Nelson Sadowski

List of Publications by Year
in descending order

137 papers	2,353 citations	257429 24 h-index	302107 39 g-index
138 all docs	138 docs citations	138 times ranked	1229 citing authors

#	Article	IF	Citations
1	Electromagnetic Modeling by Finite Element Methods. , 0, , .		224
2	Finite element torque calculation in electrical machines while considering the movement. IEEE Transactions on Magnetics, 1992, 28, 1410-1413.	2.1	121
3	An inverse Jiles-Atherton model to take into account hysteresis in time-stepping finite-element calculations. IEEE Transactions on Magnetics, 2002, 38, 797-800.	2.1	121
4	Inverse Jilesâ€“Atherton Vector Hysteresis Model. IEEE Transactions on Magnetics, 2004, 40, 1769-1775.	2.1	110
5	Real Coded Genetic Algorithm for Jilesâ€“Atherton Model Parameters Identification. IEEE Transactions on Magnetics, 2004, 40, 888-891.	2.1	86
6	Analysis and Test Results of a Brushless Doubly Fed Induction Machine With Rotary Transformer. IEEE Transactions on Industrial Electronics, 2012, 59, 2670-2677.	7.9	86
7	A 3-D magnetic vector potential formulation taking eddy currents in lamination stacks into account. IEEE Transactions on Magnetics, 2003, 39, 1424-1427.	2.1	66
8	Minor loops modelling with a modified Jilesâ€“Atherton model and comparison with the Preisach model. Journal of Magnetism and Magnetic Materials, 2008, 320, e1034-e1038.	2.3	48
9	Incorporation of a Jilesâ€Atherton vector hysteresis model in 2D FE magnetic field computations. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2004, 23, 685-693.	0.9	47
10	A thermal analysis of induction motors using a weak coupled modeling. IEEE Transactions on Magnetics, 1997, 33, 1714-1717.	2.1	44
11	Study of Static and Dynamic Eccentricities of a Synchronous Generator Using 3-D FEM. IEEE Transactions on Magnetics, 2010, 46, 3516-3519.	2.1	44
12	Compensation of permanent magnet motors torque ripple by means of current supply waveshapes control determined by finite element method. IEEE Transactions on Magnetics, 1993, 29, 2019-2023.	2.1	41
13	The inverse jiles-atherton model parameters identification. IEEE Transactions on Magnetics, 2003, 39, 1397-1400.	2.1	41
14	Dual magnetodynamic formulations and their source fields associated with massive and stranded inductors. IEEE Transactions on Magnetics, 2000, 36, 1293-1299.	2.1	39
15	Evaluation and analysis of iron losses in electrical machines using the rain-flow method. IEEE Transactions on Magnetics, 2000, 36, 1923-1926.	2.1	38
16	Evaluation of Hysteresis Losses in Iron Sheets Under DC-biased Inductions. IEEE Transactions on Magnetics, 2009, 45, 1158-1161.	2.1	38
17	A modified Jiles method for hysteresis computation including minor loops. Physica B: Condensed Matter, 2000, 275, 233-237.	2.7	37
18	Accurate minor loops calculation with a modified Jilesâ€Atherton hysteresis model. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2009, 28, 741-749.	0.9	35

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19	Finite element simulation of electrical motors fed by current inverters. IEEE Transactions on Magnetics, 1993, 29, 1683-1688.	2.1	32
20	A general method for coupling static converters with electromagnetic structures. IEEE Transactions on Magnetics, 1997, 33, 2004-2009.	2.1	32
21	Estimation of Three-Phase Induction Motor Equivalent Circuit Parameters from Manufacturer Catalog Data. Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 2017, 16, 90-107.	0.7	30
22	Calculation of electromagnetic-mechanic-acoustic behavior of a switched reluctance motor. IEEE Transactions on Magnetics, 2000, 36, 1364-1367.	2.1	29
23	A new approach for iron losses calculation in voltage fed time stepping finite elements. IEEE Transactions on Magnetics, 2001, 37, 3353-3356.	2.1	29
24	Homogenization of Form-Wound Windings in Frequency and Time Domain Finite-Element Modeling of Electrical Machines. IEEE Transactions on Magnetics, 2010, 46, 2852-2855.	2.1	28
25	Finite elements coupled to electrical circuit equations in the simulation of switched reluctance drives: attention to mechanical behaviour. IEEE Transactions on Magnetics, 1996, 32, 1086-1089.	2.1	27
26	Finite Element Three-Phase Transformer Modeling Taking Into Account a Vector Hysteresis Model. IEEE Transactions on Magnetics, 2009, 45, 1716-1719.	2.1	27
27	Three-Phase Transformer Modeling Using a Vector Hysteresis Model and Including the Eddy Current and the Anomalous Losses. IEEE Transactions on Magnetics, 2010, 46, 3201-3204.	2.1	26
28	The effect of the stator-slot opening on the interbar currents of skewed cage induction motor. IEEE Transactions on Magnetics, 2002, 38, 1285-1288.	2.1	23
29	Coupled field and circuit analysis considering the electromagnetic device motion. IEEE Transactions on Magnetics, 2000, 36, 1458-1461.	2.1	22
30	Electrical machine analysis considering field â€“ circuit â€“ movement and skewing effects. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2004, 23, 1080-1091.	0.9	22
31	A new anisotropic vector hysteresis model based on stop hysterons. IEEE Transactions on Magnetics, 2005, 41, 1500-1503.	2.1	22
32	Using hierarchic interpolation with mortar element method for electrical machines analysis. IEEE Transactions on Magnetics, 2005, 41, 1472-1475.	2.1	21
33	Comparison between nonconforming movement methods. IEEE Transactions on Magnetics, 2006, 42, 599-602.	2.1	21
34	Transformer Inrush Currents Taking Into Account Vector Hysteresis. IEEE Transactions on Magnetics, 2010, 46, 3237-3240.	2.1	21
35	Vector Hysteresis Model Associated to FEM in a Hysteresis Motor Modeling. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	20
36	Analysis of a permanent magnet generator with dual formulations using periodicity conditions and moving band. IEEE Transactions on Magnetics, 2002, 38, 961-964.	2.1	19

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37	Analysis of the effect of inter-bar currents on the performance of polyphase cage-induction motors. IEEE Transactions on Industry Applications, 2003, 39, 1674-1680.	4.9	19
38	Dynamic modeling of a newly designed linear actuator using 3D edge elements analysis. IEEE Transactions on Magnetics, 1996, 32, 1633-1636.	2.1	18
39	A voltage fed AC contactor modeling using 3D edge elements. IEEE Transactions on Magnetics, 1998, 34, 3170-3173.	2.1	18
40	Simulation of single-phase induction motor by a general method coupling field and circuit equations. IEEE Transactions on Magnetics, 1995, 31, 1908-1911.	2.1	17
41	Detection and analysis of rotor faults in induction motors by the measurement of the stray magnetic flux. Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 2012, 11, 68-80.	0.7	16
42	Multiscale approaches for magneto-elasticity in device simulation. Journal of Magnetism and Magnetic Materials, 2019, 487, 165241.	2.3	15
43	2-D FEM modeling of the tubular linear induction motor taking into account the movement. IEEE Transactions on Magnetics, 2002, 38, 1165-1168.	2.1	14
44	Torque calculation with conforming and nonconforming movement interface. IEEE Transactions on Magnetics, 2006, 42, 983-986.	2.1	14
45	Modelling Dynamic Losses Under Rotational Magnetic Flux. IEEE Transactions on Magnetics, 2012, 48, 895-898.	2.1	14
46	A Vector Jilesâ€“Atherton Model for Improving the FEM Convergence. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	14
47	Sur le calcul des forces magnÃ©tiques. Journal De Physique III, 1992, 2, 859-870.	0.3	14
48	Experimental and numerical analysis of induction motor vibrations. IEEE Transactions on Magnetics, 1999, 35, 1314-1317.	2.1	13
49	Nonlinear magnetic field model by FEM taking into account hysteresis characteristics with M-B variables. IEEE Transactions on Magnetics, 2002, 38, 897-900.	2.1	13
50	Design and analysis of a brushless doubly fed induction machine with rotary transformer. , 2010, , .		13
51	A Differential Permeability 3-D Formulation for Anisotropic Vector Hysteresis Analysis. IEEE Transactions on Magnetics, 2014, 50, 341-344.	2.1	13
52	Restriction in the determination of the Jiles-Atherton hysteresis model parameters. Journal of Magnetism and Magnetic Materials, 2017, 442, 8-14.	2.3	13
53	Finite-Element Analysis of a Double-Winding Induction Motor With a Special Rotor Bars Topology. IEEE Transactions on Magnetics, 2004, 40, 770-773.	2.1	12
54	Dual complete procedures to take stranded inductors into account in magnetic vector potential formulations. IEEE Transactions on Magnetics, 2000, 36, 1600-1605.	2.1	11

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55	Using High-Order Finite Elements in Problems With Movement. IEEE Transactions on Magnetics, 2004, 40, 529-532.	2.1	11
56	Performance and Vibration Analysis of a 75 kW Brushless Double-Fed Induction Generator Prototype. , 2006, , .		11
57	Synchronous Generator Fault Investigation by Experimental and Finite-Element Procedures. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	11
58	Magnetic Hysteresis Under Compressive Stress: A Multiscale-Jilesâ€“Atherton Approach. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	11
59	Implementation of an Anisotropic Vector Hysteresis Model in a 3-D Finite-Element Code. IEEE Transactions on Magnetics, 2008, 44, 918-921.	2.1	10
60	Magnet flux optimization method for Line-Start Permanent Magnet motors. , 2009, , .		10
61	Vector Hysteresis Model Associated With FEM in a Self-Excited Induction Generator Modeling. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	10
62	Connection boundary conditions with different types of finite elements applied to periodicity conditions and to the moving band. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2001, 20, 109-119.	0.9	9
63	Modeling Magnetic Vector Hysteresis With Play Hysterons. IEEE Transactions on Magnetics, 2007, 43, 1401-1404.	2.1	9
64	Vector Hysteresis Under Nonsinusoidal Induction Waveforms: Modeling and Experimentation. IEEE Transactions on Magnetics, 2008, 44, 906-909.	2.1	9
65	Braking torque analysis of the single phase line-start permanent magnet synchronous motor. , 2010, , .		9
66	Study of synchronous generator eccentricities using analytical approach and FEM. , 2010, , .		9
67	Magnetic Aging Effect Losses on Electrical Steels. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	9
68	Induction motor parameter estimation from manufacturer data using genetic algorithms and heuristic relationships. , 2017, , .		9
69	Coupling static converter with control loop and non-linear electromagnetic devices. IEEE Transactions on Magnetics, 2001, 37, 3514-3517.	2.1	8
70	A non-a priori approach to analyze electrical machines modeled by FEM connected to static converters. IEEE Transactions on Magnetics, 2002, 38, 933-936.	2.1	8
71	Comparison of iron losses evaluations by different testing procedures. , 2010, , .		8
72	Study of synchronous generator static eccentricities — FEM results and measurements. , 2012, , .		8

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73	Core Tester Iron Losses Segregation by Finite Element Modeling. IEEE Transactions on Magnetics, 2012, 48, 715-718.	2.1	8
74	Wound rotor doubly fed induction machine with radial rotary transformer. Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 2013, 12, 411-426.	0.7	8
75	Analytical and 3D FEM modeling of a tubular linear motor taking into account radial forces due to eccentricity. , 2009, , .		7
76	Three-Phase Electromagnetic Device for the Evaluation of the Magnetic Losses in Electric Motorsâ€™ Stators. IEEE Transactions on Energy Conversion, 2015, 30, 515-521.	5.2	7
77	A New and Robust Hysteresis Modeling Based on Simple Equations. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	7
78	Modified-SST for Uniaxial Characterization of Electrical Steel Sheets Under Controlled Induced Voltage and Constant Stress. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 9756-9765.	4.7	7
79	Using Laplace's equation for defining magnetizing current densities for 3D analysis with edge elements. IEEE Transactions on Magnetics, 1999, 35, 1179-1182.	2.1	6
80	Non-linear magnetic field analysis by FEM using Langevin function. IEEE Transactions on Magnetics, 2000, 36, 1263-1266.	2.1	6
81	Design of synchronous reluctance motors with flux barriers using 2D-FEM. , 0, , .		6
82	Analysis of Magnetic Hysteresis Loops under Sinusoidal and PWM Voltage Waveforms. , 2005, , .		6
83	Design and analysis of interior permanent magnet synchronous motors with optimized performance. , 2008, , .		6
84	A New Formulation Using Differential Permeability Based on the Source-Field Method. IEEE Transactions on Magnetics, 2010, 46, 3369-3372.	2.1	6
85	Study of interturn short circuit in rotor windings of a synchronous generator using FEM. , 2010, , .		6
86	Testing strategies to evaluate non-oriented electrical steels losses. Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 2012, 11, 304-315.	0.7	6
87	Analysis of a combined converter-electromagnetic device by taking into account its control loop. IEEE Transactions on Energy Conversion, 1999, 14, 1430-1434.	5.2	5
88	Generalization of coupled circuit-field calculation for polyphase structures. IEEE Transactions on Magnetics, 2001, 37, 3444-3447.	2.1	5
89	Implementation of a vector hysteresis model in 2D finite element analysis: Study of a RSST with anisotropic sample. International Journal of Applied Electromagnetics and Mechanics, 2008, 28, 41-47.	0.6	5
90	A New Method to Solve 3-D Magnetodynamic Problems Without Assembling an $Ax=b$ System. IEEE Transactions on Magnetics, 2010, 46, 3365-3368.	2.1	5

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91	An Improved Method for Acquisition of the Parameters of Jiles-Atherton Hysteresis Scalar Model Using Integral Calculus. Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 2017, 16, 165-179.	0.7	5
92	A modeling approach of a coupled problem between electrical current and its thermal effects. IEEE Transactions on Magnetics, 1990, 26, 536-539.	2.1	4
93	CALCULATION OF TRANSIENT ELECTROMAGNETIC FORCES IN AN AXISYMMETRICAL ELECTROMAGNET WITH CONDUCTIVE SOLID PARTS. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 1992, 11, 173-176.	0.9	4
94	A general method for coupling electronic circuits with 3D electromagnetic fields. IEEE Transactions on Magnetics, 1998, 34, 3166-3169.	2.1	4
95	Forced vibrations calculation in a switched reluctance motor taking into account the viscous damping. , 0, , .		4
96	Analysis of a rotational single sheet tester using 3D finite element model taking into account hysteresis effect. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2007, 26, 1037-1048.	0.9	4
97	Influence of Shielding on the Magnetic Field Measurement by Direct H-Coil Method in a Double-Yoked SST. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	4
98	3D Magnetic Field Model of a Permanent Magnet Ironless Axial Flux Motor with Additively Manufactured Non-Active Parts. , 2019, , .		4
99	Non-invasive monitoring system of synchronous generator using external field. Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 2017, 16, 70-89.	0.7	4
100	An analysis of inter-bar currents on a polyphase cage induction motor. , 0, , .		3
101	Development of analytical equations to calculate the cogging torque in transverse flux machines. , 2009, , .		3
102	Simplified models for magnetic hysteresis losses evaluation in electromagnetic devices. , 2009, , .		3
103	Performance analysis of a tubular linear motor applied in compressors. , 2010, , .		3
104	Modelling of a line-start permanent magnet motor using finite element method. , 2010, , .		3
105	Study and optimization of a small tubular linear motor with permanent magnet. , 2010, , .		3
106	Comparison and Combination of Techniques for Determining the Parameters of a Magnetic Hysteresis Model. Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 2019, 18, 408-426.	0.7	3
107	New Electric Drive for Car Shredder. , 2006, , .		2
108	The influence of different voltage waveforms and grain sizes in electrical steels losses. Journal of Magnetism and Magnetic Materials, 2008, 320, e381-e384.	2.3	2

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109	Comparison between torque calculation methods in a nonâ€conforming movement interface. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2008, 27, 27-36.	0.9	2
110	Performance comparison between Jiles-Atherton and play vector hysteresis models on field calculation. , 2016, , .		2
111	Vector hysteresis model associated to FEM in a hysteresis motor modeling. , 2016, , .		2
112	Design And Optimization Of A Brushless Motor Applied To A Formula SAE Vehicle. IEEE Latin America Transactions, 2020, 18, 756-763.	1.6	2
113	Alternative model for computing transformer tank induced losses in the time domain. IET Electric Power Applications, 2020, 14, 2507-2514.	1.8	2
114	CaracterizaÃ§Ã£o magnÃ©tica de lÃ¢minas de aÃ§o silÃcio e avaliaÃ§Ã£o das perdas no ferro sob vÃ¡rios regimes de induÃ§Ã£o. Controle and Automacao, 2002, 13, 156-164.	0.2	2
115	Acoplamento de conversores estÃ¡ticos com malha de controle e dispositivos eletromagnÃ©ticos nÃ£o-lineares. Controle and Automacao, 2002, 13, 77-83.	0.2	1
116	Modeling the starting performance of high power solid rotor salient pole synchronous motors. Electric Power Systems Research, 2009, 79, 1717-1721.	3.6	1
117	A System for Harvesting Energy from Stray Magnetic Fields. Sensing and Imaging, 2015, 16, 1.	1.5	1
118	An accurate vector Jiles-Atherton model for improving the FEM convergence. , 2016, , .		1
119	Use of Nontraditional Temperatures on Aluminum Caged Centrifuged Rotors Annealingâ€"Assessment of the Viability and Effectiveness in Reducing Interbar Losses. IEEE Transactions on Industrial Electronics, 2016, 63, 7404-7412.	7.9	1
120	Using a Modified Elliot Transfer Function on the Hysteresis G Model Coupled to a 3-D FEM Code. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	1
121	Analysis Of Hysteresis Losses In Iron Sheets Under Arbitrary Voltage Waveforms. EletrÃ´nica De PotÃªncia, 2024, 13, 285-289.	0.1	1
122	An analysis of inter-bar currents on a polyphase cage induction motor. Controle and Automacao, 2004, 15, 476-484.	0.2	0
123	Influence of the Source Potential Distribution on FEM Potential Formulations in Magnetostatics. , 0, , .		0
124	Modeling Magnetic Vector Hysteresis with Play Hysterons. , 0, , .		0
125	Modeling a Rogowski coil in an EMC chamber taking into account the displacement current. , 2010, , .		0
126	Calculation and experimental analysis of induction motor eccentricity. , 2010, , .		0

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127	Iron losses modeling under rotational magnetic flux. , 2010, , .		0
128	Parallel programming applied to the N Scheme for solving FE cases without assembling an A x = b system. , 2010, , .		0
129	A methodology for quality analysis on stator cores. , 2012, , .		0
130	A new method for parameters obtaining of Jiles-Atherton hysteresis scalar model. , 2016, , .		0
131	A simplified method for acquisition of the parameters of Jiles-Atherton hysteresis scalar model without use of derivatives. , 2016, , .		0
132	A computational system based on FEM and PSO techniques for magnetic field optimization. , 2016, , .		0
133	Insertion of a sixth parameter in Jiles-Atherton hysteresis scalar model and the method for parameters identification. , 2016, , .		0
134	A Vector Generalization of the Inverse G Model for Magnetic Vector Potential FEM Problems. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	0
135	Efficiency Determination of Compressor Embedded Induction Motors. Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 2021, 20, 658-674.	0.7	0
136	A New Method for Iron Loss Separation. Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 2021, 20, 763-776.	0.7	0
137	An Analysis of Minor Hysteresis Loops Behavior under PWM Voltage - Electromagnetic Device at No-Load and Loaded Conditions. Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 2021, 20, 745-762.	0.7	0