Paavo Rasilo

List of Publications by Year
in descending order

107	1,112	471509 17	526287 27
papers	citations	h-index	g-index

107	107	107	771
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	FEM for Directly Coupled Magneto-Mechanical Phenomena in Electrical Machines. IEEE Transactions on Magnetics, 2010, 46, 2923-2926.	2.1	59
2	A Simple and Efficient Quasi-3D Magnetic Equivalent Circuit for Surface Axial Flux Permanent Magnet Synchronous Machines. IEEE Transactions on Industrial Electronics, 2019, 66, 8318-8333.	7.9	49
3	Model of laminated ferromagnetic cores for loss prediction in electrical machines. IET Electric Power Applications, 2011, 5, 580.	1.8	47
4	Effect of multi-axial stress on iron losses of electrical steel sheets. Journal of Magnetism and Magnetic Materials, 2019, 469, 19-27.	2.3	41
5	Effect of Mechanical Stress on Excess Loss of Electrical Steel Sheets. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	37
6	Modeling of Hysteresis Losses in Ferromagnetic Laminations Under Mechanical Stress. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	35
7	Segregation of Iron Losses From Rotational Field Measurements and Application to Electrical Machine. IEEE Transactions on Magnetics, 2014, 50, 893-896.	2.1	34
8	Importance of Iron-Loss Modeling in Simulation of Wound-Field Synchronous Machines. IEEE Transactions on Magnetics, 2012, 48, 2495-2504.	2.1	31
9	Magneto-mechanical modeling of electrical steel sheets. Journal of Magnetism and Magnetic Materials, 2017, 439, 82-90.	2.3	30
10	Identification of Magnetic Properties for Cutting Edge of Electrical Steel Sheets. IEEE Transactions on Industry Applications, 2017, 53, 1049-1053.	4.9	29
11	Analysis of 37-kW Converter-Fed Induction Motor Losses. IEEE Transactions on Industrial Electronics, 2016, 63, 5357-5365.	7.9	28
12	Effect of Multilevel Inverter Supply on Core Losses in Magnetic Materials and Electrical Machines. IEEE Transactions on Energy Conversion, 2015, 30, 736-744.	5.2	27
13	Magnetomechanical Model for Hysteresis in Electrical Steel Sheet. IEEE Transactions on Magnetics, 2016, 52, 1-9.	2.1	25
14	Simulink Model for PWM-Supplied Laminated Magnetic Cores Including Hysteresis, Eddy-Current, and Excess Losses. IEEE Transactions on Power Electronics, 2019, 34, 1683-1695.	7.9	24
15	Experimental investigation on a Fe-Ga close yoke vibrational harvester by matching magnetic and mechanical biases. Journal of Magnetism and Magnetic Materials, 2019, 469, 354-363.	2.3	22
16	Anisotropic and Strain-Dependent Model of Magnetostriction in Electrical Steel Sheets. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	18
17	Rotational Single Sheet Tester for Multiaxial Magneto-Mechanical Effects in Steel Sheets. IEEE Transactions on Magnetics, 2019, 55, 1-10.	2.1	18
18	Coupled Magneto-Mechanical Analysis of Iron Sheets Under Biaxial Stress. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	17

#	Article	IF	Citations
19	Finite element analysis of magnetostrictive energy harvesting concept device utilizing thermodynamic magneto-mechanical model. Journal of Magnetism and Magnetic Materials, 2019, 486, 165275.	2.3	16
20	Effect of Punching the Electrical Sheets on Optimal Design of a Permanent Magnet Synchronous Motor. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	15
21	Computation of Torque of an Electrical Machine With Different Types of Finite Element Mesh in the Air Gap. IEEE Transactions on Magnetics, 2014, 50, 1-9.	2.1	14
22	Analytical model for magnetic anisotropy of non-oriented steel sheets. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2015, 34, 1475-1488.	0.9	14
23	Homogenization Technique for Axially Laminated Rotors of Synchronous Reluctance Machines. IEEE Transactions on Magnetics, 2015, 51, 1-6.	2.1	14
24	Modeling the Effect of Multiaxial Stress on Magnetic Hysteresis of Electrical Steel Sheets: A Comparison. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	14
25	Model Order Reduction of Electrical Machines With Multiple Inputs. IEEE Transactions on Industry Applications, 2017, 53, 3355-3360.	4.9	14
26	Real-Time Control of an IPMSM Using Model Order Reduction. IEEE Transactions on Industrial Electronics, 2021, 68, 2005-2014.	7.9	14
27	Calorimetric system for measurement of synchronous machine losses. IET Electric Power Applications, 2012, 6, 286.	1.8	13
28	Experimental determination and numerical evaluation of core losses in a 150â€kVA woundâ€field synchronous machine. IET Electric Power Applications, 2013, 7, 97-105.	1.8	13
29	Permeability Estimations of SMC Material Particles. IEEE Transactions on Magnetics, 2020, 56, 1-7.	2.1	13
30	Comparison of Finite-Element-Based State-Space Models for PM Synchronous Machines. IEEE Transactions on Energy Conversion, 2014, 29, 535-543.	5.2	12
31	Numerical Analysis of the Power Balance of an Electrical Machine With Rotor Eccentricity. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	12
32	Dynamic electromagnetic torque model and parameter estimation for a deep-bar induction machine. IET Electric Power Applications, 2008, 2, 183-192.	1.8	11
33	Iron Losses, Magnetoelasticity and Magnetostriction in Ferromagnetic Steel Laminations. IEEE Transactions on Magnetics, 2013, 49, 2041-2044.	2.1	11
34	Equivalent Strain and Stress Models for the Effect of Mechanical Loading on the Permeability of Ferromagnetic Materials. IEEE Transactions on Magnetics, 2019, 55, 1-4.	2.1	11
35	Effect of Magnetic Forces and Magnetostriction on the Stator Vibrations of a Bearingless Synchronous Reluctance Motor. IEEE Transactions on Magnetics, 2019, 55, 1-4.	2.1	11
36	Modeling the effect of inverter supply on eddy-current losses in synchronous machines. , 2010, , .		10

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37	The Effect of Common-Mode Voltage Elimination on the Iron Loss in Machine Core Laminations of Multilevel Drives. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	10
38	Analysis of iron losses on the cutting edges of induction motor core laminations. , 2016, , .		10
39	Sensitivity Analysis of Inverse Thermal Modeling to Determine Power Losses in Electrical Machines. IEEE Transactions on Magnetics, 2018, 54, 1-5.	2.1	10
40	Model of Magnetic Anisotropy of Non-Oriented Steel Sheets for Finite-Element Method. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	9
41	Identification of Synchronous Machine Magnetization Characteristics From Calorimetric Core-Loss and No-Load Curve Measurements. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	8
42	Thermographic Measurement and Simulation of Power Losses Due to Interlaminar Contacts in Electrical Sheets. IEEE Transactions on Instrumentation and Measurement, 2018, 67, 2628-2634.	4.7	8
43	Modeling a Fe-Ga energy harvester fitted with magnetic closure using 3D magneto-mechanical finite element model. Journal of Magnetism and Magnetic Materials, 2020, 500, 166390.	2.3	8
44	Comparison of Anisotropic Energy-Based and Jilesâ€“Atherton Models of Ferromagnetic Hysteresis. IEEE Transactions on Magnetics, 2020, 56, 1-7.	2.1	8
45	Identification of Electromagnetic Torque Model for Induction Machines With Numerical Magnetic Field Solution. IEEE Transactions on Magnetics, 2008, 44, 1586-1589.	2.1	7
46	Effect of Rotor Pole-Shoe Construction on Losses of Inverter-Fed Synchronous Motors. IEEE Transactions on Industry Applications, 2014, 50, 208-217.	4.9	7
47	Coupled field and space-vector equations of bearingless synchronous reluctance machine. , 2016, , .		7
48	Model for Stress-Dependent Hysteresis in Electrical Steel Sheets Including Orthotropic Anisotropy. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	7
49	Modelling anisotropy in non-oriented electrical steel sheet using vector Jilesâ€“Atherton model. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2017, 36, 764-773.	0.9	7
50	Stable Adaptive Method to Solve FEM Coupled With Jilesâ€“Atherton Hysteresis Model. IEEE Transactions on Magnetics, 2018, 54, 1-8.	2.1	7
51	Computation of Hysteresis Torque and Losses in a Bearingless Synchronous Reluctance Machine. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	7
52	Producing 3-D Imitations of Soft Magnetic Composite Material Geometries. IEEE Transactions on Magnetics, 2019, 55, 1-10.	2.1	7
53	Representation of anisotropic magnetic characteristic observed in a non-oriented silicon steel sheet. AIP Advances, 2020, 10, .	1.3	7
54	Modeling of multi-axial stress dependent iron losses in electrical steel sheets. Journal of Magnetism and Magnetic Materials, 2020, 504, 166612.	2.3	7

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55	3-D Magneto-Mechanical Finite Element Analysis of Galfenol-Based Energy Harvester Using an Equivalent Stress Model. IEEE Transactions on Magnetics, 2021, 57, 1-5.	2.1	7
56	Small-signal modeling and optimal operating condition of magnetostrictive energy harvester. Journal of Magnetism and Magnetic Materials, 2022, 547, 168819.	2.3	7
57	Estimation of additional losses due to random contacts at the edges of stator of an electrical machine. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2015, 34, 1501-1510.	0.9	6
58	Influence of the rotor eccentricity on the torque of a cage induction machine. Archives of Electrical Engineering, 2017, 66, 383-396.	1.0	6
59	Evaluation of Dead-Time Effect of Grid-Connected Inverters Using Broadband Methods. IFAC-PapersOnLine, 2018, 51, 449-454.	0.9	6
60	Permeability and resistivity estimations of SMC material particles from eddy current simulations. Journal of Magnetism and Magnetic Materials, 2021, 524, 167663.	2.3	6
61	Alternating and rotational loss prediction accuracy of vector Jiles-Atherton model. Journal of Magnetism and Magnetic Materials, 2021, 527, 167690.	2.3	6
62	Contribution of Maxwell Stress in Air on the Deformations of Induction Machines. Journal of Electrical Engineering and Technology, 2012, 7, 336-341.	2.0	6
63	Experimental characterization of the effect of uniaxial stress on magnetization and iron losses of electrical steel sheets cut by punching process. Journal of Magnetism and Magnetic Materials, 2022, 549, 168983.	2.3	6
64	Modeling of Losses Due to Inter-Laminar Short-Circuit Currents in Lamination Stacks. Electrical, Control and Communication Engineering, 2013, 3, 31-36.	0.8	5
65	Proper orthogonal decomposition for order reduction of permanent magnet machine model. , 2015, , .		5
66	Multiaxial magneto-mechanical modelling of electrical machines with hysteresis. , 2016, , .		5
67	Dynamic modelling of gridâ€connected permanent magnet synchronous generator wind turbine: rectifier dynamics and control design. Journal of Engineering, 2019, 2019, 5202-5207.	1.1	5
68	Analysis of the Magneto-Mechanical Anisotropy of Steel Sheets in Electrical Applications. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	5
69	Hysteresis and <scp>eddyâ€current</scp> losses in electrical steel utilising edge degradation due to cutting effects. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2020, 33, e2781.	1.9	5
70	Efficient finite element modelling of litz wires in toroidal inductors. IET Power Electronics, 2021, 14, 2610-2619.	2.1	5
71	Magnetomechanical coupled FE simulations of rotating electrical machines. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2013, 32, 1484-1499.	0.9	4
72	Closure to Discussion on â€œEffect of Multilevel Inverter Supply on Core Losses in Magnetic Materials and Electrical Machinesâ€• IEEE Transactions on Energy Conversion, 2015, 30, 1605-1605.	5.2	4

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73	Identification of magnetic properties for cutting edge of electrical steel sheets. , 2016, , .		4
74	Experimental and theoretical study of interlaminar eddy current loss in laminated cores. , 2017, , .		4
75	Domain Decomposition Technique With Subdomain Pre-Processing in 2-D Simulations of Wireless Power Transfer. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	4
76	Finite-Element Modeling and Characterization of Iron Losses in 12 mm Thick Steel Laminations Including the Effect of Cutting. IEEE Access, 2021, 9, 115710-115718.	4.2	4
77	Instantaneous Power Balance in Finite-Element Simulation of Electrical Machines. IEEE Transactions on Magnetics, 2014, 50, 1-7.	2.1	3
78	Prospects and Limitations of Power Balance Approach for Studying Forces and Electromagnetic Damping in Electrical Machines. IEEE Transactions on Magnetics, 2018, 54, 1-8.	2.1	3
79	Flux-Weakening Control for IPMSM Employing Model Order Reduction. , 2018, , .		3
80	Flexible identification procedure for thermodynamic constitutive models for magnetostrictive materials. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20180280.	2.1	3
81	Multi-Axial Sliced Finite-Element Model for Toroidal Inductors. IEEE Transactions on Magnetics, 2020, 56, 1-6.	2.1	3
82	Analysis of Electromagnetic Force Ripple in a Bearingless Synchronous Reluctance Motor. IEEE Transactions on Magnetics, 2021, 57, 1-8.	2.1	3
83	2-D Analytical Model for Computing Eddy-Current Loss in Nonlinear Thick Steel Laminations. IEEE Transactions on Magnetics, 2022, 58, 1-4.	2.1	3
84	Effect of rotor pole-shoe construction on losses of inverter-fed synchronous motors. , 2012, , .		2
85	Evaluation and comparison of different numerical computation methods for the electromagnetic torque in electrical machines. , 2013, , .		2
86	The effect of common-mode voltage elimination on the iron loss in machine core laminations of multilevel drives. , 2015, , .		2
87	Magneto-mechanical analysis of an axially laminated synchronous reluctance machine. , 2016, , .		2
88	Coupling dynamic electromagnetic finite element models to circuit simulators by using model order reduction. , 2017, , .		2
89	Model Order Reduction of Bearingless Reluctance Motor Including Eccentricity. , 2018, , .		2
90	Mimicking soft magnetic composite geometries algorithmically. International Journal of Applied Electromagnetics and Mechanics, 2019, 59, 201-208.	0.6	2

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91	Electromagnetic Modeling of Ferrites Using Shell Elements and Random Grain Structures. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	2
92	Comparison of 3-D and 2-D models of a soft magnetic composite material. Journal of Magnetism and Magnetic Materials, 2021, 536, 168067.	2.3	2
93	1-D FEM-Based Approach for Extracting Dimension-Independent Material Properties of Mn-Zn Toroidal Ferrite Cores. IEEE Transactions on Magnetics, 2022, 58, 1-4.	2.1	2
94	Computation of the Inverse Magnetostriction and its Application in Mechanical Stress Sensing. , 2014, , .		1
95	Measurement of torque harmonics of a cage induction machine under rotor eccentricity. , 2015, , .		1
96	Uncertainty propagation of iron loss from characterization measurements to computation of electrical machines. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2015, 34, 624-636.	0.9	1
97	Model order reduction of electrical machines with multiple inputs. , 2016, , .		1
98	Modelling the effect of multiaxial stress on magnetic hysteresis of electrical steel sheets: A comparison. , 2016, , .		1
99	Eddy current loss calculation in burred laminated cores. , 2016, , .		1
100	Anisotropic model for Villari effect in non-oriented electrical steel sheets. , 2016, , .		1
101	Power balance approach to study electromagnetic damping in rotor dynamics. , 2016, , .		1
102	Energy-Preserving Methods and Torque Computation From Energy Balance in Electrical Machine Simulations. IEEE Transactions on Magnetics, 2016, 52, 1-8.	2.1	1
103	Efficient finite element method to estimate eddy current loss due to random interlaminar contacts in electrical sheets. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2018, 31, e2254.	1.9	1
104	Recursive Domain Decomposition Approach in 2-D Time-Harmonic Wireless Power Transfer Simulations Considering Litz Wires. IEEE Transactions on Magnetics, 2020, 56, 1-10.	2.1	1
105	Finite Element Method Based Estimation of Critical Current Density of NbTi. IEEE Transactions on Applied Superconductivity, 2020, 30, 1-7.	1.7	1
106	Effect of stress on excess loss of electrical steel sheets. , 2015, , .		0
107	Demagnetization field in a uniformly magnetized ellipsoid embedded in an infinite anisotropic media. , 2016, , .		0