

Henk Polinder

List of Publications by Year in descending order

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179
papers

6,397
citations

186209

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180
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180
docs citations

180
times ranked

3974
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparison of Direct-Drive and Geared Generator Concepts for Wind Turbines. IEEE Transactions on Energy Conversion, 2006, 21, 725-733.	3.7	902
2	General model for representing variable speed wind turbines in power system dynamics simulations. IEEE Transactions on Power Systems, 2003, 18, 144-151.	4.6	791
3	Trends in Wind Turbine Generator Systems. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2013, 1, 174-185.	3.7	484
4	Linear PM Generator System for Wave Energy Conversion in the AWS. IEEE Transactions on Energy Conversion, 2004, 19, 583-589.	3.7	296
5	Representing wind turbine electrical generating systems in fundamental frequency simulations. IEEE Transactions on Energy Conversion, 2003, 18, 516-524.	3.7	267
6	Conventional and TFPM Linear Generators for Direct-Drive Wave Energy Conversion. IEEE Transactions on Energy Conversion, 2005, 20, 260-267.	3.7	228
7	Optimization of Multibrid Permanent-Magnet Wind Generator Systems. IEEE Transactions on Energy Conversion, 2009, 24, 82-92.	3.7	209
8	On the Speed Limits of Permanent-Magnet Machines. IEEE Transactions on Industrial Electronics, 2010, 57, 220-227.	5.2	174
9	Long-term research challenges in wind energy – a research agenda by the European Academy of Wind Energy. Wind Energy Science, 2016, 1, 1-39.	1.2	162
10	Eddy-current losses in the segmented surface-mounted magnets of a PM machine. IET Electric Power Applications, 1999, 146, 261.	1.4	110
11	Modelling and test results of the Archimedes wave swing. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2006, 220, 855-868.	0.8	87
12	Analytical Modeling of a Permanent-Magnet Synchronous Machine in a Flywheel. IEEE Transactions on Magnetics, 2007, 43, 1955-1967.	1.2	85
13	Modeling of a linear pm machine including magnetic saturation and end effects: maximum force-to-current ratio. IEEE Transactions on Industry Applications, 2003, 39, 1681-1688.	3.3	83
14	10 MW Wind Turbine Direct-Drive Generator Design with Pitch or Active Speed Stall Control. , 2007, , .		83
15	Structural mass in direct-drive permanent magnet electrical generators. IET Renewable Power Generation, 2008, 2, 3-15.	1.7	81
16	Initialization of wind turbine models in power system dynamics simulations. , 0, , .		71
17	Basic Operation Principles and Electrical Conversion Systems of Wind Turbines. EPE Journal (European Power Electronics and Drives Journal), 2005, 15, 43-50.	0.7	67
18	Current Sharing Analysis of Parallel Strands in Low-Voltage High-Speed Machines. IEEE Transactions on Industrial Electronics, 2014, 61, 3064-3070.	5.2	66

#	ARTICLE	IF	CITATIONS
19	Design, modelling and test results of the AWS PM linear generator. European Transactions on Electrical Power, 2005, 15, 245-256.	1.0	65
20	Power Density Limits and Design Trends of High-Speed Permanent Magnet Synchronous Machines. IEEE Transactions on Transportation Electrification, 2015, 1, 266-276.	5.3	64
21	Brushless doubly-fed induction machines for wind turbines: developments and research challenges. IET Electric Power Applications, 2017, 11, 991-1000.	1.1	62
22	Structural Flexibility: A Solution for Weight Reduction of Large Direct-Drive Wind-Turbine Generators. IEEE Transactions on Energy Conversion, 2010, 25, 732-740.	3.7	57
23	Comparison of Energy Yield of Small Wind Turbines in Low Wind Speed Areas. IEEE Transactions on Sustainable Energy, 2013, 4, 42-49.	5.9	54
24	Promising Direct-Drive Generator System for Large Wind Turbines. , 2008, , .		53
25	Overview of and trends in wind turbine generator systems. , 2011, , .		49
26	High-Torque-Density High-Efficiency Flux-Switching PM Machine for Aerospace Applications. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2013, 1, 327-336.	3.7	45
27	Wind turbine drivetrains: state-of-the-art technologies and future development trends. Wind Energy Science, 2022, 7, 387-411.	1.2	44
28	Current and Novel Electrical Generator Technology for Wave Energy Converters. , 2007, , .		39
29	Influence of Stator Slotting on the Performance of Permanent-Magnet Machines With Concentrated Windings. IEEE Transactions on Magnetics, 2013, 49, 929-938.	1.2	39
30	Eddy-Current Losses in the Solid Back-Iron of PM Machines for different Concentrated Fractional Pitch Windings. , 2007, , .		38
31	Effect of Radial Cooling Ducts on the Electromagnetic Performance of the Permanent Magnet Synchronous Generators With Double Radial Forced Air Cooling for Direct-Driven Wind Turbines. IEEE Transactions on Magnetics, 2013, 49, 2974-2981.	1.2	37
32	Brushless Doubly Fed Induction Machines: Magnetic Field Analysis. IEEE Transactions on Magnetics, 2016, 52, 1-10.	1.2	35
33	Voltage Control Methods with Grid Connected Wind Turbines: A Tutorial Review. Wind Engineering, 2001, 25, 353-365.	1.1	34
34	Fault tolerant generator systems for wind turbines. , 2009, , .		34
35	Design of a Lightweight Transverse Flux Permanent Magnet Machine for Direct-Drive Wind Turbines. , 2008, , .		33
36	Planning and Designing Smart Grids: Philosophical Considerations. IEEE Technology and Society Magazine, 2012, 31, 34-43.	0.6	32

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37	Influence of PWM switching frequency on the losses in PM machines. , 2014, , .		31
38	Stator winding proximity loss reduction techniques in high speed electrical machines. , 2013, , .		30
39	Ring-shaped transverse flux PM generator for large direct-drive wind turbines. , 2009, , .		29
40	Achieving Sensorless Control for the Brushless Doubly Fed Induction Machine. IEEE Transactions on Energy Conversion, 2017, 32, 1611-1619.	3.7	29
41	Modeling and Optimization of Brushless Doubly-Fed Induction Machines Using Computationally Efficient Finite-Element Analysis. IEEE Transactions on Industry Applications, 2016, 52, 4525-4534.	3.3	28
42	Enclosure design for a high-speed permanent magnet rotor. , 2010, , .		26
43	A review of failure mechanisms in wind turbine generator systems. , 2015, , .		24
44	Scaling laws for direct drive generators in wind turbines. , 2009, , .		23
45	Comparison of Levelized Cost of Energy of Superconducting Direct Drive Generators for a 10-MW Offshore Wind Turbine. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-5.	1.1	23
46	Lifetime Comparison of Power Semiconductors in Three-Level Converters for 10-MW Wind Turbine Systems. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2018, 6, 1366-1377.	3.7	23
47	Comparative design of radial and transverse flux PM generators for direct-drive wind turbines. , 2008, , .		22
48	Machine selection and initial design of an aerospace starter/generator. , 2013, , .		22
49	Topology Comparison of Superconducting Generators for 10-MW Direct-Drive Wind Turbines: Cost of Energy Based. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-7.	1.1	21
50	Literature survey of eddy-current loss analysis in rotating electrical machines. IET Electric Power Applications, 2012, 6, 743.	1.1	20
51	Magnet shaping for minimal magnet volume in machines. IEEE Transactions on Magnetics, 2002, 38, 2985-2987.	1.2	19
52	Direct drive in wave energy conversion " AWS full scale prototype case study. , 2011, , .		19
53	Design of an MgB ₂ race track coil for a wind generator pole demonstration. Journal of Physics: Conference Series, 2014, 507, 032001.	0.3	19
54	Analysis and neutral voltage based detection of inter-turn faults in high-speed permanent magnet machines with parallel strands. IEEE Transactions on Industrial Electronics, 2015, , 1-1.	5.2	19

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55	Evaluating Harmonic Distortions in Brushless Doubly Fed Induction Machines. IEEE Transactions on Magnetics, 2017, 53, 1-10.	1.2	19
56	Electrical drives for direct drive renewable energy systems. , 2013, , .		19
57	A 50kW integrated fault tolerant permanent magnet machine and motor drive. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	18
58	Structural comparison of permanent magnet direct drive generator topologies for 5MW wind turbines. , 2012, , .		18
59	Contribution of permanent-magnet volume elements to no-load voltage in machines. IEEE Transactions on Magnetics, 2003, 39, 1784-1792.	1.2	17
60	Optimization and comparison of electrical machines using particle swarm optimization. , 2012, , .		17
61	An Inductive Power Transfer through metal object. , 2013, , .		17
62	Reduced-Order Modelling of Wind Turbines. , 2005, , 555-585.		16
63	Promising Direct-Drive Generator System for Large Wind Turbines. EPE Journal (European Power) Tj ETQq1 1 0.784314 rgBT /Overlock	0.7	16
64	Realization of the I/f control method for a high-speed permanent magnet motor. , 2010, , .		16
65	Small wind power generation using automotive alternator. Renewable Energy, 2014, 66, 185-195.	4.3	16
66	Short Circuits of a 10-MW High-Temperature Superconducting Wind Turbine Generator. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.1	16
67	Potential of Partially Superconducting Generators for Large Direct-Drive Wind Turbines. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-11.	1.1	16
68	The Influence of Sizing of Wave Energy Converters on the Techno-Economic Performance. Journal of Marine Science and Engineering, 2021, 9, 52.	1.2	16
69	Sizing and Control of a Hybrid Ship Propulsion System Using Multi-Objective Double-Layer Optimization. IEEE Access, 2021, 9, 72587-72601.	2.6	16
70	Linear generators for direct-drive wave energy conversion. , 0, , .		15
71	Precise calculation and optimization of rotor eddy current losses in high speed permanent magnet machine. , 2012, , .		15
72	Hysteresis losses in MgB ₂ superconductors exposed to combinations of low AC and high DC magnetic fields and transport currents. Physica C: Superconductivity and Its Applications, 2014, 506, 133-137.	0.6	15

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73	Modelling of a linear PM machine including magnetic saturation and end effects: Maximum force to current ratio. , 0, , .		14
74	Overcoming limits of high-speed PM machines. , 2008, , .		14
75	Direct drive wave energy conversion systems: an introduction. , 2013, , 175-194.		14
76	Brushless Doubly-Fed Induction Machines: Magnetic field modelling. , 2014, , .		14
77	Investigation of EMI noise transfer characteristic of variable speed drive system. , 0, , .		13
78	Ripple Field AC Losses in 10-MW Wind Turbine Generators With a MgB ₂ Superconducting Field Winding. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-5.	1.1	12
79	Studying rotor eddy current loss of PM machines using nonlinear FEM including rotor motion. , 2010, , .		11
80	Comparison of analytical and Finite Element calculation of eddy-current losses in PM machines. , 2010, , .		11
81	Torque enhanced Flux-Switching PM machine for aerospace applications. , 2012, , .		11
82	Validation of eddy current loss models for permanent magnet machines with fractional-slot concentrated windings. , 2013, , .		11
83	North Sea Wave Database (NSWD) and the Need for Reliable Resource Data: A 38 Year Database for Metocean and Wave Energy Assessments. Atmosphere, 2019, 10, 551.	1.0	11
84	Design of an Inductive Contactless Power System for Multiple Users. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2006, , .	0.0	10
85	Structural mass minimization of large direct-drive wind generators using a buoyant rotor structure. , 2010, , .		10
86	Comparison of an axial flux and a radial flux permanent magnet motor for solar race cars. , 2010, , .		10
87	Principles of electrical design of permanent magnet generators for direct drive renewable energy systems. , 2013, , 30-50.		10
88	A novel analytical approach and finite element modelling of a BDFIM. , 2014, , .		10
89	Effects of Armature Winding Segmentation With Multiple Converters on the Short Circuit Torque of 10-MW Superconducting Wind Turbine Generators. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.1	10
90	Quantum Control for an Experimental Contactless Energy Transfer System for Multiple Users. , 2007, , .		9

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91	Motor drive for a novel high-speed micro-milling spindle. , 2009, , .		9
92	Effect of design parameters on electromagnetic torque of PM machines with concentrated windings using nonlinear dynamic FEM. , 2011, , .		9
93	Low cost axial flux PM generator for small wind turbines. , 2012, , .		9
94	Case study of the Archimedes Wave Swing (AWS) direct drive wave energy pilot plant. , 2013, , 195-218.		9
95	LVRT performance of brushless doubly fed induction machines â€” A comparison. , 2015, , .		9
96	Finite element modeling of brushless doubly-fed induction machine based on magneto-static simulation. , 2015, , .		9
97	Electromagnetomechanical Coupled Vibration Analysis of a Direct-Drive Off-Shore Wind Turbine Generator. Journal of Computational and Nonlinear Dynamics, 2015, 10, .	0.7	9
98	Design and testing of a high-speed aerospace permanent magnet starter/generator. , 2015, , .		9
99	Deployment of Prognostics to Optimize Aircraft Maintenance â€” A Literature Review. Journal of International Business Research and Marketing, 2020, 5, 26-37.	0.2	9
100	Composite materials for low loss rotor construction. , 2011, , .		8
101	Analytical and FE calculation of eddy-current losses in PM concentrated winding machines for wind turbines. , 2011, , .		8
102	Structural analysis and optimisation of transverse flux permanent magnet machines for 5 and 10â€™MW direct drive wind turbines. Wind Energy, 2012, 15, 19-43.	1.9	8
103	Finite element based multi-objective optimization of a brushless Doubly-Fed Induction Machine. , 2015, , .		8
104	Harmonics study of nested-loop rotors in brushless doubly-fed induction machines. , 2016, , .		8
105	Modularity in wind turbine generator systems â€” Opportunities and challenges. , 2016, , .		8
106	Availability of Wind Turbine Converters With Extreme Modularity. IEEE Transactions on Sustainable Energy, 2018, 9, 1772-1782.	5.9	8
107	Varying magnetization orientation for permanent-magnet volume reduction in machines. IEEE Transactions on Magnetics, 2003, 39, 1793-1799.	1.2	7
108	Modeling magnetic saturation for the design of exterior rotor permanent magnet machines. , 2010, , .		7

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109	Improved model for design of permanent magnet machines with concentrated windings. , 2011, , .		7
110	Influence of slot/pole number combination on performances of permanent magnet machines with concentrated windings for ship application. , 2011, , .		7
111	Modeling for the design of fractional slot PM machines with concentrated windings protected from demagnetization during three-phase short circuit. , 2012, , .		7
112	Brushless doubly-fed induction machines: Torque ripple. , 2015, , .		7
113	Saturation in Brushless Doubly-Fed Induction Machines. , 2016, , .		7
114	Comparing the Brushless DFIM to other Generator Systems for Wind Turbine Drive-Trains. Journal of Physics: Conference Series, 2016, 753, 112014.	0.3	7
115	Optimization and comparison of superconducting generator topologies for a 10 MW wind turbine application. International Journal of Applied Electromagnetics and Mechanics, 2017, 53, S191-S202.	0.3	7
116	A Study on Passive Cooling in Subsea Power Electronics. IEEE Access, 2018, 6, 67543-67554.	2.6	7
117	Lifetime Analysis of IGBT Power Modules in Passively Cooled Tidal Turbine Converters. Energies, 2020, 13, 1875.	1.6	7
118	The application of the spectral domain modeling to the power take-off sizing of heaving wave energy converters. Applied Ocean Research, 2022, 122, 103110.	1.8	7
119	Noise propagation path identification of variable speed drive in time domain via common mode test mode. , 2007, , .		6
120	Human powered axial flux permanent magnet machines: Review and comparison. , 2010, , .		6
121	Electrical generators for maritime application. , 2011, , .		6
122	Energy yield of small wind turbines in low wind speed areas. , 2011, , .		6
123	Rotor losses in laminated magnets and an anisotropic carbon fiber sleeve. , 2012, , .		6
124	Axial segmentation and magnets losses of SMPM machines using 2D FE method. , 2012, , .		6
125	Analytical-numerical hybrid model for flux-switching permanent magnet machines. , 2013, , .		6
126	A numerical study on the performance of the point absorber Wave Energy Converter integrated with an adjustable draft system. Ocean Engineering, 2022, 254, 111347.	1.9	6

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127	Inductance calculations for PM machines with concentrated windings. , 2011, , .		5
128	Energy yield of two generator systems for small wind turbine application. , 2011, , .		5
129	Optimization of the Winding Arrangement to Increase the Zero-Sequence Inductance of a Synchronous Machine With Multifunctional Converter Drive. IEEE Transactions on Industry Applications, 2012, 48, 2277-2286.	3.3	5
130	Efficient finite element based rotor loss calculation for permanent magnet synchronous machines. , 2014, , .		5
131	Effects of rotor skew on the performance of brushless doubly-fed induction machine. , 2015, , .		5
132	Effects of an electromagnetic shield and armature teeth on the short-circuit performance of a direct drive superconducting generator for 10 MW wind turbines. , 2015, , .		5
133	Computationally efficient 3D FEM rotor eddy-current loss calculation for permanent magnet synchronous machines. , 2015, , .		5
134	A Review of Methods to Increase the Availability of Wind Turbine Generator Systems. CPSS Transactions on Power Electronics and Applications, 2016, 1, 66-82.	2.9	5
135	Computationally efficient calculation of skew effects in brushless doubly-fed induction machines. IET Electric Power Applications, 2017, 11, 303-311.	1.1	5
136	Energy consumption of electric powertrain architectures: A comparative study. , 2017, , .		5
137	Tidal Turbine Generators. , 0, , .		5
138	The Influence of Linear Permanent Magnet Generator Sizing on the Techno-Economic Performance of a Wave Energy Converter. , 2021, , .		5
139	Dynamic Pricing for User-Based Rebalancing in Free-Floating Vehicle Sharing: A Real-World Case. Lecture Notes in Computer Science, 2020, , 443-456.	1.0	5
140	Wind Power and Voltage Control. , 2005, , 411-432.		4
141	Eddy current loss calculation in rotor back iron for concentrated winding PM generator. , 2012, , .		4
142	Performance of axial flux permanent magnet generator for human power application. , 2012, , .		4
143	Deployment of Prognostics to Optimize Aircraft Maintenance - A Literature Review. Proceedings of the Annual Conference of the Prognostics and Health Management Society Prognostics and Health Management Society Conference, 2019, 11, .	0.2	4
144	Input torque measurements for wind turbine gearboxes using fiber-optic strain sensors. Wind Energy Science, 2022, 7, 505-521.	1.2	4

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145	Philosophical considerations on the design of smart grids. , 2012, , .		3
146	Model Reduction Methods for Magnetic Fields Based on Modal Analysis. IEEE Transactions on Magnetics, 2014, 50, 1-4.	1.2	3
147	Evaluating the cost of energy of a 10 MW direct-drive wind turbine with superconducting generators. , 2016, , .		3
148	FE based multi-objective optimization of a 3.2MW brushless doubly-fed induction machine. , 2017, , .		3
149	Sliding Mode Control with Neural Network for Active Magnetic Bearing System. , 2019, , .		3
150	Improving Annual Energy Production of Doubly-Fed Induction Generators. IEEE Transactions on Energy Conversion, 2021, 36, 3405-3413.	3.7	3
151	Electromechanical Dynamics Analysis of Pole-Piece Rotors in Pseudo Direct-Drive Wind Turbine Generators. , 2020, , .		3
152	Mastering high-density optical disks: a new concept design. Assembly Automation, 2004, 24, 406-415.	1.0	2
153	Common Mode DC-Bus Filter Design for Variable Speed Drive System via Transfer Ratio Measurements. , 2007, , .		2
154	A first-order energy storage requirements estimation for an Archimedes Wave Swing Park. , 2008, , .		2
155	Case study of the permanent magnet direct drive generator in the Zephyros wind turbine. , 2013, , 158-174.		2
156	Feasibility study of a superconducting motor for electrical helicopter propulsion. Journal of Physics: Conference Series, 2014, 507, 032038.	0.3	2
157	Comparison of 10 MW superconducting generator topologies for direct-drive wind turbines. , 2015, , .		2
158	Comparing Different Materials for Rotor-Can in Flooded Generators. , 2018, , .		2
159	Design in principle of crane vessel for flexible fully assembled wind turbine installation. , 2021, , .		2
160	Effects of Magneto-Mechanical Coupling on Structural Modal Parameters. Conference Proceedings of the Society for Experimental Mechanics, 2014, , 11-18.	0.3	2
161	Magnetic Signature Reduction by Converter Switching Frequency Modulation in Degaussing Systems. IEEE Access, 2022, 10, 74103-74110.	2.6	2
162	Investigation of the Coupling Paths of a Galvanically Isolated AC/AC Converter. , 2007, , .		1

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163	Modular sensorless control of high speed, fault tolerant machines. , 2010, , .		1
164	A low conductivity composite rotor for fractional pitch concentrated winding machines. , 2011, , .		1
165	In-Situ Experimental Modal Analysis of a Direct-Drive Wind Turbine Generator. Conference Proceedings of the Society for Experimental Mechanics, 2015, , 157-165.	0.3	1
166	Review of analytical methods to extract magnetic parameters of an inductively coupled circuit. , 2015, , .		1
167	A finite element post-processing for skew effects in brushless doubly-fed induction machines. , 2016, , .		1
168	Fast Rotor Loss Calculations in Fractional-Slot Permanent Magnet Machines. , 2018, , .		1
169	Tunnel-Vision on Economic Linear Propulsion?. , 2019, , .		1
170	Torque measurements from MW wind turbine Gearboxes: a system identification approach. Journal of Physics: Conference Series, 2020, 1618, 022027.	0.3	1
171	Thermal Cycling in Converter IGBT Modules with Different Cooling Systems in Pitch- and Active Stall-Controlled Tidal Turbines. Energies, 2021, 14, 6457.	1.6	1
172	The Fair Evaluation of Wave Energy Converters. , 2020, , .		1
173	Design challenges and potentials of HTS synchronous motor for Superbus. , 2009, , .		0
174	Experimental determination of stator winding failure behavior. , 2014, , .		0
175	Performance Analysis Based on Parameter Identification. Energy Procedia, 2015, 78, 3019-3024.	1.8	0
176	Design optimisation of high performance fractional-slot distributed winding PM Synchronous machines for In-wheel application in Electric Vehicles. , 2016, , .		0
177	A starter/generator unit for aerospace applications-concept to prototype. , 2016, , .		0
178	Comparison of modular wind turbine generators considering structural aspects. , 2017, , .		0
179	Online Parameter Estimation of PMSM in EV Powertrain Including Thermal Measurements. , 2019, , .		0