Rafael Escarela-Perez

List of Publications by Year
in descending order

118	1,190	430442	500791
papers	citations	18 h-index	28 g-index

119	119	119	837
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Multiscale entropy analysis of crude oil price dynamics. Energy Economics, 2011, 33, 936-947.	5.6	99
2	Reducing losses in distribution transformers. IEEE Transactions on Power Delivery, 2003, 18, 821-826.	2.9	57
3	The application of EMD-based methods for diagnosis of winding faults in a transformer using transient and steady state currents. Measurement: Journal of the International Measurement Confederation, 2018, 117, 371-379.	2.5	49
4	Synchronous machine parameters from frequency-response finite-element simulations and genetic algorithms. IEEE Transactions on Energy Conversion, 2001, 16, 198-203.	3.7	48
5	Selection of copper against aluminium windings for distribution transformers. IET Electric Power Applications, 2010, 4, 474.	1.1	47
6	Time-dependent correlations in electricity markets. Energy Economics, 2010, 32, 269-277.	5.6	39
7	A novel finite-element transient computation of two-axis parameters of solid-rotor generators for use in power systems. IEEE Transactions on Energy Conversion, 1998, 13, 49-54.	3.7	34
8	High-order statistical texture analysisâ€“â€“font recognition applied. Pattern Recognition Letters, 2005, 26, 135-145.	2.6	34
9	Evaluation of eddy current losses in the cover plates of distribution transformers. IET Science, Measurement and Technology, 2004, 151, 313-318.	0.7	33
10	Validity testing of third-order nonlinear models for synchronous generators. Electric Power Systems Research, 2009, 79, 953-958.	2.1	25
11	Reduction of Stray Losses in Flangeâ€“Bolt Regions of Large Power Transformer Tanks. IEEE Transactions on Industrial Electronics, 2014, 61, 4455-4463.	5.2	25
12	Estimation of synchronous generator parameters using the standstill step-voltage test and a hybrid Genetic Algorithm. International Journal of Electrical Power and Energy Systems, 2012, 35, 105-111.	3.3	23
13	Applications of coupled field formulations to electrical machinery. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2007, 26, 489-523.	0.5	22
14	2D finite-element determination of tank wall losses in pad-mounted transformers. Electric Power Systems Research, 2004, 71, 179-185.	2.1	21
15	Improved Insert Geometry for Reducing Tank-Wall Losses in Pad-Mounted Transformers. IEEE Transactions on Power Delivery, 2004, 19, 1120-1126.	2.9	21
16	Experimental study to reduce the distribution-transformers stray losses using electromagnetic shields. Electric Power Systems Research, 2002, 63, 1-7.	2.1	20
17	New Analytical Formulas for Electromagnetic Field and Eddy Current Losses in Bushing Regions of Transformers. IEEE Transactions on Magnetics, 2015, 51, 1-10.	1.2	20
18	Comparison of two techniques for two-dimensional finite-element inductance computation of electrical machines. IET Electric Power Applications, 2005, 152, 855.	1.4	19

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19	Hybrid genetic algorithm for the identification of high-order synchronous machine two-axis equivalent circuits. Computers and Electrical Engineering, 2003, 29, 505-522.	3.0	17
20	Systematic Coupling of Multiple Magnetic Field Systems and Circuits Using Finite Element and Modified Nodal Analyses. IEEE Transactions on Magnetics, 2011, 47, 207-213.	1.2	17
21	Core lamination selection for distribution transformers based on sensitivity analysis. Electrical Engineering, 2013, 95, 33-42.	1.2	17
22	Coupling Circuit Systems and Finite Element Models: A 2-D Time-Harmonic Modified Nodal Analysis Framework. IEEE Transactions on Magnetics, 2009, 45, 707-715.	1.2	16
23	Dynamics of electricity market correlations. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 2173-2188.	1.2	15
24	Loss reduction by combining electrical steels in the core of power transformers. International Transactions on Electrical Energy Systems, 2016, 26, 1737-1751.	1.2	15
25	Strong Coupling of Electromagnetic Transients and Finite Element Magnetic Field Solvers. IEEE Transactions on Magnetics, 2011, 47, 4574-4581.	1.2	14
26	Optimal design of single-phase shell-type distribution transformers based on a multiple design method validated by measurements. Electrical Engineering, 2011, 93, 237-246.	1.2	14
27	Calculation of Nonlinear Electromagnetic Fields in the Steel Wall Vicinity of Transformer Bushings. IEEE Transactions on Magnetics, 2015, 51, 1-11.	1.2	14
28	Experimental data-based transient-stationary current model for inter-turn fault diagnostics in a transformer. Electric Power Systems Research, 2017, 152, 306-315.	2.1	14
29	Diagnosis of interturn faults of single-distribution transformers under controlled conditions during energization. Measurement: Journal of the International Measurement Confederation, 2019, 141, 24-36.	2.5	14
30	A suggested generalization for the lacunarity index. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 4305-4314.	1.2	13
31	A study of the variation of synchronous machine parameters due to saturation: a numerical approach. Electric Power Systems Research, 2004, 72, 1-11.	2.1	12
32	Cognitive-operative model of intelligent learning systems behavior. Interactive Learning Environments, 2010, 18, 11-38.	4.4	12
33	Comparative studies of the stabilities to oxidation and electrical discharge between ester fluids and transformer oils. , 2011, , .		12
34	Techno-economic Evaluation of Reduction of Low-voltage Bushings Diameter in Single-phase Distribution Transformers. Electric Power Components and Systems, 2011, 39, 1388-1402.	1.0	12
35	A comprehensive finite-element model of a turbine-generator infinite-busbar system. Finite Elements in Analysis and Design, 2004, 40, 485-509.	1.7	11
36	Asymmetry During Load-Loss Measurement of Three-Phase Three-Limb Transformers. IEEE Transactions on Power Delivery, 2007, 22, 1566-1574.	2.9	11

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37	A two-loop excitation control system for synchronous generators. International Journal of Electrical Power and Energy Systems, 2005, 27, 556-566.	3.3	10
38	Multi-Slice Modeling in Circuit-Field Coupled Systems Using Finite-Element and Modified Nodal Analyses. IEEE Transactions on Magnetics, 2010, 46, 67-74.	1.2	10
39	Separation of core losses in distribution transformers using experimental methods. Canadian Journal of Electrical and Computer Engineering, 2010, 35, 33-39.	1.5	10
40	Hot spots mitigation on tank wall of a power transformer using electromagnetic shields. , 2014, , .		10
41	Temperature Reduction in the Clamping Bolt Zone of Shunt Reactors: Design Enhancements. IEEE Transactions on Power Delivery, 2014, 29, 2648-2655.	2.9	10
42	Passivity-based power control of a doubly fed induction generator with unknown parameters. International Transactions on Electrical Energy Systems, 2016, 26, 2402-2424.	1.2	10
43	Quasi-3-D Finite-Element Modeling of a Power Transformer. IEEE Transactions on Magnetics, 2017, 53, 1-4.	1.2	10
44	Parameter Identification of BLDC Motor Using Electromechanical Tests and Recursive Least-Squares Algorithm: Experimental Validation. Actuators, 2021, 10, 143.	1.2	10
45	Determination of Equivalent-circuit Parameters of a Synchronous Generator Based on the Standstill DC Decay Test and a Hybrid Optimization Method. Electric Power Components and Systems, 2011, 39, 645-659.	1.0	9
46	New analytical method for estimating mean life of electric power equipment based on complete and right-censored failure data. Electric Power Systems Research, 2018, 154, 311-318.	2.1	9
47	Efficient finite-element computation of synchronous machine transfer functions. IEEE Transactions on Magnetics, 2002, 38, 1245-1248.	1.2	8
48	Nonlinear time-harmonic finite-element analysis of coupled circuits and fields in low frequency electromagnetic devices. Finite Elements in Analysis and Design, 2010, 46, 829-837.	1.7	8
49	Thermal analysis of a dry-type distribution power transformer using FEA. , 2014, , .		8
50	Computation of temperature distributions in transformer covers due to high crossing currents in bushing regions. International Journal of Electrical Power and Energy Systems, 2019, 113, 699-712.	3.3	8
51	Large amplitude oscillatory shear (LAOS) rheology of nixtamalized corn masa. Journal of Cereal Science, 2019, 88, 31-37.	1.8	8
52	Computation of Stray Losses in Transformer Bushing Regions Considering Harmonics in the Load Current. Applied Sciences (Switzerland), 2020, 10, 3527.	1.3	8
53	Testing robustness and performance of PSSâ€“AVR schemes for synchronous generators using finite-element models. International Journal of Electrical Power and Energy Systems, 2003, 25, 551-565.	3.3	7
54	Evaluation of distribution transformer banks in electric power systems. International Transactions on Electrical Energy Systems, 2013, 23, 364-379.	1.2	7

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55	Analysis of slots in horizontal plates of T-beams in shell-form power transformers. Electric Power Systems Research, 2013, 101, 88-95.	2.1	7
56	Calculation of electrical parameters for transient overvoltage studies on electrical machines. , 0, , .		6
57	Performance evaluation of energy-shaping approach controllers for synchronous generators using a finite-element model. International Journal of Robust and Nonlinear Control, 2004, 14, 857-877.	2.1	6
58	Frequency-dependent equivalent circuit for the representation of synchronous machines. IET Electric Power Applications, 2005, 152, 723.	1.4	6
59	Evaluation of Stray Losses in Throats of Distribution Transformers Using Finite Element Simulation. , 2012, , .		6
60	Experimental validation of a new methodology to reduce hot spots on the screws of power transformer tanks. , 2012, , .		6
61	Generalized Primitive Stamps for Nonlinear Circuit-Field Coupling in the Transient Case. IEEE Transactions on Magnetics, 2017, 53, 1-9.	1.2	6
62	Environmental Cost of Transformer Losses for Industrial and Commercial Users of Transformers. , 2011, , .		5
63	Fast computation of hot spots temperature due to high current cable leads in power transformers tank walls. International Transactions on Electrical Energy Systems, 2015, 25, 3374-3383.	1.2	5
64	On-Line Open-Phase Fault Detection Method for Switched Reluctance Motors with Bus Current Measurement. Actuators, 2020, 9, 117.	1.2	5
65	Convergence improvement in two-dimensional finite element nonlinear magnetic problemsâ€"a fuzzy logic approach. Finite Elements in Analysis and Design, 2005, 41, 583-598.	1.7	4
66	Finite-Element Calculation of the SSFR of Synchronous Machines. , 2006, , .		4
67	Strong coupling of circuit and field solvers for simulation of rotating electrical machines. , 2010, , .		4
68	Reduction of stray losses in Tertiary Voltage Bushings in power transformer tanks. , 2014, , .		4
69	Nonlinear Time-Harmonic Analysis of Multiple Magnetic Field Systems: Cartesian, Axisymmetric, and Coupled Circuits. IEEE Transactions on Magnetics, 2016, 52, 1-10.	1.2	4
70	Detection of interturn faults during transformer energization using wavelet transform. , 2016, , .		4
71	New Analytical Formula for Temperature<?Pub _newline ?>Assessment on Transformer Tanks. IEEE Transactions on Power Delivery, 2016, 31, 1122-1131.	2.9	4
72	Analytical Analysis of Magnetic Levitation Systems with Harmonic Voltage Input. Actuators, 2020, 9, 82.	1.2	4

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73	Transient Analysis of a Synchronous Generator Using a High-Order State Space Representation. , 2006, , .		3
74	Analytical Description of the Load-Loss Asymmetry Phenomenon in Three-Phase Three-Limb Transformers. IEEE Transactions on Power Delivery, 2009, 24, 695-702.	2.9	3
75	Computation of Differential Inductance and Flux Linkage Positional Derivative by a Sensitivity Approach. IEEE Transactions on Energy Conversion, 2010, 25, 237-244.	3.7	3
76	An Improved Time-Harmonic 2-D Eddy Current Finite-Element H Formulation. IEEE Transactions on Magnetics, 2017, 53, 1-4.	1.2	3
77	A new EMD-Shannon entropy-based methodology for detection of inter-turn faults in transformers. , 2017, , .		3
78	Mathematical Calculation of Stray Losses in Transformer Tanks with a Stainless Steel Insert. Mathematics, 2021, 9, 184.	1.1	3
79	Thermoelectromagnetic Lumped-Parameter Model of High Temperature Superconductor Generators for Transient Stability Analysis. IEEE Transactions on Applied Superconductivity, 2021, 31, 1-5.	1.1	3
80	Unsupervised Font Clustering Using Stochastic Versio of the EM Algorithm and Global Texture Analysis. Lecture Notes in Computer Science, 2004, , 275-286.	1.0	3
81	Agents control in intelligent learning systems: The case of reactive characteristics. Interactive Learning Environments, 2006, 14, 95-118.	4.4	2
82	Noise impact in the determination of synchronous machine equivalent circuits using SSFR data. , 2006, , .		2
83	Multi-port network and 3D finite-element models for accurate transformer calculations: Single-phase load-loss test. Electric Power Systems Research, 2008, 78, 1941-1945.	2.1	2
84	Finite-Element Inductance Computation in 2-D Eddy-Current Systems Using Sensitivity Analysis. IEEE Transactions on Energy Conversion, 2010, 25, 690-697.	3.7	2
85	Analytical solution to the diffusion, sorption and decay chain equation in a saturated porous medium between two reservoirs. Journal of Environmental Radioactivity, 2015, 139, 163-170.	0.9	2
86	Strong Coupling of an Electromagnetic Transients Program and a Finite Element Magnetic Field Solver Including Eddy Currents. IEEE Transactions on Power Delivery, 2017, 32, 1414-1421.	2.9	2
87	Secure operating bounds for wind energy conversion systems working as conventional power generation plants. IET Generation, Transmission and Distribution, 2019, 13, 2311-2318.	1.4	2
88	Computation of Leakage Inductance of End Coils in Electrical Machines Considering Core Effects. IEEE Transactions on Magnetics, 2019, 55, 1-12.	1.2	2
89	A Bibliographic Analysis of Transformer Literature 1990-2000. Electrical and Electronic Engineering, 2012, 2, 96-121.	1.0	2
90	Field-circuit coupling using existing network transients codes. IEEE Transactions on Magnetics, 2006, 42, 1055-1058.	1.2	1

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91	Asymmetry During Load-Loss Measurement of Three-Phase Three-Limb Transformers. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	1
92	Steady-State Inductance Calculation of a Turbine Generator in the ABC Reference Frame. , 2007, , .		1
93	Thermal Behavior of Cast Steel Industrially Produced. Advanced Materials Research, 2012, 628, 179-182.	0.3	1
94	Study of parameters influencing the performance of connectors used for load and temperature tests on transformers. , 2012, , .		1
95	Algorithm for repairing the damaged images of grain structures obtained from the cellular automata and measurement of grain size. International Journal of Minerals, Metallurgy and Materials, 2012, 19, 899-907.	2.4	1
96	Diffusion and decay chain of radioisotopes in stagnant water in saturated porous media. Journal of Environmental Radioactivity, 2014, 135, 100-107.	0.9	1
97	New method of calculation of temperature distributions on transformer tanks. , 2015, , .		1
98	Experimental and numerical analysis of shorted interlaminations in transformer cores. , 2016, , .		1
99	Experimental procedure to obtain electromagnetic properties of A-36 low carbon steel plates utilized in transformers. , 2016, , .		1
100	Effective Nonlinear Surface Impedance of Conductive Magnetic Slabs. IEEE Transactions on Magnetics, 2017, 53, 1-12.	1.2	1
101	The geometry of induced electromagnetic fields in moving media. Annals of Physics, 2020, 420, 168270.	1.0	1
102	Closure on "reducing losses in distribution transformers". IEEE Transactions on Power Delivery, 2003, 18, 1594-1596.	2.9	0
103	Improved insert geometry for reducing tank wall. , 0, , .		0
104	Discussion of â€œParameter Calculation of a Turbogenerator During an Open-Circuit Transient Excitationâ€• IEEE Transactions on Energy Conversion, 2005, 20, 495-495.	3.7	0
105	Estimation of Two-axis Synchronous Machine Parameters using Non-Deterministic Tools. , 2007, , .		0
106	Induced Current in Anti-Theft Ducts of Pole-mounted Distribution Transformers. , 2012, , .		0
107	Cost reduction by interchanging the location of the windings in distribution transformers with HV copper winding and LV aluminum winding. International Transactions on Electrical Energy Systems, 2015, 25, 2685-2695.	1.2	0
108	An improved time-harmonic 2D eddy current finite element H formulation. , 2016, , .		0

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109	Applications of computational electromagnetism in electric power engineering. , 2016, , .		0
110	Quasi-3D finite element modeling of a power transformer. , 2016, , .		0
111	Modeling of magnetic levitation systems using finite elements and an analytical solution. , 2016, , .		0
112	Finite element analysis of distribution transformer under harmonics condition: A review. , 2017, , .		0
113	Putting gravity in control. Journal of Physics: Conference Series, 2017, 831, 012006.	0.3	0
114	Circuit-Field Coupling Methodology for Incorporation of Power Electronic Devices: A Piecewise-Linear Approach. IEEE Transactions on Magnetics, 2019, 55, 1-4.	1.2	0
115	Numerical simulation of a squirrel cage motor including magnetic wedges and radial vents. IngenierÃa InvestigaciÃ³n Y TecnologÃa, 2021, 22, 1-10.	0.2	0
116	Tracking unmodelled signals of nonlinear systems via robust sliding mode observer: Application to reacting systems. Journal of Applied Research and Technology, 2007, 5, .	0.6	0
117	Computational Representation of Porous Media Features (Porosity, Permeability, Saturation and) Tj ETQq1 1 0.784314 rgBT /Overloc		0
118	Transient Analysis of an Induction Motor and its Control System using Cosimulation. , 2019, , .		0