Geoffrey F Davies

List of Publications by Year
in descending order

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77	6,540	57631	76769
papers	citations	44 h-index	74 g-index

97	97	97	2416
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Transient mantle layering and the episodic behaviour of Venus due to the â€˜basalt barrierâ€™ mechanism. Icarus, 2012, 217, 499-509.	1.1	14
2	Dynamical geochemistry of the mantle. Solid Earth, 2011, 2, 159-189.	1.2	8
3	Noble gases in the dynamic mantle. Geochemistry, Geophysics, Geosystems, 2010, 11, .	1.0	16
4	Effect of plate bending on the Urey ratio and the thermal evolution of the mantle. Earth and Planetary Science Letters, 2009, 287, 513-518.	1.8	102
5	Reconciling the geophysical and geochemical mantles: Plume flows, heterogeneities, and disequilibrium. Geochemistry, Geophysics, Geosystems, 2009, 10, .	1.0	27
6	The internal activity and thermal evolution of Earth-like planets. Icarus, 2008, 195, 447-458.	1.1	73
7	Episodic layering of the early mantle by the â€˜basalt barrierâ€™ mechanism. Earth and Planetary Science Letters, 2008, 275, 382-392.	1.8	80
8	Tectonics of early Earth: Some geodynamic considerations. , 2008, , 157-171.		14
9	Chapter 2.3 Dynamics of the Hadean and Archaean Mantle. Neoproterozoic-Cambrian Tectonics, Global Change and Evolution: A Focus on South Western Gondwana, 2007, 15, 61-73.	0.2	4
10	Mantle regulation of core cooling: A geodynamo without core radioactivity?. Physics of the Earth and Planetary Interiors, 2007, 160, 215-229.	0.7	43
11	Stirring in three-dimensional mantle convection models and implications for geochemistry: Passive tracers. Geochemistry, Geophysics, Geosystems, 2007, 8, n/a-n/a.	1.0	19
12	Controls on density stratification in the early mantle. Geochemistry, Geophysics, Geosystems, 2007, 8, n/a-n/a.	1.0	31
13	Stirring in threeâ€dimensional mantle convection models and implications for geochemistry: 2. Heavy tracers. Geochemistry, Geophysics, Geosystems, 2007, 8, .	1.0	18
14	Geochemical processing in a threeâ€dimensional regional spherical shell model of mantle convection. Geochemistry, Geophysics, Geosystems, 2007, 8, .	1.0	15
15	Gravitational depletion of the early Earth's upper mantle and the viability of early plate tectonics. Earth and Planetary Science Letters, 2006, 243, 376-382.	1.8	92
16	A case for mantle plumes. Science Bulletin, 2005, 50, 1541.	1.7	32
17	Stirring geochemistry in mantle convection models with stiff plates and slabs. Geochimica Et Cosmochimica Acta, 2002, 66, 3125-3142.	1.6	117
18	Geophysically constrained mantle mass flows and the 40Ar budget: a degassed lower mantle?. Earth and Planetary Science Letters, 1999, 166, 149-162.	1.8	60

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19	Effects of plate and slab viscosities on the geoid. Earth and Planetary Science Letters, 1999, 170, 487-496.	1.8	104
20	Numerical evaluation of mantle plume spacing, size, flow rates, and unsteadiness. Journal of Geophysical Research, 1999, 104, 7377-7387.	3.3	6
21	Topography: a robust constraint on mantle fluxes. Chemical Geology, 1998, 145, 479-489.	1.4	23
22	Genesis of flood basalts from eclogite-bearing mantle plumes. Journal of Geophysical Research, 1997, 102, 20179-20197.	3.3	152
23	Penetration of plates and plumes through the mantle transition zone. Earth and Planetary Science Letters, 1995, 133, 507-516.	1.8	151
24	Punctuated tectonic evolution of the earth. Earth and Planetary Science Letters, 1995, 136, 363-379.	1.8	167
25	Thermomechanical erosion of the lithosphere by mantle plumes. Journal of Geophysical Research, 1994, 99, 15709.	3.3	122
26	Cooling the core and mantle by plume and plate flows. Geophysical Journal International, 1993, 115, 132-146.	1.0	63
27	Conjectures on the thermal and tectonic evolution of the Earth. Lithos, 1993, 30, 281-289.	0.6	50
28	On the emergence of plate tectonics. Geology, 1992, 20, 963.	2.0	292
29	Mantle Convection. Journal of Geology, 1992, 100, 151-206.	0.7	360
30	Temporal variation of the Hawaiian plume flux. Earth and Planetary Science Letters, 1992, 113, 277-286.	1.8	69
31	Comment on â€œMixing by time-dependent convectionâ€•by U. Christensen. Earth and Planetary Science Letters, 1990, 98, 405-407.	1.8	20
32	Mantle plumes, mantle stirring and hotspot chemistry. Earth and Planetary Science Letters, 1990, 99, 94-109.	1.8	122
33	Mantle convection model with a dynamic plate: topography, heat flow and gravity anomalies. Geophysical Journal International, 1989, 98, 461-464.	1.0	66
34	The Structure of Mantle Flow and the Stirring and Persistence of Chemical Heterogeneities. , 1989, , 215-225.		0
35	Effect of a low viscosity layer on longâ€wavelength topography, upper mantle case. Geophysical Research Letters, 1989, 16, 625-628.	1.5	5
36	On the separation of relatively buoyant components from subducted lithosphere. Geophysical Research Letters, 1989, 16, 831-834.	1.5	40

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37	Role of the lithosphere in mantle convection. Journal of Geophysical Research, 1988, 93, 10451-10466.	3.3	127
38	Ocean bathymetry and mantle convection: 1. Largeâ€scale flow and hotspots. Journal of Geophysical Research, 1988, 93, 10467-10480.	3.3	441
39	Ocean bathymetry and mantle convection: 2. Smallâ€scale flow. Journal of Geophysical Research, 1988, 93, 10481-10488.	3.3	61
40	The elastic properties of composite materials. , 1988, , 384-406.		1
41	Mixing in numerical models of mantle convection incorporating plate kinematics. Journal of Geophysical Research, 1986, 91, 6375-6395.	3.3	126
42	The effect of depthâ€dependent viscosity on convective mixing in the mantle and the possible survival of primitive mantle. Geophysical Research Letters, 1986, 13, 541-544.	1.5	95
43	Interaction of mantle dregs with convection: Lateral heterogeneity at the coreâ€mantle boundary. Geophysical Research Letters, 1986, 13, 1517-1520.	1.5	92
44	Numerical study of high Rayleigh number convection in a medium with depth-dependent viscosity. Geophysical Journal International, 1986, 85, 523-541.	1.0	62
45	Apparent episodic crustal growth arising from a smoothly evolving mantle. Geology, 1986, 14, 396.	2.0	65
46	Heat deposition and retention in a solid planet growing by impacts. Icarus, 1985, 63, 45-68.	1.1	80
47	Simple parametric models of crustal growth. Journal of Geodynamics, 1985, 3, 105-135.	0.7	18
48	Lagging mantle convection, the geoid and mantle structure. Earth and Planetary Science Letters, 1984, 69, 187-194.	1.8	23
49	Geophysical and isotopic constraints on mantle convection: An interim synthesis. Journal of Geophysical Research, 1984, 89, 6017-6040.	3.3	168
50	Viscosity structure of a layered convecting mantle. Nature, 1983, 301, 592-594.	13.7	17
51	Subduction zone stresses: Constraints from mechanics and from topographic and geoid anomalies. Tectonophysics, 1983, 99, 85-98.	0.9	24
52	Ultimate strength of solids and formation of planetary cores. Geophysical Research Letters, 1982, 9, 1267-1270.	1.5	28
53	Late Cretaceous genesis of the Kula plate. Earth and Planetary Science Letters, 1982, 58, 161-166.	1.8	90
54	Old continental geotherms: constraints on heat production and thickness of continental plates. Geophysical Journal International, 1982, 69, 623-634.	1.0	13

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55	Bending stresses in subducted lithosphere. Geophysical Journal International, 1982, 71, 215-224.	1.0	8
56	Magma transport of heat on Io: A mechanism allowing a thick lithosphere. Geophysical Research Letters, 1981, 8, 313-316.	1.5	137
57	Effects of lateral resolution on the identification of volcanotectonic provinces on Earth and Venus. Geophysical Research Letters, 1981, 8, 741-744.	1.5	22
58	An evaluation of three-body interatomic forces and formulation of a general model. Physics and Chemistry of Minerals, 1981, 7, 246-252.	0.3	5
59	Earth's neodymium budget and structure and evolution of the mantle. Nature, 1981, 290, 208-213.	13.7	87
60	Thermal histories of convective Earth models and constraints on radiogenic heat production in the Earth. Journal of Geophysical Research, 1980, 85, 2517-2530.	3.3	235
61	How does the mantle move?. Nature, 1980, 286, 14-15.	13.7	17
62	Review of oceanic and global heat flow estimates. Reviews of Geophysics, 1980, 18, 718-722.	9.0	54
63	Mechanics of subducted lithosphere. Journal of Geophysical Research, 1980, 85, 6304-6318.	3.3	82
64	Exploratory models of the Earth's thermal regime during segregation of the core. Journal of Geophysical Research, 1980, 85, 7108-7114.	3.3	12
65	Moving lithospheric plates and mantle convection. Geophysical Journal International, 1979, 58, 209-228.	1.0	52
66	Thickness and thermal history of continental crust and root zones. Earth and Planetary Science Letters, 1979, 44, 231-238.	1.8	75
67	The roles of boundary friction, basal shear stress and deep mantle convection in plate tectonics. Geophysical Research Letters, 1978, 5, 161-164.	1.5	38
68	Elasticity of single-crystal MgF2 (rutile structure) under pressure. Earth and Planetary Science Letters, 1977, 34, 300-306.	1.8	17
69	Whole-mantle convection and plate tectonics. Geophysical Journal International, 1977, 49, 459-486.	1.0	130
70	The elastic properties of composite materials. Reviews of Geophysics, 1976, 14, 541-563.	9.0	723
71	Elasticity, crystal structure and phase transitions. Earth and Planetary Science Letters, 1974, 22, 339-346.	1.8	70
72	Measurement of elastic velocities of MgO under shock compression to 500 kilobars. Journal of Geophysical Research, 1973, 78, 7596-7601.	3.3	47

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73	Equations of state and phase equilibria of stishovite and a coesitelike phase from shock-wave and other data. Journal of Geophysical Research, 1972, 77, 4920-4933.	3.3	95
74	Revised shock-wave equations of state for high-pressure phases of rocks and minerals. Journal of Geophysical Research, 1971, 76, 2617-2627.	3.3	79
75	Regional and Global Fault Slip Rates from Seismicity. Nature: Physical Science, 1971, 229, 101-107.	0.8	94
76	A proposed equation of state of stishovite. Journal of Geophysical Research, 1970, 75, 310-316.	3.3	87
77	Plates, Plumes, Mantle Convection, and Mantle Evolution. , 0, , 228-258.		10