

Dirk Van Hertem

List of Publications by Year in descending order

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149
papers

4,232
citations

249298

26
h-index

162838

57
g-index

165
all docs

165
docs citations

165
times ranked

3304
citing authors

#	ARTICLE	IF	CITATIONS
1	A Framework for Constrained Static State Estimation in Unbalanced Distribution Networks. IEEE Transactions on Power Systems, 2022, 37, 2075-2085.	4.6	7
2	Hosting capacity of photovoltaic systems in low voltage distribution systems: A benchmark of deterministic and stochastic approaches. Renewable and Sustainable Energy Reviews, 2022, 155, 111899.	8.2	43
3	A Greedy Algorithm for Optimizing Offshore Wind Transmission Topologies. IEEE Transactions on Power Systems, 2022, 37, 2113-2121.	4.6	5
4	A Framework for Constrained Static State Estimation in Unbalanced Distribution Networks. , 2022, , .		1
5	Application of Association Rule Mining in offshore HVAC transmission topology optimization. Electric Power Systems Research, 2022, 211, 108358.	2.1	4
6	Decoupled probabilistic feeder hosting capacity calculations using general polynomial chaos. Electric Power Systems Research, 2022, 211, 108535.	2.1	7
7	DC-side fault current estimation approach for HVDC circuit breaker sizing. Electric Power Systems Research, 2022, 212, 108310.	2.1	0
8	HVDC Grid Post-DC Fault Recovery Enhancement. IEEE Transactions on Power Delivery, 2021, 36, 1137-1148.	2.9	7
9	Redundancy Dependence in the Context of Competing Risks and Dynamic Degradation. IEEE Transactions on Reliability, 2021, 70, 472-480.	3.5	2
10	Relaxations and approximations of HVdc grid TNEP problem. Electric Power Systems Research, 2021, 192, 106683.	2.1	11
11	Multi-vendor interoperability in HVDC grid protection: State-of-the-art and challenges ahead. IET Generation, Transmission and Distribution, 2021, 15, 2153-2175.	1.4	8
12	The Impact of Cross-Border Transmission Constraints on Resource Adequacy Assessment. , 2021, , .		1
13	Demonstration of Multi-vendor Protection Systems for Multiterminal VSC-HVDC Networks. , 2021, , .		3
14	Risk-based preventive-corrective security constrained optimal power flow for ac/dc grid. , 2021, , .		2
15	A Techno-Economic Analysis of meshed Topologies of Offshore Wind HVAC Transmission. , 2021, , .		0
16	On the use of the frequency domain in assessing resonant overvoltages during transformer energization.. Electric Power Systems Research, 2021, 196, 107164.	2.1	2
17	A Multi-Terminal HVDC Demonstration Grid in the North-Sea: A Cost-Effective Option. , 2021, , .		1
18	Reducing the cost of maintaining the frequency stability using dc grid protection. , 2021, , .		0

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19	Flexible and curtailable resource activation in a distribution network using nodal sensitivities. , 2021, , .		5
20	Analytical Model for Availability Assessment of Large-Scale Offshore Wind Farms Including Their Collector System. IEEE Transactions on Sustainable Energy, 2021, 12, 1974-1983.	5.9	19
21	Design of Robust MMC Controls Considering HVDC Grid Protection: Small Signal-Based Tuning. IEEE Transactions on Power Delivery, 2021, 36, 3914-3924.	2.9	3
22	Backup Protection Algorithm for Failures in Modular DC Circuit Breakers. IEEE Transactions on Power Delivery, 2021, 36, 3580-3589.	2.9	8
23	Systematic Approach to HVDC Circuit Breaker Sizing. IEEE Transactions on Power Delivery, 2020, 35, 288-300.	2.9	48
24	Optimal Flexibility Dispatch Problem Using Second-Order Cone Relaxation of AC Power Flows. IEEE Transactions on Power Systems, 2020, 35, 98-108.	4.6	37
25	Review of wind generation within adequacy calculations and capacity markets for different power systems. Renewable and Sustainable Energy Reviews, 2020, 119, 109540.	8.2	47
26	Impact of dc grid protection strategies on frequency stability of the connected ac system: a quantitative analysis. IEEE Transactions on Power Delivery, 2020, , 1-1.	2.9	5
27	Comparison of Linear and Conic Power Flow Formulations for Unbalanced Low Voltage Network Optimization. Electric Power Systems Research, 2020, 189, 106699.	2.1	15
28	General Polynomial Chaos vs Crude Monte Carlo for Probabilistic Evaluation of Distribution Systems. , 2020, , .		4
29	Optimal Power Flow for ACâ€“DC Grids: Formulation, Convex Relaxation, Linear Approximation, and Implementation. , 2020, , .		3
30	Fairness indices for residential power demand management contracts. CIRED - Open Access Proceedings Journal, 2020, 2020, 105-108.	0.1	0
31	Pole Rebalancing Methods for Pole-to-Ground Faults in Symmetrical Monopolar HVDC Grids. IEEE Transactions on Power Delivery, 2019, 34, 188-197.	2.9	25
32	How detailed value of lost load data impact power system reliability decisions. Energy Policy, 2019, 132, 1064-1075.	4.2	35
33	Substations for Future HVdc Grids: Equipment and Configurations for Connection of HVdc Network Elements. IEEE Power and Energy Magazine, 2019, 17, 56-66.	1.6	16
34	An overview of Ancillary Services and HVDC systems in European Context. Energies, 2019, 12, 3481.	1.6	36
35	Exploiting Redundant Energy of MMCâ€“HVDC to Enhance Frequency Response of Low Inertia AC Grid. IEEE Access, 2019, 7, 138485-138494.	2.6	15
36	Fairness and inequality in power system reliability: Summarizing indices. Electric Power Systems Research, 2019, 168, 313-323.	2.1	18

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37	Designing for High-Voltage dc Grid Protection: Fault Clearing Strategies and Protection Algorithms. IEEE Power and Energy Magazine, 2019, 17, 73-81.	1.6	39
38	Optimal Power Flow for AC-DC Grids: Formulation, Convex Relaxation, Linear Approximation, and Implementation. IEEE Transactions on Power Systems, 2019, 34, 2980-2990.	4.6	68
39	Power-system level classification of voltage-source HVDC converter stations based upon DC fault handling capabilities. IET Renewable Power Generation, 2019, 13, 2899-2912.	1.7	5
40	Impedance modelling for European style Distribution Feeder. , 2019, , .		9
41	A multi-dimensional analysis of reliability criteria: From deterministic N ¹ to a probabilistic approach. Electric Power Systems Research, 2019, 167, 290-300.	2.1	22
42	TNEP of meshed HVDC grids: AC TM , DC TM and convex formulations. IET Generation, Transmission and Distribution, 2019, 13, 5523-5532.	1.4	14
43	Potential of Wind Farms Connected to HVdc Grid to Provide DC Ancillary Services. IEEE Transactions on Sustainable Energy, 2018, 9, 1011-1020.	5.9	6
44	Cable Protection in HVDC Grids Employing Distributed Sensors and Proactive HVDC Breakers. IEEE Transactions on Power Delivery, 2018, 33, 1981-1990.	2.9	20
45	Integration of Distributed PV in Existing and Future UFLS Schemes. IEEE Transactions on Smart Grid, 2018, 9, 876-885.	6.2	10
46	Multiport Hybrid HVDC Circuit Breaker. IEEE Transactions on Industrial Electronics, 2018, 65, 309-320.	5.2	86
47	Fault Discrimination in HVDC Grids with Reduced Use of HVDC Circuit Breakers. , 2018, , .		5
48	Fair Reliability Management: Comparing Deterministic and Probabilistic Short-Term Reliability Management. , 2018, , .		4
49	The Impact of Point-To-Point VSC-HVDC Protection on Short-Term AC System Voltage. , 2018, , .		2
50	Iterative Availability Assessment Approach for Multi-Feeder Industrial Energy System Sections. , 2018, , .		0
51	Stochastic Process for the Availability Assessment of Single-Feeder Industrial Energy System Sections. IEEE Transactions on Reliability, 2018, 67, 1459-1467.	3.5	2
52	OPEX of hybrid DC/AC power systems with large penetration of offshore wind taking into account spinning reserves. IET Renewable Power Generation, 2018, 12, 1516-1522.	1.7	1
53	Signal processing for fast fault detection in HVDC grids. CSEE Journal of Power and Energy Systems, 2018, 4, 469-478.	1.7	8
54	Review and classification of reliability indicators for power systems with a high share of renewable energy sources. Renewable and Sustainable Energy Reviews, 2018, 97, 554-568.	8.2	60

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55	HVDC grid protection algorithm design in phase and modal domains. IET Renewable Power Generation, 2018, 12, 1538-1546.	1.7	21
56	Cross-Border Electricity Transmission Network Investment: Perspective and Risk Framework of Third Party Investors. Energies, 2018, 11, 2376.	1.6	1
57	Fairness of Power System Load-Shedding Plans. , 2018, , .		3
58	Using fault current limiting mode of a hybrid DC breaker. Journal of Engineering, 2018, 2018, 818-823.	0.6	8
59	HVDC Systems in Smart Grids. Proceedings of the IEEE, 2017, 105, 2082-2098.	16.4	153
60	Receding Horizon Control of Wind Power to Provide Frequency Regulation. IEEE Transactions on Power Systems, 2017, 32, 2663-2672.	4.6	28
61	A Fast Local Bus Current-Based Primary Relaying Algorithm for HVDC Grids. IEEE Transactions on Power Delivery, 2017, 32, 193-202.	2.9	58
62	Convex power flow models for scalable electricity market modelling. CIRED - Open Access Proceedings Journal, 2017, 2017, 989-993.	0.1	5
63	Qualitative comparison of techniques for evaluating performance of short term power system reliability management. , 2017, , .		0
64	Frequency domain based DC fault analysis for bipolar HVDC grids. Journal of Modern Power Systems and Clean Energy, 2017, 5, 548-559.	3.3	22
65	Analysis and enhanced topologies of active-resonance DC circuit breaker. , 2017, , .		10
66	Analytical methodology to develop frequency-dependent equivalents in networks with multiple converters. , 2017, , .		4
67	Stepwise investment plan optimization for large scale and multi-zonal transmission system expansion. , 2016, , .		1
68	Equivalent circuit for half-bridge MMC dc fault current contribution. , 2016, , .		26
69	Mind the gap: Challenges and policy options for cross-border transmission network investments. , 2016, , .		0
70	Guest Editorial Special Section on HVDC Systems for Large Offshore Wind Power Plants. IEEE Transactions on Power Delivery, 2016, 31, 767-768.	2.9	2
71	Fast breaker failure backup protection for HVDC grids. Electric Power Systems Research, 2016, 138, 99-105.	2.1	11
72	Analysis of control interactions in multi-feed VSC HVDC connections. IET Generation, Transmission and Distribution, 2016, 10, 1336-1344.	1.4	26

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73	Improved frequency control from wind power plants considering wind speed variation. , 2016, , .		4
74	Application of DC choppers in HVDC grids. , 2016, , .		20
75	Security index to mitigate overloads with PFC devices during alert and emergency situations. , 2016, , .		0
76	Long term investment optimization methodology for multi-zonal transmission expansion. , 2016, , .		1
77	Influence of system wide implementation of virtual inertia on small-signal stability. , 2016, , .		5
78	The relevance of inertia in power systems. Renewable and Sustainable Energy Reviews, 2016, 55, 999-1009.	8.2	516
79	Stepwise Investment Plan Optimization for Large Scale and Multi-Zonal Transmission System Expansion. IEEE Transactions on Power Systems, 2016, 31, 2726-2739.	4.6	9
80	Study of centralized and distributed coordination of power injection in multi-TSO HVDC grid with large off-shore wind integration. Electric Power Systems Research, 2016, 136, 281-288.	2.1	12
81	A Local Backup Protection Algorithm for HVDC Grids. IEEE Transactions on Power Delivery, 2016, 31, 1767-1775.	2.9	46
82	Potential of using DC voltage restoration reserve for HVDC grids. Electric Power Systems Research, 2016, 134, 167-175.	2.1	13
83	Framework for Evaluating and Comparing Performance of Power System Reliability Criteria. IEEE Transactions on Power Systems, 2016, 31, 5153-5162.	4.6	25
84	Nonunit Protection of HVDC Grids With Inductive DC Cable Termination. IEEE Transactions on Power Delivery, 2016, 31, 820-828.	2.9	225
85	Impact of increased uncertainty in power systems on performance of short term reliability management. , 2016, , .		1
86	A quantitative method to determine ICT delay requirements for wide-area power system damping controllers. , 2015, , .		0
87	Analysis of power redispatch schemes for HVDC grid secondary voltage control. , 2015, , .		3
88	Impact of value of lost load on performance of reliability criteria and reliability management. , 2015, , .		6
89	Trading Energy Yield for Frequency Regulation: Optimal Control of Kinetic Energy in Wind Farms. IEEE Transactions on Power Systems, 2015, 30, 2469-2478.	4.6	42
90	Risk-Based Management of Overloads Caused by Power Injection Uncertainties Using Power Flow Controlling Devices. IEEE Transactions on Power Systems, 2015, 30, 3082-3092.	4.6	13

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91	Hierarchical power control of multiterminal HVDC grids. <i>Electric Power Systems Research</i> , 2015, 121, 207-215.	2.1	49
92	Increasing Transmission Grid Flexibility by TSO Coordination to Integrate More Wind Energy Sources While Maintaining System Security. <i>IEEE Transactions on Sustainable Energy</i> , 2015, 6, 1122-1130.	5.9	13
93	A DC grid primary protection algorithm based on current measurements. , 2015, , .		7
94	Implementation of bus bar switching and Short Circuit Constraints in optimal power flow problems. , 2015, , .		5
95	Optimization of transmission technology and routes for Pan-European electricity Highways considering spatial aspects. , 2015, , .		4
96	Ancillary services in electric power systems with HVDC grids. <i>IET Generation, Transmission and Distribution</i> , 2015, 9, 1179-1185.	1.4	30
97	Under frequency load shedding schemes in systems with high PV penetration: Impact and improvements. , 2015, , .		5
98	A Quantitative Method to Determine ICT Delay Requirements for Wide-Area Power System Damping Controllers. <i>IEEE Transactions on Power Systems</i> , 2015, 30, 2023-2030.	4.6	20
99	A new approach to HVDC grid voltage control based on generalized state feedback. , 2014, , .		6
100	Modeling and control of HVDC grids: A key challenge for the future power system. , 2014, , .		41
101	Overview of Grounding and Configuration Options for Meshed HVDC Grids. <i>IEEE Transactions on Power Delivery</i> , 2014, 29, 2467-2475.	2.9	87
102	Technology and Topology Optimization for Multizonal Transmission Systems. <i>IEEE Transactions on Power Systems</i> , 2014, 29, 2469-2477.	4.6	17
103	Smart Transmission Grids Vision for Europe: Towards a Realistic Research Agenda. <i>Green Energy and Technology</i> , 2014, , 185-220.	0.4	0
104	Identification of power injection capabilities for transmission system investment optimization. , 2013, , .		5
105	High Voltage Direct Current (HVDC) electric power transmission systems. , 2013, , 143-173.		1
106	Coordination of multiple HVDC links in power systems during alert and emergency situations. , 2013, , .		4
107	Power flow control and its effect on flow-based transmission cost allocation. , 2013, , .		5
108	Power Flow Controlling Devices as a Smart and Independent Grid Investment for Flexible Grid Operations: Belgian Case Study. <i>IEEE Transactions on Smart Grid</i> , 2013, 4, 1656-1664.	6.2	21

#	ARTICLE	IF	CITATIONS
109	Transmission system topology optimization for large-scale offshore wind integration. , 2013, , .		1
110	Grid impact of voltage control and reactive power support by wind turbines equipped with direct-drive synchronous machines. , 2013, , .		0
111	Configurations and earthing of HVDC grids. , 2013, , .		26
112	Damping controller design of TCSC based on wide-area monitoring and supplement torque components. , 2012, , .		1
113	Primary and secondary power control of multiterminal HVDC grids. , 2012, , .		29
114	Building a new overlay grid for Europe. , 2012, , .		19
115	Grid Impact of Voltage Control and Reactive Power Support by Wind Turbines Equipped With Direct-Drive Synchronous Machines. IEEE Transactions on Sustainable Energy, 2012, 3, 890-898.	5.9	33
116	General and financial potential of demand side management. , 2012, , .		3
117	Transmission System Topology Optimization for Large-Scale Offshore Wind Integration. IEEE Transactions on Sustainable Energy, 2012, 3, 908-917.	5.9	72
118	Power flow calculation of hybrid AC/DC power systems. , 2012, , .		10
119	Effect of Demand Response on transformer lifetime expectation. , 2012, , .		21
120	HVDC SuperGrids with modular multilevel converters — The power transmission backbone of the future. , 2012, , .		61
121	VSC MTDC systems with a distributed DC voltage control - A power flow approach. , 2011, , .		84
122	Feasibility of DC transmission networks. , 2011, , .		135
123	The modeling multi-terminal VSC-HVDC in power flow calculation using unified methodology. , 2011, , .		23
124	Effectiveness of TCSC controllers using remote input signals for transient stability enhancement. , 2011, , .		6
125	Wavelet-based protection strategy for DC faults in multi-terminal VSC HVDC systems. IET Generation, Transmission and Distribution, 2011, 5, 496.	1.4	286
126	A smart transmission grid for Europe: Research challenges in developing grid enabling technologies. , 2011, , .		17

#	ARTICLE	IF	CITATIONS
127	Special sessions: The economics of smart grid. , 2011, , .		0
128	Transmission investment problems in Europe: Going beyond standard solutions. Energy Policy, 2011, 39, 1794-1801.	4.2	62
129	An approach for managing switchings of controllable devices in the Benelux to integrate more renewable sources. , 2011, , .		5
130	Economic comparison of VSC HVDC and HVAC as transmission system for a 300â€MW offshore wind farm. European Transactions on Electrical Power, 2010, 20, 661-671.	1.0	63
131	Multi-terminal VSC HVDC for the European supergrid: Obstacles. Renewable and Sustainable Energy Reviews, 2010, 14, 3156-3163.	8.2	557
132	Technical limitations towards a SuperGrid — A European prospective. , 2010, , .		68
133	Transient stability enhancement by TCSC controllers using remote input signals. , 2010, , .		3
134	Influence of VSC HVDC on transient stability: Case study of the Belgian grid. , 2010, , .		8
135	How to increase cross border transmission capacity? A case study: Belgium. , 2009, , .		4
136	Needed investments in the power system to bring wind energy to shore in Belgium. , 2009, , .		3
137	Phase shifter coordination for optimal transmission capacity using particle swarm optimization. Electric Power Systems Research, 2008, 78, 1648-1653.	2.1	18
138	VSC HVDC as an alternative grid investment in meshed grids. , 2008, , .		1
139	Analytical Approach to Grid Operation With Phase Shifting Transformers. IEEE Transactions on Power Systems, 2008, 23, 41-46.	4.6	35
140	Border-Flow Control by means of Phase Shifting Transformers. , 2007, , .		19
141	Indication of safe transition paths of phase shifter settings by greedy algorithms. , 2007, , .		1
142	Connecting Belgium and Germany using HVDC: A Preliminary Study. , 2007, , .		7
143	Choosing the Correct Mitigation Method Against Voltage Dips and Interruptions: A Customer-Based Approach. IEEE Transactions on Power Delivery, 2007, 22, 331-339.	2.9	25
144	Monte Carlo simulation techniques for optimisation of phase shifter settings. European Transactions on Electrical Power, 2007, 17, 285-296.	1.0	4

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145	Coordination of Phase Shifters by Means of Multi-Objective Optimisation. , 2006, , .		2
146	Regulated cross-border transmission investment in Europe. European Transactions on Electrical Power, 2006, 16, 591-601.	1.0	9
147	Wind power in the European Union: grid connection and regulatory issues. , 2006, , .		2
148	The optimal selection of mitigation methods against voltage dips and interruptions: a customer-based approach. , 0, , .		6
149	Regulated Cross-Border Transmission Investment in Europe. , 0, , .		4