# Francis Piriou

## List of Publications by Year
## in descending order

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|---|---|---|---|
| 103<br>papers | 1,230<br>citations | 394421<br>19<br>h-index | 414414<br>32<br>g-index |
| 107<br>all docs | 107<br>docs citations | 107<br>times ranked | 612<br>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. | 2.3 | 97 |
| 2 | Finite element analysis in electromagnetic systems-accounting for electric circuits. IEEE Transactions on Magnetics, 1993, 29, 1669-1675. | 2.1 | 83 |
| 3 | A model for coupled magnetic-electric circuits in electric machines with skewed slots. IEEE Transactions on Magnetics, 1990, 26, 1096-1100. | 2.1 | 71 |
| 4 | Modeling of A Linear and Rotary Permanent Magnet Actuator. IEEE Transactions on Magnetics, 2008, 44, 4357-4360. | 2.1 | 71 |
| 5 | Coupling of saturated electromagnetic systems to non-linear power electronic devices. IEEE Transactions on Magnetics, 1988, 24, 274-277. | 2.1 | 56 |
| 6 | Determination and utilization of the source field in 3D magnetostatic problems. IEEE Transactions on Magnetics, 1998, 34, 2509-2512. | 2.1 | 48 |
| 7 | Study of a Stator Current Excited Vernier Reluctance Machine. IEEE Transactions on Energy Conversion, 2006, 21, 823-831. | 5.2 | 46 |
| 8 | A non-linear coupled 3D model for magnetic field and electric circuit equations. IEEE Transactions on Magnetics, 1992, 28, 1295-1298. | 2.1 | 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. | 2.1 | 38 |
| 10 | Design and study of a multiphase axial-flux machine. IEEE Transactions on Magnetics, 2006, 42, 1427-1430. | 2.1 | 38 |
| 11 | Comparison between two approaches to model induction machines with skewed slots. IEEE Transactions on Magnetics, 2000, 36, 1453-1457. | 2.1 | 37 |
| 12 | Numerical model to discretize source fields in the 3D finite element method. IEEE Transactions on Magnetics, 2000, 36, 676-679. | 2.1 | 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. | 2.1 | 26 |
| 15 | Calculation of saturated inductances for numerical simulation of synchronous machines. IEEE Transactions on Magnetics, 1983, 19, 2628-2631. | 2.1 | 24 |
| 16 | Dual finite element formulations for lumped reluctances coupling. IEEE Transactions on Magnetics, 2005, 41, 1396-1399. | 2.1 | 24 |
| 17 | Numerical models for rotor cage induction machines using finite element method. IEEE Transactions on Magnetics, 1998, 34, 3202-3205. | 2.1 | 23 |
| 18 | Residual and equilibrated error estimators for magnetostatic problems solved by finite element method. IEEE Transactions on Magnetics, 2013, 49, 5715-5723. | 2.1 | 23 |

| # | ARTICLE | IF | CITATIONS |
|---|---------|-----|-----------|
| 19 | Numerical simulation of a nonconventional alternator connected to a rectifier. IEEE Transactions on Energy Conversion, 1990, 5, 512-518. | 5.2 | 22 |
| 20 | Study of 3D formulations to model electromagnetic devices. IEEE Transactions on Magnetics, 1994, 30, 3228-3231. | 2.1 | 20 |
| 21 | RESIDUAL-BASED *A POSTERIORI* ESTIMATORS FOR THE A - Ï† MAGNETODYNAMIC HARMONIC FORMULATION OF THE MAXWELL SYSTEM. Mathematical Models and Methods in Applied Sciences, 2012, 22, 1150028. | 3.3 | 20 |
| 22 | Source Field Computation in NDT Applications. IEEE Transactions on Magnetics, 2007, 43, 1785-1788. | 2.1 | 16 |
| 23 | Simulation of electromagnetic systems by coupling of magnetic and electric equations. Mathematics and Computers in Simulation, 1989, 31, 189-194. | 4.4 | 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. | 0.9 | 15 |
| 25 | Periodic and Anti-Periodic Boundary Conditions With the Lagrange Multipliers in the FEM. IEEE Transactions on Magnetics, 2010, 46, 3417-3420. | 2.1 | 14 |
| 26 | Error estimation of finite element solution in nonlinear magnetostatic 2D problems. IEEE Transactions on Magnetics, 1998, 34, 3268-3271. | 2.1 | 13 |
| 27 | Calculation of extra copper losses with imposed current magnetodynamic formulations. IEEE Transactions on Magnetics, 2006, 42, 767-770. | 2.1 | 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. | 2.1 | 13 |
| 29 | Using a Galerkin Projection Method for Coupled Problems. IEEE Transactions on Magnetics, 2008, 44, 830-833. | 2.1 | 13 |
| 30 | Calculation of complementary solutions in 2D finite element method application to error estimation. IEEE Transactions on Magnetics, 2000, 36, 1583-1587. | 2.1 | 11 |
| 31 | Implementation of an Anisotropic Vector Hysteresis Model in a 3-D Finite-Element Code. IEEE Transactions on Magnetics, 2008, 44, 918-921. | 2.1 | 10 |
| 32 | Canal lock variable speed hydropower turbine design and control. IET Renewable Power Generation, 2018, 12, 1698-1707. | 3.1 | 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. | 2.1 | 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. | 2.0 | 9 |
| 35 | Comparison of the Preisach and Jilesâ€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. | 0.9 | 8 |
| 36 | Accurate Projection Method of Source Quantities in Coupled Finite-Element Problems. IEEE Transactions on Magnetics, 2009, 45, 1132-1135. | 2.1 | 8 |

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|---|---------|----|-----------|
| 37 | Electromagnetic Field Projection on Finite Element Overlapping Domains. IEEE Transactions on Magnetics, 2013, 49, 1290-1298. | 2.1 | 8 |
| 38 | Two guaranteed equilibrated error estimators for Harmonic formulations in eddy current problems. Computers and Mathematics With Applications, 2019, 77, 1549-1562. | 2.7 | 8 |
| 39 | Error estimators in 3D linear magnetostatics. IEEE Transactions on Magnetics, 2000, 36, 1588-1591. | 2.1 | 7 |
| 40 | Determination of losses' local distribution for transformer optimal designing. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2001, 20, 187-204. | 0.9 | 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. | 0.9 | 7 |
| 42 | Hybrid formulation A-Î© with finite element method to model in 3D electromagnetic systems. IEEE Transactions on Magnetics, 1996, 32, 659-662. | 2.1 | 6 |
| 43 | Method to Connect Nonconforming Mesh in 3-D With the Overlapping Method. IEEE Transactions on Magnetics, 2009, 45, 1420-1423. | 2.1 | 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. | 2.1 | 6 |
| 45 | Quantitative Design of a High Performance Permanent Magnet Vernier Generator. IEEE Transactions on Magnetics, 2017, 53, 1-4. | 2.1 | 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. | 4.4 | 5 |
| 48 | A non linear analytical model of switched reluctance machines. EPJ Applied Physics, 2002, 18, 163-172. | 0.7 | 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. | 0.9 | 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. | 2.1 | 5 |
| 51 | Mortar Method Using Bi-Orthogonal Nodal Functions Applied to ${m A}\hbox{-}\varphi$ Formulation. IEEE Transactions on Magnetics, 2012, 48, 491-494. | 2.1 | 5 |
| 52 | A posteriori error estimator for harmonic Aâ€  formulation. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2013, 32, 1219-1229. | 0.9 | 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. | 0.9 | 4 |
| 54 | A direct identification method of the hysteresis model for the design of SMC transformers. IEEE Transactions on Magnetics, 2000, 36, 3466-3469. | 2.1 | 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. | 0.9 | 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. | 0.9 | 4 |
| 57 | Hysteresis Phenomenon Implementation in FIT: Validation With Measurements. IEEE Transactions on Magnetics, 2010, 46, 3285-3288. | 2.1 | 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. | 1.9 | 4 |
| 59 | Energetic Galerkin Projection of Electromagnetic Fields Between Different Meshes. IEEE Transactions on Magnetics, 2014, 50, 613-616. | 2.1 | 4 |
| 60 | Waveform relaxation–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. | 0.9 | 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. | 0.9 | 3 |
| 62 | Design and optimization of an excited reluctance generator using field computation. IEEE Transactions on Magnetics, 1998, 34, 3491-3494. | 2.1 | 3 |
| 63 | Error estimator in linear magnetostatic 2D. EPJ Applied Physics, 1998, 1, 203-209. | 0.7 | 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. | 0.9 | 3 |
| 65 | Study of head winding effects in a switched reluctance machine. IEEE Transactions on Magnetics, 2002, 38, 989-992. | 2.1 | 3 |
| 66 | Comparison of Residual and Hierarchical Finite Element Error Estimators in Eddy Current Problems. IEEE Transactions on Magnetics, 2014, 50, 501-504. | 2.1 | 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. | 2.1 | 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. | 2.1 | 3 |
| 69 | 3-D Numerical Modeling of Claw-Pole Alternators With its Electrical Environment. IEEE Transactions on Magnetics, 2020, 56, 1-4. | 2.1 | 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 | Modélisation 3D du circuit électrique et du mouvement : application à la machine asynchrone. EPJ Applied Physics, 1998, 1, 67-71. | 0.7 | 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. | 0.7 | 2 |
| 74 | Iterative Solvers for Singular Symmetric Linear Systems in Low Frequency Electromagnetics. IEEE Transactions on Magnetics, 2009, 45, 1428-1431. | 2.1 | 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. | 0.9 | 2 |
| 76 | Comparison of Numerical Error Estimators for Eddy-Current Problems Solved by FEM. IEEE Transactions on Magnetics, 2018, 54, 1-4. | 2.1 | 2 |
| 77 | Machines à réluctance 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. | 0.9 | 1 |
| 79 | Adaptive meshing in 3D multi-static problem with variable sources. EPJ Applied Physics, 2000, 12, 187-193. | 0.7 | 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. | 0.9 | 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. | 2.1 | 1 |
| 84 | Space-Time Residual-Based &lt;italic&gt;a posteriori&lt;/italic&gt; Estimator for the &lt;inline-formula&gt; &lt;tex-math notation="LaTeX"&gt;$A-varphi$ &lt;/tex-math&gt;&lt;/inline-formula&gt; Formulation in Eddy Current Problems. IEEE Transactions on Magnetics, 2015, 51, 1-5. | 2.1 | 1 |
| 85 | Residual &lt;italic&gt;a Posteriori&lt;/italic&gt; Estimator for Magnetoharmonic Potential Formulations With Global Quantities for the Source Terms. IEEE Transactions on Magnetics, 2015, 51, 1-4. | 2.1 | 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. | 0.9 | 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. | 0.7 | 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. | 2.1 | 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 noâ€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. | 0.9 | 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. | 0.7 | 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. | 0.9 | 0 |
| 97 | Parallel Direct Solver for the Finite Integration Technique in Electrokinetic Problems. IEEE Transactions on Magnetics, 2010, 46, 3269-3272. | 2.1 | 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 â€" Ï† 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 |