

Herbert Spohn

List of Publications

Books

Large Scale Dynamics of Interacting Particles, 342 pages, Texts and Monographs in Physics, Springer Verlag, Heidelberg, 1991.

Dynamics of Charged Particles and Their Radiation Field, 360 pages, Cambridge University Press, 2004.

Review articles

H. Spohn, *Kinetic equations from Hamiltonian dynamics: Markovian limits*, Review of Modern Physics **53**, 569–615 (1980).

H. Spohn, *Fluctuation theory for the Boltzmann equation*, in: Studies in Statistical Mechanics X, eds. E.W. Montroll, J.L. Lebowitz, pp. 225–251. North-Holland, Amsterdam 1983.

J. Krug and H. Spohn, *Kinetic roughening of growing surfaces*, in: Solids Far From Equilibrium, ed. C. Godrèche, pp. 412–525. Cambridge University Press, 1991.

Articles in journals

1. H. Spohn, *Relaxing properties of Hamiltonian systems*, Reports in Mathematical Physics **8**, 363–371 (1975).

2. H. Spohn, *Spectral properties of Liouville operators and their physical interpretation*, Physica A **80**, 323–338 (1975).

3. H. Spohn, *The spectrum of the Liouville - von Neumann operator*, Journal of Mathematical Physics **17**, 57–60 (1976), Erratum **18**, 188 (1977).

4. H. Spohn, *Quantum measurement theory including initial correlations and observables with continuous spectrum*, International Journal of Theoretical Physics **15**, 365–375 (1976).

5. H. Spohn, *Relaxation of finite closed systems*, Reports in Mathematical Physics **10**, 283–302 (1976).

6. H. Spohn, *Approach to equilibrium for completely positive dynamical semigroups of N -level systems*, Reports in Mathematical Physics **10**, 189–194 (1976).

7. H. Spohn, *An algebraic condition for the approach to equilibrium of an open N -level system*, Letters in Mathematical Physics **2**, 33–38 (1977).

8. J.L. Lebowitz and H. Spohn, *Stationary non-equilibrium states of infinite harmonic systems*, Communications in Mathematical Physics **54**, 97–120 (1977).

9. H. Spohn, *Derivation of the transport equation for electrons moving through random impurities*, Journal of Statistical Physics **17**, 385–412 (1977).

10. H. Spohn, *Entropy production for quantum dynamical semigroups*, Journal of Mathematical Physics **19**, 1227–1230 (1978).

11. W. Ochs and H. Spohn, *A characterization of the Segal entropy*, Reports in Mathematical Physics **14**, 75–87 (1978).
12. J.L. Lebowitz and H. Spohn, *Irreversible thermodynamics for quantum systems weakly coupled to thermal reservoirs*, in: Advances in Chemical Physics, Vol. 38, pp. 109–142, ed. S.A. Rice. John Wiley, New York 1978.
13. H. Spohn, *The Lorentz process converges to a random flight process*, Communications in Mathematical Physics **60**, 277–290 (1978).
14. E.B. Davies and H. Spohn, *Open quantum systems with time dependent Hamiltonian and their linear response*, Journal of Statistical Physics **19**, 511–523 (1978).
15. J.L. Lebowitz and H. Spohn, *Transport properties of the Lorentz gas: Fourier’s law*, Journal of Statistical Physics **19**, 633–654 (1978).
16. H. Spohn, *Kinetic equations from Hamiltonian dynamics: the Markovian limit*, in: Stochastic Processes in Nonequilibrium Systems, eds. L. Garrido, P. Seglar, P.J. Sheperd, Lecture Notes in Physics, Vol. 84, pp. 330–335. Springer Verlag, Berlin 1978.
17. A. Frigerio and H. Spohn, *Stationary states of quantum dynamical semi-groups and applications*, in: Proceedings of Mathematical Problems in the Theory of Quantum Irreversible Processes, eds. L. Accardi, V.Gorini, G. Paravicini, pp. 115–135 Laboratoria di Cibernetica del CNR, 1978.
18. H. Spohn, *Boltzmann equation on a lattice: existence and uniqueness of solutions*, Journal of Statistical Physics **20**, 463–469 (1979).
19. M. Aizenman and H. Spohn, *Probabilistic methods for stationary problems of linear transport theory*, Journal of Statistical Physics **21**, 23–32 (1979).
20. R. Dümcke and H. Spohn, *The proper form of the generator in the weak coupling limit*, Zeitschrift für Physik B **34**, 419–422 (1979).
21. M. Fannes, H. Spohn, and A. Verbeure, *Equilibrium states for mean field models*, Journal of Mathematical Physics **21**, 355–360 (1980).
22. H. van Beijeren, O.E. Lanford, J.L. Lebowitz, and H. Spohn, *Equilibrium time correlation functions in the low density limit*, Journal of Statistical Physics **22**, 237–257 (1980).
23. H. Spohn, *Derivation of kinetic equations from Hamiltonian dynamics: The example of the Lorentz gas*, in: Mathematical Problems in the Kinetic Theory of Gases, eds. D.C. Pack, H. Neunzert, pp. 3–24. Peter Lang Verlag 1980.
24. H. Spohn, *Fluctuations in the low density limit*, in: Proceedings of the Colloquium on Random Fields in Statistical Mechanics and Quantum Field Theory, eds. J.L. Lebowitz, D. Szasz, pp. 1003–1010. North-Holland, Amsterdam 1981.
25. H. Spohn, *Long time tail for spatially inhomogeneous random walks*, in: Mathematical Problems in Theoretical Physics, ed. K. Osterwalder, Lecture Notes in Physics, Vol. 116, p. 162. Springer Verlag, Berlin 1980.

26. H. Spohn, *Kinetic equations from Hamiltonian dynamics: the Markovian approximations*, in: Proceedings of the Brasov International School Recent Advances in Statistical Mechanics, pp. 315–346. Institute of Physics, Bukarest 1979.
27. H. Spohn, *Fluctuations around the Boltzmann equation*, Journal of Statistical Physics **26**, 285–305 (1981).
28. H. Spohn, *The Vlasov hierarchy*, Mathematical Methods in the Applied Sciences **3**, 445–455 (1981).
29. H. Spohn, *Hydrodynamical theory for equilibrium time correlation functions of hard rods*, Annals of Physics **141**, 353–364 (1982).
30. H. Spohn, *Boltzmann equation and Boltzmann hierarchy*, in: Kinetic Theories and the Boltzmann Equation, ed. C. Cercignani, Lecture Notes in Mathematics, Vol. 1048, pp. 207–220. Springer Verlag, Berlin 1984.
31. H. Spohn, *Self-diffusion as an example of the hydrodynamic limit*, in: Mathematical Problems in Theoretical Physics, eds. R. Schrader, R. Seiler, D.A. Uhlenbrock, Springer Lecture Notes in Physics, Vol. 153, pp. 33–36. Springer Verlag, Berlin 1982.
32. J.L. Lebowitz and H. Spohn, *Microscopic basis for Fick's law of self-diffusion*, Journal of Statistical Physics **28**, 539–556 (1982).
33. J.L. Lebowitz and H. Spohn, *Steady state self-diffusion at low density*, Journal of Statistical Physics **29**, 39–55 (1982).
34. J. Messer and H. Spohn, *Statistical mechanics of the Lane-Emden equation*, Journal of Statistical Physics **29**, 561–578 (1982).
35. H. van Beijeren and H. Spohn, *Transport properties of the one-dimensional stochastic Lorentz model: velocity autocorrelation function and its fluctuations*, Journal of Statistical Physics **31**, 231–254 (1983).
36. E. Presutti and H. Spohn, *Hydrodynamics of the voter model*, Annals of Probability **11**, 867–875 (1983).
37. C. Kipnis, J.L. Lebowitz, E. Presutti, and H. Spohn, *Self-diffusion for particles with stochastic collisions in one dimension*, Journal of Statistical Physics **30**, 107–122 (1983).
38. H. Spohn, *Large scale behavior of equilibrium time correlation functions for some stochastic Ising models*, in: Stochastic Processes in Quantum Theory and Statistical Physics, eds. S. Albeverio, Ph. Combe, M. Sirugue-Collin, Lecture Notes in Physics, Vol. 173, pp. 304–331. Springer Verlag, Berlin 1982.
39. J.L. Lebowitz and H. Spohn, *On the time evolution of macroscopic systems*, Communications in Pure and Applied Mathematics **36**, 593–613 (1983).
40. S. Katz, J.L. Lebowitz, and H. Spohn, *Phase transitions in stationary nonequilibrium states of model lattice systems*, Physical Review B **28**, 1655–1658 (1983).

41. S. Katz, J.L. Lebowitz, and H. Spohn, *Stationary nonequilibrium states for stochastic lattice gas models of ionic superconductors*, Journal of Statistical Physics **34**, 497–538 (1984).
42. H. Spohn, *Long range correlations for stochastic lattice gases in a nonequilibrium steady state*, Journal of Physics A **16**, 4275–4291 (1983).
43. A. DeMasi, E. Presutti, H. Spohn, and D. Wick, *Asymptotic equivalence of fluctuation fields for reversible exclusion processes with speed change*, Annals of Probability **14**, 409–423 (1986).
44. H. Spohn, *Equilibrium fluctuations for interacting Brownian particles*, Communications in Mathematical Physics **103**, 1–33 (1986).
45. H. Spohn, *Excess noise for a lattice gas model of a resistor*, Zeitschrift für Physik B **57**, 255–261 (1984).
46. J. Marro, M. Kalos, J.L. Lebowitz, and H. Spohn, *Nonequilibrium phase transition in stochastic lattice gases: simulation of a three-dimensional system*, Journal of Statistical Physics **38**, 725–733 (1983).
47. H. Spohn, *Equilibrium fluctuations for some stochastic particle systems*, in: Statistical Physics and Dynamical Systems, eds. J. Fritz, A. Jaffe, D. Szasz, pp. 67–82. Birkhäuser Verlag, Boston 1985.
48. H. van Beijeren, R. Kutner, and H. Spohn, *Excess noise for driven diffusive systems*, Physical Review Letters **54**, 2026–2029 (1985).
49. R. Dümcke and H. Spohn, *Quantum tunneling with dissipation and the Ising model over \mathbb{R}* , Journal of Statistical Physics **41**, 389–424 (1985).
50. H. Spohn, *On the integrated form of the BBGKY-hierarchy for hard spheres*, preprint, not published (1985).
51. H. Spohn, *Roughening and pinning transitions for the polaron*, Journal of Physics A **18**, 3623–3636 (1985).
52. H. Spohn, *Models of statistical mechanics in one dimension originating from quantum ground states*, in: Statistical Mechanics and Field Theory: Mathematical Aspects, eds. T.C. Dorlas, N.M. Hugenholtz, M. Winnink, Lecture Notes in Physics Vol. 257, pp. 209–233. Springer Verlag, Berlin 1986.
53. H. Spohn, *Phase transitions in driven diffusive systems*, in: Reports From The Moscow Refusnik Seminar, Annals of the New York Academy of Sciences, Vol. 491, 157–165 (1987).
54. H. Spohn, *Exact results in kinetic theory*, in: Molecular-Dynamics Simulation of Statistical-Mechanics Systems, eds. G. Ciccotti, W.G. Hoover, International School of Physics “Enrico Fermi” Course XCVII, pp. 304–316. North-Holland, Amsterdam 1986.
55. H. Spohn, *Statistical mechanics of the effective mass of the polaron*, Physical Review B **33**, 8906–8909 (1986).
56. J. Krug, J.L. Lebowitz, H. Spohn, and M. Zhang, *The fast rate limit of driven diffusive systems*, Journal of Statistical Physics **44**, 535–565 (1986).

57. H. Spohn, *The polaron functional integral*, in: Stochastic Processes - Mathematics and Physics II, eds. S. Albeverio, Ph. Blanchard, L. Streit, pp. 375–387. Kluwer Academic Publisher 1990.
58. H. Spohn, *The effective mass of the polaron - a functional integral approach*, Annals of Physics **175**, 278–318 (1987).
59. H. Spohn, *Interacting Brownian particles: a study of Dyson's model*, in: Hydrodynamic Behavior of Interacting Particle Systems IMA Volumes in Mathematics and its Applications 9, ed. G. Papanicolaou. Springer Verlag, Berlin 1987.
60. H. Spohn, *Tracer dynamics in Dyson's model of interacting Brownian particles*, Journal of Statistical Physics **47**, 669–680 (1987).
61. H. Spohn, *The polaron at large total momentum*, Journal of Physics A **21**, 1199–1211 (1987).
62. J. Krug and H. Spohn, *Dynamical system describing the low temperature phase of a driven lattice gas*, in: Nonlinear Evolution and Chaotic Phenomena, eds. G. Gallavotti, A.M. Anile, Nato ASI Series B, Vol. 176, pp. 255–268. Plenum Press, New York, 1988.
63. B. Derrida and H. Spohn, *Polymers on disordered trees, spin glasses and travelling waves*, Journal of Statistical Physics **51**, 817–862 (1988).
64. J. Krug and H. Spohn, *Universality classes for deterministic surface growth*, Physical Review A **38**, 4271–4283 (1988).
65. J.L. Lebowitz, E. Presutti, and H. Spohn, *Microscopic models of hydrodynamic behavior*, Journal of Statistical Physics **51**, 841–862 (1988).
66. M. Scheucher and H. Spohn, *A soluble kinetic model for spinodal decomposition*, Journal of Statistical Physics **53**, 279–294 (1988).
67. H. Spohn, *Ground state(s) of the spin-boson hamiltonian*, Communications in Mathematical Physics **123**, 277–304 (1989).
68. J. Krug and H. Spohn, *Anomalous fluctuations in the driven and damped sine-Gordon chain*, Europhysics Letters **8**, 219–224 (1989).
69. P. Nielaba, J.L. Lebowitz, H. Spohn, and J.L. Vallés, *Behavior of a quantum particle in contact with a classical heat bath*, Journal of Statistical Physics **55**, 745–767 (1989).
70. H. Spohn, *Stretched exponential decay in a kinetic Ising model with dynamical constraint*, Communications in Mathematical Physics **125**, 3–12 (1989).
71. H. Spohn, *Scaling limits for stochastic particle systems*, in: IXth International Congress of Mathematical Physics, eds. B. Simon, A. Truman, I.M. Davies, pp. 272–275. Adam Hilger, Bristol 1989.
72. H. Spohn, *Tracer diffusion in stochastic lattice gases*, Physica A **163**, 134–139 (1990).
73. P. Garrido, J.L. Lebowitz, C. Maes, and H. Spohn, *Long range correlations for conservative dynamics*, Physical Review A **42**, 1954–1968 (1990).

74. H. Spohn, *Tracer diffusion in lattice gases*, Journal of Statistical Physics **59**, 1227–1239 (1990).
75. H. Spohn, R. Stückl, and W. Wrezinski, *Localization in the spin J -boson hamiltonian*, Annales de l’Institut Henri Poincaré **53**, 225–244 (1990).
76. G.L. Eyink, J.L. Lebowitz, and H. Spohn, *Microscopic origin of hydrodynamic behavior: entropy production and the steady state*, in: Chaos, Soviet-American Perspectives in Nonlinear Science, ed. D.K. Campbell, pp. 367–397. American Institute of Physics, 1990.
77. G.L. Eyink, J.L. Lebowitz, and H. Spohn, *Hydrodynamics of stationary nonequilibrium states for some stochastic lattice gas models*, Communications in Mathematical Physics **132**, 253–283 (1990).
78. J. Krug and H. Spohn, *Mechanism for rough-to-rough transition in surface growth*, Physical Review Letters **64**, 2332 (1990).
79. H. Spohn, *Fixed points of a functional renormalization group for critical wetting*, Europhysics Letters **14**, 689–692 (1991).
80. G. Eyink, J.L. Lebowitz, and H. Spohn, *Hydrodynamics of stationary nonequilibrium states: local equilibrium and relaxation*, Communications in Mathematical Physics **140**, 119–131 (1991).
81. M. Kardar, E. Medina, and H. Spohn, *Unitarity and directed waves in random media*, Physical Review Letters **66**, 2176 (1991).
82. G. Eyink and H. Spohn, *Space-time invariant states of the ideal gas with finite number, energy, and entropy density*, in: On Dobrushin’s Way. From Probability Theory to Statistical Physics, eds. R. Minlos, S. Shlosman, Y. Suchov, Advances in the Mathematical Sciences, Ser. 2, Vol. 198, pp. 71–89. AMS 2000.
83. B. Derrida, J.L. Lebowitz, G. Speer, and H. Spohn, *Fluctuations of a stationary nonequilibrium interface*, Physical Review Letters **67**, 165–168 (1991).
84. B. Derrida, J.L. Lebowitz, G. Speer, and H. Spohn, *Dynamics of the anchored Toom interface*, Journal of Physics A **24**, 4805–4834 (1991).
85. P. Devillard and H. Spohn, *Universality class of interface growth with reflection symmetry*, Journal of Statistical Physics **66**, 1089–1099 (1992).
86. P. Devillard and H. Spohn, *Kinetic shape of Ising clusters*, Europhysics Letters **17**, 113–118 (1992).
87. Leh-Hun Gwa and H. Spohn, *The six-vertex model, roughened surfaces and an asymmetric spin Hamiltonian*, Physical Review Letters **68**, 725–728 (1992).
88. Leh-Hun Gwa and H. Spohn, *Bethe solution for the dynamical scaling exponent of the noisy Burgers equation*, Physical Review A **46**, 844–854 (1992).
89. G.L. Eyink and H. Spohn, *Negative temperature states and large-scale, long-lived vortices in two-dimensional turbulence*, Journal of Statistical Physics **70**, 833–886 (1991).

90. T. Schlösser and H. Spohn, *Sample to sample fluctuations for symmetric random media*, Journal of Statistical Physics **69**, 955–967 (1992).
91. H. Spohn, *Interface motion in models with stochastic dynamics*, Journal of Statistical Physics **71**, 1081–1132 (1993).
92. H. Spohn, *Surface dynamics below the roughening temperature*, Journal de Physique I (France) **3**, 69–81 (1993).
93. T. Salditt and H. Spohn, *Kinetic roughening of a terrace ledge*, Physical Review E **47**, 3524–3531 (1993).
94. M. Rost and H. Spohn, *Renormalization of the driven Sine-Gordon equation in 2+1 dimensions*, Physical Review Letters **72**, 784 (1994).
95. Ya. G. Sinai and H. Spohn, *Remarks on the delocalization transition for heteropolymers*, in: Topics in Statistical and Theoretical Physics. Volume of Berezin’s Memory, eds. A. Vershik, R.L. Dobrushin, R. Minlos, M. Shubin, AMS. Ser. 2, Vol. 177, pp.???, 1996.
96. H. Spohn, *The three-body problem in radiative decay: the case of one atom and at most two photons*, in: Topics in Statistical and Theoretical Physics. Volume of Berezin’s Memory. eds. A. Vershik, R.L. Dobrushin, R. Minlos, M. Shubin, AMS. Ser. 2, Vol. 177, pp. 159–194, 1996.
97. L.A. Bunimovich and H. Spohn, *Viscosity for a periodic two hard disk fluid: an existence proof*, Communications in Mathematical Physics **176**, 661–680 (1995).
98. H. Spohn, *Quantum kinetic equations*, in: On Three Levels, eds. M. Fannes, C. Maes, A. Verbeure, pp. 1–10. Plenum Press, 1994.
99. M. Rost and H. Spohn, *Renormalization of the driven Sine-Gordon equation in 2+1 dimensions*, Physical Review E **49**, 3709–3716 (1994).
100. H. Spohn and H. T. Yau, *Bulk diffusivity of lattice gases close to criticality*, Journal of Statistical Physics **79**, 231–241 (1995).
101. J. Hager and H. Spohn, *Self-similar morphology and dynamics of periodic surface profiles below the roughening transition*, Surface Science **324**, 365–372 (1995).
102. M. Hübner and H. Spohn, *Radiative decay: nonperturbative approaches*, Reviews of Mathematical Physics **7**, 363–387 (1995).
103. M. Hübner and H. Spohn, *Spectral properties of the spin-boson hamiltonian*, Annales de l’Institut Henri Poincaré **62**, 289–323 (1995).
104. H. Spohn, *Fluctuations for a flux driven interface*, Zeitschrift für Physik B **97**, 361–365 (1995).
105. G. Eyink, J.L. Lebowitz, and H. Spohn, *Hydrodynamics, fluctuations, and large deviations outside local equilibrium*, Journal of Statistical Physics **83**, 385–472 (1995).
106. M. Rauscher, T. Salditt, and H. Spohn, *Small angle x-ray scattering under grazing incidence: the cross section in the distorted-wave Born approximation*, Physical Review B **52** 16855–19863 (1996).

107. M. Hübner and H. Spohn, *Atom interacting with photons: a N -body Schrödinger problem*, preprint, unpublished (1995).
108. H. Spohn, *Processes of Brownian motion type with external potential*, Mathematical Physics of Disordered Systems, Paris 1994.
109. H. Spohn, *Loschmidt's reversibility argument and the H -theorem*, in: Pioneering Ideas for the Physical and Chemical Sciences, Loschmidt's Contributions and Modern Developments in Structural Organic Chemistry, Atomistics and Statistical Mechanics, eds. W. Fleischhacker, T. Schönfeld, pp. 153–158. Plenum Press, New York (1997).
110. A. Komech, M. Kunze, and H. Spohn, *Long-time asymptotics for a classical particle interacting with a scalar field*, Communications in Partial Differential Equations **22**, 307–335 (1997).
111. T. Funaki and H. Spohn, *Motion by mean curvature from the Ginzburg-Landau $\nabla\phi$ interface model*, Communications in Mathematical Physics **185**, 1–36 (1997).
112. H. Spohn, *Asymptotic completeness for Rayleigh scattering*, Journal of Mathematical Physics **38**, 2281–2296 (1997).
113. M. Fließner, G.J.O. Schmidt, and H. Spohn, *Magnetotransport of the Sinai billiard*, Physical Review E **53**, 5690–5697 (1996).
114. M. Prähofer and H. Spohn, *Bounds on the diffusion constant in the Rubinstein-Duke model of electrophoresis*, Physica A **233**, 191–207 (1996).
115. H. Spohn, *Driven lattice gases: typical fluctuations and large deviations*, in: Proceedings of StatPhys 19, ed. Hao Bailin, pp. 64–71. World Scientific, Singapore 1996.
116. A. Komech and H. Spohn, *Soliton like asymptotics for a classical particle interacting with a scalar wave field*, Nonlinear Analysis **33**, 13–24 (1998).
117. H. Spohn, *Long-time asymptotics for quantum particles in a periodic potential*, Physical Review Letters **77**, 1198–1201 (1996).
118. J.L. Lebowitz and H. Spohn, *Comment on "Onsager reciprocity relations without microscopic reversibility" by Gabrielli et al.*, Physical Review Letters **78**, 394 (1997).
119. M. Prähofer and H. Spohn, *An exactly solved model of three dimensional surface growth in the anisotropic KPZ regime*, Journal of Statistical Physics **88**, 999–1012 (1997).
120. A. Komech and H. Spohn, *Long-time asymptotics for the coupled Maxwell-Lorentz equations*, Communications in Partial Differential Equations **25**, 559–584 (2000).
121. A. Komech, M. Kunze, and H. Spohn, *Effective dynamics for a mechanical particle coupled to a wave field*, Communications in Mathematical Physics **203**, 1–19 (1999).
122. H. Spohn, *Ground state of a quantum particle coupled to a scalar Bose field*, Letters in Mathematical Physics **44**, 1–8 (1998).

123. H. Osada and H. Spohn, *Gibbs measures relative to Brownian motion*, *Annals of Probability* **27**, 1183–1207 (1999).
124. A. Kuzmany and H. Spohn, *Magneto-transport in the two-dimensional Lorentz gas*, *Physical Review E* **57**, 1–10 (1998).
125. G. Giacomin, S. Olla, and H. Spohn, *Equilibrium fluctuations for the $\nabla\phi$ interface model*, *Annals of Probability* **29**, 1138–1172 (2001).
126. C. Newman and H. Spohn, *The Shiba relation and asymptotic decay in ferromagnetic models*, preprint, unpublished (1997).
127. H. Spohn, *Dyson's model of interacting Brownian motions at arbitrary coupling strength*, *Markov Processes and Related Fields* **4**, 649–662 (1998).
128. H. Spohn, *Bosonization, vicinal surfaces, and hydrodynamic fluctuation theory*, *Phys. Rev. E* **60**, 6411–6420 (1999).
129. J.L. Lebowitz and H. Spohn, *A Gallavotti-Cohen type fluctuation theorem for stochastic dynamics*, *Journal of Statistical Physics* **95**, 333–365 (1999).
130. M. Kiessling and H. Spohn, *A note on the eigenvalue density of random matrices*, *Communications in Mathematical Physics* **199**, 683–695 (1999).
131. H. Spohn and W. Zwerger, *The decay of the two-point function in one-dimensional $O(N)$ spin models with long range interactions*, *Journal of Statistical Physics* **94**, 1037–1044 (1998).
132. D. Dürr and H. Spohn, *Brownian motion and microscopic chaos*, *Nature* **394**, 831–832 (1998).
133. H. Spohn, *Runaway charged particles and center manifolds*, preprint, unpublished (1998).
134. M. Lenci, J.L. Lebowitz, and H. Spohn, *Large deviations for ideal quantum gases*, *Journal of Mathematical Physics* **41**, 1224–1243 (2000).
135. M. Kunze and H. Spohn, *Radiation reaction and center manifolds*, *SIAM Journal on Mathematical Analysis* **32**, 30–53 (2000).
136. M. Kunze and H. Spohn, *Adiabatic limit for the Maxwell–Lorentz equations*, *Annales Henri Poincaré* **1**, 625–654 (2000).
137. H. Spohn, *The critical manifold of the Lorentz-Dirac equation*, *Europhysics Letters* **50**, 287–292 (2000).
138. D. Dürr and H. Spohn, *Decoherence through coupling to the radiation field*, in: *Decoherence: Theoretical, Experimental, and Conceptual Problems*, eds. Ph. Blanchard, E. Joos, C. Kiefer, I.-O. Stamatescu, *Lecture Notes in Physics*, Vol. 538, pp. 77–86. Springer Verlag, Heidelberg 1999.
139. H. Spohn, *Semiclassical limit of the Dirac equation and spin precession*, *Annals of Physics* **282**, 420–431 (2000).
140. M. Rauscher and H. Spohn, *Laplacian growth models for porous silicon formation - stability analysis*, *Journal of Porous Materials* **7**, 345–348 (2000).
141. M. Kunze and H. Spohn, *Slow motion of charges interacting through the Maxwell field*, *Communications in Mathematical Physics* **203**, 1–19 (2000).

142. M. Prähofer and H. Spohn, *Statistical self-similarity of one-dimensional growth processes*, *Physica* **279**, 342–352 (2000).
143. M. Prähofer and H. Spohn, *Universal distributions for growth processes in 1+1 dimensions and random matrices*, *Physical Review Letters* **84**, 4882–4886 (2000).
144. F. Hövermann, H. Spohn, and S. Teufel, *The semiclassical limit for the Schrödinger equation with a short scale periodic potential*, *Communications in Mathematical Physics* **215**, 609–630 (2001).
145. H. Spohn, *Microscopic time reversibility and the Boltzmann equation*, in: *Chance in Physics*, eds. J. Bricmont, D. Dürr, M.C. Gallavotti, G. Ghirardi, F. Petrucci, N. Zanghi, *Lecture Notes in Physics*, Vol. 574, pp. 55–60. Springer Verlag, Berlin 2001.
146. V. Imaikin, A. Komech, and H. Spohn, *Soliton-like asymptotics and scattering for coupled Maxwell-Lorenz equations*, in: *Proc. of 5th Int. Conf. on Math. and Num. aspects of waves propagation*, July 10-14, Santiago de Compostela, Spain, SIAM 2000.
147. T. Dudnikova, A. Komech, and H. Spohn, *On the convergence to the equilibrium distribution. Harmonic crystal with mixing*, *Progress in Analysis*. Proceedings of the 3rd International ISAAC Congress. World Scientific Publishing Co., Vol. I, 635–645 (2003).
148. M. Rauscher and H. Spohn, *Porous silicon formation and electropolishing*, *Physical Review E* **64**, 031604 (2001).
149. J. Lőrinczi, R.A. Minlos, and H. Spohn, *The infrared behavior in Nelson’s model of a quantum particle coupled to a massless scalar field*, *Annales Henri Poincaré* **3**, 269–295 (2002).
150. M. Prähofer and H. Spohn, *Current fluctuations in the totally asymmetric simple exclusion process*, in: *In and Out of Equilibrium*, ed. V. Sidoravicius, Birkhäuser, Boston 2002. arXiv:cond-mat/0101200.
151. F. Hiroshima and H. Spohn, *Enhanced binding through coupling to a quantum field*, *Annales Henri Poincaré* **2**, 1159–1187 (2001).
152. T. Dudnikova, A. Komech, and H. Spohn, *On a two-temperature problem for the wave equation*, *Markov Processes and Related Fields* **8**, 43–80 (2002).
153. M. Kunze and H. Spohn, *Slow Motion of Charges Interacting with the Maxwell Field*, in: *Proceedings IMCP 13, London 2002*, eds. A. Grigoryan, A. Fokas, T. Kibble, B. Zegarlinski, pp. 219–224. International Press Boston.
154. H. Spohn and S. Teufel, *Semi-classical motion of dressed electrons*, *Reviews in Mathematical Physics* **14**, 1-28 (2002).
155. M. Kunze and H. Spohn, *Post-Coulombian dynamics at order 1.5*, *Journal of Nonlinear Science* **11**, 321–396 (2001).
156. V. Betz, F. Hiroshima, J. Lőrinczi, R.A. Minlos, and H. Spohn, *Ground state properties of the Nelson Hamiltonian - a Gibbs measure-based approach*, *Reviews in Mathematical Physics* **14**, 173–198 (2002).

157. H. Spohn and S. Teufel, *Adiabatic decoupling and time-dependent Born-Oppenheimer theory*, Communications in Mathematical Physics **224**, 113–132 (2001).
158. M. Prähofer and H. Spohn: *Scale invariance of the PNG droplet and the Airy process*, Journal of Statistical Physics **108**, 1071–1106 (2002).
159. J. Lőrinczi, R.A. Minlos, and H. Spohn, *Infrared regular representation of the three dimensional massless Nelson model*, Letters in Mathematical Physics **108**, 189–198 (2002).
160. F. Hiroshima and H. Spohn, *Ground state degeneracy of the Pauli-Fierz model with spin*, Advances in Theoretical and Mathematical Physics **5**, 1091–1104 (2001).
161. T.V. Dudnikova, A. Komech, and H. Spohn: *On the convergence to statistical equilibrium for harmonic crystals*, Journal of Mathematical Physics **44**, 2596–2620 (2003).
162. V. Imaikin, A. Komech, and H. Spohn, *Rotating charge coupled to the Maxwell field: scattering theory and adiabatic limit*, Monatshefte für Mathematik **142**, 143–156 (2004).
163. H. Spohn and E. Zhizhina, *Long-time behavior for the stochastic Ising model with unbounded random couplings*, Journal of Statistical Physics **111**, 419–432 (2003).
164. V. Imaikin, A. Komech, and H. Spohn, *Soliton-type asymptotics and scattering for a charge coupled to the Maxwell field*, Russian Journal of Mathematical Physics **9**, 428–436 (2002).
165. V. Imaikin, A. Komech, and H. Spohn, *Scattering theory for a particle coupled to a scalar field*, Journal of Discrete and Continuous Dynamical Systems **10**, 387–396 (2003).
166. G. Panati, H. Spohn, and S. Teufel, *Space-adiabatic perturbation theory*, Advances in Theoretical and Mathematical Physics **7**, 145–204 (2003).
167. G. Panati, H. Spohn, and S. Teufel, *Space-adiabatic perturbation theory in quantum dynamics*, Physical Review Letters **88**, 250405 (2002).
168. M. Hirokawa, F. Hiroshima, and H. Spohn, *Ground state for point particles interacting through a massless scalar Bose field*, Advances in Mathematics **191**, 339–392 (2005).
169. P. Ferrari and H. Spohn, *Last branching in directed last passage percolation*, Markov Processes and Related Fields **9**, 323–339 (2003).
170. G. Panati, H. Spohn, and S. Teufel, *Effective dynamics for Bloch electrons: Peierls substitution and beyond*, Communications in Mathematical Physics **242**, 547–578 (2003).
171. P. Ferrari and H. Spohn, *Step fluctuations for a faceted crystal*, Journal of Statistical Physics **113**, 1–46 (2003).
172. M. Prähofer and H. Spohn, *Exact scaling functions for one-dimensional stationary KPZ growth*, Journal of Statistical Physics **115** 255–279 (2004).

173. S. Grosskinsky, G. Schütz, and H. Spohn, *Condensation in the zero range process: stationary and dynamical properties*, Journal of Statistical Physics **113**, 389–410 (2003).
174. P. Ferrari, M. Prähofer, and H. Spohn, *Fluctuations of an atomic ledge bordering a crystalline facet*, Physical Review E **69**, 035102 (2004).
175. S. Grosskinsky and H. Spohn, *Stationary measures and hydrodynamics of zero range processes with several species of particles*, Bull. Braz. Math. Soc., New Series **34**, 489–507 (2003).
176. V. Betz and H. Spohn, *A central limit theorem for Gibbs measures relative to Brownian motion*, Probability Theory and Related Fields **131**, 459–478 (2005).
177. P.L. Ferrari, and H. Spohn, *Constrained Brownian motion: fluctuations away from circular and parabolic barriers*, Annals of Probability **33**, 1302–1325 (2005).
178. P.L. Ferrari, M. Prähofer, and H. Spohn, *Stochastic growth in one dimension and Gaussian multi-matrix models*, in: Proceedings XIVth International Congress on Mathematical Physics, ed. J.-C. Zambrini, pp. 404–411. World Scientific, Singapore 2005.
179. F. Hiroshima, and H. Spohn, *Mass renormalization in nonrelativistic QED*, Journal of Mathematical Physics **46**, 042302 (2005).
180. C. Hainzl, M. Hirokawa, and H. Spohn, *Binding energy for hydrogen-like atoms in the Nelson model without cutoffs*, Journal of Functional Analysis **220**, 424–459 (2005).
181. V. Betz, J. Lőrinczi, and H. Spohn, *Gibbs measure on Brownian paths: Theory and applications*, in: “Interacting Stochastic Systems”, eds. J.-D. Deuschel and A. Greven, pp. 75–102. Springer-Verlag, Berlin 2005.
182. H. Spohn, *Kardar-Parisi-Zhang equation in one dimension and line ensembles*, Pramana Journal of Physics **64**, 1–11 (2005).
183. H. Spohn, *The phonon Boltzmann equation, properties and link to weakly anharmonic lattice dynamics*, Journal of Statistical Physics **124**, 1041–1104 (2006).
184. P.L. Ferrari, and H. Spohn, *Scaling limit for the space-time covariance of the stationary totally asymmetric simple exclusion process*, Communications in Mathematical Physics **265**, 1 – 44 (2006).
185. H. Spohn, *Towards a microscopic derivation of the phonon Boltzmann equation*, Proceedings, Giens 2004, Lecture Notes in Physics, “Mathematical Physics of Quantum Mechanics”, eds. J. Asch and A. Joye, Vol. 690, pp. 295–304. Springer-Verlag, Berlin 2006.
186. J. Lukkarinen and H. Spohn: *Kinetic limit for wave propagation in a random medium*, Archive of Rational Mechanics and Analysis **183**, 93–162 (2007).

187. T.V. Dudnikova and H. Spohn, *Local stationarity for lattice dynamics in the harmonic approximation*, Markov Processes and Related Fields **12**, 645–678 (2006).
188. V. Beffara, V. Sidoravicius, H. Spohn, and M.E. Vares, *Polymer pinning as an influence percolation problem*, in: Dynamics and Stochastics: Festschrift in honor of M.S. Keane, eds. D. Denteneer, F. Den Hollander, E. Verbitskiy, IMS Lecture Notes -Monograph Series Vol. 48, pp. 1–16 (2006).
189. P.L. Ferrari and H. Spohn, *A determinantal formula for the GOE Tracy-Widom distribution*, Journal of Physics A **37**, L557–L561 (2005).
190. W.H. Aschbacher and H. Spohn: *A remark on the strict positivity of the entropy production*, Letters in Mathematical Physics **75**, 17 – 23 (2006).
191. G. Panati, H. Spohn, and S. Teufel, *The time-dependent Born-Oppenheimer approximation*, Mathematical Modelling and Numerical Analysis (Special issue on Molecular Modelling) **41**, 297– 314 (2007).
192. H. Spohn: *Exact solutions for KPZ-type growth processes, random matrices, and equilibrium shapes of crystals*, Physica A **369**, 71 –99 (2006).
193. H. Spohn, *Interacting stochastic particle systems*, Encyclopedia of Mathematical Physics, eds. J.-P. Francoise, G. Naber, S. T. Shou, Elsevier, 2006.
194. M. Loss, T. Miyao, and H. Spohn, *Lowest energy states in nonrelativistic QED: atoms and molecules in motion*, Journal of Functional Analysis **243**, 353–393 (2007).
195. K. Aoki, J. Lukkarinen, and H. Spohn, *Energy transport in weakly anharmonic chains*, Journal of Statistical Physics **124**, 1105–1129 (2006).
196. G. Panati, H. Spohn, and S. Teufel, *Motion of electrons in adiabatically perturbed periodic structures*, Analysis, Modeling and Simulation of Multiscale Problems, ed. A. Mielke, pp. 595–617. Springer-Verlag, Berlin Heidelberg 2006.
197. P. Ferrari and H. Spohn, *Domino tilings and the six-vertex model at its free fermion point*, Journal of Physics A **39** 10297–10306 (2006).
198. H. Spohn, *Collisional invariants for the phonon Boltzmann equation*, Journal of Statistical Physics **124**, 1131–1135 (2006).
199. H. Spohn, *Boltzmann’s Legacy*, ESI NEWS, Vol. 1, Issue 2, Autumn 2006.
200. H. Spohn, *Notes on coherent backscattering from a random potential*, Journal of Mathematical Physics **48**, 092103 (2007) (13 pages).
201. H. Spohn, *Kinetic equations for quantum many-particle systems*, Modern Encyclopedia of Mathematical Physics, Springer Selecta, edited by I. Aref’eva and D. Sternheimer, arXiv:math-ph/0706.0807.
202. T. Miyao and H. Spohn, *The bipolaron in the strong coupling limit*, Annales Henri Poincaré **8**, 1333–1370 (2007).
203. H. Spohn, *On the Boltzmann equation for weakly nonlinear wave equations*, in: Boltzman’s Legacy, eds. G. Gallavotti, W. Reiter, J. Yngvason, European Mathematical Society, 2008, arXiv:math-ph/0706.0855.

204. H. Spohn, *Energy current correlations for weakly anharmonic lattices*, in: New Trends in Mathematical Physics, Selected Contributions of the ICMP 15, Rio de Janeiro, 2006, ed. V. Sidovaričius, pp. 629–642, Springer-Verlag, 2009, arXiv:math-ph/0706.0815.
205. J. Lukkarinen and H. Spohn, *Anomalous energy transport in the FPU- β chain*, Communications in Pure and Applied Mathematics **61**, 1753–1786 (2008).
206. M. Biskup and H. Spohn, *Scaling limit for a class of massless gradient fields with non-convex potentials*, Annals of Probability, 2011, to appear, arXiv:math-ph/0704.3086.
207. H. Spohn, *The g -factor of the electron*, Oberwolfach Reports **5**, 392–395 (2008).
208. G. Basile, S. Olla, and H. Spohn, *Wigner functions and stochastically perturbed lattice dynamics*, Archive Rational Mechanics and Analysis **265**, 171–203 (2010).
209. J. Lukkarinen and H. Spohn, *Not to normal order - Notes on the kinetic limit for weakly interacting quantum fluids*, Journal of Statistical Physics **134**, 1133–1172 (2009).
210. J. Lukkarinen and H. Spohn, *Weakly nonlinear Schrödinger equation with random initial data*, Inventiones Mathematicae **183**, 79–188 (2011).
211. V. Imaykin, A. Komech, and H. Spohn, *On scattering of solitons for Maxwell equation coupled to a particle*, Journal of Mathematical Physics, to appear (2011).
212. T. Miyao and H. Spohn, *Spectral analysis of the semi-relativistic Pauli-Fierz hamiltonian*, Journal of Functional Analysis **256**, 2123–2156 (2009).
213. H. Spohn, *Kinetics of the Bose-Einstein condensation*, Physica D **239**, 627–634 (2010).
214. T. Miyao and H. Spohn, *The unbinding transition of the bipolaron on the basis of the Pekar-Tomasevich functional*, preprint.
215. M. Loss, T. Miyao, and H. Spohn, *Kramers degeneracy theorem in non-relativistic QED*, Letters in Mathematical Physics **89**, 21–31 (2009).
216. T. Miyao and H. Spohn, *The retarded van der Waals potential: revisited*, Journal of Mathematical Physics **50**, 072103 (2009) (19 pages).
217. A. Chaudhuri, A. Kundu, D. Roy, A. Dhar, J. L. Lebowitz, and H. Spohn, *Heat conduction and phonon localization in disordered harmonic crystals*, Physical Review B **81**, 064301 (2010).
218. M. Butz and H. Spohn, *Dynamical phase transition for a quantum particle source*, arXiv:0908.2912, Annales H. Poincaré textbf10, 1223–1249 (2010).
219. T. Sasamoto and H. Spohn, *Superdiffusivity of the 1D lattice Kardar-Parisi-Zhang equation*, Journal of Statistical Physics **137**, 917–935 (2009).
220. P. Ferrari and H. Spohn, *Random growth models*, The Oxford Handbook of Random Matrix Theory, G. Akemann, J. Baik and P. Di Francesco (eds.) (2011).

221. F. Hiroshima, H. Spohn, and A. Suzuki, *Enhanced binding in nonrelativistic QED*, preprint (2010).
222. A.I. Komech, E.A. Kopylova, and H. Spohn, *Scattering of solitons for Dirac equation coupled to a particle*, arxiv
223. M. Loss, T. Miyao, and H. Spohn, *Time reversal symmetries of ground states in nonrelativistic QED*, preprint (2010).
224. T. Sasamoto and H. Spohn, *The crossover regime for the weakly asymmetric simple exclusion process*, Journal of Statistical Physics **140**, 209–231 (2010).
225. T. Sasamoto and H. Spohn, *Exact height distributions for the KPZ equation with narrow wedge initial condition*, Nuclear Physics B **834**, 523–542 (2010).
226. T. Sasamoto and H. Spohn, *The one-dimensional KPZ equation: an exact solution and its universality*, Physical Review Letters **104**, 230602 (2010).
227. A. Kundu, A. Chaudhuri, D. Roy, A. Dhar, J. L. Lebowitz and H. Spohn, *Heat conduction and phonon localization in disordered harmonic crystals*, Europhysics Letters **90**, 40001 (2010).
228. T. Sasamoto and H. Spohn, *The 1+1-dimensional Kardar-Parisi-Zhang equation and its universality class*, Proceedings StatPhys 24, Journal of Statistical Mechanics (2011) P01031 (18 pages).
229. S. Prolhac and H. Spohn, *Two-point generating function of the free energy for a directed polymer in a random medium*, Journal of Statistical Mechanics (2011) P01031 (25 pages).
230. S. Prolhac and H. Spohn, *The one-dimensional KPZ equation and the Airy process*, Journal of Statistical Mechanics (2011) P03020 (15 pages)
231. T. Imamura, T. Sasamoto, H. Spohn, *KPZ, ASEP and delta-Bose gas*, Journal of Physics: Conference Series 297 (2011) 012016.
232. S. Prolhac and H. Spohn, *The height distribution of the KPZ equation with sharp wedge initial condition: numerical evaluations*, Physical Review **E** **84**, 011119 (2011).
233. N. O’Connell and H. Spohn, *Delta Bose gas and rank-dependent diffusions*, in preparation
234. H. Spohn, *Radiative friction: a case study*, Journal Physics A, submitted, arXiv:1105.4470
235. K. Takeuchi, M. Sano, T. Sasamoto, H. Spohn, *Growing interfaces uncover universal fluctuations behind scale invariance*, Scientific Reports **1**, 34 (2011).
236. S. Prolhac and H. Spohn, *The propagator of the attractive delta-Bose gas in one dimension*, submitted, arXiv: (2011).