Piet Van Mieghem

List of Publications by Year
in descending order

80 papers	6,090 citations	201674 27 h-index	79698 73 g-index
83 all docs	83 docs citations	83 times ranked	4990 citing authors

#	Article	IF	Citations
1	Epidemic processes in complex networks. Reviews of Modern Physics, 2015, 87, 925-979.	45.6	2,484
2	Virus Spread in Networks. IEEE/ACM Transactions on Networking, 2009, 17, 1-14.	3.8	787
3	Theory of band tails in heavily doped semiconductors. Reviews of Modern Physics, 1992, 64, 755-793.	45.6	205
4	The N-intertwined SIS epidemic network model. Computing (Vienna/New York), 2011, 93, 147-169.	4.8	198
5	Generalized Epidemic Mean-Field Model for Spreading Processes Over Multilayer Complex Networks. IEEE/ACM Transactions on Networking, 2013, 21, 1609-1620.	3.8	193
6	Decreasing the spectral radius of a graph by link removals. Physical Review E, 2011, 84, 016101.	2.1	128
7	A Mapping Between Structural and Functional Brain Networks. Brain Connectivity, 2016, 6, 298-311.	1.7	127
8	Integrating cross-frequency and within band functional networks in resting-state MEG: A multi-layer network approach. NeuroImage, 2016, 142, 324-336.	4.2	104
9	Link-disjoint paths for reliable QoS routing. International Journal of Communication Systems, 2003, 16, 779-798.	2.5	91
10	Correlation between centrality metrics and their application to the opinion model. European Physical Journal B, 2015, 88, 1.	1.5	87
11	Susceptible-infected-susceptible model: A comparison of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>N</mml:mi></mml:math>-intertwined and heterogeneous mean-field approximations. Physical Review E, 2012, 86, 026116.	2.1	84
12	Distances in random graphs with finite variance degrees. Random Structures and Algorithms, 2005, 27, 76-123.	1.1	81
13	Epidemics in networks with nodal self-infection and the epidemic threshold. Physical Review E, 2012, 86, 016116.	2.1	67
14	Epidemic threshold and topological structure of susceptible-infectious-susceptible epidemics in adaptive networks. Physical Review E, 2013, 88, 042802.	2.1	64
15	Improving robustness of complex networks via the effective graph resistance. European Physical Journal B, 2014, 87, 1.	1.5	63
16	FIRST-PASSAGE PERCOLATION ON THE RANDOM GRAPH. Probability in the Engineering and Informational Sciences, 2001, 15, 225-237.	0.8	50
17	Hierarchical clustering in minimum spanning trees. Chaos, 2015, 25, 023107.	2.5	47
18	Robustness assessment of multimodal freight transport networks. Reliability Engineering and System Safety, 2021, 207, 107315.	8.9	47

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19	Comparing multilayer brain networks between groups: Introducing graph metrics and recommendations. NeuroImage, 2018, 166, 371-384.	4.2	44
20	Nodal vulnerability to targeted attacks in power grids. Applied Network Science, 2018, 3, 34.	1.5	40
21	Network-inference-based prediction of the COVID-19 epidemic outbreak in the Chinese province Hubei. Applied Network Science, 2020, 5, 35.	1.5	39
22	Epidemic threshold in directed networks. Physical Review E, 2013, 88, 062802.	2.1	37
23	The road ahead in clinical network neuroscience. Network Neuroscience, 2019, 3, 969-993.	2.6	37
24	Optimization of network protection against virus spread. , 2011, , .		34
25	Comparing the accuracy of several network-based COVID-19 prediction algorithms. International Journal of Forecasting, 2022, 38, 489-504.	6.5	33
26	The viral conductance of a network. Computer Communications, 2012, 35, 1494-1506.	5.1	31
27	A Topological Investigation of Power Flow. IEEE Systems Journal, 2018, 12, 2524-2532.	4.6	30
28	Exact coupling threshold for structural transition reveals diversified behaviors in interconnected networks. Physical Review E, 2015, 92, 040801.	2.1	29
29	Network Reconstruction and Prediction of Epidemic Outbreaks for General Group-Based Compartmental Epidemic Models. IEEE Transactions on Network Science and Engineering, 2020, 7, 2755-2764.	6.4	27
30	The Union of Shortest Path Trees of Functional Brain Networks. Brain Connectivity, 2015, 5, 575-581.	1.7	24
31	The simplex geometry of graphs. Journal of Complex Networks, 2019, 7, 469-490.	1.8	19
32	Time-dependent solution of the NIMFA equations around the epidemic threshold. Journal of Mathematical Biology, 2020, 81, 1299-1355.	1.9	19
33	Size and Weight of Shortest Path Trees with Exponential Link Weights. Combinatorics Probability and Computing, 2006, 15, 903.	1.3	18
34	Modeling gossip-based content dissemination and search in distributed networking. Computer Communications, 2011, 34, 765-779.	5.1	18
35	Bounds for the spectral radius of a graph when nodes are removed. Linear Algebra and Its Applications, 2012, 437, 319-323.	0.9	18
36	Brain network clustering with information flow motifs. Applied Network Science, 2017, 2, 25.	1.5	18

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37	Optimal curing policy for epidemic spreading over a community network with heterogeneous population. Journal of Complex Networks, 2018, 6, 800-829.	1.8	17
38	Predicting timeâ€resolved electrophysiological brain networks from structural eigenmodes. Human Brain Mapping, 2022, 43, 4475-4491.	3.6	17
39	Network-based prediction of COVID-19 epidemic spreading in Italy. Applied Network Science, 2020, 5, 91.	1.5	16
40	IPv6 delay and loss performance evolution. International Journal of Communication Systems, 2008, 21, 643-663.	2.5	15
41	From epidemics to information propagation: Striking differences in structurally similar adaptive network models. Physical Review E, 2015, 92, 030801.	2.1	15
42	Burst of virus infection and a possibly largest epidemic threshold of non-Markovian susceptible-infected-susceptible processes on networks. Physical Review E, 2018, 97, 022309.	2.1	15
43	Survival time of the susceptible-infected-susceptible infection process on a graph. Physical Review E, 2015, 92, 032806.	2.1	14
44	Optimization of epilepsy surgery through virtual resections on individual structural brain networks. Scientific Reports, 2021, 11, 19025.	3.3	13
45	Ranking of Nodal Infection Probability in Susceptible-Infected-Susceptible Epidemic. Scientific Reports, 2017, 7, 9233.	3.3	12
46	Domination-time dynamics in susceptible-infected-susceptible virus competition on networks. Physical Review E, 2014, 89, 042818.	2.1	10
47	Clustering for epidemics on networks: A geometric approach. Chaos, 2021, 31, 063115.	2.5	10
48	ILIGRA: An Efficient Inverse Line Graph Algorithm. Mathematical Modelling and Algorithms, 2015, 14, 13-33.	0.5	9
49	Evaluation of an analytic, approximate formula for the time-varying SIS prevalence in different networks. Physica A: Statistical Mechanics and Its Applications, 2017, 471, 325-336.	2.6	9
50	The Viral State Dynamics of the Discrete-Time NIMFA Epidemic Model. IEEE Transactions on Network Science and Engineering, 2020, 7, 1667-1674.	6.4	9
51	Classification of link-breaking and link-creation updating rules in susceptible-infected-susceptible epidemics on adaptive networks. Physical Review E, 2020, 101, 052302.	2.1	9
52	Interlayer connectivity reconstruction for multilayer brain networks using phase oscillator models. New Journal of Physics, 2021, 23, 063065.	2.9	9
53	Modeling region-based interconnection for interdependent networks. Physical Review E, 2016, 94, 042315.	2.1	8
54	Quantifying the Robustness of Network Controllability. , 2019, , .		8

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55	Reachability-Based Robustness of Controllability in Sparse Communication Networks. IEEE Transactions on Network and Service Management, 2021, 18, 2764-2775.	4.9	8
56	Epidemic models characterize seizure propagation and the effects of epilepsy surgery in individualized brain networks based on MEG and invasive EEG recordings. Scientific Reports, 2022, 12, 4086.	3.3	8
57	Exact Network Reconstruction from Complete SIS Nodal State Infection Information Seems Infeasible. IEEE Transactions on Network Science and Engineering, 2019, 6, 748-759.	6.4	7
58	Network Localization Is Unalterable by Infections in Bursts. IEEE Transactions on Network Science and Engineering, 2019, 6, 983-989.	6.4	7
59	The weight of the shortest path tree. Random Structures and Algorithms, 2007, 30, 359-379.	1.1	6
60	The spreading time in SIS epidemics on networks. Physica A: Statistical Mechanics and Its Applications, 2018, 494, 317-330.	2.6	6
61	Inferring network properties based on the epidemic prevalence. Applied Network Science, 2019, 4, .	1.5	6
62	Searching with Multiple Random Walk Queries. , 2007, , .		5
63	The Weight and Hopcount of the Shortest Path in the Complete Graph with Exponential Weights. Combinatorics Probability and Computing, 2008, 17, 537-548.	1.3	5
64	Time to Metastable State in SIS Epidemics on Graphs. , 2014, , .		4
65	Topological Approach to Measure Network Recoverability. , 2019, , .		4
66	Explosive phase transition in susceptible-infected-susceptible epidemics with arbitrary small but nonzero self-infection rate. Physical Review E, 2020, 101, 032303.	2.1	4
67	Reply to â€œComment on â€˜Nodal infection in Markovian susceptible-infected-susceptible and susceptible-infected-removed epidemics on networks are non-negatively correlated'Ââ€• Physical Review E, 2018, 98, 026302.	2.1	3
68	Autocorrelation of the susceptible-infected-susceptible process on networks. Physical Review E, 2018, 97, 062309.	2.1	3
69	Origin of the fractional derivative and fractional non-Markovian continuous-time processes. Physical Review Research, 2022, 4, .	3.6	3
70	Optimal Induced Spreading of SIS Epidemics in Networks. IEEE Transactions on Control of Network Systems, 2019, 6, 1344-1353.	3.7	2
71	Prevalence expansion in NIMFA. Physica A: Statistical Mechanics and Its Applications, 2020, 540, 123220.	2.6	2
72	Time dependence of susceptible-infected-susceptible epidemics on networks with nodal self-infections. Physical Review E, 2020, 101, 052310.	2.1	2

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73	Analysis of continuous-time Markovian <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>É</mml:mi></mml:math> -SIS epidemics on networks. Physical Review E, 2022, 105, .	2.1	2
74	Weight of a link in a shortest path tree and the Dedekind Eta function. Random Structures and Algorithms, 2010, 36, 341-371.	1.1	1
75	Tighter spectral bounds for the cut size, based on Laplacian eigenvectors. Linear Algebra and Its Applications, 2019, 572, 68-91.	0.9	1
76	Structural transition in interdependent networks with regular interconnections. Physical Review E, 2019, 99, 012311.	2.1	1
77	Linear processes on complex networks. Journal of Complex Networks, 2020, 8, .	1.8	1
78	Local Electrodynamics of a Disordered Conductor Model System Measured with a Microwave Impedance Microscope. Physical Review Applied, 2020, 13, .	3.8	1
79	Accuracy of predicting epidemic outbreaks. Physical Review E, 2022, 105, 014302.	2.1	1
80	The fastest spreader in SIS epidemics on networks. European Physical Journal B, 2018, 91, 1.	1.5	0