References

The following abbreviations stand for titles of some Russian journals:

AT *Avtomatika i Telemekhanika* Automatics and Telemechanics.
DAS *Doklady Akademii Nauk* Doklady of the Academy of Sciences.
FAA *Funkzionalny Analiz i eyo Primeneniya* Functional Analysis and its Applications.
PIT *Problemy peredatchi Informatzii* Problems of Information Transmission.
TPA *Teoria Veroyatnostei i eyo Primeneniya* Theory of Probability and its Applications.

1 Averintsev, M. B. (1975). Gibbsian description of random variables, condition probabilities of which may turn into zero. *PIT* **11**, 4, 86–9 (in Russian).

2 Beliaev Yu. K., Gromak, Yu. I. and Malyshev, V. A. (1969). On invariant random Boolean fields. *Matematicheskie Zametki* **6**, 5, 555–66 (in Russian).

3 Bramson, M. and Griffeath, D. (1979). Renormalizing the 3-dimensional voter model. *Ann. Probab.* **7**, 418–32.

4 Chomsky, N. and Miller, G. A. (1958). Finite state languages. *Information and Control* **1**, 91–112.

5 Con, J. T. and Griffeath, D. (1983). Critical clustering in the two-dimensional voter model. In: Hô, K. and Prokhorov, J. V. *Probability Theory and Mathematical Statistics. Proceedings, 1982* (Lecture Notes in Mathematics, 1021), Springer, 59–68.

6 Dawson D. A. (1973). Information flow in discrete Markov systems. *J. Appl. Prob.* **10**, 1, 63–83.

7 Dawson D. A. (1975). Synchronous and asynchronous reversible Markov systems. *Canad. Math. Bull.* **17**, 5, 633–49.

8 Dawson D. A. (1975). Information flow in graphs. *Stochastic Processes and Applications* **3**, 137–51.

9 Dobrushin, R. L. (1968) Description of a random field with its conditional probabilities and conditions of its regularity. *TPA* **13**, 2, 201–29 (in Russian).

10 Dobrushin, R. L. (1968). Gibbsian random fields for lattice systems with pairwise interactions. *FAA* **2**, 4, 292–301.

11 Dobrushin, R. L. (1968). The problem of uniqueness of a Gibbsian random field and the problem of phase transition. *FAA* **2**, 4, 302–19.

12 Dobrushin, R. L. (1971). Markov processes with a large number of locally interacting components—existence of a limit process and its ergodicity. *PIT* **7**, 2, 149–94.

13 Dobrushin, R. L. (1971). Markov processes with many locally interacting components – the reversible case and some generalizations. *PIT* **7**, 3, 235–41.

14 Dobrushin, R. L., Piatetski-Shapiro, I. I. and Vasiliev, N. B. (1969). Markov processes in an infinite product of discrete spaces. *Proceedings of the Soviet–Japanese Symposium in Probability Theory*. Novosibirsk, pp. 3–29 (in Russian).

15 Dobrushin, R. L. and Pirogov, S. A. (1976). Theory of random fields. *Proc. 1975 IEEE–USSR Joint Workshop on Information Theory*, IEEE, pp. 39–49.

16 Durrett, R. (1979). An infinite particle system with additive interactions. *Adv. Appl. Probab.* **11**, 355–83.

17 Durrett, R. (1984). Oriented percolation in two dimensions. *Ann. Probab.* **12**, 4, 999–1040.

18 Durrett, R. and Griffeath, D. (1983). Supercritical contact processes on $\mathbb{Z}$. *Ann. Probab.* **11**, 1, 1–15.

19 Feller, W. (1970–1). *An Introduction to Probability Theory and its Applications*. Wiley New York.

20 Freiwald, R. V. (1974). Limit computations on probabilistic machines. A theory of algorithms and programs. *Proceedings of the Latvian Univ.* **210**, 1, Riga, 32–47 (in Russian).

21 Gács, P. (1986). Reliable computation with cellular automata. *Journal of Computer and System Sciences* **32**, 3, 201–8.

22 Gács, P., Kurdyumov, G. L. and Levin, L. A. (1978). One-dimensional Homogeneous media which erode finite islands. *PIT* **14**, 3, 92–6 (in Russian).

23 Galperin, G. A. (1976). Homogeneous nets of automata with monotone local interaction *PIT* **12**, 4, 74–87 (in Russian).

24 Galperin, G. A. (1976). Homogeneous local monotone operators with memory. *DAS* **228**, 2, 277–80 (in Russian).

25 Galperin, G. A. (1977). Homogeneous local monotone operators with memory. In: *Interacting Markov Processes and their Application in Biology*, Pushchino (in Russian).
26 Gantmaher, F. R. (1959). *The Theory of Matrices*. Chelsea, New York.
27 Gelfand, I. M., Piatetski-Shapiro, I. I. and Tsetlin, M. L. (1963). On homogeneous games and games of automata, *DAS* **152**, 4 (in Russian).
28 Gray, L. (1982). The positive rates problem for attractive nearest-neighbor spin systems on $\mathbb{Z}$. *Z. Wahrsch. und Verw. Gebiete* **61**, 389–404.
29 Gray, L. (1986). Duality for general attractive spin systems, with applications in one dimension. *Ann. Probab.* **14**, 2, 371–96.
30 Gray, L. and Griffeath, D. (1982). A stability criterion for attractive nearest-neighbor spin systems on $\mathbb{Z}$. *Ann Probab.* **10**, 67–85.
31 Griffeath, D. (1978). *Coupling Methods for Markov Processes*. Studies in Probability and Ergodic Theory: Advances in Mathematics, Supplementary Studies, Vol. 2, pp. 1–43. Academic Press. New York.
32 Griffeath, D. (1979). *Additive and Cancellative Interacting Particle Systems*. (Lecture Notes in Mathematics, 724), Springer.
33 Griffeath, D. (1983). The binary contact path process. *Ann. Probab.* **11**, 3, 692–705.
34 Griffiths, R. B. (1972). Rigorous results and theorems. In: *Phase Transitions and Critical Phenomena*, Vol. 1, C. Domb and M. S. Green (eds), pp. 7–109. Academic Press, London.
35 Harris, T. E. (1976). On a class of set-valued Markov processes. *Ann. Probab.* **4**, 1, 175–94.
36 Harris, T. E. (1978). Additive set-valued Markov processes and graphical methods. *Ann. Probab.* **6**, 3, 355–78.
37 Holley, R. (1971). Free energy in a Markovian model of a lattice spin system. *Comm. Math. Phys.* **23**, 87–99.
38 Holley, R. (1972). An ergodic theorem for interacting with attractive interactions. *Z. Wahrsch. und Verw. Gebiete*, **24**, 4, 325–34.
39 Holley, R. and Liggett, T. (1975). Ergodic theorems for weakly interacting systems and the voter model. *Ann. Prob.* **3**, 4, 643–63.
40 Kemeny, J. G., Knapp, A. W. and Snell, J. L. (1976). *Denumerable Markov Chains*. Springer, New York, chapter 12.
41 Kesten, H. (1982). *Percolation Theory for Mathematicians*. Birkhauser, Boston.
42 Kozlov, O. K. and Vasilyev. N. B. (1980). Reversible Markov chains with local interaction. *Adv. Probab.* **6**, 451–69.
43 Kurdyumov, G. L. (1978). An example of a nonergodic homogeneous one-dimensional random medium with positive transi-

tion probabilities. *DAS* **19**, 1, 211–14.

44 Kurdyumov, G. L. (1978). An algorithm-theoretic method in studying homogeneous random networks. In: Dobrushin, R. L., Kryukov, V. I. and Toom, A. L. (eds.) *Locally Interacting Systems and their Application in Biology*. (Lecture Notes in Mathematics, 653), Springer, pp. 37–55.

45 Kurdyumov, G. L. (1980). An algorithm-theoretic method for the study of homogeneous random networks. *Adv. Probab.* **6**, 471–504.

46 De Leeuw, K., Moore, E. F., Shannon, C. E. and Shapiro, N. (1956). Computing on stochastic Turing machines. In: *Automata Studies*, C. E. Shannon and J. McCarthy (eds.) Princeton Univ. Press, Princeton, NJ.

47 Leontovitch, A. M. and Vaserstein, L. N. (1970). On invariant measures of some Markov operators which describe a homogeneous random medium. *PIT* **6**, 1, 71–80 (in Russian).

48 Liggett, T. M. (1985). *Interacting Particle Systems*. Springer.

49 Malyshev, V. A. and Minlos, R. A. (1985). *Gibbsian Random Fields. The Method of Cluster Decompositions*. Nauka, Moscow (in Russian).

50 Martirosjan, D. G. (1975). Uniqueness of limit Gibbsian distributions for confused Ising model. *Theoretical and Mathematical Physics* **22**, 3, 335–342 (in Russian).

51 Minlos, R. A. and Sinai Ya. G. (1968). The phenomenon of separation of phases with low temperatures in some lattice models of gas, II. *Proceedings of the Moscow Mathematical Society* **19**, 113–78 (in Russian).

52 Mityushin, L. G. (1970). Non-ergodicity of homogeneous threshold nets with small self-excitement. *PIT* **6**, 3, 99–103 (in Russian).

53 Mityushin, L. G. (1975). On some multi-dimensional systems of automata, related with the percolation problem. *PIT* **11**, 3 (in Russian).

54 Mityushin, L. G. (1976). Some results on percolation problems. *Proceedings of IV International Symposium on Information Theory, part I*. Moscow and Leningrad, pp. 103–4 (in Russian).

55 Mityushin, L. G., Piatetski-Shapiro, I. I., Toom, A. L. and Vasilyev, N. B. (1973). Stavskaya operators. Preprint 12 of the Institute of Applied Mathematics of Academy of Sciences of the USSR (in Russian).

56 Moore, E. F. and Shannon, C. E. (1956). Reliable circuits using less reliable relays. *J. of Franklin Institute* **262**.

57 Petri, N. V. (1979). The unsolubility of the problem of discerning of annuling iterative nets. In: *Researches in the Theory of Algorithms and Mathematical Logic*. Nauka, Moscow (in Russian).

58 Petrovskaya, M. B., Piatetski-Shapiro, I. I. and Vasilyev, N. B.

(1969). Modelling of voting with random errors. *AT* 10, 103–7 (in Russian).

59 Piatetski-Shapiro, I. I. and Vasilyev, N. B. (1971). On classification of one-dimensional homogeneous media. *PIT* **7**, 4, 82–90 (in Russian).

60 Pirogov, S. A. (1975). Coexistence of phases for lattice models with several types of particles. *Izvestia of the Academy of Sciences of the USSR, Mathematical Series* **39**, 6, 1404–33 (in Russian).

61 Pirogov, S. A. (1986). Cluster decompositions for automata systems. *PIT* **22**, 4, 60–6.

62 Pirogov, S. A. and Sinai, Ya. G. (1975–6). Phase diagrams of classical lattice systems. *Theoretical and Mathematical Physics* **25**, 3, 358–69; **26**, 1, 61–76.

63 Pirogov, S. A. and Sinai, Ya. G. (1974). Phase transitions of the first order for amll perturbations of the Ising model. *FAA* **8**, 1, 25–31.

64 Plesnevich, G. S. (1968). Comparison of two concepts of computing on homogeneous iterative automata. *The Conference on Automata Theory and Artificial Intellect, Tashkent, Abstracts of Communications*, Computing Center of the USSR Academy of Sciences, Moscow.

65 Preston, C. J. (1976). *Random Fields*. (Lecture Notes in Mathematics, 534), Springer.

66 Rockafellar, R. T. (1970). *Convex Analysis*. Princeton Univ. Press, Princeton, NJ.

67 Rozonoer, L. I. (1969). On random logical networks I, II, III. *AT* 5, 137–47; 6, 99–109; 7, 127–36 (in Russian).

68 Schormann, H. H. (1987). A new proof of the complete convergence theorem for contact processes in several dimensions with large infection parameter. *Ann. Probab.* **15**, 1, 382–7.

69 Shabat, B. V. (1976). *Introduction to Complex Analysis*, Part II. Nauka, Moscow (in Russian).

70 Shmukler, Yu. (1971). The voting problem with random error. *DAS* **196**, 4, 789–92 (in Russian).

71 Shnirman, M. G. (1968). On the problem of ergodicity of a Markov chain with infinite set of states. *Problemy Kibernetiki* **20**, 115–24 (in Russian).

72 Shnirman, M. G. (1978). On non-uniqueness in some homogeneous networks. In: Dobrushin, R. L., Kryukov, V. I. and Toom, A. L. (eds.) *Locally Interacting Systems and their Application in Biology*. (Lecture Notes in Mathematics, 653), Springer, pp. 31–6.

73 Sinai, Ya. G. (1982). *Theory of Phase Transitions: Rigorous Results*. Pergamon International Series in Natural Philosophy, 108. Pergamon Press, Oxford.

74 Spitzer, F. (1976). *Random Fields*. (Lecture Notes in Mathematics, 534), Springer.
75 Stavskaya, O. N. (1973). Gibbsian invariant measures for Markov chains on finite lattices with local interaction. *Mathematicheski Sbornik* **92**, 3, 402–19 (in Russian).
76 Stavskaya, O. N. (1978). Markov fields as invariant states for local processes. In: Dobrushin, R. L. Kryukov, V. I. and Toom, A. L. (eds.) *Locally Interacting Systems and their Application in Biology*. (Lecture Notes in Mathematics, 653, Springer, pp. 2, 113–21.
77 Stavskaya, O. N. (1976). Invariant Bernoulli measures for Markov processes with local interaction. *Proceedings of the Fourth International Symposium on Information Theory* part I. Moscow and Leningrad, 127–9 (in Russian).
78 Stavskaya, O. N. and Piatetski-Shapiro, I. I. (1971). On homogeneous nets of spontaneously active elements. *Systems Theory Res.* **20**, 75–88.
79 Stockmeyer, L. (1974). The complexity of solution problems in automata theory and logic. Project MAC, MIT.
80 Strook D. (1978). *Lectures on Infinite Interacting Systems*. Kyoto Univ. Lectures in Mathematics, Vol. 11.
81 Sullivan, W. G. (1975). Markov processes for random fields. *Communications of the Dublin Institute for Advanced Studies*, Series A, no. 23.
82 Sullivan, W. G. (1976). Specific information gain for interacting Markov processes. *Z. Wahrsch. und Verw. Gebiete* **37**, 77–90.
83 Toom, A. L. (1972). Non-ergodicity in homogeneous random media. *Verojatnostnye Metody Issledovanija* (collection of papers), Moscow Univ., issue 41, 34–42 (in Russian).
84 Toom, A. L. (1972). On invariant measures in nonergodic random media, ibid, 43–51 (in Russian).
85 Toom, A. L. (1968). A family of homogeneous nets of formal neurons. *DAS* **9**, 1338–41.
86 Toom, A. L. (1974). Nonergodic multidimensional systems of automata. *PIT* **10**, 239–46.
87 Toom, A. L. (1976). Monotonic binary cellular automata. *PIT* **12**, 33–7.
88 Toom, A. L. (1976). Unstable multicomponent systems. *PIT* **12**, 220–5.
89 Toom, A. L. (1978). Monotonic evolutions in real spaces. In: Dobrushin, R. L., Kryukov, V. I. and Toom, A. L. (eds.) *Locally Interacting Systems and their Application in Biology*. (Lecture Notes in Mathematics, 653), Springer, pp. 1–14.
90 Toom, A. L. (1979). Stable and attractive trajectories in multicomponent systems. *Adv. Probab.* **6**, 549–75.

91 Bishir, J. (1963). A lower bound for the critical probability in the one-quadrant oriented-atom percolation process. *Journ. of the Royal St. Soc.*, Ser. B, **25**, 2, 401–4.
92 Toom, A. L. and Mityushin, L. G. (1976). Two results on non-computability for one-dimensional tessellation automata. *PIT* **12**, 2, 69–75 (in Russian).
93 Tsetlin, M. L. (1973). *Automaton Theory and Modeling of Biological Systems.* Mathematics in Science and Engineering, 102, Academic Press, New York and London.
94 Tsirelson, B. S. (1976). Non-homogeneous local interaction can produce 'far-range order' in a one-dimensional system. *TPA* **21**, 3, 681–3.
95 Tsirelson, B. S. (1978). Reliable information storage in a system of locally interacting unreliable elements. In: Dobrushin, R. L., Kryukov, V. I. and Toom, A. L. (eds.) *Locally Interacting Systems and their Application in Biology.* (Lecture Notes in Mathematics, 653), Springer, pp. 15–30.
96 Vaserstein, L. N. (1969). Markov processes over denumerable products of spaces, describing large systems of automata. *PIT* **5**, 3, 47–52.
97 Vasilyev, A. V. (1975). Investigation of the stationary probability of one Markov system of interactions. *PIT* **11**, 4, 109–12 (in Russian).
98 Vasilyev, N. B. (1969). Limit behavior of one random medium. *PIT* **5**, 57–62.
99 Vasilyev, N. B. (1978). Bernoulli and Markov stationary measures in discrete local interactions. In: Dobrushin, R. L., Kryukov, V. I. and Toom, A. L. (eds.) *Locally Interacting Systems and their Application in Biology.* (Lecture Notes in Mathematics, 653), Springer, pp. 99–112.
100 Vasilyev, N. B. (1970). Correlation equations for the stationary measure of one Markov chain. *TPA* **15**, 3, 536–41.

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