

Katherine R Davis

List of Publications by Year in descending order

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69
papers

856
citations

687363

13
h-index

642732

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g-index

69
all docs

69
docs citations

69
times ranked

496
citing authors

#	ARTICLE	IF	CITATIONS
1	A Cyber-Physical Modeling and Assessment Framework for Power Grid Infrastructures. IEEE Transactions on Smart Grid, 2015, 6, 2464-2475.	9.0	111
2	SOCCA: A Security-Oriented Cyber-Physical Contingency Analysis in Power Infrastructures. IEEE Transactions on Smart Grid, 2014, 5, 3-13.	9.0	90
3	Power flow cyber attacks and perturbation-based defense. , 2012, , .		59
4	Quantitative analysis of power systems resilience: Standardization, categorizations, and challenges. Renewable and Sustainable Energy Reviews, 2021, 149, 111252.	16.4	48
5	Man-in-the-middle attacks and defence in a power system cyber-physical testbed. IET Cyber-Physical Systems: Theory and Applications, 2021, 6, 164-177.	3.3	46
6	Joint Detection and Localization of Stealth False Data Injection Attacks in Smart Grids Using Graph Neural Networks. IEEE Transactions on Smart Grid, 2022, 13, 807-819.	9.0	39
7	Graph Neural Networks Based Detection of Stealth False Data Injection Attacks in Smart Grids. IEEE Systems Journal, 2022, 16, 2946-2957.	4.6	37
8	Bio-inspired design for robust power grid networks. Applied Energy, 2019, 251, 113349.	10.1	35
9	Multi-Source Multi-Domain Data Fusion for Cyberattack Detection in Power Systems. IEEE Access, 2021, 9, 119118-119138.	4.2	32
10	Educational Applications of Large Synthetic Power Grids. IEEE Transactions on Power Systems, 2019, 34, 765-772.	6.5	24
11	A3D: Attention-based auto-encoder anomaly detector for false data injection attacks. Electric Power Systems Research, 2020, 189, 106795.	3.6	24
12	Design and evaluation of a cyber-physical testbed for improving attack resilience of power systems. IET Cyber-Physical Systems: Theory and Applications, 2021, 6, 208-227.	3.3	17
13	Generalized Contingency Analysis Based on Graph Theory and Line Outage Distribution Factor. IEEE Systems Journal, 2022, 16, 626-636.	4.6	16
14	A Cyber Topology Model for the Texas 2000 Synthetic Electric Power Grid. , 2019, , .		14
15	Data Processing and Model Selection for Machine Learning-based Network Intrusion Detection. , 2020, , .		14
16	Easy SimAuto (ESA): A Python Package that Simplifies Interacting with PowerWorld Simulator. Journal of Open Source Software, 2020, 5, 2289.	4.6	14
17	Energy Theft Detection Via Artificial Neural Networks. , 2018, , .		13
18	Cyber-physical component ranking for risk sensitivity analysis using betweenness centrality. IET Cyber-Physical Systems: Theory and Applications, 2021, 6, 139-150.	3.3	12

#	ARTICLE	IF	CITATIONS
19	Estimation of Transmission Line Parameters from Historical Data. , 2013, , .		10
20	Analytic corrective control selection for online remedial action scheme design in a cyber adversarial environment. IET Cyber-Physical Systems: Theory and Applications, 2017, 2, 188-197.	3.3	10
21	Bio-Inspired Design for Robust Power Networks. , 2019, , .		10
22	Real-time Power System Simulation with Hardware Devices through DNP3 in Cyber-Physical Testbed. , 2021, , .		9
23	Toward Efficient Wide-Area Identification of Multiple Element Contingencies in Power Systems. , 2021, , .		9
24	W4IPS: A Web-based Interactive Power System Simulation Environment For Power System Security Analysis. , 2020, , .		9
25	Data-driven spatio-temporal analysis of wildfire risk to power systems operation. IET Generation, Transmission and Distribution, 2022, 16, 2531-2546.	2.5	9
26	An ecosystem perspective for the design of sustainable power systems. Procedia CIRP, 2019, 80, 269-274.	1.9	8
27	A GIC Estimator for Electric Grid Monitoring During Geomagnetic Disturbances. IEEE Transactions on Power Systems, 2020, 35, 4847-4855.	6.5	8
28	Structural Learning Techniques for Bayesian Attack Graphs in Cyber Physical Power Systems. , 2021, , .		8
29	Fast Generation Redispatch Techniques for Automated Remedial Action Schemes. , 2019, , .		7
30	A Framework for Cyber-Physical Model Creation and Evaluation. , 2019, , .		7
31	Crystal (ball). , 2018, , .		6
32	Distributed controller role and interaction discovery. , 2017, , .		5
33	Power System Equipment Cyber-Physical Risk Assessment Based on Architecture and Critical Clearing Time. , 2018, , .		5
34	System-Wide Case Study Assessment of Transformer Heating Due to Geomagnetic Disturbances. , 2019, , .		5
35	GIC-Inclusive State Estimator for Power System Awareness During Geomagnetic Disturbance Events. IEEE Transactions on Power Systems, 2021, 36, 2966-2974.	6.5	5
36	Cyberattack Defense With Cyber-Physical Alert and Control Logic in Industrial Controllers. IEEE Transactions on Industry Applications, 2022, 58, 5921-5934.	4.9	5

#	ARTICLE	IF	CITATIONS
37	Extracting substation cyber-physical architecture through intelligent electronic devices' data. , 2018, , .		4
38	Deep Neural Network Based Non-Intrusive Load Status Recognition. , 2018, , .		4
39	The Potential for a GIC-inclusive State Estimator. , 2018, , .		4
40	A Framework of Smart and Secure Power Electronics Driven HVAC Thermal Inertia in Distributed Power Systems. , 2018, , .		4
41	Mixed-Integer Optimization for Bio-Inspired Robust Power Network Design. , 2021, , .		4
42	A Multigraph Modeling Approach to Enable Ecological Network Analysis of Cyber Physical Power Networks. , 2021, , .		4
43	Inter-Domain Fusion for Enhanced Intrusion Detection in Power Systems: An Evidence Theoretic and Meta-Heuristic Approach. Sensors, 2022, 22, 2100.	3.8	4
44	An Ecological Robustness Oriented Optimal Power Flow for Power Systemsâ€™ Survivability. IEEE Transactions on Power Systems, 2023, 38, 447-462.	6.5	4
45	Configuration of WAMS and Pilot Bus Selection for Secondary Voltage Control in the Egyptian Grid. , 2018, , .		3
46	Toward a Sensor Trustworthiness Measure for Grid-Connected IoT-Enabled Smart Cities. , 2018, , .		3
47	MATGMD: A Tool for Enabling GMD Studies in MATLAB. , 2019, , .		3
48	Learning-Based Defense of False Data Injection Attacks in Power System State Estimation. , 2019, , .		3
49	Statistics for Building Synthetic Power System Cyber Models. , 2021, , .		3
50	Next-Generation Relay Voting Scheme Design Leveraging Consensus Algorithms. , 2021, , .		3
51	Considerations in the Automatic Development of Electric Grid Restoration Plans. , 2021, , .		3
52	Evaluation of Performance Metrics for Electric Grid Operational Scenarios. , 2021, , .		3
53	Adaptive, Cyber-Physical Special Protection Schemes to Defend the Electric Grid Against Predictable and Unpredictable Disturbances. , 2021, , .		3
54	Mitigating TCP Congestion: A Coordinated Cyber and Physical Approach. , 2021, , .		3

#	ARTICLE	IF	CITATIONS
55	Cyberattack Detection in Large-Scale Smart Grids using Chebyshev Graph Convolutional Networks. , 2022, , .		3
56	Augmented DC power flow method with real-time measurements. , 2016, , .		2
57	SCORE: A Security-Oriented Cyber-Physical Optimal Response Engine. , 2019, , .		2
58	Generator control action classification based on localized voltage measurements. , 2016, , .		1
59	Improving power system neural network construction using modal analysis. , 2017, , .		1
60	Cyber-air-gapped detection of controller attacks through physical interdependencies. , 2017, , .		1
61	PAVED: Perturbation Analysis for Verification of Energy Data. , 2019, , .		1
62	Strategy for distributed controller defence: Leveraging controller roles and control support groups to maintain or regain control in cyber-physical adversarial power systems. IET Cyber-Physical Systems: Theory and Applications, 2021, 6, 80-92.	3.3	1
63	Generating Connected, Simple, and Realistic Cyber Graphs for Smart Grids. , 2022, , .		1
64	Generation of Firewall Configurations for a Large Scale Synthetic Power System. , 2022, , .		1
65	Mitigation of Distributed Controller Failure. , 2018, , .		0
66	A Unified Power System Model to Analyze the Benefits of Electric Vehicles in Power Grid. , 2019, , .		0
67	Ecological Uniqueness for Understanding Line Importance in Power Grids. , 2021, , .		0
68	Enabling Online, Dynamic Remedial Action Schemes by Reducing the Corrective Control Search Space. , 2020, , .		0
69	Automating the Process to Quantify Cyber-Physical Risk with Contingency Analysis and User Input. , 2021, , .		0