Paul J Tackley

List of Publications by Year
in descending order

182 papers	11,418 citations	16411 64 h-index	34900 98 g-index
224 all docs	224 docs citations	224 times ranked	4139 citing authors

#	Article	IF	Citations
1	Ariel planetary interiors White Paper. Experimental Astronomy, 2022, 53, 323-356.	1.6	12
2	Influence of composition-dependent thermal conductivity on the long-term evolution of primordial reservoirs in Earth's lower mantle. Earth, Planets and Space, 2022, 74, .	0.9	3
3	Contrasts in 2-D and 3-D system behaviour in the modelling of compositionally originating LLSVPs and a mantle featuring dynamically obtained plates. Geophysical Journal International, 2022, 230, 1751-1774.	1.0	1
4	Hadean/Eoarchean tectonics and mantle mixing induced by impacts: a three-dimensional study. Progress in Earth and Planetary Science, 2022, 9, .	1.1	4
5	Timescales of chemical equilibrium between the convecting solid mantle and over- and underlying magma oceans. Solid Earth, 2021, 12, 421-437.	1.2	5
6	Hemispheric Tectonics on Super-Earth LHS 3844b. Astrophysical Journal Letters, 2021, 908, L48.	3.0	12
7	Global mantle convection models produce transform offsets along divergent plate boundaries. Communications Earth & Environment, 2021, 2, .	2.6	14
8	Coupled dynamics and evolution of primordial and recycled heterogeneity in Earth's lower mantle. Solid Earth, 2021, 12, 2087-2107.	1.2	13
9	Did the cessation of convection in Mercury's mantle allow for a dynamo supporting increase in heat loss from its core?. Earth and Planetary Science Letters, 2021, 571, 117108.	1.8	3
10	Mantle convection interacting with magma oceans. Geophysical Journal International, 2020, 220, 1878-1892.	1.0	18
11	The dynamics and impact of compositionally originating provinces in a mantle convection model featuring rheologically obtained plates. Geophysical Journal International, 2020, 220, 1700-1716.	1.0	5
12	The strength of the Iceland plume: A geodynamical scaling approach. Earth and Planetary Science Letters, 2020, 551, 116570.	1.8	3
13	On the self-regulating effect of grain size evolution in mantle convection models: application to thermochemical piles. Solid Earth, 2020, 11, 959-982.	1.2	7
14	The evolution and distribution of recycled oceanic crust in the Earth's mantle: Insight from geodynamic models. Earth and Planetary Science Letters, 2020, 537, 116171.	1.8	29
15	Variable dynamic styles of primordial heterogeneity preservation in the Earth's lower mantle. Earth and Planetary Science Letters, 2020, 536, 116160.	1.8	18
16	Plutonicâ€Squishy Lid: A New Global Tectonic Regime Generated by Intrusive Magmatism on Earthâ€Like Planets. Geochemistry, Geophysics, Geosystems, 2020, 21, e2019GC008756.	1.0	61
17	Dry late accretion inferred from Venusâ€™s coupled atmosphere and internal evolution. Nature Geoscience, 2020, 13, 265-269.	5.4	27
18	The influence of bulk composition on the long-term interior-atmosphere evolution of terrestrial exoplanets. Astronomy and Astrophysics, 2020, 643, A44.	2.1	28

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19	Effects of the Compositional Viscosity Ratio on the Longâ€Term Evolution of Thermochemical Reservoirs in the Deep Mantle. Geophysical Research Letters, 2019, 46, 9591-9601.	1.5	11
20	Geoscience for Understanding Habitability in the Solar System and Beyond. Space Science Reviews, 2019, 215, 1.	3.7	14
21	Spurious Transitions in Convective Regime Due to Viscosity Clipping: Ramifications for Modeling Planetary Secular Cooling. Geochemistry, Geophysics, Geosystems, 2019, 20, 3450-3468.	1.0	2
22	Where does subduction initiate and cease? A global scale perspective. Earth and Planetary Science Letters, 2019, 528, 115836.	1.8	26
23	Growing primordial continental crust self-consistently in global mantle convection models. Gondwana Research, 2019, 73, 96-122.	3.0	31
24	Plate bending, energetics of subduction and modeling of mantle convection: A boundary element approach. Earth and Planetary Science Letters, 2019, 515, 47-57.	1.8	13
25	Quantifying the Correlation Between Mobile Continents and Elevated Temperatures in the Subcontinental Mantle. Geochemistry, Geophysics, Geosystems, 2019, 20, 1358-1386.	1.0	4
26	Do elasticity and a free surface affect lithospheric stresses caused by upper-mantle convection?. Geophysical Journal International, 2019, 216, 1740-1760.	1.0	9
27	The Sensitivity of Core Heat Flux to the Modeling of Plateâ€Like Surface Motion. Geochemistry, Geophysics, Geosystems, 2018, 19, 1282-1308.	1.0	8
28	Efficient cooling of rocky planets by intrusive magmatism. Nature Geoscience, 2018, 11, 322-327.	5.4	78
29	Constraints on mantle viscosity structure from continental drift histories in spherical mantle convection models. Tectonophysics, 2018, 746, 339-351.	0.9	35
30	Stagnant lid tectonics: Perspectives from silicate planets, dwarf planets, large moons, and large asteroids. Geoscience Frontiers, 2018, 9, 103-119.	4.3	72
31	Constraints on coreâ€“mantle boundary topography from models of thermal and thermochemical convection. Geophysical Journal International, 2018, 212, 164-188.	1.0	23
32	The Influence of Curvature on Convection in a Temperatureâ€Dependent Viscosity Fluid: Implications for the 2â€D and 3â€D Modeling of Moons. Journal of Geophysical Research E: Planets, 2018, 123, 1863-1880.	1.5	18
33	Prospects for an ancient dynamo and modern crustal remanent magnetism on Venus. Earth and Planetary Science Letters, 2018, 502, 46-56.	1.8	30
34	Effects of Iron Spin Transition on the Structure and Stability of Large Primordial Reservoirs in Earth's Lower Mantle. Geophysical Research Letters, 2018, 45, 5918-5928.	1.5	5
35	The dynamical control of subduction parameters on surface topography. Geochemistry, Geophysics, Geosystems, 2017, 18, 1661-1687.	1.0	28
36	Continental crust formation on early Earth controlled by intrusive magmatism. Nature, 2017, 545, 332-335.	13.7	174

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37	Stress memory effect in viscoelastic stagnant lid convection. Geophysical Journal International, 2017, 209, 1462-1475.	1.0	35
38	A particle-in-cell method for studying double-diffusive convection in the liquid layers of planetary interiors. Journal of Computational Physics, 2017, 346, 552-571.	1.9	14
39	The subduction dichotomy of strong plates and weak slabs. Solid Earth, 2017, 8, 339-350.	1.2	10
40	Small postâ€perovskite patches at the base of lower mantle primordial reservoirs: Insights from 2â€D numerical modeling and implications for ULVZs. Geophysical Research Letters, 2016, 43, 3215-3225.	1.5	11
41	Subduction initiation from a stagnant lid and global overturn: new insights from numerical models with a free surface. Progress in Earth and Planetary Science, 2016, 3, .	1.1	40
42	Modelling Earthâ€™s surface topography: Decomposition of the static and dynamic components. Physics of the Earth and Planetary Interiors, 2016, 261, 172-186.	0.7	19
43	Using pattern recognition to infer parameters governing mantle convection. Physics of the Earth and Planetary Interiors, 2016, 257, 171-186.	0.7	21
44	Subduction controls the distribution and fragmentation of Earthâ€™s tectonic plates. Nature, 2016, 535, 140-143.	13.7	112
45	Melting-induced crustal production helps plate tectonics on Earth-like planets. Earth and Planetary Science Letters, 2016, 439, 18-28.	1.8	43
46	Effect of a single large impact on the coupled atmosphere-interior evolution of Venus. Icarus, 2016, 268, 295-312.	1.1	38
47	A sequential data assimilation approach for the joint reconstruction of mantle convection and surface tectonics. Geophysical Journal International, 2016, 204, 200-214.	1.0	47
48	A community benchmark for viscoplastic thermal convection in a 2â€D square box. Geochemistry, Geophysics, Geosystems, 2015, 16, 2175-2196.	1.0	69
49	Can we constrain the interior structure of rocky exoplanets from mass and radius measurements?. Astronomy and Astrophysics, 2015, 577, A83.	2.1	199
50	Parameters controlling dynamically selfâ€consistent plate tectonics and singleâ€sided subduction in global models of mantle convection. Journal of Geophysical Research: Solid Earth, 2015, 120, 3680-3706.	1.4	49
51	Formation of ridges in a stable lithosphere in mantle convection models with a viscoplastic rheology. Geophysical Research Letters, 2015, 42, 4770-4777.	1.5	23
52	Influence of plate tectonic mode on the coupled thermochemical evolution of Earth's mantle and core. Geochemistry, Geophysics, Geosystems, 2015, 16, 3400-3413.	1.0	30
53	A regime diagram of mobile lid convection with plate-like behavior. Physics of the Earth and Planetary Interiors, 2015, 241, 65-76.	0.7	6
54	Large-Scale Thermo-chemical Structure of the Deep Mantle: Observations and Models. , 2015, , 479-515.		19

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55	The Generation of Plate Tectonics from Mantle Dynamics. , 2015, , 271-318.		64
56	Mantle Geochemical Geodynamics. , 2015, , 521-585.		23
57	Assessing the role of slab rheology in coupled plate-mantle convection models. Earth and Planetary Science Letters, 2015, 430, 191-201.	1.8	22
58	Effects of the post-perovskite phase transition properties on the stability and structure of primordial reservoirs in the lower mantle of the Earth. Earth and Planetary Science Letters, 2015, 432, 1-12.	1.8	27
59	Atmosphere/mantle coupling and feedbacks on Venus. Journal of Geophysical Research E: Planets, 2014, 119, 1189-1217.	1.5	98
60	The stability and structure of primordial reservoirs in the lower mantle: insights from models of thermochemical convection in three-dimensional spherical geometry. Geophysical Journal International, 2014, 199, 914-930.	1.0	59
61	Threeâ€dimensional simulations of the southern polar giant impact hypothesis for the origin of the Martian dichotomy. Geophysical Research Letters, 2014, 41, 8736-8743.	1.5	71
62	On the predictability limit of convection models of the Earth's mantle. Geochemistry, Geophysics, Geosystems, 2014, 15, 2319-2328.	1.0	20
63	Seafloor spreading evolution in response to continental growth. Geology, 2014, 42, 235-238.	2.0	7
64	Statistical cyclicity of the supercontinent cycle. Geophysical Research Letters, 2014, 41, 2351-2358.	1.5	35
65	Effects of lowâ€viscosity postâ€perovskite on the stability and structure of primordial reservoirs in the lower mantle. Geophysical Research Letters, 2014, 41, 7089-7097.	1.5	23
66	Stagnant lid convection in bottom-heated thin 3-D spherical shells: Influence of curvature and implications for dwarf planets and icy moons. Journal of Geophysical Research E: Planets, 2014, 119, 1895-1913.	1.5	27
67	Spontaneous development of arcuate singleâ€sided subduction in global 3â€D mantle convection models with a free surface. Journal of Geophysical Research: Solid Earth, 2014, 119, 5921-5942.	1.4	58
68	Influence of combined primordial layering and recycled MORB on the coupled thermal evolution of Earth's mantle and core. Geochemistry, Geophysics, Geosystems, 2014, 15, 619-633.	1.0	59
69	Selfâ€consistent generation of singleâ€plume state for Enceladus using nonâ€Newtonian rheology. Journal of Geophysical Research E: Planets, 2014, 119, 416-439.	1.5	13
70	Mantle dynamics in super-Earths: Post-perovskite rheology and self-regulation of viscosity. Icarus, 2013, 225, 50-61.	1.1	115
71	Numerical simulation of thermal plumes in a Herschelâ€"Bulkley fluid. Journal of Non-Newtonian Fluid Mechanics, 2013, 195, 32-45.	1.0	22
72	Fourâ€dimensional numerical modeling of crustal growth at active continental margins. Journal of Geophysical Research: Solid Earth, 2013, 118, 4682-4698.	1.4	18

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73	Convergence of tectonic reconstructions and mantle convection models for significant fluctuations in seafloor spreading. Earth and Planetary Science Letters, 2013, 383, 92-100.	1.8	48
74	Thermal and compositional evolution of the martian mantle: Effects of water. Physics of the Earth and Planetary Interiors, 2013, 220, 50-72.	0.7	21
75	Thermal and compositional evolution of the martian mantle: Effects of phase transitions and melting. Physics of the Earth and Planetary Interiors, 2013, 216, 32-58.	0.7	38
76	Implications of high core thermal conductivity on Earth's coupled mantle and core evolution. Geophysical Research Letters, 2013, 40, 2652-2656.	1.5	23
77	Growing Understanding of Subduction Dynamics Indicates Need to Rethink Seismic Hazards. Eos, 2013, 94, 125-126.	0.1	4
78	Habitable Planets: Interior Dynamics and Long-Term Evolution. Proceedings of the International Astronomical Union, 2012, 8, 339-349.	0.0	1
79	Dynamic Causes of the Relation Between Area and Age of the Ocean Floor. Science, 2012, 336, 335-338.	6.0	83
80	Numerical modelling of convection interacting with a melting and solidification front: Application to the thermal evolution of the basal magma ocean. Physics of the Earth and Planetary Interiors, 2012, 206-207, 51-66.	0.7	38
81	Influence of magmatism on mantle cooling, surface heat flow and Urey ratio. Earth and Planetary Science Letters, 2012, 329-330, 1-10.	1.8	65
82	Linking continental drift, plate tectonics and the thermal state of the Earth's mantle. Earth and Planetary Science Letters, 2012, 351-352, 134-146.	1.8	89
83	The primitive nature of large low shear-wave velocity provinces. Earth and Planetary Science Letters, 2012, 349-350, 198-208.	1.8	103
84	A free plate surface and weak oceanic crust produce singleâ€sided subduction on Earth. Geophysical Research Letters, 2012, 39, .	1.5	147
85	Radial 1â€D seismic structures in the deep mantle in mantle convection simulations with selfâ€consistently calculated mineralogy. Geochemistry, Geophysics, Geosystems, 2012, 13, .	1.0	21
86	High Rayleigh number thermal convection in volumetrically heated spherical shells. Journal of Geophysical Research, 2012, 117, .	3.3	21
87	Simulating the thermochemical magmatic and tectonic evolution of Venus's mantle and lithosphere: Twoâ€dimensional models. Journal of Geophysical Research, 2012, 117, .	3.3	142
88	Dynamics and evolution of the deep mantle resulting from thermal, chemical, phase and melting effects. Earth-Science Reviews, 2012, 110, 1-25.	4.0	153
89	A comparison of numerical surface topography calculations in geodynamic modelling: an evaluation of the â€˜sticky airâ€™ method. Geophysical Journal International, 2012, 189, 38-54.	1.0	301
90	Effects of low-viscosity post-perovskite on thermo-chemical mantle convection in a 3-D spherical shell. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	71

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91	Discretization errors and free surface stabilization in the finite difference and marker-in-cell method for applied geodynamics: A numerical study. Geochemistry, Geophysics, Geosystems, 2011, 12, n/a-n/a.	1.0	102
92	Low seismic resolution cannot explain S/P decorrelation in the lower mantle. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	28
93	Focussing of stress by continents in 3D spherical mantle convection with self-consistent plate tectonics. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	80
94	A deep mantle origin for the primitive signature of ocean island basalt. Nature Geoscience, 2011, 4, 879-882.	5.4	75
95	Plate tectonics on super-Earths: Equally or more likely than on Earth. Earth and Planetary Science Letters, 2011, 310, 252-261.	1.8	162
96	Influences of the buoyancy of partially molten rock on 3-D plume patterns and melt productivity above retreating slabs. Physics of the Earth and Planetary Interiors, 2011, 185, 112-121.	0.7	21
97	Living dead slabs in 3-D: The dynamics of compositionally-stratified slabs entering a â€œslab graveyardâ€• above the core-mantle boundary. Physics of the Earth and Planetary Interiors, 2011, 188, 150-162.	0.7	71
98	Seismic, petrological and geodynamical constraints on thermal and compositional structure of the upper mantle: global thermochemical models. Geophysical Journal International, 2011, 187, 1301-1318.	1.0	50
99	Development of a Stokes flow solver robust to large viscosity jumps using a Schur complement approach with mixed precision arithmetic. Journal of Computational Physics, 2011, 230, 8835-8851.	1.9	62
100	Origin of the martian dichotomy and Tharsis from a giant impact causing massive magmatism. Icarus, 2011, 215, 346-357.	1.1	99
101	Protocore destabilization in planetary embryos formed by cold accretion: Feedbacks from non-Newtonian rheology and energy dissipation. Icarus, 2011, 213, 24-42.	1.1	4
102	Spatial and temporal variability in Hawaiian hotspot volcanism induced by small-scale convection. Nature Geoscience, 2011, 4, 457-460.	5.4	105
103	Temperature and heat flux scalings for isoviscous thermal convection in spherical geometry. Geophysical Journal International, 2010, , no-no.	1.0	22
104	Construction of semi-dynamic model of subduction zone with given plate kinematics in 3D sphere. Earth, Planets and Space, 2010, 62, 665-673.	0.9	12
105	Role of ironâ€spin transition in ferropericlase on seismic interpretation: A broad thermochemical transition in the mid mantle?. Geophysical Research Letters, 2010, 37, .	1.5	38
106	Influence of initial CMB temperature and other parameters on the thermal evolution of Earth's core resulting from thermochemical spherical mantle convection. Geochemistry, Geophysics, Geosystems, 2010, 11, .	1.0	73
107	Heat partitioning in terrestrial planets during core formation by negative diapirism. Earth and Planetary Science Letters, 2010, 290, 13-19.	1.8	36
108	Small-scale sublithospheric convection reconciles geochemistry and geochronology of â€˜Superplumeâ€™ volcanism in the western and south Pacific. Earth and Planetary Science Letters, 2010, 290, 224-232.	1.8	49

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109	The influence of MORB and harzburgite composition on thermo-chemical mantle convection in a 3-D spherical shell with self-consistently calculated mineral physics. Earth and Planetary Science Letters, 2010, 296, 403-412.	1.8	117
110	Subduction of the Western Pacific Plate underneath Northeast China: Implications of numerical studies. Physics of the Earth and Planetary Interiors, 2010, 178, 92-99.	0.7	28
111	The fate of the slabs interacting with a density/viscosity hill in the mid-mantle. Physics of the Earth and Planetary Interiors, 2010, 180, 271-282.	0.7	40
112	Earth curvature effects on subduction morphology: Modeling subduction in a spherical setting. Acta Geotechnica, 2009, 4, 95-105.	2.9	24
113	Towards self-consistent modeling of the martian dichotomy: The influence of one-ridge convection on crustal thickness distribution. Icarus, 2009, 202, 429-443.	1.1	85
114	Numerical modeling of protocore destabilization during planetary accretion: Methodology and results. Icarus, 2009, 204, 732-748.	1.1	50
115	Searching for models of thermo-chemical convection that explain probabilistic tomography. IIâ€"Influence of physical and compositional parameters. Physics of the Earth and Planetary Interiors, 2009, 176, 1-18.	0.7	73
116	Incorporating selfâ€consistently calculated mineral physics into thermochemical mantle convection simulations in a 3â€D spherical shell and its influence on seismic anomalies in Earth's mantle. Geochemistry, Geophysics, Geosystems, 2009, 10, .	1.0	76
117	Intraplate volcanism with complex ageâ€distance patterns: A case for smallâ€scale sublithospheric convection. Geochemistry, Geophysics, Geosystems, 2009, 10, .	1.0	64
118	Rheological controls on the terrestrial core formation mechanism. Geochemistry, Geophysics, Geosystems, 2009, 10, .	1.0	18
119	Layer cake or plum pudding?. Nature Geoscience, 2008, 1, 157-158.	5.4	24
120	Buoyant melting instabilities beneath extending lithosphere: 1. Numerical models. Journal of Geophysical Research, 2008, 113, .	3.3	25
121	Buoyant melting instabilities beneath extending lithosphere: 2. Linear analysis. Journal of Geophysical Research, 2008, 113, .	3.3	11
122	Dynamics of core formation and equilibration by negative diapirism. Geochemistry, Geophysics, Geosystems, 2008, 9, .	1.0	75
123	Searching for models of thermo-chemical convection that explain probabilistic tomography. Physics of the Earth and Planetary Interiors, 2008, 171, 357-373.	0.7	69
124	Modeling mantle convection in the spherical annulus. Physics of the Earth and Planetary Interiors, 2008, 171, 48-54.	0.7	108
125	Modelling compressible mantle convection with large viscosity contrasts in a three-dimensional spherical shell using the yin-yang grid. Physics of the Earth and Planetary Interiors, 2008, 171, 7-18.	0.7	289
126	Earth's core formation aided by flow channelling instabilities induced by iron diapirs. Earth and Planetary Science Letters, 2008, 271, 24-33.	1.8	46

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127	Lateral variations in CMB heat flux and deep mantle seismic velocity caused by a thermalâ€“chemical-phase boundary layer in 3D spherical convection. Earth and Planetary Science Letters, 2008, 271, 348-358.	1.8	82
128	Planforms of selfâ€consistently generated plates in 3D spherical geometry. Geophysical Research Letters, 2008, 35, .	1.5	113
129	Mantle Geochemical Geodynamics. , 2007, , 437-505.		10
130	Some dynamical consequences of partial melting in Earthâ€™s deep mantle. Physics of the Earth and Planetary Interiors, 2007, 162, 149-163.	0.7	53
131	Influence of the post-perovskite transition on thermal and thermo-chemical mantle convection. Geophysical Monograph Series, 2007, , 229-247.	0.1	11
132	Convection under a lid of finite conductivity: Heat flux scaling and application to continents. Journal of Geophysical Research, 2007, 112, .	3.3	22
133	Convection under a lid of finite conductivity in wide aspect ratio models: Effect of continents on the wavelength of mantle flow. Journal of Geophysical Research, 2007, 112, .	3.3	17
134	Nonâ€hotspot volcano chains originating from smallâ€scale sublithospheric convection. Geophysical Research Letters, 2007, 34, .	1.5	96
135	Thermo-Chemical Structure of the Lower Mantle: Seismological Evidence and Consequences for Geodynamics. , 2007, , 293-320.		16
136	Large Scale Three-Dimensional Boundary Element Simulation of Subduction. Lecture Notes in Computer Science, 2007, , 1122-1129.	1.0	12
137	Influence of the Northern Hemisphere annular mode on ENSO by modulating westerly wind bursts. Geophysical Research Letters, 2006, 33, .	1.5	60
138	Three-dimensional structures and dynamics in the deep mantle: Effects of post-perovskite phase change and deep mantle layering. Geophysical Research Letters, 2006, 33, .	1.5	44
139	Plume heat flow is much lower than CMB heat flow. Earth and Planetary Science Letters, 2006, 241, 202-210.	1.8	40
140	A doubling of the post-perovskite phase boundary and structure of the Earth's lowermost mantle. Nature, 2005, 434, 882-886.	13.7	345
141	The interaction between the post-perovskite phase change and a thermo-chemical boundary layer near the coreâ€“mantle boundary. Earth and Planetary Science Letters, 2005, 238, 204-216.	1.8	75
142	Convective heat transfer as a function of wavelength: Implications for the cooling of the Earth. Journal of Geophysical Research, 2005, 110, .	3.3	73
143	Deep mantle heat flow and thermal evolution of the Earth's core in thermochemical multiphase models of mantle convection. Geochemistry, Geophysics, Geosystems, 2005, 6, n/a-n/a.	1.0	66
144	Penetration of mantle plumes through depleted lithosphere. Journal of Geophysical Research, 2005, 110, .	3.3	24

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145	Numerical and laboratory studies of mantle convection: Philosophy, accomplishments, and thermochemical structure and evolution. Geophysical Monograph Series, 2005, , 83-99.	0.1	25
146	Effects of a perovskite-post perovskite phase change near core-mantle boundary in compressible mantle convection. Geophysical Research Letters, 2004, 31, .	1.5	108
147	Evolution of U-Pb and Sm-Nd systems in numerical models of mantle convection and plate tectonics. Journal of Geophysical Research, 2004, 109, .	3.3	138
148	Thermo-chemical structure in the mantle arising from a three-component convective system and implications for geochemistry. Physics of the Earth and Planetary Interiors, 2004, 146, 125-138.	0.7	42
149	Superplumes or plume clusters?. Physics of the Earth and Planetary Interiors, 2004, 146, 147-162.	0.7	140
150	Evolution of helium and argon isotopes in a convecting mantle. Physics of the Earth and Planetary Interiors, 2004, 146, 417-439.	0.7	134
151	Effects of thermo-chemical mantle convection on the thermal evolution of the Earthâ€™s core. Earth and Planetary Science Letters, 2004, 220, 107-119.	1.8	77
152	Testing the tracer ratio method for modeling active compositional fields in mantle convection simulations. Geochemistry, Geophysics, Geosystems, 2003, 4, .	1.0	175
153	Three-dimensional spherical shell convection at infinite Prandtl number using the â€˜cubed sphereâ€™ method. , 2003, , 931-933.		4
154	Stag3D. , 2003, , 1524-1527.		11
155	Stag3DA code for modeling thermo-chemical multiphase convection in Earth's mantle. , 2003, , 1524-1527.		5
156	The thermochemical structure and evolution of Earth's mantle: constraints and numerical models. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2002, 360, 2593-2609.	1.6	45
157	Mixing and deformations in mantle plumes. Earth and Planetary Science Letters, 2002, 196, 1-15.	1.8	123
158	Strong heterogeneity caused by deep mantle layering. Geochemistry, Geophysics, Geosystems, 2002, 3, 1-22.	1.0	146
159	Convection in Io's asthenosphere: Redistribution of nonuniform tidal heating by mean flows. Journal of Geophysical Research, 2001, 106, 32971-32981.	3.3	30
160	Three-Dimensional Simulations of Mantle Convection in Io. Icarus, 2001, 149, 79-93.	1.1	71
161	The Quest for self-consistent generation of plate tectonics in mantle convection models. Geophysical Monograph Series, 2000, , 47-72.	0.1	52
162	Mantle Convection and Plate Tectonics: Toward an Integrated Physical and Chemical Theory. Science, 2000, 288, 2002-2007.	6.0	376

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163	Self-consistent generation of tectonic plates in time-dependent, three-dimensional mantle convection simulations. Geochemistry, Geophysics, Geosystems, 2000, 1, n/a-n/a.	1.0	147
164	Self-consistent generation of tectonic plates in time-dependent, three-dimensional mantle convection simulations 2. Strain weakening and asthenosphere. Geochemistry, Geophysics, Geosystems, 2000, 1, n/a-n/a.	1.0	81
165	The role of rheology in lithospheric thinning by mantle plumes. Geophysical Research Letters, 1999, 26, 1073-1076.	1.5	40
166	Self-consistent generation of tectonic plates in three-dimensional mantle convection. Earth and Planetary Science Letters, 1998, 157, 9-22.	1.8	191
167	Generation of mega-plumes from the core-mantle boundary in a compressible mantle with temperature-dependent viscosity. Geophysical Research Letters, 1998, 25, 1999-2002.	1.5	66
168	Three-dimensional simulations of mantle convection with a thermo-chemical basal boundary layer: Dâ€³?. Geodynamic Series, 1998, , 231-253.	0.1	162
169	Three-Dimensional Simulations of Plume-Lithosphere Interaction at the Hawaiian Swell. Science, 1998, 279, 1008-1011.	6.0	98
170	Transitions in thermal convection with strongly variable viscosity. Physics of the Earth and Planetary Interiors, 1997, 102, 201-212.	0.7	83
171	Effects of strongly variable viscosity on three-dimensional compressible convection in planetary mantles. Journal of Geophysical Research, 1996, 101, 3311-3332.	3.3	208
172	On the ability of phase transitions and viscosity layering to induce long wavelength Heterogeneity in the mantle. Geophysical Research Letters, 1996, 23, 1985-1988.	1.5	97
173	Slow motion in the mantle. Physics World, 1996, 9, 33-38.	0.0	0
174	Mantle dynamics: Influence of the transition zone. Reviews of Geophysics, 1995, 33, 275.	9.0	27
175	Mantle dynamics: The strong control of the spinel-perovskite transition at a depth of 660 km. Journal of Geodynamics, 1995, 20, 417-428.	0.7	14
176	On the penetration of an endothermic phase transition by upwellings and downwellings. Journal of Geophysical Research, 1995, 100, 15477-15488.	3.3	57
177	Effects of multiple phase transitions in a three-dimensional spherical model of convection in Earth's mantle. Journal of Geophysical Research, 1994, 99, 15877.	3.3	223
178	Effects of an endothermic phase transition at 670 km depth in a spherical model of convection in the Earth's mantle. Nature, 1993, 361, 699-704.	13.7	562
179	Comparisons Between Seismic Earth Structures and Mantle Flow Models Based on Radial Correlation Functions. Science, 1993, 261, 1427-1431.	6.0	65
180	Effects of strongly temperatureâ€dependent viscosity on timeâ€dependent, threeâ€dimensional models of mantle convection. Geophysical Research Letters, 1993, 20, 2187-2190.	1.5	171

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