

Zhihua Qu

List of Publications by Year in descending order

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166
papers

4,032
citations

279798

23
h-index

149698

56
g-index

169
all docs

169
docs citations

169
times ranked

2868
citing authors

#	ARTICLE	IF	CITATIONS
1	Lyapunov, Adaptive, and Optimal Design Techniques for Cooperative Systems on Directed Communication Graphs. IEEE Transactions on Industrial Electronics, 2012, 59, 3026-3041.	7.9	540
2	Secondary control of microgrids based on distributed cooperative control of multi-agent systems. IET Generation, Transmission and Distribution, 2013, 7, 822-831.	2.5	408
3	Cooperative Control of Dynamical Systems With Application to Autonomous Vehicles. IEEE Transactions on Automatic Control, 2008, 53, 894-911.	5.7	304
4	A Self-Organizing Strategy for Power Flow Control of Photovoltaic Generators in a Distribution Network. IEEE Transactions on Power Systems, 2011, 26, 1462-1473.	6.5	243
5	On constructing Lyapunov functions for multi-agent systems. Automatica, 2015, 58, 39-42.	5.0	203
6	A New Analytical Solution to Mobile Robot Trajectory Generation in the Presence of Moving Obstacles. , 2004, 20, 978-993.		130
7	Realizing Unified Microgrid Voltage Profile and Loss Minimization: A Cooperative Distributed Optimization and Control Approach. IEEE Transactions on Smart Grid, 2014, 5, 1621-1630.	9.0	108
8	Optimal, Nonlinear, and Distributed Designs of Droop Controls for DC Microgrids. IEEE Transactions on Smart Grid, 2014, 5, 2508-2516.	9.0	107
9	Distributed finite-time consensus of nonlinear systems under switching topologies. Automatica, 2014, 50, 1626-1631.	5.0	96
10	Distributed Scheduling and Cooperative Control for Charging of Electric Vehicles at Highway Service Stations. IEEE Transactions on Intelligent Transportation Systems, 2017, 18, 2713-2727.	8.0	93
11	Competitive Interaction Design of Cooperative Systems Against Attacks. IEEE Transactions on Automatic Control, 2018, 63, 3159-3166.	5.7	82
12	An Attack-Resilient Cooperative Control Strategy of Multiple Distributed Generators in Distribution Networks. IEEE Transactions on Smart Grid, 2016, 7, 2923-2932.	9.0	81
13	Robust and adaptive boundary control of a stretched string on a moving transporter. IEEE Transactions on Automatic Control, 2001, 46, 470-476.	5.7	76
14	Modularized design for cooperative control and plug-and-play operation of networked heterogeneous systems. Automatica, 2014, 50, 2405-2414.	5.0	71
15	Robust learning control for robotic manipulators with an extension to a class of non-linear systems. International Journal of Control, 2000, 73, 858-870.	1.9	59
16	Toward a globally robust decentralized control for large-scale power systems. IEEE Transactions on Control Systems Technology, 1997, 5, 309-319.	5.2	57
17	Distributed Estimation of All the Eigenvalues and Eigenvectors of Matrices Associated With Strongly Connected Digraphs. , 2017, 1, 328-333.		52
18	Cooperative control with distributed gain adaptation and connectivity estimation for directed networks. International Journal of Robust and Nonlinear Control, 2014, 24, 450-476.	3.7	41

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19	Robust estimation and control of robotic manipulators. <i>Robotica</i> , 1995, 13, 223-231.	1.9	40
20	Asymptotic learning control for a class of cascaded nonlinear uncertain systems. <i>IEEE Transactions on Automatic Control</i> , 2002, 47, 1369-1376.	5.7	40
21	Comparison of Optimal Solutions to Real-Time Path Planning for a Mobile Vehicle. <i>IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans</i> , 2010, 40, 721-731.	2.9	40
22	Robust Control of Generalized Dynamic Systems Without the Matching Conditions. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 1991, 113, 582-589.	1.6	35
23	Asymptotic stability of controlling uncertain dynamical systems. <i>International Journal of Control</i> , 1994, 59, 1345-1355.	1.9	34
24	Lyapunov recursive design of robust adaptive tracking control with L2-gain performance for electrically-driven robot manipulators. <i>International Journal of Control</i> , 2001, 74, 811-828.	1.9	33
25	Robust Tracking Control of a Switched Reluctance Motor Turning and Inertial Load. , 1992, , .		33
26	Coverage control for a mobile robot patrolling a dynamic and uncertain environment. , 0, , .		32
27	An autonomous underwater vehicle as an underwater glider and its depth control. <i>International Journal of Control, Automation and Systems</i> , 2015, 13, 1212-1220.	2.7	32
28	Design and evaluation of robust nonlinear missile autopilots from a performance perspective. , 0, , .		27
29	Clustering and cooperative control of distributed generators for maintaining microgrid unified voltage profile and complex power control. , 2012, , .		27
30	Robust design of cooperative systems against attacks. , 2014, , .		27
31	Enhanced protection against false data injection by dynamically changing information structure of microgrids. , 2012, , .		26
32	Resilient Reinforcement in Secure State Estimation Against Sensor Attacks With <i>A Priori</i> Information. <i>IEEE Transactions on Automatic Control</i> , 2019, 64, 5024-5038.	5.7	26
33	A Rainbow Coverage Path Planning for a Patrolling Mobile Robot With Circular Sensing Range. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , 2018, 48, 1238-1254.	9.3	24
34	Scheduling and cooperative control of electric vehicles' charging at highway service stations. , 2014, , .		23
35	Development of Dynamic Estimators for Islanding Detection of Inverter-Based DG. <i>IEEE Transactions on Power Delivery</i> , 2015, 30, 428-436.	4.3	22
36	A Triangulation-Based Coverage Path Planning. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , 2020, 50, 2157-2169.	9.3	22

#	ARTICLE	IF	CITATIONS
37	An Improved Particle Swarm Optimization with Mutation Based on Similarity. , 2007, , .		20
38	A control-design-based solution to robotic ecology: Autonomy of achieving cooperative behavior from a high-level astronaut command. Autonomous Robots, 2006, 20, 97-112.	4.8	18
39	Lyapunov stability and precise control of the frictional dynamics of a one-dimensional particle array. Physical Review B, 2006, 73, .	3.2	18
40	A Transient Stiffness Measure for Islanding Detection of Multi-DG Systems. IEEE Transactions on Power Delivery, 2015, 30, 986-995.	4.3	18
41	Multivariate Predictive Analytics of Wind Power Data for Robust Control of Energy Storage. IEEE Transactions on Industrial Informatics, 2016, 12, 1350-1360.	11.3	18
42	Non-linear learning control of robot manipulators without requiring acceleration measurement. International Journal of Adaptive Control and Signal Processing, 1993, 7, 77-90.	4.1	17
43	Nonlinear cooperative control for consensus of nonlinear and heterogeneous systems. , 2007, , .		17
44	Scheduled Perturbation to Reduce Nondetection Zone for Low Gain Sandia Frequency Shift Method. IEEE Transactions on Smart Grid, 2015, 6, 3095-3103.	9.0	17
45	Cooperative control of heterogeneous multi-agent systems in a sampled-data setting. , 2016, , .		17
46	Distributed finite-time estimation of the bounds on algebraic connectivity for directed graphs. Automatica, 2019, 107, 289-295.	5.0	17
47	Distributed Link Removal Using Local Estimation of Network Topology. IEEE Transactions on Network Science and Engineering, 2019, 6, 280-292.	6.4	17
48	Resilient Control of Cyber-Physical System Using Nonlinear Encoding Signal Against System Integrity Attacks. IEEE Transactions on Automatic Control, 2021, 66, 4334-4341.	5.7	17
49	Dynamic robust recursive control design and its application to a nonlinear missile autopilot. , 1997, , .		16
50	A Kernel-Based Predictive Model of EV Capacity for Distributed Voltage Control and Demand Response. IEEE Transactions on Smart Grid, 2018, 9, 3180-3190.	9.0	16
51	A new suboptimal control design for cascaded non-linear systems. Optimal Control Applications and Methods, 2002, 23, 303-328.	2.1	15
52	Cooperative, non-cooperative and greedy pursuers strategies in multi-player pursuit-evasion games. , 2017, , .		15
53	A Hybrid-Learning Algorithm for Online Dynamic State Estimation in Multimachine Power Systems. IEEE Transactions on Neural Networks and Learning Systems, 2020, 31, 5497-5508.	11.3	14
54	Asymptotic Stability of Controlling Uncertain Dynamical Systems. , 1992, , .		14

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55	Model Reference Robust Control of SISO Systems with Significant Unmodelled Dynamics. , 1993, , .		13
56	Motion synchronization for semi-autonomous robotic swarm with a passivity-short human operator. International Journal of Intelligent Robotics and Applications, 2018, 2, 235-251.	2.8	13
57	Nonlinear positive observer design for positive dynamical systems. , 2010, , .		12
58	Distributed extremum seeking and cooperative control for mobile communication. , 2011, , .		12
59	Discontinuous cooperative control for consensus of multiagent systems with switching topologies and time-delays. , 2013, , .		12
60	Lyapunov Design of Cooperative Control and Its Application to the Consensus Problem. Control Applications (CCA), Proceedings of the IEEE International Conference on, 2007, , .	0.0	11
61	A distributed cooperative steering control with application to nonholonomic robots. , 2010, , .		11
62	Frequency control of electric power microgrids using distributed cooperative control of multi-agent systems. , 2013, , .		11
63	RoboLeader for reconnaissance by a team of robotic vehicles. , 2010, , .		10
64	Dissipativity-based design of local and wide-area DER controls for large-scale power systems with high penetration of renewables. , 2017, , .		10
65	Continuous-Domain Real-Time Distributed ADMM Algorithm for Aggregator Scheduling and Voltage Stability in Distribution Network. IEEE Transactions on Automation Science and Engineering, 2022, 19, 60-69.	5.2	10
66	Game theoretical designs of resilient cooperative systems. , 2015, , .		9
67	Smart Grid Security: Attacks and Defenses. Power Electronics and Power Systems, 2019, , 199-223.	0.6	9
68	Robust control by two Lyapunov functions. International Journal of Control, 1992, 55, 1335-1350.	1.9	8
69	Robust state observer and control design using command-to-state mapping. Automatica, 2005, 41, 1323-1333.	5.0	8
70	Products of row stochastic matrices and their applications to cooperative control for autonomous mobile robots. , 0, , .		8
71	An Optimized Input/Output-Constrained Control Design With Application to Microgrid Operation. , 2020, 4, 367-372.		8
72	Data-Driven Wide-Area Control Design of Power System Using the Passivity Shortage Framework. IEEE Transactions on Power Systems, 2021, 36, 830-841.	6.5	8

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73	Model Reference Robust Control of A Class of SISO Systems. , 1992, , .		7
74	A new reactive target-tracking control with obstacle avoidance in a dynamic environment. , 2009, , .		7
75	Reactive target-tracking control with obstacle avoidance of unicycle-type mobile robots in a dynamic environment. , 2010, , .		7
76	Non-Cooperative Optimization of Charging Scheduling of Electric Vehicle via Stackelberg Game. , 2018, , .		7
77	Robust control of a class of nonlinear uncertain systems. Fault tolerance against sensor failures and subsequent self recovery. , 0, , .		7
78	Resilient Cooperative Voltage Control for Distribution Network with High Penetration Distributed Energy Resources. , 2020, , .		7
79	A comparison theorem for cooperative control of nonlinear systems. , 2008, , .		6
80	Continuous and inverse optimal control designs for chained systems: A global stateâ€scaling transformation and a timeâ€scaling method. Optimal Control Applications and Methods, 2009, 30, 1-25.	2.1	6
81	Rock-paper-scissors prediction experiments using muscle activations. , 2012, , .		6
82	Optimal design of cooperative guidance law for simultaneous strike. , 2014, , .		6
83	Passivity-based stability analysis of dynamic electricity pricing with power flow. , 2017, , .		6
84	Distributed Learning of Mode Shapes in Power System Models. , 2018, , .		6
85	On the robust control of two manipulators holding a rigid object. Journal of Intelligent and Robotic Systems: Theory and Applications, 1992, 6, 107-119.	3.4	5
86	An Optimal and Real-Time Solution to Parameterized Mobile Robot Trajectories in the Presence of Moving Obstacles. , 0, , .		5
87	RoboLeader: An agent for supervisory control of multiple robots. , 2010, , .		5
88	Optimum design and analysis of the cooperative control, applied to the distributed generators control in smart grids. , 2013, , .		5
89	Growing connected networks under privacy constraint: Achieving trade-off between performance and security. , 2015, , .		5
90	Stochastic distributed optimization of reactive power operations using conditional ensembles of V2G capacity. , 2015, , .		5

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91	An adaptive restorative method for resilient power distribution networks. , 2016, , .		5
92	A Passivity-Shortage Based Control Design for Teleoperation With Time-Varying Delays. IEEE Robotics and Automation Letters, 2020, 5, 4070-4077.	5.1	5
93	An Optimal Kalman-Consensus Filter for Distributed Implementation Over a Dynamic Communication Network. IEEE Access, 2021, 9, 66696-66706.	4.2	5
94	Simplified robust control for nonlinear uncertain systems: a method of projection and online estimation. , 2002, , .		5
95	Robust control design for nonlinear uncertain systems in the absence of the generalized matching conditions. , 0, , .		4
96	Negative feedback control design for a PWM-buck converter. , 0, , .		4
97	Robust and adaptive boundary control of a stretched string. , 2000, , .		4
98	2-D Shape Recognition using Recursive Landmark Determination and Fuzzy ART Network Learning. Neural Processing Letters, 2003, 18, 81-95.	3.2	4
99	Stabilization and tracking control of friction dynamics of a one-dimensional nanoarray. , 0, , .		4
100	Real-time Obstacles Avoidance for Vehicles in the Urban Grand Challenge. Journal of Aerospace Computing, Information, and Communication, 2007, 4, 1117-1133.	0.8	4
101	Triangulation-based path planning for patrolling by a mobile robot. , 2013, , .		4
102	Coordinated Optimal Control of Constrained DERs. , 2018, , .		4
103	Renewable energy integration and system operation challenge: control and optimization of millions of devices. , 2021, , 49-98.		4
104	Resilient Dynamic Average-Consensus of Multiagent Systems. , 2022, 6, 3487-3492.		4
105	Distributed resilient consensus on general digraphs under cyber-attacks. European Journal of Control, 2022, 68, 100681.	2.6	4
106	A near optimal tracking control of dynamic nonholonomic systems. , 0, , .		3
107	Global Stabilization and Convergence of Nonlinear Systems With Uncertain Exogenous Dynamics. IEEE Transactions on Automatic Control, 2004, 49, 1852-1858.	5.7	3
108	The role of electric vehicles for frequency regulation during grid restoration. , 2017, , .		3

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109	Passivity-Short Bilateral Teleoperation with Communication Delays. , 2018, , .		3
110	Toward Resilient Operation of Smart Grid. Power Electronics and Power Systems, 2019, , 275-288.	0.6	3
111	Data-Driven Distributed Algorithms for Estimating Eigenvalues and Eigenvectors of Interconnected Dynamical Systems. IFAC-PapersOnLine, 2020, 53, 52-57.	0.9	3
112	Nonlinear robust control design for robot manipulators with unmodeled actuator dynamics. Advanced Robotics, 1995, 10, 453-467.	1.8	2
113	Robust learning control for a class of nonlinear systems. , 0, , .		2
114	Model reference robust control of systems with significant unmodelled dynamics. International Journal of Robust and Nonlinear Control, 1997, 7, 951-974.	3.7	2
115	Recursive estimation of unstructured uncertainty and robust control design. , 0, , .		2
116	Robust adaptive control of strict-feedback nonlinear systems with nonlinear parameterization. , 0, , .		2
117	Synchronization of Lorenz systems by adaptive observation. , 0, , .		2
118	Cascaded feedback linearization and its application to stabilization of nonholonomic systems. , 2006, , .		2
119	Cooperative control design and stability analysis for multi-agent systems with communication delays. , 0, , .		2
120	Quadratic Lyapunov Functions for Cooperative Control of Networked Systems. , 2007, , .		2
121	Stability of an AFM-based sliding system. , 2009, , .		2
122	Cooperative control with improvable network connectivity. , 2010, , .		2
123	A practical approach to coverage control for multiple mobile robots with a circular sensing range. , 2013, , .		2
124	Discrete-time 3-D Attitude Synchronization Based on Passivity Shortage. , 2018, , .		2
125	Passivity-Short-based Stability Analysis on Electricity Market Trading System Considering Negative Price. , 2018, , .		2
126	Control of Cryogenic Memory State Transitions in a Josephson Junction Array. , 2018, , .		2

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127	Decision-Making in Complex Dynamical Systems of Systems With One Opposing Subsystem. , 2019, , .		2
128	Preserving and Achieving Passivity-Short Property Through Discretization. IEEE Transactions on Automatic Control, 2020, 65, 4265-4272.	5.7	2
129	A Novel State-Constrained Primary Control for Grid-Forming Inverters. , 2021, , .		2
130	Cooperative transport control by a multicopter system. IET Control Theory and Applications, 2021, 15, 861-876.	2.1	2
131	Toward A Linear Control Design For Power Systems. , 1991, , .		2
132	A Real-Time Big Data Control-Theoretical Framework for Cyber-Physical-Human Systems. Springer Optimization and Its Applications, 2019, , 149-172.	0.9	2
133	Non-Cooperative Optimization Algorithm of Charging Scheduling for Electric Vehicle. SICE Journal of Control Measurement and System Integration, 2020, 13, 265-273.	0.7	2
134	Distributed algorithms to determine eigenvectors of matrices on spatially distributed networks. Signal Processing, 2022, 196, 108530.	3.7	2
135	A global-stabilizing near-optimal control for real-time trajectory tracking of nonholonomic chained systems. , 0, , .		1
136	Lyapunov Direct Design of Robust Control for Electrical-Mechanical Systems Composed of Cascaded Nonlinear Uncertain Subsystems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1995, 117, 54-62.	1.6	1
137	Robust control of nonlinear systems by estimating time variant uncertainties. , 0, , .		1
138	Design and Simulation of Robust and Adaptive Controls for a Nonlinear String System1. Journal of Vibration and Acoustics, Transactions of the ASME, 2004, 126, 54-62.	1.6	1
139	Globally stabilizing adaptive control design for nonlinearly-parameterized systems. , 2004, , .		1
140	A real-time optimized path planning for a fixed wing vehicle flying in a dynamic and uncertain environment. , 0, , .		1
141	Feedback Control of Frictional Dynamics. , 2006, , .		1
142	Cooperative Control of Dynamical Systems and Its Robustness Analysis. , 2006, , .		1
143	Output-feedback near-optimal control of chained systems. , 2006, , .		1
144	Single particle dynamics and control in a sliding nanocluster system. , 2007, , .		1

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145	Development of current dynamic estimator for Islanding Detection of inverter based Distributed Generation. , 2010, , .		1
146	Distributed cooperative state estimation for dynamically changing networked navigation. , 2016, , .		1
147	Analysis of cooperative systems with time delay: Application to transportation systems. , 2016, , .		1
148	Restoration using Distributed Energy Resources for Resilient Power Distribution Networks. , 2018, , .		1
149	Cooperative Design of Systems of Systems Against Attack on One Subsystem. , 2019, , .		1
150	Robust control of nonlinear systems in the presence of unknown exogenous dynamics. , 0, , .		1
151	Continuous Robust Control Guaranteeing Functional Performance Index for Nonlinear Uncertain Systems. , 1993, , .		1
152	Self Attack Detection and State Estimation Algorithm in Distributed Observer System under Combination Attack. , 2020, , .		1
153	Continuous Control Design for Synchronous Machines. , 1992, , .		0
154	Robust estimation and control using command-to-state mapping. , 0, , .		0
155	A reduced-order analytical solution to mobile robot trajectory generation in the presence of moving obstacles. , 2004, , .		0
156	Stability of coupled oscillators using Frenkel-Kontorova model. , 2009, , .		0
157	Analysis of controlled morse type Frenkel-Kontorova model. , 2011, , .		0
158	Friction control of one-dimensional particles with Morse-type interaction. , 2011, , .		0
159	Nonlinear control and synchronization of a class of nonlinear coupled dynamical systems. Journal of Control Theory and Applications, 2013, 11, 623-628.	0.8	0
160	A restorative strategy for resilient unbalanced power distribution networks. , 2016, , .		0
161	A distributed cooperative load control approach for ancillary services in smart grid. , 2017, , .		0
162	A Kernel-based predictive model of EV capacity for distributed voltage control and demand response. , 2017, , .		0

#	ARTICLE	IF	CITATIONS
163	Controlling a Constrained Robot Manipulator in the Presence of Uncertainty. , 1991, , .		0
164	Robust Control Designed by Composition of Lyapunov Functions. , 1991, , .		0
165	Distributed Data-Driven Power Iteration for Strongly Connected Networks. , 2021, , .		0
166	A real-time optimized path planning for a fixed wing vehicle flying in a dynamic and uncertain environment. , 0, , .		0