

## FULL CURRICULUM VITA

### ALAN D. CHAVE

Senior Scientist  
Deep Submergence Laboratory  
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### EDUCATION

B.S. (physics)	1975	Harvey Mudd College
Ph.D. (oceanography)	1980	Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint Program in Oceanography

### OTHER QUALIFICATIONS

Chartered Statistician (UK) #1773	2003
Federal Communications Commission General Radiotelephone License (previously First Class Radiotelephone License) with Ship Radar Endorsement	1970

### CONTINUING PROFESSIONAL EDUCATION

System Engineering for Project Managers, UCLA Extension	2003
Project Management Principles and Practice, UCLA Extension	2005
How to Document and Track Requirements Using DOORS	2008
Principles of System Engineering (PoSE), Raytheon Intelligence and Information	2009

Systems, Aurora, CO

## **POSITIONS HELD**

Senior Scientist	Deep Submergence Laboratory, Dept. of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution	12/1999 to present
Senior Scientist	Dept. of Geology and Geophysics, Woods Hole Oceanographic Institution	12/1993 to 12/1999
Visiting Professor	Earthquake Research Institute, University of Tokyo	12/1998 to 1/1999
Guest Scientist	Earth and Environmental Sciences Division, Los Alamos National Laboratory	4/1983 to 1/1996
Associate Scientist with Tenure	Dept. of Geology and Geophysics, Woods Hole Oceanographic Institution	1/1992 to 12/1993
Visiting Investigator	Dept. of Geology and Geophysics, Woods Hole Oceanographic Institution	9/1991 to 1/1992
Member of the Technical Staff	Physics Research Division, AT&T Bell Laboratories	12/1986 to 10/1991
Associate Adjunct Professor	Institute of Geophysics and Planetary Physics, Scripps Institution of Oceanography	12/1986 to 12/1990
Associate Research Geophysicist	Institute of Geophysics and Planetary Physics, Scripps Institution of Oceanography	7/1985 to 12/1986
Staff Member	Earth and Space Sciences Division, Los Alamos National Laboratory	7/1985 to 7/1986
Adjunct Lecturer	Scripps Institution of Oceanography, University of California, San Diego	11/1982 to 11/1986
Assistant Research Geophysicist	Institute of Geophysics and Planetary Physics, Scripps Institution of Oceanography	1/1982 to 7/1985
Postdoctoral Research Geophysicist	Geological Research Division, Scripps Institution of Oceanography	6/1980 to 1/1982

## **PROFESSIONAL ACTIVITIES**

*National and International Service*

- 2007 to present Chief System Engineer, Ocean Observing Initiative Cyberinfrastructure Implementing Organization
- 2011 Scientific advisor for the opponent, Schlumberger vs EMGS re EP1256019, Technical Board of Appeal, European Patent Office, Munich, Germany
- 2010 Technical advisor to the claimant, Schlumberger vs EMGS, Court of Appeals, High Court of Justice, London
- 2010 Scientific advisor for the opponent, OHM Inc vs EMGS re EP1256019, Opposition Division, European Patent Office, Munich, Germany
- 2004-2009 Project Scientist, Laboratory for Ocean Observatory Knowledge Integration Grid (LOOKING)
- 2007-2008 Expert witness for the claimant, Schlumberger vs EMGS, Patent Court, High Court of Justice, London, UK
- 2007-2008 Expert witness for the claimant, Schlumberger vs EMGS, Patent Court, The Hague, Netherlands
- 2005-2007 Member, ORION Engineering Committee
- 2002-2006 Observer, International Association of Geomagnetism and Aeronomy Working Group I-2 (Electromagnetic Induction in the Earth)
- 2003-2004 Chair, UNOLS Working Group on Ocean Observatory Facility Needs
- 2000-2004 Member, NEPTUNE Executive Team
- 2000-2004 Co-Chair, NEPTUNE System Engineering Team
- 1997-2004 Member (2000-2004) and Co-chair (1997-2000), Dynamics of Earth and Ocean Systems (DEOS) Steering Committee, Consortium on Ocean Research and Education
- 1996-2004 Member, Electromagnetic Studies of the Continents Facility Steering Committee
- 1992-2003 IRIS Ocean Cable Representative, International Cable Protection Committee
- 1990-2002 Member (1999-2002) and Chair (1990-1999), Steering Committee for Scientific Use of Undersea Cables, Incorporated Research Institution for

Seismology and Joint Oceanographic Institutions

- 2000-2002 Member, Solid Earth Science Working Group, NASA
- 1997-2001 Member, Inter-Ridge Steering Committee and Chair, Working Group on Technology
- 1998-2000 Co-chair, Plate Scale Processes Working Group, DEOS
- 1993-1999 Chairman, IAGA/IASPEI/IAPSO Joint Committee on Scientific Reuse of Submarine Cables
- 1996-1999 Member, Global Seismic Network Standing Committee, Incorporated Research Institutions for Seismology
- 1994 Member, Ad Hoc Panel on Scientific Applications of IUSS, Joint Oceanographic Institutions, July 14-15, 1994
- 1993-1994 Member, Geomagnetic Observatory Task Group, US Geodynamics Committee, National Research Council
- 1991-1994 Member, Steering Committee, Ridge InterDisciplinary Global Experiment (RIDGE)
- 1992-1994 Co-Program Element Coordinator, RIDGE Mantle Melt Experiment
- 1988-1991 Co-chair, Ad hoc Motional Electromagnetic Measurements Group, World Ocean Circulation Experiment
- 1987-1990 Member, New Jersey Sea Grant Advisory Board

*Institutional Service*

- 2007-2009 Member, Admissions Advisory Committee
- 2005 Chair, AOPE Department Head Search Committee
- 2004-2007 Co-Lab Head, Deep Submergence Laboratory
- 2003-2004 Steering Committee and Ocean Observing System Working Group Member, Access to the Sea Task Group
- 1998-2000 Member, Technical Staff Evaluation Council
- 1996-1997 Member, Strategic Planning Group on Access to the Sea

- 1996-1997      Member, Advisory Committee on Computing
- 1995            Member, Search Committee for Associate Director for Finance and Administration
- 1994-1995      Member, Admissions Advisory Committee

*Editorial Duties*

- 2010-2012      Guest Co-editor, special issue on scientific underwater observations and underwater robotics, *IEEE Journal of Oceanic Engineering*
- 2002-2005      Guest Co-editor, special issue from Workshop on EM Induction, *Surveys in Geophysics*
- 2000-2002      Guest Editor, special issue on ocean observatories, *IEEE Journal of Oceanic Engineering*
- 1992-1997      Editor-in-chief, *Reviews of Geophysics*
- 1991-1992      Editor, *Reviews of Geophysics*
- 1987-1990      Associate Editor, *Journal of Geophysical Research*

*Meeting Organization*

- 2010-2011      Program Committee, Workshop on Ocean Mantle Dynamics: From Spreading Center to Subduction Zone, Interridge, Tokyo, Japan, Oct, 4-6, 2011.
- 2005-2006      Co-convenor, 4th International Workshop on the Scientific Use of Submarine Cables, Dublin, Ireland, 8-10 Feb 2006
- 2002-2003      Co-convenor, 3rd International Workshop on the Scientific Use of Submarine Cables, Tokyo, Japan, June 25-27, 2003
- 2000-2002      Co-chair, Program and Local Organizing Committees, 16th Workshop on Electromagnetic Induction, Santa Fe, NM, June 2002
- 1997-1998      Co-convenor, Long Term Monitoring of the Mid-Atlantic Ridge (MOMAR) Workshop, Interridge, Lisbon, Portugal, 28-31 Oct 1998
- 1995-1997      Chair, Program Committee, 2nd International Workshop on Scientific Use of Submarine Cables, Okinawa, Japan, Feb 25-28, 1997
- 1995-1996      Member, Program Committee, 13th Workshop on Electromagnetic

- Induction, Onuma, Japan, July 1996
- 1994-1995 Member, Steering Committee, International Ocean Network Workshop, Marseilles, France, 11-13 January 1995
- 1994 Co-convenor, Workshop on Technical Approaches for a Seafloor Geomagnetic Observatory, Woods Hole, MA, November 1994
- 1992-1994 Member, Program Committee, 12th Workshop on Electromagnetic Induction, Brest, France, August 1994
- 1993 Invited participant, Symposium on Coastal Oceanography and Littoral Warfare, Tactical Training Center, San Diego, 2-6 August 1993
- 1991 Invited participant and facilitator, Symposium on Naval Warfare and Coastal Oceanography, Naval Amphibious Base, Little Creek, VA, 29 April-2 May 1991
- 1990 Chair, Scientific Steering Committee, 1st Workshop on Scientific Uses of Undersea Cables, Honolulu, HI, 30 Jan-1 Feb 1990
- 1989 Chair, Steering Committee, ONR Workshop on Understanding the Oceanic Electromagnetic Environment: Status and Prospects
- 1989 Co-convenor, WOCE Workshop on Electromagnetic Measurements, Seattle, WA, 7-8 February 1989

## **CRUISE EXPERIENCE**

<i>R/V Kairei</i>	Nov 2007	EM recovery
<i>R/V Kairei</i>	Dec 2005	EM deployments
<i>R/V Magnus Heinason</i>	Jul 2005	EM deployments
<i>R/V Roger Revelle</i>	Jun-Jul 2004	H2O servicing/Jason (chief scientist)
<i>R/V T.G. Thompson</i>	Sep-Oct 2003	H2O servicing/Jason (chief scientist)
<i>R/V Roger Revelle</i>	May 2002	Instrument recoveries (chief scientist)
<i>R/V Roger Revelle</i>	April 2001	Instrument deployments (chief scientist)
<i>R/V R.G. Sproul</i>	Sep 2000	Instrument tests (chief scientist)

<i>R/V T.G. Thompson</i>	Sep-Oct 1999	H2O servicing/Jason (chief scientist)
<i>R/V T.G. Thompson</i>	Aug-Sep 1998	H2O installation/Jason (chief scientist)
<i>R/V Atlantis</i>	Jun-Jul 1998	Alvin dives/vent light studies (chief scientist)
<i>R/V Atlantis</i>	Nov-Dec 1997	Alvin dives/vent light studies (chief scientist)
<i>R/V Melville</i>	May-Jun 1997	MELT EM recoveries (chief scientist)
<i>R/V T.G. Thompson</i>	May-Jun 1996	MELT EM deployments (co-chief scientist)
<i>R/V Atlantis II</i>	Apr 1996	Alvin dives/vent light studies(chief scientist)
<i>R/V Melville</i>	Mar-Apr 1995	EM deployments, Antarctic Circumpolar Current
<i>R/V R.G. Sproul</i>	Sep 1994	EM/tilt instrument tests, San Diego (chief scientist)
<i>R/V R.G. Sproul</i>	July 1994	EM/tilt instrument tests, San Diego (chief scientist)
<i>R/V Cape Hatteras</i>	Mar 1994	EM deployments, North Atlantic (chief scientist)
<i>R/V Endeavor</i>	Oct 1992	EM recoveries, North Atlantic (chief scientist)
<i>R/V Endeavor</i>	May 1992	EM deployments, North Atlantic (chief scientist)
<i>R/V Malcolm Baldrige</i>	Feb 1992	EM/pressure recoveries, Abaco area
<i>R/V Malcolm Baldrige</i>	Sep 1990	EM/pressure deployments, Abaco area
<i>R/V R.G. Sproul</i>	Jun 1990	Acoustic release testing (chief scientist)
<i>R/V Oceanus</i>	Aug 1989	Electrometer deployments, Gulf Stream
<i>R/V Le Suroit</i>	Mar-Apr 1989	EM deployments, Tahiti area

R/V <i>Thomas Washington</i>	May 1988	Big G bathymetric survey, North Pacific (co-chief scientist)
R/V <i>New Horizon</i>	Jul 1986	EM deployments, North Pacific (co-chief scientist)
R/V <i>New Horizon</i>	Sep 1983	Controlled source EM, North Pacific (co-chief scientist)
D/V <i>Glomar Challenger</i>	Jun-Jul 1980	Leg 74 paleomagnetism, Walvis Ridge
R/V <i>Atlantis II</i>	Jul 1977	Piston coring/heat flow, North Atlantic
R/V <i>Knorr</i>	Feb 1977	Heat flow, Galapagos Spreading Center
R/V <i>Alexander Agassiz</i>	Aug 1976	Magnetometer deployments, North Pacific
R/V <i>Moana Wave</i>	Jul-Aug 1974	Manganese nodule exploration, equatorial Pacific

## EDUCATIONAL ACTIVITIES

Instructor	1997 to present	MIT 12.714, Computational Data Analysis
Instructor	2012	Short (4 day) course on Computational Statistics, Irish Geoscience Graduate Program, Dublin, Ireland
Guest student sponsor	2011	Maik Neukirch, CSIC, Spain
Postdoctoral advisor	2008-2010	Tetsuo Matsuno
Dissertation advisor	2002-2007	Anna P.M. Michel, "Laboratory evaluation of laser-induced breakdown spectroscopy (LIBS) as a new <i>in situ</i> chemical sensing technique for the deep ocean", Ph.D., MIT/WHOI Joint Program in Oceanography
Instructor	2007	Short (3 day) Course on Statistics, Dublin Institute for Advanced Studies, Ireland
Postdoctoral advisor	2001-2003	Pamela Lezaeta



Postdoctoral advisor	2002-2003	Kiyoshi Baba
Postdoctoral advisor	2001-2002	Sheri N. White
Guest student sponsor	2000	Kiyoshi Baba, Chiba University, Japan
Dissertation advisor	1994-2000	Sheri N. White, "Measurement of Ambient Light at Deep Sea Hydrothermal Vents", Ph.D., MIT/WHOI Joint Program in Oceanography
Guest student sponsor	1999	Takao Koyama, University of Tokyo
Outside examiner	1997	Katherine M. Edwards, "The application of modern statistical and numerical techniques to magnetotelluric data", Ph.D., Department of Physics, University of Queensland, Brisbane, Australia
Guest student sponsor	1995-6	Xavier Garcia, University of Barcelona, Spain
Guest investigator sponsor	1995-6	Dr. Nobukazu Seama, Chiba University, Japan
Dissertation committee member	1995	Stewart K. Sandberg, "Simultaneous modeling of transient electromagnetic and resistivity/induced polarization soundings to improve resolution in hydrogeological investigations", Ph.D., Department of Geosciences, Rutgers, The State University of New Jersey
Guest student sponsor	1995	Ikuko Fujii, Earthquake Research Institute, University of Tokyo
Chair, general examination committee	1995	Robert J. Greaves, MIT/WHOI Joint Program in Oceanography
Co-instructor (w/ Marcia McNutt)	1994-5	MIT 12.714, Computational Data Analysis
Guest student sponsor	1993-4	Ikuko Fujii, Earthquake Research Institute, University of Tokyo
Generals paper advisor and examination committee member	1993	Daniel Lizarralde, MIT/WHOI Joint Program in Oceanography

Outside examiner	1992	Ian James Chant, “Time-frequency Analysis of Magnetotelluric Signals”, Ph.D., Department of Physics, University of Queensland, Brisbane, Australia
Dissertation advisor (informal)	1991	Martyn J. Unsworth, “Electromagnetic exploration of the oceanic crust with controlled sources”, Ph.D., University of Cambridge
Dissertation committee member	1990	Krishnendu Ghosh, “Robust multivariate regression analysis of complex-valued data”, Ph.D., Dept. of Statistics, Temple University
Dissertation committee member	1988	Scott J. Hills, “The analysis of microfossil shape: experiments using planktonic foraminifera”, Ph.D., UCSD/SIO
Dissertation co-advisor	1987	Catherine Constable, “Some statistical aspects of the geomagnetic field”, Ph.D., UCSD/SIO
Postdoctoral advisor	1985-6	Adam Schultz
Postdoctoral advisor (w/ C.S. Cox)	1983-5	Steven Constable
Co-instructor	1985	SIO 223, Geophysical Data Analysis
Co-instructor	1984	SIO 239, Seminar on EM Geophysics

## **PROFESSIONAL SOCIETIES**

American Association for the Advancement of Science (M’81)

American Geophysical Union (M’76)

Institute of Electrical and Electronic Engineers (M’89, SM’02)

Royal Statistical Society (F’03)

International Council on System Engineering (M’06)

## **HONORS AND AWARDS**

*Who’s Who in America* (2010-present)

Senior Member, Institute of Electrical and Electronic Engineers (2002)

*Who’s Who in the East* (1995-present)

*Who’s Who in Science and Engineering* (1992-present)

*American Men and Women of Science* (1988-present)

J. Robert Oppenheimer Fellowship, Los Alamos National Laboratory (1985-1986)

Ruth and Paul Fye Award for Excellence in Oceanographic Research, WHOI (1979)

NSF Graduate Fellowship (1975-1978)

Thomas Benjamin Brown Award for Research in Physics, Harvey Mudd College (1975)

Graduated with Distinction and Departmental Honors, Harvey Mudd College (1975)

## **BIBLIOGRAPHY for ALAN D. CHAVE**

### **A. Published Works (peer reviewed) [# of ISI citations 4/1/2012; h-index = 31]**

1. Chave, A.D. and C.R. Denham, Climatic changes, magnetic intensity variations, and fluctuations of the eccentricity of the earth's orbit during the past two million years and a mechanism which may be responsible for the relationship: a discussion, *Earth Planet. Sci. Lett.*, *44*, 150-152, 1979. [13]
2. Chave, A.D., Lithospheric structure of the Walvis Ridge from Rayleigh wave dispersion, *J. Geophys. Res.*, *84*, 6840-6848, 1979. [34]
3. Chave, A.D., R.P. Von Herzen, K.A. Poehls, and C.S. Cox, Electromagnetic induction fields in the deep ocean northeast of Hawaii: implications for mantle conductivity and source fields, *Geophys. J. Roy. Astr. Soc.*, *66*, 379-406, 1981. [28]
4. Chave, A.D., and C.S. Cox, Controlled electromagnetic sources for measuring electrical conductivity beneath the oceans, 1, forward problem and model study, *J. Geophys. Res.*, *87*, 5327-5338, 1982. [117]
5. Denham, C.R. and A.D. Chave, Detrital remanent magnetization: viscosity theory of the lock-in zone, *J. Geophys. Res.*, *87*, 7126-7130, 1982. [24]
6. Chave, A.D., On the theory of electromagnetic induction in the earth by ocean currents, *J. Geophys. Res.*, *88*, 3531-3542, 1983. [21]
7. Moore, T.C., P.D. Rabinowitz et al. (14 authors), The Walvis Ridge transect, Deep Sea Drilling Project Leg 74: The geologic evolution of an oceanic plateau in the South Atlantic Ocean, *Geol. Soc. Am. Bull.*, *94*, 907-925, 1983. [10]
8. Chave, A.D., Numerical integration of related Hankel transforms by quadrature and continued fraction expansion, *Geophysics*, *48*, 1671-1686, 1983. [87]
9. Chave, A.D. and C.S. Cox, EM induction by ocean currents and the conductivity of the oceanic lithosphere, *J. Geomagn. Geoelectr.*, *35*, 491-499, 1983. [5]
10. Chave, A.D., Lower Paleocene-Upper Cretaceous magnetic stratigraphy from Sites 525, 527, 528 and 529, Deep Sea Drilling Project, Leg 74, in: T.C. Moore, P.D. Rabinowitz et al., *Initial Reports of the Deep Sea Drilling Project*, *74*, 525-532, 1984. [49]

11. Shackleton, N.J. et al. (14 authors), Accumulation rates in Leg 74 sediments, in: T.C. Moore, P.D. Rabinowitz et al., *Initial Reports of the Deep Sea Drilling Project, 74*, 621-644, 1984. [35]
12. Chave, A.D. and J.H. Filloux, Electromagnetic induction fields in the deep ocean off California: oceanic and ionospheric sources, *Geophys. J. Roy. astr. Soc.*, 77, 143-171, 1984. [19]
13. Shure, L. and A.D. Chave, Comment on "An inverse approach to signal correlation" by D.G. Martinson, W. Menke, and P. Stoffa, *J. Geophys. Res.*, 89, 2497-2499, 1984. [4]
14. Chave, A.D., The Fréchet derivatives of electromagnetic induction, *J. Geophys. Res.*, 89, 3373-3380, 1984. [31]
15. Park, J. and A.D. Chave, On the estimation of magnetotelluric response functions using the singular value decomposition, *Geophys. J. Roy. astr. Soc.*, 77, 683-709, 1984. [20]
16. Chave, A.D., Reply to W.L. Anderson, *Geophysics*, 49, 1813, 1984. [0]
17. Chave, A.D., On the electromagnetic fields induced by oceanic internal waves, *J. Geophys. Res.*, 89, 10519-10528, 1984. [10]
18. Chave, A.D., and J.H. Filloux, Observation and interpretation of the seafloor vertical electric field in the eastern North Pacific, *Geophys. Res. Lett.*, 12, 793-796, 1985. [17]
19. Cox, C.S., S.C. Constable, A.D. Chave, and S.C. Webb, Controlled-source electromagnetic sounding of the oceanic lithosphere, *Nature*, 320, 52-54, 1986. [80]
20. Edwards, R.N., and A.D. Chave, A transient electric dipole-dipole method for mapping the conductivity of the seafloor, *Geophysics*, 51, 984-987, 1986. [38]
21. Chave, A.D., D.J. Thomson, and M.E. Ander, On the robust estimation of power spectra, coherences, and transfer functions, *J. Geophys. Res.*, 92, 633-648, 1987. [134]
22. Cheesman, S.J., R.N. Edwards, and A.D. Chave, On the theory of seafloor conductivity mapping using transient electromagnetic systems, *Geophysics*, 52, 204-217, 1987. [62]
23. Chave, A.D., M.E. Ander, M.A. Zumberge, J.A. Hildebrand, and F.N. Spiess, Polar ice test of the scale dependence of  $G$ , *Nature*, 326, 250-251, 1987. [11]
24. Chave, A.D., and J.R. Booker, Electromagnetic induction studies, *Rev. Geophys.*, 25, 989-1006, 1987. [15]
25. Luther, D.S., A.D. Chave, and J.H. Filloux, BEMPEX: a study of barotropic ocean currents and lithospheric electrical conductivity using seafloor pressure and electromagnetic instruments, *EOS*, 68, 618-619&628-629, 1987. [33]
26. Booker, J.R., D.I. Gough, J.H. Filloux, P.E. Wannamaker, A.D. Chave et al. (33 authors), The EMSLAB electromagnetic sounding experiment, *EOS*, 69, 89&98-99,

1988. [1]

27. Hildebrand, J.A., A.D. Chave, F.N. Spiess, R.L. Parker, M.E. Ander, and M.A. Zumberge, The Newtonian gravitational constant: On the feasibility of an oceanic measurement, *EOS*, 69, 769&779-780, 1988. [3]
28. Ander, M.E., M.A. Zumberge, T. Lautzenhiser, R.L. Parker, C.L.V. Aiken, M.R. Gorman, M.M. Nieto, A.P.R. Cooper, J.F. Ferguson, E. Fisher, G.A. McMechan, G. Sasagawa, J.M. Stevenson, G. Backus, A.D. Chave, J. Greer, P. Hammer, B.L. Hansen, J.A. Hildebrand, J.R. Kelty, C. Sidles, and J. Wirtz, Test of Newton's inverse-square law in the Greenland ice cap, *Phys. Rev. Lett.*, 62, 985-988, 1989. [38]
29. Chave, A.D., J.H. Filloux, and D.S. Luther, Electromagnetic induction by ocean currents: BEMPEX, *Phys. E. Pl. Int.*, 53, 350-359, 1989. [3]
30. Filloux, J.H., L.K. Law, T. Yukutake, J. Segawa, Y. Hamano, H. Utada, A. White, A. Chave, P. Tarits, and A.W. Green, Offshore EMSLAB: objectives, experimental phase, and early results, *Phys. E. Pl. Int.*, 53, 422-431, 1989. [5]
31. Travis, B.J., and A.D. Chave, A moving finite element method for magnetotelluric modeling, *Phys. E. Pl. Int.*, 53, 432-443, 1989. [11]
32. Booker, J.R., and A.D. Chave, Introduction to the special issue on the EMSLAB-Juan de Fuca experiment, *J. Geophys. Res.*, 94, 14093-14098, 1989. [15]
33. Wannamaker, P.E., J.R. Booker, J.H. Filloux, A.G. Jones, G.R. Jiracek, A.D. Chave, P. Tarits, H.S. Waff, G.D. Egbert, C.T. Young, J.A. Stodt, M. Martinez G., L.K. Law, T. Yukutake, J.S. Segawa, A. White, and A.W. Green Jr., Magnetotelluric observations across the Juan de Fuca subduction system in the EMSLAB project, *J. Geophys. Res.*, 94, 14111-14126, 1989. [52]
34. Wannamaker, P.E., J.R. Booker, A.G. Jones, A.D. Chave, J.H. Filloux, H.S. Waff, and L.K. Law, Resistivity cross section through the Juan de Fuca subduction system and its tectonic implications, *J. Geophys. Res.*, 94, 14127-14144, 1989. [111]
35. Chave, A.D., J.H. Filloux, D.S. Luther, L.K. Law, and A. White, Observations of motional electromagnetic fields during EMSLAB, *J. Geophys. Res.*, 94, 14153-14166, 1989. [29]
36. Jones, A.G., A.D. Chave, G.D. Egbert, D. Auld, and K. Bahr, A comparison of techniques for magnetotelluric response function estimation, *J. Geophys. Res.*, 94, 14201-14214, 1989. [86]
37. Chave, A.D., and D.J. Thomson, Some comments on magnetotelluric response function estimation, *J. Geophys. Res.*, 94, 14215-14226, 1989. [85]
38. Chave, A.D., Seafloor electromagnetic exploration methods, in G.R. McMurray (ed.), *Gorda Ridge: A Seafloor Spreading Center in the United States' Exclusive Economic Zone*, New York: Springer-Verlag, pp. 191-200, 1989. [4]
39. Chave, A.D., and D.S. Luther, Low-frequency, motionally induced electromagnetic fields in the ocean, 1, theory, *J. Geophys. Res.*, 95, 7185-7200, 1990. [53]

40. Luther, D.S., Chave, A.D., J.H. Filloux, and P.F. Spain, Evidence for local and nonlocal barotropic responses to atmospheric forcing during BEMPEX, *Geophys. Res. Lett.*, *17*, 949-952, 1990. [44]
41. Zhao, G-z., T. Yukutake, Y. Hamano, H. Utada, J. Segawa, J.H. Filloux, L.K. Law, T. White, A.D. Chave, and P. Tarits, Investigation on magneto-variational data of the Juan de Fuca plate in eastern Pacific Ocean, *Acta Geophysica Sinica*, *33*, 521-529, 1990 (in Chinese with English abstract). [0]
42. Zhao, G-z., T. Yukutake, Y. Hamano, H. Utada, J. Segawa, J.H. Filloux, L.K. Law, T. White, A.D. Chave, and P. Tarits, The investigation on magnetotelluric data of the Juan de Fuca plate, *Seismology and Tectonics*, *12*, 159-167, 1990 (in Chinese with English abstract). [not tracked]
43. Chave, A.D., A. Flosadottir, and C.S. Cox, Some comments on seabed propagation of ULF/ ELF electromagnetic fields, *Radio Sci.*, *25*, 825-836, 1990. [24]
44. Thomson, D.J., and A.D. Chave, Jackknife error estimates for spectra, coherences, and transfer functions, in S. Haykin (ed.), *Advances in Spectral Analysis and Array Processing*, Vol. 1, Englewood Cliffs: Prentice-Hall, pp. 58-113, 1991. [159]
45. Vernon, F.L., J. Fletcher, L. Carroll, A.D. Chave, and E. Sembera, Coherence of seismic body waves from local events as measured by a small-aperture array, *J. Geophys. Res.*, *96*, 11981-11996, 1991. [36]
46. Luther, D.S., J.H. Filloux, and A.D. Chave, Low-frequency, motionally induced electromagnetic fields in the ocean, 2, Electric field and Eulerian current comparison from BEMPEX, *J. Geophys. Res.*, *96*, 12797-12814, 1991. [26]
47. Filloux, J.H., D.S. Luther, and A.D. Chave, Update on seafloor pressure and electric field observations from the north-central and northeast Pacific: tides, infratidal fluctuations, and barotropic flow, in B. Parker (ed.), *Tidal Hydrodynamics*, New York: John Wiley, pp. 617-640, 1991. [15]
48. Chave, A.D., D.S. Luther, and J.H. Filloux, Variability of the wind stress curl over the eastern North Pacific: implications for the oceanic response, *J. Geophys. Res.*, *96*, 18361-18379, 1991. [24]
49. Chave, A.D., S.C. Constable, and R.N. Edwards, Electrical exploration methods for the seafloor, in M.N. Nabighian (ed.), *Electromagnetic Methods in Applied Geophysics*, Vol. 2, Tulsa: Society of Exploration Geophysicists, pp. 931-966, 1991. [65]
50. Zumberge, M.A., J.A. Hildebrand, J.M. Stevenson, R.L. Parker, A.D. Chave, M.E. Ander, and F.N. Spiess, Submarine measurement of the Newtonian gravitational constant, *Phys. Rev. Lett.*, *67*, 3051-3054, 1991. [27]
51. Chave, A.D., D.S. Luther, and J.H. Filloux, The Barotropic Electromagnetic and Pressure Experiment, 1. Barotropic current response to atmospheric forcing, *J. Geophys. Res.*, *97*, 9565-9593, 1992. [28]

52. Chave, A.D., D.S. Luther, L.J. Lanzerotti, and L.V. Medford, Geoelectric field measurements on a planetary scale: oceanographic and geophysical applications, *Geophys. Res. Lett.*, *19*, 1411-1414, 1992. [17]
53. Unsworth, M.J., B.J. Travis, and A.D. Chave, Electromagnetic induction by a finite electric dipole source over a two-dimensional earth, *Geophysics*, *58*, 198-214, 1993. [41]
54. Lanzerotti, L.J., R.E. Langel, and A.D. Chave, Geoelectromagnetism, in G.L. Trigg (ed.), *Encyclopedia of Applied Physics*, Vol. 7, VCH Publishers, NY, pp. 109-123, 1993. [5]
55. Tarits, P., A.D. Chave, and A. Schultz, Comment on "The electrical conductivity of the oceanic upper mantle" by G. Heinson and S. Constable, *Geophys. J. Int.*, *114*, 711-716, 1993. [14]
56. Schultz, A., R.D. Kurtz, A.D. Chave, and A.G. Jones, Conductivity discontinuities in the upper mantle beneath a stable craton, *Geophys. Res. Lett.*, *20*, 2941-2944, 1993. [82]
57. Lanzerotti, L.J., A.D. Chave, C.H. Sayres, L.V. Medford, and C.G. MacLennan, Large-scale electric field measurements on the earth's surface: a review, *J. Geophys. Res.*, *98*, 23525-23534, 1993. [19]
58. Chave, A.D., and J.T. Smith, On electric and magnetic galvanic distortion tensor decompositions, *J. Geophys. Res.*, *99*, 4669-4682, 1994. [89]
59. Lizarralde, D., A.D. Chave, J.G. Hirth, and A. Schultz, Long period magnetotelluric study using Hawaii-to-California submarine cable data: Implications for mantle conductivity, *J. Geophys. Res.*, *100*, 17837-17854, 1995. [82]
60. Van Dover, C.L., G.T. Reynolds, A.D. Chave, and J.A. Tyson, Light at deep-sea hydrothermal vents, *Geophys. Res. Lett.*, *23*, 2049-2052, 1996. [25]
61. Wannamaker, P.E., A.D. Chave, J.R. Booker, A.G. Jones, J.H. Filloux, Y. Ogawa, M. Unsworth, P. Tarits, and R. Evans, Magnetotelluric experiment probes deep physical state of southeastern US, *EOS*, *77*, 329&332-333, 1996. [14]
62. Chave, A.D., and A.G. Jones, Electric and magnetic field galvanic distortion decomposition of BC87 data, *J. Geomagn. Geoelectr.*, *49*, 767-789, 1997. [19]
63. Chave, A.D., D.S. Luther, and J.H. Filloux, Observations of the boundary current system at 26.5N in the subtropical North Atlantic Ocean, *J. Phys. Oceanogr.*, *27*, 1827-1848, 1997. [16]
64. White, S.N., A.D. Chave, and J.H. Filloux, A look at galvanic distortion in the Tasman Sea and the Juan de Fuca plate, *J. Geomagn. Geoelectr.*, *49*, 1373-1386, 1997. [10]
65. Garcia, X., A.D. Chave, and A.G. Jones, Robust processing of magnetotelluric data from the auroral zone, *J. Geomagn. Geoelectr.*, *49*, 1451-1468, 1997. [18]

66. Nolasco, R., P. Tarits, J.H. Filloux, and A.D. Chave, Magnetotelluric imaging of the Society Islands hot spot, *J. Geophys. Res.*, *103*, 30287-30310, 1998. [30]
67. Fujii, I., and A.D. Chave, Motional induction effect on the planetary scale geoelectric potential in the eastern North Pacific, *J. Geophys. Res.*, *104*, 1343-1359, 1999. [6]
68. Evans, R.L., P. Tarits, A.D. Chave, A. White, G. Heinson, J.H. Filloux, H. Toh, N. Seama, H. Utada, J.R. Booker, and M. Unsworth, Asymmetric mantle electrical structure beneath the East Pacific Rise at 17S, *Science*, *286*, 752-756, 1999. [54]
69. White, S.N., A.D. Chave, G.T Reynolds, E.J. Gaidos, J.A. Tyson, and C.L. Van Dover, Variations in ambient light emission from black smokers and flange pools on the Juan de Fuca Ridge, *Geophys. Res. Lett.*, *27*, 1151-1154, 2000. [10]
70. Butler, R., A.D. Chave, F.K. Duennebier, D.R. Yoerger, R.A. Petitt, D. Harris, F.B. Wooding, A.D. Bowen, J. Bailey, J. Jolly, E. Hobart, J.A. Hildebrand, and A.H. Dodeman, Hawaii-2 Observatory pioneers opportunities for remote instrumentation in ocean studies, *EOS*, *81*, 157&162-163, 2000. [21]
71. Delaney, J.R., G.R. Heath, B. Howe, A.D. Chave, and H. Kirkham, NEPTUNE: Real-time ocean and earth sciences at the scale of a tectonic plate, *Oceanography*, *13*, 71-83, 2000. [23]
72. Pinkel, R., W. Munk, P. Worcester, B.D. Cornuelle, D. Rudnick, J. Sherman, J.H. Filloux, B.D. Dushaw, B.M. Howe, T.B. Sanford, C.M. Lee, E. Kunze, M.C. Gregg, J.B. Miller, J.M. Moum, D.R. Caldwell, M.D. Levine, T. Boyd, G.D. Egbert, M.A. Merrifield, D.S. Luther, E. Firing, R. Brainard, P.J. Flament, and A.D. Chave, Ocean mixing studied near Hawaiian Ridge, *EOS*, *81*, 545&553, 2000. [26]
73. Hirth, J.G., R.L. Evans, and A.D. Chave, Comparison of continental and oceanic mantle electrical conductivity: Is the Archaean lithosphere dry?, *Geochemistry, Geophysics, Geosystems*, *1*, doi: 10.1029/2000GC000048, 2000 (Editor's Choice, *Science*, *290*, 2213, 2000) [66]
74. Jones, A.G., I.J. Ferguson, A.D. Chave, R.L. Evans, and G.W. McNeice, The electric lithosphere of the Slave craton, *Geology*, *29*, 423-426, 2001. [63]
75. White, S.N., A.D. Chave, and G.T. Reynolds, Investigations of ambient light emission at deep-sea hydrothermal vents, *J. Geophys. Res.*, *108* (1), doi: 10.1029/2000JB000015, 2002 (Editor's Choice, *Science*, *295*, 1427, 2002). [1]
76. Chave, A.D., F.K. Duennebier, R. Butler, R.A. Petitt, Jr., F.B. Wooding, D. Harris, J.W. Bailey, E. Hobart, J. Jolly, A.D. Bowen, and D.R. Yoerger, H2O: The Hawaii-2 Observatory, in L. Beranzoli, P. Favali, and G. Smriglio (eds.), *Science-Technology Synergy for Research in the Marine Environment: Challenges for the XXI Century*, Developments in Marine Technology Series 12, Amsterdam: Elsevier, pp. 83-92, 2002. [10]
77. Petitt, R.A., D. Harris, F.B. Wooding, J.W. Bailey, J. Jolly, E. Hobart, A.D. Chave, F.K. Duennebier, R. Butler, A.D. Bowen, and D.R. Yoerger, The Hawaii-2 Observatory, *IEEE J. Ocean Eng.*, *27*, 245-253, 2002. [22]



78. Evans, R.L., A.D. Chave, and J.R. Booker, On the importance of offshore data for magnetotelluric studies of ocean-continent subduction systems, *Geophys. Res. Lett.*, 29 (10), doi: 10.1029/2001GL013960, 2002. [3]
79. White, S.N., A.D. Chave, G.T. Reynolds, and C.L. Van Dover, Ambient light emission from hydrothermal vents on the Mid-Atlantic Ridge, *Geophys. Res. Lett.*, 29 (15), doi: 10.1029/2002GL014977, 2002. [1]
80. Meinen, C.S., D.S. Luther, D.R. Watts, K.L. Tracey, A.D. Chave, and J. Richman, Combining inverted echo sounder and horizontal electric field recorder measurements to obtain absolute velocity profiles, *J. Atm. Oceanic Tech.*, 19, 1653-1664, 2002. [13]
81. Utada, H., T. Koyama, H. Shimizu, and A.D. Chave, Semi-global standard model for electrical conductivity in the mantle beneath the Pacific region, *Geophys. Res. Lett.*, 30 (4), doi: 10.1029/2002GL016092, 2003. [61]
82. Chave, A.D., and D.J. Thomson, A bounded influence regression estimator based on the statistics of the hat matrix, *J. Roy. Stat. Soc., Series C (Appl. Statist.)*, 52, 307-322, 2003. [20]
83. Meinen, C.S., D.S. Luther, D.R. Watts, A.D. Chave, and K.L. Tracey, Mean stream coordinates structure of the Subantarctic Front: Temperature, salinity, and absolute velocity, *J. Geophys. Res.*, 108 (C8), 3263, doi: 10.1029/2002JC001545, 2003. [3]
84. Jones, A.G., P. Lezaeta, I.J. Ferguson, A.D. Chave, R.L. Evans, X. Garcia, and J. Spratt, The electrical structure of the Slave craton, *Lithos*, 71, 505-527, 2003. [45]
85. Chave, A.D., D.S. Luther, and C.S. Meinen, Correction of motional electric field measurements for galvanic distortion, *J. Atm. Oceanic Tech.*, 21, 317-330, 2004. [2]
86. Chave, A.D., and D.J. Thomson, Bounded influence estimation of magnetotelluric response functions, *Geophys. J. Int.*, 157, 988-1006, 2004. [27]
87. Chave, A.D., G. Waterworth, A. Maffei, and G. Massion, Cabled ocean observatory systems, *Mar. Tech. Soc. J.*, 38, 31-43, 2004. [6]
88. St. Arnaud, B., A.D. Chave, A. Maffei, E. Lazowska, L. Smarr, and G. Gopalan, An integrated approach to ocean observatory data acquisition/management and infrastructure control using web services, *Mar. Tech. Soc. J.*, 38, 155-163, 2004. [2]
89. Kanzow, T., F. Flechtner, A. Chave, R. Schmidt, P. Schwintzer, and U. Send, Seasonal variation of ocean bottom pressure derived from Gravity Recovery and Climate Experiment (GRACE): Local validation and global patterns, *J. Geophys. Res.*, 110, C09001, doi: 10.1029/2004JC002772, 2005. [23]
90. Evans, R.L., G. Hirth, K. Baba, D. Forsyth, A.D. Chave, and R.L. Mackie, Geophysical evidence from the MELT area for compositional controls on oceanic plates, *Nature*, 437, doi: 10.1038/nature04014, 249-252, 2005. [61]
91. Lezaeta, P., A.D. Chave, and R.L. Evans, Correction of shallow water electromagnetic data for noise induced by instrument motion, *Geophysics*, 70, doi:10.1190/1.2080748, G127-G133, 2005. [1]

92. Baba, K., and A.D. Chave, Correction of seafloor magnetotelluric data for topographic effects during inversion, *J. Geophys. Res.*, *110*, B12105, doi: 10.1029/2004JB003463, 2005. [14]
93. Baba, K., A.D. Chave, R.L. Evans, G. Hirth, and R.L. Mackie, Mantle dynamics beneath the East Pacific Rise at 17S: Insights from the Mantle Electromagnetic and Tomography (MELT) experiment, *J. Geophys. Res.*, *111*, B02101, doi: 10.1029/2004JB003598, 2006. [31]
94. Kanzow, T., U. Send, W. Zenk, A.D. Chave, and M. Rhein, Monitoring the integrated deep meridional flow in the tropical North Atlantic: Long-term performance of a geostrophic array, *Deep Sea Res. I*, *53*, 528-546, 2006. [20]
95. Lawrence-Snyder, M.J., J. Scaffidi, S.M. Angel, A.P.M. Michel, and A.D. Chave. Laser-induced breakdown spectroscopy in high pressure bulk aqueous solutions, *Appl. Spectr.*, *60*, 786-790, 2006. [10]
96. Chave, A.D., E. Massion, and H. Mikada, Science requirements and the design of cabled ocean observatories, *Ann. Geophys.*, *49*, 569-579, 2006. [3]
97. Baba, K., P. Tarits, A.D. Chave, R.L. Evans, G. Hirth, and R.L. Mackie, Electrical structure beneath the northern MELT line on the East Pacific Rise at 15°45'S, *Geophys. Res. Lett.*, *33*, L22301, doi: 10.1029/2006GL027538, 2006. [4]
98. Lawrence-Snyder, M., J. Scaffidi, S.M. Angel, A.P.M. Michel, and A.D. Chave, Sequential pulse laser-induced breakdown spectroscopy of high-pressure bulk aqueous solutions, *Appl. Spectr.*, *61*, 171-176, 2007. [16]
99. Michel, A.P.M., M.J. Lawrence-Snyder, S.M. Angel, and A.D. Chave, Laser-induced breakdown spectroscopy of bulk aqueous solutions at oceanic pressures: Evaluation of key measurement parameters, *Appl. Opt.*, *46*, 2507-2515, 2007. [12]
100. Lezaeta, P., A.D. Chave, A.G. Jones and R.L. Evans, Source field effects in the auroral zone: Evidence from the Slave craton (NW Canada), *Phys. E. Pl. Int.*, *164*, 21-35, 2007. [0]
101. Chave, A.D., and P. Lezaeta, The statistical distribution of magnetotelluric apparent resistivity and phase estimates, *Geophys. J. Int.*, *171*, 127-132, 2007. [1]
102. Michel, A.P.M, and A.D. Chave, Analysis of laser-induced breakdown spectroscopy (LIBS) spectra: The case for extreme value distribution statistics, *Spectrochim. Acta B*, *62*, 1370-1378, 2007. [8]
103. Michel, A.P.M., and A.D. Chave, Single pulse laser-induced breakdown spectroscopy of bulk aqueous solutions at oceanic pressures: Interrelationship of gate delay and pulse energy, *Appl. Opt.*, *47*, G122-G130, 2008. [7]
104. Michel, A.P.M., and A.D. Chave, Double pulse laser-induced breakdown spectroscopy of bulk aqueous solutions at oceanic pressures: Interrelationship of gate delay, pulse energies, interpulse delay and pressure, *Appl. Opt.*, *47*, G131-G143, 2008. [1]

105. Jegen, M.D., R.W. Hobbs, P. Tarits and A.D. Chave, Joint inversion of marine magnetotelluric and gravity data incorporating seismic constraints: Preliminary results of sub-basalt imaging off the Faroe Shelf, *Earth. Pl. Sci. Lett.*, 282, 47-55, 2009. [5]
106. Chave, A.D., On the electromagnetic fields produced by marine frequency domain controlled sources, *Geophys. J. Int.*, 179, 1429-1457, 2009. [3]
107. Matsuno, T., N. Seama, R.L. Evans, A.D. Chave, K. Baba, A. White, T. Goto, G. Heinson, G. Boren, A. Yoneda and H. Utada, Upper mantle electrical resistivity structure beneath the central Mariana subduction system, *Geochem., Geophys., Geosyst.*, 11, Q09003, doi:10.1029/2010GC003101, 2010. [5]
108. Schofield, O., J. Kohut, S. Glenn, J. Morell, J. Capella, J. Corredor, J. Orcutt, M. Arrott, I. Krueger, M. Meisinger, C. Peach, F. Vernon, A. Chave, Y. Chao, S. Chien, D. Thompson, W. Brown, M. Oliver and W. Boicurt, A regional Slocum glider network in the Mid-Atlantic Bight leverages broad community engagement, *Mar. Tech. Soc. J.*, 44, 185-195, 2011. [1]
109. Chave, A.D., and A.G. Jones, Chapter 1: Introduction to magnetotellurics, in Chave, A.D., and A.G. Jones (eds.), *The Magnetotelluric Method: Theory and Practice*, Cambridge University Press, pp. 1-18, 2012. [0]
110. Chave, A.D., and P. Weidelt, Chapter 2: The theoretical basis for electromagnetic induction, in Chave, A.D., and A.G. Jones (eds.), *The Magnetotelluric Method: Theory and Practice*, Cambridge University Press, pp. 19-49, 2012. [0]
111. Weidelt, P., and A.D. Chave, Chapter 4: The magnetotelluric response function, in Chave, A.D., and A.G. Jones (eds.), *The Magnetotelluric Method: Theory and Practice*, Cambridge University Press, pp. 122-164, 2012. [0]
112. Chave, A.D., Chapter 5: Estimation of the magnetotelluric response function, in Chave, A.D., and A.G. Jones (eds.), *The Magnetotelluric Method: Theory and Practice*, Cambridge University Press, pp. 165-218, 2012. [0]
113. Ferguson, I.J., A.G. Jones and A.D. Chave, Chapter 10: Case studies and geological applications, in Chave, A.D., and A.G. Jones (eds.), *The Magnetotelluric Method: Theory and Practice*, Cambridge University Press, pp. 480-544, 2012. [0]

## **B. Work in Progress (submitted to; in press)**

1. Matsuno, T., R.L. Evans, N. Seama and A.D. Chave, Electromagnetic constraints on a melting region beneath the central Mariana back-arc spreading ridge, *Geochem., Geophys., Geosyst.*, submitted May 2012.
2. Chave, A.D., On the statistics of the magnetotelluric skew, *Geophys. J. Int.*, in revision.
3. Matsuno, T., A.D. Chave, A.G. Jones, M. Muller and R.L. Evans, Robust magnetotelluric inversion, *Geophys. J. Int.*, in preparation.

## **C. Books**

1. Chave, A.D., and A.G. Jones (eds.), *The Magnetotelluric Method: Theory and Practice*, Cambridge University Press, 552 pp, 2012.

#### **D. Patents**

1. Systems and methods for underwater optical communication, US Patent 7,953,326; filing date Feb 6, 2006; granted May 31, 2011.

#### **E. Technical Reports and Unreviewed Material**

1. Andrews, J.E., E. Callender, C.J. Bowser, J.L. Mero, M. Gauthier, M.A. Meylan, J.D. Craig, K. Binder, P. Volk, A. Chave and W. Bachman, Ferromanganese deposits of the ocean floor, *Hawaii Institute of Geophysics Report 74-9*, 194 pp., 1974.
2. Chave, A.D., J.D. Phillips and D.W. McGowan, Lithospheric structure of the Walvis Ridge from Rayleigh wave dispersion, Semi-annual Technical Summary, *Lincoln Laboratories Report 78-259*, 49-50, 1978.
3. Chave, A.D., Applications of time series analysis to geophysical data (Ph.D. thesis), *Woods Hole Oceanographic Institution Report 80-34*, 179 pp., 1980.
4. Chave, A.D., Time series analysis programs, *Woods Hole Oceanographic Institution Report 80-83*, 53 pp., 1980.
5. Chave, A.D., and C.S. Cox, On the use of boreholes in controlled electromagnetic source sounding of the ocean crust, *Scripps Institution of Oceanography Reference Series 82-24*, 39 pp., 1982.
6. Cox, C.S., S.C. Constable and A.D. Chave, Active source electromagnetic sounding of the ocean crust, *Proc. Oceans '85*, Marine Technology Society and IEEE, San Diego, CA, 11-15 November 1985.
7. Chave, A.D., Review of *Advanced Theory of Deep Geomagnetic Sounding* by M.N. Berdichevsky and M.S. Zhdanov, *EOS*, 66, 1356-1357, 1985.
8. Chave, A.D., The magnetic effects of shallow water internal solitons, *Scripps Institution of Oceanography Reference Series 86-7*, 48 pp., 1986.
9. Chave, A.D., Electromagnetic methods in mid-ocean ridge studies, in *The Mid-Oceanic Ridge: A Dynamic Global System*, Washington D.C.: National Academy Press, pp. 317-327, 1988.
10. Orcutt, J., A. Chave, and K.C. Macdonald, The evolution of young oceanic lithosphere, in *The Mid-Oceanic Ridge: A Dynamic Global System*, Washington D.C.: National Academy Press, pp. 85-112, 1988.
11. Lanzerotti, L.J., A. Hasegawa, A.D. Chave and D.J. Thomson, R&D: scientists are not commodities, *Wall Street Journal*, March 30, 1988 (letter to the editor).
12. Chave, A.D., EM techniques considered for use in WOCE, *WOCE Notes*, 1 (4), 1-2, 1989.
13. Chave, A.D., D.S. Luther and J.H. Filloux, Spatially-averaged velocity from the

seafloor horizontal electric field, *Proc. IEEE Fourth Working Conference on Current Measurement*, 46-53, 1990.

14. Chave, A.D., J.R. Booker, C.S. Cox, P.L. Gruber, L.W. Hart, H.F. Morrison, J.G. Heacock and D. Johnson, Report of a workshop on the geoelectric and geomagnetic environment of continental margins, *Scripps Institution of Oceanography Reference Series 90-20*, 44 pp., 1990.
15. Chave, A.D., R. Butler and T.E. Pyle (eds.), *Workshop on Scientific Uses of Undersea Cables*, Washington D.C.: Joint Oceanographic Institutions, 310 pp., 1990.
16. Ad Hoc Motional Electromagnetic Measurements Group (T.B. Sanford and A.D. Chave, co-chairs), *Motional Electromagnetic Methods and WOCE, U.S. WOCE Technical Report No. 3*, US WOCE Office, College Station, TX, 42 pp., 1990.
17. Chave, A.D., D.S. Luther and J.H. Filloux, Horizontal electric field measurements during year 2 in the SYNOP Central Array, *The SYNOptician*, 2(2), 1-4, 1991.
18. Chave, A.D., and P. Tarits, Passive electromagnetic methods in the ocean, *Ridge Events*, 3, 5-6, 1992.
19. US Steering Committee for Scientific Use of Submarine Cables, Scientific use of submarine telecommunications cables, *EOS*, 73, 97&100-101, 1992.
20. Petitt, R.A., J.H. Filloux and A.D. Chave, Technology for the measurement of oceanic low frequency electric fields, *Proc. IEEE Oceans '92*, Vol. 2, 642-647, 1992.
21. Luther, D.S., and A.D. Chave, Observing "integrating" variables in the ocean, in P. Muller and D. Henderson (eds.), *Proc. 7th 'Aha Huliko'a Hawaiian Winter Workshop on Statistical Methods in Physical Oceanography*, University of Hawaii, pp. 103-130, 1993
22. Luther, D.S., A.D. Chave and J.H. Filloux, Measuring North Atlantic Current volume and heat transport from the sea floor, in P. Malanotte-Rizzoli and T. Rossby (eds.), *The North Atlantic Current System: A Scientific Report*, pp. 23-33, 1993.
23. Chave, A.D., Editorial, *Rev. Geophys.*, 31 (2), back cover, 1993.
24. Petitt, R.A., Jr., J.H. Filloux, H.H. Moeller and A.D. Chave, Instrumentation to measure electromagnetic fields on continental shelves, *Proc. IEEE Oceans '93*, Vol. 1, IEEE Catalog No. 93CH3341-5, I164-I168, 1993.
25. Geomagnetic Observatory Task Group, An enhanced geomagnetic observatory network, Report to US Geodynamics Committee, Board on Earth Sciences and Resources, National Research Council, Washington D.C., 62 pp., Oct. 1994.
26. Forsyth, D.W., and A.D. Chave, Experiment investigates magma in the mantle beneath mid-ocean ridges, *EOS*, 75, 537-540, 1994.
27. Petitt, R.A., Jr., A.D. Chave, J.H. Filloux and H.H. Moeller, Electromagnetic field instrument for the continental shelf, *Sea Technology*, 35, 10-13, 1994.
28. Chave, A.D., A.W. Green, Jr., et al., Report of a workshop on technical approaches to

construction of a seafloor geomagnetic observatory, *Woods Hole Oceanographic Inst. Tech. Rep. 95-12*, 47 pp., 1995.

29. Chave, A.D. et al. (20 authors), *Legacy Expedition Cruise Report*, Atlantis II Voyage 132 Leg 25, unpublished manuscript, Woods Hole Oceanographic Institution, 75 pp., May 1996.
30. Dorman, L.M., Chave, A.D. et al. (17 authors), *MELT OBS Recovery and EM Deployment Cruise (TN-061)*, unpublished manuscript, <http://www-mpl.ucsd.edu/obs/reports/tn061/>, July 1996.
31. White, S.N., J.W. Bailey, C.L. Van Dover and A.D. Chave, Measurements of light at hydrothermal vents, *RIDGE Events*, 7, 10-12, 1996.
32. Chave, A.D., R.A. Petitt, J.A. Hildebrand, F.N. Spiess and A.W. Green, Toward a permanent seafloor geomagnetic observatory, *Proc. Int. Workshop on Sci. Use of Submarine Cables*, 56-61, 1997.
33. Chave, A.D., R. Butler, R.A. Petitt, D. Yoerger, F.B. Wooding, A. Bowen, L. Freitag, J. Catipovic, F.K. Duennebie, D. Harris, A.H. Dodeman and S.T. Brewer, H2O: The Hawaii-2 Observatory, *Proc. Int. Workshop on Sci. Use of Submarine Cables*, 114-118, 1997.
34. Petitt, R.A., Jr., L.E. Freitag, K.E. Prada, J.W. Bailey, D. Harris and A.D. Chave, Junction box electronics for the Hawaii-2 Observatory, *Proc. Int. Workshop on Sci. Use of Submarine Cables*, 181-184, 1997.
35. Wooding, F.B., A.D. Bowen, D.R. Yoerger, A.D. Chave and A.H. Dodeman, Mechanical design and deployment of the Hawaii-2 Observatory, *Proc. Int. Workshop on Sci. Use of Submarine Cables*, 172-174, 1997.
36. Stephen, R.A., J.H. Natland, R. Butler, K. Becker, A.D. Chave, F.K. Duennebie and C.R. Bradley, Deep sea drilling at the H2O observatory site, *Proc. Int. Workshop on Sci. Use of Submarine Cables*, 147-152, 1997.
37. Luther, D.S., A.D. Chave, J. Church, J.H. Filloux, J. Richman, S. Rintoul and D.R. Watts, The Sub-Antarctic Flux and Dynamics Experiment (SAFDE), *WOCE Notes*, 9, 8-12, Oct. 1997 and *Int. WOCE Newsletter*, 29, 32-35, Dec. 1997.
38. White, S.N., and A.D. Chave, ALISS in wonderland, *Oceanus*, 41 (2), 14-17, 1998.
39. Chave, A.D., Why oceanographers should be concerned about submarine telephone cable protection, *InterRidge News*, 8(2), 44-45, 1999.
40. Chave, A.D., F.K. Duennebie and R. Butler, Putting H2O in the ocean, *Oceanus*, 42, 6-9, 2000.
41. Delaney, J.R., and A.D. Chave, NEPTUNE, *Oceanus*, 42, 10-11, 2000.
42. Stephen, R.A., J.H. Natland, R. Butler, K. Becker, A.D. Chave and F.K. Duennebie, Drilling at the H2O Long Term Seafloor Observatory, *Woods Hole Oceanographic Institution Technical Memorandum WHOI-01-2001*, 49 pp.

43. Chave, A.D., R.L. Evans, J.G. Hirth, P. Tarits, R.L. Mackie, J.R. Booker and the MELT Team, Anisotropic electrical structure beneath the East Pacific Rise at 17S, *Proc. Ocean Hemisphere Program/International Ocean Network Joint Symposium*, Mt. Fuji, Japan, 21-27 Jan 2001, 4 pp.
44. Koyama, T., H. Shimuzu, H. Utada and A.D. Chave, Electrical conductivity structure beneath the Pacific basin estimated by using a submarine cable network, *Proc. Ocean Hemisphere Program/International Ocean Network Joint Symposium*, Mt. Fuji, Japan, 21-27 Jan 2001, 2 pp.
45. Chave, A.D., Communications and power infrastructure for cabled seafloor observatories, *Proc. Ocean Hemisphere Program/International Ocean Network Joint Symposium*, Mt. Fuji, Japan, 21-27 Jan 2001, 4 pp.
46. Duennebie, F.K., D. Harris, J. Jolly, J. Babinec, C. Wolfe, R. Butler and A.D. Chave, Broadband seismograms from the Hawaii 2 Observatory, *Proc. Ocean Hemisphere Program/International Ocean Network Joint Symposium*, Mt. Fuji, Japan, 21-27 Jan 2001, 1 pp.
47. Delaney, J.R., A.D. Chave, G.R. Heath, B. Howe and P. Beauchamp, NEPTUNE-real-time, long-term ocean and Earth studies at the scale of a tectonic plate, *Proc. Ocean Hemisphere Program/International Ocean Network Joint Symposium*, Mt. Fuji, Japan, 21-27 Jan 2001, 8 pp.
48. Chave, A., H. Kirkham, A.R. Maffei, G. Massion, H. Frazier, A.M. Bradley, S.J. Gaudet, W. Wilcock, D.H. Rodgers, P.M. Beauchamp, J.C. Madden and B.M. Howe, The NEPTUNE scientific submarine cable system, *Proc. Suboptic 2001*, 4th International Convention on Undersea Communications, Kyoto, Japan, 20-24 May 2001, 4 pp.
49. Maffei, A.R., A.D. Chave, G. Massion, S.N. White, J. Bailey, S. Lerner, A. Bradley, D. Yoerger, H. Frazier and R. Buddenberg, NEPTUNE Gigabit Ethernet submarine cable system, *Proc. IEEE Oceans 2001*, Honolulu, HI, Nov 2001, 1303-1310.
50. Rodgers, D.H., P.M. Beauchamp, A.D. Chave, S. Gaudet, H. Kirkham, A. Maffei, G. Massion, T.M. McGinnis and W.S.D. Wilcock, NEPTUNE regional observatory system design, *Proc. IEEE Oceans 2001*, Honolulu, HI, Nov 2001, 1356-1365.
51. Delaney, J.R., G.R. Heath, A.D. Chave, H. Kirkham, B. Howe, W. Wilcock, P. Beauchamp and A. Maffei, NEPTUNE: Real time, long term ocean and earth studies at the scale of a tectonic plate, *Proc. IEEE Oceans 2001*, Honolulu, HI, Nov 2001, 1366-1373.
52. Bailey, J.W., E. Hobart, H.H. Moeller, J.H. Filloux and A.D. Chave, Low power instrumentation to measure barotropic fluctuations, *Proc. IEEE Oceans 2001*, Honolulu, HI, Nov 2001, 1886-1890.
53. Edson, J.B., A.D. Chave, M. Dhanak and F.K. Duennebie, Guest editorial, *IEEE J. Ocean Eng.*, 27, 145, 2002.
54. Maffei, A., A.D. Chave, J. Graybeal, J.B. Edson, J.J. Fredericks, J. Ammerman and

- R. Hanisch, Building standards for access to oceanographic observatory instrumentation, *Proc. 3rd Int. Workshop on Scientific Use of Submarine Cables and Related Technologies*, Tokyo, Japan, 25-27 June 2003, 279-284.
55. Maffei, A., J. Bailey, A. Bradley, A.D. Chave, X. Garcia, H. Gelman, S. Lerner, G. Massion and D. Yoerger, A modular gigabit Ethernet backbone for NEPTUNE and other ocean observatories, *Proc. 3rd Int. Workshop on Scientific Use of Submarine Cables and Related Technologies*, Tokyo, Japan, 25-27 June 2003, 191-196.
  56. Chave, A.D., J. Bailey, S. Beaulieu, R. Butler, F. Duennebie, J. Filloux, D. Harris, M. Manda, J.A. Orcutt, K. Smith, R. Stephen, P. Tarits, F. Vernon and F.B. Wooding, 2003-2004 upgrades and additions to the Hawaii-2 Observatory, *Proc. 3rd Int. Workshop on Scientific Use of Submarine Cables and Related Technologies*, Tokyo, Japan, 25-27 June 2003, 14-18.
  57. Massion, G., P. Beauchamp, A.D. Chave, T. McGinnis, P. Phibbs and D. Rodgers, System engineering for a regional scale cabled observatory: process and progress, *Proc. 3rd Int. Workshop on Scientific Use of Submarine Cables and Related Technologies*, Tokyo, Japan, 25-27 June 2003, 234-239.
  58. Delaney, J., C. Barnes, P. Beauchamp, A. Chave, J. Madden and M. McNutt, Project NEPTUNE: An interactive, regional cabled ocean observatory in the northeast Pacific, *Proc. IEEE Oceans 2003*, San Diego, CA, 22-26 Sep 2003, 1231-1235.
  59. Solomon, S.C., V.R. Baker, J. Bloxham, J. Booth, A. Donnellan, C. Elachi, D. Evans, E. Rignot, D. Burbank, B.F. Chao, A. Chave, A. Gillespie, T. Herring, R. Jeanloz, J. LaBreque, B. Minster, W.C. Pitmann III, M. Simons, D.L. Turcotte and M.L. Zoback, Plan for living on a restless planet sets NASA's solid earth agenda, *EOS*, 84, 485&491, 2003.
  60. Kasahara, J., A.D. Chave and H. Mikada, Exploring the use of submarine cables and related technologies, *EOS*, 84, 563, 2003.
  61. Chave, A.D., A. Bowen, S. Glenn, W. Hill, M. Kosro, E. Massion, L. Mayer, D. Schwartz, K. Smith, B. Wall, F.B. Wooding and P. Worcester, Ocean Observatory Facilities Needs from UNOLS, Report of the UNOLS Working Group on Ocean Observatory Facility Needs, 54 pp., Dec 2003.
  62. Massion, G., K. Asakawa, A.D. Chave, B. Howe, T. McGinnis, P. Phibbs, D. Rodgers, Y. Shirasaki, H. Mikada and K. Kawaguchi, New scientific cabled observing systems: NEPTUNE and ARENA, *Proc. Suboptic 2004*, Monaco, 29 Mar-1 Apr 2004, 3 pp.
  63. Waterworth, G., and A.D. Chave, A new challenge and opportunity for the submarine telecommunications industry--ocean observatory networks, *Proc. Suboptic 2004*, Monaco, 29 Mar-1 Apr 2004, 3 pp.
  64. Chave, A.D., B. St. Arnaud, M. Abbott, J.R. Delaney, R. Johnson, E. Lazowska, A.R. Maffei, J.A. Orcutt and L. Smarr, A management concept for ocean observatories based on web services, *Proc. Oceans'04/Techno-Ocean'04*, Kobe, Japan, 9-12 Nov



2004, 7 pp.

65. Mikada, H., and A.D. Chave, Science requirements as design drivers for ocean observatories, *Proc. Oceans'04/Techno-Ocean'04*, Kobe, Japan, 9-12 Nov 2004, 4 pp.
66. Farr, N., A.D. Chave, L. Freitag, J. Preisig, S. White and D. Yoerger, Optical modem technology for seafloor observatories, *Proc. IEEE Oceans '05*, Washington D.C., 7 pp.
67. Michel, A.P.M., M. Lawrence-Snyder, S.M. Angel and A.D. Chave, Oceanic applications of laser induced breakdown spectroscopy: Laboratory validation, *Proc. IEEE Oceans '05*, Washington D.C., 8 pp.
68. Jiracek, G. and A.D. Chave, Preface, *Surv. Geophys.*, 26, 507-510, 2005.
69. Chave, A.D., M. Arrott, L. Smarr, J.A. Orcutt, E. Lazowska, J.R. Delaney and M. Abbott, LOOKING: Cyberinfrastructure for ocean observatories, *Proc. SSC06*, Dublin, Ireland, 138-143, 2006.
70. Maffei, A.R., F. Sonnichsen, S. Lerner and A.D. Chave, Building the data communications system for the US MARS observatory, *Proc. SSC06*, Dublin, Ireland, 144-149, 2006.
71. Sonnichsen, F., A. Bradley, S. Lerner, A.R. Maffei and A.D. Chave, A novel out-of-band communications system for cabled ocean observatories, *Proc. SSC06*, Dublin, Ireland, 196-200, 2006.
72. Bailey, J.W., A. Gardner and A.D. Chave, Power architectures for constant current systems, *Proc. SSC06*, Dublin, Ireland, 203-207, 2006.
73. Farr, N., A.D. Chave, L. Freitag, J. Preisig, S. White, D. Yoerger, P. Titterton, J. Bolstad and D. Leonard, Optical modem technology for seafloor observatories, *Proc. SSC06*, Dublin, Ireland, 212-217, 2006.
74. Chayes, D.N., A.D. Chave, B. Coakley, A. Proshutinsky and T. Weingartner, Concept design for a cabled seafloor observatory at Barrow, Alaska, *Proc. SSC06*, Dublin, Ireland, 277-283, 2006.
75. Farr, N., A.D. Chave, L. Freitag, J. Preisig, S.N. White, D. Yoerger and F. Sonnichsen, Optical modem technology for seafloor observatories, *Proc. IEEE Oceans'06*, Boston, MA, 6 pp.
76. Michel, A.P.M., N. Farr and A.D. Chave, Evaluation of laser induced breakdown spectroscopy (LIBS) as a new in situ chemical sensing technique for the deep ocean, *Proc. IEEE Oceans'06*, Boston, MA, 6 pp.
77. Arrott, M., A. Chave, I. Krueger, J. Orcutt, A. Talalayevsky and F. Vernon, The approach to cyberinfrastructure for the Ocean Observatories Initiative, *Proc. IEEE Oceans'07*, Vancouver, BC, 6 pp.
78. Chave, A.D., M. Arrott, C. Farcas, E. Farcas, I. Krueger, M. Meisinger, J.A. Orcutt, F.L. Vernon, C. Peach, O. Schofield and J. Kleinert, Cyberinfrastructure for the US

Ocean Observatories Initiative: Enabling interactive observation in the ocean, *Proc. IEEE Oceans '09*, Bremen, Germany, 10 pp.

79. Chave, A.D., Marine CSEM: Evolution of a Technology, *Schlumberger Oilfield Review*, 21 (1), 1, 2009 (invited guest editorial).
80. Arrott, M., A.D. Chave, C. Farcas, E. Farcas, J.E. Kleinert, I. Krueger, M. Meisinger, J.A. Orcutt, C. Peach, O. Schofield, M.P. Singh and F.L. Vernon, Integrating marine observatories into a system-of-systems: Messaging in the US Ocean Observatories Initiative, *Proc. IEEE Oceans '09*, Biloxi, MS, 9 pp.
81. Chave, A.D., T. Ampe, M. Arrott, J. Graybeal, M. James, J. Orcutt, C. Peach, O. Schofield and F.L. Vernon, Cyberinfrastructure for the US Ocean Observatories Initiative, *Proc. MTS/IEEE Oceans '11*, Kona, Hawaii, 6 pp. (keynote presentation)
82. Farcas, C., M. Meisinger, D. Stuebe, C. Mueller, Ampe, T., M. Arrott, A. Chave, E. Farcas, J. Graybeal, I. Krueger, M. Manning, J. Orcutt, O. Schofield and F. Vernon, Ocean Observatories Initiative scientific data model, *Proc. MTS/IEEE Oceans '11*, Kona, Hawaii, 19-22 Sept 2011, 10 pp.
83. Chave, A.D., On the statistics of the magnetotelluric skew, *Proc. 21<sup>st</sup> EM Induction Workshop*, Darwin, Australia, 25-31 July 2012, 4 pp.

## **F. Meeting Abstracts**

### **1978**

1. Chave, A.D., R.P. Von Herzen, K.A. Poehls, T.H. Daniel and C.S. Cox, Deep ocean magnetotelluric sounding in the northeast Pacific, *EOS*, 59, 269, 1978 (1978 AGU spring meeting).
2. Chave, A.D., Lithospheric structure of the Walvis Ridge from Rayleigh wave dispersion, *EOS*, 59, 1199, 1978 (1978 AGU fall meeting).

### **1979**

3. Chave, A.D., and R.P. Von Herzen, Electrical conductivity structure at a deep ocean site northeast of Hawaii, *EOS*, 60, 243, 1979 (1979 AGU spring meeting).
4. Chave, A.D., R.P. Von Herzen, K.A. Poehls and C.S. Cox, Electrical conductivity structure at a deep ocean site northeast of Hawaii, *Proc. of the Workshop on Ocean Floor Electromagnetics*, Naval Postgraduate School, Monterey, CA, 20-22 Aug 1979.
5. Chave, A.D., G.P. Lohmann and C.R. Denham, Quantitative evaluation of biostratigraphic correlation, *EOS*, 60, 854, 1979 (1979 AGU fall meeting).
6. Denham, C.R., and A.D. Chave, Late Pleistocene paleosecular variation in marine sediments from the Gardar Drift, NE Atlantic Ocean, *EOS*, 60, 818, 1979 (1979 AGU fall meeting).

### **1980**

7. Chave, A.D., Upper Cretaceous-Paleocene magnetic stratigraphy, DSDP Leg 74, *EOS*, 61, 944, 1980 (1980 AGU fall meeting).

## 1981

8. Cox, C.S., and A.D. Chave, Oceanic magnetotellurics: summary and critique, *EOS*, 62, 265, 1981 (invited paper, 1981 AGU spring meeting).
9. Park, J., D. Garbasz and A.D. Chave, Calculation of uncertainty in the electromagnetic response function, *EOS*, 62, 266, 1981 (1981 AGU spring meeting).
10. Chave, A.D., and C.S. Cox, A horizontal electric dipole source for investigating lithospheric conductivity structure under the ocean, *EOS*, 62, 267, 1981 (1981 AGU spring meeting).

## 1982

11. Chave, A.D., On the theory of electromagnetic induction by ocean currents, *EOS*, 63, 311, 1982 (1982 AGU spring meeting).
12. Cox, C.S., and A.D. Chave, Controlled electromagnetic sources for measuring electrical conductivity beneath the oceans, *Proc. Sixth Workshop on Electromagnetic Induction in the Earth and Moon*, Victoria, B.C., Canada, 15-22 August 1982.
13. Chave, A.D., On the theory of electromagnetic induction by ocean currents, *Proc. Sixth Workshop on Electromagnetic Induction in the Earth and Moon*, Victoria, B.C., Canada, 15-22 August 1982.

## 1983

14. Cox, C.S., and A.D. Chave, Controlled source electromagnetic exploration of the continental shelves and oceanic lithosphere, *Proc. 1983 International Symposium on Antennas and Propagation*, IEEE Antennas and Propagation Society, Houston, TX, Vol 21, pp 475-477, 23-26 May 1983.
15. Shure, L., and A.D. Chave, An alternate approach to signal correlation, *EOS*, 64, 242, 1983 (1983 AGU spring meeting).
16. Chave, A.D., Electromagnetic fields of oceanographic origin in the deep ocean, *EOS*, 64, 252, 1983 (1983 AGU spring meeting).
17. Chave, A.D., The deep ocean electromagnetic environment, *EOS*, 64, 691, 1983 (1983 AGU fall meeting).
18. Constable, C.G., D.J. Thomson and A.D. Chave, Robust statistics in geomagnetism, *EOS*, 64, 691, 1983 (1983 AGU fall meeting).
19. Cox, C.S., A.D. Chave, S.C. Constable and G. Sasagawa, Model studies of an ocean bottom electrical sounding experiment, *EOS*, 64, 692, 1983 (1983 AGU fall meeting).

## 1984

20. Chave, A.D., The electromagnetic fields induced by oceanic internal waves, *Proc. ONR Workshop on Geomagnetic Properties of Continental Margins*, Colorado School of Mines, Golden, CO, 30 Apr-1 May 1984.
21. Chave, A.D., and L.K. Law, Detection of edge wave modes in a continental shelf magnetic variation traverse, *EOS*, 65, 224, 1984 (1984 AGU spring meeting).
22. Chave, A.D., The electromagnetic fields induced by oceanic internal waves, *Proc. 14th International Mathematical Geophysics Conference*, Loen, Norway, 25-30 June 1984.

## 1985

23. Constable, S.C., C.S. Cox and A.D. Chave, Deep electrical sounding of the ocean lithosphere, *EOS*, 66, 256, 1985 (1985 AGU spring meeting).
24. Schultz, A., A.D. Chave, J. Booker and J.C. Larsen, Lake-bottom magnetotellurics, *EOS*, 66, 877, 1985 (1985 AGU fall meeting).
25. Ander, M.E., A.D. Chave and D.J. Thomson, Applications of robust statistics to analysis of magnetotelluric fields, *EOS*, 66, 877, 1985 (1985 AGU fall meeting).
26. Chave, A.D., J.H. Filloux and L.K. Law, On the contamination of seafloor magnetotelluric fields by oceanic internal waves, *EOS*, 66, 877, 1985 (1985 AGU fall meeting).

## 1986

27. Constable, C.G., A.D. Chave and R.L. Parker, Residuals in geomagnetism, *Proc. 15th Int. Math. Geophys. Conf.*, Oosterbeek, Netherlands, 22-28 June 1986.
28. Chave, A.D., D.J. Thomson and M.E. Ander, Robust estimation of geomagnetic power spectra, coherences, and response functions, *Proc. Eighth Workshop on Electromagnetic Induction in the Earth and Moon*, Neuchatel, Switzerland, 24-31 August 1986.
29. Constable, C.G., and A.D. Chave, Line amplitude estimation in geomagnetic data containing non-Gaussian noise, *Proc. Eighth Workshop on Electromagnetic Induction in the Earth and Moon*, Neuchatel, Switzerland, 24-31 August 1986.
30. Constable, S.C., C.S. Cox and A.D. Chave, Seafloor dipole-dipole electrical sounding, *Proc. Eighth Workshop on Electromagnetic Induction in the Earth and Moon*, Neuchatel, Switzerland, 24-31 August 1986.
31. Edwards, R.N., S.J. Cheesman and A.D. Chave, Seafloor conductivity mapping using transient EM systems, *Proc. Eighth Workshop on Electromagnetic Induction in the Earth and Moon*, Neuchatel, Switzerland, 24-31 August 1986.
32. Luther, D.S., A.D. Chave and J.H. Filloux, BEMPEX: Barotropic ElectroMagnetic and Pressure EXperiment, *Proc. Eighth Workshop on Electromagnetic Induction in the Earth and Moon*, Neuchatel, Switzerland, 24-31 August 1986.

33. Tarits, P., J.H. Filloux and A.D. Chave, Constraints on conductivity structure of Juan de Fuca plate deduced from EM fields tidally induced over offshore EMSLAB area, *Proc. Eighth Workshop on Electromagnetic Induction in the Earth and Moon*, Neuchatel, Switzerland, 24-31 August 1986.
34. Travis, B.J, and A.D. Chave, A moving finite element model for 2-D magnetotelluric analysis, *Proc. Eighth Workshop on Electromagnetic Induction in the Earth and Moon*, Neuchatel, Switzerland, 24-31 August 1986.
35. Constable, S.C., C.S. Cox and A.D. Chave, Offshore electromagnetic surveying techniques, *Proc. 56th Annual Meeting*, Society of Exploration Geophysicists, Houston, TX, 2-6 Nov 1986.
36. Edwards, R.N., S.J. Cheesman and A.D. Chave, Seafloor conductivity mapping using transient EM systems, *Proc. 56th Annual Meeting*, Society of Exploration Geophysicists, Houston, TX, 2-6 Nov 1986.
37. Ander, M.E., M.A. Zumberge, G.E. Backus, A.D. Chave, J.A. Hildebrand and F.N. Spiess, Toward a geophysical determination of the Newtonian gravitational constant, *EOS*, 67, 909, 1986 (1986 fall AGU meeting).
38. Chave, A.D., and D.J. Thomson, Robust estimation of power spectra, coherences, and transfer functions, *EOS*, 67, 872, 1986 (1986 fall AGU meeting).
39. Tarits, P., J.H. Filloux and A.D. Chave, EM induction by tides in EMSLAB experiment: tidal modes separation and electrical conductivity of the seafloor, *EOS*, 67, 919, 1986 (1986 fall AGU meeting).

## 1987

40. Chave, A.D., and D.J. Thomson, Robust estimation of power spectra, coherences, and transfer functions, *Proc. 1987 IEEE/URSI National Radio Science Meeting*, Boulder, CO, 12-15 Jan. 1987 (invited review).
41. Edwards, R.N., S.J. Cheesman and A.D. Chave, Transient electromagnetic methods for mapping the electrical conductivity of the sea floor: part 1-the basic ideas, *Proc. of the Meeting*, European Geophysical Society, Strasbourg, France, April 1987.
42. Chave, A.D., Recent progress in motional electromagnetic induction, *Proc. 19th General Assembly of the International Union of Geodesy and Geophysics*, Vancouver, Canada, 9-22 Aug 1987 (invited paper).
43. Filloux, J.H., L.K. Law, J. Segawa, T. Yukutake, Y. Hamano, H. Utada, A. White, A. Chave, P. Tarits and A.W. Green, Offshore EMSLAB: largest magnetotelluric experiment conducted to date on the open ocean floor, *Proc. 19th General Assembly of the International Union of Geodesy and Geophysics*, Vancouver, Canada, 9-22 Aug 1987 (invited review).
44. Filloux, J.H., D.S. Luther and A.D. Chave, Offshore EMSLAB: stepping stone for BEMPEX, *Proc. 19th General Assembly of the International Union of Geodesy and Geophysics*, Vancouver, Canada, 9-22 Aug 1987.

45. Jones, A.G., A.D. Chave, K. Bahr, J.H. Filloux, J. Booker, G. Egbert, L.K. Law and D. Auld, Transfer functions and their estimation at sites along the Lincoln line of the EMSLAB experiment, *Proc. 19th General Assembly of the International Union of Geodesy and Geophysics*, Vancouver, Canada, 9-22 Aug 1987.
46. Luther, D.S., A.D. Chave and J.H. Filloux, BEMPEX: a study of barotropic ocean currents using seafloor pressure and electromagnetic instrumentation, *Proc. 19th General Assembly of the International Union of Geodesy and Geophysics*, Vancouver, Canada, 9-22 Aug 1987.
47. Tarits, P., J.H. Filloux and A.D. Chave, Conductivity distribution from EM induction by tides in EMSLAB experiment, *Proc. 19th General Assembly of the International Union of Geodesy and Geophysics*, Vancouver, Canada, 9-22 Aug 1987.
48. Thomson, D.J., and A.D. Chave, A comparison of parametric, jackknife, and bootstrap confidence limits on EM spectra and response functions, *Proc. 19th General Assembly of the International Union of Geodesy and Geophysics*, Vancouver, Canada, 9-22 Aug 1987.
49. Travis, B.J., and A.D. Chave, Two-dimensional magnetotelluric modeling using adaptive triangular elements, *Proc. 19th General Assembly of the International Union of Geodesy and Geophysics*, Vancouver, Canada, 9-22 Aug 1987.
50. Travis, B.J., A.D. Chave, A.G. Jones, J.H. Filloux and H.S. Waff, Two-dimensional modeling of transfer functions from the EMSLAB Lincoln line, *Proc. 19th General Assembly of the International Union of Geodesy and Geophysics*, Vancouver, Canada, 9-22 Aug 1987.
51. Chave, A.D., J.H. Filloux and D.S. Luther, Evidence for topographically-trapped subinertial wave activity on the Juan de Fuca Ridge, *EOS*, 68, 1306, 1987 (1987 fall AGU meeting).
52. Hildebrand, J.A., A.D. Chave, F.N. Spiess, R.L. Parker, M.E. Ander, G.E. Backus and M.A. Zumberge, On the feasibility of an oceanic measurement of the Newtonian gravitational constant, *EOS*, 68, 1246, 1987 (1987 fall AGU meeting).

## 1988

53. Aiken, C., M. Ander, G. Backus, A. Chave, P. Cooper, E. Fisher, M. Gorman, J. Greer, P. Hammer, J. Hildebrand, T. Lautzenhiser, M. Nieto, R. Parker, G. Sasagawa, C. Sidles, F. Spiess, J. Stevenson, J. Wirtz and M. Zumberge, Searches for non-Newtonian variations in the earth's gravity, *Proc. Fifth Marcel Grossman Meeting*, Perth, Australia, 8-13 August 1988.
54. Filloux, J.H., D.S. Luther and A.D. Chave, BEMPEX: a study of barotropic ocean currents using EM methods, *Proc. Ninth Workshop on EM Induction in the Earth and Moon*, Sochi, USSR, 24-31 Oct. 1988.
55. Chave, A.D., J.H. Filloux and D.S. Luther, Oceanic effects in seafloor EM fields during EMSLAB, *Proc. Ninth Workshop on EM Induction in the Earth and Moon*, Sochi, USSR, 24-31 Oct. 1988.

56. Chave, A.D., and D.J. Thomson, Robust, remote reference, and jackknife MT data processing, *Proc. Ninth Workshop on EM Induction in the Earth and Moon*, Sochi, USSR, 24-31 Oct. 1988.
57. Travis, B.J., and A.D. Chave, Magnetotelluric modeling using moving triangular elements, *Proc. Ninth Workshop on EM Induction in the Earth and Moon*, Sochi, USSR, 24-31 Oct. 1988.
58. Filloux, J.H., P. Tarits and A.D. Chave, EM sounding of oceanic upper mantle in BEMPEX area (42N, 162W), *Proc. Ninth Workshop on EM Induction in the Earth and Moon*, Sochi, USSR, 24-31 Oct. 1988.
59. Wannamaker, P.E., J.R. Booker, J.H. Filloux, A.G. Jones, G.R. Jiracek, A.D. Chave, H.S. Waff, J.A. Stodt, C.T. Young, M. Martinez, L.K. Law, T. Yukutake, J.S. Segawa, A. White and A.W. Green, Magnetotelluric transect of the Juan de Fuca subduction system in EMSLAB, *Proc. Ninth Workshop on EM Induction in the Earth and Moon*, Sochi, USSR, 24-31 Oct. 1988.
60. Vanyan, L.L., N. Palshin, A. Poray-Koshits, M. Berdichevsky, A. Yakovlev, V. Semenov, A. Shilovsky, A. Chave, G. Jiracek, A. Jones and M. Martinez, The preliminary interpretation of the EMSLAB MT-soundings, *Proc. Ninth Workshop on EM Induction in the Earth and Moon*, Sochi, USSR, 24-31 Oct 1988.
61. Filloux, J.H., A.D. Chave and D.S. Luther, Seafloor pressure and barotropic velocity fields in the northeast Pacific: report on large spatial and temporal scales experiments BEMPEX, Ocean Storm, and EMSLAB, *Proc. Int. Conf. on Tidal Hydrodynamics*, National Bureau of Standards, Gaithersburg, MD, 15-18 Nov. 1988.
62. Wannamaker, P.E., Booker, J.R., Jones, A.G., Chave, A.D., Filloux, J.H., Waff, H.S. and Law, L.K., Conductivity cross-section through the Juan de Fuca subduction system and its tectonic implications, *USGS Redbrook Conference on Geological, Geophysical, and Tectonic Setting of the Cascade Range*, Monterey, California, 1-4 December 1988.
63. Hildebrand, J.A., A.D. Chave, F.N. Spiess, R.L. Parker, M.A. Zumberge, J.M. Stevenson, P.T.C. Hammer and M.E. Ander, An oceanic determination of the scale dependence of G, *EOS*, 69, 1046, 1988 (invited paper, 1988 fall AGU meeting).
64. Luther, D.S., A.D. Chave and J.H. Filloux, Vertically-averaged water velocity from horizontal electric field observations versus moored current meter data: results from BEMPEX, *EOS*, 69, 1247, 1988 (1988 fall AGU meeting).

## 1989

65. Chave, A.D., D.S. Luther, and J.H. Filloux, The seafloor electric field as a barotropic velocity sensor, *EOS*, 70, 370, 1989 (1989 spring AGU Meeting).
66. Luther, D.S., J.H. Filloux, P. Spain, and A.D. Chave, Atmospherically-forced subinertial variability in the north Pacific during BEMPEX, *EOS*, 70, 370, 1989 (1989 spring AGU Meeting).

67. Tauxe, L., G. Wu, and A.D. Chave, Are there periodicities in paleointensity?, *Proc. Sixth Scientific Assembly of the International Association of Geomagnetism and Aeronomy*, Exeter, UK, 24 July-4 Aug 1989.
68. Zhao, G.-z., T. Yukutake, J.H. Filloux, L.K. Law, J. Segawa, Y. Hamano, H. Utada, T. White, A.D. Chave, and P. Tarits, Two-dimensional modeling of the electrical resistivity structure of the Juan de Fuca plate, *Proc. Sixth Scientific Assembly of the International Association of Geomagnetism and Aeronomy*, Exeter, UK, 24 July-4 Aug 1989.
69. Spain, P.F., D.S. Luther, J.H. Filloux, and A.D. Chave, The barotropic response to atmospheric forcing in the Central North Pacific during 1986-87, *EOS*, *70*, 1162, 1989 (1989 fall AGU meeting).
70. Wannamaker, P.E., J.R. Booker, J.H. Filloux, A.G. Jones, and A.D. Chave, Uncovering deep structure, fluid movement and melting in the Cascadia subduction system from geomagnetic induction measurements, *EOS*, *70*, 1329, 1989 (1989 fall AGU meeting).

## 1990

71. Spain, P.F., D.S. Luther, J.H. Filloux, and A.D. Chave, Dynamical analysis of barotropic oceanic currents observed in the central North Pacific, *EOS*, *71*, 126, 1990 (1990 AGU ocean sciences meeting).
72. Chave, A.D., J.H. Filloux, A. Schultz, R.W. Groom, and P. Tarits, One dimensional magnetotelluric soundings from BEMPEX, *Proc. Tenth Workshop on Electromagnetic Induction in the Earth*, Ensenada, B.C., Mexico, 22-29 August 1990.
73. Filloux, J.H., A.D. Chave, D.S. Luther, and P.F. Spain, EM observations of ocean currents during BEMPEX, *Proc. Tenth Workshop on Electromagnetic Induction in the Earth*, Ensenada, B.C., Mexico, 22-29 August 1990.
74. Gruber, P.L., E.A. Squires, and A.D. Chave, Adaptive noise cancellation filtering in EM geophysics, *Proc. Tenth Workshop on Electromagnetic Induction in the Earth*, Ensenada, B.C., Mexico, 22-29 August 1990.
75. Tarits, P., J.H. Filloux, A.D. Chave, M. Menvielle, and B. Sichler, Seafloor electromagnetic sounding of the Tahiti hot spot, *Proc. Tenth Workshop on Electromagnetic Induction in the Earth*, Ensenada, B.C., Mexico, 22-29 August 1990.
76. Unsworth, M.J., B.J. Travis, and A.D. Chave, The electric fields of a horizontal current source at the seafloor, *Proc. Tenth Workshop on Electromagnetic Induction in the Earth*, Ensenada, B.C., Mexico, 22-29 August 1990.
77. Travis, B.J., A.D. Chave, and M.J. Unsworth, Recent improvements in moving finite elements for 2D MT modeling, *Proc. Tenth Workshop on Electromagnetic Induction in the Earth*, Ensenada, B.C., Mexico, 22-29 August 1990.
78. Tarits, P., J.H. Filloux, A.D. Chave, M. Menvielle, and B. Sichler, Sondages électromagnétiques sous-marins sur le point chaud de Teahitia, *Proc. Symp. on*



*Intraplate Volcanism of the Reunion Hot Spot*, Reunion Island, 12-17 Nov 1990.

79. Chave, A.D., A.H. Dodeman, S.T. Brewer, R. Butler, C.S. Cox, J.A. Hildebrand, C.E. Helsley, G.M. Purdy, T.E. Pyle, and A. Schultz, Scientific uses of submarine telecommunications technologies, *EOS*, 71, 1608, 1990 (invited paper, 1990 fall AGU meeting).
80. Luther, D.S., A.D. Chave, and J.H. Filloux, Atmospherically forced barotropic motions in the North Pacific, *EOS*, 71, 1417, 1990 (1990 fall AGU meeting).
81. Chave, A.D., and B.R. Weertman, Application of a galvanic static distortion removal technique to EMSLAB seafloor magnetotelluric data reveals a 2D magnetotelluric impedance tensor aligned with the relative motion of the Juan de Fuca plate, *EOS*, 71, 1623, 1990 (1990 fall AGU meeting).

## 1991

82. Unsworth, M.J., A.D. Chave, and B.J. Travis, Forward modeling for electromagnetic induction experiments at mid-ocean ridges, *Proc. of the Meeting*, European Geophysical Society, Wiesbaden, Germany, 23-27 Apr 1991.
83. Schultz, A., R.D. Kurtz, A.D. Chave, and A.G. Jones, Deep conductivity structure beneath the Kapuskasing region: Inferences from a very long period lake bottom magnetotelluric observatory, *Proc. Sci. Meet. of the Canadian Geophysical Union*, Banff, Alberta, Canada, 8-10 April 1991.
84. Tarits, P., J.H. Filloux, A.D. Chave, and M. Menvielle, Structure of the Tahiti hot spot inferred from sea floor electromagnetic soundings, *Proc. 20th General Assembly of the International Union of Geodesy and Geophysics*, Vienna, Austria, 11-24 August 1991.
85. Schultz, A., R.D. Kurtz, A.D. Chave, A.G. Jones, and R. Groom, Deep conductivity structure beneath the Canadian shield: Inferences from a very long period lake bottom magnetotelluric observatory, *Proc. 20th General Assembly of the International Union of Geodesy and Geophysics*, Vienna, Austria, 11-24 August 1991.
86. Luther, D.S., A.D. Chave, and J.H. Filloux, Atmospherically forced barotropic motions observed with seafloor electric field and pressure recorders, *Proc. 20th General Assembly of the International Union of Geodesy and Geophysics*, Vienna, Austria, 11-24 August 1991.
87. Filloux, J.H., D.S. Luther, and A.D. Chave, Long-term seafloor measurements of water pressure: normal modes and infragravity waves, *Proc. 20th General Assembly of the International Union of Geodesy and Geophysics*, Vienna, Austria, 11-24 August 1991.
88. Chave, A.D., J.H. Filloux, and D.S. Luther, Measurements of spatially-averaged velocity with a seafloor horizontal electric field recorder, *Proc. 20th General Assembly of the International Union of Geodesy and Geophysics*, Vienna, Austria, 11-24 August 1991.

89. Chave, A.D., Seafloor geomagnetic data for oceanographic studies, *Proc. 20th General Assembly of the International Union of Geodesy and Geophysics*, Vienna, Austria, 11-24 August 1991 (invited paper).
90. Zumberge, M.A., J.A. Hildebrand, J.M. Stevenson, R.L. Parker, F.N. Spiess, A.D. Chave, and M.E. Ander, Results of an oceanic G measurement, *EOS*, 72, 113, 1991 (1991 fall AGU meeting).
91. Chave, A.D., Natural electromagnetic fields in the ocean: external and motional induction, *EOS*, 72, 130, 1991 (invited paper, 1991 fall AGU meeting).
92. Chave, A.D., D.S. Luther, and J.H. Filloux, Atmospherically-forced barotropic currents in a weak eddy variability region of the North Pacific, *EOS*, 72, 269, 1991 (1991 fall AGU meeting).
93. Luther, D.S., J.H. Filloux, and A.D. Chave, Evidence of atmospheric forcing of sub-inertial barotropic fluctuations from seafloor pressure observations, *EOS*, 72, 269, 1991 (1991 fall AGU meeting).

## 1992

94. Luther, D.S., A.D. Chave, and J.H. Filloux, Transport fluctuations observed with seafloor measurements of the horizontal electric field, *Proc. Atlantic Climate Change Program Annual Meeting*, Miami, FL, Mar 9-11, 1992.
95. Tarits, P., A.D. Chave, J.H. Filloux, and A. Terra, Electromagnetic study of the Tahiti hot spot, *Proc. 17th General Assembly of the European Geophysical Society*, Edinburgh, April 6-10, 1992.
96. Chave, A.D., and A.H. Dodeman, Submarine telecommunication technologies and their scientific reuse, *Proc. 17th General Assembly of the European Geophysical Society*, Edinburgh, April 6-10, 1992 (invited paper).
97. Chave, A.D., and L.J. Lanzerotti, Geoelectric variation measurements on long submarine telephone cables, *Proc. 17th General Assembly of the European Geophysical Society*, Edinburgh, April 6-10, 1992.
98. Kasahara, J., R. Butler, A.D. Chave, and T. Yukutake, Joint Japanese-US efforts toward scientific reuse of submarine cables, *Proc. 17th General Assembly of the European Geophysical Society*, Edinburgh, April 6-10, 1992 (invited paper).
99. Schultz, A., R. Kurtz, A.D. Chave, and A.G. Jones, The Canadian shield as a window into the mantle, *Proc. 11th Workshop on Electromagnetic Induction*, Wellington, New Zealand, 26 August-2 September 1992.
100. Chave, A.D., and D.J. Thomson, Robust, controlled leverage estimation of magnetotelluric response functions, *Proc. 11th Workshop on Electromagnetic Induction*, Wellington, New Zealand, 26 August-2 September 1992.
101. Chave, A.D., D.S. Luther, L.J. Lanzerotti, and L.V. Medford, Geoelectric field measurements on a planetary scale: oceanographic and geophysical applications,

*Proc. 11th Workshop on Electromagnetic Induction*, Wellington, New Zealand, 26 August-2 September 1992.

102. Chave, A.D., J.R. Booker, and J.T. Smith, Model study of a mid-ocean ridge magnetotelluric transect to investigate mantle melt processes, *Proc. 11th Workshop on Electromagnetic Induction*, Wellington, New Zealand, 26 August-2 September 1992.
103. Chave, A.D., J.R. Booker, J.T. Smith, and C. Aprea, Model study for a mid-ocean ridge magnetotelluric transect, *EOS*, 73, 313, 1992 (1992 fall AGU meeting).
104. Luther, D.S., A.D. Chave, J.H. Filloux, D.R. Watts, J. Bane, T. Shay, and W. Johns, Measuring oceanic volume and heat transports from the seafloor, *EOS*, 73, 314, 1992 (1992 fall AGU meeting).

### **1993**

105. Kuznetsov, V., N. Palshin, I. Repin, V. Semonov, L. Vanyan, A.D. Chave, L.J. Lanzerotti, and D. Winch, Submarine cable studies of lithospheric resistance in the Pacific Ocean, *Proc. Seventh General Assembly of the International Association of Geomagnetism and Aeronomy*, Buenos Aires, Argentina, 9-20 August 1993.
106. Chave, A.D., C.L. Van Dover, J.A. Tyson, J.W. Bailey, R.A. Petitt, Jr., J.H. Filloux, and H.H. Moeller, Ambient light measurements from the Snakepit area, *EOS*, 74, 100, 1993 (1993 fall AGU meeting)
107. Eubanks, T.M., D.S. Luther, H.O. Mofjeld, F.I. Gonzalez, and A.D. Chave, Geodetic observability of deep sea bottom pressure changes in the Pacific, *EOS*, 74, 197, 1993 (1993 fall AGU meeting)
108. Schultz, A., A.D. Chave, R.D. Kurtz, A.G. Jones, J.T. Smith, and M.E. Everett, Electrical conductivity discontinuities in the upper mantle, *EOS*, 74, 551, 1993 (invited paper, 1993 fall AGU meeting)

### **1994**

109. Langel, R.A., J.R. Heirtzler, J. Booker, A. D. Chave, A.W. Green, Jr., and N. Peddie, A proposed standard geomagnetic observatory network, *EOS* 75, 120, 1994 (1994 spring AGU meeting).
110. Lizarralde, D., A.D. Chave, J.G. Hirth, A. Schultz, and L.J. Lanzerotti, Magnetotelluric sounding beneath the northeast Pacific Ocean using an abandoned submarine telephone cable, *Proc. 12th Workshop on Electromagnetic Induction*, Brest, France, 7-14 August 1994.
111. Chave, A.D., A.G. Jones, and J.T. Smith, Electric and magnetic field galvanic distortion tensor decomposition: application to BC87 data, *Proc. 12th Workshop on Electromagnetic Induction*, Brest, France, 7-14 August 1994.
112. Wannamaker, P.E., A.D. Chave, J.R. Booker, and A.G. Jones, Continental-oceanic magnetotelluric transect of the southern Appalachians orogenic belt, *Proc. 12th*

*Workshop on Electromagnetic Induction*, Brest, France, 7-14 August 1994.

113. Filloux, J.H., A.D. Chave, P. Tarits, R.A. Pettitt, Jr., J. Bailey, H.H. Moeller, A. Debreule, G. Petiau, and L. Banteaux, Southeast Appalachians experiment: offshore component, *Proc. 12th Workshop on Electromagnetic Induction*, Brest, France, 7-14 August 1994.
114. Schultz, A., R.D. Kurtz, A.D. Chave, and A.G. Jones, Conductivity discontinuities in the upper mantle beneath a stable craton, *Proc. 12th Workshop on Electromagnetic Induction*, Brest, France, 7-14 August 1994.
115. Van Dover, C.L., G.T. Reynolds, A.J. Walton, J.W. Bailey, and A.D. Chave, Light at a 350C black smoker on the East Pacific Rise, *EOS*, 75, 705, 1994 (1994 fall AGU meeting).
116. Lizarralde, D., A.D. Chave, J.G. Hirth, and L.J. Lanzerotti, Magnetotelluric sounding beneath the northeastern Pacific Ocean using an abandoned submarine telephone cable, *EOS*, 75, 201, 1994 (1994 fall AGU meeting).

## 1995

117. Heirtzler, J.R., R.A. Langel, R. Baldwin, A.D. Chave, J.J. Frawley, and A.W. Green, Jr., Proposed geomagnetic observatories co-located with other geophysical stations, *Proc. 21st General Assembly of the International Union of Geodesy and Geophysics*, Boulder, CO, 2-14 July 1995.
118. Chave, A.D., and A.W. Green, Jr., On the design of a seafloor geomagnetic observatory, *Proc. 21st General Assembly of the International Union of Geodesy and Geophysics*, Boulder, CO, 2-14 July 1995.
119. Fujii, I., A.D. Chave, and L.J. Lanzerotti, Motional induction effects on the large-scale geoelectric potential measured with a submarine cable between Hawaii and California, *Proc. 21st General Assembly of the International Union of Geodesy and Geophysics*, Boulder, CO, 2-14 July 1995.
120. Wannamaker, P.E., Y. Ogawa, A.G. Jones, A.D. Chave, J.R. Booker, and M. Unsworth, Continental-oceanic magnetotelluric transect of the Southern Appalachians orogenic belt, *Proc. 21st General Assembly of the International Union of Geodesy and Geophysics*, Boulder, CO, 2-14 July 1995.
121. Pettitt, R.A., Jr., A.D. Chave, D.R. Yoerger, J. Catipovic, R. Butler, and F. Duennebier, H<sub>2</sub>O: The Hawaii-2 Observatory, *Proc. ILP Workshop on Dynamics of Lithospheric Convergence*, Miyagi, Japan, 20-21 September 1995.
122. Wannamaker, P.E., A. Chave, A. Jones, M. Unsworth, Y. Ogawa, and J.R. Booker, Electrical structure of the southeast Appalachian orogenic belt: Observations on deep fluid history, sediment underthrusting, and lithospheric breaks, *EOS*, 76, F168, 1995 (1995 fall AGU meeting).
123. White, S.N., A.D. Chave, and J.H. Filloux, Large scale MT distortion: A comparison of the Tasman Sea and Juan de Fuca plates, *EOS*, 76, F168, 1995 (1995 fall AGU meeting).

meeting).

124. Seama, N., A.D. Chave, and J.H. Filloux, Strong 3D effects in offshore New Zealand MT data, *EOS*, 76, F169, 1995 (1995 fall AGU meeting).

## 1996

125. Chave, A.D., D.S. Luther, and J.H. Filloux, Recirculating and pulsating components of the western boundary current system in the Atlantic at 26.5N, *EOS*, 77, xxxx, 1996 (1996 Ocean Sciences meeting).
126. Stephen, R.A., A.D. Chave, C. de Moustier, J. Hildebrand, S. Nagihara, and R. Von Herzen, Drilling at the H2O long term seafloor observatory, *Proc. Interridge Ocean Lithosphere Workshop*, Woods Hole, MA, 26-28 May 1996.
127. Chave, A.D., R.L. Evans, J.H. Filloux, A. White, G. Heinson, P. Tarits, H. Toh, H. Utada, T. Ichikita, and K. Baba, The Mantle ELeCtromagnetic and Tomography (MELT) experiment, *Proc. 13th Workshop on Electromagnetic Induction in the Earth*, Onuma, Japan, 11-17 July 1996.
128. Seama, N., A.D. Chave, and J.H. Filloux, Strong 3D effects in offshore New Zealand MT data, *Proc. 13th Workshop on Electromagnetic Induction in the Earth*, Onuma, Japan, 11-17 July 1996.
129. Fujii, I., A.D. Chave, and L.J. Lanzerotti, Motional induction effect on the planetary scale geoelectric potential in the eastern North Pacific, *Proc. 13th Workshop on Electromagnetic Induction in the Earth*, Onuma, Japan, 11-17 July 1996.
130. White, S.N., A.D. Chave, and J.H. Filloux, Large scale MT distortion: A comparison of the Tasman Sea and the Juan de Fuca Plate, *Proc. 13th Workshop on Electromagnetic Induction in the Earth*, Onuma, Japan, 11-17 July 1996.
131. Wannamaker, P.E., A.D. Chave, A.G. Jones, M. Unsworth, Y. Ogawa, P. Tarits, and J.R. Booker, Modeling the land MT data of the Southeast Appalachian Transect: Observations on deep fluid history, sediment underthrusting, and lithospheric breaks, *Proc. 13th Workshop on Electromagnetic Induction in the Earth*, Onuma, Japan, 11-17 July 1996.
132. Garcia, X., A.D. Chave, and A.G. Jones, Robust processing of magnetotelluric data from the auroral zone, *Proc. 13th Workshop on Electromagnetic Induction in the Earth*, Onuma, Japan, 11-17 July 1996.
133. Butler, R., A. Chave, F. Duennebier, J. Hildebrand, J. Catipovic, and D. Yoerger, The Hawaii-2 Observatory: A deep-ocean geoscience facility re-using the Hawaii-2 telephone cable, *Proc. European Seismological Commission*, Iceland, 9-14 Sept 1996.
134. Chave, A.D., G. Hirth, and R.L. Evans, Constraints on the temperature and water content of oceanic and cratonic mantle from electrical conductivity profiles, *EOS*, 77, xxxx, 1996 (1996 Fall AGU Meeting)
135. White, S.N., A.D. Chave, J.W. Bailey, C.L. Van Dover, and G.T. Reynolds,

Measurements of light at hydrothermal vents, 9N, East Pacific Rise, *EOS*, 77, 404, 1996 (1996 Fall AGU Meeting)

## 1997

136. Watts, D.R., C. Sun, D.S. Luther, J.G. Richman, A.D. Chave, and S.R. Rintoul, The structure of a meander in the Sub-Antarctic Front, *Proc. IAPSO*, Abstract #IP1Y, Melbourne, Australia, July 1-4, 1997.
137. Luther, D.S., A.D. Chave, J.G. Richman, S.R. Rintoul, D.R. Watts, J.A. Church, and J.H. Filloux, Sub-Antarctic Flux and Dynamics Experiment (SAFDE), *Proc. IAPSO*, Abstract #IP1KK, Melbourne, Australia, July 1-4, 1997.
138. Rintoul, S.R., N.B. Bindoff, D.S. Luther, J.R. Richman, D.R. Watts, and A.D. Chave, Variability of the Antarctic Circumpolar Current south of Australia, *Proc. IAPSO*, Abstract #IP1OO, Melbourne, Australia, July 1-4, 1997.
139. Baba, K., N. Seama, A.D. Chave, and J.H. Filloux, Magnetotelluric analysis in the northeast Pacific, 25N, 138W, *Proc. Soc. Geomag. E. Pl. Space Sci.*, Hokkaido, Japan, Oct 2-5, 1997.

## 1998

140. Watts, D.R., C. Sun, D.S. Luther, J.G. Richman, A.D. Chave, and S.R. Rintoul, Cross-frontal motion in a meander in the Subantarctic Front, *Proc. WOCE Symposium*, Halifax, Nova Scotia, 24-29 May 1998.
141. Luther, D.S., D.R. Watts, A.D. Chave, J.G. Richman, S.R. Rintoul, J.A. Church, and J.H. Filloux, Sub-Antarctic Flux and Dynamics Experiment (SAFDE): Overview with some descriptive results, *Proc. WOCE Symposium*, Halifax, Nova Scotia, 24-29 May 1998.
142. White, S.N., A.D. Chave, J.W. Bailey, C.L. Van Dover, G.T. Reynolds, and E. Gaidos, Images of ambient light at deep-sea hydrothermal vents, 9N East Pacific Rise, *EOS*, 79, S166, 1998 (1998 spring AGU Meeting).
143. Heinson, G., A. White, R. Evans, A.D. Chave, P. Tarits, H. Toh, T. Goto, H. Utada, N. Seama, K. Baba, J.H. Filloux, M. Unsworth, and J.R. Booker, The MELT experiment: Magnetotelluric data, *EOS*, 79, S231, 1998 (invited paper, 1998 spring AGU Meeting).
144. Evans, R.L., A.D. Chave, G. Heinson, A. White, H. Toh, T. Goto, H. Utada, P. Tarits, N. Seama, K. Baba, J. H. Filloux, M. Unsworth, and J.R. Booker, The MELT experiment electromagnetic data: preliminary inversion and modeling results, *EOS*, 79, S232, 1998 (invited paper, 1998 spring AGU Meeting).
145. Tarits, P., A.D. Chave, R.L. Evans, J.H. Filloux, G. Heinson, K. Baba, T. Goto, N. Seama, H. Toh, A. White, H. Utada, J.R. Booker, and M. Unsworth, Along axis mantle electrical conductivity heterogeneities, *EOS*, 79, S232, 1998 (1998 spring AGU Meeting).

146. Baba, K., N. Seama, A.D. Chave, and J.H. Filloux, Conductivity structure of the lithosphere and asthenosphere in the Pacific Ocean near 25N, 138W, *Proc. 14th Workshop on Electromagnetic Induction in the Earth*, Sinaia, Romania, August 16-23, 1998.
147. Heinson, G., A. White, R. Evans, A.D. Chave, P. Tarits, H. Toh, T. Goto, H. Utada, N. Seama, K. Baba, J.H. Filloux, M. Unsworth, and J.R. Booker, The MELT experiment: Magnetotelluric data, *Proc. 14th Workshop on Electromagnetic Induction in the Earth*, Sinaia, Romania, August 16-23, 1998.
148. Chave, A.D., R.L. Evans, G. Heinson, A. White, H. Toh, T. Goto, H. Utada, P. Tarits, N. Seama, K. Baba, M. Unsworth, J.R. Booker, and J.H. Filloux, The MELT experiment: Inversion of MT responses, *Proc. 14th Workshop on Electromagnetic Induction in the Earth*, Sinaia, Romania, August 16-23, 1998.
149. Delaney, J.R., and A.D. Chave, NEPTUNE: A fiber optic telescope to inner space, *Proc. Long Term Monitoring of the Mid-Atlantic Ridge (MOMAR) Workshop*, Lisbon, Portugal, 28-31 October 1998.
150. Chave, A.D., R.A. Petitt, Jr., F.B. Wooding, A.D. Bowen, J.W. Bailey, E. Hobart, W.E. Witzell, Jr., D.R. Yoerger, F.K. Duennebie, D. Harris, J. Jolly, J. Bosel, and R. Butler, H2O: The Hawaii-2 Observatory, *Proc. Long Term Monitoring of the Mid-Atlantic Ridge (MOMAR) Workshop*, Lisbon, Portugal, 28-31 October 1998.
151. Chave, A.D., Submarine cable technologies for scientific applications, *Proc. Long Term Monitoring of the Mid-Atlantic Ridge (MOMAR) Workshop*, Lisbon, Portugal, 28-31 October 1998.
152. Luther, D.S., D.R. Watts, A.D. Chave, M. Maltrud, J. Richman, J. McLean, S.R. Rintoul, and J. Church, Structure and variability of Sub-Antarctic Front currents southwest of Tasmania, *EOS*, 79, Fall Meet. Supp., Abstract OS21F-08, 1998.
153. Chave, A.D., and J.G. Richman, Mesoscale variability of the Antarctic Circumpolar Current: Results from the SubAntarctic Flux and Dynamics Experiment moored array, *EOS*, 79, Fall Meet. Supp., Abstract OS22E-04, 1998.
154. White, S.N., A.D. Chave, J.W. Bailey, C.L. Van Dover, G.T. Reynolds, E. Gaidos, and J.A. Tyson, Images of ambient light at high temperature black smokers and flange pools, Endeavour segment, Juan de Fuca Ridge, *EOS*, 79, Fall Meet. Supp., Abstract T22C-14, 1998.
155. Delaney, J.R., and A.D. Chave, NEPTUNE: A fiber optic telescope to inner space, *EOS*, 79, Fall Meet. Supp., Abstract U32B-07, 1998 (invited paper).
156. Chave, A.D., F.K. Duennebie, R. Butler, R.A. Petitt, Jr., F.B. Wooding, A.D. Bowen, D. Harris, and D.R. Yoerger, H2O: The Hawaii-2 Observatory, *EOS*, 79, Fall Meet. Supp., Abstract U41A-01, 1998 (invited paper).
157. Chave, A.D., J.R. Booker, and M.J. Unsworth, The magnetotelluric method in studies of continental tectonics, *EOS*, 79, Fall Meet. Supp., Abstract U72C-04, 1998 (invited paper).

## 1999

158. Jones, A.G., I. Ferguson, G.W. McNeice, R. Evans and A. Chave, Electromagnetic studies of the Slave craton: preliminary results and ongoing experiments, *Proc. SNORCLE Transect Meeting*, Calgary, Alberta, Canada, March 5-7, 1999, Lithoprobe Pub. 69, 56-71.
159. Evans, R.L., A.G. Jones, and A.D. Chave, Deep EM studies of the Slave craton, *Proc. SNORCLE Transect Meeting*, Calgary, Alberta, Canada, March 5-7, 1999, Lithoprobe Pub. 69, 72.
160. Evans, R.L., A.D. Chave, G. Heinson, A. White, P. Tarits, H. Toh, T. Goto, H. Utada, M. Unsworth, J. Booker, N. Seama, K. Baba, and J.H. Filloux, Results of the MT transect of the MELT experiment, *EOS*, 80, Spring Meet. Supp., Abstract T22A-07, 1999.
161. Koyama, T., H. Shimizu, H. Utada, and A.D. Chave, Preliminary results from an EM induction study in the Pacific using submarine cable electric field data, *Proc. 22nd General Assembly of the International Union of Geodesy and Geophysics*, Birmingham, UK, 19-30 July 1999, paper GA1.02/W/05-A2, A.306.
162. Shimizu, H., L.J. Lanzerotti, H. Utada, and A.D. Chave, Short circuiting Earth: A review of global scale geoelectric field measurements using submarine cables, *Proc. 22nd General Assembly of the International Union of Geodesy and Geophysics*, Birmingham, UK, 19-30 July 1999, paper JWA34/W/07-B2, B.89.
163. Green, A.W., Jr., and A.D. Chave, Design for an ocean bottom geomagnetic observatory with good baseline control, *Proc. 22nd General Assembly of the International Union of Geodesy and Geophysics*, Birmingham, UK, 19-30 July 1999, paper JWA34/E/07-B2, B.90.
164. Chave, A.D., R. Butler, and F.K. Duennebier, H2O: The Hawaii-2 Observatory, *Proc. 22nd General Assembly of the International Union of Geodesy and Geophysics*, Birmingham, UK, 19-30 July 1999, paper JWA34/W/08-B2, B.90.
165. Chave, A.D., and J.R. Delaney, NEPTUNE: a fiber optic telescope to inner space, *Proc. 22nd General Assembly of the International Union of Geodesy and Geophysics*, Birmingham, UK, 19-30 July 1999, paper P16/W/03-B5, B.246.
166. Chave, A.D., H2O: the Hawaii-2 Observatory, *Proc. Int. School of Geophys, Course 16--Science-Technology Synergy for Research in the Marine Environment: Challenges for the 21st Century*, Erice, Sicily, 9-14 Sept 1999 (invited paper).
167. Chave, A.D., Deep Earth Observations from the Seafloor: An integrated global observing system, *Proc. Int. School of Geophys, Course 16--Science-Technology Synergy for Research in the Marine Environment: Challenges for the 21st Century*, Erice, Sicily, 9-14 Sept 1999 (invited paper).
168. Evans R.L., Jones A.G., A.D. Chave, and I.J. Ferguson, Electromagnetic studies of the mantle beneath the world's oldest craton, *EOS*, 80, Fall Meet. Supp., Abstract T22F-08, 1999.



168. Koyama, T., H. Shimizu, H. Utada, and A.D. Chave, EM induction study in the Pacific basin, *EOS*, 80, Fall Meet. Supp., Abstract GP31C-09, 1999.
170. Chave, A.D., and K. Becker, DEOS: Deep Earth Observatories on the Seafloor, *EOS*, 80, Fall Meet. Supp., Abstract OS32B-09, 1999.
171. Delaney, J.R., A.D. Chave, B. Howe, and G.R. Heath, NEPTUNE: A fiber optic telescope to inner space, *EOS*, 80, Fall Meet. Supp., Abstract OS32B-10, 1999.

## 2000

172. Jones, A.G., I.J. Ferguson, R.L. Evans, and A.D. Chave, The electric Slave craton, *Proc. SNORCLE Transect Meeting*, Calgary, Alberta, Canada, 25-27 February 2000.
173. Wannamaker, P.E., A.D. Chave, J.R. Booker, A.G. Jones, and M.J. Unsworth, Deep fluid history, sediment underthrusting, and lithospheric composition contrasts beneath the southern Appalachians inferred from the "SEA" magnetotelluric (MT) transect, *Proc. Geological Society of America, Southeast Section*, Charleston, SC, March 2000.
174. Butler, R., F.K. Duennebie, and A.D. Chave, The Hawaii-2 Observatory (H2O): First seafloor GSN station, *Seism. Res. Lett.*, 71, 232, 2000 (95<sup>th</sup> Meeting of the Seismological Society of America, San Diego).
175. Jones, A.G., I.J. Ferguson, R.L. Evans, and A.D. Chave, Electrifying images of the Slave craton, *Proc. GeoCanada2000*, Calgary, Alberta, May 29-June 2, 2000.
176. Tarits, P., A.D. Chave, and R. Evans, Along ridge changes in the mantle electrical conductivity structure beneath the EPR between 17 and 15S, *Proc. 15th Workshop on Electromagnetic Induction in the Earth*, Cabo Frio, Brazil, 19-26 Aug 2000.
177. Chave, A.D., R.L. Evans, P. Tarits, and the MELT Team, Asymmetric mantle electrical structure beneath the East Pacific Rise at 17S, *Proc. 15th Workshop on Electromagnetic Induction in the Earth*, Cabo Frio, Brazil, 19-26 Aug 2000.
178. Chave, A.D., R.L. Evans, A.G. Jones, and J.H. Filloux, Deep lake bottom magnetotelluric sounding in the Slave craton, *Proc. 15th Workshop on Electromagnetic Induction in the Earth*, Cabo Frio, Brazil, 19-26 Aug 2000.
179. Jones, A.G., I.J. Ferguson, A.D. Chave, R.L. Evans, and G.W. McNeice, The electric lithosphere of the Slave craton, *Proc. 15th Workshop on Electromagnetic Induction in the Earth*, Cabo Frio, Brazil, 19-26 Aug 2000.
180. Evans, R.L., A.D. Chave, and J.R. Booker, Electrical connection of the ocean and mantle at a subduction zone: model study for the Andes at 21S, *Proc. 15th Workshop on Electromagnetic Induction in the Earth*, Cabo Frio, Brazil, 19-26 Aug 2000.
181. Nolasco, R., P. Tarits, J.H. Filloux, and A.D. Chave, Image of the mantle beneath active hotspots, *Proc. 15th Workshop on Electromagnetic Induction in the Earth*, Cabo Frio, Brazil, 19-26 Aug 2000.
182. Jones, A.G., I.J. Ferguson, A.D. Chave, R.L. Evans, and G.W. McNeice, The electric lithosphere of the Slave craton, *Proc. 2000 Geol. Soc. Am. Ann. Meeting*,

Reno, Nevada, 13-16 November 2000.

183. Chave, A.D., P. Tarits, R.L. Evans, and J.R. Booker, Asymmetric electrical structure beneath the southern East Pacific Rise, *EOS*, 81 (48), Fall Meet. Supp., Abstract V12B-03, 2000.
184. Jones, A.G., I.J. Ferguson, A.D. Chave, R.L. Evans, and G.W. McNeice, The electric lithosphere of the Slave craton, *EOS*, 81 (48), Fall Meet. Supp., Abstract V51A-03, 2000.
185. Duennebier, F.K., R. Butler, A.D. Chave, D. Harris, J. Jolly, and D. Babinec, Broadband seismograms from the Hawaii-2 Observatory, *EOS*, 81 (48), Fall Meet. Supp., Abstract S51B-01, 2000 (invited poster).

## 2001

186. Jones, A.G., I.J. Ferguson, A.D. Chave, R.L. Evans, and G.W. McNeice, The electric lithosphere of the Slave craton and its tectonic interpretation, *Eur. Geophys. Soc. XXVI Gen. Assem.*, Nice, France, 26-30 March 2001.
187. Jones, A.G., I.J. Ferguson, A.D. Chave, R.L. Evans, and J. Spratt, The conductivity structure of the Slave's cratonic mantle, *Can. Geophys. Union Ann. Sci. Meet.*, Ottawa, Ontario, Canada, 15-17 May 2001.
188. Chave, A.D., Communications and power technologies for cabled seafloor observatories, *Proc. United Kingdom DEOS Town Meeting*, Cardiff, UK, July 25-26, 2001.
189. Jones, A.G., D. Snyder, J. Spratt, M. Bostock, C. Bank, A.D. Chave, and R.L. Evans, Comparison of teleseismic and magnetotelluric responses on the Slave craton, *Proc. IAGA-IASPEI Scientific Assembly*, Hanoi, Vietnam, 18-30 August 2001.
190. R.L. Evans, A.D. Chave, A.G. Jones, and J.H. Filloux, Deep lake bottom magnetotelluric sounding in the Slave craton, *Proc. Slave-Kaapval Workshop*, Merrickville, Ontario, September 5-9, 2001.
191. Chave, A.D., R.L. Evans, and A.G. Jones, Slave2Rae: Lake bottom magnetotelluric transect across the Rae province, *Proc. Slave-Kaapval Workshop*, Merrickville, Ontario, September 5-9, 2001.
192. Jones, A.G., I.J. Ferguson, A.D. Chave, R.L. Evans, and J. Spratt, Slave electromagnetic studies, *Proc. Slave-Kaapval Workshop*, Merrickville, Ontario, September 5-9, 2001.
193. Jones, A.G., Ferguson, I.J., Chave, A.D. and Evans, R., The electric Slave craton, *Proc. Workshop on Electromagnetic Deep Sounding*, Burg Ludwigstein, Germany, 1-5 October 2001.
194. Jones, A.G., I.J. Ferguson, A.D. Chave, R.L. Evans, and J. Spratt, Slave electromagnetic studies, *Proc. III Panlithoprobe Workshop*, Banff, Alberta, Canada,

27-29 October 2001.

195. Wannamaker, P.E., A.D. Chave, J.R. Booker, A.G. Jones, M.J. Unsworth, R.L. Evans, and Y. Ogawa, Lithospheric architecture and anisotropy below the southern Appalachians compressional orogen from electrical conductivity structure, *EOS*, 82 (47), Fall Meet. Supp., Abstract GP21A-0242, 2001 (invited paper)

## 2002

196. Jones, A.G., I.J. Ferguson, A.D. Chave, R.L. Evans, P. Lezaeta and X. Garcia, Regional-scale electrical structure of the Slave craton, *Proc. SNORCLE Transect Meeting*, Sidney, B.C., 22-24 February 2002.
197. Lezaeta, P., A.D. Chave, R.L. Evans and A.G. Jones, Three-dimensional electrical conductivity structure beneath the Slave craton, *Proc. SNORCLE Transect Meeting*, Sidney, B.C., 22-24 February 2002.
198. Duennebier, F.K., R. Butler, and A.D. Chave, Station H2O, *Proc. 14th IRIS Workshop*, Waikaloa Beach, Hawaii, 12-15 June 2002.
199. Chave, A.D., and D.J. Thomson, Bounded influence magnetotelluric response function estimation, *Proc. 16th Workshop on EM Induction*, Santa Fe, NM, June 16-22, 2002.
200. Chave, A.D., D.S. Luther, and C.S. Meinen, Correction of motional electric field measurements for galvanic distortion, *Proc. 16th Workshop on EM Induction*, Santa Fe, NM, June 16-22, 2002.
201. Lezaeta, P., A.D. Chave, R.L. Evans, and A.G. Jones, Study of auroral source field effects on the Slave Craton, NW Canada, *Proc. 16th Workshop on EM Induction*, Santa Fe, NM, June 16-22, 2002.
202. Jones, A.G., P. Lezaeta, A.D. Chave, R.L. Evans, X. Garcia, and I.J. Ferguson, Lithospheric mantle structure of the Slave craton, *Proc. 16th Workshop on EM Induction*, Santa Fe, NM, June 16-22, 2002.
203. Koyama, T., H. Shimizu, H. Utada, and A.D. Chave, One-dimensional conductivity structure in the mid-mantle beneath the North Pacific, *Proc. 16th Workshop on EM Induction*, Santa Fe, NM, June 16-22, 2002.
204. Seama, N., T. Yamazaki, R. Evans, T. Goto, H. Utada, A. Chave, and K. Suyehiro, Tectonics of the Mariana Trough and magnetotelluric transects across the central Mariana subduction system, *Proc. NSF/IFREE MARGINS Workshop On The Izu-Bonin-Mariana Subduction System*, Honolulu, HI, September 8-12, 2002.
205. Meinen, C.S., D.S. Luther, A.D. Chave, and D.R. Watts, Structure of the Subantarctic Front and the absolute horizontal and vertical velocity associated with the front, *Proc. WOCE Final Meeting*, San Antonio, TX, Nov 2002.
206. Baba, K., A.D. Chave, R.L. Evans, and R.L. Mackie, Conductivity structure of the upper mantle beneath the southern East Pacific Rise obtained by topographic

correction and anisotropic inversion of the MELT EM data, *EOS*, 83, Fall Meet. Supp., Abstract GP51A-0984, 2002.

207. Lezaeta, P., A.D. Chave, R.L. Evans, A.G. Jones, and I.J. Ferguson, Electrical conductivity model of the lithosphere of the Slave craton (NW Canada) and its tectonic implication in the context of geochemical results, *EOS*, 83, Fall Meet. Supp., Abstract S62D-04, 2002.
208. Wannamaker, P.E., S.K. Park, J.R. Booker, G.D. Egbert, G.R. Jiracek, and A.D. Chave, National Instrument Facility for Electromagnetic Studies of the Continents (EMSOC), *EOS*, 83, Fall Meet. Supp., Abstract U11A-0008, 2002.

## 2003

209. Evans, D., S.C. Solomon, V.R. Baker, J. Bloxham, D. Burbank, B.F. Chao, A.D. Chave, A. Donnellan, A. Gillespie, T. Herring, R. Jeanloz, B. Minster, W.C. Pitman, III, E. Rignot, M. Simons, D.L. Turcotte, M.L. Zoback and C. Elachi, Living on a Restless Planet: Observing Techniques for Solid Earth Science in the 21st Century, *IGARRS '03*, paper 03.3319, 22 Jul 2003.
210. Jones, A.G., W.J. Davis, W. Bleeker, H. Gruetter, P. Lezeata, A.D. Chave, R.L. Evans, and I.J. Ferguson, Lithosphere development in the Slave Craton: a linked crustal and mantle perspective, *Geophys. Res. Abstr.*, 5, 12444, 2003 (2003 AGU/EGS joint spring meeting).
211. Lezaeta, P., A.D. Chave, A.G. Jones, and R.L. Evans, 3-D electrical conductivity structure of the Slave craton (NW Canada), *Geophys. Res. Abstr.*, 5, 12089, 2003 (2003 AGU/EGS joint spring meeting).
212. Evans, R.L., G. Hirth, D. Forsyth, K. Baba, and A.D. Chave, Comparisons of seismic and electromagnetic structures of the MELT area, *Geophys. Res. Abstr.*, 5, 13976, 2003 (2003 AGU/EGS joint spring meeting).
213. Massion, E, P.M. Beauchamp, A. D. Chave, S. J. Gaudet, B.M. Howe, H. Kirkham, T. McGinnis, A. Maffei, P. Phibbs, D.H. Rogers, Critical technology developments for regional scale ocean observatories, *Proc. Oceanography Society-Oceanology International Americas Ocean Conference*, New Orleans, June 4-6, 2003.
214. Chave, A.D., K. Smith, S. Beaulieu, J.H. Filloux, P. Tarits, M. Manda, F.K. Duennebier, and R. Butler, 2003 upgrades and additions to the Hawaii-2 Observatory, *Proc. 23rd General Assembly of the International Union of Geodesy and Geophysics*, Sapporo, Japan, 30 June-11 July 2003, paper JSS03/03P/A13-010, A.170.
215. Howe, B.M., P.M. Beauchamp, A.D. Chave, S.J. Gaudet, H. Kirkham, A. Maffei, G. Massion, T. McGinnis, P. Phibbs, and D. Rodgers, Technology for regional-scale cabled seafloor observatories: NEPTUNE, *Proc. 23rd General Assembly of the International Union of Geodesy and Geophysics*, Sapporo, Japan, 30 June-11 July 2003, paper JSS03/03P/A13-009, A.170 (invited paper)
216. Tarits, P., M. Manda, A.D. Chave, X. Garcia, M. Calzas, C. Drezen, A. Dubreule, J. Bailey, and J.H. Filloux, , The French-US program of seafloor geomagnetic

observatories, *Proc. 23rd General Assembly of the International Union of Geodesy and Geophysics*, Sapporo, Japan, 30 June-11 July 2003, paper JSS03/03P/A13-005, A-169 (invited paper).

217. Luther, D.S., C.S. Meinen, A.D. Chave, and D.R. Watts, Structures of the current and water properties associated with the Sub-Antarctic Front southwest of Tasmania, *Proc. 23rd General Assembly of the International Union of Geodesy and Geophysics*, Sapporo, Japan, 30 June-11 July 2003, paper P06/03A/B19-008, A.439.
218. Jones, A.G., D. Snyder, B. Davis, W. Bleeker, H. Grutter, P. Lezaeta, A.D. Chave, R.L. Evans, and I.J. Ferguson, Imaging the results of Archean tectonic processes: EM and teleseismic studies of the Slave craton, Canada, *Proc. 23rd General Assembly of the International Union of Geodesy and Geophysics*, Sapporo, Japan, 30 June-11 July 2003, paper JSS06/09P/ A04-008, B.137.
219. Baba, K., A.D. Chave, R.L. Evans, G. Hirth, and R.L. Mackie, Melt generating processes at the southern East Pacific Rise revealed by the electrical conductivity structure, *Proc. 23rd General Assembly of the International Union of Geodesy and Geophysics*, Sapporo, Japan, 30 June-11 July 2003, paper SS03/07A/A02-011, B.460.
220. Baba, K., A.D. Chave, R.L. Evans, G. Hirth, and R.L. Mackie, Melt generation and mantle dynamics beneath the southern East Pacific Rise: Insights from the Mantle Electromagnetic and Tomography (MELT) experiment EM data, *EOS*, 84 (46), Fall Meet. Supp., Abstract T51H-03, 2003.

## 2004

221. Jones, A.G., R.L. Mackie, A.D. Chave, and R.L. Evans, Three-dimensional inversion of regional-scale magnetotelluric data from the Slave craton, Canada, *Proc. Eur. Geosci. Union*, Nice, France, 25-30 April 2004.
222. Chave, A.D., A.G. Jones, R.L. Mackie, and R.L. Evans, Three-dimensional deep electrical structure of the Slave Craton, Canada, *EOS*, 85, Jt. Assem. Supp., Abstract T12A01, 2004 (invited paper, 2004 Joint Assembly of AGU/CGU/SEG/EEGS).
223. Wannamaker, P.E., A.D. Chave, J.R. Booker, A.G. Jones, M. Unsworth, and Y. Ogawa, Lithospheric architecture and physical state below the southern Appalachians compressional orogen from electrical conductivity structure, *Proc. 17th International Basement Tectonics Association Conference*, Oak Ridge, Tennessee, 27 June-1 July 2004.
224. Chave, A.D., Project NEPTUNE: Designing data communications/power networks for the seafloor, *Proc. IASTED Inter. Multi.-Conf. Wireless and Optical Comm.*, Banff, Canada, Jul 8-10, 2004 (invited keynote address)
225. Muller, M.R. S.J. Webb, W.H.B. Steenkamp, A.G. Jones, R.L. Evans, X. Garcia, A.D. Chave, W. Soyer, S.F. Evans, M. Hamilton, C.J.S. Fourie, and the SAMTEX Team, Upper crustal imaging of the Archean Witwatersrand Basin, South Africa using broadband magnetotellurics: preliminary results, *Geosciences Africa 2004*, Johannesburg, South Africa, July 2004.

226. Jones, A.G., J. Spratt, C. Horan, G. Wallace, R.L. Evans, X. Garcia, A.D. Chave, E.H. Stettler, M. Adlem, R.H. Stettler, C.J. Raath, S.F. Evans, M. Hamilton, and the SAMTEX Team, The electrical lithosphere of the Kaapvaal craton: Project SAMTEX overview and first results, *Geosciences Africa 2004*, Johannesburg, South Africa, July 2004.
227. Evans, S.F., R. Van Buren, A.G. Jones, R.L. Evans, X. Garcia, A.D. Chave, W. Soyer, M. Hamilton, and the SAMTEX Team, Investigating the relationship between the occurrence of diamond mines and the electrical structure of the lithosphere, *Geosciences Africa 2004*, Johannesburg, South Africa, July 2004.
228. Muller, M.R., S.J. Webb, W.H.B. Steenkamp, A.G. Jones, R.L. Evans, X. Garcia, A.D. Chave, W. Soyer, S. Evans, M. Hamilton, C.J.S. Fourie, and the SAMTEX Team, Upper crustal imaging of the Archaean Witwatersrand Basin, South Africa, using broadband magnetotellurics: preliminary results, *Proc. 17th Workshop on Electromagnetic Induction*, Hyderabad, India, October 18-23, 2004.
229. Jones, A.G., R.L. Mackie, A.D. Chave, and R.L. Evans, Three dimensional inversion of regional scale magnetotelluric data from the Slave Craton, Canada, *Proc. 17th Workshop on Electromagnetic Induction*, Hyderabad, India, October 18-23, 2004.
230. Wannamaker, P.E., M. J. Unsworth, A.G. Jones, A.D. Chave, Y. Ogawa, and J.R. Booker, Cryptic terrane sutures, upper mantle delamination, and lithospheric physical state of the southern Appalachians orogenic belt, southeastern United States, *Proc. 17th Workshop on Electromagnetic Induction*, Hyderabad, India, October 18-23, 2004.
231. Orcutt, J., M. Abbott, J. Bellingham, A. Chave, J. Delaney, R. Johnson, E. Lazowska, M. Moline, and L. Smarr, Cyberinfrastructure (CI) for interactive ocean observatories: LOOKING ahead, *EOS*, 85, OS41E-03, 2004 (2004 fall AGU meeting).

## 2005

232. Angel, S.M., W. Pearman, M. Lawrence, J. Scaffidi, A. Michel, and A.D. Chave, Sequential and ultra-short pulse LIBS: Application to high pressure solution measurements, *Pittcon*, March 2005 (invited paper).
233. Wannamaker, P.E., S.K. Park, J.R. Booker, G.D. Egbert, G.R. Jiracek, and A.D. Chave, The electromagnetic view of continental dynamics: US experience and the potential of Earthscope, *Proc. Earthscope National Meeting*, Santa Ana Pueblo, New Mexico, 29-31 Mar 2005.
234. Michel, A.P.M., M.J. Lawrence-Snyder, S.M. Angel, and A.D. Chave, Development of an oceanographic sensor for in situ chemical analysis of hydrothermal vents: Preliminary laboratory results using laser induced breakdown spectroscopy, *Proc. RIDGE2000/Interridge Field School on Troodos Ophiolite*, Cyprus, May 2005.
235. Brasse, H., G. Kapinos, Y. Li, and A.D. Chave, An amphibious magnetotelluric

study at the south Chilean continental margin, *EOS*, 86, GP34A-02, 2005 (2005 fall AGU meeting).

236. Jones, A.G., R. Evans, X. Garcia, M. Hamilton, S. Evans, S. Fourie, A. Mountford, J. Spratt, and A.D. Chave, A magnetotelluric transect of the Kaapvaal Craton and its surroundings: The SAMTEX experiment, *EOS*, 86, GP34A-03, 2005 (2005 fall AGU meeting).
237. Chave, A.D., M. Arrott, and J.A. Orcutt, Federated observatory “sense and response” framework, *EOS*, 86, IN33A-1171, 2005 (2005 fall AGU meeting).
238. Arrott, M., J.A. Orcutt, and A.D. Chave, Interoperability between loosely-coupled distributed resources and applications across autonomous systems, *EOS*, 86, IN51A-0315, 2005 (2005 fall AGU meeting).
239. Evans, R.L., G. Hirth, K. Baba, D. Forsyth, A.D. Chave, and R.L. Mackie, Compositional controls on oceanic mantle: Geophysical evidence from the MELT area, *EOS*, 86, T34A-06, 2005 (2005 fall AGU meeting).

## 2006

240. Arrott, M., A.D. Chave, T. Fountain, and J.A. Orcutt, Laboratory for the Ocean Observatory Knowledge Integration Grid (LOOKING): Sense and response transducer infrastructure, *EOS*, 87, OS43B-04, 2006 (2006 Ocean Sciences Meeting).
241. Chave, A.D., Cabled ocean observatories, cyberinfrastructure and all that, *Proc. SIGGRAPH 2006*, Boston, MA, Aug 1-3, 2006 (invited paper).
242. Michel, A.P.M., N. Farr, and A.D. Chave, Laboratory evaluation of LIBS for *in situ* chemical sensing in the high pressure aqueous environment of the deep ocean, *Proc. 4<sup>th</sup> Int. Conf on Laser Induced Plasma Spectroscopy and Applications*, Montreal, Canada, September 5-8, 2006.
243. Michel, A.P.M., A.D. Chave, and N. Farr, Data analysis of LIBS spectra: The case for using a generalized extreme value distribution, *Proc. 4<sup>th</sup> Int. Conf on Laser Induced Plasma Spectroscopy and Applications*, Montreal, Canada, Sept 5-8, 2006.
244. Jones, A.G., X. Garcia, M. Hamilton, M. Miensopust, M. Muller, J. Spratt, R.L. Evans, A.D. Chave, S., E. Stettler, R. Stettler, J. Cole, H. Ngwisanyi, D. Hutchins, S. Evans, D. Hatch, A. Mountford, E. Cunio, and the SAMTEX team, SAMTEX (Southern African Magnetotelluric Experiment): Overview and first results, *Proc. 18th Workshop on EM Induction*, El Vendrell, Spain, 17-23 September 2006.
245. Chave, A.D., Ocean observatories, cyberinfrastructure and all that, *Marine Metadata Initiative Workshop: Sensor Metadata Interoperability*, Portland, ME, Oct 19-20, 2006 (keynote presentation).

## 2007

246. Chave, A.D., A tale of three marine observatories and the integrating cyberinfrastructure, *Proc. GEOSS Asia-Pacific Forum*, Tokyo, Japan, Jan 11-12,

2007.

247. Chave, A.D., Scientific cabled ocean observatories, *Proc. Undersea Distributed Networked Systems Symposium*, Newport, RI, February 13-15, 2007.
248. Matsuno, T., N. Seama, K. Baba, T. Goto, A. Chave, R. Evans, A. White, G. Boren, A. Yio Yoneda, H. Iwamoto, R. Tsujino, Y. Baba, H. Utada, and K. Suyehiro, Preliminary results of magnetotelluric analysis across the central Mariana transect, *Proc. Japanese Geosci. Union*, Chiba, Japan, May 19-24, 2007.
249. Orcutt, J.A., F.L. Vernon, M. Arrott, and A. Chave, A candidate cyberinfrastructure for the NSF Ocean Observatories Initiative, *Proc. 2007 Joint Assembly*, Acapulco, Mexico, May 22-27, 2007.
250. Chave, A.D., Ocean observatories, spectrometers and all that, *Proc. Pac. Congr. Mar. Sci. Tech.*, Honolulu, Hawaii, June 24-27, 2007 (invited paper).
251. Yoneda, A., K. Baba, H. Utada, N. Seama, T. Matsuno, T. Goto, R.L. Evans, A. Chave, G. Boren, A. White, and G. Heinson, Seafloor GDS analysis in the central Mariana area, *Proc. 122<sup>nd</sup> Meeting of the Soc. of Geomag. and Earth, Pl. and Space Sci.*, Nagoya, Japan, Sep 28-30, 2007.
252. Michel, A.P.M, and A.D. Chave, Laboratory evaluation of laser-induced breakdown spectroscopy (LIBS) as a new in situ chemical sensing technique for the deep ocean, *Proc. NASLIBS 2007*, New Orleans, Oct 8-10, 2007.
253. Seama, N., A. White, A.D. Chave, K. Baba, T. Goto, T. Matsuno, R.L. Evans, G. Boren, A. Yoneda, H. Iwamoto, R. Tsujino, Y. Baba, H. Utada and K. Suyehiro, Imaging mantle structure of the central Mariana subduction-arc-back arc system using electromagnetic technique, *Proc. Subduction Factories Studies in the Izu-Bonin-Mariana Arc System: Results and Future Plans*, Honolulu, HI, Nov 7-10, 2007 (invited paper).
254. Orcutt, J.A., F.L. Vernon, M. Arrott, A. Chave, I. Krueger, O. Schofield, S. Glenn, C. Peach, and A. Nayak, Cyberinfrastructure for the NSF Ocean Observatories Initiative, *EOS Trans. AGU*, 88, Fall Meet. Supp., Abstract IN13B-1218, 2007 (2007 fall AGU meeting).

## 2008

255. Matsuno, T., N. Seama, K. Baba, T. Goto, A.D. Chave, R.L. Evans, A. White, G. Boren, A. Yoneda, G. Heinson, H. Iwamoto, R. Tsujino, Y. Baba, H. Utada and K. Suyehiro, Electrical structure beneath the central Marianas subduction fore-arc, arc, back-arc system, *Proc. Asia Oceania Geosci. Soc.*, Busan, Korea, Jun 16-20, 2008.
256. Matsuno, T., N. Seama, K. Baba, T. Goto, A. Chave, R. Evans, A. White, G. Boren, A. Yoneda, G. Heinson, H. Iwamoto, R. Tsujino, Y. Baba, H. Utada and K. Suyehiro, Electrical structure beneath the central Marianas subduction fore-arc, arc, back-arc system, *Proc. 19<sup>th</sup> Workshop on Electromagnetic Induction*, Beijing, China, Oct 23-29, 2008.



257. Orcutt, J.A., F.L. Vernon, M. Arrott, A. Chave, O. Schofield, C. Peach, I. Krueger and M. Meisinger, Cyberinfrastructure for the NSF Ocean Observatories Initiative, *EOS Trans. AGU*, 89. Fall Meet. Suppl., Abstract IN22A-02 (2008 fall AGU meeting).
258. Chave, A., M. Arrott, M. Meisinger, J. Orcutt, I. Krueger, F. Vernon, J. Kleinert, O. Schofield and C. Peach, Toward a cyberinfrastructure for the Ocean Observatories Initiative: Enabling interactive observation within the oceans, *EOS Trans. AGU*, 89, Fall Meet. Supp., Abstract IN23A-1071 (2008 fall AGU meeting).
259. Meisinger, M., M. Arrott, A. Clemesha, C. Farcas, E. Farcas, T. Im, O. Schofield, I. Krueger, I. Klacansky, J. Orcutt, C. Peach, A. Chave, D. Raymer and F. Vernon, Integrating data distribution and data assimilation between the OOI CI and the NOAA DIF, *EOS Trans. AGU*, 89. Fall Meet. Suppl., Abstract IN53A-1181 (2008 fall AGU meeting).

## 2009

260. Matsuno, T., N. Seama, K. Baba, T. Goto, A. Chave, R. L. Evans, A. White, G. Boren, A. Yoneda, H. Utada, G. Heinson and K. Suyehiro, Electrical structure in the mantle across the Mariana subduction system, *Proc. Final Stagnant Subducted Slab International Symposium*, Kyoto, Japan, 25-27 Feb 2009.
261. Arrott, M., M. Meisinger, I. Krueger, A. Chave, J. Orcutt, F. Vernon, C. Peach, O. Schofield and J. Kleinert, Cyberinfrastructure for the US Ocean Observatories Initiative: Enabling interactive observation in the ocean, *EOS Trans. AGU*, 90, Jt. Assem. Supp., Abstract OS22A-02 (2009 Joint Assembly).
262. Orcutt, J.A., F.L. Vernon, C. Peach, M. Arrott, C. Farcas, E. Farcas, I. Krueger, M. Meisinger, A.D. Chave, O. Schofield and J.E. Kleinert, Cyberinfrastructure for the U.S. NSF Ocean Observatories Initiative: A modern virtual observatory, *Proc. European Seafloor Observatory Network Virtual Institute of Scientific Users of Deep-Sea Observatories*, Tromso, Norway, June 2009.
263. Meisinger, M., M. Arrott, C. Farcas, E. Farcas, I. Krueger, A.D. Chave, J.A. Orcutt, F.L. Vernon, C. Peach, O. Schofield and J.E. Kleinert, The Ocean Observatories Initiative: Supporting advanced scientific applications in the cloud, *Proc. GeoCloud Workshop*, Indianapolis, IN, 14-15 Oct 2009.
264. Matsuno, T., N. Seama, K. Baba, A. Chave, R.L. Evans, T. Goto, A. White, G. Boren, A. Yoneda, H. Utada, G. Heinson and K. Suyehiro, Electrical resistivity structure in the mantle across the Mariana subduction system, *EOS Trans. AGU*, 90, Fall Meet. Supp., Abstract DI41C-1821 (2009 fall AGU meeting).

## 2010

265. Orcutt, J.A., F.L. Vernon, C.L. Peach, M. Arrott, A.D. Chave, O. Schofield, M. Meisinger, C. Farcas, E. Farcas, I. Krueger and J. Kleinert, The cyberinfrastructure model for the NSF Ocean Observatories Initiative: A 20 year perspective, *EOS Trans. AGU*, 91, Ocean Sci. Supp., Abstract MT35A-16 (2010 Ocean Sciences meeting).

266. Peach, C., R. Collier, D.S. Kelley, A. Thorrold, S. Duncan, J.A. Orcutt, F.L. Vernon, A.D. Chave, M. Arrott, O. Schofield, M. Meisinger, C. Farcas, E. Farcas, I. Krueger, J. Kleinert and C.S. Keen, Ocean observatory educational infrastructure for 21<sup>st</sup> century learners, *EOS Trans. AGU*, 91, Ocean Sci. Supp., Abstract ED41A-04 (invited paper; 2010 Ocean Sciences meeting).
267. Sonnichsen, F., A. Chave, B. Beardsley, W. Beardsley and G. Ritchie, Laser induced breakdown spectroscopy for the chemical analysis of deep ocean vents: Laboratory simulation of in situ metal ion detection, *Proc. 6<sup>th</sup> Int. Conf. on Laser Induced Breakdown Spectroscopy*, Memphis, TN, 13-17 Sep 2010.
268. Orcutt, J.A., F.L. Vernon, M. Arrott, O. Schofield, C. Peach, A. Chave, J. Graybeal, M. James, and M. Meisinger, The NSF Ocean Observatories Initiative Cyberinfrastructure and the open availability of related climate data, *EOS Trans. AGU*, 91, Fall Meet. Supp., Abstract IN13A-1093 (2010 fall AGU meeting).
269. Schofield, O., J.A. Orcutt, M. Arrott, F.L. Vernon, C.L. Peach, M. Meisinger, I. Krueger, J. Kleinert, Y. Chao, S. Chien, D.R. Thompson, A.D. Chave and A. Balasuriya, Automated sensor networks to advance ocean science, *EOS Trans. AGU*, 91, Fall Meet. Supp., Abstract IN34A-08 (2010 fall AGU meeting).

## 2011

270. Matsuno, T., N. Seama, R.L. Evans, A.D. Chave, K. Baba, A. White, T. Goto, G. Heinson, G. Boren, A. Yoneda and H. Utada, Upper mantle electrical resistivity structure beneath the central Mariana subduction system, *Proc. 1<sup>st</sup> Int. Symp. on Geofluids*, Tokyo Inst. Tech., Tokyo, Japan, Mar. 17-19, 2011.
271. Orcutt, J.A., F.L. Vernon, M. Arrott, O. Schofield, C. Peach, A. Chave, M. James and M. Meisinger, A proposal for an integrated ocean network for long-term climate and seafloor studies, *Geophys. Res. Abstr.*, 13, EGU2011-5288 (2011 EGU meeting).
272. Graybeal, J., J. Orcutt, F. Vernon, M. Arrott, O. Schofield, C. Peach, A. Chave, M. James and M. Meisinger, The design of the NSF Ocean Observatories Initiative cyberinfrastructure, *Geophys. Res. Abstr.*, 13, EGU2011-9697 (2011 EGU meeting).
273. Baba, K., A.D. Chave, R.L. Evans, P. Tarits, G. Hirth and R.L. Mackie, Electrical structure beneath a fast spreading mid-ocean ridge, *Proc. 2011 Ann. Meet. Japan Assoc. Min. Sci.*, Ibaraki, Japan, Sep 9-11, 2011 (invited paper).
274. Chave, A.D., Data resource life cycle from creation to destruction, *Proc. GEOSS Workshop XLII: Toward Global Ocean Observations*, Kona, Hawaii, Sep 18, 2011.
275. Chave, A.D., An overview of magnetotelluric soundings in active tectonic regions: Progress and prospects, *Proc. Workshop on Ocean Mantle Dynamics: From Spreading Center to Subduction Zone*, Kashiwa, Japan, Oct 4-6, 2011.

## 2012

276. Banahan, S., W. Bergen and A.D. Chave, Ocean Observatories Initiative (OOI) – A major leap forward in ocean science and observing technology, *Proc. Am. Meteorol.*

*Soc. Ann. Meeting*, New Orleans, 22-26 Jan 2012.

277. Chave, A.D., G. Egbert and A. Kelbert, Probing mid-mantle electrical conductivity using the ocean tides as a source, *Proc. 21<sup>st</sup> EM Induction Workshop*, Darwin, Australia, 25-31 July 2012.

278. Matsuno, T., A.D. Chave, A.G. Jones, M.R. Muller and R.L. Evans, Robust magnetotelluric inversion, *Proc. 21<sup>st</sup> EM Induction Workshop*, Darwin, Australia, 25-31 July 2012.