

## Publication List (October 2013 to present)

### Mantle Convection

Rudolph, M.L. and Zhong, S. (2013). Spatiotemporal association of large igneous provinces and mobile large low shear velocity provinces throughout the last supercontinent cycle. GSA Annual Meeting.

T41G-08. Rudolph, M.L. and Zhong, S. Mantle thermal history during supercontinent assembly and breakup. American Geophysical Union, December 2013

Rudolph, M.L. Evolution of Earth's Mantle since 500 Mya. University of Oregon Geological Sciences Department Seminar, November 2013.

DI41B-03. Influence of Chemical Piles on Convective Structure and the Geoid from 3D Spherical Mantle Convection Models, Xi Liu; Shijie Zhong, American Geophysical Union, December 2013

DI31A-2204. Optimizing Advection of Tracer Particles in Fluid Dynamic Processes with Variable Numerical Integration Methods, Emily M. Javan, Eric M. Heien, Louise H. Kellogg, American Geophysical Union, December 2013

DI24A-05. Mantle Response to a Slab Gap and Three-dimensional Slab Interaction in South America, Jadamec, M. A. and Fischer, K. M., American Geophysical Union, December 2013

On the sensitivity of 3-D thermal convection codes to numerical discretization: a model intercomparison, P.-A. Arrial, N. Flyer, G. B. Wright, and L. H. Kellogg, Geosci. Model Dev. Discuss., 7, 2033-2064, 2014

History and dynamics of net rotation of the mantle and lithosphere, M.L. Rudolph and S. Zhong. (Submitted to Geochemistry, Geophysics, Geosystems)

### Geodynamo

Marti, P., Schaeffer, N., Hollerbach, R., Cebbron, D., Nore, C., Luddens, F., Guermond, J-L, Aubert, J., Takehiro, S., Sasaki, Y., Hayashi, Y., Simatev, R., Busse, F.H., Vantieghem, S., Jackson, A., Full sphere hydrodynamic and dynamo benchmarks, Geophys. J. Intl., 197(1), pp 119-134, DOI:10.1093/gji/ggt518, 2014.

Jackson, A., Sheyko, A., Marti, P., Tilgner, A., C'ebbron, D., Vantieghema, S., Simatev, R., Busse, F., Zhan, X., Schubert, G., Takehiro, S., Sasaki, Y., Hayashi, Y.-Y., Ribeiro, A., Nore, C., Guermond, J-L, A spherical shell numerical dynamo benchmark with pseudo vacuum magnetic boundary conditions, Geophys. J. Intl., 196(2), pp 712-723, DOI:10.1093/gji/ggt425, 2014.

GP51A-1065. A performance benchmark test for geodynamo simulations. Hiroaki Matsui, Eric M. Heien, American Geophysical Union, December 2013

DI33C-05 Multi-scale convection in a geodynamo simulation with uniform heat flux along the outer boundary. King, E.M., Matsui, H., Buffet, B.A. American Geophysical Union, December 2013

Matsui H., King E., Buffett B. Multiscale convection in a geodynamo simulation with uniform heat flux along the outer boundary. Submitted to *Geochem. Geophys. Geosys.*

Buffett, B.A., E.M. King, and H. Matsui, Stochastic Analysis of Fluctuations in a Numerical Geodynamo Model, *Geophysical Journal International*, in press.

GP51A-1071. Laboratory-Numerical Investigation of Rayleigh–Bénard Convection and Magnetoconvection in Liquid Gallium, *Adolfo Ribeiro, Jean-Luc Guermond, Jonathan Aurnou*, American Geophysical Union, December 2013

Large-amplitude temperature variations in inertial convection in liquid gallium *Adolfo Ribeiro*, *Journal of Fluid Mechanics* (in preparation)