

# Jiuhua Chen

## List of Publications by Year in descending order

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68  
papers

2,796  
citations

186265

28  
h-index

175258

52  
g-index

70  
all docs

70  
docs citations

70  
times ranked

2686  
citing authors

#	ARTICLE	IF	CITATIONS
1	Ionic high-pressure form of elemental boron. <i>Nature</i> , 2009, 457, 863-867.	27.8	803
2	Effect of water on olivine-wadsleyite phase boundary in the (Mg, Fe) <sub>2</sub> SiO <sub>4</sub> system. <i>Geophysical Research Letters</i> , 2002, 29, 22-1-22-4.	4.0	111
3	Pressure-induced slip-system transition in forsterite: Single-crystal rheological properties at mantle pressure and temperature. <i>American Mineralogist</i> , 2007, 92, 1436-1445.	1.9	98
4	Recent advances in high-pressure science and technology. <i>Matter and Radiation at Extremes</i> , 2016, 1, 59-75.	3.9	98
5	Strength and water weakening of mantle minerals, olivine, wadsleyite and ringwoodite. <i>Geophysical Research Letters</i> , 1998, 25, 575-578.	4.0	91
6	Low-temperature olivine rheology at high pressure. <i>Physics of the Earth and Planetary Interiors</i> , 2004, 145, 149-159.	1.9	88
7	Experimental deformation of olivine single crystals at mantle pressures and temperatures. <i>Physics of the Earth and Planetary Interiors</i> , 2009, 172, 74-83.	1.9	85
8	The strength of Mg <sub>0.9</sub> Fe <sub>0.1</sub> SiO <sub>3</sub> perovskite at high pressure and temperature. <i>Nature</i> , 2002, 419, 824-826.	27.8	79
9	X-ray strain analysis at high pressure: Effect of plastic deformation in MgO. <i>Journal of Applied Physics</i> , 2004, 95, 8357-8365.	2.5	76
10	Effect of plasticity on elastic modulus measurements. <i>Geophysical Research Letters</i> , 2004, 31, n/a-n/a.	4.0	68
11	Raman spectroscopy study of ammonia borane at high pressure. <i>Journal of Chemical Physics</i> , 2008, 129, 234509.	3.0	68
12	Olivine flow mechanisms at 8 GPa. <i>Physics of the Earth and Planetary Interiors</i> , 2003, 138, 113-129.	1.9	61
13	Deformation of olivine at mantle pressure using the D-DIA. <i>European Journal of Mineralogy</i> , 2006, 18, 7-19.	1.3	60
14	Stress measurements of deforming olivine at high pressure. <i>Physics of the Earth and Planetary Interiors</i> , 2004, 143-144, 357-367.	1.9	58
15	Deformation experiments using synchrotron X-rays: in situ stress and strain measurements at high pressure and temperature. <i>Physics of the Earth and Planetary Interiors</i> , 2004, 143-144, 347-356.	1.9	53
16	Hydrolytic weakening of olivine at mantle pressure: Evidence of [100](010) slip system softening from single-crystal deformation experiments. <i>Physics of the Earth and Planetary Interiors</i> , 2013, 216, 12-20.	1.9	52
17	Hydration-reduced lattice thermal conductivity of olivine in Earth's upper mantle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 4078-4081.	7.1	49
18	Observation of Cation Reordering during the Olivine-Spinel Transition in Fayalite by In Situ Synchrotron X-Ray Diffraction at High Pressure and Temperature. <i>Physical Review Letters</i> , 2001, 86, 4072-4075.	7.8	41

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19	Pressure effect on forsterite dislocation slip systems: Implications for upper-mantle LPO and low viscosity zone. <i>Physics of the Earth and Planetary Interiors</i> , 2011, 188, 26-36.	1.9	39
20	Superionic iron oxide-hydroxide in Earth's deep mantle. <i>Nature Geoscience</i> , 2021, 14, 174-178.	12.9	36
21	Ionic high-pressure form of elemental boron. <i>Nature</i> , 2009, 460, 292-292.	27.8	34
22	In situ X-ray study of ammonia borane at high pressures. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 11064-11070.	7.1	34
23	Activities of olivine slip systems in the upper mantle. <i>Physics of the Earth and Planetary Interiors</i> , 2012, 200-201, 105-112.	1.9	34
24	Subduction zone rheology. <i>Physics of the Earth and Planetary Interiors</i> , 2001, 127, 67-81.	1.9	33
25	Do Reuss and Voigt bounds really bound in high-pressure rheology experiments?. <i>Journal of Physics Condensed Matter</i> , 2006, 18, S1049-S1059.	1.8	33
26	Iron oxides as efficient sorbents for CO <sub>2</sub> capture. <i>Journal of Materials Research and Technology</i> , 2019, 8, 2944-2956.	5.8	31
27	Deformation of olivine at subduction zone conditions determined from in situ measurements with synchrotron radiation. <i>Physics of the Earth and Planetary Interiors</i> , 2011, 186, 23-35.	1.9	30
28	Deformation of periclase single crystals at high pressure and temperature: Quantification of the effect of pressure on slip-system activities. <i>Journal of Applied Physics</i> , 2012, 111, .	2.5	30
29	Studies of local and intermediate range structure in crystalline and amorphous materials at high pressure using high-energy X-rays. <i>Powder Diffraction</i> , 2007, 22, 108-112.	0.2	28
30	Study of liquid gallium as a function of pressure and temperature using synchrotron x-ray microtomography and x-ray diffraction. <i>Applied Physics Letters</i> , 2014, 105, .	3.3	24
31	Yield strength enhancement of MgO by nanocrystals. <i>Journal of Materials Science</i> , 2005, 40, 5763-5766.	3.7	22
32	Deformation of diopside single crystal at mantle pressure. 1: Mechanical data. <i>Physics of the Earth and Planetary Interiors</i> , 2009, 177, 122-129.	1.9	20
33	Mineralogy of the deep lower mantle in the presence of H <sub>2</sub> O. <i>National Science Review</i> , 2021, 8, nwaa098.	9.5	20
34	Equation of state of pyrope-almandine solid solution measured using a diamond anvil cell and in situ synchrotron X-ray diffraction. <i>Physics of the Earth and Planetary Interiors</i> , 2014, 228, 88-91.	1.9	18
35	Study of liquid gallium at high pressure using synchrotron x-ray. <i>Journal of Applied Physics</i> , 2012, 111, .	2.5	16
36	Ammonia borane at low temperature down to 90 K and high pressure up to 15 GPa. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 4628-4635.	7.1	16

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37	Flow-law for ringwoodite at subduction zone conditions. <i>Physics of the Earth and Planetary Interiors</i> , 2003, 136, 3-9.	1.9	15
38	Crystal chemistry of NaMgF <sub>3</sub> perovskite at high pressure and temperature. <i>American Mineralogist</i> , 2005, 90, 1534-1539.	1.9	15
39	Evidence for oxygenation of Fe-Mg oxides at mid-mantle conditions and the rise of deep oxygen. <i>National Science Review</i> , 2021, 8, nwaa096.	9.5	15
40	High pressure deformation in two-phase aggregates. <i>Tectonophysics</i> , 2007, 439, 107-117.	2.2	14
41	High-temperature elasticity of magnesioferrite spinel. <i>Physics and Chemistry of Minerals</i> , 2007, 34, 345-350.	0.8	13
42	Deformation of single crystal sample using D-DIA apparatus coupled with synchrotron X-rays: In situ stress and strain measurements at high pressure and temperature. <i>Journal of Physics and Chemistry of Solids</i> , 2010, 71, 1053-1058.	4.0	13
43	High-pressure study of lithium amidoborane using Raman spectroscopy and insight into dihydrogen bonding absence. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 19140-19144.	7.1	13
44	A process for low-temperature olivine-spinel transition under quasi-hydrostatic stress. <i>Geophysical Research Letters</i> , 2002, 29, 36-1-36-4.	4.0	11
45	Compressibility of nanocrystalline forsterite. <i>Physics and Chemistry of Minerals</i> , 2010, 37, 343-351.	0.8	11
46	PVT equation of state of epsilon iron and its densities at inner core conditions. <i>American Mineralogist</i> , 2011, 96, 828-832.	1.9	11
47	Siderite Formation by Mechanochemical and High Pressure "High Temperature Processes for CO <sub>2</sub> Capture Using Iron Ore as the Initial Sorbent. <i>Processes</i> , 2019, 7, 735.	2.8	11
48	Comparative in situ X-ray diffraction study of San Carlos olivine: Influence of water on the 410 km seismic velocity jump in Earth's mantle. <i>American Mineralogist</i> , 2011, 96, 697-702.	1.9	10
49	Tetragonal to orthorhombic phase transition of ammonia borane at low temperature and high pressure. <i>Journal of Applied Physics</i> , 2012, 111, 112618.	2.5	10
50	Effects of water on P-V-T equation of state of pyrope. <i>Physics of the Earth and Planetary Interiors</i> , 2017, 267, 9-18.	1.9	9
51	Correction to "Strength and water weakening of mantle minerals, olivine, wadsleyite and ringwoodite". <i>Geophysical Research Letters</i> , 1998, 25, 1103-1104.	4.0	8
52	The equation of state for periclase. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2009, 33, 737-743.	1.6	8
53	Behavior of decomposed ammonia borane at high pressure. <i>Journal of Physics and Chemistry of Solids</i> , 2015, 84, 75-79.	4.0	8
54	Lower-mantle materials under pressure. <i>Science</i> , 2016, 351, 122-123.	12.6	8

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55	Synchrotron-based high-pressure research in materials science. MRS Bulletin, 2016, 41, 473-478.	3.5	7
56	Anomalous Dynamical Charge Change Behavior of Nanocrystalline 3C-SiC upon Compression. Journal of the American Ceramic Society, 2004, 87, 2291-2293.	3.8	6
57	Synchrotron Mossbauer study of Fe-bearing pyrope at high pressures and temperatures. American Mineralogist, 2013, 98, 1146-1152.	1.9	6
58	Study on the High-Pressure Behavior of Goethite up to 32 GPa Using X-Ray Diffraction, Raman, and Electrical Impedance Spectroscopy. Minerals (Basel, Switzerland), 2020, 10, 99.	2.0	6
59	Probing the Electronic Band Gap of Solid Hydrogen by Inelastic X-Ray Scattering up to 90ÅGPa. Physical Review Letters, 2021, 126, 036402.	7.8	6
60	Phase boundary of pressure-induced I4mm to Cmc21 transition in ammonia borane at elevated temperature determined using Raman spectroscopy. International Journal of Hydrogen Energy, 2014, 39, 8293-8302.	7.1	5
61	Tracking the origin of ultralow velocity zones at the base of Earth's mantle. National Science Review, 2021, 8, nwa308.	9.5	5
62	Ammonia borane at high pressures. Science Bulletin, 2014, 59, 5227-5234.	1.7	4
63	Dislocation microstructures in majorite garnet experimentally deformed in the multi-anvil apparatus. American Mineralogist, 2011, 96, 549-552.	1.9	3
64	High pressure Raman and x-ray diffraction studies on the decomposition of tungsten carbonyl. Journal of Applied Physics, 2012, 111, 112606.	2.5	3
65	Understanding depth variation of deep seismicity from in situ measurements of mineral strengths at high pressures. Journal of Physics and Chemistry of Solids, 2010, 71, 1032-1037.	4.0	2
66	High-temperature plasticity measurements using synchrotron X-rays. , 2005, , 123-135.		1
67	Strength measurement of boron suboxide B6O at high pressure and temperature using in situ synchrotron X-ray diffraction. High Pressure Research, 2008, 28, 423-430.	1.2	1
68	Siderite decomposition at room temperature conditions for CO2 capture applications. Brazilian Journal of Chemical Engineering, 2021, 38, 351.	1.3	0