Anthony C Withers

List of Publications by Year
in descending order

53	4,133	101543	161849
papers	citations	36 h-index	54 g-index

54	54	54	2899
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Deep global cycling of carbon constrained by the solidus of anhydrous, carbonated eclogite under upper mantle conditions. Earth and Planetary Science Letters, 2004, 227, 73-85.	4.4	395
2	Carbon-dioxide-rich silicate melt in the Earthâ€™s upper mantle. Nature, 2013, 493, 211-215.	27.8	290
3	Storage capacity of H2O in nominally anhydrous minerals in the upper mantle. Earth and Planetary Science Letters, 2005, 236, 167-181.	4.4	263
4	Dehydration melting of nominally anhydrous mantle: The primacy of partitioning. Physics of the Earth and Planetary Interiors, 2009, 176, 54-68.	1.9	233
5	Trace element partitioning between garnet lherzolite and carbonatite at 6.6 and 8.6ÂGPa with applications to the geochemistry of the mantle and of mantle-derived melts. Chemical Geology, 2009, 262, 57-77.	3.3	231
6	Aluminum coordination and the densification of high-pressure aluminosilicate glasses. American Mineralogist, 2005, 90, 1218-1222.	1.9	201
7	The beginnings of hydrous mantle wedge melting. Contributions To Mineralogy and Petrology, 2012, 163, 669-688.	3.1	156
8	Hydrogen partitioning between nominally anhydrous upper mantle minerals and melt between 3 and 5ÂGPa and applications to hydrous peridotite partial melting. Chemical Geology, 2009, 262, 42-56.	3.3	154
9	Solubility of molecular hydrogen in silicate melts and consequences for volatile evolution of terrestrial planets. Earth and Planetary Science Letters, 2012, 345-348, 38-48.	4.4	139
10	Calibration of infrared spectroscopy by elastic recoil detection analysis of H in synthetic olivine. Chemical Geology, 2012, 334, 92-98.	3.3	137
11	Intercalibration of FTIR and SIMS for hydrogen measurements in glasses and nominally anhydrous minerals. American Mineralogist, 2007, 92, 811-828.	1.9	133
12	The OH content of pyrope at high pressure. Chemical Geology, 1998, 147, 161-171.	3.3	129
13	Temperature-induced changes in the NIR spectra of hydrous albitic and rhyolitic glasses between 300 and 100 K. Physics and Chemistry of Minerals, 1999, 27, 119-132.	0.8	116
14	Effect of structural transitions on properties of high-pressure silicate melts: 27Al NMR, glass densities, and melt viscosities. American Mineralogist, 2007, 92, 1093-1104.	1.9	111
15	Ventilation of CO2 from a reduced mantle and consequences for the early Martian greenhouse. Earth and Planetary Science Letters, 2008, 270, 147-155.	4.4	108
16	Rutile/TiO2II phase equilibria. Contributions To Mineralogy and Petrology, 2003, 145, 199-204.	3.1	81
17	H2O storage capacity of olivine at 5â€“8GPa and consequences for dehydration partial melting of the upper mantle. Earth and Planetary Science Letters, 2012, 345-348, 104-116.	4.4	73
18	The effect of Fe on olivine H2O storage capacity: Consequences for H2O in the martian mantle. American Mineralogist, 2011, 96, 1039-1053.	1.9	69

#	Article	IF	Citations
19	Solubility of CH4 in a synthetic basaltic melt, with applications to atmosphereâ€“magma oceanâ€“core partitioning of volatiles and to the evolution of the Martian atmosphere. Geochimica Et Cosmochimica Acta, 2013, 114, 52-71.	3.9	67
20	Hydrogen partitioning between melt, clinopyroxene, and garnet at 3ÂGPa in a hydrous MORB with 6Âwt.% H2O. Contributions To Mineralogy and Petrology, 2008, 156, 607-625.	3.1	64
21	CO2 solubility in Martian basalts and Martian atmospheric evolution. Geochimica Et Cosmochimica Acta, 2011, 75, 5987-6003.	3.9	63
22	H2O storage capacity of olivine and low-Ca pyroxene from 10 to 13 GPa: consequences for dehydration melting above the transition zone. Contributions To Mineralogy and Petrology, 2012, 163, 297-316.	3.1	61
23	Solubility of COH volatiles in graphite-saturated martian basalts. Geochimica Et Cosmochimica Acta, 2014, 129, 54-76.	3.9	59
24	Influence of temperature, composition, silica activity and oxygen fugacity on the H2O storage capacity of olivine at 8ÂGPa. Contributions To Mineralogy and Petrology, 2008, 156, 595-605.	3.1	54
25	A first-principles investigation of hydrous defects and IR frequencies in forsterite: The case for Si vacancies. American Mineralogist, 2011, 96, 1475-1479.	1.9	53
26	Reconciliation of experimental results on H2O speciation in rhyolitic glass using in-situ and quenching techniques. Earth and Planetary Science Letters, 1999, 173, 343-349.	4.4	52
27	Pressure-induced phase transition study of magnesiochromite (MgCr2O4) by Raman spectroscopy and X-ray diffraction. Physics of the Earth and Planetary Interiors, 2012, 196-197, 75-82.	1.9	50
28	Effect of pressure on Fe3+/Î£Fe ratio in a mafic magma and consequences for magma ocean redox gradients. Geochimica Et Cosmochimica Acta, 2017, 204, 83-103.	3.9	48
29	Heat capacity and phase equilibria of hollandite polymorph of KAlSi3O8. Physics and Chemistry of Minerals, 2006, 33, 167-177.	0.8	45
30	Clumped fluoride-hydroxyl defects in forsterite: Implications for the upper-mantle. Earth and Planetary Science Letters, 2014, 390, 287-295.	4.4	42
31	Lorentzian dominated lineshapes and linewidths for Raman symmetric stretch peaks (800â€“1200â€¯cmâ»1) in Qn (nâ€¯=â€¯1â€“3) species of alkali silicate glasses/melts. Journal of Non-Crystalline Solids, 2018, 484, 72-83.	3.1	41
32	Water quantification in silicate glasses by Raman spectroscopy: Correcting for the effects of confocality, density and ferric iron. Chemical Geology, 2018, 483, 312-331.	3.3	40
33	Effect of iron and trivalent cations on OH defects in olivine. American Mineralogist, 2017, 102, 302-311.	1.9	39
34	A new method for determining the P-V-T properties of high-density H2O using NMR: results at 1.4â€“4.0 gpa and 700â€“1100Â°c. Geochimica Et Cosmochimica Acta, 2000, 64, 1051-1057.	3.9	37
35	On the use of unpolarized infrared spectroscopy for quantitative analysis of absorbing species in birefringent crystals. American Mineralogist, 2013, 98, 689-697.	1.9	37
36	H2O storage capacity of MgSiO3 clinoenstatite at 8â€“13ÂGPa, 1,100â€“1,400Â°C. Contributions To Mineralogy and Petrology, 2007, 154, 663-674.	3.1	36

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37	Axialâ€type olivine crystallographic preferred orientations: The effect of strain geometry on mantle texture. Journal of Geophysical Research: Solid Earth, 2016, 121, 4895-4922.	3.4	36
38	Calibration of the infrared molar absorption coefficients for H in olivine, clinopyroxene and rhyolitic glass by elastic recoil detection analysis. Chemical Geology, 2009, 262, 78-86.	3.3	29
39	A calorimetric investigation of spessartine: Vibrational and magnetic heat capacity. Geochimica Et Cosmochimica Acta, 2009, 73, 3393-3409.	3.9	22
40	Heat capacities of hydrous silicate glasses and liquids. Chemical Geology, 2013, 346, 125-134.	3.3	22
41	Heat capacity of Î³-Fe2SiO4 between 5 and 303ÂK and derived thermodynamic properties. Physics and Chemistry of Minerals, 2007, 34, 121-127.	0.8	21
42	Mantle strength of the San Andreas fault system and the role of mantle-crust feedbacks. Geology, 2015, 43, 891-894.	4.4	18
43	Heat capacity and phase equilibria of wadeite-type K2Si4O9. Contributions To Mineralogy and Petrology, 2008, 155, 137-146.	3.1	16
44	A rapid-quench technique for multi-anvil high-pressure-temperature experiments. Review of Scientific Instruments, 2020, 91, 065105.	1.3	11
45	Petrologic Structure of a Hydrous 410 Km Discontinuity. Geophysical Monograph Series, 2013, , 277-287.	0.1	9
46	Heat capacity, entropy, and phase equilibria of dmitryivanovite. Physics and Chemistry of Minerals, 2012, 39, 259-267.	0.8	7
47	Coupled hydrogen and fluorine incorporation in garnet: New constraints from FTIR, ERDA, SIMS, and EPMA. American Mineralogist, 2022, 107, 587-602.	1.9	6
48	A simplified rapid-quench multi-anvil technique. Review of Scientific Instruments, 2021, 92, 113902.	1.3	6
49	Reply to â€˜Comment on â€œThe beginnings of hydrous mantle wedge meltingâ€•by Till et al.â€™ by Stalder. Contributions To Mineralogy and Petrology, 2012, 164, 1073-1076.	3.1	5
50	Raman spectroscopy of shocked enstatiteâ€rich meteorites. Meteoritics and Planetary Science, 2018, 53, 2067-2077.	1.6	5
51	Rapid-quenching of high-pressure depolymerized hydrous silicate (peridotitic) glasses. Journal of Non-Crystalline Solids, 2022, 578, 121347.	3.1	5
52	Reply to â€˜Comment on â€œThe beginnings of hydrous mantle wedge meltingâ€•by Till et al.â€™ by Green, Rosenthal and Kovacs. Contributions To Mineralogy and Petrology, 2012, 164, 1083-1085.	3.1	4
53	Raman and X-ray diffraction study of pressure-induced phase transition in synthetic Mg2TiO4. Scientific Reports, 2020, 10, 6278.	3.3	2