

# Anthony C Withers

## List of Publications by Year in descending order

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53  
papers

4,133  
citations

101543

36  
h-index

161849

54  
g-index

54  
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54  
docs citations

54  
times ranked

2899  
citing authors

#	ARTICLE	IF	CITATIONS
1	Coupled hydrogen and fluorine incorporation in garnet: New constraints from FTIR, ERDA, SIMS, and EPMA. <i>American Mineralogist</i> , 2022, 107, 587-602.	1.9	6
2	Rapid-quenching of high-pressure depolymerized hydrous silicate (peridotitic) glasses. <i>Journal of Non-Crystalline Solids</i> , 2022, 578, 121347.	3.1	5
3	A simplified rapid-quench multi-anvil technique. <i>Review of Scientific Instruments</i> , 2021, 92, 113902.	1.3	6
4	A rapid-quench technique for multi-anvil high-pressure-temperature experiments. <i>Review of Scientific Instruments</i> , 2020, 91, 065105.	1.3	11
5	Raman and X-ray diffraction study of pressure-induced phase transition in synthetic Mg <sub>2</sub> TiO <sub>4</sub> . <i>Scientific Reports</i> , 2020, 10, 6278.	3.3	2
6	Lorentzian dominated lineshapes and linewidths for Raman symmetric stretch peaks (800–1200 cm <sup>-1</sup> ) in Qn (n = 1–3) species of alkali silicate glasses/melts. <i>Journal of Non-Crystalline Solids</i> , 2018, 484, 72-83.	3.1	41
7	Water quantification in silicate glasses by Raman spectroscopy: Correcting for the effects of confocality, density and ferric iron. <i>Chemical Geology</i> , 2018, 483, 312-331.	3.3	40
8	Raman spectroscopy of shocked enstatite-rich meteorites. <i>Meteoritics and Planetary Science</i> , 2018, 53, 2067-2077.	1.6	5
9	Effect of pressure on Fe <sup>3+</sup> /ΣFe ratio in a mafic magma and consequences for magma ocean redox gradients. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 204, 83-103.	3.9	48
10	Effect of iron and trivalent cations on OH defects in olivine. <i>American Mineralogist</i> , 2017, 102, 302-311.	1.9	39
11	Axial-type olivine crystallographic preferred orientations: The effect of strain geometry on mantle texture. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 4895-4922.	3.4	36
12	Mantle strength of the San Andreas fault system and the role of mantle-crust feedbacks. <i>Geology</i> , 2015, 43, 891-894.	4.4	18
13	Solubility of COH volatiles in graphite-saturated martian basalts. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 129, 54-76.	3.9	59
14	Clumped fluoride-hydroxyl defects in forsterite: Implications for the upper-mantle. <i>Earth and Planetary Science Letters</i> , 2014, 390, 287-295.	4.4	42
15	On the use of unpolarized infrared spectroscopy for quantitative analysis of absorbing species in birefringent crystals. <i>American Mineralogist</i> , 2013, 98, 689-697.	1.9	37
16	Petrologic Structure of a Hydrous 410 Km Discontinuity. <i>Geophysical Monograph Series</i> , 2013, , 277-287.	0.1	9
17	Solubility of CH <sub>4</sub> in a synthetic basaltic melt, with applications to atmosphere–magma ocean–core partitioning of volatiles and to the evolution of the Martian atmosphere. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 114, 52-71.	3.9	67
18	Carbon-dioxide-rich silicate melt in the Earth's upper mantle. <i>Nature</i> , 2013, 493, 211-215.	27.8	290

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19	Heat capacities of hydrous silicate glasses and liquids. <i>Chemical Geology</i> , 2013, 346, 125-134.	3.3	22
20	Reply to "Comment on "The beginnings of hydrous mantle wedge melting" by Till et al."™ by Stalder. <i>Contributions To Mineralogy and Petrology</i> , 2012, 164, 1073-1076.	3.1	5
21	Reply to "Comment on "The beginnings of hydrous mantle wedge melting" by Till et al."™ by Green, Rosenthal and Kovacs. <i>Contributions To Mineralogy and Petrology</i> , 2012, 164, 1083-1085.	3.1	4
22	Calibration of infrared spectroscopy by elastic recoil detection analysis of H in synthetic olivine. <i>Chemical Geology</i> , 2012, 334, 92-98.	3.3	137
23	Pressure-induced phase transition study of magnesiochromite (MgCr <sub>2</sub> O <sub>4</sub> ) by Raman spectroscopy and X-ray diffraction. <i>Physics of the Earth and Planetary Interiors</i> , 2012, 196-197, 75-82.	1.9	50
24	H <sub>2</sub> O storage capacity of olivine at 5-8 GPa and consequences for dehydration partial melting of the upper mantle. <i>Earth and Planetary Science Letters</i> , 2012, 345-348, 104-116.	4.4	73
25	Solubility of molecular hydrogen in silicate melts and consequences for volatile evolution of terrestrial planets. <i>Earth and Planetary Science Letters</i> , 2012, 345-348, 38-48.	4.4	139
26	The beginnings of hydrous mantle wedge melting. <i>Contributions To Mineralogy and Petrology</i> , 2012, 163, 669-688.	3.1	156
27	Heat capacity, entropy, and phase equilibria of dmitryivanovite. <i>Physics and Chemistry of Minerals</i> , 2012, 39, 259-267.	0.8	7
28	H <sub>2</sub> O storage capacity of olivine and low-Ca pyroxene from 10 to 13 GPa: consequences for dehydration melting above the transition zone. <i>Contributions To Mineralogy and Petrology</i> , 2012, 163, 297-316.	3.1	61
29	The effect of Fe on olivine H <sub>2</sub> O storage capacity: Consequences for H <sub>2</sub> O in the martian mantle. <i>American Mineralogist</i> , 2011, 96, 1039-1053.	1.9	69
30	CO <sub>2</sub> solubility in Martian basalts and Martian atmospheric evolution. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 5987-6003.	3.9	63
31	A first-principles investigation of hydrous defects and IR frequencies in forsterite: The case for Si vacancies. <i>American Mineralogist</i> , 2011, 96, 1475-1479.	1.9	53
32	Hydrogen partitioning between nominally anhydrous upper mantle minerals and melt between 3 and 5 GPa and applications to hydrous peridotite partial melting. <i>Chemical Geology</i> , 2009, 262, 42-56.	3.3	154
33	Calibration of the infrared molar absorption coefficients for H in olivine, clinopyroxene and rhyolitic glass by elastic recoil detection analysis. <i>Chemical Geology</i> , 2009, 262, 78-86.	3.3	29
34	Trace element partitioning between garnet lherzolite and carbonatite at 6.6 and 8.6 GPa with applications to the geochemistry of the mantle and of mantle-derived melts. <i>Chemical Geology</i> , 2009, 262, 57-77.	3.3	231
35	A calorimetric investigation of spessartine: Vibrational and magnetic heat capacity. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 3393-3409.	3.9	22
36	Dehydration melting of nominally anhydrous mantle: The primacy of partitioning. <i>Physics of the Earth and Planetary Interiors</i> , 2009, 176, 54-68.	1.9	233

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37	Heat capacity and phase equilibria of wadeite-type $K_2Si_4O_9$ . Contributions To Mineralogy and Petrology, 2008, 155, 137-146.	3.1	16
38	Influence of temperature, composition, silica activity and oxygen fugacity on the $H_2O$ storage capacity of olivine at 8 GPa. Contributions To Mineralogy and Petrology, 2008, 156, 595-605.	3.1	54
39	Hydrogen partitioning between melt, clinopyroxene, and garnet at 3 GPa in a hydrous MORB with 6 wt.% $H_2O$ . Contributions To Mineralogy and Petrology, 2008, 156, 607-625.	3.1	64
40	Ventilation of $CO_2$ from a reduced mantle and consequences for the early Martian greenhouse. Earth and Planetary Science Letters, 2008, 270, 147-155.	4.4	108
41	Intercalibration of FTIR and SIMS for hydrogen measurements in glasses and nominally anhydrous minerals. American Mineralogist, 2007, 92, 811-828.	1.9	133
42	Effect of structural transitions on properties of high-pressure silicate melts: $^{27}Al$ NMR, glass densities, and melt viscosities. American Mineralogist, 2007, 92, 1093-1104.	1.9	111
43	Heat capacity of ${}^3Fe_2SiO_4$ between 5 and 303 K and derived thermodynamic properties. Physics and Chemistry of Minerals, 2007, 34, 121-127.	0.8	21
44	$H_2O$ storage capacity of $MgSiO_3$ clinoenstatite at 8–13 GPa, 1,100–1,400 °C. Contributions To Mineralogy and Petrology, 2007, 154, 663-674.	3.1	36
45	Heat capacity and phase equilibria of hollandite polymorph of $KAlSi_3O_8$ . Physics and Chemistry of Minerals, 2006, 33, 167-177.	0.8	45
46	Storage capacity of $H_2O$ in nominally anhydrous minerals in the upper mantle. Earth and Planetary Science Letters, 2005, 236, 167-181.	4.4	263
47	Aluminum coordination and the densification of high-pressure aluminosilicate glasses. American Mineralogist, 2005, 90, 1218-1222.	1.9	201
48	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
49	Rutile/ $TiO_2$ phase equilibria. Contributions To Mineralogy and Petrology, 2003, 145, 199-204.	3.1	81
50	A new method for determining the P-V-T properties of high-density $H_2O$ using NMR: results at 1.4–4.0 gpa and 700–1100 °C. Geochimica Et Cosmochimica Acta, 2000, 64, 1051-1057.	3.9	37
51	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
52	Reconciliation of experimental results on $H_2O$ speciation in rhyolitic glass using in-situ and quenching techniques. Earth and Planetary Science Letters, 1999, 173, 343-349.	4.4	52
53	The OH content of pyrope at high pressure. Chemical Geology, 1998, 147, 161-171.	3.3	129