Title	Author	Year
A benchmark comparison for mantle convection codes	B. Blankenbacht , F. BusseS , U. Christensen, L. Cserepesfl, D. Gunkelf, U. Hansentt, H. Harderg, G. Jarvisff, M. Koch, G. Marquartfly, D. Moore, P. Olson H. Schmeling and T. SchnaubeltS	1989

Journal	Objective
	** Comparison study for convection in the Earth's mantle
Geophys. J . Int.	** **Case Studies** -steady isoviscous convection, -variable viscosity convection, -time-dependent convection with internal heating
	** **Compare** Nusselt numbers, velocity, temperature, heat-flow , topography and geoid data

Recommendations	Method	Theory and Key concepts
Grid data obtained for the validation of convection codes in the future	FDM FEM Spectral methods	** 2-D thermal convection of a non-rotating Boussinesq fluid of infinite Prandtl number in rectangular closed cells is considered. ** Data are presented for the upwelling flow at x = 0, i.e at left margin. (to remove non-uniqueness)

Key findings

** Increased resolution in the boundary layers of high Rayleigh number convection gives better results than equidistant mesh spacing, when the same number of grid points (elements) is used.

** Global averages (Nu, u) are usually more accurately determined than local values.

** High-resolution studies, together with an extrapolation of results, allows us to pin down the 'correct' solution with fairly low levels of uncertainty.

Other topics

** Description of benchmark cases provided

** Code description

** Results

Relevance	Keywords	Link to Paper
		1_blankenbach
		1_blankenbach