Zhuoxiang Ren

List of Publications by Year
in descending order

88 papers	1,229 citations	361413 20 h-index	395702 33 g-index
89 all docs	89 docs citations	89 times ranked	757 citing authors

#	ARTICLE	IF	CITATIONS
1	A Preliminary Study on the Resolution of Electro-Thermal Multi-Physics Coupling Problem Using Physics-Informed Neural Network (PINN). Algorithms, 2022, 15, 53.	2.1	6
2	Reduced Order Model Based on Combined POD/LDEIM-Q for Nonlinear Thermoelectric Coupling. IEEE Transactions on Magnetics, 2022, 58, 1-4.	2.1	1
3	Twin-Model Based on Model Order Reduction for Rotating Motors. IEEE Transactions on Magnetics, 2022, 58, 1-4.	2.1	3
4	An Improved Structure-Preserving Reduced-Order Interconnect Macromodeling for Large-Scale Equation Sets of Transient Interconnect Circuit Problems. IEEE Access, 2021, 9, 132150-132157.	4.2	1
5	Fast Time-Domain Solution of Dynamic Electromagnetic Problems Based on Sinc Interpolation. IEEE Transactions on Magnetics, 2021, 57, 1-4.	2.1	2
6	The Movement Characteristics of Space Charge in Flowing Transformer-Oil. IEEE Transactions on Magnetics, 2021, 57, 1-5.	2.1	1
7	Design and Optimization of a Hybrid Excitation System for Magnetically Driven Rotating DC Arc Plasma Generators. IEEE Access, 2021, 9, 157012-157020.	4.2	1
8	3D FEM modeling and study of novel structure of magnetoelectric composites. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2020, 33, e2671.	1.9	3
9	Modeling of Multiferroic Nanoparticle Composites With an Analytical Multiscale Approach. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	1
10	Structure-Preserved Reduced-Order Modeling for Frequency-Domain Solution of the Darwin Model With a Gauged Potential Formulation. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	3
11	Proper Generalized Decomposition for Edge Elements in Magnetostatics With Adaptive Stopping Criterion. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	1
12	Effect of the Al_2O_3 Deposition Method on Parylene C: Highlights on a Nanopillar-Shaped Surface. ACS Omega, 2020, 5, 15828-15834.	3.5	2
13	Application of POD and PGD for Efficient Parameter Sweeping in Frequency-Domain Full-Wave Problems. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	3
14	A Multi-Objective Topology Optimization Methodology and its Application to Electromagnetic Actuator Designs. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	11
15	A Broadband Enhanced Nodal-Order Reduction Methodology for Large-Scale Equation Sets of 3-D Transient Field Problems. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	2
16	A Network Topological Approach-Based Transient 3-D Electrothermal Model of Insulated-Gate Bipolar Transistor. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	4
17	Three‐dimensional space variable‐separated PGD in electrostatic field problems: A comparison between two implementations. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2019, 32, e2610.	1.9	1
18	A Methodology Based on Quantum Evolutionary Algorithm for Topology Optimization of Electromagnetic Devices. IEEE Transactions on Magnetics, 2019, 55, 1-4.	2.1	4

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19	Homogenization of Magnetoelectric 0â€"3 Type Composites by 3-D Multiphysics Finite-Element Modeling. IEEE Transactions on Magnetics, 2019, 55, 1-4.	2.1	4
20	A methodology for topology optimization based on level set method and its application to piezoelectric energy harvester design. International Journal of Applied Electromagnetics and Mechanics, 2019, 59, 79-85.	0.6	1
21	Experimental study of magnetoelectric transducers for power supply of small biomedical devices. Microelectronics Journal, 2019, 88, 184-189.	2.0	22
22	A 2-D Nonlinear Ambipolar Diffusion Equation Model of an IGBT and Its Numerical Solution Methodology. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	2
23	Effect of mechanical stresses on grapheneâ€"based devices. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2018, 31, e2233.	1.9	1
24	Study of Strain Effects on Carbon-Based Transistors With Semi-Analytic and <italic>Ab Initio</italic> Models. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	2
25	3-D IC Interconnect Parasitic Capacitance Extraction With a Reformulated PGD Algorithm. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	4
26	Incorporating Light Beam Search in a Vector Normal Boundary Intersection Method for Linear Antenna Array Optimization. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	7
27	Finite-Element Modeling of Magnetoelectric Energy Transducers With Interdigitated Electrodes. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	4
28	Multiphysics modeling of multiferroic artificial materials by the finite element method. EPJ Applied Physics, 2016, 73, 30901.	0.7	1
29	Stationary electro-thermal coupling analysis considering dual finite element formulations of steady current field. , 2016, , .		0
30	3D capacitance computation using polygonal prism elements through piecewise interpolation. , 2016, , .		0
31	3D IC interconnect parasitic capacitance extraction with a reformulated PGD algorithm. , 2016, , .		0
32	Multiphysics coupling analysis of TSV by using discrete geometric method based on Tonti diagram. , 2016, , .		2
33	Application of PGD on Parametric Modeling of a Piezoelectric Energy Harvester. IEEE Transactions on Magnetics, 2016, 52, 1-11.	2.1	10
34	Computation of sensitivities of IC interconnect parasitic capacitances to the process variation with dual discrete geometric methods. Journal of Semiconductors, 2016, 37, 085003.	3.7	0
35	Acceleration of reflection in 2D ray tracing based on image by binary space partitioning. , 2016, , .		0
36	Effect of deformations on carbon-based transistors in ballistic and partially ballistic regimes. , 2016, , .		0

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37	Incorporating light beam search in a vector normal boundary intersection method for multiobjective inverse problem. , 2016, , .		0
38	Finite element modeling of magnetoelectric energy transducers with interdigitated electrodes. , 2016, , .		0
39	A Proper Generalized Decomposition-Based Solver for Nonlinear Magnetothermal Problems. IEEE Transactions on Magnetics, 2016, 52, 1-9.	2.1	8
40	60 GHz Indoor Propagation With Time-Domain Geometric-Optics. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	2
41	Multiphysics Modeling of Thin-Layer Magnetoelectric Laminate Composites Using Shell Element. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	0
42	Numerical Analysis of Discrete Geometric Method on Plasmonic Structures. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	1
43	Multiphysics modeling of a magnetoelectric composite Rosen-type device. Composite Structures, 2016, 137, 1-8.	5.8	9
44	3-D IC Interconnect Capacitance Extraction Using Dual Discrete Geometric Methods With Prism Elements. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2016, 24, 1524-1534.	3.1	4
45	FEM METHOD FOR THE EEG FORWARD PROBLEM AND IMPROVEMENT BASED ON MODIFICATION OF THE SAINT VENANT'S METHOD. Progress in Electromagnetics Research, 2015, 153, 11-22.	4.4	20
46	Investigation on Dual Finite-Element Method in Terms of Scalar Potential Through Interpolation. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	0
47	Finite-Element Modeling of a Magnetoelectric Energy Transducer Including the Load Effect. IEEE Transactions on Magnetics, 2015, 51, 1-5.	2.1	16
48	Finite-Element Modeling of Thermoelastic Attenuation in Piezoelectric Surface Acoustic Wave Devices. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	0
49	FEM Modeling of a Magnetoelectric Transducer for Autonomous Micro Sensors in Medical Application. Sensing and Imaging, 2015, 16, 1.	1.5	4
50	Two-dimensional parasitic capacitance extraction for integrated circuit with dual discrete geometric methods. Journal of Semiconductors, 2015, 36, 045008.	3.7	1
51	Finite element modeling of magnetoelectric laminate composites in considering nonlinear and load effects for energy harvesting. Journal of Alloys and Compounds, 2014, 615, 65-74.	5.5	27
52	Energy complementarity featured hybrid discrete geometric method for capacitance extraction of integrated circuits. Electronics Letters, 2014, 50, 1056-1058.	1.0	0
53	Dual Discrete Geometric Methods in Terms of Scalar Potential on Unstructured Mesh in Electrostatics. IEEE Transactions on Magnetics, 2014, 50, 37-40.	2.1	29
54	Comparative Study of Classical and Mutually Coupled Switched Reluctance Motors Using Multiphysics Finite-Element Modeling. IEEE Transactions on Industrial Electronics, 2014, 61, 5066-5074.	7.9	83

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55	Network pattern for mid-distance wireless power transfer in local area. , 2013, , .		1
56	Finite element modeling of current dipoles using direct and subtraction methods for EEG forward problem. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2013, 33, 210-223.	0.9	3
57	Computation of Second Order Capacitance Sensitivity Using Adjoint Method in Finite Element Modeling. IEEE Transactions on Magnetics, 2012, 48, 231-234.	2.1	22
58	Investigation of the Complementarity of Dual Eddy Current Formulations on Dual Meshes. IEEE Transactions on Magnetics, 2010, 46, 3161-3164.	2.1	13
59	Research on modeling for the pattern library of interconnect parasitic capacitances in VLSI. , 2010, , .		0
60	On the Complementarity of Dual Formulations on Dual Meshes. IEEE Transactions on Magnetics, 2009, 45, 1284-1287.	2.1	13
61	Characterization of Dynamic Substrate Macro-Model in Mixed Signal IC Systems Using 3-D Finite Element Method. IEEE Transactions on Magnetics, 2008, 44, 1466-1469.	2.1	0
62	Finite-Element Computation of Sensitivities of Interconnect Parasitic Capacitances to the Process Variation in VLSI. IEEE Transactions on Magnetics, 2008, 44, 1386-1389.	2.1	21
63	3-D Capacitance Extraction of IC Interconnects Using Field Solvers and Homogenization Technique. IEEE Transactions on Magnetics, 2004, 40, 703-706.	2.1	19
64	2-D dual finite-element formulations for the fast extraction of circuit parameters in VLSI. IEEE Transactions on Magnetics, 2003, 39, 1590-1593.	2.1	9
65	T-Î© formulation for eddy-current problems in multiply connected regions. IEEE Transactions on Magnetics, 2002, 38, 557-560.	2.1	73
66	Shell elements for the computation of magnetic forces. IEEE Transactions on Magnetics, 2001, 37, 3171-3174.	2.1	12
67	A generalized finite element model of magnetostriction phenomena. IEEE Transactions on Magnetics, 2001, 37, 3324-3328.	2.1	41
68	High order differential form-based elements for the computation of electromagnetic field. IEEE Transactions on Magnetics, 2000, 36, 1472-1478.	2.1	23
69	Solving 3D eddy current problems using second order nodal and edge elements. IEEE Transactions on Magnetics, 2000, 36, 746-750.	2.1	13
70	Comparison of some 3D eddy current formulations in dual systems. IEEE Transactions on Magnetics, 2000, 36, 751-755.	2.1	15
71	On the Dominant Mode in Closed Trapezoidal-Groove Guide by Finite Element Method. Journal of Infrared, Millimeter and Terahertz Waves, 1999, 20, 645-654.	0.6	6
72	Degenerated Whitney prism elements-general nodal and edge shell elements for field computation in thin structures. IEEE Transactions on Magnetics, 1998, 34, 2547-2550.	2.1	48

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73	Finite element analysis of magneto-mechanical coupled phenomena in magnetostrictive materials. IEEE Transactions on Magnetics, 1996, 32, 1058-1061.	2.1	45
74	Influence of the RHS on the convergence behaviour of the curl-curl equation. IEEE Transactions on Magnetics, 1996, 32, 655-658.	2.1	110
75	Application of complementary formulations and adaptive mesh refinements to non-linear magnetostatic problems. IEEE Transactions on Magnetics, 1995, 31, 1376-1379.	2.1	9
76	3D transient eddy current calculation by the hybrid FE-BE method using magnetic field intensity H. IEEE Transactions on Magnetics, 1995, 31, 1408-1411.	2.1	5
77	Calculation of mechanical deformation of magnetic materials in electromagnetic devices. IEEE Transactions on Magnetics, 1995, 31, 1873-1876.	2.1	34
78	Electromagnetic actuator behavior analysis using finite element and parametrization methods. IEEE Transactions on Magnetics, 1995, 31, 3497-3499.	2.1	22
79	Comparison of different force calculation methods in 3D finite element modelling. IEEE Transactions on Magnetics, 1994, 30, 3471-3474.	2.1	85
80	An approach to adaptive mesh refinement for three-dimensional eddy-current computations. IEEE Transactions on Magnetics, 1994, 30, 113-117.	2.1	27
81	A strong coupled model for analysing dynamic behaviours of non-linear electromechanical systems. IEEE Transactions on Magnetics, 1994, 30, 3252-3255.	2.1	34
82	Boundary edge elements and spanning tree technique in three-dimensional electromagnetic field computation. International Journal for Numerical Methods in Engineering, 1993, 36, 2877-2893.	2.8	31
83	Local force computation in deformable bodies using edge elements. IEEE Transactions on Magnetics, 1992, 28, 1212-1215.	2.1	65
84	Hybrid FEM-BIM formulation using electric and magnetic variables. IEEE Transactions on Magnetics, 1992, 28, 1647-1650.	2.1	8
85	A coupled electromagnetic-mechanical model for thin conductive plate deflection analysis. IEEE Transactions on Magnetics, 1990, 26, 1650-1652.	2.1	29
86	Force calculation by Maxwell stress tensor in 3D hybrid finite element-boundary integral formulation. IEEE Transactions on Magnetics, 1990, 26, 2774-2776.	2.1	16
87	A new hybrid model using electric field formulation for 3-D eddy current problems. IEEE Transactions on Magnetics, 1990, 26, 470-473.	2.1	42
88	Calculation of 3D eddy current problems by an hybrid T- Omega method. IEEE Transactions on Magnetics, 1990, 26, 478-481.	2.1	19