Scott D King

List of Publications by Year
in descending order

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97 papers	5,465 citations	117571 34 h-index	82499 72 g-index
108 all docs	108 docs citations	108 times ranked	3474 citing authors

#	ARTICLE	IF	CITATIONS
1	Edge-driven convection. Earth and Planetary Science Letters, 1998, 160, 289-296.	1.8	536
2	African Hot Spot Volcanism: Small-Scale Convection in the Upper Mantle Beneath Cratons. Science, 2000, 290, 1137-1140.	6.0	327
3	Initial results from the InSight mission on Mars. Nature Geoscience, 2020, 13, 183-189.	5.4	274
4	An alternative mechanism of flood basalt formation. Earth and Planetary Science Letters, 1995, 136, 269-279.	1.8	271
5	A comparison of methods for the modeling of thermochemical convection. Journal of Geophysical Research, 1997, 102, 22477-22495.	3.3	239
6	The seismicity of Mars. Nature Geoscience, 2020, 13, 205-212.	5.4	194
7	An inversion for radial viscosity structure using seismic tomography. Geophysical Research Letters, 1992, 19, 1551-1554.	1.5	187
8	A community benchmark for subduction zone modeling. Physics of the Earth and Planetary Interiors, 2008, 171, 187-197.	0.7	187
9	Dawn arrives at Ceres: Exploration of a small, volatile-rich world. Science, 2016, 353, 1008-1010.	6.0	178
10	Testing the tracer ratio method for modeling active compositional fields in mantle convection simulations. Geochemistry, Geophysics, Geosystems, 2003, 4, .	1.0	175
11	Conman: vectorizing a finite element code for incompressible two-dimensional convection in the Earth's mantle. Physics of the Earth and Planetary Interiors, 1990, 59, 195-207.	0.7	171
12	Archean cratons and mantle dynamics. Earth and Planetary Science Letters, 2005, 234, 1-14.	1.8	125
13	Composition and structure of the shallow subsurface of Ceres revealed by craterÂmorphology. Nature Geoscience, 2016, 9, 538-542.	5.4	118
14	The interior structure of Ceres as revealed by surface topography. Earth and Planetary Science Letters, 2017, 476, 153-164.	1.8	117
15	The relationship between plate velocity and trench viscosity in Newtonian and powerâ€law subduction calculations. Geophysical Research Letters, 1990, 17, 2409-2412.	1.5	99
16	Hotspots and edge-driven convection. Geology, 2007, 35, 223.	2.0	90
17	Models of convection-driven tectonic plates: a comparison of methods and results. Geophysical Journal International, 1992, 109, 481-487.	1.0	89
18	Sensitivity of convection with an endothermic phase change to the form of governing equations, initial conditions, boundary conditions, and equation of state. Journal of Geophysical Research, 1994, 99, 15919.	3.3	89

#	ARTICLE	IF	CITATIONS
19	A community benchmark for 2-D Cartesian compressible convection in the Earth's mantle. Geophysical Journal International, 2010, 180, 73-87.	1.0	89
20	Hotspot swells revisited. Physics of the Earth and Planetary Interiors, 2014, 235, 66-83.	0.7	88
21	Why cold slabs stagnate in the transition zone. Geology, 2015, 43, 231-234.	2.0	88
22	Radial models of mantle viscosity: results from a genetic algorithm. Geophysical Journal International, 1995, 122, 725-734.	1.0	83
23	Dynamic buckling of subducting slabs reconciles geological and geophysical observations. Earth and Planetary Science Letters, 2011, 312, 360-370.	1.8	82
24	Models of Mantle Viscosity. AGU Reference Shelf, 2013, , 227-236.	0.6	79
25	Effect of mantle plumes on the growth of Dâ€•by reaction between the core and mantle. Geophysical Research Letters, 1993, 20, 379-382.	1.5	78
26	Episodic tectonic plate reorganizations driven by mantle convection. Earth and Planetary Science Letters, 2002, 203, 83-91.	1.8	70
27	Subduction zones: observations and geodynamic models. Physics of the Earth and Planetary Interiors, 2001, 127, 9-24.	0.7	66
28	Ultrafast subduction: the key to slab recycling efficiency and mantle differentiation?. Earth and Planetary Science Letters, 1992, 109, 517-530.	1.8	62
29	Subducted slabs and the geoid: 1. Numerical experiments with temperature-dependent viscosity. Journal of Geophysical Research, 1994, 99, 19843-19852.	3.3	58
30	The influence of tectonic plates on mantle convection patterns, temperature and heat flow. Geophysical Journal International, 2001, 146, 619-636.	1.0	57
31	The effect of temperature dependent viscosity on the structure of new plumes in the mantle: Results of a finite element model in a spherical, axisymmetric shell. Earth and Planetary Science Letters, 1997, 148, 13-26.	1.8	50
32	Pattern of lobate scarps on Mercuryâ€™s surface reproduced by a model of mantleÂconvection. Nature Geoscience, 2008, 1, 229-232.	5.4	47
33	InSight Constraints on the Global Character of the Martian Crust. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	45
34	The influence of thermodynamic formulation on simulations of subduction zone geometry and history. Geophysical Research Letters, 1998, 25, 1463-1466.	1.5	40
35	The viscosity structure of the mantle. Reviews of Geophysics, 1995, 33, 11.	9.0	38
36	Steady plumes in viscously stratified, vigorously convecting, three-dimensional numerical mantle convection models with mobile plates. Geochemistry, Geophysics, Geosystems, 2004, 5, n/a-n/a.	1.0	38

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37	Effect of mantle compressibility on the thermal and flow structures of the subduction zones. Geochemistry, Geophysics, Geosystems, 2009, 10, .	1.0	37
38	The influence of temperature and depth dependent viscosity on geoid and topography profiles from models of mantle convection. Physics of the Earth and Planetary Interiors, 1998, 106, 75-92.	0.7	33
39	Mantle convection with reversing mobile plates: A benchmark study. Geochemistry, Geophysics, Geosystems, 2005, 6, n/a-n/a.	1.0	33
40	Does mantle convection currently exist on Mercury?. Physics of the Earth and Planetary Interiors, 2007, 164, 221-231.	0.7	33
41	Reconciling laboratory and observational models of mantle rheology in geodynamic modelling. Journal of Geodynamics, 2016, 100, 33-50.	0.7	33
42	The role of the heating mode of the mantle in intermittent reorganization of the plate velocity field. Geophysical Journal International, 2003, 152, 455-467.	1.0	32
43	Formulation of ice shelf dynamic boundary conditions in terms of a Coulomb rheology. Journal of Geophysical Research, 1986, 91, 8177-8191.	3.3	31
44	Effect of slab rheology on mass transport across a phase transition boundary. Journal of Geophysical Research, 1995, 100, 20211-20222.	3.3	31
45	Evidence for the Interior Evolution of Ceres from Geologic Analysis of Fractures. Geophysical Research Letters, 2017, 44, 9564-9572.	1.5	31
46	An evolving view of transition zone and midmantle viscosity. Geochemistry, Geophysics, Geosystems, 2016, 17, 1234-1237.	1.0	28
47	On topography and geoid from 2â€Ð stagnant lid convection calculations. Geochemistry, Geophysics, Geosystems, 2009, 10, .	1.0	27
48	Upper mantle anisotropy and transition zone thickness beneath southeastern North America and implications for mantle dynamics. Geochemistry, Geophysics, Geosystems, 2010, 11, .	1.0	26
49	Seismic imaging of mid-crustal structure beneath central and eastern North America: Possibly the elusive Grenville deformation?. Geology, 2019, 47, 371-374.	2.0	23
50	Thermal Conductivity of the Martian Soil at the InSight Landing Site From HP³ Active Heating Experiments. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006861.	1.5	23
51	A non-linear, two-dimensional, potential-based analysis of coupled heat and mass transfer in a porous medium. International Journal for Numerical Methods in Engineering, 1994, 37, 3707-3722.	1.5	22
52	Why are high-Mg# andesites widespread in the western Aleutians? A numerical model approach. Geology, 2010, 38, 583-586.	2.0	22
53	3D spherical models of Martian mantle convection constrained by melting history. Earth and Planetary Science Letters, 2014, 388, 27-37.	1.8	22
54	A numerical study of a mantle plume beneath the Tharsis Rise: Reconciling dynamic uplift and lithospheric support models. Journal of Geophysical Research, 2004, 109, .	3.3	21

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55	Venus Resurfacing Constrained by Geoid and Topography. Journal of Geophysical Research E: Planets, 2018, 123, 1041-1060.	1.5	21
56	Ceres internal structure from geophysical constraints. Meteoritics and Planetary Science, 2018, 53, 1999-2007.	0.7	19
57	Analyzing Low Frequency Seismic Events at Cerberus Fossae as Long Period Volcanic Quakes. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006518.	1.5	19
58	Geoid and topography over subduction zones: The effect of phase transformations. Journal of Geophysical Research, 2002, 107, ETG 2-1-ETP 2-10.	3.3	18
59	Anomalously thin transition zone and apparently isotropic upper mantle beneath Bermuda: Evidence for upwelling. Geochemistry, Geophysics, Geosystems, 2013, 14, 4282-4291.	1.0	18
60	Dome formation on Ceres by solid-state flow analogous to terrestrial salt tectonics. Nature Geoscience, 2019, 12, 797-801.	5.4	16
61	Coupled heat and mass transfer in unsaturated soilâ€"a potential-based solution. International Journal for Numerical and Analytical Methods in Geomechanics, 1992, 16, 757-773.	1.7	15
62	Mixing at mid-ocean ridges controlled by small-scale convection and plate motion. Nature Geoscience, 2014, 7, 602-605.	5.4	12
63	A benchmark study of incompressible Stokes flow in a 3-D spherical shell using ASPECT. Geophysical Journal International, 2019, 217, 650-667.	1.0	12
64	Geoid and topographic swells over temperature-dependent thermal plumes in spherical-axisymmetric geometry. Geophysical Research Letters, 1997, 24, 3093-3096.	1.5	11
65	Driving the Earth machine?. Science, 2014, 346, 1184-1185.	6.0	11
66	A study of local time and longitudinal variability of the amplitude of the equatorial electrojet observed in POGO satellite data. Earth, Planets and Space, 1999, 51, 373-381.	0.9	10
67	Geophysical evidence supports migration of Tharsis volcanism on Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1078-1085.	1.5	10
68	Dynamics of Subducting Slabs: Numerical Modeling and Constraints from Seismology, Geoid, Topography, Geochemistry, and Petrology. , 2015, , 339-391.		10
69	Oblique convergence between India and Eurasia. Journal of Geophysical Research, 2002, 107, ETG 3-1.	3.3	9
70	Variation of the subsidence parameters, effective thermal conductivity, and mantle dynamics. Earth and Planetary Science Letters, 2015, 426, 130-142.	1.8	9
71	Evaluating Models for Lithospheric Loss and Intraplate Volcanism Beneath the Central Appalachian Mountains. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022571.	1.4	9
72	Mantle Downwellings and the Fate of Subducting Slabs: Constraints from Seismology, Geoid Topography, Geochemistry, and Petrology. , 2007, , 325-370.		8

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73	The influence of plate boundary motion on planform in viscously stratified mantle convection models. Journal of Geophysical Research, 2011, 116, .	3.3	7
74	North Atlantic topographic and geoid anomalies: The result of a narrow ocean basin and cratonic roots?. , 2005, , .		6
75	Pyroxenite causes fat plumes and stagnant slabs. Geophysical Research Letters, 2017, 44, 4730-4737.	1.5	6
76	Dynamics of the North American Plate: Largeâ€Scale Driving Mechanism From Farâ€Field Slabs and the Interpretation of Shallow Negative Seismic Anomalies. Geochemistry, Geophysics, Geosystems, 2022, 23, .	1.0	5
77	Using eigenfunctions of the two-point correlation function to study convection with multiple phase transformations. Geophysical Research Letters, 1997, 24, 703-706.	1.5	4
78	Post-rift deformation of the Midcontinent rift under Grenville tectonism. Tectonophysics, 2002, 359, 209-223.	0.9	4
79	Growing Understanding of Subduction Dynamics Indicates Need to Rethink Seismic Hazards. Eos, 2013, 94, 125-126.	0.1	4
80	Coupling of mantle temperature anomalies and the flow pattern in the core: interpretation based on simple convection calculations. Physics of the Earth and Planetary Interiors, 1989, 58, 118-125.	0.7	3
81	Eruptions above mantle shear. Nature Geoscience, 2011, 4, 279-280.	5.4	3
82	Introduction to the Special Section on the Transition Zone. Journal of Geophysical Research, 1994, 99, 15779.	3.3	2
83	A numerical journey to the Earth's interior. IEEE Computational Science and Engineering, 1995, 2, 12-23.	0.6	2
84	A modified beam analysis effect of lateral forces on lithospheric flexure and its implication for post-rift evolution of the Midcontinent Rift system. Tectonophysics, 1999, 306, 149-162.	0.9	2
85	The structure of thermal plumes and geophysical observations. , 2007, , 103-120.		2
86	Geodynamic investigation of a Cretaceous superplume in the Pacific ocean. Physics of the Earth and Planetary Interiors, 2016, 257, 137-148.	0.7	2
87	Volcanic Activity on Venus: How Long Must We Look to Find a Smoking Gun?. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	2
88	Ceresâ€™ Broadâ€Scale Surface Geomorphology Largely Due To Asymmetric Internal Convection. AGU Advances, 2022, 3, .	2.3	2
89	Mantle convection, the asthenosphere, and Earth's thermal history. Special Paper of the Geological Society of America, 2015, , 87-103.	0.5	1
90	The application of a numerical model of heat and mass transfer in unsaturated soil to the simulation of laboratory-based experiments. Communications in Numerical Methods in Engineering, 1993, 9, 91-102.	1.3	1

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91	Subduction and volatile recycling in earthâ€™s mantle. AIP Conference Proceedings, 1995, , .	0.3	1
92	Do impacts impact global tectonics?. Geology, 2020, 48, 205-206.	2.0	1
93	Seeing the mantle in the round. Nature, 1993, 361, 688-689.	13.7	0
94	Computing in the geosciences kindles interdisciplinary discussion. Eos, 1994, 75, 546.	0.1	0
95	Slab sliding away. Nature, 2008, 451, 899-900.	13.7	0
96	Wada Receives 2013 Jason Morgan Early Career Award: Citation. Eos, 2014, 95, 290-291.	0.1	0
97	Mathematics of the Not-So-Solid Solid Earth. Mathematics of Planet Earth, 2019, , 35-54.	0.1	0