

Donald J Weidner

List of Publications by Year in descending order

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52
papers

2,335
citations

257101

24
h-index

243296

44
g-index

52
all docs

52
docs citations

52
times ranked

1389
citing authors

#	ARTICLE	IF	CITATIONS
1	Single-crystal elastic properties of the spinel phase of Mg_2SiO_4 . Journal of Geophysical Research, 1984, 89, 7852-7860.	3.3	281
2	The deformation-DIA: A new apparatus for high temperature triaxial deformation to pressures up to 15 GPa. Review of Scientific Instruments, 2003, 74, 3002-3011.	0.6	262
3	Thermal expansion and structural distortion of perovskite ϵ data for $NaMgF_3$ perovskite. Part I. Physics of the Earth and Planetary Interiors, 1993, 76, 1-16.	0.7	166
4	Yield strength at high pressure and temperature. Geophysical Research Letters, 1994, 21, 753-756.	1.5	157
5	Strength of Diamond. Science, 1994, 266, 419-422.	6.0	131
6	Critical phenomena and phase transition of perovskite ϵ data for $NaMgF_3$ perovskite. Part II. Physics of the Earth and Planetary Interiors, 1993, 76, 17-34.	0.7	111
7	Pressure-induced slip-system transition in forsterite: Single-crystal rheological properties at mantle pressure and temperature. American Mineralogist, 2007, 92, 1436-1445.	0.9	98
8	In situ high pressure X ray diffraction studies on three polymorphs ($\hat{1}$, $\hat{2}$, $\hat{3}$) of Mg_2SiO_4 . Journal of Geophysical Research, 1993, 98, 22199-22207.	3.3	97
9	Strength and water weakening of mantle minerals, olivine, wadsleyite and ringwoodite. Geophysical Research Letters, 1998, 25, 575-578.	1.5	91
10	Weakening of calcium iridate during its transformation from perovskite to post-perovskite. Nature Geoscience, 2009, 2, 794-797.	5.4	74
11	Characterization of Stress, Pressure, and Temperature in SAm85, a Dia Type High Pressure Apparatus. Geophysical Monograph Series, 0, , 13-17.	0.1	70
12	Effect of plasticity on elastic modulus measurements. Geophysical Research Letters, 2004, 31, n/a-n/a.	1.5	68
13	Olivine flow mechanisms at 8 GPa. Physics of the Earth and Planetary Interiors, 2003, 138, 113-129.	0.7	61
14	Octahedral tilting evolution and phase transition in orthorhombic $NaMgF_3$ perovskite under pressure. Geophysical Research Letters, 2005, 32, n/a-n/a.	1.5	46
15	Phase stability of $CaSiO_3$ perovskite at high pressure and temperature: Insights from ab initio molecular dynamics. Physics of the Earth and Planetary Interiors, 2006, 155, 260-268.	0.7	46
16	Elastic properties of the pyrope-majorite solid solution series. Geophysical Research Letters, 1990, 17, 2453-2456.	1.5	45
17	T-CUP: A New High-Pressure Apparatus for X-ray Studies.. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 1998, 7, 1520-1522.	0.1	44
18	Precise stress measurements with white synchrotron x rays. Review of Scientific Instruments, 2010, 81, 013903.	0.6	42

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19	Plastic flow of pyrope at mantle pressure and temperature. <i>American Mineralogist</i> , 2006, 91, 517-525.	0.9	41
20	Elasticity of Mg ₂ SiO ₄ ringwoodite at mantle conditions. <i>Physics of the Earth and Planetary Interiors</i> , 2006, 157, 181-187.	0.7	34
21	Subduction zone rheology. <i>Physics of the Earth and Planetary Interiors</i> , 2001, 127, 67-81.	0.7	33
22	Do Reuss and Voigt bounds really bound in high-pressure rheology experiments?. <i>Journal of Physics Condensed Matter</i> , 2006, 18, S1049-S1059.	0.7	33
23	Vibrational and thermodynamic properties of forsterite at mantle conditions. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	30
24	Effect of cation ordering and pressure on spinel elasticity by ab initio simulation. <i>American Mineralogist</i> , 2007, 92, 174-178.	0.9	27
25	Rheology measurements at high pressure and temperature. <i>Geophysical Monograph Series</i> , 1998, , 473-482.	0.1	25
26	Measurement of stress using synchrotron x-rays. <i>Journal of Physics Condensed Matter</i> , 2006, 18, S1061-S1067.	0.7	25
27	Deformation T-Cup: A new multi-anvil apparatus for controlled strain-rate deformation experiments at pressures above 18ÅGPa. <i>Review of Scientific Instruments</i> , 2014, 85, 085103.	0.6	24
28	Yield strength enhancement of MgO by nanocrystals. <i>Journal of Materials Science</i> , 2005, 40, 5763-5766.	1.7	22
29	High-energy X-ray focusing and applications to pair distribution function investigation of Pt and Au nanoparticles at high pressures. <i>Scientific Reports</i> , 2016, 6, 21434.	1.6	18
30	Effect of dynamic melting on acoustic velocities in a partially molten peridotite. <i>Physics of the Earth and Planetary Interiors</i> , 2013, 222, 1-7.	0.7	16
31	Chapter 16. RHEOLOGICAL STUDIES AT HIGH PRESSURE. , 1998, , 493-524.		15
32	Flow-law for ringwoodite at subduction zone conditions. <i>Physics of the Earth and Planetary Interiors</i> , 2003, 136, 3-9.	0.7	15
33	Crystal chemistry of NaMgF ₃ perovskite at high pressure and temperature. <i>American Mineralogist</i> , 2005, 90, 1534-1539.	0.9	15
34	Thermal diffusivity of MORB-composition rocks to 15ÅGPa: implications for triggering of deep seismicity. <i>High Pressure Research</i> , 2010, 30, 406-414.	0.4	14
35	Anelasticity and transient creep in NaMgF ₃ perovskite at high pressure. <i>Physics of the Earth and Planetary Interiors</i> , 2012, 194-195, 98-106.	0.7	12
36	A process for low-temperature olivine-spinel transition under quasi-hydrostatic stress. <i>Geophysical Research Letters</i> , 2002, 29, 36-1-36-4.	1.5	11

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37	Ultrasonic Acoustic Velocities During Partial Melting of a Mantle Peridotite KLB-1. Journal of Geophysical Research: Solid Earth, 2018, 123, 1252-1261.	1.4	8
38	Deviatoric stress measurements at high pressure and temperature. AIP Conference Proceedings, 1994, , .	0.3	7
39	Stress distribution during cold compression of a quartz aggregate using synchrotron X-ray diffraction: Observed yielding, damage, and grain crushing. Journal of Geophysical Research: Solid Earth, 2017, 122, 2724-2735.	1.4	5
40	High-Pressure Research at the National Synchrotron Light Source. Synchrotron Radiation News, 2010, 23, 24-30.	0.2	3
41	In situ analysis of texture development from sinusoidal stress at high pressure and temperature. Review of Scientific Instruments, 2015, 86, 125106.	0.6	3
42	Kinetics of melting in peridotite from volume strain measurements. Physics of the Earth and Planetary Interiors, 2015, 246, 25-30.	0.7	3
43	Detection of melting by X-ray imaging at high pressure. Review of Scientific Instruments, 2014, 85, 065104.	0.6	2
44	High-temperature plasticity measurements using synchrotron X-rays. , 2005, , 123-135.		1
45	Note: Elastic wave velocity measurement using ultrasonic system with two-reflectors. Review of Scientific Instruments, 2018, 89, 086105.	0.6	1
46	Low frequency bulk modulus of partially molten peridotite, KLB-1. Physics of the Earth and Planetary Interiors, 2021, 313, 106677.	0.7	1
47	Bulk modulus measurement at mHz frequencies and high-pressure using synchrotron x-ray radiation. Review of Scientific Instruments, 2020, 91, 116102.	0.6	1
48	Absolute x-ray energy calibration and monitoring using a diffraction-based method. AIP Conference Proceedings, 2016, , .	0.3	0
49	High-energy X-ray focusing and high-pressure pair distribution function measurement. AIP Conference Proceedings, 2016, , .	0.3	0
50	Ultrasonic acoustic wave velocities of neighborite (NaMgF ₃) across orthorhombic to cubic phase boundary at high P-T. Physics of the Earth and Planetary Interiors, 2018, 283, 38-42.	0.7	0
51	Stress Distribution During Cold Compression of Rocks and Mineral Aggregates Using Synchrotron-based X-Ray Diffraction. Journal of Visualized Experiments, 2018, , .	0.2	0
52	Full waveform analysis for high pressure ultrasonic measurement. Review of Scientific Instruments, 2020, 91, 036104.	0.6	0