

## References

- Barruol, G., P. G. Silver, and A. Vauchez, 1997. Seismic anisotropy in the Eastern United States; deep structure of a complex continental plate: *J. Geophys. Res.*, v. 102, p. 8329–8348.
- Benz, H. M., and J. McCarthy, 1994. Evidence for an upper mantle low velocity zone beneath the southern Basin and Range–Colorado Plateau transition zone, *Geophys. Res. Letts.*, 21, 509–512.
- Bostock, M. G., Anisotropic upper–mantle stratigraphy and architecture of the Slave craton, *Nature*, 390, 393–395, 1997.
- Bostock, M. G., Mantle stratigraphy and the evolution of the Slave province, *J. Geophys. Res.*, 103, 21183–21200, 1998.
- Cserepes, L., U. R. Christensen, and N. M. Ribe, Geoid height versus topography for a plume model of the Hawaiian swell, *Earth Planet. Sci. Letts.*, v 178, p 29–38, 2000.
- Fouch–M–J; Fischer–K–M; Parmentier–E–M; Wysession–M–E; Clarke–T–J, Shear wave splitting, continental keels, and patterns of mantle flow: *J. Geophys. Res.* 105; 3, Pages 6255–6275. 2000.
- Fuchs, K., 1983. Recently formed elastic anisotropy and petrological models for the continental subcrustal lithosphere in southern Germany, *Phys. Earth Planet. Int.*, 31, 93–118.
- Fuchs, K., and L. P. Vinnik, 1982. Investigation of the subcrustal lithosphere and asthenosphere by controlled source seismic experiments of long–range profiles, in "Continental and Oceanic Rifts", Geodynamics Series volume 8, G. Palmason, ed., American Geophysical Union, Washington DC, 81–98.
- Gao, S. S., Davis, P. M., Liu, H., Slack, P. D., Rigor, A. W., Zorin, Y. A., Mordvinova, V. V., Kozhevnikov, V. M., and Logatchev, N. A., SKS splitting beneath continental rift zones: *J. Geophys. Res.*, v. 102, p. 22781–22797, 1997.
- Grand, S. P., Tomographic inversion for shear velocity beneath the North American Plate, *JGR* 92, 14065–14090, 1987.
- Grow, J. C Bowin, and D Hutchinson, The gravity field of the US Atlantic continental margin, *Tectonophysics* 59, 27–52, 1979.
- Grow, J, and R Sheridan, US Atlantic Continental Margin: A typical Atlantic–type or passive continental margin, in *The Geology of North America I–2*, R Sheridan, ed., *Geol. Soc. Am.* 1–12, 1988.
- Hales, A. L., A seismic discontinuity in the lithosphere, *Earth Planet. Sci. Letts.*, 7, 44–46, 1969.
- Hennet, C, J Luetgert, and R Phinney, The crustal structure in central Maine from coherency processed refraction data, *J. Geophys. Res.* 96, 12023–12037, 1991.
- Hughes S, and J Luetgert, Crustal structure of the southeastern Grenville province, northern New York and Eastern Ontario, *J. Geophys. Res.* 97, 17455–17479, 1992.
- Keen C, and D Barrett, Thinned and subsided continental crust on the rifted margin of eastern Canada, crustal structure, thermal evolution and subsidence history, *Geophys. J. R. Astr. Soc.* 65, 443–465, 1981.

Keppie, J. D. and R. D. Dallmeyer, Late–Paleozoic collision, delamination, short–lived magmatism, and rapid denudation in the Meguma Terrane (Nova Scotia, Canada); constraints from (<sup>40</sup>Ar)/(<sup>39</sup>Ar) isotopic data, *Can. Journ. of Earth Sciences*, 32, 644–659, 1995

Levin, V., and J. Park, Quasi–Love phases between Tonga and Hawaii: observations, simulations and explanations, *J. Geophys. Res.*, v103, 24321–24331, 1998.

V. Levin and J. Park, Shear zones in the Proterozoic lithosphere of the Arabian Shield and the nature of the Hales discontinuity, *Tectonophysics*, 323, pp 131–148, 2000.

Levin, V., W. Menke, and J. Park, Shear wave splitting in the Appalachians and the Urals: A case for multilayered anisotropy, *J. Geophys. Res.* 104, 17975–17987, 1999.

Levin V; Lerner Lam A; Menke W, Anomalous mantle structure at the Proterozoic–Paleozoic boundary in northeastern US, *Geophys. Res. Lett.* 22, 121–124, 1995.

Levin, V., W. Menke and J. Park, No regional anisotropic domains in the northeastern U.S. Appalachians *J. Geophys. Res.* Vol. 105 , No. B8 , p. 19,029, 2000a.

Levin, V., J. Park, M. T. Brandon and W. Menke, Thinning of the upper mantle during the late Paleozoic Appalachian orogenesis, *Geology*, v28, pp. 239–242, 2000b.

Li, A., K. Fischer, M. Wysession, T. Clarke. 1998. Mantle discontinuities and temperature under the North American continental keel, *Nature*, 395, 160–163.

Lynch, G., and Giles, P. S., 1995, The Ainslie detachment, a regional fplat–lying extensional fault in the Carboniferous evaporitic Maritimes Basin of Nova Scotia, Canada: *Canadian Journal of Earth Science*, v. 33, p. 169–181.

Mahoney, J, and M Coffin (eds), Large igneous provinces : continental, oceanic, and planetary flood volcanism, *Geophysical monograph* 100, American Geophysical Union, 1997.

McLlland , J., M. Hamilton, B. Selleck, J. McLlland, D. Walker and S. Orell, Zircon U–Pb geochronology of the Ottawan Orogeny, Adirondack Highlands, New York; regional and tectonic implications, *Precambrian Research*, 109, 39–72, 2001.

Menke–W; Levin–V, Anomalous seaward dip of the lithosphere–asthenosphere boundary beneath northeastern US detected using differential–array measurements of Rayleigh waves, *in press in Geophys. J. Int.*, 2001.

Moore, J., Introduction, The Grenville prvince then and now, *Canada Geol Soc. Special Paper* 31, 1–11, 1986.

Morris, E, R Detrick, T Minshull, J Mutter, R White W Su and P Buhl, Seismic structure of oceanic crust in the western north Atlantic, *J. Geophys. Res.* 98, 13879–13909, 1993.

Murphy, J. B., van Staal, C. R., and Keppie, J. D., 1999, Middle to late Paleozoic Acadian orogeny in the northern Appalachians: A Laramide–style plume–modified orogeny?: *Geology*, v. 27, p. 653–656.

Park, J., and V. Levin, 2000. Receiver functions from multiple–taper spectral correlation estimates, *BSSA*, v90, pp1507–1520, 2000.

Park-Jeffrey; Yu-Yang. Seismic determination of elastic anisotropy and mantle flow. *Science*.261; 5125, Pages 1159–1162. 1993.

Pavlenkova, N. I., 1996. General features of the uppermost mantle stratification from long-range seismic profiles, *Tectonophysics*, 264, 261–278.

Revenaugh, J., and T. H. Jordan, Mantle layering from ScS reverberations 3. The upper mantle, *J. Geophys. Res.*, 96, 19781–19810, 1991.

Ribe, N. M., and U. R. Christensen, Three dimensional modeling of plume–lithosphere interaction, *J. Geophys. Res.*, v99, p669–682, 1994.

Robinson, P., 1993, Acadian magmatism and metamorphism in New England: A product of mantle–lithosphere delamination in front of an east-dipping subduction zone? (abstract): Geological Society of America Abstracts with Programs, v. 25, p. 179

Saltzer-R; Humphreys-G, The Snake River Plain Experiment: P-Wave Tomography, <http://www.uoregon.edu/~dogsci/humph/rsch.html>, 2001.

Sawyer, D, N Toksoz, J Sclater, and B Swift, Thermal evolution of the Baltimore Canyon trough and Georges Band basin, in *Studies of Continental Margin Geology*, J. Watkins and C. Drake, eds., 1983.

Schofield, D. I., and R. S. Lemos, Granite petrogenesis in the Gander Zone, NE Newfoundland; mixing of melts from multiple sources and the role of lithospheric delamination, *Can. Journ. of Earth Sci.*, 37, 535–547, 2000

Seber-D.; Barazangi-M, Ibenbrahim-A; Demnati-A, Geophysical evidence for lithospheric delamination beneath the Alboran Sea and Rif-Betic mountains, *Nature*, 379, 785–790, 1996.

Silver, P. G., 1996. Seismic anisotropy beneath the continents: Probing the depths of geology, *Ann. Rev. Earth and Planet. Sci.*, 24, 385–432.

Sleep-Norman-H Monteregean hotspot track; a long-lived mantle plume. *Journal of Geophysical Research, B, Solid Earth and Planets*.95; 13, Pages 21,983–21,990. 1990.

Solar, G. S. and M. Brown, THe classic high-T -- low-P metamorphism of west-central Maine, USA: Is it post-tectonic or syntectonic?, *Canadian Mineralogist*, 37, 289–311, 1999

Steckler, M and A Watts, Subsidence of the Atlantic-type continental margin off New York, *Earth and Planet. Sci. Lett.* 41, 1–13, 1978.

Taylor, S, Geophysical framework of the Appalachians and adjacent Grenville province, in *Geophysical framework of the United States*, L Pakiser, and W Mooney, eds, *Geol. Soc. AM. Memoir* 79, 317–348, 1989.

Taylor, S. R., and M. N. Toksoz, Three-dimensional crust and upper mantle structure of the northeastern United States, *Jgr* {it 84}, 7627–7644, 1979.

Van-der-Lee-S; Nolet-G, Upper mantle S velocity structure of North America, *J. Geophys. Res.*, 102, 22815–22838, 1997.

Vauchez, A., Barruol, G., and Nicolas, A., Comment on “SKS splitting beneath continental rift zones” by Gao et al: *J. Geophys. Res.*, v. 104, p. 10787–10789, 1999.

Wenzel, Th., Mertz, D. F., Obberhansli, R., and Becker, T., 1997, Age, geodynamic setting and mantle enrichment processes of a K-rich intrusion from the Meissen massif (northern Bohemian massif) and implications for related occurrences from the mid-European Hercynian: *Geologische Rundschau*, v. 86, p. 556–570.

Yu, Y., and J. Park, Hunting for azimuthal anisotropy beneath the Pacific Ocean region, *J. Geophys. Res.*, v99, 15399–15422, 1994.

Yu, Y., J. Park, and F. Wu, Mantle anisotropy beneath the Tibetan Plateau: Evidence from long-period surface waves, *Phys. Earth Planet. Int.*, v87, 231–246, 1995.