

Ian A Hiskens

List of Publications by Year in descending order

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94
papers

4,651
citations

361413

20
h-index

265206

42
g-index

95
all docs

95
docs citations

95
times ranked

3639
citing authors

#	ARTICLE	IF	CITATIONS
1	Achieving Controllability of Electric Loads. Proceedings of the IEEE, 2011, 99, 184-199.	21.3	862
2	Decentralized Charging Control of Large Populations of Plug-in Electric Vehicles. IEEE Transactions on Control Systems Technology, 2013, 21, 67-78.	5.2	742
3	Distributed MPC Strategies With Application to Power System Automatic Generation Control. IEEE Transactions on Control Systems Technology, 2008, 16, 1192-1206.	5.2	643
4	Definition and Classification of Power System Stability “ Revisited & Extended. IEEE Transactions on Power Systems, 2021, 36, 3271-3281.	6.5	404
5	Decentralized charging control for large populations of plug-in electric vehicles. , 2010, , .		154
6	Frequency Regulation From Commercial Building HVAC Demand Response. Proceedings of the IEEE, 2016, 104, 745-757.	21.3	150
7	Efficient decentralized coordination of large-scale plug-in electric vehicle charging. Automatica, 2016, 69, 35-47.	5.0	122
8	Decentralized charging control for large populations of plug-in electric vehicles: Application of the Nash certainty equivalence principle. , 2010, , .		116
9	Sparsity-Exploiting Moment-Based Relaxations of the Optimal Power Flow Problem. IEEE Transactions on Power Systems, 2015, 30, 3168-3180.	6.5	116
10	Model-Predictive Cascade Mitigation in Electric Power Systems With Storage and Renewables“Part I: Theory and Implementation. IEEE Transactions on Power Systems, 2015, 30, 67-77.	6.5	79
11	Overvoltages due to Synchronous Tripping of Plug-in Electric-Vehicle Chargers Following Voltage Dips. IEEE Transactions on Power Delivery, 2014, 29, 1147-1156.	4.3	77
12	Stability Analysis of Load Frequency Control Systems With Sampling and Transmission Delay. IEEE Transactions on Power Systems, 2020, 35, 3603-3615.	6.5	64
13	Assessment of non-centralised model predictive control techniques for electrical power networks. International Journal of Control, 2012, 85, 1162-1177.	1.9	53
14	Incentive-based coordinated charging control of plug-in electric vehicles at the distribution-transformer level. , 2012, , .		47
15	Convex Relaxations of Optimal Power Flow Problems: An Illustrative Example. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 650-660.	5.4	46
16	An Efficient Game for Coordinating Electric Vehicle Charging. IEEE Transactions on Automatic Control, 2017, 62, 2374-2389.	5.7	45
17	Optimal Capacity Design and Operation of Energy Hub Systems. Proceedings of the IEEE, 2020, 108, 1475-1495.	21.3	43
18	Model-Predictive Cascade Mitigation in Electric Power Systems With Storage and Renewables“Part II: Case-Study. IEEE Transactions on Power Systems, 2015, 30, 78-87.	6.5	41

#	ARTICLE	IF	CITATIONS
19	Distributed Output Feedback MPC for Power System Control. , 2006, , .		38
20	Limit-induced stable limit cycles in power systems. , 2005, , .		37
21	Control of inverter-connected sources in autonomous microgrids. , 2008, , .		37
22	Solving Multiperiod OPF Problems Using an AC-QP Algorithm Initialized With an SOCP Relaxation. IEEE Transactions on Power Systems, 2017, 32, 3538-3548.	6.5	34
23	SHOOTING METHODS FOR LOCATING GRAZING PHENOMENA IN HYBRID SYSTEMS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2006, 16, 671-692.	1.7	32
24	Impact of controlled plug-in EVs on microgrids: A military microgrid example. , 2011, , .		31
25	A Laplacian-Based Approach for Finding Near Globally Optimal Solutions to OPF Problems. IEEE Transactions on Power Systems, 2017, 32, 305-315.	6.5	31
26	Switching-induced stable limit cycles. Nonlinear Dynamics, 2007, 50, 575-585.	5.2	30
27	A Dynamical Systems Approach to Modeling and Analysis of Transactive Energy Coordination. IEEE Transactions on Power Systems, 2019, 34, 4060-4070.	6.5	30
28	Explaining inefficiencies in commercial buildings providing power system ancillary services. Energy and Buildings, 2017, 152, 216-226.	6.7	22
29	Mitigating Voltage Unbalance Using Distributed Solar Photovoltaic Inverters. IEEE Transactions on Power Systems, 2021, 36, 2642-2651.	6.5	20
30	Second-Order Trajectory Sensitivity Analysis of Hybrid Systems. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1922-1934.	5.4	19
31	Achieving controllability of plug-in electric vehicles. , 2009, , .		18
32	Two-stage model predictive control for voltage collapse prevention. , 2008, , .		17
33	Solution of optimal power flow problems using moment relaxations augmented with objective function penalization. , 2015, , .		16
34	Corrective Model-Predictive Control in Large Electric Power Systems. IEEE Transactions on Power Systems, 2016, , 1-1.	6.5	16
35	Dynamics of a microgrid supplied by solid oxide fuel cells. , 2007, , .		15
36	Inner Approximation of Minkowski Sums: A Union-Based Approach and Applications to Aggregated Energy Resources. , 2018, , .		15

#	ARTICLE	IF	CITATIONS
37	Distributed Barrier Certificates for Safe Operation of Inverter-Based Microgrids. , 2019, , .		15
38	Impact of wind power variability on sub-transmission networks. , 2012, , .		14
39	Consensus-based coordination of electric vehicle charging considering transformer hierarchy. Control Engineering Practice, 2018, 80, 138-145.	5.5	14
40	Cascade mitigation in energy hub networks. , 2011, , .		13
41	Mixed SDP/SOCP moment relaxations of the optimal power flow problem. , 2015, , .		13
42	Do commercial buildings become less efficient when they provide grid ancillary services?. Energy Efficiency, 2020, 13, 487-501.	2.8	13
43	Chance-constrained optimal capacity design for a renewable-only islanded microgrid. Electric Power Systems Research, 2020, 189, 106564.	3.6	13
44	Impact of energy storage on cascade mitigation in multi-energy systems. , 2012, , .		12
45	Analysis tools for assessing the impact of wind power on weak grids. , 2012, , .		11
46	Optimal power flow with storage. , 2014, , .		11
47	Trajectory deadlock in power system models. , 2011, , .		10
48	Semidefinite relaxations of equivalent optimal power flow problems: An illustrative example. , 2015, , .		9
49	Topological Graph Metrics for Detecting Grid Anomalies and Improving Algorithms. , 2018, , .		9
50	Incorporating new power system security paradigms into low-carbon electricity markets. Electricity Journal, 2020, 33, 106837.	2.5	9
51	Coordinated PEV charging and its effect on distribution system dynamics. , 2014, , .		8
52	Load synchronization and sustained oscillations induced by transactive control. , 2017, , .		8
53	Evaluating Resilience of Electricity Distribution Networks via a Modification of Generalized Benders Decomposition Method. IEEE Transactions on Control of Network Systems, 2021, 8, 1225-1238.	3.7	8
54	Hysteresis-based charging control of plug-in electric vehicles. , 2012, , .		7

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55	Multi-period AC-QP optimal power flow including storage. , 2016, , .		7
56	Incorporating storage as a flexible transmission asset in power system operation procedure. , 2016, , .		7
57	Applying Steinmetz Circuit Design to Mitigate Voltage Unbalance Using Distributed Solar PV. , 2019, , .		7
58	Analysis of Tap-Induced Oscillations Observed in an Electrical Distribution System. IEEE Transactions on Power Systems, 2007, 22, 1881-1887.	6.5	6
59	Numerical Computation of Parameter-Space Stability/Instability Partitions for Induction Motor Stalling. IFAC-PapersOnLine, 2016, 49, 250-255.	0.9	6
60	Optimal policy-based control of generation and HVDC lines in power systems under uncertainty. , 2017, , .		6
61	On the effect of DC source voltage on inverter-based frequency and voltage regulation in a military microgrid. , 2012, , .		5
62	Noise and Parameter Heterogeneity in Aggregate Models of Thermostatically Controlled Loads. IFAC-PapersOnLine, 2017, 50, 8888-8894.	0.9	5
63	Temperature-based Model-Predictive Cascade Mitigation in Electric Power Systems. , 2013, , .		4
64	Efficient coordination of electric vehicle charging using a progressive second price auction. , 2015, , .		4
65	Improving Power System Voltage Stability by Using Demand Response to Maximize the Distance to the Closest Saddle-Node Bifurcation. , 2018, , .		4
66	Trajectory approximation near the stability boundary. , 2010, , .		3
67	A distributed wireless testbed for plug-in hybrid electric vehicle control algorithms. , 2012, , .		3
68	Reactive power limitation due to wind-farm collector networks. , 2015, , .		3
69	Decentralized Coordination of Controlled Loads and Transformers in a hierarchical structure * *This work was supported by the International S&T Cooperation Program of China (ISTCP) through Grant 2015DFA61520, and the US National Science Foundation under Grant CNS-1238962.. IFAC-PapersOnLine, 2017, 50, 5560-5566.	0.9	3
70	An experimental study of energy consumption in buildings providing ancillary services. , 2017, , .		3
71	Analysis of synchronization in load ensembles. Electric Power Systems Research, 2021, 190, 106779.	3.6	3
72	State-space modelling of hysteresis-based control schemes. , 2013, , .		2

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73	Generalized Line Loss Relaxation in Polar Voltage Coordinates. IEEE Transactions on Power Systems, 2017, 32, 1980-1989.	6.5	2
74	Consensus-Based Coordination of Electric Vehicle Charging * *This work was supported by the International S&T Cooperation Program of China (ISTCP) through Grant 2015DFA61520, and the U.S. National Science Foundation under Grant CNS-1238962.. IFAC-PapersOnLine, 2017, 50, 8881-8887.	0.9	2
75	Numerical Computation of Critical Parameter Values for Fault Recovery in Power Systems. , 2018, , .		2
76	Jump Conditions for Second-Order Trajectory Sensitivities at Events. , 2018, , .		2
77	Comments on "Stability Regions of Nonlinear Autonomous Dynamical Systems" IEEE Transactions on Automatic Control, 2021, 66, 6194-6196.	5.7	2
78	Baseline estimation of commercial building HVAC fan power using tensor completion. Electric Power Systems Research, 2020, 189, 106624.	3.6	2
79	Reach-Set Estimation for DAE Systems under Uncertainty and Disturbances Using Trajectory Sensitivity and Logarithmic Norm. IFAC-PapersOnLine, 2020, 53, 1955-1961.	0.9	2
80	Characterization of Daily Wind Farm Power Fluctuations Using Wavelet Transform. , 2008, , .		1
81	Phase boundary computation for Fault Induced Delayed Voltage Recovery. , 2015, , .		1
82	Toward Resilience-Aware Resource Allocation and Dispatch in Electricity Distribution Networks. The IMA Volumes in Mathematics and Its Applications, 2018, , 461-489.	0.5	1
83	Convergence of Distributed Steinmetz Control for Balancing Distribution Network Voltages. IEEE Transactions on Power Systems, 2022, 37, 3370-3380.	6.5	1
84	Hausdorff Continuity of Region of Attraction Boundary Under Parameter Variation with Application to Disturbance Recovery. SIAM Journal on Applied Dynamical Systems, 2022, 21, 327-365.	1.6	1
85	Transportation electrification education for K-12 students. , 2011, , .		0
86	Inverse-affine dependence of recovery-time sensitivities on critical disturbance parameters: A nonlinear dynamics explanation. , 2012, , .		0
87	An enhanced MPC-based strategy for non-disruptive load shedding. , 2012, , .		0
88	Alternative strategies for designing stabilizing model predictive controllers. , 2013, , .		0
89	Non-unique equilibria in wind turbine models. , 2013, , .		0
90	Guest Editorial Design of Energy-Efficient Distributed Power Generation Systems. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2015, 5, 297-301.	3.6	0

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91	Optimal control policies for reserve deployment with probabilistic performance guarantees. , 2017, , .		0
92	Numerical Computation of Critical System Recovery Parameter Values by Trajectory Sensitivity Maximization. , 2019, , .		0
93	Efficient Computation of Minimal Wind-Power Deviations that Induce Temporal Line Overloading. IEEE Transactions on Power Systems, 2021, , 1-1.	6.5	0
94	Parametric Dependence of Large Disturbance Response for Vector Fields with Event-Selected Discontinuities. , 2019, , .		0