen. Lattice Boltzmann model for compressible fluids. *Phys. Rev. A*, 46:1967–1970, 1992.
9. Alexander, F.J., S. Chen and J.D. Sterling. Lattice Boltzmann thermohydrodynamics. *Phys. Rev. E*, 47:R2249–R2252, 1993.
10. Alstrøm, P. and J. Leão. Self-organized criticality in the “game of Life”. *Phys. Rev. E*, 49(4):R2507–8, 1994.
11. Amati, G., S. Succi, and R. Benzi. Turbulent channel flow simulations using a coarse-grained extension of the lattice Boltzmann method. (*preprint*), 1996.
12. Amati, G., S. Succi, and R. Benzi. Turbulent channel flow simulations using a coarse-grained extension of the lattice Boltzmann method. *Fluid Dynamics Research*, 19(5):289–302, 1997a.
13. Amati, G., S. Succi and R. Piva. Massively parallel lattice-Boltzmann simulation of turbulent channel flow. *International Journal of Modern Physics C*, 8(4):869–877, 1997b.

14. Ames, W. F. *Numerical Methods for Partial Differential Equations*. Academic Press, New York, 1977.
15. Amoroso, S. and Y.N. Patt. Decision procedure for surjectivity and injectivity of parallel maps for tessellation structures. *Journal of Computer and System Sciences*, 6:448–464, 1972.
16. Angelopoulos, A.D., V.N. Paunov, V.N. Burganos and A.C. Payatakes. Lattice Boltzmann simulation of nonideal vapor-liquid flow in porous media. *Physical Review E*, 57(3):3237–3245, 1998.
17. Bahr, D.B. and J.B. Rundle. Theory of lattice Boltzmann simulations of glacier flow. *J. Glaciology*, 41(139):634–640, 1995.
18. Bak, Per. *How Nature Works: The Science of Self-Organized Criticality*. Copernicus/Springer, 205pp, 1996.
19. Balasubramanian, K., F. Hayot and W.F. Saam. Darcy's law from lattice-gas hydrodynamics. *Phys. Rev. A*, 36:2248–2253, 1987.
20. Balazs, N.L., B.R. Schlei, and D. Strottman. Relativistic flows on a spacetime lattice. *Acta Physica Hungarica, New Series, Heavy Ion Physics*, 9(1):67–97, 1999.
21. Bandini, S., R. Casati, M. Castagnoli, M. Costato, M. Liguori, and M. Milani. Cellular automata approach for investigation of low power light effects on the dynamics of plant-inhabiting mites. *Nuovo Cimento D*, 20D(10):1595–1607, 1998.
22. Barlovic, R., L. Santen, A. Schadschneider, and M. Schreckenberg. Metastable states in cellular automata for traffic flow. *European Physical Journal B*, 5(3):793–800, 1998.
23. Bartoloni, A., C. Battista, S. Cabasino, P.S. Paolucci, J. Pech, R. Sarno, G.M. Todesco, M. Torelli, W. Tross, P. Vicini, R. Benzi, N. Cabibbo, F. Massaioli, and R. Tripiccone. LBE simulations of Rayleigh-Bénard convection on the APE100 parallel processor. *Int. J. Mod. Phys. C*, 4:993ff, 1993.
24. Bastolla, U. and G. Parisi. Relevant elements, magnetization and dynamical properties in Kauffman networks. A numerical study. *Physica D*, 115(3-4):203–218, 1998a.
25. Bastolla, U. and G. Parisi. The modular structure of Kauffman networks. *Physica D*, 115(3-4):219–233, 1998b.
26. Batchelor, G. K. *An Introduction to Fluid Dynamics*. Cambridge University Press, 1967.
27. Bender, Carl M. and Steven A. Orszag. *Advanced Mathematical Methods for Scientists and Engineers*. McGraw-Hill, Auckland, (2nd printing 1984), 1978.
28. Benjamin, S.C., N.F. Johnson, and P.M. Hui. Cellular automata models of traffic flow along a highway containing a junction. *Journal of Physics A*, 29(12):3119–3127, 1996.

29. Benzi, R., M.V. Struglia, and R. Tripiccone. Extended self-similarity in numerical simulations of three-dimensional anisotropic turbulence. *Physical Review E*, 53(6A):R5565–8, 1996.
30. Benzi, R., R. Tripiccone, F. Massaioli, S. Succi and S. Ciliberto. On the scaling of the velocity and temperature structure functions in Rayleigh-Bénard convection. *Europhys. Lett.*, 25(5):341–346, 1994.
31. Benzi, R., S. Succi and M. Vergassola. The lattice Boltzmann equation: theory and applications. *Phys. Rep.*, 222(3):145–197, 1992.
32. Berest, P., N. Rakotomalala, J.P. Hulin, and D. Salin. Experimental and numerical tools for miscible fluid displacements studies in porous media with large heterogeneities. *European Physical Journal, Applied Physics*, 6(3):309–321, 1999.
33. Berlekamp, E. R., J. H. Conway and R. K. Guy. *Winning Ways for Your Mathematical Plays, 2*. Academic Press, New York, 1984.
34. Bernardin, D. Global invariants and equilibrium states in lattice gases. *J. Stat. Phys.*, 68(3/4):457–495, 1992.
35. Berns Dorf, J., F. Durst, and M. Schäfer. Comparison of cellular automata and finite volume techniques for simulation of incompressible flows in complex geometries. *International Journal for Numerical Methods in Fluids*, 29(3):251–264, 1999.
36. Berns Dorf, J., Th. Zeiser, G. Brenner, and F. Durst. Simulation of a 2D channel flow around a square obstacle with lattice-Boltzmann (BGK) automata. *International Journal of Modern Physics C*, 9(8):1129–1141, 1998.
37. Bhatnagar, P., E. P. Gross and M. K. Krook. A model for collision processes in gases. I. Small amplitude processes in charged and neutral one-component systems. *Phys. Rev.*, 94(3):511–525, 1954.
38. Biggs, M.J. and S.J. Humby. Lattice-gas automata methods for engineering. *Chemical Engineering Research & Design*, 76(A2):162–174, 1998.
39. Binder, P.-M. Topological classification of cellular automata. *Journal of Physics*, 24:L31–L34, 1991.
40. Boghosian, B.M. and C.D. Levermore. A cellular automaton for Burgers' equation. *Complex Systems*, 1:17–30, 1987.
41. Boghosian, B.M. and P.V. Coveney. Inverse Chapman-Enskog derivation of the thermohydrodynamic lattice-BGK model for the ideal gas. *International Journal of Modern Physics C*, 9(8):1231–1245, 1998.
42. Boghosian, B.M. and W. Taylor. Correlations and renormalization in lattice gases. *Physical Review E*, 52(1):510–554, 1995.
43. Boghosian, B.M. and W. Taylor. Quantum lattice-gas models for the many-body Schrödinger equation. *International Journal of Modern Physics C*, 8(4):705–716, 1997.
44. Boghosian, B.M. and W. Taylor, IV. Quantum lattice-gas model for the many-particle Schrödinger equation in d dimensions. *Physical Review E*, 57(1):54–66, 1998.

45. Boghosian, B.M., J. Yepez, F.J. Alexander and N.H. Margolus. Integer lattice gases. *Physical Review E*, 55(4):4137–4147, 1997.
46. Bogoliubov, N.N. Problems of a dynamical theory in statistical mechanics. In J. de Boer and G.E. Uhlenbeck, editor, *Studies in Statistical Mechanics, Vol. 1*, pages 5–118. North-Holland, Amsterdam, 1962.
47. Boltzmann, L. Weitere Studien über das Wärmegleichgewicht unter Gasmolekülen. *Wien. Ber.*, 66:275–370, 1872.
48. Boon, J. P. and S. Yip. *Molecular Hydrodynamics*. Dover, New York, 1991.
49. Boon, J.P., D. Dab, R. Kapral, and A. Lawniczak. Lattice gas automata for reactive systems. *Physics Reports*, 273(2):55–147, 1996.
50. Bosl, W.J., J. Dvorkin and A. Nur. A study of porosity and permeability using a lattice Boltzmann simulation. *Geophysical Research Letters*, 25(9):1475–1478, 1998.
51. Bourke, W. Spectral methods in global climate and weather prediction models. In Schlesinger, M. E., editor, *Physically Based Modeling and Simulation of Climate and Climate Change, Part 1*, pages 169–220. Kluwer Academic Publishers, 1988.
52. Brankov, J.G.; Priezhev, V.B.; Schadschneider, A. and Schreckenberg, M. The Kasteleyn model and a cellular automaton approach to traffic flow. *Journal of Physics A*, 29(10):L229–235, 1996.
53. Bryan, K. A numerical method for the study of the circulation of the world ocean. *J. Comput. Phys.*, 4:347–376, 1969.
54. Buckles, J.J., R.D. Hazlett, S. Chen, K.G. Eggert, D.W. Grunau and W.E. Soll. Towards improved prediction of reservoir flow performance. *Los Alamos Science*, 22:112–121, 1994.
55. Buick, J.M. Numerical simulation of internal gravity waves using a lattice gas model. *International Journal for Numerical Methods in Fluids*, 26(6):657–676, 1998.
56. Buick, J.M. and C.A. Greated. Lattice Boltzmann modeling of interfacial gravity waves. *Physics of Fluids*, 10(6):1490–1511, 1998.
57. Buick, J.M., C.A. Greated and D.M. Campbell. Lattice BGK simulation of sound waves. *Europhysical Letters*, 43(3):235–240, 1998.
58. Burks, A.W., editor. *Essays on Cellular Automata*. University of Illinois Press, Urbana, 1970.
59. Burnett, D. The distribution of velocities in a slightly non-uniform gas. *Proc. London Math. Soc.*, 39:385–430, 1935.
60. Burnett, D. The distribution of molecular velocities and the mean motion in a non-uniform gas. *Proc. London Math. Soc.*, 40:382–435, 1936.
61. Bussemaker, H.J. Analysis of a pattern-forming lattice-gas automaton: mean-field theory and beyond. *Physical Review E*, 53(2):1644–1661, 1996.

62. Cancelliere, A., C. Chang, E. Foti, D.H. Rothman, and S. Succi. The permeability of a random medium: Comparison of simulation with theory. *Phys. Fluids A*, 2:2085–2088, 1990.
63. Cao, N., S. Chen, S. Jin, and D. Martinez. Physical symmetry and lattice symmetry in the lattice Boltzmann method. *Physical Review E*, 55(1):R21–R24, 1997.
64. Case, J., D.S. Rajan, and A.M. Shende. Optimally representing euclidean-space discretely for analogically simulating physical phenomena. *Lecture Notes in Computer Science*, 472:190–203, 1990.
65. Cattaneo, G., P. Flocchini, P. and C. Quaranta Vogliotti. An effective classification of elementary cellular automata. In Costato, M.; Degasperis, A.; Milani, M., editor, *Conference Proceedings. National Workshop on Nonlinear Dynamics. Vol.48*, pages 69–78. Bologna, Italy: Italian Phys. Soc, 1995.
66. Cercignani, C. *The Boltzmann Equation and Its Applications*. Springer, New York, 1988.
67. Cercignani, C. *Mathematical Methods in Kinetic Theory*. Plenum, 1990.
68. Chapman, S. On the law of distribution of molecular velocities, and on the theory of viscosity and thermal conduction, in a non-uniform simple monatomic gas. *Phil. Trans. Roy. Soc.*, A216:279–348, 1916.
69. Chapman, S. On the kinetic theory of a gas. Part II. - A composite monatomic gas: Diffusion, viscosity, and thermal conduction. *Phil. Trans. Roy. Soc.*, A217:115–197, 1918.
70. Chapman, S. and T. G. Cowling. *The Mathematical Theory of Non-Uniform Gases*. Cambridge University Press, 1970.
71. Chen, H. H-theorem and generalized semi-detailed balance condition for lattice gas systems. *J. Stat. Phys.*, 81(1/2):347–360, 1995.
72. Chen, H. Entropy, fluctuation and transport in lattice gas systems with generalized semi-detailed balance. *Journal of Plasma Physics*, 57(1):175–186, 1997.
73. Chen, H. Volumetric formulation of the lattice Boltzmann method for fluid dynamics: Basic concept. *Physical Review E*, 58(3):3955–3963, 1998.
74. Chen, H. and W. H. Matthaeus. New cellular automaton model for magneto-hydrodynamics. *Phys. Rev. Lett.*, 58(18):1845–1848, 1987.
75. Chen, H., C. Teixeira and K. Molvig. Digital Physics approach to computational fluid dynamics: some basic theoretical features. *International Journal of Modern Physics C*, 8(4):675–684, 1997.
76. Chen, H., C. Teixeira, and K. Molvig. Realization of fluid boundary conditions via discrete Boltzmann dynamics. *International Journal of Modern Physics C*, 9(8):1281–1292, 1998b.
77. Chen, H., W. H. Matthaeus and L. W. Klein. Theory of multicolor lattice gas: A cellular automaton Poisson solver. *J. Comput. Physics*, 88:433–466, 1990.

78. Chen, S. and G.D. Doolen. Lattice Boltzmann method for fluid flows. *Ann. Rev. Fluid Mech.*, 30:329–364, 1998.
79. Chen, S., D. Martinez, and R. Mei. On boundary conditions in lattice Boltzmann methods. *Physics of Fluids*, 8(9):2527–36, 1996.
80. Chen, S., D.O. Martinez, W.H. Matthaeus and H. Chen. Magnetohydrodynamics computations with lattice gas automata. *J. Stat. Phys.*, 68(3/4):533–556, 1992.
81. Chen, S., G. D. Doolen, and W. H. Matthaeus. Lattice gas automata for simple and complex fluids. *J. Stat. Phys.*, 64(5/6):1133–1162, 1991.
82. Chen, S., H. Chen, D. Martinez, and W.H. Matthaeus. Lattice Boltzmann model for simulation of magnetohydrodynamics. *Phys. Rev. Lett.*, 67(27):3776–3779, 1991.
83. Chen, S., K. Diemer, G.D. Doolen, K. Eggert, C. Fu, S. Gutman, and B.J. Travis. Lattice gas automata for flow through porous media. *Physica D*, 47:72–84, 1991.
84. Chen, S., M. Lee, K.H. Zhao and G.D. Doolen. A lattice gas model with temperature. *Physica D*, 37:42–59, 1989.
85. Chen, S., S.P. Dawson, G.D. Doolen, D.R. Janecky and A. Lawniczak. Lattice methods and their application to reacting systems. *Comp. Chem. Eng.*, 19(6/7):617–646, 1995.
86. Chen, S., Z. Wang, X. Shan and G. Doolen. Lattice Boltzmann computational fluid dynamics in three dimensions. *J. Stat. Phys.*, 68(3/4):379–400, 1992.
87. Chen, Y. and H. Ohashi. Lattice-BGK methods for simulating incompressible fluid flows. *International Journal of Modern Physics C*, 8(4):793–803, 1997.
88. Chen, Y. and H. Ohashi. Lattice Boltzmann method: fundamentals and applications. *Journal of the Japan Society for Simulation Technology*, 17(3):213–219, 1998.
89. Chen, Y., H. Ohashi, and M. Akiyam. A simple method to change the Prandtl number for thermal lattice BGK model. In Tentner, A., editor, *High Performance Computing Symposium 1995 ‘Grand Challenges in Computer Simulation’*, pages 165–8. Proceedings of the 1995 Simulation Multiconference, San Diego, CA, USA, xxiii+566 pp., 1995.
90. Chen, Y., H. Ohashi and M. Akiyama. Thermal lattice Bhatnagar Gross Krook model without nonlinear deviations in macrodynamic equations. *Phys. Rev. E*, 50(4):2776–2783, 1994.
91. Chen, Y., H. Ohashi, and M. Akiyama. Heat transfer in lattice BGK modeled fluid. *J. Stat. Phys.*, 81(1/2):71–85, 1995.
92. Chen, Y., S. Teng, T. Shukuwa, and H. Ohashi. Lattice-Boltzmann simulation of two-phase fluid flows. *International Journal of Modern Physics C*, 9(8):1383–1391, 1998a.

93. Chenghai, S. Lattice-Boltzmann models for high speed flows. *Physical Review E*, 58(6):7283–7287, 1998.
94. Chopard, B. and M. Droz. Cellular automata model for heat conduction in a fluid. *Phys. Lett. A*, 126(8/9):476, 1988.
95. Chopard, B. and M. Droz. Cellular automata model for the diffusion equation. *J. Stat. Phys.*, 64(3/4):859–892, 1991.
96. Chopard, B. and P.O. Luthi. Lattice Boltzmann computations and applications to physics. *Theoretical Computer Science*, 217(1):115–130, 1999.
97. Chopard, B., P.O. Luthi, and P.-A. Quelo. Cellular automata model of car traffic in a two-dimensional street network. *Journal of Physics A*, 29(10):2325–2336, 1996.
98. Codd, E.F. *Cellular Automata*. Academic Press, New York, 1968.
99. Colvin, M.E., A.J.C. Ladd, and B.J. Alder. Maximally discretized molecular dynamics. *Phys. Rev. Lett.*, 61(4):381–388, 1988.
100. Cornubert, R., D. d’Humières and D. Levermore. A Knudsen layer theory for lattice gases. *Physica D*, 47:241–259, 1991.
101. Courant, R., K. Friedrichs und H. Lewy. Über die partiellen Differentialgleichungen der mathematischen Physik. *Math. Ann.*, 100:32–74, 1928.
102. Coveney, P.V., J.-B. Maillet, J.L. Wilson, P.W. Fowler, O. Al-Mushadani, and B.M. Boghosian. Lattice-gas simulations of ternary amphiphilic fluid flow in porous media. *International Journal of Modern Physics C*, 9(8):1479–90, 1998.
103. Cover, T.M. and J.A. Thomas. *Elements of Information Theory*. 576 pp, John Wiley, New York, 1991.
104. Coxeter, H.S.M. *Regular Polytopes*. Macmillan, 1963.
105. Creutz, M., L. Jacobs and C. Rebbi. Experiments with a gauge-invariant Ising system. *Phys. Rev. Lett.*, 42(21):1390–1393, 1979.
106. Dardis, O. and J. McCloskey. Lattice Boltzmann scheme with real numbered solid density for the simulation of flow in porous media. *Physical Review E*, 57(4):4834–4837, 1998a.
107. Dardis, O. and J. McCloskey. Permeability porosity relationships from numerical simulations of fluid flow. *Geophysical Research Letters*, 25(9):1471–1474, 1998b.
108. Dawson, S.P., S. Chen and G.D. Doolen. Lattice Boltzmann computations for reaction-diffusion equations. *J. Chem. Phys.*, 98(2):1514–1523, 1993.
109. De Fabritiis, G., A. Mancini, D. Mansutti, and S. Succi. Mesoscopic models of liquid/solid phase transitions. *International Journal of Modern Physics C*, 9(8):1405–1415, 1998.

110. de la Torre, A.C. and H.O. Martin. A survey of cellular automata like the 'game of life'. *Journal of Physics A*, 240(3-4):560-570, 1997.
111. Decker, L. and D. Jeulin. Random texture simulation by multi-species lattice gas models. *Journal of Electronic Imaging*, 6(1):78-93, 1997.
112. Deutsch, A. and A.T. Lawniczak. Probabilistic lattice models of collective motion and aggregation: from individual to collective dynamics. *Mathematical Biosciences*, 156(1-2):255-269, 1999.
113. d'Humières, D. and P. Lallemand. Lattice Gas Automata for Fluid Mechanics. *Physica*, 140A:326-335, 1986.
114. d'Humières, D. and P. Lallemand. Numerical Simulations of Hydrodynamics with Lattice Gas Automata in Two Dimensions. *Complex Systems*, 1:599-632, 1987; [Errata: 2,725-726,1989].
115. d'Humières, D., P. Lallemand and J. Searby. Numerical experiments in lattice gases: mixtures and Galilean invariance. *Complex Systems*, 1:633-647, 1987.
116. d'Humières, D., P. Lallemand and U. Frisch. Lattice gas models for 3D hydrodynamics. *Europhys. Lett.*, 2(4):291-297, 1986.
117. d'Humières, D., P. Lallemand and Y.H. Qian. One-dimensional lattice gas models. Divergence of the viscosity. *C.R. Acad. Sci. Paris. Série II*, 308:585-590, 1989.
118. d'Humières, D., Y. H. Qian and P. Lallemand. Finding the linear invariants of lattice gases. In Pires, A., D. P. Landau and H. Hermann, editor, *Computational Physics and Cellular Automata*, pages 97-115. World Scientific, Singapore, 1990.
119. d'Humières, D., Y.H. Qian and P. Lallemand. Invariants in lattice gas models. In R. Monaco, editor, *Discrete Kinetic Theory, Lattice Gas Dynamics and Foundations of Hydrodynamics*, pages 102-113. World Scientific, Singapore, 1989.
120. Doolen, G.D. Bibliography. In G.D. Doolen, U. Frisch, B. Hasslacher, S. Orszag and S. Wolfram, editor, *Lattice Gas Methods for Partial Differential Equations*, pages 509-547. Addison-Wesley, Redwood City, California, 1990.
121. Doolen, G.D., U. Frisch, B. Hasslacher, S. Orszag and S. Wolfram, editor. *Lattice Gas Methods for Partial Differential Equations*. Addison-Wesley, Redwood City, California, 1990.
122. d'Ortona, U., D. Salin, M. Cieplak, R.B. Rybka and J.R. Banavar. Two-color nonlinear Boltzmann cellular automata: Surface tension and wetting. *Physical Review E*, 51(4):3718-3728, 1995.
123. Dubrulle, B. Method of computation of the Reynolds number for two models of lattice gas involving violation of semi-detailed balance. *Complex Systems*, 2:577-609, 1988.
124. Dubrulle, B., M. Hénon, U. Frisch, and J.P. Rivet. Low viscosity lattice gases. *J. Stat. Phys.*, 59(5/6):1187-1226, 1990.
125. Durand, B. and J. Mazoyer. Growing patterns in one dimensional cellular automata. *Complex Systems*, 8:419-434, 1994.

126. Ebihara, K., T. Watanabe, and H. Kaburaki. Surface of dense phase in lattice-gas fluid with long-range interaction. *International Journal of Modern Physics C*, 9(8):1417–1427, 1998.
127. Ekman, V.W. On the influence of the earth's rotation on ocean currents. *Ark. Mat. Astron. Fys.*, 2:1–53, 1905.
128. Ekman, V.W. Über Horizontalzirkulation bei winderzeugten Meeresströmungen. *Ark. Mat. Astron. Fys.*, 17(26):74pp, 1923.
129. Elton, B.H. Comparisons of lattice Boltzmann and finite difference methods for a two-dimensional viscous Burgers equation. *SIAM J. Sci. Comput.*, 17(4):783–813, 1996.
130. Elton, B.H., C.D. Levermore, and G.H. Rodrigue. Lattice Boltzmann methods for some 2-D nonlinear diffusive equations: Computational results. In H. Kaper, editor, *Proceedings of the Workshop on Asymptotic Analysis and Numerical Solution of PDEs (Argonne National Laboratory)*, pages 197–214. Marcel Dekker, New York, 1990.
131. Elton, B.H., C.D. Levermore and G.H. Rodrigue. Convergence of convective-diffusive lattice Boltzmann methods. *SIAM Journal on Numerical Analysis*, 32(5):1327–1354, 1995.
132. Emerton, A.N., P.V. Coveney and B.M. Boghosian. Lattice-gas simulations of domain growth, saturation, and self-assembly in immiscible fluids and microemulsions. *Physical Review E*, 55(1B):708–720, 1997.
133. Emmerich, H., T. Nagatani, and K. Nakanishi. From modified KdV-equation to a second-order cellular automaton for traffic flow. *Physica A*, 254(3-4):548–556, 1998.
134. Enskog, D. *Kinetische Theorie der Vorgänge in mässig verdünnten Gasen*. PhD thesis, Uppsala, 1917.
135. Enskog, D. Kinetische Theorie der Wärmeleitung, Reibung und Selbstdiffusion in gewissen verdichteten Gasen und Flüssigkeiten. *Svensk. Akad. Handl.*, 63(4):5–44, 1922.
136. Ermentrout, G.B. and L. Edlestein-Keshet. Cellular automata approaches to biological modeling. *J. Theor. Biol.*, 160:97–133, 1993.
137. Ernst, M.H. Statistical mechanics of cellular automata fluids. In D. Levesque, J.P. Hansen, and J. Zinn-Justin, editor, *Liquids, Freezing and the Glass Transition, Les Houches 1989*, pages 43–143. Elsevier, Amsterdam, 1991.
138. Evans, D. J. and G. P. Morriss. Nonequilibrium molecular-dynamics simulation of Couette flow in two-dimensional fluids. *Phys. Rev. Lett.*, 51(19):1776–1779, 1983.
139. Fahner, G. A multispeed model for lattice-gas hydrodynamics. *Complex Systems*, 5:1–14, 1991.
140. Fang, H., Z. Lin and Z. Wang. Lattice Boltzmann simulation of viscous fluid systems with elastic boundaries. *Physical Review E*, 57(1):R25–28, 1998.

141. Filippova, O. and D. Hänel. Lattice-Boltzmann simulation of gas-particle flow in filters. *Computers & Fluids*, 26(7):697–712, 1997.
142. Filippova, O. and D. Hänel. Grid refinement for lattice-BGK models. *J. Comput. Phys.*, 147(1):219–228, 1998a.
143. Filippova, O. and D. Hänel. Boundary-fitting and local grid refinement for lattice-BGK models. *International Journal of Modern Physics C*, 9(8):1271–1279, 1998b.
144. Filippova, O. and D. Hänel. Lattice-BGK model for low Mach number combustion. *International Journal of Modern Physics C*, 9(8):1439–1445, 1998c.
145. Flekkøy, E.G. Lattice Bhatnagar-Gross-Krook models for miscible fluids. *Physical Review E*, 47(6):4247–4257, 1993.
146. Flekkøy, E.G. and D.H. Rothman. Fluctuating hydrodynamic interfaces: Theory and simulation. *Physical Review E*, 53(2):1622–1643, 1996a.
147. Flekkøy, E.G., T. Rage, U. Oxaal, and J. Feder. Hydrodynamic irreversibility in creeping flow. *Physical Review Letters*, 77(20):4170–4173, 1996b.
148. Flekkøy, E.G., U. Oxaal, J. Feder and T. Jøssang. Hydrodynamic dispersion at stagnation points: Simulations and experiments. *Phys. Rev. E*, 52(5):4952–4962, 1995.
149. Fogaccia, G., R. Benzi, and F. Romanelli. Lattice Boltzmann algorithm for three-dimensional simulations of plasma turbulence. *Physical Review E*, 54(4):4384–4393, 1996.
150. Fox, A.D. and S.J. Maskell. Two-way interactive nesting of primitive equation ocean models with topography. *J. Phys. Oceanogr.*, 25(12):2977–2996, 1995.
151. Fox, A.D. and S.J. Maskell. A nested primitive equation model of the Iceland-Faeroe front. *J. Geophys. Res.*, 101(C8):18259–18278, 1996.
152. Fredkin, E. Digital mechanics - An informational process based on reversible universal cellular automata. *Physica D*, 45(1-3):254–270, 1990.
153. Freed, D.M. Lattice-Boltzmann method for macroscopic porous media modeling. *International Journal of Modern Physics C*, 9(8):1491–1503, 1998.
154. Friedberg, R. and J.E. Cameron. Test of the Monte Carlo method: fast simulation of a small Ising lattice. *J. Chem. Phys.*, 52:6049–6058, 1970.
155. Frisch, U. Relation between the lattice Boltzmann equation and the Navier-Stokes equations. *Physica D*, 47:231–232, 1991.
156. Frisch, U., B. Hasslacher, and Y. Pomeau. Lattice-gas automata for the Navier-Stokes equation. *Phys. Rev. Lett.*, 56(14):1505–1508, 1986.
157. Frisch, U., D. d’Humières, B. Hasslacher, P. Lallemand, Y. Pomeau and J.-P. Rivet. Lattice gas hydrodynamics in two and three dimensions. *Complex Systems*, 1:649–707, 1987.

158. Fukui, M. and Y. Ishibashi. Traffic flow in 1D cellular automaton model including cars moving with high speed. *Journal of the Physical Society of Japan*, 65(6):1868–1870, 1996a.
159. Fukui, M. and Y. Ishibashi. Effect of reduced randomness on jam in a two-dimensional traffic model. *Journal of the Physical Society of Japan*, 65(6):1871–1873, 1996b.
160. Gallivan, M.A., D.R. Noble, J.G. Georgiadis and R.O. Buckius. An evaluation of the bounce-back boundary condition for lattice Boltzmann simulations. *International Journal for Numerical Methods in Fluids*, 25(3):249–263, 1997.
161. Gardner, M. The fantastic combinations of John Horton Conway’s new solitaire game of ‘life’. *Sci. Am.*, 223(4):120–123, 1970.
162. Gardner, M. Geometric fallacies: hidden errors pave the road to absurd conclusions. *Sci. Am.*, 224(4):114–117, 1971a.
163. Gardner, M. On cellular automata, self-reproduction, the Garden of Eden and the game “life”. *Sci. Am.*, 224(2):112–117, 1971b.
164. Gardner, M. The orders of infinity, the topological nature of dimensions and “supertasks”. *Sci. Am.*, 224(3):106–109, 1971c.
165. Gerling, R.W. Classification of triangular and honeycomb cellular automata. *Physica A*, 162:196–209, 1990a.
166. Gerling, R.W. Zellulare Automaten auf dem PC. *Der mathematische und naturwissenschaftliche Unterricht*, 43(8):451–456, 1990b.
167. Gibbs, J. W. *Elementary Principles in Statistical Mechanics*. Yale University Press, New Haven, 1902 (reprinted 1981 by Ox Bow Press, Woodbridge, Connecticut).
168. Ginzbourg, I. and P.M. Adler. Boundary flow conditional analysis for the three-dimensional lattice Boltzmann model. *J. Phys. II France*, 4:191–214, 1994.
169. Ginzbourg, L. and D. d’Humières. Local second-order boundary methods for lattice Boltzmann models. *J. Stat. Phys.*, 84(5/6):927–971, 1996.
170. Giraud, L. and D. d’Humières. A lattice-Boltzmann model for viscoelasticity. *International Journal of Modern Physics C*, 8(4):805–815, 1997.
171. Giraud, L., D. d’Humières and P. Lallemand. A lattice Boltzmann model for Jeffreys viscoelastic fluid. *Europhysics Letters*, 42(6):625–630, 1998.
172. Goldenfeld, N. and L.P. Kadanoff. Simple lessons from complexity. *Science*, 284:87–89, 1999.
173. Gonnella, G., E. Orlandini and J.M. Yeomans. Lattice-Boltzmann simulations of complex fluids. *International Journal of Modern Physics C*, 8(4):783–792, 1997.
174. Gonnella, G., E. Orlandini and J.M. Yeomans. Lattice Boltzmann simulations of lamellar and droplet phases. *Physical Review E*, 58(1):480–485, 1998.

175. Gonnella, G., E. Orlandini and J.M. Yeomans. Phase separation in two-dimensional fluids: The role of noise. *Physical Review E*, 59(5):R4741–R4744, 1999.
176. Großmann, S. *Funktionalanalysis*. 4., korrigierte Auflage, AULA-Verlag, Wiesbaden, 1988.
177. Grubert, D. Using the FHP-BGK-model to get effective dispersion constants for spatially periodic model geometries. *International Journal of Modern Physics C*, 8(4):817–825, 1997.
178. Gunstensen, A.K. and D.H. Rothman. A Galilean-invariant immiscible lattice gas. *Physica D*, 47:53–63, 1991.
179. Gunstensen, A.K. and D.H. Rothman. Lattice-Boltzmann studies of two-phase flow through porous media. *J. Geophys. Res.*, 98(B4):6431–6441, 1993.
180. Gunstensen, A.K., D.H. Rothman, S. Zaleski and G. Zanetti. Lattice Boltzmann model of immiscible fluids. *Phys. Rev. A*, 43(8):4320–4327, 1991.
181. Gutfraind, R., I. Ippolito and A. Hansen. Study of tracer dispersion in self-affine fractures using lattice-gas automata. *Phys. Fluids*, 7(8):1938–1948, 1995.
182. Gutowitz, H., editor. *Cellular Automata - Theory and Experiment*. MIT Press, Cambridge, Massachusetts, 1991.
183. Hackbusch, W. *Multi-Grid Methods and Applications*. Springer, Berlin, 1985.
184. Halliday, I. Steady state hydrodynamics of a lattice Boltzmann immiscible lattice gas. *Physical Review E*, 53(2):1602–1612, 1996.
185. Halliday, I., C.M. Care, S. Thompson, and D. White. Induced burst of fluid drops in a two-component lattice Bhatnager-Gross-Krook fluid. *Physical Review E*, 54(3):2573–2576, 1996.
186. Halliday, I., S.P. Thompson and C.M. Care. Macroscopic surface tension in a lattice Bhatnagar-Gross-Krook model of two immiscible fluids. *Physical Review E*, 57(1):514–523, 1998.
187. Hardy, J., O. de Pazzis and Y. Pomeau. Molecular dynamics of a lattice gas: Transport properties and time correlation functions. *Phys. Rev.*, A13:1949–1961, 1976.
188. Hardy, J., Y. Pomeau and O. de Pazzis. Time evolution of a two-dimensional model system. I. Invariant states and time correlation functions. *J. Math. Phys.*, 14(12):1746–1759, 1973.
189. Hashimoto, Y. and H. Ohashi. Droplet dynamics using the lattice-gas method. *International Journal of Modern Physics C*, 8(4):977–983, 1997.
190. Hashimoto, Y., Y. Chen, and H. Ohashi. Boundary conditions in lattice gas with continuous velocity. *International Journal of Modern Physics C*, 9(8):1263–1269, 1998.
191. Hasslacher, B. Discrete fluids. Los Alamos Science, 15, special issue, p.175–217, 1987.

192. Hasslacher, B. and D.A. Meyer. Modeling dynamical geometry with lattice-gas automata. *International Journal of Modern Physics C*, 9(8):1597–1605, 1998.
193. Hatori, T. and D. Montgomery. Transport coefficients for magnetohydrodynamic cellular automata. *Complex Systems*, 1:735–752, 1987.
194. Hattori, T. and S. Takesue. Additive conserved quantities in discrete-time lattice dynamical systems. *Physica D*, 49:295–322, 1991.
195. Hayot, F. and L. Wagner. A non-local modification of a lattice Boltzmann model. *Europhysics Letters*, 33(6):435–440, 1996.
196. Hayot, F. and M. R. Lakshmi. Cylinder wake in lattice gas hydrodynamics. *Physica D*, 40:415–420, 1989.
197. He, G. and K. Zhao. Lattice Boltzmann simulation of van der Waals phase transition with chemical potential. *Communications in Theoretical Physics*, 29(4):623–626, 1998.
198. He, X. Error analysis for the interpolation-supplemented lattice-Boltzmann equation scheme. *International Journal of Modern Physics C*, 8(4):737–745, 1997.
199. He, X. and G. Doolen. Lattice Boltzmann method on curvilinear coordinates system: Flow around a circular cylinder. *J. Comput. Phys.*, 134:306–315, 1997a.
200. He, X. and G. Doolen. Lattice Boltzmann method on a curvilinear coordinate system: Vortex shedding behind a circular cylinder. *Physical Review E*, 56(1 A):434–440, 1997b.
201. He, X. and Q. Zou. Analysis and boundary condition of the lattice Boltzmann BGK model with two velocity components. *preprint*, 1995.
202. He, X., L.-S. Luo, and M. Dembo. Some progress in lattice Boltzmann method. Part I. Nonuniform mesh grids. *J. Comput. Physics*, 129(2):357–363, 1996.
203. He, X., Q. Zou, L.-S. Luo and M. Dembo. Analytic solutions of simple flows and analysis of nonslip boundary conditions for the lattice Boltzmann BGK model. *J. Stat. Phys.*, 87(1/2):115–136, 1997.
204. He, X., R. Zhang, S. Chen, and G.D. Doolen. On the three-dimensional Rayleigh-Taylor instability. *Physics of Fluids*, 11(5):1143–1152, 1999b.
205. He, X., S. Chen and G.D. Doolen. A novel thermal model for the lattice Boltzmann method in incompressible limit. *Journal of Computational Physics*, 146(1):282–300, 1998.
206. He, X., S. Chen, and R. Zhang. A lattice Boltzmann scheme for incompressible multiphase flow and its application in simulation of Rayleigh-Taylor instability. *Journal of Computational Physics*, 152(2):642–663, 1999a.
207. Hedrich, R. *Komplexe und fundamentale Strukturen*. Bibliographisches Institut, Mannheim, 1990.
208. Heijs, A.W.J. and C.P. Lowe. Numerical evaluation of the permeability and the Kozeny constant for two types of porous media. *Physical Review E*, 51(5):4346–4352, 1995.

209. Hénon, M. Isometric collision rules for four-dimensional FCHC lattice gas. *Complex Systems*, 1(3):475–494, 1987a.
210. Hénon, M. Viscosity of a Lattice Gas. *Complex Systems*, 1(4):762–790, 1987b.
211. Hénon, M. Optimization of collision rules in the FCHC lattice gas and addition of rest particles. In R. Monaco, editor, *Discrete Kinetic Theory, Lattice Gas Dynamics and Foundations of Hydrodynamics*, pages 146–159. World Scientific, Singapore, 1989a.
212. Hénon, M. On the relation between lattice gases and cellular automata. In R. Monaco, editor, *Discrete Kinetic Theory, Lattice Gas Dynamics and Foundations of Hydrodynamics*, pages 160–161. World Scientific, Singapore, 1989b.
213. Hénon, M. Implementation of the FCHC lattice gas model on the connection machine. *J. Stat. Phys.*, 68(3/4):353–377, 1992.
214. Herrmann, H.J. Simulating granular media on the computer. In Garrido, P.L.; Marro, J., editor, *Third Granada Lectures in Computational Physics. Proceedings of the III. Granada Seminar on Computational Physics*, pages 67–114. Springer-Verlag, Berlin, 1995.
215. Herrmann, H.J.; Flekkøy, E.; Nagel, K.; Peng, G.; Ristow, G. Density waves in dry granular flow. In Wolf, D.E.; Schreckenberg, M.; Bachem, A., editor, *Workshop on Traffic and Granular Flow*, pages 239–250. World Scientific, Singapore, 1996.
216. Heudin, J.-C. A new candidate rule for the game of two-dimensional Life. *Complex Systems*, 10(5):367–381, 1996.
217. Heyes, D.H., G.P. Morriss and D.J. Evans. Nonequilibrium molecular dynamics study of shear flow in soft disks. *J. Chem. Phys.*, 83(9):4760–4766, 1985.
218. Higuera, F. and J. Jiménez. Boltzmann approach to lattice gas simulations. *Europhys. Lett.*, 9(7):663–668, 1989.
219. Higuera, F., S. Succi and R. Benzi. Lattice gas dynamics with enhanced collisions. *Europhys. Lett.*, 9(4):345–349, 1989.
220. Hillis, W.D. Richard Feynman and the Connection Machine. *Physics Today*, 42(2):78–83, 1989.
221. Holdych, D.J., D. Rovas, J.G. Georgiadis, and R.O. Buckius. An improved hydrodynamics formulation for multiphase flow lattice-Boltzmann models. *International Journal of Modern Physics C*, 9(8):1393–1404, 1998.
222. Holme, R. and D. H. Rothman. Lattice-gas and lattice-Boltzmann models of miscible fluids. *J. Stat. Phys.*, 68(3/4):409–429, 1992.
223. Hopcroft, John E. Turing machines. *Sci. Am.*, 250(5):70–80, 1984.
224. Hou, S., Q. Zou, S. Chen, G. Doolen and A.C. Cogley. Simulation of cavity flow by the lattice Boltzmann method. *J. Comput. Physics*, 118(2):329–347, 1995.

225. Hou, S., X. Shan, Q. Zou and G.D. Doolen. Evaluation of two lattice Boltzmann models for multiphase flows. *Journal of Computational Physics*, 138(2):695–713, 1997.
226. Hu, S., G. Yan and W. Shi. A lattice Boltzmann model for compressible perfect gas. *Acta Mechanica Sinica (English Edition)*, 13(3):218–226, 1997.
227. Huang, D.-W. Exact results for car accidents in a traffic model. *Journal of Physics A*, 31(29):6167–6173, 1998.
228. Huang, K. *Statistical Mechanics*. John Wiley & Sons, New York, 1963.
229. Inamuro, T., M. Yoshino and F. Ogino. A non-slip boundary condition for lattice Boltzmann simulations. *Physics of Fluids*, 7(12):2928–2930, 1995; Erratum, 8(4):1124, 1996.
230. Inamuro, T., M. Yoshino, and F. Ogino. Lattice Boltzmann simulation of flows in a three-dimensional porous structure. *International Journal for Numerical Methods in Fluids*, 29(7):737–748, 1999.
231. Ishibashi, Y. and M. Fukui. Phase diagram for the traffic model of two one-dimensional roads with a crossing. *Journal of the Physical Society of Japan*, 65(9):2793–5, 1996.
232. Ishibashi, Y. and M. Fukui. Traverse time in a cellular automaton traffic model. *Journal of the Physical Society of Japan*, 65(6):1878, 1996.
233. Isliker, H., A. Anastasiadis, D. Vassiliadis and L. Vlahos. Solar flare cellular automata interpreted as discretized MHD equations. *Astronomy and Astrophysics*, 335(3):1085–92, 1998.
234. Jackson, E.A. *Perspectives of nonlinear dynamics - Volume 2*. Cambridge University Press, 1990.
235. Jaynes, E.T. Where do we stand on maximum entropy? In Levine, R.D. and M. Tribus, editor, *The Maximum Entropy Formalism*, pages 15–118. MIT Press, Cambridge, 1979.
236. Jeffreys, H. *Cartesian Tensors*. Cambridge University Press, Cambridge, 1965.
237. Jeffreys, H., and B. S. Jeffreys. *Methods of Mathematical Physics*. 3. Edition, Cambridge University Press, Cambridge, 1956.
238. Junk, M. Kinetic schemes in the case of low Mach numbers. *J. Comput. Phys.*, 151(2):947–968, 1999.
239. Kaandorp, J.A., C.P. Lowe, D. Frenkel, and P.M.A. Sloot. Effect of nutrient diffusion and flow on coral morphology. *Physical Review Letters*, 77(11):2328–31, 1996.
240. Kadanoff, L.P., G.R. McNamara, and G. Zanetti. From automata to fluid flow: Comparison of simulation and theory. *Phys. Rev. A*, 40(8):4527–4541, 1989.
241. Kahan, W. *Gauss-Seidel methods of solving large systems of linear equations*. PhD thesis, University of Toronto, 1958.

242. Kandhai, D., A. Koponen, A.G. Hoekstra, M. Kataja, J. Timonen, and P.M.A. Sloot. Lattice-Boltzmann hydrodynamics on parallel systems. *Computer Physics Communications*, 111(1-3):14–26, 1998a.
243. Kandhai, D., A. Koponen, A.G. Hoekstra, M. Kataja, J. Timonen, and P.M.A. Sloot. Implementation aspects of 3D lattice-BGK: boundaries, accuracy, and a new fast relaxation method. *Journal of Computational Physics*, 150(2):482–501, 1999.
244. Kandhai, D., D.J.-E. Vidal, A.G. Hoekstra, H. Hoefsloot, P. Iedema, and P.M.A. Sloot. A comparison between lattice-Boltzmann and finite-element simulations of fluid flow in static mixer reactors. *International Journal of Modern Physics C*, 9(8):1123–1128, 1998b.
245. Kari, J. Reversibility of 2D cellular automata is undecidable. *Physica D*, 45:375–385, 1990.
246. Karlin, I.V., A. Ferrante, and H.C. Öttinger. Perfect entropy functions of the lattice Boltzmann method. *Europhys. Lett.*, 47(2):182–188, 1999.
247. Karlin, I.V., A.N. Gorban, S. Succi, and V. Boffi. Maximum entropy principle for lattice kinetic equations. *Phys. Rev. Lett.*, 81(1):6–9, 1998.
248. Karlin, I.V. and S. Succi. Equilibria for discrete kinetic equations. *Physical Review E*, 58(4):R4053–R4056, 1998.
249. Karlin, I.V., S. Succi, and S. Orszag. Lattice Boltzmann method for irregular grids. *Physical Review Letters*, 82(26):5245–5248, 1999.
250. Karolyi, A., J. Kertesz, S. Havlin, H.A. Makse, and H.E. Stanley. Filling a silo with a mixture of grains: friction-induced segregation. *Europhysics Letters*, 44(3):386–392, 1998.
251. Kato, Y., K. Kono, T. Seta, D. Martinez and S. Chen. Amadeus project and microscopic simulation of boiling two-phase flow by the lattice-Boltzmann method. *International Journal of Modern Physics C*, 8(4):843–858, 1997.
252. Kauffman, S.A. Emergent properties of random cellular automata. *Physica D*, 10:145–156, 1984.
253. Kauffman, S.A. Leben am Rande des Chaos. *Spektrum der Wissenschaft*, 10:90–99, 1991.
254. Kauffman, S.A. and R.G. Smith. Adaptive automata based on Darwinian selection. *Physica D*, 22:68–82, 1986.
255. Kendon, V.M., J.-C. Desplat, P. Bladon, and M.E. Cates. 3D spinodal decomposition in the inertial regime. *Physical Review Letters*, 83(3):576–579, 1999.
256. Kepler, J. *Mysterium Cosmographicum*. Tübingen, 1596.
257. Kepler, J. *Mysterium Cosmographicum - The Secret of the Universe*. translated by A.M. Duncan, Abaris Books, New York, 1981.
258. Kerner, B.S., P. Konhaeuser, and M. Schilke. Dipole-layer effect in dense traffic flow. *Physics Letters A*, 215(1/2):45–56, 1996.

259. Kim, J., J. Lee, and K.-C. Lee. Nonlinear corrections to Darcy's law for flows in porous media. *Sae Mulli*, 38 (special issue):S119–S122, 1998.
260. Kingdon, R.D., P. Schofield and L. White. A lattice Boltzmann model for the simulation of fluid flow. *J. Phys. A: Math. Gen.*, 25:3559–3566, 1992.
261. Klar, A. Relaxation scheme for a lattice-Boltzmann type discrete velocity model and numerical Navier-Stokes limit. *Journal of Computational Physics*, 148(2):416–432, 1999.
262. Knackstedt, M.A., M. Sahimi and D.Y.C. Chan. Cellular-automata calculation of frequency-dependent permeability of porous media. *Phys. Rev. E*, 47(4):2593–2597, 1993.
263. Koch, D.L., R.J. Hill and A.S. Sangani. Brinkman screening and the covariance of the fluid velocity in fixed beds. *Physics of Fluids*, 10(12):3035–3037, 1998.
264. Koelman, J.M.V.A. A simple lattice Boltzmann scheme for Navier-Stokes fluid flow. *Europhys. Lett.*, 15(6):603–607, 1991.
265. Kohring, G.A. Parallelization of short- and long-range cellular automata on scalar, vector, SIMD and MIMD machines. *Int. J. Mod. Phys., C* 2:755–772, 1991.
266. Kohring, G.A. Calculation of the permeability of porous media using hydrodynamic cellular automata. *J. Stat. Phys.*, 63:411–418, 1991a.
267. Kohring, G.A. Effect of finite grain size on the simulation of fluid flow in porous media. *Journal de Physique II France*, 1:87–90, 1991b.
268. Kohring, G.A. Limitations of a finite mean free path for simulation of fluid flow in porous media. *Journal de Physique II France*, 1:593–597, 1991c.
269. Kohring, G.A. An efficient hydrodynamic cellular automata for simulating fluids with large viscosities. *J. Stat. Phys.*, 66(3/4):1177–1184, 1992a.
270. Kohring, G.A. Calculation of drag coefficients via hydrodynamic cellular automata. *Journal de Physique*, 2:265ff, 1992b.
271. Koponen, A., D. Kandhai, E. Hellen, M. Alava, A. Hoekstra, M. Kataja, K. Niskanen, P. Slood and J. Timonen. Permeability of three-dimensional random fiber webs. *Physical Review Letters*, 80(4):716–719, 1998a.
272. Koponen, A., M. Kataja, and J. Timonen. Tortuous flow in porous media. *Physical Review E*, 54(1):406–410, 1996.
273. Koponen, A., M. Kataja, and J. Timonen. Permeability and effective porosity of porous media. *Physical Review E*, 56(3):3319–3325, 1997.
274. Koponen, A., M. Kataja, J. Timonen, and D. Kandhai. Simulations of single-fluid flow in porous media. *International Journal of Modern Physics C*, 9(8):1505–1521, 1998b.
275. Kornreich, P.J. and J. Scalo. Supersonic lattice gases: restoration of Galilean invariance by nonlinear resonance effects. *Physica D*, 69(3/4):333–344, 1993.

276. Kougias, C. F. Numerical simulations of small-scale oceanic fronts of river discharge type with the lattice gas automata method. *J. Geophys. Res.*, 98(C10):18243–18255, 1993.
277. Krafczyk, M., M. Cerrolaza, M. Schulz and E. Rank. Analysis of 3D transient blood flow passing through an artificial aortic valve by Lattice-Boltzmann methods. *Journal of Biomechanics*, 31(5):453–462, 1998a.
278. Krafczyk, M., M. Schulz and E. Rank. Lattice-gas simulations of two-phase flow in porous media. *Communications in Numerical Methods in Engineering*, 14(8):709–717, 1998.
279. Krasheninnikov, S.I. and P.J. Catto. Lattice Boltzmann representations of neutral gas hydrodynamics. *Contributions to Plasma Physics*, 38(1-2):367–372, 1998.
280. Kullback, S. *Information Theory and Statistics*. Wiley, New York (reprint by Dover, 1968), 1959.
281. Kutrib, M., R. Vollmar and T. Worsch. Introduction to the special issue on cellular automata. *Parallel Computing*, 23(11):1567–1576, 1997.
282. Ladd, A. Short-time motion of colloidal particles: numerical simulation via a fluctuating lattice-Boltzmann equation. *Phys. Rev. Lett.*, 70(9):1339–1342, 1993.
283. Ladd, A. and D. Frenkel. Dissipative hydrodynamic interactions via lattice-gas cellular automata. *Physics of Fluids A*, 2(11):1921–1924, 1990.
284. Ladd, A.J.C. Numerical simulations of particulate suspensions via a discretized Boltzmann equation. Part 1. Theoretical foundation. *J. Fluid Mech.*, 271:285–310, 1994a.
285. Ladd, A.J.C. Numerical simulations of particulate suspensions via a discretized Boltzmann equation. Part 2. Numerical results. *J. Fluid Mech.*, 271:311–340, 1994b.
286. Lahaie, F. and J.R. Grasso. A fluid-rock interaction cellular automaton of volcano mechanics: application to the Piton de la Fournaise. *Journal of Geophysical Research*, 103(B5):963796–49, 1998.
287. Lamura, A., G. Gonnella and J.M. Yeomans. Modeling the dynamics of amphiphilic fluids. *International Journal of Modern Physics C*, 9(8):1469–1478, 1998.
288. Lamura, A., G. Gonnella and J.M. Yeomans. A lattice Boltzmann model of ternary fluid mixtures. *Europhysics Letters*, 45(3):314–320, 1999.
289. Landau, L.D. and E.M. Lifshitz. *Fluid Mechanics*. Pergamon Press and Addison-Wesley, 1959.
290. Lavallée, P., J. P. Boon and A. Noullez. Lattice Boltzmann equation for laminar boundary flow. *Complex Systems*, 3:317–330, 1989.
291. Ledermann, W., and S. Vajda (Edit.). *Handbook of Applicable Mathematics, Volume V: Combinatorics and Geometrie, Part A*. John Wiley & Sons, Chichester, 1985a.

292. Ledermann, W., and S. Vajda (Edit.). *Handbook of Applicable Mathematics, Volume V: Combinatorics and Geometrie, Part B*. John Wiley & Sons, Chichester, 1985b.
293. Levine, R.D. and M. Tribus, editor. *The Maximum Entropy Formalism*. MIT Press, Cambridge, 1979.
294. Lindgren, K., C. Moore, and M. Nordahl. Complexity of two-dimensional patterns. *J. Stat. Phys.*, 91(5-6):909–951, 1998.
295. Logan, J.D. *An Introduction to Nonlinear Partial Differential Equations*. John Wiley & Sons, 1994.
296. Luo, L.-S. Analytic solutions of linearized lattice Boltzmann equation for simple fluids. *J. Stat. Phys.*, 88(3/4):913–926, 1997a.
297. Luo, L.-S. Symmetry breaking of flow in 2D symmetric channels: simulations by lattice-Boltzmann method. *International Journal of Modern Physics C*, 8(4):859–867, 1997b.
298. Luo, L.-S. Unified theory of lattice Boltzmann models for nonideal gases. *Physical Review Letters*, 81(8):1618–1621, 1998.
299. Ma, S.-K. *Statistical Mechanics*. First Reprint, World Scientific, Philadelphia, 1993.
300. Machenhauer, B. The spectral method. In Global Atmospheric Research Programme (GARP), editor, *Numerical Methods Used in Atmospheric Models, Volume II*, pages 124–275. GARP Publications Series No. 17, 1979.
301. Maier, R.S. and R.S. Bernard. Accuracy of the lattice-Boltzmann method. *International Journal of Modern Physics C*, 8(4):747–752, 1997.
302. Maier, R.S., D.M. Kroll, H.T. Davis and R.S. Bernard. Pore-scale flow and dispersion. *International Journal of Modern Physics C*, 9(8):1523–1533, 1998a.
303. Maier, R.S., D.M. Kroll, Y.E. Kutsovsky, H.T. Davis and R.S. Bernard. Simulation of flow through bead packs using the lattice Boltzmann method. *Physics of Fluids*, 10(1):60–74, 1998b.
304. Maier, R.S., R.S. Bernard, and D.W. Grunau. Boundary conditions for the lattice Boltzmann method. *Physics of Fluids*, 8(7):1788–1801, 1996.
305. Makowiec, D. A note on the rule classification for square homogeneous cellular automata. *Physica A*, 236(3/4):353–362, 1997.
306. Malarz, K., K. Kulakowski, M. Antoniuk, M. Grodecki, and D. Stauffer. Some new facts of life. *International Journal of Modern Physics C*, 9(3):449–458, 1998.
307. Manna, S.S. and D.V. Khakhar. Internal avalanches in a granular medium. *Physical Review E*, 58(6):R6935–R6938, 1998.
308. Mareschal, M. and E. Kestemont. Experimental evidence for convective rolls in finite two-dimensional molecular models. *Nature*, 329:427–429, 1987.

309. Markus, M. and B. Hess. Isotropic cellular automaton for modeling excitable media. *Nature*, 347:56–58, 1990.
310. Martin, O., A. M. Odlyzko, and S. Wolfram. Algebraic properties of cellular automata. *Commun. Math. Phys.*, 93:219–258, 1984.
311. Martínez, D., S.Y. Chen and W.H. Matthaeus. Lattice Boltzmann magneto-hydrodynamics. *Phys. Plasmas*, 1(6):1850–1867, 1994.
312. Martínez, D.O., W.H. Matthaeus, S. Chen and D.C. Montgomery. Comparison of spectral method and lattice Boltzmann simulations of two-dimensional hydrodynamics. *Physics of Fluids*, 6(3):1285–1298, 1994.
313. Martys, N.S. and Hudong Chen. Simulation of multicomponent fluids in complex three-dimensional geometries by the lattice Boltzmann method. *Physical Review E*, 53(1):743–50, 1996.
314. Massaioli, F., R. Benzi and S. Succi. Exponential tails in two-dimensional Rayleigh-Bénard convection. *Europhys. Lett.*, 21:305–310, 1993.
315. Masselot, A. and B. Chopard. A lattice Boltzmann model for particle transport and deposition. *Europhysics Letters*, 42(3):259–264, 1998a.
316. Masselot, A. and B. Chopard. A multiparticle lattice-gas model for hydrodynamics. *International Journal of Modern Physics C*, 9(8):1221–1230, 1998b.
317. Matsukama, Y. Numerical simulation of complex flows by lattice gas automata method. *Journal of the Japan Society for Simulation Technology*, 17(3):220–228, 1998.
318. Matsukuma, Y., R. Takahashi, Y. Abe and H. Adachi. Lattice gas automata simulations of flow through porous media. In Sugimoto, J., editor, *Proceedings of the Workshop on Severe Accident Research (JAERI-Conf98-009)*, pages 128–133. Ibaraki-ken, Japan: Japan Atomic Energy Res. Inst., 1998.
319. Mayda, A. *Compressible Fluid Flow and Systems of Conservation Laws in Several Space Variables*. Springer, 1984.
320. McNamara, G. and B. Alder. Lattice Boltzmann simulation of high Reynolds number fluid flow in two dimensions. In Mareschal, M. and B.L. Holian, editor, *Microscopic Simulations of Complex Hydrodynamic Phenomena*, pages 125–136. Plenum Press, New York, 1992.
321. McNamara, G. and B. Alder. Analysis of the lattice Boltzmann treatment of hydrodynamics. *Physica A*, 194:218–228, 1993.
322. McNamara, G. and G. Zanetti. Use of the Boltzmann equation to simulate lattice-gas automata. *Phys. Rev. Lett.*, 61:2332–2335, 1988.
323. McNamara, G.R. Diffusion in a lattice gas automata. *Europhys. Lett.*, 12(4):329–334, 1990.
324. McNamara, G.R., A.L. Garcia and B.J. Alder. Stabilization of thermal lattice Boltzmann models. *J. Stat. Phys.*, 81(1/2):395–408, 1995.

325. McNamara, G.R., A.L. Garcia and B.J. Alder. A hydrodynamically correct thermal lattice Boltzmann model. *J. Stat. Phys.*, 87(5/6):1111–1121, 1997.
326. Mei, R. and W. Shyy. On the finite difference-based lattice Boltzmann method in curvilinear coordinates. *Journal of Computational Physics*, 143(2):426–448, 1998.
327. Meyer, D.A. Quantum mechanics of lattice gas automata: One-particle plane waves and potentials. *Physical Review E*, 55(5A):5261–5269, 1997a.
328. Meyer, D.A. Quantum lattice gases and their invariants. *International Journal of Modern Physics C*, 8(4):717–735, 1997b.
329. Meyer, D.A. Quantum mechanics of lattice gas automata: boundary conditions and other inhomogeneities. *Journal of Physics A*, 31(10):2321–2340, 1998.
330. Mielke, A. and R.B. Pandey. A computer simulation study of cell population in a fuzzy interaction model for mutating HIV. *Physica A*, 251(3-4):430–438, 1998.
331. Miller, W. Flow in the driven cavity calculated by the lattice Boltzmann method. *Physical Review E*, 51(4):3659–3669, 1995.
332. Miller, W. and K. Böttcher. Numerical study of flow and temperature patterns during the growth of GaPO₄ crystals using the lattice-Boltzmann. *International Journal of Modern Physics C*, 9(8):1567–1576, 1998.
333. Monaco, R., editor. *Discrete Kinetic Theory, Lattice Gas Dynamics and Foundations of Hydrodynamics*. World Scientific, Singapore, 1989.
334. Montgomery, D. and G. D. Doolen. Two cellular automata for plasma computations. *Complex Systems*, 1:830–838, 1987.
335. Moore, E.F. Machine models of self-reproduction. *Proc. Symp. Appl. Math.*, 14:17, 1962.
336. Morton, K.W. and D.F. Mayers. *Numerical Solution of Partial Differential Equations*. Cambridge University Press, 1994.
337. Munk, W.H. On the wind-driven ocean circulation. *J. Meteorol.*, 7(2):79–93, 1950.
338. Nagel, K. and M. Schreckenberg. A cellular automaton model for freeway traffic. *J. Phys. I France*, 2:2221–2229, 1992.
339. Nagel, K., D.E. Wolf, P. Wagner and P. Simon. Two-lane traffic rules for cellular automata: A systematic approach. *Physical Review E*, 58(2):1425–1437, 1998.
340. Nannelli, F. and S. Succi. The lattice Boltzmann equation on irregular lattices. *J. Stat. Phys.*, 68(3/4):401–407, 1992.
341. Nasilowski, R. An arbitrary-dimensional cellular-automaton fluid model with simple rules. Proceedings in Dissipative Structures in Transport Processes and Combustion (Interdisciplinary Seminar, Bielefeld 1989), Springer-Verlag, Heidelberg, 1990.

342. Nasilowski, R. A cellular-automaton fluid model with simple rules in arbitrary many dimensions. *J. Stat. Phys.*, 65(1/2):97–138, 1991.
343. Nicodemi, M. A phenomenological theory of dynamic processes in granular media. *Physica A*, 257(1-4):448–453, 1998.
344. Nie, X., Y.-H. Qian, G.D. Doolen and S. Chen. Lattice Boltzmann simulation of the two-dimensional Rayleigh-Taylor instability. *Physical Review E*, 58(5):6861–6864, 1998.
345. Niimura, H. Deformable porous structure of fluids by multi-fluid lattice-gas automaton. *Physics Letters A*, 245(5):366–372, 1998.
346. Nishinari, K. and D. Takahashi. Analytical properties of ultradiscrete Burgers equation and rule-184 cellular automaton. *Journal of Physics A (Mathematical and General)*, 31(24):5439–5450, 1998.
347. Nobel, D.R., S. Chen, J.C. Georgiadis and R. Buckius. A consistent hydrodynamic boundary condition for the lattice Boltzmann method. *Phys. Fluids*, 7(1):203–209, 1995.
348. Noble, D.R. and J.R. Torczynski. A lattice-Boltzmann method for partially saturated computational cells. *International Journal of Modern Physics C*, 9(8):1189–1201, 1998.
349. Noble, D.R.; Georgiadis, J.G.; Buckius, R.O. Comparison of accuracy and performance for lattice Boltzmann and finite difference simulations of steady viscous flow. *International Journal for Numerical Methods in Fluids*, 23(1):1–18, 1996.
350. Noble, D.R., J.G. Georgiadis and R.O. Buckins. Direct assessment of lattice Boltzmann hydrodynamics and boundary conditions for recirculating flows. *J. Stat. Phys.*, 81(1/2):17–34, 1995.
351. Nordfalk, J. and P. Alstrom. Phase transitions near the “game of Life”. *Physical Review E*, 54(2):R1025–8, 1996.
352. Ohashi, H., Y.Chen, and M. Akiyama. Simulation of shock-interface interaction using a lattice Boltzmann model. *Nuclear Engineering and Design*, 155(1/2):67–71, 1995.
353. Olson, J.F. and D.H. Rothman. Three-dimensional immiscible lattice gas: application to sheared phase separation. *J. Stat. Phys.*, 81(1/2):199–222, 1995.
354. Olson, J.F. and D.H. Rothman. Two-fluid flow on sedimentary rock: simulation, transport and complexity. *J. Fluid Mech.*, 341:343–370, 1997.
355. Orlandini, E., M.R. Swift and J.M. Yeomans. A lattice Boltzmann model of binary-fluid mixtures. *Europhys. Lett.*, 32(6):463–468, 1995.
356. Orlandi, I. A simple boundary condition for unbounded hyperbolic flows. *J. Comput. Phys.*, 21:251–269, 1976.
357. Orszag, S.A. Numerical simulation of incompressible flow within simple boundaries: Accuracy. *J. Fluid Mech.*, 49(1):75–112, 1971.

358. Orszag, S.A., Y.H. Qian, and S. Succi. Applications of lattice Boltzmann methods to fluid dynamics. In , editor, *Progress and Challenges in CFD Methods and Algorithms (AGARD-CP-578)*, pages 25/1–10. Neuilly sur Seine, France: AGARD, 1996.
359. O'Toole, D.V., P.A. Robinson, and M.R. Myerscough. Self-organized criticality in termite architecture: a role for crowding in ensuring ordered nest expansion. *J. theor. Biol.*, 198:305–327, 1999.
360. Pacanowski, R.C., K.W. Dixon, and A. Rosati. The GFDL Modular Ocean Model Users Guide Version 1.0. GFDL Ocean Group Tech. Rep. No. 2, 46pp, 1991.
361. Pavlo, P., G. Vahala and L. Vahala. Higher order isotropic velocity grids in lattice methods. *Physical Review Letters*, 80(18):3960–3963, 1998a.
362. Pavlo, P., G. Vahala, L. Vahala and M. Soe. Linear stability analysis of thermo-lattice Boltzmann models. *Journal of Computational Physics*, 139(1):79–91, 1998b.
363. Peitgen, H.-O., A. Rodenhausen, and G. Skordev. Self-similar functions generated by cellular automata. *Fractals*, 6(4):371–394, 1998.
364. Peitgen, H.-O., H. Jürgens and D. Saupe. *Chaos and Fractals*. Springer, New York, 1992.
365. Peng, G. and T. Ohta. Velocity and density profiles of granular flow in channels using a lattice gas automaton. *Physical Review E*, 55(6 A):6811–6820, 1997.
366. Peng, G., H. Xi, and C. Duncan. Lattice Boltzmann method on irregular meshes. *Physical Review E*, 58(4):R4124–R4127, 1998.
367. Peng, G., H. Xi, and C. Duncan. Finite volume scheme for the lattice Boltzmann method on unstructured meshes. *Physical Review E*, 59(4):4675–4682, 1999.
368. Penrose, R. The rôle of aesthetics in pure and applied mathematical research. *Bull. Inst. Math. and its Appl.*, 10:266–269, 1974.
369. Penrose, R. Pentaplexity - A class of non-periodic tilings of the plane. *Mathematical Intelligencer*, 2:32–37, 1979.
370. Phillips, N. A. The general circulation of the atmosphere: a numerical experiment. *Quat. J. Roy. Meteor. Soc.*, 82:123–164, 1956.
371. Phillips, N. A. An example of non-linear computational instability. The Atmosphere and the Sea in Motion, Rossby Memorial Volume, New York, Rockefeller Institute Press, 501–504, 1959.
372. Press, W.H., B.P. Flannery, S.A. Teukolsky, and W.T. Vetterling. *Numerical Recipes in C*. Cambridge University Press, Cambridge, 1992.
373. Press, W.H., B.P. Flannery, S.A. Teukolsky, and W.T. Vetterling. *Numerical Recipes in FORTRAN*. Cambridge University Press, Cambridge, 1992b.

374. Pulsifer, J.E. and C.A. Reiter. One tub, eight blocks, twelve blinkers and other views of life. *Computers & Graphics*, 20(3):457–462, 1996.
375. Punzo, G., F. Massaioli, and S. Succi. High-resolution lattice-Boltzmann computing on the IBM SP1 scalable parallel computer. *Computers in Physics*, 8(6):705–711, 1994.
376. Qi, D. Non-spheric colloidal suspensions in three-dimensional space. *International Journal of Modern Physics C*, 8(4):985–997, 1997.
377. Qi, D. Lattice-Boltzmann simulations of particles in non-zero-Reynolds-number flows. *Journal of Fluid Mechanics*, 385:41–62, 1999.
378. Qian, Y.-H. Fractional propagation and the elimination of staggered invariants in lattice-BGK models. *International Journal of Modern Physics C*, 8(4):753–761, 1997.
379. Qian, Y.-H. and S. Chen. Finite size effect in lattice-BGK models. *International Journal of Modern Physics C*, 8(4):763–771, 1997.
380. Qian, Y.-H. and Y. Zhou. Complete Galilean-invariant lattice BGK models for the Navier-Stokes equation. *Europhysics Letters*, 42(4):359–364, 1998.
381. Qian, Y.H. Simulating thermohydrodynamics with lattice BGK models. *J. Sci. Comput.*, 8(3):231–242, 1993.
382. Qian, Y.H. and S.A. Orszag. Lattice BGK models for the Navier-Stokes equation: nonlinear deviation in compressible regimes. *Europhys. Lett.*, 21(3):255–259, 1993.
383. Qian, Y.H. and S.A. Orszag. Scalings in diffusion-driven reaction $A + B \rightarrow C$: Numerical simulations by lattice BGK models. *J. Stat. Phys.*, 81(1/2):237–254, 1995.
384. Qian, Y.H., D. d’Humières, and P. Lallemand. Lattice BGK models for Navier-Stokes equation. *Europhys. Lett.*, 17(6):479–484, 1992.
385. Qian, Y.H., S. Succi and S.A. Orszag. Recent advances in lattice Boltzmann computing. In Stauffer, D., editor, *Annual Review of Computational Physics III*, pages 195–242. World Scientific, Singapore, 1995.
386. Rakotomalala, N., D. Salin, and P. Watzky. Simulations of viscous flows of complex fluids with a Bhatnagar, Gross, and Krook lattice gas. *Physics of Fluids*, 8(11):3200–2, 1996.
387. Rapaport, D.C. *The Art of Molecular Dynamics Simulation*. Cambridge University Press, 1995.
388. Reider, M.B. and J.D. Sterling. Accuracy of discrete-velocity BGK models for the simulation of the incompressible Navier-Stokes equations. *Comput. Fluids*, 24:459–467, 1995.
389. Rem, P. C. and J. A. Somers. Cellular automata algorithms on a transputer network. In R. Monaco, editor, *Discrete Kinematic Theory, Lattice Gas Dynamics and Foundations of Hydrodynamics*, pages 268–275. World Scientific, Singapore, 1989.

390. Renwei, M. and S. Wei. On the finite difference-based lattice Boltzmann method in curvilinear coordinates. *J. Comput. Phys.*, 143(2):426–448, 1998.
391. Rényi, A. *Probability Theory*. North Holland, 1970.
392. Reynolds, O. An experimental investigation of the circumstances which determine whether the motion of water shall be direct or sinuous, and of the law of resistance in parallel channels. *Phil. Trans. Roy. Soc.*, 174:935–982, 1883.
393. Richter, S. and R.F. Werner. Ergodicity of quantum cellular automata. *J. Stat. Phys.*, 82(3/4):963–98, 1996.
394. Rickert, M., K. Nagel, M. Schreckenberg, and A. Latour. Two lane traffic simulations using cellular automata. *Physica A*, 231(4):534–550, 1996.
395. Rivet, J.-P. Green-Kubo formalism for lattice gas hydrodynamics and Monte-Carlo evaluation of shear viscosities. *Complex Systems*, 1:839–851, 1987.
396. Rivet, J.-P. *Hydrodynamique par la méthode des gaz sur réseaux*. PhD thesis, Université de Nice, 1988.
397. Rivet, J.-P. Brisure spontanée de symétrie dans le sillage tri-dimensionnel d'un cylindre allongé, simulé par la methode des gaz sur réseaux (Spantaneous symmetry-breaking in the 3-D wake of a long cylinder, simulated by the lattice gas method). *C. R. Acad. Sci. II*, 313:151–157, 1991.
398. Rivet, J.-P. and J.-P. Boon. *Lattice Gas Hydrodynamics*. Cambridge University Press, Cambridge, 289 pp., 2001.
399. Rivet, J.-P., M. Hénon, U. Frisch, and D. d'Humières. Simulating fully three-dimensional external flow by lattice gas methods. *Europhys. Lett.*, 7:231–236, 1988.
400. Røed, P. and O.M. Smedstad. Open boundary conditions for forced waves in a rotating fluid. *SIAM J. Sci. Stat. Comput.*, 5(2):414–426, 1984.
401. Rood, R. B. Numerical advection algorithms and their role in atmospheric transport and chemistry models. *Rev. Geophys.*, 25(1):71–100, 1987.
402. Rothman, D. H. Cellular-automaton fluids: A model for flow in porous media. *Geophysics*, 53(4):509–518, 1988.
403. Rothman, D. H., and J. M. Keller. Immiscible Cellular-Automaton Fluids. *J. Stat. Phys.*, 52:1119–1127, 1988.
404. Rothman, D.H. and S. Zaleski. Lattice-gas models of phase separation: interfaces, phase transitions, and multiphase flow. *Rev. Modern Phys.*, 66(4):1417–1479, 1994.
405. Rothman, D.H. and S. Zaleski. *Lattice-Gas Cellular Automata - Simple Models of Complex Hydrodynamics*. Cambridge University Press, Cambridge, 297 pp., 1997.
406. Ruján, P. Cellular automata and statistical mechanical models. *J. Stat. Phys.*, 49:139–222, 1987.

407. Sahimi, M. Flow phenomena in rocks: from continuum models to fractals, percolation, cellular automata, and simulated annealing. *Rev. Mod. Phys.*, 65(4):1393–1534, 1993.
408. Salmon, R. The lattice Boltzmann method as a basis for ocean circulation modeling. *J. Mar. Res.*, 57:503–535, 1999.
409. Schadschneider, A. and M. Schreckenberg. Garden of Eden states in traffic models. *Journal of Physics A*, 31(11):L225–L231, 1998.
410. Schelkle, M., M. Rieber und A. Frohn. Numerische Simulation von Tropfenkollisionen. *Spektrum der Wissenschaft*, 1:72–79, 1999.
411. Schrandt, R. and S. Ulam. On recursively defined geometrical objects and patterns of growth. In Burks, A. W., editor, *Essays on Cellular Automata*, pages 232–243. University of Illinois Press, Urbana, 1970.
412. Schreckenberg, M., A. Schadschneider, K. Nagel, and N. Ito. Discrete stochastic models for traffic flow. *Physical Review E*, 51(4):2939–49, 1995.
413. Sehgal, B.R., R.R. Nourgaliev, and T.N. Dinh. Numerical simulation of droplet deformation and break-up by lattice-Boltzmann method. *Progress in Nuclear Energy*, 34(4):471–488, 1999.
414. Semtner, A.J. Introduction to “A numerical method for the study of the circulation of the world ocean”. *J. Comput. Phys.*, 135:149–153, 1997.
415. Shan, X. and G. Doolen. Diffusion in a multi-component lattice Boltzmann equation model. *Physical Review E*, 54(4A):3614–20, 1996.
416. Shan, X. and H. Chen. Lattice Boltzmann model for simulating flows with multiple phases and components. *Physical Review E*, 47(3):1815–9, 1993.
417. Shan, X. and H. Chen. Simulation of nonideal gases and liquid-gas phase transitions by the lattice Boltzmann equation. *Physical Review E*, 49(4):2941–8, 1994.
418. Shannon, C.E. A mathematical theory of communications. *Bell System Tech. J.*, 27:379,623, 1948.
419. Shannon, C.E. and W. Weaver. *The Mathematical Theory of Communication*. University of Illinois Press, Urbana, 1949.
420. Shimomura, T., G. Doolen, B. Hasslacher, and C. Fu. Calculations using lattice gas techniques. *Los Alamos Science*, 15:201–210, 1988.
421. Sigmund, K. *Games of Life: Explorations in Ecology, Evolution, and Behavior*. Oxford University Press, 1993.
422. Signorini, J. Complex computing with cellular automata. In Manneville, P., N. Boccara, G. Y. Vichniac and R. Bidaux, editor, *Cellular Automata and Modeling of Complex Physical Systems*, pages 57–72. Springer, Berlin, 1989.
423. Simons, N.R.S., G.E. Bridges, and M. Cuhaci. A lattice gas automaton capable of modeling three-dimensional electromagnetic fields. *J. Comput. Phys.*, 151(2):816–835, 1999.

424. Siregar, P., J.P. Sinteiff, M. Chahine and P. Lebeux. A cellular automata model of the heart and its coupling with a qualitative model. *Computers and Biomedical Research*, 29(3):222–46, 1996.
425. Siregar, P., J.P. Sinteiff, N. Julien and P. Le Beux. An interactive 3D anisotropic cellular automata model of the heart. *Computers and Biomedical Research*, 31(5):323–347, 1998.
426. Skordos, P. A. Initial and boundary conditions for the lattice Boltzmann method. *Phy. Rev. E*, 48(6):4823–4842, 1993.
427. Slone, D.M. and G.H. Rodrigue. Efficient biased random bit generation for parallel lattice gas simulations. *Parallel Computing*, 22(12):1597–1620, 1997.
428. Sofonea, V. Lattice Boltzmann approach to collective-particle interactions in magnetic fluids. *Europhys. Lett.*, 25(5):385–390, 1994.
429. Sofonea, V. Two-phase fluid subjected to terrestrial or space conditions: a lattice Boltzmann study. *International Journal of Modern Physics C*, 7(5):695–704, 1996.
430. Somers, J. A. and P. C. Rem. The construction of efficient collision tables for fluid flow. In Manneville, P., N. Boccara, G. Y. Vichniac and R. Bidaux, editor, *Cellular Automata and Modeling of Complex Physical Systems*, pages 161–177. Springer, Berlin, 1989.
431. Spaid, M.A.A. and F.R. Phelan, Jr. Lattice Boltzmann methods for modeling microscale flow in fibrous porous media. *Physics of Fluids*, 9(9):2468–2474, 1997.
432. Spaid, M.A.A. and F.R. Phelan, Jr. Modeling void formation dynamics in fibrous porous media with the lattice Boltzmann method. *Composites Part A (Applied Science and Manufacturing)*, 29A(7):749–755, 1998.
433. Spall, M.A. and W.R. Holland. A nested primitive equation model for oceanic applications. *J. Phys. Oceanogr.*, 21:205–220, 1991.
434. Stauffer, D. Classification of square lattice cellular automata. *Physica A*, 157:645–655, 1989.
435. Sterling, J.D. and S. Chen. Stability analysis of lattice Boltzmann methods. *J. Computational Physics*, 123:196–206, 1996.
436. Stevens, D.P. The open boundary conditions in the United Kingdom Fine-Resolution Antarctic Model. *J. Phys. Oceanogr.*, 21:1494–1499, 1991.
437. Stockman, H.W., C. Li and J.L. Wilson. A lattice-gas and lattice Boltzmann study of mixing at continuous fracture junctions: importance of boundary conditions. *Geophysical Research Letters*, 24(12):1515–1518, 1997.
438. Stockman, H.W., C.T. Stockman, and C.R. Carrigan. Modeling viscous segregation in immiscible fluids using lattice-gas automata. *Nature*, 34:523ff, 1990.
439. Stockman, H.W., R.J. Glass, C. Cooper, and H. Rajaram. Accuracy and computational efficiency in 3D dispersion via lattice-Boltzmann: models for dispersion in rough fractures and double-diffusive fingering. *International Journal of Modern Physics C*, 9(8):1545–1557, 1998.

440. Stokes, G.C. On the effect of the internal friction of fluids on the motion of pendulums. *Trans. Camb. Phil. Soc.*, 9 (II):8–14, 1851.
441. Stommel, H. The westward intensification of wind-driven currents. *Trans. Am. Geophys. Union*, 29:202–206, 1948.
442. Stueckelberg, E. C. G. Théorème H et unitarité de S. *Helv. Phys. Acta*, 25:577–580, 1952.
443. Stumpf, H. und A. Rieckers. *Thermodynamik, 2 Bände*. Vieweg, Braunschweig, 1976.
444. Suárez, A. and J.P. Boon. Nonlinear hydrodynamics of lattice-gas automata with semi-detailed balance. *International Journal of Modern Physics C*, 8(4):653–674, 1997.
445. Succi, S. Numerical solution of the Schrödinger equation using discrete kinetic theory. *Physical Review E*, 53(2):1969–1975, 1996.
446. Succi, S. Lattice quantum mechanics: an application to Bose-Einstein condensation. *International Journal of Modern Physics C*, 9(8):1577–85, 1998.
447. Succi, S. Unified lattice Boltzmann schemes for turbulence and combustion. *Zeitschrift für Angewandte Mathematik und Mechanik*, 78, suppl.(1):S129–132, 1998.
448. Succi, S. and F. Nannelli. The finite volume formulation of the lattice Boltzmann equation. *Transport Theory Stat. Phys.*, 23:163–171, 1994.
449. Succi, S. and P. Vergari. A lattice Boltzmann scheme for semiconductor dynamics. *VLSI Design*, 6(1-4):137–140, 1998.
450. Succi, S. and R. Benzi. Lattice Boltzmann equation for quantum mechanics. *Physica D*, 69(3/4):327–332, 1993.
451. Succi, S., G. Amati and R. Benzi. Challenges in lattice Boltzmann computing. *J. Stat. Phys.*, 81(1/2):5–16, 1995.
452. Succi, S., G. Bella and F. Papetti. Lattice kinetic theory for numerical combustion. *Journal of Scientific Computing*, 12(4):395–408, 1997.
453. Succi, S., M. Vergassola and R. Benzi. Lattice Boltzmann scheme for two-dimensional magnetohydrodynamics. *Phys. Rev. A*, 43(8):4521–4524, 1991.
454. Sun, Chenghai. Multispecies lattice Boltzmann models for mass diffusion. *Acta Mechanica Sinica*, 30(1):20–26, 1998.
455. Sverdrup, H.U. Wind-driven currents in a baroclinic ocean, with application to the equatorial currents of the eastern Pacific. *Proc. Natl. Acad. Sci. US.*, 33:319–326, 1947.
456. Swift, M.R., S.E. Orlandini, W.R. Osborn, and J.M. Yeomans. Lattice Boltzmann simulations of liquid-gas and binary fluid systems. *Physical Review E*, 54(5):5041–52, 1996.

457. Takada, N. and M. Tsutahara. Evolution of viscous flow around a suddenly rotating circular cylinder in the lattice Boltzmann method. *Computers & Fluids*, 27(7):807–828, 1998.
458. Takalo, J., J. Timonen, A. Klimas, J. Vakilvia, and D. Vassiliadis. Nonlinear energy dissipation in a cellular automaton magnetotail field model. *Geophysical Research Letters*, 26(13):1813–1816, 1999.
459. Takesue, S. Reversible cellular automata and statistical mechanics. *Physical Review Letters*, 59(22):2499–2502, 1987.
460. Takesue, S. Ergodic properties and thermodynamic behavior of elementary reversible cellular automata. I. Basic properties. *J. Stat. Phys.*, 56:371–402, 1989.
461. Takesue, S. Relaxation properties of elementary reversible cellular automata. *Physica D*, 45:278–284, 1990.
462. Takesue, S. Staggered invariants in cellular automata. *Complex Systems*, 9(2):149–168, 1995.
463. Tan, M.-L., Y.H. Qian, I. Goldhirsch and S.A. Orszag. Lattice-BGK approach to simulating granular flows. *J. Stat. Phys.*, 81(1/2):87–104, 1995.
464. Teixeira, C.M. Digital Physics simulation of lid-driven cavity flow. *International Journal of Modern Physics C*, 8(4):685–696, 1997.
465. Teixeira, C.M. Incorporating turbulence models into the lattice-Boltzmann method. *International Journal of Modern Physics C*, 9(8):1159–1175, 1998.
466. Teixeira, J. Stable schemes for partial differential equations: the one-dimensional diffusion equation. *J. Comput. Phys.*, 153:403–417, 1999.
467. Theissen, O., G. Gompper, and D.M. Kroll. Lattice-Boltzmann model of amphiphilic systems. *Europhysics Letters*, 42(4):419–424, 1998.
468. Toffoli, T. and N. Margolus. Invertible cellular automata: A review. *Physica D*, 45:229–253, 1990.
469. Tölke, J., M. Krafczyk, M. Schulz, E. Rank, and R. Berrios. Implicit discretization and nonuniform mesh refinement approaches for FD discretizations of LBGK models. *International Journal of Modern Physics C*, 9(8):1143–1157, 1998.
470. Tougaw, P.D. and C.S. Lent. Dynamic behavior of quantum cellular automata. *Journal of Applied Physics*, 80(8):4722–4736, 1996.
471. Tribel, O. and J.P. Boon. Entropy and correlations in lattice-gas automata without detailed balance. *International Journal of Modern Physics C*, 8(4):641–652, 1997.
472. Tsujimoto, S. and R. Hirota. Ultradiscrete KdV equation. *Journal of the Physical Society of Japan*, 67(6):1809–1810, 1998.
473. Tsumaya, A. and H. Ohashi. Immiscible lattice gas with long-range interaction. *International Journal of Modern Physics C*, 8(4):697–703, 1997.

474. Turing, A.M. On computable numbers, with an application to the Entscheidungsproblem. *Proc. Lond. Math. Soc.*, 42:230–265, 1936–37.
475. Twining, C. J. The limiting behavior of non-cylindrical elementary cellular automata. *Complex Systems*, 6(5):417–432, 1992.
476. Uhlenbeck, G. and G. Ford. *Lectures in Statistical Mechanics*. Providence, 1963.
477. Ujita, H., S. Nagata, M. Akiyama, and M. Naitoh. Development of LGA and LBE 2D parallel programs. *International Journal of Modern Physics C*, 9(8):1203–1220, 1998.
478. Ulam, S. Random processes and transformations. Proceedings of the International Congress on Mathematics, 1950, Vol. 2, p. 264–275, 1952.
479. Ulam, S. On some mathematical problems connected with patterns of growth of figures. Proceedings of Symposia in Applied Mathematics 14, American Mathematical Society, Providence, p. 215–224, 1962.
480. Vahala, G., P. Pavlo and L. Vahala. Lattice Boltzmann representation of neutral turbulence in the cold gas blanket divertor regime. *Czechoslovak Journal of Physics*, 48(8):953–962, 1998a.
481. Vahala, G., P. Pavlo, L. Vahala and M. Soe. Determination of eddy transport coefficients in thermo-lattice Boltzmann modeling of two-dimensional turbulence. *Czechoslovak Journal of Physics*, 46(11):1063–1083, 1996.
482. Vahala, G., P. Pavlo, L. Vahala and N.S. Martys. Thermal lattice-Boltzmann models (TLBM) for compressible flows. *International Journal of Modern Physics C*, 9(8):1247–1261, 1998b.
483. van Coevorden, D. V., M. H. Ernst, R. Brito and J. A. Somers. Relaxation and transport in FCHC lattice gases. *J. Stat. Phys.*, 74(5/6):1085–1115, 1994.
484. van der Hoef, M.A. and D. Frenkel. Long-time tails of the velocity autocorrelation function in two- and three-dimensional lattice-gas cellular automata: A test of mode-coupling theory. *Phys. Rev. A*, 41:4277–4284, 1990.
485. van der Hoef, M.A., M. Dijkstra and D. Frenkel. Velocity autocorrelation function in a four-dimensional lattice gas. *Europhys. Lett.*, 17(1):39–43, 1992.
486. van der Sman, R.G.M. Lattice-Boltzmann scheme for natural convection in porous media. *International Journal of Modern Physics C*, 8(4):879–888, 1997.
487. van der Sman, R.G.M. and M.H. Ernst. Diffusion lattice Boltzmann scheme on a orthorhombic lattice. *J. Stat. Phys.*, 94(1/2):203–217, 1999.
488. van Dyke, Milton. *An Album of Fluid Motion*. Parabolic Press, Stanford, CA, 1982.
489. van Genabeek, O. and D.H. Rothman. Macroscopic manifestations of microscopic flows through porous media: phenomenology from simulation. *Ann. Rev. Earth Planet. Sci.*, 24:63–87, 1996.

490. van Genabeek, O. and D.H. Rothman. Critical behavior in flow through a rough-walled channel. *Physics Letters A*, 255(1-2):31–36, 1999.
491. Vanag, V.K. and G. Nicolis. Nonlinear chemical reactions in dispersed media: The effect of slow mass exchange on the steady-state of the Schlogl models. *Journal of Chemical Physics*, 110(9):4505–4513, 1999.
492. Vandewalle, N. and M. Ausloos. Evolution motivated computer models. In Stauffer, D., editor, *Annual Review of Computational Physics III*, pages 45–85. World Scientific, Singapore, 1995.
493. Verberg, R. and A.J.C. Ladd. Simulation of low-Reynolds-number flow via a time-independent lattice-Boltzmann method. *Physical Review E*, 60(3):3366–3373, 1999.
494. Vergassola, M., R. Benzi, and S. Succi. On the hydrodynamic behaviour of the lattice Boltzmann equation. *Europhys. Lett.*, 13:411–416, 1990.
495. Verheggen, T.M.M., editor. *Numerical methods for the simulation of multi-phase and complex flow : proceedings of a workshop held at Koninklijke/Shell-Laboratorium, Amsterdam, the Netherlands, 30 May-1 June 1990*. Springer, Berlin, 1992.
496. Verlet, L. Computer "experiments" on classical fluids. I. Thermodynamical properties of Lennard-Jones molecules. *Phys. Rev.*, 159(1):98–103, 1967.
497. Vogeler, A., and D.A. Wolf-Gladrow. Pair interaction lattice gas simulations: flow past obstacles in two and three dimensions. *J. Stat. Phys.*, 71(1/2):163–190, 1993.
498. Vollmar, R., W. Erhard and V. Jossifov, editor. *Parcella '96. Proceedings of the VII. International Workshop on Parallel Processing by Cellular Automata and Arrays*. Akademie Verlag, Berlin, 1996.
499. von Neumann, J. *The Theory of Self-Reproducing Automata*. University of Illinois Press, Urbana, 1966.
500. Voorhees, B. Nearest neighbor cellular automata over Z_2 with periodic boundary conditions. *Physica D*, 45:26–35, 1990.
501. Voorhees, B. Predecessors of cellular automata states. II. Pre-images of finite sequences. *Physica D*, 73:136–151, 1994.
502. Voorhees, B. and S. Bradshaw. Predecessors of cellular automata states. III. Garden of Eden classification of cellular automata. *Physica D*, 73:152–167, 1994.
503. Voorhees, B.H. *Computational Analysis of One-Dimensional Cellular Automata*. World Scientific, 1996.
504. Wagner, A.J. An H-theorem for the lattice Boltzmann approach to hydrodynamics. *Europhysics Letters*, 44(2):144–149, 1998a.
505. Wagner, A.J. Spinodal decomposition in two-dimensional binary fluids. *International Journal of Modern Physics C*, 9(8):1373–1382, 1998b.

506. Wagner, A.J. and J.M. Yeomans. Effect of shear on droplets in a binary mixture. *International Journal of Modern Physics C*, 8(4):773–782, 1997.
507. Wagner, A.J. and J.M. Yeomans. Breakdown of scale invariance in the coarsening of phase-separating binary fluids. *Physical Review Letters*, 80(7):1429–1432, 1998.
508. Wagner, A.J. and J.M. Yeomans. Phase separation under shear in two-dimensional binary fluids. *Physical Review E*, 59(4):4366–4373, 1999.
509. Wagner, L. and F. Hayot. Lattice Boltzmann simulations of flow past a cylindrical obstacle. *J. Stat. Phys.*, 81(1/2):63–70, 1995.
510. Waite, M.E., G. Shemin, and H. Spetzler. A new conceptual model for fluid flow in discrete fractures: an experimental and numerical study. *Journal of Geophysical Research*, 104(B6):13049–13059, 1999.
511. Waite, M.E., G. Shemin, H. Spetzler and D.B. Bahr. The effect of surface geometry on fracture permeability: a case study using a sinusoidal fracture. *Geophysical Research Letters*, 25(6):813–816, 1998.
512. Wang, B.-H., Y.R. Kwong, and P.M. Hui. Statistical mechanical approach to cellular automaton models of highway traffic flow. *Physica A*, 254(1-2):122–134, 1998.
513. Warren, P.B. Electroviscous transport problems via lattice-Boltzmann. *International Journal of Modern Physics C*, 8(4):889–898, 1997.
514. Watrous, J. On one-dimensional quantum cellular automata. In , editor, *Proceedings. 36th Annual Symposium on Foundations of Computer Science (Cat. No.95CB35834)*, pages 528–537. Los Alamitos, CA, USA: IEEE Comput. Soc. Press, 1995.
515. Weig, F.W.J., P.V. Coveney and B.M. Boghosian. Lattice-gas simulations of minority-phase domain growth in binary immiscible and ternary amphiphilic fluids. *Physical Review E*, 56(6):6877–6888, 1997.
516. Weimar, J.R. Cellular automata for reaction-diffusion systems. *Parallel Computing*, 23(11):1699–1715, 1997.
517. Weimar, J.R. and J.P. Boon. Nonlinear reactions advected by a flow. *Physica A*, 224:207–215, 1996.
518. Weimar, J.R., D. Dab, J.P. Boon, and S. Succi. Fluctuation correlations in reaction-diffusion systems: reactive lattice gas automata approach. *Europhys. Lett.*, 20(7):627–632, 1992.
519. Welander, P. On the temperature jump in a rarefied gas. *Arkiv för Fysik*, 7(44):507–553, 1954.
520. Weyl, H. *Symmetry*. Princeton University Press, 1989.
521. Wiener, N. and A. Rosenblueth. The mathematical formulation of the problem of conduction of impulses in a network of connected excitable elements, specifically in cardiac muscle. *Archivos del Instituto de Cardiologia de Mexico*, 16:202–265, 1946.

522. Wolf-Gladrow, D.A. A lattice Boltzmann equation for diffusion. *J. Stat. Phys.*, 79(5/6):1023–1032, 1995.
523. Wolf-Gladrow, D.A. and A. Vogeler. Pair interaction lattice gas on general purpose computers: FORTRAN or C? *Int. J. Mod. Phys., C*, 3:1179–1187, 1992.
524. Wolf-Gladrow, D.A., R. Nasilowski, and A. Vogeler. Numerical simulations of fluid dynamics with a pair interaction automaton in two dimensions. *Complex Systems*, 5:89–100, 1991.
525. Wolfram, S. Statistical mechanics of cellular automata. *Rev. Mod. Phys.*, 55:601–644, 1983.
526. Wolfram, S. Computer software in science and mathematics. *Scientific American*, 251:188–203, 1984.
527. Wolfram, S. Cellular automata as models of complexity. *Nature*, 311:419–424, 1984a.
528. Wolfram, S. Universality and complexity in cellular automata. *Physica D*, 10:1–35, 1984b.
529. Wolfram, S. Twenty problems in the theory of cellular automata. *Physica Scripta*, T9:170–183, 1985.
530. Wolfram S. Cellular Automaton Fluids 1: Basic Theory. *J. Stat. Phys.*, 45(3/4):471–526, 1986.
531. Wolfram, S., editor. *Theory and Applications of Cellular Automata*. World Publishing Co., Singapore, 1986.
532. Wolfram, S. *Cellular Automata and Complexity*. Addison-Wesley, Reading, MA, 1994.
533. Worthing, R.A., J. Mozer and G. Seeley. Stability of lattice Boltzmann methods in hydrodynamic regimes. *Physical Review E*, 56(2):2243–2253, 1997.
534. Xi, H. and C. Duncan. Lattice Boltzmann simulations of three-dimensional single droplet deformation and breakup under simple shear flow. *Physical Review E*, 59(3):3022–3026, 1999.
535. Xi, H., G. Peng, and S.-H. Chou. Finite-volume lattice Boltzmann method. *Physical Review E*, 59(5):6202–6205, 1999a.
536. Xi, H., G. Peng, and S.-H. Chou. Finite-volume lattice Boltzmann schemes in two and three dimensions. *Physical Review E*, 60(3):3380–3388, 1999b.
537. Xu, K. and L.-S. Luo. Connection between lattice-Boltzmann equation and beam scheme. *International Journal of Modern Physics C*, 9(8):1177–1187, 1998.
538. Yan, G. A Lagrangian lattice Boltzmann method for Euler equations. *Acta Mechanica Sinica (English Series)*, 14(2):186–192, 1998.
539. Yan, G. Recovery of the solitons using a lattice Boltzmann model. *Chinese Physics Letters*, 16(2):109–110, 1999.

540. Yan, G., Y. Chen and S. Hu. A lattice Boltzmann method for KdV equation. *Acta Mechanica Sinica (English Series)*, 14(1):18–26, 1998.
541. Yan, G., Y. Chen, and S. Hu. Simple lattice Boltzmann model for simulating flows with shock wave. *Physical Review E*, 59(1):454–459, 1999.
542. Yenez, J. Lattice-gas quantum computation. *International Journal of Modern Physics C*, 9(8):1587–1596, 1998.
543. Yu, H.-D. and K.-H. Zhao. A new lattice Boltzmann model for a two-phase fluid. *Chinese Physics Letters*, 16(4):271–272, 1999.
544. Zanetti, G. Hydrodynamics of Lattice Gas Automata. *Phys. Rev.*, A 40:1539–1548, 1989.
545. Zhifang Lin; Haiping Fang and Ruibao Tao. Improved lattice Boltzmann model for incompressible two-dimensional steady flows. *Physical Review E*, 54(6):6323–6330, 1996.
546. Ziegler, D.P. Boundary conditions for lattice Boltzmann simulations. *J. Stat. Phys.*, 71(5/6):1171–1177, 1993.
547. Zienkiewicz, O.C. *The Finite Element Method in Structural Mechanics*. McGraw-Hill, Maidenhead (UK), 272 pp, 1967.
548. Zienkiewicz, O.C. and R.L. Taylor. *Finite Element Method - Basic Formulation and Linear Problems, Vol. 1*. McGraw-Hill, New York, 1989.
549. Zienkiewicz, O.C. and R.L. Taylor. *Finite Element Method - Solid and Fluid Mechanics: Dynamics and Nonlinearity, Vol. 2*. McGraw-Hill, New York, 1991.
550. Zorzenon Dos Santos, R.M. Using cellular automata to learn about the immune system. *International Journal of Modern Physics C*, 9(6):793–799, 1998.
551. Zou, Q., S. Hou and G.D. Doolen. Analytical solutions of the lattice Boltzmann BGK model. *J. Stat. Phys.*, 81(1/2):319–334, 1995.
552. Zou, Q., S. Hou, S. Chen and G.D. Doolen. An improved incompressible lattice Boltzmann model for time-independent flow. *J. Stat. Phys.*, 81(1/2):35–48, 1995.
553. Zuse, K. *Rechnender Raum*. Vieweg, Braunschweig, 1969.
554. Zuse, K. *Calculating Space*. Technical Report Tech. Transl. AZT-70-164-GEMIT, MIT Project MAC, 1970.
555. Zuse, K. The computing universe. *Int. J. Th. Phys.*, 21(6/7):589–600, 1982.



<http://www.springer.com/978-3-540-66973-9>

Lattice-Gas Cellular Automata and Lattice Boltzmann
Models

An Introduction

Wolf-Gladrow, D.A.

2000, X, 314 p., Softcover

ISBN: 978-3-540-66973-9