Gael Sebald

List of Publications by Citations

108 papers	2,742 citations	27 h-index	48 g-index
115 ext. papers	3,100 ext. citations	3.3 avg, IF	5.2 L-index

#	Paper	IF	Citations
108	On thermoelectric and pyroelectric energy harvesting. *Smart Materials and Structures*, **2009**, 18, 125006	3.4	196
107	Pyroelectric energy conversion: optimization principles. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, **2008**, 55, 538-51	3.2	183
106	Electrocaloric and pyroelectric properties of 0.75Pb(Mg1⁄3Nb2⁄3)O3–0.25PbTiO3 single crystals. *Journal of Applied Physics*, **2006**, 100, 124112	2.5	145
105	Energy harvesting based on Ericsson pyroelectric cycles in a relaxor ferroelectric ceramic. *Smart Materials and Structures*, **2008**, 17, 015012	3.4	140
104	Piezoelectric vibration control by synchronized switching on adaptive voltage sources: Towards wideband semi-active damping. *Journal of the Acoustical Society of America*, **2006**, 119, 2815-2825	2.2	140
103	Experimental Duffing oscillator for broadband piezoelectric energy harvesting. *Smart Materials and Structures*, **2011**, 20, 102001	3.4	112
102	Enhanced electric field-induced strain in non-percolative carbon nanopowder/polyurethane composites. *Journal Physics D: Applied Physics*, **2006**, 39, 3053-3057	3	91
101	Ferroelectric electrocaloric conversion in 0.75(PbMg1/3Nb2/3O3)–0.25(PbTiO3) ceramics. *Journal Physics D: Applied Physics*, **2006**, 39, 4491-4496	3	89
100	Energy Harvesting from Ambient Vibrations and Heat. *Journal of Intelligent Material Systems and Structures*, **2009**, 20, 609-624	2.3	87
99	Nonlinear pyroelectric energy harvesting from relaxor single crystals. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, **2009**, 56, 693-9	3.2	79
98	Solar micro-energy harvesting based on thermoelectric and latent heat effects. Part I: Theoretical analysis. *Sensors and Actuators A: Physical*, **2010**, 163, 277-283	3.9	66
97	Electrocaloric properties of high dielectric constant ferroelectric ceramics. *Journal of the European Ceramic Society*, **2007**, 27, 4021-4024	6	61
96	Simulation of a Duffing oscillator for broadband piezoelectric energy harvesting. *Smart Materials and Structures*, **2011**, 20, 075022	3.4	60
95	Energy harvesting based on FE-FE transition in ferroelectric single crystals. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, **2008**, 55, 279-85	3.2	57
94	Toward Heat Energy Harvesting using Pyroelectric Material. *Journal of Intelligent Material Systems and Structures*, **2009**, 20, 265-271	2.3	52
93	Materials, structures and power interfaces for efficient piezoelectric energy harvesting. *Journal of Electroceramics*, **2009**, 22, 171-179	1.5	44
92	Low frequency modelling of hysteresis behaviour and dielectric permittivity in ferroelectric ceramics under electric field. *Journal Physics D: Applied Physics*, **2007**, 40, 551-555	3	40

91	Elastocaloric modeling of natural rubber. *Applied Thermal Engineering*, **2013**, 57, 33-38	5.8	38
90	Evaluation of macroscopic polarization and actuation abilities of electrostrictive dipolar polymers using the microscopic Debye/Langevin formalism. *Journal Physics D: Applied Physics*, **2012**, 45, 205401	3	36
89	Elastocaloric effect dependence on pre-elongation in natural rubber. *Applied Physics Letters*, **2015**, 107, 081905	3.4	34
88	Differential scanning calorimeter and infrared imaging for electrocaloric characterization of poly(vinylidene fluoride-trifluoroethylene-chlorofluoroethylene) terpolymer. *Applied Physics Letters*, **2012**, 101, 022907	3.4	33
87	A model based on dry friction for modeling hysteresis in ferroelectric materials. *Journal of Applied Physics*, **2004**, 96, 2785-2791	2.5	32
86	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, 437-43	3.2	31
85	Dynamical hysteresis model of ferroelectric ceramics under electric field using fractional derivatives. *Journal Physics D: Applied Physics*, **2007**, 40, 6048-6054	3	30
84	Structural, dielectric, ferroelectric, and electrocaloric properties of 2% Gd2O3 doping (Na0.5Bi0.5)0.94Ba0.06TiO3 ceramics. *Journal of Applied Physics*, **2016**, 120, 054102	2.5	30
83	Comparison of direct and indirect measurement of the elastocaloric effect in natural rubber. *Applied Physics Letters*, **2016**, 108, 041901	3.4	29
82	Analysis of ac-dc conversion for energy harvesting using an electrostrictive polymer P(VDF-TrFE-CFE). *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, **2011**, 58, 30-42	3.2	28
81	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	2.8	27
80	Time fractional derivatives for voltage creep in ferroelectric materials: theory and experiment. *Journal Physics D: Applied Physics*, **2008**, 41, 125410	3	26
79	Dynamics of magnetic field penetration into soft ferromagnets. *Journal of Applied Physics*, **2015**, 117, 243907	2.5	25
78	Segregation study and segregation modeling of Ti in Pb[(Mg1/3Nb2/3)0.60Ti0.40]O3 single crystal grown by Bridgman method. *Materials Research Bulletin*, **2006**, 41, 1069-1076	5.1	24
77	Modeling of elastic nonlinearities in ferroelectric materials including nonlinear losses: application to nonlinear resonance mode of relaxors single crystals. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, **2005**, 52, 596-603	3.2	22
76	The use of fractional derivation in modeling ferroelectric dynamic hysteresis behavior over large frequency bandwidth. *Journal of Applied Physics*, **2010**, 107, 114108	2.5	21
75	Investigations on ferroelectric PMN-PT and PZN-PT single crystals ability for power or resonant actuators. *Ultrasonics*, **2004**, 42, 501-5	3.5	21
74	Energy conversion in magneto-rheological elastomers. *Science and Technology of Advanced Materials*, **2017**, 18, 766-778	7.1	20

73	High nonlinearities in Langevin transducer: a comprehensive model. *Ultrasonics*, **2011**, 51, 1006-13	3.5	20
72	Elastocaloric effect in poly(vinylidene fluoride-trifluoroethylene-chlorotrifluoroethylene) terpolymer. *Applied Physics Letters*, **2016**, 108, 242904	3.4	20
71	Mechanism of depolarization with temperature for (1−x)Pb(Zn1/3Nb2/3)O3−xPbTiO3 single crystals. *Acta Materialia*, **2009**, 57, 2243-2249	8.4	19
70	Characterization of pure and substituted 0.955Pb(Zn1/3Nb2/3)O3−0.045PbTiO3. *Journal of Crystal Growth*, **2005**, 275, 580-588	1.6	19
69	Temperature dependence of the elastocaloric effect in natural rubber. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2017**, 381, 2112-2116	2.3	18
68	Dramatic effect of thermal expansion mismatch on the structural, dielectric, ferroelectric and pyroelectric properties of low-cost epitaxial PZT films on SrTiO3 and Si. *CrystEngComm*, **2016**, 18, 1887-1891	3.3	18
67	Comparison of elastocaloric effect of natural rubber with other caloric effects on different-scale cooling application cases. *Applied Thermal Engineering*, **2017**, 111, 914-926	5.8	18
66	Energy Harvester of 1.5 cm3 Giving Output Power of 2.6 mW with Only 1 G Acceleration. *Journal of Intelligent Material Systems and Structures*, **2011**, 22, 415-420	2.3	18
65	Magnetic particle chains embedded in elastic polymer matrix under pure transverse shear and energy conversion. *Journal of Magnetism and Magnetic Materials*, **2019**, 481, 39-49	2.8	17
64	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	4.1	17
63	Converse electrostrictive effect in dielectric polymers. *Sensors and Actuators B: Chemical*, **2014**, 190, 259-264	8.5	16
62	Modeling and Characterization of Piezoelectric Fibers with Metal Core. *Japanese Journal of Applied Physics*, **2005**, 44, 6156-6163	1.4	16
61	Morphotropic PMN–PT system investigated by comparison between ceramics and crystal. *Journal of the European Ceramic Society*, **2005**, 25, 2509-2513	6	15
60	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	2.8	15
59	Preisach Model Extended With Dynamic Fractional Derivation Contribution. *IEEE Transactions on Magnetics*, **2018**, 54, 1-4	2	14
58	Energy harvesting based on piezoelectric Ericsson cycles in a piezoceramic material. *European Physical Journal: Special Topics*, **2013**, 222, 1733-1743	2.3	14
57	Composition dependence of 90° domain switching in Pb(Mg1/3Nb2/3)1−xTixO3 system. *Solid State Sciences*, **2008**, 10, 1020-1027	3.4	14
56	A Space Discretized Ferromagnetic Model for Non-Destructive Eddy Current Evaluation. *IEEE Transactions on Magnetics*, **2018**, 54, 1-4	2	13

55	Experimental sea wave energy extractor based on piezoelectric Ericsson cycles. *Journal of Intelligent Material Systems and Structures*, **2018**, 29, 1102-1112	2.3	13
54	Characterization of an electroactive polymer simultaneously driven by an electrical field and a mechanical excitation: An easy means of measuring the dielectric constant, the Young modulus and the electrostrictive coefficients. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2011**, 375, 1699-1702	2.3	13
53	Correlation between macroscopic properties and microscopic parameters versus stress in tetragonal Pb(Mg1⁄3Nb2⁄3)0.6Ti0.4O3 ferroelectric ceramics. *Journal of Applied Physics*, **2006**, 100, 074104	2.5	11
52	Stability of morphotropic (110) oriented 0.65PMN-0.35PT single crystals. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, **2004**, 51, 1491-8	3.2	11
51	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	2.8	10
50	Fractional model of magnetic field penetration into a toroidal soft ferromagnetic sample. *International Journal of Dynamics and Control*, **2018**, 6, 89-96	1.7	10
49	Fatigue effect of elastocaloric properties in natural rubber. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2016**, 374,	3	10
48	Fractional derivative operators for modeling piezoceramic polarization behaviors under dynamic mechanical stress excitation. *Sensors and Actuators A: Physical*, **2013**, 189, 74-79	3.9	10
47	Electromechanical characterization of 0.55Pb(Ni1⁄3Nb2⁄3)O3–0.45Pb(Zr0.3Ti0.7)O3 fibers with Pt core. *Journal of Applied Physics*, **2006**, 100, 054106	2.5	10
46	Modelling the lateral resonance mode of piezoelectric fibres with metal core. *Journal Physics D: Applied Physics*, **2005**, 38, 3733-3740	3	10
45	Dynamic Magnetic Scalar Hysteresis Lump Model Based on Jiles–Atherton Quasi-Static Hysteresis Model Extended With Dynamic Fractional Derivative Contribution. *IEEE Transactions on Magnetics*, **2018**, 54, 1-5	2	10
44	Anisotropic magnetorheological elastomers for mechanical to electrical energy conversion. *Journal of Applied Physics*, **2017**, 122, 103902	2.5	9
43	Huge gain in pyroelectric energy conversion through epitaxy for integrated self-powered nanodevices. *Nano Energy*, **2017**, 41, 43-48	17.1	9
42	High frequency bandwidth polarization and strain control using a fractional derivative inverse model. *Smart Materials and Structures*, **2010**, 19, 045010	3.4	9
41	Self-sensing High Speed Controller for Piezoelectric Actuator. *Journal of Intelligent Material Systems and Structures*, **2008**, 19, 395-405	2.3	9
40	Electro-thermo-elastomers for artificial muscles. *Sensors and Actuators A: Physical*, **2012**, 180, 105-112	3.9	8
39	. *IEEE Transactions on Power Electronics*, **2013**, 28, 3941-3948	7.2	8
38	Temperature dependence of piezoelectric properties of PMN-PT and PZN-PT single crystals. *European Physical Journal Special Topics*, **2005**, 126, 53-57		8

37	Analysis of thermal energy harvesting using ferromagnetic materials. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2014**, 378, 3151-3154	2.3	7
36	Micro□macro correlation in ferroelectric materials: Depolarization mechanism for different excitations. *Acta Materialia*, **2008**, 56, 215-221	8.4	7
35	Depolarization mechanism under compressive stress in Pb(Mg1/3Nb2/3)1□TixO3 system. *Journal of Applied Physics*, **2007**, 102, 064104	2.5	7
34	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	3.2	7
33	Characterization of fractional order for high-frequency bandwidth model of dielectric ferroelectrics. *Journal of Intelligent Material Systems and Structures*, **2016**, 27, 437-443	2.3	5
32	Regenerative cooling using elastocaloric rubber: Analytical model and experiments. *Journal of Applied Physics*, **2020**, 127, 094903	2.5	5
31	Anomalous fractional diffusion equation for magnetic losses in a ferromagnetic lamination. *European Physical Journal Plus*, **2020**, 135, 1	3.1	5
30	Optimization of magneto-rheological elastomers for energy harvesting applications. *Smart Materials and Structures*, **2020**, 29, 075017	3.4	5
29	Validity of Flory's model for describing equilibrium strain-induced crystallization (SIC) and thermal behavior in natural rubber. *Polymer*, **2016**, 103, 41-45	3.9	5
28	Stress/electrical scaling in ferroelectrics. *Journal of Applied Physics*, **2009**, 105, 124103	2.5	5
27	Synthesis and characterization of 0.65Pb(Mg1/3Nb2/3)O3□0.35PbTiO3 fibers with Pt core. *Materials Research Bulletin*, **2008**, 43, 493-501	5.1	5
26	High-frequency response and wavelength dispersion of the linear electro-optic effect in PZN-PT (88/12) single crystal. *Applied Physics B: Lasers and Optics*, **2005**, 80, 413-417	1.9	5
25	Modeling of hysteretic behavior in ferroelectric polymers. *Journal of Polymer Science, Part B: Polymer Physics*, **2016**, 54, 499-508	2.6	4
24	Pyroelectricity of Pb(Zr0.52Ti0.48)O3 films grown by sol□gel process on silicon. *Thin Solid Films*, **2016**, 601, 80-83	2.2	4
23	Pyroelectric/electrocaloric energy scanvenging and cooling capabilities in ferroelectric materials. *International Journal of Applied Electromagnetics and Mechanics*, **2009**, 31, 41-46	0.4	4
22	Heusler alloy-based heat engine using pyroelectric conversion for small-scale thermal energy harvesting. *Applied Energy*, **2021**, 288, 116617	10.7	4
21	Identification of the ferromagnetic hysteresis simulation parameters using classic non-destructive testing equipment. *Journal of Magnetism and Magnetic Materials*, **2021**, 531, 167971	2.8	4
20	Anomalous fractional magnetic field diffusion through cross-section of a massive toroidal ferromagnetic core. *Communications in Nonlinear Science and Numerical Simulation*, **2021**, 92, 105450	3.7	3

19	Comparison of electromagnetic inspection methods for creep-degraded high chromium ferritic steels. *NDT and E International*, **2021**, 118, 102399	4.1	3
18	Energy Harvesting from Temperature: Use of Pyroelectric and Electrocaloric Properties. *Engineering Materials*, **2014**, 225-249	0.4	2
17	Ambient energy harvesting using ferroelectric materials **2008**,		2
16	Mathematical Modeling of Rubber Elasticity. *Journal of Physics: Conference Series*, **2018**, 1141, 012081	0.3	2
15	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	2.8	2
14	Modeling energy losses in power ultrasound transducers **2015**, 241-256		1
13	Coarse-Grained Lattice Modeling and Monte Carlo Simulations of Stress Relaxation in Strain-Induced Crystallization of Rubbers. *Polymers*, **2020**, 12,	4.5	1
12	Electrocaloric Effect In Relaxor Ferroelectric Ceramics and Single Crystals **2006**,		1
11	Modeling hysteresis in ferroelectric materials with a dry friction concept. *Journal of Advanced Science*, **2005**, 17, 13-16	0	1
10	An anisotropic vector hysteresis model of ferromagnetic behavior under alternating and rotational magnetic field. *Journal of Magnetism and Magnetic Materials*, **2022**, 549, 169045	2.8	1
9	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	2.8	1
8	Analysis of magneto rheological elastomers for energy harvesting systems. *International Journal of Applied Electromagnetics and Mechanics*, **2020**, 64, 439-446	0.4	1
7	Elastocaloric properties of thermoplastic polyurethane. *Applied Physics Letters*, **2020**, 117, 193903	3.4	1
6	Fractional operators for the magnetic dynamic behavior of ferromagnetic specimens: An overview. *AIP Advances*, **2021**, 11, 035309	1.5	1
5	Physical behavior of electrostrictive polymers. Part 1: Polarization forces. *Computational Materials Science*, **2021**, 190, 110294	3.2	1
4	Monte Carlo Study of Rubber Elasticity on the Basis of Finsler Geometry Modeling. *Symmetry*, **2019**, 11, 1124	2.7	1
3	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	3.7	1
2	Magnetic behavior of magneto-rheological foam under uniaxial compression strain. *Smart Materials and Structures*, **2022**, 31, 025018	3.4	0

1	Combining a fractional diffusion equation and a fractional viscosity-based magneto dynamic model to simulate the ferromagnetic hysteresis losses. *AIP Advances*, **2022**, 12, 035029	1.5	0