Hans-Peter Bunge

List of Publications by Year
in descending order

45	3,031	27	45
papers	citations	h-index	g-index
		201674	233421

46	46	46	1778
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Full seismic waveform tomography for upper-mantle structure in the Australasian region using adjoint methods. Geophysical Journal International, 2009, 179, 1703-1725.	2.4	352
2	Theoretical background for continental- and global-scale full-waveform inversion in the time-frequency domain. Geophysical Journal International, 2008, 175, 665-685.	2.4	229
3	Reconciling dynamic and seismic models of Earth's lower mantle: The dominant role of thermal heterogeneity. Earth and Planetary Science Letters, 2012, 353-354, 253-269.	4.4	190
4	Full waveform tomography for radially anisotropic structure: New insights into present and past states of the Australasian upper mantle. Earth and Planetary Science Letters, 2010, 290, 270-280.	4.4	179
5	Mantle circulation models with variational data assimilation: inferring past mantle flow and structure from plate motion histories and seismic tomography. Geophysical Journal International, 2003, 152, 280-301.	2.4	170
6	The Bent Hawaiian-Emperor Hotspot Track: Inheriting the Mantle Wind. Science, 2009, 324, 50-53.	12.6	151
7	Tomographic filtering of highâ€resolution mantle circulation models: Can seismic heterogeneity be explained by temperature alone?. Geochemistry, Geophysics, Geosystems, 2009, 10, .	2.5	141
8	Low plume excess temperature and high core heat flux inferred from non-adiabatic geotherms in internally heated mantle circulation models. Physics of the Earth and Planetary Interiors, 2005, 153, 3-10.	1.9	113
9	Thermal versus elastic heterogeneity in highâ€resolution mantle circulation models with pyrolite composition: High plume excess temperatures in the lowermost mantle. Geochemistry, Geophysics, Geosystems, 2009, 10, .	2.5	111
10	Feedback between mountain belt growth and plate convergence. Geology, 2006, 34, 893.	4.4	107
11	Geological, tomographic, kinematic and geodynamic constraints on the dynamics of sinking slabs. Journal of Geodynamics, 2014, 73, 1-13.	1.6	93
12	The origin of large scale structure in mantle convection: Effects of plate motions and viscosity stratification. Geophysical Research Letters, 1996, 23, 2987-2990.	4.0	90
13	Rapid South Atlantic spreading changes and coeval vertical motion in surrounding continents: Evidence for temporal changes of pressure-driven upper mantle flow. Tectonics, 2014, 33, 1304-1321.	2.8	79
14	Mantle convection modeling on parallel virtual machines. Computers in Physics, 1995, 9, 207.	0.5	77
15	The Collaborative Seismic Earth Model: Generation 1. Geophysical Research Letters, 2018, 45, 4007-4016.	4.0	71
16	On the ratio of dynamic topography and gravity anomalies in a dynamic Earth. Geophysical Research Letters, 2016, 43, 2510-2516.	4.0	68
17	Retrodictions of Mid Paleogene mantle flow and dynamic topography in the Atlantic region from compressible high resolution adjoint mantle convection models: Sensitivity to deep mantle viscosity and tomographic input model. Gondwana Research, 2018, 53, 252-272.	6.0	62
18	Full waveform tomography of the upper mantle in the South Atlantic region: Imaging a westward fluxing shallow asthenosphere?. Tectonophysics, 2013, 604, 26-40.	2.2	54

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19	Cluster Design in the Earth Sciences Tethys. Lecture Notes in Computer Science, 2006, , 31-40.	1.3	54
20	Testing absolute plate reference frames and the implications for the generation of geodynamic mantle heterogeneity structure. Earth and Planetary Science Letters, 2012, 317-318, 204-217.	4.4	53
21	Imaging 3-D spherical convection models: What can seismic tomography tell us about mantle dynamics?. Geophysical Research Letters, 1997, 24, 1299-1302.	4.0	45
22	Stratigraphic framework for the plume mode of mantle convection and the analysis of interregional unconformities on geological maps. Gondwana Research, 2018, 53, 159-188.	6.0	44
23	A mineralogical model for density and elasticity of the Earth's mantle. Geochemistry, Geophysics, Geosystems, 2007, 8, .	2.5	43
24	Rapid Plate Motion Variations Through Geological Time: Observations Serving Geodynamic Interpretation. Annual Review of Earth and Planetary Sciences, 2015, 43, 571-592.	11.0	40
25	Fast asthenosphere motion in highâ€resolution global mantle flow models. Geophysical Research Letters, 2015, 42, 7429-7435.	4.0	39
26	Hotspot motion caused the Hawaiian-Emperor Bend and LLSVPs are not fixed. Nature Communications, 2019, 10, 3370.	12.8	35
27	Constraining central Neoâ€Tethys Ocean reconstructions with mantle convection models. Geophysical Research Letters, 2016, 43, 9595-9603.	4.0	33
28	The adjoint method in geodynamics: derivation from a general operator formulation and application to the initial condition problem in a high resolution mantle circulation model. GEM - International Journal on Geomathematics, 2014, 5, 163-194.	1.6	28
29	Stability of the rotation axis in highâ€resolution mantle circulation models: Weak polar wander despite strong core heating. Geochemistry, Geophysics, Geosystems, 2009, 10, .	2.5	27
30	Topography growth drives stress rotations in the central Andes: Observations and models. Geophysical Research Letters, 2008, 35, .	4.0	26
31	On retrodictions of global mantle flow with assimilated surface velocities. Geophysical Research Letters, 2015, 42, 8341-8348.	4.0	26
32	Tomographic images of a mantle circulation model. Geophysical Research Letters, 2001, 28, 77-80.	4.0	25
33	MMAâ€EoS: A Computational Framework for Mineralogical Thermodynamics. Journal of Geophysical Research: Solid Earth, 2017, 122, 9881-9920.	3.4	24
34	The compressible adjoint equations in geodynamics: derivation and numerical assessment. GEM - International Journal on Geomathematics, 2016, 7, 1-30.	1.6	23
35	Models and observations of vertical motion (MoveOn) associated with rifting to passive margins: Preface. Gondwana Research, 2018, 53, 1-8.	6.0	16
36	Correlations of oceanic spreading rates and hiatus surface area in the North Atlantic realm. Lithosphere, 2018, 10, 677-684.	1.4	15

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37	The adjoint equations for thermochemical compressible mantle convection: derivation and verification by twin experiments. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20180329.	2.1	13
38	Analysis of geological hiatus surfaces across Africa in the Cenozoic and implications for the timescales of convectively-maintained topography. Canadian Journal of Earth Sciences, 2019, 56, 1333-1346.	1.3	13
39	Global mantle flow retrodictions for the early Cenozoic using an adjoint method: evolving dynamic topographies, deep mantle structures, flow trajectories and sublithospheric stresses. Geophysical Journal International, 2021, 226, 1432-1460.	2.4	12
40	Restoring past mantle convection structure through fluid dynamic inverse theory: regularisation through surface velocity boundary conditions. GEM - International Journal on Geomathematics, 2015, 6, 83-100.	1.6	11
41	On the observability of epeirogenic movement in current and future gravity missions. Gondwana Research, 2018, 53, 273-284.	6.0	11
42	Continent-scale Hiatus Maps for the Atlantic Realm and Australia since the Upper Jurassic and links to mantle flow induced dynamic topography. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200390.	2.1	9
43	Impact of model inconsistencies on reconstructions of past mantle flow obtained using the adjoint method. Geophysical Journal International, 2020, 221, 617-639.	2.4	5
44	Yellowstone Plume Drives Neogene North American Plate Motion Change. Geophysical Research Letters, 2021, 48, e2021GL095079.	4.0	4
45	Evidence for active upper mantle flow in the Atlantic and Indo-Australian realms since the Upper Jurassic from hiatus maps and spreading rate changes. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, .	2.1	3