

Daniel K Molzahn

List of Publications by Year in descending order

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papers

2,268
citations

430874

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57
all docs

57
docs citations

57
times ranked

1735
citing authors

#	ARTICLE	IF	CITATIONS
1	A Survey of Distributed Optimization and Control Algorithms for Electric Power Systems. IEEE Transactions on Smart Grid, 2017, 8, 2941-2962.	9.0	786
2	Implementation of a Large-Scale Optimal Power Flow Solver Based on Semidefinite Programming. IEEE Transactions on Power Systems, 2013, 28, 3987-3998.	6.5	216
3	Examining the limits of the application of semidefinite programming to power flow problems. , 2011, , .		160
4	Sparsity-Exploiting Moment-Based Relaxations of the Optimal Power Flow Problem. IEEE Transactions on Power Systems, 2015, 30, 3168-3180.	6.5	116
5	A Survey of Relaxations and Approximations of the Power Flow Equations. Foundations and Trends in Electric Energy Systems, 2019, 4, 1-221.	1.0	86
6	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
7	A Sufficient Condition for Global Optimality of Solutions to the Optimal Power Flow Problem. IEEE Transactions on Power Systems, 2014, 29, 978-979.	6.5	47
8	Convex Relaxations of Optimal Power Flow Problems: An Illustrative Example. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 650-660.	5.4	46
9	Computing the Feasible Spaces of Optimal Power Flow Problems. IEEE Transactions on Power Systems, 2017, 32, 4752-4763.	6.5	43
10	Recent advances in computational methods for the power flow equations. , 2016, , .		38
11	DC Optimal Power Flow With Joint Chance Constraints. IEEE Transactions on Power Systems, 2021, 36, 147-158.	6.5	35
12	Solving Multiperiod OPF Problems Using an AC-QP Algorithm Initialized With an SOCP Relaxation. IEEE Transactions on Power Systems, 2017, 32, 3538-3548.	6.5	34
13	Lasserre Hierarchy for Large Scale Polynomial Optimization in Real and Complex Variables. SIAM Journal on Optimization, 2018, 28, 1017-1048.	2.0	33
14	A Laplacian-Based Approach for Finding Near Globally Optimal Solutions to OPF Problems. IEEE Transactions on Power Systems, 2017, 32, 305-315.	6.5	31
15	Counterexample to a Continuation-Based Algorithm for Finding All Power Flow Solutions. IEEE Transactions on Power Systems, 2013, 28, 564-565.	6.5	29
16	Approximate Representation of ZIP Loads in a Semidefinite Relaxation of the OPF Problem. IEEE Transactions on Power Systems, 2014, 29, 1864-1865.	6.5	29
17	Error bounds on the DC power flow approximation: A convex relaxation approach. , 2016, , .		29
18	Inexact convex relaxations for AC optimal power flow: Towards AC feasibility. Electric Power Systems Research, 2020, 187, 106480.	3.6	25

#	ARTICLE	IF	CITATIONS
19	A Deterministic Method to Identify Multiple Local Extrema for the AC Optimal Power Flow Problem. IEEE Transactions on Power Systems, 2018, 33, 654-668.	6.5	21
20	Implied Constraint Satisfaction in Power System optimization: The Impacts of Load Variations. , 2019, , .		21
21	Sufficient conditions for power flow insolvability considering reactive power limited generators with applications to voltage stability margins. , 2013, , .		19
22	Efficient creation of datasets for data-driven power system applications. Electric Power Systems Research, 2021, 190, 106614.	3.6	19
23	Detection and Characterization of Intrusions to Network Parameter Data in Electric Power Systems. IEEE Transactions on Smart Grid, 2019, 10, 3919-3928.	9.0	18
24	Robust AC Optimal Power Flow With Robust Convex Restriction. IEEE Transactions on Power Systems, 2021, 36, 4953-4966.	6.5	18
25	Grid-Aware versus Grid-Agnostic Distribution System Control: A Method for Certifying Engineering Constraint Satisfaction. , 2019, , .		17
26	Solution of optimal power flow problems using moment relaxations augmented with objective function penalization. , 2015, , .		16
27	Identifying and Characterizing Non-Convexities in Feasible Spaces of Optimal Power Flow Problems. IEEE Transactions on Circuits and Systems II: Express Briefs, 2018, 65, 672-676.	3.0	16
28	Feasible Path Identification in Optimal Power Flow With Sequential Convex Restriction. IEEE Transactions on Power Systems, 2020, 35, 3648-3659.	6.5	15
29	The Effects of Social Distancing on Electricity Demand Considering Temperature Dependency. Energies, 2021, 14, 473.	3.1	15
30	Towards an AC Optimal Power Flow Algorithm with Robust Feasibility Guarantees. , 2018, , .		14
31	Mixed SDP/SOCP moment relaxations of the optimal power flow problem. , 2015, , .		13
32	Using demand response to improve power system voltage stability margins. , 2017, , .		10
33	Tightening QC Relaxations of AC Optimal Power Flow Problems via Complex Per Unit Normalization. IEEE Transactions on Power Systems, 2021, 36, 281-291.	6.5	10
34	Empirical Investigation of Non-Convexities in Optimal Power Flow Problems. , 2018, , .		10
35	Power system structure and confidentiality preserving transformation of Optimal Power Flow problem. , 2013, , .		9
36	Semidefinite relaxations of equivalent optimal power flow problems: An illustrative example. , 2015, , .		9

#	ARTICLE	IF	CITATIONS
37	Initializing Dynamic Power System Simulations Using Eigenvalue Formulations of the Induction Machine and Power Flow Models. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 690-702.	5.4	8
38	Transient Stability Analysis of Power Systems via Occupation Measures. , 2019, , .		8
39	Identifying Redundant Flow Limits on Parallel Lines. IEEE Transactions on Power Systems, 2018, 33, 3210-3212.	6.5	7
40	On The Relationships Among Different Voltage Unbalance Definitions. , 2019, , .		7
41	The impact of load models in an algorithm for improving voltage stability via demand response. , 2017, , .		5
42	Comparison of Various Trilinear Monomial Envelopes for Convex Relaxations of Optimal Power Flow Problems. , 2018, , .		5
43	A method for quickly bounding the optimal objective value of an OPF problem using a semidefinite relaxation and a local solution. Electric Power Systems Research, 2019, 177, 105954.	3.6	5
44	Optimal Power Flow in DC Networks With Robust Feasibility and Stability Guarantees. IEEE Transactions on Control of Network Systems, 2022, 9, 904-916.	3.7	4
45	Moment relaxations of optimal power flow problems: Beyond the convex hull. , 2016, , .		3
46	Incorporating Squirrel-Cage Induction Machine Models in Convex Relaxations of OPF Problems. IEEE Transactions on Power Systems, 2017, 32, 4972-4974.	6.5	3
47	Study of Active Line Flow Constraints in DC Optimal Power Flow Problems. , 2020, , .		3
48	Improving QC Relaxations of OPF Problems via Voltage Magnitude Difference Constraints and Envelopes for Trilinear Monomials. , 2018, , .		2
49	Distributed Multi-Period DCOPTF via an Auxiliary Principle Problem Algorithm. , 2021, , .		2
50	On the Impacts of Different Consistency Constraint Formulations for Distributed Optimal Power Flow. , 2022, , .		2
51	An eigenvalue formulation for determining initial conditions of induction machines in dynamic power system simulations. , 2010, , .		1
52	Identifying Redundant Constraints for AC OPF: The Challenges of Local Solutions, Relaxation Tightness, and Approximation Inaccuracy. , 2021, , .		1
53	Verifying Global Optimality of Candidate Solutions to Polynomial Optimization Problems using a Determinant Relaxation Hierarchy. , 2021, , .		1
54	Reactive Power Planning using Security-Constrained AC Optimal Power Flow and Sensitivity Analyses. , 2021, , .		0

#	ARTICLE	IF	CITATIONS
55	Analysis of Fast Decoupled Power Flow via Multiple Axis Rotations. , 2021, , .		0
56	Assessing the Accuracy of Balanced Power System Models in the Presence of Voltage Unbalance. , 2021, , .		0