Mason A Porter

List of Publications by Year
in descending order

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Version: 2024-02-01

165 papers	13,770 citations	34105 52 h-index	23533 111 g-index
173 all docs	173 docs citations	173 times ranked	11126 citing authors

#	Article	IF	Citations
1	A Bounded-Confidence Model of Opinion Dynamics on Hypergraphs. SIAM Journal on Applied Dynamical Systems, 2022, 21, 1-32.	1.6	13
2	In-degree centrality in a social network is linked to coordinated neural activity. Nature Communications, 2022, 13, 1118.	12.8	20
3	Topological Data Analysis of Spatial Systems. Understanding Complex Systems, 2022, , 389-399.	0.6	3
4	Role detection in bicycle-sharing networks using multilayer stochastic block models. Network Science, 2022, 10, 46-81.	1.0	1
5	Networks of necessity: Simulating COVID-19 mitigation strategies for disabled people and their caregivers. PLoS Computational Biology, 2022, 18, e1010042.	3.2	3
6	Pull out all the stops: Textual analysis via punctuation sequences. European Journal of Applied Mathematics, 2021, 32, 1069-1105.	2.9	2
7	Social network analysis for social neuroscientists. Social Cognitive and Affective Neuroscience, 2021, 16, 883-901.	3.0	28
8	Random-graph models and characterization of granular networks. Journal of Complex Networks, 2021, 8, .	1.8	5
9	Persistent Homology of Geospatial Data: A Case Study with Voting. SIAM Review, 2021, 63, 67-99.	9.5	17
10	Models of continuous-time networks with tie decay, diffusion, and convection. Physical Review E, 2021, 103, 022304.	2.1	2
11	Tie-Decay Networks in Continuous Time and Eigenvector-Based Centralities. IEEE Transactions on Network Science and Engineering, 2021, 8, 1759-1771.	6.4	8
12	Nonlinear localized modes in two-dimensional hexagonally-packed magnetic lattices. New Journal of Physics, 2021, 23, 043008.	2.9	12
13	Topological data analysis of task-based fMRI data from experiments on schizophrenia. Journal of Physics Complexity, 2021, 2, 035006.	2.2	17
14	Opinion dynamics on tie-decay networks. Physical Review Research, 2021, 3, .	3.6	3
15	Tunable Eigenvector-Based Centralities for Multiplex and Temporal Networks. Multiscale Modeling and Simulation, 2021, 19, 113-147.	1.6	22
16	Epidemic thresholds of infectious diseases on tie-decay networks. Journal of Complex Networks, 2021, 10, .	1.8	0
17	Detection of functional communities in networks of randomly coupled oscillators using the dynamic-mode decomposition. Physical Review E, 2021, 104, 044305.	2.1	1
18	Nanoptera in Weakly Nonlinear Woodpile Chains and Diatomic Granular Chains. SIAM Journal on Applied Dynamical Systems, 2021, 20, 2412-2449.	1.6	5

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19	Motifs for Processes on Networks. SIAM Journal on Applied Dynamical Systems, 2021, 20, 2516-2557.	1.6	9
20	Classical and Quantum Random-Walk Centrality Measures in Multilayer Networks. SIAM Journal on Applied Mathematics, 2021, 81, 2704-2724.	1.8	7
21	A multilayer network model of the coevolution of the spread of a disease and competing opinions. Mathematical Models and Methods in Applied Sciences, 2021, 31, 2455-2494.	3.3	27
22	Stochastic Block Models are a Discrete Surface Tension. Journal of Nonlinear Science, 2020, 30, 2429-2462.	2.1	3
23	Dominance, sharing, and assessment in an iterated Hawkâ€“Dove game. Journal of Theoretical Biology, 2020, 493, 110101.	1.7	10
24	Forecasting Elections Using Compartmental Models of Infection. SIAM Review, 2020, 62, 837-865.	9.5	14
25	Fitting in and breaking up: A nonlinear version of coevolving voter models. Physical Review E, 2020, 101, 062303.	2.1	7
26	Spatial strength centrality and the effect of spatial embeddings on network architecture. Physical Review E, 2020, 101, 062305.	2.1	2
27	Nonlinearity + Networks: A 2020 Vision. Advances in Dynamics, Patterns, Cognition, 2020, , 131-159.	0.3	21
28	Inference of edge correlations in multilayer networks. Physical Review E, 2020, 102, 062307.	2.1	5
29	A model for the influence of media on the ideology of content in online social networks. Physical Review Research, 2020, 2, .	3.6	34
30	A framework for the construction of generative models for mesoscale structure in multilayer networks. Physical Review Research, 2020, 2, .	3.6	23
31	Spatial applications of topological data analysis: Cities, snowflakes, random structures, and spiders spinning under the influence. Physical Review Research, 2020, 2, .	3.6	24
32	Counterparty Credit Limits: The Impact of a Risk-Mitigation Measure on Everyday Trading. Applied Mathematical Finance, 2020, 27, 520-548.	1.2	0
33	Forecasting failure locations in 2-dimensional disordered lattices. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16742-16749.	7.1	21
34	Nonlinear excitations in magnetic lattices with long-range interactions. New Journal of Physics, 2019, 21, 063032.	2.9	17
35	Multivariate Spatiotemporal Hawkes Processes and Network Reconstruction. SIAM Journal on Mathematics of Data Science, 2019, 1, 356-382.	1.8	26
36	The use of multilayer network analysis in animal behaviour. Animal Behaviour, 2019, 149, 7-22.	1.9	116

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37	Effect of antipsychotics on community structure in functional brain networks. Journal of Complex Networks, 2019, 7, 932-960.	1.8	12
38	Hipsters on networks: How a minority group of individuals can lead to an antiestablishment majority. Physical Review E, 2019, 99, 022313.	2.1	23
39	Relating Modularity Maximization and Stochastic Block Models in Multilayer Networks. SIAM Journal on Mathematics of Data Science, 2019, 1, 667-698.	1.8	16
40	Customer mobility and congestion in supermarkets. Physical Review E, 2019, 100, 062304.	2.1	9
41	Opinion formation and distribution in a bounded-confidence model on various networks. Physical Review E, 2018, 97, 022312.	2.1	36
42	Complex contagions with timers. Chaos, 2018, 28, 033101.	2.5	13
43	Can Multilayer Networks Advance Animal Behavior Research?. Trends in Ecology and Evolution, 2018, 33, 376-378.	8.7	62
44	Network analysis of particles and grains. Journal of Complex Networks, 2018, 6, 485-565.	1.8	113
45	Synergistic effects in threshold models on networks. Chaos, 2018, 28, 013115.	2.5	14
46	Direct measurement of superdiffusive energy transport in disordered granular chains. Nature Communications, 2018, 9, 640.	12.8	20
47	Isomorphisms in Multilayer Networks. IEEE Transactions on Network Science and Engineering, 2018, 5, 198-211.	6.4	14
48	Frequency-based brain networks: From a multiplex framework to a full multilayer description. Network Neuroscience, 2018, 2, 418-441.	2.6	56
49	Layer Communities in Multiplex Networks. Journal of Statistical Physics, 2018, 173, 1286-1302.	1.2	14
50	Neither global nor local: Heterogeneous connectivity in spatial network structures of world migration. Social Networks, 2018, 53, 4-19.	2.1	35
51	Motor primitives in space and time via targeted gain modulation in cortical networks. Nature Neuroscience, 2018, 21, 1774-1783.	14.8	87
52	FemaleDrosophila melanogasterrespond to song-amplitude modulations. Biology Open, 2018, 7, .	1.2	3
53	Inferring parameters of prey switching in a 1 predatorâ€“2 prey plankton system with a linear preference tradeoff. Journal of Theoretical Biology, 2018, 456, 108-122.	1.7	4
54	Nanoptera in a Period-2 Toda Chain. SIAM Journal on Applied Dynamical Systems, 2018, 17, 1182-1212.	1.6	22

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55	Topological data analysis of continuum percolation with disks. Physical Review E, 2018, 98, 012318.	2.1	28
56	Quasiperiodic granular chains and Hofstadter butterflies. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20170139.	3.4	15
57	What Is... a Multilayer Network?. Notices of the American Mathematical Society, 2018, 65, 1.	0.2	16
58	A local perspective on community structure in multilayer networks. Network Science, 2017, 5, 144-163.	1.0	42
59	Quasi-centralized limit order books. Quantitative Finance, 2017, 17, 831-853.	1.7	5
60	A Predator--2 Prey Fast--Slow Dynamical System for Rapid Predator Evolution. SIAM Journal on Applied Dynamical Systems, 2017, 16, 54-90.	1.6	17
61	Persistent homology of time-dependent functional networks constructed from coupled time series. Chaos, 2017, 27, 047410.	2.5	73
62	Modeling the lowest-cost splitting of a herd of cows by optimizing a cost function. Chaos, 2017, 27, 063114.	2.5	4
63	Eigenvector-Based Centrality Measures for Temporal Networks. Multiscale Modeling and Simulation, 2017, 15, 537-574.	1.6	120
64	The multilayer nature of ecological networks. Nature Ecology and Evolution, 2017, 1, 101.	7.8	383
65	Random walks and diffusion on networks. Physics Reports, 2017, 716-717, 1-58.	25.6	420
66	Nonlinear coherent structures in granular crystals. Journal of Physics Condensed Matter, 2017, 29, 413003.	1.8	64
67	Core-Periphery Structure in Networks (Revisited). SIAM Review, 2017, 59, 619-646.	9.5	96
68	Mean-field approach to evolving spatial networks, with an application to osteocyte network formation. Physical Review E, 2017, 96, 012301.	2.1	13
69	Numerical methods for the computation of the confluent and Gauss hypergeometric functions. Numerical Algorithms, 2017, 74, 821-866.	1.9	40
70	A roadmap for the computation of persistent homology. EPJ Data Science, 2017, 6, 17.	2.8	371
71	Mesoscale analyses of fungal networks as an approach for quantifying phenotypic traits. Journal of Complex Networks, 2016, , cnv034.	1.8	11
72	Detection of coreâ€“periphery structure in networks using spectral methods and geodesic paths. European Journal of Applied Mathematics, 2016, 27, 846-887.	2.9	54

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73	Network analysis and modelling: Special issue ofEuropean Journal of Applied Mathematics. European Journal of Applied Mathematics, 2016, 27, 807-811.	2.9	5
74	Dynamical Systems on Networks. Frontiers in Applied Dynamical Systems: Reviews and Tutorials, 2016, , .	0.5	151
75	Heterogeneous, weakly coupled map lattices. Communications in Nonlinear Science and Numerical Simulation, 2016, 36, 549-563.	3.3	1
76	The physics of spreading processes in multilayerÂnetworks. Nature Physics, 2016, 12, 901-906.	16.7	430
77	Superdiffusive transport and energy localization in disordered granular crystals. Physical Review E, 2016, 93, 022902.	2.1	28
78	Scattering of waves by impurities in precompressed granular chains. Physical Review E, 2016, 93, 052224.	2.1	19
79	What are essential concepts about networks?. Journal of Complex Networks, 2016, 4, 457-474.	1.8	16
80	Community Detection in Temporal Multilayer Networks, with an Application to Correlation Networks. Multiscale Modeling and Simulation, 2016, 14, 1-41.	1.6	151
81	Null models for community detection in spatially embedded, temporal networks. Journal of Complex Networks, 2016, 4, 363-406.	1.8	56
82	Lost in transportation: Information measures and cognitive limits in multilayer navigation. Science Advances, 2016, 2, e1500445.	10.3	48
83	Estimating interevent time distributions from finite observation periods in communication networks. Physical Review E, 2015, 92, 052813.	2.1	37
84	Granular crystals: Nonlinear dynamics meets materials engineering. Physics Today, 2015, 68, 44-50.	0.3	101
85	Extraction of force-chain network architecture in granular materials using community detection. Soft Matter, 2015, 11, 2731-2744.	2.7	98
86	Think locally, act locally: Detection of small, medium-sized, and large communities in large networks. Physical Review E, 2015, 91, 012821.	2.1	88
87	Topological data analysis of contagion maps for examining spreading processes on networks. Nature Communications, 2015, 6, 7723.	12.8	90
88	MuxViz: a tool for multilayer analysis and visualization of networks. Journal of Complex Networks, 2015, 3, 159-176.	1.8	271
89	Convergence Time towards Periodic Orbits in Discrete Dynamical Systems. PLoS ONE, 2014, 9, e92652.	2.5	2
90	Dynamics on modular networks with heterogeneous correlations. Chaos, 2014, 24, 023106.	2.5	30

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91	Matchmaker, Matchmaker, Make Me a Match: Migration of Populations via Marriages in the Past. Physical Review X, 2014, 4, .	8.9	9
92	Density-based and transport-based core-periphery structures in networks. Physical Review E, 2014, 89, 032810.	2.1	43
93	Prey Switching with a Linear Preference Trade-Off. SIAM Journal on Applied Dynamical Systems, 2014, 13, 658-682.	1.6	35
94	Cross-linked structure of network evolution. Chaos, 2014, 24, 013112.	2.5	68
95	A simple generative model of collective online behavior. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 10411-10415.	7.1	78
96	Core-Periphery Structure in Networks. SIAM Journal on Applied Mathematics, 2014, 74, 167-190.	1.8	265
97	Commentary: Teach network science to teenagers. Network Science, 2013, 1, 226-247.	1.0	13
98	Multi-stage complex contagions. Chaos, 2013, 23, 013124.	2.5	94
99	Robust detection of dynamic community structure in networks. Chaos, 2013, 23, 013142.	2.5	400
100	Dark solitary waves in a class of collisionally inhomogeneous Bose-Einstein condensates. Physical Review A, 2013, 87, .	2.5	8
101	Mathematical Formulation of Multilayer Networks. Physical Review X, 2013, 3, .	8.9	513
102	Task-Based Core-Periphery Organization of Human Brain Dynamics. PLoS Computational Biology, 2013, 9, e1003171.	3.2	302
103	A Method Based on Total Variation for Network Modularity Optimization Using the MBO Scheme. SIAM Journal on Applied Mathematics, 2013, 73, 2224-2246.	1.8	29
104	Limit order books. Quantitative Finance, 2013, 13, 1709-1742.	1.7	191
105	Dynamic network centrality summarizes learning in the human brain. Journal of Complex Networks, 2013, 1, 83-92.	1.8	60
106	Taxonomies of networks from community structure. Physical Review E, 2012, 86, 036104-36104.	2.1	79
107	Generalized master equations for non-Poisson dynamics on networks. Physical Review E, 2012, 86, 046102.	2.1	68
108	Influence of network topology on sound propagation in granular materials. Physical Review E, 2012, 86, 041306.	2.1	100

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109	Multislice Modularity Optimization in Community Detection and Image Segmentation. , 2012, , .		5
110	Geosocial Graph-Based Community Detection. , 2012, , .		2
111	Differential Recruitment of the Sensorimotor Putamen and Frontoparietal Cortex during Motor Chunking in Humans. Neuron, 2012, 74, 936-946.	8.1	233
112	Critical Truths About Power Laws. Science, 2012, 335, 665-666.	12.6	501
113	The Extraordinary SVD. American Mathematical Monthly, 2012, 119, 838.	0.3	42
114	Accuracy of mean-field theory for dynamics on real-world networks. Physical Review E, 2012, 85, 026106.	2.1	113
115	Dynamical clustering of exchange rates. Quantitative Finance, 2012, 12, 1493-1520.	1.7	50
116	Community structure in the United Nations General Assembly. Physica A: Statistical Mechanics and Its Applications, 2012, 391, 343-361.	2.6	47
117	Social structure of Facebook networks. Physica A: Statistical Mechanics and Its Applications, 2012, 391, 4165-4180.	2.6	420
118	Small-world network. Scholarpedia Journal, 2012, 7, 1739.	0.3	34
119	Comparing Community Structure to Characteristics in Online Collegiate Social Networks. SIAM Review, 2011, 53, 526-543.	9.5	315
120	A mathematical model for the dynamics and synchronization of cows. Physica D: Nonlinear Phenomena, 2011, 240, 1497-1509.	2.8	20
121	Mathematical genealogy and department prestige. Chaos, 2011, 21, 041104.	2.5	18
122	The unreasonable effectiveness of tree-based theory for networks with clustering. Physical Review E, 2011, 83, 036112.	2.1	111
123	Dynamic reconfiguration of human brain networks during learning. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 7641-7646.	7.1	1,399
124	Mutually-antagonistic interactions in baseball networks. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 1131-1141.	2.6	27
125	Revisiting Date and Party Hubs: Novel Approaches to Role Assignment in Protein Interaction Networks. PLoS Computational Biology, 2010, 6, e1000817.	3.2	128
126	Communities in multislice voting networks. Chaos, 2010, 20, 041108.	2.5	48

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127	Discrete Breathers in One-Dimensional Diatomic Granular Crystals. Physical Review Letters, 2010, 104, 244302.	7.8	224
128	Intrinsic energy localization through discrete gap breathers in one-dimensional diatomic granular crystals. Physical Review E, 2010, 82, 056604.	2.1	77
129	Nonlinear waves in disordered diatomic granular chains. Physical Review E, 2010, 82, 021301.	2.1	51
130	Community Structure in Time-Dependent, Multiscale, and Multiplex Networks. Science, 2010, 328, 876-878.	12.6	1,655
131	Competition for popularity in bipartite networks. Chaos, 2010, 20, 043101.	2.5	20
132	Localized breathing modes in granular crystals with defects. Physical Review E, 2009, 80, 066601.	2.1	85
133	Optimal Design of Composite Granular Protectors. Mechanics of Advanced Materials and Structures, 2009, 17, 1-19.	2.6	112
134	Highly nonlinear solitary waves in heterogeneous periodic granular media. Physica D: Nonlinear Phenomena, 2009, 238, 666-676.	2.8	105
135	Comment on â€œBifurcation analysis of parametrically excited bipolar disorder modelâ€• Communications in Nonlinear Science and Numerical Simulation, 2009, 14, 2844.	3.3	1
136	Mathematical models of bipolar disorder. Communications in Nonlinear Science and Numerical Simulation, 2009, 14, 2897-2908.	3.3	36
137	Dissipative Solitary Waves in Granular Crystals. Physical Review Letters, 2009, 102, 024102.	7.8	116
138	Fermi, Pasta, Ulam and the Birth of Experimental Mathematics. American Scientist, 2009, 97, 214.	0.1	57
139	Community structure in Congressional cosponsorship networks. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 1705-1712.	2.6	125
140	Matter-wave solitons with a periodic, piecewise-constant scattering length. Physical Review A, 2008, 78, .	2.5	45
141	Averaging of nonlinearity management with dissipation. Physical Review A, 2008, 78, .	2.5	6
142	Highly nonlinear solitary waves in periodic dimer granular chains. Physical Review E, 2008, 77, 015601.	2.1	103
143	Random Walker Ranking for NCAA Division I-A Football. American Mathematical Monthly, 2007, 114, 761-777.	0.3	63
144	Community structure in the United States House of Representatives. Physica A: Statistical Mechanics and Its Applications, 2007, 386, 414-438.	2.6	78

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145	Quasiperiodic Dynamics in Bose-Einstein Condensates in Periodic Lattices and Superlattices. Journal of Nonlinear Science, 2007, 17, 59-83.	2.1	16
146	Modulated amplitude waves in collisionally inhomogeneous Boseâ€“Einstein condensates. Physica D: Nonlinear Phenomena, 2007, 229, 104-115.	2.8	45
147	Modulational Instability in a Layered Kerr Medium: Theory and Experiment. Physical Review Letters, 2006, 97, 234101.	7.8	38
148	Dynamics and manipulation of matter-wave solitons in optical superlattices. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 352, 210-215.	2.1	30
149	SPATIAL RESONANCE OVERLAP IN BOSEâ€“EINSTEIN CONDENSATES IN SUPERLATTICE POTENTIALS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2006, 16, 945-959.	1.7	6
150	A network analysis of committees in the U.S. House of Representatives. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 7057-7062.	7.1	168
151	Bose-Einstein Condensates in Superlattices. SIAM Journal on Applied Dynamical Systems, 2005, 4, 783-807.	1.6	19
152	Nonlinear lattice dynamics of Boseâ€“Einstein condensates. Chaos, 2005, 15, 015115.	2.5	38
153	Modulated amplitude waves in Bose-Einstein condensates. Physical Review E, 2004, 69, 047201.	2.1	22
154	A perturbative analysis of modulated amplitude waves in Boseâ€“Einstein condensates. Chaos, 2004, 14, 739-755.	2.5	15
155	Energy absorption and dissipation in quantum systems. Physica D: Nonlinear Phenomena, 2004, 195, 398-402.	2.8	2
156	Resonant and non-resonant modulated amplitude waves for binary Boseâ€“Einstein condensates in optical lattices. Physica D: Nonlinear Phenomena, 2004, 196, 106-123.	2.8	26
157	A GalÃ«rkin approach to electronic near-degeneracies in molecular systems. Physica D: Nonlinear Phenomena, 2002, 167, 218-247.	2.8	0
158	Prime Quasientropy and Quasichaos. International Journal of Theoretical Physics, 2002, 41, 1389-1395.	1.2	1
159	Remarks on whale cultures from a complex systems perspective. Behavioral and Brain Sciences, 2001, 24, 344-344.	0.7	0
160	VIBRATING QUANTUM BILLIARDS ON RIEMANNIAN MANIFOLDS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2001, 11, 2305-2315.	1.7	6
161	BIFURCATIONS IN ONE DEGREE-OF-VIBRATION QUANTUM BILLIARDS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2001, 11, 903-911.	1.7	5
162	QUANTUM CHAOS FOR THE VIBRATING RECTANGULAR BILLIARD. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2001, 11, 2317-2337.	1.7	2

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163	Nonadiabatic dynamics in semiquantal physics. Reports on Progress in Physics, 2001, 64, 1165-1189.	20.1	9
164	Chaos on the Quantum Scale. American Scientist, 2001, 89, 532.	0.1	3
165	Connecting the Dots: Discovering the â€œShapeâ€•of Data. Frontiers for Young Minds, 0, 9, .	0.8	1