J H Davies

List of Publications by Year
in descending order

38 papers	4,104 citations	394421 19 h-index	345221 36 g-index
42 all docs	42 docs citations	42 times ranked	3607 citing authors

#	Article	IF	Citations
1	Slab breakoff: A model of lithosphere detachment and its test in the magmatism and deformation of collisional orogens. Earth and Planetary Science Letters, 1995, 129, 85-102.	4.4	1,337
2	Slab breakoff: A model for syncollisional magmatism and tectonics in the Alps. Tectonics, 1995, 14, 120-131.	2.8	642
3	Physical model of source region of subduction zone volcanics. Journal of Geophysical Research, 1992, 97, 2037-2070.	3.3	527
4	Earth's surface heat flux. Solid Earth, 2010, 1, 5-24.	2.8	352
5	Global map of solid Earth surface heat flow. Geochemistry, Geophysics, Geosystems, 2013, 14, 4608-4622.	2.5	228
6	The role of hydraulic fractures and intermediate-depth earthquakes in generating subduction-zone magmatism. Nature, 1999, 398, 142-145.	27.8	157
7	Interaction of subducted slabs with the mantle transitionâ€zone: A regime diagram from 2â€D thermoâ€mechanical models with a mobile trench and an overriding plate. Geochemistry, Geophysics, Geosystems, 2014, 15, 1739-1765.	2.5	146
8	Stochastic analysis of global traveltime data: mantle heterogeneity and random errors in the ISC data. Geophysical Journal International, 1990, 102, 25-43.	2.4	137
9	Thermally-driven mantle plumes reconcile multiple hot-spot observations. Earth and Planetary Science Letters, 2009, 278, 50-54.	4.4	76
10	Simple analytic model for subduction zone thermal structure. Geophysical Journal International, 1999, 139, 823-828.	2.4	49
11	Are splash plumes the origin of minor hotspots?. Geology, 2006, 34, 349.	4.4	48
12	Nusseltâ€"Rayleigh number scaling for spherical shell Earth mantle simulation up to a Rayleigh number of. Physics of the Earth and Planetary Interiors, 2009, 176, 132-141.	1.9	38
13	A hierarchical mesh refinement technique for global 3-D spherical mantle convection modelling. Geoscientific Model Development, 2013, 6, 1095-1107.	3.6	36
14	Spectra of mantle shear wave velocity structure. Geophysical Journal International, 1992, 108, 865-882.	2.4	34
15	Investigations into the applicability of adaptive finite element methods to two-dimensional infinite Prandtl number thermal and thermochemical convection. Geochemistry, Geophysics, Geosystems, 2007, 8, n/a-n/a.	2.5	31
16	Numerical investigation of layered convection in a three-dimensional shell with application to planetary mantles. Geochemistry, Geophysics, Geosystems, 2004, 5, n/a-n/a.	2.5	26
17	Tomographic images of a mantle circulation model. Geophysical Research Letters, 2001, 28, 77-80.	4.0	25
18	Tomographic imaging of multiple mantle plumes in the uppermost lower mantle. Geophysical Journal International, 2001, 147, 88-92.	2.4	23

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19	Whole-mantle convection with tectonic plates preserves long-term global patterns of upper mantle geochemistry. Scientific Reports, 2017, 7, 1870.	3.3	23
20	Influence of the Ringwoodite-Perovskite transition on mantle convection in spherical geometry as a function of Clapeyron slope and Rayleigh number. Solid Earth, 2011, 2, 315-326.	2.8	20
21	Did a mega-collision dry Venus' interior?. Earth and Planetary Science Letters, 2008, 268, 376-383.	4.4	19
22	Thermal Controls on Slab Breakoff and the Rise of High-Pressure Rocks During Continental Collisions. Petrology and Structural Geology, 1998, , 97-115.	0.5	16
23	Buoyancy rather than rheology controls the thickness of the overriding mechanical lithosphere at subduction zones. Geophysical Research Letters, 1999, 26, 3037-3040.	4.0	15
24	Seismically â€Fastâ€•Geodynamic Mantle Models. Geophysical Research Letters, 2001, 28, 73-76.	4.0	14
25	Steady plumes produced by downwellings in Earth-like vigor spherical whole mantle convection models. Geochemistry, Geophysics, Geosystems, 2005, 6, n/a-n/a.	2.5	13
26	Breaking supercontinents; no need to choose between passive or active. Solid Earth, 2017, 8, 817-825.	2.8	11
27	Profiling the robustness, efficiency and limits of the forward-adjoint method for 3-D mantle convection modelling. Geophysical Journal International, 2018, 212, 1450-1462.	2.4	10
28	Influence of Subduction Zone Dynamics on Interface Shear Stress and Potential Relationship With Seismogenic Behavior. Geochemistry, Geophysics, Geosystems, 2021, 22, e2020GC009267.	2.5	9
29	Chapter 9 Lateral Water Transport across a Dynamic Mantle Wedge: A Model for Subduction Zone Magmatism. International Geophysics, 1994, 57, 197-221.	0.6	6
30	Breaking plates. Nature, 2002, 418, 736-737.	27.8	6
31	Global-scale modelling of melting and isotopic evolution of Earth's mantle: melting modules for TERRA. Geoscientific Model Development, 2016, 9, 1399-1411.	3.6	6
32	Controls on the Deepâ€Water Cycle Within Threeâ€Dimensional Mantle Convection Models. Geochemistry, Geophysics, Geosystems, 2019, 20, 2199-2213.	2.5	6
33	Lower bound estimate of average earthquake mislocation from variance of travel-time residuals. Physics of the Earth and Planetary Interiors, 1992, 75, 89-101.	1.9	5
34	Constructing a Geodynamic A Priori Seismic (GAPS) velocity model of upper mantle heterogeneity. Geochemistry, Geophysics, Geosystems, 2004, 5, .	2.5	3
35	Generic polyhedron grid generation for solving partial differential equations on spherical surfaces. Computers and Geosciences, 2012, 39, 11-17.	4.2	3
36	Distributed Storage of High-Volume Environmental Simulation Data: Mantle Modelling. , 2006, , .		0

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37	Towards global SEM mantle convection simulations on polyhedral-based grids. Journal of Computational and Applied Mathematics, 2019, 348, 48-57.	2.0	0
38	Timescales of successful and failed subduction: insights from numerical modelling. Geophysical Journal International, 2021, 225, 261-276.	2.4	0