Michael A Carpenter

List of Publications by Year
in descending order

85 papers	3,296 citations	159525 30 h-index	155592 55 g-index
86 all docs	86 docs citations	86 times ranked	2688 citing authors

#	Article	IF	Citations
1	Spontaneous strain as a determinant of thermodynamic properties for phase transitions in minerals. European Journal of Mineralogy, 1998, 10, 621-691.	0.4	277
2	Elastic anomalies in minerals due to structural phase transitions. European Journal of Mineralogy, 1998, 10, 693-812.	0.4	275
3	Transformation processes inLaAlO3: Neutron diffraction, dielectric, thermal, optical, and Raman studies. Physical Review B, 2005, 72, .	1.1	211
4	Calibration of excess thermodynamic properties and elastic constant variations associated with the alpha <-->beta phase transition in quartz. American Mineralogist, 1998, 83, 2-22.	0.9	197
5	Domain Wall Damping and Elastic Softening in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>: Evidence for Polar Twin Walls. Physical Review Letters, 2012, 109, 187601.	2.9	118
6	Acoustic dissipation associated with phase transitions in lawsonite, CaAl2Si2O7(OH)2{middle dot}H2O. American Mineralogist, 2007, 92, 1665-1672.	0.9	112
7	Grain size dependence of elastic anomalies accompanying the Î±â€“Î² phase transition in polycrystalline quartz. Journal of Physics Condensed Matter, 2008, 20, 075229.	0.7	98
8	Elastic anomalies accompanying phase transitions in (Ca,Sr)TiO3 perovskites: Part I. Landau theory and a calibration for SrTiO3. American Mineralogist, 2007, 92, 309-327.	0.9	92
9	Strain analysis of phase transitions in (Ca,Sr)TiO₃perovskites. American Mineralogist, 2001, 86, 348-363.	0.9	88
10	Elastic relaxation behavior, magnetoelastic coupling, and order-disorder processes in multiferroic metal-organic frameworks. Physical Review B, 2012, 86, .	1.1	76
11	Strain mechanism for order-parameter coupling through successive phase transitions inPrAlO3. Physical Review B, 2005, 72, .	1.1	69
12	Elastic anomalies associated with transformation sequences in perovskites: I. Strontium zirconate, SrZrO₃. Journal of Physics Condensed Matter, 2009, 21, 015901.	0.7	66
13	Elastic excitations in BaTiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>single crystals and ceramics: Mobile domain boundaries and polar nanoregions observed by resonant ultrasonic spectroscopy. Physical Review B, 2013, 87, .	1.1	63
14	Static and dynamic strain coupling behaviour of ferroic and multiferroic perovskites from resonant ultrasound spectroscopy. Journal of Physics Condensed Matter, 2015, 27, 263201.	0.7	62
15	Spontaneous strain variations through the low temperature phase transitions of deuterated lawsonite. American Mineralogist, 2003, 88, 534-546.	0.9	51
16	Displacive components of the low-temperature phase transitions in lawsonite. American Mineralogist, 2001, 86, 566-577.	0.9	50
17	Symmetry rules and strain/order-parameter relationships for coupling between octahedral tilting and cooperative Jahnâ€“Teller transitions in ABX ₃ perovskites. II. Application. Acta Crystallographica Section B: Structural Science, 2009, 65, 147-159.	1.8	50
18	Magnetoelastic coupling and multiferroic ferroelastic/magnetic phase transitions in the perovskite KMnF<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2012, 85, .	1.1	50

#	Article	IF	Citations
19	Polar precursor ordering in BaTiO3 detected by resonant piezoelectric spectroscopy. Applied Physics Letters, 2013, 103, 142902.	1.5	49
20	Stressâ€Induced Domain Wall Motion in a Ferroelastic Mn³⁺ Spin Crossover Complex. Angewandte Chemie - International Edition, 2020, 59, 13305-13312.	7.2	49
21	Mechanical resonance of the austenite/martensite interface and the pinning of the martensitic microstructures by dislocations in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Cu</mml:mtext></mml:mrow><mml:mrow><mml:mn>74.08</ Physical Review B, 2009, 80, .	1.1	46
22	Ferroelectric precursor behavior in PbSc<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>0.5</mml:mn></mml:mrow></mml:msub></mml:math>Ta<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>0.5</mml:mn></mml:mrow></mml:msub></mml:math>O<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:	1.1	45
23	Elastic relaxations associated with the Pmar {3}m â€“Rar {3}c transition in LaAlO₃: III. Superattenuation of acoustic resonances. Journal of Physics Condensed Matter, 2010, 22, 035405.	0.7	43
24	Microstructure dynamics in orthorhombic perovskites. Physical Review B, 2010, 82, .	1.1	42
25	Studies of the Roomâ€Temperature Multiferroic Pb(Fe_{0.5}Ta_{0.5})_{0.4}(Zr_{0.53}Ti_{0.47})_{0.6}O₃: Resonant Ultrasound Spectroscopy, Dielectric, and Magnetic Phenomena. Advanced Functional Materials, 2014, 24, 2993-3002.	7.8	37
26	Ordering behaviour of the mineral lawsonite. Phase Transitions, 2000, 71, 189-203.	0.6	36
27	Anelasticity maps for acoustic dissipation associated with phase transitions in minerals. Geophysical Journal International, 2011, 186, 279-295.	1.0	35
28	Linearâ€“quadratic order parameter coupling and multiferroic phase transitions. Journal of Physics Condensed Matter, 2011, 23, 462202.	0.7	34
29	Polar correlations and defect-induced ferroelectricity in cryogenic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">KTaO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2014, 90, .	1.1	33
30	Elastic and anelastic relaxations in the relaxor ferroelectric Pb(Mg_{1/3}Nb_{2/3})O₃: II. Strainâ€“order parameter coupling and dynamic softening mechanisms. Journal of Physics Condensed Matter, 2012, 24, 045902.	0.7	31
31	Elastic and anelastic relaxations associated with phase transitions in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">EuTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2014, 90, .	1.1	30
32	Suppression of strain coupling in perovskite<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi mathvariant="normal">La</mml:mi><mml:mn>0.6</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">Sr</mml:mi><mml:mn>0.1</mml:mn></mml:msub><mml:mi mathvariant="normal">Ti</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>by cati	1.1	29
33	Characteristic length scale for strain fields around impurity cations in perovskites. Physical Review B, 2009, 80, .	1.1	29
34	Elastic and anelastic relaxations associated with the incommensurate structure of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Pr</mml:mtext></mml:mrow><mml:mrow><mml:mn>0.48</mml: Physical Review B, 2010, 82, .	1.1	29
35	Elastic anomalies associated with transformation sequences in perovskites: II. The strontium zirconateâ€“titanate Sr(Zr,Ti)O₃solid solution series. Journal of Physics Condensed Matter, 2009, 21, 015902.	0.7	28
36	Strain Coupling and Dynamic Relaxation in a Molecular Perovskiteâ€Like Multiferroic Metalâ€“Organic Framework. Advanced Functional Materials, 2018, 28, 1806013.	7.8	28

#	Article	IF	Citations
37	Magnetic field andin situstress dependence of elastic behavior in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>EuTiO</mml:mi><mml:mn>3</mml:mn></mml:msub><in resonant ultrasound spectroscopy. Physical Review B, 2016, 93, .	1.1	27
38	Elastic relaxations associated with the Pmar 3 m â€“Rar 3 c transition in LaAlO₃: II. Mechanisms of static and dynamical softening. Journal of Physics Condensed Matter, 2010, 22, 035404.	0.7	24
39	Elastic and anelastic relaxations in the relaxor ferroelectric Pb(Mg_{1/3}Nb_{2/3})O₃: I. Strain analysis and a static order parameter. Journal of Physics Condensed Matter, 2012, 24, 045901.	0.7	24
40	Elastic and Anelastic Properties of Ferroelectric<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mi>SrTi</mml:mi><mml:mn>18</mml:mn></mml:msup><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>in the kHz-MHz Regime. Physical Review Letters, 2011, 106, 105502.	2.9	23
41	Domain glasses: Twin planes, Bloch lines, and Bloch points. Physica Status Solidi (B): Basic Research, 2015, 252, 2639-2648.	0.7	23
42	Elastic properties and acoustic dissipation associated with a disorderâ€“order ferroelectric transition in a metalâ€“organic framework. CrystEngComm, 2015, 17, 370-374.	1.3	23
43	Symmetry and strain analysis of structural phase transitions in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Pr</mml:mtext></mml:mrow><mml:mrow><mml:mn>0.48</mml:mn> Physical Review B, 2010, 82, .	1.1	22
44	Strain coupling mechanisms and elastic relaxation associated with spin state transitions in LaCoO₃. Journal of Physics Condensed Matter, 2011, 23, 145401.	0.7	22
45	Influence of local strain heterogeneity on high piezoelectricity in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>0.5</mml:mn><mml:mi>Ba</mml:mi><mml:mrow><m	1.1	22
46	Glasslike Dynamics of Polar Domain Walls in Cryogenic <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>SrTiO</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub><< Physical Review Letters, 2018, 121, 235701.	2.9	22
47	Phase transitions in lawsonite: a calorimetric study. European Journal of Mineralogy, 2001, 13, 5-14.	0.4	21
48	Domain Wall Dynamics in a Ferroelastic Spin Crossover Complex with Giant Magnetoelectric Coupling. Journal of the American Chemical Society, 2022, 144, 195-211.	6.6	21
49	Ferroelastic phase transitions and anelastic dissipation in the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>LaAlO</mml:mtext></mml:mrow><mml:mn>3</mml:mn></mml:msub><mml:m solution series. Physical Review B, 2010, 82, .	1.1	20
50	Structural and spectroscopic characterisation of the spin crossover in [Fe(abpt)₂(NCS)₂] polymorph A. New Journal of Chemistry, 2016, 40, 2466-2478.	1.4	20
51	Ferroelastic aspects of relaxor ferroelectric behaviour in Pb(In1/2Nb1/2)O3-Pb(Mg1/3Nb2/3)O3-PbTiO3 perovskite. Journal of Applied Physics, 2013, 113, 124102.	1.1	19
52	Elastic anomalies associated with structural and magnetic phase transitions in single crystal hexagonal YMnO₃. Journal of Physics Condensed Matter, 2014, 26, 045901.	0.7	19
53	Strain relaxation mechanisms of elastic softening and twin wall freezing associated with structural phase transitions in (Ca,Sr)TiO₃perovskites. Journal of Physics Condensed Matter, 2014, 26, 505402.	0.7	17
54	CoF2: a model system for magnetoelastic coupling and elastic softening mechanisms associated with paramagnetic â†” antiferromagnetic phase transitions. Journal of Physics Condensed Matter, 2014, 26, 146001.	0.7	17

#	Article	IF	Citations
55	Glass-Glass Transitions by Means of an Acceptor-Donor Percolating Electric-Dipole Network. Physical Review Applied, 2017, 8, .	1.5	17
56	Defect dynamics and strain coupling to magnetization in the cubic helimagnet <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">C</mml:mi><mml:msub><mml:mi mathvariant="normal">u</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi>OSe</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2017, 95, .	1.1	16
57	Elastic relaxations associated with the Pmar {3} m â€“ Rar {3} c transition in LaAlO3: IV. An incipient instability below room temperature. Journal of Physics Condensed Matter, 2010, 22, 035406.	0.7	15
58	Thermal and Magnetic Field Switching in a Twoâ€Step Hysteretic Mn^{III} Spin Crossover Compound Coupled to Symmetry Breakings. Angewandte Chemie - International Edition, 2022, 61, .	7.2	15
59	Elastic softening and polarization memory in PZN-PT relaxor ferroelectrics. Physical Review B, 2011, 84, .	1.1	14
60	Fundamental aspects of symmetry and order parameter coupling for martensitic transition sequences in Heusler alloys. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2018, 74, 560-573.	0.5	14
61	Strain and order-parameter coupling in Ni-Mn-Ga Heusler alloys from resonant ultrasound spectroscopy. Physical Review B, 2018, 97, .	1.1	13
62	Stressâ€Induced Domain Wall Motion in a Ferroelastic Mn 3+ Spin Crossover Complex. Angewandte Chemie, 2020, 132, 13407-13414.	1.6	13
63	Magnetoelastic relaxations in EuTiO 3. Europhysics Letters, 2015, 109, 57004.	0.7	11
64	Elastic and anelastic relaxation behaviour of perovskite multiferroics I: PbZr0.53Ti0.47O3 (PZT)â€“PbFe0.5Nb0.5O3 (PFN). Journal of Materials Science, 2016, 51, 10727-10760.	1.7	11
65	Elastic and anelastic relaxation behaviour of perovskite multiferroics II: PbZr0.53Ti0.47O3 (PZT)â€“PbFe0.5Ta0.5O3 (PFT). Journal of Materials Science, 2017, 52, 285-304.	1.7	11
66	Group-theoretical analysis of structural instability, vacancy ordering and magnetic transitions in the system troilite (FeS)â€“pyrrhotite (Fe_{1â^'x}S). Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2019, 75, 1208-1224.	0.5	11
67	Symmetry analysis of the structural and magnetic phase transitions in 122 iron arsenides. Acta Crystallographica Section B: Structural Science, 2012, 68, 209-212.	1.8	10
68	Strain behavior and lattice dynamics in Ni50Mn35In15. Journal of Physics Condensed Matter, 2015, 27, 415402.	0.7	10
69	Magnetoelastic properties and behaviour of 4C pyrrhotite, Fe₇S₈, through the Besnus transition. Journal of Physics Condensed Matter, 2020, 32, 405401.	0.7	9
70	Strain coupling in multiferroic phase transitions of samarium yttrium manganite Sm0.6Y0.4MnO3. Physical Review B, 2013, 88, .	1.1	6
71	Local strain heterogeneity and elastic relaxation dynamics associated with relaxor behavior in the single-crystal perovskite Pb(In1/2Nb1/2)O3â^'PbZrO3â^'Pb(Mg1/3Nb2/3)O3â^'PbTiO3. Physical Review B, 2017, 96, .	1.1	6
72	New Degree of Freedom in Determining Superior Piezoelectricity at the Lead-Free Morphotropic Phase Boundary: The Invisible Ferroelectric Crossover. ACS Applied Materials & Interfaces, 2022, 14, 1434-1442.	4.0	6

#	Article	IF	Citations
73	Ferroelasticity, anelasticity and magnetoelastic relaxation in Co-doped iron pnictide: Ba(Fe_{0.957}Co_{0.043})₂As₂. Journal of Physics Condensed Matter, 2019, 31, 155401.	0.7	5
74	Coupling between phase transitions and glassy magnetic behaviour in Heusler alloy Ni₅₀Mn₃₄In₈Ga₈. Journal of Physics Condensed Matter, 2020, 32, 325402.	0.7	5
75	Strain relaxation dynamics of multiferroic orthorhombic manganites. Journal of Physics Condensed Matter, 2021, 33, 125402.	0.7	5
76	Thermal and Magnetic Field Switching in a Twoâ€Step Hysteretic Mn^{III} Spin Crossover Compound Coupled to Symmetry Breakings. Angewandte Chemie, 2022, 134, e202114021.	1.6	5
77	Magnetoelastic coupling associated with vacancy ordering and ferrimagnetism in natural pyrrhotite, Fe₇S₈. Journal of Physics Condensed Matter, 2020, 32, 385401.	0.7	4
78	Phase transitions in minerals: strain and elasticity. European Journal of Mineralogy, 1998, 10, 619-620.	0.4	4
79	Symmetry and strain analysis of combined electronic and structural instabilities in tungsten trioxide, WO3. Journal of Applied Physics, 2022, 131, .	1.1	4
80	Order-parameter coupling and strain relaxation behavior of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="normal">Ti</mml:mi><mml:mn>50</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">Pd</mml:mi><mml:mrow><mml:mn>50</mml:mn><mml:mo>â^’</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub><mml:msub><mml:mi mathvariant="normal">Cr</mml:mi><mml:mi>x</mml:mi></mml:msub></mml:mrow></mml:math> martensites. Physical Review B, 2020, 102, .	1.1	3
81	Glassy Magnetic Transitions and Accurate Estimation of Magnetocaloric Effect in Niâ€“Mn Heusler Alloys. ACS Applied Materials & Interfaces, 2020, 12, 43646-43652.	4.0	3
82	Orderâ€“disorder, ferroelasticity and mobility of domain walls in multiferroic Cuâ€“Cl boracite. Journal of Physics Condensed Matter, 2021, 33, 095402.	0.7	3
83	Strain relaxation behaviour of vortices in a multiferroic superconductor. Journal of Physics Condensed Matter, 2019, 31, 135403.	0.7	2
84	Quantum critical points in ferroelectric relaxors: Stuffed tungsten bronze K3Li2Ta5O15 and lead pyrochlore (Pb2Nb2O7). Physical Review Materials, 2018, 2, .	0.9	1
85	Influence of charged walls and defects on DC resistivity and dielectric relaxations in Cu-Cl boracite. Applied Physics Letters, 2021, 119, 202904.	1.5	0