

Zhigang Zheng

List of Publications by Year in descending order

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126
papers

1,756
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377584

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36
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126
all docs

126
docs citations

126
times ranked

1160
citing authors

#	ARTICLE	IF	CITATIONS
1	Exact dynamics of phase transitions in oscillator populations with nonlinear coupling. Communications in Nonlinear Science and Numerical Simulation, 2022, 107, 106129.	1.7	5
2	New Burst-Oscillation Mode in Paced One-Dimensional Excitable Systems. Frontiers in Physiology, 2022, 13, 854887.	1.3	1
3	Aging transition under discrete time-dependent coupling: Restoring rhythmicity from aging. Chaos, Solitons and Fractals, 2022, 157, 111944.	2.5	11
4	Partial locking in phase-oscillator populations with heterogenous coupling. Chaos, 2022, 32, 063106.	1.0	5
5	Phase transition and scaling in Kuramoto model with high-order coupling. Nonlinear Dynamics, 2021, 103, 2721-2732.	2.7	10
6	Rotation-translation coupling of a double-headed Brownian motor in a traveling-wave potential. Frontiers of Physics, 2021, 16, 1.	2.4	0
7	Cooperative behaviors of coupled nonidentical oscillators with the same equilibrium points*. Chinese Physics B, 2021, 30, 100504.	0.7	0
8	Stability and bifurcation of collective dynamics in phase oscillator populations with general coupling. Physical Review E, 2021, 103, 032307.	0.8	9
9	Collective Sustained Oscillations in Complex Systems. World Scientific Series on Nonlinear Science, Series B, 2021, , 398-428.	0.2	0
10	An Introduction to Emergence Dynamics in Complex Systems. Soft and Biological Matter, 2021, , 133-196.	0.3	5
11	Collective dynamics of phase oscillator populations with three-body interactions. Physical Review E, 2021, 104, 054208.	0.8	12
12	Synchronization of the Networked System With Continuous and Impulsive Hybrid Communications. IEEE Transactions on Neural Networks and Learning Systems, 2020, 31, 960-971.	7.2	26
13	Collective sustained oscillations in excitable small-world networks: the moderate fundamental loop or the minimum Winfree loop?. Nonlinear Dynamics, 2020, 99, 1415-1431.	2.7	3
14	The optimal oscillation mode in excitable small-world networks. Europhysics Letters, 2020, 131, 38002.	0.7	6
15	Chimera state: From complex networks to spatiotemporal patterns. Scientia Sinica: Physica, Mechanica Et Astronomica, 2020, 50, 010505.	0.2	7
16	Winfree loop sustained oscillation in two-dimensional excitable lattices: Prediction and realization. Chaos, 2019, 29, 073106.	1.0	10
17	Synchronization in starlike networks of phase oscillators. Physical Review E, 2019, 100, 012212.	0.8	20
18	Universal phase transitions to synchronization in Kuramoto-like models with heterogeneous coupling. New Journal of Physics, 2019, 21, 113018.	1.2	23

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19	Bifurcation of the collective oscillatory state in phase oscillators with heterogeneity coupling. <i>Nonlinear Dynamics</i> , 2019, 98, 2365-2373.	2.7	10
20	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
21	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, 013211.	0.9	3
22	Dominant phase-advanced driving analysis of self-sustained oscillations in biological networks. <i>Chinese Physics B</i> , 2018, 27, 018901.	0.7	5
23	Cooperation and competition between two symmetry breakings in a coupled ratchet. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2018, 494, 175-185.	1.2	2
24	Origin of Bellerophon states in globally coupled phase oscillators. <i>Physical Review E</i> , 2018, 98, .	0.8	28
25	Dynamics of clustering patterns in the Kuramoto model with unidirectional coupling. <i>Frontiers of Physics</i> , 2018, 13, 1.	2.4	5
26	Phase transition in coupled star networks. <i>Nonlinear Dynamics</i> , 2018, 94, 1267-1275.	2.7	8
27	Order parameter analysis of synchronization transitions on star networks. <i>Frontiers of Physics</i> , 2017, 12, 1.	2.4	12
28	Double-temperature ratchet model and current reversal of coupled Brownian motors. <i>Frontiers of Physics</i> , 2017, 12, 1.	2.4	9
29	Synchronization of phase oscillators in the generalized Sakaguchi-Kuramoto model. <i>Europhysics Letters</i> , 2017, 118, 60005.	0.7	15
30	The single- and double-particle properties and the current reversal of coupled Brownian motors. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2017, 50, 475003.	0.7	2
31	Minimum Winfree loop determines self-sustained oscillations in excitable Erdős-Rényi random networks. <i>Scientific Reports</i> , 2017, 7, 5746.	1.6	7
32	Resonant current in coupled inertial Brownian particles with delayed-feedback control. <i>Frontiers of Physics</i> , 2017, 12, 1.	2.4	1
33	Ratchet motion and current reversal of coupled Brownian motors in pulsating symmetric potentials. <i>Frontiers of Physics</i> , 2017, 12, 1.	2.4	10
34	Hopf bifurcation control of the μ L neuron model with type I. <i>Nonlinear Dynamics</i> , 2017, 87, 755-766.	2.7	17
35	Synchronization of extended Kuramoto oscillators via a parameterized approach. , 2017, , .		0
36	Predicting the phonon spectra of coupled nonlinear chains using effective phonon theory. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2016, 49, 255003.	0.7	2

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37	Enhanced energy transport owing to nonlinear interface interaction. <i>Scientific Reports</i> , 2016, 6, 19628.	1.6	7
38	Synchronization of phase oscillators with frequency-weighted coupling. <i>Scientific Reports</i> , 2016, 6, 21926.	1.6	23
39	Dynamics of phase oscillators with generalized frequency-weighted coupling. <i>Physical Review E</i> , 2016, 94, 062204.	0.8	22
40	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
41	Order parameter analysis for low-dimensional behaviors of coupled phase-oscillators. <i>Scientific Reports</i> , 2016, 6, 30184.	1.6	6
42	Minimum-action paths for wave-number selection in nonequilibrium systems. <i>Physical Review E</i> , 2016, 93, 042204.	0.8	8
43	Collective dynamics of identical phase oscillators with high-order coupling. <i>Scientific Reports</i> , 2016, 6, 31133.	1.6	17
44	Effects of frustration on explosive synchronization. <i>Frontiers of Physics</i> , 2016, 11, 1.	2.4	17
45	Depicting network structures from variable data produced by unknown colored-noise driven dynamics. <i>Europhysics Letters</i> , 2016, 113, 18005.	0.7	11
46	Interface-facilitated energy transport in coupled Frenkel-Kontorova chains. <i>Frontiers of Physics</i> , 2016, 11, 1.	2.4	4
47	Chimera states in spatiotemporal systems: Theory and Applications. <i>International Journal of Modern Physics B</i> , 2016, 30, 1630002.	1.0	36
48	Transport performance of feedback-coupled Brownian ratchets with closed-loop control strategy. <i>International Journal of Modern Physics B</i> , 2015, 29, 1550069.	1.0	0
49	Explosive or Continuous: Incoherent state determines the route to synchronization. <i>Scientific Reports</i> , 2015, 5, 12039.	1.6	31
50	Dynamics of rotator chain with dissipative boundary: energy conduction. <i>Journal of Physics: Conference Series</i> , 2015, 604, 012012.	0.3	0
51	Solving the inverse problem of noise-driven dynamic networks. <i>Physical Review E</i> , 2015, 91, 012814.	0.8	44
52	Tunable heat conduction through coupled Fermi-Pasta-Ulam chains. <i>Physical Review E</i> , 2015, 91, 012136.	0.8	8
53	Different propagation speeds of recalled sequences in plastic spiking neural networks. <i>New Journal of Physics</i> , 2015, 17, 035006.	1.2	3
54	Rotational effect in two-dimensional cooperative directed transport. <i>Frontiers of Physics</i> , 2015, 10, 87-94.	2.4	3

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55	Repeated-drive adaptive feedback identification of network topologies. <i>Physical Review E</i> , 2014, 90, 052818.	0.8	3
56	Single-clustering synchronization in a ring of Kuramoto oscillators. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014, 47, 125101.	0.7	8
57	Exploring cores and skeletons in oscillatory gene regulatory networks by a functional weight approach. <i>Europhysics Letters</i> , 2014, 105, 18003.	0.7	7
58	Chimera states on complex networks. <i>Physical Review E</i> , 2014, 89, 022914.	0.8	112
59	Dynamics of rotator chain with dissipative boundary. <i>Frontiers of Physics</i> , 2014, 9, 511-518.	2.4	5
60	Effect of coupling displacement on thermal current of Frenkel-Kontorova lattices. <i>European Physical Journal B</i> , 2014, 87, 1.	0.6	5
61	Nonequilibrium thermodynamics and fluctuation relations for small systems. <i>Chinese Physics B</i> , 2014, 23, 070501.	0.7	4
62	Propagation dynamics on the Fermi-Pasta-Ulam lattices. <i>Frontiers of Physics</i> , 2013, 8, 349-355.	2.4	4
63	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
64	Robustness of chimera states in complex dynamical systems. <i>Scientific Reports</i> , 2013, 3, 3522.	1.6	49
65	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
66	Reversed two-cluster chimera state in non-locally coupled oscillators with heterogeneous phase lags. <i>Europhysics Letters</i> , 2013, 103, 10007.	0.7	19
67	Heat conduction of symmetric lattices. <i>Physical Review E</i> , 2013, 87, 062142.	0.8	14
68	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
69	Estimating network topology by the mean first-passage time. <i>Physical Review E</i> , 2012, 86, 026203.	0.8	4
70	Quasiperiodic, periodic, and slowing-down states of coupled heteroclinic cycles. <i>Physical Review E</i> , 2012, 85, 016215.	0.8	9
71	Failure of the free energy relation under a non-Markovian heat bath temperature change. <i>Chinese Physics B</i> , 2012, 21, 090501.	0.7	1
72	Effect of spatial patterns on population size. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2012, 391, 6016-6023.	1.2	1

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73	Chaotic Motifs in Gene Regulatory Networks. PLoS ONE, 2012, 7, e39355.	1.1	46
74	Discrete self-oscillation period branches observed in semiconductor superlattices. Physical Review B, 2011, 83, .	1.1	2
75	Dynamic quantum tunneling in mesoscopic driven Duffing oscillators. Physical Review E, 2011, 84, 011144.	0.8	7
76	Ground-State Transition in a Two-Dimensional Frenkel-Kontorova Model. Chinese Physics Letters, 2011, 28, 100507.	1.3	1
77	DETERMINISTIC COLLECTIVE DIRECTIONAL TRANSPORT IN ONE-DIMENSIONAL FLASHING RATCHET POTENTIALS. Modern Physics Letters B, 2011, 25, 1179-1192.	1.0	5
78	Information explosion on complex networks and control. European Physical Journal B, 2010, 76, 179-183.	0.6	10
79	Measuring nonequilibrium stability and resilience in an α -competitor system. Nonlinear Analysis: Real World Applications, 2010, 11, 2016-2022.	0.9	1
80	Route to noise-induced synchronization in an ensemble of uncoupled chaotic systems. Physical Review E, 2010, 81, 036201.	0.8	7
81	Heat conduction and reversed thermal diode: The interface effect. Physical Review E, 2010, 81, 011114.	0.8	13
82	Multi-mode Spiral Wave in a Coupled Oscillatory Medium. Communications in Theoretical Physics, 2010, 53, 977-982.	1.1	3
83	Spiral chirality transition and tip splitting in oscillatory media with nonlocal couplings. Europhysics Letters, 2010, 92, 50005.	0.7	2
84	Cooperative two-dimensional directed transport. Europhysics Letters, 2010, 92, 30004.	0.7	18
85	Onset of colored-noise-induced synchronization in chaotic systems. Physical Review E, 2009, 79, 056210.	0.8	15
86	Emergence of loop structure in scale-free networks and dynamical consequences. Physical Review E, 2009, 79, 056106.	0.8	14
87	Synchronization of groups of coupled oscillators with sparse connections. Europhysics Letters, 2009, 87, 50006.	0.7	10
88	Synchronization transition of limit-cycle system with homogeneous phase shifts. Chinese Physics B, 2009, 18, 4187-4192.	0.7	2
89	Local conformity induced global oscillation. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 1243-1248.	1.2	4
90	Wavefront depinning in semiconductor superlattices due to discrete-mapping failure. Chinese Physics B, 2008, 17, 4129-4136.	0.7	2

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91	CONTROLLING TURBULENCE VIA TARGET WAVES GENERATED BY LOCAL PHASE SPACE COMPRESSION. International Journal of Modern Physics B, 2008, 22, 3855-3863.	1.0	4
92	Multiple attractors and generalized synchronization in delayed Mackey-Glass systems. Chinese Physics B, 2008, 17, 4009-4013.	0.7	15
93	Synchronization-based scalability of complex clustered networks. Chaos, 2008, 18, 043109.	1.0	9
94	PARTIAL SYNCHRONIZATION OF COUPLED CHAOTIC OSCILLATORS WITH BLINKING NON-LOCAL COUPLINGS. International Journal of Modern Physics B, 2007, 21, 995-1003.	1.0	1
95	Nonlinear Dynamics of a Sliding Chain in a Periodic Potential. Chinese Physics Letters, 2007, 24, 2513-2516.	1.3	6
96	Partial synchronization on complex networks. Europhysics Letters, 2006, 74, 229-235.	0.7	30
97	GENERALIZED SYNCHRONIZATION IN DOUBLY DRIVEN CHAOTIC SYSTEM. International Journal of Modern Physics B, 2006, 20, 3477-3485.	1.0	0
98	Rotation number of the overdamped Frenkel-Kontorova model with ac-driving. Physica D: Nonlinear Phenomena, 2005, 208, 172-190.	1.3	21
99	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
100	Deterministic directed transport of inertial particles in a flashing ratchet potential. Physical Review E, 2005, 71, 031102.	0.8	29
101	COHERENT RESONANCE AND PHASE LOCKING IN NOISE-DRIVEN EXCITABLE SYSTEMS. International Journal of Modern Physics B, 2005, 19, 3501-3509.	1.0	9
102	PHASE SYNCHRONIZATION IN DOUBLY DRIVEN CHAOTIC OSCILLATORS. International Journal of Modern Physics B, 2004, 18, 2945-2952.	1.0	3
103	COLLECTIVE DIRECTIONAL TRANSPORT AND COUPLED BROWNIAN RATCHETS. International Journal of Modern Physics B, 2004, 18, 2498-2504.	1.0	2
104	Detecting generalized synchrony: An improved approach. Physical Review E, 2003, 67, 026223.	0.8	14
105	Unexpected correspondence between noise-induced and master-slave complete synchronizations. Physical Review E, 2003, 68, 037202.	0.8	4
106	Collective Directional Transport of Coupled Oscillators in Symmetric Periodic Potentials. International Journal of Modern Physics B, 2003, 17, 4415-4422.	1.0	0
107	DEFECT-INDUCED PROPAGATION IN EXCITABLE MEDIA. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2003, 13, 3125-3133.	0.7	2
108	Collective Directed Transport of Symmetrically Coupled Lattices in Symmetric Periodic Potentials. Physical Review Letters, 2002, 89, 154102.	2.9	46

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109	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
110	Transitions from partial to complete generalized synchronizations in bidirectionally coupled chaotic oscillators. <i>Physical Review E</i> , 2002, 65, 056211.	0.8	54
111	Thermodynamic second law in irreversible processes of chaotic few-body systems. <i>Physical Review E</i> , 2001, 64, 045102.	0.8	4
112	Collective Directional Transport in Coupled Nonlinear Oscillators without External Bias. <i>Physical Review Letters</i> , 2001, 86, 2273-2276.	2.9	48
113	Collective topological dynamics in the Frenkel-Kontorova chains. <i>Physical Review E</i> , 2000, 62, 4294-4299.	0.8	2
114	Enhancement of phase synchronization through asymmetric couplings. <i>Physical Review E</i> , 2000, 62, 7501-7504.	0.8	13
115	Generalized synchronization versus phase synchronization. <i>Physical Review E</i> , 2000, 62, 7882-7885.	0.8	131
116	Nonlocal chaotic phase synchronization. <i>Physical Review E</i> , 2000, 62, 3552-3557.	0.8	24
117	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
118	Collective phase slips and phase synchronizations in coupled oscillator systems. <i>Physical Review E</i> , 2000, 62, 402-408.	0.8	37
119	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
120	Spatiotemporal dynamics of discrete sine-Gordon lattices with sinusoidal couplings. <i>Physical Review E</i> , 1998, 57, 1139-1144.	0.8	18
121	Phase Slips and Phase Synchronization of Coupled Oscillators. <i>Physical Review Letters</i> , 1998, 81, 5318-5321.	2.9	135
122	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
123	Ergodicity in hard-ball systems and Boltzmann's entropy. <i>Physical Review E</i> , 1996, 53, 3246-3252.	0.8	16
124	Ergodic property of a Henon-Heiles model with reflecting walls. <i>Physical Review E</i> , 1995, 52, 3440-3446.	0.8	10
125	Systematic perturbation solution for Brownian motion in a biased periodic potential field. <i>Physical Review E</i> , 1995, 52, 109-114.	0.8	3
126	The oscillation-mode dynamics in excitable complex networks: Transfer and transition. <i>Europhysics Letters</i> , 0, , .	0.7	3