

# Anne M Hofmeister

## List of Publications by Year in descending order

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103  
papers

3,475  
citations

126907

33  
h-index

144013

57  
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108  
all docs

108  
docs citations

108  
times ranked

2776  
citing authors

#	ARTICLE	IF	CITATIONS
1	Links of planetary energetics to moon size, orbit, and planet spin: A new mechanism for plate tectonics. , 2022, , 213-222.		8
2	How spin down and radioactive decay drive rocky planet evolution. , 2022, , .		1
3	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
4	Thermodynamic Relationships for Perfectly Elastic Solids Undergoing Steady-State Heat Flow. Materials, 2022, 15, 2638.	2.9	2
5	Theoretical and Observational Constraints on Lunar Orbital Evolution in the Three-Body Earth-Moon-Sun System. Astronomy, 2022, 1, 58-84.	1.7	2
6	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
7	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
8	Constraints on Newtonian Interplanetary Point-Mass Interactions in Multicomponent Systems from the Symmetry of Their Cycles. Symmetry, 2021, 13, 846.	2.2	4
9	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
10	Dependence of Heat Transport in Solids on Length-Scale, Pressure, and Temperature: Implications for Mechanisms and Thermodynamics. Materials, 2021, 14, 449.	2.9	6
11	Observational constraints on the thermal and compositional structure of the earth. , 2020, , 3-39.		0
12	Heat transport processes on planetary scales. , 2020, , 59-88.		0
13	Physical constraints on the initial conditions and early evolution of the solar system. , 2020, , 89-121.		0
14	Large-scale gravitational processes affecting planetary heat transfer. , 2020, , 123-147.		0
15	Thermal models of the oceanic lithosphere and upper mantle. , 2020, , 175-212.		0
16	Thermal structure of the lower mantle and core. , 2020, , 213-230.		0
17	Thermo-chemical evolution of the Earth. , 2020, , 233-266.		0
18	Thermal history of the terrestrial planets. , 2020, , 267-297.		1

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19	Thermodynamic Constraints on the Non-Baryonic Dark Matter Gas Composing Galactic Halos. <i>Galaxies</i> , 2020, 8, 77.	3.0	0
20	Debate on the Physics of Galactic Rotation and the Existence of Dark Matter. <i>Galaxies</i> , 2020, 8, 54.	3.0	3
21	Density Profiles of 51 Galaxies from Parameter-Free Inverse Models of Their Measured Rotation Curves. <i>Galaxies</i> , 2020, 8, 19.	3.0	9
22	Debated Models for Galactic Rotation Curves: A Review and Mathematical Assessment. <i>Galaxies</i> , 2020, 8, 47.	3.0	4
23	The Macroscopic Picture of Heat Retained and Heat Emitted. , 2019, , 1-34.		0
24	The Macroscopic Picture of Diffusive Heat Flow at Low Energy. , 2019, , 75-97.		0
25	Methods Used to Determine Heat Transport and Related Properties, With Comparisons. , 2019, , 99-142.		0
26	Reconciling the Kinetic Theory of Gas With Gas Transport Data. , 2019, , 143-179.		0
27	Transport Behavior of Common, Pourable Liquids. , 2019, , 181-199.		2
28	Thermal Diffusivity Data on Nonmetallic Crystalline Solids from Laser-Flash Analysis. , 2019, , 201-250.		1
29	Modeling Diffusion of Heat in Solids. , 2019, , 359-398.		0
30	How Properties that Distinguish Solids from Fluids and Constraints of Spherical Geometry Suppress Lower Mantle Convection. <i>Journal of Earth Science (Wuhan, China)</i> , 2018, 29, 1-20.	3.2	16
31	Galactic Density and Evolution Based on the Virial Theorem, Energy Minimization, and Conservation of Angular Momentum. <i>Galaxies</i> , 2018, 6, 115.	3.0	10
32	Temperature-dependent thermal transport properties of carbonate minerals and rocks. , 2018, 14, 1961-1987.		29
33	Verified solutions for the gravitational attraction to an oblate spheroid: Implications for planet mass and satellite orbits. <i>Planetary and Space Science</i> , 2018, 152, 68-81.	1.7	23
34	Isolating lattice from electronic contributions in thermal transport measurements of metals and alloys above ambient temperature and an adiabatic model. <i>International Journal of Modern Physics B</i> , 2017, 31, 1750205.	2.0	13
35	The physics of galactic spin. <i>Canadian Journal of Physics</i> , 2017, 95, 156-166.	1.1	7
36	Implications of Geometry and the Theorem of Gauss on Newtonian Gravitational Systems and a Caveat Regarding Poisson's Equation. <i>Galaxies</i> , 2017, 5, 89.	3.0	9

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37	Conductive cooling of spherical bodies with emphasis on the Earth. <i>Terra Nova</i> , 2016, 28, 101-109.	2.1	17
38	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.	2.1	29
39	Spatial and symmetry constraints as the basis of the virial theorem and astrophysical implications. <i>Canadian Journal of Physics</i> , 2016, 94, 380-388.	1.1	19
40	Evaluation of the heat, entropy, and rotational changes produced by gravitational segregation during core formation. <i>Journal of Earth Science (Wuhan, China)</i> , 2015, 26, 124-133.	3.2	10
41	Heat transport properties of feldspathoids and ANA zeolites as a function of temperature. <i>Physics and Chemistry of Minerals</i> , 2015, 42, 693-706.	0.8	2
42	Analytical representations for simple and composite polytropes and their moments of inertia. <i>New Astronomy</i> , 2015, 36, 26-31.	1.8	7
43	Thermodynamic and optical thickness corrections to diffusive radiative transfer formulations with application to planetary interiors. <i>Geophysical Research Letters</i> , 2014, 41, 3074-3080.	4.0	13
44	Thermal diffusivity of electrical insulators at high temperatures: Evidence for diffusion of bulk phonon-polaritons at infrared frequencies augmenting phonon heat conduction. <i>Journal of Applied Physics</i> , 2014, 115, .	2.5	39
45	Thermal diffusivity and thermal conductivity of single-crystal MgO and Al <sub>2</sub> O <sub>3</sub> and related compounds as a function of temperature. <i>Physics and Chemistry of Minerals</i> , 2014, 41, 361-371.	0.8	111
46	Thermal diffusivity of Fe-rich pyroxene glasses and their melts. <i>Chemical Geology</i> , 2014, 384, 1-9.	3.3	7
47	Effects of chemical composition and temperature on transport properties of silica-rich glasses and melts. <i>American Mineralogist</i> , 2014, 99, 564-577.	1.9	13
48	Thermal transport properties of major Archean rock types to high temperature and implications for cratonic geotherms. <i>Precambrian Research</i> , 2013, 233, 358-372.	2.7	40
49	HEAT TRANSPORT PROPERTIES OF CRISTOBALITE AND DISCUSSION OF "SNOWFLAKE" FORMATION. <i>Canadian Mineralogist</i> , 2013, 51, 705-714.	1.0	8
50	Revisiting astronomical crystalline forsterite in the UV to near-IR. <i>Earth, Planets and Space</i> , 2013, 65, 129-138.	2.5	12
51	Thermal diffusivity of orthopyroxenes and protoenstatite as a function of temperature and chemical composition. <i>European Journal of Mineralogy</i> , 2012, 24, 669-681.	1.3	21
52	Heat transfer in plagioclase feldspars. <i>American Mineralogist</i> , 2012, 97, 1145-1154.	1.9	42
53	Thermal diffusivity of rhyolitic glasses and melts: effects of temperature, crystals and dissolved water. <i>Bulletin of Volcanology</i> , 2012, 74, 2273-2287.	3.0	56
54	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.	3.1	29

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55	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.	4.4	102
56	A thermodynamic and mechanical model for formation of the Solar System via 3-dimensional collapse of the dusty pre-solar nebula. <i>Planetary and Space Science</i> , 2012, 62, 111-131.	1.7	17
57	DISORDERED SILICATES IN SPACE: A STUDY OF LABORATORY SPECTRA OF "AMORPHOUS" SILICATES. <i>Astrophysical Journal</i> , 2011, 740, 93.	4.5	50
58	Thermal diffusivity of alkali and silver halide crystals as a function of temperature. <i>Journal of Applied Physics</i> , 2011, 109, 033516.	2.5	16
59	Thermal diffusivity of oxide perovskite compounds at elevated temperature. <i>Journal of Applied Physics</i> , 2010, 107, .	2.5	39
60	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
61	Scale aspects of heat transport in the diamond anvil cell, in spectroscopic modeling, and in Earth's mantle: Implications for secular cooling. <i>Physics of the Earth and Planetary Interiors</i> , 2010, 180, 138-147.	1.9	31
62	Comment on "Measurement of thermal diffusivity at high pressure using a transient heating technique" [Appl. Phys. Lett. 91, 181914 (2007)]. <i>Applied Physics Letters</i> , 2009, 95, 096101.	3.3	11
63	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.	3.1	74
64	Temperature-dependent thermal diffusivity of the Earth's crust and implications for magmatism. <i>Nature</i> , 2009, 458, 319-321.	27.8	369
65	Transport properties of low-sanidine single-crystals, glasses and melts at high temperature. <i>Contributions To Mineralogy and Petrology</i> , 2008, 155, 689-702.	3.1	60
66	Model or measurements? A discussion of the key issue in Chapman and Pollack's critique of Hamza et al.'s re-evaluation of oceanic heat flux and the global power. <i>International Journal of Earth Sciences</i> , 2008, 97, 241-244.	1.8	3
67	Inference of high thermal transport in the lower mantle from laser-flash experiments and the damped harmonic oscillator model. <i>Physics of the Earth and Planetary Interiors</i> , 2008, 170, 201-206.	1.9	43
68	Thermal diffusivity of clinopyroxenes at elevated temperature. <i>European Journal of Mineralogy</i> , 2008, 20, 537-549.	1.3	50
69	Factors affecting heat transfer in natural SiO <sub>2</sub> solids. <i>American Mineralogist</i> , 2008, 93, 1620-1629.	1.9	24
70	Thermal diffusivity of aluminous spinels and magnetite at elevated temperature with implications for heat transport in Earth's transition zone. <i>American Mineralogist</i> , 2007, 92, 1899-1911.	1.9	23
71	Pressure dependence of thermal transport properties. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 9192-9197.	7.1	112
72	Critical phenomena in thermal conductivity: Implications for lower mantle dynamics. <i>Journal of Geodynamics</i> , 2007, 44, 186-199.	1.6	38

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73	Evidence for kinks in structural and thermodynamic properties across the forsterite-fayalite binary from thin-film IR absorption spectra. <i>Physics and Chemistry of Minerals</i> , 2007, 34, 319-333.	0.8	25
74	Thermal diffusivity of quartz to 1,000°C: effects of impurities and the $\hat{I}\pm\hat{I}^2$ phase transition. <i>Physics and Chemistry of Minerals</i> , 2007, 34, 581-595.	0.8	66
75	Thermal Conductivity of the Earth's Deepest Mantle. , 2007, , 269-292.		8
76	Geophysical implications of reduction in thermal conductivity due to hydration. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	26
77	Is low-spin Fe <sup>2+</sup> present in Earth's mantle?. <i>Earth and Planetary Science Letters</i> , 2006, 243, 44-52.	4.4	37
78	Thermal diffusivity of garnets at high temperature. <i>Physics and Chemistry of Minerals</i> , 2006, 33, 45-62.	0.8	122
79	Thermal diffusivity of olivine-group minerals at high temperature. <i>American Mineralogist</i> , 2006, 91, 1747-1760.	1.9	97
80	The Effect of Stellar Evolution on SiC Dust Grain Sizes. <i>Astrophysical Journal</i> , 2005, 634, 426-435.	4.5	47
81	Spectroscopy and structure of hibonite, grossite, and CaAl <sub>2</sub> O <sub>4</sub> : Implications for astronomical environments. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 4485-4503.	3.9	63
82	Physical properties of calcium aluminates from vibrational spectroscopy. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 4721-4726.	3.9	21
83	Processing of Presolar Grains around Post-Asymptotic Giant Branch Stars: Silicon Carbide as the Carrier of the 21 Micron Feature. <i>Astrophysical Journal</i> , 2004, 600, 986-991.	4.5	49
84	Redefinition of the mode Grüneisen parameter for polyatomic substances and thermodynamic implications. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 559-564.	7.1	74
85	High-pressure IR-spectra and the thermodynamic properties of chloritoid. <i>American Mineralogist</i> , 2002, 87, 609-622.	1.9	15
86	Variable conductivity: Effects on the thermal structure of subducting slabs. <i>Geophysical Research Letters</i> , 1999, 26, 3257-3260.	4.0	37
87	Prevalence and origin of birefringence in 48 garnets from the pyrope-almandine-grossularite-spessartine quaternary. <i>American Mineralogist</i> , 1998, 83, 1293-1301.	1.9	30
88	Infrared reflectance spectra of fayalite, and absorption data from assorted olivines, including pressure and isotope effects. <i>Physics and Chemistry of Minerals</i> , 1997, 24, 535-546.	0.8	55
89	A structural phase-transition in K(Mg <sub>1-x</sub> Cu <sub>x</sub> )F <sub>3</sub> perovskite. <i>Physics and Chemistry of Minerals</i> , 1996, 23, 141.	0.8	20
90	Infrared spectroscopy of CaGeO <sub>3</sub> perovskite to 24 GPa and thermodynamic implications. <i>Physics and Chemistry of Minerals</i> , 1994, 21, 78.	0.8	20

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91	Thermodynamic properties of ferromagnesium silicate perovskites from vibrational spectroscopy. <i>Journal of Geophysical Research</i> , 1994, 99, 11795-11804.	3.3	54
92	Infrared spectroscopic investigation of hydroxyl in $\hat{1}^2$ -(Mg,Fe) $_2$ SiO $_4$ and coexisting olivine: Implications for mantle evolution and dynamics. <i>Physics and Chemistry of Minerals</i> , 1993, 19, 409-422.	0.8	130
93	Interatomic potentials calculated from equations of state: Limitation of finite strain to moderate $K\hat{a}^2$ . <i>Geophysical Research Letters</i> , 1993, 20, 635-638.	4.0	33
94	IR reflectance spectra of natural ilmenite: comparison with isostructural compounds and calculation of thermodynamic properties. <i>European Journal of Mineralogy</i> , 1993, 5, 281-296.	1.3	25
95	Infrared spectroscopy of natural, synthetic, and oxygen-18-substituted .alpha.-tridymite: structural implications. <i>The Journal of Physical Chemistry</i> , 1992, 96, 10213-10218.	2.9	16
96	Thermodynamic properties of MgSiO $_3$ ilmenite from vibrational spectra. <i>Physics and Chemistry of Minerals</i> , 1992, 18, 423.	0.8	35
97	Application of fluid dynamics principles in tilted permeable media to terrestrial hydrothermal systems. <i>Geophysical Research Letters</i> , 1991, 18, 199-202.	4.0	22
98	Single-crystal absorption and reflection infrared spectroscopy of forsterite and fayalite. <i>Physics and Chemistry of Minerals</i> , 1987, 14, 499-513.	0.8	124
99	High-Pressure crystal chemistry of spinel (MgAl $_2$ O $_4$ ) and magnetite (Fe $_3$ O $_4$ ): Comparisons with silicate spinels. <i>Physics and Chemistry of Minerals</i> , 1986, 13, 215-220.	0.8	243
100	Exsolution of metallic copper from Lake County labradorite. <i>Geology</i> , 1985, 13, 644.	4.4	26
101	A model for the irradiative coloration of smoky feldspar and the inhibiting influence of water. <i>Physics and Chemistry of Minerals</i> , 1985, 12, 324-332.	0.8	68
102	Determination of Fe $_3$ + and Fe $_2$ + concentrations in feldspar by optical absorption and EPR spectroscopy. <i>Physics and Chemistry of Minerals</i> , 1984, 11, 213-224.	0.8	76
103	HEAT TRANSPORT OF MICAS. <i>Canadian Mineralogist</i> , 0, , canmin.1400093.	1.0	4