

Ruth Vazquez Sabariego

List of Publications by Year in descending order

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110
papers

820
citations

567281

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677142

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110
all docs

110
docs citations

110
times ranked

550
citing authors

#	ARTICLE	IF	CITATIONS
1	Electric circuit element boundary conditions in the finite element method for full-wave passive electromagnetic devices. <i>Journal of Mathematics in Industry</i> , 2022, 12, .	1.2	3
2	RL-Ladder Circuit Models for Eddy-Current Problems With Translational Movement. <i>IEEE Transactions on Magnetics</i> , 2022, 58, 1-4.	2.1	0
3	Time-Domain Homogenization of Foil Windings in 2-D Axisymmetric Finite-Element Models. <i>IEEE Transactions on Power Delivery</i> , 2021, 36, 1264-1269.	4.3	2
4	Hyperbolic Basis Functions for Time-Transient Analysis of Eddy Currents in Conductive and Magnetic Thin Sheets. <i>IEEE Transactions on Magnetics</i> , 2021, 57, 1-10.	2.1	2
5	Capacitance Computation of Multi-Turn Windings via Elementary Neighbor-Conductor Models. <i>IEEE Journal on Multiscale and Multiphysics Computational Techniques</i> , 2021, 6, 125-131.	2.2	0
6	Time-domain homogenization of multiturn windings based on Cauer ladder networks. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2020, 33, e2649.	1.9	4
7	Efficient simulation of DC-AC power converters using multirate partial differential equations. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2020, 33, e2683.	1.9	1
8	Active-Damping Virtual Circuit Control for Grid-Tied Converters With Differential-Mode and Common-Mode Output Filters. <i>IEEE Transactions on Power Electronics</i> , 2020, 35, 7583-7595.	7.9	7
9	Existence results for the A-B magnetodynamic formulation of the Maxwell system with skin and proximity effects. <i>Applicable Analysis</i> , 2020, , 1-19.	1.3	0
10	Time-Domain Finite-Element Eddy-Current Homogenization of Windings Using Foster Networks and Recursive Convolution. <i>IEEE Transactions on Magnetics</i> , 2020, 56, 1-8.	2.1	6
11	Closed-form complex permeability expression for proximity-effect homogenisation of litz-wire windings. <i>IET Science, Measurement and Technology</i> , 2020, 14, 287-291.	1.6	7
12	Multirate PWM balance method for the efficient field-circuit coupled simulation of power converters. <i>Journal of Mathematics in Industry</i> , 2019, 9, .	1.2	1
13	Experimental Extraction of Winding Resistance in Litz-Wire Transformers—Influence of Winding Mutual Resistance. <i>IEEE Transactions on Power Electronics</i> , 2019, 34, 6736-6746.	7.9	22
14	Efficient Simulation of DC-DC Switch-Mode Power Converters by Multirate Partial Differential Equations. <i>IEEE Journal on Multiscale and Multiphysics Computational Techniques</i> , 2019, 4, 64-75.	2.2	5
15	Time-Domain Reduced-Order Modelling of Linear Finite-Element Eddy-Current Problems via RL-Ladder Circuits. <i>Mathematics in Industry</i> , 2018, , 231-239.	0.3	2
16	Matrix Interpolation-Based Reduced-Order Modeling of a Levitation Device With Eddy Current Effects. <i>IEEE Transactions on Magnetics</i> , 2018, 54, 1-7.	2.1	2
17	Multiscale Finite Element Modeling of Nonlinear Magnetoquasistatic Problems using Magnetic Induction Conforming Formulations. <i>Multiscale Modeling and Simulation</i> , 2018, 16, 300-326.	1.6	2
18	Stabilized Reduced-Order Model of a Non-Linear Eddy Current Problem by a Gappy-POD Approach. <i>IEEE Transactions on Magnetics</i> , 2018, 54, 1-8.	2.1	7

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19	Eddy-Current-Effect Homogenization of Windings in Harmonic-Balance Finite-Element Models Coupled to Nonlinear Circuits. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	6
20	Solving Nonlinear Circuits With Pulsed Excitation by Multirate Partial Differential Equations. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	14
21	POD-Based Reduced-Order Model of an Eddy-Current Levitation Problem. Mathematics in Industry, 2018, , 219-229.	0.3	0
22	Eddy-Current-Effect Homogenization of Windings in Harmonic-Balance Finite-Element Models. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	7
23	Multidisciplinary Learning through Implementation of the DVB-S2 Standard. IEEE Communications Magazine, 2017, 55, 124-130.	6.1	4
24	Using a Jiles-Atherton vector hysteresis model for isotropic magnetic materials with the finite element method, Newton-Raphson method, and relaxation procedure. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2017, 30, e2189.	1.9	14
25	Finite Element Small-Signal Simulation of Electromagnetic Devices Considering Eddy Currents in the Laminations. IEEE Transactions on Magnetics, 2017, 53, 1-8.	2.1	11
26	Notice of Removal: Electrical machine analysis using free software. , 2017, , .		6
27	A comparison of virtual circuit-based control designs for half-bridge converters with LCL output filters. , 2017, , .		1
28	Systematic control design for half-bridge converters with LCL output filters through virtual circuit similarity transformations. , 2017, , .		1
29	Influence of 2D and 3D meshes in FE computation of eddy-current losses in surface PMSMs. , 2017, , .		1
30	Solving multirate partial differential equations using hat finite element basis functions. , 2016, , .		0
31	A computational technique for iron losses in electrical machines. , 2016, , .		2
32	Eddy-current-effect homogenization of windings in harmonic balance finite element models. , 2016, , .		0
33	POD-versus a physics-based parameterized model-order-reduction technique accounting for movement. , 2016, , .		0
34	Time-domain homogenization of litz-wire bundles in FE calculations. , 2016, , .		2
35	Proper orthogonal decomposition versus Krylov subspace methods in reduced-order energy-converter models. , 2016, , .		5
36	Frequency-domain homogenization for litz-wire bundles in finite element calculations. , 2016, , .		6

#	ARTICLE	IF	CITATIONS
37	Frequency-domain homogenization for impedance characterization of litz-wire transformers in 2-D finite element models. , 2016, , .		8
38	Inclusion of a Direct and Inverse Energy-Consistent Hysteresis Model in Dual Magnetostatic Finite-Element Formulations. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	7
39	Finite-Element Homogenization of Laminated Iron Cores With Inclusion of Net Circulating Currents Due to Imperfect Insulation. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	9
40	Reduced-Order Model Accounting for High-Frequency Effects in Power Electronic Components. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	10
41	Identification of high-frequency parameters of an inset PM motor including eddy currents. , 2016, , .		1
42	Nonlinear Computational Homogenization Method for the Evaluation of Eddy Currents in Soft Magnetic Composites. IEEE Transactions on Magnetics, 2014, 50, 61-64.	2.1	19
43	Homogenization Methods in Simulations of Transcutaneous Energy Transmitters. IEEE Transactions on Magnetics, 2014, 50, 1017-1020.	2.1	7
44	Computational Homogenization for Laminated Ferromagnetic Cores in Magnetodynamics. IEEE Transactions on Magnetics, 2013, 49, 2049-2052.	2.1	24
45	Subproblem approach for modeling multiply connected thin regions with an h-conformal magnetodynamic finite element formulation. EPJ Applied Physics, 2013, 64, 24516.	0.7	3
46	Stochastic Uncertainty Quantification of Eddy Currents in the Human Body by Polynomial Chaos Decomposition. IEEE Transactions on Magnetics, 2012, 48, 451-454.	2.1	15
47	Time-Domain Surface Impedance Boundary Conditions Enhanced by Coarse Volume Finite-Element Discretisation. IEEE Transactions on Magnetics, 2012, 48, 631-634.	2.1	7
48	Computation of Induced Fields Into the Human Body by Dual Finite Element Formulations. IEEE Transactions on Magnetics, 2012, 48, 783-786.	2.1	11
49	Finite Element Computational Homogenization of Nonlinear Multiscale Materials in Magnetostatics. IEEE Transactions on Magnetics, 2012, 48, 587-590.	2.1	16
50	A Finite Element Subproblem Method for Position Change Conductor Systems. IEEE Transactions on Magnetics, 2012, 48, 403-406.	2.1	8
51	Subproblem Approach for Thin Shell Dual Finite Element Formulations. IEEE Transactions on Magnetics, 2012, 48, 407-410.	2.1	15
52	Magnetic Model Refinement via a Coupling of Finite Element Subproblems. Mathematics in Industry, 2012, , 137-141.	0.3	0
53	Influence of contact resistance on shielding efficiency of shielding gutters for high-voltage cables. IET Electric Power Applications, 2011, 5, 715.	1.8	7
54	Correction of Thin Shell Finite Element Magnetic Models via a Subproblem Method. IEEE Transactions on Magnetics, 2011, 47, 1158-1161.	2.1	10

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55	A Model Reduction Algorithm for Solving Multiple Scattering Problems Using Iterative Methods. IEEE Transactions on Magnetics, 2011, 47, 1470-1473.	2.1	13
56	Finite-Element analysis of a shielded pulsed-current induction heater. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2010, 29, 1585-1595.	0.9	0
57	Surface-Impedance Boundary Conditions in Dual Time-Domain Finite-Element Formulations. IEEE Transactions on Magnetics, 2010, 46, 3524-3531.	2.1	8
58	An Amplitude Finite Element Formulation for Multiple-Scattering by a Collection of Convex Obstacles. IEEE Transactions on Magnetics, 2010, 46, 2963-2966.	2.1	12
59	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
60	Finite Element Magnetic Models via a Coupling of Subproblems of Lower Dimensions. IEEE Transactions on Magnetics, 2010, 46, 2827-2830.	2.1	16
61	Stochastic Uncertainty Quantification of the Conductivity in EEG Source Analysis by Using Polynomial Chaos Decomposition. IEEE Transactions on Magnetics, 2010, 46, 3457-3460.	2.1	16
62	Electrokinetic Model Refinement Via a Perturbation Finite-Element Method-From 2-D to 3-D. IEEE Transactions on Magnetics, 2010, 46, 2839-2842.	2.1	0
63	Analyzing and reducing error in 2-D frequency domain homogenization of windings for R, L parameters FE computation. , 2010, , .		1
64	Correction of thin shell finite element magnetic models via a subproblem method. , 2010, , .		2
65	Modeling of a magnetic shunt and an aluminum screen using the perturbation finite element method. , 2010, , .		1
66	Combining surface impedance boundary conditions with volume discretisation in time-domain finite-element modeling. , 2010, , .		1
67	A model reduction algorithm for solving multiple scattering problems using iterative methods. , 2010, , .		0
68	Refinement of inductor models via a subproblem finite element method. , 2010, , .		0
69	Influence of contact resistance on shielding efficiency of shielding gutters for HV cables. , 2010, , .		0
70	Nonlinear Time-Domain Finite-Element Modeling of Thin Electromagnetic Shells. IEEE Transactions on Magnetics, 2009, 45, 976-979.	2.1	6
71	Electrostatic Analysis of Moving Conductors Using a Perturbation Finite Element Method. IEEE Transactions on Magnetics, 2009, 45, 1004-1007.	2.1	6
72	Surface-Impedance Boundary Conditions in Time-Domain Finite-Element Calculations Using the Magnetic-Vector-Potential Formulation. IEEE Transactions on Magnetics, 2009, 45, 1280-1283.	2.1	14

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73	Perturbation Finite Element Method for Magnetic Model Refinement of Air Gaps and Leakage Fluxes. IEEE Transactions on Magnetics, 2009, 45, 1400-1403.	2.1	24
74	Analysis of perforated magnetic shields for electric power applications. IET Electric Power Applications, 2009, 3, 123.	1.8	9
75	Magnetic model refinement via a perturbation finite element method " from 1D to 3D. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2009, 28, 974-988.	0.9	5
76	Subdomain Perturbation Finite-Element Method for Skin and Proximity Effects. IEEE Transactions on Magnetics, 2008, 44, 738-741.	2.1	14
77	Time-Domain Homogenization of Windings in 3-D Finite Element Models. IEEE Transactions on Magnetics, 2008, 44, 1302-1305.	2.1	34
78	An Iterative Finite Element Perturbation Method for Computing Electrostatic Field Distortions. IEEE Transactions on Magnetics, 2008, 44, 746-749.	2.1	4
79	Time-Domain Finite-Element Modeling of Thin Electromagnetic Shells. IEEE Transactions on Magnetics, 2008, 44, 742-745.	2.1	15
80	h- and a-formulations for the time-domain modelling of thin electromagnetic shells. IET Science, Measurement and Technology, 2008, 2, 402-408.	1.6	7
81	Perturbation finite-element method for magnetic circuits. IET Science, Measurement and Technology, 2008, 2, 440-446.	1.6	10
82	A perturbation finite element method for modeling electrostatic MEMS without remeshing. , 2008, , .		0
83	Subdomain perturbation finite element method for skin and proximity effects in inductors. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2008, 27, 72-84.	0.9	3
84	h- and a-conform finite element perturbation techniques for nondestructive eddy current testing. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2008, 27, 319-327.	0.9	1
85	A Perturbation Method for the 3D Finite Element Modeling of Electrostatically Driven MEMS. Sensors, 2008, 8, 994-1003.	3.8	1
86	Finite Element Modeling of Electrostatic MEMS Including the Impact of Fringing Field Effects on Forces. Sensor Letters, 2008, 6, 115-120.	0.4	3
87	Perturbation finite element method for magnetic circuits. , 2008, , .		0
88	H- and A-time-domain formulations for the modeling of thin electromagnetic shells. , 2008, , .		0
89	Perturbation technique for the finite element modelling of differential probes in non-destructive eddy-current testing. IET Science, Measurement and Technology, 2007, 1, 25-29.	1.6	0
90	A perturbation finite element method for modeling moving conductive and magnetic regions without remeshing. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2007, 26, 700-711.	0.9	4

#	ARTICLE	IF	CITATIONS
91	A Perturbation Method for the 3D Finite Element Modeling of Electrostatically Driven MEMS. , 2007, , .		1
92	Subdomain finite element method for efficiently considering strong skin and proximity effects. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2007, 26, 974-985.	0.9	11
93	A Perturbation Approach for the Modeling of Eddy Current Nondestructive Testing Problems With Differential Probes. IEEE Transactions on Magnetics, 2007, 43, 1289-1292.	2.1	16
94	A Perturbation Method for Computing Field Distortions Due to Conductive Regions With $\{mmb\}$ -Conform Magnetodynamic Finite Element Formulations. IEEE Transactions on Magnetics, 2007, 43, 1293-1296.	2.1	26
95	Time-Domain Homogenization of Windings in 2-D Finite Element Models. IEEE Transactions on Magnetics, 2007, 43, 1297-1300.	2.1	33
96	Three-dimensional finite element modeling of inductive and capacitive effects in microcoils. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2006, 25, 642-651.	0.9	6
97	Fast multipole accelerated finite element-boundary element analysis of shielded induction heaters. IEEE Transactions on Magnetics, 2006, 42, 1407-1410.	2.1	9
98	A nonlinear time-domain homogenization technique for laminated iron cores in three-dimensional finite-element models. IEEE Transactions on Magnetics, 2006, 42, 763-766.	2.1	77
99	Application of the fast multipole method to hybrid finite element-boundary element models. Journal of Computational and Applied Mathematics, 2004, 168, 403-412.	2.0	3
100	Fast Multipole Acceleration of the Hybrid Finite-Element/Boundary-Element Analysis of 3-D Eddy-Current Problems. IEEE Transactions on Magnetics, 2004, 40, 1278-1281.	2.1	17
101	Coupled mechanical-electrostatic FE-BE analysis with FMM acceleration. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2004, 23, 876-884.	0.9	6
102	Application of the fast multipole method to the 2D finite element-boundary element analysis of electromechanical devices. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2003, 22, 659-673.	0.9	3
103	Localized iterative generalized multipole technique for large two-dimensional scattering problems. IEEE Transactions on Antennas and Propagation, 2001, 49, 961-970.	5.1	5
104	Synthesis of an array antenna for hyperthermia applications. IEEE Transactions on Magnetics, 2000, 36, 1696-1699.	2.1	9
105	Directive beam expansions for the generalized multipole technique. Microwave and Optical Technology Letters, 1999, 22, 382-387.	1.4	0
106	Far-Field Decoupled Basis for the Method of Moments-2d cAse - Abstract. Journal of Electromagnetic Waves and Applications, 1999, 13, 1529-1530.	1.6	0
107	A perturbation approach for the modelling of eddy current nondestructive testing problems with differential probes. , 0, , .		6
108	Finite Element Modeling of Electrostatic MEMS Including the Impact of Fringing Field Effects on Forces. , 0, , .		3

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109	Time-Domain Homogenisation of Windings in 2D FE Calculations. , 0, , .		0
110	A Perturbation Method for Computing Field Distortions due to Conductive Regions with H-Conform Magnetodynamic Finite Element Formulations. , 0, , .		1