Wei Zhang

List of Publications by Year
in descending order

98 papers	2,897 citations	279798 23 h-index	243625 44 g-index
98 all docs	98 docs citations	98 times ranked	2274 citing authors

#	Article	IF	Citations
1	Aggregated Modeling and Control of Air Conditioning Loads for Demand Response. IEEE Transactions on Power Systems, 2013, 28, 4655-4664.	6.5	389
2	A Geometric Approach to Aggregate Flexibility Modeling of Thermostatically Controlled Loads. IEEE Transactions on Power Systems, 2017, 32, 4721-4731.	6.5	184
3	Cooperative pursuit with Voronoi partitions. Automatica, 2016, 72, 64-72.	5.0	130
4	Stability Analysis and Controller Design of DC Microgrids With Constant Power Loads. IEEE Transactions on Smart Grid, 2015, , 1-1.	9.0	127
5	Exponential stabilization of discrete-time switched linear systems. Automatica, 2009, 45, 2526-2536.	5.0	120
6	Robust Stability Analysis of DC Microgrids With Constant Power Loads. IEEE Transactions on Power Systems, 2018, 33, 851-860.	6.5	117
7	Market-Based Coordination of Thermostatically Controlled Loadsâ€"Part I: A Mechanism Design Formulation. IEEE Transactions on Power Systems, 2016, 31, 1170-1178.	6.5	115
8	Guaranteed decentralized pursuit-evasion in the plane with multiple pursuers. , 2011, , .		108
9	On efficient sensor scheduling for linear dynamical systems. Automatica, 2012, 48, 2482-2493.	5.0	99
10	Hiding privacy information in video surveillance system. , 2005, , .		84
11	On the Value Functions of the Discrete-Time Switched LQR Problem. IEEE Transactions on Automatic Control, 2009, 54, 2669-2674.	5.7	84
12	Infinite-Horizon Switched LQR Problems in Discrete Time: A Suboptimal Algorithm With Performance Analysis. IEEE Transactions on Automatic Control, 2012, 57, 1815-1821.	5.7	74
13	Aggregate model for heterogeneous thermostatically controlled loads with demand response. , 2012, , .		74
14	A differential game approach to planning in adversarial scenarios: A case study on capture-the-flag. , 2011, , .		70
15	A Hierarchical Flight Planning Framework for Air Traffic Management. Proceedings of the IEEE, 2012, 100, 179-194.	21.3	54
16	Automation-Assisted Capture-the-Flag: A Differential Game Approach. IEEE Transactions on Control Systems Technology, 2015, 23, 1014-1028.	5.2	54
17	On the Optimal Solutions of the Infinite-Horizon Linear Sensor Scheduling Problem. IEEE Transactions on Automatic Control, 2014, 59, 2825-2830.	5.7	49
18	Pursuit, evasion and defense in the plane. , 2012, , .		48

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19	Integrated Power Management of Data Centers and Electric Vehicles for Energy and Regulation Market Participation. IEEE Transactions on Smart Grid, 2014, 5, 2283-2294.	9.0	47
20	Quadratic optimal control of switched linear stochastic systems. Systems and Control Letters, 2010, 59, 736-744.	2.3	35
21	Transactive Energy Systems: The Market-Based Coordination of Distributed Energy Resources. IEEE Control Systems, 2020, 40, 26-52.	0.8	35
22	Generating Functions of Switched Linear Systems: Analysis, Computation, and Stability Applications. IEEE Transactions on Automatic Control, 2011, 56, 1059-1074.	5.7	33
23	Hybrid Systems in Robotics. IEEE Robotics and Automation Magazine, 2011, 18, 33-43.	2.0	33
24	Underactuated Motion Planning and Control for Jumping With Wheeled-Bipedal Robots. IEEE Robotics and Automation Letters, 2021, 6, 747-754.	5.1	33
25	Autonomous Social Distancing in Urban Environments Using a Quadruped Robot. IEEE Access, 2021, 9, 8392-8403.	4.2	31
26	Schedule Communication for Decentralized State Estimation. IEEE Transactions on Signal Processing, 2013, 61, 2525-2535.	5.3	29
27	Market-Based Coordination of Thermostatically Controlled Loadsâ€”Part II: Unknown Parameters and Case Studies. IEEE Transactions on Power Systems, 2016, 31, 1179-1187.	6.5	28
28	Design and Modeling of an Extensible Soft Robotic Arm. IEEE Robotics and Automation Letters, 2019, 4, 4208-4215.	5.1	26
29	Robust Feedback Motion Policy Design Using Reinforcement Learning on a 3D Digit Bipedal Robot. , 2021, , .		26
30	On infinite horizon switched LQR problems with state and control constraints. Systems and Control Letters, 2012, 61, 464-471.	2.3	25
31	Hybrid Zero Dynamics Inspired Feedback Control Policy Design for 3D Bipedal Locomotion using Reinforcement Learning. , 2020, , .		24
32	Optimal Multi-Agent Coordination Under Tree Formation Constraints. IEEE Transactions on Automatic Control, 2008, 53, 692-705.	5.7	23
33	Efficient suboptimal solutions of switched LQR problems. , 2009, , .		22
34	Distributed control of inverter-based lossy microgrids for power sharing and frequency regulation under voltage constraints. Automatica, 2016, 66, 85-95.	5.0	22
35	A probabilistic approach for prognosis of battery pack aging. Journal of Power Sources, 2017, 347, 57-68.	7.8	22
36	A geometric approach to virtual battery modeling of thermostatically controlled loads. , 2016, , .		21

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37	On the optimal solutions of the infinite-horizon linear sensor scheduling problem. , 2010, , .		18
38	On efficient sensor scheduling for linear dynamical systems. , 2010, , .		18
39	Reduced-order modeling of aggregated thermostatic loads with demand response. , 2012, , .		18
40	Extracting flexibility of heterogeneous deferrable loads via polytopic projection approximation. , 2016, , .		18
41	A piecewise smooth control-Lyapunov function framework for switching stabilization. Automatica, 2017, 76, 258-265.	5.0	18
42	Joint management of data centers and electric vehicles for maximized regulation profits. , 2013, , .		17
43	A hierarchical method for stochastic motion planning in uncertain environments. , 2012, , .		16
44	A hierarchical framework for demand-side frequency control. , 2014, , .		16
45	On Optimal Quadratic Regulation for Discrete-Time Switched Linear Systems. Lecture Notes in Computer Science, 2008, , 584-597.	1.3	16
46	Optimal Control of a Differentially Flat Two-Dimensional Spring-Loaded Inverted Pendulum Model. IEEE Robotics and Automation Letters, 2020, 5, 307-314.	5.1	15
47	Modeling and control of aggregated air conditioning loads under realistic conditions. , 2013, , .		14
48	Optimal solutions to a class of power management problems in mobile robots. Automatica, 2009, 45, 989-996.	5.0	13
49	Full-Order and Reduced-Order Exponential Observers for Discrete-Time Nonlinear Systems With Incremental Quadratic Constraints. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2019, 141, .	1.6	13
50	Dynamic buffer management using optimal control of hybrid systems. Automatica, 2008, 44, 1831-1840.	5.0	11
51	Decentralized control of aggregated loads for demand response. , 2013, , .		11
52	On Switching Stabilizability for Continuous-Time Switched Linear Systems. IEEE Transactions on Automatic Control, 2016, 61, 3515-3520.	5.7	10
53	Reinforcement Learning-Based Cascade Motion Policy Design for Robust 3D Bipedal Locomotion. IEEE Access, 2022, 10, 20135-20148.	4.2	10
54	Instantaneous Capture Input for Balancing the Variable Height Inverted Pendulum. IEEE Robotics and Automation Letters, 2021, 6, 7421-7428.	5.1	9

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55	On the value functions of the optimal quadratic regulation problem for discrete-time switched linear systems. , 2008, , .		8
56	Reinforcement Learning Meets Hybrid Zero Dynamics: A Case Study for RABBIT. , 2019, , .		8
57	On social optima of non-cooperative mean field games. , 2016, , .		7
58	Optimal Power Modes Scheduling Using Hybrid Systems. Proceedings of the American Control Conference, 2007, , .	0.0	6
59	A unified Stochastic Hybrid System approach to aggregated load modeling for demand response. , 2015, , .		6
60	Maximizing the revenues of data centers in regulation market by coordinating with electric vehicles. Sustainable Computing: Informatics and Systems, 2015, 6, 26-38.	2.2	6
61	Robust stability analysis of DC microgrids with constant power loads. , 2017, , .		6
62	A Unified Stochastic Hybrid System Approach to Aggregate Modeling of Responsive Loads. IEEE Transactions on Automatic Control, 2018, 63, 4250-4263.	5.7	6
63	A generating function approach to the stability of discrete-time switched linear systems. , 2010, , .		5
64	Data center power control for frequency regulation. , 2013, , .		5
65	Continuous-time intruder isolation using Unattended Ground Sensors on graphs. , 2014, , .		5
66	Frequency responsive demand in U.S. Western power system model. , 2015, , .		5
67	On reverse Stackelberg game and optimal mean field control for a large population of thermostatically controlled loads. , 2016, , .		5
68	On resilience analysis and quantification for wide-area control of power systems. , 2016, , .		5
69	Intruder Isolation on a General Road Network Under Partial Information. IEEE Transactions on Control Systems Technology, 2017, 25, 222-234.	5.2	5
70	Dynamic Energy Management of a Residential Energy Eco-System. , 2013, , .		4
71	Stabilization of Discrete-Time Switched Linear Systems: A Control-Lyapunov Function Approach. Lecture Notes in Computer Science, 2009, , 411-425.	1.3	4
72	Force-feedback based Whole-body Stabilizer for Position-Controlled Humanoid Robots. , 2021, , .		4

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73	A case study of formation constrained optimal multi-agent coordination. , 2007, , .		3
74	On sensor scheduling of linear dynamical systems with error bounds. , 2010, , .		3
75	Planning and control of Electric Vehicles using dynamic energy capacity models. , 2013, , .		3
76	On exact and near optimal power flow solutions for microgrid applications. , 2016, , .		3
77	Connections between mean-field game and social welfare optimization. Automatica, 2019, 110, 108590.	5.0	3
78	Quadruped Robot Hopping on Two Legs. , 2021, , .		3
79	Encirclement Guaranteed Cooperative Pursuit with Robust Model Predictive Control. , 2021, , .		3
80	Symmetry of Solutions to the Generalized 1-D Optimal Sojourn Time Control Problem. , 2006, , .		2
81	Low power management for autonomous mobile robots using optimal control. , 2007, , .		2
82	Optimal buffer management using hybrid systems. , 2007, , .		2
83	On the infinite horizon constrained switched LQR problem. , 2010, , .		2
84	An ODE Comparison Theorem With Application in the Optimal Exit Time Control Problem. IEEE Transactions on Automatic Control, 2010, 55, 164-170.	5.7	2
85	Symmetry of Solutions to the Optimal Exit Time Control Problem. SIAM Journal on Control and Optimization, 2010, 48, 5488-5509.	2.1	2
86	Variable neural adaptive robust output feedback control of uncertain systems. , 2010, , .		2
87	Optimal quadratic regulation for discrete-time switched linear systems: A numerical approach. , 2008, , .		1
88	On piecewise quadratic control-Lyapunov functions for switched linear systems. , 2009, , .		1
89	Decentralized flight path planning for air traffic management. , 2011, , .		1
90	Demand dynamics aggregation using hybrid systems. , 2012, , .		1

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91	On market-based coordination of Thermostatically Controlled Loads with user preference. , 2014, , .		1
92	Micro-Quadrotor Aggressive Maneuvers with Obstacles via Aerodynamic Compensation. , 2020, , .		1
93	Employing optimization and sensitivity analyses tools to generate and analyze mathematical models of T cell signaling events. AIP Conference Proceedings, 2007, , .	0.4	0
94	Communication scheduling for decentralized state estimation. , 2012, , .		0
95	Addendum to â€œGenerating Functions of Switched Linear Systems: Analysis, Computation, and Stability Applicationsâ€•[May 11 1059-1074]. IEEE Transactions on Automatic Control, 2013, 58, 1887-1887.	5.7	0
96	Converse control-Lyapunov function theorems for continuous-time switched linear systems. , 2015, , .		0
97	On distributed control of voltage source inverters in island AC microgrids. , 2015, , .		0
98	Poster Abstract: A Unified Distributed Control Framework for Inverter-Based Islanded Microgrid. , 2016, , .		0