High-pressure elastic properties of major materials of E

Reviews of Geophysics 39, 507-534 DOI: 10.1029/2000rg000088

Citation Report

#	Article	IF	CITATIONS
1	Computational mineral physics and the physical properties of perovskite. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2002, 360, 2507-2520.	3.4	16
2	Elasticity of (Mg,Fe)SiO3-Perovskite at high pressures. Geophysical Research Letters, 2002, 29, 34-1.	4.0	85
3	Molecular dynamics modeling of stishovite. Earth and Planetary Science Letters, 2002, 202, 147-157.	4.4	21
4	Metamorphic controls on seismic velocity of subducted oceanic crust at 100–250 km depth. Earth and Planetary Science Letters, 2002, 204, 61-74.	4.4	133
5	Thermoelastic Properties of (Mg,Fe)SiO3 Perovskite. Materials Research Society Symposia Proceedings, 2002, 718, 1.	0.1	0
6	All-electron and pseudopotential study of MgO: Equation of state, anharmonicity, and stability. Physical Review B, 2003, 67, .	3.2	151
7	Inferring upper-mantle temperatures from seismic velocities. Physics of the Earth and Planetary Interiors, 2003, 138, 197-222.	1.9	477
8	Single-crystal elasticity of andradite garnet to 11 GPa. Journal of Physics Condensed Matter, 2004, 16, S1041-S1052.	1.8	25
9	Seismic singularities at upper-mantle phase transitions: a site percolation model. Geophysical Journal International, 2004, 159, 949-960.	2.4	7
10	A visualization system for mineral elasticity. Visual Geosciences, 2004, 9, 49-57.	O.5	4
11	Shock-induced melting of MgSiO3perovskite and implications for melts in Earth's lowermost mantle. Geophysical Research Letters, 2004, 31, .	4.0	93
12	Elasticity of post-perovskite MgSiO3. Geophysical Research Letters, 2004, 31, .	4.0	147
13	Single-crystal elasticity of fayalite to 12 GPa. Journal of Geophysical Research, 2004, 109, .	3.3	59
14	In situ observation of texture development in olivine, ringwoodite, magnesiowüstite and silicate perovskite at high pressure. Earth and Planetary Science Letters, 2004, 226, 507-519.	4.4	82
15	Application of inelastic X-ray scattering to the measurements of acoustic wave velocities in geophysical materials at very high pressure. Physics of the Earth and Planetary Interiors, 2004, 143-144, 5-18.	1.9	43
16	Electronic and elastic properties of RCo5 and RCo5H (R = La, Ce, Pr). Journal of Alloys and Compounds, 2004, 379, 41-53.	5.5	23
17	Thermodynamics of mantle minerals - I. Physical properties. Geophysical Journal International, 2005, 162, 610-632.	2.4	492
18	Crystal morphology and surface structures of orthorhombic MgSiO3 perovskite. Physics and Chemistry of Minerals, 2005, 31, 671-682.	0.8	17

#	Article	IF	CITATIONS
19	The nonlinear elasticity and related properties of anhydrous and hydrous γ-Mg2SiO4: a theoretical study. Physics and Chemistry of Minerals, 2005, 32, 28-39.	0.8	3
20	Ab initio simulation in extreme conditions. Materials Today, 2005, 8, 26-32.	14.2	21
21	Anisotropy of akimotoite: A molecular dynamics study. Physics of the Earth and Planetary Interiors, 2005, 151, 309-319.	1.9	16
22	Texture development and deformation mechanisms in ringwoodite. Physics of the Earth and Planetary Interiors, 2005, 152, 191-199.	1.9	43
23	The role of theoretical mineral physics in modeling the Earth's interior. Geophysical Monograph Series, 2005, , 137-163.	0.1	0
24	First-principles thermoelasticity of transition metals at high pressure: Tantalum prototype in the quasiharmonic limit. Physical Review B, 2006, 74, .	3.2	53
25	Ab initiostudies of phonon softening and high-pressure phase transitions ofα-quartzSiO2. Physical Review B, 2006, 73, .	3.2	57
26	Stability of alkali-metal oxides as a function of pressure: Theoretical calculations. Physical Review B, 2006, 73, .	3.2	47
27	Efficient parametrization of high-pressure elasticity. Physical Review B, 2006, 74, .	3.2	6
28	Determination of elastic constants of titanium diboride (TiB2) from first principles using FLAPW implementation of the density functional theory. Computational Materials Science, 2006, 35, 134-150.	3.0	253
29	First principles determination of elastic constants and chemical bonding of titanium boride (TiB) on the basis of density functional theory. Acta Materialia, 2006, 54, 1641-1657.	7.9	262
30	Equations of state of CaSiO3 Perovskite: a molecular dynamics study. Physics and Chemistry of Minerals, 2006, 33, 126-137.	0.8	10
31	High pressure elasticity and phase transformation in brucite, Mg(OH)2. Physics and Chemistry of Minerals, 2006, 33, 484-489.	0.8	5
32	Deformation experiments in the diamond-anvil cell: texture in copper to 30 GPa. Journal of Physics Condensed Matter, 2006, 18, S1007-S1020.	1.8	12
33	High-pressure proton disorder in brucite. American Mineralogist, 2006, 91, 127-134.	1.9	75
34	Properties of Rocks and Minerals – Seismic Properties of Rocks and Minerals, and Structure of the Earth. , 2007, , 7-32.		8
35	Seismic Anisotropy of the Deep Earth from a Mineral and Rock Physics Perspective. , 2007, , 437-491.		86
36	Constraints on Seismic Models from Other Disciplines – Constraints from Mineral Physics on Seismological Models. , 2007, , 775-803.		3

#	Article	IF	CITATIONS
37	The mechanically induced tuning of structural properties for MgO tubes under uniaxial tension, torsion and bending: computer molecular modelling. Nanotechnology, 2007, 18, 205707.	2.6	2
38	Hypervelocity impact induced deformation modes in α-alumina. Applied Physics Letters, 2007, 91, 071906.	3.3	26
39	Phase stability and shear softening inCaSiO3perovskite at high pressure. Physical Review B, 2007, 75, .	3.2	74
40	Predicted elastic properties of the hydrous D phase at mantle pressures: Implications for the anisotropy of subducted slabs near 670-km discontinuity and in the lower mantle. Earth and Planetary Science Letters, 2007, 259, 283-296.	4.4	32
41	Placing constraints on phase equilibria and thermophysical properties in the system MgO–SiO2 by a thermodynamically consistent vibrational method. Geochimica Et Cosmochimica Acta, 2007, 71, 3630-3655.	3.9	32
42	Mechanical properties of cubic zinc carboxylate IRMOF-1 metal-organic framework crystals. Physical Review B, 2007, 76, .	3.2	124
43	Multimillion-atom nanoindentation simulation of crystalline silicon carbide: Orientation dependence and anisotropic pileup. Journal of Applied Physics, 2007, 102, .	2.5	62
44	First-principles simulations of liquid silica: Structural and dynamical behavior at high pressure. Physical Review B, 2007, 76, .	3.2	150
45	Fracture initiation mechanisms in α-alumina under hypervelocity impact. Applied Physics Letters, 2007, 91, 121911.	3.3	20
46	Pressure effect of self-diffusion in periclase (MgO) by molecular dynamics. Journal of Geophysical Research, 2007, 112, .	3.3	22
47	References and notes. , 0, , 356-374.		3
48	Elastic properties of alkaline earth oxides under high pressure. Physica B: Condensed Matter, 2007, 391, 307-311.	2.7	16
49	Atomistic damage mechanisms during hypervelocity projectile impact on AlN: A large-scale parallel molecular dynamics simulation study. Journal of the Mechanics and Physics of Solids, 2008, 56, 1955-1988.	4.8	50
50	Interaction potentials for alumina and molecular dynamics simulations of amorphous and liquid alumina. Journal of Applied Physics, 2008, 103, .	2.5	139
51	Seismic array detection of subducted oceanic crust in the lower mantle. Journal of Geophysical Research, 2008, 113, .	3.3	48
52	Elastic properties of phase D (MgSi2O6H2) under pressure: Ab initio investigation. Physics of the Earth and Planetary Interiors, 2008, 170, 215-220.	1.9	24
53	Sound velocities and elasticity of DHMS phase A to high pressure and implications for seismic velocities and anisotropy in subducted slabs. Physics of the Earth and Planetary Interiors, 2008, 170, 229-239.	1.9	28
54	Deformation mechanisms and damage in α-alumina under hypervelocity impact loading. Journal of Applied Physics, 2008, 103, .	2.5	43

#	Article	IF	CITATIONS
55	Predicted glide systems and crystal preferred orientations of polycrystalline silicate Mg-Perovskite at high pressure: Implications for the seismic anisotropy in the lower mantle. Earth and Planetary Science Letters, 2008, 271, 135-144.	4.4	66
56	Thermodynamics, structure, dynamics, and freezing of Mg2SiO4 liquid at high pressure. Geochimica Et Cosmochimica Acta, 2008, 72, 1427-1441.	3.9	127
57	Ab initiocalculations of the second-order elastic constants of crystals under arbitrary isotropic pressure. Physical Review B, 2008, 77, .	3.2	45
58	Free enthalpy landscape of SrO. Journal of Chemical Physics, 2008, 128, 194712.	3.0	23
59	PreMDB, a thermodynamically consistent material database as a key to geodynamic modelling. Acta Geotechnica, 2009, 4, 107-115.	5.7	10
60	Self-consistent thermodynamic description of silicate liquids, with application to shock melting of MgO periclase and MgSiO ₃ perovskite. Geophysical Journal International, 2009, 178, 162-179.	2.4	130
61	Isobaricâ^'Isothermal Molecular Dynamics Simulations Utilizing Density Functional Theory: An Assessment of the Structure and Density of Water at Near-Ambient Conditions. Journal of Physical Chemistry B, 2009, 113, 11959-11964.	2.6	327
62	First-principles study of the structural and elastic properties of zirconia. Physical Review B, 2009, 79, .	3.2	79
63	Structure and elasticity of serpentine at high-pressure. Earth and Planetary Science Letters, 2009, 279, 11-19.	4.4	86
64	Single-crystal elasticity of (Mg0.9Fe0.1)O to 81ÂGPa. Earth and Planetary Science Letters, 2009, 287, 345-352.	4.4	92
65	Elasticity of stishovite and acoustic mode softening under high pressure by Brillouin scattering. Physics of the Earth and Planetary Interiors, 2009, 172, 235-240.	1.9	49
66	Elasticity and Raman and infrared spectra of MgAl2O4 spinel from density functional perturbation theory. Physics of the Earth and Planetary Interiors, 2009, 174, 113-121.	1.9	46
67	Elastic properties of δ-AlOOH under pressure: First principles investigation. Physics of the Earth and Planetary Interiors, 2009, 174, 122-127.	1.9	58
68	Elasticity measurements on minerals: a review. European Journal of Mineralogy, 2009, 21, 525-550.	1.3	56
69	First principles investigation of the structural and elastic properties of hydrous wadsleyite under pressure. Journal of Geophysical Research, 2009, 114, .	3.3	41
70	The Second Continent. Journal of Geography (Chigaku Zasshi), 2010, 119, 1197-1214.	0.3	17
71	First-Principles Molecular Dynamics Simulations of Silicate Melts: Structural and Dynamical Properties. Reviews in Mineralogy and Geochemistry, 2010, 71, 355-389.	4.8	33
72	Rheology of the Earth's mantle: A historical review. Gondwana Research, 2010, 18, 17-45.	6.0	114

#	Article	IF	CITATIONS
73	Theoretical investigations of the physical properties of tetragonal CaSiO3 perovskite. Solid State Communications, 2010, 150, 943-948.	1.9	21
74	Quantum Monte Carlo computations of phase stability, equations of state, and elasticity of high-pressure silica. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9519-9524.	7.1	43
75	PRESSURE DEPENDENCE OF THE ELASTIC CONSTANTS WITH APPLICATION TO MINERALS. International Journal of Modern Physics B, 2010, 24, 6091-6098.	2.0	2
76	Design of a Rayleigh–Taylor experiment to measure strength at high pressures. Physics of Plasmas, 2010, 17, .	1.9	16
77	High-pressure behavior of 2M1 muscovite. American Mineralogist, 2010, 95, 249-259.	1.9	18
78	Fundamentals of elasticity of (Mg _{1â^'<i>x</i>} ,) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 542 Td	(Fe _{ 4.0}	<i3x< i=""></i3x<>
79	Ab initio investigation of highâ€pressure phase relation and elasticity in the NaAlSi ₂ O ₆ system. Geophysical Research Letters, 2010, 37, .	4.0	20
80	Silicon selfâ€diffusion of MgSiO ₃ perovskite by molecular dynamics and its implication for lower mantle rheology. Journal of Geophysical Research, 2010, 115, .	3.3	12
81	First Principles Quasiharmonic Thermoelasticity of Mantle Minerals. Reviews in Mineralogy and Geochemistry, 2010, 71, 99-128.	4.8	45
82	Density Functional Theory of Electronic Structure: A Short Course for Mineralogists and Geophysicists. Reviews in Mineralogy and Geochemistry, 2010, 71, 1-18.	4.8	16
83	Determination of the high-pressure properties of fayalite from first-principles calculations. Earth and Planetary Science Letters, 2010, 289, 449-456.	4.4	33
84	Quasiharmonic thermal elasticity of crystals: An analytical approach. Physical Review B, 2011, 83, .	3.2	62
85	Elasticity and anisotropy of Fe3C at high pressures. American Mineralogist, 2011, 96, 1530-1536.	1.9	44
86	Mid-mantle anisotropy: Elasticity of aluminous phases in subducted MORB. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	22
87	Elasticity and anisotropy of iron-nickel phosphides at high pressures. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	6
89	First principles molecular dynamics simulations of diopside (CaMgSi2O6) liquid to high pressure. Geochimica Et Cosmochimica Acta, 2011, 75, 3792-3802.	3.9	60
90	Elasticity of subducted basaltic crust at the lower mantle pressures: Insights on the nature of deep mantle heterogeneity. Physics of the Earth and Planetary Interiors, 2011, 188, 142-149.	1.9	63
91	Structural and elastic properties of CaGeO3 perovskite at high pressures. Physics of the Earth and Planetary Interiors, 2011, 189, 151-156.	1.9	15

#	Article	IF	CITATIONS
92	The enigma of post-perovskite anisotropy: deformation versus transformation textures. Physics and Chemistry of Minerals, 2011, 38, 665-678.	0.8	33
93	First-principles simulations of thermodynamical and structural properties of liquid Al <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:mrow </mml:msub>O<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow< td=""><td>3.2</td><td>15</td></mml:mrow<></mml:msub></mml:math </mml:math 	3.2	15
94	First-principles calculation of the elastic moduli of sheet silicates and their application to shale anisotropy. American Mineralogist, 2011, 96, 125-137.	1.9	92
95	Phase stability and elastic properties of the NAL and CF phases in the NaMg2Al5SiO12 system from first principles. American Mineralogist, 2012, 97, 305-314.	1.9	21
96	Energetics, equation of state, and elasticity of NAL phase: Potential host for alkali and aluminum in the lower mantle. Geophysical Research Letters, 2012, 39, .	4.0	19
97	The effect of pressure on the elastic properties and seismic anisotropy of diopside and jadeite from atomic scale simulation. Physics of the Earth and Planetary Interiors, 2012, 192-193, 81-89.	1.9	28
98	First-principles calculations on finite temperature elastic properties of B2-AlRE (REÂ=ÂY, Tb, Pr, Nd, Dy) intermetallics. Intermetallics, 2012, 26, 57-61.	3.9	5
99	The elasticity of lawsonite at high pressure and the origin of low velocity layers in subduction zones. Earth and Planetary Science Letters, 2012, 349-350, 116-125.	4.4	35
100	Geophysics of Chemical Heterogeneity in the Mantle. Annual Review of Earth and Planetary Sciences, 2012, 40, 569-595.	11.0	129
101	First principles investigations on the elasticity and phase stability of grossular garnet. Journal of Geophysical Research, 2012, 117, .	3.3	22
102	The low velocity layer in subduction zone: Structure and elasticity of glaucophane at high pressures. Physics of the Earth and Planetary Interiors, 2012, 208-209, 50-58.	1.9	26
103	High-pressure physical properties of magnesium silicate post-perovskite from ab initio calculations. Bulletin of Materials Science, 2012, 35, 665-672.	1.7	4
104	Elastic Properties of Tricalcium Aluminate from Highâ€Pressure Experiments and Firstâ€Principles Calculations. Journal of the American Ceramic Society, 2012, 95, 2972-2978.	3.8	32
105	The temperature-dependent elastic properties of B2-MgRE intermetallic compounds from first principles. Physica B: Condensed Matter, 2012, 407, 96-102.	2.7	13
106	Ab initio investigation into the elasticity of ultrahigh-pressure phases of SiO2. Physics and Chemistry of Minerals, 2012, 39, 177-187.	0.8	4
107	Lattice instability of V2AlC at high pressure. Science China: Physics, Mechanics and Astronomy, 2013, 56, 916-924.	5.1	13
108	Elastic properties of MgSiO3-perovskite under lower mantle conditions and the composition of the deep Earth. Earth and Planetary Science Letters, 2013, 379, 1-12.	4.4	55
109	Structure Prediction in Solid-State Chemistry as an Approach to Rational Synthesis Planning. , 2013, , 941-969.		4

#	Article	IF	CITATIONS
110	A first-principles calculation of the elastic and vibrational anomalies of lizardite under pressure. American Mineralogist, 2013, 98, 2046-2052.	1.9	16
111	Ultrasonic contact pulse transmission for elastic wave velocity and stiffness determination: Influence of specimen geometry and porosity. Engineering Structures, 2013, 47, 115-133.	5.3	62
112	First-principles study on the high-pressure phase transition and elasticity of KAlSi3O8 hollandite. American Mineralogist, 2013, 98, 207-218.	1.9	16
113	Spin transition of Fe3+ in Al-bearing phase D: An alternative explanation for small-scale seismic scatterers in the mid-lower mantle. Earth and Planetary Science Letters, 2013, 382, 1-9.	4.4	22
114	Origin of <i>c-</i> axis ultraincompressibility of Zr2InC above 70 GPa via first-principles. Journal of Applied Physics, 2013, 114, .	2.5	24
115	Computational study of the elastic behavior of the 2M1 muscovite-paragonite series. American Mineralogist, 2013, 98, 651-664.	1.9	12
116	Ab initio elasticity workflow in the VLab science gateway. , 2013, , .		0
117	Elastic moduli and hardness of highly incompressible platinum perpnictide PtAs2. Applied Physics Letters, 2013, 103, 101901.	3.3	7
119	Upper bounds of seismic anisotropy in the Tonga slab near deep earthquake foci and in the lower mantle. Geophysical Journal International, 2014, 197, 351-368.	2.4	6
120	Ab initio thermodynamic and thermophysical properties of sapphirine end-members in the join Mg4Al8Si2O20-Mg3Al10SiO20. American Mineralogist, 2014, 99, 1449-1461.	1.9	20
121	High-pressure structural and elastic properties of Tl2O3. Journal of Applied Physics, 2014, 116, .	2.5	20
122	Pressure effect on elastic anisotropy of crystals from <i>ab initio</i> simulations: The case of silicate garnets. Journal of Chemical Physics, 2014, 140, 234703.	3.0	15
123	High-pressure elasticity of sodium majorite garnet, Na2MgSi5O12. American Mineralogist, 2014, 99, 2416-2423.	1.9	6
124	On combining temperature and pressure effects on structural properties of crystals with standard <i>ab initio</i> techniques. Journal of Chemical Physics, 2014, 141, 124115.	3.0	68
125	Structural and dynamical properties of MgSiO3 melt over the pressure range 200–500GPa: Ab initio molecular dynamics. Journal of Non-Crystalline Solids, 2014, 385, 169-174.	3.1	8
126	Structure and elasticity of phlogopite under compression: Geophysical implications. Physics of the Earth and Planetary Interiors, 2014, 233, 1-12.	1.9	36
127	High pressure elastic properties of minerals from <i>ab initio</i> simulations: The case of pyrope, grossular and andradite silicate garnets. Journal of Chemical Physics, 2014, 140, 124703.	3.0	66
128	C <scp>RYSTAL14</scp> : A program for the <i>ab initio</i> investigation of crystalline solids. International Journal of Quantum Chemistry, 2014, 114, 1287-1317.	2.0	1,151

#	Article	IF	CITATIONS
129	Elastic properties of six silicate garnet end members from accurate ab initio simulations. Physics and Chemistry of Minerals, 2014, 41, 151-160.	0.8	100
130	Displacement field induced by a vacancy in nickel and some implications for the solubility of hydrogen. Philosophical Magazine, 2014, 94, 3978-3991.	1.6	19
131	Differential stress effect on the structural and elastic properties of forsterite by first-principles simulation. Physics of the Earth and Planetary Interiors, 2014, 233, 95-102.	1.9	5
132	Elastic properties of stishovite and the CaCl2-type silica at the mantle temperature and pressure: An ab initio investigation. Earth and Planetary Science Letters, 2014, 404, 14-21.	4.4	62
133	Unusually large shear wave anisotropy for chlorite in subduction zone settings. Geophysical Research Letters, 2014, 41, 1506-1513.	4.0	58
134	Dispersion effects in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>SiO</mml:mi><mml:mn>2An<i>ab initio</i>study. Physical Review B, 2015, 92, .</mml:mn></mml:msub></mml:math 	nn 3. 2/mml	:mɛsɪub>
135	Small shear modulus of cubic CaSiO ₃ perovskite. Geophysical Research Letters, 2015, 42, 2718-2726.	4.0	40
136	Charting the complete elastic properties of inorganic crystalline compounds. Scientific Data, 2015, 2, 150009.	5.3	642
137	Crystal structure, equation of state and elasticity of phase H (MgSiO4H2) at Earth's lower mantle pressures. Scientific Reports, 2015, 5, 15534.	3.3	26
138	Piezo-optic tensor of crystals from quantum-mechanical calculations. Journal of Chemical Physics, 2015, 143, 144504.	3.0	23
139	Relative stability and contrasting elastic properties of serpentine polymorphs from firstâ€principles calculations. Journal of Geophysical Research: Solid Earth, 2015, 120, 4831-4842.	3.4	16
140	Constraints on Seismic Models from Other Disciplines - Constraints from Mineral Physics on Seismological Models. , 2015, , 829-852.		10
141	Elasticity and phase stability of pyrope garnet from ab initio computation. Physics of the Earth and Planetary Interiors, 2015, 240, 125-131.	1.9	12
142	Current limitations of molecular dynamic simulations as probes of thermo-physical behavior of silicate melts. American Mineralogist, 2015, 100, 1866-1882.	1.9	14
143	First-principles computation of mantle materials in crystalline and amorphous phases. Physics of the Earth and Planetary Interiors, 2015, 240, 43-69.	1.9	25
144	Katoite under pressure: an ab initio investigation of its structural, elastic and vibrational properties sheds light on the phase transition. Physical Chemistry Chemical Physics, 2015, 17, 2660-2669.	2.8	16
145	Mechanical properties of jennite: A theoretical and experimental study. Cement and Concrete Research, 2015, 71, 106-114.	11.0	33
146	Mid-mantle seismic anisotropy beneath southwestern Pacific subduction systems and implications for mid-mantle deformation. Physics of the Earth and Planetary Interiors, 2015, 245, 1-14.	1.9	28

# 147	ARTICLE Elasticity of Continental Crust Around the Mantle Transition Zone. , 2015, , 259-274.	IF	CITATIONS 2
148	Seismic Anisotropy of the Deep Earth from a Mineral and Rock Physics Perspective. , 2015, , 487-538.		38
149	Seismic Properties of Rocks and Minerals, and the Structure of Earth. , 2015, , 417-439.		1
150	First-principles investigation of hydrous post-perovskite. Physics of the Earth and Planetary Interiors, 2015, 244, 42-48.	1.9	15
151	Structural and elastic anisotropy of crystals at high pressures and temperatures from quantum mechanical methods: The case of Mg2SiO4 forsterite. Journal of Chemical Physics, 2015, 142, 204502.	3.0	36
152	Mechanical and thermal properties of Î ³ -Mg2SiO4 under high temperature and high pressure conditions such as in mantle: A first principles study. Journal of Chemical Physics, 2015, 143, 104503.	3.0	14
153	Elasticity of superhydrous phase, B, Mg10Si3O14(OH)4. Physics of the Earth and Planetary Interiors, 2015, 238, 42-50.	1.9	15
154	First-principles study of spin transition and seismic properties of ferric iron-bearing post-perovskite with oxygen vacancy. Physics and Chemistry of Minerals, 2015, 42, 163-169.	0.8	О
155	InBO3 and ScBO3 at high pressures: An ab initio study of elastic and thermodynamic properties. Journal of Physics and Chemistry of Solids, 2016, 98, 198-208.	4.0	8
156	Influence of pressure on dislocation, disclination, and generalized-disclination structures of a {310}/[001] tilt grain boundary in MgO. Journal of Materials Research, 2016, 31, 3108-3114.	2.6	3
157	Vibrational and elastic properties of As4O6 and As4O6·2He at high pressures: Study of dynamical and mechanical stability. Journal of Applied Physics, 2016, 120, .	2.5	8
158	The internal-strain tensor of crystals for nuclear-relaxed elastic and piezoelectric constants: on the full exploitation of its symmetry features. Physical Chemistry Chemical Physics, 2016, 18, 13984-13992.	2.8	11
159	Carbonates at high pressures: Possible carriers for deep carbon reservoirs in the Earth's lower mantle. Physical Review B, 2016, 94, .	3.2	18
162	High-pressure phase of brucite stable at Earth's mantle transition zone and lower mantle conditions. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13971-13976.	7.1	35
163	Pressure induced elastic softening in framework aluminosilicate- albite (NaAlSi3O8). Scientific Reports, 2016, 6, 34815.	3.3	19
164	Effects of olivine fabric, meltâ€rock reaction, and hydration on the seismic properties of peridotites: Insight from the Luobusha ophiolite in the Tibetan Plateau. Journal of Geophysical Research: Solid Earth, 2016, 121, 3300-3323.	3.4	13
165	<pre><mmi:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>β</mml:mi><mml:mo>â^'mathvariant="normal">B<mml:msub><mml:mi mathvariant="normal">i<mml:msub><mml:mi< pre=""></mml:mi<></mml:msub></mml:mi </mml:msub></mml:mo></mml:mrow></mmi:math </pre>	no> <mml: 3.2</mml: 	:mi 16
166	mathvariant="normal">O <mml:mn>3</mml:mn> under compression: Optical and elastic properties and electron density topology analysis. Physical Review B, Thermoelasticity of Fe ₇ C ₃ under inner core conditions. Journal of Geophysical Research: Solid Earth, 2016, 121, 5828-5837.	3.4	28

#	Article	IF	CITATIONS
167	Crystal structure, equation of state, and elasticity of hydrous aluminosilicate phase, topaz-OH (Al2SiO4(OH)2) at high pressures. Physics of the Earth and Planetary Interiors, 2016, 251, 24-35.	1.9	18
168	Thermal properties of the orthorhombic CaSnO3 perovskite under pressure from ab initio quasi-harmonic calculations. Theoretical Chemistry Accounts, 2016, 135, 1.	1.4	22
169	High-Pressure Elastic Constant of Some Materials of Earth's Mantle. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2016, 71, 433-437.	1.5	0
170	Finite-strain Landau theory applied to the high-pressure phase transition of lead titanate. Physical Review B, 2017, 95, .	3.2	10
171	First principles calculation of the elasticity of ice VIII and X. Journal of Chemical Physics, 2017, 146, 014501.	3.0	11
173	Large dataset test of Birch's law for sound propagation at high pressure. Journal of Applied Physics, 2017, 121, .	2.5	3
174	Self-consistent hybrid functionals for solids: a fully-automated implementation. Journal of Physics Condensed Matter, 2017, 29, 314001.	1.8	23
175	Nuclearâ€relaxed elastic and piezoelectric constants of materials: Computational aspects of two quantumâ€mechanical approaches. Journal of Computational Chemistry, 2017, 38, 257-264.	3.3	16
176	Elasticity of Ni x W1â^'x (xÂâ‰Â0.1875) Alloys from First Principles Calculations. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 5223-5227.	2.2	1
177	Large-Scale Condensed Matter DFT Simulations: Performance and Capabilities of the CRYSTAL Code. Journal of Chemical Theory and Computation, 2017, 13, 5019-5027.	5.3	138
178	Elasticity of <i>ε</i> â€FeOOH: Seismic implications for Earth's lower mantle. Journal of Geophysical Research: Solid Earth, 2017, 122, 5038-5047.	3.4	24
179	Contribution to the study of structural and elastic properties of wüstite under pressure up to 140ÂGPa by pseudopotential calculations. Phase Transitions, 2017, , 1-12.	1.3	0
180	Structural, elastic, and vibrational properties of phase H: A first-principles simulation. Chinese Physics B, 2017, 26, 067401.	1.4	5
181	Quantumâ€mechanical condensed matter simulations with CRYSTAL. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2018, 8, e1360.	14.6	1,277
182	Strength and texture of sodium chloride to 56 GPa. Journal of Applied Physics, 2018, 123, 135901.	2.5	10
183	Elasticity of Corundum at High Pressures and Temperatures: Implications for Pyrope Decomposition and Alâ€Content Effect on Elastic Properties of Bridgmanite. Journal of Geophysical Research: Solid Earth, 2018, 123, 1201-1216.	3.4	29
184	Stability and anisotropy of (FexNi1â^'x)2O under high pressure and implications in Earth's and super-Earths' core. Scientific Reports, 2018, 8, 236.	3.3	8
185	A Sequence of up to 11 Seismic Discontinuities Down to the Midmantle Beneath Southeast Asia. Geochemistry, Geophysics, Geosystems, 2018, 19, 4820-4835.	2.5	3

#	Article	IF	CITATIONS
186	An Extended Semianalytical Approach for Thermoelasticity of Monoclinic Crystals: Application to Diopside. Journal of Geophysical Research: Solid Earth, 2018, 123, 7629-7643.	3.4	18
187	Origin of Pressureâ€Induced Metallization in Cu ₃ N: An Xâ€ray Absorption Spectroscopy Study. Physica Status Solidi (B): Basic Research, 2018, 255, 1800073.	1.5	4
188	Crystal structure and elasticity of Al-bearing phase H under high pressure. AIP Advances, 2018, 8, .	1.3	2
189	The structure and elasticity of phase B silicates under high pressure by first principles simulation. Chinese Physics B, 2018, 27, 047402.	1.4	2
190	The elastic properties of hcp-Fe alloys under the conditions of the Earth's inner core. Earth and Planetary Science Letters, 2018, 493, 118-127.	4.4	59
191	Thermodynamic and Elastic Properties of Magnesite at Mantle Conditions: Firstâ€Principles Calculations. Geochemistry, Geophysics, Geosystems, 2018, 19, 2719-2731.	2.5	16
192	Elasticity and Anisotropy of the Pyrite-Type FeO2H-FeO2 System in Earth's Lowermost Mantle. Journal of Earth Science (Wuhan, China), 2019, 30, 1293-1301.	3.2	7
193	Systematic exploration of the mechanical properties of 13 621 inorganic compounds. Chemical Science, 2019, 10, 8589-8599.	7.4	24
194	Thermodynamic and Elastic Properties of Grossular at High Pressures and High Temperatures: A Firstâ€Principles Study. Journal of Geophysical Research: Solid Earth, 2019, 124, 7792-7805.	3.4	13
195	Anomalous elastic behavior of phase egg, AlSiO3(OH), at high pressures. American Mineralogist, 2019, 104, 130-139.	1.9	7
197	First-principles investigations on the formation of H2O defects in lizardite with influence on the elastic property. Physics and Chemistry of Minerals, 2019, 46, 935-946.	0.8	4
198	Machine Learning-Aided Design of Materials with Target Elastic Properties. Journal of Physical Chemistry C, 2019, 123, 5042-5047.	3.1	22
199	Structural, elastic and vibrational properties of celestite, SrSO ₄ , from synchrotron x-ray diffraction, thermal diffuse scattering and Raman scattering. Journal of Physics Condensed Matter, 2019, 31, 055703.	1.8	7
200	Effects of Induced Stress on Seismic Waves: Validation Based on Ab Initio Calculations. Journal of Geophysical Research: Solid Earth, 2019, 124, 729-741.	3.4	8
201	Experimental elasticity of Earth's deep mantle. Nature Reviews Earth & Environment, 2020, 1, 455-469.	29.7	17
202	Thermoelasticity of tremolite amphibole: Geophysical implications. American Mineralogist, 2020, 105, 904-916.	1.9	11
203	Highâ€pressure metamorphic mineralogy of the Martian crust with implications for density and seismic profiles. Meteoritics and Planetary Science, 2020, 55, 1600-1614.	1.6	9
204	Highâ€Pressure Effect on Elastic Constants and Their Related Properties of MgCa Intermetallic Compound. Physica Status Solidi (B): Basic Research, 2 <u>020, 257, 1900537.</u>	1.5	16

#	Article	IF	CITATIONS
205	First-principles calculation of the mechanical properties of quartz under non-hydrostatic stress. Physics of the Earth and Planetary Interiors, 2020, 300, 106447.	1.9	1
206	Thermoelastic properties of MgSiO3-majorite at high temperatures and pressures: A first principles study. Physics of the Earth and Planetary Interiors, 2020, 303, 106491.	1.9	1
207	Density functional theory predictions of the mechanical properties of crystalline materials. CrystEngComm, 2021, 23, 5697-5710.	2.6	41
208	Elastic Properties of the Pyriteâ€Type FeOOHâ€AlOOH System From Firstâ€Principles Calculations. Geochemistry, Geophysics, Geosystems, 2021, 22, e2021GC009703.	2.5	2
210	Stability of Ca(OH)2 at Earth's deep lower mantle conditions. Physical Review B, 2021, 104, .	3.2	2
211	Stress-dependent elasticity and wave propagation — New insights and connections. Geophysics, 2021, 86, W47-W64.	2.6	9
212	Inelastic Neutron Scattering and Lattice Dynamics: Perspectives and Challenges in Mineral Physics. Neutron Scattering Applications and Techniques, 2009, , 145-188.	0.2	5
213	Computational Techniques for Density Functional Based Molecular Dynamics Calculations in Plane-Wave and Localized Basis Sets. Letters in Mathematical Physics, 2014, , 261-283.	0.6	1
214	Elasticity of Oxides and Ionics. , 2001, , 31-56.		2
216	Interaction potentials for alumina and molecular dynamics simulations of amorphous and liquid alumina. , 0, .		1
217	Properties of lower-mantle Al-(Mg,Fe)SiO ₃ perovskite. , 2007, , .		1
218	Effect of substitution Fe2+ on physical properties of MgSiO3 perovskite at high temperature and high pressure. Wuli Xuebao/Acta Physica Sinica, 2013, 62, 049101.	0.5	2
219	Structural, electronic and optical properties of KTaO3 under high pressure based on first-principles. Materials Science in Semiconductor Processing, 2022, 138, 106248.	4.0	5
220	Study of elastic properties of prototype solids under high pressure. Computational Condensed Matter, 2022, 30, e00626.	2.1	3
221	Atom-in-jellium predictions of the shear modulus at high pressure. Physical Review B, 2022, 105, .	3.2	2
222	The Structure and Elasticity of CaO3 Under High Pressure by First-Principles Simulation. Frontiers in Earth Science, 2022, 10, .	1.8	1
223	Volumes and spin states of FeH <i>x</i> : Implication for the density and temperature of the Earth's core. American Mineralogist, 2023, 108, 667-674.	1.9	2
224	MAGEMin, an Efficient Gibbs Energy Minimizer: Application to Igneous Systems. Geochemistry, Geophysics, Geosystems, 2022, 23, .	2.5	9

	CITATION R	n Report	
#	Article	IF	Citations
225	Calculated Elasticity of Al-Bearing Phase D. Minerals (Basel, Switzerland), 2022, 12, 922.	2.0	2
226	Shear softening of Earth's inner core as indicated by its high Poisson ratio and elastic anisotropy. Fundamental Research, 2022, , .	3.3	0
227	Mechanical Characterization of Anhydrous Microporous Aluminophosphate Materials: Tridimensional Incompressibility, Ductility, Isotropy and Negative Linear Compressibility. Solids, 2022, 3, 457-499.	2.4	2
228	Energy landscapes in inorganic chemistry. , 2023, , 262-392.		2
229	Elastic Anisotropy of Lizardite at Subduction Zone Conditions. Geophysical Research Letters, 2022, 49,	4.0	9
230	Study of Elastic Properties of Mantle Solids & Variations of Density (Ï) of Earth with Depth (r). International Journal of Advanced Research in Science, Communication and Technology, 0, , 370-375.	0.0	0
231	Elasticity of Phase H Under the Mantle Temperatures and Pressures: Implications for Discontinuities and Water Transport in the Midâ€Mantle. Journal of Geophysical Research: Solid Earth, 2022, 127, .	3.4	2
232	Singleâ€Crystal Elasticity of Phase E at High Pressure and Temperature: Implications for the Lowâ€Velocity Layer Atop the 410â€km Depth. Journal of Geophysical Research: Solid Earth, 2022, 127, .	3.4	1
233	Ab-initio study of C2/c, Cmca-12, Pbcn and P6122 phases of solid hydrogen. Physica B: Condensed Matter, 2023, 655, 414772.	2.7	0
234	Elastic properties of SiO2 nanostructure in high-pressure conditions. Digest Journal of Nanomaterials and Biostructures, 2023, 18, 263-272.	0.8	0
235	Study on the physical properties of Ca3CO5 polymorphs under lower mantle pressure. Physics Letters, Section A: General, Atomic and Solid State Physics, 2023, 480, 128965.	2.1	1
236	The Geophysical Properties of FeH _{<i>x</i>} Phases Under Inner Core Conditions. Geophysical Research Letters, 2023, 50, .	4.0	0
237	Structure and elasticity of CaC2O5 suggests carbonate contribution to the seismic anomalies of Earth's mantle. Nature Communications, 2024, 15, .	12.8	0
238	Systematics of Crystalline Oxide and Framework Compression. Crystals, 2024, 14, 140.	2.2	0
239	An equivariant graph neural network for the elasticity tensors of all seven crystal systems. , 0, , .		0
240	Deformation and Transformation Textures in the NaMgF3 Neighborite—Post-Perovskite System. Minerals (Basel, Switzerland), 2024, 14, 250.	2.0	0