Zoltan Toroczkai

List of Publications by Year
in descending order

92	7,153	94269 37	62479 80
papers	citations	h-index	g-index

97	97	97	6235
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Degree-preserving network growth. Nature Physics, 2022, 18, 100-106.	6.5	6
2	An algebraic Monte-Carlo algorithm for the partition adjacency matrix realization problem. Algebraic Statistics, 2021, 12, 115-124.	0.5	0
3	Accelerating a continuous-time analog SAT solver using GPUs. Computer Physics Communications, 2020, 256, 107469.	3.0	7
4	The Mouse Cortical Connectome, Characterized by an Ultra-Dense Cortical Graph, Maintains Specificity by Distinct Connectivity Profiles. Neuron, 2018, 97, 698-715.e10.	3.8	169
5	New Classes of Degree Sequences with Fast Mixing Swap Markov Chain Sampling. Combinatorics Probability and Computing, 2018, 27, 186-207.	0.8	2
6	Efficient Analog Circuits for Boolean Satisfiability. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2018, 26, 155-167.	2.1	23
7	A continuous-time MaxSAT solver with high analog performance. Nature Communications, 2018, 9, 4864.	5.8	25
8	An analog SAT solver based on a deterministic dynamical system: (Invited paper). , 2017, , .		0
9	A multiscale cerebral neurochemical connectome of the rat brain. PLoS Biology, 2017, 15, e2002612.	2.6	34
10	Spatial Embedding and Wiring Cost Constrain the Functional Layout of the Cortical Network of Rodents and Primates. PLoS Biology, 2016, 14, e1002512.	2.6	158
11	Order-to-chaos transition in the hardness of random Boolean satisfiability problems. Physical Review E, 2016, 93, 052211.	0.8	8
12	The Brain in Space. Research and Perspectives in Neurosciences, 2016, , 45-74.	0.4	13
13	A Decomposition Based Proof for Fast Mixing of a Markov Chain over Balanced Realizations of a Joint Degree Matrix. SIAM Journal on Discrete Mathematics, 2015, 29, 481-499.	0.4	11
14	Exact sampling of graphs with prescribed degree correlations. New Journal of Physics, 2015, 17, 083052.	1.2	31
15	Reducing Degeneracy in Maximum Entropy Models of Networks. Physical Review Letters, 2015, 114, 158701.	2.9	22
16	Quantifying randomness in real networks. Nature Communications, 2015, 6, 8627.	5.8	134
17	A Weighted and Directed Interareal Connectivity Matrix for Macaque Cerebral Cortex. Cerebral Cortex, 2014, 24, 17-36.	1.6	711
18	Predicting commuter flows in spatial networks using a radiation model based on temporal ranges. Nature Communications, 2014, 5, 5347.	5.8	118

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19	Cortical High-Density Counterstream Architectures. Science, 2013, 342, 1238406.	6.0	468
20	A Predictive Network Model of Cerebral Cortical Connectivity Based on a Distance Rule. Neuron, 2013, 80, 184-197.	3.8	372
21	The role of long-range connections on the specificity of the macaque interareal cortical network. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 5187-5192.	3.3	172
22	Why data coherence and quality is critical for understanding interareal cortical networks. NeuroImage, 2013, 80, 37-45.	2.1	40
23	A dyadic reciprocity index for repeated interaction networks. Network Science, 2013, 1, 31-48.	0.8	26
24	The Chaos Within Sudoku. Scientific Reports, 2012, 2, 725.	1.6	41
25	Continuous-time neural networks without local traps for solving Boolean satisfiability. , 2012, , .		6
26	Range-limited centrality measures in complex networks. Physical Review E, 2012, 85, 066103.	0.8	38
27	Constructing and sampling directed graphs with given degree sequences. New Journal of Physics, 2012, 14, 023012.	1.2	52
28	Complexity of the International Agro-Food Trade Network and Its Impact on Food Safety. PLoS ONE, 2012, 7, e37810.	1.1	125
29	Optimization hardness as transient chaos in an analog approach to constraint satisfaction. Nature Physics, 2011, 7, 966-970.	6.5	82
30	Weight Consistency Specifies Regularities of Macaque Cortical Networks. Cerebral Cortex, 2011, 21, 1254-1272.	1.6	316
31	Network discovery by generalized random walks. Europhysics Letters, 2010, 92, 50008.	0.7	14
32	Centrality Scaling in Large Networks. Physical Review Letters, 2010, 105, 038701.	2.9	48
33	Efficient and Exact Sampling of Simple Graphs with Given Arbitrary Degree Sequence. PLoS ONE, 2010, 5, e10012.	1.1	115
34	A Simple Havel–Hakimi Type Algorithm to Realize Graphical Degree Sequences of Directed Graphs. Electronic Journal of Combinatorics, 2010, 17, .	0.2	28
35	Degree-based graph construction. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 392001.	0.7	41
36	Using relaxational dynamics to reduce network congestion. New Journal of Physics, 2008, 10, 093007.	1.2	6

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37	Gradient networks. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 155103.	0.7	25
38	Introduction: Optimization in networks. Chaos, 2007, 17, 026101.	1.0	32
39	Structural bottlenecks for communication in networks. Physical Review E, 2007, 75, 036105.	0.8	125
40	Extreme fluctuations in noisy task-completion landscapes on scale-free networks. Chaos, 2007, 17, 026104.	1.0	17
41	Proximity networks and epidemics. Physica A: Statistical Mechanics and Its Applications, 2007, 378, 68-75.	1.2	68
42	Synchronization landscapes in small-world-connected computer networks. Physical Review E, 2006, 73, 066115.	0.8	24
43	Congestion-gradient driven transport on complex networks. Physical Review E, 2006, 74, 046114.	0.8	53
44	Universality in active chaos. Chaos, 2004, 14, 72-78.	1.0	11
45	Competition-Driven Network Dynamics: Emergence of a Scale-Free Leadership Structure and Collective Efficiency. Physical Review Letters, 2004, 92, 058701.	2.9	110
46	Modelling disease outbreaks in realistic urban social networks. Nature, 2004, 429, 180-184.	13.7	1,685
47	Jamming is limited in scale-free systems. Nature, 2004, 428, 716-716.	13.7	204
48	Effects of Interagent Communications on the Collective. , 2004, , 185-198.		0
49	Spatial models of prebiotic evolution: soup before pizza?. Origins of Life and Evolution of Biospheres, 2003, 33, 319-355.	0.8	50
50	Competing populations in flows with chaotic mixing. Theoretical Population Biology, 2003, 63, 77-90.	0.5	39
51	Estimation of entropies and dimensions by nonlinear symbolic time series analysis. Chaos, 2003, 13, 444-456.	1.0	17
52	Advection of finite-size particles in open flows. Physical Review E, 2003, 67, 036303.	0.8	21
53	Suppressing Roughness of Virtual Times in Parallel Discrete-Event Simulations. Science, 2003, 299, 677-679.	6.0	125
54	Selective Sensitivity of Open Chaotic Flows on Inertial Tracer Advection: Catching Particles with a Stick. Physical Review Letters, 2002, 89, 164501.	2.9	63

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55	Autocatalytic reactions of phase distributed active particles. Chaos, 2002, 12, 408-416.	1.0	3
56	Universality class of discrete solid-on-solid limited mobility nonequilibrium growth models for kinetic surface roughening. Physical Review E, 2002, 65, 036144.	0.8	44
57	Finite-size effects on active chaotic advection. Physical Review E, 2002, 65, 026216.	0.8	26
58	Pinning method of pulse confinement in optical fiber with random dispersion. Journal of the Optical Society of America B: Optical Physics, 2002, 19, 2538.	0.9	16
59	Introduction: Active chaotic flow. Chaos, 2002, 12, 372-372.	1.0	10
60	Topological classification of binary trees using the Horton-Strahler index. Physical Review E, 2001, 65, 016130.	0.8	9
61	Advective Coalescence in Chaotic Flows. Physical Review Letters, 2001, 87, 038301.	2.9	34
62	Comment on â€œExtremal-point densities of interface fluctuations in a quenched random mediumâ€• Physical Review E, 2001, 64, 048101.	0.8	1
63	Epitaxial mounding in limited-mobility models of surface growth. Physical Review B, 2001, 64, .	1.1	45
64	An Improved Model for Statistical Alignment. Lecture Notes in Computer Science, 2001, , 1-10.	1.0	9
65	A model for resolving the plankton paradox: coexistence in open flows. Freshwater Biology, 2000, 45, 123-132.	1.2	37
66	From Massively Parallel Algorithms and Fluctuating Time Horizons to Nonequilibrium Surface Growth. Physical Review Letters, 2000, 84, 1351-1354.	2.9	77
67	Extremal-point densities of interface fluctuations. Physical Review E, 2000, 62, 276-294.	0.8	28
68	Chaotic advection, diffusion, and reactions in open flows. Chaos, 2000, 10, 89-98.	1.0	63
69	Non-universal mound formation in non-equilibrium surface growth. Surface Science, 2000, 457, L369-L375.	0.8	27
70	Chaotic flow: The physics of species coexistence. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 13661-13665.	3.3	117
71	Sign-time distributions for interface growth. Physical Review E, 1999, 60, R1115-R1118.	0.8	31
72	Chemical or biological activity in open chaotic flows. Physical Review E, 1999, 59, 5468-5481.	0.8	51

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73	Fractality, chaos, and reactions in imperfectly mixed open hydrodynamical flows. Physica A: Statistical Mechanics and Its Applications, 1999, 274, 120-131.	1.2	13
74	Nanoscale Fluctuations at Solid Surfaces. Physics Today, 1999, 52, 24-28.	0.3	32
75	Random walk with a hop-over site: a novel approach to tagged diffusion and its applications. Journal of Physics A, 1998, 31, 9667-9683.	1.6	6
76	Diffusive persistence and the â€œsign-timeâ€•distribution. Physical Review E, 1998, 58, R2685-R2688.	0.8	51
77	Advection of Active Particles in Open Chaotic Flows. Physical Review Letters, 1998, 80, 500-503.	2.9	95
78	Brownian-vacancyâ€“mediated disordering dynamics. Europhysics Letters, 1997, 40, 281-286.	0.7	11
79	The Brownian Vacancy Driven Walk. International Journal of Modern Physics B, 1997, 11, 3343-3374.	1.0	13
80	Controlling symmetric vortex configurations. , 1997, , .		0
81	Periodic one-dimensional hopping model with one mobile directional impurity. Journal of Statistical Physics, 1997, 87, 545-575.	0.5	2
82	Wada dye boundaries in open hydrodynamical flows. Physica A: Statistical Mechanics and Its Applications, 1997, 239, 235-243.	1.2	43
83	A model for electrophoresis of polymers with impurities: Exact distribution for a steady state. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 217, 97-103.	0.9	8
84	Stabilizing chaotic vortex trajectories: an example of high-dimensional control. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 224, 85-92.	0.9	13
85	Continuous extension of the geometric control method. Journal of Physics A, 1996, 29, 3545-3557.	1.6	4
86	Fractal boundaries in open hydrodynamical flows: Signatures of chaotic saddles. Physical Review E, 1995, 51, 4076-4088.	0.8	74
87	A Generalized Kac Model as a Dynamical System. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1994, 49, 1212-1214.	0.7	0
88	Detecting Phase Transitions in Intermittent Systems by Using the Thermodynamical Formalism. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1994, 49, 1235-1237.	0.7	0
89	Kac model from a dynamical systemâ€™s point of view. Physical Review E, 1994, 49, 2026-2040.	0.8	0
90	Geometric method for stabilizing unstable periodic orbits. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 190, 71-78.	0.9	11

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91	Classification criterion for dynamical systems in intermittent chaos. Physical Review E, 1993, 48, 136-146.	0.8	3
92	Small-World Synchronized Computing Networks for Scalable Parallel Discrete-Event Simulations. Lecture Notes in Physics, 0, , 255-275.	0.3	3