

An incomplete list of references for MT and Andes research

- Abbas, M. (1968): Hydromagnetic wave propagation and excitation of Schumann resonances, *Planet. Space Sci.*, 16, 831-844.
- Abers, G.A., Plank, T. & Hacker, B.R. (2003): The wet Nicaraguan slab, *Geophys. Res. Lett.*, 30 (2), doi:10.1029/2002GL015649.
- Abratis, M. & Wörner, G. (2001): Ridge collision, slab-window formation, and the flux of Pacific asthenosphere into the Caribbean realm, *Geology*, 29 (2), 127-130.
- Adepelumi, A.A., Fontes, S.L., Schnegg, P.A. & Flexor, J.M. (2004): An integrated magnetotelluric and aeromagnetic investigation of the Serra da Cangalha impact crater, Brazil, *Phys. Earth Planet. Inter.*, doi:10.1016/j.pepi.2004.08.029.
- Agarwal, A.K. & Dosso, H.W. (1990): On the behaviour of the induction arrows over a buried conductive plate - a numerical model study, *Phys. Earth Planet. Int.*, 60, 265-277.
- Aizawa, K. (2004): A large self-potential anomaly and its changes on the quiet Mt. Fuji, Japan, *Geophys. Res. Lett.*, 31, doi:10.1029/2004GL019462
- Aizawa, K., Yoshimura, R., Oshiman, N., Yamazaki, K., Uto, T., Ogawa, Y., Tank, S.B., Kanda, W., Sakanaka, S., Furukawa, Y., Hashimoto, T., Uyeshima, M., Ogawa, T., Shiozaki, I., Hurst A.W. (2005): Hydrothermal system beneath Mt. Fuji volcano inferred from magnetotellurics and electric self-potential, *Earth Planet. Sci. Lett.*, 235, 343–355.
- Aizawa, K., Ogawa, Y., and Ishido, T. (2009): Groundwater flow and hydrothermal systems within volcanic edifices: Delineation by electric self-potential and magnetotellurics, *J. Geophys. Res.*, 114, B01208, doi:10.1029/2008JB005910.
- Allmendinger, R.W. & Gubbels, T. (1996): Pure and simple shear plateau uplift, Altiplano-Puna, Argentina and Bolivia, *Tectonophysics*, 259, 1-13.
- Allmendinger, R.W., Jordan, T.E., Kay, S.M. & Isacks, B.L. (1997): The Evolution of the Altiplano-Puna Plateau of the Central Andes, *Ann. Rev. Earth Planet. Sci.*, 25, 139-174.
- Allmendinger, R. W., Gonzalez, G., Yu, J., Hoke, G. & Isacks, B. 2005. Trench-parallel shortening in the Northern Chilean Forearc: Tectonic and climatic implications. *Geol. Soc. America Bull.*, 117(1/2), 89-104.
- Allmendinger, R.S., M. Bevis, H. Caprio, and B. Brooks (2005), Bending the Bolivian orocline in real time, *Geology*, 33, doi:10.1130/G21779.1
- Al'pert, Ya. L. (1974): Radio wave propagation and the ionosphere, Vol. 2, Consultants Bureau, New York.
- ANCORP Working Group (1999): Seismic reflection image revealing offset of Andean subduction-zone earthquake locations into oceanic mantle, *Nature*, 397, 341-344.
- ANCORP Working Group (2003): Seismic imaging of an active continental margin and plateau in the central Andes (Andean Continental Research Project 1996 (ANCORP '96)), *J. Geophys. Res.*, 108 (B7), doi:10.1029/2002JB001771.
- Angermann, D., J. Klotz, C. Reigber (1999), Space-geodetic estimation of the Nazca-South America Euler vector, *Earth Planet. Sci. Lett.*, 171, 329-334.
- Andrieux, P., Clerc, G. & Tort, P. (1974): Capteur magnetometrique triaxial pour la prospection magnetotellurique artificielle entre 4 Hz et 4 kHz, *Revue de Physique Applique*, 9, 757-759.
- Arcay, D., Tric, E., Doin, M.-P. (2005): Numerical simulations of subduction zones: effect of slab dehydration on the mantle wedge dynamics, *Phys. Earth Planet. Inter.*, 149, 133-153
- Arcay, D., M.-P. Doin, E. Tric, R. Bousquet, and C. de Capitani (2006), Overriding plate thinning in subduction zones: Localized convection induced by slab dehydration, *Geochem. Geophys. Geosyst.*, 7, doi:10.1029/2005GC001061.

- Arzate, J.A., Mareschal, M., and Livelybrooks, D. (1995): Electrical image of the subducting Cocos Plate from magnetotelluric observations, *Geology*, 23 (88), 703-706.
- Asters, R.C., Borchers, B., and Thurber, C.H. (2005): Parameter Estimation and Inverse Problems, International Geophysics Series, 90, Elsevier.
- Azizi, S.A. (1990): Entwurf und Realisierung digitaler Filter, Verlag R. Oldenbourg, München, Wien.
- Baba, K., Chave, A.D., Evans, R.L., Hirth, G., and Mackie, R.L., 2006. Mantle dynamics beneath the East Pacific Rise at 17°S: insights from the Mantle Electromagnetic and Tomography (MELT) experiment, *J. Geophys. Res.*, 111, B02101, doi:10.1029/2004JB003598.
- Babeyko, A.Yu., Sobolev, S.V., Trumbull, R.B., Oncken, O. & Lavier, L.L. (2002): Numerical models of crustal scale convection and partial melting beneath the Altiplano-Puna plateau, *Earth Planet. Sci. Lett.*, 199 (3-4), 373-388
- Backus, G.E. & Gilbert, J.F. (1968): The resolving power of gross earth data., *Geophys. J. Roy. Astr. Soc.*, 16, 169-205.
- Bahr, K. (1983): Joint Interpretation of Magnetotelluric and Geomagnetic Data: Local Telluric Distortions, *J. Geomag. Geoelectr.*, 35, 555-566.
- Bahr, K. (1985): Magnetotellurische Messung des elektrischen Widerstandes der Erdkruste und des oberen Mantels in Gebieten mit lokalen und regionalen Leitfähigkeitsanomalien, Diss. Univ. Göttingen.
- Bahr, K. (1988): Interpretation of the magnetotelluric impedance tensor: regional induction and local distortion, *J. Geophys.*, 62, 119-127.
- Bahr, K. & Filloux, J.H. (1989): Local Sq Response Functions From EMSLAB Data, *J. Geophys. Res.*, 94 (B10), 14195-14200.
- Bahr, K. (1991): Geological noise in magnetotelluric data: a classification of distortion types, *Phys. Earth. Planet. Int.*, 66, 24-38.
- Bahr, K., Electrical anisotropy and conductivity distributions of fractal random networks and of the crust: the scale effect of connectivity, *Geophys. J. Int.*, 130, 649-660, 1997.
- Bahr, K. and Duba, A. (2000): Is the asthenosphere electrically anisotropic?, *Earth Planet. Sci. Lett.*, 178, 87-95.
- Bahr, K., Smirnov, M., Steveling, E. & BEAR Working Group (2002): A gelation analogy of crustal formation derived from fractal conductive structures, *J. Geophys. Res.*, 107 (B11), 2314, doi:10.1029/2001JB000506.
- Bahr, K. & Simpson, F. (2005): Practical Magnetotellurics, Cambridge Univ. Press.
- Bailey, R.C. (1970): Inversion of the geomagnetic induction problem, *Proc. Roy. Soc. Lond. A*, 315, 185-194.
- Balser, M. & Wagner, C. (1960): Observations of earth-ionosphere cavity resonances, *Nature*, 188, 638-641.
- Barazangi, M. & Isacks, B.L. (1976): Spatial distribution of earthquakes and subduction of the Nazca Plate beneath South America, *Geology*, 4, 686-692.
- Barckhausen, U., Ranero, C.R., von Huene, R., Cande, S. & Roeser, H. (2001): Revised Tectonic Boundaries in the Cocos Plate off Costa Rica: Implications for the Segmentation of the Convergent Margin and for Plate Tectonic Models, *J. Geophys. Res.*, 106, 19207-19220.
- Barke, R., S. Lamb, and C. MacNioccaill (2007), Late Cenozoic bending of the Bolivian Andes: New paleomagnetic and kinematic constraints, *J. Geophys. Res.*, 10.1029/2006JB004372.
- Barleben, T. (1989): Anwendung von Evolutionsstrategien zur Inversion geoelektrischer Daten, Dipl.-Arbeit Institut für Angewandte Geophysik, TU Berlin.

- Baumont, D., Paul, A., Beck, S., Zandt, G. (1999): Strong crustal heterogeneity in the Bolivian Altiplano as suggested by attenuation of Lg waves, *J. Geophys. Res.*, 104 (B9), 20,287-20,305.
- Baumont, D., Paul, A., Zandt, G., Beck, S. & H. Pedersen (2002): Lithospheric structure of the central Andes based on surface wave dispersion, *J. Geophys. Res.*, 107 (B12), doi:10.1029/2001JB000345.
- Baur, E. (1985): Einführung in die Radartechnik, Teubner, Stuttgart.
- Beamish, D. (1986): Geoelectric structural dimensions from magnetotelluric data: Methods of estimation, old and new, *Geophysics*, 51, 1298-1309.
- Beamish, D. & Tzanis, A. (1986): High resolution spectral characteristics of the Earth-ionosphere cavity resonances, *J. Atmos. Terr. Phys.*, 48, 187-203.
- Beblo, M. (1982): Die Dielektrizitätskonstante der Minerale und Gesteine, in: Landolt-Börnstein, Zahlenwerte und Funktionen aus Naturwissenschaften und Technik, Neue Serie, V1b (Hg. G. Angenheister), Springer-Verlag, Berlin-Heidelberg-New York.
- Beck, S.L., Zandt, G., Myers, S.C., Wallace, T.C., Silver, P.G. & Drake, L. (1996): Crustal thickness variations in the Central Andes, *Geology*, 24, 407-410.
- Becker, R. & Sauter, F. (1973): Theorie der Elektrizität, Band 1, Teubner, Stuttgart.
- Becker, K.-D. (1974): Ausbreitung elektromagnetischer Wellen, Springer-Verlag, Berlin.
- Beike, J. (2001): Studien zur anisotropen Leitfähigkeitsverteilung und ein Versuch zur Erklärung magnetotellurischer Übertragungsfunktionen in der Küstenkordillere Nordchiles, Dipl.-Arbeit, Fachrichtung Geophysik, FU Berlin.
- Bendat, J.S. & Piersol, A.G. (1971): Random Data: Analysis and Measurement Procedures, Wiley-Interscience, New York.
- Benignus, V.A. (1969): Estimation of the Coherence Spectrum and its Confidence Interval Using the Fast Fourier Transform, *IEEE Trans. Audio and Electroacoustics*, Vol. AU-17, No. 2, 145-150.
- Berdichevsky, M.N. & Dimitriev, V.I. (1976): Basic principles of interpretation of magnetotelluric sounding curves, in: *Geoelectric and Geothermal Studies*, Akademia Kiado, Budapest.
- Berdichevsky, M.N. & Dimitriev, V.I. (1976): Distortion of magnetic and electrical fields by near-surface lateral inhomogeneities, *Acta Geod., Geophys. et Mont. Acad. Sci. Hung.*, 11 (3-4), 447-483.
- Berdichevsky, M.N. & Zhdanov, M.S. (1984): Advanced Theory of Deep Geomagnetic Soundings, Elsevier, Amsterdam.
- Berdichevsky, M.N., Vanyan L.L. & Dimitriev, V.I. (1989): Methods used in the U.S.S.R. to reduce near-surface inhomogeneity effects on deep magnetotelluric sounding, *Phys. Earth Planet. Inter.*, 53, 194-206.
- Berdichevsky, M.N. (1999): Marginal notes on magnetotellurics, *Surveys in Geophysics*, 20, 341-375.
- Berdichevsky, M.N. & Dimitriev, V.I. (2002): Magnetotellurics in the context of ill-posed problems, Society of Exploration Geophysicists, Tulsa.
- Berdichevsky, M.N., Dimitriev, V.I., Golubtsova, N.S., Mershchikova, N.A., Pushkarev, P. Yu. (2003): Magnetovariational Sounding: New Possibilities, *Izvestiya, Physics of the Solid Earth*, 39 (9), 701-727.
- Bertin, J. & Loeb, J. (1976): Experimental and Theoretical Aspects of Induced Polarization, Vol. 1 & 2, *Geoexploration Monographs*, Gebrüder Bornträger, Berlin.
- Bleil, D.F. (1964): Natural electromagnetic phenomena below 30 kc/s, Plenum Press, New York.

- Bliokh, H., Nikolaenko, A.P. & Filippov, Yu.F. (1980): Schumann resonances in the Earth-ionosphere cavity (ed. D. Llanwyn-Jones), IEE Electromagnetic Wave Series 9, P. Peregrinus Ltd., Stevenage.
- Blumensath, S. (1996): Über die Entzerrung elektromagnetischer Daten – Anwendung auf ein 3D-Modell und auf Meßdaten aus Argentinien, Dipl.-Arbeit Fachrichtung Geophysik, FU Berlin.
- Bohm, M., Lüth, S., Echtler, H., Asch, G., Bataille, K., Bruhn, C., Rietbrock, A. & P. Wigger (2002): The Southern Andes between 36° and 40°S latitude: seismicity and average seismic velocities, Tectonophysics, 356, 275-289.
- Bonanomi, J.A.(1983): Batteriebetriebene Funkuhren, in: Funkuhren, R. Oldenbourg Verlag, München, Wien.
- Böning, W. (Ed.)(1978): Elektrische Energietechnik, Band 2 Geräte, Springer-Verlag, Berlin.
- Börner, F. (1991): Untersuchungen zur komplexen elektrischen Leitfähigkeit von Gesteinen im Frequenzbereich 1 mHz bis 10 KHz, Diss. Bergakademie Freiberg.
- Booker, J.R., Favetto, A. & Pomposiello, M.C. (2004): Low electrical resistivity associated with plunging of the Nazca flat slab beneath Argentina, Nature, 429, 399-403.
- Bostick, F.X. Jr. (1977): A simple almost exact method of MT-analysis, Workshop on electrical methods in geothermal exploration, US Geol. Survey, Contract 140800001-8-359.
- Brasse, H. (1981): Untersuchung des regionalen erdmagnetischen Feldes im Bereich des Unterwerra-Sattels in Nordhessen, Dipl.-Arbeit, Inst. für Geophysik, Universität Göttingen.
- Brasse, H. & Junge, A. (1984a): The influence of geomagnetic variations on pipelines and an application for large-scale magnetotelluric depth sounding, J. Geophys., 55, 31-36.
- Brasse, H. & Junge, A. (1984b): Einfluß erdmagnetischer Variationen auf den kathodischen Schutz von Rohrleitungen, gwf Gas/Erdgas, 125 Jahrg., 4, 194-201.
- Brasse, H. (1988): Audiomagnetotellurische Untersuchungen in von künstlichen Feldern freien Gebieten in Südagypten und Nordsudan, Protokoll Koll. Elektromagnetische Tiefenforschung, Königstein/Taunus, 217-232.
- Brasse, H., Fischer, G., Leonhardt, F. & Schnegg, P.-A. (1988): Magnetotellurische Untersuchungen an der Fränkischen Linie und im Umfeld der KTB-Lokation, KTB-Report 88-12, 111-126.
- Brasse, H. (1990): "Zeitgleiche" Registrierung audiomagnetotellurischer Variationen mit zwei Stationen, Protokoll Koll. Elektromagnetische Tiefenforschung, Hornburg, 313-326.
- Brasse, H. & Junge, A. (1992): Bemerkungen zur Anregungsmode im AMT-Bereich, Protokoll Koll. Elektromagnetische Tiefenforschung, Borkheide, 117-124.
- Brasse, H. (1993): Audiomagnetotellurische Tiefensondierungen in Nordost-Afrika, Diss., TU Berlin.
- Brasse, H., Burkhardt, H., Fiedler-Volmer, R., Rath, V. & Schuster, K. (1993): Geophysical and geological investigations in the Es Safya Graben, NW Sudan, in: Geoscientific research in Northeast Africa (eds. U. Thorweih & H. Schandelmeier), Balkema, Rotterdam, 749-754.
- Brasse, H. & Rath, V. (1997): Audiomagnetotelluric investigations of shallow sedimentary basins in Northern Sudan, Geophys. J. Int., 128, 301-314.
- Brasse, H., Burkhardt, H., Fiedler-Volmer, R., Rath, V., Schuster, K. & Troschke, B. (1999): Geophysikalische und geologische Untersuchungen im Es Safya-Graben (Nordwest-Sudan): Ein Beitrag zur Erkundung einer kleinräumigen Struktur, in: Nordost-Afrika: Strukturen und Ressourcen (Hg. E. Klitzsch), Wiley-VCH-Verlag, Weinheim.
- Brasse, H. & Soyer, W. (2001): A magnetotelluric study in the Southern Chilean Andes, Geophys. Res. Lett., 28, 3757-3760.

- Brasse, H., Lezaeta, P., Rath, V., Schwalenberg, K., Soyer, W. & Haak, V. (2002): The Bolivian Altiplano conductivity anomaly, *J. Geophys. Res.*, 107, 10.1029/2001JB000391.
- Brasse, H. & EMTESZ-Pomerania Team (2006): Probing Electrical Conductivity of the Trans-European Suture Zone, *EOS*, 2006ES001383, 87(29).
- Brasse, H., Li, Y., Kapinos, G., Eydam, D. & Mütschard, L. (2006): Uniform Deflection of Induction Vectors at the South Chilean Continental Margin: A Hint at Electrical Anisotropy in the Crust, *Prot. Koll. Elektromagnetische Tiefenforschung* (eds. O. Ritter and H. Brasse), Haus Wohldenberg, Holle, ISSN 0946-7467, 281-287.
- Brasse, H., and D. Eydam (2008), Electrical conductivity beneath the Bolivian Orocline and its relation to subduction processes at the South American continental margin, *J. Geophys. Res.*, 113, B07109, doi:10.1029/2007JB005142.
- Brasse, H., G. Kapinos, Y. Li, L. Mütschard, W. Soyer, and D. Eydam (2009): Structural electrical anisotropy in the crust at the South-Central Chilean continental margin as inferred from geomagnetic transfer functions, *Phys. Earth Planet. Inter.*, doi: 10.1016/j.pepi.2008.10.017.
- Brasse, H., G. Kapinos, L. Mütschard, G.E. Alvarado, T. Worzewski, and M. Jegen (2009): Deep electrical resistivity structure of northwestern Costa Rica, *Geophys. Res. Lett.*, doi:10.1029/2008GL036397.
- Brewitt-Taylor, C.R. & Weaver, J.T. (1976): On the finite difference solution of two-dimensional induction problems, *Geophys. J. R. astr. Soc.*, 47, 375-396.
- Brigham, E.O. (1985): FFT: Schnelle Fourier-Transformation, R. Oldenbourg Verlag, München-Wien.
- Brown, C. (1994): Tectonic interpretation of regional conductivity anomalies, *Surveys in Geophysics*, 15, 123-157.
- Bucher, K. & Frey, M. (1994): Petrogenesis of Metamorphic Rocks, 6th edition, Springer, Berlin.
- Budden, K.G. (1961a): Radio waves in the ionosphere, University Press, Cambridge.
- Budden, K.G. (1961b): The wave-guide mode theory of wave propagation, Logos Press, London.
- Burkhardt, H., Brasse, H., Fiedler-Volmer, R., Kalkbrenner, M., Radic, T. & Schulz- Ohlberg, J. (1987): Geophysical investigations in SW Egypt and NW Sudan, *Berliner Geowiss. Abh. (A)*, 75.3 (eds. E. Klitzsch & E. Schrank), Berlin.
- Burkhardt, H., Brasse, H., Fiedler-Volmer, R., Haußmann, U., Kalkbrenner, K. & Radic, T. (1990): The application of seismic, magnetotelluric and geoelectric methods for tectonic and hydrogeological problems in SW Egypt and NW Sudan, *Berliner Geowiss. Abh. (A)*, 120.1 (eds. E. Klitzsch & E. Schrank), Berlin.
- Bussert, R., Brasse, H., Radic, T. & Reynolds, P.-O. (1990): Sedimentation and structural style of a rift-structure in northern Sudan: The Humar Basin, *Berliner Geowiss. Abh. (A)*, 120.1 (eds. E. Klitzsch & E. Schrank), Berlin.
- Buttkus, B. (1991): Spektralanalyse und Filtertheorie, Springer-Verlag, Berlin.
- Cagniard, L. (1953): Basic theory of the magnetotelluric method of geophysical prospecting, *Geophysics*, 18, 605-635.
- Cahill, T.A. and Isacks, B.L. (1992): Seismicity and the shape of the subducted Nazca Plate, *J. Geophys. Res.*, 97 (B12), 17,503-17,529.
- Caine, J.S., Evans, J.P. & Forster, C.B. (1996): Fault zone architecture and permeability structure, *Geology*, 24, 1025-1028.
- Caldwell, T.G., Bibby, H.M. & Brown, C. (2004): The magnetotelluric phase tensor, *Geophys. J. Int.*, 158, 457-469.

- Campbell, W.H. (1960): Natural Electromagnetic Energy below the ELF Range, *J. Res. Nat. Bureau of Standards*, Vol. 64D, No. 4.
- Campbell, W.H. (1966): A review of the equatorial studies of rapid fluctuations in the earth's magnetic field, *Ann. Geophys.*, 22, 492-501.
- Cembrano, J., Hervé, F. & Lavenu, A. (1996): The Liquiñe Ofqui fault zone: a long-lived intra-arc fault system in southern Chile, *Tectonophysics*, 259, 55-66.
- Cembrano, J., Schermer, E., Lavenu, A. & Sanhueza, A. (2000): Contrasting nature of deformation along an intra-arc shear zone, the Liquiñe-Ofqui fault zone, southern Chilean Andes, *Tectonophysics*, 319, 129-149.
- Chang, H.K., Kowsmann, R.O., Figueiredo, A.M.F. & Bender, A. A. (1992): Tectonics and stratigraphy of the East Brazil Rift system: an overview, *Tectonophysics*, 213, 97-138.
- Chave, A.D. & Thomson, D.J. (1989): Some Comments on Magnetotelluric Response Function Estimation, *J. Geophys. Res.*, 94, 14,215-14,225.
- Chave, A.D., J.H. Filloux, D.S. Luther, L.K. Law, and A. White, Observation of the motional electromagnetic fields during EMSLAB, *J. Geophys. Res.*, 94 (B10), 14152-14166, 1989.
- Chave, A.D. and D.S. Luther, Low-frequency, motionally induced electromagnetic fields in the ocean, 1. Theory, *J. Geophys. Res.*, 95 (C5), 7185–7200, 1990.
- Chave, A.D., Constable, S.C. & Edwards, R.N. (1991): Electrical Exploration Methods for the Seafloor, in: *Electromagnetic Methods in Applied Geophysics*, Vol. 2 (ed. M.N. Nabighian), Society of Exploration Geophysicists, Tulsa, Oklahoma, 931-966.
- Chave, A.D. & Smith, J.T. (1994): On electric and magnetic galvanic distortion tensor decompositions, *J. Geophys. Res.*, 99 (B3), 4669-4682.
- Chen, L., J.R. Booker, A.G. Jones, N. Wu, M. Unsworth, W. Wei & H. Tan (1996): Electrically conductive crust in southern Tibet from INDEPTH magnetotelluric surveying, *Science*, 274, 1694-1696.
- Chen, J. and Dosso, H.W. 1997. EM responses of an elongated conductor near an ocean - analogue model studies, *Phys. Earth Planet. Inter.*, 99, 83-99.
- Chen, J., Oldenburg, D.W. & Haber, E. (2004): Reciprocity in electromagnetics: application to modelling marine magnetometric resistivity data, *Phys. Earth Planet. Inter.*, doi:10.1016/j.pepi.2004.08.015.
- Chetaiev, D.N., Fedorov, E.N., Krylov, S.M., Lependin, V.P., Morghounov, V.A., Troitskaya, V.A. & Zybin, K.Y. (1975): On the vertical electric component of the geomagnetic pulsation field, *Planet. Space Sci.*, 23, 311-314.
- Chinn, D.S., Isacks, B.L. & Barazangi, M. (1980): High frequency seismic wave propagation in western South America along the continental margin, in the Nazca plate and across the Altiplano, *Geophys. J. R. astr. Soc.*, 60, 209-244.
- Chmielowski, J., Zandt, G. & Haberland, C. (1999): The Central Andean Altiplano-Puna Magma Body, *Geophys. Res. Lett.*, 26, 783-786.
- Chouteau, M., Krivochieva, S., Castillo, R.R., Moran, T.G. & Jouanne V. (1994): Study of the Santa Catarina aquifer system (Mexico Basin) using magnetotelluric soundings, *J. of Appl. Geophys.*, 31, 85-106.
- Cifuentes, I.L. (1989): The 1960 Chilean Earthquakes, *J. Geophys. Res.*, 94, 665-680.
- Clarke, J., Gamble, T.D., Goubeau, W.M., Koch, R.H. and Miracky, R.F. (1983): Remote-reference magnetotellurics: equipment and procedures, *Geophys. Prosp.*, 31, 149-170.
- Clarke, J. (1983): Geophysical application of squids, *IEEE Transactions on Magnetics*, Vol. Mag-19, No. 3.
- Clavero, J.E., Sparks, R.S.J., Polanco, E. & Pringle, M.S. (2004): Evolution of Parinacota volcano, Central Andes, Northern Chile, *Rev. Geol. Chile*, 31 (2), 317-348.

- Clemens, J.D. & Vielzeuf, D. (1987): Constraints on melting and magma production in the crust, *Earth Planet. Sci. Lett.*, 86, 287-306.
- Clemens, J.D. & Droop, G.T.R. (1998): Fluids, P-T paths and the fates of anatetic melts in the Earth's crust, *Lithos*, 44, 21-36.
- Clerc, G. (1971): Contribution a l'optimisation des capteurs a induction destines a la mesure des variations du champ magnetique terrestre (10 a 10 Hz), these de docteur-ingenieur (physique), Faculte des Sciences de Paris (C.N.R.S. AO 5912).
- Coggon, J.H. (1971): Electromagnetic and electrical modeling by the finite element method, *Geophysics*, 36, 132-155.
- Commer, M., S.L. Helwig, A. Hördt, and B. Tezkan (2005): Interpretation of long-offset transient electromagnetic data from Mount Merapi, Indonesia, using a three-dimensional optimization approach, *J. Geophys. Res.*, 110, B03207, doi:10.1029/2004JB003206
- Comte, D. & Suárez, G. (1995): Stress distribution and geometry of the subducting Nazca plate in northern Chile using telesismically recorded earthquakes, *Geophys. J. Intern.*, 122, 2, 419-440.
- Comte, D., L. Dorbath, M. Pardo, T. Monfret, H. Haessler, L. Rivera, M. Frogneux, B. Glass, C. Meneses (1999): A double-layered seismic zone in Arica, northern Chile, *Geophys. Res. Lett.*, 26, 10.1029/1999GL900447.
- Constable, S.C., Parker, R.L. & Constable, C.G. (1987): Occam's inversion: A practical algorithm for generating smooth models from electromagnetic sounding data, *Geophysics*, 52, 289-300.
- Constable, S.C. & Duba, A. (1990): Electrical Conductivity of Olivine, a Dunite, and the Mantle, *J. Geophys. Res.*, 95, 6967-6978.
- Constable, S.C., Shankland, T.J. & Duba, A. (1992): The electrical conductivity of an isotropic olivine mantle, *J. Geophys. Res.*, 97, 3397-3404.
- Constable, S.C. (1993): Conduction by mantle hydrogen, *Nature*, 362, 704.
- Constable, S.C. (2007): Geomagnetism, in: *Treatise on Geophysics*, Vol. 5 (ed. M. Kono), 237-276, Elsevier, Amsterdam.
- Currie, C. A., and R. D. Hyndman (2006), The thermal structure of subduction zone back arcs, *J. Geophys. Res.*, 111, doi:10.1029/2005JB004024.
- Danyian, M.A. & Peeples, W.J. (1985): Application of Rayleigh-FFT technique to three-dimensional magnetotelluric interpretation, *Ann. Geophys.*, 4, B, 441-456.
- Davies, J.H. (1999): The role of hydraulic fractures and intermediate-depth earthquakes in generating subduction-zone magmatism, *Nature*, 398, 142-145.
- Dawson, T.W., Weaver, J.T. & Raval, U. (1982): B-polarization induction in two generalized thin sheets at the surface of a conducting half-space, *Geophys. J. R. astr. Soc.*, 69, 209-234.
- Delouis, B., Cisternas, A., Dorbath, L., Rivera, L. & Kausel E. (1996): The Andean subduction zone between 22 and 25°S (northern Chile): precise geometry and state of stress, *Tectonophysics*, 259, 81-100.
- de Ignazio, C., Lopez, I., Oyarzun, R. & Marquez, A. (2001): The northern Patagonia Somuncura Plateau basalts: a product of slab-induced, shallow asthenospheric upwelling? *Terra Nova*, 13 (2), 117-121.
- De Silva, S.L. & Francis, P.W. (1991): Volcanoes of the central Andes, Springer-Verlag, Berlin, 216 pp.
- De Silva, S.L. (1989): Altiplano-Puna volcanic complex of the central Andes, *Geology*, 17, 1102-1106.

- De Tarso L. Menezes, P. & Menezes Travassos, J.M. (2004): EM modeling of the central-northern portion of Ponta Grossa Arch, Paraná Basin, Brazil, *Phys. Earth Planet. Inter.*, doi:10.1016/j.pepi.2004.08.031.
- Díaz, D., Brasse, H., and Ticona, F. (2012): Conductivity distribution beneath Lascar volcano (Northern Chile) and the Puna, inferred from magnetotelluric data, *J. Volc. Geotherm. Res.*, 217-218, doi:10.1016/j.jvolgeores.2011.12.007.
- Dimitriev, V.L. & Berdichevsky, M.N. (1979): The Fundamental Model of Magnetotelluric Sounding, Proc. IEEE, 67-7, 1034-1044.
- Dittus, H. (1986): Methoden der Registrierung und Datenverarbeitung für das Prospektions-Verfahren "Passive Audio-Magnetotellurik", Diss. Ludwig-Maximilians-Universität München.
- Dorbath, C., Granet, M., Poupinet, G., and Martinez, C. (1993): A teleseismic study of the Altiplano and the Eastern Cordillera in northern Bolivia: New constraints on a lithospheric model, *J. Geophys. Res.*, 98 (B6), 9825-9844.
- Dorbath, C., Paul, A. and The Lithoscope Andean Group (1996): Tomography of the Andean crust and mantle at 20°S: first results of the Lithoscope experiment, *Phys. Earth Planet. Int.*, 97, 133-144.
- Dorbath, C. & Granet, M. (1996): Local earthquake tomography of the Altiplano and the Eastern Cordillera of northern Bolivia, *Tectonophysics*, 259, 117-136.
- Dorbath C. 1997. Mapping the continuity of the Nazca plate through its aseismic part in the Arica Elbow (central Andes). *Physics of the Earth and Planetary Interiors* 101: 163-173.
- Dosso, H.W., Nienaber, W. and Chen, J. 1989. Laboratory electromagnetic modelling of the subducting Juan de Fuca Plate. *Phys. Earth Planet. Inter.*, 53, 221-227.
- Dosso, H.W., Chen, J. and Nienaber, W. 1990. Comparison of analogue model and field station EM Responses on Southern Vancouver Island. *Phys. Earth Planet. Inter.*, 60, 18-24.
- Dosso, H.W., Agarwal, A.K. and Chen, J. 1992. EM Induction in the Vancouver Island Region: 3D Numerical, Analogue Model, and Field Site Results. *PAGEOPH.* 138, No. 2, pp. 193-206.
- Dosso, H.W. and Chen, J. 2000. Analogue model study of EM induction in elongated conductorw-2D and 3D induction arrow responses. *Earth Planets Space*, 355-360.
- Duba, A., Constable, S. C.. (1993): The electrical conductivity of lherzolite, *J. Geophys. Res.*, 98, 11885-11899.
- Duba, A., Heikamp, S., Meurer, W., Nover, G. & Will,G. (1994): Evidence from borehole samples for the role of accessory minerals in lower-crustal conductivity, *Nature*, 367, 59-61.
- Eberhart-Phillips, D., Stanley, W.D., Rodriguez, B.D. & Lutter, W.J. (1995): Surface seismic and electrical methods to detect fluids related to faulting, *J. Geophys. Res.*, 100 (B7), 12,919-12,936.
- Eberle, D. (1977): Die Induktion durch künstliche elektromagnetische Längstwellen (15-25 kHz) - Anwendung in der Prospektionsgeophysik unter Berücksichtigung des Einflusses der Erdoberflächenform und technischer Leitungsnetze, Diss. Ludwig-Maximilians-Universität München.
- Echternacht, F., Tauber, S., Eisel, M., Brasse, H., Schwarz, G. & Haak, V. (1997): Electromagnetic study of the active continental margin in northern Chile, *Phys. Earth Planet. Inter.*, 102, 69-88.
- Echternacht, F. (1998): Die elektrische Leitfähigkeitsstruktur im Forearc der südlichen Zentralanden bei 20°-21° S, abgeleitet aus magnetotellurischen und geomagnetischen Sondierungen, Diss. Freie Universität Berlin.

- Egbert, G.D. & Booker, J.R. (1986): Robust estimation of geomagnetic transfer functions, *Geophys. J. R. astr. Soc.*, 87, 173-194.
- Egbert, G.D. (1989): Multivariate Analysis of Geomagnetic Array Data 2, Random Source Models, *J. Geophys. Res.*, 94, B10, 14249-14265.
- Egbert, G.D. (1990): Comments on ‘Concerning dispersion relations for the magnetotelluric impedance tensor’ by E. Yee and K.V. Paulson, *Geophys. J. Int.*, 102, 1-9.
- Egbert, G.D. (1997): Robust multiple-station magnetotelluric data processing, *Geophys. J. Int.*, 130, 475-496.
- Eggers, D.E. (1982): An Eigenstate Formulation of the Magnetotelluric Impedance Tensor, *Geophysics*, 47, 1204-1214.
- Eisbacher, G.H. (1991): *Einführung in die Tektonik*, Ferdinand Enke Verlag, Stuttgart.
- Eisel, M. (1995): Interpretation magnetotellurischer Messungen im Umfeld der Kontinentalen Tiefbohrung unter besonderer Berücksichtigung lateral anisotroper Leitfähigkeitsstrukturen, Diss. FU Berlin.
- Eisel, M. & Haak, V. (1999): Macro-anisotropy of the electrical conductivity of the crust: A magneto-telluric study from the German Continental Deep Drilling site (KTB), *Geophys. J. Int.*, 136, 109-122.
- Eisel, M., V. Haak, J. Pek, V. Cerv, A magnetotelluric profile across the German Deep Drilling Project (KTB) area: Two- and three-dimensional modeling results, *J. Geophys. Res.*, 106(B8), 16061-16074, doi:10.1029/2000JB900451, 2001.
- ELEKTB Group (1995): Die elektrische Leitfähigkeit der kontinentalen Erdkruste - was bringt uns das KTB Neues?, *Mitt. der Dt. Geophys. Ges.*, Nr. 1/1995.
- ELEKTB Group (1997): KTB and the electrical resistivity of the crust, *J. Geophys. Res.*, 102 (B8), 18,289-18,305.
- Elger, K., O. Oncken, and J. Glodny (2005), Plateau-style accumulation of deformation: Southern Altiplano, *Tectonics*, 24, TC4020, doi:10.1029/2004TC001675.
- Elming, S.A. and Rasmussen, T. (1997): Results of magnetotelluric and gravimetric measurements in western Nicaragua, central America, *Geophys. J. Int.*, 128 (3), 647-658.
- Emmermann, R. & Lauterjung, J. (1997): The German Continental Deep Drilling Program KTB: Overview and major results, *J. Geophys. Res.*, Vol. 102 (B8), 18179-18201.
- Emmermann, R. (1990): Vorstoß ins Erdinnere: das Kontinentale Tiefbohrprogramm, Spektrum der Wissenschaft, Oktober, 60-70.
- Engdahl, E.R., and A. Villaseñor, Global Seismicity: 1900–1999, in W.H.K. Lee, H. Kanamori, P.C. Jennings, and C. Kisslinger (editors), *International Handbook of Earthquake and Engineering Seismology*, Part A, Chapter 41, pp. 665–690, Academic Press, 2002.
- Engdahl, E., van der Hilst, R. & Buland, R., 1998. Global teleseismic earthquake relocation with improved travel times and procedures for depth determination, *Bull. seism. Soc. Am.*, 88, 722–743.
- England, P., Engdahl, R. and Thatcher, W. (2004): Systematic variation in the depths of slabs beneath arc volcanoes, *Geophys. J. Int.*, 156, 377-408.
- d'Erceville, I. & Kunetz, G. (1962): The Effect of a Fault on the Earth's Natural Electromagnetic Field, *Geophysics*, 27, 666-676.
- ERCEUGT-Group (1992): An electrical resistivity crustal section from the Alps to the Baltic Sea (central segment of the EGT), *Tectonophysics*, 207, 123-139.
- Ernst, T., H. Brasse, V. Cerv, N. Hoffmann, J. Jankowski, W. Jozwiak, A. Kreutzmann, A. Neska, N. Palshin, L. Pedersen, M. Smirnov, E. Sokolova, and I. M. Varentsov (2008), Electromagnetic images of the deep structure of the Trans-European Suture Zone beneath Polish Pomerania, *Geophys. Res. Lett.*, doi:10.1029/2007GL034610.

- Evans, R.L. & Chave, A.D., Booker, J.R. (2002): On the importance of offshore data for magnetotelluric studies of ocean-continent subduction systems, *Geophys. Res. Lett.*, 29, doi: 10.1029/2001GL013960
- Fainberg, E.B. & Singer, B.S. (1987): The influence of surface inhomogeneities on deep electromagnetic soundings of the Earth, *Geophys. J. R. astr. Soc.*, 90, 61-73.
- Farley, D.T. (1979): The ionospheric plasma, in: *Solar Sys. Plasma Phys.*, Vol. 3, ed. by Lanzerotti, L.J., North-Holland Publ. Company.
- Farquharson, C.G. & Oldenburg, D.W. (2004): A comparison of automatic techniques for estimating the regularization parameter in non-linear inverse problems, *Geophys. J. Int.*, 156, 411–425.
- Fergusen, I.J., Craven, J.A., Kurtz, R.D., Boerner, D.E., Bailey, R.C., Wu, X., Orellana, M.R., Spratt, J., Wennberg, G., Norton, M. (2004): Geoelectric response of Archean lithosphere in the western Superior Province, central Canada, *Phys. Earth Planet. Inter.*, doi:10.1016/j.pepi.2004.08.025.
- Filloux, J.H. (1973): Techniques and instrumentation for study of natural electromagnetic induction at sea, *Phys. Earth Planet. Inter.*, 7, 323-338.
- Filloux, J.H. (1974): Electric Field Recording on the Sea Floor with Short Span Instruments, *J. Geomag. Geoelectr.*, 26, 269-279.
- Finizola, A., Lénat, J.-F., Macedo, O., Ramos, D., Thouret, J.-C. & Sortino, F. (2004): Fluid circulation and structural discontinuities inside Misti volcano (Peru) inferred from self-potential measurements, *J. Volcan. Geotherm. Res.*, 343, 343-360.
- Fischer, B. (1983): Zeit- und Frequenzvergleiche, in: Funkuhren, R. Oldenbourg Verlag, München-Wien.
- Fischer, G. (1979): Electromagnetic induction effects at an ocean coast, Proc. IEEE, Vol. 67, No 7, 1050-1060.
- Fischer, G. (1980): Ein eindimensionales magnetotellurisches Umkehrverfahren, Protokoll Koll. Elektromagnetische Tiefenforschung, Berlin-Lichtenrade, 231-242.
- Fischer, G. & Schnegg, P.A. (1980): The dispersion relations of the magnetotelluric response and their incidence on the inversion problem, *Geophys. J. R. astr. Soc.*, 62, 661-674.
- Fischer, G., Schnegg, P.A., Peguiron, M. & Le Quang, B.V. (1981): An analytic one-dimensional magnetotelluric inversion scheme, *Geophys. J. R. astr. Soc.*, 67, 257-278.
- Fischer, G. & Le Quang, B.V. (1981): Topography and minimization of the standard deviation in one-dimensional magnetotelluric modelling, *Geophys. J. R. astr. Soc.*, 67, 279-292.
- Fischer, G. & Le Quang, B.V. (1982): Parameter trade-off in one-dimensional magnetotelluric modelling, *J. Geophys.*, 51, 206-215.
- Fischer, G. (1982): Magnetotelluric observational techniques on land, *Geophys. Surveys*, 4, 373-393.
- Fischer, G. (1983): Current channeling, the consequences for electromagnetic sounding, *Geophys. Res. Letters*, 10, 1152-1155.
- Fischer, G., Le Quang, B.V. & Müller I. (1983): Vlf ground surveys, a powerful tool for the study of shallow two-dimensional structures, *Geophys. Prosp.*, 31, 977-991.
- Fischer, G. (1984): The North Pyrenean magnetic anomaly re-examined, *Annales Geophys.*, 2, 181-186.
- Fischer, G. (1985): Some remarks on the behavior of the magnetotelluric phase, *Geophys. Prosp.*, 33, 716-722.
- Fischer, G., Weaver, J.T. (1986): Theoretical investigation of the ocean-coast effect at a passive continental margin, *Phys. Earth Planet. Inter.*, 42, 246-254.

- Fischer, G. (1986): Ein topographischer Effekt bei MT, AMT und VLF Messungen, Protokoll Kolloq. Elektromagnetische Tiefenforschung, Bergisch-Gladbach.
- Fischer, G., Schnegg, P.A., Ji Ma, Müller I. & Burkhard, M. (1987): Etude VLF du remplissage de la Vallee de Gastern (Alpes Bernoises, Suisse), Elogae Geol. Helvetiae, 80, 773-787.
- Fischer, G. & Schnegg, P.A. (1993): The magnetotelluric dispersion relations over 2-D structures, *Geophys. J. Int.*, 115, 1119-1123.
- Fisher, A.T., C.A. Stein, R.N. Harris, K. Wang, E.A. Silver, M. Pfender, M. Hutnak, A. Cherkaoi, R. Bodzin, and H. Villinger, Abrupt thermal transition reveals hydrothermal boundary and role of seamounts within the Cocos Plate, *Geophys. Res. Lett.*, 30, doi:10.1029/2002GL016766, 2003.
- Fowler, R.A., Kotick, B.J. & Elliot, R.D. (1967): Polarization analysis of naturally and artificially induced geomagnetic micropulsations, *J. Geophys. Res.*, 72, 2871-2883.
- Fox, R.C., Hohmann, G.W., Killpack, T.J. & Rijo, L. (1980): Topographic effects in resistivity and induced-polarisation surveys, *Geophysics*, 45, 75-93.
- Fluche, B. (1983): Geomagnetic and magnetotelluric measurements in the 'Hessische Senke' (Hessian Rift), *J. Geomag. Geoelectr.*, 35, 693-705.
- Forbush, S.E. (1933): Apparent vertical earth-current variations at the Huancayo magnetic observatory, *Terrestrial Magnet. and Atmospheric Electricity*, 38, No. 1, 1-13.
- Franke, D., Gründel, J., Lindert, W., Meissner, B., Schulz, E., Zagora, I. & Zagora, K. (1994): Die Ostseebohrung G 14 - eine Profilübersicht.- *Z. Geol. Wiss.*, 22, 1/2, 235-240.
- Fraser, D.C. (1969): Contouring of VLF-EM data, *Geophysics*, 34, 958-967.
- Frost, B.R., Fyfe, W.S., Tazaki, K. & Chan, T. (1989): Grain-boundary graphite in rocks and implications for high electrical conductivity in the lower crust. *Nature*, 340, 134-136.
- Frost, B.R. and Bucher, K. (1994): Is Water Responsible for Geophysical anomalies in the Deep Continental Crust? A Petrological Perspective, *Tectonophysics*, 231, 293-309.
- Füllekrug, M. (1991): Das komplex-exponentielle Verfahren im Vergleich mit anderen Methoden zur Zeitreihenanalyse, Dipl.-Arbeit Institut für Geophysik, Univ. Göttingen.
- Fujii, T., Komori, H. & Honkura, Y. (1989): A portable ELF-MT system for shallow resistivity sounding, *Phys. Earth Planet. Inter.*, 53, 270-277.
- Gabriel, B. (1986): Die östliche Libysche Wüste im Jungquartär, Berliner geographische Studien, Band 19 (Hg. B. Hoffmeister und F. Voss), Berlin.
- Gaillard, F. (2004) Laboratory measurements of electrical conductivity of hydrous and dry silicic melts under pressure, *Earth Planet. Sci. Lett.*, 218, 215-228.
- Gaillard, F., Marciano, G.I. (2005): Electrical conductivity of magma in the course of crystallization controlled by their residual liquid composition, *J. Geophys. Res.*, 110, doi:10.1029/2004JB003282.
- Gaillard, F., Malki, M., Iacono-Marziano, G., Pichavant, M., and Scaille, B. (2008): Carbonatite Melts and Electrical Conductivity in the Asthenosphere, *Science*, 322, doi: 10.1126/science.1164446.
- Galejs, J. (1964): Terrestrial extremely-low-frequency Propagation, in: Natural electromagnetic phenomena (ed. D.F. Bleil), Plenum Press, N.Y.
- Galejs, J. (1965): Schumann Resonances, *Radio Science J. of Res.*, Vol. 69D, No. 8, 1043-1055.
- Galejs, J. (1972): Terrestrial Propagation of Long Electromagnetic Waves, Pergamon Press, Elmsford, N.Y.
- Gamble, T.D., Goubeau, W.M. and Clarke, J. (1979): Magnetotellurics with a remote magnetic reference, *Geophysics*, 44, 53-68.

- García, X. & Jones, A.G. (2005): A new methodology for the acquisition and processing of audio-magnetotelluric (AMT) data in the AMT dead band, *Geophysics*, 70, G119-G126.
- Gasperikova, E., and Morrison, H.F., 2001. Mapping of induced polarization using natural fields, *Geophysics*, 66, 137-147.
- Gatzmeier, A. & Moorkamp, M.(2004): 3D modelling of electrical anisotropy from electromagnetic array data: hypothesis testing for different upper mantle conduction mechanisms, *Physics of the earth and planetary interiors*, doi:10.1016/j.pepi.2004. 08.004.
- Ghosh, D.P. (1971): Inverse filter coefficients for the computation of apparent resistivity standard curves for a horizontally stratified earth, *Geophys. Prosp.*, 19, 769-775.
- Ghosh, D.P. (1971): The application of linear filter theory to the direct interpretation of geo-electrical resistivity sounding measurements, *Geophys. Prosp.*, 19, 192-217.
- Giersch, Harthus & Vogelsang (1991): Elektrische Maschinen, Teubner, Stuttgart.
- Giese, P., Scheuber, E., Schilling, F., Schmitz, M. & Wigger, P. (1999): Crustal thickening processes in the Central Andes and the different natures of the Moho-discontinuity, *J. South American Earth Sciences*, 12, 201-220.
- Giese, P., Asch, G., Brasse, H., Götze, H.-J., Kind, R., Wigger, P., Araneda, M., Kausel, E., Martinez, E. & Viramonte, J. (2000): Structures and Processes in the Central Andes Revealed by Geophysical Investigations, 31st International Geological Congress, Rio de Janeiro, in: *Zeitschrift für Angewandte Geologie*, Sonderheft 1: Geoscientific Cooperation with Latin America, Hg. Bundesanstalt für Geowissenschaften und Rohstoffe, Hannover, 303-310.
- Glover, P.W.J. & Vine, F.J. (1994): Electrical conductivity of the continental crust, *Geophys. Res. Lett.*, 21, 2357-2360.
- Glover, P.W.J., Pous, J., Queralt, P., Muñoz, J.-A., Liesa, M. & Hole, M.J. (2000): Integrated two dimensional lithospheric conductivity modelling in the Pyrenees using field-scale and laboratory measurements, *EPSL*, 178, 59-72.
- Goedde, H. (1999): Krustenstrukturen im Norden von Costa Rica aus refraktionsseismischen Messungen und ihre geologische Interpretation, Dissertation, University of Potsdam, 1999.
- Götze, H.J., Lahmeyer, B., Schmidt, S. & Strunk, S. (1994): The Lithospheric Structure of the Central Andes (20° - 26° S) as inferred from interpretation of regional gravity. In: *Tectonics of the Southern Central Andes* (eds. K.J. Reutter, E. Scheuber and P. Wigger). Springer-Verlag, Berlin, 7-21.
- Götze, H.-J., & Kirchner, A. (1997): Gravity field at the South American active margin (20° to 29° S), *J. S. Am. Earth Sci.*, 2, 179-188.
- Golde, R.H. (1977): Lightning, Vol. 1, Academic Press, London-New York-San Francisco.
- Goldie, M. (2002): Self-potentials associated with the Yanacocha high-sulfidation gold deposit in Peru, *Geophysics*, 67, doi: 10.1190/1.1484511.
- Goldstein, M.A. & Strangway, W. (1975): Audio-frequency Magnetotellurics with a grounded Electric Dipol Source, *Geophysics*, 40, 669-683.
- González-Ferrán, O. (1994): Volcanes de Chile, Instituto Geográfico Militar, Santiago de Chile, 640pp.
- Goubeau, W.M., Gamble, T.D. & Clarke, J. (1978): Magnetotelluric data analysis: removal of bias, *Geophysics*, 43, 53-68.
- Graeber, F. M. & Asch, G. (1999): Three-dimensional models of P wave velocity and P-to-S velocity ratio in the southern central Andes by simultaneous inversion of local earthquake data, *J. Geophys. Res.*, 104, 20,237-20,256.
- Grant, F.S. & West, G.F. (1965): Interpretation Theory in Applied Geophysics, McGraw-Hill, New York.

- Greifinger, C. & Greifinger, P. (1979): On the ionospheric parameters which govern high-latitude ELF propagation in the earth-ionosphere waveguide, *Radio Science*, Vol. 14, No. 5, 889-895.
- Groom, R.W. & Bailey, R.C. (1989): Decomposition of magnetotelluric impedance tensors in the presence of local three-dimensional galvanic distortion, *J. Geophys. Res.*, Vol. 94, No B2, 1913-1925.
- Groom, R.W. & Bailey, R.C. (1991): Analytic investigations of the effects of near-surface three-dimensional galvanic scatterers on MT tensor decompositions, *Geophysics*, Vol. 56, No. 4, 496-518.
- Groom, R.W. & Bahr, K. (1992): Corrections for near surface effects: decomposition of the magnetotelluric impedance tensor and scaling corrections for regional resistivities: a tutorial, *Surveys in Geophysics*, 13, 341-379.
- Groom, R.W., Kurtz, R.D., Jones, A.G. & Boerner, D.E. (1993): A quantitative methodology to extract regional magnetotelluric impedances and determine the dimension of the conductivity structure, *Geophys. J. Int.*, 115, 1095-1118.
- Guérin, R., Descloitres, M., Coudrain, A., Talbi, A. & Gallaire, R. (2001): Geophysical surveys for identifying saline groundwater in the semi-arid region of the central Altiplano, Bolivia, *Hydrol. Process.*, 15, 3287-3301.
- Gurmani, S.F., Jahn, S., Brasse, H., and Schilling, F.R. (2011): Atomic scale view on partially molten rocks: Molecular dynamics simulations of melt-wetted olivine grain boundaries, *J. Geophys. Res.*, 116, B12209, doi:10.1029/2011JB008519.
- Haak, V. (1972): Magnetotellurik: Bestimmung der Übertragungsfunktion in Gebieten mit lateralen Änderungen der elektrischen Leitfähigkeit, *Zeitschrift f. Geophysik*, 38, 85-102.
- Haak, V. (1978): Interpretations-Verfahren für die Magnetotellurik unter besonderer Berücksichtigung lateral variierender elektrischer Leitfähigkeit im Erdinnern und eines räumlich inhomogenen induzierenden Magnetfeldes, *Bayer. Akad. d. Wiss., Math.-nat. Klasse, Abhandl. Neue Folge*, Heft 158, München.
- Haak, V. & Giese, P. (1986): Subduction induced petrological processes as inferred from magnetotelluric, seismological and seismic observations in N-Chile and S-Bolivia, *Berl. Geowiss. Abh.*, 66, 231-246, Berlin.
- Haak, V. (1989): Ionosphärische Ströme zur Sondierung des Erdinnern, *Jahresbericht des Phys. Vereins Frankfurt/M*, 164.
- Haak, V., Stoll, J. & Winter, H. (1991): Why is the electrical resistivity around the KTB hole so low?, *Phys. Earth Planet. Inter.*, 66, 12-33.
- Haberland, C. (1999): Die Verteilung der Absorption seismischer Wellen in den westlichen zentralen Anden, *Diss. Freie Universität Berlin*.
- Haberland, C., Rietbrock, A., Schurr, B. & Brasse, H. (2003): Coincident anomalies of seismic attenuation and electrical resistivity beneath the southern Bolivian Altiplano plateau, *Geophys. Res. Lett.*, 30 (18), doi:10.1029/2003GL017492.
- Haberland, C., A. Rietbrock, D. Lange, K. Bataille, and S. Hofmann (2006), Interaction between forearc and oceanic plate at the south-central Chilean margin as seen in local seismic data, *Geophys. Res. Lett.*, 33, doi:10.1029/2006GL028189.
- Habibian, B.D., Brasse, H., Oskooi, B., Ernst, T., Sokolova, E., Varentsov, I., and EMTESZ Working Group (2010): The conductivity structure across the Trans-European Suture Zone from magnetotelluric and magnetovariational data modeling, *Phys. Earth Planet. Inter.*, doi:10.1016/j.pepi.2010.08.005.
- Hacker, B.R., Abers, G.A., and Peacock, S.M., 2002, Theoretical mineralogy, density, seismic wave speeds, and H₂O content of the Cascadia subduction zone, with implications for intermediate-depth seismicity and earthquake hazard. U.S. Geological Survey Open File Report 02-328.

- Hacker, B., Abers, G.A. & Peacock, S.M. (2003) Subduction factory 1. Theoretical mineralogy, densities, seismic wave speeds, and H₂O contents, *J. Geophys. Res.*, 108 (B1), doi:10.1029/2001JB001127
- Hacker, B., Peacock, S.M., Abers, G.A. & Holloway, S.D. (2003): Subduction factory 2. Are intermediate-depth earthquakes in subducting slabs linked to metamorphic dehydration reactions?, *J. Geophys. Res.*, 108 (B1), doi:10.1029/2001JB001129
- Hampel, F. (1980): Robuste Schätzungen: Ein Anwendungsorientierter Überblick, *Biometrical Journal*, Vol. 22, Nr. 1, 3-21.
- Hansen, P.C. (1998): Rank Deficient and discrete ill-posed Problems. Numerical Aspects of Linear Inversion, Siam, Philadelphia.
- Harris, F.J. (1978): On the Use of Windows for Harmonic Analysis with the Discrete Fourier Transform, *Proc. of the IEEE*, Vol. 66, No. 1.
- Harth, W. (1982): Theory of low frequency wave propagation, in: CRC Handbook of Atmospheric, Vol. 2 (ed. H. Volland), pp. 133-202, CRC Press, Boca Raton, Florida.
- Hashin, Z., and Shtrikman, S.: A variational approach to the theory of the effective magnetic permeability of multiphase material, *J. Appl. Phys.*, 33, 3125-3131, 1962.
- Hattingh, M. (1989): The use of data-adaptive filtering for noise removal on magnetotelluric data, *Phys. Earth and Plan. Inter.*, 53, 239-254.
- Heard, G.J., Dosso, H.W., Nienaber, W. & Lokken, J.E. (1985): Laboratory analogue modelling of the Schumann Resonance source field, *Physics Earth and Planet. Int.*, 39, 178-181.
- Heinson, G. (1999). Electromagnetic Studies Of The Lithosphere And Asthenosphere. *Surveys in Geophysics*, 20 (3-4), 229 – 255.
- Heise, W. and Pous, J. (2001): Effects of anisotropy on the two-dimensional inversion procedure, *Geophys. J. Int.*, 147, 610-621.
- Heise, W. and Pous, J. (2003): Anomalous phases exceeding 90° in magnetotellurics: anisotropic model studies and a field example, *Geophys. J. Int.*, 155, 308-318.
- Heise, W., Caldwell, T.G., Bibby, H.M., and Bennie, S.L. (2010): Three-dimensional electrical resistivity image of magma beneath an active continental rift, Taupo Volcanic Zone, New Zealand, *Geophys. Res. Lett.*, 37, L10301, doi:10.1029/2010GL043110.
- Heit, B.S. (2005): Teleseismic tomographic images of the Central Andes at 21°S and 25.5°S: an inside look at the Altiplano and Puna plateaus, PhD thesis, FU Berlin.
- Heit, B., I. Koulakov, G. Asch, X. Yuan, R. Kind, I. Alcocer-Rodriguez, S. Tawackoli and H. Wilke (2008): More constraints to determine the seismic structure beneath the Central Andes at 21°S using teleseismic tomography analysis, *J. S. Amer. Earth Sci.*, 25, doi: 10.1016/j.jsames.2007.08.009
- Helliwell, R.A. (1965): Whistlers and Related Ionospheric Phenomena, Stanford University Press, Stanford, California.
- Hellweg, M. (1999): Seismic Signals from Lascar volcano, *J. S. Amer. Earth Sci.*, 12 (2), 123-133.
- Hempfing, R. (1977): Beobachtung und Auswertung tagesperiodischer Variationen des erdelektrischen Feldes in der Umgebung von Göttingen, Diss. Univ. Göttingen.
- Henry, S.G. & Pollack, H.N. (1988): Terrestrial Heat Flow above the Andean subduction zone in Bolivia and Peru, *J. Geophys. Res.*, Vol. 93, No B12, 15153-15162.
- Hérail, G., Oller, J., Baby, P., Bonhomme, M. & Soler, P. (1996): Strike-slip faulting, thrusting and related basins in the Cenozoic evolution of the southern branch of the Bolivian Orocline, *Tectonophysics*, 259, 201-212.
- Hérail, G., Rochat, P., Baby, P., Aranibar, O., Lavenue, A., and Masclez, G. (1997): El Altiplano Norte de Bolivia, evolución geológica terciaria. In: R. Charrier, P. Aceituno,

- M. Castro, A. Llanos and L.A. Raggi (Eds.), *El Altiplano: ciencia y conciencia en los Andes*, Actas 2. Simposio Internacional Estudios Altiplánicos, Arica 1993. Universidad de Chile, Santiago de Chile, 33-44.
- Hermance, J.F. (1973): Processing of magnetotelluric data, *Phys. Earth Planet. Inter.*, 7, 349-346.
- Hermance, J.F. & Thayer, R.E. (1975): The Telluric-Magnetotelluric Method, *Geophysics*, 40, 664-668.
- Hermance, J.F. (1979): The electrical conductivity of materials containing partial melt: a simple model from Archie's law, *Geophys. Res. Letters*, 6, 613-616.
- Hermance, J.F., Colp, J.L. (1982): Kilauea iki lava lake: geophysical constraints on its present (1980) physical state, *J. Volcanol. Geotherm. Res.*, 13, 31-61.
- Hermance, J.F., Lusi, S., Slocum, W., Neumann, G.A. & Green Jr., A.W. (1989): A high-density remote reference magnetic variation profile in the Pacific north west of North America, *Phys. Earth and Plan. Inter.*, 53, 305-319.
- Herron, T. J. (1966): Phase Characteristics of Geomagnetic Micropulsations, *J. Geophys. Res.*, 71, 871-889.
- Heydt, G. (1982): Instrumentation, in: *CRC Handbook of Atmosferics* (ed. H. Volland), CRC Press, Boca Raton, Florida, 203-256.
- Hilberg, W. (Ed.) (1983): *Funkuhren*, R. Oldenbourg Verlag
- Hildreth, W., and S. Moorbath, S. (1988), Crustal contributions to arc magmatism in the Andes of central Chile, *Contrib. Mineral. Petrol.*, 98, 455-489.
- Hill, D.P., Pollitz, F. & Newhall, C. (2002): Earthquake-Volcano Interactions, *Physics Today*, 41-47.
- Hill, G.J., Caldwell, T.G., Heise, W., Chertkoff, D.G., Bibby, H.M., Burgess, M.K., Cull, J.P., and Cas, R.A.F. (2009): Distribution of melt beneath Mount St Helens and Mount Adams inferred from magnetotelluric data, *Nature Geosci.*, DOI: 10.1038/NGEO661.
- Hjelt, S.-E., Kaikkonen, P. & Pietilä, R. (1984/1985): On the interpretation of VLF resistivity measurements, *Geoexplor.* 3, 171-181.
- Hjelt, S.-E. (1992): *Pragmatic Inversion of Geophysical Data*, Springer-Verlag, Berlin.
- Hobbs, B.A. (1992): Terminology and symbol for use in studies of electromagnetic induction in the earth, *Surveys in Geophys.*, 13, 489-515.
- Hobbs, B.A. (1975): Analytical solutions to global and local problems of electromagnetic induction in the earth, *Phys. Earth and Plan. Int.*, 10, 250-261.
- Hoffmann, N., Jödicke, H., Fluche, B., Jording, A. & Müller, W. (1998): Modellvorstellungen zur Verbreitung potentieller präwestfälischer Erdgas-Muttergesteine in Norddeutschland – Ergebnisse neuer magnetotellurischer Messungen, *Z. angew. Geol.*, 44, 140-158.
- Hohmann, G.W. (1989): Numerical Modeling for Electromagnetic Methods of Geophysics, in: *Investigations in Geophysics*, Vol. 3 (ed. M.N. Nabighian), Society of Exploration Geophysicists, Tulsa, Oklahoma.
- Hoke, L., D. Hilton, S. Lamb, K. Hammerschmidt, and H. Friedrichsen (1994): ^3He evidence for a wide zone of active mantle melting beneath the Central Andes, *Earth Planet. Sci. Lett.*, 128, 341-355.
- Holtham, P.M. & McAskill, B.J. (1987): The spatial coherence of Schumann activity in the polar cap, *Journal of Atmospheric and Terrestrial Physics*, 50, 83-92.
- Honkura, Y. & Watanabe, N. (1989): Anisotropy in electromagnetic field variations and its implication for lateral inhomogeneity of the electrical conductivity structure, *Phys. Earth Planet. Int.*, 53, 278-286.
- Hoover, D.B., Long, C.L. & Senterfit, M. (1978): Some results from audiomagnetotelluric investigations in geothermal areas, *Geophysics*, 43, 1501-1514.

- Hughes, L.J. & Carlson, N.R. (1987): Structure mapping at Trap Spring Oilfield, Nevada, using controlled-source magnetotellurics, *First Break*, 5, 403-418.
- Husen, S., Quintero, R., Kissling, E. und Hacker, B. (2003): Subduction-zone structure and magmatic processes beneath Costa Rica constrained by local earthquake tomography and petrological modelling, *Geophys. J. Int.*, 155, 11-32.
- Hutton, V.R.S., Gough, D.I., Dawes, G.J.K. & Travassos, J. (1987): Magnetotelluric soundings in the Canadian Rocky Mountains, *Geophys. J. R. astr. Soc.*, 90, 245-263.
- Hyndman, R.D. & Shearer, P.M. (1989): Water in the lower continental crust: modelling magnetotelluric and seismic reflection results, *Geophys. J. Int.*, 98, 343-365.
- Hyndman, R.D., Vanyan, L.L., Marquis, G & Law, L.K. (1993): The origin of electrically conductive lower crust: saline water or graphite?, *Phys. Earth. Planet. Int.*, 81, 325-344.
- Hyndman, R.D. and Wang, K. (1993): Thermal constraints on the zone of major thrust earthquake failure: The Cascadia subduction zone. *J. Geophys. Res.*, 98, 2039-2060.
- Hyndman, R.D. & Wang, K. (1995): Constraints on the rupture zone of great earthquakes on the Cascadia subduction thrust from current deformation and the thermal regime. *J. Geophys. Res.*, 98, 2039-2060.
- Hyndman, R.D., Wang, K. & Yamano, M. (1995): Thermal constraints on the seismogenic portion of the southwestern Japan subduction zone, *J. Geophys. Res.*, 100, 15,373-15,392.
- Hyndman, R.D., Currie, C.A., Mazzotti, S.P. (2005): Subduction zone backarcs, mobile belts, and orogenic heat, *GSA Today*, 15, 4-10.
- IAGA working group V-8 (1992): International Geomagnetic Reference Field, 1991 revision, *Geophys. J. Int.*, 108, 945-946.
- Ingham, M.R., Gough, D.I. & Parkinson, W.D. (1987): Models of conductive structure under the Canadian Cordillera, *Geophys. J. R. astr. Soc.*, 88, 477-485.
- Ingham, M. (2004): High resolution electrical imaging of fault zones, *Physics of the earth and planetary interiors*, doi:10.1016/j.pepi.2004.08.017.
- Ingmann, P., Schaefer, J., Volland, H., Schmolder, M., Manes, A. (1985): Remote sensing of thunderstorm activity by means of VLF sferics, *PAGEOPH*, 123, 155-170.
- Inman, J.R., Ryu, J. & Ward, S.H. (1973): Resistivity inversion, *Geophysics*, 38, 1088-1108.
- Inman, J.R. (1975): Resistivity inversion with ridge regression, *Geophysics*, 40, 798-817.
- Inoue, Y. (1973): Wave Polarizations of Geomagnetic Pulsations Observed in High Latitudes on the Earth's Surface, *J. of Phys. Res.*, 78, 2959-2975.
- Isacks, B.L. (1988): Uplift of the Central Andean Plateau and Bending of the Bolivian Orogen, *J. Geophys. Res.*, 93, 3211-3231.
- Israel, H. (1961): *Atmosphärische Elektrizität*, Bd. II, Akad. Verlagsgesellschaft Geest & Portig, Leipzig.
- Jackson, J.D. (1998): *Classical Electrodynamics*, 3rd edition, Wiley, New York.
- James, D.E. (1971): Andean crustal und upper mantle structure, *J. Geophys. Res.*, 76, 3246-3271.
- James, D.E., and Sacks, J.W. 1999. Cenozoic formation of the central Andes: A geophysical perspective, in Skinner, B., ed., *Geology and ore deposits of the central Andes: Society of Economic Geology Special Publication 7*, 1-25.
- Jankowski, J., Ernst, T., Józwiak, W., Lewandowski, M., Abrahamsen, N. & Semenov, V. (2001): Reconnaissance electromagnetic soundings on Bornholm, *Acta Geophysica Polonica*, Polish Academy of Sciences, Vol. XLIX (3), 361-372.

- Jankowski, J., Ernst, T., Józwiak, W. & Pawliszyn, J. (1995): Results of induction study within the Pomeranian segment of the Tesseyre-Tornquist Tectonic Zone, *Acta Geophysica Polonica*, Polish Academy of Sciences, Vol. XLIII (2), 129-136.
- Janoth, W. & Bortfeld, R.K. (1984): Transformation of magneto-telluric soundings into the form of seismograms, EAEG-Meeting.
- Janssen, C.A., Hoffmann-Rothe, A., Tauber, S. & Wilke, H. (2001): Internal structure of the Precordilleran fault system (Chile) - Insights from structural and geophysical observations, *Journal of Structural Geology*, Vol. 24 (1), 123-143.
- Jenkins, G.M. & Watts, D.G. (1968): Spectral Analysis and it's Application, Holden Day, San Francisco.
- Jensen, U. (1985): Gemeinsame Interpretation magnetotellurischer und geoelektrischer Sondierungen über horizontal gelagerten Sedimenten, Dipl.-Arbeit Institut für Geophysik der Universität Göttingen.
- Jepsen, J.B. & Pedersen, L.B. (1981): Evaluation of Tensor AMT Measurement System, *GeoSkrifter*, No. 15, Aarhus.
- Jiracek, G.R. (1990): Near-Surface and Topographic Distortions in Electromagnetic Induction, *Surveys in Geophysics*, 11, 163-204.
- Jiracek, G., J. Curtis, J. Ramirez, M. Martinez, and J. Romo (1989), Two-Dimensional Magnetotelluric Inversion of the EMSLAB Lincoln Line, *J. Geophys. Res.*, 94, 14145-14151.
- Jödicke, H. (1985): A large selfpotential anomaly at the SE flank of the Stavelot-Venn anticline originating from Metaanthracite bearing black shales at the Salm/Revin boundary, *N. Jb. Geol. Palaeont. Abh.*, 171, 1-3, 387-402.
- Jödicke, H., Keil, M., Blohm, E.-K. & Wagenitz, V. (1982): Magnetotellurische und geoelektrische Untersuchungen im Gebiet der magnetischen Anomalie von Soest-Erwitte und ihre Bedeutung für die stratigraphische Einstufung des prädevonischen Konduktors im Untergrund NW-Deutschlands, *Fortschr. Geol. Rheinld. u. Westf.*, 30, 363-403.
- Jödicke, H. & Grinat, M. (1985): Magnetotelluric measurements at the SE flank of the Stavelot-Venn anticline using the remote reference technique, *N. Jb. Geol. Palaeont. Abh.*, 171, 1-3, 425-440.
- Jödicke, H., Untiedt, J., Olgemann, W., Schulte, L. & Wagenitz, V. (1983): Electrical conductivity structure of the crust and upper mantle beneath the Rhenish Massif, Plateau Uplift, (eds. K. Fuchs et al.), Springer-Verlag, Berlin.
- Jödicke, H. & Untiedt, J. (1987): Untersuchung von Fehlerquellen und Verbesserung des Verfahrens bei der Bestimmung des Impedanztensors in der Magnetotellurik, Abschlußbericht zum DFG-Forschungsvorhaben Un 29/19, Institut für Geophysik, Univ. Münster.
- Jödicke, H. (1991): Zonen hoher elektrischer Krustenleitfähigkeit im Rhenoherzynikum und seinem nördlichen Vorland, *Diss. Univ. Münster*.
- Jödicke, H. (1992): Water and Graphite in the Earth's Crust - An Approach to Interpretation of Conductivity Models, *Surveys in Geophysics*, 13, 381-407.
- Jödicke, H., A. Jording, L. Ferrari, J. Arzate, K. Mezger, and L. Rüpke (2006), Fluid release from the subducted Cocos plate and partial melting of the crust deduced from magnetotelluric studies in southern Mexico: Implications for the generation of volcanism and subduction dynamics, *J. Geophys. Res.*, 111, doi:10.1029/2005JB003739.
- Johansen, H.K. (1977): A man/computer interpretation system for resistivity sounding over a horizontally stratified earth, *Geophys. Prosp.*, 25, 667-691.
- Johansen, H.K. (1975): An interactive computer/graphic-display-terminal system for interpretation of resistivity soundings, *Geophys. Prosp.*, 23, 449-458.

- Jones, A.G. (1977): Geomagnetic Induction Studies in Northern Scotland, Ph.D. thesis Univ. of Edinburgh.
- Jones, A.G. (1979): On the Difference between Polarisation and Coherence, *J. Geophys.*, 45, 223-229.
- Jones, A.G. (1983): The problem of current channelling: a critical review, *Geophys. Surveys*, 6, 79-122.
- Jones, A.G. (1988): Static shift of magnetotelluric data and its removal in a sedimentary basin environment, *Geophysics*, 53, 967-978.
- Jones, A.G. (1992): Electrical conductivity of the lower continental crust, in: Continental lower crust, Fountain, D.M., Arculus, R. & Kay, R.W. (eds), Elsevier, 81-144.
- Jones, A.G. (1993): The COPROD2 Dataset: Tectonic Setting, Recorded MT Data, and Comparison of Models, *J. Geomag. Geoelectr.*, 45, 933-955.
- Jones, A.G. & Dumas, I. (1993): Electromagnetic images of a volcanic zone, *Phys. Earth Planet. Int.*, 81, 289-314.
- Jones, A.G. (1998): Waves of the future: Superior inferencies from collocated seismic and electromagnetic experiments, *Tectonophysics*, 286, 273-298.
- Jones, A.G. (1999): Imaging the continental upper mantle using electromagnetic methods, *Lithos*, 48, 57-80.
- Jones, D.L., Kemp, D.T. (1970): Experimental and theoretical observations of transient excitation of Schumann resonances, *J. Atmos. Terr. Phys.*, 32, 1095-1108.
- Jones, F.M. & Geldart, L.P (1968): Spectral analysis and horizontal earth current components at separated locations, *Canadian J. of Earth Sciences*, 5, 1512-1517.
- Jones, F.W. (1970): Electromagnetic Induction in a Non-Horizontally Stratified Two-Layered Conductor, *Geophys. J. R. astr. Soc.*, 22, 17-28.
- Jones, F.W. & Price, T. (1970): The perturbations of alternating geomagnetic fields by conductivity anomalies, *Geophys. J. R. astr. Soc.*, 20, 317-334.
- Jones, F.W. & Pascoe, L.J. (1971): A general computer program to determine the perturbation of alternating electric currents in a two-dimensional model of a region of uniform conductivity with an embedded inhomogeneity, *Geophys. J. R. astr. Soc.*, 24, 3-30.
- Jones, F.W. (1973): Induction in laterally non-uniform conductors: Theory and numerical models, *Physics of the Earth and Planet. Inter.*, 7, 282-293.
- Jording, A., Ferrari, L., Arzate, J.A. & Jödicke, H. (2000): Crustal variations and terrane boundaries in southern Mexico as imaged by magnetotelluric transfer functions, *Tectonophysics*, 327, 1-13.
- Junge, A. (1988): Analytical presentation of statistically estimated magnetotelluric transfer functions by a set of polynomials, *J. Geophys.*, 62, 193-197.
- Junge, A. (1990): Robuste Schätzung bivariater Übertragungsfunktionen, Protokoll Koll. Elektromagnetische Tiefenforschung, Hornburg, 75-86.
- Junge, A. (1993): Beobachtung, Auswertung und Interpretation zeitlicher Variationen des natürlichen erdelektrischen Feldes, *Habil. math.-nat. Fachb.*, Universität Göttingen.
- Junge, A., Characterization of and correction for cultural noise, *Surv. Geophys.*, 17, 361-391, 1996.
- Jupp, D.L.B. & Vozoff, K. (1975): Stable Iterative Methods for the Inversion of Geophysical Data, *Geophys. J. R. astr. Soc.*, 42, 957-976.
- Jupp, D.L.B. & Vozoff, K. (1977): Resolving Anisotropy in Layered Media by Joint Inversion, *Geophys. Prosp.*, 25, 460-470.
- Kahalas, S.L. & Newmann, P. (1965): Interpretation of Early Magnetic Transients caused by High-Altitude Nuclear Detonation, *J. Res. Nat. Bureau of Standards*, Vol. 69D, No. 8.

- Kahalas, S.L. (1965): Excitation of ELF-Electromagnetic Waves in the Earth-Ionosphere Cavity by High-Altitude Nuclear Detonation, *J. Geophys. Res.*, 70, 3587-3595.
- Kalberkamp, U. (1989): Erweiterung des Meßbereichs einer Audiomagnetotellurik-Apparatur für hohe Frequenzen und gemeinsame Interpretation magnetotellurischer und geoelektrischer Daten, Dipl.-Arbeit, Institut für Angewandte Geophysik, Technische Univ. Berlin.
- Kanamori, H. & Cipar, J.J. (1974): Focal Process of the great chilean earthquake may 22, 1960, *Phys. Earth Planet. Inter.*, 9, 128-136.
- Kanasewich, E.R. (1985): Time sequence analysis in geophysics, The University of Alberta Press, Edmonton, Canada.
- Kao, D.W. & Rankin, D. (1977): Enhancement of signal-to-noise ratio in magneto-telluric data, *Geophysics*, 42, 103-110.
- Kapinos, G. & Brasse, H. (2006): An Amphibious Magnetotelluric Experiment at the South Chilean Continental Margin. Prot. 21. Koll. Elektromagnetische Tiefenforschung (eds. O. Ritter und H. Brasse), Haus Wohldenberg, Holle, ISSN 0946-7467, 307-314.
- Karato, S. (2003): Mapping water content in the Earth's mantle, in: Inside the Subduction Factory (ed. J. Eiler), *Geophysical Monograph Series*, 138, Am. Geophys. Union, 135-152.
- Karous and Hjelt, 1983, Linear filtering of VLF dip-angle measurements, *Geophys. Prosp.*, 31, 782-794.
- Kaufman, A.A. & Keller, G.V. (1981): The magnetotelluric sounding method, Elsevier, Amsterdam.
- Kelemen, P.B., Parmentier, E.M., Rilling, J., Mehl, L., and Hacker, B.R., 2003, Thermal convection in the mantle wedge beneath subduction-related magmatic arcs. American Geophysical Union Monograph, v. 138, p. 293-311.
- Keller, G.V. & Frischknecht, F.C. (1966): Electrical Methods in Geophysical Prospecting, Pergamon Press, Oxford.
- Keller, G.V. (1971): Natural-field and controlled-source in electromagnetic exploration, *Geo-exploration*, 9, 99-147.
- Kelley, M.C. & Ding, J.G. (1990): Intense ionospheric electric and magnetic field pulses generated by lightning, *Geophys. Res. Lett.*, Vol. 17, No. 12, 2221-2224.
- Kemp, D.T. (1971): The global location of large lightning discharges from single station observations of ELF disturbances in the Earth-ionosphere cavity, *J. Atmos. Terr. Phys.*, 33, 919-928.
- Kemp, D.T. & Jones, D.L. (1971): A new technique for the analysis of transient ELF electromagnetic disturbances within the Earth-ionosphere cavity, *J. Atmos. Terr. Phys.*, 33, 567-572.
- Kertz, W. (1971): Einführung in die Geophysik, Bd. 2, BI-Hochschultaschenbücher, Mannheim, Wien, Zürich.
- Key, K., and Constable, S. (2011): Coast effect distortion of marine magnetotelluric data: Insights from a pilot study offshore northeastern Japan, *Phys. Earth Planet. Inter.*, 184, doi:10.1016/j.pepi.2010.11.008.
- Kilty, K.T. (1984): On the origin and interpretation of self potential anomalies, *Geophys. Prosp.*, 32, 51-62.
- Kirby, S.H., E.R. Engdahl, and R. Denlinger (1996): Intermediate-depth intraslab earthquakes and arc volcanism as physical expressions of crustal and uppermost mantle metamorphism in subducting slabs, in *Subduction: Top to Bottom*, *Geophys. Monogr. Ser.*, 96 (eds. G.E. Bebout et al.), 195-214, AGU, Washington.
- Kirchner, A., Götze, H.-J. & Schmitz, M. (1996): 3D-Density Modelling with Seismic Constraints in the Central Andes, *Physics and Chemistry of the Earth*, 21, No. 4, 289-293.

- Kirchner, A. (1997): 3D-Dichtemodellierung zur Anpassung der Schwerkraft- und des Schwerpotentialfeldes der zentralen Anden, Diss. FU Berlin.
- Kisak, E. & Silvester, P. (1975): A finite-element program package for magnetotelluric modelling, Computer Physics Communications, 10, 421-433.
- Knödel, K., Krummel, H. & Lange, G. (Hg.) (1997): Handbuch zur Erkundung des Untergrundes von Deponien und Altlasten, Band 3: Geophysik, Springer, Berlin.
- Kodera, K., Gendrin, R., De Villedary, C. (1977): Complex representation of a polarized signal and its application to the analysis of ULF waves, J. Geophys. Res., 82, 1245-1255.
- Koefoed, O. (1979): Geosounding Principles, Vol. I, Resistivity Sounding Measurements, Elsevier, Amsterdam.
- König, H.L. (1959): Atmospherics geringster Frequenzen, Zeitschrift für Angewandte Physik, Bd. 11, 264-274.
- König, H.L. (1987): Wetterfähigkeit, Feldkräfte, Wünschelruteneffekt, Verlag Moos & Partner, München.
- Kotney, A., Friedrich, G., Behr, H.J., de Wall, H., Horn, E.E., Möller, P. & Zulauf, G. (1997): Formation of ore minerals in metamorphic rocks of the German continental deep drilling site, J. Geophys. Res., Vol. 102, No. B8, 18323-18336.
- Krawczyk, C.M., and The SPOC Team (2003): Amphibious Seismic Survey Images Plate Interface at 1960 Chile Earthquake, EOS Trans. AGU, 84 (32), 301.
- Krawczyk, C.M., Mechle, J., Lüth, S., Tašárová, Z., Wigger, P., Stiller, M., Brasse, H., Echtler, H., Araneda, M., and Bataille, K. (2006): Geophysical Signatures and Active Tectonics at the South-Central Chilean Margin, in: The Andes: Active Subduction Orogeny (ed: O. Oncken et al.), Frontiers in Earth Sciences, Springer-Verlag, Berlin-Heidelberg, 171-192.
- A. Kreuzmann, H. Schmeling, A. Junge, T. Ruedas, G. Marquart, and I.Th. Bjarnason (2004): Temperature and melting of a ridge-centred plume with application to Iceland. Part II: Predictions for electromagnetic and seismic observables, Geophys. J. Int., 159, 1097-1111.
- Krokowski, C. (1992): Anwendung robuster Verfahren zur Bestimmung der magnetotellurischen Impedanz, Dipl.-Arbeit Inst. für Angewandte Geophysik, TU Berlin.
- Krüger, D. (1994): Modellierungen zur Struktur elektrisch leitfähiger Zonen in den südlichen zentralen Anden, Berliner geowiss. Abh. (B), 21, Selbstverlag Fachbereich Geowiss., FU Berlin.
- Kulhanek, O. (1976): Introduction to digital filtering in geophysics, Elsevier, Amsterdam.
- Kunetz, G. (1972): Processing and Interpretation of Magnetotelluric Soundings, Geophysics, Vol. 37, 1005-1021.
- Kurtz, R.D., Delaurier, J.M., Gupta, J.C. (1986): A magnetotelluric sounding across Vancouver Island detects the subducting Juan de Fuca plate, Nature, 321, 596-599.
- Labson, V.F., Becker, A., Morrison, H.F. & Conti, U. (1985): Geophysical exploration with audio frequency natural magnetic fields, Geophysics, Vol. 50, No. 4, 656-664.
- Lahiri, B.N. & Price, T. (1939): Electromagnetic induction in non-uniform conductors, and the determination of the conductivity of the Earth from terrestrial magnetic variations, Phil. Trans. Roy. Soc. London, A 237, 509-540.
- Lamarche, J. & Scheck-Wenderoth, M. (2005): 3D structural model of the Polish Basin, *Physics of the earth and planetary interiors*, doi:10.1016/j.pepi.2004.10.013.
- Lamb, S. (2000): Active deformation in the Bolivian Andes, South America, J. Geophys. Res., Vol. 105, No. B8, 25,627-25,653.

- Lamb, S. & P. Davis 2003. Cenozoic climate change as a possible cause for the rise of the Andes, *Nature*, 425, 792-797.
- D. Lange, A. Rietbrock, C. Haberland, K. Bataille, T. Dahm, F. Tilmann and E.R. Flüh (2007), Seismicity and geometry of the south Chilean subduction zone (41.5°S–43.5°S): Implications for controlling parameters, *Geophys. Res. Lett.*, 34, 10.1029/2006GL029190
- Lanzerotti, L.J. & Southwood, D.J. (1979): Hydromagnetic waves, *Sol. Sys. Plasma Physics*, Vol. 3, ed. by Lanzerotti, I.T., North-Holland Publ. Company.
- Larsen, J.C. (1977): Removal of local surface conductivity effects from low frequency mantle response curves, *Acta Geodaet., Geophys. Montan. Acad. Sci. Hung. Tomus*, 12, 183-186.
- Larsen, J.C. (1989): Transfer functions: smooth robust estimates by least-squares and remote reference methods, *Geophys. J. Int.*, 99, 645-664.
- Larsen, T.R. & Egeland, A. (1968): Fine Structure of the Earth-Ionosphere Cavity Resonances, *J. Geophys. Res.*, 73, 4986-4989.
- LaTorraca, G.A., Madden, T.R. & Korringa, J. (1986): An analysis of the magneto-telluric impedance for three-dimensional conductivity structures, *Geophysics*, 51, 1819-1829.
- Lavenu, A. & Cembrano, J. (1999): Compressional- and transpressional-stress pattern for Pliocene and Quaternary brittle deformation in fore arc and intra-arc zones (Andes of Central and Southern Chile), *J. Struct. Geol.*, 21, 1669-1691.
- Lee, S., McMechan, G.A. & Aiken C.L.V. (1987): Phase-field imaging: The electromagnetic equivalent of seismic migration, *Geophysics*, 52, 678-693.
- Leidig, M. & George Zandt, G. (2003): Modeling of highly anisotropic crust and application to the Altiplano-Puna volcanic complex of the central Andes, *J. Geophys. Res.*, 108 (B1), doi:10.1029/2001JB000649.
- Levv, S., Oldenburg, D. & Wang, J. (1988): Subsurface imaging using magnetotelluric data, *Soc. of Expl. Geophysicists*.
- Lewicki, J.L., Connor, C., St-Amand, K., Stix, J. & Spinner, W. (2003): Self-potential, soil CO₂ flux, and temperature on Masaya volcano, Nicaragua, *Geophys. Res. Lett.*, 30, doi:10.1029/2003GL017731.
- Lezaeta, P., Muñoz, M. & Brasse, H. (2000): Magnetotelluric image of the crust and upper mantle in the backarc of the NW Argentinean Andes, *Geophys. J. Int.*, 142, 841-854.
- Lezaeta, P. & Brasse, H. (2001): Electrical conductivity beneath the volcanoes of the NW Argentinian Puna, *Geophys. Res. Lett.*, 28, 4651-4654.
- Lezaeta, P. (2001): Distortion analysis and 3-D modeling of magnetotelluric data in the Southern Central Andes, PhD thesis, FU Berlin.
- Lezaeta, P. (2002): The confidence limit of the magnetotelluric phase sensitive skew, *Earth Planets and Space*, 54, 451-457.
- Lezaeta, P. & Haak, V. (2003): Beyond magnetotelluric decomposition: Induction, current channeling, and magnetotelluric phases over 90°, *J. Geophys. Res.*, 108, doi: 10.1029/2001JB000649.
- Lezaeta, P., Chave, A.D. & Evans, R.L. (2005): Correction of shallow-water electromagnetic data for noise induced by instrument motion, *Geophysics*, 70, doi: 10.1190/1.2080748
- Li, Y. (2000): Numerische Modellierungen von elektromagnetischen Feldern in 2- und 3-dimensionalen anisotropen Leitfähigkeitsstrukturen der Erde nach der Methode der Finiten Elemente, PhD thesis, Univ. of Göttingen.
- Li, Y. (2002): A finite element algorithm for electromagnetic induction in two-dimensional anisotropic conductivity structures, *Geophys. J. Int.*, 148, 389-401.

- Li, Y. & Spitzer, K. (2002): Three-dimensional DC resistivity forward modelling using finite elements in comparison with finite-difference solutions, *Geophys. J. Int.*, 151, 924-934.
- Li, Y. & Spitzer, K. (2005): Finite element resistivity modelling for three-dimensional structures with arbitrary anisotropy, *Phys. Earth Planet. Inter.*, 150, 15-27.
- Lindsay, J.M. (1999): Stratigraphy, age relations and magmatic evolution of large-volume felsic ignimbrites of the La Pacana Caldera, Central Andes, Chile, Scientific Technical Report STR99/16, Geoforschungszentrum Potsdam.
- Lindsay, J., de Silva, S., Trumbull, R., Emmermann, R., Wemmer, K. (2001): The La Pacana Caldera, N. Chile: a re-evaluation of one of the world's largest resurgent calderas, *J. Volcan. Geoth. Res.*, 106, 145-173.
- Lindsay, J.M., Schmitt, A.K., Trumbull, R.B., de Silva, S.L., Siebel, W., Emmermann, R. (2001): Magmatic evolution of the La Pacana Caldera system, Central Andes, Chile: compositional variation of two cogenetic, large-volume felsic ignimbrites and implications for contrasting eruption mechanisms, *J. Petrol.*, 42, 459-468.
- Lipskaya N.V., 1953. On the certain correlations between spectral harmonics of the Earth electromagnetic field variations. *Izv. Akad. Nauk SSSR, Geophysika*. N1 (in Russian).
- López-Escobar, L., J. Cembrano, and H. Moreno (1995), Geochemistry and tectonics of the Chilean Southern Andes basaltic Quaternary volcanism (37-46°S), *Rev. Geol. Chile*, 22, 219-234.
- Losecke, W., Knödel K., and Müller, W. (1979): The conductivity distribution in the North German sedimentary basin derived from widely spaced areal magnetotelluric measurements, *Geophys. J. R. astr. Soc.*, 58, 169-179.
- Loveless, J.P., G.D. Hoke, R.W. Allmendinger, G. González, B.L. Isacks, and D.A. Carrizo (2005), Pervasive cracking of the northern Chilean Coastal Cordillera: nw evidence for forearc extension, *Geology*, 33, 10.1130/G22004.1.
- Lowes, F.J. (1974): Do Magnetometers Measure B or H, *Geophys. J. R. astr. Soc.*, 37, 151-155.
- Lüth, S. & Wigger, P. (2003): A crustal model along 39°S from a seismic refraction profile-ISSA 2000, *Rev. geol. Chile*, 30, 83-101.
- L.M. MacGregor, M. Sinha and S. Constable (2001): Electrical resistivity structure of the Valu Fa Ridge, Lau Basin, from marine controlled source electromagnetic sounding, *Geophys. J. Int.*, 146, 217-236.
- L.M. MacGregor, S. Constable & M.C. Sinha (1998): The RAMESSES experiment III. Controlled-source electromagnetic sounding of the Reykjanes Ridge at 57°45'N, *Geophys. J. Int.*, 135, 773-789.
- Mackie, R., Madden, T.R. & Wannamaker, P.E. (1993): Three-dimensional magnetotelluric modeling using difference equations - Theory and comparisons to integral equation solutions, *Geophysics*, 58, 215-226.
- Mackie, R., Smith, J., Madden, T.R. (1994): Three-dimensional modeling using finite difference equations: The Magnetotelluric example. *Radio Science*, 29, 923-935.
- Madden, T. & Thomson, W. (1965): Low-frequency electromagnetic oscillations of the Earth-ionosphere cavity, *Rev. Geophys.*, 3, 211-254.
- Maillet, R. & Doll, H.G. (1932): Sur un theoreme relatif aux milieux electriquement anisotropes et ses applications a la prospection electrique en courant continu, *Ergänzungshefte zur angewandten Geophysik*, 3, 109-124.
- Maillet, R. (1947): The fundamental equations of electrical prospecting, *Geophysics*, 12 (4), 529-556.
- Makovskiy, Y. & Klemperer, S.L. (1999): Measuring the seismic properties of Tibetan bright spots: Evidence for free aqueous fluids in the Tibetan middle crust, *J. Geophys. Res.*, 104, 10,795-10,825.

- Mann, D.C. (1989): Thick-skin and Thin-skin Detachment Faults in Continental Sudanese Rift Basins, *Journal of African Earth Sciences*, 8, 307-322.
- Marcuello, A., Queralt, P. & Ledo, J. (2004): Applications of dispersion relations to the geomagnetic transfer function, *Phys. Earth Planet. Inter.*, doi:10.1016/j.pepi.2004.08.016.
- Marple, S.L. (1987): Digital spectral analysis with applications, Prentice Hall, Englewood Cliffs, N. J.
- Marquardt, D.W. (1963): An algorithm for least squares estimation of nonlinear parameters, *J. Soc. Indust. Appl. Math.*, Vol. 11, 431-441.
- Marquardt, D.W. (1970): Generalized inverses, ridge regression, biased linear estimation and nonlinear estimation, *Technometrics*, 12, 591-612.
- Marquis, G. & Hyndman, R.D. (1992): Geophysical support for aqueous fluids in the deep crust: seismic and electrical relationships, *Geophys. J. Int.*, 110, 91-105.
- Martinez, M.M. (1988): Grundlagen neuerer Inversionsmethoden und ihre Anwendung auf 1D-Inversion in der Magnetotellurik, Protokoll Kolloquium Elektromagnetische Tiefenforschung, Königstein.
- B.G. Mason, D.M. Pyle, C. Oppenheimer (2004): The size and frequency of the largest explosive eruptions on Earth, *Bull. Volcanol.*, 66 (8), 735-748.
- Massow, W. (1994): Magnetotellurik in der Westkordillere Nordchiles, Dipl.-Arbeit Fachrichtung Geophysik, FU Berlin.
- Matsushita, S. & Campbell, W.H. (1967): Physics of Geomagnetic Phenomena, Academic Press, New York.
- Mathez, E.A. & Delaney, J.R. (1981): The nature and distribution of carbon in submarine basalts and peridotite nodules, *Earth and Planet. Sci. Lett.*, 56, 217-232.
- Matthess, G. & Ubell, K. (1983): Lehrbuch der Hydrogeologie, Bd. 1, Gebr. Bornträger, Berlin, Stuttgart.
- Maus, S., T. Sazonova, K. Hemant, J. D. Fairhead, and D. Ravat (2007), National Geophysical Data Center candidate for the World Digital Magnetic Anomaly Map, *Geochem. Geophys. Geosyst.*, 8, Q06017, doi:10.1029/2007GC001643.
- McCarrick, M.J. (1990): Excitation of ELF waves in the Schumann resonance range by modulated HF heating of the polar electrojet, *Radio Science*, 25, 1291-1298.
- McGillivray, P.R. & Oldenburg, D.W. (1990): Methods for calculating frechet derivatives and sensitivities for the non-linear inverse problem: a comparative study, *Geophys. Pros.*, 38, 499-524.
- McNeice, G.W. & Jones, A.G. (2001): Multi-site, multi-frequency tensor decomposition of magnetotelluric data, *Geophysics*, 66, 158-173.
- McNeill, J.D. & Labson, V.F. (1991): Geological mapping using VLF radio fields, in: *Electromagnetic Methods in Applied Geophysics*, Vol. 2 (ed. M.N. Nabighian), Society of Exploration Geophysicists, Tulsa, Oklahoma.
- Meju, M.A. (1994): *Geophysical Data Analysis: Understanding Inverse Problem Theory and Practice*, Society of Exploration Geophysicists, Tulsa, Oklahoma.
- Melnick, D., Rosenau, M., Folguera, A. & Echtler, H.P. (2006): Neogene tectonic evolution of the Neuquén Andes western flank (37-39°S), in: Kay, S.M. & Ramos, V.A. (eds.): *Evolution of an Andean margin: A tectonic and magmatic view from the Andes to the Neuquén Basin (35-39°S)*, *Geol. Soc. Am. Spec. Paper*, 407, doi:10.1130/2006.2407(04).
- Menke, W. (1989): *Geophysical Data Analysis: Discrete Inverse Theory*, Academic Press, San Diego.

- Meyer, J. (1965): Die magnetotellurische Tiefensondierung und ihr erdmagnetisches Analogon, Koll. Erdmagnet. Tiefensondierung.
- Meyer-Delius., H. (1933): Die Oberwellen der Gleichspannung und des primären Netzstromes in Gleichrichteranlagen, Elektrotechnische Zeitschrift, Ausgabe A, VDE-Verlag, Berlin.
- Meyers Physik-Lexikon (1973): Bibliographisches Institut, Mannheim/Wien/Zürich.
- Meyers, S.C., Beck, S., Zandt., G. & Wallace, T. (1998): Lithospheric-scale structure across the Bolivian Andes from tomographic images of velocity and attenuation for P and S waves, *J. Geophys. Res.*, 103, 21215-21232.
- Mibe, K., T. Fujii & A. Yasuda (1999): Control of the location of the volcanic front in island arcs by aqueous fluid connectivity in the mantle wedge, *Nature*, 401, 259-262.
- Militzer, H. & Weber, F.(1985): Angewandte Geophysik, Band 2, Springer-Verlag, Wien-New York.
- Morgan, J.P. (2001): The Thermodynamics of Pressure-Release Melting of a Veined Plum-Pudding Mantle, G-cubed, 2.
- Müller, A. & Haak, V. (2004): 3-D modeling of the deep electrical conductivity of Merapi volcano (Central Java): integrating magnetotellurics, induction vectors and the effects of steep topography, *J. Volc. Geotherm. Res.*, 138, 205-222.
- Müller, C. (1984): Elektrische Maschinen, VEB-Verlag Technik, Berlin.
- Müller, W. (1977): Inversion by Simultaneous Fitting of Apparent Resistivity and Phase Angle, *Acta Geod., Geophys. et Mont. Acad. Sci. Hung.*, 12.
- Müller, D., Roest, W.R., Royer, J.-Y., Gahagan, L.M., and Sclater, J.G. (1997): Digital isochrons of the world's ocean floor, *J. Geophys. Res.*, 102, 3211-3214.
- Muñoz, J., Troncoso, R., Duhart, P., Crignola, P., Farmer, L. & Stern, C.R. (2000): The relation of the mid-Tertiary coastal magmatic belt in south-central Chile to the late Oligocene increase in plate convergence rate, *Rev. geol. Chile*, 27, No. 2.
- Muñoz, M., Fournier, H., Mamani, M., Febrer, J., Borzotta, E. & Maidana, A. (1990): A comparative study of results obtained in magnetotelluric deep soundings in Villarrica active volcano zone (south of Chile) with gravity investigations, distributions of earthquake foci, heat flow empirical relationship, isotopic geochemistry $^{87}\text{Sr}/^{86}\text{Sr}$ and SB systematics, *Phys. Earth Planet. Int.*, 60, 195-211.
- Muñoz, M. (2005): No flat Wadati-Benioff Zone in the central and southern central Andes, *Tectonophysics*, 395, 41-65.
- Muñoz, N. & Charrier, R. (1996): Uplift of the western border of the Altiplano on a west-vergent thrust system, Northern Chile, *J. South American Earth Sciences*, 9, 171-181.
- Muñoz, N., and P. Sepúlveda (1992), Estructuras compresivas con vergencia al oeste en el borde oriental de la Depresión Central, norte de Chile ($19^{\circ}15'S$), *Rev. Geol. Chile*, 19, 241-247.
- Murakami, Y. & Uchida, T. (1982): Accuracy of the linear filter coefficients determined by the iteration of the least-squares method, *Geophysics*, 47 (2), 244-256.
- Myers, S.C., S. Beck, G. Zandt, and T. Wallace (1998), Lithospheric-scale structure across the Bolivian Andes from tomographic images of velocity and attenuation for P and S waves, *J. Geophys. Res.*, 103 (B9), 21,233-21,252.
- Nagy, R.M., Ghuma, M.A. & Rogers, J.J.W. (1976): A crustal structure and lineament in North Africa, *Tectonophys.*, 31, 67-72.
- Naif, S., Constable, S. & Evans, R.L. (2013): Melt-rich channel observed at the lithosphere-asthenosphere boundary, *Nature*, 495, doi: 10.1038/nature11939.
- Nakamura, K., Volcanoes as possible indicators of tectonic stress orientation (principle and proposal), *J. Volcan. Geotherm. Res.*, 2, 1-16, 1977.

- Negi, J.G., and P.D. Saraf (1989), Anisotropy in geoelectromagnetism, Methods in Geochemistry and Geophysics, 28, Elsevier, Amsterdam, 238pp.
- Nelson, K.D., Wenjin Zhao, L.D. Brown, J. Kuo, Jinkai Che, Xianwen Liu, S.L. Klemperer, Y. Makovsky, R. Meissner, J. Mechie, R. Kind, F. Wenzel, J. Ni, J. Nabelek, Leshou Chen, Handong Tan, Wenbo Wei, A.G. Jones, J. Booker, M. Unsworth, W.S.F. Kidd, M. Hauck, D. Alsdorf, A. Ross, M. Cogan, Changde Wu, E. Sandvol & M. Edwards, (1996): Partially molten middle crust beneath southern Tibet: an initial synthesis of Project INDEPTH results, *Science*, 274, 1684-1688.
- Nesbitt, B. E. (1993), Electrical resistivities of crustal fluids, *J. Geophys. Res.*, 98, 4301-4310.
- Newman, G.A., P.E. Wannamaker and G.W. Hohmann (1985): On the detectability of crustal magma chambers using the magnetotelluric method, *Geophysics*, 50, 1136-1143.
- Newman, G.A., Recher, S., Tezkan, B. and Neubauer, F.M. (2003): 3D inversion of a scalar radio magnetotelluric field data set, *Geophysics*, 68, 791-802.
- Niederleithinger, E. (1990): Zweidimensionale Modellrechnungen zur Untersuchung oberflächennaher Inhomogenitäten in der Geoelektrik, Dipl.-Arbeit Institut für Angewandte Geophysik, Technische Universität Berlin.
- Nover, G. (2005): Electrical Properties of Crustal and Mantle Rocks – a Review of Laboratory Measurements and their Explanation, *Surv. Geophys.*, 26, 593–651.
- Obara, K., (2002): Nonvolcanic Deep Tremor Associated with Subduction in Southwest Japan, *Science*, 296, 1679-1681.
- Oettinger, G. (1999): Magnetotellurische Messungen im sächsischen Granulitgebirge: Separation von Nutz- und Störsignalen und Verteilung der elektrischen Leitfähigkeit, Diss. FU Berlin.
- Ocola, L.C. & Meyer, R.P. (1972): Crustal low-velocity zones under the Peru-Bolivia Altiplano, *Geophys. J. R. astr. Soc.*, 30, 199-209.
- Ogawa, T., Kozai, K., Kawamoto, H., Yasuhara, M. & Huzita, A. (1979): Schumann resonances observed with a balloon in the stratosphere, *J. Atmosph. Terr. Phys.*, Vol. 41, 135-142.
- Ogawa, Y., Matsushima, N., Oshima, H., Takakura, S., Utsugi, M., Hirano, K., Igarashi, M. & Doi, T. (1998): A resistivity cross-section of Usu volcano, Hokkaido, Japan, by audio-magnetotelluric soundings, *Earth Planets Space*, 50, 339-346.
- Okaya, N., Tawackoli, S. and Giese, P. (1997): Area-balanced model of the late Cenozoic tectonic evolution of the Central Andean arc and back arc (lat. 20°-22°S). *Geology*, 25, 367-370.
- Oldenbourg, D. (1990): Inversion of Electromagnetic Data: An Overview of New Techniques, *Surveys in Geophysics*, 11 (2-3), 231-270.
- Olhoeft, G.R. (1981): Electrical properties of rocks. In: Y.S. Touloukian; W.R. Judd; R.F. Roy, ed.. *Physical properties of rocks and minerals*, McGraw-Hill, New York.
- Olhoeft, G.R. (1986): Electrical properties of rocks and minerals, Short Course Notes, Golden, Colorado.
- Olsen, N. (1992): Day-to-Day C-Response Estimation for Sq from 1 cpd to 6 cpd using the Z:Y-Method., *J. Geomag. Geoelectr.*, 44, 433-447.
- Olsen, N. (1994): Estimation of C- Responses (4h to 720h) using the Z:Y-method, ???.
- Olsen, N. (1998): The electrical conductivity of the mantle beneath Europe derived from C-responses from 3 to 720 hr, *Geophys. J. Int.*, 133, No. 2, 298-308.
- Oncken, O. & Echtler, H. (?): Die Anden – ein natürliches Labor der Plattentektonik, Der Einfluss des Klimas auf die Tektonik, Potsdam GFZ
- Onwumechili, C.A. (1997): The Equatorial Electrojet, Gordon and Breach Science Publishers, Amsterdam, 627pp.

- Osella, A.M. & Martinelli, P. (1993): Magnetotelluric response of anisotropic 2-D structures, *Geophys. J. Int.*, 115, 819-828.
- Oskooi, B., Pederson, L.B., Smirnov, M., Árnason, K., Eysteinsson, H. & Manzella, A. (2004): The deep geothermal structure of the Mid-Atlantic Ridge deduced from MT data in SW Iceland, *Phys. Earth Planet. Inter.*, doi:10.1016/j.pepi.2004.08.027.
- Otten, J. (1984): Aktive Audiomagnetotellurik, eine Methode zur Bestimmung der Leitfähigkeit des Untergrundes - mit Modellrechnungen und einer Anwendung auf die geothermische Anomalie der Toskana, Diss. Technische Universität Braunschweig.
- Pádua, M.B., Padilha, A.L. & Vitorello, I. (2002): Disturbances on magnetotelluric data due to DC electrified railway: A case study from southeastern Brazil, *Earth Planets Space*, 54, 591-596.
- Palacky, G.J. (1991): Application of the Multifrequency Horizontal-Loop EM Method in Overburden Investigations, *Geophys. Prospecting*, 39, 1061-1082.
- Palacky, G.J. (1991): Resistivity Characteristics of Geologic Targets, in: *Electromagnetic Methods in Applied Geophysics*, Vol. 2 (ed. M.N. Nabighian), Society of Exploration Geophysicists, Tulsa, Oklahoma, 931-966.
- Park, S. K. & Mackie, R. J. (1997): Crustal structure at Nanga Parbat, northern Pakistan, from magnetotelluric soundings, *Geophys. Res. Lett.*, 24(19), 2415-2418.
- Park, S.K. & Livelybrooks, D.W. (1989): Quantitative interpretation of rotationally invariant parameters in magnetotellurics, *Geophysics*, 54(11), 1483-1490.
- Park, S.K. (1985): Distortion of magnetotelluric sounding curves by three-dimensional structures, *Geophysics*, 50(5), 785-797.
- Parker, R.L. (1994): *Geophysical Inverse Theory*, Princeton University Press, New Jersey.
- Parker, R.L. (1984): The inverse problem of resistivity sounding, *Geophysics*, 49(12), 2143-2158.
- Parker, R.L. (1983): The magnetotelluric inverse problem, *Geophysical Surveys*, 6, 5-25.
- Parker, R.L. (1980): The Inverse Problem of Electromagnetic Induction: Existence and Construction of Solutions Based On Incomplete Data, *J. Geophys. Res.*, 85(B8), 4421-4428.
- Parkhomenko, E.I. (1982): Electrical resistivity of minerals and rocks at high temperature and pressure, *Reviews Geophys. Space Phys.*, 20, 193-218.
- Parkinson, W. (1959): Directions of rapid geomagnetic variations, *Geophys. J. R. Astr. Soc.*, 2, 1-14.
- Parkinson, W.D. (1962): The influence of continents and oceans on geomagnetic variations. *Geophys. J. R. Astr. Soc.* 6, 441-449.
- Partzsch, G.M., Schilling, F.R. & Arndt, J. (2000): The influence of partial melting on the electrical behavior of crustal rocks: laboratory examinations, model calculations and geological interpretations, *Tectonophysics*, 317, 189-203.
- Pascoe, L.J. & Jones, F.W. (1972): Boundary conditions and calculation of surface values for the general two-dimensional electromagnetic induction problem, *Geophys. J. R. Astr. Soc.*, 27, 179-193.
- Pasko, V.P. (2004): Electric jets, *Nature*, 423, 927-929.
- Patella, D. (1987): Tutorial interpretation of magnetotelluric measurements over an electrical-dispersive one-dimensional earth, *Geophys. Prospr.*, 35, 1-11.
- Patra, H.P. & Mallick, K. (1980): *Geosounding Principles*, 2, Elsevier, Amsterdam.

- Patro, B.P.K., Harinarayana, T., Sastry, R.S., Madhusudan Rao, Manoj, C., Naganjaneyulu, and Sarma, S.V.S., 2005. Electrical imaging of Narmada-Son Lineament Zone, Central India from magnetotellurics, *Phys. Earth. Planet. Inter.*, 148, 215-232.
- Patro, B.P.K., Brasse, H., Harinarayana, and Sarma, S.V.S., 2005. Electrical structure of the crust below the Deccan Flood Basalts (India), inferred from magnetotelluric soundings, *Geophys. J. Int.*, doi: 10.1111/j.1365-246X.2005.02789.x.
- Patro, P.K., and Egbert, G.D. (2008): Regional conductivity structure of Cascadia: Preliminary results from 3D inversion of USArray transportable array magnetotelluric data, *Geophys. Res. Lett.*, 35, L20311, doi:10.1029/2008GL035326.
- Patzwahl, R., Mechier, J., Schulze, A., and Giese, P. (1999): Two-dimensional velocity models of the Nazca plate subduction zone between 19.5°S and 25°S from wide-angle seismic measurements during the CINCA95 project, *J. Geophys. Res.*, Vol. 104, No. B4, pp 7293-7317.
- Peacock, S.M. & Wang, K. (1999): Seismic Consequences of Warm Versus Cool Subduction Metamorphism: Examples from Southwest and Northeast Japan, *Science*, 286, 937-939.
- Peacock, S.M. (2001): Are the lower planes of double seismic zones caused by serpentine dehydration in subducting oceanic mantle, *Geology*, 29, 299-302.
- Peacock, S.M., van Keken, P.E., Holloway, S.D., Hacker, B.R., Abers, G.A. & Fergason, R.L. (2005): Thermal Structure and Dynamics of the Costa Rica – Nicaraguan subduction zone: Insights from Observations and Modeling, *Phys. Earth Planet. Inter.*, 169, 187-200.
- Pedersen, L.B.: Some aspects of magnetotelluric field procedures, Dep. of Solid Earth Physics, University of Uppsala, Box 556, S-751, 22, Uppsala, Sweden.
- Pedersen, J. & Hermance, J.F. (1986): Least squares inversion of one-dimensional magnetotelluric data: An assessment of procedures employed by Brown University, *Surveys in Geophysics*, 8, 187-231.
- Pedersen, L.B. (1982): The magnetotelluric impedance tensor - its random and bias errors, *Geophys. Prosp.*, 30, 188-210.
- Pek, J. (1994): 2-D numerical modelling of magnetotelluric fields in anisotropic structures - an FD algorithm, in: Protokoll Kolloquium Elektromagnetische Tiefenforschung, Höchst im Odenwald, Bahr, K. & Junge, A. (Hg.), 27-39.
- Pek, J. & Verner, T. (1997): Finite difference modelling of magnetotelluric fields in 2-D anisotropic media, *Geophys. J. Int.*, 128, 505-521.
- Perkins, F.W. (1979): Understanding plasma instabilities in space: ionospheric research and communications applications, *Solar System Plasma Physics*, Vol. III, Nord-Holland Company.
- Phillips, W.J. (1984): Resonance Effects in Complex Resistivity Data and their Significance in Mineral Exploration, *Trans. Inst. Min. Metall.*, Section B: Appl. Earth Sc., 93, 1-11.
- Pierce, E.T. (1977): *Atmospherics and Radio Noise*, in: *Lightning*, Vol. 1 (ed. R.H. Golde), Academic Press, London-New York-San Francisco.
- Piske, J., Neumann, E., 1993. Tektonische Gliederung des prävariszischen Untergrundes in der südwestlichen Ostsee. *Geol. Jahrb., Reihe A* 131, 361–388.
- Polk, C. (1982): Schumann Resonances, in: *CRC Handbook of Atmospherics*, Vol. 1 (ed. H. Volland), pp. 111-178, CRC Press, Boca Raton, Florida.
- Poll, H.E., Weaver, T.J. & Jones, A.G. (1989): Calculations of voltages for magnetotelluric modelling of a region with near-surface inhomogeneities, *Phys. Earth and Plan. Inter.*, 53, 287-297.
- Porstendorfer, G. (1975): Principles of magneto-telluric sounding, Gebr. Bornträger, Berlin-Stuttgart.

- Pous, J., Heise, W., Schnegg, P., Muñoz, G., Martí, J. & Soriano, C. (2002): Magnetotelluric study of the Las Cañadas caldera (Tenerife, Canary Islands): structural and hydrogeological implications, *Earth Planet. Sci. Lett.*, 204, 249-263.
- Pous, J., Muñoz, G., Heise, W., Melgarejo, J.C. & Quesada, C. (2004): Electromagnetic imaging of Variscan crustal structures in SW Iberia: the role of interconnected graphite, *Earth Planet. Sci. Lett.*, 217, 435-450.
- Pracser, E. & Szarka, L. (1999): A correction to Bahr's "phase deviation" method for tensor decomposition, *Earth Planets Space*, 51, 1019-1022.
- Prentice, S.A. (1977): Frequency of Lightning Discharges, in: *Lightning*, Vol. 1, (ed. R.H. Golde), Academic Press, London - New York - San Francisco.
- Press, W.H., Teukolsky, S.A., Vetterling, W.T. & Flannery, B.P. (1992): *Numerical Recipes in Fortran*, 2nd edition, Cambridge University Press, Cambridge.
- Pretzschner, C. (1993): Quantitative Modellierung des Einflusses der Polarisierbarkeit auf elektromagnetische Nah- und Fernfeldmethoden, Diss. TU Bergakademie Freiberg.
- Price, A.T. (1950): Electromagnetic induction in a semi-infinite conductor with a plane boundary, *Quart. J. Mech. and Applied Math.*, Vol. 3, Pt. 4.
- Price, A.T. (1962): The theory of magnetotelluric methods when the source field is considered, *J. Geophys. Res.*, 67, 1907-1918.
- Priestley, M.B. (1981): Spectral analysis and time series, Volume 1, Academic Press, London.
- Raab, S., Hoth, P., Huenges, E. & Müller, H.J. (1998): Role of sulfur and carbon in the electrical conductivity of the middle crust, *J. Geophys. Res.*, 103, B5, 9681-9689.
- Raiche, A. (1992): Modelling & Inversion Progress, Problem & Challenges, Report.
- Radic, T. (1990): Auswertung des Skineffekts bei Wechselstromsondierungen zur Korrektur möglicher Gleichstromverzerrungen, Protokoll Kolloquium Elektromagnetische Tiefenforschung, Hornburg, 107-114.
- Ranero, C., von Huene, R., Flueh, E.R., Duarte, M., Baca, D., & McIntosh, K. (2000): A cross section of the convergent Pacific margin of Nicaragua, *Tectonics*, 19, 335-357.
- Ranero, C.R., Phipps Morgan, J., McIntosh, K. & Reichert, C. (2003) Bending-related faulting and mantle serpentinization at the Middle America trench, *Nature*, 425, 367-373.
- Ranganayaki, R.P. (1984): An interpretive analysis of magnetotelluric data, *Geophysics*, Vol. 49, No. 10, 1730-1748.
- Rath, V. & Haak, V. (1986): Lower crustal conductors, DFG-Bericht.
- Reddy, I.K. & Rankin, D. (1973): Magnetotelluric Response of a Two-Dimensional Sloping Contact by the Finite Element Method, *Pageoph.*, 105, 847-857.
- Reddy, I.K., Rankin, D. & Phillips, R.J. (1977): Three-dimensional modelling in magnetotelluric and magnetic variational sounding, *Geophys. J. R. astr. Soc.*, 51, 313-325.
- Reitmayer, G. (1974): Elektromagnetische Induktion im Erdinnern, studiert am Rheingraben, Diss. Univ. München.
- Reutter, K.-J., Scheuber, E. & Chong, G. (1996): The Precordilleran fault system of Chuquicamata, Northern Chile: evidence for reversals along arc-parallel strike-slip faults, *Tectonophysics*, 259, 213-228.
- Revil, A., L. Ehounarne, E. Thyreault, Tomography of self-potential anomalies of electrochemical nature, *Geophys. Res. Lett.*, 28(23), 4363-4366, 2001.
- Ritter, O. (1988): Auswertung von Audiomagnetotellurik-Registrierungen auf der Insel Milos, Dipl.-Arbeit, Institut für Geophysikalische Wissenschaften, Freie Universität Berlin.
- Ritter, P. (1996): Separation of local and regional information in geomagnetic response functions using hypotheical event analysis, Ph.D. thesis, University of Edinburgh.

- Ritz, M., Bondoux, F., Héral, G. and Sempere, T. (1991): A magnetotelluric survey in the northern Bolivian Altiplano, *Geophys. Res. Lett.*, 18, 475-478.
- Roberts, J.J & Tyburczy, J.A. (1999): Partial-melt electrical conductivity: Influence of melt composition, *J. Geophys. Res.*, 104, 7055-7065.
- Roberts, J.J., Duba, A. G., Mathez, E.A., Shankland, T.J. & Kinsler, R. (1999): Carbon-enhanced electrical conductivity during fracture of rocks, *J. Geophys. Res.*, 104, 737-748.
- Rodger, C.J. (1999): Red sprites, upward lightning, and VLF perturbations, *Reviews of Geophysics*, 37(3), 317-336.
- Rodi, W. & Mackie, R.L. (2001): Nonlinear conjugate gradients algorithm for 2-D magnetotelluric inversions, *Geophysics*, 66, 174-187.
- Rokityansky, I.I. (1982): *Geoelectromagnetic Investigation of the Earth's Crust and Mantle*, Springer-Verlag, Berlin.
- Romo, J.M., Gómez-Trevino, E. & Esparza, F.J. (2004): Series and parallel transformations of the magnetotelluric impedance tensor: theory and applications, *Physics of the earth and planetary interiors*, doi:10.1016/j.pepi.2004.08.021.
- Rooney, D. (1976): Magnetotelluric Measurements across the Kenyan Rift Valley, Ph. D. thesis Univ. of Edinburgh.
- Roperch, P., Héral, G & Fornari, M. (1999): Magnetostratigraphy of the Miocene Corque basin, Bolivia: Implications for the geodynamic evolution of the Altiplano during the Tertiary, *J. Geophys. Res.*, 104 (B9), 20,415-20,429.
- Rosenau, M, Melnick, D. & Echtler, H. (2006): Kinematic constraints on intra-arc shear and strain partitioning in the southern Andes between 38°S and 42°S latitude, *Tectonics*, 25, doi:10.1029/2005TC001943.
- Ruedas, T., Schmeling, H., Marquart, G., Kreutzmann, A., Junge, A. (2004): Temperature and melting of a ridge-centred plume with application to Iceland. Part I: Dynamics and crust production, *Geophys. J. Int.*, 158, 729-743.
- Rüpkne, L.H., Morgan, J.P., Hort, M. & Connolly, J.A.D. (2002): Are the regional variations in Central American arc lavas due to differing basaltic versus peridotitic slab sources of fluids? *Geology*, 30, 1035-1038.
- Rüpkne, L.H., Morgan, J.P., Hort, M. & Connolly, J.A.D. (2004): Serpentine and the subduction zone water cycle, *Earth Planet. Sci. Lett.*, 223, 17-34.
- Russel, C.T., Holzer, R.E., Smith, E.J. (1970): OGO 3 observation of ELF noise in magnetosphere, II. The nature of equatorial noise, *J. Geophys. Res.*, 75, 755.
- Rychert, C.A., Fischer, K.M., Abers, G.A., Plank, T., Syracuse, E., Protti, J.M., Gonzalez, V. & Strauch, W. (2008): Strong along-arc variations in attenuation in the mantle wedge beneath Costa Rica and Nicaragua, *Geochem. Geophys. Geosyst.*, 9, Q10S10, doi: 10.1029/2008GC002040.
- Saatcilar, R., Ergintav, S. & Canitez, N. (1990): The use of the Hartley transform in geophysical applications, *Geophysics*, Vol. 55, No. 11, 1488-1495.
- Saito, T. (1978): Long-period irregular magnetic pulsations, Pi3, *Space Science Reviews*, 21, 427-467.
- Sakkas, V., M.A. Meju, M.A. Khan, V. Haak and F. Simpson (2002): Magnetotelluric images of the crustal structure of Chyulu Hills volcanic field, Kenya, *Tectonophysics*, 346, 169-185.
- Sallarès, V., Dañobeitia, J.J., Flueh, E.R. (2001): Lithospheric structure of the Costa Rican Isthmus: Effects of subduction zone magmatism on an oceanic plateau, *J. Geophys. Res.*, 106 (B1), doi: 2000JB900245
- Sanaito, C.M., Febrer, J.M., Pomposiello, M.C., Mamami, M. & Maidana, A. (1993): Magnetotelluric Study of the Tuzgle Volcano Zone, Jujuy Province, Argentina, *J. Geomag. Geoelectr.*, 45, 933-955.

- Sanford, T.B., Motionally-induced electric and magnetic fields in the sea, *J. Geophys. Res.*, 76, 3476–3492, 1971.
- Sao, K., Yamashita, M., Tanahashi, S., Jindoh, H. & Ohta, K. (1973): Experimental Investigations of Schumann Resonance Frequencies, *J. of Atmospheric and Terrestrial Physics*, Vol. 35, 2047ff.
- Sao, K. & Jindoh, H. (1974): Real-Time Location of Atmospheric by Single Station Techniques and Preliminary Results, *J. of Atmospheric and Terrestrial Physics*, Vol. 36, 261-266.
- Schäfer, A., Houpt, L., Brasse, H., Hoffmann, N. & EMTESZ Working Group (2011): The North German Conductivity Anomaly revisited, *Geophys. J. Int.*, 187, doi:10.1111/j.1365-246X.2011.05145.x
- Scherwath, M., E. Flueh, I. Grevemeyer, F. Tilman, E. Contreras-Reyes, and W. Weinrebe (2006), Investigating Subduction Zone Processes in Chile, *EOS Trans. AGU*, 87, 265.
- Scheuber, E. (1994): Tektonische Entwicklung des nördlichen aktiven Kontinentalrandes: Der Einfluß von Plattenkonvergenz und Rheologie, in: *Geotektonische Forschungen*, 81 (Hg. K. Weber), E. Schweizerbart'sche Buchhandlung, Stuttgart.
- Schilling, F.R., Partzsch, G.M., Brasse, H. & Schwarz, G. (1997): Partial Melting below the Magmatic Arc in the Central Andes Deduced from Geoelectromagnetic Field Experiments and Laboratory Data, *Phys. Earth Planet. Inter.*, 103, 17-32.
- Schilling, F.R., Trumbull, R.B., Brasse, H., Haberland, C., Asch, G., Bruhn, D., Mai, K., Haak, V., Giese, P., Muñoz, M., Ramelow, J., Rietbrock, A., Ricaldi, E., and Vietor, T. (2006): Partial Melting in the Central Andean Crust: A Review of Geophysical, Petrophysical, and Petrologic Evidence, in: *The Andes: Active Subduction Orogeny* (ed: O. Oncken et al.), *Frontiers in Earth Sciences*, Springer-Verlag, Berlin-Heidelberg, 459-474.
- Schmeling, H. (1986): Numerical models on the influence of partial melts on elastic, anelastic and electrical properties of rocks. Part II: electrical conductivity, *Phys. Earth Planet. Int.*, 43, 123-136.
- Schmidt, M.W. and Poli, S. (1998): Experimentally based water budgets for dehydrating slabs and consequences for arc magmatic generation, *Earth Planet. Sci. Lett.*, 163, 361-379.
- Schmincke, H.-U. (2004): *Volcanism*, Springer-Verlag, Berlin, 324 pp.
- Schmitz, M., Heinsohn, W.-D. & Schilling, F.R. (1997): Seismic, gravity and petrological evidence for partial melt beneath the thickened Central Andean crust (21-23°S), *Tectonophysics*, 270, 313-326.
- Schmitz, M. and Kley, J. (1997): The geometry of the central Andean backarc crust: joint interpretation of cross-section balancing and seismic refraction data, *J. S. Am. Earth Sci.*, 10, 99-110.
- Schmucker, U. (1959): Erdmagnetische Tiefensondierung in Deutschland 1957/59: Magnetogramme und erste Auswertung, Akad. Wiss. Goettingen, Math.-Phys. Kl. Beitraege z. Internat. Geophys. Jahr, Heft 5.
- Schmucker, U., Hartmann, O., Giesecke, A.A., Casaverde, M. & Forbush, S.E. (1964): Electrical conductivity anomaly in the earth's crust in Peru, *Carnegie Inst. Wash. Yearb.*, 63, 354-362.
- Schmucker, U., Forbush, S.E., Hartmann, O., Giesecke, A.A., Casaverde, M., Castillo, J., Salgueiro, R. & del Pozo, S. (1966): Electrical conductivity anomaly under the Andes, *Carnegie Inst. Wash. Yearb.*, 65, 11-28.
- Schmucker, U. (1970): An introduction to induction anomalies, *J. Geomag. and Geoelec.*, Vol. 22, No 1-2, 9-33.
- Schmucker, U. (1970): *Anomalies of Geomagnetic Variations in the Southwestern United States*, Bull. Scripps Institution La Jolla, Univ. of California Press.

- Schmucker, U. (1971): Neue Rechenmethoden zur Tiefensondierung, Protokoll Koll. Elektromagnetische Tiefenforschung, Rothenberge, 1-39.
- Schmucker, U. (1973): Regional Induction Studies: A Review of Methods and Results, Phys. Earth Planet. Int., 7, 365-378.
- Schmucker, U. & Weidelt, P. (1975): Aarhus Lecture Notes.
- Schmucker, U. (1978): Auswertungsverfahren Göttingen, Protokoll Koll. Elektromagnetische Tiefenforschung, Neustadt/Weinstrasse, 163-188.
- Schmucker, U. (1979): Erdmagnetische Variationen und die elektrische Leitfähigkeit in tiefen Schichten der Erde, Sitzungsberichte und Mitteilungen der Braunschweigischen Wissenschaftlichen Gesellschaft, Sonderheft 4, Beiträge zur Geowissenschaft, Verlag E. Goltze, Göttingen.
- Schmucker, U. (1980): Diskussionsbeitrag zu "Über die Unterschiede zwischen verschiedenen Definitionen der Induktionspfeile", Protokoll Koll. Elektromagnetische Tiefenforschung, Berlin-Lichtenrade.
- Schmucker, U. & Wiens, U. (1980): Vergleichende erdelektrische Beobachtungen in der Umgebung von Göttingen für Sq und Bays, Protokoll Koll. Elektromagnetische Tiefenforschung, Berlin-Lichtenrade, 291-306.
- Schmucker, U. (1984): EM Übertragungsfunktionen aus Beobachtungen mit mehreren gleichzeitig registrierenden Stationen, Protokoll Koll. Elektromagnetische Tiefenforschung, Grafrath, 35-36.
- Schmucker, U. (1987): Substitute Conductors for Electromagnetic Response Estimates, PA-GEOPH., Vol. 125, Nos. 2/3, 341-367.
- Schnegg, P.-A. & Fischer, G. (1980): On-line Determination of Apparent Resistivity in Magnetotelluric soundings, Prot. Koll. Elektromagnetische Tiefenforschung, Berlin-Lichtenrade, 173-184.
- Schnegg, P.-A., Le Quang, B.V. & Fischer, G. (1980): Management and Processing of MT Data in the Field with a Microprocessor, paper presented at the 5th workshop on Electromagnetic Induction in the Earth and Moon, IAGA working group I-3, Istanbul.
- Schnegg, P.-A., Le Quang, B.V., Fischer, G. & Weaver, J.T. (1983): Audio-Magnetotelluric Study of a Structure with a Reverse Fault, J. Geomag. Geoelectr., 35, 653-671.
- Schnegg, P.-A. & Fischer, G. (1984): A new pulsed audiomagnetotelluric technique, J. Geophys., 55, 191-198.
- Schnegg, P.-A., Fischer, G., Le Quang, B.V. & Weaver, J.T. (1986): Investigation of a buried vertical fault with natural and controlled source AMT, Annales Geophysicae, 4, B, 2, 139-144.
- Schnegg, P.-A., Fischer, G., Le Quang, B.V. & Ranieri G. (1987): A magnetotelluric study in the Campidano Graben of Sardinia, J. Geophys., 61, 30-38.
- Scholtz, C.H. (1990): Mechanics of Earthquakes and Faulting, Cambridge Univ. Press, New York, 439 pp.
- Schütt, H. (1992): Zweidimensionale Interpretation audiomagnetotellurischer Daten aus der Oberpfalz, Dipl.-Arbeit Institut für Angewandte Geophysik, TU Berlin.
- Schulte, T.H. (1990): Untersuchungen zur Vertikalkomponente des erdmagnetischen Feldes im Audiofrequenzbereich, Dipl.-Arbeit Institut für Angewandte Geophysik, TU Berlin.
- Schumann, W.O. (1952): Über die strahlungsgesetzen Eigenschwingungen einer leitenden Kugel, die von einer Luftsicht und einer Ionosphärenhülle umgeben ist, Z. Naturforschung 72, 149-154.
- Schumann, W.O. & König, H. (1954): Über die Beobachtung von Atmospheric bei geringsten Frequenzen, Naturwiss., 41, 183-184.

- Schurr, B., G. Asch, A. Rietbrock, R. Trumbull, and C. Haberland (2003): Complex patterns of fluid and melt transport in the central Andean subduction zone revealed by attenuation tomography, *Earth Planet. Sci. Lett.*, 215, 105-119.
- Schwalenberg, K., Haak, V. & Rath, V. (2002): The application of sensitivity studies on a two-dimensional resistivity model from the Central Andes, *Geophys. J. Int.*, 150, 673-686.
- Schwarz, G., Haak, V., Martinez, E. & Bannister, J. (1984): The electrical conductivity of the Andean crust in northern Chile and southern Bolivia as inferred from magnetotelluric measurements, *J. Geophys.*, 55, 169-178.
- Schwarz, G. (1984): Die elektrische Leitfähigkeit in der Toskana und ein daraus abgeleitetes geothermisches Modell - insbesondere für die Anomalie von Travale, *Berliner Geowiss. Abh. (B)*, 8, Berlin.
- Schwarz, G., Chong D., G., Krüger, D., Martinez, M., Massow, W., Rath, V. & Viramonte, J. (1994): Crustal high conductivity zones in the southern Central Andes, in: Reutter, K.-J., Scheuber, E., Wigger, P. (eds.): *Tectonics of the Southern Central Andes*, Springer, Berlin.
- Schwarz, G. & Krüger, D. (1997): Resistivity cross section through the southern central Andes as inferred from magnetotelluric and geomagnetic deep soundings, *J. Geophys. Res.*, 102 (B6), 11957-11978.
- Sempere, T., Hérail, G., Oller, J., Bonhomme M.G. (1990): Late Oligocene-early Miocene major tectonic crisis and related basins in Bolivia, *Geology*, 18, 946-949.
- Sentman, D.D (1983): Schumann resonance effects of electrical conductivity perturbations in an exponential atmospheric/ionospheric profile, *J. Atmosph. Terr. Phys.*, 45 (1), 55-65.
- Sentman, D.D. (1987): Magnetic elliptical polarization of Schumann resonances, *Radio Science*, 22 (4), 595-606.
- Shankland, T.J. & Waff, H.S. (1977): Partial Melting and Electrical conductivity Anomalies in the Upper Mantle, *J. of Geophys. Res.*, Vol. 82, No. 33, 5409-5417.
- Shankland, T. J. & Ander, M.E. (1983): Electrical conductivity, temperatures and fluids in the lower crust, *J. Geophys. Res.*, 88, 9475-9484.
- Shankland, T. J., Duba, A. G., Mathez, E. A. & Peach, C. L. (1997): Increase of electrical conductivity with pressure as an indicator of conduction through a solid phase in mid-crustal rocks, *J. Geophys. Res.*, 102, 14741-14750.
- Shanks, J.L. (1967): Recursion filters for digital processing, *Geophysics*, Vol. 32, No. 1, 33-51.
- Shawhan, S.D. (1979): Magnetospheric plasma waves, in: *Solar Systems Plasma Physics*, Vol. III (eds. C.F. Kennel, L.J. Lanzerotti & E.N. Parker), North-Holland, Amsterdam.
- Siebert, M. (1965): Zur Theorie erdmagnetischer Pulsationen mit breitenabhängigen Perioden, Mit. Max-Planck-Institut für Aeronomie, Nr. 21, Springer-Verlag, Berlin-Heidelberg-New York.
- Siemon, B. (1991): Ein Interpretationsverfahren für induktiv schwach gekoppelte Leitfähigkeitsanomalien, dargestellt am Beispiel des Salzstocks Wesendorf im Gifhorner Trog, Diss. Universität Göttingen.
- Siemon, B. (1997): An interpretation technique for superimposed induction anomalies, *Geophys. J. Int.*, 130, 73-88.
- Simpson, F.L., Haak, V., Khan, M.A., Sakkas, V., Meju, M.A. (1997): The KRISP-94 magnetotelluric survey of early 1995: First results, *Tectonophysics*, 278, 261-271 .
- Simpson, F. & Warner, M. (1998): Coincident magnetotelluric, P-wave and S-wave images of the continental crust beneath the Weardale granite, NE England: seismic layering, low conductance and implications against the fluids paradigm, *Geophys. J. Int.*, 133, No. 2, 419-434.

- Simpson, F. (2000): A three-dimensional electromagnetic model of the southern Kenya Rift: Departure from two dimensionality as a possible consequence of a rotating stress field, *J. Geophys. Res.*, 105 (B8), 19,321–19,334.
- Simpson, F. (2001): Fluid trapping at the brittle-ductile transition re-examined, *Geofluids*, 1, 123–136.
- Simpson, F. & Bahr, K. (2005): Practical magnetotellurics, University Press, Cambridge.
- Singer, B.S. (1992): Correction for distortions of magnetotelluric fields: limits of validity of the static approach, *Surveys in Geophysics*, 13, 309-340.
- Sinha, M.C., S.C. Constable, C. Peirce, A. White, G. Heinson, L.M. MacGregor, and D.A. Navin (1998): Magmatic processes at slow spreading ridges: implications of the RAMESSES experiment at 57° 45'N on the Mid-Atlantic Ridge, *Geophys. J. Int.*, 135, 731-745.
- Siripunvaraporn, W. & Egbert, G. (2000): An efficient data-subspace inversion method for two-dimensional magnetotelluric data, *Geophysics*, 65 (3), 791-803.
- Siripunvaraporn, W., Egbert, G., and Uyeshima, M. (2005): Interpretation of two-dimensional magnetotelluric profile data with three-dimensional inversion: synthetic examples, *Geophys. J. Int.*, 160, 804-814.
- Siripunvaraporn, W., Egbert, G., Lenbury, Y., and Uyeshima, M. (2005): Three-dimensional magnetotelluric inversion: data-space method, *Phys. Earth Planet. Inter.*, 150, 3-14.
- Siripunvaraporn, W. & Egbert, G. (2009): WSINV3DMT: Vertical magnetic field transfer function inversion and parallel implementation, *Phys. Earth Planet. Inter.*, 173, doi:10.1016/j.pepi.2009.01.013.
- Slankis, J.A. ,Telford, W.M., Becker, A. (1972): 8-Hz telluric and magnetotelluric prospecting, *Geophysics*, Vol. 37, 862-878.
- Smith, J.T. & Booker, J.R. (1991): Rapid Inversion of Two- and Three-Dimensional Magnetotelluric Data, *J. Geophys. Res.*, Vol. 96, No. B3, 3905-3922.
- Smith, J.T. (1995): Understand telluric distortion matrices, *Geophys. J. Int.*, 122, 219-226.
- Smith, J.T. (1997): Estimating galvanic-distortion magnetic fields in magnetotellurics, *Geophys. J. Int.*, 130, 65-72.
- Smith, W.H.F. and Sandwell, D.T. (1997): Global seafloor topography from satellite altimetry and ship depth soundings, *Science*, 277, 195-196.
- Sommerfeld, A. (1978): Partielle Differentialgleichungen der Physik, Nachdruck der 6. Auflage, Verlag Harri Deutsch, Frankfurt a. M.
- Sonntag, C. & Christmann, D. (1987): Groundwater evaporation from East-Saharan depressions by means of deuterium and oxygen-18 in soil moisture, in: Research in Egypt and Sudan (eds. E. Klitzsch & E. Schrank), Berliner geowiss. Abh. (A), 75.2, 385-396, Berlin.
- Soyer, W. & Brasse, H. (2001): A magneto-variation array study in the central Andes of N Chile and SW Bolivia, *Geophys. Res. Lett.*, 28 (15), 3023-3026.
- Soyer, W. (2002): Analysis of geomagnetic variations in the Central and Southern Andes, PhD thesis, FU Berlin.
- Soyer, W., and M. Unsworth (2006): Deep electrical structure of the northern Cascadia (British Columbia, Canada) subduction zone: Implications for the distribution of fluids, *Geology*, 34, doi:10.1130/G21951.1.
- Spies, B.R. & Eggers, D.E. (1986): The use and misuse of apparent resistivity in electromagnetic methods, *Geophysics*, 51, 1462-1471.
- Spinelli, G. A., D.M. Saffer, and M.B. Underwood (2006): Hydrogeologic responses to three-dimensional temperature variability, Costa Rica subduction margin, *J. Geophys. Res.*, 111, doi:10.1029/2004JB003436.

- Spitz, S. (1985): The magnetotelluric impedance tensor properties with respect to rotations, *Geophysics*, 50, 1610-1617.
- Spitzer, K. (1991): Ein triaxiales Magnetometer zur fortlaufenden Registrierung erdmagnetischer Variationen in tiefen Bohrungen - erste Erprobung in der Vorbohrung des Kontinentalen Tiefbohrprogramms, Diss. Universität Göttingen.
- Spitzer, K. (1993): Observations of geomagnetic pulsations and variations with a new borehole magnetometer down to depths of 3000m, *Geophys. J. Int.*, 115, 839-848.
- Spratt, J.E., Jones, A.G., Nelson, K.D. & Unsworth, M.J. (2005): Crustal structure of the India-Asia collision zone, southern Tibet, from INDEPTH MT investigations, *Physics of the earth and planetary interiors*, doi:10.1016/j.pepi.2004.08.035.
- Springer, M. (1997): Die regionale Oberflächenwärmeflußdichte-Verteilung in den zentralen Anden und daraus abgeleitete Temperaturmodelle der Lithosphäre, Diss. FU Berlin.
- Springer, M. & Förster, A. (1998): Heat-flow density across the Central Andean subduction zone, *Tectonophysics*, 291, 123-139.
- Springer, M. (1999): Interpretation of Heat-Flow Density in the Central Andes, *Tectonophysics*, 306, 377-395.
- Srivastava, S.P. (1965): Method of Interpretation of Magnetotelluric Data when the Source Field is considered, *J. Geophys. Res.*, 70, 945-954.
- Stanley, W.D., Saad, A.R. & Ohofugi, W. (1985): Regional Magnetotelluric Surveys in Hydrocarbon Exploration, Parana Basin, Brasil, *The Amer. Ass. of Petrol. Geol. Bul.*, Vol. 69, No. 3, 346-360.
- Stern, R.J. (2002): Subduction zones, *Reviews Geophysics*, 40, doi:10.1029/2001RG000108.
- Stern, C.R. (2004): Active Andean volcanism: its geologic and tectonic setting. *Rev. geol. Chile*, 31, 161-206.
- Sternberg, B.K., Washburne, J.C. & Pellerin, L. (1988): Correction for the static shift in magnetotelluric using transient electromagnetic soundings, *Geophysics*, 53, 1459-1468.
- Steveling, E. (1973): Erdmagnetische Tiefensondierung mit Variationen und Pulsationen im Einflußbereich der Norddeutschen Leitfähigkeitsanomalie, PhD thesis, Fachbereich Physik, Universität Goettingen.
- Steveling, E. (1984): Magnetotellurische Langzeitregistrierungen in Deppoldshausen bei Göttingen, Protokoll Kolloquium Elektromagnetische Tiefenforschung, Grafrath, published in: *Developments in Geophys. Expl. Methods-5*, Applied Science Publ., Univ. of Toronto.
- Steveling, E., Spitzer, K. & Leven, M. (1990): Messungen mit dem Göttinger Bohrlochmagnetometer zur vertikalen Gradientensondierung in der KTB-Oberpfalz-Vorbohrung, Protokoll Kolloquium Elektromagnetische Tiefenforschung, Hornburg, 373-384.
- Stolper E., Walker D., Bradford H.H. and Hays J.F. (1981): Melt segregation from partially molten source regions: The importance of melt density and source region size. *J. Geophys. Res.*, 86 (B7): 6261-6271, 1981.
- Strack, K.-M., Hanstein, T., LeBrock, K., Moss, D.C., Vozoff, K. & Wolfgram, P.A. (1989): Case histories of LOTEM surveys in hydrocarbon prospective areas, *First break*, Vol. 7, No.12, 467-477.
- Strack, K.-M., Hanstein, T.H. & Eilenz, H. N. (1989): LOTEM data processing for areas with high cultural noise levels, *Physis of the Earh and Plan. Inter.*, 53, 261-269.
- Strangway, D.W., Swift, C.M. & Holmer, R.C. (1973): The Application of Audio-frequency Magnetotellurics (AMT) to Mineral Exploration, *Geophysics*, Vol. 38, No. 6, 1159-1175.
- Strangway, D.W. (1975): Audiofrequency Magnetotelluric (AMT) sounding , publ. in "Developments in Geophys. Expl. Methods", Applied Science Publ., Univ. of Toronto.

- Sule, P.O. & Hutton, V.R.S. (1986): A broad-band magnetotelluric study in southeastern Scotland. Data acquisition, analysis and one-dimensional modelling, *Annales Geophysicae*, 4, B, 2, 145-156.
- Sumner, J.S. (1976): Principles of Induced Polarization for Geophysical Exploration, Elsevier, Amsterdam-Oxford-New York.
- Sutarno, D. & Vozoff, K. (1991): Phase-smoothed robust M-estimation of magnetotelluric impedance functions, *Geophysics*, 56, 1999-2007.
- Swenson, J.L., Beck, S.L. & Zandt, G. (2000): Crustal structure of the Altiplano from broad-band regional waveform modeling: Implications for the composition of thick continental crust, *J. Geophys. Res.*, 105, 607-621.
- Tank, S.B., Honkura, Y., Ogawa, Y., Matsushima, M., Oshiman, N., Tuncer, M.K., Celik, C., Tolak, E. & Isikara, A.M. (2004): Magnetotelluric imaging of the fault rupture area of the 1999 Izmit (Turkey) earthquake, *Phys. Earth Planet. Inter.*, doi:10.1016/j.pepi.2004.08.033.
- Tarits, P. & Menvielle, M. (1986): The Andean conductivity anomaly reexamined, *Annales Geophysicae*, 4, 63-70.
- Tarantola, A. (1987): Inverse Problem Theory, Elesvier, Amsterdam.
- Tascione, T.F. (1988): Introduction to the space environment, Orbit Book Company, Malabar, Florida.
- Tassara, A. (2005): Interaction between the Nazca and South American plates and formation of the Altiplano-Puna plateau: Review of a flexural analysis along the Andean margin (15°–34°S), *Tectonophysics*, 399, 39-57.
- Tassara, A. (2006): Factors controlling the crustal density structure underneath active continental margins with implications for their evolution, *Geochem. Geophys. Geosyst.*, 7, doi:10.1029/2005GC001040.
- Tassara, A., Götze, H.-J., Schmidt, S. & Hackney, R. (2006): Three-dimensional density model of the Nazca plate and the Andean continental margin, *J. Geophys. Res.*, 111, doi:10.1029/2005JB003976.
- Tatsumi, Y. (2003): Some Constraints on Arc Magma Genesis, in: Inside the Subduction Factory, *Geophys. Monogr. Ser.*, 138 (ed. J. Eiler), 277-292, AGU, Washington.
- Telford, W.M. (1977): Characteristics of audio and sub-audio telluric signals, *Geophys. Prosp.*, 25, 321-333.
- Telford, W.M., Geldart, L.P. & Sheriff, R.E. (1990): Applied Geophysics, 2nd edition, Cambridge University Press, Cambridge.
- Teufel, U. (1986): Die Verteilung der elektrischen Leitfähigkeit in der Erdkruste unter dem Schwarzwald, ein Beispiel für Möglichkeiten und Grenzen der Interpretation von Audio-Magnetotellurik, Magnetotellurik, Erdmagnetischer Tiefensondierung, Diss. Ludwig-Maximilians-Universität München.
- Tezkan, B. (1986): Erdmagnetische und magnetotellurische Untersuchungen auf den hochohmigen Kristallstrukturen des Hochschwarzwaldes und des Bayerischen Waldes bei Passau, Diss. Univ. Göttingen.
- Tezkan, B. (1988): Electromagnetic sounding experiments in the Schwarzwald central gneiss massif, *J. Geophys.*, 62, 109-118.
- Tezkan, B., Červ, V. & Pek, J. (1992): Resolving anisotropic and shielded high conductive layers using 2D electromagnetic modelling in the Rhine Graben and in the Black Forest, *Phys. Earth. Planet. Int.*, 74, 157-172.
- Thorweihe, U., Wycisk, P., Sonntag, C., Schulz-Bödeker, K.-U., Radic, T. & Brasse, H. (1990): Studies on Aquifer Properties in the Dongola Area, Berliner Geowiss. Abh. (A), 120.1 (eds. E. Klitzsch & E. Schrank), Berlin.

- Tibi, R., G. Bock, and C.H. Estabrook (2002): Seismic body wave constraint on mechanisms of intermediate-depth earthquakes, *J. Geophys. Res.*, 107 (B3), doi:10.1029/2001JB000361.
- Tichelaar, B.W. and L.J. Ruff (1993): Depth of seismic coupling along subduction zones, *J. Geophys. Res.*, 98, 2017- 2037.
- Tietze, U. & Schenk, C. (1985): *Halbleiter-Schaltungstechnik*, 7. Aufl., Springer-Verlag, Berlin.
- Tikhonov, A.N. (1950): On determining electrical characteristics of the deep layers of Earth's crust (in Russian), *Dokl. Akad. Nauk. SSSR* 73, 295-297.
- Ting, S.C. & Hohmann, G.W. (1981): Integral equation modeling of three-dimensional magnetotelluric response, *Geophysics*, Vol. 46, No. 2, 182-197.
- Toh, H., K. Baba, M. Ichiki, T. Motobayashi, Y. Ogawa, M. Mishina, and I. Takahashi (2006), Two-dimensional electrical section beneath the eastern margin of Japan Sea, *Geophys. Res. Lett.*, 33, doi:10.1029/2006GL027435.
- Torres-Verdin, C. & Bostick, F.X. (1992): Implications of the Born approximation for the magnetotelluric problem in three-dimensional environments, *Geophysics*, Vol. 57, No. 4, 587-602.
- Torres-Verdin, C. & Bostick, F.X. (1992): Principles of spatial surface electric field filtering in magnetotellurics: Electromagnetic array profiling (EMAP), *Geophysics*, Vol. 57, No. 4, 603-622.
- Tournerie, B. & Chouteau, M. (2004): 3D magnetotelluric survey to image structure and stratigraphy of a sedimentary basin in Hungary, *Physics of the earth and planetary interiors*, doi:10.1016/j.pepi.2004.08.028.
- Tran, A. & Polk, C. (1979): Schumann resonances and electrical conductivity of the atmosphere and lower ionosphere - 1. Effects of conductivity at various altitudes on resonance frequencies and attenuation, *Journal of Atmospheric and Terrestrial Physics*, 41, 1241-1248.
- Travassos, J.M. & Beamish, D. (1988): Magnetotelluric data processing - a case study, *Geophys. J.*, 93, 377-391.
- Tribolet, J. (1977): A New Phase Unwrapping Algorithm, *IEEE Transactions on Acoustics, Speech and Signal Processing*, Vol. ASSP-25, No. 2, 170-177.
- Trumbull, R.B., Wittenbrink, R., Hahne, K., Emmermann, R., Büsch, W., Gerstenberger, H. & Siebel, W. (1999): Evidence for Late Miocene to Recent contamination of arc andesites by crustal melts in the Chilean Andes (25-26°S) and its geodynamic implications, *J. South American Earth Sciences*, 12, 135-156.
- Tumanski, S. (2007): Induction coil sensors - a review, *Meas. Sci. Technol.*, 18, 31-46.
- Tyburczy, J.A. and Waff, H.S. (1983): Electrical conductivity of molten basalt and andesite to 25 kilobars pressure: Geophysical significance and implications for charge transport and melt structure. *J. Geophys. Res.*, 88, 2413-2430.
- Tzanis, A. & Beamish, D. (1986): Time domain polarization analysis of Schumann resonance waveforms, *J. Atmos. Terr. Phys.*, 49, 217-229.
- Tzanis, A. & Beamish, D. (1986): Observations of the polarization properties of sferic waveforms, GRG Internal Report 86/13, British Geological Survey, Edinburgh.
- Tzanis, A. & Beamish, D. (1987): Audiomagnetotelluric sounding using the Schumann resonances, *J. Geophys.*, 61, 97-109.
- Ugalde, H.P., Yanez, G.C. & Munoz, J.B. (1997): Dominios magnéticos en la región de los Lagos, 39°S - 42°S, Chile, Universidad Católica del Norte
- Uman, M.A. (1969): *Lightning*, McGraw-Hill, New York.
- Uman, M.A. (1987): *The lightning discharge*, Academic Press, Orlando.

- Unsworth, M.J., P. Malin, G.D. Egbert and J.R. Booker (1997): Internal structure of the San Andreas fault at Parkfield, California, *Geology*, 25, 359-362.
- Unsworth, M.J., A.G. Jones, W. Wei, G. Marquis, S. Gokarn, J.E. Spratt, and the INDEPTH-MT team, 2005. Crustal rheology of the Himalaya and Southern Tibet inferred from magnetotelluric data, *Nature*, 438, 78-81, doi: 10.1038/nature04154.
- Untiedt, J. (1970): Conductivity Anomalies in Central and Southern Europe, *J. Geomag. Geoel.*, 22, 131-149.
- van Keken, P.E., Kiefer, B., Peacock, S.M. (2002). High-resolution models of subduction zones: implications for mineral dehydration reactions and the transport of water into the deep mantle. *Geochem. Geophys. Geosyst.* 3, doi:10.1029/2001GC000256.
- van Keken, P.E. (2003): The role of the mantle wedge in subduction zone dynamics and thermal structure, *Earth Planet. Sci. Lett.*, 215, 323-338.
- Vanyan, L.L., Berdichevsky, M.N., Pushkarev, P.Yu., and Romanyuk, T.V. (2002): A Geoelectric Model of the Cascadia Subduction Zone, *Izvestiya, Physics of the Solid Earth*, 38, 816-845.
- Varentsov, Iv.M., Golubev, N.G., Gordienko, V.V., and Sokolova, E.Yu. (1996): Study of deep geoelectrical structure along EMSLAB Lincoln-Line, *Izvestiya Phys. Solid Earth*, 32, 375-393.
- Vasseur, G. & Weidelt, P. (1977): Bimodal electromagnetic induction in nonuniform thin sheets with an application to the northern Pyrenean induction anomaly, *Geophys. J. R. astr. Soc.*, 51, 669-690,
- Vdovin, O., Rial, J.A., Levshin, A.L. & Ritzwoller, M.H. (1999): Group-velocity tomography of South America and the surrounding oceans, *Geophys. J. Int.*, 136, 324-340.
- Victor, P., O. Oncken, and J. Glodny (2004): Uplift of the western Altiplano plateau: Evidence from the Precordillera between 20° and 21°S (northern Chile), *Tectonics*, 23, TC4004, doi:10.1029/2003TC001519.
- Vigneresse, J.L., Barbey, P. & Cuney, M. (1996): Rheological Transitions During Partial Melting and Crystallization with Application to Felsic Magma Segregation and Transfer, *Journal of Petrology*, 37, 1579-1600.
- Vitorello, I. & Pollack, H.N. (1980): On variation of continental heat flow with age and the thermal evolution of the continents. *J. Geophys. Res.*, 85, 983-995.
- Voelker, H. (1962): Zur Breitenabhängigkeit erdmagnetischer Pulsationen, Diss. Universität Göttingen.
- Volbers, R. (1986): Einzeleffektauswertung, Statistische Frequenzanalyse und Remote-Reference-Technik: Ein Vergleich an verschiedenen stark gestörten Magnetotellurik-Daten eines Profils vom Münsterland zum Ostsauerland, Dipl.-Arbeit Institut für Geophysik, Univ. Münster.
- Volbers, R. (1990): Magnetotellurik und erdmagnetische Tiefensondierung entlang des reflektionsseismischen Profils DEKORP 2-Nord, Diss. Universität Münster.
- Volland, H. (1984): Atmospheric electrodynamics, Springer-Verlag, Berlin.
- Volland, H., Schäfer, J., Ingmann, P., Harth, W., Heydt, G., Eriksson, A.J. & Manes, A. (1983): Registration of thunderstrom centers by automatic atmospheric stations, *J. of Geophys. Res.*, 88, (C2), 1503-1518.
- von Huene, R., Weinrebe, W. & Heeren, F. (1999): Subduction erosion along the North Chile margin, *Geodynamics*, 27, 345-358.
- Vozoff, K. (1972): The Magnetotelluric Method in the Exploration of Sedimentary Basins, *Geophysics*, 37, 98-141.
- Volland, H. (1967): Die Ausbreitung langer Wellen, Vieweg, Braunschweig.

- Vozoff, K. & Jupp, D.L.B. (1975): Joint Inversion of Geophysical Data, *Geophys. J. R. astr. Soc.*, 42, 977-991.
- Vozoff, K., (1980): Electromagnetic Methods in Applied Geophysics, *Geophys. Surveys* 4, 9-29.
- Vozoff, K. (1982): On state of the art of magnetotelluric methods, Proceedings of the International Symposium on Applied Geophysics in Tropical Regions, Belem-Brazil, (eds. J.S. Lourenco and L. Rijo), Brazilian Geophysical Society (SBGf).
- Waff, H.S. (1974): Theoretical considerations of electrical conductivity in a partially molten mantle an implications for geothermometry, *J. Geophys. Res.*, 79, 4003-4010.
- Wagenitz, V. (1982): Tellurisch-magnetotellurische Untersuchungen zur Bestimmung der elektrischen Leitfähigkeit in der oberen Kruste im Bereich der Anomalie von Bramsche und des niedersächsischen Tektogens, Diss. Univ. Münster.
- Wait, J.R. (1953): Propagation of radio waves over a stratified ground, *Geophysics*, Vol. 18, 416-422.
- Wait, J.R. (1954): On the relation between telluric currents and the earth's magnetic field, *Geophysics*, Vol. 19, 281-289.
- Wait, J.R. (1962): Theory of Magneto-Telluric Fields, J. of the National Bureau of Standards-D, Radio Propagation, 66D, 509-541.
- Wait, J.R. (1972): Electromagnetic Waves in Stratified Media, 2nd ed., Pergamon Press, Elmsford, N.Y.
- Walther, C.H.E., Flueh, E.R., Ranero, C.R., von Huene, R., & W. Strauch, W. (2000): Crustal structure across the Pacific margin of Nicaragua: evidence for ophiolitic basement and a shallow mantle sliver, *Geophys. J. Int.*, 141, 759-777.
- Wannamaker, P.E., Hohmann, G.W. & Ward, S.H. (1984): Magnetotelluric responses of three-dimensional bodies in layered earths using integral equations, *Geophysics*, 49, 1517-1534.
- Wannamaker, P.E., Hohmann, G.W. & San Filipo, W.A. (1984): Electromagnetic modeling of three-dimensional bodies in layered earths using integral equations, *Geophysics*, 49, 60-74.
- Wannamaker, P.E., Stodt, J.A. & Rijo, L. (1987): Finite element Program for Solution of Magnetotelluric Responses of Two-Dimensional Earth Resistivity Structure, Earth Science Laboratory, Revised Edition.
- Wannamaker, P.E., Stodt, J.A. & Rijo, L. (1986): Two-dimensional topographic responses in magnetotelluric models using finite elements, *Geophysics*, Vol. 51, No. 11, 2131-2144.
- Wannamaker, P.E., Stodt, J.A. & Rijo, L. (1987): A stable finite element solution for two-dimensional modelling, *Geophys. J. R. astr. Soc.*, 88, 277-296.
- Wannamaker, P.E., Booker, J.R., Filloux, J.H., Jones, A.G., Jiracek, G.R., Chave, A.D., Waff, H.S., Young, C.T., Stodt, J.A., Martinez, M., Law, L.K., Yukitake, T., Segawa, J.S., White, A. and Green, A.W. (1989): Magnetotelluric observations across the Juan de Fuca subduction system in the EMSLAB project, *J. Geophys. Res.*, 94, 14,111-14,125.
- Wannamaker, P.E., Booker, J.R., Jones, A.G., Chave, A.D., Filloux, J.H., Waff, H.S. and Law, L.K. (1989): Resistivity cross-section through the Juan de Fuca subduction system and its tectonic implications, *J. Geophys. Res.*, 94, 14,127-14,144.
- Wannamaker, P.E. (2000): Affordable Magnetotellurics: Interpretation in Natural Environments, in: Three-Dimensional Electromagnetics (eds. M. Oristaglio & B. Spies), SEG, Tulsa, 349-374.
- Wannamaker, P.E. (2000): Comments on 'The petrologic case for a dry lower crust' by B. W. D. Yardley and J. W. Valley, *J. Geophys. Res.*, 102, 6057-6064.
- Wannamaker, P.E., Caldwell, T.G., Jiracek, G.R., Maris, V., Hill, G.J., Ogawa, Y., Bibby, H.M., Bennie, S.L., and Heise, W. (2009): Fluid and deformation regime of an advance-

- ing subduction system at Marlborough, New Zealand, *Nature*, 460, doi:10.1038/nature08204.
- Ward, S.H. (1959): AFMAG - airborne and ground, *Geophysics*, 24, 761-789.
- Ward, S.H. (1983): Controlled Source Electrical Methods for Deep Exploration, *Geophys. Surveys*, 6, 137-152.
- Ward, S.H. & Hohmann, G.W. (1988): Electromagnetic Theory for Geophysical Applications, in: *Investigations in Geophysics*, Vol. 3 (ed. M.N. Nabighian), Society of Exploration Geophysicists, Tulsa, Oklahoma.
- Watanabe T. & Kurita K. (1994): Simultaneous measurements of the compressional-wave velocity and the electrical conductivity in a partially molten material. *J. Phys. Earth*, 42, 69-87.
- Weaver, J.T. (1970): The General Theory of Electromagnetic Induction in a Conducting Half-Space, *Geophys. J. R. astr. Soc.*, 22, 83-100.
- Weaver, J.T. (1973): Induction in a Layered Plane Earth by uniform and non-uniform sources, *Phys. Earth Planet. Int.*, 7, 266-281.
- Weaver, J.T. & Brewitt-Taylor, C.R. (1978): Improved boundary conditions for the numerical solution of E-polarization problems in geomagnetic induction, *Geophys. J. R. astr. Soc.*, 54, 309-317.
- Weaver, J.T., Le Quang, B.V. & Fischer, G. (1985/86): A comparison of analytical and numerical results for a 2-D control model in electromagnetic induction
 - I. B-polarization calculations, *Geophys. J. R. astr. Soc.*, 82, 263-277.
 - II. E-polarization calculations, *Geophys. J. R. astr. Soc.*, 87, 917-948.
- Weaver, J.T. (1990): On the Addition of Induction Vectors, *Protokoll Koll. Elektromagnetische Tiefenforschung* (Hg. V. Haak & V. Homilius), Hornburg.
- Weaver, J.T. (1994): *Mathematical Methods for Geo-Electromagnetic Induction*, Wiley, New York.
- Weidelt, P. (1972): The inverse problem of geomagnetic induction, *Zeitschrift für Geophysik*, Band 38, 257-289.
- Weidelt, P. (1975): Electromagnetic induction in three-dimensional structures, *J. Geophys.*, 41, 85-109.
- Weidelt, P. (1975): Inversion of two-dimensional conductivity structures, *Phys. of the Earth Plan. Int.*, 10, 282-291.
- Weidelt, P. (1996): Phasenbeziehungen für die B-Polarisation, *Protokoll Koll. Elektromagnetische Tiefenforschung* (Hg. K. Bahr & A. Junge), Höchst., Odenwald, 60-65.
- Weidelt, P. (1999): 3-D Conductivity Models: Implications of Electrical Anisotropy, in: *Three-Dimensional Electromagnetics* (eds. M. Oristaglio and B. Spies), Soc. of Expl. Geophys., Tulsa, 119-137.
- Weidelt, P., Müller, W., Losecke, W. & Knödel, K. (1980): Die Bostick-Transformation, *Protokoll Kolloquium Elektromagnetische Tiefenforschung*, Berlin-Lichtenrade, 227-229.
- Whittall, K.P. & Oldenburg, D.W. (1992): Inversion of Magnetotelluric Data for a One-Dimensional Conductivity, *Geophysical Monograph Series*, No. 5, Society of Exploration Geophysicists, Tulsa.
- Whitman, D., Isacks, B.L. & Kay, S.M. (1996): Lithospheric structure and along-strike segmentation of the Central Andean Plateau: seismic Q, magmatism, flexure, topography and tectonics, *Tectonophysics*, 259, 29-40.
- Wiese, H. (1962): *Geomagnetische Tiefentellurik Teil II: Die Streichrichtung der Untergrundstrukturen des elektrischen Widerstandes, erschlossen aus geomagnetischen Variationen*, *Pageoph.*, 52, 83-103.

- Wigger, P., Schmitz, M., Araneda, M., Asch, G., Baldzuhn, S., Giese, P., Heinsohn, W.-D., Martinez, E., Ricaldi, E., Röwer, P. and Viramonte, J. (1994): Variation of the crustal structure of the southern Central Andes deduced from seismic refraction investigations, In: K.-J. Reutter, E. Scheuber and P. Wigger (eds.), Tectonics of the Southern Central Andes. Springer-Verlag, Berlin, 23-48.
- Wight, D.E. (1980): Cascade Decimation - a Technique for Real Time Estimation of Power Spectra, Proc. IEEE Intern. Conference on Acoustic Speech and Signal Processing, 626-629.
- Williams, D.J., Roelof, E.C. & Mitchell, D.G. (1992): Global Magnetospheric Imaging, Reviews of Geophysics, 30, 3, 183-208.
- Williams, E.R. (2001): Sprites, Elves, and Glow Discharge Tubes, Physics Today, 54 (11).
- Wilson, M. & Guiraud, R. (1992): Magmatism and rifting in Western and Central Africa, from Late Jurassic to Recent times, Tectonophysics, 312, 203-225.
- Winter, H., Aulbach, E. & Stoll, J. (1988): Kupfer-Kupfersulfatsonden für Eigenpotential und magnetotellurische Messungen, Prot. Koll. Elektromagnetische Tiefenforschung, Königstein/Taunus, 349-350.
- Wörner, G., Moorbat, S., Horn, S., Entenmann, J., Harmon, R.S., Davidson, J.P. and Lopez-Escobar, L.: Large- and Fine-Scale Geochemical Variations Along the Andean Arc of Northern Chile (17.5° - 22° S), in: K.-J. Reutter, E. Scheuber and P. Wigger (editors), Tectonics of the Southern Central Andes. Springer-Verlag, Berlin, 77-92, 1994.
- Wörner, G., Uhlig, D., Kohler, I., Seyfried, H. (2002): Evolution of the West Andean Escarpment at 18° S (N. Chile) during the last 25 Ma: uplift, erosion and collapse through time, Tectonophysics, 345, 183-198.
- Wörner G, Hammerschmidt K, Henjes-Kunst F, Lezaun J, Wilke H (2000): Geochronology (^{40}Ar - ^{39}Ar , K-Ar-, and He-exposure-ages) of Cenozoic magmatic rocks from Northern Chile (18° - 22° S): implications for magmatism and tectonic evolution of the central Andes. Rev. Geol. Soc. Chile, 27, 205 - 240.
- Word, D.R., Smith, H.W. & Bostick, F.X. (1971): Crustal Investigations by the Magnetotelluric Tensor Impedance Method, in: The Structure and Physical Properties of the Earth's Crust (ed. J.G. Heacock), Geophysical Monograph 14, Am. Geophys. Union, Washington, D.C.
- Worzewski, T., Jegen, M., Kopp, H., Brasse, H., and Taylor, W. (2010): Magnetotelluric Image of the Fluid Cycle in the Costa Rican Subduction Zone, *Nature Geosci.*,
- Wybraniec, S., Jankowski, J., Ernst, T., Pecová, J. & Oldřich Praus (1999): A new method for presentation of induction vectors distribution in Europe, *Acta Geophysica Polonica*, Polish Academy of Sciences, Vol. XLVII (3), 323-334.
- Xu, Y., Shankland, T.J. & Poe, B.T. (2000): Laboratory-based electrical conductivity in the Earth's mantle, *J. Geophys. Res.*, 105, 27,865-27,875.
- Yardley, B.W.D. & Valley, J.W. (1997): The petrologic case for a dry lower crust, *J. Geophys. Res.*, 102, 12173-12185.
- Yuan, X., Sobolev, S.V., Kind, R., Oncken, O., Bock, G., Asch, G., Schurr, B., Graeber, F., Rudloff, A., Hanka, W., Wylegalla, K., Tibi, R., Haberland, C., Rietbrock, A., Giese, P., Wigger, P., Röwer, P., Zandt, G., Beck, S., Wallace, T., Pardo, M. & Comte, D. (2000): Subduction and collision processes in the Central Andes constrained by converted seismic phases, *Nature*, 408, 958-961.
- Yuan, X., Sobolev, S.V. & Kind, R. (2002): Moho topography in the central Andes and its geodynamic implications, *Earth Planet. Sci. Lett.*, 199, 389-402
- Zandt, G., Beck, S. L., Ruppert, S. R., Ammon, C. J., Rock, D., Minaya, E., Wallace, T. C. & Silver, P.G. (1996): Anomalous crust of the Bolivian Altiplano, Central Andes: constraints from broadband regional seismic waveforms, *Geophys. Res. Lett.*, 23, 1159-1162.

- Zandt, G., Leidig, M., Chmielowski, J., Baumont, D. & Yuan, X. (2003): Seismic detection and characterization of the Altiplano-Puna magma body, central Andes, *Pure Appl. Geophys.*, 160, 789-807.
- Zhang, P., Roberts, R.G. & Pedersen, L.B. (1987): Magnetotelluric Strike Rules, *Geophysics*, Vol. 52, No. 3, 267-278.
- Zhang, J., Mackie, R.L. & Madden, T.R. (1995): 3-D resistivity forward modeling and inversion using conjugate gradients, *Geophysics*, 60, 1313-1325.
- Zhang, P., Pedersen, L.B., Mareschal, M., and Chouteau, M. (1993): Channeling contribution to tipper vectors: a magnetic equivalent to electrical distortion, *Geophys. J. Int.*, 113, 693-700.
- Zhao, D. (2001): Seismological structure of subduction zones and its implications for arc magmatism and dynamics, *Phys. Earth Planet. Inter.*, 127, 197-214.
- Zhdanov, M.S. & Keller, G.V. (1994): *The Geoelectrical Methods in Geophysical Exploration*, Elsevier, Amsterdam.
- Zhdanov, M.S. (2009): *Geophysical Electromagnetic Theory and Methods*, *Methods in Geochemistry and Geophysics*, 43, Elsevier, 868pp.