Irene SendiÃ±a-Nadal

List of Publications by Year
in descending order

72 papers	4,595 citations	218677 26 h-index	98798 67 g-index
74 all docs	74 docs citations	74 times ranked	3742 citing authors

#	Article	IF	Citations
1	The structure and dynamics of multilayer networks. Physics Reports, 2014, 544, 1-122.	25.6	2,469
2	Explosive transitions in complex networksâ€™ structure and dynamics: Percolation and synchronization. Physics Reports, 2016, 660, 1-94.	25.6	251
3	Explosive First-Order Transition to Synchrony in Networked Chaotic Oscillators. Physical Review Letters, 2012, 108, 168702.	7.8	154
4	Reorganization of Functional Networks in Mild Cognitive Impairment. PLoS ONE, 2011, 6, e19584.	2.5	121
5	Inter-layer synchronization in non-identical multi-layer networks. Scientific Reports, 2017, 7, 45475.	3.3	96
6	Explosive transitions to synchronization in networks of phase oscillators. Scientific Reports, 2013, 3, 1281.	3.3	95
7	Explosive synchronization in weighted complex networks. Physical Review E, 2013, 88, 042808.	2.1	92
8	Regular Wave Propagation Out of Noise in Chemical Active Media. Physical Review Letters, 2001, 87, 078302.	7.8	91
9	Synchronization Interfaces and Overlapping Communities in Complex Networks. Physical Review Letters, 2008, 101, 168701.	7.8	91
10	Inter-layer synchronization in multiplex networks of identical layers. Chaos, 2016, 26, 065304.	2.5	79
11	Wave Propagation in Subexcitable Media with Periodically Modulated Excitability. Physical Review Letters, 2001, 86, 1646-1649.	7.8	76
12	Brownian Motion of Spiral Waves Driven by Spatiotemporal Structured Noise. Physical Review Letters, 2000, 84, 2734-2737.	7.8	73
13	Relay synchronization in multiplex networks. Scientific Reports, 2018, 8, 8629.	3.3	56
14	Wave Propagation in a Medium with Disordered Excitability. Physical Review Letters, 1998, 80, 5437-5440.	7.8	47
15	Wave Mediated Synchronization of Nonuniform Oscillatory Media. Physical Review Letters, 2007, 98, 074101.	7.8	47
16	Sparse repulsive coupling enhances synchronization in complex networks. Physical Review E, 2006, 74, 056112.	2.1	45
17	Targeting the dynamics of complex networks. Scientific Reports, 2012, 2, 396.	3.3	38
18	Emergence of Small-World Anatomical Networks in Self-Organizing Clustered Neuronal Cultures. PLoS ONE, 2014, 9, e85828.	2.5	36

#	ARTICLE	IF	CITATIONS
19	Dynamics of overlapping structures in modular networks. Physical Review E, 2010, 82, 016115.	2.1	33
20	Growing scale-free simplices. Communications Physics, 2021, 4, .	5.3	33
21	Phase Locking Induces Scale-Free Topologies in Networks of Coupled Oscillators. PLoS ONE, 2008, 3, e2644.	2.5	33
22	Effects of degree correlations on the explosive synchronization of scale-free networks. Physical Review E, 2015, 91, 032811.	2.1	30
23	Evolutionary games on simplicial complexes. Chaos, Solitons and Fractals, 2021, 150, 111103.	5.1	30
24	Topological Measure Locating the Effective Crossover between Segregation and Integration in a Modular Network. Physical Review Letters, 2012, 108, 228701.	7.8	29
25	Coherence resonance in a chemical excitable system driven by coloured noise. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 381-395.	3.4	28
26	A symbolic network-based nonlinear theory for dynamical systems observability. Scientific Reports, 2018, 8, 3785.	3.3	27
27	Introduction to Focus Issue: Mesoscales in Complex Networks. Chaos, 2011, 21, 016101.	2.5	24
28	Nonlinear graph-based theory for dynamical network observability. Physical Review E, 2018, 98, 020303.	2.1	24
29	Noise-induced wave nucleations in an excitable chemical reaction. Physical Review E, 2005, 71, 035204.	2.1	21
30	Observability coefficients for predicting the class of synchronizability from the algebraic structure of the local oscillators. Physical Review E, 2016, 94, 042205.	2.1	21
31	Assortativity and leadership emerge from anti-preferential attachment in heterogeneous networks. Scientific Reports, 2016, 6, 21297.	3.3	19
32	Wave competition in excitable modulated media. Physical Review E, 1997, 56, 6298-6301.	2.1	18
33	Graphâ€based unsupervised segmentation algorithm for cultured neuronal networks' structure characterization and modeling. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2015, 87, 513-523.	1.5	18
34	Effective centrality and explosive synchronization in complex networks. Physical Review E, 2015, 92, 062820.	2.1	16
35	High-order couplings in geometric complex networks of neurons. Physical Review E, 2019, 100, 052305.	2.1	16
36	Percolation thresholds in chemical disordered excitable media. Physical Review E, 1998, 58, R1183-R1186.	2.1	15

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37	Unveiling Protein Functions through the Dynamics of the Interaction Network. PLoS ONE, 2011, 6, e17679.	2.5	14
38	Synchronization of chaotic systems: A microscopic description. Physical Review E, 2018, 98, .	2.1	14
39	Diverse strategic identities induce dynamical states in evolutionary games. Physical Review Research, 2020, 2, .	3.6	14
40	Functional Hubs in Mild Cognitive Impairment. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2015, 25, 1550034.	1.7	12
41	Adaptive control of dynamical synchronization on evolving networks with noise disturbances. Physical Review E, 2018, 97, 022211.	2.1	11
42	Dynamical complexity as a proxy for the network degree distribution. Physical Review E, 2019, 99, 012310.	2.1	11
43	Topological synchronization of chaotic systems. Scientific Reports, 2022, 12, 2508.	3.3	11
44	Unidirectional mechanism for reentrant activity generation in excitable media. Physical Review E, 2002, 66, 016215.	2.1	10
45	Synchronization waves in geometric networks. Physical Review E, 2011, 84, 065101.	2.1	10
46	Synchronization clusters emerge as the result of a global coupling among classical phase oscillators. New Journal of Physics, 2019, 21, 053002.	2.9	9
47	Statistical complexity and connectivity relationship in cultured neural networks. Chaos, Solitons and Fractals, 2019, 119, 284-290.	5.1	8
48	Topological characterization versus synchronization for assessing (or not) dynamical equivalence. Chaos, 2018, 28, 045107.	2.5	7
49	Entraining the topology and the dynamics of a network of phase oscillators. Physical Review E, 2009, 79, 046105.	2.1	6
50	Integration Versus Segregation in Functional Brain Networks. IEEE Transactions on Biomedical Engineering, 2011, 58, 3004-3007.	4.2	6
51	Computation as an emergent feature of adaptive synchronization. Physical Review E, 2011, 84, 060102.	2.1	6
52	INTERACTING OSCILLATORS IN COMPLEX NETWORKS: SYNCHRONIZATION AND THE EMERGENCE OF SCALE-FREE TOPOLOGIES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2010, 20, 753-763.	1.7	5
53	Synchronizability of nonidentical weakly dissipative systems. Chaos, 2017, 27, 103118.	2.5	5
54	Using global modeling to unveil hidden couplings in small network motifs. Chaos, 2018, 28, 123110.	2.5	5

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55	Neuronal circuits on a chip for biological network monitoring. Biotechnology Journal, 2021, 16, e2000355.	3.5	5
56	Regulating synchronous states of complex networks by pinning interaction with an external node. Physical Review E, 2009, 80, 066111.	2.1	4
57	Predicting transitions in cooperation levels from network connectivity. New Journal of Physics, 2021, 23, 093040.	2.9	4
58	Quasiperiodic patterns in boundary-modulated excitable waves. Physical Review E, 2001, 64, 046208.	2.1	3
59	Kinematic description of wave propagation through a chemical diode. Chaos, 2006, 16, 033110.	2.5	3
60	Network-based features for retinal fundus vessel structure analysis. PLoS ONE, 2019, 14, e0220132.	2.5	3
61	Dynamical complexity measure to distinguish organized from disorganized dynamics. Physical Review E, 2020, 101, 022204.	2.1	3
62	Explosive synchronization in mono and multilayer networks. Discrete and Continuous Dynamical Systems - Series B, 2018, 23, 1931-1944.	0.9	3
63	EFFECTS OF A QUENCHED DISORDER ON WAVE PROPAGATION IN EXCITABLE MEDIA. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1999, 09, 2353-2361.	1.7	2
64	NOISE-ENHANCED WAVE TRAIN PROPAGATION IN UNEXCITABLE MEDIA. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2001, 11, 2837-2843.	1.7	2
65	ENHANCING NETWORK SYNCHRONIZATION BY SPARSE REPULSIVE COUPLINGS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2009, 19, 711-717.	1.7	2
66	Observability of Dynamical Networks from Graphic and Symbolic Approaches. Springer Proceedings in Complexity, 2019, , 3-15.	0.3	2
67	Node differentiation dynamics along the route to synchronization in complex networks. Physical Review E, 2021, 104, 014303.	2.1	2
68	Generation of scale-free topology in complex networks by phase entrainment. International Journal of Systems Science, 2009, 40, 923-930.	5.5	0
69	ENTRAINMENT COMPETITION IN COMPLEX NETWORKS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2010, 20, 827-833.	1.7	0
70	NONLOCAL ANALYSIS OF MODULAR ROLES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250167.	1.7	0
71	Self-organized Cultured Neuronal Networks: Longitudinal Analysis and Modeling of the Underlying Network Structure. SEMA SIMAI Springer Series, 2019, , 59-85.	0.7	0
72	Parallel Computation of Large Neuronal Networks with Structured Connectivity. , 2007, , 343-367.		0