

Francis Piriou

List of Publications by Year in descending order

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103
papers

1,230
citations

393982

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107
all docs

107
docs citations

107
times ranked

612
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparison of Preisach and Jiles-Atherton models to take into account hysteresis phenomenon for finite element analysis. Journal of Magnetism and Magnetic Materials, 2003, 261, 139-160.	1.0	97
2	Finite element analysis in electromagnetic systems-accounting for electric circuits. IEEE Transactions on Magnetics, 1993, 29, 1669-1675.	1.2	83
3	A model for coupled magnetic-electric circuits in electric machines with skewed slots. IEEE Transactions on Magnetics, 1990, 26, 1096-1100.	1.2	71
4	Modeling of A Linear and Rotary Permanent Magnet Actuator. IEEE Transactions on Magnetics, 2008, 44, 4357-4360.	1.2	71
5	Coupling of saturated electromagnetic systems to non-linear power electronic devices. IEEE Transactions on Magnetics, 1988, 24, 274-277.	1.2	56
6	Determination and utilization of the source field in 3D magnetostatic problems. IEEE Transactions on Magnetics, 1998, 34, 2509-2512.	1.2	48
7	Study of a Stator Current Excited Vernier Reluctance Machine. IEEE Transactions on Energy Conversion, 2006, 21, 823-831.	3.7	46
8	A non-linear coupled 3D model for magnetic field and electric circuit equations. IEEE Transactions on Magnetics, 1992, 28, 1295-1298.	1.2	42
9	Numerical simulation of a power transformer using 3D finite element method coupled to circuit equation. IEEE Transactions on Magnetics, 1994, 30, 3224-3227.	1.2	38
10	Design and study of a multiphase axial-flux machine. IEEE Transactions on Magnetics, 2006, 42, 1427-1430.	1.2	38
11	Comparison between two approaches to model induction machines with skewed slots. IEEE Transactions on Magnetics, 2000, 36, 1453-1457.	1.2	37
12	Numerical model to discretize source fields in the 3D finite element method. IEEE Transactions on Magnetics, 2000, 36, 676-679.	1.2	31
13	Analytical Calculation of Interaction Force Between Orthogonally Magnetized Permanent Magnets. Sensor Letters, 2009, 7, 442-445.	0.4	31
14	A time-stepped 2D-3D finite element method for induction motors with skewed slots modeling. IEEE Transactions on Magnetics, 1999, 35, 1262-1265.	1.2	26
15	Calculation of saturated inductances for numerical simulation of synchronous machines. IEEE Transactions on Magnetics, 1983, 19, 2628-2631.	1.2	24
16	Dual finite element formulations for lumped reluctances coupling. IEEE Transactions on Magnetics, 2005, 41, 1396-1399.	1.2	24
17	Numerical models for rotor cage induction machines using finite element method. IEEE Transactions on Magnetics, 1998, 34, 3202-3205.	1.2	23
18	Residual and equilibrated error estimators for magnetostatic problems solved by finite element method. IEEE Transactions on Magnetics, 2013, 49, 5715-5723.	1.2	23

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19	Numerical simulation of a nonconventional alternator connected to a rectifier. IEEE Transactions on Energy Conversion, 1990, 5, 512-518.	3.7	22
20	Study of 3D formulations to model electromagnetic devices. IEEE Transactions on Magnetics, 1994, 30, 3228-3231.	1.2	20
21	RESIDUAL-BASED <i>a posteriori</i> ESTIMATORS FOR THE A - ∇ MAGNETODYNAMIC HARMONIC FORMULATION OF THE MAXWELL SYSTEM. Mathematical Models and Methods in Applied Sciences, 2012, 22, 1150028.	1.7	20
22	Source Field Computation in NDT Applications. IEEE Transactions on Magnetics, 2007, 43, 1785-1788.	1.2	16
23	Simulation of electromagnetic systems by coupling of magnetic and electric equations. Mathematics and Computers in Simulation, 1989, 31, 189-194.	2.4	15
24	Comparison of slip surface and moving band techniques for modelling movement in 3D with FEM. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2006, 25, 17-30.	0.5	15
25	Periodic and Anti-Periodic Boundary Conditions With the Lagrange Multipliers in the FEM. IEEE Transactions on Magnetics, 2010, 46, 3417-3420.	1.2	14
26	Error estimation of finite element solution in nonlinear magnetostatic 2D problems. IEEE Transactions on Magnetics, 1998, 34, 3268-3271.	1.2	13
27	Calculation of extra copper losses with imposed current magnetodynamic formulations. IEEE Transactions on Magnetics, 2006, 42, 767-770.	1.2	13
28	Comparison Between the Mortar Element Method and the Polynomial Interpolation Method to Model Movement in the Finite Element Method. IEEE Transactions on Magnetics, 2008, 44, 1314-1317.	1.2	13
29	Using a Galerkin Projection Method for Coupled Problems. IEEE Transactions on Magnetics, 2008, 44, 830-833.	1.2	13
30	Calculation of complementary solutions in 2D finite element method application to error estimation. IEEE Transactions on Magnetics, 2000, 36, 1583-1587.	1.2	11
31	Implementation of an Anisotropic Vector Hysteresis Model in a 3-D Finite-Element Code. IEEE Transactions on Magnetics, 2008, 44, 918-921.	1.2	10
32	Canal lock variable speed hydropower turbine design and control. IET Renewable Power Generation, 2018, 12, 1698-1707.	1.7	10
33	3-D Approaches to Determine the End Winding Inductances of a Permanent-Magnet Linear Synchronous Motor. IEEE Transactions on Magnetics, 2004, 40, 758-761.	1.2	9
34	Discrete finite element characterizations of source fields for volume and boundary constraints in electromagnetic problems. Journal of Computational and Applied Mathematics, 2008, 215, 438-447.	1.1	9
35	Comparison of the Preisach and Jiles-Atherton models to take hysteresis phenomenon into account in finite element analysis. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2004, 23, 825-834.	0.5	8
36	Accurate Projection Method of Source Quantities in Coupled Finite-Element Problems. IEEE Transactions on Magnetics, 2009, 45, 1132-1135.	1.2	8

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37	Electromagnetic Field Projection on Finite Element Overlapping Domains. IEEE Transactions on Magnetics, 2013, 49, 1290-1298.	1.2	8
38	Two guaranteed equilibrated error estimators for Harmonic formulations in eddy current problems. Computers and Mathematics With Applications, 2019, 77, 1549-1562.	1.4	8
39	Error estimators in 3D linear magnetostatics. IEEE Transactions on Magnetics, 2000, 36, 1588-1591.	1.2	7
40	Determination of lossesâ€™ local distribution for transformer optimal designing. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2001, 20, 187-204.	0.5	7
41	Design and study of a linear actuator using an analytical approach and the 3D FEM. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2007, 26, 1005-1016.	0.5	7
42	Hybrid formulation $A\text{-}\hat{\otimes}$ with finite element method to model in 3D electromagnetic systems. IEEE Transactions on Magnetics, 1996, 32, 659-662.	1.2	6
43	Method to Connect Nonconforming Mesh in 3-D With the Overlapping Method. IEEE Transactions on Magnetics, 2009, 45, 1420-1423.	1.2	6
44	Residual Based a Posteriori Error Estimators for Harmonic $\{f A\}/\varphi$ and $\{f T\}/\Omega$ Formulations in Eddy Current Problems. IEEE Transactions on Magnetics, 2013, 49, 1721-1724.	1.2	6
45	Quantitative Design of a High Performance Permanent Magnet Vernier Generator. IEEE Transactions on Magnetics, 2017, 53, 1-4.	1.2	6
46	Comparison between two formulations in terms of potential for the coupling of magnetic and electric circuit equations. IET Science, Measurement and Technology, 1994, 141, 486-490.	0.7	5
47	Characterisation and modelling of hysteresis phenomenon. Mathematics and Computers in Simulation, 1998, 46, 301-311.	2.4	5
48	A non linear analytical model of switched reluctance machines. EPJ Applied Physics, 2002, 18, 163-172.	0.3	5
49	Numerical solutions in primal and dual meshes of magnetostatic problems solved with the finite integration technique. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2008, 27, 47-55.	0.5	5
50	An Approach to Determine the Circulation of Magnetic Field in FEM Computation Code With Vector Potential Formulation. IEEE Transactions on Magnetics, 2011, 47, 1354-1357.	1.2	5
51	Mortar Method Using Bi-Orthogonal Nodal Functions Applied to $\{m A\}\text{-}\varphi$ Formulation. IEEE Transactions on Magnetics, 2012, 48, 491-494.	1.2	5
52	A posteriori error estimator for harmonic $A\hat{\otimes}$ formulation. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2013, 32, 1219-1229.	0.5	5
53	AN ADAPTED CHOLESKY DECOMPOSITION METHOD FOR THE SOLUTION OF COUPLED MAGNETICâ€™ELECTRIC EQUATIONS. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 1989, 8, 203-208.	0.5	4
54	A direct identification method of the hysteresis model for the design of SMC transformers. IEEE Transactions on Magnetics, 2000, 36, 3466-3469.	1.2	4

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55	Comparison of 3D magnetodynamic formulations in terms of potentials with imposed electric global quantities. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2004, 23, 885-893.	0.5	4
56	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.	0.5	4
57	Hysteresis Phenomenon Implementation in FIT: Validation With Measurements. IEEE Transactions on Magnetics, 2010, 46, 3285-3288.	1.2	4
58	Comparison of implementation techniques for Galerkin projection between different meshes. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2014, 27, 517-526.	1.2	4
59	Energetic Galerkin Projection of Electromagnetic Fields Between Different Meshes. IEEE Transactions on Magnetics, 2014, 50, 613-616.	1.2	4
60	Waveform relaxationâ€“Newton method to determine steady state of an electromagnetic structure. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2017, 36, 729-740.	0.5	4
61	Comparison between finite element method and magnetic equivalent scheme to model an induction machine. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 1996, 15, 82-87.	0.5	3
62	Design and optimization of an excited reluctance generator using field computation. IEEE Transactions on Magnetics, 1998, 34, 3491-3494.	1.2	3
63	Error estimator in linear magnetostatic 2D. EPJ Applied Physics, 1998, 1, 203-209.	0.3	3
64	Numerical modelling of an unbalanced short shunt induction generator using finite element method. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2000, 19, 787-804.	0.5	3
65	Study of head winding effects in a switched reluctance machine. IEEE Transactions on Magnetics, 2002, 38, 989-992.	1.2	3
66	Comparison of Residual and Hierarchical Finite Element Error Estimators in Eddy Current Problems. IEEE Transactions on Magnetics, 2014, 50, 501-504.	1.2	3
67	Finite Element Mesh Adaptation Strategy From Residual and Hierarchical Error Estimators in Eddy Current Problems. IEEE Transactions on Magnetics, 2015, 51, 1-4.	1.2	3
68	Time-Periodicity Condition of Nonlinear Magnetostatic Problem Coupled With Electric Circuit Imposed by Waveform Relaxation Method. IEEE Transactions on Magnetics, 2016, 52, 1-4.	1.2	3
69	3-D Numerical Modeling of Claw-Pole Alternators With its Electrical Environment. IEEE Transactions on Magnetics, 2020, 56, 1-4.	1.2	3
70	A NUMERICAL MODEL FOR SATURATED INDUCTANCES IN SYNCHRONOUS MACHINES. Electric Power Components and Systems, 1983, 8, 215-224.	0.1	2
71	NUMERICAL SIMULATION OF SYNCHRONOUS GENERATOR ON STEADY STATE. Electric Power Components and Systems, 1993, 21, 507-518.	0.1	2
72	ModÃ©lisation 3D du circuit Ã©lectrique et du mouvement : application Ã la machine asynchrone. EPJ Applied Physics, 1998, 1, 67-71.	0.3	2

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73	Consideration of the coupling of the magnetic and electric equations with Finite Integration Technique (FIT). EPJ Applied Physics, 2005, 30, 17-21.	0.3	2
74	Iterative Solvers for Singular Symmetric Linear Systems in Low Frequency Electromagnetics. IEEE Transactions on Magnetics, 2009, 45, 1428-1431.	1.2	2
75	Interlaminar short circuit detection: modeling and measurement. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2012, 31, 1448-1457.	0.5	2
76	Comparison of Numerical Error Estimators for Eddy-Current Problems Solved by FEM. IEEE Transactions on Magnetics, 2018, 54, 1-4.	1.2	2
77	Machines à reluctance vernier : conditions de fonctionnement. Revue Internationale De Génie Électrique, 2003, 6, 637-664.	0.0	2
78	COUPLING OF ELECTRIC AND MAGNETIC EQUATIONS IN ELECTROMAGNETIC DEVICES WITH FINITE ELEMENT METHOD. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 1994, 13, 75-78.	0.5	1
79	Adaptive meshing in 3D multi-static problem with variable sources. EPJ Applied Physics, 2000, 12, 187-193.	0.3	1
80	3D compatible magnetostatic potential formulations coupled with electrical circuits. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2000, 19, 776-786.	0.5	1
81	Source Field Computation in NDT Applications. , 0, , .		1
82	Reduction of force ripples in PM planar actuator. , 2010, , .		1
83	Energetic Mesh-to-Mesh Projection of Magnetic Fields With Respect to Nonlinear B-H Curves. IEEE Transactions on Magnetics, 2015, 51, 1-4.	1.2	1
84	Space-Time Residual-Based <i>a posteriori</i> Estimator for the $\nabla \cdot \mathbf{A}$ Formulation in Eddy Current Problems. IEEE Transactions on Magnetics, 2015, 51, 1-5.	1.2	1
85	Residual <i>a Posteriori</i> Estimator for Magnetoharmonic Potential Formulations With Global Quantities for the Source Terms. IEEE Transactions on Magnetics, 2015, 51, 1-4.	1.2	1
86	<i>a posteriori</i> residual error estimators with mixed boundary conditions for quasi-static electromagnetic problems. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2015, 34, 724-739.	0.5	1
87	Comparison of Potential Dual Formulations Developed with Different Elements. , 1995, , 111-114.		1
88	Complete Study For The Performance Of Self Controlled Permanent Magnet Synchronous Motor. , 1987, 0854, 438.		0
89	3D computation of a claw pole permanent magnet machine using a scalar potential formulation. EPJ Applied Physics, 2000, 11, 175-182.	0.3	0
90	Parallelization of a 3D magnetostatic code using High Performance Fortran. , 0, , .		0

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91	Estimation of Numerical Errors Due to Time and Space Discretizations. IEEE Transactions on Magnetics, 2004, 40, 1061-1064.	1.2	0
92	A hybrid movement method to model electrical machines with end winding in 3D Finite Element Method. , 0, , .		0
93	Determination of the magnetic parameters at no-load of a variable reluctance machine excited by DC and AC currents. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2006, 25, 102-116.	0.5	0
94	Influence of the Source Potential Distribution on FEM Potential Formulations in Magnetostatics. , 0, , .		0
95	Computation of the magnetic flux in the finite elements method. EPJ Applied Physics, 2007, 39, 119-128.	0.3	0
96	Parallel direct solver for the finite integration technique in electromagnetics. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2010, 29, 941-949.	0.5	0
97	Parallel Direct Solver for the Finite Integration Technique in Electrokinetic Problems. IEEE Transactions on Magnetics, 2010, 46, 3269-3272.	1.2	0
98	An approach to determine the circulation of magnetic field in FEM computation code with vector potential formulation. , 2010, , .		0
99	Preconditioner for Mortar method applied to the FEM. , 2010, , .		0
100	A guaranteed equilibrated error estimator for the harmonic $A \hat{=}$ " ħ formulation in eddy current problems. , 2016, , .		0
101	Numerical modeling of steady state of magnetostatic problems coupled with nonlinear electric circuit. , 2016, , .		0
102	Canal lock variable speed hydropower turbine energy conversion system. , 2017, , .		0
103	Quantitative design of a high performance permanent magnet vernier generator. , 2017, , .		0