

Andrea Cavagnino

List of Publications by Year in descending order

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143
papers

5,152
citations

147726

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h-index

106281

65
g-index

145
all docs

145
docs citations

145
times ranked

2688
citing authors

#	ARTICLE	IF	CITATIONS
1	Asynchronous motors. , 2023, , 280-298.		0
2	Experimental Assessment and Modeling of Losses in Interlocked Magnetic Cores. IEEE Transactions on Industry Applications, 2022, 58, 4450-4460.	3.3	4
3	Accurate Induction Machines Efficiency Mapping Computed by Standard Test Parameters. IEEE Transactions on Industry Applications, 2022, 58, 3522-3532.	3.3	7
4	Experimental Assessment of Induction Motors Fed by Sub-MHz-PWM Wide Band Gap Inverters. IEEE Transactions on Industry Applications, 2022, 58, 4461-4473.	3.3	5
5	Experimental Assessment of Cryogenic Cooling Impact on Induction Motors. IEEE Transactions on Energy Conversion, 2022, 37, 2629-2636.	3.7	4
6	Enhanced Stray-Load Loss Measurements Through a Zigzag Variable Load Test Approach. IEEE Transactions on Industry Applications, 2021, 57, 226-235.	3.3	4
7	Noninvasive Measurements and FEM Analyses for Estimating the Rotor Bar-Lamination Contact Resistance. IEEE Transactions on Industry Applications, 2021, 57, 208-217.	3.3	4
8	Efficiency Mapping and Weighted Average Efficiency for Large Hydrogenerators. IEEE Open Journal of Industry Applications, 2021, 2, 11-20.	4.8	3
9	Superconductivity and its Application in the Field of Electrical Machines. , 2021, , .		7
10	FEM Modeling of Surface Losses in Accordance with Their Nature. , 2021, , .		1
11	Errata to "Noninvasive Measurements and FEM Analyses for Estimating the Rotor Bar-Lamination Contact Resistance" [Jan/Feb 21 208-217]. IEEE Transactions on Industry Applications, 2021, 57, 4347-4347.	3.3	0
12	Lumped-Parameters Thermal Network of PM Synchronous Machines for Automotive Brake-by-Wire Systems. Energies, 2021, 14, 5652.	1.6	5
13	Doubly Excited Synchronous Machines for Traction Applications. , 2021, , .		3
14	Approaches for Improving Lumped Parameter Thermal Networks for Outer Rotor SPM Machines. , 2021, , .		3
15	A Comparison of Cryogenic-Cooled and Superconducting Electrical Machines. , 2021, , .		7
16	Multiphysic Design and Modeling of Rotating Electrical Machines. , 2021, , .		1
17	Analytical Model of the Ferromagnetic Properties in Laminations Damaged by Cutting. , 2021, , .		3
18	Comparison of Superposition Equivalent Loading Methods for Induction Machine Temperature Tests. , 2021, , .		0

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19	Electromagnetic and Thermal Evaluation of Surface-Mounted PM Vernier Machines. , 2021, , .		0
20	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
21	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
22	Cylindrical Wound-Rotor Synchronous Machines for Traction Applications. , 2020, , .		7
23	Loss Modeling for Interlocked Magnetic Cores. , 2020, , .		4
24	Alternative methods for electric machine rated load temperature tests. , 2020, , .		2
25	Guest Editorial: Robust Design and Analysis of Electric Machines and Drives. IEEE Transactions on Energy Conversion, 2020, 35, 1995-1996.	3.7	3
26	Multiple Layer Magnetic Materials for Variable Flux Permanent Magnet Machines. , 2020, , .		3
27	Off-Line Efficiency Mapping of Induction Motors Operated in Wide Torque-Speed Ranges. , 2020, , .		2
28	Measurement-Based Optimization of Thermal Networks for Temperature Monitoring of Outer Rotor PM Machines. , 2020, , .		10
29	On the Effects of Ultra-High Switching Frequency on PWM-Inverter-Fed Induction Motors. , 2020, , .		2
30	Multilayer Bonded Magnets in Surface-Mounted PM Synchronous Machines. , 2020, , .		2
31	Analysis of PM Machines with Sectored-Stator. , 2019, , .		0
32	Analytically-Based Optimization of SMPM Machines for Sizing Validation Purposes. , 2019, , .		0
33	SMC Materials in Electrical Machine Prototypes. , 2019, , .		10
34	FEM Analysis of the Inter-Bar Currents in Induction Motors Aimed at Estimating Contact Resistance. , 2019, , .		3
35	Surface-Mounted and Flux-Switching PM Structures Trade-off for Automotive Smart Actuators. , 2019, , .		1
36	Nanofluids for Rotating Electrical Machines Cooling: Perspectives and Challenges. , 2019, , .		2

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37	A new Zig-Zag Variable Load Test Approach for Enhanced Stray-Load Loss Measurements. , 2019, , .		4
38	Hybrid Method for Measuring Rotor Bar-Lamination Contact Resistances. , 2019, , .		1
39	Induction Machine Efficiency at Variable Frequencies. , 2019, , .		1
40	Spatial MMF Harmonic Mitigation in Aluminum-Cage Induction Motors. , 2019, , .		0
41	Contribution to Offline Measurements of PMSM and SyRM Inductances. IEEE Transactions on Industry Applications, 2019, 55, 407-416.	3.3	8
42	Standard Efficiency Determination of Induction Motors With a PWM Inverter Source. IEEE Transactions on Industry Applications, 2019, 55, 398-406.	3.3	16
43	Virtual Material Method for Enabling a Single 2D-FEA Simulation of Electrical Machine Sets. IEEE Transactions on Energy Conversion, 2018, 33, 1354-1362.	3.7	2
44	Optimization of Electric Machine Designs - Part II. IEEE Transactions on Industrial Electronics, 2018, 65, 1700-1703.	5.2	21
45	Modern Electrical Machine Design Optimization: Techniques, Trends, and Best Practices. IEEE Transactions on Industrial Electronics, 2018, 65, 7672-7684.	5.2	173
46	Influence of Punching, Welding, and Clamping on Magnetic Cores of Fractional KiloWatt Motors. IEEE Transactions on Industry Applications, 2018, 54, 4123-4132.	3.3	20
47	Impact of Rotor End Effects on FEM-Based Flux Mapping of Synchronous Reluctance Motors. IEEE Transactions on Industry Applications, 2018, 54, 4114-4122.	3.3	4
48	Compaction of SMC Materials by Applying External Magnetic Fields to the Mold. , 2018, , .		1
49	Towards an IE4 Efficiency Class for Induction Motors with Minimal Manufacturer Impact. , 2018, , .		10
50	Applicability of Superposition Equivalent Loading Method for Induction Machine Temperature Tests. , 2018, , .		4
51	Fast Characterization of AC Windings. , 2018, , .		2
52	A New Laboratory for Hands-on Teaching of Electrical Engineering. , 2018, , .		4
53	Accurate Determination of Induction Machine Torque and Current Versus Speed Characteristics. IEEE Transactions on Industry Applications, 2017, 53, 3285-3294.	3.3	7
54	New Magnetic Materials for Electrical Machines and Power Converters. IEEE Transactions on Industrial Electronics, 2017, 64, 2402-2404.	5.2	9

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55	Stator Lamination Geometry Influence on the Building Factor of Synchronous Reluctance Motor Cores. IEEE Transactions on Industry Applications, 2017, 53, 3394-3403.	3.3	11
56	Flywheel energy storage systems for power systems application. , 2017, , .		23
57	Accuracy-Enhanced Algorithms for the Slot Leakage Inductance Computation of Double-Layer Windings. IEEE Transactions on Industry Applications, 2017, 53, 4422-4430.	3.3	8
58	Soft Magnetic Material Status and Trends in Electric Machines. IEEE Transactions on Industrial Electronics, 2017, 64, 2405-2414.	5.2	228
59	Magnetic Materials Used in Electrical Machines: A Comparison and Selection Guide for Early Machine Design. IEEE Industry Applications Magazine, 2017, 23, 21-28.	0.3	83
60	Optimization of Electric Machine Designs~Part I. IEEE Transactions on Industrial Electronics, 2017, 64, 9716-9720.	5.2	26
61	Cost-optimal machine designs fulfilling efficiency requirements: A comparison of IMs and PMSMs. , 2017, , .		8
62	Induction machine efficiency measurement using a variable frequency drive source. , 2017, , .		5
63	Rotor end effects on FEM-based flux mapping of synchronous reluctance motors. , 2017, , .		2
64	Importance of thermal modeling for design optimization scenarios of induction motors. , 2017, , .		6
65	Comparison of the fractional power motor with cores made of various magnetic materials. Open Physics, 2017, 15, 827-832.	0.8	3
66	Assembly effects on stator cores of small synchronous reluctance motors. , 2017, , .		0
67	Practical considerations on the off-line measurements of PMSM and SyRM inductances. , 2017, , .		3
68	Equivalent permeability method for multiple machine analysis by a single 2d-FEA model. , 2017, , .		2
69	Modified single sheet tester system for engineering measurements. , 2016, , .		4
70	Experimental assessment of the annealing effects on magnetic core of fractional power synchronous reluctance motors. , 2016, , .		7
71	Asymmetrical twelve-phase induction starter/generator for more electric engine in aircraft. , 2016, , .		37
72	Accurate determination of induction machine torque and current versus speed characteristics. , 2016, , .		5

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73	Stator lamination geometry influence on the building factor of synchronous reluctance motor cores. , 2016, , .		2
74	On the accuracy of the slot leakage inductance analytical computation. , 2016, , .		2
75	Post-annealing behaviors of small-size synchronous reluctance motors. , 2016, , .		5
76	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.	3.3	4
77	Prototyping experiences on 48V starter-alternators. , 2016, , .		1
78	Impact of IM pole count on material cost increase for achieving mandatory efficiency requirements. , 2016, , .		7
79	Modern Heat Extraction Systems for Power Traction Machinesâ€”A Review. IEEE Transactions on Industry Applications, 2016, 52, 2167-2175.	3.3	105
80	Impact of Number of Poles on the Steady-State Performance of Induction Motors. IEEE Transactions on Industry Applications, 2016, 52, 1422-1430.	3.3	7
81	Multiphase starter generator for 48V mini-hybrid powertrain: design and testing. IEEE Transactions on Industry Applications, 2015, , 1-1.	3.3	10
82	Characteristics comparison and selection guide for magnetic materials used in electrical machines. , 2015, , .		16
83	Impact of number of poles on the steady-state performance of induction motors. , 2015, , .		1
84	Experimental Characterization of a Belt-Driven Multi-Phase Induction Machine for 48 V Automotive Applications: Losses and Temperatures Assessments. IEEE Transactions on Industry Applications, 2015, , 1-1.	3.3	7
85	Analysis, Optimization, and Prototyping of a Brushless DC Limited-Angle Torque-Motor With Segmented Rotor Pole Tip Structure. IEEE Transactions on Industrial Electronics, 2015, 62, 4985-4993.	5.2	46
86	Practical Investigations on Cobaltâ€”Iron Laminations for Electrical Machines. IEEE Transactions on Industry Applications, 2015, 51, 2933-2939.	3.3	30
87	Modern heat extraction systems for electrical machines - A review. , 2015, , .		49
88	Analytic modeling of inverter-fed induction machines — A practical approach for matching measurement and simulation data. , 2014, , .		3
89	Experimental Identification and Reduction of Acoustic Noise in Small Brushed DC Motors. IEEE Transactions on Industry Applications, 2014, 50, 317-326.	3.3	33
90	Design Trade-off and Experimental Validation of multiphase starter generators for 48V mini-hybrid powertrain. , 2014, , .		14

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91	Practical investigations on cobalt-iron laminations for electrical machines. , 2014, , .		4
92	Manufacturing influence on the magnetic properties and iron losses in cobalt-iron stator cores for electrical machines. , 2014, , .		17
93	Multiphase induction machine for aero-engine shaft-line-embedded starter/generator: Scaled prototypes testing. , 2014, , .		8
94	High-Speed Electrical Machines: Technologies, Trends, and Developments. IEEE Transactions on Industrial Electronics, 2014, 61, 2946-2959.	5.2	709
95	High-speed electrical machines and drives [Special section intro.]. IEEE Transactions on Industrial Electronics, 2014, 61, 2943-2945.	5.2	25
96	Core Axial Lengthening as Effective Solution to Improve the Induction Motor Efficiency Classes. IEEE Transactions on Industry Applications, 2014, 50, 218-225.	3.3	41
97	New trends in electrical machines technology - Part I. IEEE Transactions on Industrial Electronics, 2014, 61, 4281-4285.	5.2	31
98	New Trends in Electrical Machines Technologyâ€™Part II. IEEE Transactions on Industrial Electronics, 2014, 61, 4931-4936.	5.2	40
99	Multiphase starter generator for 48V mini-hybrid powertrain: Design and testing. , 2014, , .		9
100	Conjugate Heat Transfer Analysis of Integrated Brushless Generators for More Electric Engines. IEEE Transactions on Industry Applications, 2014, 50, 2467-2475.	3.3	44
101	Experimental characterization of a belt-driven multi-phase induction machine for 48 V automotive applications: Losses and temperatures assessments. , 2014, , .		4
102	Test rig for induction motor quasi-static electromechanical characteristic determination. , 2014, , .		1
103	Efficiency determination of converter-fed induction motors: Waiting for the IEC 60034–2–3 standard. , 2013, , .		31
104	The Incremental Design Efficiency Improvement of Commercially Manufactured Induction Motors. IEEE Transactions on Industry Applications, 2013, 49, 2496-2504.	3.3	36
105	Estimation of the Magnetic Properties of the Damaged Area Resulting From the Punching Process: Experimental Research and FEM Modeling. IEEE Transactions on Industry Applications, 2013, 49, 2069-2077.	3.3	74
106	High efficiency design of induction machines for industrial applications. , 2013, , .		20
107	Integrated Generator for More Electric Engine: Design and Testing of a Scaled-Size Prototype. IEEE Transactions on Industry Applications, 2013, 49, 2034-2043.	3.3	72
108	Conjugate heat transfer analysis of integrated brushless generators for more electric engines. , 2013, , .		5

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109	Thermal Model and Analysis of Wound-Rotor Induction Machine. IEEE Transactions on Industry Applications, 2013, 49, 2078-2085.	3.3	31
110	Interchanging induction motors for fifty Hertz and sixty Hertz operation. , 2013, , .		0
111	The incremental design efficiency improvement of commercially manufactured induction motors. , 2012, , .		3
112	Estimation of magnetic properties and damaged area width due to punching process: Modeling and experimental research. , 2012, , .		11
113	Analysis and Modeling of Rotor Slot Enclosure Effects in High-Speed Induction Motors. IEEE Transactions on Industry Applications, 2012, 48, 1279-1287.	3.3	35
114	Investigations on Different Processing Conditions on Soft Magnetic Composite Material Behavior at Low Frequency. IEEE Transactions on Industry Applications, 2012, 48, 1335-1343.	3.3	24
115	Experimental identification and reduction of acoustic noise in small brushed DC motors. , 2012, , .		3
116	Thermal model and analysis of wound rotor induction machine. , 2012, , .		4
117	Low cost solutions to reduce cogging torque and acoustic noise of small brushed DC motors for automotive radiator Cooling Fan Modules. , 2012, , .		10
118	Core axial lengthening as effective solution to improve the induction motor efficiency classes. , 2011, , .		19
119	Experimental validation of a simple multiphysics model for drum roller driven by induction motor. , 2011, , .		0
120	Computational Algorithms for Induction-Motor Equivalent Circuit Parameter Determinationâ€™Part I: Resistances and Leakage Reactances. IEEE Transactions on Industrial Electronics, 2011, 58, 3723-3733.	5.2	148
121	Computational Algorithms for Induction Motor Equivalent Circuit Parameter Determinationâ€™Part II: Skin Effect and Magnetizing Characteristics. IEEE Transactions on Industrial Electronics, 2011, 58, 3734-3740.	5.2	106
122	Influence of different end region cooling arrangements on end-winding heat transfer coefficients in electrical machines. , 2010, , .		21
123	Fast Method for the Iron Loss Prediction in Inverter-Fed Induction Motors. IEEE Transactions on Industry Applications, 2010, 46, 806-811.	3.3	60
124	Impact of the Supply Voltage on the Stray-Load Losses in Induction Motors. IEEE Transactions on Industry Applications, 2010, 46, 1374-1380.	3.3	24
125	A General Model for Estimating the Laminated Steel Losses Under PWM Voltage Supply. IEEE Transactions on Industry Applications, 2010, 46, 1389-1396.	3.3	89
126	A General Model to Predict the Iron Losses in PWM Inverter-Fed Induction Motors. IEEE Transactions on Industry Applications, 2010, 46, 1882-1890.	3.3	111

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127	Skin effect experimental validations of induction motor squirrel cage parameters. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2010, 29, 1257-1265.	0.5	8
128	New lines of investigation on the effects of processing conditions on soft magnetic composite materials behaviour for electromagnetic applications. , 2010, , .		5
129	End Space Heat Transfer Coefficient Determination for Different Induction Motor Enclosure Types. IEEE Transactions on Industry Applications, 2009, 45, 929-937.	3.3	58
130	Evolution and Modern Approaches for Thermal Analysis of Electrical Machines. IEEE Transactions on Industrial Electronics, 2009, 56, 871-882.	5.2	754
131	A new circuit-oriented model for the analysis of six-phase induction machine performances. Electric Power Systems Research, 2008, 78, 1798-1805.	2.1	13
132	Energy-efficient motors. IEEE Industrial Electronics Magazine, 2008, 2, 32-37.	2.3	32
133	Determination of Critical Parameters in Electrical Machine Thermal Models. IEEE Transactions on Industry Applications, 2008, 44, 1150-1159.	3.3	287
134	Iron Loss Prediction With PWM Supply Using Low- and High-Frequency Measurements: Analysis and Results Comparison. IEEE Transactions on Industrial Electronics, 2008, 55, 1722-1728.	5.2	89
135	Efficiency Analysis of PWM Inverter Fed Three-Phase and Dual Three-Phase High Frequency Induction Machines for Low/Medium Power Applications. IEEE Transactions on Industrial Electronics, 2008, 55, 2015-2023.	5.2	84
136	Convection Heat Transfer and Flow Calculations Suitable for Electric Machines Thermal Models. IEEE Transactions on Industrial Electronics, 2008, 55, 3509-3516.	5.2	386
137	Modelling of the closed rotor slot effects in the induction motor equivalent circuit. , 2008, , .		15
138	Induction Motor Equivalent Circuit Including the Stray Load Losses in the Machine Power Balance. IEEE Transactions on Energy Conversion, 2008, 23, 796-803.	3.7	69
139	Skin effect experimental validations of induction motor squirrel cage parameters. , 2008, , .		13
140	Estimation and analysis of iron losses in induction motors under sinusoidal and PWM excitation. , 2008, , .		5
141	Experimental High-Frequency Parameter Identification of AC Electrical Motors. IEEE Transactions on Industry Applications, 2007, 43, 23-29.	3.3	101
142	Analysis of the Endwinding Cooling Effects in TEFC Induction Motors. IEEE Transactions on Industry Applications, 2007, 43, 1214-1222.	3.3	106
143	A Critical Approach to the Iron Losses in Induction Motors. , 2003, , 71-77.		12