Johanna L Mathieu

List of Publications by Year
in descending order

109	2,915	331670	243625
papers	citations	21 h-index	44 g-index

114	114	114	2257
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Integrating unimodality into distributionally robust optimal power flow. Top, 2022, 30, 594-617.	1.6	2
2	Stochastic model predictive controller for wind farm frequency regulation in waked conditions. Electric Power Systems Research, 2022, 211, 108543.	3.6	3
3	Flexible drinking water pumping to provide multiple grid services. Electric Power Systems Research, 2022, 212, 108491.	3.6	1
4	Demand Response: Coordination of Flexible Electric Loads. , 2021, , 530-534.		0
5	Performance of Existing Methods in Baselining Demand Response From Commercial Building HVAC Fans. ASME Journal of Engineering for Sustainable Buildings and Cities, 2021, 2, .	0.9	2
6	Large-Scale Invariant Sets for Safe Coordination of Thermostatic Loads. , 2021, , .		4
7	Strategies for Network-Safe Load Control With a Third-Party Aggregator and a Distribution Operator. IEEE Transactions on Power Systems, 2021, 36, 3329-3339.	6.5	13
8	Mitigating Voltage Unbalance Using Distributed Solar Photovoltaic Inverters. IEEE Transactions on Power Systems, 2021, 36, 2642-2651.	6.5	20
9	Tractable Robust Drinking Water Pumping to Provide Power Network Voltage Support. , 2021, , .		1
10	Do commercial buildings become less efficient when they provide grid ancillary services?. Energy Efficiency, 2020, 13, 487-501.	2.8	13
11	Chance-Constrained Water Pumping to Manage Water and Power Demand Uncertainty in Distribution Networks. Proceedings of the IEEE, 2020, 108, 1640-1655.	21.3	21
12	Overcoming the practical challenges of applying steinmetz circuit design to mitigate voltage unbalance using distributed solar PV. Electric Power Systems Research, 2020, 188, 106563.	3.6	6
13	Water distribution networks as flexible loads: A chance-constrained programming approach. Electric Power Systems Research, 2020, 188, 106570.	3.6	12
14	Impact of Market Timing on the Profit of a Risk-Averse Load Aggregator. IEEE Transactions on Power Systems, 2020, 35, 3970-3980.	6.5	10
15	Separating Feeder Demand Into Components Using Substation, Feeder, and Smart Meter Measurements. IEEE Transactions on Smart Grid, 2020, 11, 3280-3290.	9.0	30
16	Baseline estimation of commercial building HVAC fan power using tensor completion. Electric Power Systems Research, 2020, 189, 106624.	3.6	2
17	A Method for Ensuring a Load Aggregatorâ€™s Power Deviations Are Safe for Distribution Networks. Electric Power Systems Research, 2020, 189, 106781.	3.6	11
18	Demand Response: Coordination of Flexible Electric Loads. , 2020, , 1-5.		0

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19	Generation Scheduling to Limit PM₂.₅Emissions and Dispersion: A Study on the Seasonal Management System of South Korea. , 2020, , .		0
20	Distributionally Robust Chance-Constrained Optimal Power Flow Assuming Unimodal Distributions With Misspecified Modes. IEEE Transactions on Control of Network Systems, 2019, 6, 1223-1234.	3.7	27
21	An Optimal Power-Flow Approach to Improve Power System Voltage Stability Using Demand Response. IEEE Transactions on Control of Network Systems, 2019, 6, 1015-1025.	3.7	56
22	Chance-constrained water pumping managing power distribution network constraints. , 2019, , .		4
23	Exploration of tensor decomposition applied to commercial building baseline estimation. , 2019, , .		2
24	Coordination between an Aggregator and Distribution Operator to Achieve Network-Aware Load Control. , 2019, , .		10
25	Demand Response Potential of Residential Thermostatically Controlled Loads in Michigan. , 2019, , .		2
26	Applying Steinmetz Circuit Design to Mitigate Voltage Unbalance Using Distributed Solar PV. , 2019, , .		7
27	Effects of Load-Based Frequency Regulation on Distribution Network Operation. IEEE Transactions on Power Systems, 2019, 34, 1569-1578.	6.5	18
28	Chance Constrained Reserve Scheduling Using Uncertain Controllable Loads Part I: Formulation and Scenario-Based Analysis. IEEE Transactions on Smart Grid, 2019, 10, 1608-1617.	9.0	71
29	Chance Constrained Reserve Scheduling Using Uncertain Controllable Loads Part II: Analytical Reformulation. IEEE Transactions on Smart Grid, 2019, 10, 1618-1625.	9.0	31
30	Ambiguous risk constraints with moment and unimodality information. Mathematical Programming, 2019, 173, 151-192.	2.4	43
31	Managing Voltage Excursions on the Distribution Network by Limiting the Aggregate Variability of Thermostatic Loads. , 2019, , .		2
32	Managing Communication Delays and Model Error in Demand Response for Frequency Regulation. IEEE Transactions on Power Systems, 2018, 33, 1299-1308.	6.5	25
33	The Flexibility of Thermostatically Controlled Loads as a Function of Price Notice Time. , 2018, , .		5
34	Benchmarking of Aggregate Residential Load Models Used for Demand Response. , 2018, , .		2
35	Exploring Connections Between a Multiple Model Kalman Filter and Dynamic Fixed Share with Applications to Demand Response. , 2018, , .		0
36	Improving Power System Voltage Stability by Using Demand Response to Maximize the Distance to the Closest Saddle-Node Bifurcation. , 2018, , .		4

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37	Distributionally Robust Chance Constrained Optimal Power Flow Assuming Log-Concave Distributions. , 2018, , .		8
38	Real-Time Energy Disaggregation of a Distribution Feeder's Demand Using Online Learning. IEEE Transactions on Power Systems, 2018, 33, 4730-4740.	6.5	20
39	Use-Phase Drives Lithium-Ion Battery Life Cycle Environmental Impacts When Used for Frequency Regulation. Environmental Science & Technology, 2018, 52, 10163-10174.	10.0	26
40	Disaggregating Load by Type from Distribution System Measurements in Real Time. The IMA Volumes in Mathematics and Its Applications, 2018, , 413-437.	0.5	3
41	Price and capacity competition in balancing markets with energy storage. Energy Systems, 2017, 8, 169-197.	3.0	14
42	Ancillary Services Through Demand Scheduling and Control of Commercial Buildings. IEEE Transactions on Power Systems, 2017, 32, 186-197.	6.5	45
43	Hybrid Stochastic-Deterministic Multiperiod DC Optimal Power Flow. IEEE Transactions on Power Systems, 2017, 32, 3934-3945.	6.5	6
44	Modeling and Optimal Operation of Distributed Battery Storage in Low Voltage Grids. IEEE Transactions on Power Systems, 2017, 32, 4340-4350.	6.5	68
45	Using demand response to improve power system voltage stability margins. , 2017, , .		10
46	Effects of load control for real-time energy balancing on distribution network constraints. , 2017, , .		2
47	Two-stage distributionally robust optimal power flow with flexible loads. , 2017, , .		7
48	Policy and market barriers to energy storage providing multiple services. Electricity Journal, 2017, 30, 50-56.	2.5	36
49	The impact of load models in an algorithm for improving voltage stability via demand response. , 2017, , .		5
50	Performance Limits of Thermostatically Controlled Loads under Probabilistic Switching. IFAC-PapersOnLine, 2017, 50, 8873-8880.	0.9	3
51	An experimental study of energy consumption in buildings providing ancillary services. , 2017, , .		3
52	A linear approach to manage input delays while supplying frequency regulation using residential loads. , 2017, , .		2
53	Explaining inefficiencies in commercial buildings providing power system ancillary services. Energy and Buildings, 2017, 152, 216-226.	6.7	22
54	Impact of uncertainty from load-based reserves and renewables on dispatch costs and emissions. , 2016, , .		3

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55	Distributionally robust risk-constrained optimal power flow using moment and unimodality information. , 2016, , .		17
56	Strategic bidding in electricity markets with only renewables. , 2016, , .		7
57	Controlling nonlinear batteries for power systems: Trading off performance and battery life. , 2016, , .		7
58	Adaptive state estimation and control of thermostatic loads for real-time energy balancing. , 2016, , .		13
59	Reducing the computational effort of stochastic multi-period DC optimal power flow with storage. , 2016, , .		4
60	Stochastic optimal power flow formulation to achieve emissions objectives with energy storage. , 2016, , .		1
61	Distributionally Robust Chance-Constrained Optimal Power Flow with Uncertain Renewables and Uncertain Reserves Provided by Loads. IEEE Transactions on Power Systems, 2016, , 1-1.	6.5	132
62	Emissions impacts of using energy storage for power system reserves. Applied Energy, 2016, 168, 444-456.	10.1	60
63	A Comparison of Robust and Probabilistic Reliability for Systems with Renewables and Responsive Demand. , 2016, , .		8
64	Comparing Centralized and Decentralized Contract Design Enabling Direct Load Control for Reserves. IEEE Transactions on Power Systems, 2016, 31, 2044-2054.	6.5	36
65	Inferring the behavior of distributed energy resources with online learning. , 2015, , .		6
66	Enabling renewable resource integration: The balance between robustness and flexibility. , 2015, , .		5
67	Stochastic Dual Dynamic Programming to schedule energy storage units providing multiple services. , 2015, , .		12
68	Environmental and economic benefits of non-disruptive demand response as a function of consumer information sharing. , 2015, , .		1
69	Analytical reformulation of chance-constrained optimal power flow with uncertain load control. , 2015, , .		21
70	How Baseline Model Implementation Choices Affect Demand Response Assessments. Journal of Solar Energy Engineering, Transactions of the ASME, 2015, 137, .	1.8	10
71	Data-driven optimization approaches for optimal power flow with uncertain reserves from load control. , 2015, , .		11
72	Applying Networked Estimation and Control Algorithms to Address Communication Bandwidth Limitations and Latencies in Demand Response. , 2015, , .		11

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73	Optimal real-time control of multiple battery sets for power system applications. , 2015, , .		15
74	Ancillary services to the grid from commercial buildings through demand scheduling and control. , 2015, , .		11
75	Resource and revenue potential of California residential load participation in ancillary services. Energy Policy, 2015, 80, 76-87.	8.8	49
76	Scheduling distributed energy storage units to provide multiple services under forecast error. International Journal of Electrical Power and Energy Systems, 2015, 72, 48-57.	5.5	69
77	Uncertainty in Demand Responseâ€"Identification, Estimation, and Learning. , 2015, , 56-70.		9
78	Relation between overheating of distribution transformers and switching frequency of electric loads used for demand response. , 2015, , .		4
79	Arbitraging Intraday Wholesale Energy Market Prices With Aggregations of Thermostatic Loads. IEEE Transactions on Power Systems, 2015, 30, 763-772.	6.5	179
80	Adaptive demand response: Online learning of restless and controlled bandits. , 2014, , .		14
81	Demand response with moving horizon estimation of individual thermostatic load states from aggregate power measurements. , 2014, , .		9
82	Modeling, identification, and optimal control of batteries for power system applications. , 2014, , .		38
83	Scheduling distributed energy storage units to provide multiple services. , 2014, , .		22
84	Control of thermostatic loads using moving horizon estimation of individual load states. , 2014, , .		16
85	Technical resource potential of non-disruptive residential demand response in Denmark. , 2014, , .		8
86	Stochastic Optimal Power Flow with Uncertain Reserves from Demand Response. , 2014, , .		42
87	Index Policies for Demand Response. IEEE Transactions on Power Systems, 2014, 29, 1287-1295.	6.5	33
88	Uncertainty in the flexibility of aggregations of demand response resources. , 2013, , .		54
89	Decentralized contract design for demand response. , 2013, , .		9
90	Modeling options for demand side participation of thermostatically controlled loads. , 2013, , .		62

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91	Maximizing the potential of energy storage to provide fast frequency control. , 2013, , .		38
92	Residential Demand Response program design: Engineering and economic perspectives. , 2013, , .		7
93	Planning and control of Electric Vehicles using dynamic energy capacity models. , 2013, , .		3
94	State Estimation and Control of Electric Loads to Manage Real-Time Energy Imbalance. IEEE Transactions on Power Systems, 2013, 28, 430-440.	6.5	472
95	A framework for and assessment of demand response and energy storage in power systems. , 2013, , .		41
96	A unified analysis of security-constrained OPF formulations considering uncertainty, risk, and controllability in single and multi-area systems. , 2013, , .		13
97	Index policies for demand response under uncertainty. , 2013, , .		3
98	Understanding the Effect of Baseline Modeling Implementation Choices on Analysis of Demand Response Performance. , 2013, , .		2
99	Energy arbitrage with thermostatically controlled loads. , 2013, , .		50
100	Price and capacity competition in zero-mean storage and demand response markets. , 2012, , .		7
101	State Estimation and Control of Heterogeneous Thermostatically Controlled Loads for Load Following. , 2012, , .		83
102	Understanding the Effect of Baseline Modeling Implementation Choices on Analysis of Demand Response Performance. , 2012, , .		8
103	Examining uncertainty in demand response baseline models and variability in automated responses to dynamic pricing. , 2011, , .		57
104	Quantifying Changes in Building Electricity Use, With Application to Demand Response. IEEE Transactions on Smart Grid, 2011, 2, 507-518.	9.0	253
105	Variability in automated responses of commercial buildings and industrial facilities to dynamic electricity prices. Energy and Buildings, 2011, 43, 3322-3330.	6.7	63
106	Transformation of a Mismatched Nonlinear Dynamic System into Strict Feedback Form. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2011, 133, .	1.6	5
107	Characterizing the Response of Commercial and Industrial Facilities to Dynamic Pricing Signals From the Utility. , 2010, , .		11
108	Arsenic remediation of drinking water using iron-oxide coated coal bottom ash. Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering, 2010, 45, 1446-1460.	1.7	17

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109	An Interactive Game Introducing Power Flow Optimization Concepts. , 0, , .		0