Stephen J Mackwell

List of Publications by Year
in descending order

48	3,018	172457	243625
papers	citations	29 h-index	44 g-index

48	48	48	1948
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Diffusion rates of hydrogen defect species associated with site-specific infrared spectral bands in natural olivine. Earth and Planetary Science Letters, 2022, 581, 117406.	4.4	5
2	Transport properties of olivine grain boundaries from electrical conductivity experiments. Contributions To Mineralogy and Petrology, 2018, 173, 1.	3.1	32
3	Highâ€temperature deformation of enstatite aggregates. Journal of Geophysical Research: Solid Earth, 2016, 121, 6384-6400.	3.4	26
4	Experimental constraints on the electrical anisotropy of the lithosphereâ€“asthenosphere system. Nature, 2015, 522, 202-206.	27.8	50
5	Prediction of silicate melt viscosity from electrical conductivity: A model and its geophysical implications. Geochemistry, Geophysics, Geosystems, 2013, 14, 1685-1692.	2.5	13
6	Melt inclusions in olivine: Reliable witnesses to Earthâ€™s interior?. Geology, 2012, 40, 959-960.	4.4	5
7	Toward a global space exploration program: A stepping stone approach. Advances in Space Research, 2012, 49, 2-48.	2.6	50
8	Dependence of dislocation creep of dunite on oxygen fugacity: Implications for viscosity variations in Earth's mantle. Journal of Geophysical Research, 2011, 116, .	3.3	65
9	Stress-driven Melt Segregation in Partially Molten Feldspathic Rocks. Journal of Petrology, 2010, 51, 9-19.	2.8	41
10	Rheology and microstructure of (Ca_{0.9},Sr_{0.1})TiO₃ perovskite deformed in compression and torsion. Journal of Geophysical Research, 2010, 115, .	3.3	5
11	Strength and deformation of planetary lithospheres. , 2009, , 397-456.		13
12	Experimental deformation of olivine single crystals at lithospheric temperatures. Geophysical Research Letters, 2009, 36, .	4.0	42
13	The role of protons in ionic diffusion in (Mg,ÂFe)O and (Mg,ÂFe)2SiO4. Journal of Materials Science, 2008, 43, 4693-4700.	3.7	4
14	Water contents in mantle xenoliths from the Colorado Plateau and vicinity: Implications for the mantle rheology and hydrationâ€induced thinning of continental lithosphere. Journal of Geophysical Research, 2008, 113, .	3.3	206
15	Rheological Consequences of Redox State. Reviews in Mineralogy and Geochemistry, 2008, 68, 555-569.	4.8	7
16	Intercalibration of FTIR and SIMS for hydrogen measurements in glasses and nominally anhydrous minerals. American Mineralogist, 2007, 92, 811-828.	1.9	133
17	Influence of hydrogen on Feâ€“Mg interdiffusion in (Mg,Fe)O and implications for Earthâ€™s lower mantle. Contributions To Mineralogy and Petrology, 2007, 154, 279-289.	3.1	37
18	Single-crystal elasticity and sound velocities of (Mg0.94Fe0.06)O ferropericlase to 20 GPa. Journal of Geophysical Research, 2006, 111, .	3.3	43

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19	Deformation of olivine-spinel aggregates in the system (Mg,Ni)2GeO4deformed to high strain in torsion: Implications for upper mantle anisotropy. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	8
20	Large-strain deformation and strain partitioning in polyphase rocks: Dislocation creep of olivineâ€“magnesiowÃ¼stite aggregates. Tectonophysics, 2006, 427, 115-132.	2.2	35
21	Mechanisms of hydrogen incorporation and diffusion in iron-bearing olivine. Physics and Chemistry of Minerals, 2006, 33, 347-355.	0.8	204
22	Feâ€“Mg Interdiffusion in (Mg,Fe)O. Physics and Chemistry of Minerals, 2005, 32, 418-425.	0.8	47
23	Shear deformation experiments of forsterite at 11 GPa - 1400C in the multianvil apparatus. European Journal of Mineralogy, 2004, 16, 877-889.	1.3	145
24	Water diffusion in synthetic iron-free forsterite. Physics and Chemistry of Minerals, 2003, 30, 486-494.	0.8	129
25	Fabric evolution during high shear strain deformation of magnesiowÃ¼stite (Mg0.8Fe0.2O). Journal of Geophysical Research, 2003, 108, .	3.3	45
26	Effect of pressure on Feâ€“Mg interdiffusion in (FexMg1â^'x)O, ferropericlase. Physics of the Earth and Planetary Interiors, 2003, 139, 21-34.	1.9	42
27	Chemical transfer during redox exchanges between H₂and Fe-bearing silicate melts. American Mineralogist, 2003, 88, 308-315.	1.9	21
28	Gigahertz ultrasonic interferometry at highPandT: new tools for obtaining a thermodynamic equation of state. Journal of Physics Condensed Matter, 2002, 14, 11525-11530.	1.8	22
29	Structure and elasticity of single-crystal (Mg,Fe)O and a new method of generating shear waves for gigahertz ultrasonic interferometry. Journal of Geophysical Research, 2002, 107, ECV 4-1.	3.3	149
30	1. New Developments in Deformation Studies: High-Strain Deformation. , 2002, , 1-20.		5
31	Creep of dry clinopyroxene aggregates. Journal of Geophysical Research, 2001, 106, 13443-13454.	3.3	118
32	Dislocation creep of magnesiowÃ¼stite (Mg0.8Fe0.2O). Earth and Planetary Science Letters, 2001, 194, 229-240.	4.4	62
33	Hydrogen in diopside: Diffusion profiles. American Mineralogist, 2000, 85, 480-487.	1.9	127
34	Microstructures and lattice preferred orientations in experimentally deformed clinopyroxene aggregates. Journal of Structural Geology, 2000, 22, 1633-1648.	2.3	63
35	Sound wave velocities and elastic constants for MagnesiowÃ¼stite using gigahertz interferometry. Geophysical Research Letters, 2000, 27, 799-802.	4.0	19
36	Solubility and Diffusion of â€˜Waterâ€™ in Silicate Minerals. , 1999, , 539-559.		17

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37	Diffusion of Hydrogen and Intrinsic Point Defects in Olivine. Zeitschrift Fur Physikalische Chemie, 1998, 207, 147-162.	2.8	254
38	Kinetics of diffusion-controlled growth of fayalite. Physics and Chemistry of Minerals, 1994, 21, 156-165.	0.8	48
39	Fe3+/H+ and D/H in kaersutitesâ€"Misleading indicators of mantle source fugacities. Geology, 1992, 20, 565.	4.4	33
40	Oxidation kinetics of fayalite (Fe2SiO4). Physics and Chemistry of Minerals, 1992, 19, 220.	0.8	30
41	Highâ€temperature rheology of enstatite: Implications for creep in the mantle. Geophysical Research Letters, 1991, 18, 2027-2030.	4.0	68
42	Mineral and Melt Physics. Reviews of Geophysics, 1991, 29, 844-863.	23.0	3
43	Rheology of olivine and the strength of the lithosphere. Geophysical Research Letters, 1990, 17, 9-12.	4.0	56
44	Diffusion of hydrogen in olivine: Implications for water in the mantle. Journal of Geophysical Research, 1990, 95, 5079-5088.	3.3	394
45	Transient creep of olivine: Point-defect relaxation times. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1988, 57, 779-789.	0.6	53
46	High-temperature stability of San Carlos olivine. Contributions To Mineralogy and Petrology, 1987, 95, 226-230.	3.1	18
47	High-temperature deformation of forsterite single crystals doped with vanadium. Physics and Chemistry of Minerals, 1986, 13, 351-356.	0.8	13
48	Water in Transition Zone and Lower Mantle Minerals. Geophysical Monograph Series, 0, , 57-68.	0.1	13