Timothy M Hansen

List of Publications by Year
in descending order

57 papers	1,143 citations	623188 14 h-index	610482 24 g-index
57 all docs	57 docs citations	57 times ranked	1146 citing authors

#	Article	IF	Citations
1	Virtual Inertia: Current Trends and Future Directions. Applied Sciences (Switzerland), 2017, 7, 654.	1.3	410
2	Heuristic Optimization for an Aggregator-Based Resource Allocation in the Smart Grid. IEEE Transactions on Smart Grid, 2015, 6, 1785-1794.	6.2	89
3	Energy management of remote microgrids considering battery lifetime. Electricity Journal, 2016, 29, 1-10.	1.3	69
4	A Partially Observable Markov Decision Process Approach to Residential Home Energy Management. IEEE Transactions on Smart Grid, 2018, 9, 1271-1281.	6.2	56
5	IGMS: An Integrated ISO-to-Appliance Scale Grid Modeling System. IEEE Transactions on Smart Grid, 2017, 8, 1525-1534.	6.2	44
6	Efficiency and Reliability Analyses of AC and 380 V DC Distribution in Data Centers. IEEE Access, 2018, 6, 63305-63315.	2.6	42
7	Review of Dynamic and Transient Modeling of Power Electronic Converters for Converter Dominated Power Systems. IEEE Access, 2021, 9, 82094-82117.	2.6	29
8	A Multi-Stage Price Forecasting Model for Day-Ahead Electricity Markets. Forecasting, 2019, 1, 26-46.	1.6	28
9	Quantifying the Impact of Solar Photovoltaic and Energy Storage Assets on the Performance of a Residential Energy Aggregator. IEEE Transactions on Sustainable Energy, 2020, 11, 405-414.	5.9	27
10	Review of Methods to Accelerate Electromagnetic Transient Simulation of Power Systems. IEEE Access, 2021, 9, 89714-89731.	2.6	25
11	Model Predictive Frequency Control of Low Inertia Microgrids. , 2019, , .		22
12	A Hierarchical Control Framework With a Novel Bidding Scheme for Residential Community Energy Optimization. IEEE Transactions on Smart Grid, 2020, 11, 710-719.	6.2	21
13	Benefits of a Demand Response Exchange Participating in Existing Bulk-Power Markets. Energies, 2018, 11, 3361.	1.6	19
14	Comparative Analysis of Current Control Techniques to Support Virtual Inertia Applications. Applied Sciences (Switzerland), 2018, 8, 2695.	1.3	19
15	Optimization-Based Fast-Frequency Estimation and Control of Low-Inertia Microgrids. IEEE Transactions on Energy Conversion, 2021, 36, 1459-1468.	3.7	18
16	Bus.py: A GridLAB-D communication interface for Smart distribution Grid simulations. , 2015, , .		17
17	Reliability analysis of 380V DC distribution in data centers. , 2016, , .		13
18	Market–based generator cost functions for power system test cases. IET Cyber-Physical Systems: Theory and Applications, 2018, 3, 194-205.	1.9	13

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19	Real-Time Estimation of Microgrid Inertia and Damping Constant. IEEE Access, 2021, 9, 114523-114534.	2.6	13
20	Multiarea Inertia Estimation Using Convolutional Neural Networks and Federated Learning. IEEE Systems Journal, 2022, 16, 6401-6412.	2.9	13
21	Frequency Response in Grids with High Penetration of Renewable Energy Sources. , 2018, , .		12
22	Cascading failures and transient stability experiment analysis in power grid security. , 2016, , .		9
23	Efficiency analysis of AC coupled and DC coupled microgrids considering load profile variations. , 2016, , .		9
24	Synthetic residential load models for smart city energy management simulations. IET Smart Grid, 2020, 3, 342-354.	1.5	9
25	Energy storage system operation: Case studies in deterministic and stochastic environments. , 2016, , .		7
26	Economic analysis of a data center virtual power plant participating in demand response. , 2016, , .		7
27	Enabling Smart Grid Cosimulation Studies: Rapid Design and Development of the Technologies and Controls. IEEE Electrification Magazine, 2016, 4, 25-32.	1.8	7
28	Convolutional Neural Network-based Inertia Estimation using Local Frequency Measurements. , 2021, , .		7
29	A Load Scheduling Algorithm for the Smart Home Using Customer Preferences and Real Time Residential Prices. IFAC-PapersOnLine, 2015, 48, 126-131.	0.5	6
30	Metrics-Based Assessment of Sustainability in Demand Response. , 2017, , .		6
31	An Application of Machine Learning for a Smart Grid Resource Allocation Problem. , 2019, , .		6
32	Evaluation of Probing Signals for Implementing Moving Horizon Inertia Estimation in Microgrids. , 2021, , .		6
33	Spatial-temporal stochasticity of electric vehicles in an integrated traffic and power system. , 2016, , .		5
34	A Computationally Improved Heuristic Algorithm for Transmission Switching Using Line Flow Thresholds for Load Shed Reduction. , 2021, , .		5
35	Current control techniques for applications in virtual synchronous machines. , 2016, , .		4
36	Classification of generators participating in the bulk-power market. , 2017, , .		4

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37	Adaptive droop-based active power curtailment method for overvoltage prevention in low voltage distribution network. , 2017, , .		4
38	Impact of Residential Load Models for Overvoltage Prevention Studies in PV-Rich LV Grids. , 2019, , .		4
39	Techno-Economic Analysis of PV Inverter Controllers for Preventing Overvoltage in LV Grids. , 2020, , .		4
40	An aggregatorâ€based resource allocation in the smart grid using an artificial neural network and sliding time window optimization. IET Smart Grid, 2021, 4, 612-622.	1.5	4
41	A Real-World Test Distribution System With Appliance-Level Load Data for Demand Response and Transactive Energy Studies. IEEE Access, 2021, 9, 149506-149519.	2.6	4
42	Distribution feeder impacts of electric vehicles charging in an integrated traffic and power network. , 2016, , .		3
43	Parallel Implementation of AC Optimal Power Flow and Time Constrained Optimal Power Flow using High Performance Computing. , 2019, , .		3
44	Energy Storage Systems in Emerging Electricity Markets: Frequency Regulation and Resiliency. , 2019, , .		3
45	Inertia Estimation in Power Systems using Energy Storage and System Identification Techniques. , 2020, , .		3
46	The LSBmax algorithm for boosting resilience of electric grids post (Nâ€2) contingencies. Journal of Engineering, 2021, 2021, 807-816.	0.6	3
47	A Fast and Scalable Transmission Switching Algorithm for Boosting Resilience of Electric Grids Impacted by Extreme Weather Events. IEEE Access, 2022, 10, 57893-57901.	2.6	3
48	Incentive-based Residential Energy Optimization Considering Comfort and Voltage Impacts. , 2018, , .		2
49	A Framework for Large-Scale Incentive-Based Residential Demand Response using Aggregators. , 2019, , .		2
50	Classifying day-ahead electricity markets using pattern recognition for demand response. , 2016, , .		1
51	Modeling Hydro Power System Frequency Dynamics for Virtual Inertia Emulation. , 2019, , .		1
52	Sustainability Metrics for Inverter-based Voltage Regulation Methods in PV-rich Low Voltage Grids. , 2019, , .		1
53	Computationally Efficient Partitioned Modeling of Inverter Dynamics with Grid Support Functions. , 2021, , .		1
54	Model Development of Diesel Generator using Volts/Hertz Limiter and Comparing Governor Models for Remote Islanded Microgrids. , 2021, , .		1

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55	VPSfAV: A computational tool to aid the teaching of protection systems. , 2017, , .		0
56	Advances in data center energy optimization [panel discussion]. , 2018, , .		0
57	A data‐driven approach to estimate emissions for market‐based power system test cases. IET Smart Grid, 2021, 4, 429-444.	1.5	0