

## Reading List

### GEOL 700(i): Geophysical Geodesy

Altamimi, Z., X. Collilieux, J. Legrand, B. Garayt, and C. Boucher, 2007, ITRF2005: A new release of the International Terrestrial Reference Frame based on time series of station parameters and Earth Observation Parameters, *Journal of Geophysical Research*, 112.  
Also see: [http://itrf.ensg.ign.fr/ITRF\\_solutions/2005/ITRF2005.php](http://itrf.ensg.ign.fr/ITRF_solutions/2005/ITRF2005.php)

Altamimi Z., X. Collilieux, Laurent Métivier, ITRF2008: an improved solution of the International Terrestrial Reference Frame, *Journal of Geodesy*, doi:10.1007/s00190-011-0444-4, 2011  
Also see [http://itrf.ensg.ign.fr/ITRF\\_solutions/2008/](http://itrf.ensg.ign.fr/ITRF_solutions/2008/)

Argus, D. F., 2007, Defining the translational velocity of the reference frame of Earth, *Geophysical Journal International*, 169, 830-838.

Blewitt, G., D. Lavallee, P. Clarke, and K. Nurutdinov (2001), A new global mode of Earth deformation: Seasonal cycle detected, *Science*, 294, 5550, 2342-2345.

Blewitt, G. (2003), Self-consistency in reference frames, geocenter definition, and surface loading of the solid Earth, *Journal of Geophysical Research*, 108, B2, 2103, doi:10.1029/2002JB002082.

Blewitt, G., C. Kreemer, W. C. Hammond, H. P. Plag, S. Stein, and E. Okal (2006), Rapid determination of earthquake magnitude using GPS for tsunami warning systems, *Geophysical Research Letters*, 33, L11309, doi:10.1029/2006GL026145.

Burgmann, R., and G. Dresen (2008), Rheology of the Lower Crust and Upper Mantle: Evidence from Rock Mechanics, Geodesy, and Field Observations, *Annual Review of Earth and Planetary Science*, 36, doi:10.1146/annurev.earth.36.031207.124326, 531-567.

Bürgmann, R., P. Rosen, and E. J. Fielding (2000), Synthetic Aperture radar interferometry to measure Earth's surface topography and its deformation, *Annual Review of Earth and Planetary Science*, 28, 169-209.

Coblenz, D. D., R. M. Richardson, and M. Sandiford (1994), On the gravitational potential of the Earth's lithosphere, *Tectonics*, 13, 929-945.

Cox, A., and R. B. Hart (1986), *Plate Tectonics: How it Works*, 392 pp., Blackwell Scientific Publishing, Brookline Village, MA.

England, P., and D. McKenzie (1982), A thin viscous sheet model for continental deformation, *Geophysical Journal of the Royal Astronomical Society*, 70, 295-321.

England, P., and P. Molnar (1997), Active deformation of Asia from kinematics to dynamics, *Science*, 278, 647-650.

England, P., and P. Molnar (1997), The field of crustal velocity in Asia calculated from Quaternary

rates of slip on faults, *Geophysical Journal International*, 130, 551-582.

Findley, W. N., J. S. Lai, and K. Onaran (1976), *Creep and relaxation of nonlinear viscoelastic materials*, Dover, New York.

Flesch, L.M., Holt, W.E., Haines, A.J., & Shen-Tu, B., Dynamics of the Pacific-North America plate boundary in the western United States, *Science* 287, 834 (2000).

Flesch, L. M., W. E. Holt, A. J. Haines, L. X. Wen, and B. Shen-Tu (2007), The dynamics of western North America: stress magnitudes and the relative role of gravitational potential energy, plate interaction at the boundary and basal tractions, *Geophysical Journal International*, 169, 866-896.

Freund, L.B. & Barnett, D.M., A two-dimensional analysis of surface deformation due to dip-slip faulting. *Bull. Seismol. Soc. Am.* 66 (3), 667 (1976).

Hammond, W. C., G. Blewitt, and C. Kreemer (2011), Block modeling of crustal deformation of the northern Walker Lane and Basin and Range from GPS velocities, *Journal of Geophysical Research*, doi:10.1029/2010JB007817.

Hanssen, R. F. (2001), *Radar interferometry: data interpretation and error analysis*, 308 pp., Kluwer Academic Publishers, Dordrecht, Netherlands.

Hreinsdottir, S., J. T. Freymueller, R. Burgmann, and J. Mitchell (2006), Coseismic deformation of the 2002 Denali Fault earthquake: Insights from GPS measurements, *Journal of Geophysical Research-Solid Earth*, 111, B3.

Humphreys, E. D., and D. D. Coblenz (2007), North America dynamics and western U.S. tectonics, *Reviews of Geophysics*, 45.

Jones, C. H., J. R. Unruh, and L. J. Sonder, 1996, The role of gravitational potential energy in active deformation in the southwestern United States, *Nature*, 381, 37-41.

Kostrov, V. V. (1974), Seismic moment and energy of earthquakes, and seismic flow of rocks, *Izv. Acad. Sci. USSR Phys. Solid Earth*, 1 (English Translation), 23-44.

Kreemer, C., J. A. Haines, W. E. Holt, G. Blewitt, and D. Lavallee 2000, On the determination of the Global Strain Rate model, *Earth Planets Space*, 52, 765-770.

Kreemer, C. & Hammond, W.C., 2007, Geodetic constraints on areal-changes in the Pacific-North America plate boundary zone: What controls Basin and Range extension. *Geology* v. 35, doi: 10.1130/G23868A.1, p 943.

Larson, K. M., J. T. Freymueller, and S. Philipsen (1997), Global plate velocities from the Global Positioning System, *Journal of Geophysical Research*, 102, B5, 9961-9981.

Meade, B. J., and B. H. Hager (2005), Block models of crustal motion in southern California constrained by GPS measurements, *Journal of Geophysical Research*, 110.

McCaffrey, R., A. I. Qamar, R. W. King, R. Wells, G. Khazaradze, C. A. Williams, C. W. Stevens, J. J. Vollick, and P. C. Zwick (2007), Fault locking, block rotation and crustal deformation in the Pacific Northwest, *Geophysical Journal International*, 169, 1315-1340.

Okada, Y., Surface deformation due to shear and tensile faults in a half-space. *Bull. Seismol. Soc. Am.* **75** (4), 1135 (1985).

Okada, Y., Internal deformation due to shear and tensile faults in a half-space. *Bull. Seismol. Soc. Am.* **82** (2), 1018 (1992).

Reilinger, R., S. McClusky, P. Vernant, S. Lawrence, S. Ergintav, R. Cakmak, H. Ozener, F. Kadirov, I. Guliev, R. Stepanyan, M. Nadariya, G. Hahubia, S. Mahmoud, K. Sakr, A. ArRajehi, D. Paradissis, A. Al-Aydrus, M. Prilepin, T. Guseva, E. Evren, A. Dmitrotsa, S. V. Filikov, F. Gomez, R. Al-Ghazzi, and G. Karam (2006), GPS constraints on continental deformation in the Africa-Arabia-Eurasia continental collision zone and implications for the dynamics of plate interactions, *Journal of Geophysical Research*, 111.

Rosen, P. A., S. Hensley, I. R. Joughin, F. Li, S. N. Madsen, E. Rodriguez, and R. M. Goldstein (2000), Synthetic Aperture radar interferometry, *Proceedings of the IEEE*, 88, 3, 333-382.

Savage, J. C., and W. H. Prescott (1978), Asthenosphere readjustment and the earthquake cycle, *Journal of Geophysical Research*, 83, 3369-3376.

Savage, J.C. & Burford, R.O., Geodetic determination of relative plate motion in central California. *J. Geophys. Res.* **78** (B5), 832 (1973).

Savage, J.C., Gan, W., & Svare, J.L., 2001, Strain accumulation and rotation in the eastern California shear zone. *J. Geophys. Res.* 106 (B10), 21.

Schmalzle, G., T. Dixon, R. Malservisi, and R. Govers (2006), Strain accumulation across the Carrizo segment of the San Andreas Fault, California: Impact on laterally varying crustal properties, *Journal of Geophysical Research*, 111, B05403, doi:10.1029/2005JB003843.

Segall, P., 2010, Earthquake and Volcano Deformation, Princeton University Press, New Jersey.

Shen-Tu, B., W. E. Holt, and J. A. Haines (1998), Contemporary kinematics of the western United States determined from earthquake moment tensors, very long baseline interferometry, and GPS observations, *Journal of Geophysical Research*, 103, B8, 18,087-018,117.

Shen-Tu, B., W. E. Holt, and J. A. Haines (1999), Deformation kinematics in the western United States determined from Quaternary fault slip rates and recent geodetic data, *Journal of Geophysical Research*, 104, B12, 28,927-928,955.

Simons, M., et al., 2011, The 2011 Magnitude 9.0 Tohoku-Oki Earthquake: Mosaicking the Megathrust from Seconds to Centuries, 2011, *Science*, v. 332, p. 1421-1425, 17 June 2011.

Smith, K. D., D. von Seggern, G. Blewitt, L. Preston, J. G. Anderson, B. P. Wernicke, and J. L. Davis (2004), Evidence for Deep Magma injection beneath Lake Tahoe, Nevada-California, *Science*, 305,

1277-1280.

Thatcher, W., G. R. Foulger, B. R. Julian, J. L. Svarc, E. Quilty, and G. W. Bawden (1999), Present-day deformation across the Basin and Range province, western United States, *Science*, 283, 1714-1718.

Thatcher, W. (2007), Microplate model for the present-day deformation of Tibet, *Journal of Geophysical Research*, v. 112, B01401, doi:10.1029/2005JB004244.

Thatcher, W. (2009), How the Continents Deform: The Evidence From Tectonic Geodesy, *Annual Review of Earth and Planetary Sciences*, 37, 237-262.

Turcotte, D. L., and G. Schubert (1982), *Geodynamics Applications of Continuum Physics to Geological Problems*, John Wiley & Sons, Inc., New York.

Vigny, C., W. J. F. Simons, S. Abu, R. Bamphenyu, C. Satirapod, N. Choosakul, C. Subarya, A. Socquet, K. Omar, H. Z. Abidin, and B. A. C. Ambrosius (2005), Insight into the 2004 Sumatra-Andaman earthquake from GPS measurements in southeast Asia, *Nature*, 436, 201- 206.

Ward, S. N. (1998), On the consistency of earthquake moment rates, geological fault data, and space geodetic strain: the United States, *Geophysical Journal International*, 134, 172-186.

WGS84 Implementation Manual, Version 2.4, Eurocontrol, European Organization for the Safety of Air Navigation, Brussels, Belguim and IfEN, Institute of Geodesy and Navigation, University FAF, Munich, Germany, page 82.

Wright, T. J., Z. Lu, and C. W. Wicks (2004), Constraining the Slip distribution and fault geometry of the Mw 7.9, 3 November 2002, Denali Fault Earthquake with Interferometry Synthetic Aperture Radar and Global Positioning System, *Bulletin of the Seismological Society of America*, 94, 6B, S175-S189.

Wright, T. J., B. Parsons, P. C. England, and E. J. Fielding (2004), InSAR observations of Low slip rates on the Major faults of western Tibet, *Science*, 305, 236-239.

Wright, T. J., B. E. Parsons, and Z. Lu (2004), Toward mapping surface deformation in three dimensions using InSAR, *Geophysical Research Letters*, 31, 1, -.