Anne Davaille

List of Publications by Year
in descending order

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42	3,669	236925 25	315739 38
papers	citations	h-index	g-index

43	43	43	2596
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Three distinct types of hotspots in the Earthâ€™s mantle. Earth and Planetary Science Letters, 2003, 205, 295-308.	4.4	932
2	Simultaneous generation of hotspots and superswells by convection in a heterogeneous planetary mantle. Nature, 1999, 402, 756-760.	27.8	367
3	Transient high-Rayleigh-number thermal convection with large viscosity variations. Journal of Fluid Mechanics, 1993, 253, 141.	3.4	336
4	Onset of thermal convection in fluids with temperature-dependent viscosity: Application to the oceanic mantle. Journal of Geophysical Research, 1994, 99, 19853-19866.	3.3	207
5	Thermal evolution of an early magma ocean in interaction with the atmosphere. Journal of Geophysical Research E: Planets, 2013, 118, 1155-1176.	3.6	173
6	How to anchor hotspots in a convecting mantle?. Earth and Planetary Science Letters, 2002, 203, 621-634.	4.4	140
7	Convective patterns under the Indo-Atlantic Â« box Â». Earth and Planetary Science Letters, 2005, 239, 233-252.	4.4	138
8	Experimental and observational evidence for plume-induced subduction on Venus. Nature Geoscience, 2017, 10, 349-355.	12.9	118
9	Two-layer thermal convection in miscible viscous fluids. Journal of Fluid Mechanics, 1999, 379, 223-253.	3.4	102
10	Episodic Earth evolution. Tectonophysics, 2013, 609, 661-674.	2.2	90
11	Mantle plumes: Thin, fat, successful, or failing? Constraints to explain hot spot volcanism through time and space. Geophysical Research Letters, 2008, 35, .	4.0	83
12	Characterization of CarbopolÂ® hydrogel rheology for experimental tectonics and geodynamics. Tectonophysics, 2015, 642, 29-45.	2.2	69
13	Rheological and mechanical properties of silica colloids: from Newtonian liquid to brittle behaviour. Rheologica Acta, 2012, 51, 451-465.	2.4	65
14	Upstairs-downstairs: supercontinents and large igneous provinces, are they related?. International Geology Review, 2015, 57, 1341-1348.	2.1	64
15	Zircon age peaks: Production or preservation of continental crust?. , 2017, 13, 227-234.		63
16	Whole layer convection in a heterogeneous planetary mantle. Journal of Geophysical Research, 2004, 109, .	3.3	59
17	Extremely thin crust in the Indian Ocean possibly resulting from Plume-Ridge Interaction. Geophysical Journal International, 2011, 184, 29-42.	2.4	53
18	Stability of thermal convection in two superimposed miscible viscous fluids. Journal of Fluid Mechanics, 2002, 471, 339-363.	3.4	52

#	Article	IF	Citations
19	On the fate of thermally buoyant mantle plumes at density interfaces. Earth and Planetary Science Letters, 2007, 254, 180-193.	4.4	51
20	Venus Interior Structure and Dynamics. Space Science Reviews, 2018, 214, 1.	8.1	51
21	On the transient nature of mantle plumes. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	38
22	Anatomy of a laminar starting thermal plume at high Prandtl number. Experiments in Fluids, 2011, 50, 285-300.	2.4	37
23	Deflating the LLSVPs: Bundles of Mantle Thermochemical Plumes Rather Than Thick Stagnant â€œPilesâ€. Tectonics, 2020, 39, e2020TC006265.	2.8	36
24	Thermal instabilities in a yield stress fluid: Existence and morphology. Journal of Non-Newtonian Fluid Mechanics, 2013, 193, 144-153.	2.4	35
25	Quantifying the evolution of the continental and oceanic crust. Earth-Science Reviews, 2017, 164, 63-83.	9.1	34
26	Episodic crustal production before 2.7â€¯Ga. Precambrian Research, 2018, 312, 16-22.	2.7	33
27	The Evolution of Mantle Plumes in East Africa. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019929.	3.4	27
28	Pacific geoid anomalies revisited in light of thermochemical oscillating domes in the lower mantle. Earth and Planetary Science Letters, 2011, 306, 123-135.	4.4	24
29	At least three scales of convection in a mantle with strongly temperature-dependent viscosity. Physics of the Earth and Planetary Interiors, 2011, 188, 132-141.	1.9	23
30	Numerical simulation of thermal plumes in a Herschelâ€"Bulkley fluid. Journal of Non-Newtonian Fluid Mechanics, 2013, 195, 32-45.	2.4	22
31	Small-scale convection in a plume-fed low-viscosity layer beneath a moving plate. Geophysical Journal International, 2013, 194, 591-610.	2.4	22
32	Laboratory Studies of Mantle Convection. , 2015, , 73-144.		22
33	Dynamics of a laminar plume in a cavity: The influence of boundaries on the steady state stem structure. Geochemistry, Geophysics, Geosystems, 2013, 14, 158-178.	2.5	18
34	Starting laminar plumes: Comparison of laboratory and numerical modeling. Geochemistry, Geophysics, Geosystems, 2009, 10, .	2.5	17
35	Laboratory Studies of Mantle Convection. , 2007, , 89-165.		14
36	A noninvasive method for measuring the velocity of diffuse hydrothermal flow by tracking moving refractive index anomalies. Geochemistry, Geophysics, Geosystems, 2010, 11, .	2.5	12

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37	Fat Plumes May Reflect the Complex Rheology of the Lower Mantle. Geophysical Research Letters, 2018, 45, 1349-1354.	4.0	12
38	Accretion mode of oceanic ridges governed by axial mechanical strength. Nature Geoscience, 2018, 11, 274-279.	12.9	11
39	Laboratory Studies of Mantle Convection. , 2007, , 89-165.		9
40	Interaction between a falling sphere and the structure of a non-Newtonian yield-stress fluid. Journal of Non-Newtonian Fluid Mechanics, 2020, 284, 104355.	2.4	7
41	Rheological control on the segmentation of the mid-ocean ridges: Laboratory experiments with extension initially perpendicular to the axis. Earth and Planetary Science Letters, 2021, 557, 116706.	4.4	2
42	Lithosphere Destabilization and Smallâ€Scale Convection Constrained From Geophysical Data and Analogical Models. Geochemistry, Geophysics, Geosystems, 2021, 22, e2020GC009462.	2.5	1