Anne M Hofmeister

List of Publications by Year
in descending order

103 papers	3,475 citations	126907 33 h-index	144013 57 g-index
108 all docs	108 docs citations	108 times ranked	2776 citing authors

#	Article	IF	Citations
1	Temperature-dependent thermal diffusivity of the Earthâ€™s crust and implications for magmatism. Nature, 2009, 458, 319-321.	27.8	369
2	High-Pressure crystal chemistry of spinel (MgAl2O4) and magnetite (Fe3O4): Comparisons with silicate spinels. Physics and Chemistry of Minerals, 1986, 13, 215-220.	0.8	243
3	Infrared spectroscopic investigation of hydroxyl in Î²-(Mg,Fe)2SiO4 and coexisting olivine: Implications for mantle evolution and dynamics. Physics and Chemistry of Minerals, 1993, 19, 409-422.	0.8	130
4	Single-crystal absorption and reflection infrared spectroscopy of forsterite and fayalite. Physics and Chemistry of Minerals, 1987, 14, 499-513.	0.8	124
5	Thermal diffusivity of garnets at high temperature. Physics and Chemistry of Minerals, 2006, 33, 45-62.	0.8	122
6	Pressure dependence of thermal transport properties. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 9192-9197.	7.1	112
7	Thermal diffusivity and thermal conductivity of single-crystal MgO and Al2O3 and related compounds as a function of temperature. Physics and Chemistry of Minerals, 2014, 41, 361-371.	0.8	111
8	The influence of temperature-dependent thermal diffusivity on the conductive cooling rates of plutons and temperature-time paths in contact aureoles. Earth and Planetary Science Letters, 2012, 317-318, 157-164.	4.4	102
9	Strain heating as a mechanism for partial melting and ultrahigh temperature metamorphism in convergent orogens: Implications of temperatureâ€dependent thermal diffusivity and rheology. Journal of Geophysical Research, 2010, 115, .	3.3	100
10	Thermal diffusivity of olivine-group minerals at high temperature. American Mineralogist, 2006, 91, 1747-1760.	1.9	97
11	Determination of Fe3+ and Fe2+ concentrations in feldspar by optical absorption and EPR spectroscopy. Physics and Chemistry of Minerals, 1984, 11, 213-224.	0.8	76
12	Redefinition of the mode Gruneisen parameter for polyatomic substances and thermodynamic implications. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 559-564.	7.1	74
13	Transport properties of high albite crystals, near-endmember feldspar and pyroxene glasses, and their melts to high temperature. Contributions To Mineralogy and Petrology, 2009, 158, 381-400.	3.1	74
14	A model for the irradiative coloration of smoky feldspar and the inhibiting influence of water. Physics and Chemistry of Minerals, 1985, 12, 324-332.	0.8	68
15	Thermal diffusivity of quartz to 1,000Â°C: effects of impurities and the Î±-Î² phase transition. Physics and Chemistry of Minerals, 2007, 34, 581-595.	0.8	66
16	Spectroscopy and structure of hibonite, grossite, and CaAl2O4: Implications for astronomical environments. Geochimica Et Cosmochimica Acta, 2004, 68, 4485-4503.	3.9	63
17	Transport properties of low-sanidine single-crystals, glasses and melts at high temperature. Contributions To Mineralogy and Petrology, 2008, 155, 689-702.	3.1	60
18	Thermal diffusivity of rhyolitic glasses and melts: effects of temperature, crystals and dissolved water. Bulletin of Volcanology, 2012, 74, 2273-2287.	3.0	56

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19	Infrared reflectance spectra of fayalite, and absorption datafrom assorted olivines, including pressure and isotope effects. Physics and Chemistry of Minerals, 1997, 24, 535-546.	0.8	55
20	Thermodynamic properties of ferromagnesium silicate perovskites from vibrational spectroscopy. Journal of Geophysical Research, 1994, 99, 11795-11804.	3.3	54
21	Thermal diffusivity of clinopyroxenes at elevated temperature. European Journal of Mineralogy, 2008, 20, 537-549.	1.3	50
22	DISORDERED SILICATES IN SPACE: A STUDY OF LABORATORY SPECTRA OF â€œAMORPHOUSâ€•SILICATES. Astrophysical Journal, 2011, 740, 93.	4.5	50
23	Processing of Presolar Grains around Postâ€“Asymptotic Giant Branch Stars: Silicon Carbide as the Carrier of the 21 Micron Feature. Astrophysical Journal, 2004, 600, 986-991.	4.5	49
24	The Effect of Stellar Evolution on SiC Dust Grain Sizes. Astrophysical Journal, 2005, 634, 426-435.	4.5	47
25	Inference of high thermal transport in the lower mantle from laser-flash experiments and the damped harmonic oscillator model. Physics of the Earth and Planetary Interiors, 2008, 170, 201-206.	1.9	43
26	Heat transfer in plagioclase feldspars. American Mineralogist, 2012, 97, 1145-1154.	1.9	42
27	Thermal transport properties of major Archean rock types to high temperature and implications for cratonic geotherms. Precambrian Research, 2013, 233, 358-372.	2.7	40
28	Thermal diffusivity of oxide perovskite compounds at elevated temperature. Journal of Applied Physics, 2010, 107, .	2.5	39
29	Thermal diffusivity of electrical insulators at high temperatures: Evidence for diffusion of bulk phonon-polaritons at infrared frequencies augmenting phonon heat conduction. Journal of Applied Physics, 2014, 115, .	2.5	39
30	Critical phenomena in thermal conductivity: Implications for lower mantle dynamics. Journal of Geodynamics, 2007, 44, 186-199.	1.6	38
31	Variable conductivity: Effects on the thermal structure of subducting slabs. Geophysical Research Letters, 1999, 26, 3257-3260.	4.0	37
32	Is low-spin Fe2+ present in Earth's mantle?. Earth and Planetary Science Letters, 2006, 243, 44-52.	4.4	37
33	Thermodynamic properties of MgSiO3 ilmenite from vibrational spectra. Physics and Chemistry of Minerals, 1992, 18, 423.	0.8	35
34	Interatomic potentials calculated from equations of state: Limitation of finite strain to moderate Kâ€². Geophysical Research Letters, 1993, 20, 635-638.	4.0	33
35	Scale aspects of heat transport in the diamond anvil cell, in spectroscopic modeling, and in Earth's mantle: Implications for secular cooling. Physics of the Earth and Planetary Interiors, 2010, 180, 138-147.	1.9	31
36	Prevalence and origin of birefringence in 48 garnets from the pyrope-almandine-grossularite-spessartine quaternary. American Mineralogist, 1998, 83, 1293-1301.	1.9	30

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37	Effects of hydration, annealing, and melting on heat transport properties of fused quartz and fused silica from laser-flash analysis. Journal of Non-Crystalline Solids, 2012, 358, 1072-1082.	3.1	29
38	Transport properties of glassy and molten lavas as a function of temperature and composition. Journal of Volcanology and Geothermal Research, 2016, 327, 330-348.	2.1	29
39	Temperature-dependent thermal transport properties of carbonate minerals and rocks. , 2018, 14, 1961-1987.		29
40	Exsolution of metallic copper from Lake County labradorite. Geology, 1985, 13, 644.	4.4	26
41	Geophysical implications of reduction in thermal conductivity due to hydration. Geophysical Research Letters, 2006, 33, .	4.0	26
42	Evidence for kinks in structural and thermodynamic properties across the forsteriteâ€“fayalite binary from thin-film IR absorption spectra. Physics and Chemistry of Minerals, 2007, 34, 319-333.	0.8	25
43	IR reflectance spectra of natural ilmenite: comparison with isostructural compounds and calculation of thermodynamic properties. European Journal of Mineralogy, 1993, 5, 281-296.	1.3	25
44	Factors affecting heat transfer in natural SiO2 solids. American Mineralogist, 2008, 93, 1620-1629.	1.9	24
45	Thermal diffusivity of aluminous spinels and magnetite at elevated temperature with implications for heat transport in Earth's transition zone. American Mineralogist, 2007, 92, 1899-1911.	1.9	23
46	Verified solutions for the gravitational attraction to an oblate spheroid: Implications for planet mass and satellite orbits. Planetary and Space Science, 2018, 152, 68-81.	1.7	23
47	Application of fluid dynamics principles in tilted permeable media to terrestrial hydrothermal systems. Geophysical Research Letters, 1991, 18, 199-202.	4.0	22
48	Physical properties of calcium aluminates from vibrational spectroscopy. Geochimica Et Cosmochimica Acta, 2004, 68, 4721-4726.	3.9	21
49	Thermal diffusivity of orthopyroxenes and protoenstatite as a function of temperature and chemical composition. European Journal of Mineralogy, 2012, 24, 669-681.	1.3	21
50	Infrared spectroscopy of CaGeO3 perovskite to 24 GPa and thermodynamic implications. Physics and Chemistry of Minerals, 1994, 21, 78.	0.8	20
51	A structural phase-transition in K(Mg1?xCux)F3 perovskite. Physics and Chemistry of Minerals, 1996, 23, 141.	0.8	20
52	Spatial and symmetry constraints as the basis of the virial theorem and astrophysical implications. Canadian Journal of Physics, 2016, 94, 380-388.	1.1	19
53	A thermodynamic and mechanical model for formation of the Solar System via 3-dimensional collapse of the dusty pre-solar nebula. Planetary and Space Science, 2012, 62, 111-131.	1.7	17
54	Conductive cooling of spherical bodies with emphasis on the Earth. Terra Nova, 2016, 28, 101-109.	2.1	17

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55	Infrared spectroscopy of natural, synthetic, and oxygen-18-substituted .alpha.-tridymite: structural implications. The Journal of Physical Chemistry, 1992, 96, 10213-10218.	2.9	16
56	Thermal diffusivity of alkali and silver halide crystals as a function of temperature. Journal of Applied Physics, 2011, 109, 033516.	2.5	16
57	How Properties that Distinguish Solids from Fluids and Constraints of Spherical Geometry Suppress Lower Mantle Convection. Journal of Earth Science (Wuhan, China), 2018, 29, 1-20.	3.2	16
58	High-pressure IR-spectra and the thermodynamic properties of chloritoid. American Mineralogist, 2002, 87, 609-622.	1.9	15
59	Thermodynamic and optical thickness corrections to diffusive radiative transfer formulations with application to planetary interiors. Geophysical Research Letters, 2014, 41, 3074-3080.	4.0	13
60	Effects of chemical composition and temperature on transport properties of silica-rich glasses and melts. American Mineralogist, 2014, 99, 564-577.	1.9	13
61	Isolating lattice from electronic contributions in thermal transport measurements of metals and alloys above ambient temperature and an adiabatic model. International Journal of Modern Physics B, 2017, 31, 1750205.	2.0	13
62	Revisiting astronomical crystalline forsterite in the UV to near-IR. Earth, Planets and Space, 2013, 65, 129-138.	2.5	12
63	Comment on â€œMeasurement of thermal diffusivity at high pressure using a transient heating techniqueâ€•[Appl. Phys. Lett. 91, 181914 (2007)]. Applied Physics Letters, 2009, 95, 096101.	3.3	11
64	Evaluation of the heat, entropy, and rotational changes produced by gravitational segregation during core formation. Journal of Earth Science (Wuhan, China), 2015, 26, 124-133.	3.2	10
65	Galactic Density and Evolution Based on the Virial Theorem, Energy Minimization, and Conservation of Angular Momentum. Galaxies, 2018, 6, 115.	3.0	10
66	Implications of Geometry and the Theorem of Gauss on Newtonian Gravitational Systems and a Caveat Regarding Poissonâ€™s Equation. Galaxies, 2017, 5, 89.	3.0	9
67	Density Profiles of 51 Galaxies from Parameter-Free Inverse Models of Their Measured Rotation Curves. Galaxies, 2020, 8, 19.	3.0	9
68	Possible Roles of Permafrost Melting, Atmospheric Transport, and Solar Irradiance in the Development of Major Coronavirus and Influenza Pandemics. International Journal of Environmental Research and Public Health, 2021, 18, 3055.	2.6	9
69	HEAT TRANSPORT PROPERTIES OF CRISTOBALITE AND DISCUSSION OF â€œSNOWFLAKEâ€•FORMATION. Canadian Mineralogist, 2013, 51, 705-714.	1.0	8
70	Thermal Conductivity of the Earth's Deepest Mantle. , 2007, , 269-292.		8
71	Links of planetary energetics to moon size, orbit, and planet spin: A new mechanism for plate tectonics. , 2022, , 213-222.		8
72	Thermal diffusivity of Fe-rich pyroxene glasses and their melts. Chemical Geology, 2014, 384, 1-9.	3.3	7

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73	Analytical representations for simple and composite polytropes and their moments of inertia. New Astronomy, 2015, 36, 26-31.	1.8	7
74	The physics of galactic spin. Canadian Journal of Physics, 2017, 95, 156-166.	1.1	7
75	Dependence of Heat Transport in Solids on Length-Scale, Pressure, and Temperature: Implications for Mechanisms and Thermodynamics. Materials, 2021, 14, 449.	2.9	6
76	HEAT TRANSPORT OF MICAS. Canadian Mineralogist, 0, , canmin.1400093.	1.0	4
77	Debated Models for Galactic Rotation Curves: A Review and Mathematical Assessment. Galaxies, 2020, 8, 47.	3.0	4
78	Constraints on Newtonian Interplanetary Point-Mass Interactions in Multicomponent Systems from the Symmetry of Their Cycles. Symmetry, 2021, 13, 846.	2.2	4
79	Model or measurements? A discussion of the key issue in Chapman and Pollackâ€™s critique of Hamza et al.â€™s re-evaluation of oceanic heat flux and the global power. International Journal of Earth Sciences, 2008, 97, 241-244.	1.8	3
80	Debate on the Physics of Galactic Rotation and the Existence of Dark Matter. Galaxies, 2020, 8, 54.	3.0	3
81	Heat transport properties of feldspathoids and ANA zeolites as a function of temperature. Physics and Chemistry of Minerals, 2015, 42, 693-706.	0.8	2
82	Transport Behavior of Common, Pourable Liquids. , 2019, , 181-199.		2
83	Lower mantle geotherms, flux, and power from incorporating new experimental and theoretical constraints on heat transport properties in an inverse model. European Journal of Mineralogy, 2022, 34, 149-165.	1.3	2
84	Thermodynamic Relationships for Perfectly Elastic Solids Undergoing Steady-State Heat Flow. Materials, 2022, 15, 2638.	2.9	2
85	Theoretical and Observational Constraints on Lunar Orbital Evolution in the Three-Body Earth-Moon-Sun System. Astronomy, 2022, 1, 58-84.	1.7	2
86	Thermal Diffusivity Data on Nonmetallic Crystalline Solids from Laser-Flash Analysis. , 2019, , 201-250.		1
87	Thermal history of the terrestrial planets. , 2020, , 267-297.		1
88	Thermal properties of carbonatite and anorthosite from the Superior Province, Ontario, and implications for non-magmatic local thermal effects of these intrusions. International Journal of Earth Sciences, 2021, 110, 1593-1609.	1.8	1
89	Quantification of Sub-Solar Star Ages from the Symmetry of Conjugate Histograms of Spin Period and Angular Velocity. Symmetry, 2021, 13, 1519.	2.2	1
90	How spin down and radioactive decay drive rocky planet evolution. , 2022, , .		1

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91	The Macroscopic Picture of Heat Retained and Heat Emitted. , 2019, , 1-34.		0
92	The Macroscopic Picture of Diffusive Heat Flow at Low Energy. , 2019, , 75-97.		0
93	Methods Used to Determine Heat Transport and Related Properties, With Comparisons. , 2019, , 99-142.		0
94	Reconciling the Kinetic Theory of Gas With Gas Transport Data. , 2019, , 143-179.		0
95	Modeling Diffusion of Heat in Solids. , 2019, , 359-398.		0
96	Observational constraints on the thermal and compositional structure of the earth. , 2020, , 3-39.		0
97	Heat transport processes on planetary scales. , 2020, , 59-88.		0
98	Physical constraints on the initial conditions and early evolution of the solar system. , 2020, , 89-121.		0
99	Large-scale gravitational processes affecting planetary heat transfer. , 2020, , 123-147.		0
100	Thermal models of the oceanic lithosphere and upper mantle. , 2020, , 175-212.		0
101	Thermal structure of the lower mantle and core. , 2020, , 213-230.		0
102	Thermo-chemical evolution of the Earth. , 2020, , 233-266.		0
103	Thermodynamic Constraints on the Non-Baryonic Dark Matter Gas Composing Galactic Halos. Galaxies, 2020, 8, 77.	3.0	0