

Alan G Whittington

List of Publications by Year in descending order

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98
papers

3,514
citations

117571

34
h-index

138417

58
g-index

108
all docs

108
docs citations

108
times ranked

2671
citing authors

#	ARTICLE	IF	CITATIONS
1	Temperature-dependent thermal diffusivity of the Earth's crust and implications for magmatism. <i>Nature</i> , 2009, 458, 319-321.	13.7	369
2	Kinematic evolution of the Araçuaá-West Congo orogen in Brazil and Africa: Nutcracker tectonics during the Neoproterozoic assembly of Gondwana. <i>Precambrian Research</i> , 2006, 149, 43-64.	1.2	283
3	The viscosity of hydrous phonolites and trachytes. <i>Chemical Geology</i> , 2001, 174, 209-223.	1.4	130
4	Water and the viscosity of depolymerized aluminosilicate melts. <i>Geochimica Et Cosmochimica Acta</i> , 2000, 64, 3725-3736.	1.6	128
5	Water and the density of silicate glasses. <i>Contributions To Mineralogy and Petrology</i> , 2000, 138, 337-347.	1.2	117
6	The role of H ₂ O in rapid emplacement and crystallization of granite pegmatites: resolving the paradox of large crystals in highly undercooled melts. <i>Contributions To Mineralogy and Petrology</i> , 2010, 160, 313-325.	1.2	115
7	Coal metamorphism by igneous intrusion in the Raton Basin, CO and NM: Implications for generation of volatiles. <i>International Journal of Coal Geology</i> , 2007, 71, 15-27.	1.9	111
8	The influence of temperature-dependent thermal diffusivity on the conductive cooling rates of plutons and temperature-time paths in contact aureoles. <i>Earth and Planetary Science Letters</i> , 2012, 317-318, 157-164.	1.8	102
9	Strain heating as a mechanism for partial melting and ultrahigh temperature metamorphism in convergent orogens: Implications of temperature-dependent thermal diffusivity and rheology. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	100
10	Lithostratigraphic correlations in the western Himalaya—An isotopic approach. <i>Geology</i> , 1999, 27, 585.	2.0	93
11	Dynamics of Strombolian explosions: Inferences from field and laboratory studies of erupted bombs from Stromboli volcano. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 319-345.	1.4	88
12	Gas-driven filter pressing in magmas: Insights into in-situ melt segregation from crystal mushes. <i>Geology</i> , 2015, 43, 699-702.	2.0	88
13	Transport properties of high albite crystals, near-endmember feldspar and pyroxene glasses, and their melts to high temperature. <i>Contributions To Mineralogy and Petrology</i> , 2009, 158, 381-400.	1.2	74
14	Textural and rheological evolution of basalt flowing down a lava channel. <i>Bulletin of Volcanology</i> , 2014, 76, 1.	1.1	65
15	The viscosity of hydrous dacitic liquids: implications for the rheology of evolving silicic magmas. <i>Bulletin of Volcanology</i> , 2009, 71, 185-199.	1.1	62
16	Structural characterization of water-bearing silicate and aluminosilicate glasses by high-resolution solid-state NMR. <i>Chemical Geology</i> , 2001, 174, 291-305.	1.4	60
17	Transport properties of low-sanidine single-crystals, glasses and melts at high temperature. <i>Contributions To Mineralogy and Petrology</i> , 2008, 155, 689-702.	1.2	60
18	Pahoehoe to 'a'a transition of Hawaiian lavas: an experimental study. <i>Bulletin of Volcanology</i> , 2014, 76, 1.	1.1	60

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19	Experimental Crystallization of Undercooled Felsic Liquids: Generation of Pegmatitic Texture. <i>Journal of Petrology</i> , 2017, 58, 539-568.	1.1	60
20	Thermal diffusivity of rhyolitic glasses and melts: effects of temperature, crystals and dissolved water. <i>Bulletin of Volcanology</i> , 2012, 74, 2273-2287.	1.1	56
21	Exhumation overrated at Nanga Parbat, northern Pakistan. <i>Tectonophysics</i> , 1996, 260, 215-226.	0.9	50
22	Effect of water on the heat capacity of polymerized aluminosilicate glasses and melts. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 711-722.	1.6	50
23	DISORDERED SILICATES IN SPACE: A STUDY OF LABORATORY SPECTRA OF "AMORPHOUS" SILICATES. <i>Astrophysical Journal</i> , 2011, 740, 93.	1.6	50
24	4D printing of polyurethane paint-based composites. <i>International Journal of Smart and Nano Materials</i> , 2019, 10, 237-248.	2.0	49
25	Interactions between deformation, magmatism and hydrothermal activity during active crustal thickening: a field example from Nanga Parbat, Pakistan Himalayas. <i>Mineralogical Magazine</i> , 1997, 61, 37-52.	0.6	48
26	Isotope studies reveal a complete Himalayan section in the Nanga Parbat syntaxis. <i>Geology</i> , 2003, 31, 1109.	2.0	45
27	Extensional collapse in the Neoproterozoic Araçuaia orogen, eastern Brazil: a setting for reactivation of asymmetric crenulation cleavage. <i>Journal of Structural Geology</i> , 2006, 28, 129-147.	1.0	45
28	Crustal anatexis and its relation to the exhumation of collisional orogenic belts, with particular reference to the Himalaya. <i>Mineralogical Magazine</i> , 2002, 66, 53-91.	0.6	41
29	AMORPHOUS MATERIALS: PROPERTIES, STRUCTURE, AND DURABILITY: The viscosity of hydrous NaAlSi ₃ O ₈ and granitic melts: Configurational entropy models. <i>American Mineralogist</i> , 2009, 94, 1-16.	0.9	40
30	Thermal transport properties of major Archean rock types to high temperature and implications for cratonic geotherms. <i>Precambrian Research</i> , 2013, 233, 358-372.	1.2	40
31	Water and the compressibility of silicate glasses: A Brillouin spectroscopic study. <i>American Mineralogist</i> , 2012, 97, 455-467.	0.9	39
32	Rheology of arc dacite lavas: experimental determination at low strain rates. <i>Bulletin of Volcanology</i> , 2012, 74, 1039-1056.	1.1	39
33	Field and experimental constraints on the rheology of arc basaltic lavas: the January 2014 Eruption of Pacaya (Guatemala). <i>Bulletin of Volcanology</i> , 2016, 78, 1.	1.1	36
34	The viscosity of planetary tholeiitic melts: A configurational entropy model. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 191, 277-299.	1.6	36
35	Liquid and magma viscosity in the anorthite-forsterite-diopside-quartz system and implications for the viscosity-temperature paths of cooling magmas. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	34
36	Crystal-rich lava dome extrusion during vesiculation: An experimental study. <i>Journal of Volcanology and Geothermal Research</i> , 2017, 347, 1-14.	0.8	34

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37	Rheology of Crystallizing basaltic lavas from Nyiragongo and Nyamuragira volcanoes, D.R.C.. <i>Volcanica</i> , 2020, 3, 1-28.	0.6	33
38	Rheology of lava flows on Mercury: An analog experimental study. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 1924-1955.	1.5	31
39	Effects of hydration, annealing, and melting on heat transport properties of fused quartz and fused silica from laser-flash analysis. <i>Journal of Non-Crystalline Solids</i> , 2012, 358, 1072-1082.	1.5	29
40	Transport properties of glassy and molten lavas as a function of temperature and composition. <i>Journal of Volcanology and Geothermal Research</i> , 2016, 327, 330-348.	0.8	29
41	Temperature-dependent thermal transport properties of carbonate minerals and rocks. , 2018, 14, 1961-1987.		29
42	Experimental temperature \times (H ₂ O) \times viscosity relationship for leucogranites and comparison with synthetic silicic liquids. <i>Earth and Environmental Science Transactions of the Royal Society of Edinburgh</i> , 2004, 95, 59-71.	0.3	28
43	Partial molar volume of water in phonolitic glasses and liquids. <i>Contributions To Mineralogy and Petrology</i> , 2001, 142, 235-243.	1.2	26
44	Geophysical implications of reduction in thermal conductivity due to hydration. <i>Geophysical Research Letters</i> , 2006, 33, .	1.5	26
45	Densities and volumes of hydrous silicate melts: New measurements and predictions. <i>Chemical Geology</i> , 2015, 418, 40-50.	1.4	25
46	The effect of water on the viscosity of a synthetic calc-alkaline basaltic andesite. <i>Chemical Geology</i> , 2013, 346, 135-148.	1.4	24
47	Heat capacity of hydrous basaltic glasses and liquids. <i>Journal of Non-Crystalline Solids</i> , 2014, 390, 19-30.	1.5	24
48	Heat capacities of hydrous silicate glasses and liquids. <i>Chemical Geology</i> , 2013, 346, 125-134.	1.4	22
49	A simple model for the viscosity of rhyolites as a function of temperature, pressure and water content. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 170, 281-300.	1.6	20
50	The Cosmic Crystallinity Conundrum: Clues from IRAS 17495-2534. <i>Astrophysical Journal</i> , 2008, 687, L91-L94.	1.6	19
51	Chemically Interconnected Thermotropic Polymers for Transparency-Tunable and Impact-Resistant Windows. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 5393-5400.	4.0	18
52	Phase equilibrium constraints on the viscosity of silicic magmas II: implications for mafic \times silicic mixing processes. <i>Earth and Environmental Science Transactions of the Royal Society of Edinburgh</i> , 2000, 91, 61-72.	0.3	16
53	Mafic sheets from Indian plate gneisses in the Nanga Parbat syntaxis: their significance in dating crustal growth and metamorphic and deformation events. <i>Geological Society Special Publication</i> , 2000, 170, 25-50.	0.8	15
54	Heat capacity and viscosity of basaltic melts with H ₂ O \pm F \pm CO ₂ . <i>Chemical Geology</i> , 2015, 418, 51-65.	1.4	15

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55	Low-pressure crustal anatexis: the significance of spinel and cordierite from metapelitic assemblages at Nanga Parbat, northern Pakistan. Geological Society Special Publication, 1998, 138, 183-198.	0.8	14
56	Contrasting anatectic styles at Nanga Parbat, northern Pakistan. , 1999, , .		14
57	Rheological controls on the emplacement of extremely high-grade ignimbrites. Geology, 2013, 41, 1031-1034.	2.0	14
58	Water and magmas: Thermal effects of exsolution. Earth and Planetary Science Letters, 2006, 241, 972-977.	1.8	13
59	Effects of chemical composition and temperature on transport properties of silica-rich glasses and melts. American Mineralogist, 2014, 99, 564-577.	0.9	13
60	Rheological investigation of lunar highland and mare impact melt simulants. Icarus, 2019, 317, 307-323.	1.1	13
61	Emplacement dynamics and timescale of a Holocene flow from the Cima Volcanic Field (CA): Insights from rheology and morphology. Journal of Volcanology and Geothermal Research, 2017, 347, 91-111.	0.8	12
62	Energetics of water dissolution in trachyte glasses and liquids. Geochimica Et Cosmochimica Acta, 2004, 68, 5151-5158.	1.6	11
63	Rheology of a KREEP analog magma: Experimental results applied to dike ascent through the lunar crust. Planetary and Space Science, 2020, 187, 104941.	0.9	9
64	The fold illusion: The origins and implications of ogives on silicic lavas. Earth and Planetary Science Letters, 2021, 553, 116643.	1.8	9
65	Tracing the origins of the western Himalaya: an isotopic comparison of the Nanga Parbat massif and Zaskar Himalaya. Geological Society Special Publication, 2000, 170, 201-218.	0.8	8
66	Experimental temperature- $X(\text{H}_2\text{O})$ -viscosity relationship for leucogranites and comparison with synthetic silicic liquids. , 2004, , .		7
67	Thermal diffusivity of Fe-rich pyroxene glasses and their melts. Chemical Geology, 2014, 384, 1-9.	1.4	7
68	Viscosity of melts in the NaAlSiO ₄ -KAlSiO ₄ -SiO ₂ system: Configurational entropy modelling. Journal of Non-Crystalline Solids, 2019, 524, 119635.	1.5	7
69	Direct nanoscale observations of degassing-induced crystallisation in felsic magmas. Contributions To Mineralogy and Petrology, 2022, 177, 1.	1.2	7
70	Thermal properties of glassy and molten planetary candidate lavas. Planetary and Space Science, 2020, 193, 105089.	0.9	6
71	Phase equilibrium constraints on the viscosity of silicic magmas II: implications for mafic-silicic mixing processes. , 2000, , .		3
72	Spontaneous reheating of crystallizing lava. Geology, 2021, 49, 1457-1461.	2.0	2

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73	Editorial: Research Topic Crystal Nucleation and Growth in Magmatic Suspensions. <i>Frontiers in Earth Science</i> , 2020, 8, .	0.8	2
74	Lower Cost Lunar Bricks: Energetics of Melting and Sintering Lunar Regolith Simulants. <i>New Space</i> , 2022, 10, 193-204.	0.4	2
75	Thermal properties of carbonatite and anorthosite from the Superior Province, Ontario, and implications for non-magmatic local thermal effects of these intrusions. <i>International Journal of Earth Sciences</i> , 2021, 110, 1593-1609.	0.9	1
76	CONDUCTIVE THERMAL TRANSPORT PROPERTIES OF CARBONATE MINERALS AND ROCKS ACROSS A RANGE OF CRUSTAL TEMPERATURES. , 2016, , .		1
77	VESICULARITY, CRYSTALLINITY, AND IMPLICATIONS FOR RHEOLOGY OF THE KĀLAUEA 2018 LAVA FLOWS. , 2020, , .		1
78	Heat and Mass Transfer in Glassy and Molten Silicates. , 2019, , 327-357.		0
79	THERMALLY INSULATING PARTIALLY MOLTEN ZONES IN PLANETARY MANTLES PROMOTE MELT PRODUCTION DURING DECOMPRESSION. , 2016, , .		0
80	THE VISCOSITY OF PLANETARY THOLEIITIC MELTS: A CONFIGURATIONAL ENTROPY MODEL. , 2016, , .		0
81	RHEOLOGY OF CRYSTALLIZING BASALTS FROM NYIRAGONGO AND NYAMURAGIRA VOLCANOES, D.R.C. , 2016, , .		0
82	THERMAL DIFFUSIVITY OF CALCIUM-RICH ROCKS. , 2016, , .		0
83	LIQUID VISCOSITY MEASUREMENTS OF LUNAR HIGHLAND AND MARE IMPACT MELT SIMULANTS: JSC-1A, STILLWATER ANORTHOSITE, AND STILLWATER NORITE. , 2016, , .		0
84	NON-MAGMATIC THERMAL EFFECTS OF INTRUSIONS. , 2017, , .		0
85	RECALESCENCE DURING CRYSTALLIZATION OF STARDUST: RESOLUTION OF THE AMORPHOUS INTERSTELLAR MEDIUM PARADOX. , 2017, , .		0
86	EMPLACEMENT DYNAMICS AND TIMESCALE OF A HOLOCENE FLOW FROM THE CIMA VOLCANIC FIELD (CA): INSIGHTS FROM RHEOLOGY AND MORPHOLOGY. , 2017, , .		0
87	THE DEPENDENCE OF ROCK THERMAL PROPERTIES ON COMPOSITION AND TEMPERATURE. , 2017, , .		0
88	COOKING WITH SALT: THERMAL ANOMALIES ASSOCIATED WITH SALT DIAPIRS, AND THEIR EFFECTS ON THE MATURATION OF SURROUNDING HYDROCARBONS. , 2018, , .		0
89	THE EFFECTS OF TEMPERATURE DEPENDENT THERMAL PROPERTIES IN MODELING GEOTHERMAL GRADIENTS OF THE ILLINOIS BASIN. , 2018, , .		0
90	EXPERIMENTAL VESICULATION AND OUTGASSING OF CRYSTAL-BEARING DACITE. , 2018, , .		0

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91	COOKING WITH SALT 2.0: THERMAL PERTURBATIONS CAUSED BY SALT DIAPIRS, AND THE RAMIFICATIONS FOR THE MATURATION OF SURROUNDING HYDROCARBONS. , 2019, , .		0
92	THE RHEOLOGICAL PATH OF SOLIDIFYING MAGMA: CONTROLS, FEEDBACK RELATIONS, AND END-MEMBER SCENARIOS. , 2019, , .		0
93	HOW LOW CAN YOU GO? THE EFFECTS OF RESIDUAL H ₂ O ON THE ADVANCE OF OBSIDIAN LAVA FLOWS OF THE WESTERN UNITED STATES. , 2019, , .		0
94	THROUGH A GLASS DARKLY; AN INVESTIGATION INTO THE VC-1 RHYOLITE, SW VALLES CALDERA, NM. , 2019, , .		0
95	REGULARLY SPACED RIDGES ON SILICIC LAVA FLOWS AND IMPLICATIONS FOR INFERRING THE RHEOLOGICAL PROPERTIES OF PLANETARY LANDFORMS. , 2020, , .		0
96	REEVALUATING CRYOLAVA FLOW EMPLACEMENT: FEASIBILITY OF TUBES. , 2020, , .		0
97	THE VOLCANIC EXPLOSIVE-EFFUSIVE TRANSITION EXPLAINED BY COMPETING OUTGASSING MECHANISMS. , 2020, , .		0
98	RHEOLOGICAL INVESTIGATION OF CRYOVOLCANIC BRINES: VISCOSITY OF CHLORIDE AND SULFATE BRINES. , 2020, , .		0