Siddharth Suryanarayanan

List of Publications by Year
in descending order

113 papers	2,455 citations	394421 19 h-index	254184 43 g-index
113 all docs	113 docs citations	113 times ranked	2599 citing authors

#	Article	IF	Citations
1	A Fast and Scalable Transmission Switching Algorithm for Boosting Resilience of Electric Grids Impacted by Extreme Weather Events. IEEE Access, 2022, 10, 57893-57901.	4.2	3
2	Combined Impact of Demand Response Aggregators and Carbon Taxation on Emissions Reduction in Electric Power Systems. IEEE Transactions on Smart Grid, 2021, 12, 1825-1827.	9.0	29
3	A Hybrid Hilbert-Huang Method for Monitoring Distorted Time-Varying Waveforms. Energies, 2021, 14, 1864.	3.1	4
4	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.	2.2	4
5	Incorporation of Survey-based Data into an Aggregation Algorithm for Residential Demand Response. , 2021, , .		0
6	A Computationally Improved Heuristic Algorithm for Transmission Switching Using Line Flow Thresholds for Load Shed Reduction. , 2021, , .		5
7	Simulation Studies to Quantify the Impact of Demand Side Management on Environmental Footprint. Sustainability, 2021, 13, 9504.	3.2	1
8	Dirty dishes or dirty laundry? Comparing two methods for quantifying American consumers' preferences for load management in a smart home. Energy Research and Social Science, 2021, 71, 101781.	6.4	8
9	The LSBmax algorithm for boosting resilience of electric grids post (Nâ€2) contingencies. Journal of Engineering, 2021, 2021, 807-816.	1.1	3
10	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.	8.8	27
11	A Data-Driven Justification for Dedicated Dynamic Pricing for Residences-Based Plug-in Electric Vehicles in Wind Energy-Rich Electricity Grids. IEEE Open Access Journal of Power and Energy, 2020, 7, 51-58.	3.4	5
12	A data decomposition approach to design a dynamic pricing mechanism for residence-based plug-in electric vehicles in wind energy-rich grids. ETransportation, 2020, 4, 100062.	14.8	5
13	Monitoring LV Prosumers Operation Using Hilbert - Huang Method. , 2020, , .		2
14	Risk assessment in planning high penetrations of solar photovoltaic installations in distribution systems. International Journal of Electrical Power and Energy Systems, 2019, 104, 724-733.	5.5	27
15	A comprehensive cost-benefit analysis of the penetration of Smart Grid technologies in the Saudi Arabian electricity infrastructure. Utilities Policy, 2019, 60, 100933.	4.0	18
16	An Application of Machine Learning for a Smart Grid Resource Allocation Problem. , 2019, , .		6
17	Impacts of Voltage-based Grid Support Functions on Energy Production of PV Customers. , 2019, , .		5
18	Risk-adjusted Cost Ratios for Quantifying Improvements in Wind Power Forecasting. , 2019, , .		2

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19	A Comparison of Multiple Methods for Short-Term Load Forecasting. , 2019, , .		1
20	A fuzzy Analytic Hierarchy Process algorithm to prioritize Smart Grid technologies for the Saudi electricity infrastructure. Sustainable Energy, Grids and Networks, 2018, 13, 122-133.	3.9	17
21	A Partially Observable Markov Decision Process Approach to Residential Home Energy Management. IEEE Transactions on Smart Grid, 2018, 9, 1271-1281.	9.0	56
22	Energy Management in Multi-Microgrid System with Community Battery Energy Storage. , 2018, , .		5
23	An Enterprise Systems Engineering Approach to Electrification: Looking at the Bigger Picture Through Life-Cycle Analysis of Community Microgrids: A Case Study in Papua New Guinea. IEEE Electrification Magazine, 2018, 6, 18-31.	1.8	5
24	A Global Real-Time Superlab: Enabling High Penetration of Power Electronics in the Electric Grid. IEEE Power Electronics Magazine, 2018, 5, 35-44.	0.7	54
25	An application of the Analytic Hierarchy Process for prioritizing user preferences in the design of a Home Energy Management System. Sustainable Energy, Grids and Networks, 2018, 16, 196-206.	3.9	19
26	Geographically distributed real-time digital simulations using linear prediction. International Journal of Electrical Power and Energy Systems, 2017, 84, 308-317.	5.5	26
27	A multi-criteria decision analysis-based approach for dispatch of electric microgrids. International Journal of Electrical Power and Energy Systems, 2017, 88, 99-107.	5.5	17
28	Guest Editorial Special Section on Innovative Research Concepts for Power Delivery Engineering. IEEE Transactions on Power Delivery, 2017, 32, 207-208.	4.3	0
29	Electric energy management in residential areas through coordination of multiple smart homes. Renewable and Sustainable Energy Reviews, 2017, 80, 260-275.	16.4	97
30	Assessments of battery storage options for distribution expansion planning using an OpenDSS-based framework. , 2017, , .		4
31	Capacity optimization of a community microgrid for rural electrification. , 2017, , .		5
32	A comparison of three parallel processing methods for a resource allocation problem in the smart grid. , 2017, , .		7
33	Steady-state analysis of the impact of temperature variations on a distribution transformer. , 2017, , .		2
34	Metrics-Based Assessment of Sustainability in Demand Response. , 2017, , .		6
35	Plenary Panel: Convergence of High-Performance Computing and Communication, Smart City, and Data Sciences and Systems: Fields Helping Grand Challenges and Each Other. , 2017, , .		0
36	Homeowner Preference Elicitation. , 2016, , .		1

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37	Employing ARIMA models to improve wind power forecasts: A case study in ERCOT. , 2016, , .		30
38	An algorithmic approach for creating diverse stochastic feeder datasets for power systems co-simulations. , 2016, , .		6
39	Cyber-physical test platform for microgrids: Combining hardware, hardware-in-the-loop, and network-simulator-in-the-loop. , 2016, , .		16
40	Ex Ante Cost-Benefit Analysis for optimal deregulation of electricity markets. , 2016, , .		1
41	Enabling Smart Grid Cosimulation Studies: Rapid Design and Development of the Technologies and Controls. IEEE Electrification Magazine, 2016, 4, 25-32.	1.8	7
42	An algorithmic approach to tracing closed loops in a power systems network. , 2015, , .		0
43	Bus.py: A GridLAB-D communication interface for Smart distribution Grid simulations. , 2015, , .		17
44	A Load Scheduling Algorithm for the Smart Home Using Customer Preferences and Real Time Residential Prices. IFAC-PapersOnLine, 2015, 48, 126-131.	0.9	6
45	Heuristic Optimization for an Aggregator-Based Resource Allocation in the Smart Grid. IEEE Transactions on Smart Grid, 2015, 6, 1785-1794.	9.0	89
46	A Visualization Aid for Demand Response Studies in the Smart Grid. Electricity Journal, 2015, 28, 100-111.	2.5	14
47	A multi-agent model and strategy for residential demand response coordination. , 2015, , .		10
48	Geographical Information Systems and Loop Flows in Power Systems. Power Electronics and Power Systems, 2015, , 135-153.	0.6	1
49	Steady-state modeling and simulation of a distribution feeder with distributed energy resources in a real-time digital simulation environment. , 2014, , .		2
50	Powering Through the Storm: Microgrids Operation for More Efficient Disaster Recovery. IEEE Power and Energy Magazine, 2014, 12, 67-76.	1.6	107
51	Regression Modeling for Accommodating Unscheduled Flows in Electric Grids. IEEE Transactions on Power Systems, 2014, 29, 2569-2570.	6.5	8
52	An Energy Management System for Building Structures Using a Multi-Agent Decision-Making Control Methodology. IEEE Transactions on Industry Applications, 2013, 49, 322-330.	4.9	194
53	Electric Energy Management in the Smart Home: Perspectives on Enabling Technologies and Consumer Behavior. Proceedings of the IEEE, 2013, 101, 2397-2408.	21.3	93
54	Accommodating Unscheduled Flows in Electric Grids Using the Analytical Ridge Regression. IEEE Transactions on Power Systems, 2013, 28, 3507-3508.	6.5	11

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55	A Linear Programming Methodology to Quantify the Impact of PHEVs with V2G Capabilities on Distribution Systems. , 2013, , .		4
56	Unscheduled Flow in Deregulated Electricity Markets: Bridging the Gap between the Western Electric Power Industry and Academia. , 2013, , .		0
57	A Case Study on the Effects of Predicted Wind Farm Power Outputs on Unscheduled Flows in Transmission Networks. , 2013, , .		2
58	Data Analysis and Visualization for Electric Microgrids: A Case Study on the FortZED RDSI Microgrid. , 2013, , .		5
59	An overview of real time hardware-in-the-loop capabilities in digital simulation for electric microgrids. , 2013, , .		14
60	On the design of a survey for reconciling consumer behaviors with demand response in the smart home. , 2013, , .		5
61	A flexible and efficient multi-agent gas turbine power plant energy management system with economic and environmental constraints. Applied Energy, 2013, 101, 644-654.	10.1	17
62	An Artificial Neural Network in Short-Term Electrical Load Forecasting of a University Campus: A Case Study. Journal of Energy Resources Technology, Transactions of the ASME, 2013, 135, .	2.3	14
63	An application of a decision-making algorithm for an intelligent distribution substation. , 2013, , .		1
64	Power Electronics for Smart Distribution Grids. Green Energy and Technology, 2013, , 493-523.	0.6	0
65	An Artificial Neural Network in Short-Term Electrical Load Forecasting of a University Campus: A Case Study. , 2012, , .		1
66	A Comparison of Smart Grid Technologies and Progresses in Europe and the U.S.. IEEE Transactions on Industry Applications, 2012, 48, 1154-1162.	4.9	90
67	Improving Reliability of Islanded Distribution Systems With Distributed Renewable Energy Resources. IEEE Transactions on Smart Grid, 2012, 3, 2028-2038.	9.0	99
68	Dispatch in Microgrids: Lessons from the Fort Collins Renewable and Distributed Systems Integration Demonstration Project. Electricity Journal, 2012, 25, 71-83.	2.5	8
69	A Framework for Co-simulation of AI Tools with Power Systems Analysis Software. , 2012, , .		30
70	A proposed framework for heuristic approaches to resource allocation in the emerging smart grid. , 2012, , .		4
71	An evolutionary algorithm and acceleration approach for topological design of distributed resource islands. , 2011, , .		3
72	Smart-grid technologies and progress in Europe and the USA. , 2011, , .		35

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73	Smart Grid Initiative. IEEE Industry Applications Magazine, 2011, 17, 27-35.	0.4	40
74	Some Characteristics of Emerging Distribution Systems Considering the Smart Grid Initiative. Electricity Journal, 2010, 23, 64-75.	2.5	51
75	Achieving the Smart Grid through customer-driven microgrids supported by energy storage. , 2010, , .		37
76	Grid modernization efforts in the USA and Brazil - some common lessons based on the Smart Grid Initiative. , 2010, , .		9
77	System analytics for smart microgrids. , 2010, , .		9
78	A framework for energy management in customer-driven microgrids. , 2010, , .		7
79	A conceptual framework of a hierarchically networked agent-based microgrid architecture. , 2010, , .		20
80	An Energy Management System for Building Structures Using a Multi-Agent Decision-Making Control Methodology. , 2010, , .		30
81	Some elements of design and operation of a smart distribution system. , 2010, , .		12
82	A conceptual scheme for cyber-physical systems based energy management in building structures. , 2010, , .		19
83	Enabling technologies for the customer-driven microgrid. , 2009, , .		19
84	A Multifunctional Single-Phase Voltage Source Inverter in Perspective of the Smart Grid Initiative. , 2009, , .		20
85	A Heuristic Technique for Scheduling a Customer-Driven Residential Distributed Energy Resource Installation. , 2009, , .		12
86	Adaptive Transfer Function Estimation of a Notional High-Temperature Superconducting Propulsion Motor. IEEE Transactions on Industry Applications, 2009, 45, 651-658.	4.9	6
87	Dynamic Simulation-Based Analysis of a New Load Shedding Scheme for a Notional Destroyer-Class Shipboard Power System. IEEE Transactions on Industry Applications, 2009, 45, 1166-1174.	4.9	17
88	A survey seeking a definition of a smart distribution system. , 2009, , .		33
89	Simulation based considerations in placement of capacitors near a dynamic voltage restorer. Simulation Modelling Practice and Theory, 2008, 16, 1430-1437.	3.8	2
90	A review of the application of analytic hierarchy process to the planning and operation of electric power microgrids. , 2008, , .		17

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91	Modification to Contribution Factor Formula for Unscheduled Flows. IEEE Transactions on Power Systems, 2008, 23, 809-810.	6.5	13
92	Techniques for accommodating unscheduled flows in electricity networks and markets. , 2008, , .		8
93	A Controllable Test Bed to Assess Induction Motor Thermal Behavior under Time-varying Voltage Waveform Distortions. , 2007, , .		1
94	Voltage Sensitivity to Capacitor Switching on an Existing Fixed Speed Induction Generator Wind Farm. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	4
95	Sequential Experimental Design Based Modeling of a Notional All-Electric Ship AC/DC Conversion System for Sensitivity and Uncertainty Analysis. , 2007, , .		1
96	Research Perspectives on High-Fidelity Modeling, Simulation and Hardware-in-the-Loop for Electric Grid Infrastructure Hardening. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	7
97	An Improved Hilbertâ€"Huang Method for Analysis of Time-Varying Waveforms in Power Quality. IEEE Transactions on Power Systems, 2007, 22, 1843-1850.	6.5	194
98	Dynamic Simulation Based Analysis of a New Load Shedding Scheme for a Notional Destroyer Class Shipboard Power System. , 2007, , .		7
99	Application of a Time-Frequency Algorithm for Adaptive Estimation of Transfer Function of a Notional High-Temperature Superconducting Motor. , 2007, , .		0
100	Investigating the Impact of Pulsed Power Charging Demands on Shipboard Power Quality. , 2007, , .		49
101	Fault Current Contribution From Synchronous Machine and Inverter Based Distributed Generators. IEEE Transactions on Power Delivery, 2007, 22, 634-641.	4.3	239
102	Two Techniques to Enhance Empirical Mode Decomposition for Power Quality Applications. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	39
103	Some Techniques for the Analysis and Visualization of Time-varying Waveform Distortions. , 2006, , .		10
104	Energy scavenging modes from renewable sources for unmanned surface vehicles: a survey of concepts. , 2006, 6230, 878.		1
105	Considerations for Implementing Tag Schedules in Transmission Circuits. IEEE Transactions on Power Systems, 2005, 20, 523-524.	6.5	7
106	State Estimation in Power Engineering Using the Huber Robust Regression Technique. IEEE Transactions on Power Systems, 2005, 20, 1183-1184.	6.5	13
107	An Estimation Technique to Assign Contribution Factors for Loop Flows in an Interconnected Power System. Electric Power Components and Systems, 2004, 32, 813-826.	1.8	8
108	Estimation of Unscheduled Flows and Contribution Factors Based on<tex>$rm L_rm p$</tex>Norms. IEEE Transactions on Power Systems, 2004, 19, 1245-1246.	6.5	16

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109	An Online Portal for Collaborative Learning and Teaching for Power Engineering Education. IEEE Transactions on Power Systems, 2004, 19, 73-80.	6.5	12
110	The application of analytical hierarchy process to analyze the impact of hidden failures in special protection schemes. Electric Power Systems Research, 2003, 67, 191-196.	3.6	25
111	A conceptual power quality monitoring technique based on multi-agent systems. , 0, , .		16
112	Enhanced Empirical Mode Decomposition Applied to Waveform Distortions. , 0, , 233-251.		0
113	Reducing carbon dioxide emissions from electricity sector using demand side management. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 0, , 1-21.	2.3	5