Siddharth Suryanarayanan

List of Publications by Year
in descending order

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113 papers	2,455 citations	394286 19 h-index	254106 43 g-index
113 all docs	113 docs citations	113 times ranked	2599 citing authors

#	Article	IF	Citations
1	Fault Current Contribution From Synchronous Machine and Inverter Based Distributed Generators. IEEE Transactions on Power Delivery, 2007, 22, 634-641.	2.9	239
2	An Improved Hilbertâ€“Huang Method for Analysis of Time-Varying Waveforms in Power Quality. IEEE Transactions on Power Systems, 2007, 22, 1843-1850.	4.6	194
3	An Energy Management System for Building Structures Using a Multi-Agent Decision-Making Control Methodology. IEEE Transactions on Industry Applications, 2013, 49, 322-330.	3.3	194
4	Powering Through the Storm: Microgrids Operation for More Efficient Disaster Recovery. IEEE Power and Energy Magazine, 2014, 12, 67-76.	1.6	107
5	Improving Reliability of Islanded Distribution Systems With Distributed Renewable Energy Resources. IEEE Transactions on Smart Grid, 2012, 3, 2028-2038.	6.2	99
6	Electric energy management in residential areas through coordination of multiple smart homes. Renewable and Sustainable Energy Reviews, 2017, 80, 260-275.	8.2	97
7	Electric Energy Management in the Smart Home: Perspectives on Enabling Technologies and Consumer Behavior. Proceedings of the IEEE, 2013, 101, 2397-2408.	16.4	93
8	A Comparison of Smart Grid Technologies and Progresses in Europe and the U.S.. IEEE Transactions on Industry Applications, 2012, 48, 1154-1162.	3.3	90
9	Heuristic Optimization for an Aggregator-Based Resource Allocation in the Smart Grid. IEEE Transactions on Smart Grid, 2015, 6, 1785-1794.	6.2	89
10	A Partially Observable Markov Decision Process Approach to Residential Home Energy Management. IEEE Transactions on Smart Grid, 2018, 9, 1271-1281.	6.2	56
11	A Global Real-Time Superlab: Enabling High Penetration of Power Electronics in the Electric Grid. IEEE Power Electronics Magazine, 2018, 5, 35-44.	0.6	54
12	Some Characteristics of Emerging Distribution Systems Considering the Smart Grid Initiative. Electricity Journal, 2010, 23, 64-75.	1.3	51
13	Investigating the Impact of Pulsed Power Charging Demands on Shipboard Power Quality. , 2007, , .		49
14	Smart Grid Initiative. IEEE Industry Applications Magazine, 2011, 17, 27-35.	0.3	40
15	Two Techniques to Enhance Empirical Mode Decomposition for Power Quality Applications. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	39
16	Achieving the Smart Grid through customer-driven microgrids supported by energy storage. , 2010, , .		37
17	Smart-grid technologies and progress in Europe and the USA. , 2011, , .		35
18	A survey seeking a definition of a smart distribution system. , 2009, , .		33

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19	An Energy Management System for Building Structures Using a Multi-Agent Decision-Making Control Methodology. , 2010, , .		30
20	A Framework for Co-simulation of AI Tools with Power Systems Analysis Software. , 2012, , .		30
21	Employing ARIMA models to improve wind power forecasts: A case study in ERCOT. , 2016, , .		30
22	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.	6.2	29
23	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.	3.3	27
24	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
25	Geographically distributed real-time digital simulations using linear prediction. International Journal of Electrical Power and Energy Systems, 2017, 84, 308-317.	3.3	26
26	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.	2.1	25
27	A Multifunctional Single-Phase Voltage Source Inverter in Perspective of the Smart Grid Initiative. , 2009, , .		20
28	A conceptual framework of a hierarchically networked agent-based microgrid architecture. , 2010, , .		20
29	Enabling technologies for the customer-driven microgrid. , 2009, , .		19
30	A conceptual scheme for cyber-physical systems based energy management in building structures. , 2010, , .		19
31	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.	2.3	19
32	A comprehensive cost-benefit analysis of the penetration of Smart Grid technologies in the Saudi Arabian electricity infrastructure. Utilities Policy, 2019, 60, 100933.	2.1	18
33	A review of the application of analytic hierarchy process to the planning and operation of electric power microgrids. , 2008, , .		17
34	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.	3.3	17
35	A flexible and efficient multi-agent gas turbine power plant energy management system with economic and environmental constraints. Applied Energy, 2013, 101, 644-654.	5.1	17
36	Bus.py: A GridLAB-D communication interface for Smart distribution Grid simulations. , 2015, , .		17

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37	A multi-criteria decision analysis-based approach for dispatch of electric microgrids. International Journal of Electrical Power and Energy Systems, 2017, 88, 99-107.	3.3	17
38	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.	2.3	17
39	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.	4.6	16
40	A conceptual power quality monitoring technique based on multi-agent systems. , 0, , .		16
41	Cyber-physical test platform for microgrids: Combining hardware, hardware-in-the-loop, and network-simulator-in-the-loop. , 2016, , .		16
42	An overview of real time hardware-in-the-loop capabilities in digital simulation for electric microgrids. , 2013, , .		14
43	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, .	1.4	14
44	A Visualization Aid for Demand Response Studies in the Smart Grid. Electricity Journal, 2015, 28, 100-111.	1.3	14
45	State Estimation in Power Engineering Using the Huber Robust Regression Technique. IEEE Transactions on Power Systems, 2005, 20, 1183-1184.	4.6	13
46	Modification to Contribution Factor Formula for Unscheduled Flows. IEEE Transactions on Power Systems, 2008, 23, 809-810.	4.6	13
47	An Online Portal for Collaborative Learning and Teaching for Power Engineering Education. IEEE Transactions on Power Systems, 2004, 19, 73-80.	4.6	12
48	A Heuristic Technique for Scheduling a Customer-Driven Residential Distributed Energy Resource Installation. , 2009, , .		12
49	Some elements of design and operation of a smart distribution system. , 2010, , .		12
50	Accommodating Unscheduled Flows in Electric Grids Using the Analytical Ridge Regression. IEEE Transactions on Power Systems, 2013, 28, 3507-3508.	4.6	11
51	Some Techniques for the Analysis and Visualization of Time-varying Waveform Distortions. , 2006, , .		10
52	A multi-agent model and strategy for residential demand response coordination. , 2015, , .		10
53	Grid modernization efforts in the USA and Brazil - some common lessons based on the Smart Grid Initiative. , 2010, , .		9
54	System analytics for smart microgrids. , 2010, , .		9

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55	An Estimation Technique to Assign Contribution Factors for Loop Flows in an Interconnected Power System. Electric Power Components and Systems, 2004, 32, 813-826.	1.0	8
56	Techniques for accommodating unscheduled flows in electricity networks and markets. , 2008, , .		8
57	Dispatch in Microgrids: Lessons from the Fort Collins Renewable and Distributed Systems Integration Demonstration Project. Electricity Journal, 2012, 25, 71-83.	1.3	8
58	Regression Modeling for Accommodating Unscheduled Flows in Electric Grids. IEEE Transactions on Power Systems, 2014, 29, 2569-2570.	4.6	8
59	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.	3.0	8
60	Considerations for Implementing Tag Schedules in Transmission Circuits. IEEE Transactions on Power Systems, 2005, 20, 523-524.	4.6	7
61	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
62	Dynamic Simulation Based Analysis of a New Load Shedding Scheme for a Notional Destroyer Class Shipboard Power System. , 2007, , .		7
63	A framework for energy management in customer-driven microgrids. , 2010, , .		7
64	Enabling Smart Grid Cosimulation Studies: Rapid Design and Development of the Technologies and Controls. IEEE Electrification Magazine, 2016, 4, 25-32.	1.8	7
65	A comparison of three parallel processing methods for a resource allocation problem in the smart grid. , 2017, , .		7
66	Adaptive Transfer Function Estimation of a Notional High-Temperature Superconducting Propulsion Motor. IEEE Transactions on Industry Applications, 2009, 45, 651-658.	3.3	6
67	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
68	An algorithmic approach for creating diverse stochastic feeder datasets for power systems co-simulations. , 2016, , .		6
69	Metrics-Based Assessment of Sustainability in Demand Response. , 2017, , .		6
70	An Application of Machine Learning for a Smart Grid Resource Allocation Problem. , 2019, , .		6
71	Data Analysis and Visualization for Electric Microgrids: A Case Study on the FortZED RDSI Microgrid. , 2013, , .		5
72	On the design of a survey for reconciling consumer behaviors with demand response in the smart home. , 2013, , .		5

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73	Capacity optimization of a community microgrid for rural electrification. , 2017, , .		5
74	Energy Management in Multi-Microgrid System with Community Battery Energy Storage. , 2018, , .		5
75	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
76	Impacts of Voltage-based Grid Support Functions on Energy Production of PV Customers. , 2019, , .		5
77	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.	2.5	5
78	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.	6.8	5
79	Reducing carbon dioxide emissions from electricity sector using demand side management. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 0, , 1-21.	1.2	5
80	A Computationally Improved Heuristic Algorithm for Transmission Switching Using Line Flow Thresholds for Load Shed Reduction. , 2021, , .		5
81	Voltage Sensitivity to Capacitor Switching on an Existing Fixed Speed Induction Generator Wind Farm. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	4
82	A proposed framework for heuristic approaches to resource allocation in the emerging smart grid. , 2012, , .		4
83	A Linear Programming Methodology to Quantify the Impact of PHEVs with V2G Capabilities on Distribution Systems. , 2013, , .		4
84	Assessments of battery storage options for distribution expansion planning using an OpenDSS-based framework. , 2017, , .		4
85	A Hybrid Hilbert-Huang Method for Monitoring Distorted Time-Varying Waveforms. Energies, 2021, 14, 1864.	1.6	4
86	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
87	An evolutionary algorithm and acceleration approach for topological design of distributed resource islands. , 2011, , .		3
88	The LSBmax algorithm for boosting resilience of electric grids post (Nâ€2) contingencies. Journal of Engineering, 2021, 2021, 807-816.	0.6	3
89	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
90	Simulation based considerations in placement of capacitors near a dynamic voltage restorer. Simulation Modelling Practice and Theory, 2008, 16, 1430-1437.	2.2	2

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91	A Case Study on the Effects of Predicted Wind Farm Power Outputs on Unscheduled Flows in Transmission Networks. , 2013, , .		2
92	Steady-state modeling and simulation of a distribution feeder with distributed energy resources in a real-time digital simulation environment. , 2014, , .		2
93	Steady-state analysis of the impact of temperature variations on a distribution transformer. , 2017, , .		2
94	Risk-adjusted Cost Ratios for Quantifying Improvements in Wind Power Forecasting. , 2019, , .		2
95	Monitoring LV Prosumers Operation Using Hilbert - Huang Method. , 2020, , .		2
96	Energy scavenging modes from renewable sources for unmanned surface vehicles: a survey of concepts. , 2006, 6230, 878.		1
97	A Controllable Test Bed to Assess Induction Motor Thermal Behavior under Time-varying Voltage Waveform Distortions. , 2007, , .		1
98	Sequential Experimental Design Based Modeling of a Notional All-Electric Ship AC/DC Conversion System for Sensitivity and Uncertainty Analysis. , 2007, , .		1
99	An Artificial Neural Network in Short-Term Electrical Load Forecasting of a University Campus: A Case Study. , 2012, , .		1
100	An application of a decision-making algorithm for an intelligent distribution substation. , 2013, , .		1
101	Homeowner Preference Elicitation. , 2016, , .		1
102	Ex Ante Cost-Benefit Analysis for optimal deregulation of electricity markets. , 2016, , .		1
103	A Comparison of Multiple Methods for Short-Term Load Forecasting. , 2019, , .		1
104	Simulation Studies to Quantify the Impact of Demand Side Management on Environmental Footprint. Sustainability, 2021, 13, 9504.	1.6	1
105	Geographical Information Systems and Loop Flows in Power Systems. Power Electronics and Power Systems, 2015, , 135-153.	0.6	1
106	Application of a Time-Frequency Algorithm for Adaptive Estimation of Transfer Function of a Notional High-Temperature Superconducting Motor. , 2007, , .		0
107	Enhanced Empirical Mode Decomposition Applied to Waveform Distortions. , 0, , 233-251.		0
108	Unscheduled Flow in Deregulated Electricity Markets: Bridging the Gap between the Western Electric Power Industry and Academia. , 2013, , .		0

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109	An algorithmic approach to tracing closed loops in a power systems network. , 2015, , .		0
110	Guest Editorial Special Section on Innovative Research Concepts for Power Delivery Engineering. IEEE Transactions on Power Delivery, 2017, 32, 207-208.	2.9	0
111	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
112	Incorporation of Survey-based Data into an Aggregation Algorithm for Residential Demand Response. , 2021, , .		0
113	Power Electronics for Smart Distribution Grids. Green Energy and Technology, 2013, , 493-523.	0.4	0