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Anne M. Hofmeister

Department of Earth and Planetary Sciences
Washington University
St. Louis, MO 63130
(314) 935-7440 fax 935-7361 Hofmeist@levee.wustl.edu

EDUCATION

California Institute of Technology, Pasadena, CA (Ph.D.in Geology, 1984: M.S., 1981)
University of Illinois, Urbana, IL (M.S. in Physics, 1978)
Harvey Mudd College, Claremont, CA (B.S., Highest Honors in Physics and Literature, 1976)

HONORS

Association of Women Geoscientists Professional Excellence Award in the Academia/Research Category, 2020
Fellow, Mineralogical Society of America, 1997
David and Lucile Packard Fellowship in Science and Engineering, 1989-1994
Humboldt Fellowship, 1992-1993
H.O. Wood Postdoctoral Fellowship at the Geophysical Laboratory, 1984-1985
Honorable mention, Geological Society of Washington's best paper competition, 1984
Fellowship in Applied Physics at Cal Tech, 1978-1979
Bausch and Lomb Science Award, 1972

RESEARCH INTERESTS

- Heat transport of all types
- Interaction of light with matter
- Newtonian gravitation
- Modernizing thermodynamics
- Applications of the above to Astronomy, Earth, Materials, and Planetary Sciences

EMPLOYMENT

July 1999-present	*Research Professor, Dept. of Earth and Planetary Science, Washington U.*
July 1994-July 1999	*Associate Research Professor, Dept. of Earth and Planetary Science, Washington University*
July 1992-June 1994	*Associate Professor, Dept. of Geology, U. C. Davis*
July 1988-June 1992	*Assistant Professor, Dept. of Geology, U. C. Davis*
Oct. 1987-June 1988	*Unemployed - maternity leave*
Oct. 1983-Oct. 1987	*Postdoctoral Fellow/Research Associate at the Geophysical Laboratory, Carnegie Institution of Washington*
1979-1983	*Graduate Research Assistant at Cal Tech in Geology*
1978-1979	*Graduate Fellow at Cal Tech in Applied Physics*
Summer, 1978	*Physicist at Hughes Aircraft Research Center, Malibu*
1976-1978	

FUNDING

2021-2023 "Upgrade of an Infrared Spectrometer (with Electronics Replacement) for Quantitative Analysis, Focusing on H-species and Concentrations at Temperatures" NSF-EAR $69,593

2021-2023 "EAGER: Testing New Formulae for Pressure Derivatives of Specific Heat, Thermal Conductivity, and Thermal Diffusivity" NSF-EAR $37,299

2019-2020 "Acquisition of a Laser Flash Apparatus to simultaneously measure thermal diffusivity and heat capacity from 173 to 773 K" NSF-EAR $97,573

2015-2020 "Collaborative Research: Thermal structure of continental lithosphere through time" with A.G. Whittington NSF-EAR $65,423

2014-2015 "Ascertaining the gravitation potential of disks and oblate spheroids for use in planetary and astronomical models" NASA-EPSCor $14,254

2013-2018 "Measurements of Thermal Transport Properties of Melts vs. Temperature and Composition: Theoretical Implications" NSF-EAR $242,891

2013-2014 "Acquisition of a dilatometer for accurate measurement of thermal expansivity of geologically relevant materials over -180 to 2000^{o}C" NSF-EAR $122,610

2010-2013 "Collaborative Research: A Laboratory Experimental Study of Astronomical Dust Analogs at Ultraviolet-Visible Wavelengths" with K.M. Pitman and A.K. Speck NSF-AST $47,050

2009-2012 "Collaborative Research: An integrated experimental and observational study of cosmic silicate astromineralogy" with A.K. Speck and A.G. Whittington NSF-AST $121,646

2009-2012 Collaborative Research: Incorporating Temperature-dependent Physical Properties Into Numerical Models of Magmatic and Related Hydrothermal Systems" with P. I. Nabelek and A.G. Whittington NSF-EAR $74,939

2008-2013 "Collaborative Research: First principles calculations and measurements of thermal diffusivity for application to the Earth's Interior " with J.J. Dong NSF-CSEDI $187,362

2008-2009 "Probing the Effect of Volatiles and Temperature on Thermal Diffusivity: Implications for Upper Mantle and Lithospheric Processes" NSF-EAR $199,201

2006-2009 "Collaborative research: Dust Formation Around Carbon Stars: Astromineralogy and the Condensation Sequence" with A.K. Speck NSF-AST $45,715

2005-2009 "Distinguishing grain-size and temperature effects on the infrared fingerprints of astrominerals: a quantitative laboratory approach" NASA-APRA $273,000

2005-2008 "Collaborative research: Measurement of transport properties of silicate melts with application to crustal anatexis" with A.G. Whittington NSF-PG $66,737

2002-2005 "Collaborative research: The influence of thermal conductivity on stabilization and feedback in mantle convection" with D.A. Yuen NSF-CSEDI $150,806

2002-2004 "Acquisition of a laser-flash apparatus for measurement of thermal diffusivity to 2000 C" NSF $130,260

2002-2003 "Thermal conductivity of quartz and feldspars: application to continental heat flow" NSF $30,800

1998-2001 "POWRE: Construction of an IR spectroscopic data base for direct comparison with astronomical observations of stardust. NSF-Astronomy $74,061

1997-2000 "Collaborative research: Laboratory, Seismological and Geodynamical study of the transition zone within and near subducting slabs" NSF $199,779

1995-1997 "Upgrade of software and computer for a FTIR spectrometer" NSF $16,490

1992-1995	"Thermodynamic properties of perovskites and $MgSiO_3$ polymorphs from infrared spectroscopy"	NSF	$158,000
1992-1995	"REU amendment"	NSF	$2,640
1992-1993	Research Fellowship	Alexander Von Humboldt Foundation	DM 24,000
1992	Support for disadvantaged high school students	ACS- SEED	$4,700
1991	"Thermodynamic properties of mantle minerals"	NSF: U.S.- France	$2,050
1990	"REU amendment"	NSF	$2,640
1989-1994	"Fellowship"	The David and Lucile Packard Foundation	$500,000
1989-1990	"Spectroscopic determination of the thermodynamic properties of minerals as a function of pressure"	NSF	$84,981
1989	"Acquisition of a Fourier Transform Infrared Spectrometer"	NSF	$78,272
1985-1987	"Spectroscopic determination of the thermochemical properties of mantle-minerals as a function of pressure"	NSF	$ 73,000

EDITORSHIPS AND OFFICES HELD

Editorial Board, Astronomy, 2022-present
Editorial Board, Galaxies, 2021-present
Guest Editor of Special Issue, Galaxies, 2019-2020
Editor, American Mineralogist, 1997-2001
Associate Editor, American Mineralogist, 1995-1997
Associate Editor, Journal of Geophysical Research, 1992-1994
Councilor, Mineralogical Society of America, 1993-1995

PROFESSIONAL SOCIETIES

American Geophysical Union
Association for Women Geoscientists
Mineralogical Society of America

INVITED LECTURES

1980-89 Case Western Reserve; Owens-Corning Fiberglass; Dept. Terrestrial Magnetism, Geophysical Laboratory; Harvey Mudd College; U. C. Davis; U. C. Santa Cruz; Mineralogical Society of America Shortcourse at Hunt Valley, Maryland.

1990-99 ETH-Zürich; Bayerisches Geoinstitut; Mineralogisches Institut der Universität Würzburg; Institut de Globe de Physique Paris; Max Planck Institut für Chemie im Mainz; Technische Universität Berlin; CalTech; Westfälische Wilhelms-Universität Münster; Lawrence Livermore National Laboratory; Washington University; University of Minnesota; Notre Dame; St. Louis University; Geophysical Laboratory

2000 Princeton; University of Minnesota; University of Missouri-Columbia

2002 University College London (Astronomy); University of Illinois Chicago Circle

2003 Umbgrove Lecturer at Universiteit Utrecht, The Netherlands; Keynote speaker at Plumes IV Penrose Conference, Iceland; Washington University

2004 University of Minnesota; Ohio State University; Mineralogical Association of Canada short course at Western Ontario

2005 Cardiff University; University College London; Brookhaven National Laboratory

2006 High Pressure Synchrotron Workshop at Argonne National Laboratory

2007 Vlab Workshop at Minnesota Supercomputing Institute

2008 International Workshop on High Pressure Science and Technology at Schloss Ringberg, Germany; Universität München; Case Western Reserve; AGU Spring Meeting in Fort Lauderdale, Florida; Symposium on Interdisciplinary Constraints on Solid Earth Dynamics from the Crust to the Core at Elm, Switzerland; Univeristät Wien (Geology); Univeristät Wien (Astronomy); Universität Salzburg; University of Illinois; Keynote speaker at International Workshop on Transport Properties in the Lower Mantle, Yunishigawa, Tochigi, Japan; Tokyo Institute of Technology

2009 Lecturer for the International Center for Materials Research Spring School on Thermal conductivity and related transport properties of oxides, Gainesville, Florida; Geodynamical Phenomena: From Field, Observational, Computational, Seismological, and Rheological Perspectives at Susdal, Russia; Auburn University (Physics), Alabama

2010 Science on Tap, St. Louis, MO; Missouri Scholars Academy, Columbia, MO; Geodynamic workshop at Kiev, Ukraine; Institute of Mineralogy, Geochemistry and Ore Deposits of the Ukranian Natl. Academy of Science

2011 Keynote speaker at European Conference on Mineral Spectroscopy, Pottsdam, Germany

2012 Marsico Scholar, Department of Physics and Astronomy, University of Denver

2017 Humboldt Colloquium, Washington DC

2019 University of Missouri, Columbia MO; University of Rochester, Rochester NY

2020 Washington University, St Louis, MO

2021 St. Louis Astronomy Association, St Louis, MO.

2022 China University of Geoscience, Wuhan, China; Thermal Conductivity 35/Thermal Expansion 23 Conference, Boston, MA

STUDENTS SUPERVISED

Rand B. Schaal, Ph.D., U.C. Davis, 1991 (deceased)
Thomas E. Young, M.S., U.C. Davis, 1992 (joint with H.W. Green II)
Brian P. McAloon, M.S., U.C. Davis, 1993
Ren Lu, Ph.D., U.C. Davis, 1994
Paul Geisting, M.A., Washington U., 2002
Joy Branlund, Ph.D., Washington U., 2008
Derick Roy, M.A., Washington U., 2020

POSTDOCTORAL ASSOCIATES SUPERVISED

Hyunchae Cynn and Thomas Fiske (U.C. Davis)
Adrian Corman, Maik Pertermann, Karly M. Pittman, Alain Wang, and Xueyang Yu (WU)

COMMITTEES

U. C. Davis Regents Lectureship committee, 1989-1992
Mineralogical Society of America (MSA) Committee on Research Grants, 1991
MSA Nominating Committee, 1992
Chair, MSA Award Committee, 1993 and 1995
University of California President's Postdoctoral Fellowship Program Review committee, 1993
Chair, MSA Mineralogy/Petrology Grant Committee, 1994
University of California President's Postdoctoral Fellows Applicant Evaluation committee, 1994
U. C. Davis Ad Hoc Promotion Committee, 1994
Study of the Earth's Deep Interior Committee, American Geophysical Union, 1998-2002
MSA Committee on Short Courses, 2004-2006 (Chair in 2006)

Phone-in member of Review panel for the Laboratory Astrophysics part of the NASA Astrophysics Research and Analysis Program (APRA), June 2013

Chair, Distinguished Lecturer Program (Association for Women Geoscientists), 2020-present

BIBLIOGRAPHY

Peer-Reviewed Journal Publications, Book Chapters, and Juried Conference Proceedings

1 1983 Hofmeister, A. M.: Effect of a Hadean terrestrial magma ocean on crust and mantle evolution. *Journal Geophysical Research 88,* 4963-4983.

2 1983 Hofmeister, A. M. and G.R. Rossman, Color in Feldspar: *Reviews inMineralogy 2,* p. 271-280. [Invited]

3 1984 Hofmeister, A. M. and G.R. Rossman: Determination of Fe^{3+} and Fe^{2+} concentrations in feldspar by optical and EPR spectroscopy. *Physics and Chemistry of Minerals 11,* 213-224.

4 1985 Hofmeister, A. M. and G.R. Rossman: A spectroscopic study of irradiative coloring of Amazonite: structurally hydrous, Pb-bearing feldspar. *American Mineralogist 70,* 794-804.

5 1985 Hofmeister, A. M. and G.R. Rossman: Exsolution of metallic copper from Lake County Laboradorite. *Geology 13,* 644-647.

6 1985 Hofmeister, A. M. and G.R. Rossman: The inhibiting role of water in irradiative coloring of smoky feldspar, *Physics and Chemistry of Minerals 12,* 324-332.

7 1986 Hofmeister, A. M. and G.R. Rossman: A spectroscopic study of blue radiation coloring in plagioclase. *American Mineralogist 71,* 95-98.

8 1986 Finger, L.W., R. M. Hazen, and A. M. Hofmeister: High-pressure crystal chemistry of spinel ($MgAl_2O_4$) and magnetite (Fe_3O_4) : comparisons with silicate spinels. *Physics and Chemistry of Minerals 13,* 215-220.

9 1987 Hofmeister, A. M., T.C. Hoering, and D. Virgo: Vibrational spectroscopy of beryllium aluminosilicates: heat capacity calculations from band assignments. *Physics and Chemistry of Minerals 14,* p. 205-224.

10 1987 Hofmeister, A. M.: Single-crystal absorption and reflection infrared spectroscopy of forsterite and fayalite. *Physics and Chemistry of Minerals 14*, 499-513.

11 1987 Hofmeister, A. M.: Book Review of *Chemical bonding and spectroscopy in mineral chemistry* by F. J. Berry and D. J. Vaughan (eds.) *Chemical Geology 63,* p. 355-356. [Invited]

12 1987 Hazen, R.M., T. C. Hoering, and A.M. Hofmeister: Compressibility and high-pressure phase transition of a metalloporphyrin: (5,10,15,20- tetraphenyl-21H, 23H-porphinato) Cobalt (II). *Journal of Physical Chemistry 91,* 5042-5045.

13 1988 McMillan, P. and A. M. Hofmeister: Infrared and Raman spectroscopy of minerals, *Reviews in Mineralogy 18* p. 99-159. [Invited]

14 1989 Hofmeister, A. M., J. Xu, H. K. Mao, P. M. Bell, and T. C. Hoering: Thermodynamics of Fe-Mg olivines at mantle pressures: Mid- and far-infrared spectroscopy at pressure. *American Mineralogist 74,* 281-306.

15 1990 Hofmeister, A. M. J. Xu, and S. Akimoto: Infrared spectroscopy of synthetic and natural stishovite. *American Mineralogist 75,* 951-955.

16 1990 Hofmeister, A. M., J. Horigan, and J. A. Campbell: Infrared spectra of GeO_2 with the rutile structure and prediction of inactive modes for isostructural compounds. *American Mineralogist 75,* 1238-1248.

17 1991 Hofmeister, A. M. and A. Chopelas: Vibrational spectra of end-member silicate garnets. *Physics and Chemistry of Minerals 17,* 503-526.

18 1991 Criss, R. E. and A. M. Hofmeister: Application of fluids dynamics principles in tilted permeable media to terrestrial hydrothermal systems. *Geophysical Research Letters 18,* 199-202.

19 1991 Hofmeister, A. M. and A. Chopelas: Thermodynamic properties of pyrope and grossular from vibrational spectra. *American Mineralogist (J. B. Thompson issue) 76,* 880-891.

20 1991 Hofmeister, A. M.: Vibrational spectroscopy of minerals at pressure: application to the mantle. *GSA Today 1*, 117-119,122. [Invited]

21 1991 Hofmeister, A. M.: Calculation of bulk moduli and their pressure derivatives from vibrational frequencies and mode Gruneisen parameters: Solids with high symmetry or one nearest-neighbor distance. *Journal of Geophysical Research 96,* 16181-16203.

22 1991 Hofmeister, A. M. and K. Billips: Comparison of infrared reflectance spectra of KXF_3 perovskites. *Spectrochim. Acta 47a,* 1607-1617.

23 1991 Hofmeister, A. M.: Pressure derivatives of the bulk modulus. *Journal of Geophysical Research, 96,* 21893-21908.

24 1991 Hofmeister, A. M.: Comment on "Infrared spectroscopy of the polymorphic series (enstatite, ilmenite, and perovskite) of $MgSiO_3$, $MgGeO_3$, and $MnGeO_3$" by M. Madon and G. D. Price. *Journal of Geophysical Research, 96,* 21959-21964.

25 1991 Chopelas, A. and A. M. Hofmeister: Vibrational spectroscopy of aluminate spinels at 1 atm and of $MgAl_2O_4$ to over 200 kbar. *Physics and Chemistry of Minerals,18 ,* 279-293.

26 1992 Kubiki, J., R.J. Hemley, and A.M. Hofmeister: Raman and infrared study of pressure-induced structural changes in $MgSiO_3$, $CaMgSi_2O_6$, and $CaSiO_3$ glasses. *American Mineralogist, 77.* 258-269.

27 1992 Hofmeister, A. M. and E. Ito: Thermodynamic properties of $MgSiO_3$ ilmenite from vibrational spectra. *Physics and Chemistry of Minerals 18,* 423-432.

28 1992 Hofmeister, A. M. and K. R. Campbell: Infrared spectroscopy of yttrium aluminum, yttrium gallium, and yttrium iron garnets. *Journal of Applied Physics 72*, 638-646.

29 1992 Hofmeister, A. M.: Book review of " The incomplete guide to the art of discovery" by Jack E. Oliver. *GSA Today* . [Invited]

30 1992 Hofmeister, A. M.: Reply to Comment on "The pressure derivatives of the bulk modulus" by R. Jeanloz. *Journal of Geophysical Research 97,* 15275.

31 1992 Hofmeister, A. M., T. P. Rose, T. C. Hoering, and I. Kushiro: Infrared spectroscopy of natural, synthetic, and ^{18}O substituted α-tridymite: structural implications. *Journal of Physical Chemistry 96*, 10213-10218.

32 1993 Young, T. E., H. W. Green, A. M. Hofmeister, and D. Walker: Infrared spectoscopic investigation of OH in β-$(Mg,Fe)_2SiO_4$ and coexisting olivine: implications for mantle evolutions and dynamics. *Physics and Chemistry of Minerals 19,* 409-422.

33 1993 Hofmeister, A. M.: IR reflectance spectra of natural ilmenite: comparison with isostructural compounds and calculation of thermodynamic properties. *European Journal of Mineralogy 5,* 281-295.

34 1993 Hofmeister, A. M.: Interatomic Potentials Calculated from Equations of State: Limitation of Finite Strain to Moderate K'. *Geophys. Res. Lett. 20,* 635-638.

35 1993 Lu, R., K. D. Jackson, and A. M. Hofmeister: Thin-film infrared spectra from solid solutions of spessartine and yttrium aluminum garnet. *The Canadian Mineralogist 31,* 381-390.

36 1993 McAloon, B. P. and A. M. Hofmeister: Symmetry of birefringent garnets from infrared spectroscopy. *American Mineralogist 78* , 957-967.

37 1994 Lu, R., A.M. Hofmeister, and Y. Wang: Thermodynamic properties of ferro-magnesium silicate perovskites from vibrational spectroscopy. *Journal of Geophysical Research 99,* 11795-11804

38 1994 Lu, R. and A. M. Hofmeister: Infrared spectroscopy of $CaGeO_3$ perovskite to 24 GPa and thermodynamic implications. *Physics and Chemistry of Minerals*, 78-84.

39 1994 Gehring, A. U. and A. M. Hofmeister: The transformation of lepidocriocite during heating: a magnetic and spectroscopic study. *Clays and Clay Minerals 42,* 409-415.

40 1994 Cynn, H. and A.M. Hofmeister: High-pressure IR spectra of lattice modes and OH vibrations in hydrous Fe-bearing wadsleyite. *Journal of Geophysical Research 99,* 17717-17728.

41 1995 White, W. B, and A. M. Hofmeister: Applications of infrared spectroscopy to structure and bonding in minerals and glasses and to speciation of hydrous components.*Higher Mineralogy* (A. S. Marfunin, editor). Ch 10.6.3. [Invited]

42 1995 Hofmeister, A. M. IR Microspectroscopy in Earth Science. In *A Practical Guide to Infrared Microspectroscopy*. (H. J. Humecki, editor). p. 377-416. [Invited]

43 1995 Lu, R. and A.M. Hofmeister. Infrared fundamentals and phase transitions in CO_2 up to 50 GPa. *Physical Review B 52*, 3985-3992

44 1995 McAloon, B. P. and A. M. Hofmeister: Single-crystal IR spectroscopy of the grossular-andradite binary. *American Mineralogist 80*, 1145-1156.

45 1996 Burns, P., Hawthorne, F.C. Hofmeister, A. M., and S. L. Moret: A ferroelastic phase transition in $K(Mg_{1-x}Cu_x)F_3$ perovskite. *Phys. Chem. Minerals 23,* 141-150.

46 1996 Hofmeister , A.M., T.J. Fagan, K.M. Campbell, and R.B. Schaal: Single-crystal IR spectroscopy of pyrope-almandine garnets with minor amounts of Mn and Ca. *American Mineralogist 81,* 418-428.

47 1996 Hofmeister , A. M.: Thermodynamic properties of stishovite at mantle conditions determined from pressure variations of vibrational modes. *Mineral Spectroscopy: A tribute to Roger G. Burns: GCA Special Publication No. 5, p. 215-227.* [Invited]

48 1996 Cynn, H., A. M. Hofmeister, P.C. Burnley, and A. Navrotsky: Thermodynamic properties and hydrogen speciation from vibrational spectra of dense hydrous magnesium silicates. *Phys. Chem. Minerals 23,* 361-376.

49 1997 Hofmeister , A. M.: Infrared reflectance spectra of fayalite, and absorption Data from assorted olivines, including pressure and isotope effects. *Physics and Chemistry of Minerals 24*, 535-546.

50 1997 Hofmeister, A. M.: IR spectroscopy of alkali halides at very high pressures: calculation of equations of state and of the response of bulk modulus to the B1-B2 phase transition. *Physical Review. B 56*, 5835-5855.

51 1998 Dymek, R.F. and A.M. Hofmeister: The American Mineralogist in transition. *Amer. Mineral. 83*, 1-1.

52 1998 Hofmeister , A.M., R.B. Schaal, K.M. Campbell, S.L. Berry, and T.J. Fagan: Prevalence and origin of birefringence in 48 garnets from the pyrope-almandine-grossular-spessartine quarternary. *American Mineralogist 83 ,* 1293-1301

53 1999 Speck, A.K., Hofmeister, A.M., and Barlow, M.J.: Resolution of the SiC problem: astronomical and meteoritic evidence reconciled. *Astrophysical J. Lett.* 513, L87-L90.

54 1999 Hofmeister, A. M., H. Cynn, P.C. Burnley, and C. Meade: Vibrational spectra of dense hydrous magnesium silicates at pressure: importance of the hydrogen bond angle. *American Mineralogist 84,* 454-464.

55 1999 Hofmeister, A.M.: Mantle values of thermal conductivity and a geotherm from phonon lifetimes. *Science* 283, 1699-1706.

56 1999 Hauck, S.A. II, R.J. Phillips and A. M. Hofmeister: Variable conductivity: Effects on the thermal structure of subducting slabs. *Geophysical Research Letters 26*, 3257-3260.

57 1999 Guan Y., A. Hofmeister, S. Messenger, and R.M. Walker (1998) Two types of deuterium-rich carriers in Renazzo matrix. *Lunar and Planet Sci* XXIX (CD-ROM), abstract 1760.

58 2000 Speck, A.K., Barlow, M.J., Sylvester, R.J., and Hofmeister, A.M. Dust features in the 10-micron infrared spectra of oxygen-rich evolved stars. *Astronomy and Astrophysics Supplement Series, 146*, 437-464.

59 2000 Hofmeister, A.M., Rosen, L., Speck, A.K. and Barlow, M.J.: Infrared spectra of nanocrystals of SiC, AlN and TiN: implications for scattering theory. *Thermal emissions spectroscopy and analysis of dust, disks and regoliths* (Edited by M. Sitko. A.L. Sprague, and D.K. Lynch), ASP Conference Series, vol. 196, p.292-300.

60 2000 Speck, A.K., Hofmeister, A.M., & Barlow, M.J.: Silicon carbide: the problem with laboratory spectra.. *Thermal Emission Spectroscopy of Dust, Disks, and Regoliths* (Eds Sitko M.L., Sprague A.L. & Lynch D.K.), ASP Conference Series, vol. 196, 281-290.

61 2000 Hofmeister, A.M., Keppel E., Bowey, J.E., and Speck, A.K. Causes of artifacts in the infrared spectra of powders. *ISO beyond the peaks: The 2nd ISO workshop on analytical spectroscopy* (ed. A. Salama, M.F. Kessler, K. Leech, B. Schulz), 343-346.

62 2001 Hofmeister, A.M. and Mao H.K.: Evaluation of shear moduli and other properties of silicates with the spinel structure form IR spectroscopy. *American Mineralogist 86,* 622-639.

63 2001 Bowey, J.E., Lee, C., Tucker, C., Hofmeister, A.M., Ade, P.A.R., and Barlow, M.J.: Temperature effects on the 15-85 μm spectra of olivines and pyroxenes. *Monthly Notices of the Royal Astronomical Society 325*, 886-896.

64 2001 Hofmeister, A.M.: Thermal conductivity of spinels and olivines from vibrational spectroscopy at ambient conditions. *American Mineralogist 86*, 1188-1208.

65 2001 Criss, R.E. and Hofmeister, A.M.: Thermodynamic cosmology. *Geochimica et Cosmochimica Acta 65*, 4077-4085.

66 2002 Hofmeister, A.M. and Mao, H.K.: Redefinition of the mode Gruneisen parameter for polyatomic substances and thermodynamic implications. *Proceedings of the National Academy of Science 99*, 559-564.

67 2002 Giesting, P.A.. and Hofmeister, A.M.: Thermal conductivity of disordered garnets from infrared spectroscopy. *Physical Review B*, 65, #144305.

68 2002 Bowey, J.E., Barlow. M.J., Molster, F.J.., Hofmeister, A.M., Lee, C., Tucker, C., Lim, T., Ade, P.A.R., Waters, L.B.F.M.: The 69-μm forsterite band as a dust temperature indicator. *Monthly Notices of the Royal Astronomical Society, 331*, L1-L6.

69 2002 Koch-Muller, M., Hofmeister, A.M., Fei, Y., and Liu, Z.: High-pressure IR spectra and the thermodynamic properties of chloritoid. *American Mineralogist 87*, 609-622.

70 2003 Hofmeister, A.M. and Mao, H.K.: Pressure derivatives of shear and bulk moduli from the thermal Gruneisen parameter and volume-pressure data. *Geochemica Cosmochemica Acta 66,* 1207-1227.

71 2003 Hofmeister, A.M., Keppel, E., and Speck, A.K.: Absorption and reflection IR spectra of MgO and other diatomic compounds. *Monthly Notices of the Royal Astronomical Society 345*, 16-38.

72 2004 Hofmeister, A. M., P. A. Giesting, B. Wopenka, G. D. Gwanmesia, and B. L. Jolliff: Vibrational spectroscopy of pyrope-majorite garnets: structure and order. *American Mineralogist 89,* 132-146.

73 2004 Giesting, P.A., Hofmeister, A. M., Wopenka, B., Gwanmesia, G. D. , and Jolliff, B. L.: Thermal conductivity and thermodynamics of majoritic garnets: Implications for the transition zone. *Earth and Planetary ScienceLetters 218,* 45-56.

74 2004 Speck, A.K. and A.M., Hofmeister, Processing of Presolar Grains around post-AGB Stars: Silicon Carbide as the Carrier of the "21" Micron Feature. *The Astrophysical Journal 600,* 986-991.

75 2004 Chaudhary, L., Hofmeister, A.M., and Hruska, K. Differntial growth factor control of bone formation thorugh osteoprogenitor differentiation. *Journal of Bone and Mineral Research 34*, 402-411.

76 2004 Hofmeister, A.M. Thermal conductivity and thermodynamic properties from infrared spectroscopy. In: *Infrared Spectroscopy in Geochemistry, Exploration Geochemistry, and Remote Sensing*, edited by P. King, M. Ramsey, and G. Swayze (Mineralogical Association of Canada, Short course volume 33), 135-154. [Invited]

77 2004 Hofmeister, A.M. Enhancement of radiative transfer in the mantle by OH- in minerals. *Physics of the Earth and Planetary Interiors,* 146, 483-485.

78 2004 Hofmeister, A.M., Wopenka, B, and Locock, A. Spectroscopy and structure of hibonite, grossite, and $CaAl_2O_4$: implications for astronomical environments. *Geochimica Cosmochimica Acta* 68, 4485-4503

79 2004 Hofmeister, A.M. Physical properties of calcium aluminates from vibrational spectroscopy. *Geochimica Cosmochimica Acta* 68, 4721-4726

80 2005 Hofmeister, A.M and Criss, R.E. Earth's heat flux revisited and linked to chemistry. *Tectonophysics* 395, 159-177.

81 2005 Bowey, J.E. and Hofmeister, A.M. Overtones and the 5-8 μm spectra of deeply embedded objects. *Monthly Notices of the Royal Astronomical Soc.*358, 1383-1393.

82 2005 Hofmeister, A.M and Criss, R.E. Mantle convection and heat flow in the triaxial Earth. In: *Melting anomalies: Their Nature and Origin,* edited by G. R. Foulger, J.H. Natland, D.C. Presnall, and D.L. Anderson (Geological Society of America, Boulder CO) pp 289-302.

83 2005 Hofmeister, A.M. The dependence of radiative transfer on grain-size, temperature, and pressure: implications for mantle processes. *Journal of Geodynamics 40*, 51-72

84 2005 Speck, A.K., Thompson, G.D., and Hofmeister, A.M. The effect of stellar evolution on dust grain sizes. *Astrophysical Journal*, 634, 426-435

85 2005 Hofmeister, A.M and Criss, R.E. Re: Reply to "Comments on Earth's heat flux revised and linked to chemistry" by R. Von Herzen, E.E. Davis, A. Fisher, C.A. Stein and H.N. Pollack. *Tectonophysics 409,* 193-198.

86 2006 Hofmeister, A.M. Thermal diffusivity of garnets to high temperature. *Physics and Chemistry of Minerals* 33, 45-62

87 2006 Hofmeister, A.M. and Bowey, J.E. Quantitative IR spectra of hydrosilicates and related minerals *Monthly Notices Royal Astronomical Society 367,* 577-591

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Metrics H-index = 54; I10-index = 126; Sole author of 40 papers; First of multiple authors on 66 papers.

PERSONAL

Divorced, three children (ages 38, 35, and 28), three grandchildren (ages 5, 1½, and 1¼ yrs).
Hobbies: master's swimming; home remodeling