Gerd Bramerdorfer

List of Publications by Year
in descending order

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80 papers	1,308 citations	394286 19 h-index	414303 32 g-index
80 all docs	80 docs citations	80 times ranked	827 citing authors

#	Article	IF	Citations
1	Modern Electrical Machine Design Optimization: Techniques, Trends, and Best Practices. IEEE Transactions on Industrial Electronics, 2018, 65, 7672-7684.	5.2	173
2	Hybridization of multi-objective evolutionary algorithms and artificial neural networks for optimizing the performance of electrical drives. Engineering Applications of Artificial Intelligence, 2013, 26, 1781-1794.	4.3	74
3	System-Level Robust Design Optimization of a Switched Reluctance Motor Drive System Considering Multiple Driving Cycles. IEEE Transactions on Energy Conversion, 2021, 36, 348-357.	3.7	61
4	Surrogate-Based Multi-Objective Optimization of Electrical Machine Designs Facilitating Tolerance Analysis. IEEE Transactions on Magnetics, 2017, 53, 1-11.	1.2	58
5	DECMO2: a robust hybrid and adaptive multi-objective evolutionary algorithm. Soft Computing, 2015, 19, 3551-3569.	2.1	48
6	Using FE Calculations and Data-Based System Identification Techniques to Model the Nonlinear Behavior of PMSMs. IEEE Transactions on Industrial Electronics, 2014, 61, 6454-6462.	5.2	46
7	Machine Learning for Design Optimization of Electromagnetic Devices: Recent Developments and Future Directions. Applied Sciences (Switzerland), 2021, 11, 1627.	1.3	45
8	Robust Design Optimization of Electrical Machines: Multi-Objective Approach. IEEE Transactions on Energy Conversion, 2021, 36, 390-401.	3.7	39
9	Accurate and Easy-to-Obtain Iron Loss Model for Electric Machine Design. IEEE Transactions on Industrial Electronics, 2017, 64, 2530-2537.	5.2	37
10	Possibilities for Speeding Up the FE-Based Optimization of Electrical Machinesâ€"A Case Study. IEEE Transactions on Industry Applications, 2016, 52, 4668-4677.	3.3	36
11	Combined Analyticalâ€"Numerical Noise Calculation of Electrical Machines Considering Nonsinusoidal Mode Shapes. IEEE Transactions on Magnetics, 2013, 49, 1407-1415.	1.2	35
12	Analytical Modeling and Optimization for Electromagnetic Performances of Fractional-Slot PM Brushless Machines. IEEE Transactions on Industrial Electronics, 2018, 65, 4017-4027.	5.2	35
13	Reducing Development Time of Electric Machines with SyMSpace. , 2018, , .		35
14	Tolerance Analysis for Electric Machine Design Optimization: Classification, Modeling and Evaluation, and Example. IEEE Transactions on Magnetics, 2019, 55, 1-9.	1.2	32
15	Robust Design Optimization of Switched Reluctance Motor Drive Systems Based on System-Level Sequential Taguchi Method. IEEE Transactions on Energy Conversion, 2021, 36, 3199-3207.	3.7	30
16	Robust Design Optimization of Electrical Machines: A Comparative Study and Space Reduction Strategy. IEEE Transactions on Energy Conversion, 2021, 36, 300-313.	3.7	27
17	Optimization of Electric Machine Designsâ^'Part I. IEEE Transactions on Industrial Electronics, 2017, 64, 9716-9720.	5.2	26
18	More Robust and Reliable Optimized Energy Conversion Facilitated through Electric Machines, Power Electronics and Drives, and Their Control: State-of-the-Art and Trends. IEEE Transactions on Energy Conversion, 2020, 35, 1997-2012.	3.7	24

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19	Identification of a nonlinear PMSM model using symbolic regression and its application to current optimization scenarios. , 2014, , .		21
20	Optimization of Electric Machine Designs - Part II. IEEE Transactions on Industrial Electronics, 2018, 65, 1700-1703.	5.2	21
21	Local Degradation in Soft Magnetic Materials: A Simplified Modeling Approach. IEEE Transactions on Industry Applications, 2019, 55, 5897-5905.	3.3	19
22	Comparison of Combined Winding Strategies for Radial Nonsalient Bearingless Machines. IEEE Transactions on Industry Applications, 2021, 57, 6856-6869.	3.3	19
23	Striving for the Highest Efficiency Class With Minimal Impact for Induction Motor Manufacturers. IEEE Transactions on Industry Applications, 2020, 56, 194-204.	3.3	18
24	Computationally Efficient Tolerance Analysis of the Cogging Torque of Brushless PMSMs. IEEE Transactions on Industry Applications, 2017, 53, 3387-3393.	3.3	17
25	A Hybrid Soft Computing Approach for Optimizing Design Parameters of Electrical Drives. Advances in Intelligent Systems and Computing, 2013, , 347-358.	0.5	17
26	Effect of the Manufacturing Impact on the Optimal Electric Machine Design and Performance. IEEE Transactions on Energy Conversion, 2020, 35, 1935-1943.	3.7	15
27	Sizing procedure of surface mounted PM machines for fast analytical evaluations. , 2017, , .		14
28	Analysis of a Tooth-Coil Winding Permanent-Magnet Synchronous Machine With an Unequal Teeth Width. IEEE Access, 2020, 8, 71512-71524.	2.6	14
29	Impact of Tolerances on the Cogging Torque of Tooth-Coil-Winding PMSMs with Modular Stator Core by Means of Efficient Superposition Technique. Electronics (Switzerland), 2020, 9, 1594.	1.8	14
30	Coupled optimization in MagOpt. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2016, 230, 291-299.	0.7	13
31	Investigation and Modeling of Local Degradation in Soft Magnetic Materials. , 2018, , .		12
32	Methods to Improve the Cogging Torque Robustness Under Manufacturing Tolerances for the Permanent Magnet Synchronous Machine. IEEE Transactions on Energy Conversion, 2021, 36, 2152-2162.	3.7	12
33	Towards an IE4 Efficiency Class for Induction Motors with Minimal Manufacturer Impact. , 2018, , .		10
34	Robustness criteria for concurrent evaluation of the impact of tolerances in multiobjective electric machine design optimization. CES Transactions on Electrical Machines and Systems, 2020, 4, 3-12.	2.7	10
35	Measurement-Based Optimization of Thermal Networks for Temperature Monitoring of Outer Rotor PM Machines. , 2020, , .		10
36	State-of-the-art and future trends in soft magnetic materials characterization with focus on electric machine design â€“ Part 2. TM Technisches Messen, 2019, 86, 553-565.	0.3	9

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37	Comprehensive Design and Analysis of an Interior Permanent Magnet Synchronous Machine for Light-Duty Passenger EVs. IEEE Access, 2022, 10, 819-831.	2.6	9
38	Cost-optimal machine designs fulfilling efficiency requirements: A comparison of IMs and PMSMs. , 2017, , .		8
39	Design of a rotational iron loss measurement system. TM Technisches Messen, 2018, 85, 233-243.	0.3	8
40	Multiobjective electric machine optimization for highest reliability demands. CES Transactions on Electrical Machines and Systems, 2020, 4, 71-78.	2.7	8
41	Incorporating the Soft Magnetic Material Degradation to Numerical Simulations. IEEE Transactions on Industry Applications, 2020, , 1-1.	3.3	8
42	Multiobjective Design Optimization of a Novel Switched Reluctance Motor With Unequal Alternating Stator Yoke Segments. IEEE Transactions on Transportation Electrification, 2023, 9, 512-521.	5.3	8
43	Impact of IM pole count on material cost increase for achieving mandatory efficiency requirements. , 2016, , .		7
44	State-of-the-art and future trends in soft magnetic materials characterization with focus on electric machine design â€“ Part 1. TM Technisches Messen, 2019, 86, 540-552.	0.3	7
45	Cogging torque sensitivity considering imperfect magnet positioning for permanent magnet machines of different slot and pole count. CES Transactions on Electrical Machines and Systems, 2020, 4, 243-251.	2.7	7
46	Importance of thermal modeling for design optimization scenarios of induction motors. , 2017, , .		6
47	Analytical Model and Sensitivity Analysis of Tooth-Coil-Winding Permanent Magnet Synchronous Machine with Modular U-Shape Stator. , 2019, , .		6
48	Synchronous Reluctance Rotor Design Considerations based on Winding Configuration. , 2019, , .		6
49	Analytic determination of cogging torque harmonics of brushless permanent magnet machines. , 2012, , .		5
50	An Effective Ensemble-Based Method for Creating On-the-Fly Surrogate Fitness Functions for Multi-objective Evolutionary Algorithms. , 2013, , .		5
51	Influence of Hysteresis and Eddy Current Losses on Electric Drive Energy Balance in Driving Cycle Operation. , 2018, , .		5
52	Quantifying the Impact of Tolerance-Affected Parameters on the Performance of Permanent Magnet Synchronous Machines. IEEE Transactions on Energy Conversion, 2020, 35, 2170-2180.	3.7	5
53	Topology Optimization of Rotor Bars Geometry and Arrangement for a Line-Start Permanent Magnet Synchronous Machine. IEEE Access, 2021, 9, 115192-115204.	2.6	5
54	Impact of Static and Dynamic Eccentricity on the Performance of Permanent Magnet Synchronous Machines with Modular Stator Core. , 2021, , .		5

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55	A computationally efficient surrogate model based robust optimization for permanent magnet synchronous machines. IEEE Transactions on Energy Conversion, 2022, , 1-1.	3.7	5
56	A Thermographic Method to Evaluate Different Processes and Assembly Effects on Magnetic Steels. IEEE Transactions on Industry Applications, 2022, 58, 3405-3413.	3.3	5
57	Design of a measurement system for investigating the magnetic characteristics of soft magnetic materials for non-sinusoidal periodic excitations. TM Technisches Messen, 2016, 83, 317-327.	0.3	4
58	A General Investigation of the Sensitiveness of Brushless Permanent Magnet Synchronous Machines Considering Magnet Tolerances. IEEE Transactions on Magnetics, 2020, 56, 1-9.	1.2	4
59	On the Use of the Cumulative Distribution Function for Large-Scale Tolerance Analyses Applied to Electric Machine Design. Stats, 2020, 3, 412-426.	0.5	4
60	Multi-Objective Optimization of a Line-Start Synchronous Machine Using a Self-Organizing Algorithm. IEEE Transactions on Magnetics, 2021, 57, 1-4.	1.2	4
61	Comparison of Optimized Fault-Tolerant Modular Stator Machines with U-shape and H-shape Core Structure. , 2021, , .		4
62	Experimental Assessment and Modeling of Losses in Interlocked Magnetic Cores. IEEE Transactions on Industry Applications, 2022, 58, 4450-4460.	3.3	4
63	Electromagnetic Analysis of a Novel PMSM with Modular Stator for Low Power Generation. , 2018, , .		3
64	Multi-Harmonic Design and Optimization of PMSMs. , 2019, , .		3
65	Impact of Local Degradation in Soft Magnetic Materials on Performance of Permanent Magnet Synchronous Machines. , 2019, , .		3
66	Guest Editorial: Robust Design and Analysis of Electric Machines and Drives. IEEE Transactions on Energy Conversion, 2020, 35, 1995-1996.	3.7	3
67	A method to estimate the worst-case torque ripple under manufacturing uncertainties for permanent magnet synchronous machines. , 2020, , .		3
68	A Permanent Magnet Assembling Approach to Mitigate the Cogging Torque for Permanent Magnet Machines Considering Manufacturing Uncertainties. Energies, 2022, 15, 2154.	1.6	3
69	Computationally Efficient System-Level Evaluation of Battery Electric Vehicles. , 2021, , .		2
70	A Machine Learning Based Method to Efficiently Analyze the Cogging Torque Under Manufacturing Tolerances. , 2021, , .		2
71	Modeling of the Temperature Dependence of Soft Magnetic Materials. , 2020, , .		2
72	Spectral-field design with respect to minimum cogging torque and maximum output power. , 2010, , .		1

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73	Contributions on the CAD-based design and optimization of flux switching permanent magnet machines. , 2017, , .		1
74	Surface-Mounted and Flux-Switching PM Structures Trade-off for Automotive Smart Actuators. , 2019, , .		1
75	On the Accuracy and Improvement of FE-Based Electric Machine Evaluation Concerning Soft Magnetic Material Modeling. , 2019, , .		1
76	On Modeling the Dynamic Thermal Behavior of Electrical Machines Using Genetic Programming and Artificial Neural Networks. Lecture Notes in Computer Science, 2020, , 319-326.	1.0	1
77	Studies of Measurement Uncertainties in the Characterization of Soft Magnetic Materials and their Impact on the Electric Machine Performance Prediction. , 2021, , .		1
78	Spatial MMF Harmonic Mitigation in Aluminum-Cage Induction Motors. , 2019, , .		0
79	Experimental Evaluation of Iron Losses in Radial Flux Permanent Magnet Synchronous Machines. , 2021, , .		0
80	Multi-Objective Topology Optimization of Synchronous Reluctance Machines Considering Design for Manufacturability Aspects. , 2020, , .		0