Hsiao-Dong Chiang

List of Publications by Year in Descending Order

148 papers	**2,789** citations	**27** h-index	**49** g-index
197 ext. papers	**3,585** ext. citations	**5** avg, IF	**5.55** L-index

#	Paper	IF	Citations
148	Smooth Power Flow Model for Unified Voltage Stability Assessment: Theory and Computation. *IEEE Transactions on Power Systems*, **2022**, 1-1	7	0
147	On the Pseudo-Bifurcation of Non-Convexity in the Feasible Region of AC Optimal Power Flow. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2022**, 1-1	3.5	
146	Robust Optimal Power Flow under Renewable Uncertainty with Pairwise Convex Hull and Non-Affine AGC Redispatch Strategy. *Electric Power Systems Research*, **2022**, 210, 108136	3.5	1
145	Simultaneous Identification and Correction of Multiple Network Parameter Errors by Mixed-Effects Models. *IEEE Transactions on Control of Network Systems*, **2021**, 1-1	4	0
144	A Pairwise Convex Hull Approach for Effective Representation of Uncertainty for System Analysis and Its Application to Power Grids. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2021**, 68, 2498-2502	3.5	1
143	Generalized Energy Functions for a Class of Third-Order Nonlinear Dynamical Systems. *IEEE Transactions on Automatic Control*, **2021**, 66, 3111-3122	5.9	
142	A Novel FFHE-Inspired Method for Large Power System Static Stability Computation. *IEEE Transactions on Power Systems*, **2021**, 1-1	7	1
141	Multi-Objective User Preference Enabling Method for Service Restoration in Distribution Networks with High Renewable Energy Penetration. *Electric Power Components and Systems*, **2021**, 49, 199-211	1	1
140	Theoretical Study of Non-Iterative Holomorphic Embedding Methods for Solving Nonlinear Power Flow Equations: Algebraic Property. *IEEE Transactions on Power Systems*, **2021**, 36, 2934-2945	7	3
139	Toward Complete Characterization of the Steady-State Security Region for the Electricity-Gas Integrated Energy System. *IEEE Transactions on Smart Grid*, **2021**, 12, 3004-3015	10.7	3
138	Toward a Comprehensive Theory for Stability Regions of a Class of Nonlinear Discrete Dynamical Systems. *IEEE Transactions on Automatic Control*, **2021**, 66, 4371-4377	5.9	
137	Two-Time-Scale Approach to Characterize the Steady-State Security Region for the Electricity-Gas Integrated Energy System. *IEEE Transactions on Power Systems*, **2021**, 1-1	7	1
136	Starting point selection approach for power system model validation using event playback. *IET Generation, Transmission and Distribution*, **2020**, 14, 3972-3982	2.5	2
135	. *IEEE Transactions on Industrial Informatics*, **2020**, 16, 2325-2334	11.9	19
134	Group-Based Line Switching for Enhancing Contingency-Constrained Static Voltage Stability. *IEEE Transactions on Power Systems*, **2020**, 35, 1489-1498	7	8
133	A Dynamic Theory-Based Method for Computing Unstable Equilibrium Points of Power Systems. *IEEE Transactions on Power Systems*, **2020**, 35, 1946-1955	7	2
132	. *IEEE Transactions on Power Systems*, **2020**, 35, 2506-2515	7	8

131	. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, **2020**, 1-12	7.3	1
130	A Trajectory-Unified Method for Constructing the Feasible Region of OPF Problems. *Electric Power Components and Systems*, **2020**, 48, 423-435	1	2
129	An online line switching methodology with look-ahead capability to alleviate power system overloads based on a three-stage strategy. *International Journal of Electrical Power and Energy Systems*, **2020**, 115, 105500	5.1	7
128	On the Accuracy of the Online Static Security Assessment Under Different Models: Assessment and Basis. *IEEE Transactions on Power Systems*, **2019**, 34, 4352-4360	7	5
127	Two-Timescale Multi-Objective Coordinated Volt/Var Optimization for Active Distribution Networks. *IEEE Transactions on Power Systems*, **2019**, 34, 4418-4428	7	19
126	Toward Characterization of the Feasible Region of Loadability of Power Systems **2019**,		1
125	Toward Partial State Estimation of Distribution Network Under Novel Micro-PMU Placement **2019**,		1
124	. *IEEE Transactions on Power Systems*, **2019**, 34, 1116-1126	7	3
123	Investigation of an Effective Strategy for Computing Small-Signal Security Margins. *IEEE Transactions on Power Systems*, **2018**, 33, 5437-5445	7	4
122	Pseudo-Pitchfork Bifurcation of Feasible Regions in Power Systems. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2018**, 28, 1830002	2	1
121	Online Multiperiod Power Dispatch With Renewable Uncertainty and Storage: A Two-Parameter Homotopy-Enhanced Methodology. *IEEE Transactions on Power Systems*, **2018**, 33, 6321-6331	7	5
120	Toward Optimal Multiperiod Network Reconfiguration for Increasing the Hosting Capacity of Distribution Networks. *IEEE Transactions on Power Delivery*, **2018**, 33, 2294-2304	4.3	30
119	Toward Cost-Oriented Forecasting of Wind Power Generation. *IEEE Transactions on Smart Grid*, **2018**, 9, 2508-2517	10.7	17
118	Feasible Region of Optimal Power Flow: Characterization and Applications. *IEEE Transactions on Power Systems*, **2018**, 33, 236-244	7	22
117	. *IEEE Transactions on Smart Grid*, **2018**, 9, 4426-4435	10.7	4
116	Novel Homotopy Theory for Nonlinear Networks and Systems and Its Applications to Electrical Grids. *IEEE Transactions on Control of Network Systems*, **2018**, 5, 1051-1060	4	13
115	Toward an Online Minimum Number of Controls for Relieving Overloads. *IEEE Transactions on Power Systems*, **2018**, 33, 1882-1890	7	3
114	. *IEEE Transactions on Power Systems*, **2018**, 33, 2551-2562	7	31

113	Toward online multi-period power dispatch with AC constraints and renewable energy. *IET Generation, Transmission and Distribution*, **2018**, 12, 3502-3509	2.5	1
112	Multi-Objective Look-Ahead Reactive Power Control for Active Distribution Networks with Composite Loads **2018**,		2
111	Optimal Placement and Sizing for Fault Current Limiters: Multi-Objective Optimization Approach **2018**,		2
110	Developing Piecewise Damping Terms for the Fifth-Order Generator Model Under Large Disturbances. *Electric Power Components and Systems*, **2018**, 46, 974-985	1	
109	A Hybrid Quasi Steady-State Model for Long-Term Stability Analysis of Electric Power Networks: Model Development and Theoretical Basis. *IEEE Transactions on Control of Network Systems*, **2017**, 4, 533-543	4	0
108	Hierarchical K-means Method for Clustering Large-Scale Advanced Metering Infrastructure Data. *IEEE Transactions on Power Delivery*, **2017**, 32, 609-616	4.3	57
107	A Novel Consensus-Based Particle Swarm Optimization-Assisted Trust-Tech Methodology for Large-Scale Global Optimization. *IEEE Transactions on Cybernetics*, **2017**, 47, 2717-2729	10.2	25
106	Network-Preserving Sensitivity-Based Generation Rescheduling for Suppressing Power System Oscillations. *IEEE Transactions on Power Systems*, **2017**, 32, 3824-3832	7	10
105	A Framework for Dynamic Stability Analysis of Power Systems With Volatile Wind Power. *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, **2017**, 7, 422-431	5.2	12
104	Structural Emergency Control Paradigm. *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, **2017**, 7, 371-382	5.2	4
103	Damping Representation for the Fifth-Order Generator Model in Transient Behaviors. *IEEE Transactions on Power Systems*, **2017**, 32, 4924-4933	7	1
102	Toward Online Bus-Bar Splitting for Increasing Load Margins to Static Stability Limit. *IEEE Transactions on Power Systems*, **2017**, 32, 3715-3725	7	10
101	Toward optimal multi-period network reconfiguration for increasing the hosting capacity of distribution networks **2017**,		4
100	Electric vehicle charging station microgrid providing unified power quality conditioner support to local power distribution networks. *International Transactions on Electrical Energy Systems*, **2017**, 27, e2262	2.2	10
99	Maximizing Available Delivery Capability of Unbalanced Distribution Networks for High Penetration of Distributed Generators. *IEEE Transactions on Power Delivery*, **2017**, 32, 1196-1202	4.3	22
98	Toward Online Line Switching for Increasing Load Margins to Static Stability Limit. *IEEE Transactions on Power Systems*, **2016**, 31, 1744-1751	7	12
97	Stability region of a wind power system under low-voltage ride-through constraint **2016**,		4
96	Convergence analysis of implicit Z-bus power flow method for general distribution networks with distributed generators. *IET Generation, Transmission and Distribution*, **2016**, 10, 412-420	2.5	17

95	A Two-Time Scale Dynamic Correction Method for Fifth-Order Generator Model Undergoing Large Disturbances. *IEEE Transactions on Power Systems*, **2016**, 31, 3616-3623	7	11
94	On the Number of Unstable Equilibrium Points on Spatially-Periodic Stability Boundary. *IEEE Transactions on Automatic Control*, **2016**, 61, 2553-2558	5.9	7
93	Aggregator-Based Interactive Charging Management System for Electric Vehicle Charging. *Energies*, **2016**, 9, 159	3.1	19
92	A High-Accuracy Wind Power Forecasting Model. *IEEE Transactions on Power Systems*, **2016**, 1-1	7	19
91	Improving supervised wind power forecasting models using extended numerical weather variables and unlabelled data. *IET Renewable Power Generation*, **2016**, 10, 1616-1624	2.9	18
90	Long-Term Stability Analysis of Power Systems With Wind Power Based on Stochastic Differential Equations: Model Development and Foundations. *IEEE Transactions on Sustainable Energy*, **2015**, 6, 1534-1542	8.2	35
89	On the number of system separations in power system **2015**,		2
88	On the Number and Types of Unstable Equilibria in Nonlinear Dynamical Systems With Uniformly-Bounded Stability Regions. *IEEE Transactions on Automatic Control*, **2015**, 1-1	5.9	
87	A Novel TRUST-TECH Guided Branch-and-Bound Method for Nonlinear Integer Programming. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, **2015**, 45, 1361-1372	7.3	13
86	Newton Method and Trajectory-Based Method for Solving Power Flow Problems: Nonlinear Studies. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2015**, 25, 1530018	2	4
85	Toward Online Control of Local Bifurcation in Power Systems via Network Topology Optimization. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2015**, 25, 1550167	2	0
84	Available Delivery Capability of General Distribution Networks With Renewables: Formulations and Solutions. *IEEE Transactions on Power Delivery*, **2015**, 30, 898-905	4.3	13
83	Neighboring Stable Equilibrium Points in Spatially-Periodic Nonlinear Dynamical Systems: Theory and Applications. *IEEE Transactions on Automatic Control*, **2015**, 60, 2390-2401	5.9	4
82	Stability Regions of Nonlinear Dynamical Systems: Theory, Estimation, and Applications **2015**,		33
81	Analytical Studies of Quasi Steady-State Model in Power System Long-Term Stability Analysis. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2014**, 61, 943-956	3.9	15
80	Damping Torques of Multi-Machine Power Systems During Transient Behaviors. *IEEE Transactions on Power Systems*, **2014**, 29, 1186-1193	7	12
79	Energy-guided time-domain simulation for critical clearing time reassessment in the TTS-CUEP/BCU method **2014**,		1
78	On the Global Convergence of a Class of Homotopy Methods for Nonlinear Circuits and Systems. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2014**, 61, 900-904	3.5	12

77	Available delivery capability of general distribution networks with renewables: Formulations and solutions **2014**,		4
76	Homotopy-Enhanced Power Flow Methods for General Distribution Networks With Distributed Generators. *IEEE Transactions on Power Systems*, **2014**, 29, 93-100	7	24
75	Local Bifurcations of Electric Distribution Networks with Renewable Energy. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2014**, 24, 1450102	2	2
74	Application of pseudo-transient continuation method in dynamic stability analysis **2014**,		1
73	Quasi steady-state model for power system stability: Limitations, analysis and a remedy **2014**,		4
72	Numerical investigations on quasi steady-state model for voltage stability. *International Transactions on Electrical Energy Systems*, **2014**, 24, 1586-1599	2.2	8
71	CDFLOW: A Practical Tool for Tracing Stationary Behaviors of General Distribution Networks. *IEEE Transactions on Power Systems*, **2014**, 29, 1365-1371	7	31
70	Energy Function for Power System With Detailed DC Model: Construction and Analysis. *IEEE Transactions on Power Systems*, **2013**, 28, 3756-3764	7	14
69	Design and implementation of a Web-based Energy Management Application for smart buildings **2013**,		7
68	Numerical Investigation on the Damping Property in Power System Transient Behavior. *IEEE Transactions on Power Systems*, **2013**, 28, 2986-2993	7	5
67	Convergence Region of Newton Iterative Power Flow Method: Numerical Studies. *Journal of Applied Mathematics*, **2013**, 2013, 1-12	1.1	14
66	Toward real-time detection of critical contingency of large power systems **2013**,		1
65	Harmonic analysis of power system with wind generations and plug-in electric vehicles **2013**,		3
64	Characterization of Stability Region for General Autonomous Nonlinear Dynamical Systems. *IEEE Transactions on Automatic Control*, **2012**, 57, 1564-1569	5.9	17
63	**2012**,		2
62	Improving Service Restoration of Power Distribution Systems Through Load Curtailment of In-Service Customers. *IEEE Transactions on Power Systems*, **2011**, 26, 1110-1117	7	64
61	Toward the development of a Trust-Tech-based methodology for solving mixed integer nonlinear optimization. *Nonlinear Theory and Its Applications IEICE*, **2011**, 2, 281-301	0.6	
60	Weighted Multiple Predictor-corrector Interior Point Method for Optimal Power Flow. *Electric Power Components and Systems*, **2011**, 39, 99-112	1	4

59	LOCAL BIFURCATION BOUNDARY AND STEADY-STATE SECURITY BOUNDARY IN LARGE ELECTRIC POWER SYSTEMS: NUMERICAL STUDIES. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2011**, 21, 647-662	2	3
58	On-line transient stability screening of 14,000-bus models using TEPCO-BCU: Evaluations and methods **2010**,		3
57	Boundary properties of the BCU method for power system transient stability assessment **2010**,		7
56	Critical evaluation of methods for estimating stability boundary for transient stability analysis in power systems **2010**,		2
55	A Novel Solution Methodology for Solving Large-scale Thermal Unit Commitment Problems. *Electric Power Components and Systems*, **2010**, 38, 1615-1634	1	11
54	Fast Newton-FGMRES Solver for Large-Scale Power Flow Study. *IEEE Transactions on Power Systems*, **2010**, 25, 769-776	7	36
53	Sequential feasible optimal power flow: theoretical basis and numerical implementation. *European Transactions on Electrical Power*, **2010**, 20, 695-709		1
52	Trust-tech based parameter estimation and its application to power system load modeling **2009**,		1
51	A new model of phase shifter for its efficient integration in interior point optimal power flow. *European Transactions on Electrical Power*, **2009**, 20, n/a-n/a		2
50	Service restoration of power distribution systems incorporating load curtailment **2009**,		9
49	Multiple Solutions and Plateau Phenomenon in Measurement-Based Load Model Development: Issues and Suggestions. *IEEE Transactions on Power Systems*, **2009**, 24, 824-831	7	29
48	Slow voltage recovery response of several load models: Evaluation study **2008**,		1
47	Exciter model reduction and validation for large-scale power system dynamic security assessment **2008**,		1
46	Continuation Power Flow With Nonlinear Power Injection Variations: A Piecewise Linear Approximation. *IEEE Transactions on Power Systems*, **2008**, 23, 1637-1643	7	28
45	APPLYING BIFURCATION ANALYSIS TO DETERMINE OPTIMAL PLACEMENTS OF MEASUREMENT DEVICES FOR POWER SYSTEM LOAD MODELING. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2008**, 18, 2111-2121	2	2
44	STRUCTURE-INDUCED BIFURCATION IN LARGE-SCALE ELECTRIC POWER SYSTEMS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2008**, 18, 1415-1424	2	13
43	Justification of some field observations of dynamic load behaviors: Analytical and numerical approach **2008**,		1
42	A Enhanced Contingency Selection Method with respect to Multiple Contingencies for On-line Voltage Stability Assessment **2006**,		2

41 Development of composite load models of power systems using on-line measurement data **2006**, 7

40 Power system load ranking for voltage stability analysis **2006**, 1

39 Measurement-based dynamic load models: derivation, comparison, and validation. *IEEE Transactions on Power Systems*, **2006**, 21, 1276-1283 7 89

38 Constructing Analytical Energy Functions for Network-Preserving Power System Models. *Circuits, Systems, and Signal Processing*, **2005**, 24, 363-383 2.2 19

37 A singular fixed-point homotopy method to locate the closest unstable equilibrium point for transient stability region estimate. *IEEE Transactions on Circuits and Systems Part 2: Express Briefs*, **2004**, 51, 185-189 21

36 A novel system for automatic generation of service reliability reports from automated mapping and facility management (AM/FM) systems. *IEEE Transactions on Power Systems*, **2002**, 17, 812-817 7 2

35 A heuristic meter placement method for load estimation. *IEEE Transactions on Power Systems*, **2002**, 17, 913-917 7 11

34 Constructive homotopy methods for finding all or multiple DC operating points of nonlinear circuits and systems. *IEEE Transactions on Circuits and Systems Part 1: Regular Papers*, **2001**, 48, 35-50 16

33 Electric distribution system load capability: problem formulation, solution algorithm, and numerical results. *IEEE Transactions on Power Delivery*, **2000**, 15, 436-442 4.3 49

32 Multi-tier service restoration through network reconfiguration and capacitor control for large-scale radial distribution networks. *IEEE Transactions on Power Systems*, **2000**, 15, 1001-1007 7 45

31 Constructing analytical energy functions for lossless network-reduction power system models: Framework and new developments. *Circuits, Systems, and Signal Processing*, **1999**, 18, 1-16 2.2 11

30 Development of BCU classifiers for on-line dynamic contingency screening of electric power systems. *IEEE Transactions on Power Systems*, **1999**, 14, 660-666 7 27

29 Fast service restoration for large-scale distribution systems with priority customers and constraints. *IEEE Transactions on Power Systems*, **1998**, 13, 789-795 7 97

28 Solving the nonlinear power flow equations with an inexact Newton method using GMRES. *IEEE Transactions on Power Systems*, **1998**, 13, 267-273 7 53

27 Look-ahead voltage and load margin contingency selection functions for large-scale power systems. *IEEE Transactions on Power Systems*, **1997**, 12, 173-180 7 66

26 An efficient algorithm for real-time network reconfiguration in large scale unbalanced distribution systems. *IEEE Transactions on Power Systems*, **1996**, 11, 511-517 7 64

25 Quasi-stability regions of nonlinear dynamical systems: theory. *IEEE Transactions on Circuits and Systems Part 1: Regular Papers*, **1996**, 43, 627-635 31

24 A systematic search method for obtaining multiple local optimal solutions of nonlinear programming problems. *IEEE Transactions on Circuits and Systems Part 1: Regular Papers*, **1996**, 43, 99-109 38

23	Quasi-stability regions of nonlinear dynamical systems: optimal estimations. *IEEE Transactions on Circuits and Systems Part 1: Regular Papers*, **1996**, 43, 636-643		21
22	Investigating the installed real power transfer capability of a large scale power system under a proposed multiarea interchange schedule using CPFLOW. *IEEE Transactions on Power Systems*, **1996**, 11, 883-889	7	34
21	. *IEEE Transactions on Power Systems*, **1995**, 10, 635-646	7	34
20	. *IEEE Transactions on Power Systems*, **1995**, 10, 623-634	7	367
19	Fast decoupled power flow for unbalanced radial distribution systems. *IEEE Transactions on Power Systems*, **1995**, 10, 2045-2052	7	116
18	. *IEEE Transactions on Power Systems*, **1993**, 8, 1407-1417	7	131
17	Persistence of the saddle-node bifurcation for nonlinear systems with slow unmodeled dynamics. *Circuits, Systems, and Signal Processing*, **1993**, 12, 533-555	2.2	1
16	Towards a theory of voltage collapse in electric power systems. *Systems and Control Letters*, **1989**, 13, 253-262	2.4	259
15	Foundations of direct methods for power system transient stability analysis. *IEEE Transactions on Circuits and Systems*, **1987**, 34, 160-173		133
14	Theory of the potential energy boundary surface **1985**,		1
13	Stability regions of two-time-scale continuous dynamical systems287-321		1
12	Bifurcations of stability regions357-386		1
11	Solving the nonlinear power flow equations with a Newton process and GMRES		4
10	Fast service restoration for large-scale distribution systems with priority customers and constraints		9
9	Trust-Tech Paradigm for Computing High-Quality Optimal Solutions: Method and Theory209-233		4
8	A method for searching multiple local optimal solutions of nonlinear optimization problems		5
7	Multi-tier service restoration through network reconfiguration and capacitor control for large-scale radial distribution networks		13
6	Integrated system for developing intelligent electronic standards book with Internet capability		2