

Bibliography

- Abers, G. (2000), Hydrated subducted crust at 100-250 km depth, *Earth and Planet. Sci. Lett.*, 176, 323-330.
- Abers, G., P. van Keken, E. Kneller, A. Ferris, & J. Stachnik (2006), The thermal structure of subduction zones constrained by seismic imaging: Implications for slab dehydration and wedge flow, *Earth and Planet. Sci. Lett.*, 241, 387-397.
- Ahrens, T.J., and G. Schubert (1975). Gabbro-Eclogite Reaction Rate and Its Geophysical Significance, *Reviews of Geophysics and Space Physics*, 13 (2), 383-400
- Allmendinger, R., and T. Gubbels (1996), Pure and simple shear plateau uplift, Altiplano-Puna, Argentina and Bolivia, *Tectonophysics*, 259, 1-13.
- Allmendinger, R., T. Jordan, S. Kay, and B. Isacks (1997), The Evolution of the Altiplano-Puna Plateau of the Central Andes, *Annu. Rev. Earth Planet. Sci.*, 25, 139-174.
- Ammon, C., G. Randall, and G. Zandt (1990), On the nonuniqueness of receiver function inversions, *J. Geophys. Res.*, 95 (B10), 15,303-15,318.
- Ammon, C., (1991), The isolation of receiver effects from teleseismic P waveforms, *Bull. Seismo. Soc. Am.*, 81, 6, 2504-2510.
- Anderson, M., P. Alvarado, G. Zandt, & S. Beck (2007), Geometry and brittle deformation of the subducting Nazca Plate, Central Chile and Argentina, *Geophys. J. Int.*, 171, 419-434.
- Assumpção, M., M. Feng, A. Tassara, J. Julià (2012), Developing Models of Crustal Thickness for South America from Receiver Functions and Surface Wave Tomography, *Tectonophysics*, in review/press
- Babeyko, A., and S. Sobolev (2005), Quantifying different modes of the late Cenozoic shortening in the central Andes, *Geology*, 33 (8), 621-624.
- Barazangi, M., and B. L. Isacks (1976), Spatial distribution of earthquakes and subduction of the Nazca plate beneath South America, *Geology*, 4, 686-692.
- Barnes, J., and T. Ehlers (2009), End member models for Andean Plateau uplift, *Earth-Science Reviews*, 97 (105-132).
- Baumont, D., A. Paul, S. Beck, and G. Zandt (1999), Strong crustal heterogeneity in the Bolivian Altiplano as suggested by attenuation of Lg waves, *J. of Geophys. Res.*, 104 (B9), 20,287-20,305.
- Baumont, D., A. Paul, G. Zandt, & S.L. Beck (2001), Inversion of Pn travel times for lateral variations of Moho geometry beneath the Central Andes and comparison with the receiver functions, *Geophys. Res. Lett.*, 28 (9), 1663-1666
- Beate, B., M. Monzier, R. Spikings, J. Cotton, J. Silva, E. Bourdon & J. Eissen (2001), Mio-Pliocene adakite generation related to flat subduction in southern Ecuador: the Quimsacocha volcanic center, *Earth and Planet. Sci. Lett.*, 192, 561-570.
- Beck, S., G. Zandt, S. Myers, T. Wallace, P. Silver, and L. Drake (1996), Crustal-thickness variations in the central Andes, *Geology*, 24 (5), 407-410.
- Beck, S., and G. Zandt (2002), The nature of orogenic crust in the Central Andes, *Journal of Geophysical Research*, 107, 2230.
- Bevis, M. (1986), The Curvature of Wadati-Benioff Zones and the Torsional Rigidity of Subducting Plates, *Nature*, 323, 52-53.
- Bostock, M., R. Hyndman, S. Rondenay & S. Peacock (2002), An inverted continental Moho and serpentinization of the forearc mantle, *Nature*, 417, 536-538
- Burdick, L.J. and D.V. Helmberger (1974), Time functions appropriate for deep earthquakes, *Bull. Seismol. Soc. Amer.*, 64, 1419-1428.

- Cahill, T. and B.L. Isacks (1992), Seismicity and Shape of the Subducted Nazca Plate, *J. of Geophys. Res. - Solid Earth*, 97 (17), 503–17, 529.
- Calkins, J.A., G. Zandt, H.J Gilbert, and S.L. Beck (2006), Crustal images from San Juan, Argentina, obtained using high frequency local event receiver functions, *Geophys. Res. Lett.*, 33, L07309.
- Chen, M., J. Tromp, D. Helmberger, H. Kanamori (2007), Waveform modeling of the slab beneath Japan, *J. Geophys. Res.*, 112, B02305.
- Cunningham, P., and S. Roecker (1986), Three-dimensional P and S Wave Velocity Structures of Southern Peru and Their Tectonic Implications, *J. of Geophys. Res.*, 91 (B9), 9517–9532.
- DeCelles, P., and M. Ducea, P. Kapp and G. Zandt (2009), Cyclicity in Cordilleran orogenic systems, *Nature Geoscience*, 2, pp 251-257, doi:10.1038/NGEO469.
- Dorbath, C., M. Gerbault, G. Carlier, and M. Guiraud (2008), Double seismic zone of the Nazca plate in Northern Chile: High-resolution velocity structure, petrological implications, and thermomechanical modeling, *Geochem., Geophys., Geosys.*, 9 (7), Q07, 2006.
- Eakin, C.M., Long, M.D, Beck, S.L. & Wagner, L.S., 2011. Seismic anisotropy and mantle flow beneath the Peruvian flat slab region, AGU, Fall Meeting 2011, abstract #DI44B-04
- Ehlers, T., and C. Poulsen (2009), Influence of Andean uplift on climate and paleoaltimetry estimates, *Earth and Planetary Science Letters*, 281, 238–248.
- Elger, K., O. Oncken, and J. Glodny (2005), Plateau-style accumulation of deformation: Southern Altiplano, *Tectonics*, 24 (TC4020).
- Endrun, B., T. Meier, M. Bischoff and H.-P. Harjes (2004), Lithospheric structure in the area of Crete constrained by receiver functions and dispersion analysis of Rayleigh phase velocities, *Geophys. J. Int.*, 158, 592-608.
- Engdahl, E.R., R. van der Hilst, and R. Buland (1998), Global teleseismic earthquake relocation with improved travel times and procedures for depth determination, *Bull. Seism. Soc. Am.*, 88, 722-743
- Engdahl, E.R. and A. Villaseñor (2002), 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*, Ch. 41, 665-690
- Ferrari, L., C. M. Petrone, and L. Francalanci (2001), Generation of oceanic-island basalt-type volcanism in the western Trans-Mexican volcanic belt by slab rollback, asthenosphere infiltration, and variable flux melting, *Geology*, 29 (6), 507-510.
- Frassetto, A., G. Zandt, H. Gilbert, T.J. Owens and C.H. Jones (2010), Improved imaging with phase-weighted common conversion point stacks of receiver functions, *Geophys. J. Int.*, 182, 368-374.
- Fukao, Y., A. Yamamoto, and M. Kono (1989), Gravity anomaly across the Peruvian Andes, *J. of Geophys. Res.*, 94, (B4)
- Garzzone, C., P. Molnar, J. Libarkin, and B. MacFadden (2006), Rapid late Miocene rise of the Bolivian Altiplano: Evidence for removal of mantle lithosphere, *Earth and Planetary Science Letters*, 241, 543–556.
- Garzzone, C., G. Hoke, J. Libarkin, S. Withers, B. MacFadden, J. Eiler, P. Ghosh, and A. Mulch (2008), Rise of the Andes, *Science*, 320, 1304–1307.
- Geissler, W., F. Sodoudi, and R. Kind (2010), Thickness of the central and eastern European lithosphere as seen by S receiver functions, *Geophys. J. Int.*, 181, 604-634.
- Ghosh, P., C. Garzzone, and J. Eiler (2006), Rapid Uplift of the Altiplano Revealed Through ¹³C-¹⁸O Bonds in Paleosol Carbonates, *Science*, 311, 511–515.

- Gotberg, N., N. McQuarrie, and V. Caillaux (2010), Comparison of crustal thickening budget and shortening estimates in southern Peru (12-14 S): Implications for mass balance and rotations in the "Bolivian orocline", *GSA Bulletin*, 122 (5-6), 727-742.
- Grange, F., J. Gagnepain, D. Hatzfeld, P. Molnar, L. Ocola, A. Rodrigues, S. Roeker, J. Stock, and G. Suarez (1984), The Configuration of the Seismic Zone and the Downgoing Slab in Southern Peru, *Geophys. Res. Lett.*, 11 (1), 38-41.
- Gregory-Wodzicki, K. (2000), Uplift history of the Central and Northern Andes; a review, *Geol. Soc. Amer. Bull.*, 112 (7), 1091-1105.
- Gubbels, T., B. Isacks, and E. Farrar (1993), High-level surfaces, plateau uplift, and foreland development, Bolivian central Andes, *Geology*, 21, 695-698.
- Gutscher, M., J. Olivet, D. Aslanian, J. Eissen, and R. Maury (1999), The "lost Inca Plateau": cause of flat subduction beneath Peru?, *Earth and Planetary Science Letters*, 171 (3), 335-341.
- Gutscher, M., J. Malavielle, S. Lallemand, J.-Y. Collot (1999), Tectonic segmentation of the North Andean margin: impact of the Carnegie Ridge collision, *Earth and Planetary Science Letters*, 168, 255-270.
- Gutscher, M., R. Maury, J. Eissen, and E. Bourdon (2000), Can slab melting be caused by flat subduction?, *Geology*, 28 (5), 535-538.
- Gutscher, M., W. Spakman, H. Bijwaard, and E. Engdahl (2000), Geodynamics of flat subduction: Seismicity and tomographic constraints from the Andean margin, *Tectonics*, 19 (5), 814-833.
- Hacker, B.R. (1996), Eclogite formation and the rheology, buoyancy, seismicity, and H₂O content of oceanic crust, *AGU Monograph*, p337-346.
- Hampel, A. (2002), The migration history of the Nazca Ridge along the Peruvian active margin: a re-evaluation, *Earth and Planet. Sci. Lett.*, 203, 665-679.
- Hampel, A., N. Kukowski, J. Bialas, C. Huebscher and R. Heinbockel (2004), Ridge subduction at an erosive margin: The collision zone of the Nazca Ridge in southern Peru, *J. of Geophys. Res.*, 109, B02101
- Haschke M.R., E. Scheuber, A. Gunther, and K. Reutter (2002), Evolutionary cycles during the Andean orogeny: repeated slab breakoff and flat subduction?, *Terra Nova*, 14 (1), 49-55
- Haschke M. (2002), Evolutionary geochemical patterns of Late Cretaceous to Eocene arc magmatic rocks in North Chile: implications for Archean crustal growth, EGU Stephan Mueller Special Publication Series, 2, 207-218.
- Haschke M., A. Gunther, D. Melnick, H. Echtler, K. Reutter, E. Scheuber, O. Onken (2007), Chapter 16: Central and Southern Andean Tectonic Evolution Inferred from Arc Magmatism, in *The Andes: Active Subduction Orogeny*, Frontiers Earth Sci., vol. 1, edited by O. Oncken et al., pp 337-354, Springer, New York
- Hauksson, E. and P.M. Shearer (2006), Attenuation models (Q_p and Q_s) in three dimensions of the southern California crust: Inferred fluid saturation at seismogenic depths, *J. Geophys. Res.*, 111, B05302.
- Hayes, G.P., D.J. Wald, and R.L. Johnson (2012), Slab1.0: A three-dimensional model of global subduction zone geometries, *J. Geophys. Res.*, 117, B01302
- Heit, B. (2005), Chapter 4 – The Altiplano Plateau, from Teleseismic tomographic images of the Central Andes at 21°S and 25.5°S, submitted for dissertation at Freie Universität Berlin.
- Heit, B., F. Sodoudi, X. Yuan, M. Bianchi, and R. Kind (2007), An S receiver function analysis of the lithospheric structure in South America, *Geophys. Res. Letters*, 34, L14307.

- Helmberger, D.V. and J.E. Vidale (1988), Modeling strong motions produced by earthquakes with two-dimensional numerical codes, *Bull. Seismol. Soc. Am.*, 78, 109-121.
- Hole, J. A., and B. C. Zelt (1995), 3-D finite-difference reflection traveltimes, *Geophys. J. Int.*, 121, 427-434.
- Horton, B., B. Hampton, and G. Waanders (2001), Paleogene synorogenic sedimentation in the Altiplano Plateau and implications for initial mountain building in the Central Andes, *Geol. Soc. Amer. Bull.*, 113, 1387–1400.
- Husker, A., I. Stubailo, M. Lukac, V. Naik, R. Guy, P. Davis, and D. Estrin (2008), WiLSON: The Wirelessly Linked Seismological Network and Its Application in the Middle America Subduction Experiment, *Seismological Research Letters*, 79 (3). 438-443
- Husker, A. and P. M. Davis (2009), Tomography and Thermal State of the Cocos Plate Subduction beneath Mexico City, *J. Geophys. Res.*, 114, B04306
- International Seismological Centre, On-line Bulletin, <http://www.isc.ac.uk>, Internatl. Seis. Cent., Thatcham, United Kingdom, 2010.
- Isacks, B. (1988), Uplift of the Central Andean Plateau and Bending of the Bolivian Orocline, *Journal of Geophysical Research*, 93 (B4), 3211–3231.
- Jischke, M. (1975), Dynamics of Descending Lithospheric Plates and Slip Zones, *J. of Geophys. Res.*, 80, 4809–4813.
- Julià, J., M., Assumpção, and M.P. Rocha (2008), Deep crustal structure of the Paraná Basin from receiver functions and Rayleigh-wave dispersion: Evidence for a fragmented cratonic root, *J. of Geophys. Res.*, 113, B08318
- Katayama, I., S. Nakashima and H. Yurimoto, (2006), Water content in natural eclogite and implications for water transport into the deep upper mantle, *Lithos*, 86, 245-259
- Kawakatsu, H., and S. Watada (2007), Seismic Evidence for Deep-Water Transportation in the Mantle, *Science*, 316, 1468-1471.
- Kay, S.M. & J.M. Abbruzzi (1996), Magmatic evidence for Neogene lithospheric evolution of the central Andean “flat-slab” between 30°S and 32°S, *Tectonophysics*, 259, 15-28.
- Kay, S.M. & C. Mpodozis (2002), Magmatism as a probe to the Neogene shallowing of the Nazca plate beneath the modern Chilean flat-slab, *Journal of South American Earth Sciences*, 15, 39-57.
- Kay, S.M., E. Godoy, & A. Kurtz (2005), Episodic arc migration, crustal thickening, subduction erosion, and magmatism in the south-central Andes, *GSA Bulletin*, 117, (1/2), 67-88.
- Kennett, B. (1991), The removal of free surface interactions from three-component seismograms, *Geophys. J. Int.*, 104, 153-163.
- Kennett, B.L.N., and E.R. Engdahl (1991), Traveltimes for global earthquake location and phase identification, *Geophys. J. Int.*, 105, 429-465.
- Kim, Y., R.W. Clayton, and J.M. Jackson (2010), Geometry and seismic properties of the subducting Cocos plate in central Mexico, *J. Geophys. Res.*, 115, B06310
- Kley, J. and C.R. Monaldi (1998), Tectonic shortening and crustal thickness in the Central Andes: How good is the correlation? , *Geology*, 26, 8, 723-726
- Kumar, P., X. Yuan, R. Kind, and G. Kosarev (2005), The lithosphere-asthenosphere boundary in the Tien Shan-Karakoram region from S receiver functions – evidence of continental subduction, *Geophys. Res. Lett.*, 32, L07305.
- Lamb, S., and L. Hoke (1997), Origin of the high plateau in the Central Andes, Bolivia, South America, *Tectonics*, 16 (4), 623–649.
- Langston, C. (1979), Structure under Mount Rainier, Washington, inferred from

- teleseismic body waves, *J. Geophys. Res.*, 84, 4749–4762.
- Leidig, M., and G. Zandt (2003), Modeling of highly anisotropic crust and application to the Altiplano-Puna volcanic complex of the central Andes, *J. Geophys. Res.*, 108 (B1).
- Liggioria, J., and C. Ammon (1999), Iterative deconvolution and receiver function estimation, *Bull. Seism. Soc. Am.*, 89, 19–36.
- Lloyd S., S. van der Lee, G. Sand Franca, M. Assumpcao, and M. Feng (2010), Moho map of South America from receiver functions and surface waves, *J. of Geophys. Res.*, 115, B11315
- Lucente, F., N.P. Agostinetti, M. Moro, G. Selvaggi, and M. Bona (2005), Possible fault plane in a seismic gap area of the southern Apennines (Italy) revealed by receiver function analysis, *J. of Geophys. Res.*, 110, B04307.
- Macharé, J. and L. Ortlieb (1992), Plio-Quaternary vertical motions and the subduction of the Nazca Ridge, central coast of Peru, *Tectonophysics*, 205, 97–108
- McGeary S., A. Nur, and Z. Ben-Avraham (1985), Spatial gaps in arc volcanism: the effect of collision or subduction of oceanic plateaus, *Tectonophysics*, 119, 195–221
- McGlashan, M., L. Brown, and S. Kay (2008), Crustal thickness in the Central Andes from teleseismically recorded depth phase precursors, *Geophys. J. Int.*, 175, 1013–1022.
- McQuarrie, N., B. Horton, G. Zandt, S. Beck, and P. DeCelles (2005), Lithospheric evolution of the Andean fold-thrust belt, Bolivia, and the origin of the central Andean plateau, *Tectonophysics*, 399, 15–37.
- Myers, S., 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. of Geophys. Res.*, 103 (21), 233–21,252.
- Norabuena, E., J. Snoke, and D. James (1994), Structure of the subducting Nazca Plate beneath Peru, *J. Geophys. Res.*, 99, 9215–9226.
- Ocola, L.C., J. Leutgert, L.T. Aldrick, R.P. Meyer, and C.E. Helsey (1995), Velocity structure of the coastal region of southern Peru from seismic refraction / wide-angle reflection data, *J. Geodynamics*, 20, 1–30.
- Olbertz, D., M. Wortel and U. Hansen (1997), Trench migration and subduction zone geometry, *Geophys. Res. Lett.*, 24, 221–224.
- Oncken, O., J. Kley, K. Elger, P. Victor, and K. Schemmann (2006), Deformation of the Central Andean Upper Plate System - Facts, Fiction, and Constraints for Plateau Models, Springer, Berlin, p. 569.
- Pennington, W., 1984. The Effect of Oceanic Crustal Structure on Phase-Changes and Subduction, *Tectonophysics*, 102, 377–398.
- Phillips, K. E., R. Clayton, P.M. Davis, H. Tavera, R. Guy, S. Skinner, I. Stubailo, L. Audin, and V. Aguilar (2012), Structure of the Subduction System in Southern Peru From Seismic Array Data, *J. Geophys. Res.*, doi:10.1029/2012JB009540, in press.
- Phillips, K. and R.W. Clayton (2013), Structure of the Subduction Transition Region from Seismic Array Data in Southern Peru, submitted to *Geophys. J. Int.* Pilger, R. (1981), Plate reconstructions, aseismic ridges, and low-angle subduction beneath the Andes, *GSA Bull.*, Part I, 92, 448–456
- Ramos, V. (2009), Anatomy and global context of the Andes: Main geologic features and the Andean orogenic cycle, in Kay, S.M., Ramos, V.A., and Dickinson, W.R., eds., *Backbone of the Americas: Shallow Subduction, Plateau Uplift, and Ridge and Terrane Collision*, Geological Society of America Memoir, 204, p31065, doi:10.1139/2009.1204(02)

- Rosenbaum, G. and W. Mo (2011), Tectonic and magmatic responses to the subduction of high bathymetric relief, *Gondwana Research*, 19, 571-582
- Ryan, J., K. Ward, R. Porter, S. Beck, G. Zandt, L. Wagner, E. Minaya, and H. Tavera (2011), Preliminary Results From the CAUGHT Experiment: Investigation of the North Central Andes Subsurface Using Receiver Functions and Ambient Noise Tomography, AGU, Fall Meeting 2011, abstract #T11B-2323
- Sacks, I. (1983), The Subduction of Young Lithosphere, *J. of Geophys. Res.*, 88, 3355–3366.
- Saleeby, J. (2003), Segmentation of the Laramide Slab – evidence from the southern Sierra Nevada region, *GSA Bulletin*, 115, 6, 655-668.
- Savage, M. (1998), Lower crustal anisotropy or dipping boundaries? Effects on receiver functions and a case study in New Zealand, *J. of Geophys. Res.*, 103, B7, 15,069-15,087
- Schenk, T., G. Müller, and W. Brüstle (1989), Long-period precursors to pP from deep-focus earthquakes: the Moho underside reflection pMP, *Geophys. J. Int.*, 98,317-327.
- Sighinolfi, G.P. (1971), Investigations into deep crustal levels: fractionating effects and geochemical trends to high-grade metamorphism, *Geochim. Cosmochim. Acta*, 35, pp. 1005-1021
- Skinner, S.M. and R.W. Clayton (2012), The lack of correlation between flat slabs and bathymetric impactors in South America, *Earth and Planet. Sci. Lett.*, In Review
- Soler, P. & M. Bonhomme (1990), Relation of magmatic activity to plate dynamics in central Peru from Late Cretaceous to present, *Geological Society of America*, Special paper 241.
- Somerville, P., R. Graves and N. Collins (2008), Ground Motions from Large Cascadia Subduction Earthquakes, URS Final Report, Award Number: 06HQGR0160
- Suarez G., P. Molnar, B.C. Burchfiel (1983), Seismicity, Fault Plane Solutions, Depth of Faulting, and Active Tectonics of the Andes of Peru, Ecuador, and Southern Colombia, *J. of Geophys. Res.*, 88 (B12), 10,403-10,428
- Sumner, R. (1967), Attenuation of Earthquake Generated P Waves along the Western Flank of the Andes, *Bull. Seis. Soc. Amer.*, 57 (2), 173-190.
- Swenson, J., S.L. Beck and G. Zandt (2000), Crustal structure of the Altiplano from broadband regional waveform modeling: Implications for the composition of thick continental crust, *J. of Geophys. Res.*, 105 (B1), 607-621
- Tassara, A. (2006), Factors controlling the crustal density structure underneath active continental margins with implications for their evolution, *Geochem. Geophys. Geosyst.*, 8, Q01001
- van Hunen, J., A. van den Berg, and N. Vlaar (2002a), The impact of the South American plate motion and the Nazca Ridge subduction on the flat subduction below South Peru, *Geophys. Res. Lett.*, 29 (14).
- van Hunen, J., A. van den Berg, and N. Vlaar (2002b), On the role of subducting oceanic plateaus in the development of shallow flat subduction, *Tectonophysics*, 352, 317-333.
- van Hunen, J., A. van den Berg, N. Vlaar (2004), Various mechanisms to induce present-day shallow flat subduction and implications for the younger Earth: a numerical parameter study, *Physics of the Earth and Planetary Interiors*, 146, 179-194.
- Vidale, J., D. Helmberger, and R. Clayton, (1985), Finite-difference synthetic seismograms for SH-waves, *Bull. Seismo. Soc. Am.*, 75, 6, 1765-1782.
- von Huene, R., J. Corvalan, E.R. Flueh, K. Hinz, J. Korstgard, C.R. Ranero, W. Weinrebe, and the Condor Scientists (1997), Tectonic control of the subducting Juan Fernandez Ridge on the

- Andean margin near Valparaiso, Chile, *Tectonics*, 16, 474-488
- Whitman, D., B.L. Isacks, J. Chatelain, J. Chiu, and A. Perez, (1992), Attenuation of High-Frequency Seismic Waves Beneath the Central Andean Plateau, *J. Geophys. Res.*, 97, B13, 19,929-19,947.
- Whitman, D., B.L. Isacks, and S.M. Kay (1993), Lithospheric Structure and Along-Strike Segmentation of the Central Andean Plateau, 17-29°S, Second ISAG, Oxford (UK), 21-23/9/1993
- Yan, Z. and R.W. Clayton (2007), Regional mapping of the crustal structure in southern California from receiver functions, *J. of Geophys. Res.*, 112, B05311
- Yogodzinski, G.M., J.M. Lees, T.G. Churikova, F. Dorendorf, G. Woerner, and O.N. Volynets (2001), Geochemical evidence for the melting of subducting oceanic lithosphere at plate edges, *Nature*, 409, 500-504.
- Yuan, X., S.V. Sobolev, and R. Kind (2002), Moho topography in the central Andes and its geodynamic implications, *Earth and Planet. Sci. Lett.*, 199, 389-402
- Zandt, G., A. Velasco, and S. Beck (1994), Composition and thickness of the southern Altiplano crust, Bolivia, *Geology*, 22, 1003-1006.
- Zandt, G. and C. Ammon (1995), Continental crust composition constrained by measurements of crustal Poisson's ratio, *Nature*, v. 374, p.152-154
- Zandt, G., M. Leidig, J. Chmielowski, D. Baumont, and X. Yuan (2003), Seismic Detection and Characterization of the Altiplano-Puna Magma Body, Central Andes, *Pure appl. geophys.*, 160, 789-807.
- Zhang, Z. and T. Lay (1993), Investigation of Upper Mantle Discontinuities Near Northwestern Pacific Subduction Zones Using Precursors to sS, *J. Geophys. Res.*, 98 (B3), 4389-4405.
- Zhang, J. and C. Langston (1995), Dipping Structure under Dourbes, Belgium, Determined by Receiver Function Modeling and Inversion, *Bull. of the Seis. Soc. Amer.*, 85 (1), 254-268.
- Zhao et al., (1992) Tomographic imaging of P and S wave velocity structure beneath northeastern Japan, *J. Geophys. Res.*, 97, 19909-19928.
- Zhao et al., (1994), Deep structure of Japan subduction zone as derived from local, regional, and teleseismic events, *J. Geophys. Res.*, 99, 22313-22329.
- Zhao, L. and D.V. Helmberger (1994), Source Estimation from Broadband Regional Seismograms, *Bull. Seis. Soc. Amer.*, 84 (1), 91-104.
- Zheng, Y. and T. Lay (2006), Low Vp/Vs ratios in the crust and upper mantle beneath the Sea of Okhotsk inferred from teleseismic pMP, sMP, and sMS underside reflections from the Moho, *J. Geophys. Res.*, 111, B01305
- Zhu, L. and D.V. Helmberger (1996), Advancement in Source Estimation Techniques Using Broadband Regional Seismograms, *Bull. Seis. Soc. Amer.*, 86 (5), 1634-1641
- Zhu, L., and H. Kanamori (2000), Moho depth variation in southern California from teleseismic receiver functions, *J. Geophys. Res.*, 105 (B2), 2969-2980.