# 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 | Influence of the RHS on the convergence behaviour of the curl-curl equation. IEEE Transactions on Magnetics, 1996, 32, 655-658. | 2.1 | 110 |
| 2 | Comparison of different force calculation methods in 3D finite element modelling. IEEE Transactions on Magnetics, 1994, 30, 3471-3474. | 2.1 | 85 |
| 3 | 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 |
| 4 | T-Î© formulation for eddy-current problems in multiply connected regions. IEEE Transactions on Magnetics, 2002, 38, 557-560. | 2.1 | 73 |
| 5 | Local force computation in deformable bodies using edge elements. IEEE Transactions on Magnetics, 1992, 28, 1212-1215. | 2.1 | 65 |
| 6 | 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 |
| 7 | Finite element analysis of magneto-mechanical coupled phenomena in magnetostrictive materials. IEEE Transactions on Magnetics, 1996, 32, 1058-1061. | 2.1 | 45 |
| 8 | 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 |
| 9 | A generalized finite element model of magnetostriction phenomena. IEEE Transactions on Magnetics, 2001, 37, 3324-3328. | 2.1 | 41 |
| 10 | A strong coupled model for analysing dynamic behaviours of non-linear electromechanical systems. IEEE Transactions on Magnetics, 1994, 30, 3252-3255. | 2.1 | 34 |
| 11 | Calculation of mechanical deformation of magnetic materials in electromagnetic devices. IEEE Transactions on Magnetics, 1995, 31, 1873-1876. | 2.1 | 34 |
| 12 | 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 |
| 13 | A coupled electromagnetic-mechanical model for thin conductive plate deflection analysis. IEEE Transactions on Magnetics, 1990, 26, 1650-1652. | 2.1 | 29 |
| 14 | 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 |
| 15 | An approach to adaptive mesh refinement for three-dimensional eddy-current computations. IEEE Transactions on Magnetics, 1994, 30, 113-117. | 2.1 | 27 |
| 16 | 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 |
| 17 | High order differential form-based elements for the computation of electromagnetic field. IEEE Transactions on Magnetics, 2000, 36, 1472-1478. | 2.1 | 23 |
| 18 | Electromagnetic actuator behavior analysis using finite element and parametrization methods. IEEE Transactions on Magnetics, 1995, 31, 3497-3499. | 2.1 | 22 |

| # | Article | IF | Citations |
|---|---------|----|-----------| 
| 19 | Computation of Second Order Capacitance Sensitivity Using Adjoint Method in Finite Element Modeling. IEEE Transactions on Magnetics, 2012, 48, 231-234. | 2.1 | 22 |
| 20 | Experimental study of magnetoelectric transducers for power supply of small biomedical devices. Microelectronics Journal, 2019, 88, 184-189. | 2.0 | 22 |
| 21 | 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 |
| 22 | 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 |
| 23 | Calculation of 3D eddy current problems by an hybrid T- Omega method. IEEE Transactions on Magnetics, 1990, 26, 478-481. | 2.1 | 19 |
| 24 | 3-D Capacitance Extraction of IC Interconnects Using Field Solvers and Homogenization Technique. IEEE Transactions on Magnetics, 2004, 40, 703-706. | 2.1 | 19 |
| 25 | 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 |
| 26 | Finite-Element Modeling of a Magnetoelectric Energy Transducer Including the Load Effect. IEEE Transactions on Magnetics, 2015, 51, 1-5. | 2.1 | 16 |
| 27 | Comparison of some 3D eddy current formulations in dual systems. IEEE Transactions on Magnetics, 2000, 36, 751-755. | 2.1 | 15 |
| 28 | Solving 3D eddy current problems using second order nodal and edge elements. IEEE Transactions on Magnetics, 2000, 36, 746-750. | 2.1 | 13 |
| 29 | On the Complementarity of Dual Formulations on Dual Meshes. IEEE Transactions on Magnetics, 2009, 45, 1284-1287. | 2.1 | 13 |
| 30 | Investigation of the Complementarity of Dual Eddy Current Formulations on Dual Meshes. IEEE Transactions on Magnetics, 2010, 46, 3161-3164. | 2.1 | 13 |
| 31 | Shell elements for the computation of magnetic forces. IEEE Transactions on Magnetics, 2001, 37, 3171-3174. | 2.1 | 12 |
| 32 | A Multi-Objective Topology Optimization Methodology and its Application to Electromagnetic Actuator Designs. IEEE Transactions on Magnetics, 2020, 56, 1-4. | 2.1 | 11 |
| 33 | Application of PGD on Parametric Modeling of a Piezoelectric Energy Harvester. IEEE Transactions on Magnetics, 2016, 52, 1-11. | 2.1 | 10 |
| 34 | Application of complementary formulations and adaptive mesh refinements to non-linear magnetostatic problems. IEEE Transactions on Magnetics, 1995, 31, 1376-1379. | 2.1 | 9 |
| 35 | 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 |
| 36 | Multiphysics modeling of a magnetoelectric composite Rosen-type device. Composite Structures, 2016, 137, 1-8. | 5.8 | 9 |

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| 37 | Hybrid FEM-BIM formulation using electric and magnetic variables. IEEE Transactions on Magnetics, 1992, 28, 1647-1650. | 2.1 | 8 |
| 38 | A Proper Generalized Decomposition-Based Solver for Nonlinear Magnetothermal Problems. IEEE Transactions on Magnetics, 2016, 52, 1-9. | 2.1 | 8 |
| 39 | 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 |
| 40 | 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 |
| 41 | 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 |
| 42 | 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 |
| 43 | FEM Modeling of a Magnetoelectric Transducer for Autonomous Micro Sensors in Medical Application. Sensing and Imaging, 2015, 16, 1. | 1.5 | 4 |
| 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 | 3-D IC Interconnect Parasitic Capacitance Extraction With a Reformulated PGD Algorithm. IEEE Transactions on Magnetics, 2017, 53, 1-4. | 2.1 | 4 |
| 46 | Finite-Element Modeling of Magnetoelectric Energy Transducers With Interdigitated Electrodes. IEEE Transactions on Magnetics, 2017, 53, 1-4. | 2.1 | 4 |
| 47 | A Methodology Based on Quantum Evolutionary Algorithm for Topology Optimization of Electromagnetic Devices. IEEE Transactions on Magnetics, 2019, 55, 1-4. | 2.1 | 4 |
| 48 | Homogenization of Magnetoelectric 0–3 Type Composites by 3-D Multiphysics Finite-Element Modeling. IEEE Transactions on Magnetics, 2019, 55, 1-4. | 2.1 | 4 |
| 49 | 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 |
| 50 | 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 |
| 51 | 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 |
| 52 | 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 |
| 53 | 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 |
| 54 | Twin-Model Based on Model Order Reduction for Rotating Motors. IEEE Transactions on Magnetics, 2022, 58, 1-4. | 2.1 | 3 |

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| 55 | Multiphysics coupling analysis of TSV by using discrete geometric method based on Tonti diagram. , 2016, , . | | 2 |
| 56 | 60 GHz Indoor Propagation With Time-Domain Geometric-Optics. IEEE Transactions on Magnetics, 2016, 52, 1-4. | 2.1 | 2 |
| 57 | 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 |
| 58 | Study of Strain Effects on Carbon-Based Transistors With Semi-Analytic and &lt;italic&gt;Ab Initio&lt;/italic&gt; Models. IEEE Transactions on Magnetics, 2018, 54, 1-4. | 2.1 | 2 |
| 59 | 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 |
| 60 | 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 |
| 61 | Fast Time-Domain Solution of Dynamic Electromagnetic Problems Based on Sinc Interpolation. IEEE Transactions on Magnetics, 2021, 57, 1-4. | 2.1 | 2 |
| 62 | Network pattern for mid-distance wireless power transfer in local area. , 2013, , . | | 1 |
| 63 | Two-dimensional parasitic capacitance extraction for integrated circuit with dual discrete geometric methods. Journal of Semiconductors, 2015, 36, 045008. | 3.7 | 1 |
| 64 | Multiphysics modeling of multiferroic artificial materials by the finite element method. EPJ Applied Physics, 2016, 73, 30901. | 0.7 | 1 |
| 65 | Numerical Analysis of Discrete Geometric Method on Plasmonic Structures. IEEE Transactions on Magnetics, 2016, 52, 1-4. | 2.1 | 1 |
| 66 | Effect of mechanical stresses on graphene‑based devices. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2018, 31, e2233. | 1.9 | 1 |
| 67 | 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 |
| 68 | 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 |
| 69 | Modeling of Multiferroic Nanoparticle Composites With an Analytical Multiscale Approach. IEEE Transactions on Magnetics, 2020, 56, 1-4. | 2.1 | 1 |
| 70 | Proper Generalized Decomposition for Edge Elements in Magnetostatics With Adaptive Stopping Criterion. IEEE Transactions on Magnetics, 2020, 56, 1-4. | 2.1 | 1 |
| 71 | 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 |
| 72 | The Movement Characteristics of Space Charge in Flowing Transformer-Oil. IEEE Transactions on Magnetics, 2021, 57, 1-5. | 2.1 | 1 |

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| 73 | 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 |
| 74 | Reduced Order Model Based on Combined POD/LDEIM-Q for Nonlinear Thermoelectric Coupling. IEEE Transactions on Magnetics, 2022, 58, 1-4. | 2.1 | 1 |
| 75 | 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 |
| 76 | Research on modeling for the pattern library of interconnect parasitic capacitances in VLSI. , 2010, , . | | 0 |
| 77 | Energy complementarity featured hybrid discrete geometric method for capacitance extraction of integrated circuits. Electronics Letters, 2014, 50, 1056-1058. | 1.0 | 0 |
| 78 | Investigation on Dual Finite-Element Method in Terms of Scalar Potential Through Interpolation. IEEE Transactions on Magnetics, 2015, 51, 1-4. | 2.1 | 0 |
| 79 | Finite-Element Modeling of Thermoelastic Attenuation in Piezoelectric Surface Acoustic Wave Devices. IEEE Transactions on Magnetics, 2015, 51, 1-4. | 2.1 | 0 |
| 80 | Stationary electro-thermal coupling analysis considering dual finite element formulations of steady current field. , 2016, , . | | 0 |
| 81 | 3D capacitance computation using polygonal prism elements through piecewise interpolation. , 2016, , . | | 0 |
| 82 | 3D IC interconnect parasitic capacitance extraction with a reformulated PGD algorithm. , 2016, , . | | 0 |
| 83 | 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 |
| 84 | Acceleration of reflection in 2D ray tracing based on image by binary space partitioning. , 2016, , . | | 0 |
| 85 | Effect of deformations on carbon-based transistors in ballistic and partially ballistic regimes. , 2016, , . | | 0 |
| 86 | Incorporating light beam search in a vector normal boundary intersection method for multiobjective inverse problem. , 2016, , . | | 0 |
| 87 | Finite element modeling of magnetoelectric energy transducers with interdigitated electrodes. , 2016, , . | | 0 |
| 88 | Multiphysics Modeling of Thin-Layer Magnetoelectric Laminate Composites Using Shell Element. IEEE Transactions on Magnetics, 2016, 52, 1-4. | 2.1 | 0 |