

Zhigang Zheng

List of Publications by Year in descending order

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126
papers

1,756
citations

331538

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126
docs citations

126
times ranked

1024
citing authors

#	ARTICLE	IF	CITATIONS
1	Phase Slips and Phase Synchronization of Coupled Oscillators. <i>Physical Review Letters</i> , 1998, 81, 5318-5321.	2.9	135
2	Generalized synchronization versus phase synchronization. <i>Physical Review E</i> , 2000, 62, 7882-7885.	0.8	131
3	Chimera states on complex networks. <i>Physical Review E</i> , 2014, 89, 022914.	0.8	112
4	Transitions from partial to complete generalized synchronizations in bidirectionally coupled chaotic oscillators. <i>Physical Review E</i> , 2002, 65, 056211.	0.8	54
5	Robustness of chimera states in complex dynamical systems. <i>Scientific Reports</i> , 2013, 3, 3522.	1.6	49
6	Collective Directional Transport in Coupled Nonlinear Oscillators without External Bias. <i>Physical Review Letters</i> , 2001, 86, 2273-2276.	2.9	48
7	Resonant steps and spatiotemporal dynamics in the damped dc-driven Frenkel-Kontorova chain. <i>Physical Review B</i> , 1998, 58, 5453-5461.	1.1	47
8	Collective Directed Transport of Symmetrically Coupled Lattices in Symmetric Periodic Potentials. <i>Physical Review Letters</i> , 2002, 89, 154102.	2.9	46
9	Chaotic Motifs in Gene Regulatory Networks. <i>PLoS ONE</i> , 2012, 7, e39355.	1.1	46
10	Solving the inverse problem of noise-driven dynamic networks. <i>Physical Review E</i> , 2015, 91, 012814.	0.8	44
11	Collective phase slips and phase synchronizations in coupled oscillator systems. <i>Physical Review E</i> , 2000, 62, 402-408.	0.8	37
12	Chimera states in spatiotemporal systems: Theory and Applications. <i>International Journal of Modern Physics B</i> , 2016, 30, 1630002.	1.0	36
13	Explosive or Continuous: Incoherent state determines the route to synchronization. <i>Scientific Reports</i> , 2015, 5, 12039.	1.6	31
14	Partial synchronization on complex networks. <i>Europhysics Letters</i> , 2006, 74, 229-235.	0.7	30
15	Deterministic directed transport of inertial particles in a flashing ratchet potential. <i>Physical Review E</i> , 2005, 71, 031102.	0.8	29
16	Origin of Bellerophon states in globally coupled phase oscillators. <i>Physical Review E</i> , 2018, 98, .	0.8	28
17	Synchronization of the Networked System With Continuous and Impulsive Hybrid Communications. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2020, 31, 960-971.	7.2	26
18	Nonlocal chaotic phase synchronization. <i>Physical Review E</i> , 2000, 62, 3552-3557.	0.8	24

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19	Synchronization of phase oscillators with frequency-weighted coupling. <i>Scientific Reports</i> , 2016, 6, 21926.	1.6	23
20	Universal phase transitions to synchronization in Kuramoto-like models with heterogeneous coupling. <i>New Journal of Physics</i> , 2019, 21, 113018.	1.2	23
21	Hopf bifurcation analysis of a predator-prey model with Holling-II type functional response and a prey refuge. <i>Nonlinear Dynamics</i> , 2019, 97, 1439-1450.	2.7	23
22	Dynamics of phase oscillators with generalized frequency-weighted coupling. <i>Physical Review E</i> , 2016, 94, 062204.	0.8	22
23	Rotation number of the overdamped Frenkel-Kontorova model with ac-driving. <i>Physica D: Nonlinear Phenomena</i> , 2005, 208, 172-190.	1.3	21
24	Synchronization in starlike networks of phase oscillators. <i>Physical Review E</i> , 2019, 100, 012212.	0.8	20
25	Reversed two-cluster chimera state in non-locally coupled oscillators with heterogeneous phase lags. <i>Europhysics Letters</i> , 2013, 103, 10007.	0.7	19
26	Spatiotemporal dynamics of discrete sine-Gordon lattices with sinusoidal couplings. <i>Physical Review E</i> , 1998, 57, 1139-1144.	0.8	18
27	Cooperative two-dimensional directed transport. <i>Europhysics Letters</i> , 2010, 92, 30004.	0.7	18
28	Collective dynamics of identical phase oscillators with high-order coupling. <i>Scientific Reports</i> , 2016, 6, 31133.	1.6	17
29	Effects of frustration on explosive synchronization. <i>Frontiers of Physics</i> , 2016, 11, 1.	2.4	17
30	Hopf bifurcation control of the M-L neuron model with type I. <i>Nonlinear Dynamics</i> , 2017, 87, 755-766.	2.7	17
31	Ergodicity in hard-ball systems and Boltzmann's entropy. <i>Physical Review E</i> , 1996, 53, 3246-3252.	0.8	16
32	Multiple attractors and generalized synchronization in delayed Mackey-Glass systems. <i>Chinese Physics B</i> , 2008, 17, 4009-4013.	0.7	15
33	Onset of colored-noise-induced synchronization in chaotic systems. <i>Physical Review E</i> , 2009, 79, 056210.	0.8	15
34	Synchronization of phase oscillators in the generalized Sakaguchi-Kuramoto model. <i>Europhysics Letters</i> , 2017, 118, 60005.	0.7	15
35	Detecting generalized synchrony: An improved approach. <i>Physical Review E</i> , 2003, 67, 026223.	0.8	14
36	Emergence of loop structure in scale-free networks and dynamical consequences. <i>Physical Review E</i> , 2009, 79, 056106.	0.8	14

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37	Heat conduction of symmetric lattices. <i>Physical Review E</i> , 2013, 87, 062142.	0.8	14
38	Enhancement of phase synchronization through asymmetric couplings. <i>Physical Review E</i> , 2000, 62, 7501-7504.	0.8	13
39	Heat conduction and reversed thermal diode: The interface effect. <i>Physical Review E</i> , 2010, 81, 011114.	0.8	13
40	PHASE SYNCHRONIZATIONS: TRANSITIONS FROM HIGH- TO LOW-DIMENSIONAL TORI THROUGH CHAOS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2000, 10, 2399-2414.	0.7	12
41	Order parameter analysis of synchronization transitions on star networks. <i>Frontiers of Physics</i> , 2017, 12, 1.	2.4	12
42	Collective dynamics of phase oscillator populations with three-body interactions. <i>Physical Review E</i> , 2021, 104, 054208.	0.8	12
43	Depicting network structures from variable data produced by unknown colored-noise driven dynamics. <i>Europhysics Letters</i> , 2016, 113, 18005.	0.7	11
44	Aging transition under discrete time-dependent coupling: Restoring rhythmicity from aging. <i>Chaos, Solitons and Fractals</i> , 2022, 157, 111944.	2.5	11
45	Ergodic property of a Henon-Heiles model with reflecting walls. <i>Physical Review E</i> , 1995, 52, 3440-3446.	0.8	10
46	Synchronization of groups of coupled oscillators with sparse connections. <i>Europhysics Letters</i> , 2009, 87, 50006.	0.7	10
47	Information explosion on complex networks and control. <i>European Physical Journal B</i> , 2010, 76, 179-183.	0.6	10
48	Hierarchical cluster-tendency analysis of the group structure in the foreign exchange market. <i>Frontiers of Physics</i> , 2013, 8, 451-460.	2.4	10
49	Ratchet motion and current reversal of coupled Brownian motors in pulsating symmetric potentials. <i>Frontiers of Physics</i> , 2017, 12, 1.	2.4	10
50	Winfree loop sustained oscillation in two-dimensional excitable lattices: Prediction and realization. <i>Chaos</i> , 2019, 29, 073106.	1.0	10
51	Bifurcation of the collective oscillatory state in phase oscillators with heterogeneity coupling. <i>Nonlinear Dynamics</i> , 2019, 98, 2365-2373.	2.7	10
52	Phase transition and scaling in Kuramoto model with high-order coupling. <i>Nonlinear Dynamics</i> , 2021, 103, 2721-2732.	2.7	10
53	COHERENT RESONANCE AND PHASE LOCKING IN NOISE-DRIVEN EXCITABLE SYSTEMS. <i>International Journal of Modern Physics B</i> , 2005, 19, 3501-3509.	1.0	9
54	Synchronization-based scalability of complex clustered networks. <i>Chaos</i> , 2008, 18, 043109.	1.0	9

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55	Quasiperiodic, periodic, and slowing-down states of coupled heteroclinic cycles. <i>Physical Review E</i> , 2012, 85, 016215.	0.8	9
56	Double-temperature ratchet model and current reversal of coupled Brownian motors. <i>Frontiers of Physics</i> , 2017, 12, 1.	2.4	9
57	Stability and bifurcation of collective dynamics in phase oscillator populations with general coupling. <i>Physical Review E</i> , 2021, 103, 032307.	0.8	9
58	Analysis of generalized synchronization in directionally coupled chaotic phase-coherent oscillators by local minimal fluctuations. <i>Physical Review E</i> , 2002, 66, 036208.	0.8	8
59	Loss of stability of a solitary wave through exciting a cnoidal wave on a Fermi-Pasta-Ulam ring. <i>Physical Review E</i> , 2013, 88, 042901.	0.8	8
60	Single-clustering synchronization in a ring of Kuramoto oscillators. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014, 47, 125101.	0.7	8
61	Tunable heat conduction through coupled Fermi-Pasta-Ulam chains. <i>Physical Review E</i> , 2015, 91, 012136.	0.8	8
62	Minimum-action paths for wave-number selection in nonequilibrium systems. <i>Physical Review E</i> , 2016, 93, 042204.	0.8	8
63	Phase transition in coupled star networks. <i>Nonlinear Dynamics</i> , 2018, 94, 1267-1275.	2.7	8
64	Array-induced collective transport in the Brownian motion of coupled nonlinear oscillator systems. <i>Physical Review E</i> , 1998, 58, 7085-7090.	0.8	7
65	Route to noise-induced synchronization in an ensemble of uncoupled chaotic systems. <i>Physical Review E</i> , 2010, 81, 036201.	0.8	7
66	Dynamic quantum tunneling in mesoscopic driven Duffing oscillators. <i>Physical Review E</i> , 2011, 84, 011144.	0.8	7
67	Exploring cores and skeletons in oscillatory gene regulatory networks by a functional weight approach. <i>Europhysics Letters</i> , 2014, 105, 18003.	0.7	7
68	Enhanced energy transport owing to nonlinear interface interaction. <i>Scientific Reports</i> , 2016, 6, 19628.	1.6	7
69	Minimum Winfree loop determines self-sustained oscillations in excitable Erdős-Rényi random networks. <i>Scientific Reports</i> , 2017, 7, 5746.	1.6	7
70	Chimera state: From complex networks to spatiotemporal patterns. <i>Scientia Sinica: Physica, Mechanica Et Astronomica</i> , 2020, 50, 010505.	0.2	7
71	Nonlinear Dynamics of a Sliding Chain in a Periodic Potential. <i>Chinese Physics Letters</i> , 2007, 24, 2513-2516.	1.3	6
72	The enhancement of current and efficiency in feedback coupled Brownian ratchets. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2016, 2016, 093204.	0.9	6

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73	Order parameter analysis for low-dimensional behaviors of coupled phase-oscillators. Scientific Reports, 2016, 6, 30184.	1.6	6
74	The optimal oscillation mode in excitable small-world networks. Europhysics Letters, 2020, 131, 38002.	0.7	6
75	DETERMINISTIC COLLECTIVE DIRECTIONAL TRANSPORT IN ONE-DIMENSIONAL FLASHING RATCHET POTENTIALS. Modern Physics Letters B, 2011, 25, 1179-1192.	1.0	5
76	Dynamics of rotator chain with dissipative boundary. Frontiers of Physics, 2014, 9, 511-518.	2.4	5
77	Effect of coupling displacement on thermal current of Frenkel-Kontorova lattices. European Physical Journal B, 2014, 87, 1.	0.6	5
78	Dominant phase-advanced driving analysis of self-sustained oscillations in biological networks. Chinese Physics B, 2018, 27, 018901.	0.7	5
79	Dynamics of clustering patterns in the Kuramoto model with unidirectional coupling. Frontiers of Physics, 2018, 13, 1.	2.4	5
80	An Introduction to Emergence Dynamics in Complex Systems. Soft and Biological Matter, 2021, , 133-196.	0.3	5
81	Exact dynamics of phase transitions in oscillator populations with nonlinear coupling. Communications in Nonlinear Science and Numerical Simulation, 2022, 107, 106129.	1.7	5
82	Partial locking in phase-oscillator populations with heterogenous coupling. Chaos, 2022, 32, 063106.	1.0	5
83	Thermodynamic second law in irreversible processes of chaotic few-body systems. Physical Review E, 2001, 64, 045102.	0.8	4
84	Unexpected correspondence between noise-induced and master-slave complete synchronizations. Physical Review E, 2003, 68, 037202.	0.8	4
85	Existence of localized solutions in the parametrically driven and damped DNLS equation in high-dimensional lattices. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 346, 99-110.	0.9	4
86	CONTROLLING TURBULENCE VIA TARGET WAVES GENERATED BY LOCAL PHASE SPACE COMPRESSION. International Journal of Modern Physics B, 2008, 22, 3855-3863.	1.0	4
87	Local conformity induced global oscillation. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 1243-1248.	1.2	4
88	Estimating network topology by the mean first-passage time. Physical Review E, 2012, 86, 026203.	0.8	4
89	Propagation dynamics on the Fermi-Pasta-Ulam lattices. Frontiers of Physics, 2013, 8, 349-355.	2.4	4
90	Nonequilibrium thermodynamics and fluctuation relations for small systems. Chinese Physics B, 2014, 23, 070501.	0.7	4

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91	Interface-facilitated energy transport in coupled Frenkel-Kontorova chains. <i>Frontiers of Physics</i> , 2016, 11, 1.	2.4	4
92	Systematic perturbation solution for Brownian motion in a biased periodic potential field. <i>Physical Review E</i> , 1995, 52, 109-114.	0.8	3
93	PHASE SYNCHRONIZATION IN DOUBLY DRIVEN CHAOTIC OSCILLATORS. <i>International Journal of Modern Physics B</i> , 2004, 18, 2945-2952.	1.0	3
94	Multi-mode Spiral Wave in a Coupled Oscillatory Medium. <i>Communications in Theoretical Physics</i> , 2010, 53, 977-982.	1.1	3
95	Repeated-drive adaptive feedback identification of network topologies. <i>Physical Review E</i> , 2014, 90, 052818.	0.8	3
96	Different propagation speeds of recalled sequences in plastic spiking neural networks. <i>New Journal of Physics</i> , 2015, 17, 035006.	1.2	3
97	Rotational effect in two-dimensional cooperative directed transport. <i>Frontiers of Physics</i> , 2015, 10, 87-94.	2.4	3
98	The enhancement of energy conversion efficiency and current reversal in the feedback coupled ratchets subject to harmonic forces. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2019, 2019, 013211.	0.9	3
99	Collective sustained oscillations in excitable small-world networks: the moderate fundamental loop or the minimum Winfree loop?. <i>Nonlinear Dynamics</i> , 2020, 99, 1415-1431.	2.7	3
100	The oscillation-mode dynamics in excitable complex networks: Transfer and transition. <i>Europhysics Letters</i> , 0, , .	0.7	3
101	Collective topological dynamics in the Frenkel-Kontorova chains. <i>Physical Review E</i> , 2000, 62, 4294-4299.	0.8	2
102	DEFECT-INDUCED PROPAGATION IN EXCITABLE MEDIA. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2003, 13, 3125-3133.	0.7	2
103	COLLECTIVE DIRECTIONAL TRANSPORT AND COUPLED BROWNIAN RATCHETS. <i>International Journal of Modern Physics B</i> , 2004, 18, 2498-2504.	1.0	2
104	Wavefront depinning in semiconductor superlattices due to discrete-mapping failure. <i>Chinese Physics B</i> , 2008, 17, 4129-4136.	0.7	2
105	Synchronization transition of limit-cycle system with homogeneous phase shifts. <i>Chinese Physics B</i> , 2009, 18, 4187-4192.	0.7	2
106	Spiral chirality transition and tip splitting in oscillatory media with nonlocal couplings. <i>Europhysics Letters</i> , 2010, 92, 50005.	0.7	2
107	Discrete self-oscillation period branches observed in semiconductor superlattices. <i>Physical Review B</i> , 2011, 83, .	1.1	2
108	Four-cluster chimera state in non-locally coupled phase oscillator systems with an external potential. <i>Chinese Physics B</i> , 2013, 22, 100505.	0.7	2

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109	Predicting the phonon spectra of coupled nonlinear chains using effective phonon theory. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 255003.	0.7	2
110	The single- and double-particle properties and the current reversal of coupled Brownian motors. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 475003.	0.7	2
111	Cooperation and competition between two symmetry breakings in a coupled ratchet. Physica A: Statistical Mechanics and Its Applications, 2018, 494, 175-185.	1.2	2
112	PARTIAL SYNCHRONIZATION OF COUPLED CHAOTIC OSCILLATORS WITH BLINKING NON-LOCAL COUPLINGS. International Journal of Modern Physics B, 2007, 21, 995-1003.	1.0	1
113	Measuring nonequilibrium stability and resilience in an -competitor system. Nonlinear Analysis: Real World Applications, 2010, 11, 2016-2022.	0.9	1
114	Ground-State Transition in a Two-Dimensional Frenkel-Kontorova Model. Chinese Physics Letters, 2011, 28, 100507.	1.3	1
115	Failure of the free energy relation under a non-Markovian heat bath temperature change. Chinese Physics B, 2012, 21, 090501.	0.7	1
116	Effect of spatial patterns on population size. Physica A: Statistical Mechanics and Its Applications, 2012, 391, 6016-6023.	1.2	1
117	Resonant current in coupled inertial Brownian particles with delayed-feedback control. Frontiers of Physics, 2017, 12, 1.	2.4	1
118	New Burst-Oscillation Mode in Paced One-Dimensional Excitable Systems. Frontiers in Physiology, 2022, 13, 854887.	1.3	1
119	Collective Directional Transport of Coupled Oscillators in Symmetric Periodic Potentials. International Journal of Modern Physics B, 2003, 17, 4415-4422.	1.0	0
120	GENERALIZED SYNCHRONIZATION IN DOUBLY DRIVEN CHAOTIC SYSTEM. International Journal of Modern Physics B, 2006, 20, 3477-3485.	1.0	0
121	Transport performance of feedback-coupled Brownian ratchets with closed-loop control strategy. International Journal of Modern Physics B, 2015, 29, 1550069.	1.0	0
122	Dynamics of rotator chain with dissipative boundary: energy conduction. Journal of Physics: Conference Series, 2015, 604, 012012.	0.3	0
123	Synchronization of extended Kuramoto oscillators via a parameterized approach. , 2017, , .		0
124	Rotation-translation coupling of a double-headed Brownian motor in a traveling-wave potential. Frontiers of Physics, 2021, 16, 1.	2.4	0
125	Cooperative behaviors of coupled nonidentical oscillators with the same equilibrium points*. Chinese Physics B, 2021, 30, 100504.	0.7	0
126	Collective Sustained Oscillations in Complex Systems. World Scientific Series on Nonlinear Science, Series B, 2021, , 398-428.	0.2	0