Mark S Ghiorso

List of Publications by Year
in descending order

87	10,151	66343	58581
papers	citations	42 h-index	82 g-index

90	90	90	4719
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Using Chemical Affinities to Understand Disequilibrium Textures of Plagioclase Preserved in Magmatic Systems. Geophysical Research Letters, 2021, 48, e2021GL092884.	4.0	2
2	Magma extraction pressures and the architecture of volcanic plumbing systems. Earth and Planetary Science Letters, 2019, 522, 118-124.	4.4	22
3	Rhyolite-MELTS vs DERPâ€"Newer Does not Make it Better: a Comment on â€˜The Effect of Anorthite Content and Water on Quartzâ€"Feldspar Cotectic Compositions in the Rhyolitic System and Implications for Geobarometryâ€™ by Wilke et al. (2017; Journal of Petrology, 58, 789â€"818). Journal of Petrology, 2019, 60, 855-864.	2.8	7
4	Phase-equilibrium geobarometers for silicic rocks based on rhyolite-MELTS. Part 4: Plagioclase, orthopyroxene, clinopyroxene, glass geobarometer, and application to Mt. Ruapehu, New Zealand. Contributions To Mineralogy and Petrology, 2018, 173, 1.	3.1	13
5	Climbing the crustal ladder: Magma storage-depth evolution during a volcanic flare-up. Science Advances, 2018, 4, eaap7567.	10.3	35
6	Internal triggering of volcanic eruptions: tracking overpressure regimes for giant magma bodies. Earth and Planetary Science Letters, 2017, 472, 142-151.	4.4	33
7	Highly CO2-supersaturated melts in the Pannonian lithospheric mantle â€" A transient carbon reservoir?. Lithos, 2017, 286-287, 519-533.	1.4	26
8	Ti ³⁺ â€" and Ti ⁴⁺ â€" rich fassaites at the birth of the solar system: Thermodynamics and applications. Numerische Mathematik, 2017, 317, 807-845.	1.4	11
9	Thermodynamics, self-diffusion, and structure of liquid NaAlSi₃O₈to 30 GPa by classical molecular dynamics simulations. American Mineralogist, 2016, 101, 2029-2040.	1.9	11
10	High-Ti, bright-CL rims in volcanic quartz: a result of very rapid growth. Contributions To Mineralogy and Petrology, 2016, 171, 1.	3.1	27
11	An H2Oâ€"CO2 mixed fluid saturation model compatible with rhyolite-MELTS. Contributions To Mineralogy and Petrology, 2015, 169, 1.	3.1	423
12	<scp>MELTS</scp>_<scp>E</scp>xcel: <scp>A</scp><scp>M</scp>icrosoft <scp>E</scp>xcelâ€based <scp>MELTS</scp> interface for research and teaching of magma properties and evolution. Geochemistry, Geophysics, Geosystems, 2015, 16, 315-324.	2.5	166
13	Presentation of the Dana Medal of the Mineralogical Society of America for 2015 to Marc Hirschmann. American Mineralogist, 2015, 100, 1315-1315.	1.9	0
14	Chemical Thermodynamics and the StudyÂof Magmas. , 2015, , 143-161.		7
15	Phase-equilibrium geobarometers for silicic rocks based on rhyolite-MELTSâ€"Part 3: Application to the Peach Spring Tuff (Arizonaâ€"Californiaâ€"Nevada, USA). Contributions To Mineralogy and Petrology, 2015, 169, 1.	3.1	35
16	Phase-equilibrium geobarometers for silicic rocks based on rhyolite-MELTS. Part 2: application to Taupo Volcanic Zone rhyolites. Contributions To Mineralogy and Petrology, 2014, 168, 1.	3.1	34
17	Thermodynamic Model for Energy-Constrained Open-System Evolution of Crustal Magma Bodies Undergoing Simultaneous Recharge, Assimilation and Crystallization: the Magma Chamber Simulator. Journal of Petrology, 2014, 55, 1685-1717.	2.8	103
18	Experimental constraints on rhyolite-MELTS and the Late Bishop Tuff magma body. Contributions To Mineralogy and Petrology, 2014, 168, 1.	3.1	42

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19	Phase-equilibrium geobarometers for silicic rocks based on rhyolite-MELTS. Part 1: Principles, procedures, and evaluation of the method. Contributions To Mineralogy and Petrology, 2014, 168, 1.	3.1	73
20	The molar volume of FeOâ€“MgOâ€“Fe2O3â€“Cr2O3â€“Al2O3â€“TiO2 spinels. Contributions To Mineralogy and Petrology, 2013, 165, 25.	3.1	6
21	Low-Pressure Origin of High-Silica Rhyolites and Granites. Journal of Geology, 2013, 121, 537-545.	1.4	122
22	A globally convergent saturation state algorithm applicable to thermodynamic systems with a stable or metastable omni-component phase. Geochimica Et Cosmochimica Acta, 2013, 103, 295-300.	3.9	4
23	The Bishop Tuff giant magma body: an alternative to the Standard Model. Contributions To Mineralogy and Petrology, 2013, 166, 755-775.	3.1	85
24	Prolonged magmatic activity on Mars inferred from the detection of felsic rocks. Nature Geoscience, 2013, 6, 1013-1017.	12.9	131
25	An issue honoring Ian S. E. Carmichael. Contributions To Mineralogy and Petrology, 2013, 166, 655-663.	3.1	0
26	A method for estimating the activity of titania in magmatic liquids from the compositions of coexisting rhombohedral and cubic ironâ€“titanium oxides. Contributions To Mineralogy and Petrology, 2013, 165, 73-81.	3.1	120
27	Rhyolite-MELTS: a Modified Calibration of MELTS Optimized for Silica-rich, Fluid-bearing Magmatic Systems. Journal of Petrology, 2012, 53, 875-890.	2.8	1,001
28	Peralkaline magma evolution and the tephra record in the Ethiopian Rift. Contributions To Mineralogy and Petrology, 2012, 164, 407-426.	3.1	73
29	Timescales of Quartz Crystallization and the Longevity of the Bishop Giant Magma Body. PLoS ONE, 2012, 7, e37492.	2.5	97
30	Structure, thermodynamic and transport properties of liquid MgSiO3: Comparison of molecular models and laboratory results. Geochimica Et Cosmochimica Acta, 2011, 75, 1272-1296.	3.9	51
31	Comment on 'A Metamodel for Crustal Magmatism: Phase Equilibria of Giant Ignimbrites' by S. J. Fowler and F. J. Spera. Journal of Petrology, 2011, 52, 431-434.	2.8	4
32	Shear viscosity and diffusion in liquid MgSiO3: Transport properties and implications for terrestrial planet magma oceans. American Mineralogist, 2009, 94, 975-980.	1.9	38
33	Structure, thermodynamic, and transport properties of molten Mg2SiO4: Molecular dynamics simulations and model EOS. American Mineralogist, 2009, 94, 693-703.	1.9	35
34	Molecular dynamics studies of CaAl2Si2O8 liquid. Part II: Equation of state and a thermodynamic model. Geochimica Et Cosmochimica Acta, 2009, 73, 6937-6951.	3.9	20
35	A solution model for high-temperature PbS-AgSbS2-AgBiS2 galena. American Mineralogist, 2008, 93, 1630-1640.	1.9	40
36	Partitioning of trace elements among coexisting crystals, melt, and supercritical fluid during isobaric crystallization and melting. American Mineralogist, 2007, 92, 1881-1898.	1.9	41

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37	Magnetite scavenging and the buoyancy of bubbles in magmas. Part 2: Energetics of crystal-bubble attachment in magmas. Contributions To Mineralogy and Petrology, 2007, 154, 479-490.	3.1	39
38	Thermodynamic modeling of post-entrapment crystallization in igneous phases. Journal of Volcanology and Geothermal Research, 2004, 137, 247-260.	2.1	49
39	Microsoft EXCEL spreadsheet-based program for calculating equilibrium gas speciation in the Câ€“Oâ€“Hâ€“Sâ€“Clâ€“F system. Computers and Geosciences, 2004, 30, 211-214.	4.2	27
40	Thermodynamics of the amphiboles: Ca-Mg-Fe²⁺quadrilateral. American Mineralogist, 2002, 87, 79-98.	1.9	26
41	The pMELTS: A revision of MELTS for improved calculation of phase relations and major element partitioning related to partial melting of the mantle to 3 GPa. Geochemistry, Geophysics, Geosystems, 2002, 3, 1-35.	2.5	670
42	Thermodynamics of the amphiboles: Anthophyllite-ferroanthophyllite and the ortho-clino phase loop. American Mineralogist, 2001, 86, 640-651.	1.9	17
43	Adiabatic temperature changes of magmaâ€“gas mixtures during ascent and eruption. Contributions To Mineralogy and Petrology, 2001, 141, 307-321.	3.1	48
44	Gibbs energy minimization in gas + liquid + solid systems. Journal of Computational Chemistry, 2000, 21, 247-256.	3.3	25
45	Thermodynamic properties of tremolite: A correction and some comments. American Mineralogist, 2000, 85, 466-472.	1.9	18
46	On the stability relations of hydrous minerals in water-undersaturated magmas. American Mineralogist, 1999, 84, 1506-1511.	1.9	10
47	Thermodynamics of cation ordering in karrooite (MgTi2O5). American Mineralogist, 1999, 84, 1370-1374.	1.9	10
48	Thermodynamics of feldspathoid solutions. Contributions To Mineralogy and Petrology, 1998, 130, 256-274.	3.1	12
49	Evidence for a reduced, Fe-depleted martian mantle source region of shergottites. Contributions To Mineralogy and Petrology, 1998, 130, 346-357.	3.1	34
50	Algorithmic modifications extending MELTS to calculate subsolidus phase relations. American Mineralogist, 1998, 83, 1127-1132.	1.9	618
51	THERMODYNAMIC MODELS OF IGNEOUS PROCESSES. Annual Review of Earth and Planetary Sciences, 1997, 25, 221-241.	11.0	75
52	Petrological models of magma evolution and deep crustal structure beneath hotspots and flood basalt provinces. Earth and Planetary Science Letters, 1996, 143, 81-94.	4.4	124
53	Thermodynamics of the amphiboles: Fe-Mg cummingtonite solid solution. American Mineralogist, 1995, 80, 502-519.	1.9	28
54	Chemical mass transfer in magmatic processes IV. A revised and internally consistent thermodynamic model for the interpolation and extrapolation of liquid-solid equilibria in magmatic systems at elevated temperatures and pressures. Contributions To Mineralogy and Petrology, 1995, 119, 197-212.	3.1	2,458

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55	Thermodynanics and petrology of cummingtonite. American Mineralogist, 1995, 80, 649-663.	1.9	47
56	Multicomponent diffusion in basaltic melts. Geochimica Et Cosmochimica Acta, 1995, 59, 313-324.	3.9	48
57	Assimilation of felsic crust by basaltic magma: Thermal limits and extents of crustal contamination of mantle-derived magmas. Geology, 1995, 23, 563.	4.4	185
58	Chemical mass transfer in magmatic processes IV. A revised and internally consistent thermodynamic model for the interpolation and extrapolation of liquid-solid equilibria in magmatic systems at elevated temperatures and pressures. Contributions To Mineralogy and Petrology, 1995, 119, 197-212.	3.1	134
59	Thermodynamics of multicomponent pyroxenes: I. Formulation of a general model. Contributions To Mineralogy and Petrology, 1994, 116, 277-286.	3.1	85
60	Thermodynamics of multicomponent pyroxenes: II. Phase relations in the quadrilateral. Contributions To Mineralogy and Petrology, 1994, 116, 287-300.	3.1	93
61	Thermodynamics of multicomponent pyroxenes: III. Calibration of Fe2+(Mg)-1, TiAl2(MgSi2)-1, TiFe 2 3+ (MgSi2)-1, AlFe3+(MgSi)-1, NaAl(CaMg)-1, Al2(MgSi)-1 and Ca(Mg)-1 exchange reactions between pyroxenes and silicate melts. Contributions To Mineralogy and Petrology, 1994, 118, 271-296.	3.1	63
62	Algorithms for the estimation of phase stability in heterogeneous thermodynamic systems. Geochimica Et Cosmochimica Acta, 1994, 58, 5489-5501.	3.9	60
63	Activities of nickel, cobalt, and manganese silicates in magmatic liquids and applications to olivine/liquid and to silicate/metal partitioning. Geochimica Et Cosmochimica Acta, 1994, 58, 4109-4126.	3.9	80
64	New software models thermodynamics of magmatic systems. Eos, 1994, 75, 571.	0.1	51
65	Igneous inclusions from ordinary chondrites: High temperature cumulates and a shock melt. Journal of Geophysical Research, 1994, 99, 26029.	3.3	13
66	Coupled fluid flow and reaction in mid-ocean ridge hydrothermal systems: The behavior of silica. Geochimica Et Cosmochimica Acta, 1991, 55, 2467-2481.	3.9	59
67	Fe-Ti oxide geothermometry: thermodynamic formulation and the estimation of intensive variables in silicic magmas. Contributions To Mineralogy and Petrology, 1991, 108, 485-510.	3.1	336
68	An internally consistent model for the thermodynamic properties of Fe?Mg-titanomagnetite-aluminate spinels. Contributions To Mineralogy and Petrology, 1991, 106, 474-505.	3.1	207
69	Thermodynamics of Minerals and Melts. Reviews of Geophysics, 1991, 29, 446-456.	23.0	1
70	Temperatures in and around cooling magma bodies. , 1991, , 387-410.		9
71	Thermodynamic properties of hematite ? ilmenite ? geikielite solid solutions. Contributions To Mineralogy and Petrology, 1990, 104, 645-667.	3.1	97
72	Importance of considerations of mixing properties in establishing an internally consistent thermodynamic database: thermochemistry of minerals in the system Mg2SiO4-Fe2SiO4-SiO2. Contributions To Mineralogy and Petrology, 1989, 102, 41-68.	3.1	201

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73	Rock alteration, mercury transport, and metal deposition at Sulphur Bank, California. Economic Geology, 1988, 83, 606-618.	3.8	12
74	Thermodynamics of minerals and melts. Reviews of Geophysics, 1987, 25, 1054-1064.	23.0	4
75	Chapter 12. MODELING MAGMATIC SYSTEMS: THERMODYNAMIC RELATIONS. , 1987, , 443-466.		13
76	Chapter 13. MODELING MAGMATIC SYSTEMS: PETROLOGIC APPLICATIONS. , 1987, , 467-502.		14
77	Chemical mass transfer in magmatic processes. Contributions To Mineralogy and Petrology, 1987, 96, 291-313.	3.1	37
78	Oxidation-reduction relations in basic magma: a case for homogeneous equilibria. Earth and Planetary Science Letters, 1986, 78, 200-210.	4.4	202
79	Assimilation of peridotite in zoned calc-alkaline plutonic complexes: evidence from the Big Jim complex, Washington Cascades. Contributions To Mineralogy and Petrology, 1986, 94, 12-28.	3.1	75
80	Chemical mass transfer in magmatic processes. Contributions To Mineralogy and Petrology, 1985, 90, 107-120.	3.1	113
81	Chemical mass transfer in magmatic processes. Contributions To Mineralogy and Petrology, 1985, 90, 121-141.	3.1	244
82	Origin, development and chemistry of silica-alumina rock coatings from the semi-arid regions of the island of Hawaii. Geochimica Et Cosmochimica Acta, 1985, 49, 49-56.	3.9	74
83	Activity/composition relations in the ternary feldspars. Contributions To Mineralogy and Petrology, 1984, 87, 282-296.	3.1	68
84	Comment on â€œDensity calculations for silicate liquids. I. Revised method for aluminosilicate compositionsâ€•by Bottinga, Weill and Richet. Geochimica Et Cosmochimica Acta, 1984, 48, 401-408.	3.9	18
85	LSEQIEQ: a FORTRAN IV subroutine package for the analysis of multiple linear regression problems with possibly deficient pseudorank and linear equality and inequality constraints. Computers and Geosciences, 1983, 9, 391-416.	4.2	10
86	The Gibbs free energy of mixing of natural silicate liquids; an expanded regular solution approximation for the calculation of magmatic intensive variables. Contributions To Mineralogy and Petrology, 1983, 84, 107-145.	3.1	212
87	Origin and ore-forming consequences of the advanced argillic alteration process in hypogene environments by magmatic gas contamination of meteoric fluids. Economic Geology, 1983, 78, 73-90.	3.8	53