

Kai Sun

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

159
papers

2,993
citations

29
h-index

49
g-index

187
ext. papers

3,830
ext. citations

5.7
avg, IF

5.75
L-index

#	Paper	IF	Citations
159	On Periodical Damping Ratio of a Controlled Dynamical System With Parametric Resonances 2022 , 6, 2228-2233		
158	Analytical static voltage stability boundary based on holomorphic embedding. <i>International Journal of Electrical Power and Energy Systems</i> , 2022 , 134, 107386	5.1	1
157	A Semi-Analytical Solution Approach for Solving Constant-Coefficient First-Order Partial Differential Equations 2022 , 6, 704-709		1
156	Formulation and Visualization of Bus Voltage-Var Safety Regions for a Power System. <i>IEEE Transactions on Power Systems</i> , 2022 , 1-1	7	0
155	Multi-stage stochastic optimization of islanded utility-microgrids after natural disasters. <i>Operations Research Perspectives</i> , 2022 , 100235	2.1	0
154	. <i>IEEE Transactions on Power Systems</i> , 2021 , 36, 3142-3152	7	2
153	Real-Time Area Angle Monitoring Using Synchrophasors: A Practical Framework and Utility Deployment. <i>IEEE Transactions on Smart Grid</i> , 2021 , 12, 859-870	10.7	3
152	. <i>IEEE Transactions on Power Systems</i> , 2021 , 1-1	7	6
151	Direct Damping Feedback Control Using Power Electronics-Interfaced Resources. <i>IEEE Transactions on Power Systems</i> , 2021 , 1-1	7	1
150	Contingency Analysis Based on Partitioned and Parallel Holomorphic Embedding. <i>IEEE Transactions on Power Systems</i> , 2021 , 1-1	7	2
149	A Hybrid Energy and Mode Decomposition-Based Method for Evaluating Generators Damping in Multi-Machine Power Systems. <i>IEEE Access</i> , 2021 , 9, 37156-37166	3.5	0
148	Stochastic optimization of distributed generator location and sizing in an islanded utility microgrid during a large-scale grid disturbance. <i>Sustainable Energy, Grids and Networks</i> , 2021 , 27, 100516	3.6	2
147	Vulnerability assessment for voltage stability based on solvability regions of decoupled power flow equations. <i>Applied Energy</i> , 2021 , 304, 117738	10.7	2
146	Understanding a Type of Forced Oscillation Caused by Steam-Turbine Governors. <i>IEEE Transactions on Energy Conversion</i> , 2020 , 35, 1719-1722	5.4	2
145	Optimized Autonomous Operation Control to Maintain the Frequency, Voltage and Accurate Power Sharing for DGs in Islanded Systems. <i>IEEE Transactions on Smart Grid</i> , 2020 , 11, 3885-3895	10.7	3
144	Optimal Distributed Generator Placement in Utility-Based Microgrids During a Large-Scale Grid Disturbance. <i>IEEE Access</i> , 2020 , 8, 21333-21344	3.5	7
143	Extended Prony Analysis on Power System Oscillation Under a Near-Resonance Condition 2020 ,		1

142	An Online Search Method for Representative Risky Fault Chains Based on Reinforcement Learning and Knowledge Transfer. <i>IEEE Transactions on Power Systems</i> , 2020 , 35, 1856-1867	7	14
141	Solving Power System Differential Algebraic Equations Using Differential Transformation. <i>IEEE Transactions on Power Systems</i> , 2020 , 35, 2289-2299	7	13
140	Characterization of Subsynchronous Oscillation with Wind Farms Using Describing Function and Generalized Nyquist Criterion. <i>IEEE Transactions on Power Systems</i> , 2020 , 35, 2783-2793	7	10
139	. <i>IEEE Access</i> , 2020 , 8, 97452-97461	3.5	4
138	A Dynamized Power Flow Method Based on Differential Transformation. <i>IEEE Access</i> , 2020 , 8, 182441-182450	3.5	3
137	. <i>IEEE Open Access Journal of Power and Energy</i> , 2020 , 7, 489-500	3.8	9
136	Measurement-Based Voltage Stability Assessment Considering Generator VAR Limits. <i>IEEE Transactions on Smart Grid</i> , 2020 , 11, 301-311	10.7	2
135	Efficient and Robust Dynamic Simulation of Power Systems With Holomorphic Embedding. <i>IEEE Transactions on Power Systems</i> , 2020 , 35, 938-949	7	12
134	Understanding Subsynchronous Oscillations in DFIG-Based Wind Farms Without Series Compensation. <i>IEEE Access</i> , 2019 , 7, 107201-107210	3.5	5
133	Analytical Solutions for Power Flow Equations Based on the Multivariate Quotient-Difference Method 2019 ,		1
132	Real-Time Optimized Load Recovery Considering Frequency Constraints. <i>IEEE Transactions on Power Systems</i> , 2019 , 34, 4204-4215	7	5
131	Vectorized Efficient Computation of Padé Approximation for Semi-Analytical Simulation of Large-Scale Power Systems. <i>IEEE Transactions on Power Systems</i> , 2019 , 34, 3957-3959	7	6
130	Power System Time Domain Simulation Using a Differential Transformation Method. <i>IEEE Transactions on Power Systems</i> , 2019 , 34, 3739-3748	7	16
129	Power System Transient Stability Analysis Using High-Order Taylor Expansion Systems 2019 ,		1
128	Optimization of Battery Energy Storage to Improve Power System Oscillation Damping. <i>IEEE Transactions on Sustainable Energy</i> , 2019 , 10, 1015-1024	8.2	40
127	Nonlinear Modal Decoupling Based Power System Transient Stability Analysis. <i>IEEE Transactions on Power Systems</i> , 2019 , 34, 4889-4899	7	6
126	WAMS-Based Controlled System Separation to Mitigate Cascading Failures in Smart Grid. <i>Power Electronics and Power Systems</i> , 2019 , 185-195	0.3	
125	Remote Voltage Control Using the Holomorphic Embedding Load Flow Method. <i>IEEE Transactions on Smart Grid</i> , 2019 , 10, 6308-6319	10.7	3

124	Demand Response to Help Mitigate Cascading Outages: A Case Study on the 2011 Tornado Super Outbreak 2019 ,		1
123	Interaction Graph-Based Active Islanding to Mitigate Cascading Outages 2019 ,		2
122	Mitigation of Cascading Outages Using a Dynamic Interaction Graph-Based Optimal Power Flow Model. <i>IEEE Access</i> , 2019 , 7, 168637-168648	3.5	9
121	Initial Study of the Power System Stability Boundary Estimated from Nonlinear Modal Decoupling 2019 ,		2
120	Estimating Transient Stability Margin Regarding a Dominant Oscillation Mode 2019 ,		2
119	Optimization of SVC settings to improve post-fault voltage recovery and angular stability. <i>Journal of Modern Power Systems and Clean Energy</i> , 2019 , 7, 491-499	4	3
118	Toward Simulation and Risk Assessment of Weather-Related Outages. <i>IEEE Transactions on Smart Grid</i> , 2019 , 10, 4391-4400	10.7	12
117	A Computationally Efficient Method for Bounding Impacts of Multiple Uncertain Parameters in Dynamic Load Models. <i>IEEE Transactions on Power Systems</i> , 2019 , 34, 897-907	7	3
116	Voltage Stability Analysis of Power Systems With Induction Motors Based on Holomorphic Embedding. <i>IEEE Transactions on Power Systems</i> , 2019 , 34, 1278-1288	7	22
115	A TimePower Series-Based Semi-Analytical Approach for Power System Simulation. <i>IEEE Transactions on Power Systems</i> , 2019 , 34, 841-851	7	12
114	Mathematical Base and Deduction of Security Region for Distribution Systems With DER. <i>IEEE Transactions on Smart Grid</i> , 2019 , 10, 2892-2903	10.7	13
113	Mixed-Integer Linear Programming-Based Splitting Strategies for Power System Islanding Operation Considering Network Connectivity. <i>IEEE Systems Journal</i> , 2018 , 12, 350-359	4.3	39
112	Management of Cascading Outage Risk Based on Risk Gradient and Markovian Tree Search. <i>IEEE Transactions on Power Systems</i> , 2018 , 33, 4050-4060	7	6
111	Nonlinear Modal Decoupling of Multi-Oscillator Systems With Applications to Power Systems. <i>IEEE Access</i> , 2018 , 6, 9201-9217	3.5	10
110	A Novel Generation Rescheduling Algorithm to Improve Power System Reliability With High Renewable Energy Penetration. <i>IEEE Transactions on Power Systems</i> , 2018 , 33, 3349-3357	7	31
109	Efficient Simulation of Temperature Evolution of Overhead Transmission Lines Based on Analytical Solution and NWP. <i>IEEE Transactions on Power Delivery</i> , 2018 , 33, 1576-1588	4.3	11
108	Advanced power system partitioning method for fast and reliable restoration: toward a self-healing power grid. <i>IET Generation, Transmission and Distribution</i> , 2018 , 12, 42-52	2.5	24
107	Damping control for a target oscillation mode using battery energy storage. <i>Journal of Modern Power Systems and Clean Energy</i> , 2018 , 6, 833-845	4	21

106	Guest Editorial for the Special Section on Enabling Very High Penetration Renewable Energy Integration Into Future Power Systems. <i>IEEE Transactions on Power Systems</i> , 2018 , 33, 3223-3226	7	5
105	Efficient Estimation of Component Interactions for Cascading Failure Analysis by EM Algorithm. <i>IEEE Transactions on Power Systems</i> , 2018 , 33, 3153-3161	7	18
104	Distribution network reconfiguration comprehensively considering N-1 security and network loss. <i>IET Generation, Transmission and Distribution</i> , 2018 , 12, 1721-1728	2.5	15
103	Online Voltage Stability Assessment for Load Areas Based on the Holomorphic Embedding Method. <i>IEEE Transactions on Power Systems</i> , 2018 , 33, 3720-3734	7	30
102	Dynamic State Estimation for Multi-Machine Power System by Unscented Kalman Filter With Enhanced Numerical Stability. <i>IEEE Transactions on Smart Grid</i> , 2018 , 9, 1184-1196	10.7	72
101	Multi-Stage Holomorphic Embedding Method for Calculating the Power-Voltage Curve. <i>IEEE Transactions on Power Systems</i> , 2018 , 33, 1127-1129	7	26
100	. <i>IEEE Transactions on Power Systems</i> , 2018 , 33, 5913-5922	7	19
99	Embedding spatial decomposition in parareal in time power system simulation 2018 ,		4
98	Probabilistic Power Flow Analysis Using Multidimensional Holomorphic Embedding and Generalized Cumulants. <i>IEEE Transactions on Power Systems</i> , 2018 , 33, 7132-7142	7	18
97	Measurement-based voltage stability monitoring for load areas 2018 , 429-456		
96	Analytical Approach to Estimating the Probability of Transient Stability under Stochastic Disturbances 2018 ,		1
95	Adaptive Model Reduction for Parareal in Time Method for Transient Stability Simulations 2018 ,		4
94	Online Voltage Stability Assessment for Load Areas Based on the Holomorphic Embedding Method 2018 ,		3
93	. <i>IEEE Access</i> , 2018 , 6, 62687-62698	3.5	6
92	A Holomorphic Embedding Method to Solve Unstable Equilibrium Points of Power Systems 2018 ,		2
91	2018 ,		5
90	Understanding Cascading Failures 2018 , 69-140		
89	Strategies for Controlled System Separation 2018 , 141-196		

88 Online Decision Support for Controlled System Separation **2018**, 197-223

87 Constraints of System Restoration **2018**, 225-254

86 Restoration Methodology and Implementation Algorithms **2018**, 255-293

85 Emerging Technologies in System Restoration **2018**, 357-397

84 Adaptive Nonlinear Model Reduction for Fast Power System Simulation. *IEEE Transactions on Power Systems*, **2018**, 33, 6746-6754 7 24

83 Quantifying the synthetic inertia and load-damping effect of a converter-interfaced power source **2018**, 5

82 Image Embedding of PMU Data for Deep Learning Towards Transient Disturbance Classification **2018**, 12

81 Simulation of Cascading Outages Using a Power-Flow Model Considering Frequency. *IEEE Access*, **2018**, 6, 37784-37795 3.5 23

80 Properties of the Frequency Amplitude Curve. *IEEE Transactions on Power Systems*, **2017**, 32, 826-827 7 7

79 Optimal Placement of Dynamic Var Sources by Using Empirical Controllability Covariance. *IEEE Transactions on Power Systems*, **2017**, 32, 240-249 7 16

78 . *IEEE Transactions on Power Systems*, **2017**, 32, 430-441 7 22

77 Risk Assessment of Multi-Timescale Cascading Outages Based on Markovian Tree Search. *IEEE Transactions on Power Systems*, **2017**, 32, 2887-2900 7 34

76 Multi-Layer Interaction Graph for Analysis and Mitigation of Cascading Outages. *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, **2017**, 7, 239-249 5.2 32

75 Optimal Allocation of Dynamic Var Sources Using the Voronoi Diagram Method Integrating Linear Programming. *IEEE Transactions on Power Systems*, **2017**, 32, 4644-4655 7 17

74 Damping control for power systems using energy storage **2017**, 4

73 A Multi-Dimensional Holomorphic Embedding Method to Solve AC Power Flows. *IEEE Access*, **2017**, 5, 25270-25285 3.5 31

72 Mixed Integer Second Order Cone Relaxation With Dynamic Simulation for Proper Power System Islanding Operations. *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, **2017**, 7, 295-306 5.2 9

71 Location methods of oscillation sources in power systems: a survey. *Journal of Modern Power Systems and Clean Energy*, **2017**, 5, 151-159 4 40

70	Second-order oscillation mode study of hydropower system based on linear elastic model and modal series method. <i>International Transactions on Electrical Energy Systems</i> , 2017 , 27, e2233	2.2	8
69	2017 ,		4
68	Measurement-based voltage stability assessment for load areas addressing n contingencies. <i>IET Generation, Transmission and Distribution</i> , 2017 , 11, 3731-3738	2.5	7
67	Optimisation of dynamic reactive power sources using mesh adaptive direct search. <i>IET Generation, Transmission and Distribution</i> , 2017 , 11, 3675-3682	2.5	6
66	Fast power system simulation using semi-analytical solutions based on Pade approximants 2017 ,		4
65	Power system simulation using the multi-stage adomian decomposition method 2017 ,		2
64	Semi-analytical fault-on trajectory simulation and its application in direct methods 2017 ,		4
63	A Multi-Timescale Quasi-Dynamic Model for Simulation of Cascading Outages. <i>IEEE Transactions on Power Systems</i> , 2016 , 31, 3189-3201	7	43
62	Design and implementation of a measurement-based adaptive wide-area damping controller considering time delays. <i>Electric Power Systems Research</i> , 2016 , 130, 1-9	3.5	25
61	Measurement-based voltage stability assessment and control on CURENT hardware test bed system 2016 ,		2
60	A test cases library for methods locating the sources of sustained oscillations 2016 ,		53
59	A measurement-based approach for power system instability early warning. <i>Protection and Control of Modern Power Systems</i> , 2016 , 1,	6.7	18
58	Estimating the Propagation of Interdependent Cascading Outages With Multi-Type Branching Processes. <i>IEEE Transactions on Power Systems</i> , 2016 , 1-1	7	21
57	Power system observability and dynamic state estimation for stability monitoring using synchrophasor measurements. <i>Control Engineering Practice</i> , 2016 , 53, 160-172	3.9	26
56	Formulation and Characterization of Power System Electromechanical Oscillations. <i>IEEE Transactions on Power Systems</i> , 2016 , 31, 5082-5093	7	33
55	. <i>IEEE Transactions on Power Systems</i> , 2016 , 31, 2787-2798	7	57
54	Applying reduced generator models in the coarse solver of parareal in time parallel power system simulation 2016 ,		9
53	Computing Safety Margins of a Generation Rejection Scheme: A Framework for Online Implementation. <i>IEEE Transactions on Smart Grid</i> , 2016 , 1-1	10.7	6

52	Adaptive Optimal PMU Placement Based on Empirical Observability Gramian**This work was supported in part by U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability under contract DE-AC02-06CHff357, the CURENT engineering research center, and Naval Research Laboratory and Defense Advanced Research Projects Agency.. <i>IFAC-PapersOnLine</i> , 2016 , 49, 482-487	0.7	3
51	A measurement-based power system model for dynamic response estimation and instability warning. <i>Electric Power Systems Research</i> , 2015 , 124, 1-9	3.5	24
50	A decision tree based approach for microgrid islanding detection 2015 ,		10
49	A decoupling based direct method for power system transient stability analysis 2015 ,		7
48	Microgrid security assessment and islanding control by Support Vector Machine 2015 ,		8
47	Graph theory based splitting strategies for power system islanding operation 2015 ,		5
46	Measurement-based correlation approach for power system dynamic response estimation. <i>IET Generation, Transmission and Distribution</i> , 2015 , 9, 1474-1484	2.5	20
45	Optimal PMU placement for power system dynamic state estimation by using empirical observability Gramian 2015 ,		2
44	A comparative analysis of intelligent classifiers for passive islanding detection in microgrids 2015 ,		3
43	Analysis of power system oscillation frequency using Differential Groebner Basis and the Harmonic Balance Method 2015 ,		4
42	Optimal PMU Placement for Power System Dynamic State Estimation by Using Empirical Observability Gramian. <i>IEEE Transactions on Power Systems</i> , 2015 , 30, 2041-2054	7	107
41	An Interaction Model for Simulation and Mitigation of Cascading Failures. <i>IEEE Transactions on Power Systems</i> , 2015 , 30, 804-819	7	91
40	Privacy-preserving spectral estimation in smart grid 2015 ,		4
39	Voronoi diagram based optimization of dynamic reactive power sources 2015 ,		9
38	Application of the adomian decomposition method for semi-analytic solutions of power system differential algebraic equations 2015 ,		10
37	A new hybrid approach to thevenin equivalent estimation for voltage stability monitoring 2015 ,		3
36	A Phase Locked Loop-Based Approach to Real-Time Modal Analysis on Synchrophasor Measurements. <i>IEEE Transactions on Smart Grid</i> , 2014 , 5, 260-269	10.7	44
35	Measurement based power system dynamics prediction with multivariate AutoRegressive Model 2014 ,		7

34	A new approach for real-time voltage stability monitoring using PMUs 2014 ,		4
33	Methods to establish input-output relationship for system identification-based models 2014 ,		2
32	Observability and Estimation Methods Using Synchrophasor. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014 , 47, 963-968		1
31	Coherency Theory: An Excellent Reference on the Subject [Book Review]. <i>IEEE Power and Energy Magazine</i> , 2014 , 12, 102-104	2.4	
30	A new approach to optimization of dynamic reactive power sources addressing FIDVR issues 2014 ,		6
29	Integration of phase-locked loop based real-time oscillation tracking in grid synchronized systems 2014 ,		5
28	Identification and wide-area visualization of the centers of oscillation for a large-scale power system 2014 ,		2
27	A study on fluctuations in electromechanical oscillation frequencies of power systems 2014 ,		6
26	A Phase Locked Loop-based approach to real-time modal analysis on synchrophasor measurements 2014 ,		2
25	An adaptive three-bus power system equivalent for estimating voltage stability margin from synchronized phasor measurements 2014 ,		14
24	A study on wind frequency control under high wind penetration on an NPCC system model 2014 ,		2
23	A systematic approach for dynamic security assessment and the corresponding preventive control scheme based on decision trees 2014 ,		7
22	. <i>IEEE Transactions on Power Systems</i> , 2014 , 29, 717-730	7	108
21	2012 ,		4
20	2012 ,		2
19	. <i>IEEE Transactions on Power Systems</i> , 2011 , 26, 1544-1554	7	52
18	Application of synchrophasor measurements for improving operator situational awareness 2011 ,		11
17	An Adaptive Power System Equivalent for Real-Time Estimation of Stability Margin Using Phase-Plane Trajectories. <i>IEEE Transactions on Power Systems</i> , 2011 , 26, 915-923	7	25

16	OBDD-Based Sectionalizing Strategies for Parallel Power System Restoration. <i>IEEE Transactions on Power Systems</i> , 2011 , 26, 1426-1433	7	52
15	Computation of Milestones for Decision Support During System Restoration. <i>IEEE Transactions on Power Systems</i> , 2011 , 26, 1399-1409	7	77
14	Computation of milestones for decision support during system restoration 2011 ,		5
13	Decision Tree-Based Online Voltage Security Assessment Using PMU Measurements. <i>IEEE Transactions on Power Systems</i> , 2009 , 24, 832-839	7	164
12	Decision tree assisted controlled islanding for preventing cascading events 2009 ,		29
11	Vulnerability assessment for cascading failures in electric power systems 2009 ,		30
10	Power system security pattern recognition based on phase space visualization 2008 ,		4
9	Initial review of methods for cascading failure analysis in electric power transmission systems IEEE PES CAMS task force on understanding, prediction, mitigation and restoration of cascading failures 2008 ,		90
8	An Online Dynamic Security Assessment Scheme Using Phasor Measurements and Decision Trees. <i>IEEE Transactions on Power Systems</i> , 2007 , 22, 1935-1943	7	224
7	. <i>IEEE Transactions on Power Systems</i> , 2007 , 22, 433-441	7	28
6	Searching for feasible splitting strategies of controlled system islanding. <i>IET Generation, Transmission and Distribution</i> , 2006 , 153, 89		36
5	Online pre-analysis and real-time matching for controlled splitting of large-scale power networks 2005 ,		5
4	A simulation study of OBDD-based proper splitting strategies for power systems under consideration of transient stability. <i>IEEE Transactions on Power Systems</i> , 2005 , 20, 389-399	7	87
3	Splitting strategies for islanding operation of large-scale power systems using OBDD-based methods. <i>IEEE Transactions on Power Systems</i> , 2003 , 18, 912-923	7	178
2	A study of system splitting strategies for island operation of power system: a two-phase method based on OBDDs. <i>IEEE Transactions on Power Systems</i> , 2003 , 18, 1556-1565	7	112
1	A two-phase method based on OBDD for searching for splitting strategies of large-scale power systems		2