# Paul J Tackley

List of Publications by Year
in descending order

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| 183 | 11,418 | 16451 64 | 34986 98 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 224 | 224 | 224 | 4139 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Ariel planetary interiors White Paper. Experimental Astronomy, 2022, 53, 323-356. | 3.7 | 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, . | 2.5 | 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. | 2.4 | 1 |
| 4 | Hadean/Eoarchean tectonics and mantle mixing induced by impacts: a three-dimensional study. Progress in Earth and Planetary Science, 2022, 9, . | 3.0 | 4 |
| 5 | Timescales of chemical equilibrium between the convecting solid mantle and over- and underlying magma oceans. Solid Earth, 2021, 12, 421-437. | 2.8 | 5 |
| 6 | Hemispheric Tectonics on Super-Earth LHS 3844b. Astrophysical Journal Letters, 2021, 908, L48. | 8.3 | 12 |
| 7 | Global mantle convection models produce transform offsets along divergent plate boundaries. Communications Earth & Environment, 2021, 2, . | 6.8 | 14 |
| 8 | Coupled dynamics and evolution of primordial and recycled heterogeneity in Earth's lower mantle. Solid Earth, 2021, 12, 2087-2107. | 2.8 | 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. | 4.4 | 3 |
| 10 | Mantle convection interacting with magma oceans. Geophysical Journal International, 2020, 220, 1878-1892. | 2.4 | 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. | 2.4 | 5 |
| 12 | The strength of the Iceland plume: A geodynamical scaling approach. Earth and Planetary Science Letters, 2020, 551, 116570. | 4.4 | 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. | 2.8 | 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. | 4.4 | 29 |
| 15 | Variable dynamic styles of primordial heterogeneity preservation in the Earth's lower mantle. Earth and Planetary Science Letters, 2020, 536, 116160. | 4.4 | 18 |
| 16 | Plutonicâ€Squishy Lid: A New Global Tectonic Regime Generated by Intrusive Magmatism on Earthâ€Like Planets. Geochemistry, Geophysics, Geosystems, 2020, 21, e2019GC008756. | 2.5 | 61 |
| 17 | Dry late accretion inferred from Venusâ€™s coupled atmosphere and internal evolution. Nature Geoscience, 2020, 13, 265-269. | 12.9 | 27 |
| 18 | The influence of bulk composition on the long-term interior-atmosphere evolution of terrestrial exoplanets. Astronomy and Astrophysics, 2020, 643, A44. | 5.1 | 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. | 4.0 | 11 |
| 20 | Geoscience for Understanding Habitability in the Solar System and Beyond. Space Science Reviews, 2019, 215, 1. | 8.1 | 14 |
| 21 | Spurious Transitions in Convective Regime Due to Viscosity Clipping: Ramifications for Modeling Planetary Secular Cooling. Geochemistry, Geophysics, Geosystems, 2019, 20, 3450-3468. | 2.5 | 2 |
| 22 | Where does subduction initiate and cease? A global scale perspective. Earth and Planetary Science Letters, 2019, 528, 115836. | 4.4 | 26 |
| 23 | Growing primordial continental crust self-consistently in global mantle convection models. Gondwana Research, 2019, 73, 96-122. | 6.0 | 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. | 4.4 | 13 |
| 25 | Quantifying the Correlation Between Mobile Continents and Elevated Temperatures in the Subcontinental Mantle. Geochemistry, Geophysics, Geosystems, 2019, 20, 1358-1386. | 2.5 | 4 |
| 26 | Do elasticity and a free surface affect lithospheric stresses caused by upper-mantle convection?. Geophysical Journal International, 2019, 216, 1740-1760. | 2.4 | 9 |
| 27 | The Sensitivity of Core Heat Flux to the Modeling of Plateâ€Like Surface Motion. Geochemistry, Geophysics, Geosystems, 2018, 19, 1282-1308. | 2.5 | 8 |
| 28 | Efficient cooling of rocky planets by intrusive magmatism. Nature Geoscience, 2018, 11, 322-327. | 12.9 | 78 |
| 29 | Constraints on mantle viscosity structure from continental drift histories in spherical mantle convection models. Tectonophysics, 2018, 746, 339-351. | 2.2 | 35 |
| 30 | Stagnant lid tectonics: Perspectives from silicate planets, dwarf planets, large moons, and large asteroids. Geoscience Frontiers, 2018, 9, 103-119. | 8.4 | 72 |
| 31 | Constraints on coreâ€“mantle boundary topography from models of thermal and thermochemical convection. Geophysical Journal International, 2018, 212, 164-188. | 2.4 | 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. | 3.6 | 18 |
| 33 | Prospects for an ancient dynamo and modern crustal remanent magnetism on Venus. Earth and Planetary Science Letters, 2018, 502, 46-56. | 4.4 | 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. | 4.0 | 5 |
| 35 | The dynamical control of subduction parameters on surface topography. Geochemistry, Geophysics, Geosystems, 2017, 18, 1661-1687. | 2.5 | 28 |
| 36 | Continental crust formation on early Earth controlled by intrusive magmatism. Nature, 2017, 545, 332-335. | 27.8 | 174 |

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| 37 | Stress memory effect in viscoelastic stagnant lid convection. Geophysical Journal International, 2017, 209, 1462-1475. | 2.4 | 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. | 3.8 | 14 |
| 39 | The subduction dichotomy of strong plates and weak slabs. Solid Earth, 2017, 8, 339-350. | 2.8 | 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. | 4.0 | 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, . | 3.0 | 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. | 1.9 | 19 |
| 43 | Using pattern recognition to infer parameters governing mantle convection. Physics of the Earth and Planetary Interiors, 2016, 257, 171-186. | 1.9 | 21 |
| 44 | Subduction controls the distribution and fragmentation of Earthâ€™s tectonic plates. Nature, 2016, 535, 140-143. | 27.8 | 112 |
| 45 | Melting-induced crustal production helps plate tectonics on Earth-like planets. Earth and Planetary Science Letters, 2016, 439, 18-28. | 4.4 | 43 |
| 46 | Effect of a single large impact on the coupled atmosphere-interior evolution of Venus. Icarus, 2016, 268, 295-312. | 2.5 | 38 |
| 47 | A sequential data assimilation approach for the joint reconstruction of mantle convection and surface tectonics. Geophysical Journal International, 2016, 204, 200-214. | 2.4 | 47 |
| 48 | A community benchmark for viscoplastic thermal convection in a 2â€D square box. Geochemistry, Geophysics, Geosystems, 2015, 16, 2175-2196. | 2.5 | 69 |
| 49 | Can we constrain the interior structure of rocky exoplanets from mass and radius measurements?. Astronomy and Astrophysics, 2015, 577, A83. | 5.1 | 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. | 3.4 | 49 |
| 51 | Formation of ridges in a stable lithosphere in mantle convection models with a viscoplastic rheology. Geophysical Research Letters, 2015, 42, 4770-4777. | 4.0 | 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. | 2.5 | 30 |
| 53 | A regime diagram of mobile lid convection with plate-like behavior. Physics of the Earth and Planetary Interiors, 2015, 241, 65-76. | 1.9 | 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. | 4.4 | 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. | 4.4 | 27 |
| 59 | Atmosphere/mantle coupling and feedbacks on Venus. Journal of Geophysical Research E: Planets, 2014, 119, 1189-1217. | 3.6 | 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. | 2.4 | 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. | 4.0 | 71 |
| 62 | On the predictability limit of convection models of the Earth's mantle. Geochemistry, Geophysics, Geosystems, 2014, 15, 2319-2328. | 2.5 | 20 |
| 63 | Seafloor spreading evolution in response to continental growth. Geology, 2014, 42, 235-238. | 4.4 | 7 |
| 64 | Statistical cyclicity of the supercontinent cycle. Geophysical Research Letters, 2014, 41, 2351-2358. | 4.0 | 35 |
| 65 | Boris Kaus receives 2012 Paul Niggli Medal. Swiss Journal of Geosciences, 2014, 107, 129-131. | 1.2 | 0 |
| 66 | 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. | 4.0 | 23 |
| 67 | 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. | 3.6 | 27 |
| 68 | 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. | 3.4 | 58 |
| 69 | 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. | 2.5 | 59 |
| 70 | Selfâ€consistent generation of singleâ€plume state for Enceladus using nonâ€Newtonian rheology. Journal of Geophysical Research E: Planets, 2014, 119, 416-439. | 3.6 | 13 |
| 71 | Mantle dynamics in super-Earths: Post-perovskite rheology and self-regulation of viscosity. Icarus, 2013, 225, 50-61. | 2.5 | 115 |
| 72 | Numerical simulation of thermal plumes in a Herschelâ€“Bulkley fluid. Journal of Non-Newtonian Fluid Mechanics, 2013, 195, 32-45. | 2.4 | 22 |

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| 73 | Fourâ€dimensional numerical modeling of crustal growth at active continental margins. Journal of Geophysical Research: Solid Earth, 2013, 118, 4682-4698. | 3.4 | 18 |
| 74 | Convergence of tectonic reconstructions and mantle convection models for significant fluctuations in seafloor spreading. Earth and Planetary Science Letters, 2013, 383, 92-100. | 4.4 | 48 |
| 75 | Thermal and compositional evolution of the martian mantle: Effects of water. Physics of the Earth and Planetary Interiors, 2013, 220, 50-72. | 1.9 | 21 |
| 76 | 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. | 1.9 | 38 |
| 77 | Implications of high core thermal conductivity on Earth's coupled mantle and core evolution. Geophysical Research Letters, 2013, 40, 2652-2656. | 4.0 | 23 |
| 78 | Growing Understanding of Subduction Dynamics Indicates Need to Rethink Seismic Hazards. Eos, 2013, 94, 125-126. | 0.1 | 4 |
| 79 | Habitable Planets: Interior Dynamics and Long-Term Evolution. Proceedings of the International Astronomical Union, 2012, 8, 339-349. | 0.0 | 1 |
| 80 | Dynamic Causes of the Relation Between Area and Age of the Ocean Floor. Science, 2012, 336, 335-338. | 12.6 | 83 |
| 81 | 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. | 1.9 | 38 |
| 82 | Influence of magmatism on mantle cooling, surface heat flow and Urey ratio. Earth and Planetary Science Letters, 2012, 329-330, 1-10. | 4.4 | 65 |
| 83 | Linking continental drift, plate tectonics and the thermal state of the Earth's mantle. Earth and Planetary Science Letters, 2012, 351-352, 134-146. | 4.4 | 89 |
| 84 | The primitive nature of large low shear-wave velocity provinces. Earth and Planetary Science Letters, 2012, 349-350, 198-208. | 4.4 | 103 |
| 85 | A free plate surface and weak oceanic crust produce singleâ€sided subduction on Earth. Geophysical Research Letters, 2012, 39, . | 4.0 | 147 |
| 86 | Radial 1â€D seismic structures in the deep mantle in mantle convection simulations with selfâ€consistently calculated mineralogy. Geochemistry, Geophysics, Geosystems, 2012, 13, . | 2.5 | 21 |
| 87 | High Rayleigh number thermal convection in volumetrically heated spherical shells. Journal of Geophysical Research, 2012, 117, . | 3.3 | 21 |
| 88 | 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 |
| 89 | Dynamics and evolution of the deep mantle resulting from thermal, chemical, phase and melting effects. Earth-Science Reviews, 2012, 110, 1-25. | 9.1 | 153 |
| 90 | 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. | 2.4 | 301 |

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| 91 | 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. | 4.0 | 71 |
| 92 | 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. | 2.5 | 102 |
| 93 | Low seismic resolution cannot explain S/P decorrelation in the lower mantle. Geophysical Research Letters, 2011, 38, n/a-n/a. | 4.0 | 28 |
| 94 | Focussing of stress by continents in 3D spherical mantle convection with self-consistent plate tectonics. Geophysical Research Letters, 2011, 38, n/a-n/a. | 4.0 | 80 |
| 95 | A deep mantle origin for the primitive signature of ocean island basalt. Nature Geoscience, 2011, 4, 879-882. | 12.9 | 75 |
| 96 | Plate tectonics on super-Earths: Equally or more likely than on Earth. Earth and Planetary Science Letters, 2011, 310, 252-261. | 4.4 | 162 |
| 97 | 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. | 1.9 | 21 |
| 98 | 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. | 1.9 | 71 |
| 99 | Seismic, petrological and geodynamical constraints on thermal and compositional structure of the upper mantle: global thermochemical models. Geophysical Journal International, 2011, 187, 1301-1318. | 2.4 | 50 |
| 100 | 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. | 3.8 | 62 |
| 101 | Origin of the martian dichotomy and Tharsis from a giant impact causing massive magmatism. Icarus, 2011, 215, 346-357. | 2.5 | 99 |
| 102 | Protocore destabilization in planetary embryos formed by cold accretion: Feedbacks from non-Newtonian rheology and energy dissipation. Icarus, 2011, 213, 24-42. | 2.5 | 4 |
| 103 | Spatial and temporal variability in Hawaiian hotspot volcanism induced by small-scale convection. Nature Geoscience, 2011, 4, 457-460. | 12.9 | 105 |
| 104 | Temperature and heat flux scalings for isoviscous thermal convection in spherical geometry. Geophysical Journal International, 2010, , no-no. | 2.4 | 22 |
| 105 | Construction of semi-dynamic model of subduction zone with given plate kinematics in 3D sphere. Earth, Planets and Space, 2010, 62, 665-673. | 2.5 | 12 |
| 106 | Role of ironâ€spin transition in ferropericlase on seismic interpretation: A broad thermochemical transition in the mid mantle?. Geophysical Research Letters, 2010, 37, . | 4.0 | 38 |
| 107 | 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, . | 2.5 | 73 |
| 108 | Heat partitioning in terrestrial planets during core formation by negative diapirism. Earth and Planetary Science Letters, 2010, 290, 13-19. | 4.4 | 36 |

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| 109 | 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. | 4.4 | 49 |
| 110 | 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. | 4.4 | 117 |
| 111 | Subduction of the Western Pacific Plate underneath Northeast China: Implications of numerical studies. Physics of the Earth and Planetary Interiors, 2010, 178, 92-99. | 1.9 | 28 |
| 112 | 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. | 1.9 | 40 |
| 113 | Earth curvature effects on subduction morphology: Modeling subduction in a spherical setting. Acta Geotechnica, 2009, 4, 95-105. | 5.7 | 24 |
| 114 | Towards self-consistent modeling of the martian dichotomy: The influence of one-ridge convection on crustal thickness distribution. Icarus, 2009, 202, 429-443. | 2.5 | 85 |
| 115 | Numerical modeling of protocore destabilization during planetary accretion: Methodology and results. Icarus, 2009, 204, 732-748. | 2.5 | 50 |
| 116 | Searching for models of thermo-chemical convection that explain probabilistic tomography. Iâ€”Influence of physical and compositional parameters. Physics of the Earth and Planetary Interiors, 2009, 176, 1-18. | 1.9 | 73 |
| 117 | Incorporating selfâ€consistently calculated mineral physics into thermochemical mantle convection simulations in a 3âD spherical shell and its influence on seismic anomalies in Earth's mantle. Geochemistry, Geophysics, Geosystems, 2009, 10, . | 2.5 | 76 |
| 118 | Intraplate volcanism with complex ageâ€distance patterns: A case for smallâ€scale sublithospheric convection. Geochemistry, Geophysics, Geosystems, 2009, 10, . | 2.5 | 64 |
| 119 | Rheological controls on the terrestrial core formation mechanism. Geochemistry, Geophysics, Geosystems, 2009, 10, . | 2.5 | 18 |
| 120 | Layer cake or plum pudding?. Nature Geoscience, 2008, 1, 157-158. | 12.9 | 24 |
| 121 | Buoyant melting instabilities beneath extending lithosphere: 1. Numerical models. Journal of Geophysical Research, 2008, 113, . | 3.3 | 25 |
| 122 | Buoyant melting instabilities beneath extending lithosphere: 2. Linear analysis. Journal of Geophysical Research, 2008, 113, . | 3.3 | 11 |
| 123 | Dynamics of core formation and equilibration by negative diapirism. Geochemistry, Geophysics, Geosystems, 2008, 9, . | 2.5 | 75 |
| 124 | Searching for models of thermo-chemical convection that explain probabilistic tomography. Physics of the Earth and Planetary Interiors, 2008, 171, 357-373. | 1.9 | 69 |
| 125 | Modeling mantle convection in the spherical annulus. Physics of the Earth and Planetary Interiors, 2008, 171, 48-54. | 1.9 | 108 |
| 126 | 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. | 1.9 | 289 |

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| 127 | Earth's core formation aided by flow channelling instabilities induced by iron diapirs. Earth and Planetary Science Letters, 2008, 271, 24-33. | 4.4 | 46 |
| 128 | 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. | 4.4 | 82 |
| 129 | Planforms of selfâ€consistently generated plates in 3D spherical geometry. Geophysical Research Letters, 2008, 35, . | 4.0 | 113 |
| 130 | Mantle Geochemical Geodynamics. , 2007, , 437-505. | | 10 |
| 131 | Some dynamical consequences of partial melting in Earthâ€™s deep mantle. Physics of the Earth and Planetary Interiors, 2007, 162, 149-163. | 1.9 | 53 |
| 132 | Influence of the post-perovskite transition on thermal and thermo-chemical mantle convection. Geophysical Monograph Series, 2007, , 229-247. | 0.1 | 11 |
| 133 | Convection under a lid of finite conductivity: Heat flux scaling and application to continents. Journal of Geophysical Research, 2007, 112, . | 3.3 | 22 |
| 134 | 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 |
| 135 | Nonâ€hotspot volcano chains originating from smallâ€scale sublithospheric convection. Geophysical Research Letters, 2007, 34, . | 4.0 | 96 |
| 136 | Thermo-Chemical Structure of the Lower Mantle: Seismological Evidence and Consequences for Geodynamics. , 2007, , 293-320. | | 16 |
| 137 | Large Scale Three-Dimensional Boundary Element Simulation of Subduction. Lecture Notes in Computer Science, 2007, , 1122-1129. | 1.3 | 12 |
| 138 | Influence of the Northern Hemisphere annular mode on ENSO by modulating westerly wind bursts. Geophysical Research Letters, 2006, 33, . | 4.0 | 60 |
| 139 | Three-dimensional structures and dynamics in the deep mantle: Effects of post-perovskite phase change and deep mantle layering. Geophysical Research Letters, 2006, 33, . | 4.0 | 44 |
| 140 | Plume heat flow is much lower than CMB heat flow. Earth and Planetary Science Letters, 2006, 241, 202-210. | 4.4 | 40 |
| 141 | A doubling of the post-perovskite phase boundary and structure of the Earth's lowermost mantle. Nature, 2005, 434, 882-886. | 27.8 | 345 |
| 142 | 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. | 4.4 | 75 |
| 143 | Convective heat transfer as a function of wavelength: Implications for the cooling of the Earth. Journal of Geophysical Research, 2005, 110, . | 3.3 | 73 |
| 144 | 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. | 2.5 | 66 |

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| 145 | Penetration of mantle plumes through depleted lithosphere. Journal of Geophysical Research, 2005, 110, . | 3.3 | 24 |
| 146 | Numerical and laboratory studies of mantle convection: Philosophy, accomplishments, and thermochemical structure and evolution. Geophysical Monograph Series, 2005, , 83-99. | 0.1 | 25 |
| 147 | Effects of a perovskite-post perovskite phase change near core-mantle boundary in compressible mantle convection. Geophysical Research Letters, 2004, 31, . | 4.0 | 108 |
| 148 | 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 |
| 149 | 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. | 1.9 | 42 |
| 150 | Superplumes or plume clusters?. Physics of the Earth and Planetary Interiors, 2004, 146, 147-162. | 1.9 | 140 |
| 151 | Evolution of helium and argon isotopes in a convecting mantle. Physics of the Earth and Planetary Interiors, 2004, 146, 417-439. | 1.9 | 134 |
| 152 | Effects of thermo-chemical mantle convection on the thermal evolution of the Earthâ€™s core. Earth and Planetary Science Letters, 2004, 220, 107-119. | 4.4 | 77 |
| 153 | Testing the tracer ratio method for modeling active compositional fields in mantle convection simulations. Geochemistry, Geophysics, Geosystems, 2003, 4, . | 2.5 | 175 |
| 154 | Three-dimensional spherical shell convection at infinite Prandtl number using the â€˜cubed sphereâ€™ method. , 2003, , 931-933. | | 4 |
| 155 | Stag3D. , 2003, , 1524-1527. | | 11 |
| 156 | Stag3DA code for modeling thermo-chemical multiphase convection in Earth's mantle. , 2003, , 1524-1527. | | 5 |
| 157 | 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. | 3.4 | 45 |
| 158 | Mixing and deformations in mantle plumes. Earth and Planetary Science Letters, 2002, 196, 1-15. | 4.4 | 123 |
| 159 | Strong heterogeneity caused by deep mantle layering. Geochemistry, Geophysics, Geosystems, 2002, 3, 1-22. | 2.5 | 146 |
| 160 | Convection in Io's asthenosphere: Redistribution of nonuniform tidal heating by mean flows. Journal of Geophysical Research, 2001, 106, 32971-32981. | 3.3 | 30 |
| 161 | Three-Dimensional Simulations of Mantle Convection in Io. Icarus, 2001, 149, 79-93. | 2.5 | 71 |
| 162 | The Quest for self-consistent generation of plate tectonics in mantle convection models. Geophysical Monograph Series, 2000, , 47-72. | 0.1 | 52 |

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| 163 | Mantle Convection and Plate Tectonics: Toward an Integrated Physical and Chemical Theory. Science, 2000, 288, 2002-2007. | 12.6 | 376 |
| 164 | Self-consistent generation of tectonic plates in time-dependent, three-dimensional mantle convection simulations. Geochemistry, Geophysics, Geosystems, 2000, 1, n/a-n/a. | 2.5 | 147 |
| 165 | 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. | 2.5 | 81 |
| 166 | The role of rheology in lithospheric thinning by mantle plumes. Geophysical Research Letters, 1999, 26, 1073-1076. | 4.0 | 40 |
| 167 | Self-consistent generation of tectonic plates in three-dimensional mantle convection. Earth and Planetary Science Letters, 1998, 157, 9-22. | 4.4 | 191 |
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