



Universiteit
Leiden

The Netherlands

Probabilistic graph inspections through forests

Koperberg, V.T.

Citation

Koperberg, V. T. (2026, June 25). *Probabilistic graph inspections through forests*. Retrieved from <https://hdl.handle.net/1887/4307047>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/4307047>

Note: To cite this publication please use the final published version (if applicable).

Bibliography

- [1] L. Avena, F. Castell, A. Gaudillière, and C. Mélot. “Random Forests and Networks Analysis”. In: *Journal of Statistical Physics* 173 (2018), 985–1027.
- [2] L. Avena, F. Castell, A. Gaudillière, and C. Mélot. “Intertwining wavelets or multiresolution analysis on graphs through random forests”. In: *Applied and Computational Harmonic Analysis* 48.3 (2020), pp. 949–992.
- [3] L. Avena, F. Castell, A. Gaudillière, and C. Mélot. “Approximate and exact solutions of intertwining equations through random spanning forests”. In: *In and Out of Equilibrium 3. Celebrating Vladas Sidoravicius*. Vol. 77. Progress in Probability. Springer International Publishing, 2021, pp. 27–69.
- [4] L. Avena, J. E. P. Driessen, and V. T. Koperberg. “Loop-erased partitioning via parametric spanning trees: Monotonicities & 1D-scaling”. In: *Stochastic processes and their applications* 176 (2024), p. 104436.
- [5] L. Avena and A. Gaudillière. “A proof of the transfer-current theorem in absence of reversibility”. In: *Statistics & Probability Letters* 142 (2018), pp. 17–22.
- [6] L. Avena and A. Gaudillière. “Two Applications of Random Spanning Forests”. In: *Journal of Theoretical Probability* 31.4 (2018), pp. 1975–2004.
- [7] L. Avena, A. Gaudillière, P. Milanese, and M. Quattropani. “Loop-erased partitioning of a graph: mean-field analysis”. In: *Electronic Journal of Probability* 27 (2022), pp. 1–35.
- [8] K. Avrachenkov, P. Chebotarev, and A. Mishenin. “Semi-supervised learning with regularized Laplacian”. In: *Optimization Methods & Software* 32.2 (2017), pp. 222–236.
- [9] S. Barthelmé, F. Castell, A. Gaudillière, C. Mélot, M. Quattropani, and N. Tremblay. *Spectrum Estimation through Kirchhoff Random Forests*. 2025. arXiv: 2507.19164. URL: <https://arxiv.org/abs/2507.19164>.
- [10] S. Barthelmé, N. Tremblay, A. Gaudillière, L. Avena, and P.-O. Amblard. “Estimating the inverse trace using random forests on graphs”. In: *XXVIIème colloque GRETSI*. 2019. eprint: 1905.02086.
- [11] R. Bauerschmidt, N. Crawford, T. Helmuth, and A. Swan. “Random Spanning Forests and Hyperbolic Symmetry”. In: *Communications in Mathematical Physics* 381.3 (2021), pp. 1223–1261.
- [12] A. Bedini, S. Caracciolo, and A. Sportiello. “Phase transition in the spanning-hyperforest model on complete hypergraphs”. In: *Nuclear Physics B* 822.3 (2009), pp. 493–516.
- [13] I. Benjamini, H. Kesten, Y. Peres, and O. Schramm. “Geometry of the uniform spanning forest: Transitions in dimensions 4, 8, 12”. In: *Annals of Mathematics* 160.2 (2004), pp. 465–491.

- [14] I. Benjamini, R. Lyons, Y. Peres, and O. Schramm. “Uniform Spanning Forests”. In: *Annals of Probability* 29.1 (2001), pp. 1–65.
- [15] D. F. de Bernardini and S. Popov. “Russo’s Formula for Random Interacements”. In: *Journal of Statistical Physics* 160.2 (2015), pp. 321–335.
- [16] G. Birkhoff. “Tres observaciones sobre el algebra lineal”. In: *Univ. Nac. Tucumán Rev. Ser. A* 5 (1946), pp. 147–151.
- [17] R. Burton and R. Pemantle. “Local Characteristics, Entropy and Limit Theorems for Spanning Trees and Domino Tilings Via Transfer-Impedances”. In: *Annals of Probability* 21.3 (1993), pp. 1329–1371.
- [18] P. Chebotarev. “Spanning forests and the golden ratio”. In: *Discrete Applied Mathematics* 156.5 (2008), pp. 813–821.
- [19] P. Chebotarev and E. Shamis. “The Matrix-Forest Theorem and Measuring Relations in Small Social Groups”. In: *Automation and Remote Control* 58.9 (1997), pp. 1505–1514.
- [20] M. D’Achille, N. Enriquez, and P. Melotti. *Local limit of massive spanning forests on the complete graph*. 2024. arXiv: 2403.11740. URL: <https://arxiv.org/abs/2403.11740>.
- [21] P. Diaconis and W. Fulton. *A growth model, a game, an algebra, Lagrange inversion, and characteristic classes*. Tech. rep. Stanford University, 1991.
- [22] R. Dilworth. “A Decomposition Theorem for Partially Ordered Sets”. In: *Ann. of Math.* 51.1 (1950), pp. 161–166.
- [23] R. M. Dudley. “Distances of Probability Measures and Random Variables”. In: *Ann. Math. Statist.* 39.5 (1968), pp. 1563–1572.
- [24] R. M. Dudley. *Real Analysis and Probability*. 2nd ed. Cambridge University Press, 2002.
- [25] T. Feder and M. Mihail. “Balanced matroids”. In: *Proceedings of the twenty-fourth annual ACM symposium on theory of computing*. ACM, 1992, pp. 26–38.
- [26] D. Feldman. “Doubly Stochastic Measures: Three Vignettes”. In: *Distributions with Fixed Marginals and Related Topics*. 28. Institute of Mathematical Statistics, 1996, pp. 84–96.
- [27] L. R Ford and D. R Fulkerson. “Network Flow and Systems of Representatives”. In: *Canad. J. Math.* 10 (1958), pp. 78–84.
- [28] L. R. Ford and D. R. Fulkerson. “Maximal flow through a network”. In: *Canad. J. Math.* 8.3 (1956), pp. 399–404.
- [29] G. Grimmett. *Percolation*. Berlin / Heidelberg: Springer, 1999.
- [30] G. Grimmett. *The Random-Cluster Model*. Berlin / Heidelberg: Springer, 2006.
- [31] G. Grimmett and S. N. Winkler. “Negative association in uniform forests and connected graphs”. In: *Random Structures & Algorithms* 24.4 (2004), pp. 444–460.
- [32] H. Guo, M. Jerrum, and J. Liu. “Uniform Sampling Through the Lovász Local Lemma”. In: *Journal of the ACM* 66.3 (2019), pp. 1–31.

-
- [33] P. Hall. “On representatives of subsets”. In: *J. Lond. Math. Soc.* 10.1 (1935), pp. 26–30.
- [34] P. R. Halmos and H. E. Vaughan. “The Marriage Problem”. In: *Am. J. Math.* 72.1 (1950), pp. 214–215.
- [35] J. B. Hough, M. Krishnapur, Y. Peres, and B. Virág. “Determinantal Processes and Independence”. In: *Probability surveys* 3 (2006). ISSN: 1549-5787.
- [36] J. Hsu. “Probabilistic Couplings for Probabilistic Reasoning”. PhD thesis. 2017. arXiv: 1710.09951.
- [37] T. Hutchcroft. “Interacements and the wired uniform spanning forest”. In: *Annals of Probability* 46.2 (2018), p. 1170.
- [38] T. Hutchcroft and A. Nachmias. “Indistinguishability of trees in uniform spanning forests”. In: *Probability Theory and Related Fields* 168.1-2 (2017), pp. 113–152.
- [39] T. Hutchcroft and A. Nachmias. “Uniform Spanning Forests of Planar Graphs”. In: *Forum of Mathematics, Sigma* 7 (2019).
- [40] B. D. Jones, B. G. Pittel, and J. S. Verducci. “Tree and Forest Weights and Their Application to Nonuniform Random Graphs”. In: *Annals of Applied Probability* 9.1 (1999), pp. 197–215.
- [41] A. A. Járai, F. Redig, and E. Saada. “Approaching Criticality via the Zero Dissipation Limit in the Abelian Avalanche Model”. In: *Journal of Statistical Physics* 159.6 (2015), pp. 1369–1407.
- [42] J. Kahn and M. Neiman. “Negative correlation and log-concavity”. In: *Random Structures & Algorithms* 37.3 (2010), pp. 367–388.
- [43] R. Kenyon. “Lectures on dimers”. In: *Statistical Mechanics*. American Mathematical Society, 2009, pp. 191–230.
- [44] R. Kenyon. “Spanning forests and the vector bundle Laplacian”. In: *Annals of Probability* 39.5 (2011), pp. 1983–2017.
- [45] R. Kenyon. “Determinantal spanning forests on planar graphs”. In: *Annals of Probability* 47.2 (2019).
- [46] J. Kingman. “Completely random measures”. In: *Pacific journal of mathematics* 21.1 (1967), pp. 59–78.
- [47] G. Kirchhoff. “Über die Auflösung der Gleichungen, auf welche man bei der Untersuchung der linearen Vertheilung galvanischer Ströme geführt wird”. In: *Annalen der Physik* 148.12 (1847), pp. 497–508.
- [48] V. Klee and C. Witzgall. “Facets and vertices of transportation polyhedra”. In: *Mathematics of the decision sciences, Part 1*. 1968, pp. 257–282.
- [49] D. König. “Über Graphen und ihre Anwendung auf Determinantentheorie und Mengenlehre”. In: *Math. Ann.* 77.4 (1916), pp. 453–465.
- [50] D. König. “Graphen und Matrizen”. In: *Mat. Fiz. Lapok* 38 (1931), pp. 116–119.
- [51] T. Koperberg. “Couplings and Matchings: Combinatorial notes on Strassen’s theorem”. In: *Statistics & Probability Letters* 209 (2024), p. 110089.

- [52] V. T. Koperberg. “Loop-erased partitioning of sparse graphs”. Leiden University, Master’s thesis. 2020.
- [53] G. F. Lawler. “A self-avoiding random walk”. In: *Duke Math. J.* 47.3 (1980), pp. 655–693.
- [54] G. Lawler, X. Sun, and W. Wu. “Four-Dimensional Loop-Erased Random Walk”. In: *The Annals of probability* 47.6 (2019), pp. 3866–3910.
- [55] Y. Le Jan. “Markov Loops and Renormalizaion”. In: *The Annals of probability* 38.3 (2010), pp. 1280–1319.
- [56] Y. Le Jan. *Markov Paths, Loops and Fields: École d’Été de Probabilités de Saint-Flour XXXVIII - 2008*. Springer Nature, 2011.
- [57] T. Lindvall. “On Strassen’s theorem on stochastic domination”. In: *Electron. Commun. Probab.* 4 (1999), pp. 51–59.
- [58] L. Lovász and M. D. Plummer. *Matching Theory*. North-Holland Mathematics Studies. Elsevier Science, 1986.
- [59] T. Lupu. “From Loop Clusters and Random Interlacements to the Free Field”. In: *The Annals of Probability* 44.3 (2016), pp. 2117–2146.
- [60] R. Lyons and Y. Peres. *Probability on Trees and Networks*. Cambridge University Press, 2016.
- [61] P. Marchal. “Loop-Erased Random Walks, Spanning Trees and Hamiltonian Cycles”. In: *Electronic Communications in Probability* 5 (2000), pp. 39–50.
- [62] J. McKee and C. Smyth. *Around the unit circle*. Springer Nature Switzerland AG, 2021.
- [63] K. Menger. “Zur allgemeinen Kurventheorie”. In: *Fund. Math.* 10.1 (1927), pp. 96–115.
- [64] P. van Mieghem. *Graph Spectra for Complex Networks*. Cambridge University Press, 2010.
- [65] L. Mirsky. “Hall’s criterion as a ‘self-refining’ result”. In: *Monatshefte für Mathematik* 73.2 (1969), pp. 139–146.
- [66] O. Ore. “Graphs and matching theorems”. In: *Duke Math. J.* 22.4 (1955), pp. 625–639.
- [67] R. Pemantle. “Choosing a Spanning Tree for the Integer Lattice Uniformly”. In: *Annals of Probability* 19.4 (1991), pp. 1559–1574.
- [68] R. Pemantle. “Towards a theory of negative dependence”. In: *Journal of Mathematical Physics* 41.3 (2000), pp. 1371–1390.
- [69] Y. Y. Pilavci, P.-O. Amblard, S. Barthelmé, and N. Tremblay. “Smoothing graph signals via random spanning forests”. In: *2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. 2020, pp. 5630–5634.
- [70] Y. Y. Pilavci, P.-O. Amblard, S. Barthelmé, and N. Tremblay. “Graph Tikhonov Regularization and Interpolation via Random Spanning Forests”. In: *IEEE Transactions on Signal and Information Processing over Networks* 7 (2021), pp. 359–374.

-
- [71] J. Pitman. “Coalescent Random Forests”. In: *Journal of Combinatorial Theory. Series A* 85.2 (1999), pp. 165–193.
- [72] J. Pitman. *Combinatorial Stochastic Processes*. Springer, 2006.
- [73] P. F. Reichmeider. *The equivalence of some combinatorial matching theorems*. Polygonal Pub. House, 1984.
- [74] O. Schramm. “Scaling limits of loop-erased random walks and uniform spanning trees”. In: *Israel Journal of Mathematics* 118.1 (2000), pp. 221–288.
- [75] V. Strassen. “The existence of probability measures with given marginals”. In: *Ann. Math. Stat.* 36 (1965), pp. 423–439.
- [76] W. Tutte. “Graph-polynomials”. In: *Advances in Applied Mathematics* 32.1 (2004), pp. 5–9.
- [77] D. B. Wilson. “Generating random spanning trees more quickly than the cover time”. In: *Proceedings of the Twenty-Eight Annual ACM Symposium on the Theory of Computing*. Vol. 96. 1996, pp. 296–303.