

Jacob A~stergaard

List of Publications by Year in descending order

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143
papers

6,702
citations

101543

36
h-index

71685

76
g-index

148
all docs

148
docs citations

148
times ranked

6001
citing authors

#	ARTICLE	IF	CITATIONS
1	Battery energy storage technology for power systems – An overview. <i>Electric Power Systems Research</i> , 2009, 79, 511-520.	3.6	1,379
2	Advanced Control Strategy of DFIG Wind Turbines for Power System Fault Ride Through. <i>IEEE Transactions on Power Systems</i> , 2012, 27, 713-722.	6.5	306
3	Coordinated Charging of Electric Vehicles for Congestion Prevention in the Distribution Grid. <i>IEEE Transactions on Smart Grid</i> , 2014, 5, 703-711.	9.0	294
4	Review of real-time electricity markets for integrating Distributed Energy Resources and Demand Response. <i>Applied Energy</i> , 2015, 138, 695-706.	10.1	283
5	Demand as Frequency Controlled Reserve. <i>IEEE Transactions on Power Systems</i> , 2011, 26, 1062-1071.	6.5	200
6	A Comprehensive LVRT Control Strategy for DFIG Wind Turbines With Enhanced Reactive Power Support. <i>IEEE Transactions on Power Systems</i> , 2013, 28, 3302-3310.	6.5	196
7	Oscillatory Stability and Eigenvalue Sensitivity Analysis of A DFIG Wind Turbine System. <i>IEEE Transactions on Energy Conversion</i> , 2011, 26, 328-339.	5.2	188
8	A Decentralized Storage Strategy for Residential Feeders With Photovoltaics. <i>IEEE Transactions on Smart Grid</i> , 2014, 5, 974-981.	9.0	168
9	Methods and strategies for overvoltage prevention in low voltage distribution systems with PV. <i>IET Renewable Power Generation</i> , 2017, 11, 205-214.	3.1	151
10	Day-Ahead Congestion Management in Distribution Systems Through Household Demand Response and Distribution Congestion Prices. <i>IEEE Transactions on Smart Grid</i> , 2014, 5, 2739-2747.	9.0	136
11	Coordinated Control Strategies for Offshore Wind Farm Integration via VSC-HVDC for System Frequency Support. <i>IEEE Transactions on Energy Conversion</i> , 2017, 32, 843-856.	5.2	131
12	MPC-Based Coordinated Voltage Regulation for Distribution Networks With Distributed Generation and Energy Storage System. <i>IEEE Transactions on Sustainable Energy</i> , 2019, 10, 1731-1739.	8.8	129
13	Short-Term and Medium-Term Reliability Evaluation for Power Systems With High Penetration of Wind Power. <i>IEEE Transactions on Sustainable Energy</i> , 2014, 5, 896-906.	8.8	122
14	Enhanced Voltage Control of VSC-HVDC-Connected Offshore Wind Farms Based on Model Predictive Control. <i>IEEE Transactions on Sustainable Energy</i> , 2018, 9, 474-487.	8.8	117
15	Variable speed wind turbines capability for temporary over-production. , 2009, , .		103
16	Day-ahead tariffs for the alleviation of distribution grid congestion from electric vehicles. <i>Electric Power Systems Research</i> , 2012, 92, 106-114.	3.6	100
17	FLECH: A Danish market solution for DSO congestion management through DER flexibility services. <i>Journal of Modern Power Systems and Clean Energy</i> , 2014, 2, 126-133.	5.4	98
18	Smart Demand for Frequency Regulation: Experimental Results. <i>IEEE Transactions on Smart Grid</i> , 2013, 4, 1713-1720.	9.0	91

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19	Real-Time Market Concept Architecture for EcoGrid EUâ€™A Prototype for European Smart Grids. IEEE Transactions on Smart Grid, 2013, 4, 2006-2016.	9.0	91
20	Loss and inductance investigations in a 4-layer superconducting prototype cable conductor. IEEE Transactions on Applied Superconductivity, 1999, 9, 833-836.	1.7	89
21	Towards fully renewable energy systems: Experience and trends in Denmark. CSEE Journal of Power and Energy Systems, 2017, 3, 26-35.	1.1	86
22	EV Charging Facilities and Their Application in LV Feeders With Photovoltaics. IEEE Transactions on Smart Grid, 2013, 4, 1533-1540.	9.0	85
23	A Scenario-Based Approach for Energy Storage Capacity Determination in LV Grids With High PV Penetration. IEEE Transactions on Smart Grid, 2014, 5, 1514-1522.	9.0	82
24	A multi-agent system for distribution grid congestion management with electric vehicles. Engineering Applications of Artificial Intelligence, 2015, 38, 45-58.	8.1	81
25	Small-signal stability of wind power system with full-load converter interfaced wind turbines. IET Renewable Power Generation, 2012, 6, 79.	3.1	79
26	Real-Time Procurement Strategies of a Proactive Distribution Company With Aggregator-Based Demand Response. IEEE Transactions on Smart Grid, 2018, 9, 766-776.	9.0	75
27	Electric Vehicles for Improved Operation of Power Systems with High Wind Power Penetration. , 2008, , .		74
28	Driving Pattern Analysis for Electric Vehicle (EV) Grid Integration Study. , 2010, , .		68
29	Design Study of 10 kW Superconducting Generator for Wind Turbine Applications. IEEE Transactions on Applied Superconductivity, 2009, 19, 1678-1682.	1.7	59
30	Information and Communications Systems for Control-by-Price of Distributed Energy Resources and Flexible Demand. IEEE Transactions on Smart Grid, 2011, 2, 334-341.	9.0	53
31	Feasibility study of 5MW superconducting wind turbine generator. Physica C: Superconductivity and Its Applications, 2011, 471, 1464-1469.	1.2	52
32	Reactive power and voltage control based on general quantum genetic algorithms. Expert Systems With Applications, 2009, 36, 6118-6126.	7.6	50
33	Distributed coordinated active and reactive power control of wind farms based on model predictive control. International Journal of Electrical Power and Energy Systems, 2019, 104, 78-88.	5.5	49
34	Efficient Control of Active Transformers for Increasing the PV Hosting Capacity of LV Grids. IEEE Transactions on Industrial Informatics, 2017, 13, 270-277.	11.3	47
35	Voltage rise mitigation for solar PV integration at LV grids. Journal of Modern Power Systems and Clean Energy, 2015, 3, 411-421.	5.4	46
36	Efficient Control of Energy Storage for Increasing the PV Hosting Capacity of LV Grids. IEEE Transactions on Smart Grid, 2016, , 1-1.	9.0	46

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37	Trading strategies for distribution company with stochastic distributed energy resources. Applied Energy, 2016, 177, 625-635.	10.1	46
38	Power oscillation damping capabilities of wind power plant with full converter wind turbines considering its distributed and modular characteristics. IET Renewable Power Generation, 2013, 7, 431-442.	3.1	42
39	SOSPO-SP: Secure Operation of Sustainable Power Systems Simulation Platform for Real-Time System State Evaluation and Control. IEEE Transactions on Industrial Informatics, 2014, 10, 2318-2329.	11.3	38
40	Residue-Based Evaluation of the Use of Wind Power Plants With Full Converter Wind Turbines for Power Oscillation Damping Control. IEEE Transactions on Sustainable Energy, 2014, 5, 82-89.	8.8	37
41	Evaluation of a Generic Virtual Power Plant framework using service oriented architecture. , 2008, , .		35
42	Comprehensive Congestion Management for Distribution Networks Based on Dynamic Tariff, Reconfiguration, and Re-Profiling Product. IEEE Transactions on Smart Grid, 2019, 10, 4795-4805.	9.0	33
43	Prediction and optimization methods for electric vehicle charging schedules in the EDISON project. , 2012, , .		31
44	Design and Modelling of Thermostatically Controlled Loads as Frequency Controlled Reserve. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	29
45	Use of demand response in electricity markets: An overview and key issues. , 2010, , .		28
46	Impact of model detail of synchronous machines on real-time transient stability assessment. , 2013, , .		28
47	Test results of full-scale HTS cable models and plans for a 36 kV, 2 kA/sub rms/ utility demonstration. IEEE Transactions on Applied Superconductivity, 2001, 11, 2473-2476.	1.7	27
48	Smart demand for improving short-term voltage control on distribution networks. IET Generation, Transmission and Distribution, 2009, 3, 724-732.	2.5	27
49	Operation experiences with a 30 kV/100 MVA high temperature superconducting cable system. Superconductor Science and Technology, 2004, 17, S101-S105.	3.5	26
50	Wide-Area Assessment of Aperiodic Small Signal Rotor Angle Stability in Real-Time. IEEE Transactions on Power Systems, 2013, 28, 4545-4557.	6.5	26
51	Voltage-Sensitive Load Controllers for Voltage Regulation and Increased Load Factor in Distribution Systems. IEEE Transactions on Smart Grid, 2014, 5, 2394-2401.	9.0	25
52	Renewable energy generation in india: Present scenario and future prospects. , 2009, , .		24
53	Impact of equipment failures and wind correlation on generation expansion planning. Electric Power Systems Research, 2014, 116, 451-458.	3.6	23
54	First operation experiences from a 30 kV, 104 MVA HTS power cable installed in a utility substation. Physica C: Superconductivity and Its Applications, 2002, 372-376, 1571-1579.	1.2	22

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55	Demand as frequency controlled reserve: implementation and practical demonstration. , 2011, , .		22
56	Identification of critical transmission limits in injection impedance plane. International Journal of Electrical Power and Energy Systems, 2012, 43, 433-443.	5.5	21
57	Coordinated voltage control scheme for VSCâ€”HVDC connected wind power plants. IET Renewable Power Generation, 2018, 12, 198-206.	3.1	21
58	Coordinated control scheme of battery energy storage system (BESS) and distributed generations (DGs) for electric distribution grid operation. , 2012, , .		19
59	Energy losses of superconducting power transmission cables in the grid. IEEE Transactions on Applied Superconductivity, 2001, 11, 2375-2378.	1.7	18
60	DTU PMU laboratory development â€” Testing and validation. , 2010, , .		18
61	Security assessment for intentional island operation in modern power system. Electric Power Systems Research, 2011, 81, 1849-1857.	3.6	18
62	A flex-market design for flexibility services through DERs. , 2013, , .		18
63	Discussion of â€”Combined Nonparametric Prediction Intervals for Wind Power Generationâ€” IEEE Transactions on Sustainable Energy, 2014, 5, 1021-1021.	8.8	18
64	Congestion Management in Distribution Networks With Asymmetric Block Offers. IEEE Transactions on Power Systems, 2019, 34, 4382-4392.	6.5	18
65	Development of energy and reserve preâ€”dispatch and reâ€”dispatch models for realâ€”time price risk and reliability assessment. IET Generation, Transmission and Distribution, 2014, 8, 1338-1345.	2.5	17
66	Real-Time Hardware-In-The-Loop (HIL) Testing for Power Electronics Controllers. , 2012, , .		16
67	A co-ordinated dispatch model for electricity and heat in a Microgrid via particle swarm optimization. Transactions of the Institute of Measurement and Control, 2013, 35, 44-55.	1.7	16
68	Fault diagnosis for electrical distribution systems using structural analysis. International Journal of Robust and Nonlinear Control, 2014, 24, 1446-1465.	3.7	16
69	Real-Time Trading Strategies of Proactive DISCO with Heterogeneous DG Owners. IEEE Transactions on Smart Grid, 2016, , 1-1.	9.0	16
70	Ecogrid EU - a large scale smart grids demonstration of real time market-based integration of numerous small DER and DR. , 2012, , .		15
71	Islanding Control Architecture in future smart grid with both demand and wind turbine control. Electric Power Systems Research, 2013, 95, 214-224.	3.6	15
72	Suitability of voltage stability study methods for real-time assessment. , 2013, , .		15

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73	Voltage unbalance mitigation in LV networks using three-phase PV systems. , 2015, , .		15
74	Superconducting power cables in Denmark-a case study. IEEE Transactions on Applied Superconductivity, 1997, 7, 719-722.	1.7	14
75	Real-time stability assessment based on synchrophasors. , 2011, , .		14
76	Investigation of the adaptability of transient stability assessment methods to real-time operation. , 2012, , .		14
77	Real-Time Remedial Action Against Aperiodic Small Signal Rotor Angle Instability. IEEE Transactions on Power Systems, 2016, 31, 387-396.	6.5	14
78	Mileage-Responsive Wind Power Smoothing. IEEE Transactions on Industrial Electronics, 2020, 67, 5209-5212.	7.9	14
79	Evaluating Frequency Quality of Nordic System using PMU data. , 2008, , .		13
80	Estimation of Eastern Denmark's electromechanical modes from ambient phasor measurement data. , 2010, , .		13
81	Electric Vehicle (EV) charging management with dynamic distribution system tariff. , 2011, , .		13
82	Power applications for superconducting cables in Denmark. IEEE Transactions on Applied Superconductivity, 1999, 9, 1285-1288.	1.7	12
83	Frequency analysis for planned islanding operation in the Danish distribution system - Bornholm. , 2008, , .		12
84	Multi-agent based controller for islanding operation of active distribution networks with distributed generation (DG). , 2011, , .		12
85	Impact study of electric vehicle (EV) integration on medium voltage (MV) grids. , 2011, , .		12
86	Effect of reactive power management of PV inverters on need for energy storage. , 2013, , .		12
87	Grid integration issues for large scale wind power plants (WPPs). , 2010, , .		11
88	Storage application in smart grid with high PV and EV penetration. , 2013, , .		11
89	An Improved On-line Contingency Screening for Power System Transient Stability Assessment. Electric Power Components and Systems, 2017, 45, 852-863.	1.8	11
90	Controlling price-responsive heat pumps for overload elimination in distribution systems. , 2011, , .		10

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91	Real time Intelligent Control Laboratory (RT-ICL) of PowerLabDK for smart grid technology development. , 2012, , .		10
92	Spot Pricing When Lagrange Multipliers Are Not Unique. IEEE Transactions on Power Systems, 2012, 27, 314-322.	6.5	9
93	Super-Positioning of Voltage Sources for Fast Assessment of Wide-Area Thevenin Equivalents. IEEE Transactions on Smart Grid, 2017, 8, 1488-1493.	9.0	9
94	North Sea Energy Islands: Impact on national markets and grids. Energy Policy, 2022, 167, 112907.	8.8	9
95	Analysis of thevenin equivalent network of a distribution system for solar integration studies. , 2012, , .		8
96	Sensitivity based assessment of transient voltage sags caused by rotor swings. , 2014, , .		8
97	A complementarity model for electric power transmission-distribution coordination under uncertainty. European Journal of Operational Research, 2022, 299, 313-329.	5.7	8
98	Power applications for superconducting cables. Superconductor Science and Technology, 2000, 13, 506-509.	3.5	7
99	Reactive power capability of unified DFIG for wind power generation. , 2010, , .		7
100	Hopf bifurcation and eigenvalue sensitivity analysis of doubly fed induction generator wind turbine system. , 2010, , .		7
101	Identification of problems when using long high voltage AC cable in transmission system I: switching transient problems. , 2008, , .		6
102	Using Service Oriented Architecture in a Generic Virtual Power Plant. , 2009, , .		6
103	Wind farms generation limits and its impact in real-time voltage stability assessment. , 2015, , .		6
104	A Coordinated Heat and Electricity Dispatching Model for Microgrid Operation via PSO. Communications in Computer and Information Science, 2010, , 213-219.	0.5	6
105	Integration of electric drive vehicles in the Danish electricity network with high wind power penetration. European Transactions on Electrical Power, 2009, 20, n/a-n/a.	1.0	5
106	Agent based Particle Swarm Optimization for load frequency control of distribution grid. , 2012, , .		5
107	Impact and cost evaluation of electric vehicle integration on medium voltage distribution networks. , 2013, , .		5
108	Thevenin equivalent method for dynamic contingency assessment. , 2015, , .		5

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109	Improved method for considering PMU's uncertainty and its effect on real-time stability assessment methods based on Thévenin equivalent. , 2015, , .		5
110	System Frequency as Information Carrier in AC Power Systems. IEEE Transactions on Power Delivery, 2015, 30, 773-782.	4.3	5
111	A real-time simulation platform for power system operation. , 2010, , .		4
112	Simulation embedded artificial intelligence search method for supplier trading portfolio decision. IET Generation, Transmission and Distribution, 2010, 4, 221.	2.5	4
113	Generation expansion planning considering integrating large-scale wind generation. , 2013, , .		4
114	Uncertainty in real-time voltage stability assessment methods based on ThÅ©venin equivalent due to PMU's accuracy. , 2014, , .		4
115	A Multi-Objective Model for Transmission Planning Under Uncertainties. , 2014, , .		4
116	Generating geospatially realistic driving patterns derived from clustering analysis of real EV driving data. , 2014, , .		4
117	Uncertainty-averse TRANSCO planning for accommodating renewable energy in CO2 reduction environment. Journal of Modern Power Systems and Clean Energy, 2015, 3, 24-32.	5.4	4
118	Derivation and application of sensitivities to assess transient voltage sags caused by rotor swings. International Journal of Electrical Power and Energy Systems, 2015, 72, 75-82.	5.5	4
119	A new concept for superconducting DC transmission from a wind farm. Physica C: Superconductivity and Its Applications, 2002, 372-376, 1560-1563.	1.2	3
120	Efficient determination of distribution tariffs for the prevention of congestion from EV Charging. , 2012, , .		3
121	Responsive demand to mitigate slow recovery voltage sags. European Transactions on Electrical Power, 2012, 22, 1112-1125.	1.0	3
122	The future organization of Danish electricity market for integrating DERs — A view of FlexPower project. , 2013, , .		3
123	Computation of steady state nodal voltages for fast security assessment in power systems. , 2014, , .		3
124	Evaluation of HVDC interconnection models for considering its impact in real-time voltage stability assessment. , 2015, , .		3
125	Expected energy production evaluation for photovoltaic systems. , 2011, , .		2
126	A generic danish distribution grid model for smart grid technology testing. , 2012, , .		2

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127	MOPSO-based multi-objective TSO planning considering uncertainties. , 2014, , .		2
128	Critical machine cluster identification using the equal area criterion. , 2015, , .		2
129	Detecting topological errors with pre-estimation filtering of bad data in wide-area measurements. , 2017, , .		2
130	Status and Prospects of European Renewable-Based Energy Systems Facilitated by Smart Grid Technologies. Green Energy and Technology, 2014, , 47-57.	0.6	2
131	Test results of full-scale high temperature superconductors cable models destined for a 36 kV, 2 kA utility demonstration. Physica C: Superconductivity and Its Applications, 2001, 357-360, 1241-1244.	1.2	1
132	Control mechanism and security region for intentional islanding transition. , 2009, , .		1
133	Redesign electricity market for the next generation power system of renewable energy and distributed storage technologies. , 2010, , .		1
134	The impact of dynamic electricity tariff on long-run incremental cost. , 2012, , .		1
135	Evaluation of energy storage system to support Danish island of Bornholm power grid. , 2012, , .		1
136	Design and evaluation of autonomous hybrid frequency-voltage sensitive load controller. , 2013, , .		1
137	Electricity demand profile with high penetration of heat pumps in Nordic area. , 2013, , .		1
138	Ranking Method for Peak-Load Shifting Considering Different Types of Data. Journal of Energy Engineering - ASCE, 2016, 142, .	1.9	1
139	Designing incentive market mechanisms for improving restructured power system reliabilities. , 2011, , .		0
140	Assessment of emission trading impacts on competitive electricity market price. International Journal of Energy Sector Management, 2011, 5, 333-344.	2.3	0
141	Policies and initiatives for carbon neutrality in nordic heating and transport systems. , 2012, , .		0
142	Using H_{∞} to design robust POD controllers for wind power plants. , 2012, , .		0
143	Wide-area assessment of aperiodic small signal rotor angle stability in real-time. , 2014, , .		0