

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/26884> holds various files of this Leiden University dissertation.

**Author:** Erhard, Dirk

**Title:** The parabolic Anderson model and long-range percolation

**Issue Date:** 2014-07-01

# Bibliography

- [A10] S. Akkouché, The spectral bounds of the discrete Schrödinger operator, *J. Funct. Anal.* 259 (2010) 1443–1465.
- [A82] E. D. Andjel, Invariant measure for the zero range process, *Ann. Probab.* 10 (1982) 525–547.
- [ABP06] O. Angel, I. Benjamini, N. Berger and Y. Peres, Transience of percolation clusters on wedges, *Electron. J. Probab.*, 11 (2006) 655–669.
- [AM90] M. Avellaneda, A.J. Majda, Mathematical Models with Exact Renormalization for Turbulent Transport, *Comm. Math. Phys.* 131 (1990) 381–429.
- [BT09] Q. Berger, F. L. Toninelli, On the critical point of the random walk pinning model in dimension  $d = 3$ , *Electron. J. Probab.* 15 (2010) 654–683.
- [BGdH08] M. Birkner, A. Greven, F. den Hollander, Collision local time of transient random walks and intermediate phases in interacting stochastic systems, *Electron. J. Probab.* 16 (2011) 552–586.
- [BS10] M. Birkner, R. Sun, Annealed vs quenched critical points for a random walk pinning model, *Ann. Inst. H. Poincaré Probab. Stat.* 46 (2010) 414–441.
- [BS11] M. Birkner, R. Sun, Disorder relevance for the random walk pinning model in dimension 3, *Ann. Inst. H. Poincaré Probab. Stat.* 47 (2011) 259–293.
- [BK14] M. Biskup and W. König, Eigenvalue order statistics for random Schrödinger operator with doubly-exponential tails, <http://arXiv:1311.0395>.
- [BH57] S. R. Broadbent, J. M. Hammersley, Percolation processes I. Crystals and mazes, *Proceedings of the Cambridge Philosophical Society* 53 (1957) 629–641.
- [BK89] R. M. Burton, M. Keane, Density and uniqueness in percolation, *Comm. Math. Phys.*, 121 (1989) 501–505.
- [CKM01] R. A. Carmona, L. Korálov, S. A. Molchanov, Asymptotics for the almost-sure Lyapunov exponent for the solution of the parabolic Anderson problem, *Random Oper. Stoch. Equ.* 9 (2001) 77–86.
- [CM94] R.A. Carmona, S.A. Molchanov, *Parabolic Anderson Problem and Intermittency*, AMS Memoirs 518, American Mathematical Society, Providence RI (1994).
- [CMV96] R. A. Carmona, S. A. Molchanov, F. Viens, Sharp upper bound on the almost-sure exponential behavior of a stochastic partial differential equation. *Random Oper. Stoch. Equ.* 4 (1996) 43–49.

## Bibliography

- [CGM12] F. Castell, O. Gün, G. Maillard, Parabolic Anderson model with a finite number of moving catalysts, in: *Probability in Complex Physical Systems. In honour of Erwin Bolthausen and Jürgen Gärtner* (eds. J.-D. Deuschel, B. Gentz, W. König, M.-K. van Renesse, M. Scheutzow, U. Schmock), Springer Proceedings in Mathematics 11, Springer, 2012, Berlin, 91–117.
- [CP12] J. Černý and S. Popov, On the internal distance in the interlacement set, *Electron. J. Probab.* 17 (2012) 1–25.
- [CG84] J.T. Cox and D. Griffeath, Large deviations for Poisson systems of independent random walks, *Z. Wahrsch. Verw. Gebiete* 66 (1984) 543–558.
- [CMS02] M. Cranston, T.S. Mountford and T. Shiga, Lyapunov exponents for the parabolic Anderson model, *Acta Math. Univ. Comenianae* 71 (2002) 163–188.
- [CMS05] M. Cranston, T. S. Mountford, T. Shiga, Lyapunov exponents for the parabolic Anderson model with Lévy noise, *Probab. Theory Rel. Fields* 132 (2005) 321–355.
- [DE14] A. Drewitz, D. Erhard, Transience of the vacant set for near-critical random interacements in high dimensions, <http://arXiv:1312.2980v1>.
- [DGRS12] A. Drewitz, J. Gärtner, A.F. Ramirez and R. Sun, Survival probability of a random walk among a Poisson system of moving traps, in: *Probability in Complex Physical Systems. In honour of Erwin Bolthausen and Jürgen Gärtner* (eds. J.-D. Deuschel, B. Gentz, W. König, M.-K. van Renesse, M. Scheutzow, U. Schmock), Springer Proceedings in Mathematics 11, Springer, 2012, Berlin, 119–158.
- [DRS12a] A. Drewitz, B. Ráth and A. Sapozhnikov, Local percolative properties of the vacant set of random interacements with small intensity, accepted for publications in *Ann. Inst. Henri Poincaré Probab. Stat.*, <http://arXiv:1206.6635v3>.
- [DRS12b] A. Drewitz, B. Ráth and A. Sapozhnikov. On chemical distances and shape theorems in percolation models with long-range correlations, <http://arXiv:1212.2885v1>.
- [E42] P. Erdős, On an elementary proof of some asymptotic formulas in the theory of partitions, *Ann. Math.* 43 (1942) 437–450.
- [EdHM14a] D. Erhard, F. den Hollander and G. Maillard, The parabolic Anderson model in a dynamic random environment: basic properties of the quenched Lyapunov exponent, to appear in *Ann. Inst. Henri Poincaré Probab. Stat.* 2014. <http://arXiv:1208.0330v2>.
- [EdHM14b] D. Erhard, F. den Hollander, G. Maillard, The parabolic Anderson model in a dynamic random environment: space-time ergodicity for the quenched Lyapunov exponent, <http://arXiv:1304.2274v2>.
- [EMP14] D. Erhard, J. Martínez, J. Poisat, Brownian paths homogeneously dis-

- tributed in space: percolation phase transition and uniqueness of the unbounded cluster, <http://arXiv:1311.2907v1>.
- [FM14] A. Fiodorov and S. Muirhead, Complete Localisation and Exponential Shape of the Parabolic Anderson Model with Weibull Potential Field, <http://arXiv:1311.7634>.
- [GKN92] A. Gandolfi, M. S. Keane, C. M. Newman, Uniqueness of the infinite component in a random graph with applications to percolation and spin glasses, *Probab. Theory Relat. Fields*, 92 (1992) 511–527.
- [GH06] J. Gärtner, M. Heydenreich, Annealed asymptotics for the parabolic Anderson model with a moving catalyst, *Stoch. Proc. Appl.* 116 (2006) 1511–1529.
- [GdH06] J. Gärtner, F. den Hollander, Intermittency in a catalytic random medium, *Ann. Probab.* 34 (2006) 2219–2287.
- [GdHM07] J. Gärtner, F. den Hollander, G. Maillard, Intermittency on catalysts: symmetric exclusion, *Electron. J. Probab.* 12 (2007) 516–573.
- [GdHM09] J. Gärtner, F. den Hollander, G. Maillard, Intermittency on catalysts: three-dimensional simple symmetric exclusion, *Electron. J. Probab.* 72 (2009) 2091–2129.
- [GdHM10] J. Gärtner, F. den Hollander, G. Maillard, Intermittency on catalysts: voter model, *Ann. Probab.* 38 (2010) 2066–2102.
- [GdHM08] J. Gärtner, F. den Hollander, G. Maillard, Intermittency on catalysts. In: Blath J., Mörters P., Scheutzow M. (eds.), *Trends in Stochastic Analysis*, London Mathematical Society Lecture Note Series 353, Cambridge University Press, Cambridge 2009, 235–248.
- [GdHM12] J. Gärtner, F. den Hollander, G. Maillard, Quenched Lyapunov exponent for the parabolic Anderson model in a dynamic random environment, in: *Probability in Complex Physical Systems. In honour of Erwin Bolthausen and Jürgen Gärtner* (eds. J.-D. Deuschel, B. Gentz, W. König, M.-K. van Renesse, M. Scheutzow, U. Schmock), Springer Proceedings in Mathematics 11, Springer, 2012, Berlin, 159–193.
- [GK05] J. Gärtner, W. König, The parabolic Anderson model, in: *Interacting Stochastic Systems* (eds. J.-D. Deuschel and A. Greven), Springer 2005, pp. 153–179.
- [GM90] J. Gärtner, S. A. Molchanov, Parabolic problems for the Anderson model, *Comm. Math. Phys.* 132 (1990) 613–655.
- [GM98] J. Gärtner, S. A. Molchanov, Parabolic problems for the Anderson model, II. Second-order asymptotics and structure of high peaks, *Probab. Theory Relat. Fields* 111 (1998) 17–55.
- [G61] E. N. Gilbert, Random Plane Networks, *Journal of the Society for Industrial and Applied Mathematics* 9 (1961) 533–543.
- [G08] J. B. Gouéré, Subcritical regimes in the Poisson Boolean model of continuum percolation, *Ann. Probab.* 36 (2008) 1209–1220.

## Bibliography

- [GdH07] A. Greven, F. den Hollander, Phase transition for the long-time behavior of interacting diffusions, *Ann. Probab.* 35 (2007) 1250–1306.
- [G00] G. R. Grimmett. Percolation. In *Development of mathematics 1950–2000*, Birkhäuser, Basel, 2000, 547–575.
- [HR18] G. H. Hardy, S. A. Ramanujan, Asymptotic formulae in combinatory analysis, *Proc. London Math. Soc.* 17 (1918) 75–115.
- [HMO11] Y. Higuchi, T. Matsumoto, O. Ogurisu, On the spectrum of a discrete Laplacian on  $\mathbb{Z}$  with finitely supported potential, *Linear and Multilinear Algebra* 59 (2011) 917–927.
- [HKM06] R. van der Hofstad, W. König, P. Mörters, The universality classes in the parabolic Anderson model, *Comm. Math. Phys.* 267 (2006) 307–353.
- [dH00] F. den Hollander, *Large Deviations*, Fields Institute Monograph 10, American Mathematical Society, Providence RI, 2000.
- [KS91] I. Karatzas, S. E. Shreve, *Brownian motion and stochastic calculus*, volume 113 of *Graduate Texts in Mathematics*, Springer-Verlag, New York, second edition, 1991.
- [KS03] H. Kesten, V. Sidoravicius, Branching random walks with catalysts, *Electron. J. Probab.* 8 (2003) 1–51.
- [KVV08] H. Y. Kim, F. Viens, A. Vizcarra, Lyapunov exponents for stochastic Anderson models with non-gaussian noise. *Stoch. Dyn.* 8 (2008) 451–473.
- [KL99] C. Kipnis, C. Landim, *Scaling Limits of Interacting Particle Systems*, Grundlehren der Mathematischen Wissenschaften 320, Springer, Berlin, 1999.
- [K07] W. Kirsch, An invitation to random Schrödinger operators, <http://arxiv.org/abs/0709.3707>.
- [KLMS09] W. König, H. Lacoïn, P. Mörters, N. Sidorova, A two cities theorem for the parabolic Anderson model, *Ann. Probab.* 37 (2009) 347–392.
- [KW13] W. König, T. Wolff, The parabolic Anderson model, [www.wias-berlin.de/people/koenig/www/papers.html](http://www.wias-berlin.de/people/koenig/www/papers.html)
- [LM12] H. Lacoïn, P. Mörters, A scaling limit theorem for the parabolic Anderson model with exponential potential *Probability in Complex Physical Systems. In honour of Erwin Bolthausen and Jürgen Gärtner* (eds. J.-D. Deuschel, B. Gentz, W. König, M.-K. van Renesse, M. Scheutzow, U. Schmock), Springer Proceedings in Mathematics 11, Springer, 2012, Berlin, 247–271.
- [LT12] H. Lacoïn, J. Tykesson, On the easiest way to connect  $k$  points in the random interacements process, to appear in *ALEA*, *Lat. Am. J. Probab. Math. Stat.*, <http://arXiv:1206.4216v3>.
- [L92] C. Landim, Occupation time large deviations for the symmetric simple exclusion process, *Ann. Probab.* 20 (1992) 206–231.
- [LL01] E.H. Lieb, M. Loss, *Analysis* (2nd. ed), AMS Graduate Studies 14, American Mathematical Society, Providence RI, 2001.

- [L85] T.M. Liggett, *Interacting Particle Systems*, Grundlehren der Mathematischen Wissenschaften 276, Springer, New York, 1985.
- [LSS97] T. M. Liggett, R. H. Schonmann, A. M. Stacey, Domination by product measures, *Ann. Probab.*, 25 (1997) 71–95.
- [LP01] R. Lyons, Y. Peres, *Probability on Trees and Networks*. Cambridge University Press, In preparation, Current version available at <http://mypage.iu.edu/~string-rdlyons/>.
- [MMS12] G. Maillard, T. Mountford, S. Schöpfer, Parabolic Anderson model with voter catalysts: dichotomy in the behavior of Lyapunov exponents, in: *Probability in Complex Physical Systems. In honour of Erwin Bolthausen and Jürgen Gärtner* (eds. J.-D. Deuschel, B. Gentz, W. König, M.-K. van Renesse, M. Scheutzow, U. Schmock), Springer Proceedings in Mathematics 11, Springer, 2012, Berlin, 33–68.
- [MR94] R. Meester, R. Roy, Uniqueness of unbounded occupied and vacant components in Boolean models, *Ann. Appl. Probab.* 4 (1994) 933–951.
- [MR96] R. Meester, R. Roy, *Continuum percolation*, volume 119 of Cambridge Tracts in Mathematics, Cambridge University Press, Cambridge, 1996.
- [MRS94] R. Meester, R. Roy, A. Sarkar, Nonuniversality and continuity of the critical covered volume fraction in continuum percolation, *J. Statist. Phys.* 75 (1994) 123–134.
- [MMS88] M. V. Menshikov, S. A. Molchanov, A. F. Sidorenko, Percolation theory and some applications, In *Probability theory. Mathematical statistics. Theoretical cybernetics, Vol. 24 (Russian)*, Itogi Nauki i Tekhniki, pages 53–110, i. Akad. Nauk SSSR Vsesoyuz. Inst. Nauchn. i Tekhn. Inform., Moscow, 1986, Translated in *J. Soviet Math.* 4 (1988) 1766–1810.
- [MP10] P. Mörters, Y. Peres, *Brownian motion*, Cambridge Series in Statistical and Probabilistic Mathematics, Cambridge University Press, Cambridge, 2010.
- [Pen95] M. D. Penrose, Continuity of critical density in a boolean model, *unpublished notes*, 1995.
- [P97] Y. Peres, Probability on trees: an introductory climb. *Lectures on probability theory and statistics (Saint-Flour, 1997) Lecture Notes in Math.*, 1717, Springer, Berlin, 193–280.
- [PT12] S. Popov, A. Teixeira, Soft local times and decoupling of random interacements, to appear in *J. Eur. Math. Soc.* <http://arXiv:1212.1605v1>.
- [PRS13] E. Procaccia, R. Rosenthal, A. Sapozhnikov, Quenched invariance principle for simple random walk on clusters in correlated percolation models, <http://arXiv:1310.4764v2>.
- [PT11] E. Procaccia, J. Tykesson, Geometry of the random interlacement, *Electron. Commun. Probab.*, 16 (2011) 528–544.
- [P96] A. R. Pruss, *Symmetrisation, Green's functions, Harmonic Measures and Difference Equations*, Doctoral dissertation, University of British

- Columbia, 1996, [https://bearspace.baylor.edu/Alexander\\_Pruss/www/papers/index.html](https://bearspace.baylor.edu/Alexander_Pruss/www/papers/index.html)
- [P98] A. R. Pruss, Discrete convolution-rearrangement inequalities and the Faber-Krahn inequality on regular trees, *Duke Math. J.* 91 (1998) 463–514.
- [RS11] B. Ráth, A. Sapozhnikov, On the transience of random interlacements, *Electron. Commun. Probab.* 16 (2011) 379–391.
- [RS10] B. Ráth, A. Sapozhnikov, Connectivity properties of random interlacement and intersection of random walks, *ALEA Lat. Am. J. Probab. Math. Stat.* 9 (2012) 67–83.
- [RV11] F. Redig and F. Völlering, Concentration of additive functionals for Markov processes, <http://arXiv:1003.0006v2>.
- [RS4] M. Reed and B. Simon, *Methods of Modern Mathematical Physics, Vol. 4, Analysis of Operators*, Academic Press, Inc., San Diego, 1978.
- [R70] A. Rényi, *Foundations of Probability*, Holden-Day, Inc., San Francisco, CA 1970.
- [Sa10] A. Sahovic, New constants in discrete Lieb-Thirring inequalities for Jacobi matrices, *J. Math. Sci. N.Y.* 166 (2010) 319–327.
- [SW12] A. Schnitzler, T. Wolff, Precise asymptotics for the parabolic Anderson model with a moving catalyst or trap, in: *Probability in Complex Physical Systems. In honour of Erwin Bolthausen and Jürgen Gärtner* (eds. J.-D. Deuschel, B. Gentz, W. König, M.-K. van Renesse, M. Scheutzow, U. Schmock), Springer Proceedings in Mathematics 11, Springer, 2012, Berlin, 159–193.
- [SS09] V. Sidoravicius, A.-S. Sznitman. Percolation for the vacant set of random interlacements, *Comm. Pure Appl. Math.*, 62 (2009) 831–858.
- [ST14] N. Sidorova, A. Twarowski, Localisation and ageing in the parabolic Anderson model with Weibull potential, to appear in: *Ann. Probab.* <http://arXiv:1204.1233v2>.
- [S10] A.-S. Sznitman. Vacant set of random interlacements and percolation, *Ann. of Math.* 171 (2010) 2039–2087.
- [S11a] A.-S. Sznitman. A lower bound on the critical parameter of interlacement percolation in high dimension, *Probab. Theory Relat. Fields* 150 (2011) 575–611.
- [SS11b] A.-S. Sznitman. On the critical parameter of interlacement percolation in high dimension, *Ann. Probab.* 39 (2011) 70–103.
- [S12] A.-S. Sznitman. Decoupling inequalities and interlacement percolation on  $G \times \mathbb{Z}$ , *Inventiones mathematicae* 187 (2012) 645–706.
- [T09] A. Teixeira, On the uniqueness of the infinite cluster of the vacant set of random interlacements, *Ann. Probab.* 19 (2009) 454–466.

- [T11] A. Teixeira, On the size of a finite vacant cluster of random interacements with small intensity, *Probab. Theory Relat. Fields* 150 (2011) 529–574.
- [TW11] A. Teixeira, D. Windisch, On the fragmentation of a torus by random walk, *Comm. Pure Appl. Math.*, 64 (2011) 1599–1646.
- [T13] A. Timár, Boundary-connectivity via graph theory, *Proc. Amer. Math.* 141 (2013) 475–480.
- [W08] D. Windisch, Random walk on a discrete torus and random interacements, *Electron. Commun. Probab.* 13 (2008) 140–150.
- [Wu94] L. Wu, Feynman-Kac semigroups, ground state diffusions, and large deviations, *J. Funct. Anal.* 123 (1994) 202–231.
- [Wu00] L. Wu, A deviation inequality for non-reversible Markov processes, *Ann. Inst. H. Poincaré: Probab. Statist.* 4 (2000) 435–445.



