Mircea Popescu

List of Publications by Year in descending order

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114 papers	3,911 citations	147801 31 h-index	155660 55 g-index
119 all docs	119 docs citations	119 times ranked	2027 citing authors

#	Article	IF	Citations
1	Cage Losses in Induction Motors Considering Harmonics: A New Finite Element Procedure and Comparison With the Time-Domain Approach. IEEE Transactions on Industry Applications, 2022, 58, 1931-1940.	4.9	6
2	Application of Epoxy Resin in Synchronous Reluctance Motors With Fluid-Shaped Barriers for E-Mobility. IEEE Transactions on Industry Applications, 2021, 57, 6440-6452.	4.9	16
3	Review of Advanced Cooling Systems of Modern Electric Machines for EMobility Application. , 2021, , .		12
4	Optimisation of Hairpin Winding in Electric Traction Motor Applications. , 2021, , .		17
5	Slot Water Jacket Cooling System for Traction Electrical Machines with Hairpin Windings: Analysis and Comparison. , 2021, , .		13
6	Efficient Calculation of PWM AC Losses in Hairpin Windings for Synchronous BPM Machines. , 2021, , .		6
7	Stator Winding Second-Order Thermal Model including End-Winding Thermal Effects. Energies, 2021, 14, 6578.	3.1	3
8	Design and Construction of Axial-Flux Permanent Magnet Motors for Electric Propulsion Applicationsâ€"A Review. IEEE Access, 2021, 9, 158998-159017.	4.2	25
9	Optimization of an IPM Traction Motor considering the Electric Drive Unit System Requirements. , 2021, , .		6
10	Experimental Investigation on Oil Spray Cooling With Hairpin Windings. IEEE Transactions on Industrial Electronics, 2020, 67, 7343-7353.	7.9	101
11	Thermal Analysis of an Oil-Cooled Shaft for a 30 000 r/min Automotive Traction Motor. IEEE Transactions on Industry Applications, 2020, 56, 6053-6061.	4.9	10
12	Adopting the Topology Optimization in the Design of High-Speed Synchronous Reluctance Motors for Electric Vehicles. IEEE Transactions on Industry Applications, 2020, 56, 5429-5438.	4.9	72
13	A Robust Design Methodology for Synchronous Reluctance Motors. IEEE Transactions on Energy Conversion, 2020, 35, 2095-2105.	5.2	15
14	Investigation of Cooling Solutions for Hairpin Winding in Traction Application. , 2020, , .		16
15	Induction Motor Performance Prediction Using Static FEA: Method Description and Comparison With Time-Domain Approach. , 2020, , .		2
16	Eddy-Current Losses evaluation in hairpin wound motor fed by PWM Inverter. , 2020, , .		7
17	Cooling of Automotive Traction Motors: Schemes, Examples, and Computation Methods. IEEE Transactions on Industrial Electronics, 2019, 66, 1681-1692.	7.9	187
18	AC Winding Losses in Automotive Traction E-Machines: A New Hybrid Calculation Method. , 2019, , .		33

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19	High Speed Synchronous Reluctance Motors for Electric Vehicles: a Focus on Rotor Mechanical Design. , 2019, , .		19
20	Electrical Machines Thermal Model: Advanced Calibration Techniques. IEEE Transactions on Industry Applications, 2019, 55, 2620-2628.	4.9	32
21	Finite Elements Model Co-Simulation of an Induction Motor Drive for Traction Application. , 2019, , .		17
22	Power Losses and Thermal Analysis of a Hollow-Shaft Rotor Cooling System. , 2019, , .		10
23	Electromagnetic performance with and without considering the impact of rotation on convective cooling. Journal of Engineering, 2019, 2019, 3537-3541.	1.1	3
24	A Copper Rotor Induction Motor Solution for Electrical Vehicles Traction System. , 2019, , .		15
25	Optimisation of a High Speed Copper Rotor Induction Motor for a Traction Application. , 2019, , .		21
26	Synchronous reluctance motors with asymmetric rotor shapes and epoxy resin for electric vehicles. , 2019, , .		13
27	Winding Material Effect on High Speed Brushless Permanent Magnet Machines. , 2019, , .		5
28	Performance Evaluation of an Induction Motor Drive for Traction Application. , 2019, , .		18
29	Modified 2-D Model for 3-D Rotor Magnet Leakage Effects in PM Spoke Machines. IEEE Transactions on Industry Applications, 2019, 55, 3087-3096.	4.9	8
30	Electrical Vehiclesâ€"Practical Solutions for Power Traction Motor Systems. IEEE Transactions on Industry Applications, 2018, 54, 2751-2762.	4.9	140
31	Thermal Management of a Racing E- Machine. , 2018, , .		9
32	Modelling AC Winding Losses in a PMSM with High Frequency and Torque Density. , 2018, , .		21
33	Performance Validation of a PM Spoke Machine for MotorSport Application Including 3DLeakage Effects. , 2018, , .		2
34	Calculation of Efficiency Maps Using a Scalable Saturated Model of Synchronous Permanent Magnet Machines. IEEE Transactions on Industry Applications, 2018, 54, 4257-4267.	4.9	38
35	Design Optimization of a High Torque Density Spoke-Type PM Motor for a Formula E Race Drive Cycle. IEEE Transactions on Industry Applications, 2018, 54, 4343-4354.	4.9	93
36	Security Risk: Detection of Compromising Emanations Radiated or Conducted by Display Units. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2018, , 45-51.	0.3	3

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37	Electrical vehicles - practical solutions for power traction drive systems. , 2017, , .		12
38	Identification of Three-Phase IPM Machine Parameters Using Torque Tests. IEEE Transactions on Industry Applications, 2017, 53, 1883-1891.	4.9	13
39	High-Performance Electric Motor for Motor Sport Application. , 2017, , .		8
40	Design optimization of spoke-type PM motors for Formula E racing cars. , 2016, , .		9
41	Analytic Modeling of Inverter-Fed Induction Machinesâ€"A Practical Approach for Matching Measurement and Simulation Data. IEEE Transactions on Industry Applications, 2016, 52, 4710-4718.	4.9	4
42	Ultraâ€fast axial and radial scaling of synchronous permanent magnet machines. IET Electric Power Applications, 2016, 10, 658-666.	1.8	49
43	Stator Winding Thermal Conductivity Evaluation: An Industrial Production Assessment. IEEE Transactions on Industry Applications, 2016, 52, 3893-3900.	4.9	47
44	Estimate of minimum attenuation level for a TEMPEST shielded enclosure. , 2016, , .		7
45	Modern Heat Extraction Systems for Power Traction Machinesâ€"A Review. IEEE Transactions on Industry Applications, 2016, 52, 2167-2175.	4.9	105
46	Parameter extraction for three phase IPM machines through simple torque tests. , 2015, , .		5
47	Scaling laws for synchronous permanent magnet machines. , 2015, , .		18
48	Guest editorial - Electric machines in renewable energy applications. IEEE Transactions on Energy Conversion, 2015, 30, 1609-1610.	5.2	5
49	Multi-physics analysis of a high torque density motor for electric racing cars. , 2015, , .		15
50	Modern heat extraction systems for electrical machines - A review. , 2015, , .		49
51	Power Loss Analysis in Thermal Design of Permanent Magnet Machines â€“ A Review. IEEE Transactions on Industry Applications, 2015, , 1-1.	4.9	24
52	Stator winding thermal conductivity evaluation: An industrial production assessment. , 2015, , .		15
53	Analytic modeling of inverter-fed induction machines — A practical approach for matching measurement and simulation data. , 2014, , .		3
54	A comparison between maximum torque/ampere and maximum efficiency control strategies in IPM synchronous machines. , 2014, , .		25

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55	Inverter-fed induction machines in traction applications — Extraction of equivalent circuit parameters from synchronous speed and locked rotor tests. , 2014, , .		8
56	On the feasibility of integer and fractional number of slots per pole distributed winding designs for synchronous reluctance motors. , 2014, , .		6
57	Electrical machine first order short-time thermal transients model: Measurements and parameters evaluation. , 2014, , .		42
58	Aspects of electromagnetic compatibility as a support for communication security based on TEMPEST evaluation. , 2014, , .		10
59	Considerations regarding shielding effectiveness and testing of electromagnetic protected enclosures used in communications security. , 2014, , .		5
60	Electrical Machine Topologies: Hottest Topics in the Electrical Machine Research Community. IEEE Industrial Electronics Magazine, 2014, 8, 18-30.	2.6	48
61	A method for determining ipm motor parameters from simple torque test data. , 2013, , .		6
62	Proximity Losses in the Windings of High Speed Brushless Permanent Magnet AC Motors With Single Tooth Windings and Parallel Paths. IEEE Transactions on Magnetics, 2013, 49, 3913-3916.	2.1	72
63	A comparison of an interior permanent magnet and copper rotor induction motor in a hybrid electric vehicle application. , 2013, , .		63
64	A Line-Fed Permanent-Magnet Motor Solution for Drum-Motor and Conveyor-Roller Applications. IEEE Transactions on Industry Applications, 2013, 49, 832-840.	4.9	6
65	Thermal Analysis of Duplex Three-Phase Induction Motor Under Fault Operating Conditions. IEEE Transactions on Industry Applications, 2013, 49, 1523-1530.	4.9	37
66	Thermal Model and Analysis of Wound-Rotor Induction Machine. IEEE Transactions on Industry Applications, 2013, 49, 2078-2085.	4.9	31
67	Brushless permanent magnet DC and AC motor and synchonous reluctance motor design for racing motorcycles. , 2013, , .		1
68	Skin effect and proximity losses in high speed brushless permanent magnet motors. , 2013, , .		34
69	Comparison of Analytical Models of Cogging Torque in Surface-Mounted PM Machines. IEEE Transactions on Industrial Electronics, 2012, 59, 2414-2425.	7.9	142
70	Analysis and Design Techniques Applied to Hybrid Vehicle Drive Machinesâ€"Assessment of Alternative IPM and Induction Motor Topologies. IEEE Transactions on Industrial Electronics, 2012, 59, 3690-3699.	7.9	137
71	Thermal model and analysis of wound rotor induction machine. , 2012, , .		4
72	Drive motor designs for electric motorcycles. , 2012, , .		4

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73	Experimental validation of a simple multiphysics model for drum roller driven by induction motor. , 2011, , .		0
74	Ultrafast Finite-Element Analysis of Brushless PM Machines Based on Space. IEEE Transactions on Industry Applications, 2011, 47, 744-753.	4.9	54
75	Effect of Winding Asymmetries and Winding Connection on Small Synchronous Machines. IEEE Transactions on Industry Applications, 2011, 47, 2453-2459.	4.9	6
76	A Review of the Design Issues and Techniques for Radial-Flux Brushless Surface and Internal Rare-Earth Permanent-Magnet Motors. IEEE Transactions on Industrial Electronics, 2011, 58, 3741-3757.	7.9	162
77	Odd Stator Slot Numbers in Brushless DC Machinesâ€"An Aid to Cogging Torque Reduction. IEEE Transactions on Magnetics, 2011, 47, 3012-3015.	2.1	35
78	Performance Improvement in High-Performance Brushless Rare-Earth Magnet Motors for Hybrid Vehicles by Use of High Flux-Density Steel. IEEE Transactions on Magnetics, 2011, 47, 3016-3019.	2.1	31
79	Unbalanced Magnetic Pull Due to Asymmetry and Low-Level Static Rotor Eccentricity in Fractional-Slot Brushless Permanent-Magnet Motors With Surface-Magnet and Consequent-Pole Rotors. IEEE Transactions on Magnetics, 2010, 46, 2675-2685.	2.1	115
80	Influence of different end region cooling arrangements on end-winding heat transfer coefficients in electrical machines. , 2010, , .		21
81	Comparison of different motor design drives for hybrid electric vehicles. , 2010, , .		106
82	A General Model for Estimating the Laminated Steel Losses Under PWM Voltage Supply. IEEE Transactions on Industry Applications, 2010, 46, 1389-1396.	4.9	89
83	A General Model to Predict the Iron Losses in PWM Inverter-Fed Induction Motors. IEEE Transactions on Industry Applications, 2010, 46, 1882-1890.	4.9	111
84	Finite-Element Surrogate Model for Electric Machines With Revolving Fieldâ€"Application to IPM Motors. IEEE Transactions on Industry Applications, 2010, 46, 2424-2433.	4.9	64
85	Effect of winding asymmetries and winding connection on small synchronous machines. , 2010, , .		1
86	Finite element surrogate model for electric machines with revolving field — application to IPM motors. , 2009, , .		11
87	Ultra-fast finite element analysis of brushless PM machines based on space-time transformations. , 2009, , .		6
88	End Space Heat Transfer Coefficient Determination for Different Induction Motor Enclosure Types. IEEE Transactions on Industry Applications, 2009, 45, 929-937.	4.9	58
89	Single and double layer windings in fractional slot-per-pole PM machines - effects on motor performance. , 2008, , .		10
90	Embedded Finite-Element Solver for Computation of Brushless Permanent-Magnet Motors. IEEE Transactions on Industry Applications, 2008, 44, 1124-1133.	4.9	24

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91	A General Magnetic-Energy-Based Torque Estimator: Validation via a Permanent-Magnet Motor Drive. IEEE Transactions on Industry Applications, 2008, 44, 1210-1217.	4.9	11
92	On the Physical Basis of Power Losses in Laminated Steel and Minimum-Effort Modeling in an Industrial Design Environment. Conference Record - IAS Annual Meeting (IEEE Industry Applications) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5		18
93	Effect of MMF Harmonics on Single-Phase Induction Motor Performance - A Unified Approach. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2007, , .	0.0	4
94	MMF Harmonics Effect on the Embedded FE-Analytical Computation of PM Motors. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2007, , .	0.0	2
95	Modelling of iron losses in salient pole permanent magnet synchronous motors. , 2007, , .		5
96	Computation of Core Losses in Electrical Machines Using Improved Models for Laminated Steel. IEEE Transactions on Industry Applications, 2007, 43, 1554-1564.	4.9	216
97	Study of the Number of Slots/Pole Combinations for Low Speed Permanent Magnet Synchronous Generators. , 2007, , .		23
98	MMF Harmonics Effect on the Embedded FE-Analytical Computation of PM Motors. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2007, , .	0.0	10
99	A Unified Approach to the Synchronous Performance Analysis of Single and Poly-Phase Line-Fed Interior Permanent Magnet Motors. Conference Record - IAS Annual Meeting (IEEE Industry) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf		6
100	A Study of the Engineering Calculations for Iron Losses in 3-phase AC Motor Models. , 2007, , .		15
101	A Best-Fit Model of Power Losses in Cold Rolled-Motor Lamination Steel Operating in a Wide Range of Frequency and Magnetization. IEEE Transactions on Magnetics, 2007, 43, 1753-1756.	2.1	48
102	Performance Improvement of an External-Rotor Split-Phase Induction Motor for Low-Cost Drive Applications Using External Rotor Can. IEEE Transactions on Magnetics, 2007, 43, 2549-2551.	2.1	16
103	Torque Behavior of One-Phase Permanent-Magnet AC Motor. IEEE Transactions on Energy Conversion, 2006, 21, 19-26.	5.2	18
104	On the variation with flux and frequency of the core loss coefficients in electrical machines. IEEE Transactions on Industry Applications, 2006, 42, 658-667.	4.9	206
105	Effect of winding harmonics on the asynchronous torque of a single-phase line-start permanent-magnet motor. IEEE Transactions on Industry Applications, 2006, 42, 1014-1023.	4.9	22
106	Performance estimation of interior permanent-magnet brushless motors using the voltage-driven flux-MMF diagram. IEEE Transactions on Magnetics, 2006, 42, 1867-1872.	2.1	43
107	Torque Calculation in Finite Element Solutions of Electrical Machines by Consideration of Stored Energy. IEEE Transactions on Magnetics, 2006, 42, 3431-3433.	2.1	13
108	A New On-Line Torque Estimator for Brushless Permanent Magnet Motor Drives: Validation through the i-/spl psi/ Diagram. , 2006, , .		1

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109	Comparative Study of Starting Methods for a Single-Phase Permanent Magnet Synchronous Motor. EPE Journal (European Power Electronics and Drives Journal), 2005, 15, 48-56.	0.7	0
110	Asynchronous Performance Analysis of a Single-Phase Capacitor-Start, Capacitor-Run Permanent Magnet Motor. IEEE Transactions on Energy Conversion, 2005, 20, 142-150.	5.2	47
111	Assessment of Torque Components in Brushless Permanent-Magnet Machines Through Numerical Analysis of the Electromagnetic Field. IEEE Transactions on Industry Applications, 2005, 41, 1149-1158.	4.9	70
112	Analysis and Design of a Two-Speed Single-Phase Induction Motor With 2 and 18 Pole Special Windings. IEEE Transactions on Energy Conversion, 2005, 20, 62-70.	5.2	11
113	Line-Start Permanent-Magnet Motor Single-Phase Steady-State Performance Analysis. IEEE Transactions on Industry Applications, 2004, 40, 516-525.	4.9	40
114	Line-start permanent-magnet motor: single-phase starting performance analysis. IEEE Transactions on Industry Applications, 2003, 39, 1021-1030.	4.9	64