Benjamin Ducharne

List of Publications by Year
in descending order

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60	852	471509 17	552781 26
papers	citations	h-index	g-index

61	61	61	330
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Damage identification in aluminum plates based on iterative partition algorithm using waveform centroid. Wave Motion, 2022, 108, 102842.	2.0	1
2	An anisotropic vector hysteresis model of ferromagnetic behavior under alternating and rotational magnetic field. Journal of Magnetism and Magnetic Materials, 2022, 549, 169045.	2.3	8
3	A universal method based on fractional derivatives for modeling magnetic losses under alternating and rotational magnetization conditions. Journal of Magnetism and Magnetic Materials, 2022, 550, 169071.	2.3	6
4	Combining a fractional diffusion equation and a fractional viscosity-based magneto dynamic model to simulate the ferromagnetic hysteresis losses. AIP Advances, 2022, 12, .	1.3	4
5	Effect of stress on the magnetic Barkhausen noise energy cycles: A route for stress evaluation in ferromagnetic materials. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2022, 278, 115650.	3.5	15
6	Electrical steel dynamic behavior quantitated by inductance spectroscopy: Toward prediction of magnetic losses. Journal of Magnetism and Magnetic Materials, 2022, 560, 169672.	2.3	3
7	Anomalous fractional magnetic field diffusion through cross-section of a massive toroidal ferromagnetic core. Communications in Nonlinear Science and Numerical Simulation, 2021, 92, 105450.	3.3	8
8	Multiscale modelling of the magnetic Barkhausen noise energy cycles. Journal of Magnetism and Magnetic Materials, 2021, 517, 167395.	2.3	15
9	Directional magnetic Barkhausen noise measurement using the magnetic needle probe method. Journal of Magnetism and Magnetic Materials, 2021, 519, 167453.	2.3	8
10	Magnetic Barkhausen noise: A simulation tool. AIP Advances, 2021, 11, .	1.3	3
11	Comparison of electromagnetic inspection methods for creep-degraded high chromium ferritic steels. NDT and E International, 2021, 118, 102399.	3.7	14
12	Fractional operators for the magnetic dynamic behavior of ferromagnetic specimens: An overview. AIP Advances, 2021, 11, .	1.3	7
13	Development of anisotropic ferromagnetic composites for low-frequency induction heating technology in medical applications. Materials Today Chemistry, 2021, 19, 100395.	3.5	8
14	3D Printing of Flexible Composites via Magnetophoresis: Toward Medical Application Based on Lowâ€Frequency Induction Heating Effect. Macromolecular Materials and Engineering, 2021, 306, 2100211.	3.6	8
15	Non-invasive local magnetic hysteresis characterization of a ferromagnetic laminated core. Journal of Magnetism and Magnetic Materials, 2021, 527, 167783.	2.3	5
16	Identification of the ferromagnetic hysteresis simulation parameters using classic non-destructive testing equipment. Journal of Magnetism and Magnetic Materials, 2021, 531, 167971.	2.3	9
17	Low-frequency behavior of laminated electric steel sheet: Investigation of ferromagnetic hysteresis loops and incremental permeability. Journal of Magnetism and Magnetic Materials, 2021, 538, 168278.	2.3	8
18	Fractional derivative resolution of the anomalous magnetic field diffusion through a ferromagnetic steel rod: Application to eddy current testing. Communications in Nonlinear Science and Numerical Simulation, 2021, 103, 105953.	3.3	3

#	Article	IF	Citations
19	Optimized magnetic hysteresis management in numerical electromagnetic field simulations. , 2021, , .		1
20	Low-frequency induction heating of a ferromagnetic catheter for the varicose veins treatment: a study of feasibility. , 2021, , .		2
21	A Unique Fractional Derivative Operator to Simulate All Dynamic Piezoceramic Dielectric Manifestations: From Aging to Frequency-Dependent Hysteresis. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 197-206.	3.0	8
22	Non-destructive testing on creep degraded 12% Cr-Mo-W-V ferritic test samples using Barkhausen noise. Journal of Magnetism and Magnetic Materials, 2020, 498, 166102.	2.3	19
23	Barkhausen noise analysis of thin film ferroelectrics. Applied Physics Letters, 2020, 117, 012902.	3.3	4
24	A Simulation Model for Narrow Band Gap Ferroelectric Materials. Advanced Theory and Simulations, 2020, 3, 2000052.	2.8	6
25	Simulation tool for the Eddy current magnetic signature (EC-MS) non-destructive method. Journal of Magnetism and Magnetic Materials, 2020, 513, 167221.	2.3	11
26	Micromagnetic nondestructive testing Barkhausen noise vs other techniques. , 2020, , 223-238.		3
27	Enhancing the Low-Frequency Induction Heating Effect of Magnetic Composites for Medical Applications. Polymers, 2020, 12, 386.	4.5	13
28	Embedded printed magnetic needle probes sensor for the real-time control of the local induction state through a laminated magnetic core. Journal of Magnetism and Magnetic Materials, 2020, 505, 166767.	2.3	12
29	Anomalous fractional diffusion equation for magnetic losses in a ferromagnetic lamination. European Physical Journal Plus, 2020, 135, 1.	2.6	8
30	Greenness percentage of the said green renewable energy: A case study. Energy Reports, 2019, 5, 979-986.	5.1	6
31	Numerical model of the eddy current magnetic signature (EC-MS) non-destructive micro-magnetic technique. AIP Advances, 2019, 9, .	1.3	6
32	Physical interpretation of the microstructure for aged 12 Cr-Mo-V-W steel creep test samples based on simulation of magnetic incremental permeability. Journal of Magnetism and Magnetic Materials, 2019, 486, 165250.	2.3	16
33	Induction heating-based low-frequency alternating magnetic field: High potential of ferromagnetic composites for medical applications. Materials and Design, 2019, 174, 107804.	7.0	28
34	Magnetic incremental permeability non-destructive evaluation of 12 Cr-Mo-W-V steel creep test samples with varied ageing levels and thermal treatments. NDT and E International, 2019, 104, 42-50.	3.7	37
35	Local Measurement of Peening-Induced Residual Stresses on Iron Nickel Material Using Needle Probes Technique. IEEE Transactions on Magnetics, 2019, 55, 1-8.	2.1	6
36	Investigation of electromagnetic nondestructive evaluation of residual strain in low carbon steels using the eddy current magnetic signature (EC-MS) method. Journal of Magnetism and Magnetic Materials, 2019, 479, 212-221.	2.3	44

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37	Simulation of Synchronized-Switching Method Energy Harvester Including Accurate Piezoceramic Nonlinear Behavior. Energies, 2019, 12, 4466.	3.1	4
38	A Space Discretized Ferromagnetic Model for Non-Destructive Eddy Current Evaluation. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	16
39	Fractional model of magnetic field penetration into a toroidal soft ferromagnetic sample. International Journal of Dynamics and Control, 2018, 6, 89-96.	2.5	16
40	Preisachâ€™s Model Extended With Dynamic Fractional Derivation Contribution. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	17
41	Experimental sea wave energy extractor based on piezoelectric Ericsson cycles. Journal of Intelligent Material Systems and Structures, 2018, 29, 1102-1112.	2.5	23
42	Hysteresis Model of 3D Printed Magnetic Particles Based Polymer Composite Materials. , 2018, , .		4
43	Simulation and validation of temperature-dependent ferroelectric properties of multifunctional BCZT and KNBNNO ceramics. Materials Research Express, 2018, 5, 116305.	1.6	3
44	Dynamic Magnetic Scalar Hysteresis Lump Model Based on Jilesâ€“Atherton Quasi-Static Hysteresis Model Extended With Dynamic Fractional Derivative Contribution. IEEE Transactions on Magnetics, 2018, 54, 1-5.	2.1	16
45	Phenomenological Model of Barkhausen Noise Under Mechanical and Magnetic Excitations. IEEE Transactions on Magnetics, 2018, 54, 1-6.	2.1	19
46	Characterization and modeling of magnetic domain wall dynamics using reconstituted hysteresis loops from Barkhausen noise. Journal of Magnetism and Magnetic Materials, 2017, 432, 231-238.	2.3	33
47	Characterization of fractional order for high-frequency bandwidth model of dielectric ferroelectrics. Journal of Intelligent Material Systems and Structures, 2016, 27, 437-443.	2.5	5
48	Dynamics of magnetic field penetration into soft ferromagnets. Journal of Applied Physics, 2015, 117, .	2.5	29
49	Inverse model of the piezoelectric ceramic polarization under wide bandwidth mechanical excitations with fractional derivative consideration. Optical and Quantum Electronics, 2014, 46, 103-110.	3.3	2
50	Energy harvesting based on piezoelectric Ericsson cycles in a piezoceramic material. European Physical Journal: Special Topics, 2013, 222, 1733-1743.	2.6	18
51	Fractional derivative operators for modeling piezoceramic polarization behaviors under dynamic mechanical stress excitation. Sensors and Actuators A: Physical, 2013, 189, 74-79.	4.1	13
52	High nonlinearities in Langevin transducer: A comprehensive model. Ultrasonics, 2011, 51, 1006-1013.	3.9	28
53	High frequency bandwidth polarization and strain control using a fractional derivative inverse model. Smart Materials and Structures, 2010, 19, 045010.	3.5	9
54	The use of fractional derivation in modeling ferroelectric dynamic hysteresis behavior over large frequency bandwidth. Journal of Applied Physics, 2010, 107, .	2.5	23

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55	Fractional derivative operators for modeling the dynamic polarization behavior as a function of frequency and electric field amplitude. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2009, 56, 437-443.	3.0	31
56	Time fractional derivatives for voltage creep in ferroelectric materials: theory and experiment. Journal Physics D: Applied Physics, 2008, 41, 125410.	2.8	28
57	Low frequency modelling of hysteresis behaviour and dielectric permittivity in ferroelectric ceramics under electric field. Journal Physics D: Applied Physics, 2007, 40, 551-555.	2.8	43
58	Dynamical hysteresis model of ferroelectric ceramics under electric field using fractional derivatives. Journal Physics D: Applied Physics, 2007, 40, 6048-6054.	2.8	34
59	Preisach modelling of ferroelectric behaviour. International Journal of Applied Electromagnetics and Mechanics, 2007, 25, 729-733.	0.6	12
60	The Magnetic Field Diffusion Equation Including Dynamic Hysteresis: A Linear Formulation of the Problem. IEEE Transactions on Magnetics, 2004, 40, 872-875.	2.1	63